

MAD
PROJECT ID: 5340-00-74
WITH: N/A
COUNTY: ROCK

JULY 2025
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 = 208



DESIGN DESIGNATION	5340-00-04
A.A.D.T. (2026)	= 4,000
A.A.D.T. (2046)	= 4,200
D.H.V. (2046)	= 490
D.D.	= 60/40
T.	= 27.0%
DESIGN SPEED	= 60 MPH
ESALS	= 2,500,000

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

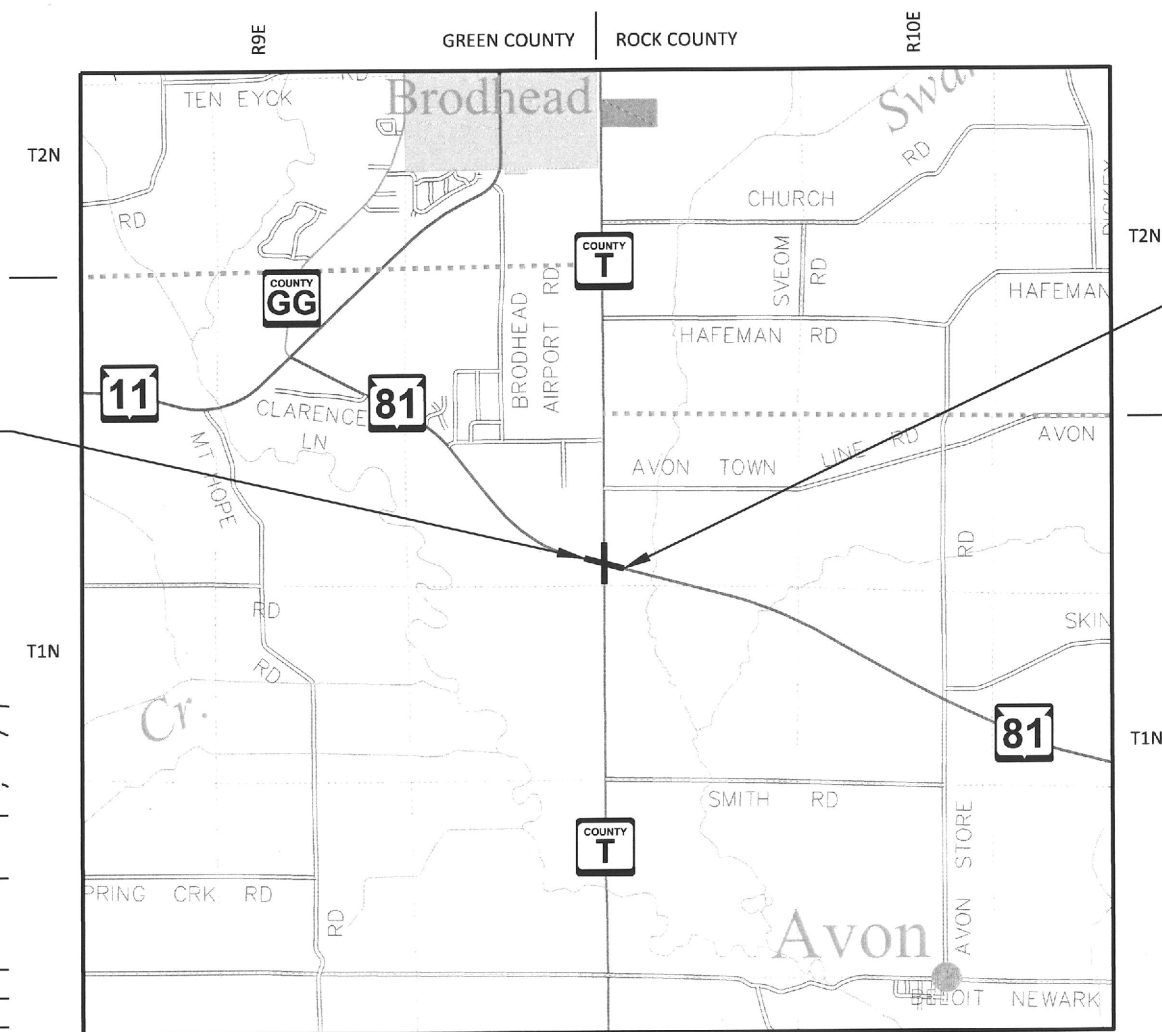
MONROE - BELOIT

CTH T INTERSECTION

STH 81

ROCK COUNTY

STATE PROJECT NUMBER
5340-00-74



LAYOUT
SCALE 0 0.5 MI
TOTAL NET LENGTH OF CENTERLINE = 0.210 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), ROCK 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 18

STATE PROJECT

5340-00-74

FEDERAL PROJECT

PROJECT

WISC 2025546

CONTRACT

1

ORIGINAL PLANS PREPARED BY



1702 Pankratz Street, Madison, WI 53704
608-242-7779 1-800-446-0679 Fax: 608-242-5664



DATE: 1/15/25 *Amanda DeAMICO*
(Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	MSA PROFESSIONAL SERVICES, INC.
Designer	MSA PROFESSIONAL SERVICES, INC.
Project Manager	CHRIS HAZARD, P.E.
Regional Examiner	SW REGION
Regional Supervisor	JAMES SIMPSON, P.E.

APPROVED FOR THE DEPARTMENT

DATE: *Chris Hazard*
(Signature)

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.

THE LOCATIONS OF EROSION CONTROL ITEMS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY GRUBBING OR TOPSOIL STRIPPING OPERATIONS.

A VERTICAL SAWCUT SHALL BE MADE THROUGH EXISTING PAVEMENTS AT REMOVAL LIMITS.

CURB & GUTTER RADII AND ELEVATIONS ARE MEASURED FROM FACE OF CURB AND CURB FLANGE, RESPECTIVELY.

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

THE LOCATION OF STORM SEWER STRUCTURES REFERS TO THE CENTER OF THE STRUCTURE.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS ARE APPROXIMATE AND MAY BE ADJUSTED TO FIT FIELD CONDITIONS.

HMA PAVEMENT AND ASPHALTIC SURFACE TEMPORARY WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY/IN.

APPLY TACK COAT AT A RATE OF 0.05 GAL/SY BETWEEN LAYERS OF HMA PAVEMENT AND TO VERTICAL FACES.

DESIGN CONTACTS

WISCONSIN DEPARTMENT OF TRANSPORTATION
SOUTHWEST REGION
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MADISON, WI 53704
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MSA PROFESSIONAL SERVICES, INC.
ATTN: AMANDA DEAMICO, P.E.
1702 PANKRATZ STREET
MADISON, WI 53704
PHONE: (608) 216-2060
EMAIL: ADEAMICO@MSA-PS.COM

DNR LIAISON

DEPARTMENT OF NATURAL RESOURCES
ATTN: RYAN PAPPAS
1027 W ST PAUL AVE
MILWAUKEE, WI 53233
PHONE: (920) 893-8529
EMAIL: RYAN.PAPPAS@WISCONSIN.GOV

ORDER OF SECTION 2 SHEETS:

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PAVEMENT DETAILS
PAVEMENT GRADES
CROSS SECTION MATCHLINES
EROSION CONTROL
STORM SEWER
EXISTING SIGN REMOVALS
PERMANENT SIGNING
LIGHTING PLAN
PAVEMENT MARKINGS
DETOUR PLAN
ALIGNMENT DETAILS

OTHER FACILITIES

FLOYD REKEMEYER
ALLIANT ENERGY - COMMUNICATION LINE
200 FIRST ST SE
CEDAR RAPIDS, IA 52401
PHONE: (319) 786-7245
EMAIL: FLOYDREKEMEYER@ALLIANTENERGY.COM

STANDARD ABBREVIATIONS

AC ACRES
AEW APRON ENDWALL
AGG AGGREGATE
AH AHEAD
ALUM. ALUMINUM
A.P. ACCESS POINT
ASPH ASPHALT
AVE AVENUE
BAD BASE AGGREGATE DENSE
BK BACK
BLK BLOCK
BOC BACK OF CURB
BOW BACK OF SIDEWALK
BM BENCHMARK
CABC CRUSHED AGGREGATE BASE COURSE
CL or CL CENTERLINE
Δ CENTRAL ANGLE or DELTA
CMCP CORRUGATED METAL CULVERT PIPE
CONC CONCRETE
CP CONTROL POINT
CPCS CULVERT PIPE CORRUGATED STEEL
CSM CERTIFIED SURVEY MAP
CTH COUNTY TRUNK HIGHWAY
D DEGREE OF CURVATURE
DES DESIRABLE
E EAST
EB EASTBOUND
EBS EXCAVATION BELOW SUBGRADE
EOP EDGE OF PAVEMENT
ET AL AND OTHERS
EW ENDWALL
EXIST EXISTING

FT FOOT
FT2 SQUARE FEET
GN GRID NORTH
GV GAS VALVE
HERCP HORIZONTAL ELLIPTICAL REINFORCED CONCRETE PIPE
HYD HYDRANT
IN INCH
INL INLET
INV INVERT
IP IRON PIPE
L LENGTH
L LENGTH OF CURVE
LC LONG CHORD
LCP LONG CHORD BEARING
LF LINEAR FEET
LT LEFT
MH MANHOLE
MON MONUMENT
N NORTH
NB NORTHBOUND
N.C. NORMAL CROWN
NO NUMBER
PB PULLBOX
PC POINT OF CURVATURE
PI POINT OF INTERSECTION
PL PROPERTY LINE
PLE PERMANENT LIMITED EASEMENT
POB POINT OF BEGINNING
PT POINT OF TANGENCY
R RADIUS
R RANGE
RCP REINFORCED CONCRETE PIPE
RD ROAD

REQ'D REQUIRED
RL or R/L REFERENCE LINE
RP RADIUS POINT
RT RIGHT
R/W RIGHT OF WAY
S SOUTH
SAN SANITARY SEWER
SB SOUTHBOUND
S.E. SUPERELEVATION
SEC SECTION
SSPRC STORM SEWER PIPE REINFORCED CONCRETE
SSPRCHE STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL
SQ SQUARE
ST STREET
STA STATION
STD STANDARD
STH STATE TRUNK HIGHWAY
STM STORM SEWER
STR STRUCTURE
T TANGENT
TAN TANGENT
TEMP TEMPORARY
TLE TEMPORARY LIMITED EASEMENT
T or TN TOWN
TYP. TYPICAL
WM WATERMIN
WV WATER VALVE
W WEST
WB WESTBOUND
X EAST GRID COORDINATE
Y NORTH GRID COORDINATE

UTILITIES

DOUG VOSBERG
ATC MANAGEMENT, INC. - ELECTRICITY-TRANSMISSION
2489 RINDEN ROAD
COTTAGE GROVE, WI 53527
PHONE: (608) 877-7650
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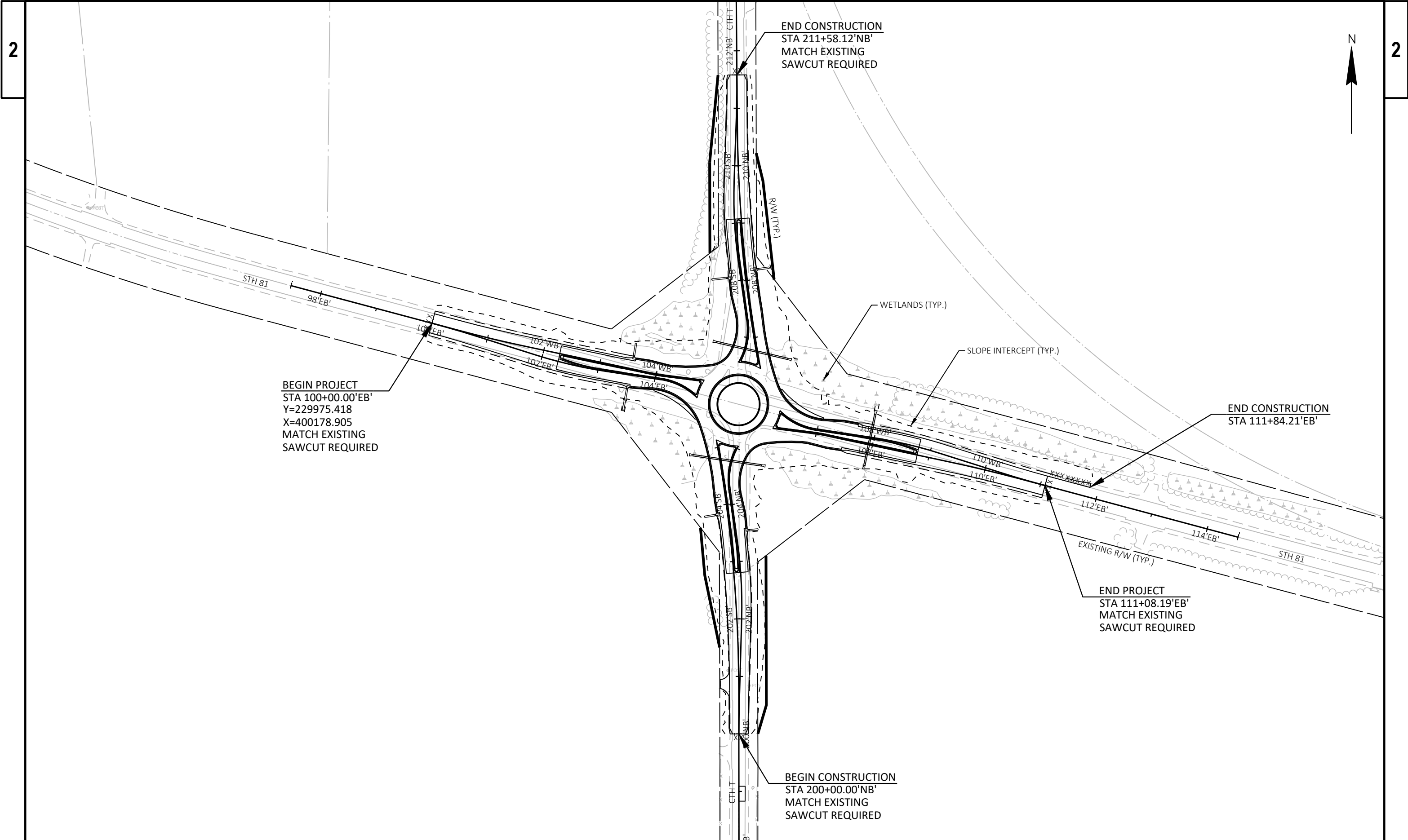
DAVID MOLDENHAUER
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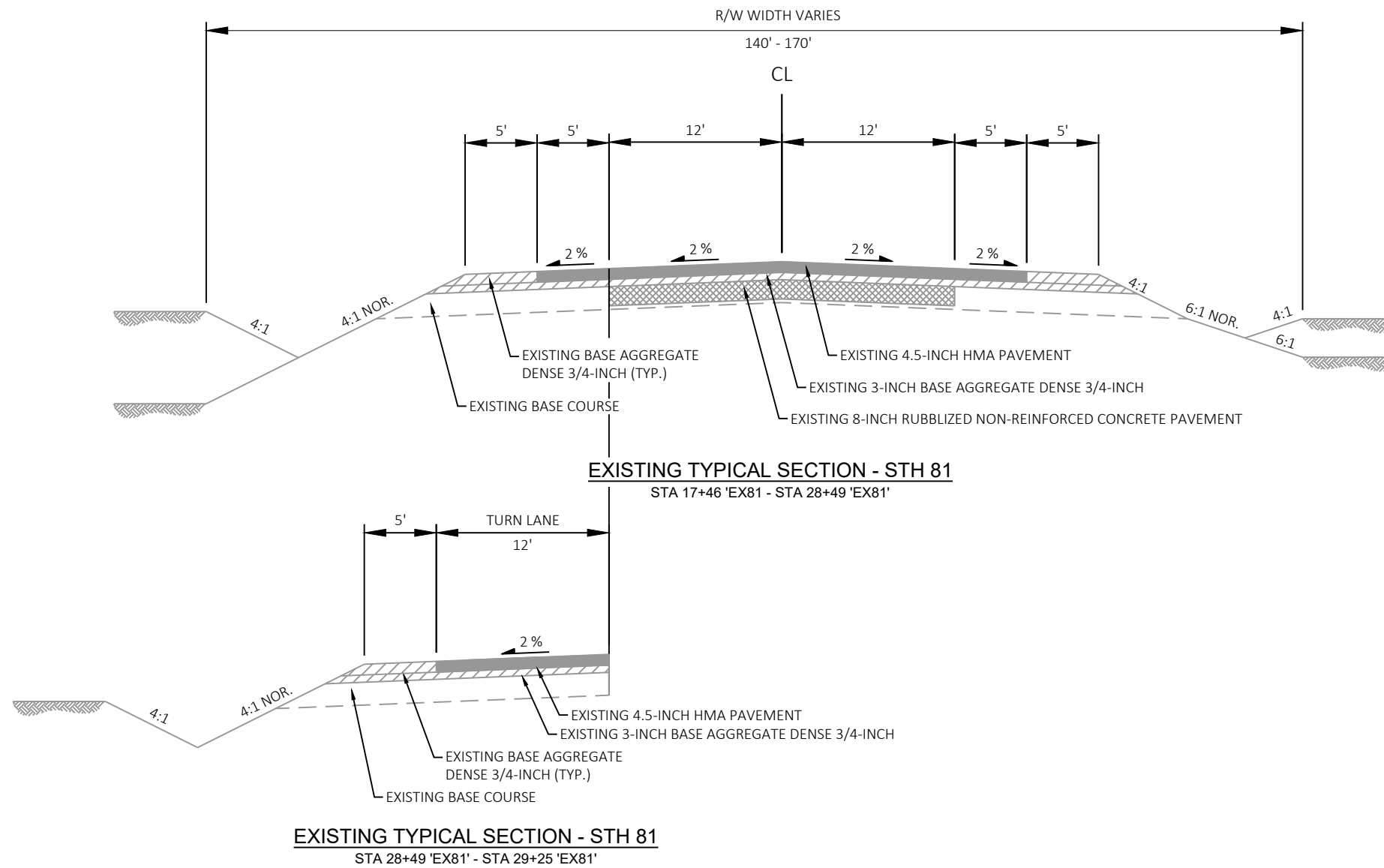
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EMAIL: CHRISTOPHER.POLLACK@FTR.COM

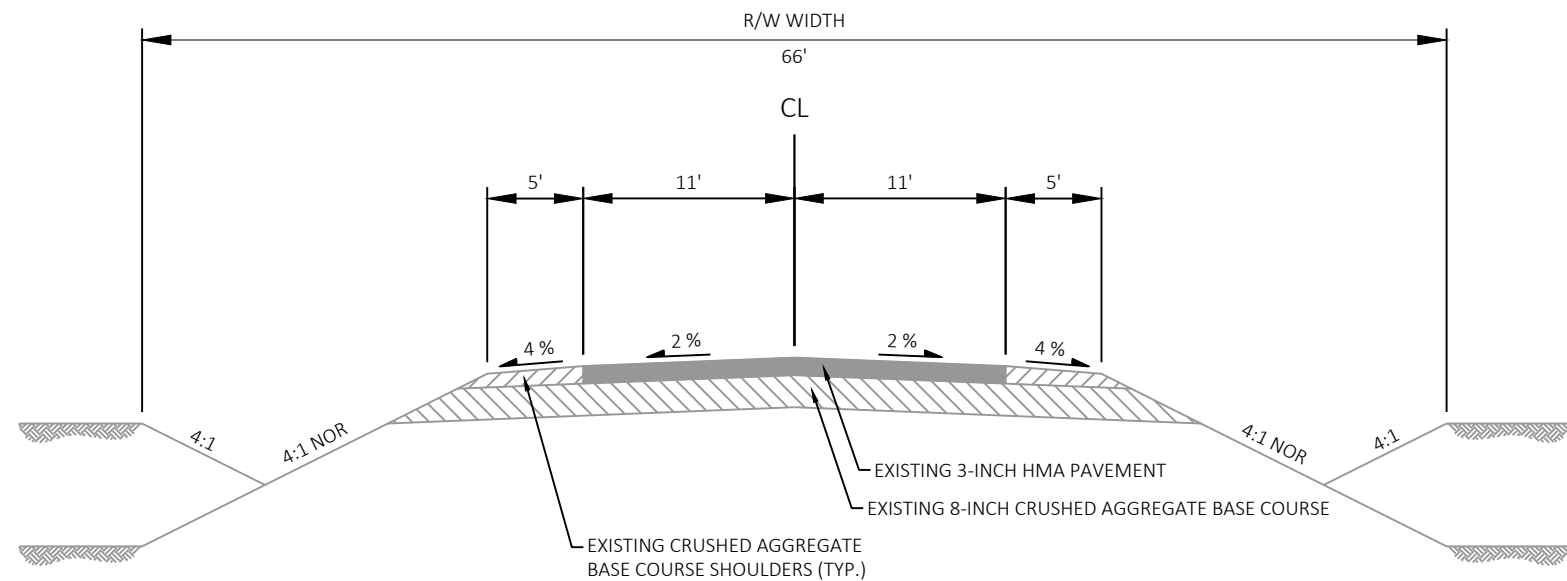
DIGGERSHOTLINE

Dial 811 or (800) 242-8511

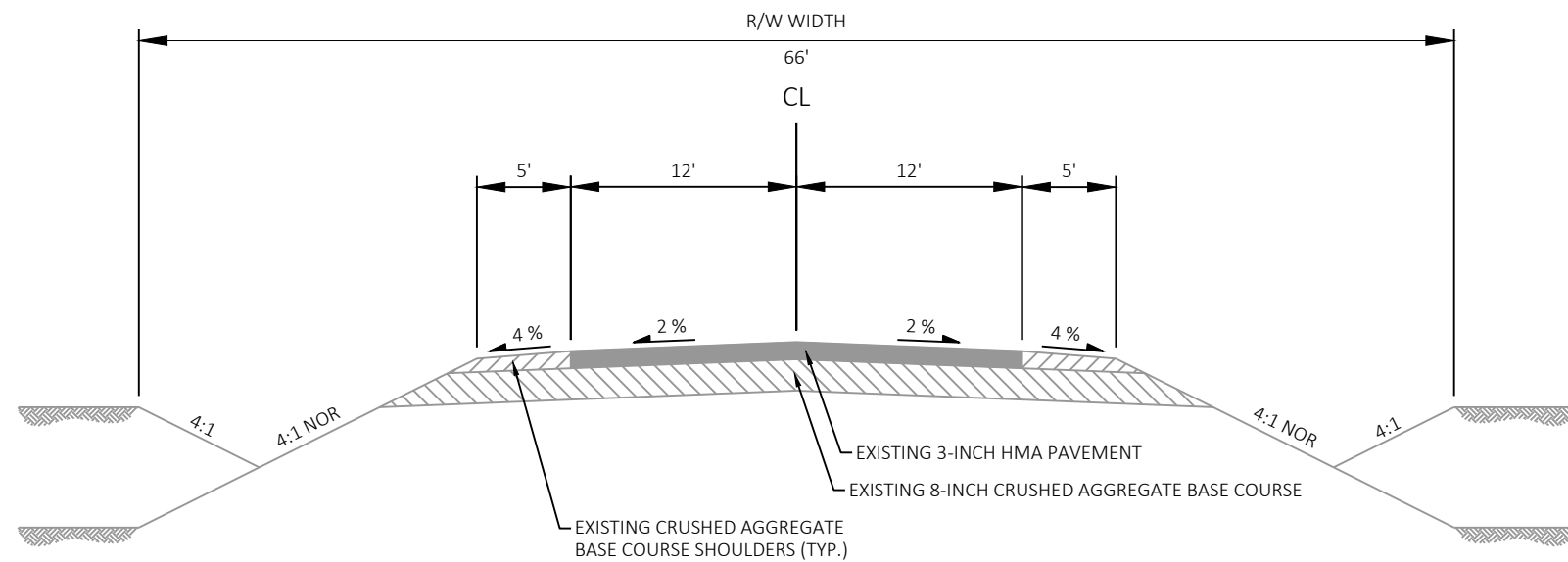
www.DiggersHotline.com



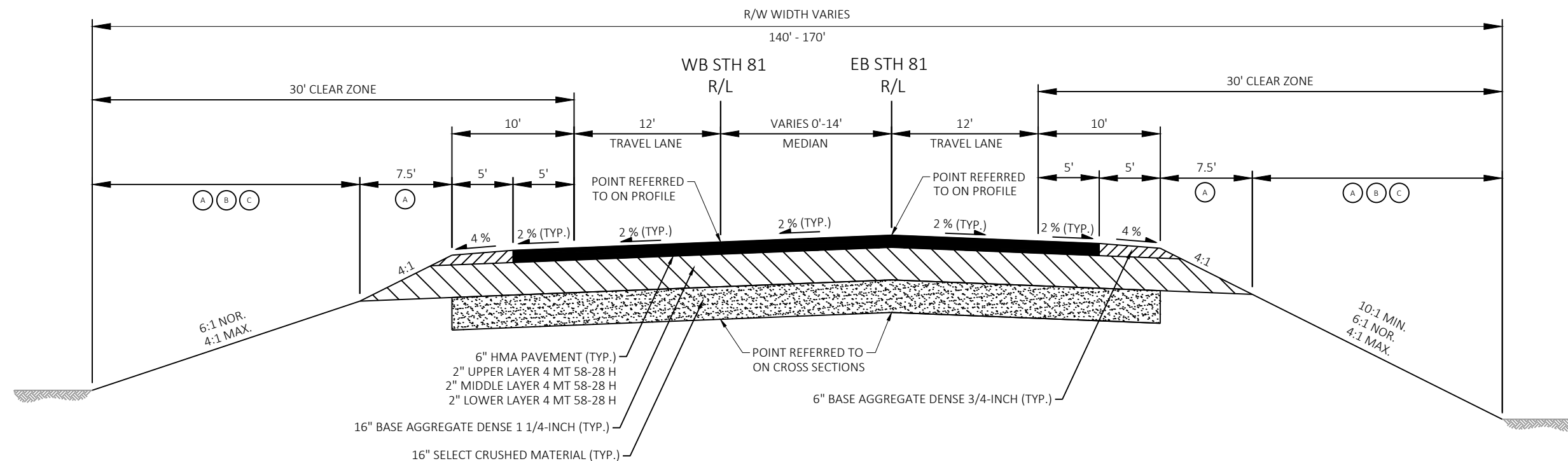




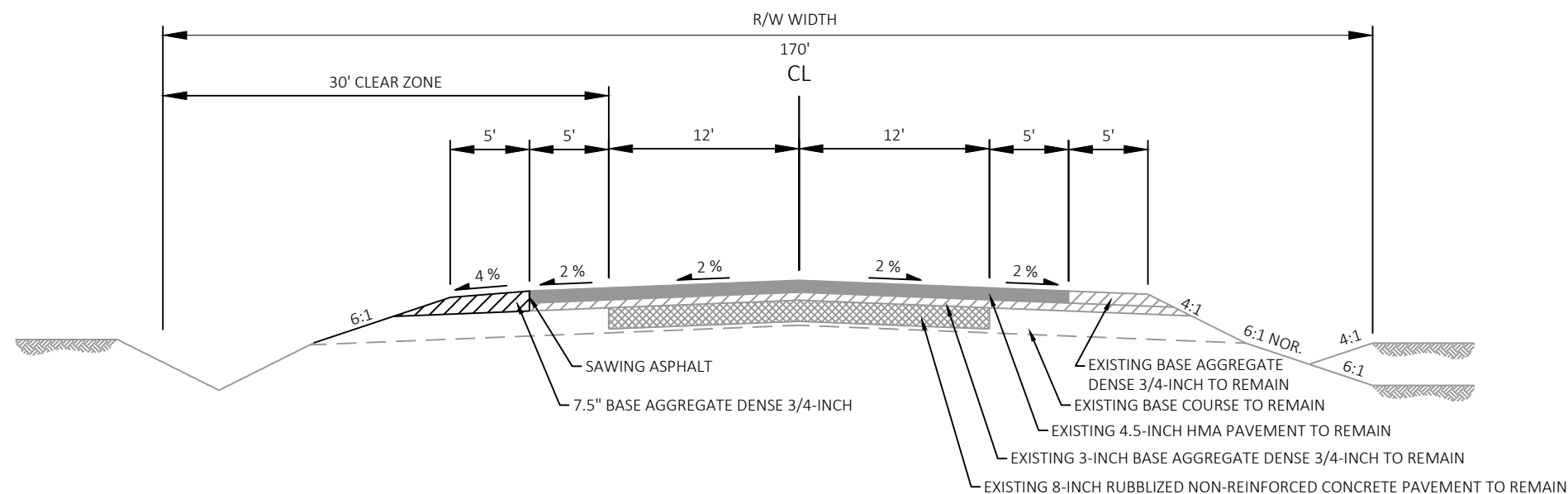
EXISTING TYPICAL SECTION - CTH T
STA 55+49 'EXT' - STA 61+12 'EXT'



EXISTING TYPICAL SECTION - CTH T
STA 61+66 'EXT' - STA 66+95 'EXT'

**FINISHED TYPICAL SECTION - STH 81**

STA 100+00 'EB' - 102+29 'EB'
STA 100+00 'WB' - 102+29 'WB'
STA 108+79 'EB' - 111+08 'EB'
STA 108+79 'WB' - 111+08 'WB'

**FINISHED TYPICAL SECTION - STH 81**

STA 111+08 'EB' - STA 111+84 'EB'

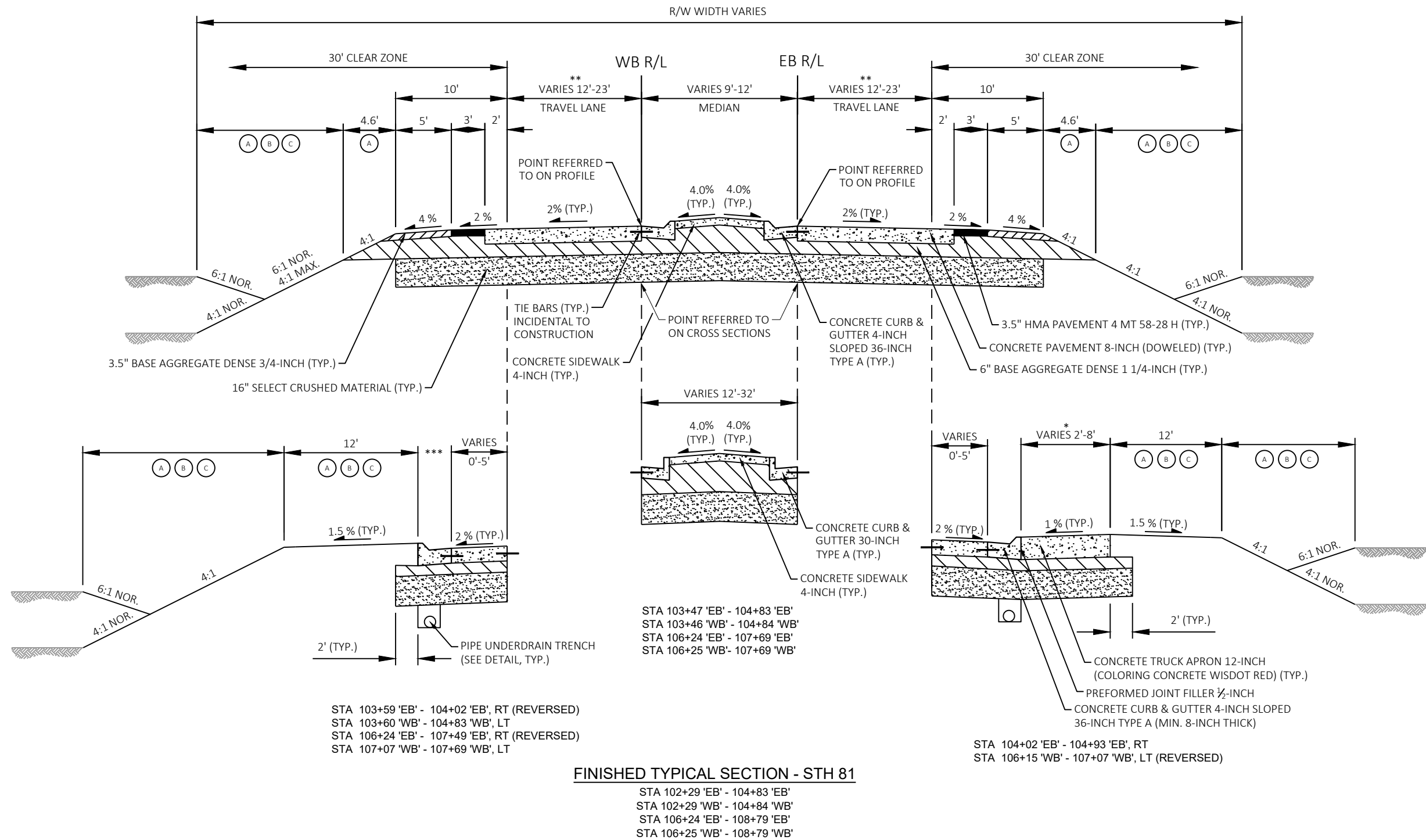
LEGEND

- (A) SEED MIXTURE #20 WITH TEMPORARY SEEDING & FERTILIZER TYPE B. SEED MIXTURE #40 & FERTILIZER TYPE B FOR CENTRAL ISLAND
- (B) 4" SALVAGED TOPSOIL
- (C) MULCHING OR EROSION MAT (SEE EROSION CONTROL PLANS FOR EROSION MAT TYPE)

- HMA PAVEMENT
- BASE AGGREGATE DENSE 3/4-INCH
- BASE AGGREGATE DENSE 1 1/4-INCH
- SELECT CRUSHED MATERIAL

NOTES

FRENCH DRAINS REQUIRED ON RURAL SECTIONS. SEE CONSTRUCTION DETAIL AND STORM SEWER PLANS.



NOTES

- * SEE PAVEMENT DETAILS AND ALIGNMENT DETAILS FOR TRUCK APRON LOCATIONS
- ** SEE PAVEMENT DETAILS FOR LONGITUDINAL JOINT LOCATIONS
- *** SEE PAVEMENT DETAILS FOR CONCRETE CURB & GUTTER TYPE
- SEE STORM SEWER PLANS FOR PIPE UNDERDRAIN LOCATIONS
- FRENCH DRAINS REQUIRED ON RURAL SECTIONS. SEE CONSTRUCTION DETAIL AND STORM SEWER PLANS.

PROJECT NO: 5340-00-74

HWY: STH 81

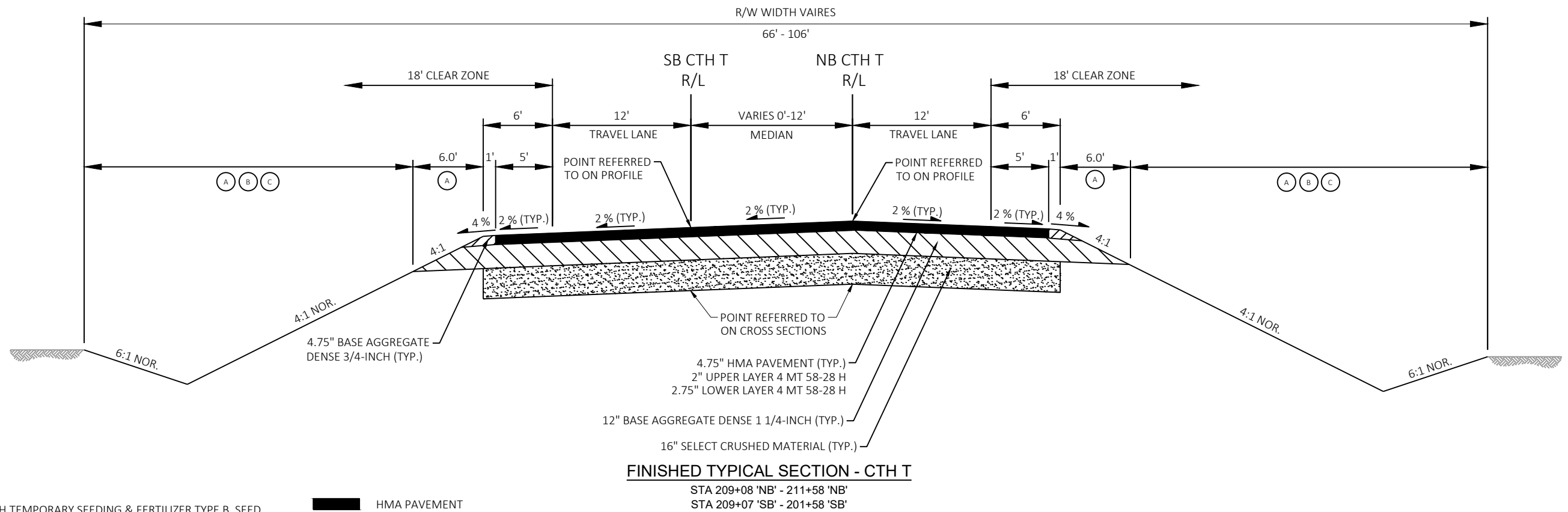
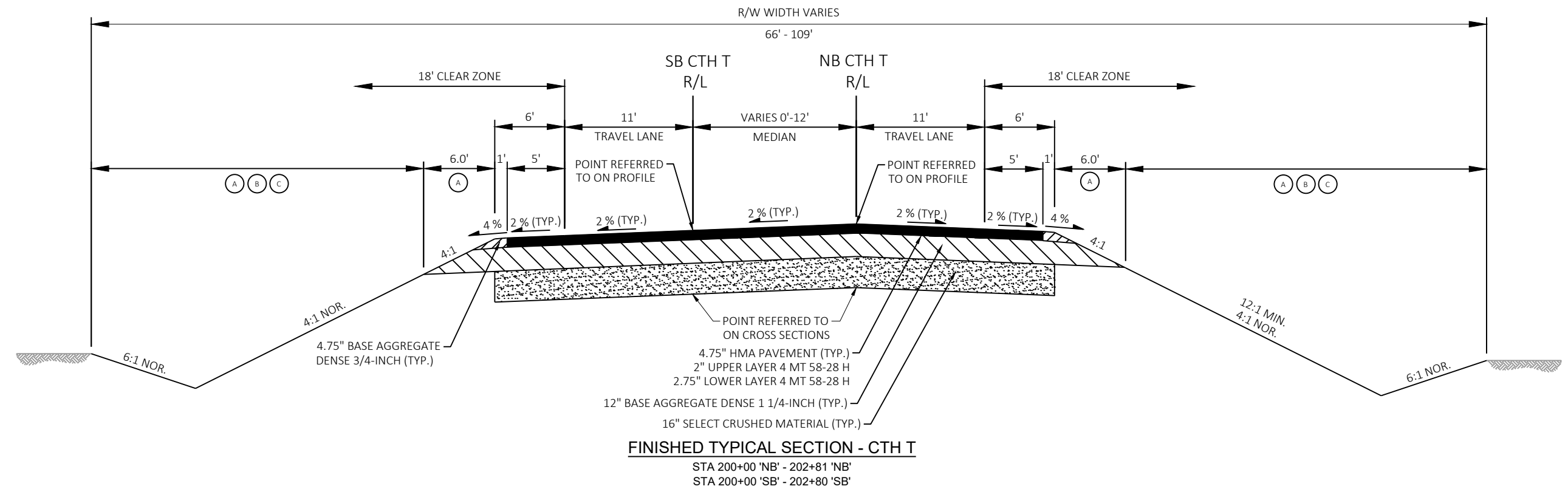
COUNTY: ROCK

FINISHED TYPICAL SECTIONS

SHEET

7

E

**LEGEND**

- (A) SEED MIXTURE #20 WITH TEMPORARY SEEDING & FERTILIZER TYPE B. SEED MIXTURE #40 & FERTILIZER TYPE B FOR CENTRAL ISLAND
- (B) 4" SALVAGED TOPSOIL
- (C) MULCHING OR EROSION MAT (SEE EROSION CONTROL PLANS FOR EROSION MAT TYPE)

- HMA PAVEMENT
- BASE AGGREGATE DENSE 3/4-INCH
- BASE AGGREGATE DENSE 1 1/4-INCH
- SELECT CRUSHED MATERIAL

NOTES

FRENCH DRAINS REQUIRED ON RURAL SECTIONS. SEE CONSTRUCTION DETAIL AND STORM SEWER PLANS.

PROJECT NO: 5340-00-74

HWY: STH 81

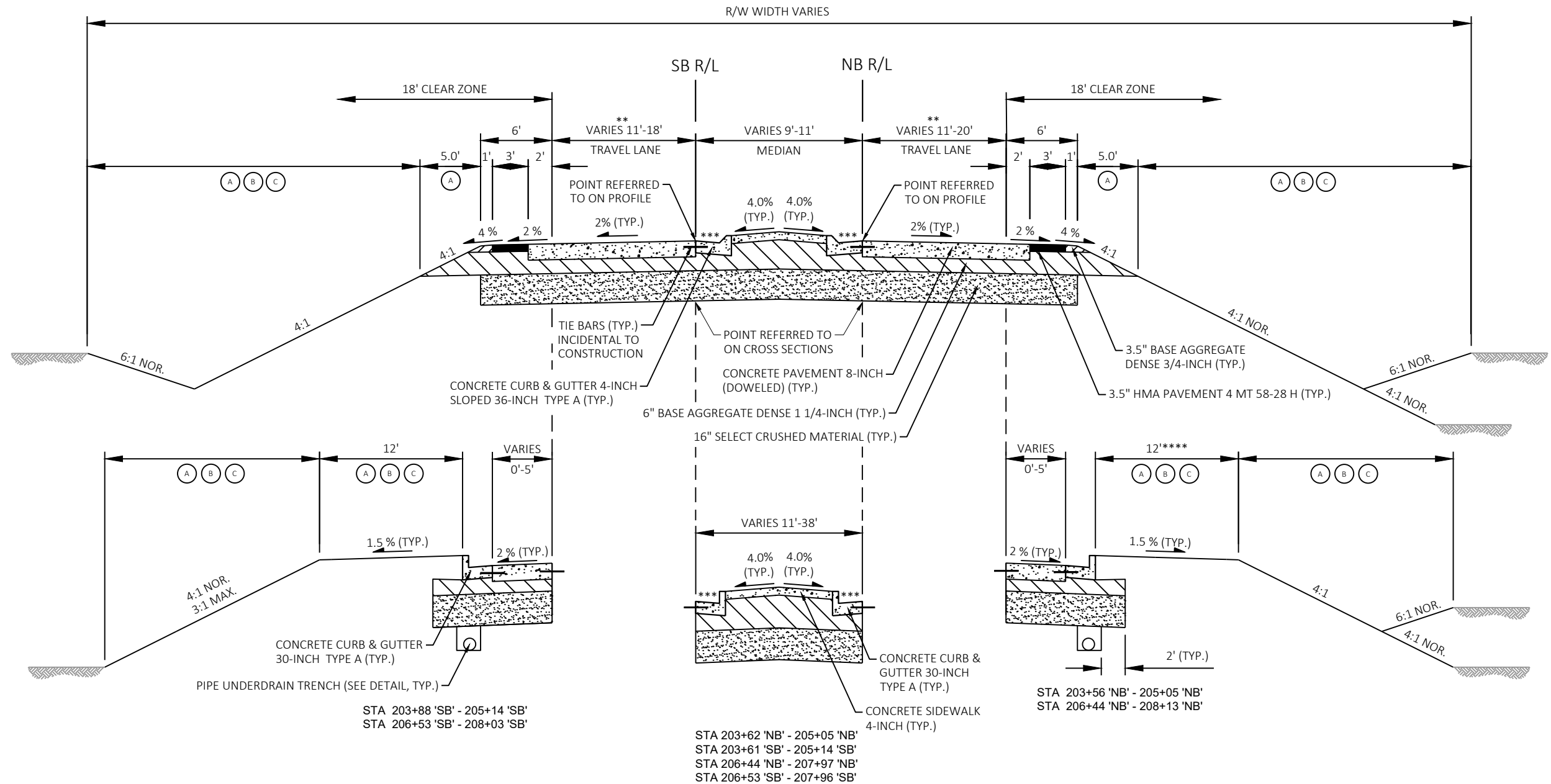
COUNTY: ROCK

FINISHED TYPICAL SECTIONS

SHEET

8

E

**FINISHED TYPICAL SECTION - CTH T**

STA 202+81 'NB' - 205+05 'NB'

STA 202+80 'SB' - 205+14 'SB'

STA 206+44 'NB' - 209+08 'NB'

STA 206+53 'SB' - 209+07 'SB'

LEGEND

- (A) SEED MIXTURE #20 WITH TEMPORARY SEEDING & FERTILIZER TYPE B. SEED MIXTURE #40 & FERTILIZER TYPE B FOR CENTRAL ISLAND
- (B) 4" SALVAGED TOPSOIL
- (C) MULCHING OR EROSION MAT (SEE EROSION CONTROL PLANS FOR EROSION MAT TYPE)

- CONCRETE PAVEMENT 8-INCH
- HMA PAVEMENT
- BASE AGGREGATE DENSE 3/4-INCH
- BASE AGGREGATE DENSE 1 1/4-INCH
- SELECT CRUSHED MATERIAL

NOTES

- ** SEE PAVEMENT DETAILS FOR LONGITUDINAL JOINT LOCATIONS
- *** SEE PAVEMENT DETAILS FOR LOCATIONS OF REVERSE SLOPE
- **** STA 207+49 'NB' - STA 208+13 'NB' RT TERRACE WIDTH IS EQUAL TO 2'
- SEE STORM SEWER PLANS FOR PIPE UNDERDRAIN LOCATIONS
- FRENCH DRAINS REQUIRED ON RURAL SECTIONS. SEE CONSTRUCTION DETAIL AND STORM SEWER PLANS.

PROJECT NO: 5340-00-74

HWY: STH 81

COUNTY: ROCK

FINISHED TYPICAL SECTIONS

SHEET

9

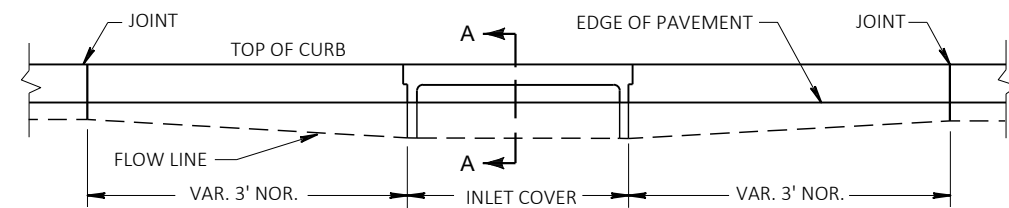
E



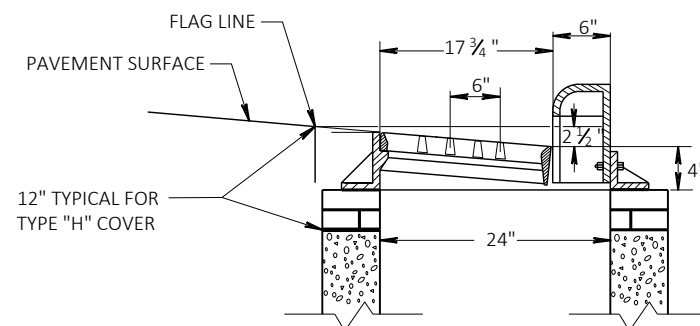
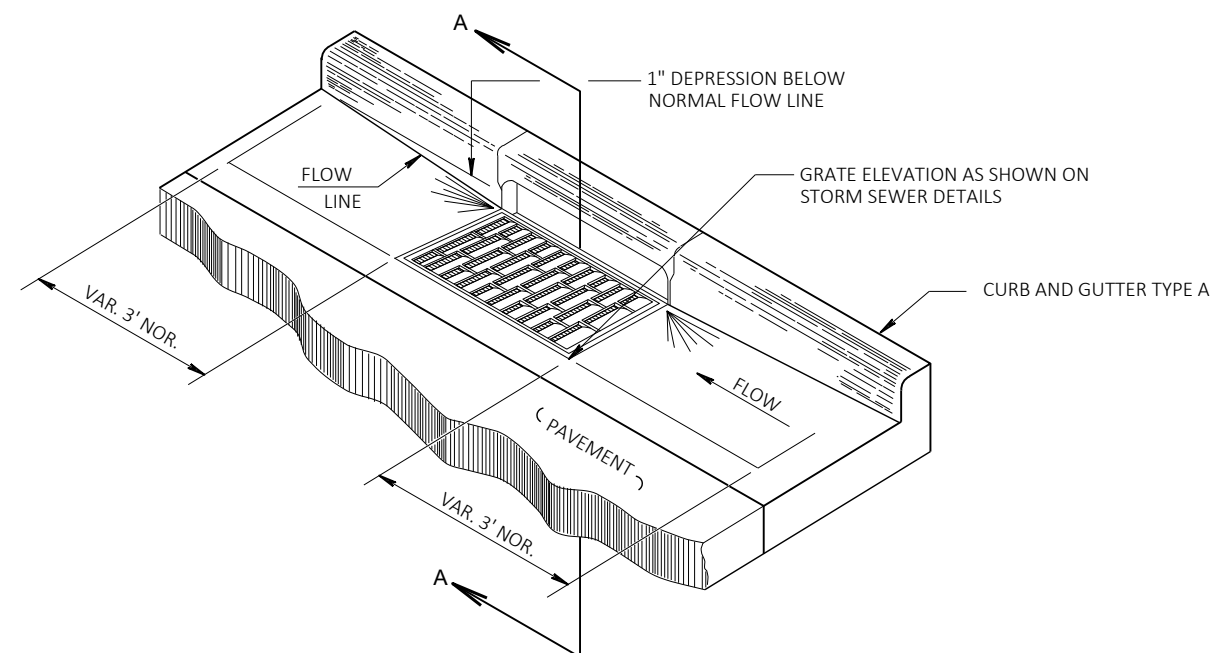
- A SEED MIXTURE #20 WITH TEMPORARY SEEDING & FERTILIZER TYPE B. SEED MIXTURE #40 & FERTILIZER TYPE B FOR CENTRAL ISLAND
- B 4" SALVAGED TOPSOIL
- C MULCHING OR EROSION MAT (SEE EROSION CONTROL PLANS FOR EROSION MAT TYPE)

	CONCRETE PAVEMENT 8-INCH
	BASE AGGREGATE DENSE 3/4-INCH
	BASE AGGREGATE DENSE 1 1/4-INCH
	SELECT CRUSHED MATERIAL

* SEE PLAN DETAILS AND ALIGNMENT DETAILS FOR OVERTRACKING PAD LOCATIONS
SEE STORM SEWER PLANS FOR PIPE UNDERDRAIN LOCATIONS



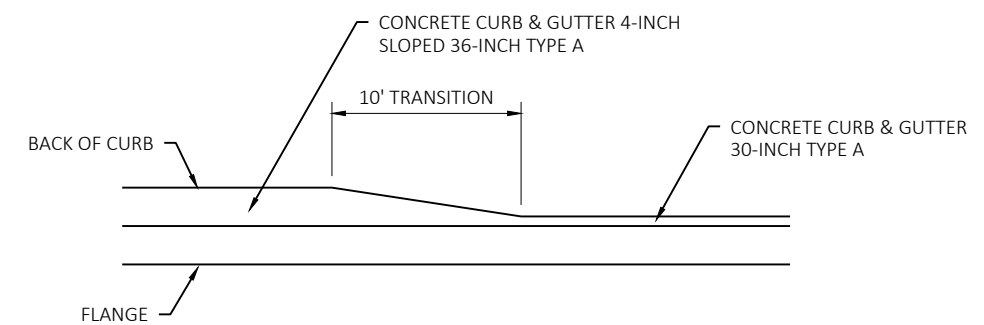
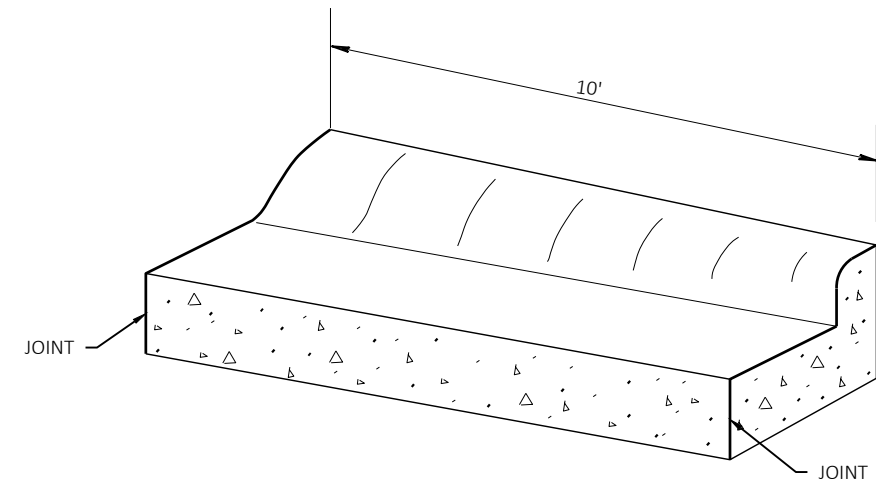
ELEVATION



SECTION A-A

DETAIL OF CURB AND GUTTER AT INLETS

(TYPE 2x3-H INLET SHOWN)



PLAN VIEW

CONCRETE CURB & GUTTER TRANSITION DETAIL

CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE A TO CONCRETE CURB & GUTTER 30-INCH TYPE A (TO BE MEASURED AND PAID FOR AS CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE A). REFER TO PAVEMENT DETAILS FOR CURB TRANSITION LOCATIONS.

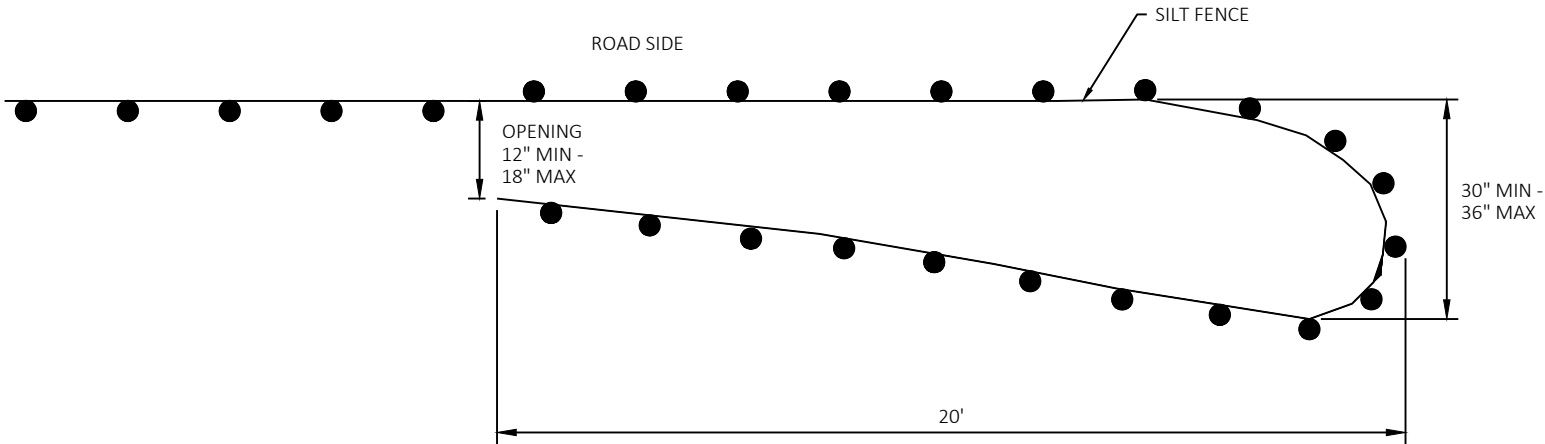
SOIL BORINGS

BORING #	APPROX. STATION	APPROX. OFFSET	TOTAL BORE DEPTH	SOIL TYPE (THICKNESS)
B27	23+75'EX81'	47.3' RT	10'	LEAN CLAY (13") SAND (23") SILTY PEAT W/SAND (2') SAND (5')
B28	22+03'EX81'	46.7' LT	10'	LEAN CLAY W PEAT (1.5') DARK BROWN FINE SAND (8.5')

RUNOFF COEFFICIENT TABLE

LAND USE:	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS:	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIPTURF:	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
	.24	.26	.30	.25	.28	.33	.26	.30	.37	.27	.32	.40
SIDE SLOPETURF:			.25			.27			.28			.30
			.32			.34			.36			.38
PAVEMENT:												
ASPHALT:	.70 - .95											
CONCRETE:	.80 - .95											
BRICK:	.70 - .80											
DRIVES, WALKS:	.75 - .85											
ROOFS:	.75 - .95											
GRAVEL ROADS, SHOULDERS:	.40 - .60											

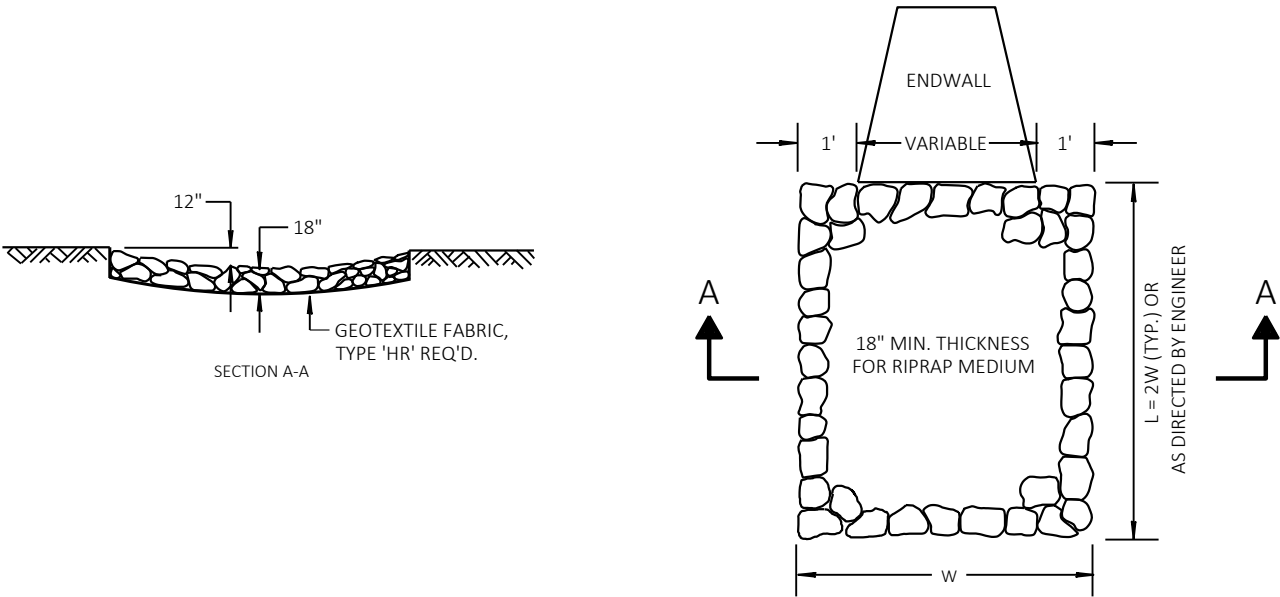
TOTAL PROJECT AREA = 8.32 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 4.74 ACRES



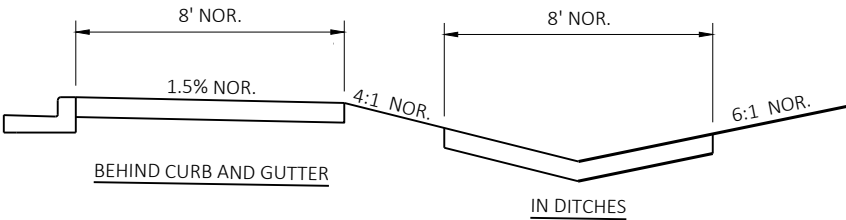
PLAN VIEW

GENERAL NOTES:
SILT FENCE POSTS FOR THE TURN-AROUND SHALL BE ON THE OUTSIDE OF THE TURN-AROUND AND TRENCHED IN ACCORDING TO SILT FENCE REQUIREMENTS.

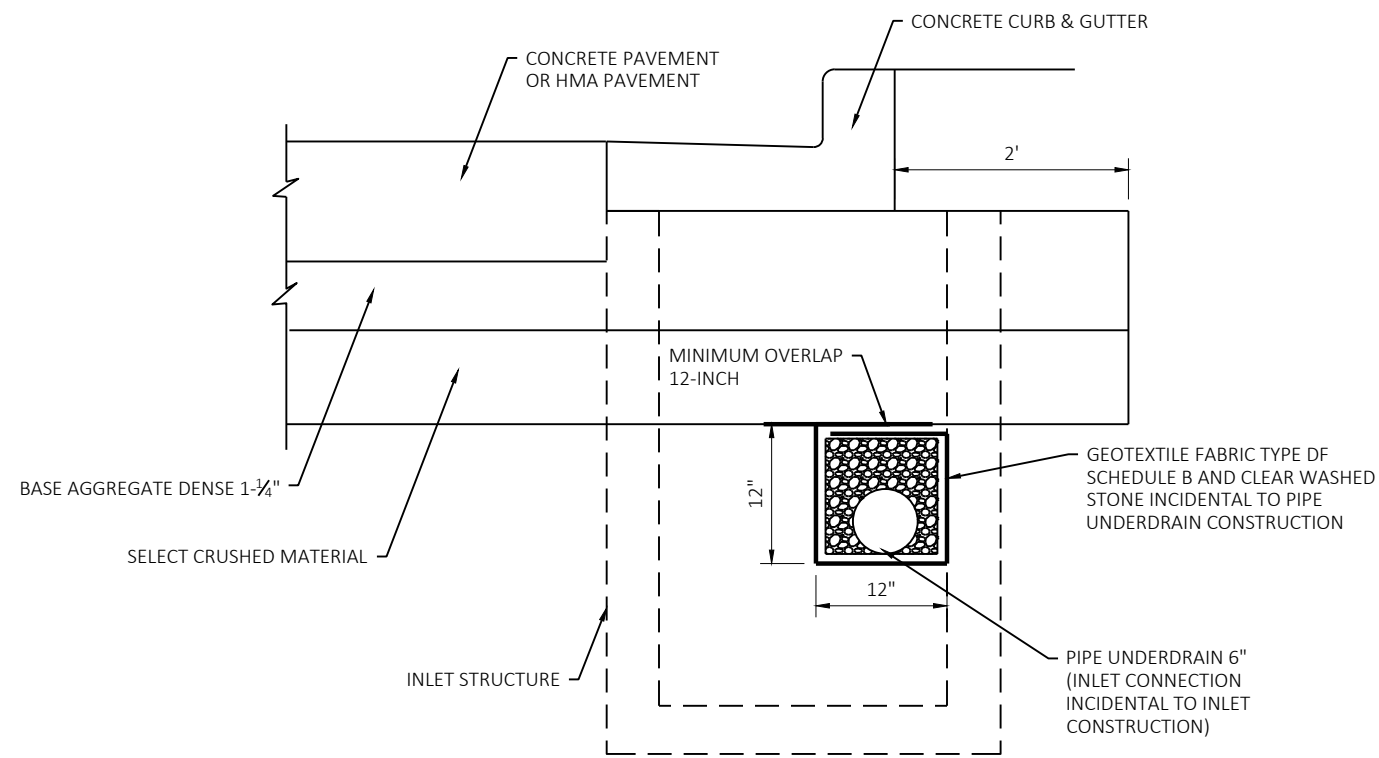
TEMPORARY SMALL ANIMAL TURN-AROUND
PLACE AT SILT FENCE ENDS



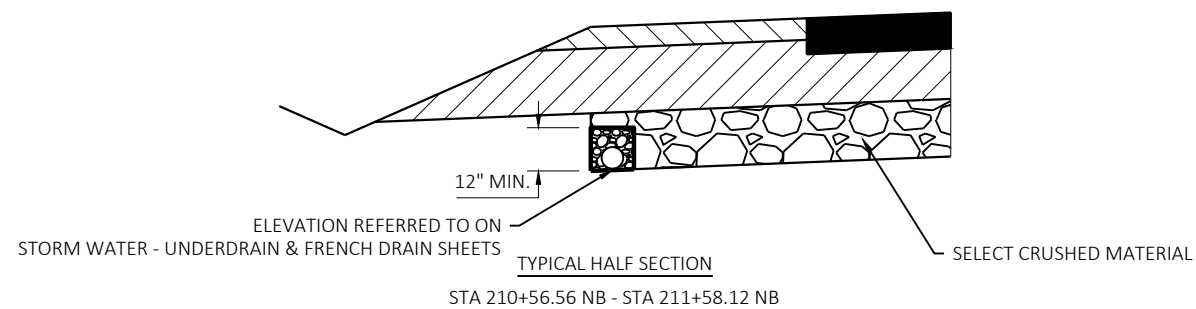
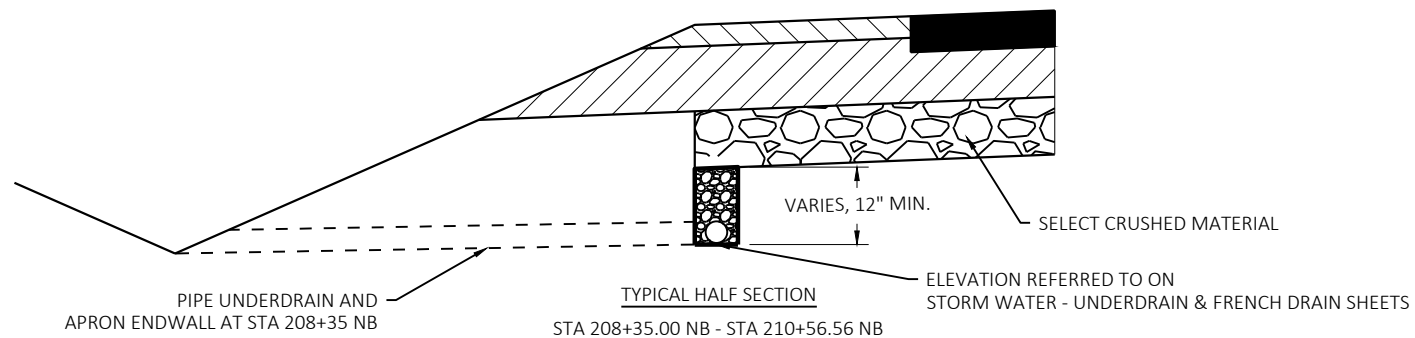
RIPRAP MEDIUM TREATMENT AT CULVERTS



EROSION MAT DETAIL

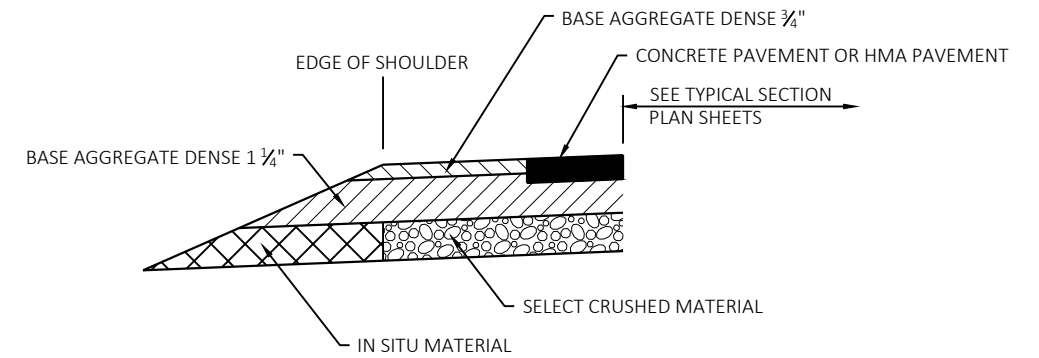


URBAN PIPE UNDERDRAIN AND INLET CONNECTIONS DETAIL

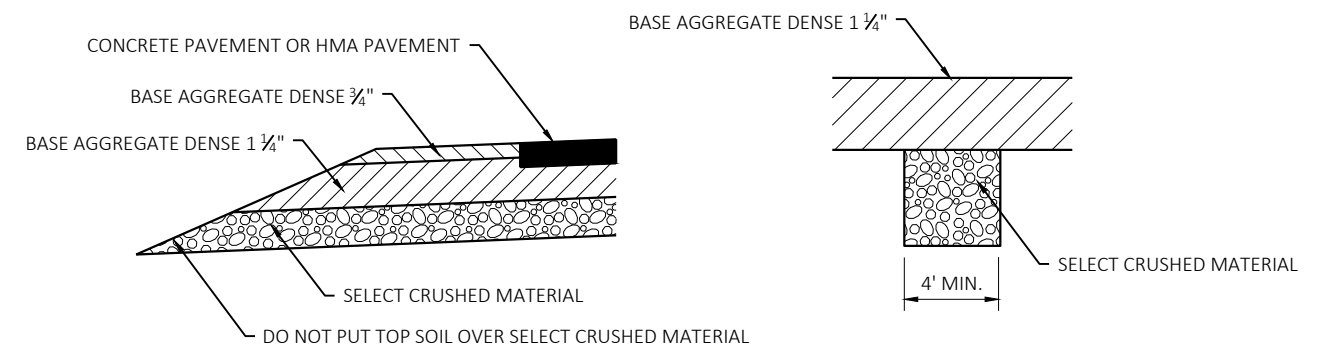


RURAL PIPE UNDERDRAIN DETAIL

CTH T NORTH LEG
WRAP UNDERDRAIN IN GEOTEXTILE FABRIC AND PROVIDE AGGREGATE PER URBAN PIPE UNDERDRAIN AND INLET CONNECTIONS DETAIL.
SEE STORM WATER - UNDERDRAIN & FRENCH DRAINS SHEETS FOR UNDERDRAIN ELEVATIONS

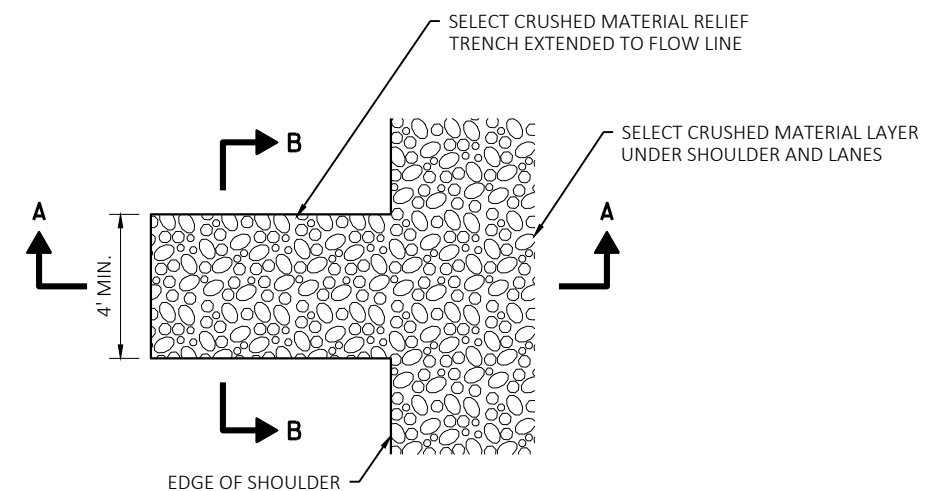


TYPICAL HALF SECTION WITH SELECT MATERIALS



SECTION A-A

SECTION B-B

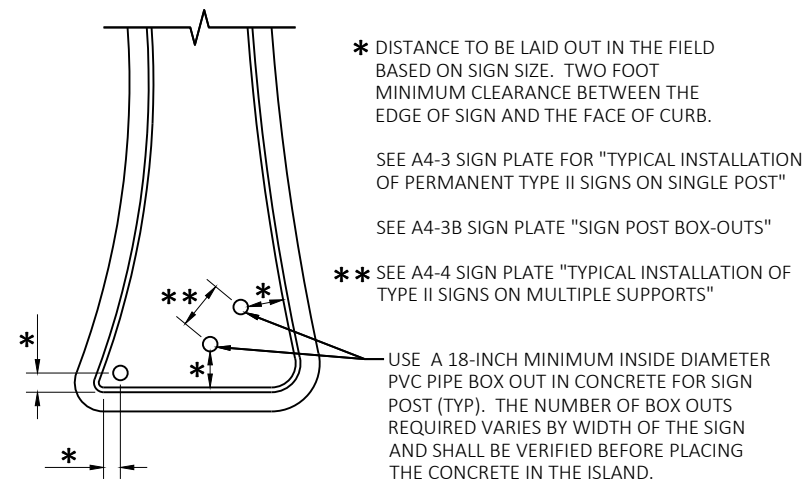


FRENCH DRAINS DETAIL

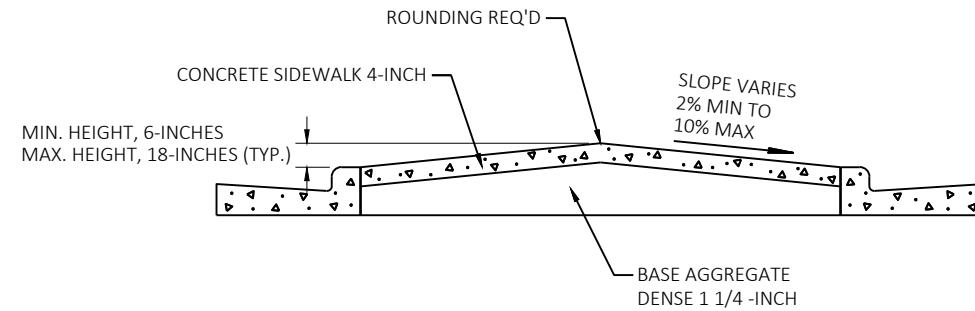
DRAINS ARE TO BE CONSTRUCTED AT LEAST EVERY 250' AND AT EACH SAG VERTICAL CURVE IN THE PROFILE.

LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

EXCAVATION REQUIRED TO CONSTRUCT FRENCH DRAINS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM SELECT CRUSHED MATERIAL.

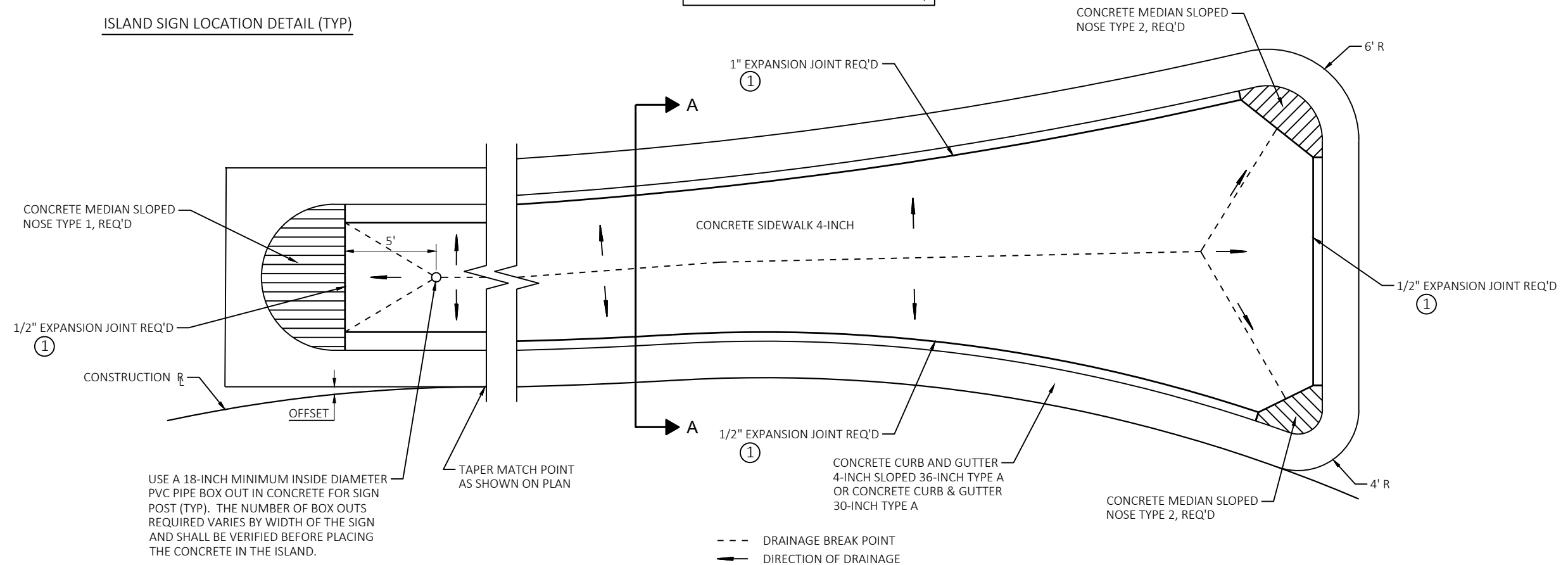


ISLAND SIGN LOCATION DETAIL (TYP)

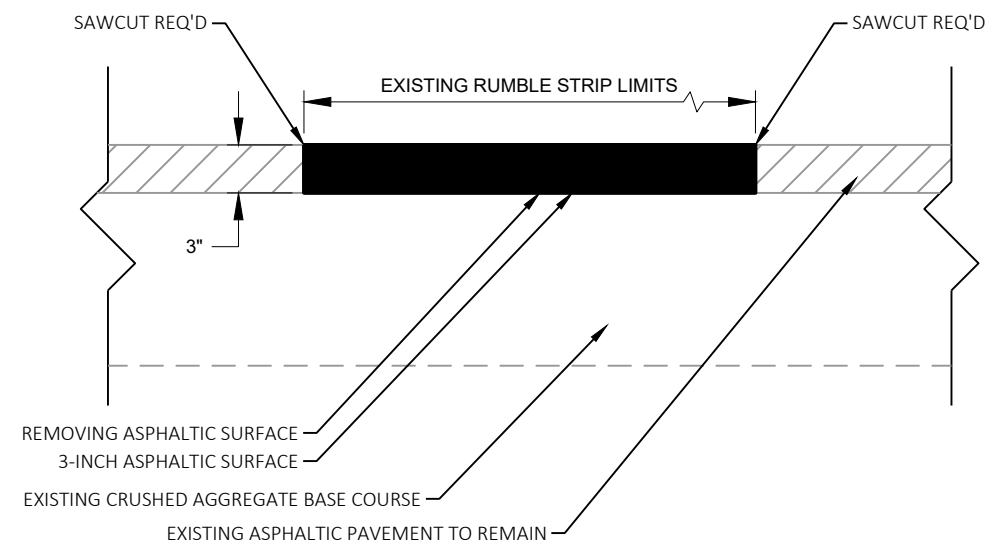


SECTION A-A

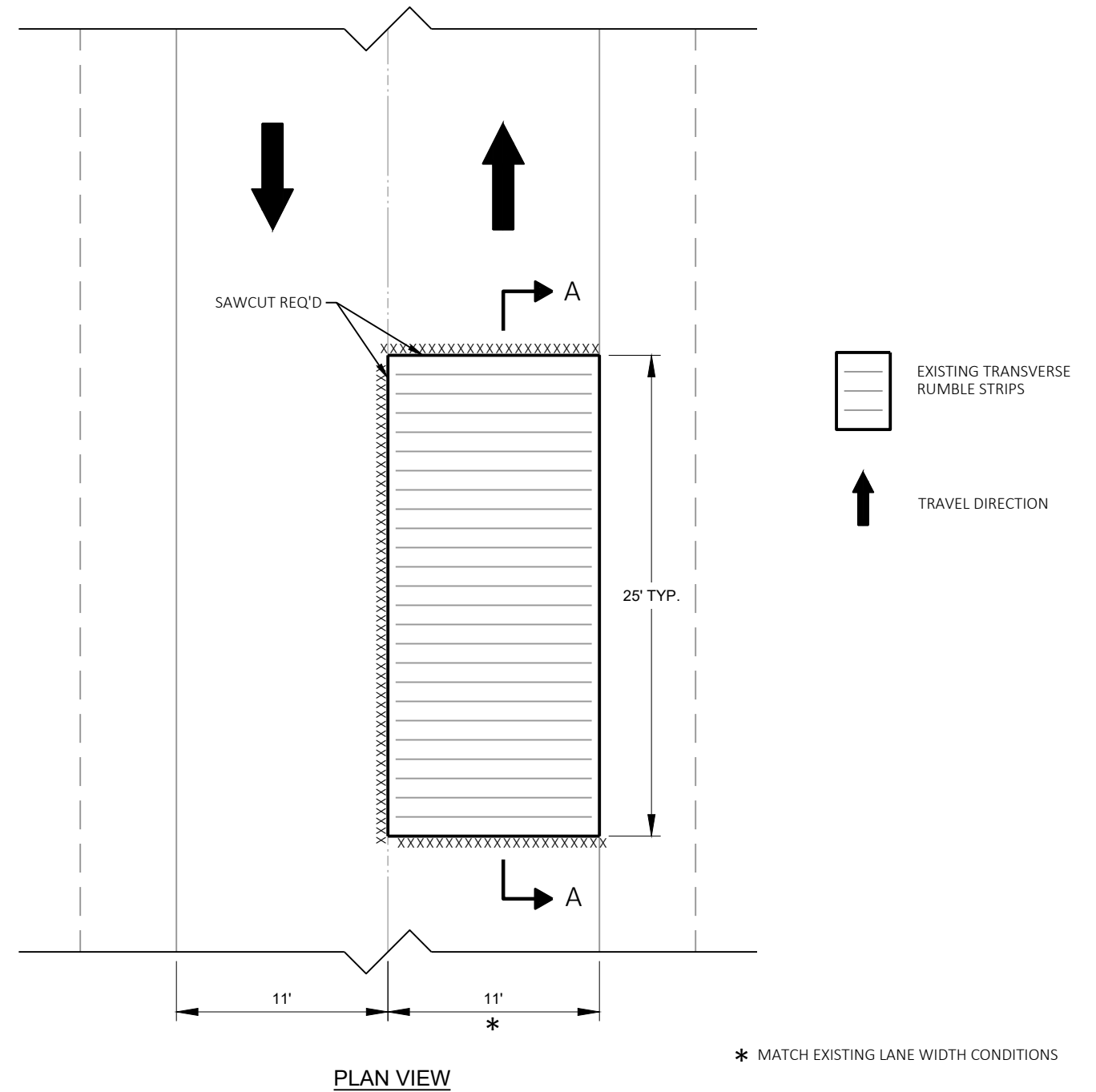
① EXPANSION MATERIAL TO BE 1" LONGER THAN ABUTTING MEDIAN CONCRETE THICKNESS. (i.e. 5" IN HEIGHT WHEN ADJACENT TO CONCRETE SIDEWALK 4-INCH)



CONCRETE SPLITTER ISLAND DETAIL WITHOUT CROSSWALK



SECTION A-A

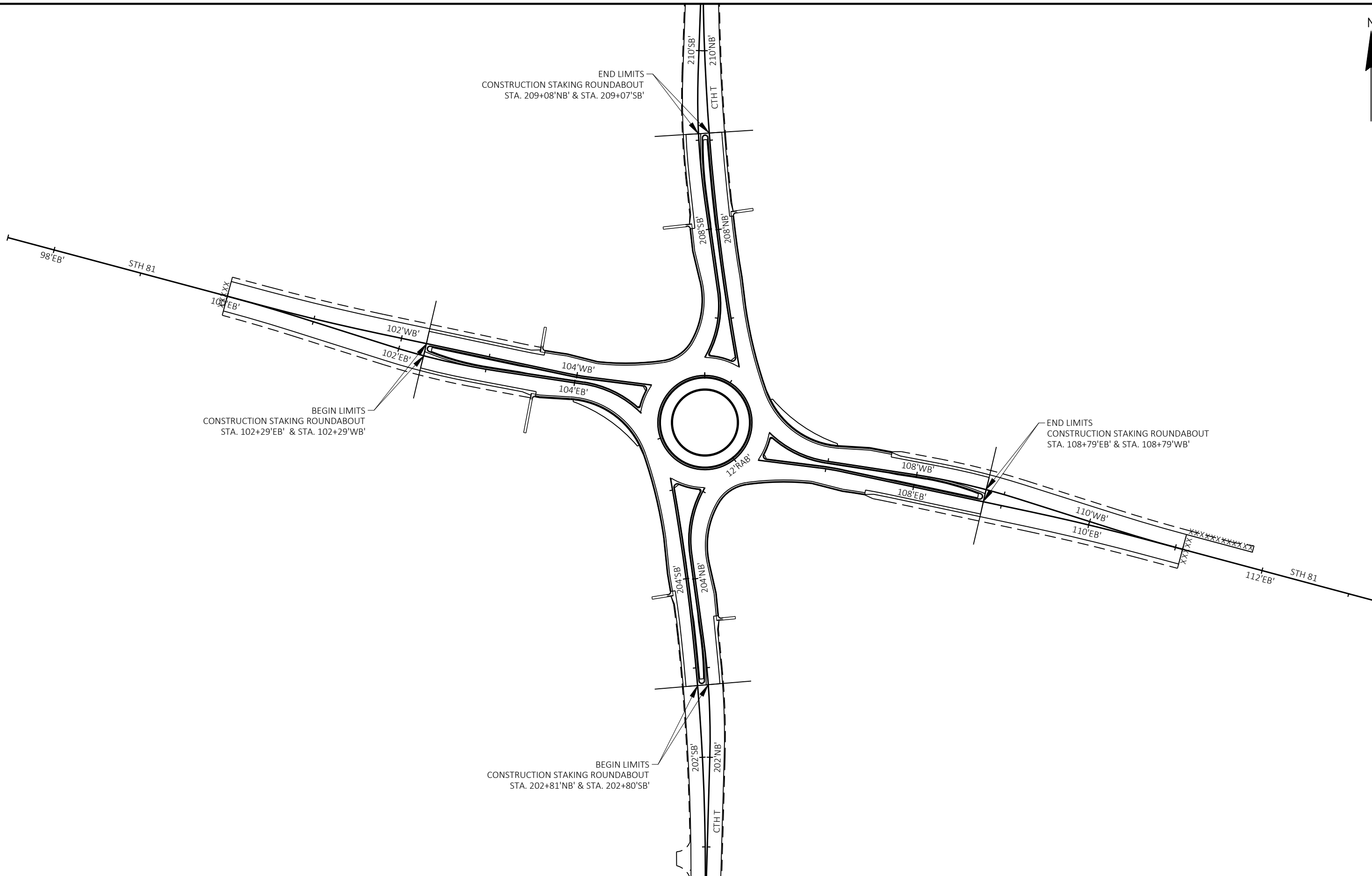


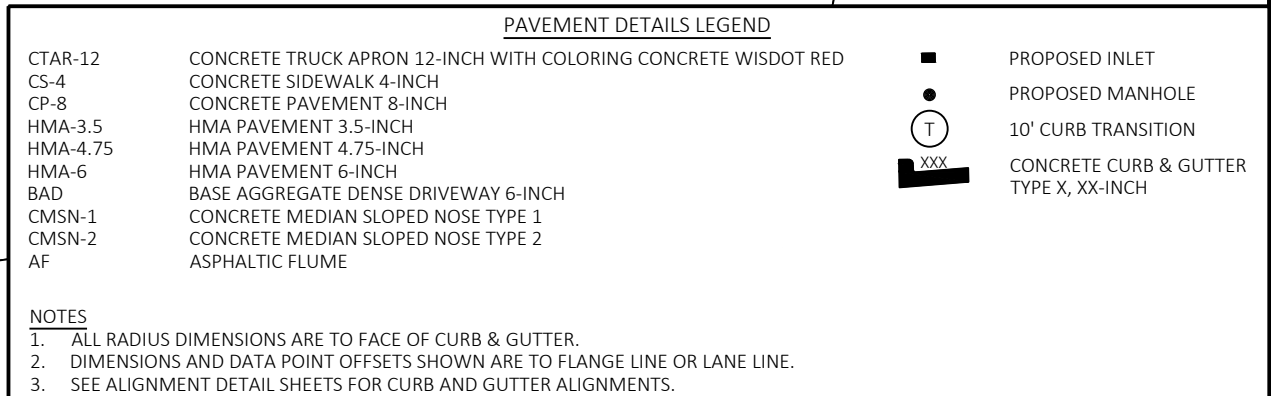
REMOVING TRANSVERSE RUMBLE STRIPS DETAIL

STA 50+66 'EXT' - STA 50+94 'EXT' RT
STA 54+32 'EXT' - STA 54+58 'EXT' RT

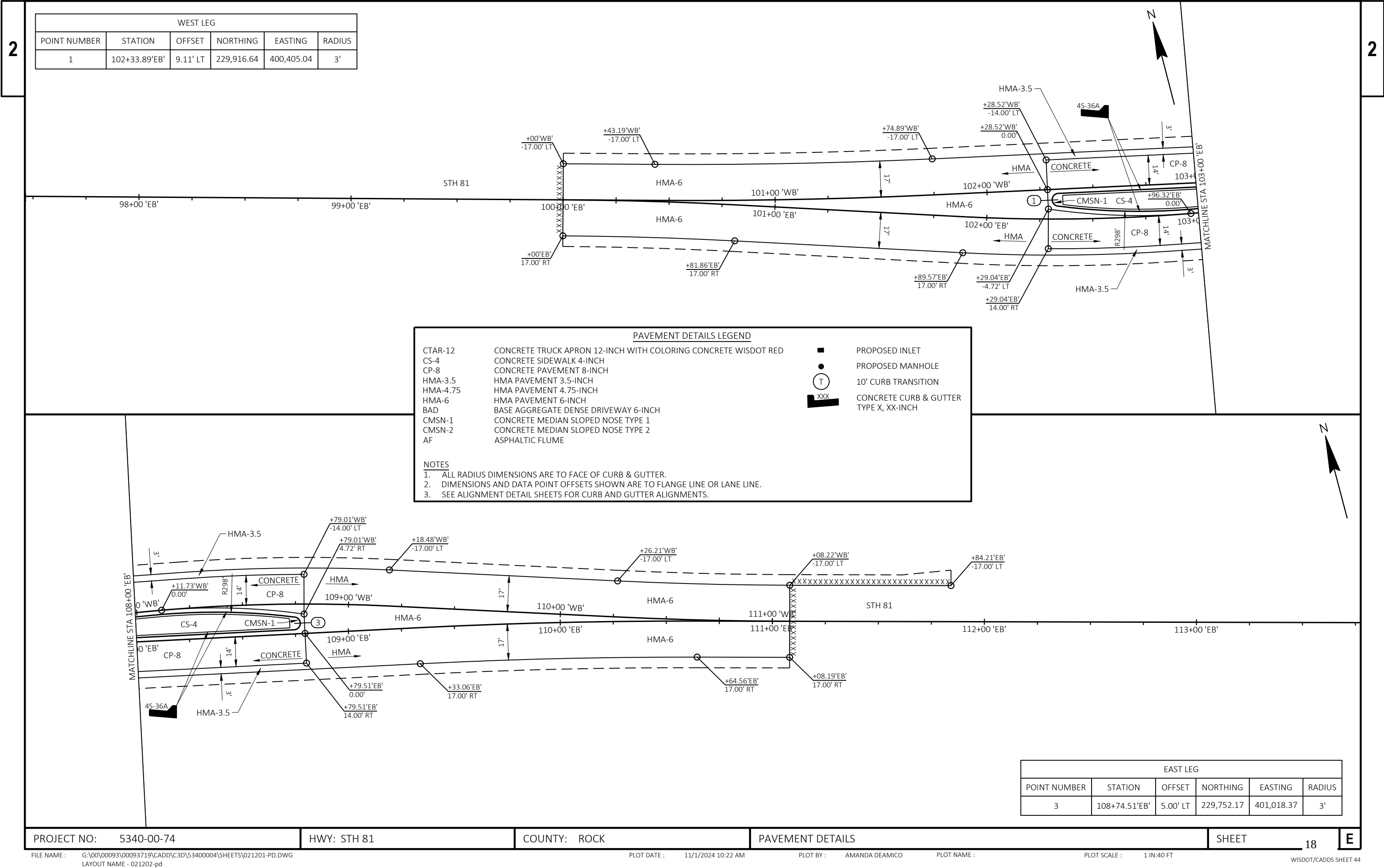
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2

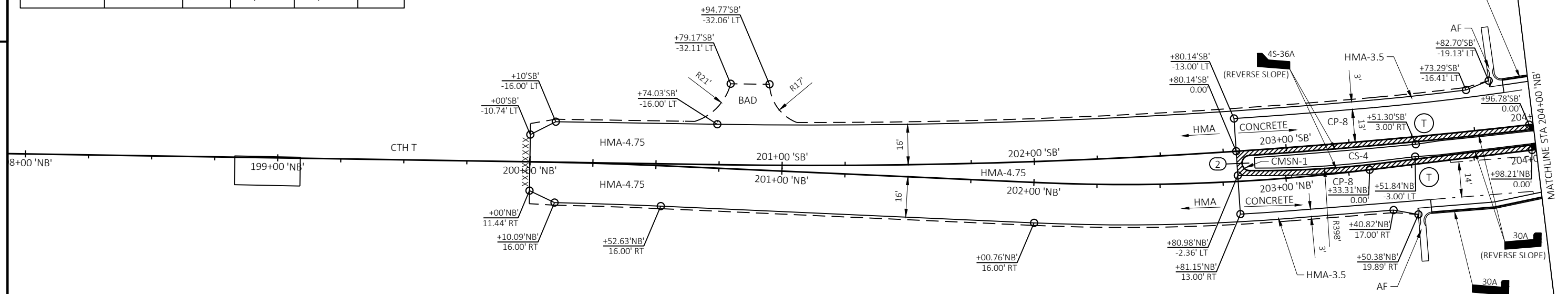




RAB					
POINT NUMBER	STATION	OFFSET	NORTHING	EASTING	RADIUS
5	104+74.94'WB'	6.00' RT	229,871.58	400,642.54	4'
6	104+75.65'EB'	4.00' LT	229,853.19	400,637.55	2'
7	205+01.99'SB'	6.00' RT	229,762.20	400,681.21	4'
8	204+98.57'NB'	4.00' LT	229,758.31	400,705.16	2'
9	106+33.09'EB'	6.00' LT	229,797.41	400,780.91	4'
10	106+32.40'WB'	4.00' RT	229,815.80	400,785.91	2'
11	206+56.54'NB'	6.00' LT	229,906.94	400,742.03	4'
12	206+59.72'SB'	4.00' RT	229,910.76	400,718.06	2'



SOUTH LEG					
POINT NUMBER	STATION	OFFSET	NORTHING	EASTING	RADIUS
2	202+85.97'NB'	7.00' LT	229,546.60	400,708.12	3'

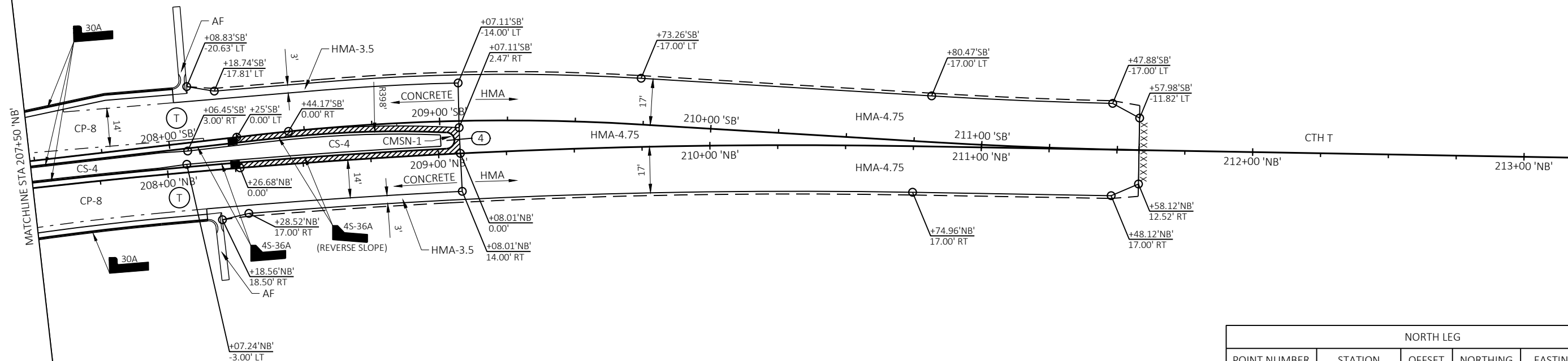


PAVEMENT DETAILS LEGEND

CTAR-12	CONCRETE TRUCK APRON 12-INCH WITH COLORING CONCRETE WISDOT RED	■	PROPOSED INLET
CS-4	CONCRETE SIDEWALK 4-INCH	●	PROPOSED MANHOLE
CP-8	CONCRETE PAVEMENT 8-INCH	(T)	10' CURB TRANSITION
HMA-3.5	HMA PAVEMENT 3.5-INCH	XXX	CONCRETE CURB & GUTTER
HMA-4.75	HMA PAVEMENT 4.75-INCH		TYPE X, XX-INCH
HMA-6	HMA PAVEMENT 6-INCH		
BAD	BASE AGGREGATE DENSE DRIVEWAY 6-INCH		
CMSN-1	CONCRETE MEDIAN SLOPED NOSE TYPE 1		
CMSN-2	CONCRETE MEDIAN SLOPED NOSE TYPE 2		
AF	ASPHALTIC FLUME		

NOTES

- ALL RADIUS DIMENSIONS ARE TO FACE OF CURB & GUTTER.
- DIMENSIONS AND DATA POINT OFFSETS SHOWN ARE TO FLANGE LINE OR LANE LINE.
- SEE ALIGNMENT DETAIL SHEETS FOR CURB AND GUTTER ALIGNMENTS.



NORTH LEG					
POINT NUMBER	STATION	OFFSET	NORTHING	EASTING	RADIUS
4	209+03.02'NB'	5.00' LT	230,152.02	400,711.94	3'

PROJECT NO: 5340-00-74

HWY: STH 81

COUNTY: ROCK

PAVEMENT DETAILS

SHEET

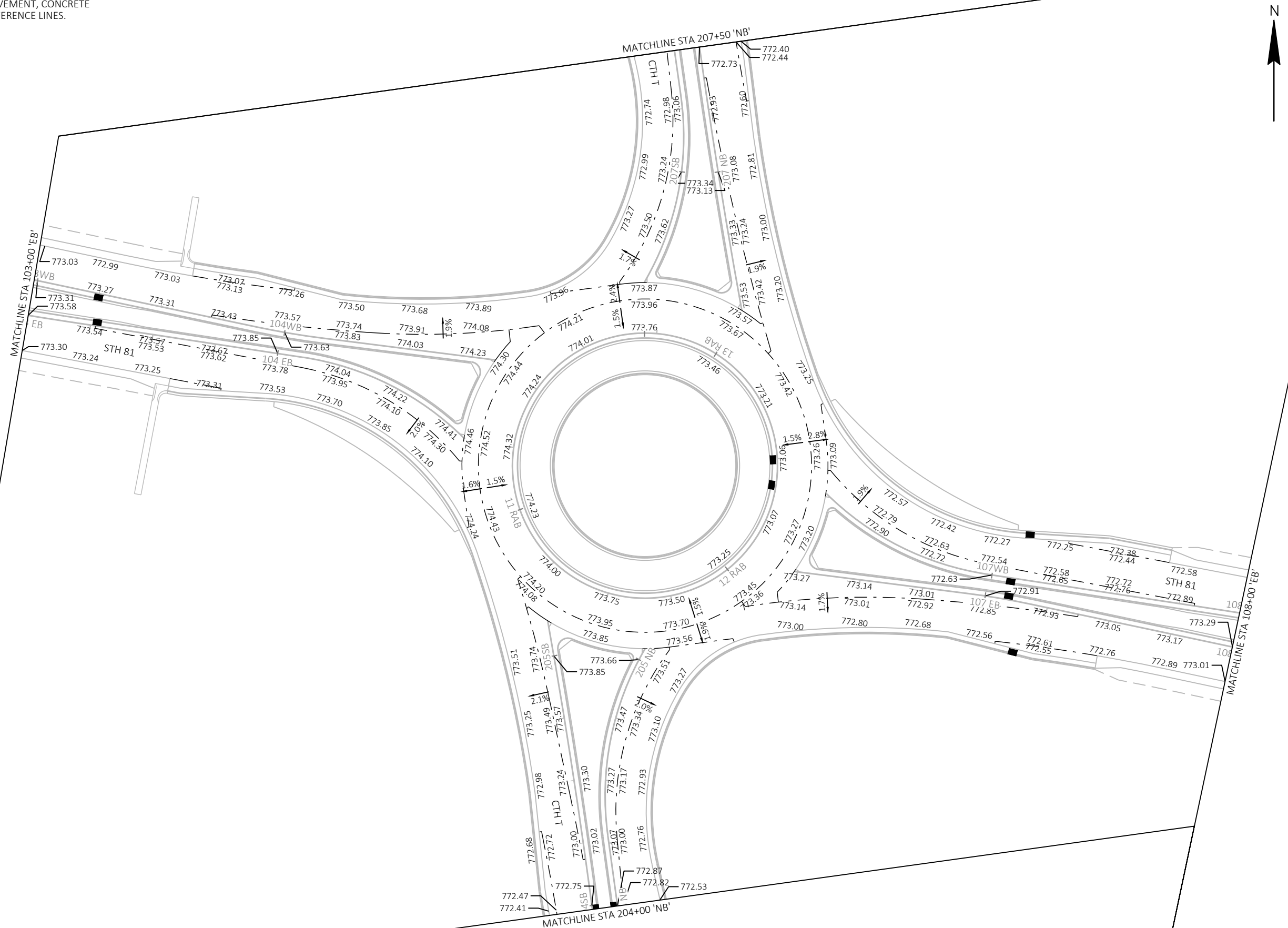
19

E

2

ALL ELEVATIONS SHOWN ARE AT GUTTER FLANGE
LINES, EDGE OF CONCRETE PAVEMENT, CONCRETE
PAVEMENT JOINTS, OR ON REFERENCE LINES.

2



PROJECT NO: 5340-00-74

HWY: STH 81

COUNTY: ROCK

PAVEMENT GRADES

SHEET 20 **E**

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LAYOUT NAME - 021201-pg

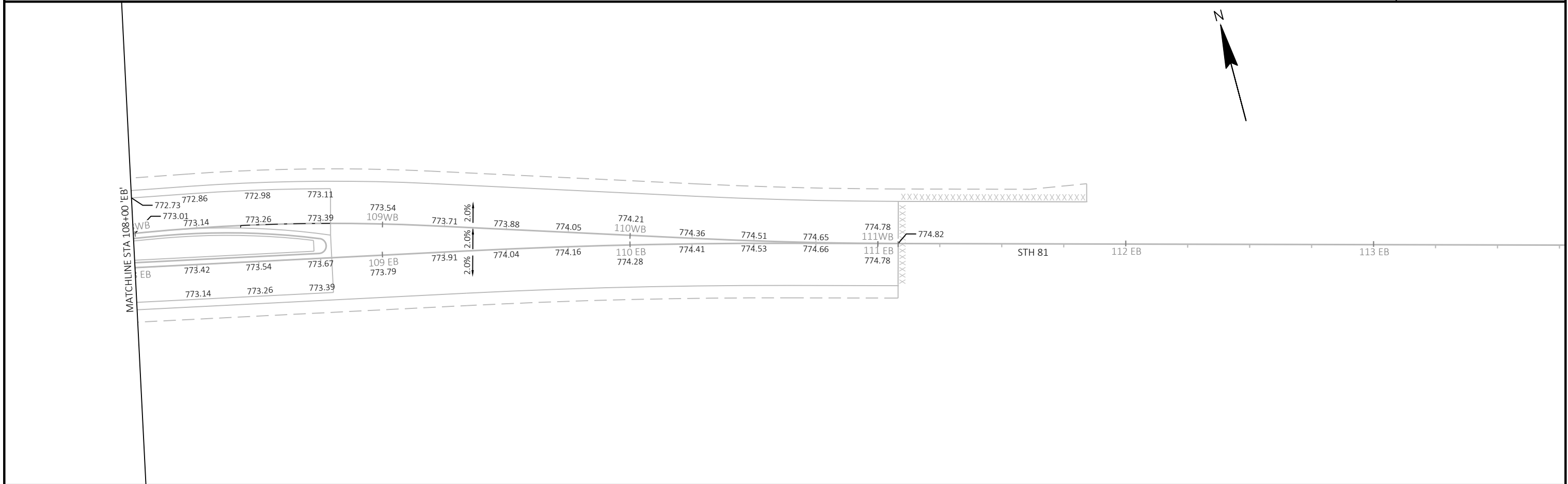
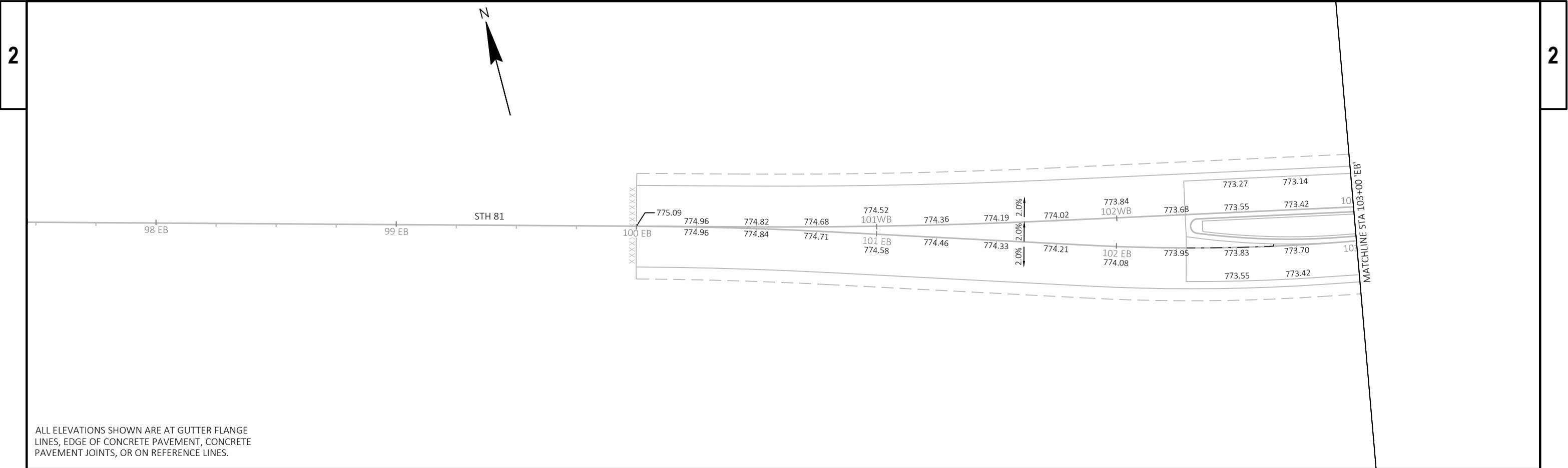
PLOT DATE : 12/3/2024 11:35 AM

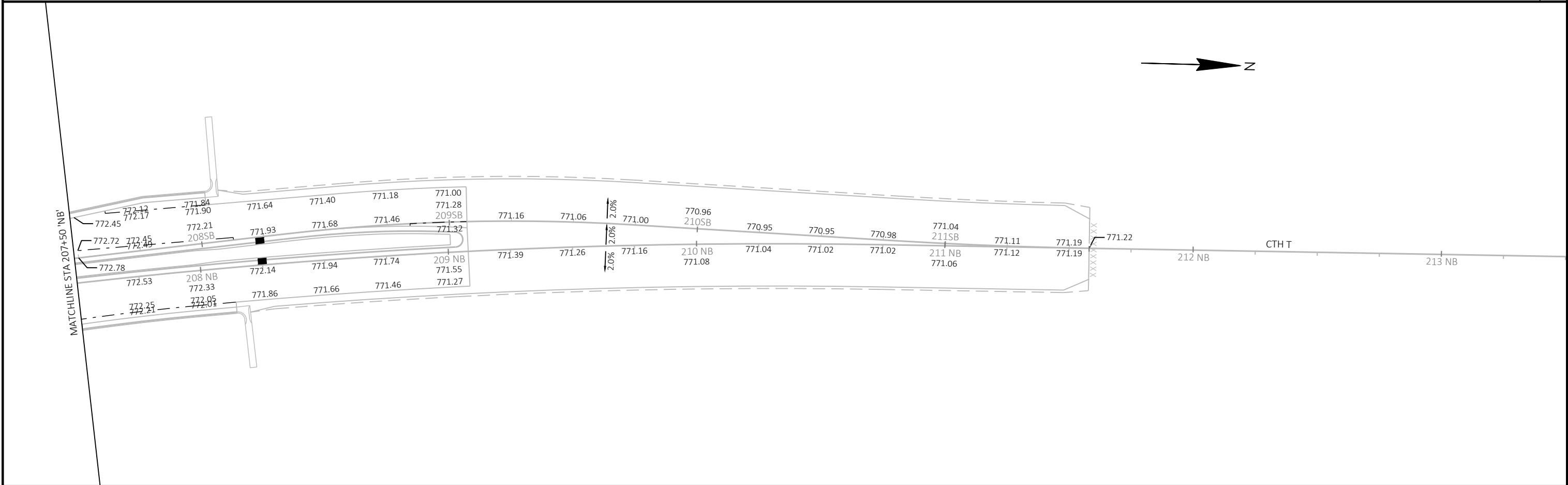
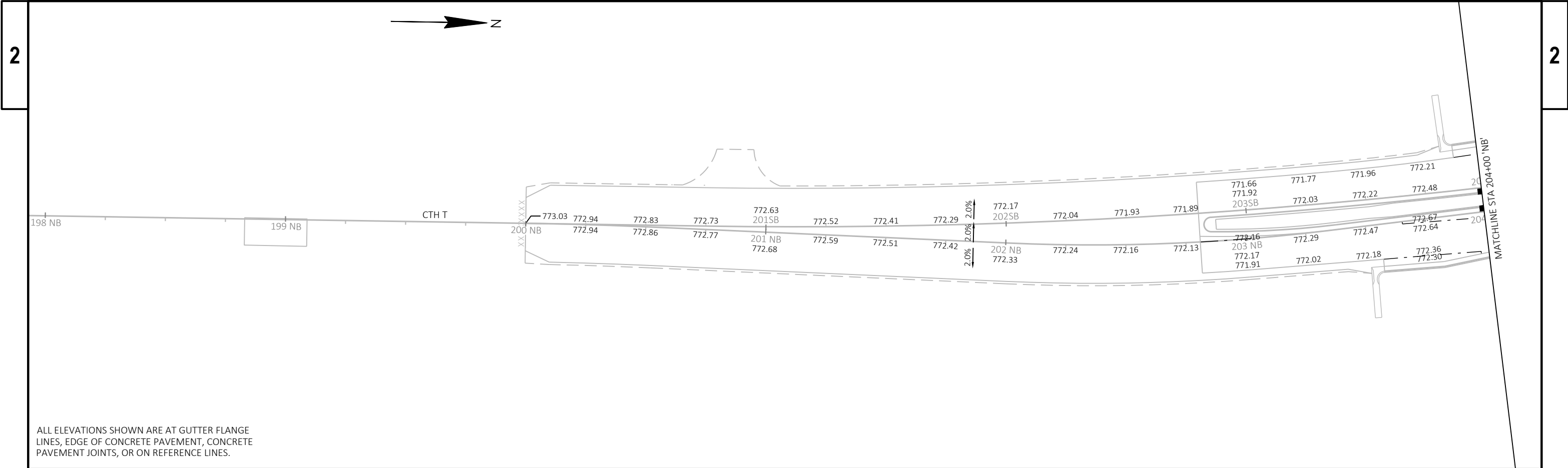
PLOT BY : CONNOR GIRTEN

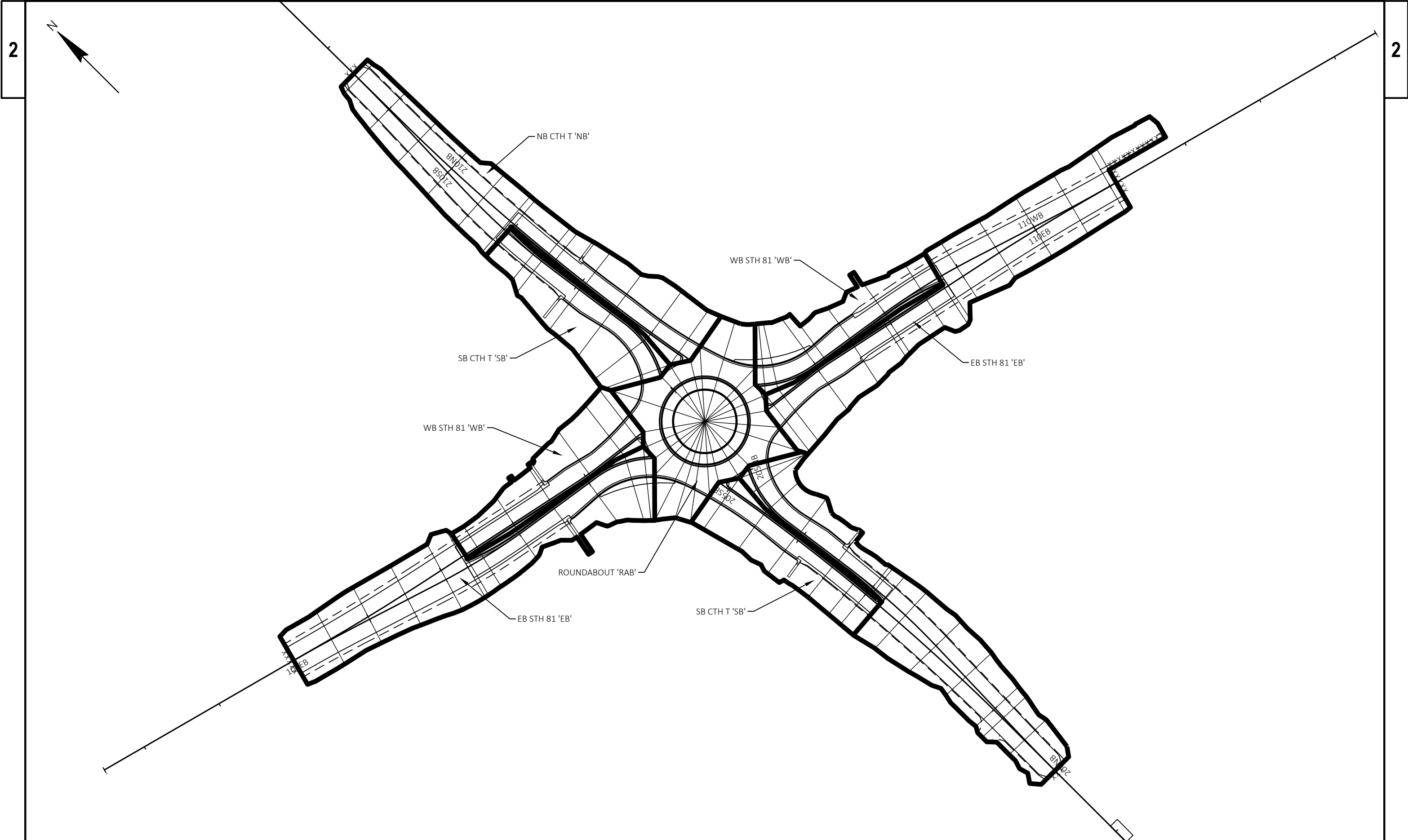
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PLOT SCALE : #####

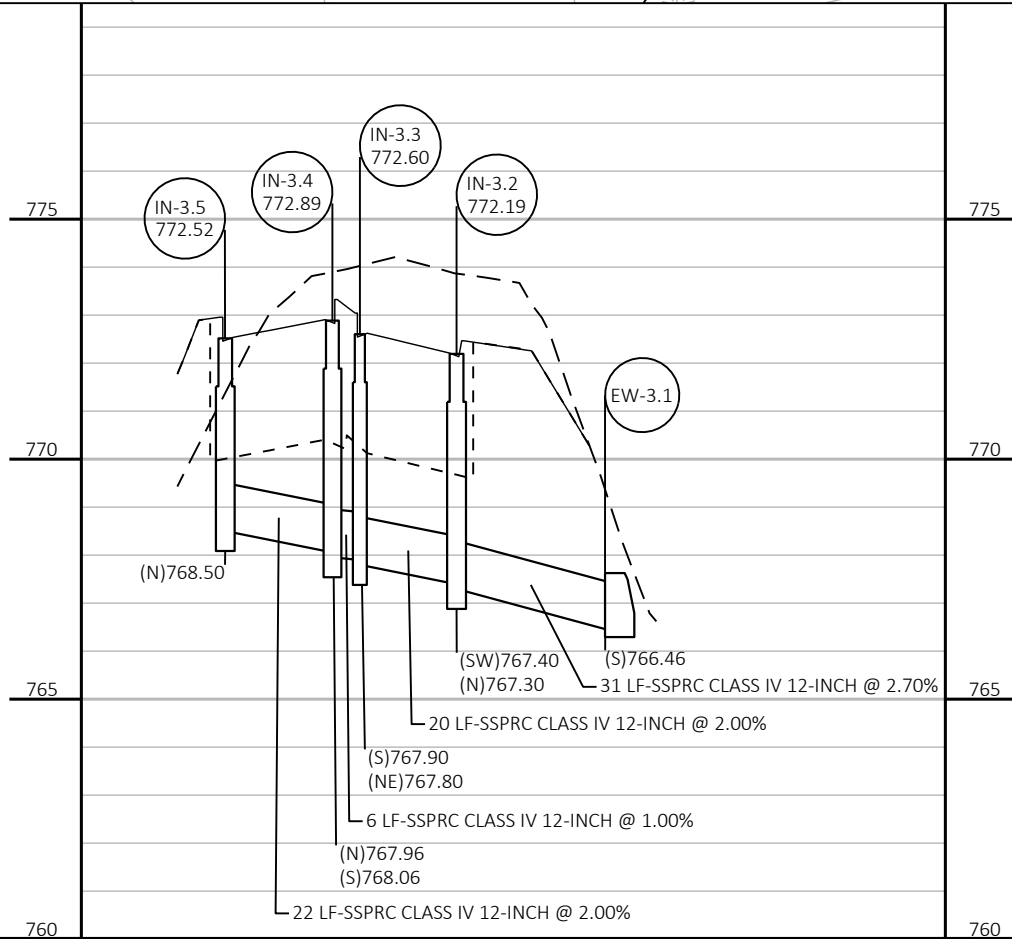
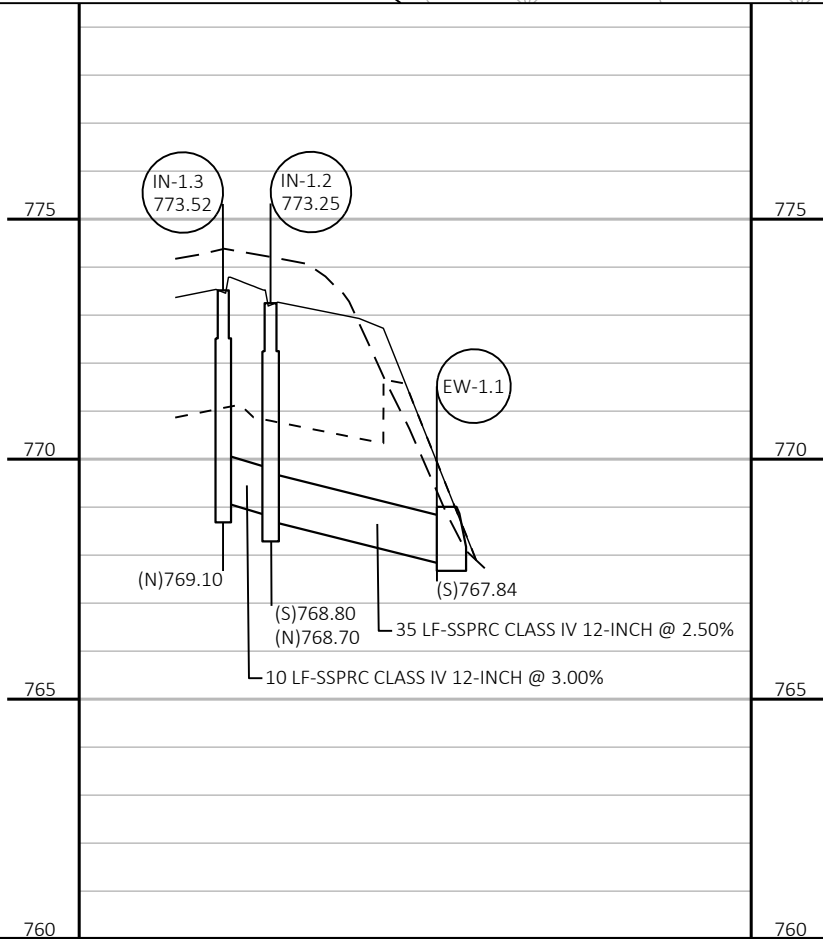
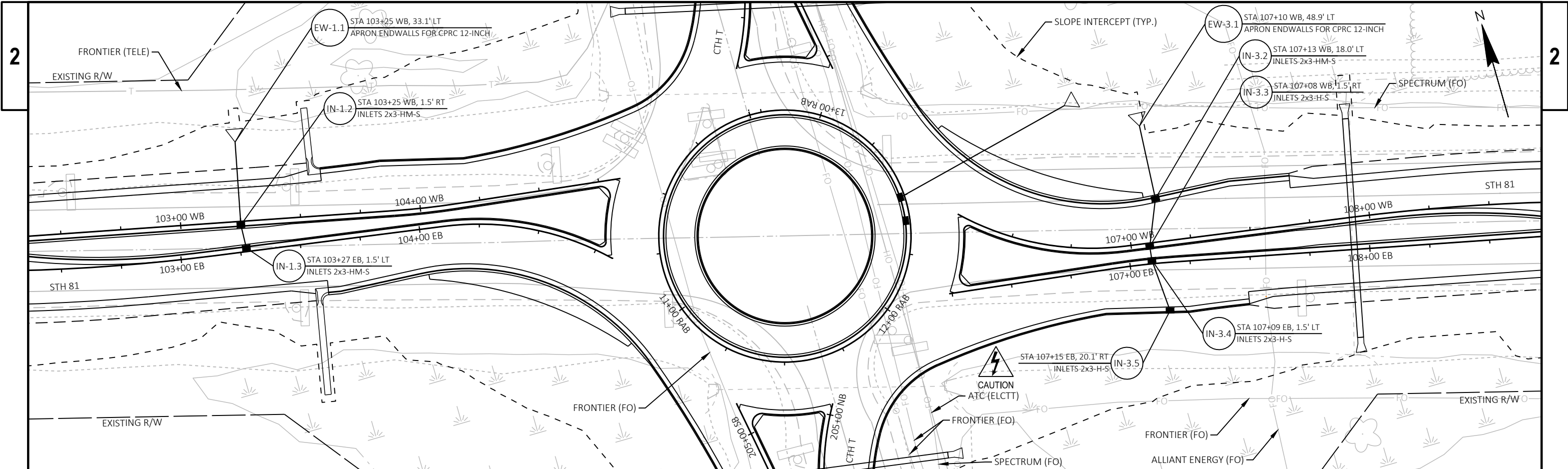
WISDOT/CADDS SHEET 42

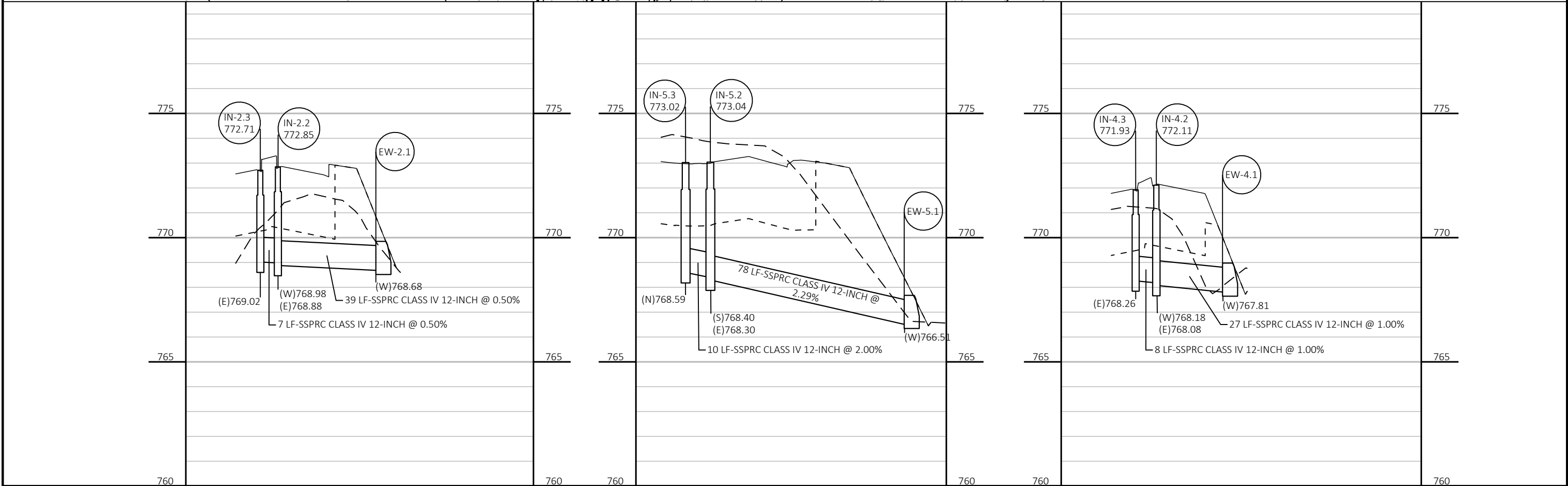
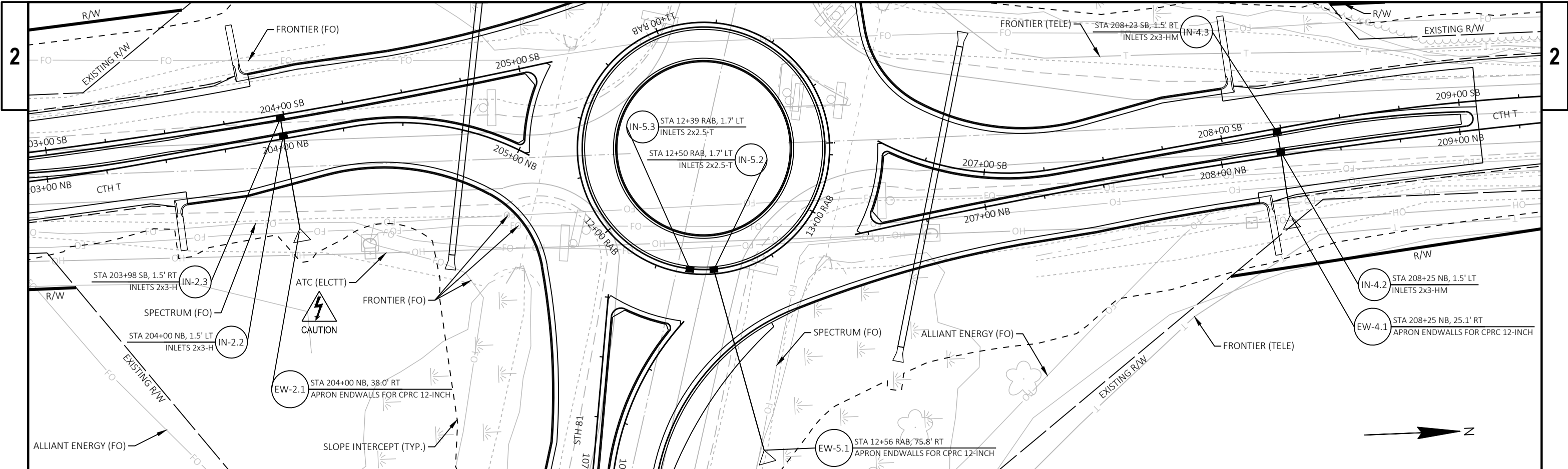






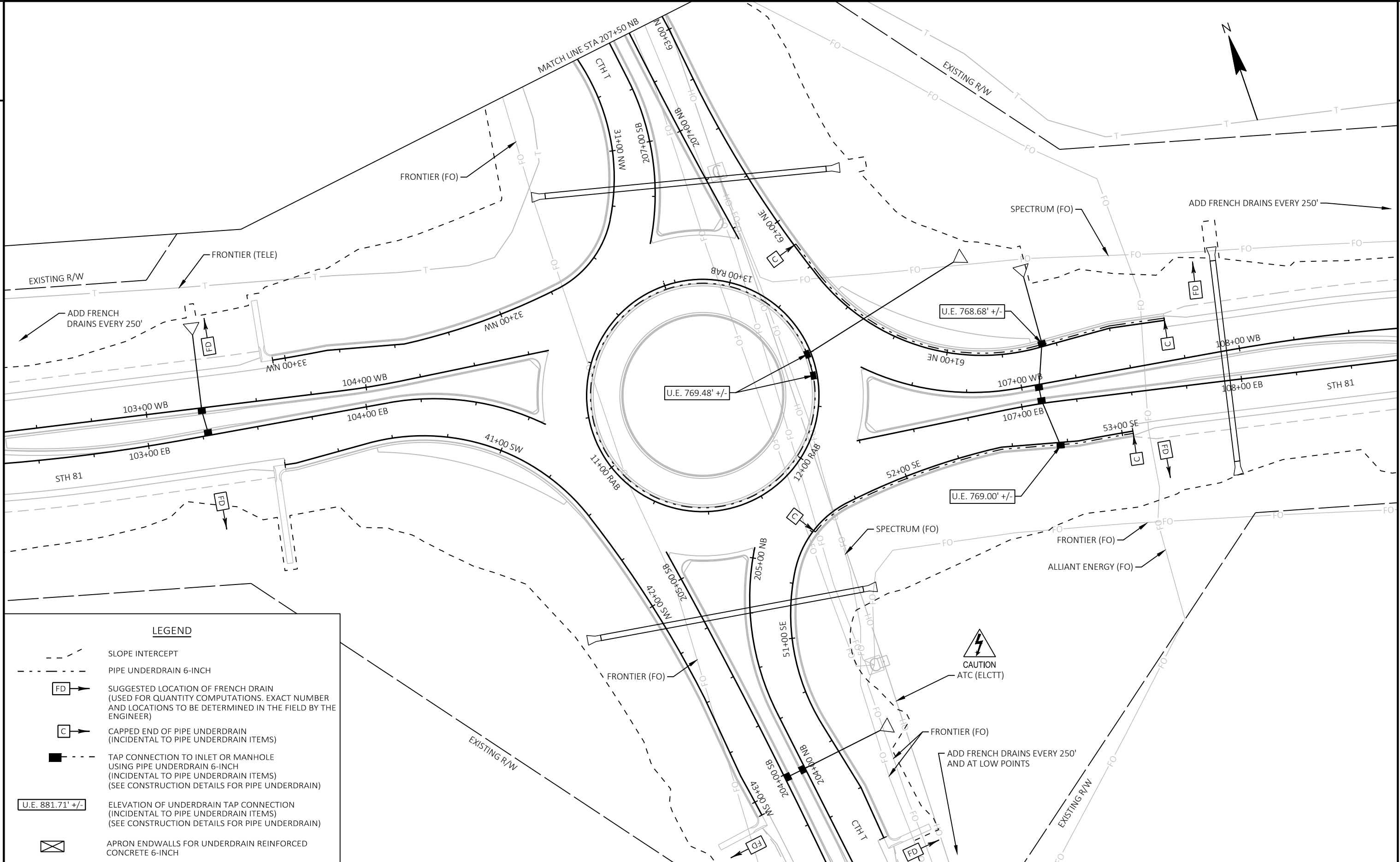






2

2



LEGEND

- | | |
|--|---|
| | SLOPE INTERCEPT |
| | PIPE UNDERDRAIN 6-INCH |
| | SUGGESTED LOCATION OF FRENCH DRAIN
(USED FOR QUANTITY COMPUTATIONS. EXACT NUMBER
AND LOCATIONS TO BE DETERMINED IN THE FIELD BY THE
ENGINEER) |
| | CAPPED END OF PIPE UNDERDRAIN
(INCIDENTAL TO PIPE UNDERDRAIN ITEMS) |
| | TAP CONNECTION TO INLET OR MANHOLE
USING PIPE UNDERDRAIN 6-INCH
(INCIDENTAL TO PIPE UNDERDRAIN ITEMS)
(SEE CONSTRUCTION DETAILS FOR PIPE UNDERDRAIN) |
| | ELEVATION OF UNDERDRAIN TAP CONNECTION
(INCIDENTAL TO PIPE UNDERDRAIN ITEMS)
(SEE CONSTRUCTION DETAILS FOR PIPE UNDERDRAIN) |
| | APRON ENDWALLS FOR UNDERDRAIN REINFORCED
CONCRETE 6-INCH |

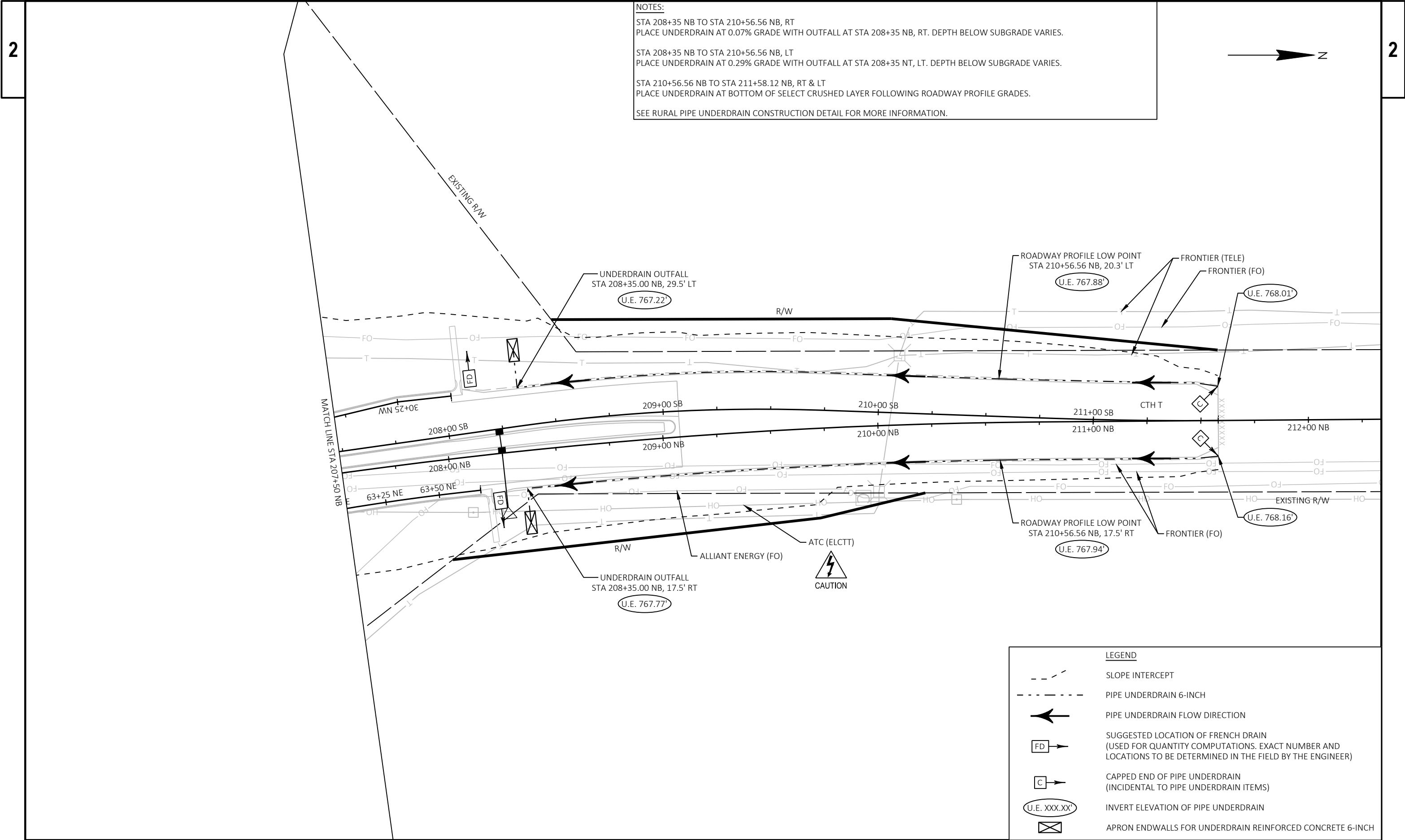
PROJECT NO: 5340-00-74

HWY: STH 81

COUNTY: ROCK

STORM SEWER - UNDERDRAIN & FRENCH DRAINS

SHEET 27 **E**



NOTES:

STA 208+35 NB TO STA 210+56.56 NB, RT
PLACE UNDERDRAIN AT 0.07% GRADE WITH OUTFALL AT STA 208+35 NB, RT. DEPTH BELOW SUBGRADE VARIES.

STA 208+35 NB TO STA 210+56.56 NB, LT
PLACE UNDERDRAIN AT 0.29% GRADE WITH OUTFALL AT STA 208+35 NT, LT. DEPTH BELOW SUBGRADE VARIES.

STA 210+56.56 NB TO STA 211+58.12 NB, RT & LT
PLACE UNDERDRAIN AT BOTTOM OF SELECT CRUSHED LAYER FOLLOWING ROADWAY PROFILE GRADES.

SEE RURAL PIPE UNDERDRAIN CONSTRUCTION DETAIL FOR MORE INFORMATION.

LEGEND

SLOPE INTERCEPT

PIPE UNDERDRAIN 6-INCH

PIPE UNDERDRAIN FLOW DIRECTION

FD

SUGGESTED LOCATION OF FRENCH DRAIN
(USED FOR QUANTITY COMPUTATIONS. EXACT NUMBER AND
LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ENGINEER)

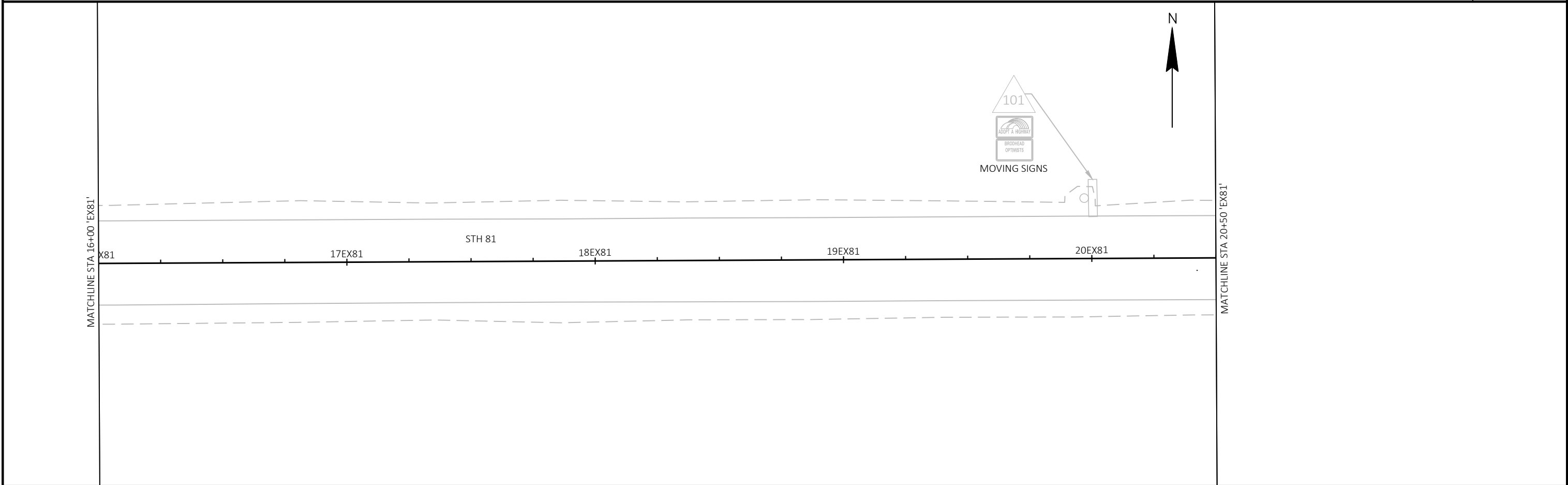
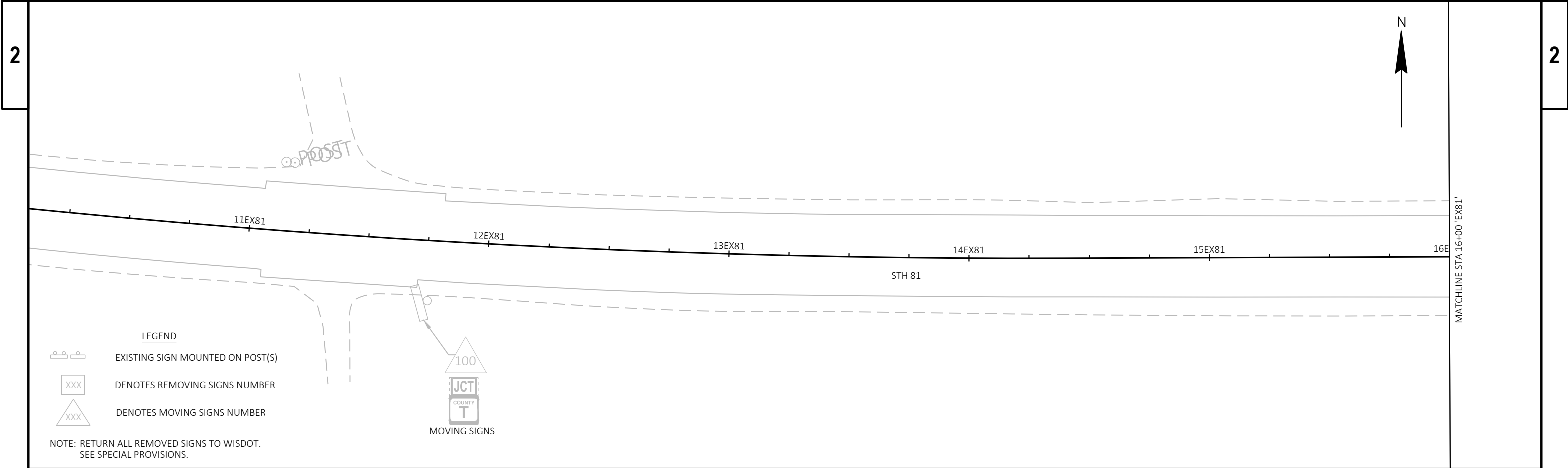
C

CAPPED END OF PIPE UNDERDRAIN
(INCIDENTAL TO PIPE UNDERDRAIN ITEMS)

U.E. XXX.XX

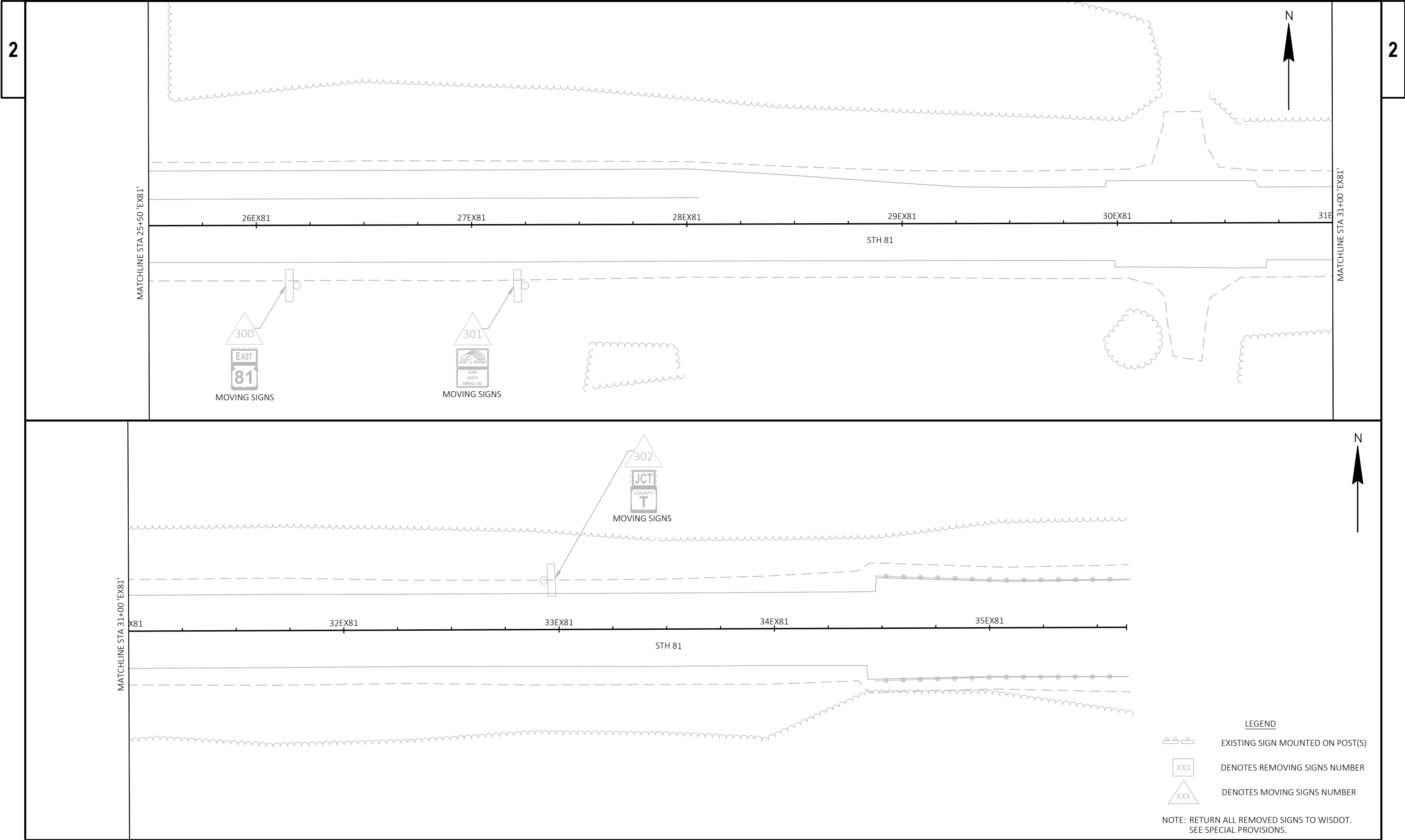
INVERT ELEVATION OF PIPE UNDERDRAIN

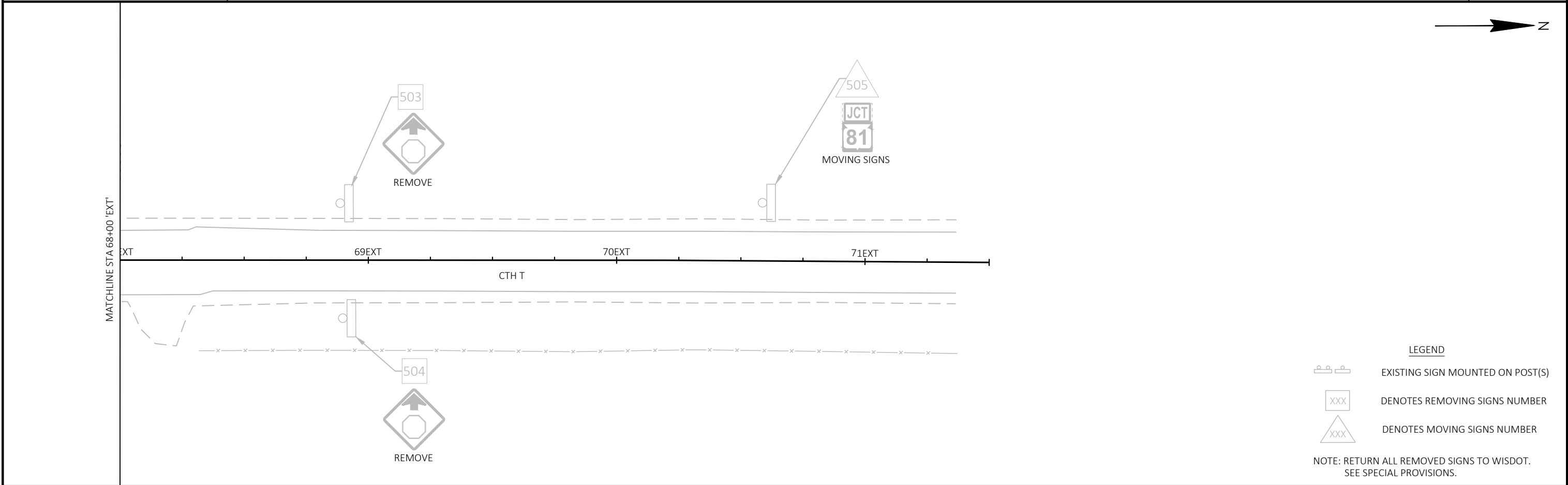
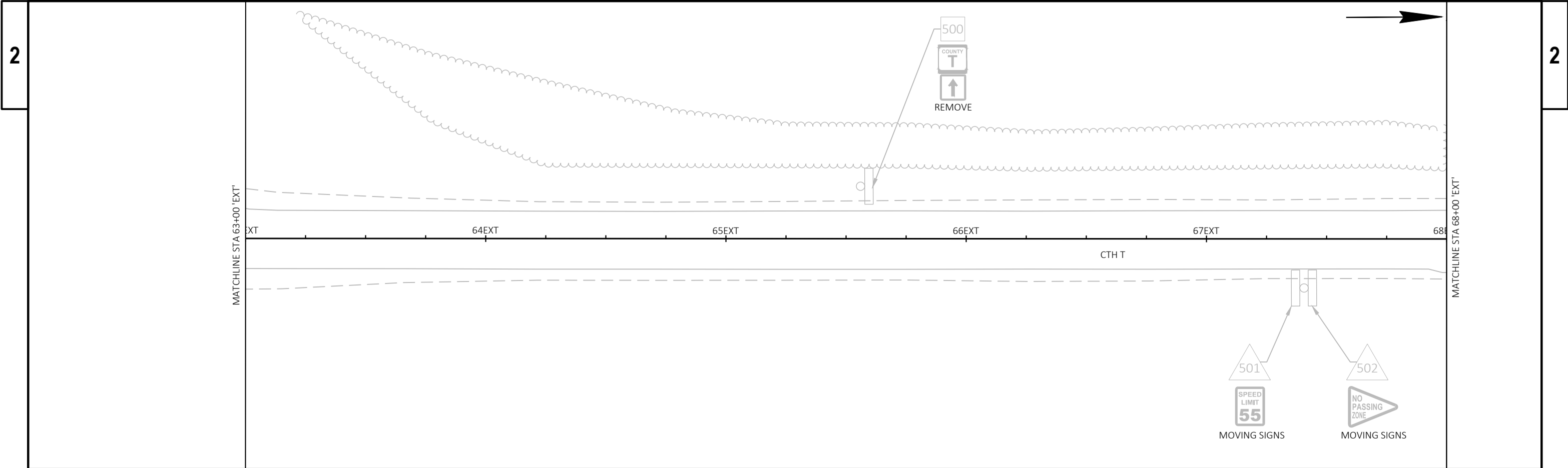
APRON ENDWALLS FOR UNDERDRAIN REINFORCED CONCRETE 6-INCH

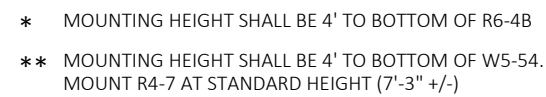


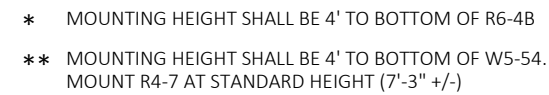


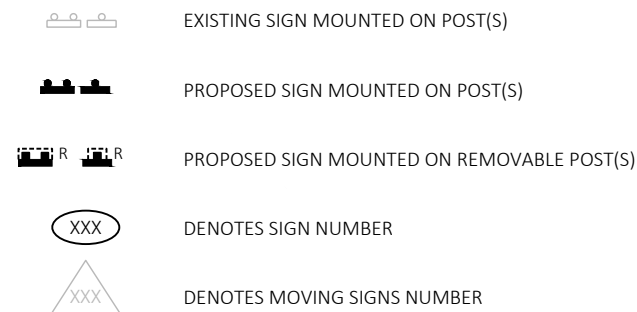
NOTE: RETURN ALL REMOVED SIGNS TO WISDOT.
SEE SPECIAL PROVISIONS.



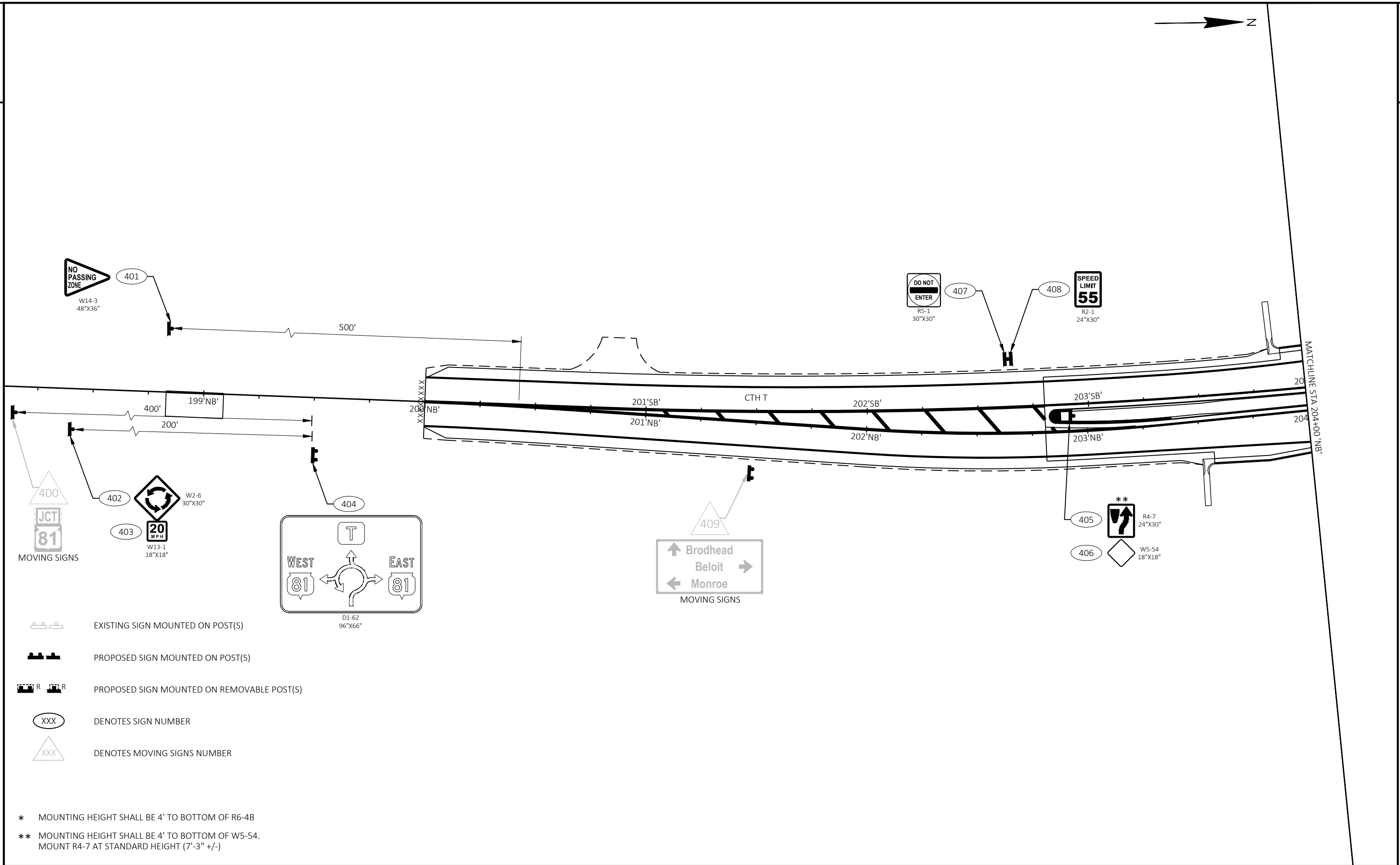








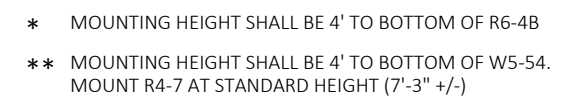
PROJECT NO: 5340-00-74	HWY: STH 81	COUNTY: ROCK	PERMANENT SIGNING	SHEET 36	E
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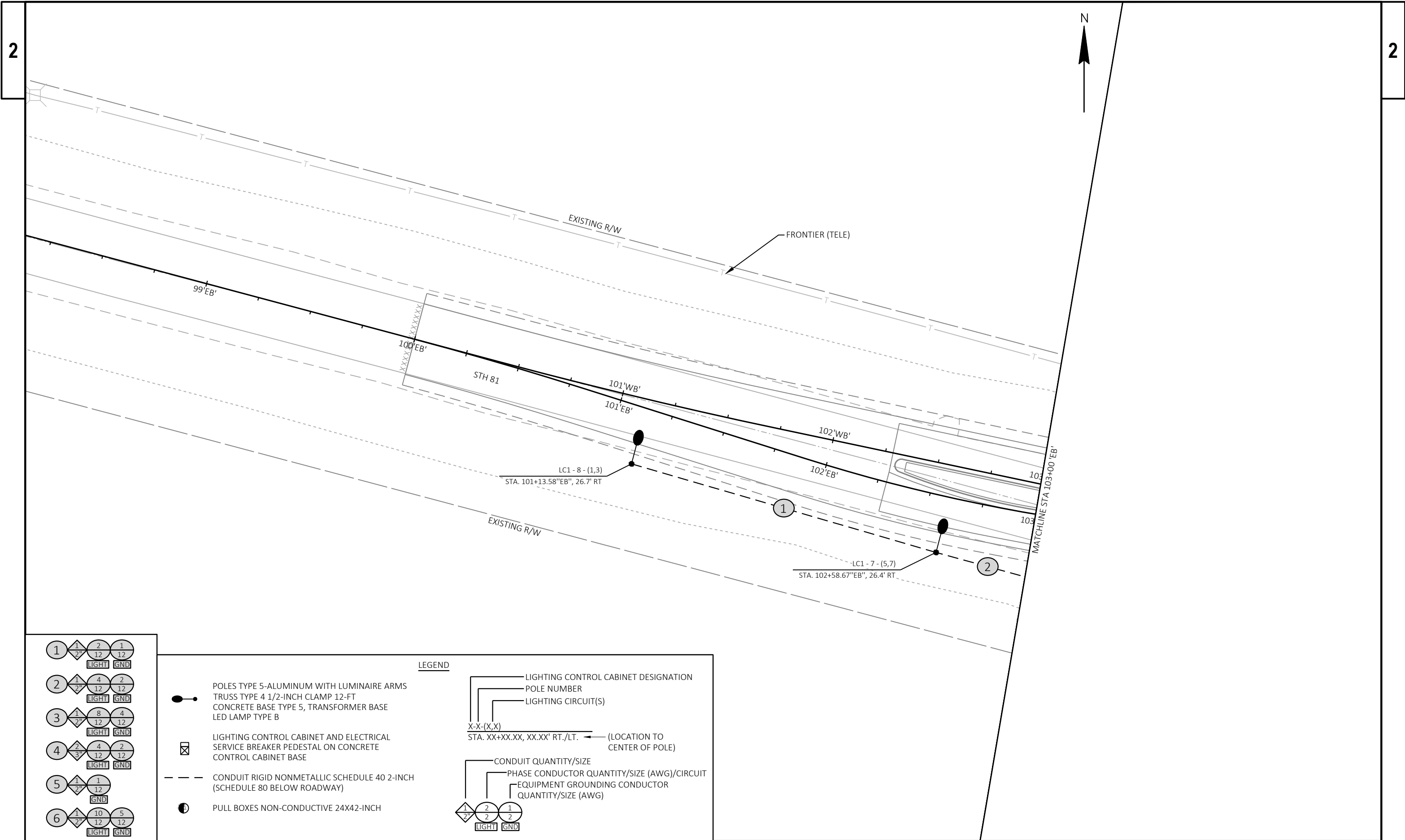


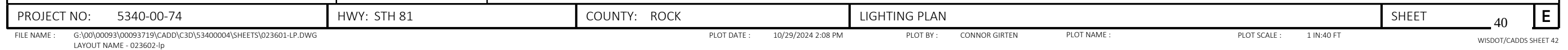
- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON REMOVABLE POST(S)
- DENOTES SIGN NUMBER
- DENOTES MOVING SIGNS NUMBER

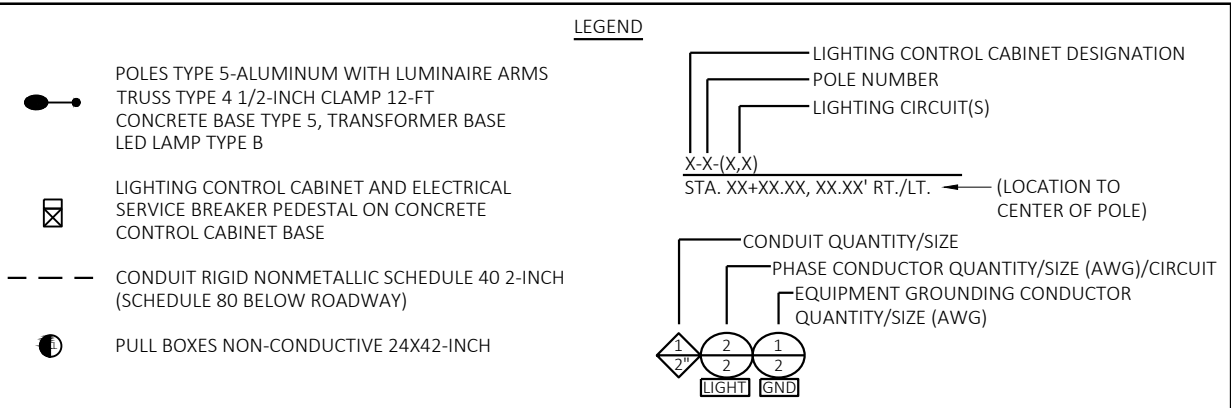
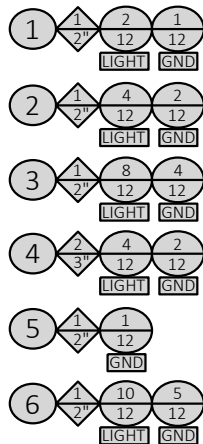
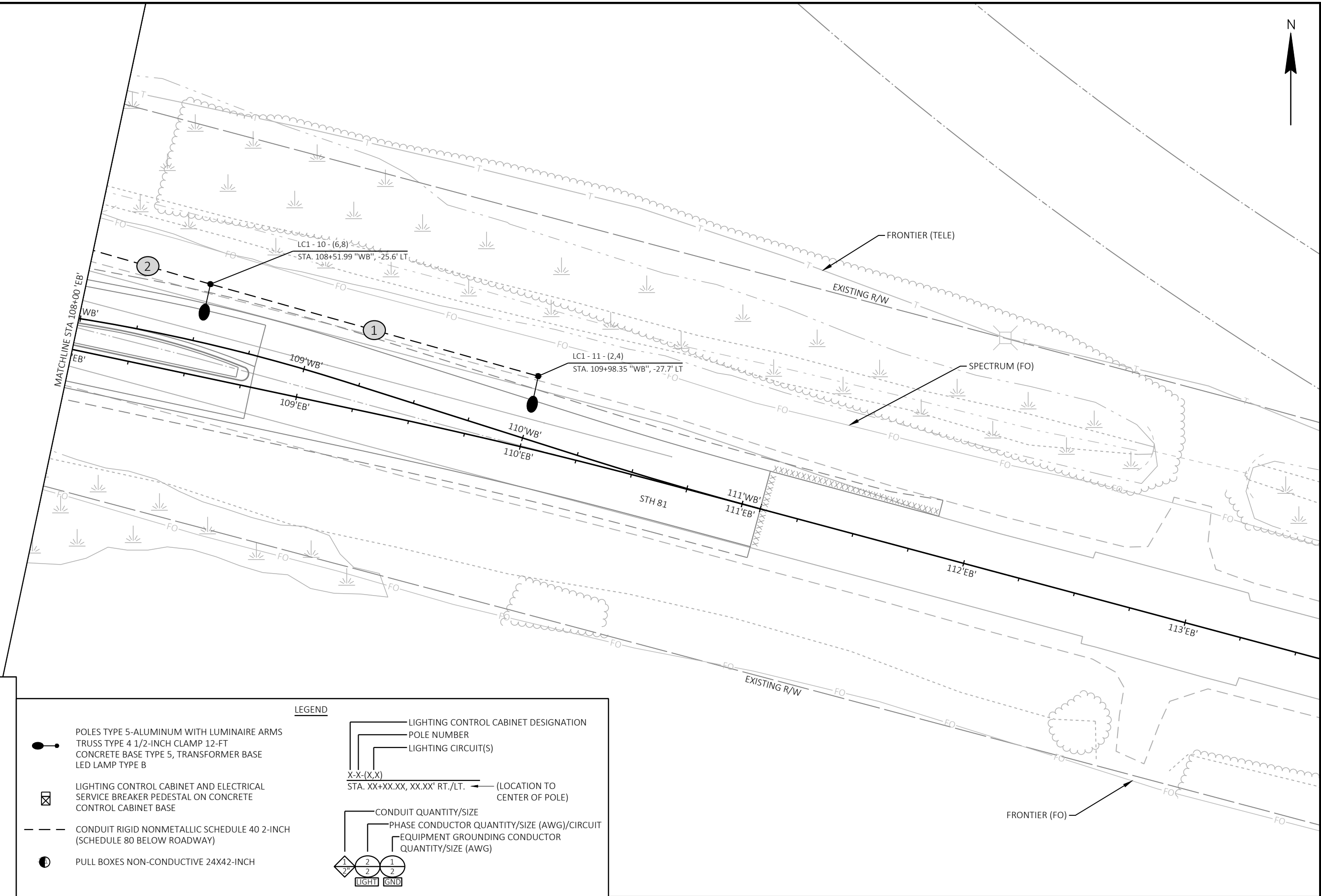
* MOUNTING HEIGHT SHALL BE 4' TO BOTTOM OF R6-4B

** MOUNTING HEIGHT SHALL BE 4' TO BOTTOM OF W5-54.
MOUNT R4-7 AT STANDARD HEIGHT (7'-3" +/-)









PROJECT NO: 5340-00-74

HWY: STH 81

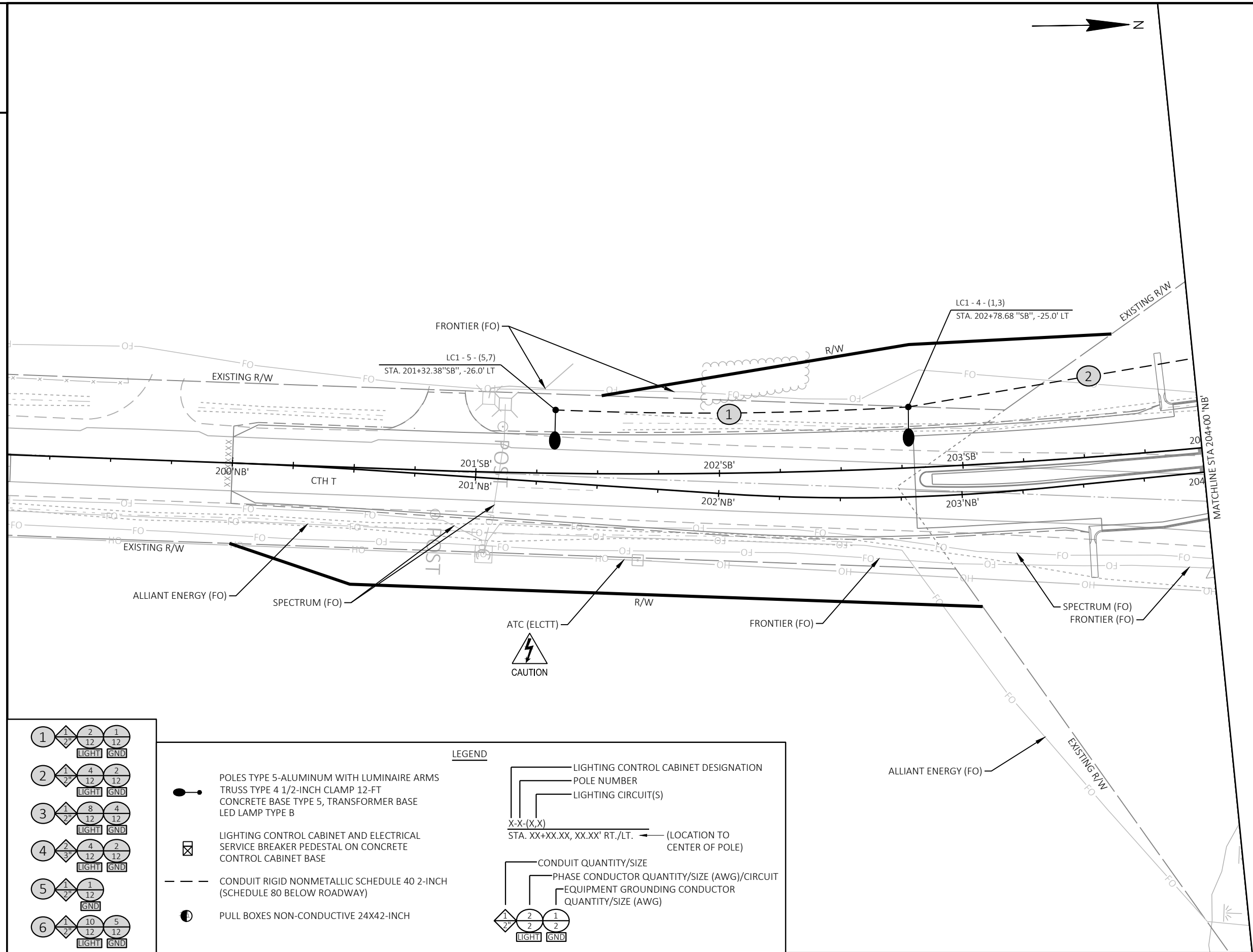
COUNTY: ROCK

LIGHTING PLAN

SHEET

41

E



1

2

3

4

5

6

POLES TYPE 5-ALUMINUM WITH LUMINAIRE ARMS
TRUSS TYPE 4 1/2-INCH CLAMP 12-FT
CONCRETE BASE TYPE 5, TRANSFORMER BASE
LED LAMP TYPE B

LIGHTING CONTROL CABINET AND ELECTRICAL
SERVICE BREAKER PEDESTAL ON CONCRETE
CONTROL CABINET BASE

CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH
(SCHEDULE 80 BELOW ROADWAY)

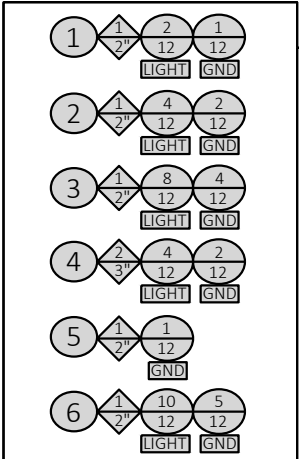
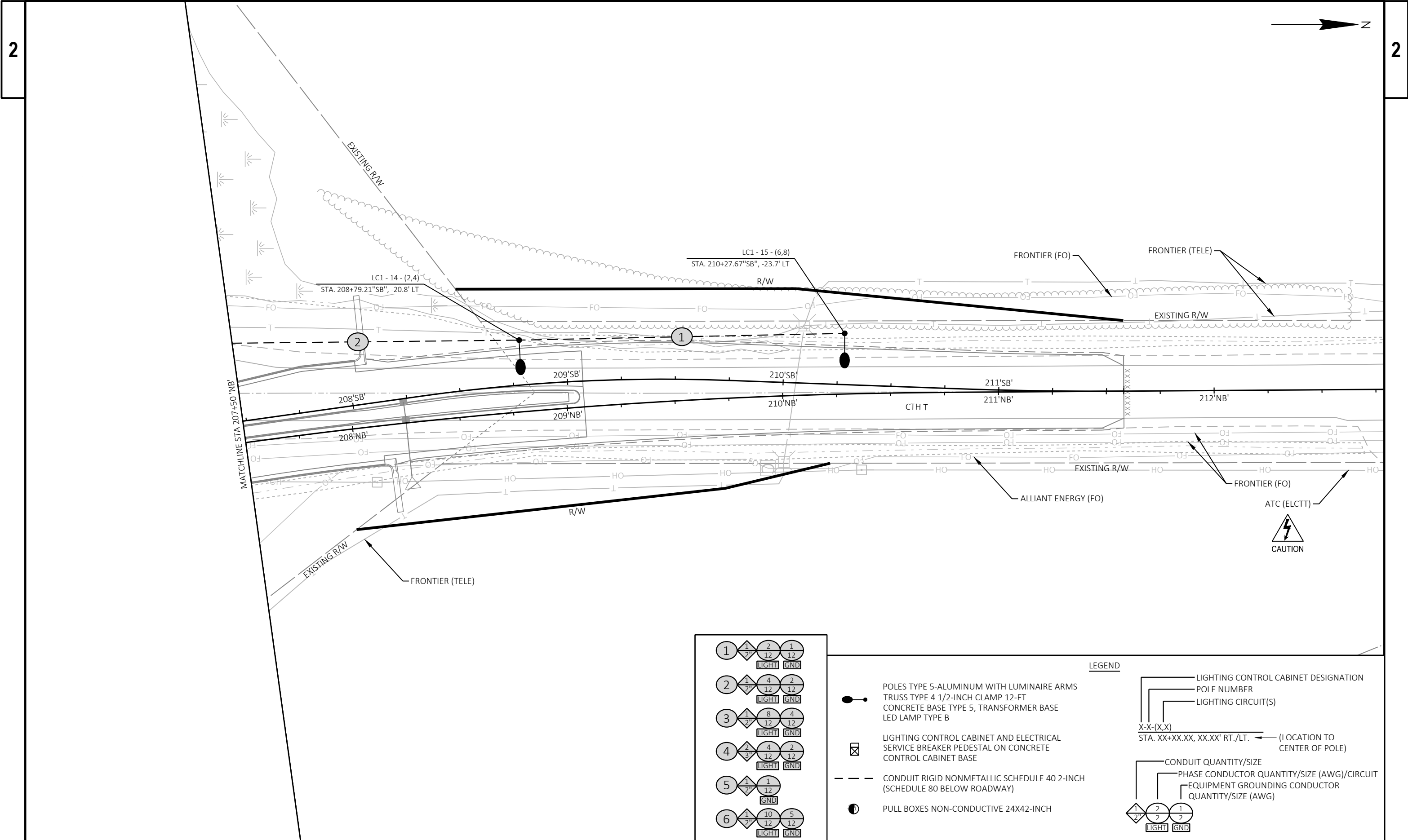
PULL BOXES NON-CONDUCTIVE 24X42-INCH

LEGEND

LIGHTING CONTROL CABINET DESIGNATION
POLE NUMBER
LIGHTING CIRCUIT(S)

X-X-(X,X)
STA. XX+XX.XX, XX.XX' RT./LT. (LOCATION TO
CENTER OF POLE)

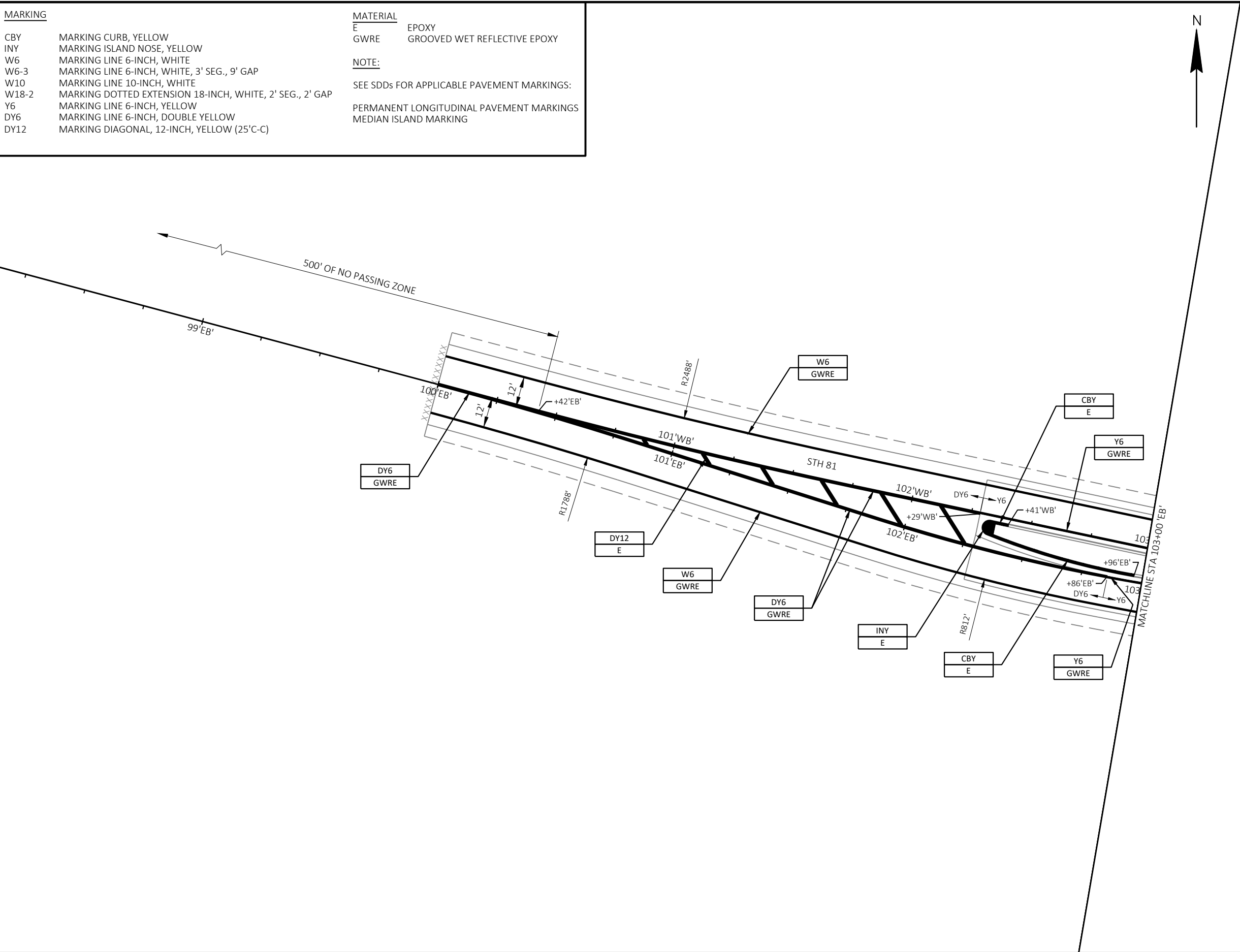
CONDUIT QUANTITY/SIZE
PHASE CONDUCTOR QUANTITY/SIZE (AWG)/CIRCUIT
EQUIPMENT GROUNDING CONDUCTOR
QUANTITY/SIZE (AWG)

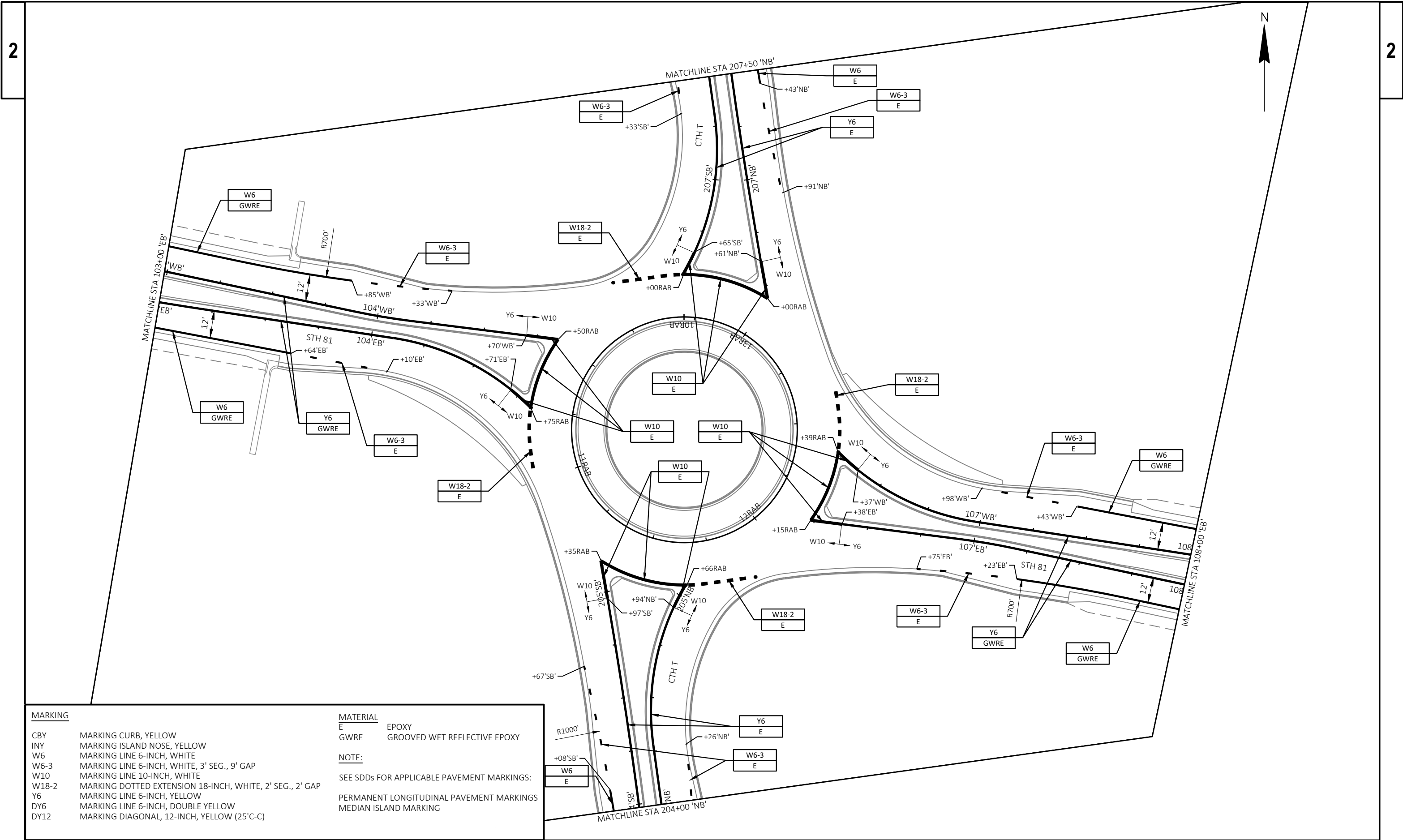


LEGEND

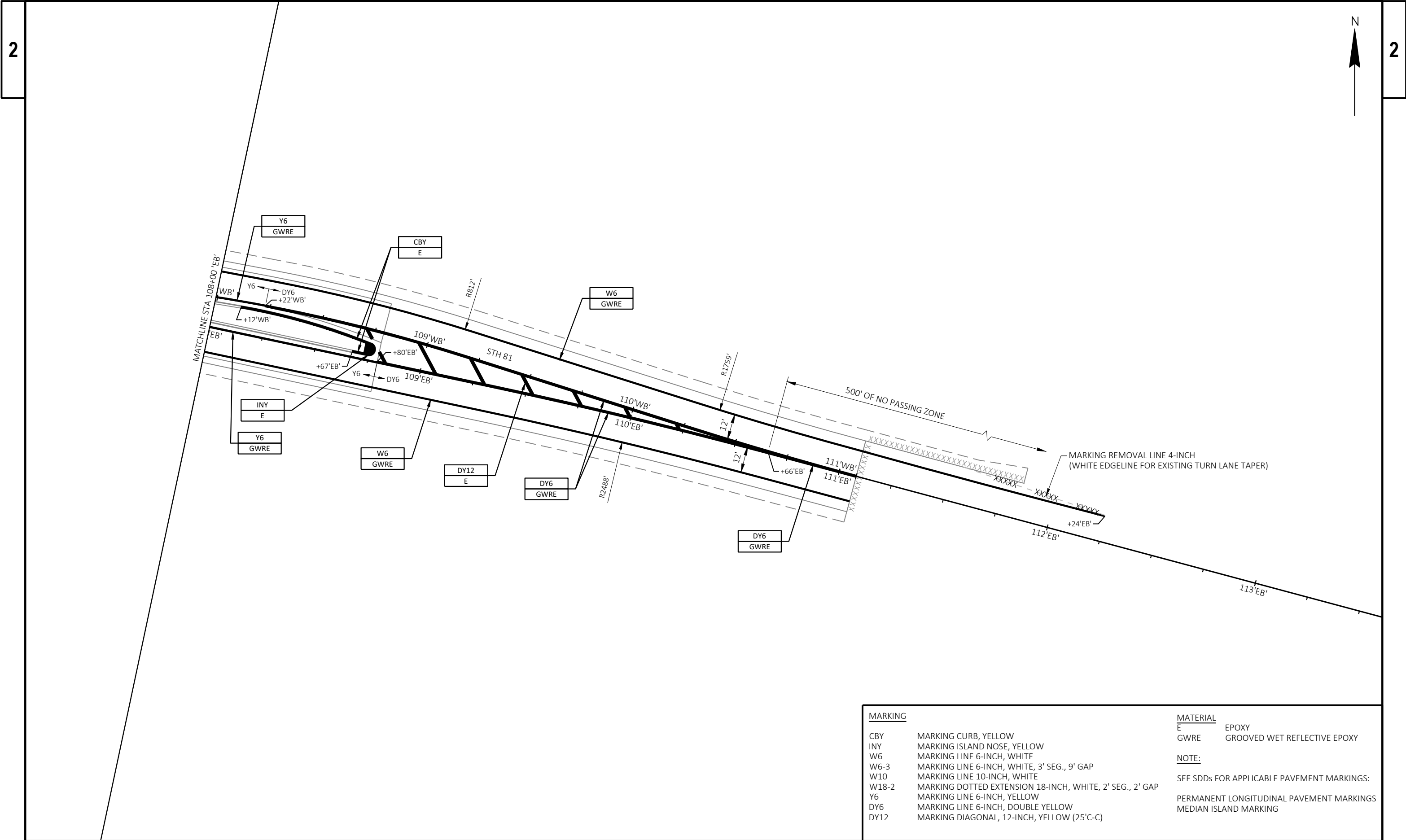
- POLES TYPE 5-ALUMINUM WITH LUMINAIRE ARMS
TRUSS TYPE 4 1/2-INCH CLAMP 12-FT
CONCRETE BASE TYPE 5, TRANSFORMER BASE
LED LAMP TYPE B
- LIGHTING CONTROL CABINET AND ELECTRICAL
SERVICE BREAKER PEDESTAL ON CONCRETE
CONTROL CABINET BASE
- CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH
(SCHEDULE 80 BELOW ROADWAY)
- PULL BOXES NON-CONDUCTIVE 24X42-INCH
- LIGHTING CONTROL CABINET DESIGNATION
POLE NUMBER
LIGHTING CIRCUIT(S)
X-X-(X,X)
STA. XX+XX.XX, XX.XX' RT./LT. (LOCATION TO
CENTER OF POLE)
- CONDUIT QUANTITY/SIZE
PHASE CONDUCTOR QUANTITY/SIZE (AWG)/CIRCUIT
EQUIPMENT GROUNDING CONDUCTOR
QUANTITY/SIZE (AWG)

MARKING		MATERIAL	
CBY	MARKING CURB, YELLOW	E	EPOXY
INY	MARKING ISLAND NOSE, YELLOW	GWRE	GROOVED WET REFLECTIVE EPOXY
W6	MARKING LINE 6-INCH, WHITE		
W6-3	MARKING LINE 6-INCH, WHITE, 3' SEG., 9' GAP		
W10	MARKING LINE 10-INCH, WHITE		
W18-2	MARKING DOTTED EXTENSION 18-INCH, WHITE, 2' SEG., 2' GAP		
Y6	MARKING LINE 6-INCH, YELLOW	NOTE:	
DY6	MARKING LINE 6-INCH, DOUBLE YELLOW	SEE SDDs FOR APPLICABLE PAVEMENT MARKINGS:	
DY12	MARKING DIAGONAL, 12-INCH, YELLOW (25'C-C)	PERMANENT LONGITUDINAL PAVEMENT MARKINGS	
		MEDIAN ISLAND MARKING	

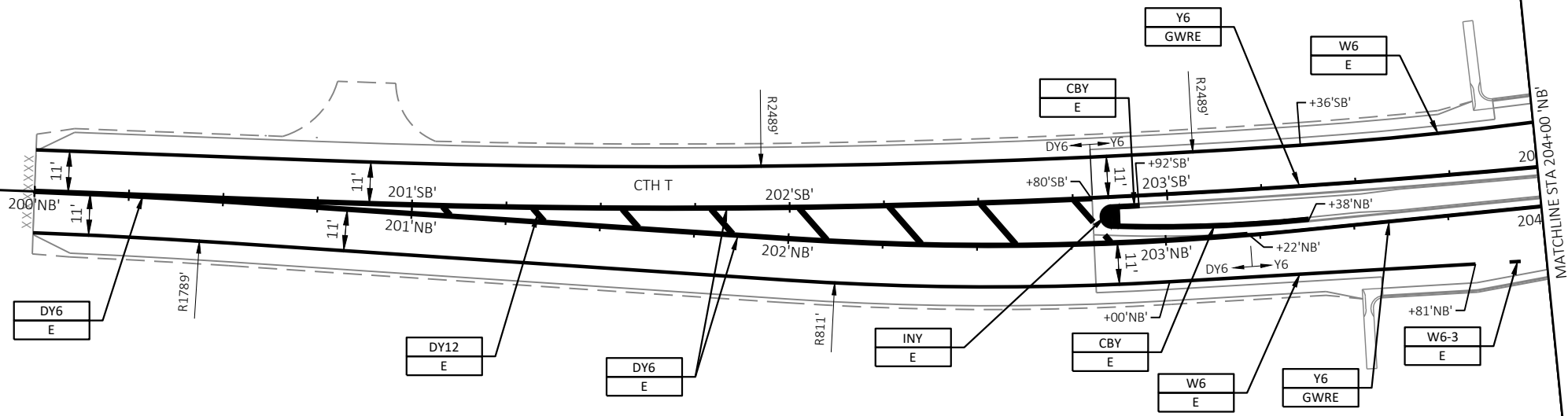




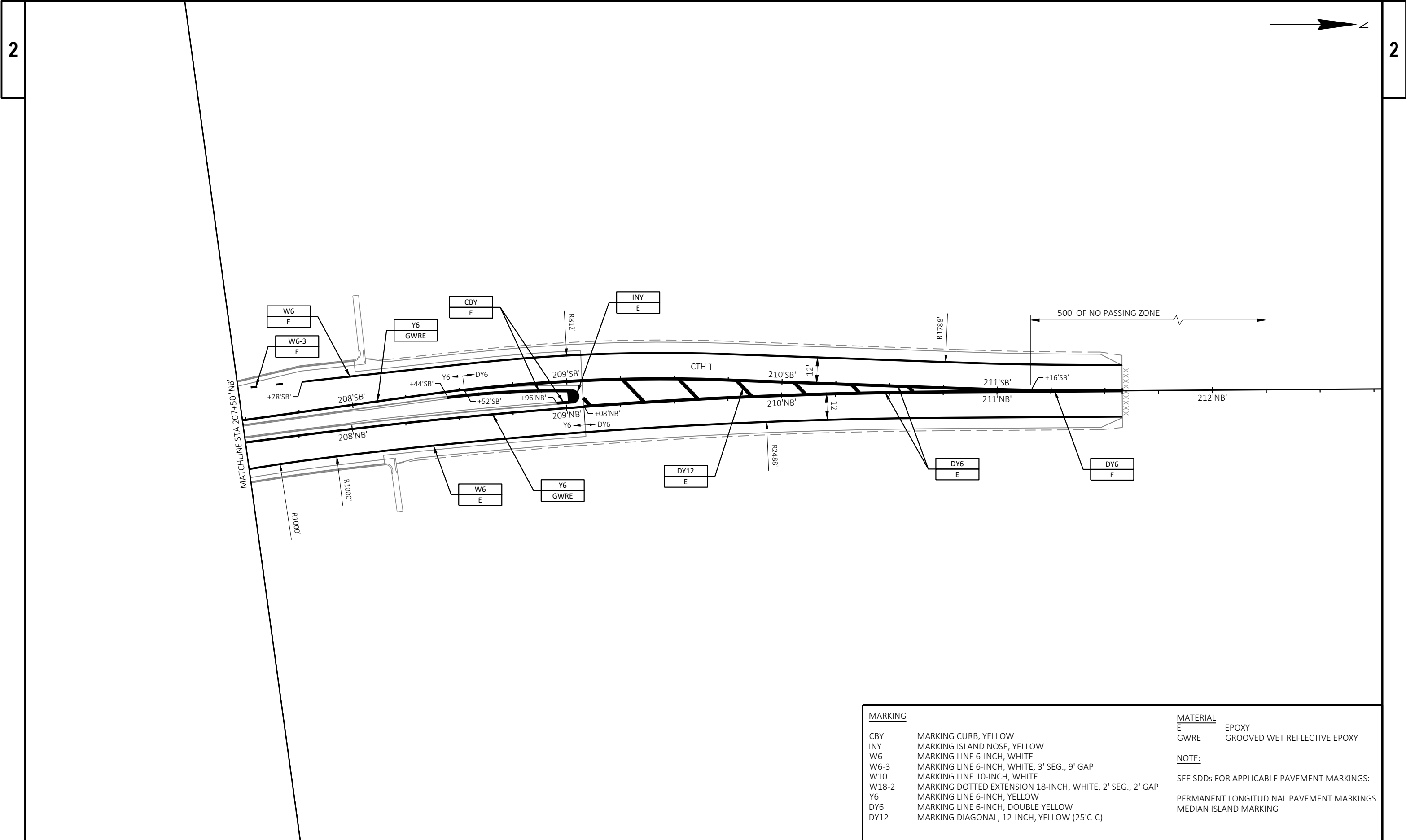
MARKING		MATERIAL	
CBY	MARKING CURB, YELLOW	E	EPOXY
INY	MARKING ISLAND NOSE, YELLOW	GWRE	GROOVED WET REFLECTIVE EPOXY
W6	MARKING LINE 6-INCH, WHITE		
W6-3	MARKING LINE 6-INCH, WHITE, 3' SEG., 9' GAP		
W10	MARKING LINE 10-INCH, WHITE		
W18-2	MARKING DOTTED EXTENSION 18-INCH, WHITE, 2' SEG., 2' GAP		
Y6	MARKING LINE 6-INCH, YELLOW		
DY6	MARKING LINE 6-INCH, DOUBLE YELLOW		
DY12	MARKING DIAGONAL, 12-INCH, YELLOW (25'C-C)		
		NOTE:	
		SEE SDDs FOR APPLICABLE PAVEMENT MARKINGS:	
		PERMANENT LONGITUDINAL PAVEMENT MARKINGS	
		MEDIAN ISLAND MARKING	



MARKING		MATERIAL	
CBY	MARKING CURB, YELLOW	E	EPOXY
INY	MARKING ISLAND NOSE, YELLOW	GWRE	GROOVED WET REFLECTIVE EPOXY
W6	MARKING LINE 6-INCH, WHITE	NOTE: SEE SDDs FOR APPLICABLE PAVEMENT MARKINGS: PERMANENT LONGITUDINAL PAVEMENT MARKINGS MEDIAN ISLAND MARKING	
W6-3	MARKING LINE 6-INCH, WHITE, 3' SEG., 9' GAP		
W10	MARKING LINE 10-INCH, WHITE		
W18-2	MARKING DOTTED EXTENSION 18-INCH, WHITE, 2' SEG., 2' GAP		
Y6	MARKING LINE 6-INCH, YELLOW		
DY6	MARKING LINE 6-INCH, DOUBLE YELLOW		
DY12	MARKING DIAGONAL, 12-INCH, YELLOW (25'C-C)		



MARKING		MATERIAL	
CBY	MARKING CURB, YELLOW	E	EPOXY
INY	MARKING ISLAND NOSE, YELLOW	GWRE	GROOVED WET REFLECTIVE EPOXY
W6	MARKING LINE 6-INCH, WHITE	NOTE: SEE SDDs FOR APPLICABLE PAVEMENT MARKINGS:	
W6-3	MARKING LINE 6-INCH, WHITE, 3' SEG., 9' GAP		
W10	MARKING LINE 10-INCH, WHITE		
W18-2	MARKING DOTTED EXTENSION 18-INCH, WHITE, 2' SEG., 2' GAP	PERMANENT LONGITUDINAL PAVEMENT MARKINGS MEDIAN ISLAND MARKING	
Y6	MARKING LINE 6-INCH, YELLOW		
DY6	MARKING LINE 6-INCH, DOUBLE YELLOW		
DY12	MARKING DIAGONAL, 12-INCH, YELLOW (25'C-C)		



MARKING		MATERIAL	
CBY	MARKING CURB, YELLOW	E	EPOXY
INY	MARKING ISLAND NOSE, YELLOW	GWRE	GROOVED WET REFLECTIVE EPOXY
W6	MARKING LINE 6-INCH, WHITE	NOTE: SEE SDDs FOR APPLICABLE PAVEMENT MARKINGS: PERMANENT LONGITUDINAL PAVEMENT MARKINGS MEDIAN ISLAND MARKING	
W6-3	MARKING LINE 6-INCH, WHITE, 3' SEG., 9' GAP		
W10	MARKING LINE 10-INCH, WHITE		
W18-2	MARKING DOTTED EXTENSION 18-INCH, WHITE, 2' SEG., 2' GAP		
Y6	MARKING LINE 6-INCH, YELLOW		
DY6	MARKING LINE 6-INCH, DOUBLE YELLOW		
DY12	MARKING DIAGONAL, 12-INCH, YELLOW (25'C-C)		

GENERAL NOTES:

1. ALL TC COVERING SIGNS TYPE I/II SHALL BE PAID AS EACH CONTIGUOUS SIGN(S) COVERED PER LOCATION PER CYCLE NOT AS INDIVIDUAL CLUSTER.
2. REFER TO PLATE A4-12 WHEN COVERING ARROWS FOR DESTINATION DIRECTIONAL ARROWS.
3. SEE SDD "BARRICADES AND SIGNS FOR SIDE ROAD CLOSURES" FOR SIDE ROAD SIGNING ALONG THE WORKZONE CORRIDOR. DRAWINGS SHOW TC DETOUR FOR A TYPICAL SITUATION. ADDITIONAL TC DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON SITE CONDITIONS AS DIRECTED BY THE ENGINEER. ALL CHANGES TO THE TC DETOUR PLAN SHALL BE REVIEWED WITH THE PROJECT ENGINEER.
5. SIGN FACES SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGNS, UNLESS OTHERWISE NOTED.
6. TRAFFIC CONTROL PLANS ARE NOT TO SCALE.
7. COVER, REMOVE, OR ALTER ANY EXISTING OR PROPOSED SIGNS THAT DISPLAY A CONFLICTING MESSAGE WITH THE PROPOSED DETOUR ROUTE FOR THE PHASE THAT IS ACTIVE.
8. MAINTAIN ACCESS TO DRIVEWAYS AND SIDE ROADS AT ALL TIMES.
9. WO SIGNS ARE THE SAME AS W SIGNS EXCEPT THE BACKGROUND IS ORANGE.

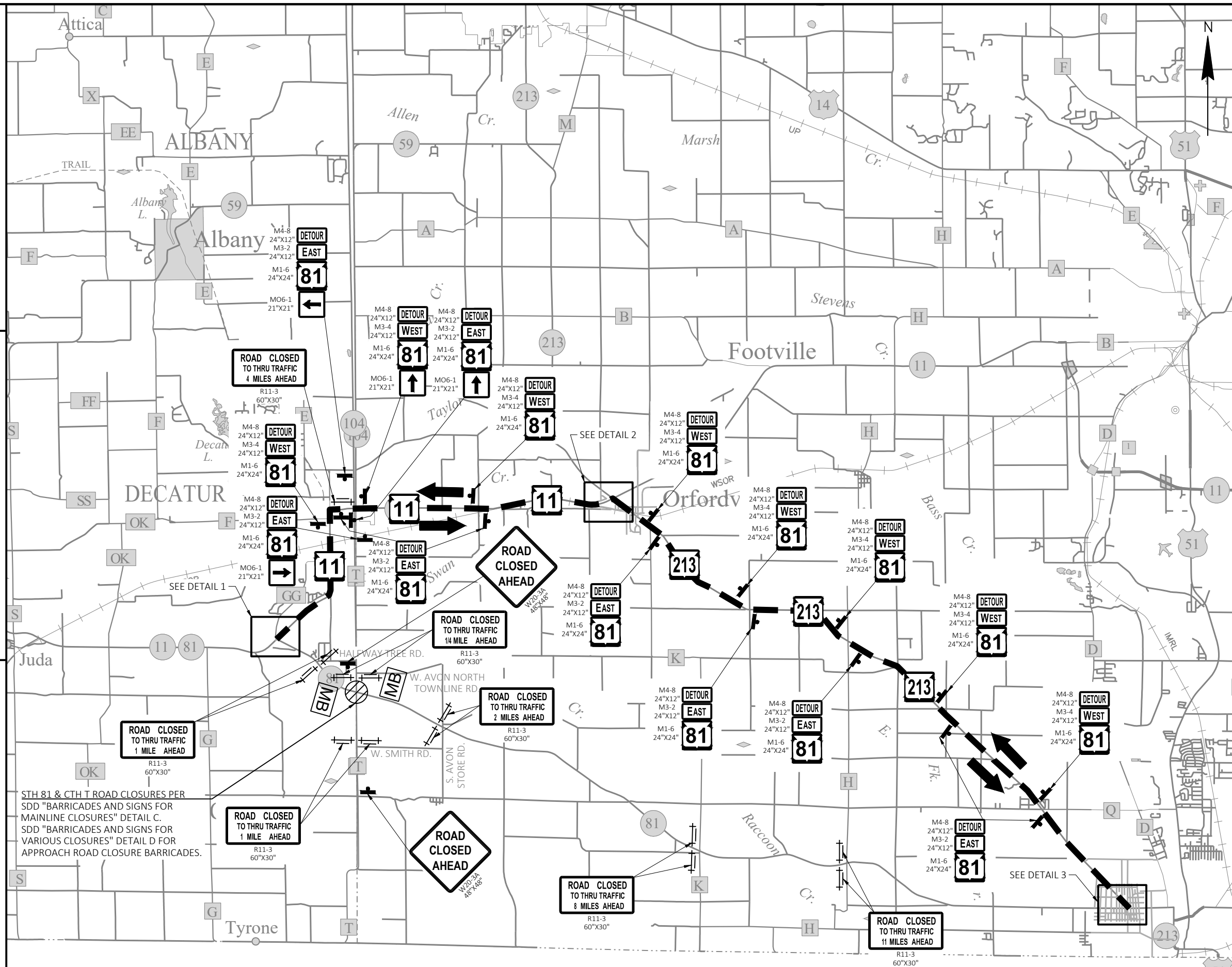
PCMS MESSAGES		
PCMS SITE LOCATION	7 DAYS PRIOR TO CONSTRUCTION/STAGE	
	FRAME A (2 SEC)	FRAME B (2 SEC)
EB	ROAD CLOSED BEGINS	D.O.W. MM-DD
WB	ROAD CLOSED BEGINS	D.O.W. MM-DD

PCMS NOTES:

1. PCMS LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.
2. PLACE PCMS AS FAR AWAY FROM THE LIVE TRAFFIC LANES AS POSSIBLE WITHOUT HAMPERING VISIBILITY.
3. PLACE REFLECTORIZED DRUMS AHEAD OF PCMS ON THE SHOULDER.

LEGEND

- DETOUR ROUTE
- WORK AREA (ROAD CLOSED)
- DIRECTION OF TRAFFIC
- SIGN ON EXISTING SUPPORT
- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE WITH SIGN
- PORTABLE CHANGEABLE MESSAGE BOARD
- EXISTING SIGN TO BE COVERED



PROJECT NO: 5340-00-74

HWY: STH 81

COUNTY: ROCK

DETOUR - PLAN

SHEET

49

E

FILE NAME : G:\00\00093\00093719\CADD\C3D\53400004\SHEETS\027001-DT.DWG
LAYOUT NAME - 027001-dt overview

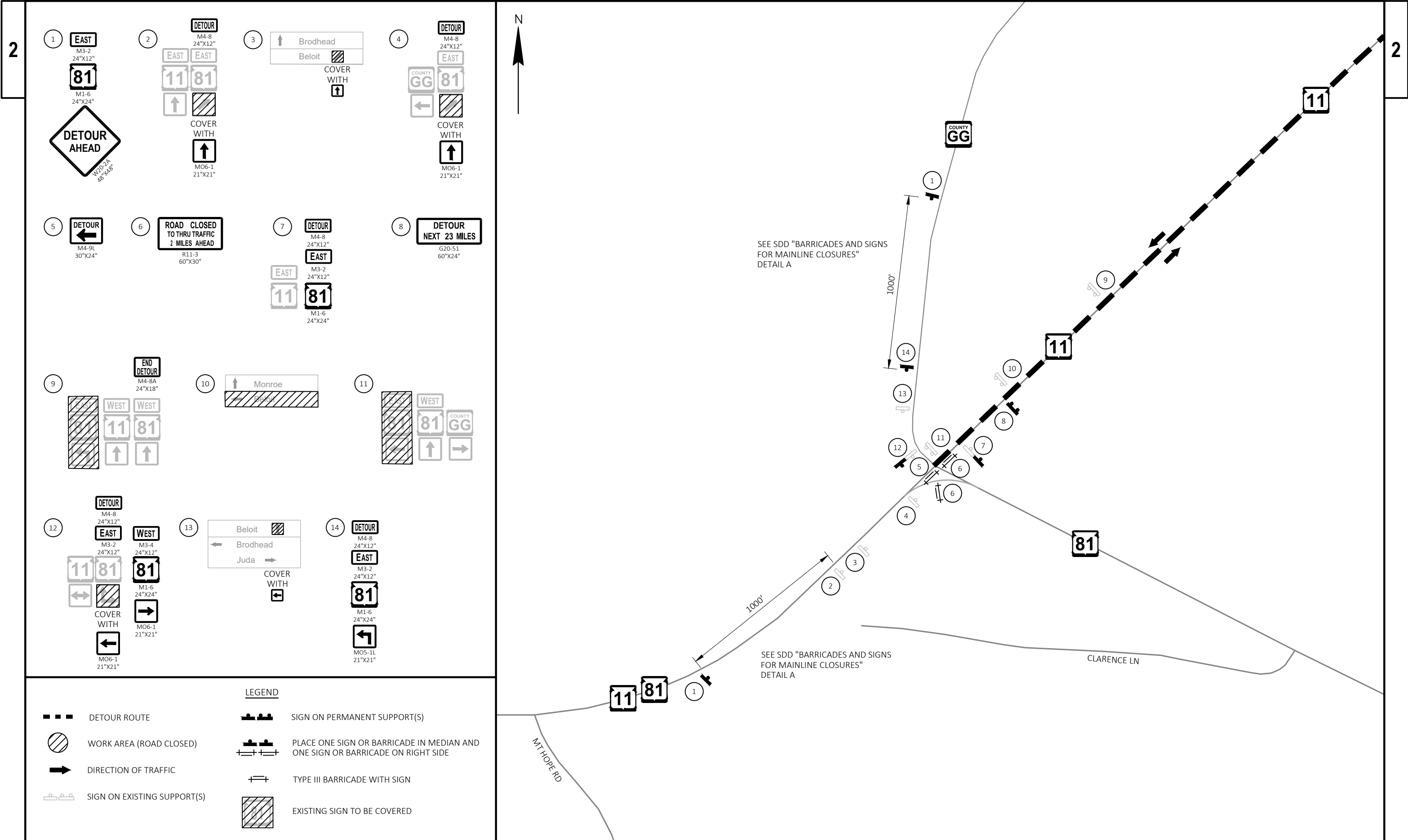
PLOT DATE : 1/13/2025 10:13 AM

PLOT BY : CONNOR GIRTEN

PLOT NAME :

PLOT SCALE : Custom

WISDOT/CADDs SHEET 42



DETOUR ROUTE

WORK AREA (ROAD CLOSED)

DIRECTION OF TRAFFIC

SIGN ON EXISTING SUPPORT(S)

SIGN ON PERMANENT SUPPORT(S)

PLACE ONE SIGN OR BARRICADE IN MEDIAN AND ONE SIGN OR BARRICADE ON RIGHT SIDE

TYPE III BARRICADE WITH SIGN

EXISTING SIGN TO BE COVERED

PROJECT NO: 5340-00-74

HWY: STH 81

COUNTY: ROCK

DETOUR - DETAIL 1

SHEET 50

E

FILE NAME : G:\00\00093\00093719\CADD\C3D\53400004\SHEETS\027001-DT.DWG

LAYOUT NAME - 027002-dt

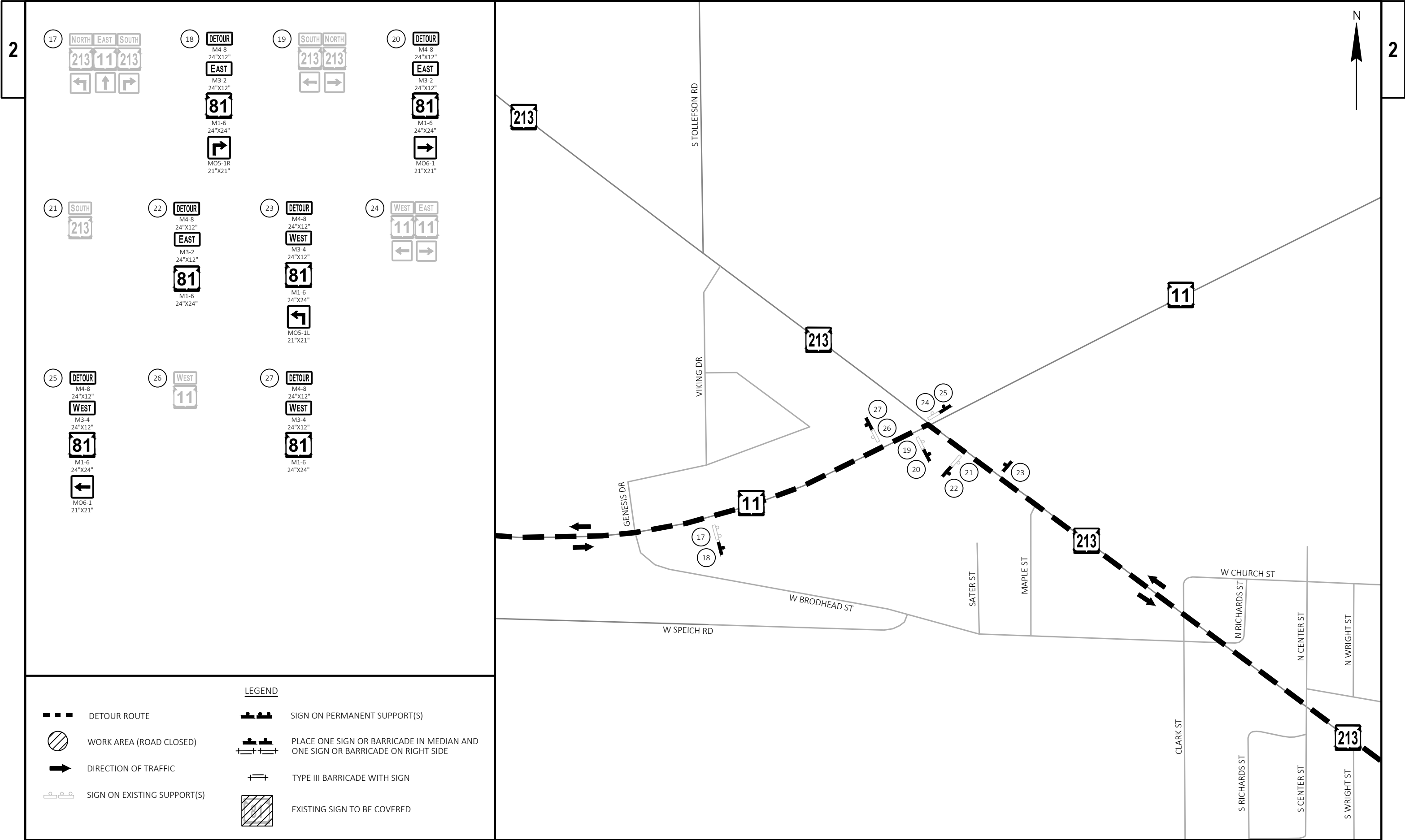
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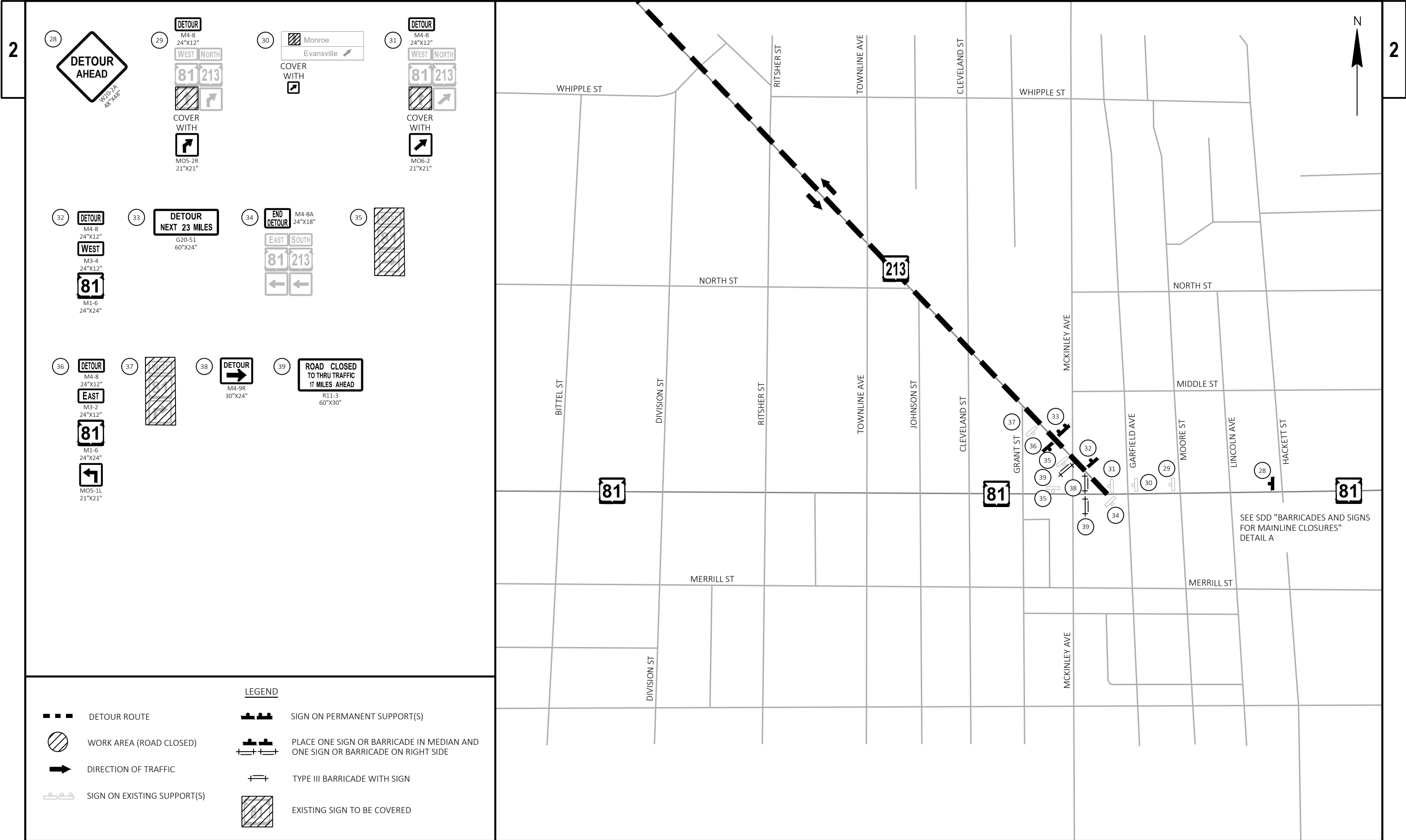
PLOT BY : CONNOR GIRTEN

PLOT NAME :

PLOT SCALE : 1 IN:500 FT

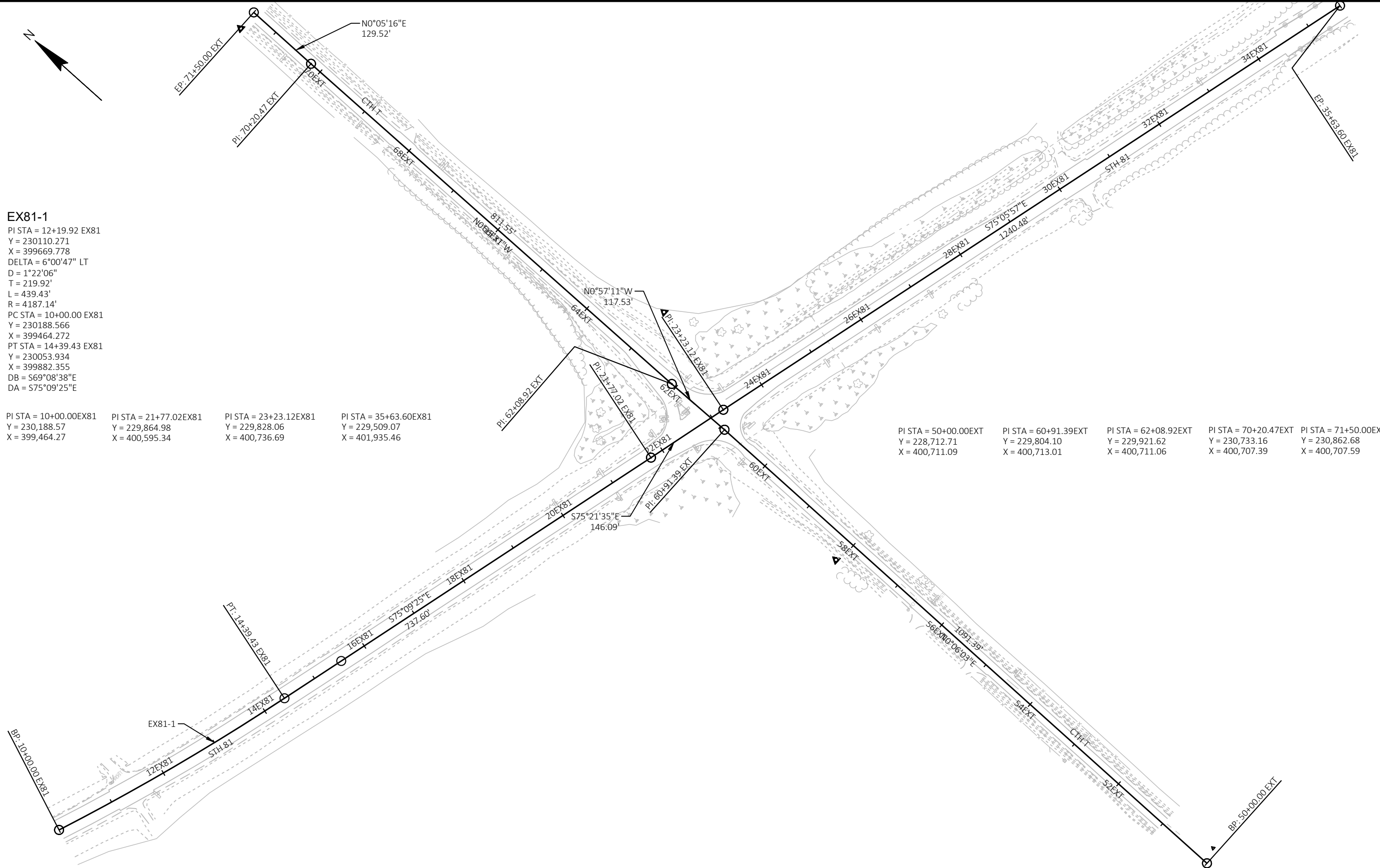
WISDOT/CADD SHEET 42





2

2



EX81-1
PI STA = 12+19.92 EX81
Y = 230110.271
X = 399669.778
DELTA = 6°00'47" LT
D = 1°22'06"
T = 219.92'
L = 439.43'
R = 4187.14'
PC STA = 10+00.00 EX81
Y = 230188.566
X = 399464.272
PT STA = 14+39.43 EX81
Y = 230053.934
X = 399882.355
DB = S69°08'38"E
DA = S75°09'25"E

PI STA = 10+00.00EX81	PI STA = 21+77.02EX81	PI STA = 23+23.12EX81	PI STA = 35+63.60EX81
Y = 230,188.57	Y = 229,864.98	Y = 229,828.06	Y = 229,509.07
X = 399,464.27	X = 400,595.34	X = 400,736.69	X = 401,935.46

PI STA = 50+00.00EXT	PI STA = 60+91.39EXT	PI STA = 62+08.92EXT	PI STA = 70+20.47EXT	PI STA = 71+50.00EXT
Y = 228,712.71	Y = 229,804.10	Y = 229,921.62	Y = 230,733.16	Y = 230,862.68
X = 400,711.09	X = 400,713.01	X = 400,711.06	X = 400,707.39	X = 400,707.59

EB-1

PI STA = 100+40.94 EB
Y = 229964.855
X = 400218.458
DELTA = 2°36'21" RT
D = 3°10'59"
T = 40.94'
L = 81.86'
R = 1800.00'
PC STA = 100+00.00 EB
Y = 229975.418
X = 400178.905
PT STA = 100+81.86 EB
Y = 229952.504
X = 400257.490
DB = S75°02'51"E
DA = S72°26'30"E

EB-2

PI STA = 102+52.01 EB
Y = 229901.176
X = 400419.705
DELTA = 8°55'29" LT
D = 7°09'43"
T = 62.43'
L = 124.61'
R = 800.00'
PC STA = 101+89.57 EB
Y = 229920.011
X = 400360.181
PT STA = 103+14.19 EB
Y = 229891.804
X = 400481.430
DB = S72°26'30"E
DA = S81°21'59"E

EB-4

PI STA = 107+05.83 EB
Y = 229782.288
X = 400852.317
DELTA = 4°44'07" RT
D = 18°07'54"
T = 13.07'
L = 26.12'
R = 316.00'
PC STA = 106+92.77 EB
Y = 229783.935
X = 400839.356
PT STA = 107+18.88 EB
Y = 229779.576
X = 400865.098
DB = S82°45'28"E
DA = S78°01'21"E

EB-3

PI STA = 104+47.70 EB
Y = 229871.761
X = 400613.435
DELTA = 36°05'47" RT
D = 49°49'21"
T = 37.47'
L = 72.45'
R = 115.00'
PC STA = 104+10.23 EB
Y = 229877.386
X = 400576.387
PT STA = 104+82.68 EB
Y = 229845.389
X = 400640.057
DB = S81°21'59"E
DA = S45°16'12"E

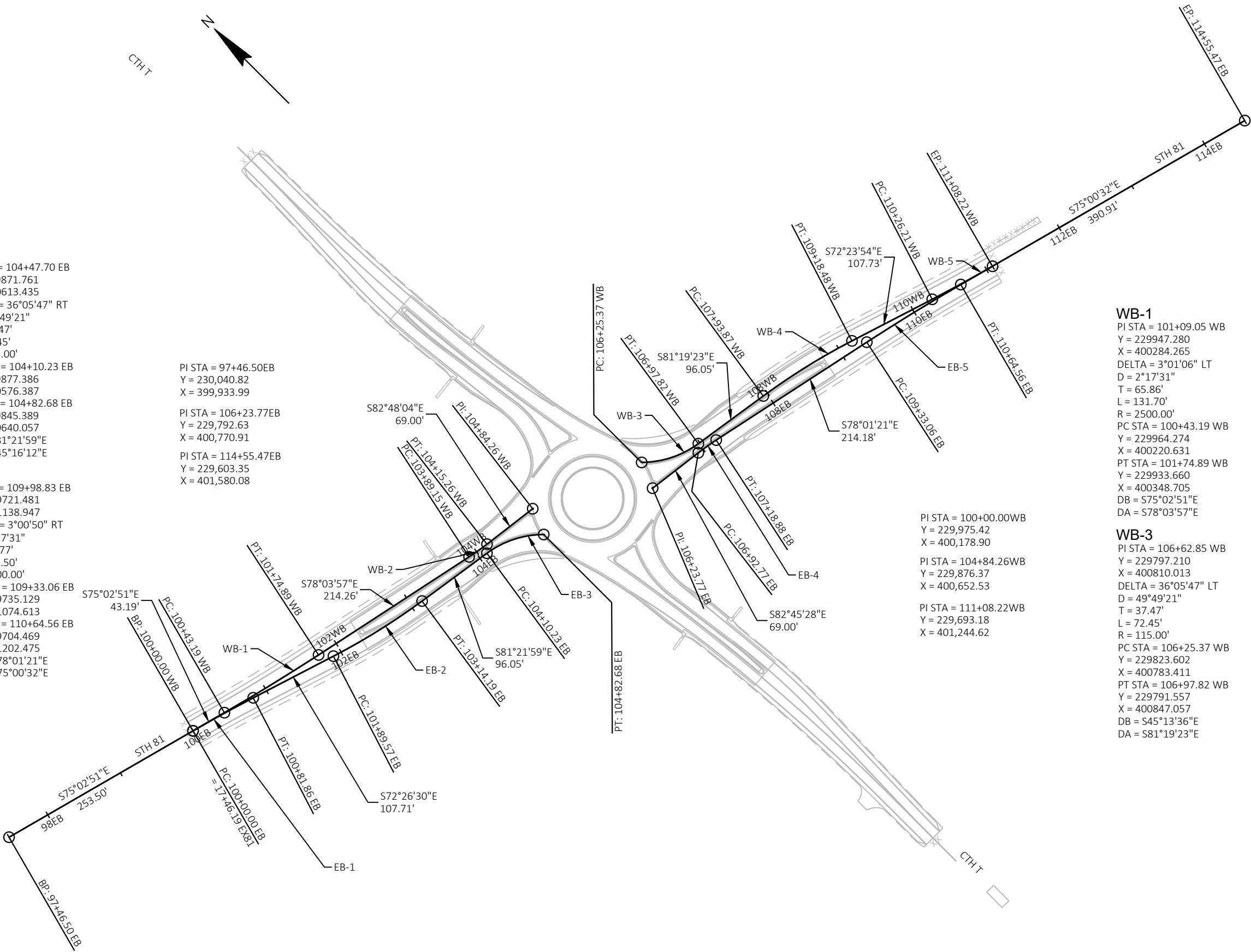
EB-5

PI STA = 109+98.83 EB
Y = 229721.481
X = 401138.947
DELTA = 3°00'50" RT
D = 2°17'31"
T = 65.77'
L = 131.50'
R = 2500.00'
PC STA = 109+33.06 EB
Y = 229735.129
X = 401074.613
PT STA = 110+64.56 EB
Y = 229704.469
X = 401202.475
DB = S78°01'21"E
DA = S75°00'32"E

PI STA = 97+46.50EB
Y = 230,040.82
X = 399,933.99

PI STA = 106+23.77EB
Y = 229,792.63
X = 400,770.91

PI STA = 114+55.47EB
Y = 229,603.35
X = 401,580.08



PI STA = 100+00.00WB
Y = 229,975.42
X = 400,178.90

PI STA = 104+84.26WB
Y = 229,876.37
X = 400,652.53

PI STA = 111+08.22WB
Y = 229,693.18
X = 401,244.62

WB-1

PI STA = 101+09.05 WB
Y = 229947.280
X = 400284.265
DELTA = 3°01'06" LT
D = 2°17'31"
T = 65.86'
L = 131.70'
R = 2500.00'
PC STA = 100+43.19 WB
Y = 229964.274
X = 400220.631
PT STA = 101+74.89 WB
Y = 229933.660
X = 400348.705
DB = S75°02'51"E
DA = S78°03'57"E

WB-3

PI STA = 106+62.85 WB
Y = 229797.210
X = 400810.013
DELTA = 36°05'47" LT
D = 49°49'21"
T = 37.47'
L = 72.45'
R = 115.00'
PC STA = 106+25.37 WB
Y = 229823.602
X = 400783.411
PT STA = 106+97.82 WB
Y = 229791.557
X = 400847.057
DB = S45°13'36"E
DA = S81°19'23"E

WB-2

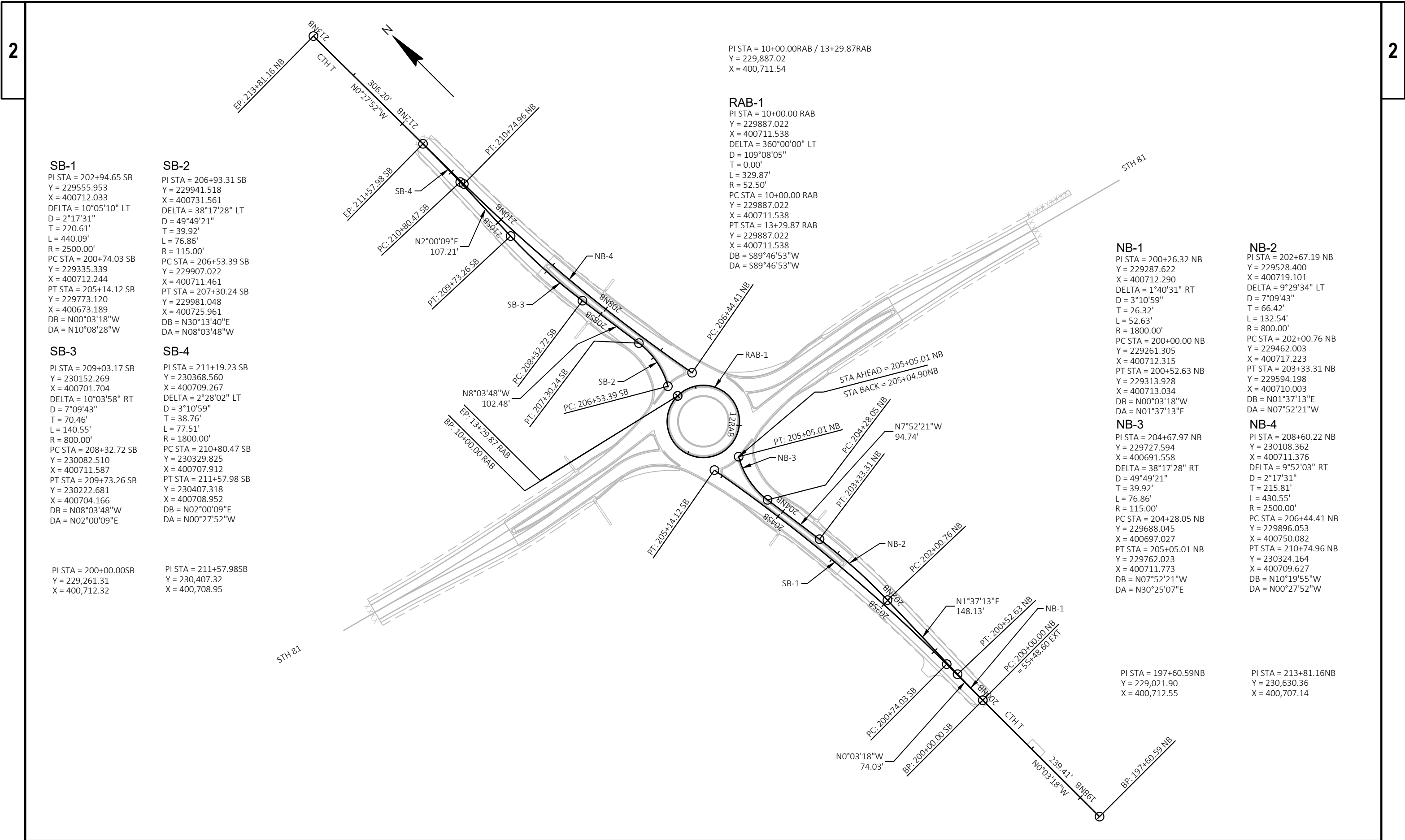
PI STA = 104+02.21 WB
Y = 229886.651
X = 400571.119
DELTA = 4°44'07" LT
D = 18°07'54"
T = 13.07'
L = 26.12'
R = 316.00'
PC STA = 103+89.15 WB
Y = 229889.353
X = 400558.336
PT STA = 104+15.26 WB
Y = 229885.014
X = 400584.082
DB = S78°03'57"E
DA = S82°48'04"E

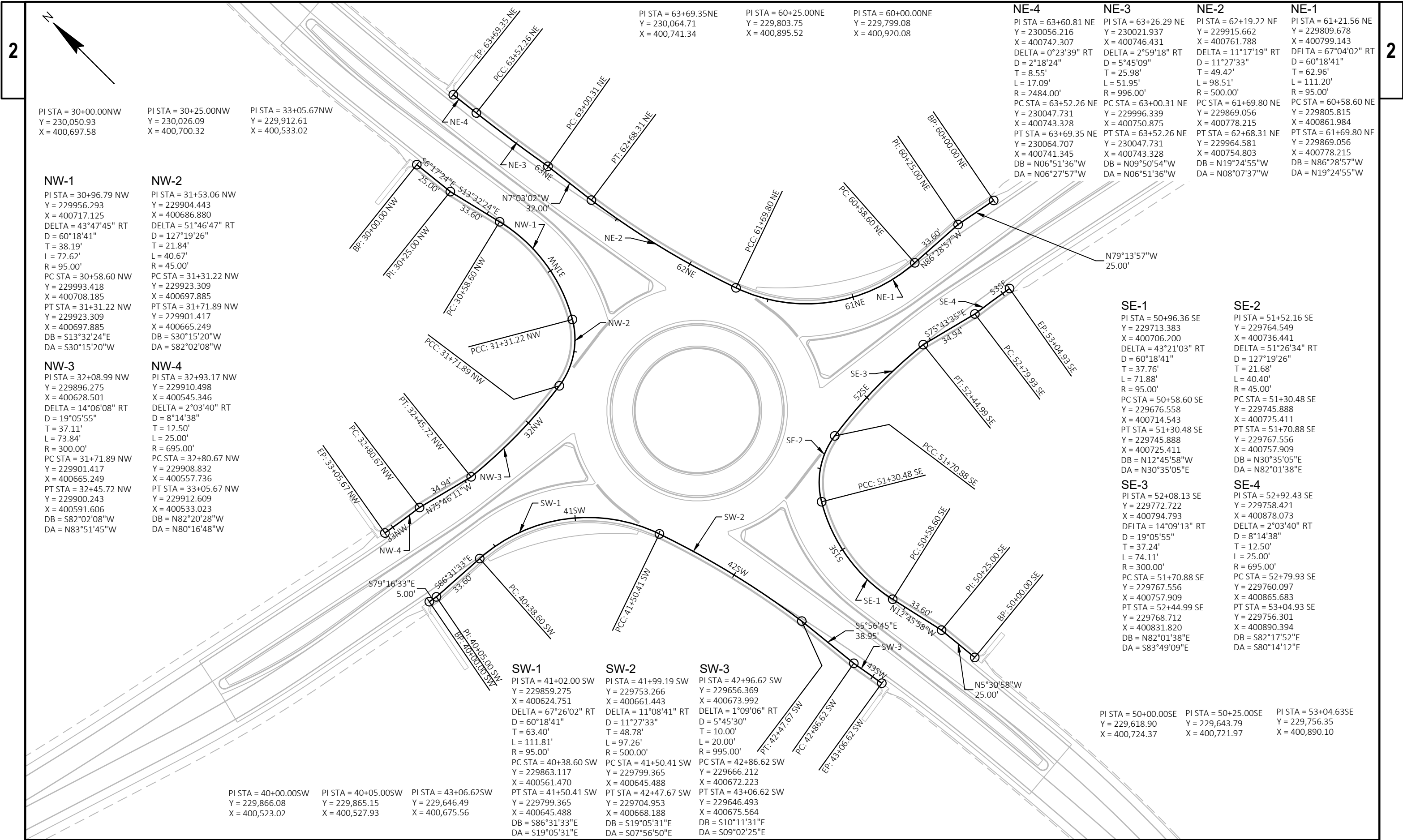
WB-4

PI STA = 108+56.30 WB
Y = 229767.649
X = 401003.720
DELTA = 8°55'29" RT
D = 7°09'43"
T = 62.43'
L = 124.61'
R = 800.00'
PC STA = 107+93.87 WB
Y = 229777.067
X = 400942.002
PT STA = 109+18.48 WB
Y = 229748.769
X = 401063.230
DB = S81°19'23"E
DA = S72°23'54"E

WB-5

PI STA = 110+67.22 WB
Y = 229703.790
X = 401205.008
DELTA = 2°36'37" LT
D = 3°10'59"
T = 41.01'
L = 82.01'
R = 1800.00'
PC STA = 110+26.21 WB
Y = 229716.191
X = 401165.919
PT STA = 111+08.22 WB
Y = 229693.182
X = 401244.622
DB = S72°23'54"E
DA = S75°00'32"E





PROJECT NO: 5340-00-74

HWY: STH 81

COUNTY: ROCK

ALIGNMENT DETAILS

SHEET

56

E

Estimate Of Quantities

5340-00-74

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	6.000	6.000
0004	201.0205	Grubbing	STA	6.000	6.000
0006	203.0100	Removing Small Pipe Culverts	EACH	3.000	3.000
0008	204.0100	Removing Concrete Pavement	SY	2,940.000	2,940.000
0010	204.0110	Removing Asphaltic Surface	SY	69.000	69.000
0012	204.0150	Removing Curb & Gutter	LF	80.000	80.000
0014	205.0100	Excavation Common	CY	11,900.000	11,900.000
0016	213.0100	Finishing Roadway (project) 01. 5340-00-74	EACH	1.000	1.000
0018	305.0110	Base Aggregate Dense 3/4-Inch	TON	340.000	340.000
0020	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	8,350.000	8,350.000
0022	312.0110	Select Crushed Material	TON	12,200.000	12,200.000
0024	405.0100	Coloring Concrete WisDOT Red	CY	165.000	165.000
0026	415.0080	Concrete Pavement 8-Inch	SY	4,640.000	4,640.000
0028	415.2010	Concrete Truck Apron 12-inch	SY	485.000	485.000
0030	415.4100	Concrete Pavement Joint Filling	SY	6,270.000	6,270.000
0032	415.6000.S	Rout and Seal	LF	915.000	915.000
0034	455.0605	Tack Coat	GAL	315.000	315.000
0036	460.2000	Incentive Density HMA Pavement	DOL	850.000	850.000
0038	460.6424	HMA Pavement 4 MT 58-28 H	TON	1,330.000	1,330.000
0040	465.0105	Asphaltic Surface	TON	12.000	12.000
0042	465.0315	Asphaltic Flumes	SY	56.000	56.000
0044	522.0424	Culvert Pipe Reinforced Concrete Class IV 24-Inch	LF	340.000	340.000
0046	522.1012	Apron Endwalls for Culvert Pipe Reinforced Concrete 12-Inch	EACH	5.000	5.000
0048	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	6.000	6.000
0050	601.0405	Concrete Curb & Gutter 18-Inch Type A	LF	230.000	230.000
0052	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	2,132.000	2,132.000
0054	601.0551	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type A	LF	1,099.000	1,099.000
0056	601.0580	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type R	LF	318.000	318.000
0058	602.0405	Concrete Sidewalk 4-Inch	SF	7,385.000	7,385.000
0060	606.0200	Riprap Medium	CY	25.000	25.000
0062	608.0412	Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch	LF	293.000	293.000
0064	611.0624	Inlet Covers Type H	EACH	2.000	2.000
0066	611.0627	Inlet Covers Type HM	EACH	2.000	2.000
0068	611.0636	Inlet Covers Type HM-S	EACH	3.000	3.000
0070	611.0639	Inlet Covers Type H-S	EACH	3.000	3.000
0072	611.0652	Inlet Covers Type T	EACH	2.000	2.000
0074	611.3225	Inlets 2x2.5-FT	EACH	2.000	2.000
0076	611.3230	Inlets 2x3-FT	EACH	10.000	10.000
0078	612.0106	Pipe Underdrain 6-Inch	LF	1,350.000	1,350.000
0080	612.0806	Apron Endwalls for Underdrain Reinforced Concrete 6-Inch	EACH	2.000	2.000
0082	618.0100	Maintenance and Repair of Haul Roads (project) 01. 5340-00-74	EACH	1.000	1.000
0084	619.1000	Mobilization	EACH	1.000	1.000
0086	620.0300	Concrete Median Sloped Nose	SF	622.000	622.000
0088	624.0100	Water	MGAL	300.000	300.000
0090	625.0500	Salvaged Topsoil	SY	11,800.000	11,800.000
0092	627.0200	Mulching	SY	7,090.000	7,090.000
0094	628.1504	Silt Fence	LF	1,890.000	1,890.000
0096	628.1520	Silt Fence Maintenance	LF	1,890.000	1,890.000
0098	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000

Estimate Of Quantities

5340-00-74

Line	Item	Item Description	Unit	Total	Qty
0100	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0102	628.2004	Erosion Mat Class I Type B	SY	4,670.000	4,670.000
0104	628.7005	Inlet Protection Type A	EACH	12.000	12.000
0106	628.7015	Inlet Protection Type C	EACH	12.000	12.000
0108	628.7504	Temporary Ditch Checks	LF	150.000	150.000
0110	628.7555	Culvert Pipe Checks	EACH	11.000	11.000
0112	628.7560	Tracking Pads	EACH	2.000	2.000
0114	629.0210	Fertilizer Type B	CWT	5.000	5.000
0116	630.0120	Seeding Mixture No. 20	LB	550.000	550.000
0118	630.0140	Seeding Mixture No. 40	LB	26.000	26.000
0120	630.0200	Seeding Temporary	LB	350.000	350.000
0122	630.0500	Seed Water	MGAL	290.000	290.000
0124	633.5100	Markers ROW	EACH	12.000	12.000
0126	633.5200	Markers Culvert End	EACH	11.000	11.000
0128	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	8.000	8.000
0130	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	17.000	17.000
0132	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	4.000	4.000
0134	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	13.000	13.000
0136	634.0814	Posts Tubular Steel 2x2-Inch X 14-FT	EACH	10.000	10.000
0138	637.2210	Signs Type II Reflective H	SF	370.000	370.000
0140	637.2230	Signs Type II Reflective F	SF	54.120	54.120
0142	638.2102	Moving Signs Type II	EACH	16.000	16.000
0144	638.2602	Removing Signs Type II	EACH	12.000	12.000
0146	638.3000	Removing Small Sign Supports	EACH	18.000	18.000
0148	638.4000	Moving Small Sign Supports	EACH	10.000	10.000
0150	642.5201	Field Office Type C	EACH	1.000	1.000
0152	643.0300	Traffic Control Drums	DAY	80.000	80.000
0154	643.0420	Traffic Control Barricades Type III	DAY	4,809.000	4,809.000
0156	643.0705	Traffic Control Warning Lights Type A	DAY	6,343.000	6,343.000
0158	643.0900	Traffic Control Signs	DAY	15,857.000	15,857.000
0160	643.0920	Traffic Control Covering Signs Type II	EACH	7.000	7.000
0162	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0164	643.5000	Traffic Control	EACH	1.000	1.000
0166	645.0120	Geotextile Type HR	SY	85.000	85.000
0168	646.2020	Marking Line Epoxy 6-Inch	LF	5,645.000	5,645.000
0170	646.2040	Marking Line Grooved Wet Ref Epoxy 6-Inch	LF	6,191.000	6,191.000
0172	646.4020	Marking Line Epoxy 10-Inch	LF	270.000	270.000
0174	646.5520	Marking Outfall Epoxy	EACH	2.000	2.000
0176	646.6320	Marking Dotted Extension Epoxy 18-Inch	LF	66.000	66.000
0178	646.7120	Marking Diagonal Epoxy 12-Inch	LF	255.000	255.000
0180	646.8120	Marking Curb Epoxy	LF	306.000	306.000
0182	646.8220	Marking Island Nose Epoxy	EACH	4.000	4.000
0184	646.9000	Marking Removal Line 4-Inch	LF	70.000	70.000
0186	650.4000	Construction Staking Storm Sewer	EACH	17.000	17.000
0188	650.4500	Construction Staking Subgrade	LF	949.000	949.000
0190	650.5000	Construction Staking Base	LF	949.000	949.000
0192	650.6000	Construction Staking Pipe Culverts	EACH	3.000	3.000
0194	650.8501	Construction Staking Electrical Installations (project) 01. 5340-00-74	EACH	1.000	1.000
0196	650.9911	Construction Staking Supplemental Control (project) 01. 5340-00-74	EACH	1.000	1.000

Estimate Of Quantities

5340-00-74

Line	Item	Item Description	Unit	Total	Qty
0198	650.9920	Construction Staking Slope Stakes	LF	1,025.000	1,025.000
0200	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	1,790.000	1,790.000
0202	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	102.000	102.000
0204	652.0325	Conduit Rigid Nonmetallic Schedule 80 2-Inch	LF	453.000	453.000
0206	653.0164	Pull Boxes Non-Conductive 24x42-Inch	EACH	13.000	13.000
0208	654.0105	Concrete Bases Type 5	EACH	16.000	16.000
0210	654.0230	Concrete Control Cabinet Bases Type L30	EACH	1.000	1.000
0212	655.0610	Electrical Wire Lighting 12 AWG	LF	14,025.000	14,025.000
0214	656.0201	Electrical Service Meter Breaker Pedestal (location) 01. STA. 106+53 'EB', 42.6' RT	EACH	1.000	1.000
0216	657.0255	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	16.000	16.000
0218	657.0322	Poles Type 5-Aluminum	EACH	16.000	16.000
0220	657.0710	Luminaire Arms Truss Type 4 1/2-Inch Clamp 12-FT	EACH	16.000	16.000
0222	659.1120	Luminaires Utility LED B	EACH	16.000	16.000
0224	659.2130	Lighting Control Cabinets 120/240 30-Inch	EACH	1.000	1.000
0226	690.0150	Sawing Asphalt	LF	290.000	290.000
0228	690.0250	Sawing Concrete	LF	48.000	48.000
0230	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	1,538.000	1,538.000
0232	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	2,000.000	2,000.000
0234	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	1,320.000	1,320.000
0236	SPV.0060	Special 01. Construction Roundabout Staking	EACH	1.000	1.000

3

					201.0105	201.0205
					CLEARING	GRUBBING
CATEGORY	STATION	TO	STATION	LOCATION	STA	STA
0010	201+00 'NB'	-	203+00 'NB'	LT & RT	2	2
0010	208+00 'SB'	-	212+00 'SB'	LT	4	4
TOTAL 0010					6	6

CATEGORY	STATION	LOCATION	EACH	REMARKS
0010	60+56 'EXT'	CTH T	1	96' - 24" CMP
0010	61+84 'EXT'	CTH T	1	106' - 24" CMP
0010	25+33 'EX81'	STH 81	1	104' - 24" CMP
TOTAL 0010			3	

					204.0150	
					REMOVING	
					CURB & GUTTER	
CATEGORY	STATION	TO	STATION	LOCATION	LF	REMARKS
0010	61+54 'EXT'	-	61+83 'EXT'	LT	80	ISLAND
TOTAL 0010					80	

					204.0100 REMOVING CONCRETE PAVEMENT	204.0110 REMOVING ASPHALTIC SURFACE	
CATEGORY	STATION	TO	STATION	LOCATION	SY	SY	REMARKS
0010	17+46 'EX81'	-	28+49 'EX81'	LT & RT	2,940	---	UNDERLYING RUBBLIZED CONCRETE PAVEMENT
0010	50+66 'EXT'	-	50+94 'EXT'	RT	---	36	TRANSVERSE RUMBLE STRIPS
0010	54+32 'EXT'	-	54+58 'EXT'	RT	---	33	TRANSVERSE RUMBLE STRIPS
TOTAL 0010					2,940	69	

CATEGORY	STATION	TO	STATION	LOCATION	305.0110	305.0120	312.0110	624.0100
					BASE	BASE		
					AGGREGATE	AGGREGATE	SELECT CRUSHED	
					DENSE 3/4-INCH	DENSE 1 1/4-INCH	MATERIAL	WATER
					TON	TON	TON	MGAL
0010	100+00 'EB'	-	104+98 'EB'	WEST LEG	119	2,200	2,569	70
0010	108+80 'EB'	-	111+84 'EB'	EAST LEG	136	2,266	2,605	72
0010	200+00 'NB'	-	205+04 'NB'	SOUTH LEG	39	1,668	2,259	57
0010	206+47 'NB'	-	211+58 'NB'	NORTH LEG	35	1,669	2,325	58
0010	10+00 'RAB'	-	13+30 'RAB'	CIRCLE	---	547	1,387	27
0010	200+65 'NB'	-	201+05 'NB'	DWY, LT	11	---	---	1
0010	UNDISTRIBUTED			EBS	---	---	1,055	15
TOTAL 0010					340	8,350	12,200	300

BASE AGGREGATE DENSE 3/4-INCH WEIGHT CALCULATIONS BASED ON 1.85 TONS/CY
BASE AGGREGATE DENSE 1 1/4-INCH WEIGHT CALCULATIONS BASED ON 1.85 TONS/CY
SELECT CRUSHED MATERIAL WEIGHT CALCULATIONS BASED ON 1.75 TONS/CY

DIVISION	FROM/TO STATION	205.0100 COMMON EXCAVATION (1)		SALVAGED/UNUSABLE PAVEMENT MATERIAL (4)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL (13)	MASS ORDINATE +/- (14)	WASTE (15)	COMMENT
		CUT (2)	EBS EXCAVATION (3)				FACTOR			
							1.25			
EB STH 81	100+00.00/111+08.19	4,895	0	959	3,936	784	980	2,956	2,956	UTILIZE WASTE MATERIAL FROM OTHER DIVISIONS UTILIZE WASTE MATERIAL FROM OTHER DIVISIONS
WB STH 81	102+33.53/108+74.83	1,879	0	349	1,530	623	779	751	751	
NB CTH T	200+00.00/211+58.12	2,498	0	166	2,332	1,052	1,315	1,017	1,017	
SB CTH T	202+55.52/209+02.56	635	0	64	571	1,007	1,259	-688	-688	
ROUNDABOUT	10+00.00/13+29.00	1,390	0	591	799	2,419	3,024	-2,225	-2,225	
EBS	UNDISTRIBUTED	0	603	0	0	0	0	0	0	
GRAND TOTAL		11,900		2,129	9,168	5,885	7,356	1,812	1,812	

(2) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100

(2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.

(3) EBS VOLUME ASSUMED TO BE 5% OF CUT VOLUME. EBS EXCAVATION TO BE BACKFILLED WITH SELECT CRUSHED MATERIAL. EBS MATERIAL IS ASSUMED TO BE UNUSABLE IN FILLS.

(4) SALVAGED/UNUSABLE PAVEMENT MATERIAL INCLUDES EXISTING UNDERLYING RUBBLIZED CONCRETE PAVEMENT AND EXISTING ASPHALTIC PAVEMENT.

(5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL

(13) EXPANDED FILL FACTOR = 1.25 EXPANDED FILL = UNEXPANDED FILL * FILL FACTOR

(14) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

(15) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.

SHEET: 60

PLOT SCALE : 1:1

3

E

3

CONCRETE PAVEMENT ITEMS

					405.0100 COLORING CONCRETE WISDOT RED	415.0080 CONCRETE PAVEMENT 8- INCH	415.2010 CONCRETE TRUCK APRON 12-INCH	415.4100 CONCRETE PAVEMENT JOINT FILLING	415.6000.S ROUT AND SEAL
CATEGORY	STATION	TO	STATION	LOCATION	CY	SY	SY	SY	LF
0010	102+29'EB'	-	104+98'EB'	RT	21	479	59	656	136
0010	102+29'WB'	-	104+82'WB'	LT	---	448	---	560	135
0010	106+26'EB'	-	108+80'EB'	RT	---	448	---	556	135
0010	106+10'WB'	-	108+79'WB'	LT	21	485	60	673	115
0010	202+81'NB'	-	205+04'NB'	RT	---	419	---	530	79
0010	202+80'SB'	-	205+11'SB'	LT	---	386	---	488	111
0010	206+47'NB'	-	209+08'NB'	RT	---	449	---	573	96
0010	206+54'SB'	-	209+07'SB'	LT	---	477	---	598	108
0010	10+00'RAB'	-	13+30'RAB'	CIRCLE	123	1,049	366	1,636	---
TOTAL 0010					165	4,640	485	6,270	915

ASPHALTIC FLUMES

			465.0315 ASPHALTIC FLUMES
CATEGORY	STATION	LOCATION	SY
0010	103+55'EB'	RT	14
0010	103+55'WB"	LT	9
0010	203+52'NB'	RT	7
0010	203+85'SB'	LT	8
0010	208+08'SB'	LT	10
0010	208+17'NB'	RT	8
TOTAL 0010			56

ASPHALT ITEMS

						THICKNESS INCHES	455.0605 TACK COAT GAL	460.6424 HMA PAVEMENT 4 MT 58-28 H TON	465.0105 ASPHALTIC SURFACE TON
CATEGORY	STATION	TO	STATION	LOCATION	LAYER				
0010	100+00 'EB'	-	102+29 'EB'	STH 81 WEST LEG	LOWER	2.00	-	112	-
0010	100+00 'EB'	-	102+29 'EB'	STH 81 WEST LEG	MIDDLE	2.00	50	112	-
0010	100+00 'EB'	-	102+29 'EB'	STH 81 WEST LEG	UPPER	2.00	50	112	-
0010	102+29 'EB'	-	103+59 'EB'	SHOULDER RT	SINGLE	3.50	-	9	-
0010	102+29 'WB'	-	103+60 'WB'	SHOULDER LT	SINGLE	3.50	-	9	-
0010	107+48 'EB'	-	108+79 'EB'	SHOULDER RT	SINGLE	3.50	-	9	-
0010	107+69 'WB'	-	108+79 'WB'	SHOULDER LT	SINGLE	3.50	-	8	-
0010	108+79 'EB'	-	111+08 'EB'	STH 81 EAST LEG	LOWER	2.00	-	112	-
0010	108+79 'EB'	-	111+08 'EB'	STH 81 EAST LEG	MIDDLE	2.00	50	112	-
0010	108+79 'EB'	-	111+08 'EB'	STH 81 EAST LEG	UPPER	2.00	50	112	-
0010	50+66 'EXT'	-	50+94 'EXT'	RT	---	3.00	-	-	6
0010	54+32 'EXT'	-	54+58 'EXT'	RT	---	3.00	-	-	6
0010	200+00 'NB'	-	202+81 'NB'	CTH T SOUTH LEG	LOWER	2.75	-	178	-
0010	200+00 'NB'	-	202+11 'NB'	CTH T SOUTH LEG	UPPER	2.00	60	129	-
0010	202+871 'NB'	-	203+55 'NB'	SHOULDER RT	SINGLE	3.50	-	6	-
0010	202+80 'SB'	-	203+87 'SB'	SHOULDER LT	SINGLE	3.50	-	8	-
0010	208+03 'SB'	-	209+07 'SB'	SHOULDER LT	SINGLE	3.50	-	8	-
0010	208+13 'NB'	-	209+08 'NB'	SHOULDER RT	SINGLE	3.50	-	7	-
0010	209+08 'NB'	-	211+58 'NB'	CTH T NORTH LEG	LOWER	2.75	-	166	-
0010	209+08 'NB'	-	211+58 'NB'	CTH T NORTH LEG	UPPER	2.00	55	121	-
TOTAL 0010							315	1,330	12

CULVERT PIPES

								522.0424 CULVERT PIPE REINFORCED CONCRETE CLASS IV 24-INCH	522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH	* 633.5200 MARKERS CULVERT END	650.6000 CONSTRUCTION STAKING PIPE CULVERTS
		INLET			OUTLET			LF	EACH	EACH	EACH
CATEGORY	CULVERT NO.	STATION	OFFSET	ELEV.	STATION	OFFSET	ELEV.				
0010	C1	204+71 'NB'	68.1' LT	766.72	204+89 'NB'	51.2' RT	766.59	121	2	2	1
0010	C2	107+94 'EB'	36.7' RT	766.17	107+94 'EB'	54.6' LT	766.08	91	2	2	1
0010	C3	207+03 'NB'	67.58' LT	766.84	206+53 'NB'	49.9' RT	766.55	128	2	2	1
TOTAL 0010								340	6	6	3

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

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CURB & GUTTER AND ISLAND ITEMS										
CATEGORY	STATION	TO	STATION	LOCATION	601.0405	601.0409	601.0551	601.0580	602.0405	620.0300
					CONCRETE CURB & GUTTER 18-INCH	CONCRETE CURB & GUTTER 30-INCH	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH	CONCRETE SIDEWALK 4-INCH	CONCRETE MEDIAN SLOPED
					TYPE A LF	TYPE A LF	TYPE A LF	TYPE R LF	SF	NOSE SF
0010	102+28 'EB'	-	104+83 'EB'	ISLAND	-	277	221	-	1,862	149
0010	106+23 'EB'	-	108+80 'EB'	ISLAND	-	291	206	-	1,862	149
0010	202+81 'NB'	-	205+05 'NB'	ISLAND	-	302	148	-	1,734	162
0010	206+44 'NB'	-	209+08 'NB'	ISLAND	-	302	208	-	1,927	162
0010	10+00 'RAB'	-	13+30 'RAB'	CIRCLE	230	-	-	318	-	-
0010	30+00 'NW'	-	33+06 'NW'	NW QUAD	-	302	-	-	-	-
0010	40+00 'SW'	-	43+07 'SW'	SW QUAD	-	156	148	-	-	-
0010	50+00 'SE'	-	53+05 'SE'	SE QUAD	-	303	-	-	-	-
0010	60+00 'NE'	-	63+69 'NE'	NE QUAD	-	199	168	-	-	-
TOTAL 0010					230	2,132	1,099	318	7,385	622

STORM SEWER PIPE							
608.0412							
STORM SEWER PIPE REINFORCED							
CONCRETE CLASS IV 12-INCH							
CATEGORY	FROM	-	TO	LF	INLET ELEVATION	DISCHARGE ELEVATION	SLOPE FT/FT
0010	EW-1.1	-	IN-1.2	35	768.70	767.84	2.50%
0010	IN-1.2	-	IN-1.3	10	769.10	768.80	3.00%
0010	EW-2.1	-	IN-2.2	39	768.88	768.68	0.50%
0010	IN-2.2	-	IN-2.3	7	769.02	768.98	0.50%
0010	EW-3.1	-	IN-3.2	31	767.30	766.46	2.00%
0010	IN-3.2	-	IN-3.3	20	767.80	767.40	2.00%
0010	IN-3.3	-	IN-3.4	6	767.96	767.90	1.00%
0010	IN-3.4	-	IN-3.5	22	768.50	768.06	2.00%
0010	EW-4.1	-	IN-4.2	27	768.08	767.81	1.00%
0010	IN-4.2	-	IN-4.3	8	768.26	768.18	1.00%
0010	EW-5.1	-	IN-5.2	78	768.30	766.51	2.29%
0010	IN-5.2	-	IN-5.3	10	768.59	768.40	2.00%
TOTAL 0010				293			

STORM SEWER STRUCTURES																		
					522.1012 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12- INCH	611.0624 INLET COVERS TYPE H EACH	611.0627 INLET COVERS TYPE HM EACH	611.0636 INLET COVERS TYPE HM-S EACH	611.0639 INLET COVERS TYPE H-S EACH	611.0652 INLET COVERS TYPE T EACH	611.3225 INLETS 2X2.5-FT EACH	611.3230 INLETS 2X3-FT EACH	* 633.5200 MARKERS CULVERT END EACH	650.4000 CONSTRUCTION STAKING STORM SEWER EACH	RIM ELEVATION	INVERT*** ELEVATION	DEPTH**** FT	
CATEGORY	STRUCTURE	STATION	OFFSET**	LOCATION														
0010	EW-1.1	103+25 'WB'	33.1' LT	WB STH 81	1	---	---	---	---	---	---	---	1	1	---	767.84	---	---
0010	IN-1.2	103+25 'WB'	1.5' RT	WB STH 81	---	---	---	1	---	---	---	1	---	1	773.25	768.70	3.55	---
0010	IN-1.3	103+27 'EB'	1.5' LT	EB STH 81	---	---	---	1	---	---	---	1	---	1	773.52	769.10	3.42	---
0010	EW-2.1	204+00 'NB'	38.0' RT	NB CTH T	1	---	---	---	---	---	---	---	1	1	---	768.68	---	---
0010	IN-2.2	204+00 'NB'	1.5' LT	NB CTH T	---	1	---	---	---	---	---	1	---	1	772.85	768.88	2.97	---
0010	IN-2.3	203+98 'SB'	1.5' RT	SB CTH T	---	1	---	---	---	---	---	1	---	1	772.71	769.02	2.69	---
0010	EW-3.1	107+10 'WB'	48.9' LT	WB STH 81	1	---	---	---	---	---	---	---	1	1	---	766.46	---	---
0010	IN-3.2	107+13 'WB'	18.0' LT	WB STH 81	---	---	---	1	---	---	---	1	---	1	772.19	767.30	3.89	---
0010	IN-3.3	107+08 'WB'	1.5' RT	WB STH 81	---	---	---	---	1	---	---	1	---	1	772.60	767.80	3.80	---
0010	IN-3.4	107+09 'EB'	1.5' LT	EB STH 81	---	---	---	---	1	---	---	1	---	1	772.89	767.96	3.93	---
0010	IN-3.5	107+15 'EB'	20.1' RT	EB STH 81	---	---	---	---	1	---	---	1	---	1	772.52	768.50	3.02	---
0010	EW-4.1	208+25 'NB'	25.1' RT	NB CTH T	1	---	---	---	---	---	---	---	1	1	---	767.81	---	---
0010	IN-4.2	208+25 'NB'	1.5' LT	NB CTH T	---	---	1	---	---	---	---	1	---	1	772.11	768.08	3.03	---
0010	IN-4.3	208+36 'SB'	1.5' RT	SB CTH T	---	---	1	---	---	---	---	1	---	1	771.93	768.26	2.67	---
0010	EW-5.1	12+56 'RAB'	75.8' RT	RAB	1	---	---	---	---	---	---	---	1	1	---	766.51	---	---
0010	IN-5.2	12+50 'RAB'	1.7' LT	RAB	---	---	---	---	---	1	1	---	---	1	773.04	768.30	3.66	---
0010	IN-5.3	12+39 'RAB'	1.7' LT	RAB	---	---	---	---	---	1	1	---	---	1	773.02	768.59	3.35	---
TOTAL 0010					5	2	2	3	3	2	2	10	5	17				

*ADDITIONAL QUANTITIES LISTED ELSEWHERE
** STATIONS AND OFFSETS ARE TO CENTER OF STRUCTURE
*** THE INVERT ELEVATION IS THE ELEVATION OF THE LOWEST PIPE FLOW LINE
**** DEPTH = RIM ELEV - INVERT ELEV - COVER HEIGHT - 6 INCH ADJUSTMENT RING HEIGHT

RIPRAP MEDIUM				
CATEGORY	STATION	LOCATION	606.0200	645.0120
			RIPRAP MEDIUM	GEOTEXTILE TYPE
			CY	HR
				SY
0010	103+25 'WB'	LT	2	8
0010	12+56 'RAB'	RT	2	8
0010	107+10 'WB'	LT	2	8
0010	107+94 'EB'	LT	5	15
0010	204+00 'NB'	RT	2	8
0010	204+89 'NB'	RT	5	15
0010	206+53 'NB'	RT	5	15
0010	208+25 'NB'	RT	2	8
TOTAL 0010			25	85

PIPE UNDERDRAIN								
CATEGORY	STATION	TO	STATION	LOCATION	612.0106	612.0806	646.5520	REMARKS
					PIPE	APRON ENDWALLS FOR	MARKING	
					UNDERDRAIN	UNDERDRAIN REINFORCED	OUTFALL	
					6-INCH	CONCRETE 6-INCH	EPOXY	
					LF	EACH	EACH	
0010	10+00 'RAB'	-	13+30 'RAB'	CIRCLE	320	---	---	TIES INTO IN-5.2 & IN-5.3
0010	51+52 'SE'	-	53+06 'SE'	SE QUAD	156	---	---	TIES INTO IN-3.5
0010	60+00 'NE'	-	61+87 'NE'	NE QUAD	188	---	---	TIES INTO IN-3.2
0010	208+35 'NB'	-	211+58 'NB'	RT	340	1	1	APRON ENDWALL REQ'D
0010	208+34 'SB'	-	211+58 'SB'	LT	346	1	1	APRON ENDWALL REQ'D
TOTAL 0010					1,350	2	2	

RESTORATION ITEMS												
CATEGORY	STATION	TO	STATION	LOCATION	625.0500	627.0200	628.2004	629.0210	630.0120	630.0140	630.0200	630.0500
					SALVAGED		EROSION MAT	FERTILIZER TYPE	SEEDING	SEEDING	SEEDING	
					TOPSOIL	MULCHING	CLASS I TYPE B	B	MIXTURE NO. 20	MIXTURE NO. 40	TEMPORARY	SEED WATER
					SY	SY	SY	CWT	LB	LB	LB	MGAL
0010	100+00 'EB'	-	199+80 'SB'	SW QUAD	2,142	1,164	978	0.7	98	---	59	49
0010	200+00 'NB'	-	111+08 'EB'	SE QUAD	1,960	1,176	784	0.8	106	---	64	53
0010	211+58 'NB'	-	111+84 'WB'	NE QUAD	2,313	1,448	865	0.9	120	---	72	60
0010	100+00 'WB'	-	211+58 'SB'	NW QUAD	2,530	1,424	1,106	0.8	113	---	68	57
0010	10+00 'RAB'	-	13+30 'RAB'	CENTER CIRCLE	453	453	---	0.2	---	20.4	13	11
0010	UNDISTRIBUTED				2,402	1,425	937	1.6	113	5.6	74	60
TOTAL 0010					11,800	7,090	4,670	5.0	550	26.0	350	290

SILT FENCE						
					628.1504	628.1520
					SILT FENCE	SILT FENCE
CATEGORY	STATION	TO	STATION	LOCATION	LF	MAINTENANCE
					LF	LF
0010	100+00 'EB'	-	203+83 'SB'	SW QUAD	685	685
0010	203+42 'NB'	-	108+12 'EB'	SE QUAD	335	335
0010	102+94 'WB'	-	209+68 'SB'	NW QUAD	485	485
0010	UNDISTRIBUTED			---	385	385
TOTAL 0010					1,890	1,890

				EROSION CONTROL								
				628.7005 INLET PROTECTION TYPE A EACH	628.7015 INLET PROTECTION TYPE C EACH	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH	628.7560 TRACKING PADS EACH				
MOBILIZATIONS EROSION CONTROL				CATEGORY	STATION	LOCATION			REMARKS			
		628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH									
0010	5340-00-74	5	3	0010	107+94 'EB'	RT	---	---	---	3	---	EXISITNG 15" CMP
				0010	204+71 'NB'	LT	---	---	---	3	---	
				0010	207+03 'NB'	LT	---	---	---	3	---	
				0010	112+68 'EB'	LT	---	---	---	2	---	
				0010	103+26 'EB'	LT & RT	2	2	---	---	---	
				0010	107+10 'EB'	LT & RT	4	4	---	---	---	
				0010	12+45 'RAB'	CIRCLE	2	2	---	---	---	
				0010	203+99 'NB'	LT & RT	2	2	---	---	---	
				0010	208+24 'NB'	LT & RT	2	2	---	---	---	
				0010	UNDISTRIBUTED	---	---	---	150	---	2	
TOTAL 0010						12	12	150	11	2		

MOBILIZATIONS EROSION CONTROL			
CATEGORY	LOCATION	628.1905	628.1910
		MOBILIZATIONS	MOBILIZATIONS
		EROSION	EROSION
		CONTROL	CONTROL
0010	5340-00-74	5	3
TOTAL 0010		5	3

MARKERS ROW		
CATEGORY	LOCATION	633.5100
		MARKERS ROW
		EACH
0010	5340-00-74	12
TOTAL 0010		12

PERMANENT SIGNING																
CATEGORY	SIGN NO.	STATION	LOCATION	SIGN CODE	SIZE			634.0612	634.0614	634.0616	634.0618	634.0814	637.2210	637.2230	REMARKS	
					IN	X	IN	POSTS WOOD	POSTS WOOD	POSTS WOOD	POSTS WOOD	POSTS TUBULAR	SIGNS TYPE II	SIGNS TYPE II		
								4X6-INCH X 12- FT EACH	4X6-INCH X 14- FT EACH	4X6-INCH X 16- FT EACH	4X6-INCH X 18- FT EACH	STEEL 2X2-INCH X 14-FT EACH	REFLECTIVE H SF	REFLECTIVE F SF		
0010	101	97+25'EB'	RT	W2-6	30	X	30	---	---	1	---	---	---	6.25	MOUNTED BELOW SIGN 101 STH 81 EAST STRAIGHT, CTH T LEFT, CTH T RIGHT 55 MPH	
0010	102	97+25'EB'	RT	W13-1	18	X	18	---	---	---	---	---	---	2.25		
0010	104	99+25'EB'	RT	D1-62	96	X	66	---	---	---	2	---	44.00	---		
0010	106	101+35'WB'	LT	R2-1	24	X	30	---	1	---	---	---	5.00	---		
0010	107	102+41'EB'	LT	R4-7	24	X	30	---	1	---	---	---	5.00	---		
0010	108	102+41'EB'	RT	W5-54	18	X	18	---	---	---	---	---	---	2.25	MOUNTED BELOW SIGN 107 STH 81 WEST, REMOVABLE POST REMOVABLE POST	
0010	109	102+42'WB'	LT	R5-1	30	X	30	---	1	---	---	---	6.25	---		
0010	200	103+80 'WB'	LT	R5-1A	36	X	24	---	1	---	---	---	6.00	---		
0010	202	104+73 'WB'	RT	D1-1	42	X	30	---	---	---	1	---	8.75	---		
0010	203	104+74 'EB'	LT	R1-2	36	X	31	---	---	---	1	---	3.88	---		
0010	204	104+86 'EB'	RT	R1-2	36	X	31	---	---	---	---	1	3.88	---	REMOVABLE POST CTH T, REMOVABLE POST REMOVABLE POST	
0010	205	205+01 'SB'	RT	D1-1	36	X	18	---	---	---	---	1	4.50	---		
0010	206	204+07 'SB'	LT	R5-1A	36	X	24	---	1	---	---	---	6.00	---		
0010	207	204+96 'NB'	LT	R1-2	36	X	31	---	---	---	---	1	3.88	---		
0010	208	205+05 'NB'	RT	R1-2	36	X	31	---	1	---	---	---	3.88	---		
0010	209	106+34 'EB'	LT	D1-1	42	X	30	---	---	---	---	1	8.75	---	STH 81 EAST, REMOVABLE POST REMOVABLE POST REMOVABLE POST	
0010	210	106+34 'WB'	RT	R1-2	36	X	31	---	---	---	---	1	3.88	---		
0010	211	106+24 'WB'	LT	R1-2	36	X	31	---	---	---	---	1	3.88	---		
0010	212	107+24 'EB'	RT	R5-1A	36	X	24	---	1	---	---	---	6.00	---		
0010	214	206+58 'NB'	LT	D1-1	36	X	18	---	---	---	---	1	4.50	---		
0010	215	206+61 'SB'	RT	R1-2	36	X	31	---	---	---	---	1	3.88	---	REMOVABLE POST MOUNTED BELOW SIGN 217	
0010	216	206+53 'SB'	LT	R1-2	36	X	31	---	1	---	---	---	3.88	---		
0010	217	10+17 'RAB'	CIRCLE	R6-1R	36	X	12	2	---	---	---	---	3.00	---		
0010	218	10+17 'RAB'	CIRCLE	R6-4B	60	X	24	---	---	---	---	---	10.00	---		
0010	219	11+14 'RAB'	CIRCLE	R6-1R	36	X	12	2	---	---	---	---	3.00	---		
0010	220	11+14 'RAB'	CIRCLE	R6-4B	60	X	24	---	---	---	---	---	10.00	---	MOUNTED BELOW SIGN 219 MOUNTED BELOW SIGN 221 MOUNTED BELOW SIGN 223	
0010	221	11+82 'RAB'	CIRCLE	R6-1R	36	X	12	2	---	---	---	---	3.00	---		
0010	222	11+82 'RAB'	CIRCLE	R6-4B	60	X	24	---	---	---	---	---	10.00	---		
0010	223	12+73 'RAB'	CIRCLE	R6-1R	36	X	12	2	---	---	---	---	3.00	---		
0010	224	12+73 'RAB'	CIRCLE	R6-4B	60	X	24	---	---	---	---	---	10.00	---		
0010	300	108+65 'EB'	RT	R5-1	30	X	30	---	1	---	---	---	6.25	---	MOUNTED BELOW SIGN 303 55 MPH STH 81 WEST STRAIGHT, CTH T LEFT, CTH T RIGHT	
0010	302	108+66 'EB'	LT	R4-7	24	X	30	---	1	---	---	---	5.00	---		
0010	303	108+66 'EB'	LT	W5-54	18	X	18	---	---	---	---	---	---	2.25		
0010	304	109+71 'EB'	RT	R2-1	24	X	30	---	1	---	---	---	5.00	---		
0010	306	111+75 'EB'	LT	D1-62	96	X	66	---	---	---	2	---	44.00	---		
0010	307	113+75 'EB'	LT	W2-6	30	X	30	---	---	1	---	---	---	6.25	MOUNTED BELOW SIGN 307	
0010	308	113+75 'EB'	LT	W13-1	18	X	18	---	---	---	---	---	---	2.25		
0010	309	115+66 'EB'	RT	W14-3	48	X	36	---	1	---	---	---	---	5.56		
0010	401	195+42 'NB'	LT	W14-3	48	X	36	---	1	---	---	---	---	5.56		
0010	402	197+50 'NB'	RT	W2-6	30	X	30	---	---	1	---	---	---	6.25		
0010	403	197+50 'NB'	RT	W13-1	18	X	18	---	---	---	---	---	---	2.25	MOUNTED BELOW SIGN 402 CTH T STRAIGHT, STH 81 EAST RIGHT, STH 81 WEST LEFT MOUNTED BELOW SIGN 405	
0010	404	199+50 'NB'	RT	D1-62	96	X	66	---	---	---	2	---	44.00	---		
0010	405	202+64 'NB'	LT	R4-7	24	X	30	---	1	---	---	---	5.00	---		
0010	406	202+64 'NB'	LT	W5-54	18	X	18	---	---	---	---	---	---	2.25		
0010	407	202+64 'SB'	LT	R5-1	30	X	30	---	1	---	---	---	6.25	---		
0010	408	202+64 'SB'	LT	R2-1	24	X	30	---	---	---	---	---	5.00	---	MOUNTED WITH SIGN 407, 55 MPH MOUNTED WITH SIGN 502	
0010	500	207+16 'NB'	RT	R5-1A	36	X	24	---	1	---	---	---	6.00	---		
0010	503	208+95 'NB'	RT	R5-1	30	X	30	---	---	---	---	---	6.25	---		
0010	504	208+95 'NB'	LT	R4-7	24	X	30	---	1	---	---	---	5.00	---		
0010	505	208+95 'NB'	LT	W5-54	18	X	18	---	---	---	---	---	---	2.25		
0010	506	211+23 'NB'	LT	D1-62	96	X	66	---	---	---	2	---	44.00	---	MOUNTED BELOW SIGN 504 CTH T STRAIGHT, STH 81 WEST RIGHT, STH 81 EAST LEFT MOUNTED BELOW SIGN 507	
0010	507	214+00 'NB'	LT	W2-6	30	X	30	---	---	1	---	---	---	6.25		
0010	508	214+00 'NB'	LT	W13-1	18	X	18	---	---	---	---	---	---	2.25		
0010	---	UNDISTRIBUTED	---	---	---	X	---	---	---	---	5	---	---	---		
TOTAL 0010								8	17	4	13	10	369.54	54.12		

REMOVING / MOVING SIGNS AND SUPPORTS									
CATEGORY	EXISTING SIGN NO.	PROPOSED SIGN NO.	STATION	LOCATION	638.2102	638.2602	638.3000	638.4000	REMARKS
					MOVING SIGNS TYPE II	REMOVING SIGNS TYPE II	REMOVING SMALL SIGN SUPPORTS	MOVING SMALL SIGN SUPPORTS	
					EACH	EACH	EACH	EACH	
0010	204	-	22+52 'EX81'	RT	-	1	1	-	CTH T DOUBLE ARROW
0010	210	-	23+37 'EX81'	LT	-	1	1	-	CTH T DOUBLE ARROW
0010	400	-	52+95 'EXT'	RT	-	1	1	-	STOP AHEAD
0010	211	-	60+72 'EXT'	RT	-	1	1	-	STOP
0010	206	-	61+59 'EXT'	LT	-	1	1	-	STOP
0010	207	-	61+76 'EXT'	LT	-	1	1	-	DOUBLE DOWN ARROW
0010	205	-	61+58 'EXT'	LT	-	1	1	-	STH 81 DOUBLE ARROW
0010	203	-	61+80 'EXT'	LT	-	1	1	-	STOP, DO NOT ENTER
0010	212	-	60+66 'EXT'	RT	-	1	1	-	STH 81 DOUBLE ARROW
0010	402	409	201+50'NB'	RT	1	-	-	2	BRODHEAD, BELOIT, MONROE
0010	500	-	65+56 'EXT'	LT	-	1	1	-	CTH T AHEAD ARROW
0010	503	-	66+90 'EXT'	LT	-	1	1	-	STOP AHEAD
0010	504	-	66+90 'EXT'	RT	-	1	1	-	STOP AHEAD
0010	100	100	95+25'EB'	RT	1	-	-	1	JCT CTH T
0010	201	103	95+42'EB'	LT	1	-	-	1	NO PASSING ZONE
0010	101	105	100+25'EB'	LT	1	-	-	1	ADOPT A HIGHWAY BRODHEAD OPTIMISTS
0010	200	110	102+42'WB'	LT	1	-	1	-	WEST STH 81 (MOUNTED WITH SIGN 109)
0010	202	201	103+80'WB'	LT	1	-	1	-	GREEN CO (MOUNTED WITH SIGN 200)
0010	208	207	204+07 'SB'	LT	1	-	1	-	CTH T (MOUNTED WITH SIGN 206)
0010	213	213	107+24'EB'	RT	1	-	1	-	ROCK CO (MOUNTED WITH SIGN 212)
0010	300	301	108+65'EB'	RT	1	-	1	-	EAST, STH 81 (MOUNTED WITH SIGN 300)
0010	301	305	110+75'EB'	RT	1	-	-	1	ADOPT A HIGHWAY, KUHN NORTH AMERICA
0010	302	310	115+75'EB'	LT	1	-	-	1	JCT CTH T
0010	401	400	194+50'NB'	RT	1	-	-	1	JCT STH 81
0010	209	501	207+16'NB'	RT	1	-	1	-	CTH T (MOUNTED WITH SIGN 500)
0010	501	502	208+95'NB'	RT	1	-	-	-	SPEED LIMIT 55 (MOUNTED WITH PROP SIGN 503)
0010	505	509	216+00'NB'	RT	1	-	-	1	JCT STH 81
0010	502	510	216+16'NB'	RT	1	-	-	1	NO PASSING ZONE
TOTAL 0010					16	12	18	10	

TRAFFIC CONTROL ITEMS															
			643.0300		643.0420		643.0705		643.0900		643.0920			643.1050	
			TRAFFIC CONTROL DRUMS		TRAFFIC CONTROL BARRICADES TYPE III		TRAFFIC CONTROL WARNING LIGHTS TYPE A		TRAFFIC CONTROL SIGNS		TRAFFIC CONTROL COVERING SIGNS TYPE II			TRAFFIC CONTROL SIGNS PCMS	
CATEGORY	LOCATION	DAYS**	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	EACH	# CYCLES	EACH	EACH	DAY
0010	SHOULDER CLOSURE	2	15	30	---	---	---	---	5	10	---	---	---	---	---
0010	PROJECT LIMITS	7	10	70	---	---	---	---	---	---	---	---	---	2	14
0010	WEST LEG CLOSURE	93	---	---	9	837	12	1,116	6	558	---	---	---	---	---
0010	EAST LEG CLOSURE	93	---	---	9	837	12	1,116	6	558	---	---	---	---	---
0010	NORTH LEG CLOSURE	93	---	---	9	837	12	1,116	6	558	---	---	---	---	---
0010	SOUTH LEG CLOSURE	93	---	---	9	837	12	1,116	6	558	---	---	---	---	---
0010	DETOUR - OVERVIEW	93	---	---	5	465	2	186	63	5,859	---	---	---	---	---
0010	DETOUR - DETAIL 1	93	---	---	3	279	6	558	28	2,604	3	1	3	---	---
0010	DETOUR - DETAIL 2	93	---	---	---	---	---	---	22	2,046	---	---	---	---	---
0010	DETOUR - DETAIL 3	93	---	---	3	279	6	558	18	1,674	3	1	3	---	---
0010	UNDISTRIBUTED	---	---	10	---	438	---	577	---	1,442	---	---	1	---	---
TOTAL 0010				80	4,809		6,343		15,857		7			14	
** FOR INFORMATION ONLY															

PAVEMENT MARKING ITEMS

					646.2020	646.2040	646.4020	646.6320	646.7120	646.8120	646.8220	646.9000		
					MARKING LINE	MARKING LINE	MARKING LINE	MARKING	MARKING	MARKING	MARKING	MARKING		
					MARKING LINE	REF EPOXY 6-	MARKING LINE	EXTENSION	DIAGONAL	MARKING CURB	ISLAND NOSE	REMOVAL LINE		
					EPOXY 6-INCH	INCH	EPOXY 10-INCH	EPOXY 18-INCH	EPOXY 12-INCH	EPOXY	EPOXY	4-INCH		
CATEGORY	STATION	TO	STATION	LOCATION	LF	LF	LF	LF	LF	LF	EACH	LF	REMARKS	
0010	95+42 'EB'	-	104+83 'EB'	LT & RT	---	2,286	---	---	64	79	1	---	YELLOW	
0010	100+00 'EB'	-	104+83 'EB'	LT & RT	24	750	28	---	---	---	---	---	WHITE	
0010	106+23 'EB'	-	115+66 'EB'	LT & RT	---	2,287	---	---	66	79	1	---	YELLOW	
0010	106+23 'EB'	-	112+25 'EB'	LT & RT	24	868	28	---	---	---	---	70	WHITE	
0010	200+00 'NB'	-	205+05 'NB'	LT & RT	1,531	---	---	---	65	74	1	---	YELLOW	
0010	200+00 'NB'	-	205+05 'NB'	LT & RT	817	---	30	---	---	---	---	---	WHITE	
0010	206+44 'NB'	-	216+16 'NB'	LT & RT	2,377	---	---	---	60	74	1	---	YELLOW	
0010	206+44 'NB'	-	211+58 'NB'	LT & RT	818	---	30	---	---	---	---	---	WHITE	
0010	10+00 'RAB'	-	13+30 'RAB'	RT	---	---	154	66	---	---	---	---	WHITE	
0010	50+66'EXT'	-	50+94'EXT'	RT	28	---	---	---	---	---	---	---	YELLOW	
0010	54+32 'EXT'	-	54+58 'EXT'	RT	26	---	---	---	---	---	---	---	YELLOW	
TOTAL 0010					5,645	6,191	270	66	255	306	4	70		

CONSTRUCTION STAKING

					650.4500	650.5000	650.9920		
					CONSTRUCTION	CONSTRUCTION	CONSTRUCTION		
					STAKING	STAKING	STAKING		
					SUBGRADE	BASE	SLOPE		
CATEGORY	STATION	TO	STATION	LOCATION	LF	LF	LF		
0010	100+00 'EB'	-	102+29 'EB'	LT & RT	229	229	229		
0010	108+79 'EB'	-	111+08 'EB'	LT & RT	229	229	229		
0010	111+08 'EB'	-	111+84 'EB'	LT	---	---	76		
0010	200+00 'NB'	-	202+51 'NB'	LT & RT	251	251	251		
0010	209+08 'NB'	-	211+48 'NB'	LT & RT	240	240	240		
TOTAL 0010					949	949	1,025		

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LIGHTING CONDUIT AND WIRE ITEMS								
				652.0225	652.0235	652.0325	* 655.0610	
				CONDUIT RIGID NONMETALLIC SCHEDULE 40 2- INCH	CONDUIT RIGID NONMETALLIC SCHEDULE 40 3- INCH	CONDUIT RIGID NONMETALLIC SCHEDULE 80 2- INCH	ELECTRICAL WIRE LIGHTING 12 AWG	REMARKS
CATEGORY	FROM	-	TO	LF	LF	LF	LF	
0010	LC1	-	PB-1	---	38	---	137	
0010	PB-1	-	LC1-1	8	---	---	141	
0010	PB-1	-	LC1-2	80	---	---	261	
0010	PB-1	-	PB-2	---	---	84	536	
0010	PB-2	-	PB-3	---	---	58	380	
0010	PB-3	-	LC1-3	10	---	---	81	
0010	PB-3	-	LC1-4	228	---	---	1,389	
0010	LC1-4	-	LC1-5	145	---	---	445	
0010	PB-3	-	PB-4	83	---	---	530	
0010	PB-4	-	LC1-6	27	---	---	183	
0010	PB-4	-	LC1-7	174	---	---	1,065	
0010	LC1-7	-	LC1-8	147	---	---	451	
0010	PB-4	-	PB-13	---	---	54	86	TRACER WIRE ONLY
0010	LC1	-	PB-5	---	64	---	215	
0010	PB-5	-	PB-6	---	---	40	272	
0010	PB-6	-	PB-7	---	---	53	350	
0010	PB-7	-	LC1-9	22	---	---	285	
0010	PB-7	-	LC1-10	170	---	---	1,041	
0010	LC1-10	-	LC1-11	152	---	---	466	
0010	PB-7	-	PB-8	87	---	---	554	
0010	PB-8	-	LC1-12	10	---	---	81	
0010	PB-8	-	PB-9	---	---	60	392	
0010	PB-9	-	PB-10	---	---	62	404	
0010	PB-10	-	LC1-16	20	---	---	141	
0010	PB-10	-	PB-11	54	---	---	356	
0010	PB-11	-	LC1-13	8	---	---	69	
0010	PB-11	-	LC1-14	150	---	---	921	
0010	LC1-14	-	LC1-15	151	---	---	463	
0010	PB-10	-	PB-12	64	---	---	96	TRACER WIRE ONLY
0010	PB-12	-	PB-13	---	---	42	74	TRACER WIRE ONLY
TOTAL 0010				1,790	102	453	11,865	
*ADDITIONAL QUANTITIES LISTED WITH LIGHT POLE ITEMS								

STREET LIGHT CABINET								
				654.0230	656.0201.01	659.2130		
				CONCRETE CONTROL CABINET BASES TYPE L30	ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) (01. STA. 106+53 'EB', 42.6' RT)	LIGHTING CONTROL CABINETS 120/240 30-INCH		
CATEGORY	CABINET NUMVER	STATION	OFFSET	LOCATION	EACH	EACH	EACH	
0010	LC1	106+53 'EB'	42.6'	RT	1	1	1	
TOTAL 0010					1	1	1	

PULL BOXES						
					653.0164	
					PULL BOXES NON-CONDUCTIVE 24X42-INCH	
CATEGORY	PULL BOX NUMBER	STATION	OFFSET	LOCATION	EACH	
0010	PB-1	106+34 'EB'	46.0'	RT	1	
0010	PB-2	204+90 'NB'	14.8'	LT	1	
0010	PB-3	205+09 'NB'	41.1'	LT	1	
0010	PB-4	104+42 'EB'	48.0'	RT	1	
0010	PB-5	106+84 'EB'	35.3'	RT	1	
0010	PB-6	106+86 'EB'	4.8'	LT	1	
0010	PB-7	106+78 'WB'	48.2'	LT	1	
0010	PB-8	12+86 'RAB'	55.5'	RT	1	
0010	PB-9	206+69 'NB'	13.8'	LT	1	
0010	PB-10	10+21 'RAB'	49.2'	RT	1	
0010	PB-11	207+32 'SB'	38.6'	LT	1	
0010	PB-12	104+35 'WB'	35.9'	LT	1	
0010	PB-13	104+32 'EB'	5.6'	LT	1	
TOTAL 0010					13	

STREET LIGHTING ITEMS										
					* 654.0105	655.0610	657.0255	657.0322	657.0710	659.1120
					CONCRETE BASES	ELECTRICAL WIRE LIGHTING	TRANSFORMER BASES BREAKAWAY 11 1/2- INCH BOLT CIRCLE	POLES TYPE 5- ALUMINUM	LUMINAIRE ARMS TRUSS TYPE 4 1/2- INCH CLAMP 12-FT	LUMINAIRES UTILITY LED B
CATEGORY	LIGHT NUMBER	STATION	OFFSET	LOCATION	TYPE 5 EACH	12 AWG LF	EACH	EACH	EACH	EACH
0010	LC1-1	106+33 'EB'	38.6'	RT	1	135	1	1	1	1
0010	LC1-2	204+27 'NB'	31.6'	RT	1	135	1	1	1	1
0010	LC1-3	205+02 'SB'	34.3'	LT	1	135	1	1	1	1
0010	LC1-4	202+79 'SB'	25.0'	LT	1	135	1	1	1	1
0010	LC1-5	201+33 'SB'	26.0'	LT	1	135	1	1	1	1
0010	LC1-6	104+06 'EB'	35.0'	RT	1	135	1	1	1	1
0010	LC1-7	102+59 'EB'	26.4'	RT	1	135	1	1	1	1
0010	LC1-8	101+14 'EB'	26.7'	RT	1	135	1	1	1	1
0010	LC1-9	107+04 'WB'	36.1'	LT	1	135	1	1	1	1
0010	LC1-10	108+52 'WB'	25.6'	LT	1	135	1	1	1	1
0010	LC1-11	109+98 'WB'	27.7'	LT	1	135	1	1	1	1
0010	LC1-12	12+85 'RAB'	45.5'	RT	1	135	1	1	1	1
0010	LC1-13	207+31 'SB'	31.2'	LT	1	135	1	1	1	1
0010	LC1-14	208+79 'SB'	20.8'	LT	1	135	1	1	1	1
0010	LC1-15	210+28 'SB'	23.7'	LT	1	135	1	1	1	1
0010	LC1-16	10++31 'RAB'	46.0'	RT	1	135	1	1	1	1
TOTAL 0010					16	2,160	16	16	16	16

*ADDITIONAL QUANTITIES LISTED WITH CONDUIT ITEMS

SAWING ITEMS							
				690.0150	690.0250		
				SAWING ASPHALT	SAWING CONCRETE		
CATEGORY	STATION	TO	STATION	LOCATION	LF	LF	REMARKS
0010	100+00'EB'	-	---	RT & LT	34	----	
0010	100+00'EB'	-	---	RT & LT	----	24	UNDERLYING RUBBLIZED CONC PAVEMENT
0010	111+08'EB'	-	111+84'EB'	RT & LT	110	----	
0010	111+08'EB'	-	---	RT & LT	----	24	UNDERLYING RUBBLIZED CONC PAVEMENT
0010	50+66 'EXT'	-	50+94 'EXT'	RT	51	----	
0010	54+32 'EXT'	-	54+58 'EXT'	RT	49	----	
0010	200+00'NB'	-	---	RT & LT	22	----	
0010	211+58'NB'	-	---	RT & LT	24	----	
TOTAL 0010					290	48	

3

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

TRANSPORTATION PROJECT PLAT TITLE SHEET

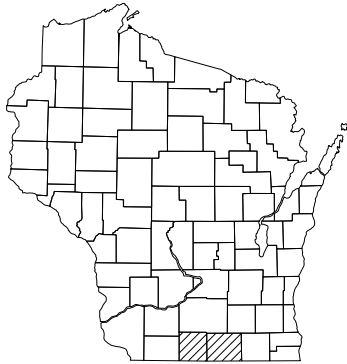
5340-00-20

MONROE - BELOIT

CTH T INTERSECTION

STH 81

ROCK COUNTY & GREEN COUNTY



CONVENTIONAL SYMBOLS

SECTION LINE		SECTION CORNER SYMBOL		R/W MONUMENT (TO BE SET)	
QUARTER LINE		SECTION CORNER MONUMENT		NON-MONUMENTED R/W POINT	
SIXTEENTH LINE		GEODETIC SURVEY MONUMENT		FOUND IRON PIN (1-INCH UNLESS NOTED)	
NEW REFERENCE LINE		SIXTEENTH CORNER MONUMENT		OFF-PREMISE SIGN	
NEW R/W LINE		SIGN		COMPENSABLE	
EXISTING R/W OR HE LINE		PARCEL NUMBER		NON-COMPENSABLE	
PROPERTY LINE		UTILITY NUMBER			
LOT, TIE & OTHER MINOR LINES		PARALLEL OFFSETS			
SLOPE INTERCEPT					
CORPORATE LIMITS					
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC)					
NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)					
TEMPORARY LIMITED EASEMENT AREA					
EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT)					
TRANSMISSION STRUCTURES					
BUILDING					
TO BE REMOVED					
BRIDGE					
CULVERT					

CONVENTIONAL ABBREVIATIONS

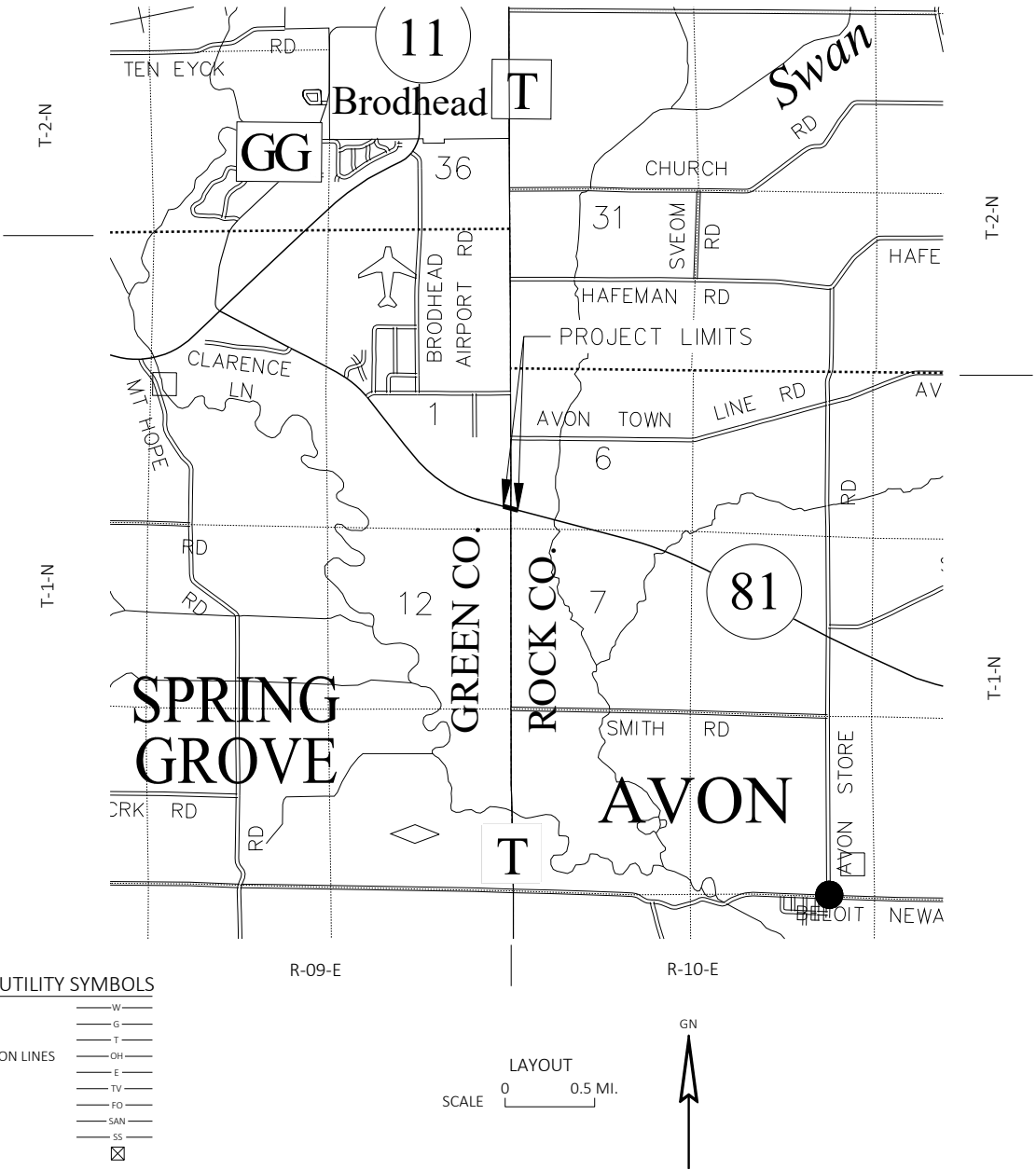
ACCESS RIGHTS	AR	POINT OF COMPOUND CURVE	PCC
ACRES	AC	POINT OF INTERSECTION	PI
AHEAD	AH	PROPERTY LINE	PL
ALUMINUM	ALUM	RECORDED AS	(100')
AND OTHERS	ET AL	REEL / IMAGE	R/I
BACK	BK	REFERENCE LINE	R/L
BLOCK	BLK	REMAINING	REM
CENTERLINE	C/L	RESTRICTIVE DEVELOPMENT	RDE
CERTIFIED SURVEY MAP	CSM	EASEMENT	
CONCRETE	CONC	RIGHT	RT
COUNTY	CO	RIGHT OF WAY	R/W
COUNTY TRUNK HIGHWAY	CTH	SECTION	SEC
DISTANCE	DIST	SEPTIC VENT	SEPV
CORNER	COR	SQUARE FEET	SF
DOCUMENT NUMBER	DOC	STATE TRUNK HIGHWAY	STH
EASEMENT	EASE	STATION	STA
EXISTING	EX	TELEPHONE PEDESTAL	TP
GAS VALVE	GV	TEMPORARY LIMITED	TLE
GRID NORTH	GN	EASEMENT	
HIGHWAY EASEMENT	HE	TRANSPORTATION PROJECT PLAT	TPP
IDENTIFICATION	ID	UNITED STATES HIGHWAY	USH
LAND CONTRACT	LC	VOLUME	V
LEFT	LT		
MONUMENT	MON		
NATIONAL GEODETIC SURVEY	NGS		
NUMBER	NO		
OUTLOT	OL		
PAGE	P		
POINT OF TANGENCY	PT		
PERMANENT LIMITED EASEMENT	PLE		
POINT OF BEGINNING	POB		
POINT OF CURVATURE	PC		

CURVE DATA ABBREVIATIONS

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE	Δ/DELTA
LENGTH OF CURVE	L
TANGENT	T
DIRECTION AHEAD	DA
DIRECTION BACK	DB

CONVENTIONAL UTILITY SYMBOLS

WATER	
GAS	
TELEPHONE	
OVERHEAD TRANSMISSION LINES	
ELECTRIC	
CABLE TELEVISION	
FIBER OPTIC	
SANITARY SEWER	
STORM SEWER	
ELECTRIC TOWER	



THE NOTES, CONVENTIONAL SIGNS, AND ABBREVIATIONS ARE ASSOCIATED WITH EACH TRANSPORTATION PROJECT PLAT FOR PROJECT 5340-00-20.

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), ROCK COUNTY, NAD83(2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY 3/4" X 24" IRON REBARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

ALL RIGHT-OF-WAY LINES DEPICTED IN THE NON-ACQUISITION AREAS ARE INTENDED TO RE-ESTABLISH EXISTING RIGHT-OF-WAY LINES AS DETERMINED FROM PREVIOUS PROJECTS, OTHER RECORDED DOCUMENTS, CENTERLINE OF EXISTING PAVEMENTS, AND/OR EXISTING OCCUPATIONAL LINES.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS" OF PUBLIC RECORD.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO THE NEW REFERENCE LINES.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON, THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE. ALL (TLEs) ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

PROPERTY LINES SHOWN ON THIS PLAT FOR PROPERTIES BEING IMPACTED ARE DRAWN FROM DATA DERIVED FROM FILED/RECORDED MAPS AND DOCUMENTS OF PUBLIC RECORD. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

FOR THE CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN MADISON.

PARCEL AND UTILITY IDENTIFICATION NUMBERS MAY NOT POINT TO ALL AREAS OF ACQUISITION, AS NOTED ON THE TPP DETAIL PAGES.

INFORMATION FOR THE BASIS OF EXISTING HIGHWAY RIGHT-OF-WAY POINTS OF REFERENCE AND ACCESS CONTROL ARE LISTED ON THE TPP DETAIL PAGES.

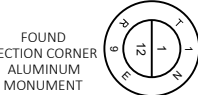
TRANSPORTATION PROJECT PLAT NO: 5340-00-20 - 4.01

PART OF THE SW 1/4 OF THE SW 1/4 OF SECTION 6, TOWNSHIP 1 NORTH, RANGE 10 EAST, TOWN OF AVON, ROCK COUNTY, WISCONSIN.

RELOCATION ORDER STH 81, MONROE - BELOIT (CTH T INTERSECTION) GREEN COUNTY AND ROCK COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09, AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.



Y: 229,213.615
X: 397,993.833

S 1/4 SEC 1 - PT 101
N89°57'07"E, 2685.63'



Y: 229,215.897
X: 400,712.466



S 1/4 SEC 1 - SE CORNER SECTION 1
N89°57'07"E, 2718.63'



Y: 229,198.458
X: 403,400.762

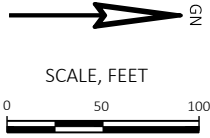


S 1/4 SEC 6 - SW CORNER SECTION 6
N89°37'42"W, 2688.35'

FOUND MONUMENTATION TABLE			
IP POINT	Y	X	TYPE
1000	229,216.975	400,681.678	1 1/4" REBAR SECTION CORNER TIE N63°08'07"E, 2.48' FROM RW POINT 101

FOUND MONUMENT INFORMATION SHOWN REPRESENTS TYPE AND LOCATION OF EXISTING MONUMENTS WITHOUT OPINION AS TO THEIR VALIDITY AND USE AS A PROPERTY CORNER.

RW STATION & OFFSET TABLE		
RW POINT	STATION	OFFSET
100	1T+00.00	0.00'
101	1T+00.06	-33.00'
102	2T+95.91	-33.00'
103	4T+21.16	-58.42'
104	5T+04.16	-65.70'
105	47+91.29	70.00'
106	47+72.48	0.00'
107	47+53.68	-70.00'
108	9T+81.68	-48.00'
109	11T+39.69	-48.00'
110	12T+91.25	-33.00'
111	12T+91.25	0.00'
112	12T+91.25	33.00'
113	11T+55.27	33.00'
114	11T+06.63	44.55'
115	9T+35.73	63.46'
116	51+69.59	-100.00'
117	52+14.73	0.00'
118	52+46.32	70.00'
119	4T+55.30	48.00'
120	1T+95.33	48.00'
121	1T+45.35	33.00'
122	1T+99.70	33.00'



SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNER'S 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(S) REQUIRED	R/W ACRES REQUIRED			TLE ACRES
			NEW	EXISTING	TOTAL	
1	WILLIAM A. WALMER, A SINGLE INDIVIDUAL	FEE	0.154	0.474	0.628	--
2	ELVIRA S. BORKOWSKI	FEE	0.171	0.474	0.645	--

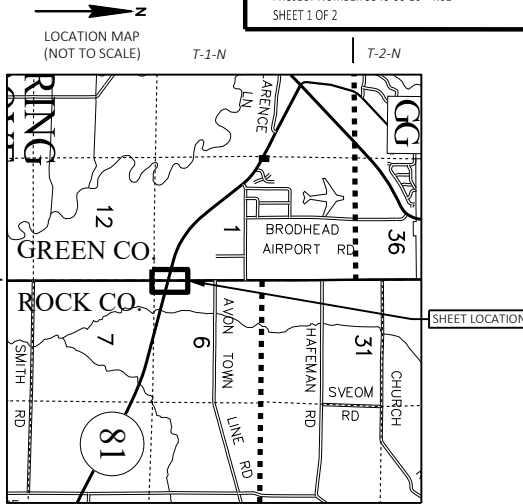
UTILITY INTERESTS REQUIRED

UTILITY NUMBER	OWNER(S)	INTEREST REQUIRED
81	FRONTIER COMMUNICATIONS	RELEASE OF RIGHTS
82	AMERICAN TRANSMISSION COMPANY	RELEASE OF RIGHTS
83	ALLIANT ENERGY - ELECTRIC	RELEASE OF RIGHTS

81 FRONTIER COMMUNICATIONS
NO EASEMENT OF RECORD - PARCEL 1
NO EASEMENT OF RECORD - PARCEL 2

82 WISCONSIN POWER AND LIGHT COMPANY
V 132 / P 527-528 / DOC. 676866
- PARCEL 2
SUBJECT TO EASEMENT ASSIGNMENT TO AMERICAN TRANSMISSION COMPANY DOC. 1479801

83 WISCONSIN POWER AND LIGHT COMPANY
V 132 / P 527-528 / DOC. 676866
- PARCEL 2
SUBJECT TO EASEMENT ASSIGNMENT TO AMERICAN TRANSMISSION COMPANY DOC. 1479801



RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 5340-00-20 - 4.01
SHEET 1 OF 2

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), ROCK COUNTY, NAD83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

FOR THE CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN MADISON.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BY TYPE 2 (TYPICALLY 3/4" X 24" IRON REBARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

EXISTING HIGHWAY RIGHT-OF-WAY FOR STH 81 SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE: TRANSPORTATION PROJECT 5341-1-22, SHEET 4.5; TRANSPORTATION PROJECT 5341-1-21, SHEET 4.7; 2014 HASSE PLAT OF SURVEY (NOT LOCATED ON SHEET AREA)

ACCESS CONTROL FOR STH 81 SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE: TRANSPORTATION PROJECT 5341-1-22, SHEET 4.5 AND TRANSPORTATION PROJECT 5341-1-21, SHEET 4.7

EXISTING HIGHWAY RIGHT-OF-WAY FOR CTH "T" SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE: TRANSPORTATION PROJECT 5341-1-22, SHEET 4.5 AND TRANSPORTATION PROJECT 5341-1-21, SHEET 4.7

FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS OF ROCK COUNTY, AS SHEET 2 OF 2 OF THIS DOCUMENT.



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1702 Pankratz St Madison, WI 53704
(608) 242-7779 www.msa-ps.com

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I, BRADLEY L. TISDALE PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT OF TRANSPORTATION I HAVE SURVEYED AND MAPPED THIS TRANSPORTATION PROJECT PLAT AND SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.



SIGNATURE: *Bradley L. Tisdale* DATE: 12/09/23
PRINT NAME: BRADLEY L. TISDALE
REGISTRATION NUMBER: S-2824

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

SIGNATURE: *Cory Schlager* DATE: 12/09/23
PRINT NAME: CORY SCHLAGER

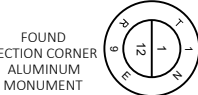
TRANSPORTATION PROJECT PLAT NO: 5340-00-20 - 4.01

PART OF THE SE 1/4 OF THE SE 1/4 OF SECTION 1, TOWNSHIP 1 NORTH, RANGE 9 EAST, TOWN OF SPRING GROVE, GREEN COUNTY, WISCONSIN.

RELOCATION ORDER STH 81, MONROE - BELOIT (CTH T INTERSECTION) GREEN COUNTY AND ROCK COUNTY

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Y: 229,213.615
X: 397,993.833



Y: 229,215.897
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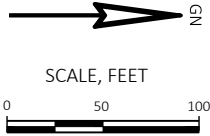
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APPRAISAL PLAT DATE : 12/09/2023

FOUND MONUMENTATION TABLE			
IP POINT	Y	X	TYPE
1000	229,216.975	400,681.678	1 1/4" REBAR SECTION CORNER TIE N63°08'07"E, 2.48' FROM RW POINT 101

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			NEW	EXISTING	TOTAL	
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83	ALLIANT ENERGY - ELECTRIC	RELEASE OF RIGHTS

81 FRONTIER COMMUNICATIONS
NO EASEMENT OF RECORD - PARCEL 1
NO EASEMENT OF RECORD - PARCEL 2

82 WISCONSIN POWER AND LIGHT COMPANY
V 132 / P 527-528 / DOC. 676866
- PARCEL 2
SUBJECT TO EASEMENT ASSIGNMENT TO AMERICAN TRANSMISSION COMPANY DOC. 1479801

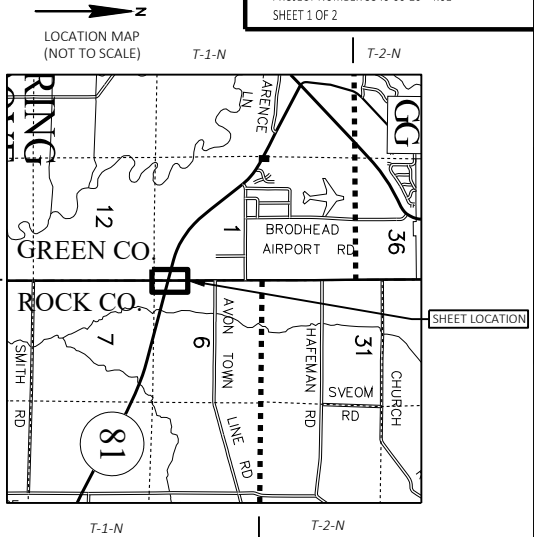
83 WISCONSIN POWER AND LIGHT COMPANY
V 132 / P 527-528 / DOC. 676866
- PARCEL 2
SUBJECT TO EASEMENT ASSIGNMENT TO AMERICAN TRANSMISSION COMPANY DOC. 1479801

ACCEPTED FOR RECORDING AND FILING IN THE OFFICE OF THE REGISTER OF DEEDS IN GREEN COUNTY, WISCONSIN AT 1:14 P.M. ON 12-19-2023 AS DOCUMENT # 627111 AND FILED IN Hanging File 2 pg 33

#413

SIGNATURE OF REGISTER OF DEEDS
Cynthia A. Muehl

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 5340-00-20 - 4.01
SHEET 1 OF 2



POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), ROCK COUNTY, NAD83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

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FOR ADDITIONAL INFORMATION REFER TO THE TITLE SHEET, RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS OF GREEN COUNTY, AS SHEET 2 OF 2 OF THIS DOCUMENT.



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1702 Pankratz St Madison, WI 53704
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SIGNATURE: Bradley L. Tisdale DATE: 12/09/23
PRINT NAME: BRADLEY L. TISDALE
REGISTRATION NUMBER: S-2824

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

SIGNATURE: Cory Schlager DATE: 12/09/23
PRINT NAME: CORY SCHLAGER

PLOT DATE : 12/9/2023 1:57 PM

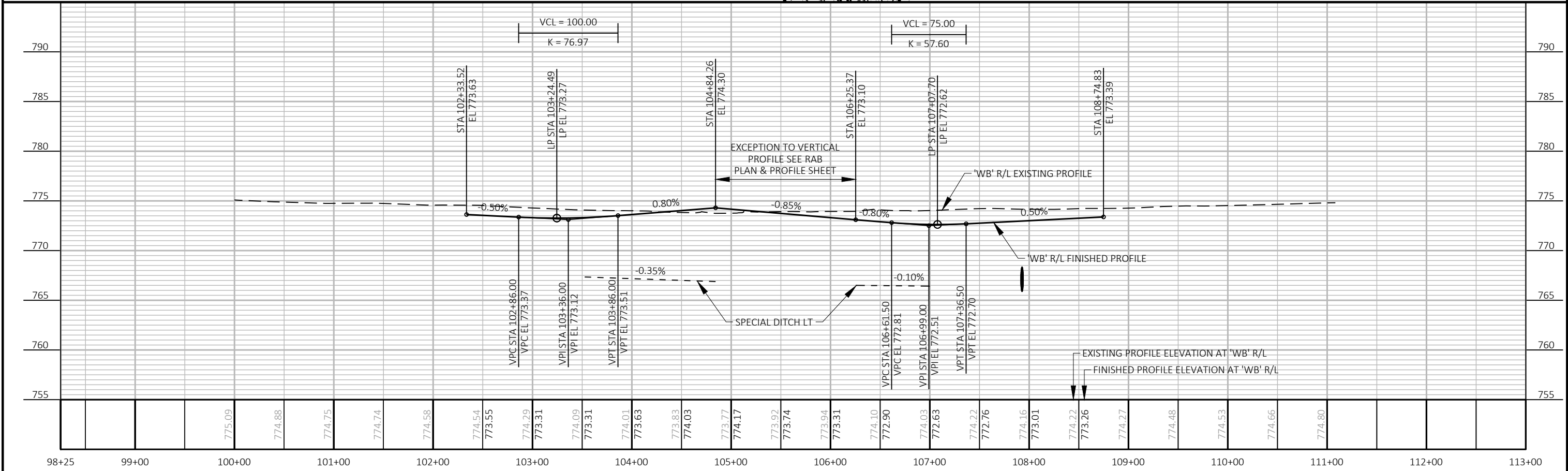
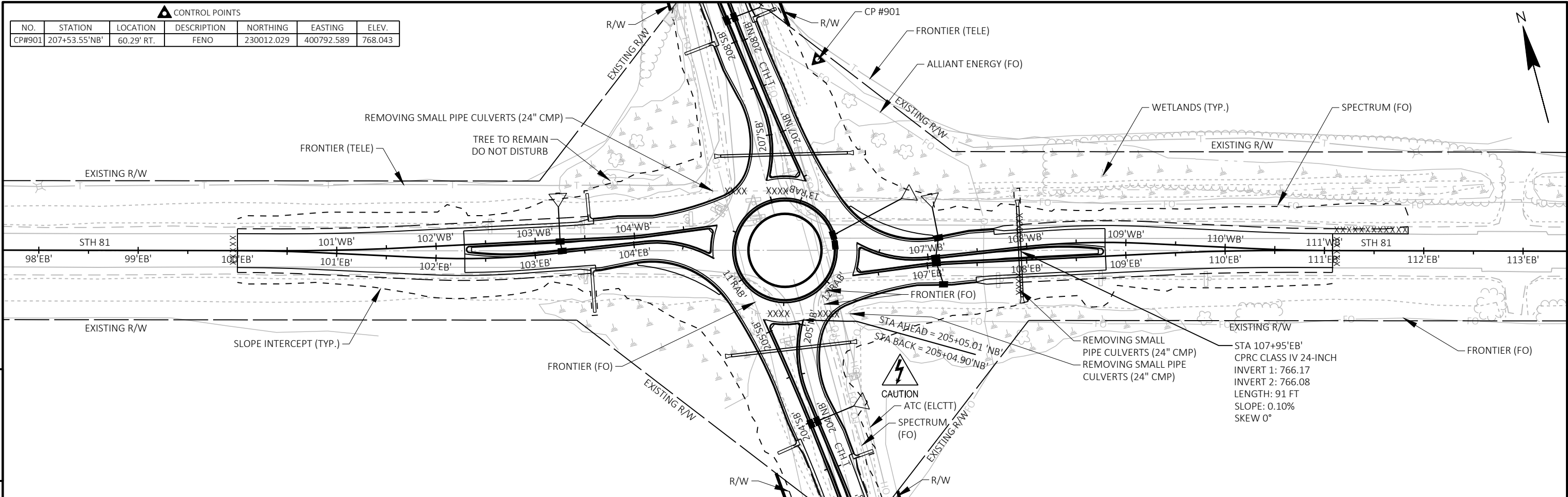
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PLOT NAME :

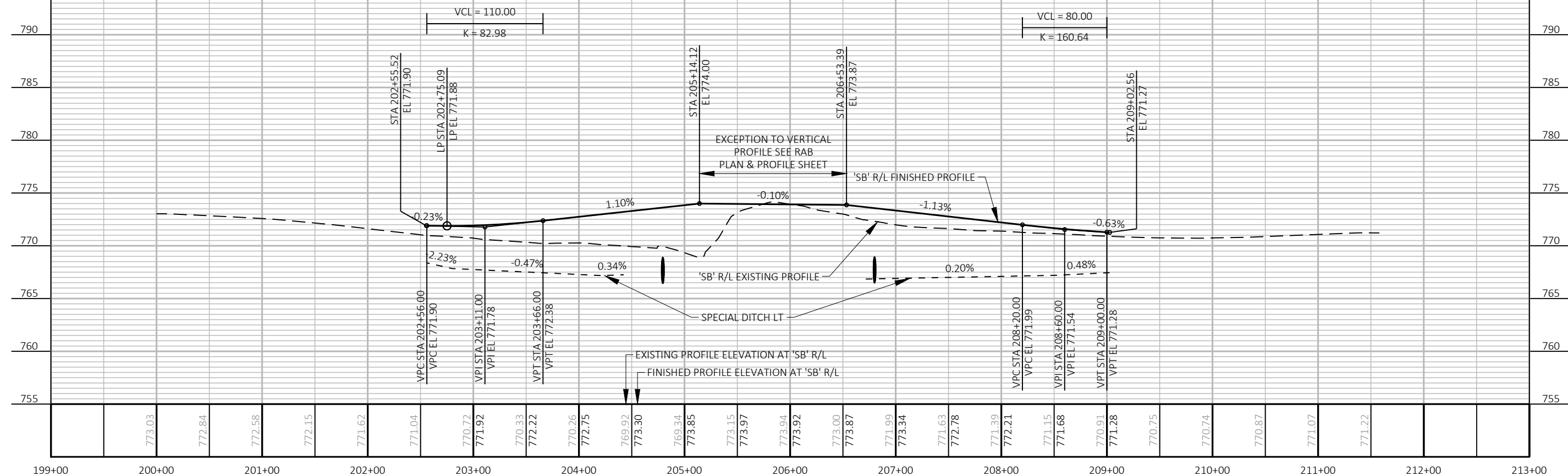
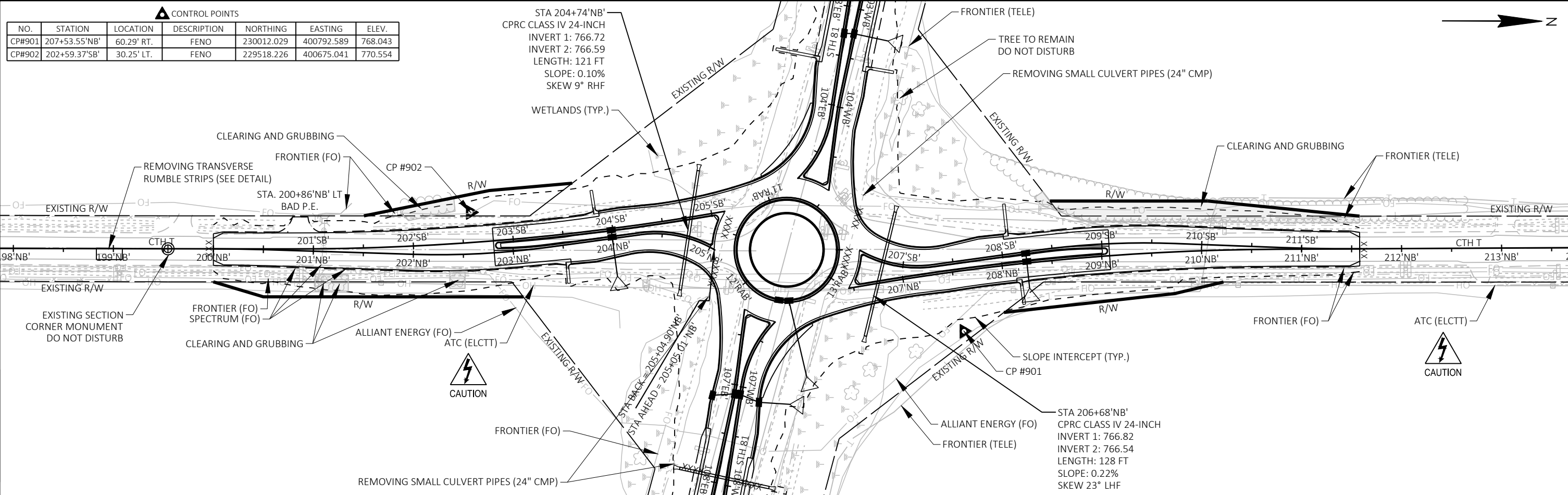
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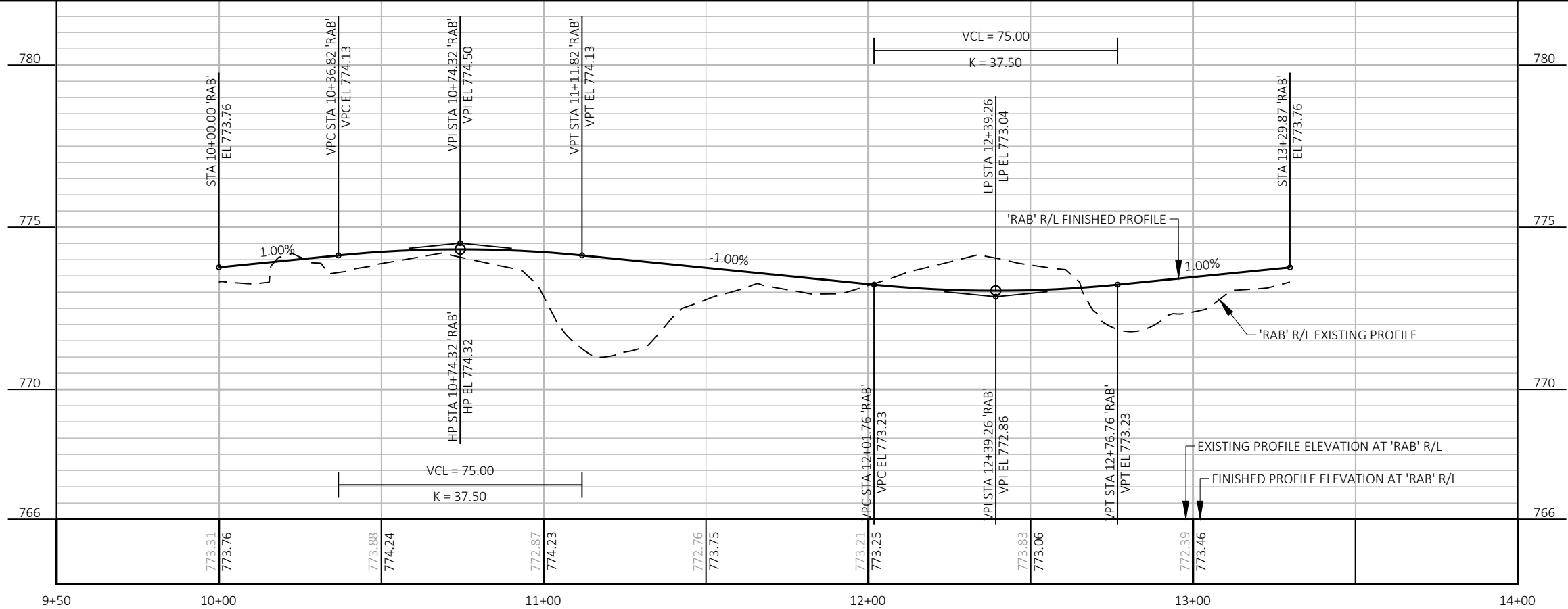
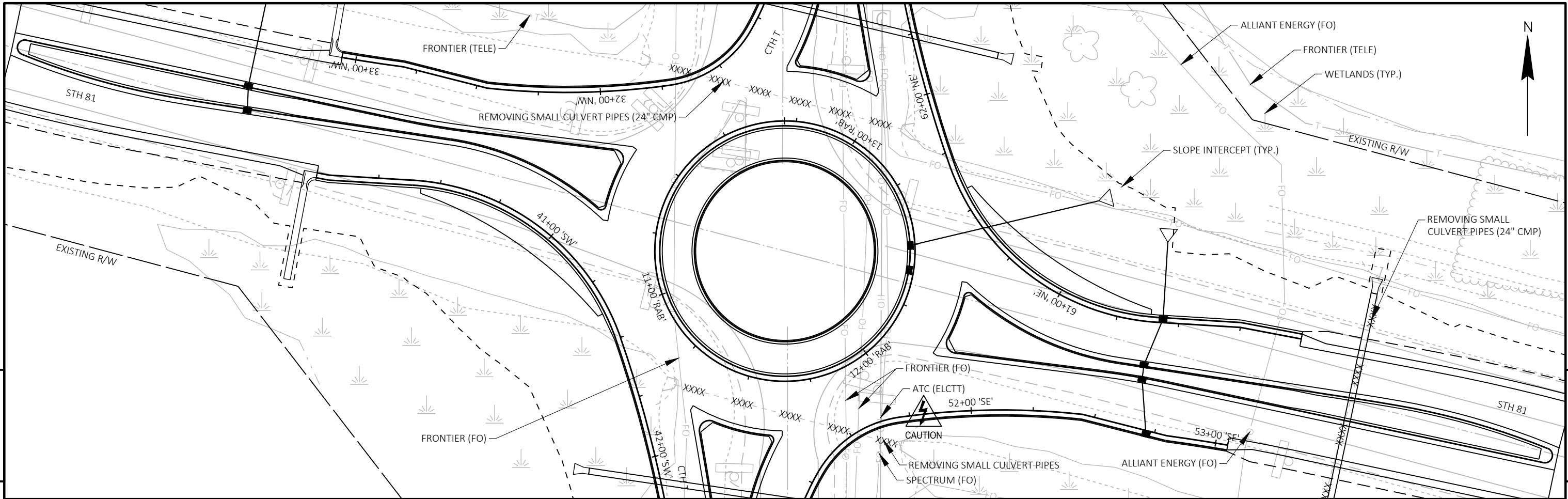
SHEET 1 OF 2

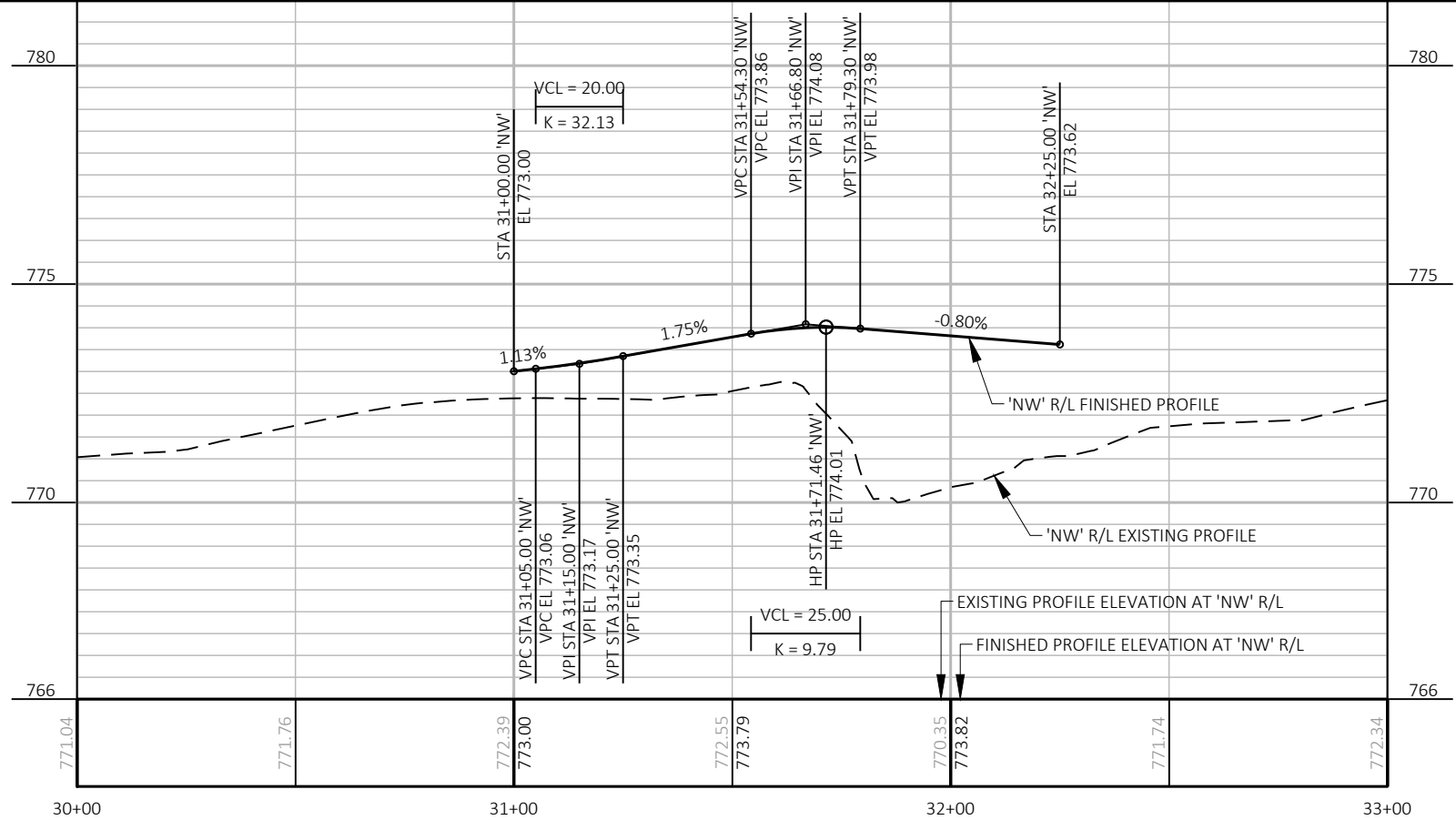
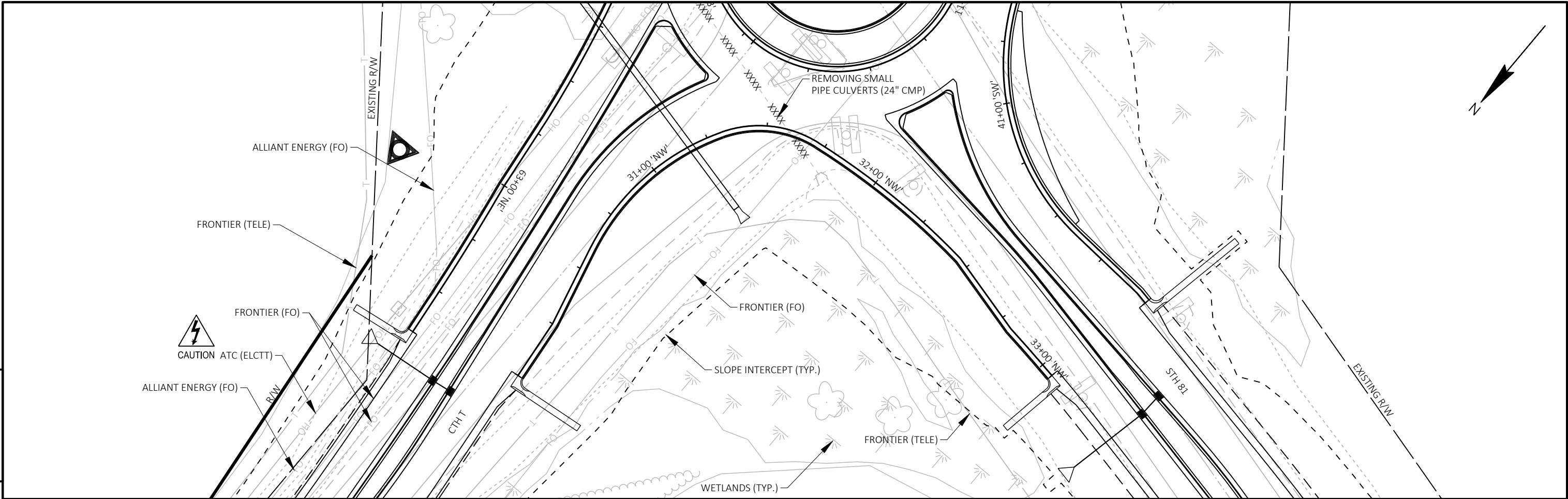
5340-00-20 - 4.01



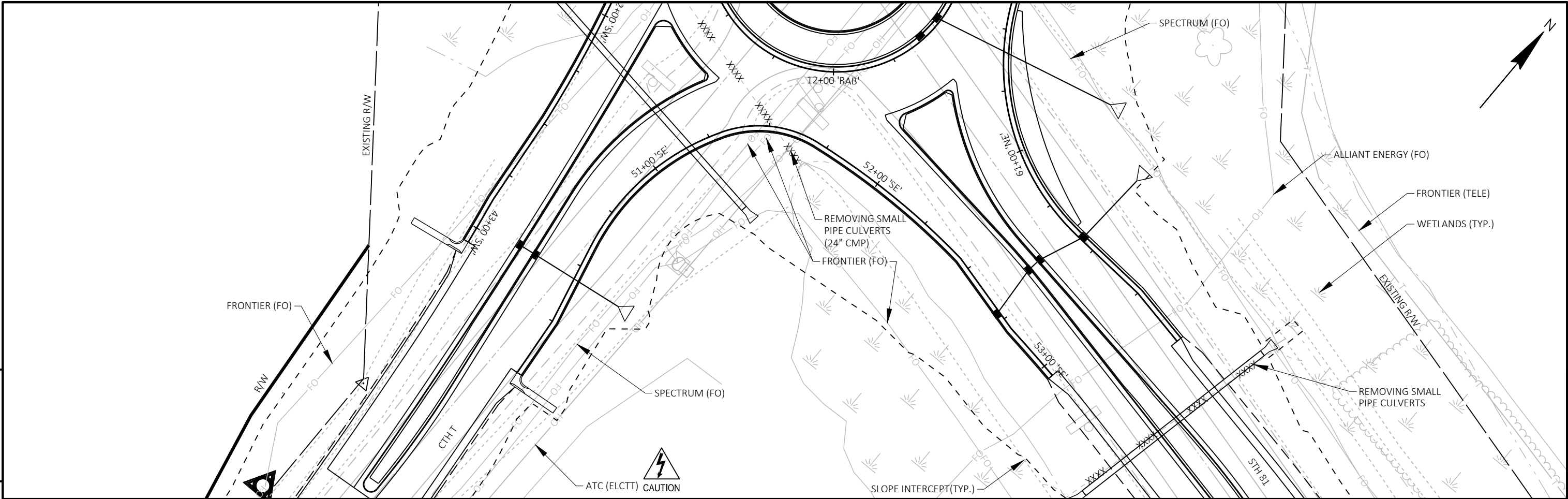
NO.	STATION	LOCATION	DESCRIPTION	NORTHING	EASTING	ELEV.
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CP#902	202+59.37'SB'	30.25' LT.	FENO	229518.226	400675.041	770.554



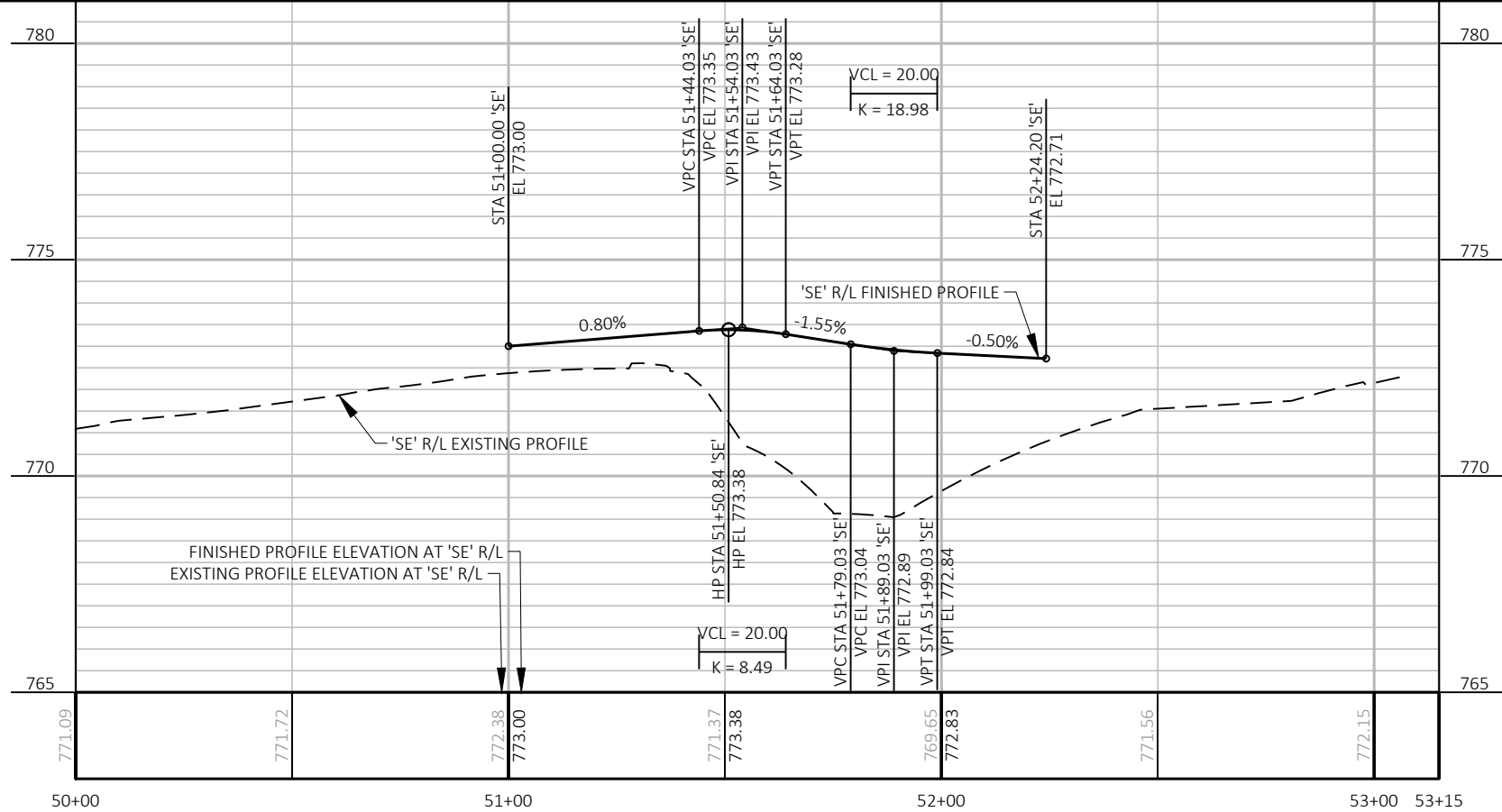


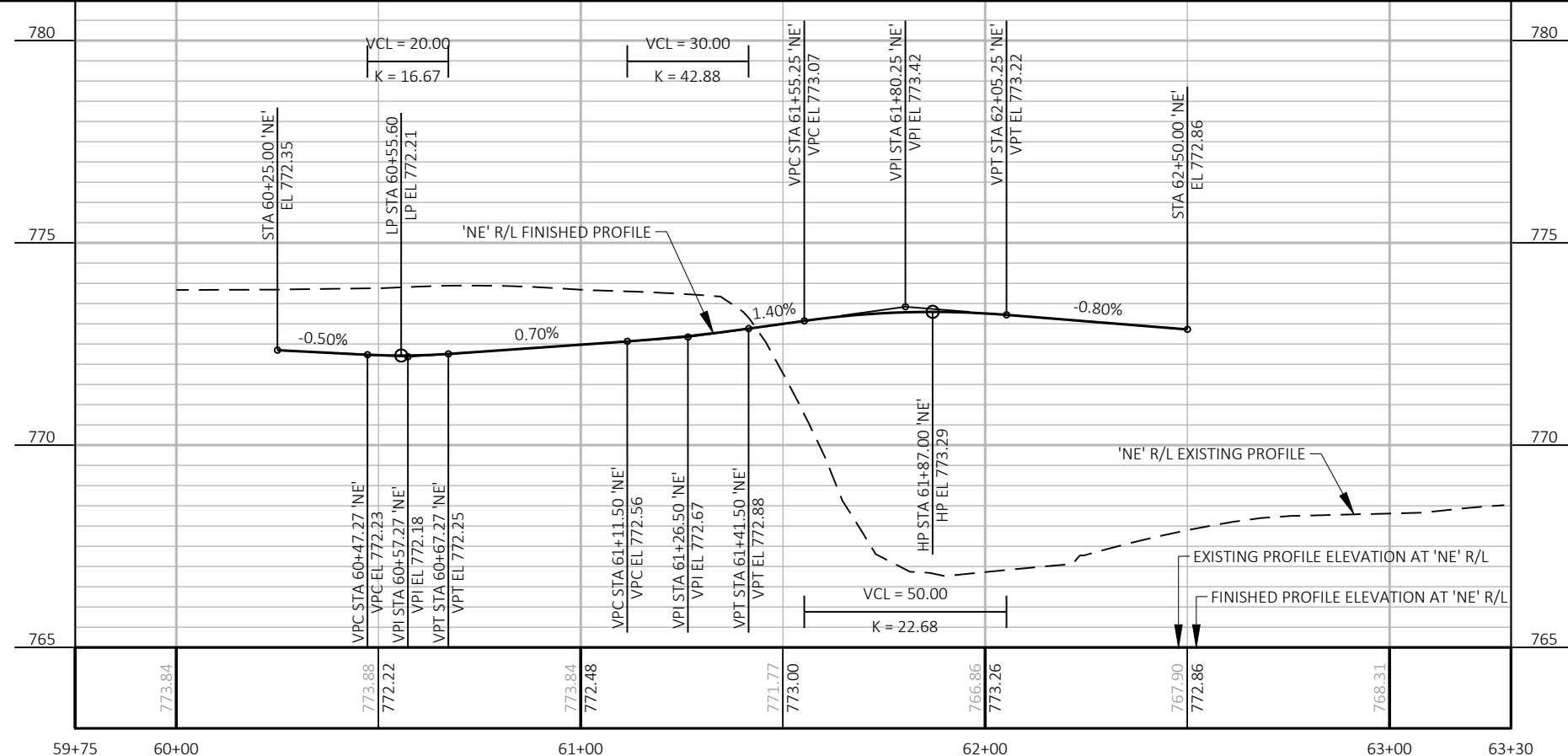
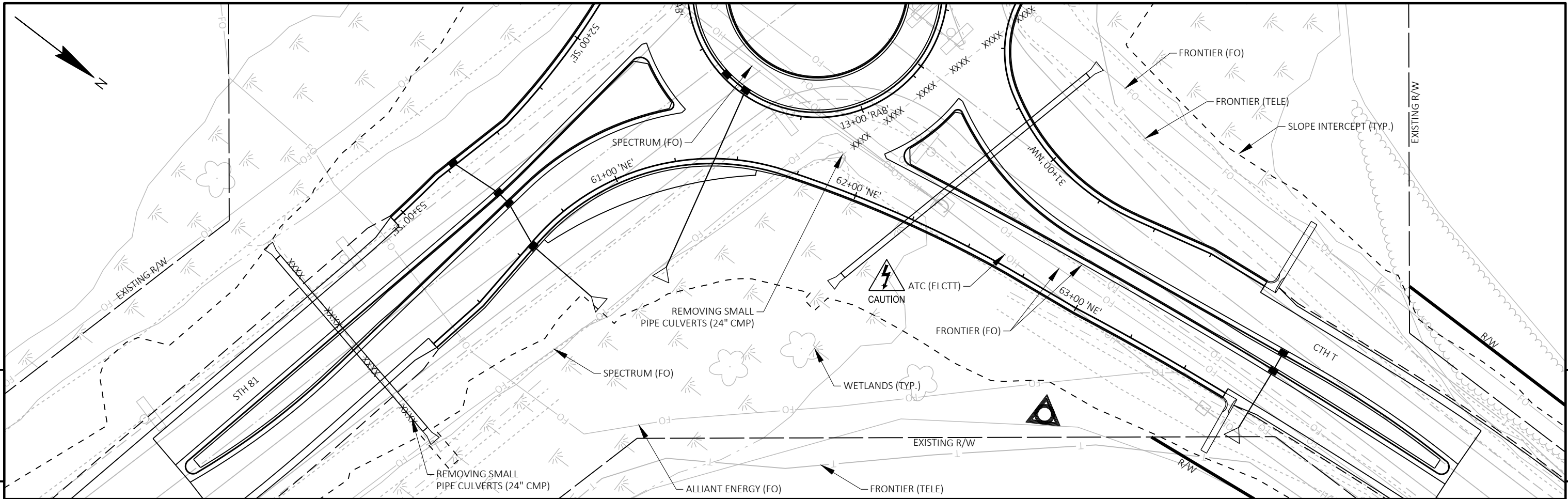


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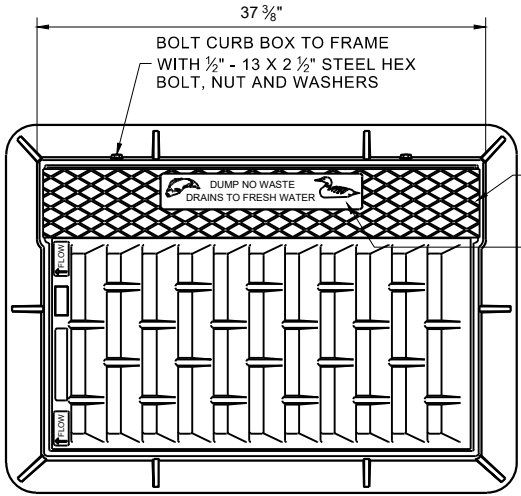
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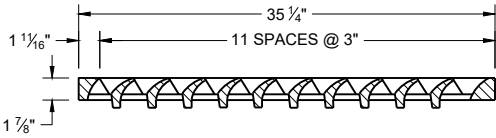
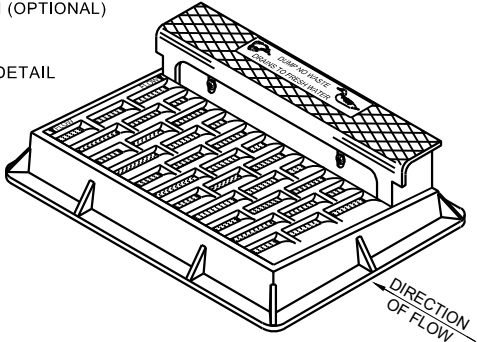
Standard Detail Drawing List

08A05-21A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-21C	INLET COVERS TYPE F, HM, HM-S, S, T, HM-GJ & HM-GJ-S
08C07-03	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT, 2.5X3-FT & 2X3.5-FT
08D01-23A	CONCRETE CURB & GUTTER
08D01-23B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D04-07	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D15-05A	EDGEDRAIN OUTLET AND OUTFALL MARKERS
08D15-05C	EDGEDRAIN AND BASE AGGREGATE OPEN GRADED
08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F06-04	REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN
09B02-10	CONDUIT
09B16-03	PULL BOX NON-CONDUCTIVE
09C02-09	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09C14-03	CONCRETE CONTROL CABINET BASE, TYPE L
09D01-05	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09D04-03	LIGHTING CONTROL CABINET 120/240 VOLT
09E01-15D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
09E01-15G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E03-06	NON-FREEWAY LIGHTING UNIT POLE WIRING
11B02-02	CONCRETE MEDIAN NOSE
13A03-07	CONCRETE PAVEMENT SHOULDERS
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C18-08A	CONCRETE PAVEMENT JOINTING
13C18-08B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-08C	CONCRETE PAVEMENT JOINT TYPES
13C18-08D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
13C18-08E	CONCRETE PAVEMENT JOINTING AND STEEL REINFORCEMENT IN ROUNDABOUTS
13C19-03	HMA LONGITUDINAL JOINTS
15A01-13A	MARKER POST FOR RIGHT-OF-WAY
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C02-09H	MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C18-09A	MEDIAN ISLAND MARKINGS
15C18-09B	PAVEMENT MARKINGS, MEDIAN ISLAND NOSE
15C18-09C	MEDIAN PAVEMENT MARKINGS DOUBLE ARROW WARNING SIGN PLACEMENT
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

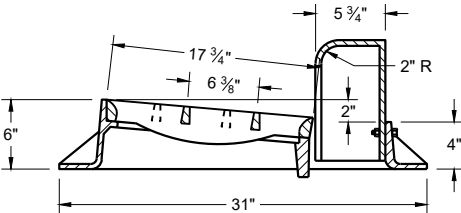
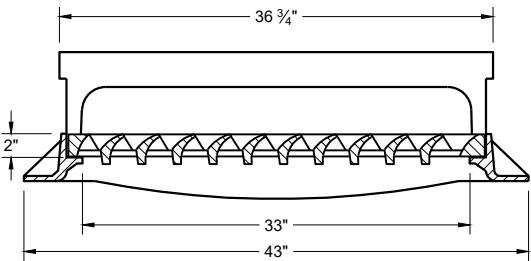
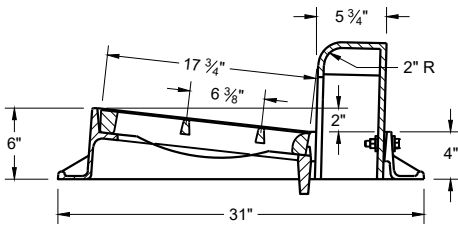
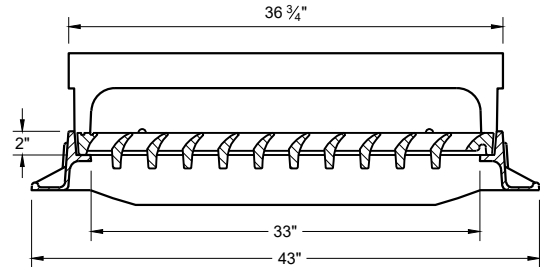


NOTE: EITHER CASTING IS ACCEPTABLE

TYPE "C" CHECKERED TOP DESIGN (OPTIONAL)
SEE LOGO DETAIL

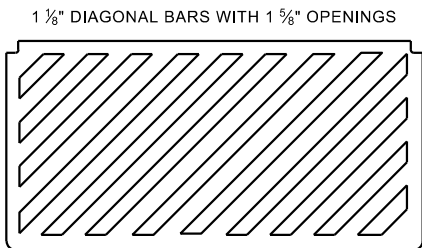


NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"

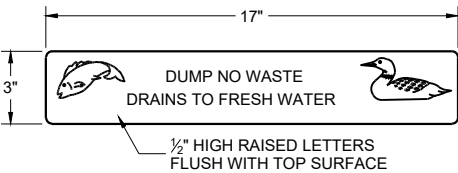


TYPE "H"

NOTE: EITHER CASTING IS ACCEPTABLE



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



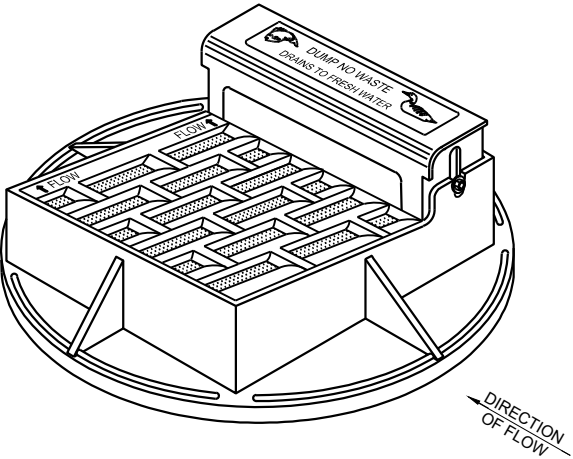
LOGO DETAIL

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.

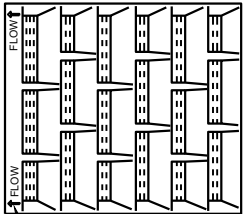
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

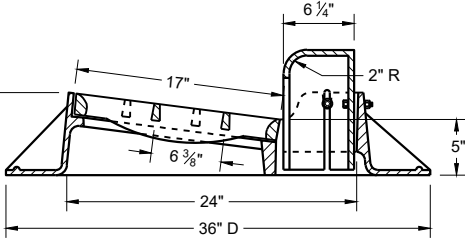
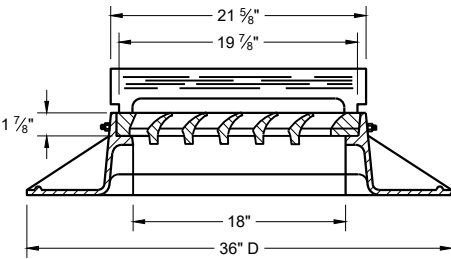
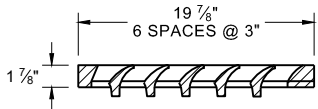


NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"

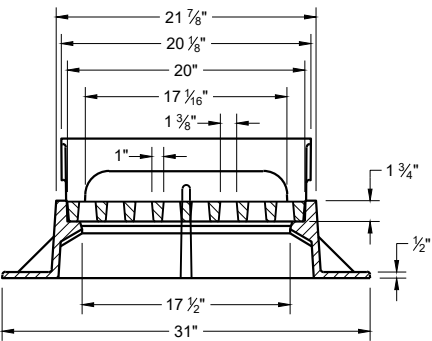
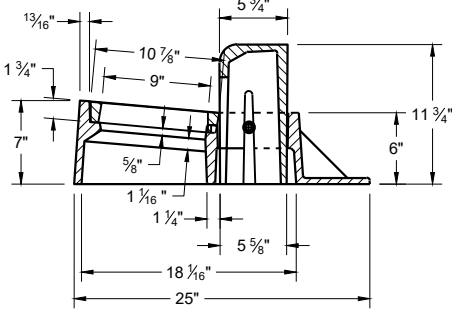
NOTE: EITHER CASTING IS ACCEPTABLE



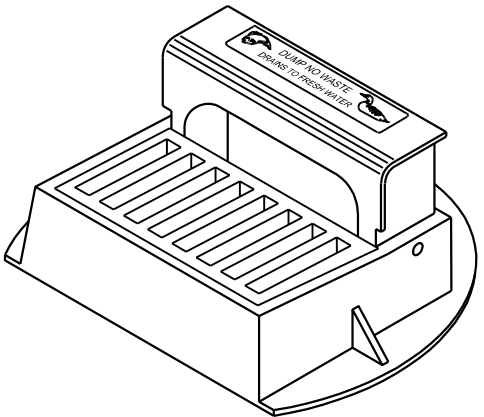
DIRECTION OF FLOW ARROWS



TYPE "A"



TYPE "Z"



**INLET COVERS
TYPES A, H, A-S, H-S AND Z**

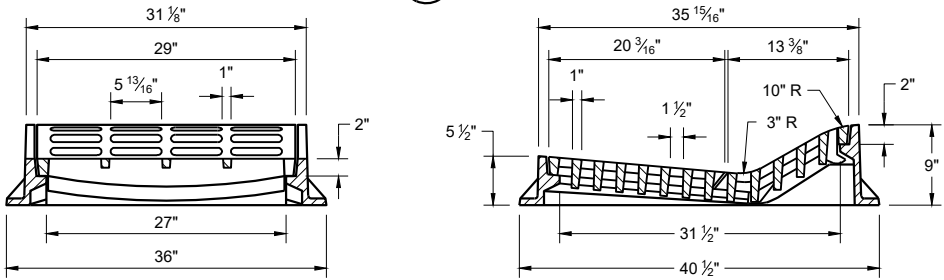
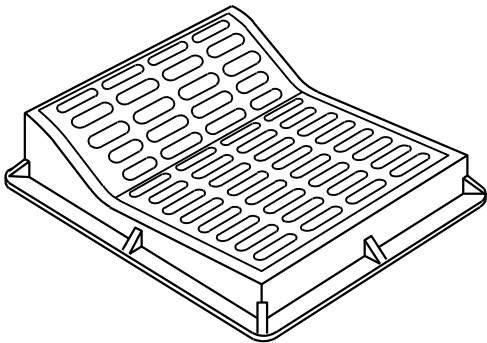
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2023 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR

GENERAL NOTES

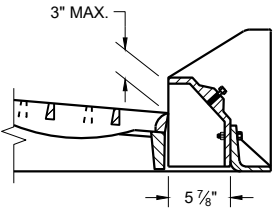
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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 "F"

USE WITH TYPES "A" AND "D" CONCRETE CURB AND GUTTER, 36"

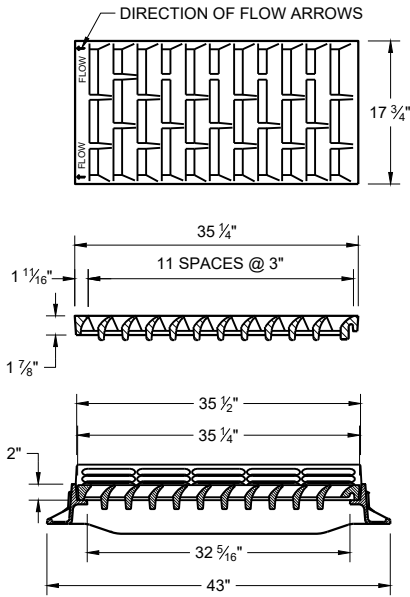


ALTERNATIVE CURB BOX
FOR TYPE "HM" COVER

USE WITH TYPES "G" AND "J" CONCRETE CURB AND GUTTER, 30 INCH
NOTED AS TYP "HM-GJ" ON DRAINAGE TABLE

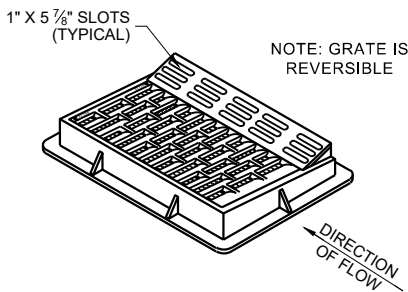
NOTE:
SPECIAL GRATE FOR THE TYPE "H" COVER MAY ALSO BE USED FOR THE TYPE "HM-GJ" COVER.

NOTED AS TYPE HM-GJ-S ON THE DRAINAGE TABLE.

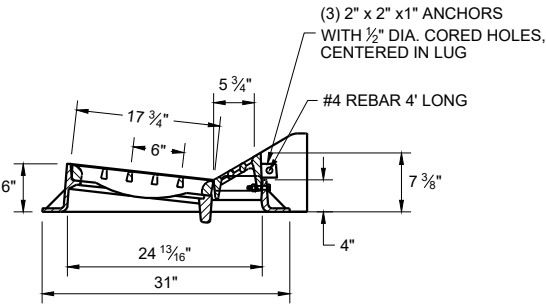


TYPE "HM"

USE WITH TYPES "A" AND "D" CONCRETE CURB AND GUTTER, 36"

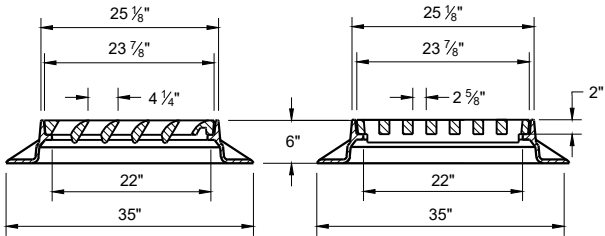
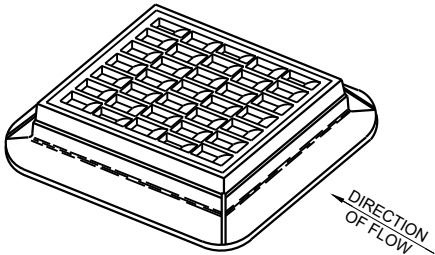


NOTE: GRATE IS REVERSIBLE

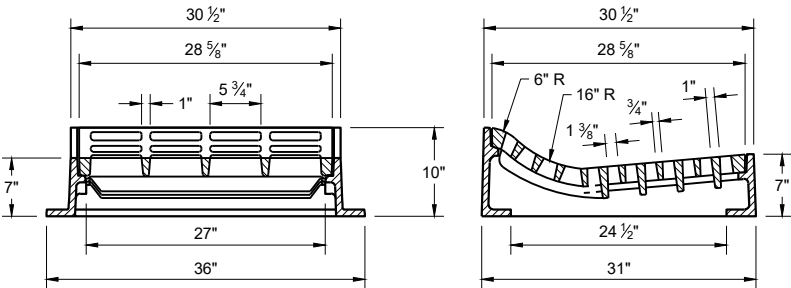
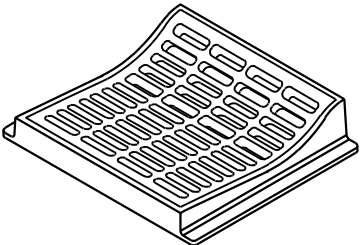


NOTE:
SPECIAL GRATE FOR THE TYPE "H" COVER MAY ALSO BE USED FOR THE TYPE "HM-GJ" COVER.

NOTED AS TYPE HM-GJ-S ON THE DRAINAGE TABLE.



TYPE "S"



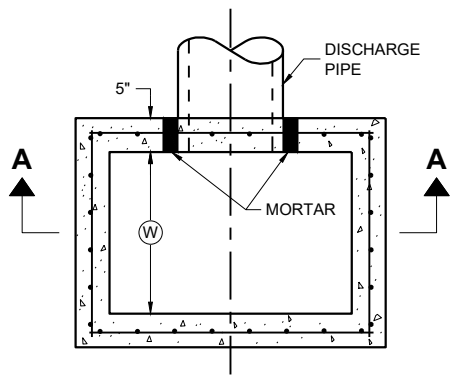
TYPE "T"

USE WITH TYPES "R" AND "T" CONCRETE CURB AND GUTTER, 36"

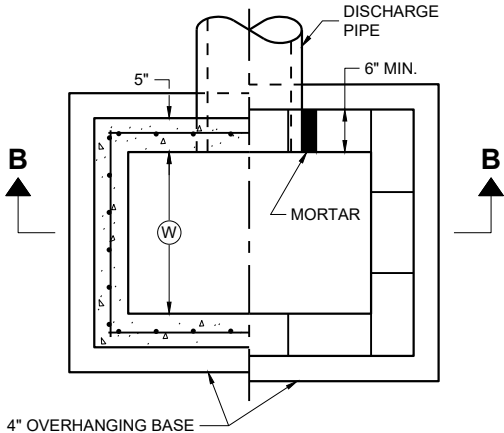
INLET COVERS
TYPES F, HM, HM-S, S, T,
HM-GJ AND HM-GJ-S

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

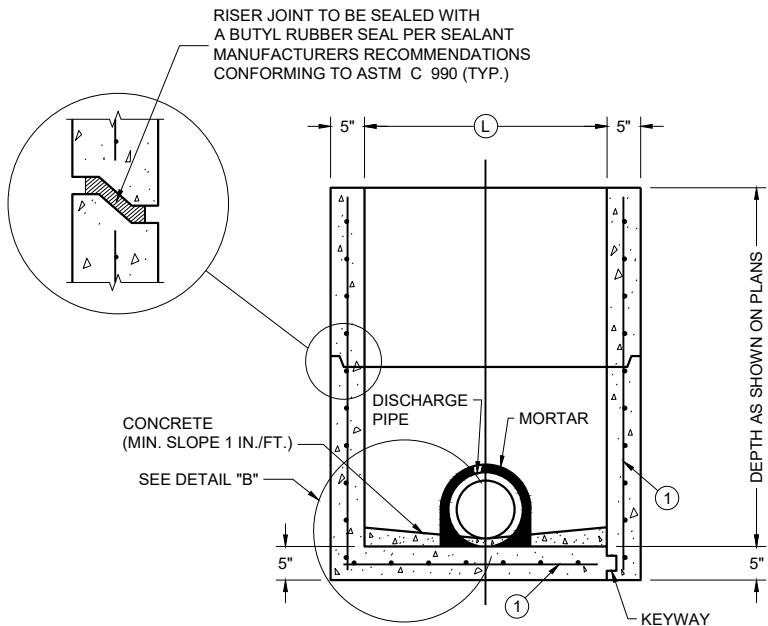
APPROVED
December 2023 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR



PLAN VIEW



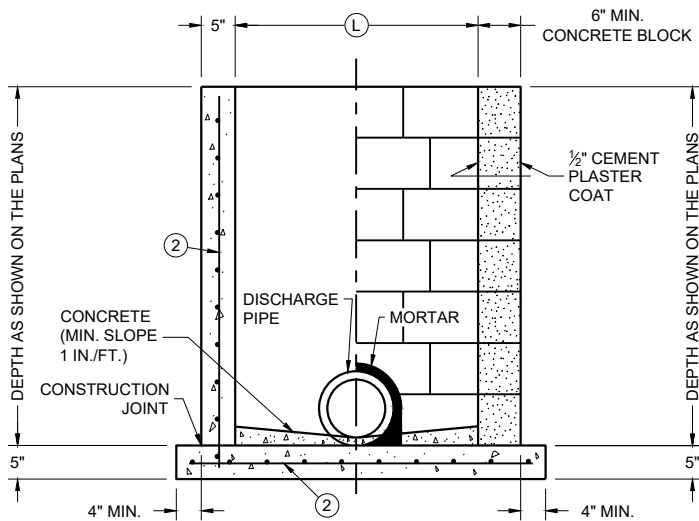
PLAN VIEW



PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE

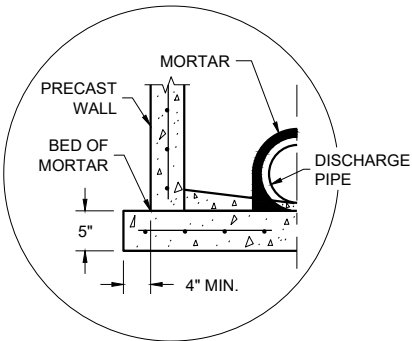
SECTION A - A



CAST IN PLACE REINFORCED CONCRETE

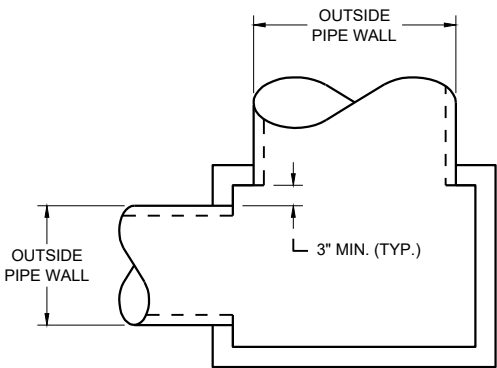
CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE ①

SECTION B - B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "B"



DETAIL "A"

INLETS 2 X 2-FT, 2 X 2.5-FT, 2 X 3-FT, 2.5 X 3-FT AND 2X3.5-FT

GENERAL NOTES

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

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

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

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

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

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF 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.

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

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" 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 AND REINFORCED CONCRETE BASES 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.

CATCH BASIN COVER MATRIX

INLET SIZE	WIDTH (W) (FT.)	LENGTH (L) (FT.)	INLET COVER TYPE									
			ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM	V V-B
2 X 2-FT	2	2	X	X				X				
2 X 2.5-FT	2	2.5			X			X	X	X	X	
2 X 3-FT	2	3					X					
2.5 X 3-FT	2.5	3				X						
2 X 3.5-FT	2	3.5										X

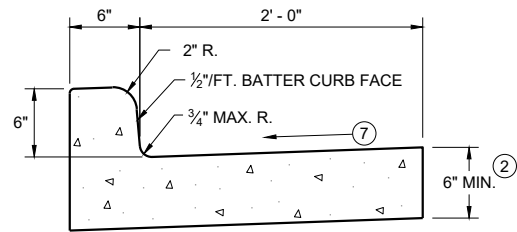
PIPE MATRIX

CATCH BASIN SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	WIDTH (IN)	LENGTH (IN)
2 X 2-FT	12	12
2 X 2.5-FT	12	18
2 X 3-FT	12	24
2.5 X 3-FT	18	24
2 X 3.5-FT	12	30

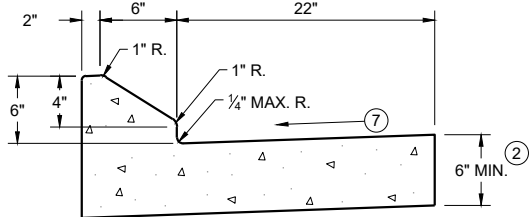
INLETS 2 X 2-FT, 2 X 2.5-FT, 2 X 3-FT, 2.5 X 3-FT AND 2 X 3.5-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

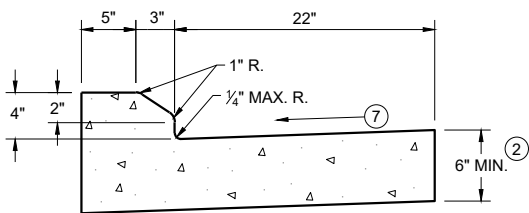
APPROVED
December 2023 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR



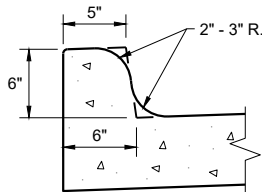
TYPES A^① & D



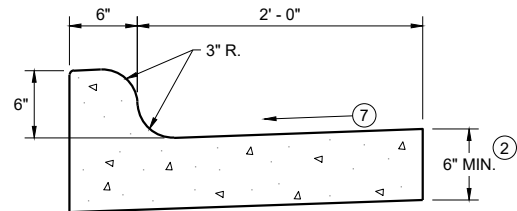
6" SLOPED CURB TYPES G^① & J



4" SLOPED CURB TYPES G^① & J

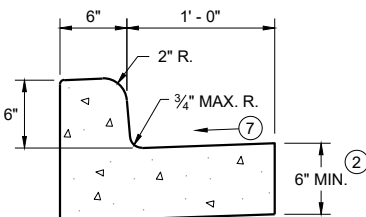


TYPES K^① & L
(OPTIONAL CURB SHAPE)



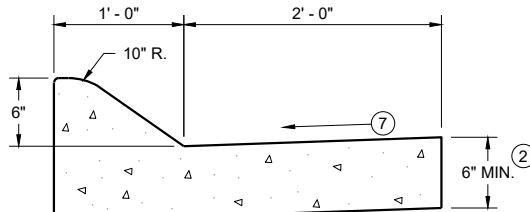
TYPES K^① & L

CONCRETE CURB AND GUTTER 30"

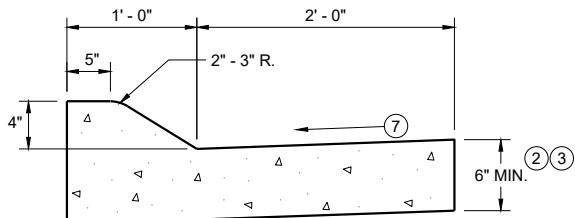


TYPES A^① & D

CONCRETE CURB AND GUTTER 18"

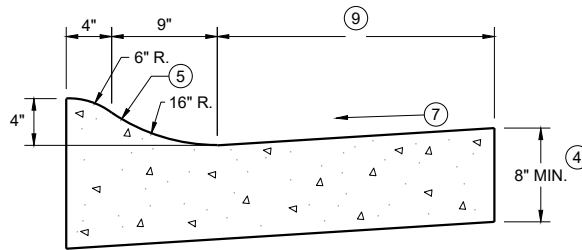


6" SLOPED CURB TYPES A^① & D



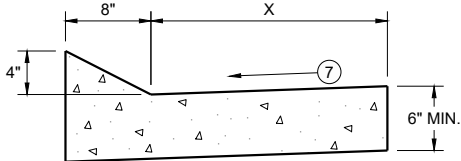
4" SLOPED CURB TYPES A^① & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R^① & T

TBT & TBTT	X
30"	22"
36"	28"

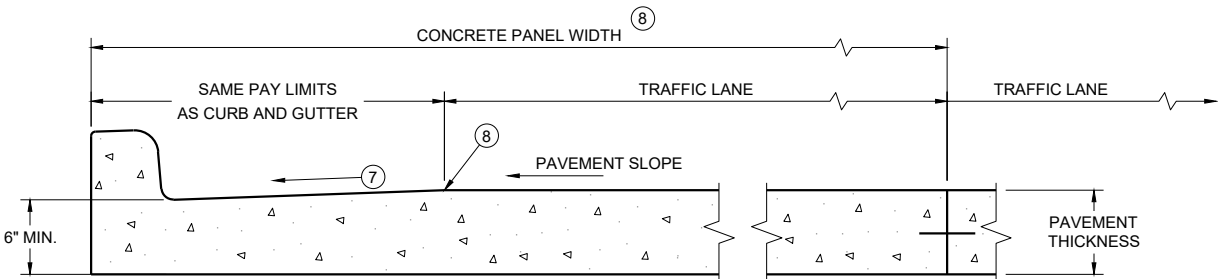


TYPES TBT & TBTT^①

CONCRETE CURB AND GUTTER

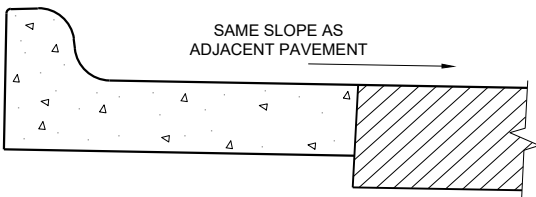
PAVEMENT THICKNESS
AND MAXIMUM CONCRETE
PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'



PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB AND GUTTER *

* BIKE LANE IS NOT SHOWN



REVERSE SLOPE GUTTER^⑥
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

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

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

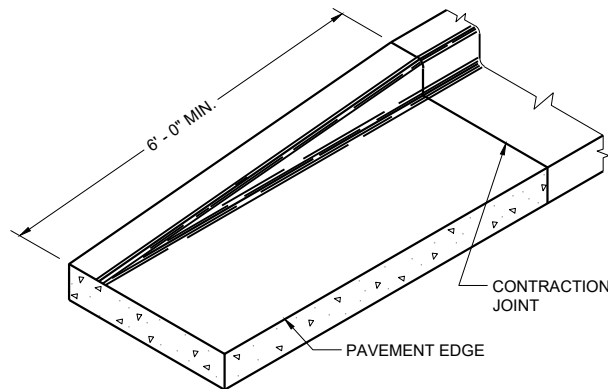
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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

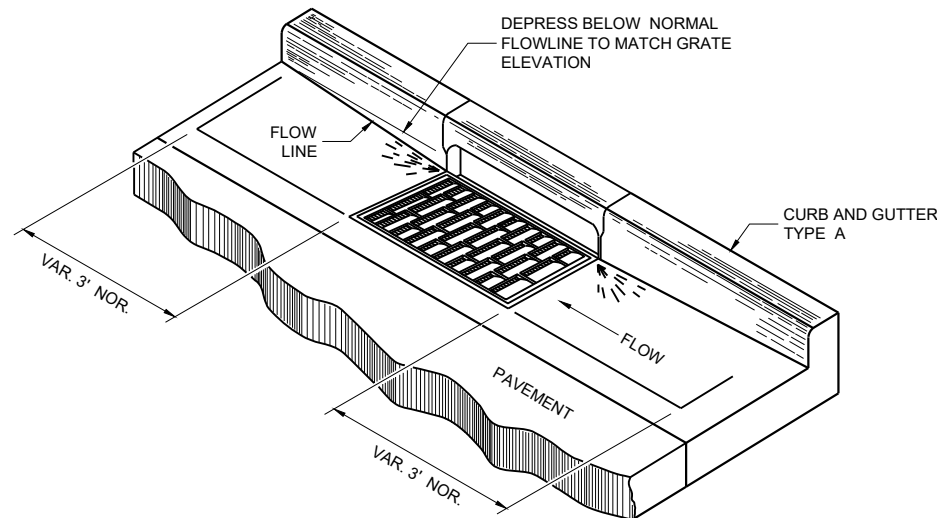
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- ④ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑤ UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.
- ⑨ CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES

CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

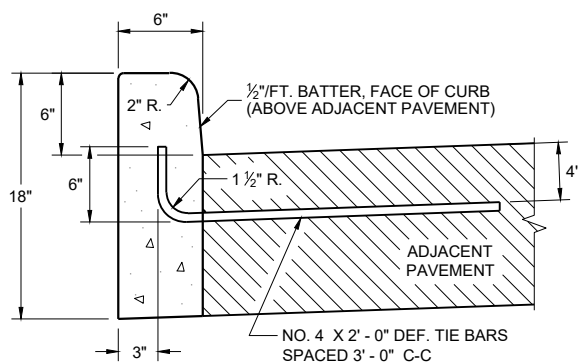


END SECTION CURB AND GUTTER

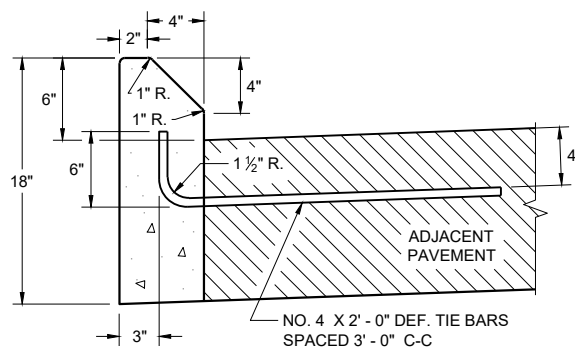


DETAIL OF CURB AND GUTTER AT INLETS

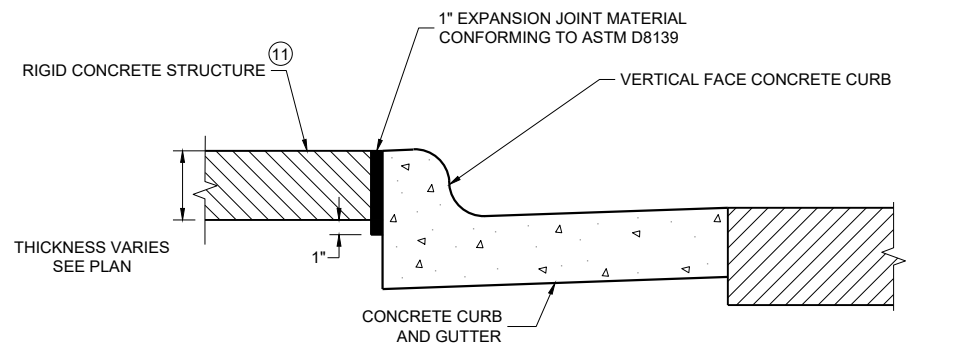
(TYPICAL H INLET COVER SHOWN)



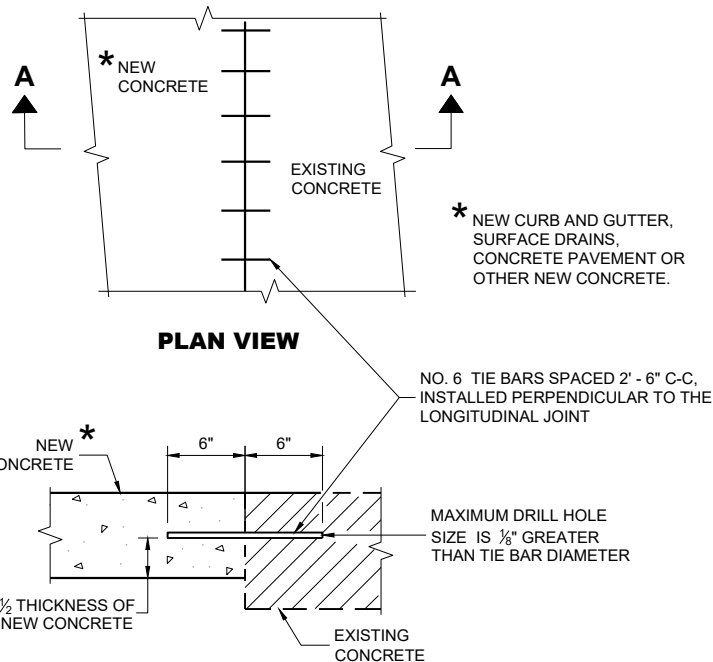
TYPES A^① & D



**TYPES G^① & J
CONCRETE CURB**



EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE^⑪



**SECTION A - A
TIE BARS DRILLED INTO EXISTING PAVEMENT**

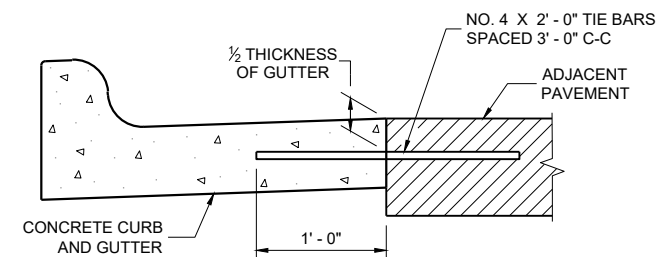
GENERAL NOTES

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

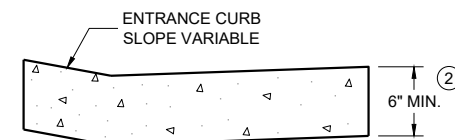
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑩ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.
- ⑪ PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.



TYPICAL TIE BAR LOCATION^①



DRIVEWAY ENTRANCE CURB^⑩
(WHEN DIRECTED BY THE ENGINEER)

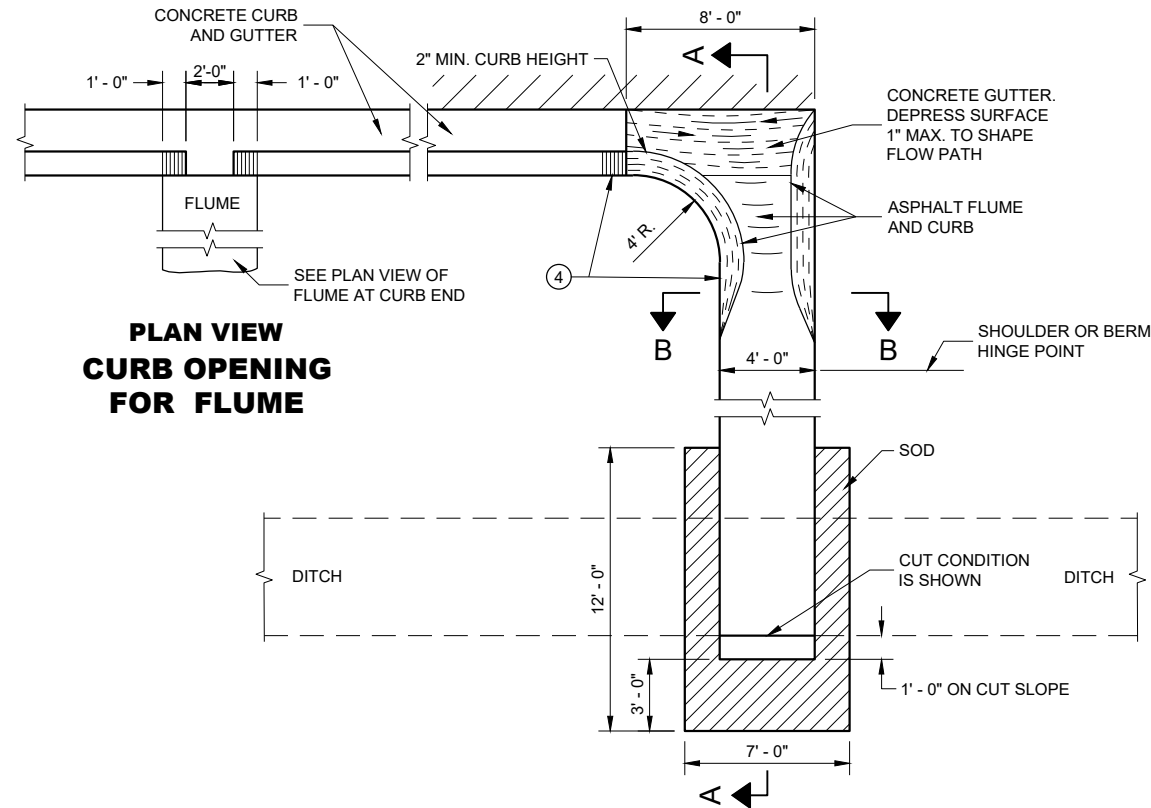
**CONCRETE CURB, TIES
AND CURB AND GUTTER
APPLICATIONS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR

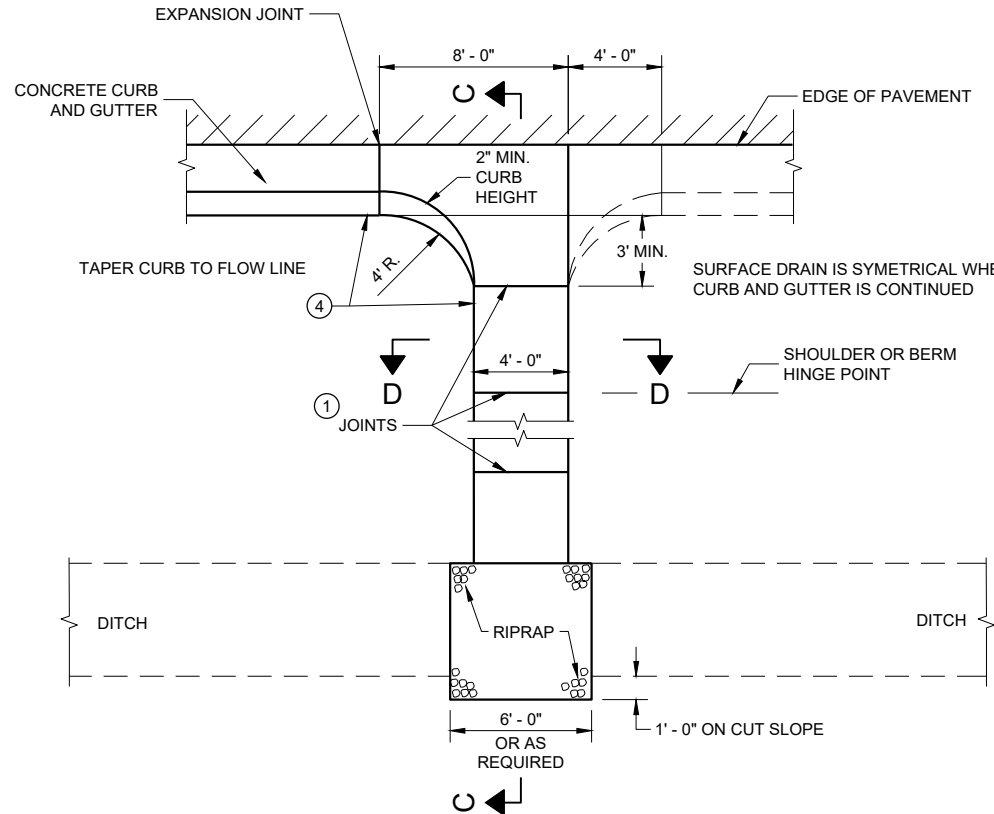
NOTE: TAPER CURB ENDS TO GUTTER IN 1' - 0"

ASPHALTIC FLUME



PLAN VIEW
CURB OPENING
FOR FLUME

PLAN VIEW
FLUME AT CURB END



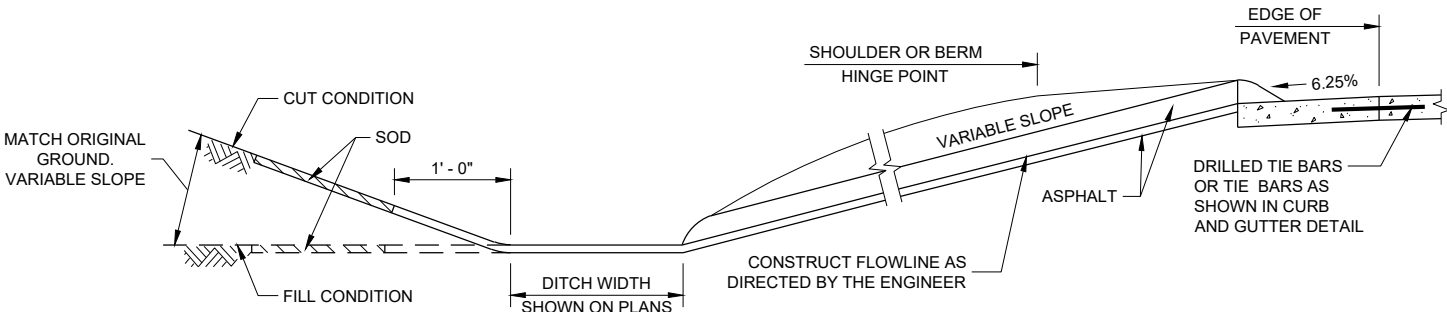
PLAN VIEW
CONCRETE SURFACE DRAIN

GENERAL NOTES

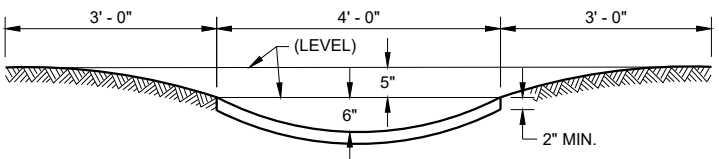
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

4" X 4" - W3.0 X W3.0 CONCRETE REINFORCEMENT SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

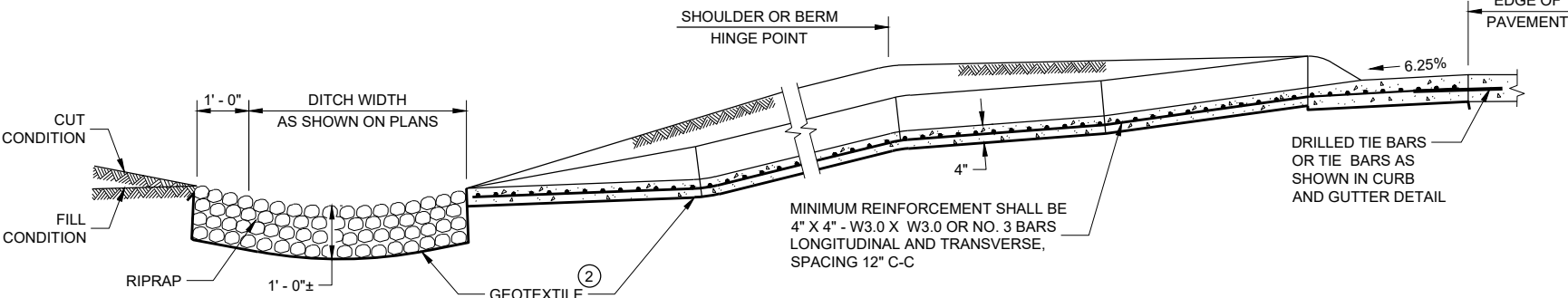
- JOINTS SHALL BE $\frac{1}{8}$ " TO $\frac{1}{4}$ " WIDE BY $\frac{1}{2}$ " DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- GEOTEXTILE TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED.
- ANGLE OF FLUME IN RELATION TO BACK OF CURB TO BE CONSTRUCTED PER THE PLAN DETAILS OR AS DIRECTED BY THE ENGINEER. ANGLE OF FLUME MAY BE OTHER THAN 90 DEGREES AS SHOWN.



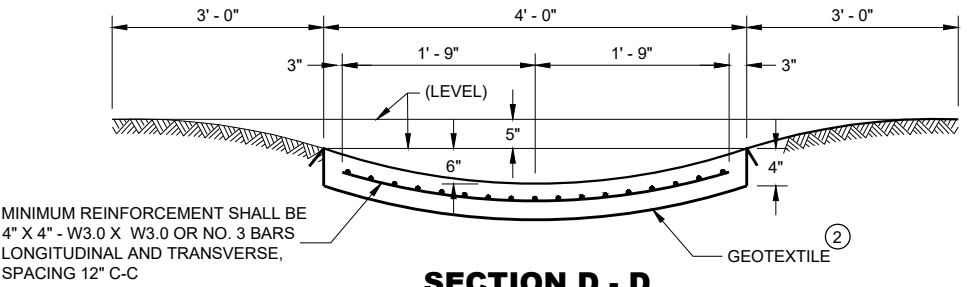
SECTION A - A



SECTION B - B



SECTION C - C



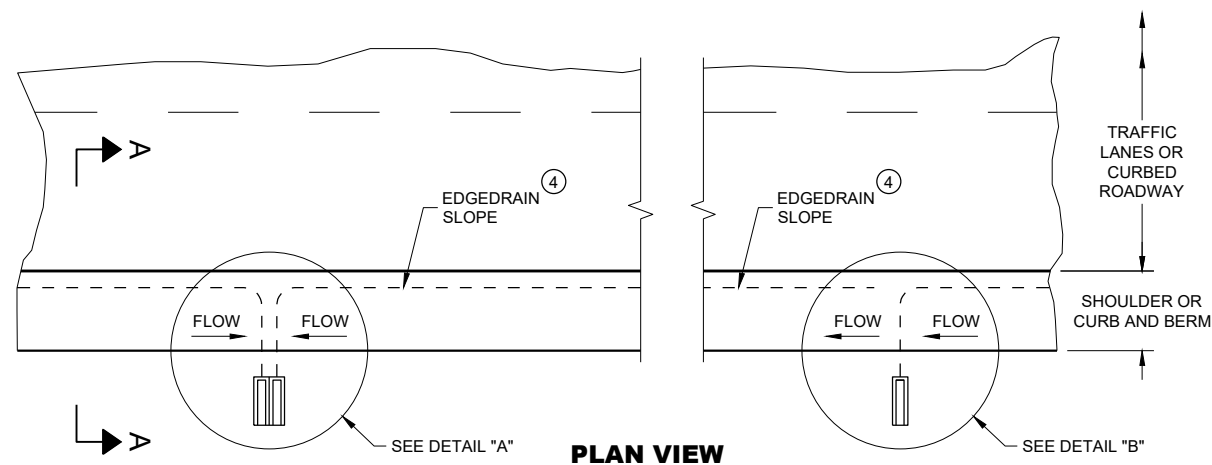
SECTION D - D

CONCRETE SURFACE
DRAINS AND
ASPHALTIC FLUMES

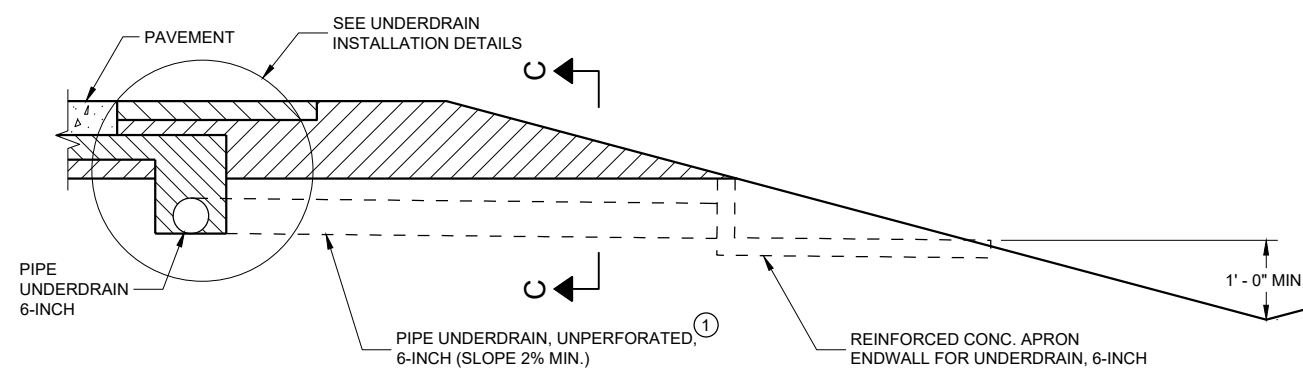
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT ENGINEER
86

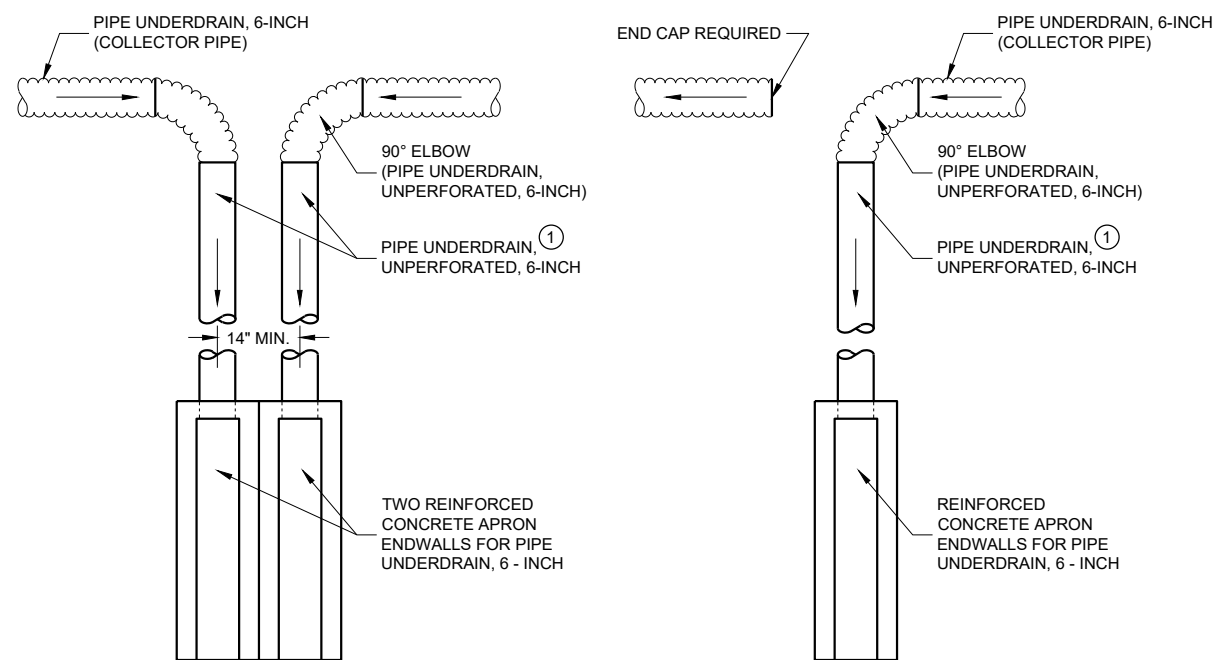
FHWA



ROADWAY WITH SHOULDERS OR CURBS (EDGEDRAIN CONNECTS TO ROADSIDE) ⁽²⁾



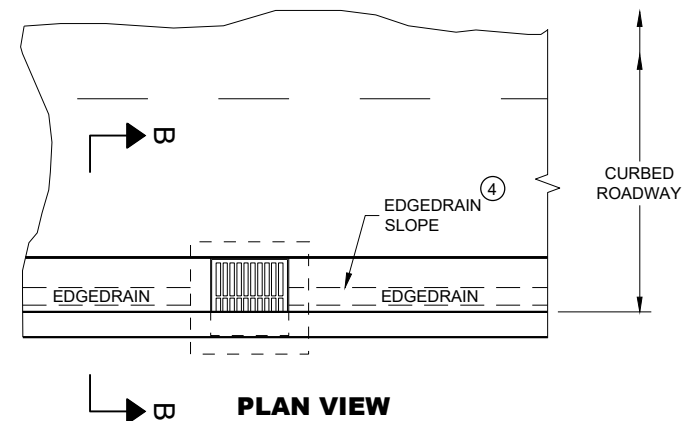
SECTION A - A
RURAL CROSS SECTION



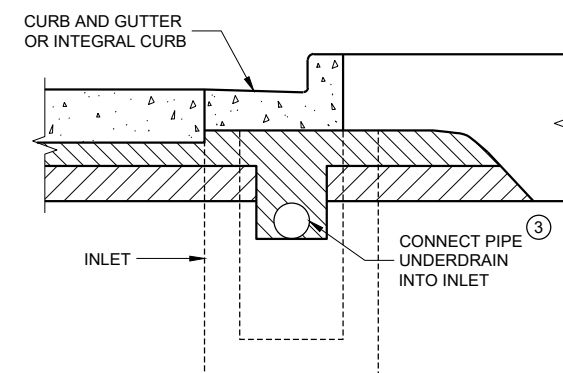
TO BE USED AT LOW POINT LOCATIONS

TO BE USED AT INTERMEDIATE LOCATIONS

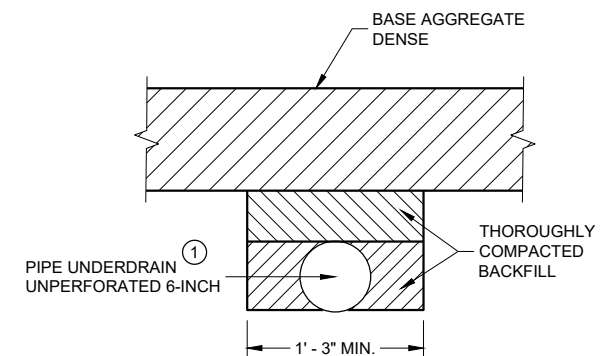
TYPICAL DRAIN OUT DETAILS



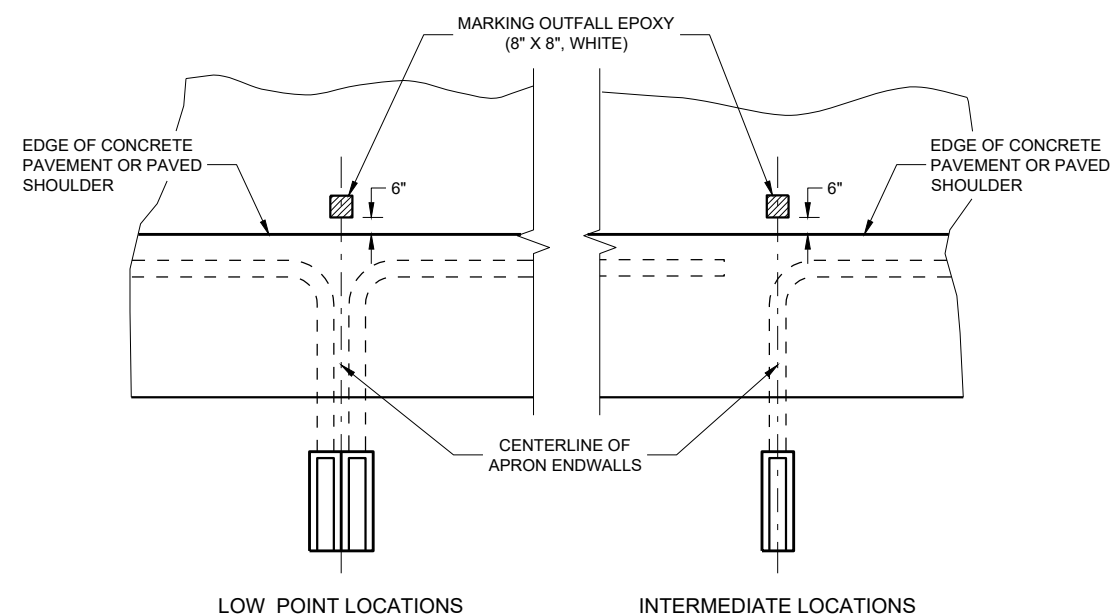
ROADWAY WITH CURBS (EDGEDRAIN CONNECTS INTO INLET STRUCTURE)



SECTION B - B
URBAN CROSS SECTION



SECTION C - C
TRENCH FOR OUTFALL PIPE



PAVEMENT MARKINGS FOR OUTFALL MARKERS

GENERAL NOTES

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

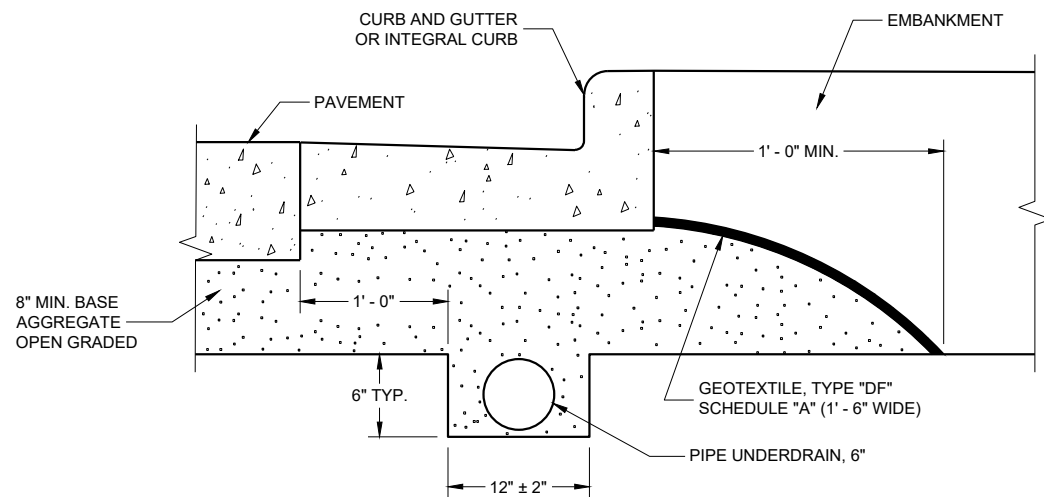
- ① UNPERFORATED PIPE UNDERDRAIN AND FITTINGS FURNISHED FOR OUTFALL PIPE SHALL MEET THE REQUIREMENTS OF ONE OF THE FOLLOWING SPECIFICATIONS:

POLYVINYL CHLORIDE (PVC) PLASTIC DRAIN, WASTE, AND VENT PIPE AND FITTINGS, ASTM D 2665, SCHEDULE 40 PVC.

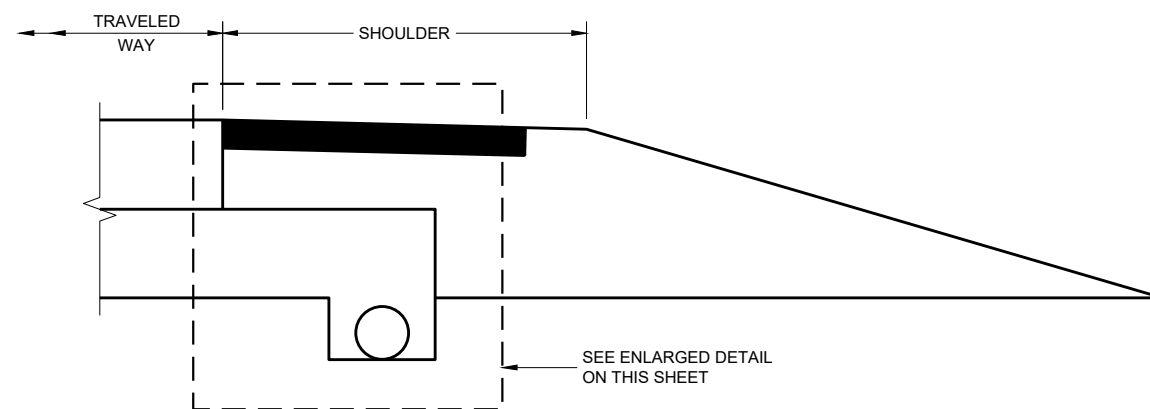
TYPE PSM POLYVINYL CHLORIDE (PVC) SEWER PIPE AND FITTINGS, ASTM D 3034, SDR 23.5 PVC SEWER PIPE.
- ② MAXIMUM SPACING OF EDGEDRAIN OUTLETS SHALL BE 250 FEET UNLESS OTHERWISE SPECIFIED IN THE CONTRACT OR DIRECTED BY THE ENGINEER.
- ③ EDGEDRAIN SHALL BE CONNECTED TO INLETS REGARDLESS OF FLOW DIRECTION FOR DRAINAGE AND MAINTENANCE ACCESS.
- ④ EDGEDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF ROADWAY.

EDGEDRAIN OUTLET AND OUTFALL MARKERS

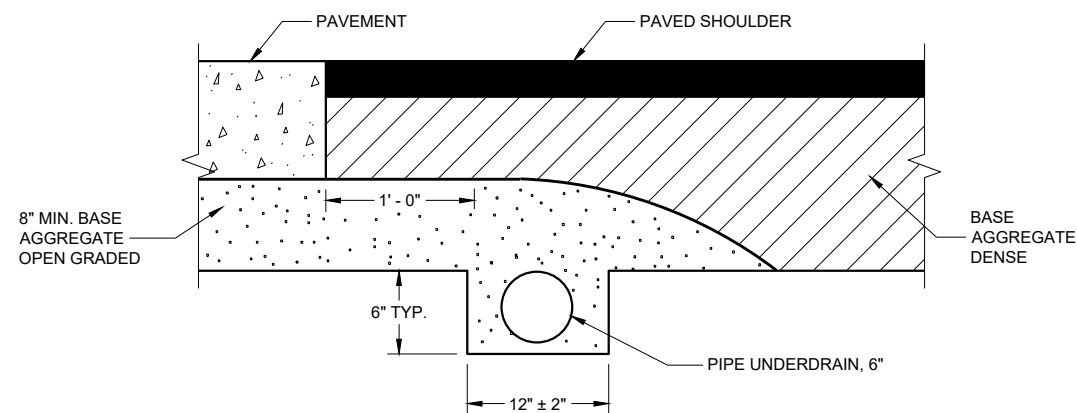
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 87



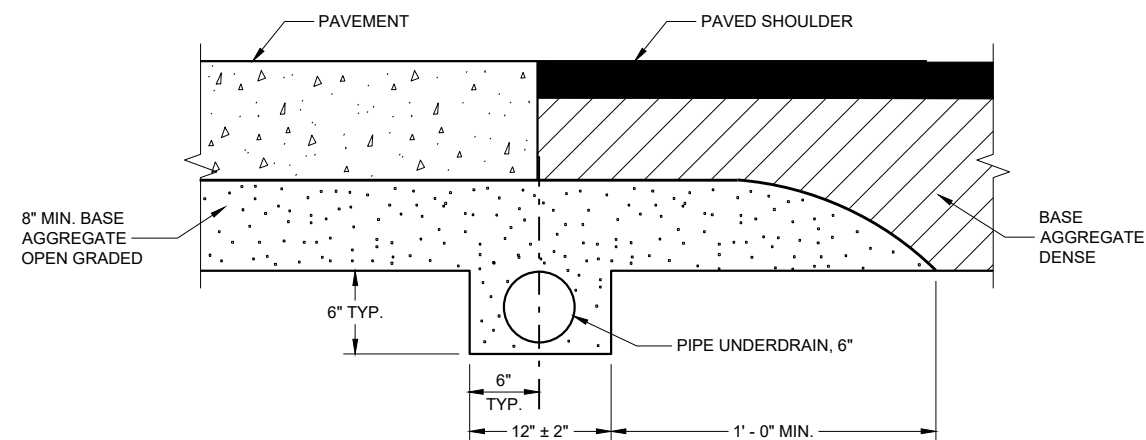
EDGEDRAIN IN URBAN ROADWAY



RURAL CROSS SECTION



POST PAVING INSTALLATION
(QUANTITIES ARE BASED ON THIS DETAIL)



PRE-PAVING INSTALLATION ALTERNATIVE

EDGEDRAIN IN RURAL ROADWAY

GENERAL NOTES

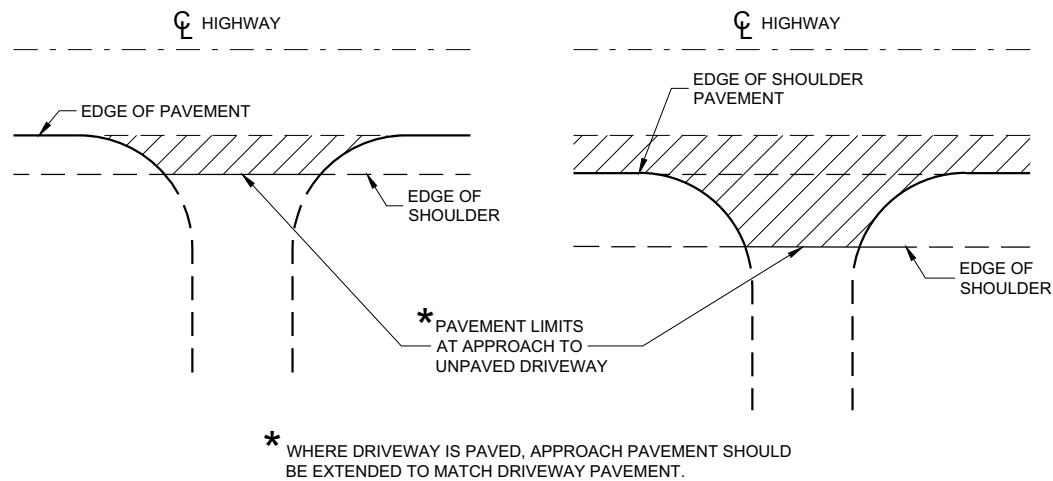
THE DIMENSIONS SHOWN ON THE TYPICAL CROSS SECTIONS WILL GOVERN IN THE EVENT THERE IS A CONFLICT WITH THE DETAILS SHOWN ON THIS DRAWING.

PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF THE ROADWAY.

**EDGEDRAIN AND BASE
AGGREGATE OPEN GRADED**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

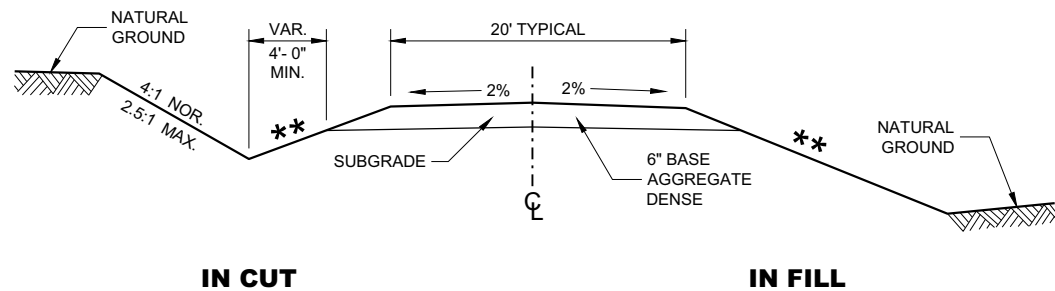
APPROVED
September 2015 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVISOR 88
FHWA



PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

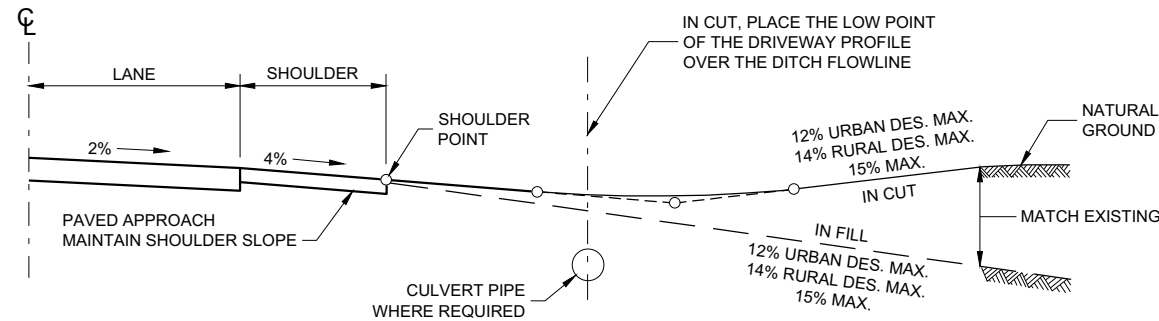
**RURAL DRIVEWAY INTERSECTION DETAIL
(NO CURB AND GUTTER OR SIDEWALK)**



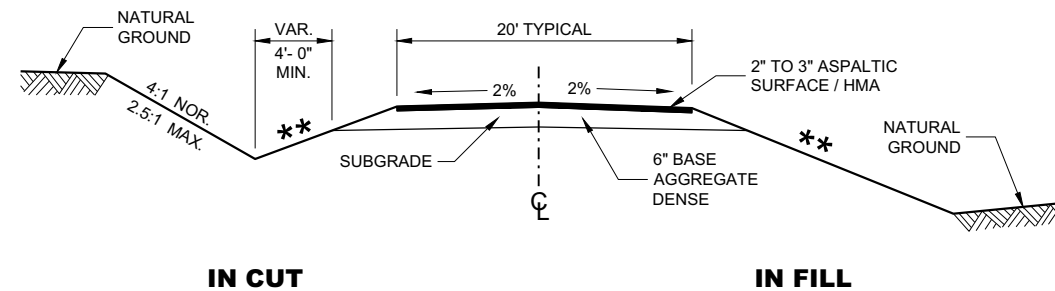
**TYPICAL CROSS SECTION FOR
PRIVATE DRIVE OR FIELD ENTRANCE
AGGREGATE SURFACE**

****** 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



TYPICAL DRIVEWAY PROFILES

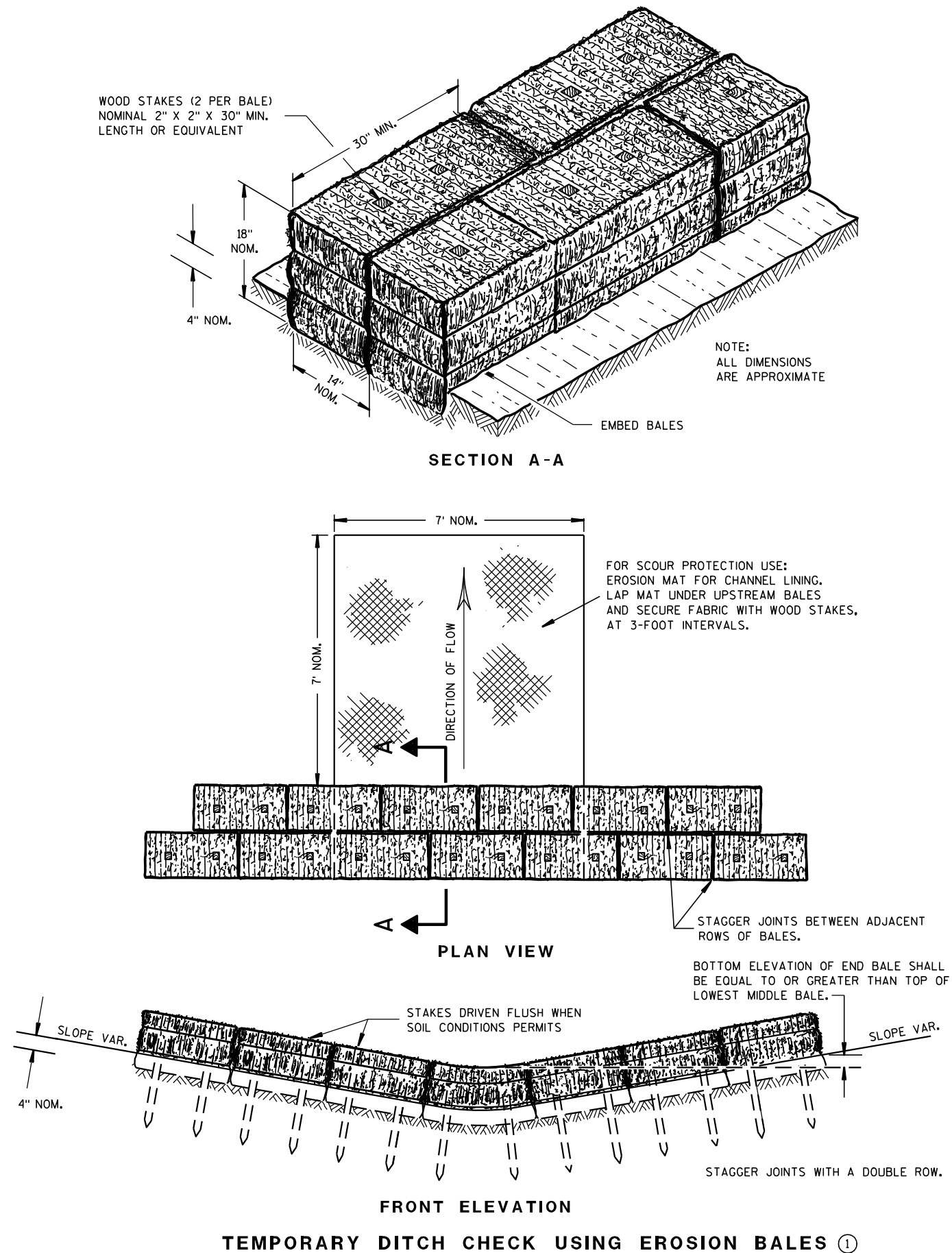


**TYPICAL CROSS SECTION FOR
PRIVATE DRIVE OR FIELD ENTRANCE
ASPHALTIC SURFACE**

**DRIVEWAYS WITHOUT
CURB AND GUTTER**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

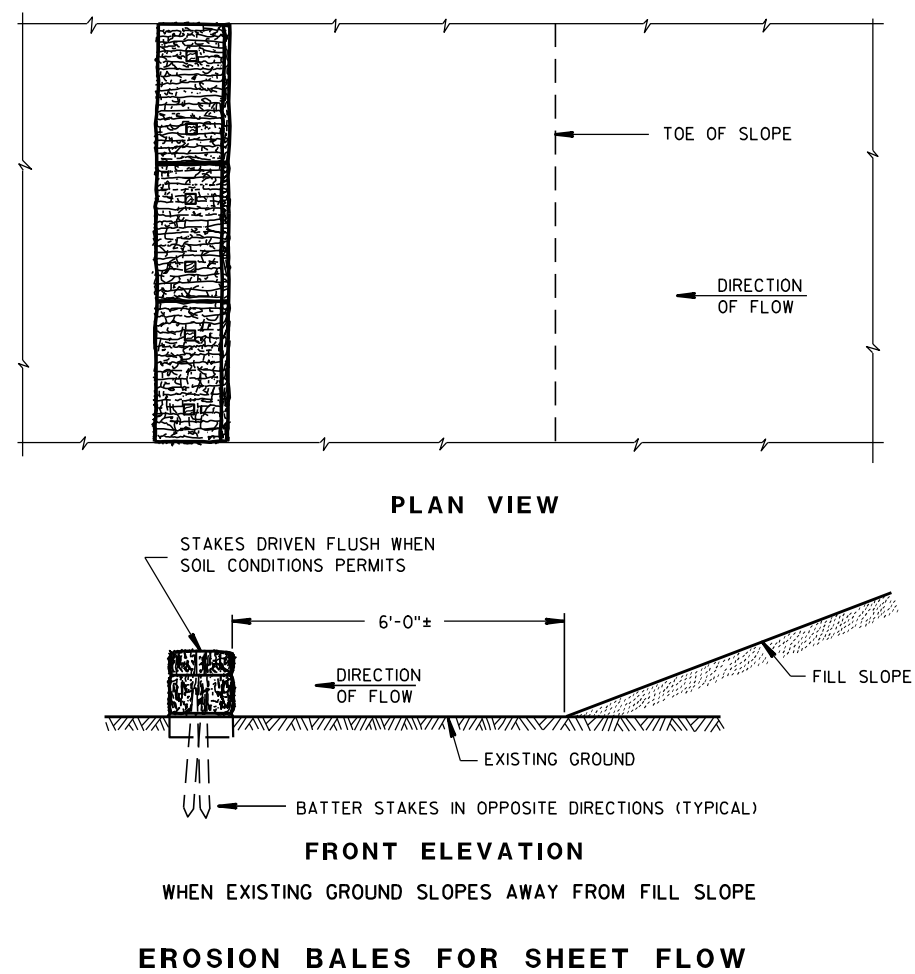
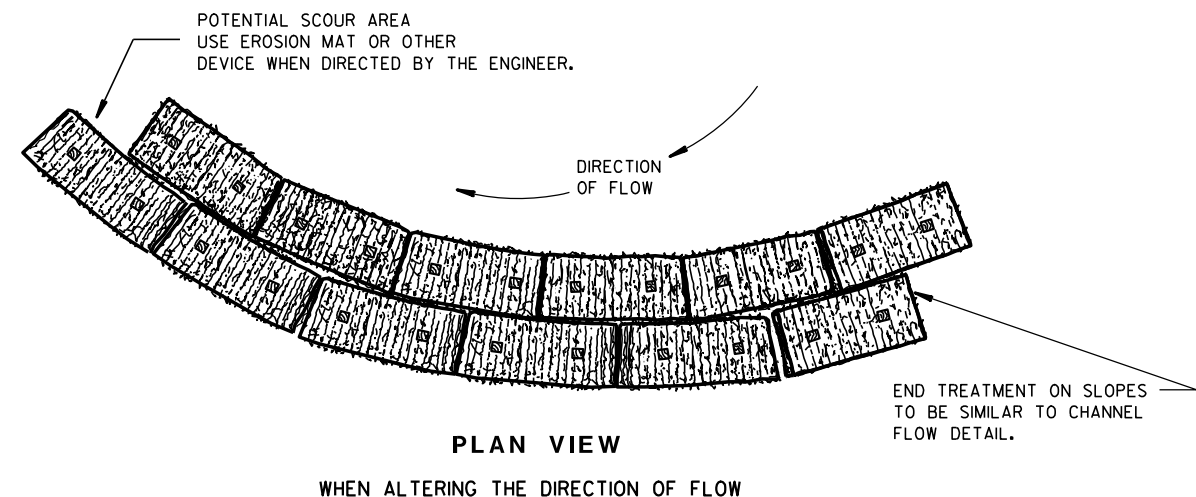
APPROVED
December 2017 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA 89



GENERAL NOTES

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

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

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

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

ENGINEER

FHWA



- 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 1½" X 1½" 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.



SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

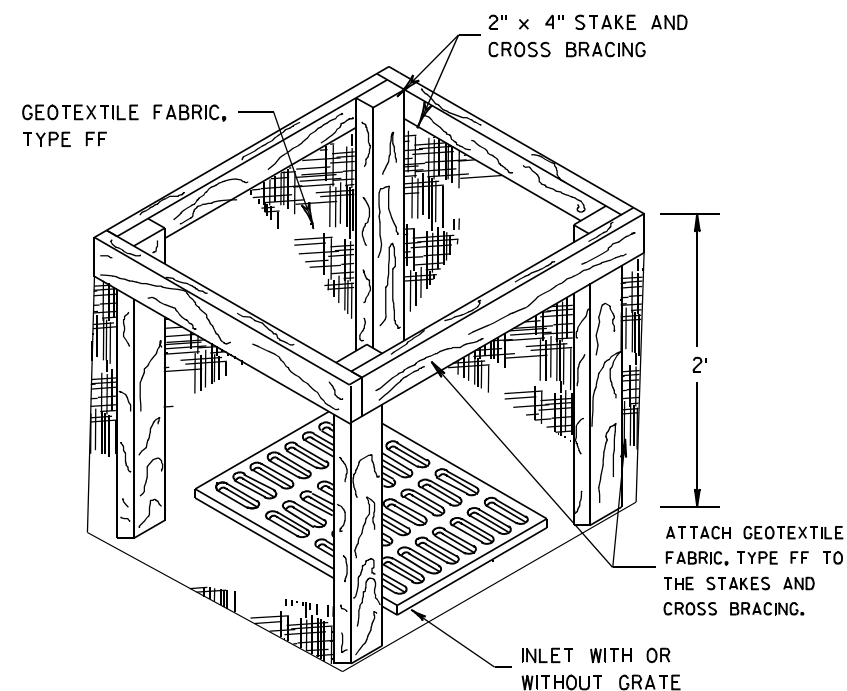
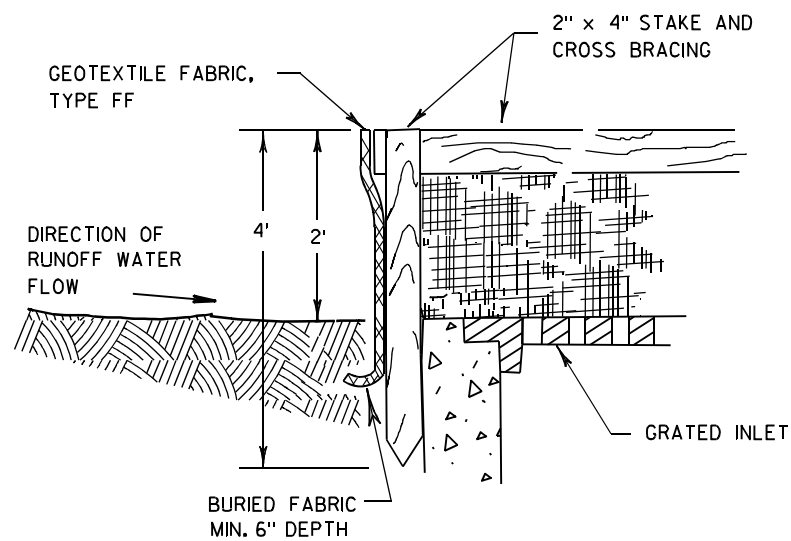
APPROVED
4-29-05
DATE

/S/ Beth Connolly
CHIEF ROADWAY DEVELOPMENT

91

ENGINEER

FHWA



INLET PROTECTION, TYPE A

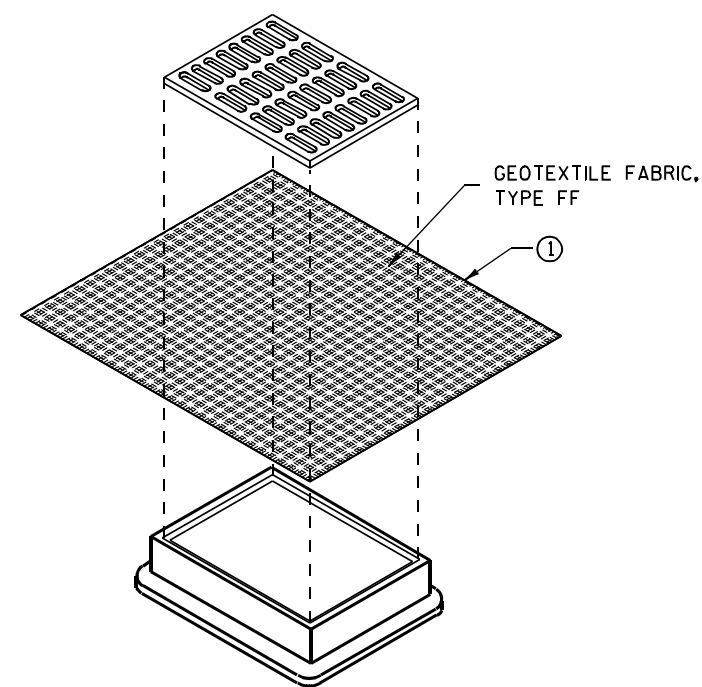
GENERAL NOTES

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

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

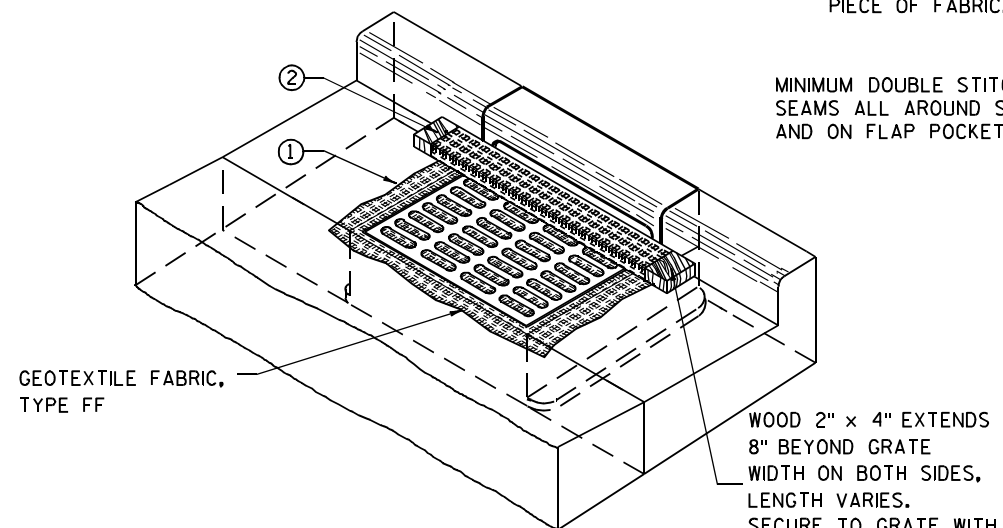
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

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



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

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

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

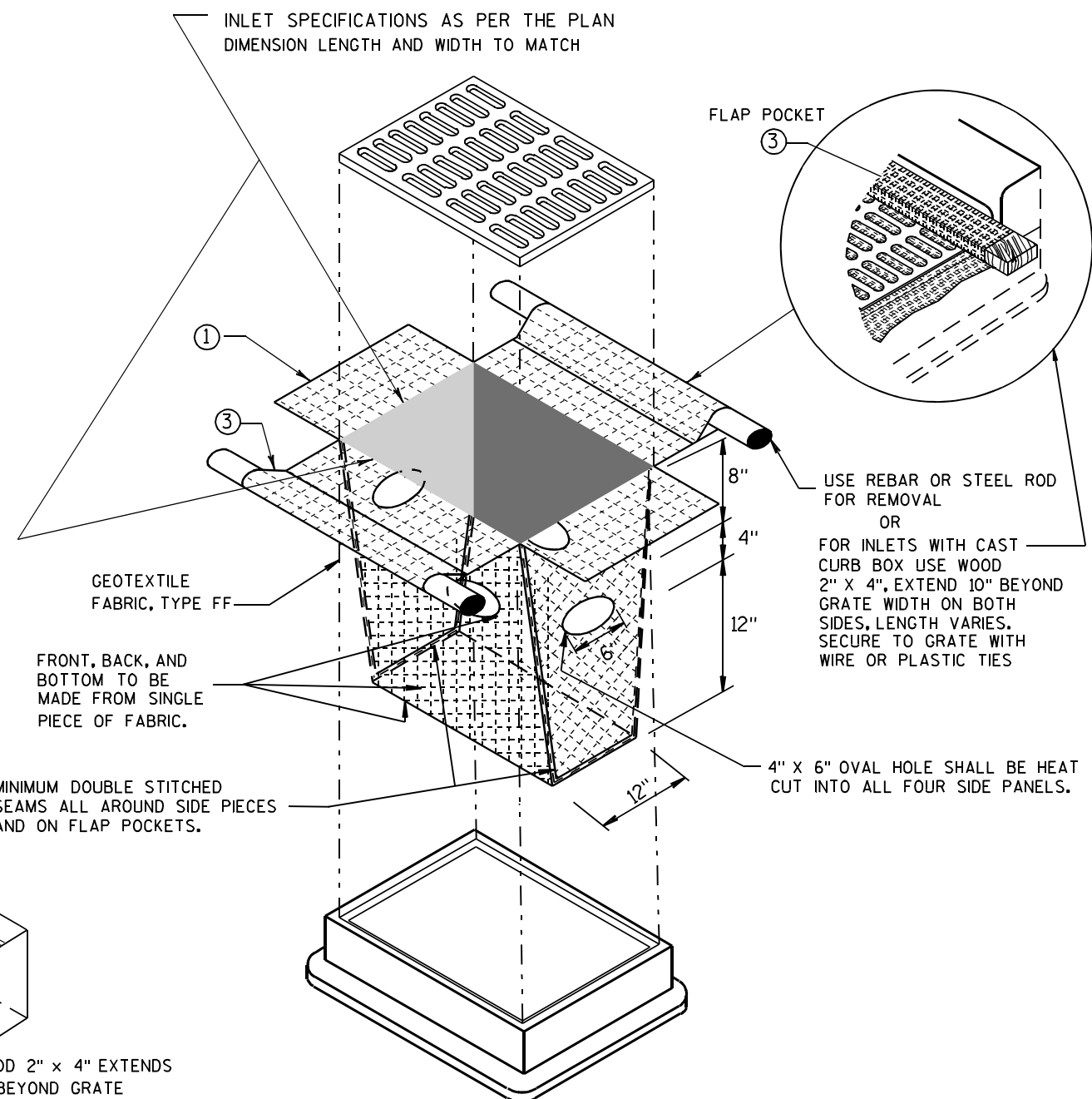
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

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

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

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



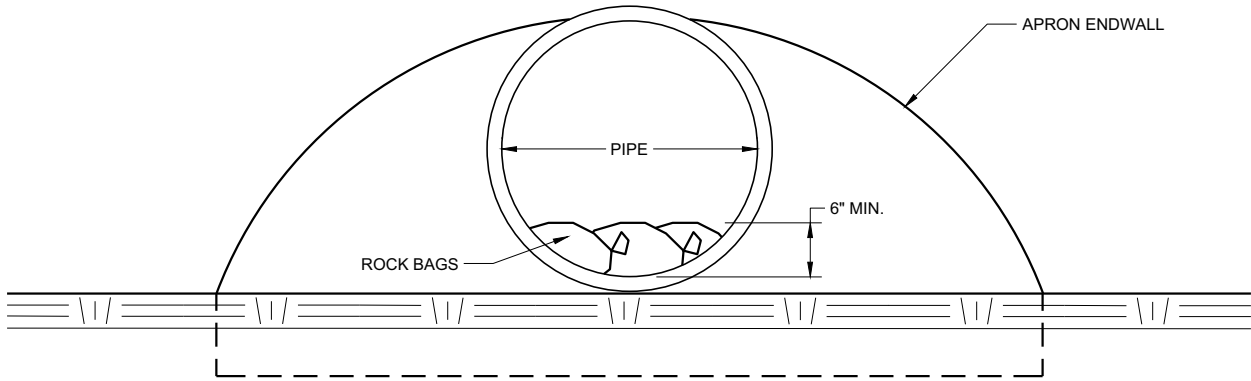
INLET PROTECTION, TYPE D

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

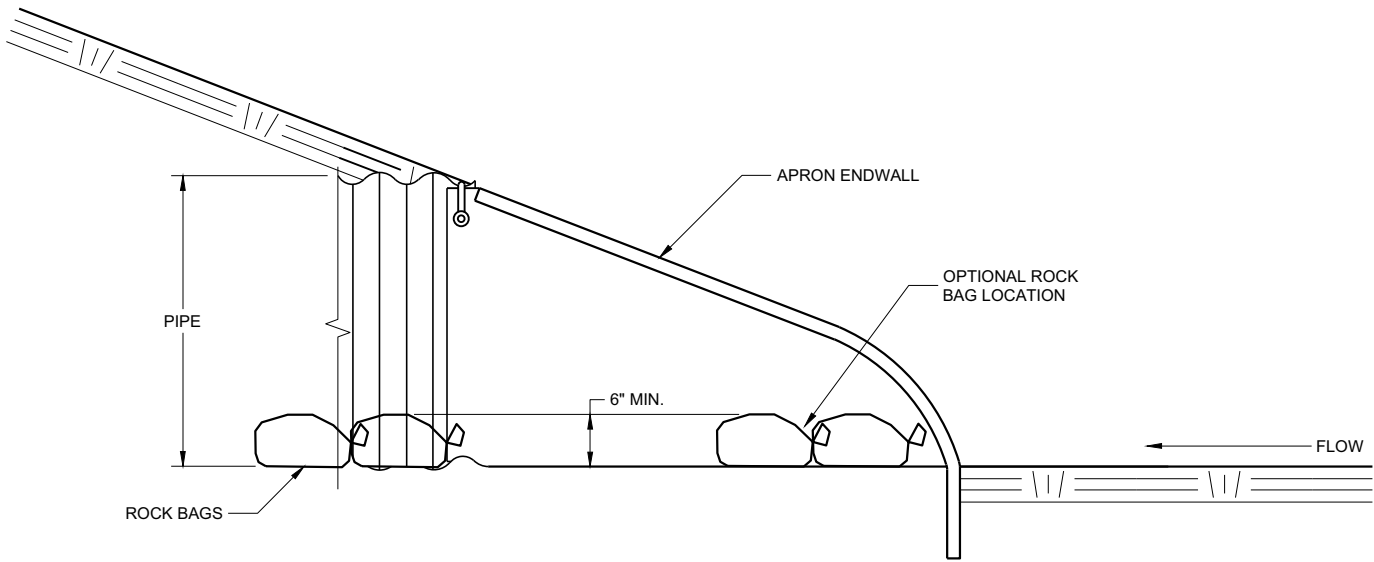
**INLET PROTECTION
TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02 /S/ Beth Connolly
DATE 92
FHWA CHIEF ROADWAY DEVELOPMENT ENGINEER



END VIEW



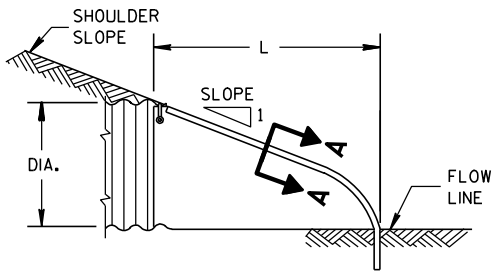
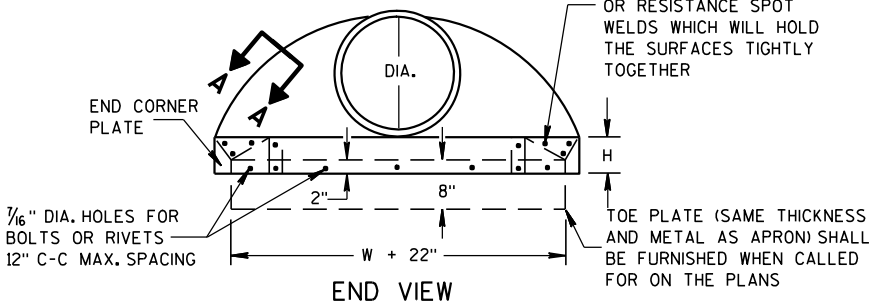
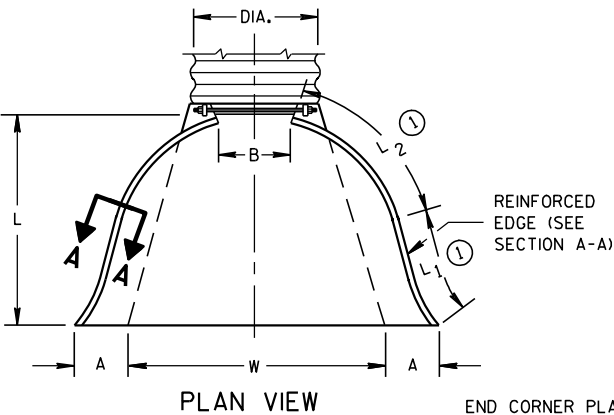
SIDE VIEW

CULVERT PIPE CHECK
(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Daniel Schave EROSION CONTROL ENGR 93
FHWA	

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

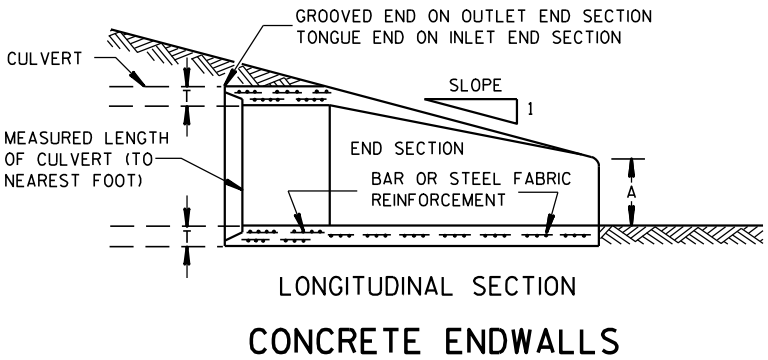
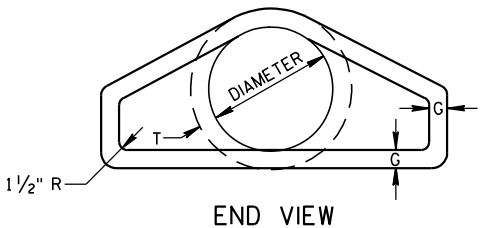
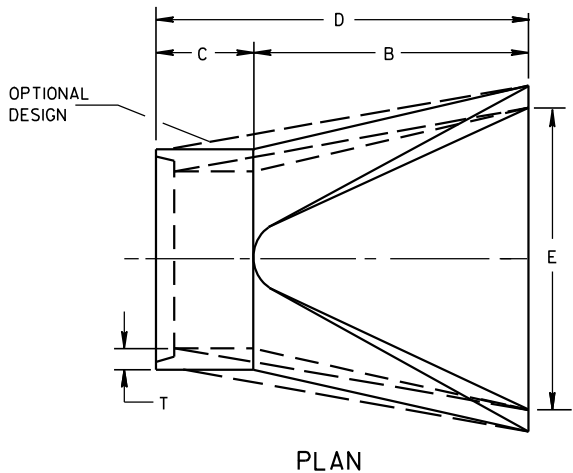
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



SIDE ELEVATION
METAL ENDWALLS

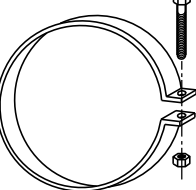
REINFORCED CONCRETE APRON ENDWALLS												
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE				
	T	A	B	C	D	E	G					
12	2	4	24	48 1/8	72 1/8	24	2	3 to 1				
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1				
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1				
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1				
24	3	9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

* MINIMUM
** MAXIMUM

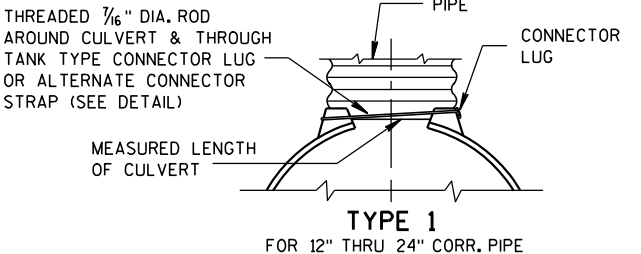


LONGITUDINAL SECTION
CONCRETE ENDWALLS

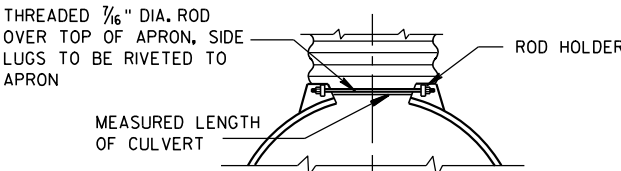
1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



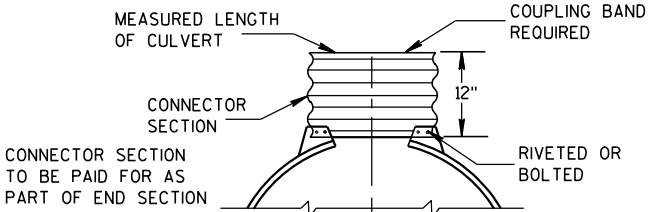
ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



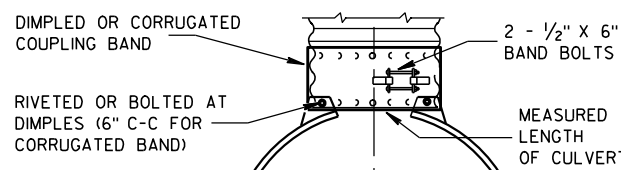
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

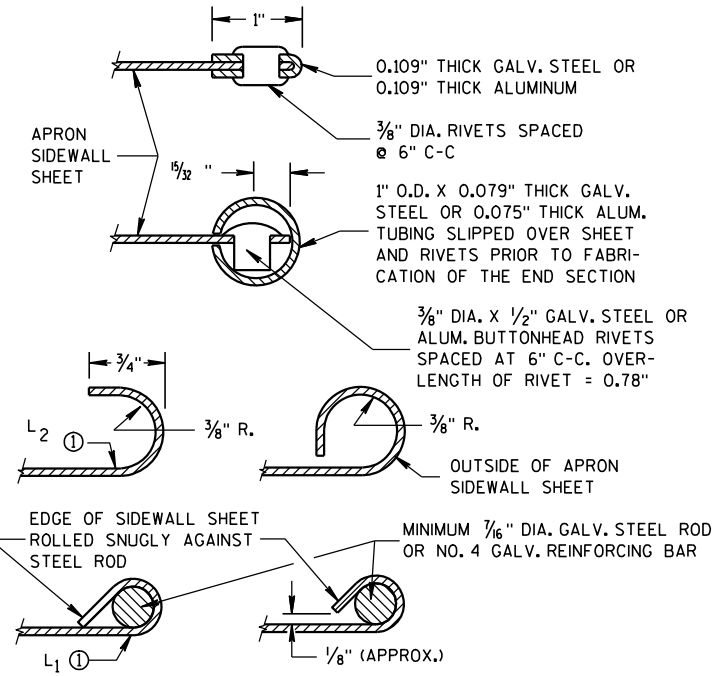
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

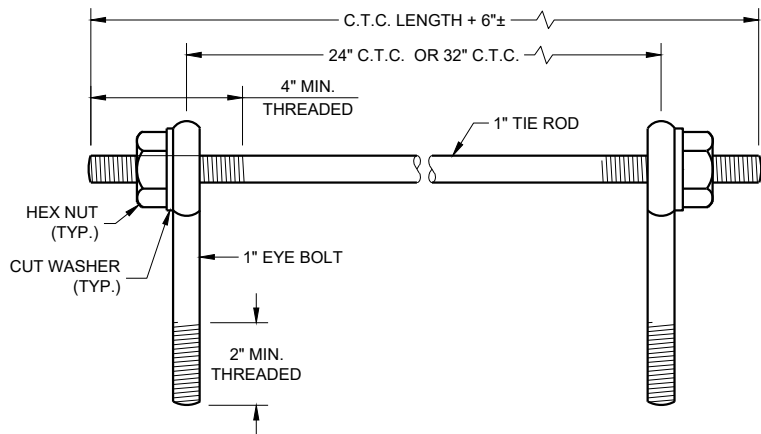
ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT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

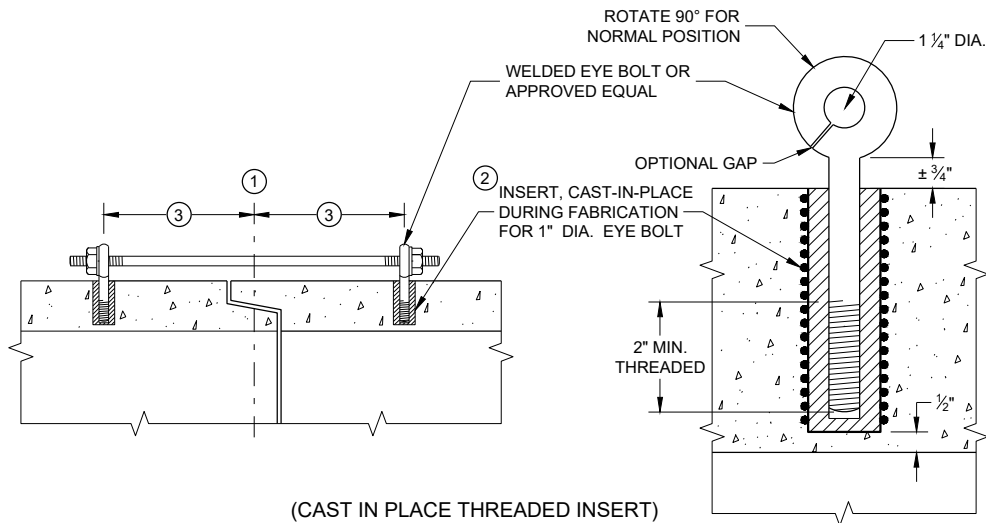
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 11/30/94 DATE	/S/ Rory L. Rhin... CHIEF ROADWAY DEVELOP 94 NEER
FHWA	



EYE BOLTS AND TIE ROD

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



(CAST IN PLACE THREADED INSERT)
LONGITUDINAL SECTIONS

GENERAL NOTES

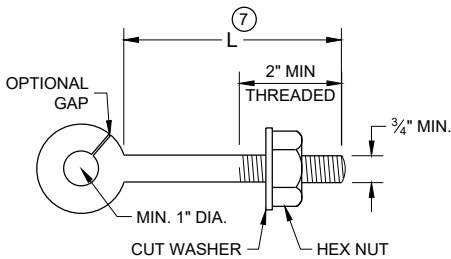
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT 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.

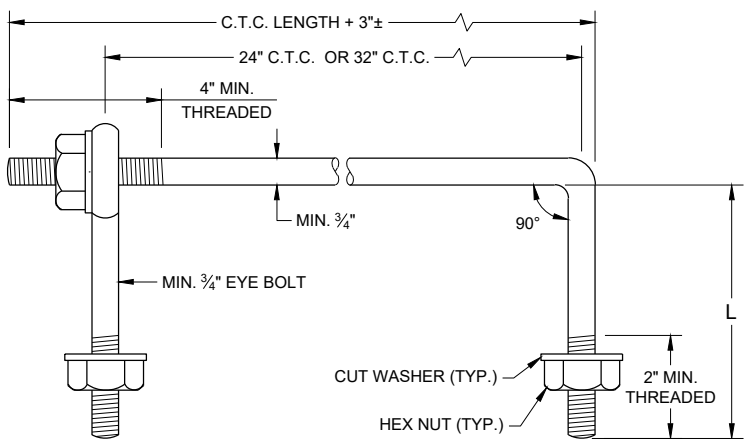
JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

- 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 1/2 INCH OF THE INNER SURFACE OF THE PIPE.
- 7 EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

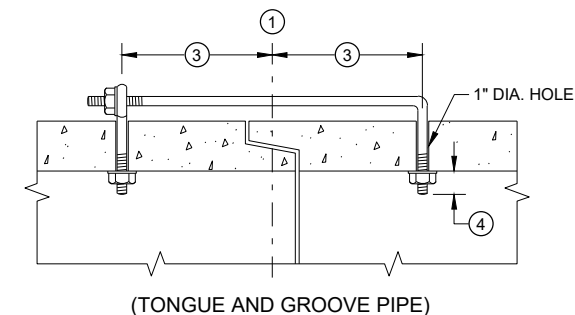


EYE BOLT 7

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



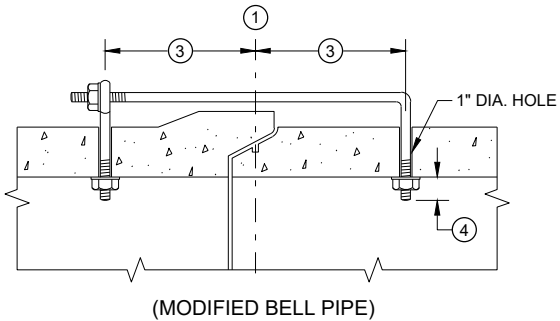
EYE BOLT AND TIE ROD



LONGITUDINAL SECTION

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

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

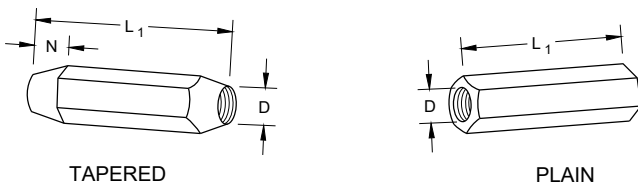


(MODIFIED BELL PIPE)

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L ₁	N
12 - 60	5/8	5/8	5	1/2
66 - 84	3/4	3/4	5	1/2
90 - 144	1	1	7	1 1/16

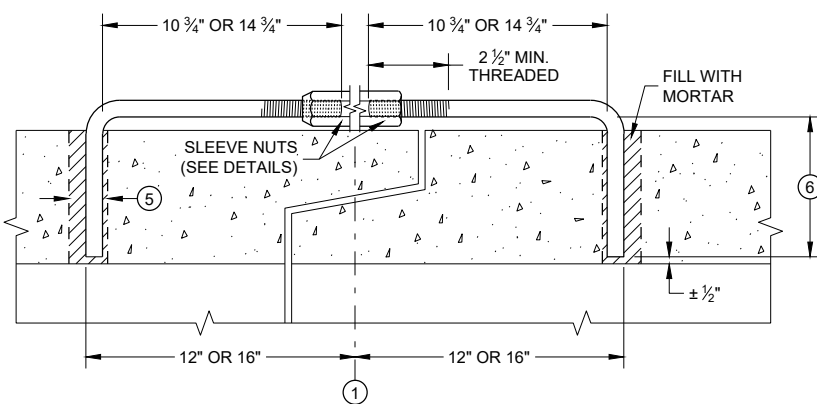
DIMENSIONS SHOWN ARE IN INCHES



TAPERED

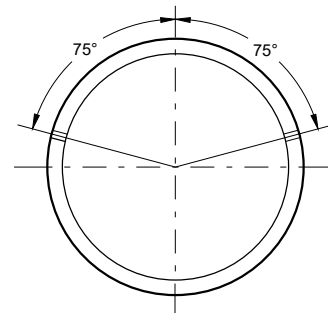
PLAIN

RIGHT AND LEFT THREADS
SLEEVE NUTS



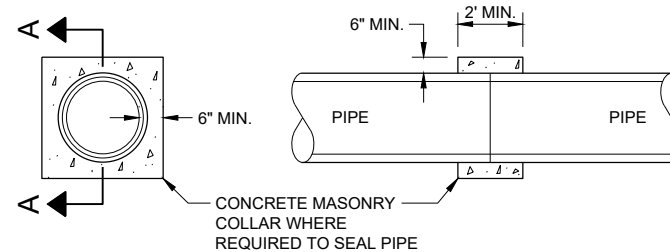
LONGITUDINAL SECTION

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

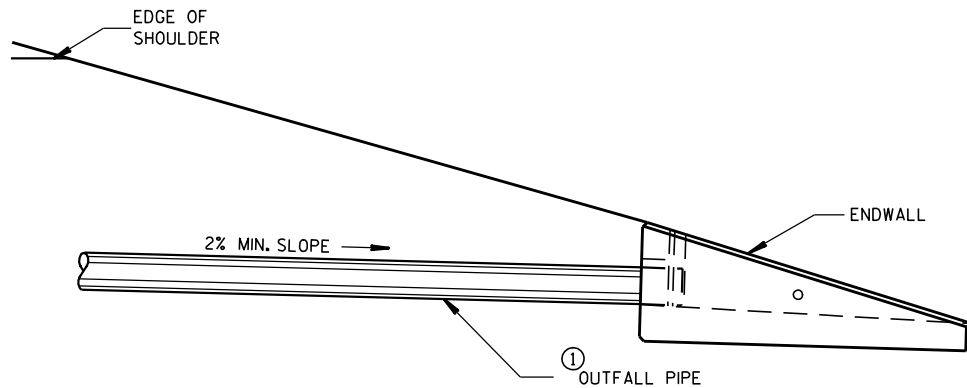
JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

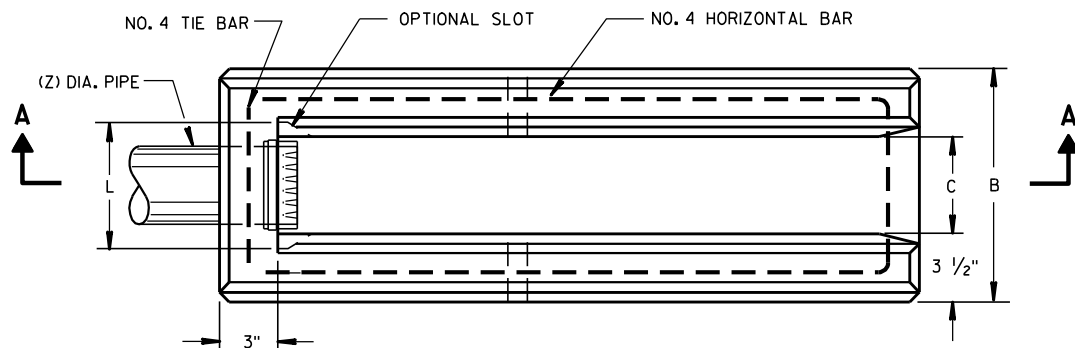
APPROVED
November 2021 DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT ENGINEER 95
FHWA

DIMENSIONS IN INCHES											
PIPE DIA.	A	B	C	D	E	F	G	H	J	L	Z
**4	6	12	5 1/4	9	8	32	36	11	2 3/8	6 1/2	4
6	8	14	7 1/4	11	10	42	44	13	3 5/8	8 1/2	6

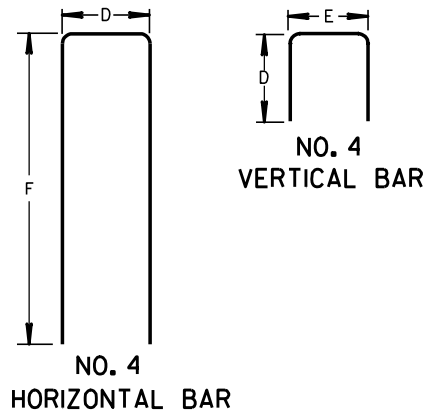
** APRON ENDWALL FOR 6 INCH DIAMETER PIPE MAY BE SUBSTITUTED FOR THIS SIZE PROVIDED THE HOLE IN THE HEADWALL IS SIZED AND LOCATED TO CONFORM TO THE 4 INCH DIAMETER PIPE DIMENSIONS (C & J)



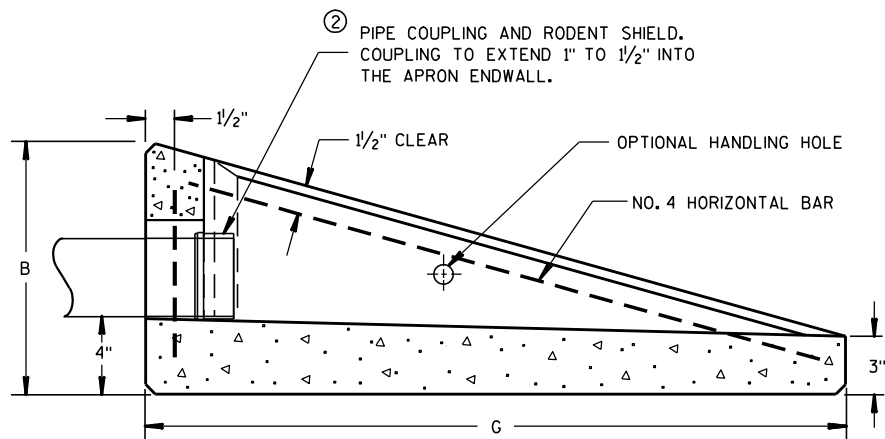
INSTALLATION DETAIL



PLAN VIEW

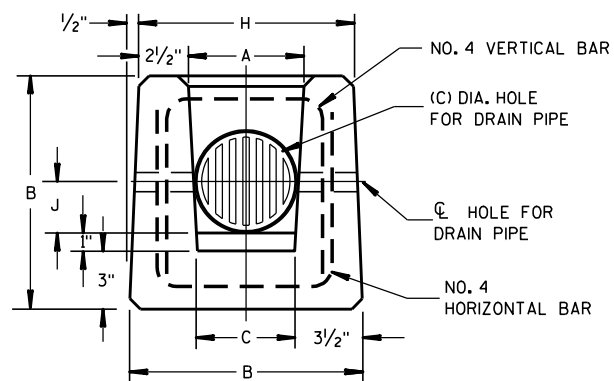


BAR STEEL REINFORCEMENT DETAILS



SECTION A-A

CONCRETE APRON ENDWALL FOR UNDERDRAIN



END 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.

ALTERNATIVE DESIGNS WHICH PROVIDE EQUIVALENT CAPACITY AND STRENGTH MAY BE USED WHEN APPROVED BY THE ENGINEER. ENDWALL MAY BE EITHER PRECAST OR CAST-IN-PLACE CONCRETE.

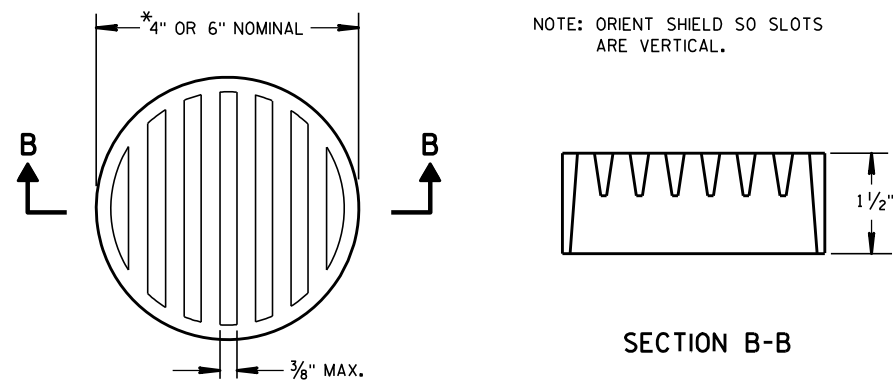
THE UNDERDRAIN PIPE SHALL BE FULLY INSERTED AND SEALED INTO THE ENDWALL WITH CEMENT MORTAR PRIOR TO BACKFILLING AROUND THE STRUCTURE.

THE UPPERMOST POINT OF THE ENDWALL SHALL BE PLACED FLUSH WITH THE ROADWAY SLOPE. ADJACENT EMBANKMENT SLOPES SHALL BE SHAPED TO FIT THE SIDES AND TOE OF THE ENDWALL. EXACT PLACEMENT OF THE OUTFALL PIPE AND ENDWALL SHALL BE DETERMINED BY THE ENGINEER TO MATCH THE ELEVATIONS AND FLOW DIRECTION OF THE ROADSIDE DITCH.

- ① THE OUTFALL PIPE UNDERDRAIN AND FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATION FOR POLY (VINYL CHORIDE) (PVC) PLASTIC DRAIN, WASTE AND VENT PIPE AND FITTINGS, ASTM DESIGNATION: D 2665, SCHEDULE 40 PVC OR THE STANDARD SPECIFICATION FOR TYPE PSM POLY (VINYL CHORIDE) (PVC) SEWER PIPE AND FITTINGS, ASTM DESIGNATION: D 3034, TYPE PSM SDR 23.5 PVC SEWER PIPE, ALL JOINTS SHALL BE SOLVENT WELDED.

THE OUTFALL PIPE INCLUDING ALL FITTINGS AND THE RODENT SHIELD SHALL BE MEASURED AND PAID FOR AS PIPE UNDERDRAIN UNPERFORATED.

- ② THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



② RODENT SHIELD

*NOTE: DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/10/98

DATE

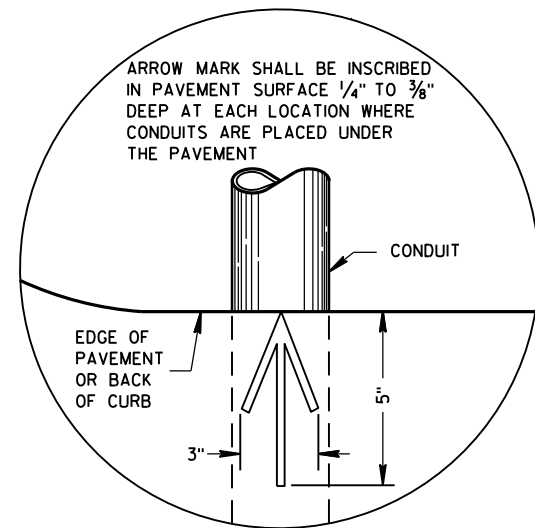
FHWA

/S/ Rory L. Rhinehart

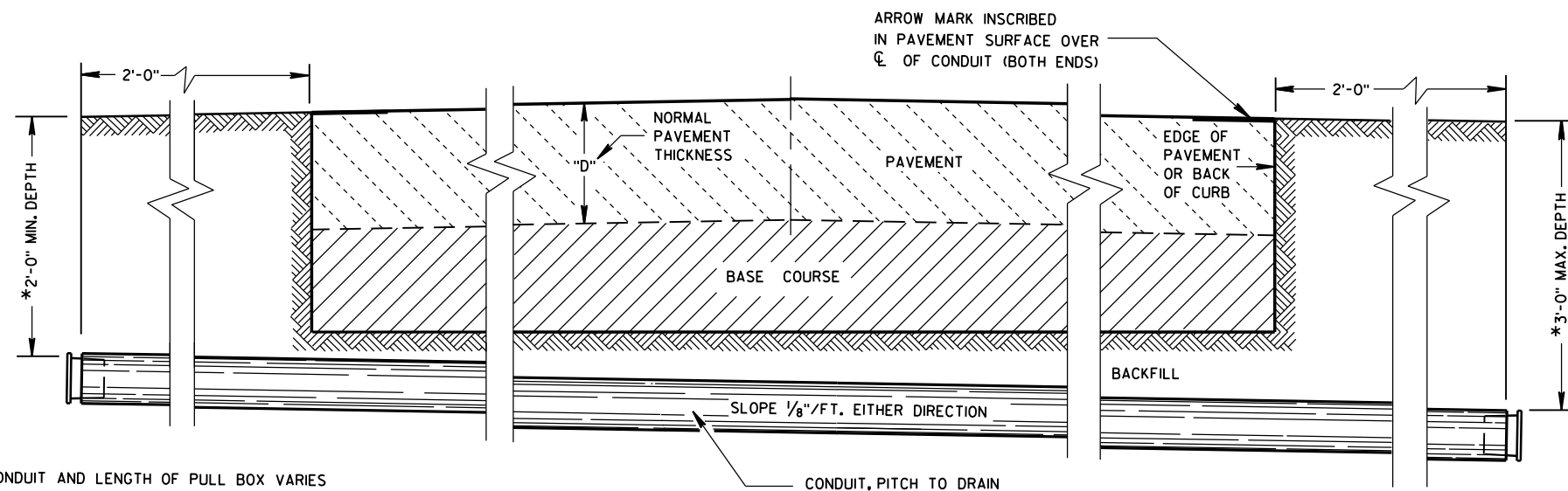
CHIEF ROADWAY DEVELOPER

96

INEER



PLAN VIEW
ARROW MARK



SIDE ELEVATION
DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES
WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

GENERAL NOTES

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

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

TRACER WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.

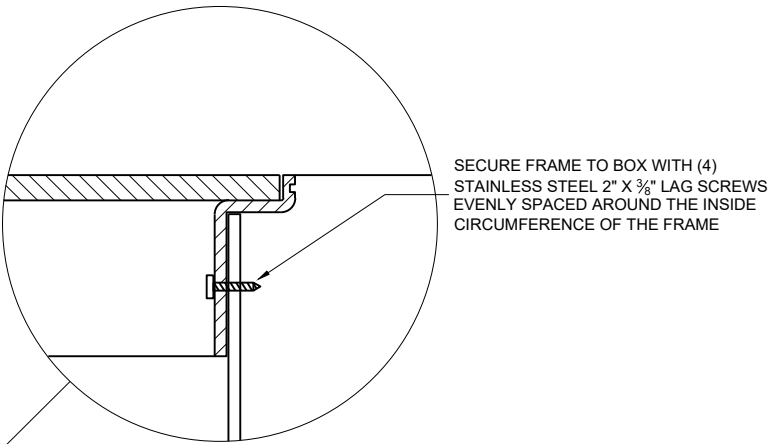
CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March, 2017 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL 97
FHWA

DIMENSION IN INCHES		NON- CONDUCTIVE PULL BOX	
BOX DIAMETER ** (INSIDE)	A	24	24
BOX OVERALL OUTSIDE DIAMETER	B	27	27
BOX LENGTH	C	36	42
FRAME OPENING	D	22 ½	22 ½
WEIGHT IN POUNDS *			
COVER		50	50
BOX ONLY		75	85

DIAMETER VARIES FROM TOP TO BOTTOM WITH THE
DIAMETER LARGER AT THE BOTTOM TO PREVENT FROST
HEAVE.



NOTCH FOR PAVEMENT ADHESION

DO NOT SECURE FRAME TO BOX.
ALLOW FRAME ADHESION TO SIDEWALK
FOR UNIFORM COVER/PAVEMENT
VERTICAL MOVEMENT.

12" MAX. EXTENSION

EXTENSION RING

TOP OF ORIGINAL BOX

SECURE EXTENSION TO BOX WITH (4) STAINLESS STEEL 2" X $\frac{3}{8}$ " LAG SCREWS EVENLY SPACED AROUND THE INSIDE CIRCUMFERENCE OF THE OVERLAP

NON-CONDUCTIVE FRAME AND COVER

ELECTRIC

B

FINAL GRADE

2" PVC PIPE CAP ON BOTH ENDS WITH 7 OR 8 1/4" HOLES DRILLED IN EACH END. INSTALL BELOW ALL OTHER PIPES.

INSTALL ELECTRICAL END BELLS ON ALL NON-METALLIC CONDUIT BEFORE INSTALLATION OF WIRE AND/OR CABLE. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

CUT OPENINGS AS REQUIRED IN THE FIELD

ALL CONDUIT PITCHED TO DRAIN TO PULL BOXES

6" MIN. (TYP.)

6"

3"

A

D

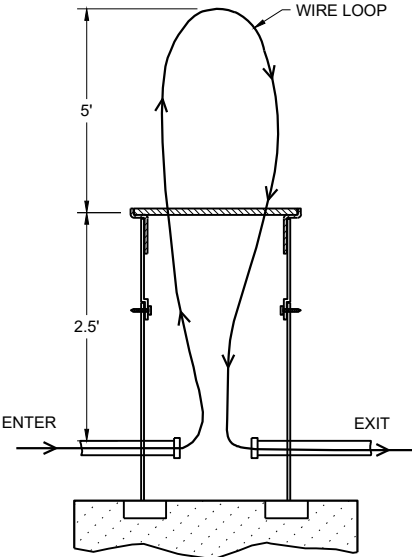
12"

2" DRAIN DUCT TO DITCH OR SEWER WHEN SPECIFIED

NO. 2 COARSE AGGREGATE (SEE SECTION 501 OF THE STANDARD SPECIFICATIONS)

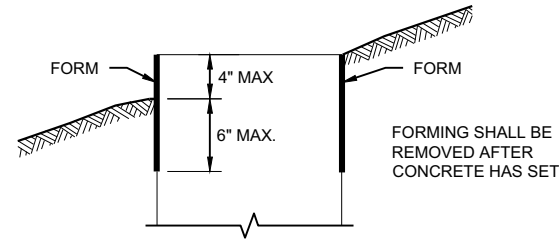
NO. 2 COARSE AGGREGATE
(SEE SECTION 501 OF THE
STANDARD SPECIFICATIONS)

LABEL ON COVER SHALL READ "ELECTRIC" FOR SIGNAL AND LIGHTING SYSTEMS,
"WISDOT ITS" FOR COMMUNICATIONS AND ITS EQUIPMENT SYSTEMS.



PULL BOXES NON-CONDUCTIVE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED <u>November 2024</u> DATE	<u>/S/ Ahmet Demirbilek</u> STATE ELECTRICAL ENGINEER
FHWA	Q8

FORM DEPTH SHALL BE NO MORE THAN 6" BELOW GRADE ON THE LOWER SIDE OF BASE



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5 & 6
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE SHOWN ON THE PLANS

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NON-METALLIC.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NON-METALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

GENERAL NOTES

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION.

WHEN REQUIRED TO CONNECT NON-METALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 2, TYPE 5 AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER ALL BASE TYPES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4 INCH "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND SHALL NOT BE THREADED.

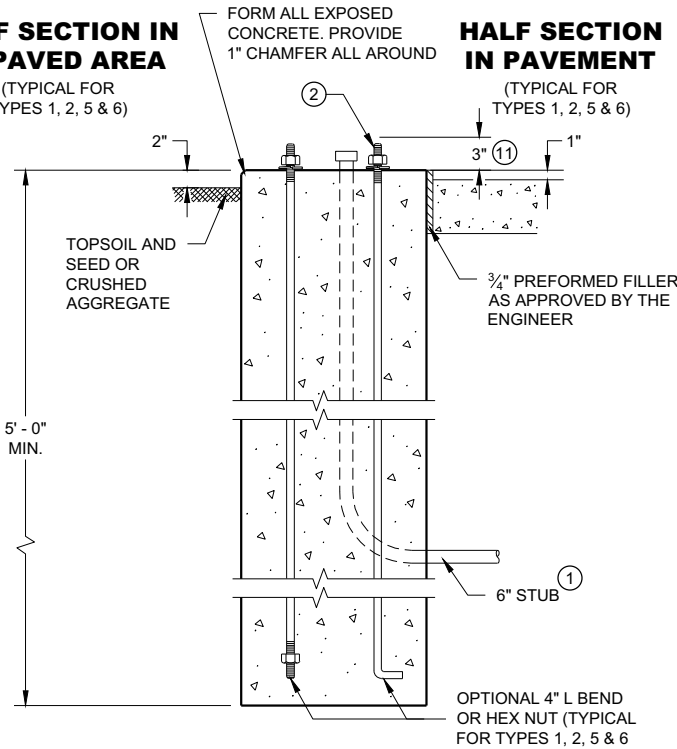
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

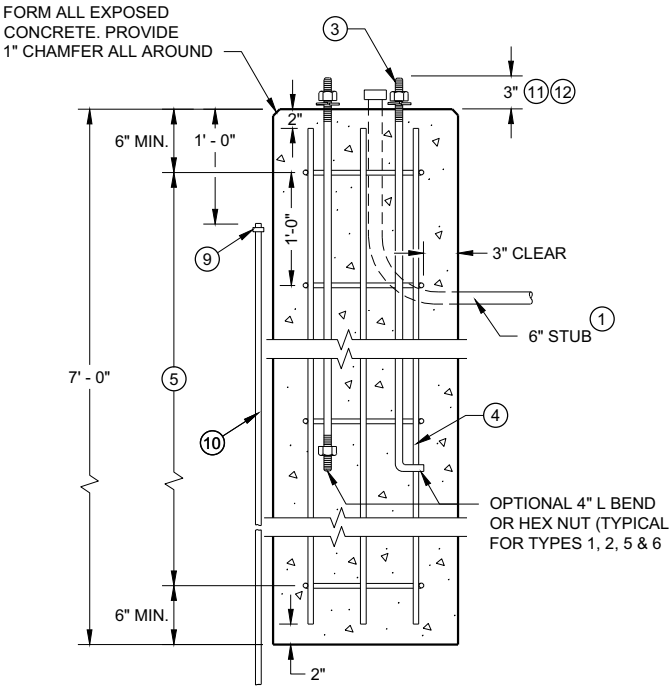
- 1 THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL OF THE ENGINEER.
- 2 (4) 1" DIA. X 3' - 6" ANCHOR RODS.
- 3 (4) 1" DIA. X 5' - 0" ANCHOR RODS.
- 4 (6) NO. 6 X 6' - 8" BAR STEEL REINFORCEMENT.
- 5 (7) NO. 4 X 5' - 1" BAR STEEL REINFORCEMENT @ 1' - 0" C - C.
- 6 (4) 1" DIA. X 3' - 6" ANCHOR RODS.
- 7 (6) NO. 4 X 4' - 8" BAR STEEL REINFORCEMENT.
- 8 (5) NO. 4 X 5' - 1" BAR STEEL REINFORCEMENT @ 1' - 0" C - C.
- 9 EXOTHERMIC CONNECTION TO EQUIPMENT GROUNDING CONDUCTOR
- 10 5/8" DIA. X 8' - 0" COPPERCLAD EQUIPMENT GROUNDING ELECTRODE REQUIRED
- 11 ANY ANCHOR ROD PROJECTION SHORTER THAN 2 3/4" OR LONGER THAN 3 1/2" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.
- 12 FOR NON - BREAKAWAY INSTALLATIONS, 4 1/2" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

HALF SECTION IN UNPAVED AREA



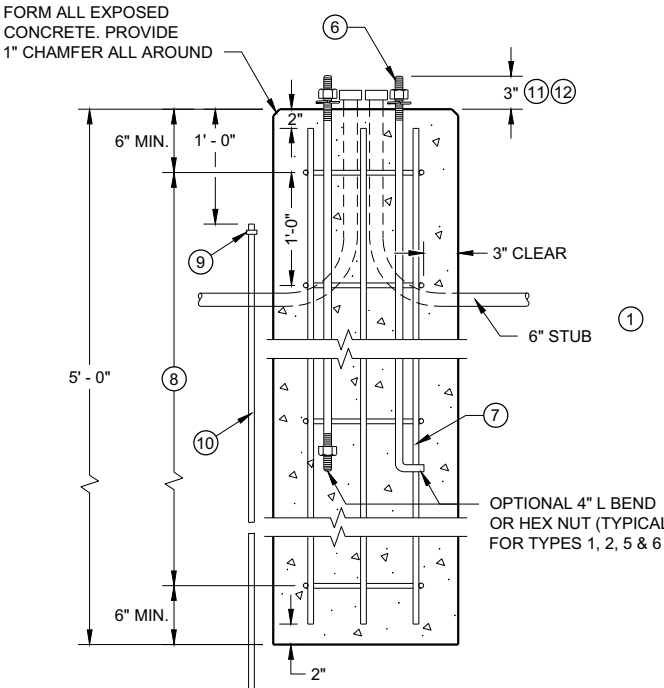
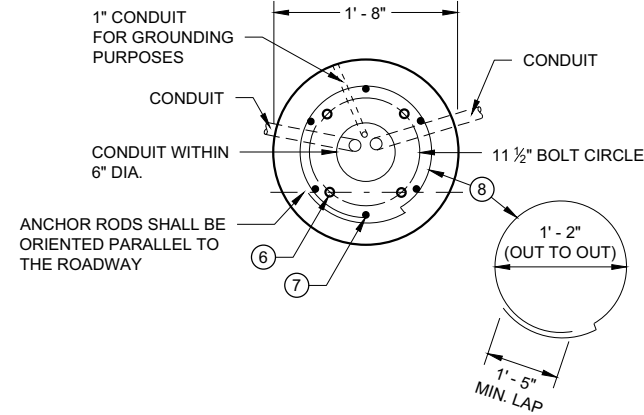
TYPE 1

HALF SECTION IN PAVEMENT



TYPE 2

CONCRETE BASES



TYPE 5 & 6

GENERAL NOTES

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

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 531.2.2 OF THE STANDARD SPECIFICATIONS.

LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

SHIM LENGTH SHALL BE LONG ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

A NEMA APPROVED, U.L. LISTED, COPPER WITH BRASS OR STAINLESS STEEL SET SCREW, DIRECT BURY RATED, MECHANICAL CONNECTOR (LUG), SIZED TO ACCEPT AWG. #10 TO #4 COPPER STRANDED WIRE SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

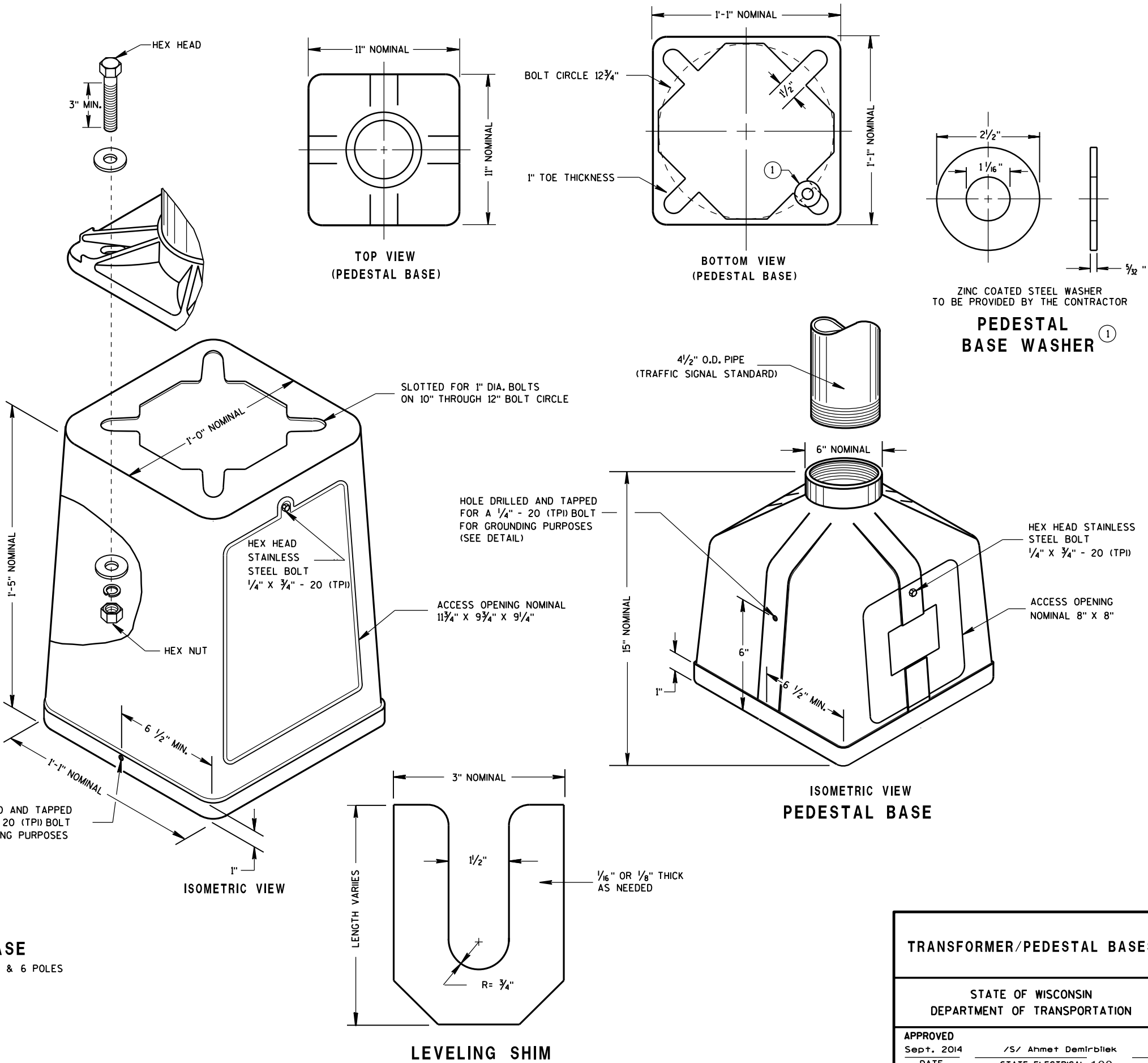
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.



TYPICAL MECHANICAL
CONNECTOR LUG
TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE
INTENDED FOR USE WITH TYPE 2, 3, 4, 5 & 6 POLES

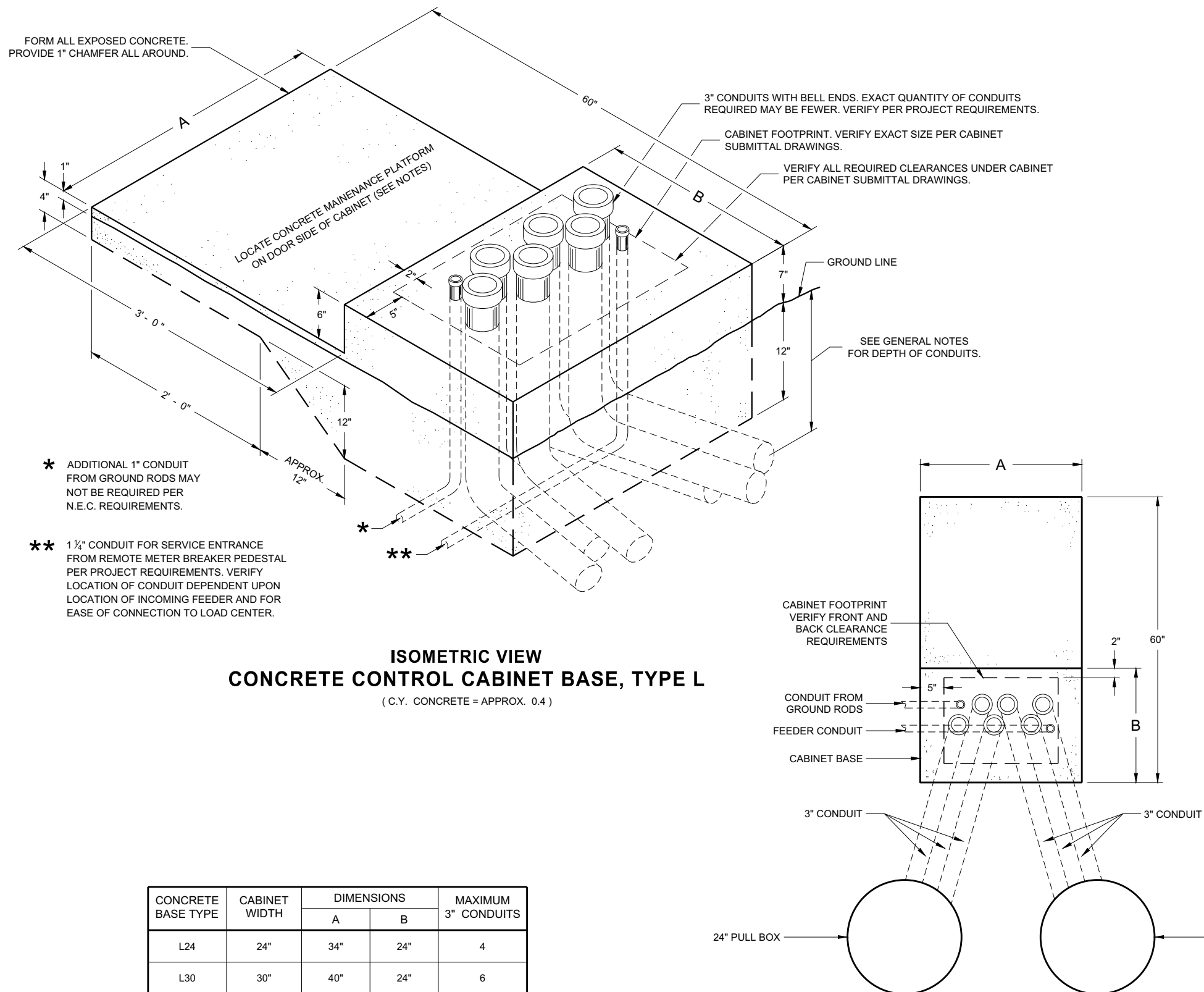
ISOMETRIC VIEW
PEDESTAL BASE

LEVELING SHIM

TRANSFORMER/PEDESTAL BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL 100
FHWA



**PLAN VIEW
CONCRETE CONTROL CABINET BASE, TYPE L**

GENERAL NOTES

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

INSTALL FOUR STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS TO ANCHOR THE CABINET BASES. THE ANCHORS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

WHEN REQUIRED TO CONNECT NON - METALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U. L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

LOCATIONS SHALL BE AS SHOWN ON THE PLANS UNLESS DETERMINED BY THE ENGINEER IN THE FIELD.

CONTROL CABINET BASE TOP SURFACE SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

MAINTENANCE PLATFORM SHALL BE FLOAT OR BROOM FINISHED AND LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT EQUALS 6 TIMES THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

PLUG ALL BELOW GRADE NON - METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NON - METALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6 INCHES MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

CONDUIT EXITING THE CONCRETE BASE SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.

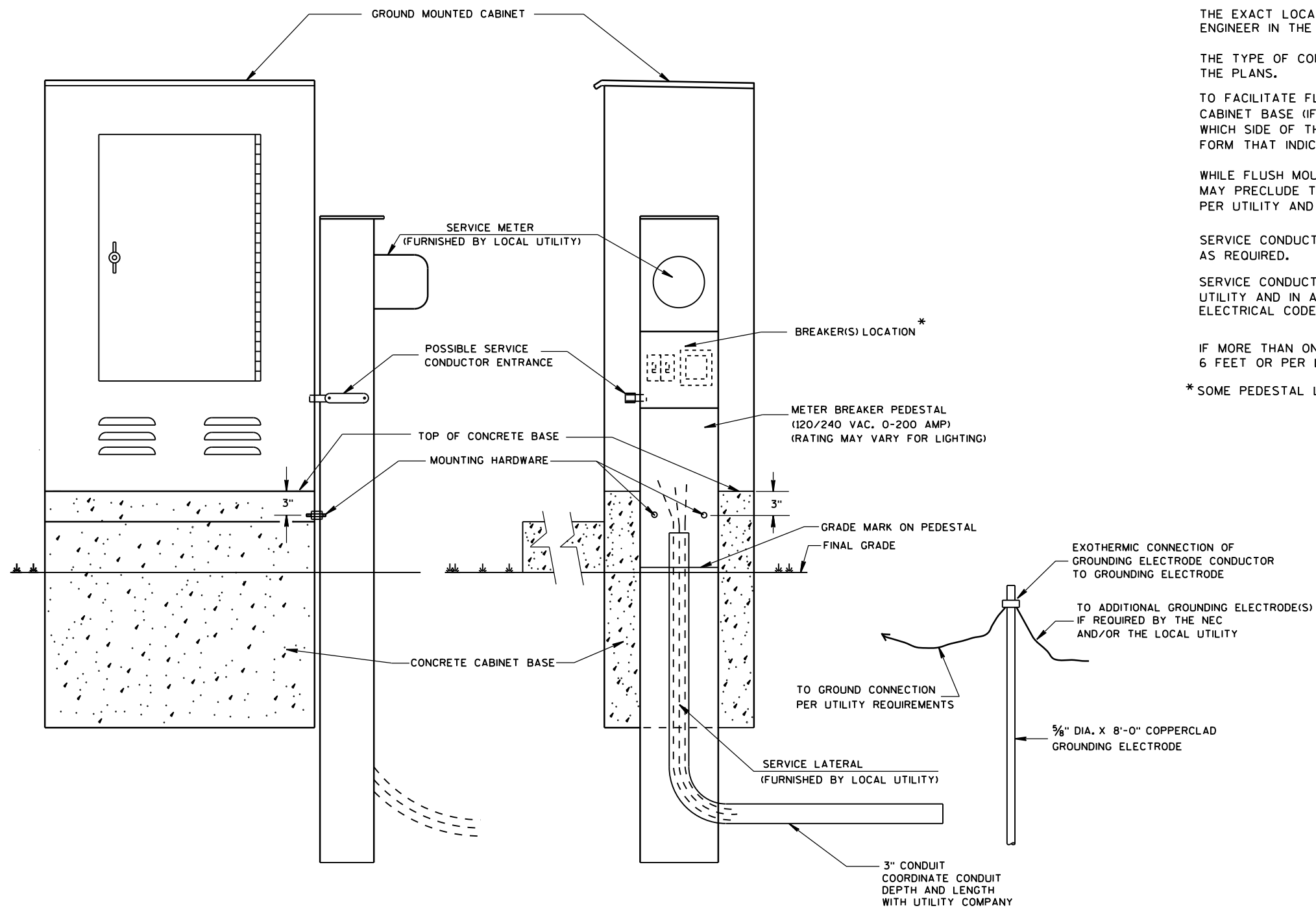
CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6 INCH MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF THE CONCRETE BASE BEFORE INSTALLATION OF CABLE OR WIRE.

CONCRETE CONTROL CABINET BASE, TYPE L

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 /S/ Ahmet Demirbilek
DATE
STATE ELECTRICAL ENGI 101
FHWA



TYPICAL CABINET SERVICE INSTALLATION

GENERAL NOTES

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

THE EXACT LOCATION OF THE METER BREAKER PEDESTAL SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

THE TYPE OF CONCRETE CABINET BASE TO BE INSTALLED SHALL BE AS CALLED FOR IN THE PLANS.

TO FACILITATE FLUSH MOUNTING OF THE METER BREAKER PEDESTAL AGAINST THE SIDE OF THE CABINET BASE (IF FLUSH MOUNTING POSSIBLE, CONFER WITH THE LOCAL UTILITY TO DETERMINE WHICH SIDE OF THE CONCRETE BASE THE ELECTRICAL SERVICE LATERAL WILL APPROACH, THEN FORM THAT INDICATED SIDE FOR FULL SIDE DEPTH.

WHILE FLUSH MOUNTING IS THE MOST DESIRABLE MOUNTING CONFIGURATION UTILITY REQUIREMENTS MAY PRECLUDE THIS OPTION. CONTRACTOR MUST PROVIDE UTILITY APPROVED PEDESTAL AND INSTALL PER UTILITY AND MANUFACTURERS REQUIREMENTS.

SERVICE CONDUCTOR ENTRANCES SHALL BE RIGID METALLIC CONDUIT, NIPPLES AND/OR CONDULETS AS REQUIRED.

SERVICE CONDUCTOR ENTRANCES SHALL BE SIZED AND LOCATED AS REQUIRED BY THE LOCAL UTILITY AND IN ACCORDANCE WITH APPROPRIATE ARTICLES OF THE LATEST ACCEPTED NATIONAL ELECTRICAL CODE.

IF MORE THAN ONE GROUNDING ELECTRODE IS REQUIRED, THE DISTANCE APART SHALL BE 6 FEET OR PER LOCAL UTILITY REGULATIONS.

* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

CABINET SERVICE INSTALLATION
(METER BREAKER PEDESTAL)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2014

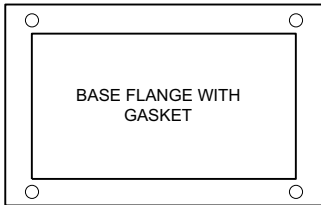
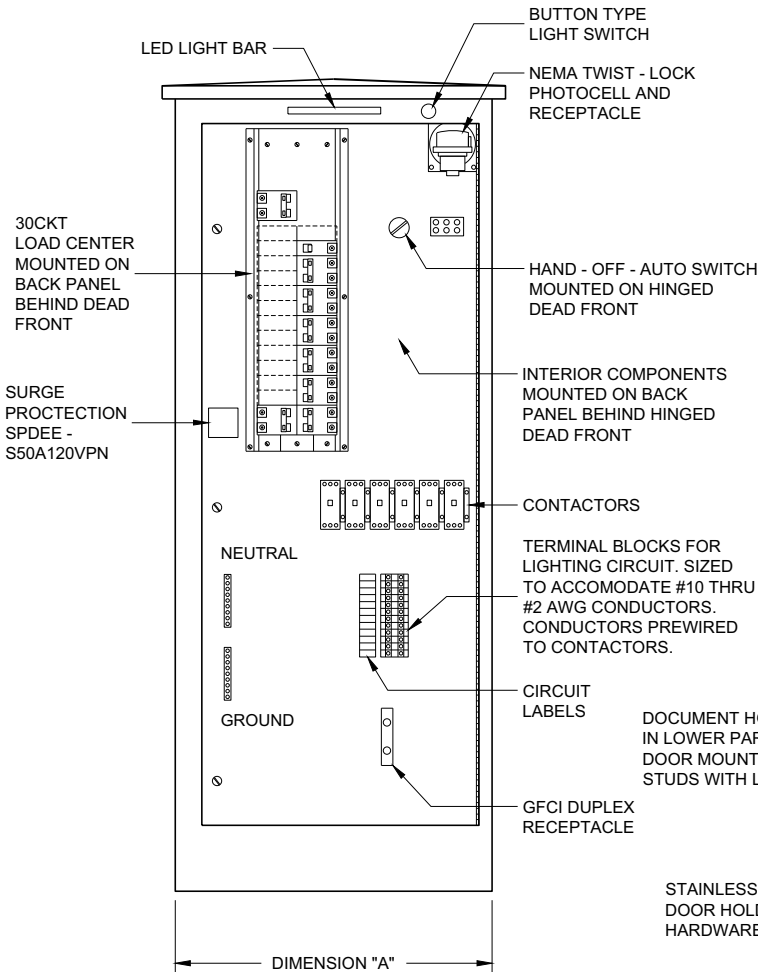
DATE

FHWA

/S/ Ahmet Demirbilek

STATE ELECTRICAL 102

FRONT INTERIOR
ELEVATION



LIGHTING CONTROL CABINET

SIDE VIEW

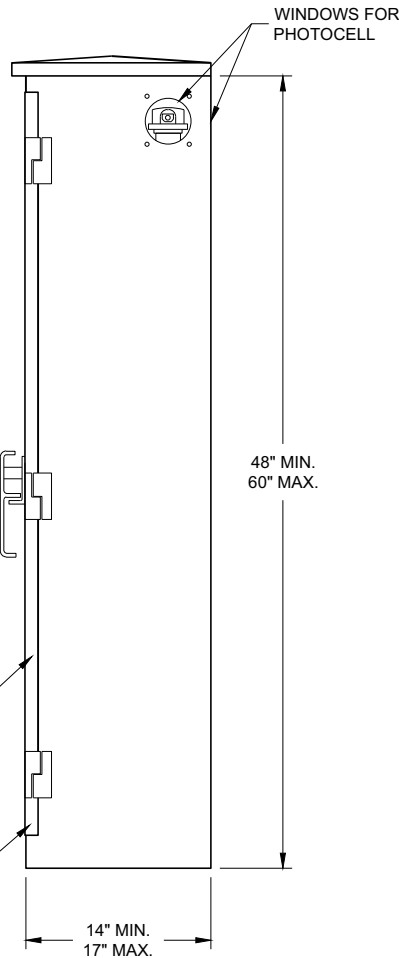
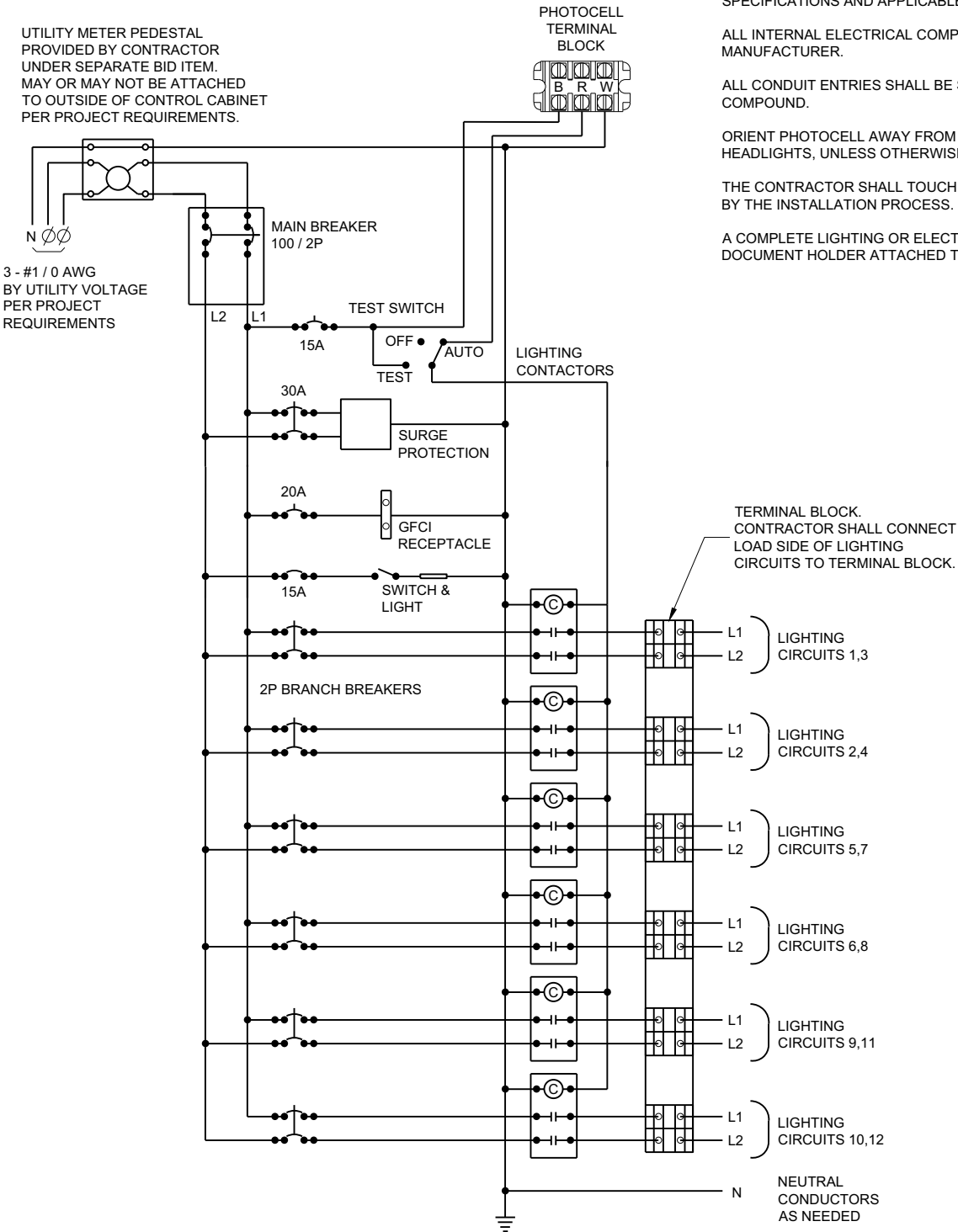


TABLE OF DIMENSIONS (INCHES)		
CONCRETE BASE TYPE	CABINET WIDTH	DIMENSION "A"
L24	24"	24"
L30	30"	30"

UTILITY METER PEDESTAL PROVIDED BY CONTRACTOR UNDER SEPARATE BID ITEM. MAY OR MAY NOT BE ATTACHED TO OUTSIDE OF CONTROL CABINET PER PROJECT REQUIREMENTS.



CONTROL CABINET SCHEMATIC

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.

ALL INTERNAL ELECTRICAL COMPONENTS WILL BE PRE - WIRED BY THE CABINET MANUFACTURER.

ALL CONDUIT ENTRIES SHALL BE SEALED WITH AN APPROPRIATE DUCT SEALING COMPOUND.

ORIENT PHOTOCELL AWAY FROM AMBIENT LIGHT SOURCES AND ONCOMING TRAFFIC HEADLIGHTS, UNLESS OTHERWISE CALLED FOR IN THE SPECIAL PROVISION.

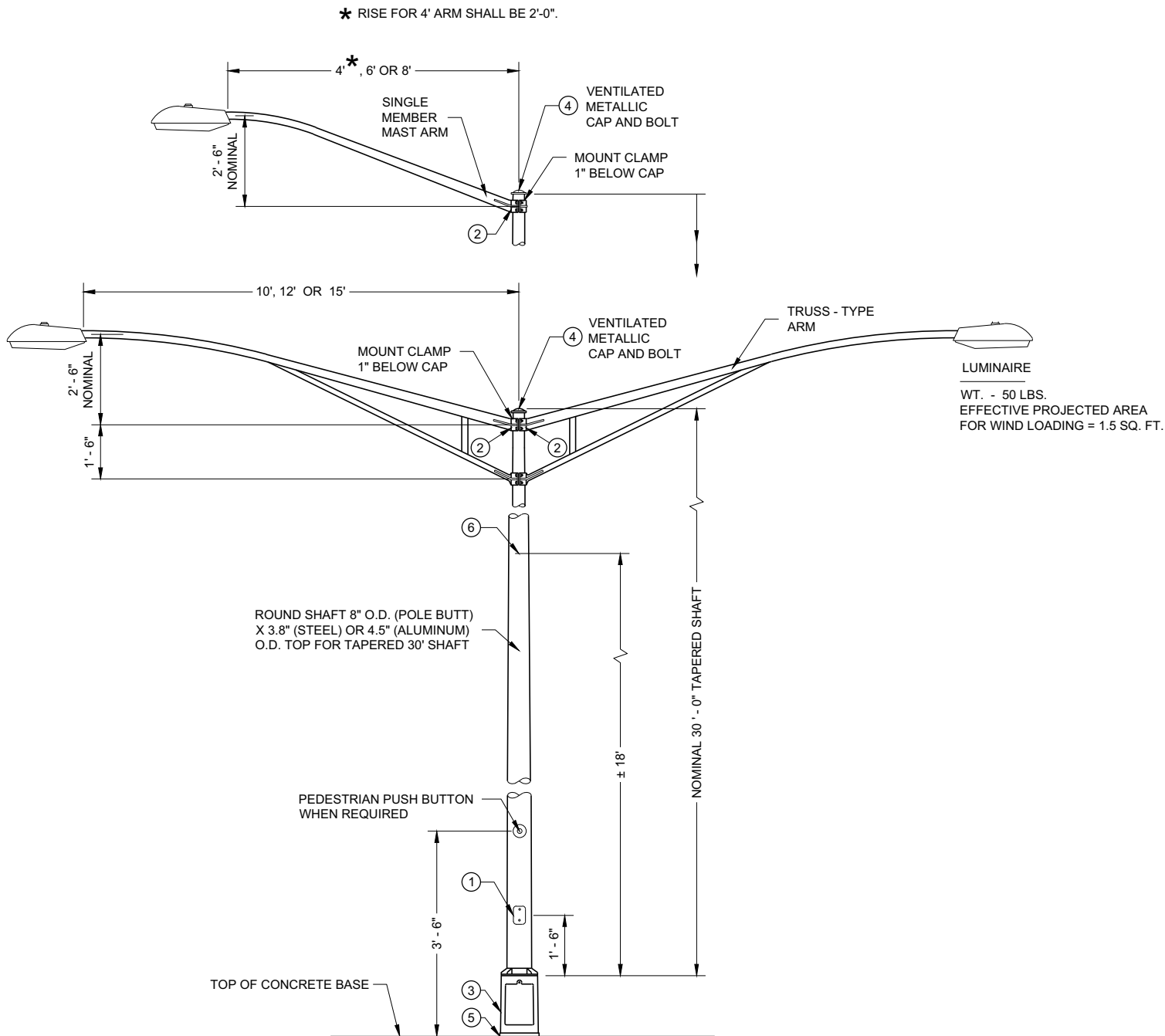
THE CONTRACTOR SHALL TOUCH UP ANY DAMAGE TO THE ANODIZED FINISH CAUSED BY THE INSTALLATION PROCESS. COLOR MATCH PAINT SHALL BE USED.

A COMPLETE LIGHTING OR ELECTRICAL PLAN SHALL BE SECURELY PLACED IN THE DOCUMENT HOLDER ATTACHED TO THE DOOR.

LIGHTING CONTROL CABINET
120 / 240 VOLT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 /S/ Ahmet Demirelek
DATE STATE ELECTRICAL ENGI 103
FHWA



**TYPE 5 POLE MOUNTING CONFIGURATION
(MAXIMUM LOAD)
LIGHTING ONLY**

GENERAL NOTES

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

SECTION 657, POLES, OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

ALL TYPE 5 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL OR ALUMINUM, AS CALLED FOR IN THE CONTRACT.

TYPE 5 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063 - T6 ALUMINUM ALLOY. SLEEVEING INSIDE THE POLE IS NOT ACCEPTABLE.

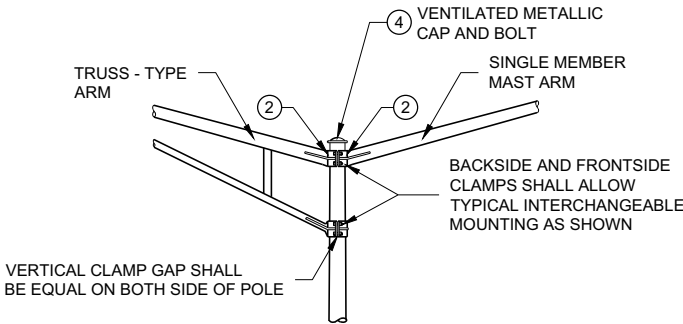
TYPE 5 ALUMINUM POLES SHALL HAVE A MINIMUM WALL THICKNESS OF 0.1888".

TYPE 5 STEEL POLES SHALL HAVE A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (0.1196").

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2 3/8 INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONNECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

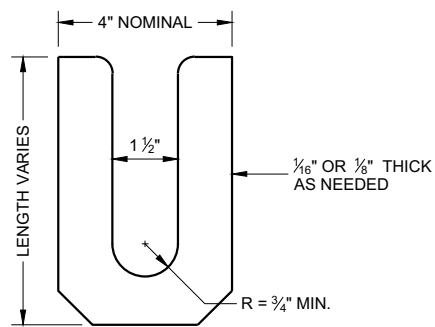
- ① 4" X 6" REINFORCED HANDHOLE AND COVER ASSEMBLY WITH TWO (2) 3/4" X 3/4" - 20 TPI , STAINLESS STEEL, HEX HEAD BOLTS.
- ② GROMMETS. 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1 3/8" HOLE IN POLE SHAFT FOR WIRING.
- ③ CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.
- ④ FURNISH AND INSTALL VENTILATED, CAST METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) 3/4" X 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.
- ⑤ SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND POLE.
- ⑥ INTERNAL DUMBBELL - TYPE VIBRATION DAMPER.



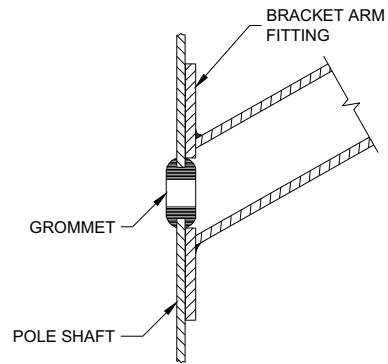
INTERCHANGEABLE MOUNTING DETAIL

**POLE MOUNTINGS FOR
LIGHTING UNITS, TYPE 5
(30 FEET)**

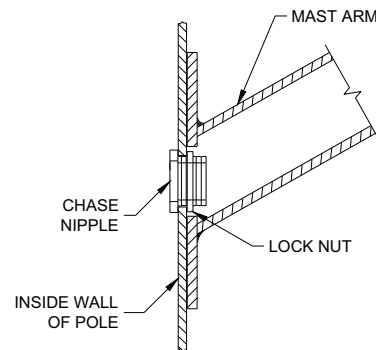
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 104



LEVELING SHIM
SHALL BE ALUMINUM



TYPICAL APPLICATION OF GROMMET IN POLE SHAFT



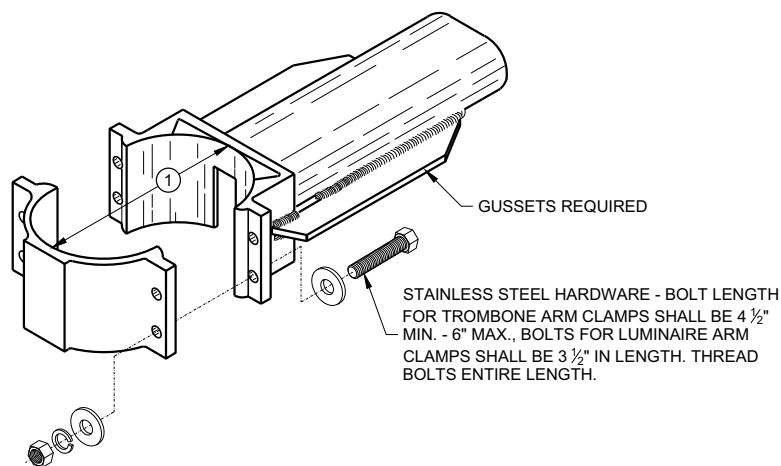
TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT

GENERAL NOTES

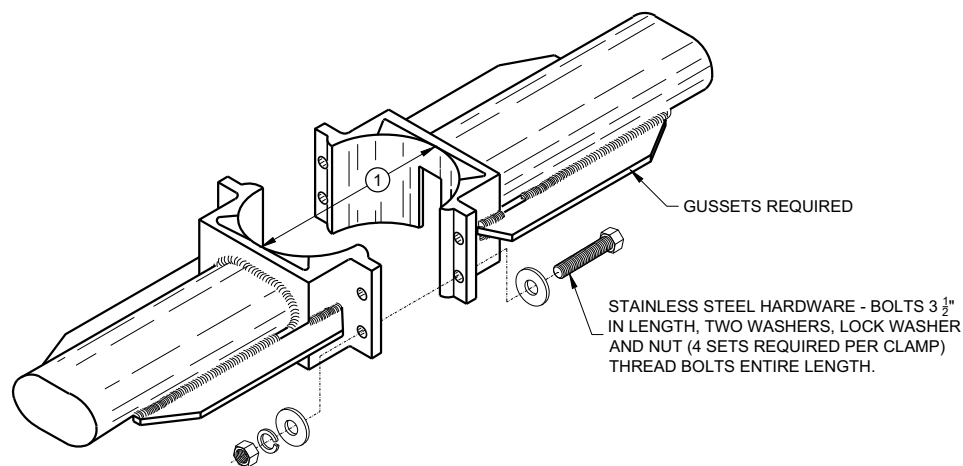
CLAMP BOLT-NUT TIGHTENING TORQUE SHALL BE INDICATED BY INDENT STAMPING (1/2 INCH NUMERALS AND LETTERS) OR WEATHERPROOF PRINTING ON THE INSIDE OF THE CLAMP THAT IS WELDED TO THE ARM MEMBER.

- ① 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP. 6.625" I.D. FOR TROMBONE MAST ARM CLAMP.
- ② INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)
- ③ BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.
- ④ LEVELING SHIMS, DESIGNED FOR THE PURPOSE, SHALL BE USED WHEN PLUMBING POLES. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE. LEVELING SHIMS SHALL BE USED ONLY BETWEEN THE TOP OF THE CONCRETE BASE AND A METALLIC BASE PLATE.

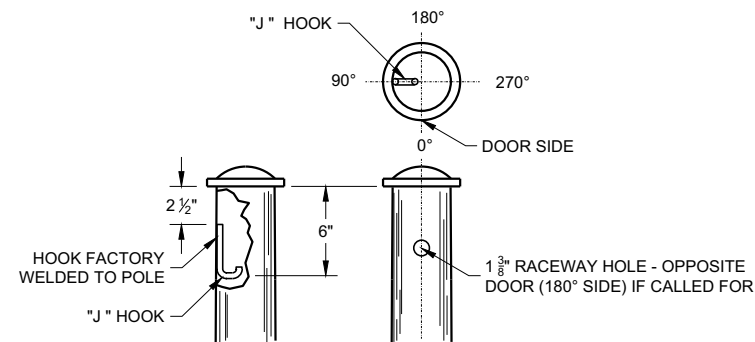
SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



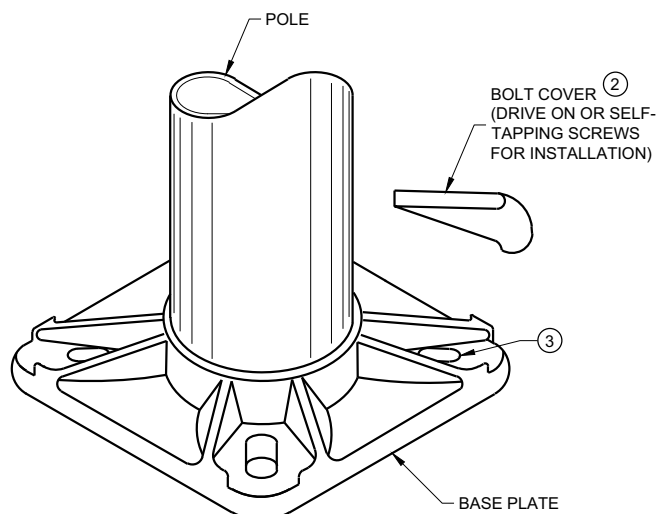
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



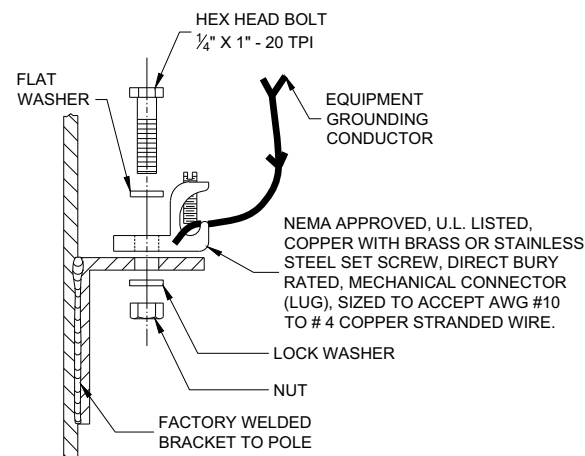
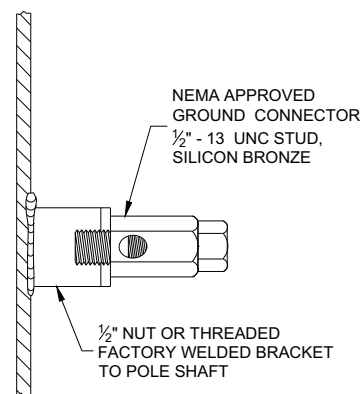
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS



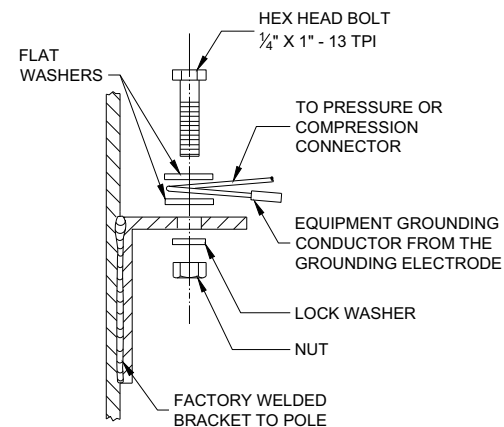
TYPICAL "J" HOOK LOCATION



BASE PLATE



TYPICAL GROUNDING CONNECTIONS
NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



HARDWARE DETAILS FOR POLE MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

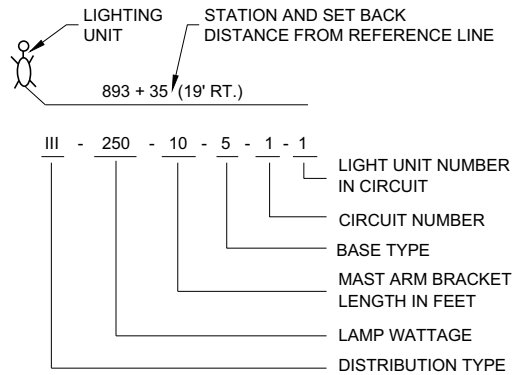
APPROVED
November 2018 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL ENGI 105
FHWA

GENERAL NOTES

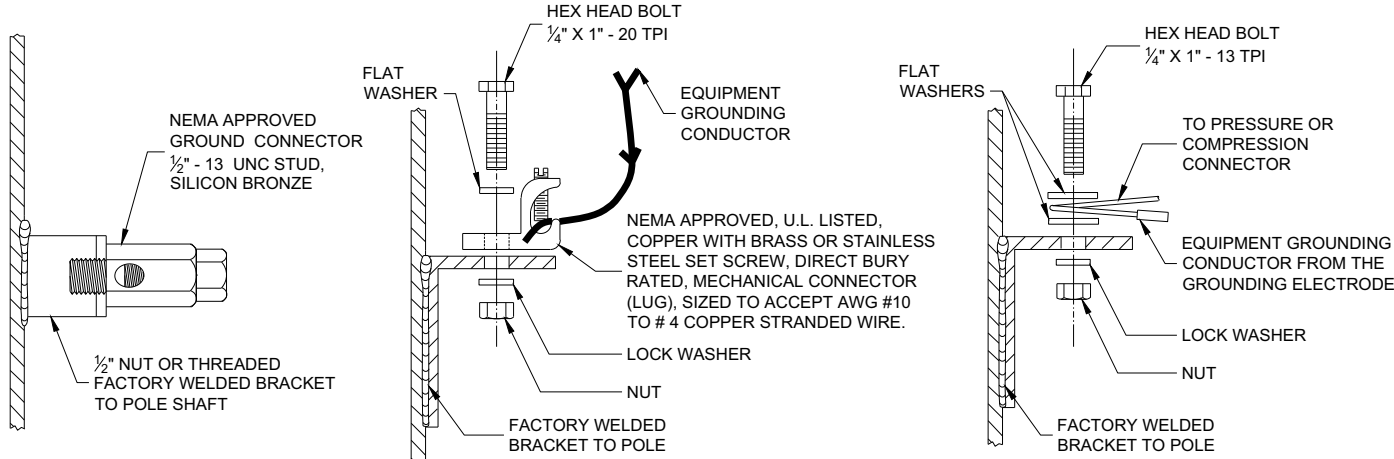
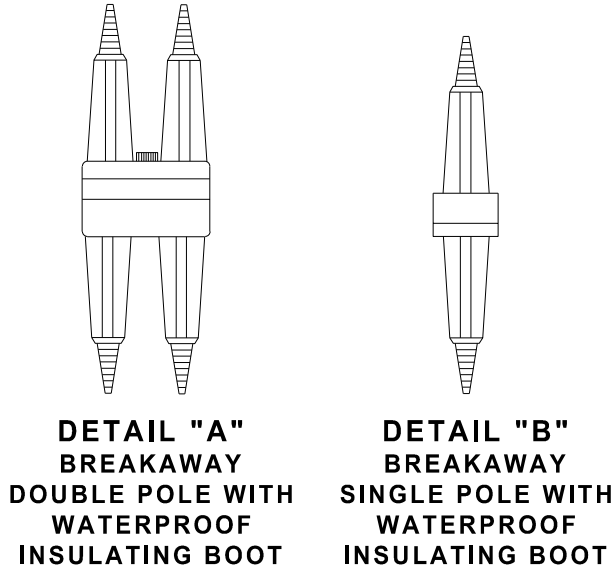
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

THE EQUIPMENT GROUND CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

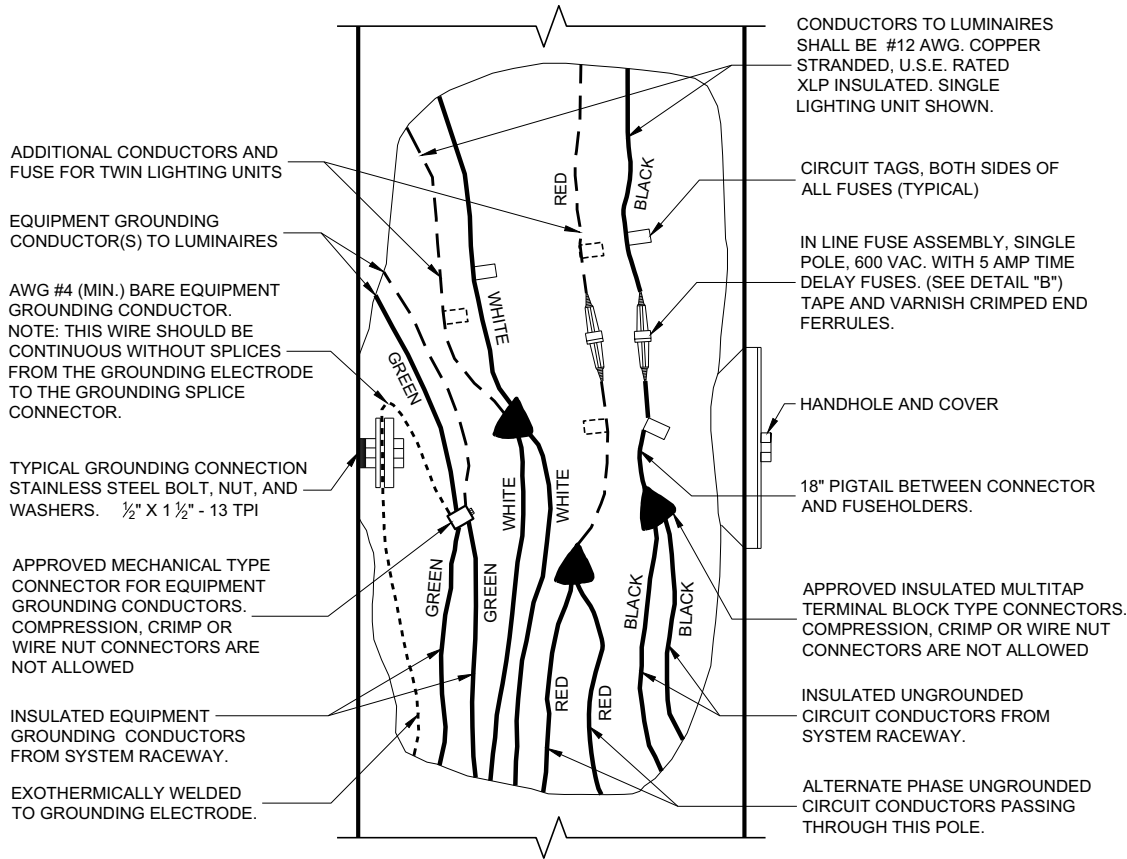
WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.



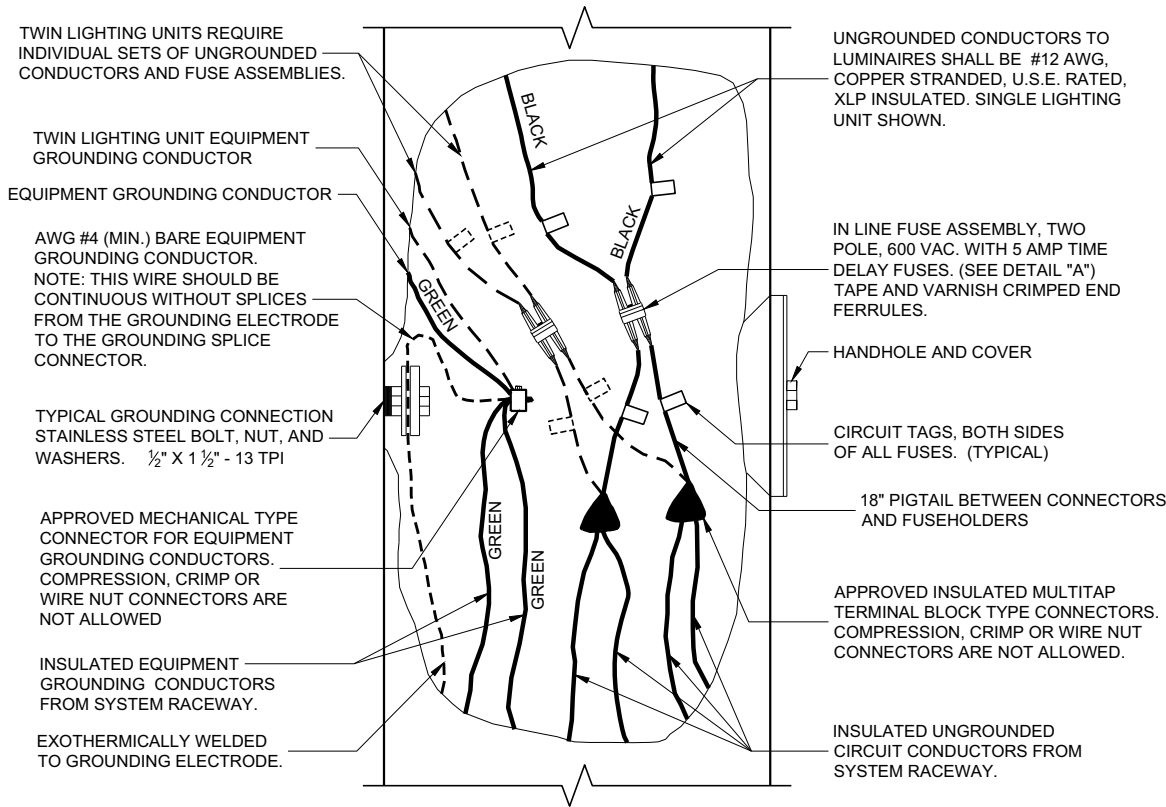
LIGHTING UNIT CODE
(TYPICAL)



TYPICAL GROUNDING CONNECTIONS
NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



3 WIRE - 120, 240 OR 480 VAC (UNGROUNDED CONDUCTORS)
WITH GROUNDING CONDUCTOR AND
EQUIPMENT GROUNDING CONDUCTOR



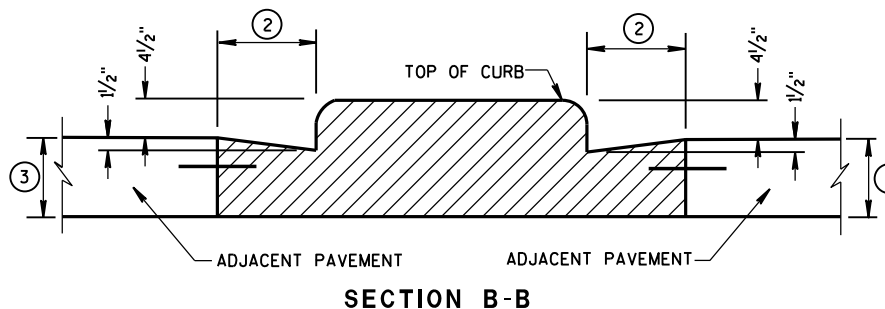
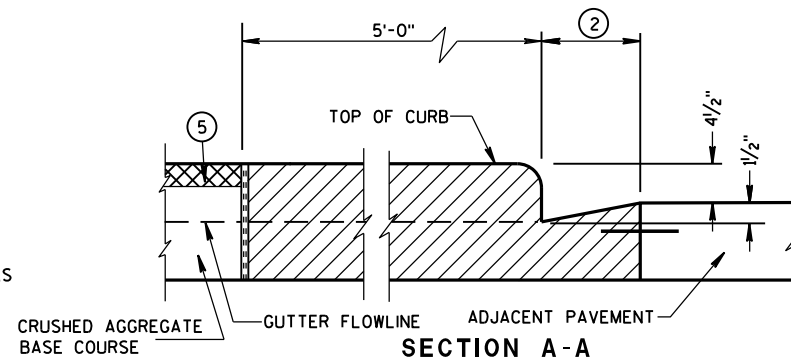
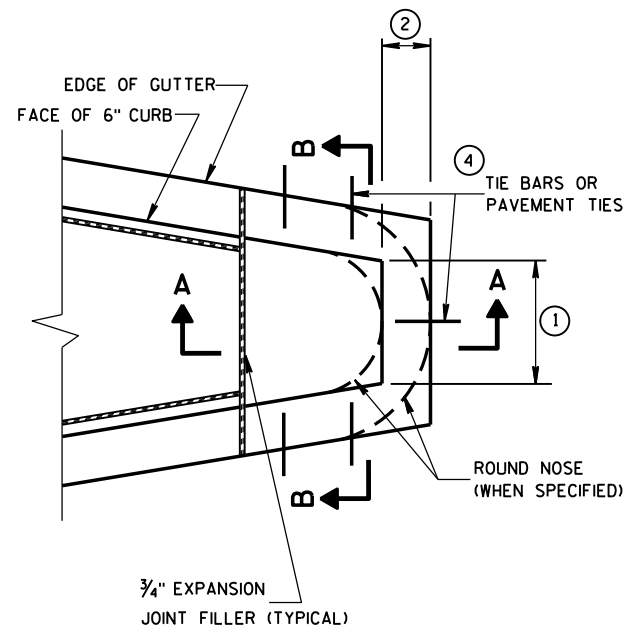
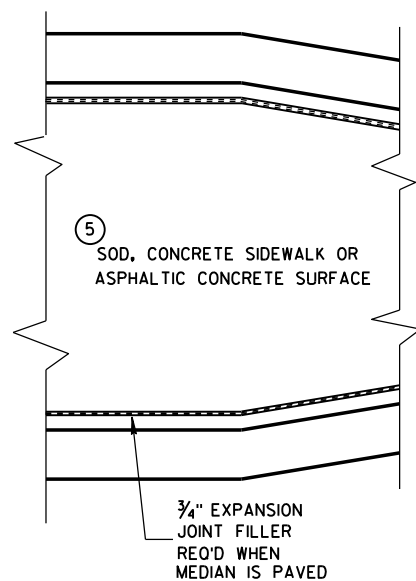
2 WIRE - 240 OR 480 VAC (UNGROUNDED CONDUCTORS)
WITH EQUIPMENT GROUNDING CONDUCTOR

NON - FREEWAY LIGHTING UNIT
POLE WIRING

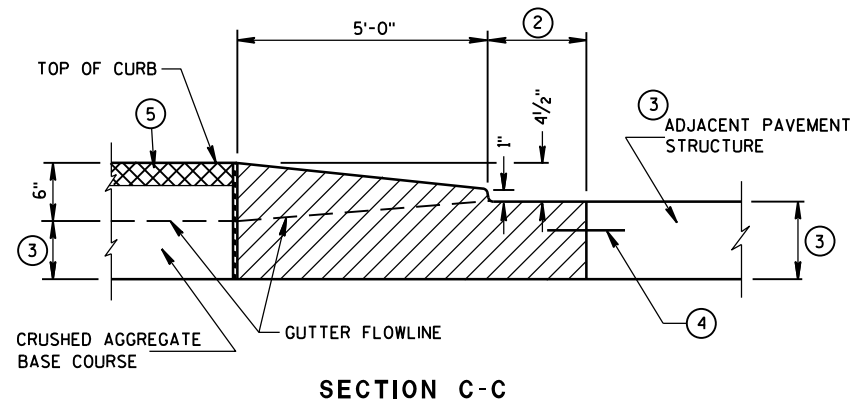
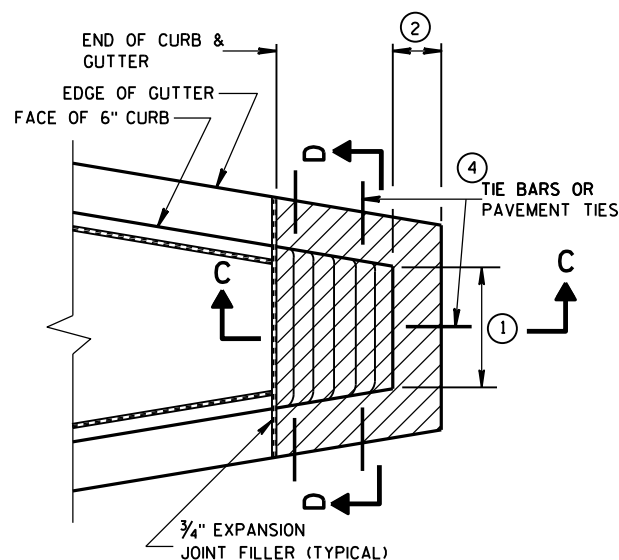
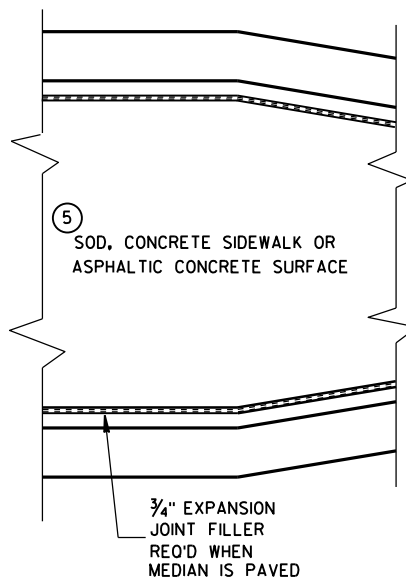
STATE OF WISCONSIN
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APPROVED
November 2018 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL ENGI 106

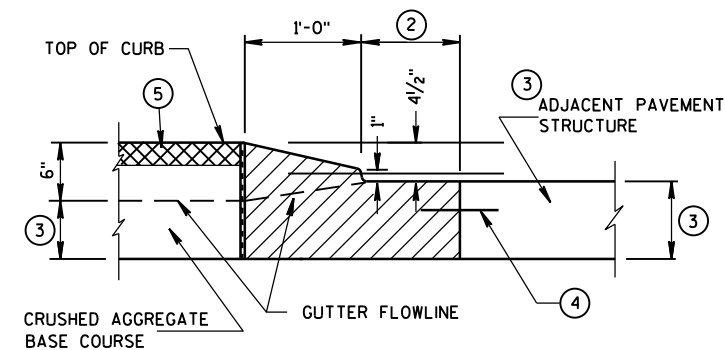
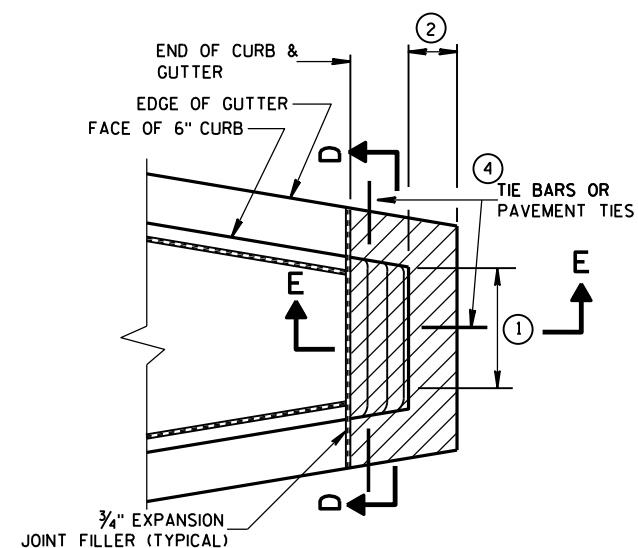
FHWA



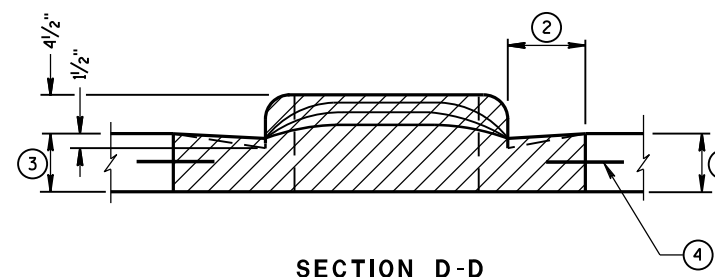
CONCRETE MEDIAN BLUNT NOSE DETAIL



CONCRETE MEDIAN SLOPED NOSE TYPE 1



CONCRETE MEDIAN SLOPED NOSE TYPE 2



GENERAL NOTES

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

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

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

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

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

CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

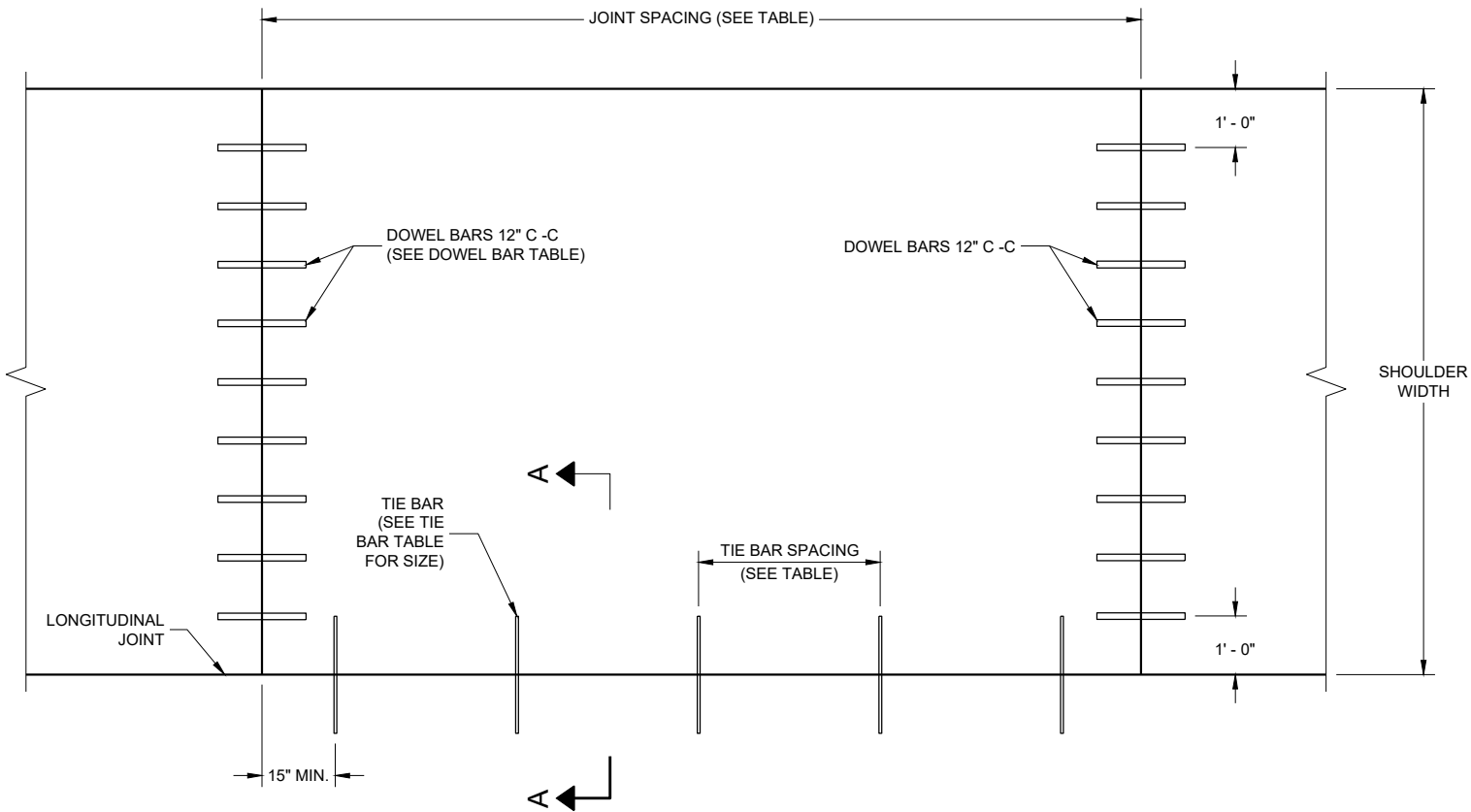
6/8/2006

DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS & ENGINEER

107



PLAN VIEW
CONCRETE PAVEMENT SHOULDER

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
<10 1/2"	NO. 4	30"	36"
>10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BATS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES).

** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

PAVEMENT DEPTH, DOWEL BAR SIZE
AND JOINT SPACING TABLE

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

*** FOR DOWELED CONCRETE SHOULDERS WITH TRAPEZOIDAL CROSS SECTIONS, CHOSE THE APPROPRIATE DOWEL BAR DIAMETER BASED ON THE SMALLER PAVEMENT DEPTH (LIKELY THE OUTSIDE EDGE OF THE SHOULDER). IF USING BASKETS, USE BASKETS FRO THE AVERAGE THICKNESS OF THE CROSS SECTION.

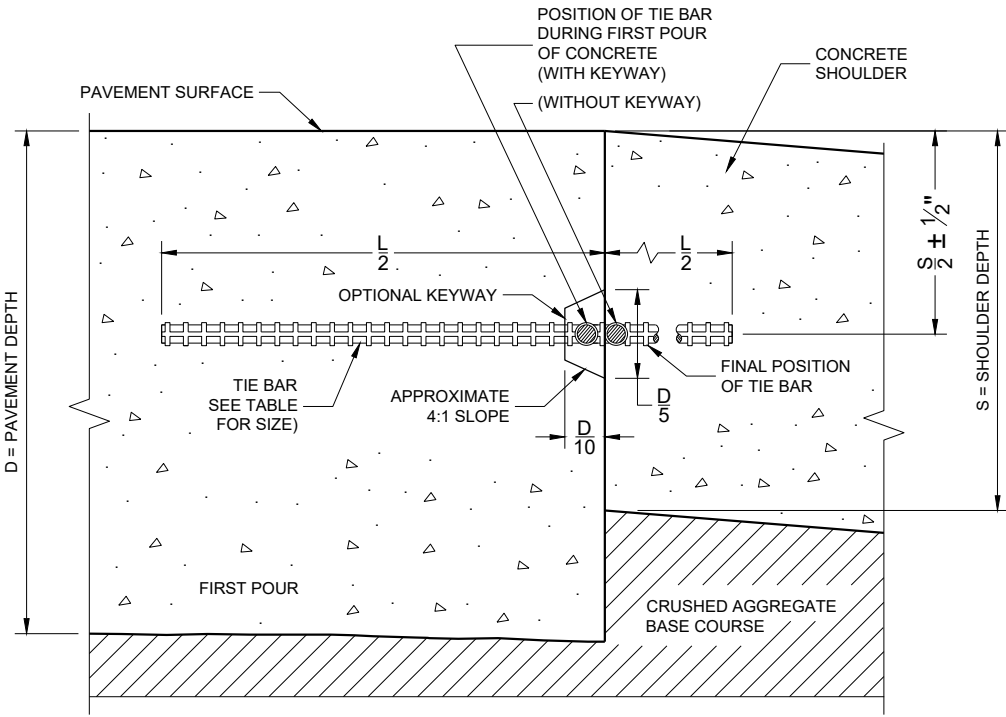
GENERAL NOTES

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

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE STANDARD SPECIFICATIONS.

TIE BARS SHALL CONFORM TO SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.

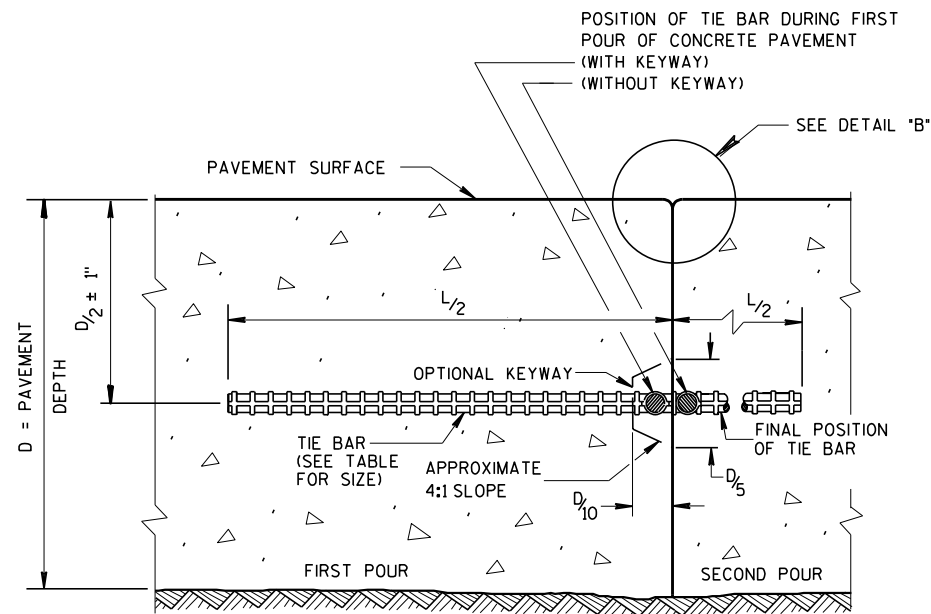


SECTION A - A
LONGITUDINAL CONSTRUCTION JOINT

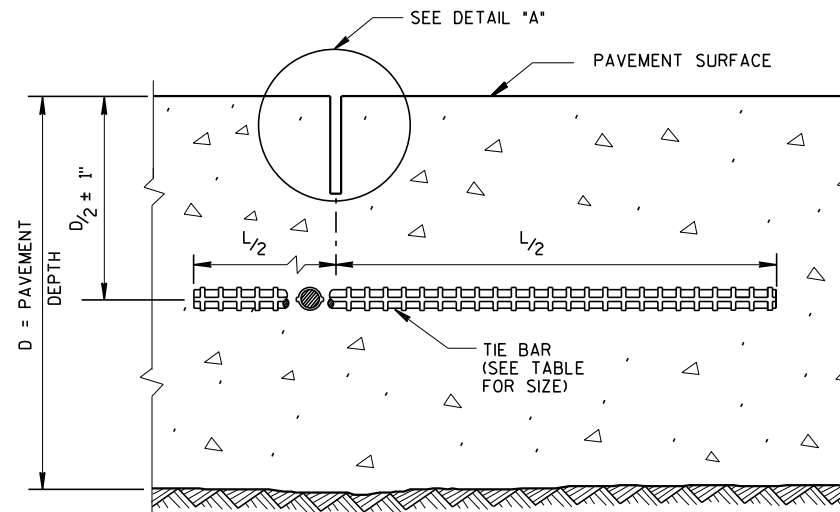
CONCRETE PAVEMENT
SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 /S/ Peter Kemp
DATE PAVEMENT SUPERVISOR 108
FHWA



CONSTRUCTION JOINT



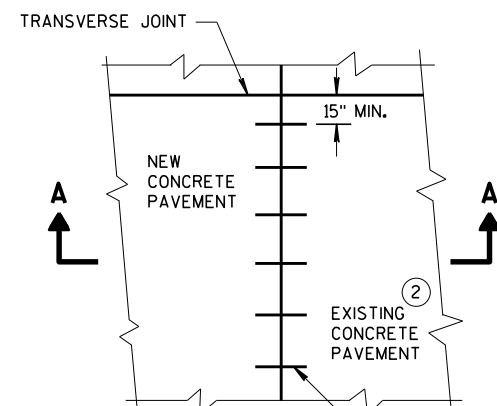
SAWED JOINT

GENERAL NOTES

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

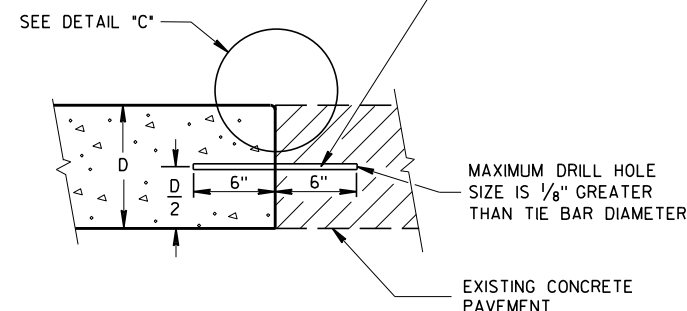
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

- ① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.
- ② PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

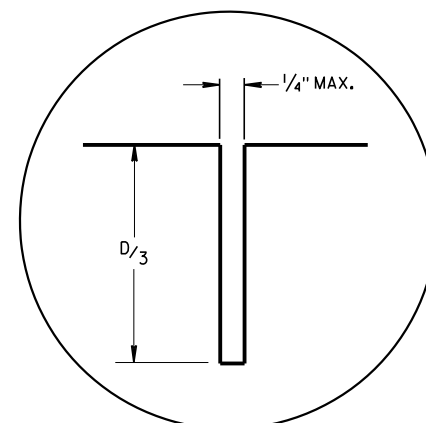


PLAN VIEW

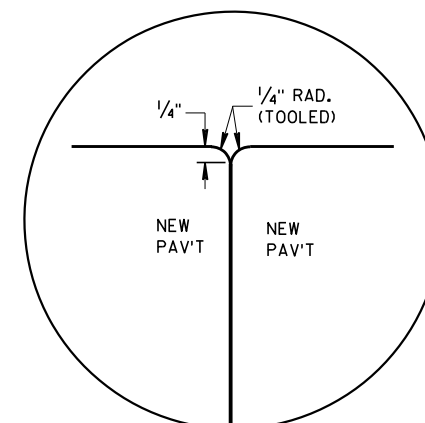
NO. 6 TIE BARS SPACED 30" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT. ①



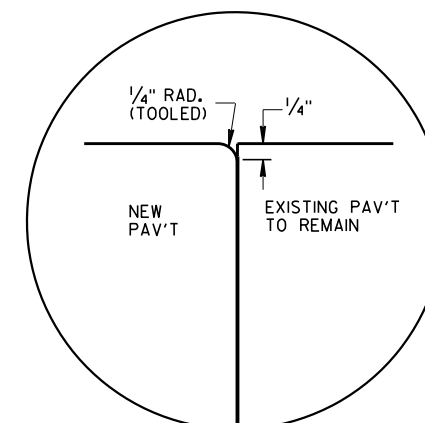
SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT
TIE BARS ANCHORED
INTO EXISTING PAVEMENT



DETAIL "A"



DETAIL "B"



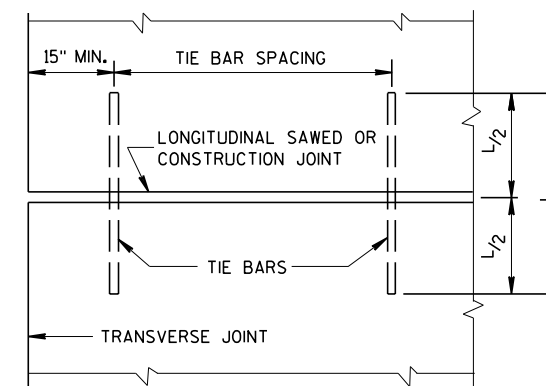
DETAIL "C"

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

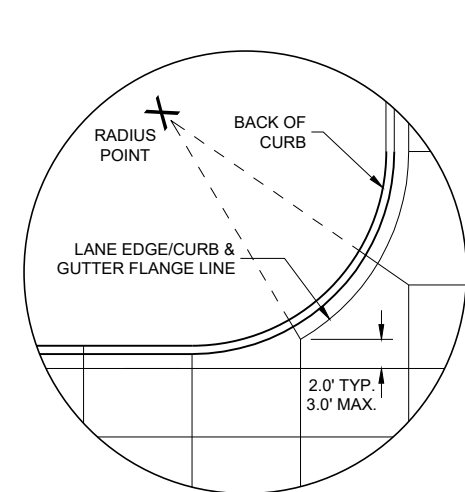


PLAN VIEW
SHOWING LOCATION OF TIE BARS

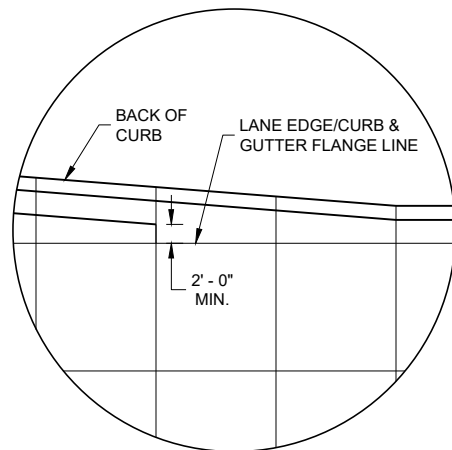
CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

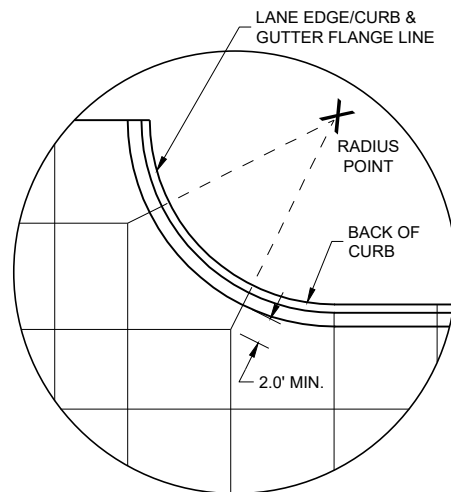
APPROVED
March 2018 /S/ Peter Kern
DATE PAVEMENT SUPE 109
FHWA



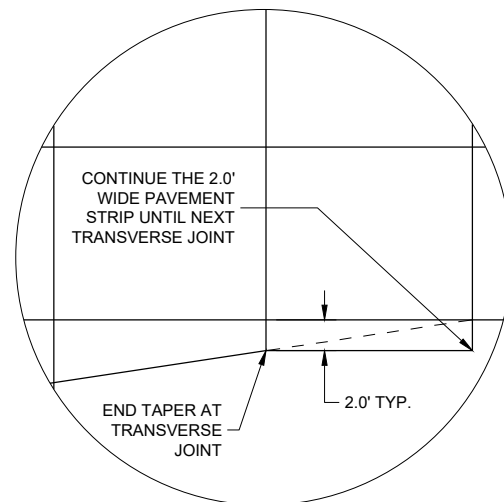
DETAIL "A"



DETAIL "B"



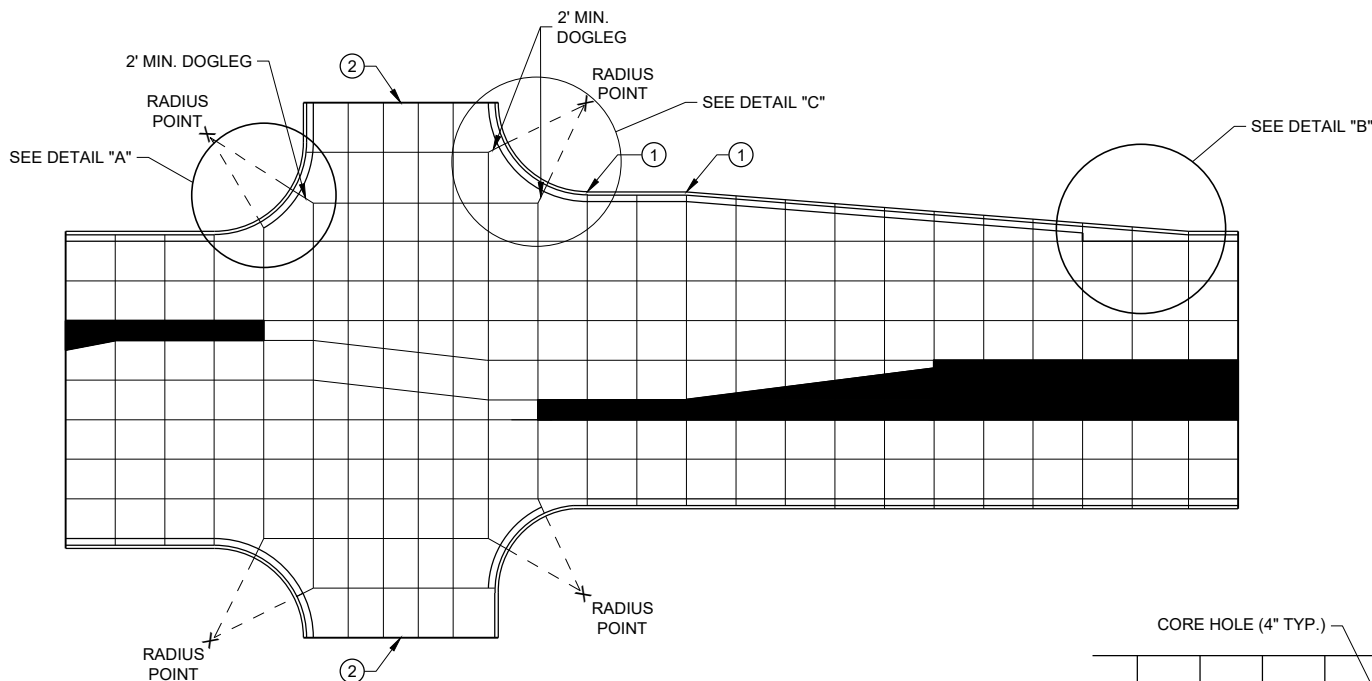
DETAIL "C"



DETAIL "D"

GENERAL NOTES

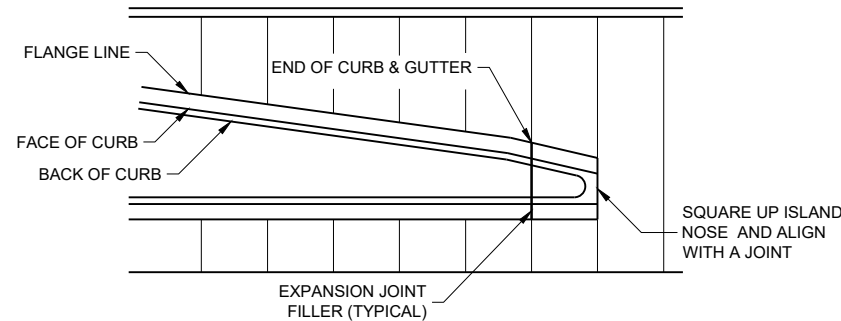
- THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.
- ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.
- CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.
- ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER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



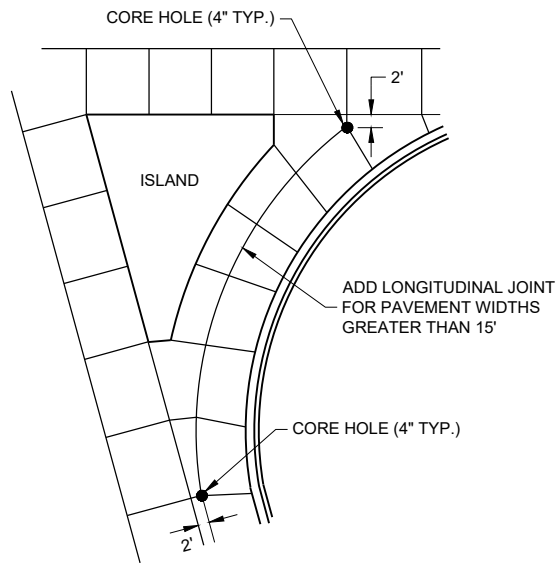
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

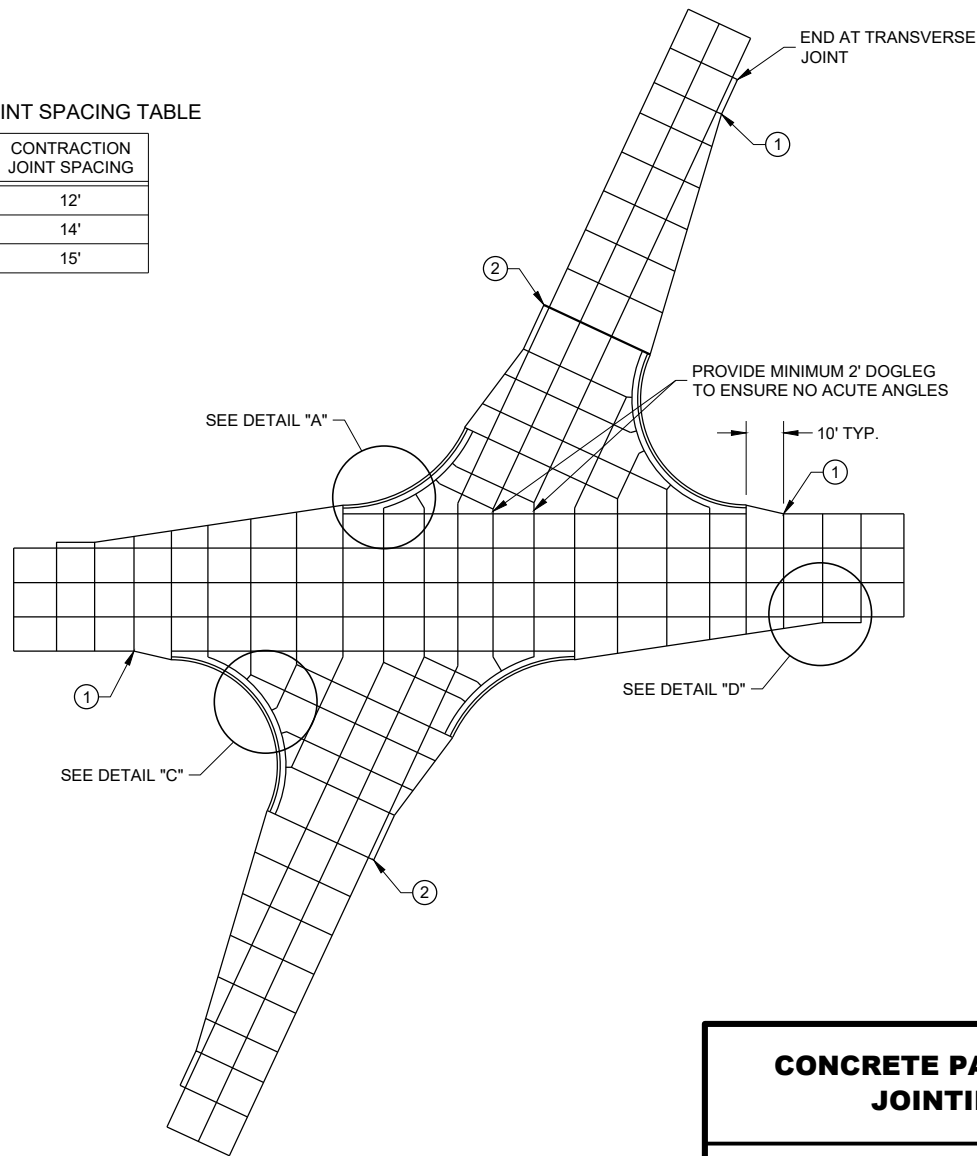
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 1/2"	12'
7", 7 1/2"	14'
8" & ABOVE	15'



APPROACH TO MEDIAN



LARGE RIGHT TURN



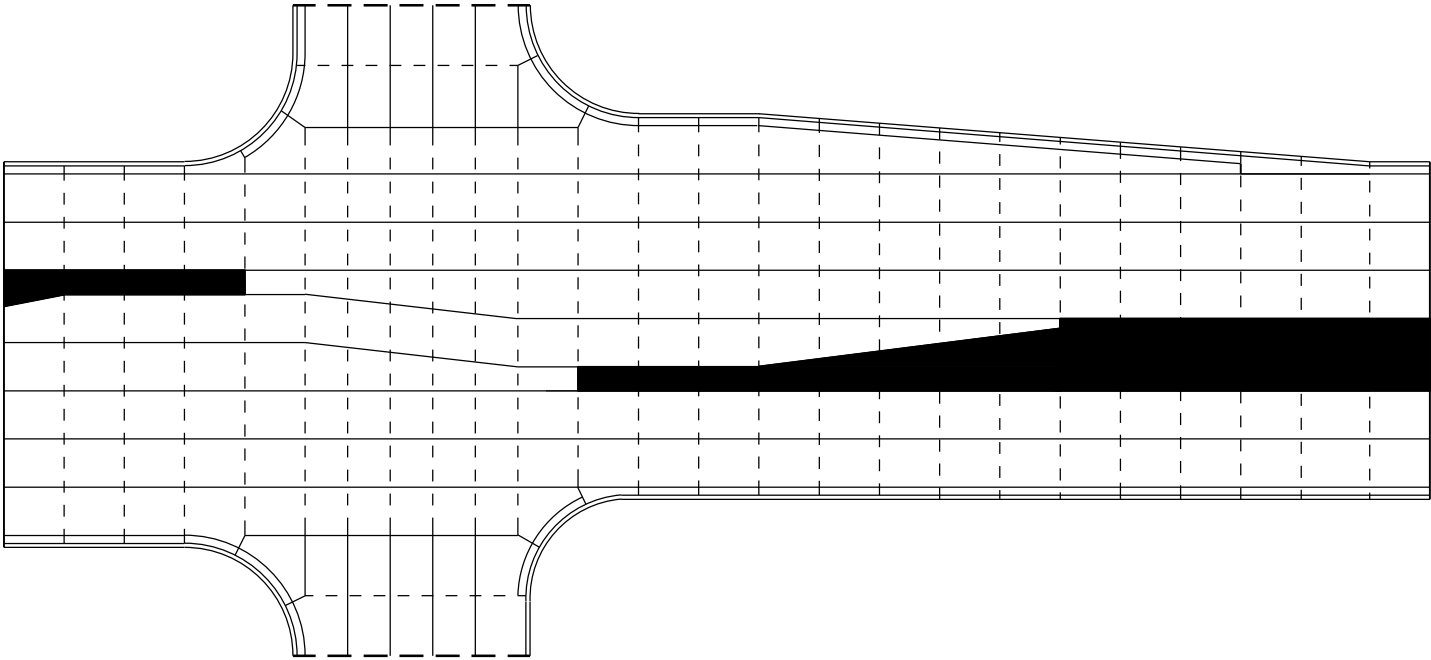
SKewed INTERSECTION

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

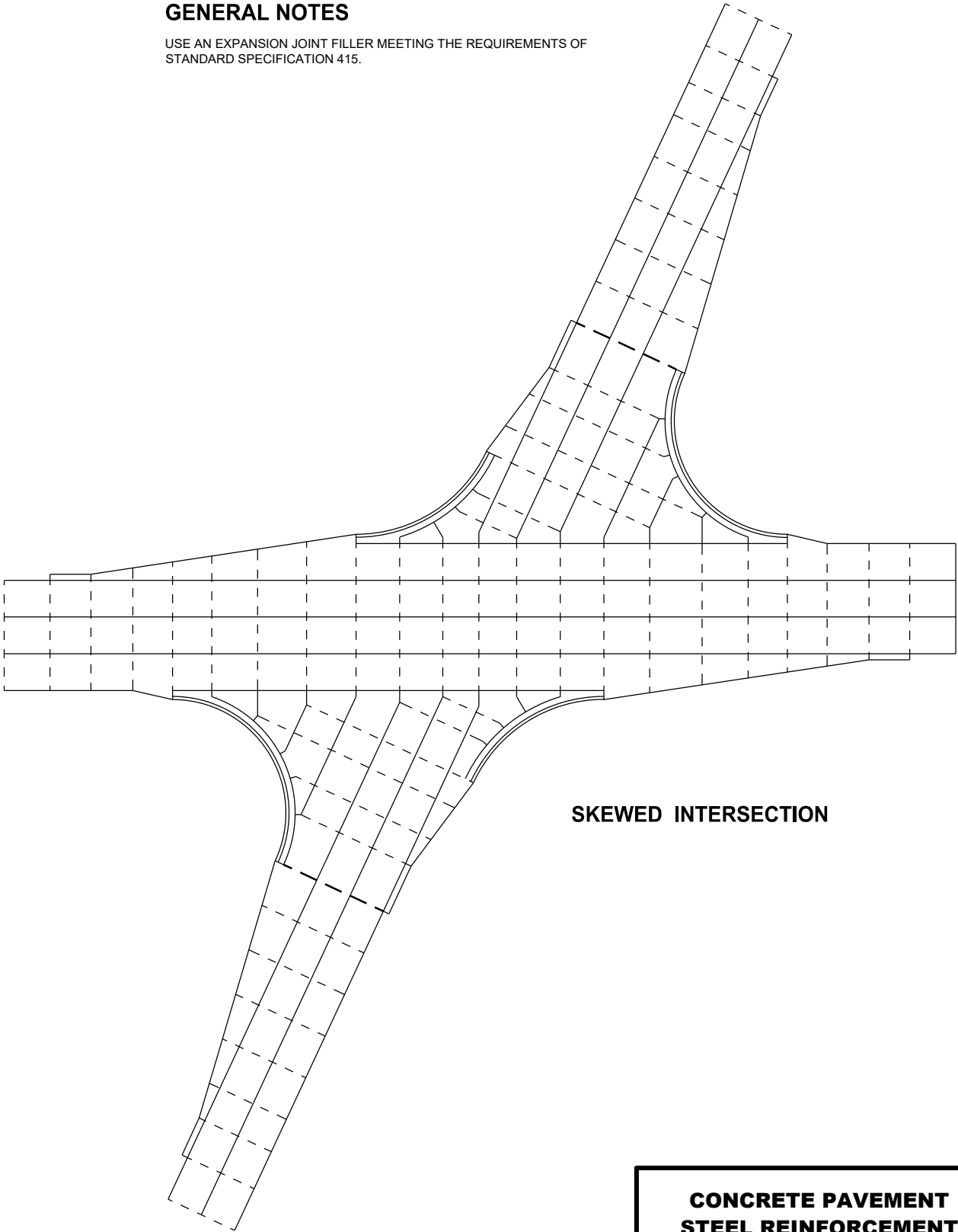
- POTENTIAL DOWELED EXPANSION JOINT
- DOWELED JOINT
- TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

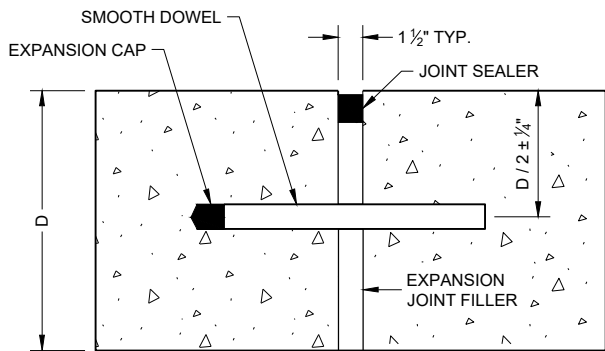
USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



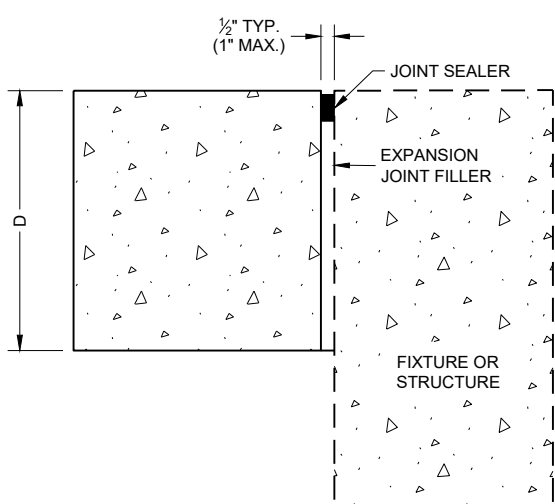
SKEWED INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 111

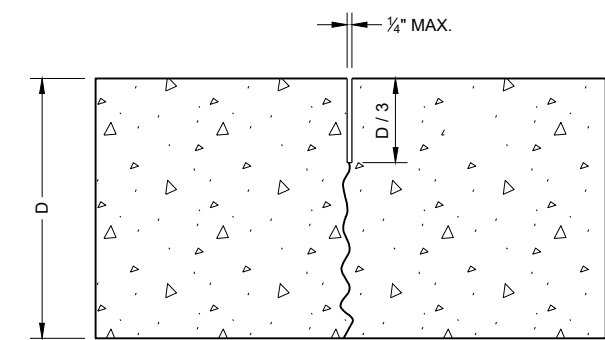


DOWELED TRANSVERSE ①

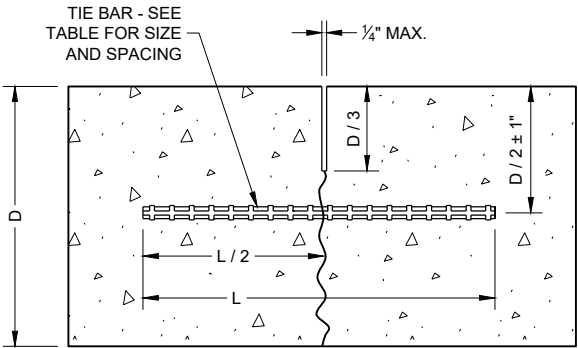


UNTIED - LONGITUDINAL

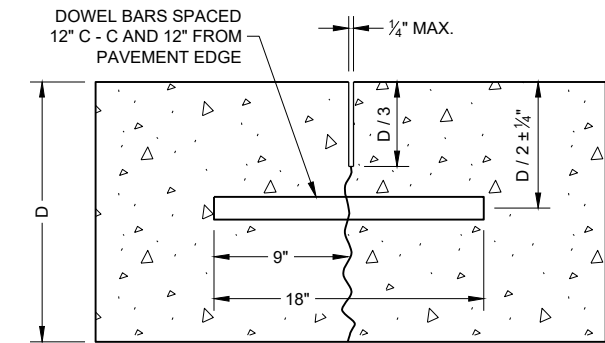
EXPANSION JOINTS



UNDOWELED TRANSVERSE



TIED LONGITUDINAL



DOWELED TRANSVERSE

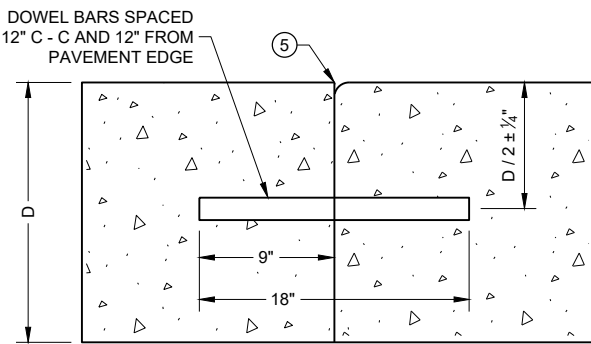
CONTRACTION JOINTS ②

TIE BAR TABLE

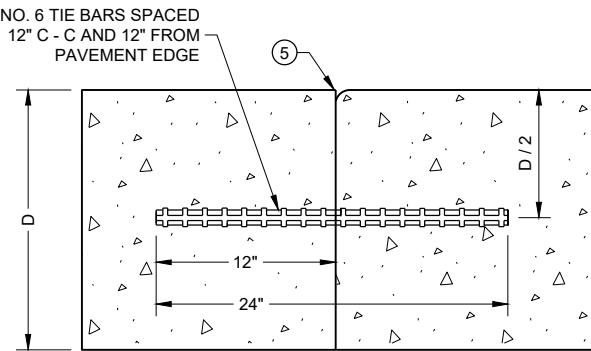
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

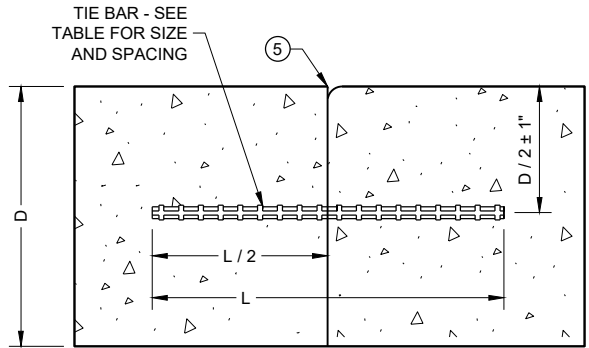


DOWELED TRANSVERSE ③

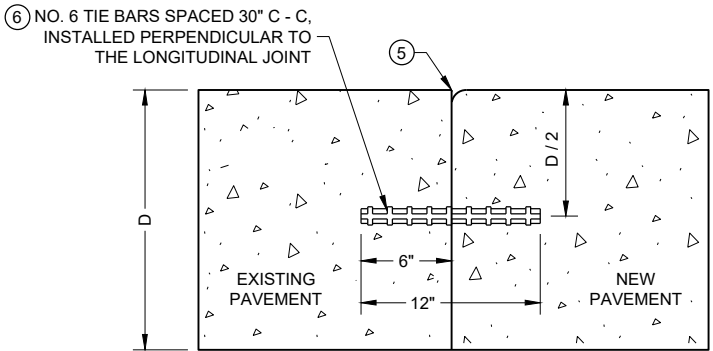


TIED TRANSVERSE ③
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)

CONSTRUCTION JOINTS ④



TIED LONGITUDINAL



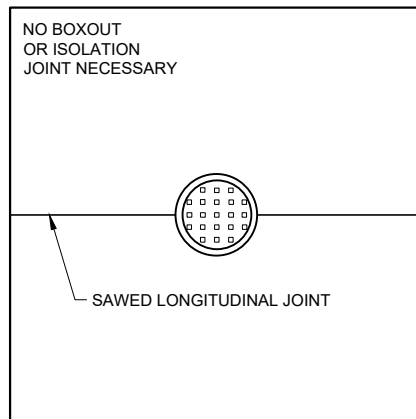
TIED LONGITUDINAL TO EXISTING

GENERAL NOTES

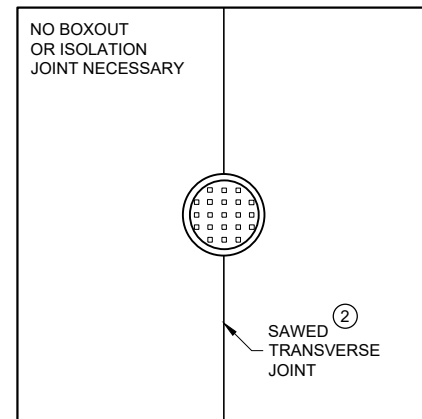
- ① USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
- ② SPACE CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C4, 13C11 OR 13C13.
- ③ LOCATE CONSTRUCTION JOINTS A MINIMUM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

CONCRETE PAVEMENT
JOINT TYPES

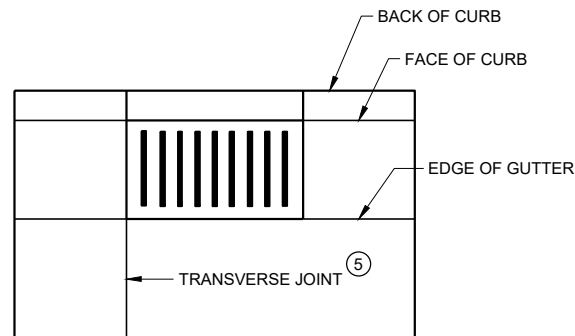
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**MANHOLE WITH
LONGITUDINAL JOINT**



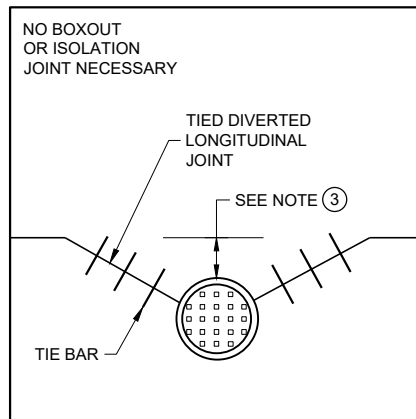
**MANHOLE WITH
TRANSVERSE JOINT**



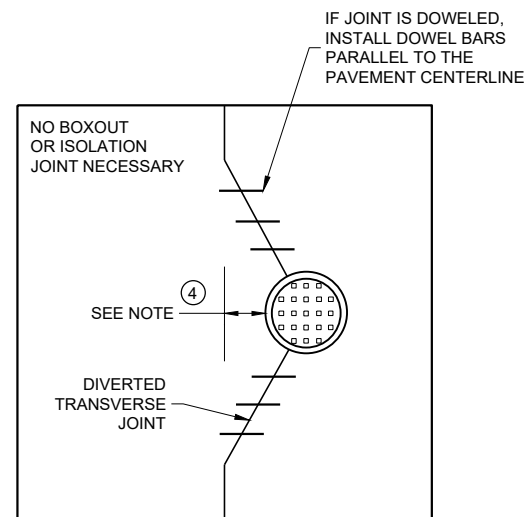
**INLET WITH
TRANSVERSE JOINT**

GENERAL NOTES

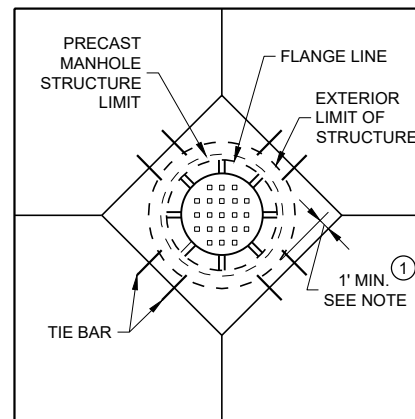
- ① USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1 FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.
- ② ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.
- ③ IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE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



**MANHOLE WITH DIVERTED
LONGITUDINAL CONTRACTION JOINT**



**MANHOLE WITH DIVERTED
TRANSVERSE CONTRACTION JOINT**



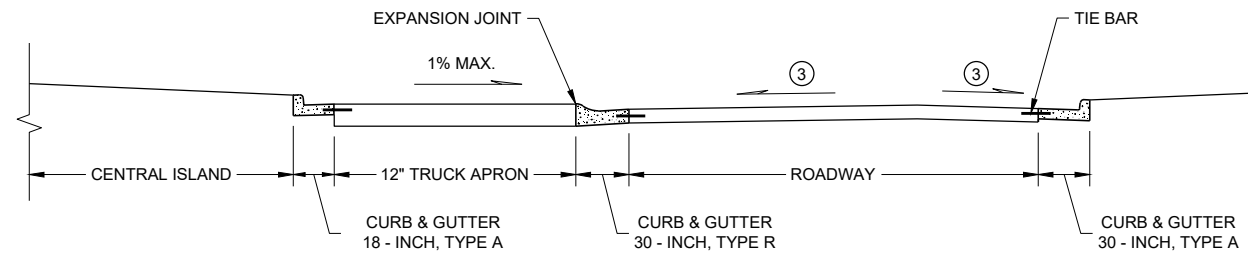
**DIAGONAL MANHOLE BOXOUT
FOR CONSTRUCTION JOINTS**

**CONCRETE PAVEMENT
JOINTING AT UTILITY
FIXTURES**

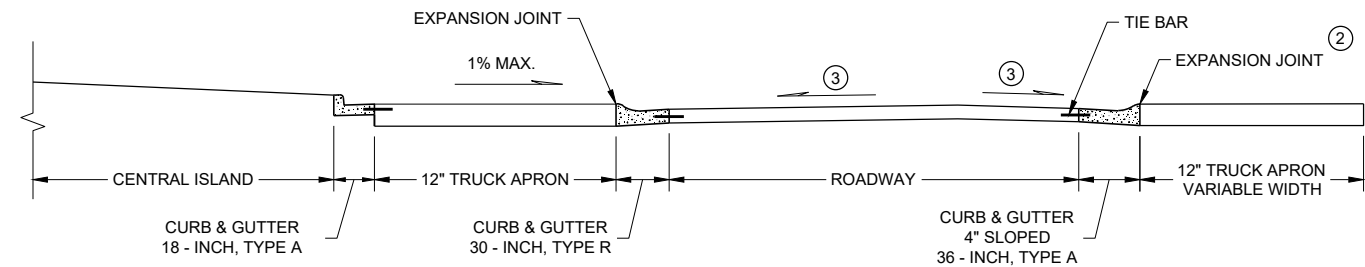
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Peter Kemp P.E.
DATE PAVEMENT SUPERVISOR 113

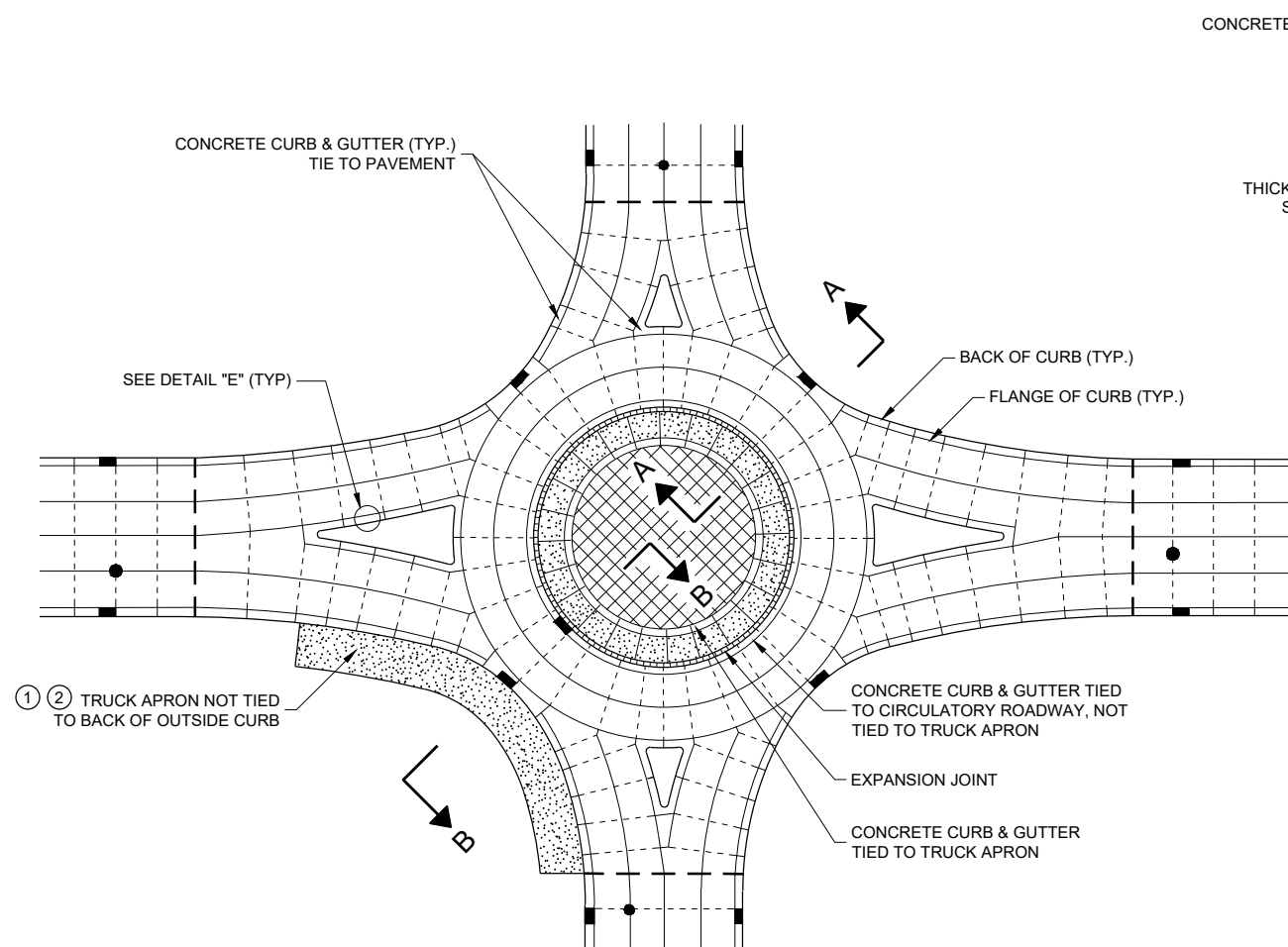
FHWA



SECTION A - A



SECTION B - B

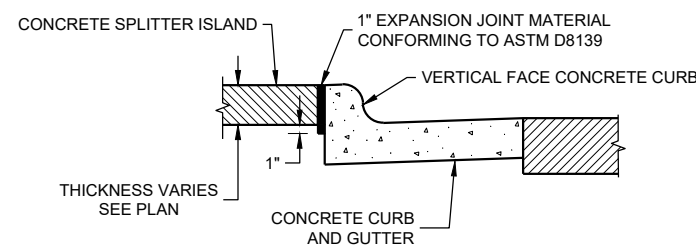


ISOLATED CIRCLE JOINT LAYOUT FOR ROUNDABOUTS

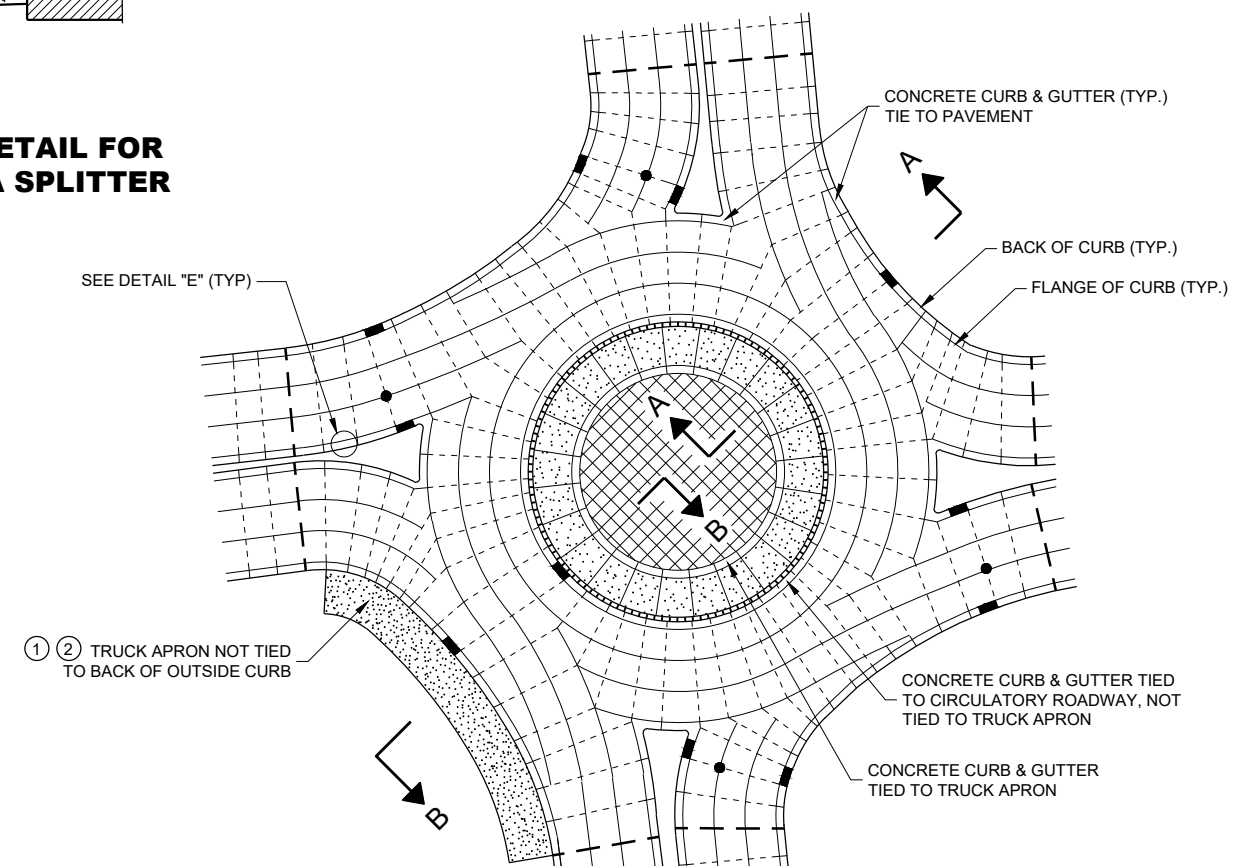
GENERAL NOTES

MAXIMUM JOINT SPACING IS IN ACCORDANCE WITH THE TABLE SHOWN ON SDD 13C18 - SHEET "a"
 USE EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.
 DO NOT DOWEL OR TIE THE TRUCK APRON TRANSVERSE JOINTS.

- ① DESIGNER DETERMINES SIZE AND LOCATION(S) OF TRUCK APRON TO ACCOMMODATE TRACKING OF OVERSIZE / OVERWEIGHT VEHICLES.
- ② TIE THE OUTSIDE TRUCK APRON TO THE BACK SIDE OF CURB ONLY WHEN ENTIRE TRUCK APRON IS LESS THAN 3 FEET.
- ③ CONFORM TO PLAN CONSTRUCTION DETAILS FOR CIRCULATORY ROADWAY CROSS SLOPE.



**DETAIL 'E'
EXPANSION JOINT DETAIL FOR
VERTICAL CURB AT A SPLITTER
ISLAND**



PINWHEEL JOINT LAYOUT FOR ROUNDABOUTS

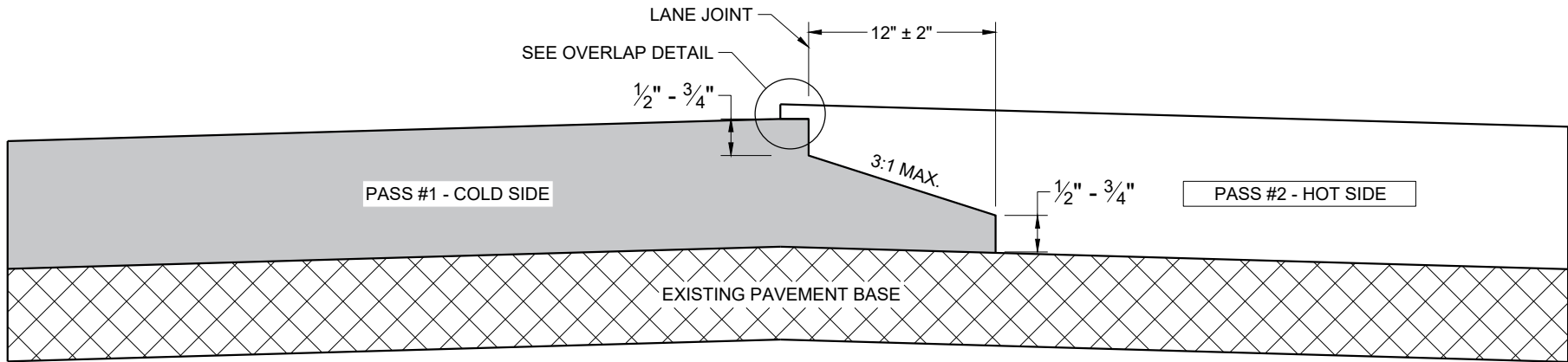
LEGEND

- | | | | |
|---------|-----------------------------------|-----|--------------------|
| ----- | DOWELED JOINT | | TRUCK APRON |
| ———— | TIED JOINT | | CENTRAL ISLAND |
| ===== | EXPANSION JOINT | ■ ● | UTILITY STRUCTURES |
| — — — — | POTENTIAL DOWELED EXPANSION JOINT | | |

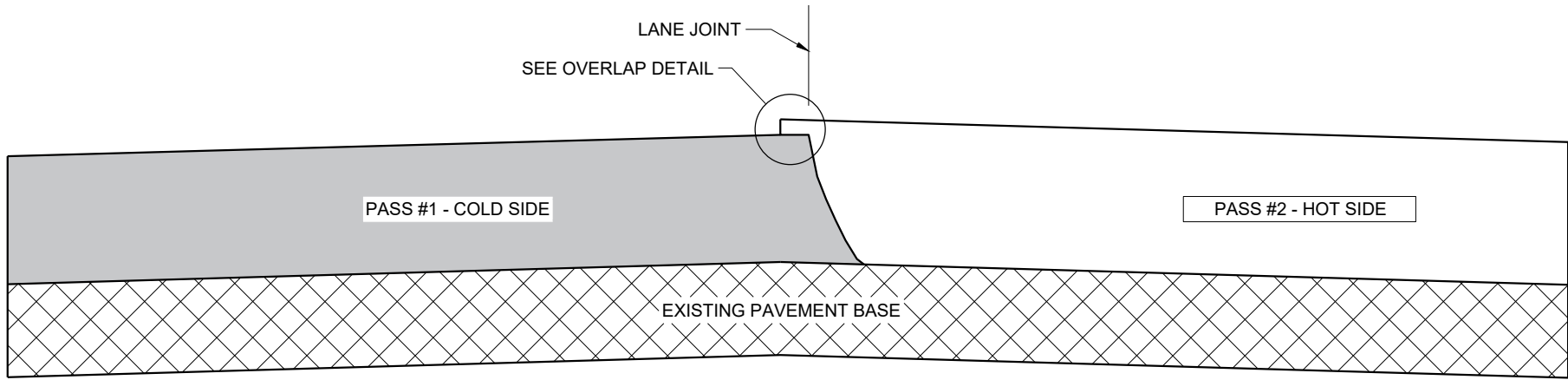
**CONCRETE PAVEMENT JOINTING
AND STEEL REINFORCEMENT
IN ROUNDABOUTS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

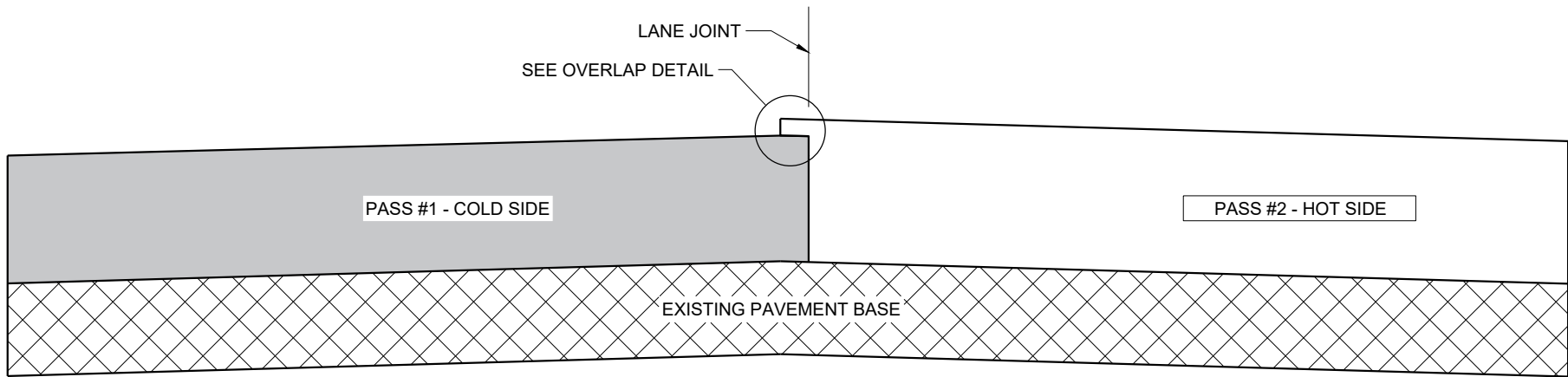
APPROVED
May 2023 /S/ Peter Kemp P.E.
DATE PAVEMENT SUPERVISOR 114
FHWA



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

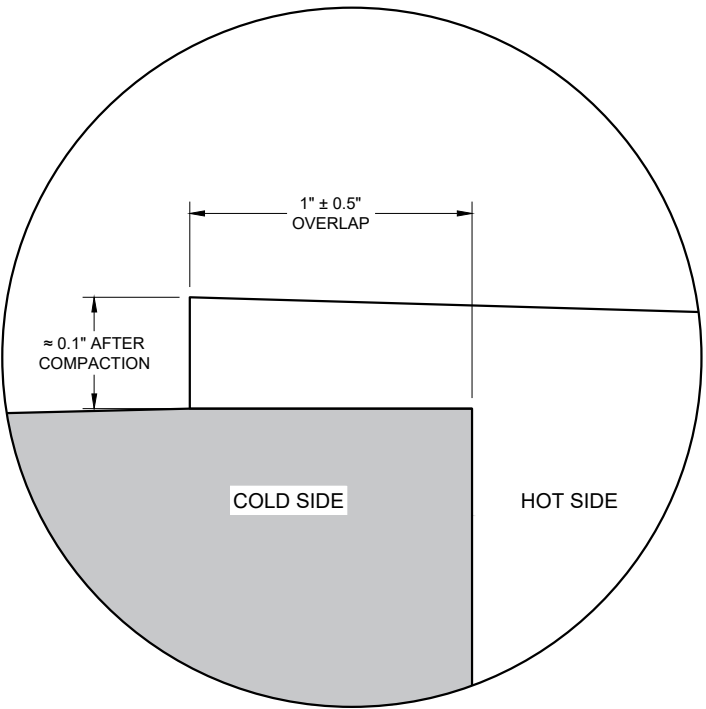
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY $1" \pm 0.5"$ 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.



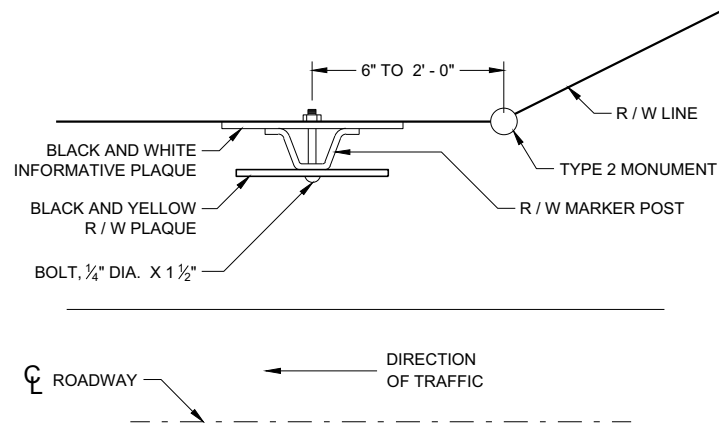
OVERLAP DETAIL (TYPICAL)

HMA LONGITUDINAL JOINTS

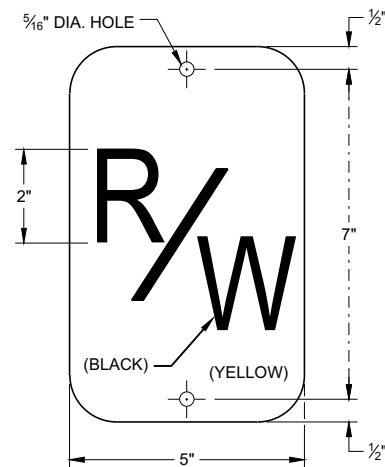
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020 /S/ Steven Hefel
DATE HMA PAVEMENT ENGIN 115

FHWA

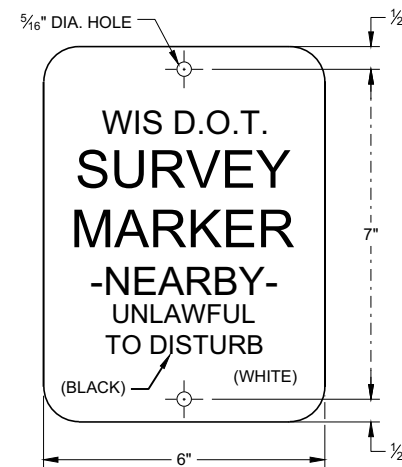


**PLAN VIEW
STEEL MARKER POST**



R / W PLAQUE

THE RIGHT-OF-WAY PLAQUE AND INFORMATIVE PLAQUE WILL BE FURNISHED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.



INFORMATIVE PLAQUE

GENERAL NOTES

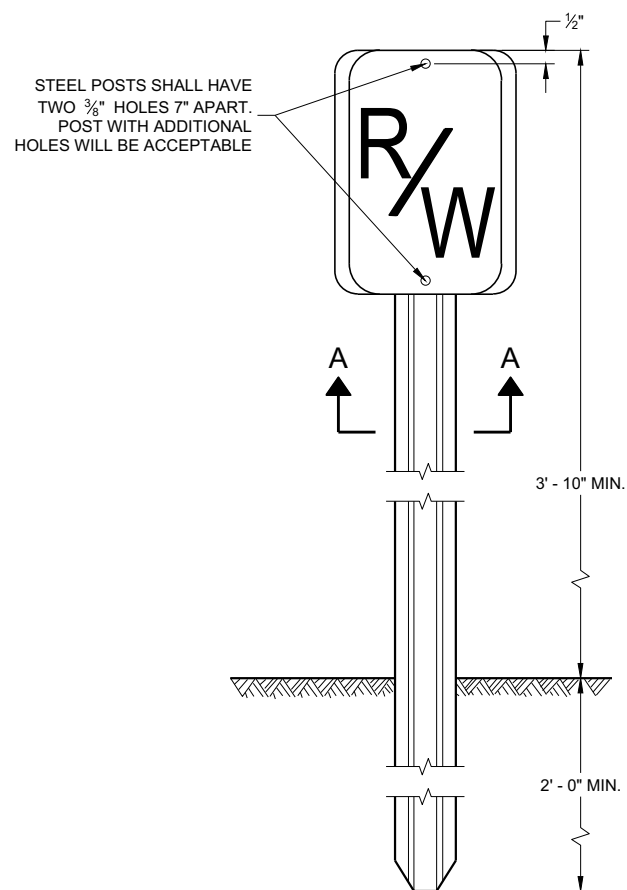
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

A STEEL MARKER POST FOR RIGHT -OF-WAY SHALL BE PLACED IN THE RIGHT-OF-WAY WITH THE BACK OF THE POST ON THE LONGER RIGHT-OF-WAY TANGENT, 6 INCHES TO 24 INCHES FROM EACH TYPE 2 MONUMENT TO SERVE AS A GUARD POST, AND AT OTHER LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

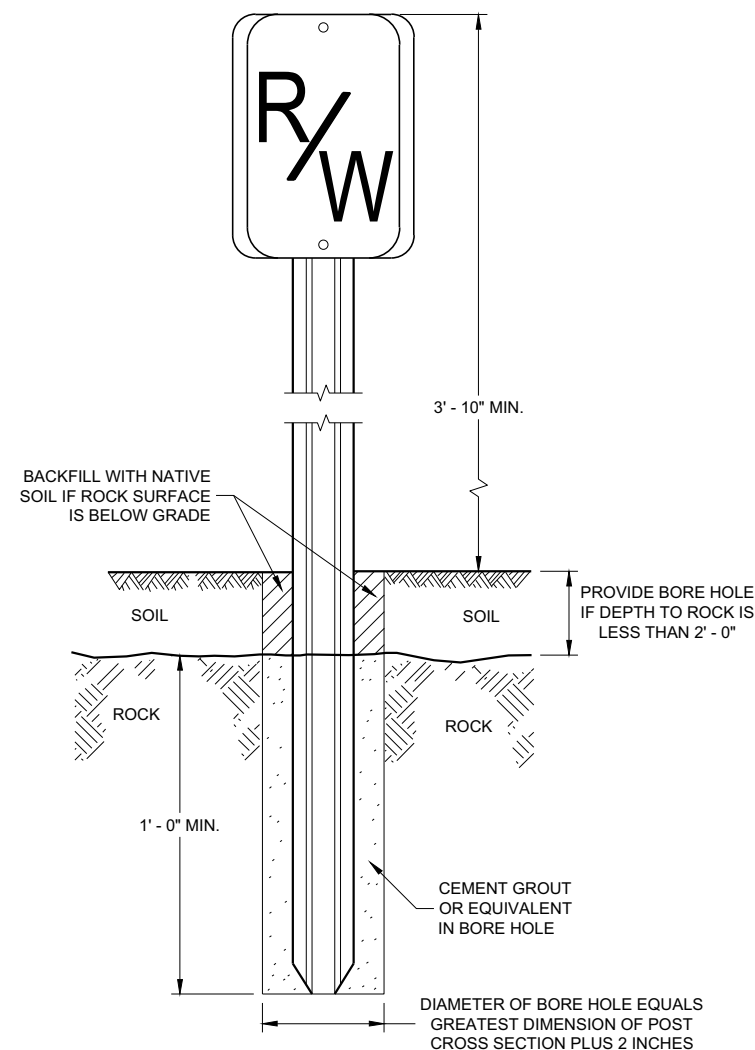
THE "R/W" PLAQUE SHALL FACE THE ROADWAY AND THE INFORMATIVE PLAQUE SHALL FACE AWAY FROM THE ROADWAY. "R/W" AND INFORMATIVE PLAQUES WILL BE FURNISHED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

STEEL MARKER POSTS SHALL MEET THE MINIMUM MATERIAL REQUIREMENTS FOR STEEL DELINEATOR POSTS; EXCEPT POSTS PAINTED WITH FEDERAL YELLOW ENAMEL NEED NOT BE ZINC COATED.

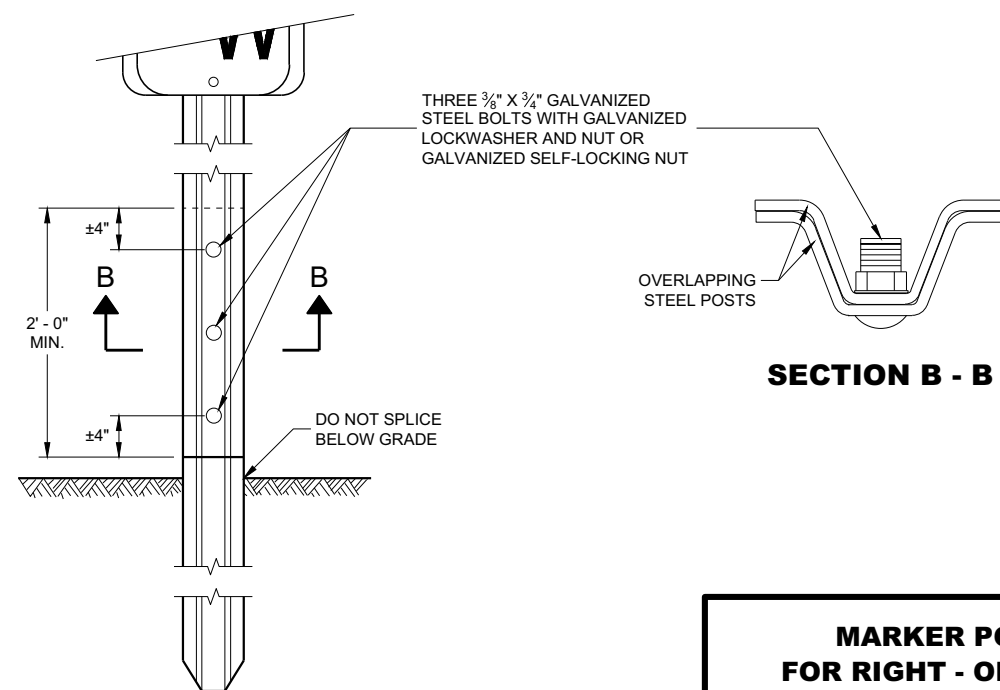
- ① IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK A MINIMUM DEPTH OF 12 INCHES. CUT OR SPLICE THE POST SO THAT A MINIMUM LENGTH OF 3' - 10" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR. FILL THE BORE HOLE WITH CEMENT GROUT OR EQUIVALENT, DEPENDING ON THE STABILITY OF THE ROCK.



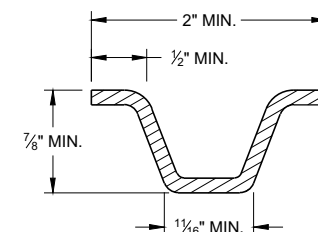
**FRONT VIEW
STEEL MARKER POST**



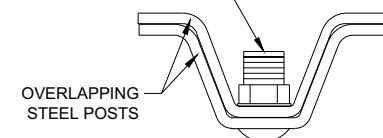
**FRONT VIEW
ROCK INSTALLATION ①**



**FRONT VIEW
SPLICE DETAIL**



MIN. WEIGHT 1.12 LB./FT.
SECTION A - A

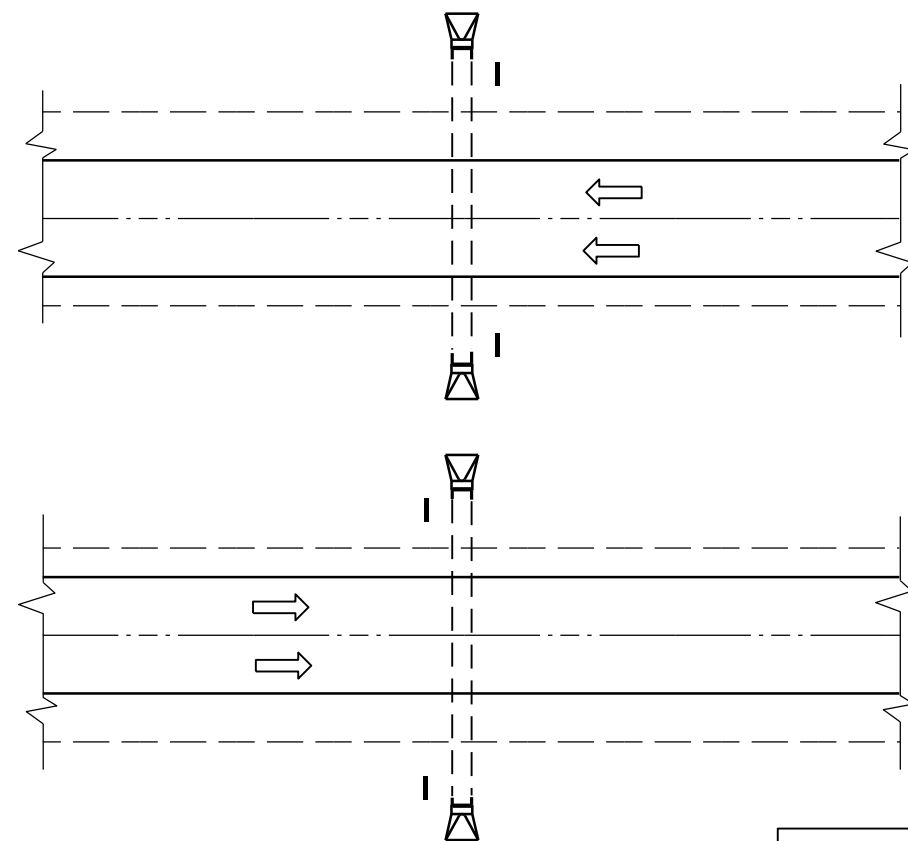


SECTION B - B

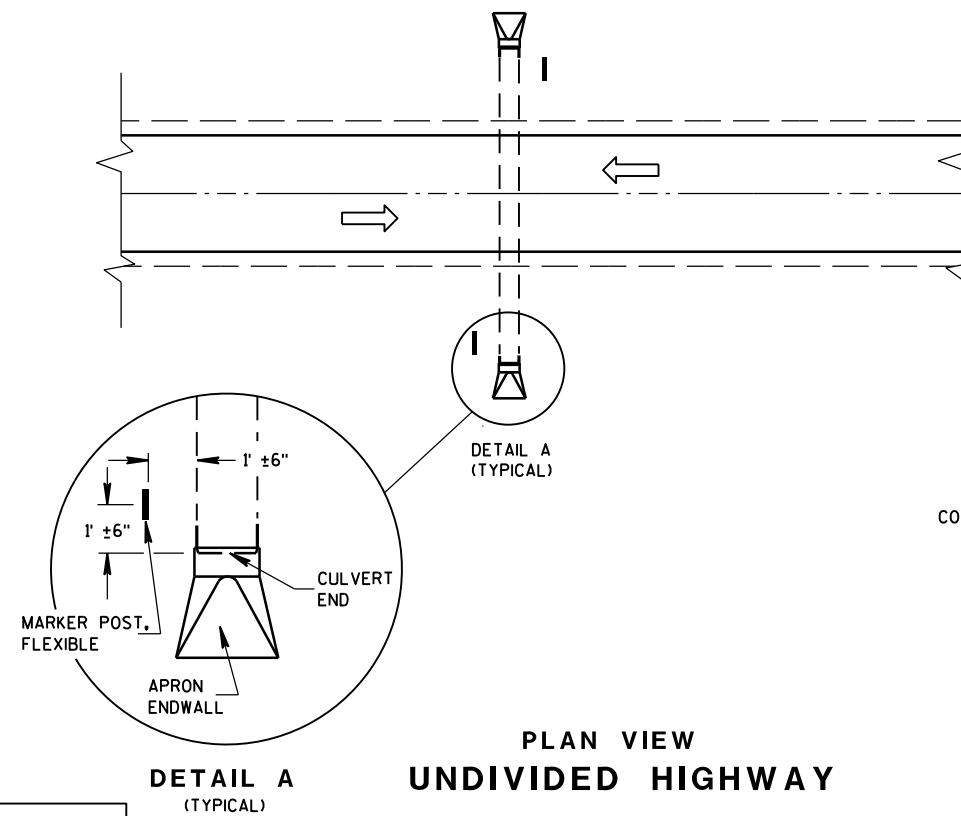
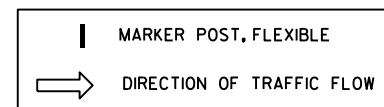
MARKER POST FOR RIGHT - OF - WAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/18/2016 DATE /S/ Ray Kumapayi
DATE CHIEF SURVEYING AND MAPPING ENGINEER 116
FHWA



PLAN VIEW
DIVIDED HIGHWAY

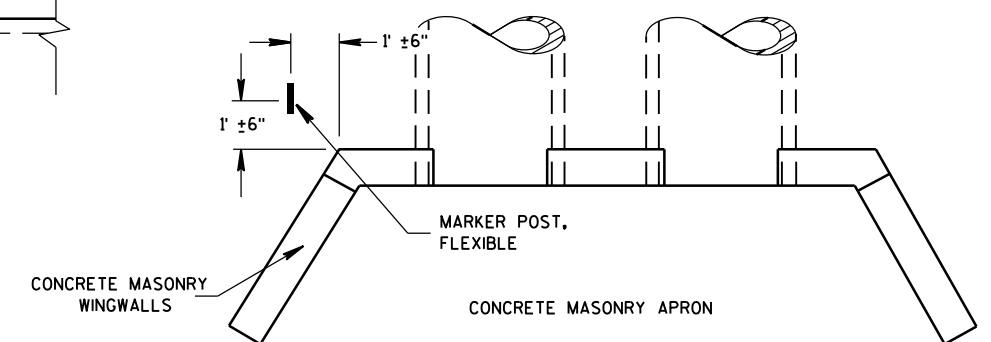


PLAN VIEW
UNDIVIDED HIGHWAY

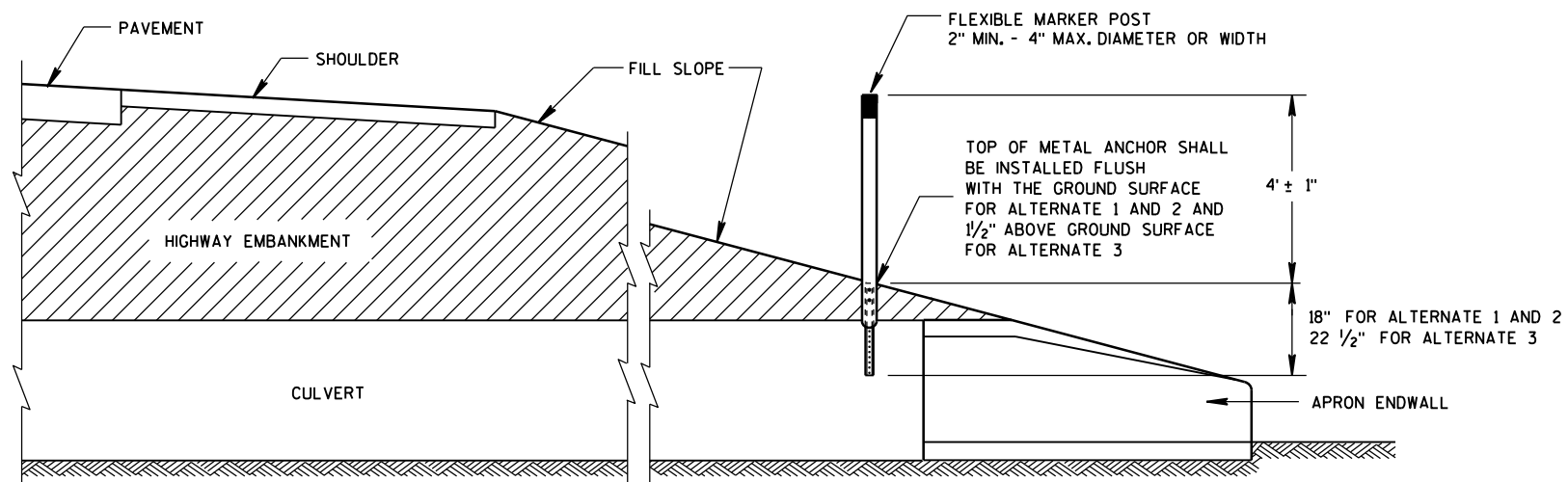
FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

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



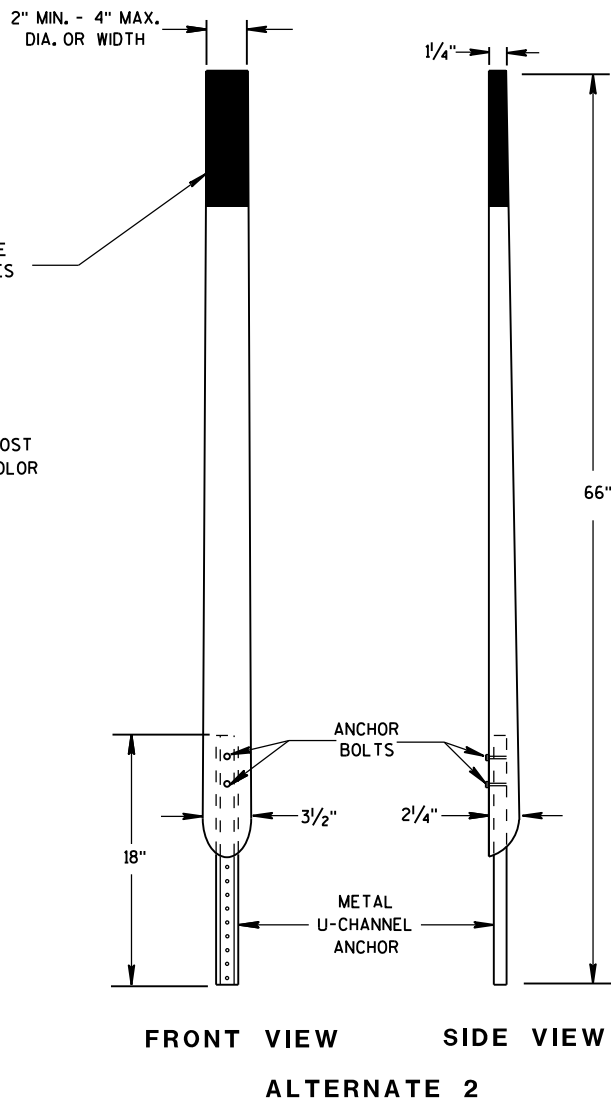
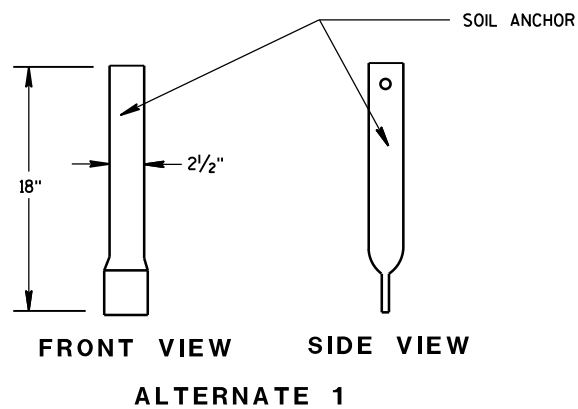
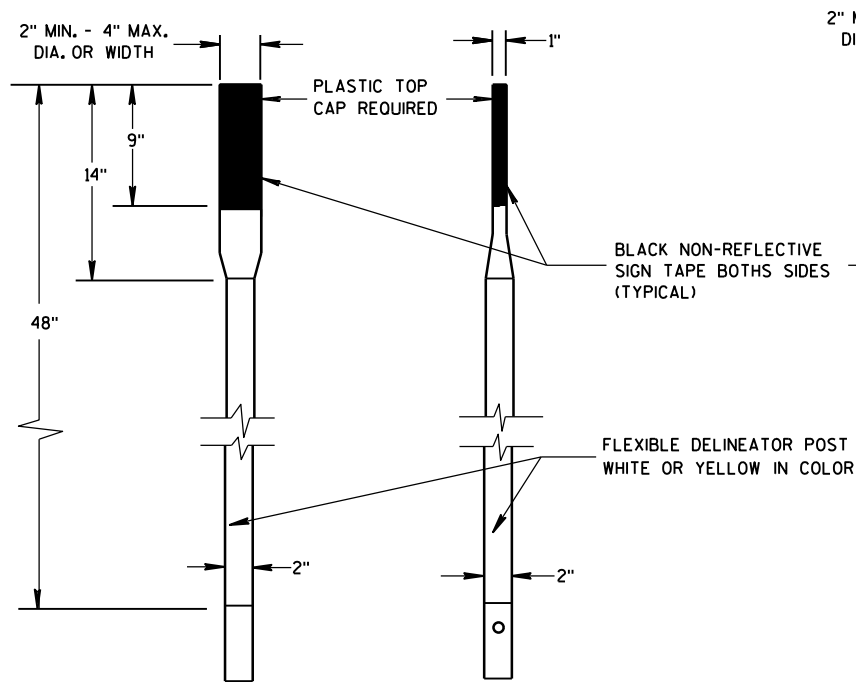
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



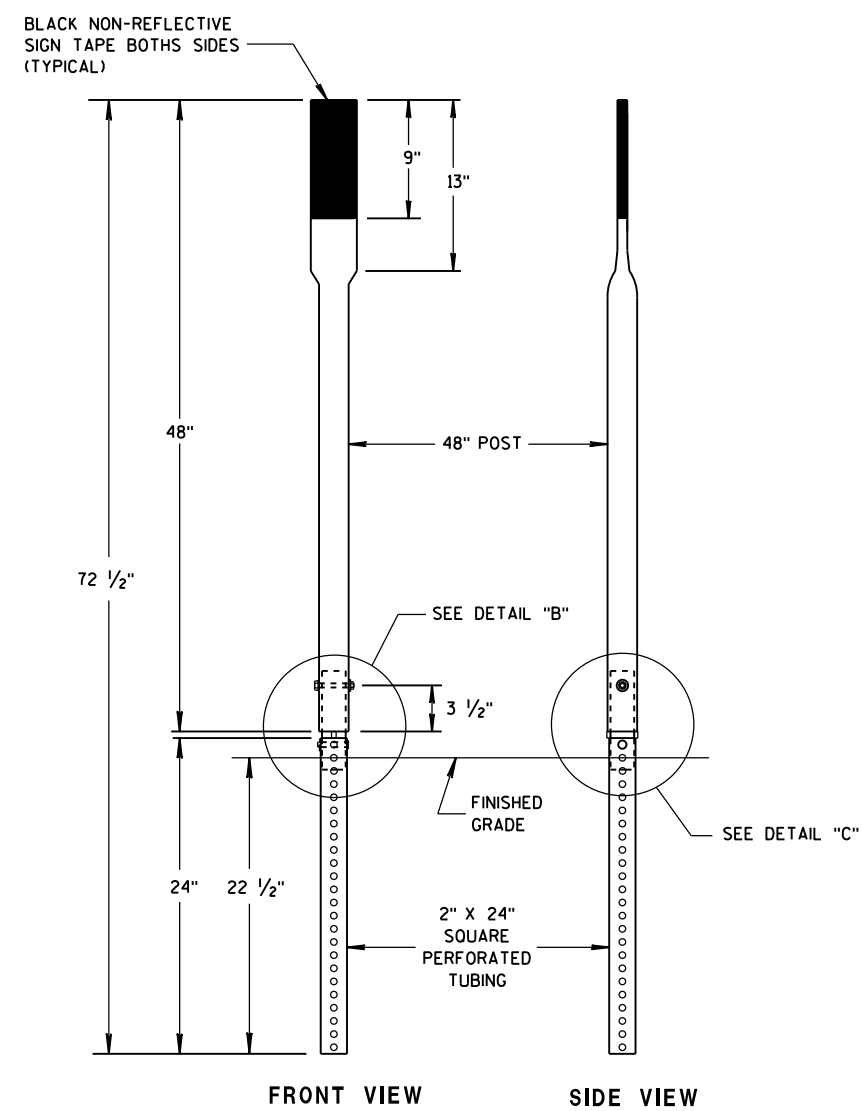
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

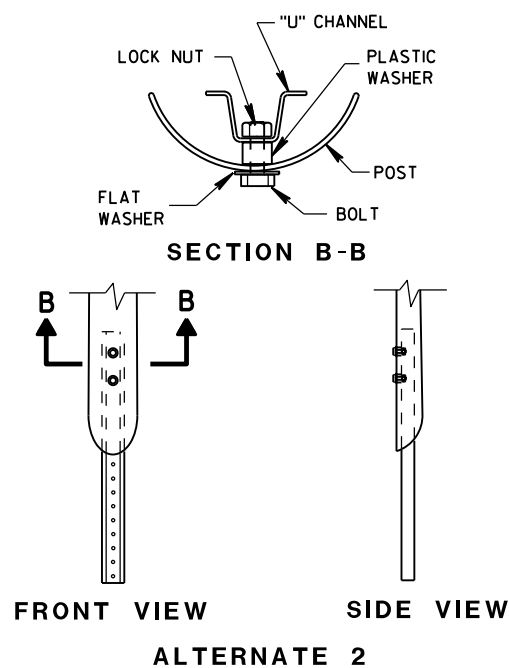
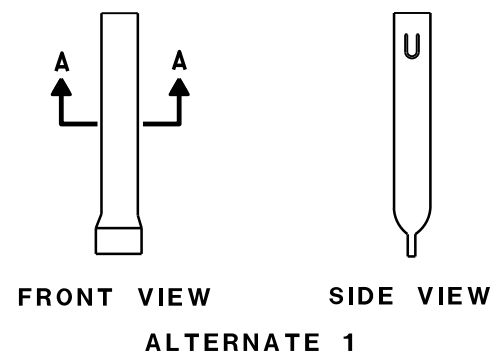
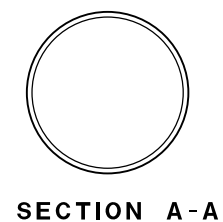
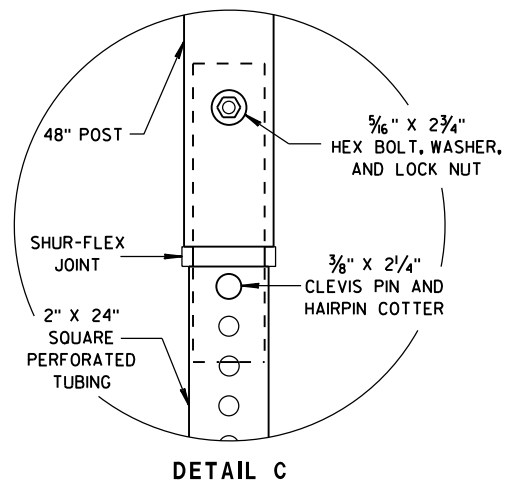
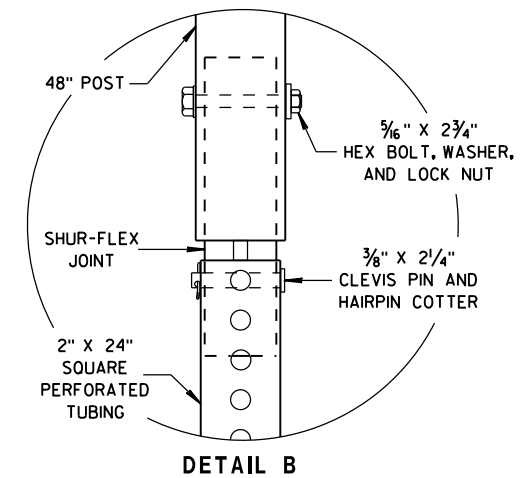
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 117



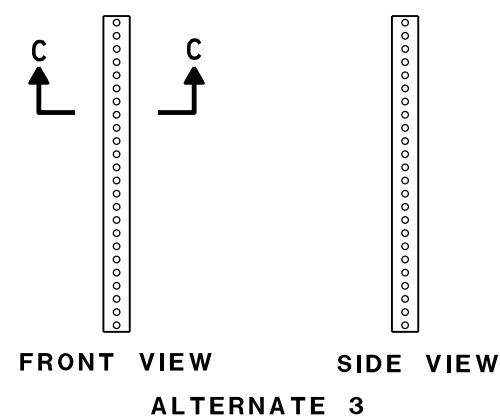
FLEXIBLE MARKER POSTS



SECTION C-C



FLEXIBLE MARKER POST ANCHORS

FLEXIBLE MARKER POST
FOR CULVERT ENDSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

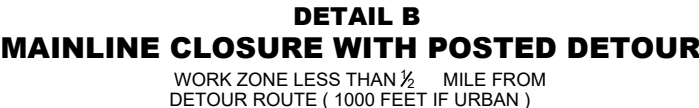
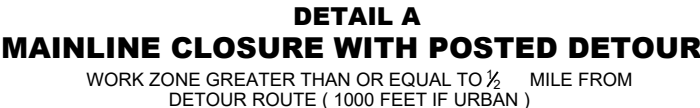
10/1/2012

DATE

FHWA

/S/ Travis Feltes
STATE TRAFFIC ENGINEER 118

IGN

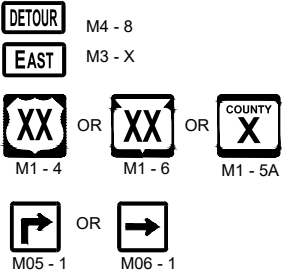


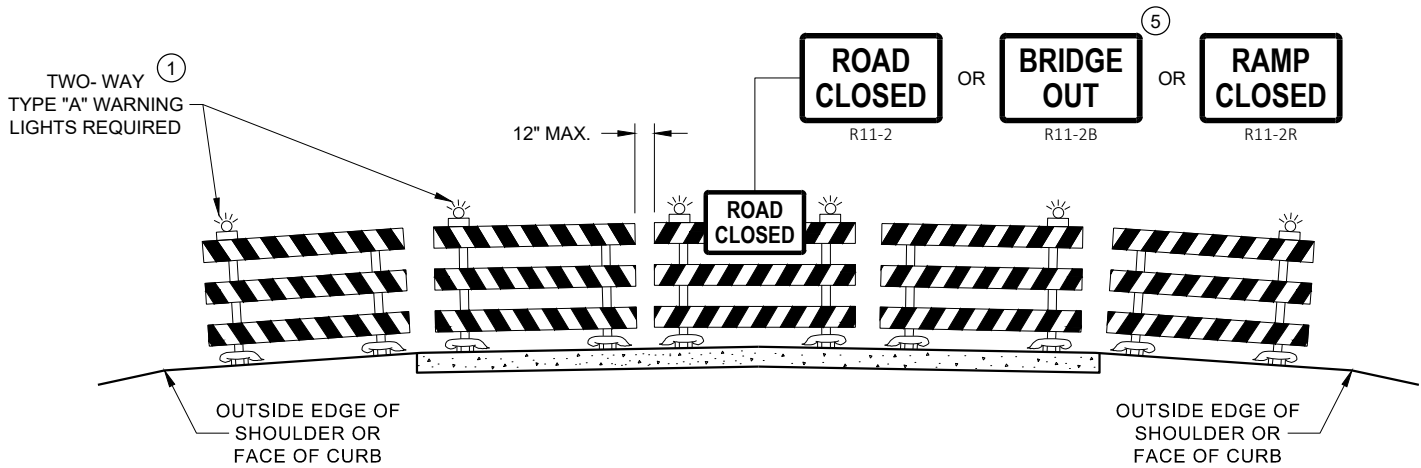
SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

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

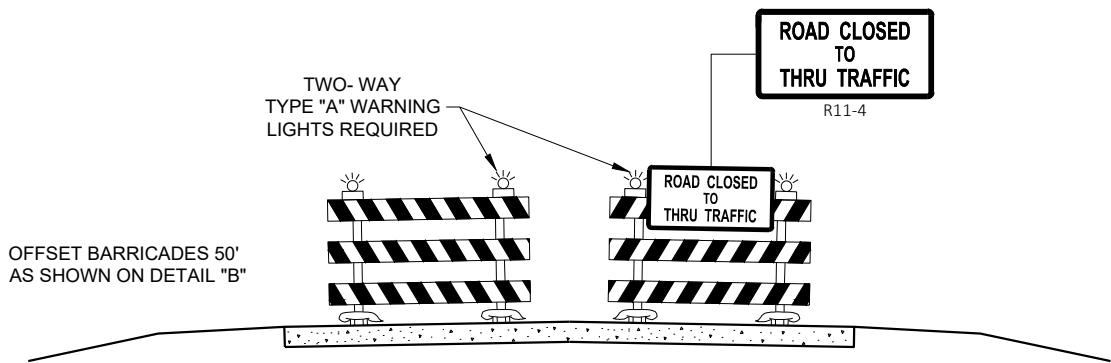


	SIGN ON PERMANENT SUPPORT
	TYPE III BARRICADE
	TYPE III BARRICADE WITH ATTACHED SIGN
	TYPE "A" WARNING LIGHT (FLASHING)
	WORK AREA
	FLAGS, 16" X 16" MIN. (ORANGE)





DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW - INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- 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)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

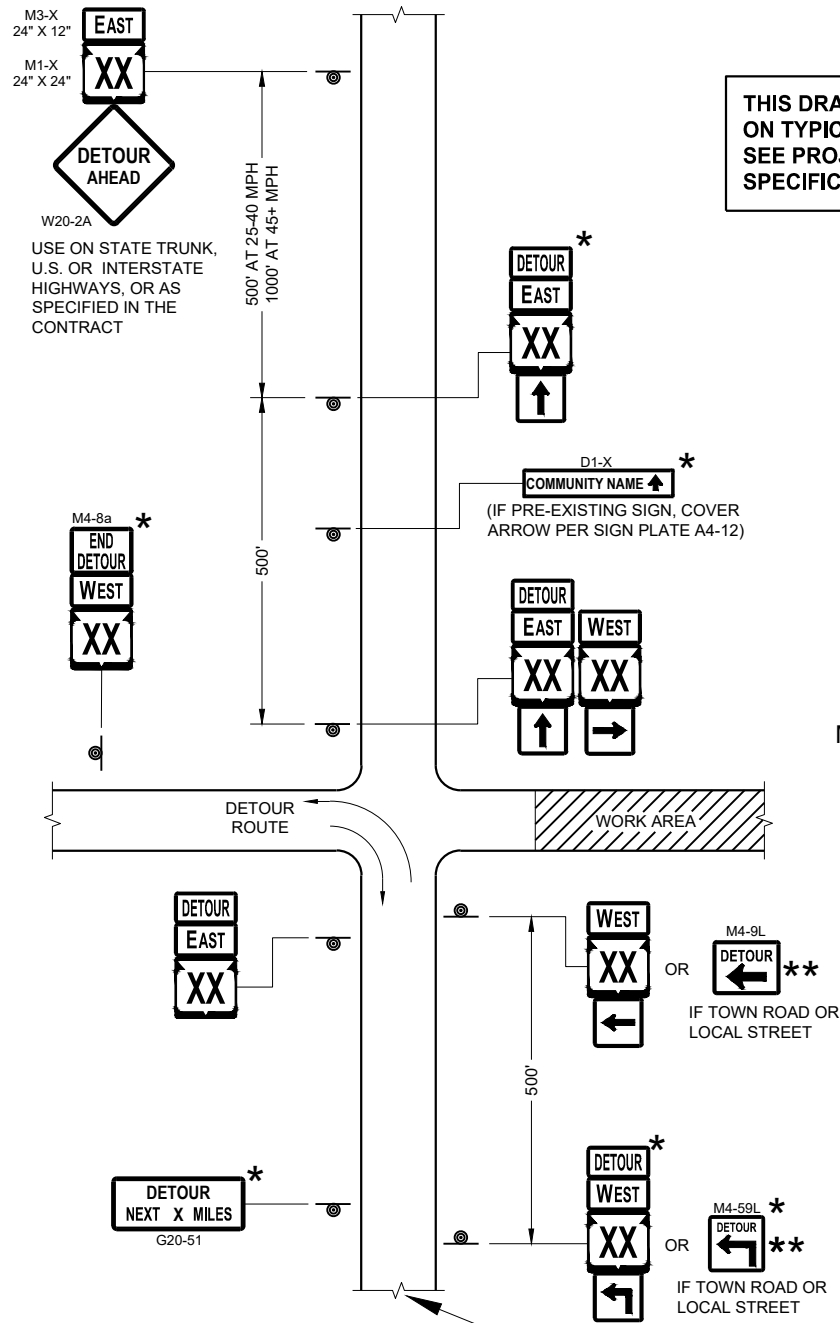
- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- 2 THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.
- 3 FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".
- 4 FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".
- 5 FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.
- 6 INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- 7 "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS
FOR
VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 120

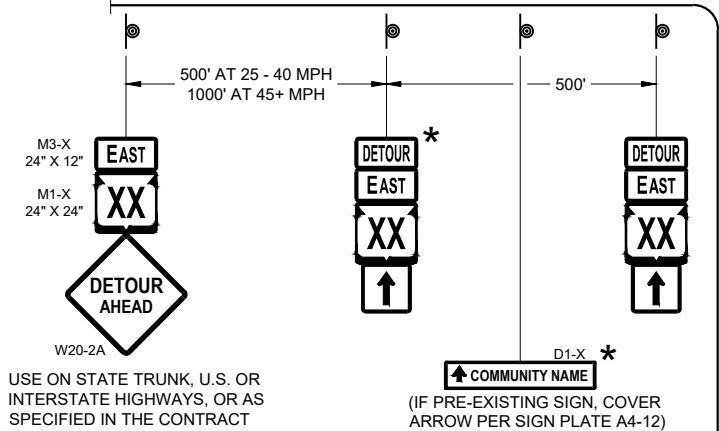
FHWA



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

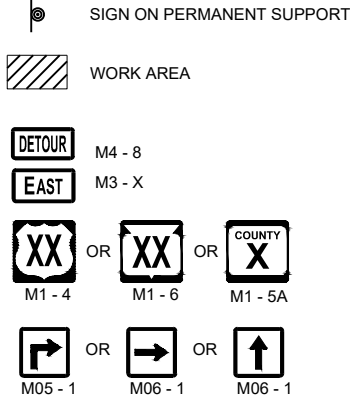
THIS DRAWING PROVIDES GENERAL GUIDANCE
ON TYPICAL DETOUR SIGN LAYOUT AND SPACING.
SEE PROJECT DETOUR SIGNING SHEETS FOR
SPECIFIC DETAILS FOR EACH PROJECT.

MATCH POINT



DETAIL F
DETOUR SIGNING

LEGEND



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.

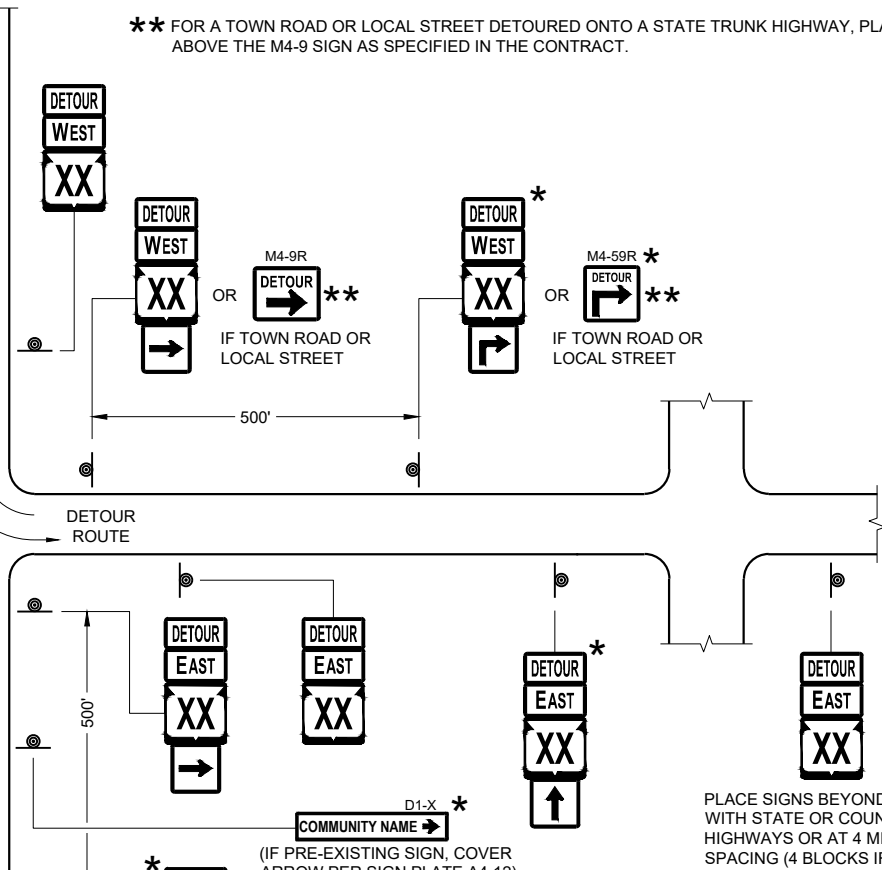
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

"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.

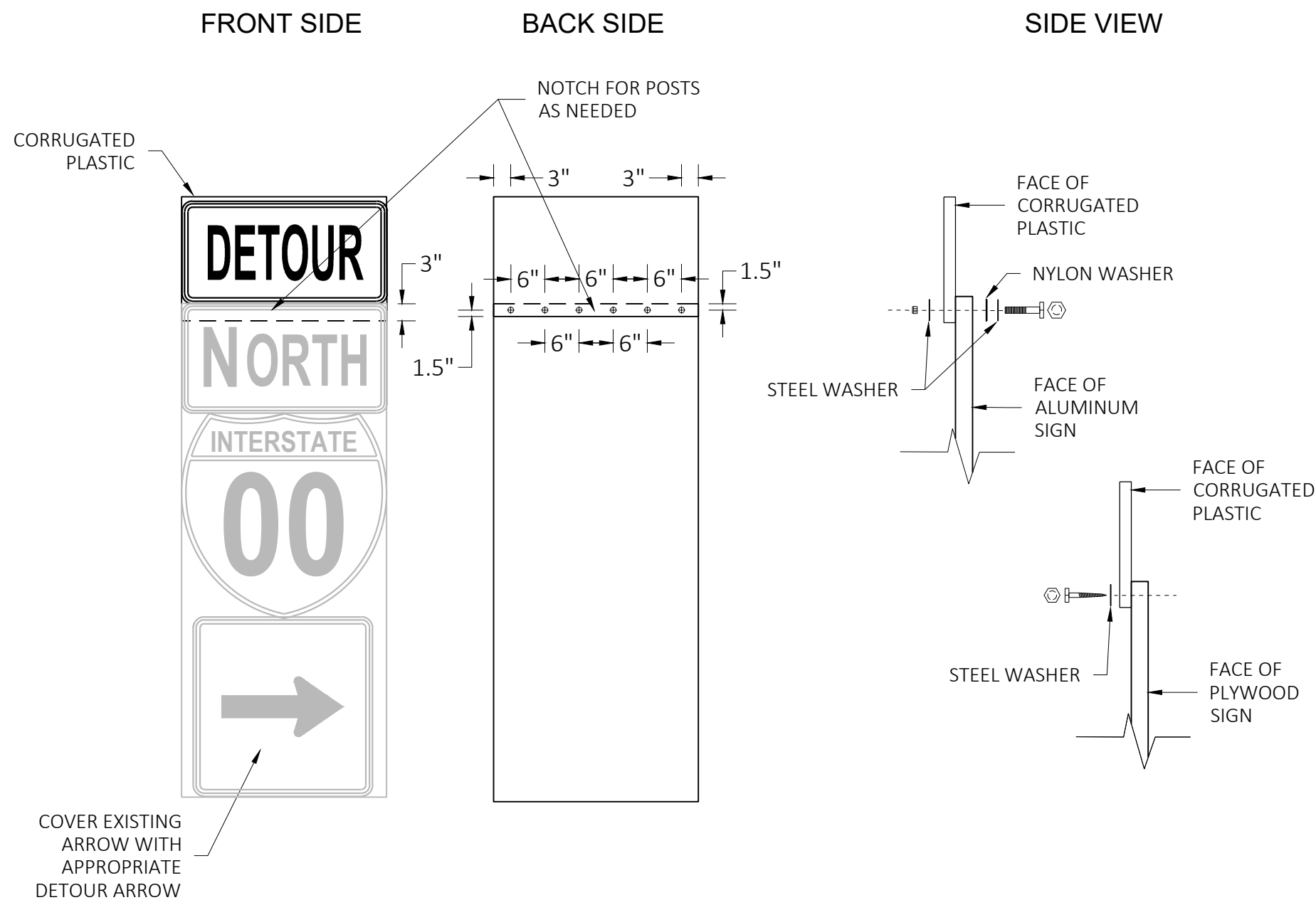


PLACE SIGNS BEYOND INTERSECTIONS
WITH STATE OR COUNTY TRUNK
HIGHWAYS OR AT 4 MILE MAXIMUM
SPACING (4 BLOCKS IF URBAN AREA)

DETOUR SIGNING
FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 121
FHWA



GENERAL NOTES

CELLS OF CORRUGATED PLASTIC SHALL BE VERTICALLY ORIENTED.

PROVIDE A 0.4-INCH THICK BASE CORRUGATED PLASTIC WITH A 0.035-INCH WALL THICKNESS AND 0.4-INCH CELL SIZE.

FOR 36" WIDE SIGNS: USE 6 FASTENERS AS SHOWN.

FOR 24" WIDE SIGNS: USE 4 FASTENERS WITH EDGE SPACING AS SHOWN AND 6" SPACING BETWEEN FASTENERS.

METAL WASHERS, NUTS, BOLTS AND LAGS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

- A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3.
- B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

PLYWOOD SIGNS:

LAG SCREWS - 5/16" x 1"

ALUMINUM SIGNS:

MACHINE BOLTS - 5/16" x 1-1/4" LENGTH W/NUTS

WASHERS:

1-1/4" O.D. x 3/8" I.D. x 1/16" STEEL

1-1/4" O.D. x 3/8" I.D. x .080 NYLON

MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING

MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2023

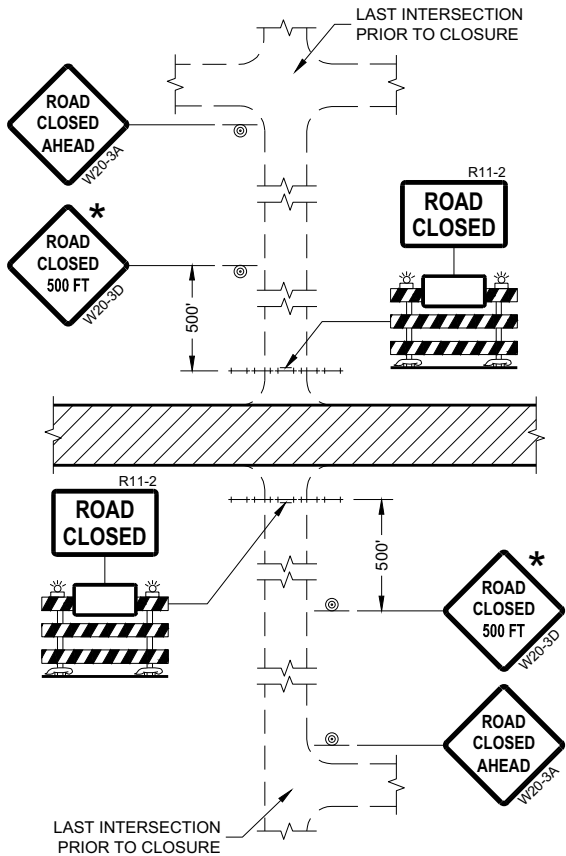
DATE

/S/ Andrew Heidtke

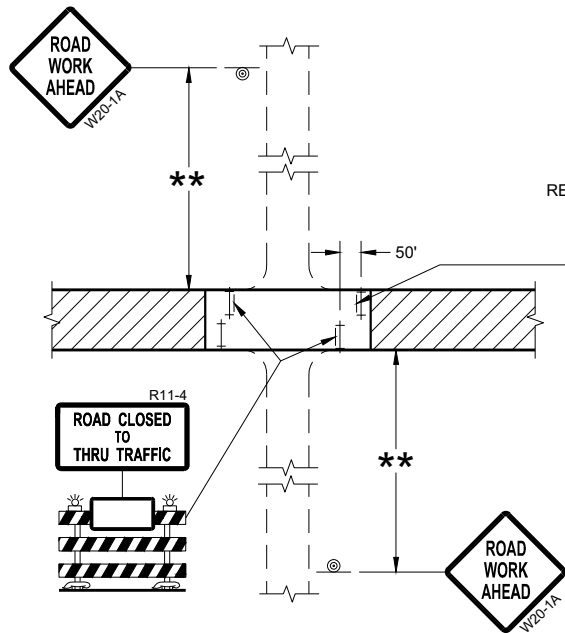
ROADWAY STANDARDS DEVELOPMENT ENGINEER

122

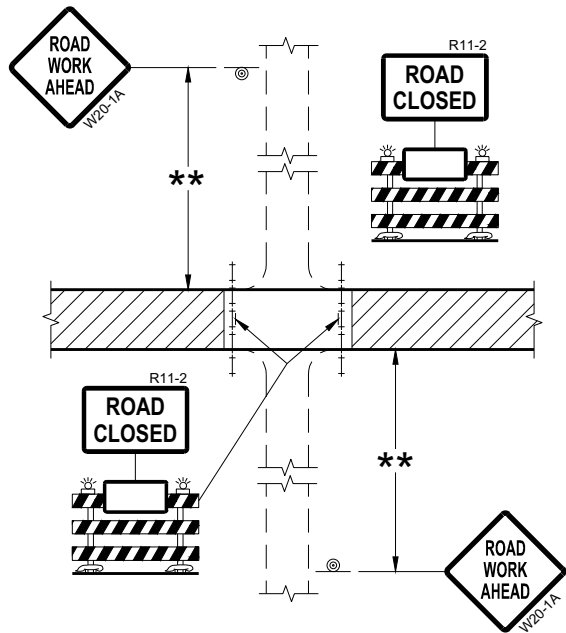
FHWA



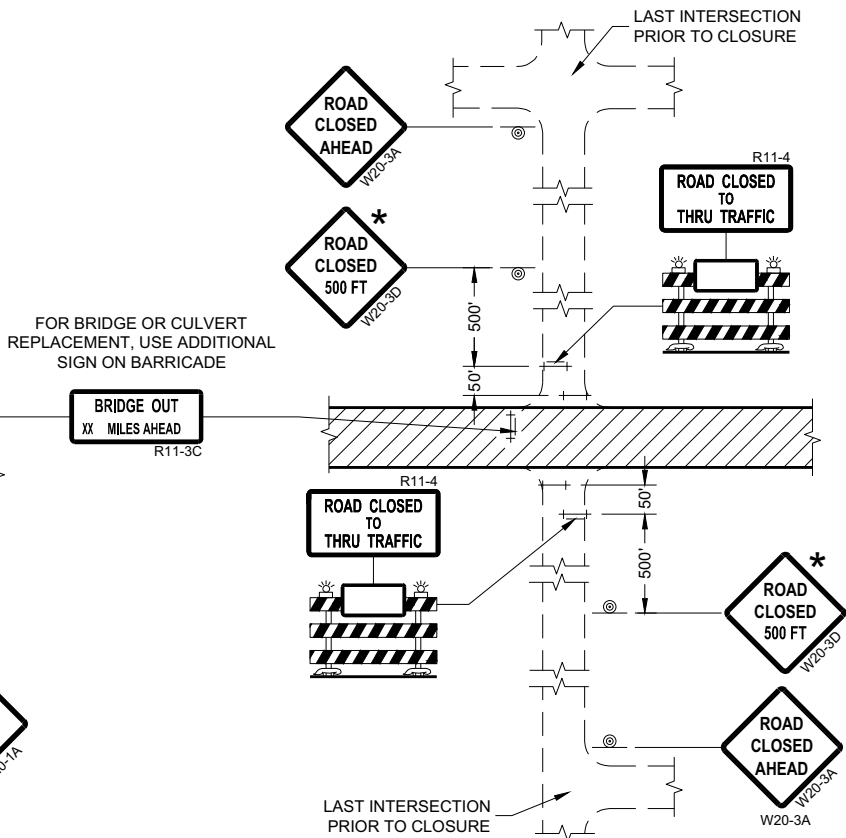
DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED.
CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT)



DETAIL 4
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

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

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

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

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.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

- * OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.
- ** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.

LEGEND

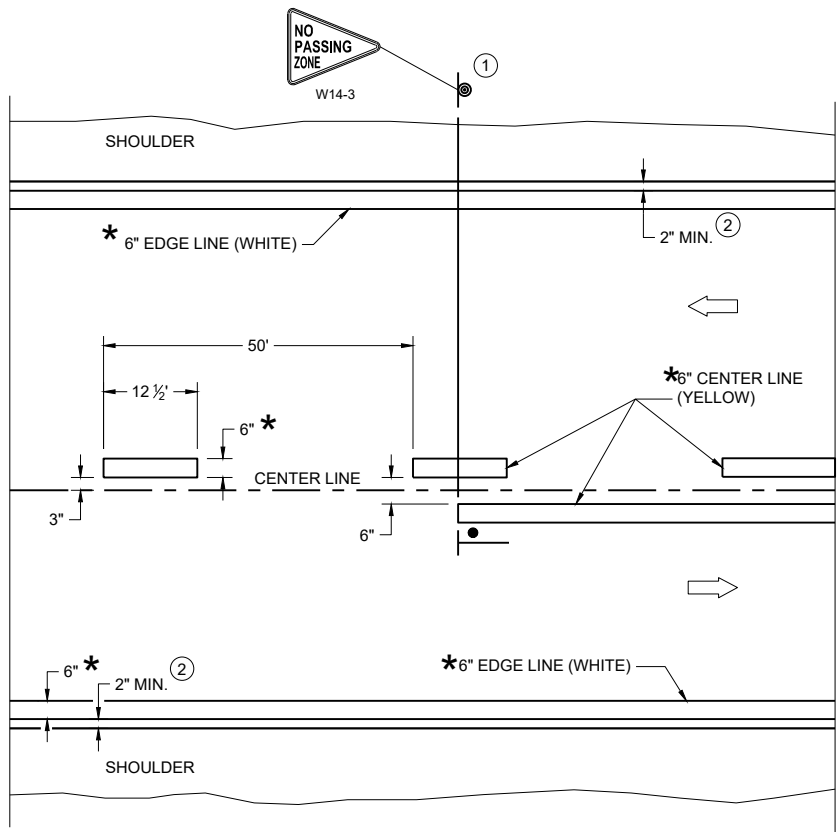
- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

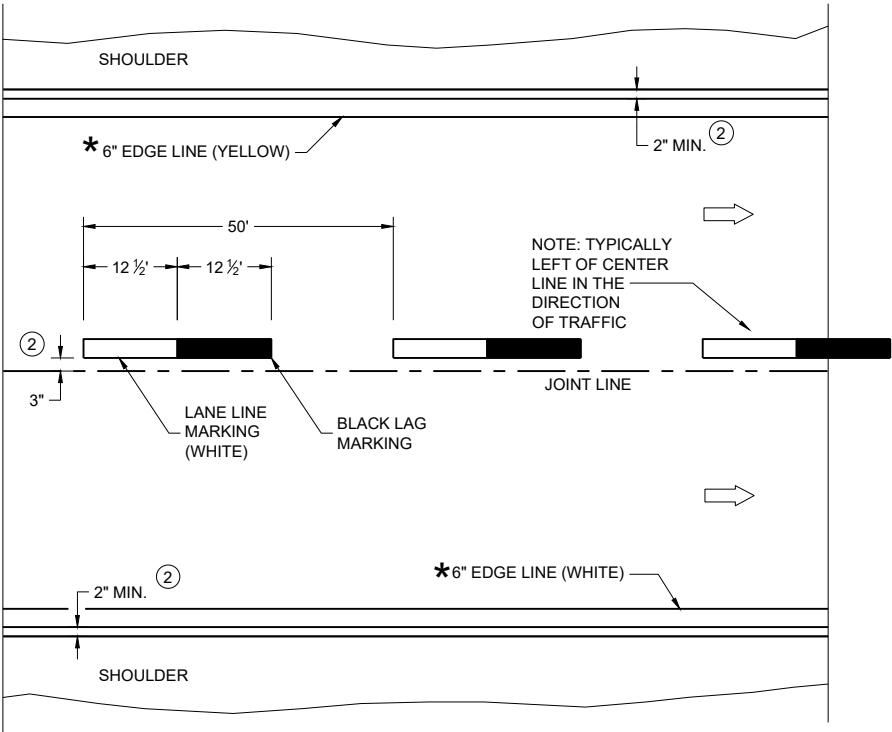
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 123

FHWA



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

GENERAL NOTES

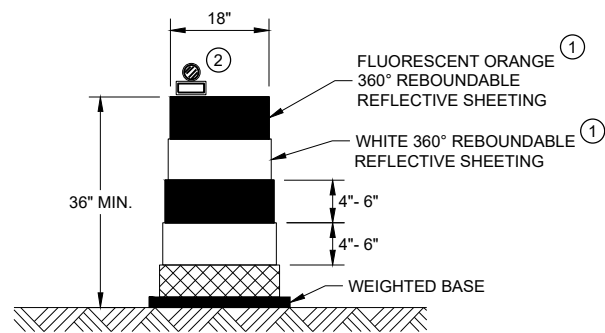
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

- 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

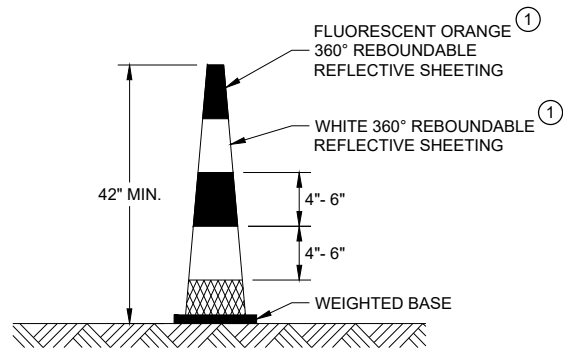
- "T" MARKING
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC

PERMANENT LONGITUDINAL PAVEMENT MARKINGS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Jeannie Silver Statewide Pavement Marking Engineer



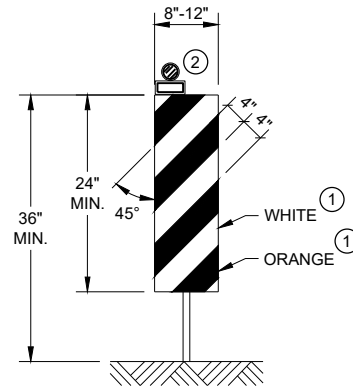
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



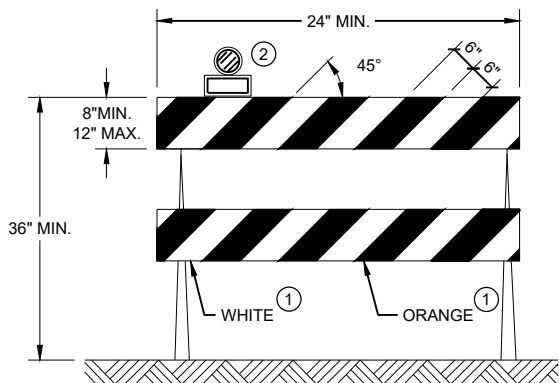
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS
BALLAST WIDTHS
RANGE FROM 14"-20"



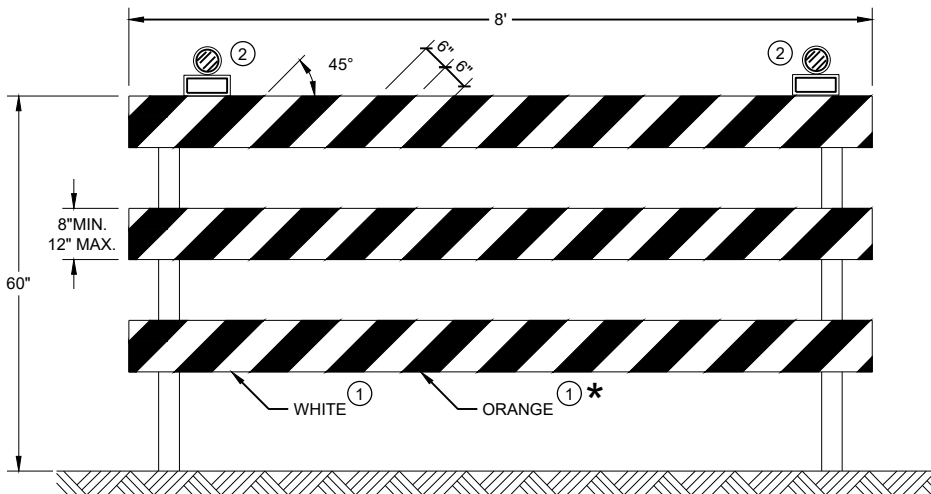
VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

GENERAL NOTES

- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

**CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 125
FHWA

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

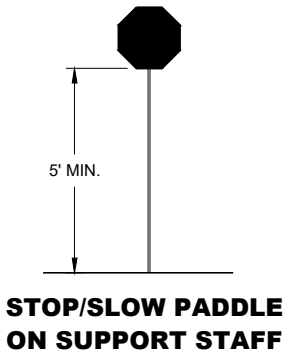
FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

- 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.

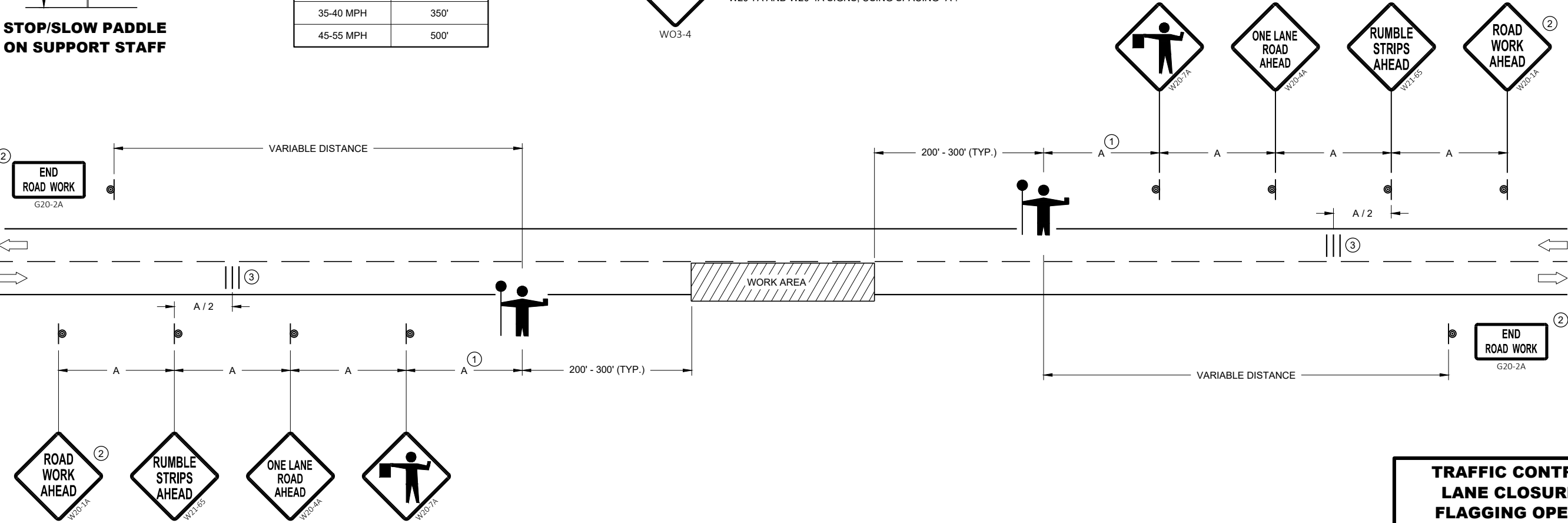


SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

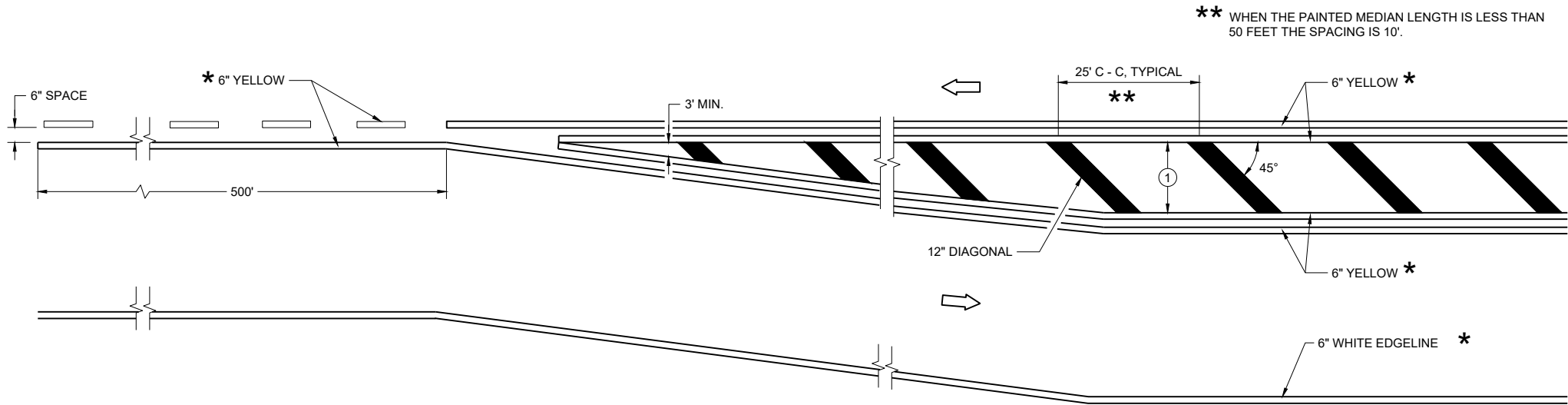
SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



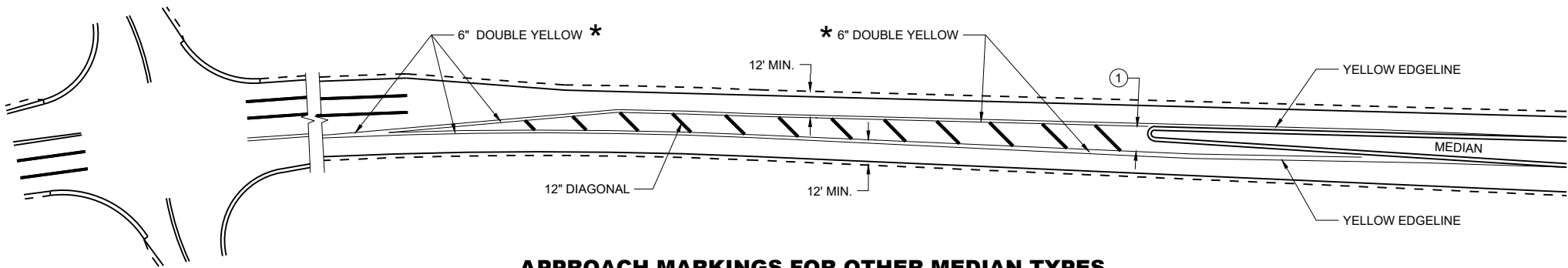
USE OF W03-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



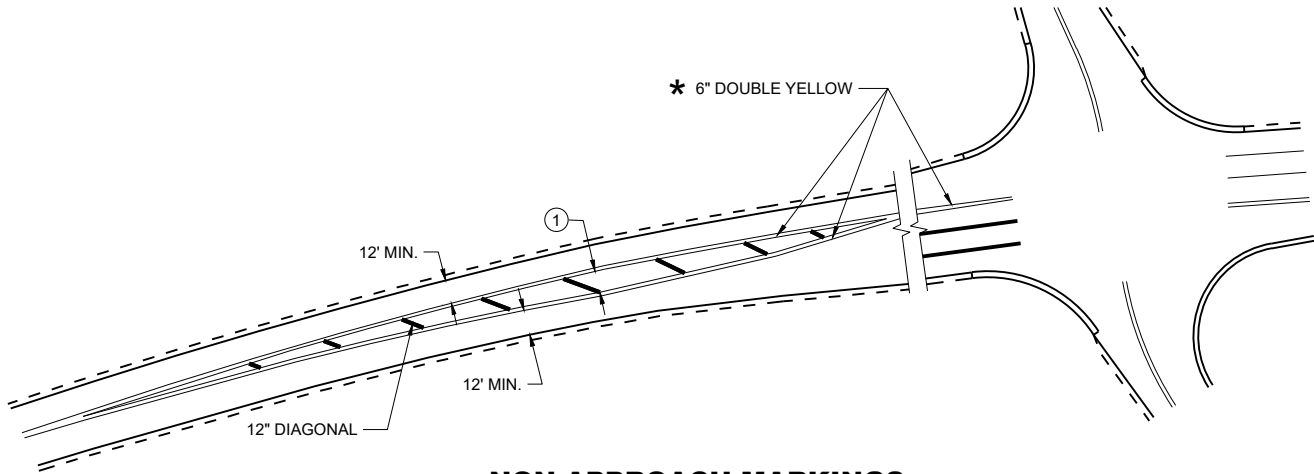
TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER 126
FHWA	



MEDIAN ISLAND DETAIL



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON-APPROACH MARKINGS

GENERAL NOTES

- ① DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT THE WIDEST POINT. OMIT DIAGONALS IF WIDTH IS LESS THAN 4 FEET.

DIRECTION OF TRAVEL

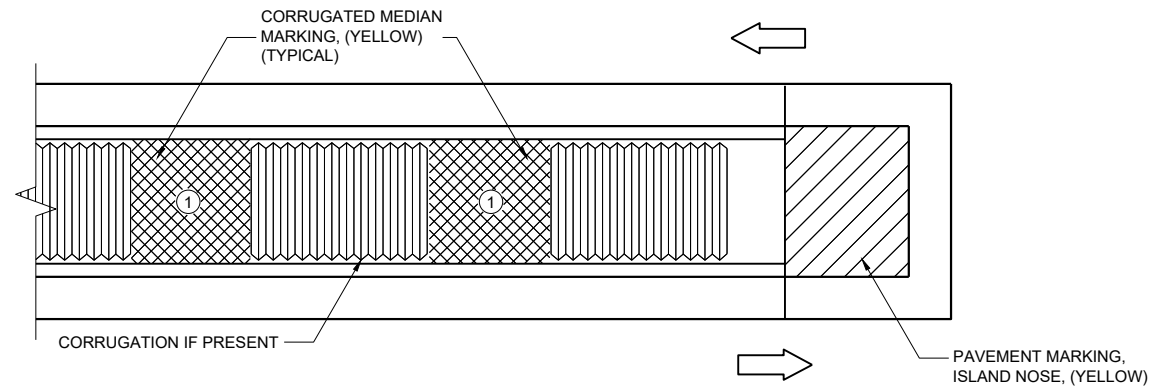
* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

MEDIAN ISLAND PAVEMENT MARKINGS

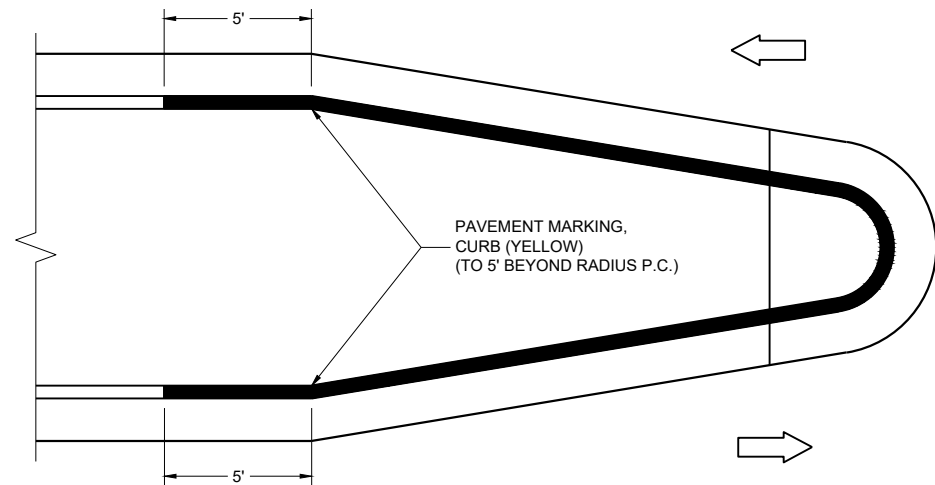
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2024 /S/ Jeannie Silver
DATE Statewide Pavement Marking Engineer

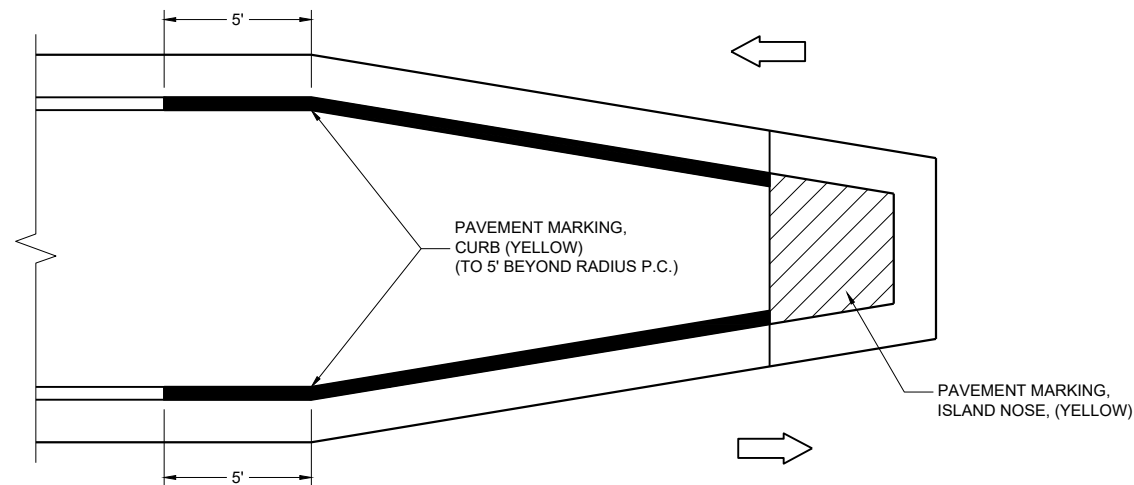
FHWA 127



MEDIAN ISLAND WITH SQUARE BLUNT NOSE



MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

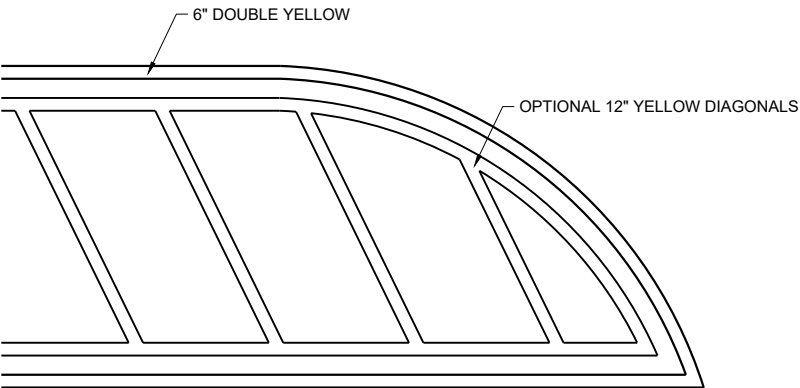
TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

GENERAL NOTES

WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION, YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.

① APPLY PAVEMENT MARKING TO THE FLAT PORTION OF CORRUGATED MEDIAN.

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



FLUSH MEDIAN ISLAND NOSE

PAVEMENT MARKINGS, MEDIAN ISLAND NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2024 /S/ Jeannie Silver
DATE Statewide Pavement Marking Engineer
FHWA

REQUIREMENTS FOR EDGE LINES		
POSTED SPEED	IS THERE CONTINUOUS LIGHTING?	
	YES	NO
≤ 30 MPH	NO	OPTIONAL
35 OR 40 MPH	OPTIONAL	RECOMMENDED
≥ 45 MPH	RECOMMENDED	REQUIRED

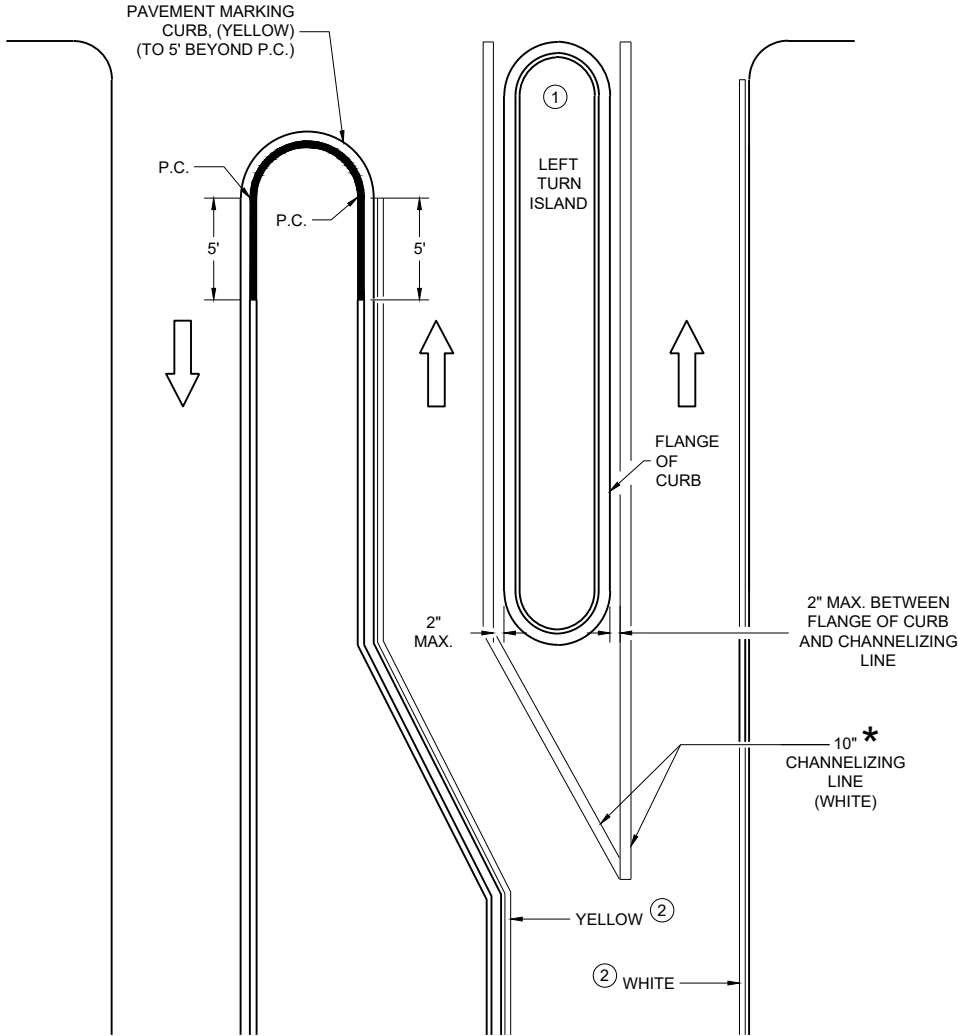
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

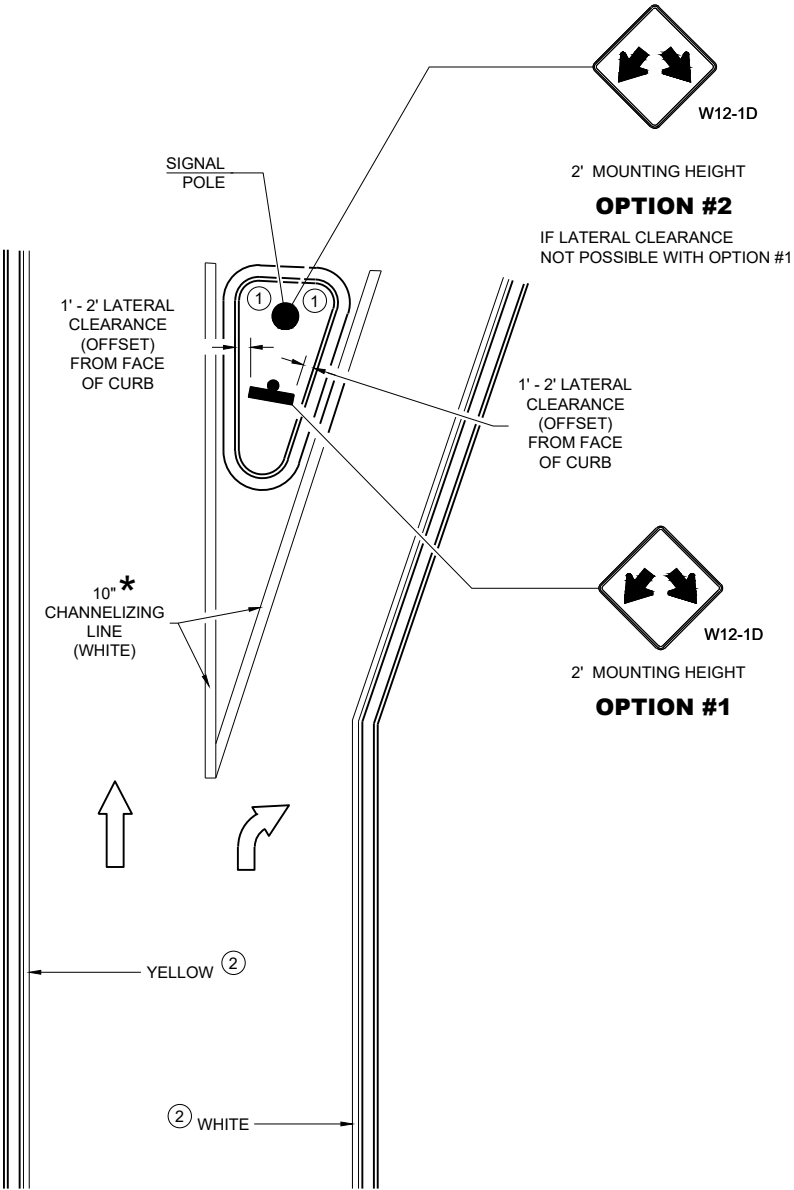
APPLIES TO ISLANDS AT LEFT TURNS AT ONE WAY ROADWAYS AS WELL.
SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.

- ① MARK CURB NOSES YELLOW.
- ② MARK ACCORDING TO TABLE.
- ③ CHEVRON MAY BE OMITTED IF LESS THAN 4" WIDE

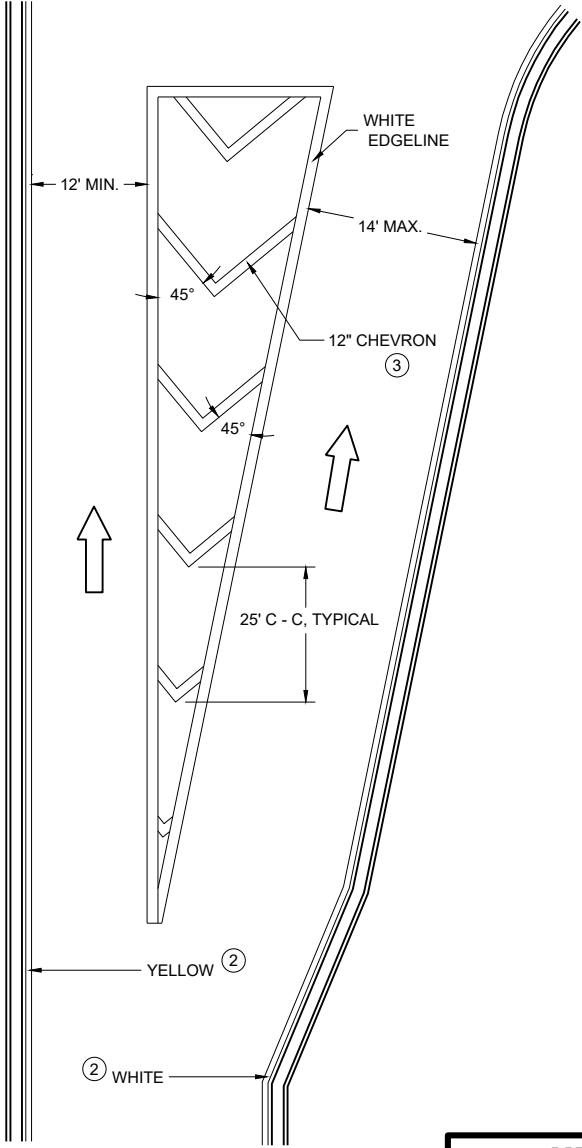
DIRECTION OF TRAVEL



LEFT TURN & MEDIAN ISLAND



RIGHT TURN ISLAND



TURN LANE DETAIL

MEDIAN PAVEMENT MARKINGS, DOUBLE ARROW WARNING SIGN PLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2024 /S/ Jeannie Silver
DATE Statewide Pavement Marking Engineer

FHWA 129

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.

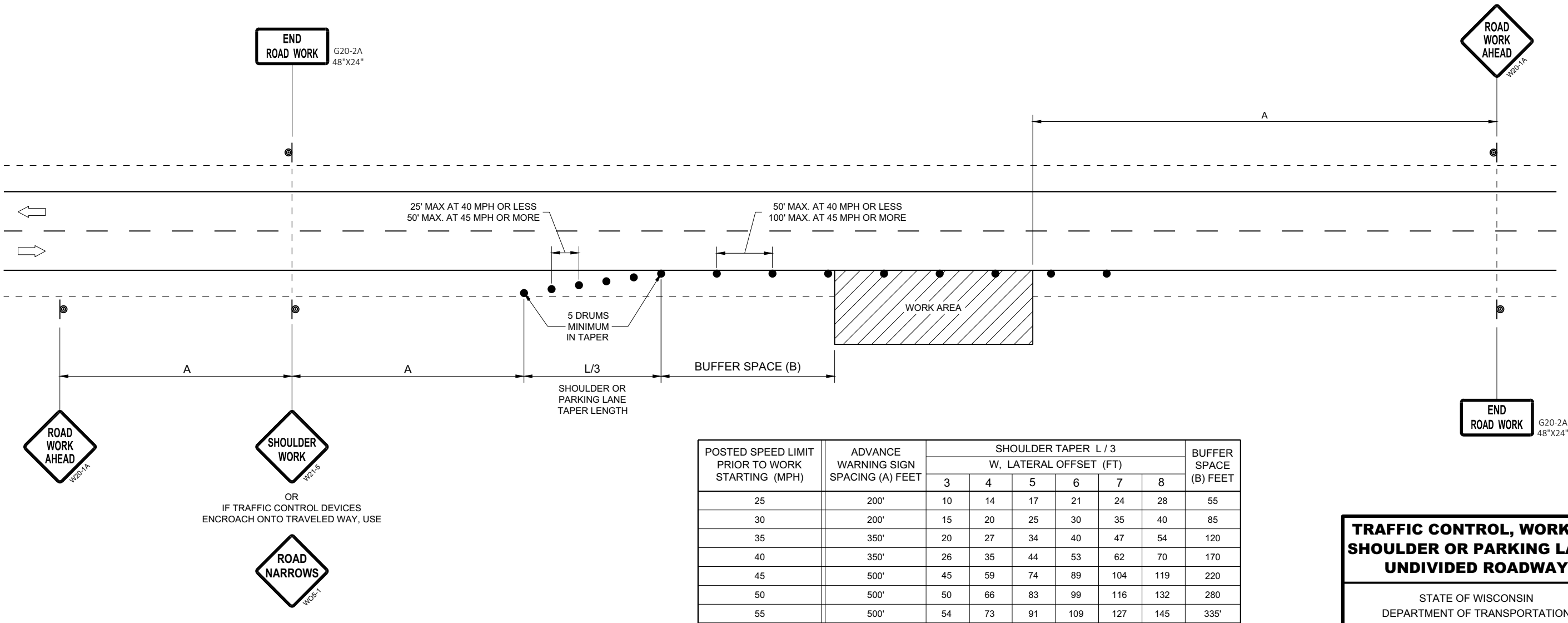
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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.

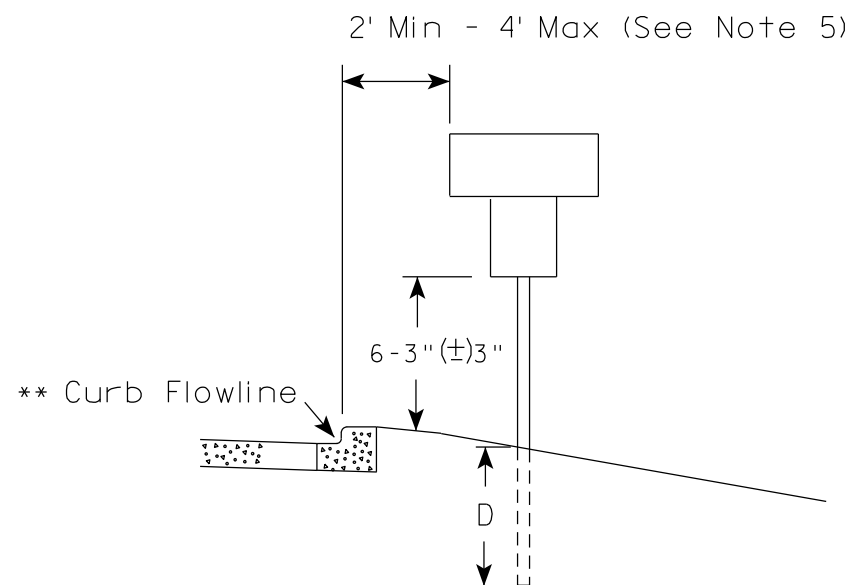
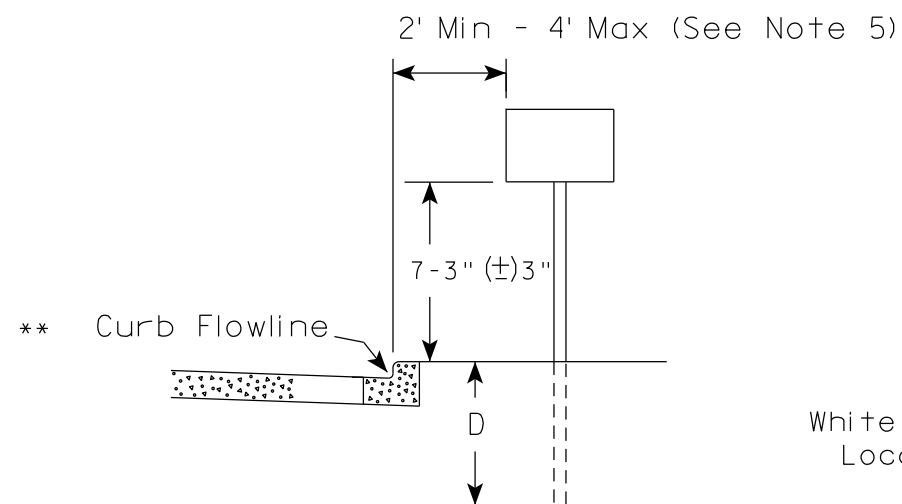


TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

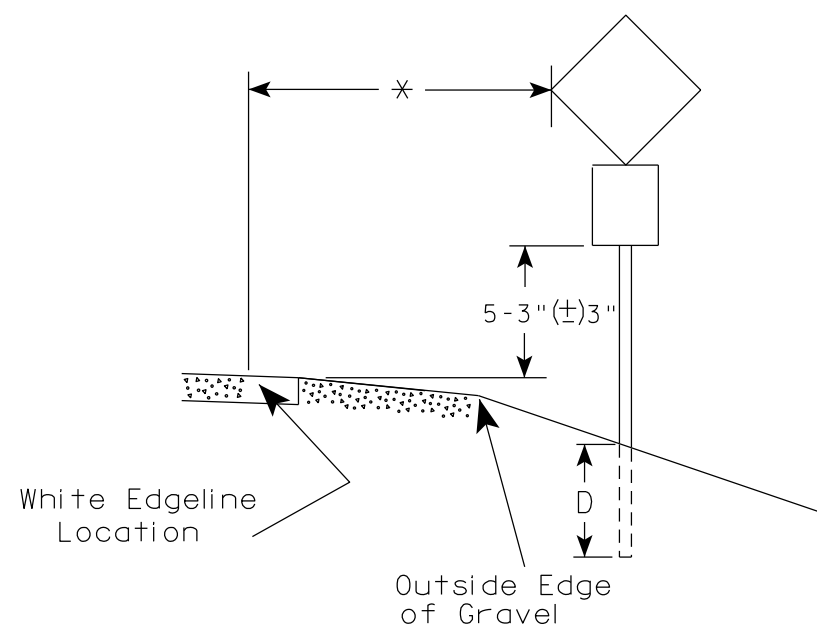
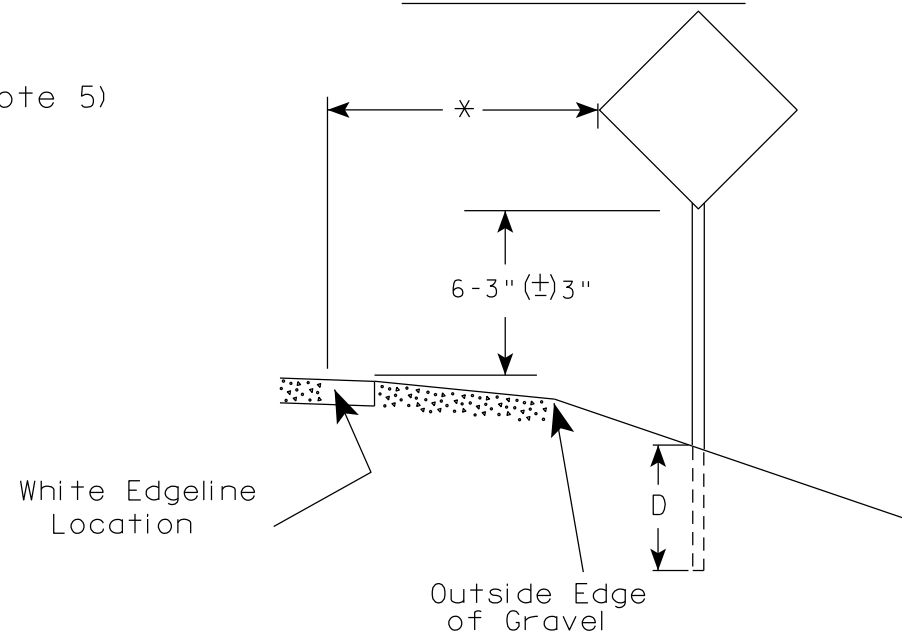
APPROVED
May 2020
DATE
/S/ Andrew Heidtke
STATEWIDE WORK ZONE T
SAFETY ENGINEER 130
FHWA

URBAN AREA



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

RURAL AREA (See Note 2)



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

GENERAL NOTES

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

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 12/6/23

PLATE NO. A4-3.23

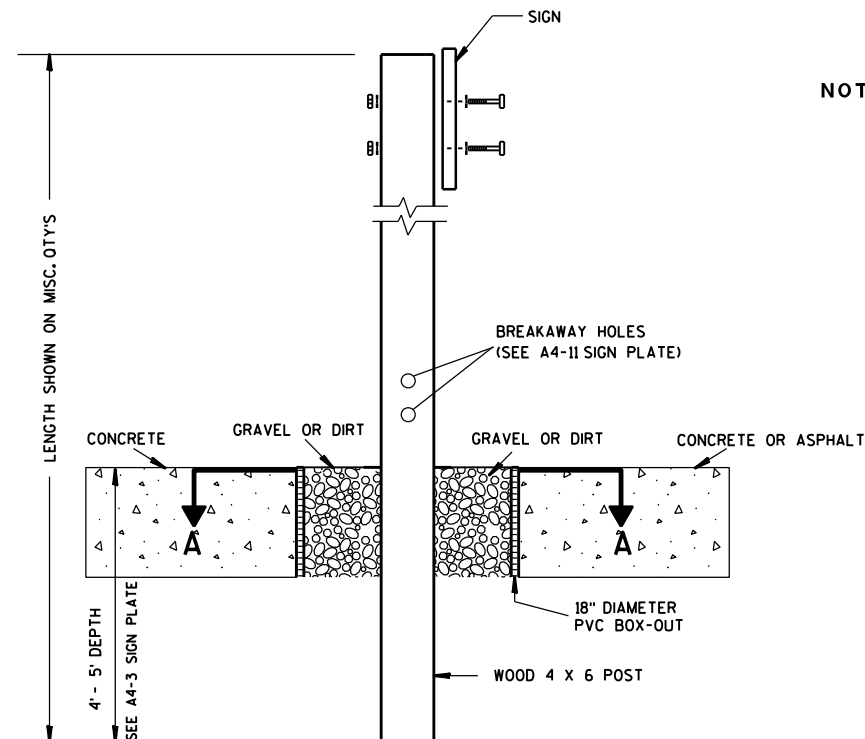
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 131

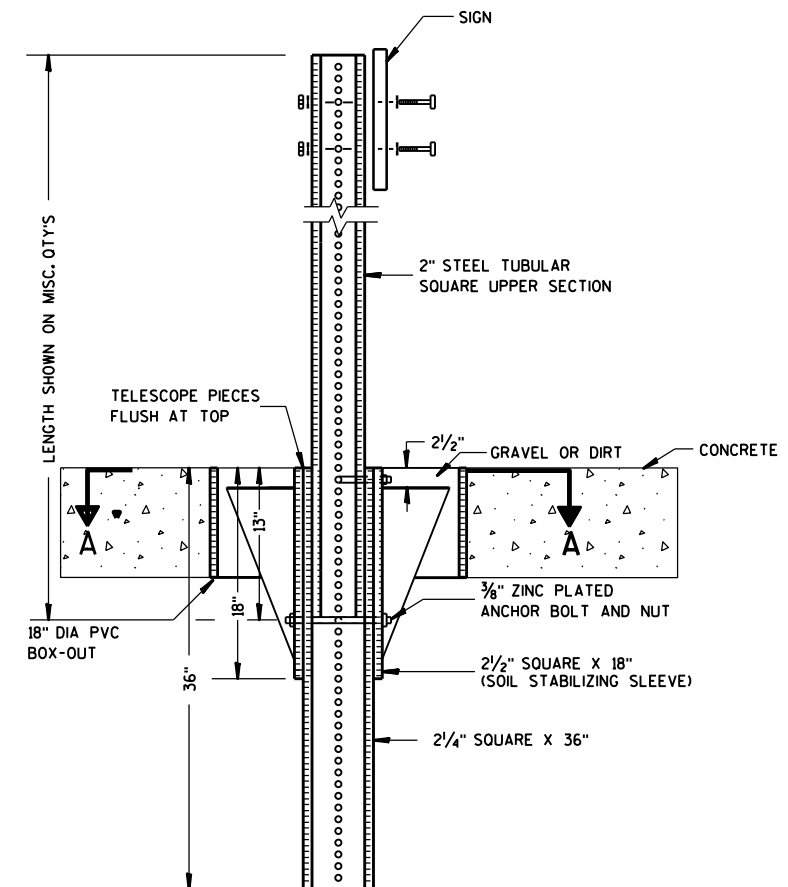
E



ELEVATION VIEW

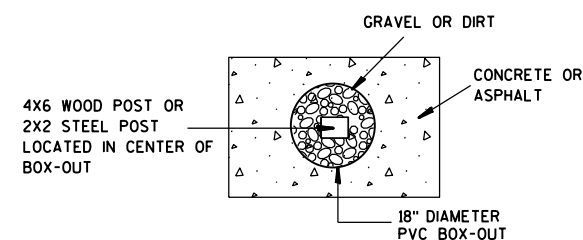
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

**SIGN POST
BOX-OUTS
A4-3B**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/27/14 PLAT 132 A4-3B.1

PROJECT NO:

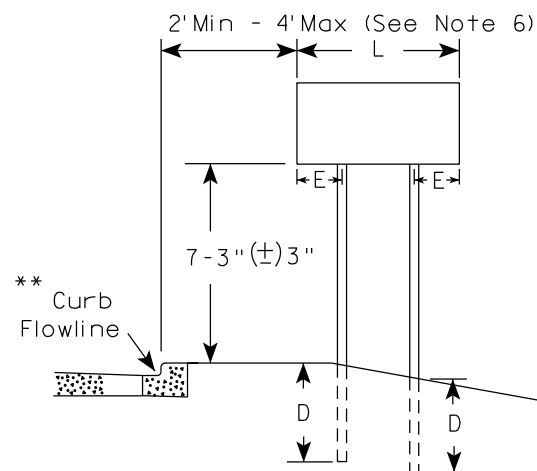
HWY:

COUNTY:

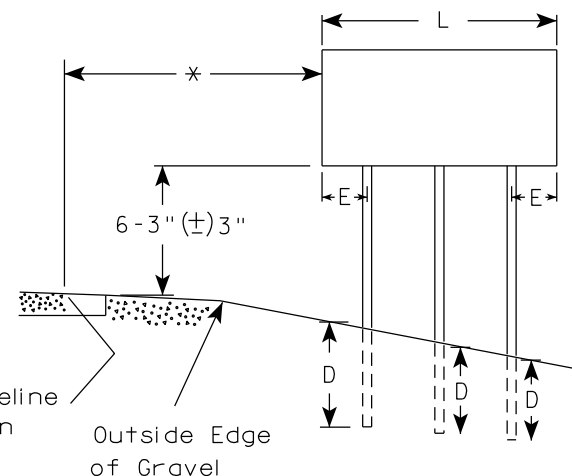
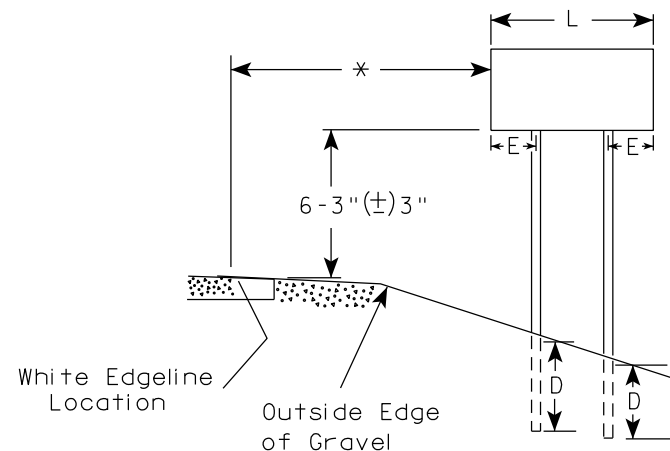
SHEET NO:

E

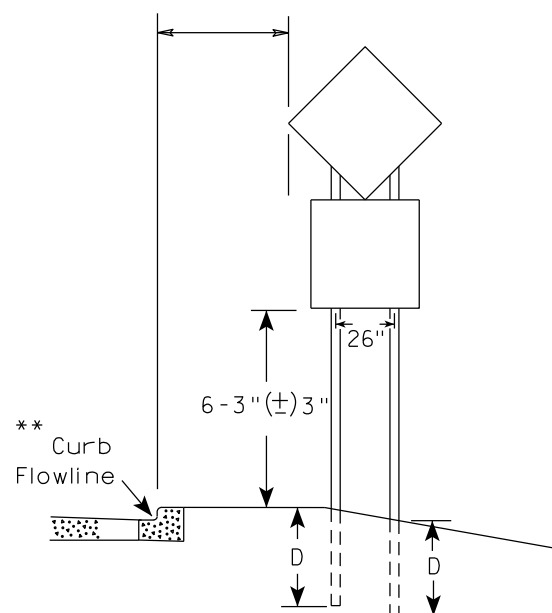
URBAN AREA



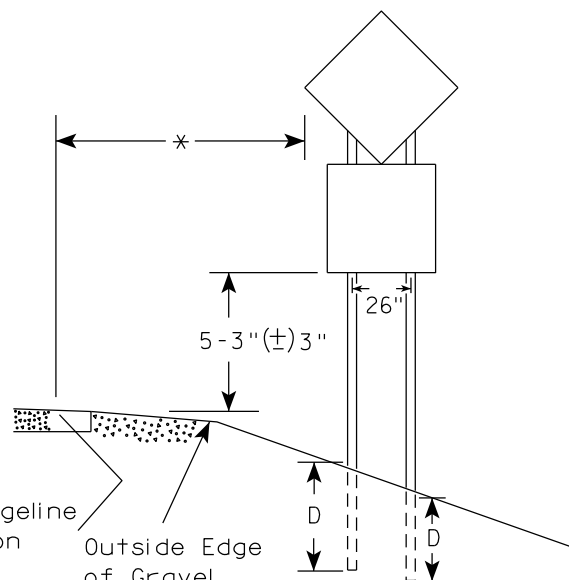
RURAL AREA (See Note 3)



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



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16

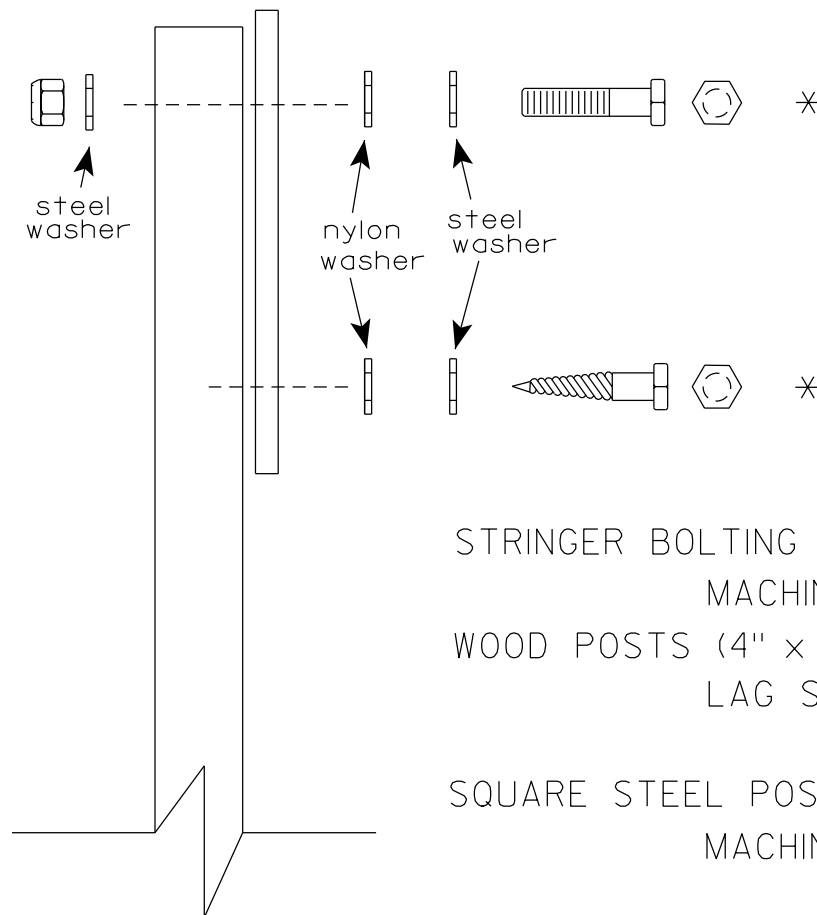
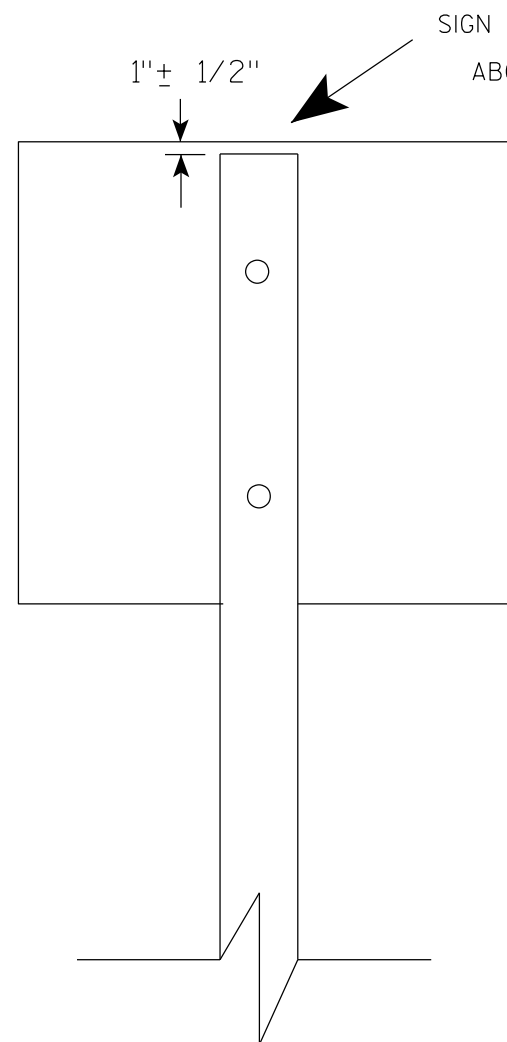
GENERAL NOTES

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

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

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

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



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

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

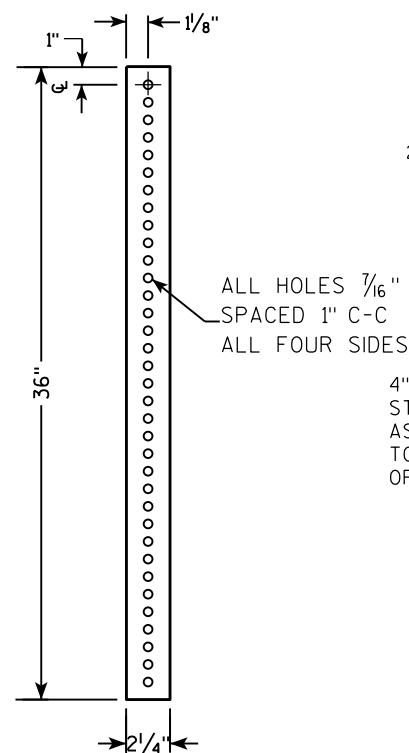
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
 - 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

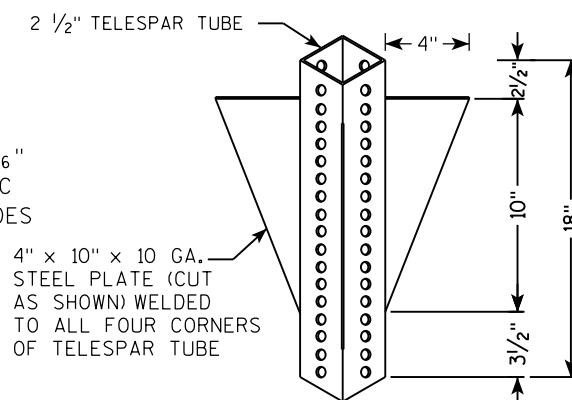
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

**2 1/4" SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH**



**2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH**

[illegible]

TECHNICAL DRAWING OF A SIGNPOST ASSEMBLY.

Side View Dimensions:

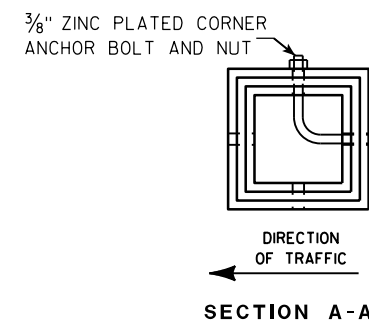
- Overall height: LENGTH SHOWN ON MISC. QTYS
- Top section: 2" STEEL TUBULAR SQUARE UPPER SECTION
- Telescope pieces: TELESCOPE PIECES FLUSH AT TOP
- Anchor bolt and nut: 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT
- Anchor bolt and nut: 3/8" ZINC PLATED ANCHOR BOLT AND NUT
- Soil stabilizing sleeve: 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)
- Post section: 2 1/4" SQUARE X 36"

Top View Dimensions:

- Overall width: 36"
- Inner section width: 18"
- Inner section depth: 12"
- Anchor bolt and nut: 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT
- Anchor bolt and nut: 3/8" ZINC PLATED ANCHOR BOLT AND NUT

Sign Assembly Details:

- SIGN
- SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL
- ALL HOLES 7/16" SPACED 1" C-C
- ALL FOUR SIDES



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

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

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R. Rauch

for State Traffic Engineer

DATE 2/05/15 PLATI 135 14-9.9

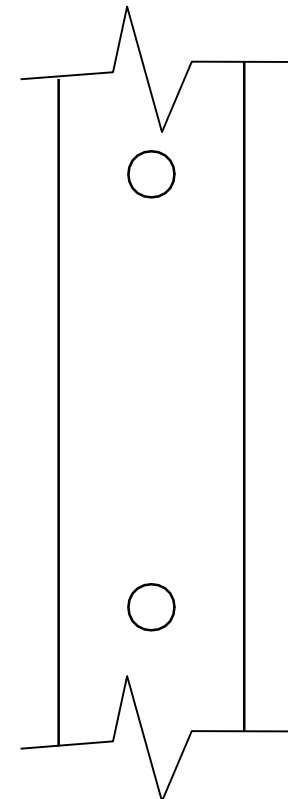
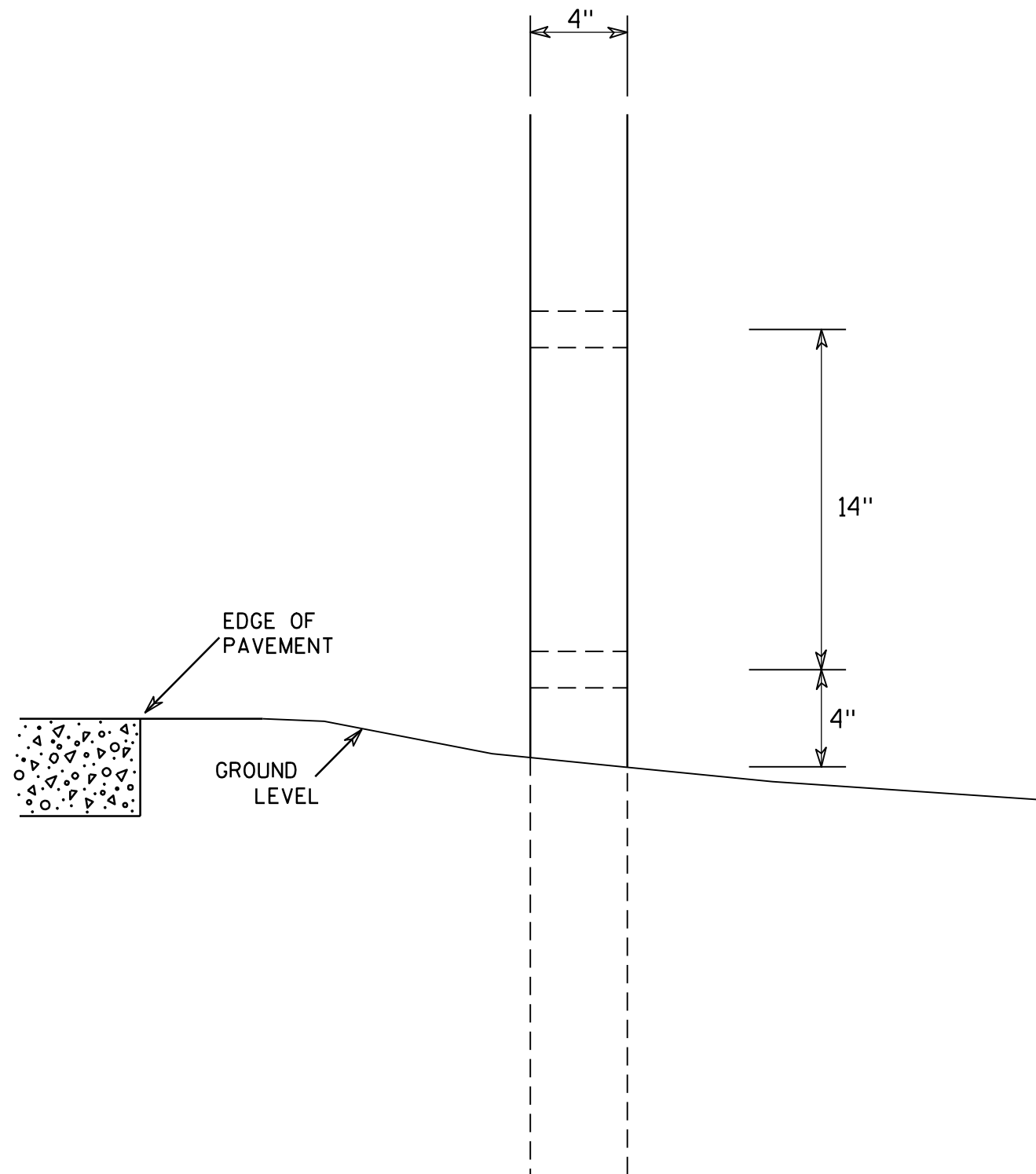
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 136

E

SIGN LAYOUT WITH VARIOUS SIZED MESSAGES

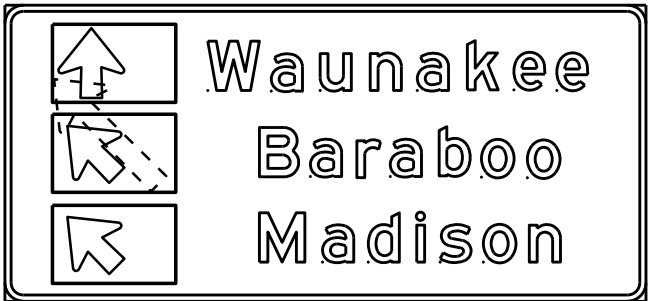
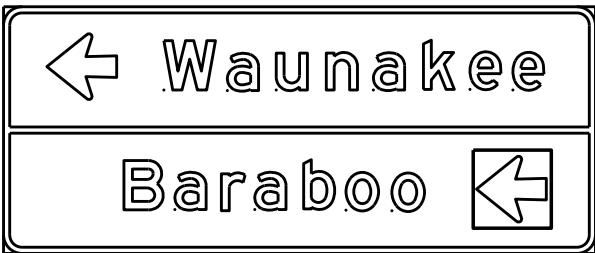
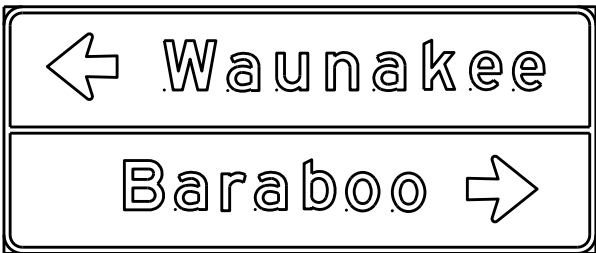
GENERAL NOTES

- 1. Materials shall conform to Standard Specification Section 637.
Base - Sheet Aluminum 0.040" Thickness
Sheeting - Orange Type F Reflective
Arrow - Black Non-Reflective
- 2. Arrow signs shall be fastened to permanent sign by either aluminum rivets or aluminum self-tapping sheet metal screws.
There shall be a minmum of 2 fasteners used per arrow sign.
- 3. There shall be a spacer consisting of a 0.08" nylon washer between the back of the arrow sign and the face of the permanent sign.
- 4. Arrows are per standard plate A1-2
- 5. Use separate arrow sign for each destination
- 6. Tilt arrow is always at 45 degrees
- 7. Arrow is centered on arrow sign

Lower Case Copy Size	Standard Width (Single Arrow)	2 Line Tilt Arrow Cover Width	3 Line Tilt Arrow Cover Width	Height
3 3/4" Series C	8	9 1/2	14 1/2	8
4 1/2" Series D & E	9 1/2	10	15	9 1/2
6" Series D & E	14	16	20 1/2	14
8" Series E	17 1/2	20 1/2	25	17 1/2

BEFORE

AFTER

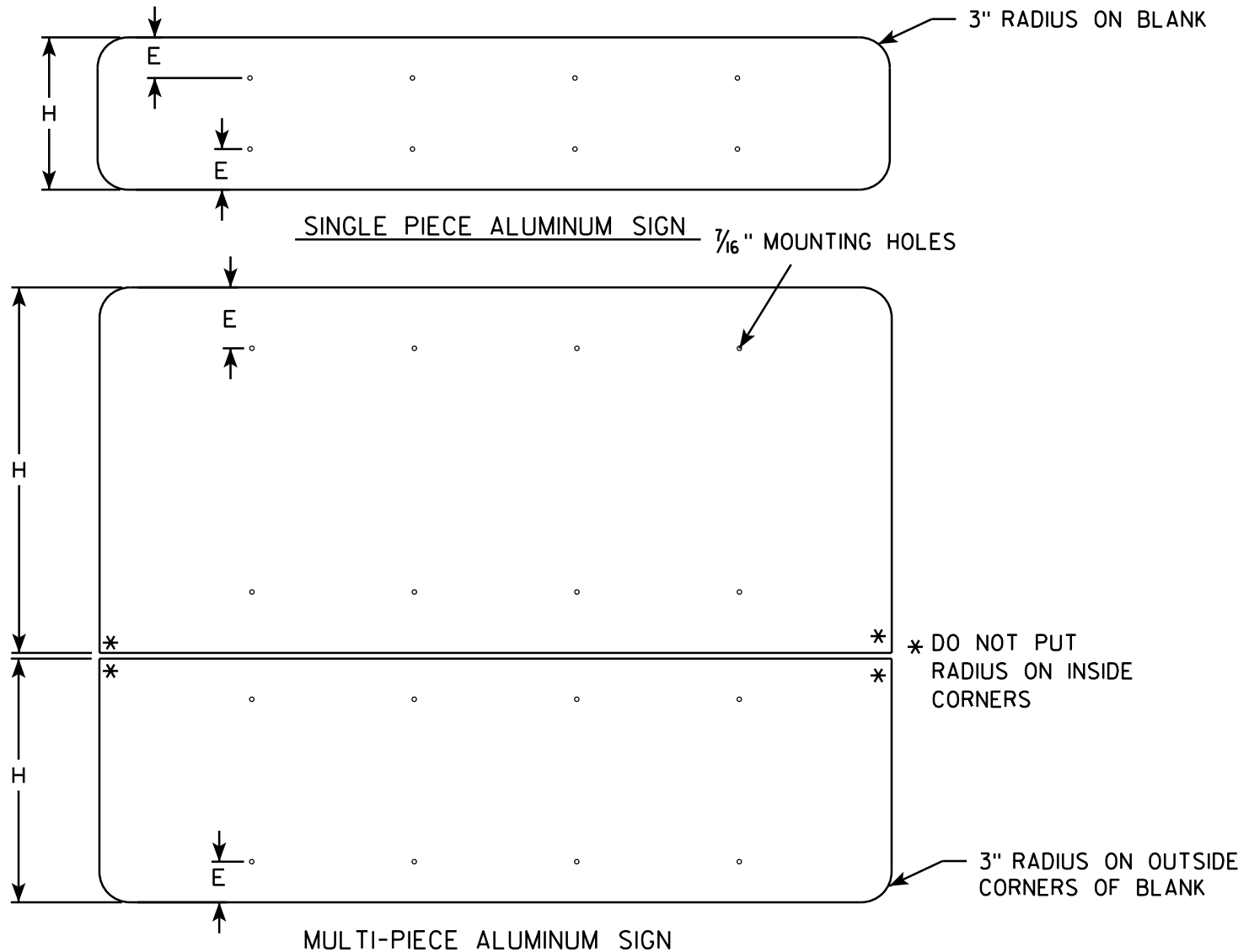


DESTINATION DIRECTIONAL ARROW
FOR DETOUR SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

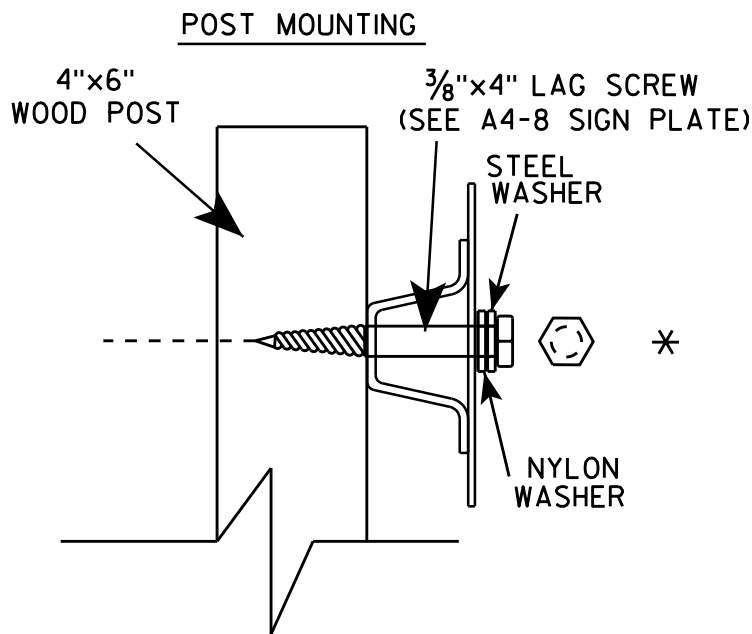
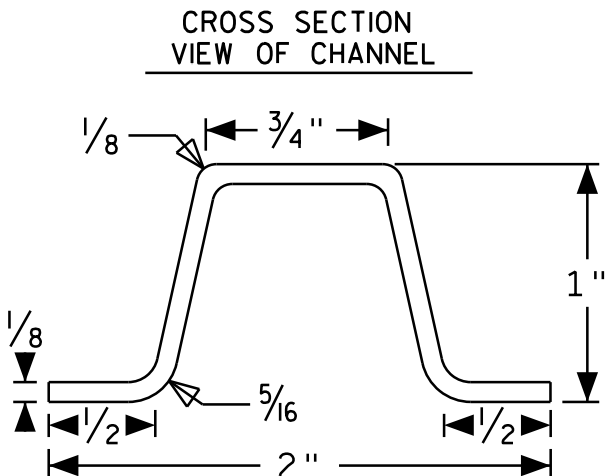
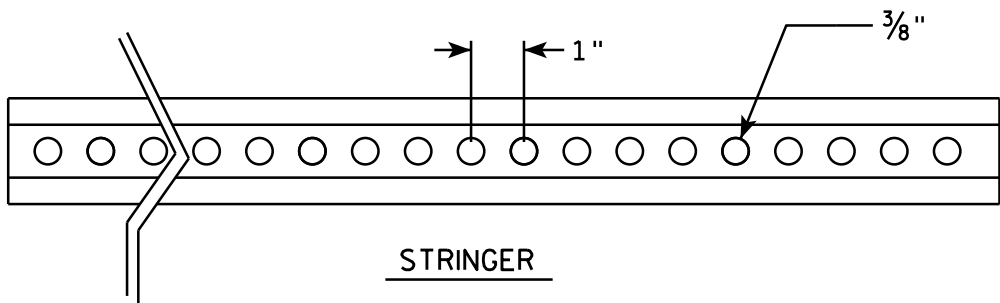
DATE 10/08/14 137 . A4-12.2



GENERAL NOTES

- ALL SIGNS OVER 60" IN WIDTH SHALL HAVE A 3" RADIUS ON THE OUTSIDE CORNERS OF THE ALUMINUM BLANK.
- MOUNTING HOLES SHALL BE 7/16" DIAMETER.
- SEE CHART FOR HOLE SPACING REQUIREMENTS
- FOR SIGN PANELS WITH DIMENSION (H) 36" AND OVER, DIMENSION E SHALL BE 6"
- FOR SIGN PANELS WITH DIMENSION (H) UNDER 36", DIMENSION E SHALL BE 4"
- SIGN STRINGER MATERIAL SHALL CONSIST OF STEEL CHANNEL POST SECTIONS, WEIGHING 1.12 LBS/FT IN ACCORDANCE WITH SECTION 633.2.1 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.
- SEE SIGN PLATE A4-8 FOR SIGN STRINGER BOLTING REQUIREMENTS.

SIGN WIDTH	STRINGER WIDTH	POSTS	HOLE SPACING	MOUNTING HOLES			
78"	72"	2	16"	15"	31"	47"	63"
84"	72"	2	17"	16 1/2"	33 1/2"	50 1/2"	67 1/2"
90"	72"	2	18"	18"	36"	54"	72"
96"	90"	2	19"	19 1/2"	38 1/2"	57 1/2"	76 1/2"
102"	90"	2	20"	21"	41"	61"	81"
108"	90"	2	21"	22 1/2"	43 1/2"	64 1/2"	85 1/2"
114"	108"	3	15"	12"	27"	42"	57" 72" 87" 102"
120"	108"	3	16"	12"	28"	44"	60" 76" 92" 108"
126"	108"	3	17"	12"	29"	46"	63" 80" 97" 114"
132"	126"	3	18"	12"	30"	48"	66" 84" 102" 120"
138"	126"	3	19"	12"	31"	50"	69" 88" 107" 126"
144"	126"	3	20"	12"	32"	52"	72" 92" 112" 132"



SIGN STRINGER MOUNTING REQUIREMENTS

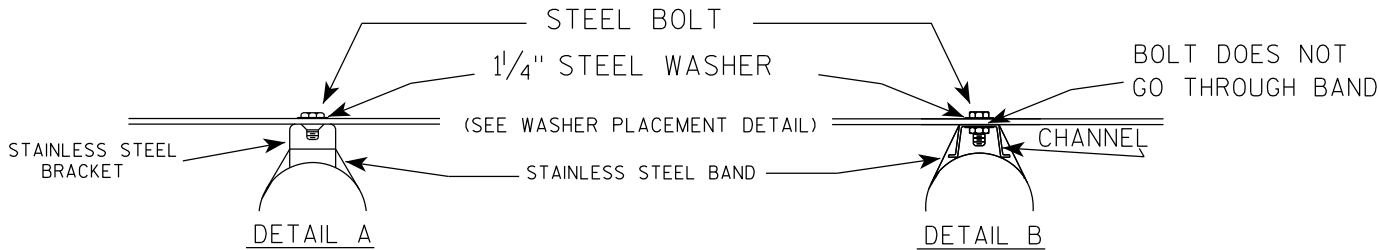
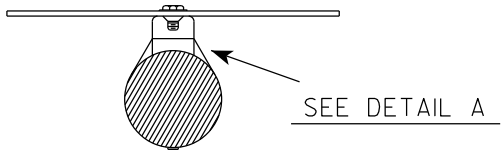
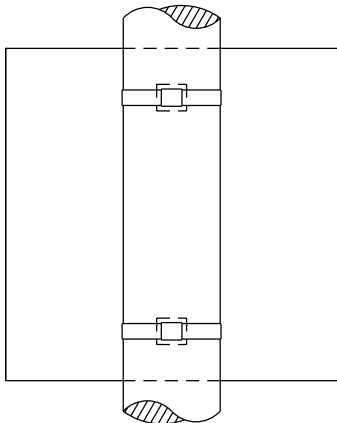
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

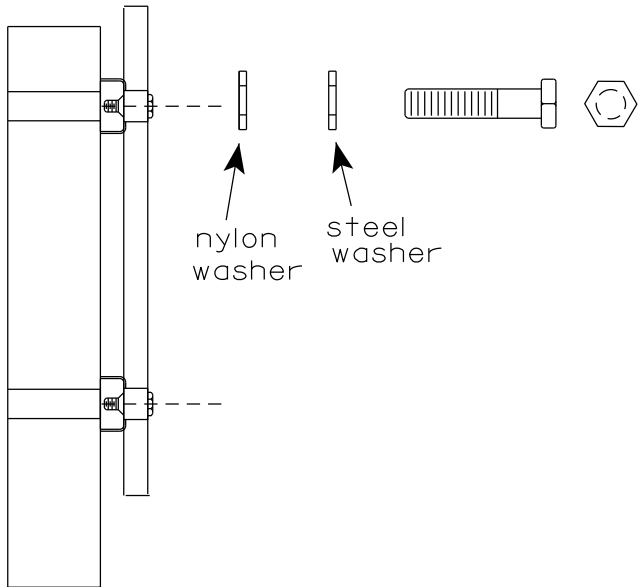
DATE 4/26/16 PLATE No A4-18.1
138

BANDING

SINGLE SIGN



WASHER PLACEMENT

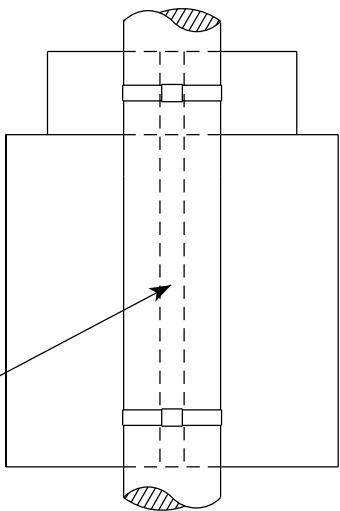


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET

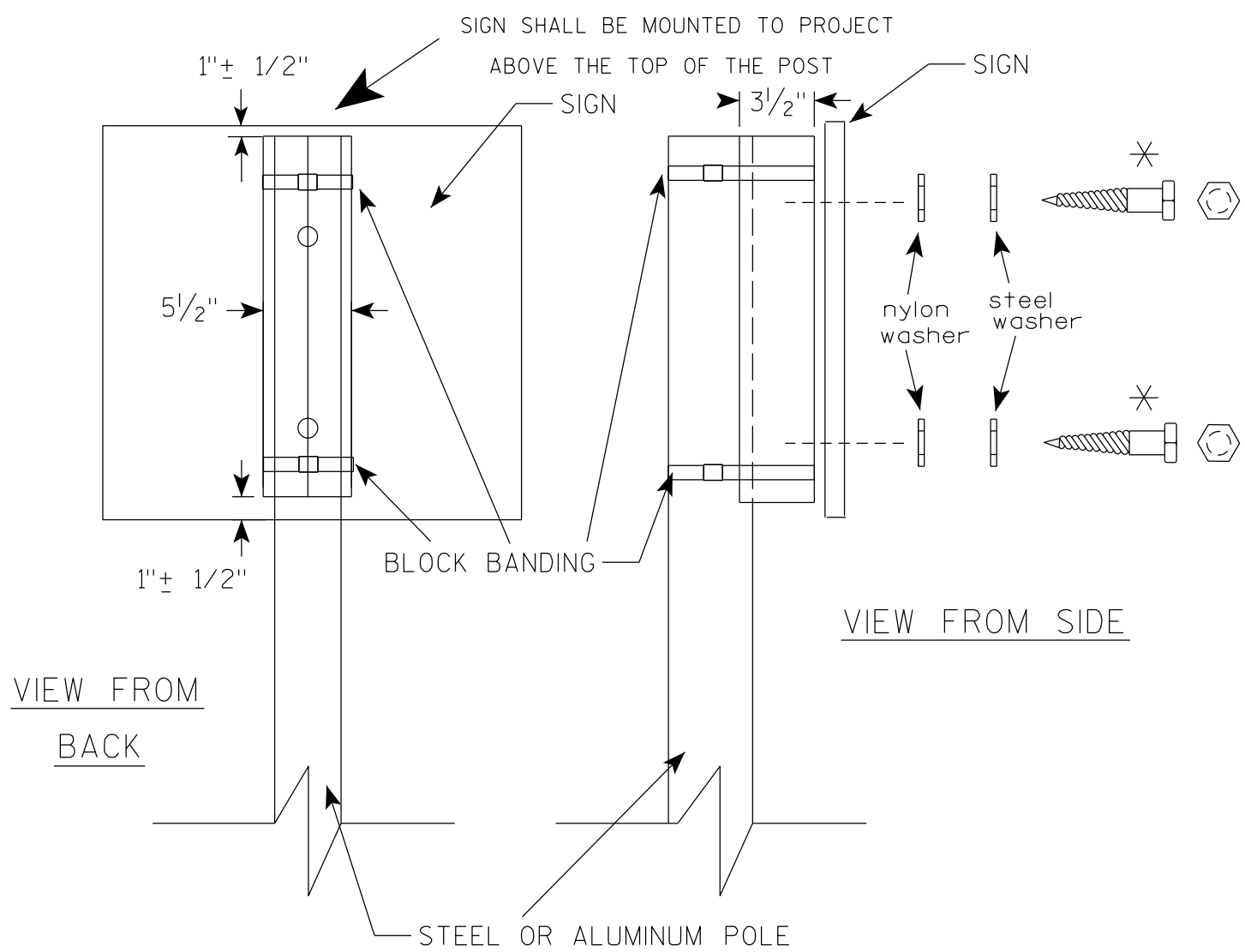
SEE DETAIL B

STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

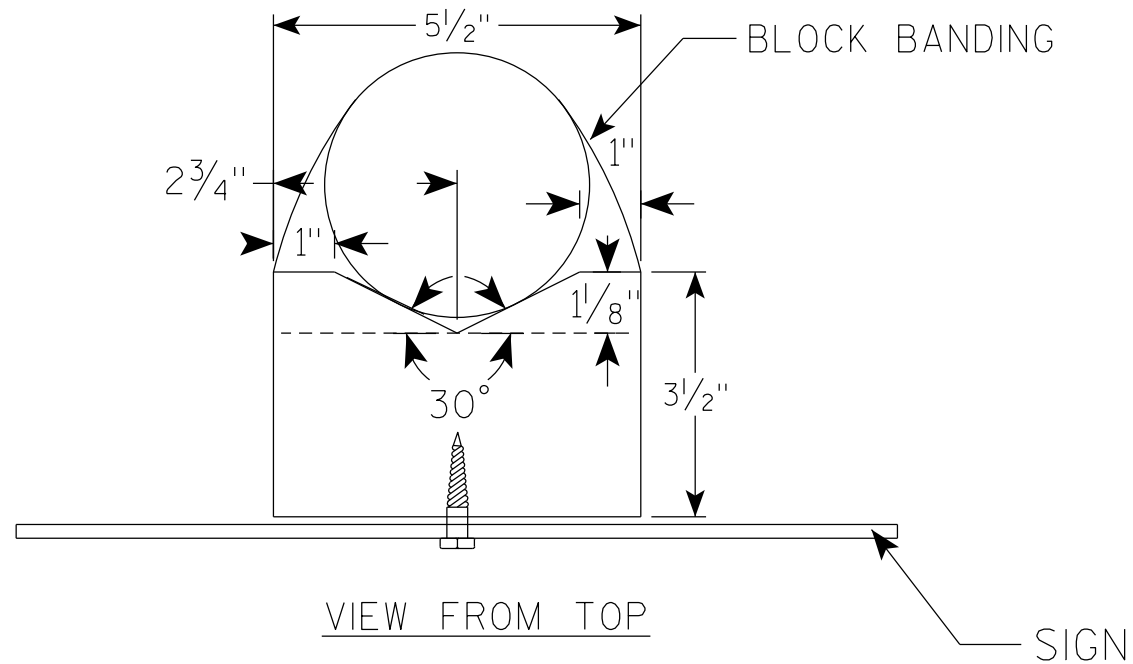
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-9.4



VIEW FROM
BACK

VIEW FROM SIDE



VIEW FROM TOP

GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WISDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, $\frac{3}{4}$ " WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE $\frac{3}{8}$ " X $2\frac{1}{2}$ "

BLOCK BANDING DETAIL
(V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO: 140

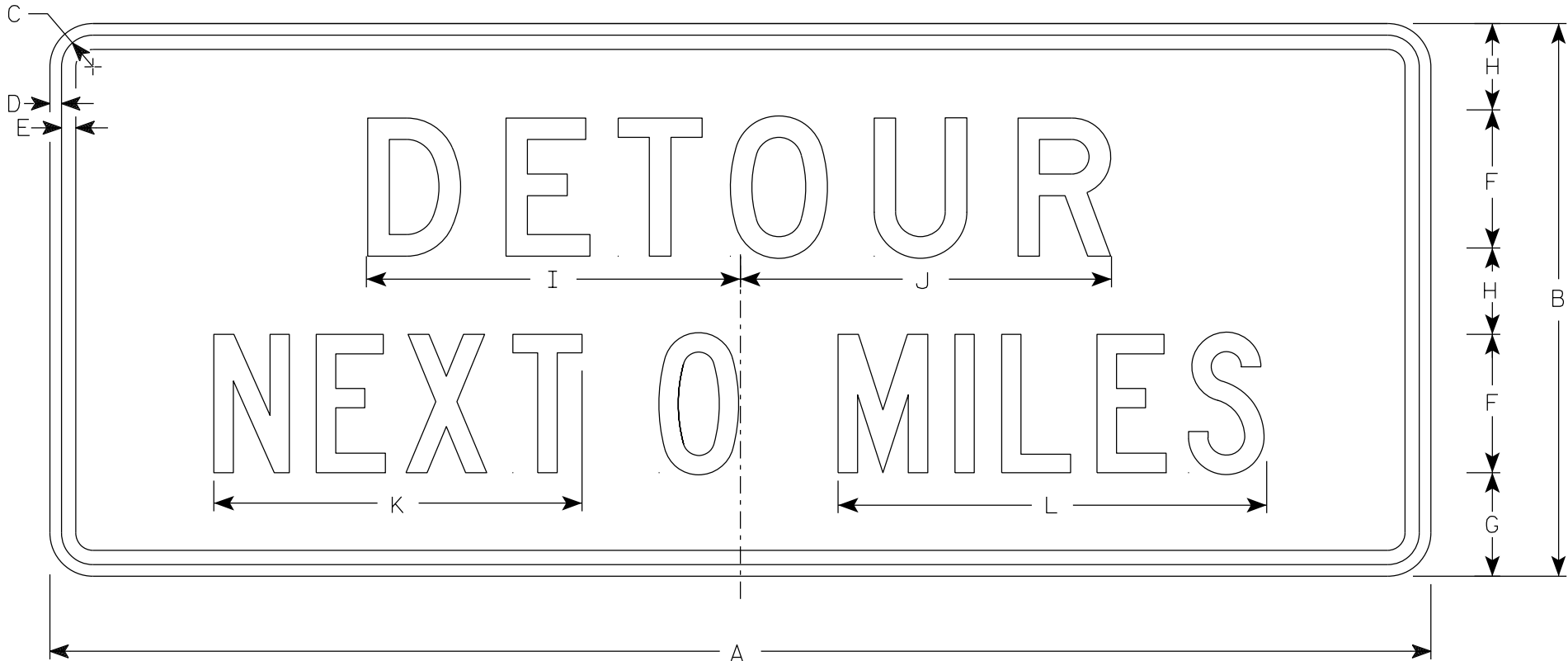
E

7

7

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - Line 1 is D and Line 2 is C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. Round distance to nearest whole Mile and substitute appropriate numerals and optically adjust spacing to achieve proper balance



G20-51

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	60	24	1 7⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4	16 1⁄4	16 1⁄8	16	18 5⁄8															10.0
2M	60	24	1 7⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4	16 1⁄4	16 1⁄8	16	18 5⁄8															10.0
3	60	24	1 7⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4	16 1⁄4	16 1⁄8	16	18 5⁄8															10.0
4	60	24	1 7⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4	16 1⁄4	16 1⁄8	16	18 5⁄8															10.0
5	60	24	1 7⁄8	1⁄2	5⁄8	6	4 1⁄2	3 3⁄4	16 1⁄4	16 1⁄8	16	18 5⁄8															10.0

STANDARD SIGN

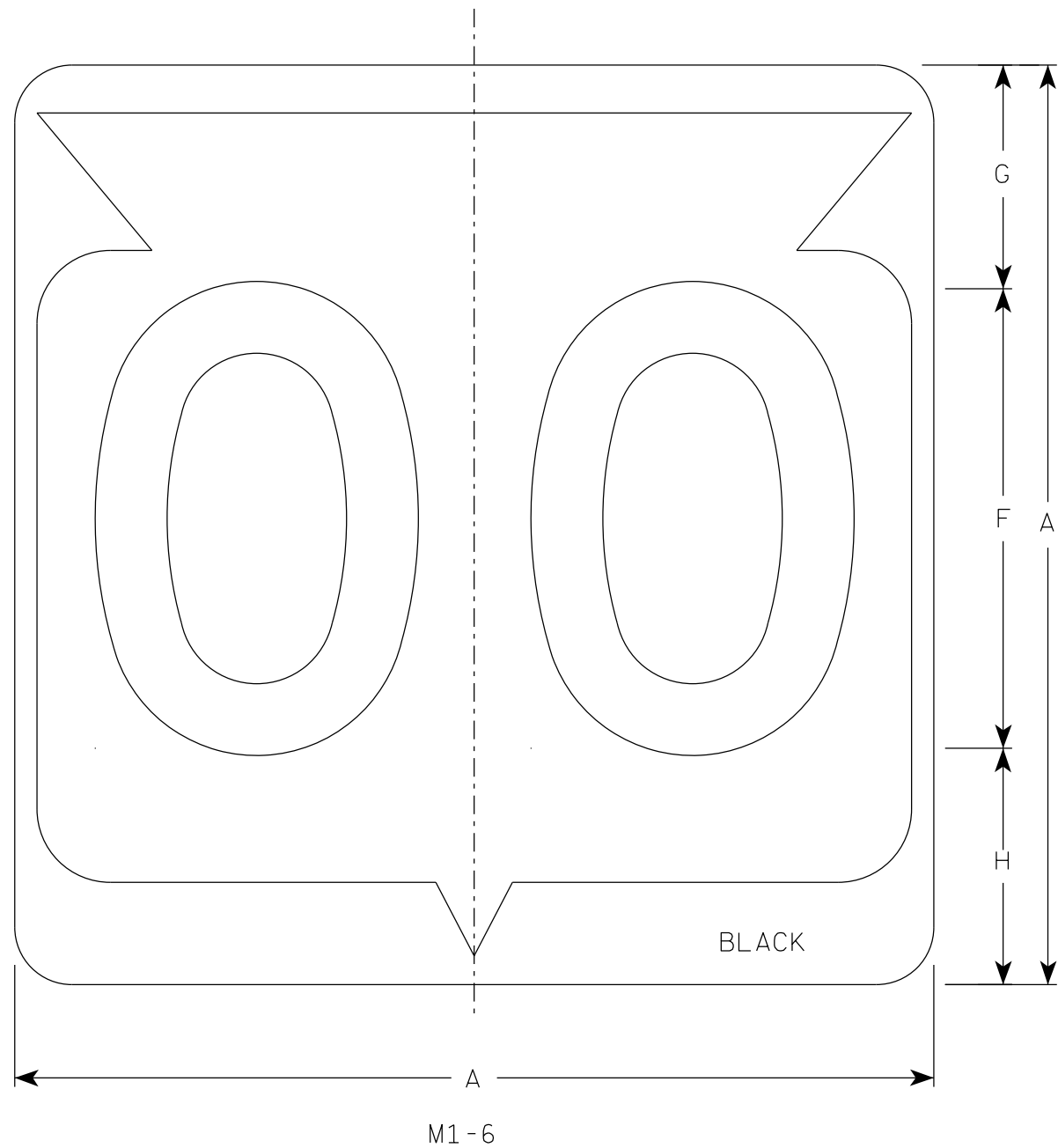
G20-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
State Traffic Engineer

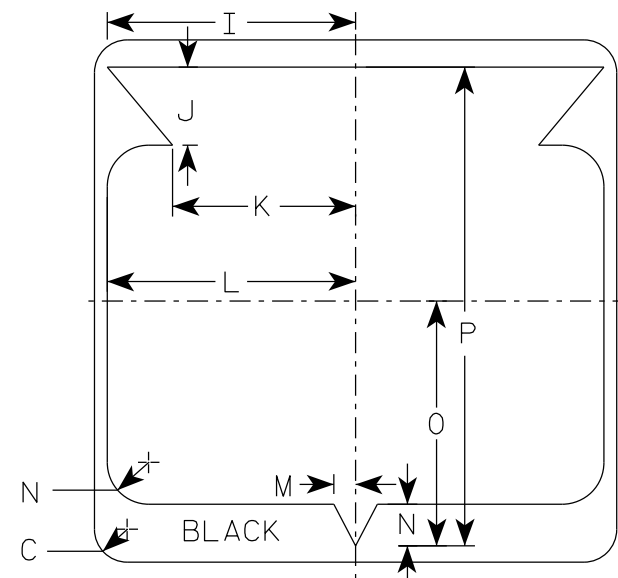
DATE 1/26/2023 PLATE NO. G20-51.3

7



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - White
Message - Black
3. Message Series - D except 3 number signs Series C



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

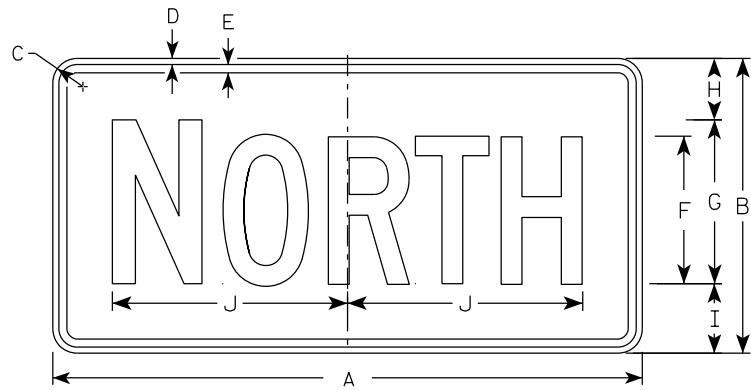
STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

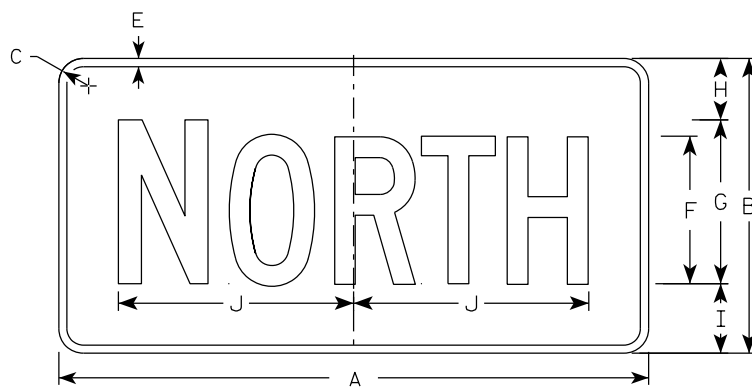
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/8/2022 PLATE NO. M1-6.11

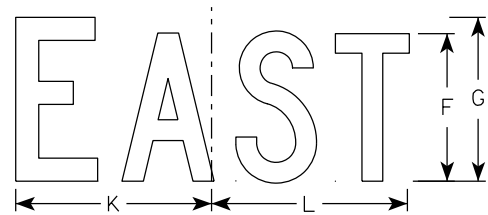
7



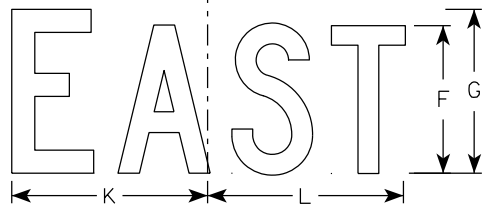
M3-1
MM3-1
MP3-1



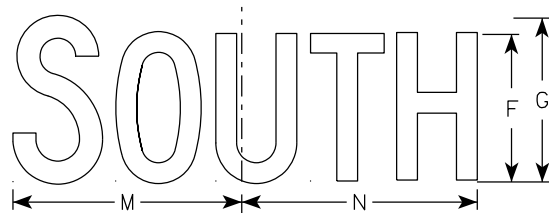
MB3-1
MK3-1
MN3-1



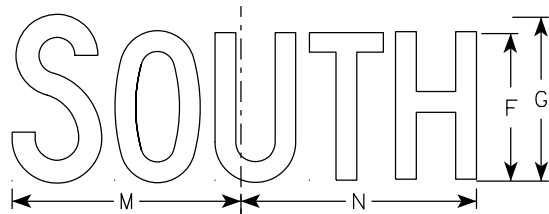
M3-2
MM3-2
MP3-2



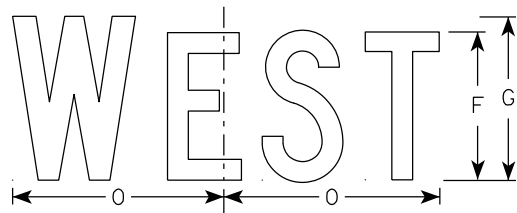
MB3-2
MK3-2
MN3-2



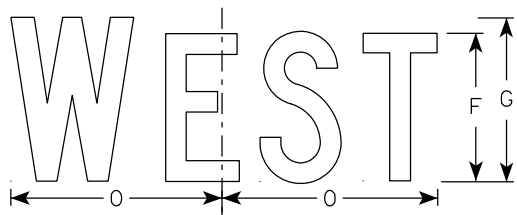
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

- All Signs Type II - Type H Reflective
- Color:
 - Background - See note 5
 - Message - See note 5
- Message Series - C
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M3-1 thru M3-4 Background - White
Message - Black
MB3-1 thru MB3-4 Background - Blue
Message - White
MK3-1 thru MK3-4 Background - Green
Message - White
MM3-1 thru MM3-4 Background - White
Message - Green
MN3-1 thru MN3-4 Background - Brown
Message - White
MP3-1 thru MP3-4 Background - White
Message - Blue
- Note the first letter of each direction is larger than the remainder of the message.

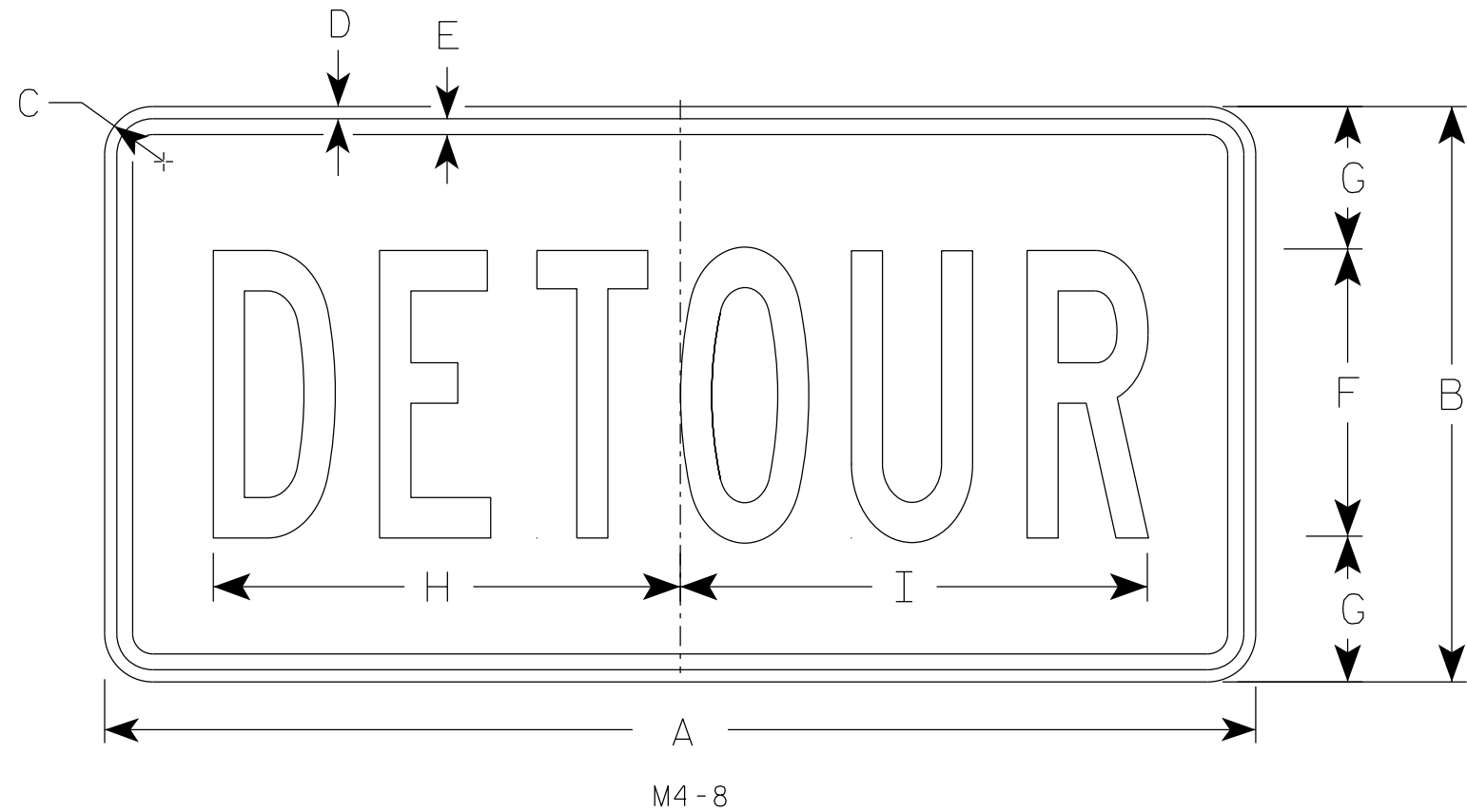
7

7

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

PROJECT NO:	HWY:	COUNTY:	SHEET NO: 143	E
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7



NOTES

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

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
2M	24	12	1 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
5	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5

STANDARD SIGN

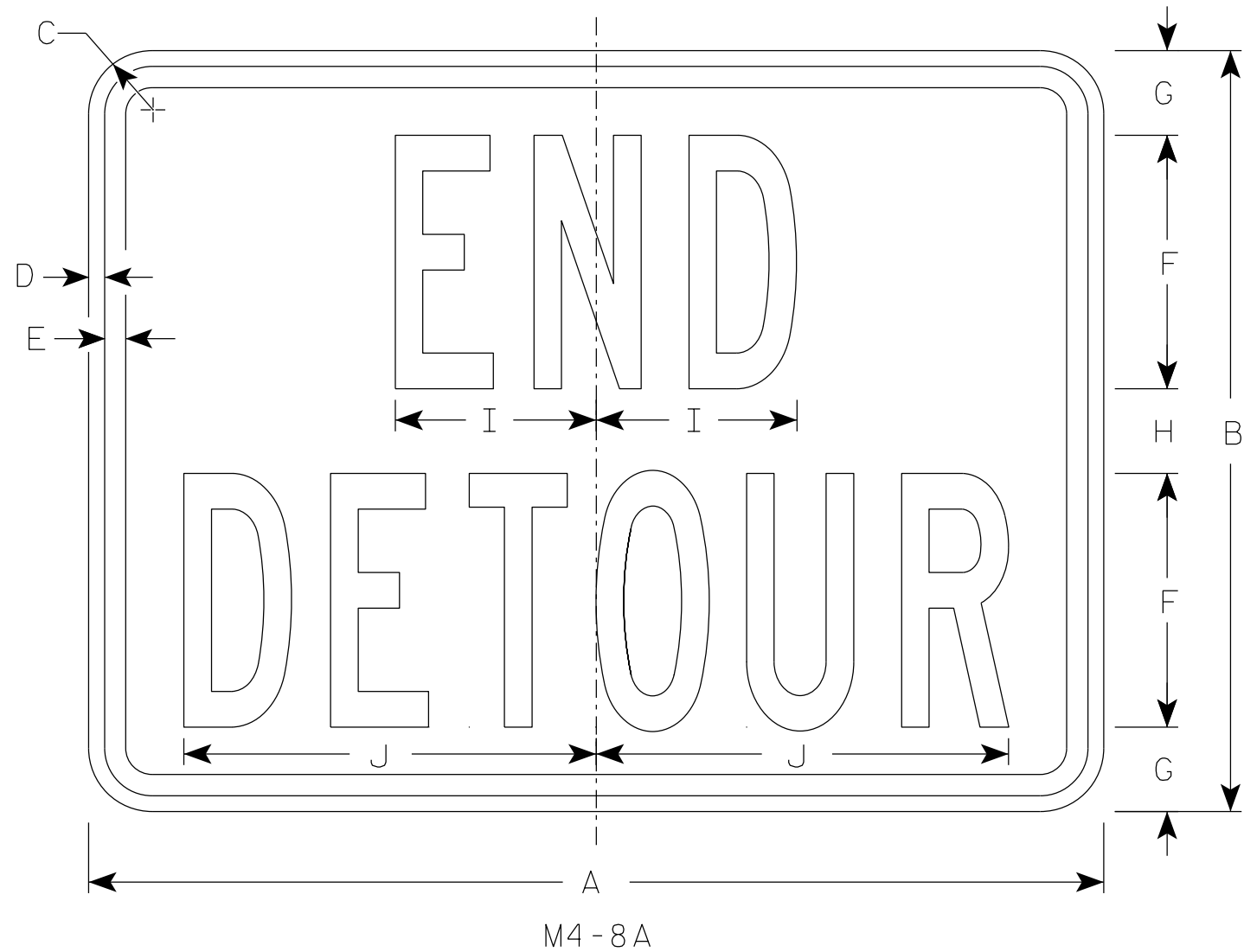
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8.4

7



NOTES

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

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1																											
2	24	18	1 1/2	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
2M	24	18	1 1/2	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/2	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4	30	24	1 1/2	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
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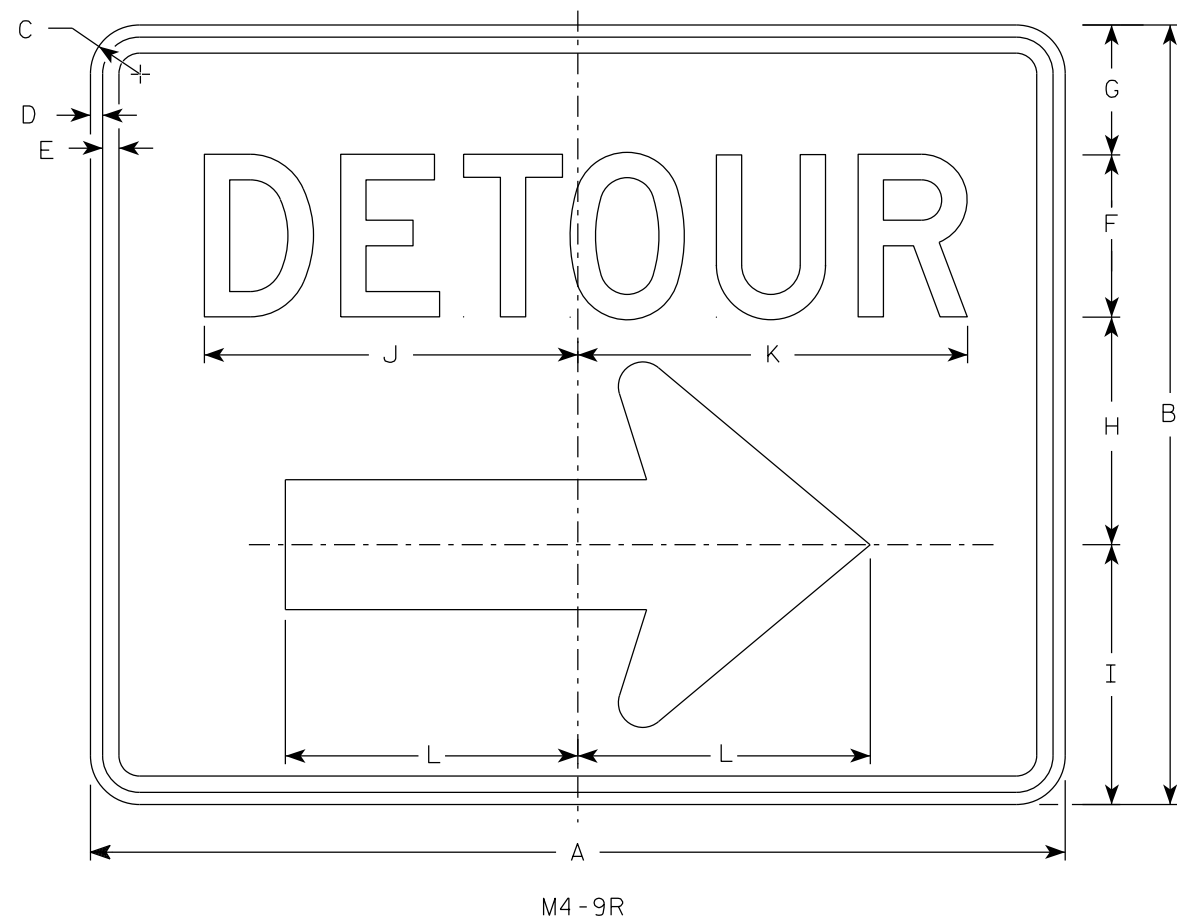
STANDARD SIGN

M4-8A

WISCONSIN DEPT OF TRANSPORTATION

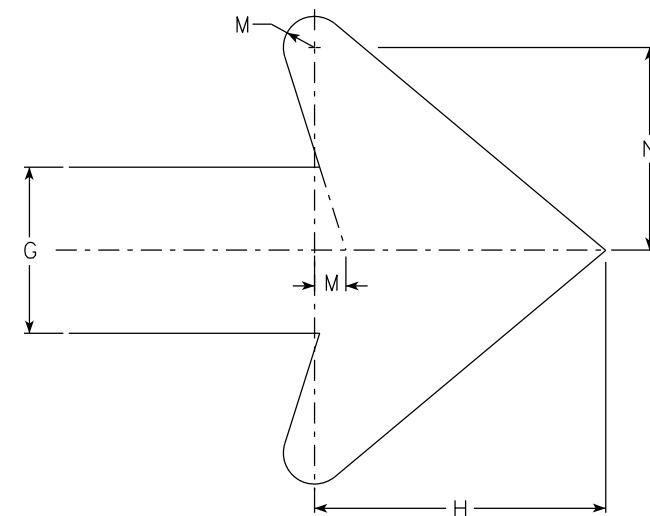
APPROVED *Matthew R Rauch*
For State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8A.4



NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M4-9L is the same as M4-9R except the arrow is reversed.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
2M	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 7/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 7/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

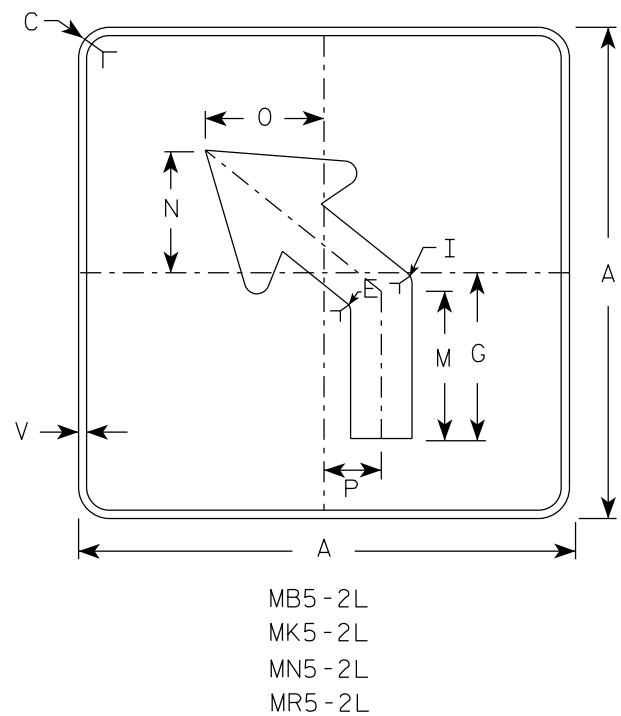
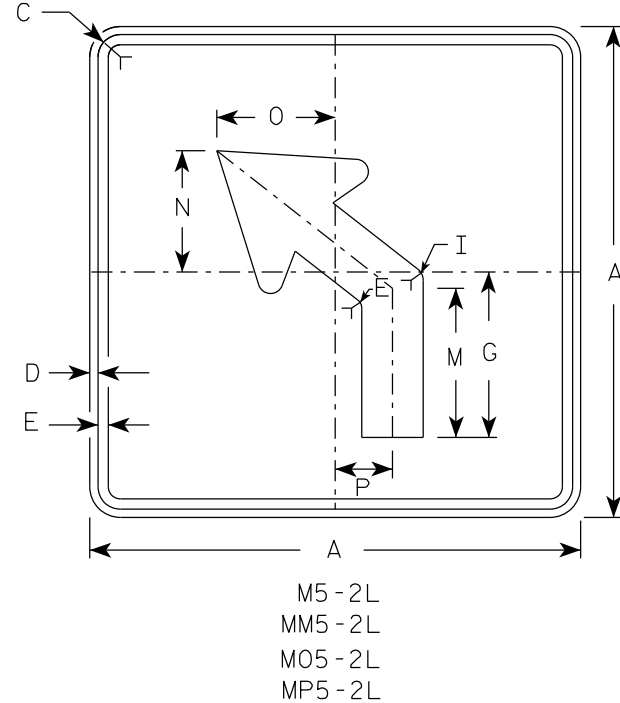
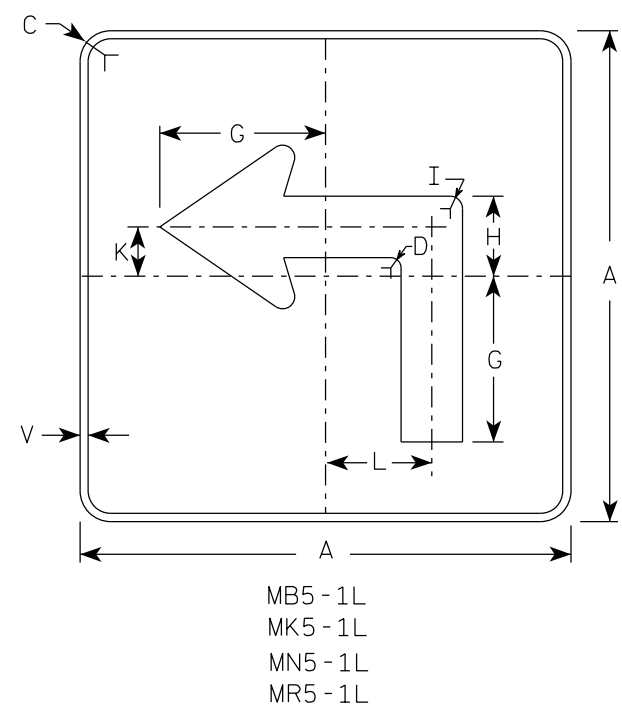
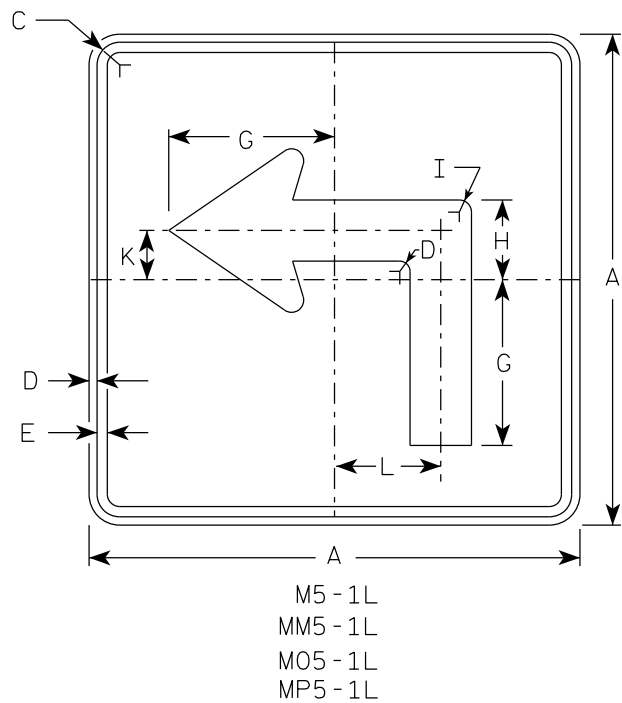
STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

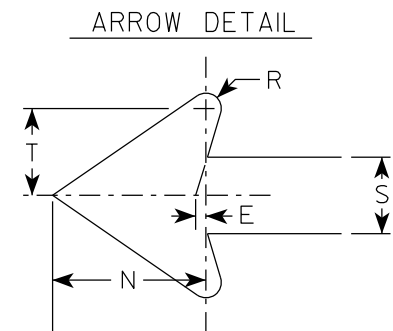
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-9R.6

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

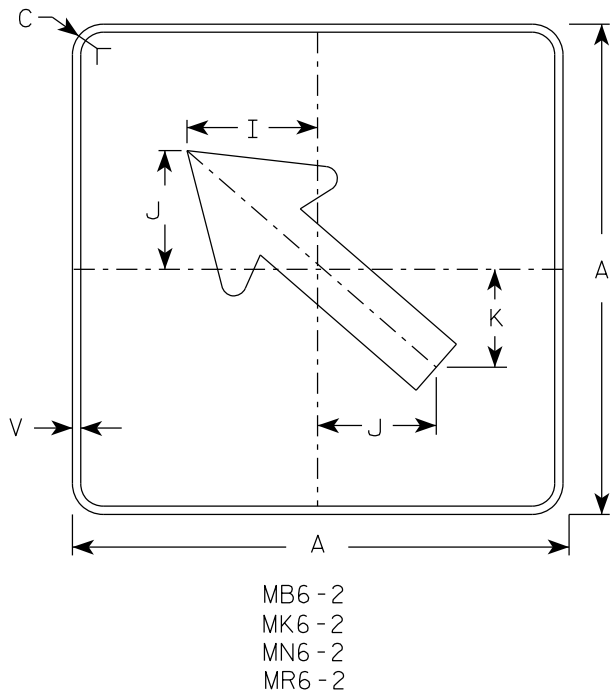
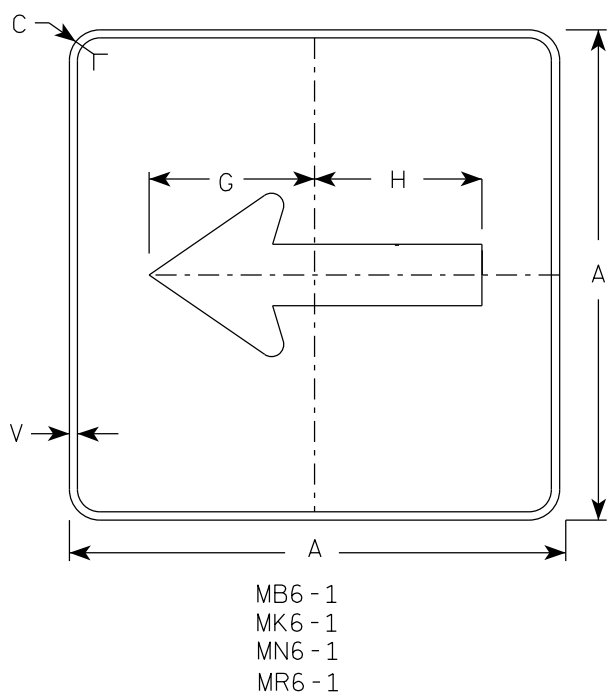
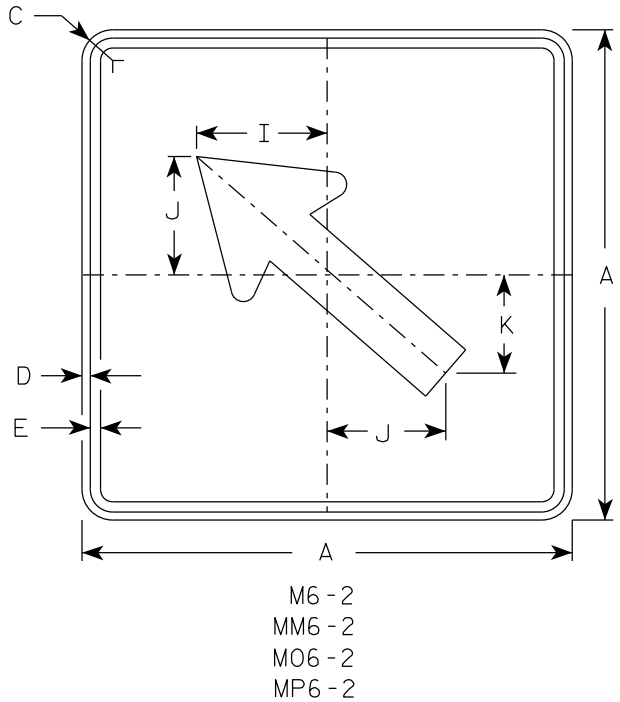
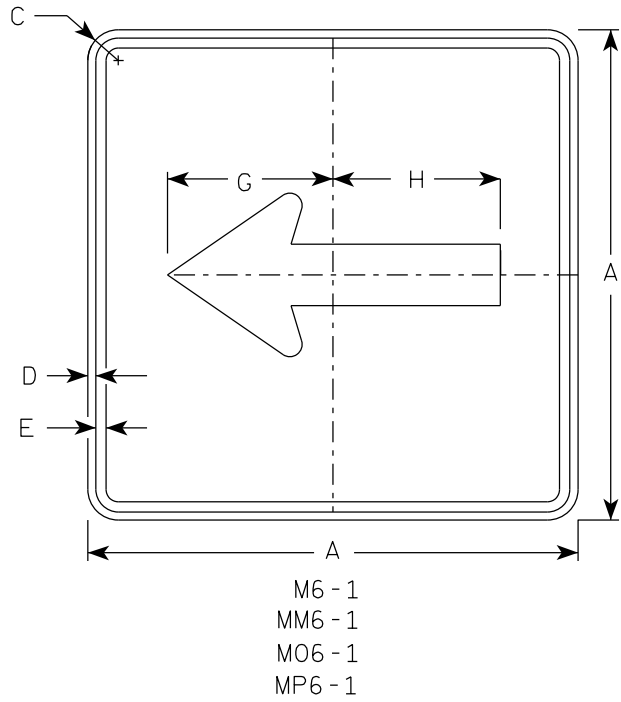


- NOTES
- Signs are Type II - Type H reflective except as shown
 - Color:
Background - See note 4
Message - See note 4
 - Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
 - | | | |
|-----------|-------|---|
| M5-1 and | M5-2 | Background - White |
| | | Message - Black |
| MB5-1 and | MB5-2 | Background - Blue |
| | | Message - White |
| MK5-1 and | MK5-2 | Background - Green |
| | | Message - White |
| MM5-1 and | MM5-2 | Background - White |
| | | Message - Green |
| MN5-1 and | MN5-2 | Background - Brown |
| | | Message - White |
| M05-1 and | M05-2 | Background - Orange - Type F Reflective |
| | | Message - Black |
| MP5-1 and | MP5-2 | Background - White |
| | | Message - Blue |
| MR5-1 and | MR5-2 | Background - Brown |
| | | Message - Yellow |
 - M5-1R same as M5-1L except arrow points right.
 - M5-2R same as M5-2L except arrow tilts right.

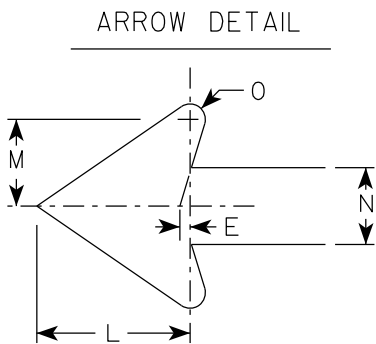


SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
2M	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
3	30		1 7/8	1/2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

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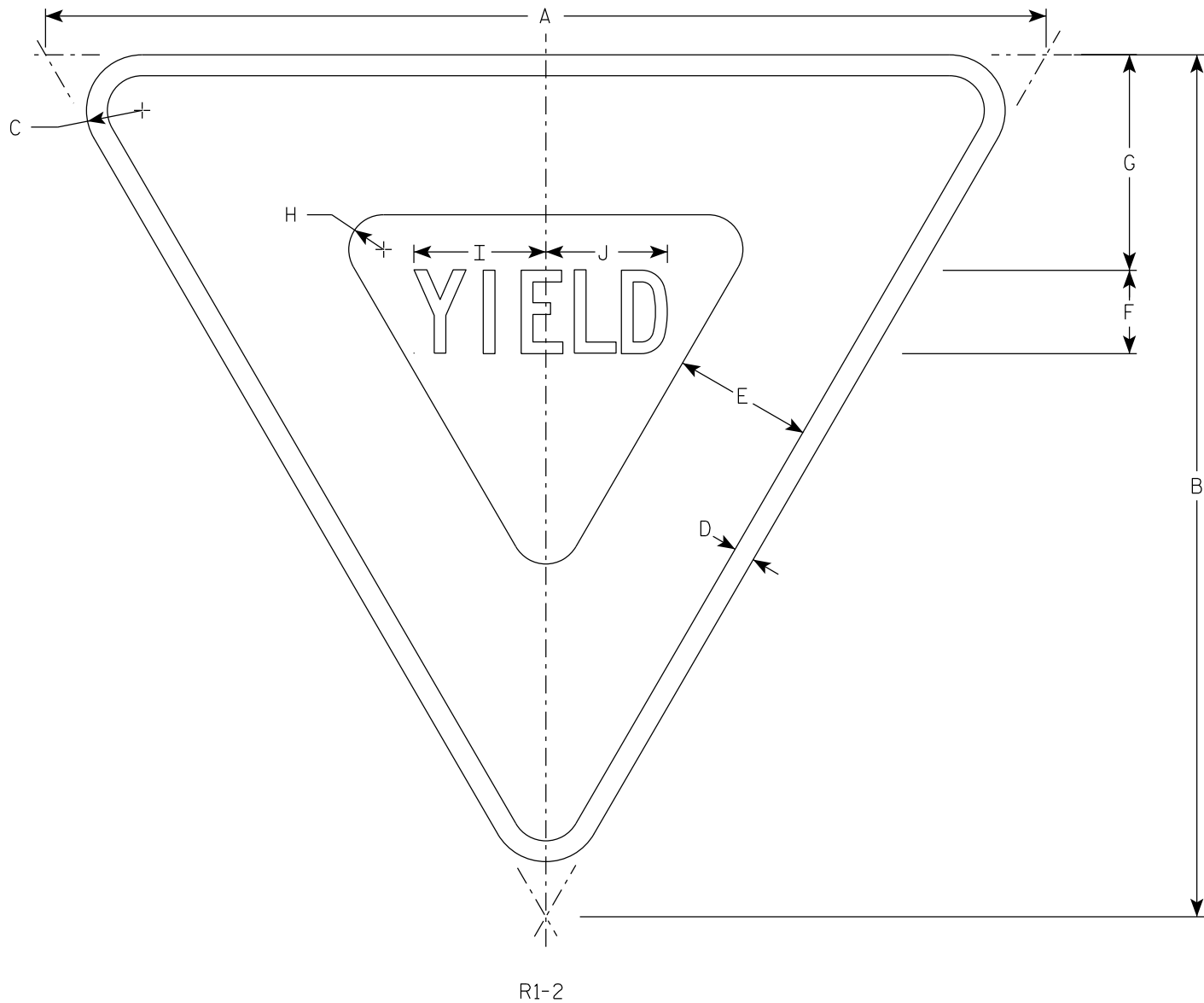


- NOTES
- Signs are Type II - Type H Reflective except as Shown
 - Color:
Background - See note 4
Message - See note 4
 - Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
 - M6-1 and M6-2 Background - White
Message - Black
MB6-1 and MB6-2 Background - Blue
Message - White
MK6-1 and MK6-2 Background - Green
Message - White
MM6-1 and MM6-2 Background - White
Message - Green
MN6-1 and MN6-2 Background - Brown
Message - White
M06-1 and M06-2 Background - Orange - Type F Reflective
Message - Black
MP6-1 and MP6-2 Background - White
Message - Blue
MR6-1 and MR6-2 Background - Brown
Message - Yellow



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

7



NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
Background - White
Message - See note 4
- 3. Message Series - C
- 4. The border strip and word message are reflectorized red.

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	26	2	5⁄8	4	2 1⁄2	6 3⁄8	7⁄8	4	3 5⁄8																	2.71
2S	36	31	2	3⁄4	5	3	7 3⁄4	1 1⁄4	4 3⁄4	4 3⁄8																	3.88
2M	48	42	3	1	6	4	9 3⁄4	2	6 1⁄4	5 7⁄8																	7.00
3	48	42	3	1	6	4	9 3⁄4	2	6 1⁄4	5 7⁄8																	7.00
4	48	42	3	1	6	4	9 3⁄4	2	6 1⁄4	5 7⁄8																	7.00
5	60	52	3	1 1⁄2	8	5	13	2 1⁄2	7 7⁄8	7 1⁄4																	10.83
6																											
7	18	15 1⁄2	1	3⁄8	2 1⁄2	1 1⁄2	3 7⁄8	5⁄8	2 3⁄8	2 1⁄4																	0.97

PROJECT NO:

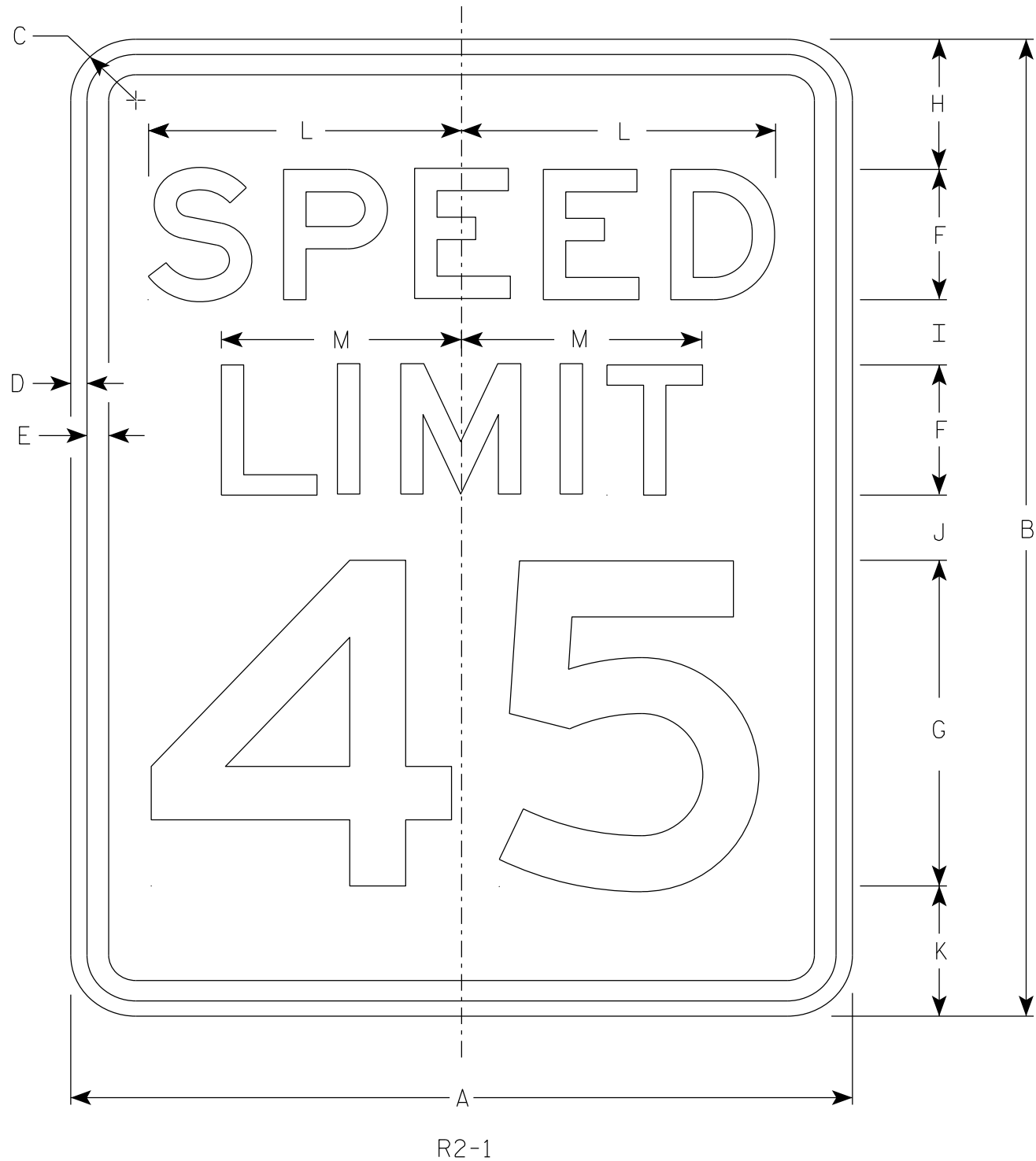
HWY:

COUNTY:

SHEET NO: 149

E

7



NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
Background - White
Message - Black
- 3. Message Series - E
- 4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/2	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/2	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 7/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 7/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 7/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	3	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

STANDARD SIGN

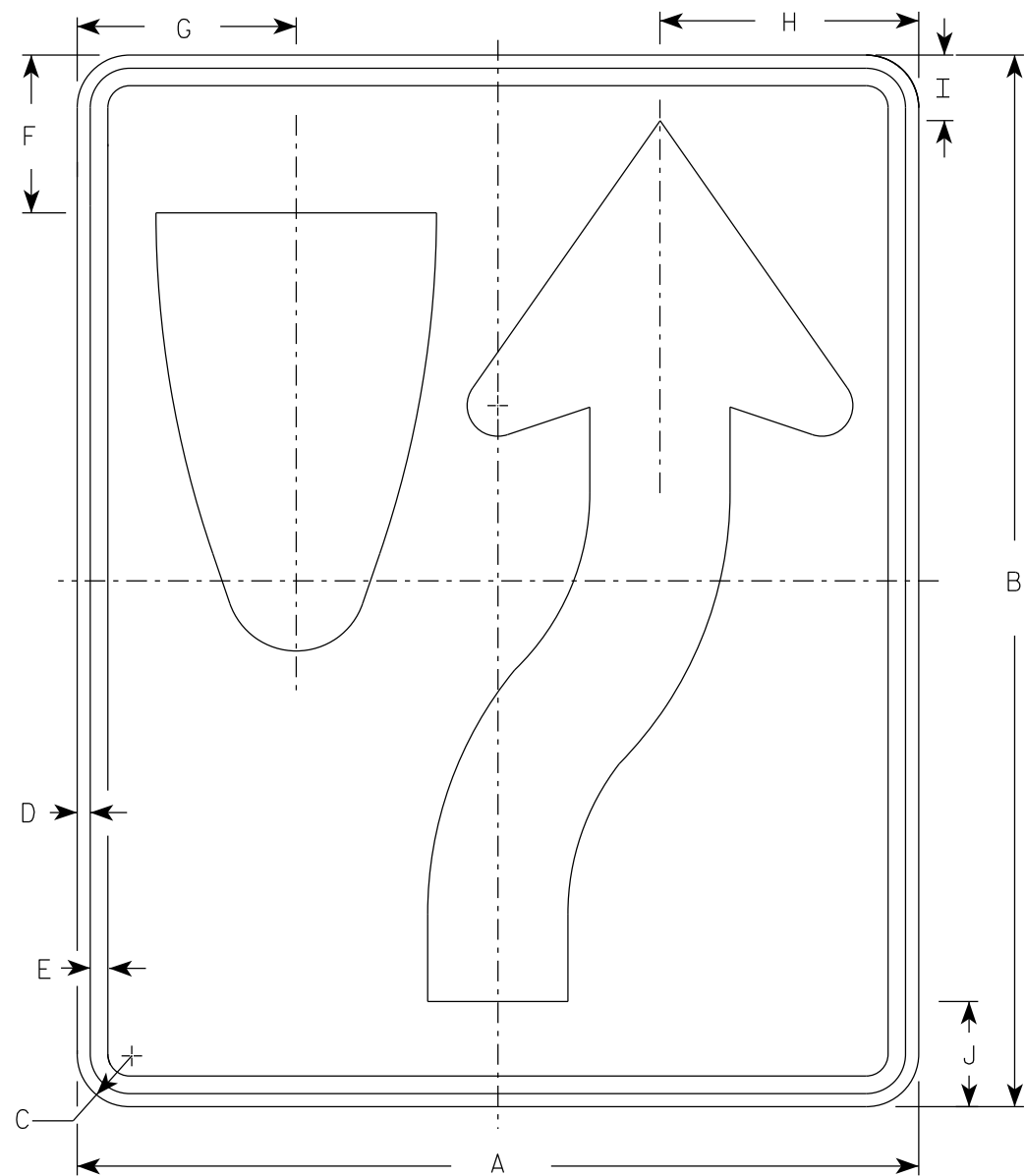
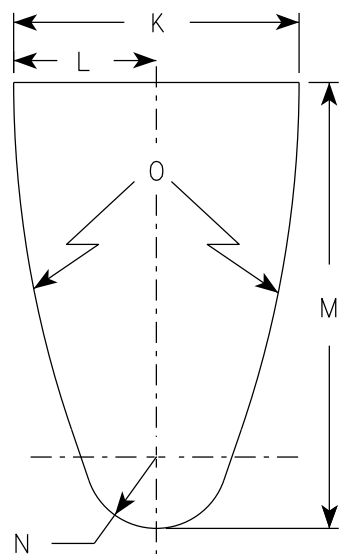
R2 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/1/23 PLATE NO. R2-1.14

DIVIDER DETAIL

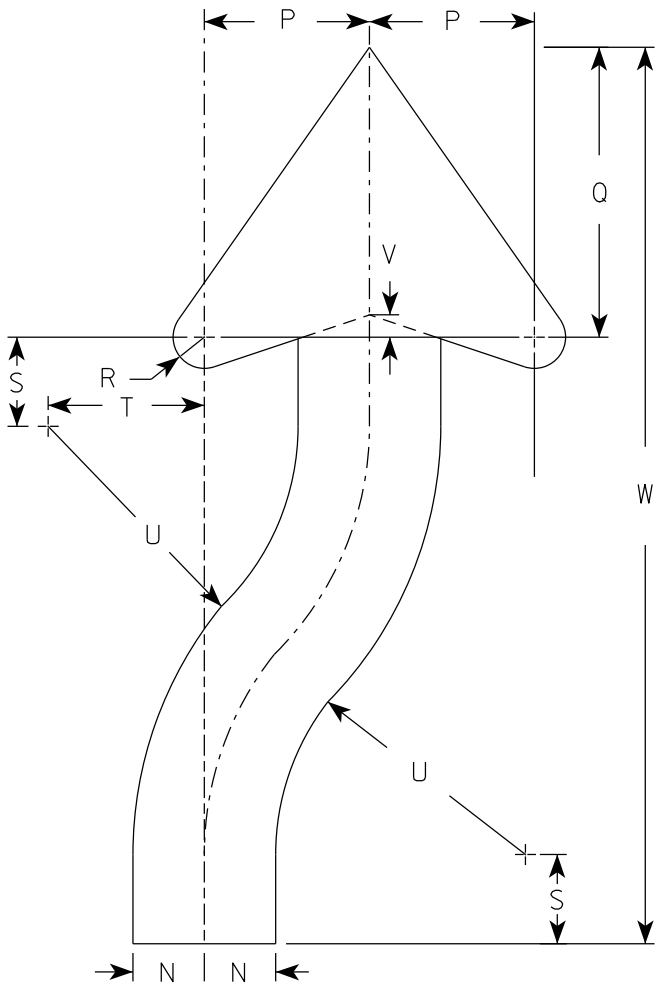


R4-7

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
 - Background - White
 - Message - Black
- 3. R4-8 is the same as R4-7 except Legend is reversed.

ARROW DETAIL



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/2	3/8	1/2	3 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 7/8	3 1/4	6 3/4	1/2	20 3/8				3.0
2S	24	30	1 1/2	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/2	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 7/8	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
4	36	48	1 7/8	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
5	48	60	3	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1 5/8	5	8 3/4	18	1 1/4	50 1/4				20.0

PROJECT NO:

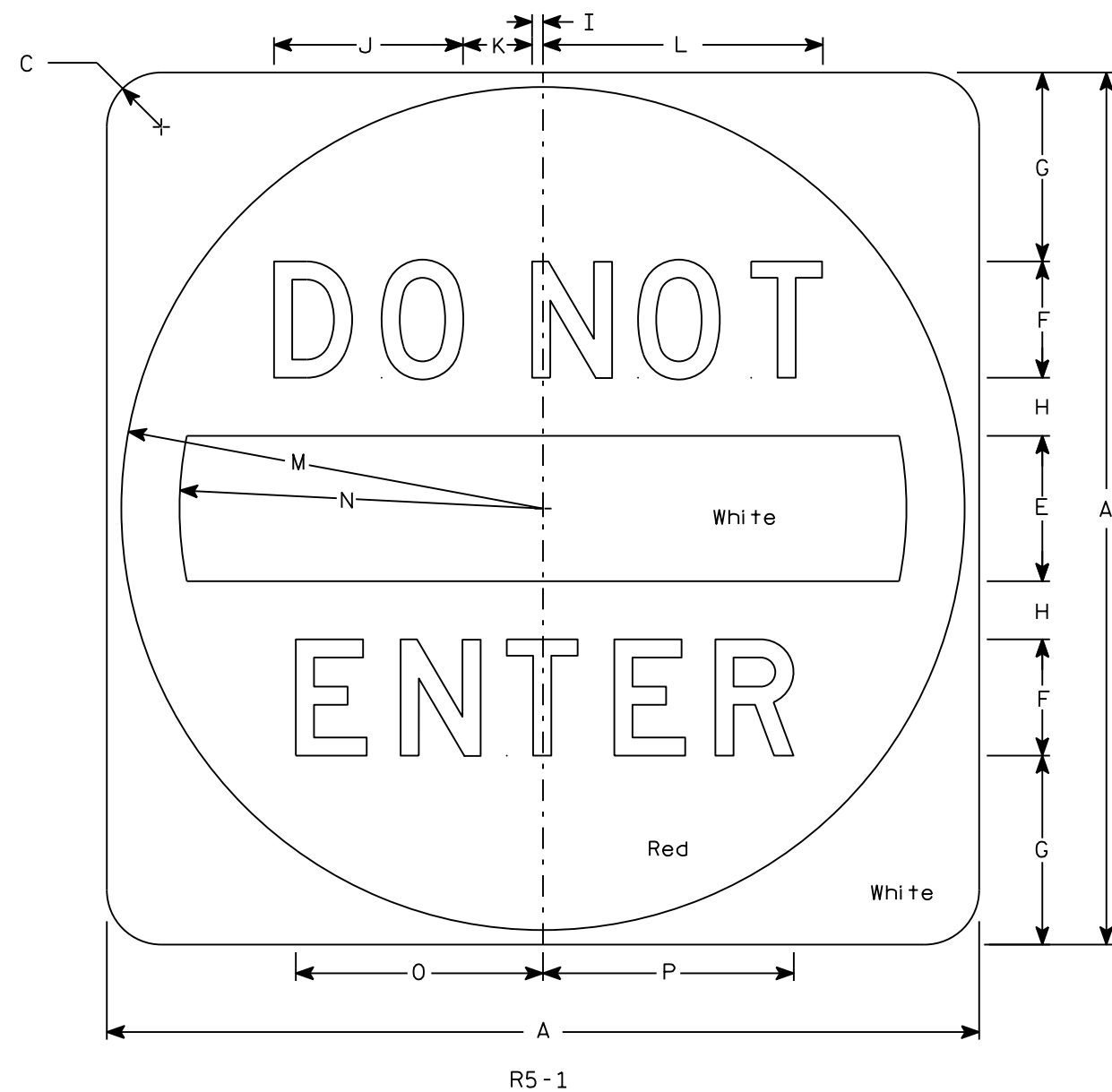
HWY:

COUNTY:

SHEET NO: 151

E

7



NOTES

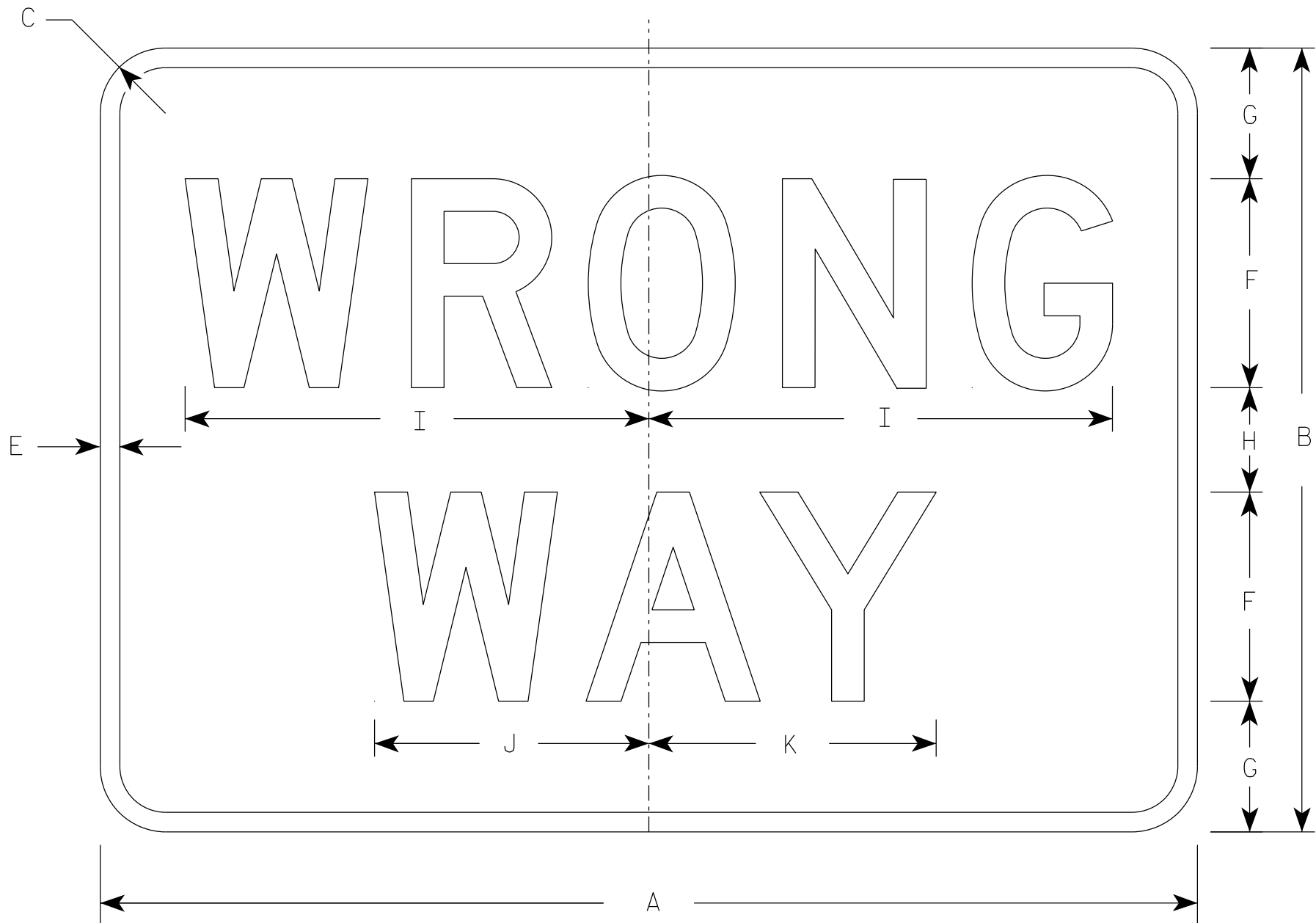
1. Sign is Type II - Type H Reflective
2. Color:
Background - See detail
Message - White
3. Message Series - D

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30		1 7⁄8		5	4	6 1⁄2	2	3⁄8	6 1⁄2	2 3⁄8	9 5⁄8	14 1⁄2	12 1⁄2	8 1⁄2	8 5⁄8											6.25
2M	36		2 1⁄4		6	5	7 1⁄2	2 1⁄2	1⁄2	8 1⁄8	3	12 1⁄8	17 1⁄2	15	10 5⁄8	10 3⁄4											9.0
3	36		2 1⁄4		6	5	7 1⁄2	2 1⁄2	1⁄2	8 1⁄8	3	12 1⁄8	17 1⁄2	15	10 5⁄8	10 3⁄4											9.0
4	36		2 1⁄4		6	5	7 1⁄2	2 1⁄2	1⁄2	8 1⁄8	3	12 1⁄8	17 1⁄2	15	10 5⁄8	10 3⁄4											9.0
5	48		3		8	6	11	3	5⁄8	9 3⁄4	3 5⁄8	14 1⁄2	23 1⁄2	20	12 3⁄4	12 7⁄8											16.0

STANDARD SIGN R5-1	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 3/15/18	PLATE NO. R5-1.16

7



R5-1A

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
 - Background - Red
 - Message - White
- 3. Message Series - D

7

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

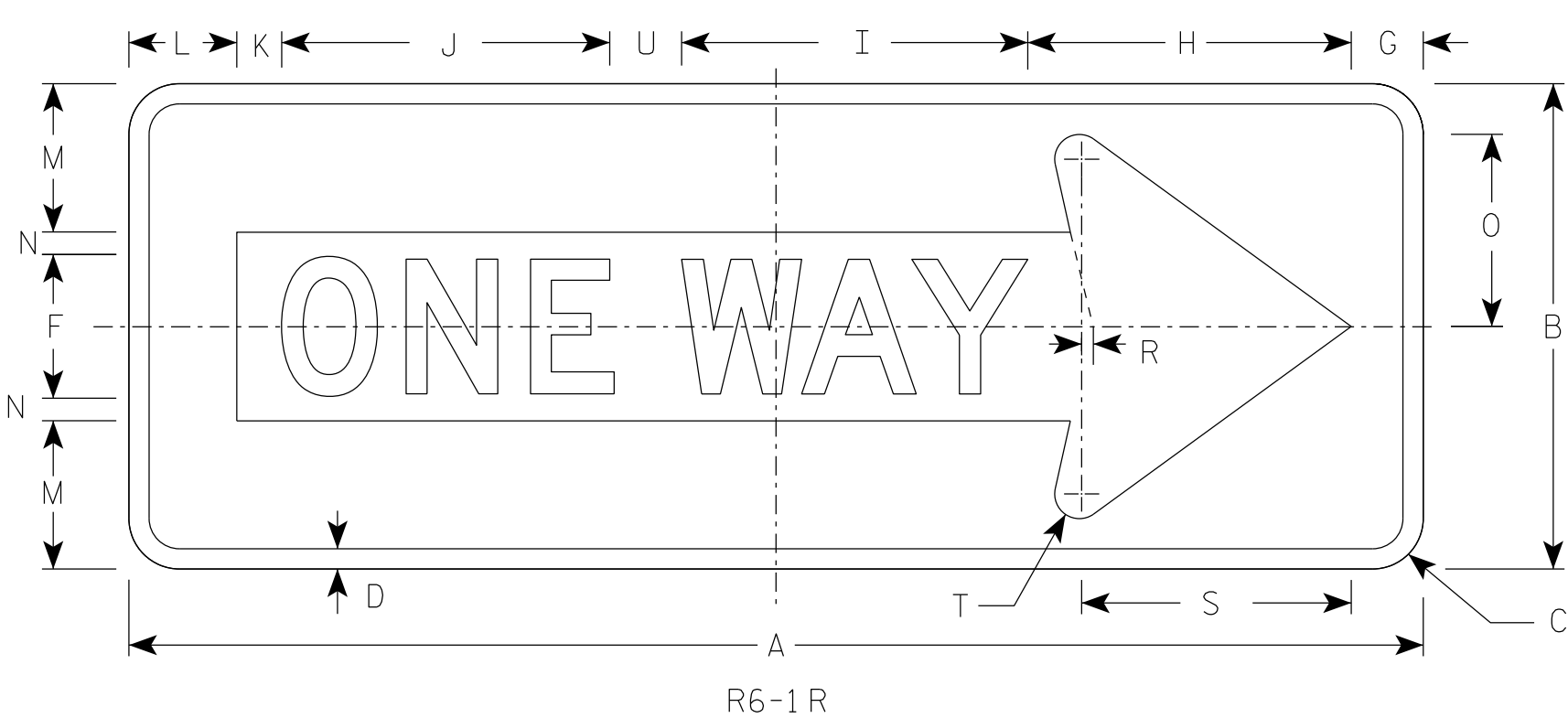
PROJECT NO:

HWY:

COUNTY:

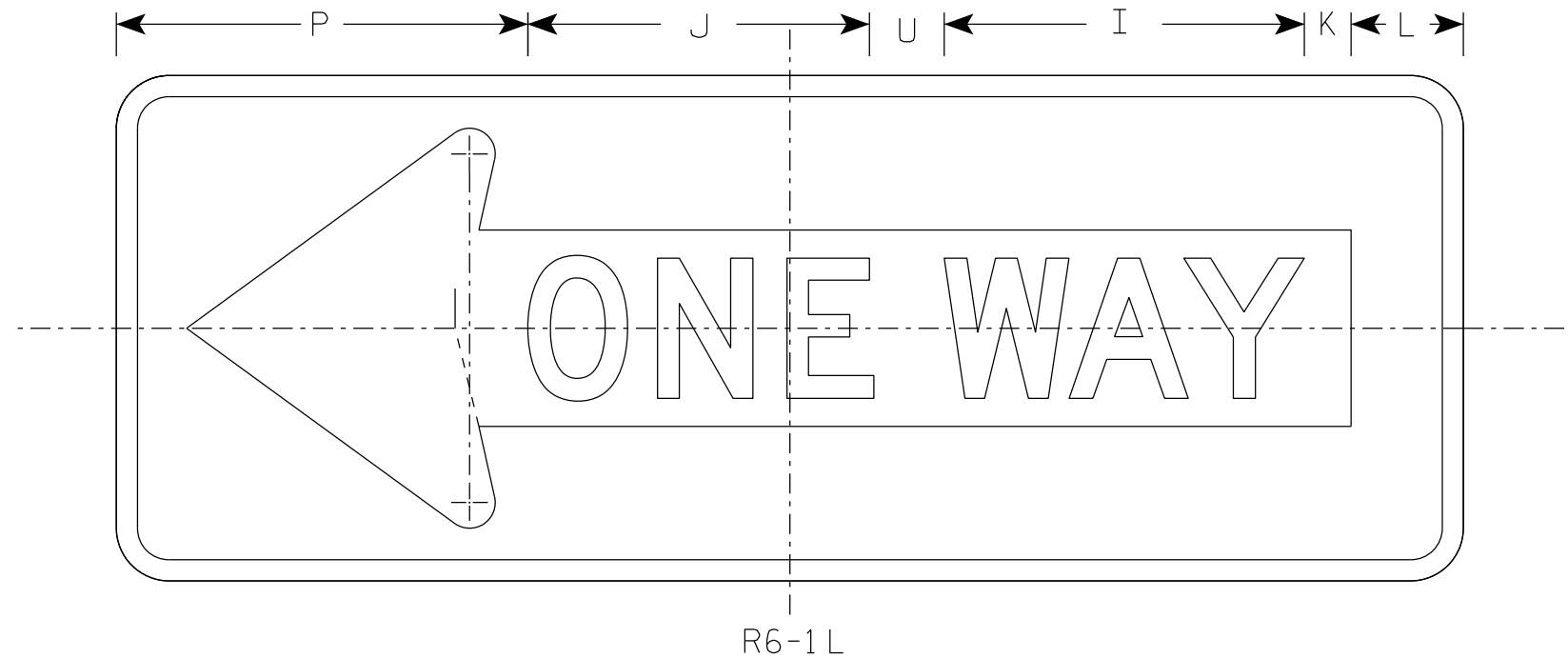
SHEET NO: 153

E



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - Black
Message - Black Legend & White Arrow & Border
3. Message Series - D



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	36	12	1 1/2	1/2		4	2	7 1/2	9 5/8	9 1/8	1 1/4	3	3 3/8	5/8	4 3/8	11		3/8	7 1/2	3/4	2						3.0
2M	48	18	1 7/8	3/4		5	2 1/2	11	13	12 1/4	2 3/4	3 1/2	5 1/2	1	7 1/8	13 1/2		1/2	10 1/8	7/8	3						6.0
3	48	18	1 7/8	3/4		5	2 1/2	11	13	12 1/4	2 3/4	3 1/2	5 1/2	1	7 1/8	13 1/2		1/2	10 1/8	7/8	3						6.0
4	48	18	1 7/8	3/4		5	2 1/2	11	13	12 1/4	2 3/4	3 1/2	5 1/2	1	7 1/8	13 1/2		1/2	10 1/8	7/8	3						6.0
5																											

STANDARD SIGN R6-1 L&R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R. Rauch
for State Traffic Engineer

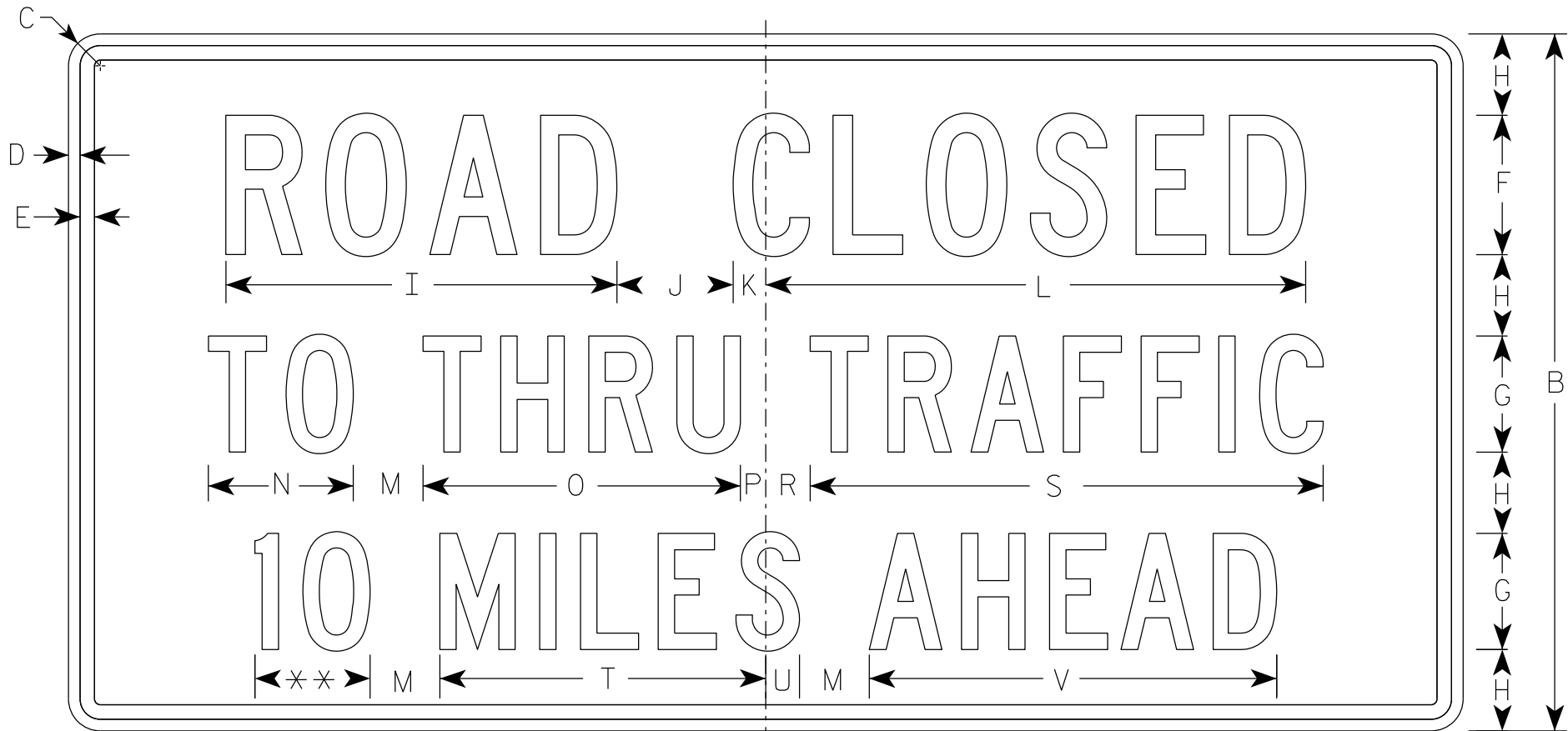
DATE 4/7/2025 PLATE NO. R6-1.5

PROJECT NO: SHEET NO: 154 E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R61.dgn PLOT DATE : 7-APR 2025 1:18 PLOT BY : dotc4c WISDOT/CADDs SHEET 42

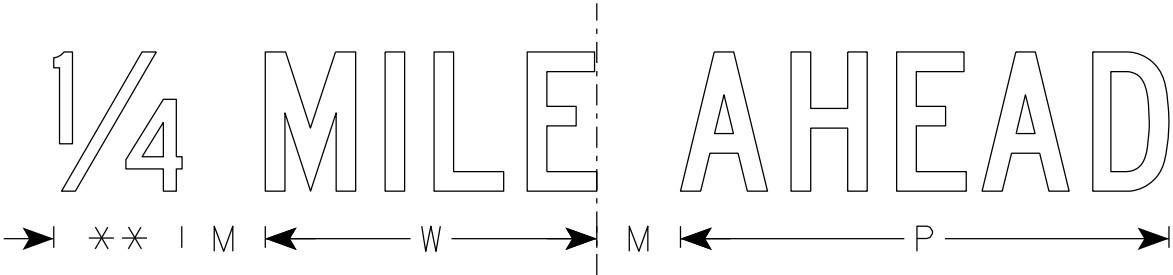
NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
Background - White
Message - Black
- 3. Message Series - C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.



R11-3

** See Note 5



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/2	3/8	3/8	4	3	2	11 1/4	3	1 1/8	15 3/8	2	3 3/4	8 1/4	5/8		1 3/8	13 1/4	8 3/8	7/8	10 1/2	7 1/8				4.5
2S	60	30	1 7/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8				12.5
2M	60	30	1 7/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8				12.5
3																											
4																											
5																											

STANDARD SIGN
R11-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/5/24 PLATE NO. R11-3.10

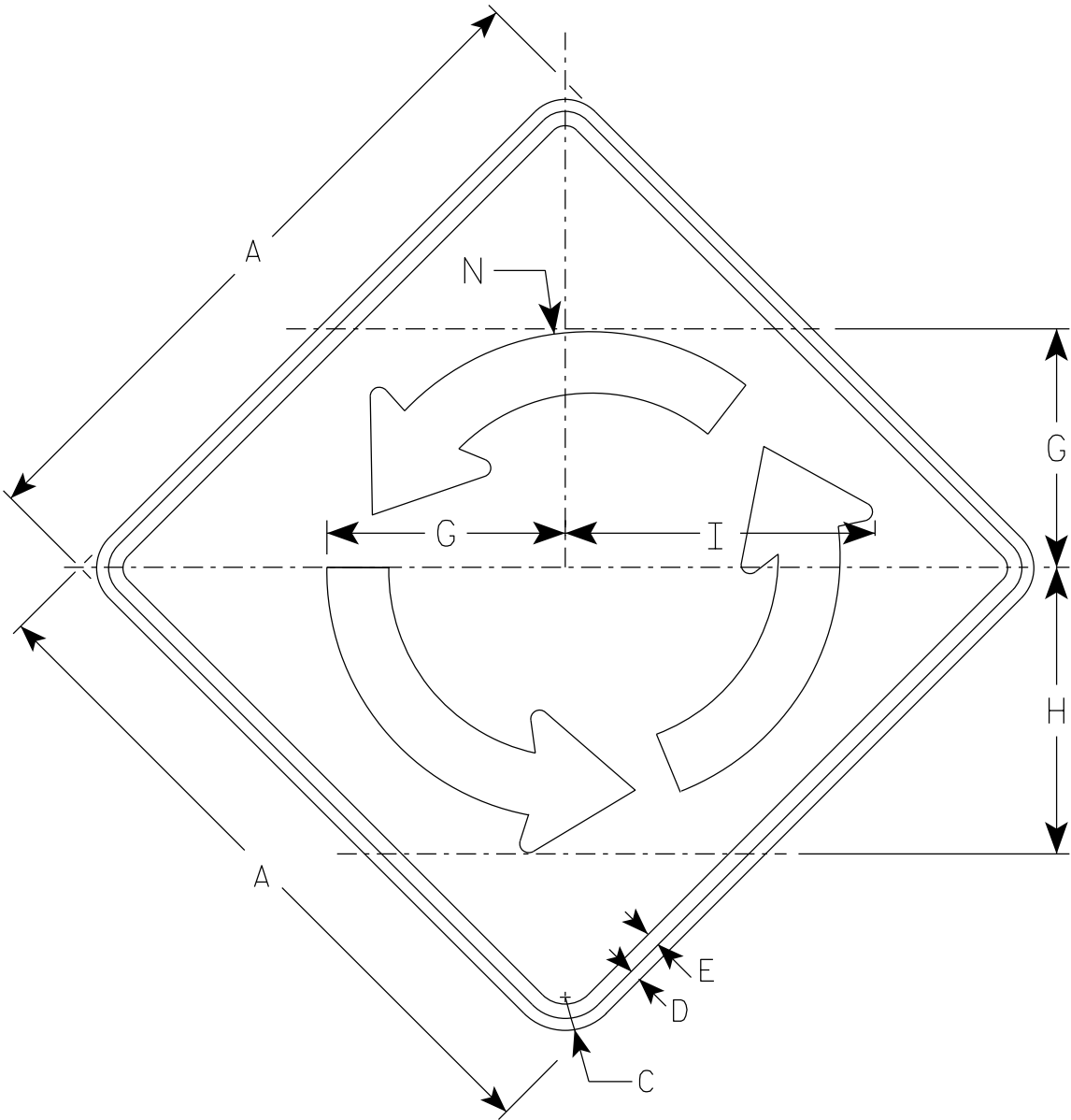
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 155

E

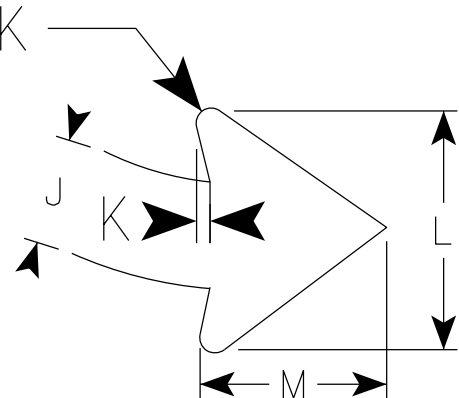


W2-6

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
 - Background - Yellow
 - Message - Black

Arrow Detail

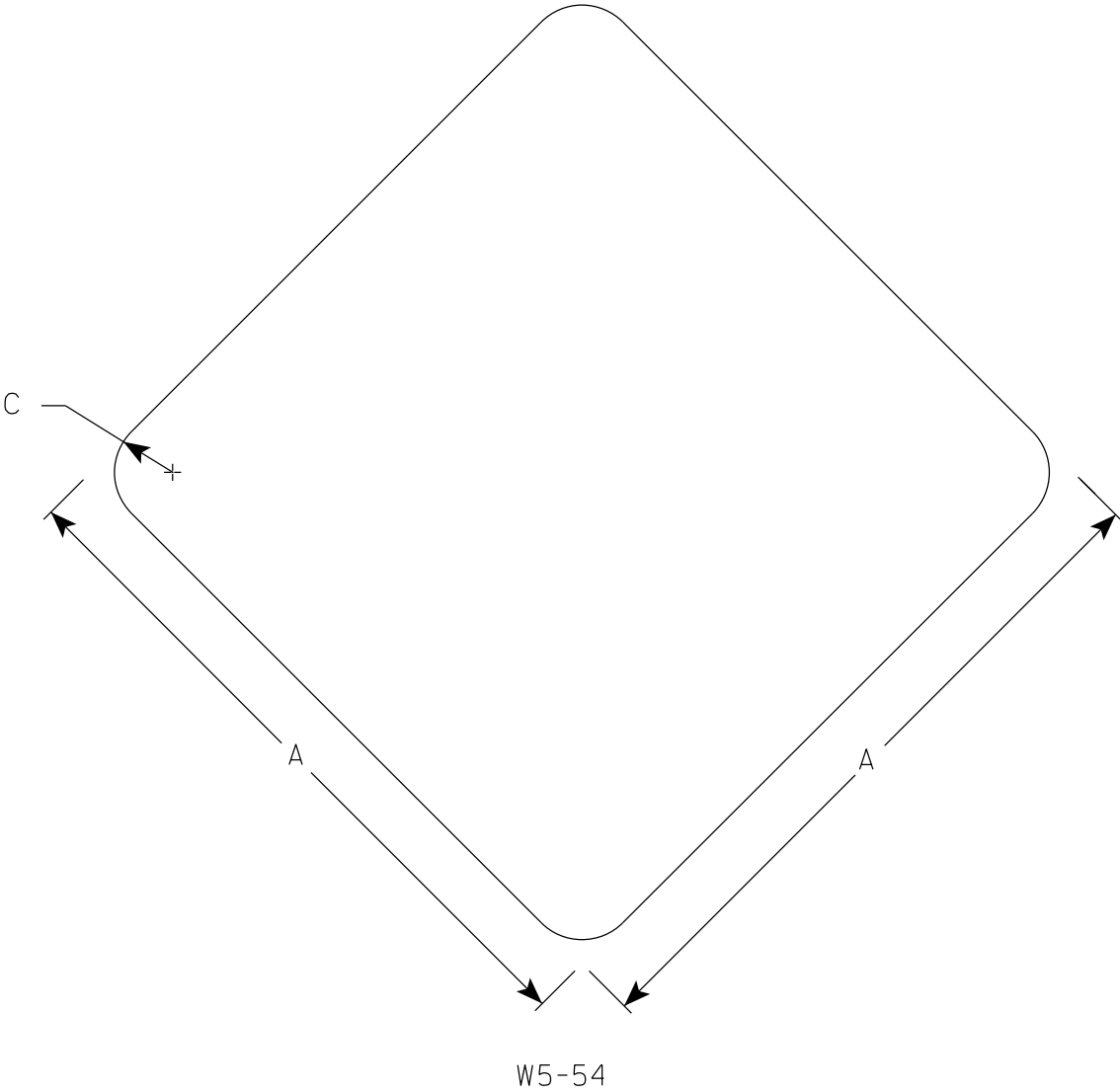


SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Area sq. ft.
1																									
2S	30		1 7/8	1/2	5/8		10 3/8	12 1/2	13 1/2	2 3/4	3/8	6	4 3/4	11 1/8											6.25
2M	30		1 7/8	1/2	5/8		10 3/8	12 1/2	13 1/2	2 3/4	3/8	6	4 3/4	11 1/8											6.25
3	36		2 1/4	5/8	3/4		12 1/2	15	16 1/4	3 1/4	1/2	7 3/8	5 3/4	13 3/8											9.00
4	48		3	3/4	1		16 5/8	20	16 1/4	4 3/8	5/8	9 3/4	7 5/8	17 7/8											16.0
5																									

NOTES

1. Sign is Type II - Type F Reflective
2. Color:

Background - Yellow



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12		1 1/2																								1.0
2S	18		1 1/2																								2.25
2M	18		1 1/2																								2.25
3																											
4																											
5																											

STANDARD SIGN

W5-54

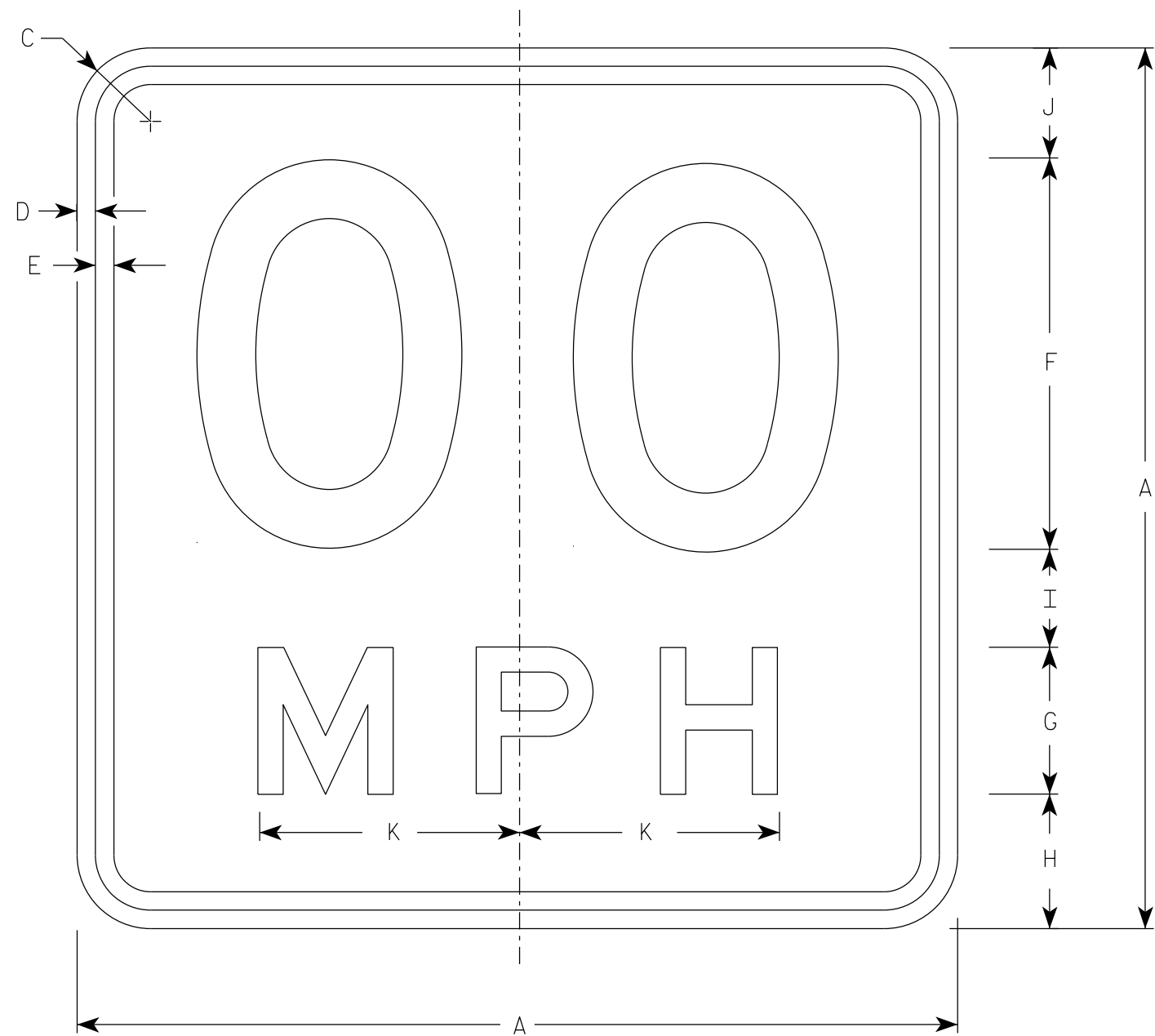
WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch

for State Traffic Engineer

DATE 3/5/2024PLATE NO. W5-54.9



NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Yellow
Message - Black
3. Message Series - See Note 5
4. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
5. Line 1 is Series D
Line 2 is Series E

W13-1

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
✱ 2S	1	18		1 1/2	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8															2.25
	2	18		1 1/2	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8															2.25
✱ 2M	3	18		1 1/2	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8															2.25
	4	24		1 1/2	3/8	1/2	10	4	4	2 3/4	3 1/4	6 5/8															4.00
	5	36		2 1/4	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8															9.00
	6	36		2 1/4	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8															9.00

STANDARD SIGN
W13-1

WISCONSIN DEPT OF TRANSPORTATION
APPROVED Matthew R. Rauch
For State Traffic Engineer

DATE 1/8/2024 PLATE NO. W13-1.17

PROJECT NO:

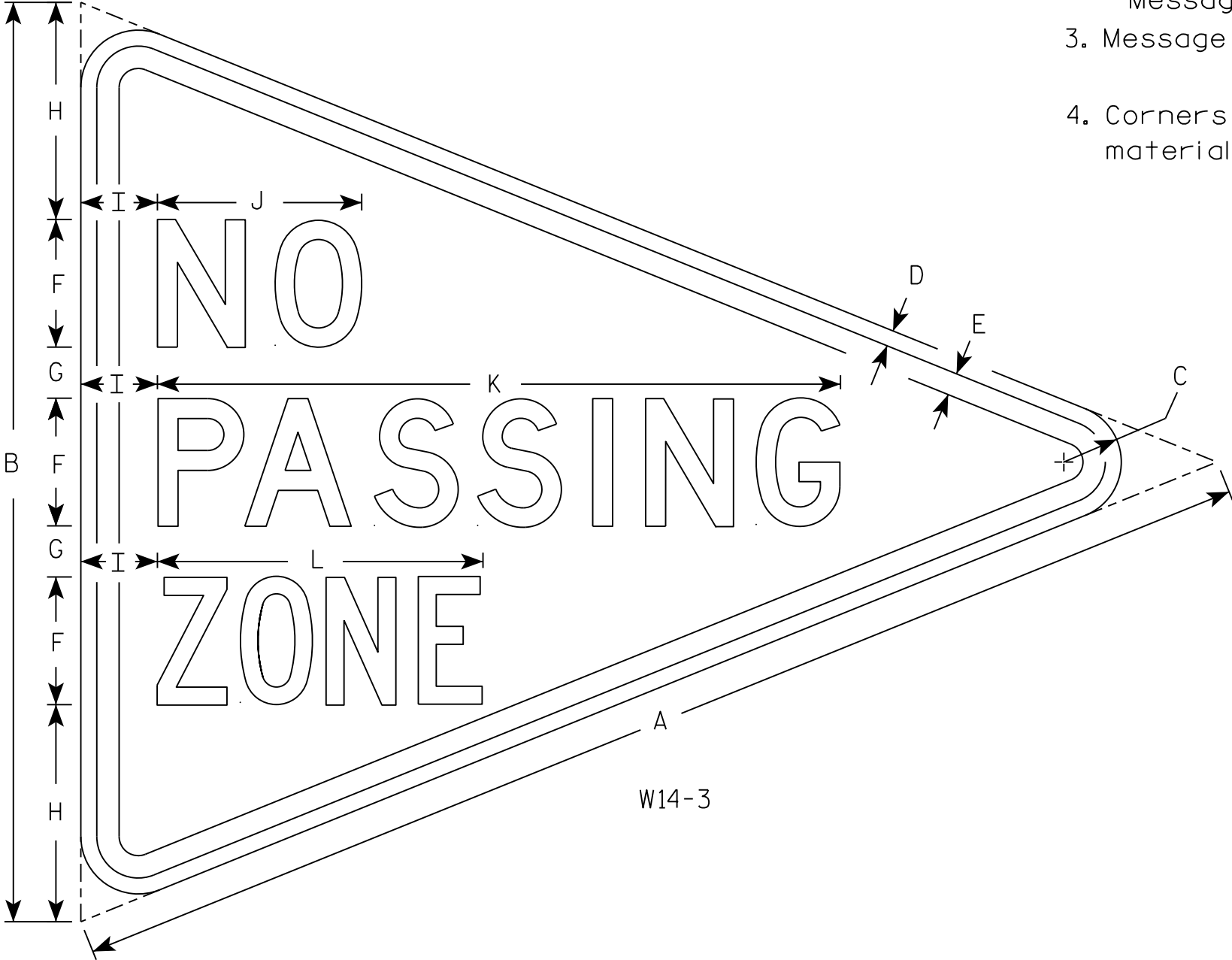
HWY:

COUNTY:

SHEET NO:

158

E



NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Yellow
Message - Black
- 3. Message Series - Lines 1 and 2 are Series D.
Line 3 is series C.
- 4. Corners and borders shall be rounded on all base materials for this sign.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															5.56
2M																											
3																											
4																											
5																											

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 159

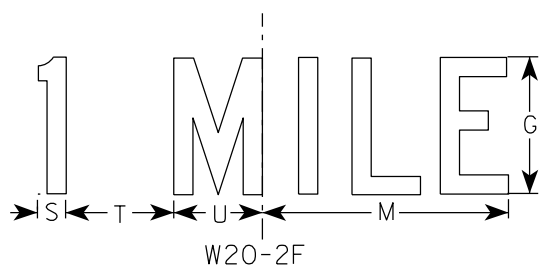
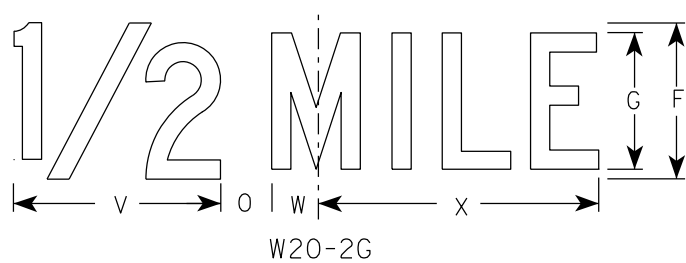
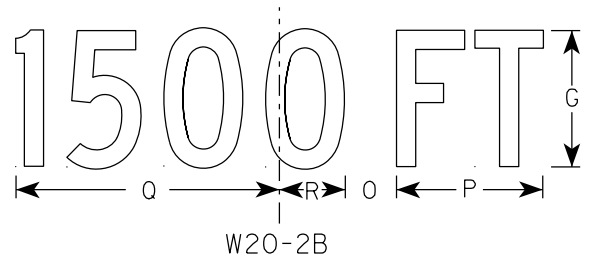
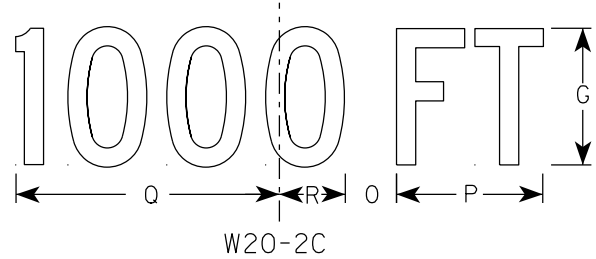
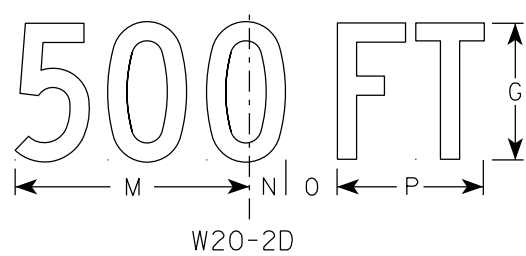
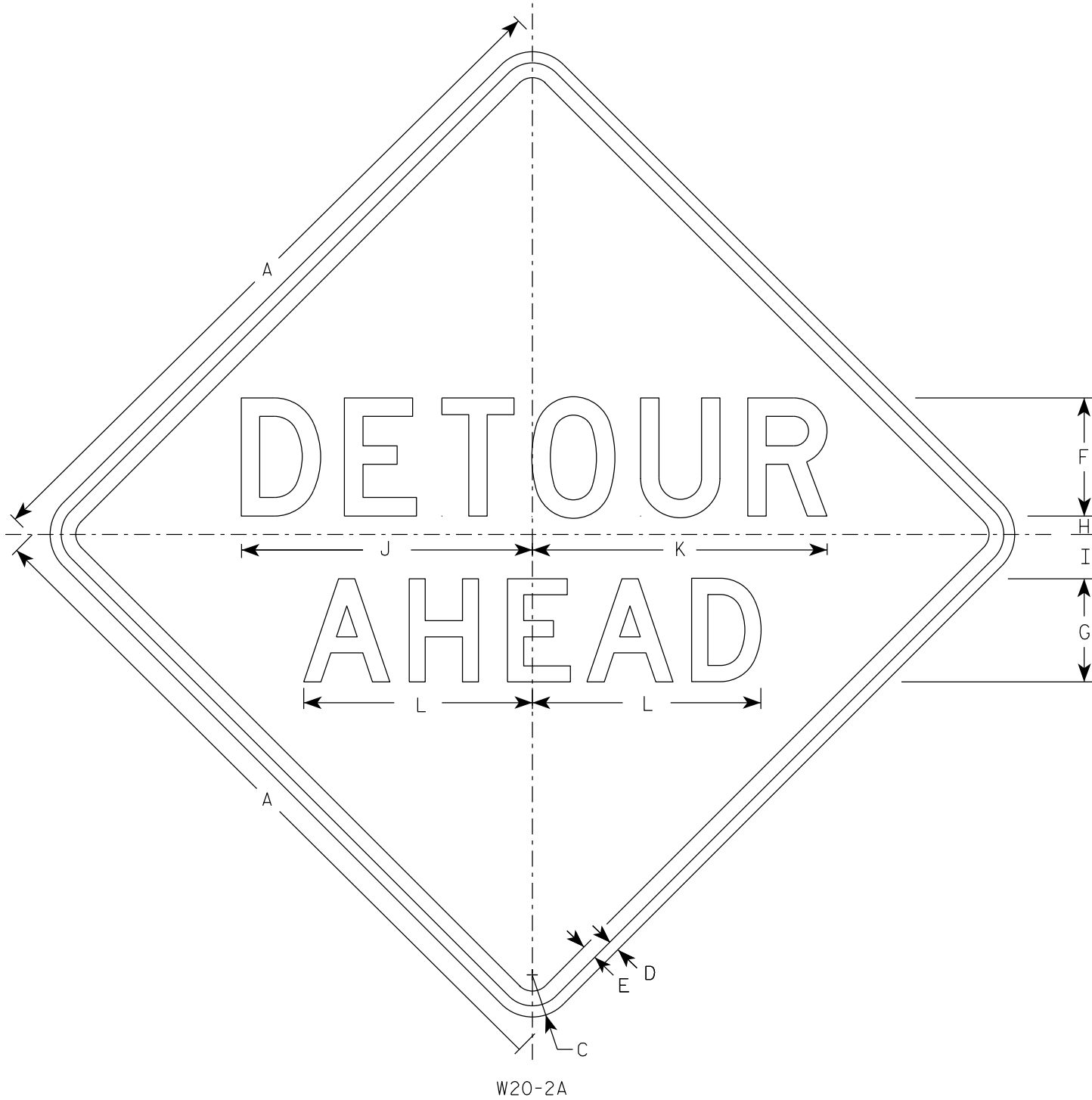
E

STANDARD SIGN
W14-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/21/17 PLATE NO. W14-3.10



NOTES

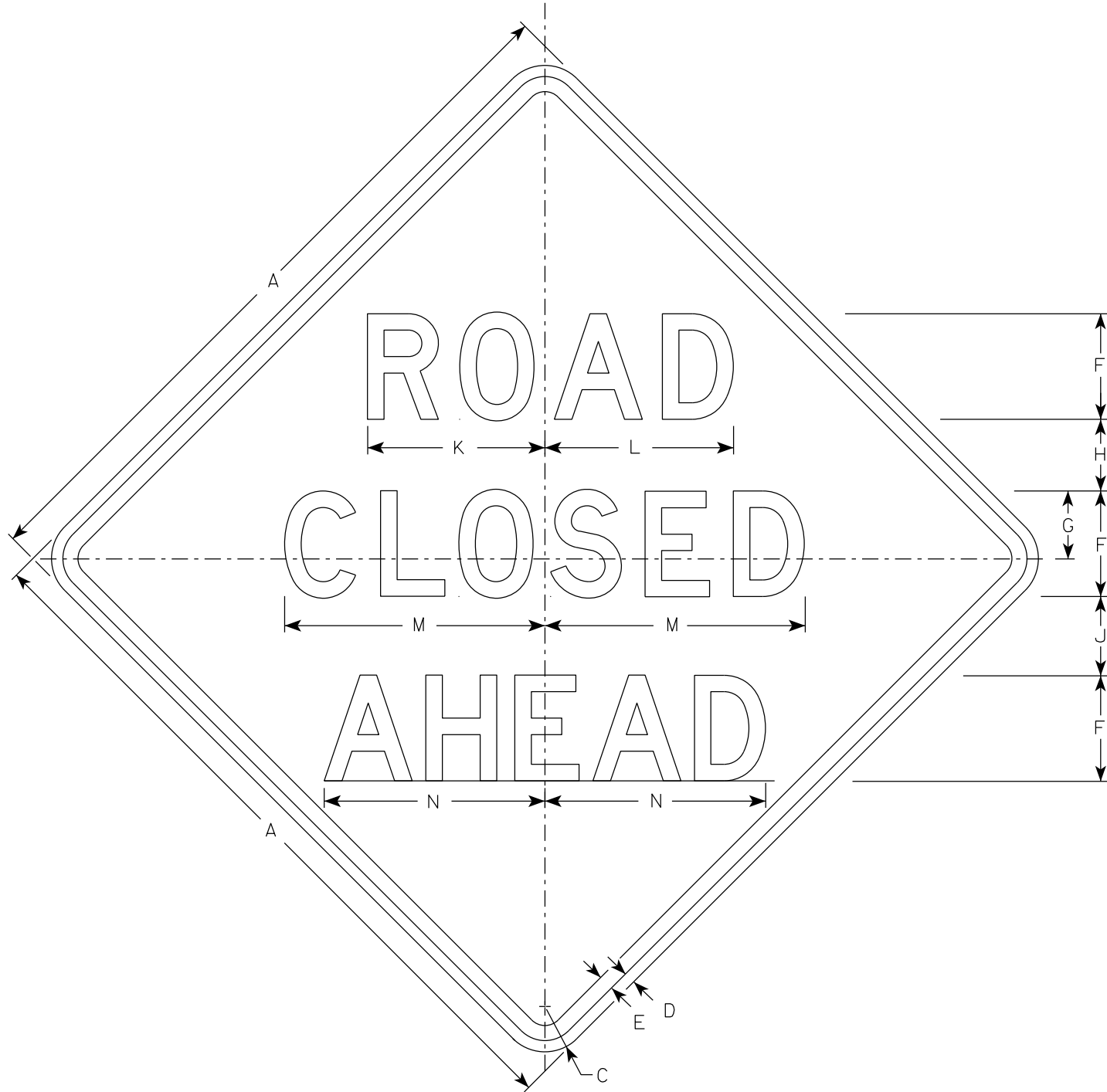
- Sign is Type II - Type F Reflective
- Color:
Background - Orange
Message - Black
- Message Series - See note 5
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- Line 1 is Series D.
Line 2 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	w	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

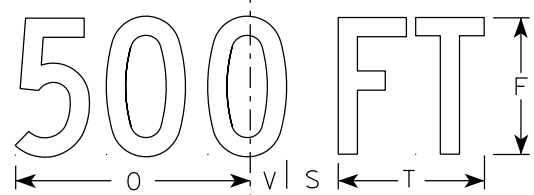
STANDARD SIGN W20-2A,B,C,D,F & G	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 1/10/2024	PLATE NO. W20-2.7

PROJECT NO:	HWY:	COUNTY:	SHEET NO: 160	E
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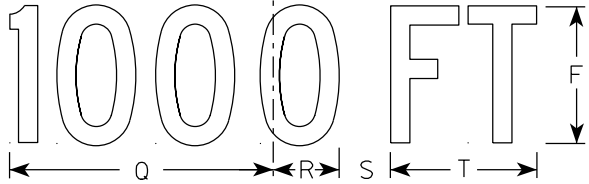
7



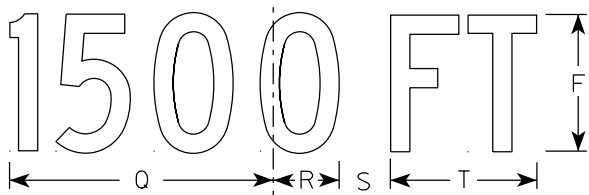
W20-3A



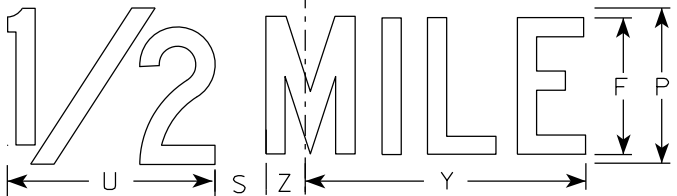
W20-3D



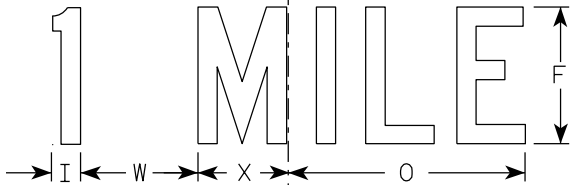
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
Line 3 is Series D for AHEAD and Series C for all other distances.

7

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

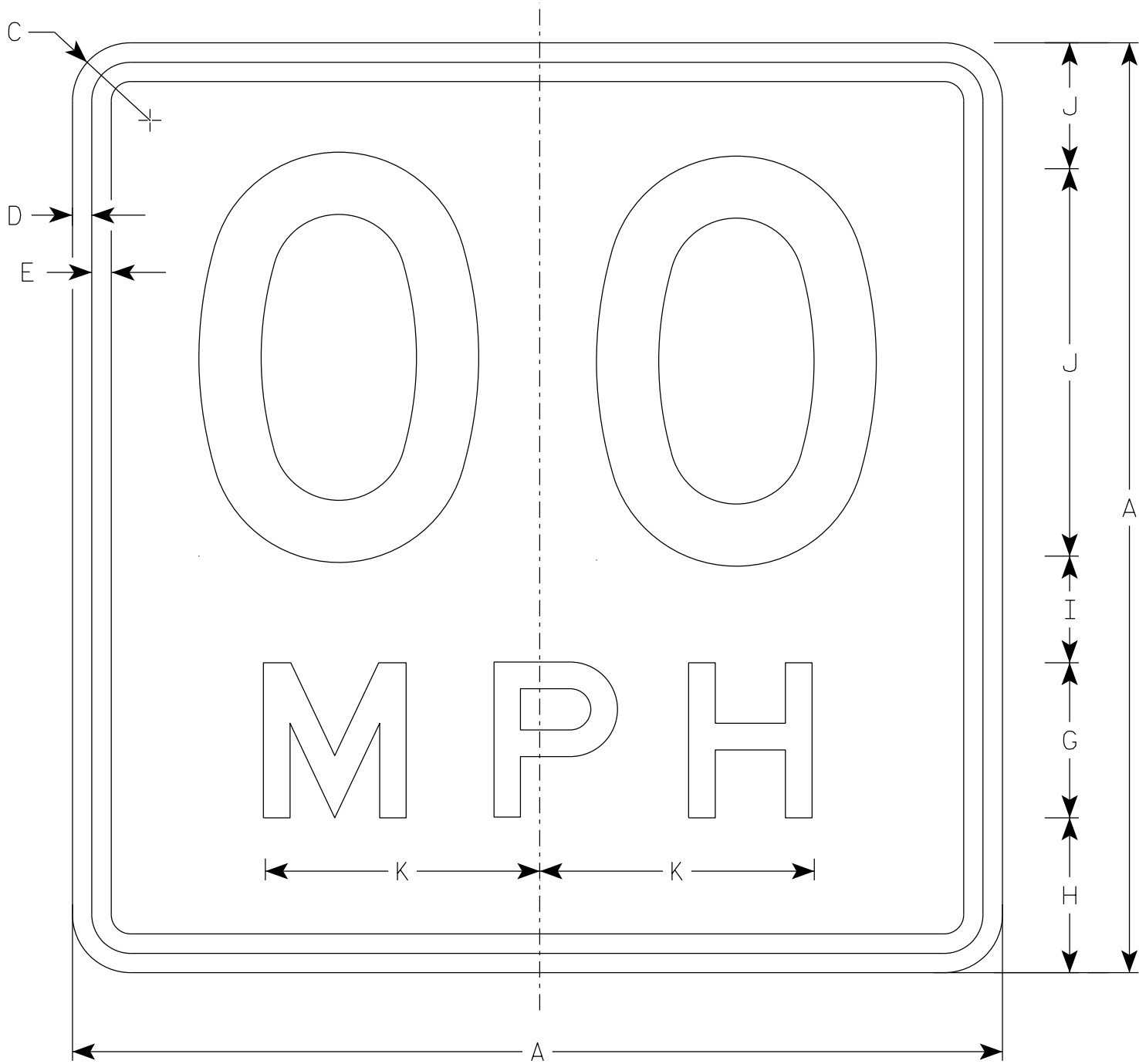
STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-3.8

7



W013-1

NOTES

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

7

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

STANDARD SIGN

W013-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/1/2024 PLATE NO. W013-1.2

NOTES

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



W016-9P

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	18	1 1/2	3/8	1/2	7	5 1/2	2 3/4	24 1/2																		3.75
2S	48	24	1 7/8	1/2	5/8	10	7	6 1/8	35 3/4																		8.0
2M	48	24	1 7/8	1/2	5/8	10	7	6 1/8	35 3/4																		8.0
3	48	24	1 7/8	1/2	5/8	10	7	6 1/8	35 3/4																		8.0
4	48	24	1 7/8	1/2	5/8	10	7	6 1/8	35 3/4																		8.0
5	48	24	1 7/8	1/2	5/8	10	7	6 1/8	35 3/4																		8.0

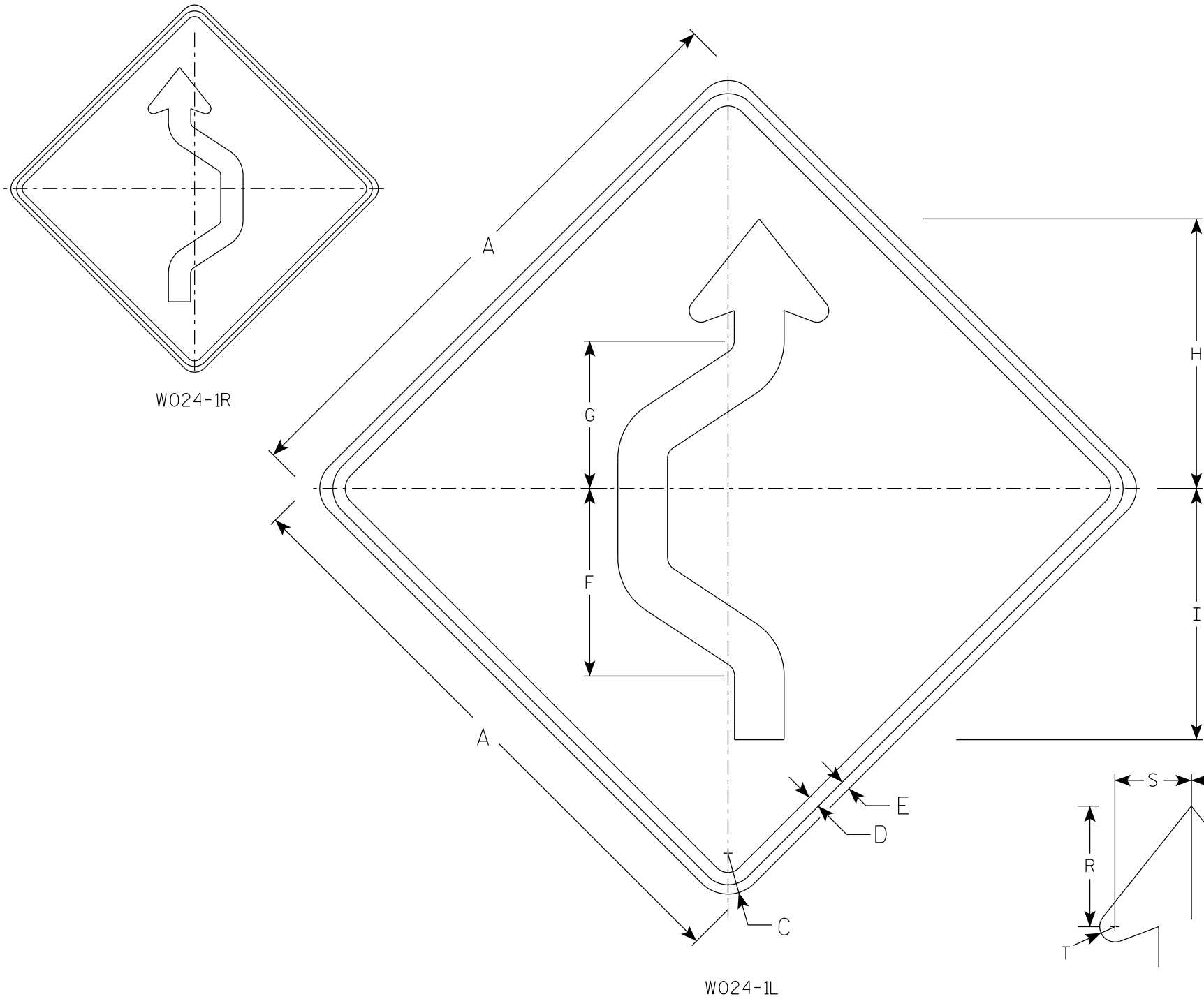
STANDARD SIGN
W016-9P

WISCONSIN DEPT OF TRANSPORTATION

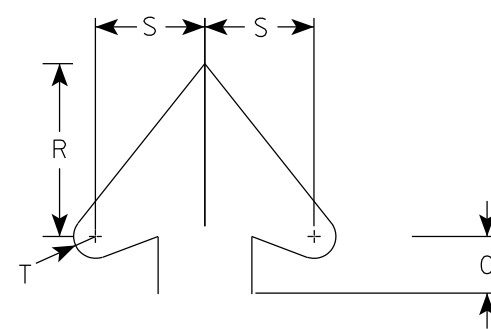
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/1/2024 PLATE NO. W016-9P.8

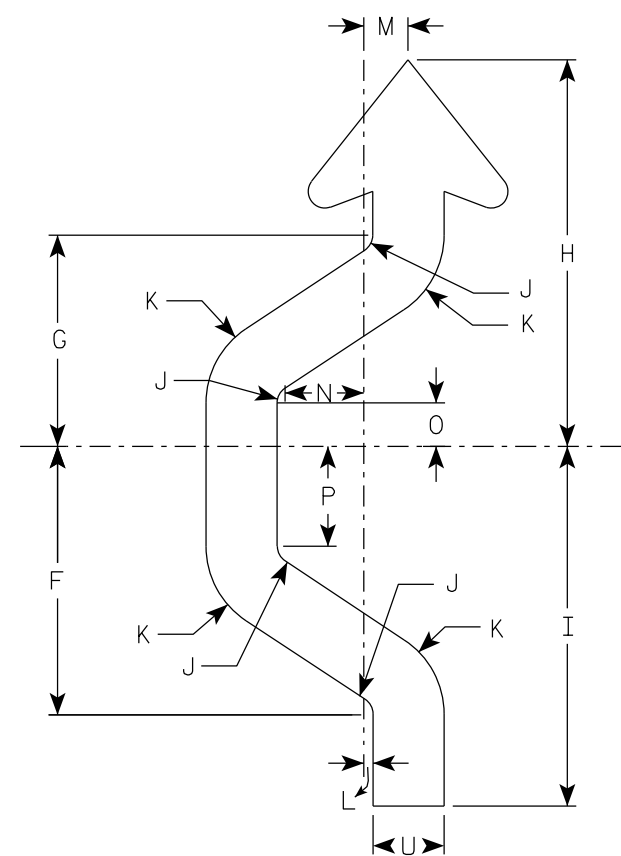
PROJECT NO:	HWY:	COUNTY:	SHEET NO: 163										E
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- NOTES**
1. Sign is Type II - Type F Reflective
 2. Color:
Background - Orange
Message - Black
 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
 4. W024-1R is the same as W024-1L except reversed along the vertical centerline.



Arrowhead Detail



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	1/2	11 3/8	8 7/8	16 3/8	15 1/4	3/4	3 3/4	3/8	2	3 3/8	1 7/8	4 1/4		5 1/2	3 1/2	5/8	3						9.0
2S	48		3	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16.0
2M	48		3	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16.0
3	48		3	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16.0
4	48		3	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16.0
5	48		3	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16.0

STANDARD SIGN
W024-1 L & R

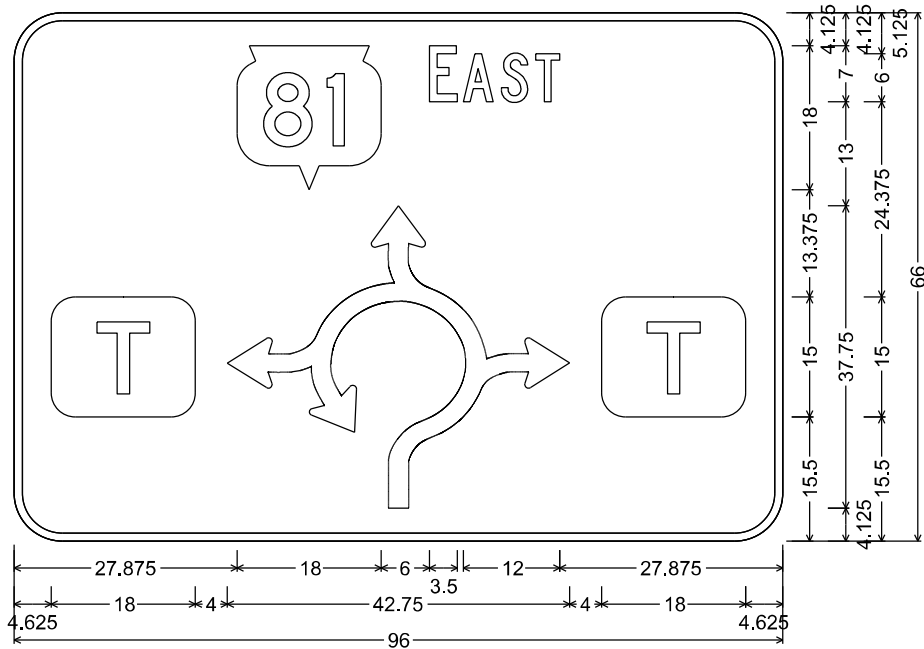
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

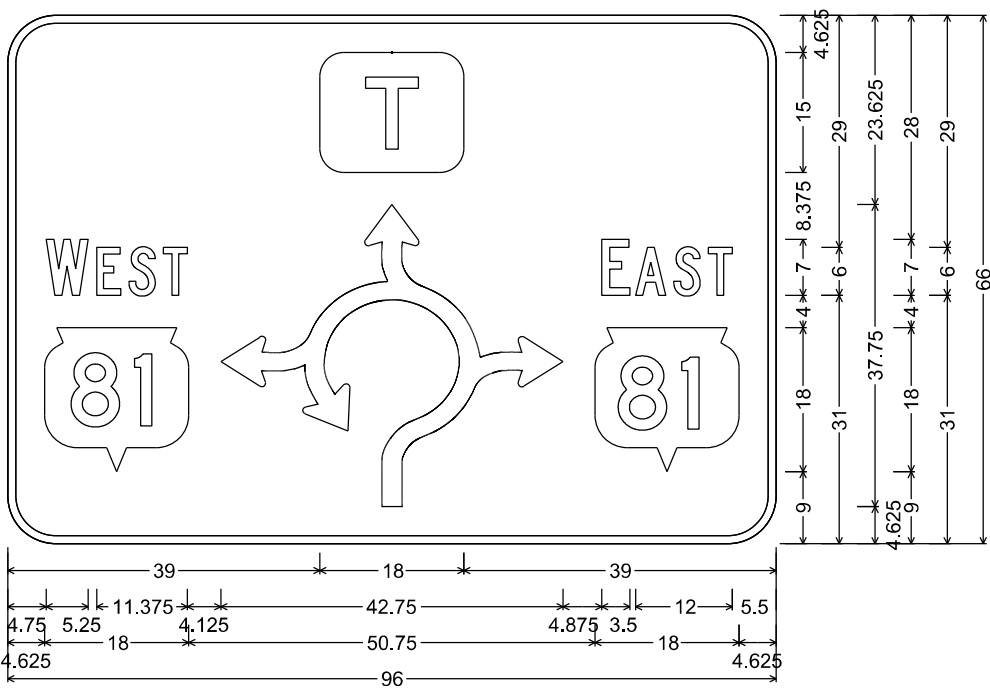
DATE 2/1/2024 PLATE NO. W024-1.2

NOTES

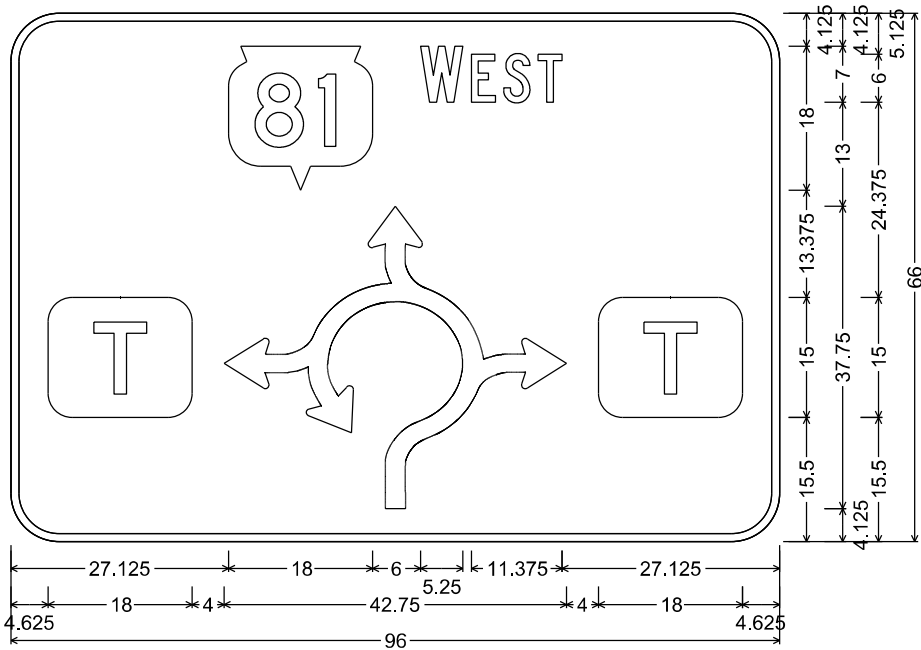
- 1. Signs are Type II - Type H Reflective
- 2. Color:
Background - Green
Message - White
- 3. Message Series - C



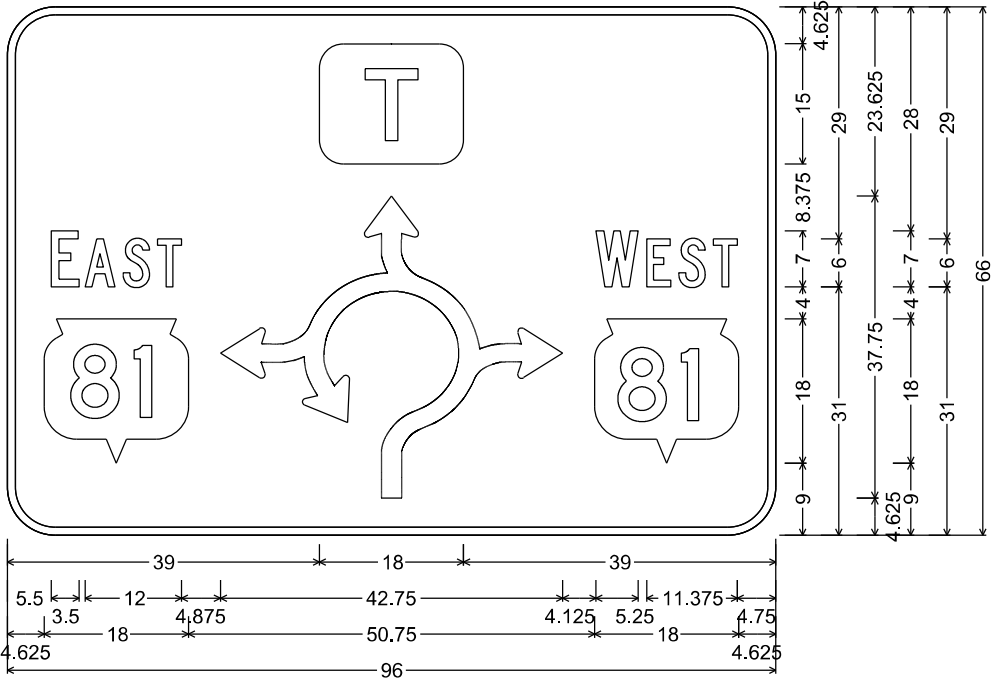
D1-62; 6.000" Radius, 1.000" Border



D1-62; 6.000" Radius, 1.000" Border



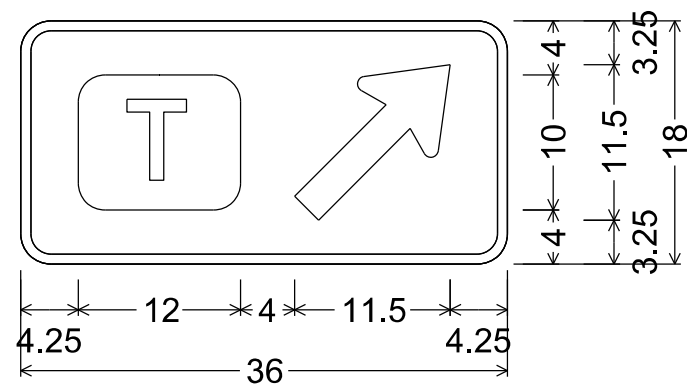
D1-62; 6.000" Radius, 1.000" Border



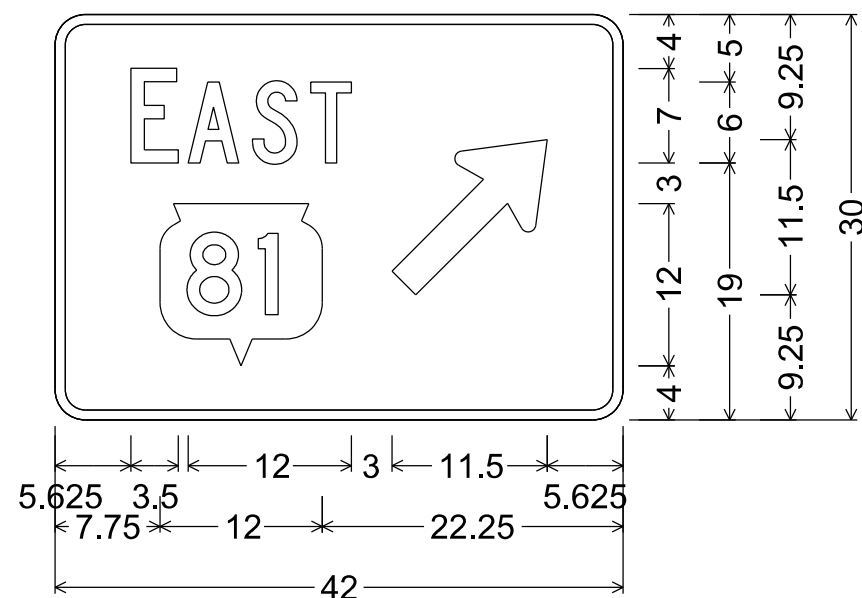
D1-62; 6.000" Radius, 1.000" Border

NOTES

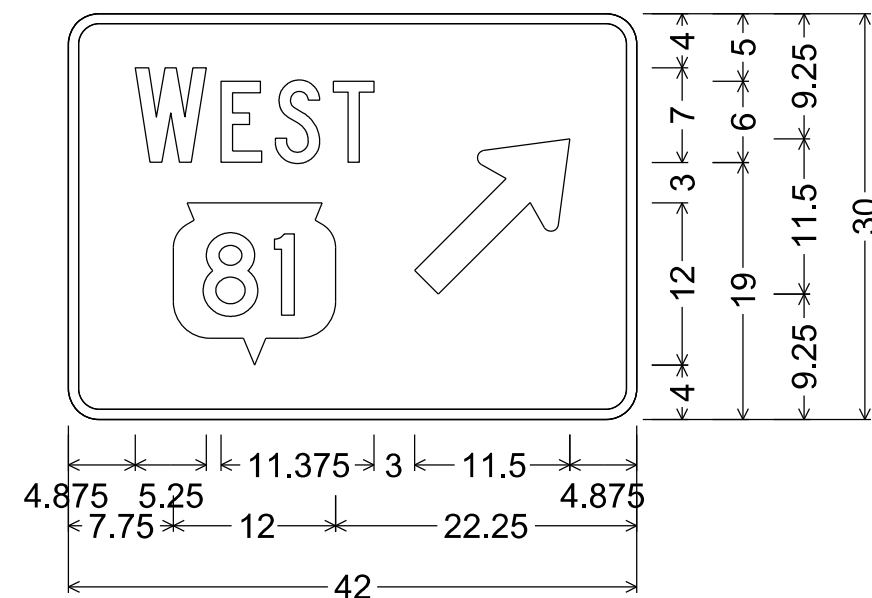
1. Signs are Type II - Type H Reflective
2. Color:
Background - Green
Message - White
3. Message Series - C



D1-1; 2.250" Radius, 0.750" Border



D1-1; 2.250" Radius, 0.750" Border



D1-1; 2.250" Radius, 0.750" Border

Division 1 - EB STH 81

STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDNATE
					NOTE 1	NOTE 2	NOTE 3	NOTE 1	1.25	NOTE 8
100+00.00	0.00	153.98	34.74	0.00	0	0	0	0	0	0
100+50.00	50.00	159.26	34.58	0.00	290	64	0	290	0	226
101+00.00	50.00	171.71	34.50	0.06	306	64	0	596	0	468
101+50.00	50.00	190.67	34.77	0.63	336	64	1	932	1	739
102+00.00	50.00	207.55	34.74	4.68	369	64	5	1,301	8	1,038
102+28.83	28.83	221.50	34.82	5.35	229	37	5	1,530	14	1,223
102+33.22	4.39	86.18	19.07	7.81	25	4	1	1,555	15	1,243
102+50.00	16.78	88.38	19.14	6.52	54	12	4	1,609	20	1,280
103+00.00	50.00	92.38	20.32	1.09	167	37	7	1,776	29	1,401
103+50.00	50.00	102.82	25.43	0.00	181	42	1	1,957	30	1,539
104+00.00	50.00	79.08	30.96	19.15	168	52	18	2,125	53	1,633
104+50.00	50.00	96.64	34.56	82.32	163	61	94	2,288	170	1,617
104+71.26	21.26	94.23	35.31	118.35	75	28	79	2,363	269	1,565
104+82.68	11.42	69.47	23.01	139.45	35	12	55	2,398	338	1,520
106+23.78	141.10	21.00	0.00	171.85				2,398	338	1,520
106+34.51	10.73	69.29	7.70	160.17	18	2	66	2,416	420	1,453
106+50.00	15.49	64.80	4.66	136.12	38	4	85	2,454	526	1,381
107+00.00	50.00	67.93	2.97	99.59	123	7	218	2,577	799	1,224
107+50.00	50.00	77.60	8.67	13.85	135	11	105	2,712	930	1,217
108+00.00	50.00	84.99	13.79	6.27	151	21	19	2,863	954	1,323
108+50.00	50.00	83.39	16.05	4.23	156	28	10	3,019	966	1,439
108+74.51	24.51	80.66	16.14	12.00	74	15	7	3,093	975	1,489
108+80.00	5.49	238.55	37.97	6.26	32	6	2	3,125	978	1,513
109+00.00	20.00	233.26	38.02	0.00	175	28	2	3,300	980	1,657
109+50.00	50.00	217.41	38.17	0.00	417	71	0	3,717	980	2,003
110+00.00	50.00	202.23	37.94	0.00	389	70	0	4,106	980	2,322
110+50.00	50.00	186.89	38.10	0.00	360	70	0	4,466	980	2,612
111+00.00	50.00	177.77	37.34	0.00	338	70	0	4,804	980	2,880
111+08.19	8.19	178.26	37.04	0.00	54	11	0	4,858	980	2,923
111+10.00	1.81	18.90	1.96	0.00	7	1	0	4,865	980	2,929
111+84.21	74.21	2.81	0.00	0.00	30	3	0	4,895	980	2,956

Division 1 - WB STH 81

STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDNATE
					NOTE 1	NOTE 2	NOTE 3	NOTE 1	1.25	NOTE 8
102+33.53	0.00	92.28	15.71	0.00	0	0	0	0	0	0
102+50.00	16.47	92.67	15.68	0.08	56	10	0	56	0	46
103+00.00	50.00	92.14	14.41	2.55	171	28	2	227	3	187
103+50.00	50.00	77.93	9.16	17.14	157	22	18	384	25	299
104+05.00	55.00	55.97	3.31	93.11	136	13	112	520	165	282
104+50.00	45.00	41.88	2.63	138.49	82	5	193	602	406	118
104+74.11	24.11	50.35	6.10	168.73	41	4	137	643	578	-17
104+84.26	10.15	81.47	1.87	153.67	25	1	61	668	654	-69
106+25.38	141.12	97.08	12.23	87.14				668	654	-69
106+36.21	10.83	150.92	34.78	66.94	50	9	31	718	693	-67
106+50.00	13.79	145.77	35.78	44.31	76	18	28	794	728	-44
107+00.00	50.00	134.64	35.06	0.00	260	66	41	1,054	779	99
107+50.00	50.00	135.45	29.42	0.00	250	60	0	1,304	779	289
108+00.00	50.00	129.63	24.15	0.00	245	50	0	1,549	779	484
108+50.00	50.00	113.39	22.03	0.00	225	43	0	1,774	779	666
108+74.83	24.83	113.96	21.85	0.00	105	20	0	1,879	779	751

Division 1 - NB CTH T

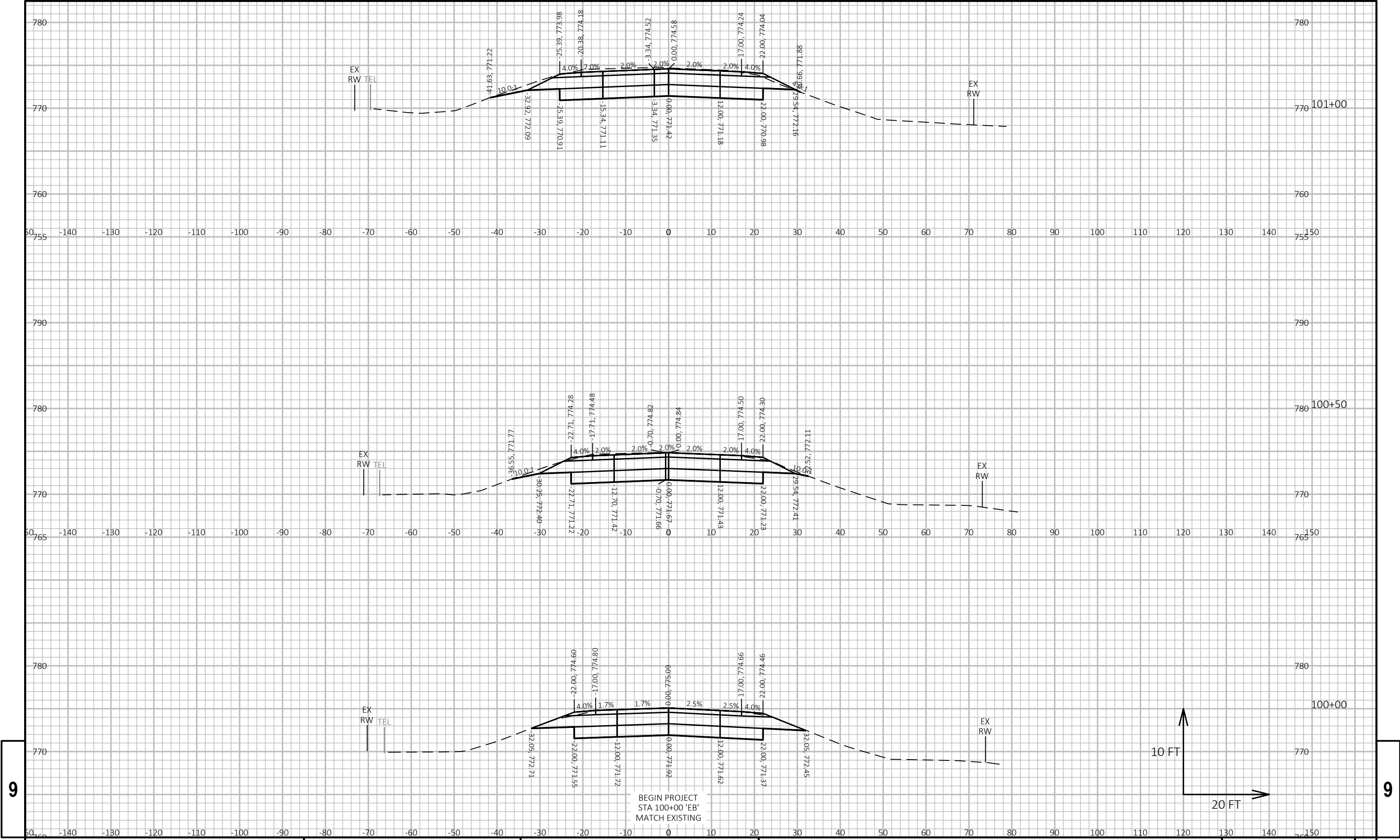
STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
					NOTE 1	NOTE 2	NOTE 3	NOTE 1	1.25	NOTE 8
200+00.00	0.00	95.00	5.55	0.00	0	0	0	0	0	0
200+50.00	50.00	99.37	5.52	0.09	180	10	0	180	0	170
200+85.60	35.60	100.12	5.84	3.95	132	7	3	312	4	291
201+00.00	14.40	107.58	5.86	0.00	55	3	1	367	5	342
201+50.00	50.00	102.93	5.58	1.98	195	11	2	562	8	524
202+00.00	50.00	99.23	5.59	6.16	187	10	8	749	18	691
202+50.00	50.00	93.39	5.54	12.66	178	10	17	927	39	837
202+80.00	30.00	90.07	5.56	6.43	102	6	11	1,029	53	920
202+80.98	0.98	35.71	3.75	6.43	2	0	0	1,031	53	922
203+00.00	19.02	31.47	4.16	9.58	24	3	6	1,055	60	935
203+50.00	50.00	35.22	5.55	3.12	62	9	12	1,117	75	973
204+05.00	55.00	33.20	5.93	32.89	70	12	37	1,187	121	985
204+50.00	45.00	32.83	5.86	17.94	55	10	42	1,242	174	977
204+95.08	45.08	62.94	6.23	48.55	80	10	56	1,322	244	977
205+04.90	9.82	44.37	3.53	75.00	20	2	22	1,342	271	968
206+44.42	139.52	0.00	0.00	239.51				1,342	271	968
206+61.08	16.66	7.91	0.00	210.35	2	0	139	1,344	445	796
207+00.00	38.92	6.83	0.00	142.82	11	0	255	1,355	764	488
207+50.00	50.00	11.88	0.00	60.75	17	0	188	1,372	999	270
207+95.00	45.00	18.86	0.18	45.68	26	0	89	1,398	1,110	185
208+39.69	44.69	28.55	1.53	22.55	39	1	56	1,437	1,180	153
208+50.00	10.31	31.82	1.84	19.65	12	1	8	1,449	1,190	154
209+00.00	50.00	44.37	2.65	11.08	71	4	28	1,520	1,225	186
209+10.11	10.11	96.92	6.04	25.35	26	2	7	1,546	1,234	201
209+50.00	39.89	96.33	6.04	15.68	143	9	30	1,689	1,271	298
210+00.00	50.00	101.33	6.08	6.83	183	11	21	1,872	1,298	444
210+50.00	50.00	108.84	6.08	2.89	195	11	9	2,067	1,309	616
211+00.00	50.00	110.79	6.05	1.25	203	11	4	2,270	1,314	803
211+50.00	50.00	102.55	6.09	0.00	198	11	1	2,468	1,315	989
211+58.12	8.12	98.47	6.08	0.00	30	2	0	2,498	1,315	1,017

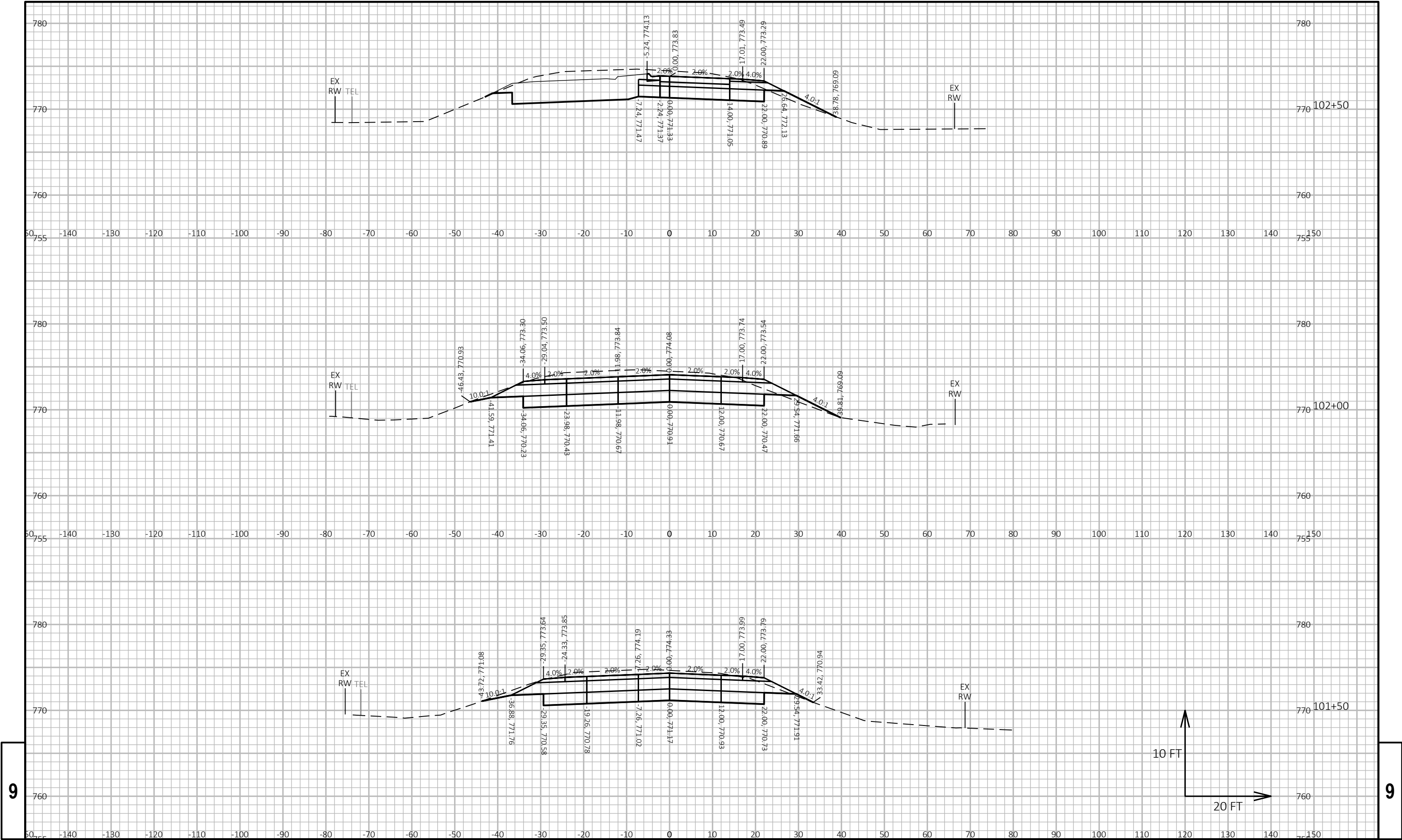
Division 1 - SB CTH T

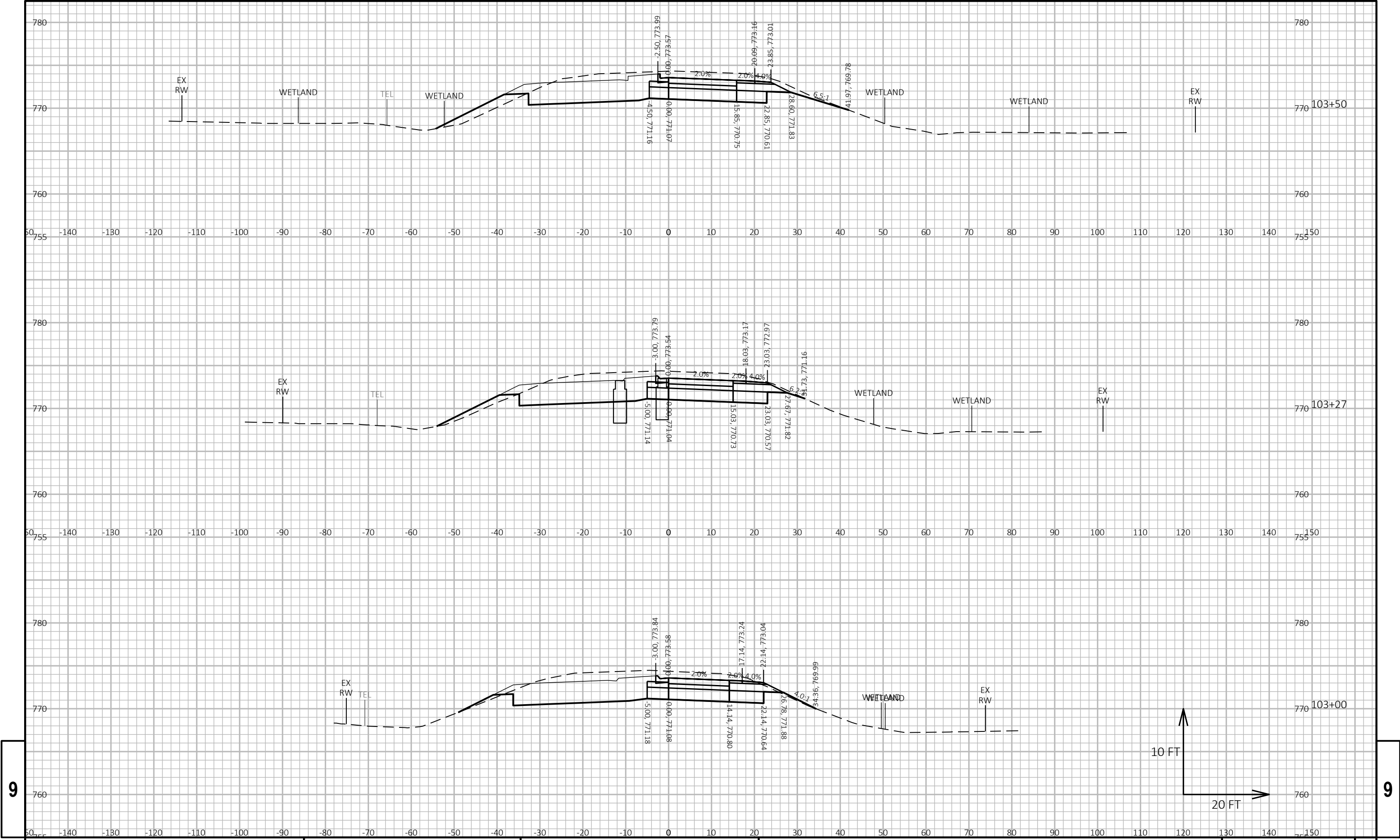
STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
					NOTE 1	NOTE 2	NOTE 3	NOTE 1	1.25	NOTE 8
202+80.14	0.00	47.15	1.81	6.54	0	0	0	0	0	0
203+00.00	19.86	40.08	1.48	10.48	32	1	6	32	8	24
203+18.56	18.56	32.59	1.02	13.02	25	1	8	57	18	38
203+50.00	31.44	18.32	0.00	25.16	30	1	22	87	45	39
204+05.00	55.00	5.87	0.00	85.01	25	0	112	112	185	-76
204+50.00	45.00	0.00	0.00	164.52	5	0	208	117	445	-331
204+97.46	47.46	2.53	0.00	232.81	2	0	349	119	881	-765
205+14.12	16.66	0.00	0.00	253.16	1	0	150	120	1,069	-952
206+53.39	139.27	39.79	8.34	52.22				120	1,069	-952
206+63.33	9.94	58.77	10.92	26.09	18	4	14	138	1,086	-955
207+00.00	36.67	77.58	9.01	16.57	93	14	29	231	1,123	-913
207+50.00	50.00	54.32	7.05	18.50	122	15	32	353	1,163	-846
207+95.00	45.00	54.82	5.88	10.52	91	11	24	444	1,193	-796
208+50.00	55.00	47.94	4.20	9.40	105	10	20	549	1,218	-726
208+62.62	12.62	44.48	3.83	16.80	22	2	6	571	1,225	-713
209+00.00	37.38	42.53	3.37	18.98	60	5	25	631	1,256	-689
209+02.56	2.56	42.62	3.34	18.78	4	0	2	635	1,259	-688

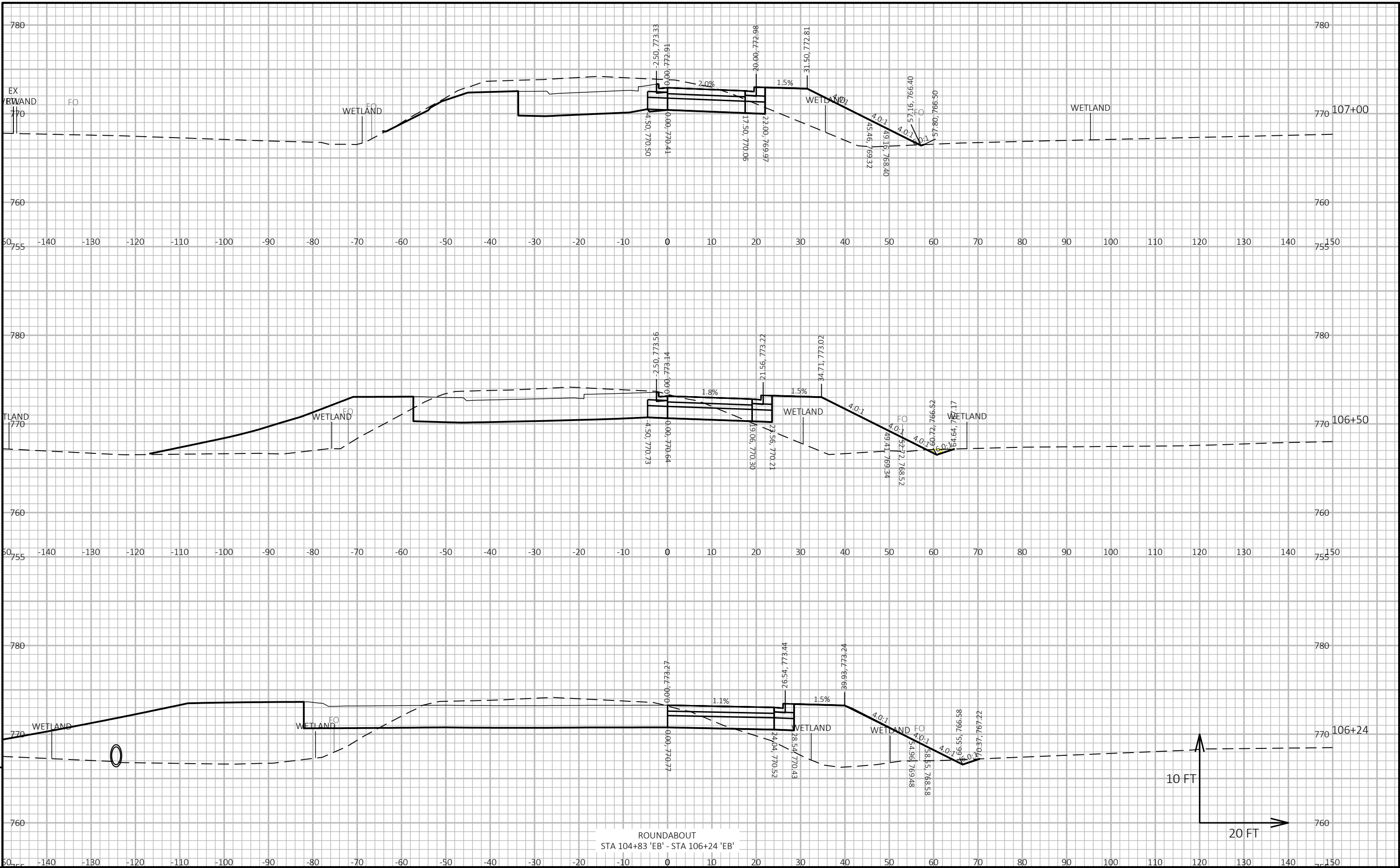
Division 1 - ROUNDABOUT

STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
					NOTE 1	NOTE 2	NOTE 3	NOTE 1	1.25	NOTE 8
10+00.00	0.00	100.52	33.32	120.30	0	0	0	0	0	0
10+11.04	11.04	113.55	37.48	122.72	44	14	50	44	63	-33
10+24.28	13.24	129.31	52.04	207.52	60	22	81	104	164	-96
10+36.95	12.67	122.04	46.30	56.70	59	23	62	163	241	-137
10+50.00	13.05	124.63	58.44	143.84	60	25	48	223	301	-162
10+62.50	12.50	141.29	99.47	142.93	62	37	66	285	384	-220
10+74.37	11.87	129.05	93.70	143.81	59	42	63	344	463	-282
10+84.02	9.65	144.71	66.24	146.39	49	29	52	393	528	-327
10+98.94	14.92	71.28	37.08	363.02	60	29	141	453	704	-472
11+07.88	23.86	54.16	30.91	387.05	55	30	331	508	1,118	-861
11+16.07	8.19	47.48	27.56	412.76	15	9	121	523	1,269	-1,006
11+26.80	10.73	46.31	25.24	251.50	19	10	132	542	1,434	-1,162
11+35.30	8.50	49.08	24.63	154.36	15	8	64	557	1,514	-1,235
11+52.50	17.20	88.07	27.02	124.33	44	16	89	601	1,625	-1,318
11+64.75	12.25	103.06	32.88	121.63	43	14	56	644	1,695	-1,359
11+90.00	25.25	95.94	32.88	238.62	93	31	168	737	1,905	-1,507
12+01.85	11.85	110.58	38.05	126.95	45	16	80	782	2,005	-1,578
12+14.86	13.01	158.27	55.78	125.84	65	23	61	847	2,081	-1,612
12+27.50	12.64	213.36	108.90	121.19	87	39	58	934	2,154	-1,637
12+39.26	11.76	177.04	94.16	120.06	85	44	53	1,019	2,220	-1,662
12+48.91	9.65	211.89	70.84	122.19	70	29	43	1,089	2,274	-1,675
12+63.22	14.31	120.35	39.12	263.80	88	29	102	1,177	2,401	-1,743
12+73.05	9.83	81.44	32.05	324.74	37	13	107	1,214	2,535	-1,853
12+80.31	7.26	73.15	29.07	375.50	21	8	94	1,235	2,653	-1,958
12+91.90	11.59	69.17	26.57	186.63	31	12	121	1,266	2,804	-2,090
13+00.41	8.51	73.97	26.08	122.72	23	8	49	1,289	2,865	-2,136
13+17.50	17.09	105.78	29.36	118.05	57	18	76	1,346	2,960	-2,192
13+29.00	11.50	99.89	33.26	120.12	44	13	51	1,390	3,024	-2,225



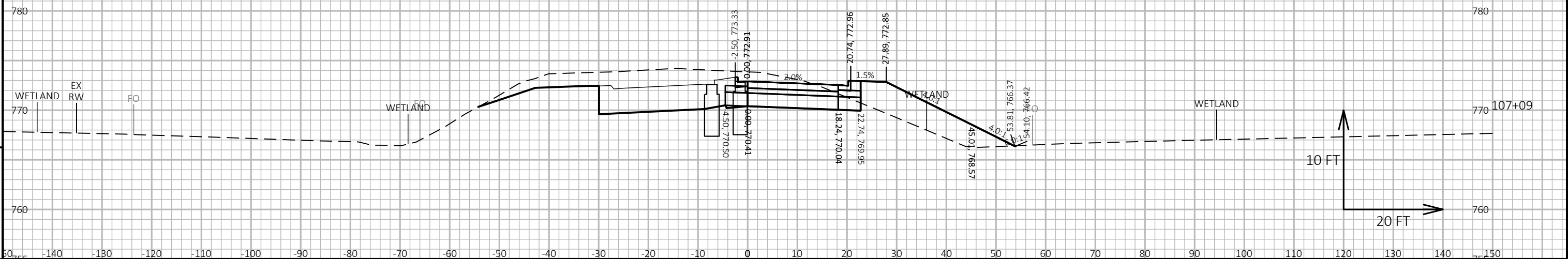
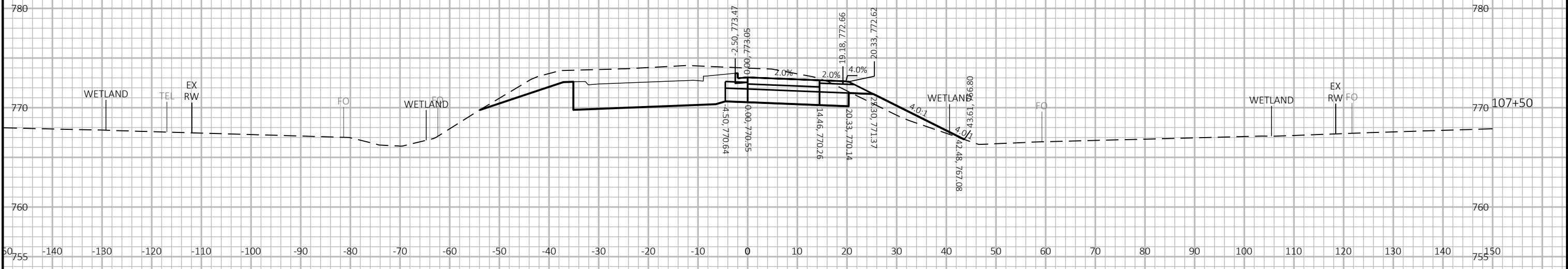
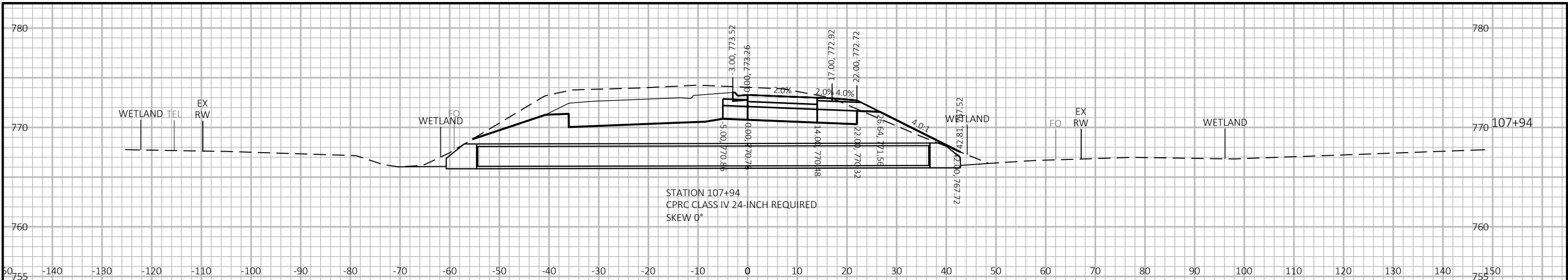


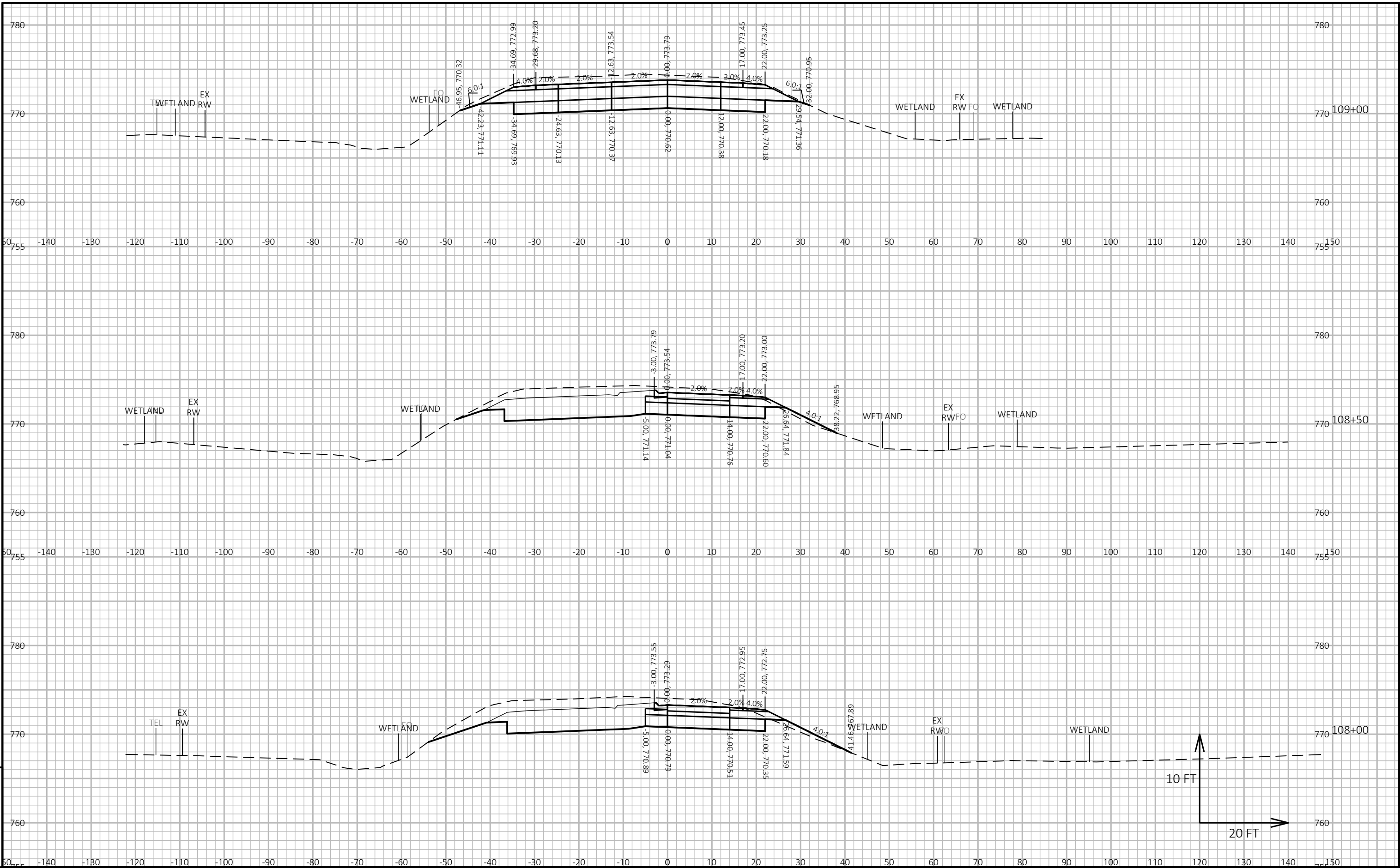


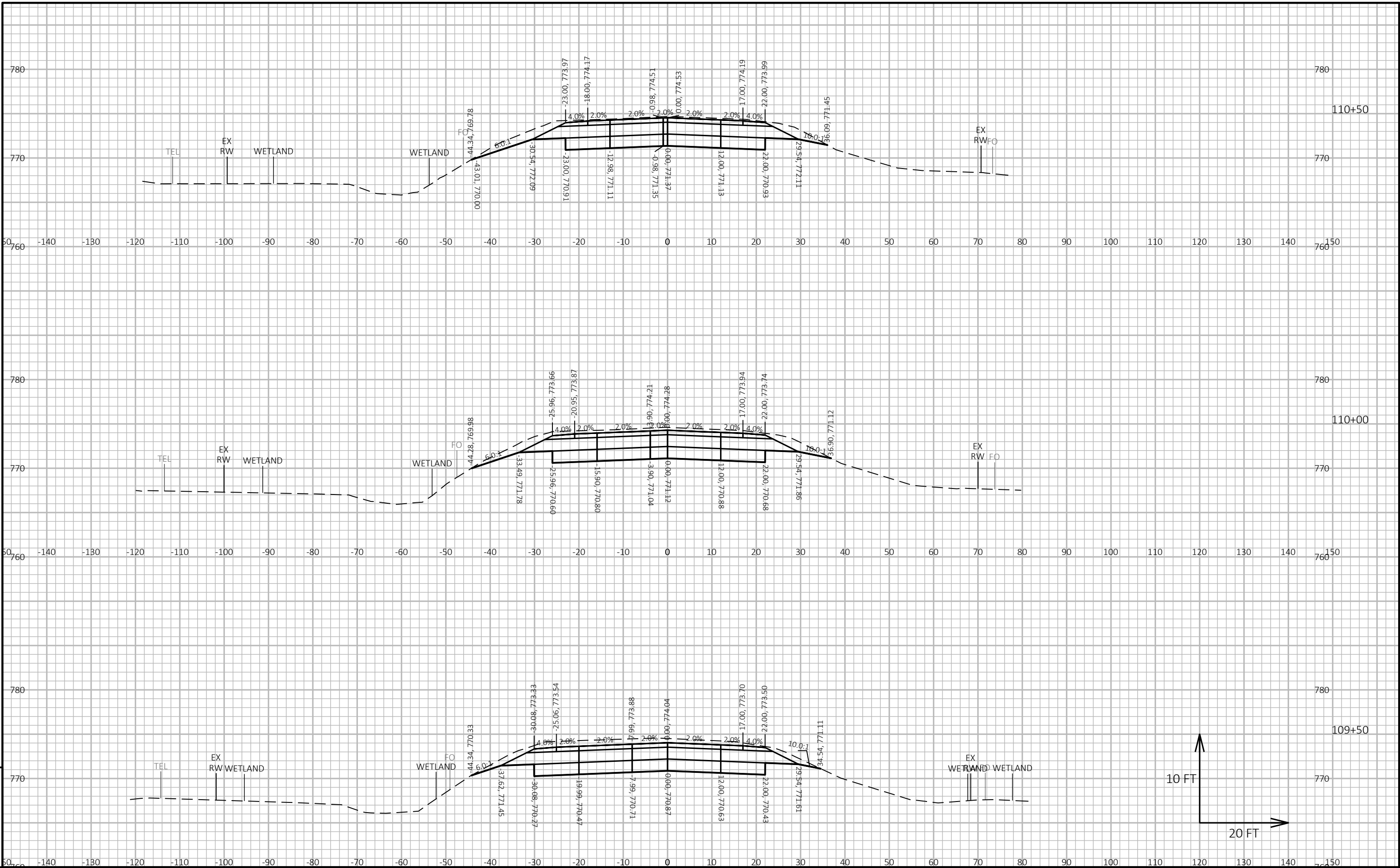


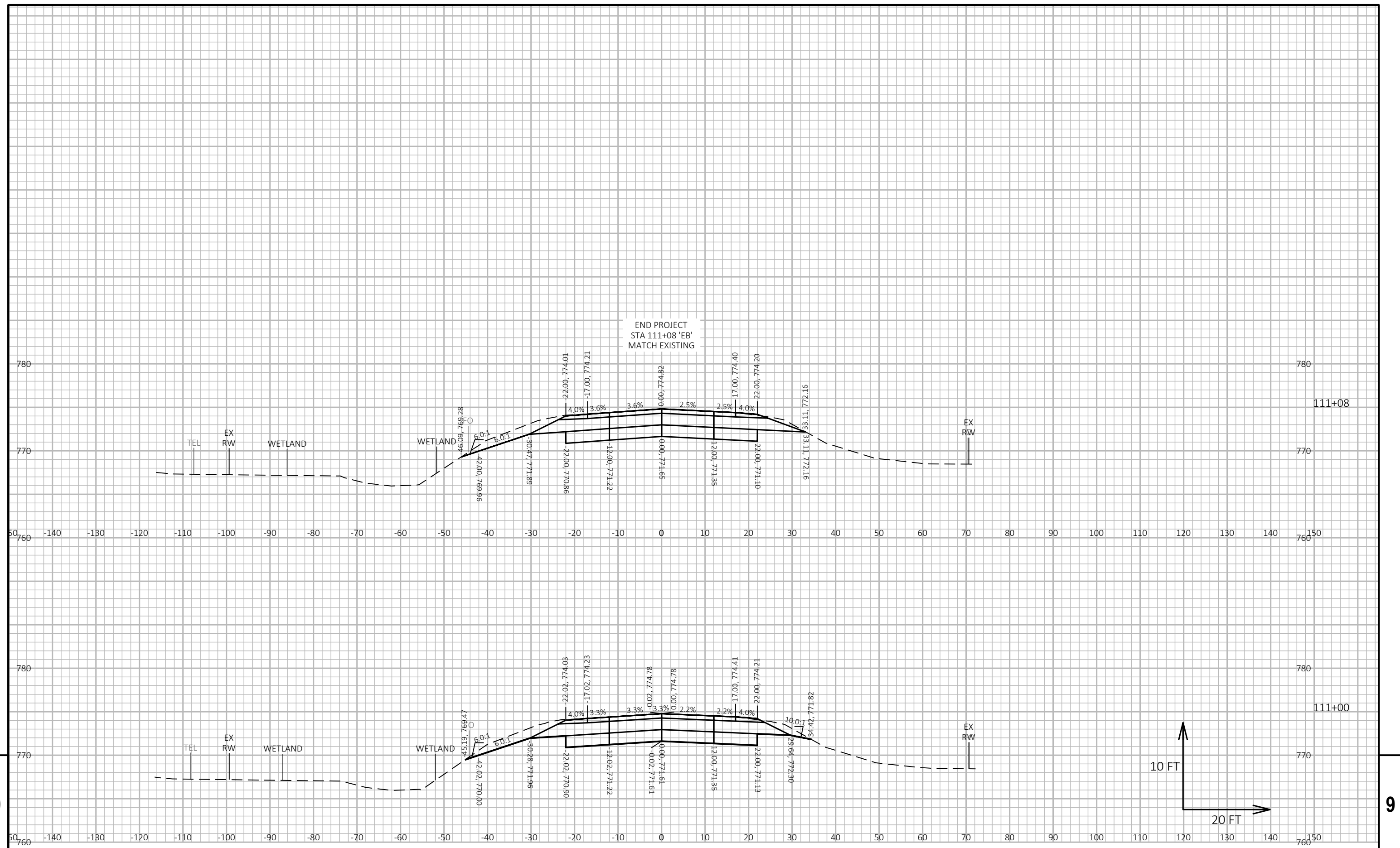
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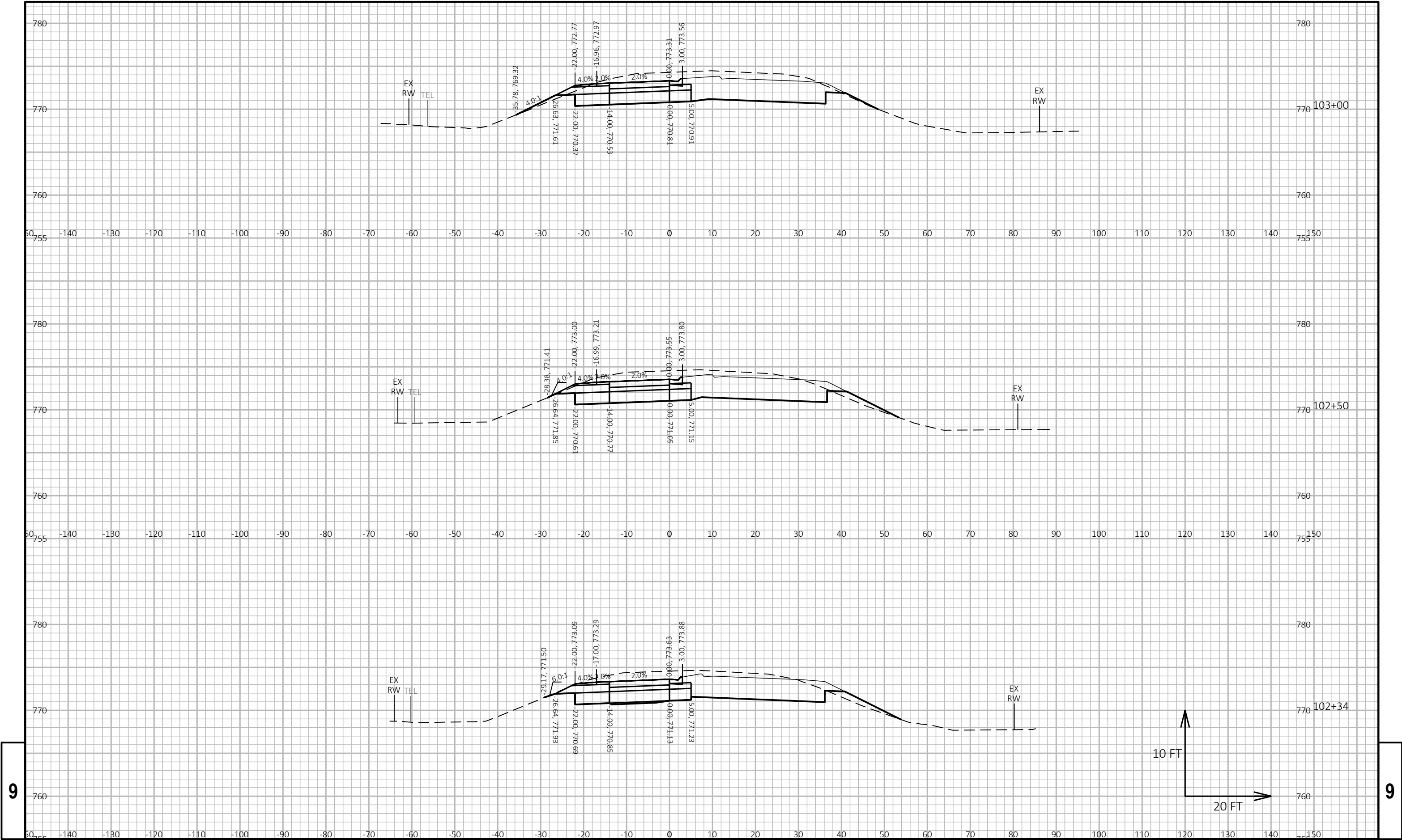
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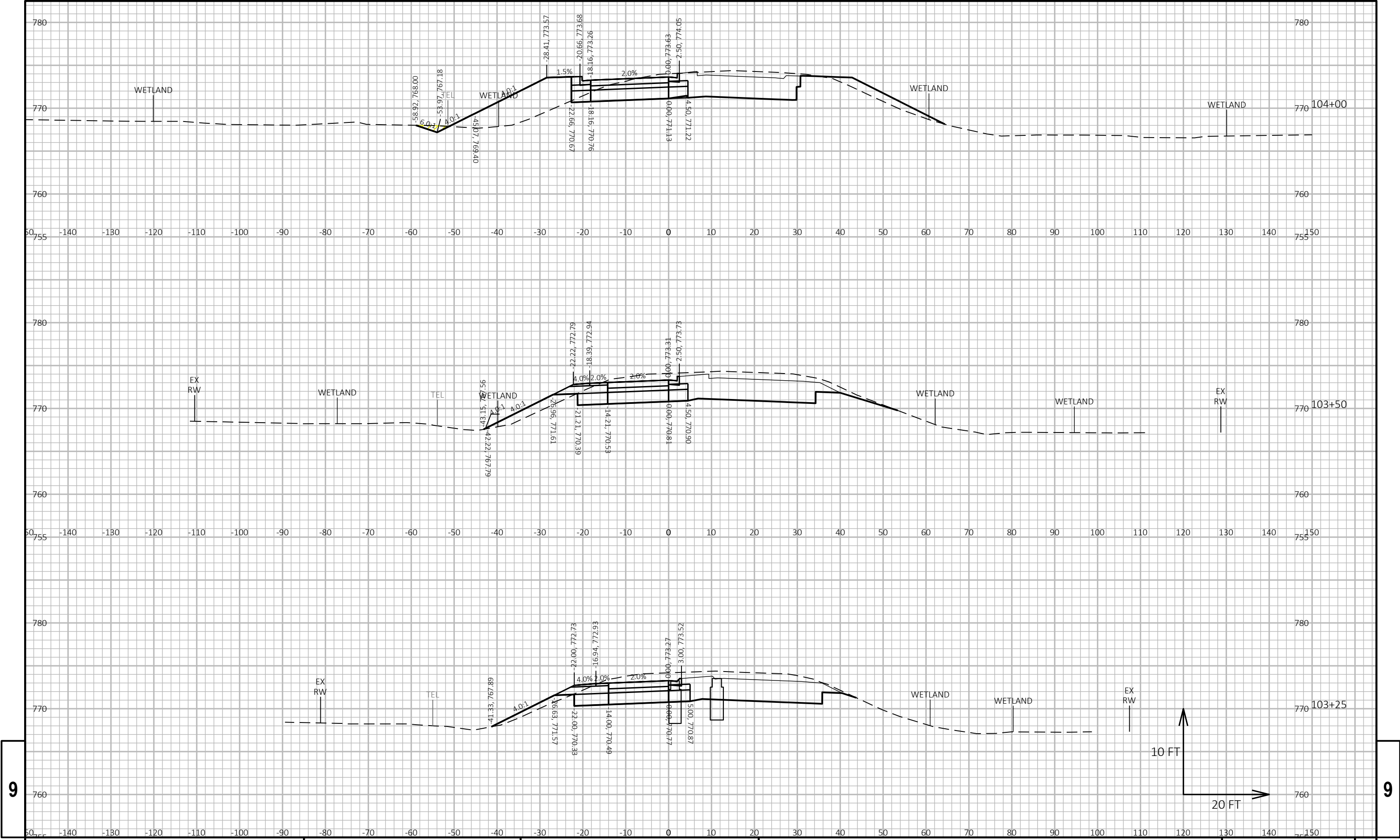


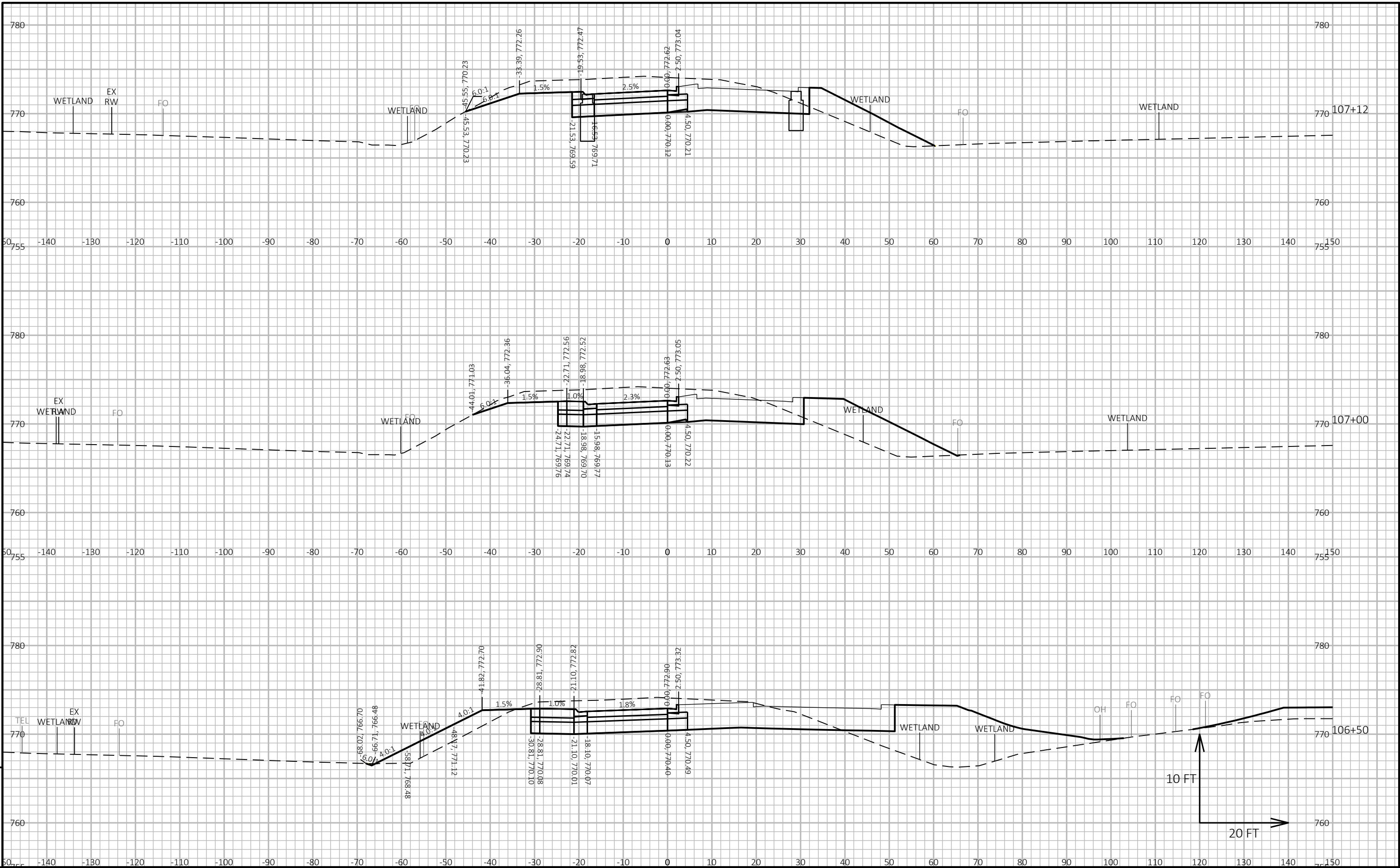




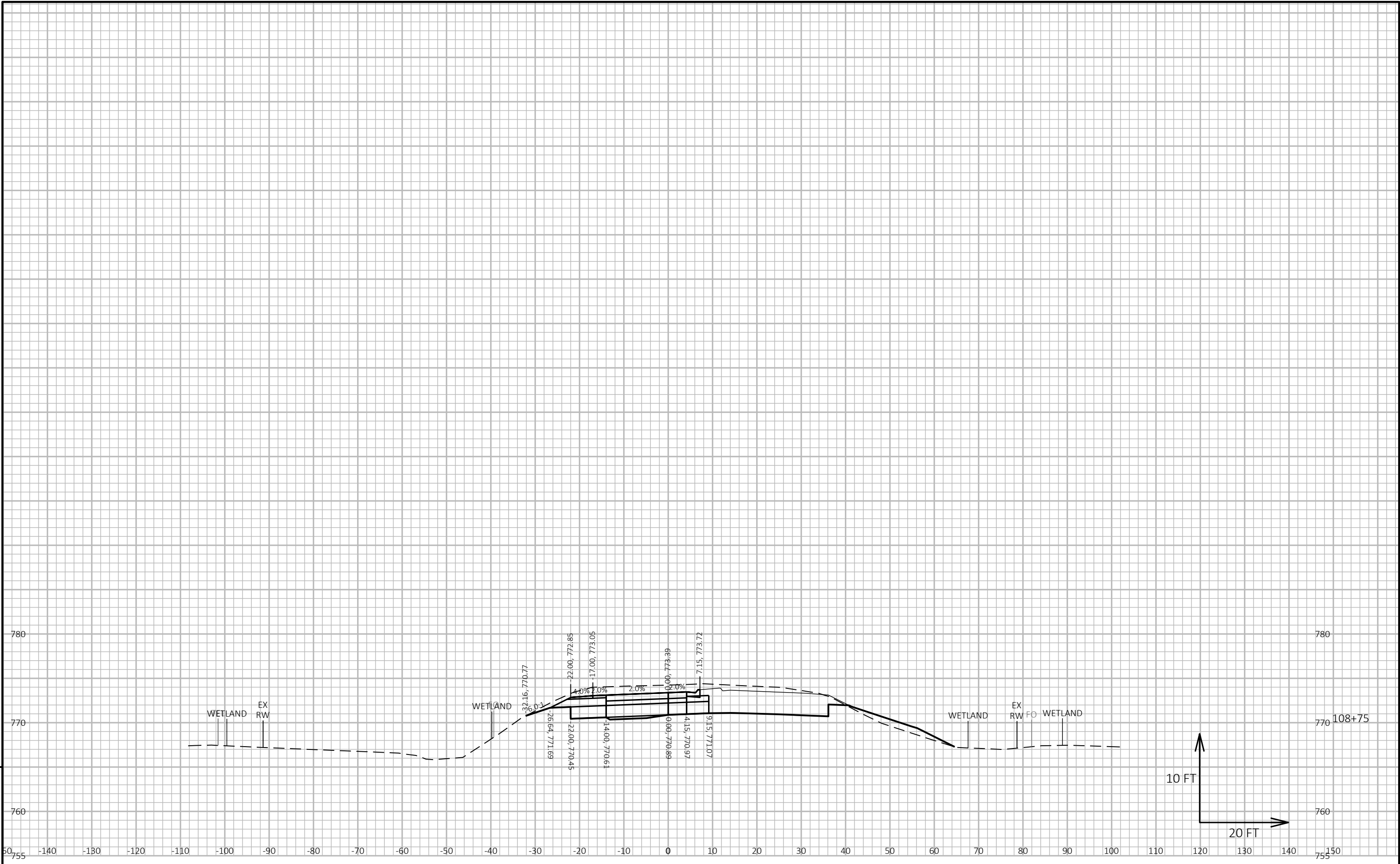
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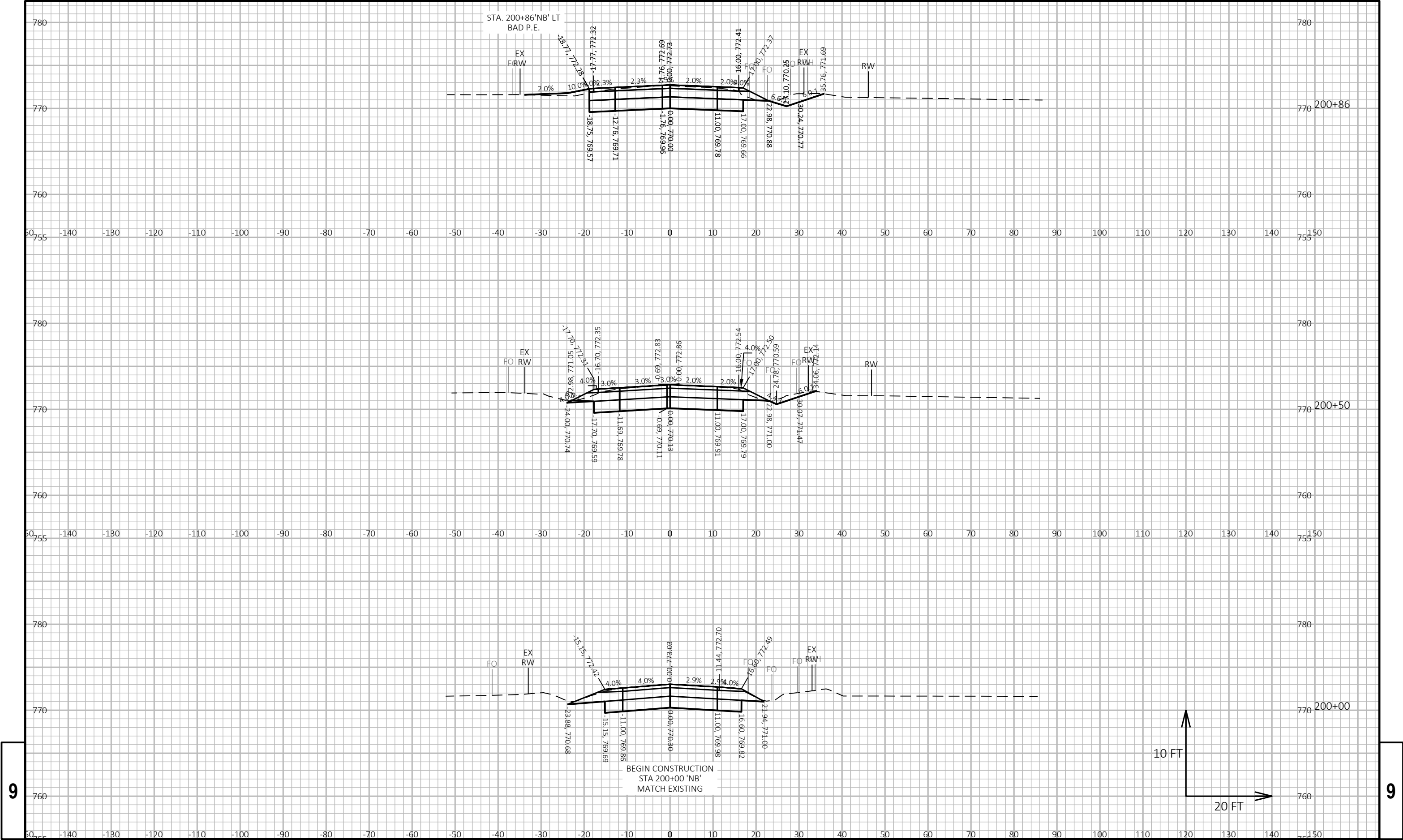




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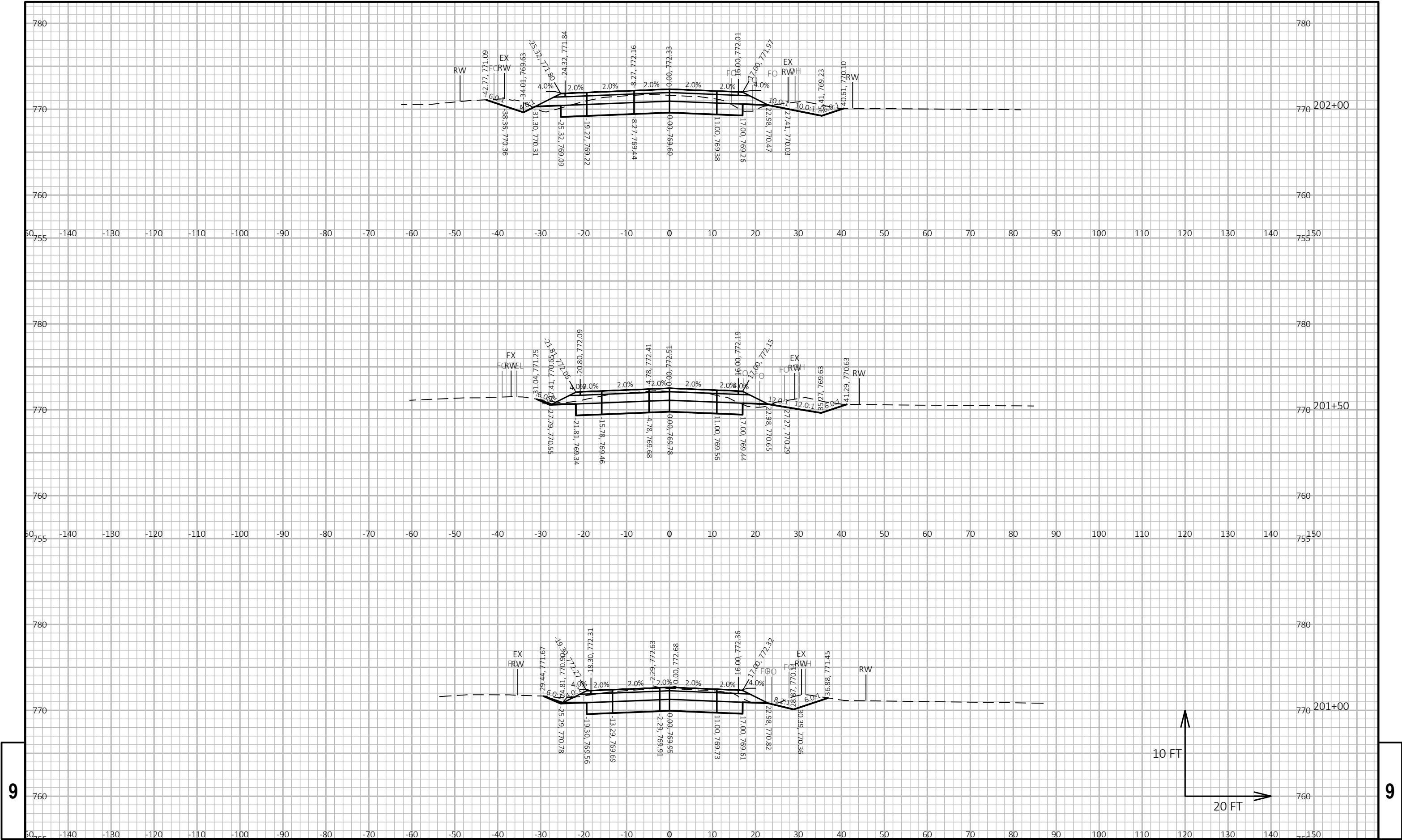


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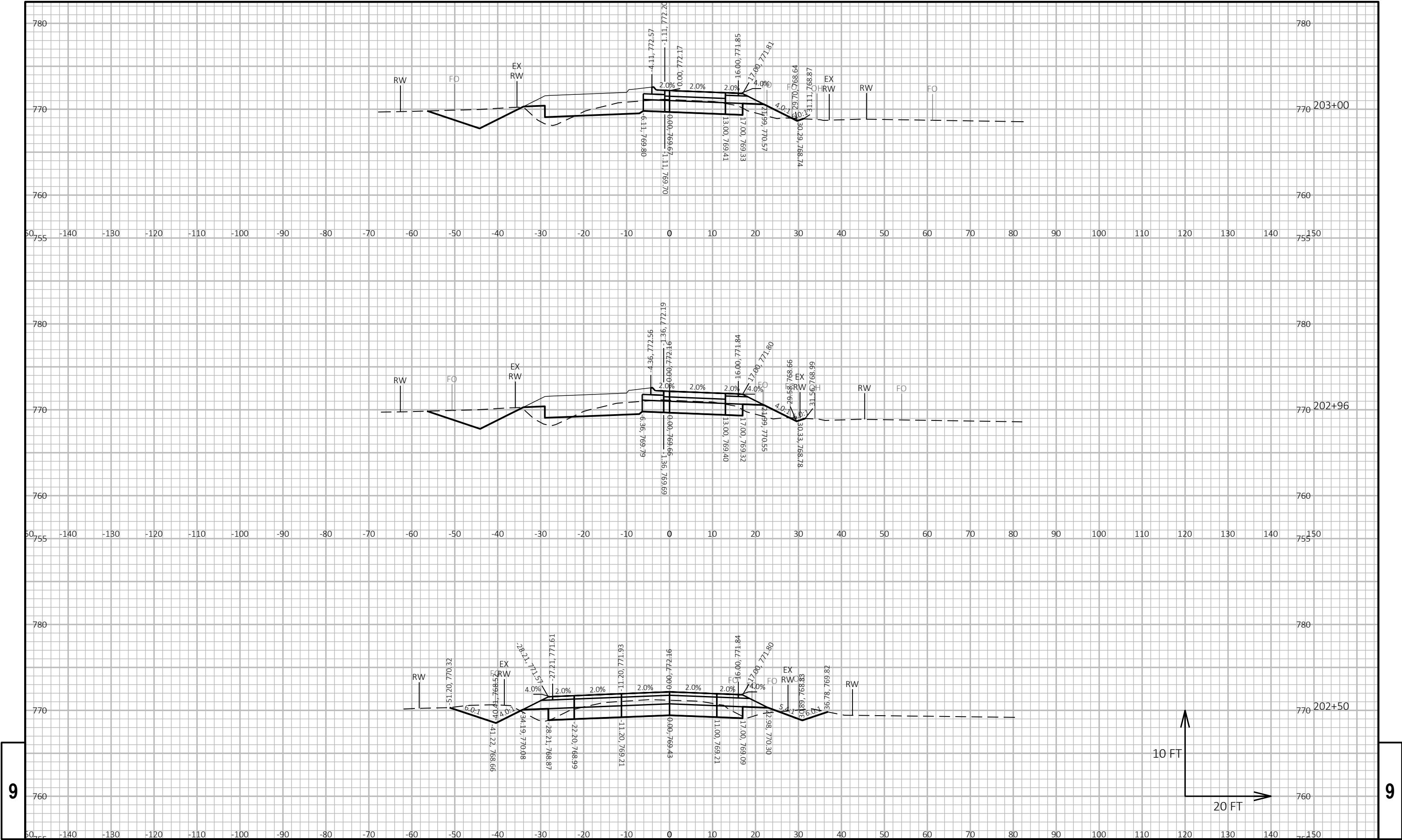
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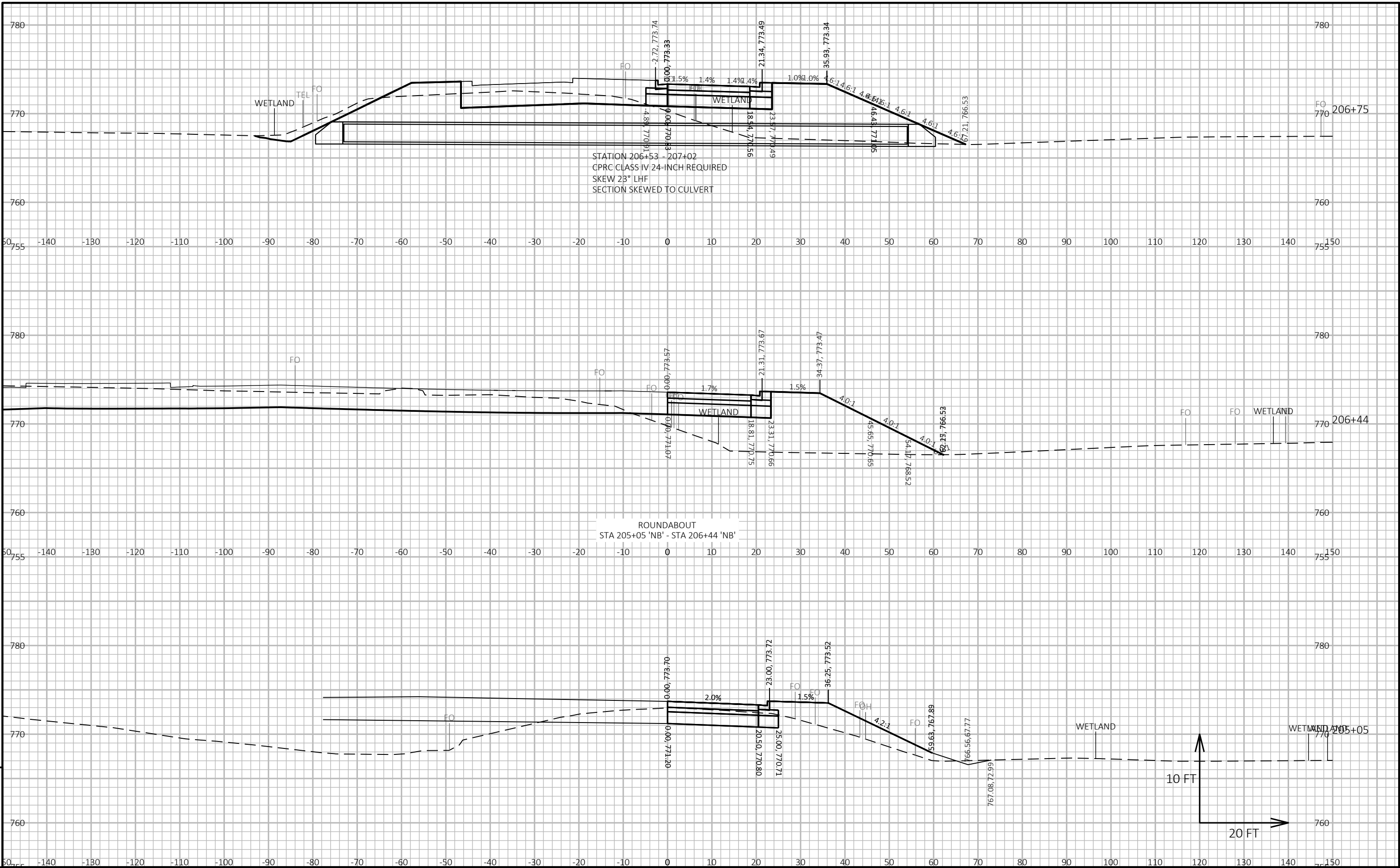
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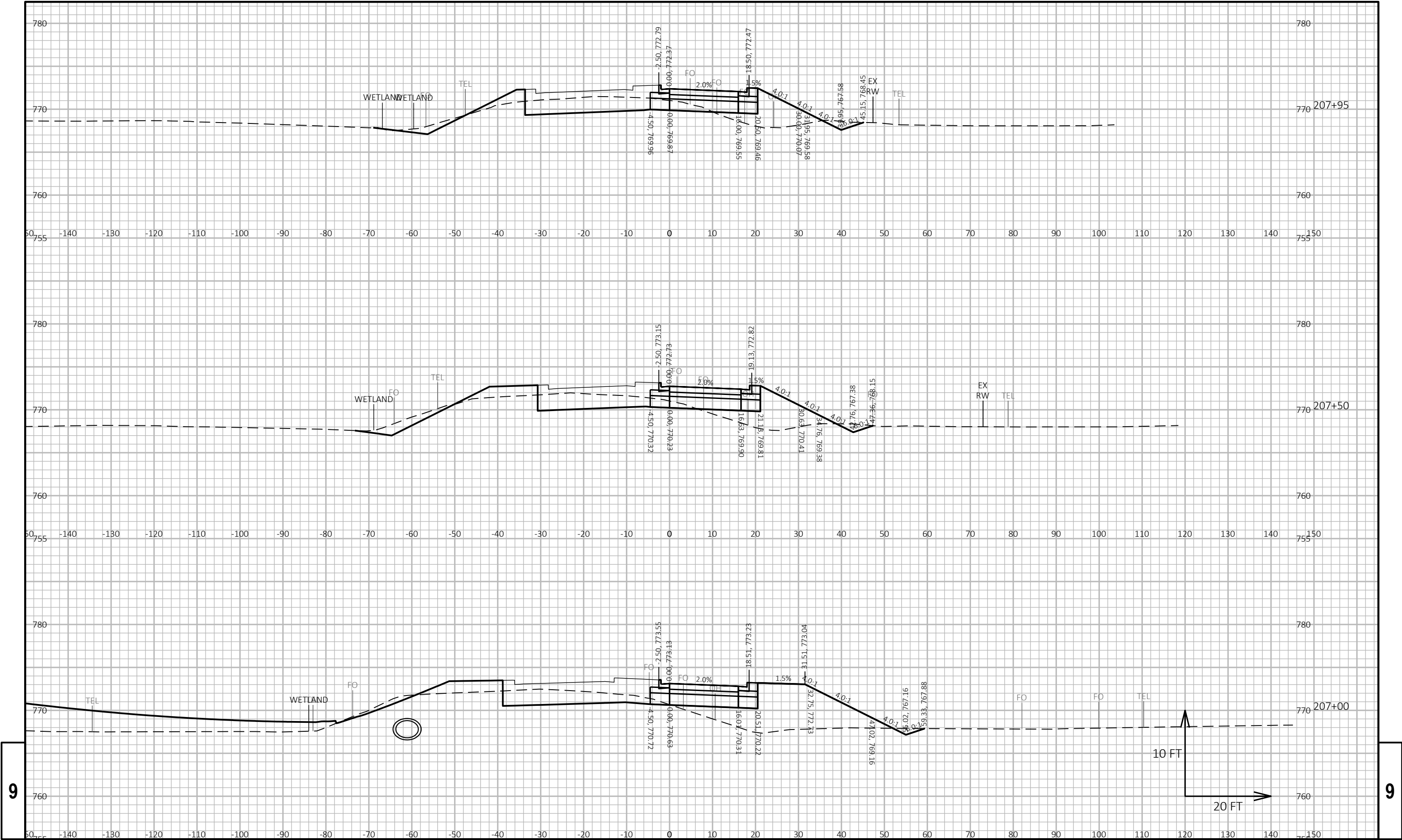
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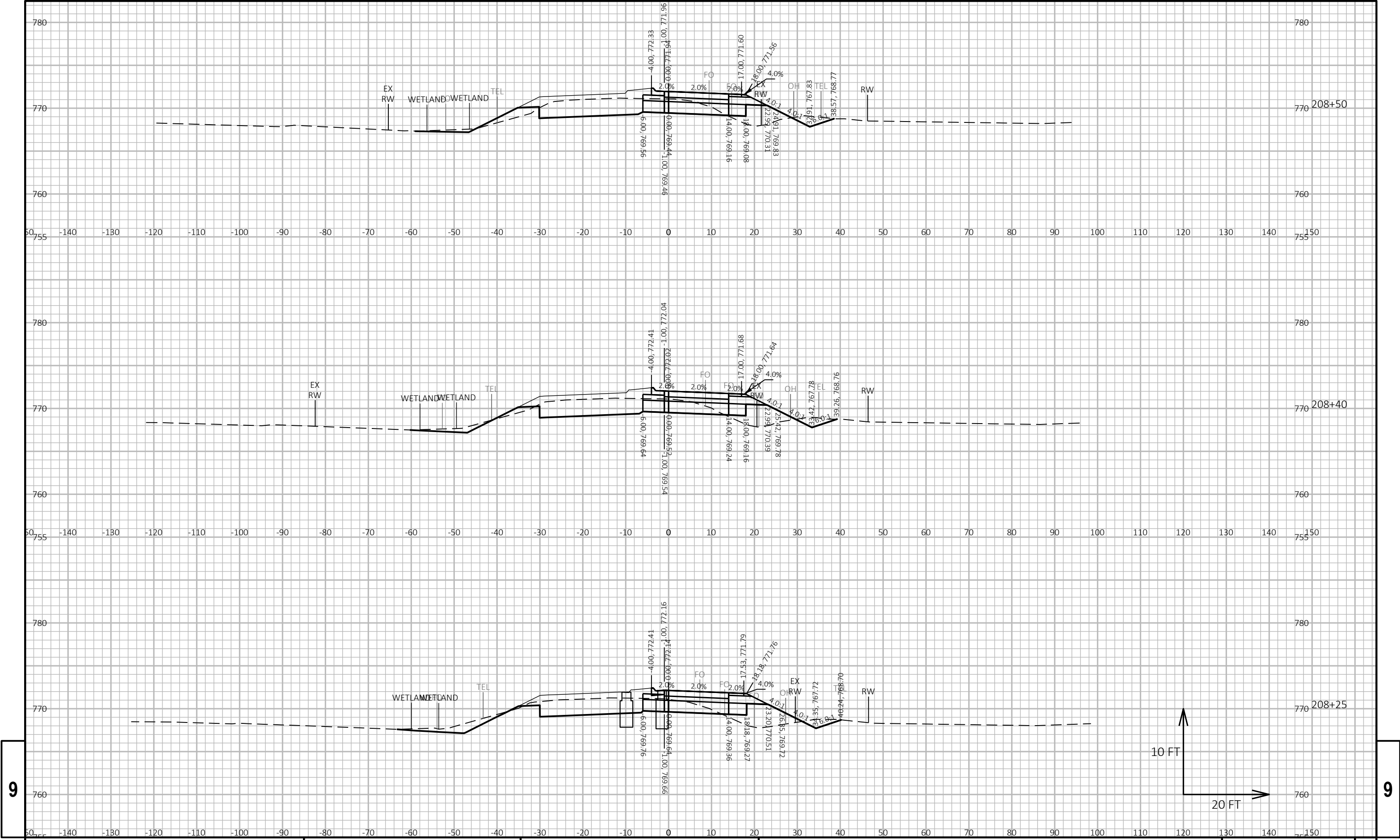


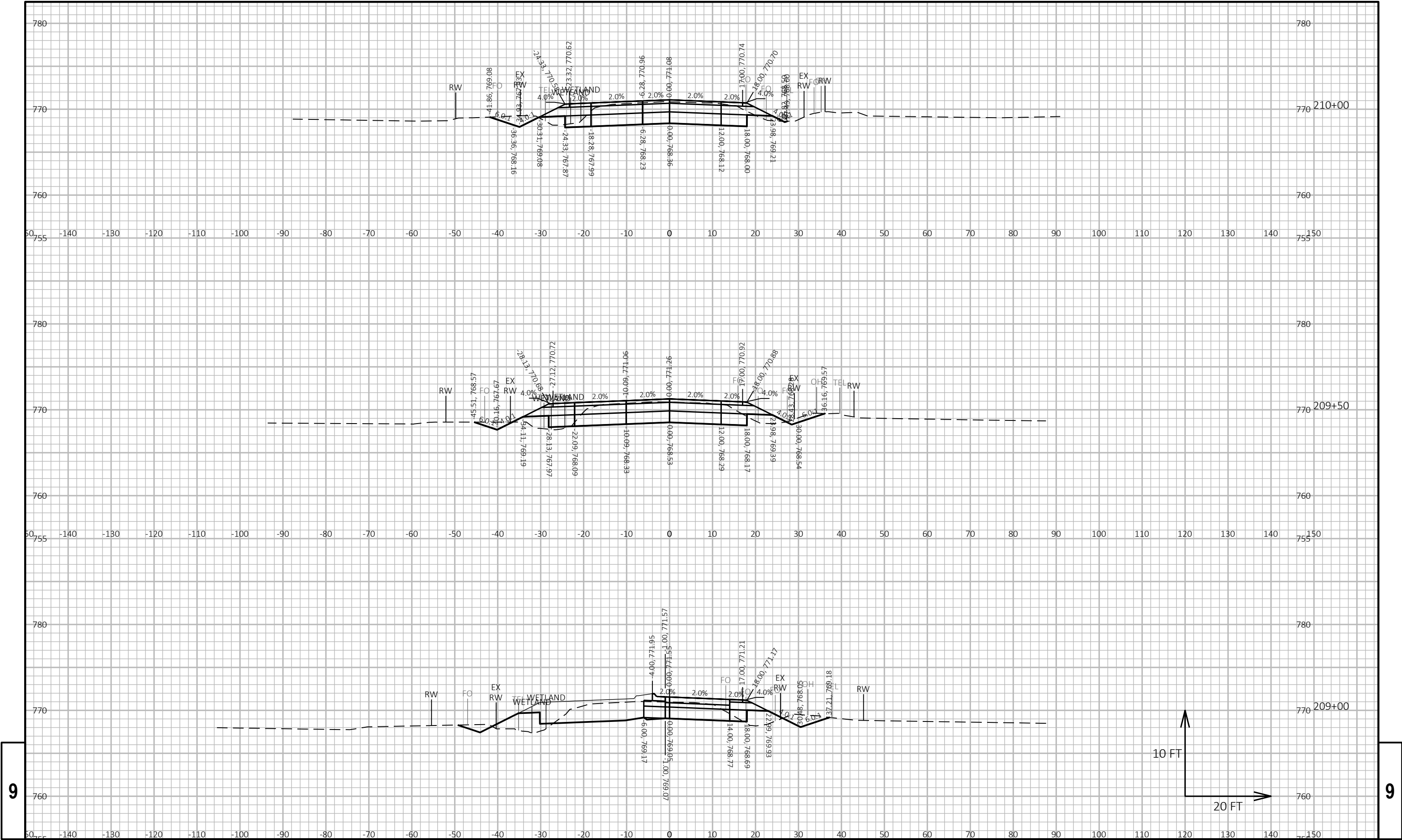
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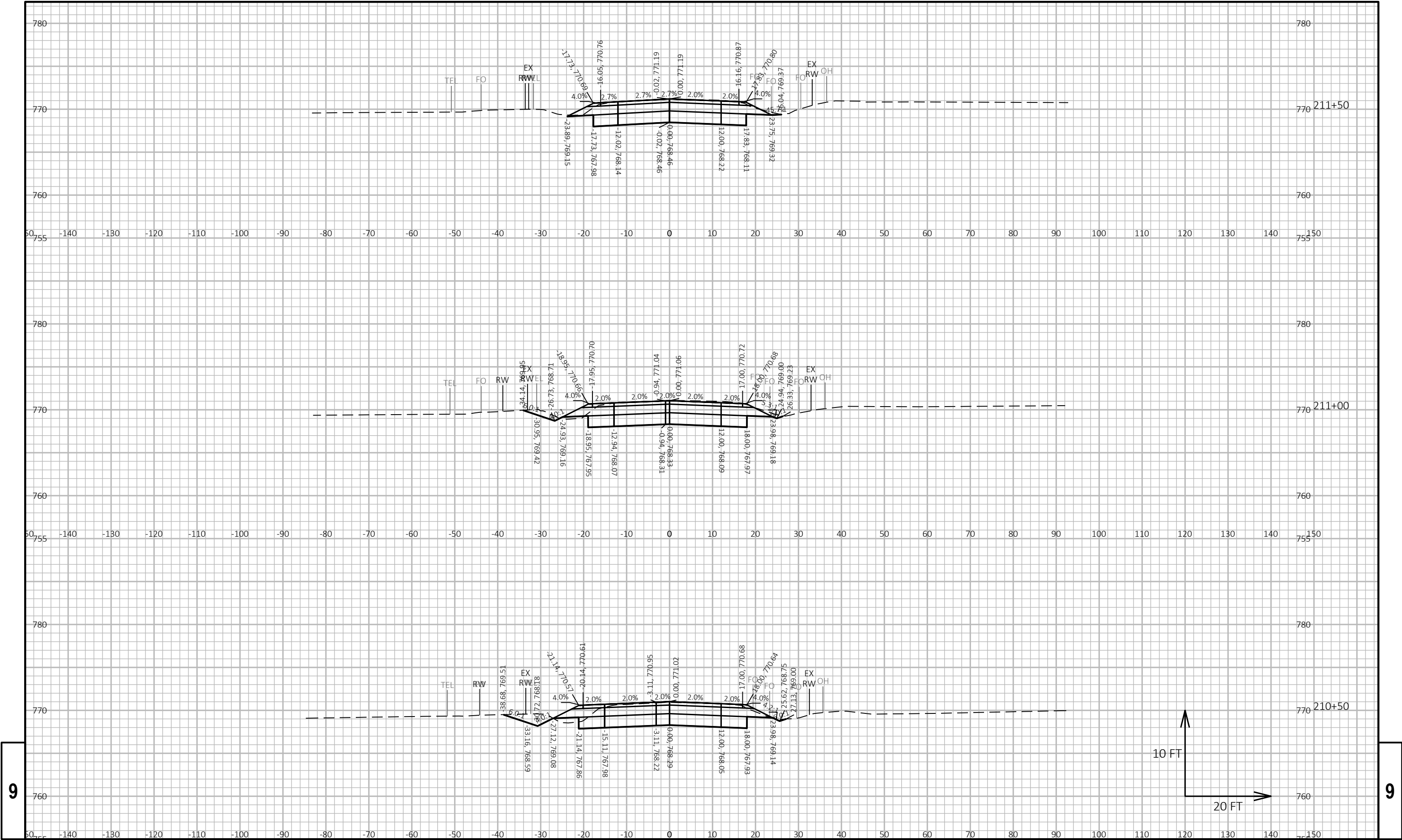
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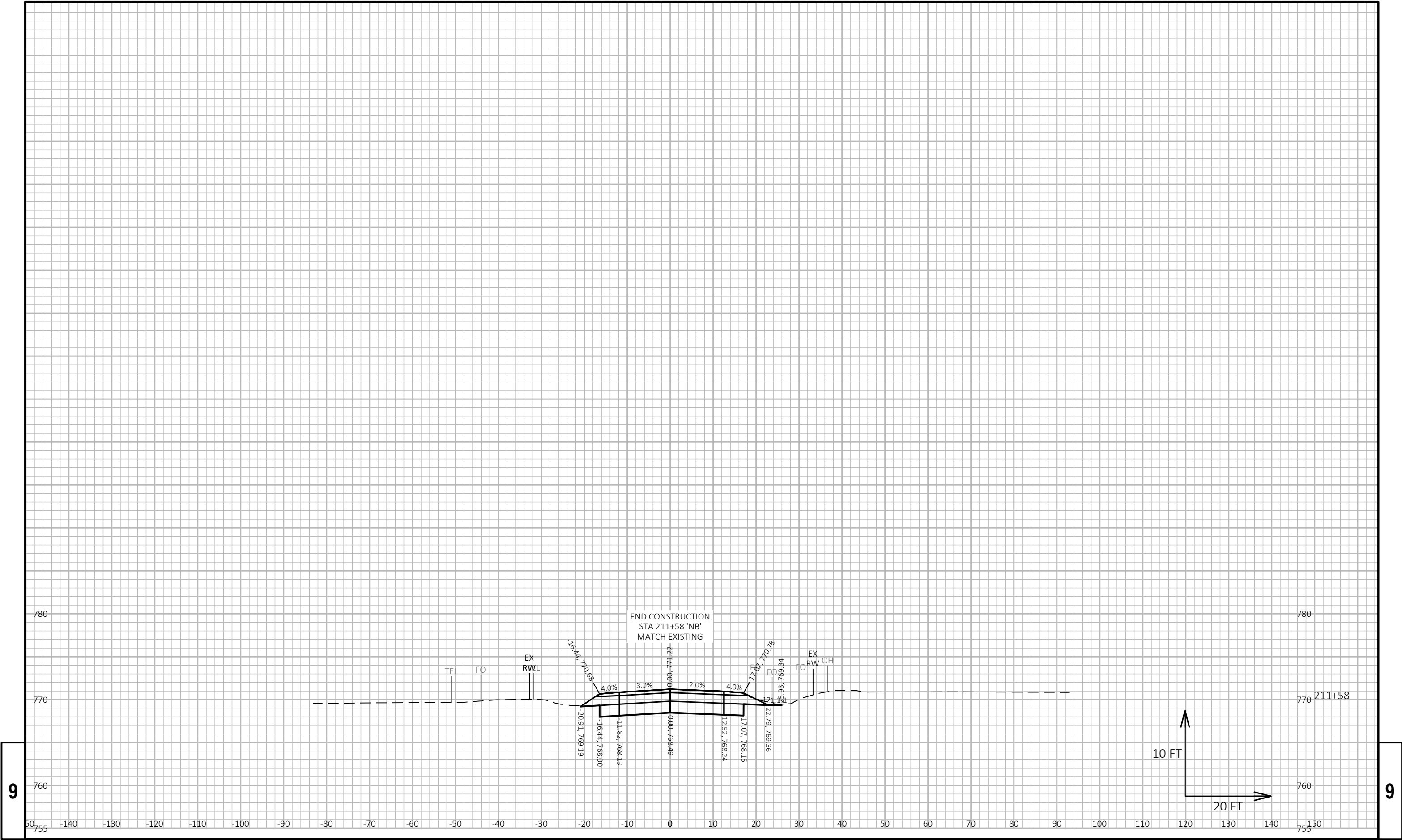


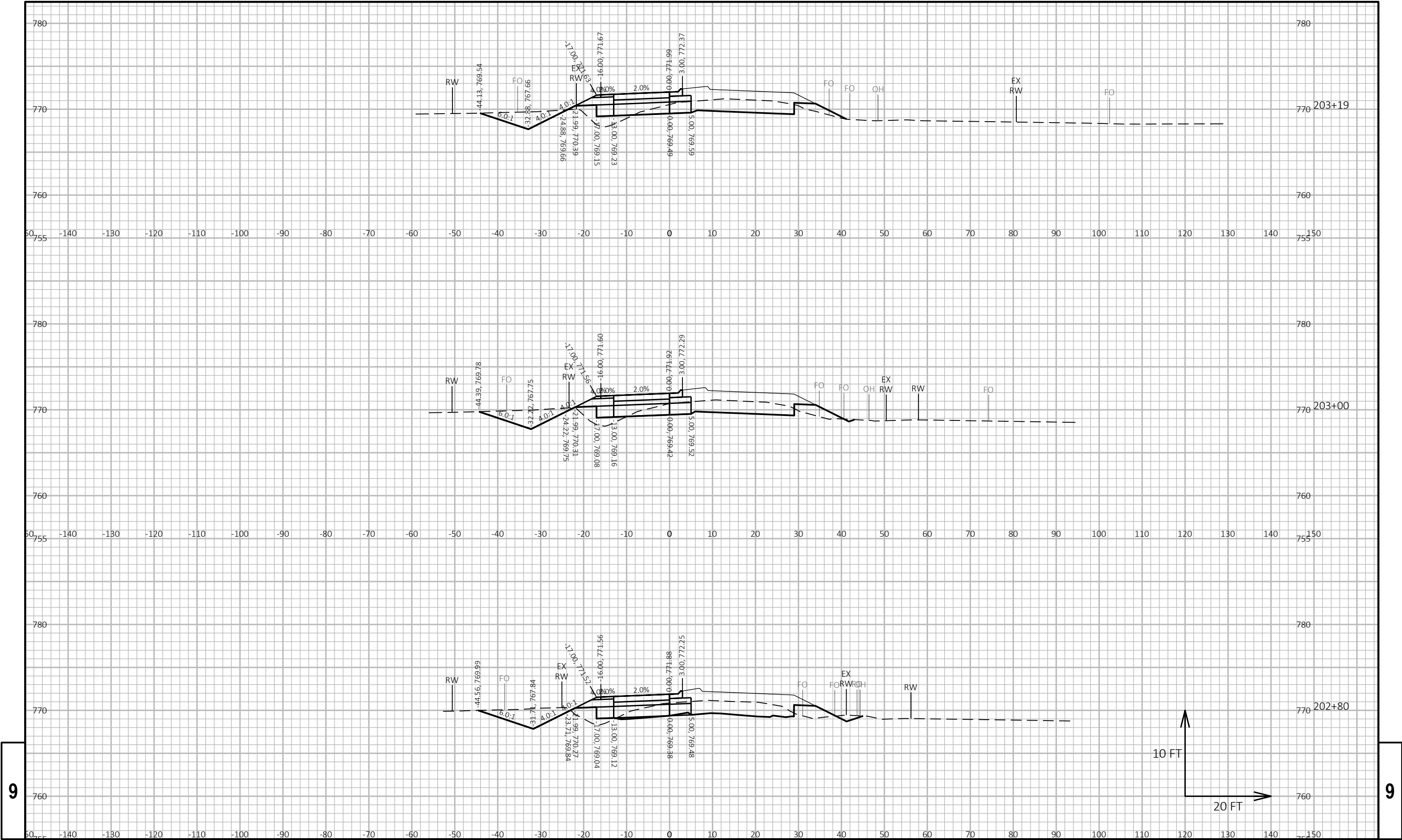




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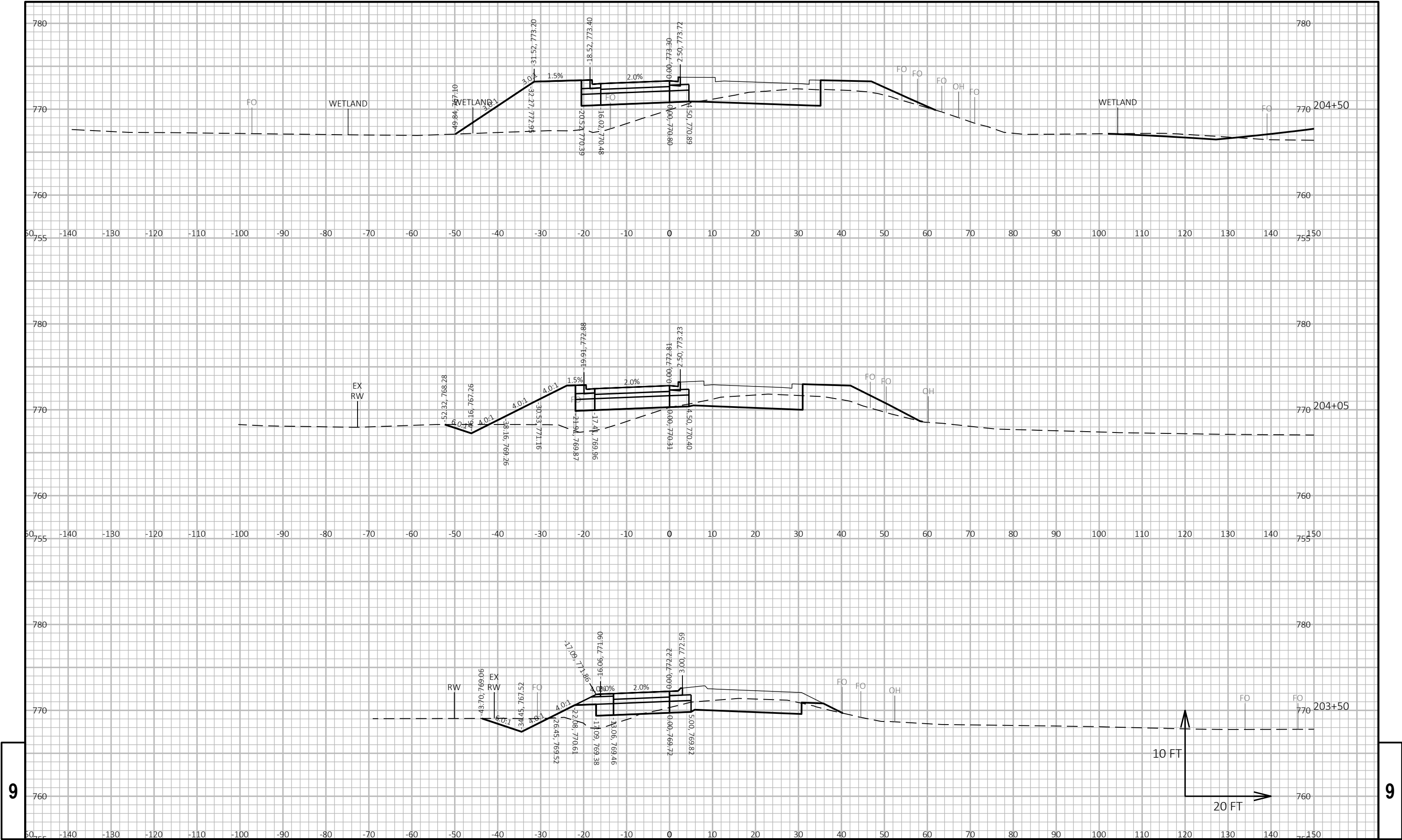
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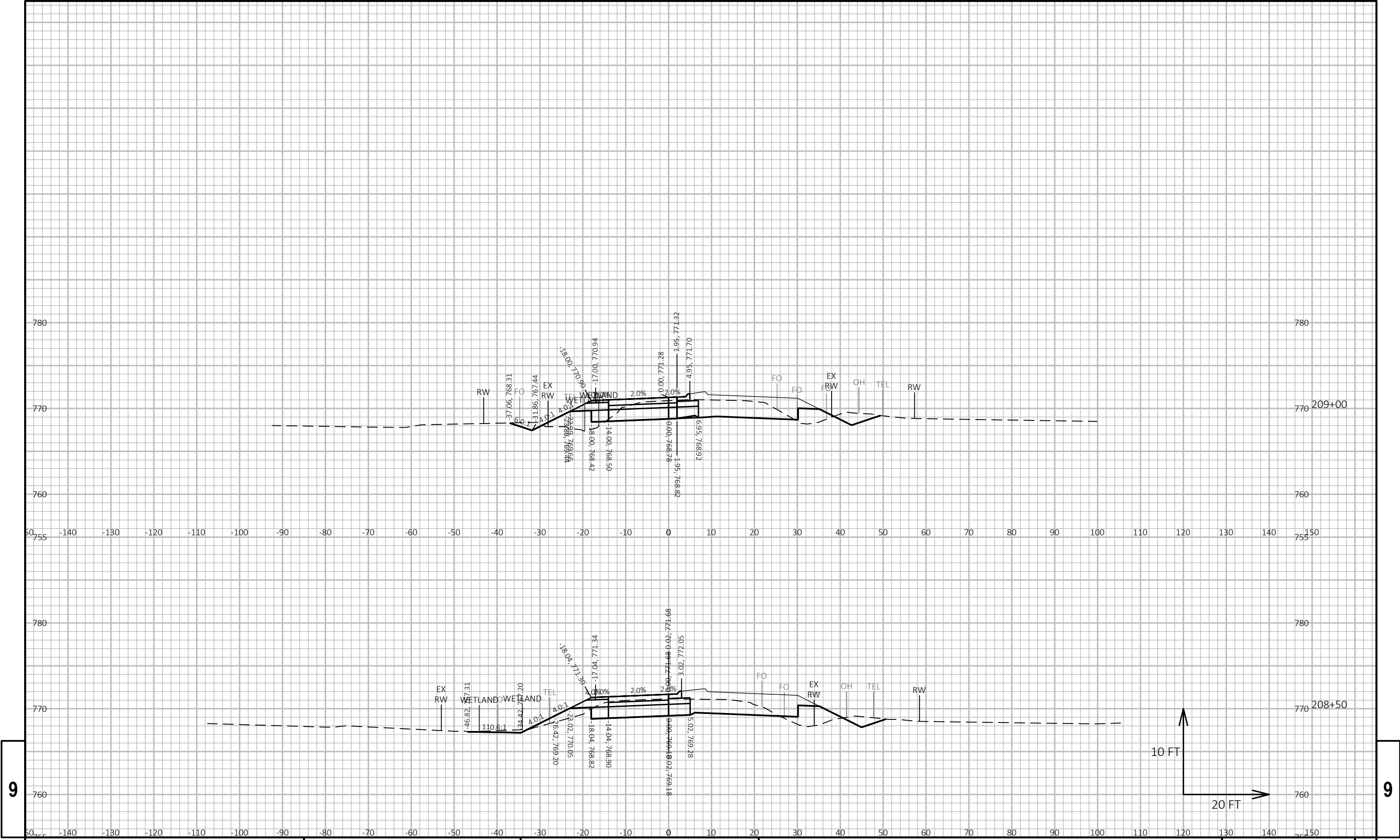
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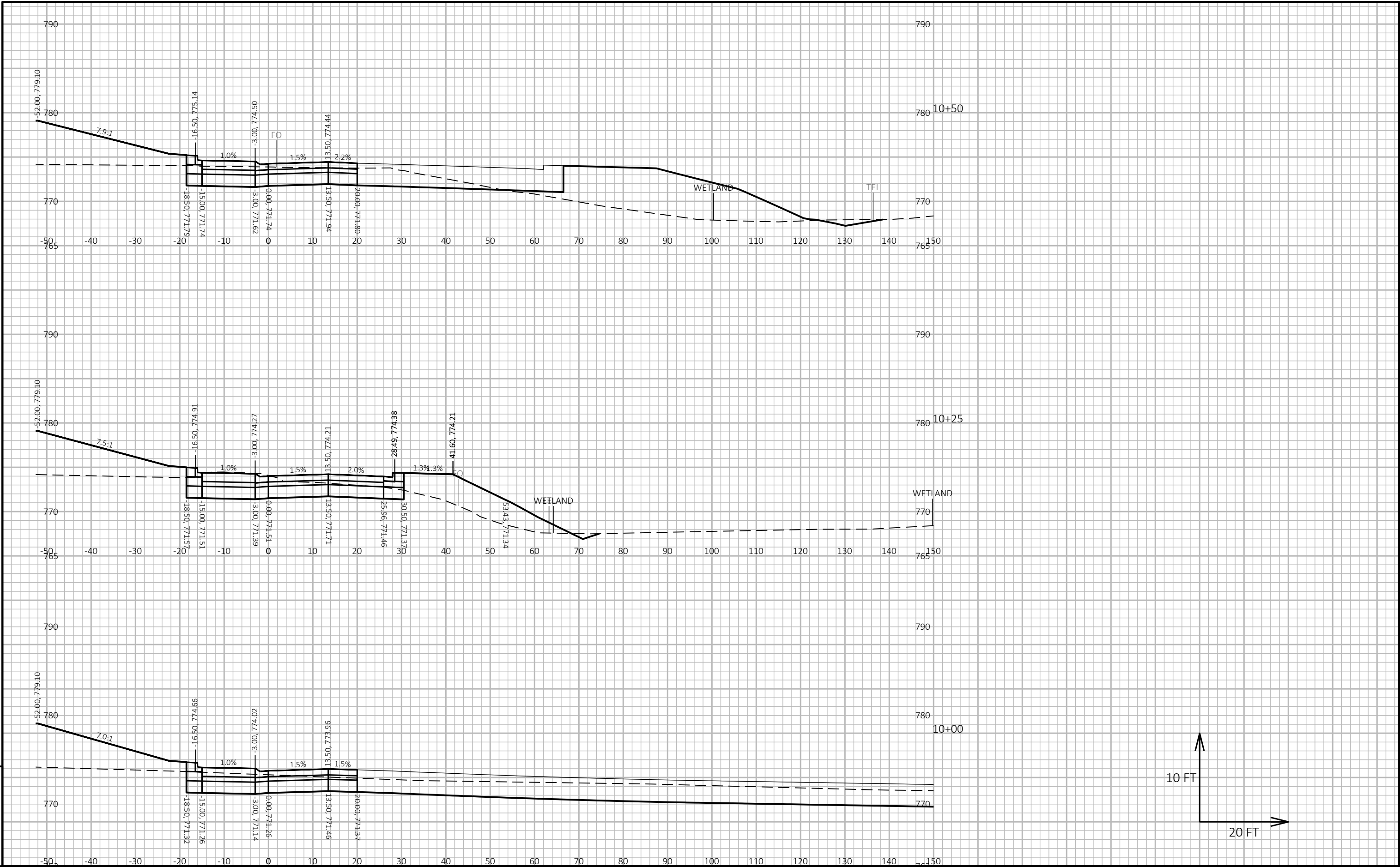
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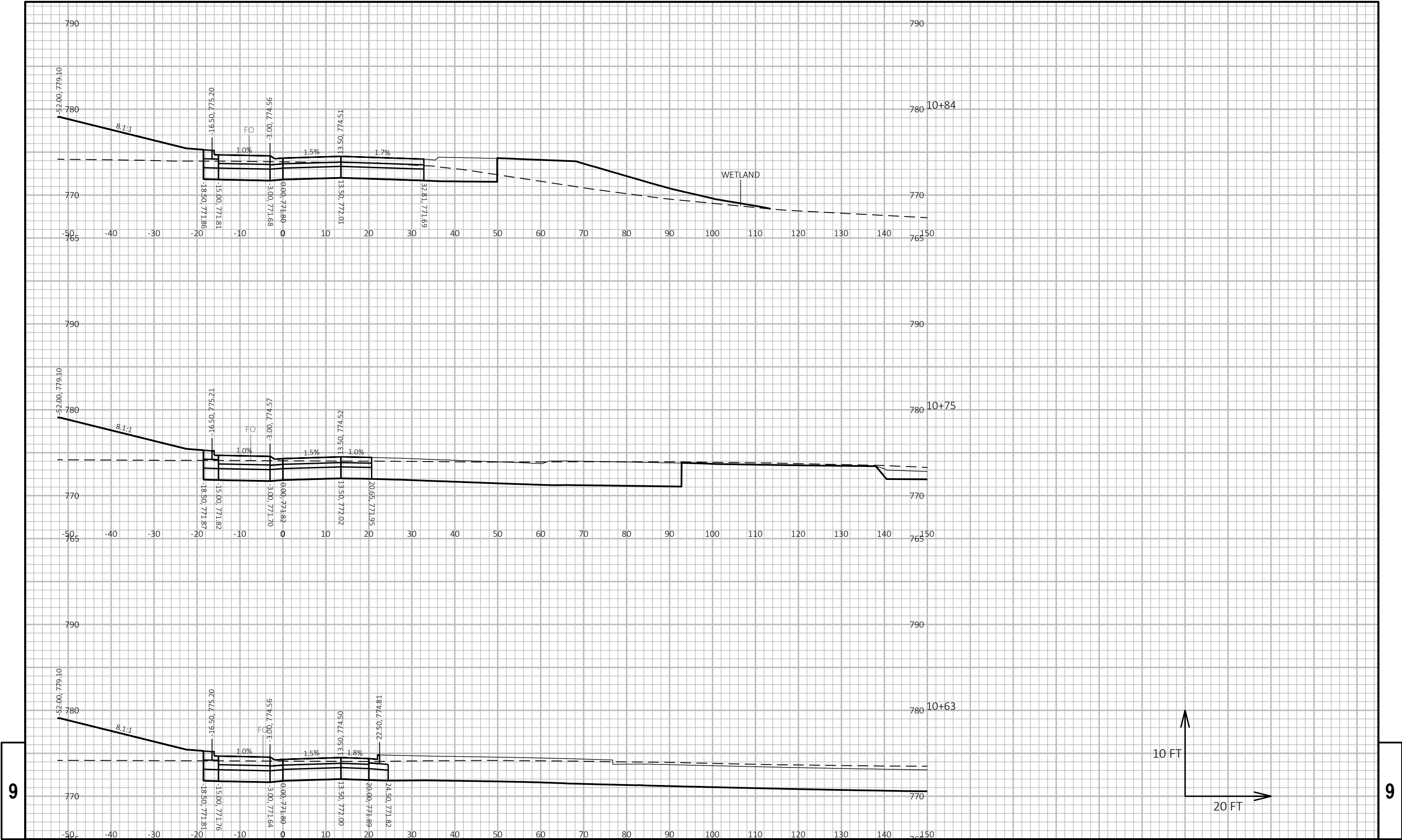
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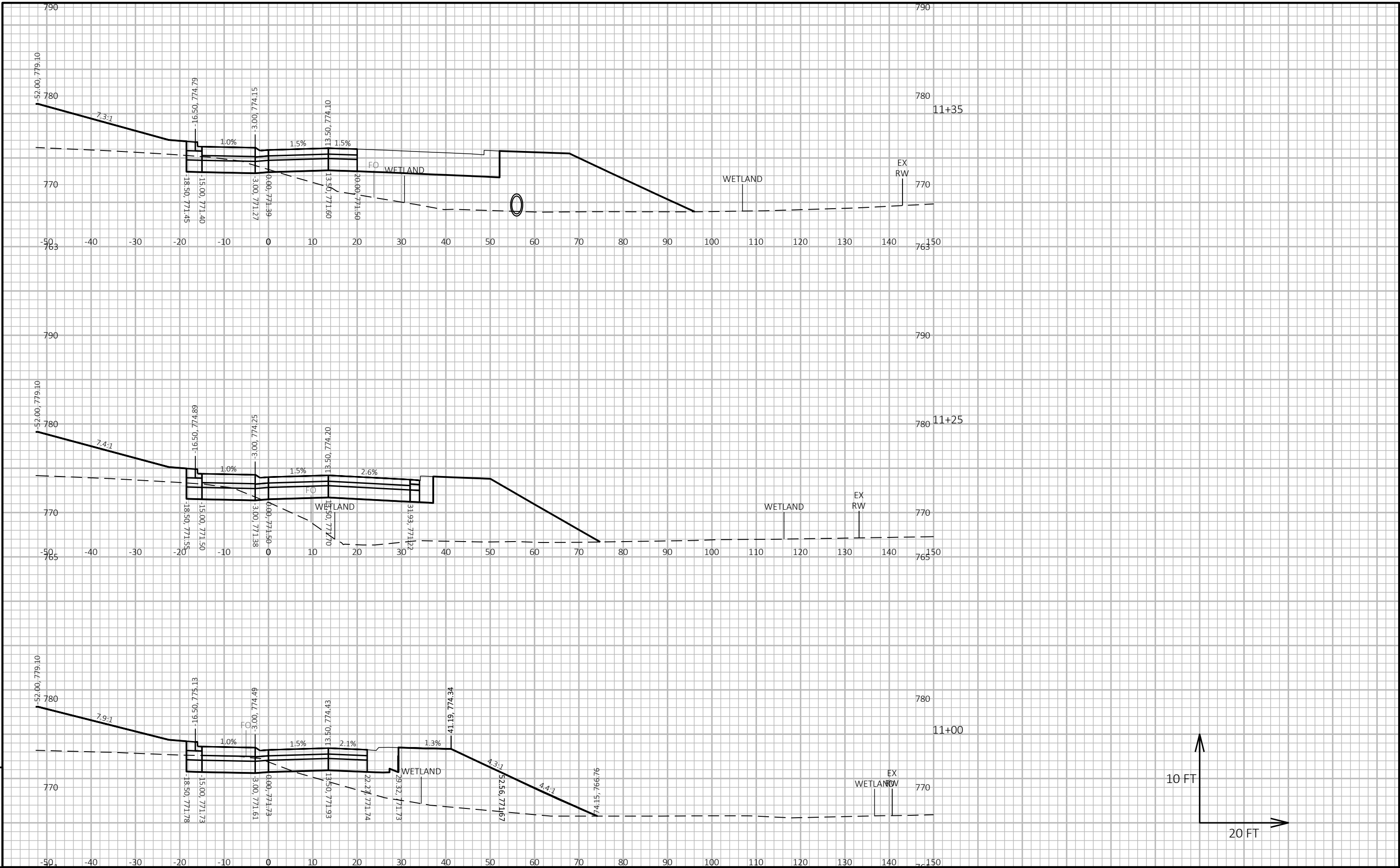
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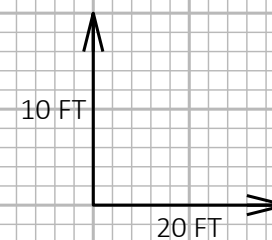
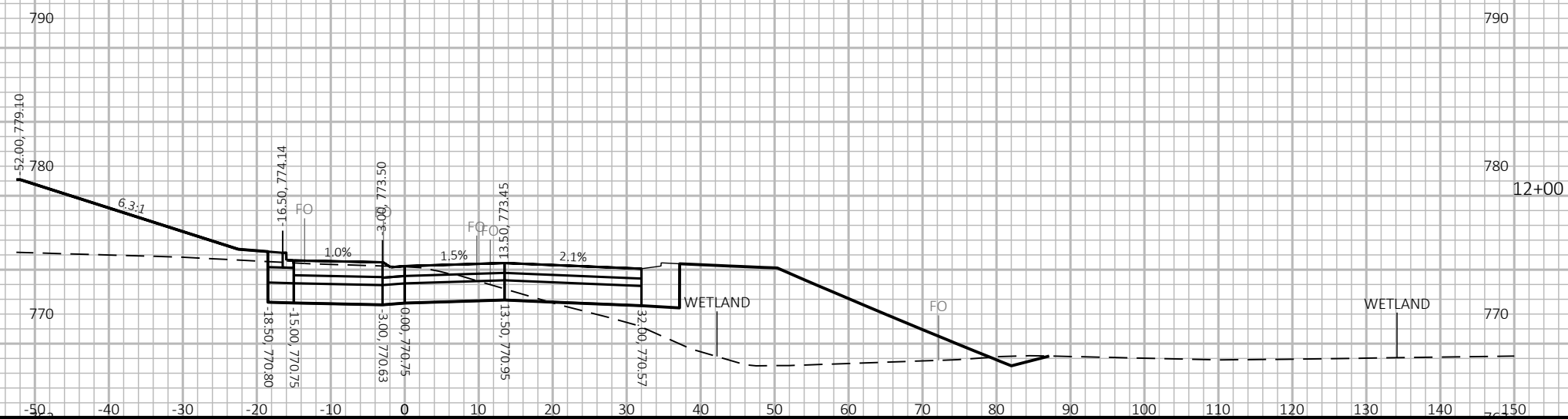


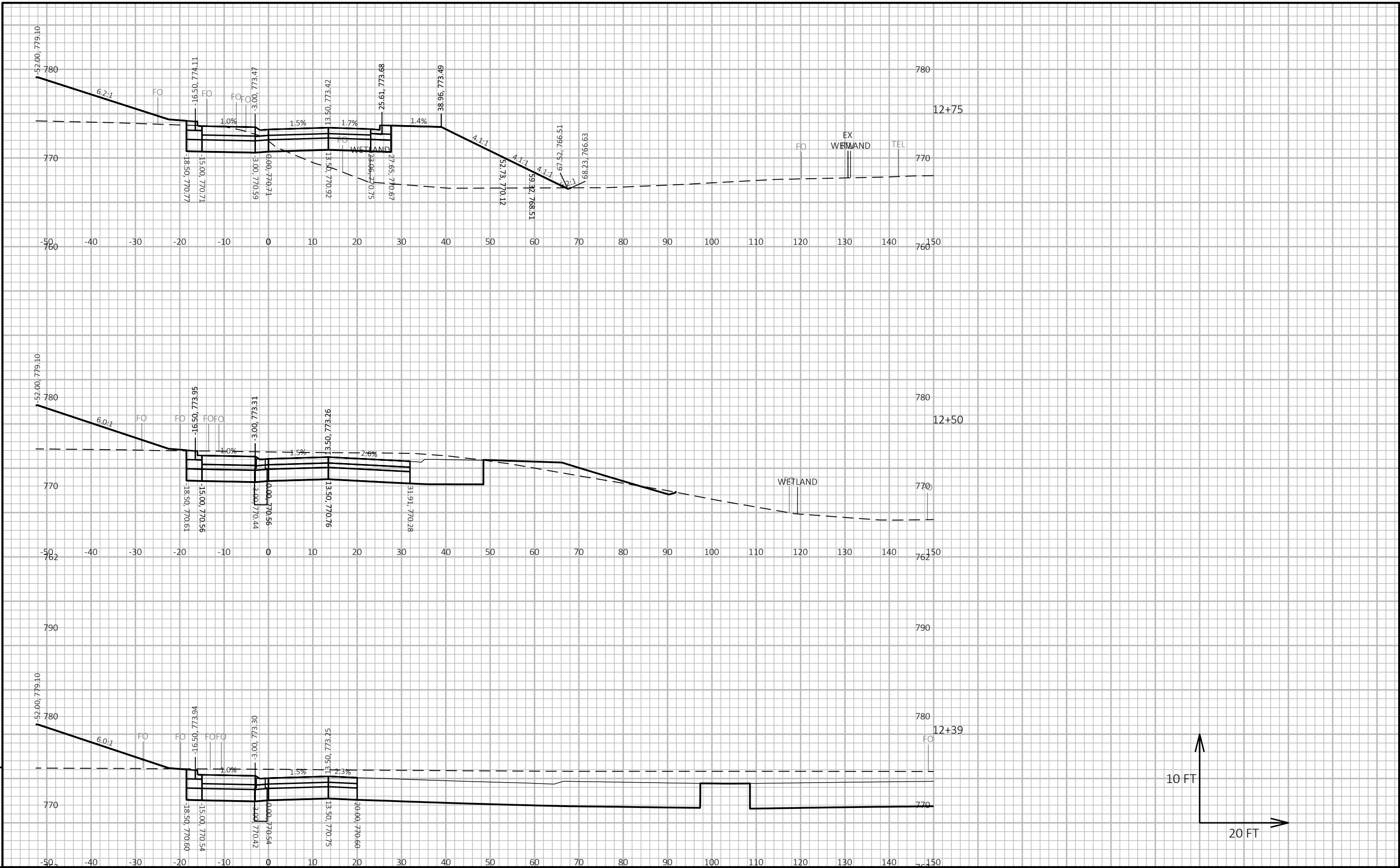


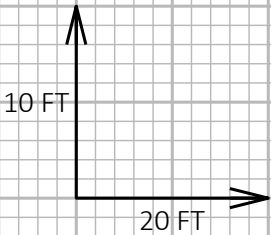
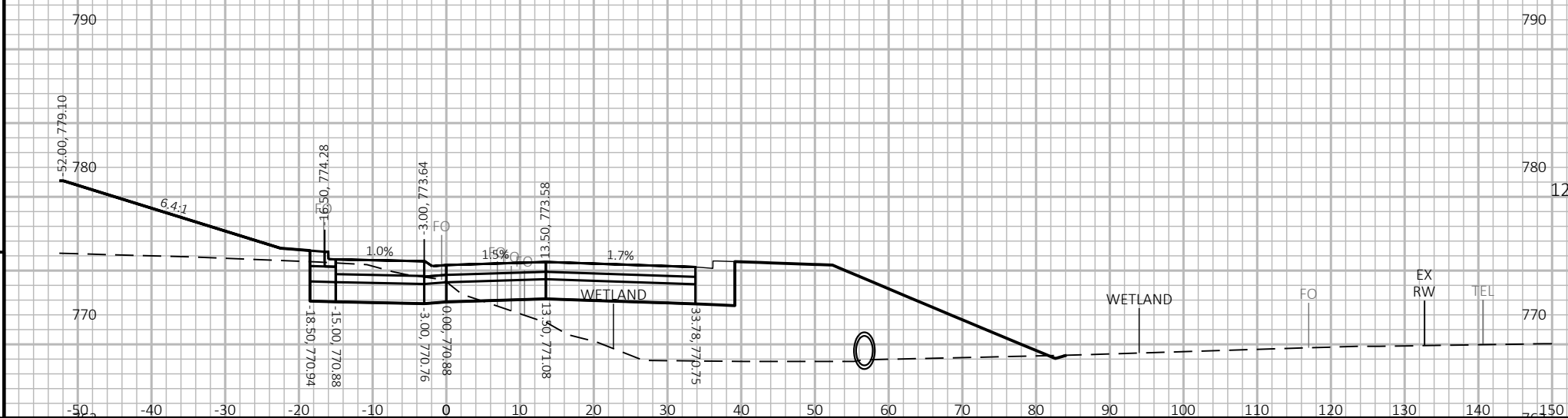
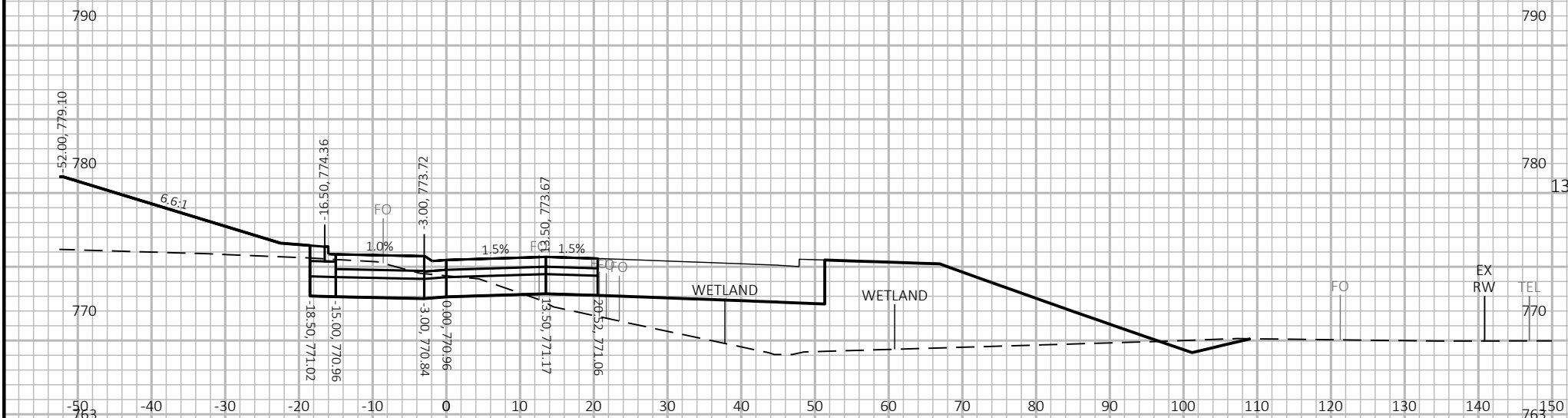
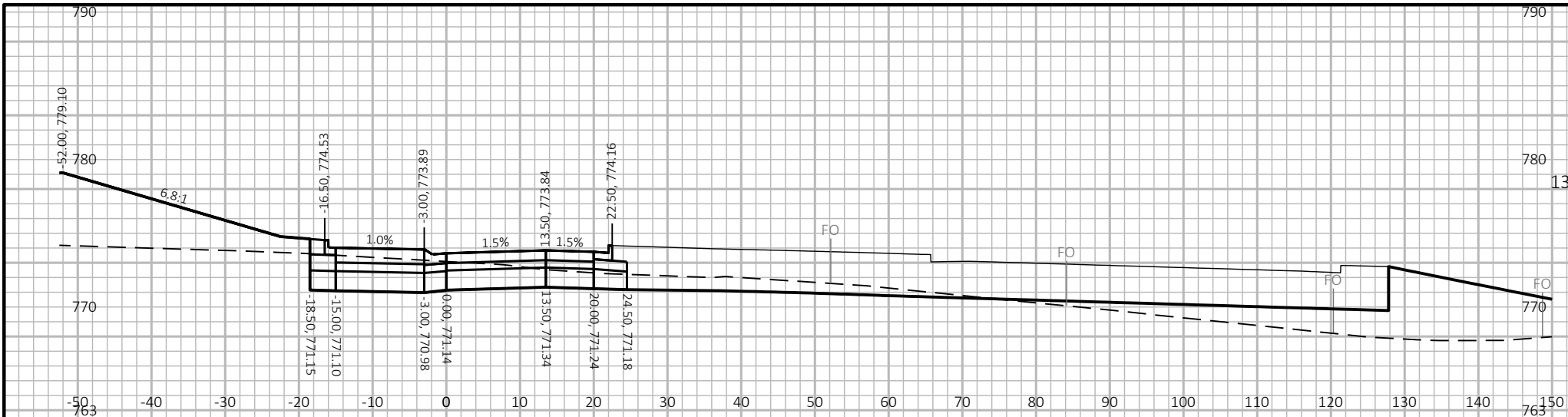
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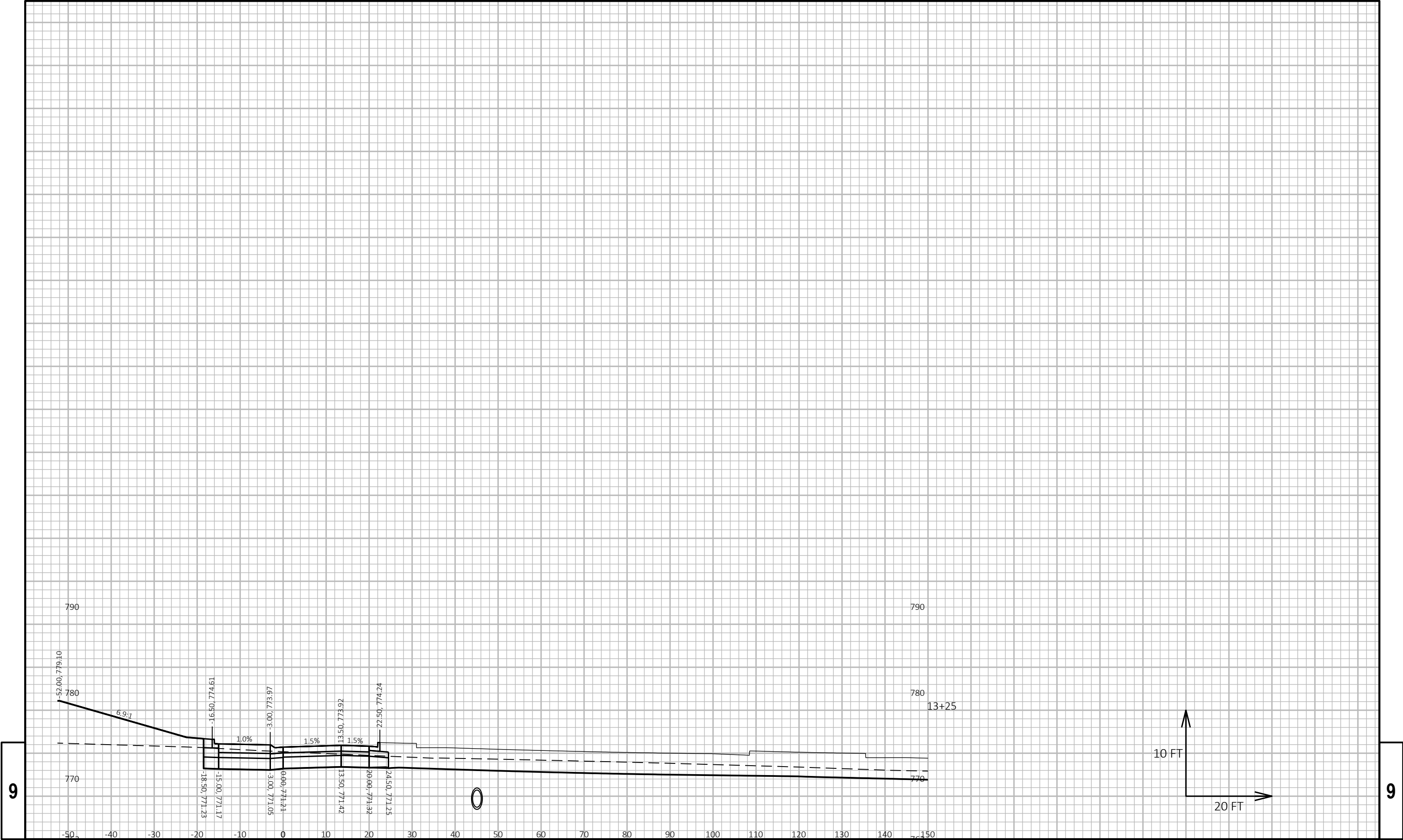
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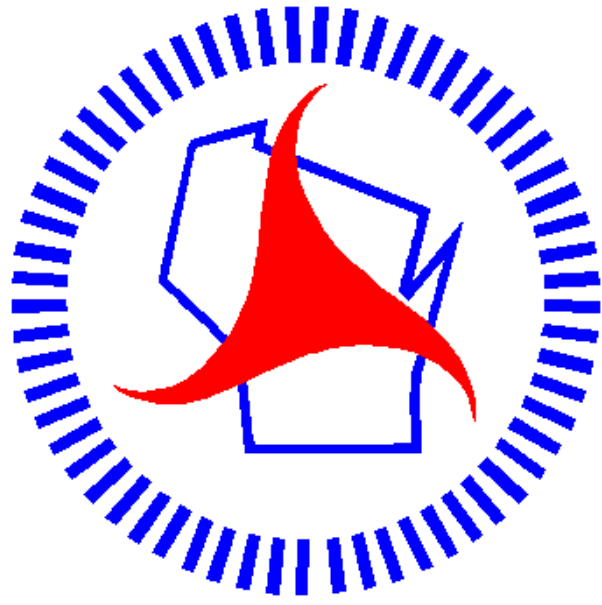






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