

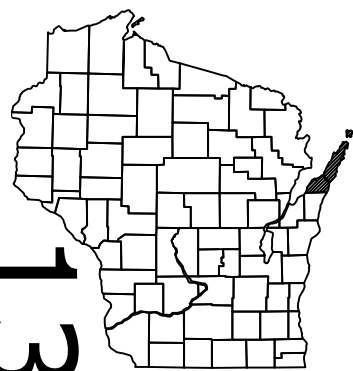
GRE
WITH: PROJECT ID: 1009-32-74, 4430-15-71
COUNTY: DOOR

JULY 2015

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 = 216



DESIGN DESIGNATION

A.A.D.T.	2015	=	9,500
A.A.D.T.	2035	=	10,500
D.H.V.		=	1575
D.D.		=	61/39
T.		=	8.6 %
DESIGN SPEED		=	70 MPH
ESALS		=	340,000

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	

ROCK	
LABEL	
95.36	
E	
FO	
G	
SAN	
SS	
T	
W	
Ø	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT

GREEN BAY - STURGEON BAY

PINE ROAD MITIGATION SITE

CTH C INTERSECTION

STH 57
DOOR COUNTY

STH 57
DOOR COUNTY

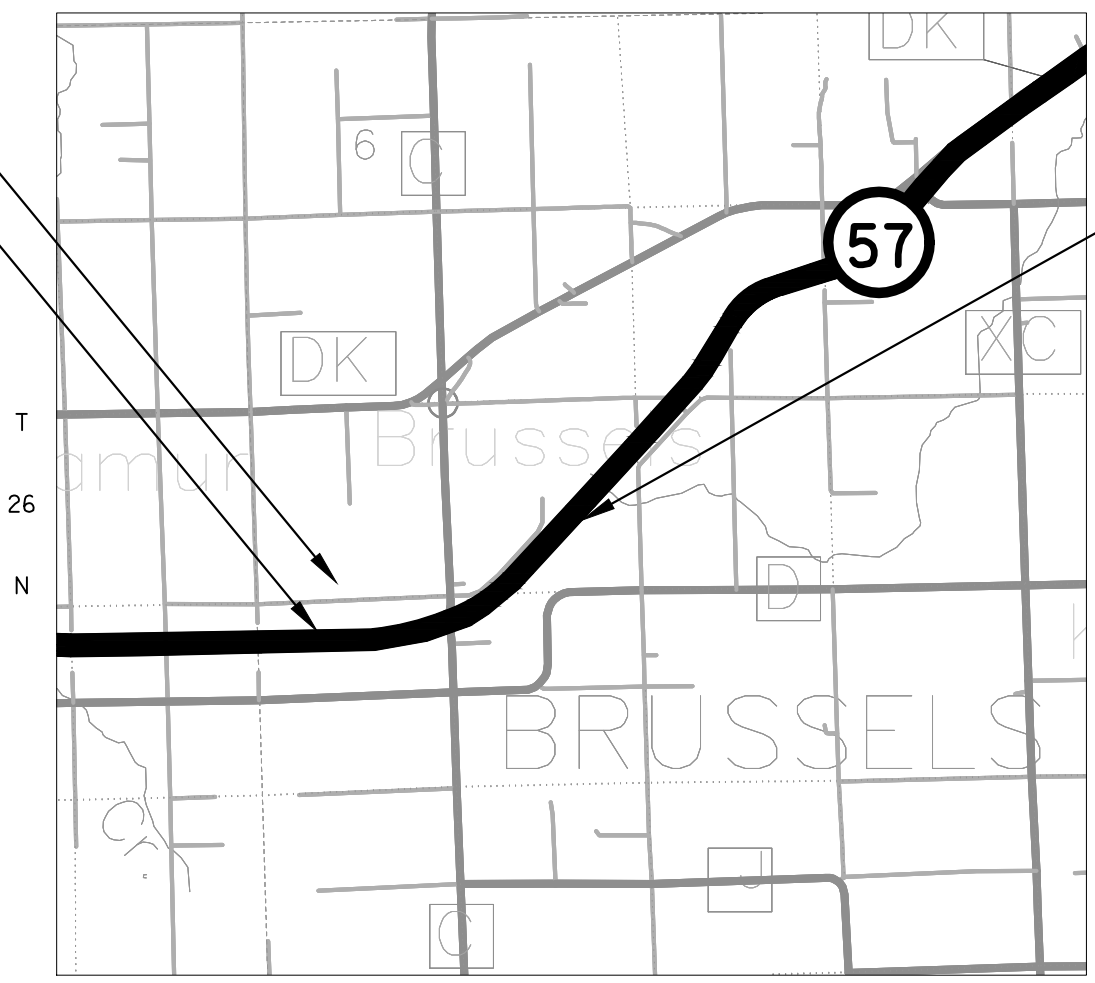
STATE PROJECT NUMBER
1009-32-74

STATE PROJECT NUMBER
4430-15-71

R - 24 - E

PROJECT 1009-32-74
BEGIN PROJECT 4430-15-71
STA 931NB+85.80
X = 428023.500
Y = 115425.765

END PROJECT 4430-15-71
STA 983NB+99.74
X = 432657.233
Y = 117412.063



LAYOUT
SCALE 0 0.5 MI

PROJECT 1009-32-74 TOTAL NET LENGTH OF CENTERLINE = 0.000 MI.
PROJECT 4430-15-71 TOTAL NET LENGTH OF CENTERLINE = 0.987 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, DOOR 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.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NATIONAL AMERICAN VERTICAL DATUM OF NAVD 88 (2012).

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1009-32-74		
4430-15-71	WISC 2015429	1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	NE REGION
Designer	K. A. LORENZ
Project Manager	J. J. ASHAUER
Regional Examiner	
Regional Supervisor	J. F. THOMPSON

APPROVED FOR THE DEPARTMENT

DATE: 2/2/2015

(Signature)



UTILITY CONTACTS

AMERICAN TRANSMISSION COMPANY, LLC
MR. MIKE OLSEN
801 O'KEEFE ROAD
P.O. BOX 6113
DE PERE, WI 54115-6113
(920) 338-6582
MOBILE: (920) 660-2390
MOLSEN@ATCLLC.COM

CENTURYTEL OF FORESTVILLE, LLC
MR. DENNIS HAAG
144 N. PEARL STREET
P.O. BOX 70
BERLIN, WI 54923
(920) 361-0040
DENNIS.HAAG@CENTURYTEL.COM

WISCONSIN PUBLIC SERVICE CORPORATION
MS. LORI BUTRY
700 N. ADAMS STREET
P.O. BOX 19001
GREEN BAY, WI 54307-9001
(920) 433-1703
LABUTRY@INTEGRYSGROUP.COM

ORDER OF SECTION 2 DETAIL SHEETS

- GENERAL NOTES
- PROJECT OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- REMOVAL PLAN
- PLAN DETAIL
- PAVING GRADES
- EROSION CONTROL
- STORM SEWER
- STAGE CONSTRUCTION
- ALIGNMENT PLANS

GENERAL NOTES

THE CONTRACTOR SHALL CONTACT DIGGERS HOTLINE TO LOCATE AND FIELD VERIFY UTILITIES PRIOR TO THE START OF WORK. 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. ANY LOCAL, MUNICIPAL OR OTHER UTILITY THAT IS NOT A MEMBER OF DIGGERS HOTLINE SHALL BE CONTACTED SEPERATELY.

EXISTING SURFACE ELEVATIONS USED TO CALCULATE PROPOSED EARTHWORK QUANTITIES ARE BASED UPON PREVIOUS CONSTRUCTION DIGITAL TERRAIN MODEL (DTM). FIELD CHANGES TO THESE PROPOSED DTMS WILL NOT BE REFLECTED IN THE EXISTING DTM FOR THIS CONTRACT.

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

PROTECT INLETS WITH PROPER INLET PROTECTION AT LOCATIONS EXHIBITING RISK OF BEING IMPACTED BY CONSTRUCTION OPERATIONS AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE, AT THE CONTRACTOR'S EXPENSE, FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY ANY OPERATION OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.

PLACE SALVAGED TOPSOIL IN ALL GRADED AREAS AS DESIGNATED BY THE ENGINEER IMMEDIATELY AFTER GRADING HAS BEEN COMPLETED. SEED, EMAT OR MULCH, AND FERTILIZE ALL AREAS 5 DAYS AFTER PLACEMENT OF SALVAGED TOPSOIL.

EROSION BALES ARE TO ONLY BE USED FOR REINFORCEMENT OF PROPOSED SILT FENCE LOCATIONS ALONG WETLANDS. ANY OTHER USE OF EROSION BALES IS PROHIBITED.

TEMPORARY STORAGE OF ANY EXCAVATED MATERIAL WILL NOT BE PERMITTED IN WETLANDS, FLOODWAY OR FLOODPLAIN OF ANY WATERWAY.

CROSS SECTIONS SHOWN INCLUDE THE THICKNESS OF TOPSOIL WHERE REQUIRED. TOPSOIL SHALL BE REPLACED WITH SPECIFIED THICKNESS AS OUTLINED IN THE STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

A SAWED JOINT IS REQUIRED WHERE NEW HMA PAVEMENT MEETS EXISTING HMA PAVEMENT.

CURB AND GUTTER GRADES ARE GIVEN TO THE FLANGE. CURB AND GUTTER RADII ARE MEASURED TO THE FACE OF CURB.

FERTILIZER SHALL NOT BE USED NEAR NAVIGABLE WATERWAYS OR WETLANDS.

BROKEN CONCRETE CONTAINING STEEL SHALL NOT BE USED AS RIPRAP OR HEAVY RIPRAP.

REMOVING CONCRETE INCLUDES ANY MESH OR REINFORCEMENT THAT MAY BE PART OF THE PAVEMENT STRUCTURE. EXISTING PAVEMENT DEPTHS ARE BASED ON AS-BUILT DATA AND MAY VARY IN THE FIELD.

DNR AREA LIAISON

MATT SCHAEVE
DNR NORTHEAST REGIONAL HQ
2984 SHAWANO AVENUE
GREEN BAY, WI 54313
(920) 662-5472
MATTHEW.SCHAEVE@WISCONSIN.GOV

THE EROSION CONTROL FEATURES AS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATION WILL BE DETERMINED BY THE ENGINEER.

EROSION CONTROL DEVICES SHALL BE PLACED IN SEQUENCE WITH CONSTRUCTION OPERATIONS OR AS DETERMINED BY THE ENGINEER.

PRIOR TO ORDERING DRAINAGE PIPES AND STRUCTURES, THE CONTRACTOR SHALL VERIFY RELATED DRAINAGE INFORMATION IN THE PLAN AND PROVIDE DOCUMENTATION TO THE ENGINEER IN ACCORDANCE WITH THE SPECIFICATIONS. THIS ALSO INCLUDES VERIFICATION OF INVERT ELEVATIONS AT ALL PROPOSED STORM SEWER CONNECTION POINTS TO EXISTING SYSTEMS.

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

SIGNS IN CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE COVERED AS DIRECTED BY THE ENGINEER AND PAID FOR UNDER THE ITEM "TRAFFIC CONTROL COVERING SIGNS TYPE 1 OR TYPE 2."

STATIONING, DISTANCES AND OFFSETS FOR SIGNS SHOWN IN THE PLANS ARE APPROXIMATE. FINAL LOCATION OF SIGNS ARE TO BE DETERMINED BY THE ENGINEER.

BENCHMARK LOCATIONS SHOWN ON PLAN ARE APPROXIMATE AND SHOULD BE VERIFIED.

ALL ITEMS ASSOCIATED WITH SIGNING REMOVALS ARE SHOWN ON SIGNING PLAN, EXCEPT FOR REMOVING OLD SIGN STRUCTURES.

ALIGNMENTS ARE LABELED WITH THE FOLLOWING IDENTIFIERS

ALIGNMENT IDENTIFIERS	
CC	CTH C
NB	STH 57 NB
NBL	STH 57 NB LEFT TURN LANE
NCL	STH 57 NB / CTH C LEFT TURN LANE
SB	STH 57 SB
SBL	STH 57 SB LEFT TURN LANE
SCL	STH 57 SB / CTH C LEFT TURN LANE
SN	SIDEWALK NORTH
SS	SIDEWALK SOUTH

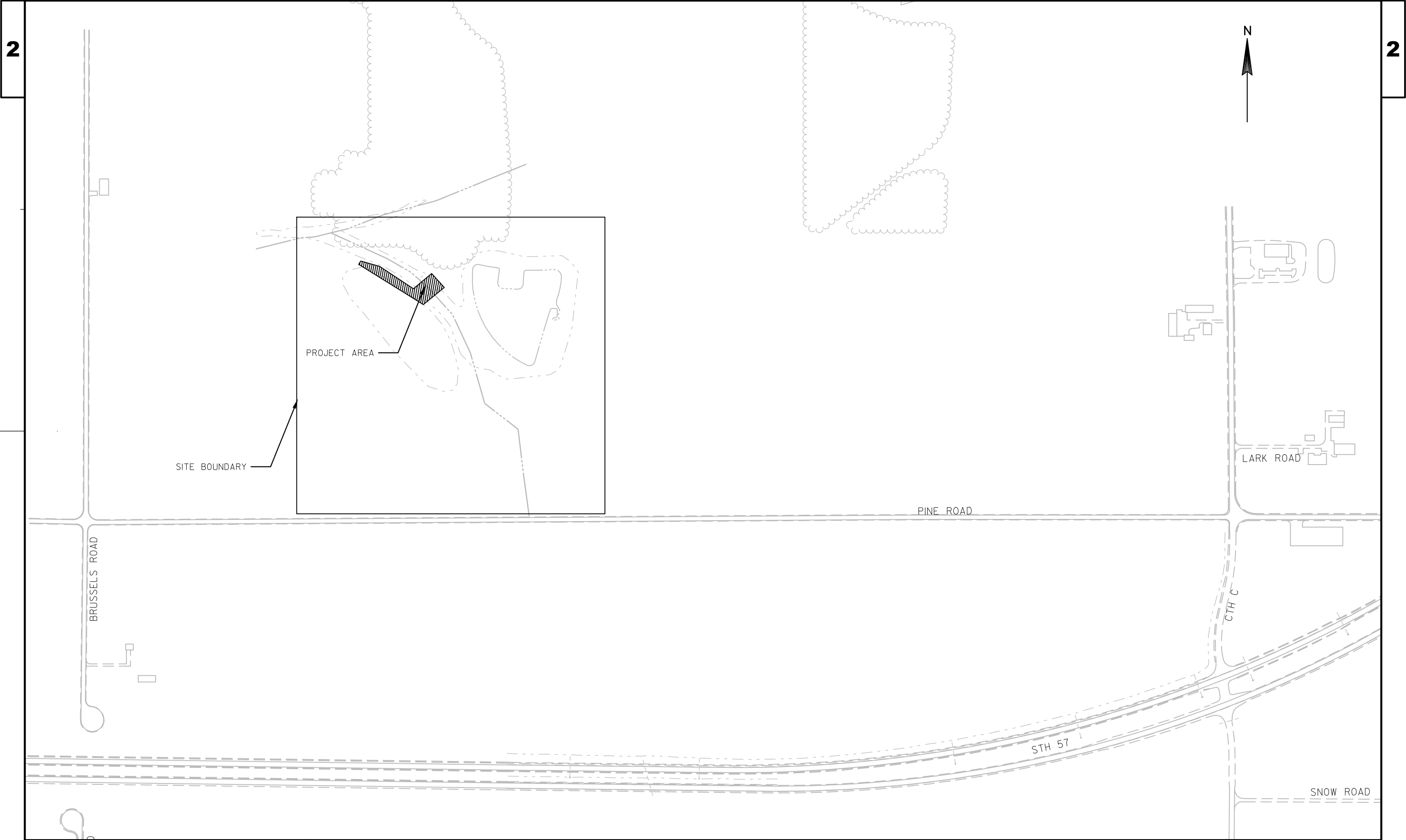
ABBREVIATIONS

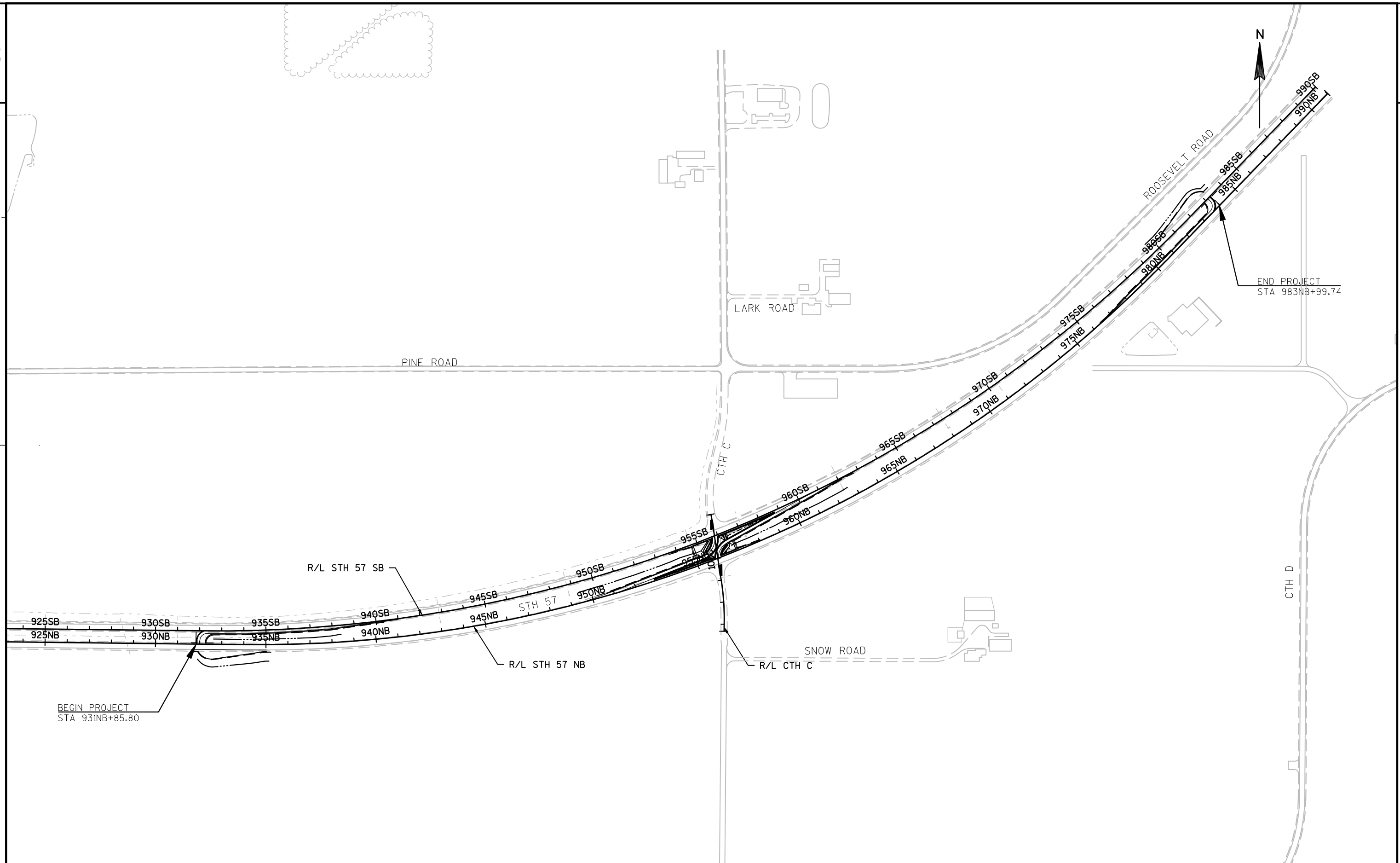
BAD	BASE AGGREGATE DENSE	PE	PRIVATE ENTRANCE
BM	BENCH MARK	PI	POINT OF INTERSECTION
C&G	CURB AND GUTTER	PLE	PERMANENT LIMITED EASMENT
C/L	CENTER OR CONSTRUCTION LINE	PT	POINT OF TANGENT
CMCP	CULVERT PIPE CORRUGATED METAL	R	RADIUS OF CURVE
CONC	CONCRETE	R/L	REFERENCE LINE
CP	CULVERT PIPE	R/W	RIGHT OF WAY
CPRC	CULVERT PIPE REINFORCED CONCRETE	RC	REVERSE CROWN
CY	CUBIC-YARD	REQD	REQUIRED
D	DEGREE OF CURVE	RHF	RIGHT HAND FORWARD
Δ	DELTA	RO	RUN OFF LENGTH
DISCH	DISCHARGE	RT	RIGHT
EAT	ENERGY ABSORBING TERMINAL	SB	SOUTHBOUND
HMA	HOT MIX ASPHALT	SDD	STANDARD DETAIL DRAWINGS
INV	INVERT	SE	SUPER ELEVATION
L	LENGTH OF CURVE	SF	SQUARE FOOT
LHF	LEFT HAND FORWARD	SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
LT	LEFT	STA	STATION
MIN	MINIMUM	SY	SQUARE YARD
ML	MATCHLINE	T	TANGENT LENGTH
NB	NORTHBOUND	TLE	TEMPORARY LIMITED EASEMENT
NC	NORMAL CROWN	TYP	TYPICAL
PAVT	PAVEMENT	VCL	VERTICAL CURVE LENGTH
PC	POINT OF CURVE	VPC	POINT OF VERTICAL CURVE
POC	POINT ON CURVE	VPI	POINT OF VERTICAL INTERSECTION
PCC	POINT OF COMPOUND CURVE	VPT	POINT OF VERTICAL TANGENT

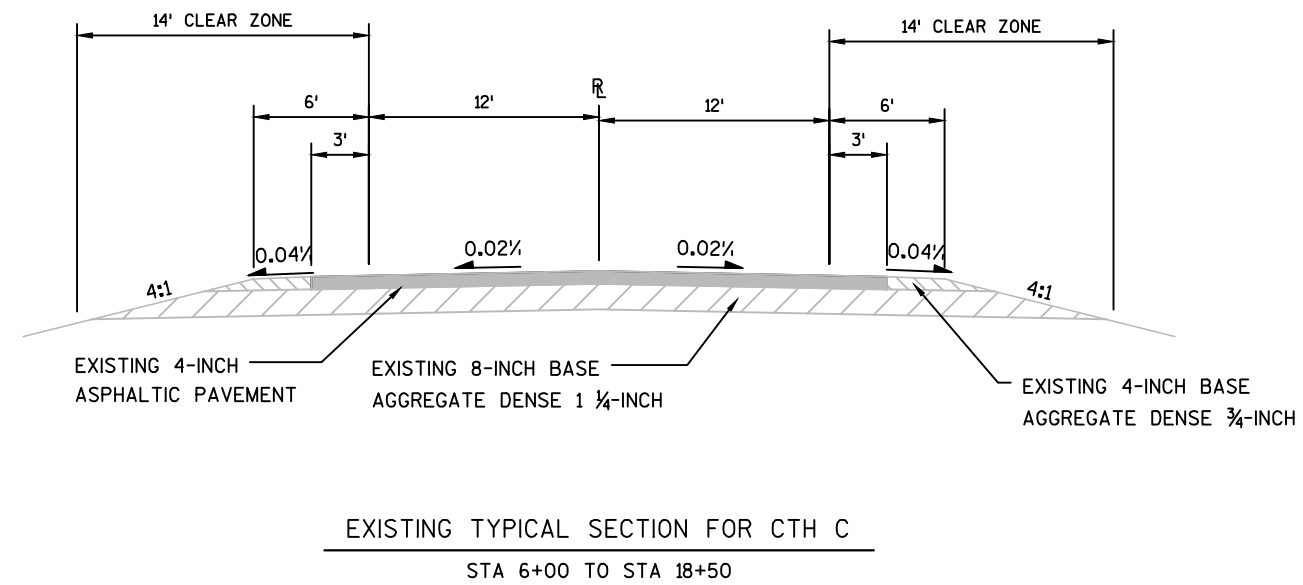
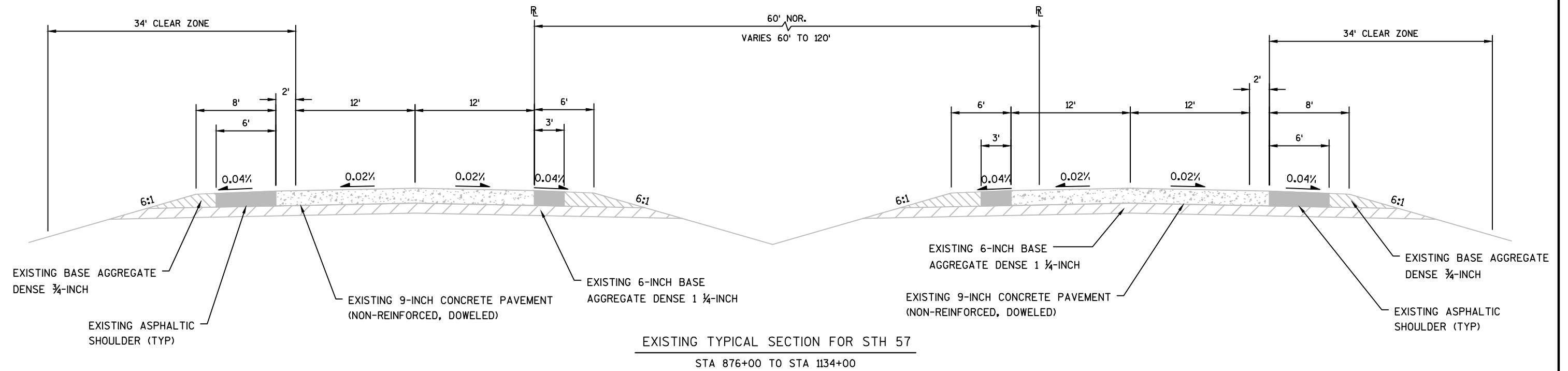
RUNOFF COEFFICIENT TABLE

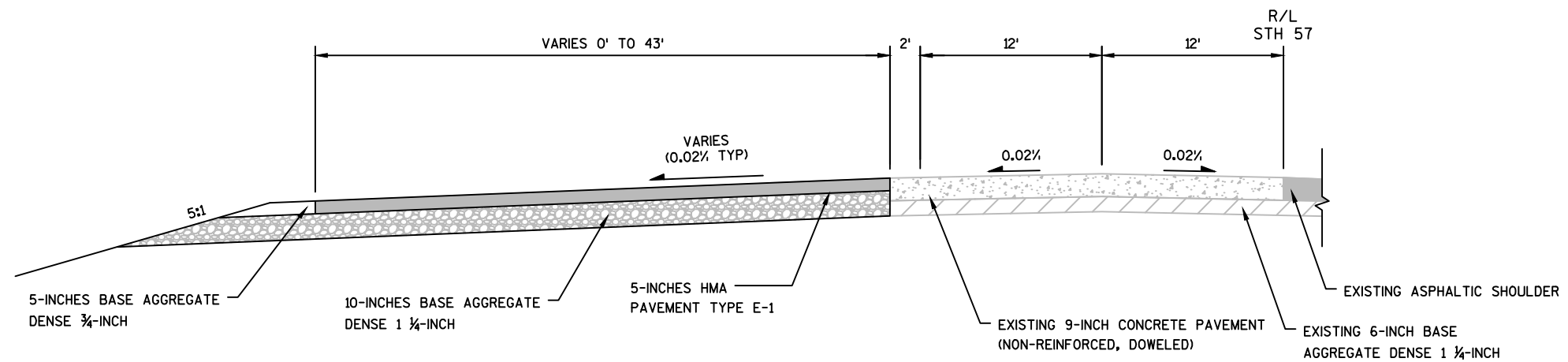
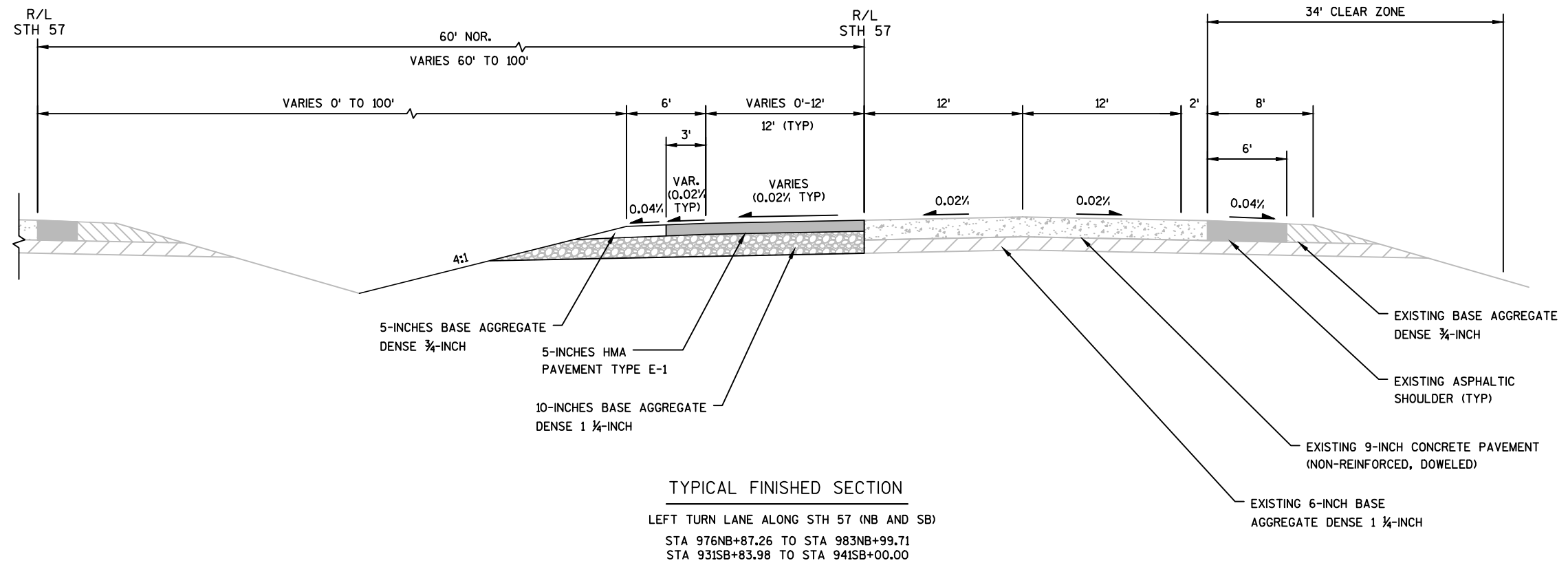
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	0.08	0.16	0.22	0.12	0.20	0.27	0.15	0.24	0.33	0.19	0.28	0.38
	0.22	0.30	0.38	0.26	0.34	0.44	0.30	0.37	0.50	0.34	0.41	0.56
MEDIAN STRIP-	0.19	0.20	0.24	0.19	0.22	0.26	0.20	0.23	0.30	0.20	0.25	0.30
TURF	0.24	0.26	0.30	0.25	0.28	0.33	0.26	0.30	0.37	0.27	0.32	0.40
SIDE SLOPE-			0.25			0.27			0.28			0.30
TURF			0.32			0.34			0.36			0.38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

4430-15-71
TOTAL PROJECT AREA = 4.77 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 4.77 ACRES





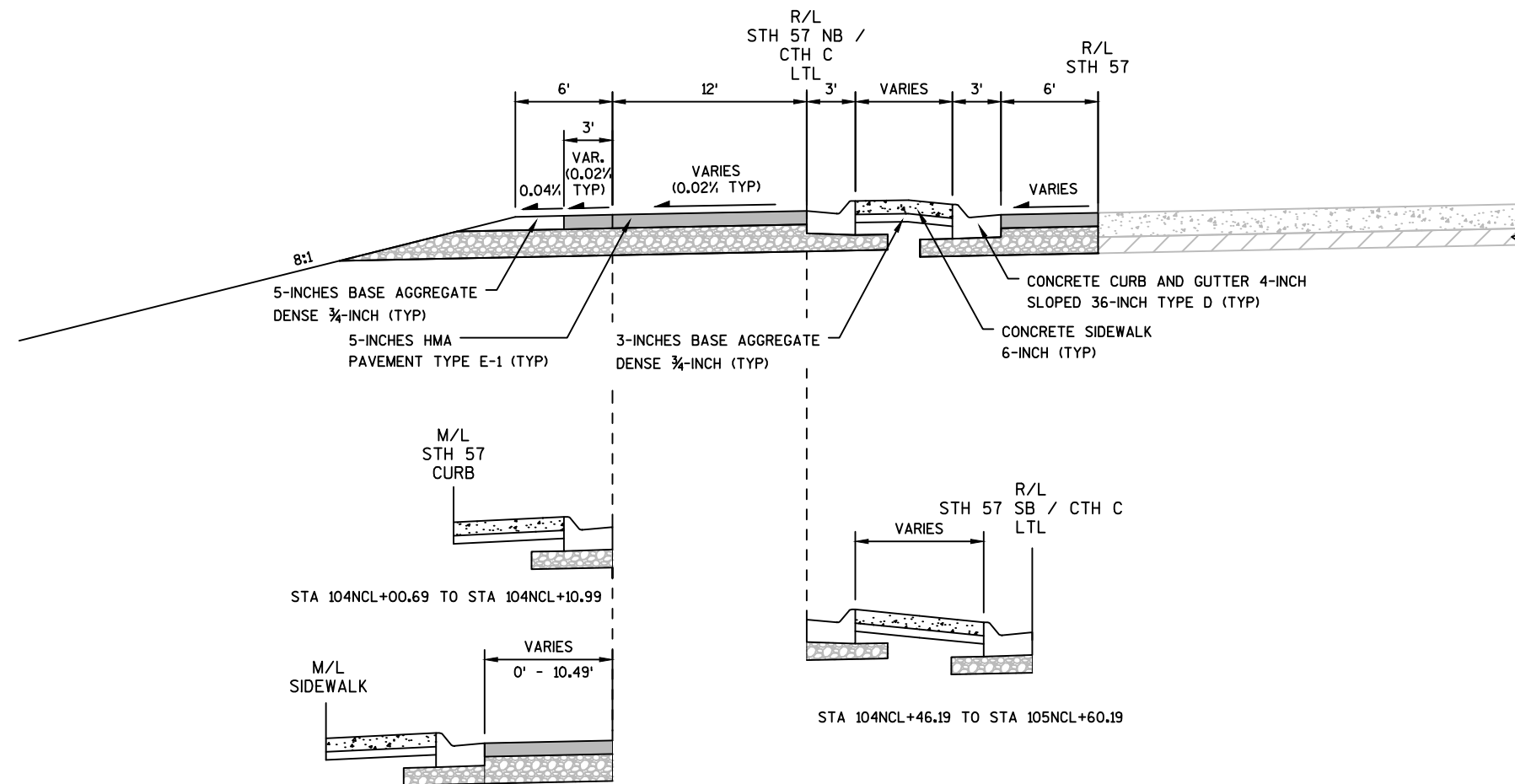




PAVEMENT TYPE	TOTAL LAYER PAVEMENT THICKNESS	LAYERS	ASPHALTIC MATERIAL
E-1	5-INCHES	2-INCH UPPER LAYER 3-INCH LOWER LAYER	PG 58-28

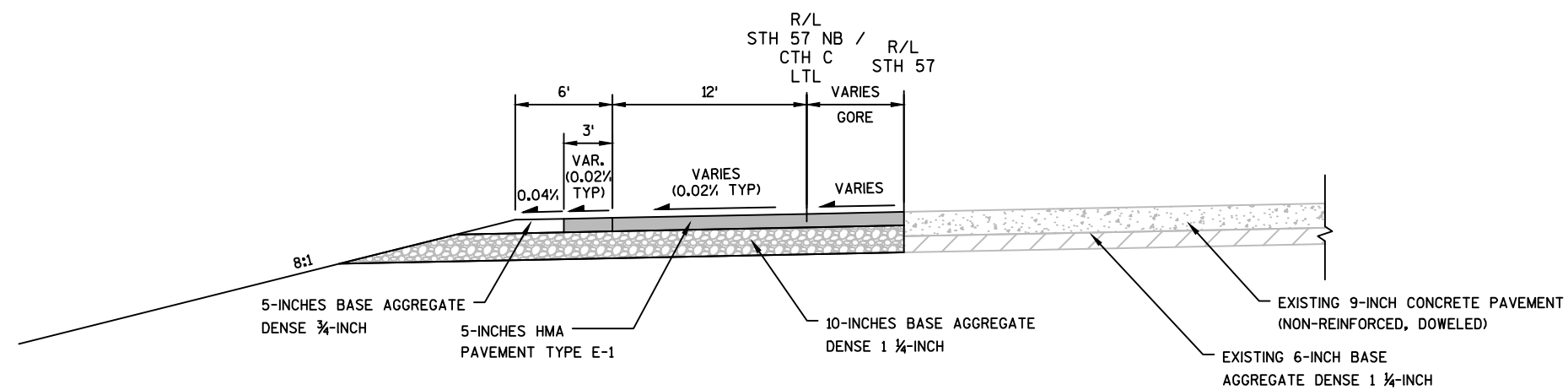
NOTE:

1) PAVED SHOULDER TO MATCH THE CROSS SLOPE OF ADJACENT PAVEMENT. AGGREGATE SHOULDER TO BE SLOPED 0.04%, EXCEPT IN SUPER-ELEVATED SECTIONS.



STA 104NCL+10.99 TO STA 105NCL+60.19

TYPICAL FINISHED SECTION

STH 57 NB / CTH C LEFT TURN LANE
STA 101NCL+83.27 TO STA 105NCL+60.19

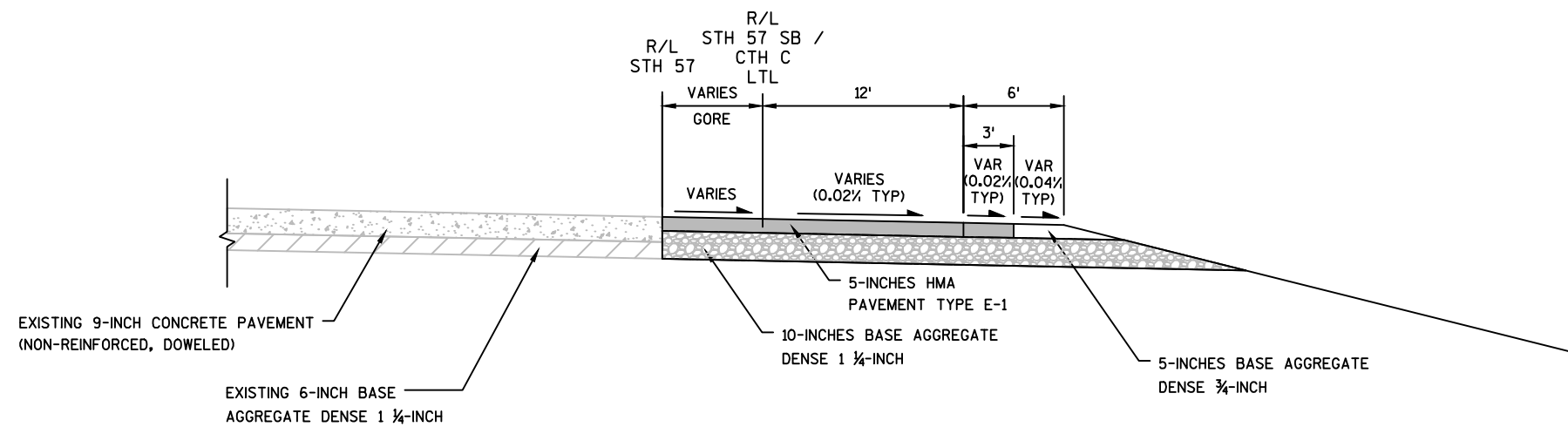
TYPICAL FINISHED SECTION

STH 57 NB / CTH C LEFT TURN LANE
STA 100NCL+00.00 TO STA 101NCL+83.27

PAVEMENT TYPE	TOTAL LAYER PAVEMENT THICKNESS	LAYERS	ASPHALTIC MATERIAL
E-1	5-INCHES	2-INCH UPPER LAYER 3-INCH LOWER LAYER	PG 58-28

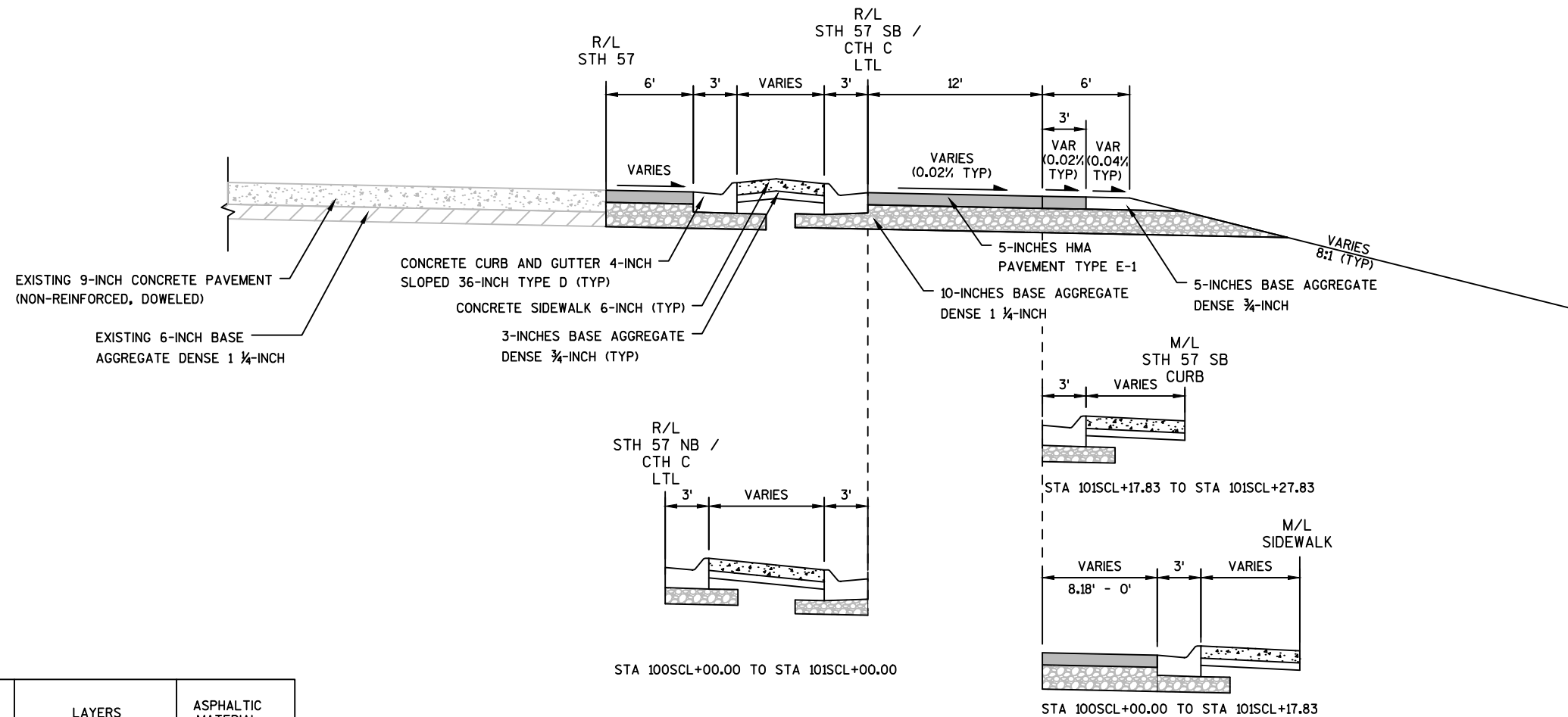
NOTE:

1) PAVED SHOULDER TO MATCH THE CROSS SLOPE OF ADJACENT PAVEMENT. AGGREGATE SHOULDER TO BE SLOPED 0.04%, EXCEPT IN SUPER-ELEVATED SECTIONS.



TYPICAL FINISHED SECTION

STH 57 SB / CTH C LEFT TURN LANE
STA 103SCL+56.37 TO STA 105SCL+53.28



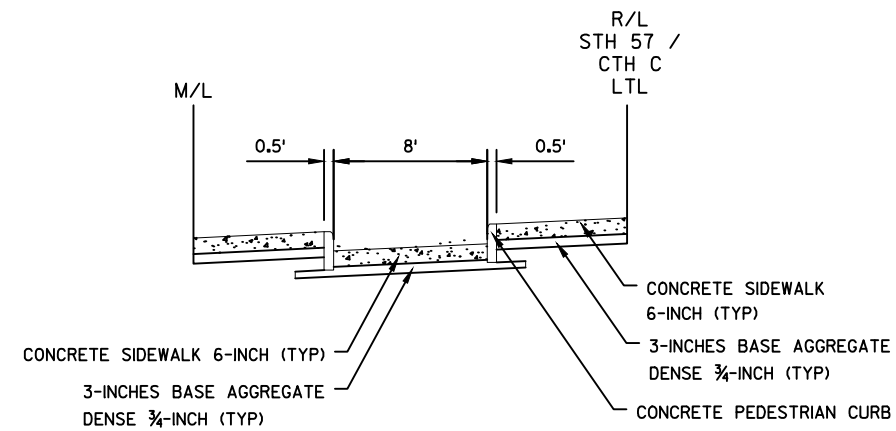
TYPICAL FINISHED SECTION

STH 57 SB / CTH C LEFT TURN LANE
STA 100SCL+00.00 TO STA 103SCL+56.37

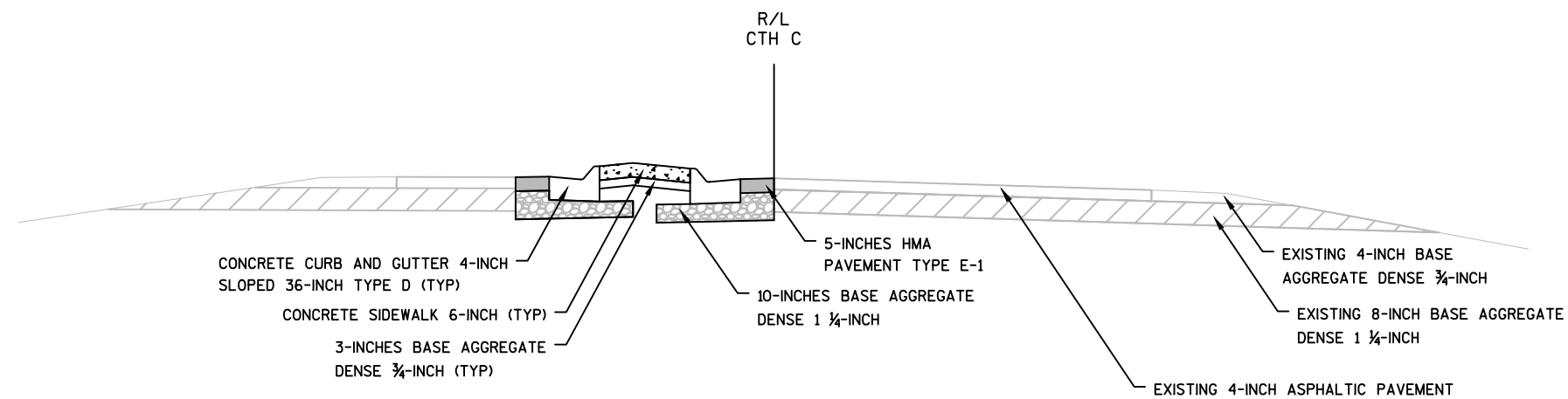
NOTE:

1) PAVED SHOULDER TO MATCH THE CROSS SLOPE OF ADJACENT PAVEMENT. AGGREGATE SHOULDER TO BE SLOPED 0.04%, EXCEPT IN SUPER-ELEVATED SECTIONS.

PAVEMENT TYPE	TOTAL LAYER PAVEMENT THICKNESS	LAYERS	ASPHALTIC MATERIAL
E-1	5-INCHES	2-INCH UPPER LAYER 3-INCH LOWER LAYER	PG 58-28



TYPICAL FINISHED SECTION
SIDEWALK



TYPICAL FINISHED SECTION
CTH C

PAVEMENT TYPE	TOTAL LAYER PAVEMENT THICKNESS	LAYERS	ASPHALTIC MATERIAL
E-1	5-INCHES	2-INCH UPPER LAYER 3-INCH LOWER LAYER	PG 58-28

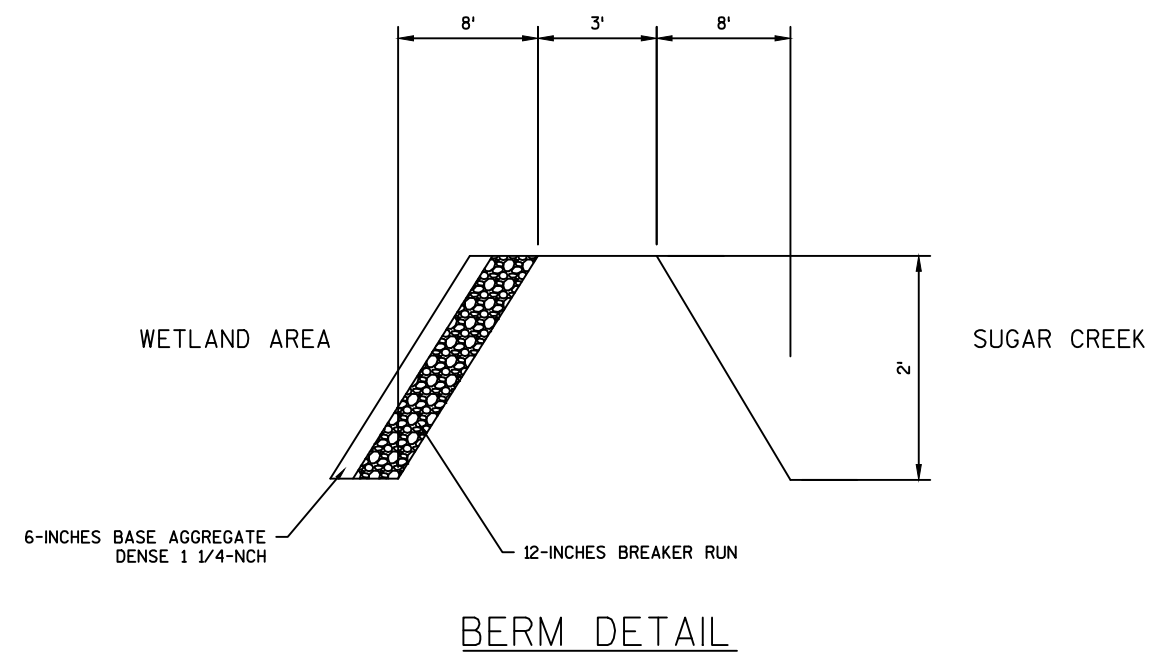
The profile view shows the weir plate extension from the left abutment to the right abutment. Key features include:

- Dimensions:** Total length of 60 feet, divided into two 30-foot sections by a central 5-foot gap. Each side has a 6-foot plate extension, followed by a 10-foot riprap light area, and another 10-foot section before the final 6-foot plate extension.
- Elevations:** Weir plate elevation at 732.00 and stream bed elevation at 728.50.
- Materials and Construction:** The weir plate is made of galvanized corrugated steel sheet, gauge 12, reinforced with angle iron stiffeners. The extensions are also reinforced with angle iron stiffeners. The base is heavy rip rap reinforcement.
- Slopes:** The sides of the extension have a 6:1 slope.
- Other Features:** A 1-foot minimum depth is indicated for the riprap light area. Salvaged topsoil (12-inch) is shown on the right side. Existing berms are noted on both ends.

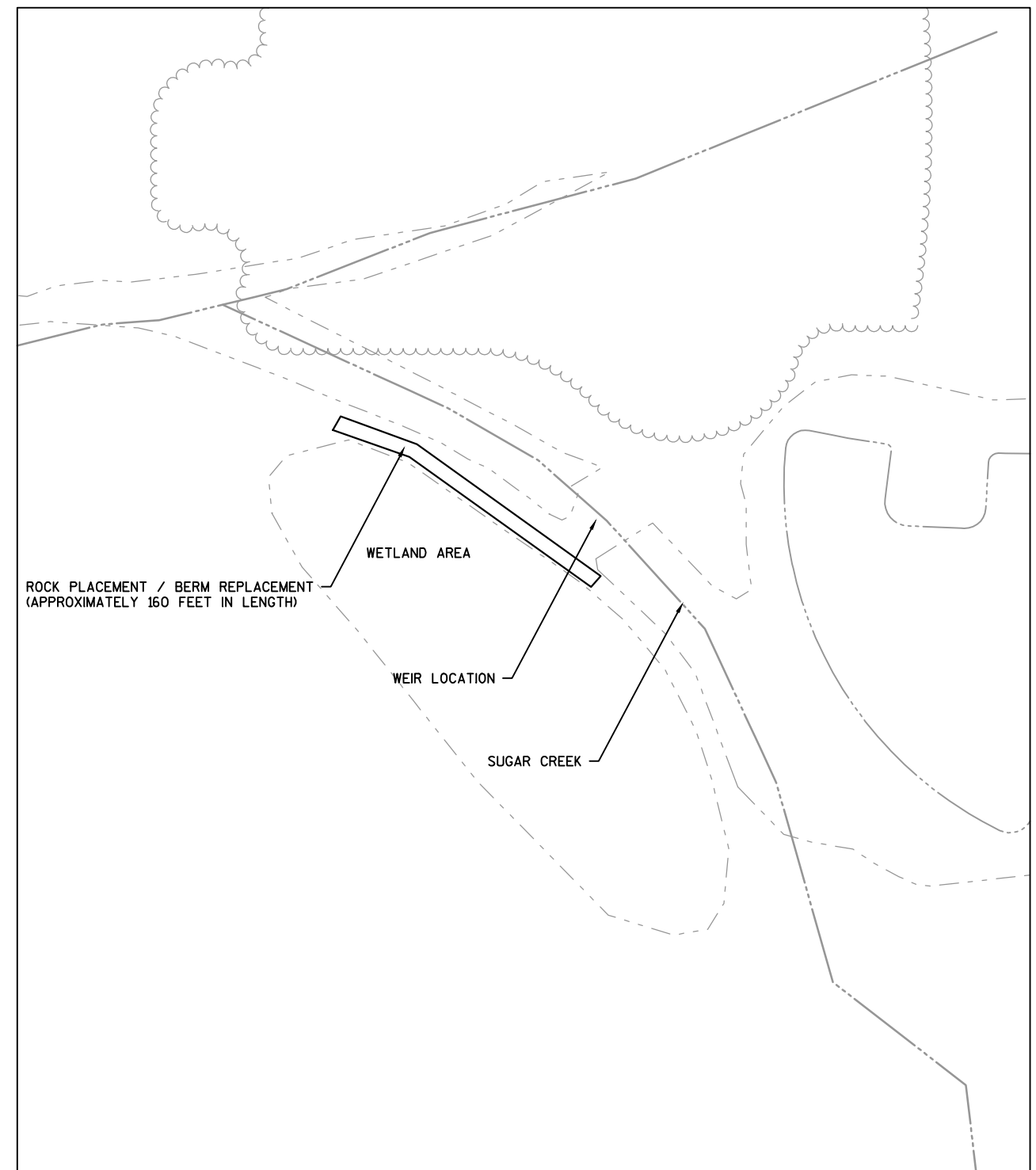
WEIR PLATE EXTENSION - PROFILE VIEW

N.T.S.

Diagram illustrating the plan view of a Weir Plate Extension. The structure consists of a central horizontal section (Weir Plate) flanked by two side sections (Weir Plate Extension). The side sections are reinforced with heavy rip rap reinforcement with backfill, indicated by the hatched pattern. The central section is reinforced with heavy rip rap reinforcement with backfill, indicated by the hatched pattern. The diagram shows the connection between the central section and the side sections, with labels for 'WELD A' and 'BOLT³ B' indicating the reinforcement details at the connection points. The diagram is labeled 'WEIR PLATE EXTENSION - PLAN VIEW' and 'N.T.S.' (Not To Scale).



OVERVIEW OF ROCK PLACEMENT AREA

PINE ROAD WETLAND MITIGATION SITE - ROCK PLACEMENT



PINE RD.

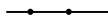
CTH C

TO CTH C
AND STH 57
1/4 MILE

LEGEND



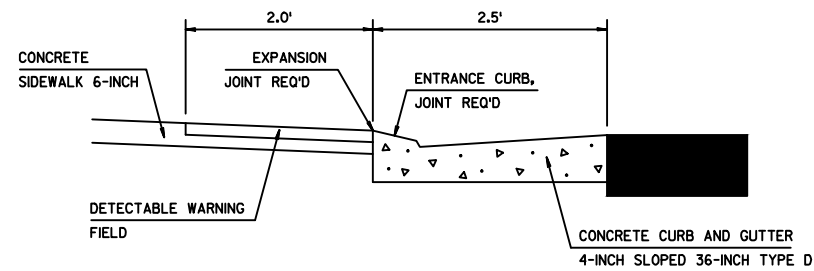
SITE BOUNDARY



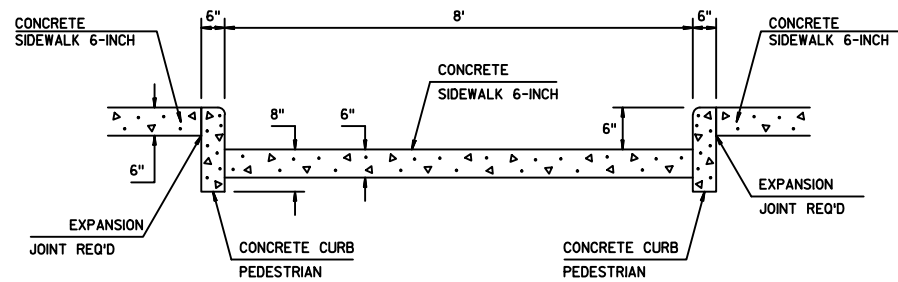
TURBIDITY BARRIER



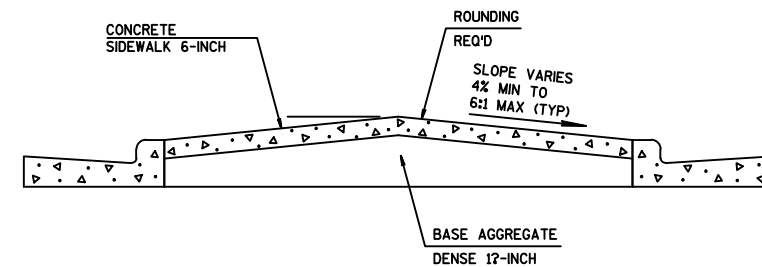
APPROXIMATE ACCESS ROUTE



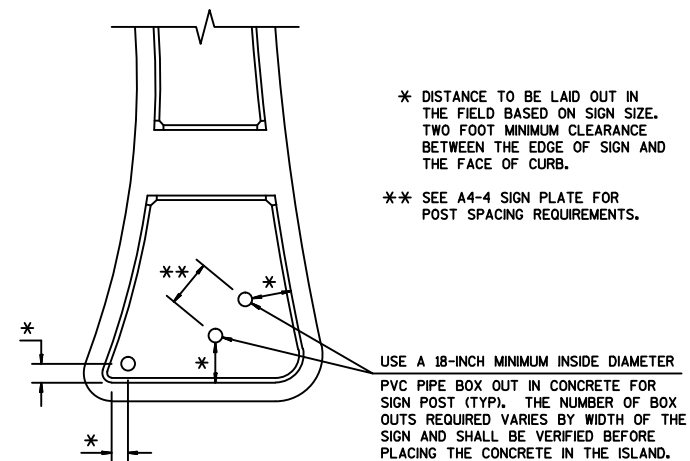
SECTION A-A



SECTION B-B

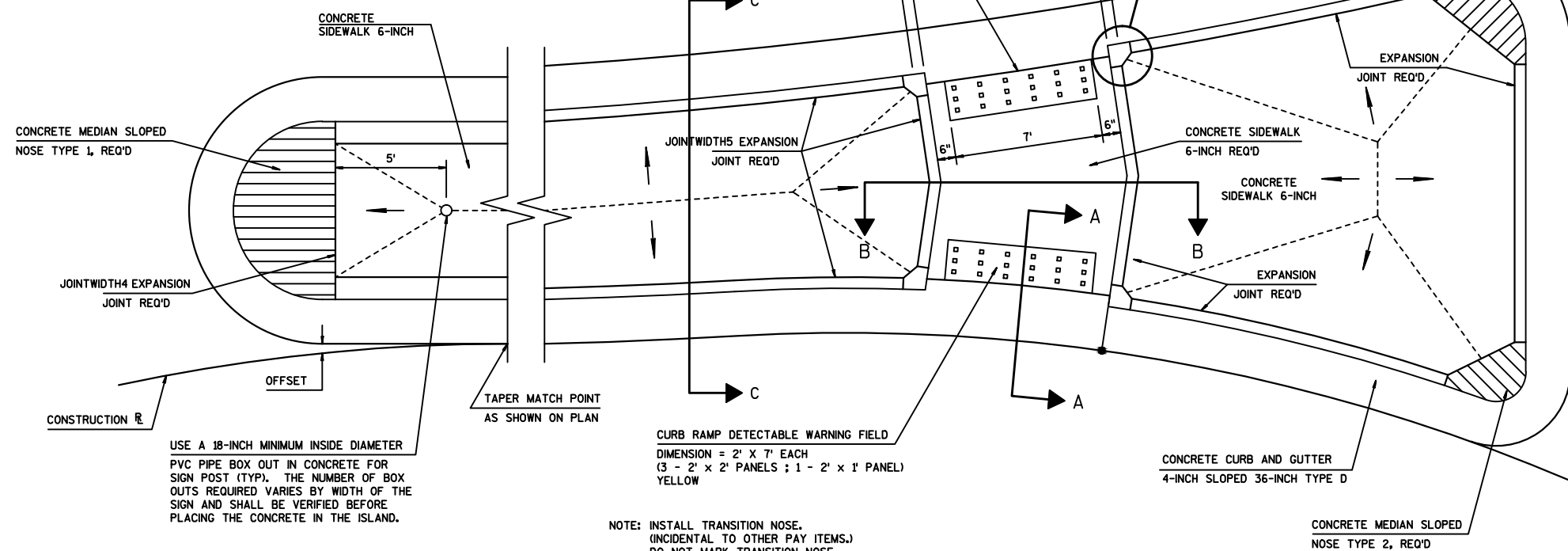


SECTION C-C



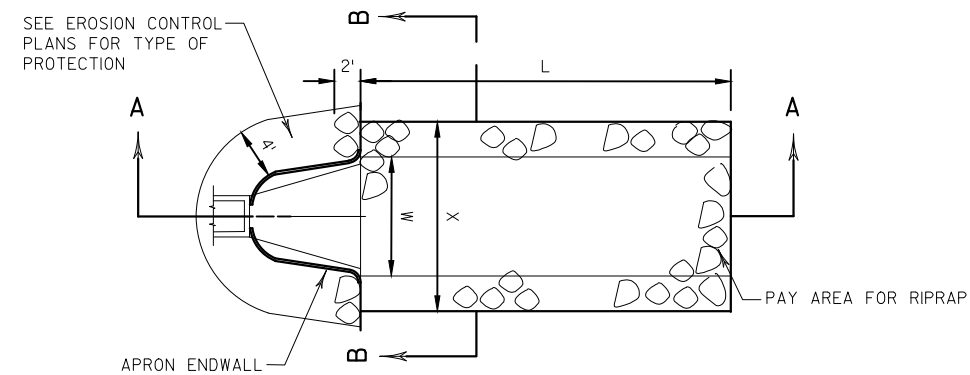
ISLAND SIGN LOCATION DETAIL (TYP)

NOTIFY THE REGIONAL TRAFFIC UNIT AT 920-492-5653
A MINIMUM OF TWO WEEKS PRIOR TO THE NEED FOR
SIGN PLACEMENT TO ALLOW FOR STAKING OF ANY
PERMANENT SIGNING REQUIRED ON THE PROJECT.

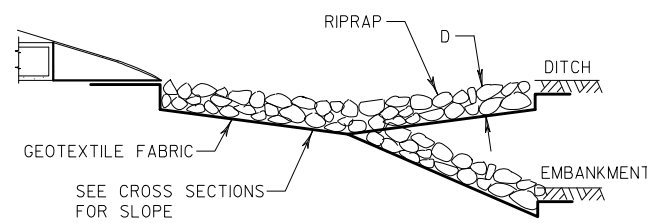


SPLITTER ISLAND DETAIL

--- DRAINAGE BREAK POINT
--- DIRECTION OF DRAINAGE



PLAN VIEW



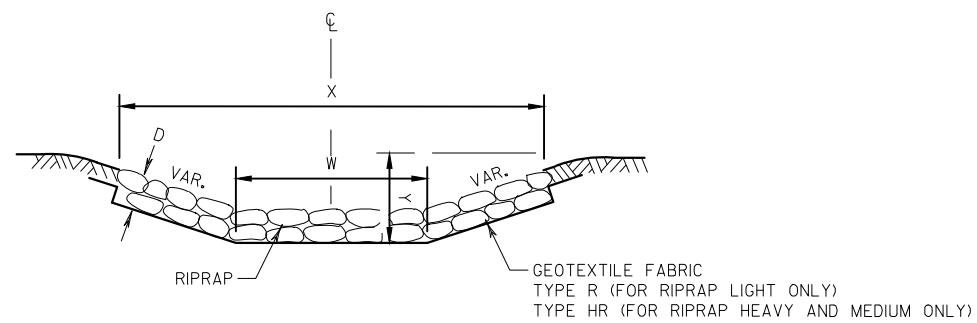
SECTION A-A

L = 3 x W (NOR.) OR 10' MIN. OR AS INDICATED IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

D = 12" FOR RIPRAP LIGHT
18" FOR RIPRAP MEDIUM
24" FOR RIPRAP HEAVY

X = W+2' FOR TYPICAL CULVERT DISCHARGE INTO DITCH
W+5' FOR CULVERT DISCHARGE DOWN EMBANKMENT SLOPE

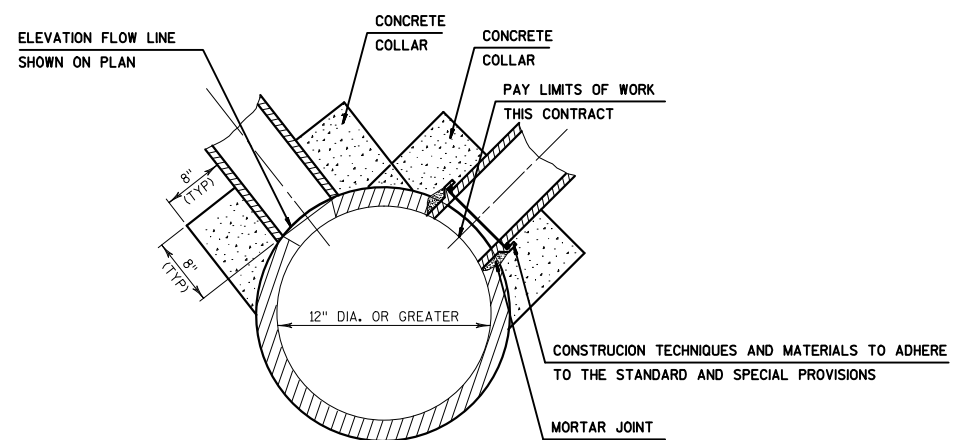
Y = 0' FOR TYPICAL CULVERT DISCHARGE INTO DITCH
12" FOR CULVERT DISCHARGE DOWN EMBANKMENT SLOPE



SECTION B-B

RIPRAP AND GEOTEXTILE FABRIC DETAIL AT APRON ENDWALLS

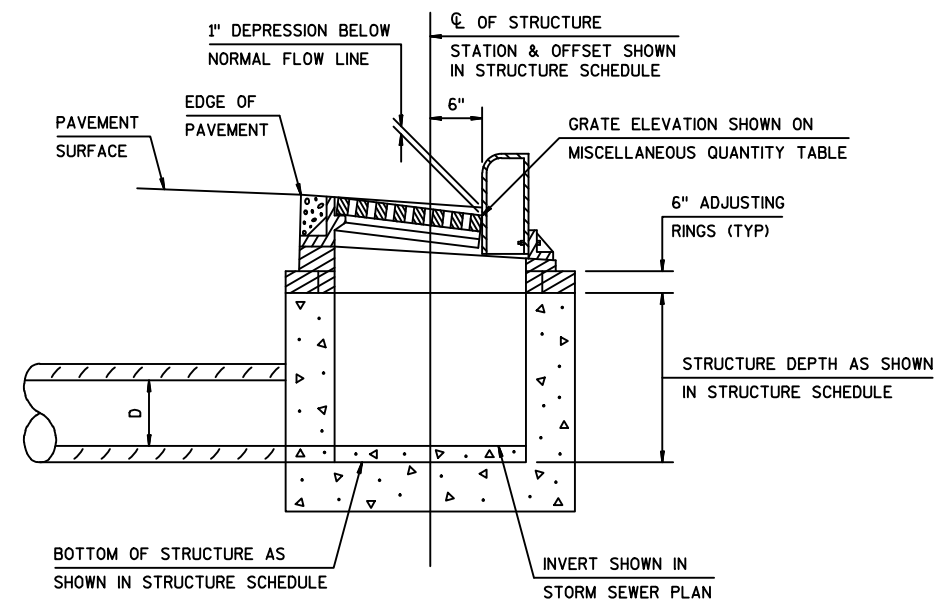
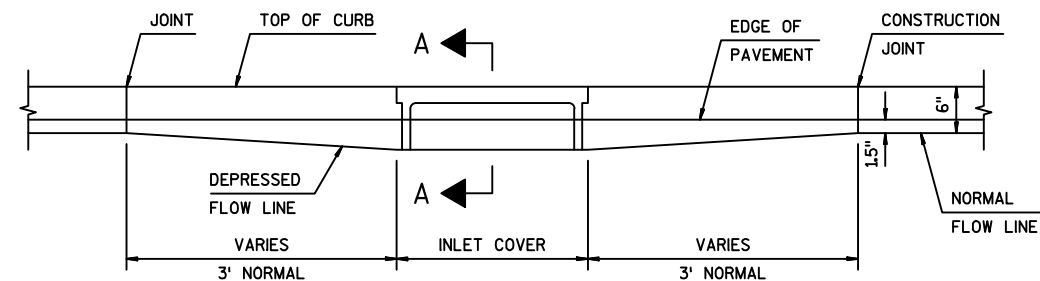
SEE EROSION CONTROL PLAN FOR LOCATIONS



DETAIL OF CONNECTION TO EXISTING STORM SEWER

NOTE:

CONTRACT UNIT PRICE FOR PIPE SHALL INCLUDE COST OF CONNECTION TO EXISTING STORM SEWER OR INTLET OR M.H.

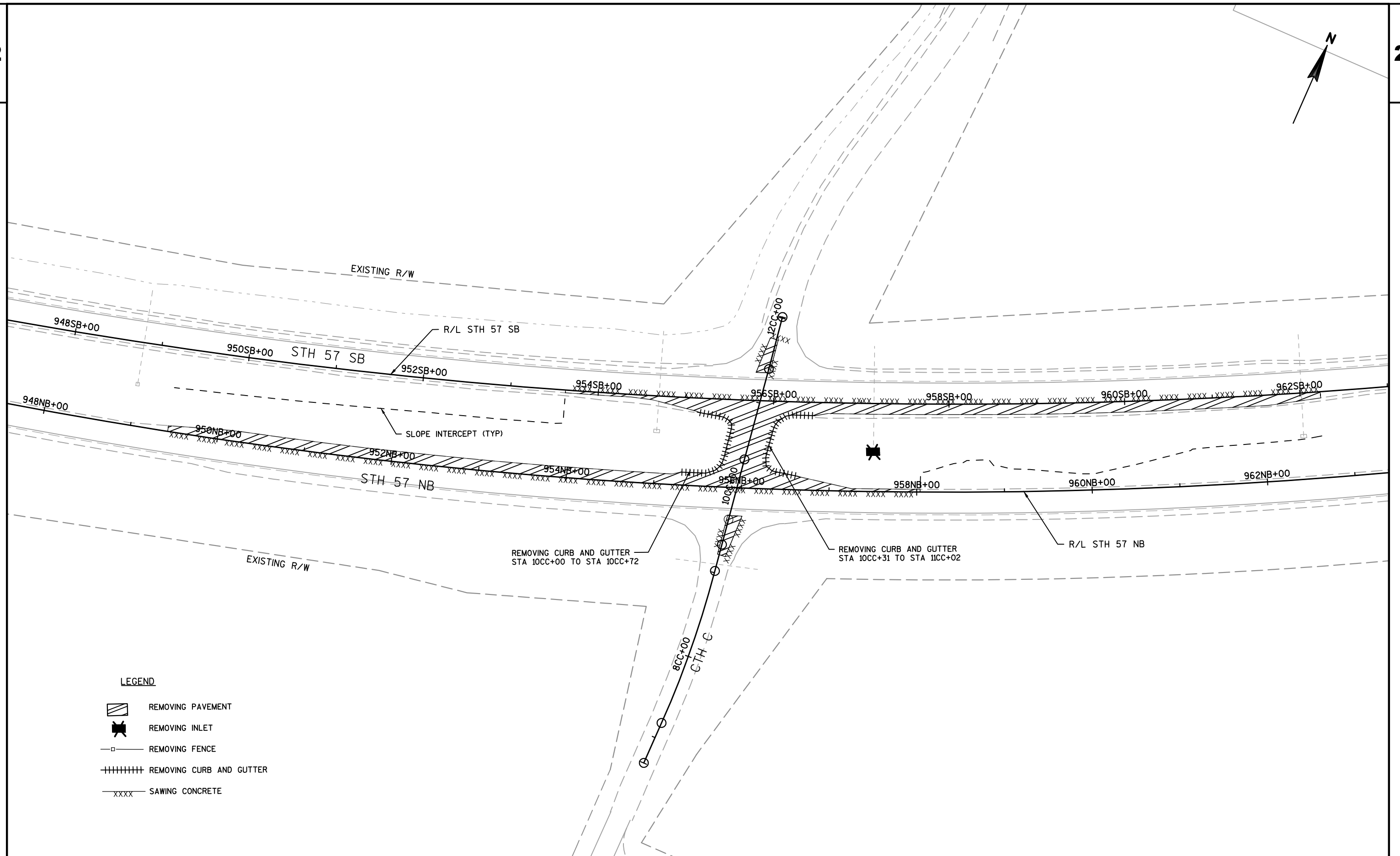


SECTION A-A

DETAIL OF CURB AND GUTTER AT INLETS

2

2



PROJECT NO: 4430-15-71

HWY:STH 57

COUNTY: DOOR

REMOVAL PLAN

SHEET

E

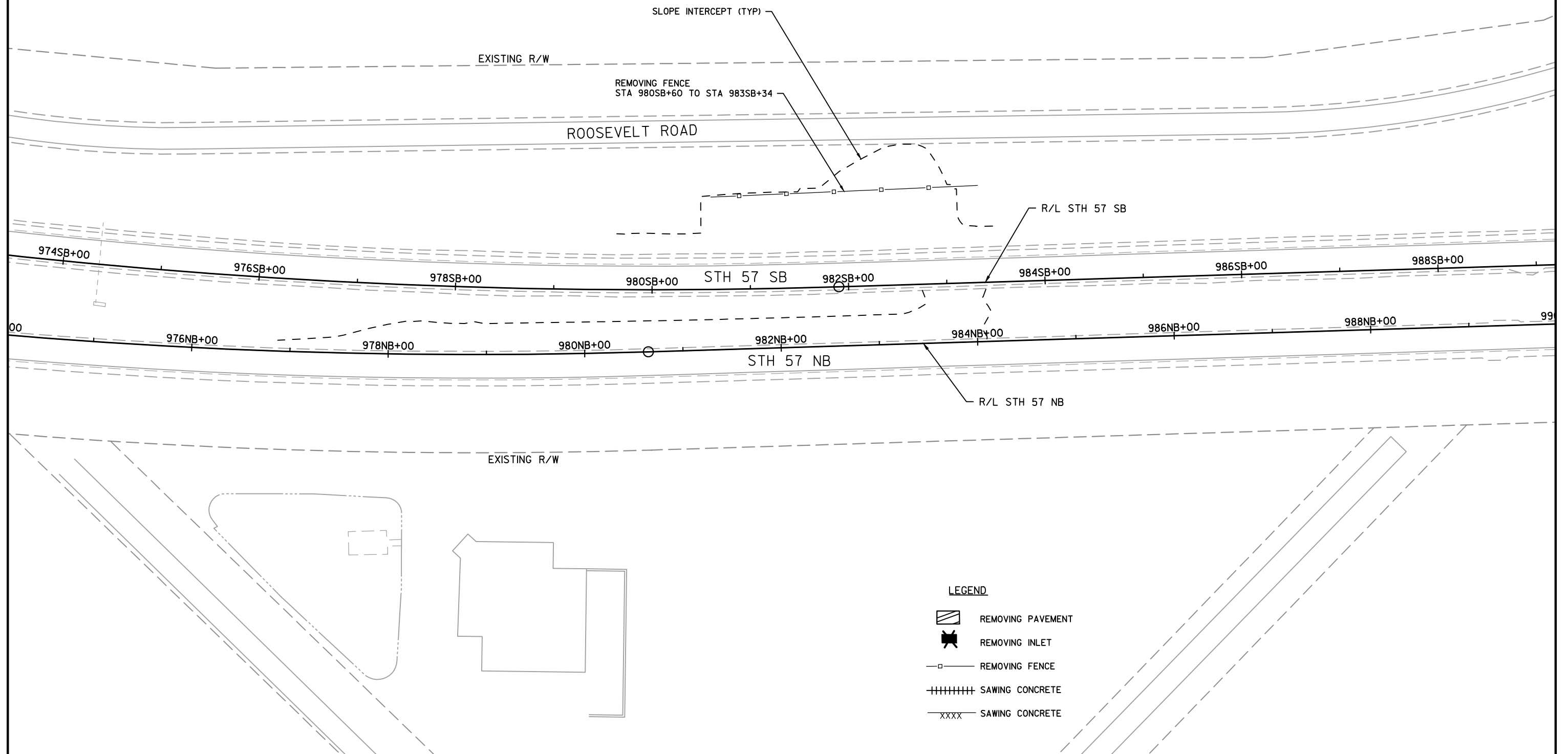
FILE NAME : N:\PDS\C3D\44301500\SHEETSP\PLAN\021101_RM.DWG
LAYOUT NAME - 021101

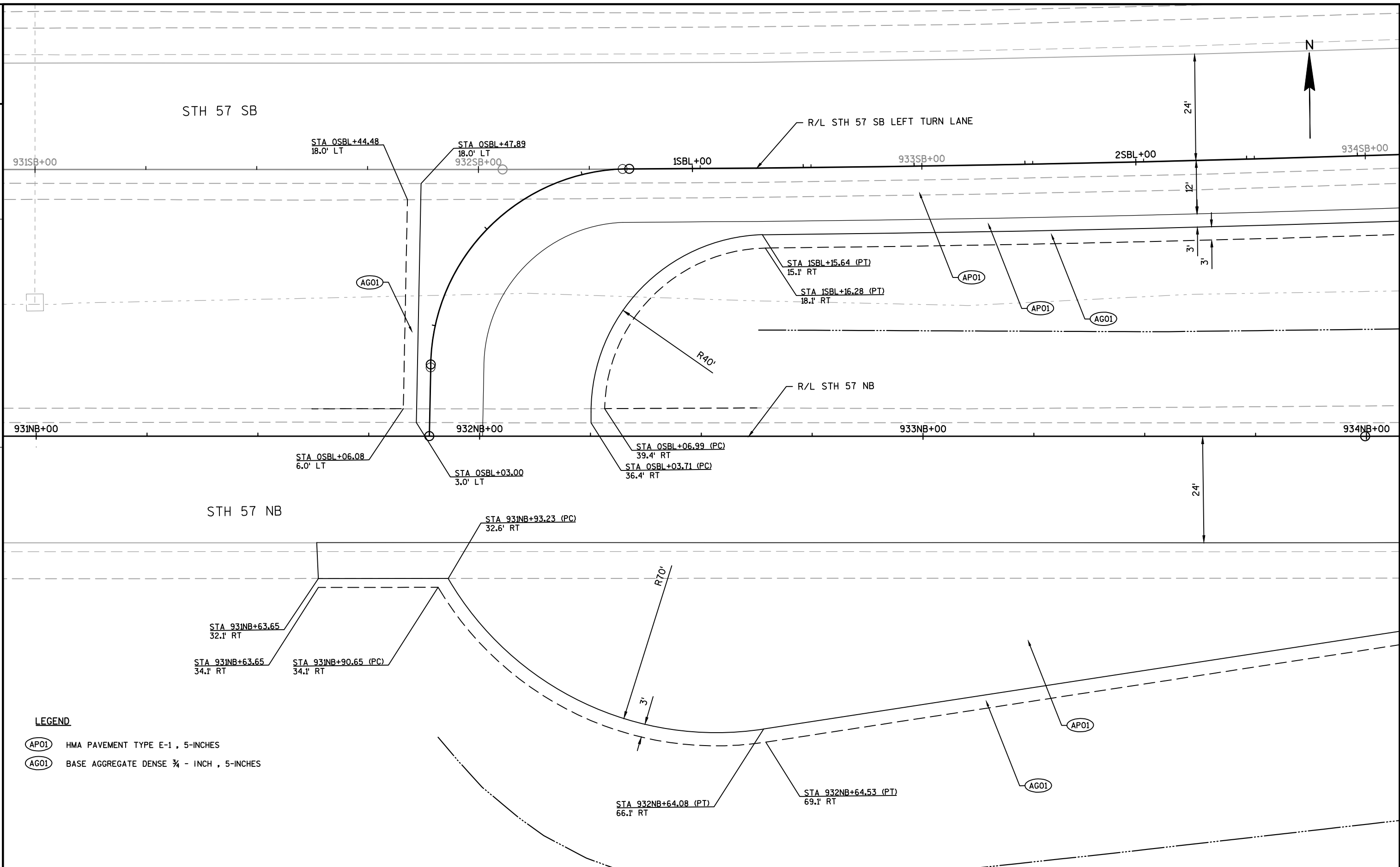
PLOT DATE : 3/4/2015 1:34 PM

PLOT BY : SPITZER, NICHOLAS J PLOT NAME :

PLOT SCALE : 1:100_XREF

WISDOT/CADDS SHEET 42

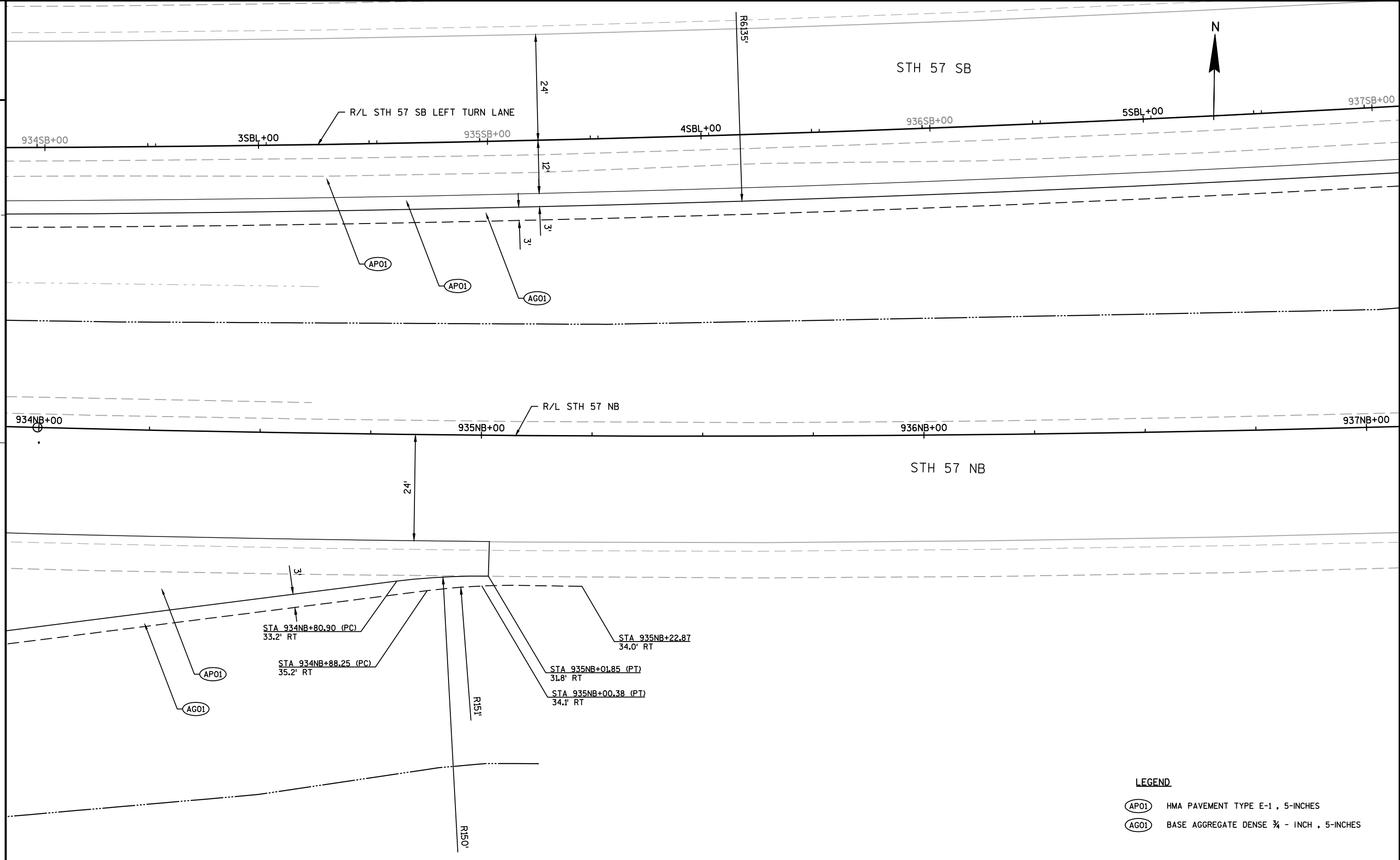




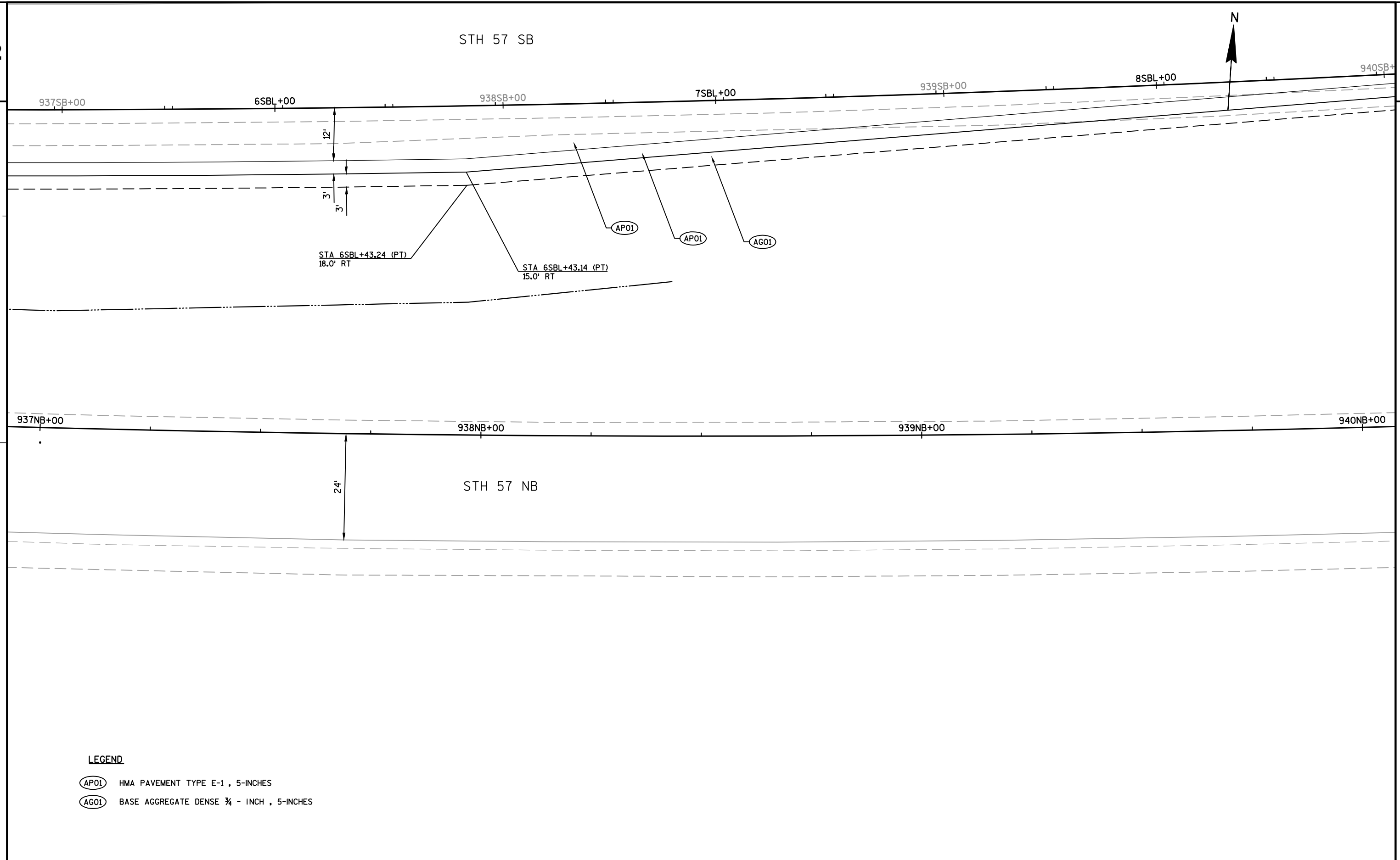
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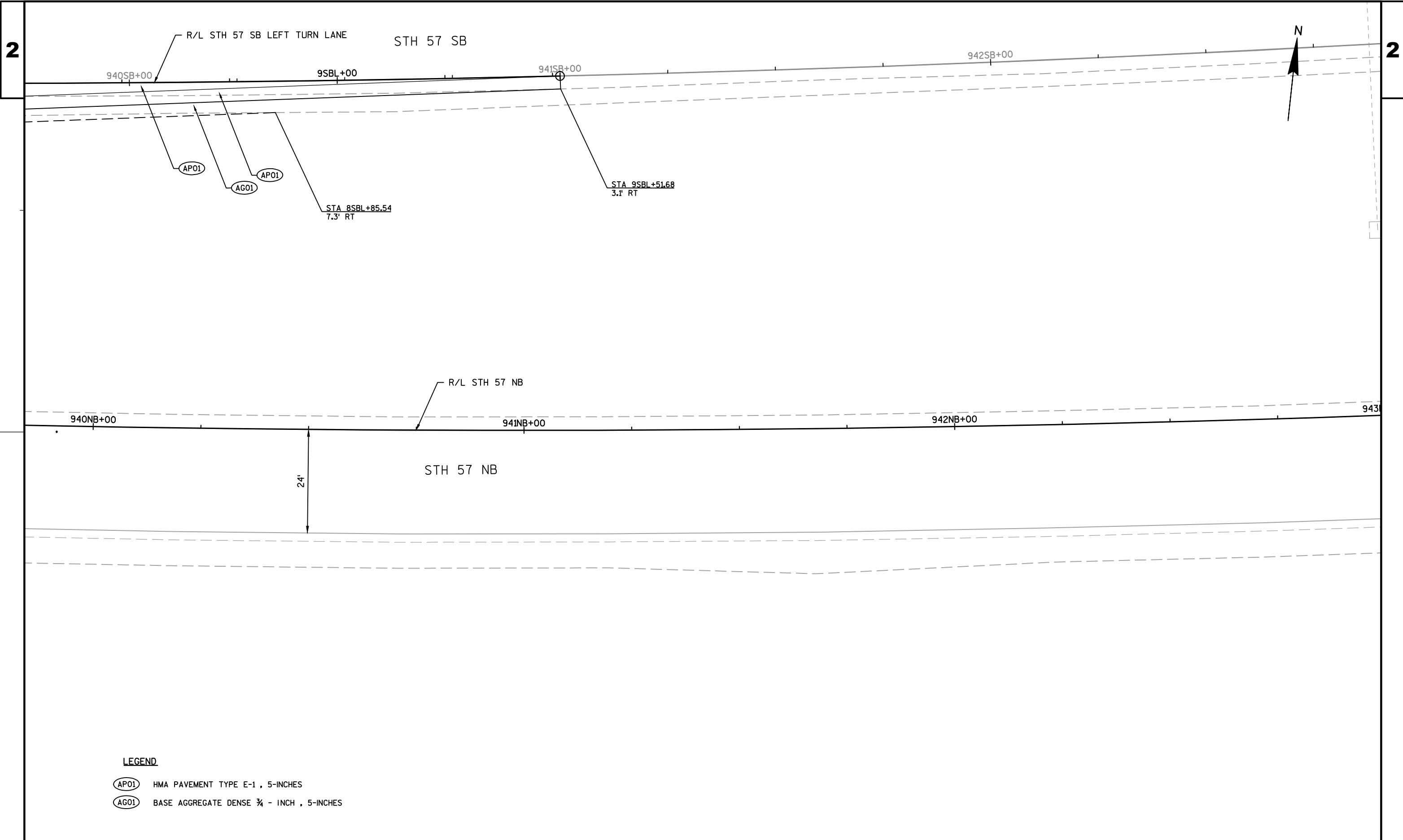
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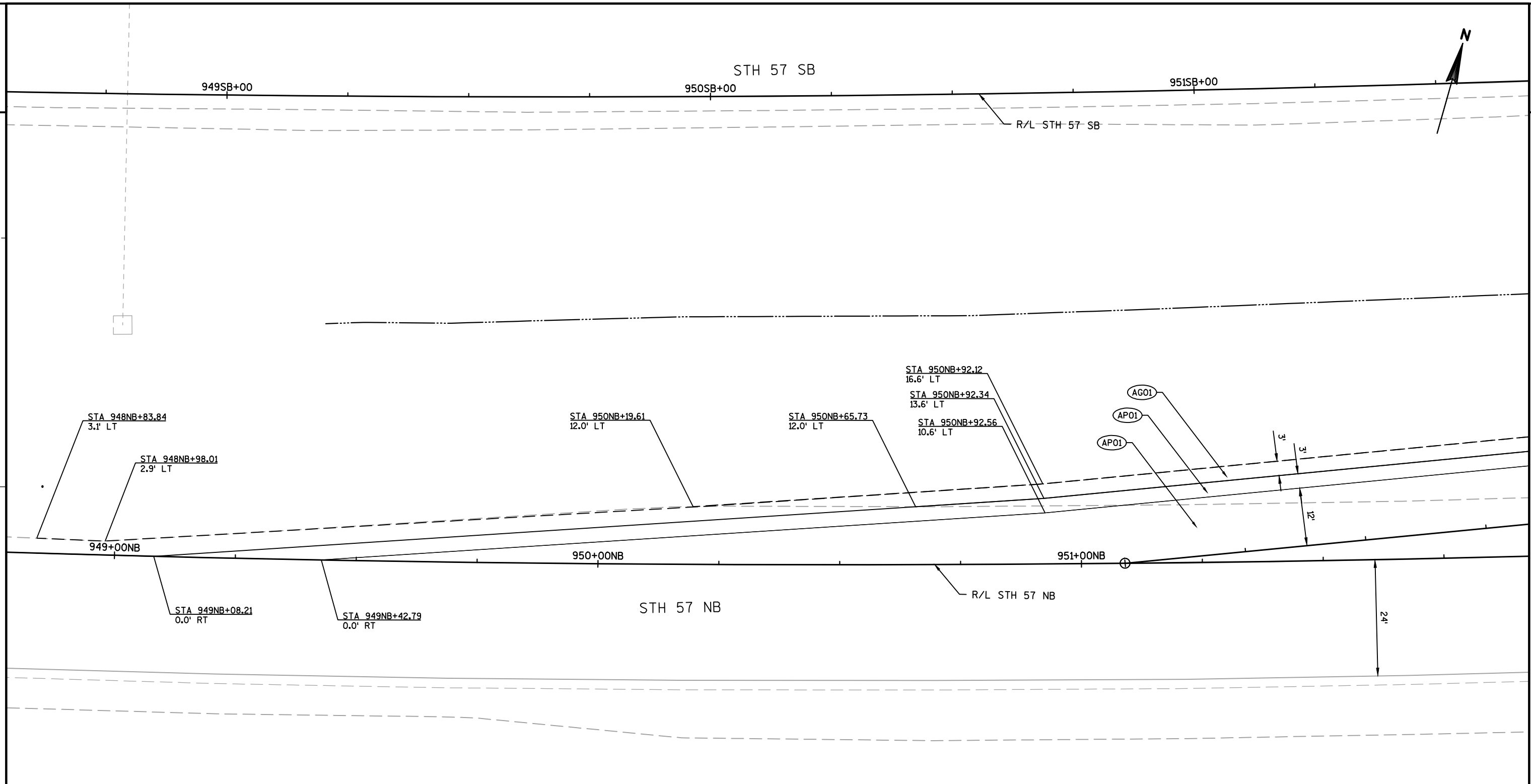


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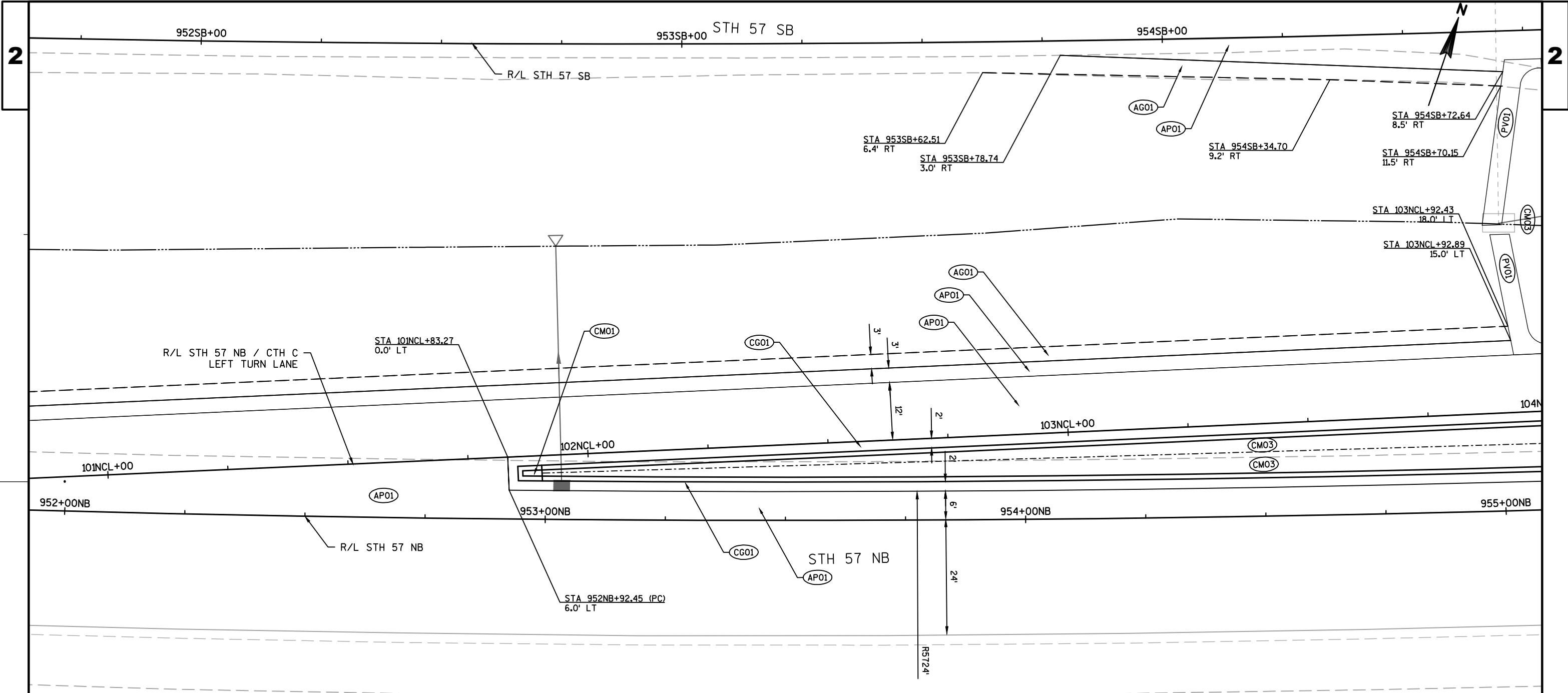
PROJECT NO: 4430-15-71	HWY: STH 57	COUNTY: DOOR	PLAN DETAILS	SHEET	E
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LEGEND

- HMA PAVEMENT TYPE E-1 , 5-INCHES
- BASE AGGREGATE DENSE ¾ - INCH , 5-INCHES
- AP01
- AG01



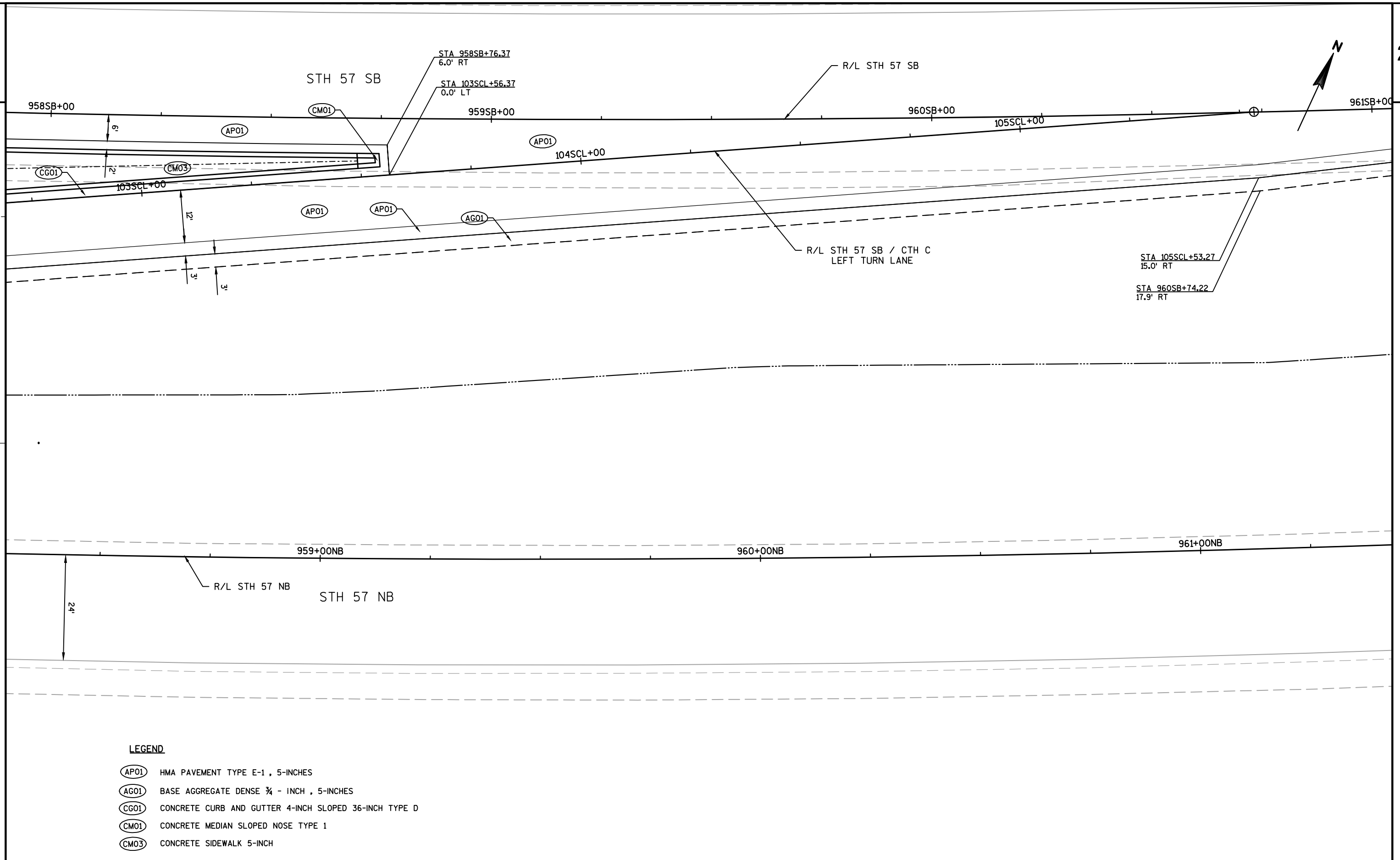
NOTES:

- 1) CURB AND GUTTER STATION / OFFSETS ARE MEASURED FROM THE FACE OF CURB.
- 2) CURB AND GUTTER RADIUS ARE MEASURED FROM THE FACE OF CURB. IF NO RADIUS SHOWN ON PLANS, RADIUS IS 1.5' AT FACE OF CURB. (1' RADIUS FOR PEDESTRIAN CURB)
- 3) GAP BETWEEN FLUMES AND CONCRETE SIDEWALK ARE TO BE PAVED AND PAID FOR UNDER THE CONCRETE SIDEWALK 6-INCH BID ITEM.

LEGEND

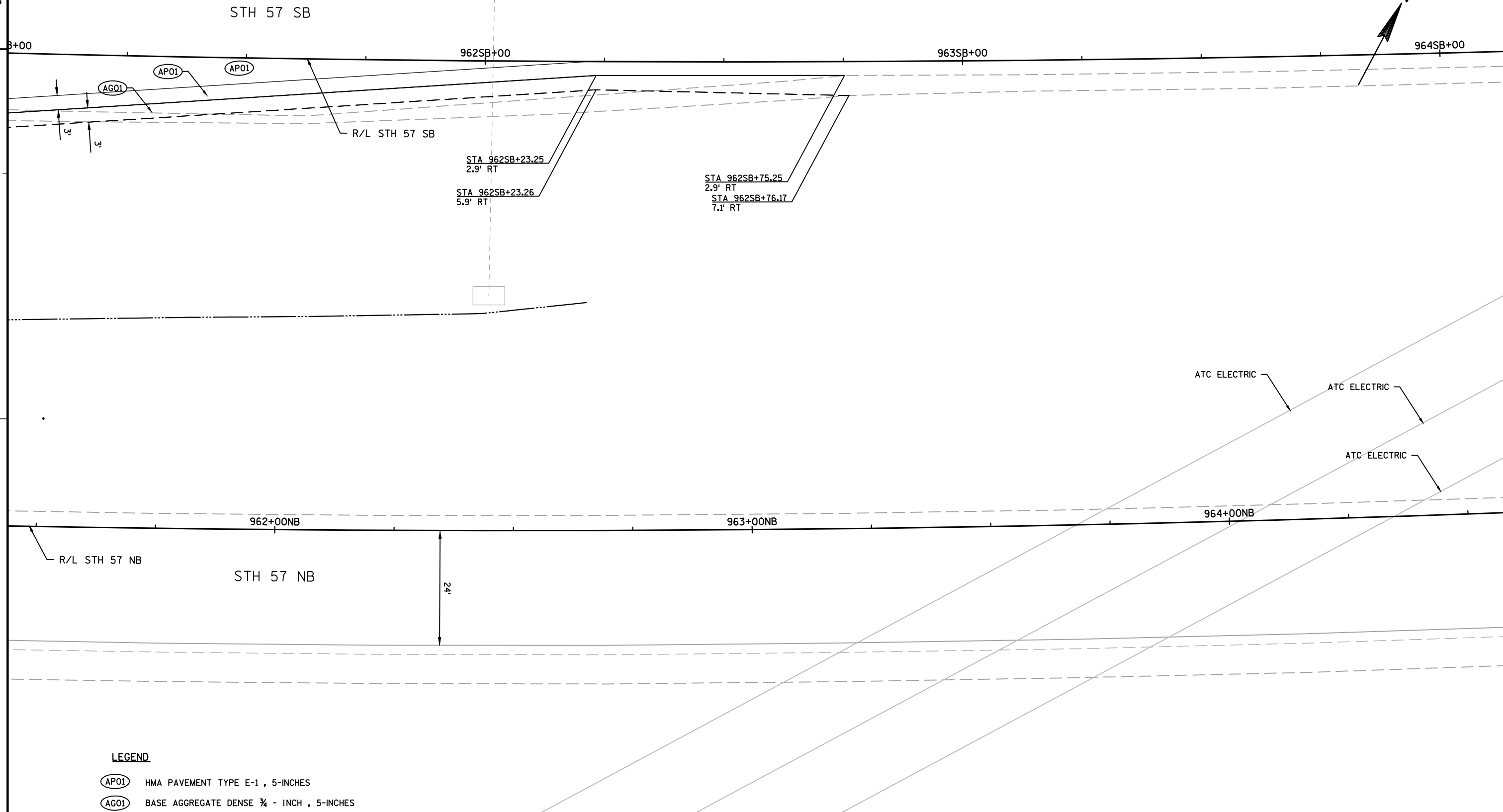
- AP01 HMA PAVEMENT TYPE E-1, 5-INCHES
- AG01 BASE AGGREGATE DENSE 3/4 - INCH, 5-INCHES
- CG01 CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE D
- CM01 CONCRETE MEDIAN SLOPED NOSE TYPE 1
- CM03 CONCRETE SIDEWALK 6-INCH
- PV01 ASPHALTIC FLUMES

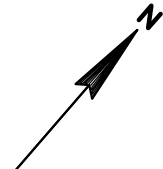




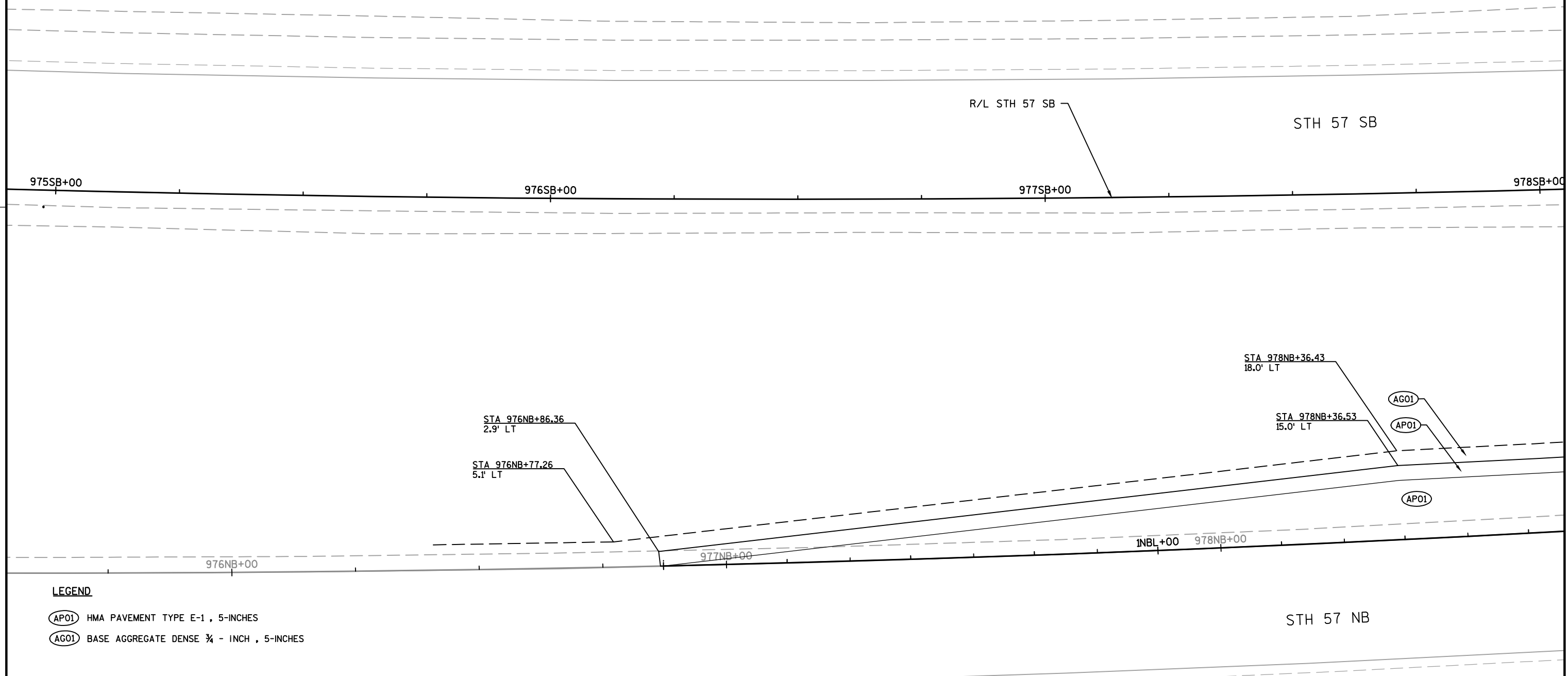
LEGEND

- AP01 HMA PAVEMENT TYPE E-1 , 5-INCHES
- AG01 BASE AGGREGATE DENSE ¾ - INCH , 5-INCHES
- CG01 CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE D
- CM01 CONCRETE MEDIAN SLOPED NOSE TYPE 1
- CM03 CONCRETE SIDEWALK 5-INCH





AP01
AG01



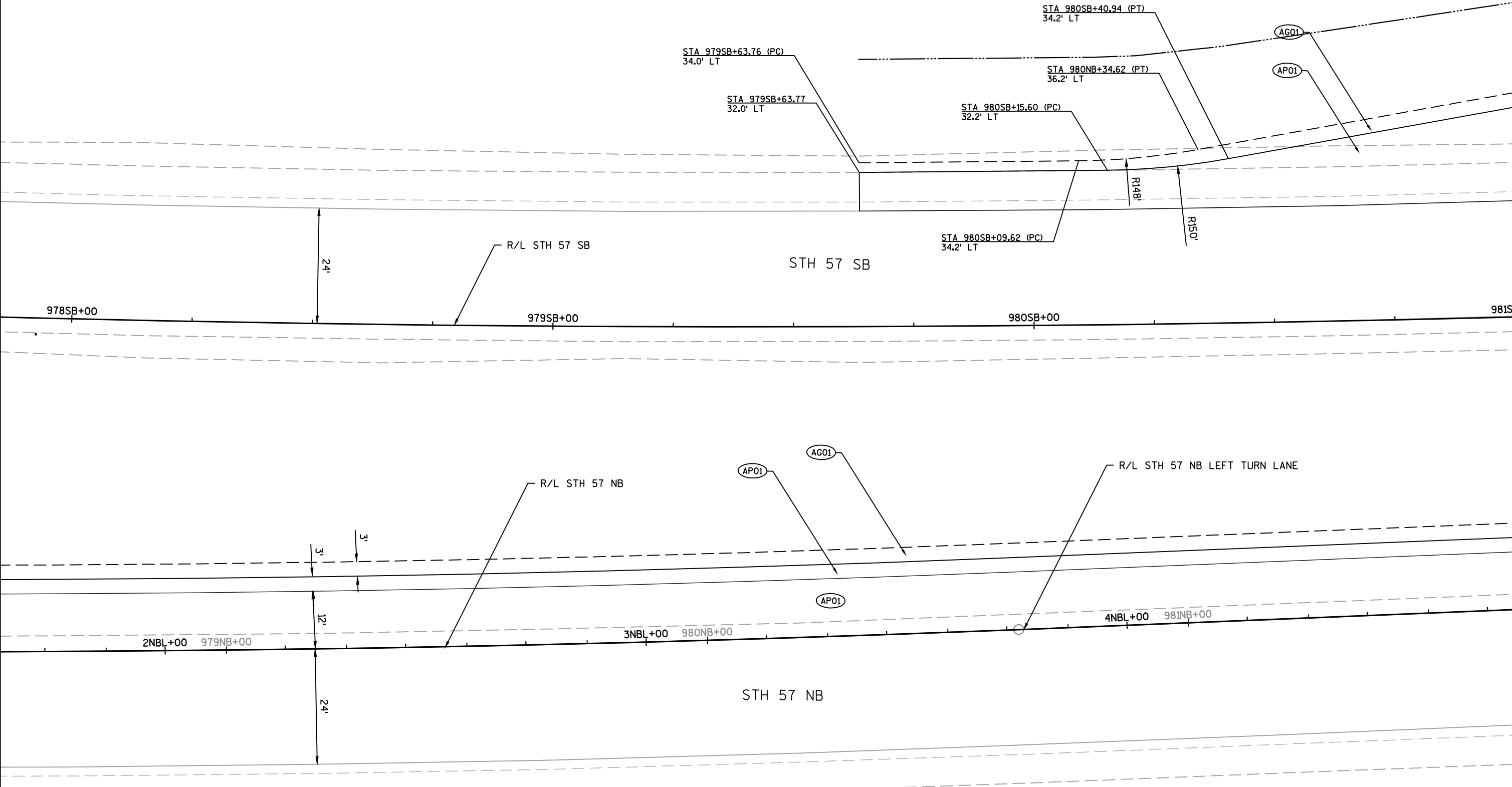
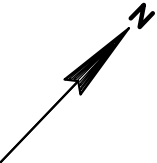
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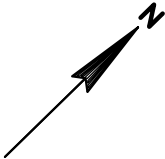
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- AG01 BASE AGGREGATE DENSE 3/4 - INCH , 5-INCHES

PROJECT NO: 4430-15-71	HWY: STH 57	COUNTY: DOOR	PLAN DETAILS	SHEET	E
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LEGEND

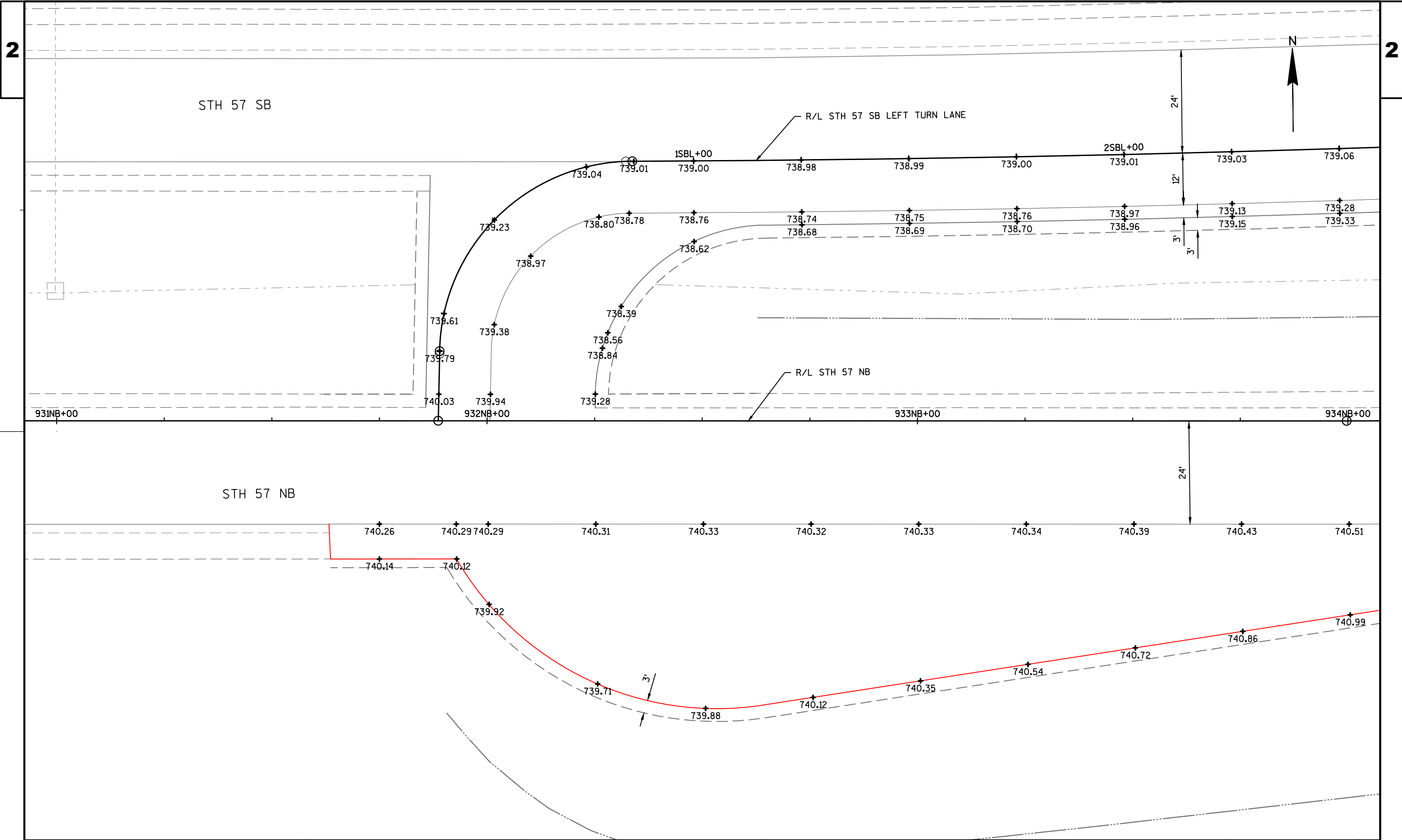
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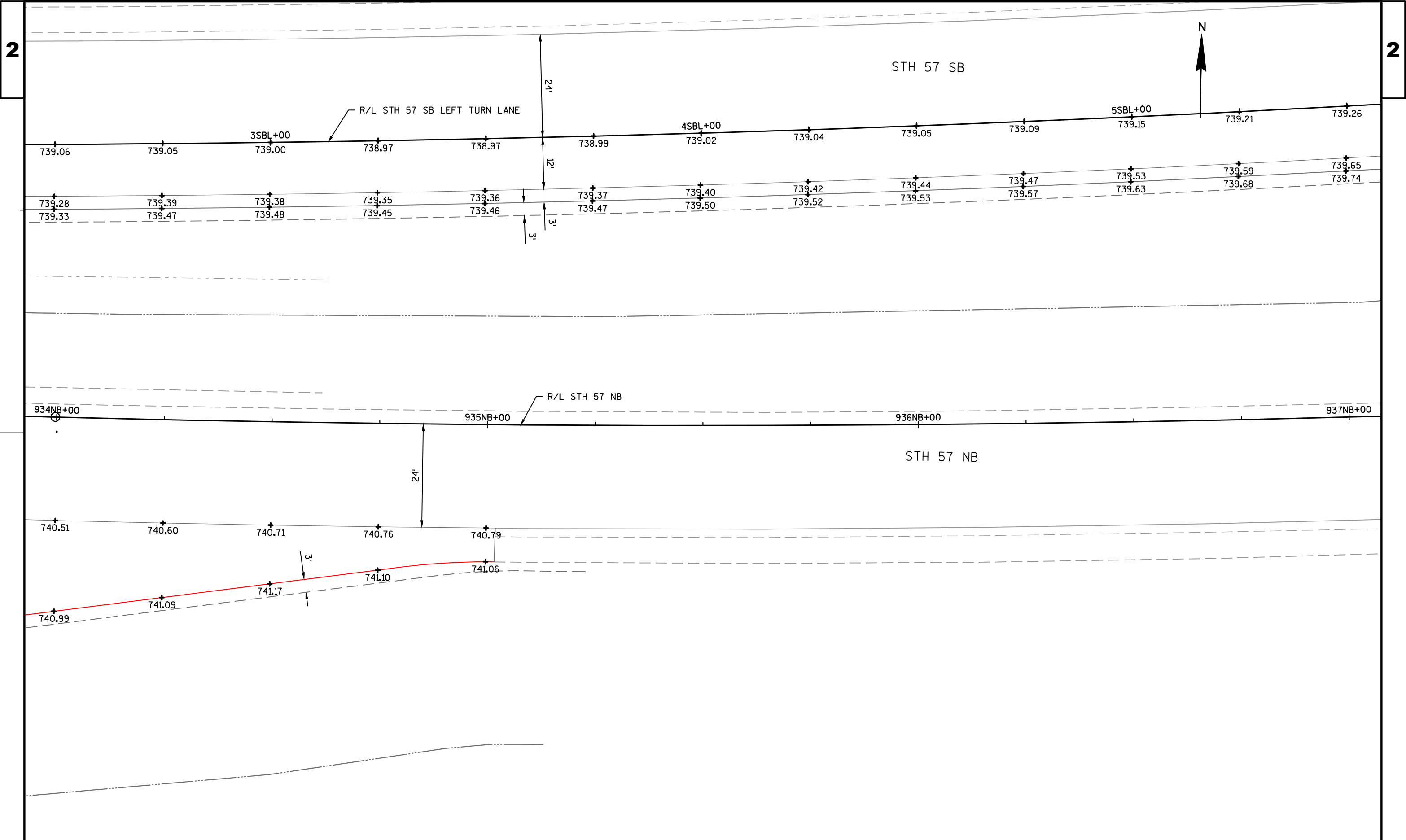


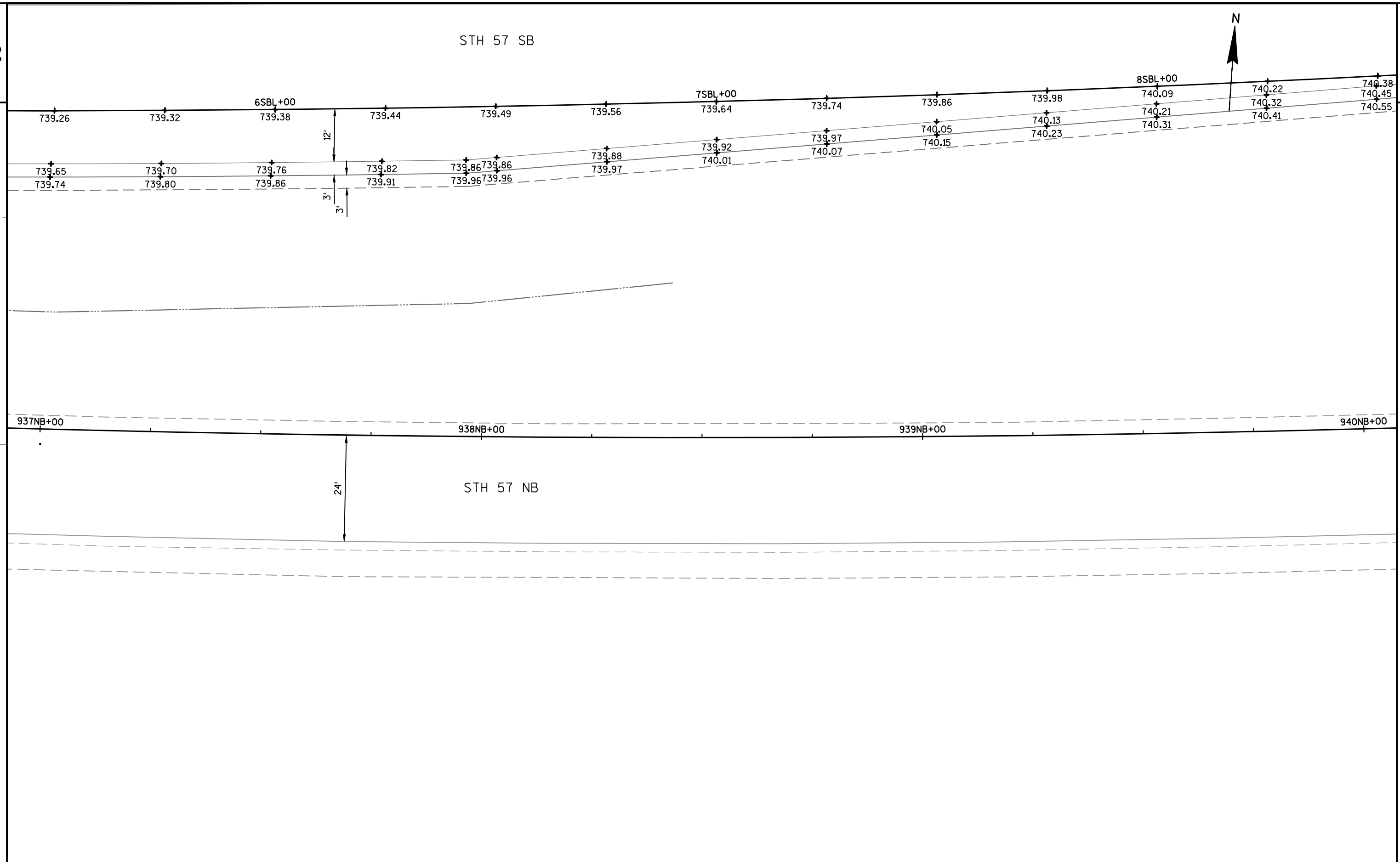


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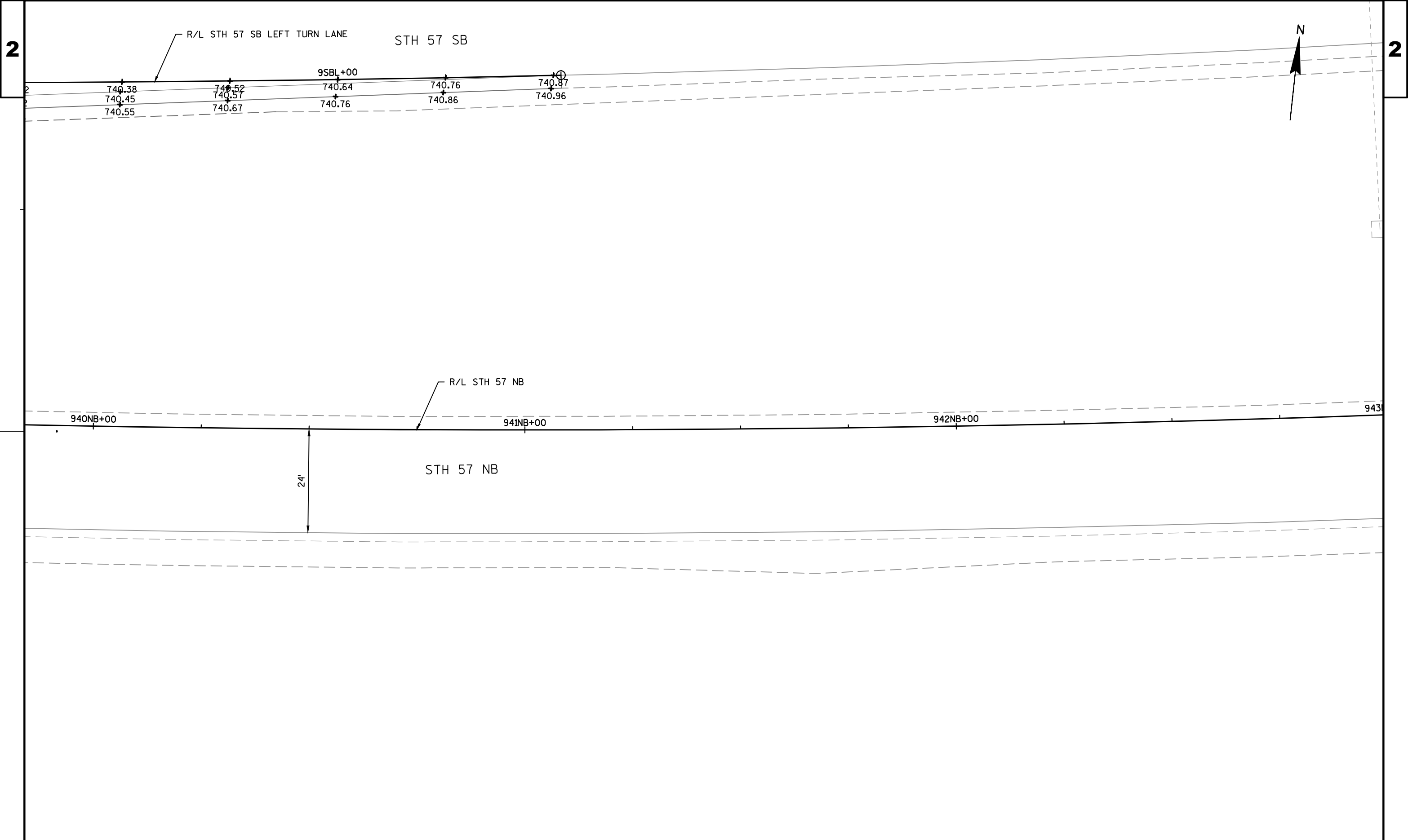


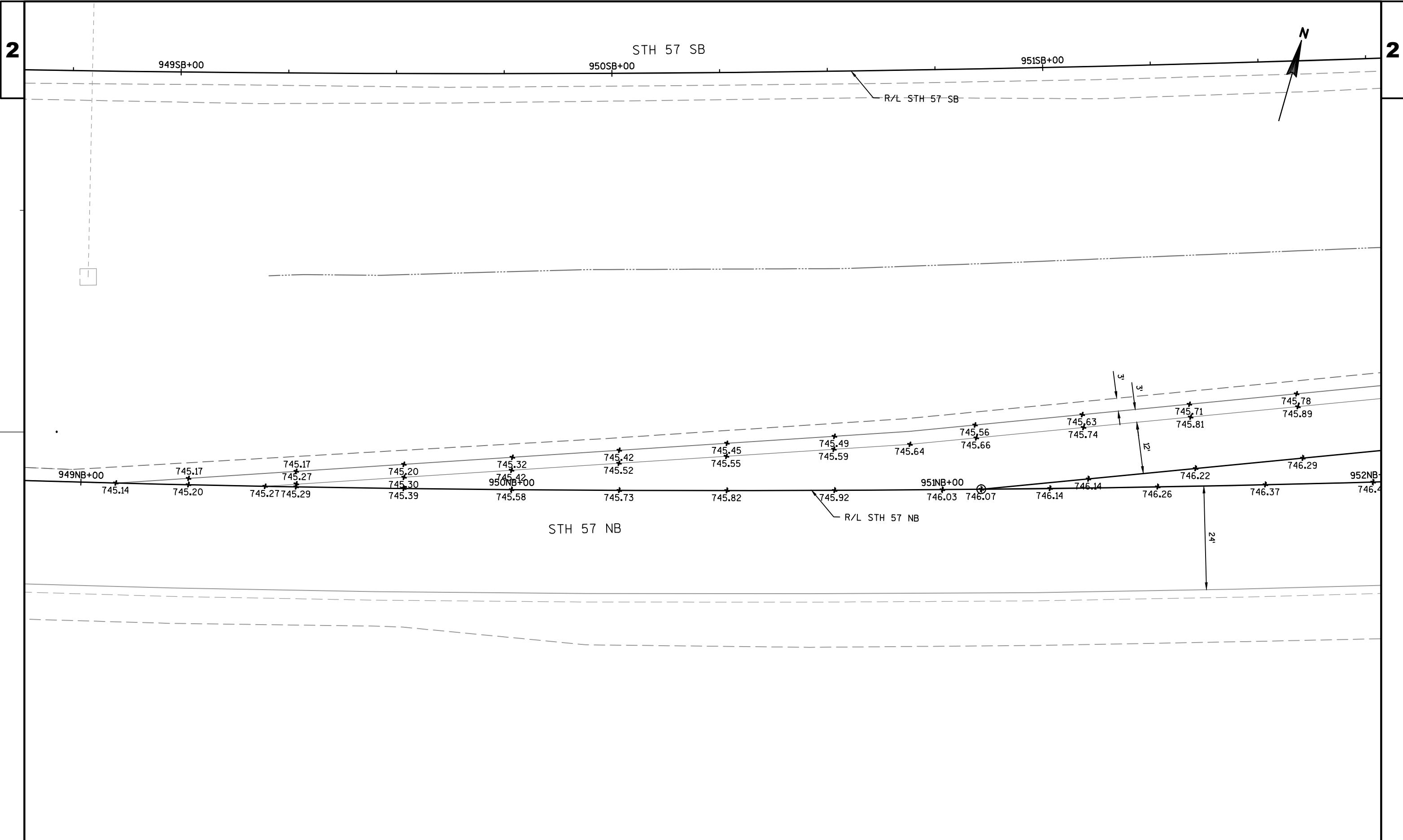


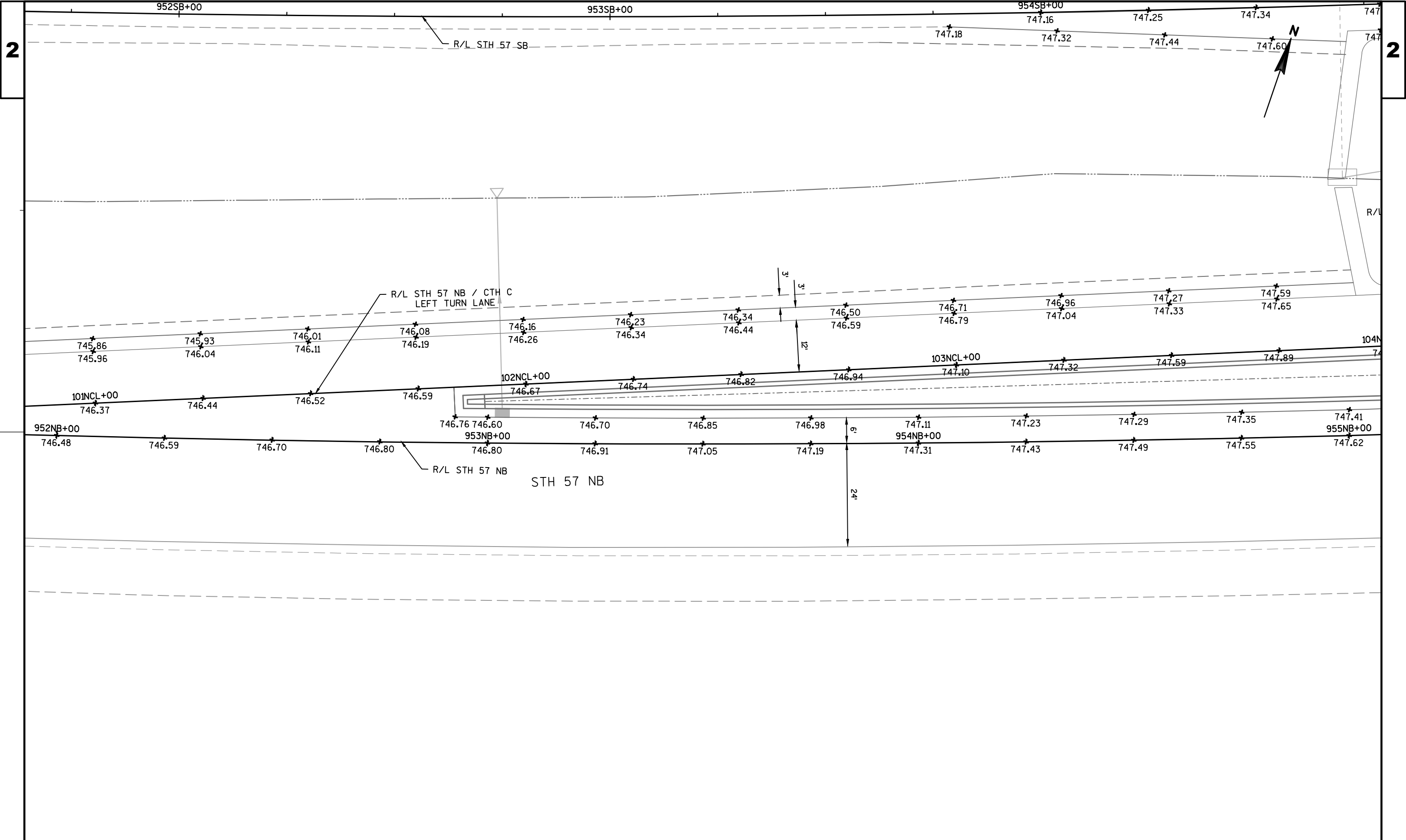




PROJECT NO: 4430-15-71	HWY: STH 57	COUNTY: DOOR	PAVING GRADES	SHEET	E
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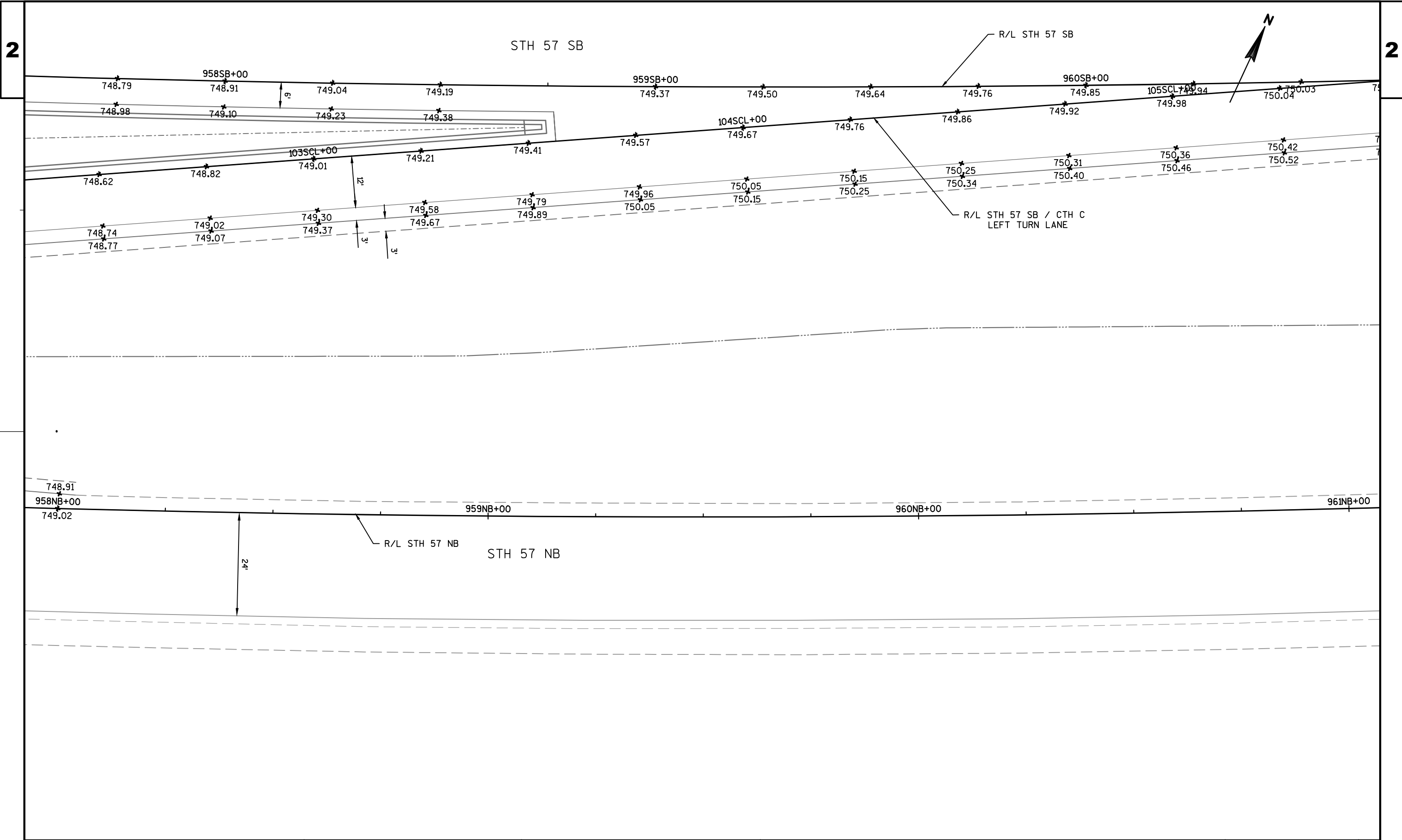
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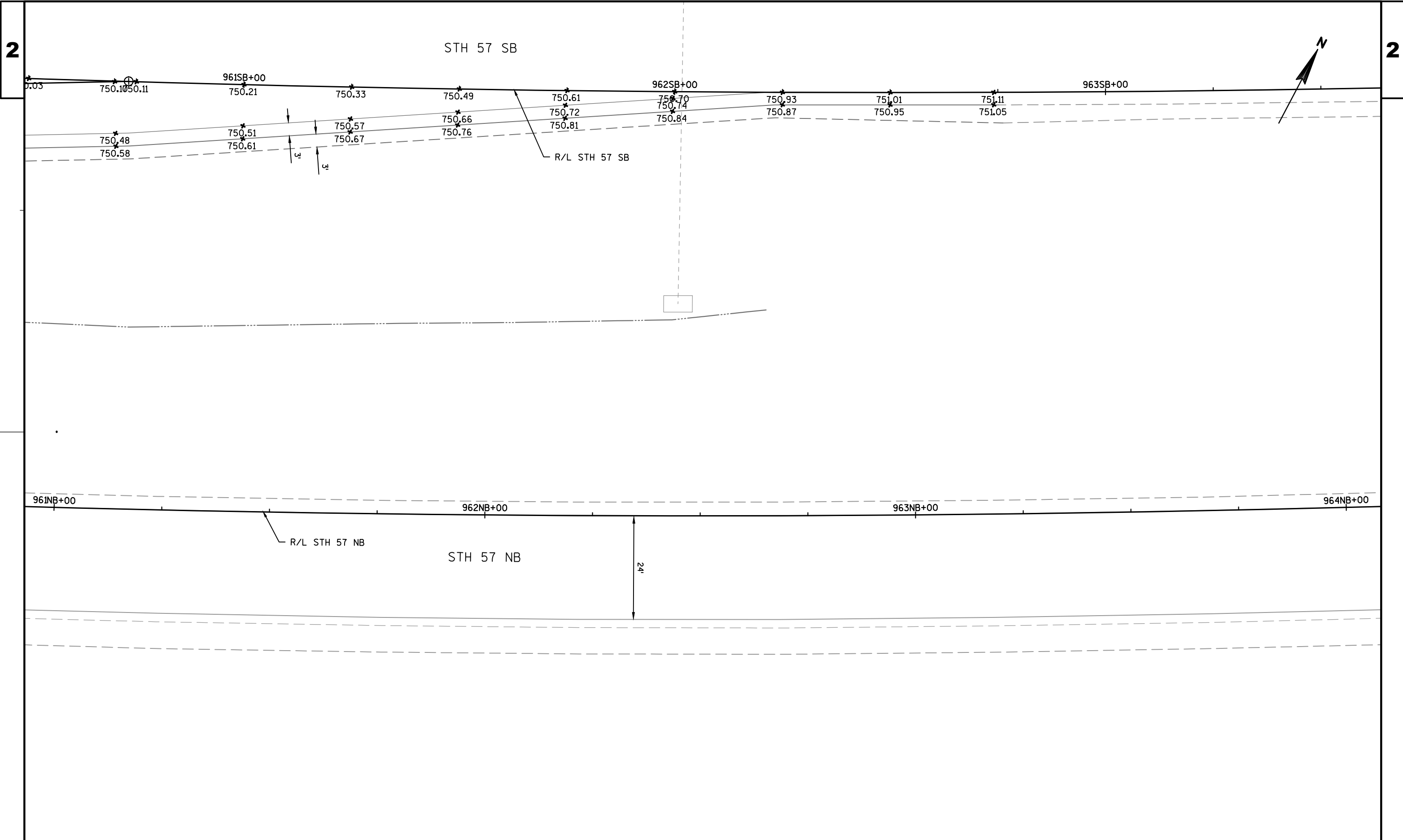
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PAVING GRADES

SHEET

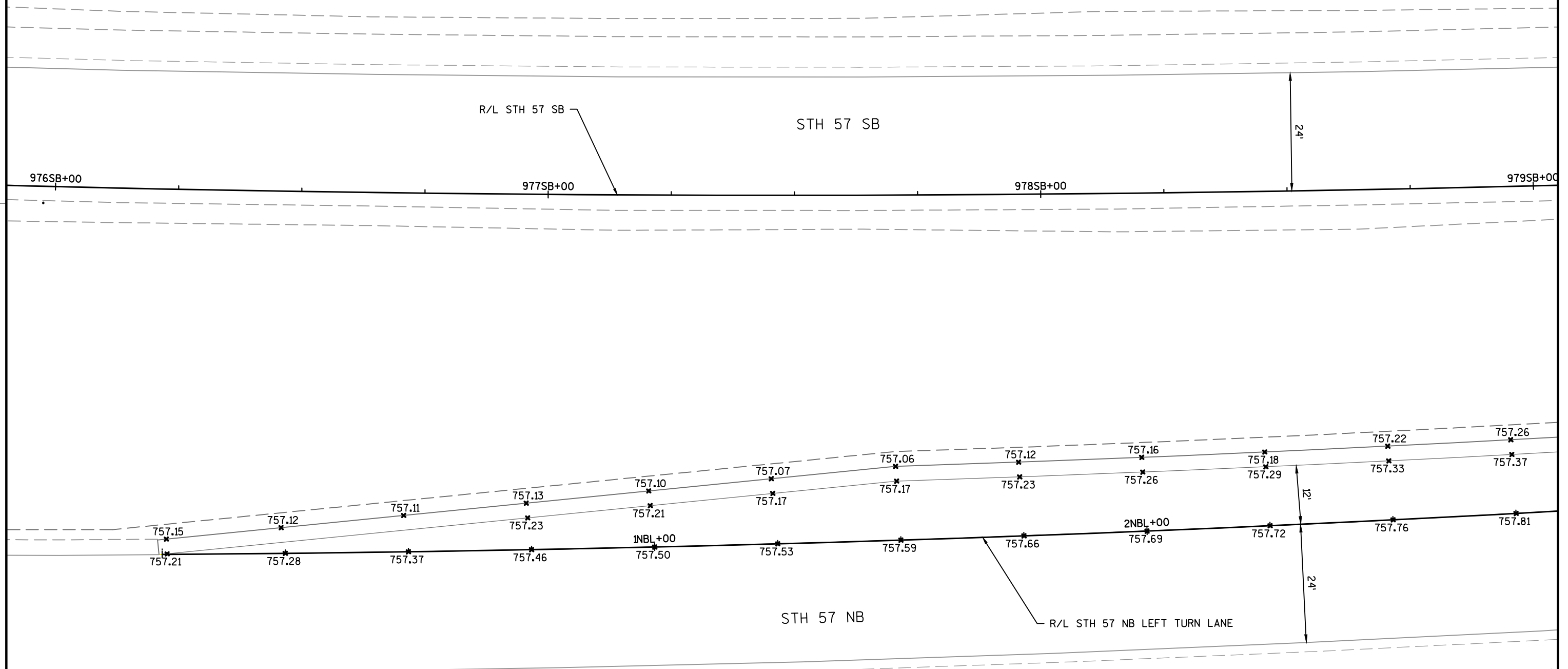
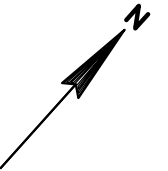
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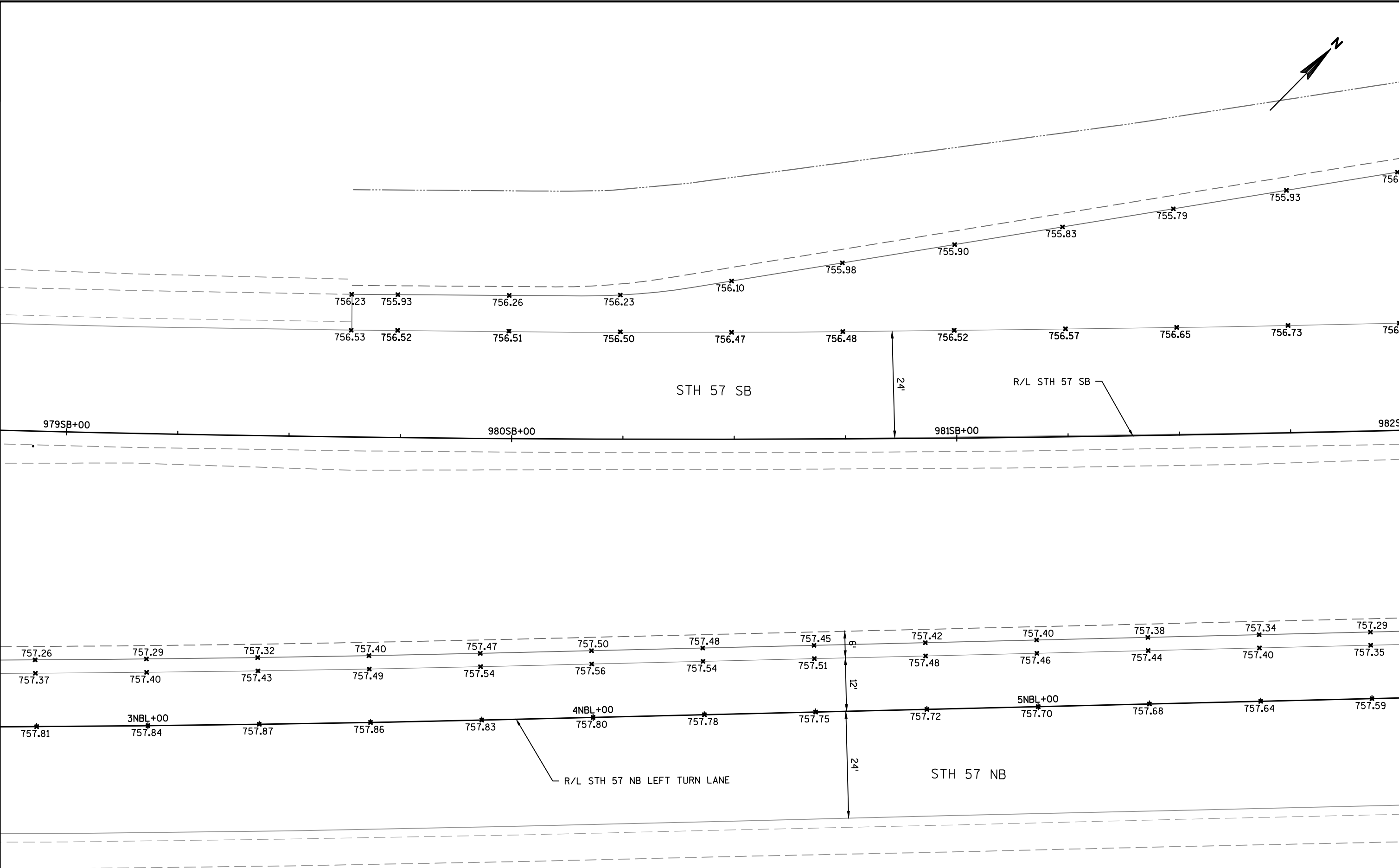


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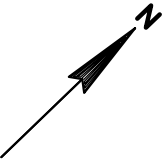
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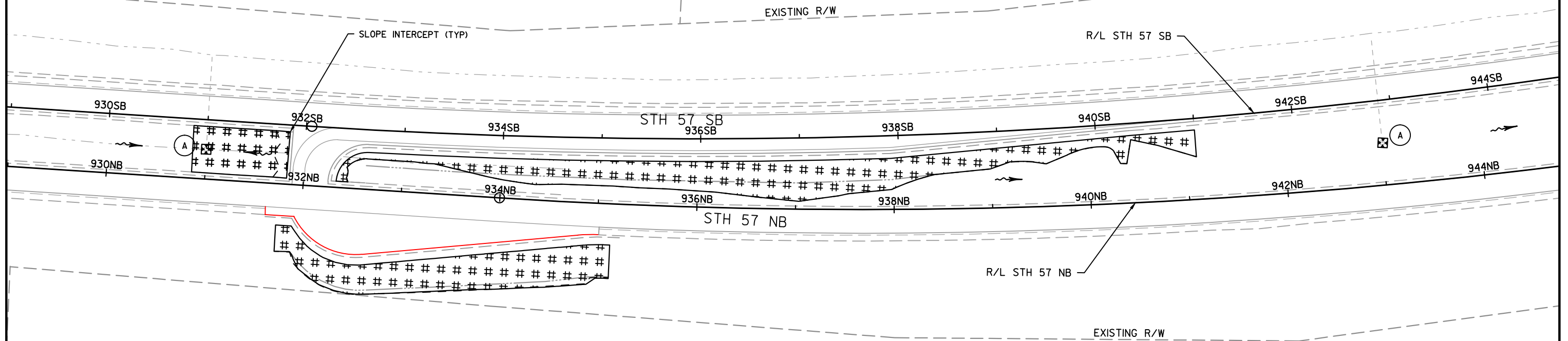
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PROJECT NO:4430-15-71	HWY:STH 57	COUNTY:DOOR	PAVING GRADES	SHEET	E
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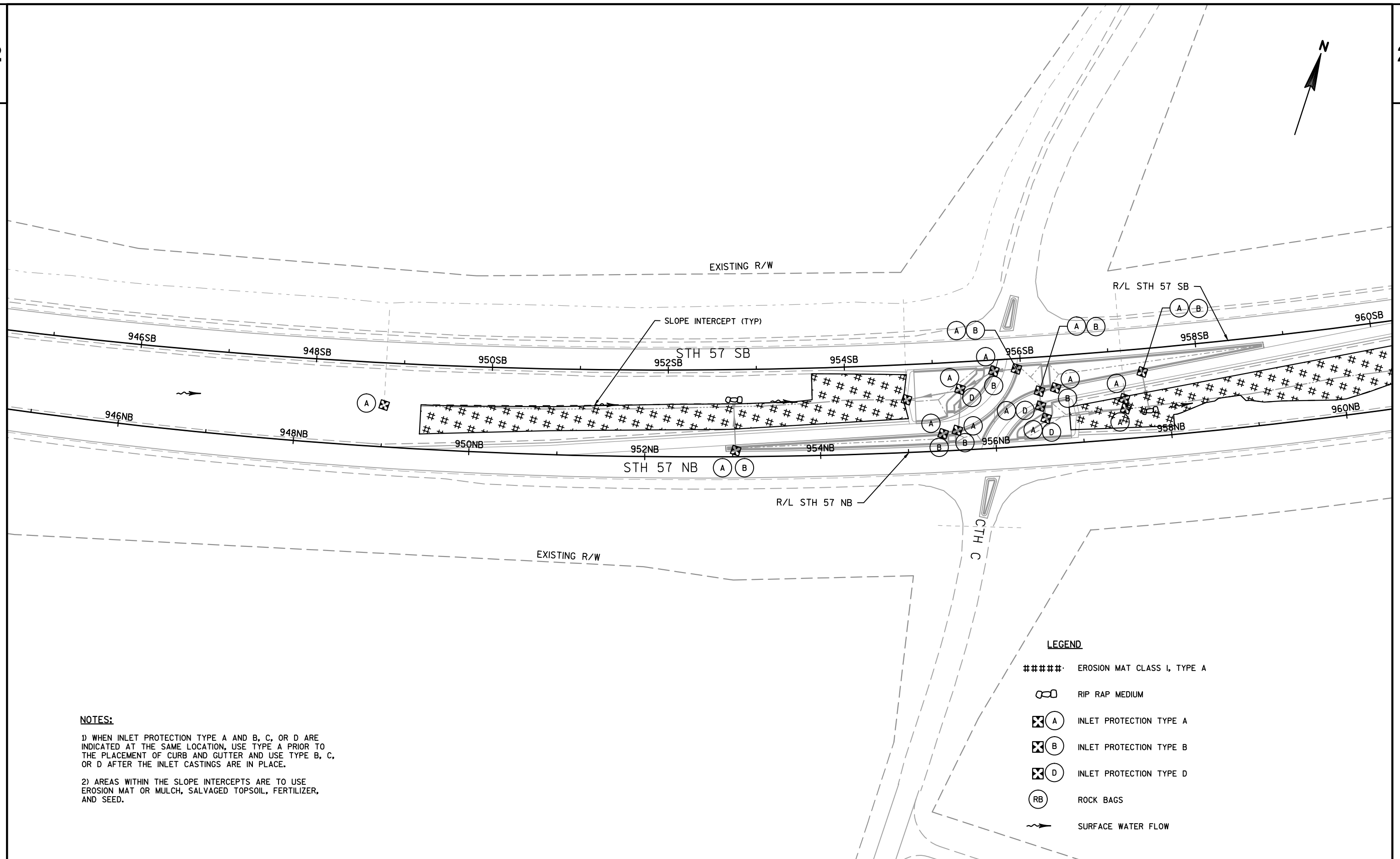
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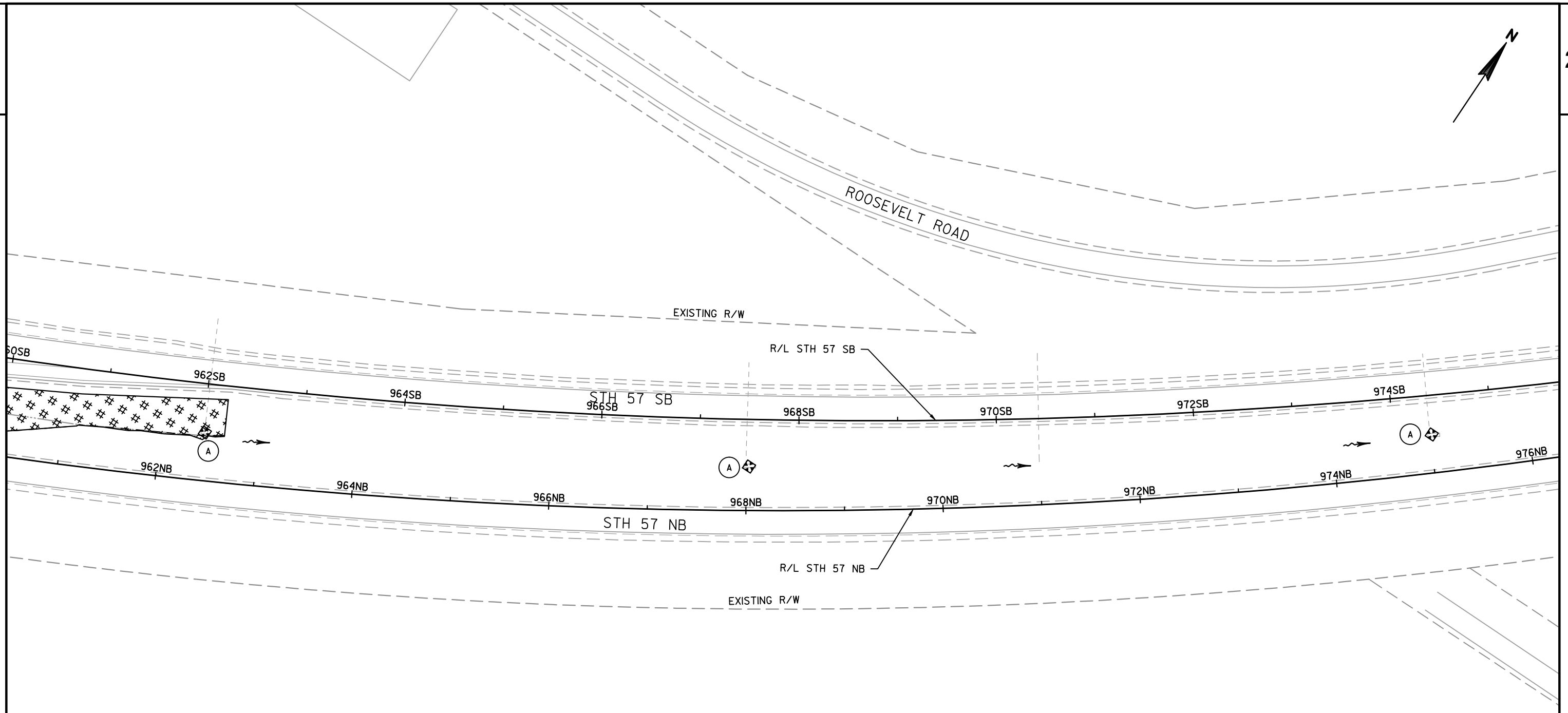
1) WHEN INLET PROTECTION TYPE A AND B, C, OR D ARE INDICATED AT THE SAME LOCATION, USE TYPE A PRIOR TO THE PLACEMENT OF CURB AND GUTTER AND USE TYPE B, C, OR D AFTER THE INLET CASTINGS ARE IN PLACE.

2) AREAS WITHIN THE SLOPE INTERCEPTS ARE TO USE EROSION MAT OR MULCH, SALVAGED TOPSOIL, FERTILIZER, AND SEED.

LEGEND

- ##### EROSION MAT CLASS I, TYPE A
-  RIP RAP MEDIUM
-  INLET PROTECTION TYPE A
-  INLET PROTECTION TYPE B
-  INLET PROTECTION TYPE D
-  ROCK BAGS
-  SURFACE WATER FLOW



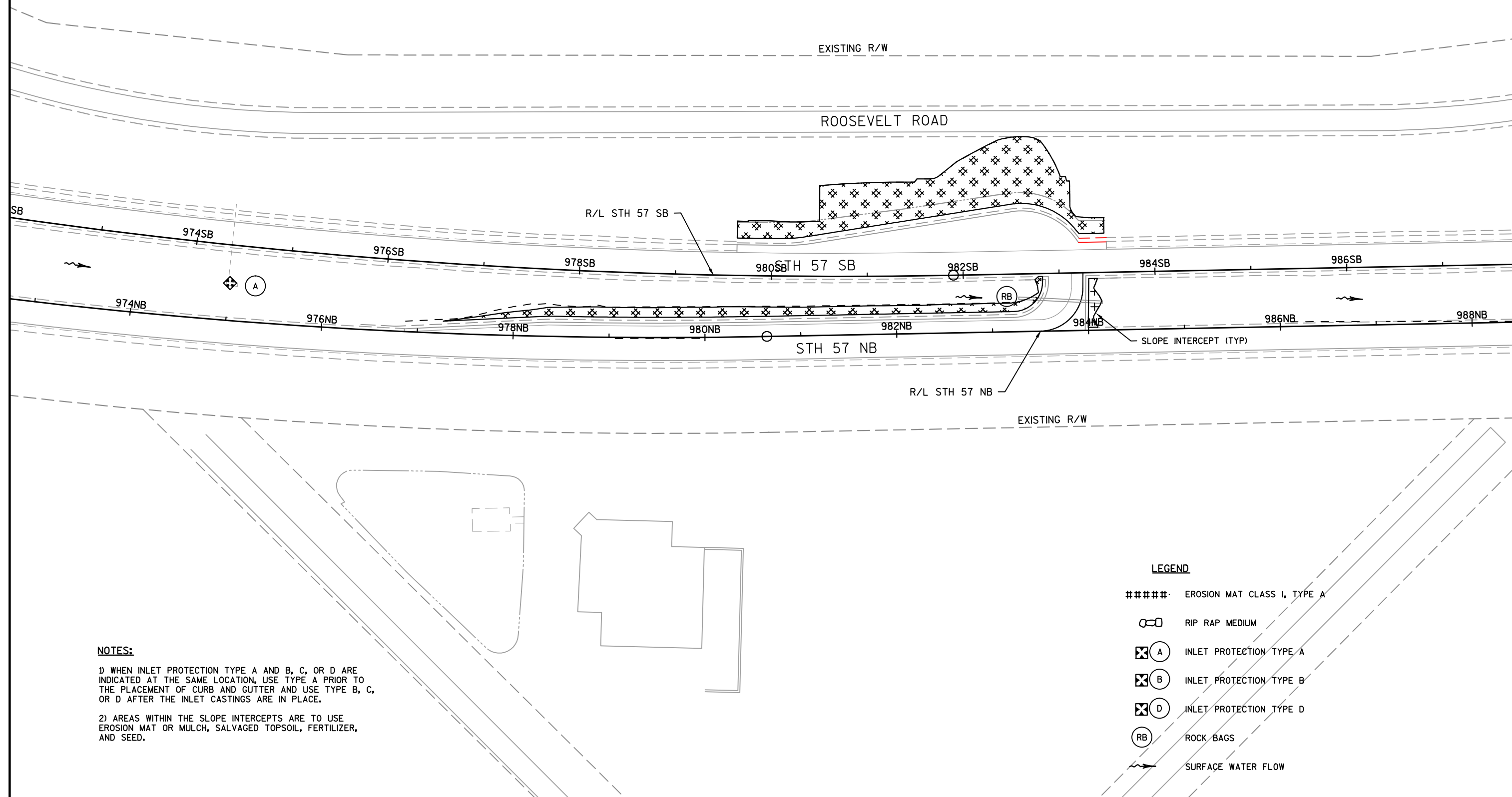


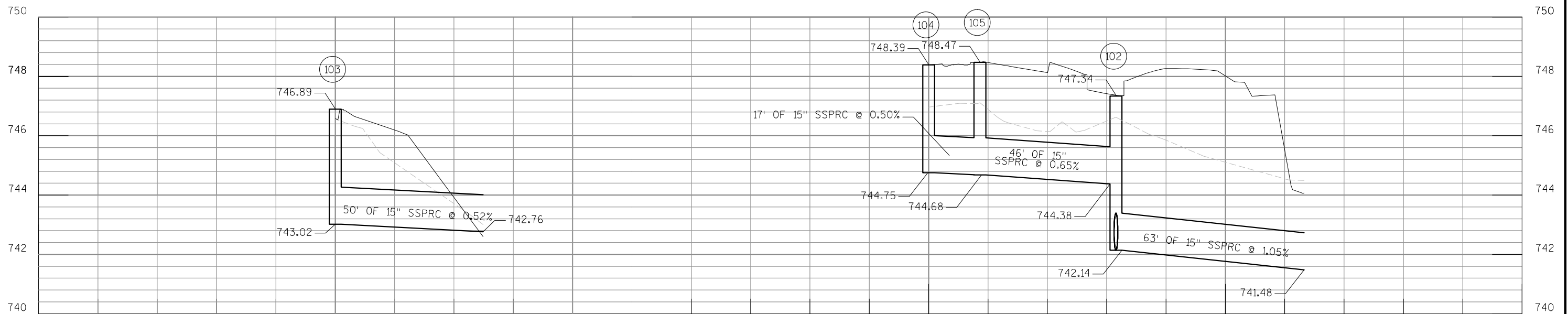
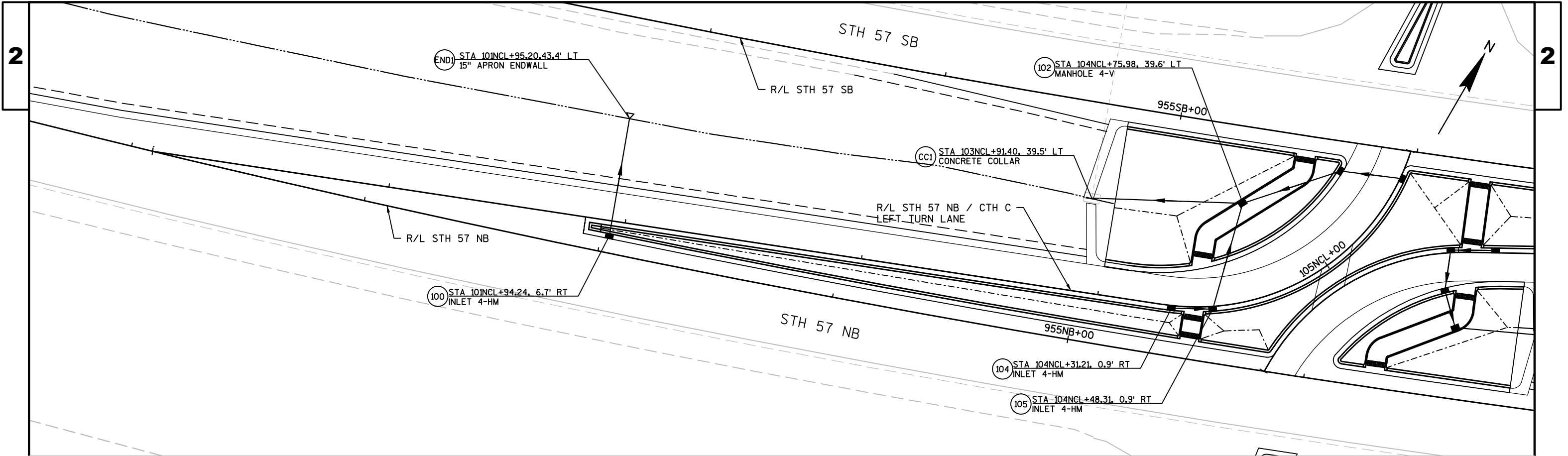
LEGEND

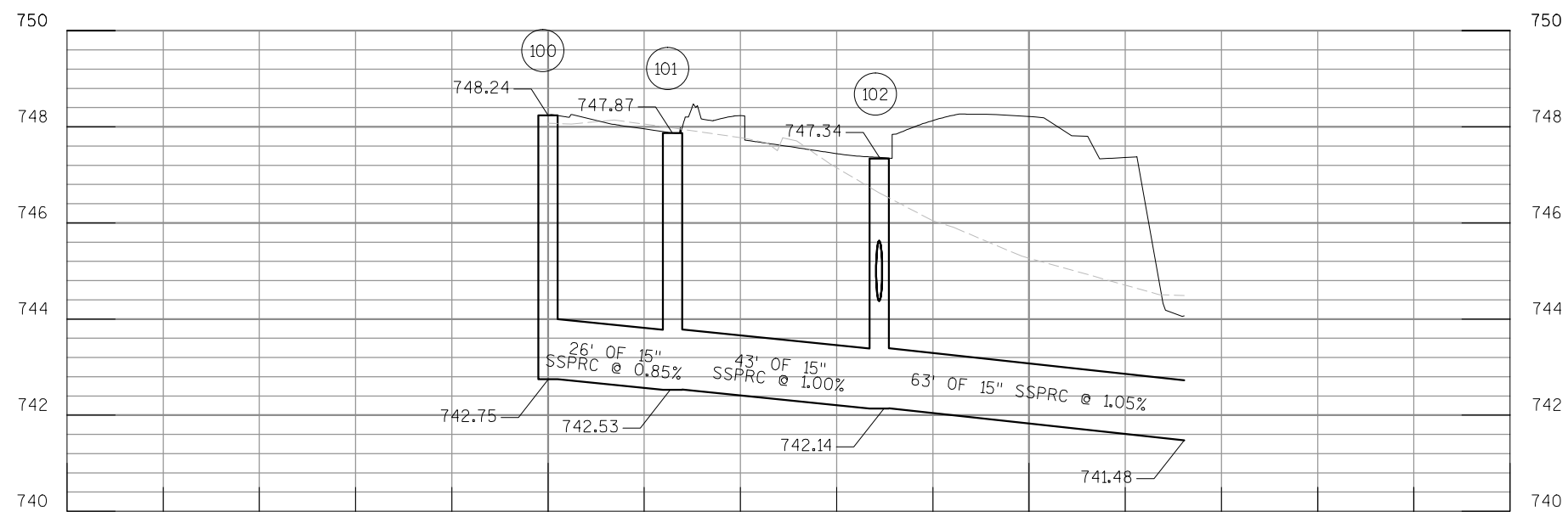
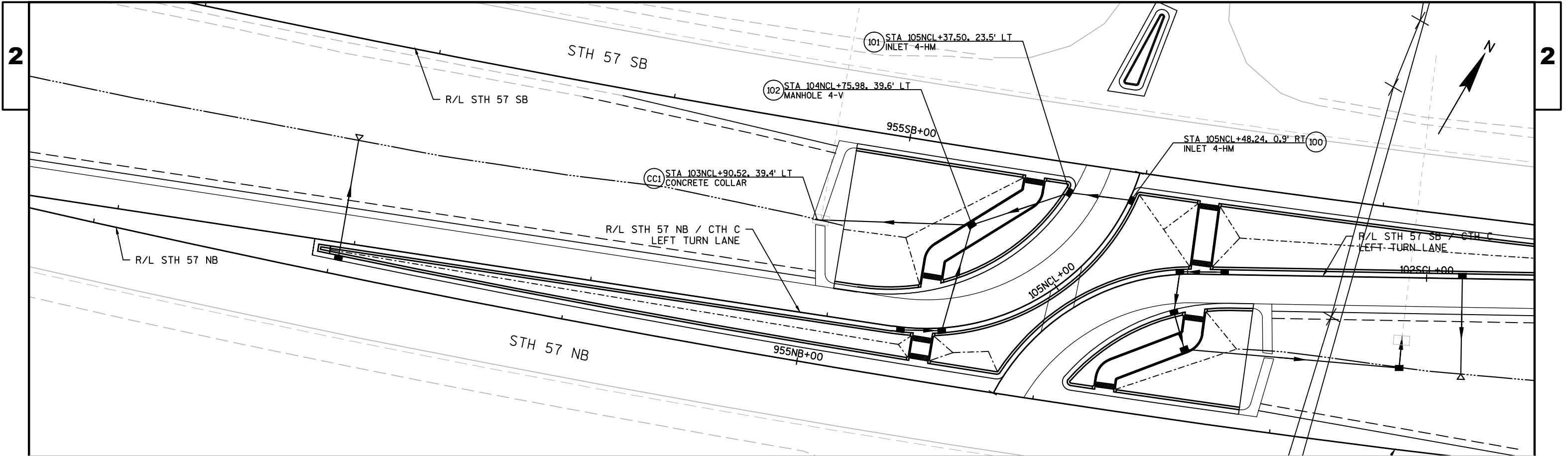
- ##### EROSION MAT CLASS I, TYPE A
- RIP RAP MEDIUM
- INLET PROTECTION TYPE A
- INLET PROTECTION TYPE B
- INLET PROTECTION TYPE D
- ROCK BAGS
- SURFACE WATER FLOW

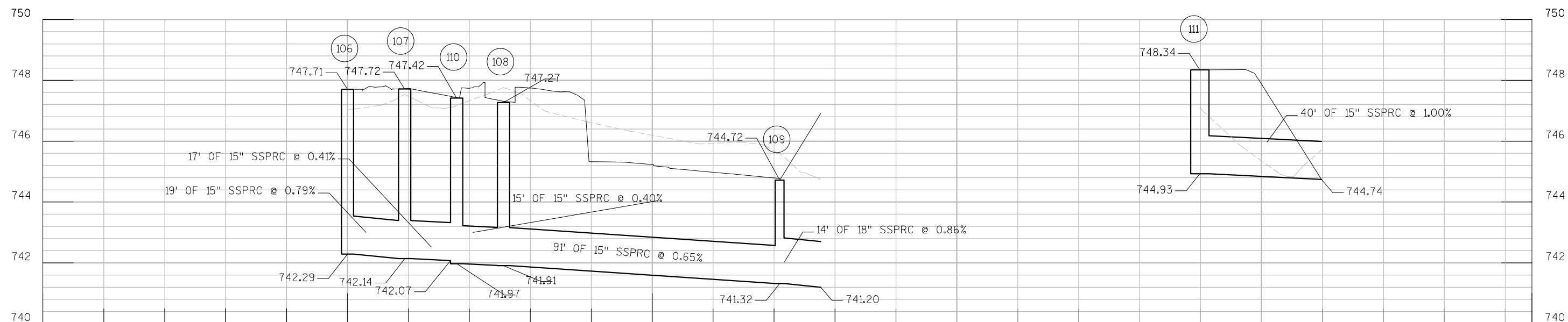
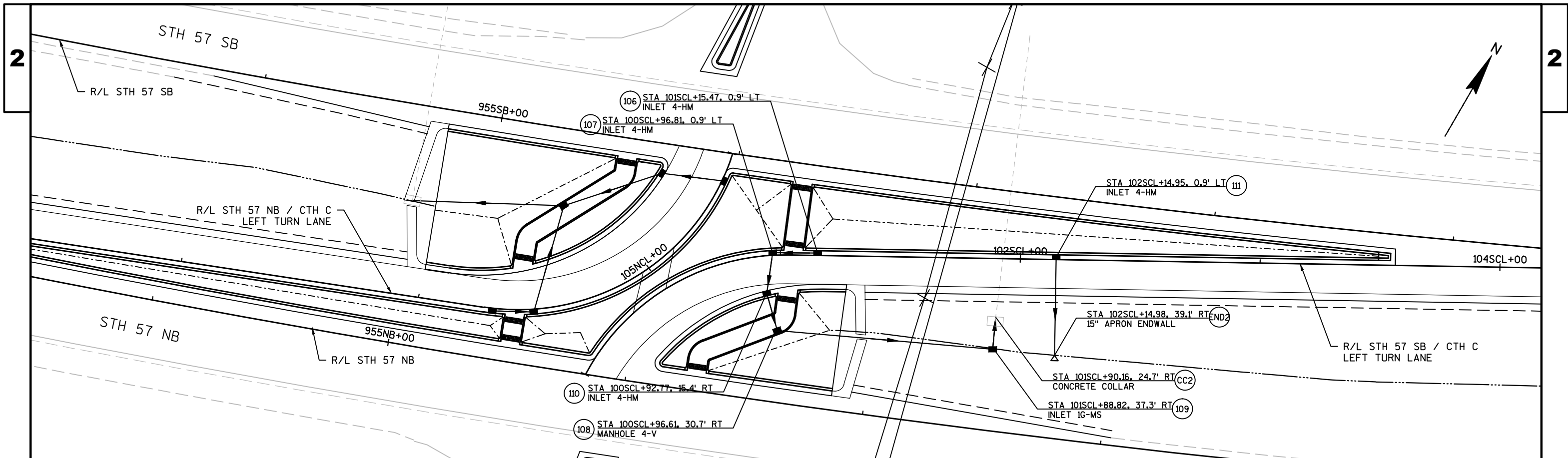
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- 2) AREAS WITHIN THE SLOPE INTERCEPTS ARE TO USE EROSION MAT OR MULCH, SALVAGED TOPSOIL, FERTILIZER, AND SEED.











Dyckesville 10
Green Bay 28

D2-2
108" X 36"

2

SPEED
LIMIT
65

R2-1
48" X 60"

3

SOUTH
57

J4-1
36" X 54"

4

ONE WAY

R6-1L
54" X 18"

9

R6-1L
54" X 18"

11

R1-2
48" X 42"

8

R1-2
48" X 42"

10

NORTH SOUTH
57 C

J3-2
48" X 57"

12

SOUTH NORTH SOUTH
57 57 C

J3-1
36" X 84"

14

J3-2
72" X 84"

13

STH 57

930

935

940

935

940

1
WRONG
WAY

R5-1A
42" X 30"

5
DO NOT
ENTER

R3-18
36" X 36"

6
DO NOT
ENTER

R5-1
36" X 36"

7
ONE
WAY

R6-2L
36" X 48"

SIGNING NOTES

TYPE II SIGNS AND SUPPORTS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE REGIONAL TRAFFIC UNIT. SIGNS SHALL BE CAREFULLY REMOVED FROM THE SUPPORTS, SORTED BY BASE MATERIAL AND PALLETIZED BY MATERIAL TYPE. SUPPORTS SHALL BE SORTED BY LENGTH AND TYPE. THE REGIONAL TRAFFIC UNIT 920-492-5653, SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF SIGNS AND SUPPORTS.

WHEN AN EXISTING STOP SIGN AND SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERECTED THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

NEW STOP SIGNS (R1-1) PLACED UNDER STAGE * SHALL HAVE A MINIMUM OF 6'6" OF CLEARANCE ABOVE THE ROADWAY. THIS WILL ALLOW FOR THE PLACEMENT OF FUTURE SIGNS BENEATH THE STOP SIGN.

SIGN-PLACE NEW

PLAN SHEET PRODUCED
BY WISDOT-NE REGION

PROJECT NO: 4430-15-71

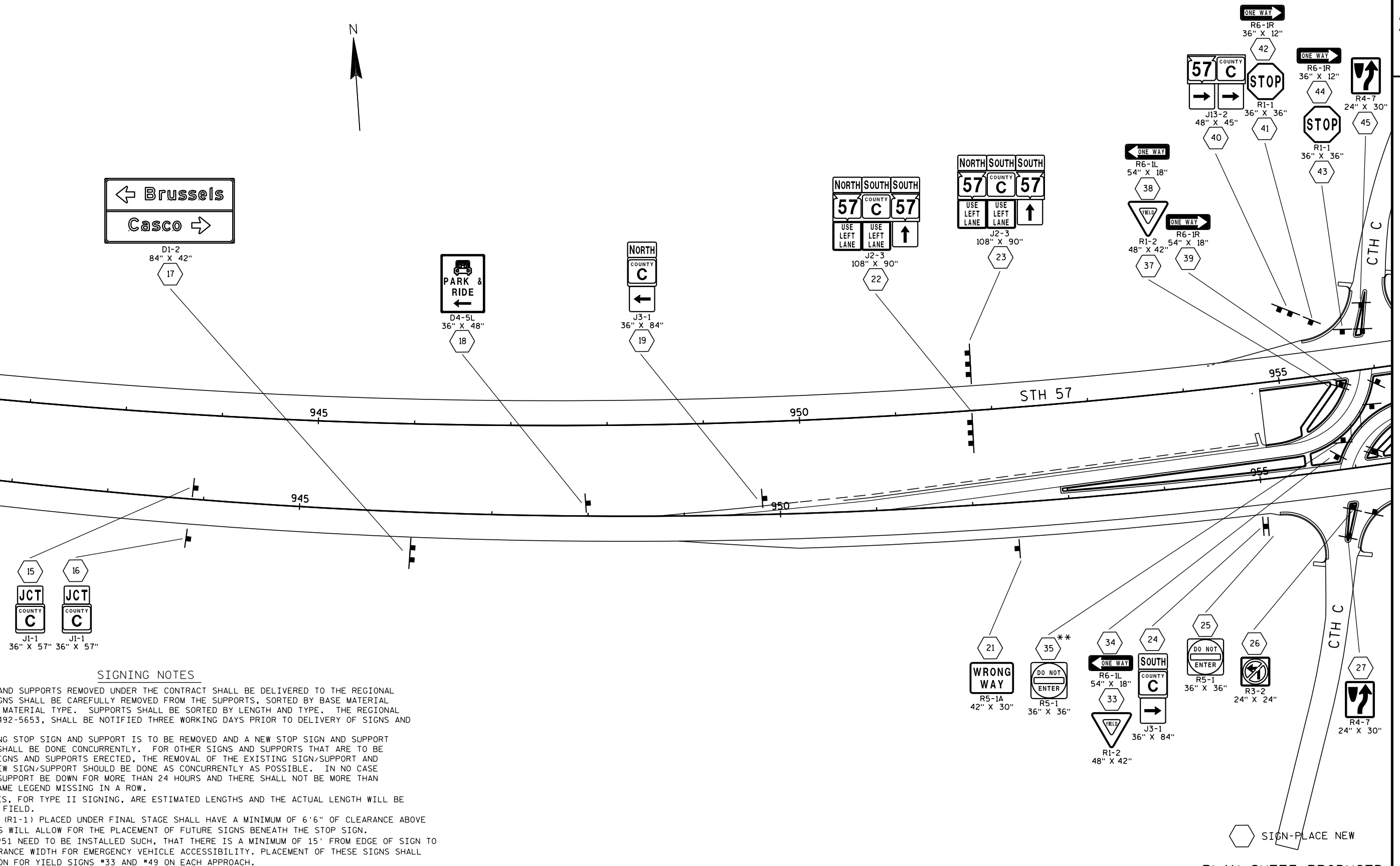
HWY: STH 57

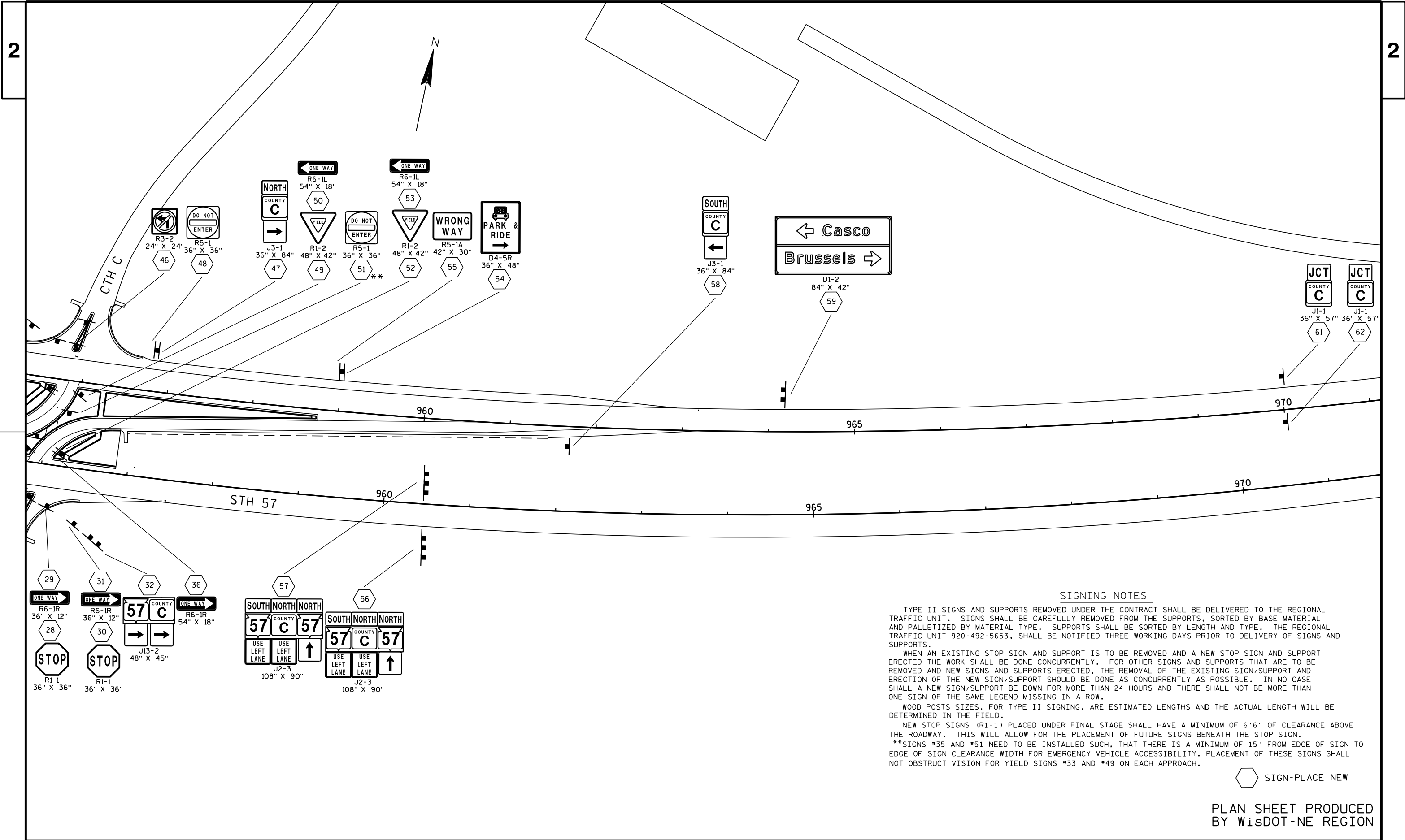
COUNTY: DOOR

PERMANENT SIGNING PLAN

SHEET

E





SIGNING NOTES

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WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

NEW STOP SIGNS (R1-1) PLACED UNDER FINAL STAGE SHALL HAVE A MINIMUM OF 6'6" OF CLEARANCE ABOVE THE ROADWAY. THIS WILL ALLOW FOR THE PLACEMENT OF FUTURE SIGNS BENEATH THE STOP SIGN.

**SIGNS #35 AND #51 NEED TO BE INSTALLED SUCH, THAT THERE IS A MINIMUM OF 15' FROM EDGE OF SIGN TO EDGE OF SIGN CLEARANCE WIDTH FOR EMERGENCY VEHICLE ACCESSIBILITY. PLACEMENT OF THESE SIGNS SHALL NOT OBSTRUCT VISION FOR YIELD SIGNS #33 AND #49 ON EACH APPROACH.

 SIGN-PLACE NEW

PLAN SHEET PRODUCED
BY WisDOT-NE REGION

PROJECT NO: 4430-15-71

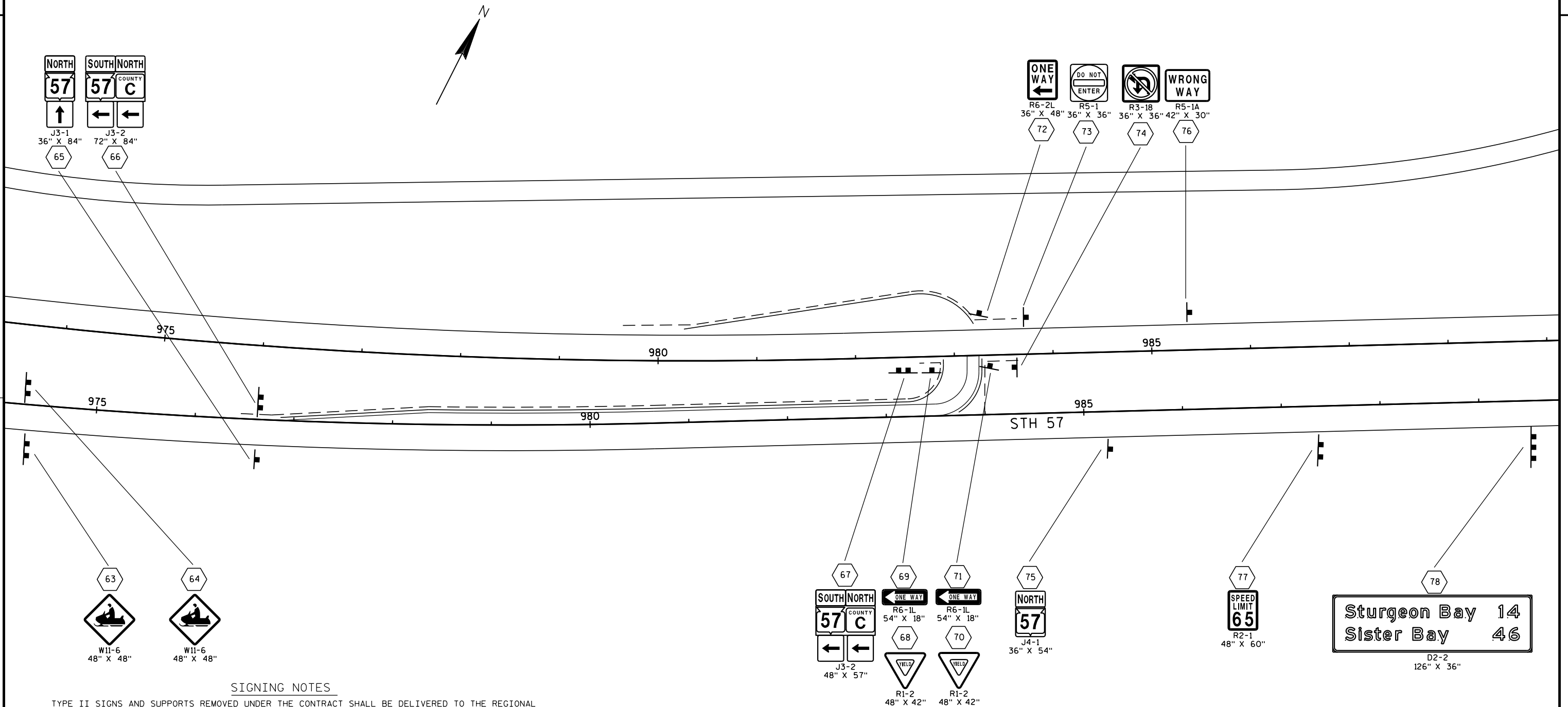
HWY: STH 57

COUNTY: DOOR

PERMANENT SIGNING PLAN

SHEET

E



SIGNING NOTES

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SIGN-PLACE NEW

PLAN SHEET PRODUCED
BY WISDOT-NE REGION

PROJECT NO: 4430-15-71

HWY: STH 57

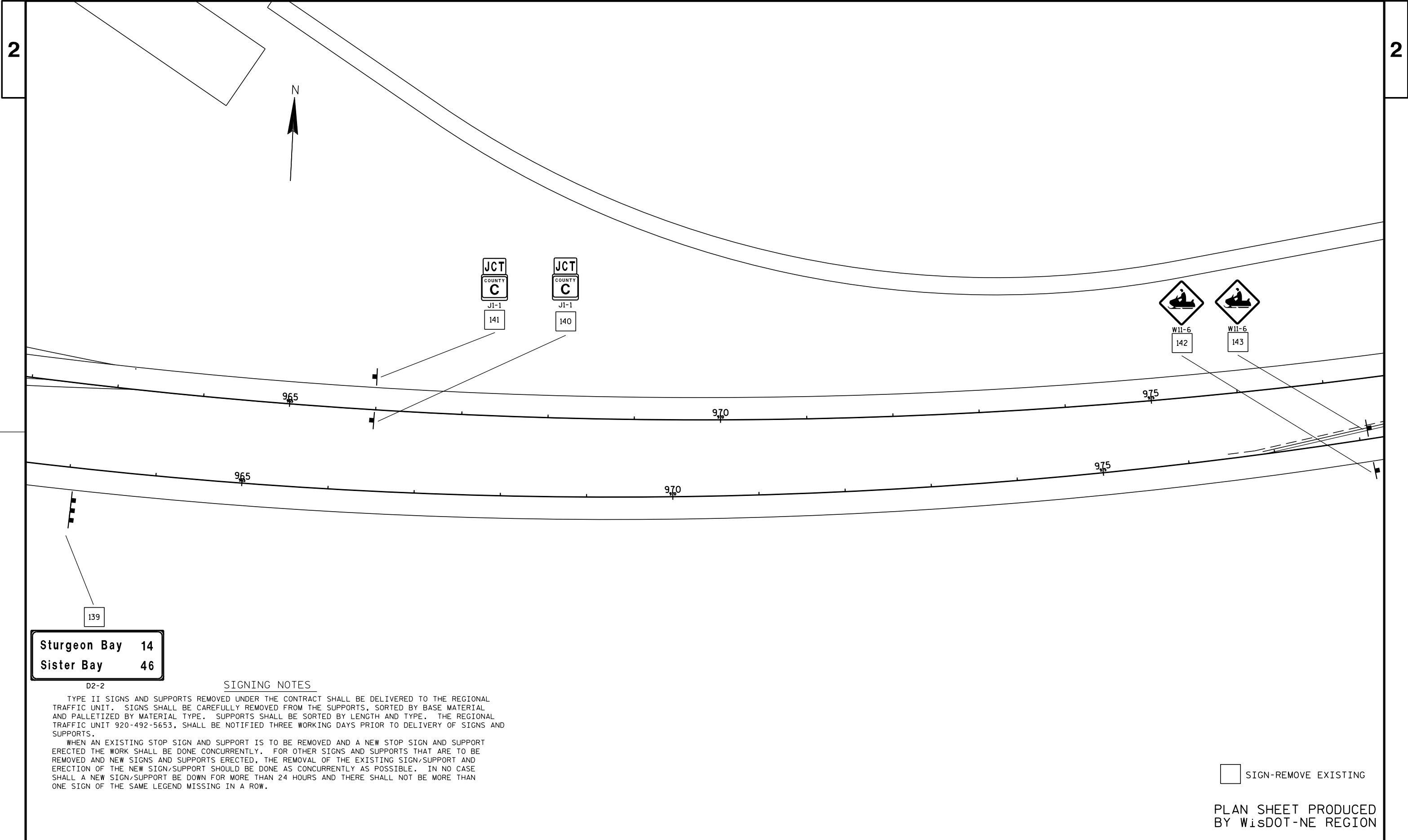
COUNTY: DOOR

PERMANENT SIGNING PLAN

SHEET

E





Sturgeon Bay	14
Sister Bay	46

D2-2

SIGNING NOTES

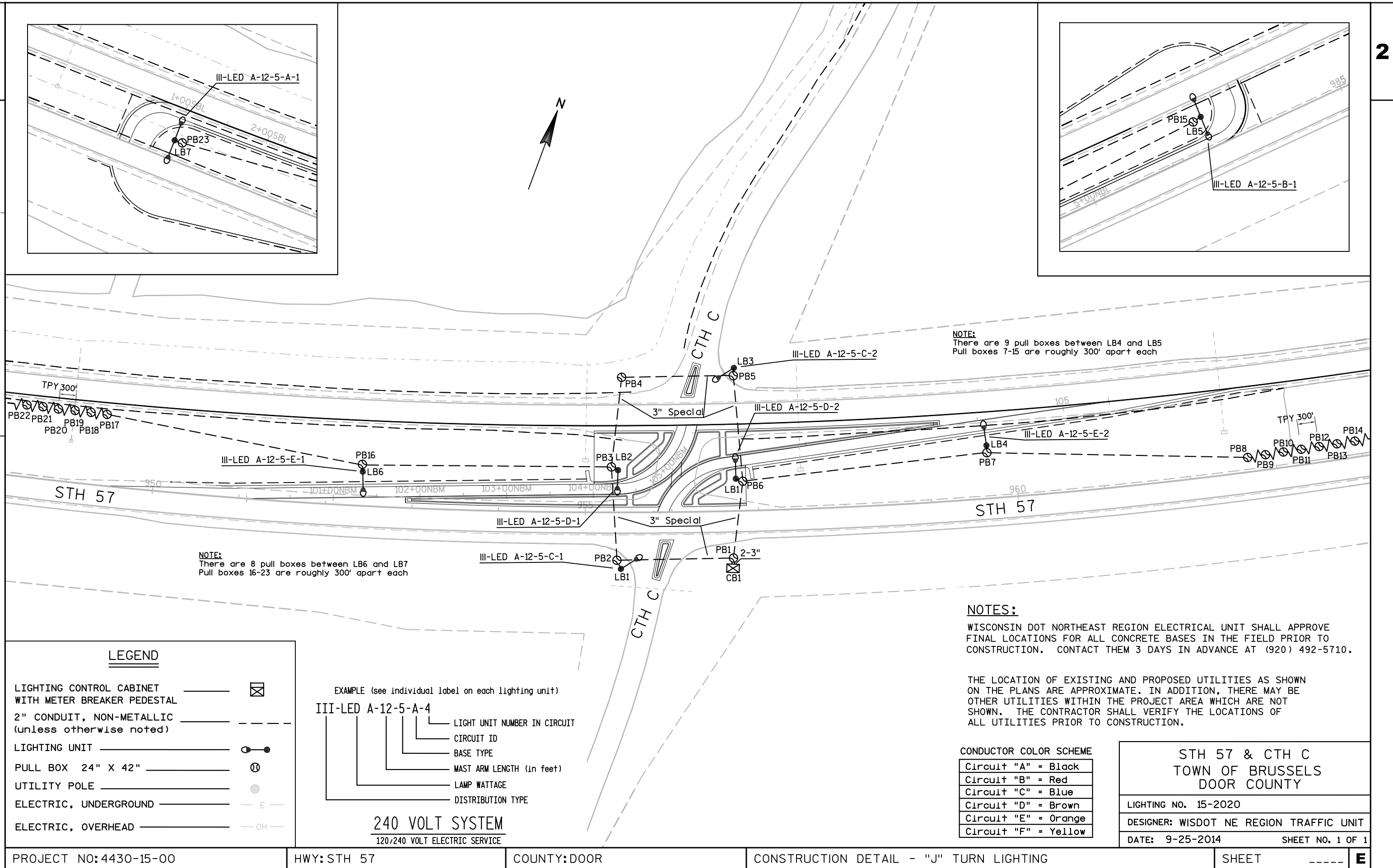
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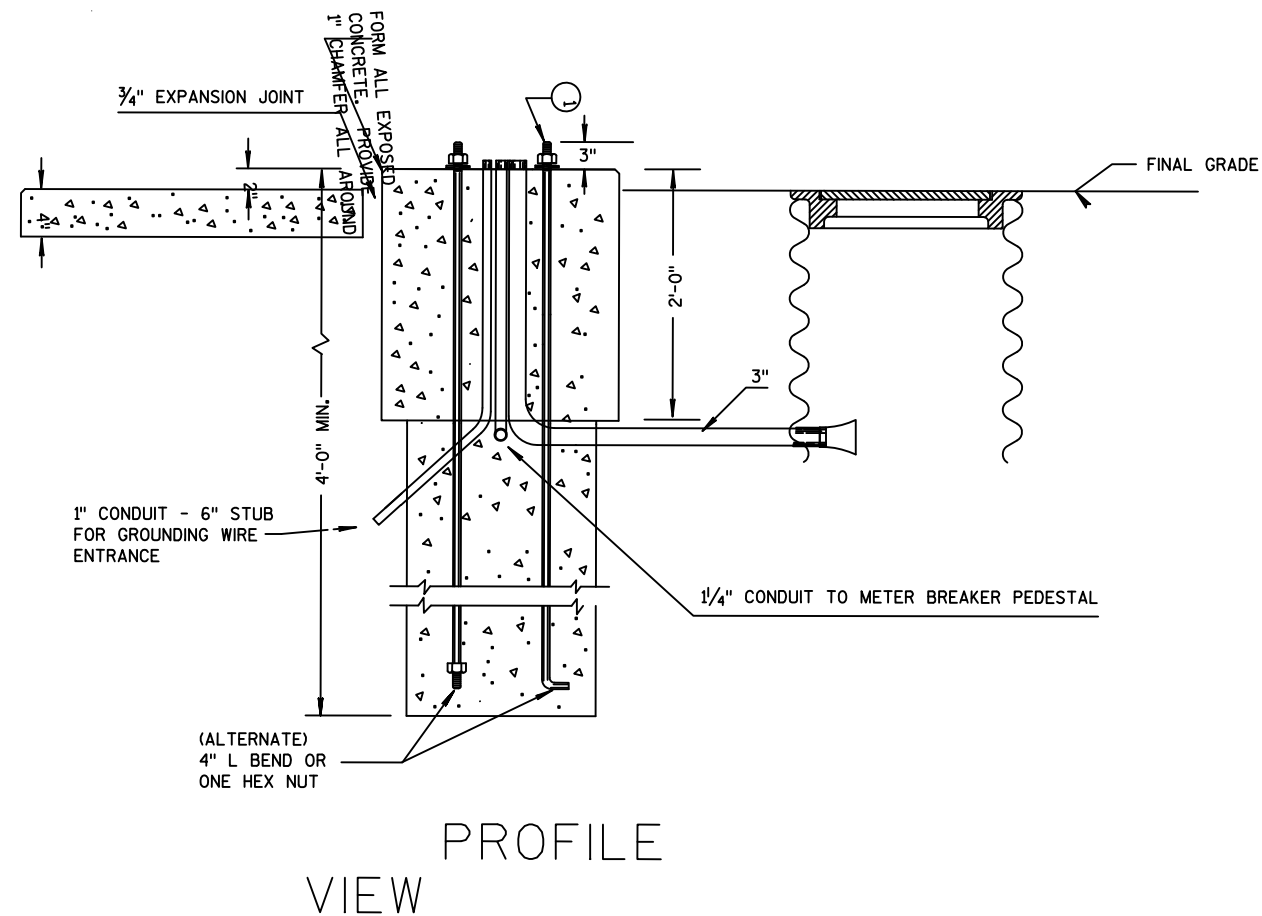
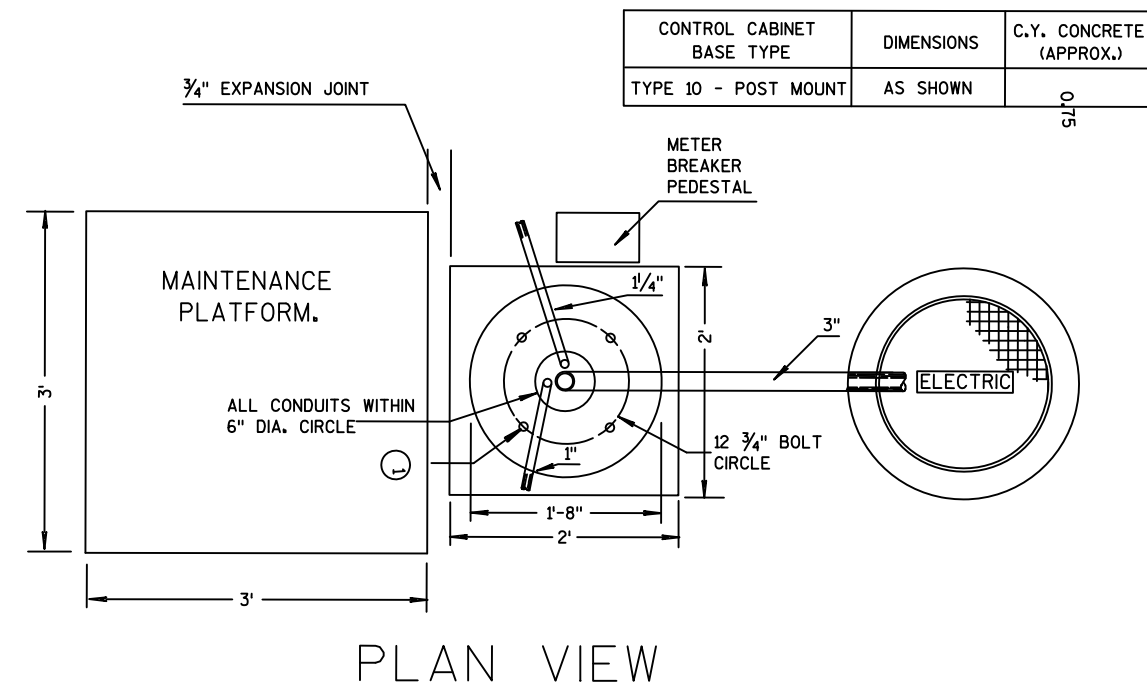
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SIGN-REMOVE EXISTING

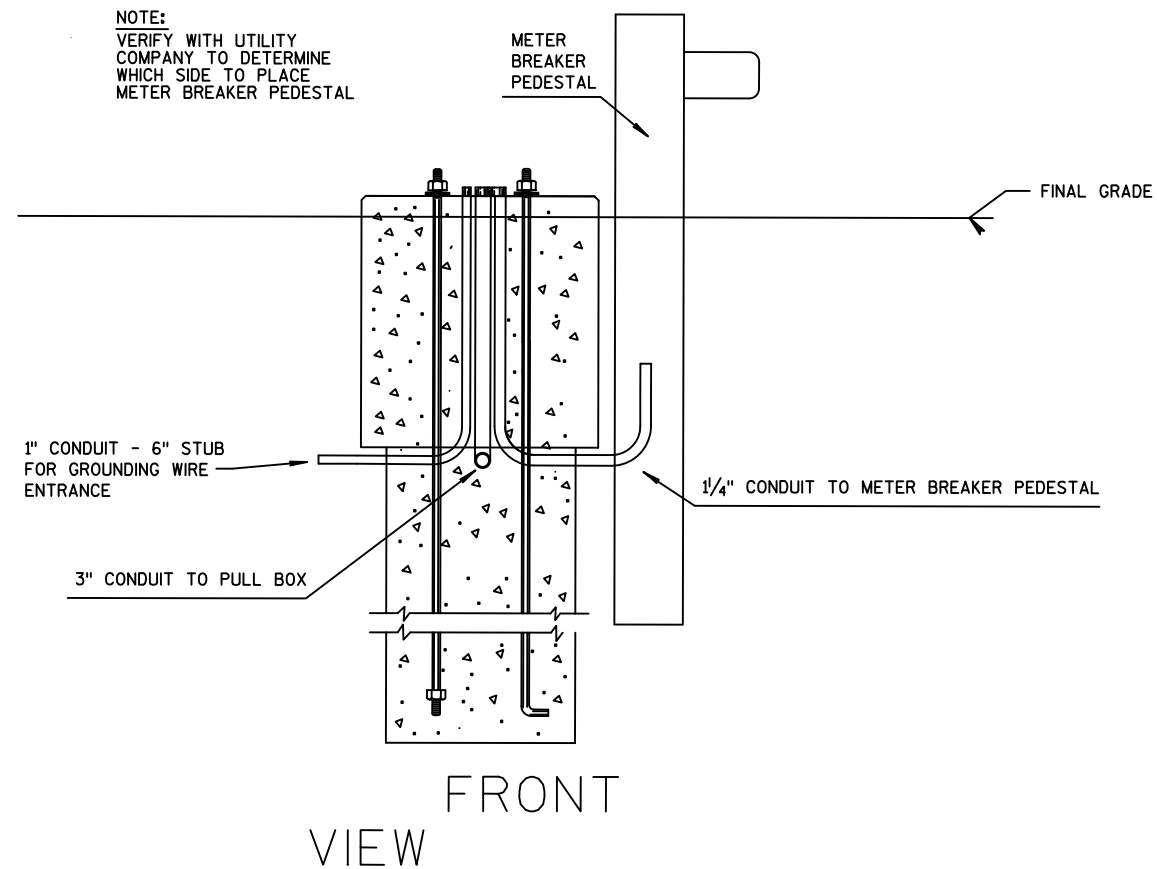
PLAN SHEET PRODUCED
BY WISDOT-NE REGION

PROJECT NO:4430-15-71	HWY:STH 57	COUNTY:DOOR	SIGN REMOVALS	SHEET	E
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NOTE:
VERIFY WITH UTILITY
COMPANY TO DETERMINE
WHICH SIDE TO PLACE
METER BREAKER PEDESTAL



GENERAL NOTES

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

WHEN REQUIRED TO CONNECT NONMETALLIC 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.

CONTROL CABINET BASE TOP SURFACES SHALL BE TROWEL FINISHED AND LEVEL.

WHEN A TYPE 10 CONTROL CABINET BASE IS USED TO POST MOUNT A CONTROL CABINET, A 36" SQUARE 4" THICK CONCRETE MAINTENANCE PLATFORM SHALL BE REQUIRED ON THE DOOR SIDE OF THE CABINET. THE TOP 1 INCH SHALL BE ABOVE FINISHED GRADE AND BE BROOM FINISHED AND LEVEL.

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

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

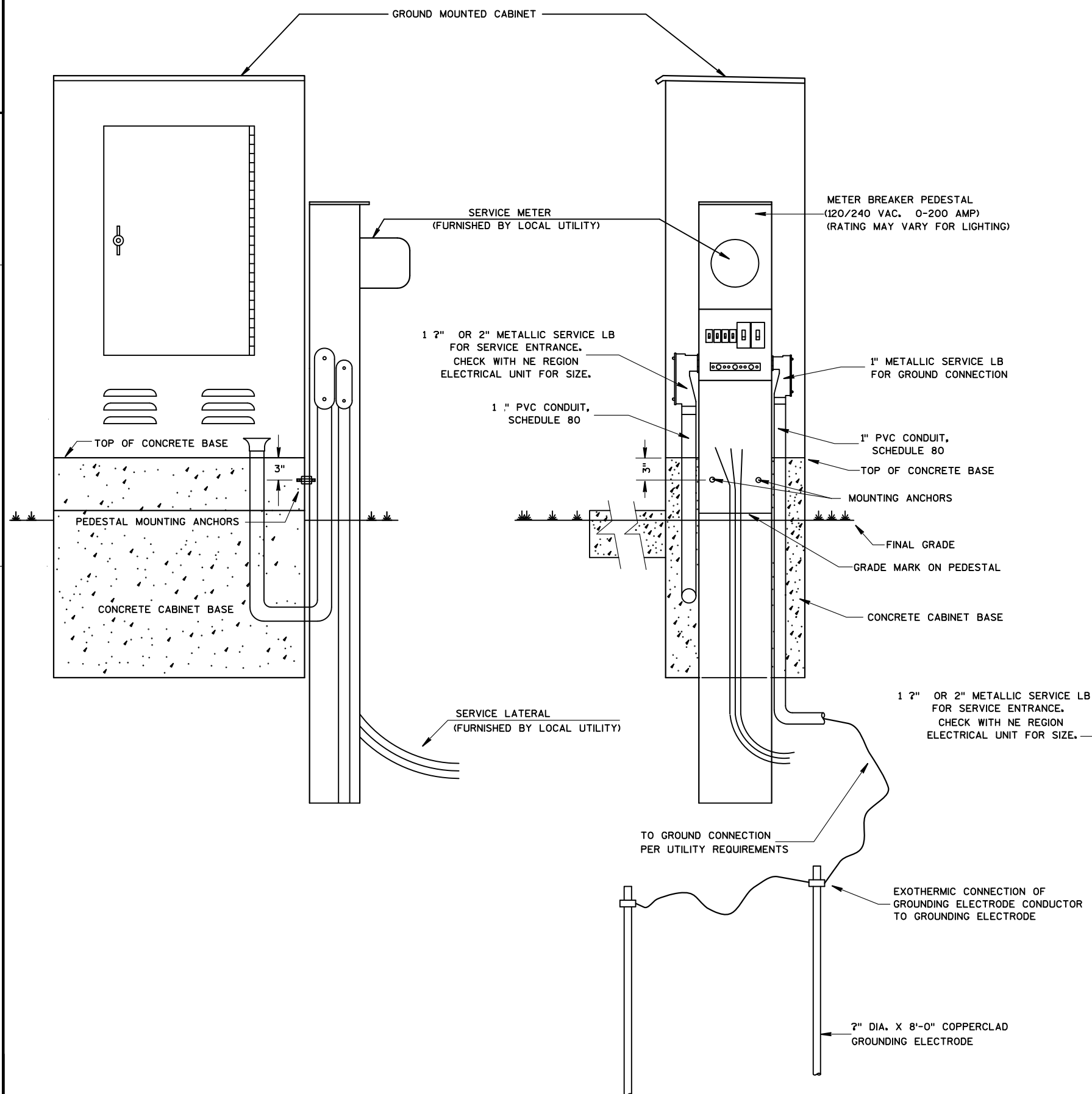
BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF THE CONCRETE BASE BEFORE INSTALLATION OF CABLE OR WIRE.

WHEN ANCHOR RODS USING THE ALTERNATE L BEND ARE FURNISHED FOR THE TYPE 10 BASE, THE 4" L BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH.

THE "L" BEND SHALL NOT BE THREADED.

STRAIGHT ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD.

FOUR (4) ANCHOR RODS, 1" DIA. X 3'-6"
ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 AND 641.2.2 OF THE STANDARD SPECIFICATIONS AND IN ACCORDANCE WITH A-449, OR ASTM. A-687 (GRADE 105).



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.

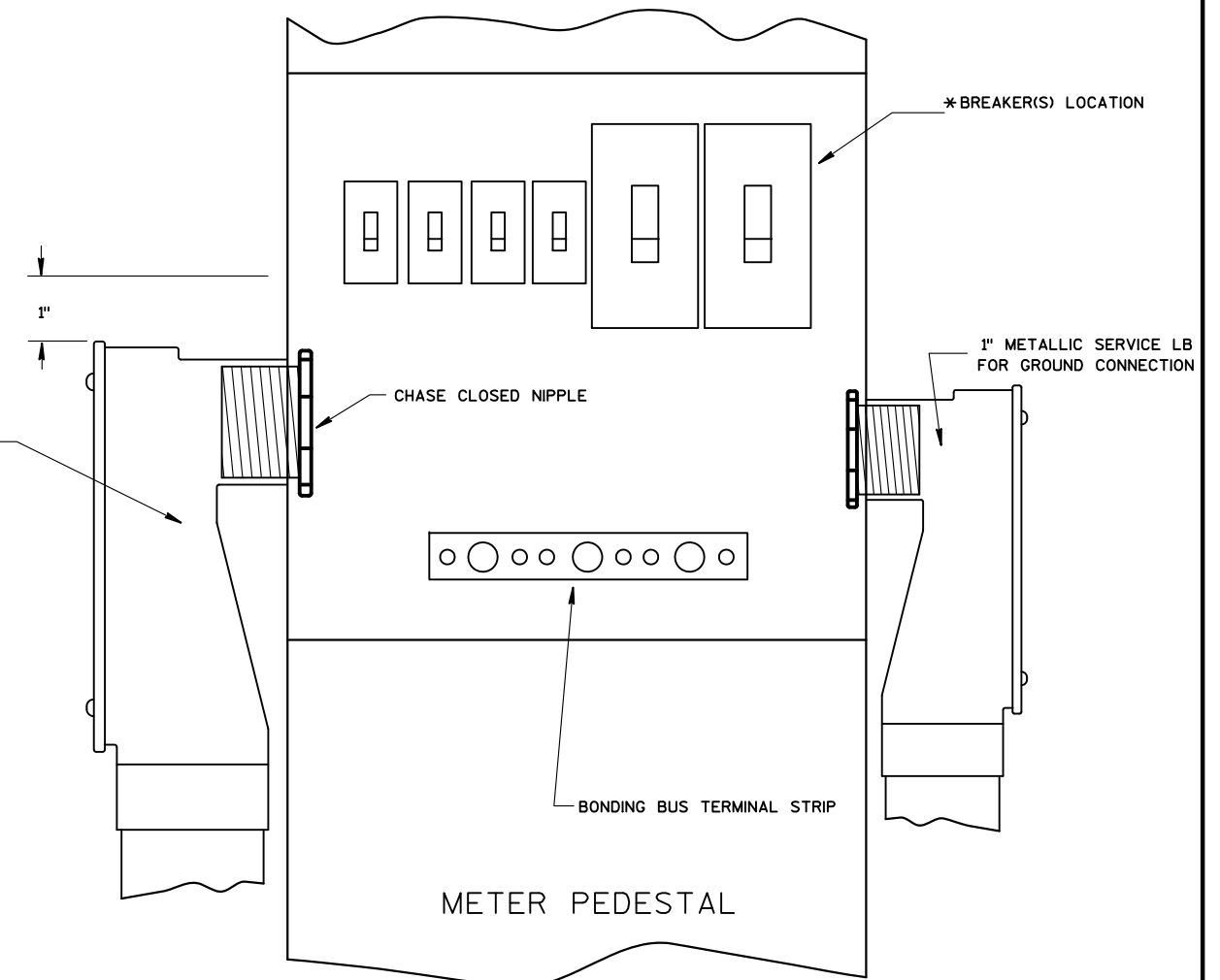
WHILE FLUSH MOUNTING IS THE MOST DESIRABLE MOUNTING CONFIGURATION UTILITY REQUIREMENTS MAY PRECLUDE THIS OPTION. CONTRACTOR MUST PROVIDE UTILITY APPROVED PEDESTAL AND INSTALL PER UTILITY AND MANUFACTURERS REQUIREMENTS.

SERVICE CONDUCTOR ENTRANCES SHALL BE RIGID METALLIC CONDUIT OR SCHEDULE 80 PVC, NIPPLES AND/OR CONDULETS AS REQUIRED. CONDUIT LB SHALL BE OF METALLIC SERVICE ENTRANCE TYPE.

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 NEC.

* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.



NOTES:

- 1) THERE ARE NO TRAFFIC CONTROL SHEETS FOR THIS STAGE AS STANDARD DETAIL DRAWINGS WILL ONLY BE USED.
- 2) FOR CLOSURES ALONG MAINLINE AND SIDE ROADS, REFER TO STANDARD DETAIL DRAWINGS FOR APPROPRIATE SIGNING AND TRAFFIC CONTROL DEVICES.
- 3) MAINTAIN A 3' AGGREGATE SHOULDER WITH A MINIMUM OF 3:1 SLOPES WHEN ROADWAY FULLY OPENS ON WEEKENDS.

TRAFFIC**STAGE 1A**

- TRAFFIC FOR STH 57 WILL BE UTILIZING ONE LANE DURING THE WEEK AND BOTH LANES ON WEEKENDS
- OUTSIDE STH 57 NB AND OUTSIDE STH 57 SB WILL BE CLOSED TO TRAFFIC
- CTH C WILL UTILIZE EXISTING TRAFFIC PATTERN

STAGE 1B

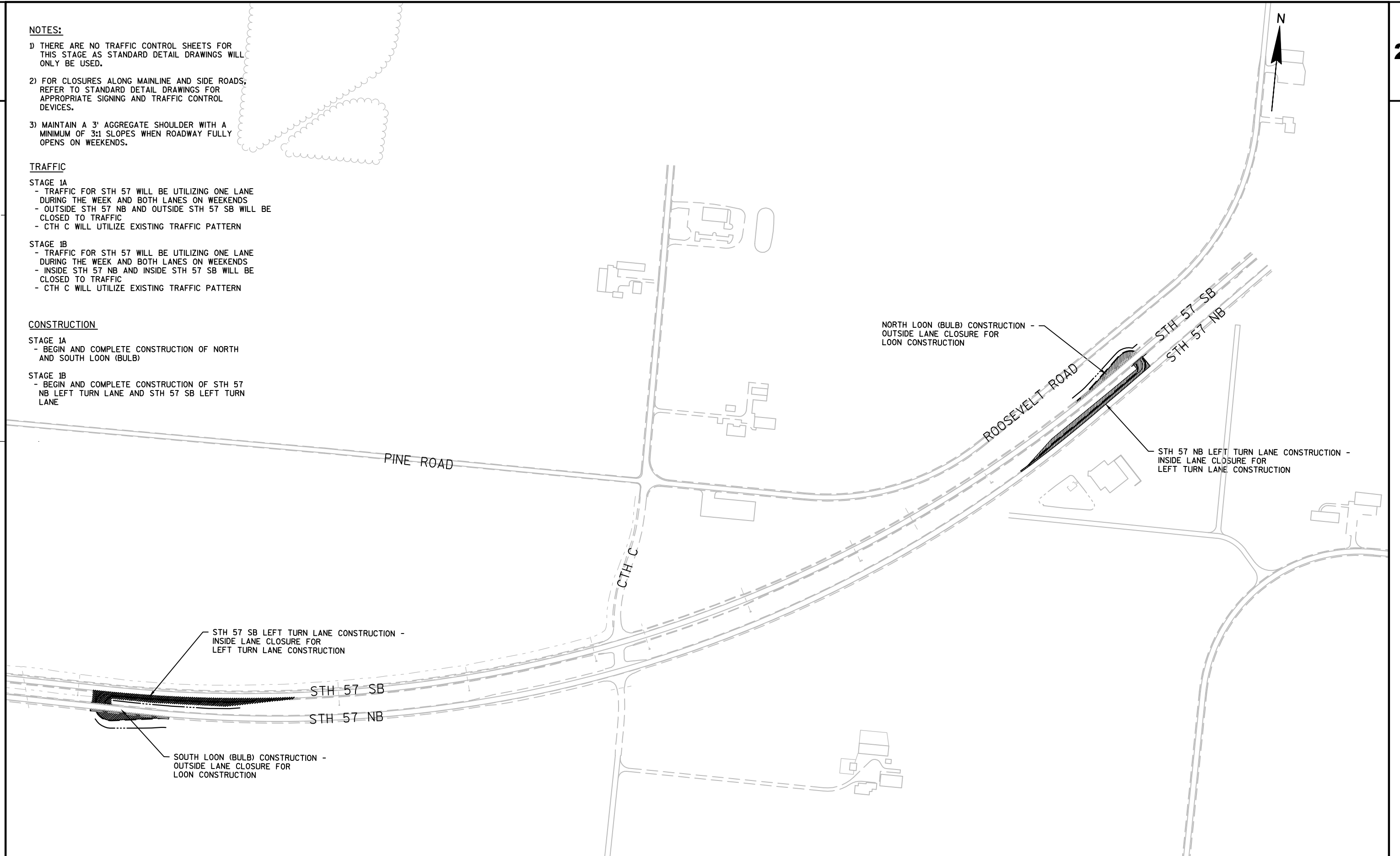
- TRAFFIC FOR STH 57 WILL BE UTILIZING ONE LANE DURING THE WEEK AND BOTH LANES ON WEEKENDS
- INSIDE STH 57 NB AND INSIDE STH 57 SB WILL BE CLOSED TO TRAFFIC
- CTH C WILL UTILIZE EXISTING TRAFFIC PATTERN

CONSTRUCTION**STAGE 1A**

- BEGIN AND COMPLETE CONSTRUCTION OF NORTH AND SOUTH LOON (BULB)

STAGE 1B

- BEGIN AND COMPLETE CONSTRUCTION OF STH 57 NB LEFT TURN LANE AND STH 57 SB LEFT TURN LANE



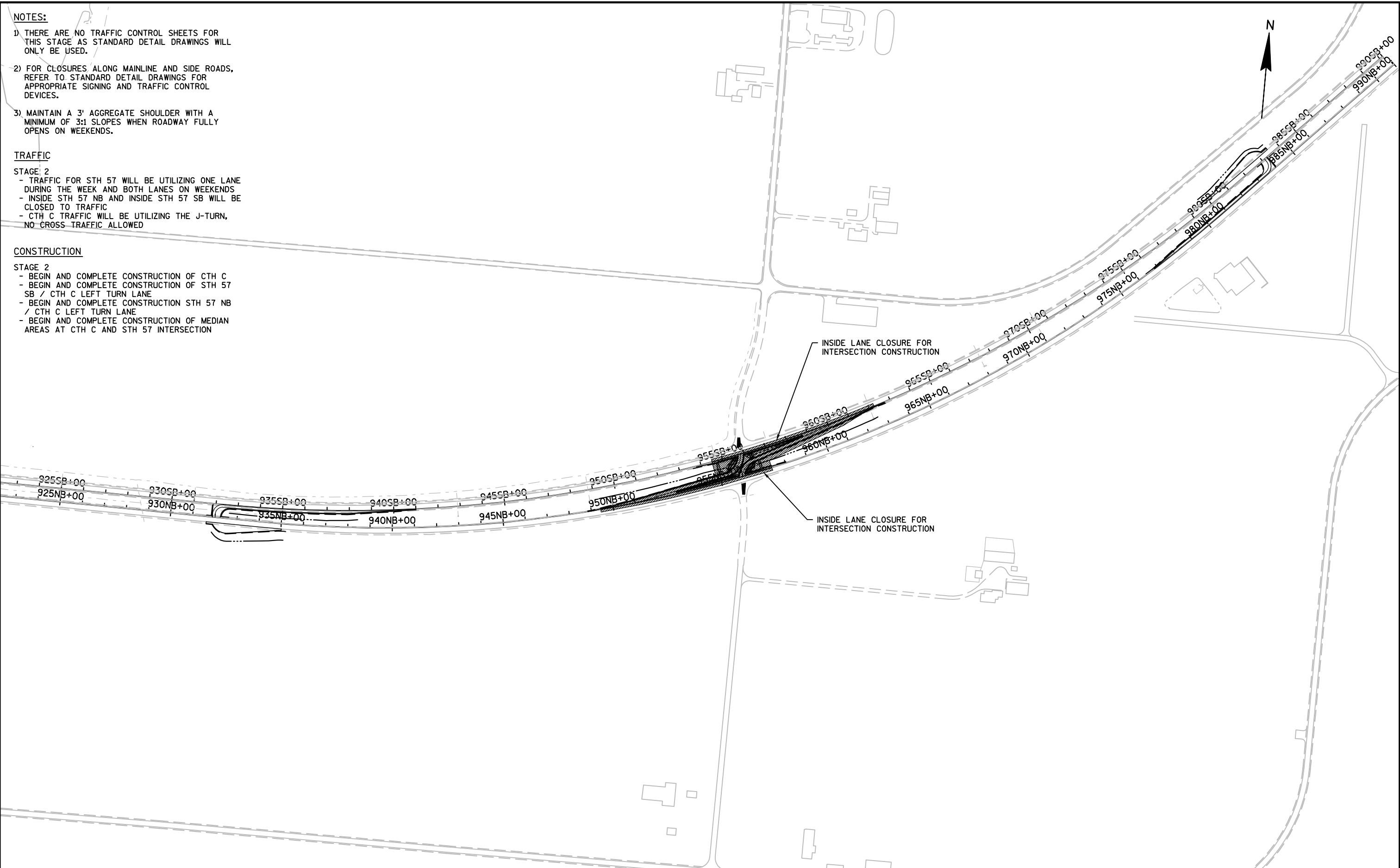
- NOTES:
- 1) THERE ARE NO TRAFFIC CONTROL SHEETS FOR THIS STAGE AS STANDARD DETAIL DRAWINGS WILL ONLY BE USED.
 - 2) FOR CLOSURES ALONG MAINLINE AND SIDE ROADS, REFER TO STANDARD DETAIL DRAWINGS FOR APPROPRIATE SIGNING AND TRAFFIC CONTROL DEVICES.
 - 3) MAINTAIN A 3' AGGREGATE SHOULDER WITH A MINIMUM OF 3:1 SLOPES WHEN ROADWAY FULLY OPENS ON WEEKENDS.

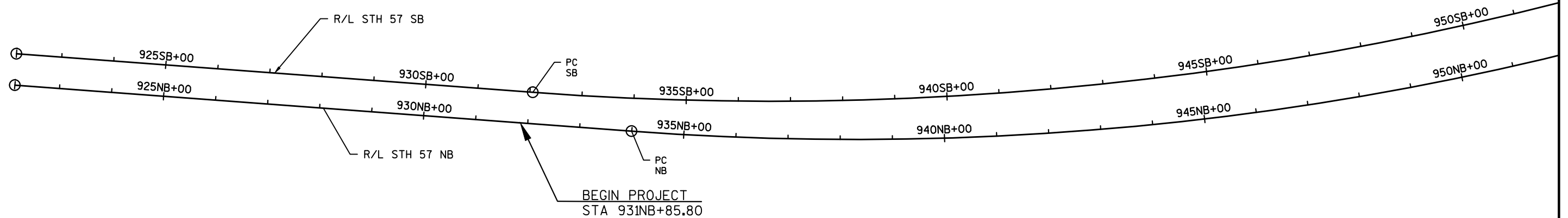
TRAFFIC

- STAGE 2
- TRAFFIC FOR STH 57 WILL BE UTILIZING ONE LANE DURING THE WEEK AND BOTH LANES ON WEEKENDS
 - INSIDE STH 57 NB AND INSIDE STH 57 SB WILL BE CLOSED TO TRAFFIC
 - CTH C TRAFFIC WILL BE UTILIZING THE J-TURN, NO CROSS TRAFFIC ALLOWED

CONSTRUCTION

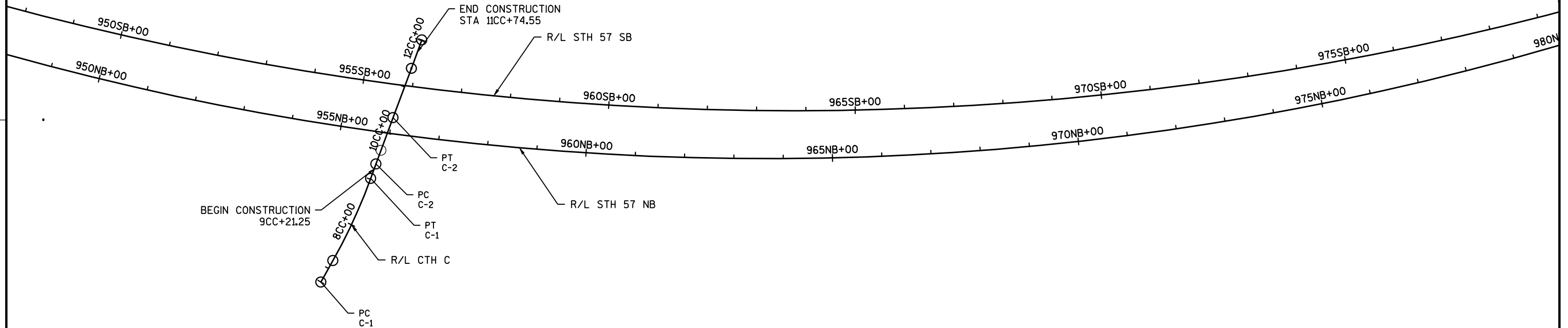
- STAGE 2
- BEGIN AND COMPLETE CONSTRUCTION OF CTH C
 - BEGIN AND COMPLETE CONSTRUCTION OF STH 57 SB / CTH C LEFT TURN LANE
 - BEGIN AND COMPLETE CONSTRUCTION STH 57 NB / CTH C LEFT TURN LANE
 - BEGIN AND COMPLETE CONSTRUCTION OF MEDIAN AREAS AT CTH C AND STH 57 INTERSECTION





Curve: NB
PC= 933+99.70
X= 428237.6858
Y= 115423.2706
PI= 958+70.24
X= 428304.1078
Y= 121152.4656
PT= 980+64.74
X= 432424.4550
Y= 117171.1560
R= 5729.580
DELTA= 46°39'1.44"
D= 1°0'0"
L= 4665.042
T= 2470.535

Curve: SB
PC= 932+05.47
X= 428043.6094
Y= 115485.7162
PI= 958+45.29
X= 428115.1251
Y= 121605.2983
PT= 981+89.98
X= 432517.1617
Y= 117353.6546
R= 6120.000
DELTA= 46°39'18.72"
D= 0°56'10.32"
L= 4984.503
T= 2639.817

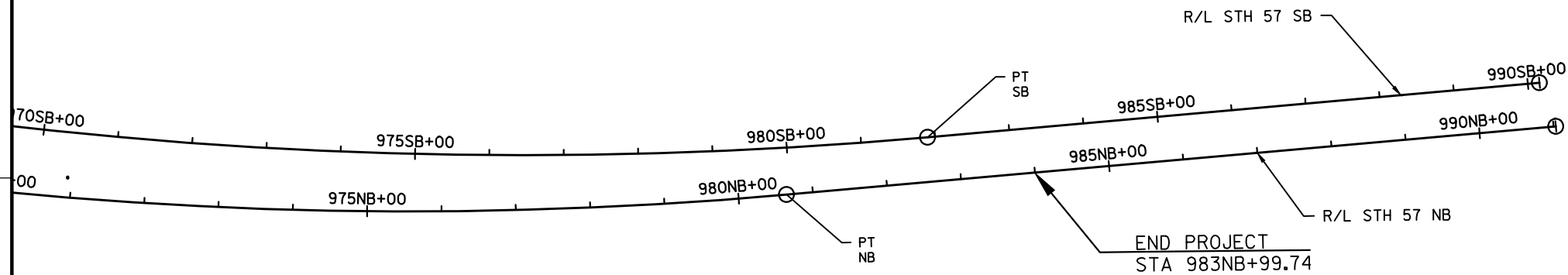
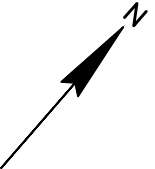


Curve: NB
PC= 933+99.70
X= 428237.6858
Y= 115423.2706
PI= 958+70.24
X= 428304.1078
Y= 121152.4656
PT= 980+64.74
X= 432424.4550
Y= 117171.1560
R= 5729.580
DELTA= 46°39'1.44"
D= 1°0'0"
L= 4665.042
T= 2470.535

Curve: SB
PC= 932+05.47
X= 428043.6094
Y= 115485.7162
PI= 958+45.29
X= 428115.1251
Y= 121605.2983
PT= 981+89.98
X= 432517.1617
Y= 117353.6546
R= 6120.000
DELTA= 46°39'18.72"
D= 0°56'10.32"
L= 4984.503
T= 2639.817

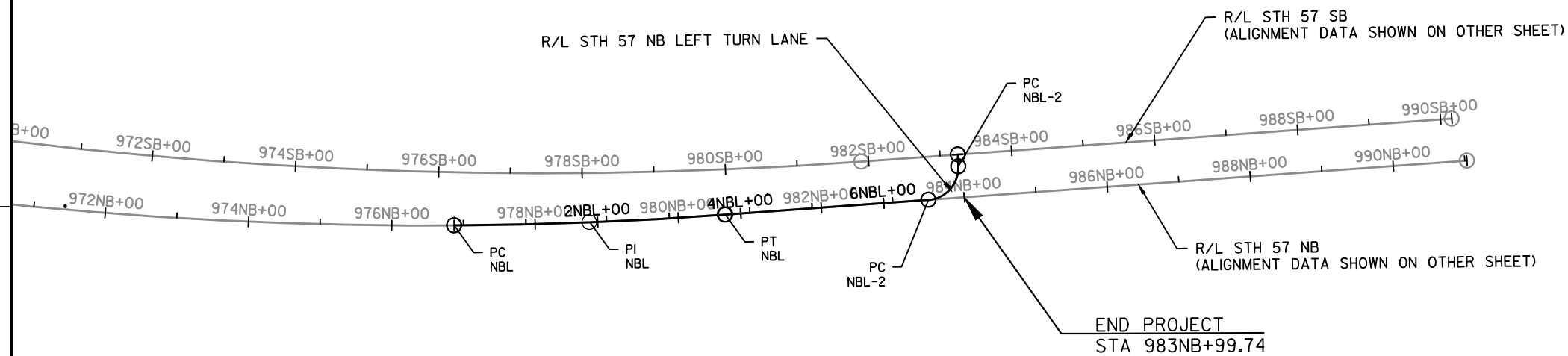
Curve: C-1
PC= 7+18.20
X= 430413.0193
Y= 115533.8147
PI= 8+10.28
X= 429276.3402
Y= 115539.9368
PT= 9+01.70
X= 430399.1824
Y= 115716.8613
R= 1136.696
DELTA= 9°15'46.8"
D= 5°2'26.16"
L= 183.769
T= 92.085

Curve: C-2
PC= 9+33.08
X= 430394.3396
Y= 115747.5961
PI= 9+83.22
X= 445938.8668
Y= 118196.9224
PT= 10+33.35
X= 430379.0481
Y= 115846.6951
R= 15736.312
DELTA= 0°21'54.36"
D= 0°21'50.76"
L= 100.272
T= 50.136

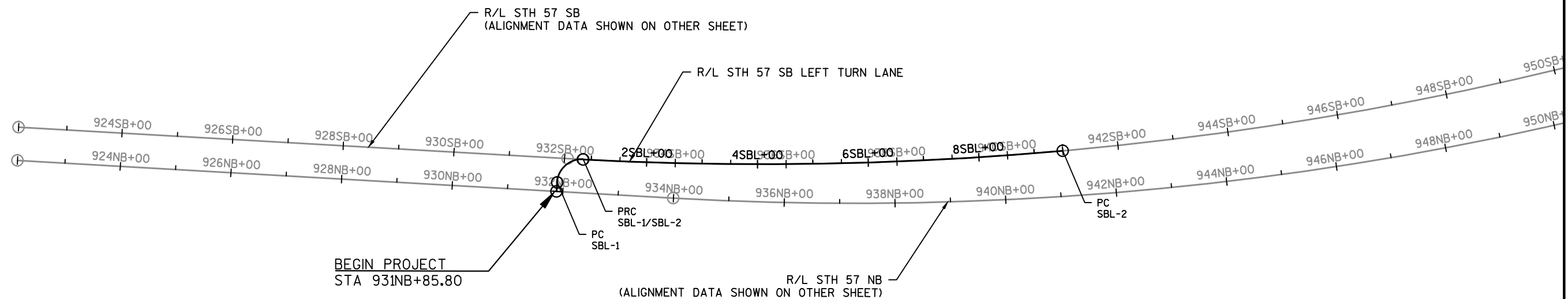


Curve: NB
PC= 933+99.70
X= 428237.6858
Y= 115423.2706
PI= 958+70.24
X= 428304.1078
Y= 121152.4656
PT= 980+64.74
X= 432424.4550
Y= 117171.1560
R= 5729.580
DELTA= 46°39'1.44"
D= 1°0'0"
L= 4665.042
T= 2470.535

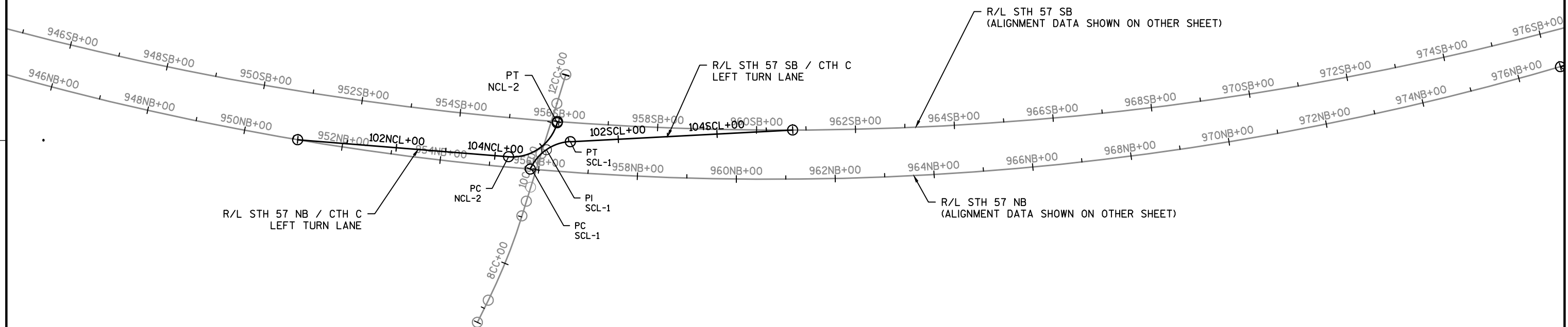
Curve: SB
PC= 932+05.47
X= 428043.6094
Y= 115485.7162
PI= 958+45.29
X= 428115.1251
Y= 121605.2983
PT= 981+89.98
X= 432517.1617
Y= 117353.6546
R= 6120.000
DELTA= 46°39'18.72"
D= 0°56'10.32"
L= 4984.503
T= 2639.817



Curve: NBL-1	Curve: NBL-2
PC= 0+00.00	PC= 6+62.69
X= 432153.3969	X= 432622.5995
Y= 116908.5351	Y= 117376.2936
PI= 1+88.81	PI= 7+06.39
X= 428304.2133	X= 432590.2291
Y= 121152.5748	Y= 117407.5531
PT= 3+77.48	PT= 7+32.05
X= 432424.4550	X= 432622.4256
Y= 117171.1560	Y= 117438.9917
R= 5729.580	R= 45.000
DELTA= 3°46'29.28"	DELTA= 88°19'2.28"
D= 1°0'00"	D= 127°19'26.40"
L= 377.483	L= 69.364
T= 188.810	T= 43.697



Curve: SBL-1	Curve: SBL-2
PC= 0+16.17	PRC= 0+85.79
X= 428026.8821	X= 428072.1799
Y= 115441.8960	Y= 115485.5125
PI= 0+60.12	PI= 5+19.49
X= 428071.8609	X= 428115.5715
Y= 115440.5136	Y= 121605.3587
PRC= 0+85.79	PT= 9+51.75
X= 428072.1799	X= 428935.6572
Y= 115485.5125	Y= 115540.5537
R= 45.000	R= 6120.000
DELTA= 88°38'44.88"	DELTA= 8°6'25.56"
D= 127°19'26.4"	D= 0°56'10.32"
L= 69.622	L= 865.952
T= 43.949	T= 433.700

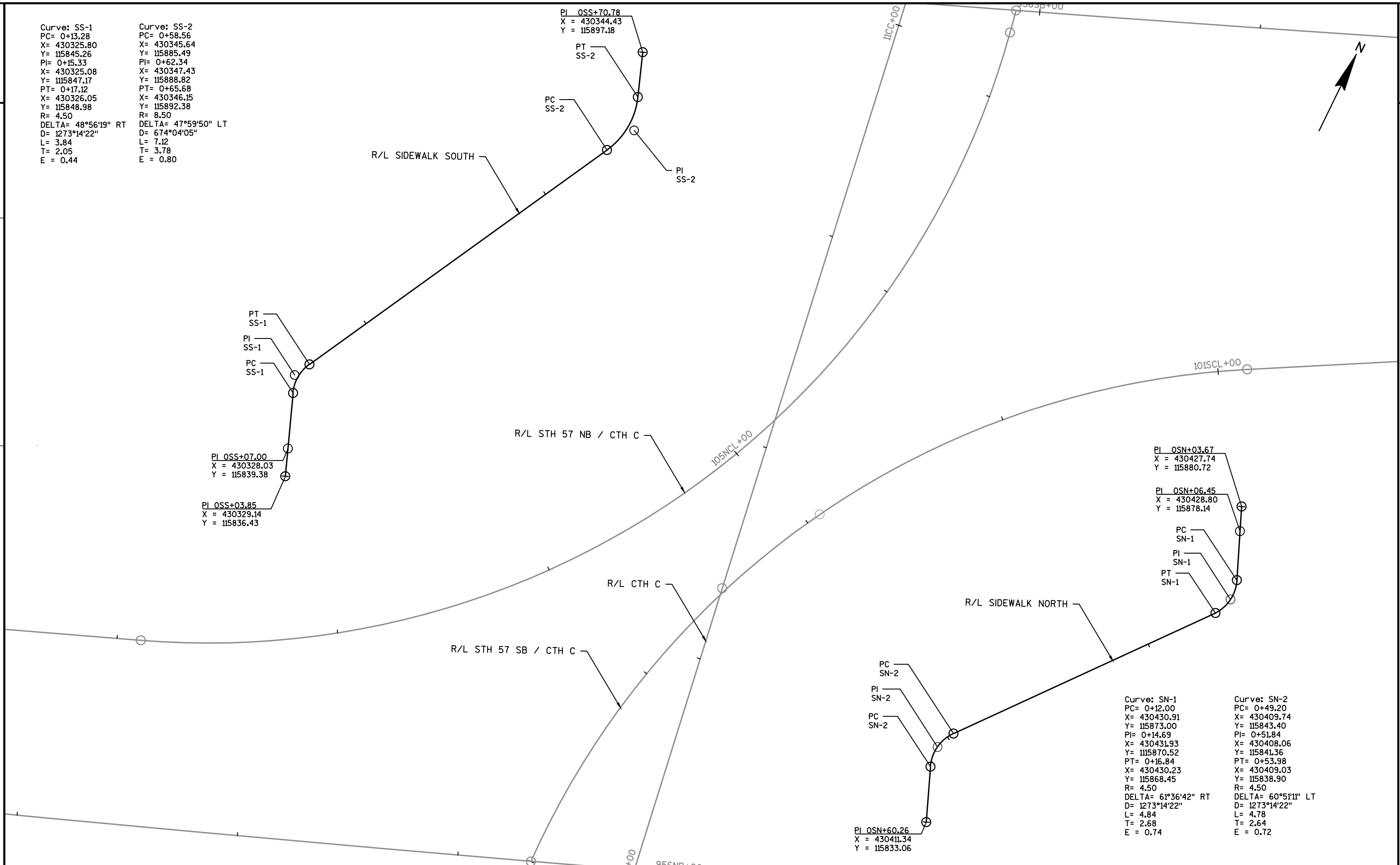


Curve: NCL
PC= 104+27.70
X= 430322.5981
Y= 115812.6171
PI= 105+05.43
X= 430288.3391
Y= 115900.1518
PT= 105+57.59
X= 430380.7506
Y= 115917.3593
R= 94.00
DELTA= 79°10'25.68"
D= 60°57'10.80"
L= 129.893
T= 77.727

Curve: SCL
PC= 100+00.00
X= 430373.1483
Y= 115809.4717
PI= 100+57.56
X= 430467.0928
Y= 115812.7007
PT= 101+03.30
X= 430421.5142
Y= 115894.9113
R= 94.000
DELTA= 62°57'50.4"
D= 60°57'10.80"
L= 103.299
T= 57.563

Curve: SS-1
PC= 0+13.28
X= 430325.80
Y= 115845.26
PI= 0+15.33
X= 430325.08
Y= 1115847.17
PT= 0+17.12
X= 430326.05
Y= 115848.98
R= 4.50
DELTA= 48°56'19" RT
D= 1273°14'22"
L= 3.84
T= 2.05
E = 0.44

Curve: SS-2
PC= 0+58.56
X= 430345.64
Y= 115885.49
PI= 0+62.34
X= 430347.43
Y= 115888.82
PT= 0+65.68
X= 430346.15
Y= 115892.38
R= 8.50
DELTA= 47°59'50" LT
D= 674°04'05"
L= 7.12
T= 3.78
E = 0.80



DATE 20MAY15			E S T I M A T E O F Q U A N T I T I E S			
LINE				1009-32-74	4430-15-71	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY	QUANTITY
0010	204.0100	Removing Pavement	SY	2,704.000		2,704.000
0020	204.0150	Removing Curb & Gutter	LF	278.000		278.000
0030	204.0170	Removing Fence	LF	274.000		274.000
0040	204.0220	Removing Inlets	EACH	1.000		1.000
0050	205.0100	Excavation Common	CY	3,813.000		3,813.000
0060	208.0100	Borrow	CY	4,305.000		4,305.000
0070	209.0100	Backfill Granular	CY	13.000		13.000
0080	213.0100	Finishing Roadway (project) 02. 4430-15-71	EACH	1.000		1.000
0090	305.0110	Base Aggregate Dense 3/4-Inch	TON	1,013.000		1,013.000
0100	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	6,720.000	50.000	6,670.000
0110	311.0110	Breaker Run	TON	3,000.000	100.000	2,900.000
0120	455.0105	Asphaltic Material PG58-28	TON	111.000		111.000
0130	455.0605	Tack Coat	GAL	434.000		434.000
0140	460.1101	HMA Pavement Type E-1	TON	2,021.000		2,021.000
0150	460.2000	Incentive Density HMA Pavement	DOL	1,294.000		1,294.000
0160	460.4000	HMA Cold Weather Paving	TON	1,185.000		1,185.000
0170	465.0315	Asphaltic Flumes	SY	52.000		52.000
0180	465.0400	Asphaltic Shoulder Rumble Strips	LF	3,086.000		3,086.000
0190	520.8000	Concrete Collars for Pipe	EACH	2.000		2.000
0200	522.0124	Culvert Pipe Reinforced Concrete Class III 24-Inch	LF	83.000		83.000
0210	522.1015	Apron Endwalls for Culvert Pipe Reinforced Concrete 15-Inch	EACH	2.000		2.000
0220	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	2.000		2.000
0230	601.0553	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type D	LF	1,773.000		1,773.000
0240	601.0600	Concrete Curb Pedestrian	LF	329.000		329.000
0250	602.0415	Concrete Sidewalk 6-Inch	SF	13,183.000		13,183.000
0260	602.0505	Curb Ramp Detectable Warning Field Yellow	SF	112.000		112.000
0270	606.0200	Riprap Medium	CY	12.000		12.000
0280	606.0300	Riprap Heavy	CY	5.000	5.000	
0290	608.0315	Storm Sewer Pipe Reinforced Concrete Class III 15-Inch	LF	427.000		427.000
0300	608.0318	Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	LF	14.000		14.000
0310	611.0627	Inlet Covers Type HM	EACH	9.000		9.000
0320	611.0642	Inlet Covers Type MS	EACH	1.000		1.000
0330	611.0654	Inlet Covers Type V	EACH	2.000		2.000
0340	611.2004	Manholes 4-FT Diameter	EACH	2.000		2.000
0350	611.3004	Inlets 4-FT Diameter	EACH	9.000		9.000
0360	611.3901	Inlets Median 1 Grate	EACH	1.000		1.000
0370	616.0100	Fence Woven Wire (height) 01. 5-FT	LF	274.000		274.000
0380	618.0100	Maintenance And Repair of Haul Roads (project) 02. 4430-15-71	EACH	1.000		1.000
0390	619.1000	Mobilization	EACH	1.000	0.015	0.985
0400	620.0300	Concrete Median Sloped Nose	SF	65.000		65.000
0410	624.0100	Water	MGAL	91.000		91.000
0420	625.0500	Salvaged Topsoil	SY	13,403.000		13,403.000
0430	628.1104	Erosion Bales	EACH	270.000	30.000	240.000
0440	628.1504	Silt Fence	LF	800.000	300.000	500.000
0450	628.1520	Silt Fence Maintenance	LF	700.000	200.000	500.000
0460	628.1905	Mobilizations Erosion Control	EACH	4.000	1.000	3.000

DATE 20MAY15		E S T I M A T E O F Q U A N T I T I E S				
LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1009-32-74 QUANTITY	4430-15-71 QUANTITY
0470	628. 1910	Mobilizations Emergency Erosion Control	EACH	4.000	1.000	3.000
0480	628. 2002	Erosion Mat Class I Type A	SY	13,403.000		13,403.000
0490	628. 6005	Turbidity Barriers	SY	30.000	30.000	
0500	628. 7005	Inlet Protection Type A	EACH	23.000		23.000
0510	628. 7010	Inlet Protection Type B	EACH	10.000		10.000
0520	628. 7020	Inlet Protection Type D	EACH	3.000		3.000
0530	628. 7560	Tracking Pads	EACH	4.000		4.000
0540	628. 7570	Rock Bags	EACH	30.000		30.000
0550	629. 0210	Fertilizer Type B	CWT	9.000		9.000
0560	630. 0120	Seeding Mixture No. 20	LB	362.000	150.000	362.000
0570	630. 0160	Seeding Mixture No. 60	LB	150.000		
0580	630. 0200	Seeding Temporary	LB	362.000		362.000
0590	633. 5200	Markers Culvert End	EACH	4.000		4.000
0600	634. 0612	Posts Wood 4x6-Inch X 12-FT	EACH	6.000		6.000
0610	634. 0614	Posts Wood 4x6-Inch X 14-FT	EACH	11.000		11.000
0620	634. 0616	Posts Wood 4x6-Inch X 16-FT	EACH	29.000		29.000
0630	634. 0618	Posts Wood 4x6-Inch X 18-FT	EACH	32.000		32.000
0640	637. 2210	Signs Type II Reflective H	SF	1,118.590		1,118.590
0650	637. 2230	Signs Type II Reflective F	SF	32.000		32.000
0660	638. 2602	Removing Signs Type II	EACH	34.000		34.000
0670	638. 3000	Removing Small Sign Supports	EACH	37.000		37.000
0680	642. 5401	Field Office Type D	EACH	1.000		1.000
0690	643. 0100	Traffic Control (project) 02. 4430-15-71	EACH	1.000		1.000
0700	643. 0300	Traffic Control Drums	DAY	8,970.000		8,970.000
0710	643. 0420	Traffic Control Barricades Type III	DAY	362.000		362.000
0720	643. 0705	Traffic Control Warning Lights Type A	DAY	725.000		725.000
0730	643. 0715	Traffic Control Warning Lights Type C	DAY	1,597.000		1,597.000
0740	643. 0800	Traffic Control Arrow Boards	DAY	179.000		179.000
0750	643. 0900	Traffic Control Signs	DAY	2,070.000		2,070.000
0760	643. 0920	Traffic Control Covering Signs Type II	EACH	4.000	50.000	4.000
0770	643. 1050	Traffic Control Signs PCMS	DAY	32.000		32.000
0780	645. 0120	Geotextile Fabric Type HR	SY	73.000		23.000
0790	646. 0106	Pavement Marking Epoxy 4-Inch	LF	5,849.000		5,849.000
0800	646. 0126	Pavement Marking Epoxy 8-Inch	LF	215.000		215.000
0810	646. 0600	Removing Pavement Markings	LF	4,520.000		4,520.000
0820	646. 0883. S	Pavement Marking Grooved Wet Reflective Tape 8-Inch	LF	3,204.000		3,204.000
0830	649. 0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	15,975.000		15,975.000
0840	650. 4000	Construction Staking Storm Sewer	EACH	13.000		13.000
0850	650. 4500	Construction Staking Subgrade	LF	3,844.000		3,844.000
0860	650. 5000	Construction Staking Base	LF	3,844.000		3,844.000
0870	650. 5500	Construction Staking Curb Gutter and Curb & Gutter	LF	835.000		835.000
0880	650. 6000	Construction Staking Pipe Culverts	EACH	1.000		1.000
0890	650. 9910	Constructi on Staki ng Supplemental Control (project) 02. 4430-15-71	LS	1.000		1.000
0900	650. 9920	Construction Staking Slope Stakes	LF	3,844.000		3,844.000
0910	652. 0225	Condui t Ri gi d Nonmetalli c Schedul e 40 2-Inch	LF	4,950.000		4,950.000
0920	652. 0235	Condui t Ri gi d Nonmetalli c Schedul e 40 3-Inch	LF	20.000		20.000
0930	652. 0615	Condui t Speci al 3-Inch	LF	680.000		680.000
0940	653. 0140	Pull Boxes Steel 24x42-Inch	EACH	23.000		23.000
0950	654. 0105	Concrete Bases Type 5	EACH	8.000		8.000

DATE 20MAY15		E S T I M A T E O F Q U A N T I T I E S				
LINE				1009-32-74	4430-15-71	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY	QUANTITY
0960	654.0220	Concrete Control Cabinet Bases Type 10	EACH	1.000		1.000
0970	655.0610	Electrical Wire Lighting 12 AWG	LF	1,200.000		1,200.000
0980	655.0615	Electrical Wire Lighting 10 AWG	LF	21,420.000		21,420.000
0990	656.0200	Electrical Service Meter Breaker	LS	1.000		1.000
		Pedestal (Location) 02. 4430-15-71				
1000	657.0255	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	8.000		8.000
1010	657.0322	Poles Type 5-Aluminum	EACH	8.000		8.000
1020	657.0710	Luminaire Arms Truss Type 4 1/2-Inch Clamp 12-FT	EACH	10.000		10.000
1030	659.1115	Luminaires Utility LED A	EACH	10.000		10.000
1040	690.0150	Sawing Asphalt	LF	226.000		226.000
1050	690.0250	Sawing Concrete	LF	1,741.000		1,741.000
1060	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,200.000		1,200.000
1070	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	600.000		600.000
1080	SPV.0165	Special 01. Weir Expansion	SF	120.000	120.000	

BASE AGGREGATE ITEMS		
	305.0120	311.0110
	BASE	
	AGGREGATE	
	DENSE	BREAKER
	1 1/4-INCH	RUN
ROADWAY	TON	TON
STAGE 2		
MITIGATION SITE	50	100
STAGE 2 TOTAL	50	100
PROJECT 1009-32-74 TOTAL	50	100

RIPRAP		
	606.0300	645.0120
	RIPRAP	GEOTEXTILE
	HEAVY	FABRIC
	TYPE	HR
ROADWAY	CY	SY
STAGE 2		
MITIGATION SITE	5	50
STAGE 2 SUBTOTALS	5	50
PROJECT 1009-32-74 TOTAL	5	50

FINISHING MATERIALS AND EROSION CONTROL

	628.1104	628.1504	628.1520	628.1905	628.1910	628.6005	630.0160
				MOBILIZATIONS			
				MOBILIZATIONS	EMERGENCY		SEEDING
	EROSION		SILT FENCE	EROSION	EROSION	TURBIDITY	MIXTURE
	BALES	SILT FENCE	MAINTENANCE	CONTROL	CONTROL	BARRIERS	NO. 60
ROADWAY	EACH	LF	LF	EACH	EACH	SY	LB
STAGE 2							
MITIGATION SITE	30	300	200	1	1	30	150
STAGE 2 SUBTOTAL	30	300	200	1	1	30	150
PROJECT 1009-32-74 TOTAL	30	300	200	1	1	30	150

WEIR EXPANSION

	SPV.0165.01
ROADWAY	SF
MITIGATION SITE	120
PROJECT 1009-32-74 TOTAL	120

3

REMOVING PAVEMENT

		204.0100 REMOVING PAVEMENT SY
ROADWAY	STATION	
STAGE 2		
STH 57 / CTH C INTERSECTION	950NB+43 - 962NB+68	2,584
CTH C	9CC+21 - 9CC+67	66
	11CC+36 - 11CC+75	54
STAGE 2 SUBTOTAL		2,704
PROJECT 4430-15-71 TOTAL		2,704

REMOVING DRAINAGE ITEMS

			204.0220 REMOVING INLETS EACH
ROADWAY	STATION	OFFSET	
STAGE 2			
STH 57 SB	957SB+15	55.0' RT	1
STAGE 2 SUBTOTAL			1
PROJECT 4430-15-71 TOTAL			1

BACKFILL GRANULAR

			209.0100 BACKFILL GRANULAR CY	COMMENTS
ROADWAY	STATION	OFFSET		
STAGE 1				
STH 57 NB LEFT TURN LANE	982SB+57 - 983SB+45	RT	13	24" CULVERT PIPE
STAGE 1 SUBTOTAL			13	
PROJECT 4430-15-71 TOTAL			13	

REMOVING CURB AND GUTTER

		204.0150 LF
ROADWAY	STATION	OFFSET
STAGE 2		
CTH C	10CC+00 - 10CC+72	LT
	10CC+31 - 11CC+02	RT
STAGE 2 SUBTOTAL		278
PROJECT 4430-15-71 TOTAL		278

REMOVING FENCE

		204.0170 REMOVING FENCE LF
ROADWAY	STATION	
STAGE 1		
STH 57 SB	980SB+60 - 983SB+34	274
STAGE 1 SUBTOTAL		274
PROJECT 4430-15-71 TOTAL		274

FINISHING ROADWAY
(PROJECT 4430-15-71)

		213.0100 FINISHING ROADWAY 4430-15-71 EACH
ROADWAY		
PROJECT 4430-15-71		1
PROJECT 4430-15-71 TOTAL		1

3

Division	From/To Station	Location	Excavation Common (CY) (1) 205.0100		Structure Excavation (CY) (6)	Excavation Marsh (CY) (7) 205.0400	Unexpande d Fill (CY)	Expanded Fill (CY) 1.20	Borrow (CY) (4) 208.0100	Mass Ordinate +/- (5)	Comment:
			Cut (CY) (2)	EBS (CY) (3)							
1	931NB+76 - 935NB+13	STH 57 NB LOON	293	0	0	0	1,126	1,351	1,351	-1,058	
	0NBL+03 - 7NBL+38	STH 57 NB LEFT TURN LANE	378	0	0	0	251	301	301	77	
	979SB+66 - 983SB+46	STH 57 SB LOON	757	0	0	0	430	516	516	241	
	0SBL+01 - 9SBL+50	STH 57 SB LEFT TURN LANE	687	0	0	0	683	820	820	-132	
Project 4430-15-71 - Division 1 Subtotal			2,115	0	0	0	2,490	2,987	2,987	-872	
Project 4430-15-71 - Division 1 Total			2,115		0	0			2,987		
2	948NB+85 - 958NB+04	STH 57 NB CURB	795	0	0	0	17	21	21	774	
	953SB+63 - 962SB+74	STH 57 SB CURB	521	0	0	0	580	697	697	-175	
	101NCL+90 - 105NCL+40	STH 57 NB / CTH C LEFT TURN LANE	152	0	0	0	146	175	175	-23	
	100SCL+28 - 103SCL+49	STH 57 SB / CTH C LEFT TURN LANE	162	0	0	0	334	401	401	-239	
	9CC+27 - 11CC+70	CTH C	24	0	0	0	0	0	0	24	
	0SN+08 - 0SN+56	SIDEWALK NORTH	32	0	0	0	0	0	0	32	
	0SS+08 - 0SS+69	SIDEWALK SOUTH	11	0	0	0	20	24	24	-13	
Project 4430-15-71 - Division 2 Subtotal			1,698	0	0	0	1,098	1,318	1,318	380	
Project 4430-15-71 - Division 2 Total			1,698		0	0			1,318		
Project 4430-15-71 Totals			3,813		0				4,305	-492	

- 1) Excavation Common = Cut + EBS Excavation. Item number 205.0100.
- 2) Cut volume includes concrete and asphaltic surface material.
- 3) EBS Excavation to be backfilled with roadway embankment unless otherwise noted in plans.
- 4) Borrow = (Fill + EBS Excavation)
- 5) The Mass Ordinate is calculated by division. A positive quantity indicates an excess of material within the Division and a negative quantity indicates a shortage of material within the Division. Structure Excavation is not included.
Mass Ordinate = Cut - Fill. The Mass Ordinate is for information purposes only as Common Excavation and Roadway Embankment are not balanced for quantity purposes and does not guarantee the quality of Common Excavation, and if it can be reused onsite. All EBS material is assumed to be wasted offsite.
- 6) Structure Excavation limits for Retaining Wall construction are shown in the cross sections and are assumed to be 70% of the retaining wall height. This is for informational purposes only, and will vary depending on shop drawing design.
- 7) Excavation Marsh limits as identified in the cross sections. All marsh material assumed to be wasted offsite. See marsh excavation and trench detail for fill requirements.
- 8) The estimated area outside the 1:1 fill slopes where excavated EBS or excess topsoil material is placed.
- 9) Expanded Fill. Factor = 1.20

BASE AGGREGATE ITEMS				
	305.0110	305.0120	311.0110	624.0100
	BASE	BASE		
	AGGREGATE	AGGREGATE	BREAKER	
	DENSE	DENSE	RUN	WATER
	3/4-INCH	1 1/4-INCH		
ROADWAY	TON	TON	TON	MGAL
STAGE 1				
STH 57 NB LEFT TURN LANE	79	880	--	11
STH 57 SB LEFT TURN LANE	101	1,007	--	13
STH 57 NORTH LOON	56	514	--	7
STH 57 SOUTH LOON	53	680	--	8
STAGE 1 TOTAL	288	3,081	--	39
STAGE 2				
STH 57 NB / CTH C TURN LANE	270	1,318	--	19
STH 57 SB / CTH C TURN LANE	324	1,252	--	19
STH 57 NB CURB	13	159	--	2
STH 57 SB CURB	15	173	--	3
CTH C	7	81	--	1
STAGE 2 TOTAL	629	2,983	--	44
UNDISTRIBUTED	96	606	2,900	8
PROJECT 4430-15-71 TOTAL	1,013	6,670	2,900	91

* BREAKER RUN QUANTITIES SHOWN IN CASE NEEDED FOR CONSTRUCTION PURPOSES

ASPHALT ITEMS						
	455.0105	455.0605	460.1101	460.4000	465.0315	465.0400
	ASPHALTIC MATERIAL	TACK	HMA PAVEMENT	HMA COLD	ASPHALTIC	ASPHALTIC SURFACE
	PG 58-28	COAT	TYPE E-1	WEATHER PAVING	FLUMES	RUMBLE STRIPS
ROADWAY	TON	GAL	TON	TON	SY	LF
STAGE 1						
<u>STH 57 NB LEFT TURN LANE</u>	18	70	325	81	--	698
<u>STH 57 SB LEFT TURN LANE</u>	20	77	357	89	--	902
<u>STH 57 NORTH LOON</u>	9	37	172	43	--	216
<u>STH 57 SOUTH LOON</u>	14	56	261	65	--	215
STAGE 1 SUBTOTAL	61	240	1,115	279	--	2,031
STAGE 2						
<u>STH 57 NB / CTH C TURN LANE</u>	25	98	459	459	29	435
<u>STH 57 SB / CTH C TURN LANE</u>	24	93	433	433	23	620
<u>CTH C</u>	1	3	14	14	--	--
STAGE 2 SUBTOTAL	50	194	906	906	52	1,055
PROJECT 4430-15-71 TOTAL	111	434	2,021	1,185	52	3,086

CONCRETE ITEMS					
	601.0553	601.0600	602.0505	602.0415	620.0300
	CONCRETE CURB AND	CONCRETE	CURB RAMP DETECTABLE	CONCRETE	CONCRETE
	GUTTER 4-INCH SLOPED	CURB	WARNING FIELD	SIDEWALK	MEDIAN SLOPED
	36-INCH TYPE A	PEDESTRIAN	YELLOW	6-INCH	NOSE
ROADWAY	LF	LF	SF	SF	SF
STAGE 2					
<u>STH 57 NB / CTH C TURN LANE</u>	483	159	56	5,646	26
<u>STH 57 SB / CTH C TURN LANE</u>	434	170	56	7,321	26
<u>STH 57 NB</u>	365	--	--	--	--
<u>STH 57 SB</u>	370	--	--	--	--
<u>CTH C</u>	121	--	--	216	13
STAGE 2 SUBTOTAL	1,773	329	112	13,183	65
PROJECT 4430-15-71 TOTAL	1,773	329	112	13,183	65

RIPRAP					
				606.0200	645.0120
				RIPRAP	GEOTEXTILE
				MEDIUM	FABRIC
				CY	TYPE HR
ROADWAY	STATION	STRUCTURE	OFFSET		SY
STAGE 1					
<u>STH 57 NB LEFT TURN LANE</u>	7NBL+22	CULVERT	22.1' RT	4	8
STAGE 1 SUBTOTALS				4	8
STAGE 2					
<u>STH 57 NB / CTH C TURN LANE</u>	101NCL+95	END1	46.8' LT	3	6
<u>STH 57 SB / CTH C TURN LANE</u>	102SCL+15	END2	39.1' LT	3	6
STAGE 2 SUBTOTALS				6	12
UNDISTRIBUTED				2	3
PROJECT 4430-15-71 TOTAL				12	23

GENERAL NOTES

- 1) STATIONS AND OFFSETS ARE TO THE CENTER OF STRUCTURES OR TO THE APRON END OF ENDWALLS UNLESS OTHERWISE NOTED.
- 2) RIM ELEVATIONS ARE GIVEN AT THE FLANGE LINE FOR INLET GRATES OR THE CENTER OF THE MANHOLE COVER FOR MANHOLES UNLESS OTHERWISE NOTED.
- 3) STRUCTURE DEPTH = RIM ELEVATION - INVERT
- 4) STRUCTURE CONSTRUCTED BY OTHERS WITH COVER PLATES LEFT IN PLACE. CONTRACTOR TO PROVIDE 0.5' ADJUSTING RINGS AND CASTING AS SPECIFIED
- 5) PROVIDE 0.5' ADJUSTING RINGS WHERE ONLY A NEW COVER IS CALLED FOR. INCIDENTAL TO COVER.

CULVERT PIPE ITEMS

							522.0124	522.1024	633.5200*
							CULVERT PIPE REINFORCED CONCRETE CLASS III 24-INCH	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH	MARKERS CULVERT END
STATION	INLET END OFFSET	ELEVATION	STATION	DISCHARGE END OFFSET	ELEVATION	SLOPE	LF	EACH	EACH
6NBL+40	34.8' LT	754.21	7NBL+23	22.0' LT	753.63	0.71%	83	2	2
PROJECT 4330-15-71 TOTALS							83	2	2

* QUANTITIES SHOWN ELSEWHERE

MAINTENANCE AND REPAIR OF HAUL ROADS

		618.0100
		4430-15-71
ROADWAY		EACH
UNDISTRIBUTED		1
PROJECT 4430-15-71 TOTAL		1

STORM SEWER ITEMS

					608.0315	608.0318
					STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH
FROM STR	TO STR	INVERT ELEV FT	DISCH ELEV FT	SLOPE	LF	LF
STAGE 2						
100	101	742.75	742.53	0.85%	26	--
101	102	742.53	742.14	0.91%	43	--
102	CC1	742.14	741.48	1.05%	63	--
104	105	744.75	744.68	0.41%	17	--
105	102	744.68	744.38	0.65%	46	--
103	END1	743.02	742.76	0.52%	50	--
106	107	742.29	742.14	0.79%	19	--
107	110	742.14	742.07	0.41%	17	--
110	108	741.97	741.91	0.40%	15	--
108	109	741.91	741.32	0.65%	91	--
109	CC2	741.32	741.20	0.86%	--	14
111	END2	744.93	744.74	0.47%	40	--
PROJECT 4430-15-71 TOTAL					427	14

STORM SEWER STRUCTURES														
						520.8000	522.1015	611.0654	611.0627	611.0642	611.2004	611.3004	611.3901	633.5200*
			FLANGE			CONCRETE	APRON ENDWALLS				MANHOLES	INLETS	INLETS	
			OR	LOWEST		COLLARS	FOR CULVERT PIPE	INLET	INLET	INLET	4-FT	4-FT	MEDIAN 1	MARKERS
			RIM	INVERT	DEPTH	FOR PIPE	REINFORCED	COVERS	COVERS	COVERS	DIAMETER	DIAMETER	GRATE	CULVERT
			ELEV			CONCRETE	CONCRETE	TYPE V	TYPE HM	TYPE MS				END
STRUCTURE	STATION	OFFSET				EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
NUMBER														
STAGE 2														
100	105NCL+48	0.9' RT	748.16	742.75	4.66	--	--	--	1	--	--	1	--	--
101	105NCL+38	23.5' LT	747.79	742.53	4.51	--	--	--	1	--	--	1	--	--
102	104NCL+76	39.6' LT	747.39	742.14	4.50	--	--	1	--	--	1	--	--	--
CC1	103NCL+91	39.4' LT	--	741.48	--	1	--	--	--	--	--	--	--	--
103	101NCL+94	6.7' RT	746.81	743.02	3.04	--	--	--	1	--	--	1	--	--
END1	101NCL+95	46.8' LT	--	742.76	--	--	1	--	--	--	--	--	--	1
104	104NCL+31	0.9' RT	748.31	744.75	2.81	--	--	--	1	--	--	1	--	--
105	104NCL+48	0.9' RT	748.39	744.68	2.96	--	--	--	1	--	--	1	--	--
106	101SCL+15	0.9' LT	747.63	742.29	4.59	--	--	--	1	--	--	1	--	--
107	100SCL+97	0.9' LT	747.64	742.14	4.75	--	--	--	1	--	--	1	--	--
108	100SCL+97	30.7' RT	747.19	741.91	4.53	--	--	1	--	--	1	--	--	--
109	101SCL+89	37.3' RT	744.64	741.91	1.81	--	--	--	--	1	--	--	1	--
110	100SCL+93	15.4' RT	747.34	742.07	4.35	--	--	--	1	--	--	1	--	--
111	102SCL+15	0.9' LT	748.26	744.93	2.41	--	--	--	1	--	--	1	--	--
END2	102SCL+15	39.1' RT	--	744.74	--	--	1	--	--	--	--	--	--	1
CC2	101SCL+90	24.7' RT	--	741.20	--	1	--	--	--	--	--	--	--	--
PROJECT 4430-15-71 TOTALS						2	2	2	9	1	2	9	1	2

* QUANTITIES SHOWN ELSEWHERE

WOVEN WIRE FENCE		
ROADWAY	STATION	616.0100 5- FEET LF
STAGE 1		
STH 57 SB	980SB+60 - 983SB+34	274
STAGE 1 SUBTOTAL		274
PROJECT 4430-15-71 TOTAL		274

TRACKING PADS	
ROADWAY	628.7560 TRACKING PADS EACH
UNDISTRIBUTED	4
PROJECT 4430-15-71 TOTAL	4

FIELD OFFICE	
ROADWAY	642.5401 TYPE D EACH
UNDISTRIBUTED	1
PROJECT 4430-15-71 TOTAL	1

FINISHING MATERIALS AND EROSION CONTROL													
		625.0500	628.1104	628.1504	628.1520	628.1905	628.1910	628.2002	628.7570	629.0210	630.0120	630.0200	
						MOBILIZATIONS							
		SALVAGED	EROSION			MOBILIZATIONS	EMERGENCY	EROSION MAT			SEEDING		
		TOPSOIL	BALES	SILT FENCE	SILT FENCE	EROSION	EROSION	CLASS I	ROCK	FERTILIZER	MIXTURE	SEEDING	
		SY	EACH	LF	LF	CONTROL	CONTROL	TYPE A	BAGS	TYPE B	NO. 20	TEMPORARY	
		SY	EACH	LF	LF	EACH	EACH	SY	EACH	CWT	LB	LB	
STAGE 1													
		651	--	--	--	--	--	651	20	0.4	18	18	
		2,670	--	--	--	--	--	2,670	--	1.7	72	72	
		1,753	--	--	--	--	--	1,753	--	1.1	47	47	
		1,270	--	--	--	--	--	1,270	--	0.8	34	34	
STAGE 1 SUBTOTAL		6,344	--	--	--	--	--	6,344	20	4.0	171	171	
STAGE 2													
		2,057	--	--	--	--	--	2,057	--	1.3	56	56	
		2,321	--	--	--	--	--	2,321	--	1.5	63	63	
STAGE 2 SUBTOTAL		4,378	--	--	--	--	--	4,378	--	2.8	118	118	
UNDISTRIBUTED		2,681	240	500	500	3	3	2,681	10	1.7	72	72	
PROJECT 4430-15-71 TOTAL		13,403	240	500	500	3	3	13,403	30	9.0	362	362	

INLET PROTECTION				628.7005	628.7010	628.7020
				INLET	INLET	INLET
				PROTECTION	PROTECTION	PROTECTION
				TYPE A	TYPE B	TYPE D
ROADWAY	STATION	OFFSET		EACH	EACH	EACH
STAGE 1						
<u>STH 57 NB</u>	931NB+00	30' LT		1	--	--
	943NB+00	43' LT		1	--	--
	962NB+50	49' LT		1	--	--
	968NB+00	45' LT		1	--	--
	975NB+00	39' LT		1	--	--
STAGE 1 SUBTOTAL				5	--	--
STAGE 2						
<u>STH 57 NB</u>	949NB+00	47' LT		1	--	--
	186EB+35	32' LT		1	--	--
<u>STH 57 NB / CTH C TURN LANE</u>	101NCL+94	6.7' RT		1	1	--
	103NCL+91	39.4' LT		1	--	--
	104NCL+31	0.9' RT		1	1	--
	104NCL+48	0.9' RT		1	1	--
	104NCL+75	39.6' LT		1	--	1
	105NCL+37	23.5' LT		1	1	--
	105NCL+48	0.9' RT		1	1	--
<u>STH 57 SB / CTH C TURN LANE</u>	100SCL+93	15.4' RT		1	1	1
	100SCL+96	30.7' RT		1	--	1
	100SCL+96	0.9' LT		1	1	--
	101SCL+15	0.9' LT		1	1	--
	101SCL+89	37.3' RT		1	--	--
	101SCL+90	24.7' RT		1	--	--
	102SCL+15	0.9' LT		1	1	--
STAGE 2 SUBTOTAL				16	9	3
UNDISTRIBUTED				2	1	--
PROJECT 4430-15-71 TOTAL				23	10	3

ERECTION OF TYPE II SIGNS AND SUPPORTS

SIGN NO.	LOCATION	SIGN CODE	W X H	637. 2210 SIGNS TYPE II REFLECTIVE H S. F.	637. 2230 SIGNS TYPE II REFLECTIVE F S. F.	634. 0612 POSTS WOOD 4x6x12 EACH	634. 0614 POSTS WOOD 4x6x14 EACH	634. 0616 POSTS WOOD 4x6x16 EACH	634. 0618 POSTS WOOD 4x6x18 EACH	REMARKS
1	STH 57, S. OF CTH C TURNAROUND	R5-1A	42" X 30"	8. 75	---	1	---	---	---	
2	"	D2-2	108" X 36"	27. 00	---	---	---	3	---	DYCKESVILLE 10, GREEN BAY 28, SEE SIGN DETAIL SHEET
3	"	R2-1	48" X 60"	20. 00	---	---	---	---	2	65 MPH
4	"	J4-1	36" X 54"	13. 50	---	---	---	---	1	SOUTH STH 57
5	"	R3-18	36" X 36"	9. 00	---	---	1	---	---	
6	"	R5-1A	36" X 36"	9. 00	---	---	1	---	---	
7	STH 57, AT CTH C TURNAROUND	R6-2L	36" X 48"	12. 00	---	---	---	1	---	
8	"	R1-2	48" X 42"	7. 00	---	---	---	1	---	
9	"	R6-1L	54" x 18"	6. 75	---	---	---	---	---	MOUNT ABOVE SIGN #8
10	"	R1-2	48" X 42"	7. 00	---	---	---	1	---	
11	"	R6-1L	54" X 18"	6. 75	---	---	---	---	---	MOUNT ABOVE SIGN #10
12	"	J3-2	48" X 57"	19. 00	---	---	---	---	2	NORTH STH 57, SOUTH CTH C, SEE PLAN SHEET
13	STH 57, S. OF CTH C	J3-2	72" X 84"	42. 00	---	---	---	---	2	NORTH STH 57, SOUTH CTH C, SEE PLAN SHEET
14	"	J3-1	36" X 84"	21. 00	---	---	---	---	1	SOUTH STH 57, SEE PLAN SHEET
15	"	J1-1	36" X 57"	14. 25	---	---	---	---	1	JCT CTH C
16	"	J1-1	36" X 57"	14. 25	---	---	---	---	1	JCT CTH C
17	"	D1-1	84" X 42"	24. 50	---	---	---	2	---	BRUSSELS, CASCO, SEE SIGN DETAIL SHEET
18	"	D4-5L	36" X 48"	12. 00	---	---	---	1	---	
19	"	J3-1	36" X 84"	21. 00	---	---	---	---	1	NORTH CTH C, SEE PLAN SHEET
20	VACANT	---	---	---	---	---	---	---	---	
21	STH 57, S. OF CTH C	R5-1A	42" X 30"	8. 75	---	---	1	---	---	
22	"	J2-3	108" X 90"	67. 50	---	---	---	---	3	NORTH STH 57, SOUTH CTH C, SOUTH STH 57, SEE PLAN SHEET
23	"	J2-3	108" X 90"	67. 50	---	---	---	---	3	NORTH STH 57, SOUTH CTH C, SOUTH STH 57, SEE PLAN SHEET
24	"	J3-1	36" X 84"	21. 00	---	---	---	---	1	SOUTH CTH C, SEE PLAN SHEET
25	"	R5-1	36" X 36"	9. 00	---	---	---	---	---	MOUNT ON BACK SIDE OF SIGN #24
26	CTH C	R3-2	24" X 24"	4. 00	---	1	---	---	---	
27	"	R4-7	24" X 30"	5. 00	---	1	---	---	---	
28	"	R1-1	36" X 36"	7. 46	---	---	---	1	---	
29	"	R6-1R	36" X 12"	3. 00	---	---	---	---	---	MOUNT ABOVE SIGN #28
30	"	R1-1	36" X 36"	7. 46	---	---	---	1	---	
31	"	R6-1R	36" X 12"	3. 00	---	---	---	---	---	MOUNT ABOVE SIGN #30
32	"	J13-2	48" X 45"	15. 00	---	---	2	---	---	STH 57, CTH C, SEE PLAN SHEET
33	STH 57, INTERSECTION AT CTH C	R1-2	48" X 42"	7. 00	---	---	---	1	---	
34	"	R6-1L	54" X 18"	6. 75	---	---	---	---	---	MOUNT ABOVE SIGN #33
35	"	R5-1	36" X 36"	9. 00	---	---	1	---	---	15' CLEARANCE BETWEEN SIGN #51, SEE PLAN SHEET
36	"	R6-1R	54" X 18"	6. 75	---	---	---	---	---	MOUNT ON BACK SIDE OF SIGN #53
37	"	R1-2	48" X 42"	7. 00	---	---	---	1	---	
38	"	R6-1L	54" X 18"	6. 75	---	---	---	---	---	MOUNT ABOVE SIGN #37

PAGE SUBTOTALS

556. 67

0. 00

3

6

13

18

PLAN SHEET PRODUCED
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ERECTION OF TYPE II SIGNS AND SUPPORTS

SIGN NO.	LOCATION	SIGN CODE	W X H	637. 2210 SIGNS TYPE II REFLECTIVE H S. F.	637. 2230 SIGNS TYPE II REFLECTIVE F S. F.	634. 0612 POSTS WOOD 4x6x12 EACH	634. 0614 POSTS WOOD 4x6x14 EACH	634. 0616 POSTS WOOD 4x6x16 EACH	634. 0618 POSTS WOOD 4x6x18 EACH	REMARKS
39	STH 57, INTERSECTION AT CTH C	R6-1R	54" X 18"	6. 75	---	---	---	---	---	MOUNT ON BACK SIDE OF SIGN #38
40	CTH C	J13-2	48" X 45"	15. 00	---	---	2	---	---	STH 57, CTH C, SEE PLAN SHEET
41	"	R1-1	36" X 36"	7. 46	---	---	---	1	---	
42	"	R6-1R	36" X 12"	3. 00	---	---	---	---	---	MOUNT ABOVE SIGN #41
43	"	R1-1	36" X 36"	7. 46	---	---	---	1	---	
44	"	R6-1R	36" X 12"	3. 00	---	---	---	---	---	MOUNT ABOVE SIGN #43
45	"	R4-7	24" X 30"	5. 00	---	1	---	---	---	
46	"	R3-2	24" X 24"	4. 00	---	1	---	---	---	
47	STH 57, N. OF CTH C	J3-1	36" X 84"	21. 00	---	---	---	---	1	NORTH CTH C, SEE PLAN SHEET
48	"	R5-1	36" X 36"	9. 00	---	---	---	---	---	MOUNT ON BACK SIDE OF SIGN #47
49	"	R1-2	48" X 42"	7. 00	---	---	---	1	---	
50	"	R6-1L	54" X 18"	6. 75	---	---	---	---	---	MOUNT ABOVE SIGN #49
51	"	R5-1	36" X 36"	9. 00	---	---	1	---	---	15' CLEARANCE BETWEEN SIGN #31, SEE PLAN SHEET
52	"	R1-2	48" X 42"	7. 00	---	---	---	1	---	
53	"	R6-1L	54" X 18"	6. 75	---	---	---	---	---	MOUNT ABOVE SIGN #52
54	"	D4-5R	36" X 48"	12. 00	---	---	---	1	---	
55	"	R5-1A	42" X 30"	8. 75	---	---	---	---	---	MOUNT ON BACK SIDE OF SIGN #54
56	"	J2-3	108" X 90"	67. 50	---	---	---	---	3	SOUTH STH 57, NORTH CTH C, NORTH STH 57, SEE PLAN SHEET
57	"	J2-3	108" X 90"	67. 50	---	---	---	---	3	SOUTH STH 57, NORTH CTH C, NORTH STH 57, SEE PLAN SHEET
58	"	J3-1	36" X 84"	21. 00	---	---	---	---	1	SOUTH CTH C, SEE PLAN SHEET
59	"	D1-1	84" X 42"	24. 50	---	---	---	2	---	CASCO, BRUSSELS, SEE SIGN DETAIL SHEET
60	VACANT	---	---	---	---	---	---	---	---	
61	STH 57, N. OF CTH C	J1-1	36" X 57"	14. 25	---	---	---	1	---	JCT CTH C
62	"	J1-1	36" X 57"	14. 25	---	---	---	1	---	JCT CTH C
63	"	W11-6	48" X 48"	---	16. 00	---	---	---	---	
64	"	W11-6	48" X 48"	---	16. 00	---	---	---	---	
65	"	J3-1	36" X 84"	21. 00	---	---	---	---	1	NORTH STH 57, SEE PLAN SHEET
66	"	J3-2	72" X 84"	42. 00	---	---	---	---	2	SOUTH STH 57, NORTH CTH C, SEE PLAN SHEET
67	STH 57, AT CTH C TURNAROUND	J3-2	48" X 57"	19. 00	---	---	---	---	2	SOUTH STH 57, NORTH CTH C, SEE PLAN SHEET
68	"	R1-2	48" X 42"	7. 00	---	---	---	1	---	
69	"	R6-1L	54" X 18"	6. 75	---	---	---	---	---	MOUNT ABOVE SIGN #66
70	"	R1-2	48" X 42"	7. 00	---	---	---	1	---	
71	"	R6-1L	54" X 18"	6. 75	---	---	---	---	---	MOUNT ABOVE SIGN #68
72	"	R6-2L	36" X 48"	12. 00	---	---	---	1	---	
73	STH 57, N. OF CTH C TURNAROUND	R5-1	36" X 36"	9. 00	---	---	1	---	---	
74	"	R3-18	36" X 36"	9. 00	---	---	1	---	---	
75	"	J4-1	36" X 57"	14. 25	---	---	---	1	---	NORTH STH 57
76	"	R5-1A	42" X 30"	8. 75	---	1	---	---	---	
77	"	R2-1	48" X 60"	20. 00	---	---	---	---	1	65 MPH
78	"	D2-2	126" X 36"	31. 50	---	---	---	3	---	STURGEON BAY 14, SISTER BAY 46, SEE SIGN DETAIL SHEET

PAGE SUBTOTALS 561. 92 32. 00 3 5 16 14

PROJECT TOTALS 1118. 59 32. 00 6 11 29 32

PLAN SHEET PRODUCED
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REMOVAL OF TYPE II SIGNS AND SUPPORTS

SIGN NO.	LOCATION	SIGN CODE	638. 2602 REMOVING SIGNS TYPE II EACH	638. 3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
100	STH 57, S. OF CTH C	J1-1	1	1	
101	"	J1-1	1	1	
102	"	D1-2	1	2	
103	"	D2-2	1	2	
104	"	D4-5L	1	1	
105	"	R5-1A	---	---	MOUNTED ON BACK OF SIGN #104, PART OF REMOVAL FOR SIGN #104
106	"	R5-1A	1	1	
107	"	R2-1	1	1	
108	"	J13-1	1	1	
109	"	J13-1	1	1	
110	"	R5-1	---	---	MOUNTED ON BACK OF SIGN #108, PART OF REMOVAL FOR SIGN #108
111	"	R5-1	---	---	MOUNTED ON BACK OF SIGN #109, PART OF REMOVAL FOR SIGN #109
112	"	J4-1	1	1	
113	STH 57, AT INTERSECTION OF CTH C	R1-2	1	1	
114	"	R3-1	1	1	
115	CTH C	R1-1	1	1	
116	"	R6-3	1	---	MOUNTED BELOW SIGN #115
117	"	J3-1	1	1	
118	"	J3-1	---	---	MOUNTED ON BACK OF SIGN #117, PART OF REMOVAL FOR SIGN #117
119	"	R6-2R	1	1	
120	"	R6-2L	---	---	MOUNTED ON BACK OF SIGN #119, PART OF REMOVAL FOR SIGN #119
121	"	R6-2L	1	---	MOUNTED ON BACK OF SIGN #122
122	"	R6-2R	---	1	PART OF REMOVAL FOR SIGN #121
123	"	J3-1	1	---	MOUNTED ON BACK OF SIGN #124
124	"	J3-1	---	1	PART OF REMOVAL FOR SIGN #123
125	"	R1-1	1	1	
126	"	R6-3	1	---	MOUNTED BELOW SIGN #125
127	STH 57, AT INTERSECTION OF CTH C	R1-2	1	1	
128	"	R3-1	1	1	
129	STH 57, N. OF CTH C	R5-1	1	---	MOUNTED ON BACK OF SIGN #130
130	"	J13-1	---	1	PART OF REMOVAL FOR SIGN #129
131	"	R5-1	1	---	MOUNTED ON BACK OF SIGN #133
132	"	J4-1	1	1	
133	"	J13-1	---	1	PART OF REMOVAL FOR SIGN #131
134	"	R5-1A	1	1	
135	"	R5-1A	1	---	MOUNTED ON BACK OF SIGN #136
136	"	D4-5R	---	1	PART OF REMOVAL FOR SIGN #135
137	"	R2-1	1	1	
138	"	D1-2	1	2	
139	"	D2-2	1	3	
140	"	J1-1	1	1	
141	"	J1-1	1	1	
142	"	W11-6	1	1	
143	"	W11-6	1	1	

PLAN SHEET PRODUCED
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PROJECT TOTALS

34

37

TRAFFIC CONTROL ITEMS																	
ROADWAY	STAGE DURATION DAYS	643.0100	643.0300		643.0420		643.0705		643.0715		643.0800		643.0900		643.0920	643.1050	
		TRAFFIC	TRAFFIC	TRAFFIC	TRAFFIC	TRAFFIC	TRAFFIC	TRAFFIC	TRAFFIC	TRAFFIC	TRAFFIC	TRAFFIC	TRAFFIC	TRAFFIC	TRAFFIC	TRAFFIC	
		CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	
		(4430-15-71)	DRUMS	BARRICADES	WARNING	WARNING	ARROW	CONTROL	SIGNS	SIGNS	SIGNS	SIGNS	SIGNS	SIGNS	SIGNS	SIGNS	
		EACH	EACH* DAYS	EACH* DAYS	EACH* DAYS	EACH* DAYS	EACH* DAYS	EACH* DAYS	EACH* DAYS	EACH* DAYS	EACH* DAYS	EACH* DAYS	EACH* DAYS	EACH* DAYS	EACH* DAYS	EACH* DAYS	
STAGE 1 CONSTRUCTION		15	--														
STH 57 NB		--	100	1,500	4	60	8	120	13	195	2	30	20	300	--	1	7
STH 57 SB		--	100	1,500	4	60	8	120	13	195	2	30	20	300	--	1	7
STAGE 1 SUBTOTAL		--		3,000		120		240		390		60		600	--		14
STAGE 2 CONSTRUCTION		24	--														
STH 57 NB		--	100	2,400	5	120	10	240	21	499	2	48	25	600	2	1	7
STH 57 SB		--	100	2,400	5	75	10	150	21	499	2	48	25	600	2	1	7
STAGE 2 SUBTOTAL		--		4,800		195		390		998		96		1,200	4		14
UNDISTRIBUTED		1		1,170		47		95		208		23		270			4
PROJECT 4430-15-71 TOTAL		1		8,970		362		725		1,597		179		2,070	4		32

* FOR INFORMATION ONLY

PAVEMENT MARKING											
		646.0106		646.0126		646.0883.S		646.0600		649.0300	
		PAVEMENT MARKING		PAVEMENT MARKING		PAVEMENT MARKING		REMOVING PAVEMENT MARKINGS		TEMPORARY PAVEMENT MARKING	
		EPOXY 4-INCH		EPOXY 8-INCH		GROOVED WET REFLECTIVE TAPE 8-INCH				REMOVABLE TAPE	
				3 FT LINE		3 FT LINE				4-INCH	
STAGE	ROADWAY	YELLOW LF	WHITE LF	WHITE LF	WHITE LF	WHITE LF		LF	YELLOW LF	WHITE LF	
STAGE 1											
	<u>STH 57 NB LEFT TURN LANE</u>	961	--	--	38	1,030		715	1,980	--	
	<u>STH 57 SB LEFT TURN LANE</u>	1,173	--	--	77	1,122		910	1,980	--	
	<u>STH 57 NORTH LOON</u>	--	370	76	--	--		360	--	1,320	
	<u>STH 57 SOUTH LOON</u>	--	355	78	--	--		310	--	1,320	
STAGE 1 SUBTOTAL		2,134	725	154	115	2,152		2,295	3,960	2,640	
STAGE 2											
	<u>STH 57 NB / CTH C TURN LANE</u>	660	376	--	42	368		915	3,960	--	
	<u>STH 57 SB / CTH C TURN LANE</u>	685	357	--	38	394		900	3,960	--	
	<u>CTH C</u>	228	--	--	--	--		--	--	--	
STAGE 2 SUBTOTAL		1,573	733	--	80	762		1,815	7,920	--	
UNDISTRIBUTED		370	145	15	20	290		410	1,190	265	
PROJECT 4430-15-71 TOTAL			5,849		215	3,204		4,520	15,975		

Conduit Rigid Nonmetallic Schedule 40				
LOCATION		652.0225	652.0235	652.0615
STH 57 & CTH C		2-Inch	3-Inch	3-Inch
				Special
FROM	TO	LF	LF	LF
CB1	PB1		10	
CB1	PB1		10	
PB1	PB2			130
PB2	LB1	10		
PB2	PB3			100
PB3	LB2	10		
PB3	PB16	280		
PB16	LB7	10		
PB16	PB17	300		
PB17	PB18	300		
PB18	PB19	300		
PB19	PB20	300		
PB20	PB21	300		
PB21	PB22	300		
PB22	PB23	160		
PB23	LB8	10		
PB3	PB4			100
PB4	PB5			130
PB5	LB3	10		
PB5	PB6			120
PB6	LB4	10		
PB6	PB7	280		
PB7	LB5	10		
PB7	PB8	300		
PB8	PB9	300		
PB9	PB10	300		
PB10	PB11	300		
PB11	PB12	300		
PB12	PB13	300		
PB13	PB14	300		
PB14	PB15	250		
PB15	LB6	10		
PB6	PB1			100
	TOTAL	4,950	20	680

Pull Boxes Steel	
	653.0140
	24x42-Inch
LOCATION	EACH
STH 57 & CTH C	23

CONCRETE BASES		
		654.0220
	654.0105	Concrete Control
	Type 5	Cabinet Bases Type 10
LOCATION	EACH	EACH
STH 57 & CTH C	8	1

Electrical Wire Lighting					
			10AWG	12AWG	
LOCATION					655.0610
STH 57 & CTH C			655.0615	655.0610	Equipment
			Ungrounded	Ungrounded	Grounding
(240 VOLT SYSTEM)			Conductor	Conductor	Conductor
			(see Circuit Color)	(Black)/(Red)	(Green)
Circuit	FROM	TO	LF	LF	LF
A	CB1	LB8	2620		
(Black)	LB8	Luminaire		100	50
B	CB1	LB6	2880		
(Red)	LB6	Luminaire		100	50
C	CB1	LB1	190		
(Blue)	LB1	Luminaire		100	50
	CB1	LB3	290		
	LB3	Luminaire		100	50
D	CB1	LB2	300		
(Brown)	LB2	Luminaire		100	50
	CB1	LB4	150		
	LB4	Luminaire		100	50
E	CB1	LB5	450		
(Orange)	LB5	Luminaire		100	50
	CB1	LB7	590		
	LB7	Luminaire		100	50
		SUB-TOTALS	7,470	800	400
		TOTAL	7,470	1,200	

Electrical Wire Lighting 10AWG		
LOCATION		655.0615
STH 57 & CTH C		Equipment
		Grounding
(240 VOLT SYSTEM)		Conductor
		(Green)
FROM	TO	LF
CB1	PB1	30
CB1	LB1	190
LB1	PB2	30
LB1	LB2	160
LB2	PB3	30
LB2	LB7	340
LB7	PB16	30
LB7	LB8	2080
LB7	PB17	320
LB7	PB18	630
LB7	PB19	940
LB8	PB20	820
LB8	PB23	30
LB8	PB22	200
LB8	PB21	510
LB2	LB3	300
LB3	PB4	170
LB3	PB5	30
LB3	LB4	180
LB4	PB6	30
LB4	LB5	330
LB5	PB7	30
LB5	LB6	2480
LB5	PB8	330
LB5	PB9	640
LB5	PB10	950
LB5	PB11	310
LB6	PB15	30
LB6	PB14	290
LB6	PB13	600
LB6	PB12	910
	TOTAL	13,950

Electric Service	
	656.0200
	Meter Breaker Pedestal
LOCATION	LS
STH 57 & CTH C	1

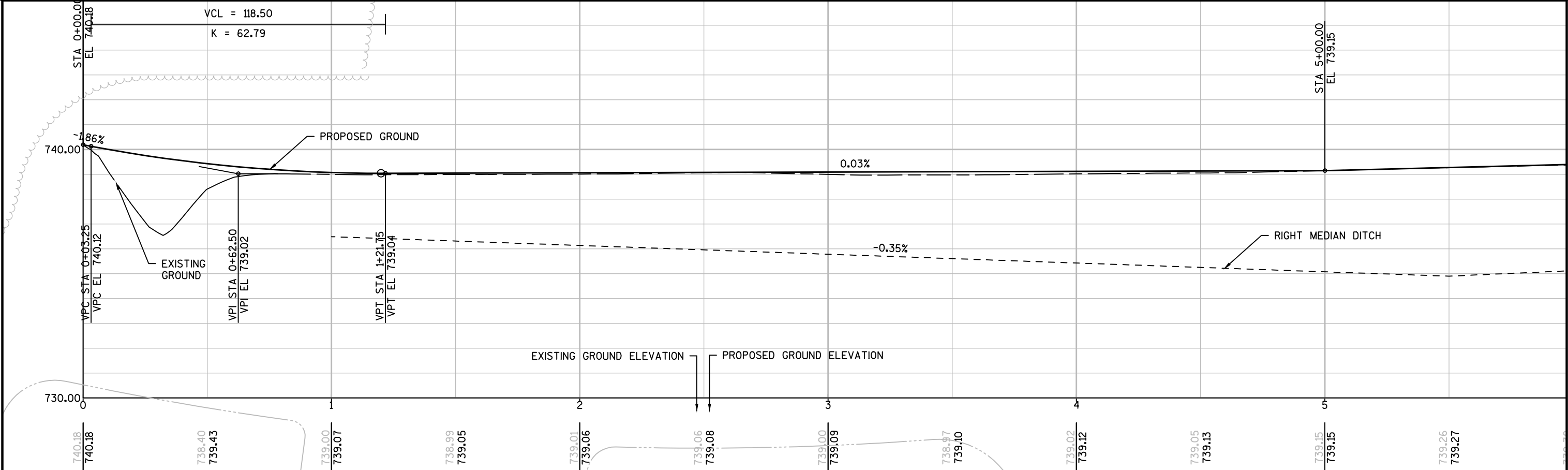
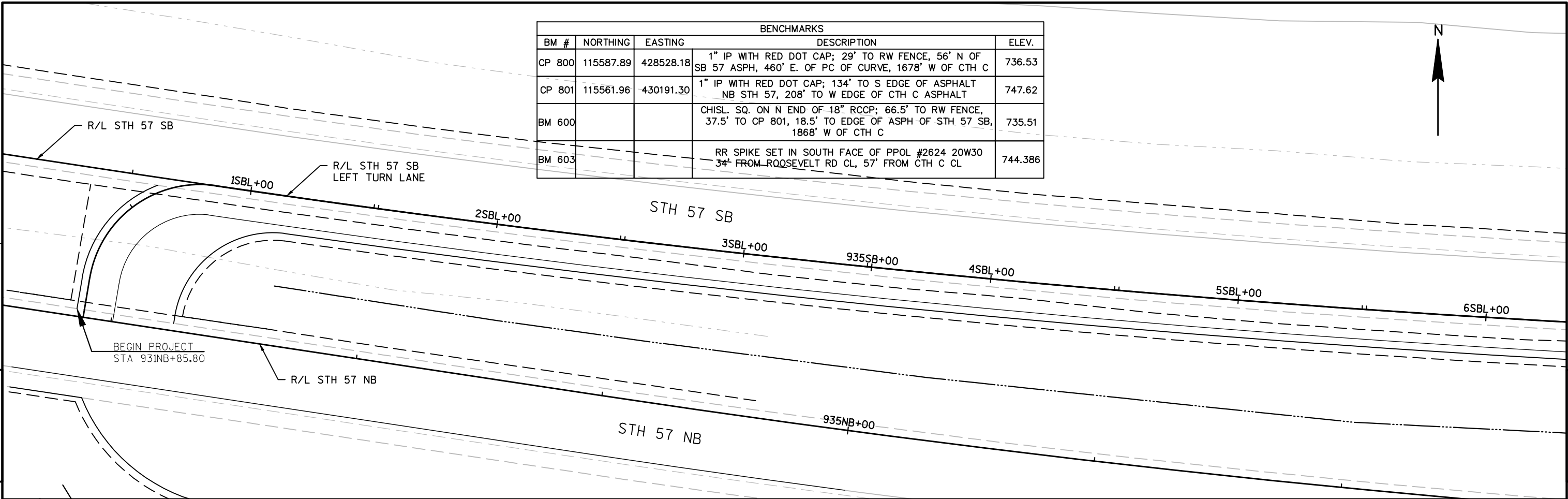
Lighting Summary				
	657.0255	657.0322	657.0710	659.1115
	Transformer Bases	Poles	Luminaire Arms	Luminaires
	Breakaway	Type 5	Truss Type	Utility
	11 1/2-Inch	(Aluminum)	4 1/2-Inch Clamp	LED-A
	Bolt Circle		12-FT	
LOCATION	EACH	EACH	EACH	EACH
STH 57 & CTH C	8	8	10	10

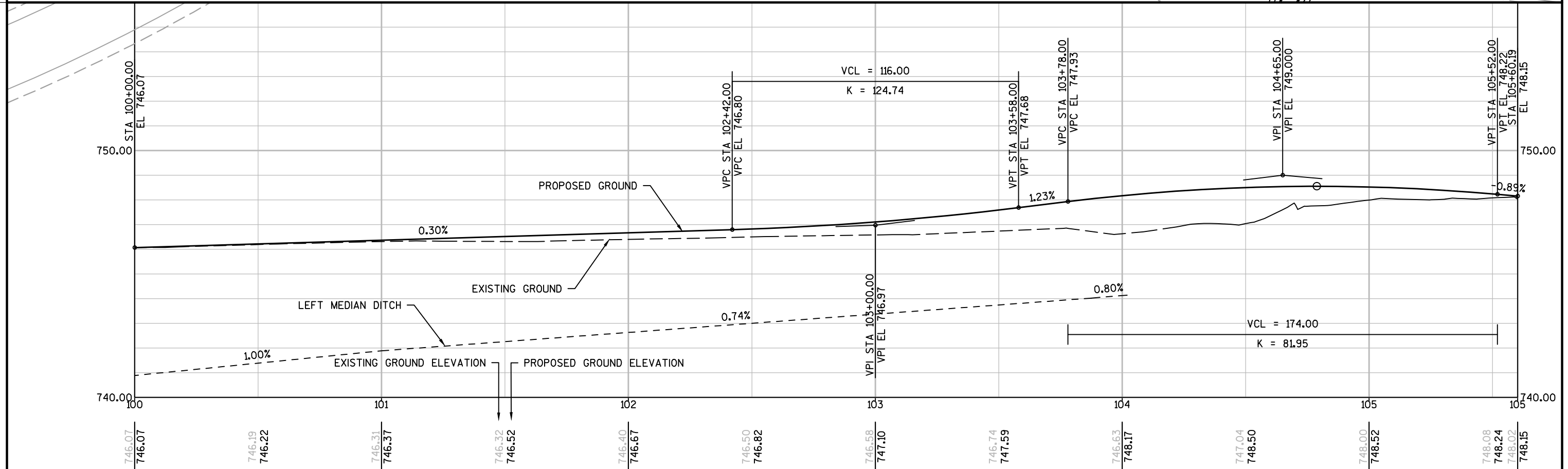
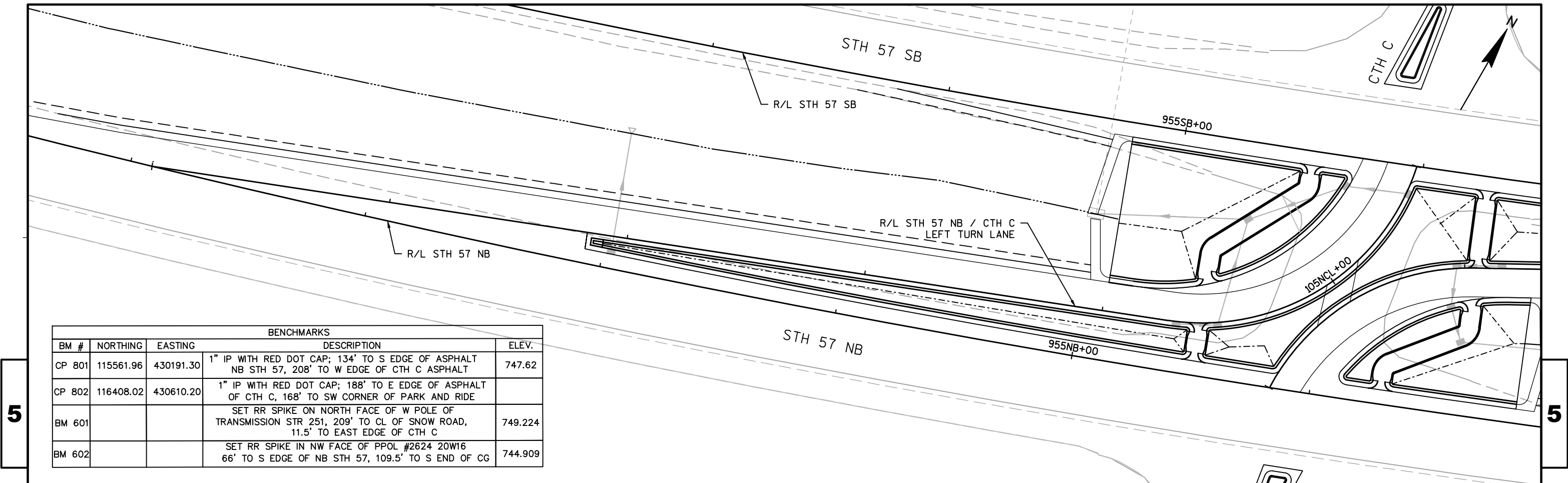
CONSTRUCTION STAKING

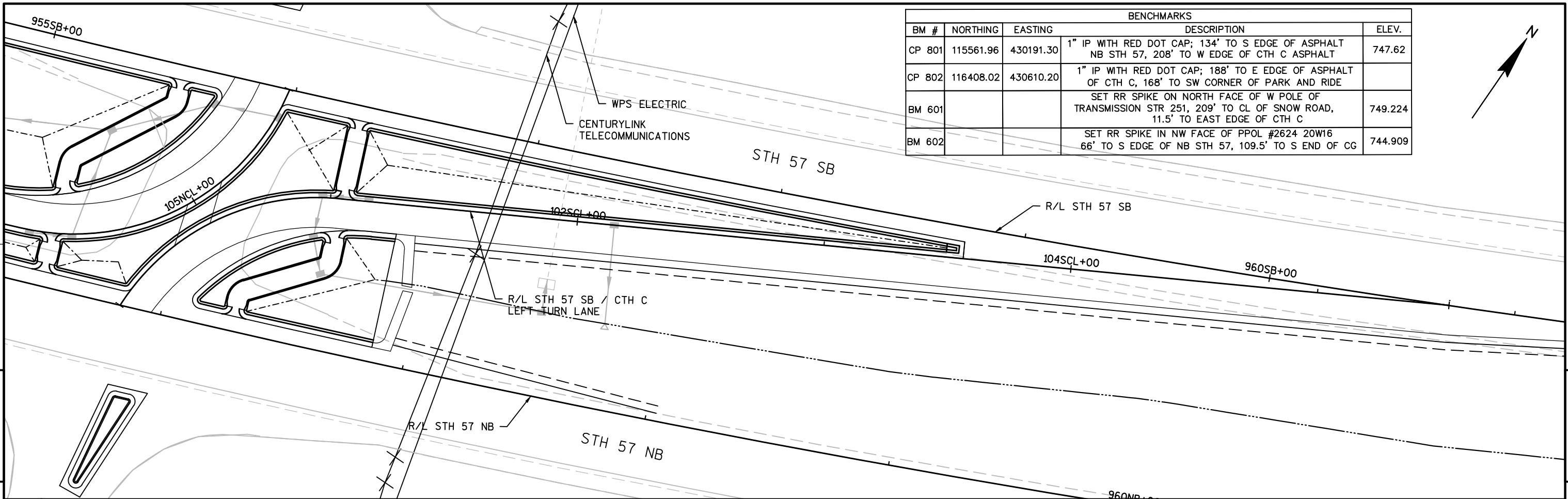
STAGE	ROADWAY	STATION	STATION	STRUCTURE NUMBER	650.4000	650.4500	650.5000	650.5500	650.6000	650.9910	650.9920
					STORM	SUBGRADE	BASE	CURB GUTTER AND CURB & GUTTER	PIPE CULVERTS	SUPPLEMENTAL CONTROL	SLOPE STAKES
					SEWER						
STAGE 1											
	STH 57 NB LEFT TURN LANE	0NBL+00 -	9NBL+52		--	952	952	--	--	--	952
			6NBL+40		--	--	--	--	1	--	--
	STH 57 SB LEFT TURN LANE	0SBL+00 -	7SBL+48		--	748	748	--	--	--	748
	STH 57 NORTH LOON	931NB+93 -	935NB+02		--	309	309	--	--	--	309
	STH 57 SOUTH LOON	979SB+63 -	983SB+21		--	357	357	--	--	--	357
STAGE 1 SUBTOTAL					--	2,366	2,366	--	1	--	2,366
STAGE 2											
	STH 57 NB / CTH C TURN LANE	950NB+20 -	951NB+09		--	89	89	--	--	--	89
		100NCL+00 -	105NCL+50		--	550	550	415	--	--	550
			105NCL+48	100	1	--	--	--	--	--	--
			105NCL+38	101	1	--	--	--	--	--	--
			104NCL+76	102	1	--	--	--	--	--	--
			103NCL+91	CC1	1	--	--	--	--	--	--
			101NCL+94	103	1	--	--	--	--	--	--
			101NCL+95	END1	1	--	--	--	--	--	--
			104NCL+31	104	1	--	--	--	--	--	--
			104NCL+48	105	1	--	--	--	--	--	--
	STH 57 SB / CTH C TURN LANE	100SCL+09 -	105SCL+53		--	545	545	345	--	--	545
		960SB+73 -	962SB+75		--	202	202	--	--	--	202
			101SCL+15	106	1	--	--	--	--	--	--
			100SCL+97	107	1	--	--	--	--	--	--
			100SCL+97	108	1	--	--	--	--	--	--
			101SCL+89	109	1	--	--	--	--	--	--
			101SCL+90	CC2	1	--	--	--	--	--	--
	CTH C	9CC+21 -	9CC+70		--	49	49	40	--	--	49
		11CC+33 -	11CC+75		--	42	42	35	--	--	42
STAGE 2 SUBTOTAL					13	1,478	1,478	835	--	--	1,478
	UNDISTRIBUTED				--	--	--	--	--	1	--
PROJECT 4430-15-71 TOTAL					13	3,844	3,844	835	1	1	3,844

SAWING PAVEMENT							690.0150	690.0250
STAGE	ROADWAY	FROM		TO		SAWING	SAWING	
		STATION	OFFSET	STATION	OFFSET	ASPHALT	CONCRETE	
						LF	LF	
STAGE 2								
	<u>STH 57 NB</u>	949NB+43	6.6' LT	949NB+43	0' LT	--	7	
		949NB+43	0' LT	958NB+04	0' LT	--	861	
		958NB+04	0' LT	958NB+04	3.2' LT	--	3	
	<u>STH 57 SB</u>	953SB+63	3.0' RT	953SB+63	0' RT	--	3	
		953SB+63	0' RT	962SB+23	0' RT	--	860	
		962SB+23	0' RT	962SB+23	7.3' RT	--	7	
	<u>CTH C</u>	9CC+21	2.0' LT	9CC+21	7.3' RT	9	--	
		9CC+21	2.0' LT	9CC+67	2.0' LT	45	--	
		9CC+67	2.0' LT	9CC+67	14.0' RT	16	--	
		9CC+21	7.3' RT	9CC+67	14.0' RT	50	--	
		11CC+36	13.0' LT	11CC+36	2.0' RT	16	--	
		11CC+36	13.0' LT	11CC+75	7.5' LT	43	--	
		11CC+75	7.5' LT	11CC+75	1.8' RT	9	--	
		11CC+36	2.0' RT	11CC+75	1.8' RT	38	--	
STAGE 2 SUBTOTAL						226	1,741	
PROJECT 4430-15-71 TOTAL						226	1,741	

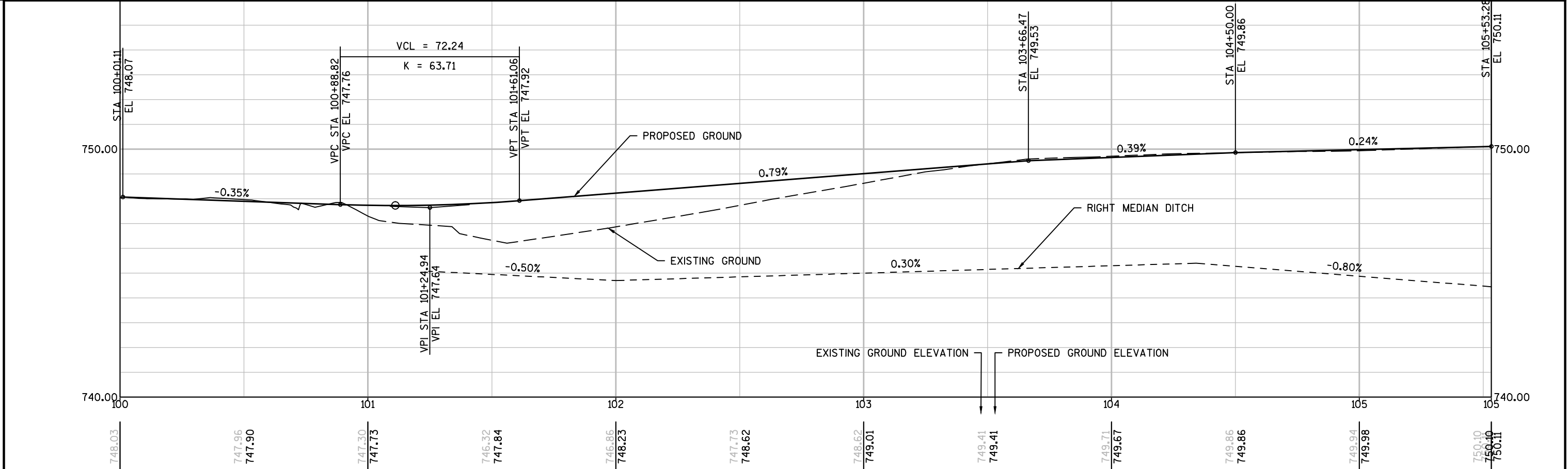
BENCHMARKS				
BM #	NORTHING	EASTING	DESCRIPTION	ELEV.
CP 800	115587.89	428528.18	1" IP WITH RED DOT CAP; 29' TO RW FENCE, 56' N OF SB 57 ASPH, 460' E. OF PC OF CURVE, 1678' W OF CTH C	736.53
CP 801	115561.96	430191.30	1" IP WITH RED DOT CAP; 134' TO S EDGE OF ASPHALT NB STH 57, 208' TO W EDGE OF CTH C ASPHALT	747.62
BM 600			CHISL. SQ. ON N END OF 18" RCCP; 66.5' TO RW FENCE, 37.5' TO CP 801, 18.5' TO EDGE OF ASPH OF STH 57 SB, 1868' W OF CTH C	735.51
BM 603			RR SPIKE SET IN SOUTH FACE OF PPOL #2624 20W30 34' FROM ROOSEVELT RD CL, 57' FROM CTH C CL	744.386

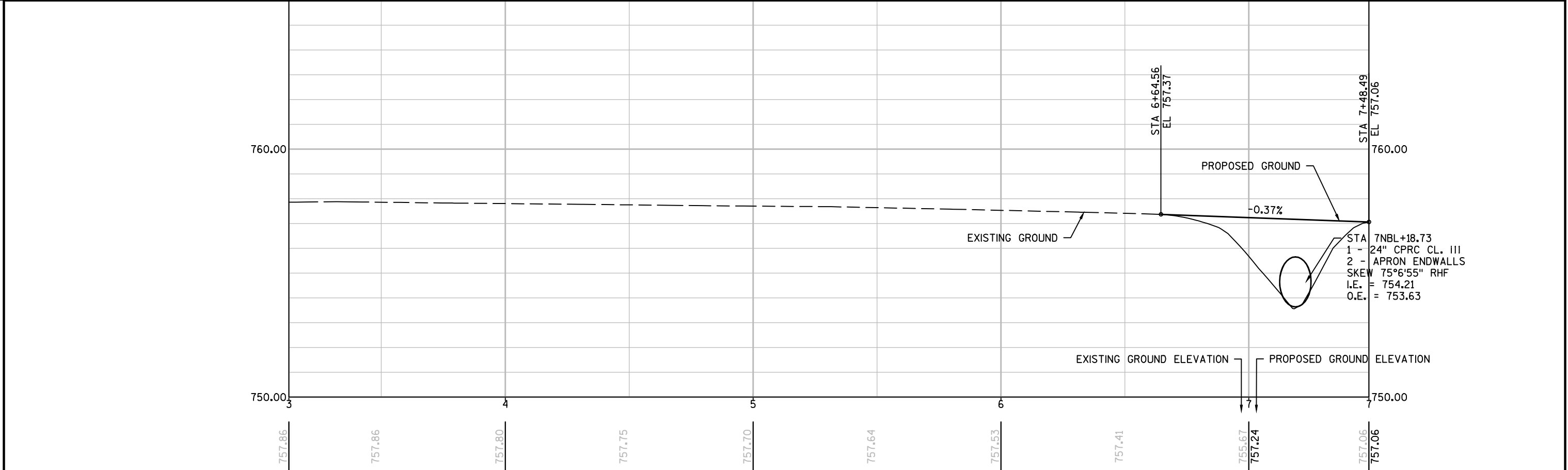
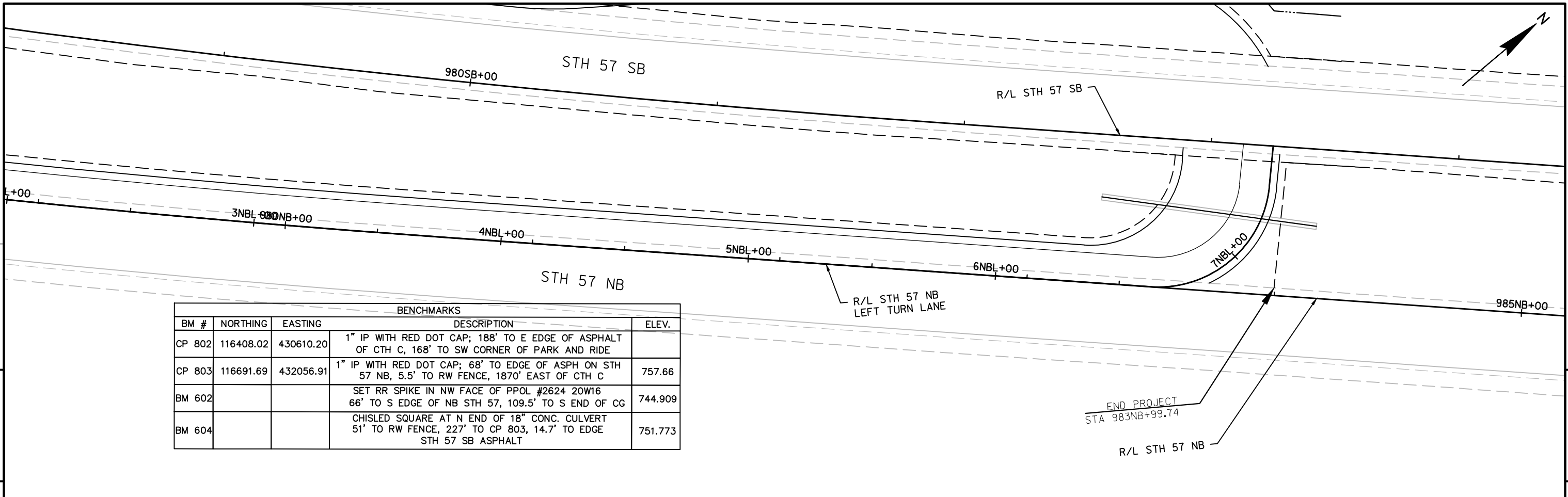






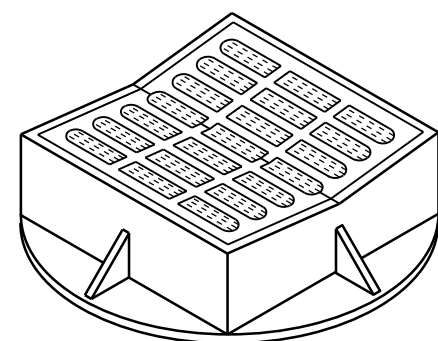
BENCHMARKS				
BM #	NORTHING	EASTING	DESCRIPTION	ELEV.
CP 801	115561.96	430191.30	1" IP WITH RED DOT CAP; 134' TO S EDGE OF ASPHALT NB STH 57, 208' TO W EDGE OF CTH C ASPHALT	747.62
CP 802	116408.02	430610.20	1" IP WITH RED DOT CAP; 188' TO E EDGE OF ASPHALT OF CTH C, 168' TO SW CORNER OF PARK AND RIDE	
BM 601			SET RR SPIKE ON NORTH FACE OF W POLE OF TRANSMISSION STR 251, 209' TO CL OF SNOW ROAD, 11.5' TO EAST EDGE OF CTH C	749.224
BM 602			SET RR SPIKE IN NW FACE OF PPOL #2624 20W16 66' TO S EDGE OF NB STH 57, 109.5' TO S END OF CG	744.909



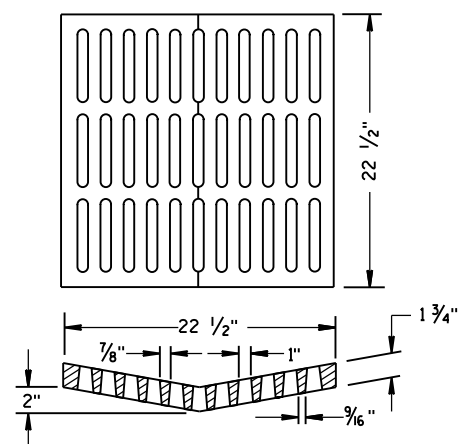


Standard Detail Drawing List

08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C06-01	INLETS 3-FT AND 4-FT DIAMETER
08C08-01	INLETS MEDIAN 1 AND 2 GRATE
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D05-15A	CURB RAMPS TYPES 1 AND 1-A
08D05-15B	CURB RAMPS TYPES 2 AND 3
08D05-15C	CURB RAMPS TYPES 4A AND 4A1
08D05-15D	CURB RAMPS TYPE 4B AND 4B1
08D05-15E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E11-02	TURBIDITY BARRIER
08E14-01	TRACKING PAD
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-08	CONDUIT UNDER PAVED HIGHWAYS
09B04-11	PULL BOX
09C02-07	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09C05-09	CONCRETE CONTROL CABINET BASES
09D01-05	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09E01-13D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
09E01-13G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E03-05	NON-FREEWAY LIGHTING UNIT POLE WIRING
11B02-02	CONCRETE MEDIAN NOSE
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15B01-08A	FENCE WOVEN WIRE
15B01-08B	FENCE WOVEN WIRE
15C03-02	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C08-16F	PAVEMENT MARKING (ISLANDS)
15C32-01A	J TURN MEDIAN PAVEMENT MARKING
15C32-01B	J TURN LANE PAVEMENT MARKING
15D12-04	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D27-02	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

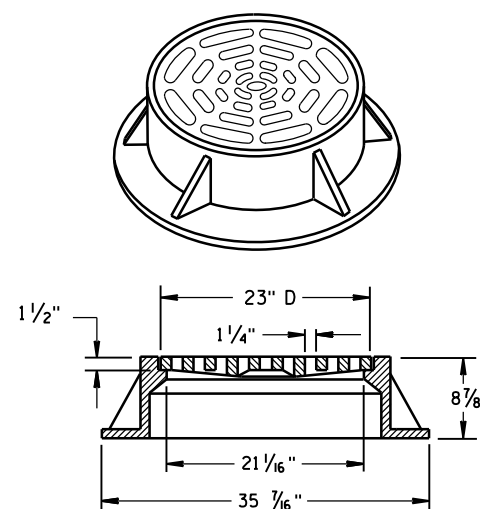
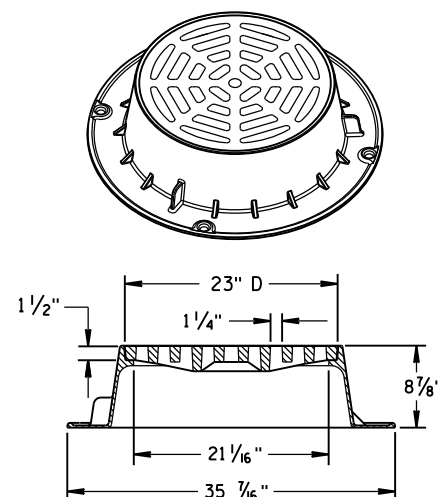


TYPE "B"



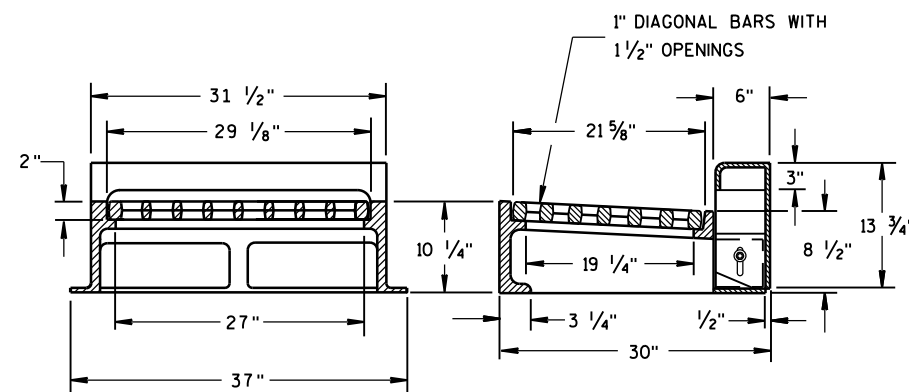
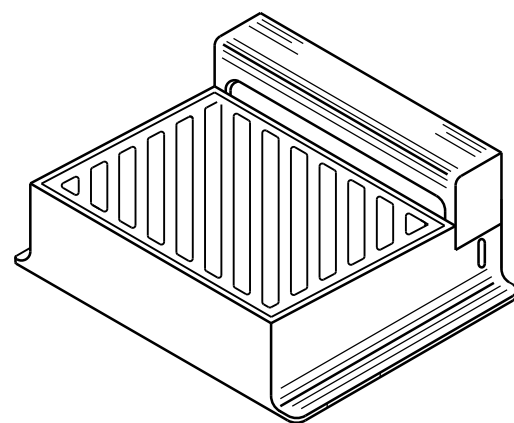
ALTERNATIVE GRATE FOR TYPE "B" COVER

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



TYPE "C"

NOTE: EITHER CASTING IS ACCEPTABLE



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

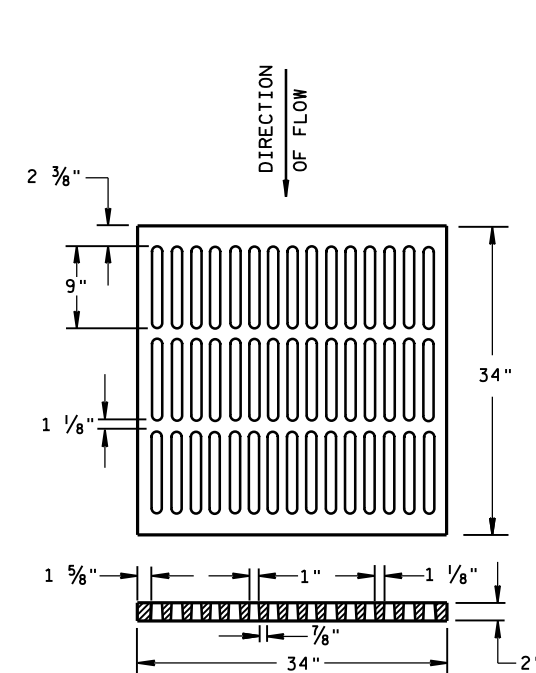
DIAGONAL SLOTS, SHALL BE ORIENTED
TO THE DIRECTION OF FLOW AS ILLUSTRATED.
GRATES ARE MANUFACTURED TO BE REVERSIBLE.

GENERAL NOTES

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

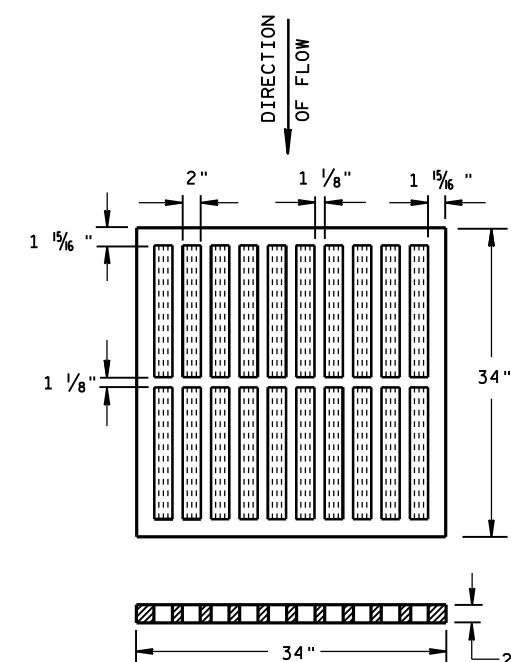
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



ALTERNATIVE TYPE "MS"

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



TYPE "MS"

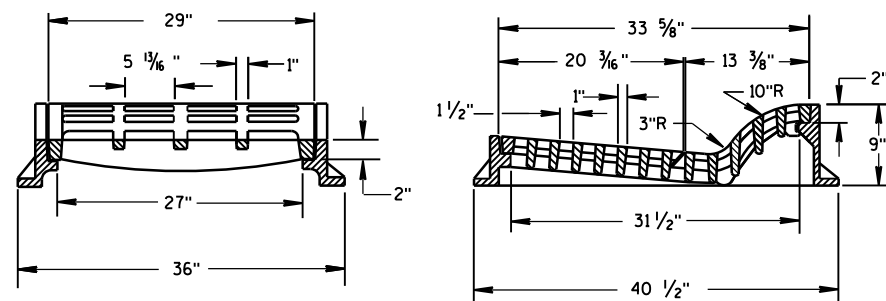
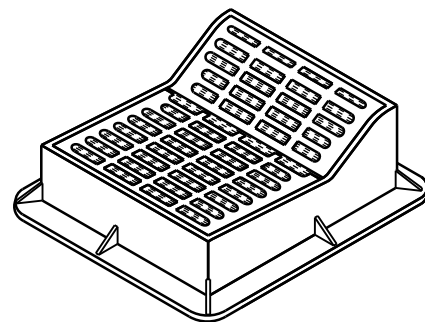
USE ON FREEWAYS AND EXPRESSWAYS
NOTED AS TYPE MS ON DRAINAGE TABLE

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

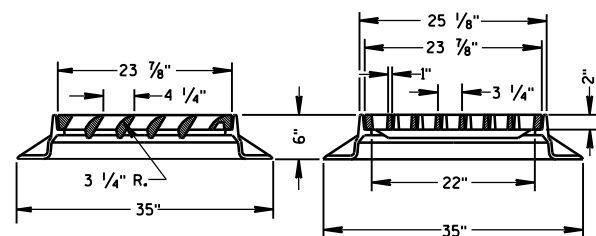
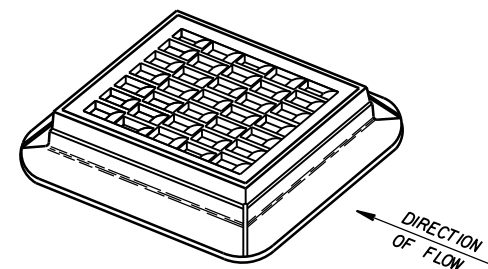
APPROVED
11/27/2013
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

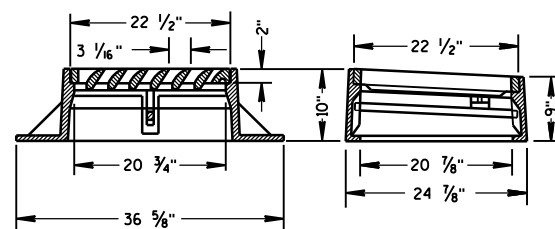
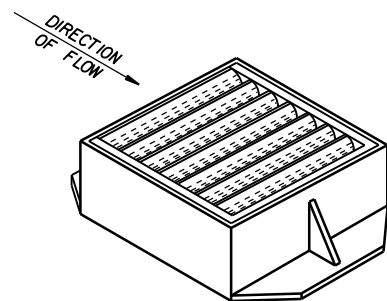


TYPE "F"

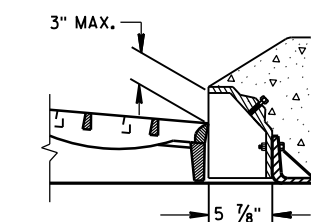
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.



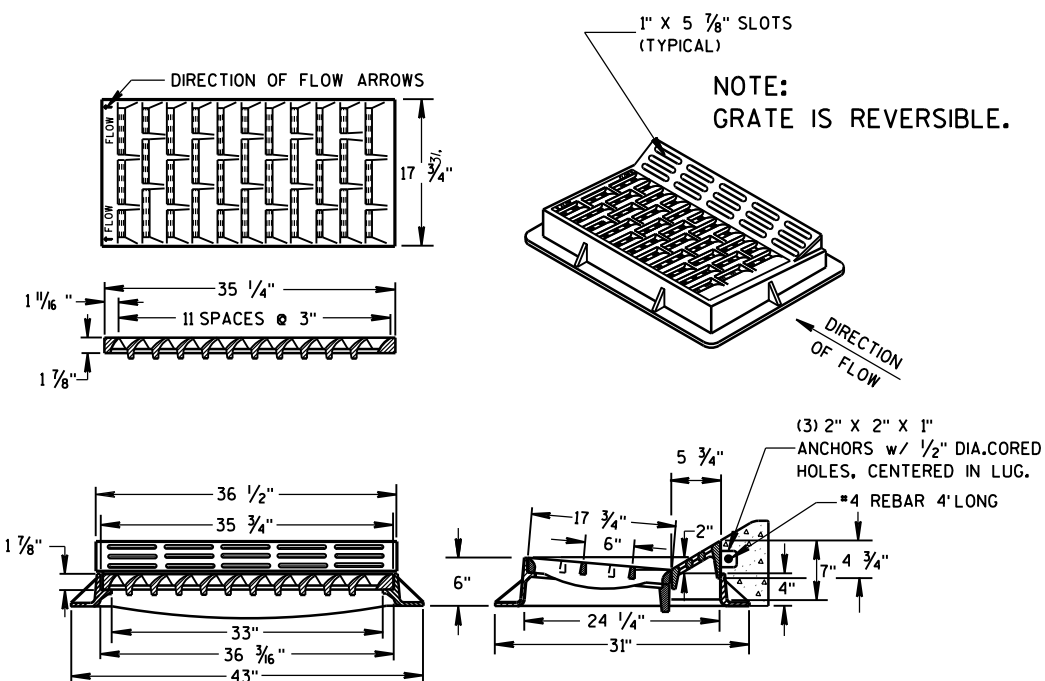
TYPE "S"



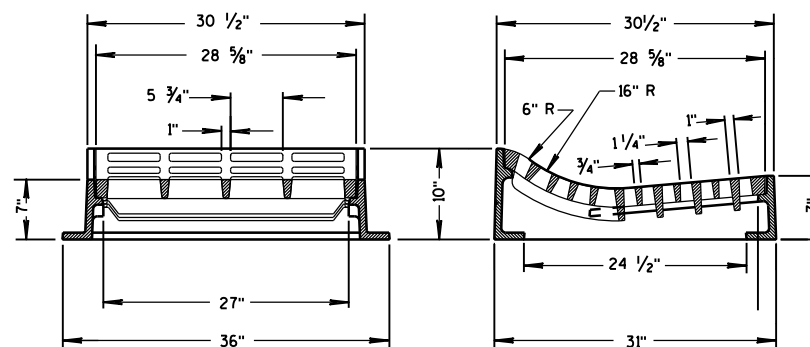
TYPE "V"

ALTERNATIVE CURB BOX
FOR TYPE "HM" COVERUSE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLENOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

GENERAL NOTES

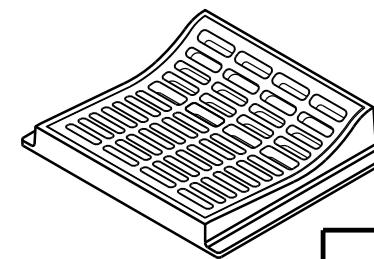
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING
SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND
THE APPLICABLE SPECIAL PROVISIONS.DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED
TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION
FOR EQUIVALENT CAPACITY AND STRENGTH.

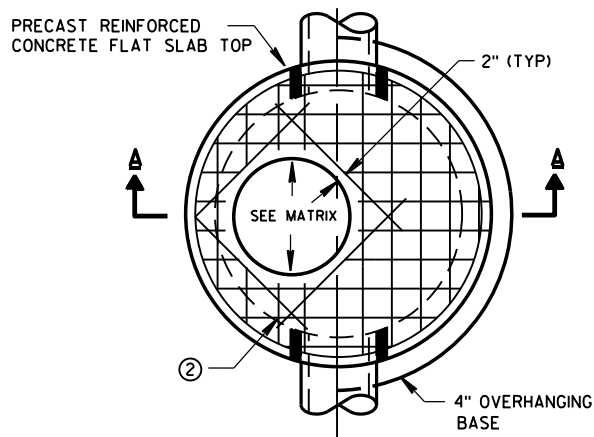
TYPE "HM"

USE WITH TYPES A & D CONCRETE
CURB & GUTTER, 36 INCH.NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE

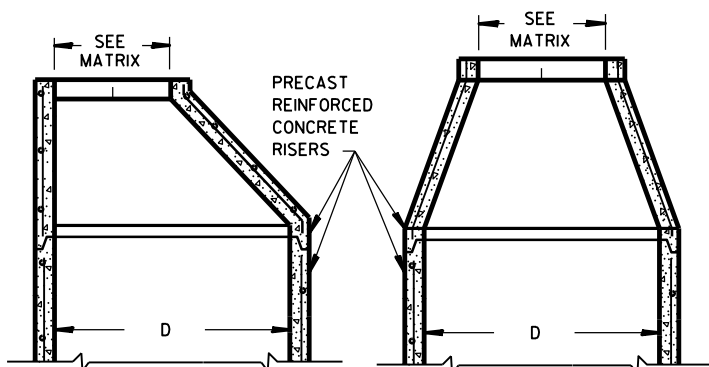
TYPE "T"

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

INLET COVERS
TYPE F, HM, HM-S, S, T, V,
HM-GJ, & HM-GJ-SSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATIONAPPROVED
11/27/2013
DATE
FHWA/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

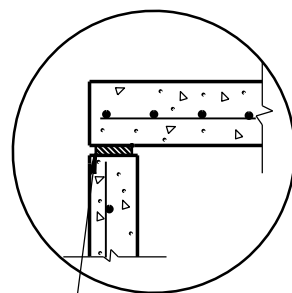


PLAN VIEW CIRCULAR OPENING

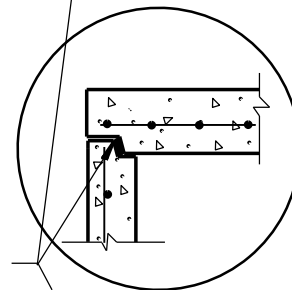


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

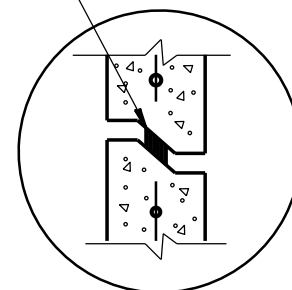
OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP



TOP WITH PLAIN END JOINT



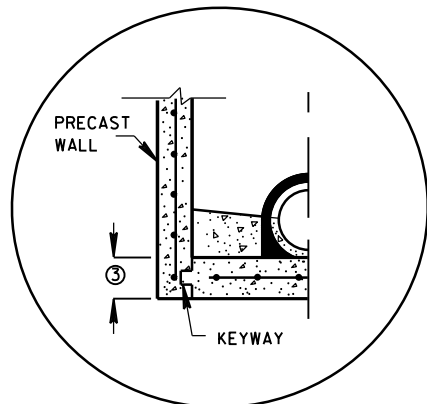
TOP WITH TONGUE AND GROOVE JOINT



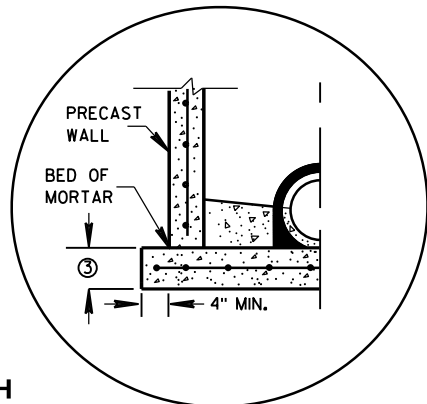
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

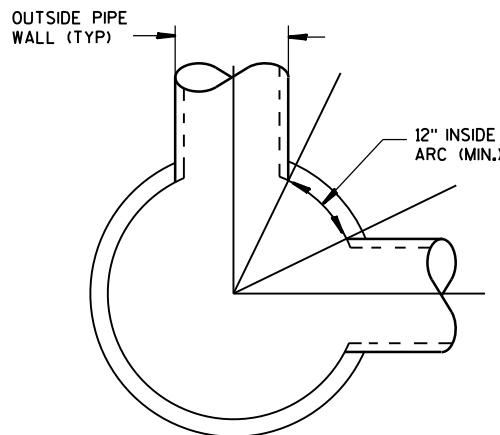


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

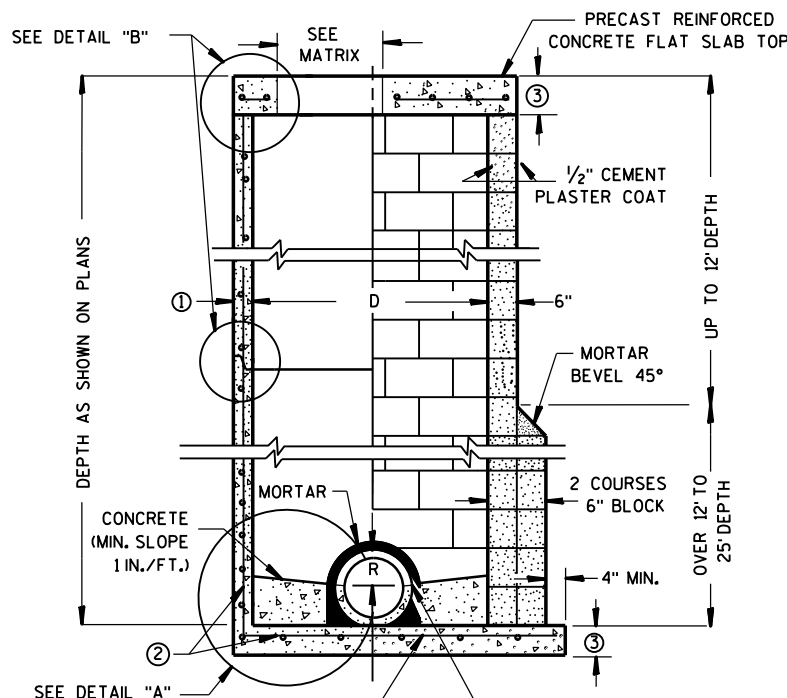


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"



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

PRECAST REINFORCED CONCRETE BLOCK WITH CONCRETE WITH MONOLITHIC BASE CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

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

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS. UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST MANHOLE UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

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

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

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

PRECAST REINFORCED CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES. THE CONE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

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

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

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF 1/2" AND MEET THE REQUIREMENTS OF ASTM A615.

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

ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED. CONCRETE BLOCK WILL NOT BE PERMITTED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

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

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

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

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

- ① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.
- ② FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.
- ③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

MANHOLE COVER OPENING MATRIX

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

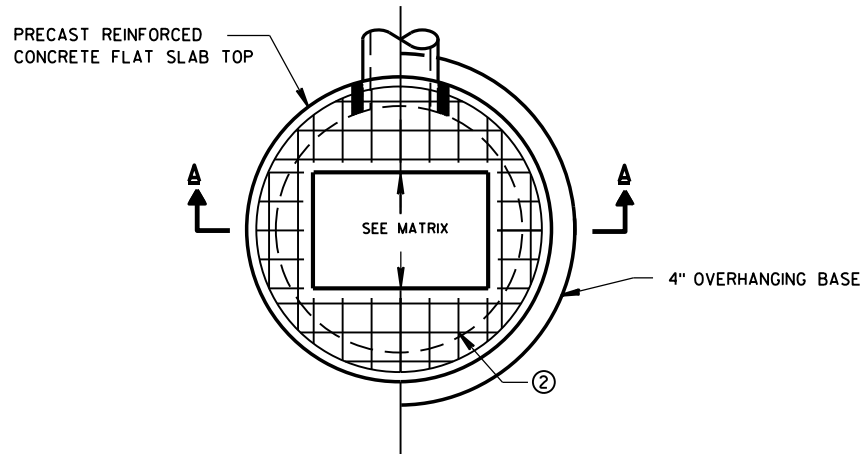
PIPE MATRIX

MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	36
7-FT	48	36
8-FT	60	42

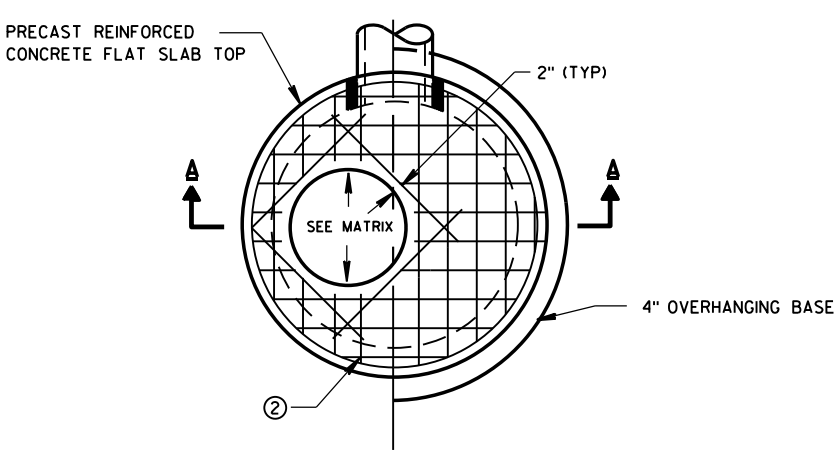
MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

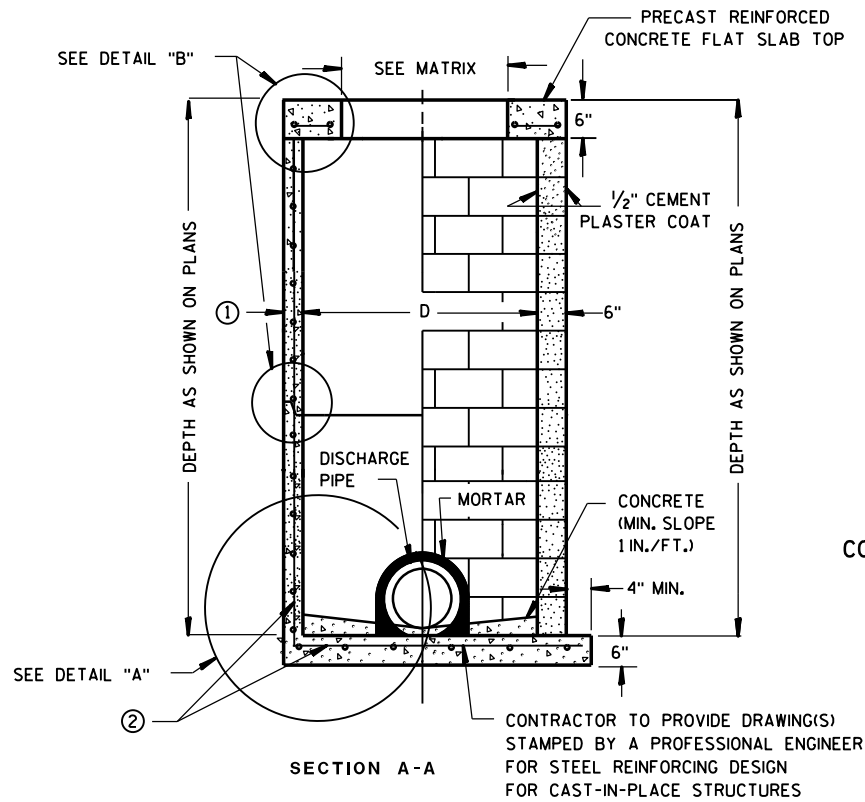


PLAN VIEW RECTANGULAR OPENING



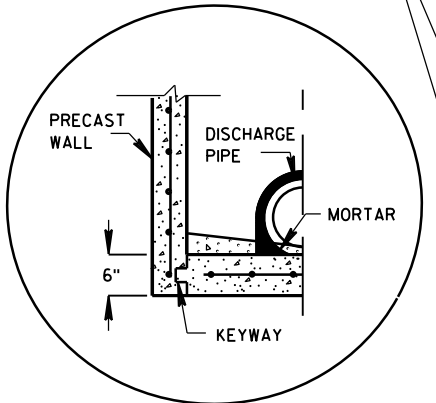
PLAN VIEW CIRCULAR OPENING

JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

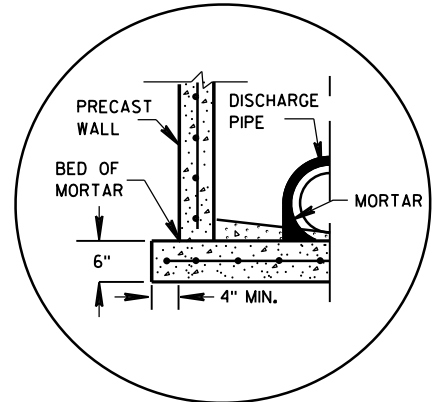


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE **CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②**

CIRCULAR INLETS W/ FLAT TOP

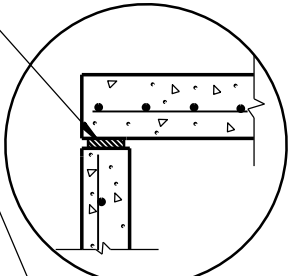


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

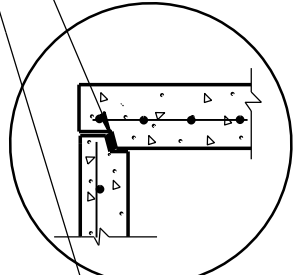


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

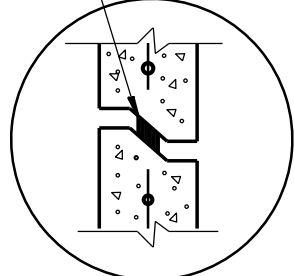
DETAIL "A"



TOP WITH PLAIN END JOINT



TOP WITH TONGUE AND GROOVE JOINT



RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

INLETS 3-FT AND 4-FT DIAMETER

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

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

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

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

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

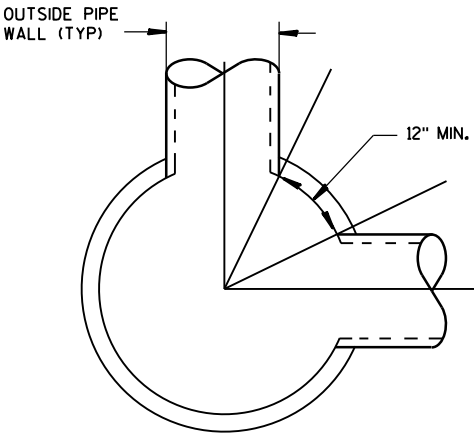
4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

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

- ① MINIMUM WALL THICKNESS SHALL BE 4-IN FOR 3-FT DIAMETER AND 5-IN FOR 4-FT DIAMETER PRECAST INLETS.
- ② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

INLET COVER OPENING MATRIX

	INLET COVER TYPE	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
INLET SIZE	OPENING SIZE (FT)											
3-FT	2 DIA.				X							X
	2X2	X	X					X		X		
4-FT	2 DIA.				X							X
	2X2	X	X					X	X	X	X	
	2X2.5			X								
	2X3						X					
	2.5X3					X						



DETAIL "C"

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18

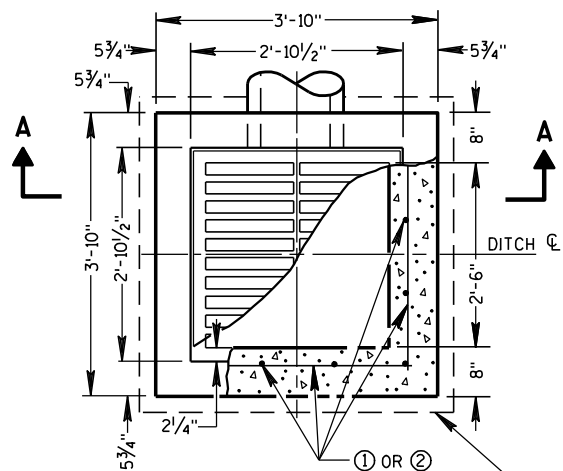
INLETS 3-FT AND 4-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

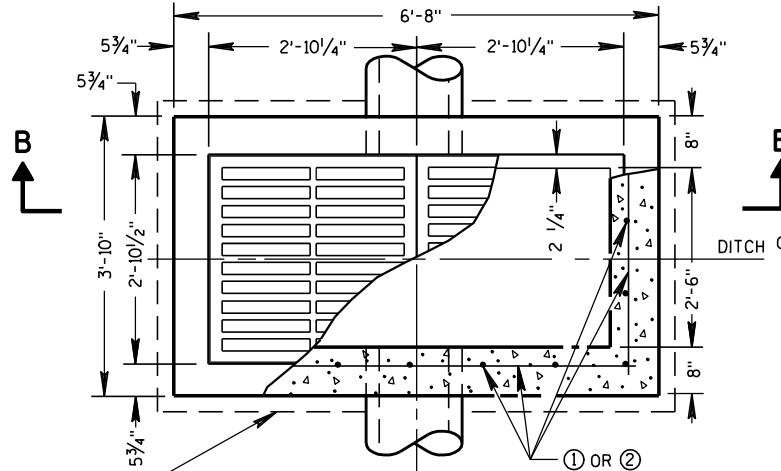
APPROVED
6/5/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

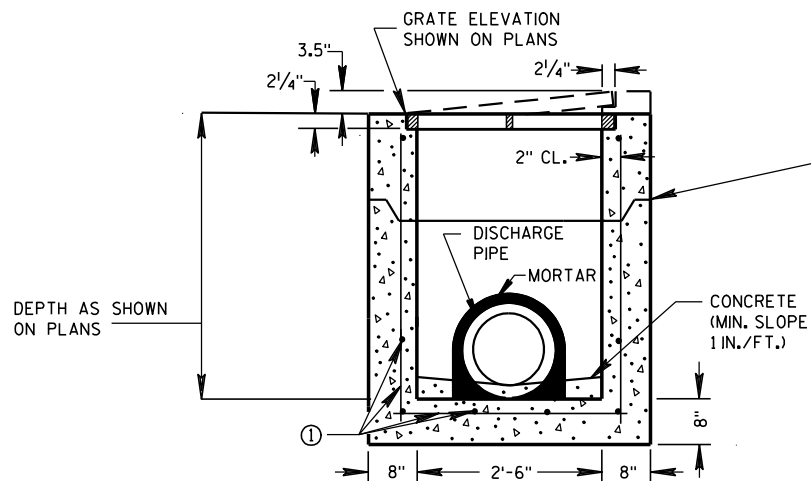
FHWA



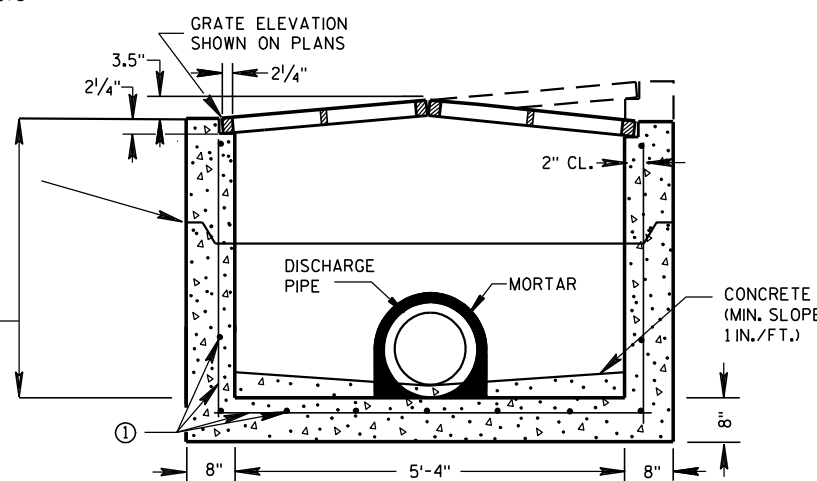
PLAN VIEW



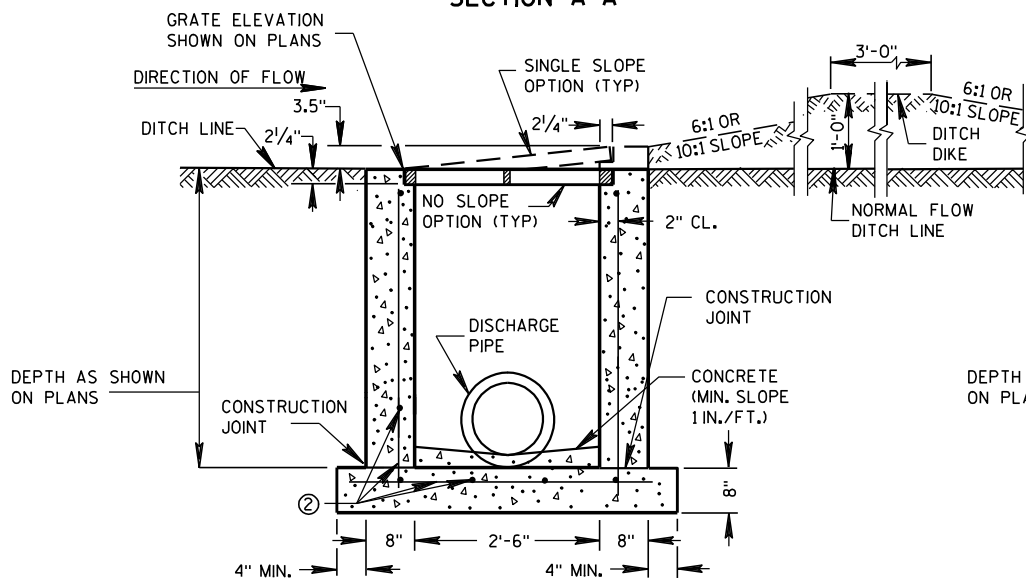
PLAN VIEW



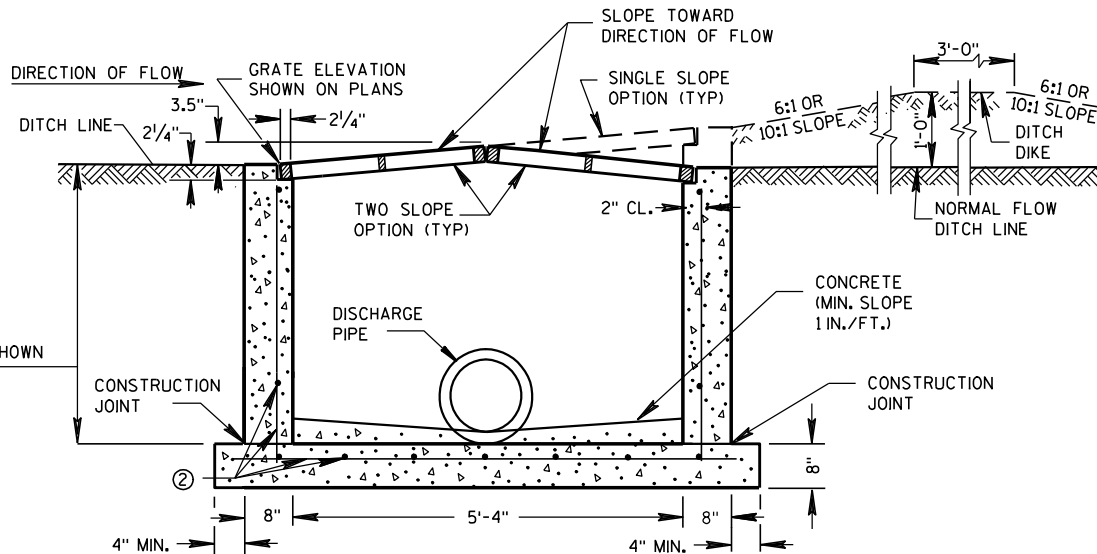
PRECAST REINFORCED CONCRETE SECTION A-A



PRECAST REINFORCED CONCRETE SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE SECTION A-A



REINFORCED CAST-IN-PLACE CONCRETE SECTION B-B

GENERAL NOTES

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

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

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

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

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

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

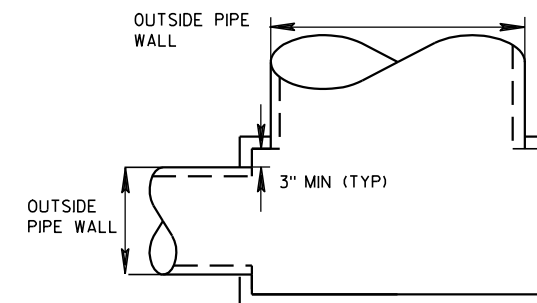
ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

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

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

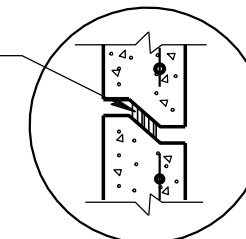
PIPE MATRIX

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



DETAIL "A"

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



DETAIL "B"

INLETS MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/5/2012

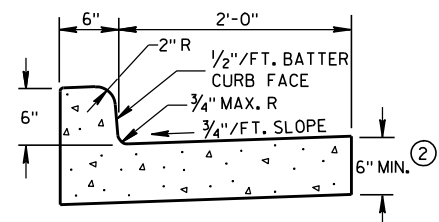
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FHWA

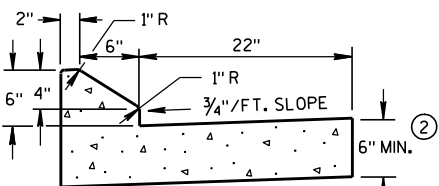
/s/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

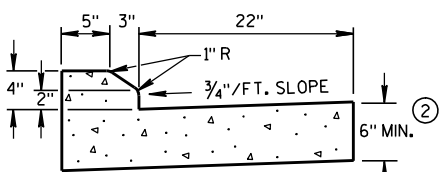
ENGINEER



TYPES A & D ①

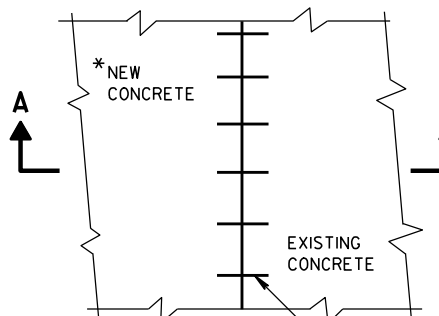


6" SLOPED CURB TYPES G & J ①



4" SLOPED CURB TYPES G & J ①

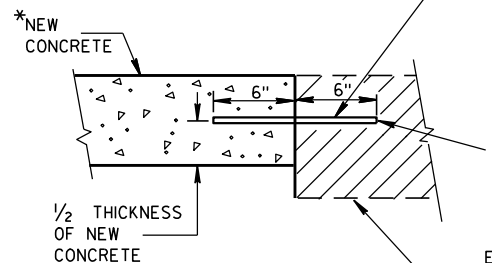
CONCRETE CURB & GUTTER 30"



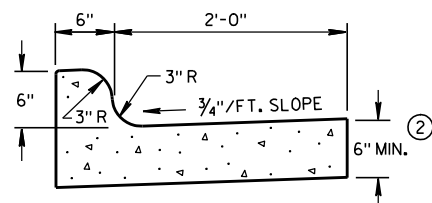
PLAN VIEW

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

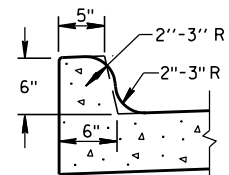
NO. 6 TIE BARS SPACED 2'-6" C-C,
INSTALLED PERPENDICULAR
TO THE LONGITUDINAL JOINT.



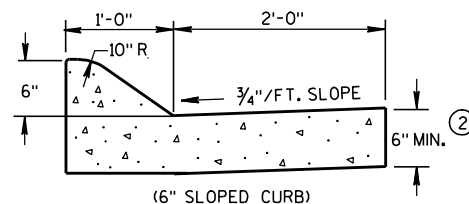
SECTION A-A
TIE BARS DRILLED
INTO EXISTING PAVEMENT



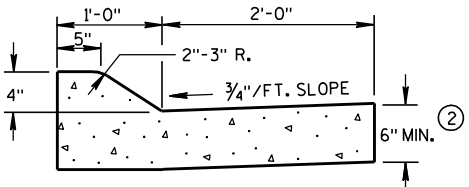
TYPES K & L ①



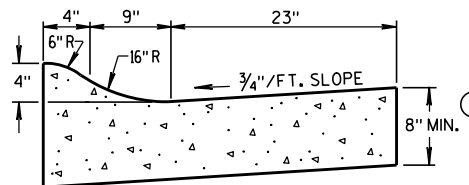
OPTIONAL CURB SHAPE
FOR TYPES K & L ①



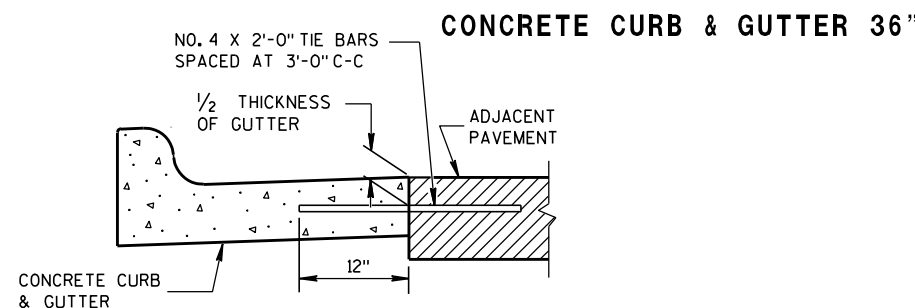
(6" SLOPED CURB)



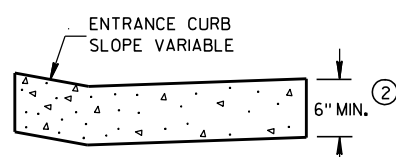
TYPES A & D ①



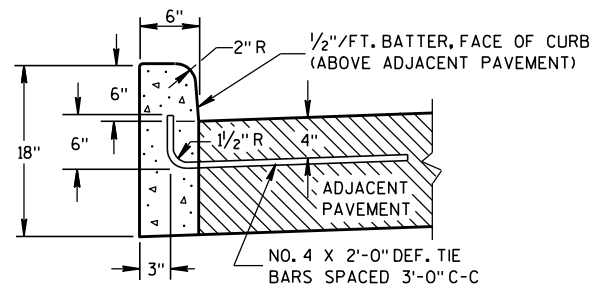
4" SLOPED CURB TYPES R & T ① ④



TYPICAL TIE BAR LOCATION ①

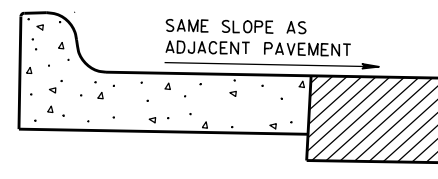


DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)

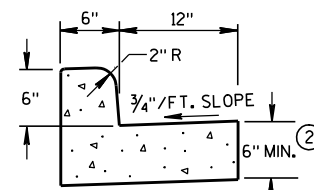


TYPES A & D ①

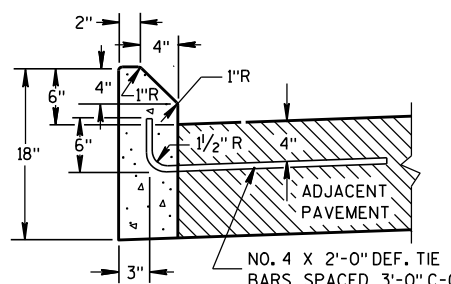
CONCRETE CURB



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



TYPES A & D
CONCRETE CURB & GUTTER 18"



TYPES G & J ①

GENERAL NOTES

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

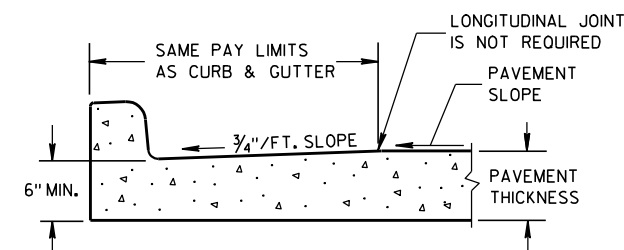
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

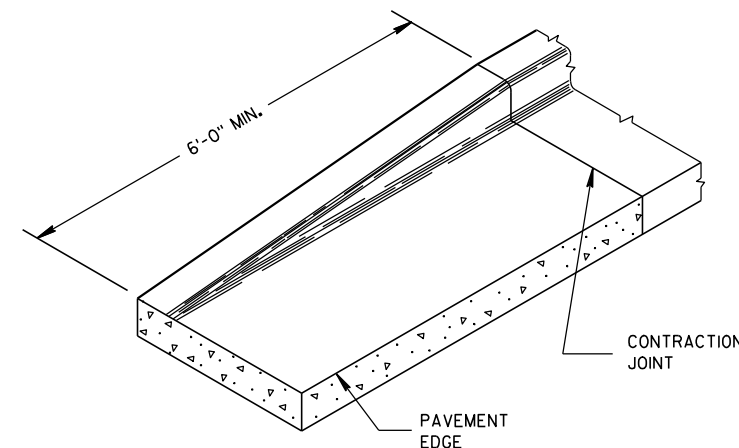
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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

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



PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER



END SECTION CURB & GUTTER

CONCRETE CURB, CONCRETE
CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/4/08

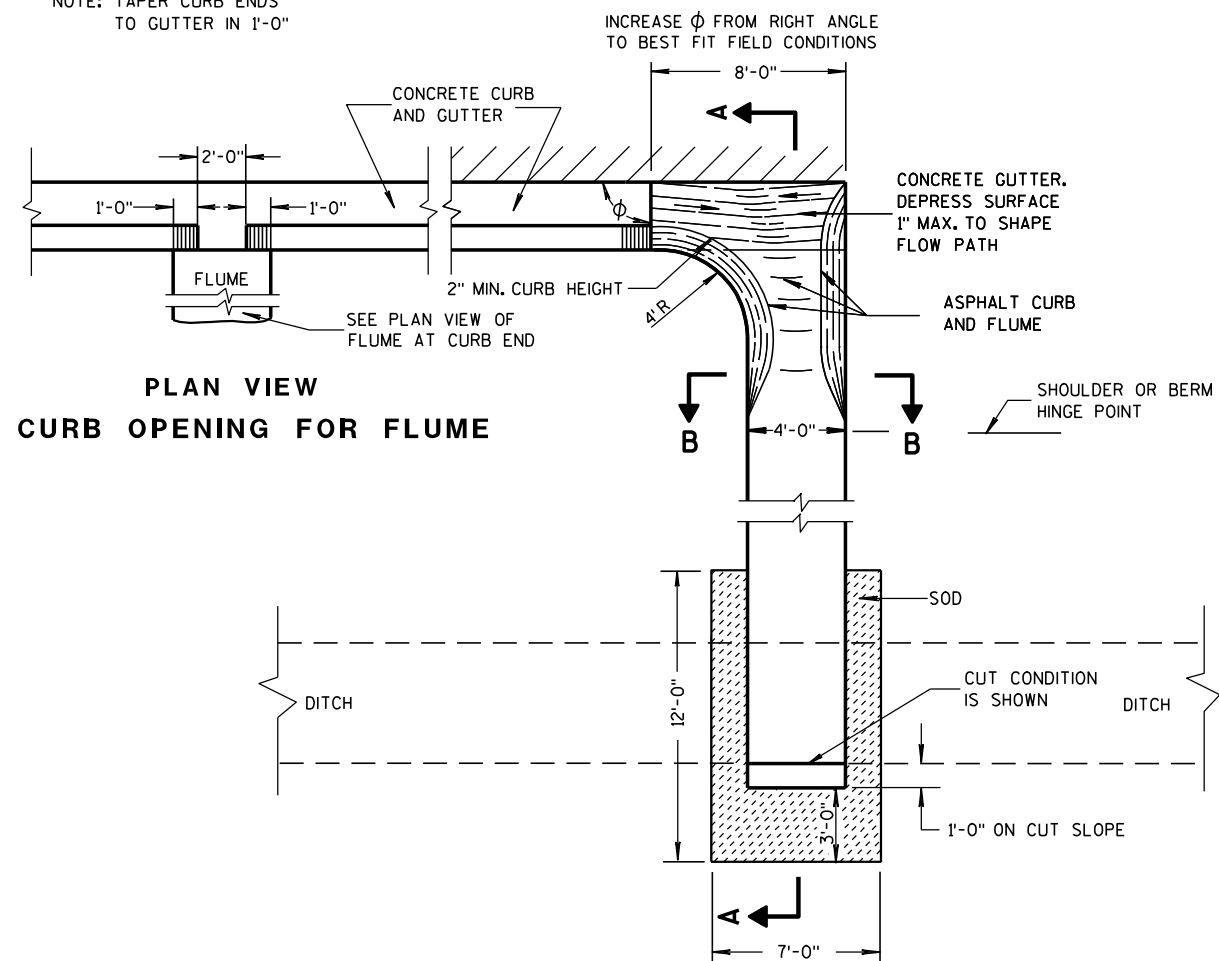
DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

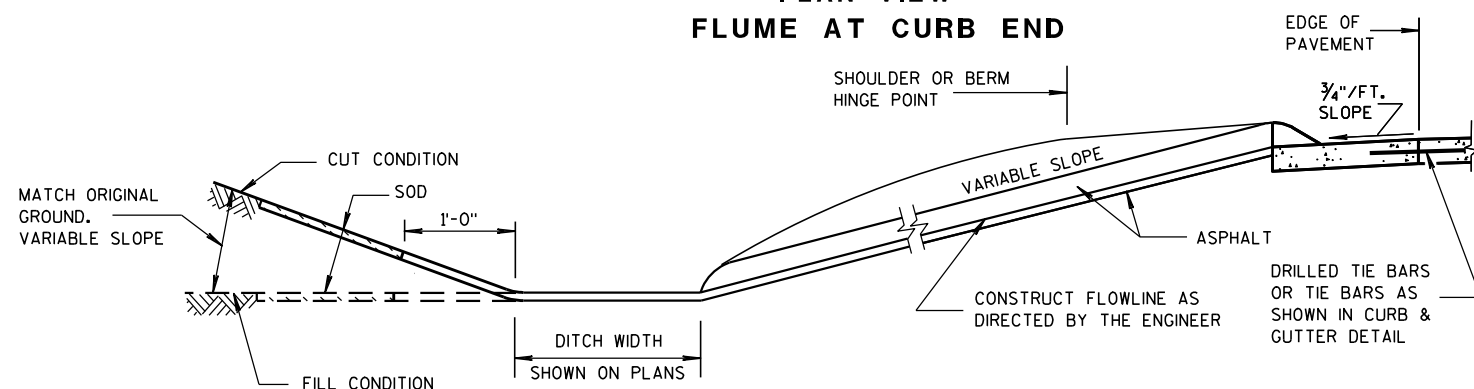
ASPHALTIC FLUME

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

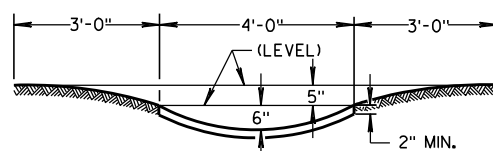


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

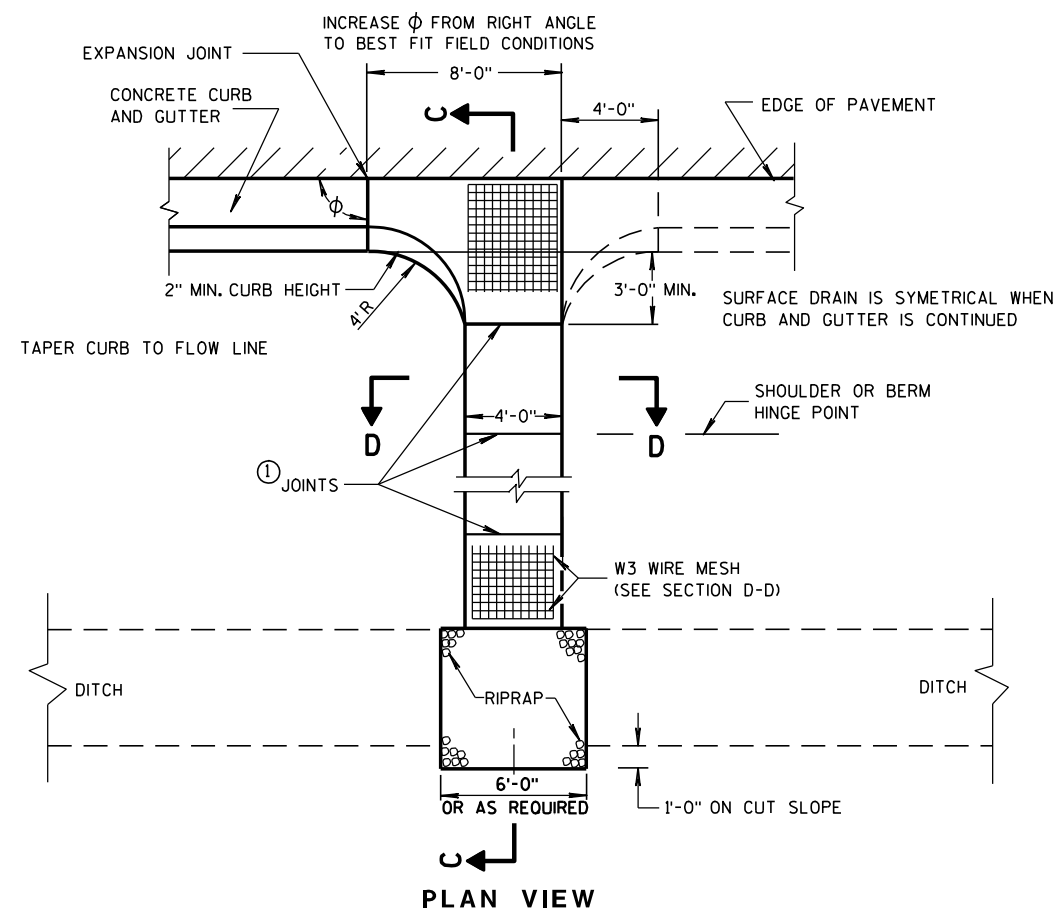
GENERAL NOTES

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

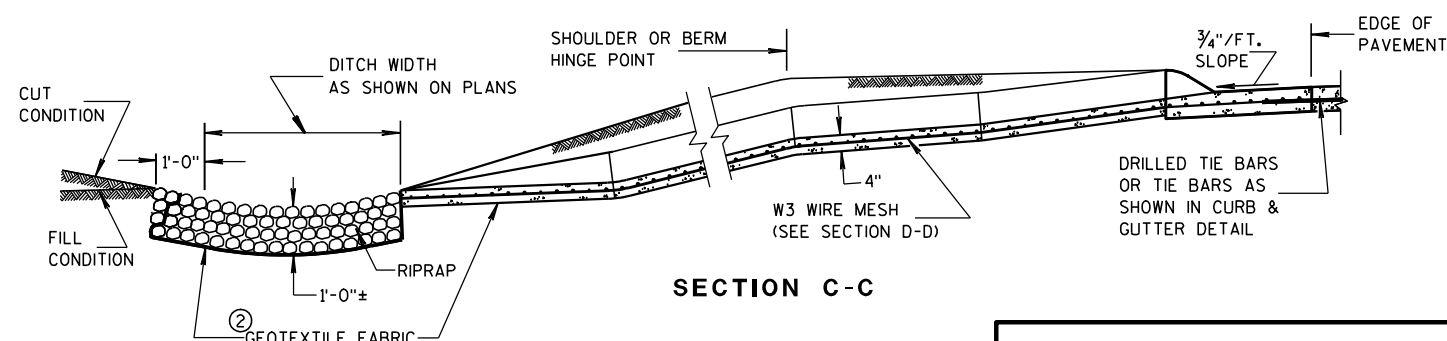
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

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

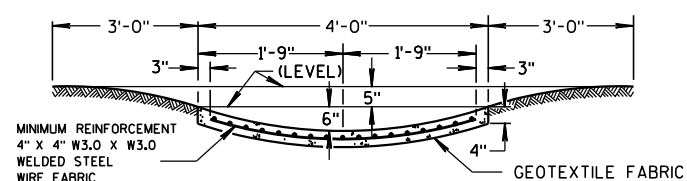
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9-4-08

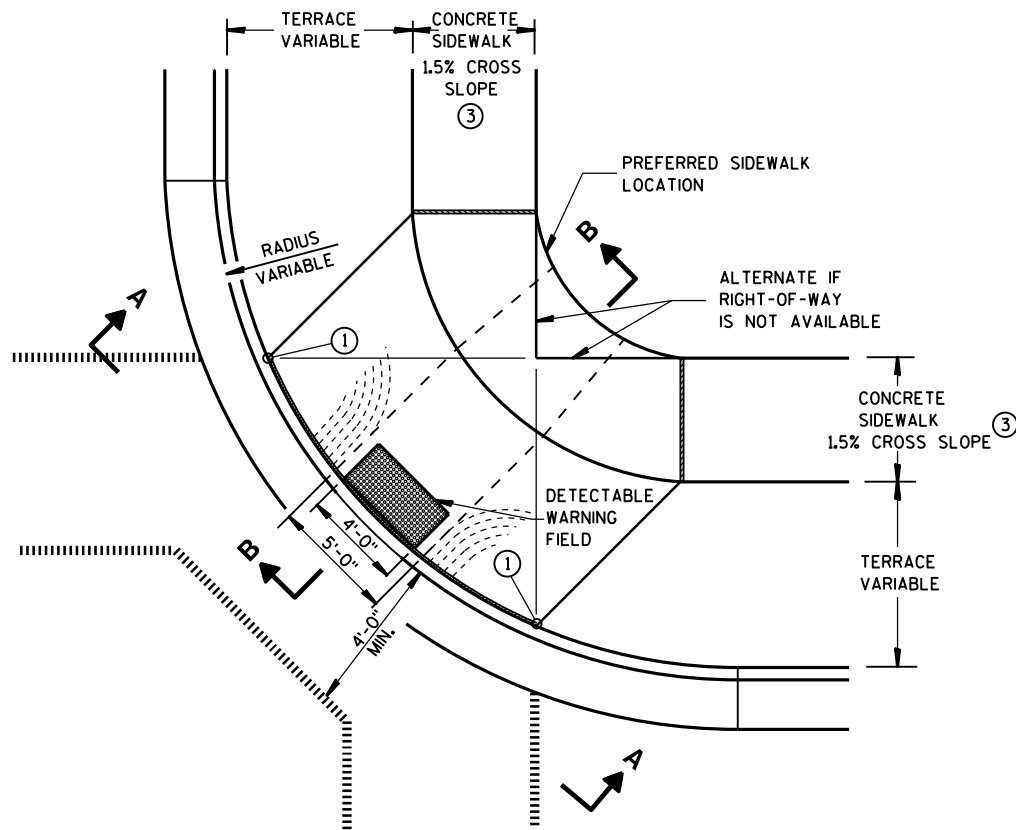
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FHWA

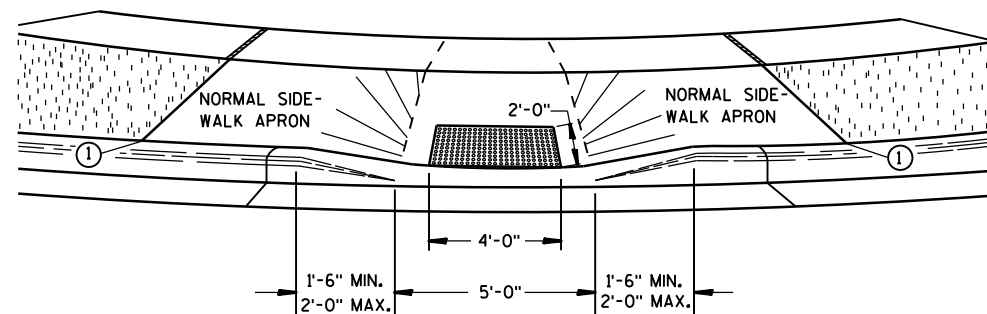
/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

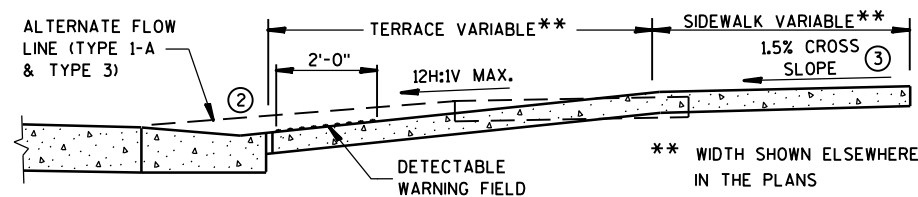
ENGINEER



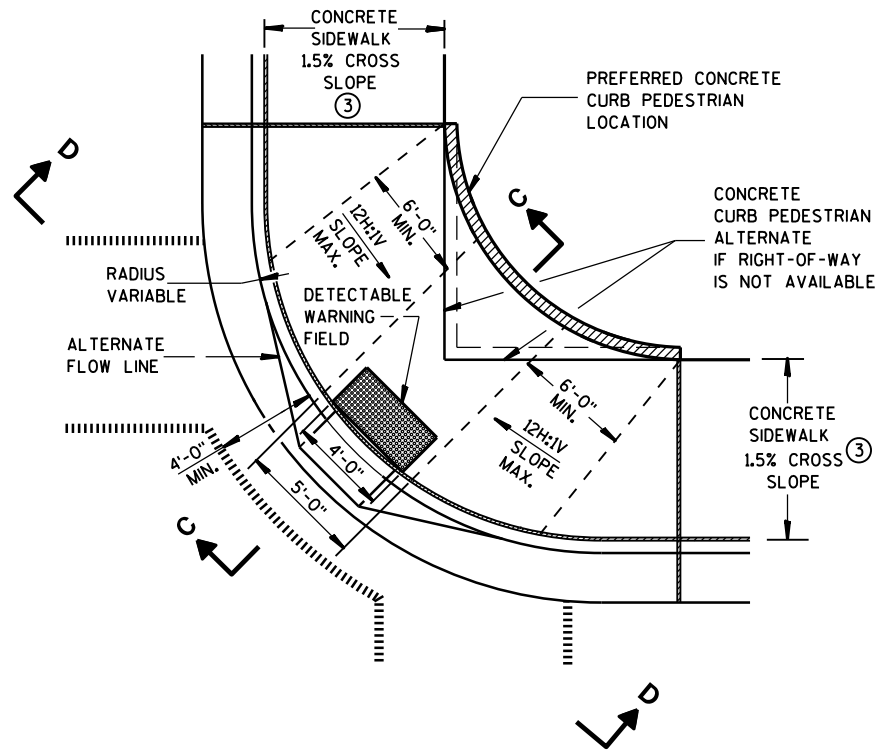
**PLAN VIEW
TYPE 1 RAMP**
(CENTER OF CORNER RADIUS)



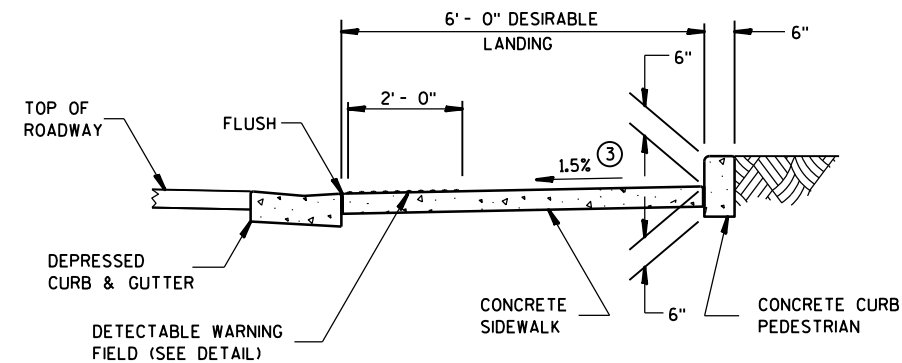
VIEW A-A



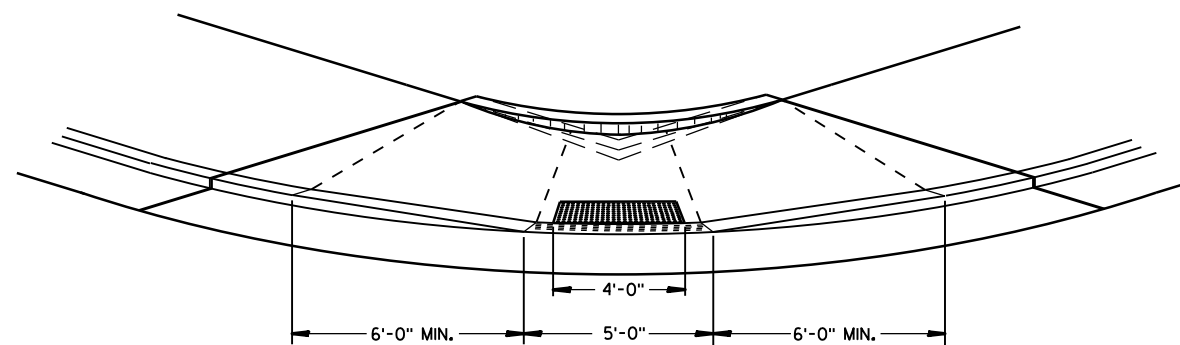
SECTION B-B



**PLAN VIEW
TYPE 1-A RAMP**
(NO TERRACE)



SECTION C-C



VIEW D-D

GENERAL NOTES

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

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

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

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

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

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

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

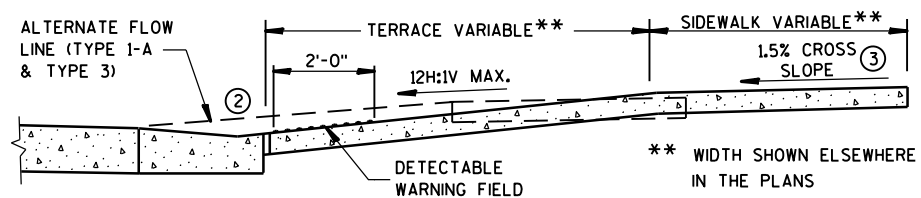
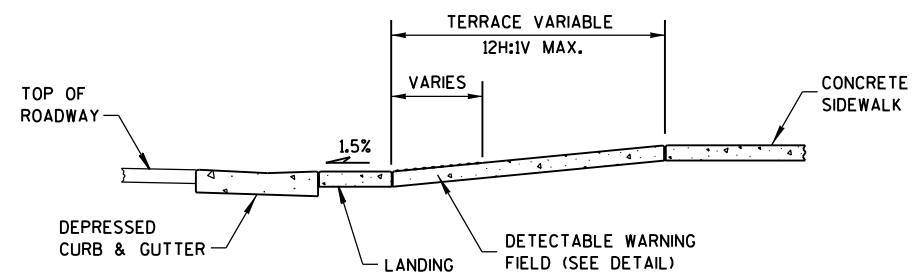
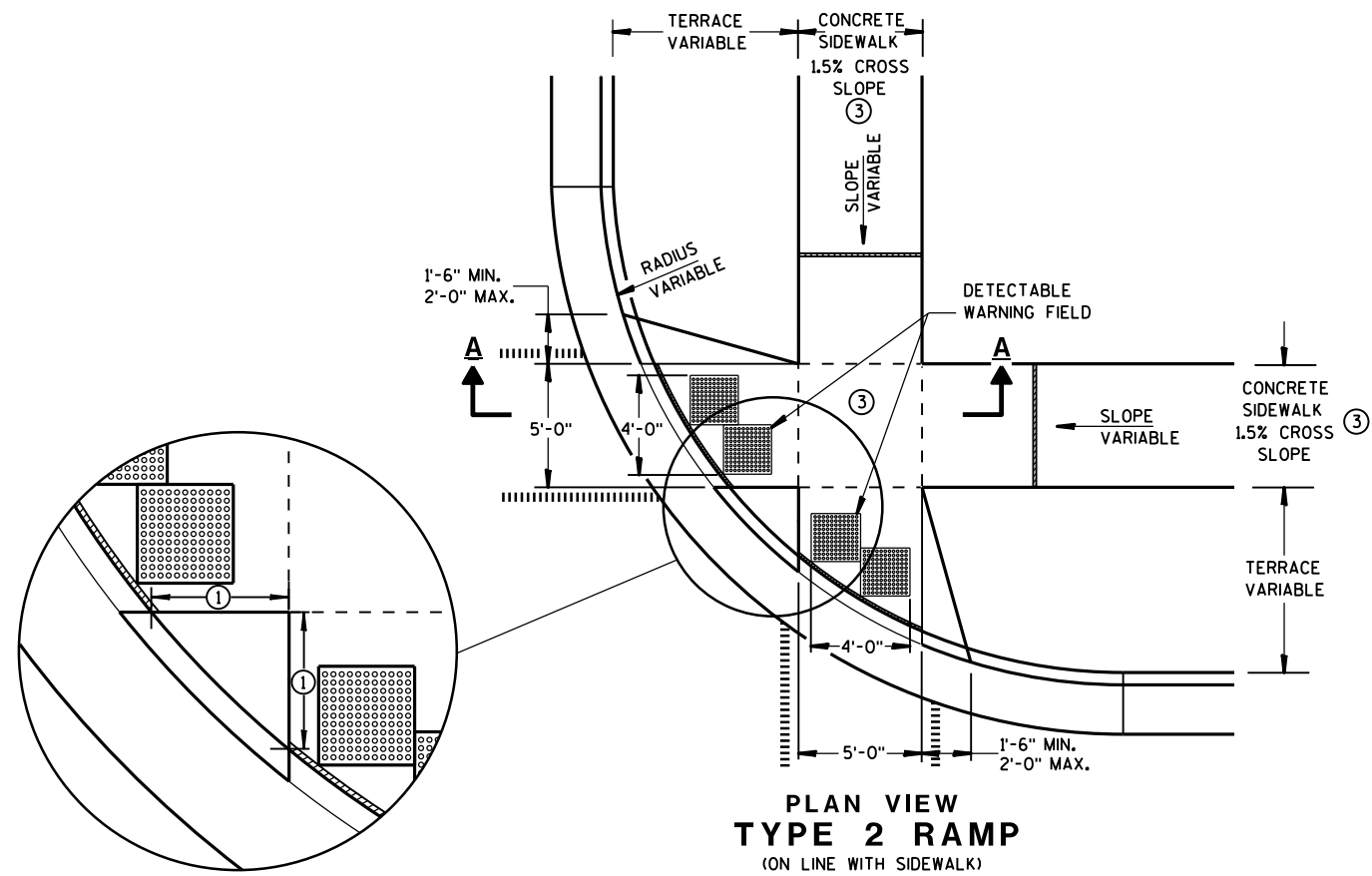
- ① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.
- ③ $\pm 0.5\%$ CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

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

**CURB RAMPS
TYPES 1 AND 1-A**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



GENERAL NOTES

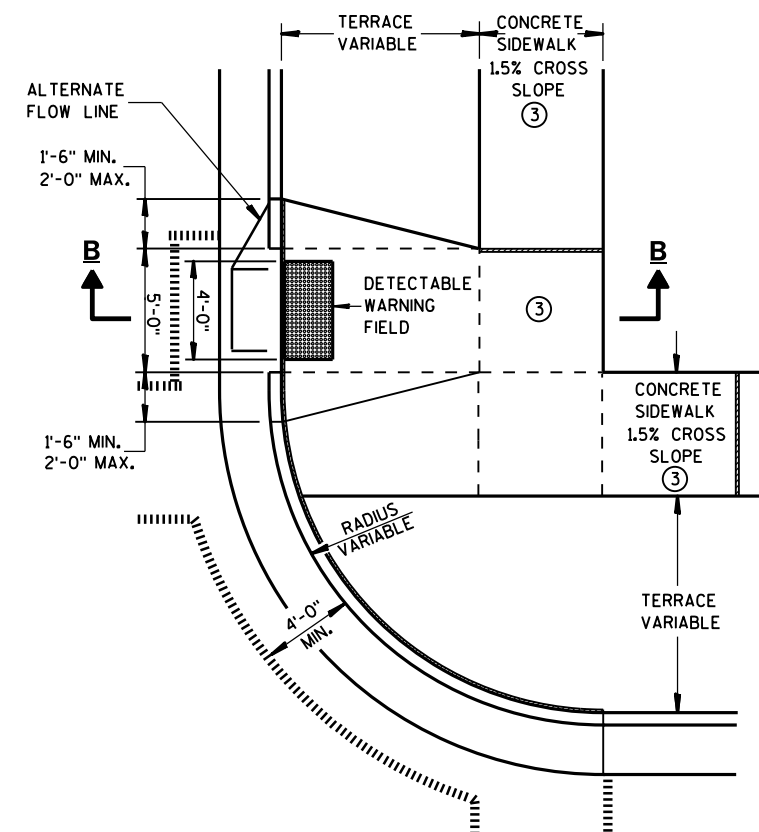
USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

- ① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.
- ③ $\pm 0.5\%$ CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

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

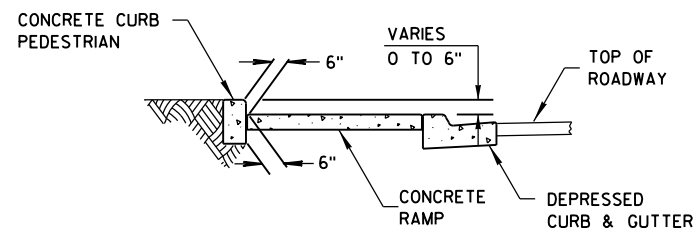


**CURB RAMPS
TYPES 2 AND 3**

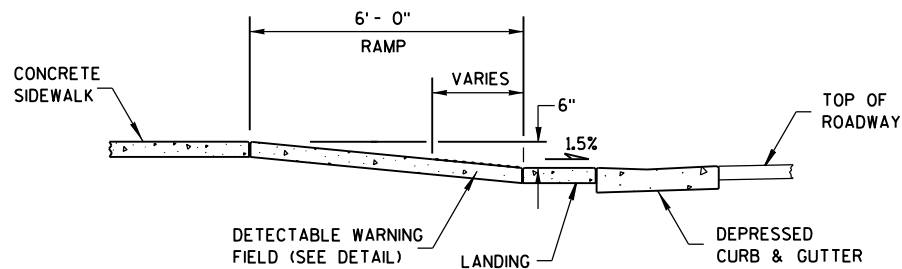
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CURB RAMP TYPE 4A
PLAN VIEW



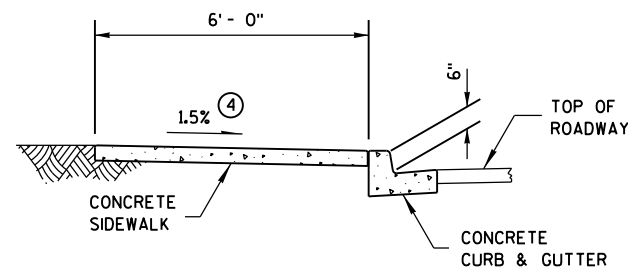
SECTION C-C FOR TYPE 4A



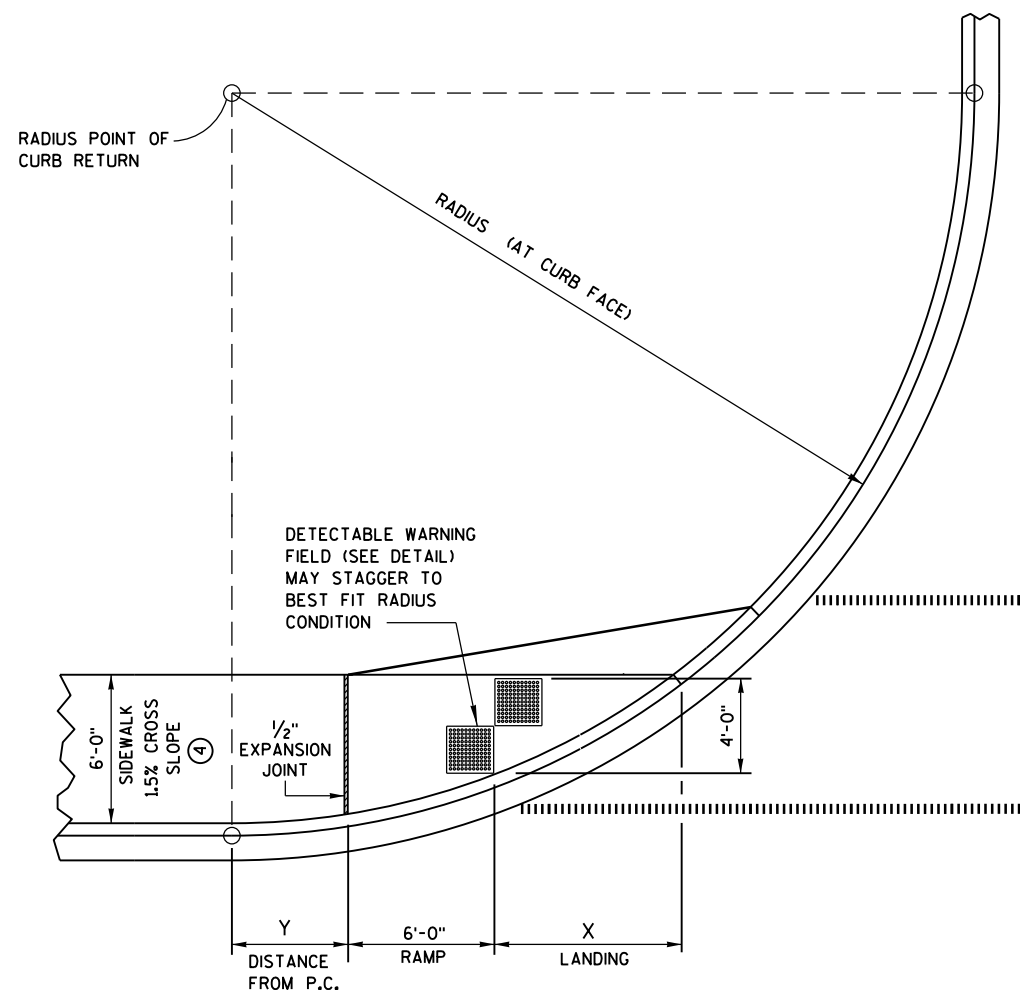
SECTION B-B FOR TYPE 4A

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

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A FOR TYPE 4A



CURB RAMP TYPE 4A1
PLAN VIEW

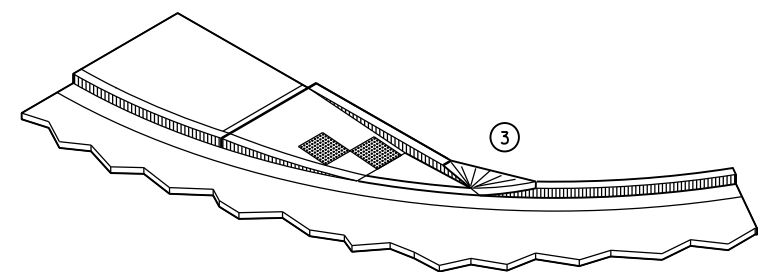
GENERAL NOTES

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

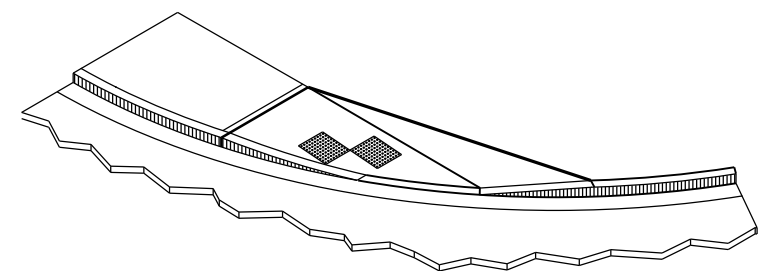
RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

- ③ INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.)
DO NOT MARK TRANSITION NOSE.
- ④ $\pm 0.5\%$ CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.




ISOMETRIC VIEW FOR TYPE 4A



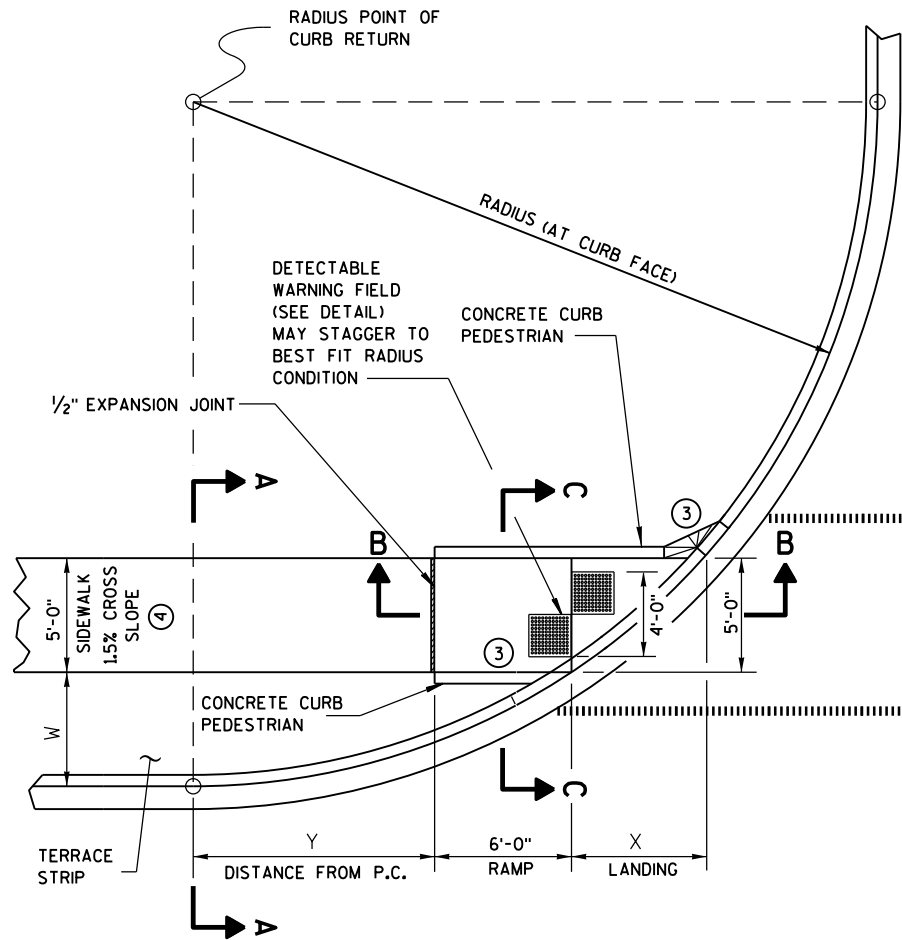
ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

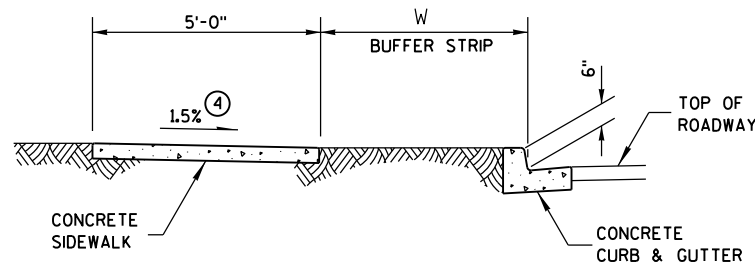
- 1/2" EXPANSION JOINT-SIDEWALK
 CONTRACTION JOINT FIELD LOCATED
 PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS TYPES 4A AND 4A1

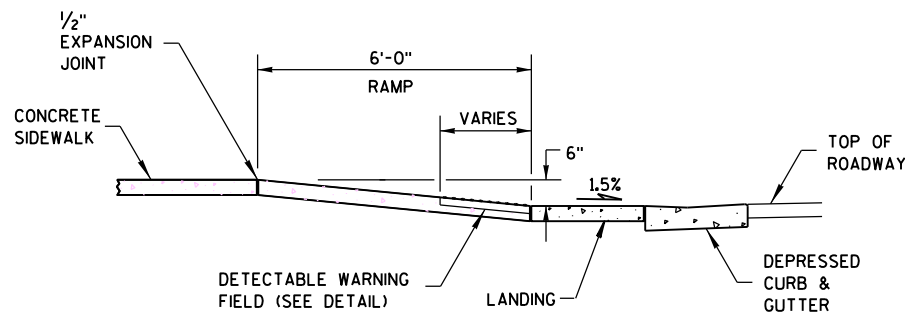
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CURB RAMP TYPE 4B
PLAN VIEW



SECTION A-A FOR TYPE 4B

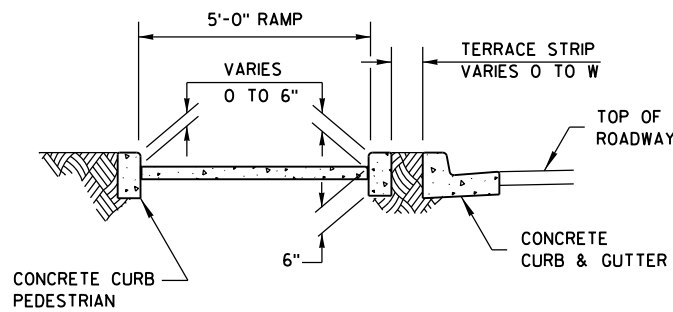


SECTION B-B FOR TYPE 4B

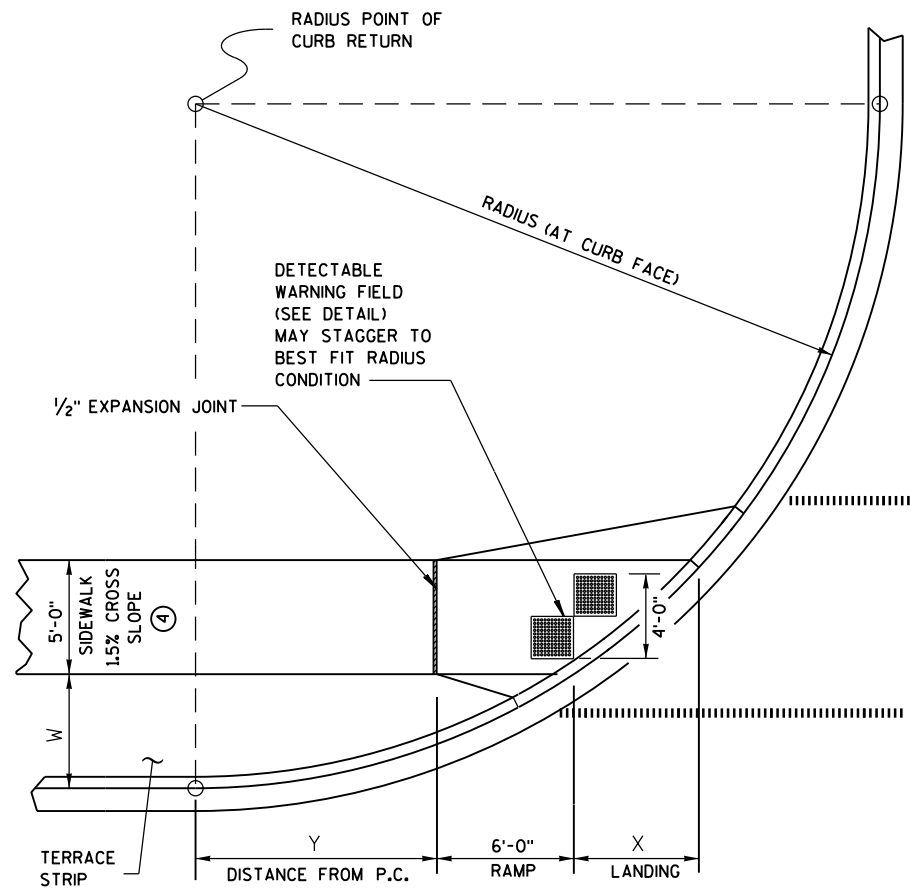
- LEGEND**
- 1/2" EXPANSION JOINT-SIDEWALK
 - CONTRACTION JOINT FIELD LOCATED
 - PAVEMENT MARKING CROSSWALK (WHITE)

RADIUS (AT CURB FACE)	W = 3' - 0"		W = 4' - 0"		W = 5' - 0"		W = 6' - 0"		W = 7' - 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-5 1/2"	4'-6 1/2"	4'-8 1/2"	6'-0"	4'-1"	7'-2 3/4"	3'-7"	8'-3 1/2"	3'-1 1/2"	9'-2 1/2"
30 FEET	7'-3 3/4"	7'-1"	6'-5 1/2"	8'-11 1/2"	5'-9 1/4"	10'-7"	5'-2 1/2"	12'-0"	4'-8 3/4"	13'-3 1/4"
40 FEET	8'-9 1/2"	9'-2 1/2"	7'-10"	11'-5 1/4"	7'-1"	13'-4 1/2"	6'-5 3/4"	15'-3/4"	5'-11 1/2"	16'-7 1/4"
50 FEET	10'-3/4"	11'-3/4"	9'-1/4"	13'-7 1/4"	8'-2 1/2"	15'-9 1/2"	7'-6 1/2"	17'-9"	6'-11 3/4"	19'-6 1/4"
60 FEET	11'-2 1/2"	12'-8 3/4"	10'-3/4"	15'-6 1/2"	9'-2 1/4"	17'-11 3/4"	8'-5 3/4"	20'-1 3/4"	7'-10 1/2"	22'-1 1/2"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION C-C FOR TYPE 4B



CURB RAMP TYPE 4B1
PLAN VIEW

GENERAL NOTES

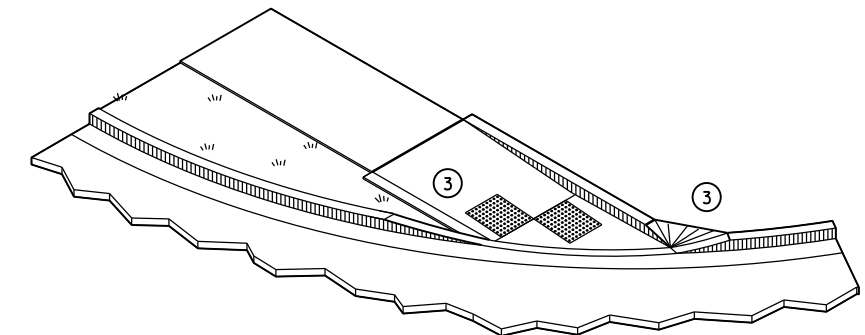
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

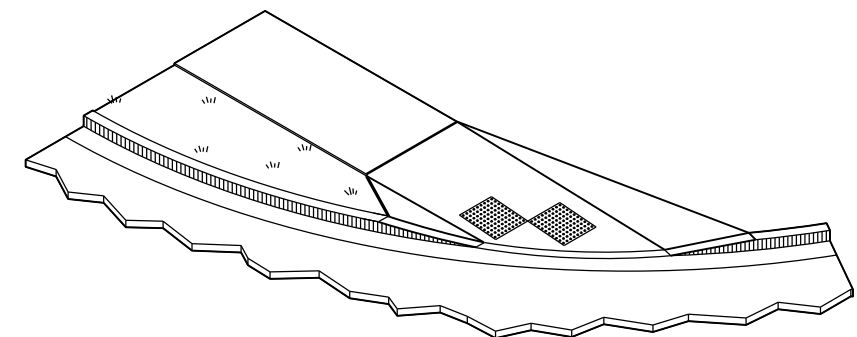
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

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

④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



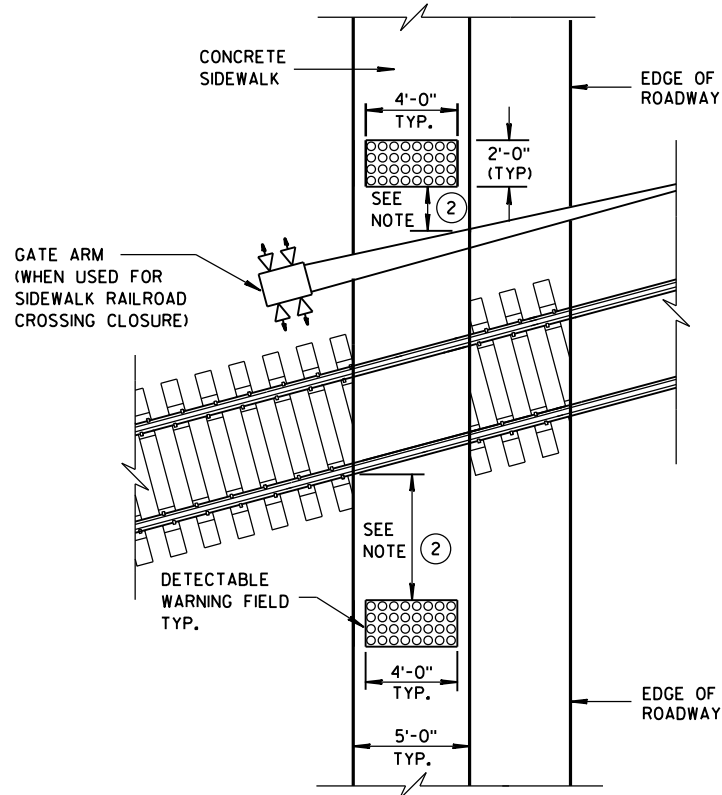
ISOMETRIC VIEW FOR TYPE 4B



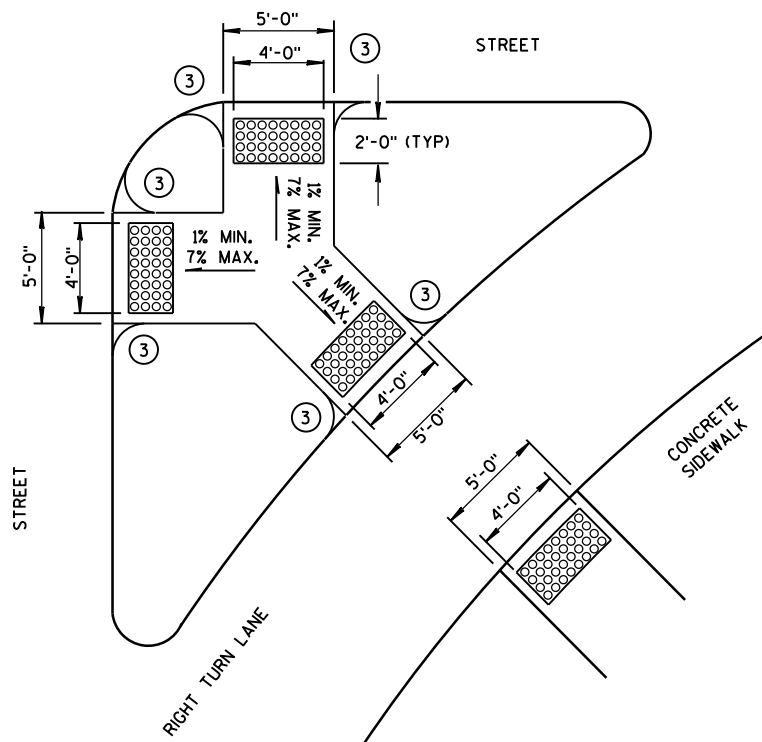
ISOMETRIC VIEW FOR TYPE 4B1

CURB RAMPS
TYPE 4B AND 4B1

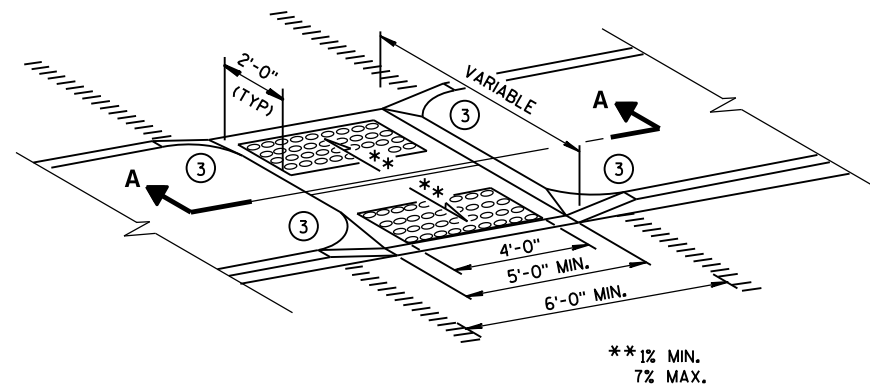
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



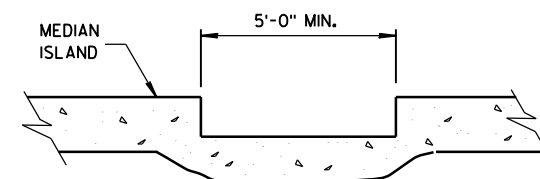
TYPE 8
DETECTABLE WARNINGS
AT RAILROAD CROSSING



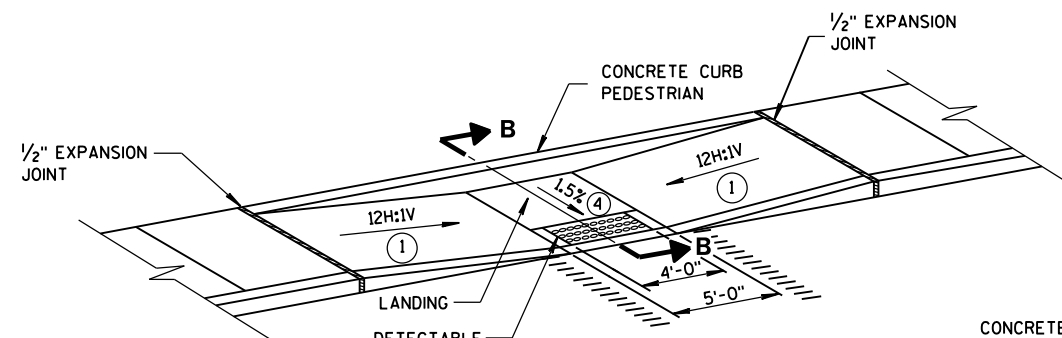
TYPE 6
DETECTABLE WARNING AT ISLANDS



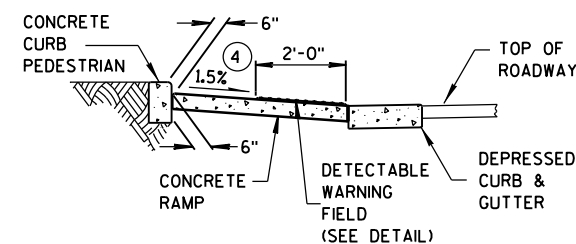
MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5



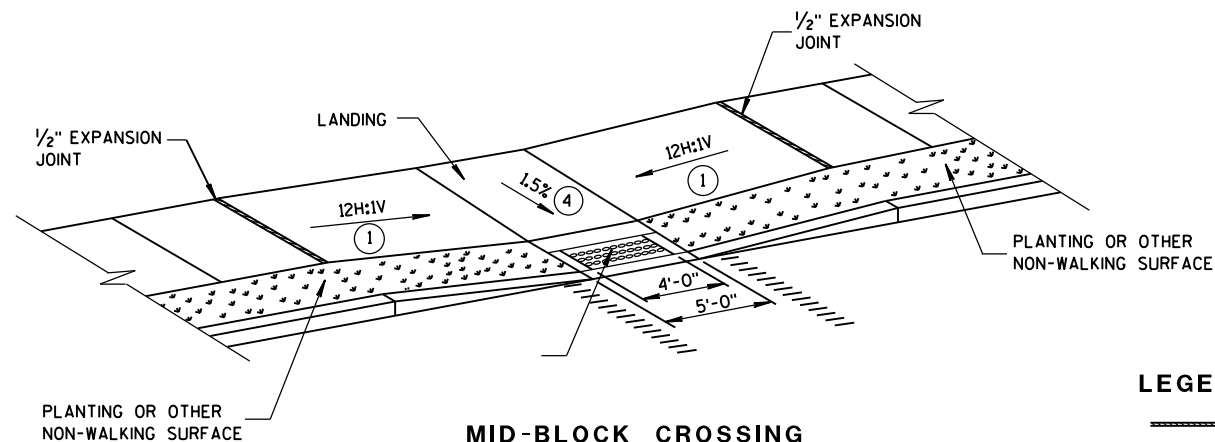
SECTION A-A



MID-BLOCK CROSSING
TYPE 7A



SECTION B-B



MID-BLOCK CROSSING
TYPE 7B

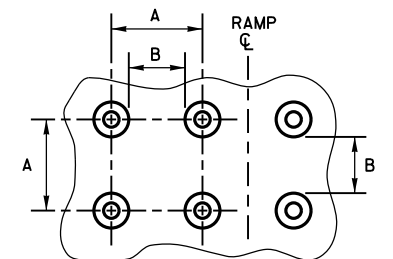
NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

GENERAL NOTES

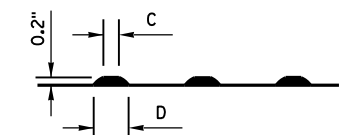
SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

- 1 SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.
- 2 THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.
- 3 INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.
- 4 ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



PLAN VIEW

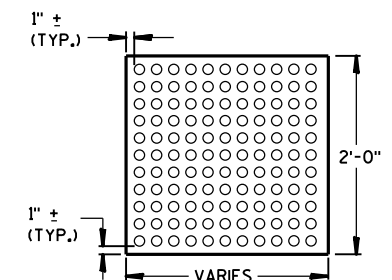


ELEVATION VIEW

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

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

TRUNCATED DOMES
DETECTABLE WARNING
PATTERN DETAIL



PLAN VIEW

DETECTABLE WARNING
FIELD (TYPICAL)

LEGEND

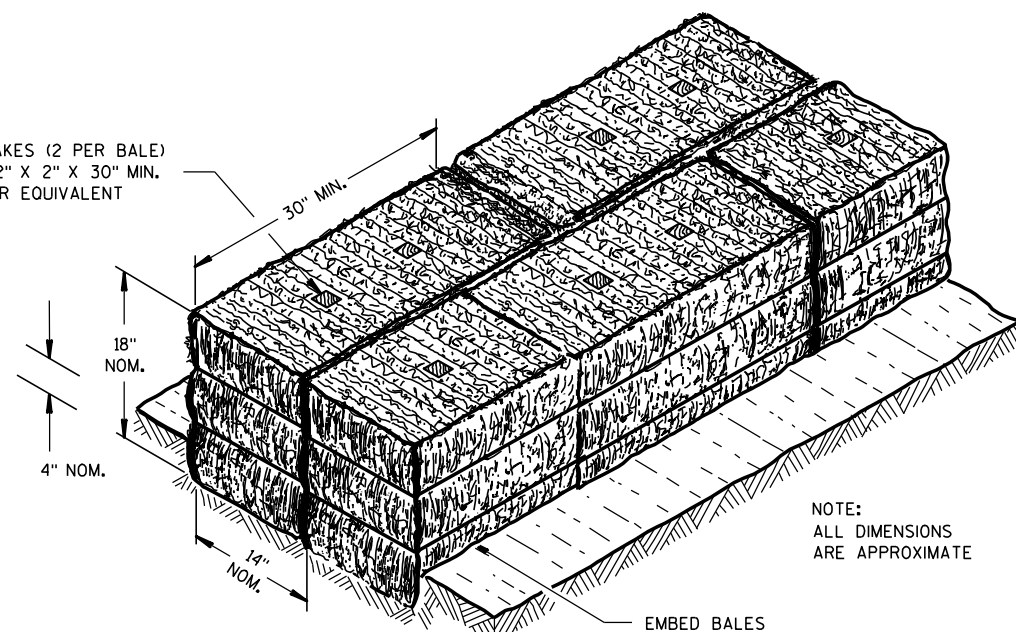
- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

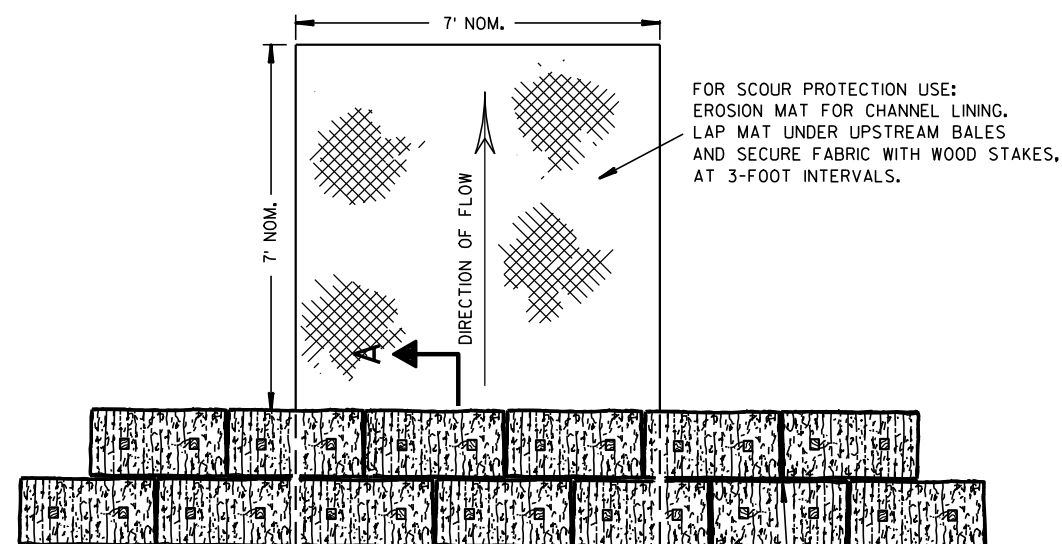
APPROVED
2-6-2013 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA

WOOD STAKES (2 PER BALE)
NOMINAL 2" X 2" X 30" MIN.
LENGTH OR EQUIVALENT



SECTION A-A

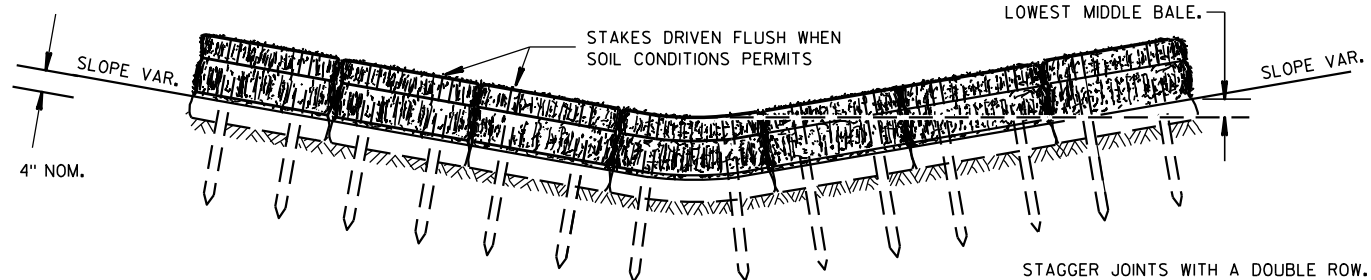
NOTE:
ALL DIMENSIONS
ARE APPROXIMATE



PLAN VIEW

STAGGER JOINTS BETWEEN ADJACENT
ROWS OF BALES.

BOTTOM ELEVATION OF END BALE SHALL
BE EQUAL TO OR GREATER THAN TOP OF
LOWEST MIDDLE BALE.



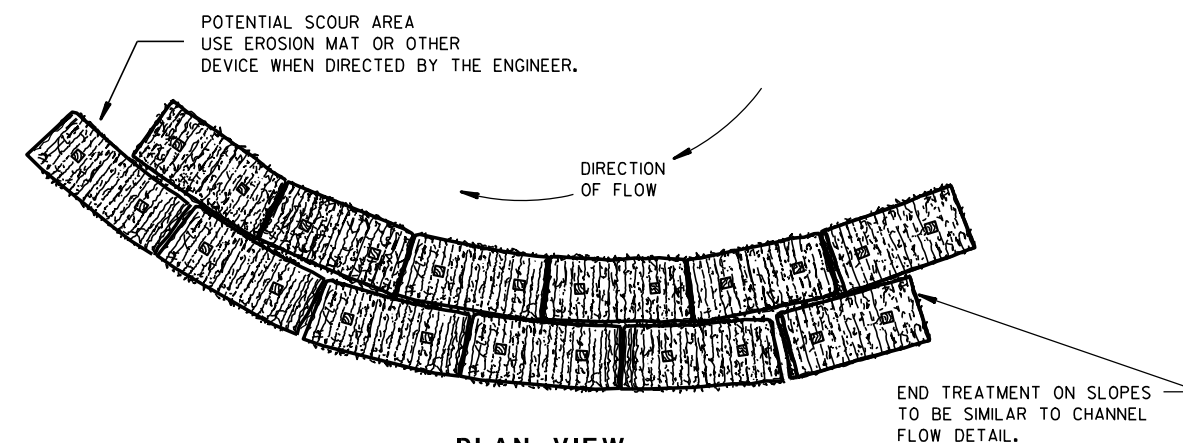
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

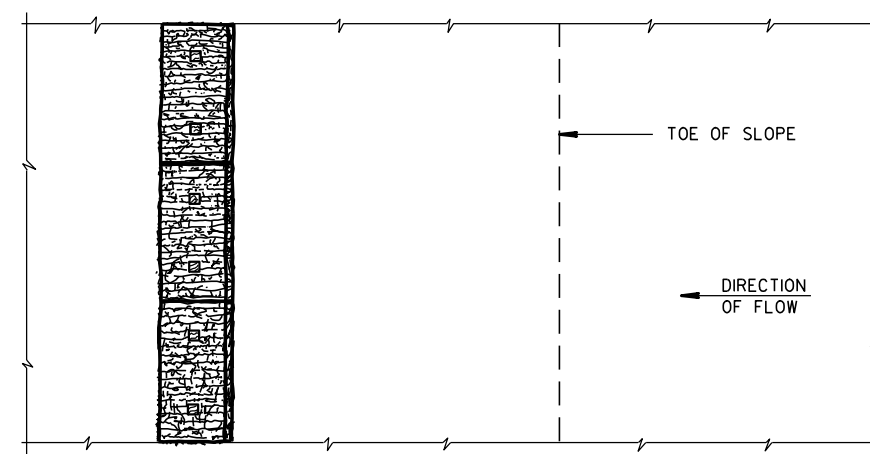
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

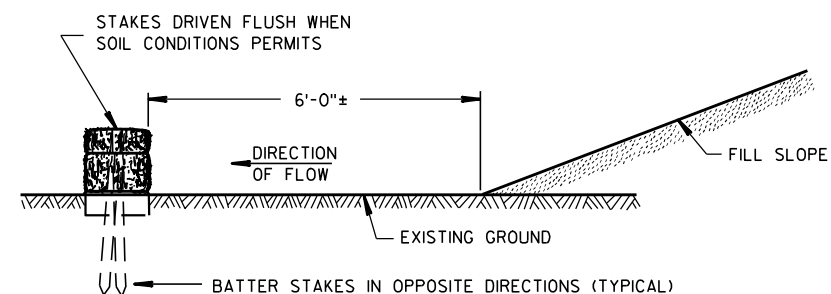


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02
DATE

FHWA

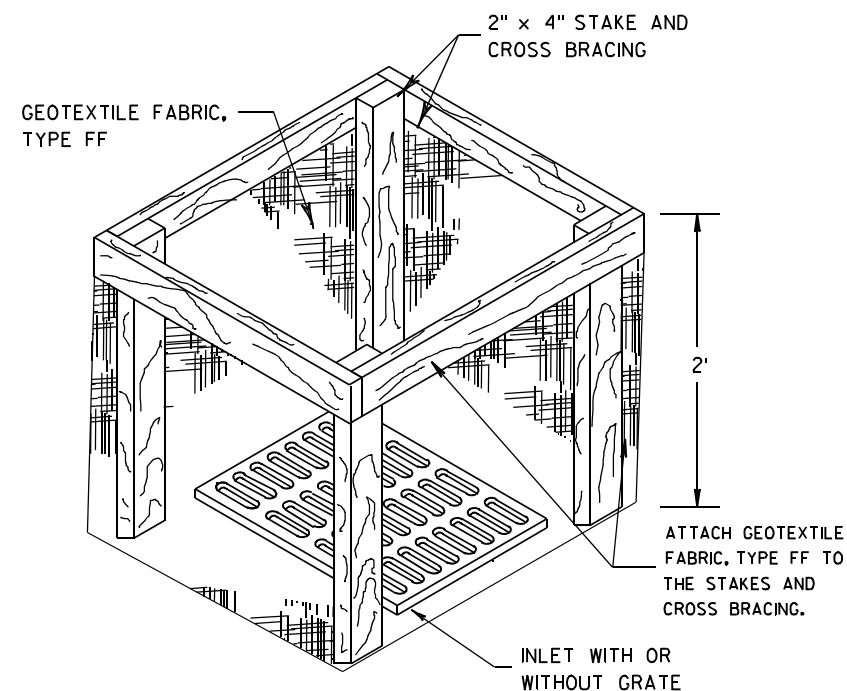
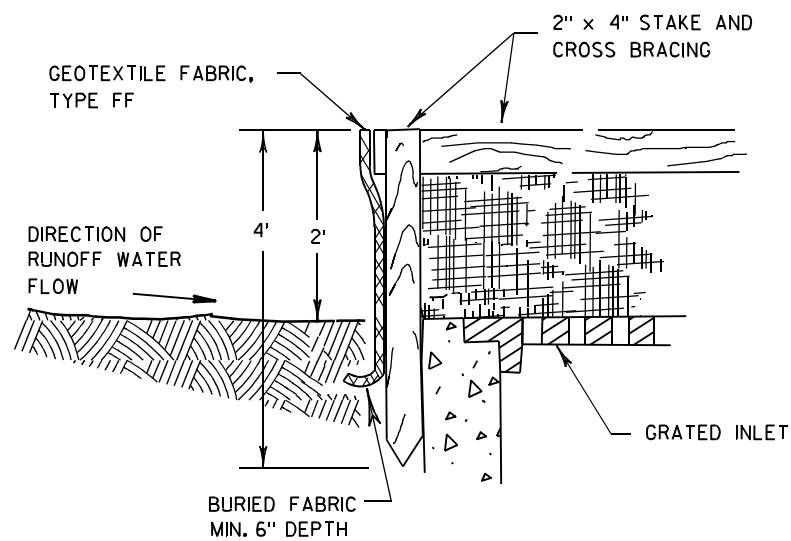
/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



- 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.



<div>SILT FENCE</div>	
<div>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</div>	
<div>APPROVED</div> <div>4-29-05</div> <div>DATE</div>	<div>/S/ Beth Cannestra</div> <div>CHIEF ROADWAY DEVELOPMENT ENGINEER</div>



INLET PROTECTION, TYPE A

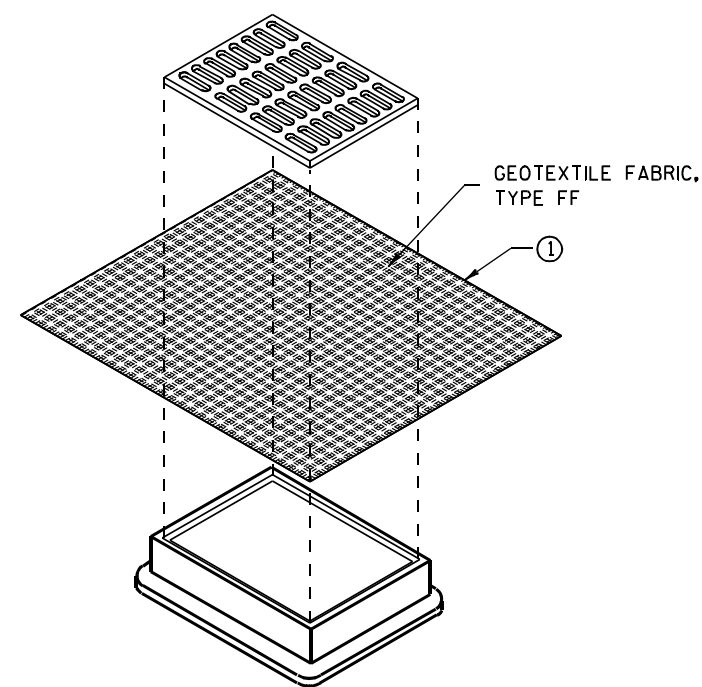
GENERAL NOTES

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

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

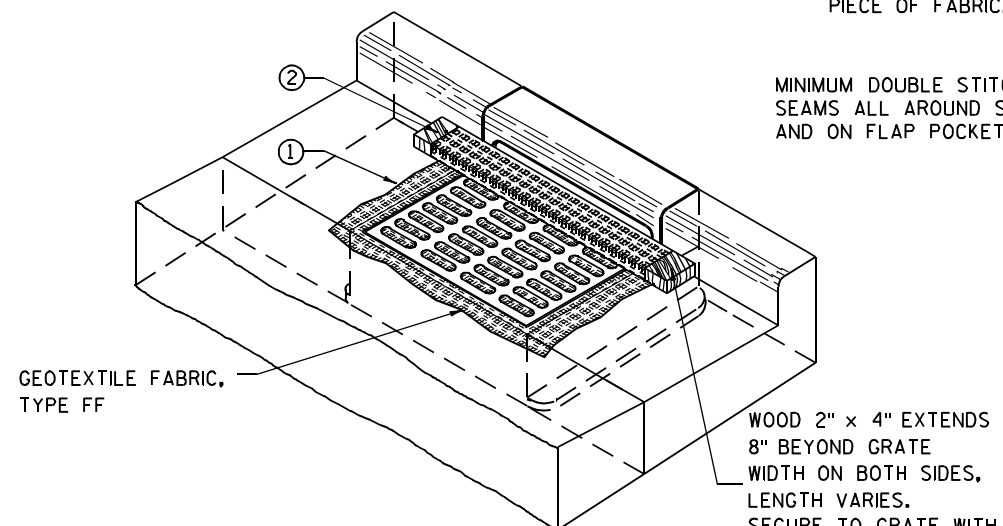
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

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



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

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

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

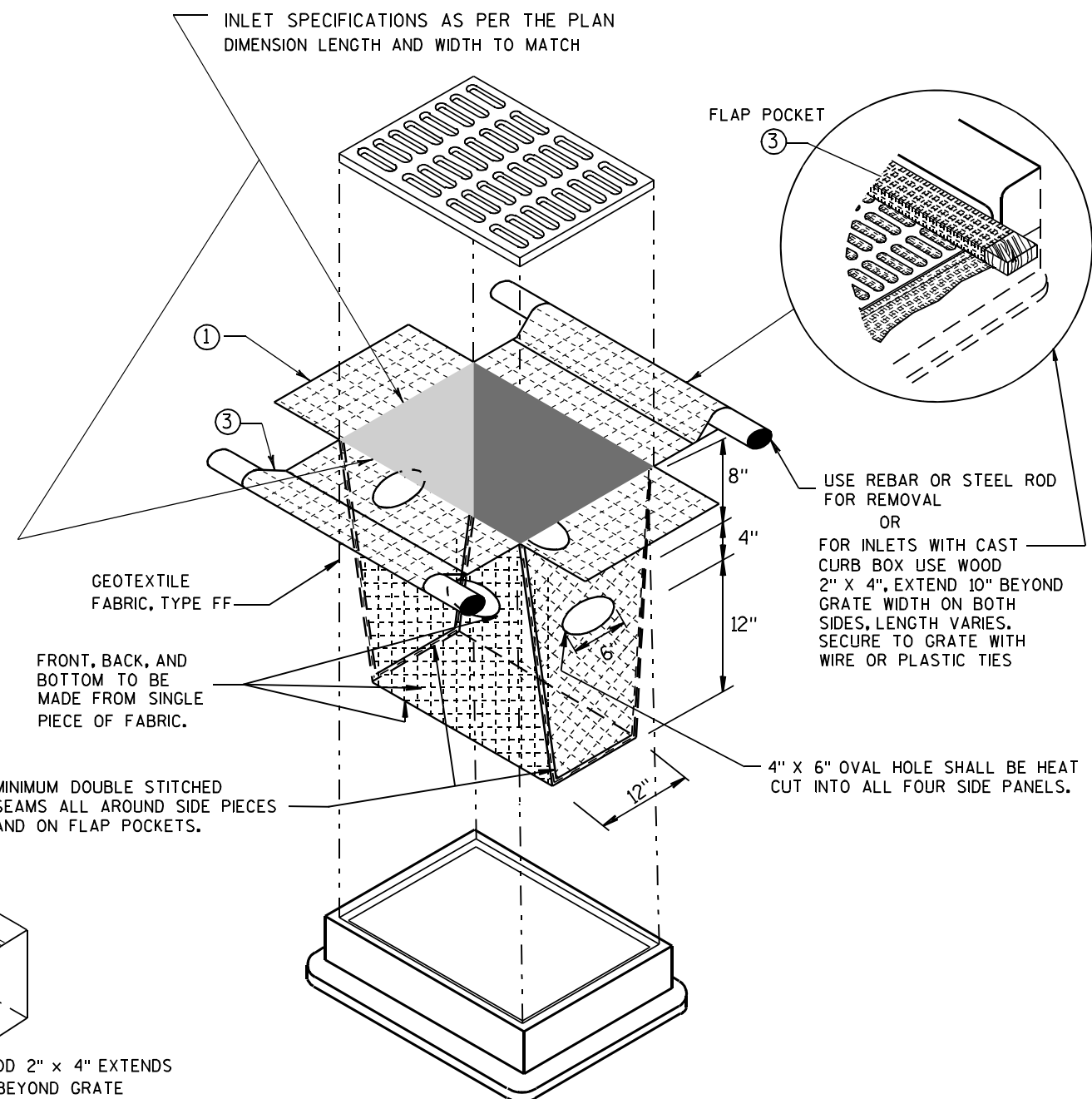
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

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

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

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



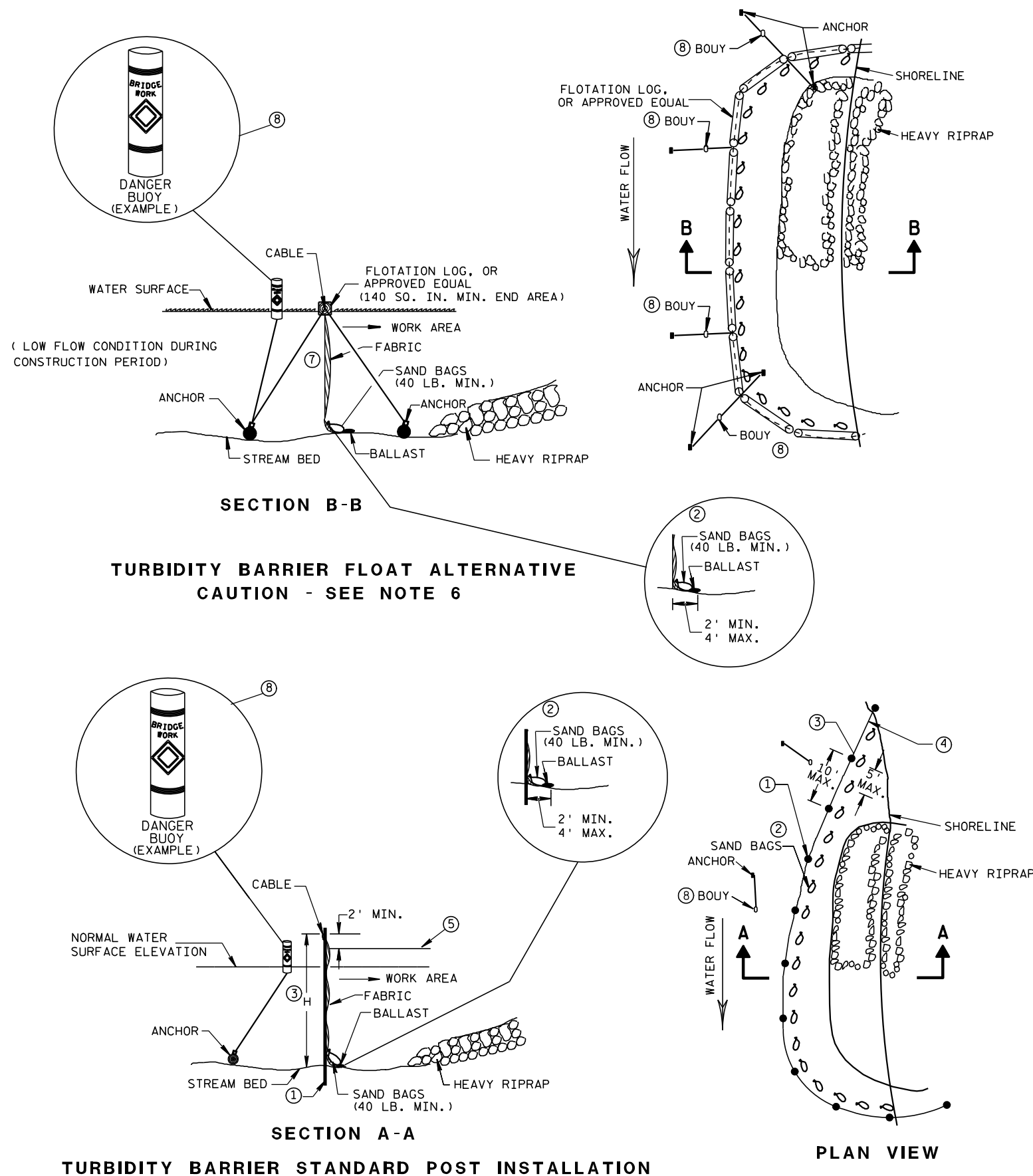
INLET PROTECTION, TYPE D

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

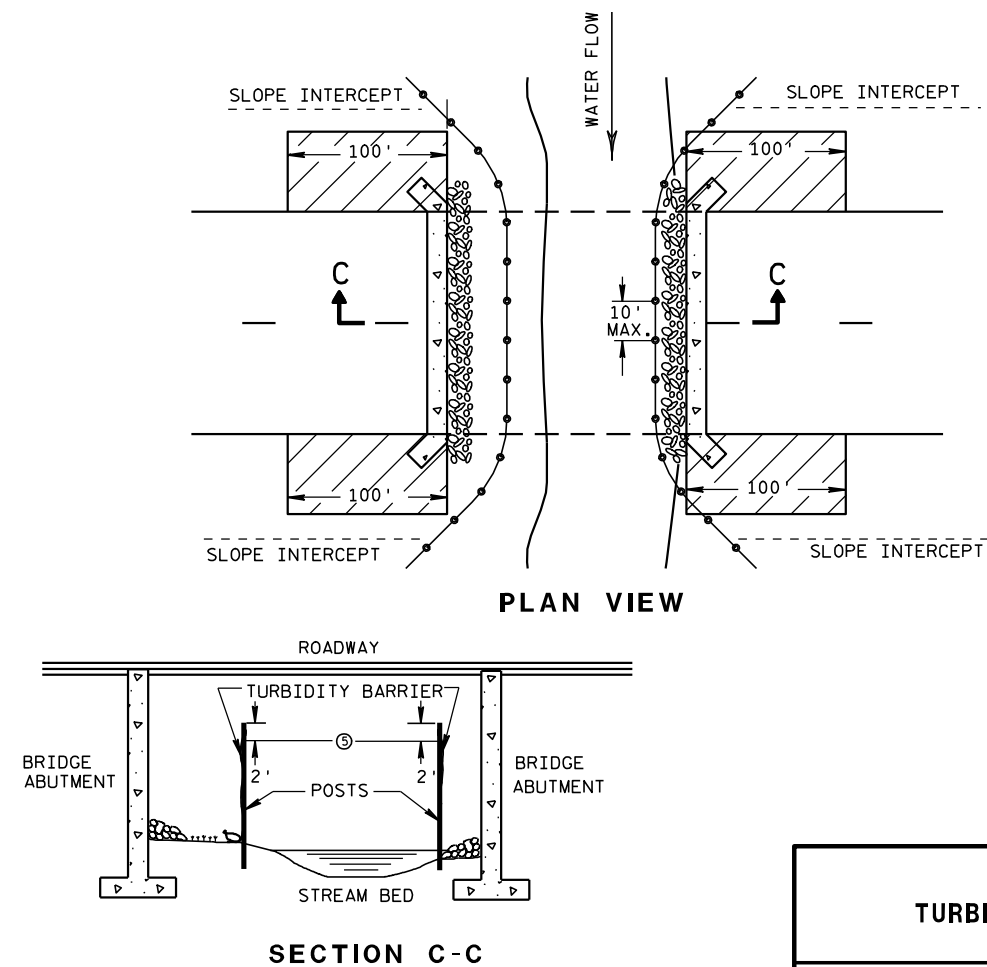


GENERAL NOTES

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.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

- ① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- ② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
- ③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.
- ④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
- ⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
- ⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.
- ⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- ⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

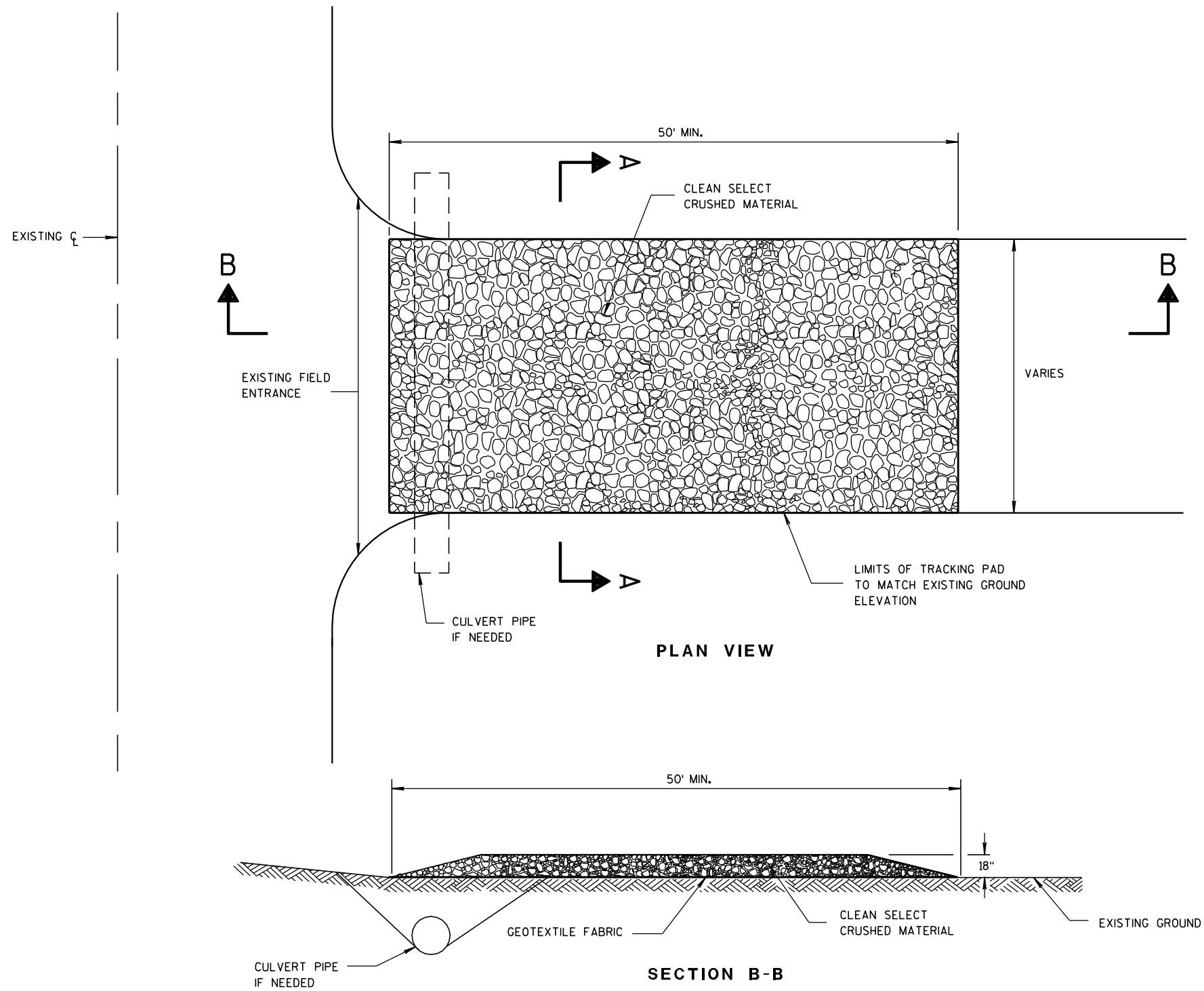
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02
DATE

FHWA

/S/ Beth Connestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



TRACKING PAD

GENERAL NOTES

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

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

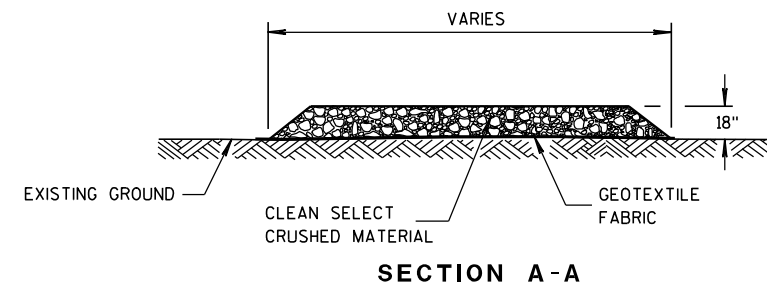
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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

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

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

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

**TRACKING PAD**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/24/2011

DATE

FHWA

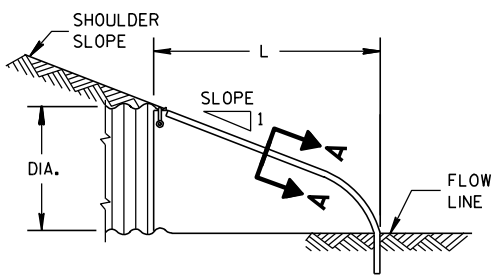
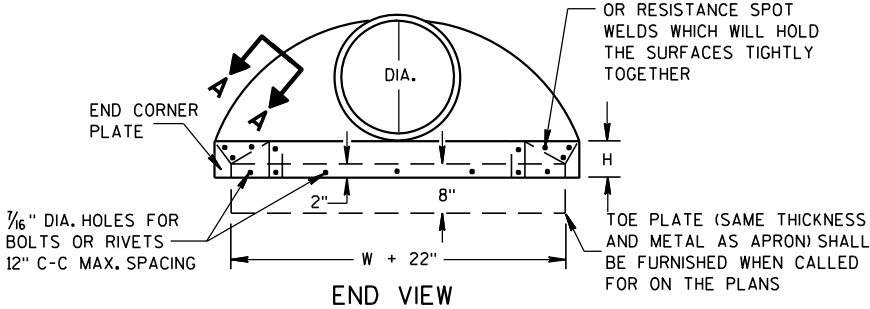
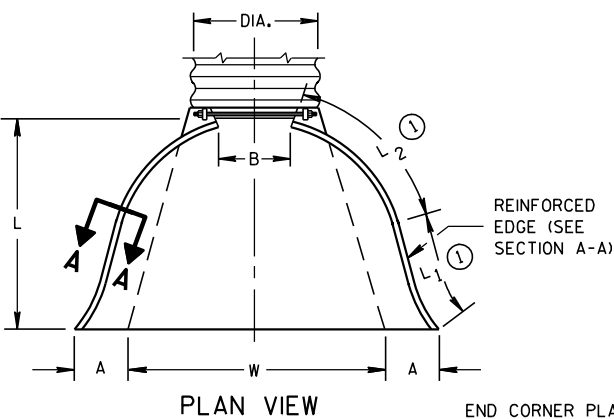
/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

ENGINEER

METAL APRON ENDWALLS												
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY	
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1½")	L ₁ ①	L ₂ ①	W (±2")			
12	.064	.060	6	6	6	21	12	17½	24	2½ to 1	1 Pc.	
15	.064	.060	7	8	6	26	14	21¾	30	2½ to 1	1 Pc.	
18	.064	.060	8	10	6	31	15	28¼	36	2½ to 1	1 Pc.	
21	.064	.060	9	12	6	36	18	29⅝	42	2½ to 1	1 Pc.	
24	.064	.075	10	13	6	41	18	37¼	48	2½ to 1	1 Pc.	
30	.079	.075	12	16	8	51	18	52¼	60	2½ to 1	1 Pc.	
36	.079	.105	14	19	9	60	24	59¾	72	2½ to 1	2 Pc.	
42	.109	.105	16	22	11	69	24	75⅝	84	2½ to 1	2 Pc.	
48	.109	.105	18	27	12	78	24	81	90	2¼ to 1	3 Pc.	
54	.109	.105	18	30	12	84	30	85½	102	2¼ 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	1½ to 1	3 Pc.	
84	.109x	.105x	18	45	12	87	—	—	138	1½ to 1	3 Pc.	
90	.109x	.105x	18	37	12	87	—	—	144	1½ to 1	3 Pc.	
96	.109x	.105x	18	35	12	87	—	—	150	1½ to 1	3 Pc.	

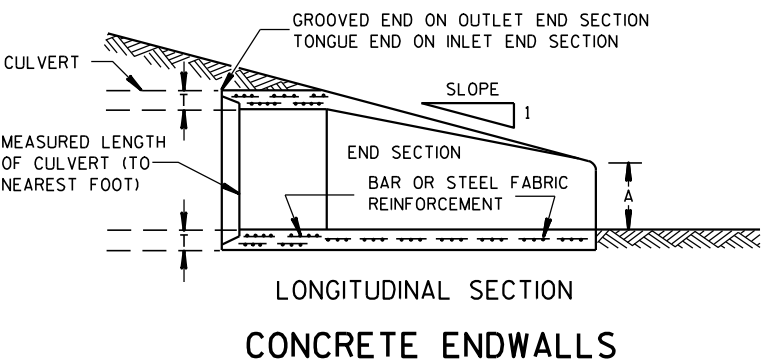
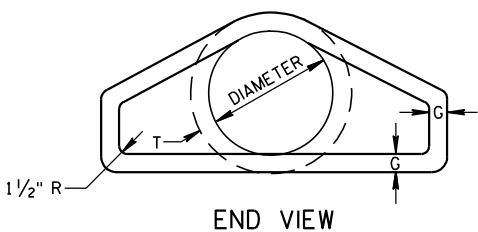
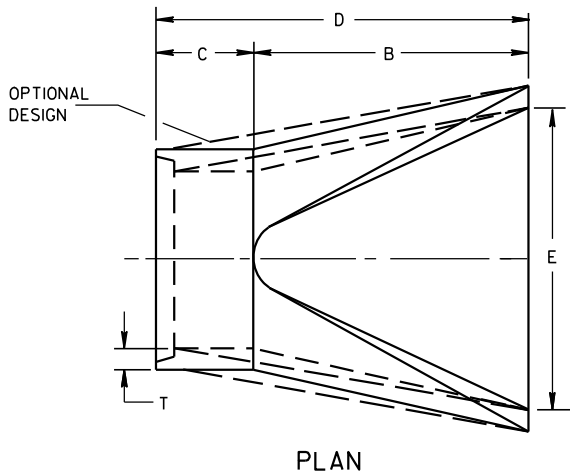
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



SIDE ELEVATION
METAL ENDWALLS

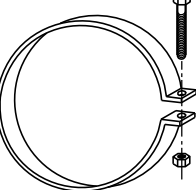
REINFORCED CONCRETE APRON ENDWALLS								
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE
	T	A	B	C	D	E	G	
12	2	4	24	48 ⁷ / ₈	72 ⁷ / ₈	24	2	3 to 1
15	2 ¹ / ₄	6	27	46	73	30	2 ¹ / ₄	3 to 1
18	2 ¹ / ₂	9	27	46	73	36	2 ¹ / ₂	3 to 1
21	2 ³ / ₄	9	36	37 ¹ / ₂	73 ¹ / ₂	42	2 ³ / ₄	3 to 1
24	3	9 ¹ / ₂	43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

* MINIMUM
** MAXIMUM

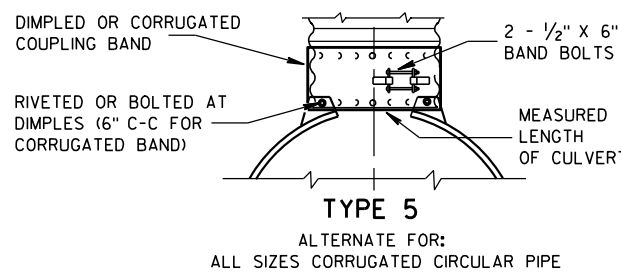
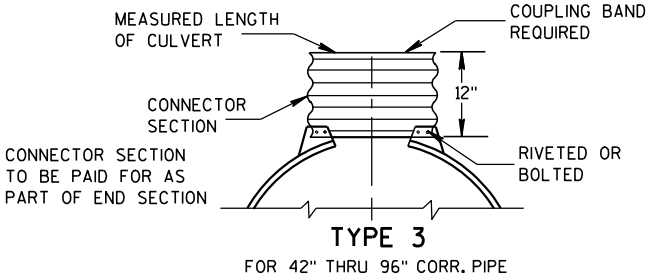
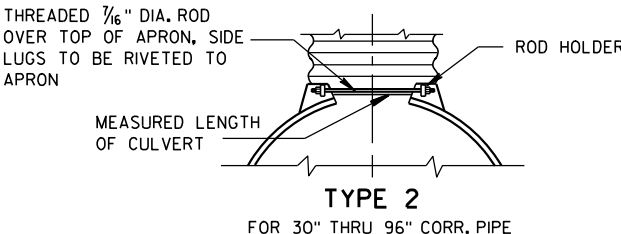
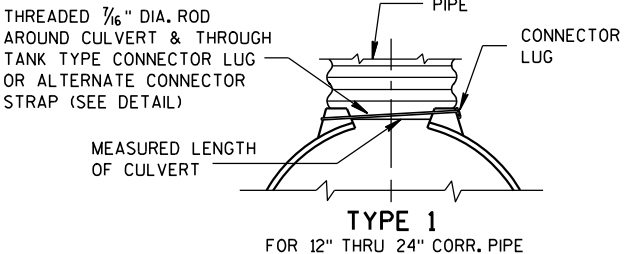


LONGITUDINAL SECTION
CONCRETE ENDWALLS

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



ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



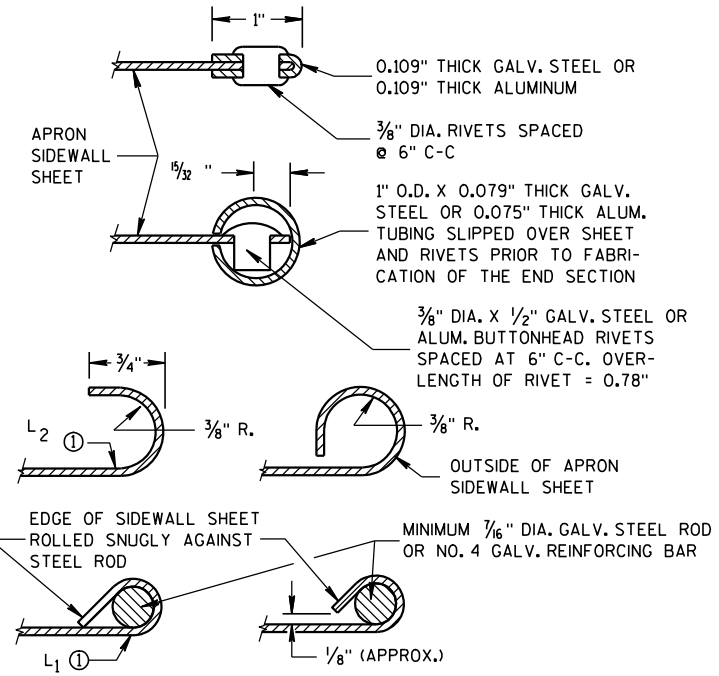
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

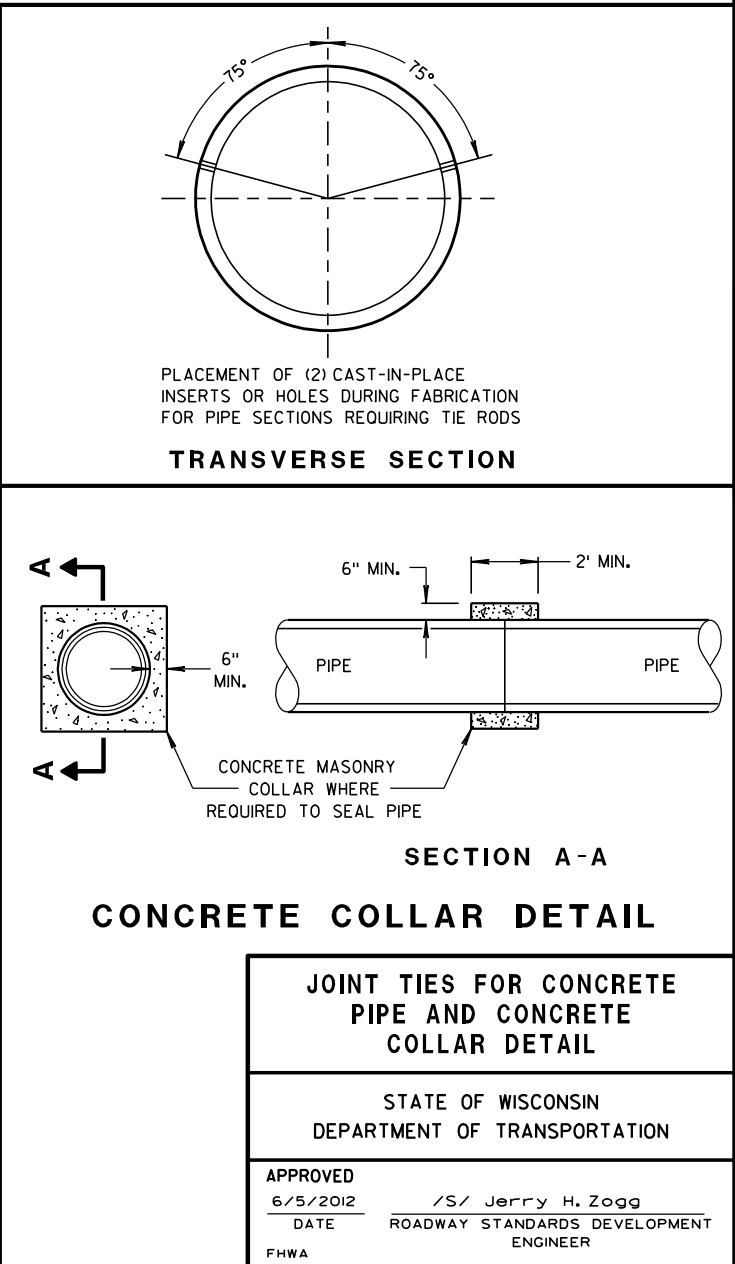
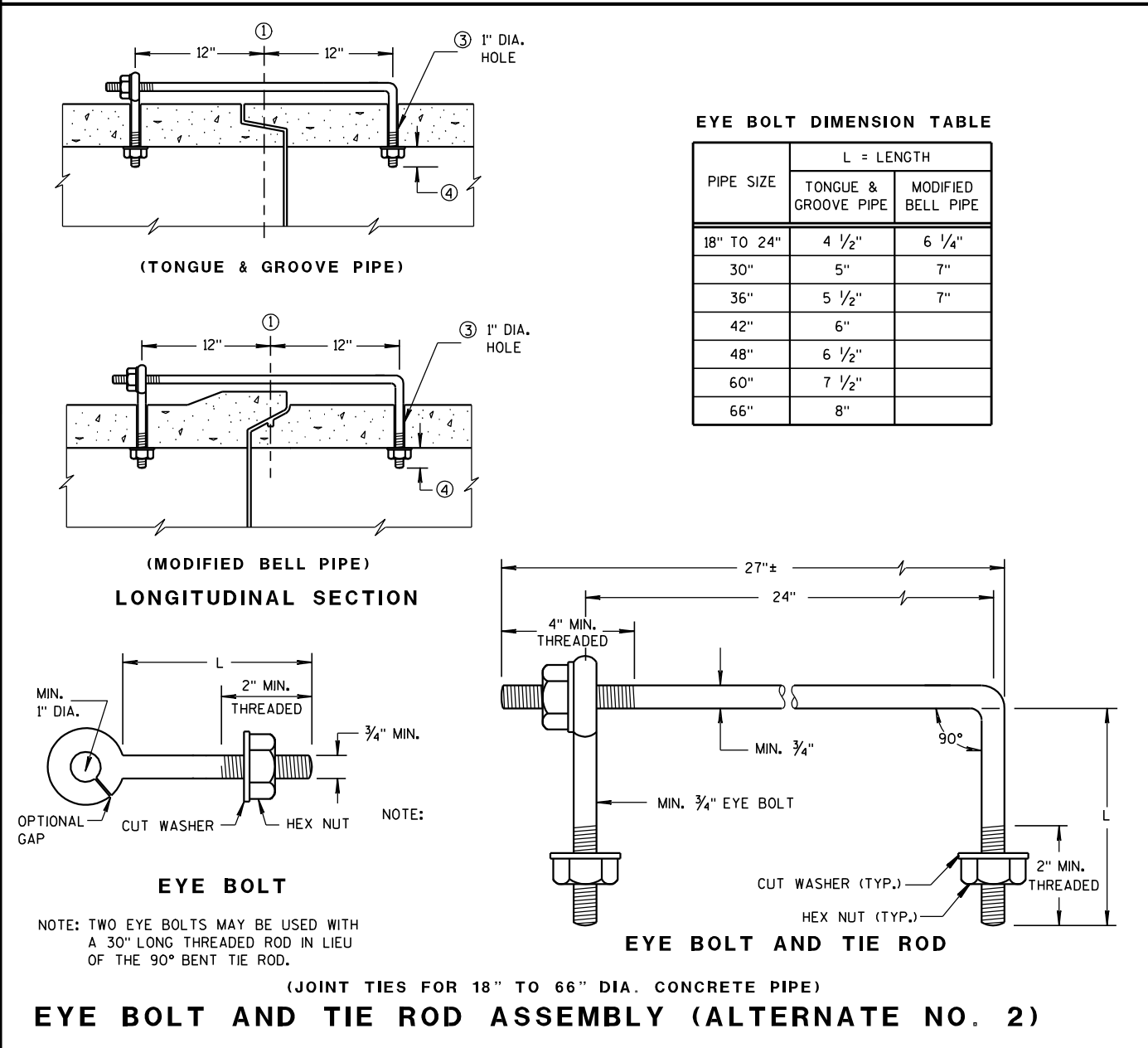
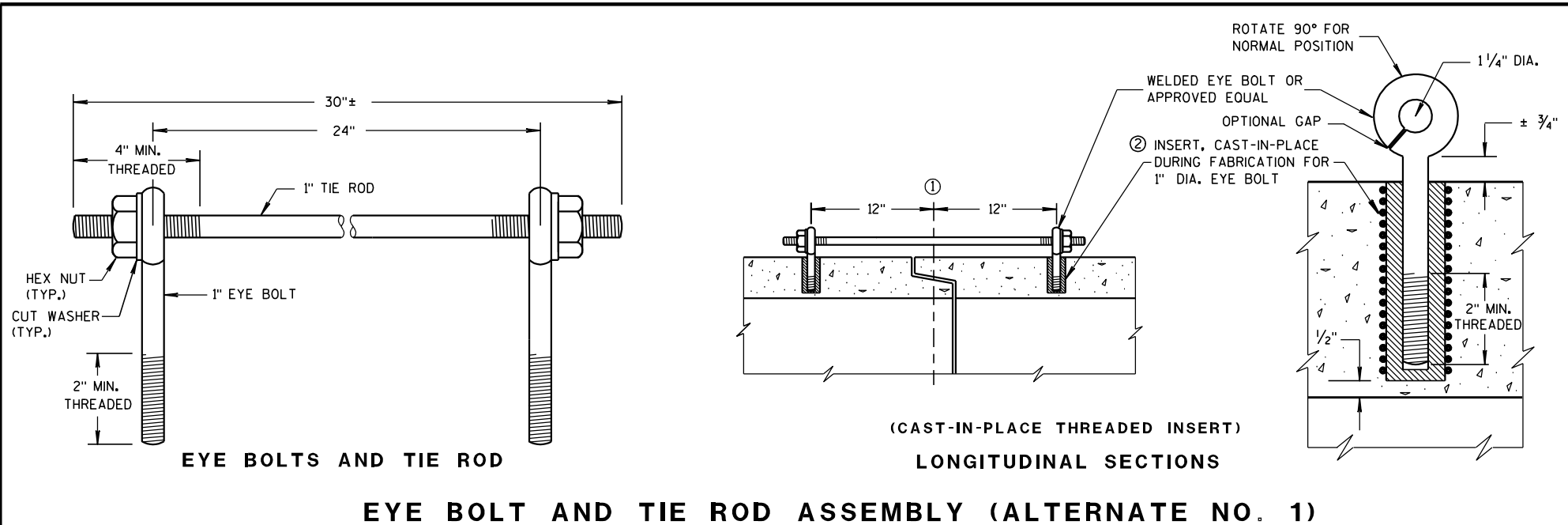
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

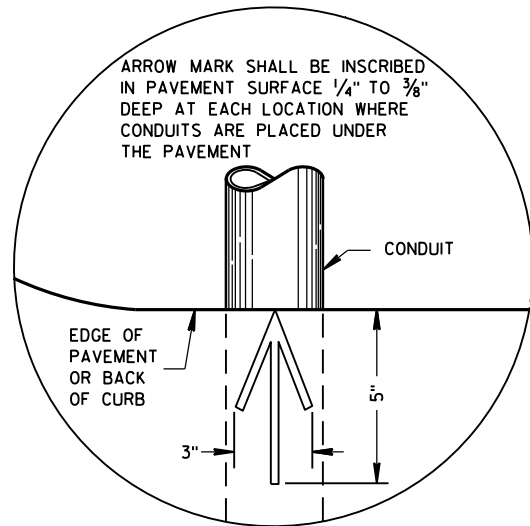
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR
CULVERT PIPE

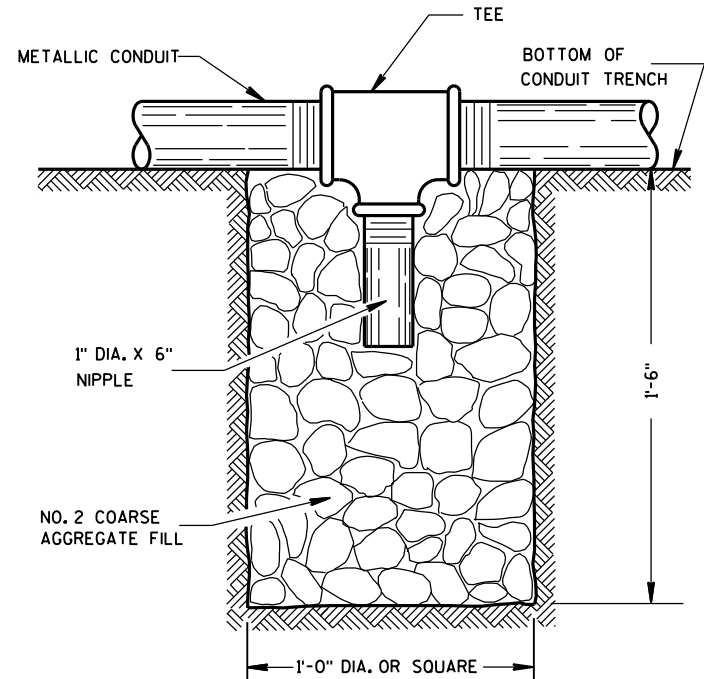
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



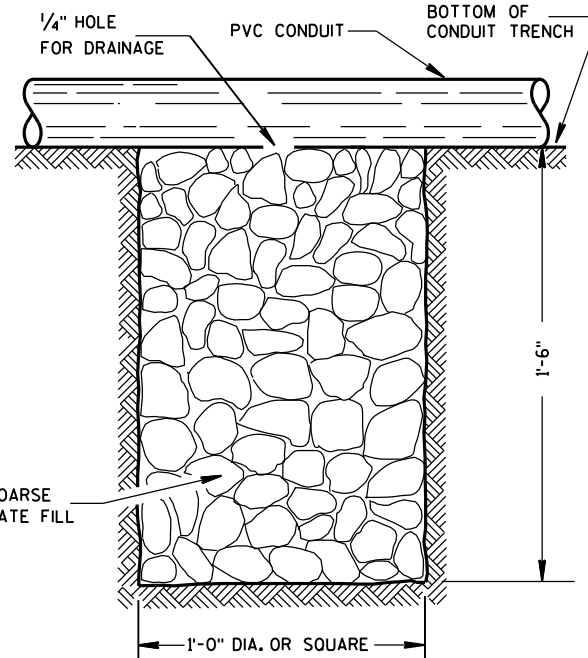


PLAN VIEW
ARROW MARK



NOTE: INSTALL AT LOCATIONS WHERE METALLIC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR METALLIC CONDUIT



NOTE: INSTALL AT LOCATIONS WHERE PVC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR PVC CONDUIT

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.

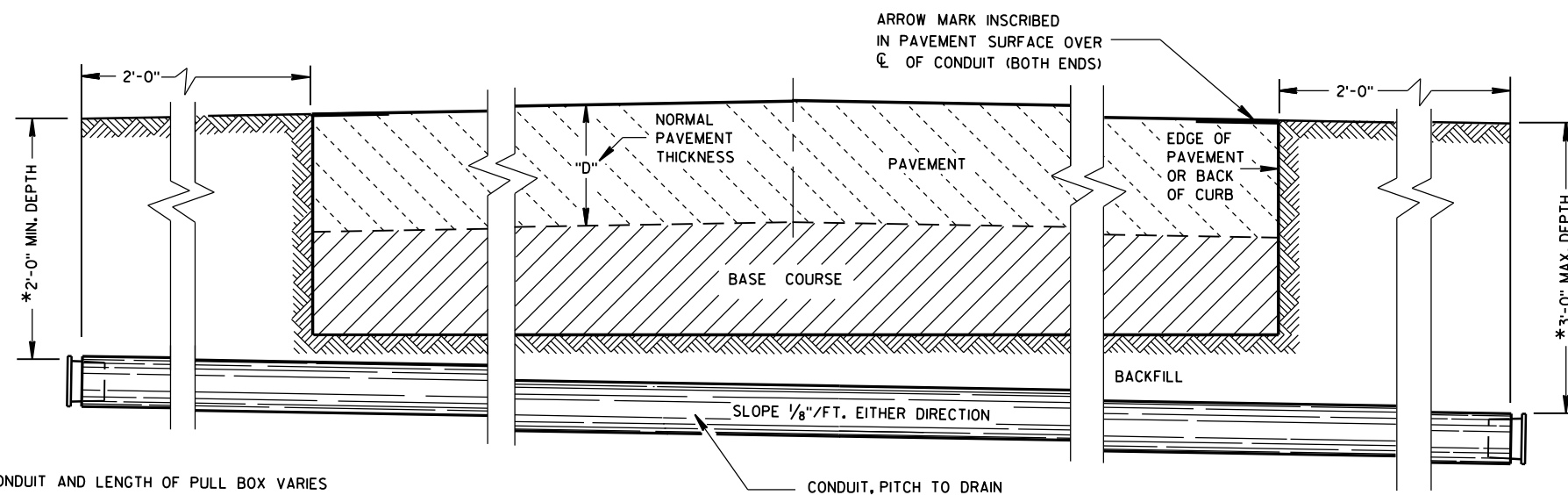
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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.).

POLY ROPE OR A PULL 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.



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

SIDE ELEVATION
DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2014

DATE

FHWA

/S/ Ahmet Demirbilek

STATE ELECTRICAL ENGINEER

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	26 1/2	26 1/2	26 1/2
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 1/2	23 1/2	23 1/2
WEIGHT IN POUNDS *										
FRAME AND COVER		60	60	60	110	110	110	155	155	155

* THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.

GENERAL NOTES

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

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

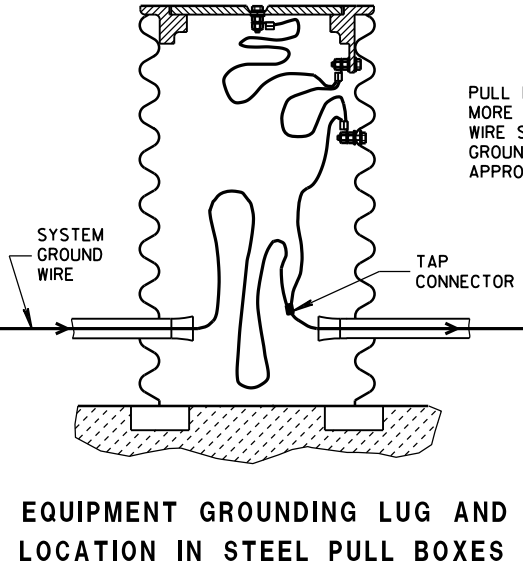
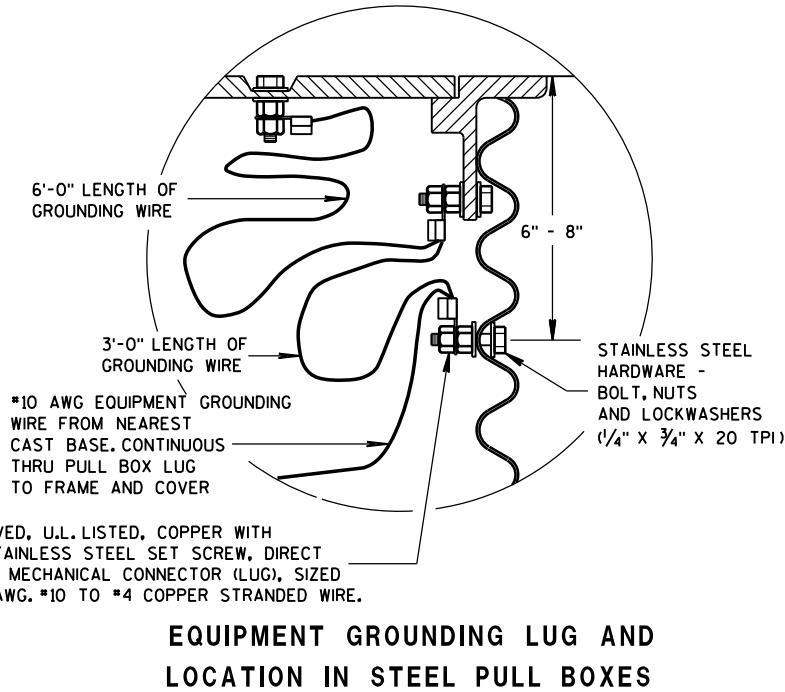
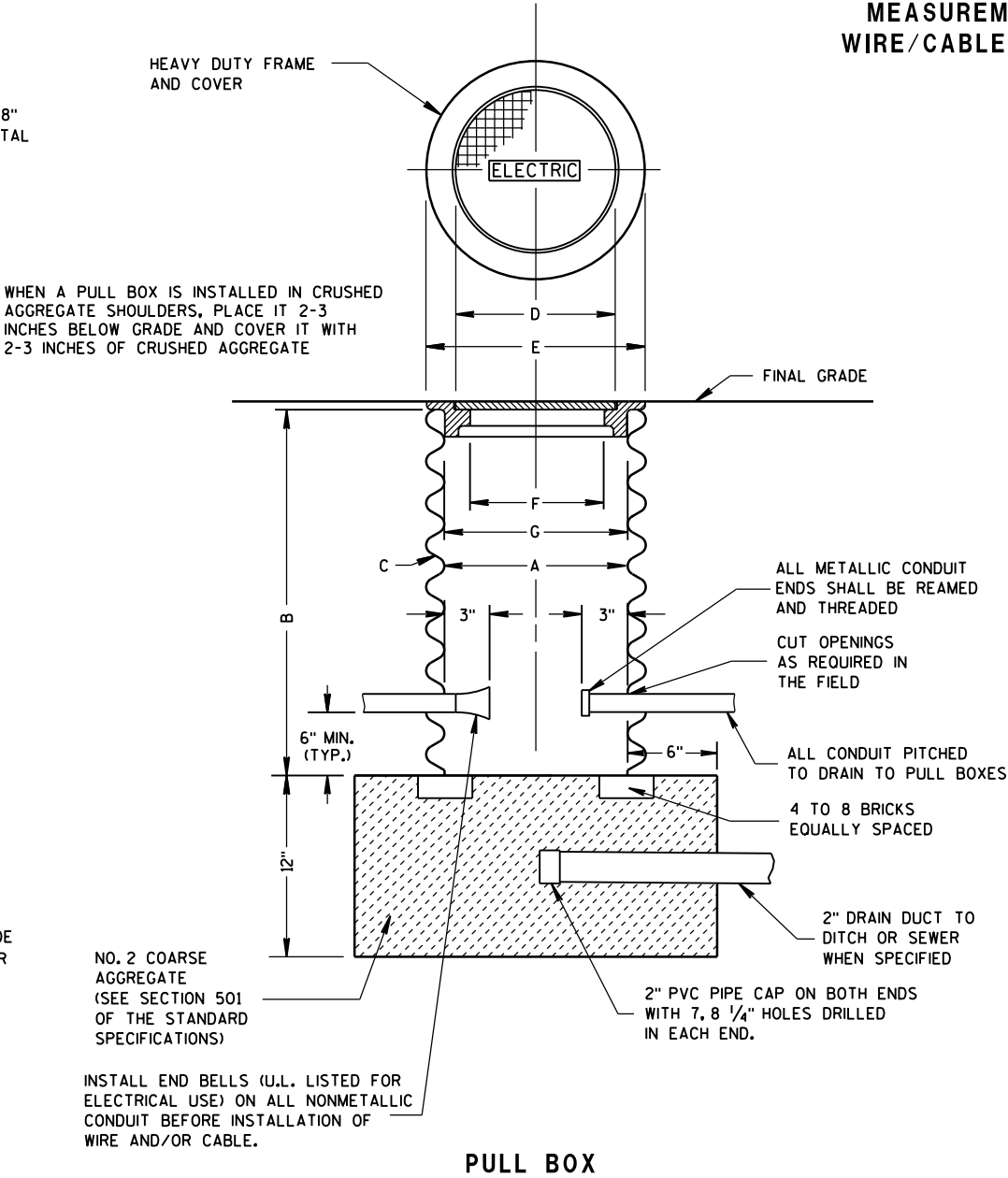
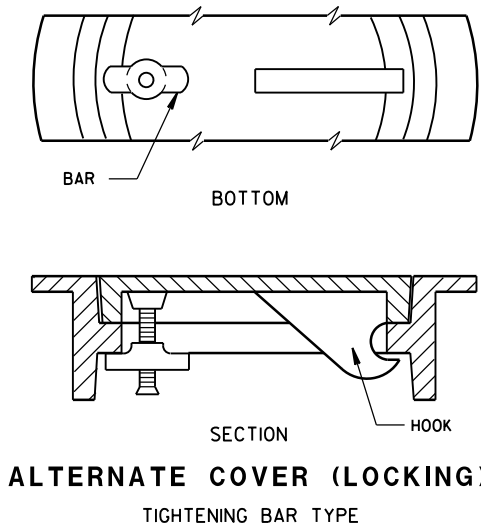
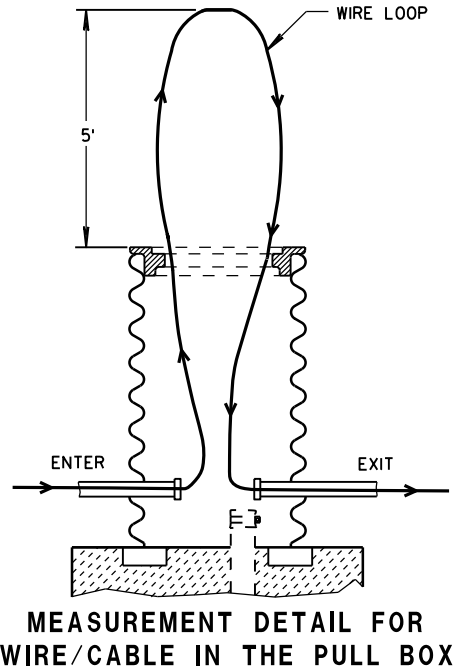
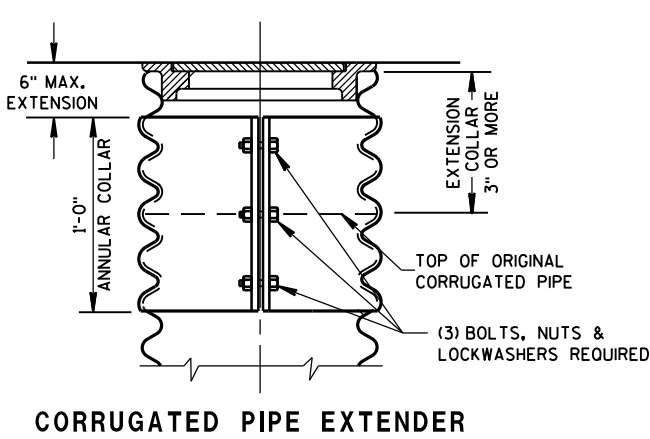
ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

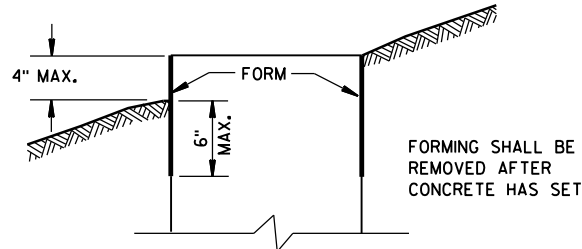
ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.



PULL BOX	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED Sept. 2014 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL ENGINEER
FHWA	

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

GENERAL NOTES

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 AS 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.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X 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 NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

GENERAL NOTES (CONTINUED)

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

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

WHEN REQUIRED TO CONNECT NONMETALLIC 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 1, TYPE 2, TYPE 5, AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES 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" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END 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 BY THE ENGINEER.

2 (4) 1" DIA. X 3'-6" ANCHOR RODS.

3 (4) 1" DIA. X 5'-0" ANCHOR RODS.

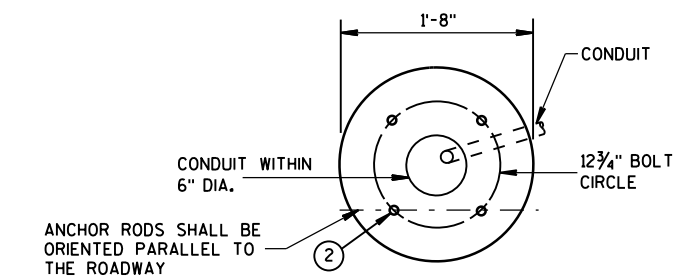
4 (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

5 (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

6 (4) 1" DIA. X 3'-6" ANCHOR RODS.

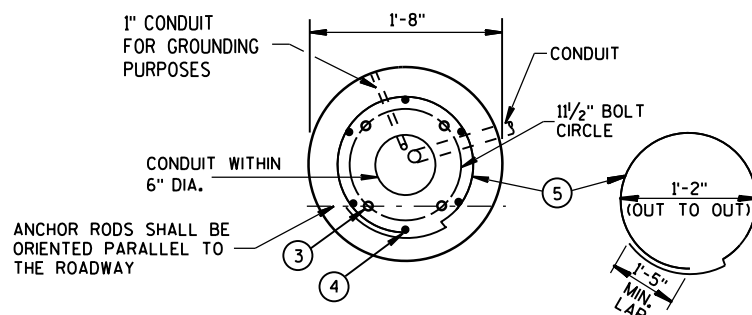
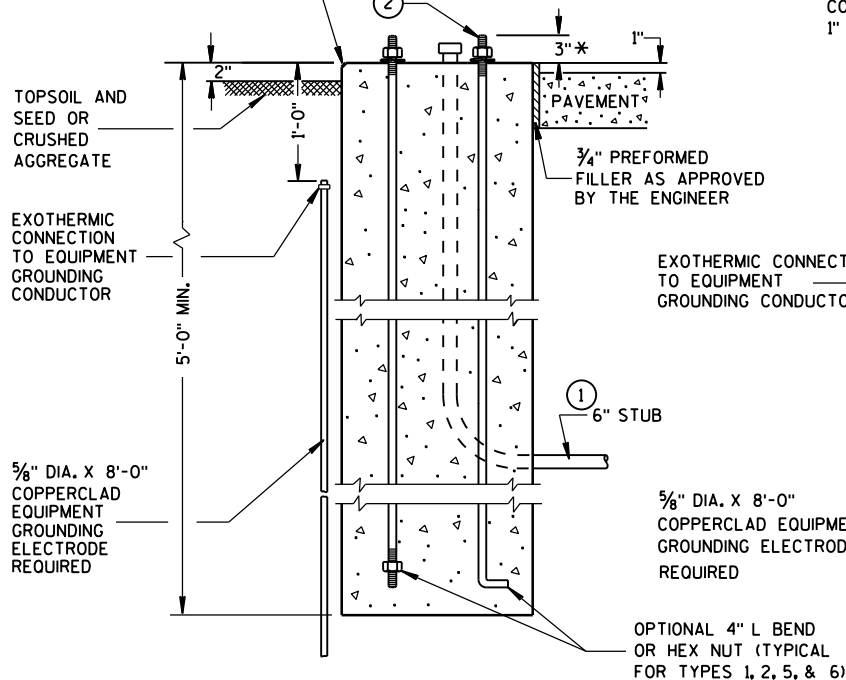
7 (6) NO. 4 X 4'-8" BAR STEEL REINFORCEMENT.

8 (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

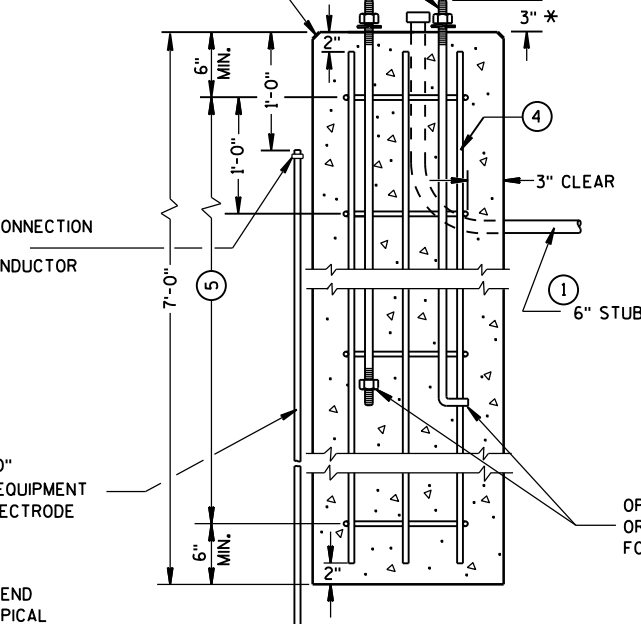


FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

HALF SECTION IN UNPAVED AREA (TYPICAL FOR TYPES 1, 2, 5, & 6)

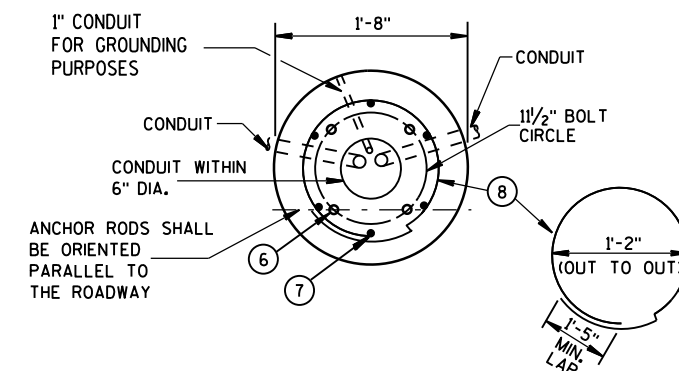


FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

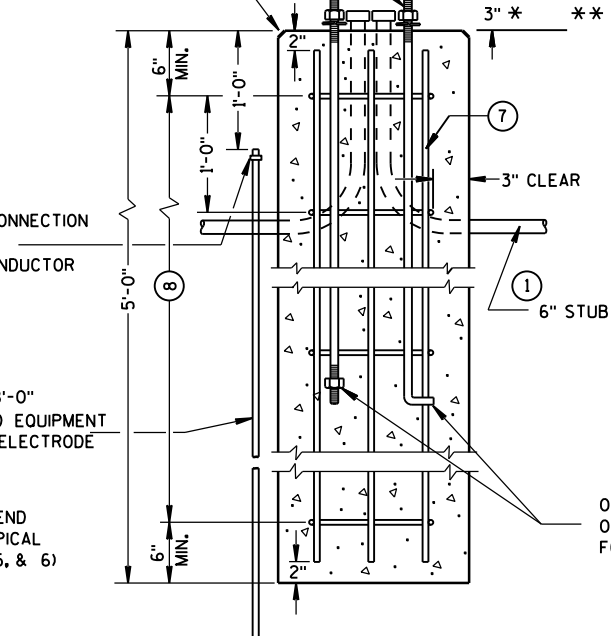


TYPE 2

CONCRETE BASES



FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND



TYPE 5 & 6

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2 3/4" OR LONGER THAN 3 3/4" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4 1/2" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES, TYPES 1, 2, 5, & 6

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2014

DATE

FHWA

/S/ Ahmet Demirbilek

STATE ELECTRICAL ENGINEER

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 641.2.2 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.

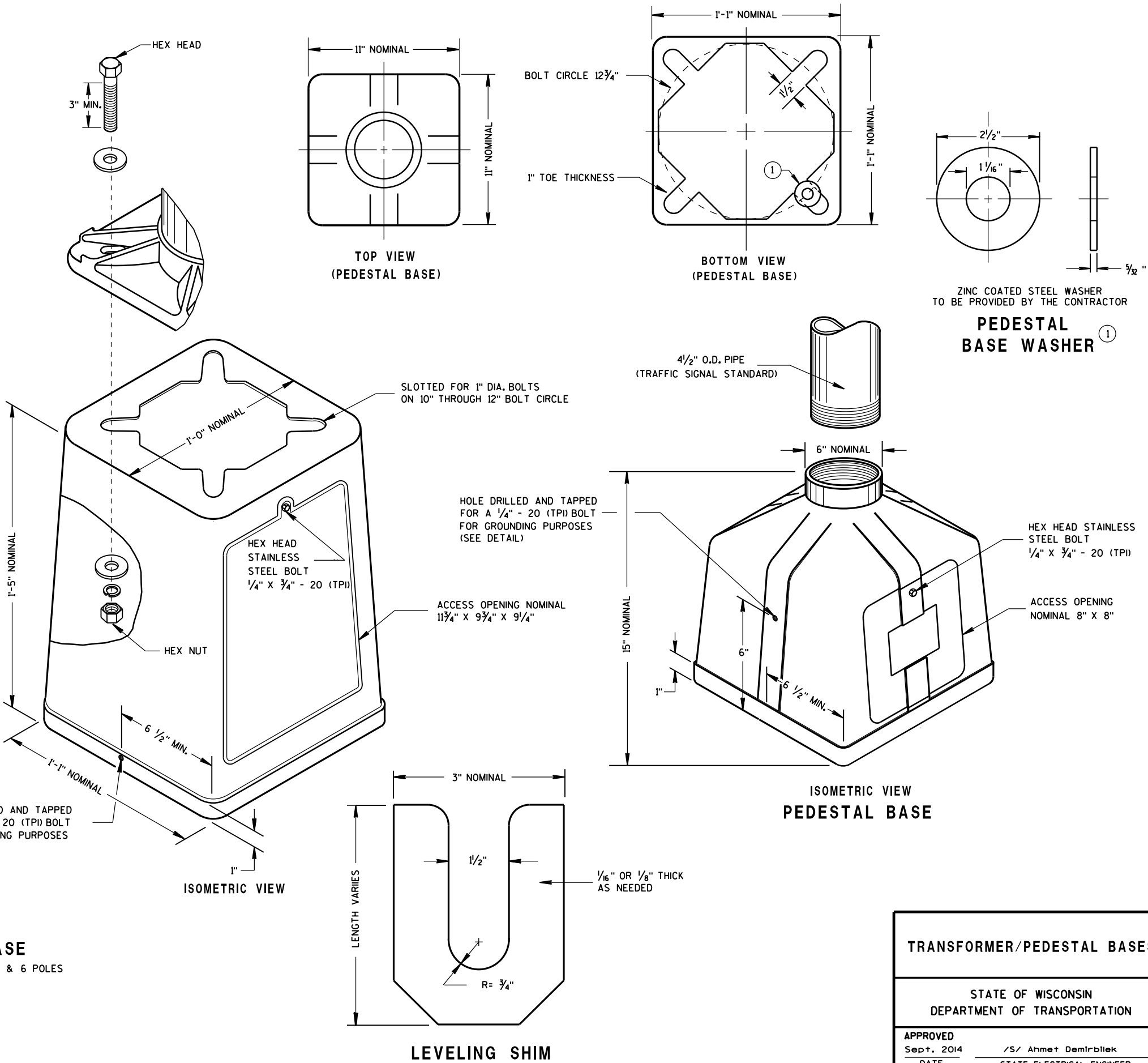
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

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.



TRANSFORMER/PEDESTAL BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

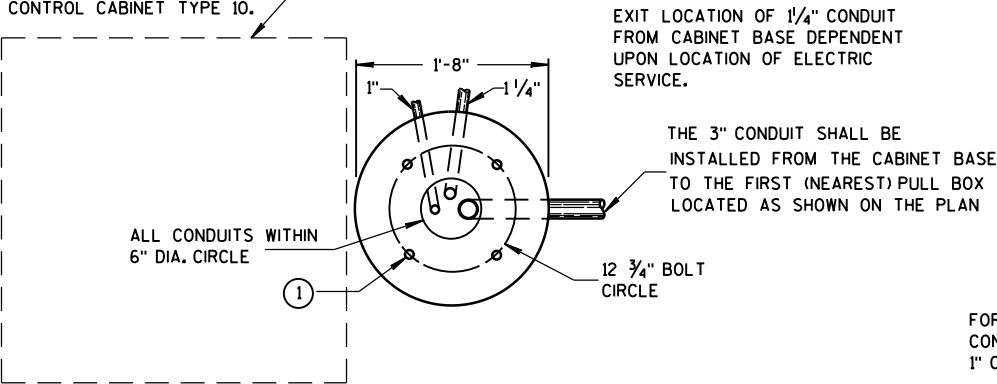
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STATE ELECTRICAL ENGINEER

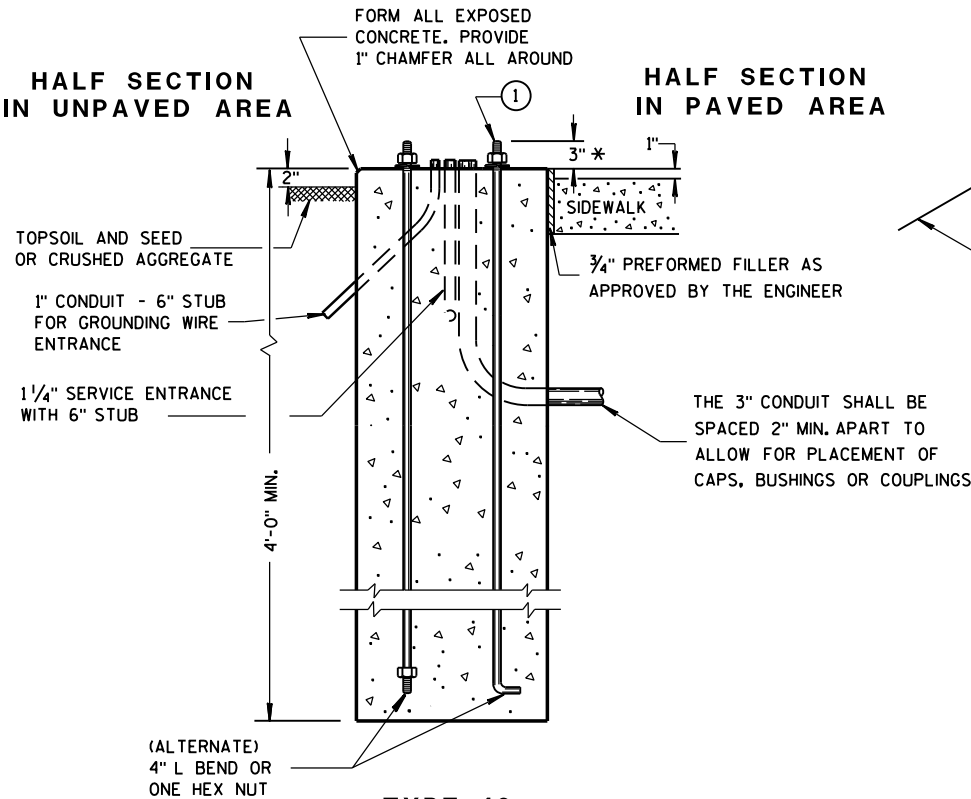
CONTROL CABINET BASE TYPE	DIMENSIONS				C.Y. CONCRETE (APPROX.)
	H	I	J	K	
TYPE 6 - 30" CABINET	34"	60"	10"	17"	.64
TYPE 7 - 38" CABINET	42"	60"	10"	21"	.93
TYPE 8 - 38" CABINET	42"	72"	12"	21"	1.29
TYPE 9 - VARIABLE	54"	72"	14"	27"	1.56
TYPE 10 - POST MOUNT	AS SHOWN				.65 *

* INCLUDES MAINTENANCE PLATFORM.

TYPICAL 3'-0" X 3'-0" X 4" THICK
MAINTENANCE PLATFORM.
LOCATION TO BE DETERMINED
IN THE FIELD. COST TO BE
INCLUDED UNDER CONCRETE
CONTROL CABINET TYPE 10.



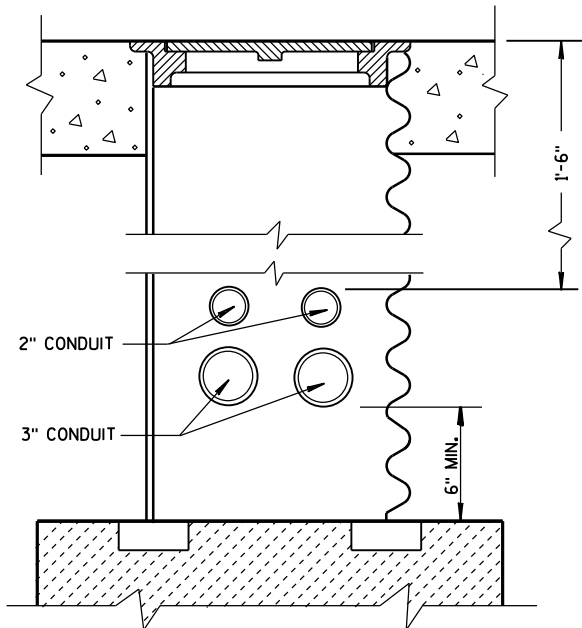
HALF SECTION IN UNPAVED AREA



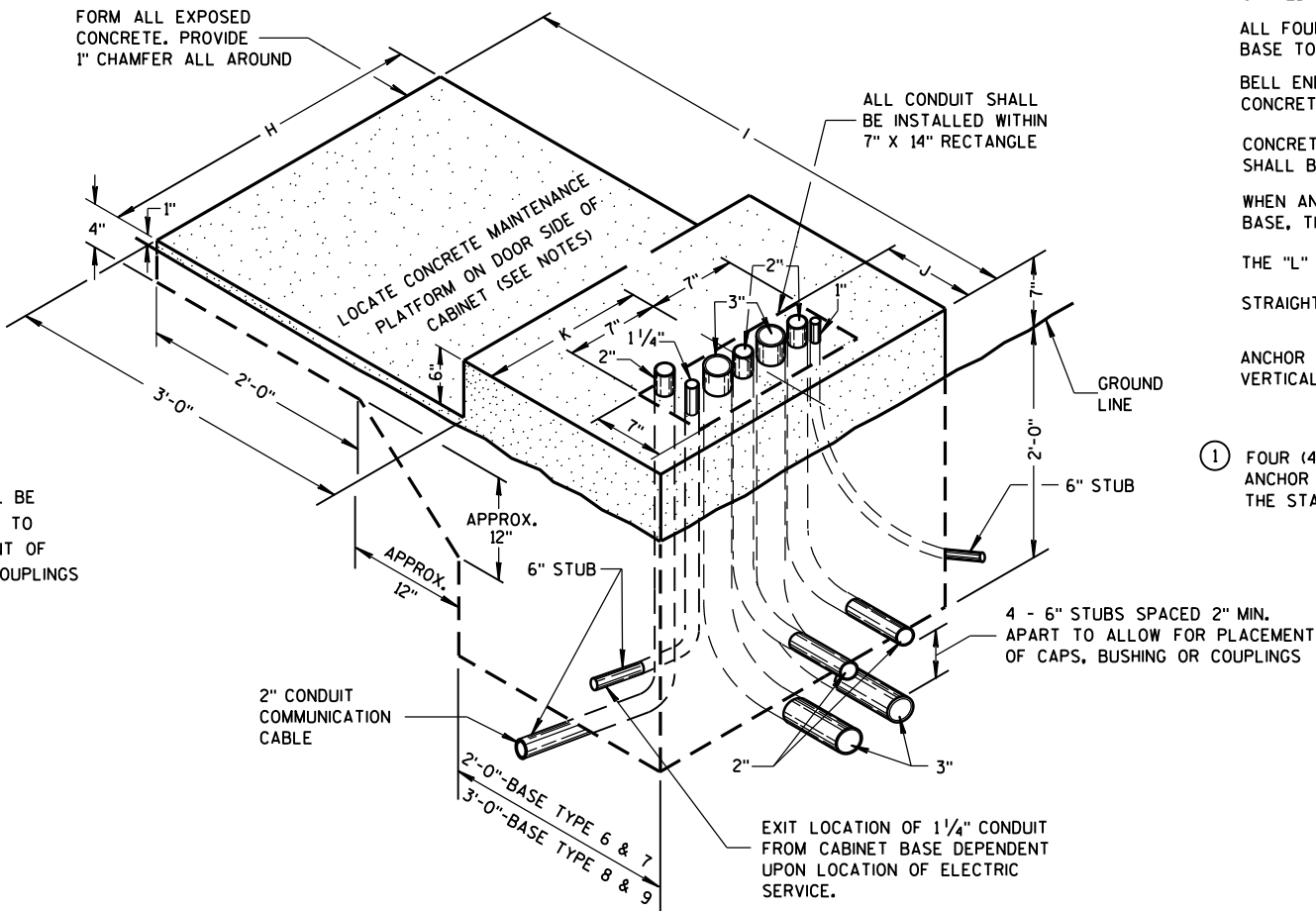
TYPE 10

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2 3/4" OR LONGER THAN 3 3/4" SHALL REQUIRE
THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

CONCRETE CONTROL CABINET BASES



CONDUIT LOCATIONS IN 24" X 36" PULL BOX (LEADING TO CONTROLLER CABINET BASE TYPE 6, 7, 8 AND 9)



TYPE 6, 7, 8 AND 9
(ISOMETRIC VIEW)

GENERAL NOTES

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

INSTALL FOUR 1/2 INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH APPROVED CONCRETE
MASONRY ANCHORS WITH A PULLOUT STRENGTH OF 9,000 LBS. TO ANCHOR THE CABINET TO
TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY
THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

WHEN REQUIRED TO CONNECT NONMETALLIC 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.

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

WHEN A TYPE 10 CONTROL CABINET BASE IS USED TO POST MOUNT A CONTROL CABINET, A
36" SQUARE 4" THICK CONCRETE MAINTENANCE PLATFORM SHALL BE REQUIRED ON THE DOOR
SIDE OF THE CABINET. THE TOP 1 INCH SHALL BE ABOVE FINISHED GRADE AND BE BROOM
FINISHED AND LEVEL.

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

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

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 NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS
POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN
CAPPED OR PLUGGED.

ALL FOUR (TWO INCH AND THREE INCH) CONDUIT SHALL BE INSTALLED FROM THE CABINET
BASE TO THE FIRST (NEAREST) PULL BOX LOCATED AS SHOWN ON THE PLANS.

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

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

WHEN ANCHOR RODS USING THE ALTERNATE L BEND ARE FURNISHED FOR THE TYPE 10
BASE, THE 4" L BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH.

THE "L" BEND SHALL NOT BE THREADED.

STRAIGHT ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD.

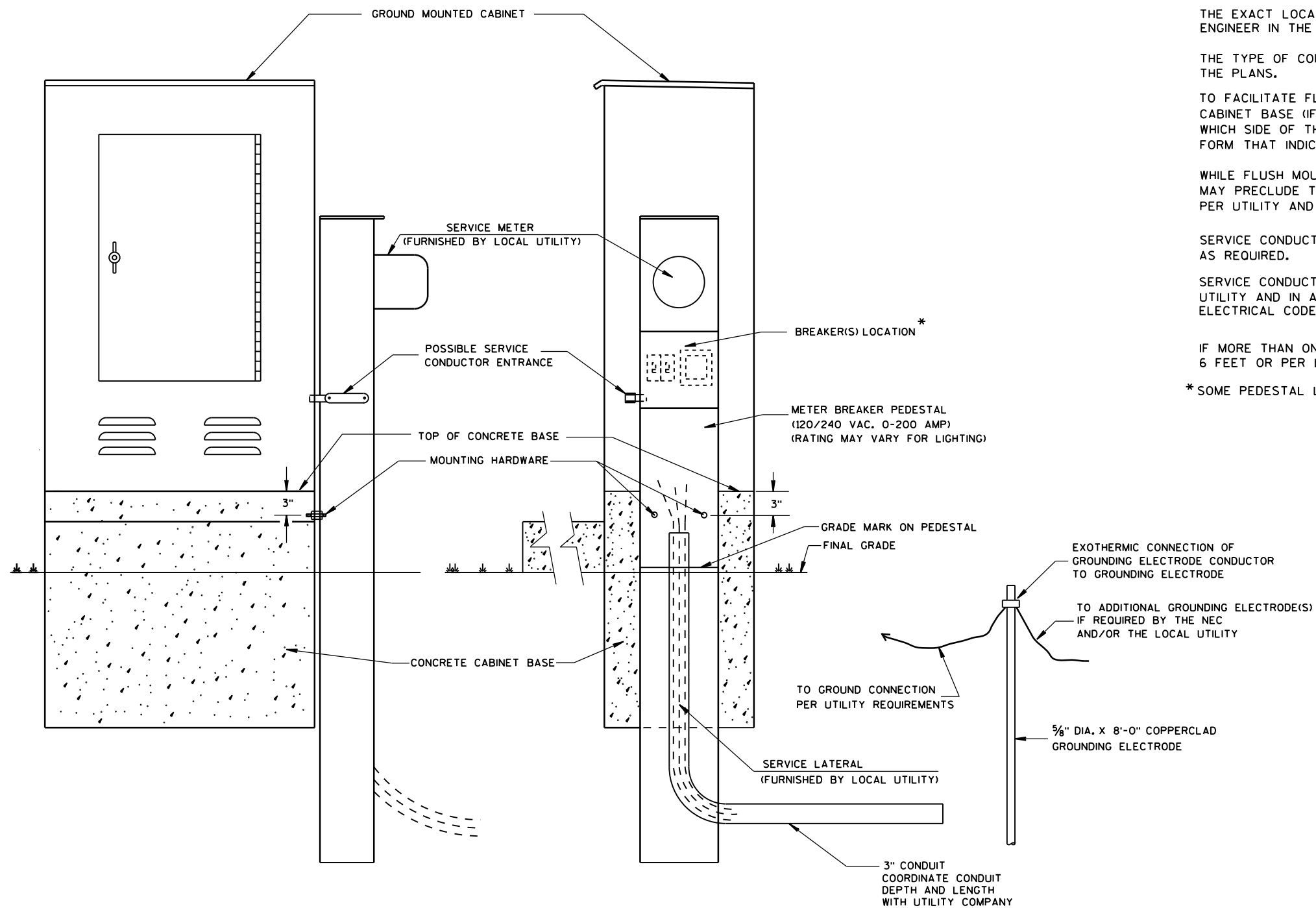
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM
VERTICAL.

① FOUR (4) ANCHOR RODS, 1" DIA. X 3'-6".
ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF
THE STANDARD SPECIFICATIONS.

CONCRETE CONTROL CABINET BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL ENGINEER
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)

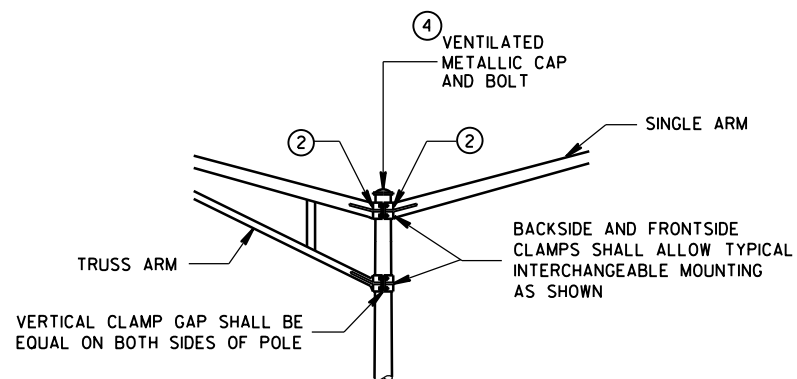
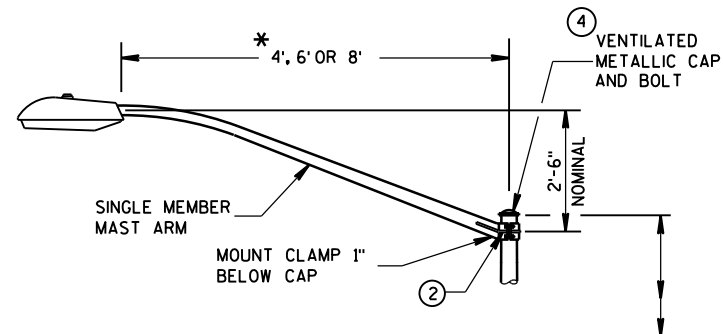
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Sept. 2014
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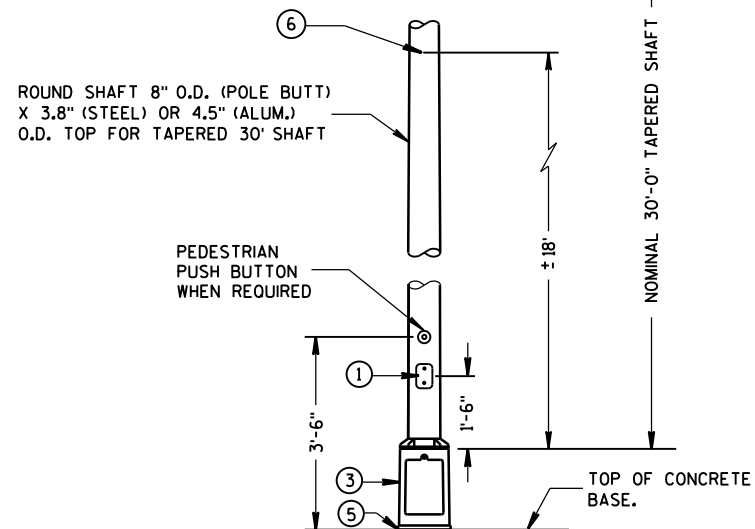
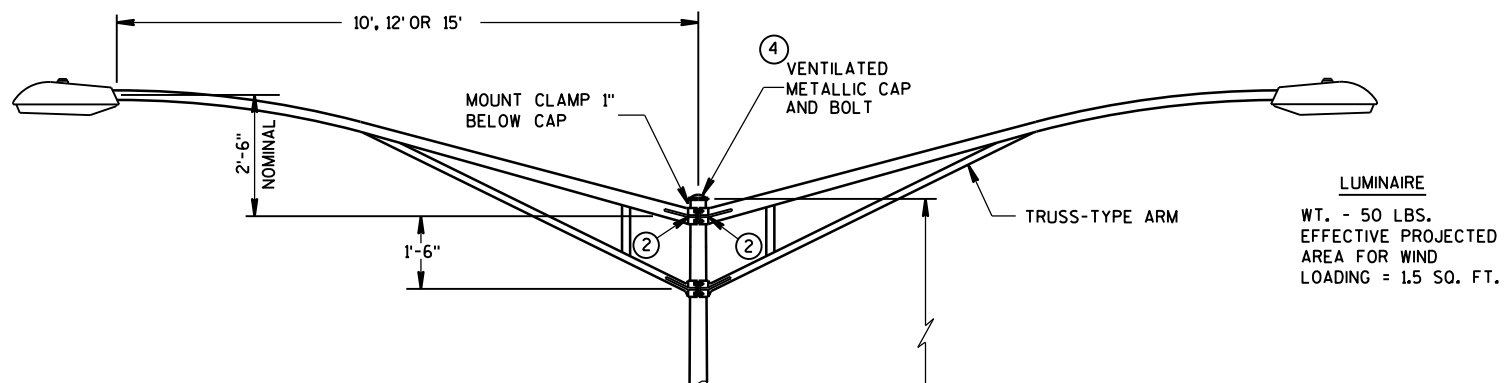
/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGINEER

FHWA

* RISE FOR 4' ARM SHALL BE 2'-0".



INTERCHANGEABLE MOUNTING DETAIL



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.

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. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

THE TYPE 5 ALUMINUM POLES SHALL HAVE A MINIMUM WALL THICKNESS OF 0.188".

TYPE 5 STEEL POLES SHALL HAVE A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (.1196").

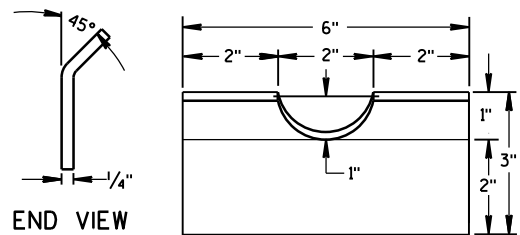
THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL $2\frac{3}{8}$ INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

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

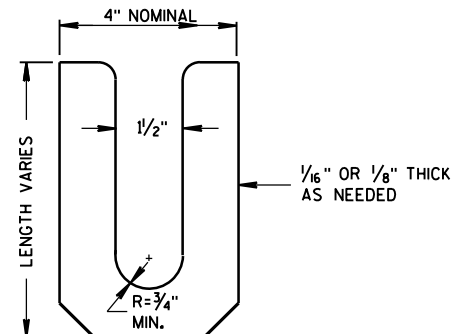
- ① 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) $\frac{1}{4}$ " x $\frac{3}{4}$ " - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.
- ② GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR $1\frac{1}{8}$ " HOLE IN POLE SHAFT FOR WIRING.
- ③ CAST ALUMINUM TRANSFORMER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

POLE MONTINGS FOR
LIGHTING UNITS, TYPE 5
(30 FEET)

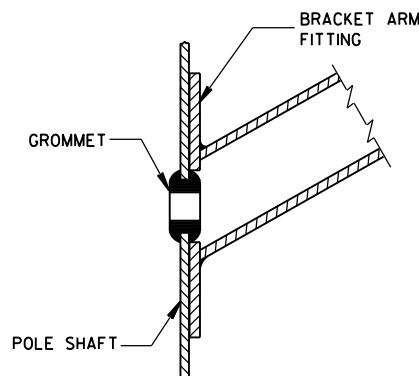
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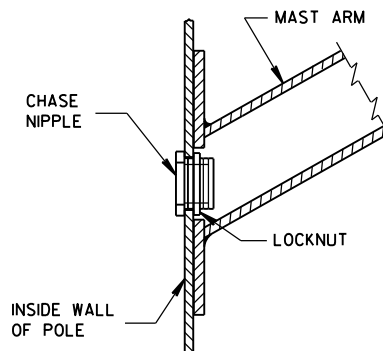
FRONT VIEW
RECTANGULAR CLAMP SHIM
(4 TO A SET)



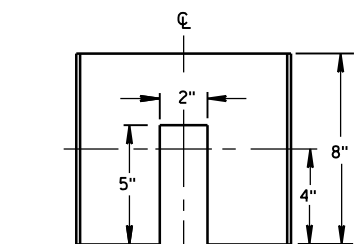
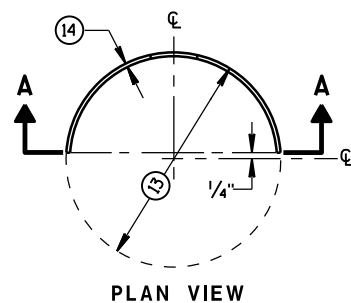
LEVELING SHIM
SHALL BE ALUMINUM



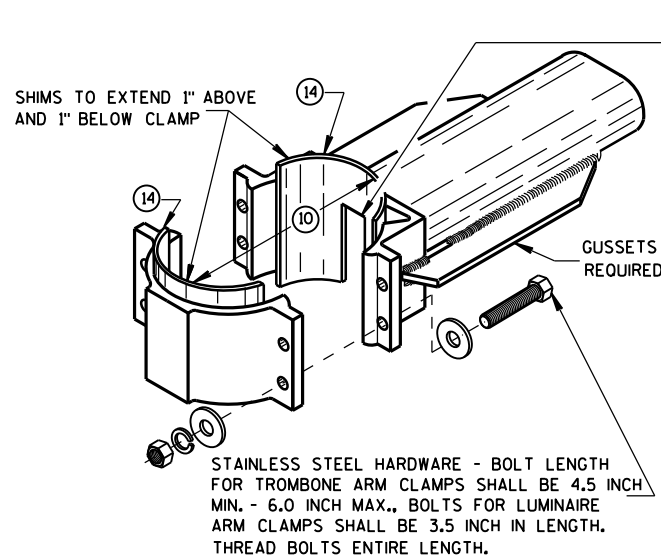
TYPICAL APPLICATION OF
GROMMET IN POLE SHAFT



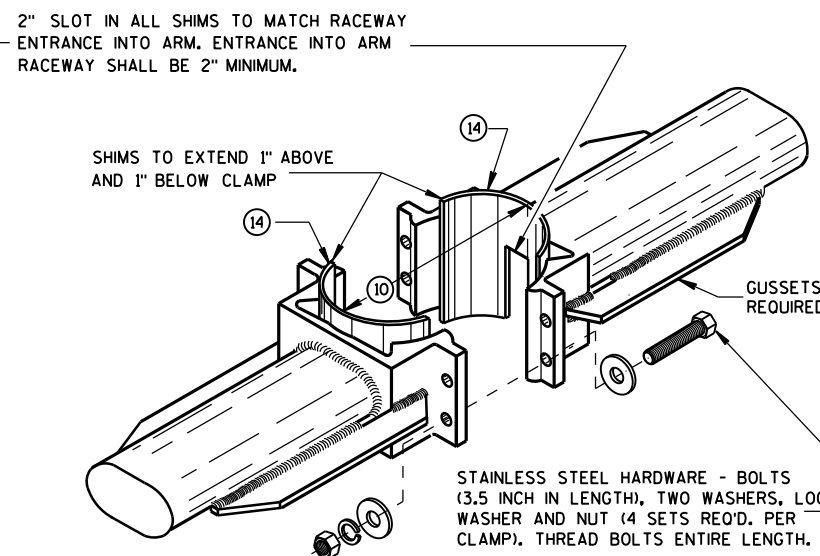
TYPICAL APPLICATION OF
CHASE NIPPLE IN POLE SHAFT



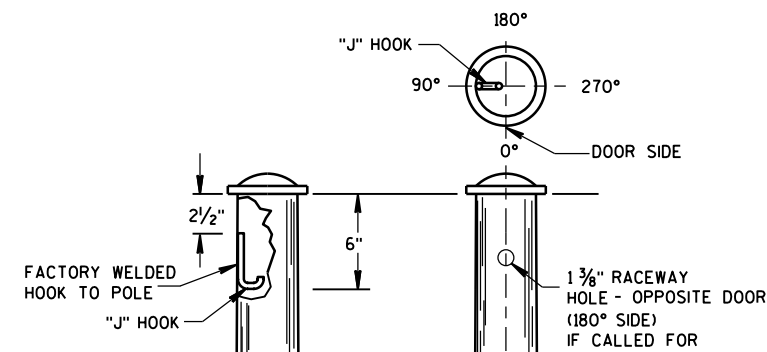
SECTION A-A
CIRCULAR CLAMP SHIM
(2 TO A SET)



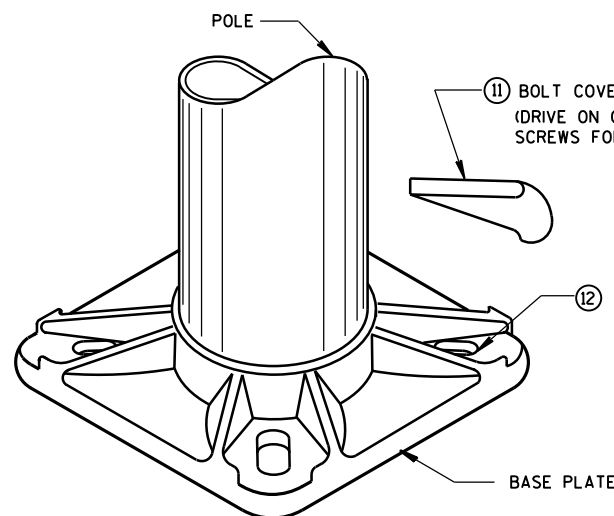
TYPICAL TROMBONE MAST ARM AND SINGLE
LUMINAIRE MAST ARM MOUNTING CLAMP



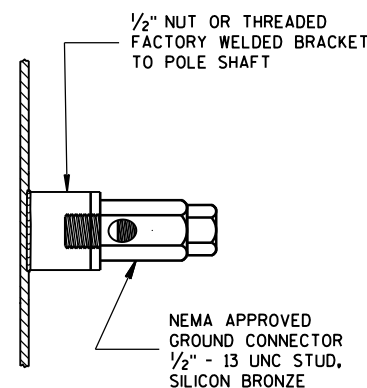
TYPICAL LUMINAIRE MAST ARM
(DOUBLE) MOUNTING BRACKETS



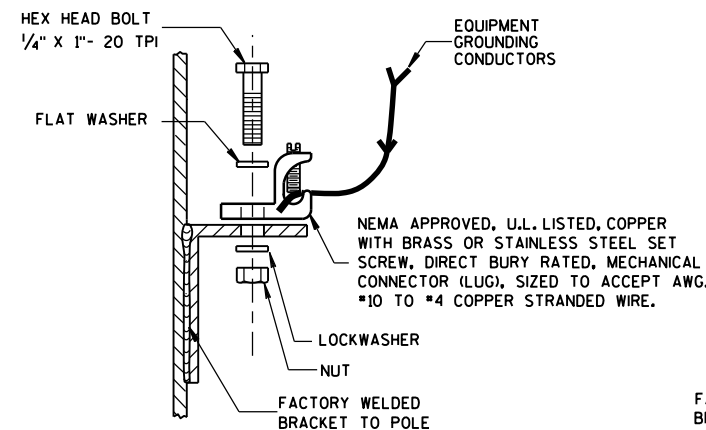
TYPICAL "J" HOOK LOCATION



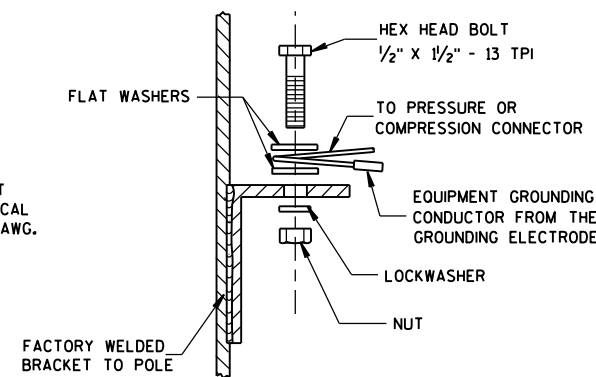
BASE PLATE



NEMA APPROVED
GROUND CONNECTOR
1/2" - 13 UNC STUD,
SILICON BRONZE



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



GENERAL NOTES

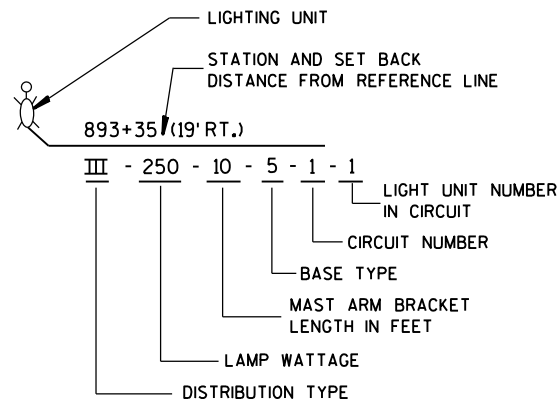
CLAMP BOLT-NUT TIGHTENING TORQUE SHALL BE INDICATED BY INDENT STAMPING (1/2 INCH NUMERALS AND LETTERS) OR WEATHERPROOF PRINTING ON THE INSIDE OF THE CLAMP THAT IS WELDED TO THE ARM MEMBER.

- 10 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP.
6.625" I.D. FOR TROMBONE MAST ARM CLAMP.
- 11 INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)
- 12 BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.
- 13 OUTSIDE SHIM DIAMETER - (4.5" O.D. FOR LUMINAIRE MAST ARM)
(6.625" O.D. FOR TROMBONE MAST ARM)
- 14 VARIABLE SHIM THICKNESS - (0.10", 0.25", 0.35", 0.53" OR 0.70")
SHIM THICKNESS FOR TROMBONE MAST ARMS MAY BE TYPICALLY 0.25", 0.35", 0.53" OR 0.70".
SHIM THICKNESS FOR LUMINAIRE MAST ARMS MAY BE TYPICALLY 0.10", 0.25" OR 0.35".
SHIM MATERIAL SHALL BE ALUMINUM ALLOY.
SHIM THICKNESS SHALL BE IMPRESSED INTO EACH SHIM. NUMERALS SHALL BE 1/4" HIGH AND LEGIBLE.
THE CONTRACTOR SHALL SUBMIT TWO COPIES OF ALL SHIM SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL.
- 15 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.

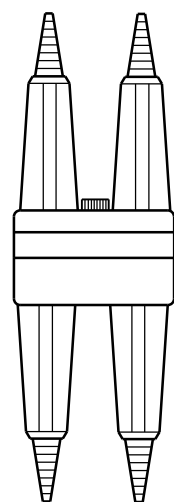
HARDWARE DETAILS FOR POLE MOUNTINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

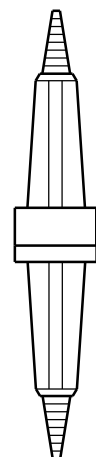
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STATE ELECTRICAL ENGINEER
FHWA



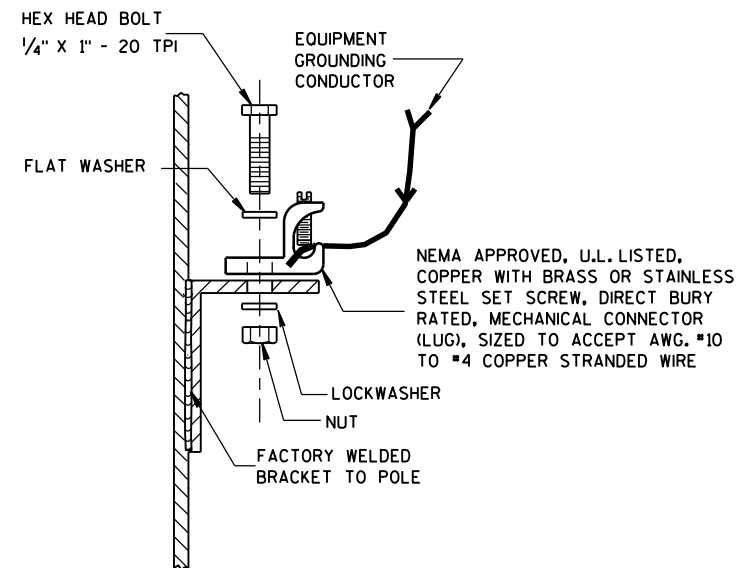
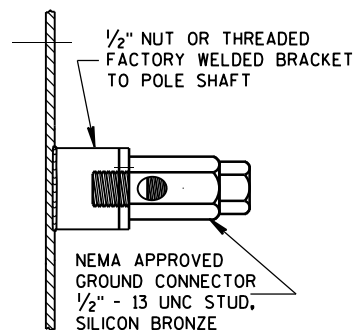
**LIGHTING UNIT CODE
(TYPICAL)**



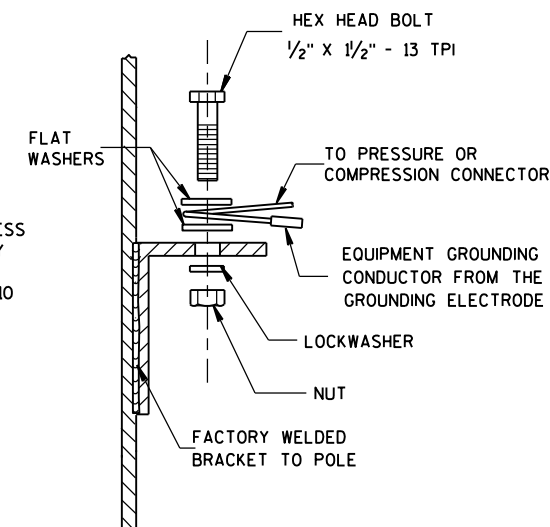
**DETAIL "A"
BREAKAWAY
DOUBLE POLE WITH
WATERPROOF
INSULATING BOOT**



**DETAIL "B"
BREAKAWAY
SINGLE POLE WITH
WATERPROOF
INSULATING BOOT**



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



GENERAL NOTES

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

THE EQUIPMENT GROUNDING CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND THEN 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.

ADDITIONAL CONDUCTORS
AND FUSE FOR TWIN
LIGHTING UNITS

EQUIPMENT GROUNDING
CONDUCTOR(S) TO LUMINAIRE(S)

APPROVED MECHANICAL TYPE
CONNECTOR FOR EQUIPMENT
GROUNDING CONDUCTORS.
COMPRESSION, CRIMP OR
WIRE NUT CONNECTORS ARE
NOT ALLOWED.

TYPICAL GROUNDING CONNECTION -
STAINLESS STEEL BOLT,
NUT AND WASHERS
1/2" X 1/2" - 13 TPI

AWG #4 (MIN.) BARE EQUIPMENT
GROUNDING CONDUCTOR.
NOTE: THIS WIRE SHALL BE
CONTINUOUS WITHOUT SPLICES
FROM THE GROUNDING ELECTRODE
TO THE EQUIPMENT GROUNDING
CONDUCTOR SPICE CONNECTOR.

INSULATED EQUIPMENT GROUNDING
CONDUCTORS FROM SYSTEM RACEWAY

EXOTHERMICALLY WELDED
TO GROUNDING ELECTRODE

CONDUCTORS TO
LUMINAIRES SHALL BE #12 AWG,
COPPER STRANDED, U.S.E. RATED,
XLP INSULATED. SINGLE
LIGHTING UNIT SHOWN

CIRCUIT TAGS, BOTH SIDES
OF ALL FUSES (TYPICAL)

IN LINE SINGLE POLE FUSE ASSEMBLY.
600 VAC, WITH 5 AMP FAST ACTING
FUSE (SEE DETAIL "B")
TAPE AND VARNISH
CRIMPED END FERRULES

HANDHOLE & COVER

18" PIGTAIL BETWEEN
CONNECTOR AND FUSEHOLDER

APPROVED INSULATED MULTITAP
TERMINAL BLOCK TYPE CONNECTORS.
COMPRESSION, CRIMP OR WIRE NUT
CONNECTORS ARE NOT ALLOWED.

INSULATED UNGROUNDED CIRCUIT
CONDUCTORS FROM SYSTEM RACEWAY

ALTERNATE PHASE UNGROUNDED
CIRCUIT CONDUCTOR PASSING
THROUGH THIS POLE

**3 WIRE - 120, 240 OR 480 VAC (UNGROUND CONDUCTOR)
WITH GROUNDED CONDUCTOR AND
WITH EQUIPMENT GROUNDING CONDUCTOR**

TWIN LIGHTING UNITS REQUIRE
INDIVIDUAL SETS OF UNGROUNDED
CONDUCTORS AND FUSE ASSEMBLY.

AWG #4 (MIN.) BARE EQUIPMENT
GROUNDING CONDUCTOR.
NOTE: THIS WIRE SHALL BE
CONTINUOUS WITHOUT SPLICES
FROM THE GROUNDING ELECTRODE
TO THE EQUIPMENT GROUNDING
CONDUCTOR SPICE CONNECTOR.

EQUIPMENT GROUNDING
CONDUCTOR(S) TO LUMINAIRE(S)

TYPICAL GROUNDING CONNECTION -
STAINLESS STEEL BOLT,
NUT AND WASHERS
1/2" X 1/2" - 13 TPI

APPROVED MECHANICAL TYPE
CONNECTOR FOR EQUIPMENT
GROUNDING CONDUCTORS.
COMPRESSION, CRIMP OR
WIRE NUT CONNECTORS ARE
NOT ALLOWED.

INSULATED EQUIPMENT GROUNDING
CONDUCTORS FROM SYSTEM RACEWAY

EXOTHERMICALLY WELDED
TO GROUNDING ELECTRODE

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

CIRCUIT TAGS, BOTH SIDES
OF ALL FUSES (TYPICAL)

IN LINE FUSE ASSEMBLY
TWO POLE, 600 VAC,
WITH 5 AMP FAST ACTING
FUSE (SEE DETAIL "A")
TAPE AND VARNISH
CRIMPED END FERRULES

HANDHOLE & COVER

18" PIGTAIL BETWEEN
CONNECTORS AND FUSEHOLDERS

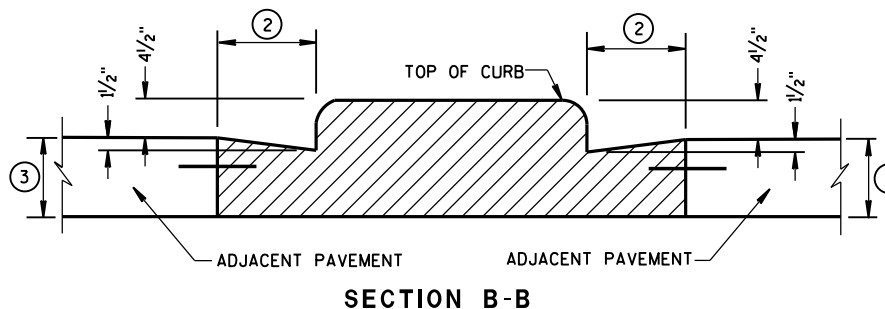
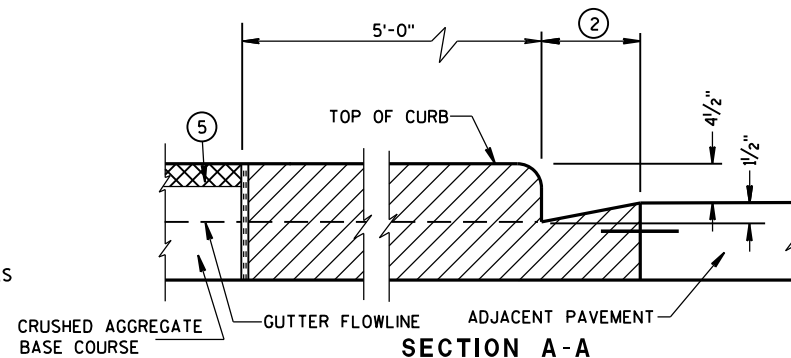
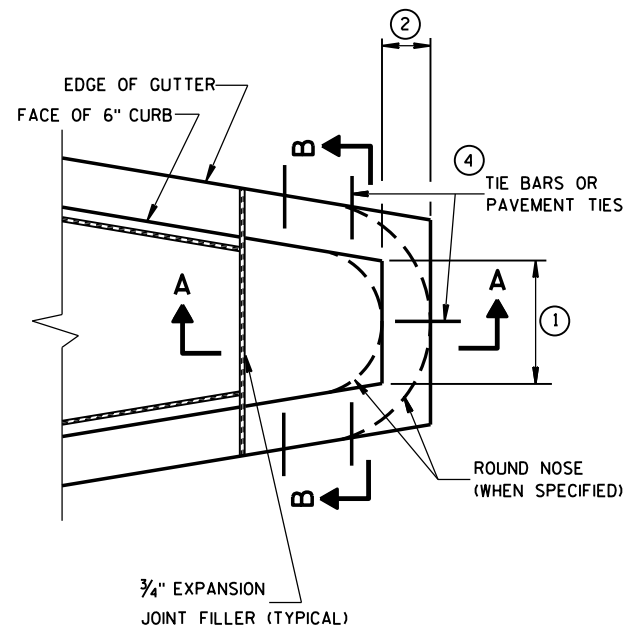
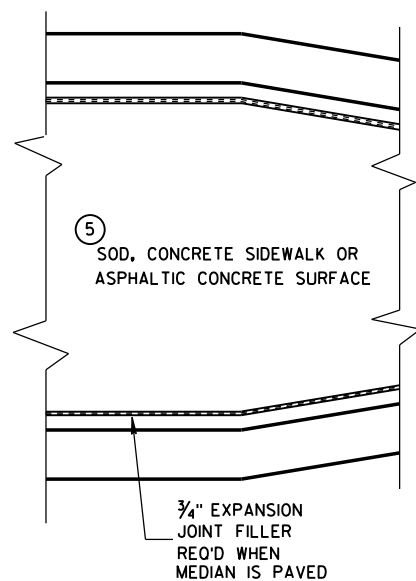
APPROVED INSULATED MULTITAP
TERMINAL BLOCK TYPE CONNECTORS.
COMPRESSION, CRIMP OR WIRE NUT
CONNECTORS ARE NOT ALLOWED.

INSULATED UNGROUNDED CIRCUIT
CONDUCTORS FROM SYSTEM RACEWAY

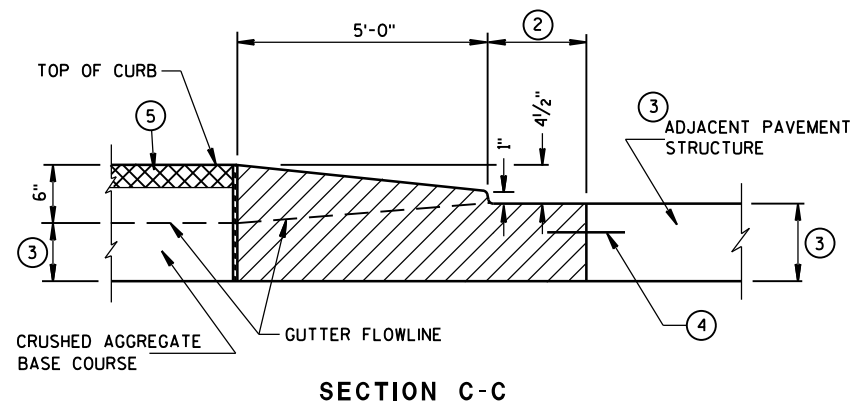
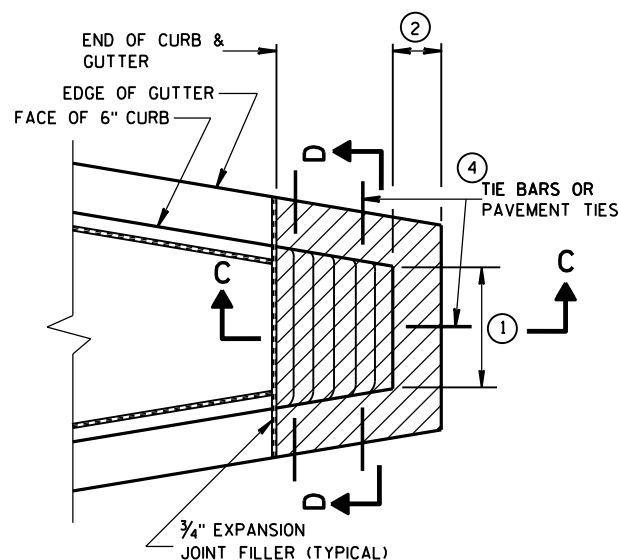
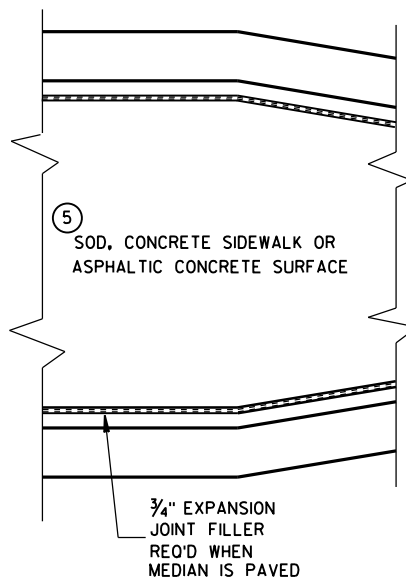
**NON-FREEWAY LIGHTING UNIT
POLE WIRING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

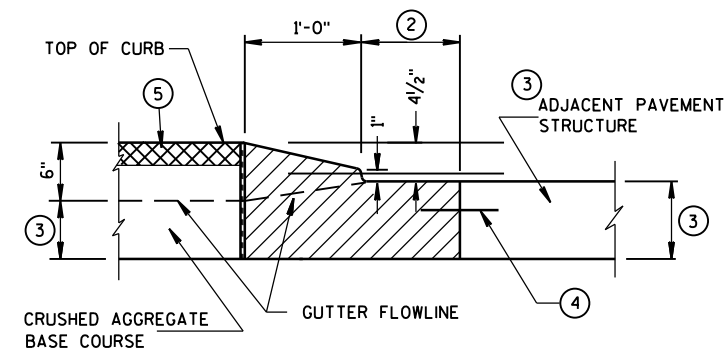
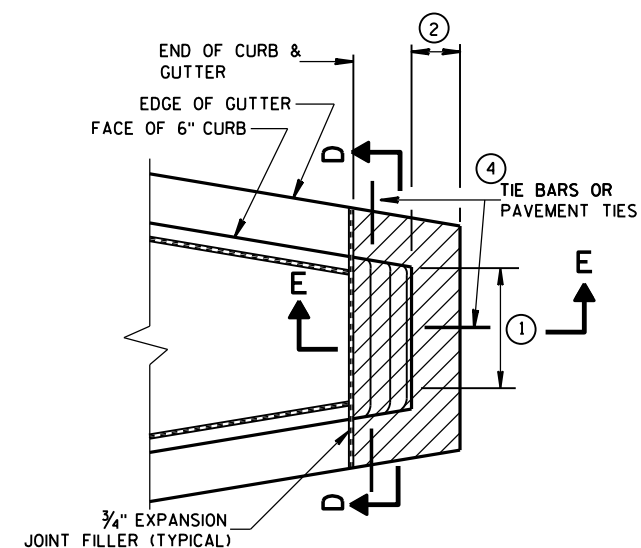
APPROVED
Sept. 2014 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL ENGINEER
FHWA



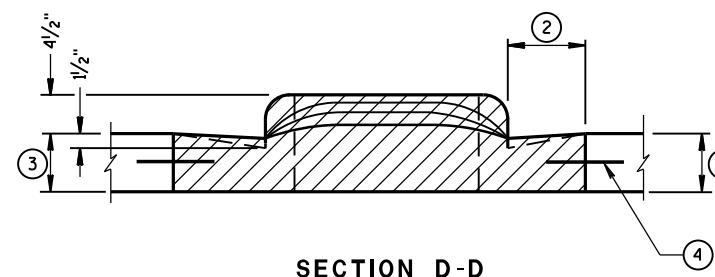
CONCRETE MEDIAN BLUNT NOSE DETAIL



CONCRETE MEDIAN SLOPED NOSE TYPE 1



CONCRETE MEDIAN SLOPED NOSE TYPE 2



GENERAL NOTES

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

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

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

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

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

CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

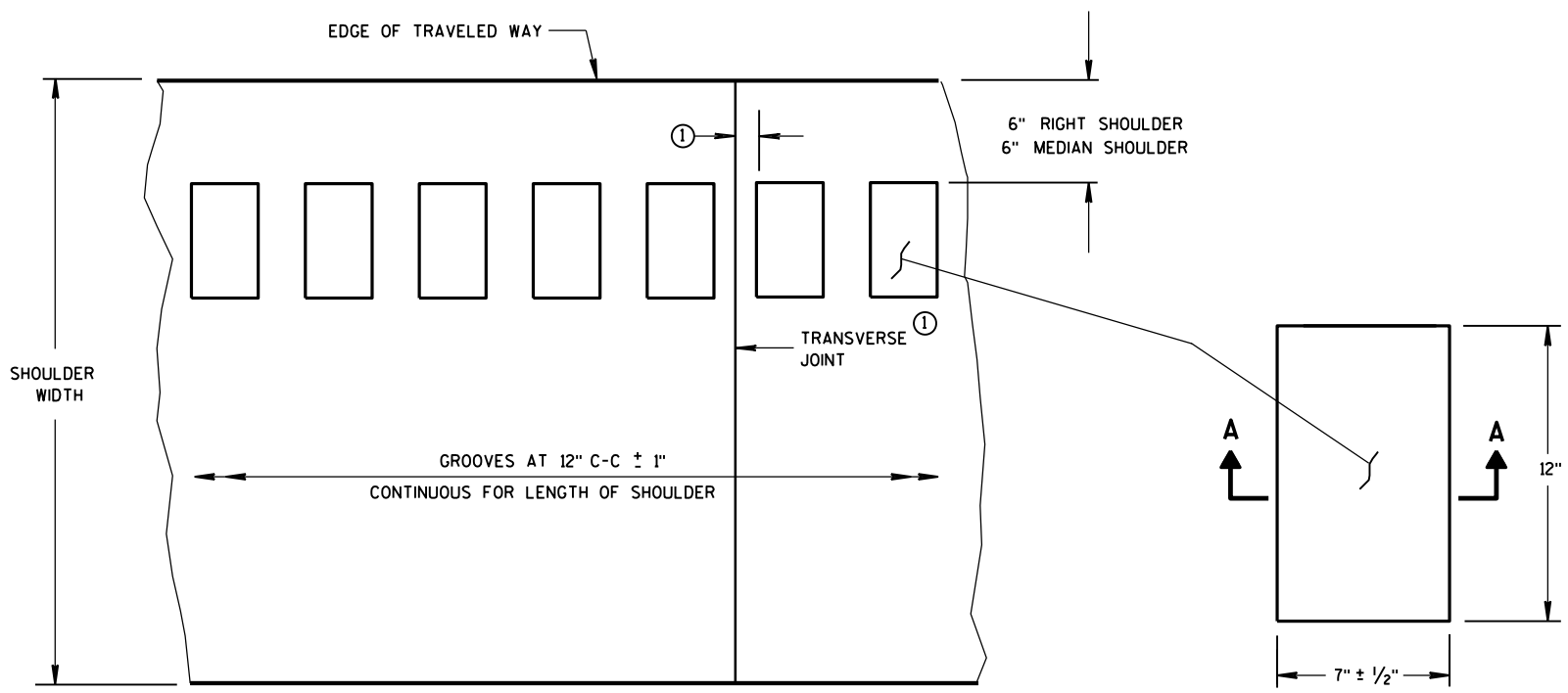
APPROVED

6/8/2006

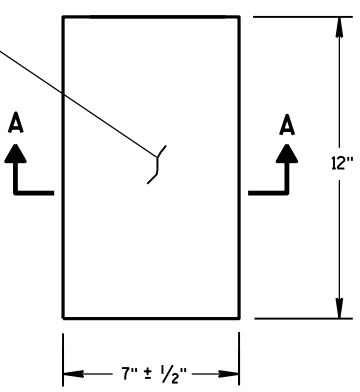
DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



PLAN VIEW
SHOULDER WITH GROOVES



PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

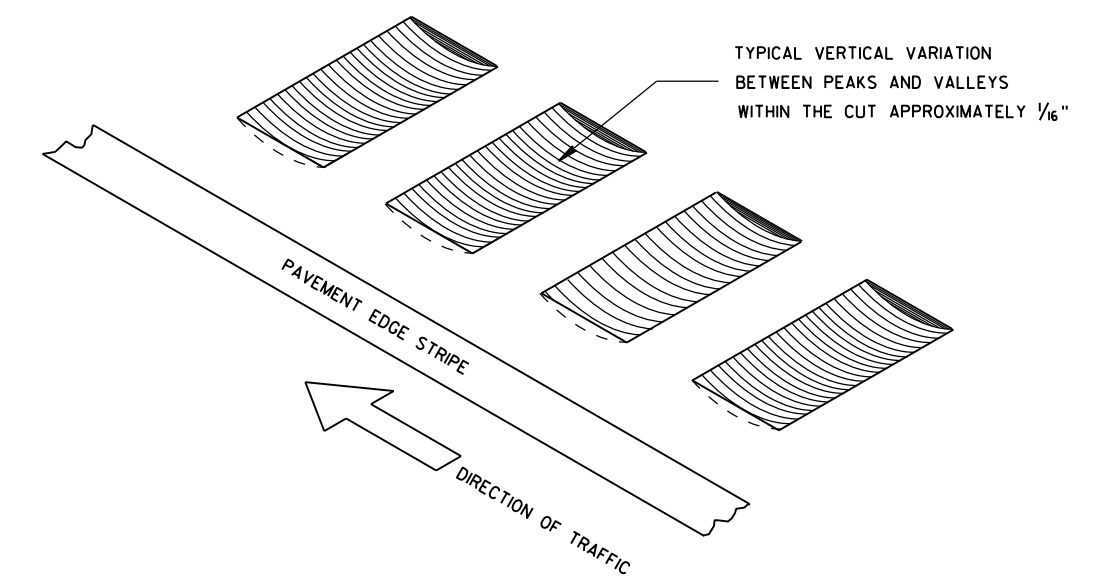
GENERAL NOTES

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

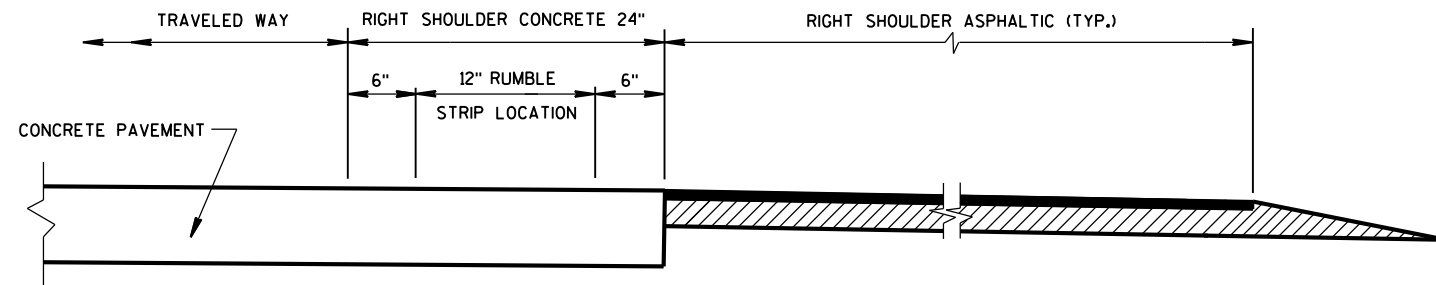
RUMBLE STRIPS ON EXPRESSWAYS

DO NOT INSTALL RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL DRIVEWAYS, PRIVATE DRIVEWAYS OR ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, BRIDGE DECKS, BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSING. THE ATTACHED STANDARD DETAIL DRAWING SHOWS THE LOCATION OF THE RUMBLE STRIPS AT INTERCHANGE AREAS.

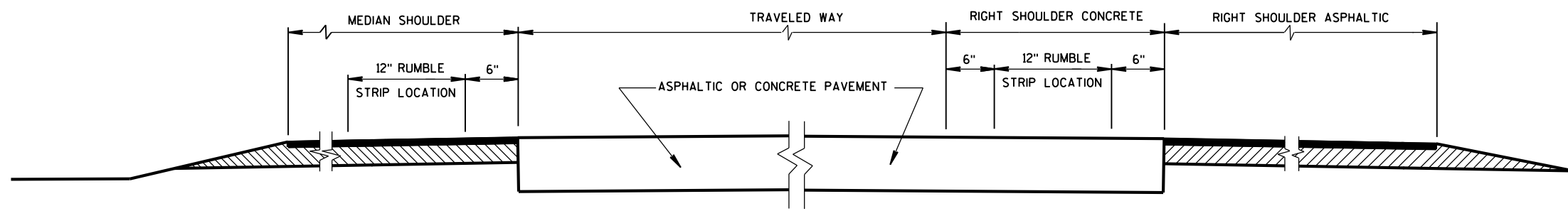
① CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



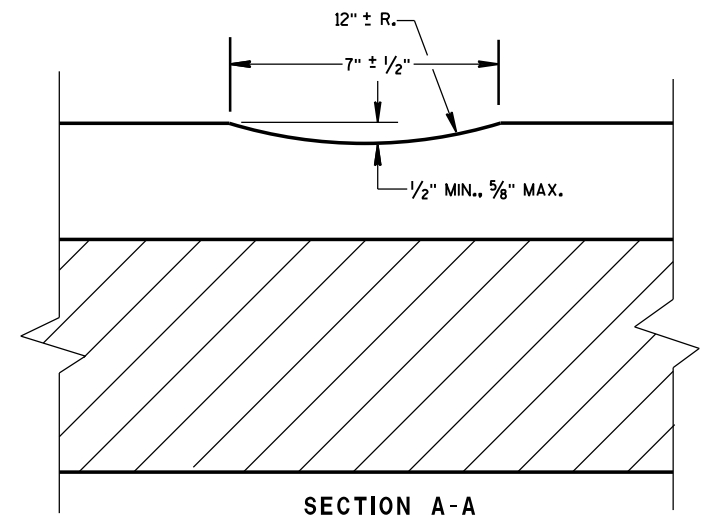
ISOMETRIC



SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



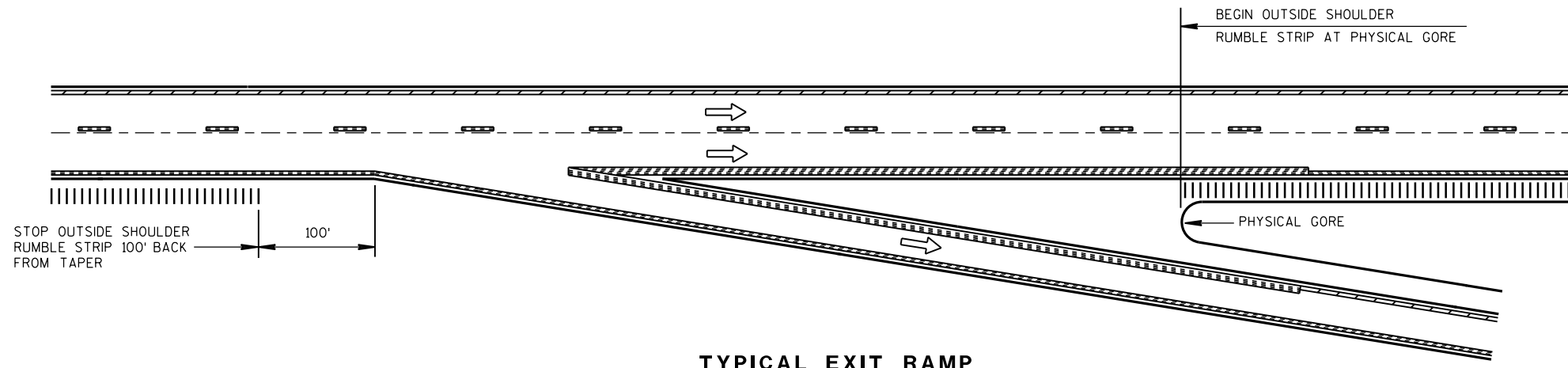
SECTION VIEW
TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS
IN RURAL DIVIDED HIGHWAYS
(ONE ROADWAY IS SHOWN)



SECTION A-A

SHOULDER RUMBLE STRIP,
MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

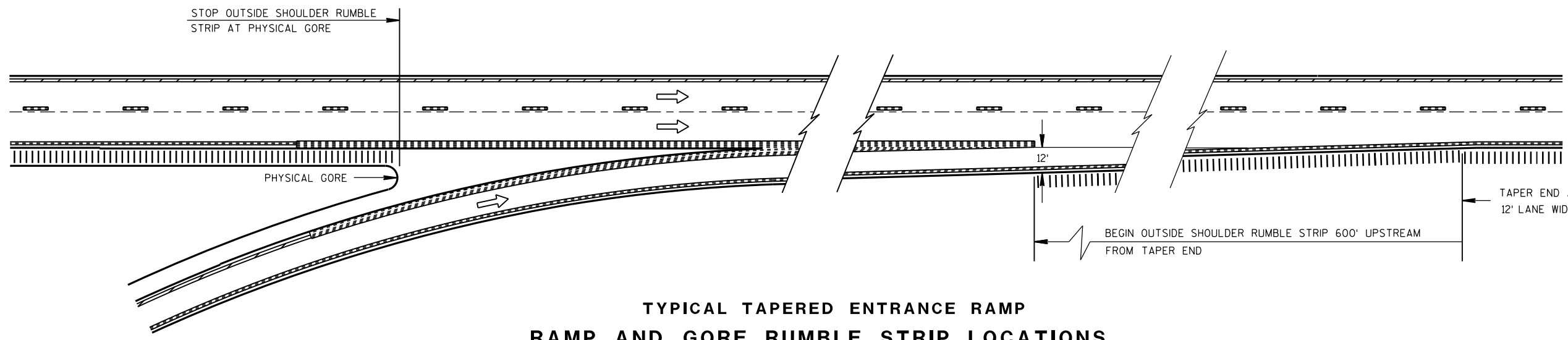


TYPICAL EXIT RAMP

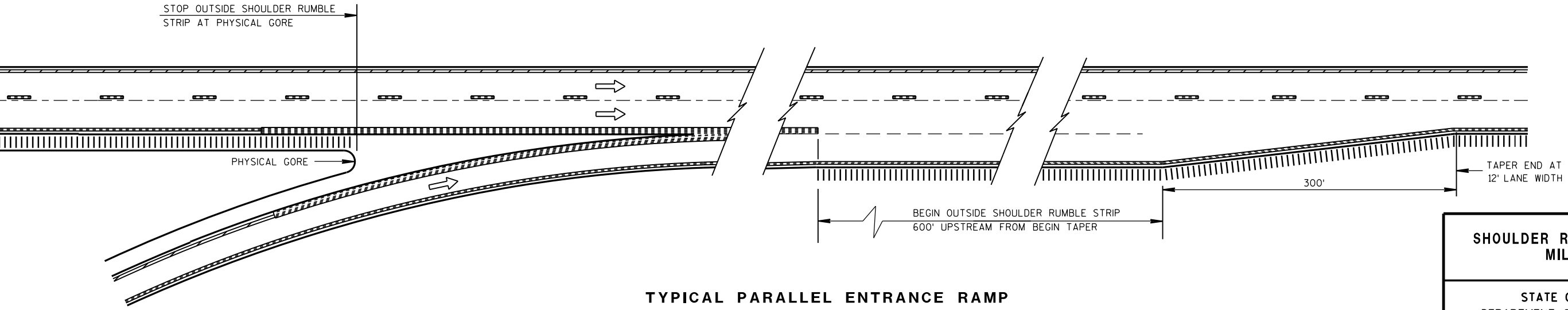
NOTES:
NO RUMBLE STRIP ON EXIT, DIRECTIONAL, OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.

PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

NOTE:
ARROW SYMBOL (→)
SHOWS DIRECTION OF TRAVEL

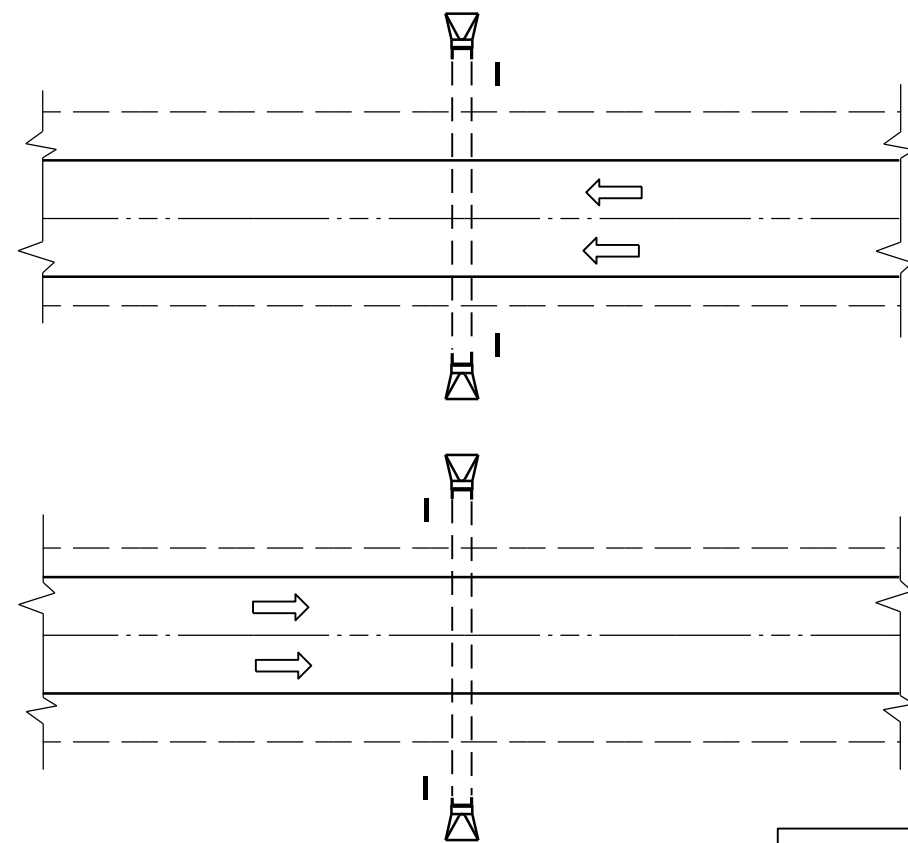


TYPICAL TAPERED ENTRANCE RAMP
RAMP AND GORE RUMBLE STRIP LOCATIONS

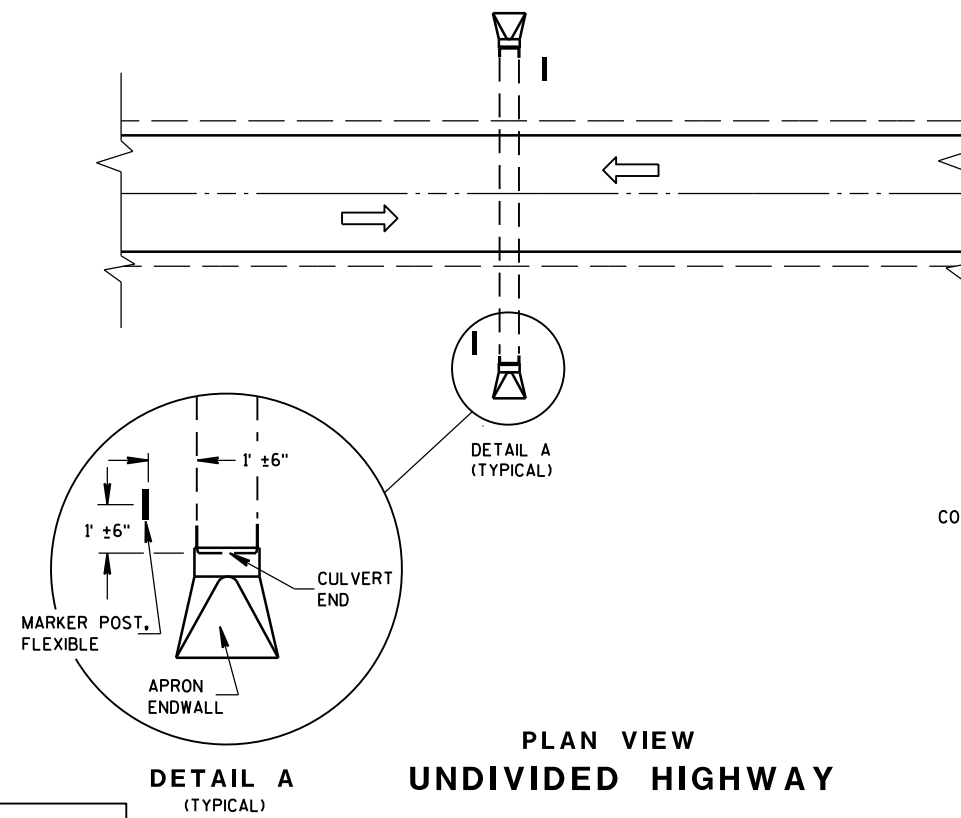
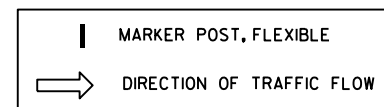


TYPICAL PARALLEL ENTRANCE RAMP
RAMP AND GORE RUMBLE STRIP LOCATIONS

SHOULDER RUMBLE STRIP, MILLING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 12/17/2012 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



PLAN VIEW
DIVIDED HIGHWAY

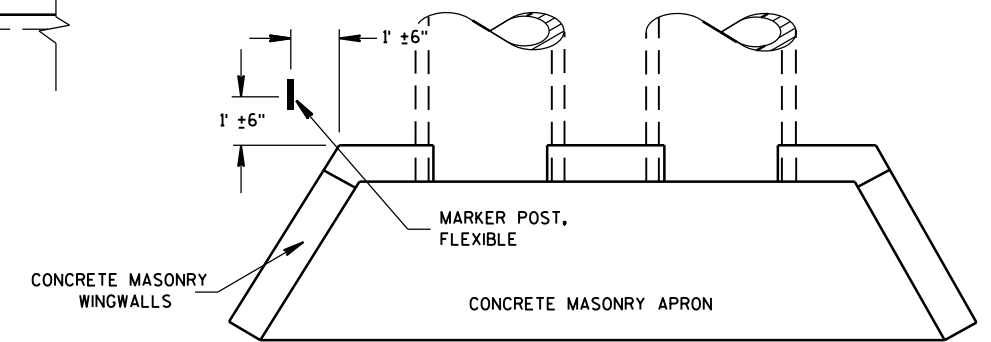


PLAN VIEW
UNDIVIDED HIGHWAY

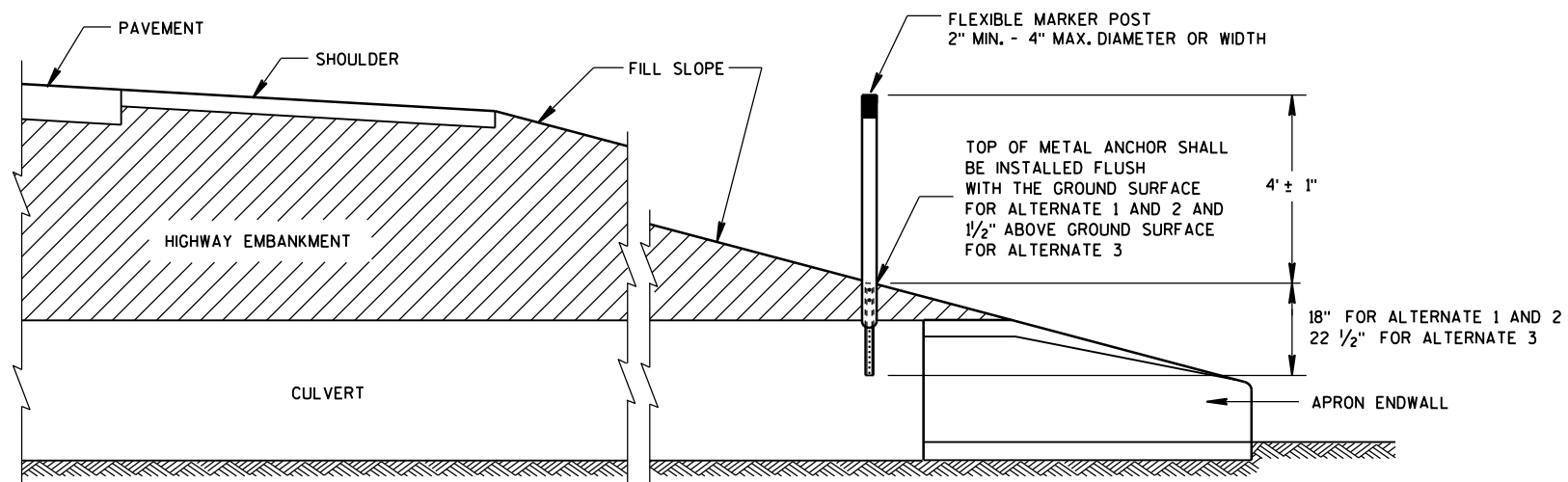
FLEXIBLE MARKER POST LOCATION

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.



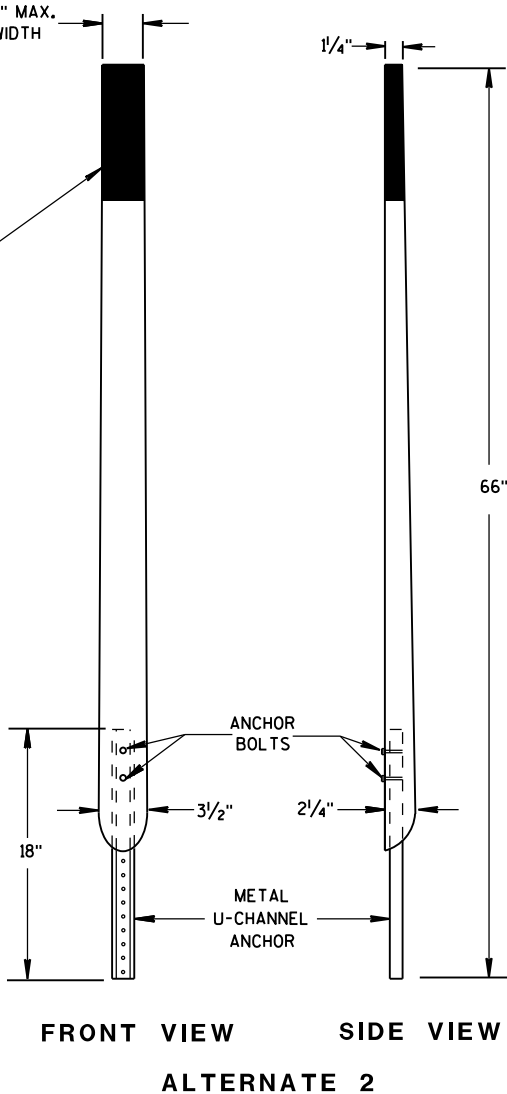
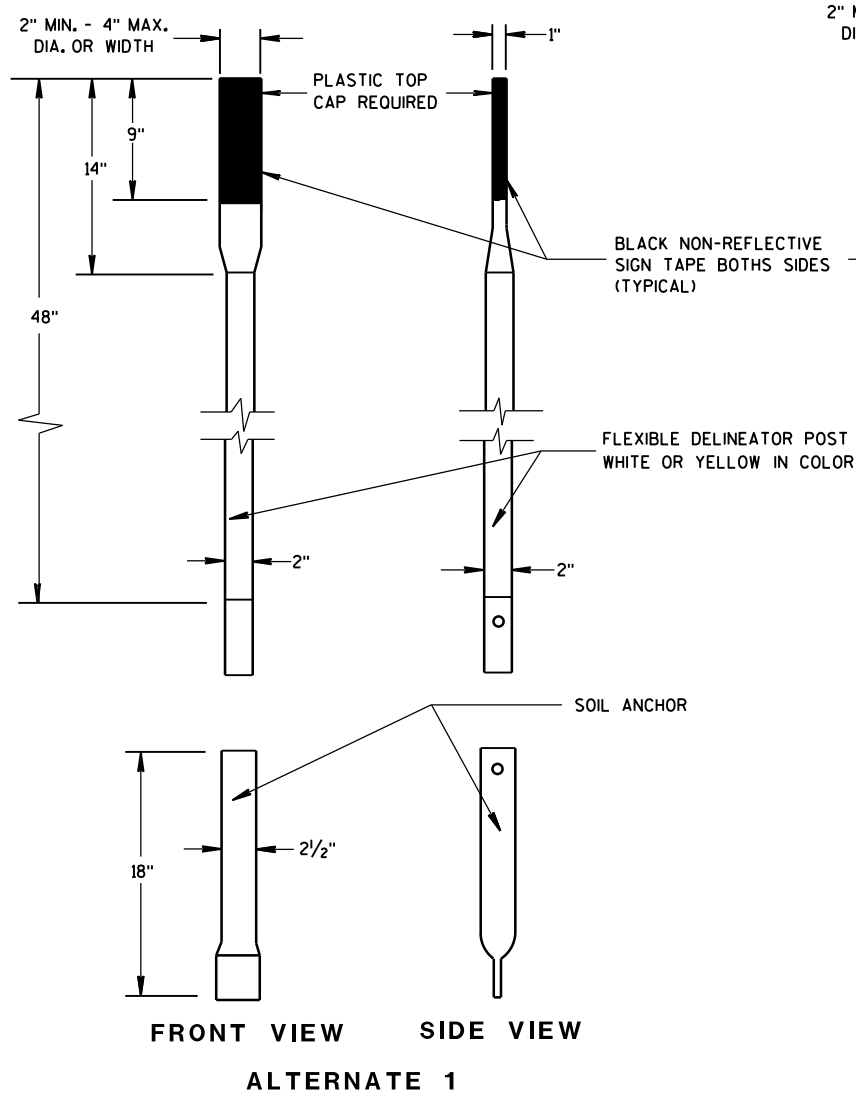
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



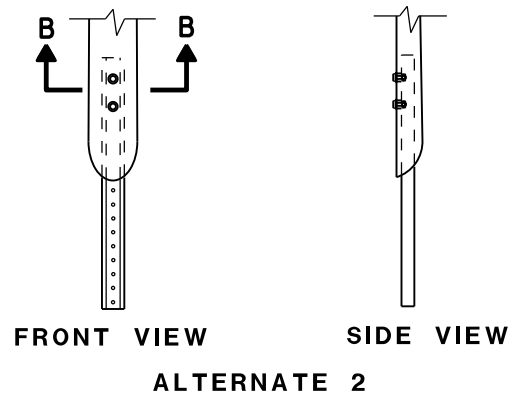
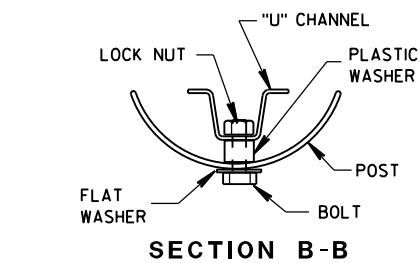
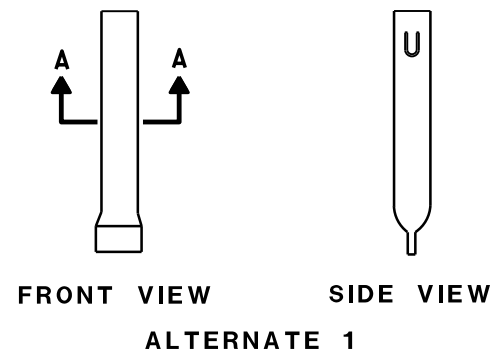
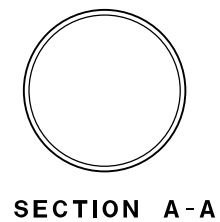
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

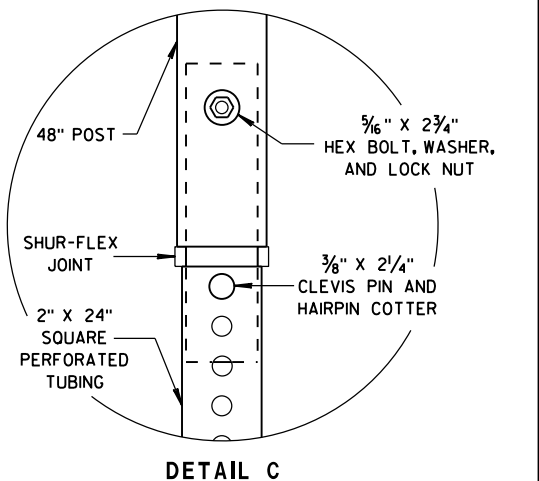
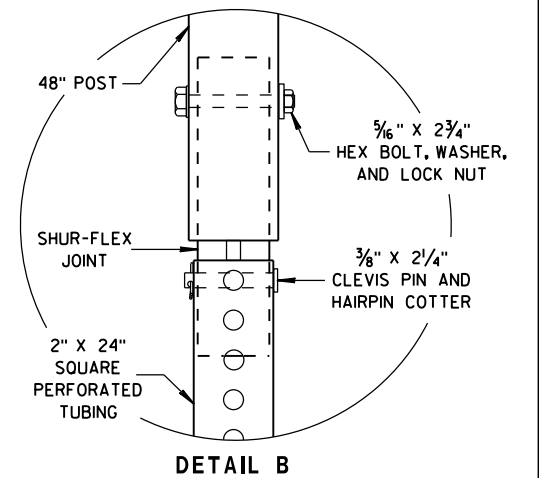
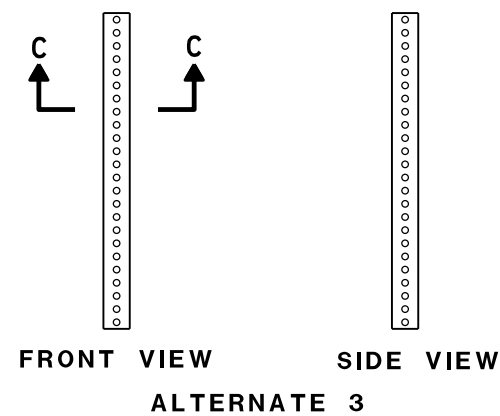
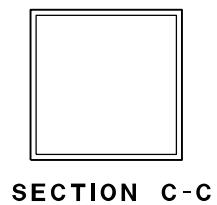
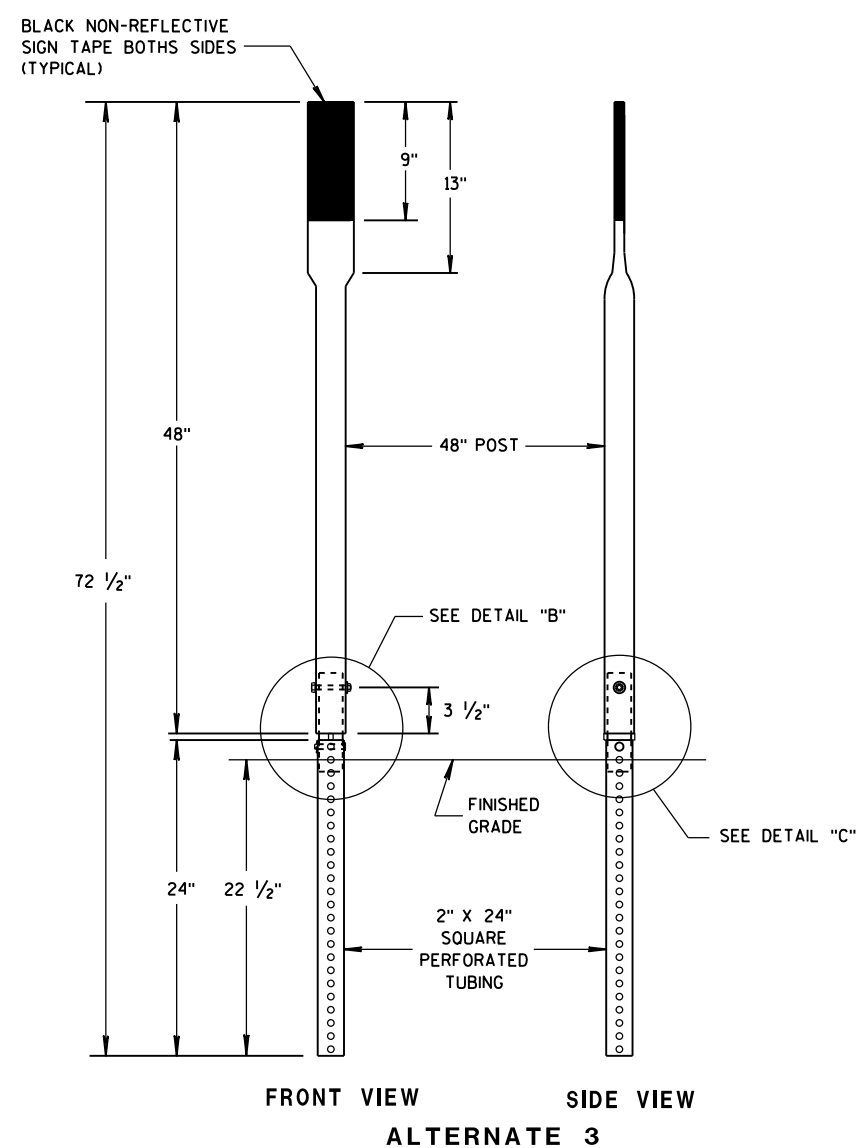
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



FLEXIBLE MARKER POSTS



FLEXIBLE MARKER POST ANCHORS



FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

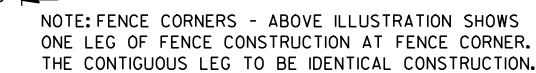
ILLUSTRATION SHOWS POSITION OF STANDARD STEEL BRACE, DOUBLE STRAND GALVANIZED WIRE, AND THE POST TO BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM LEFT TO RIGHT. THE BRACES SHALL BE POSITIONED ON THE OPPOSITE DIAGONALS AND THE OPPOSITE POST SHALL BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM RIGHT TO LEFT.



"X ϕ " = DIAMETER OF THE POST PLUS 12".

DO NOT STAPLE WIRE TIGHT TO THE LINE POSTS. ALLOW MOVEMENT OF WIRE FOR EXPANSION AND CONTRACTION. STAPLE ARRANGEMENT SHALL BE THE SAME FOR ALL OTHER POSTS EXCEPT THAT THEY SHALL BE DRIVEN TIGHT TO POSTS. ALL STAPLES SHALL BE 2" X 9 GAGE AND SHALL BE MANUFACTURED FROM GALVANIZED WIRE OR HOT DIP GALVANIZED AFTER FORMING. STAPLES SHALL HAVE SLASH-CUT POINTS.

FENCE SHALL BE LOCATED 3'-0" INSIDE
THE RIGHT OF WAY LINE UNLESS
OTHERWISE INDICATED ON THE PLANS.



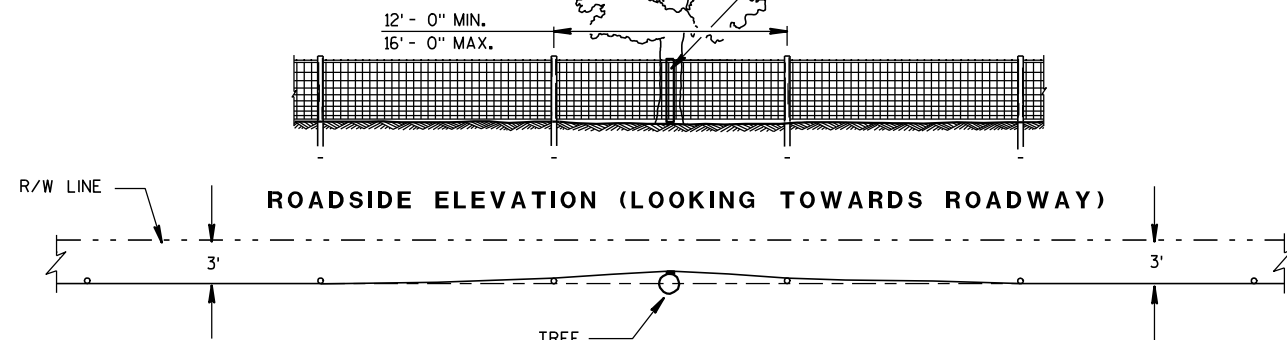
GENERAL ROADSIDE VIEW OF WOVEN WIRE FENCE



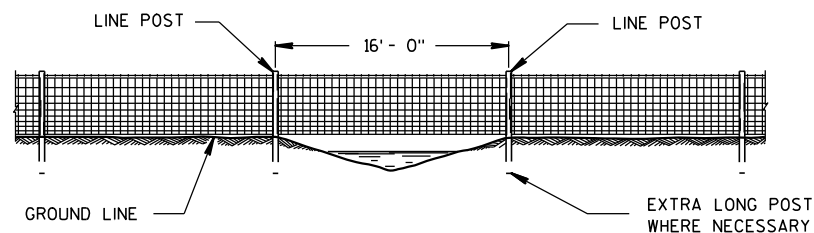
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

NOTE: TREE IN NORMAL FENCE LINE SPECIFICALLY ORDERED BY ENGINEER TO REMAIN IN PLACE.

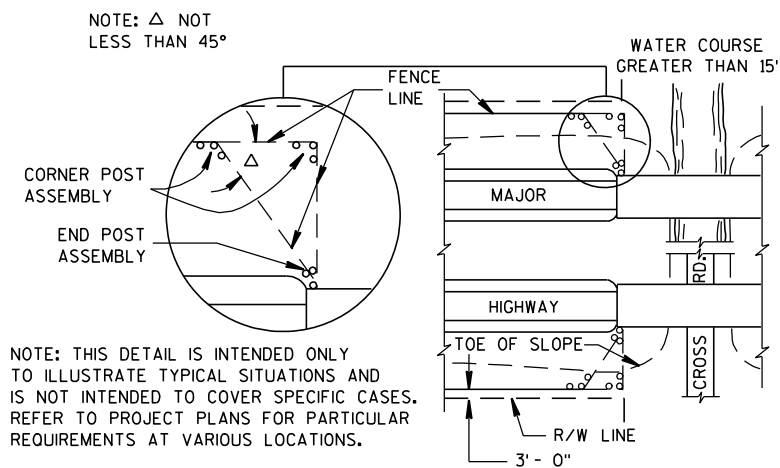
2" X 6" DOUGLAS FIR OR SO. YELLOW PINE PLACED BETWEEN TREE AND WOVEN WIRE FENCE. WOVEN WIRE FENCE AND BARBED WIRE TO BE STAPLED TO 2" X 6" LIKE AS TO LINE POST. 2" X 6" NOT FASTENED TO TREE.



PLAN VIEW
FENCE DESIGN AT TREES REMAINING
IN NORMAL FENCE LINE

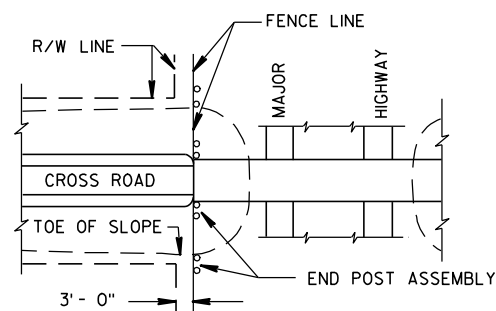


FENCE CONSTRUCTION OVER STREAM
COURSES OF 15 FT. OR LESS IN WIDTH

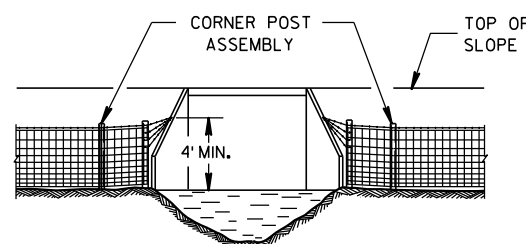


PLAN VIEW
MAJOR HIGHWAY OVERPASS OR STREAM COURSE
CROSSING OF GREATER THAN 15 FT. IN WIDTH

FENCE LOCATION AT STRUCTURES

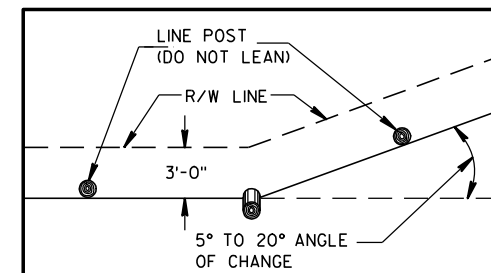
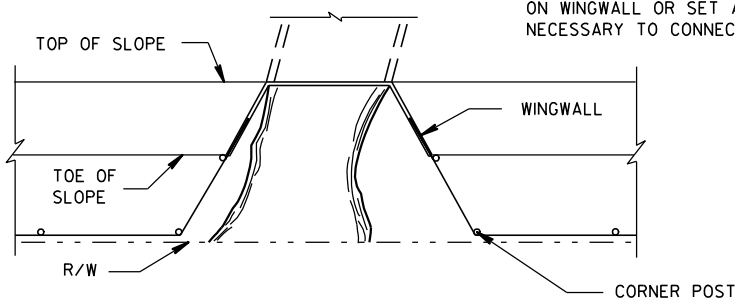


PLAN VIEW
MAJOR HIGHWAY UNDERPASS

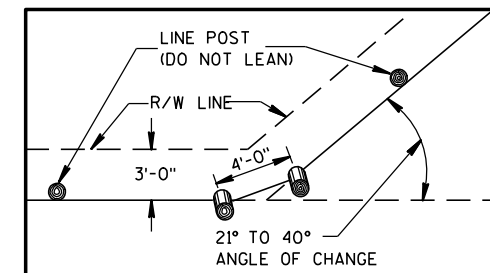


FENCE INSTALLATION TO WINGWALLS

NOTE: PLACE A MINIMUM OF 4 STRANDS OF BARBED WIRE, 6" MAXIMUM CENTERS IN FAN SHAPE CONNECTED TO AN EYE BOLT ON WINGWALL OR SET A LONE POST WHEN NECESSARY TO CONNECT BARBED WIRE.



PLAN VIEW
SINGLE POST CORNER

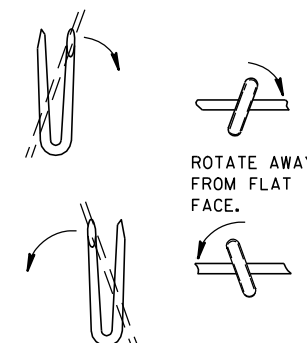


PLAN VIEW
DOUBLE POST CORNER

RIGHT OF WAY LINE CHANGE 40° AND LESS

NOTE: SINGLE AND DOUBLE POSTS SHALL BE A MIN. 6" DIA. X 8'-0" WITH A LEAN OF 4" TOWARD THE OUTSIDE OF THE CURVE.

WHEN THE RIGHT OF WAY LINE CHANGE IS MORE THAN 40° USE THE CORNER OR STRETCHER POSTS ASSEMBLY.



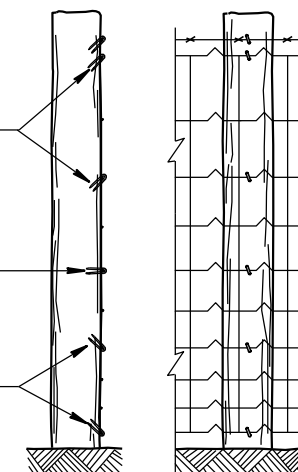
LINE POST

NOTE: WHEN POSTS ARE DRIVEN THE SMALL END SHALL BE DOWN.

STAPLES SLOPED DOWNWARD FOR SUSTAINED GRADES AND OVER KNOLLS.

STAPLES LEVEL FOR LEVEL GROUND.

SLOPE UPWARDS WHEN FENCE TENDS TO LIFT.



END ELEVATION
FARM SIDE ELEVATION
FENCE MOUNTING DETAIL

FENCE WOVEN WIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

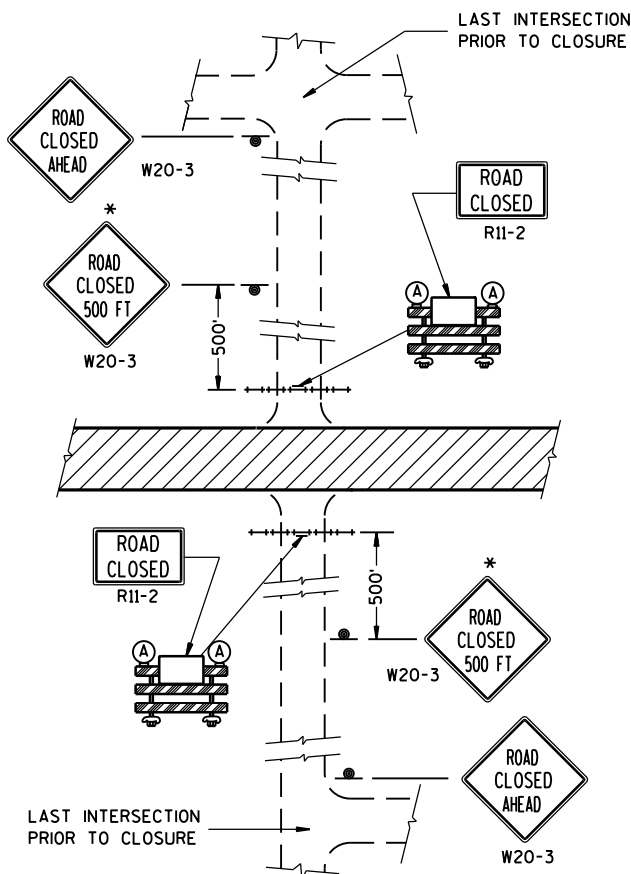
APPROVED

4/4/2008

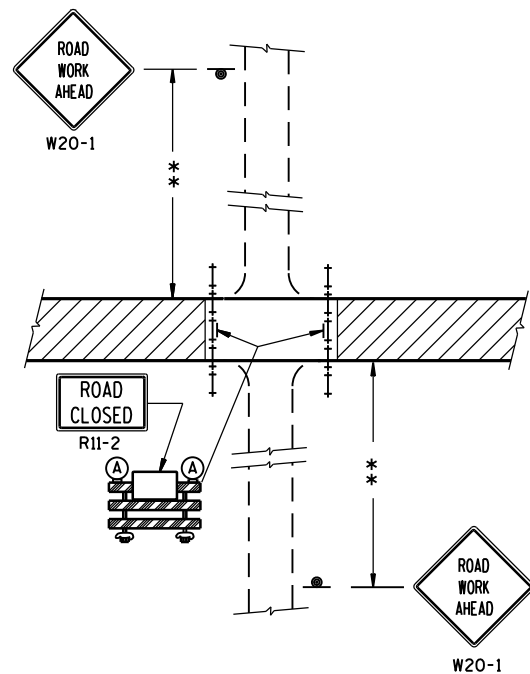
DATE

FHWA

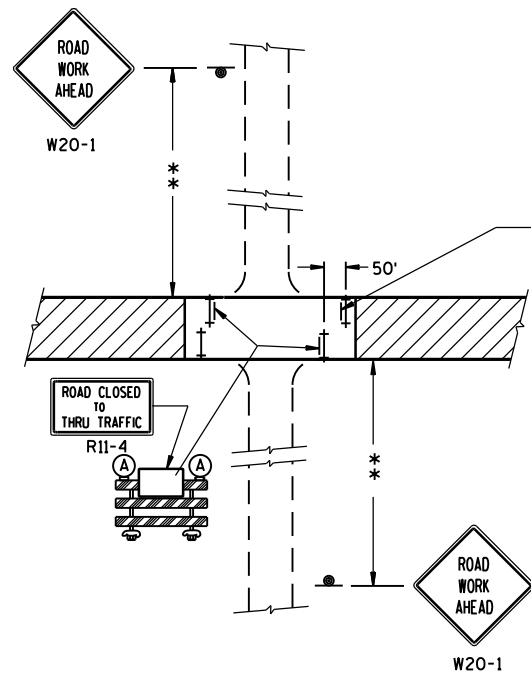
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



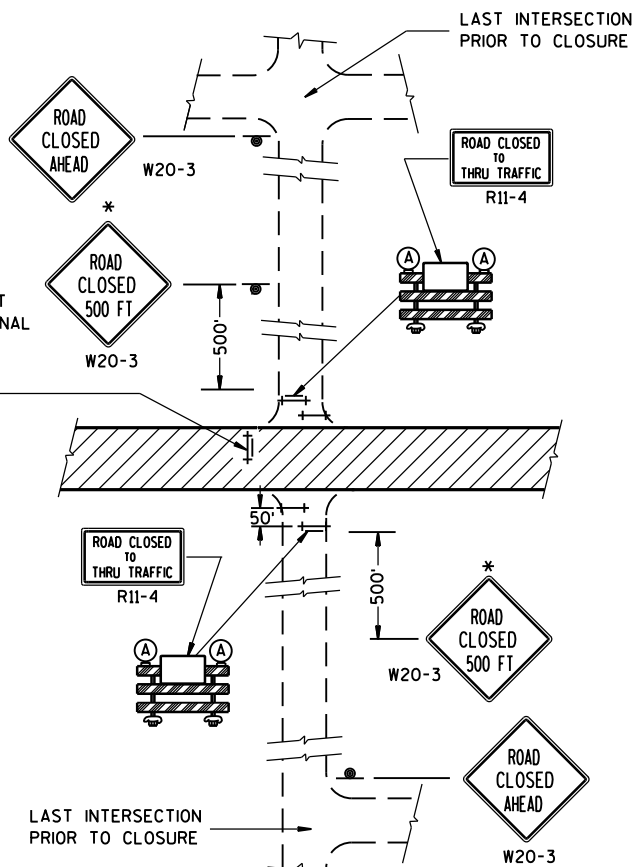
DETAIL 1
(NO ACCESS TO PROJECT)



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



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



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 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 RE-ESTABLISHED.

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 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 FT. OR LESS FROM THE WORK ZONE.

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

LEGEND

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

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

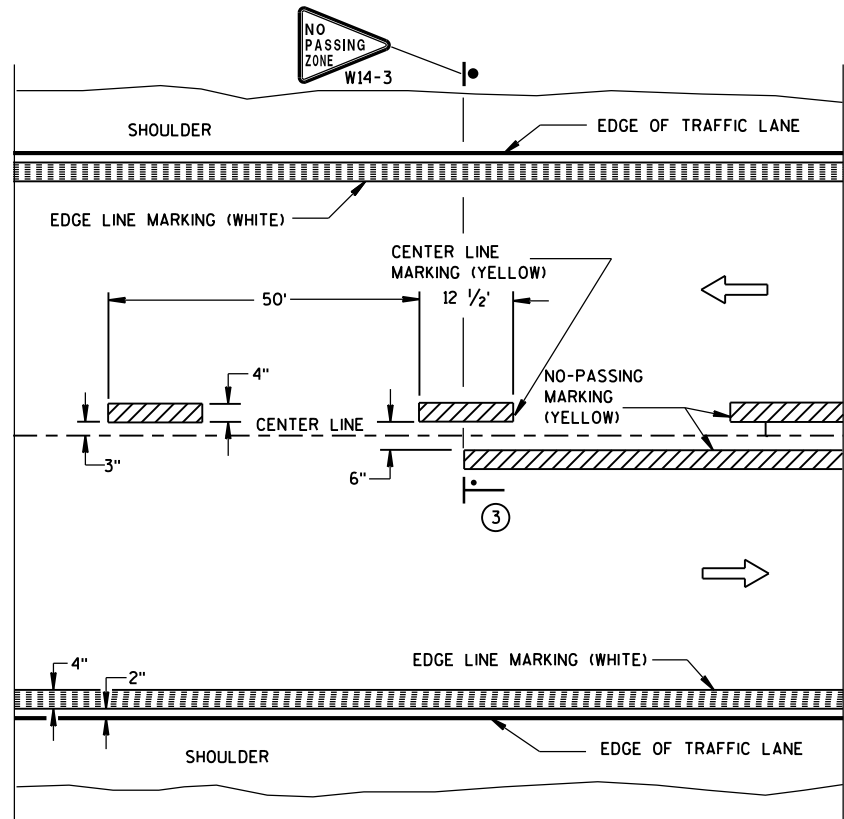
8/2013

DATE

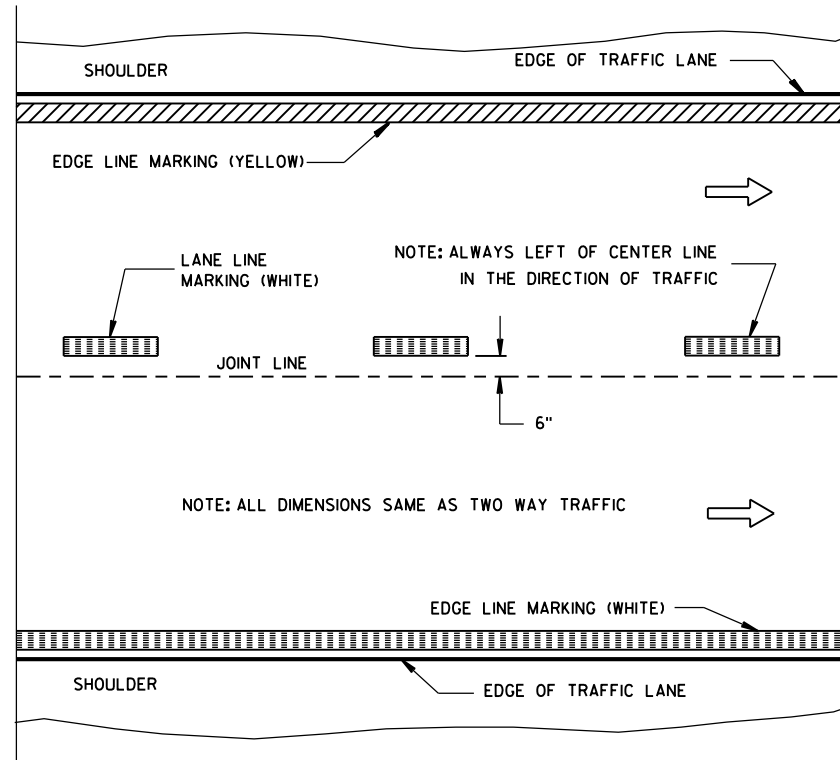
FHWA

/S/ Travis Feltes

STATE TRAFFIC ENGINEER OF DESIGN

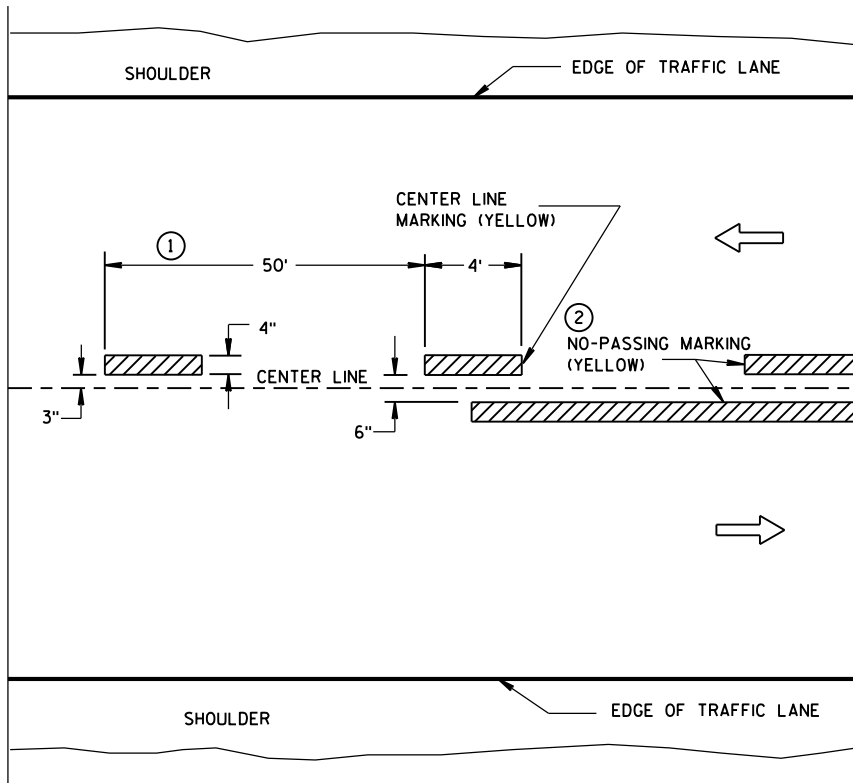


TWO WAY TRAFFIC

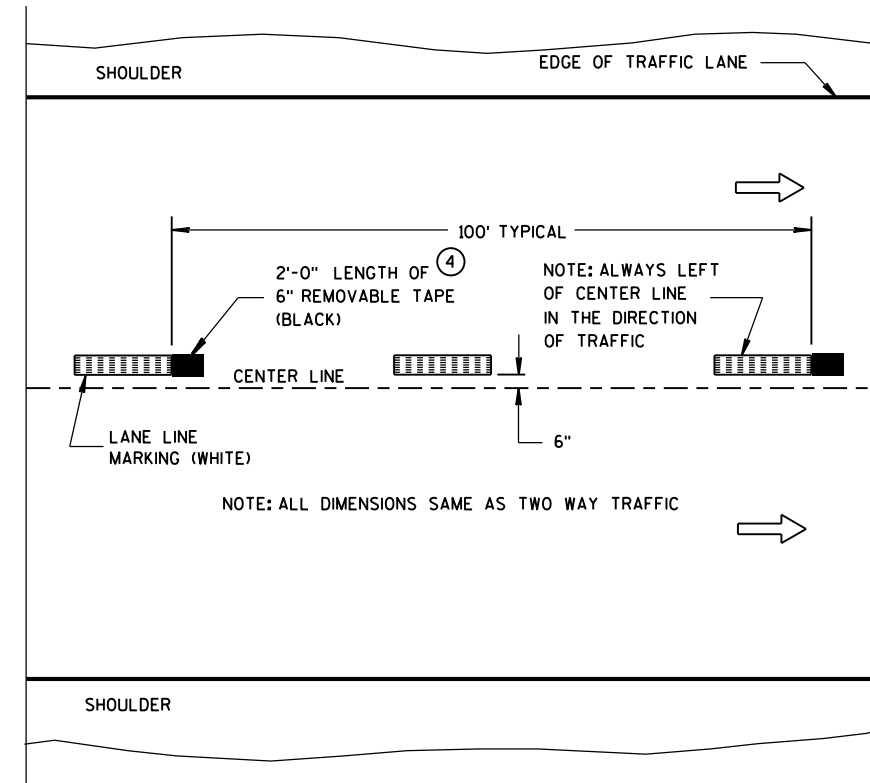


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

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

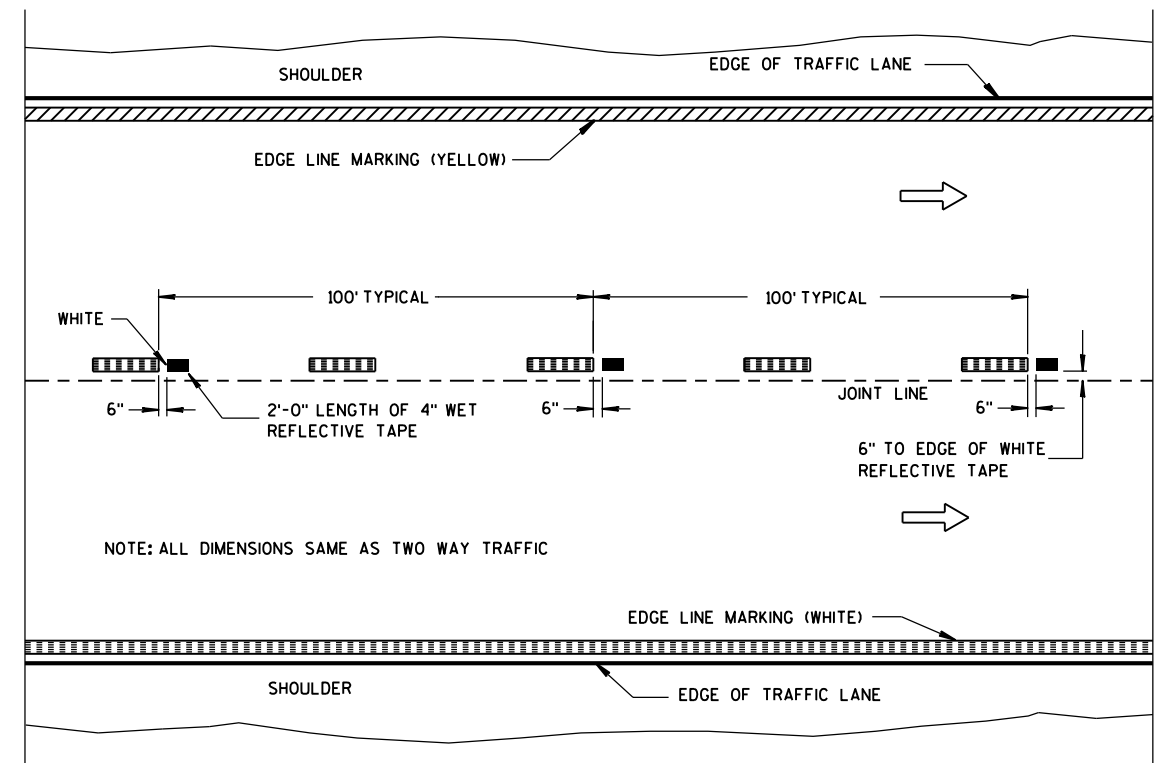
GENERAL NOTES

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

- 1 HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
- 2 NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
- 3 NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
- 4 CONCRETE ONLY.

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

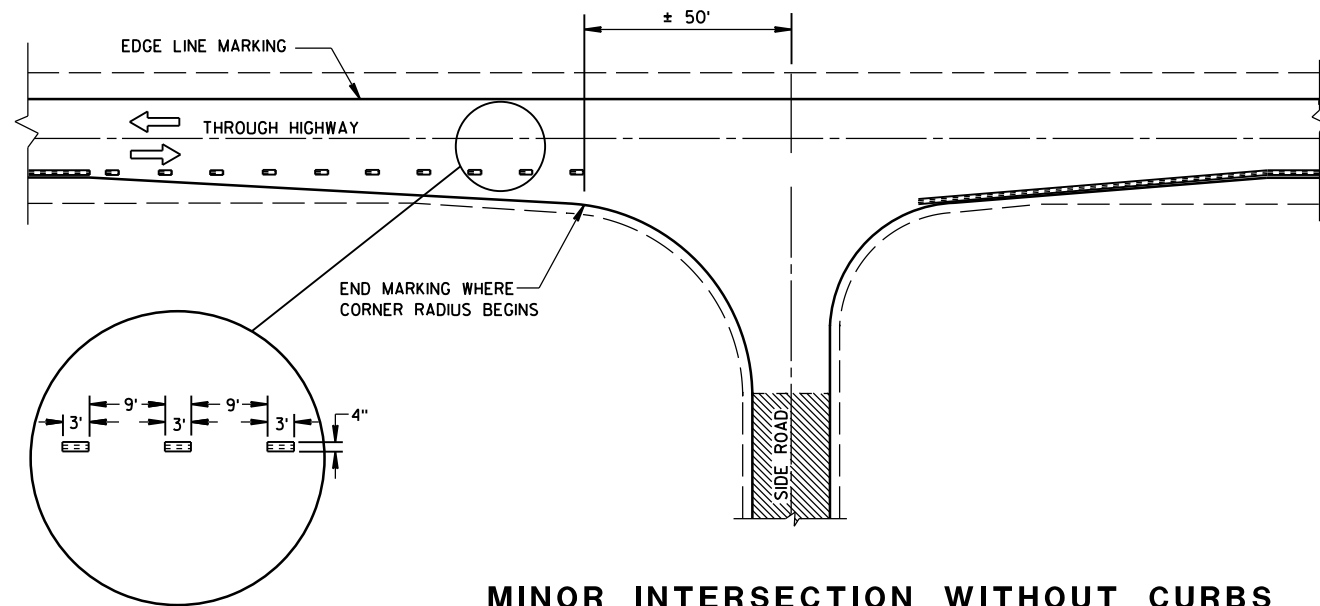
- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5-13-2013
DATE
FHWA

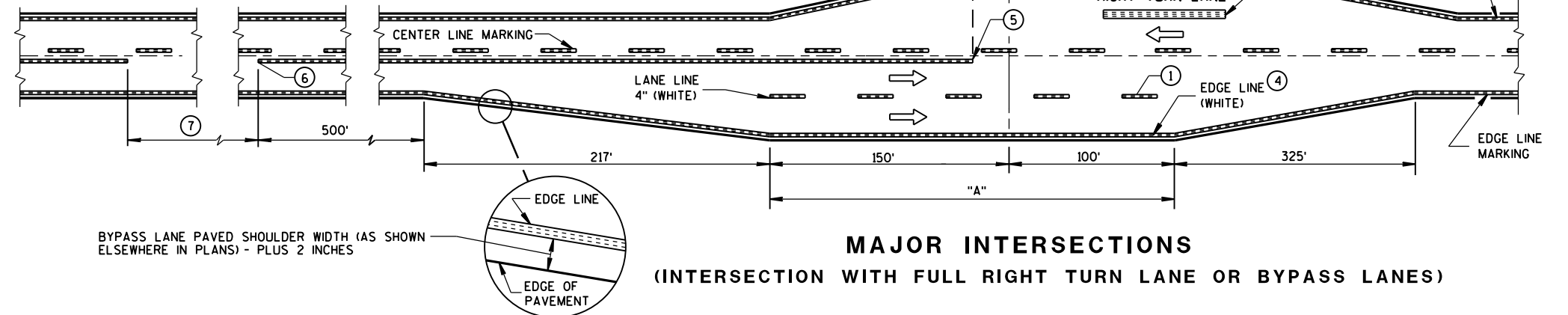
/S/ Travis Feltes
STATE TRAFFIC ENGINEER



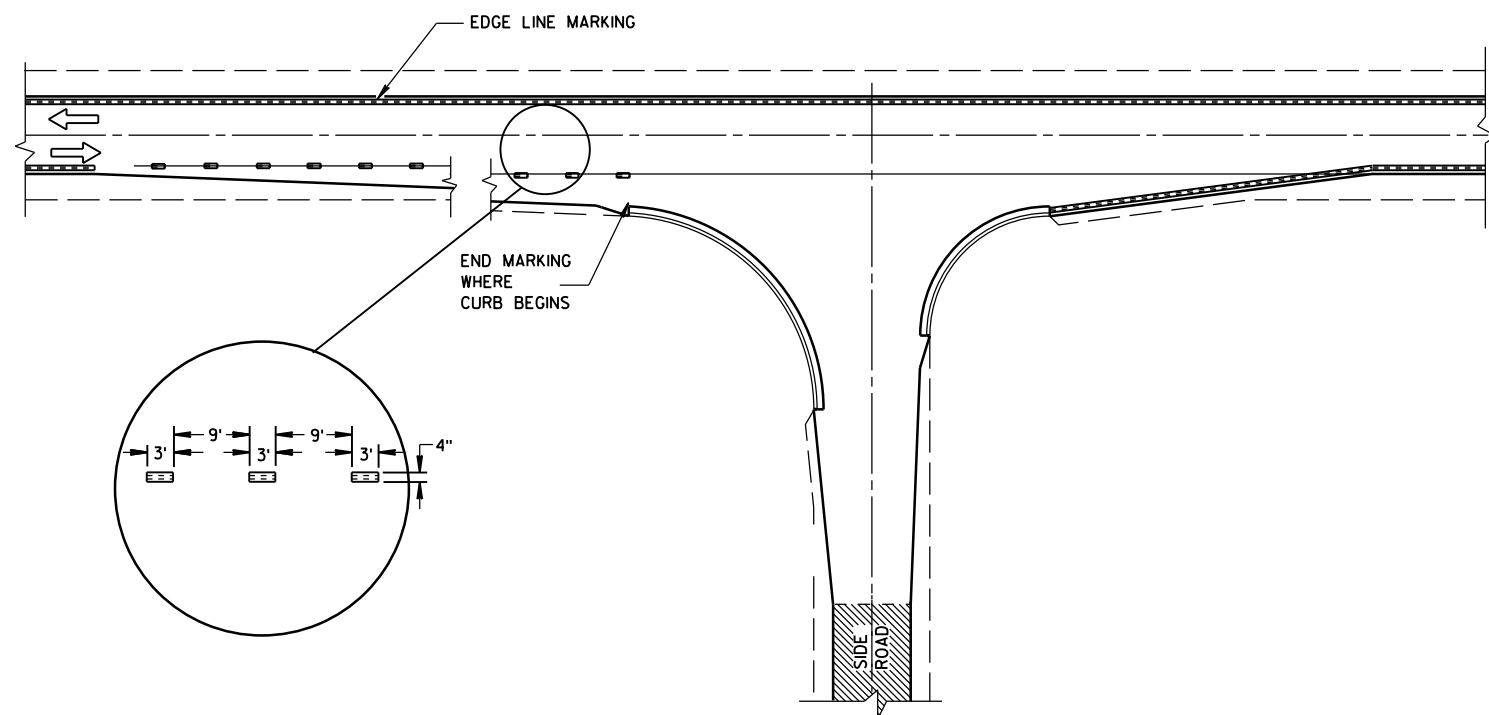
MINOR INTERSECTION WITHOUT CURBS

⑦

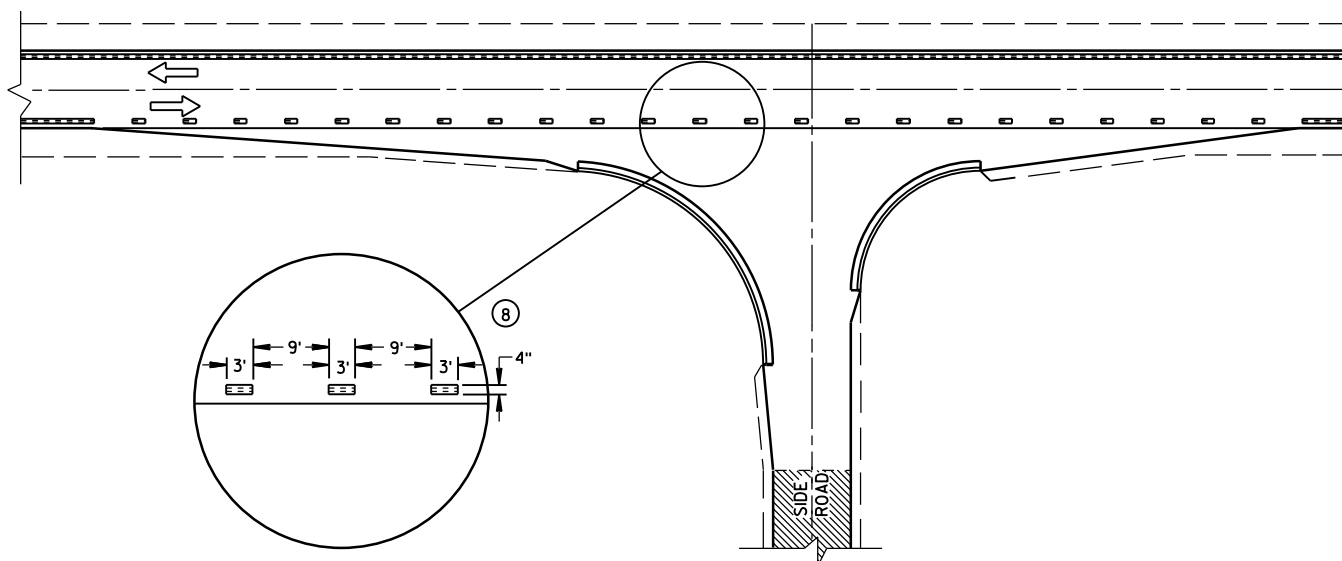
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



MAJOR INTERSECTIONS
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



MINOR INTERSECTION WITH CURBS
(TYPICAL MARKING)



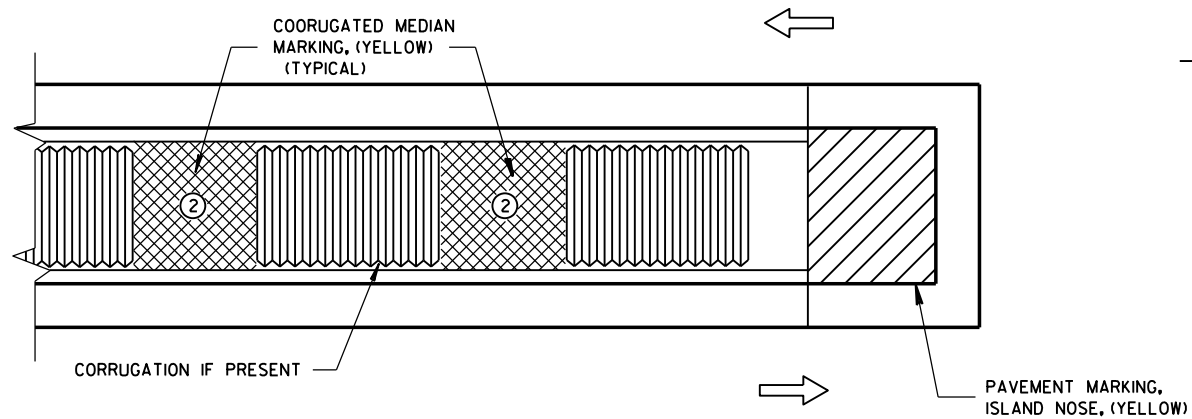
MINOR INTERSECTION WITH CURBS
③ (FOR SPECIAL CONDITIONS AS SPECIFIED)

GENERAL NOTES

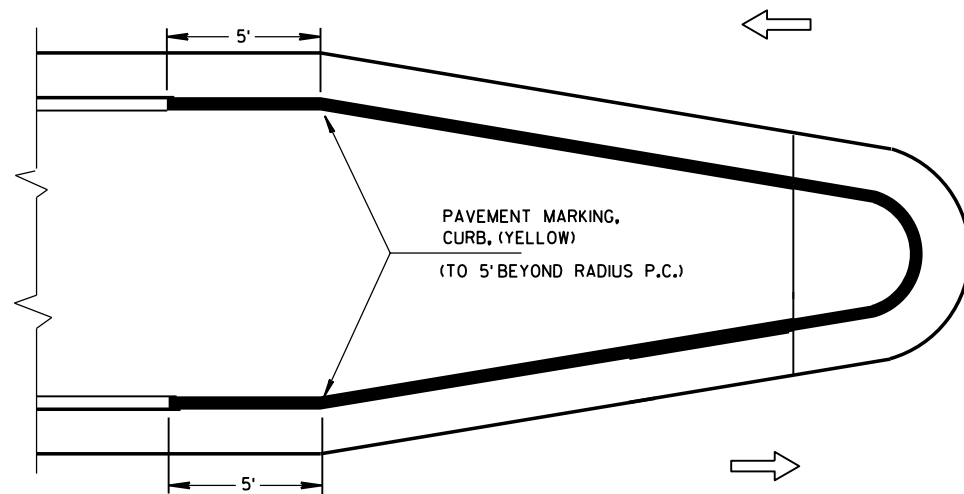
- EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.
- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
 - ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
 - ③ ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.
 - ④ THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.
 - ⑤ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.
 - ⑥ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
 - ⑦ IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.
 - ⑧ 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

PAVEMENT MARKING
(INTERSECTIONS)

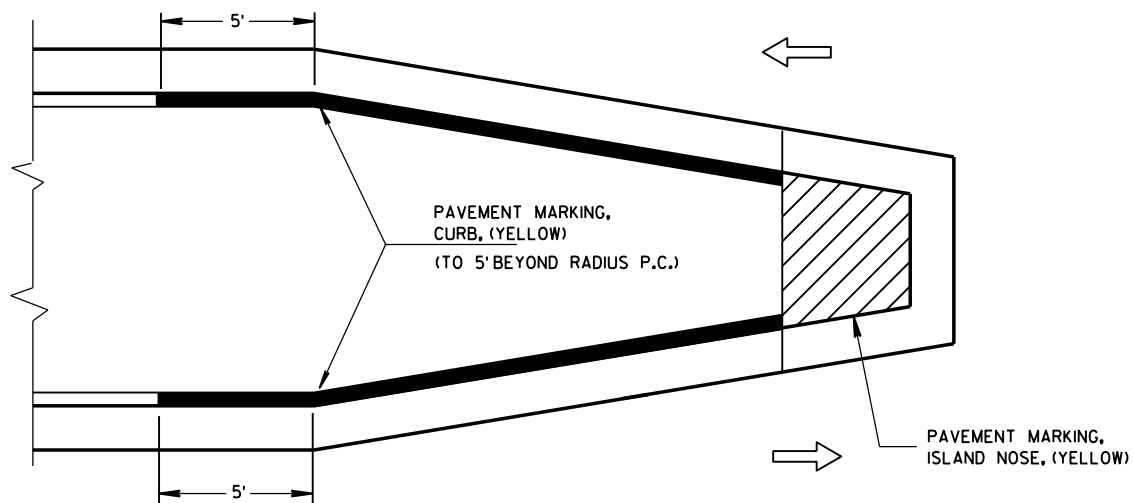
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

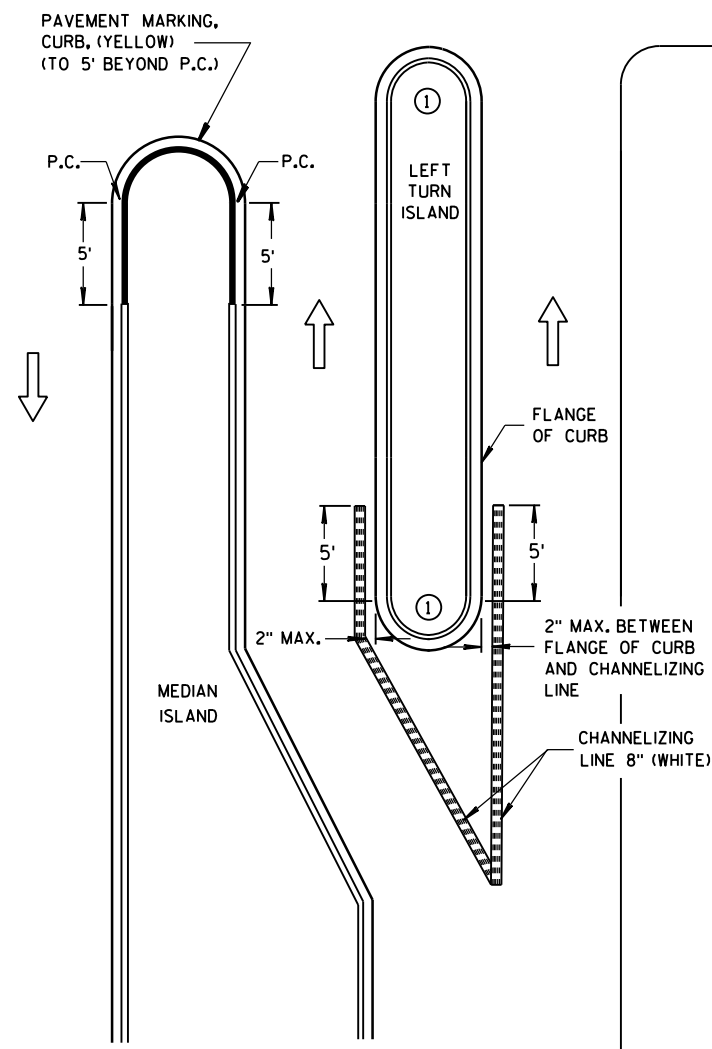


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

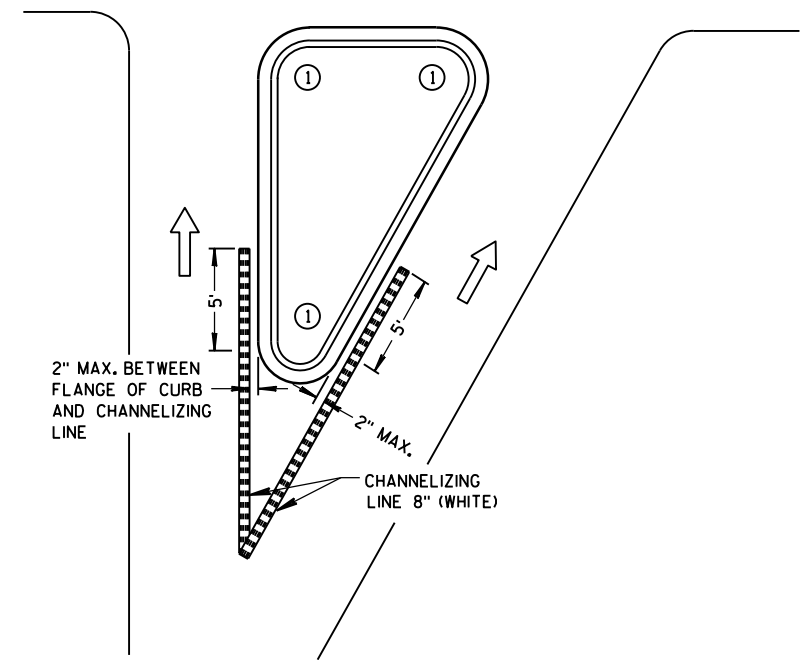
TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS



LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

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



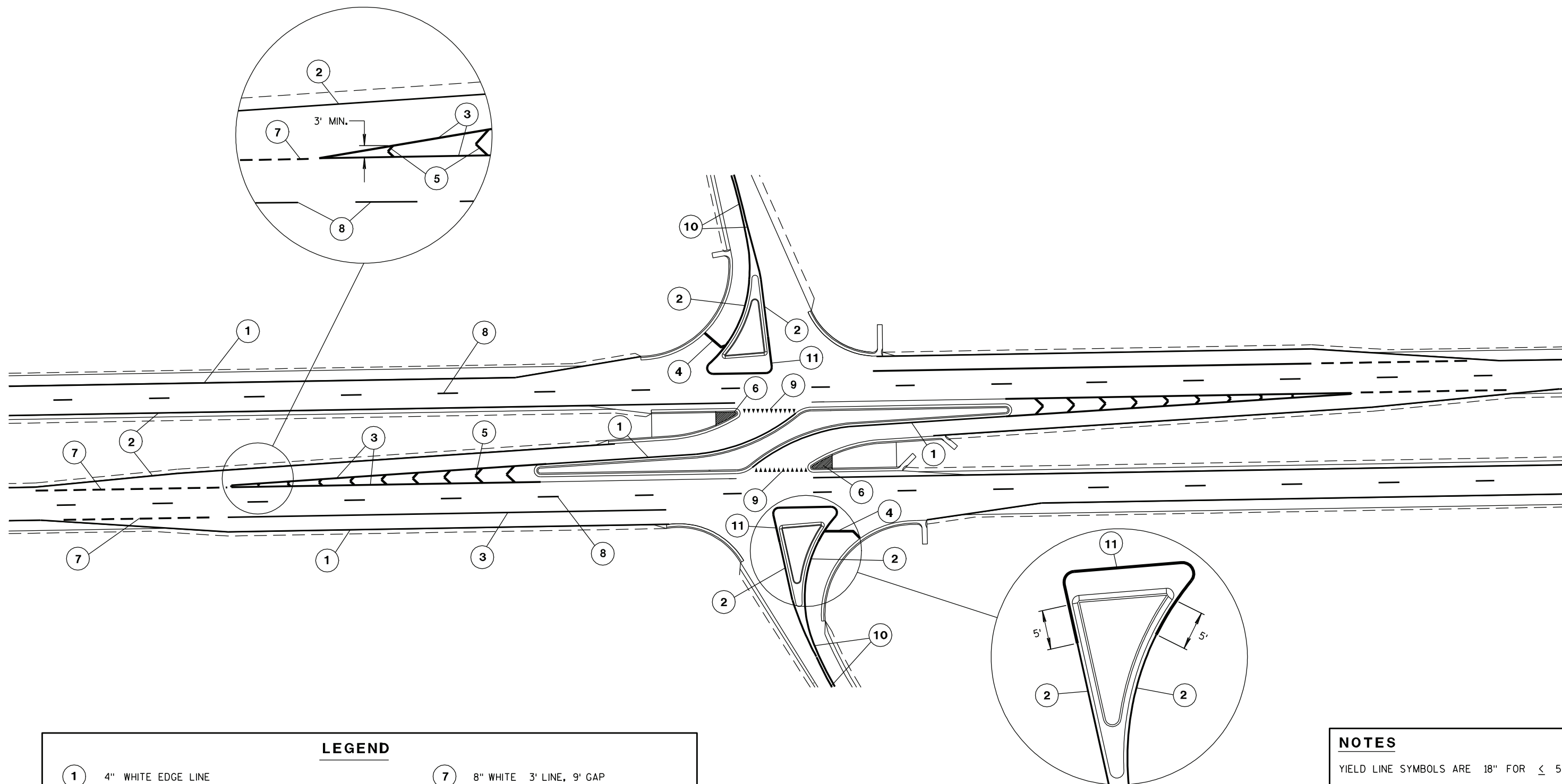
RIGHT TURN ISLAND

LEGEND

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

PAVEMENT MARKING (ISLANDS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



LEGEND

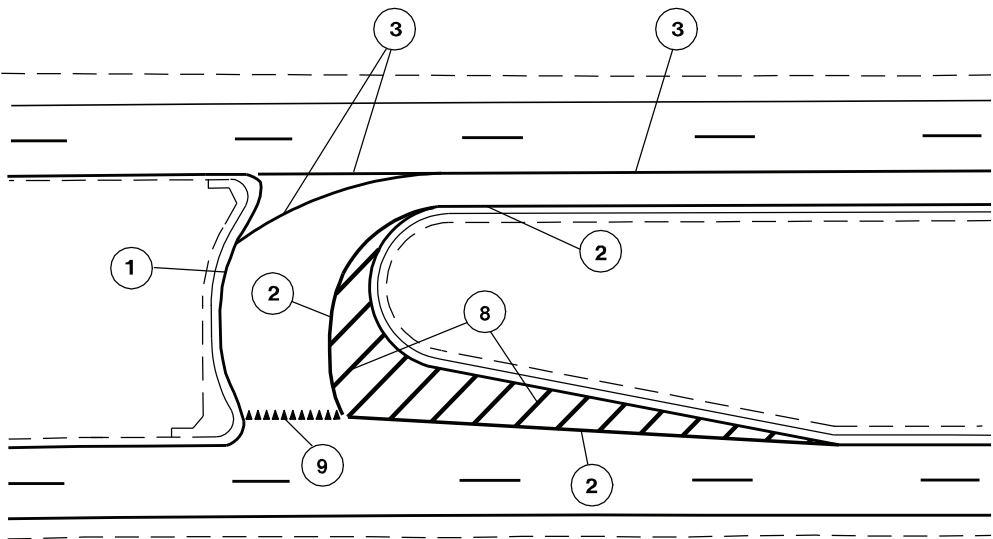
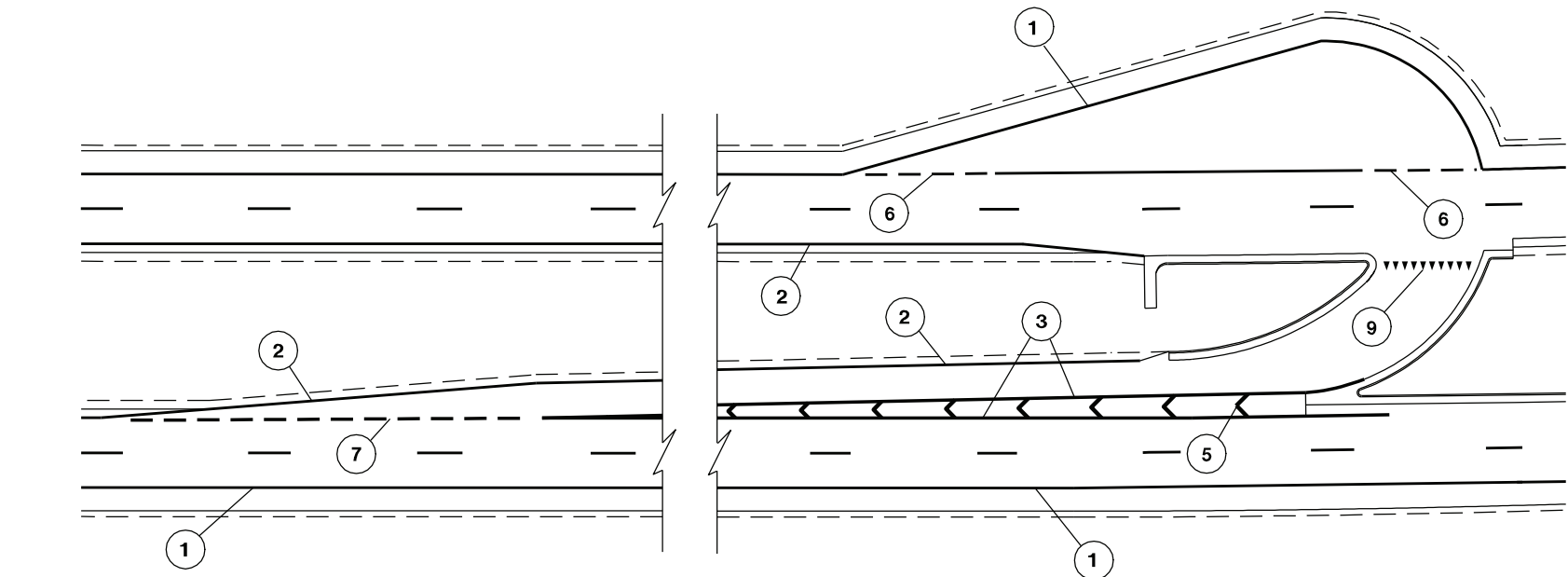
- | | |
|--|--|
| ① 4" WHITE EDGE LINE | ⑦ 8" WHITE 3' LINE, 9' GAP |
| ② 4" YELLOW EDGE LINE | ⑧ 4" WHITE WET REFLECTIVE TAPE LANE LINE |
| ③ 8" WHITE WET REFLECTIVE TAPE | ⑨ YIELD LINE SYMBOLS 18" OR 36" WHITE WHEN SPECIFIED IN THE CONTRACT |
| ④ 18" STOP LINE WHITE WHEN SPECIFIED IN THE CONTRACT | ⑩ 4" LINE YELLOW |
| ⑤ CHEVRON 24" WHITE 25' C-C | ⑪ 8" WHITE WHEN SPECIFIED IN THE CONTRACT |
| ⑥ ISLAND NOSE EPOXY (SOLID YELLOW) | |

NOTES

YIELD LINE SYMBOLS ARE 18" FOR ≤ 55 MPH.
YIELD LINE SYMBOLS ARE 36" FOR 65 MPH.

J TURN MEDIAN PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

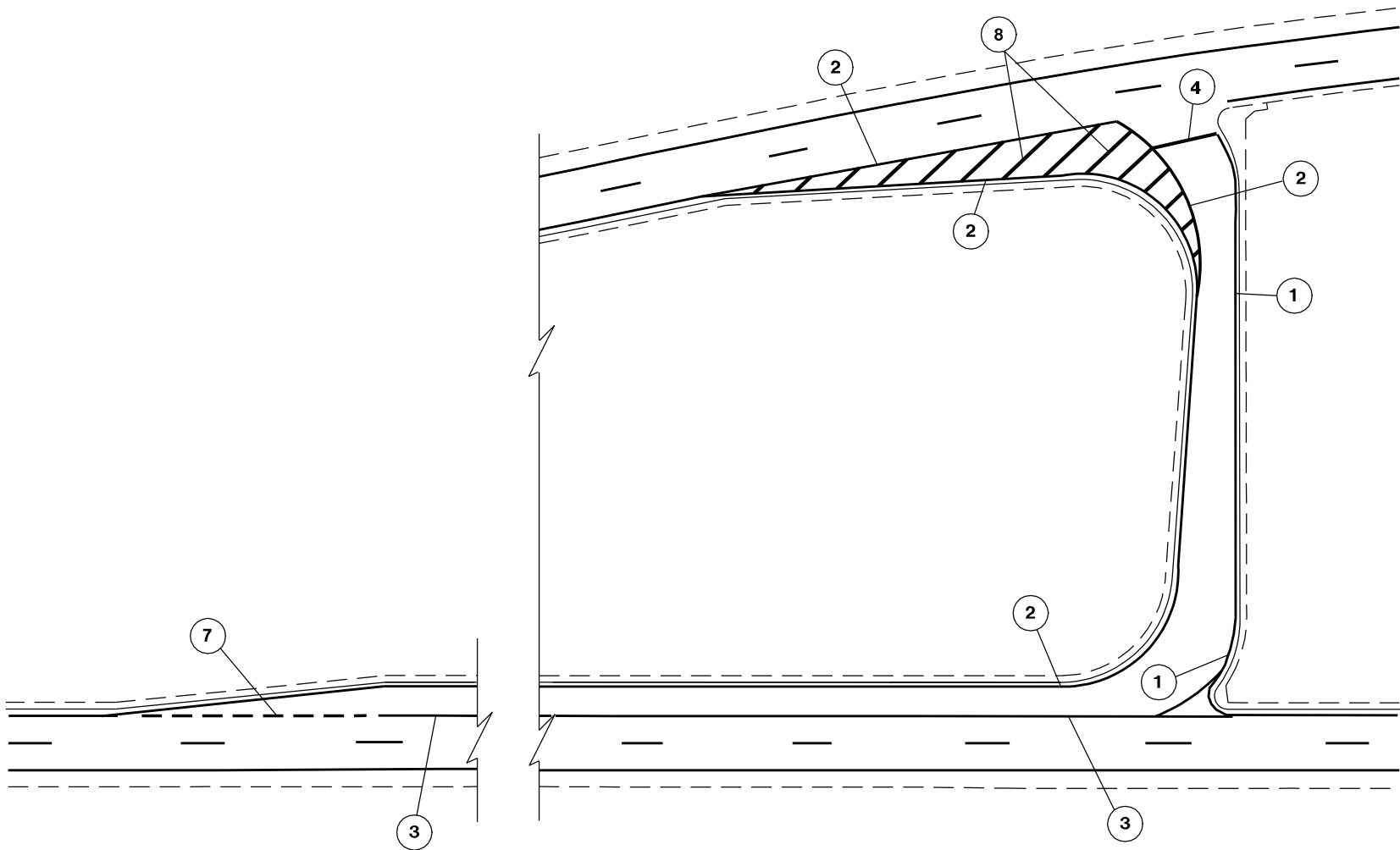


NOTES

YIELD LINE SYMBOLS ARE 18" FOR \leq 55 MPH.
YIELD LINE SYMBOLS ARE 36" FOR 65 MPH.

LEGEND

- | | |
|--------------------------------|--|
| 1 4" WHITE EDGE LINE | 7 8" WHITE 3' LINE, 9' GAP |
| 2 4" YELLOW EDGE LINE | 8 12" YELLOW AT 10' C-C WHEN SPECIFIED IN THE CONTRACT |
| 3 8" WHITE WET REFLECTIVE TAPE | 9 YIELD LINE SYMBOLS 18" OR 36" WHITE |
| 4 18" STOP LINE WHITE | |
| 5 CHEVRON 24" WHITE 25' C-C | |
| 6 4" WHITE 3' LINE, 9' GAP | |



**J TURN LANE
PAVEMENT MARKING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/15/2012 /S/ Thomas N. Notbohm
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMENENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- WORK AREA

GENERAL NOTES

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

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"W0" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

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

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

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

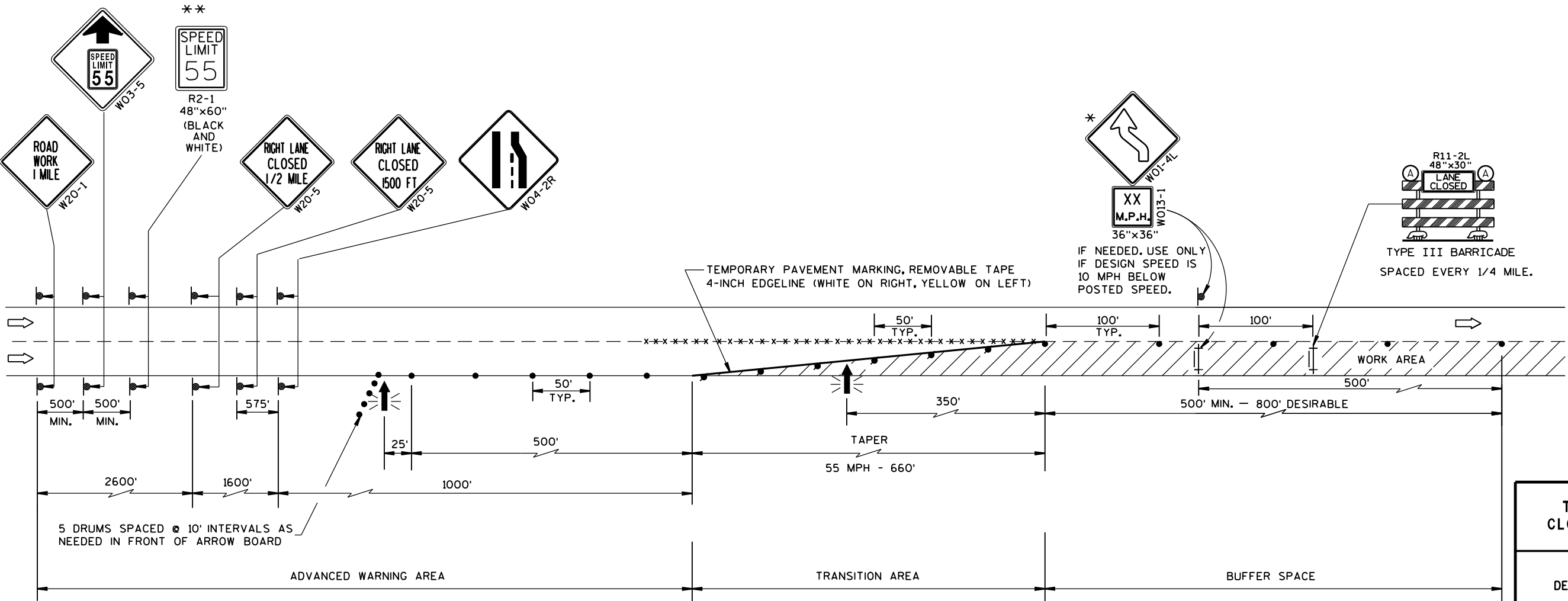
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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

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

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

** A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES. INCLUDE A 65 MPH RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIREABLE) BEYOND THE "END OF ROADWORK" SIGN.



TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 3-2014 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	

LEGEND

- TRAFFIC CONTROL DRUM
- ⦿ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ⚡➡ FLASHING ARROW BOARD
- ▨ WORK AREA

GENERAL NOTES

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

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

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

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

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

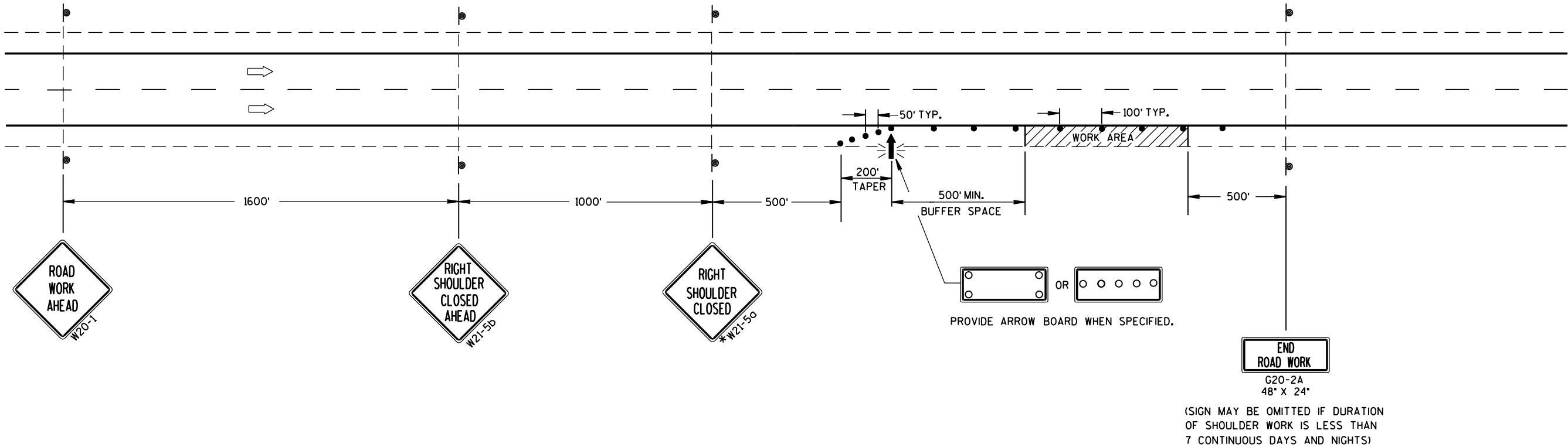
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

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

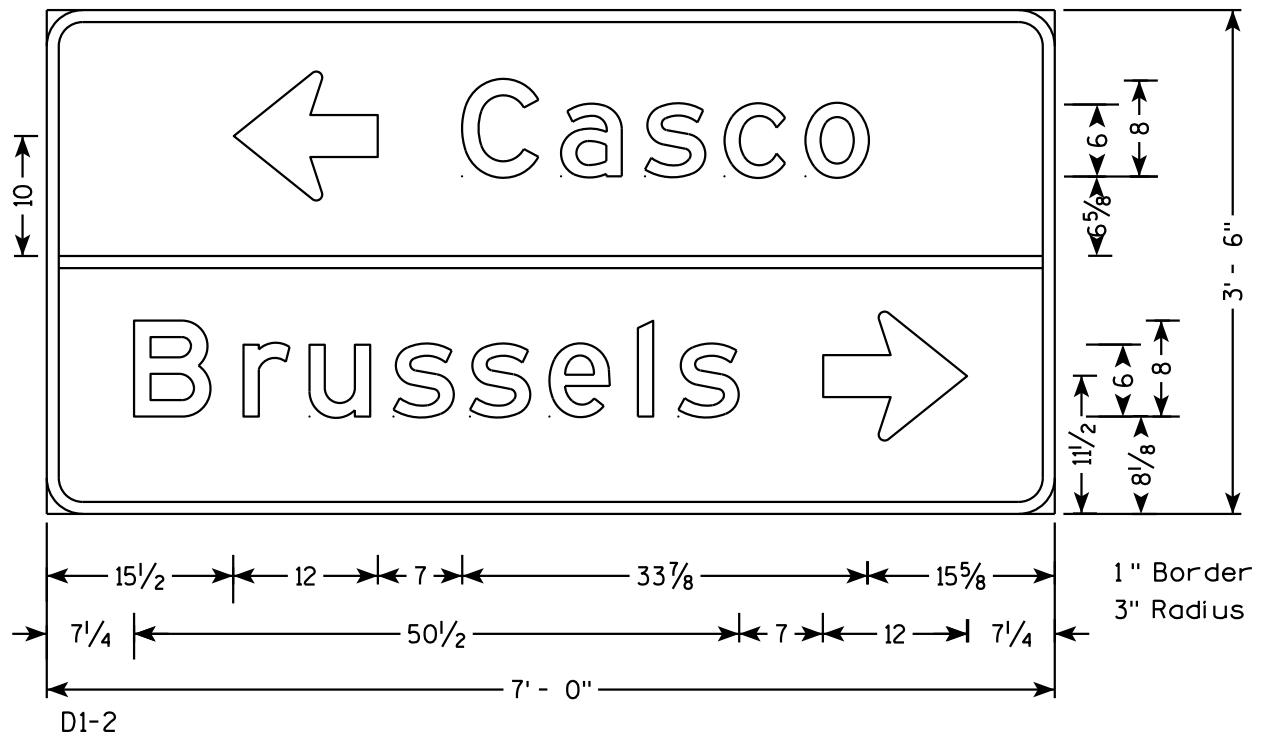
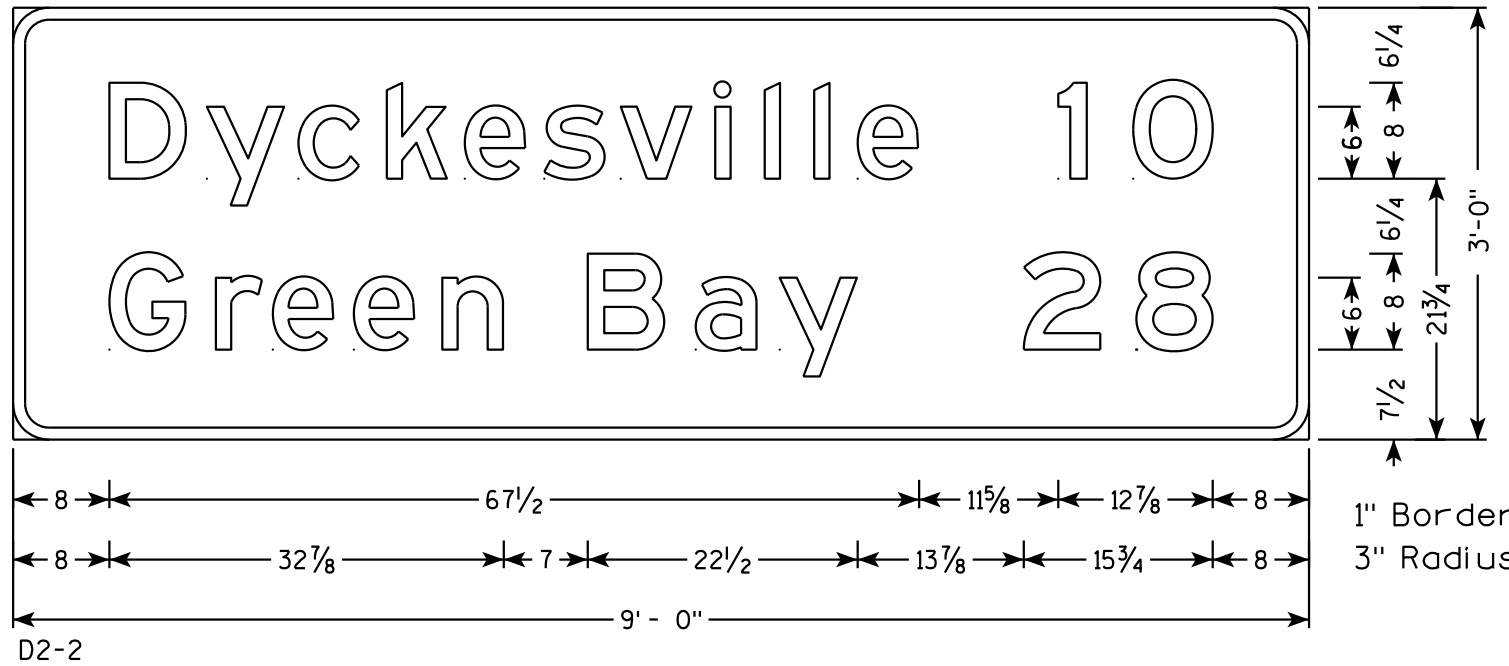
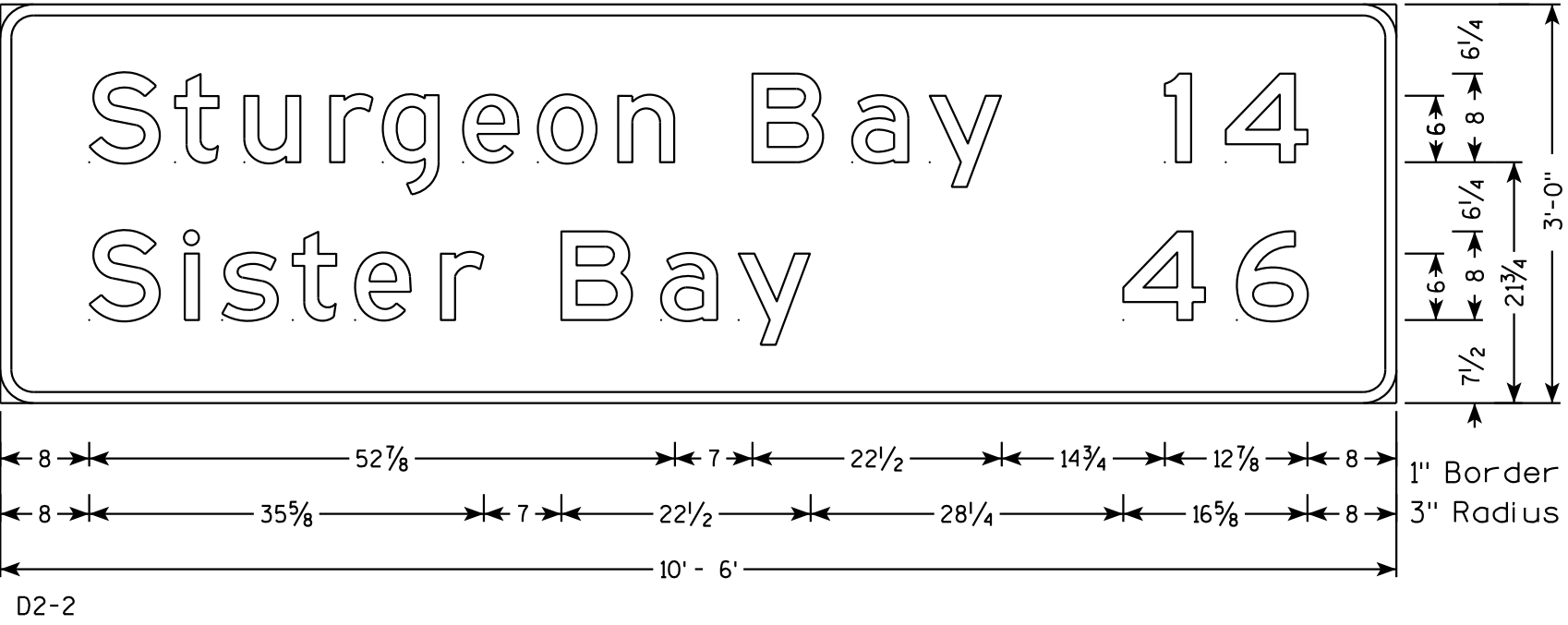
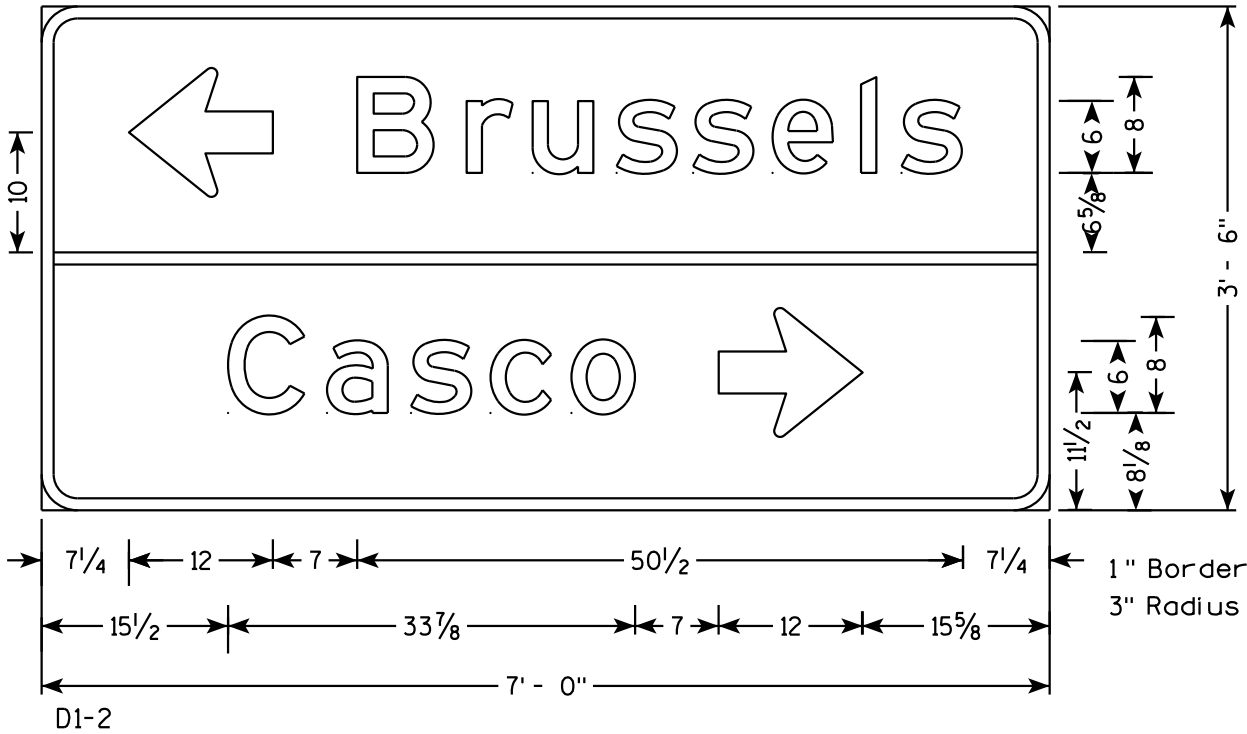
*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 /S/ Travis Feltz
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA



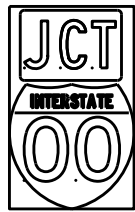
NOTES

- 1. All Sign Type II - Type H Reflective
- 2. Color:
Background - GREEN
Message - WHITE
- 3. Message Series - E

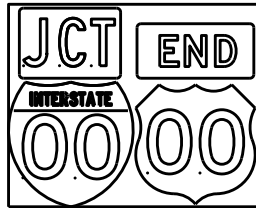
7

7

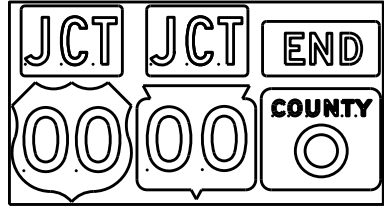
TYPICAL ASSEMBLIES



J1-1



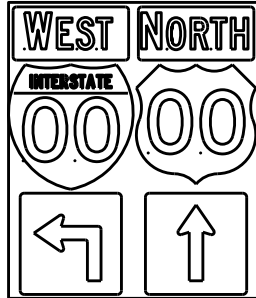
J1-2



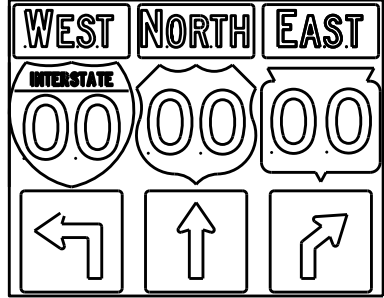
J1-3



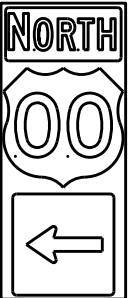
J2-1



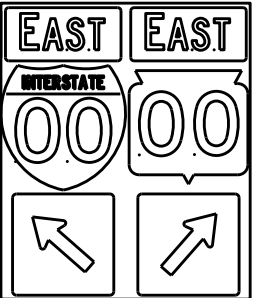
J2-2



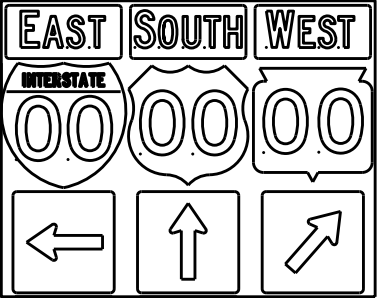
J2-3



J3-1



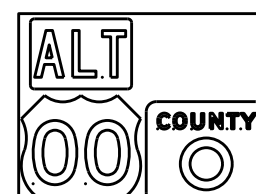
J3-2



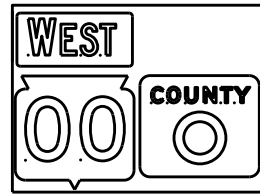
J3-3



J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1



J23-1

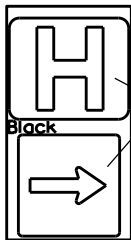


J22-1



JV

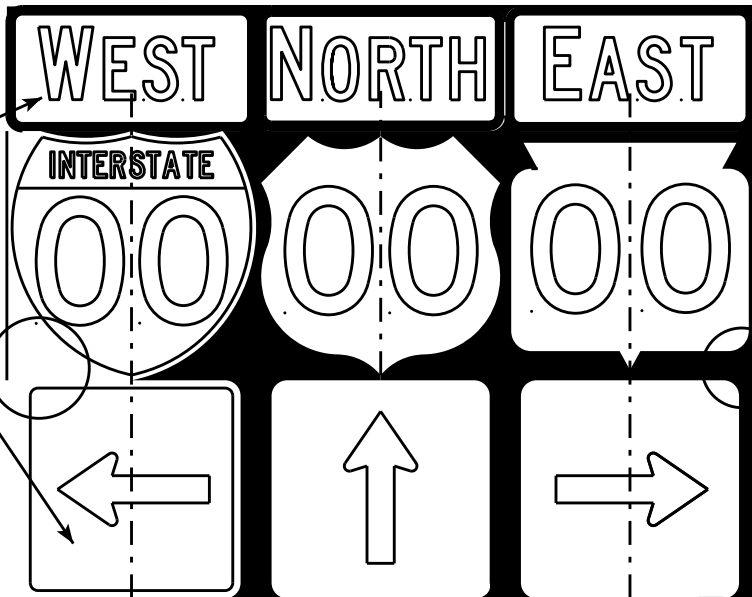
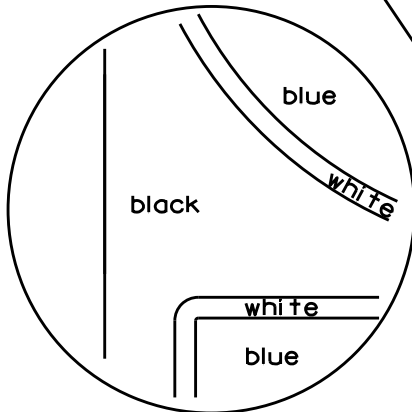
(Typical Vertical J-Assembly
See Note 10 and 11)



JH-1

Blue Background

[blue background
with interstate]



[black background]

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

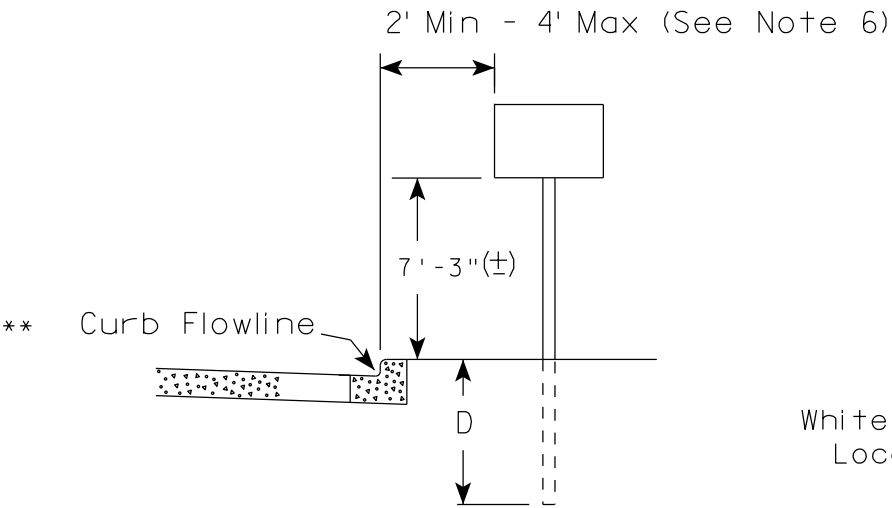
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/06/14 PLATE NO. A2-1S.8

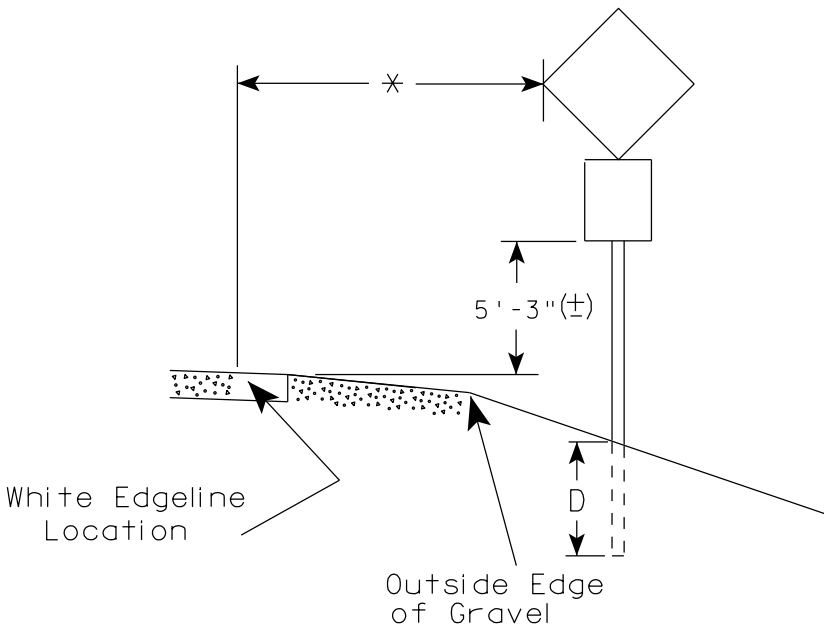
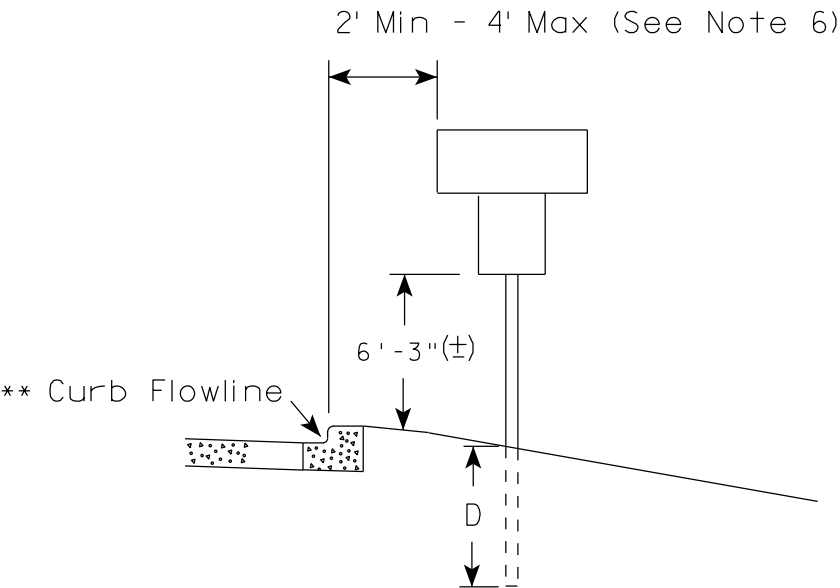
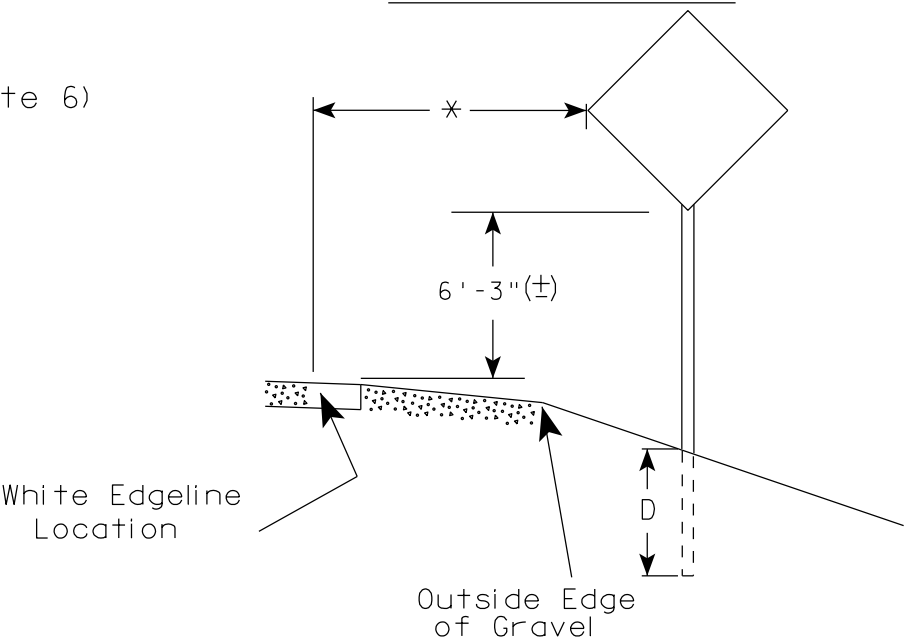
NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Black Non-reflective
Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

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

POST EMBEDMENT DEPTH

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

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

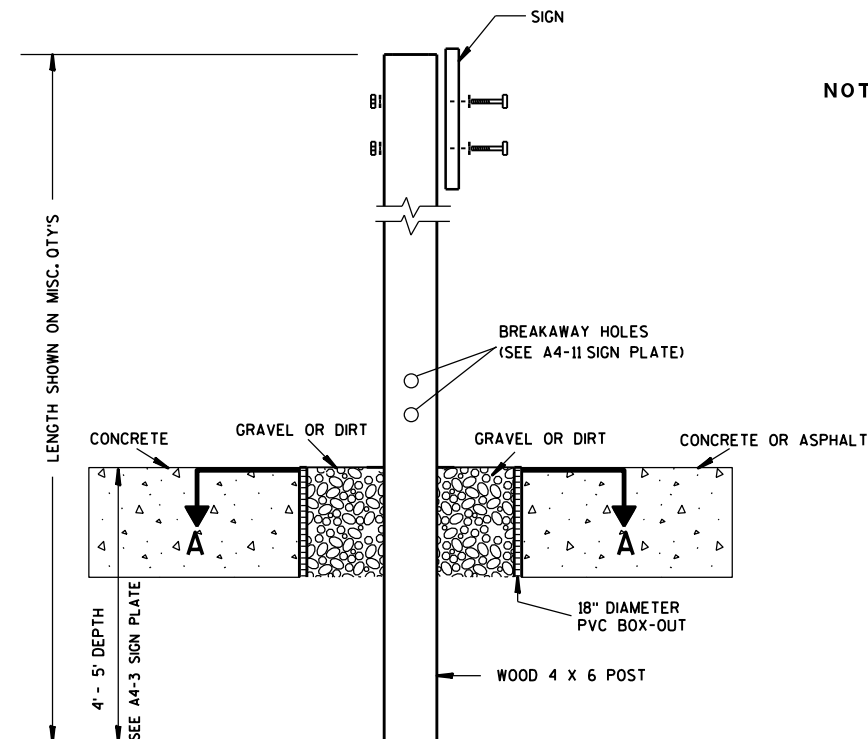
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

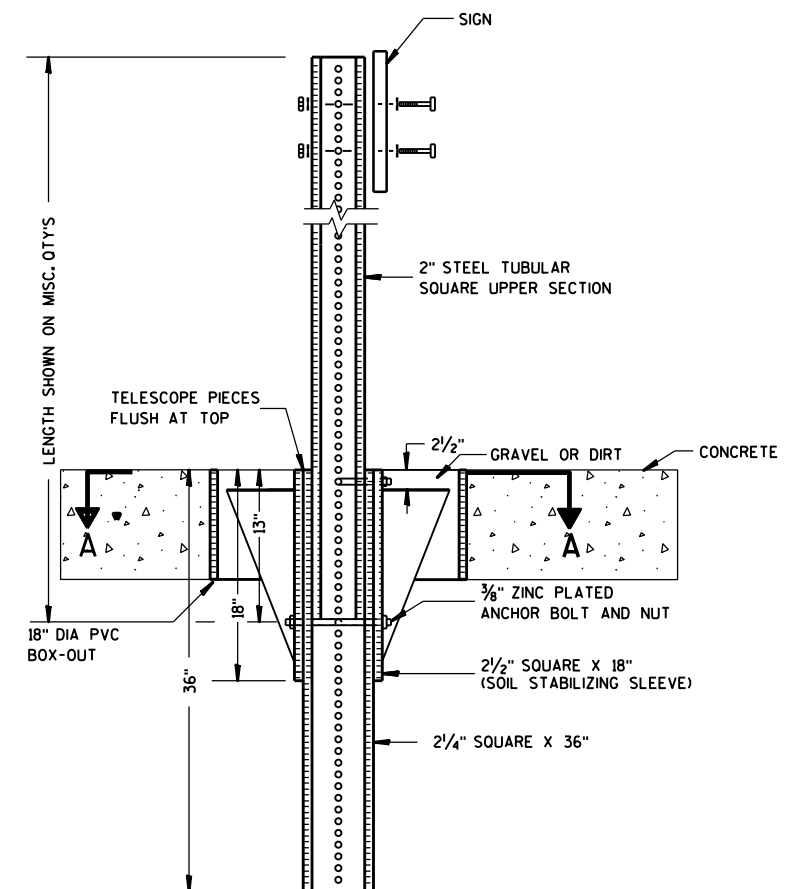
DATE 11/12/14 PLATE NO. A4-3.19



ELEVATION VIEW

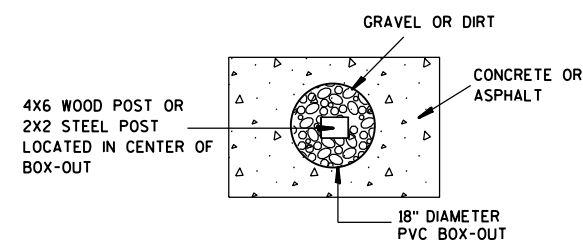
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

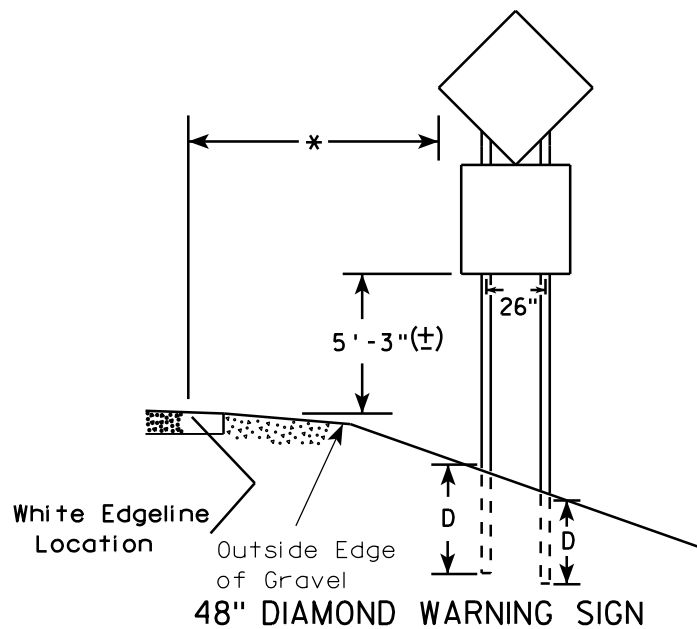
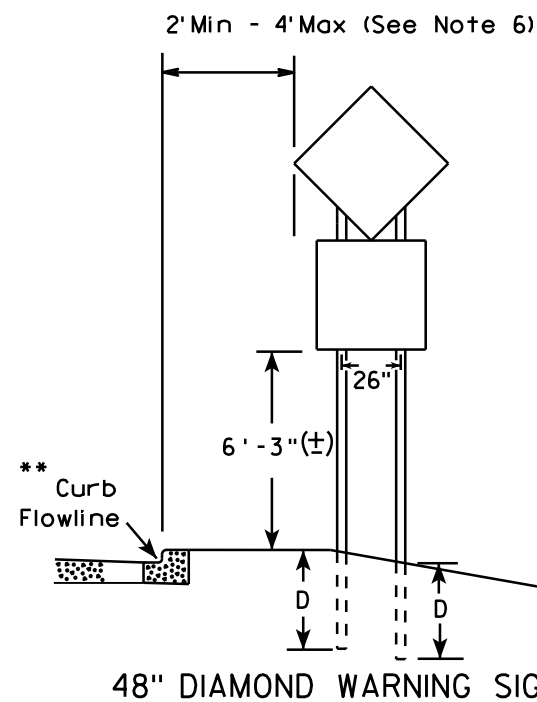
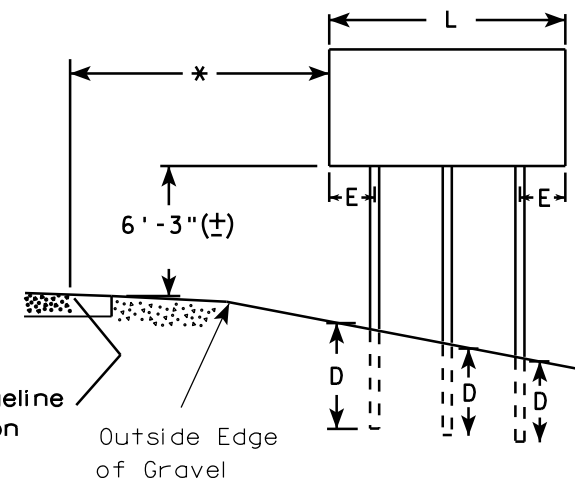
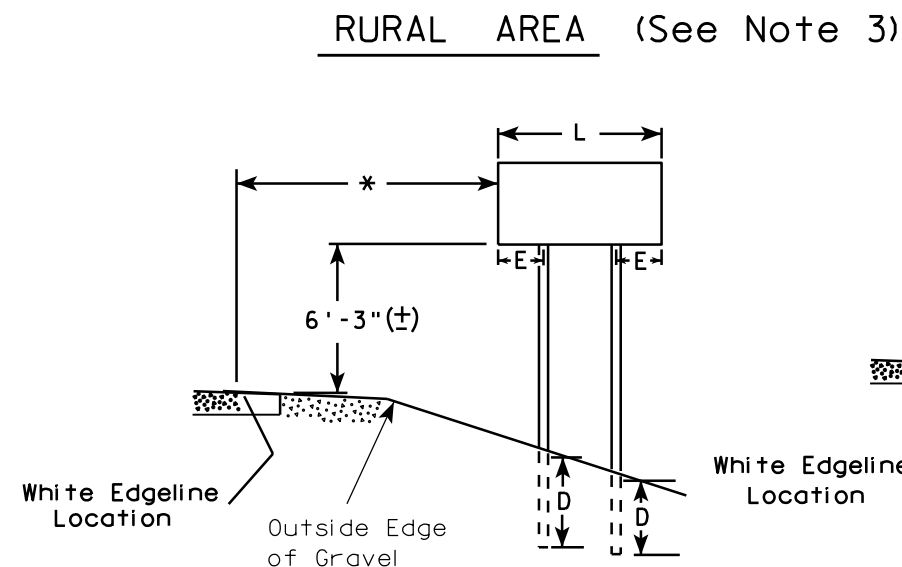
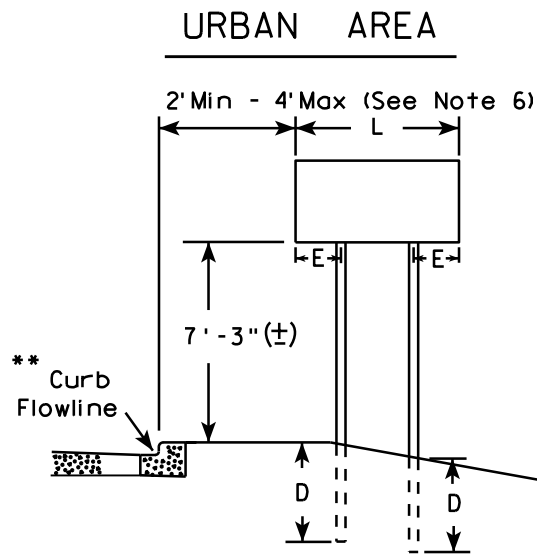
FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST
BOX-OUTS
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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



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

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

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

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

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

POST EMBEDMENT DEPTH

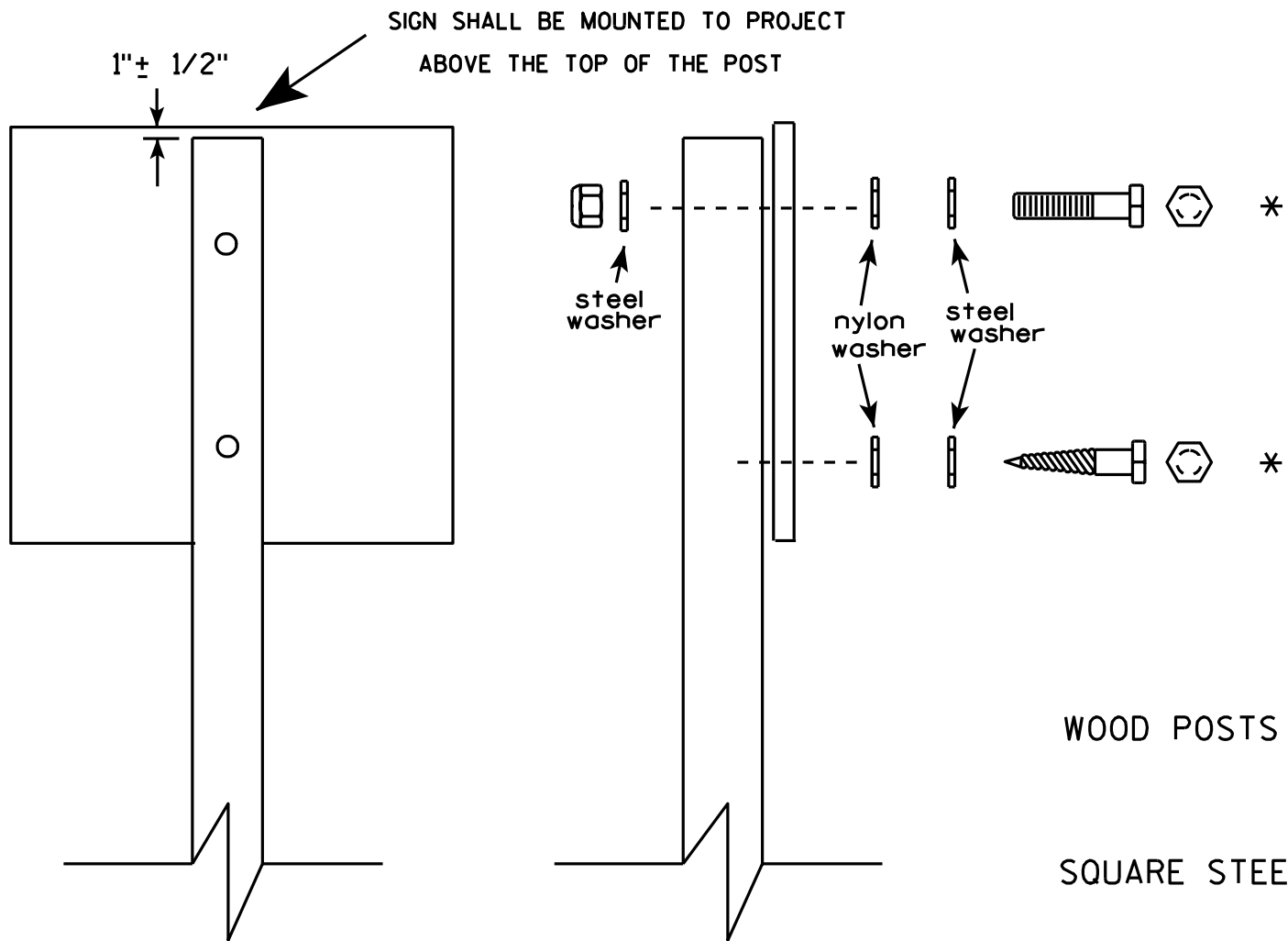
Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/12/14 PLATE NO. A4-4.13

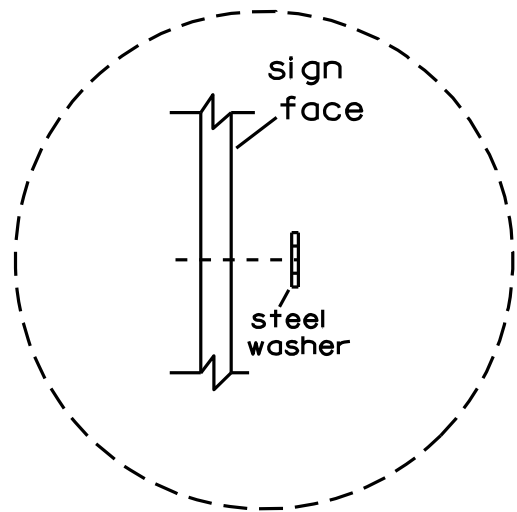


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

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

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

- WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts
- SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.

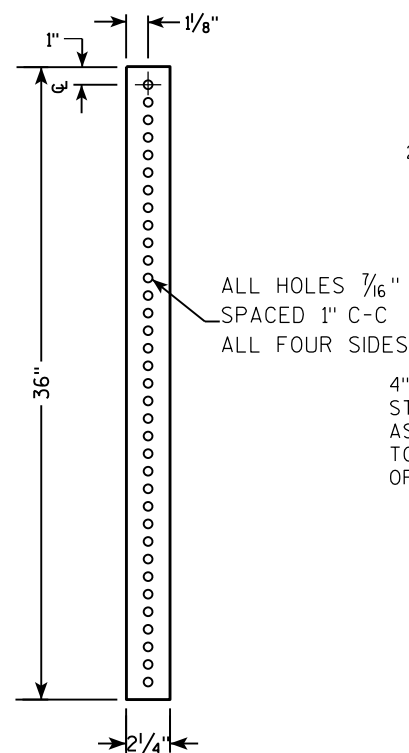


Washer Placement when Sign Has Other Than Type H or Type F Face

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

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

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



2 1/2" TELESPAR TUBE

4" x 10" x 10 GA. STEEL PLATE (CUT AS SHOWN) WELDED TO ALL FOUR CORNERS OF TELESPAR TUBE

4"

2 1/2"

10"

3 1/2"

18"

[illegible]

TECHNICAL DRAWING OF A SIGNPOST ASSEMBLY.

Side View Dimensions:

- Overall height: 36"
- Upper section height: 18"
- Lower section height: 12"
- Base width: 2 1/4" SQUARE X 36"

Top View Dimensions:

- Overall width: 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)
- Inner width: 2"
- Offset from center: 1"

Material and Assembly Specifications:

- 2" STEEL TUBULAR SQUARE UPPER SECTION
- ALL HOLES 7/16" SPACED 1" C-C
- ALL FOUR SIDES
- 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT
- 3/8" ZINC PLATED ANCHOR BOLT AND NUT
- 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)
- TELESCOPE PIECES FLUSH AT TOP
- SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL
- SIGN

A schematic diagram of a square microfluidic chip. It features a central square channel with rounded corners. This central channel is surrounded by a thin border, which is in turn enclosed by a thicker frame. Four ports are located on the outer frame: one at the top center, one at the bottom center, and one on each of the left and right sides. A line representing a channel or tube enters from the top port, curves 90 degrees to the right, and exits through the right port. The left and bottom ports are not connected to any lines.

DIRECTION
OF TRAFFIC

SECTION A-A

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

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

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R. Rauch

for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9

PROJECT NO:

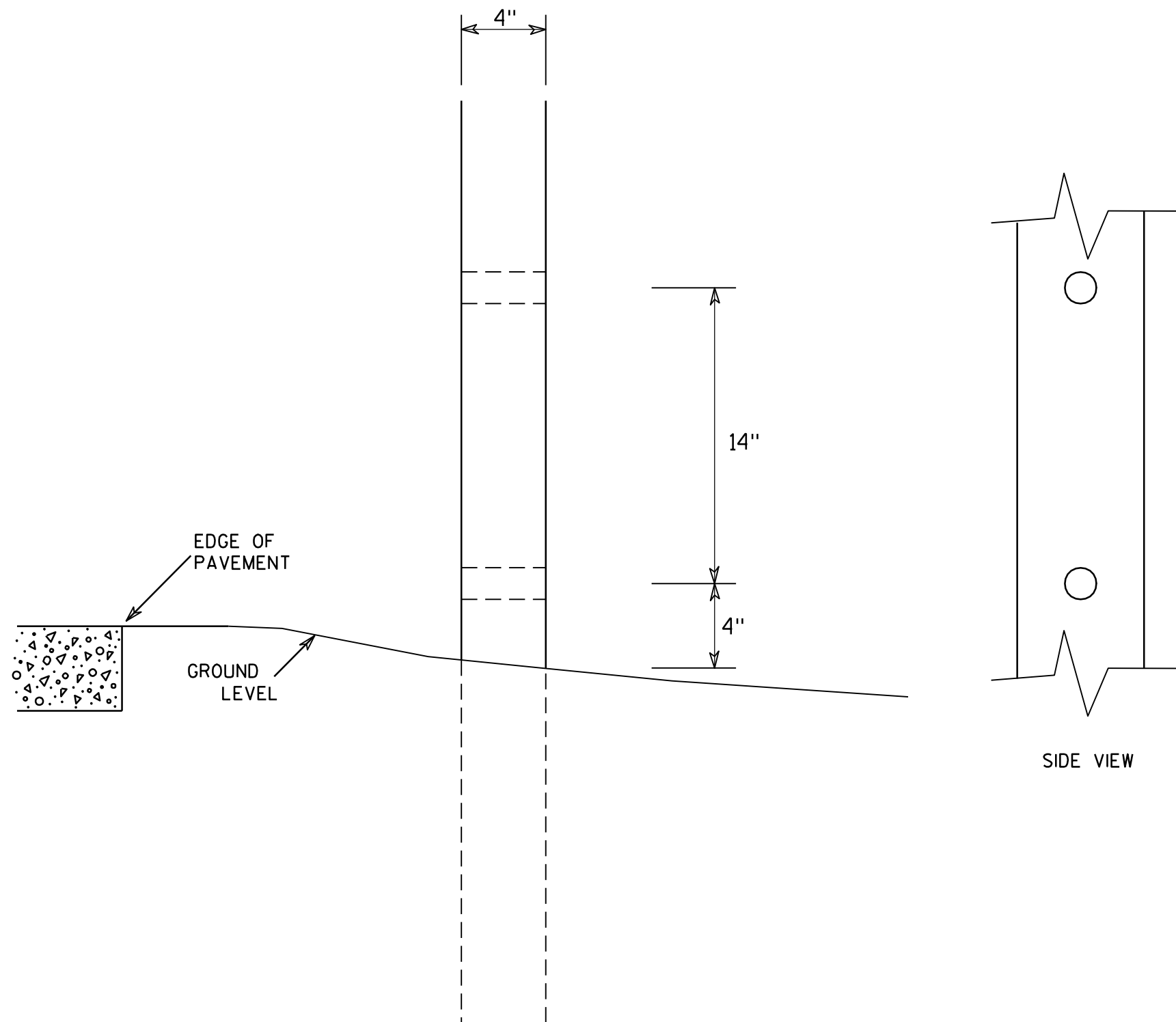
HWY:

COUNTY:

SHEET NO:

T

7

GENERAL NOTES

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

7

**4 X 6 WOOD POST
MODIFICATIONS**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

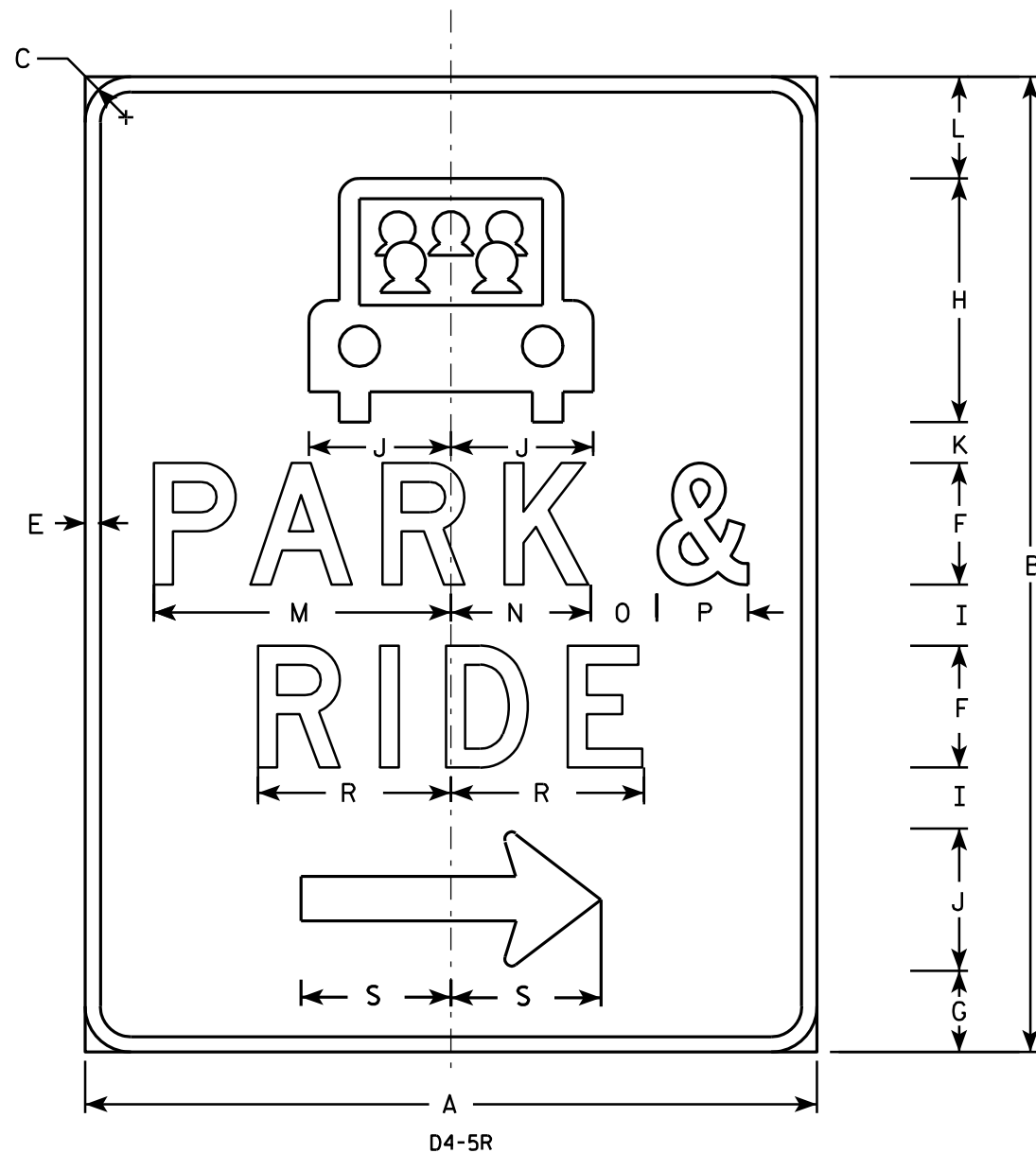
PROJECT NO:

HWY:

COUNTY:

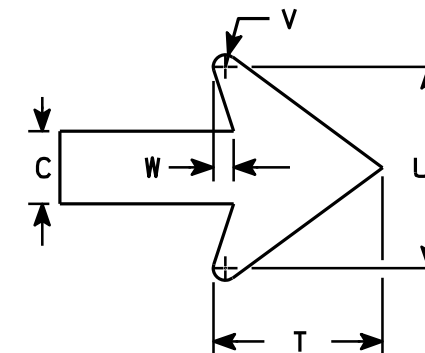
SHEET NO:

E



NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Green
Message - White - Type H Reflective
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The D4-5L is the same as a D4-5R 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	36	1 3⁄8		5⁄8	5	1 3⁄8	9	2	5	1 5⁄8	5	11 3⁄4	5 1⁄2	2 3⁄4	3 3⁄4		8	6 1⁄8	4	4 3⁄8	3⁄8	1⁄2				7.5
3	36	48	2 1⁄4		3⁄4	6	4	12	3	7	2	5	14 5⁄8	6 7⁄8	3 1⁄4	4 1⁄2		9 1⁄2	7 1⁄2	5 1⁄4	6 1⁄4	3⁄8	5⁄8				12.0
4																											
5																											

STANDARD SIGN D4-5 L&R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

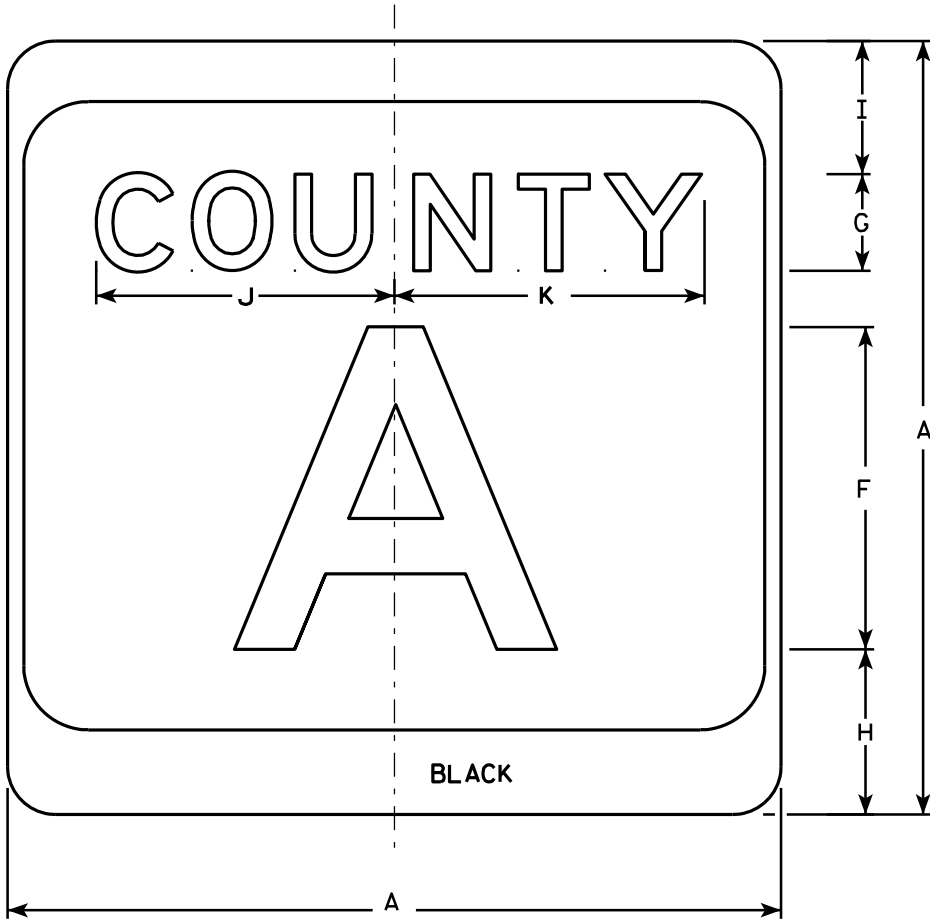
DATE 11/15/10 PLATE NO. D4-5.2

PROJECT NO:

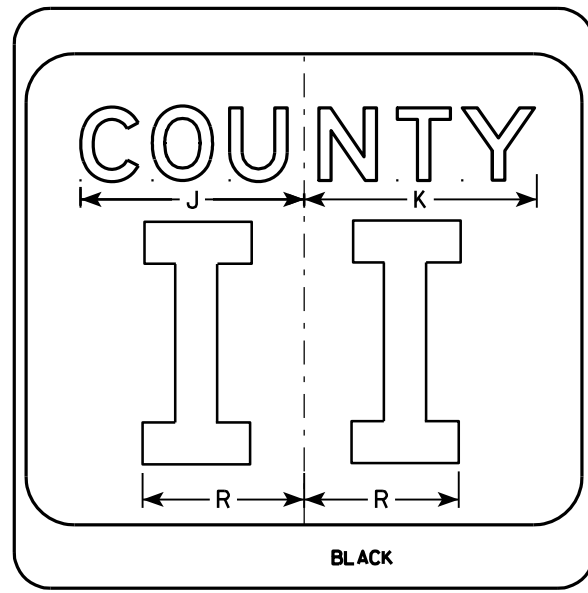
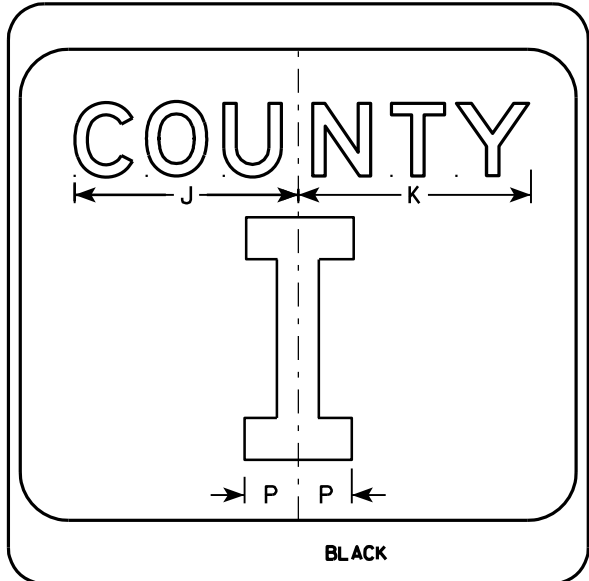
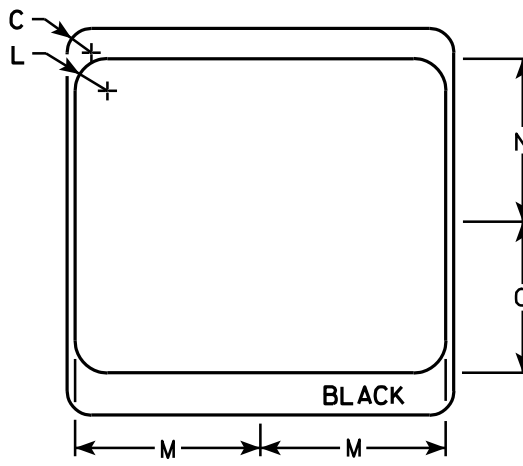
SHEET NO:

E

7



M1-5A



NOTES

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White & Black - See Note 7
Message - Black
3. Message Series - see Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Message Series E for 1 letter.
Message Series D for 2 letters unless message is too big then Series C.
Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
Background - Type H Reflective
Detour or temporary Signs
Background - Reflective

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

CTH MARKER

M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

PROJECT NO:

HWY:

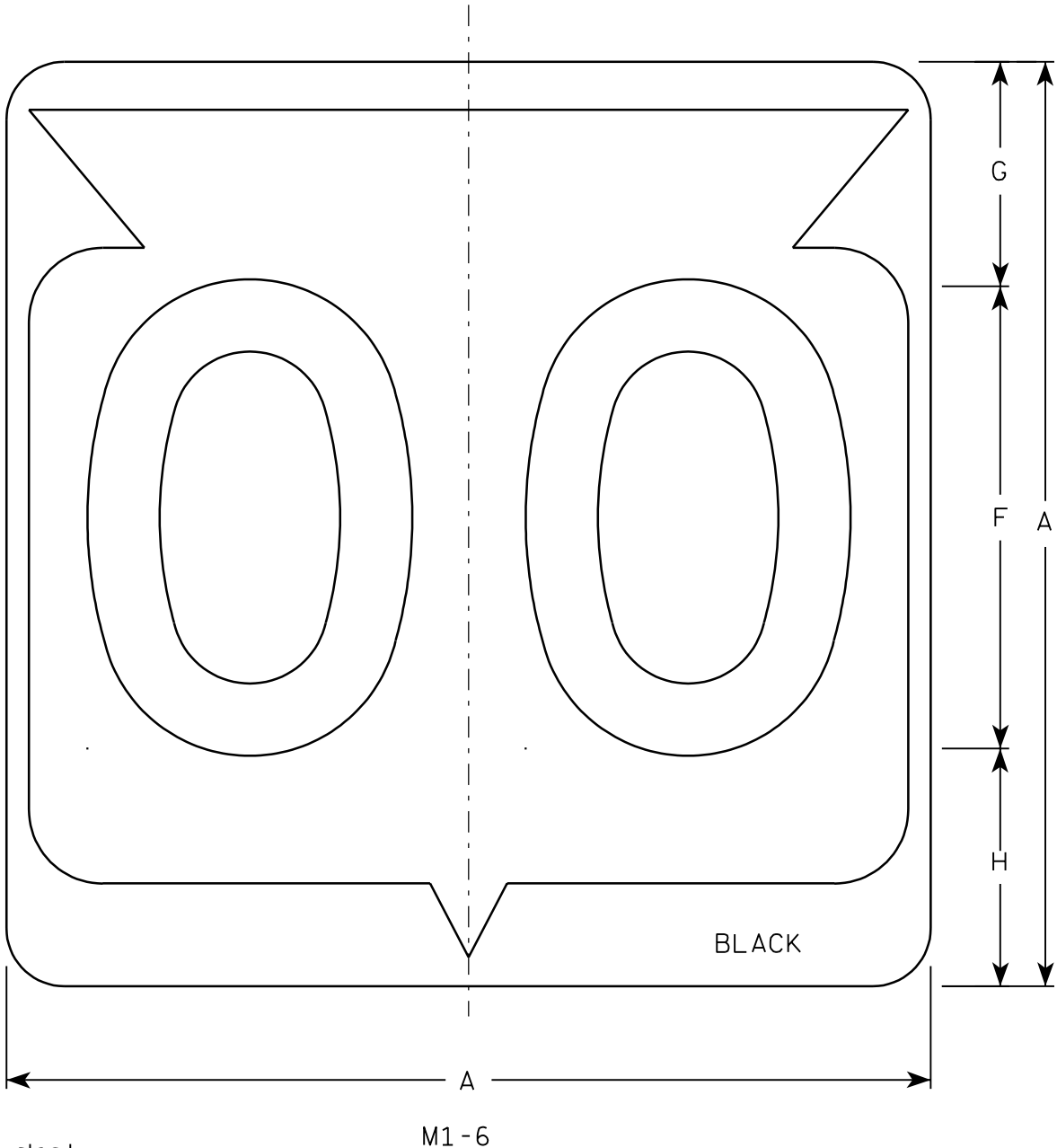
COUNTY:

SHEET NO:

E

7

7



Metric equivalent
for this sign is:

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

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

PROJECT NO:

HWY:

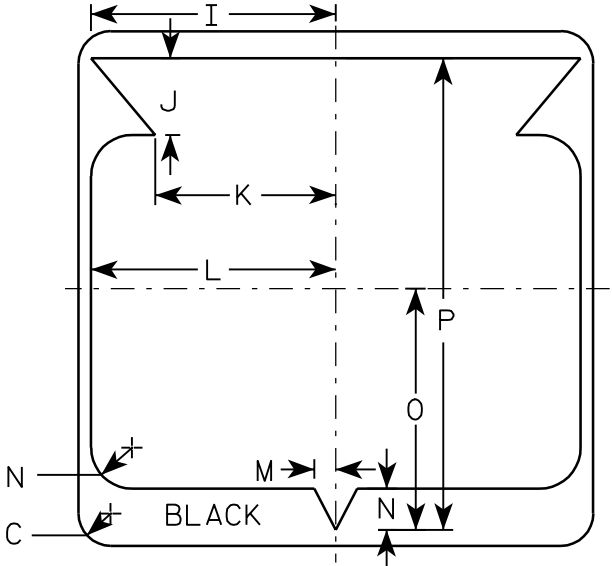
COUNTY:

SHEET NO:

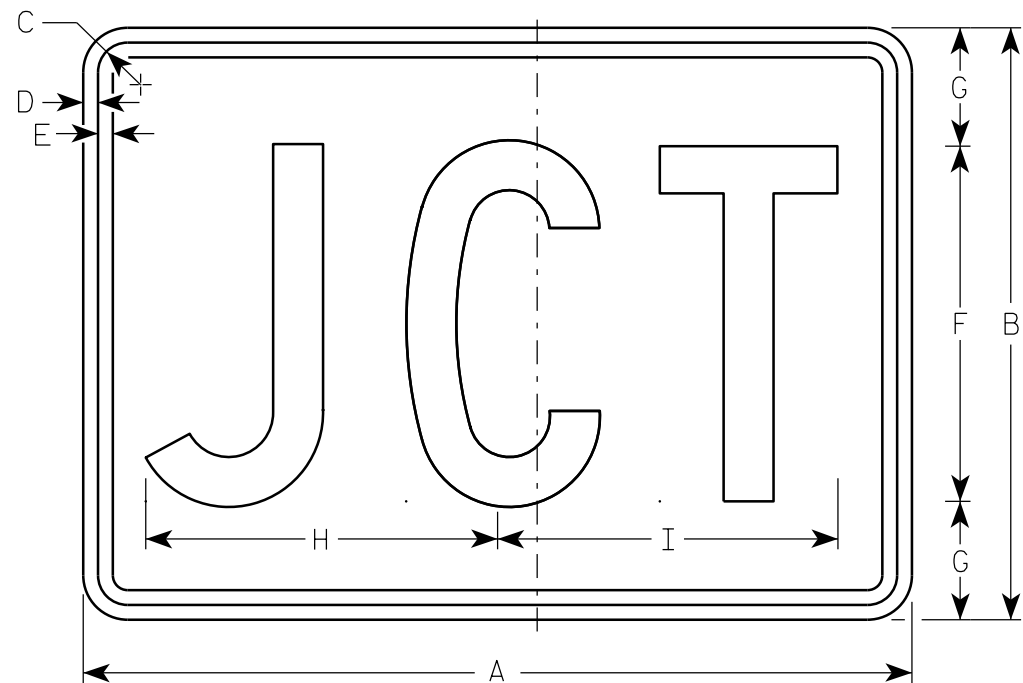
E

NOTES

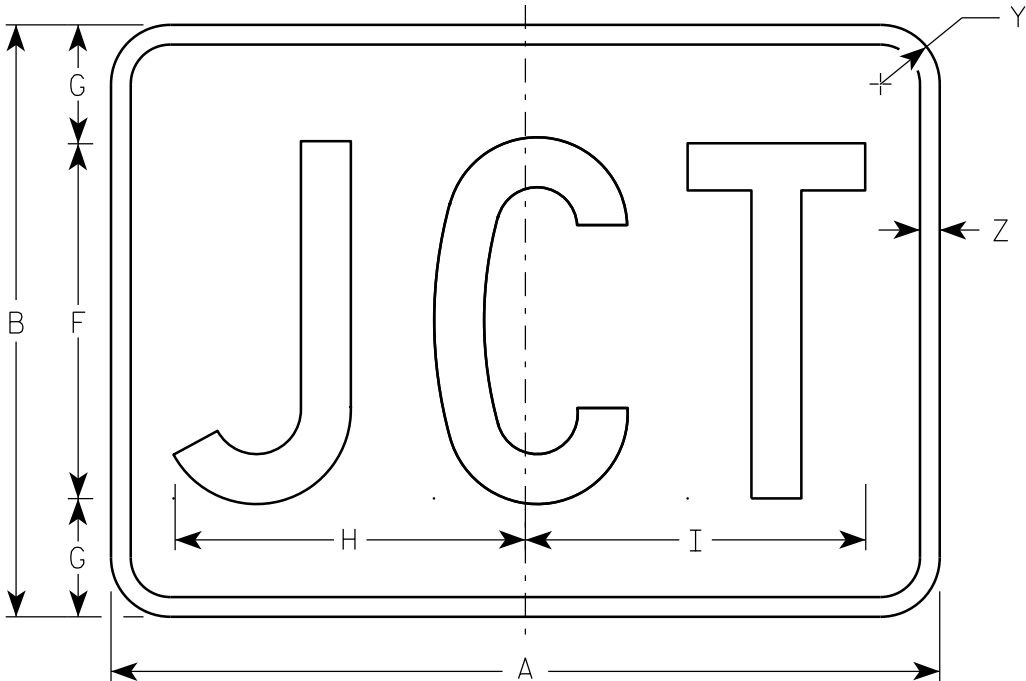
1. Sign is Type II - See Note 6 - reference
WIS DOT Standard Specification for HIGHWAY
and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White & Black - See Note 6
Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base
material is plywood but borders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



7



M2-1
MK2-1
MM2-1
MN2-1
MR2-1



MB2-1

NOTES

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

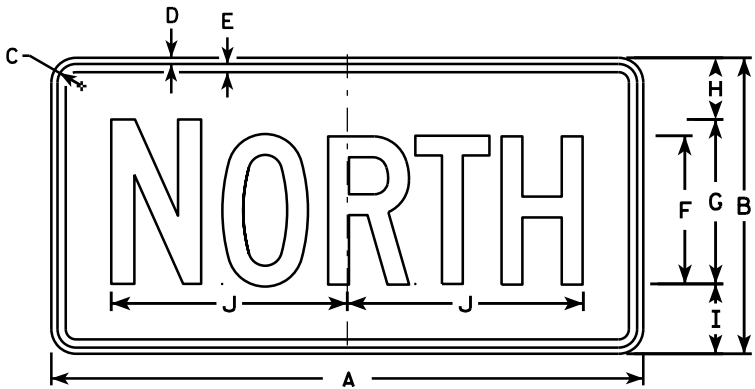
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21	15	1 1/8	3/8	3/8	9	3	8 7/8	8 5/8																1 1/2	1/2	2.20
3	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
4	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40
5	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40

STANDARD SIGN
M2 - 1

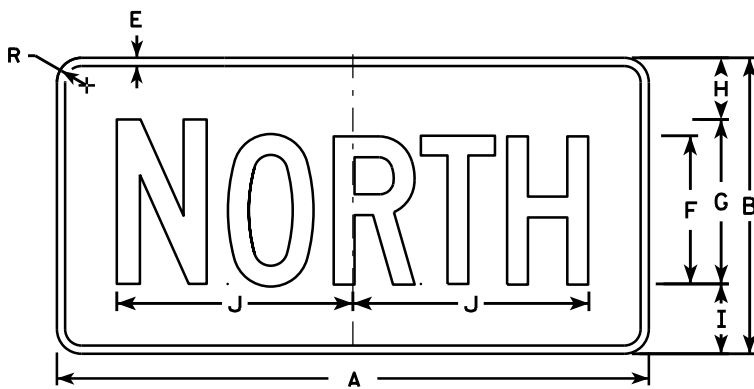
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
For State Traffic Engineer

DATE 6/30/14 PLATE NO. M2-1.11



M3-1
MK3-1
MM3-1
MN3-1



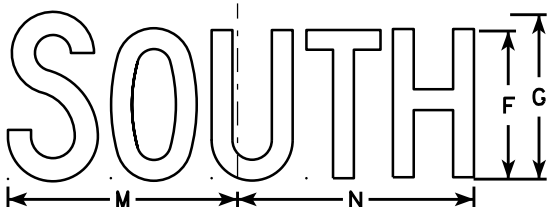
MB3-1



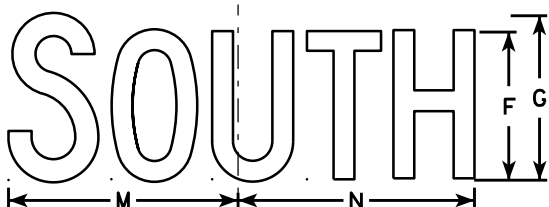
M3-2
MK3-2
MM3-2
MN3-2



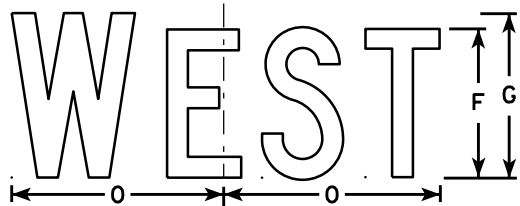
MB3-2



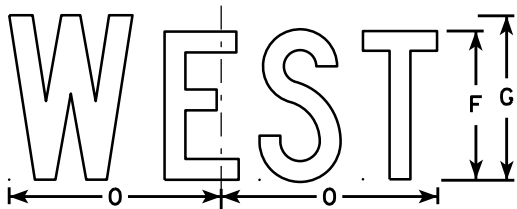
M3-3
MK3-3
MM3-3
MN3-3



MB3-3



M3-4
MK3-4
MM3-4
MN3-4



MB3-4

NOTES

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

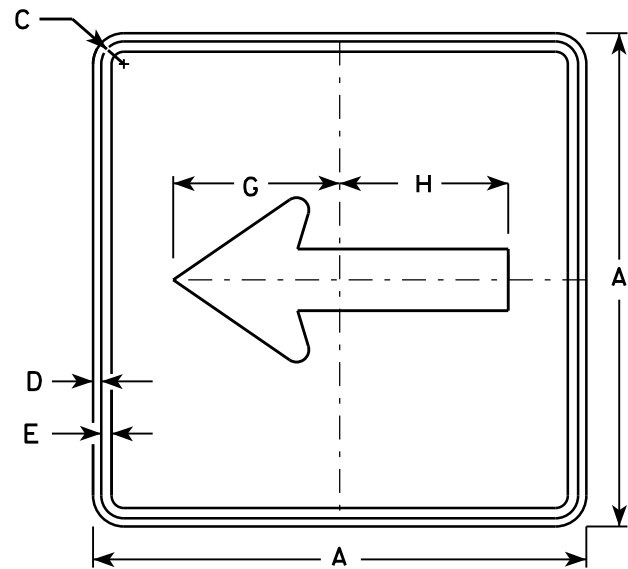
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8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

STANDARD SIGNS
M3-1 thru M3-4
SERIES

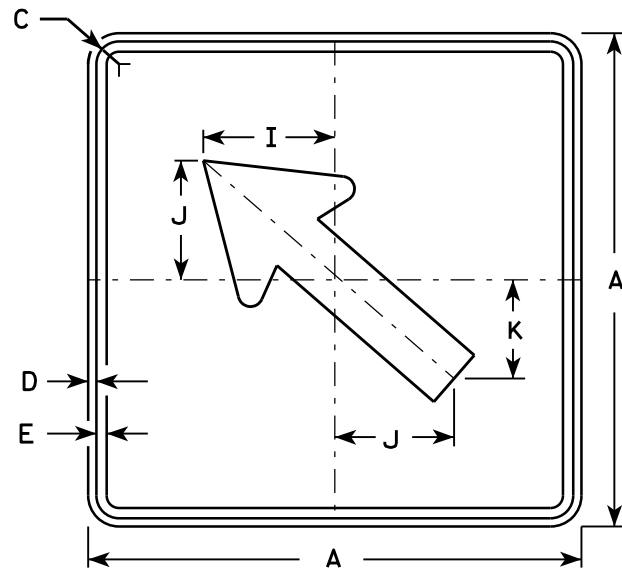
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

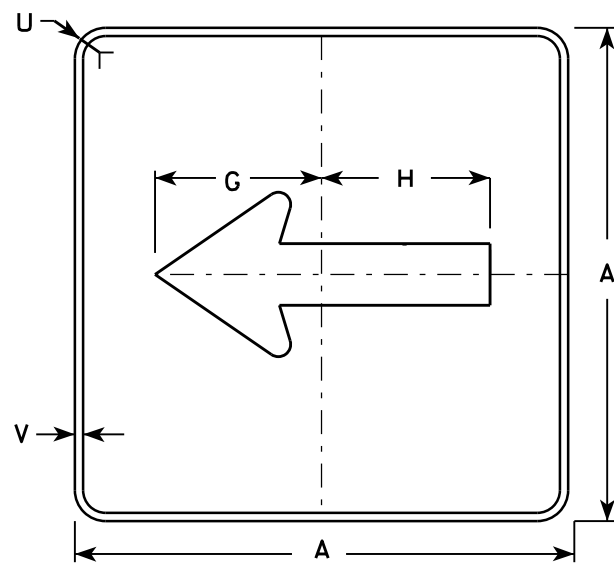
DATE 6/30/14 PLATE NO. M3-1.13



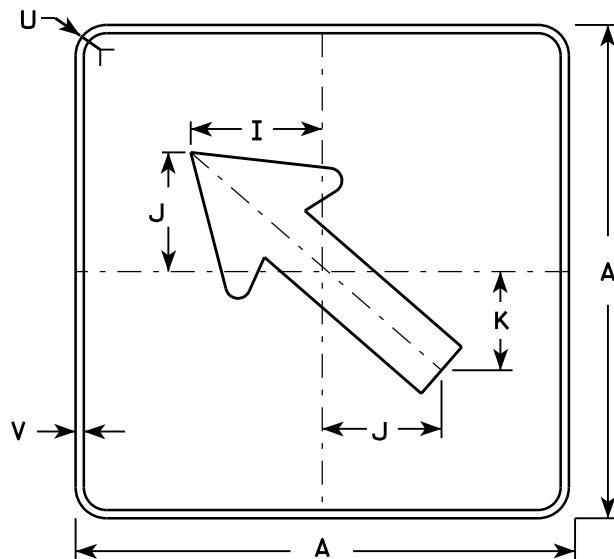
M6 - 1
MK6 - 1
MM6 - 1
MN6 - 1
M06 - 1
MP6 - 1
MR6 - 1



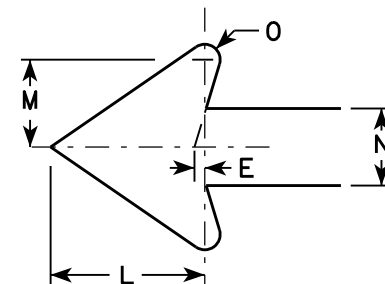
M6 - 2
MK6 - 2
MM6 - 2
MN6 - 2
M06 - 2
MP6 - 2
MR6 - 2



MB6 - 1



MB6 - 2



NOTES

- Signs are Type II - Type H 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
MG6-1 and MG6-2 Background - Green
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

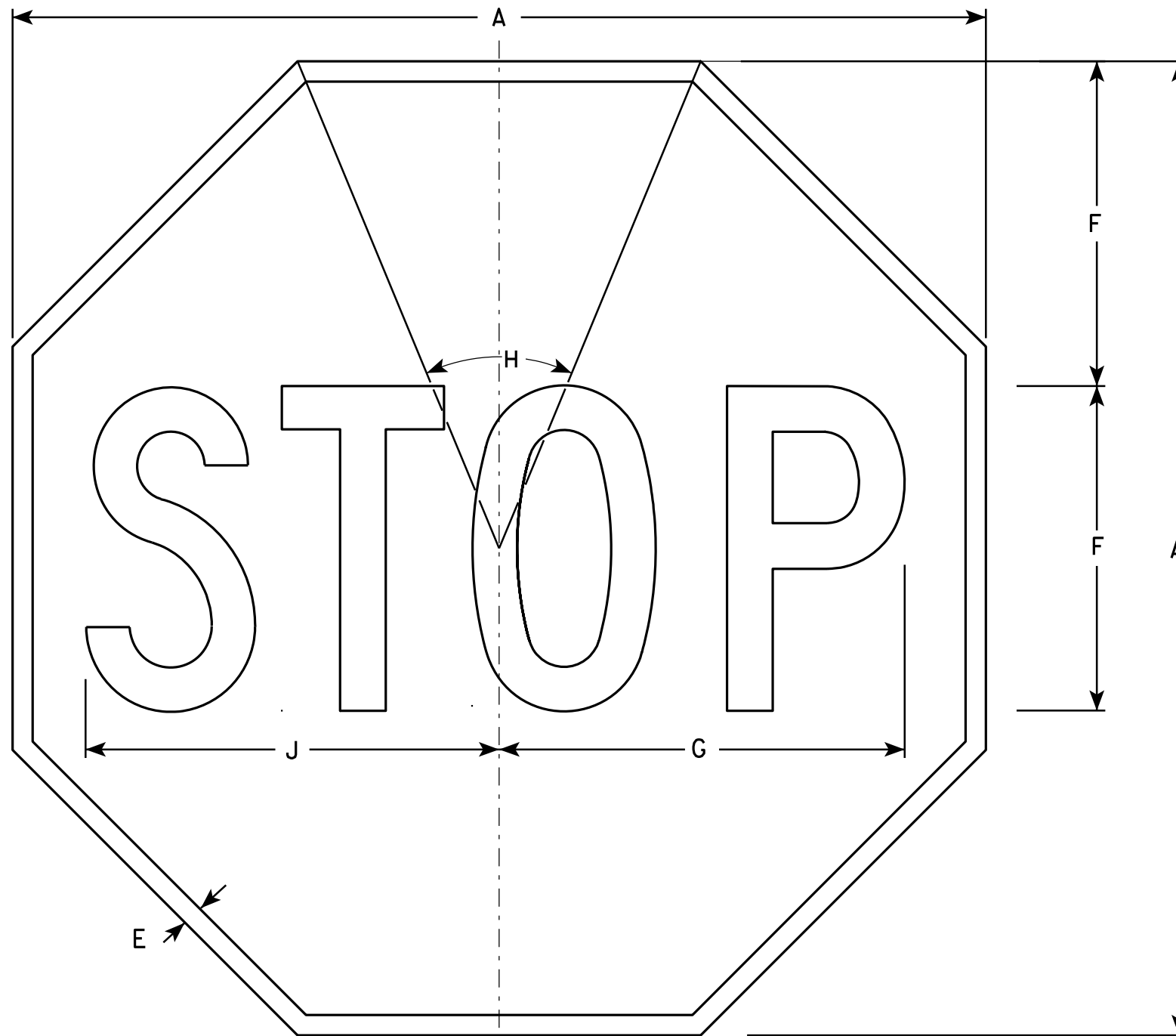
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10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

STANDARD SIGN
M6 - 1 & M6 - 2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 7/03/14 PLATE NO. M6-1.14



NOTES

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

R1-1

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24				3/8	8	10	45°		10 1/4																	3.31
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

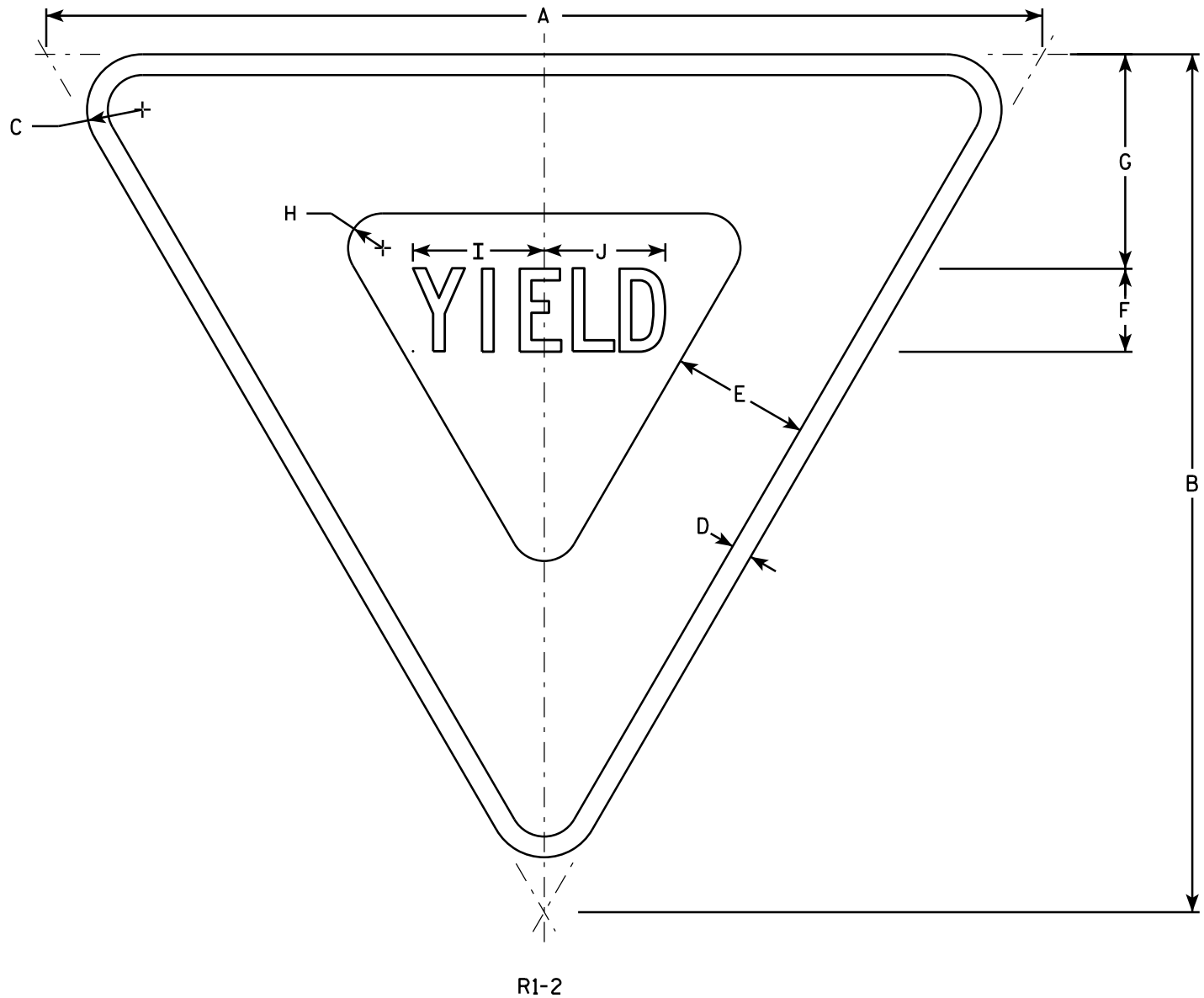
STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - White
Message - See note 5
- 3. Message Series - 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. The border strip and word message are reflectorized red.

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	1 1/2	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

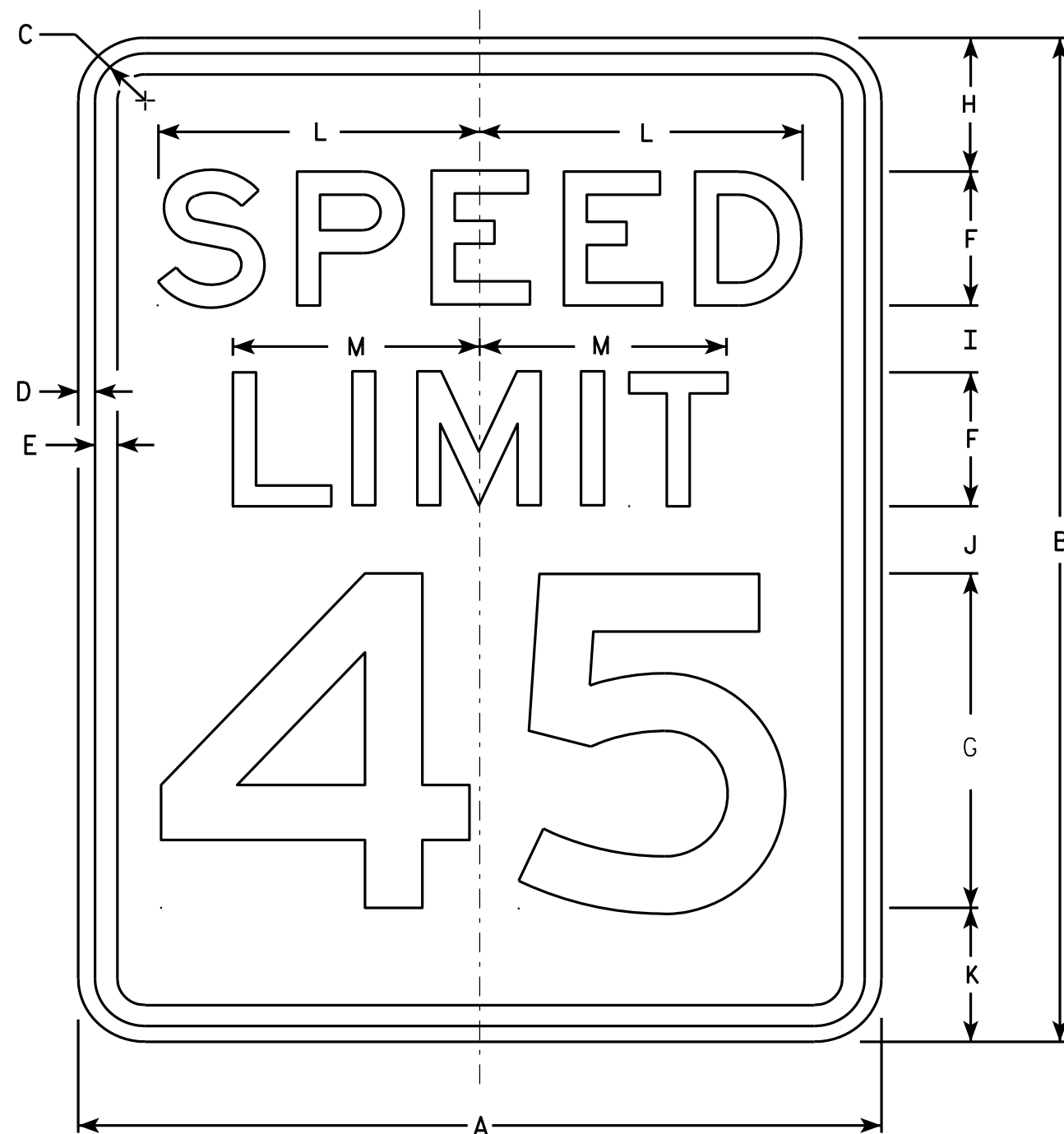
STANDARD SIGN

R1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 10/13/14 PLATE NO. R1-2.12



R2-1

NOTES

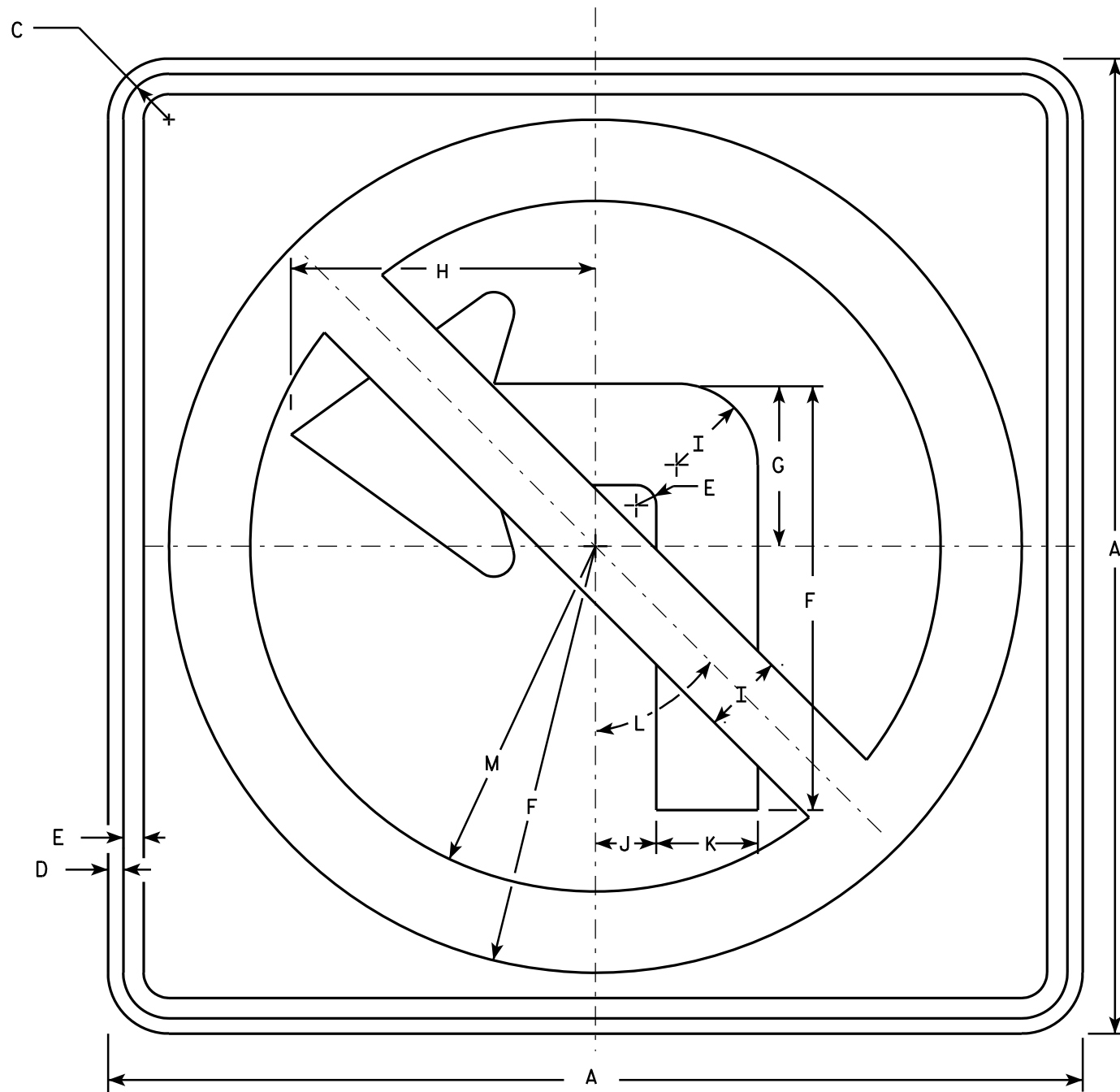
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as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

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

STANDARD SIGN R2-1

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

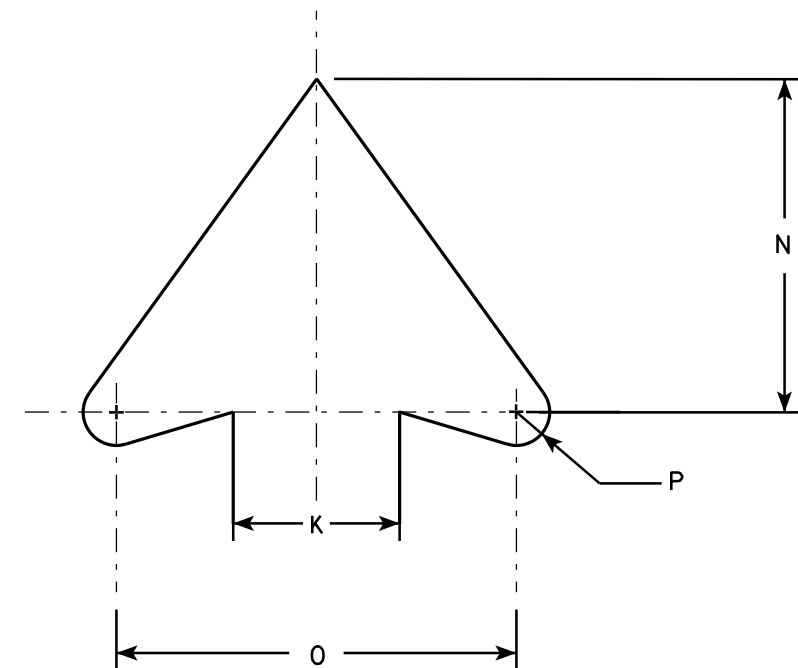
PROJECT NO: HWY: COUNTY: SHEET NO: E



R3-2

NOTES

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



ARROW DETAIL

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

STANDARD SIGN R3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-2.10

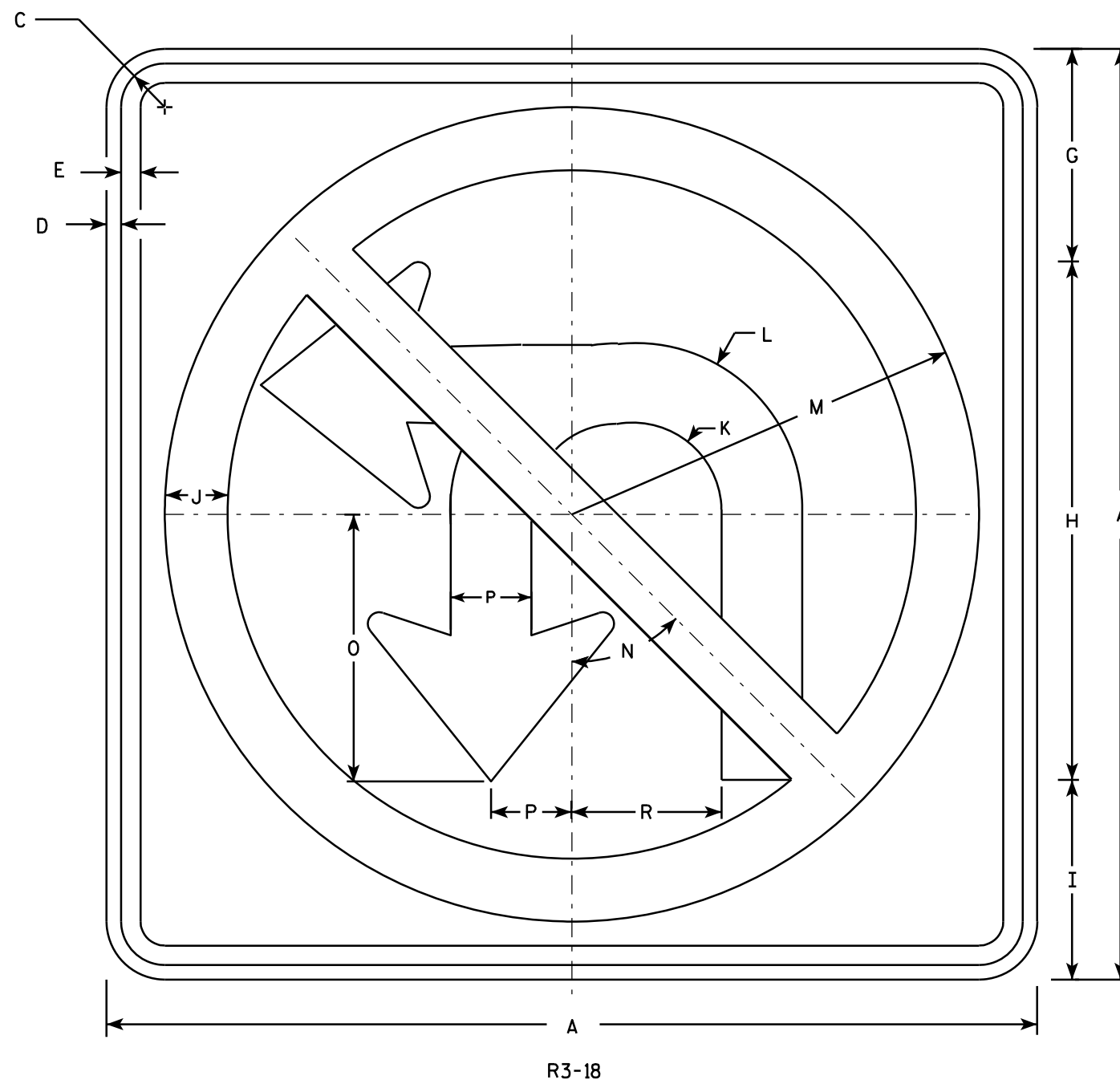
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	3/8	1/2		5 1/2	13 3/8	5 1/8	1 5/8	2 1/4	4 1/4	10 1/2	45°	6 7/8	2 1/8		3 7/8									4.0
2M	36		1 5/8	5/8	3/4		8 1/4	20	7 3/4	2 1/2	3 3/8	6 1/2	15 3/4	45°	10 3/8	3 1/8		5 3/4									9.0
3	36		1 5/8	5/8	3/4		8 1/4	20	7 3/4	2 1/2	3 3/8	6 1/2	15 3/4	45	10 3/8	3 1/8		5 3/4									9.0
4	36		1 5/8	5/8	3/4		8 1/4	20	7 3/4	2 1/2	3 3/8	6 1/2	15 3/4	45	10 3/8	3 1/8		5 3/4									9.0
5	48		2 1/4	3/4	1		11	26 3/4	10 1/4	3 1/4	4 5/8	8 5/8	21	45°	13 3/4	4 1/8		7 3/4									16.0

STANDARD SIGN R3-18

WISCONSIN DEPT OF TRANSPORTATION

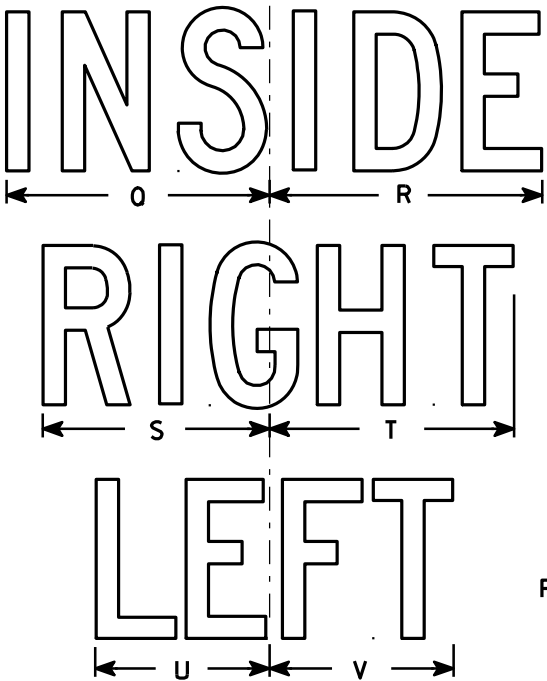
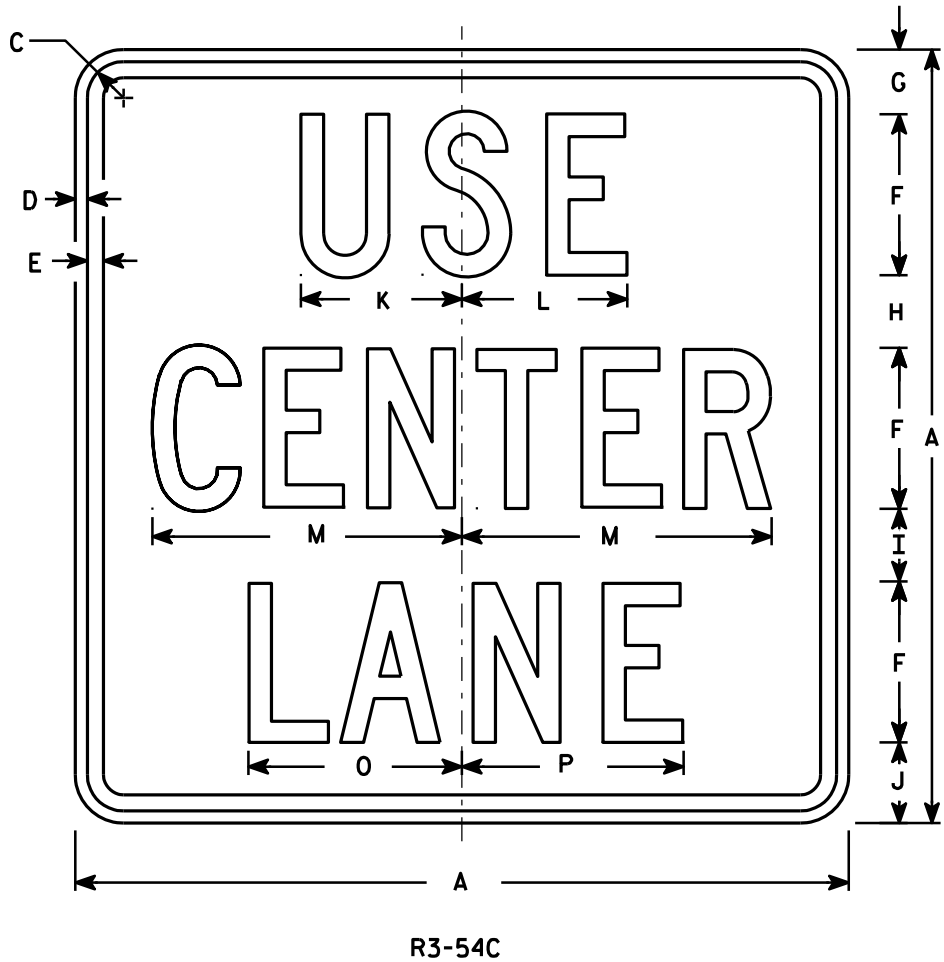
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/21/10 PLATE NO. R3-18.2

PROJECT NO: HWY: COUNTY: SHEET NO: E

NOTES

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



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

STANDARD SIGN
R3-54C, I ,L & R

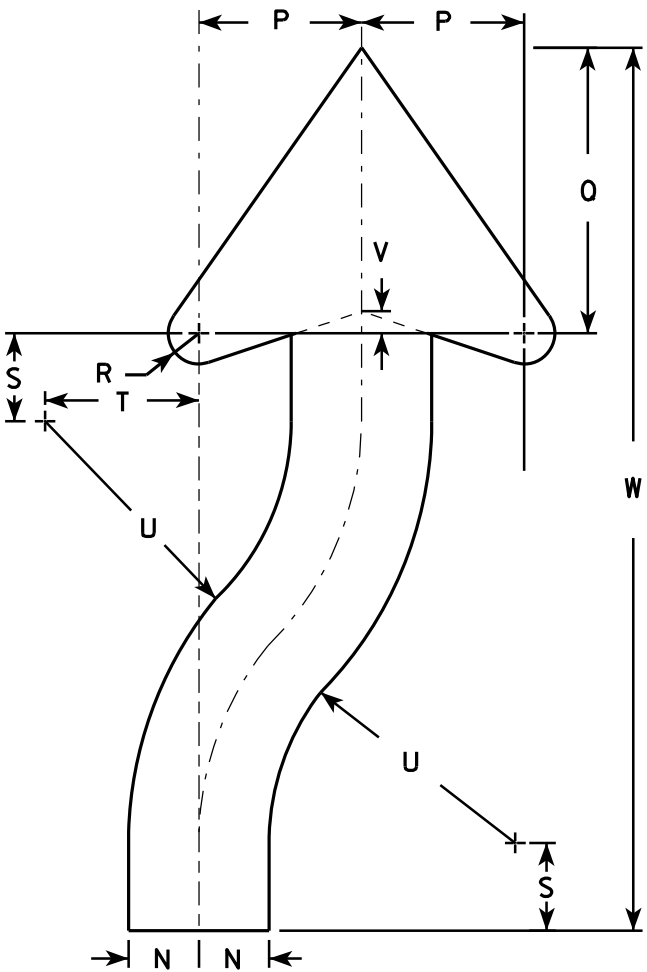
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

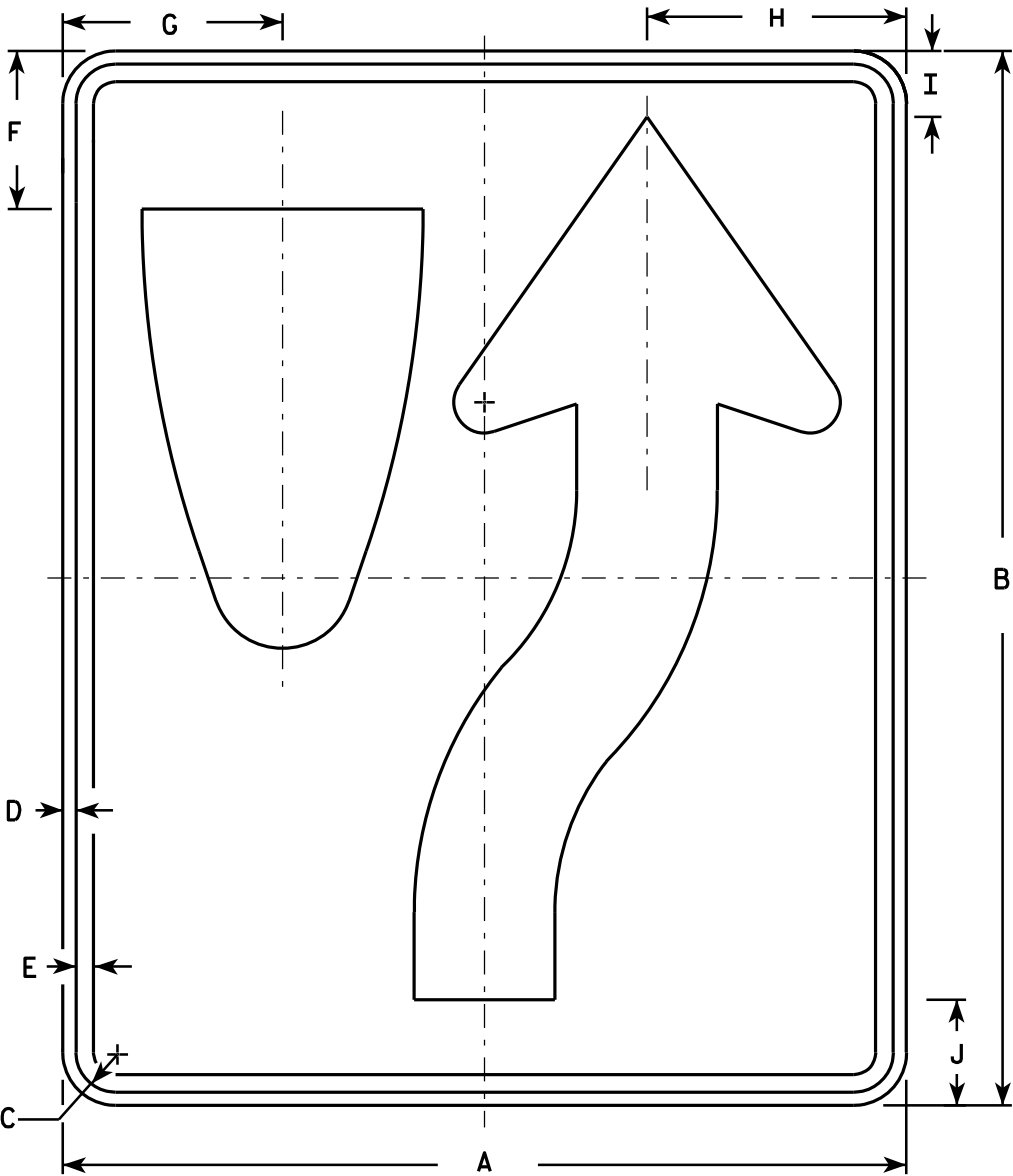
DATE 3/24/2011 PLATE NO. R3-54.8

NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. material is plywood but borders shall be rounded
- 2. Color:
Background - White
Message - Black
- 3. Corners may be square or rounded when base as shown. When base material is metal, the corners and borders shall be rounded.
- 4. R4-8 is the same as R4-7 except Legend is reversed.



ARROW DETAIL



R4-7

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 1/8	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 1/8	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 1/8	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 3/4	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 3/4	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	2 1/4	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

STANDARD SIGN

R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-7.8

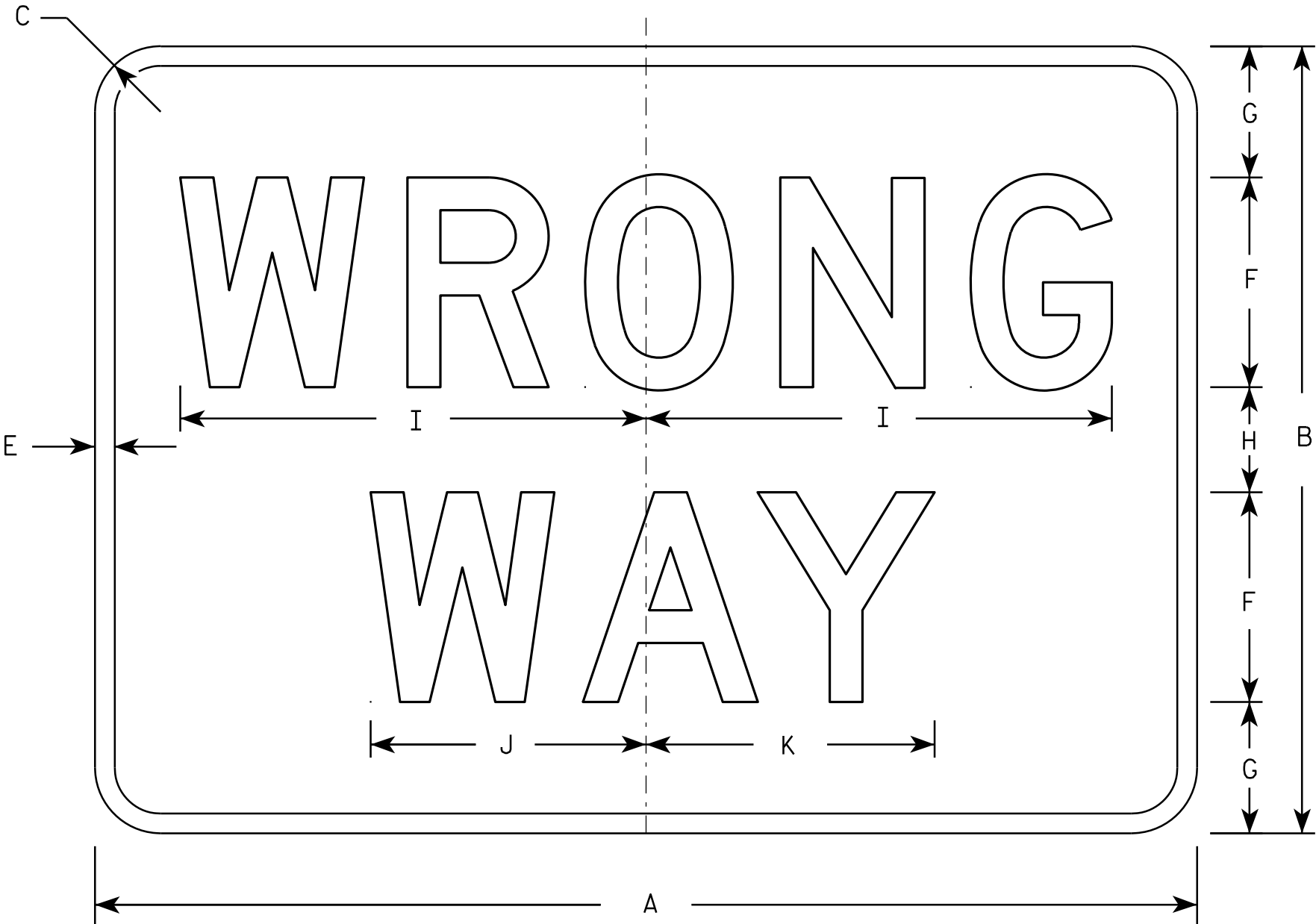
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



R5-1A

NOTES

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

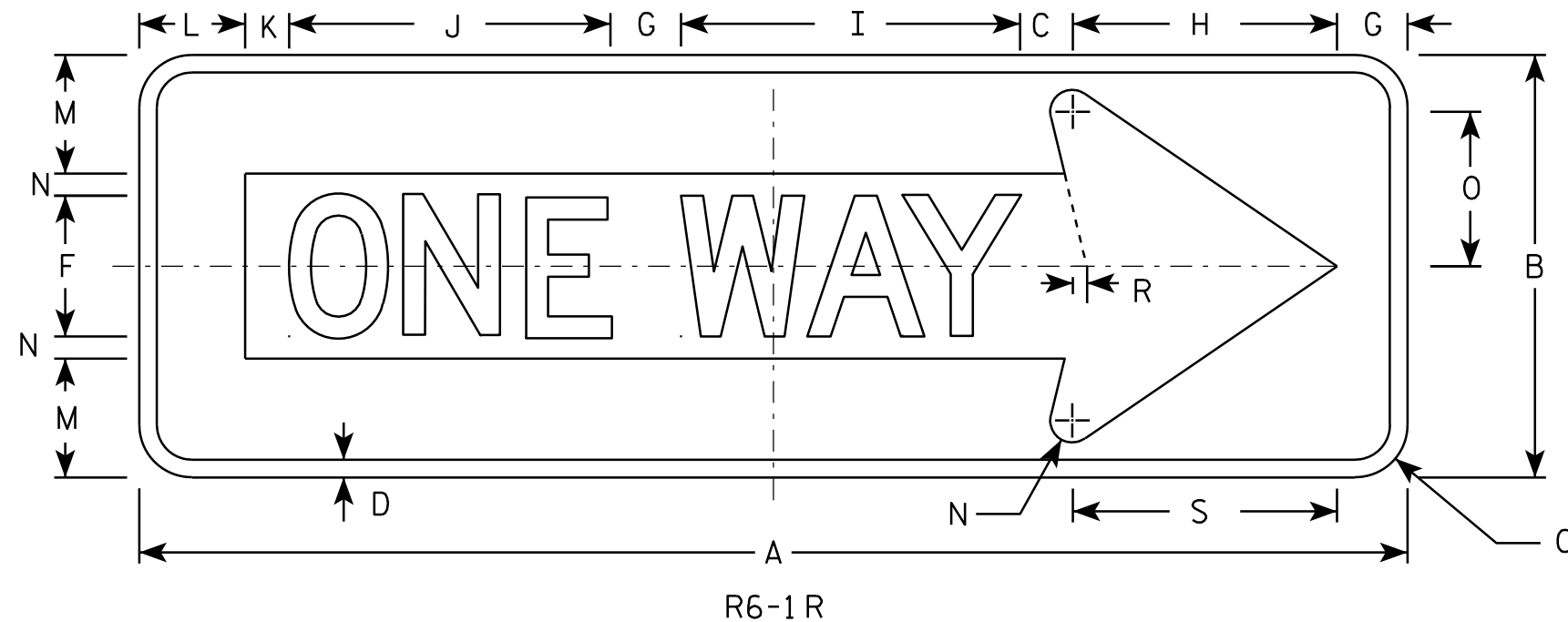
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	18	1 1/2		1/2	5	3	2	11	6 1/2	6 7/8																3.75
2S	36	24	2		5/8	6	4 1/2	3	13 1/4	7 7/8	8 1/4																6.00
2M	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
3	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11	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

STANDARD SIGN
R5-1A

WISCONSIN DEPT OF TRANSPORTATION

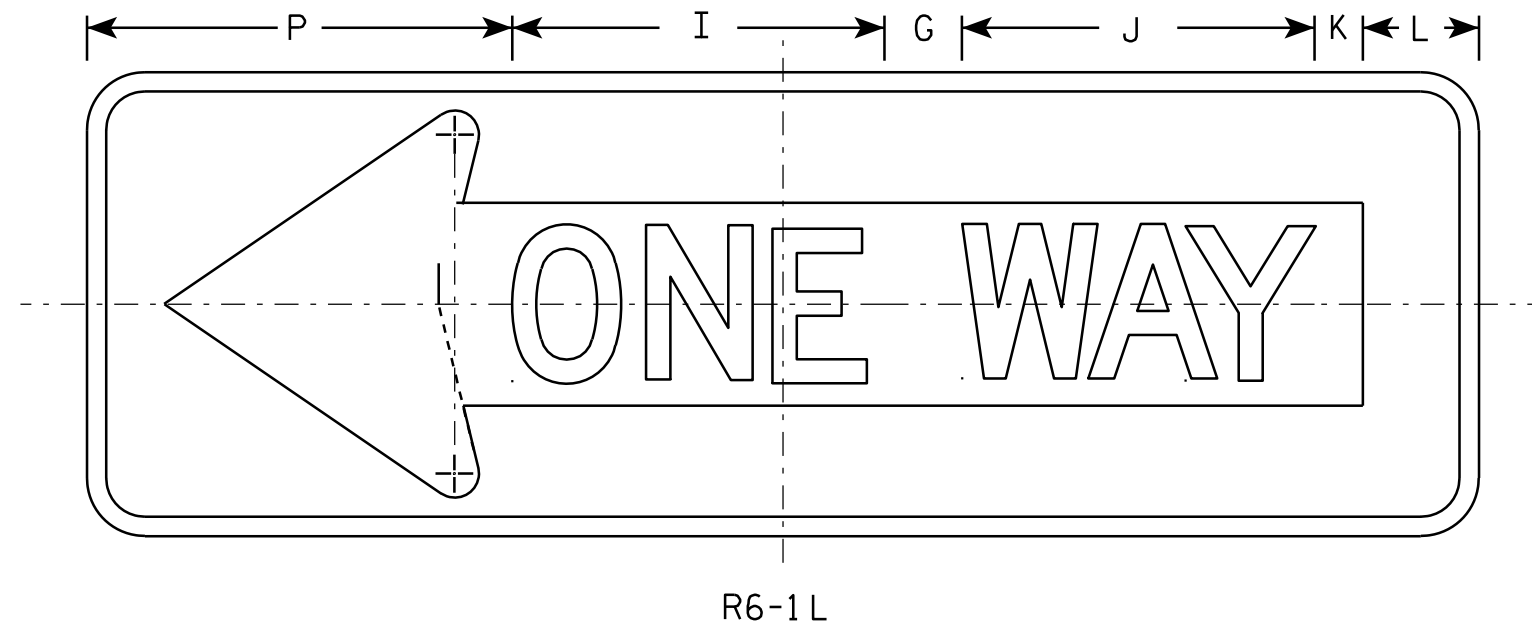
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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



NOTES

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



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

STANDARD SIGN R6-1 L & R

WISCONSIN DEPT OF TRANSPORTATION

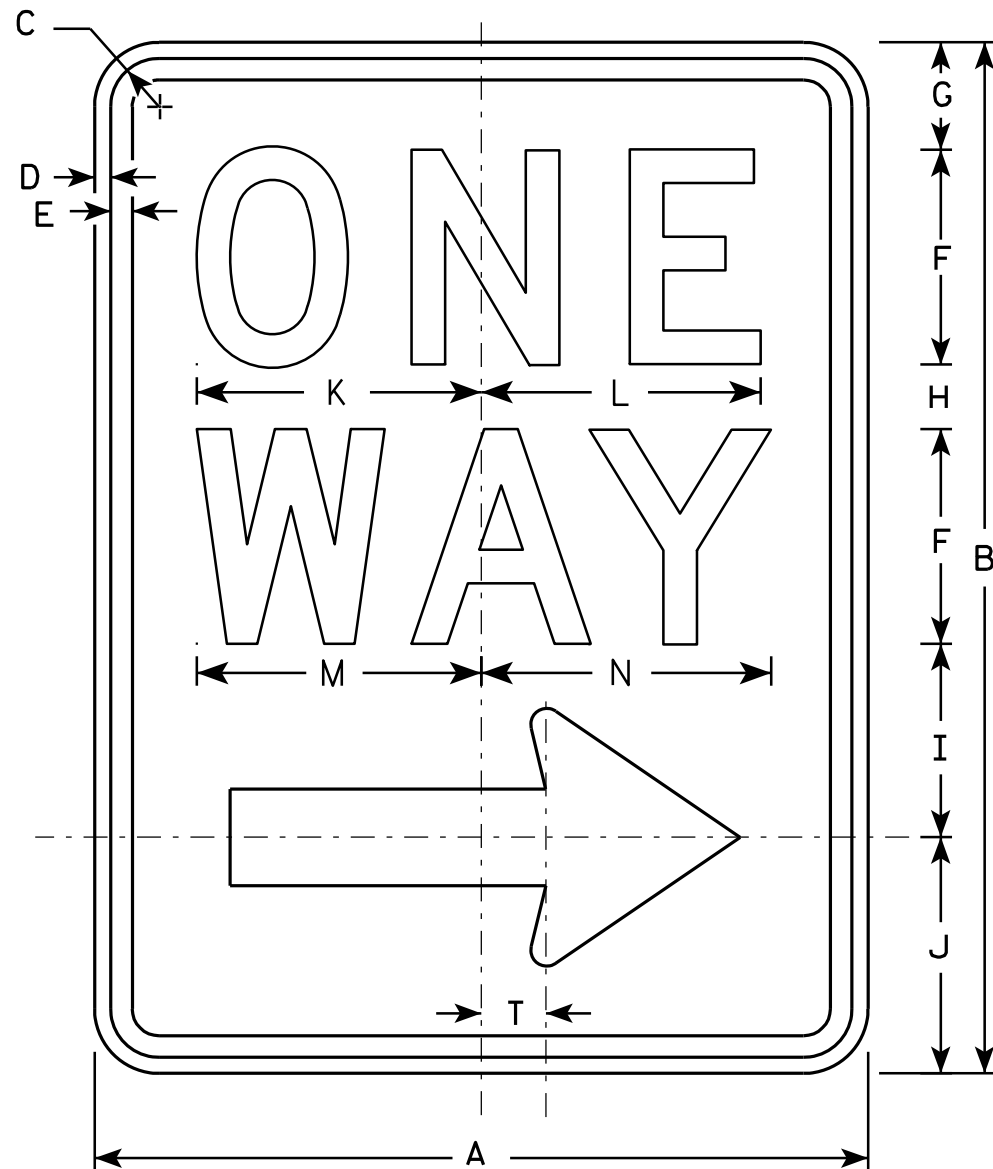
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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

PROJECT NO:

SHEET NO:

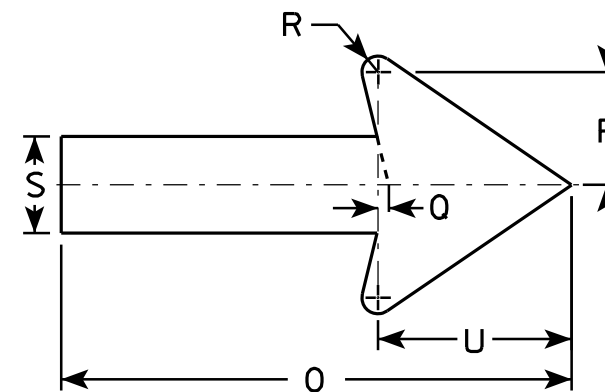
E



R6-2R

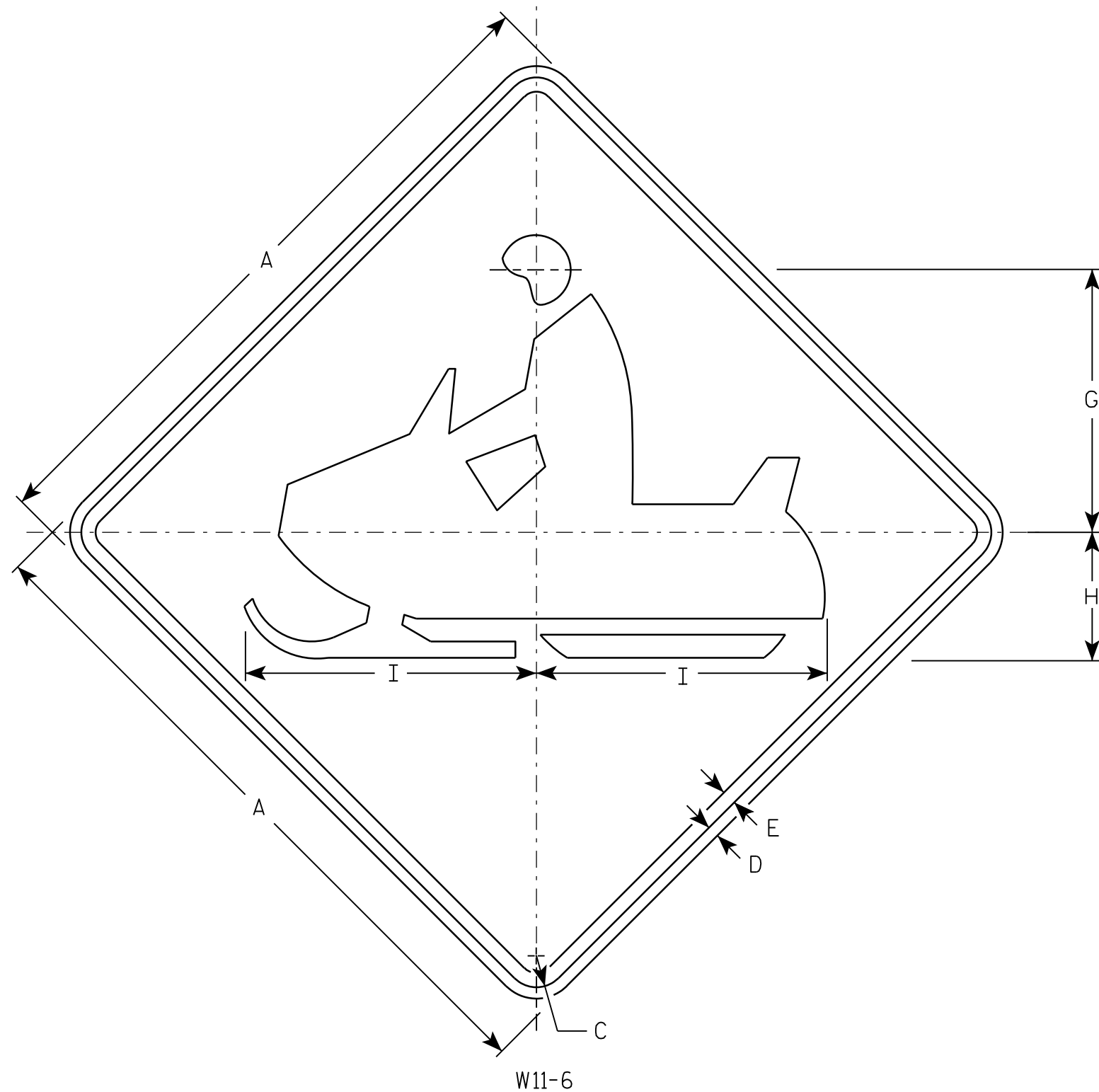
NOTES

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



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z
1	18	24	1 1/8	3/8	1/2	5	2 1/2	1 1/2	4 1/2	5 1/2	6 5/8	6 1/2	6 5/8	6 3/4	11 7/8	2 5/8	1/4	3/8	2 1/4	1 1/2	4 1/2					
2S	24	30	1 1/8	3/8	1/2	6	3	2 1/2	5 1/2	7	8 1/8	8 1/8	8 1/2	8 5/8	16	3 1/2	3/8	1/2	3	2	6					
2M	30	36	1 3/8	1/2	5/8	8	2 1/2	2 5/8	6 7/8	8	10 1/2	10 1/2	11 1/4	11 1/4	20	4 3/8	1/2	5/8	3 3/4	2 1/2	7 1/2					
3	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
4	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
5																										

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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W11-6

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2		9 1/2	4 1/2	10 1/4																		4.0
2S	30		1 3/8	1/2	5/8		11 1/2	5 5/8	12 3/4																		6.25
2M	30		1 3/8	1/2	5/8		11 1/2	5 5/8	12 3/4																		6.25
3	36		1 5/8	5/8	3/4		14 1/8	6 3/4	15 1/4																		9.0
4	48		2 1/4	3/4	1		19	9	20 1/2																		16.0
5																											

STANDARD SIGN
W11-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R. Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W11-6.8

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

PROJECT ID 4430-15-71
DIVISION 1 - STH 57 NB LOON

STATION	Distance	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)				Mass Ordinate
		Cut	Fill	EBS (In Cross Sections)	Structure Excavation (In Cross Sections)	Cut	Fill	EBS	Structure Excavation	Cut	Fill	EBS	Structure Excavation	
931NB+76	AH 0.00	20.37	1.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
932NB+00	24.22	26.47	51.75	0.00	0.00	21.01	23.85	0.00	0.00	21.01	23.85	0.00	0.00	-2.84
932NB+50	50.00	23.98	141.27	0.00	0.00	46.71	178.72	0.00	0.00	67.72	202.57	0.00	0.00	-134.85
933NB+00	50.00	24.44	135.35	0.00	0.00	44.83	256.13	0.00	0.00	112.55	458.70	0.00	0.00	-346.14
933NB+50	50.00	24.16	120.19	0.00	0.00	45.00	236.61	0.00	0.00	157.55	695.31	0.00	0.00	-537.76
934NB+00	50.00	26.49	94.98	0.00	0.00	46.90	199.23	0.00	0.00	204.45	894.54	0.00	0.00	-690.09
934NB+50	50.00	22.33	66.46	0.00	0.00	45.20	149.48	0.00	0.00	249.66	1044.02	0.00	0.00	-794.37
935NB+00	50.00	16.13	14.86	0.00	0.00	35.61	75.30	0.00	0.00	285.27	1119.32	0.00	0.00	-834.05
935NB+13	BK 13.11	16.55	11.69	0.00	0.00	7.93	6.45	0.00	0.00	293.20	1125.77	0.00	0.00	-832.56
Column totals						293.20	1125.77	0.00	0.00					

PROJECT ID 4430-15-71
DIVISION 1 - STH 57 NB LEFT TURN LANE

STATION	Distance	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)				Mass Ordinate
		Cut	Fill	EBS (In Cross Sections)	Structure Excavation (In Cross Sections)	Cut	Fill	EBS	Structure Excavation	Cut	Fill	EBS	Structure Excavation	
ONBL+03	AH 0.00	13.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ONBL+50	47.14	13.75	0.00	0.00	0.00	23.95	0.00	0.00	0.00	23.95	0.00	0.00	0.00	23.95
1NBL+00	50.00	13.70	2.03	0.00	0.00	25.42	1.88	0.00	0.00	49.36	1.88	0.00	0.00	47.48
1NBL+50	50.00	13.31	6.70	0.00	0.00	25.01	8.08	0.00	0.00	74.37	9.96	0.00	0.00	64.41
2NBL+00	50.00	12.22	7.34	0.00	0.00	23.64	13.00	0.00	0.00	98.01	22.96	0.00	0.00	75.05
2NBL+50	50.00	12.99	6.25	0.00	0.00	23.34	12.58	0.00	0.00	121.35	35.55	0.00	0.00	85.81
3NBL+00	50.00	13.34	6.03	0.00	0.00	24.38	11.37	0.00	0.00	145.73	46.92	0.00	0.00	98.82
3NBL+50	50.00	13.05	8.34	0.00	0.00	24.44	13.31	0.00	0.00	170.17	60.22	0.00	0.00	109.95
4NBL+00	50.00	13.15	9.93	0.00	0.00	24.26	16.92	0.00	0.00	194.43	77.14	0.00	0.00	117.29
4NBL+50	50.00	12.63	8.51	0.00	0.00	23.87	17.07	0.00	0.00	218.30	94.21	0.00	0.00	124.08
5NBL+00	50.00	12.39	7.70	0.00	0.00	23.17	15.01	0.00	0.00	241.46	109.22	0.00	0.00	132.24
5NBL+50	50.00	11.84	8.02	0.00	0.00	22.44	14.56	0.00	0.00	263.90	123.78	0.00	0.00	140.12
6NBL+00	50.00	11.95	9.21	0.00	0.00	22.03	15.95	0.00	0.00	285.93	139.73	0.00	0.00	146.20
6NBL+35	35.00	11.62	9.34	0.00	0.00	15.28	12.02	0.00	0.00	301.20	151.75	0.00	0.00	149.45
6NBL+50	15.00	11.73	16.36	0.00	0.00	6.49	7.14	0.00	0.00	307.69	158.89	0.00	0.00	148.80
7NBL+00	50.00	15.91	47.15	0.00	0.00	25.59	58.81	0.00	0.00	333.28	217.70	0.00	0.00	115.58
7NBL+38	BK 38.05	47.68	0.00	0.00	0.00	44.81	33.22	0.00	0.00	378.09	250.92	0.00	0.00	127.17
Column totals						378.09	250.92	0.00	0.00					

DIVISION 1 - STH 57 SB LOON

STATION	Distance	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)				Mass Ordinate
		Cut	Fill	EBS (In Cross Sections)	Structure Excavation (In Cross Sections)	Cut	Fill	EBS	Structure Excavation	Cut	Fill	EBS	Structure Excavation	
979SB+66	AH 0.00	26.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
980SB+00	34.35	25.33	0.00	0.00	0.00	33.04	0.00	0.00	0.00	33.04	0.00	0.00	0.00	33.04
980SB+50	50.00	19.88	1.12	0.00	0.00	41.86	1.04	0.00	0.00	74.90	1.04	0.00	0.00	73.86
981SB+00	50.00	18.29	42.93	0.00	0.00	35.34	40.79	0.00	0.00	110.24	41.82	0.00	0.00	68.42
981SB+50	50.00	40.73	19.13	0.00	0.00	54.65	57.46	0.00	0.00	164.89	99.29	0.00	0.00	65.60
982SB+00	50.00	96.93	42.05	0.00	0.00	127.46	56.65	0.00	0.00	292.35	155.94	0.00	0.00	136.42
982SB+50	50.00	127.50	94.22	0.00	0.00	207.81	126.18	0.00	0.00	500.16	282.11	0.00	0.00	218.05
983SB+00	50.00	67.31	33.97	0.00	0.00	180.38	118.69	0.00	0.00	680.54	400.81	0.00	0.00	279.73
983SB+46	BK 46.32	21.48	0.00	0.00	0.00	76.16	29.14	0.00	0.00	756.70	429.94	0.00	0.00	326.76
Column totals						756.70	429.94	0.00	0.00					

PROJECT ID 4430-15-71
DIVISION 1 - STH 57 SB LEFT TURN LANE

STATION	Distance	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)				Mass Ordinate
		Cut	Fill	EBS (In Cross Sections)	Structure Excavation (In Cross Sections)	Cut	Fill	EBS	Structure Excavation	Cut	Fill	EBS	Structure Excavation	
0SBL+01	AH 0.00	49.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0SBL+50	48.73	39.29	15.49	0.00	0.00	79.72	13.98	0.00	0.00	79.72	13.98	0.00	0.00	65.74
1SBL+00	50.00	19.40	7.76	0.00	0.00	54.34	21.53	0.00	0.00	134.06	35.51	0.00	0.00	98.56
1SBL+50	50.00	19.38	2.27	0.00	0.00	35.91	9.29	0.00	0.00	169.97	44.79	0.00	0.00	125.18
2SBL+00	50.00	15.07	10.31	0.00	0.00	31.90	11.65	0.00	0.00	201.87	56.44	0.00	0.00	145.43
2SBL+50	50.00	16.08	20.48	0.00	0.00	28.84	28.51	0.00	0.00	230.71	84.95	0.00	0.00	145.76
3SBL+00	50.00	17.43	27.72	0.00	0.00	31.03	44.63	0.00	0.00	261.74	129.58	0.00	0.00	132.16
3SBL+50	50.00	17.77	29.53	0.00	0.00	32.59	53.01	0.00	0.00	294.33	182.59	0.00	0.00	111.74
4SBL+00	50.00	18.04	33.30	0.00	0.00	33.16	58.18	0.00	0.00	327.49	240.77	0.00	0.00	86.72
4SBL+50	50.00	20.00	34.10	0.00	0.00	35.22	62.41	0.00	0.00	362.71	303.17	0.00	0.00	59.54
5SBL+00	50.00	24.55	36.19	0.00	0.00	41.25	65.08	0.00	0.00	403.96	368.26	0.00	0.00	35.70
5SBL+50	50.00	29.48	41.42	0.00	0.00	50.03	71.86	0.00	0.00	453.99	440.12	0.00	0.00	13.87
6SBL+00	50.00	22.75	34.79	0.00	0.00	48.36	70.56	0.00	0.00	502.35	510.68	0.00	0.00	-8.33
6SBL+50	50.00	16.38	36.39	0.00	0.00	36.23	65.91	0.00	0.00	538.58	576.59	0.00	0.00	-38.01
7SBL+00	50.00	12.58	24.43	0.00	0.00	26.81	56.31	0.00	0.00	565.39	632.90	0.00	0.00	-67.51
7SBL+50	50.00	12.63	9.82	0.00	0.00	23.34	31.71	0.00	0.00	588.74	664.62	0.00	0.00	-75.88
8SBL+00	50.00	12.97	4.53	0.00	0.00	23.70	13.29	0.00	0.00	612.44	677.90	0.00	0.00	-65.46
8SBL+50	50.00	13.26	0.45	0.00	0.00	24.29	4.61	0.00	0.00	636.73	682.52	0.00	0.00	-45.79
9SBL+00	50.00	13.21	0.00	0.00	0.00	24.51	0.42	0.00	0.00	661.24	682.93	0.00	0.00	-21.69
9SBL+50	BK 50.00	15.05	0.00	0.00	0.00	26.17	0.00	0.00	0.00	528.51	510.68	0.00	0.00	17.83
Column totals						687.40	682.93	0.00	0.00					

PROJECT ID 4430-15-71
DIVISION 2 - STH 57 NB CURB

STATION	Distance	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)				Mass Ordinate
		Cut	Fill	EBS (In Cross Sections)	Structure Excavation (In Cross Sections)	Cut	Fill	EBS	Structure Excavation	Cut	Fill	EBS	Structure Excavation	
948NB+85	AH 0.00	21.03	0.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
949NB+00	15.01	21.75	4.41	0.00	0.00	11.89	1.38	0.00	0.00	11.89	1.38	0.00	0.00	10.51
949NB+50	50.00	34.60	0.00	0.00	0.00	52.18	4.08	0.00	0.00	64.07	5.46	0.00	0.00	58.60
950NB+00	50.00	40.74	0.00	0.00	0.00	69.76	0.00	0.00	0.00	133.83	5.46	0.00	0.00	128.36
950NB+50	50.00	37.44	0.00	0.00	0.00	72.39	0.00	0.00	0.00	206.22	5.46	0.00	0.00	200.75
951NB+00	50.00	34.95	0.00	0.00	0.00	67.03	0.00	0.00	0.00	273.24	5.46	0.00	0.00	267.78
951NB+50	50.00	32.36	1.02	0.00	0.00	62.32	0.94	0.00	0.00	335.57	6.41	0.00	0.00	329.16
952NB+00	50.00	29.23	2.42	0.00	0.00	57.03	3.19	0.00	0.00	392.59	9.59	0.00	0.00	383.00
952NB+50	50.00	28.77	2.27	0.00	0.00	53.70	4.34	0.00	0.00	446.30	13.94	0.00	0.00	432.36
953NB+00	50.00	13.93	0.00	0.00	0.00	39.54	2.10	0.00	0.00	485.84	16.04	0.00	0.00	469.80
953NB+50	50.00	14.28	0.00	0.00	0.00	26.12	0.00	0.00	0.00	511.96	16.04	0.00	0.00	495.92
954NB+00	50.00	14.77	0.00	0.00	0.00	26.90	0.00	0.00	0.00	538.85	16.04	0.00	0.00	522.82
954NB+50	50.00	14.51	0.00	0.00	0.00	27.11	0.00	0.00	0.00	565.97	16.04	0.00	0.00	549.93
955NB+00	50.00	14.07	0.27	0.00	0.00	26.46	0.25	0.00	0.00	592.43	16.29	0.00	0.00	576.14
955NB+50	50.00	7.69	0.00	0.00	0.00	20.15	0.25	0.00	0.00	612.58	16.54	0.00	0.00	596.04
956NB+00	50.00	8.34	0.00	0.00	0.00	14.84	0.00	0.00	0.00	627.42	16.54	0.00	0.00	610.88
956NB+50	50.00	18.84	0.00	0.00	0.00	25.17	0.00	0.00	0.00	652.59	16.54	0.00	0.00	636.05
957NB+00	50.00	33.24	0.00	0.00	0.00	48.22	0.00	0.00	0.00	700.81	16.54	0.00	0.00	684.27
957NB+50	50.00	23.47	0.00	0.00	0.00	52.51	0.00	0.00	0.00	753.32	16.54	0.00	0.00	736.78
958NB+00	50.00	18.46	0.74	0.00	0.00	38.82	0.69	0.00	0.00	792.14	17.22	0.00	0.00	774.92
958NB+04	BK 3.84	17.80	0.85	0.00	0.00	2.58	0.11	0.00	0.00	794.72	17.34	0.00	0.00	777.38
Column totals						794.72	17.34	0.00	0.00					

PROJECT ID 4430-15-71
DIVISION 2 - STH 57 SB CURB

STATION	Distance	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)				Mass Ordinate
		Cut	Fill	EBS (In Cross Sections)	Structure Excavation (In Cross Sections)	Cut	Fill	EBS	Structure Excavation	Cut	Fill	EBS	Structure Excavation	
953SB+63	AH 0.00	21.03	0.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
954SB+00	37.36	21.75	4.41	0.00	0.00	29.60	3.44	0.00	0.00	29.60	3.44	0.00	0.00	26.16
954SB+50	50.00	13.51	10.14	0.00	0.00	32.65	13.47	0.00	0.00	62.25	16.91	0.00	0.00	45.33
955SB+00	50.00	10.57	40.92	0.00	0.00	22.30	47.28	0.00	0.00	84.54	64.19	0.00	0.00	20.35
955SB+50	50.00	9.54	0.00	0.00	0.00	18.62	37.89	0.00	0.00	103.16	102.08	0.00	0.00	1.08
956SB+00	50.00	12.39	0.00	0.00	0.00	20.31	0.00	0.00	0.00	123.47	102.08	0.00	0.00	21.39
956SB+50	50.00	13.42	0.00	0.00	0.00	23.90	0.00	0.00	0.00	147.37	102.08	0.00	0.00	45.29
957SB+00	50.00	13.16	0.00	0.00	0.00	24.61	0.00	0.00	0.00	171.98	102.08	0.00	0.00	69.90
957SB+50	50.00	12.83	0.00	0.00	0.00	24.06	0.00	0.00	0.00	196.04	102.08	0.00	0.00	93.96
958SB+00	50.00	12.71	0.00	0.00	0.00	23.65	0.00	0.00	0.00	219.69	102.08	0.00	0.00	117.61
958SB+50	50.00	12.70	0.00	0.00	0.00	23.53	0.00	0.00	0.00	243.22	102.08	0.00	0.00	141.14
958SB+68	18.00	12.96	0.00	0.00	0.00	8.55	0.00	0.00	0.00	251.77	102.08	0.00	0.00	149.69
959SB+00	32.00	21.54	63.96	0.00	0.00	20.44	37.90	0.00	0.00	272.22	139.98	0.00	0.00	132.24
959SB+50	50.00	21.15	65.03	0.00	0.00	39.53	119.44	0.00	0.00	311.74	259.41	0.00	0.00	52.33
960SB+00	50.00	19.38	47.77	0.00	0.00	37.53	104.44	0.00	0.00	349.27	363.86	0.00	0.00	-14.59
960SB+50	50.00	18.95	35.79	0.00	0.00	35.49	77.37	0.00	0.00	384.76	441.23	0.00	0.00	-56.47
961SB+00	50.00	18.82	28.54	0.00	0.00	34.97	59.56	0.00	0.00	419.73	500.79	0.00	0.00	-81.06
961SB+50	50.00	18.02	12.87	0.00	0.00	34.11	38.34	0.00	0.00	453.85	539.14	0.00	0.00	-85.29
962SB+00	50.00	15.64	11.73	0.00	0.00	31.17	22.78	0.00	0.00	485.01	561.91	0.00	0.00	-76.90
962SB+50	50.00	12.53	3.15	0.00	0.00	26.08	13.78	0.00	0.00	511.10	575.69	0.00	0.00	-64.60
962SB+74	BK 23.94	10.87	7.54	0.00	0.00	10.37	4.74	0.00	0.00	521.47	580.43	0.00	0.00	-58.96
Column totals						521.47	580.43	0.00	0.00					

PROJECT ID 4430-15-71
DIVISION 2 - STH 57 NB / CTH C LTL

STATION	Distance	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)				Mass Ordinate
		Cut	Fill	EBS (In Cross Sections)	Structure Excavation (In Cross Sections)	Cut	Fill	EBS	Structure Excavation	Cut	Fill	EBS	Structure Excavation	
101NCL+90	AH 0.00	10.23	4.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
102NCL+00	9.73	15.91	3.97	0.00	0.00	4.71	1.53	0.00	0.00	4.71	1.53	0.00	0.00	3.18
102NCL+50	50.00	16.31	2.56	0.00	0.00	29.83	6.05	0.00	0.00	34.54	7.57	0.00	0.00	26.97
103NCL+00	50.00	7.99	12.52	0.00	0.00	22.50	13.96	0.00	0.00	57.04	21.54	0.00	0.00	35.51
103NCL+50	50.00	4.70	25.46	0.00	0.00	11.75	35.17	0.00	0.00	68.79	56.70	0.00	0.00	12.09
104NCL+00	50.00	0.61	23.10	0.00	0.00	4.92	44.96	0.00	0.00	73.71	101.67	0.00	0.00	-27.96
104NCL+50	50.00	0.97	12.34	0.00	0.00	1.46	32.81	0.00	0.00	75.17	134.48	0.00	0.00	-59.31
105NCL+00	50.00	25.95	0.00	0.00	0.00	24.93	11.43	0.00	0.00	100.10	145.91	0.00	0.00	-45.81
105NCL+40	BK 40.16	43.81	0.00	0.00	0.00	51.88	0.00	0.00	0.00	151.98	145.91	0.00	0.00	6.07
Column totals						151.98	145.91	0.00	0.00					

PROJECT ID 4430-15-71
DIVISION 2 - STH 57 SB / CTH C LTL

STATION	Distance	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)				Mass Ordinate
		Cut	Fill	EBS (In Cross Sections)	Structure Excavation (In Cross Sections)	Cut	Fill	EBS	Structure Excavation	Cut	Fill	EBS	Structure Excavation	
100SCL+28	AH 0.00	46.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100SCL+50	21.70	42.91	0.00	0.00	0.00	36.09	0.00	0.00	0.00	36.09	0.00	0.00	0.00	36.09
101SCL+00	50.00	15.31	0.00	0.00	0.00	53.91	0.00	0.00	0.00	90.00	0.00	0.00	0.00	90.00
101SCL+50	50.00	3.25	16.43	0.00	0.00	17.19	15.21	0.00	0.00	107.19	15.21	0.00	0.00	91.97
102SCL+00	50.00	3.47	43.95	0.00	0.00	6.22	55.91	0.00	0.00	113.41	71.12	0.00	0.00	42.29
102SCL+50	50.00	9.72	43.15	0.00	0.00	12.21	80.65	0.00	0.00	125.62	151.77	0.00	0.00	-26.15
103SCL+00	50.00	8.97	51.23	0.00	0.00	17.31	87.39	0.00	0.00	142.93	239.16	0.00	0.00	-96.23
103SCL+49	BK 49.10	12.11	53.37	0.00	0.00	19.17	95.11	0.00	0.00	162.09	334.27	0.00	0.00	-172.17
Column totals						162.09	334.27	0.00	0.00					

PROJECT ID 4430-15-71
DIVISION 2 - CTH C

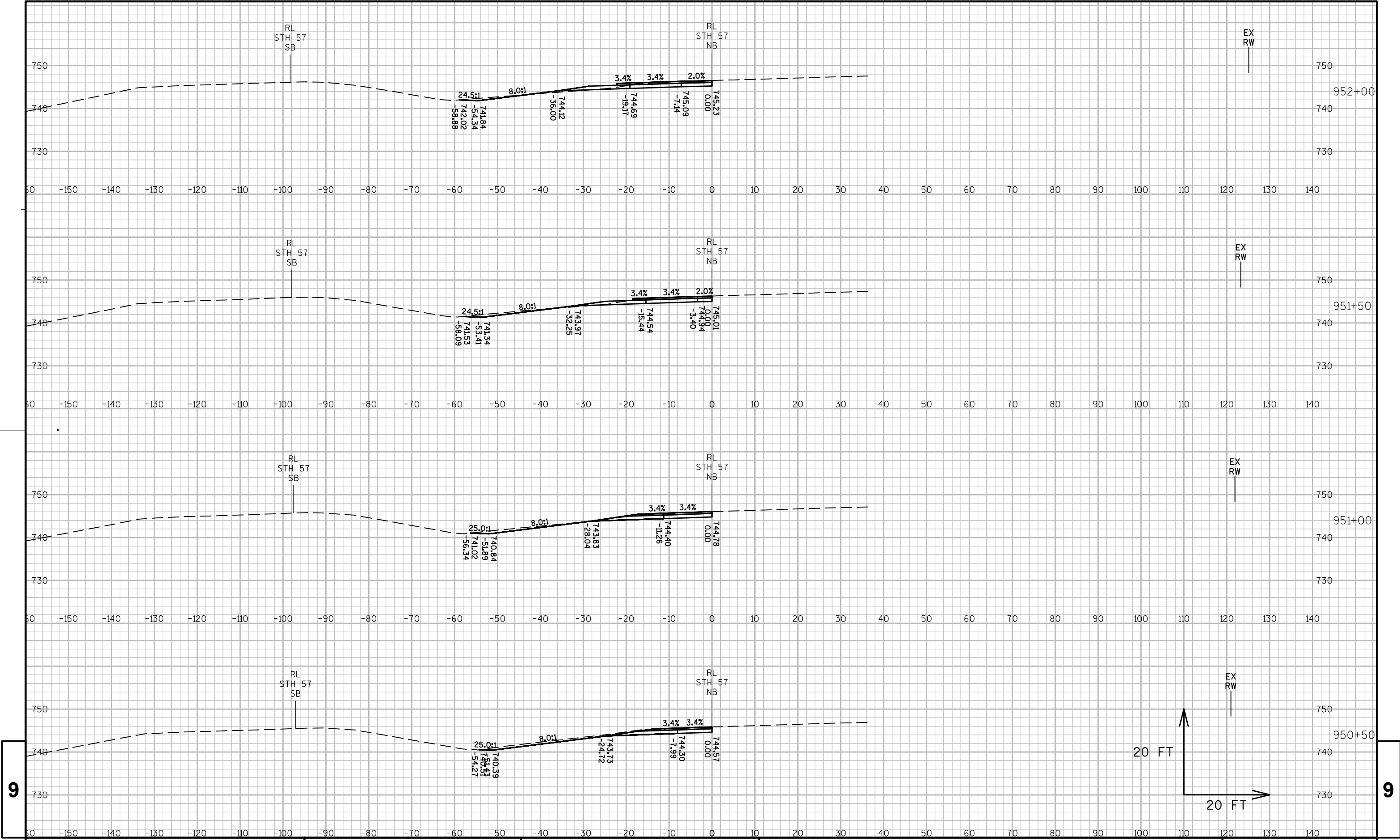
STATION		Distance	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)				Mass Ordinate
			Cut	Fill	EBS (In Cross Sections)	Structure Excavation (In Cross Sections)	Cut	Fill	EBS	Structure Excavation	Cut	Fill	EBS	Structure Excavation	
9CC+27	AH	0.00	8.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9CC+50		23.00	12.02	0.00	0.00	0.00	8.54	0.00	0.00	0.00	8.54	0.00	0.00	0.00	8.54
9CC+61	BK	10.74	13.91	0.00	0.00	0.00	5.16	0.00	0.00	0.00	13.69	0.00	0.00	0.00	13.69
11CC+42	AH	0.00	13.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11CC+50		8.05	11.31	0.00	0.00	0.00	3.62	0.00	0.00	0.00	3.62	0.00	0.00	0.00	3.62
11CC+70	BK	19.78	7.82	0.00	0.00	0.00	7.01	0.00	0.00	0.00	10.63	0.00	0.00	0.00	10.63
Column totals							24.32	0.00	0.00	0.00					

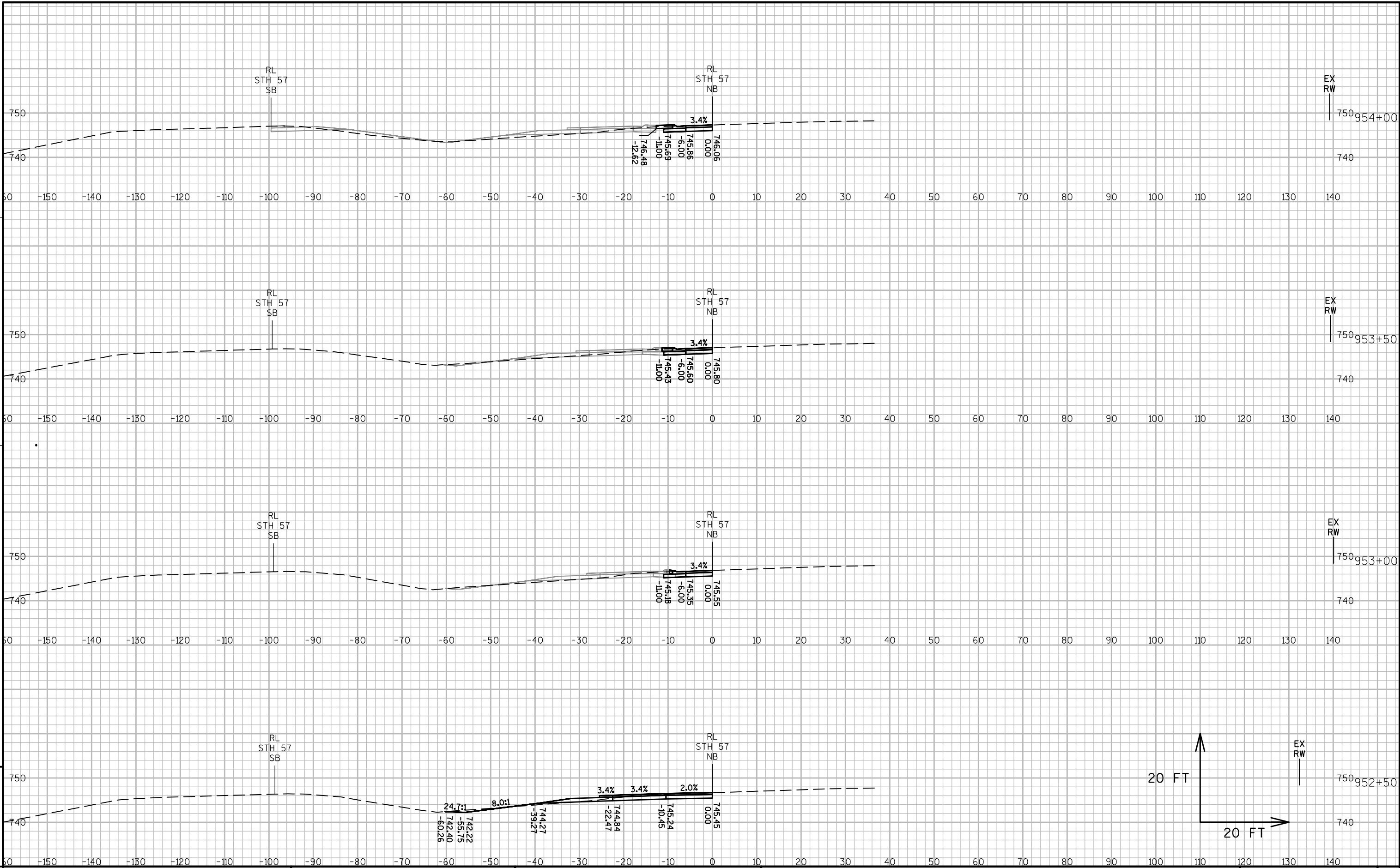
PROJECT ID 4430-15-71
DIVISION 2 - SIDEWALK SOUTH

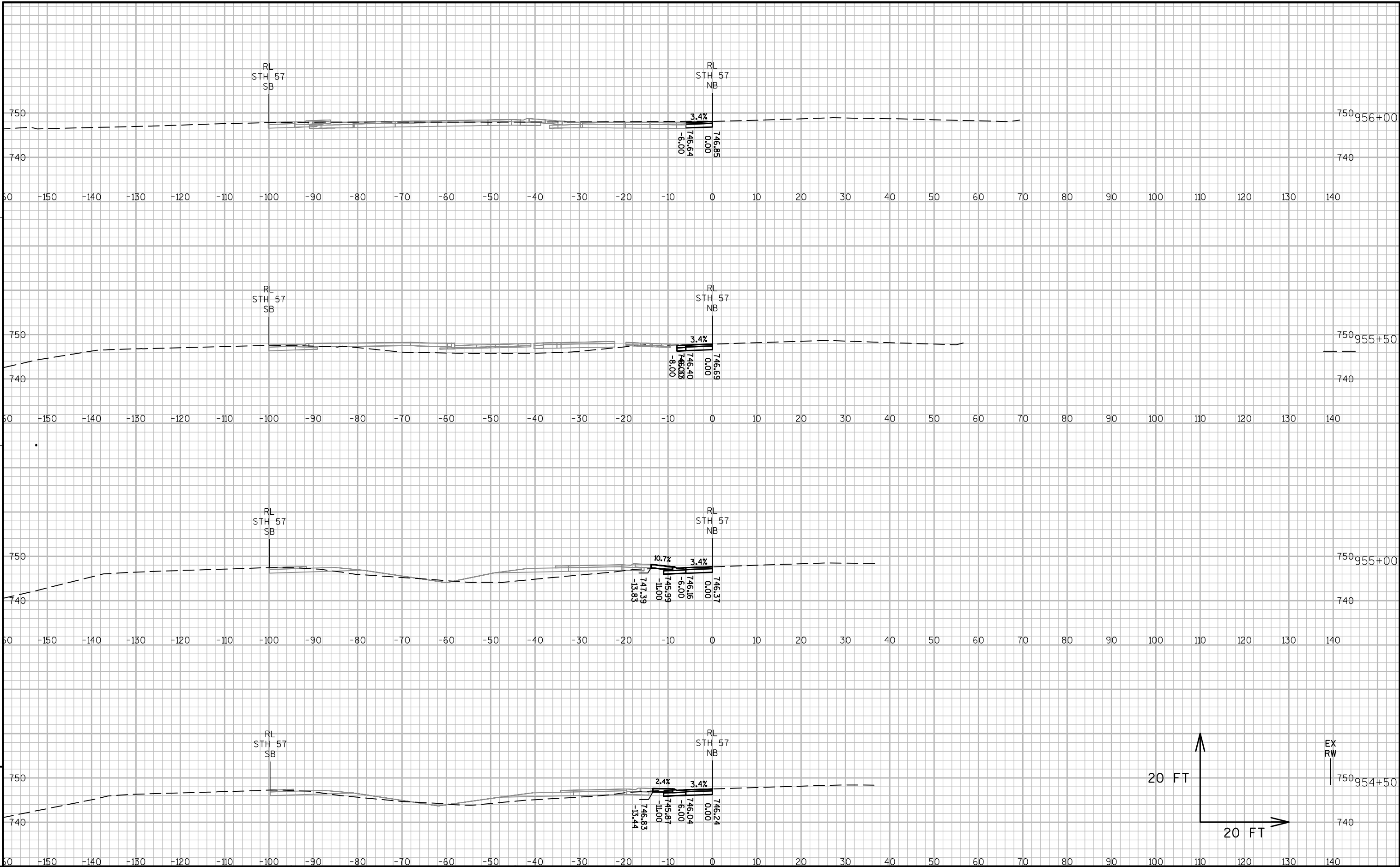
STATION	Distance	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)				Mass Ordinate
		Cut	Fill	EBS (In Cross Sections)	Structure Excavation (In Cross Sections)	Cut	Fill	EBS	Structure Excavation	Cut	Fill	EBS	Structure Excavation	
OSS+08	AH 0.00	0.00	18.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OSS+10	2.43	0.00	22.06	0.00	0.00	0.00	1.83	0.00	0.00	0.00	1.83	0.00	0.00	-1.83
OSS+20	10.00	0.00	23.31	0.00	0.00	0.00	8.40	0.00	0.00	0.00	10.23	0.00	0.00	-10.23
OSS+30	10.00	0.00	12.40	0.00	0.00	0.00	6.61	0.00	0.00	0.00	16.84	0.00	0.00	-16.84
OSS+40	10.00	4.24	2.75	0.00	0.00	0.79	2.81	0.00	0.00	0.79	19.65	0.00	0.00	-18.86
OSS+50	10.00	12.51	0.00	0.00	0.00	3.10	0.51	0.00	0.00	3.89	20.15	0.00	0.00	-16.27
OSS+60	10.00	10.61	0.00	0.00	0.00	4.28	0.00	0.00	0.00	8.17	20.15	0.00	0.00	-11.99
OSS+69	BK 9.11	8.84	0.00	0.00	0.00	3.28	0.00	0.00	0.00	11.45	20.15	0.00	0.00	-8.71
Column totals						11.45	20.15	0.00	0.00					

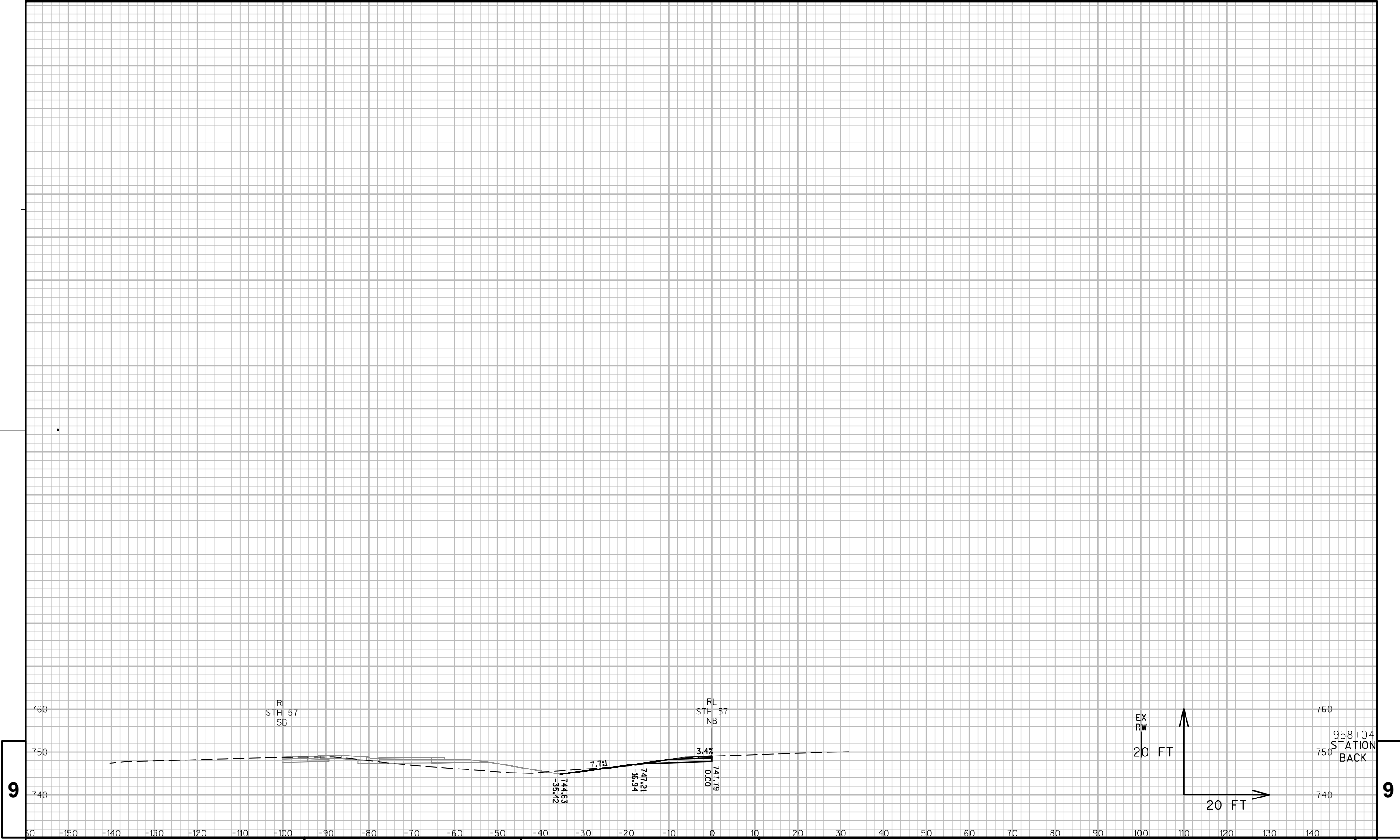
PROJECT ID 4430-15-71
DIVISION 2 - SIDEWALK NORTH

STATION	Distance	AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)				Mass Ordinate
		Cut	Fill	EBS (In Cross Sections)	Structure Excavation (In Cross Sections)	Cut	Fill	EBS	Structure Excavation	Cut	Fill	EBS	Structure Excavation	
OSN+08	AH 0.00	6.22	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OSN+10	1.96	7.24	0.81	0.00	0.00	0.49	0.05	0.00	0.00	0.49	0.05	0.00	0.00	0.44
OSN+20	10.00	21.96	0.00	0.00	0.00	5.41	0.15	0.00	0.00	5.90	0.20	0.00	0.00	5.69
OSN+30	10.00	25.10	0.00	0.00	0.00	8.71	0.00	0.00	0.00	14.61	0.20	0.00	0.00	14.41
OSN+40	10.00	17.65	0.00	0.00	0.00	7.92	0.00	0.00	0.00	22.53	0.20	0.00	0.00	22.33
OSN+50	10.00	13.65	0.00	0.00	0.00	5.80	0.00	0.00	0.00	28.32	0.20	0.00	0.00	28.12
OSN+56	BK 5.64	19.09	0.00	0.00	0.00	3.42	0.00	0.00	0.00	31.74	0.20	0.00	0.00	31.54
Column totals						31.74	0.20	0.00	0.00					



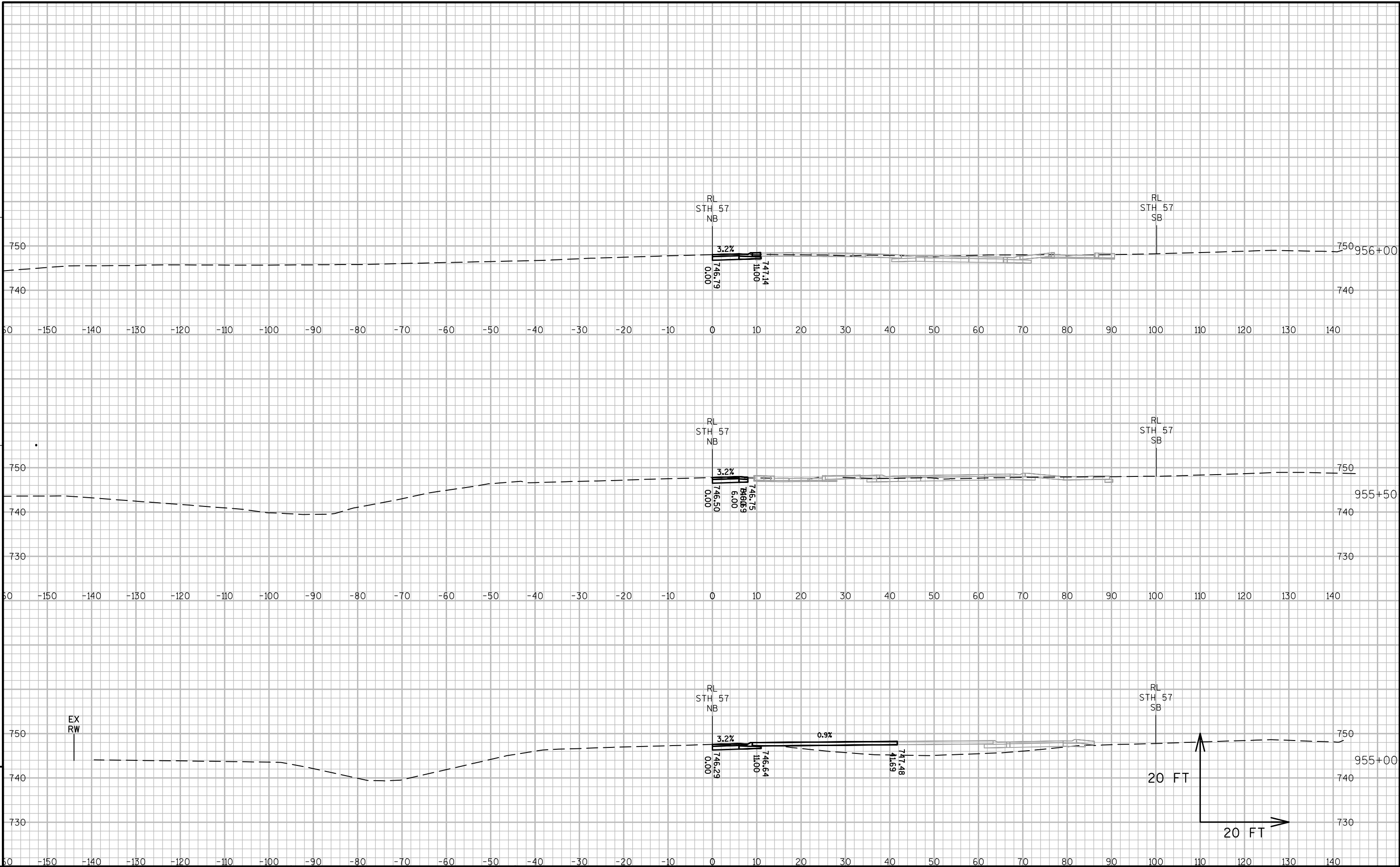


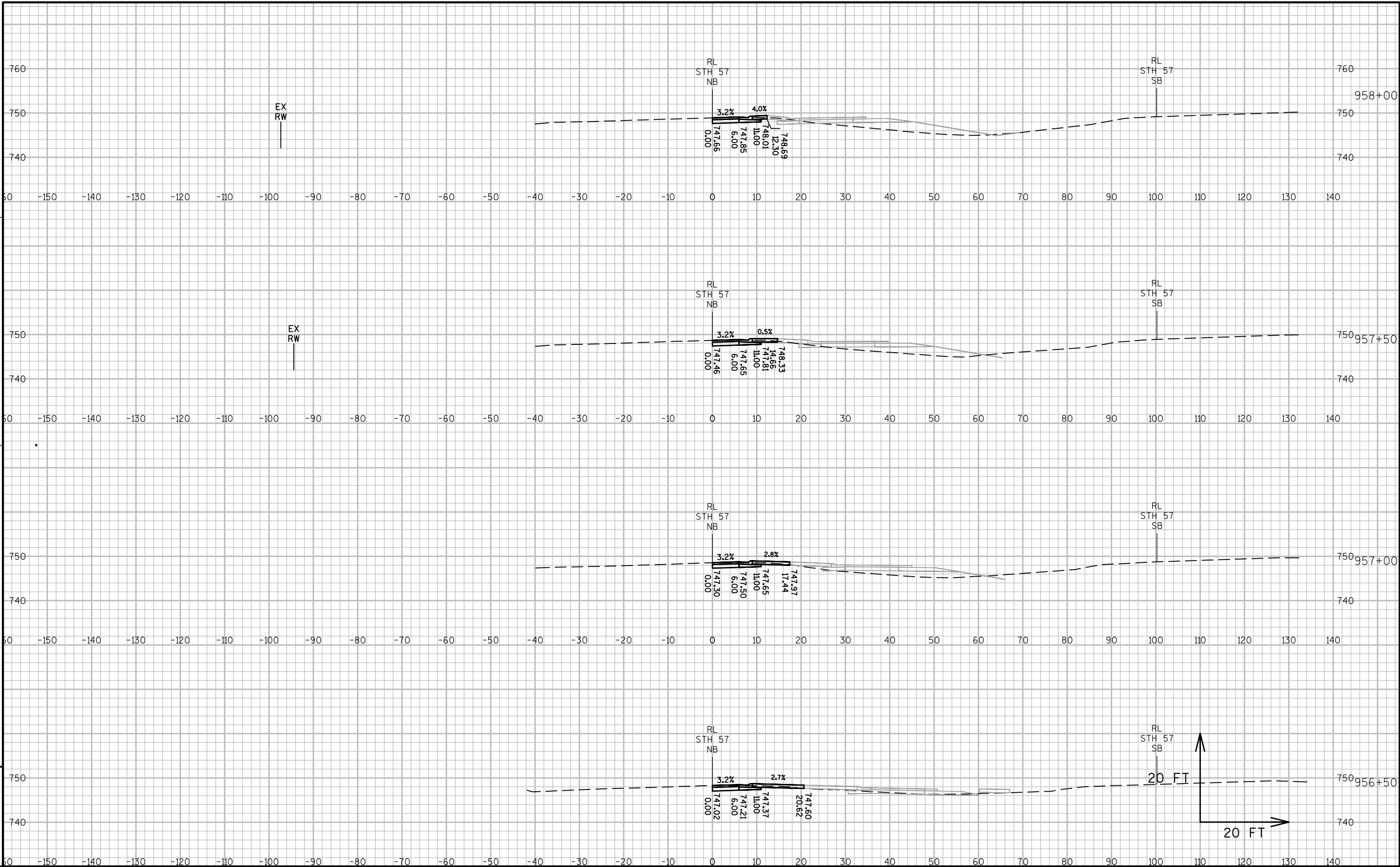


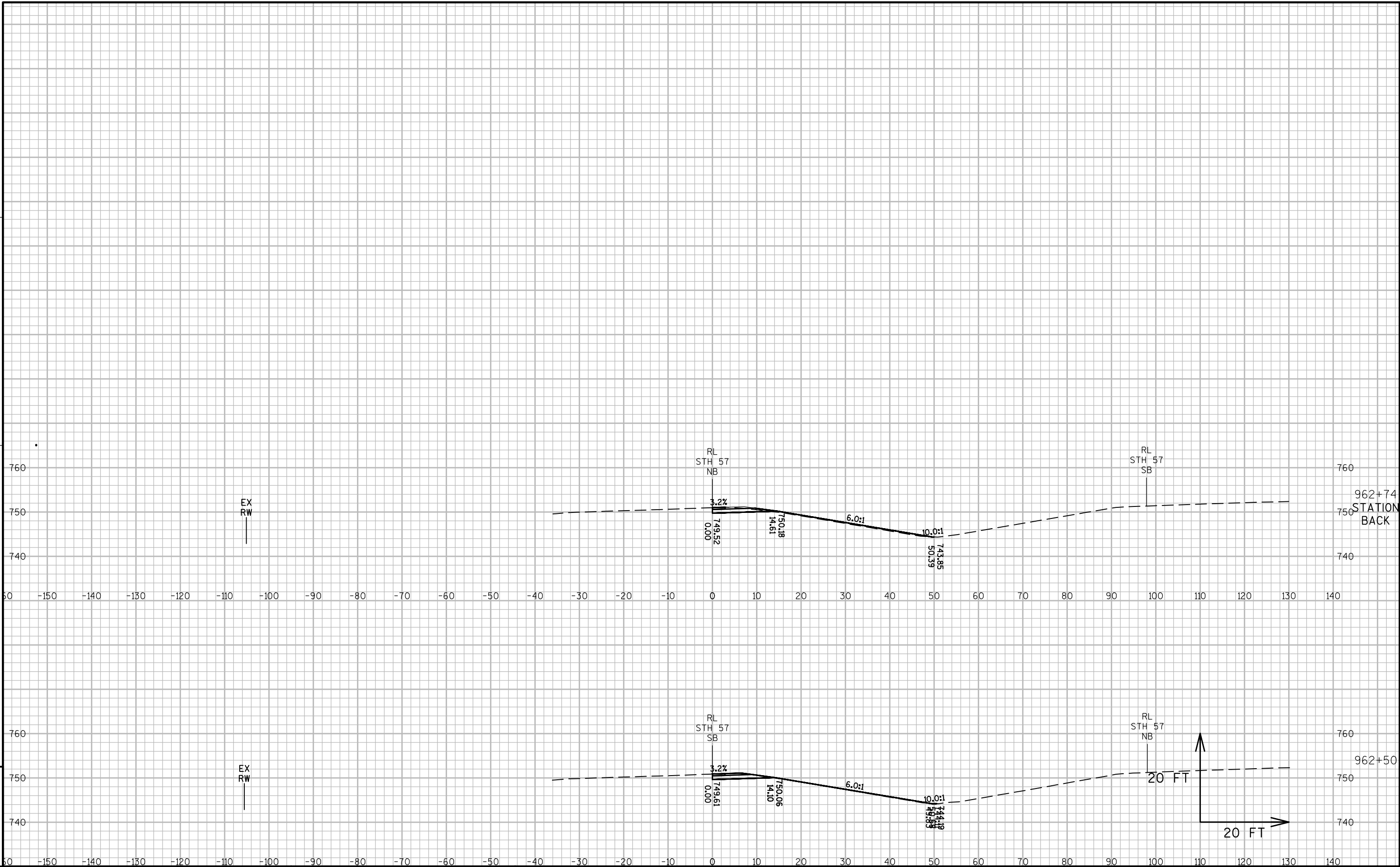


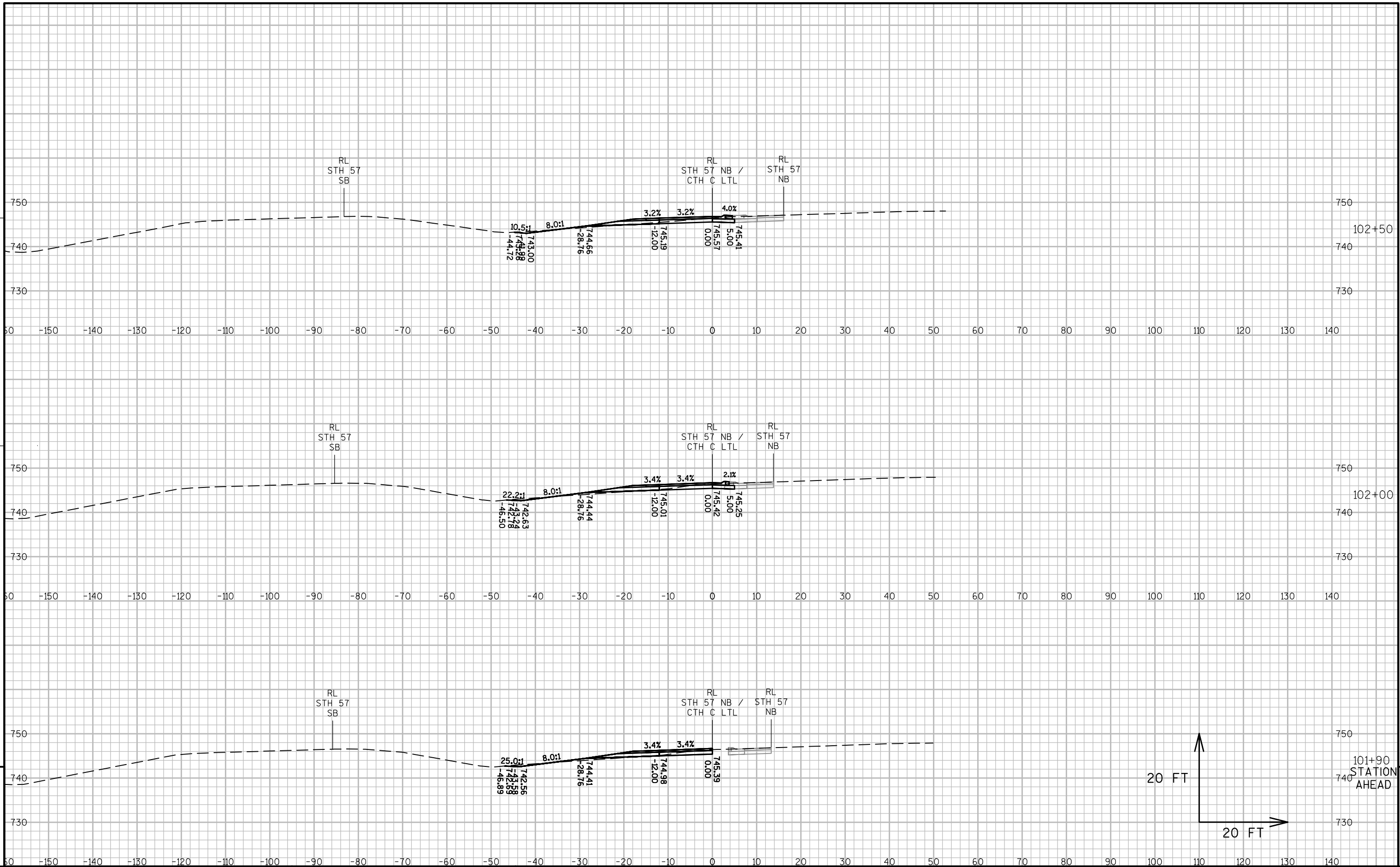
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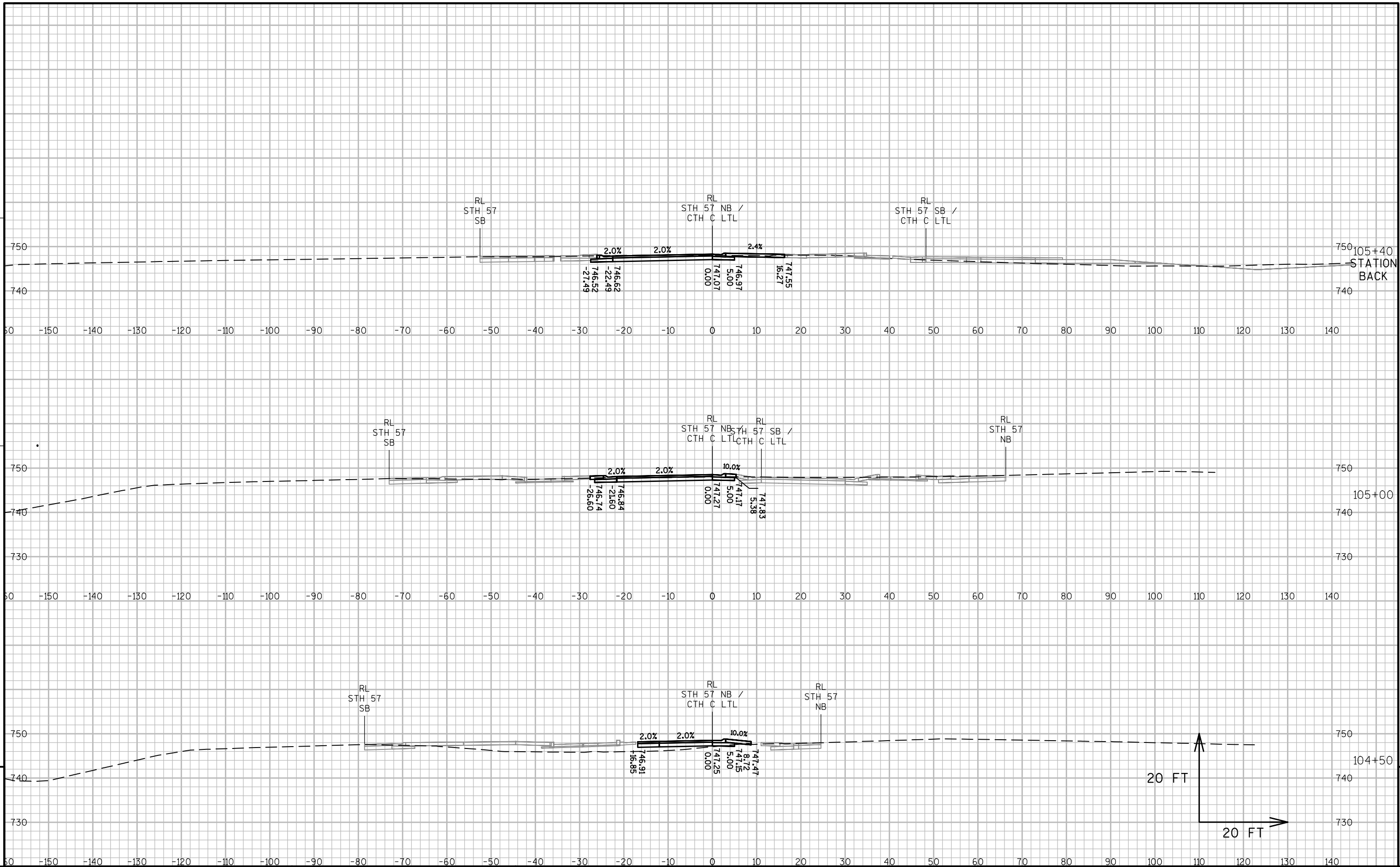
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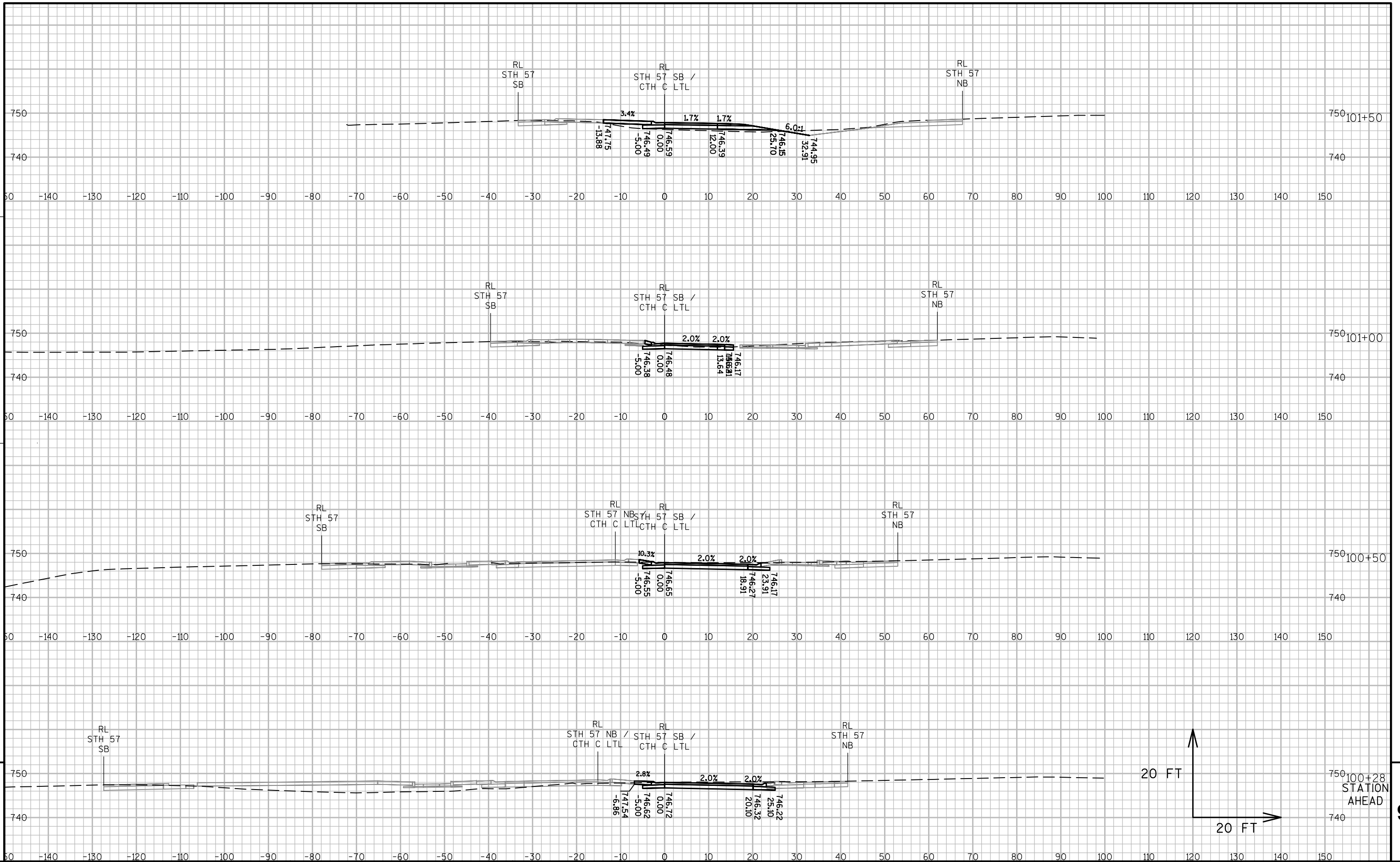


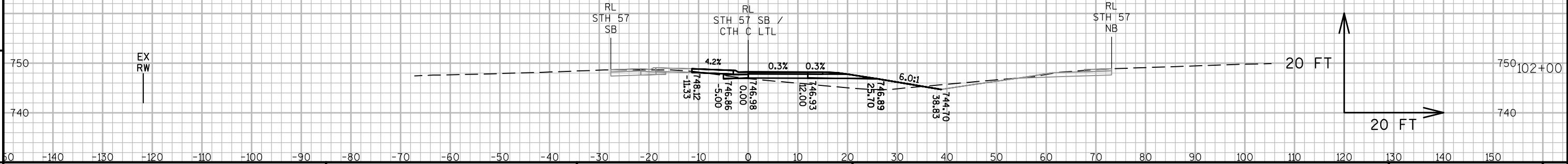
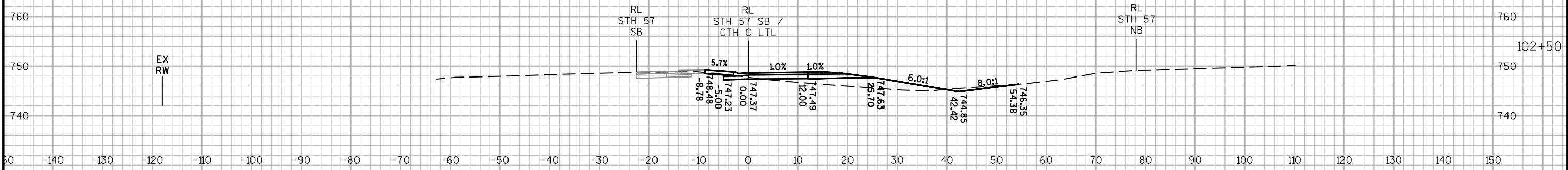
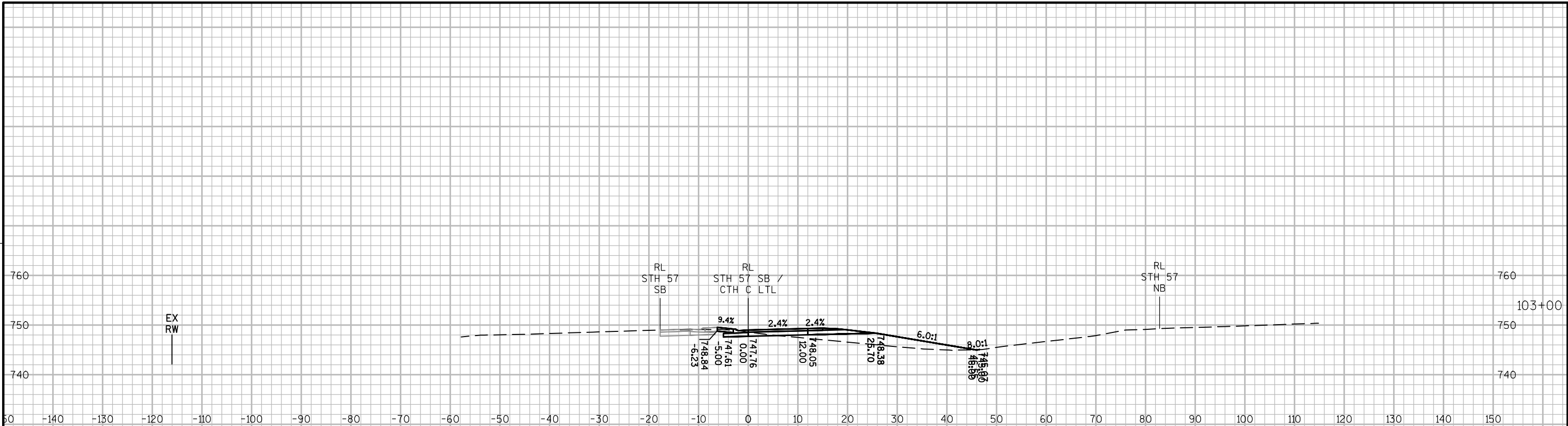


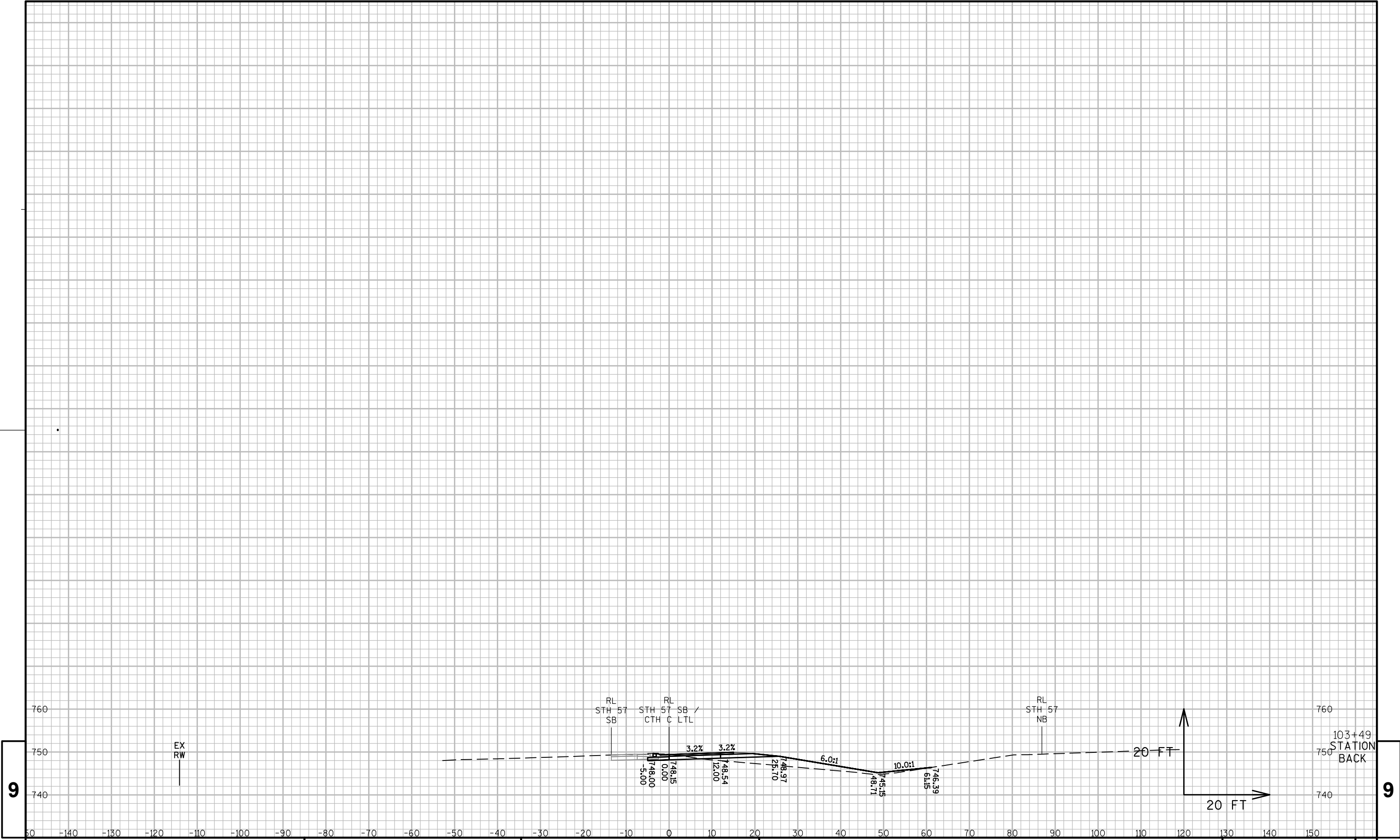






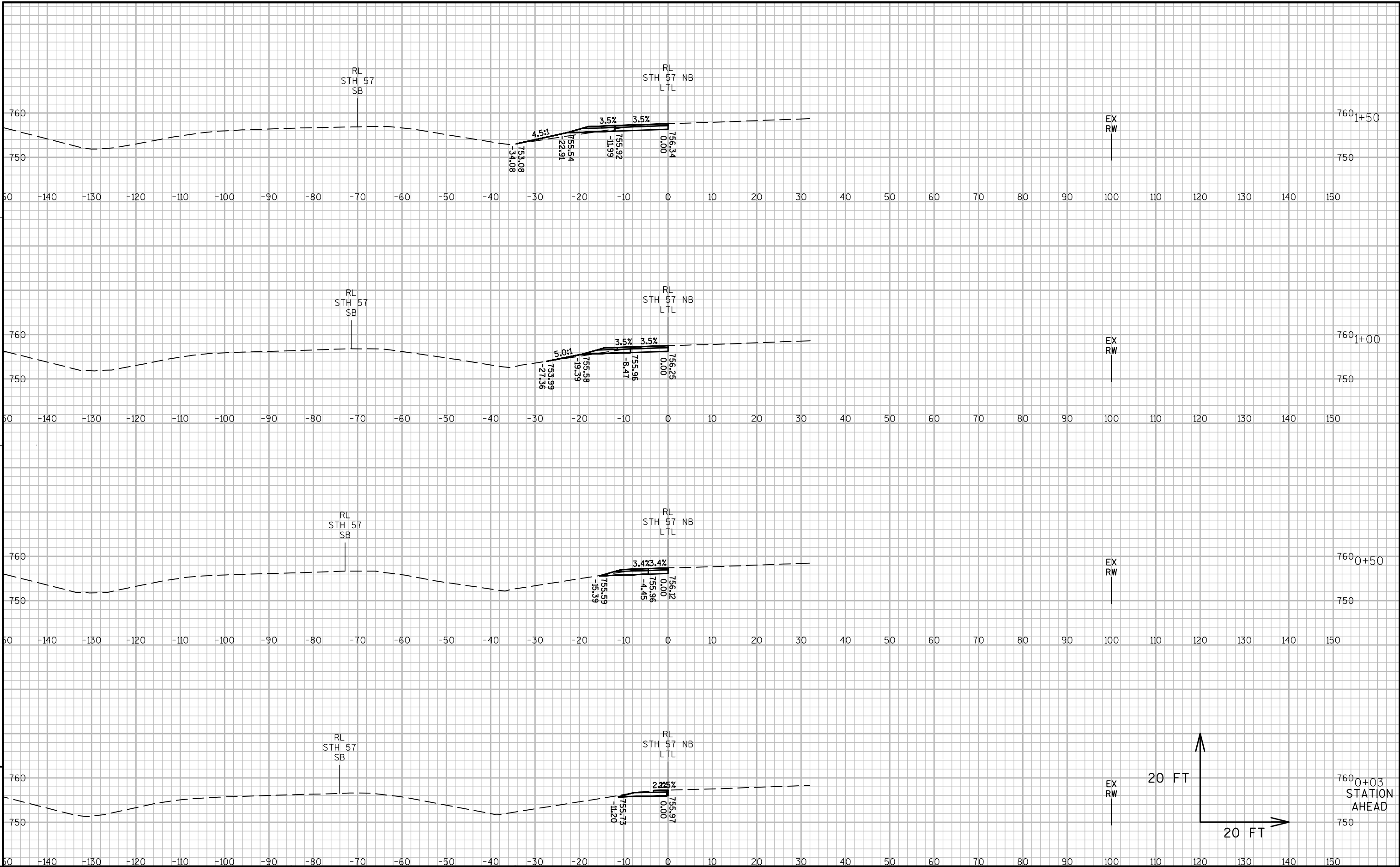


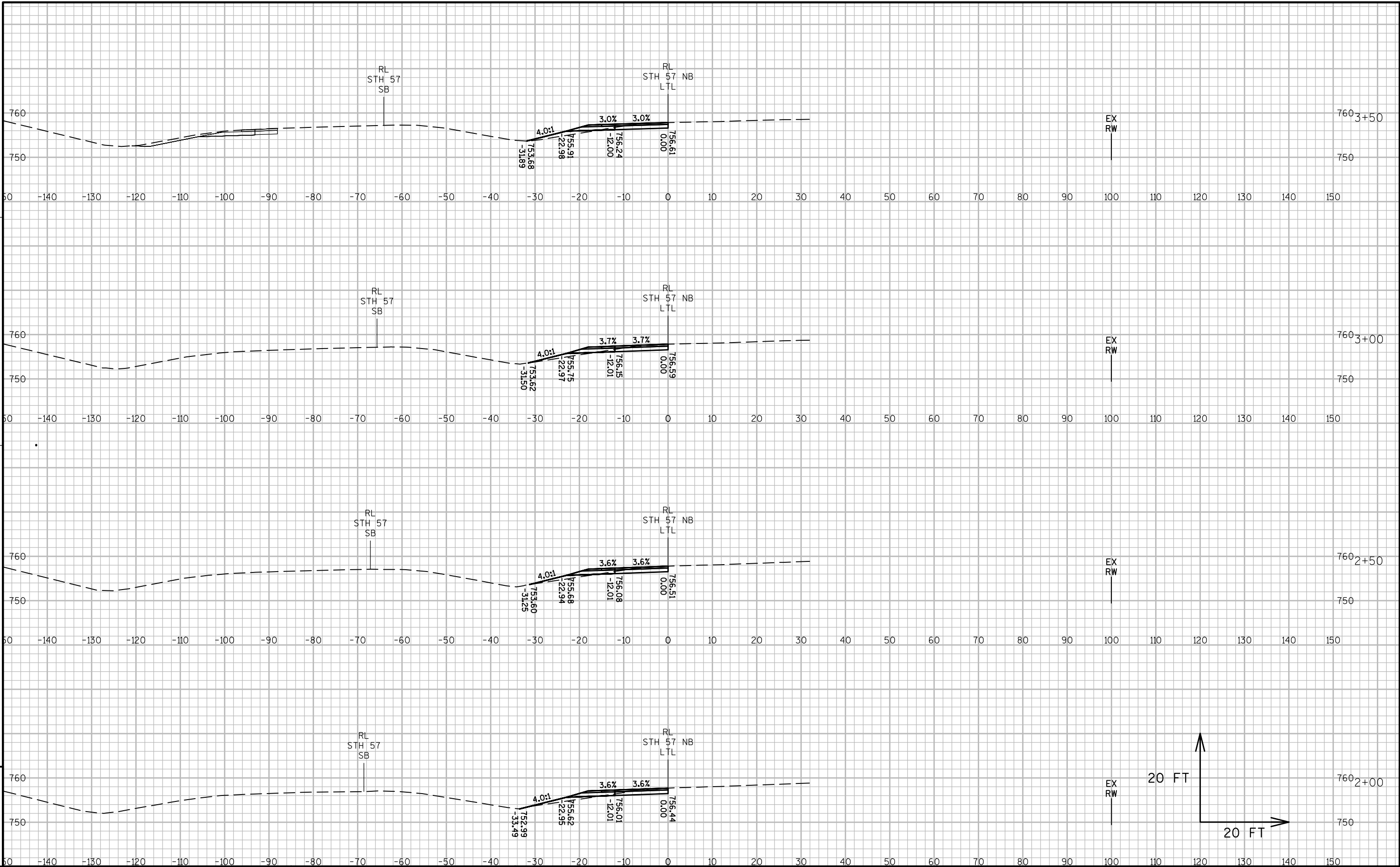


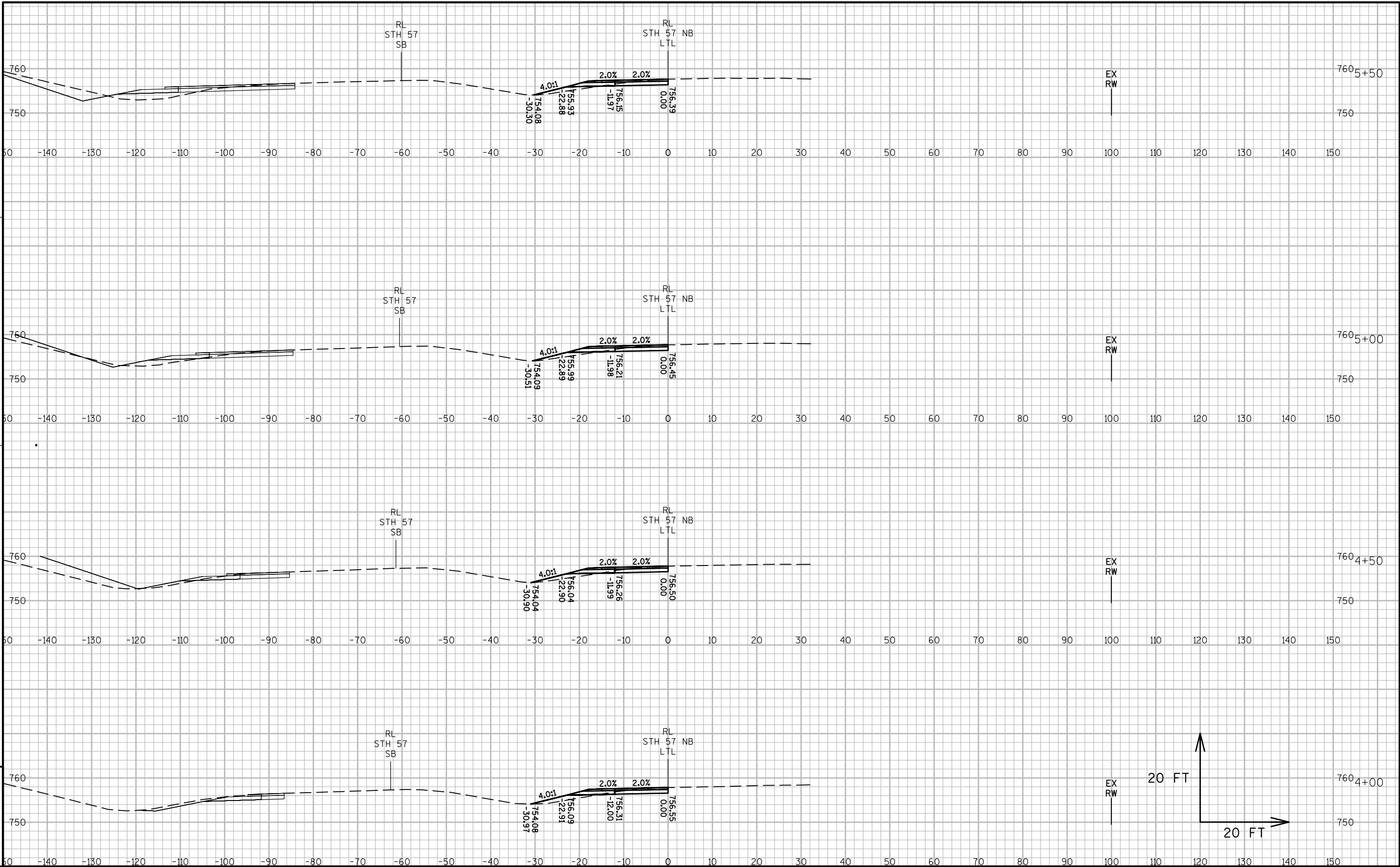


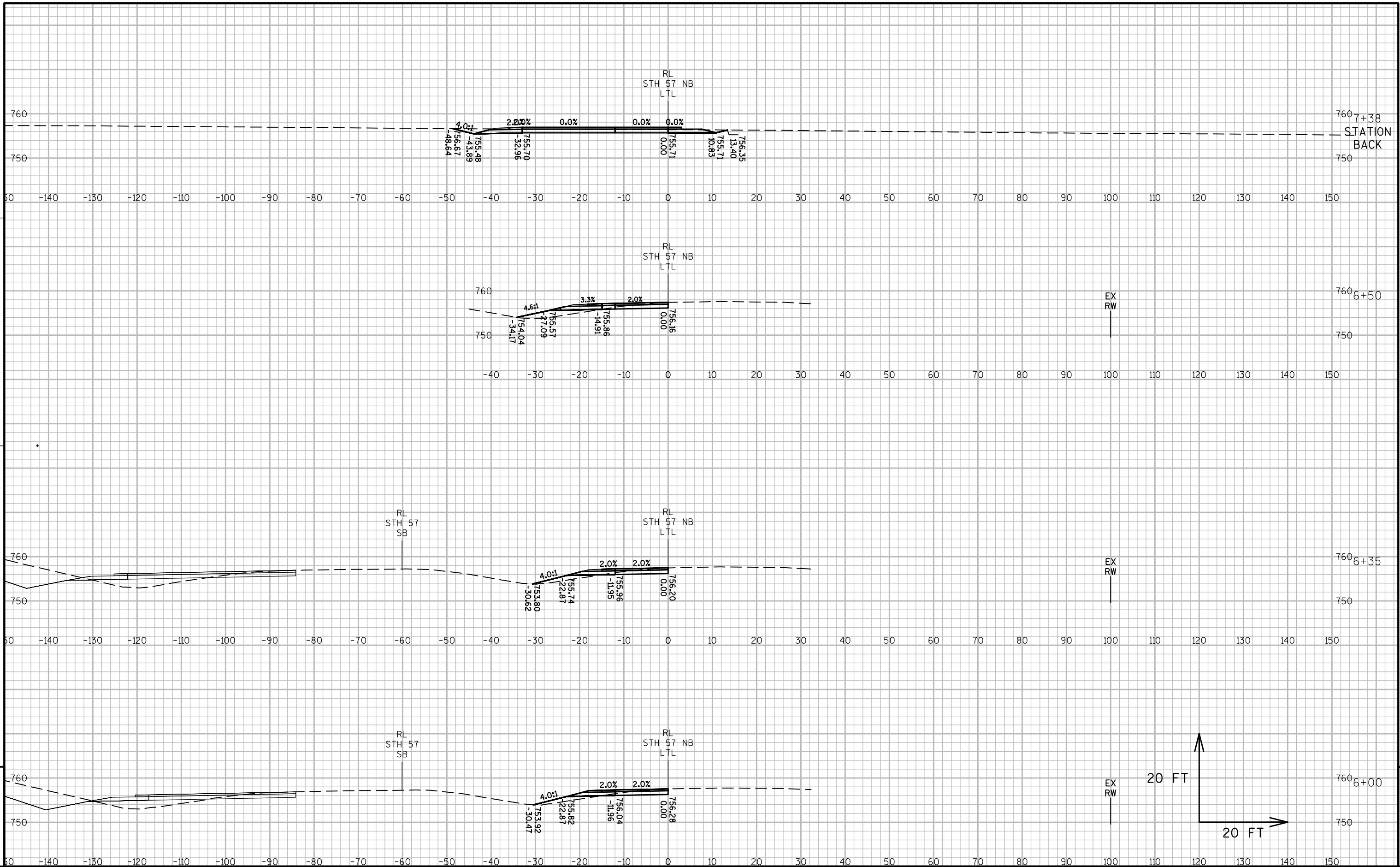
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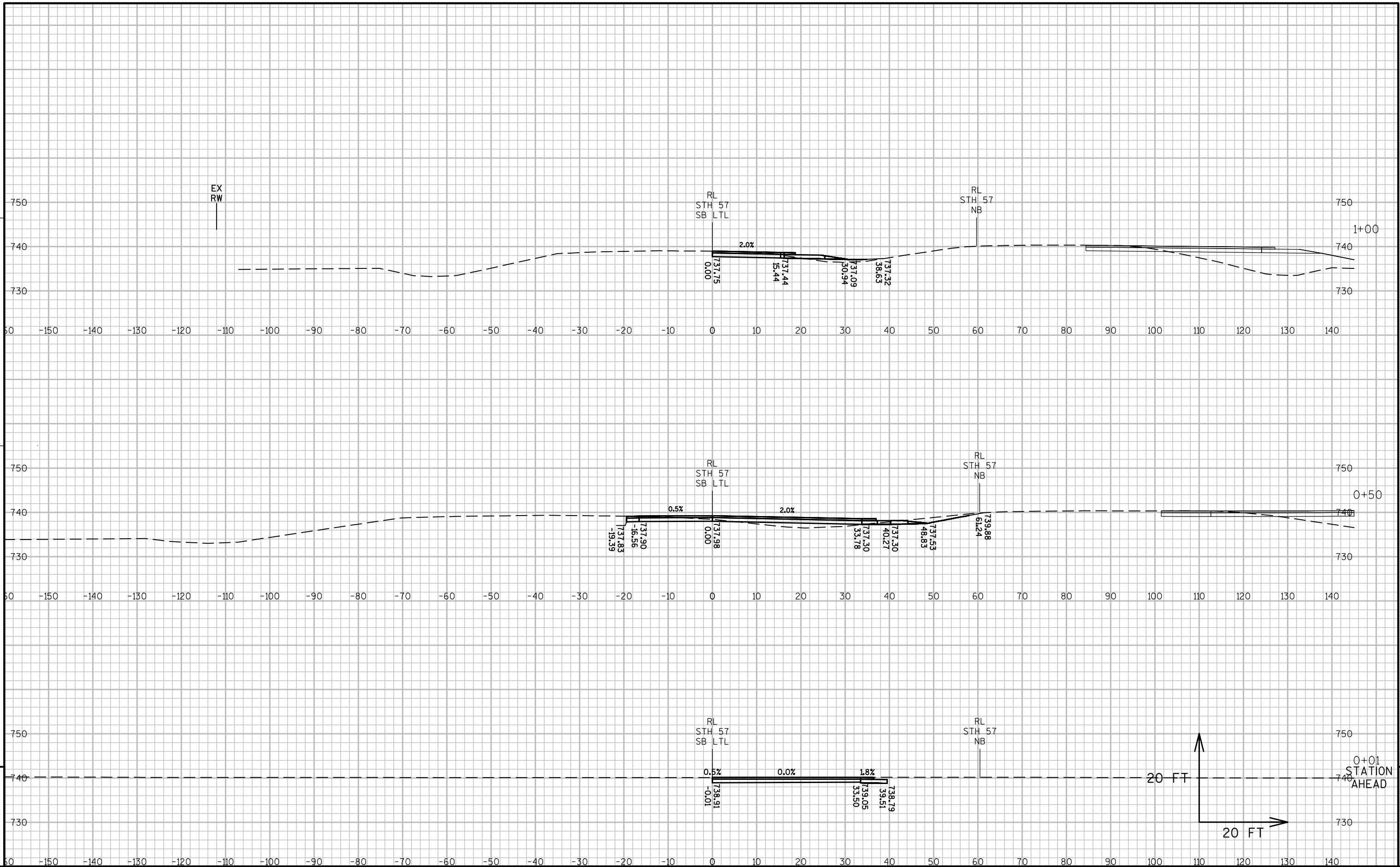
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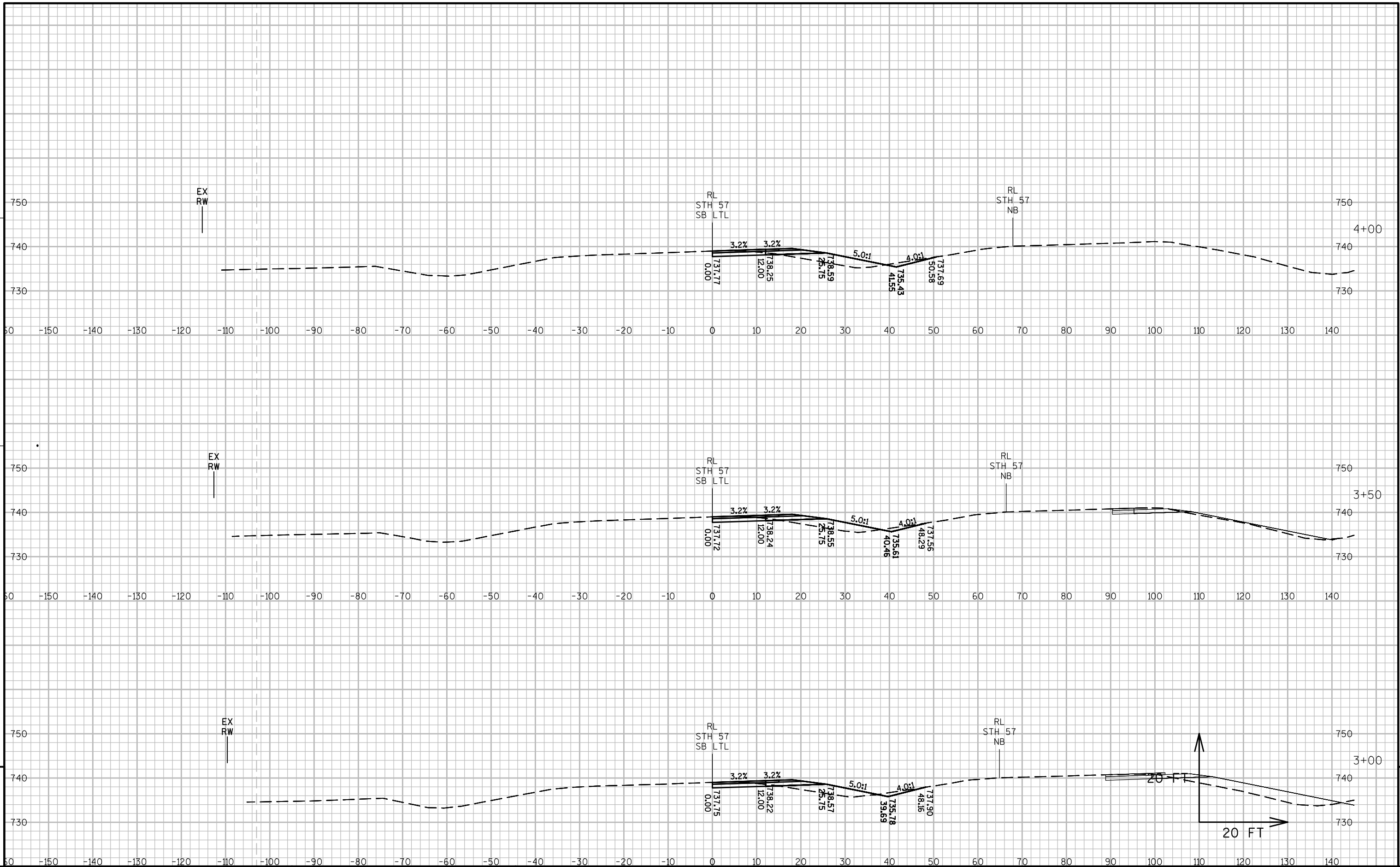


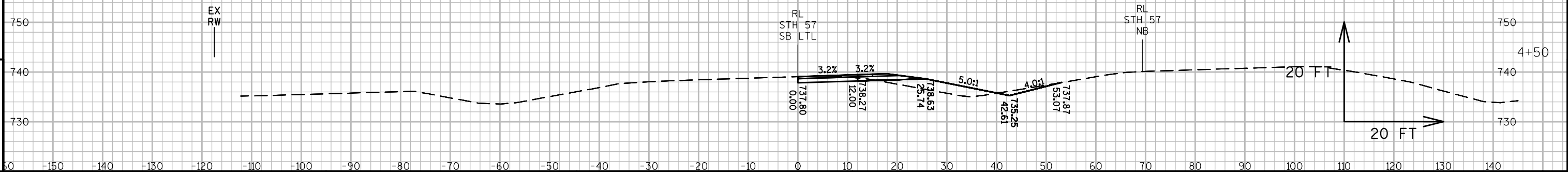
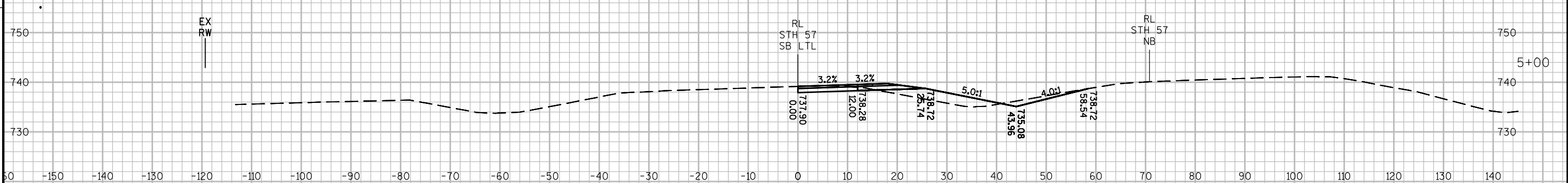


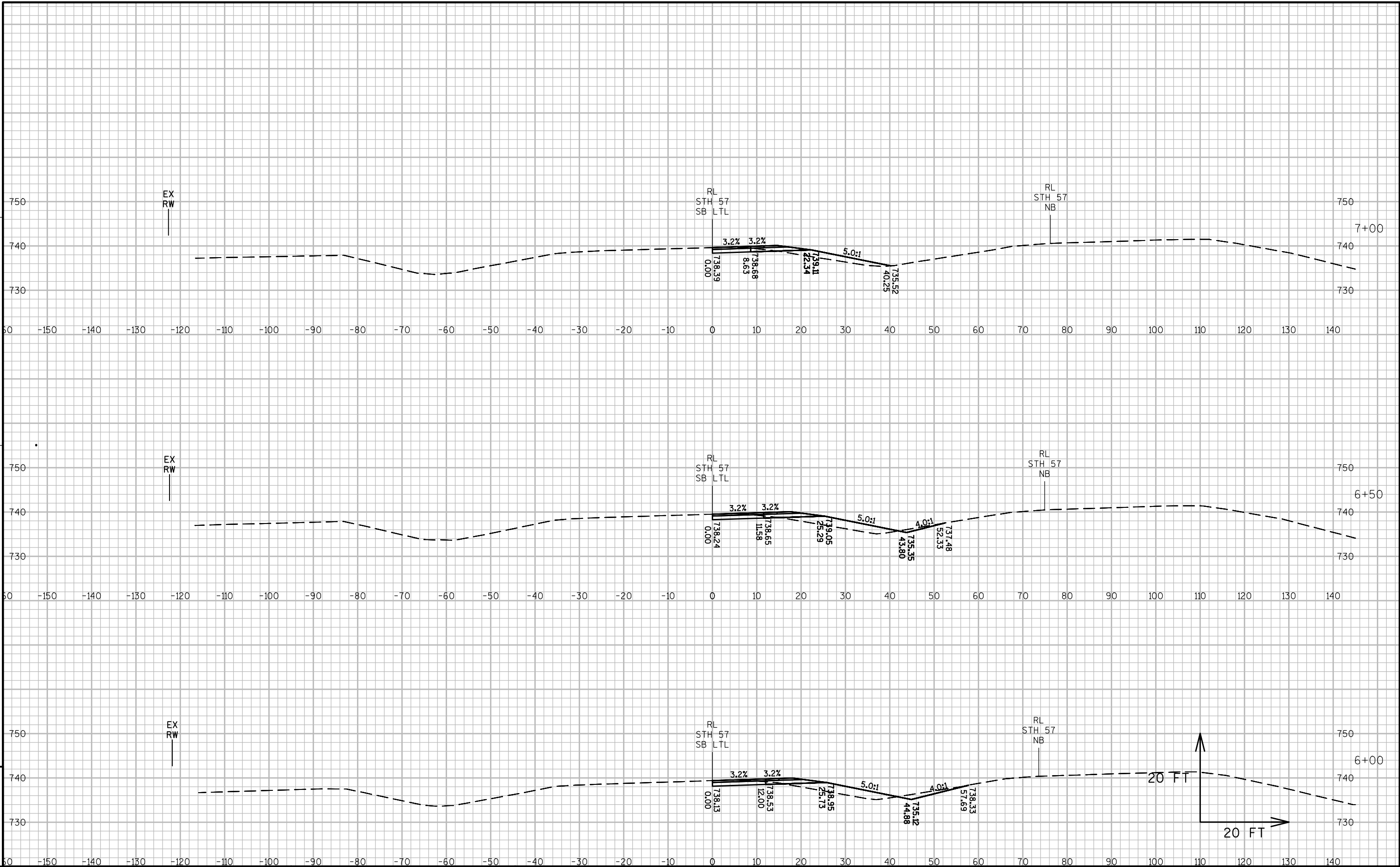


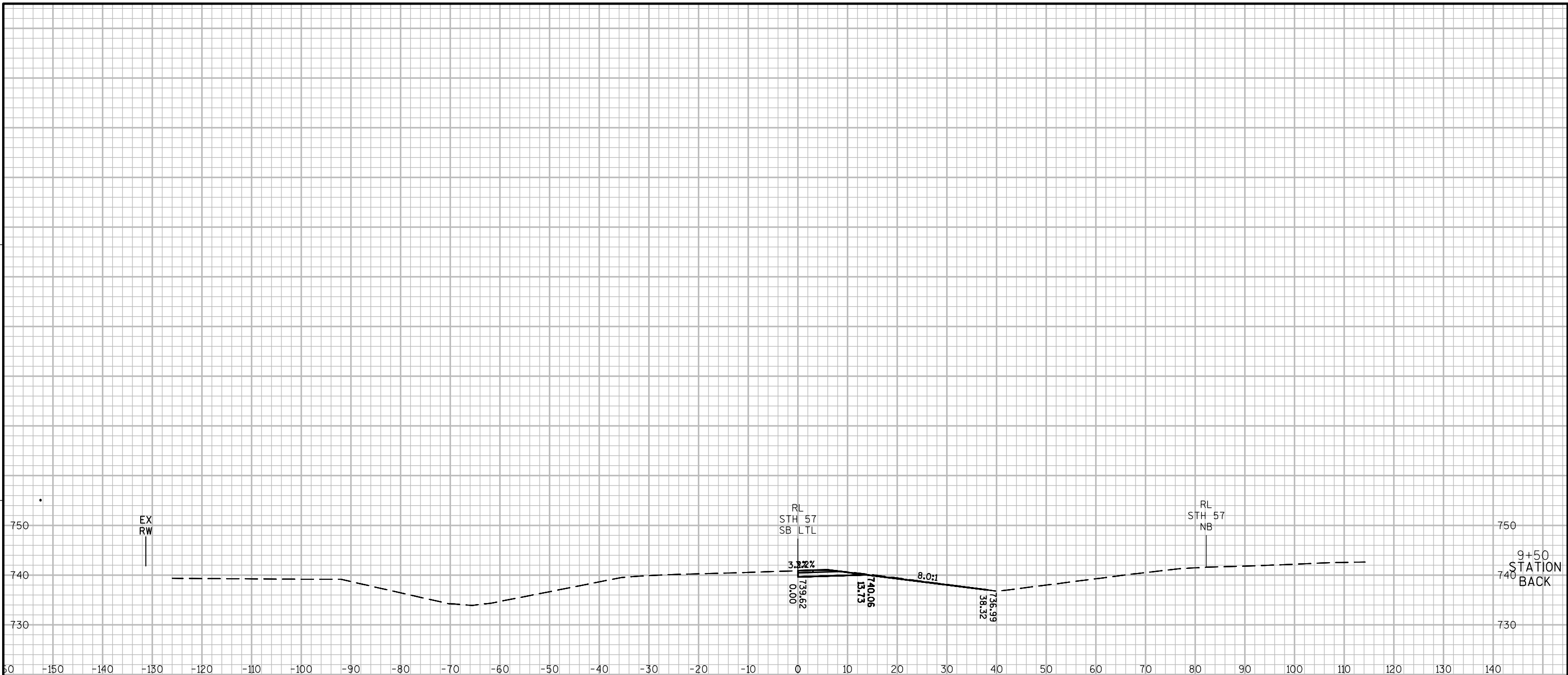


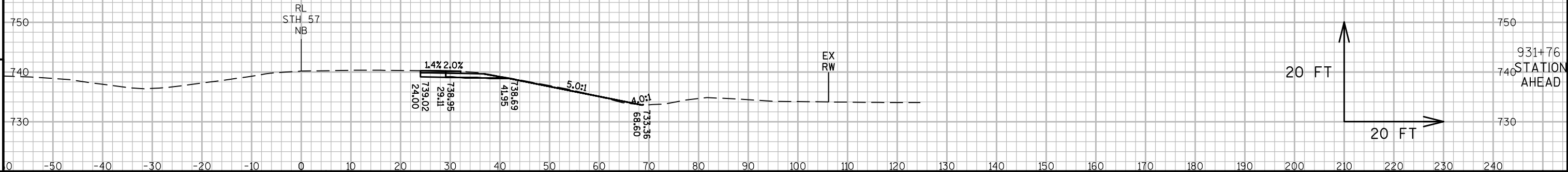
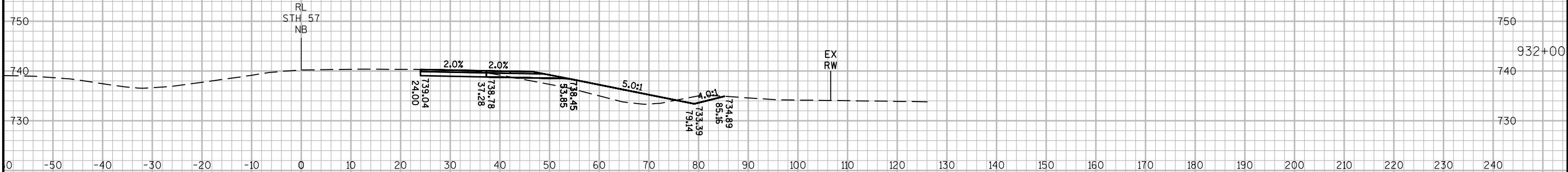
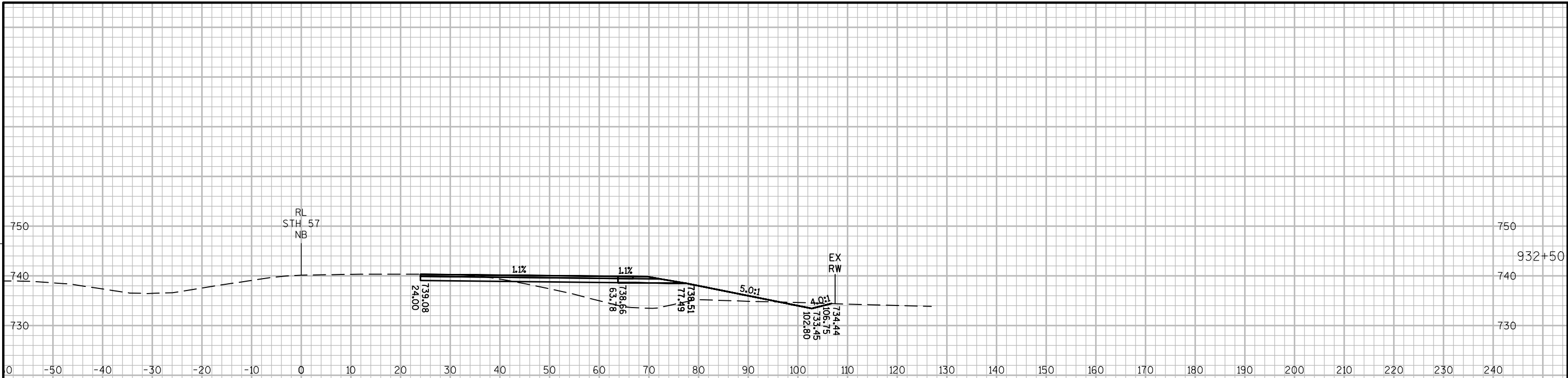


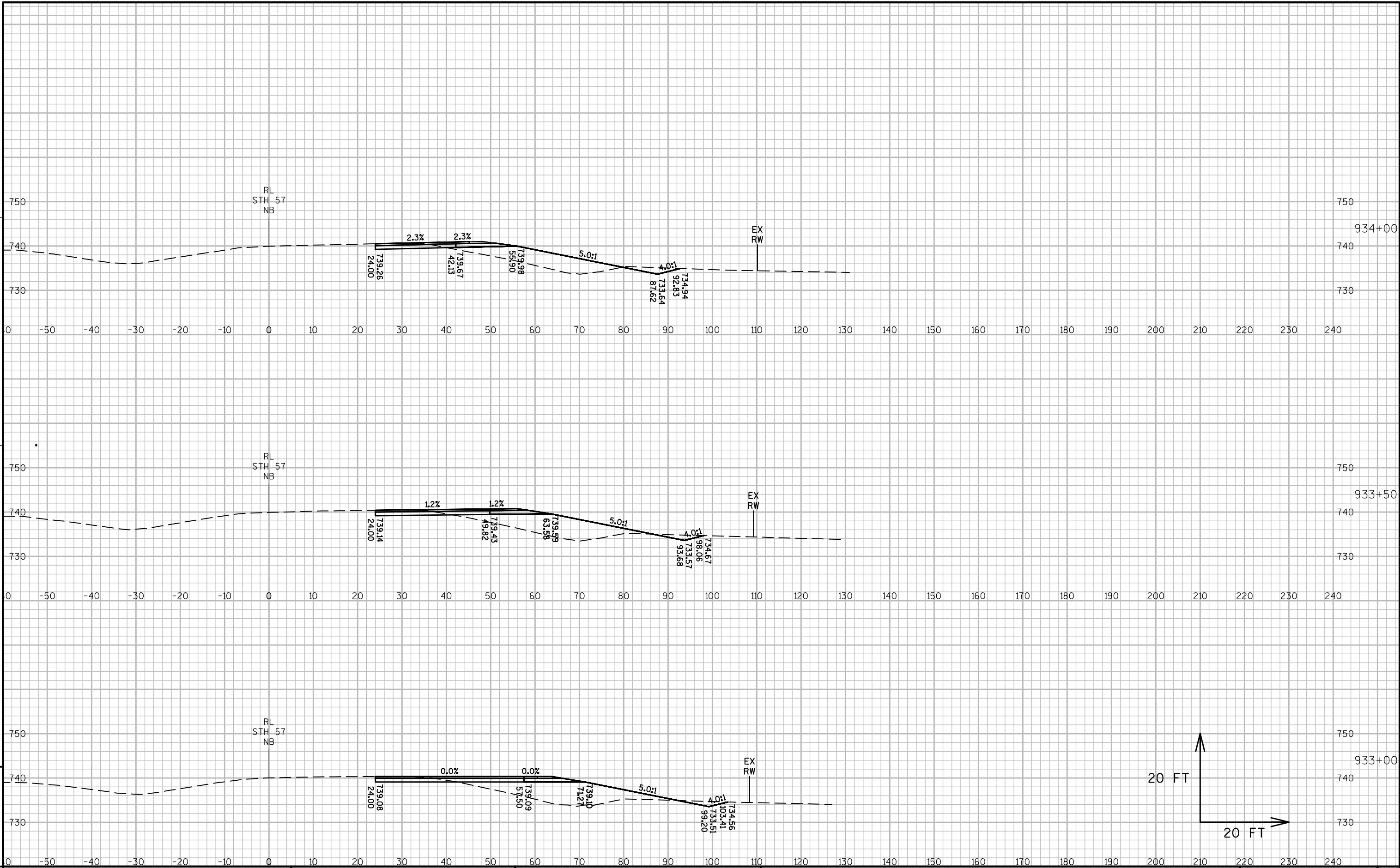




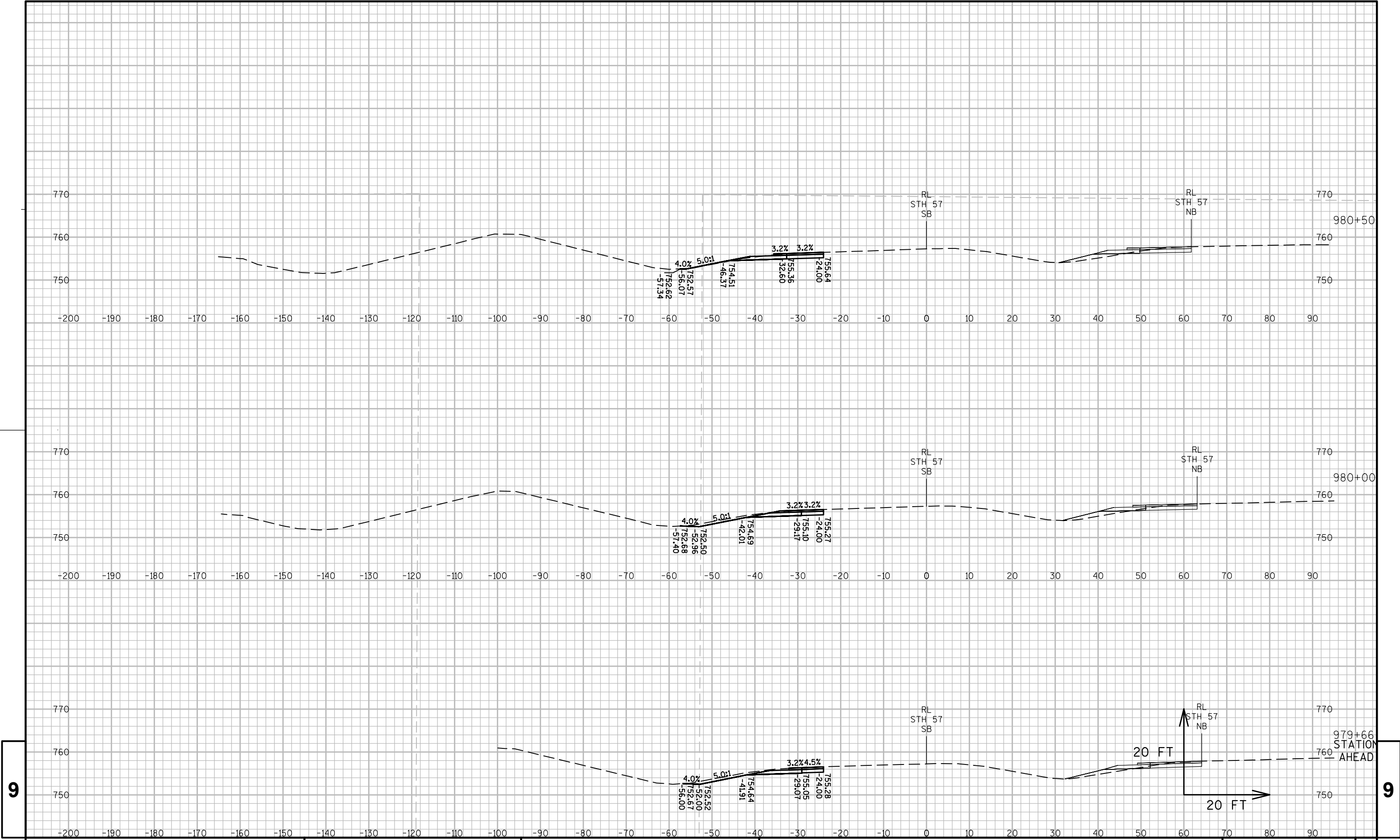






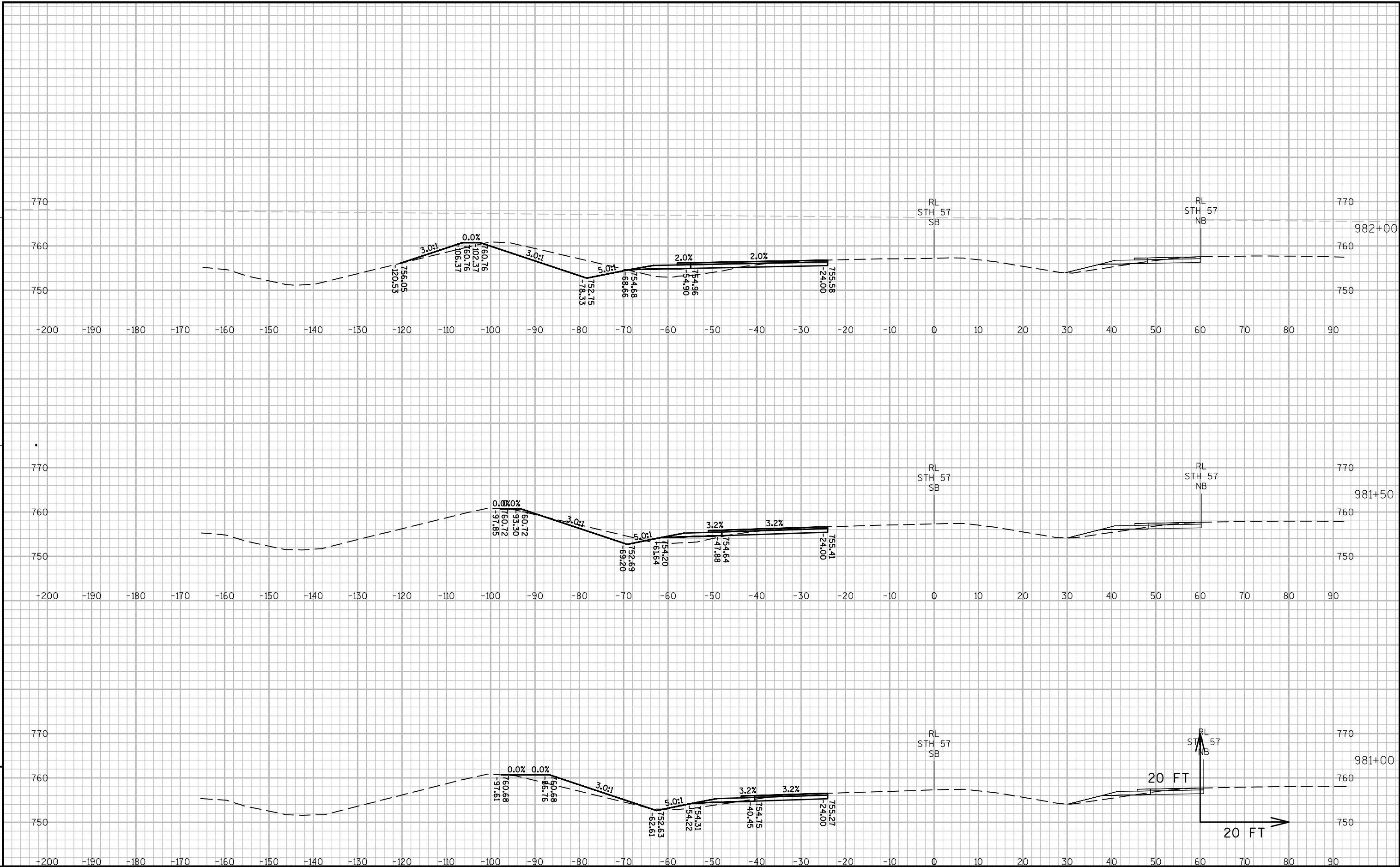


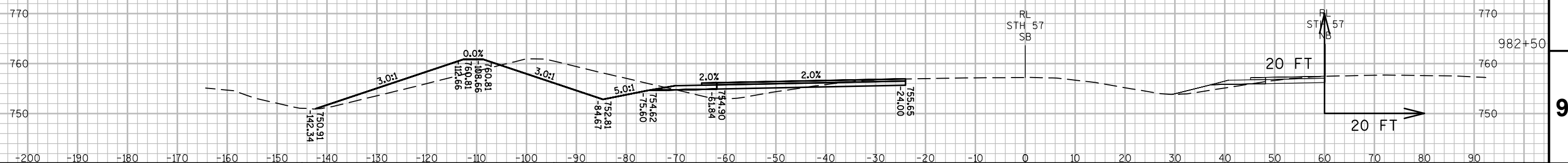
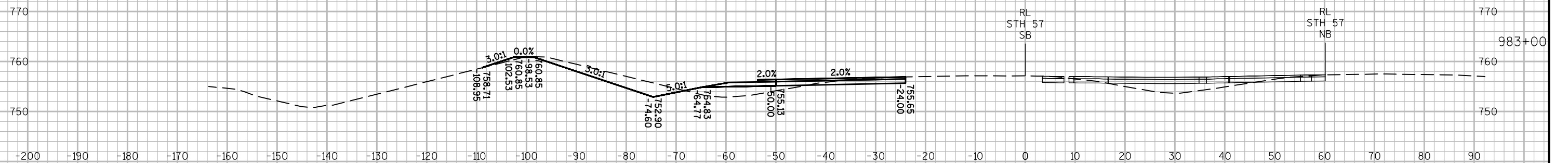
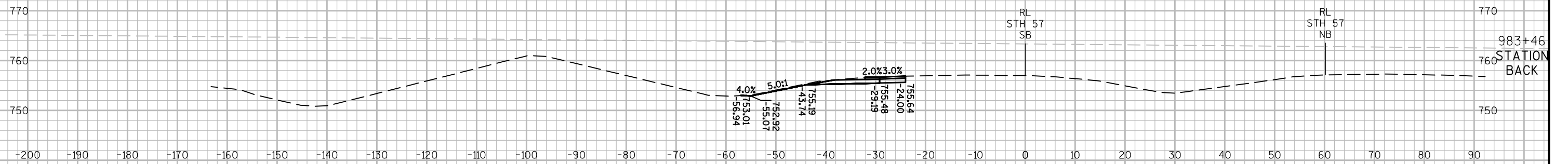




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PROJECT NO: 4430-15-71

HWY: STH 57

COUNTY: DOOR

CROSS SECTIONS: STH 57 SB LOON

SHEET

E	
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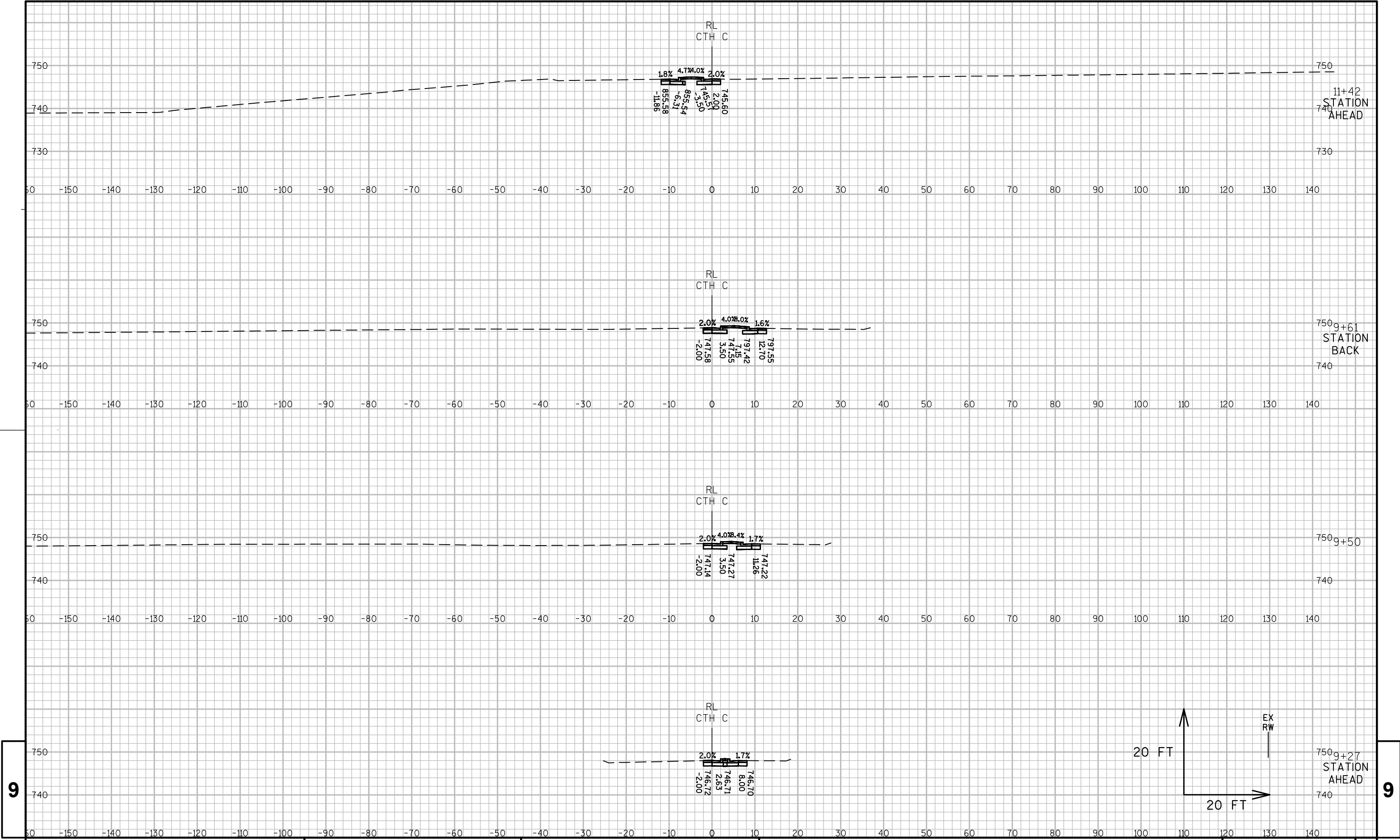
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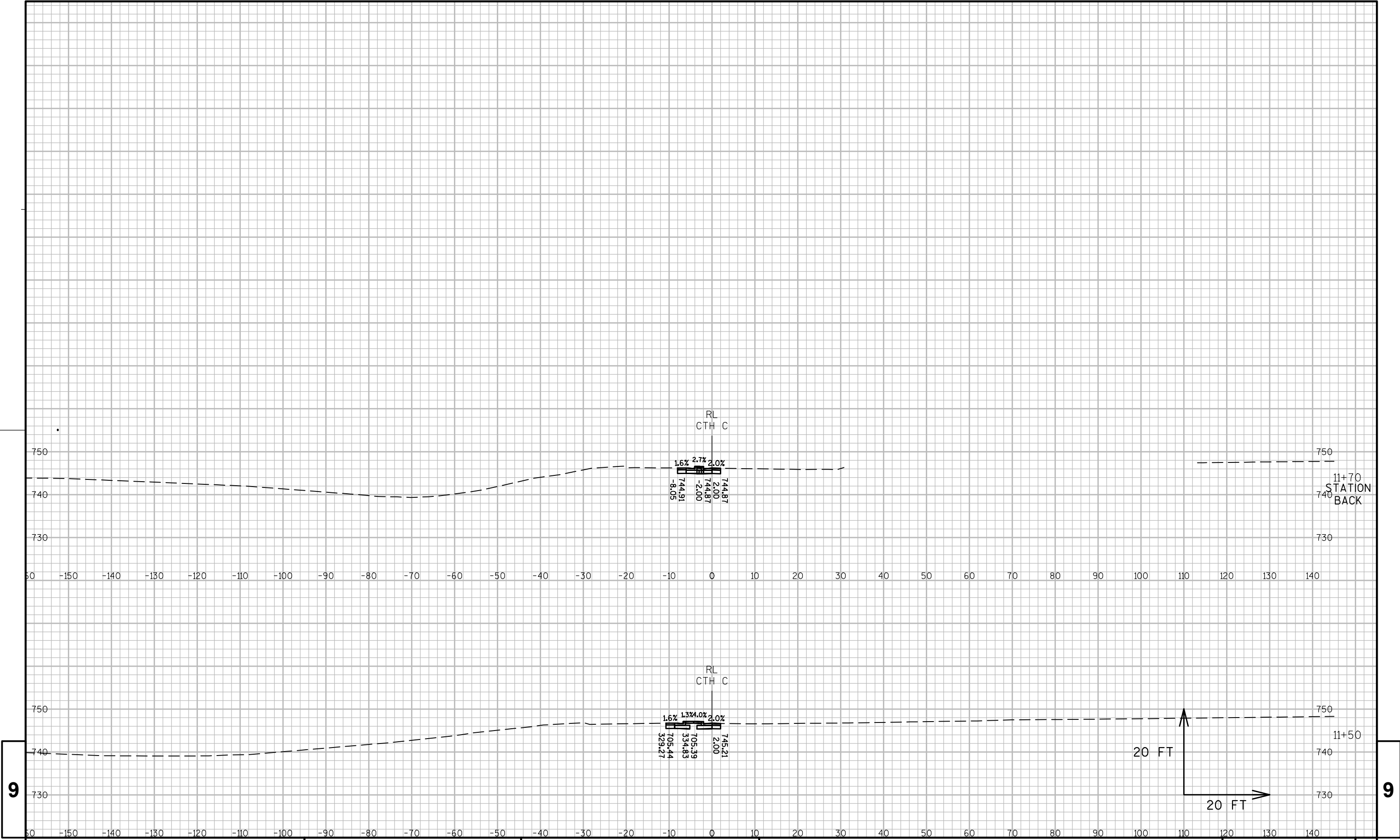
PLOT DATE : 3/11/2015 2:56 PM

PLOT BY : SPITZER, NICHOLAS J PLOT NAME :

PLOT SCALE : 1:20_XREF

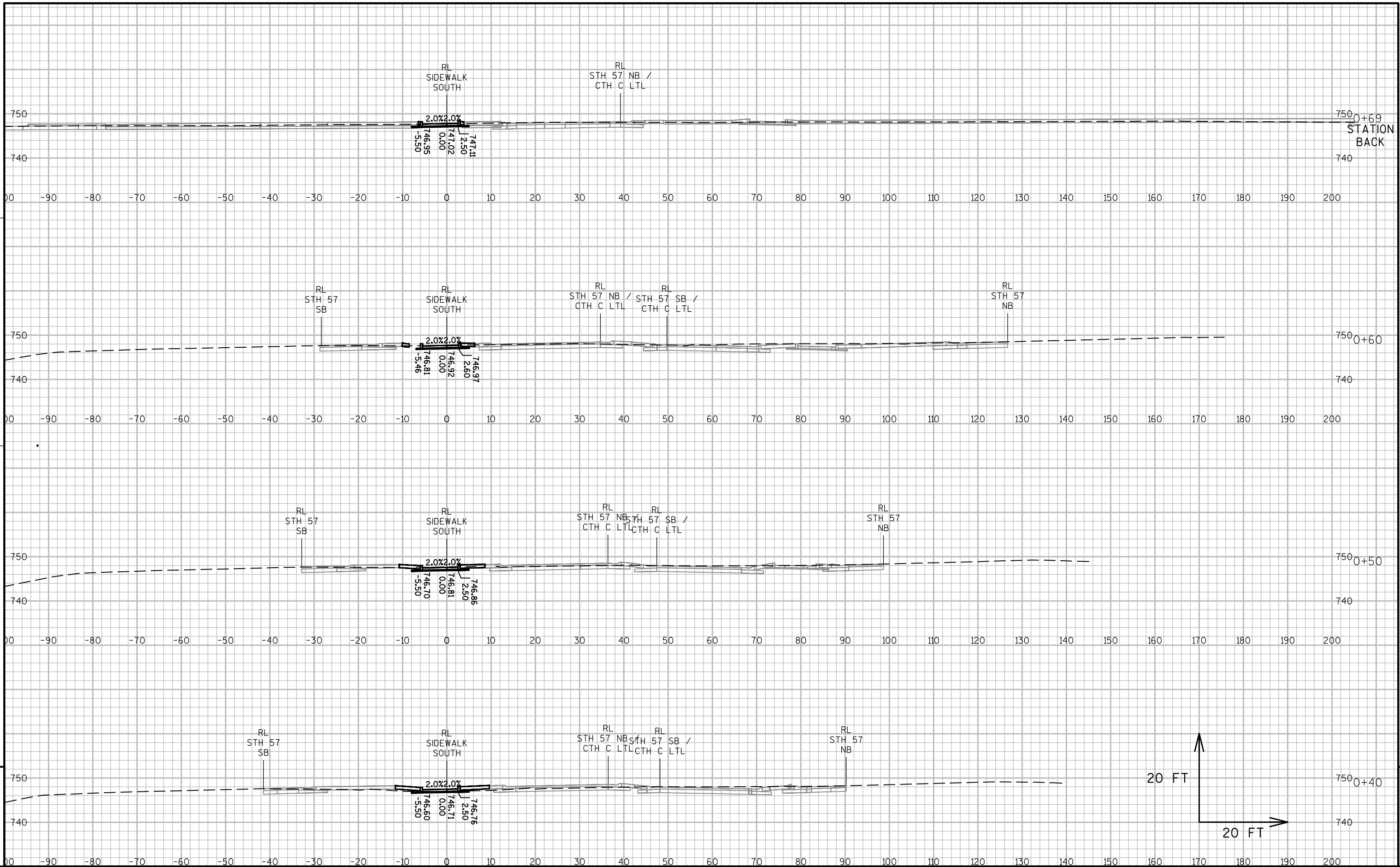
WISDOT/CADDS SHEET 49

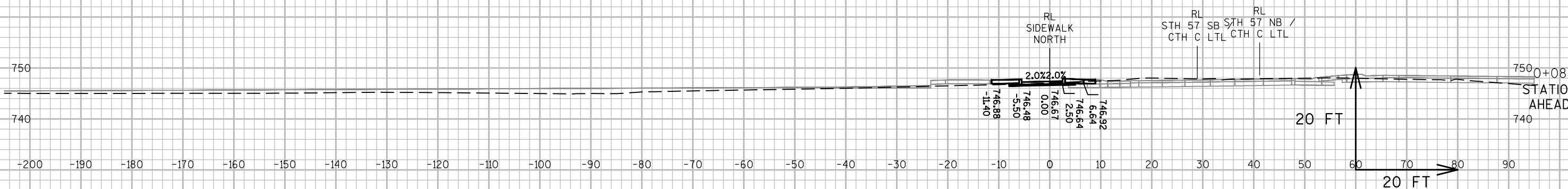
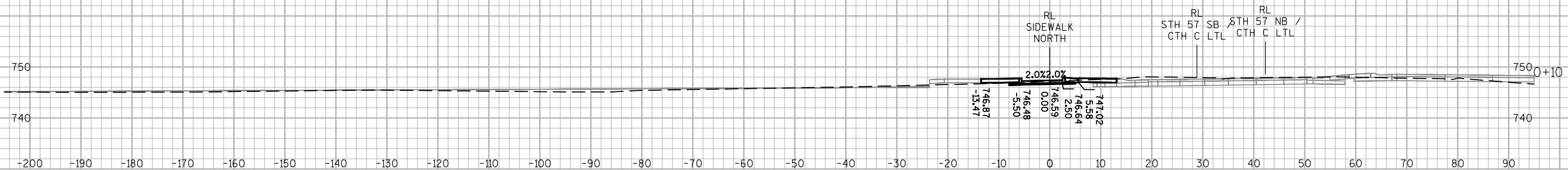
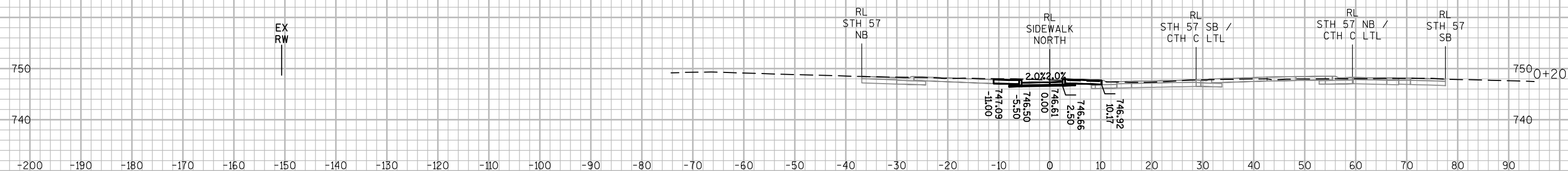


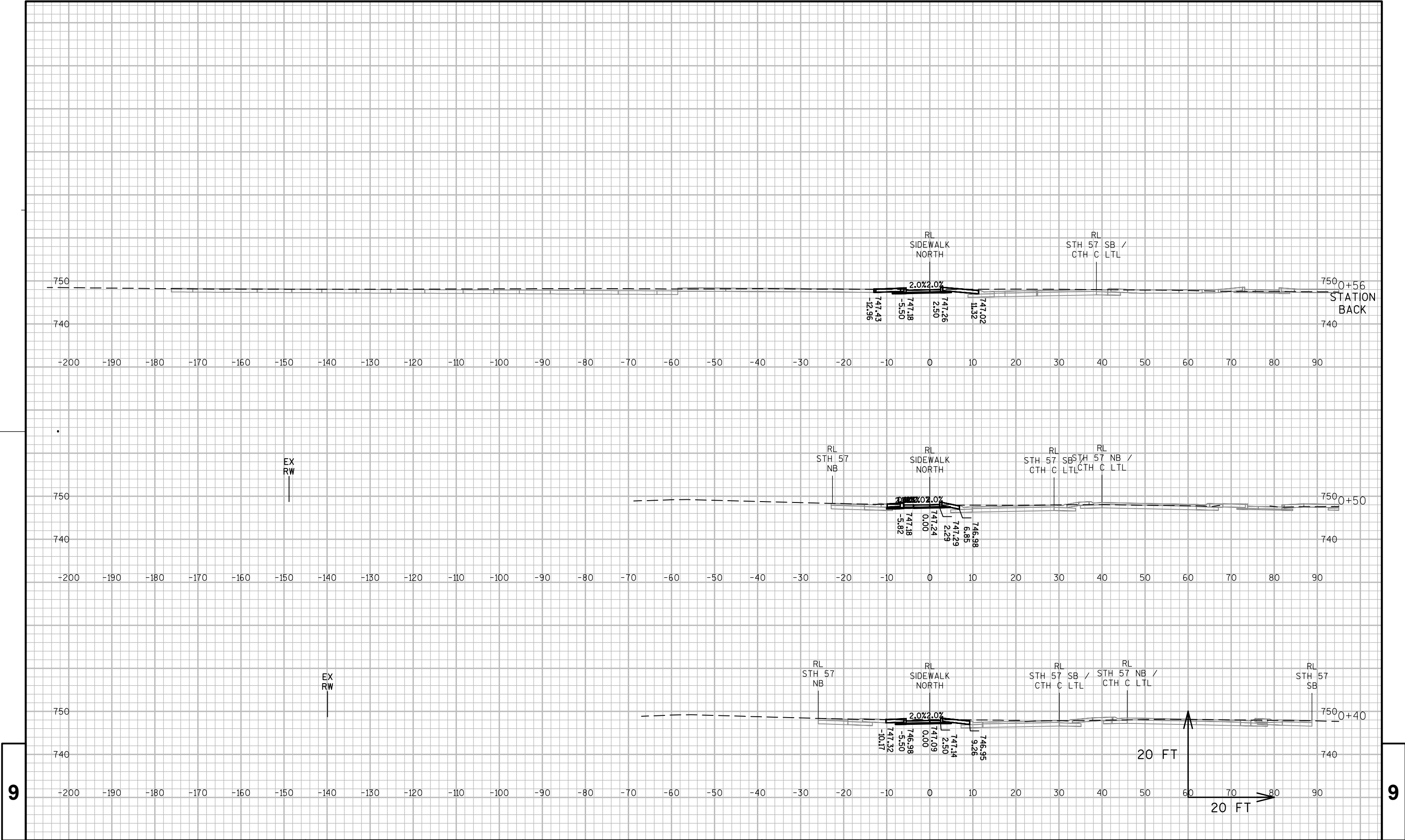


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PROJECT NO: 4430-15-71

HWY: STH 57

COUNTY: DOOR

CROSS SECTIONS: SIDEWALK NORTH

SHEET

E

FILE NAME : N:\PDS\C3D\44301500\SHEETSPLAN\090212_XS_SIDEWALK NORTH.DWG
LAYOUT NAME - 090212_XS_SIDEWALK NORTH_ (2)

PLOT DATE : 3/11/2015 3:06 PM

PLOT BY : SPITZER, NICHOLAS J PLOT NAME :

PLOT SCALE : 1:20_XREF

WISDOT/CADDs SHEET 49

Notes



Wisconsin Department of Transportation

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