

MAD
PROJECT ID: 6085-00-76
WITH: N/A

COUNTY: DANE

04

JUNE 2013

ORDER OF SHEETS

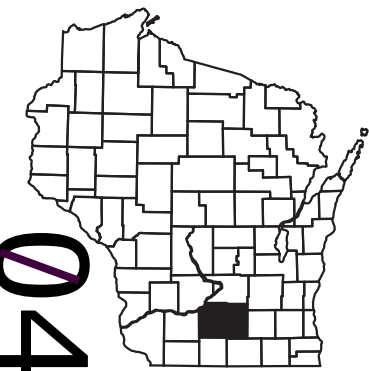
Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
Section No.	4	Right of Way Plat
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section No.	8	Structure Plans
Section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

TOTAL SHEETS = 174

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
TOKEN CREEK STRS-B-13-608/609
IH 39 - SUN PRAIRIE
STH 19
DANE COUNTY

STATE PROJECT NUMBER
6085-00-76

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
6085-00-76	—	—



DESIGN DESIGNATION

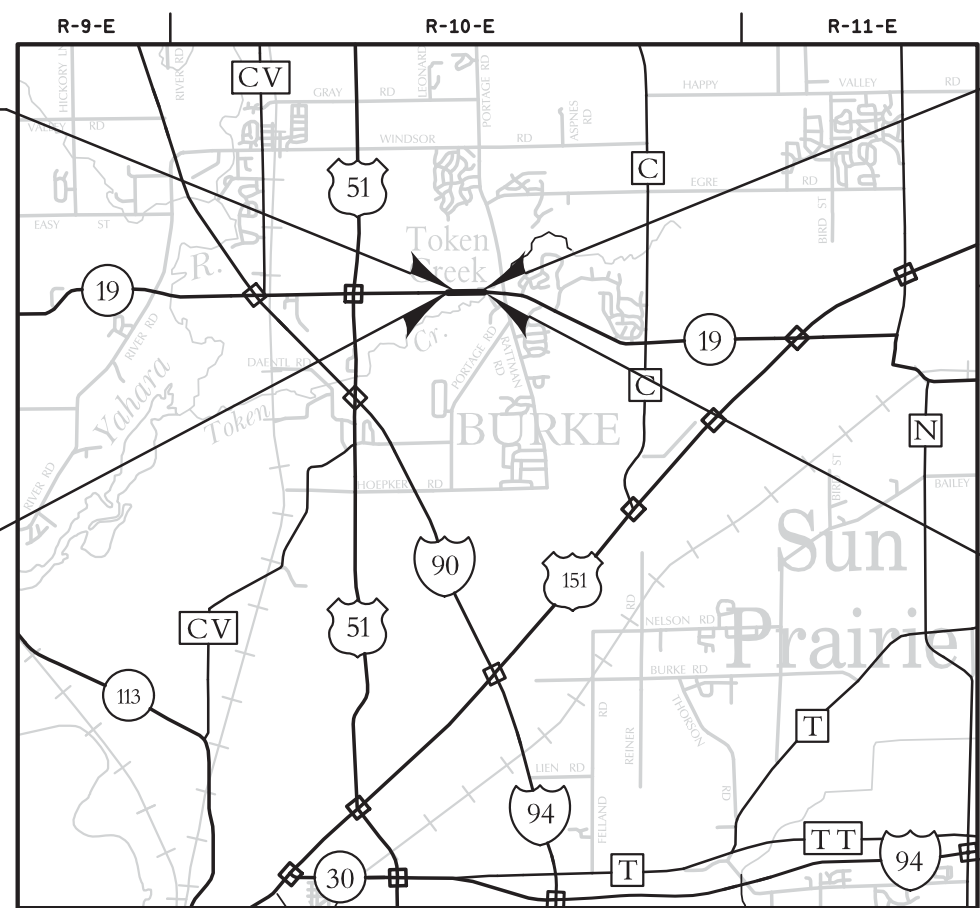
A.A.D.T. 2008	=	17,200
A.A.D.T. 2028	=	23,800
D.H.V. 2028	=	2,400
D.D.	=	62/38
T.	=	5.0%
DESIGN SPEED	=	60 MPH
ESALS	=	2,380,000

CONVENTIONAL SYMBOLS

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

PROFILE	
GRADE LINE	— — — —
ORIGINAL GROUND	— — — —
MARSH OR ROCK PROFILE (To be noted as such)	— — — —
SPECIAL DITCH	— — — —
GRADE ELEVATION	95.36
CULVERT (Profile View)	— — — —
UTILITIES	— — — —
ELECTRIC	— — — —
FIBER OPTIC	— — — —
GAS	— — — —
SANITARY SEWER	— — — —
STORM SEWER	— — — —
TELEPHONE	— — — —
WATER	— — — —
UTILITY PEDESTAL	— — — —
POWER POLE	— — — —
TELEPHONE POLE	— — — —

BEGIN PROJECT 6085-00-76
STA 140+00
Y=526585.08
X=842281.99



B-13-608

T-8-N

T-9-N

T-10-N

END PROJECT 6085-00-76
STA 156+90

LAYOUT
SCALE 0 1 MI.
TOTAL NET LENGTH OF CENTERLINE = 0.320 MI.

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

ORIGINAL PLANS PREPARED BY

AECOM

1350 Deming Way, Suite 100
Middleton, WI 53562
www.aecom.com

ERIC T. PRICE
E-39027
MADISON WI

2/26/13
(Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor: AECOM
Designer: AECOM
Project Manager: MIKE RAMPETSREITER
Regional Examiner: _____
Regional Supervisor: _____
C.O. Examiner: _____

APPROVED FOR THE DEPARTMENT

DATE: 2/26/13 Brenda Schoenfeld
(Signature)

E

GENERAL NOTES

- COORDINATES AND BEARINGS SHOWN ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, DANE COUNTY ZONE, NAD83/91 ADJUSTMENT. ELEVATIONS ON THE PLAN ARE REFERENCED TO NAVD 29.
- NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.
- THE LOCATION OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
- NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK.
- ADJUST TRAFFIC CONTROL DEVICES TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
- EROSION CONTROL ITEMS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.
- RADI, ELEVATIONS, AND DIMENSIONS ARE GIVEN TO THE FLANGE LINE OR PAVEMENT EDGE UNLESS OTHERWISE NOTED IN THE PLANS.
- DISTURBED AREAS WITHIN THE RIGHT-OF-WAY SHALL BE FERTILIZED, SEEDED AND MULCHED BY DIRECTION OF THE ENGINEER. APPLY FINISHING ITEMS ON DISTURBED AREAS WITHIN 5 WORKING DAYS AFTER GRADING WORK IS COMPLETED.
- 3.5-INCH HMA PAVEMENT TYPE E-0.3 SHOULDERS SHALL BE CONSTRUCTED IN ONE (1) LAYER. ASPHALTIC MATERIAL FOR PLANT MIXES SHALL BE PG 58-28.
- THE PAVEMENT WEIGHT CALCULATIONS ARE BASED ON A UNIT WEIGHT OF 112 LBS/SY/IN.
- QUANTITIES FOR ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES ARE BASED ON A UNIFORM DEPTH OF 2 INCHES.
- THE WISCONSIN DEPARTMENT OF TRANSPORTATION WILL FURNISH THE CONTRACTOR WITH AN ALUMINUM MONUMENT FOR EACH STRUCTURE, WHICH SHALL BE SET IN THE STRUCTURE AS DESIGNATED BY THE ENGINEER.
- THE RUNOFF COEFFICIENTS OF SURFACE DRAINAGE AT THE PROJECT SITE WILL NOT BE CHANGED FROM BEFORE TO AFTER CONSTRUCTION IS COMPLETE. THE TOTAL AREA OF THE PROJECT IS 5.18 ACRES. THE TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES IS 2.45 ACRES.

UTILITY CONTACTSALLIANT ENERGY
(ELECTRIC)

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PHONE: 608.395.7395
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AMERICAN TRANSMISSION COMPANY (ATC)
(ELECTRIC)

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DE PERE, WI 54115-6113
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EMAIL: MOLSEN@ATCLLC.COM

AT&T WISCONSIN
(COMMUNICATIONS)

MR. SCOTT GRINDE
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APPLETON, WI 54911
PHONE: 920.735.3240
EMAIL: SG5813@ATT.COM

NORTHWIND TECHNICAL SERVICES, LLC
(COMMUNICATIONS)

MR. DON DIETSCH
383 WILLIAMSTOWNE SUITE B
DELAFIELD, WI 53018
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MADISON GAS & ELECTRIC
(GAS)

MR. STEVE BEVERS DORF
133 S BLAIR ST
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OTHER CONTACTSWISCONSIN DEPARTMENT OF
NATURAL RESOURCES

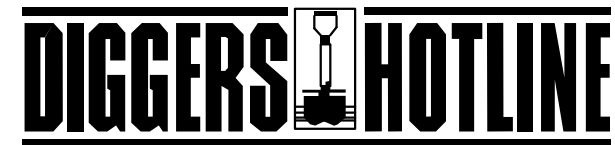
MR. ERIC HEGGELUND
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3911 FISH HATCHERY ROAD
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PHONE: 608-275-3301
EMAIL: ERIC.HEGGELUND@WISCONSIN.GOV

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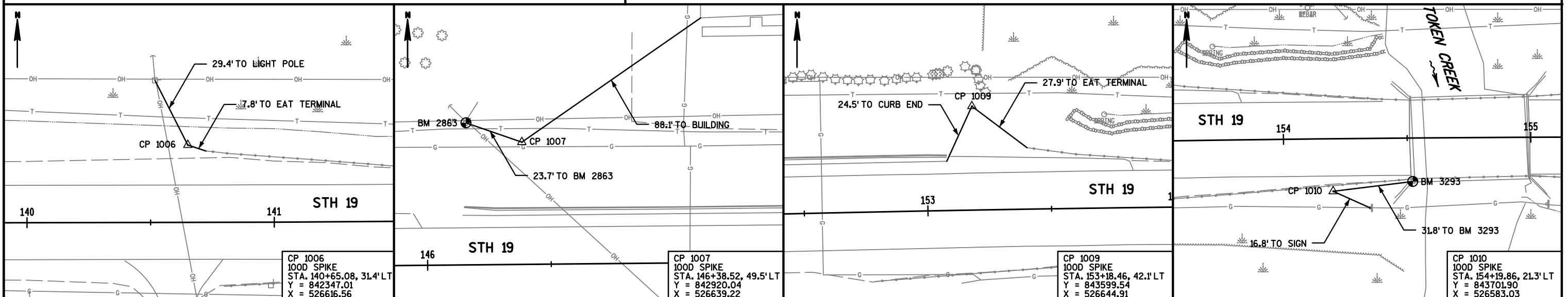
DETAIL SHEET INDEX

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PAVING DETAILS
EROSION CONTROL
DETOUR ROUTE SIGNING
TRAFFIC CONTROL
ALIGNMENT DIAGRAM



Call 811 3 Work Days Before You Dig
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Milwaukee Area (414) 259-1181
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

** DENOTES UTILITIES THAT ARE NOT DIGGER'S HOTLINE MEMBERS



PROJECT NUMBER: 6085-00-76

HWY: STH 19

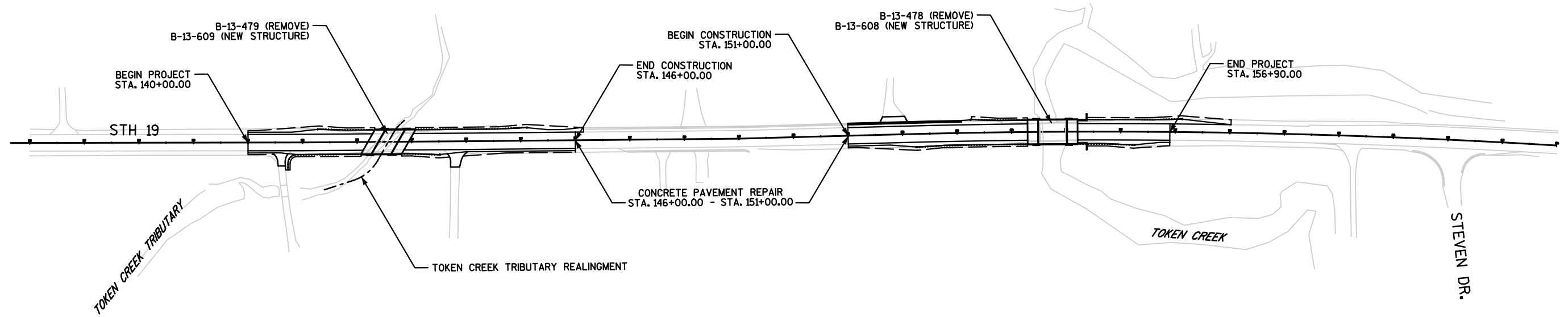
COUNTY: DANE

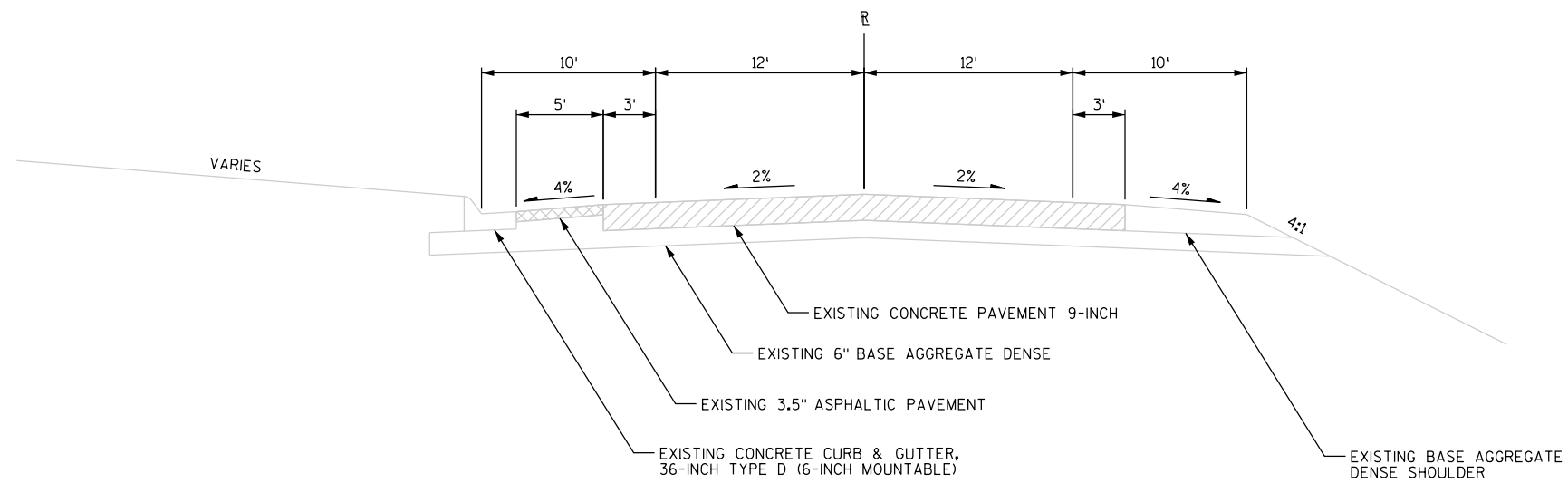
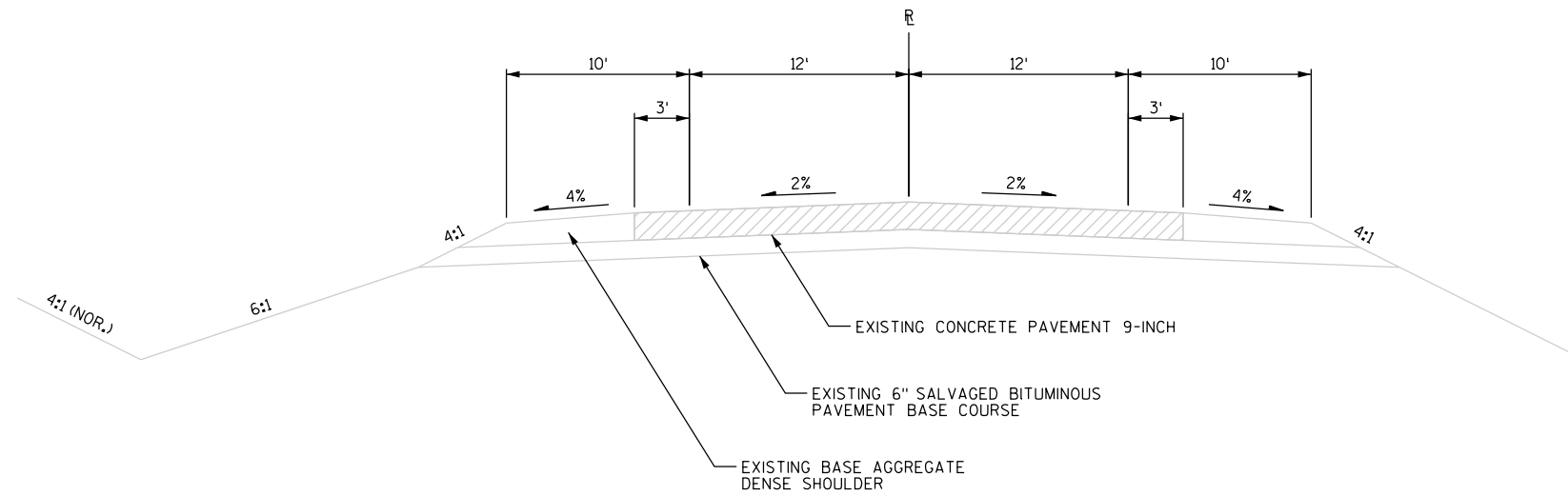
GENERAL NOTES, UTILITIES, AND CONSTRUCTION TIES

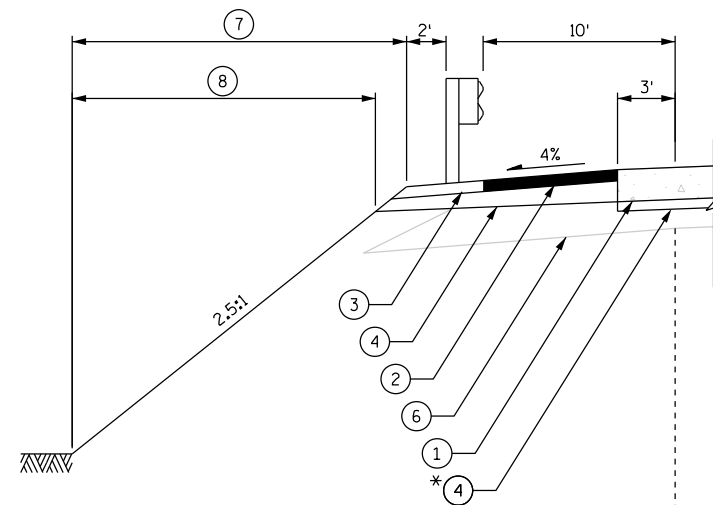
SHEET

2

E

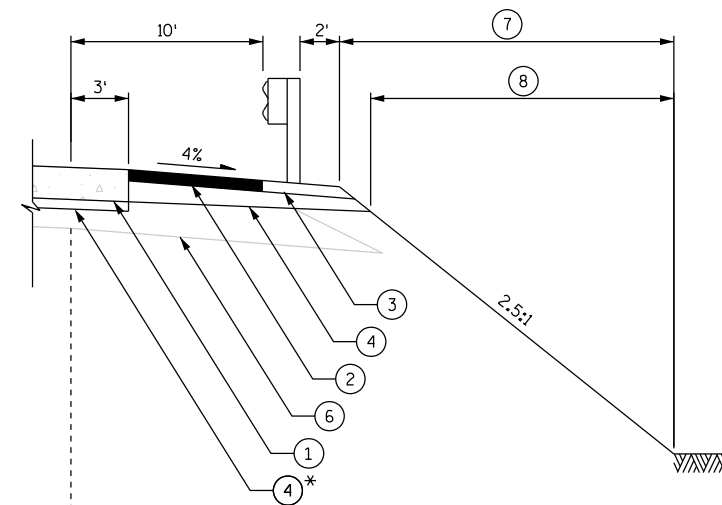






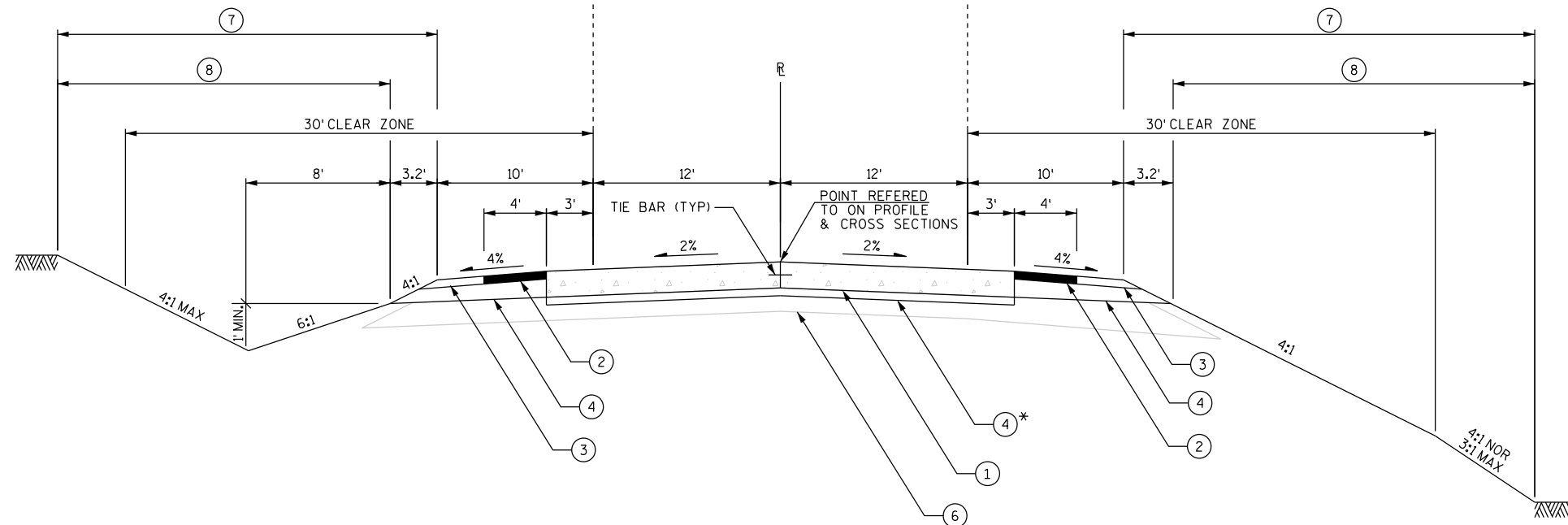
BEAM GUARD

STA 141+80 TO STA 142+32 LT
 STA 143+07 TO STA 144+60 LT
 STA 153+77 TO STA 154+29 LT
 STA 155+21 TO STA 156+61 LT



BEAM GUARD

STA 140+89 TO STA 142+07 RT
 STA 142+82 TO STA 143+00 RT
 STA 153+08 TO STA 154+29 RT
 STA 155+21 TO STA 155+74 RT



FINISHED TYPICAL SECTION

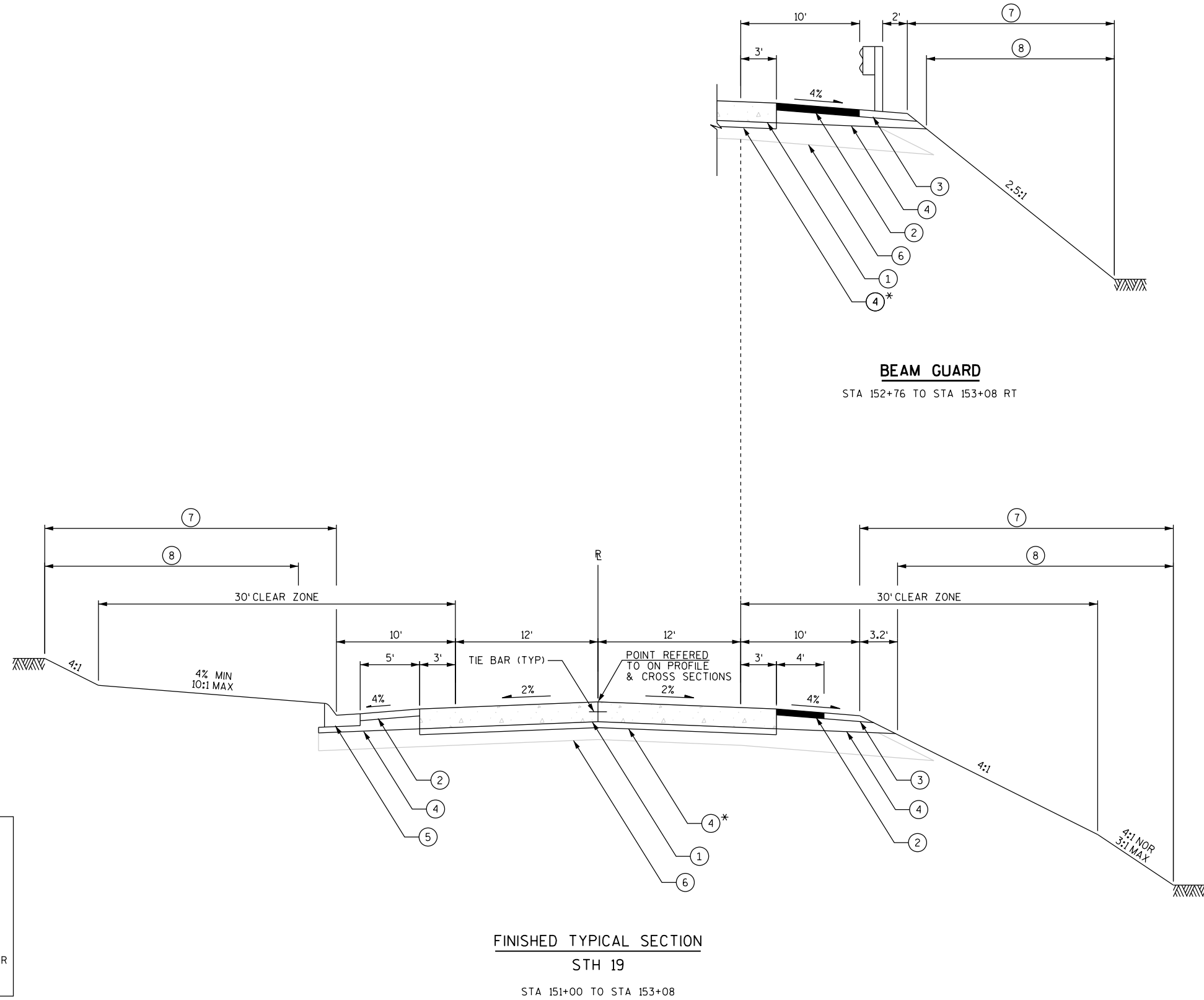
STH 19

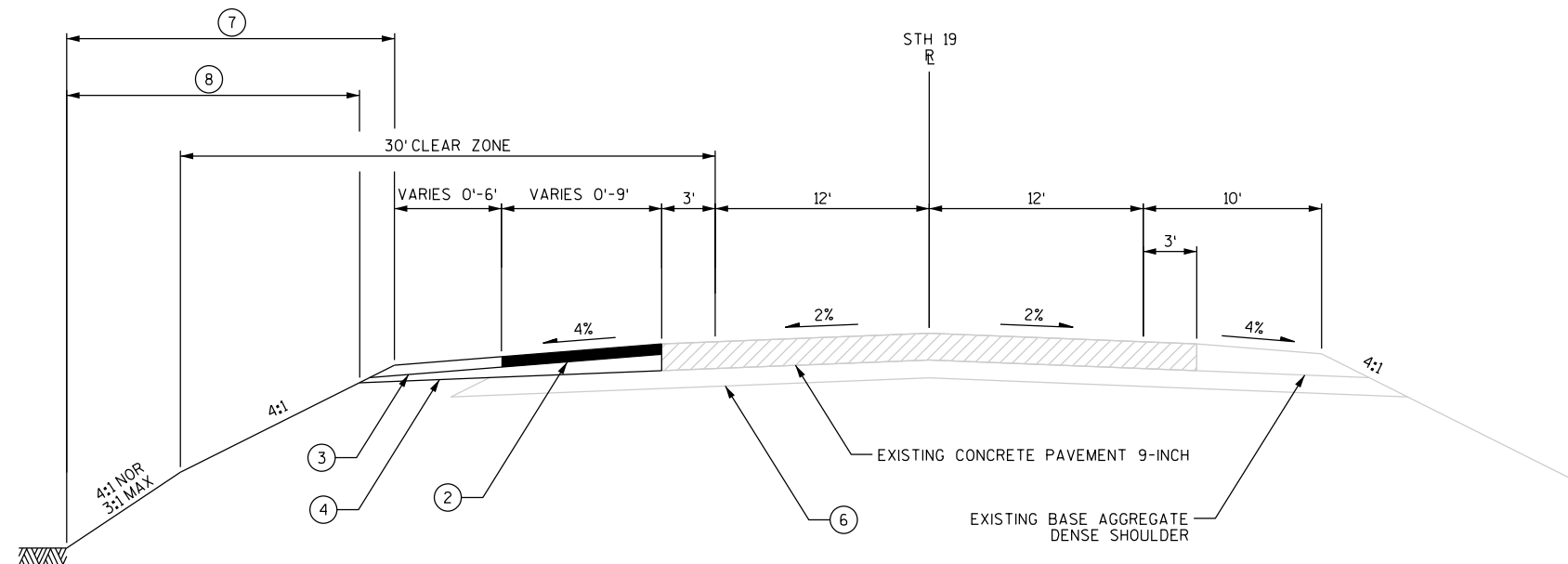
STA 140+00 TO STA 146+00
 STA 153+08 TO STA 156+90

LEGEND

- ① CONCRETE PAVEMENT 10-INCH
- ② 3.5" HMA PAVEMENT TYPE E-0.3
- ③ 3.5" BASE AGGREGATE DENSE 3/4-INCH
- ④ BASE AGGREGATE DENSE 1 1/4-INCH
- ⑤ CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D
- ⑥ EXISTING 6" AGGREGATE BASE
- ⑦ TEMPORARY SEED, SEED, AND FERTILIZER
- ⑧ SALVAGED TOPSOIL AND MULCH

* NOTE: DEPTH VARIES 0"-9.8" FROM STA 140+41 TO STA 145+82
 DEPTH VARIES 0"-5.9" FROM STA 151+30 TO STA 156+19





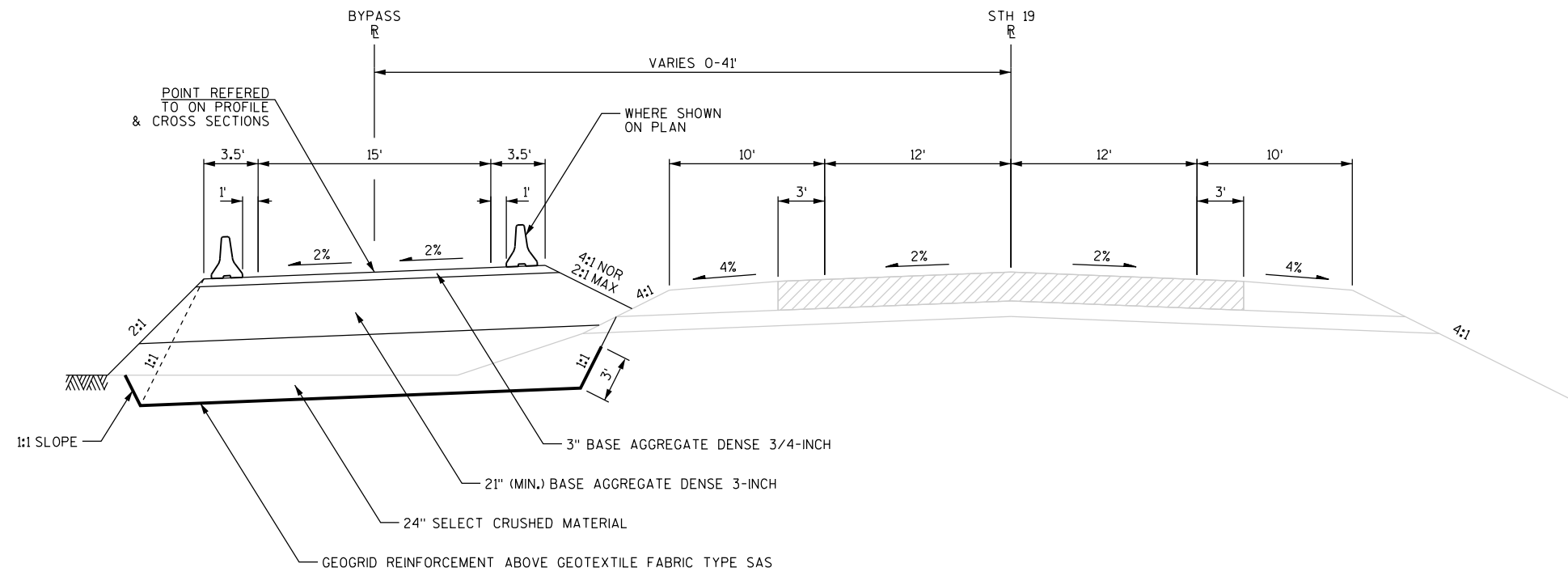
FINISHED TYPICAL SECTION

STH 19

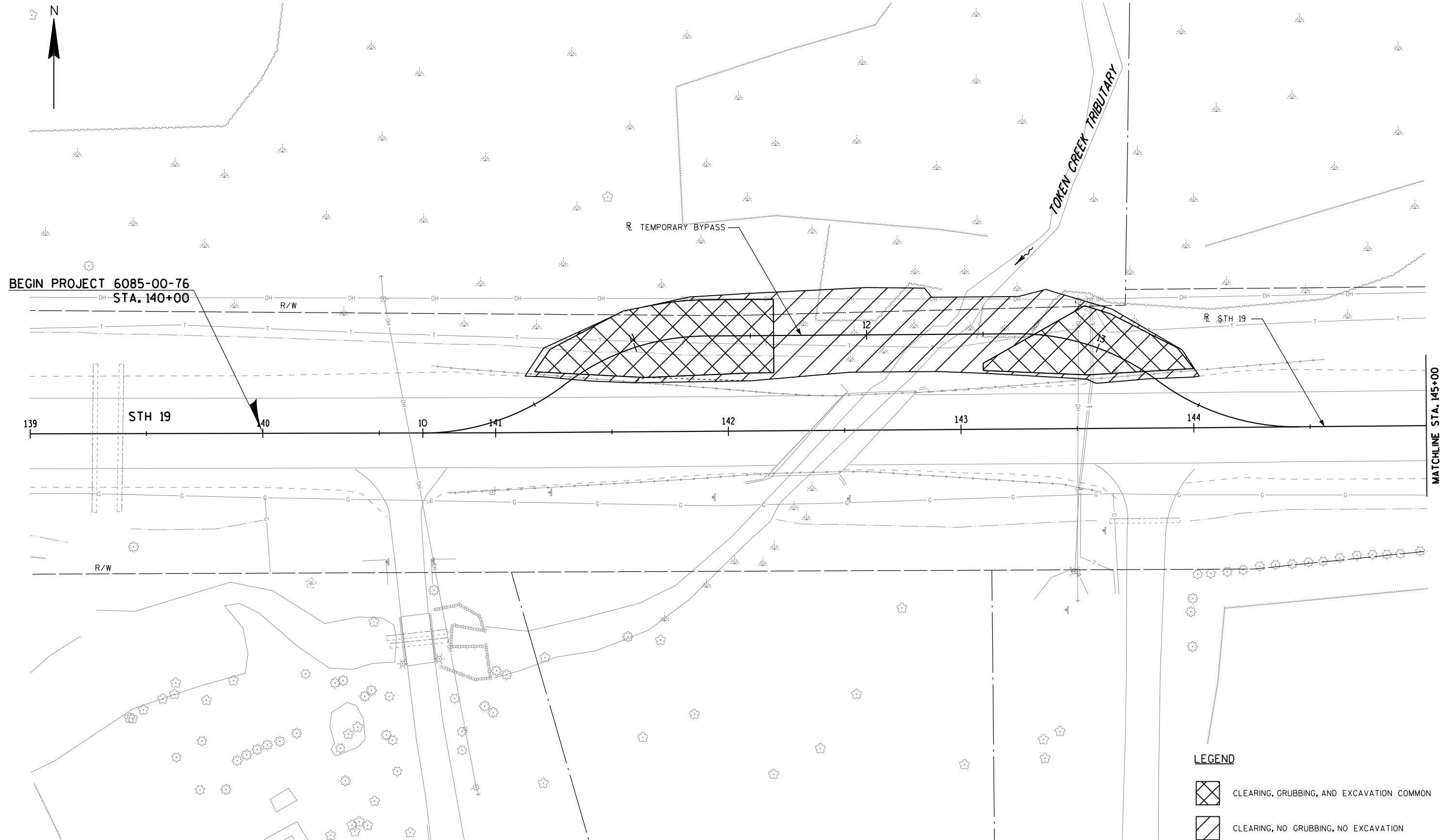
STA 146+00 TO STA 146+15
STA 156+90 TO STA 158+02

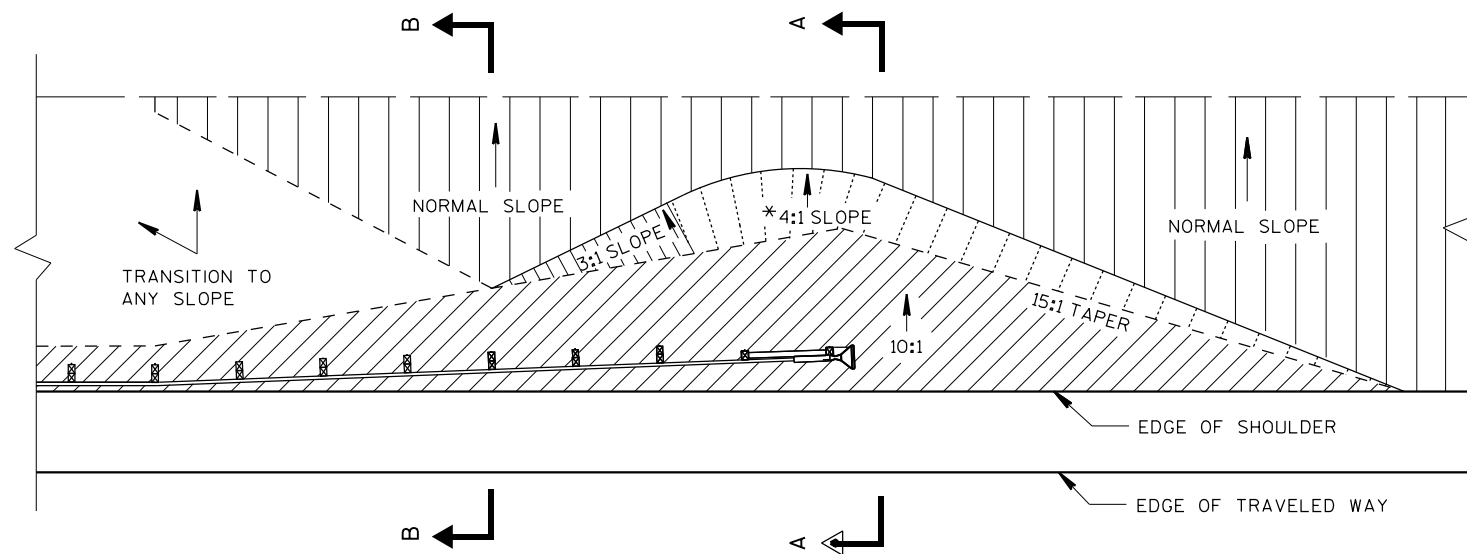
LEGEND

- ① CONCRETE PAVEMENT 10-INCH
- ② 3.5" HMA PAVEMENT TYPE E-0.3
- ③ 3" BASE AGGREGATE DENSE 3/4-INCH
- ④ BASE AGGREGATE DENSE 1 1/4-INCH
- ⑤ CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D
- ⑥ EXISTING 6" AGGREGATE BASE
- ⑦ TEMPORARY SEED, SEED, AND FERTILIZER
- ⑧ SALVAGED TOPSOIL AND MULCH



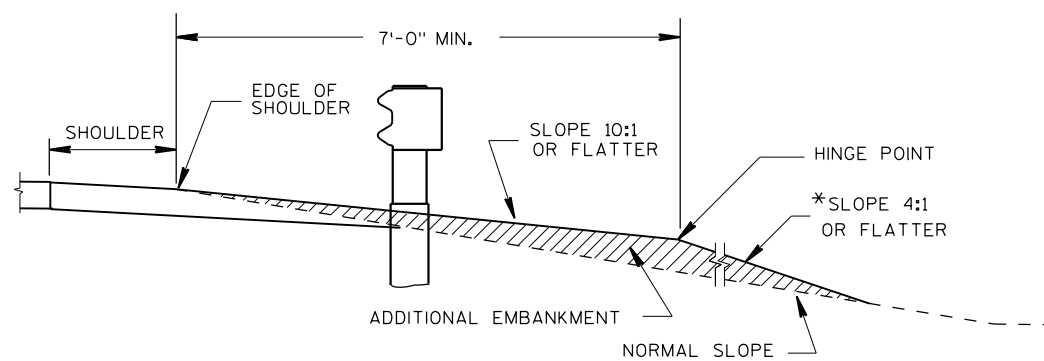
FINISHED TYPICAL SECTION
TEMPORARY BYPASS (B-13-609)
STA 10+00 TO STA 13+94



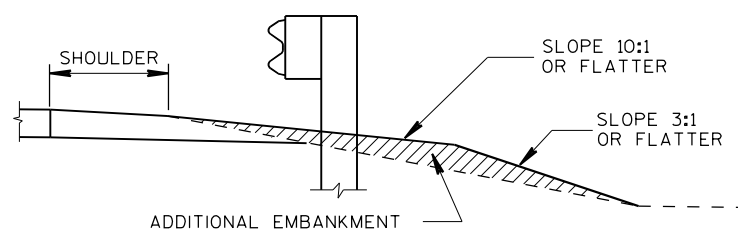


PLAN VIEW

*A 3:1 MAXIMUM SLOPE MAY BE USED FOR INSTALLATIONS ON EXISTING HIGHWAYS.

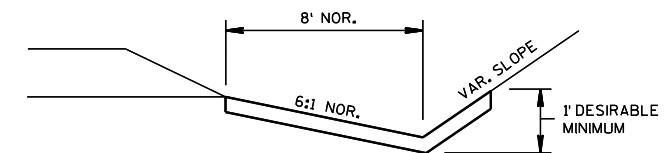


SECTION A-A



SECTION B-B

FILL AREA AT BEAM GUARD

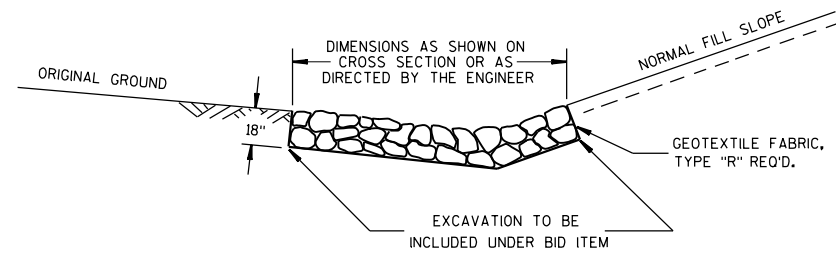


EROSION MAT DETAIL FOR DITCHES

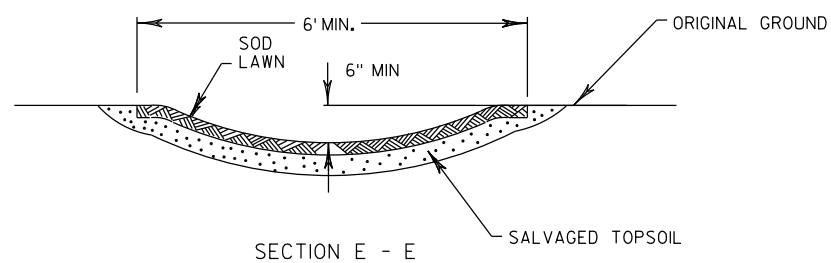
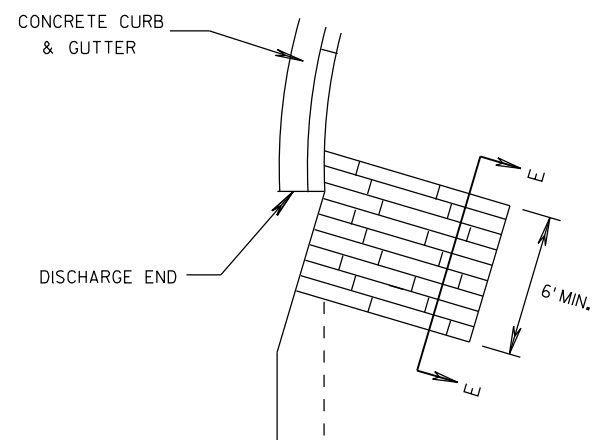
RUNOFF COEFFICIENT TABLE

	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	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP-TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE-TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

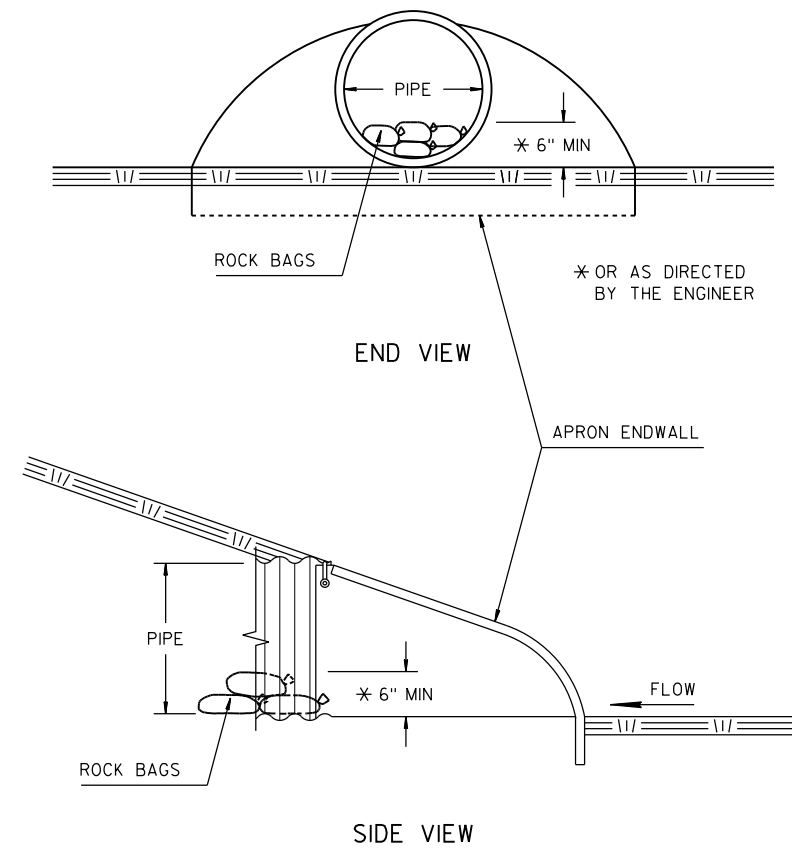
TOTAL PROJECT AREA = 2.22 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 2.22 ACRES



DETAIL FOR RIPRAP MEDIUM IN DITCHES

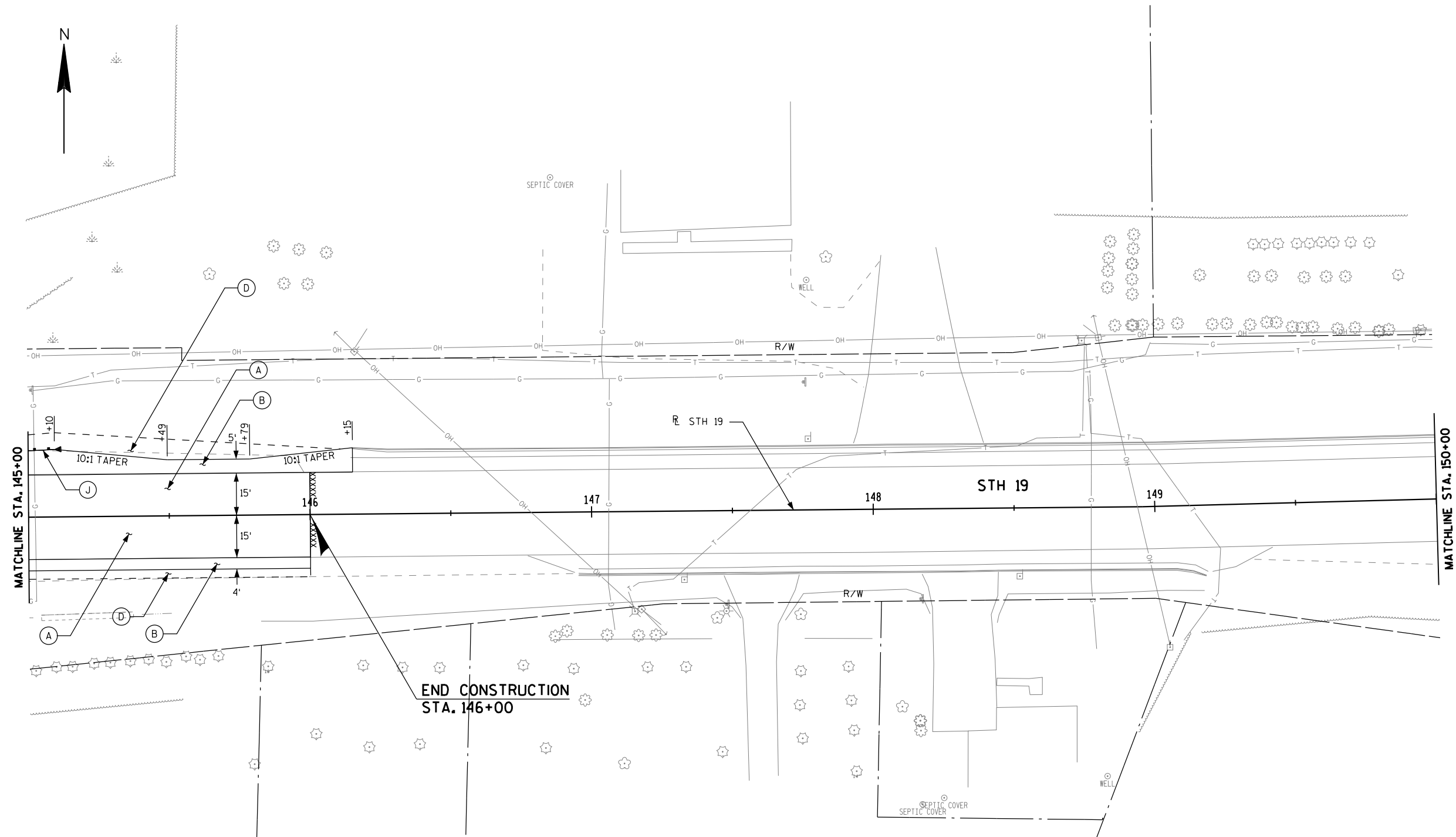


SOD LAWN DETAIL AT CURB ENDS



CULVERT PIPE CHECKS

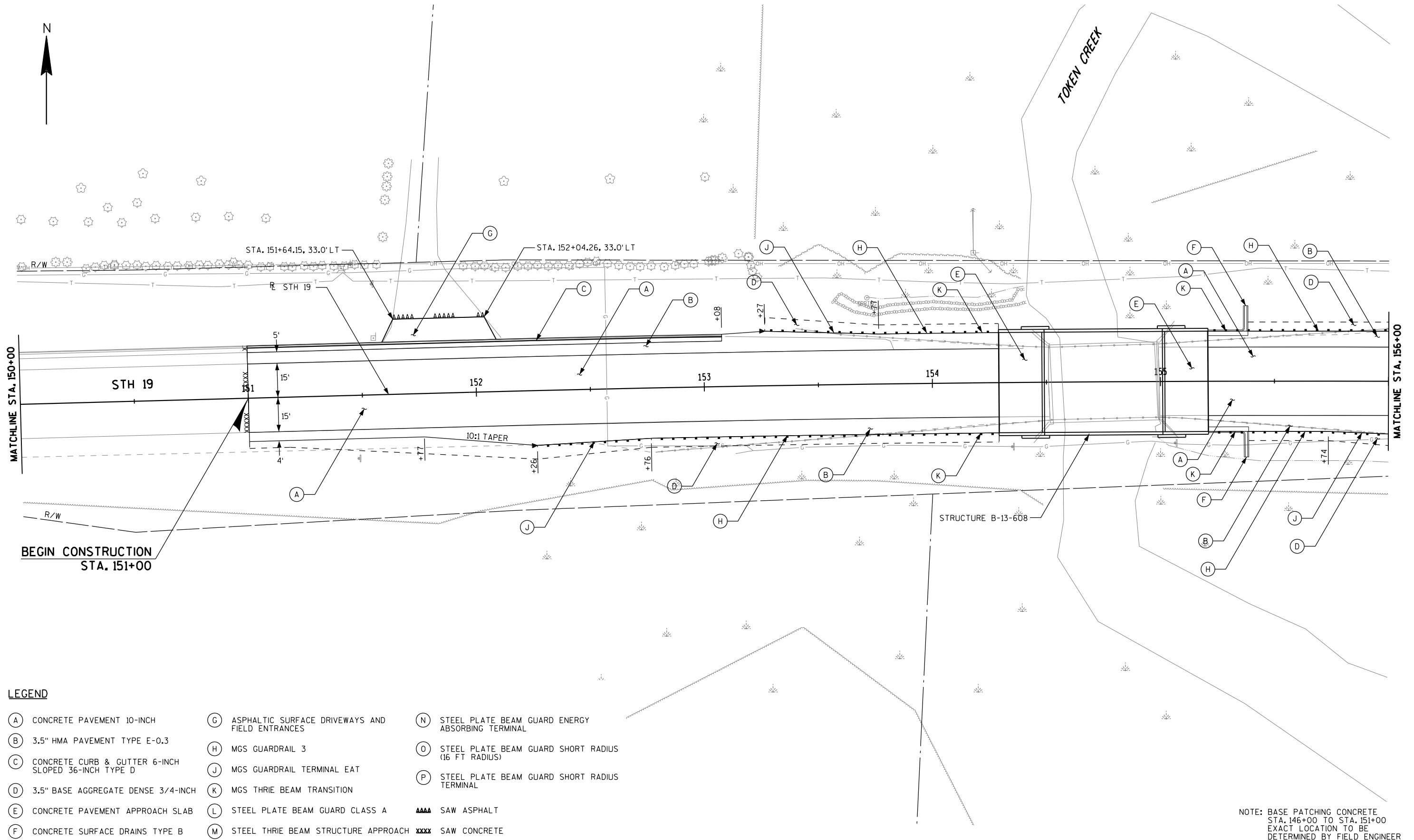


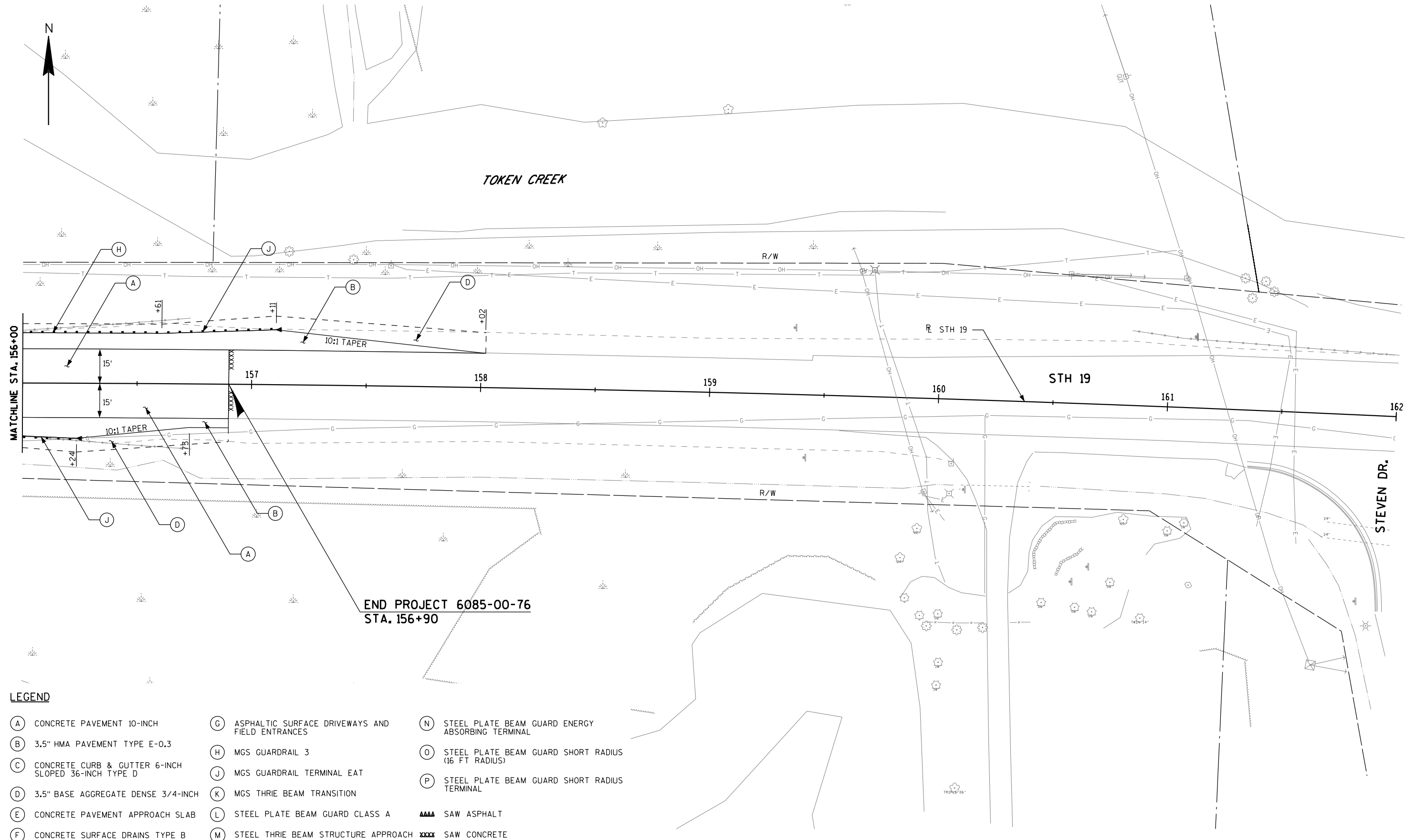


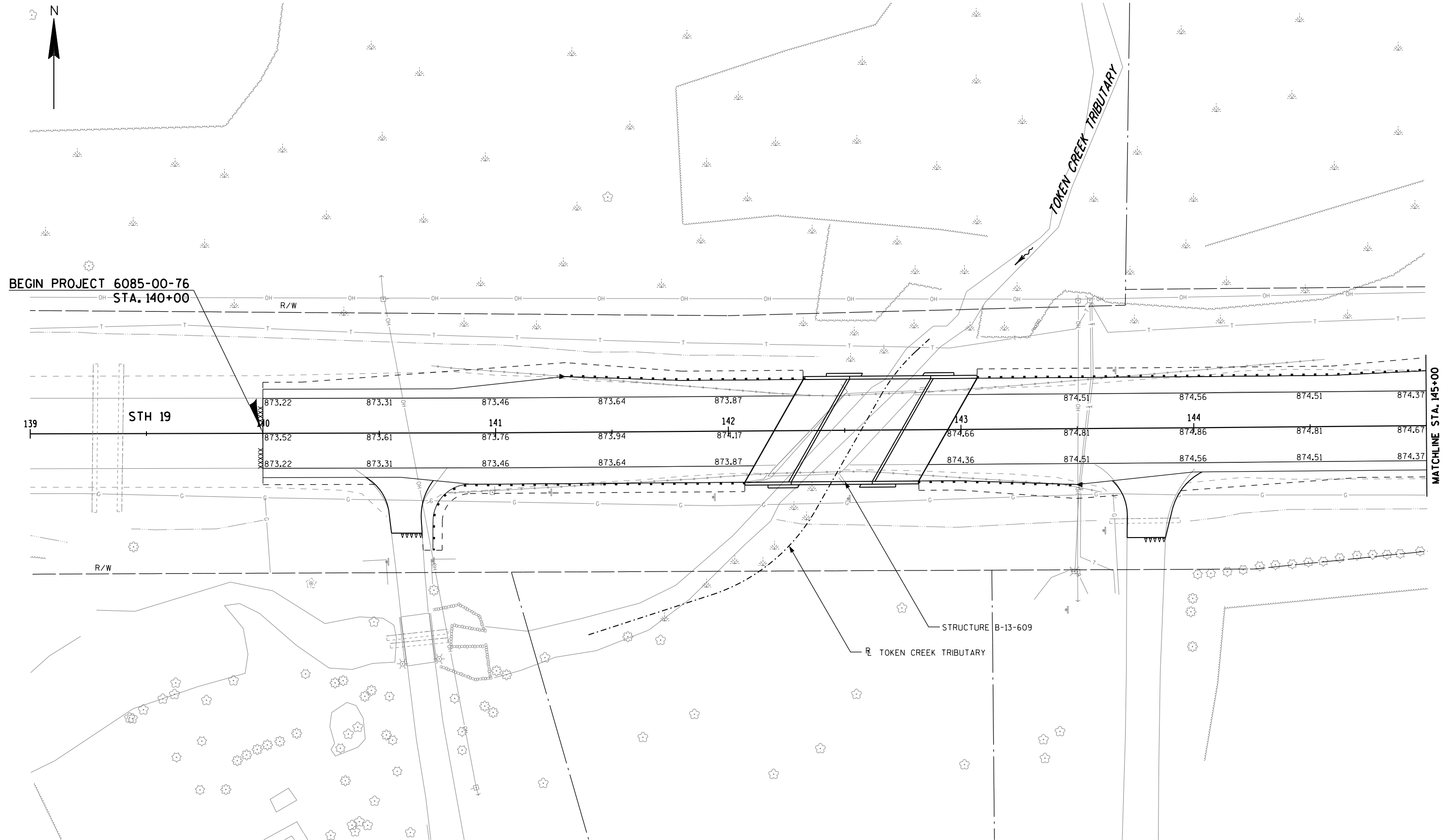
LEGEND

- | | | |
|---|---|--|
| (A) CONCRETE PAVEMENT 10-INCH | (G) ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES | (N) STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL |
| (B) 3.5" HMA PAVEMENT TYPE E-0.3 | (H) MGS GUARDRAIL 3 | (O) STEEL PLATE BEAM GUARD SHORT RADIUS (16 FT RADIUS) |
| (C) CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D | (J) MGS GUARDRAIL TERMINAL EAT | (P) STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL |
| (D) 3.5" BASE AGGREGATE DENSE 3/4-INCH | (K) MGS THRIE BEAM TRANSITION | |
| (E) CONCRETE PAVEMENT APPROACH SLAB | (L) STEEL PLATE BEAM GUARD CLASS A | ▲▲▲▲ SAW ASPHALT |
| (F) CONCRETE SURFACE DRAINS TYPE B | (M) STEEL THRIE BEAM STRUCTURE APPROACH | XXXX SAW CONCRETE |

NOTE: BASE PATCHING CONCRETE
STA. 146+00 TO STA. 151+00
EXACT LOCATION TO BE
DETERMINED BY FIELD ENGINEER







PROJECT NUMBER: 6085-00-76

HWY: STH 19

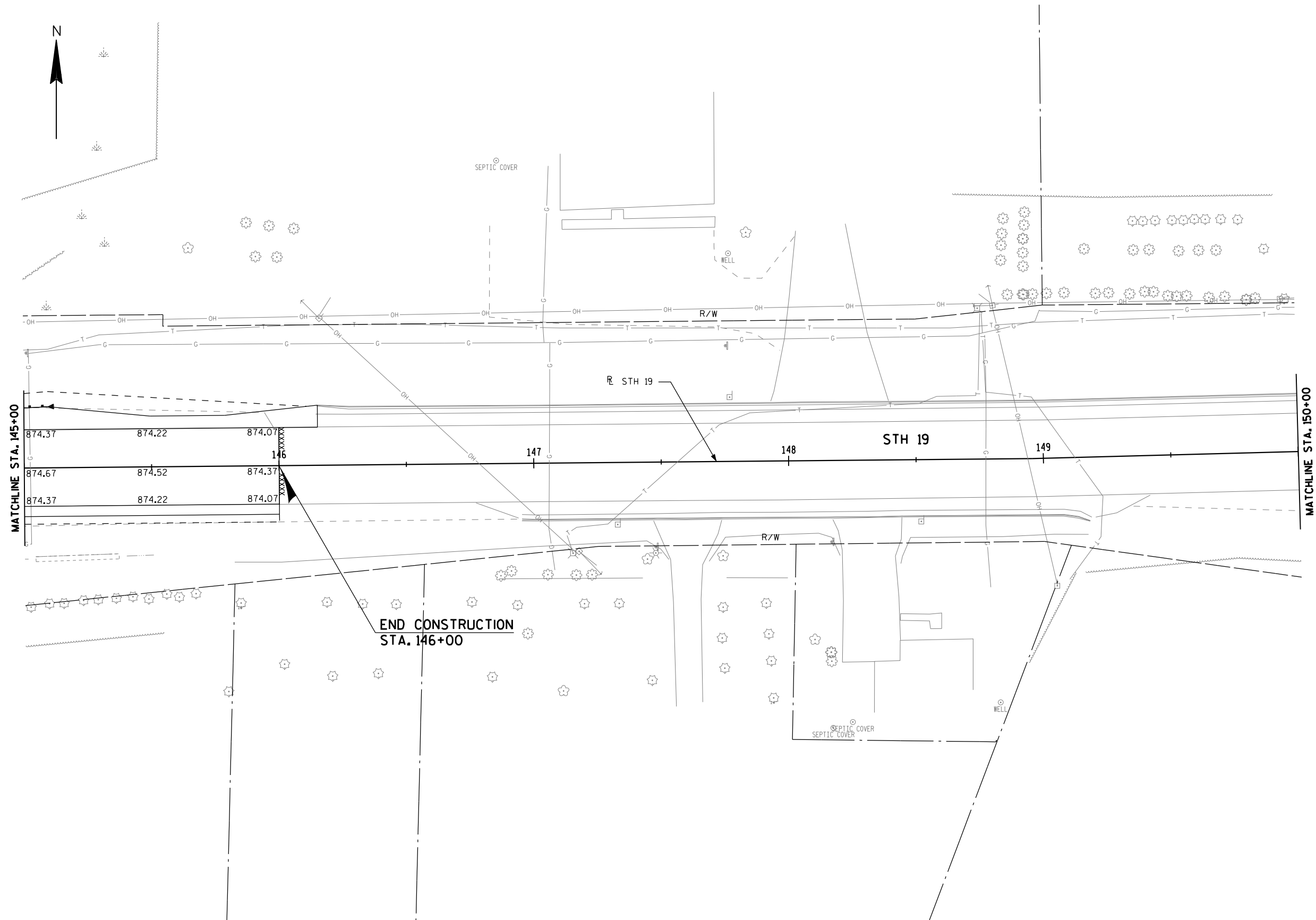
COUNTY: DANE

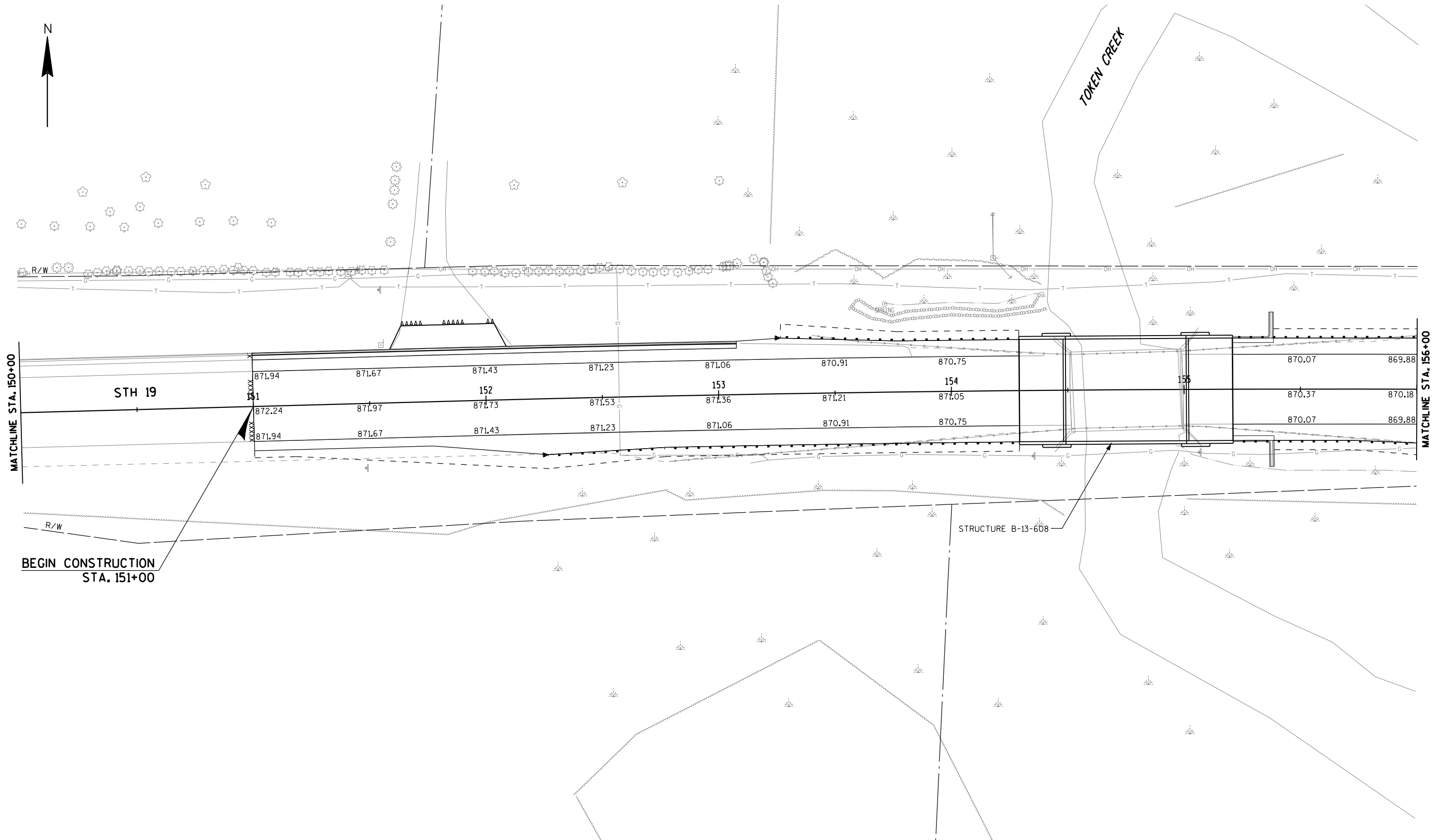
PAVEMENT GRADES

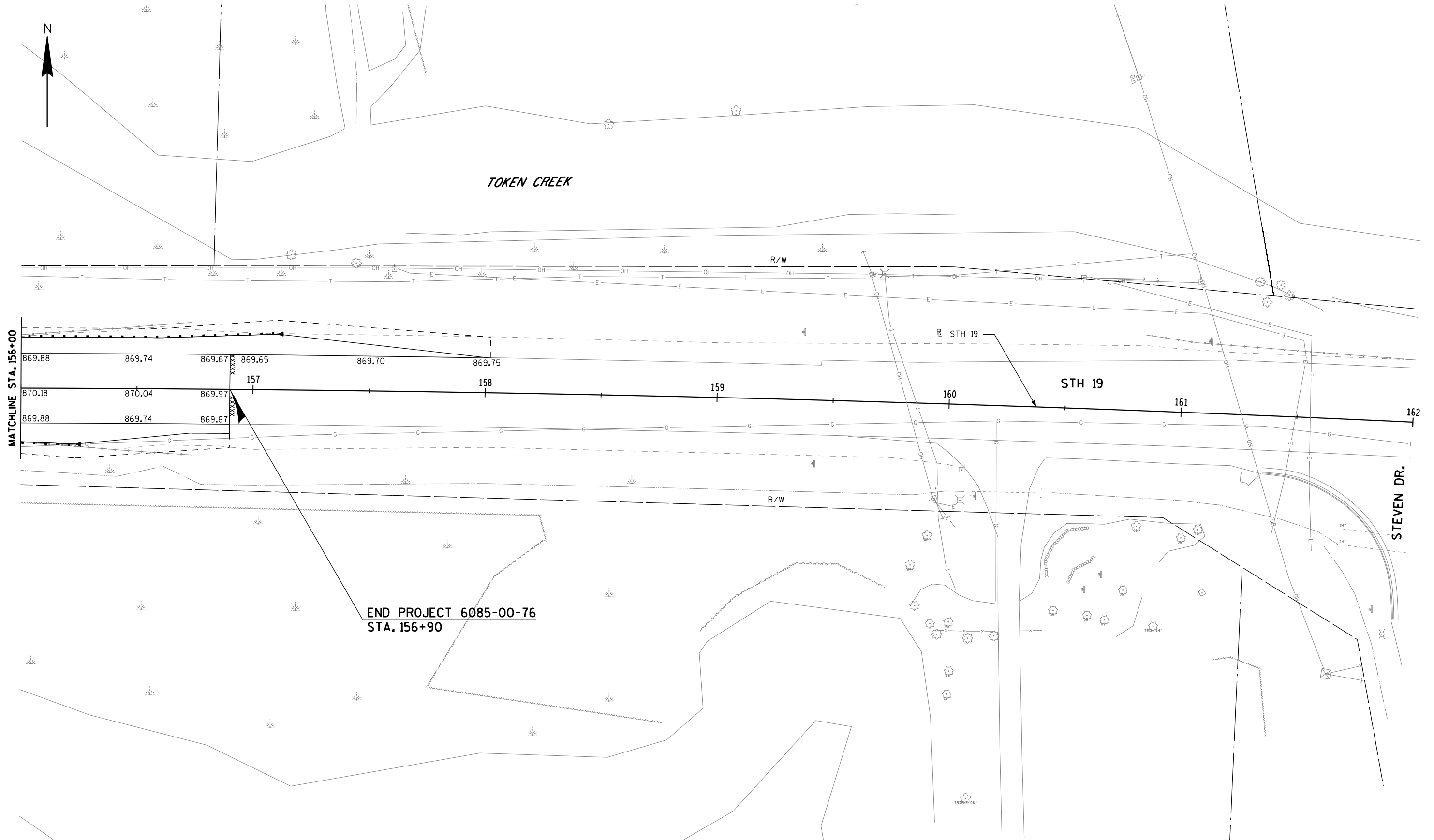
SHEET

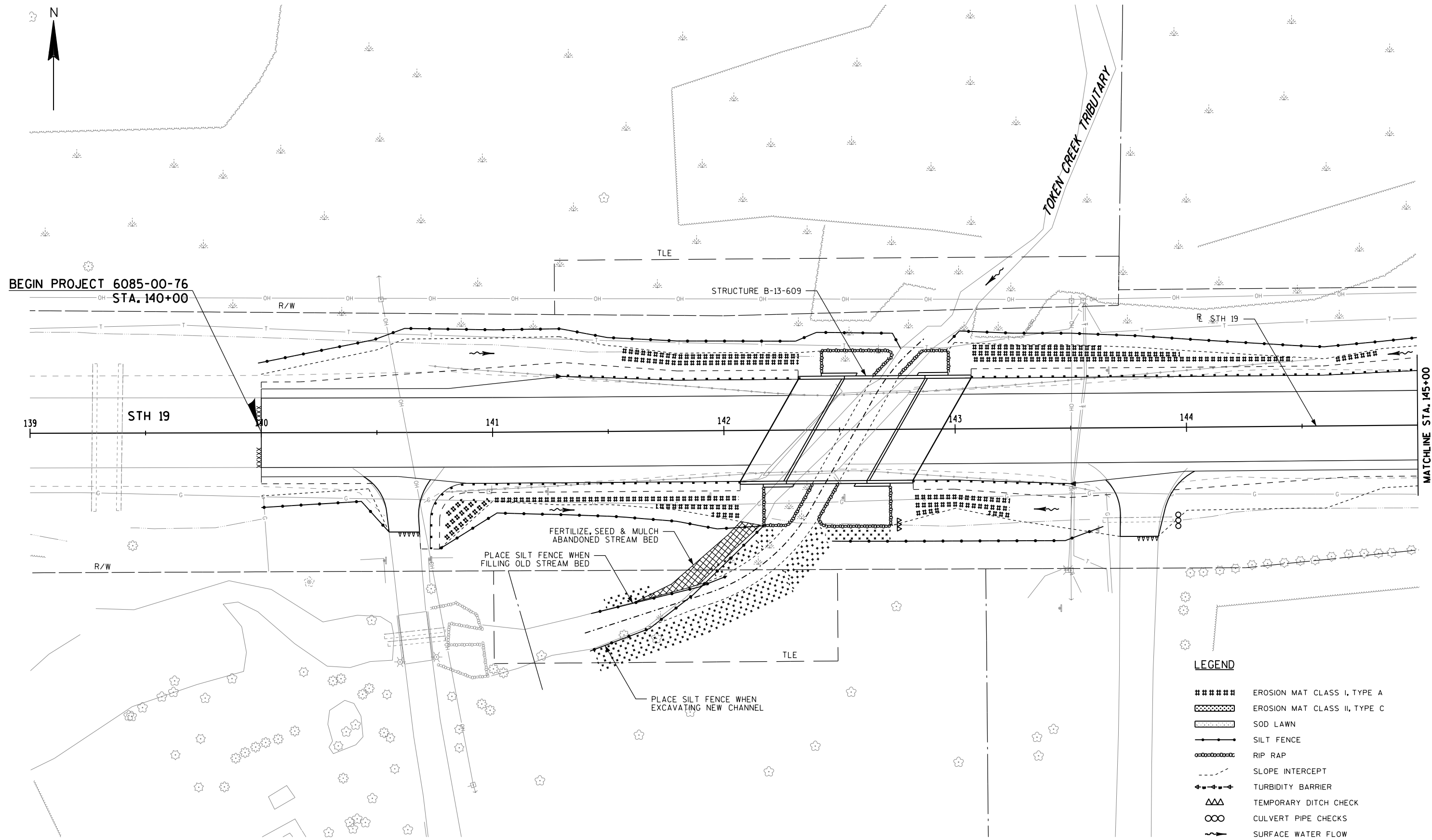
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E



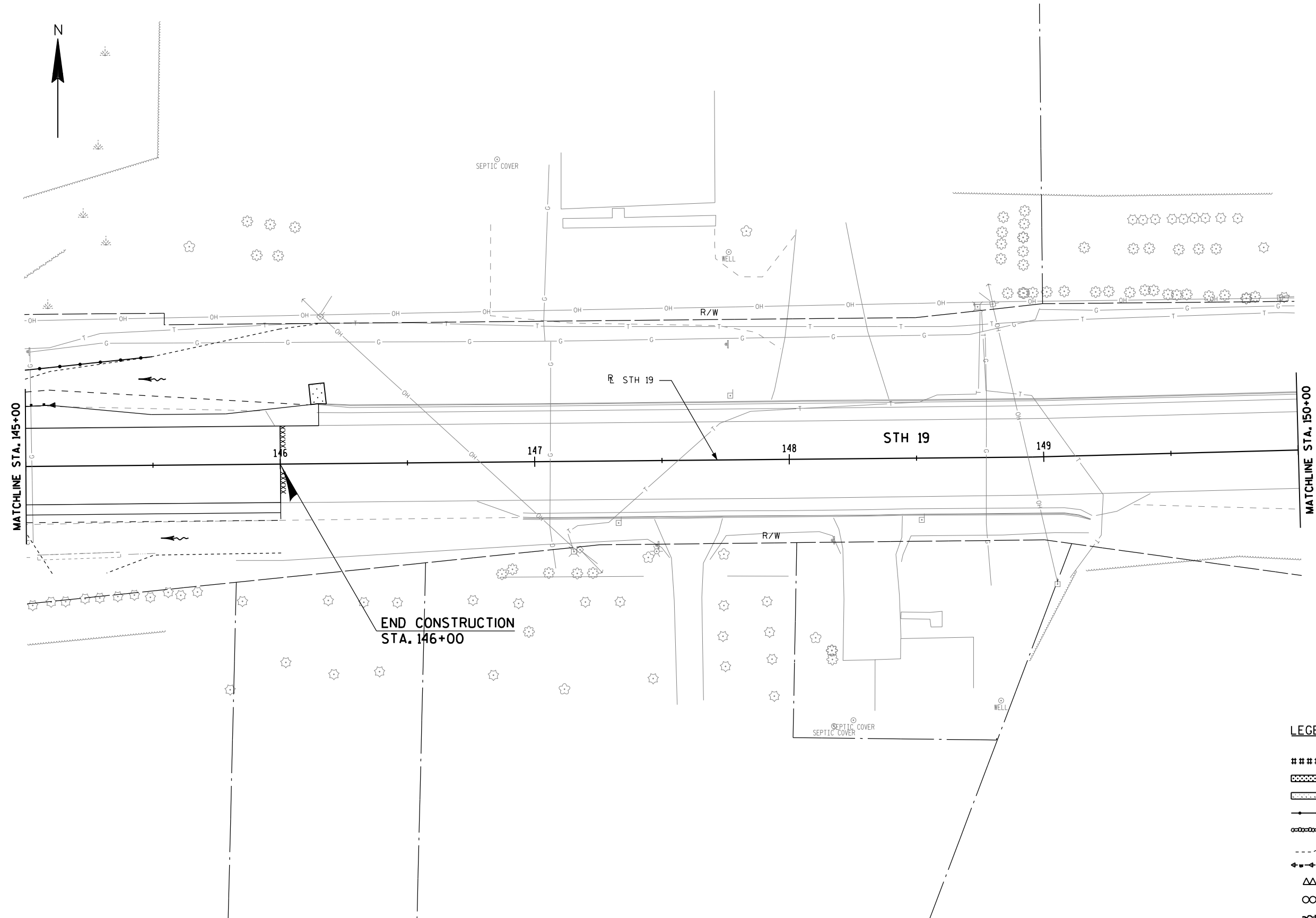






2

2 |



LEGEND

- | | |
|---|------------------------------|
|  | EROSION MAT CLASS I, TYPE A |
|  | EROSION MAT CLASS II, TYPE C |
|  | SOD LAWN |
|  | SILT FENCE |
|  | RIP RAP |
|  | SLOPE INTERCEPT |
|  | TURBIDITY BARRIER |
|  | TEMPORARY DITCH CHECK |
|  | CULVERT PIPE CHECKS |
|  | SURFACE WATER FLOW |

PROJECT NUMBER: 6085-00-76

HWY: STH 19

COUNTY: DANE

EROSION CONTROL - MAINLINE

SHEET

21

1

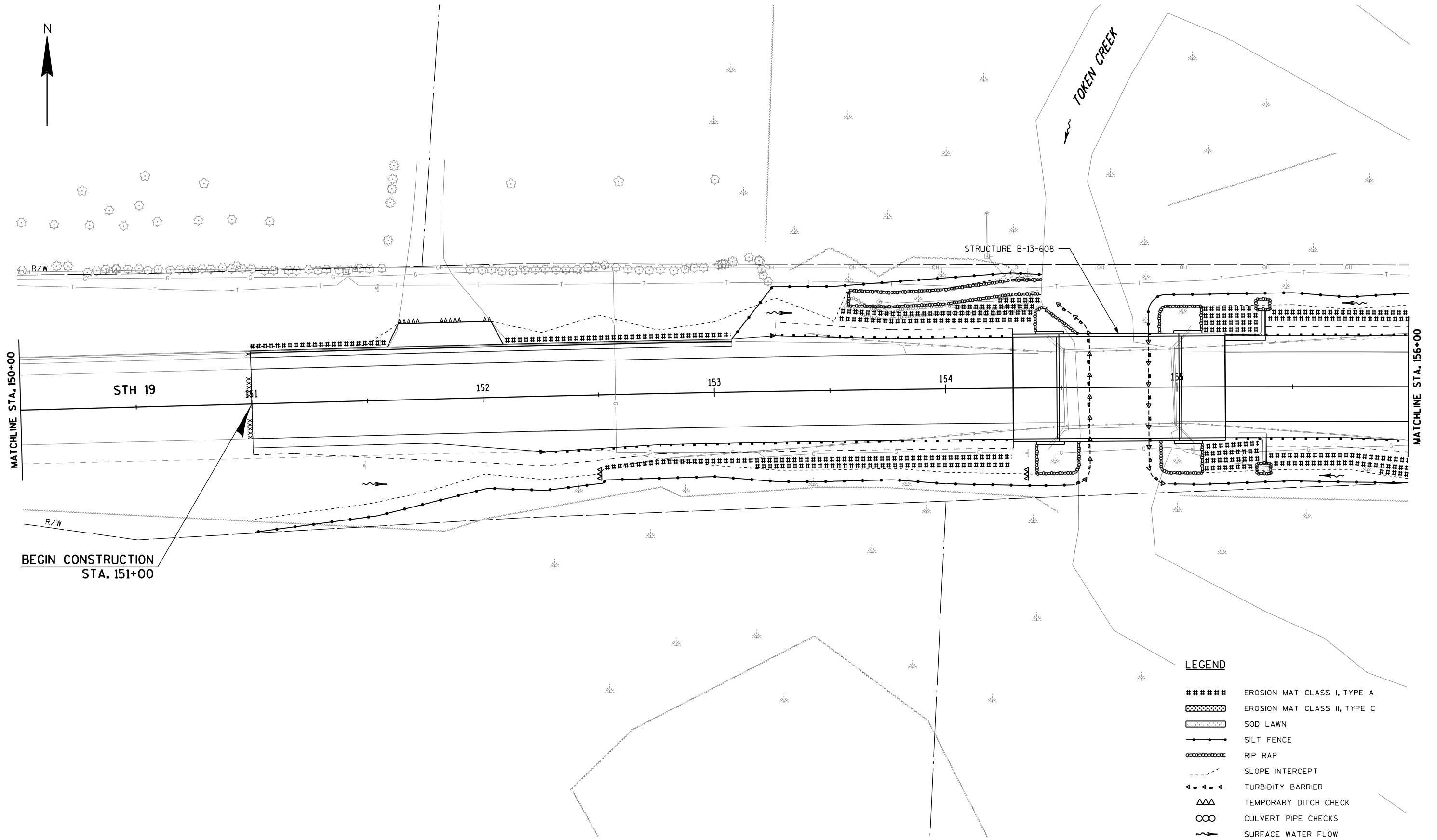
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BATCH PRINT SHEET 2 OF 5

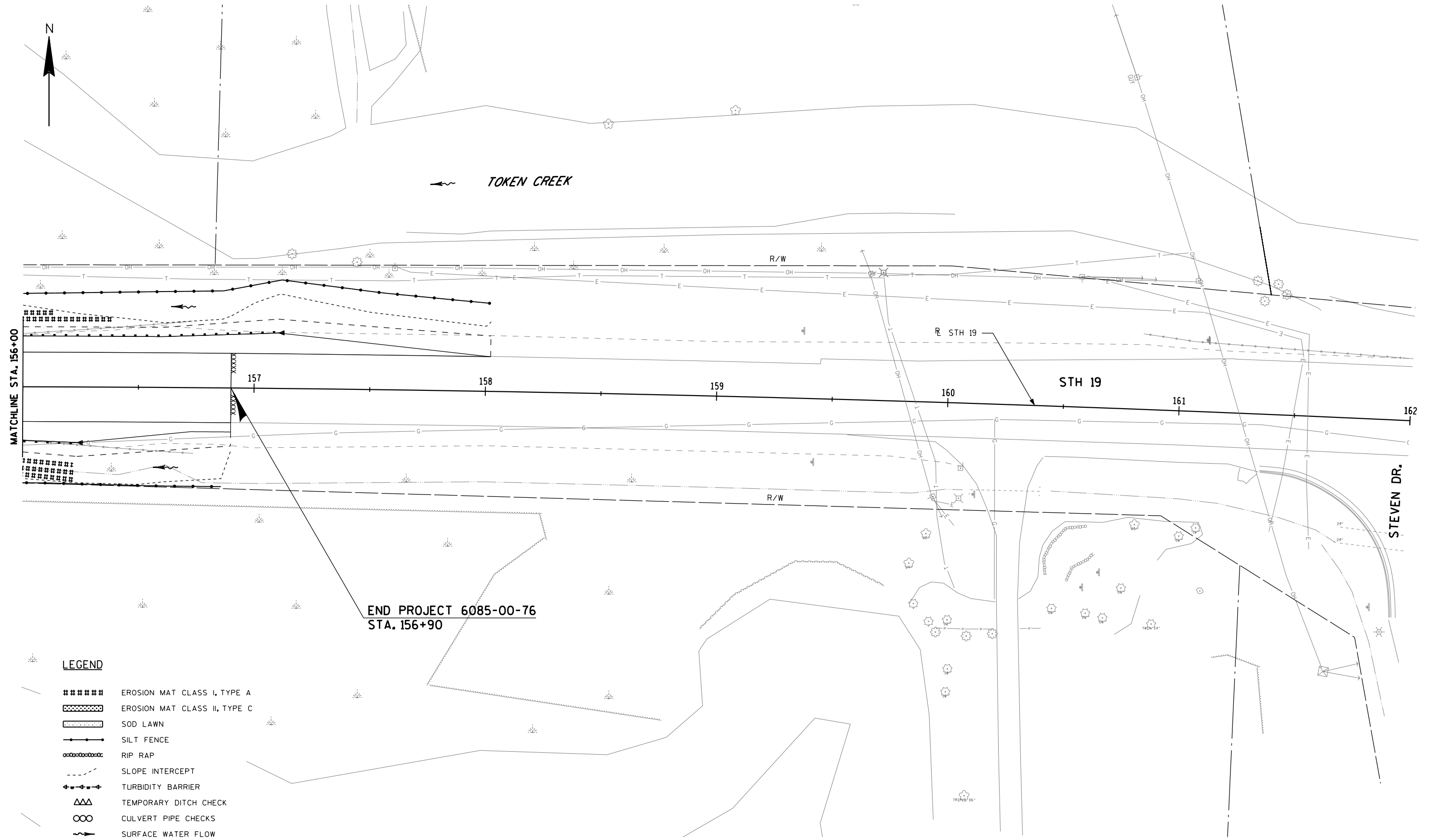
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PEN TABLE: P:\Standards\WisDOT\Workspace\tables\pen\ET_WisDOT.tbl

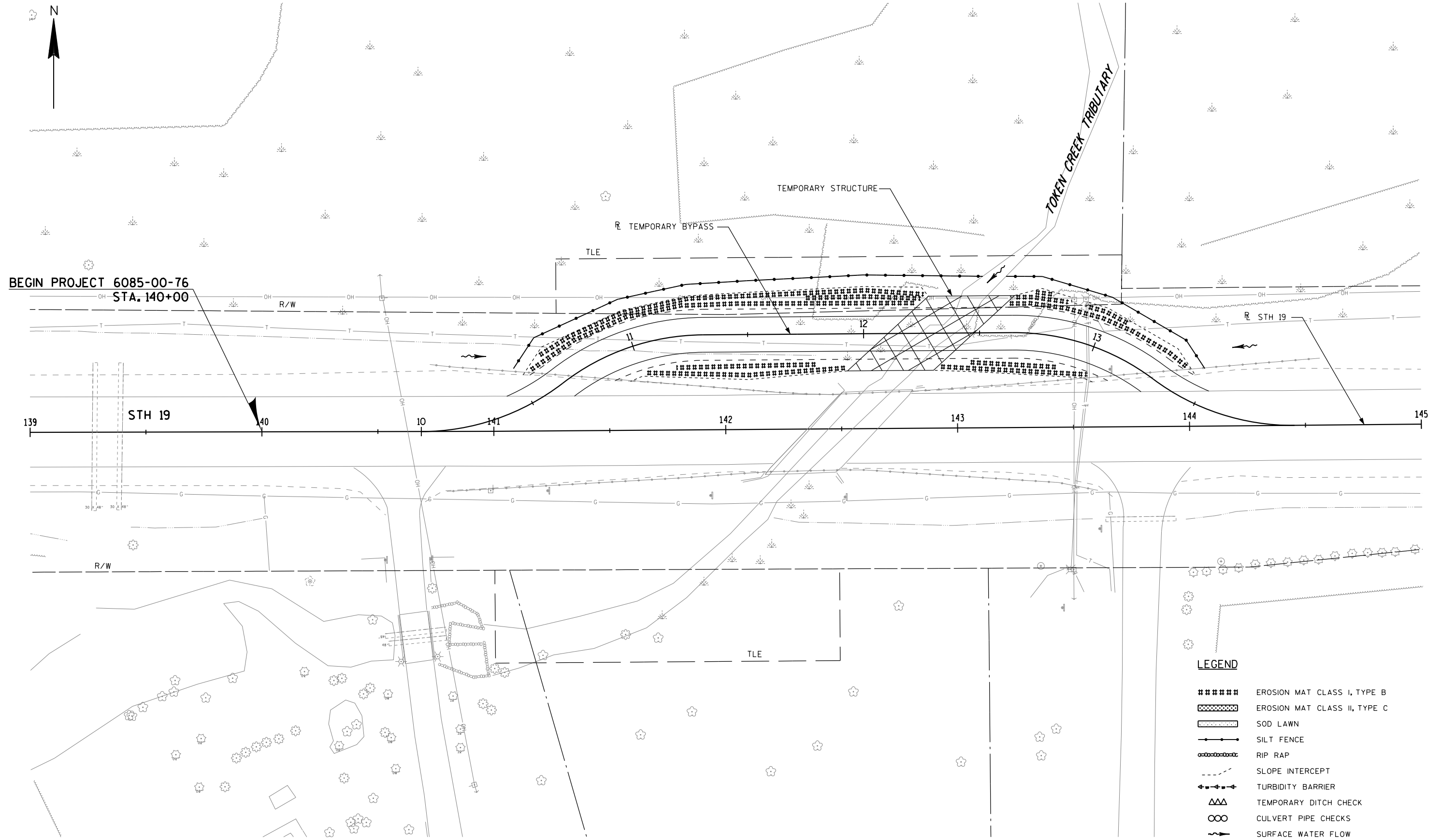
PLOT DATE: 3/26/2013
PLOT TIME: 9:43:48 AM

PLOT SCALE: 1:40

WISDOT/CADDS SHEET 42







STAGE 1

TRAFFIC
STH 19 OPEN TO TRAFFIC.

WESTBOUND STH 19 SHOULDER CLOSED AT
STRUCTURE B-13-479.

CONSTRUCTION
CONSTRUCT TEMPORARY STRUCTURE AND TEMPORARY
BYPASS AT STRUCTURE B-13-479.

DO NOT REMOVE BEAM GUARD UNTIL ROADWAY IS
CLOSED TO TRAFFIC.

STAGE 2A

TRAFFIC
STH 19 CLOSED TO TRAFFIC, DETOUR ROUTE IN USE.

ACCESS TO RESIDENCES 3969, 3953, 3948, 3941,
3939, 3938, AND 3922 PROVIDED USING TEMPORARY
BYPASS FROM THE WEST.

CONSTRUCTION
REMOVE STRUCTURES B-13-478 AND B-13-479.

CONSTRUCT STRUCTURE B-13-609, APPROACH SLABS,
TOKEN CREEK TRIBUTARY REALIGNMENT, AND STH 19
ROADWAY EASTBOUND LANE AND SHOULDER INCLUDING
BEAMGUARD, LANDSCAPING, AND DRIVEWAYS.

CONSTRUCT STRUCTURE B-13-608, APPROACH SLABS,
AND STH 19 ROADWAY EASTBOUND LANE AND
SHOULDER INCLUDING BEAMGUARD AND LANDSCAPING.

STAGE 2B

TRAFFIC
STH 19 CLOSED TO TRAFFIC, DETOUR ROUTE IN USE.

ACCESS TO RESIDENCES 3969, 3953, 3948, 3941,
3939, 3938, AND 3922 PROVIDED USING TEMPORARY
BYPASS FROM THE WEST.

CONSTRUCTION
CONTINUE TO CONSTRUCT STRUCTURE B-13-609 AND
APPROACH SLABS. CONSTRUCT STH 19 ROADWAY
WESTBOUND LANE ONLY EXCEPT AT BYPASS
CONNECTIONS.

CONTINUE TO CONSTRUCT STRUCTURE B-13-608 AND
APPROACH SLABS. CONSTRUCT STH 19 ROADWAY
WESTBOUND LANE AND SHOULDER INCLUDING
BEAMGUARD, LANDSCAPING, AND DRIVEWAY.

STAGE 3

TRAFFIC
STH 19 CLOSED TO TRAFFIC, DETOUR ROUTE IN USE.

ACCESS TO RESIDENCES 3969, 3953, 3948, 3941,
3939, 3938, AND 3922 PROVIDED USING FINISHED
STRUCTURES B-13-609 AND B-13-608.

CONSTRUCTION
REMOVE TEMPORARY STRUCTURE AND TEMPORARY
BYPASS AT STRUCTURE B-13-609.

CONSTRUCT STH 19 ROADWAY WESTBOUND LANE
AT BYPASS CONNECTIONS. CONSTRUCT WESTBOUND
SHOULDER AT STRUCTURE B-13-609 INCLUDING
BEAMGUARD.

STAGE 4

TRAFFIC
STH 19 OPEN TO TRAFFIC.

WESTBOUND STH 19 SHOULDER CLOSED AT
STRUCTURE B-13-609.

CONSTRUCTION
PLACE LANDSCAPING NORTH OF STH 19 ROADWAY
AT STRUCTURE B-13-609.

FINISH OTHER OUTSTANDING WORK ON PROJECT.

TRAFFIC CONTROL SHEET INDEX

TRAFFIC CONTROL GENERAL NOTES

TRAFFIC CONTROL DETAILS

TRAFFIC CONTROL STAGE 1 PLANS

TRAFFIC CONTROL STAGE 2A PLANS

TRAFFIC CONTROL STAGE 2B PLANS

TRAFFIC CONTROL STAGE 3 PLANS

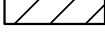
TRAFFIC CONTROL STAGE 4 PLANS

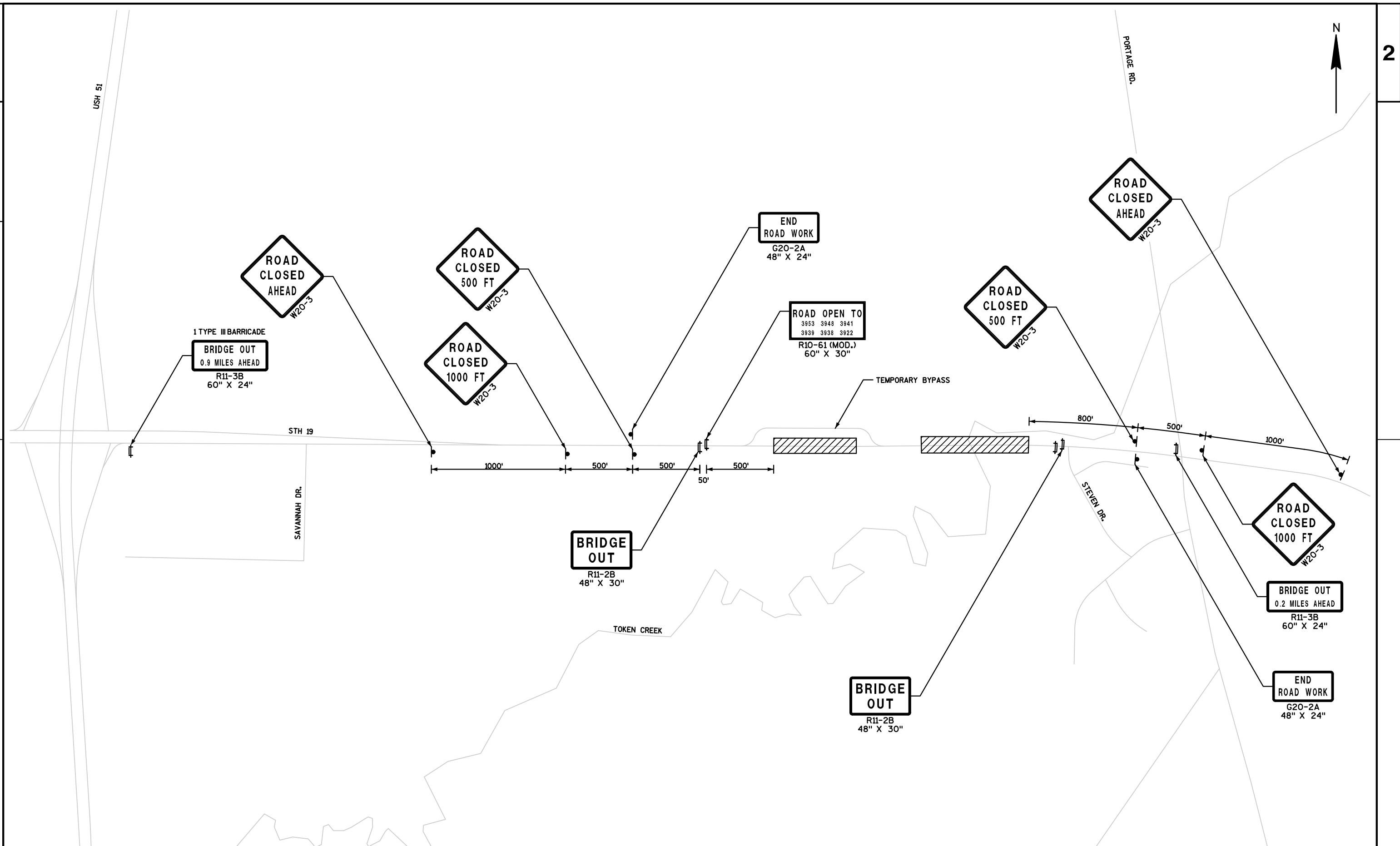
DETOUR ROUTE SIGNING

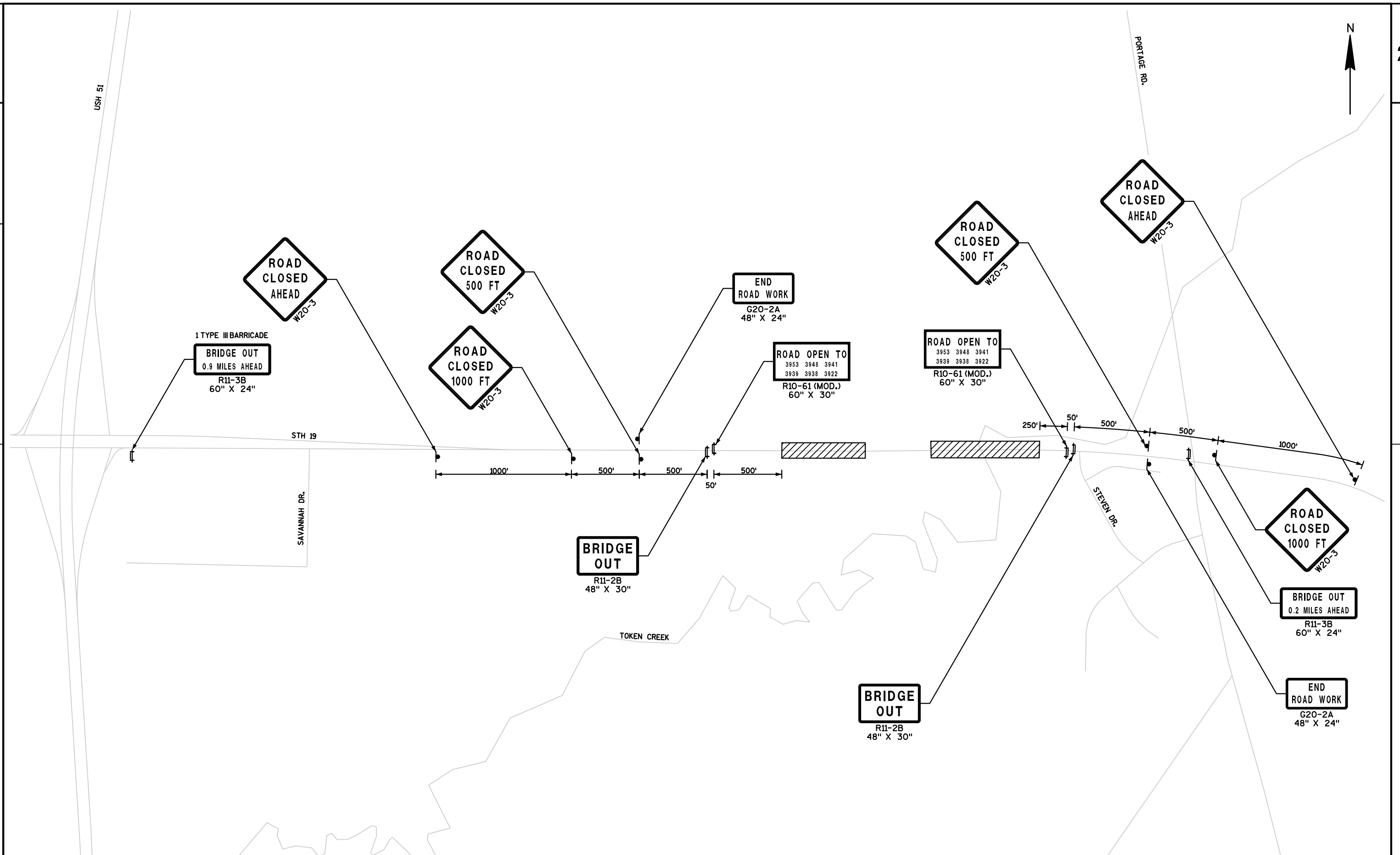
TRAFFIC CONTROL GENERAL NOTES

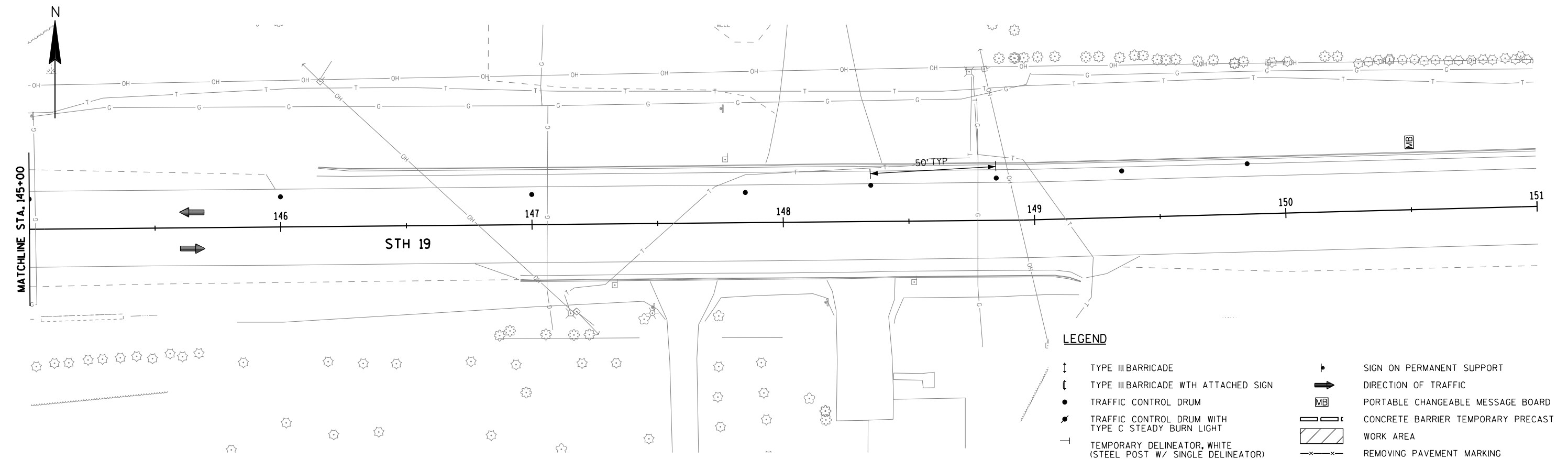
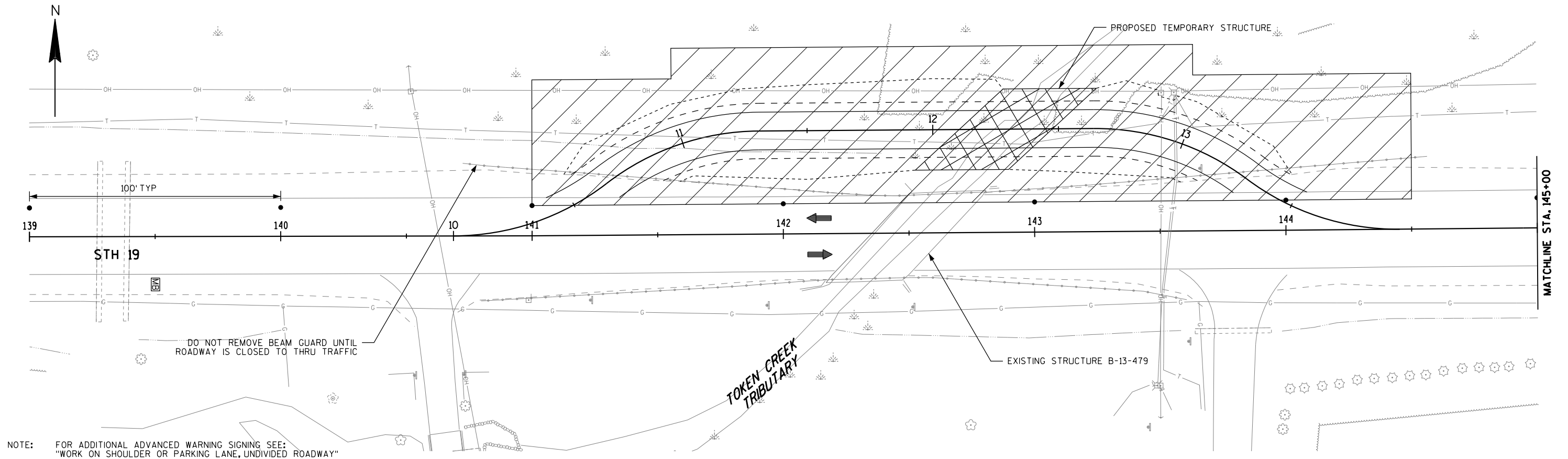
1. ALL TRAFFIC CONTROL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED IN THE PLANS.
2. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS REFLECTIVE ORANGE.
3. SIGN LOCATIONS ARE APPROXIMATE. THE ACTUAL LOCATION AND SPACING MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER TO MEET FIELD CONDITIONS.
4. ALL SIGNS, TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE COVERED OR REMOVED AS NEEDED AND/OR DIRECTED BY THE ENGINEER.
5. CONTRACTOR SHALL INSTALL PERMANENT SIGNS WHEN APPROPRIATE DURING CONSTRUCTION STAGING AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
6. TRAFFIC CONTROL DETOUR SIGNS SHALL USE 36" SERIES ON FREEWAYS ONLY.
7. DETOUR SIGNS SHALL BE GROUND MOUNTED ON SEPARATE POST UNLESS OTHERWISE NOTED IN THE PLANS.

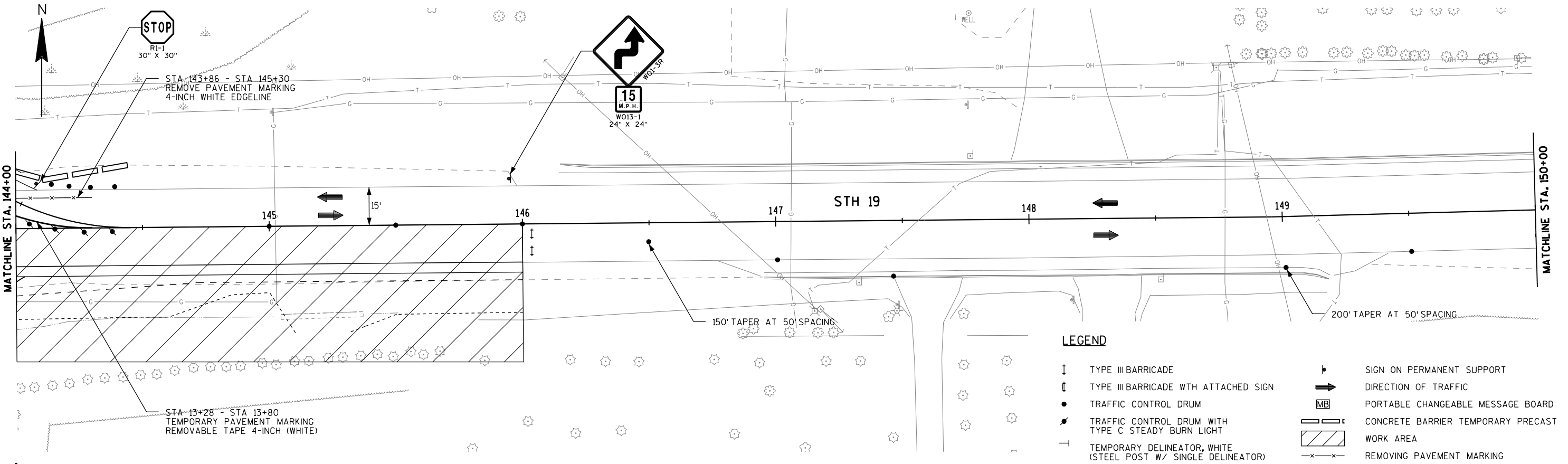
LEGEND

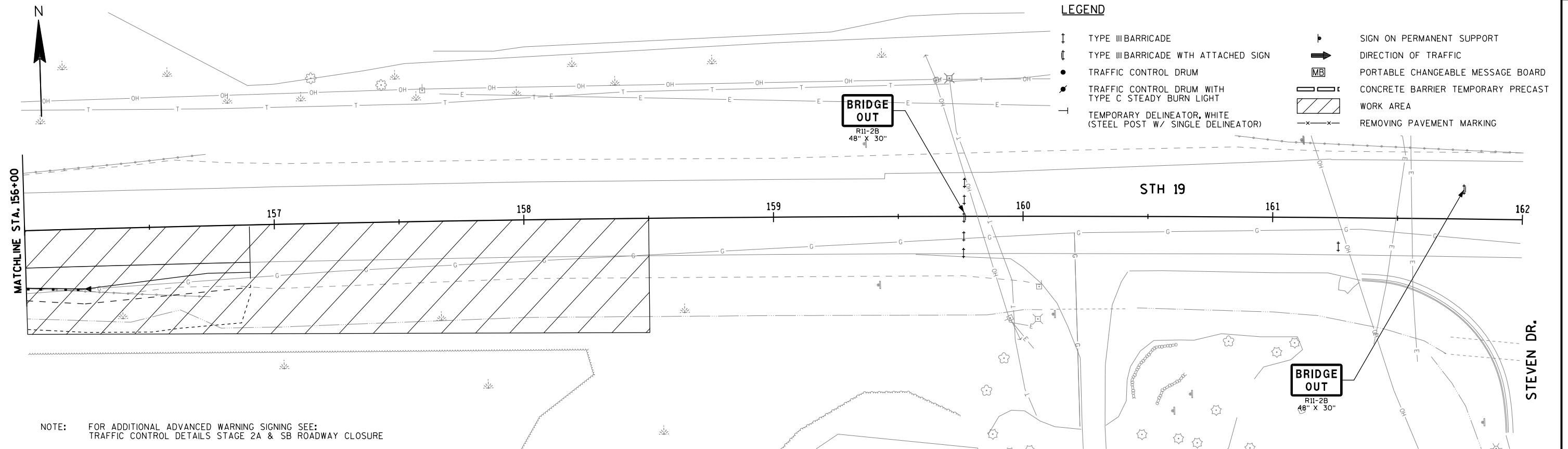
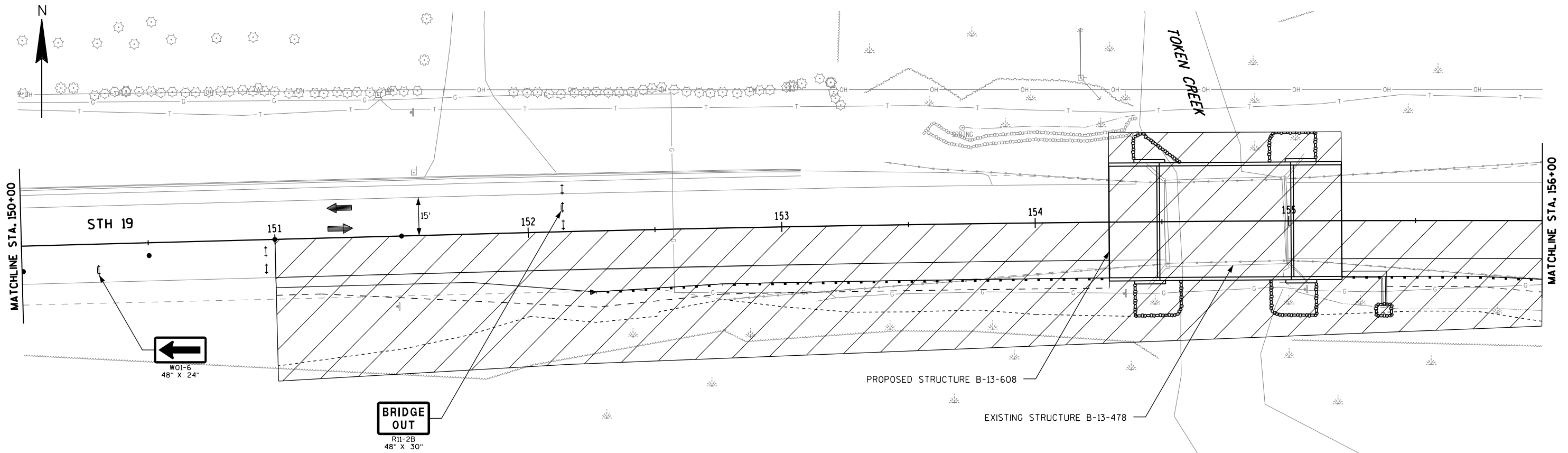
-  TYPE III BARRICADE
-  TYPE III BARRICADE WTH ATTACHED SIGN
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
-  SIGN ON PERMANENT SUPPORT
-  TYPE A WARNING LIGHT (FLASHING)
-  TYPE C WARNING LIGHT (STEADY BURN)
-  CONCRETE BARRIER TEMPORARY PRECAST
-  WORK AREA
-  DIRECTION OF TRAFFIC
-  PORTABLE CHANGEABLE MESSAGE BOARD

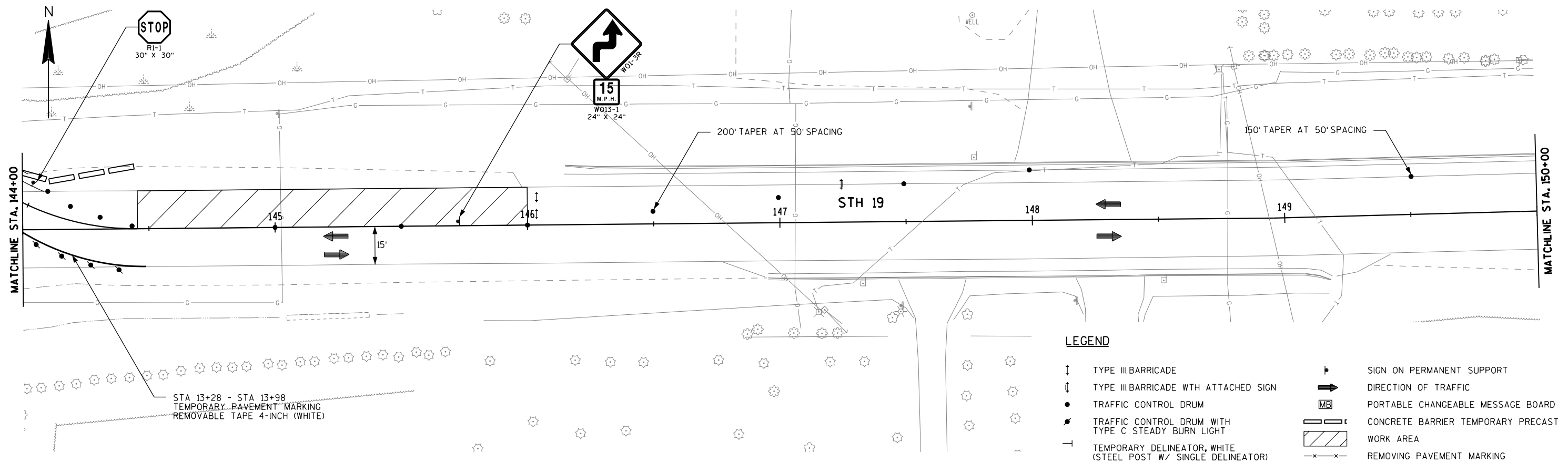
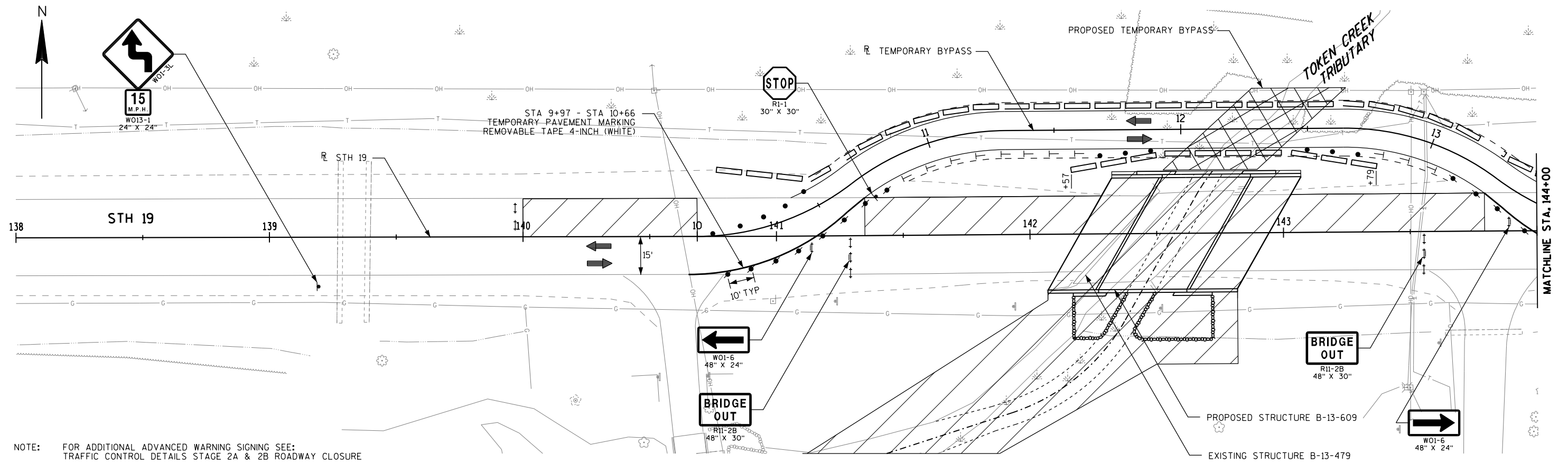


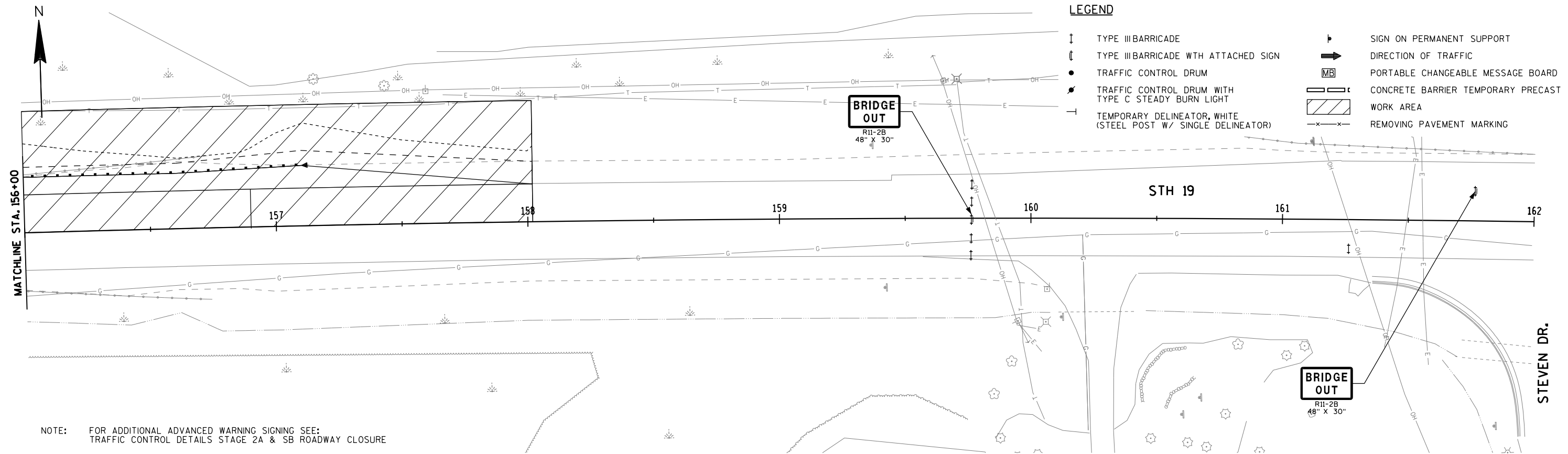
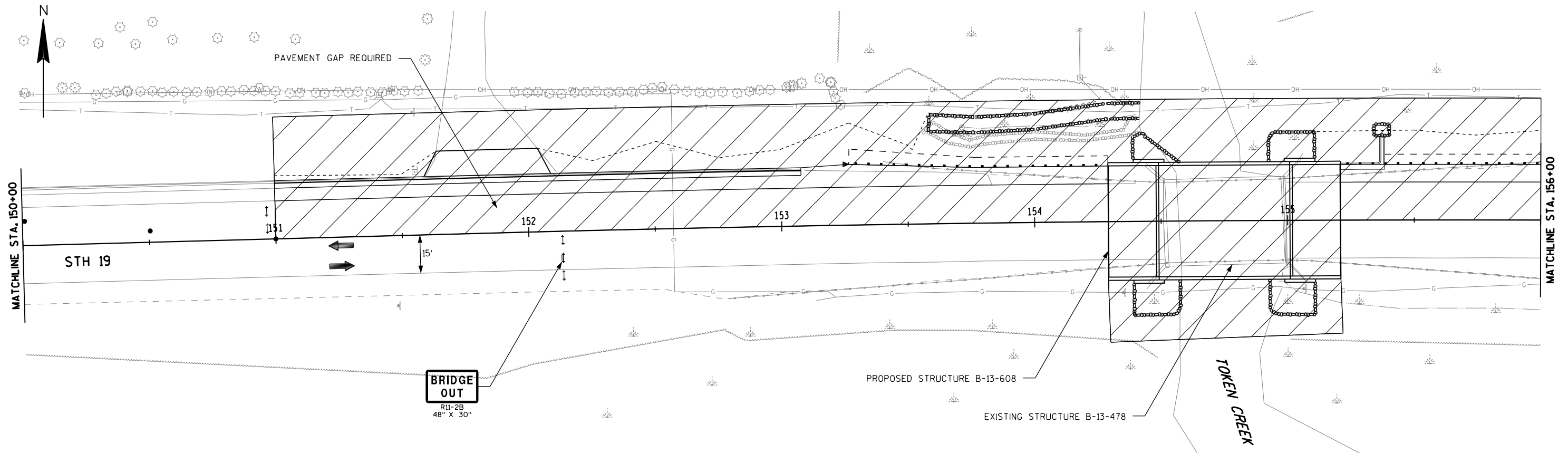


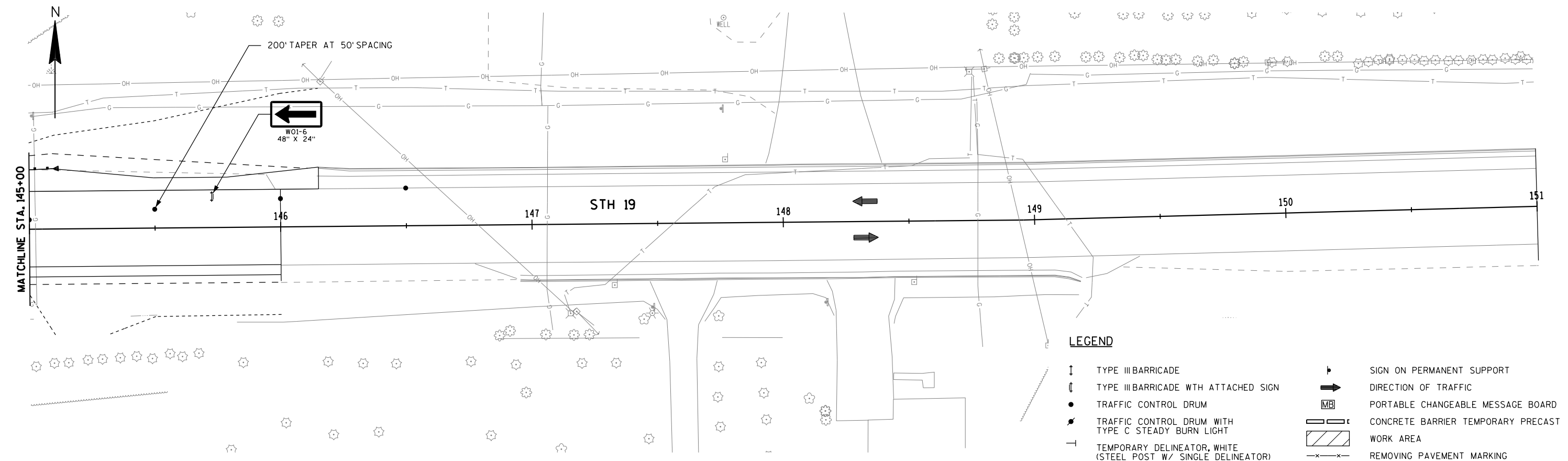
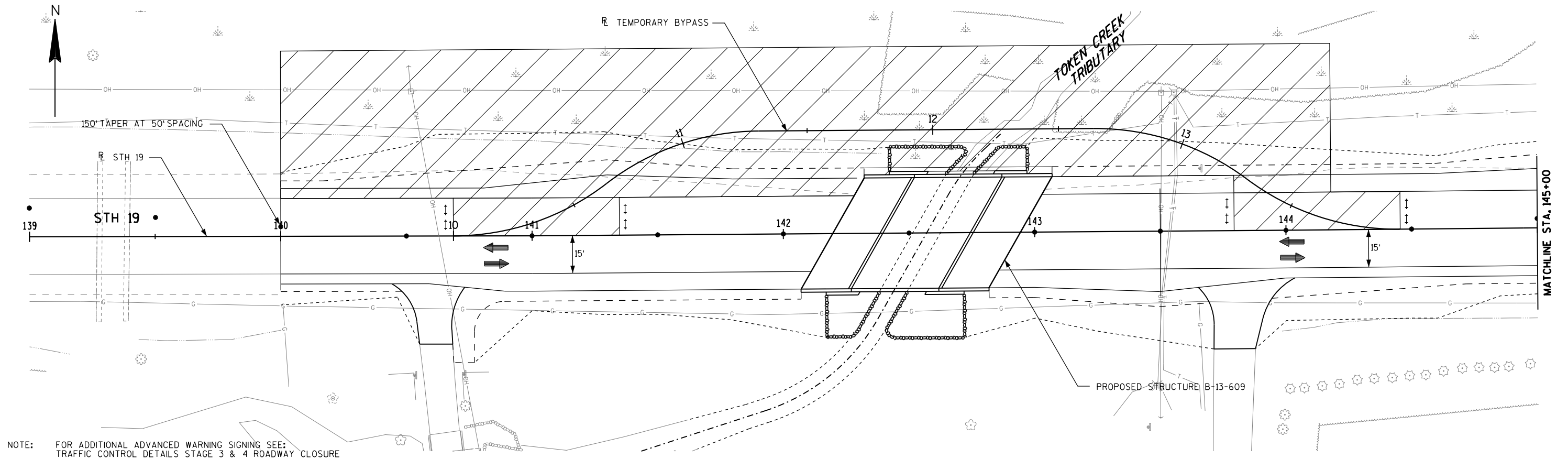


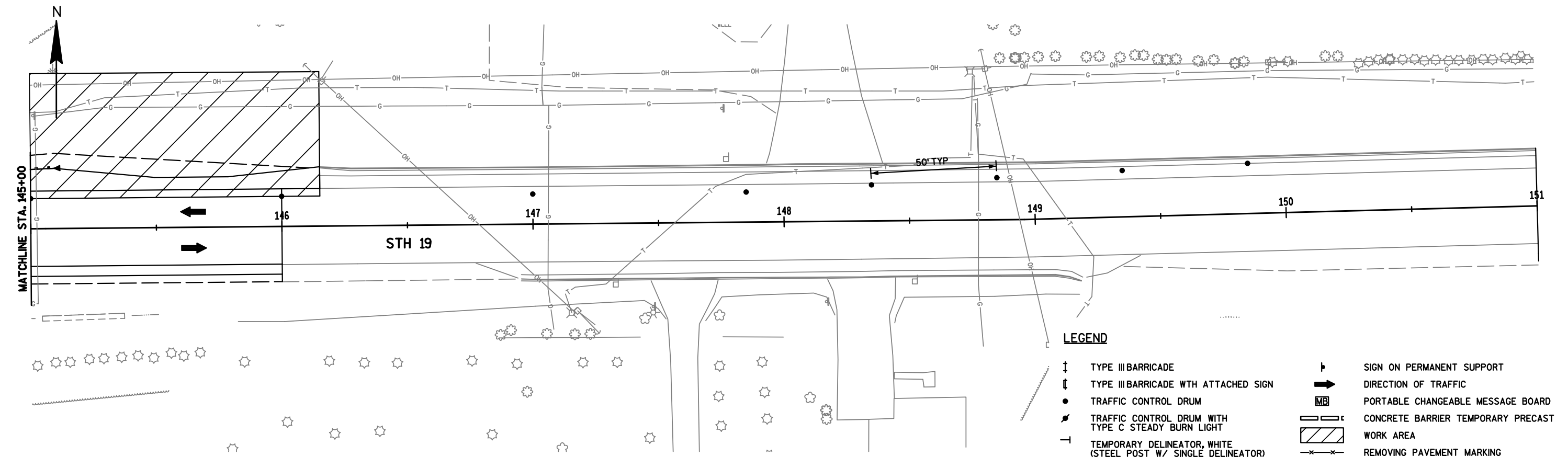
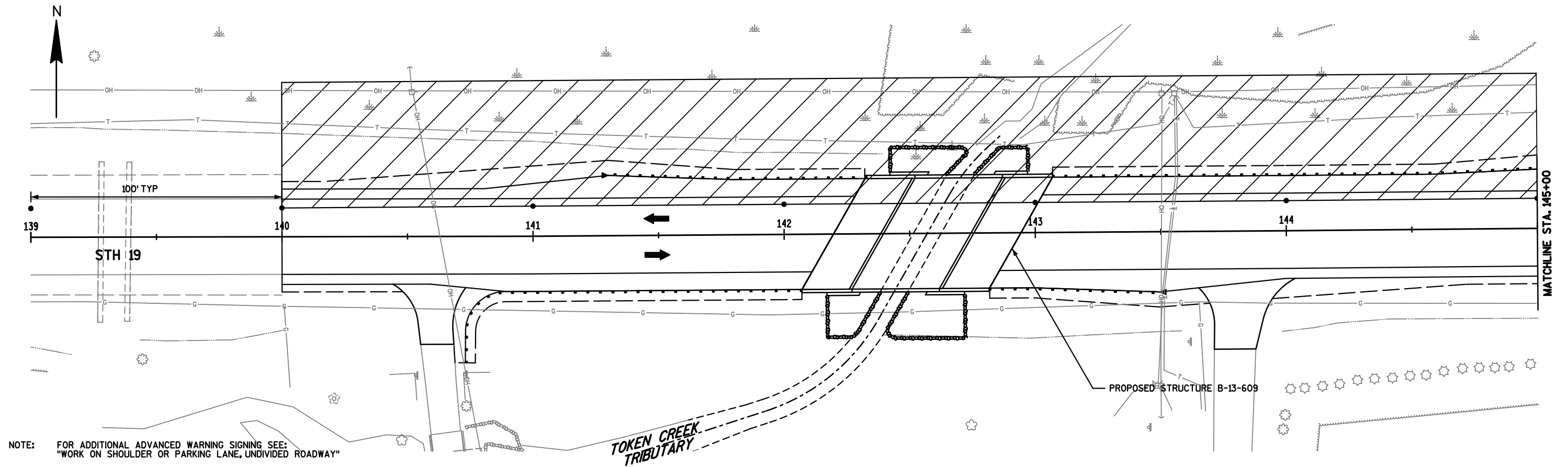


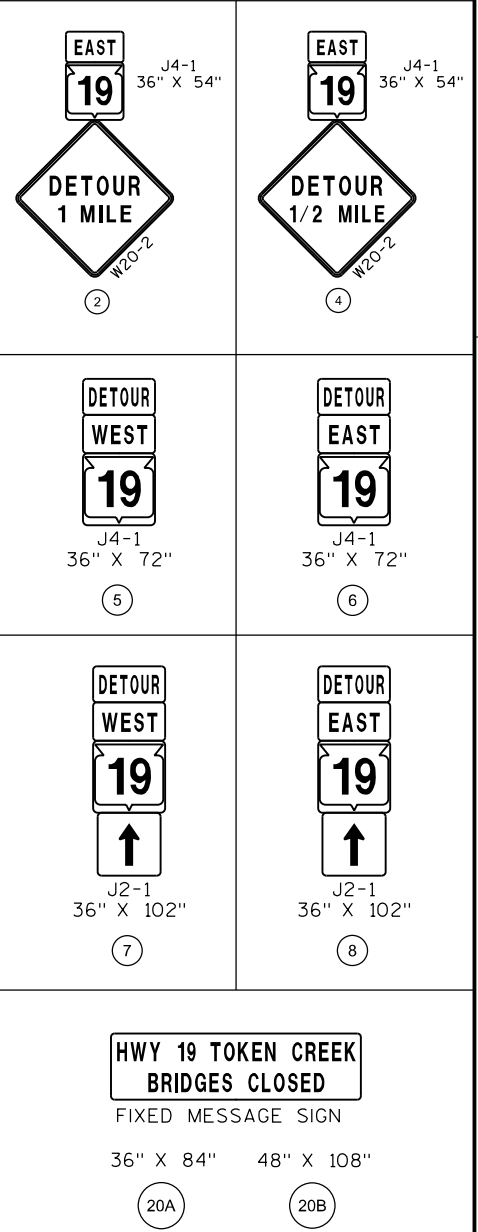


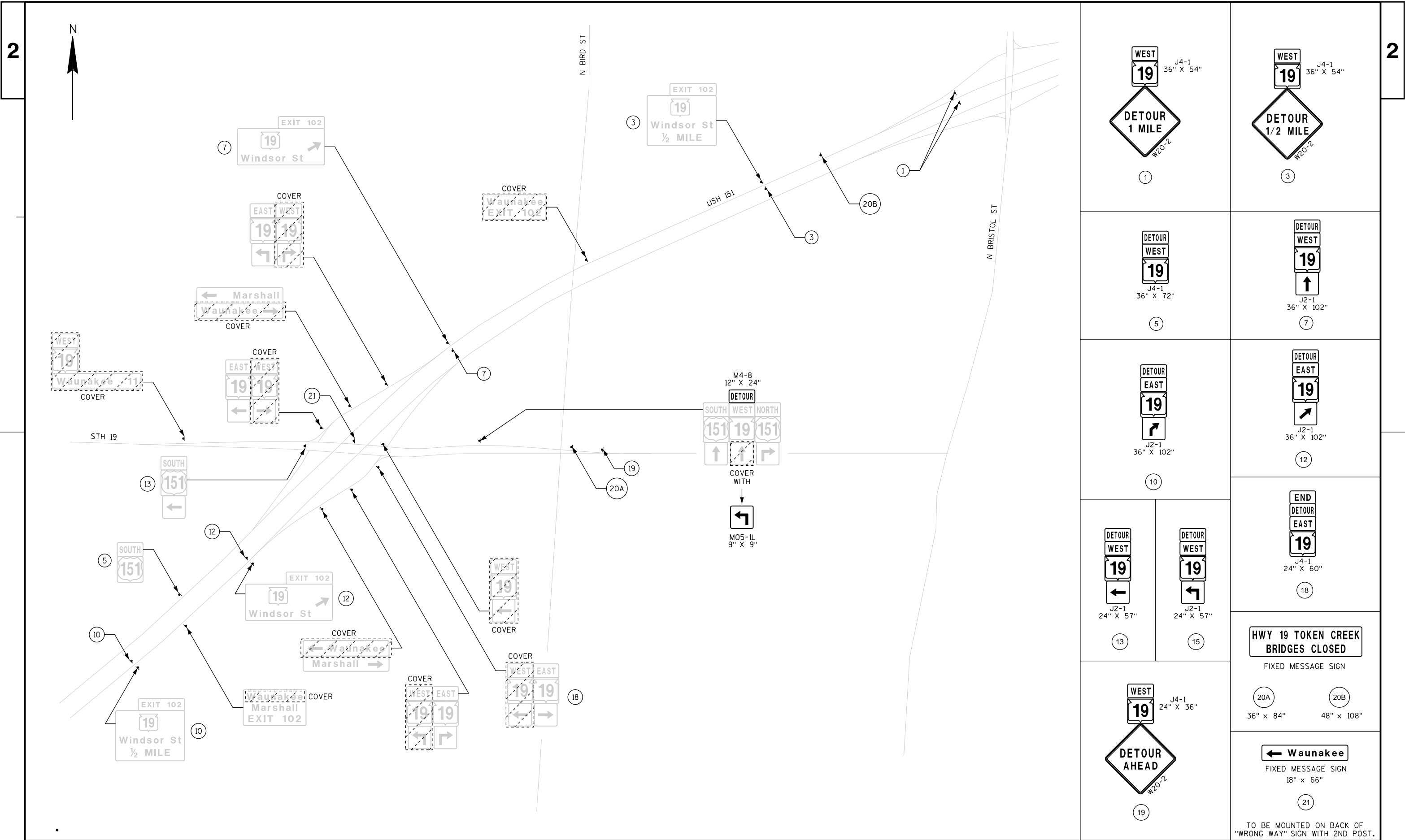


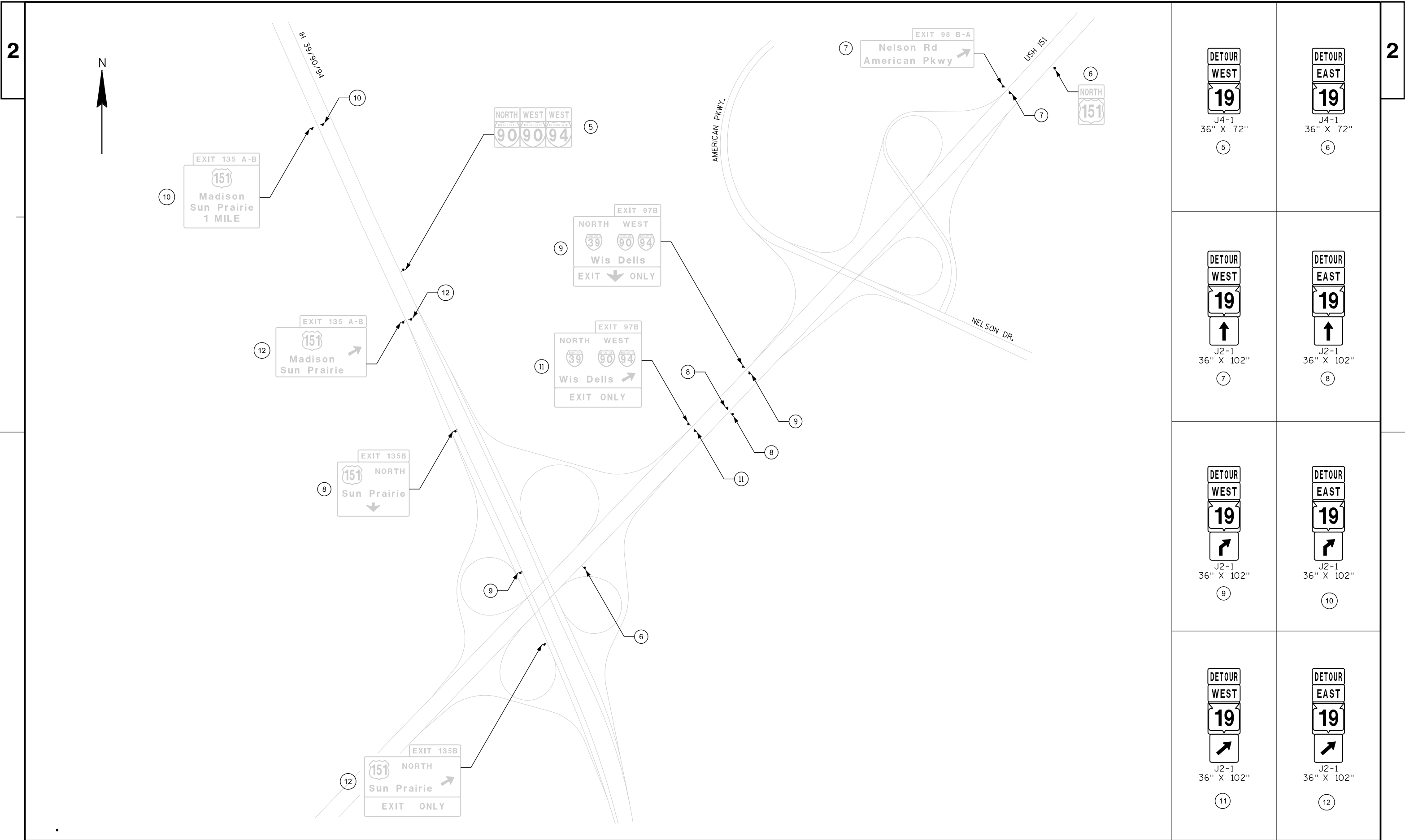


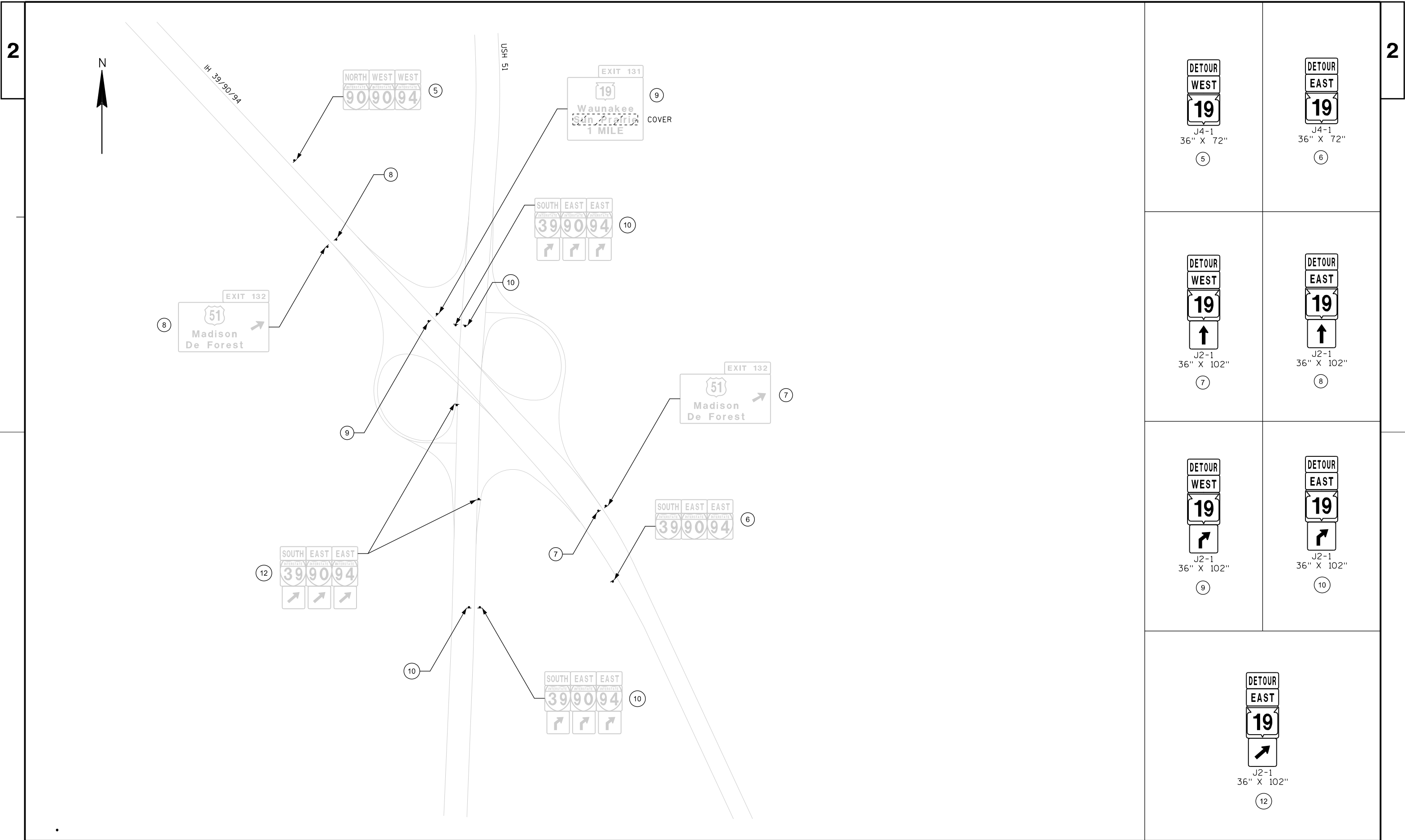












J4-1
36" X 72"
5



J4-1
36" X 72"
6



J2-1
36" X 102"
7



J2-1
36" X 102"
8



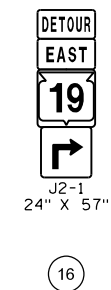
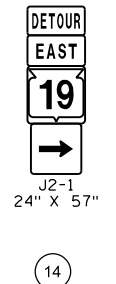
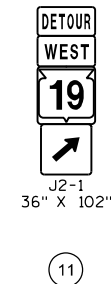
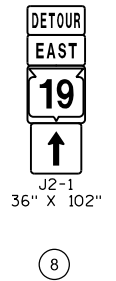
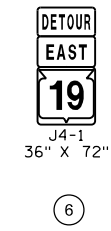
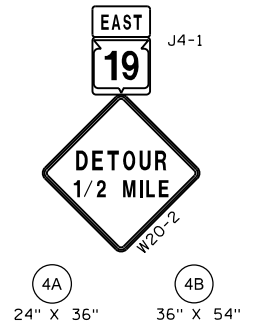
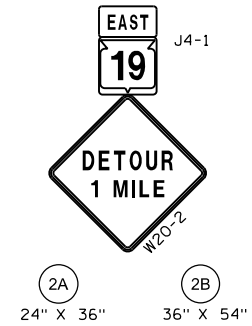
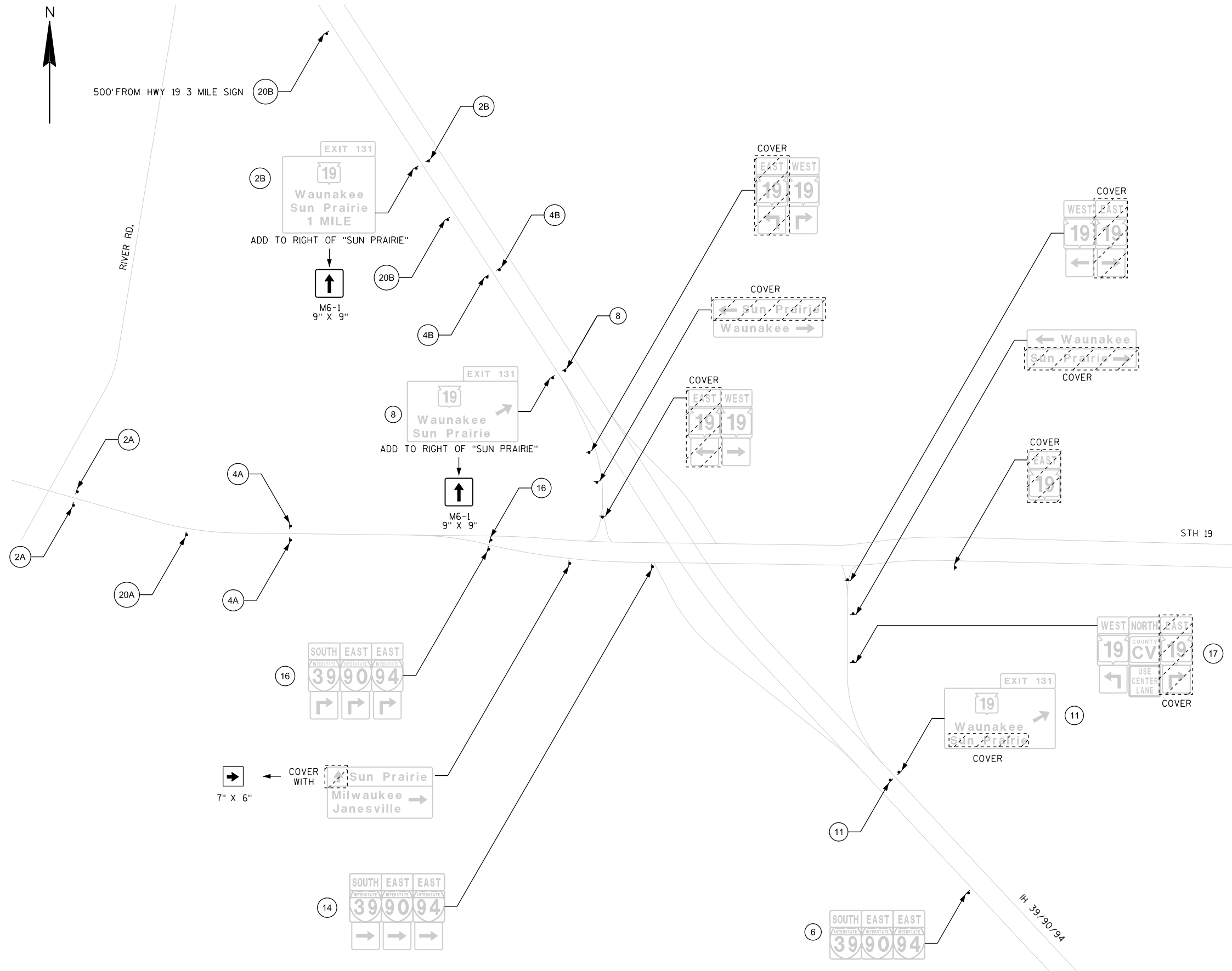
J2-1
36" X 102"
9



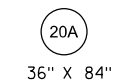
J2-1
36" X 102"
10



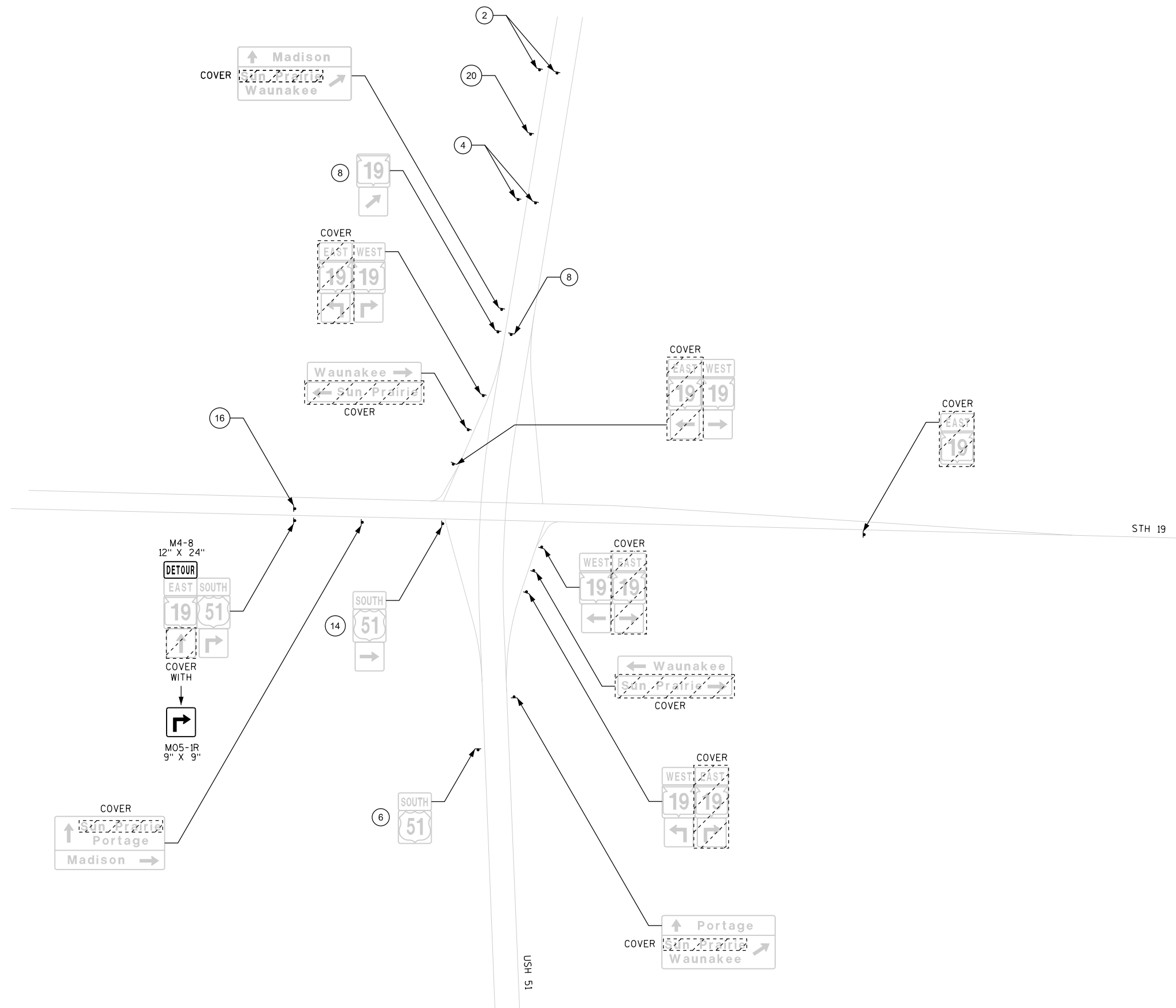
J2-1
36" X 102"
12



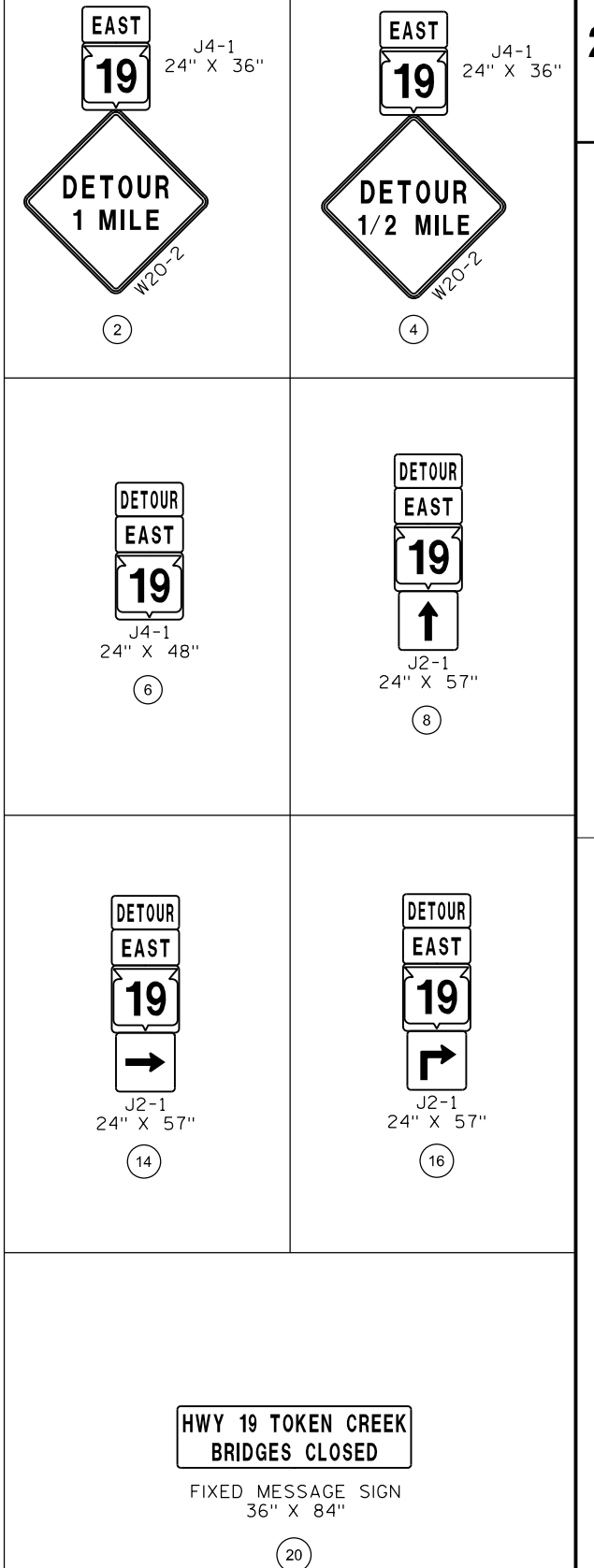
HWY 19 TOKEN CREEK
BRIDGES CLOSED
FIXED MESSAGE SIGN



2



2



PROJECT NUMBER: 6085-00-76

HWY:STH 19

COUNTY: DANE

DETOUR PLAN - STH 19/USH 51 INTERCHANGE

SHEET	40	E
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■

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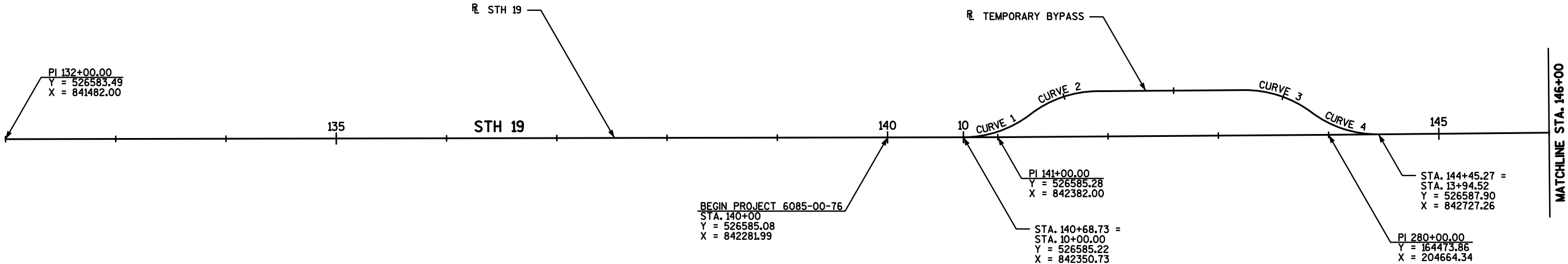


CURVE 1	
PI	10+34
Y	526585.29
X	842384.74
R	100.0
D	57°17'45"
L	65.6
T	34.0
PC	10+00
Y	526585.22
X	842350.73
PRC	10+66
Y	526606.08
X	842411.66

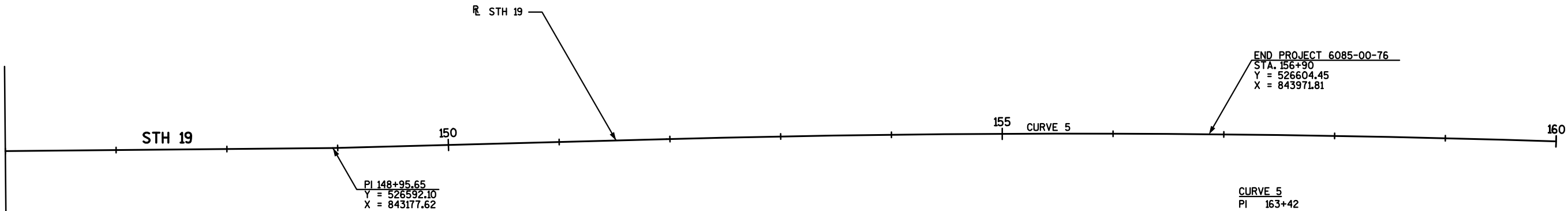
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X	842438.35
R	100.0
D	57°17'45"
L	65.0
T	33.7
PRC	10+66
Y	526606.08
X	842411.66
PT	11+31
Y	526626.94
X	842472.06

CURVE 3	
PI	12+98
Y	526628.17
X	842639.31
R	100.0
D	57°17'45"
L	65.1
T	33.8
PC	12+64
Y	526627.92
X	842605.56
PRC	13+29
Y	526607.91
X	842666.31

CURVE 4	
PI	13+63
Y	526587.59
X	842693.39
R	100.0
D	57°17'45"
L	65.3
T	33.9
PRC	13+29
Y	526607.91
X	842666.31
PT	13+95
Y	526587.90
X	842727.26



MATCHLINE STA. 146+00



CURVE 5	
PI	163+42
Y	526630.68
X	844623.27
R	13751.0
D	0°25'00"
L	2284.4
T	1144.9
PC	151+97
Y	526600.14
X	843478.80
PT	174+81
Y	526471.54
X	845756.99

3

DATE 09APR13		E S T I M A T E O F Q U A N T I T I E S			
LINE				6085-00-76	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	201.0105	CLEARING	STA	3.000	3.000
0020	201.0205	GRUBBING	STA	2.000	2.000
0030	203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS (STATION) 01. 142+57	LS	1.000	1.000
0040	203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS (STATION) 02. 154+75	LS	1.000	1.000
0050	204.0100	REMOVING PAVEMENT	SY	3,750.000	3,750.000
0060	204.0110	REMOVING ASPHALTIC SURFACE	SY	200.000	200.000
0070	204.0150	REMOVING CURB & GUTTER	LF	210.000	210.000
0080	204.0165	REMOVING GUARDRAIL	LF	1,240.000	1,240.000
0090	204.0180	REMOVING DELINEATORS AND MARKERS	EACH	4.000	4.000
0100	205.0100	EXCAVATION COMMON	CY	1,821.000	1,821.000
0110	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 01. B-13-608	LS	1.000	1.000
0120	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 02. B-13-609	LS	1.000	1.000
0130	208.0100	BORROW	CY	324.000	324.000
0140	210.0100	BACKFILL STRUCTURE	CY	700.000	700.000
0150	211.0200	PREPARE FOUNDATION FOR CONCRETE PAVEMENT (PROJECT) 01. 6085-00-76	LS	1.000	1.000
0160	213.0100	FINISHING ROADWAY (PROJECT) 01. 6085-00-76	EACH	1.000	1.000
0170	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	430.000	430.000
0180	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	1,650.000	1,650.000
0190	305.0130	BASE AGGREGATE DENSE 3-INCH	TON	790.000	790.000
0200	312.0110	SELECT CRUSHED MATERIAL	TON	1,200.000	1,200.000
0210	415.0100	CONCRETE PAVEMENT 10-INCH	SY	3,360.000	3,360.000
0220	415.0210	CONCRETE PAVEMENT GAPS	EACH	3.000	3.000
0230	415.1100	CONCRETE PAVEMENT HES 10-INCH	SY	315.000	315.000
0240	416.0610	DRILLED TIE BARS	EACH	46.000	46.000
0250	416.0620	DRILLED DOWEL BARS	EACH	192.000	192.000
0260	416.1010	CONCRETE SURFACE DRAINS	CY	3.800	3.800
0270	416.1710	CONCRETE PAVEMENT REPAIR	SY	25.000	25.000
0280	416.1720	CONCRETE PAVEMENT REPLACEMENT	SY	225.000	225.000
0290	455.0105	ASPHALTIC MATERIAL PG58-28	TON	17.000	17.000
0300	460.1100	HMA PAVEMENT TYPE E-0.3	TON	290.000	290.000
0310	460.2000	INCENTIVE DENSITY HMA PAVEMENT	DOL	190.000	190.000
0320	465.0120	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	TON	18.000	18.000
0330	502.0100	CONCRETE MASONRY BRIDGES	CY	459.000	459.000
0340	502.0200	CONCRETE MASONRY BRIDGES HES	CY	236.000	236.000
0350	502.3200	PROTECTIVE SURFACE TREATMENT	SY	1,012.000	1,012.000
0360	505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	14,020.000	14,020.000
0370	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	77,000.000	77,000.000
0380	506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	32.000	32.000
0390	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	28.000	28.000
0400	520.0118	CULVERT PIPE CLASS III 18-INCH	LF	60.000	60.000
0410	521.1518	APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS STEEL 18-INCH 6 TO 1	EACH	4.000	4.000
0420	526.0100	TEMPORARY STRUCTURE (STATION) 01.12+29	LS	1.000	1.000
0430	550.2106	PILING CIP CONCRETE 10 3/4 X 0.365-INCH	LF	1,430.000	1,430.000
0440	601.0557	CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE D	LF	210.000	210.000
0450	603.8000	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	LF	510.000	510.000

3

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DATE 09APR13		E S T I M A T E O F Q U A N T I T I E S			
LINE				6085-00-76	
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0460	603.8125	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	LF	510.000	510.000
0470	606.0200	RIPRAP MEDIUM	CY	41.000	41.000
0480	606.0300	RIPRAP HEAVY	CY	285.000	285.000
0490	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	594.000	594.000
0500	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	8.000	8.000
0510	614.0200	STEEL THRIE BEAM STRUCTURE APPROACH	LF	42.000	42.000
0520	614.0305	STEEL PLATE BEAM GUARD CLASS A	LF	100.000	100.000
0530	614.0345	STEEL PLATE BEAM GUARD SHORT RADIUS	LF	37.500	37.500
0540	614.0370	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL	EACH	1.000	1.000
0550	614.0390	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL	EACH	1.000	1.000
0560	614.2300	MGS GUARDRAIL 3	LF	362.500	362.500
0570	614.2500	MGS THRIE BEAM TRANSITION	LF	235.000	235.000
0580	614.2610	MGS GUARDRAIL TERMINAL EAT	EACH	6.000	6.000
0590	618.0100	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01. 6085-00-76	EACH	1.000	1.000
0600	619.1000	MOBILIZATION	EACH	1.000	1.000
0610	624.0100	WATER	MGAL	20.000	20.000
0620	625.0500	SALVAGED TOPSOIL	SY	3,600.000	3,600.000
0630	627.0200	MULCHING	SY	1,400.000	1,400.000
0640	628.1504	SILT FENCE	LF	2,940.000	2,940.000
0650	628.1520	SILT FENCE MAINTENANCE	LF	2,940.000	2,940.000
0660	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	10.000	10.000
0670	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	10.000	10.000
0680	628.2002	EROSION MAT CLASS I TYPE A	SY	880.000	880.000
0690	628.2004	EROSION MAT CLASS I TYPE B	SY	350.000	350.000
0700	628.2027	EROSION MAT CLASS II TYPE C	SY	300.000	300.000
0710	628.6005	TURBIDITY BARRIERS	SY	100.000	100.000
0720	628.7504	TEMPORARY DITCH CHECKS	LF	38.000	38.000
0730	628.7555	CULVERT PIPE CHECKS	EACH	5.000	5.000
0740	629.0210	FERTILIZER TYPE B	CWT	3.000	3.000
0750	630.0110	SEEDING MIXTURE NO. 10	LB	25.000	25.000
0760	630.0140	SEEDING MIXTURE NO. 40	LB	20.000	20.000
0770	630.0160	SEEDING MIXTURE NO. 60	LB	9.000	9.000
0780	630.0200	SEEDING TEMPORARY	LB	110.000	110.000
0790	631.1000	SOD LAWN	SY	7.000	7.000
0800	633.1100	DELINEATORS TEMPORARY	EACH	11.000	11.000
0810	638.2602	REMOVING SIGNS TYPE II	EACH	10.000	10.000
0820	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	10.000	10.000
0830	642.5001	FIELD OFFICE TYPE B	EACH	1.000	1.000
0840	643.0100	TRAFFIC CONTROL (PROJECT) 01. 6085-00-76	EACH	1.000	1.000
0850	643.0300	TRAFFIC CONTROL DRUMS	DAY	1,166.000	1,166.000
0860	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	1,239.000	1,239.000
0870	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	2,478.000	2,478.000
0880	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	624.000	624.000
0890	643.0900	TRAFFIC CONTROL SIGNS	DAY	1,136.000	1,136.000
0900	643.0910	TRAFFIC CONTROL COVERING SIGNS TYPE I	EACH	4.000	4.000
0910	643.0920	TRAFFIC CONTROL COVERING SIGNS TYPE II	EACH	26.000	26.000
0920	643.1000	TRAFFIC CONTROL SIGNS FIXED MESSAGE	SF	284.250	284.250
0930	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	30.000	30.000

3

3

DATE 09APR13		E S T I M A T E O F Q U A N T I T I E S			
LINE					6085-00-76
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0940	643.2000	TRAFFIC CONTROL DETOUR (PROJECT) 01.	EACH	1.000	1.000
		6085-00-76			
0950	643.3000	TRAFFIC CONTROL DETOUR SIGNS	DAY	5,220.000	5,220.000
0960	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	570.000	570.000
0970	645.0130	GEOTEXTILE FABRIC TYPE R	SY	85.000	85.000
0980	645.0140	GEOTEXTILE FABRIC TYPE SAS	SY	850.000	850.000
0990	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	2,680.000	2,680.000
1000	646.0600	REMOVING PAVEMENT MARKINGS	LF	90.000	90.000
1010	649.0400	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	LF	265.000	265.000
1020	650.5000	CONSTRUCTION STAKING BASE	LF	245.000	245.000
1030	650.5500	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	LF	210.000	210.000
1040	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 01. B-13-608	LS	1.000	1.000
1050	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 02. B-13-609	LS	1.000	1.000
1060	650.7000	CONSTRUCTION STAKING CONCRETE PAVEMENT	LF	1,150.000	1,150.000
1070	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 6085-00-76	LS	1.000	1.000
1080	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	1,395.000	1,395.000
1090	690.0150	SAWING ASPHALT	LF	70.000	70.000
1100	690.0250	SAWING CONCRETE	LF	1,630.000	1,630.000
1110	715.0415	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	1,160.000	1,160.000
1120	715.0502	INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	4,170.000	4,170.000
1130	SPV.0045	SPECIAL 01. INCENTIVE/DISINCENTIVE FOR ROADWAY CLOSURE	DAY	1.000	1.000
1140	SPV.0060	SPECIAL 01. MAILBOX REMOVAL AND TEMPORARY MAILBOXES	EACH	4.000	4.000
1150	SPV.0075	SPECIAL 01. TEMPORARY BYPASS MAINTENANCE	HRS	4.000	4.000
1160	SPV.0085	SPECIAL 01. BAR STEEL REINFORCEMENT HS STAINLESS BRIDGES	LB	3,660.000	3,660.000
1170	SPV.0090	SPECIAL 01. PRESTRESSED DECK BEAM INTERIOR B-13-608	LF	305.000	305.000
1180	SPV.0090	SPECIAL 02. PRESTRESSED DECK BEAM EXTERIOR B-13-608	LF	102.000	102.000
1190	SPV.0090	SPECIAL 03. PRESTRESSED DECK BEAM INTERIOR B-13-609	LF	185.000	185.000
1200	SPV.0090	SPECIAL 04. PRESTRESSED DECK BEAM EXTERIOR B-13-609	LF	62.000	62.000
1210	SPV.0105	SPECIAL 01. STREAM RELOCATION STRUCTURE B-13-609	LS	1.000	1.000
1220	SPV.0105	SPECIAL 02. CONCRETE PAVEMENT JOINT LAYOUT	LS	1.000	1.000
1230	SPV.0180	SPECIAL 01. GEOGRID REINFORCEMENT	SY	850.000	850.000

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CLEARING & GRUBBING 201.0105201.0205 CLEARINGGRUBBING <table><tr><th>STATION</th><th>LOCATION</th><th>STA</th><th>STA</th></tr><tr><td>141+33 - 143+83</td><td>LT</td><td>3</td><td>-</td></tr><tr><td>141+36 - 142+19</td><td>LT</td><td>-</td><td>1</td></tr><tr><td>143+31 - 143+79</td><td>LT</td><td>-</td><td>1</td></tr><tr><td colspan="2">TOTAL</td><td>3</td><td>2</td></tr></table>				STATION	LOCATION	STA	STA	141+33 - 143+83	LT	3	-	141+36 - 142+19	LT	-	1	143+31 - 143+79	LT	-	1	TOTAL		3	2	REMOVING PAVEMENT 204.0100 <table><tr><th>STATION</th><th>SY</th></tr><tr><td>140+00 - 142+35</td><td>790</td></tr><tr><td>142+66 - 146+00</td><td>1,120</td></tr><tr><td>151+00 - 154+52</td><td>1,200</td></tr><tr><td>154+99 - 156+90</td><td>640</td></tr><tr><td colspan="2">TOTAL</td><td>3,750</td></tr></table>		STATION	SY	140+00 - 142+35	790	142+66 - 146+00	1,120	151+00 - 154+52	1,200	154+99 - 156+90	640	TOTAL		3,750	REMOVING ASPHALTIC SURFACE 204.0110 <table><tr><th>STATION</th><th>LOCATION</th><th>SY</th></tr><tr><td>140+39 - 140+79</td><td>RT DRIVEWAY</td><td>65</td></tr><tr><td>143+57 - 144+03</td><td>RT DRIVEWAY</td><td>85</td></tr><tr><td>151+60 - 152+12</td><td>LT DRIVEWAY</td><td>50</td></tr><tr><td colspan="2">TOTAL</td><td>200</td></tr></table>			STATION	LOCATION	SY	140+39 - 140+79	RT DRIVEWAY	65	143+57 - 144+03	RT DRIVEWAY	85	151+60 - 152+12	LT DRIVEWAY	50	TOTAL		200	REMOVING CURB & GUTTER 204.0150 <table><tr><th>STATION</th><th>LOCATION</th><th>LF</th></tr><tr><td>151+00 - 153+08</td><td>LT</td><td>210</td></tr><tr><td colspan="2">TOTAL</td><td>210</td></tr></table>			STATION	LOCATION	LF	151+00 - 153+08	LT	210	TOTAL		210
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FINISHING ROADWAY (PROJECT) 213.0100 <table><tr><th>PROJECT</th><th>EACH</th></tr><tr><td>PROJECT 6085-00-76</td><td>1</td></tr><tr><td>TOTAL</td><td>1</td></tr></table>		PROJECT	EACH	PROJECT 6085-00-76	1	TOTAL	1	PREPARE FOUNDATION FOR CONCRETE PAVING (PROJECT) 211.0200 <table><tr><th>PROJECT</th><th>LS</th></tr><tr><td>PROJECT 6085-00-76</td><td>1</td></tr><tr><td>TOTAL</td><td>1</td></tr></table>		PROJECT	LS	PROJECT 6085-00-76	1	TOTAL	1	REMOVING DELINEATORS AND MARKERS 204.0180 <table><tr><th>STATION</th><th>LOCATION</th><th>EACH</th></tr><tr><td>140+79</td><td>RT</td><td>1</td></tr><tr><td>144+56</td><td>LT</td><td>1</td></tr></table>			STATION	LOCATION	EACH	140+79	RT	1	144+56	LT	1
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PROJECT 6085-00-76	1																										
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TOTAL	1																										
STATION	LOCATION	EACH																									
140+79	RT	1																									
144+56	LT	1																									

BASE AGGREGATE DENSE							152+78			RT	1
							156+74			LT	1
							TOTAL			4	
							REMOVING GUARDRAIL				
							204.0165				
STATION		LOCATION	TON	TON	TON	TON	MGAL	REMARKS			
10+56 - 13+39		LT/RT	110	-	720	1,100	1.5	MAINTENANCE			
10+56 - 13+39		LT/RT	40	-	-	-	0.5				
140+00 - 142+07		RT	25	70	-	-	1				
140+00 - 142+23		LT	30	75	-	-	1	FILL UNDER ROADWAY			
140+50 - 142+20		LT/RT	-	100	-	-	1				
142+82 - 146+00		RT	35	150	-	-	2				
142+94 - 145+50		LT/RT	-	400	-	-	4	FILL UNDER ROADWAY			
143+07 - 146+15		LT	50	140	-	-	2				
151+00 - 154+29		LT	15	85	-	-	1				
151+00 - 154+29		RT	40	110	-	-	1.5	FILL UNDER ROADWAY			
151+50 - 154+29		LT/RT	-	230	-	-	2.5				
155+21 - 156+24		LT/RT	-	20	-	-	0.5				
155+38 - 158+02		LT	30	85	-	-	1	FILL UNDER ROADWAY			
155+39 - 156+90		RT	15	35	-	-	0.5				
UNDISTRIBUTED			40	150	70	100	-				
TOTAL			430	1,650	790	1,200	20				
							UNLESS OTHERWISE NOTED ALL ITEMS IN CATEGORY 0010				

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EARTHWORK SUMMARY

DIVISION	STATION	LOCATION	205.0100 COMMON EXCAVATION	SALVAGED/ UNUSABLE PAVEMENT MATERIAL	AVAILABLE MATERIAL (2)	UNEXPANDED FILL	EXPANDED FILL (3)	MASS ORDINATE +/- (4)	WASTE	208.0100 BORROW (5)
			CUT (1)				FACTOR 1.30			
1	10+56 - 12+00	WEST OF TEMPORARY STRUCTURE	90	0	90	0	0	90	90	
	12+50 - 13+39	EAST OF TEMPORARY STRUCTURE	49	0	49	0	0	49	49	
SUBTOTAL			139	0	139	0	0	139	139	
2	141+00 - 142+00	WEST OF STRUCTURE B-13-609	186	167	19	74	96	-77	-77	
	143+00 - 146+00	EAST OF STRUCTURE B-13-609	243	210	33	108	140	-108	-108	
	146+00 - 146+15	LT SHOULDER ONLY	30	0	30	0	0	30	30	
SUBTOTAL			458	377	81	182	236	-155	-155	
3	151+00 - 154+00	WEST OF STRUCTURE B-13-608	290	250	40	72	93	-53	-53	
	155+50 - 156+90	EAST OF STRUCTURE B-13-608	159	117	42	96	125	-83	-83	
	156+90 - 158+02	LT SHOULDER ONLY	22	0	22	10	13	9	9	
SUBTOTAL			471	367	104	178	231	-127	-127	
4	10+56 - 12+00	REMOVAL OF TEMPORARY BYPASS	482	482	0	90	117	-117	-117	
	12+50 - 13+39	REMOVAL OF TEMPORARY BYPASS	271	271	0	50	65	-65	-65	
SUBTOTAL			753	753	0	140	181	-181	-181	
TOTAL			1,821	1,496	325	499	649	-324	-324	324

- 1) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
- 2) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL.
- 3) EXPANDED FILL. FACTOR = 1.30
EXPANDED FILL = UNEXPANDED FILL * FILL FACTOR
- 4) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION.
PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION.
MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
- 5) USE WASTE MATERIAL FROM DIVISION 1, 2, AND 3.

CONCRETE PAVEMENT GAPS 415.0210 <table><tr><th>STATION</th><th>LOCATION</th><th>EACH</th></tr><tr><td>140+62</td><td>RT</td><td>1</td></tr><tr><td>143+79</td><td>RT</td><td>1</td></tr><tr><td>151+84</td><td>LT</td><td>1</td></tr><tr><td colspan="2">TOTAL</td><td>3</td></tr></table>			STATION	LOCATION	EACH	140+62	RT	1	143+79	RT	1	151+84	LT	1	TOTAL		3	CONCRETE CURB & GUTTER 601.0557 6-INCH SLOPED 36-INCH TYPE D <table><tr><th>STATION</th><th>LOCATION</th><th>LF</th></tr><tr><td>151+00 - 153+08</td><td>LT</td><td>210</td></tr><tr><td colspan="2">TOTAL</td><td>210</td></tr></table>			STATION	LOCATION	LF	151+00 - 153+08	LT	210	TOTAL		210	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 618.0100 <table><tr><th>PROJECT</th><th>EACH</th></tr><tr><td>PROJECT 6085-00-76</td><td>1</td></tr><tr><td>TOTAL</td><td>1</td></tr></table>		PROJECT	EACH	PROJECT 6085-00-76	1	TOTAL	1	MOBILIZATION 619.1000 <table><tr><th>PROJECT</th><th>EACH</th></tr><tr><td>PROJECT 6085-00-76</td><td>1</td></tr><tr><td>TOTAL</td><td>1</td></tr></table> UNLESS OTHERWISE NOTED ALL ITEMS IN CATEGORY 0010		PROJECT	EACH	PROJECT 6085-00-76	1	TOTAL	1
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TOTAL	1																																												
PROJECT NO: 6085-00-76		HWY: STH 19	COUNTY: DANE	MISCELLANEOUS QUANTITIES		SHEET NO: 46	E																																						

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CONCRETE PAVEMENT ITEMS				
STATION	LOCATION	415.0100	415.1100	COMMENTS
		CONCRETE PAVEMENT 10-INCH SY	CONCRETE PAVEMENT HES 10-INCH SY	
140+00 - 142+20	LT/RT	710	-	PAVEMENT GAP AT DRIVEWAY STAGE 3
140+62	RT	-	25	
140+69 - 141+35	LT	-	110	
142+94 - 146+00	LT/RT	990	-	PAVEMENT GAP AT DRIVEWAY STAGE 3
143+79	RT	-	30	
143+79 - 144+45		-	110	
151+00 - 154+29		1,100	-	PAVEMENT GAP AT DRIVEWAY
151+84	LT	-	40	
155+21 - 156+90		560	-	
TOTAL		3,360	315	

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SURFACE DRAIN ITEMS				
STATION	LOCATION	416.1010	606.0200	645.0130
		CONCRETE SURFACE DRAINS CY	RIRAP MEDIUM CY	GEOTEXTILE FABRIC TYPE R SY
153+58 - 154+42	LT	-	31	61
155+37	LT	1.9	1	3
155+38	RT	1.9	1	3
UNDISTRIBUTED		-	8	18
TOTAL		3.8	41	85

PAVEMENT REPAIR AND REPLACEMENT

STATION	LOCATION	416.1710	416.1720	416.0610	416.0620
		CONCRETE PAVEMENT REPAIR SY	CONCRETE PAVEMENT REPLACEMENT SY	DRILLED TIE BARS EACH	DRILLED DOWEL BARS EACH
140+00	LT/RT	-	-	-	24
146+00	LT/RT	-	-	-	24
148+10 - 148+40	RT	-	50	10	24
148+40 - 149+00	LT	-	100	20	24
149+43 - 149+58	LT	25	-	-	24
150+30 - 150+75	RT	-	75	15	24
151+00	LT/RT	-	-	1	24
156+90	LT/RT	-	-	-	24
TOTAL		25	225	46	192

HMA ITEMS

STATION	LOCATION	455.0105	460.1100
		ASPHALTIC MATERIAL PG58-28 TON	HMA PAVEMENT TYPE E-0.3 TON
140+00 - 142+10	RT	1.6	27
140+00 - 142+32	LT	1.8	30
142+82 - 146+00	RT	2.1	36
143+04 - 146+15	LT	2.8	47
151+00 - 154+29	LT	2.5	43
151+00 - 154+29	RT	2.6	45
155+21 - 156+90	RT	1.4	24
155+21 - 158+02	LT	2.2	38
TOTAL		17	290

UNLESS OTHERWISE NOTED
ALL ITEMS IN CATEGORY 0010

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ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES <table><tr><td>STATION</td><td>LOCATION</td><td>465.012 TON</td></tr><tr><td>140+44 - 140+73</td><td>RT</td><td>5</td></tr><tr><td>143+65 - 144+03</td><td>RT</td><td>7</td></tr><tr><td>151+59 - 152+09</td><td>LT</td><td>6</td></tr><tr><td colspan="2">TOTAL</td><td>18</td></tr></table>			STATION	LOCATION	465.012 TON	140+44 - 140+73	RT	5	143+65 - 144+03	RT	7	151+59 - 152+09	LT	6	TOTAL		18	MOBILIZATIONS EROSION CONTROL <table><tr><td></td><td>628.1905 MOBILIZATIONS EROSION CONTROL</td><td>628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL</td></tr><tr><td>PROJECT</td><td>EACH</td><td>EACH</td></tr><tr><td>PROJECT 6085-00-76</td><td>10</td><td>10</td></tr><tr><td>TOTAL</td><td>10</td><td>10</td></tr></table>				628.1905 MOBILIZATIONS EROSION CONTROL	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL	PROJECT	EACH	EACH	PROJECT 6085-00-76	10	10	TOTAL	10	10	CULVERT PIPE ITEMS <table><tr><td></td><td>520.0118 CULVERT PIPE CLASS III 18-INCH</td><td>521.1518 APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS STEEL 18-INCH 6:1</td></tr><tr><td>STATION</td><td>LOCATION</td><td>LF</td><td>EACH</td></tr><tr><td>143+64 - 143+94</td><td>RT</td><td>30</td><td>2</td></tr><tr><td>145+04 - 145+34</td><td>RT</td><td>30</td><td>2</td></tr><tr><td colspan="2">TOTAL</td><td>60</td><td>4</td></tr></table> NOTE: MINIMUM PIPE WALL THICKENSS STEEL = 0.064 IN ALUMINUM = 0.060 IN				520.0118 CULVERT PIPE CLASS III 18-INCH	521.1518 APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS STEEL 18-INCH 6:1	STATION	LOCATION	LF	EACH	143+64 - 143+94	RT	30	2	145+04 - 145+34	RT	30	2	TOTAL		60	4																																																																																																																																																																																																																																				
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BEAM GUARD ITEMS <table><tr><td></td><td>614.0200 STEEL THRIE BEAM STRUCTURE APPROACH</td><td>614.0305 STEEL PLATE BEAM GUARD CLASS A</td><td>614.0345 STEEL PLATE BEAM GUARD SHORT RADIUS</td><td>614.0370 STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL</td><td>614.0390 STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL</td><td>614.2300 MGS GUARDRAIL 3</td><td>614.2500 MGS THRIE BEAM TRANSITION</td><td>614.2610 MGS GUARDRAIL TERMINAL EAT</td></tr><tr><td>STATION</td><td>LOCATION</td><td>LF</td><td>LF</td><td>LF</td><td>EACH</td><td>EACH</td><td>LF</td><td>LF</td><td>EACH</td></tr><tr><td>140+73</td><td>RT</td><td>-</td><td>-</td><td>-</td><td>-</td><td>1</td><td>-</td><td>-</td><td>-</td></tr><tr><td>140+73 - 140+89</td><td>RT</td><td>-</td><td>-</td><td>37.5</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>140+89 - 141+89</td><td>RT</td><td>-</td><td>100</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>141+30 - 141+83</td><td>LT</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>1</td></tr><tr><td>141+83 - 141+95</td><td>LT</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>12.5</td><td>-</td><td>-</td></tr><tr><td>141+89 - 142+10</td><td>RT</td><td>21</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>141+95 - 142+35</td><td>LT</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>39</td><td>-</td><td>-</td></tr><tr><td>142+79 - 143+00</td><td>RT</td><td>21</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>143+00 - 143+50</td><td>RT</td><td>-</td><td>-</td><td>-</td><td>1</td><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>143+04 - 143+44</td><td>LT</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>39</td><td>-</td><td>-</td></tr><tr><td>143+44 - 144+56</td><td>LT</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>112.5</td><td>-</td><td>-</td></tr><tr><td>144+56 - 145+10</td><td>LT</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>1</td></tr><tr><td>152+26 - 152+79</td><td>RT</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>1</td></tr><tr><td>152+79 - 153+92</td><td>RT</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>112.5</td><td>-</td><td>-</td></tr><tr><td>153+27 - 153+80</td><td>LT</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>1</td></tr><tr><td>153+80 - 153+92</td><td>LT</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>12.5</td><td>-</td><td>-</td></tr><tr><td>153+92 - 154+32</td><td>LT/RT</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>78.5</td><td>-</td></tr><tr><td>155+18 - 155+58</td><td>LT/RT</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>78.5</td><td>-</td></tr><tr><td>155+58 - 156+58</td><td>LT</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>100</td><td>-</td><td>-</td></tr><tr><td>155+58 - 155+70</td><td>RT</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>12.5</td><td>-</td><td>-</td></tr><tr><td>155+70 - 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143+00	RT	21	-	-	-	-	-	-	-	143+00 - 143+50	RT	-	-	-	1	-	-	-	-	143+04 - 143+44	LT	-	-	-	-	-	39	-	-	143+44 - 144+56	LT	-	-	-	-	-	112.5	-	-	144+56 - 145+10	LT	-	-	-	-	-	-	-	1	152+26 - 152+79	RT	-	-	-	-	-	-	-	1	152+79 - 153+92	RT	-	-	-	-	-	112.5	-	-	153+27 - 153+80	LT	-	-	-	-	-	-	-	1	153+80 - 153+92	LT	-	-	-	-	-	12.5	-	-	153+92 - 154+32	LT/RT	-	-	-	-	-	-	78.5	-	155+18 - 155+58	LT/RT	-	-	-	-	-	-	78.5	-	155+58 - 156+58	LT	-	-	-	-	-	100	-	-	155+58 - 155+70	RT	-	-	-	-	-	12.5	-	-	155+70 - 156+24	RT	-	-	-	-	-	-	-	1	156+58 - 157+11	LT	-	-	-	-	-	-	-	1	TOTAL		42	100	37.5	1	1	362.5	235	6	CONCRETE BARRIER TEMPORARY PRECAST <table><tr><td></td><td></td><td>603.8000 DELIVERED</td><td>603.8125 INSTALLED</td></tr><tr><td>STATION</td><td>LOCATION</td><td>LF</td><td>LF</td></tr><tr><td>10+06 - 13+95</td><td>LT</td><td>385</td><td>385</td></tr><tr><td>11+57 - 12+80</td><td>RT</td><td>125</td><td>125</td></tr><tr><td colspan="2">TOTAL</td><td>510</td><td>510</td></tr></table>						603.8000 DELIVERED	603.8125 INSTALLED	STATION	LOCATION	LF	LF	10+06 - 13+95	LT	385	385	11+57 - 12+80	RT	125	125	TOTAL		510	510
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PROJECT NO: 6085-00-76		HWY: STH 19		COUNTY: DANE		MISCELLANEOUS QUANTITIES			SHEET NO: 48																																																																																																																																																																																																																																																																																	

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LANDSCAPING ITEMS

STATION	LOCATION	625.0500	627.0200	628.2002	628.2004	628.2027	629.0210	630.0110	630.0140	630.0160	630.0200	REMARKS
		SALVAGED TOPSOIL	MULCHING	EROSION MAT CLASS I TYPE A	EROSION MAT CLASS I TYPE B	EROSION MAT CLASS II TYPE C	FERTILIZER TYPE B	SEEDING MIXTURE NO. 10	SEEDING MIXTURE NO. 40	SEEDING MIXTURE NO. 60	SEEDING TEMPORARY	
		SY	SY	SY		SY	CWT	LB	LB	LB	LB	
140+00 - 140+55	RT	5	160	-	-	-	0.1	-	1	-	1	
140+00 - 142+42	LT	210	-	45	-	-	0.2	4	-	-	8	
140+77 - 142+17	RT	80	-	80	-	-	0.1	-	2	-	4	
141+31 - 143+02	LT	380		-	-	-	0.2	-	-	5	10	RESTORATION OF BYPASS AREA
141+42 - 142+72	RT	240	-	-	-	240	-	-	-	-	-	STREAM RELOCATION AREA
142+82 - 143+70	RT	100	65	35	-	-	0.1	-	2	-	4	
142+94 - 143+95	LT	160		-	-	-	0.1	-	-	2	5	RESTORATION OF BYPASS AREA
142+97 - 146+15	LT	300	205	95	-	-	0.3	5	-	-	10	
143+89 - 146+00	RT	230	230	-	-	-	0.2	-	5	-	8	
151+00 - 151+63	LT	15	5	15	-	-	0.1	-	1	-	1	
151+00 - 154+29	RT	320	220	100	-	-	0.3	5	-	-	10	
152+06 - 154+29	LT	200	90	110	-	-	0.2	-	5	-	7	
155+11 - 156+90	RT	200	85	120	-	-	0.1	3	-	-	7	
155+11 - 158+02	LT	160	60	100	-	-	0.1	3	-	-	6	
10+54 - 12+28	LT	120	-	-	120	-	0.1	-	-	-	4	BYPASS DURING CONSTRUCTION
10+94 - 11+98	RT	65	-	-	65	-	0.1	-	-	-	2	BYPASS DURING CONSTRUCTION
12+30 - 13+09	RT	40	-	-	40	-	0.1	-	-	-	1	BYPASS DURING CONSTRUCTION
12+60 - 13+44	LT	55	-	-	55	-	0.1	-	-	-	2	BYPASS DURING CONSTRUCTION
UNDISTRIBUTED		720	280	180	70	60	0.5	5	4	2	20	
TOTAL		3,600	1,400	880	350	300	3	25	20	9	110	

TEMPORARY DITCH CHECK

STATION	LOCATION	628.7504
		LF
142+75	RT	10
152+50	RT	10
154+35	RT	10
UNDISTRUBUTED		8
TOTAL		38

CULVERT PIPE CHECKS

STATION	LOCATION	628.7555
		EACH
143+96	RT	5
TOTAL		5

SOD LAWN

STATION	LOCATION	631.1000
		SY
146+15	LT	5
UNDISTRIBUTED		2
TOTAL		7

UNLESS OTHERWISE NOTED
ALL ITEMS IN CATEGORY 0010

3

SILT FENCE			
		628.1504 SILT FENCE	628.1520 SILT FENCE MAINTENANCE
STATION	LOCATION	LF	LF
140+00 - 140+55	RT	61	61
141+08 - 142+77	LT	285	285
140+77 - 142+17	RT	145	145
141+42 - 142+17	RT	94	94
141+42 - 142+01	RT	61	61
142+46 - 143+64	RT	120	120
142+97 - 145+50	LT	255	255
151+00 - 154+54	RT	355	355
153+08 - 154+42	LT	145	145
154+38 - 158+02	LT	330	330
154+46 - 156+90	RT	190	190
10+50 - 12+52	LT	215	215
12+62 - 13+47	LT	99	99
UNDISTRIBUTED		585	585
TOTAL		2,940	2,940

DELINEATORS TEMPORARY		
STATION	LOCATION	633.1100
		EACH
141+50 - 142+22	LT	8
143+36 - 143+60	LT	3
TOTAL		11

3

TRAFFIC CONTROL (PROJECT)	
PROJECT	643.0100
	EACH
PROJECT 6085-00-76	1
TOTAL	1

TRAFFIC CONTROL DETOUR (PROJECT)	
PROJECT	643.2000
	EACH
PROJECT 6085-00-76	1
TOTAL	1

EXISTING SIGNING				
STATION	LOCATION	638.2602	638.3000	REMARKS
		REMOVING SIGNS	REMOVING SMALL	
		TYPE II	SIGN SUPPORTS	
		EACH	EACH	
141+23	RT	1	1	"45 TON WEIGHT LIMIT"
142+17	RT	1	1	W5-52R
142+48	RT	1	1	W5-52R
142+50	LT	1	1	W5-52L
142+80	LT	1	1	W5-52L
143+66	LT	1	1	"45 TON WEIGHT LIMIT"
154+51	LT	1	1	W5-52L
154+51	RT	1	1	W5-52R
155+00	LT	1	1	W5-52L
155+00	RT	1	1	W5-52R
TOTAL		10	10	

TRAFFIC CONTROL COVERING SIGNS					
PROJECT	CYCLES	NUMBER OF SIGNS		643.0910	643.0920
		TYPE I	TYPE II	TYPE I	TYPE II
		TYPE I	TYPE II	EACH	EACH
PROJECT 6085-00-76	1	4	26	4	26
TOTAL				4	26

UNLESS OTHERWISE NOTED
ALL ITEMS IN CATEGORY 0010

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TRAFFIC CONTROL ITEMS															
		643.0300		643.0420		643.0705		643.0715		643.0900		643.1050		643.3000	
		TRAFFIC CONTROL		TRAFFIC CONTROL		TRAFFIC CONTROL		TRAFFIC CONTROL		TRAFFIC CONTROL		TRAFFIC CONTROL		TRAFFIC CONTROL	
		DRUMS		BARRICADES TYPE III		WARNING LIGHTS TYPE A		WARNING LIGHTS TYPE C		SIGNS		SIGNS PCMS		DETOUR SIGNS	
STAGE	DAYS	EACH	DAYS	EACH	DAYS	EACH	DAYS	EACH	DAYS	EACH	DAYS	EACH	DAYS	EACH	DAYS
PRE-PROJECT	7	-	-	-	-	-	-	-	-	-	-	2	14		
STAGE 1	8	14	112	-	-	-	-	-	-	5	40	2	16	-	-
STAGE 2A	18	49	882	30	540	60	1,080	16	288	26	468	-	-	-	-
STAGE 2B	21	46	-	29	609	58	1,218	16	336	25	525	-	-	-	-
STAGE 3	6	17	102	15	90	30	180	-	-	13	78	-	-	-	-
STAGE 4	5	14	70	-	-	-	-	-	-	5	25	-	-	-	-
DETOUR	45	-	-	-	-	-	-	-	-	-	-	-	-	116	5,220
TOTAL			1,166		1,239		2,478		624		1,136		30		5,220

TRAFFIC CONTROL SIGNS FIXED MESSAGE		
643.1000		
LOCATION	SF	REMARKS
USH 151 - NORTH OF STH 19	36	"HWY 19 TOKEN CREEK BRIDGES CLOSED"
IH 39/90/94 - NORTH OF STH 19	36	"HWY 19 TOKEN CREEK BRIDGES CLOSED"
USH 51 - SOUTH OF HANSON ROAD	36	"HWY 19 TOKEN CREEK BRIDGES CLOSED"
USH 51 - SOUTH OF HOEPKER ROAD	36	"HWY 19 TOKEN CREEK BRIDGES CLOSED"
USH 51 - NORTH OF STH 19	36	"HWY 19 TOKEN CREEK BRIDGES CLOSED"
STH 19 - WEST OF USH 51	21	"HWY 19 TOKEN CREEK BRIDGES CLOSED"
STH 19 - EAST OF USH 151	21	"HWY 19 TOKEN CREEK BRIDGES CLOSED"
STH 19 - AT USH 151	8.25	WAUNAKEE DESTINATION SIGN
STH 19	6	ADDRESSES ON R10-61 (MOD.)
STH 19	6	ADDRESSES ON R10-61 (MOD.)
CTH C - SOUTH OF STH 19	21	"HWY 19 TOKEN CREEK BRIDGES CLOSED"
CTH C - NORTH OF STH 19	21	"HWY 19 TOKEN CREEK BRIDGES CLOSED"
TOTAL	284.25	

PAVEMENT MARKING EPOXY 4-INCH		
646.0106		
		WHITE
		DASHED YELLOW
		12.5-FOOT LINE
		37.5-FOOT SKIP
STATION	LF	LF
140+00 - 146+00	1,200	150
151+00 - 156+90	1,180	150
SUBTOTAL	2,380	300
TOTAL		2,680

UNLESS OTHERWISE NOTED
ALL ITEMS IN CATEGORY 0010

3

REMOVING PAVEMENT MARKINGS		
		646.0600
STATION	LOCATION	LF
140+84 - 141+30	LT	45
143+86 - 145+30	LT	45
TOTAL		90

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH			
			649.0400 WHITE
STAGE	STATION	LOCATION	LF
STAGE 2A	10+15 - 10+66	RT	54
STAGE 2A	13+28 - 13+80	RT	55
STAGE 2B	9+97 - 10+66	RT	78
STAGE 2B	13+28 - 13+98	RT	78
TOTAL			265

CONSTRUCTION STAKING					
	650.5000	650.5500	650.7000	650.9910	650.9920
	BASE	CURB GUTTER AND	CONCRETE	SUPPLEMENTAL	SLOPE
		CURB & GUTTER	PAVEMENT	CONTROL	STAKES
STATION	LF	LF	LF	LS	LF
PROJECT 6085-00-76	-	-	-	1	-
140+00 - 142+20	-	-	220	-	220
142+94 - 146+15	-	-	320	-	320
151+00 - 153+08	-	210	-	-	-
151+00 - 154+29	-	-	330	-	330
155+21 - 158+02	-	-	280	-	280
10+56 - 12+10	155	-	-	-	155
12+48 - 13+39	90	-	-	-	90
TOTAL	245	210	1,150	1	1,395

3

SAWING				
			690.0150	690.0250
			SAWING	SAWING
			ASPHALT	CONCRETE
STAGE	STATION	LOCATION	LF	LF
STAGE 2A	140+00	RT	-	15
	140+00 - 142+20	CL	-	220
	140+55 - 140+68	RT	15	-
	142+94 - 146+00	CL	-	305
	143+71 - 143+88	RT	15	-
	146+00	RT	-	15
	148+10 - 148+40	RT	-	90
	148+40 - 149+00	LT	-	150
	149+43 - 149+58	LT	-	60
	150+30 - 150+75	RT	-	120
	151+00	RT	-	15
	151+00 - 154+29	CL	-	330
	155+21 - 156+90	CL	-	170
	156+90	RT	-	15
SUBTOTAL			30	1,505
STAGE 2B	140+00	LT	-	15
	140+69	LT	-	15
	141+35	LT	-	15
	143+79	LT	-	15
	144+45	LT	-	15
	146+00	LT	-	15
	151+00	LT	-	20
	151+64 - 152+04	LT	40	-
	156+90	LT	-	15
SUBTOTAL			40	125
TOTAL			70	1,630

FIELD OFFICE TYPE B	
	642.5001
PROJECT	EACH
PROJECT 6085-00-76	1
TOTAL	1

TEMPORARY BYPASS MAINTENANCE	
	SPV.0075.01
STAGE	HRS
STAGE 2	4
TOTAL	4

CONCRETE PAVEMENT JOINT LAYOUT	
	SPV.0105.02
PROJECT	LS
PROJECT 6085-00-76	1
TOTAL	1

MAILBOX REMOVAL AND TEMPORARY MAILBOXES		
	SPV.0060.01	
ADDRESS	EACH	REMARKS
3969 HWY 19	1	
3953 HWY 19	1	
3938 HWY 19	1	SAME POST AS 3612 HWY 19
3612 HWY 19	1	SAME POST AS 3938 HWY 19
TOTAL	4	

GEOGRID AND GEOTEXTILE FABRIC FOR BYPASS			
		645.0140	SPV. 0180.01
		GEOTEXTILE	GEOGRID
		FABRIC TYPE SAS	REINFORCEMENT
STATION	LOCATION	SY	SY
141+13 - 142+88	LT	550	550
142+90 - 144+03	LT	300	300
TOTAL		850	850

UNLESS OTHERWISE NOTED
ALL ITEMS IN CATEGORY 0010

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
TRANSPORTATION PROJECT PLAT TITLE SHEET
PROJECT NO. 6085-00-21
IH 39 - SUN PRAIRIE
(TOKEN CREEK STRUCTURES)
STH 19
DANE COUNTY



THE NOTES, CONVENTIONAL SIGNS, AND ABBREVIATIONS ARE ASSOCIATED WITH EACH TRANSPORTATION PROJECT PLAT FOR PROJECT 6085-00-21

NOTES:

COORDINATES AND BEARINGS SHOWN ON THIS PLAT ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, DANE COUNTY ZONE, NAD83 (1991) ADJUSTMENT. THE COORDINATES SHOWN ARE GRID COORDINATES AND ARE TO BE USED AS GRID OR GROUND VALUES ON THIS PLAT.

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 (TYPICALLY 3/4" X 24" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

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

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

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

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE:
EXISTING HIGHWAY RIGHT-OF-WAY FOR STH 19 ESTABLISHED FROM PREVIOUS PROJECTS T05-1027, 6085-02-21, CSM 4993 AND CSM 8779.
EXISTING ACCESS CONTROL ALONG STH 19 ESTABLISHED FROM PREVIOUS PROJECTS 6085-02-21, CSM 4993, CSM 3948, CSM 8952, CSM 3098, CSM 8779, CSM 6046 AND CSM 5744.

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

PARCEL IDENTIFICATION NUMBERS MAY NOT POINT TO ALL AREAS OF ACQUISITION, AS NOTED ON THE SCHEDULE OF LANDS & INTERESTS REQUIRED.

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

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

CONVENTIONAL ABBREVIATIONS		
ACCESS POINT	AP	POINT OF CURVATURE
ACCESS RIGHTS	AR	POINT OF INTERSECTION
ACRES	AC	POINT OF REVERSE CURVATURE
AGRICULTURAL	AG	PRIVATE DRIVEWAY
AHEAD	AW	POINT OF TANGENT
ALUMINUM	ALUM	PROPERTY LINE
AND OTHERS	ET AL	RECORDED AS
BACK	BA	REFERENCE LINE
BLOCK	BLK	REMAINING
CENTERLINE	CL	RIGHT
IDENTIFIED SURVEY MAP	CSM	RIGHT-OF-WAY
DISTANCE	CONC	SECTION
DOCUMENT NUMBER	COR	SEPTIC VENT
EASEMENT	CO	SQUARE FEET
EXISTING	CTH	STATE TRUNK HIGHWAY
GAS VALVE	DTS	SPECIFIC IMPLEMENTATION PLAN
GRID NORTH	DOC	STATION
HIGHWAY EASEMENT	EASE	SUBDIVISION
IDENTIFICATION	EV	TANGENT
LAND CONTRACT	G.V.	TELEPHONE PEDESTAL
LEFT	DA	TEMPORARY LIMITED EASEMENT
MONUMENT	H.E.	TRANSPORTATION PROJECT PLAT
NAME	IS	UNITED STATES HIGHWAY
OUTLOT	LC	VOLUME
PAGE	LT	LONG CHORD
PART OF	NON	LONG CHORD BEARING
PERMANENT LIMITED EASEMENT	NO	RADIUS
POINT OF BEGINNING	PA	DEGREE OF CURVE
POINT OF COMPOUND CURVE	PT	CENTRAL ANGLE OR DELTA
	P.C.	LENGTH OF CURVE
	P.I.	TANGENT
	P.R.C.	DIRECTION AHEAD
	P.T.	DIRECTION BACK
	PL	
	RD	
	SEC	
	SECT	
	S.F.	
	STA	
	STP	
	STA	
	SUBD	
	TAN	
	T.P.	
	TLE	
	TRP	
	USH	
	V	

CONVENTIONAL SYMBOLS	
FOUND IRON PIPE-PTH	IT VALVE NOTED
R/W MONUMENT	PROPOSED R/W LINE
R/W STANDARD	EXISTING R/W LINE
SIGN	PROPERTY LINE
SECTION CORNER MONUMENT	LOT & TIE LINES
SECTION CORNER SYMBOL	SLOPE INTERCEPTS
FEE (WATCH VARIES)	CORPORATE LIMITS
TEMPORARY LIMITED EASEMENT	ACCESS RESTRICTED
PERMANENT LIMITED EASEMENT	BY PREVIOUS PROJECT-CONTROL
R/W BOUNDARY POINT	ACCESS CONTROLLED BY
PARCEL NUMBER	PARCEL ACQUISITION
UTILITY NUMBER	NO ACCESS
SIGN NUMBER	BY STATUTORY AUTHORITY
BUILDING	SECTION LINE
	QUARTER LINE
	SIXTEENTH LINE
	EXISTING CENTERLINE
	MANHOLE (WATER, TELEPHONE, ETC.)
	PROPOSED REFERENCE LINE
	PARALLEL OFFSET

CONVENTIONAL UTILITY SYMBOLS	
WATER	—W—
GAS	—G—
TELEPHONE	—T—
OVERHEAD TRANSMISSION LINES	—OH—
ELECTRIC	—E—
CABLE TELEVISION	—TV—
FIBER OPTIC	—FO—
SANITARY SEWER	—SAN—
STORM SEWER	—SS—
	NON COMPENSABLE COMPENSABLE
POWER POLE	—P—
TELEPHONE POLE	—T—
TELEPHONE PEDESTAL	—X—
ELECTRIC TOWER	—E—
	NOTATION FOR COMBUSTIBLE FLUIDS
	NOTATION FOR HIGH VOLTAGE TRANSMISSION LINES

REFERENCE LINE FROM PROJECT NO. 6085-02-21

P.L. STA. 132+00
Y 526583.395
X 841481.952

P.L. STA. 142+00
Y 526585.438
X 842481.969

Δ = 179°36'24"

P.L. = 150+50.01
Y 526593.006
X 843331.922

Δ = 177°57'27"

P.L. STA. 163+58.65
Y 526627.996
X 844640.102

Δ = 9°31'07" RT

D = 0°25'00"

T = 1144.87'

L = 2284.47'

R = 13750.99'

D.A. = S82°00'49"E

P.C. = 152+13.79

P.T. = 174+98.25

PROPOSED REFERENCE LINE FOR STATION/OFFSETS

P.L. STA. 132+00
Y 526583.490
X 841482.000

P.L. STA. 141+00
Y 526585.280
X 842382.000

P.L. STA. 144+00
Y 526587.480
X 842681.990

P.L. STA. 148+95.65
Y 526592.100
X 843177.620

P.L. STA. 163+41.82
Y 526630.675
X 844623.272

Δ = 9°31'07" RT

D = 0°25'00"

T = 1144.86'

L = 2284.44'

R = 13750.99'

D.A. = S82°00'35"E

P.C. = 151+96.94

P.T. = 174+81.38

PARCEL 2 NOTES:

CONSERVATION EASEMENT, DOC. NO. 2823934

ACCESS EASEMENT, DOC. NO. 3260417

STEWARDSHIP GRANT, DOC. NO. 4263095

ACCESS EASEMENT, REC. 26079/34

PERPETUAL CONSERVATION RESTRICTION AND EASEMENT DOC. NO. 2560309

ACCESS EASEMENT DOC. NO. 2921785

TEMPORARY NON-EXCLUSIVE DRIVEWAY EASEMENT, DOC. NO. 4860556

DEED RESTRICTION DOC. NO. 4860057

TRANSPORTATION PROJECT PLAT NO: 6085-00-21 - 4.01 AMENDMENT 1

THIS AMENDS PARCEL 2 AND THE EXISTING RIGHT OF WAY LINE OF TRANSPORTATION PROJECT PLAT 6085-00-21-4.01, RECORDED AS DOCUMENT NUMBER 4858118 IN THE OFFICE OF THE REGISTER OF DEEDS IN DANE COUNTY.

PART OF TRANSPORTATION PROJECT PLAT 6085-00-21-4.01 AND PART OF LOT 1, CSM 13258 AND PART OF THE SW 1/4 OF THE SW 1/4 OF SECTION 34, TOWNSHIP 9 NORTH, RANGE 10 EAST, TOWN OF WINDSOR, DANE COUNTY, WISCONSIN

RELOCATION ORDER S.T.H. 19, DANE COUNTY, (IH 39 - SUN PRAIRIE; TOKEN CREEK STRUCTURES)

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

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3) AND 84.09, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRE IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

KRISTI CHLEBOWSKI

DANE COUNTY

REGISTER OF DEEDS

DOCUMENT #4882424

06/19/2012 2:23 PM

TRANS. FEE:

EXEMPT *

REC. FEE: 25.00

PAGES: 1

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RESERVED FOR REGISTER OF DEEDS

PROJECT NUMBER 6085-00-21-4.01 AMENDMENT 1

EASEMENTS:

WISCONSIN POWER & LIGHT

VOL. 1316, PG. 28 DOC. NO. 1647495

VOL. 12924, PG. 36, DOC. NO. 1244857

VOL. 12924, PG. 38, DOC. NO. 1244858

VOL. 71 MISC., PG. 558

VOL. 282, PG. 370, DOC. NO. 901448

VOL. 282, PG. 370, DOC. NO. 1635776

AMERICAN TRANSMISSION COMPANY

DOC. NO. 3282843

RIGHT-OF-WAY

VOL. 698, PG. 231

NE-NE SEC. 4

PARCEL 3 NOTES:

STREAM BANK EASEMENT,

DOC. NO. 2639201, REC. 28654/1

DRIVEWAY AGREEMENT, DOC. # 2263879

STEWARDSHIP GRANT, DOC. # 2648436

R/W STATION OFFSET TABLE

POINT	STATION	OFFSET
100	143+70.95	52.54'
101	143+71.10	59.69'
102	146+81.75	59.59'
106	149+01.01	59.45'
107	150+49.92	56.79'
108	152+13.64	56.81'
111	156+82.86	57.41'
112	156+82.83	51.98'
113	160+00.00	57.82'
114	160+44.89	7.34'
115	160+93.78	47.06'
116	156+00.06	42.69'
117	152+13.78	53.19'
118	150+49.93	58.21'
119	148+99.36	33.29'
120	147+24.94	33.44'
121	144+24.93	61.37'
122	141+99.63	60.47'
123	136+99.96	60.73'
124	136+99.95	0.86'
125	136+99.95	54.93'
126	142+00.22	49.42'

R/W COURSE TABLE

COURSE	DISTANCE	DIRECTION
100-101	7.15'	N 0°49'37" E
101-102	310.53'	N 89°29'43" E
102-106	218.22'	N 89°28'54" E
106-107	148.94'	N 89°29'37" E
107-108	163.78'	N 88°28'04" E
111-112	5.43'	S 0°47'23" W
112-113	318.48'	S 89°53'39" E
113-114	67.62'	S 39°48'02" E
114-115	73.09'	S 39°48'02" E
115-116	492.10'	N 88°18'45" W
116-117	385.06'	S 87°47'04" W
117-118	163.86'	S 86°43'09" W
118-119	152.62'	N 82°07'50" W
119-120	175.00'	S 89°23'42" W
120-121	301.31'	S 84°08'47" W
121-122	225.41'	S 89°47'43" W
122-123	500.00'	S 89°47'45" W
123-124	61.59'	N 0°07'01" W
124-125	54.07'	N 0°07'01" W
125-126	500.02'	S 89°32'39" E
126-100	170.76'	N 88°31'59" E

UTILITY SCHEDULE & INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER(S)	INTEREST REQUIRED
200	AT&T COMMUNICATIONS	RELEASE OF RIGHTS
201	AMERICAN TRANSMISSION COMPANY	RELEASE OF RIGHTS
202	ALLIANT ENERGY CORPORATION	RELEASE OF RIGHTS

SCHEDULE OF LANDS AND INTERESTS REQUIRED

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W ACRES REQUIRED	T.T.E. ACRES OR S.F.
1	TOWN OF WINDSOR	T.L.E.	0.395	0.395
2	CROSS PROPERTIES, LLC	T.L.E.	0.191	0.191
3	ROBERT H. THOMAS AND FAITH A. THOMAS	T.L.E.	0.137	0.137
4	CURTIS P. JAHN AND SANDRA K. JAHN	T.L.E.	0.471	0.471

CURVE TABLE

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	TANGENT LENGTH	CHORD DIRECTION
108-111	13810.97'	471.18'	471.15'	235.61'	N 89°26'43" E

FILE NAME : R:\support\CADD\Projects\d1_60850006\040401_AMEND1.dgn

APPAISAL PLAT DATE : 1/13/2012

PLOT DATE : 02-JUL-2012 11:27

PLOT BY : dbta4c

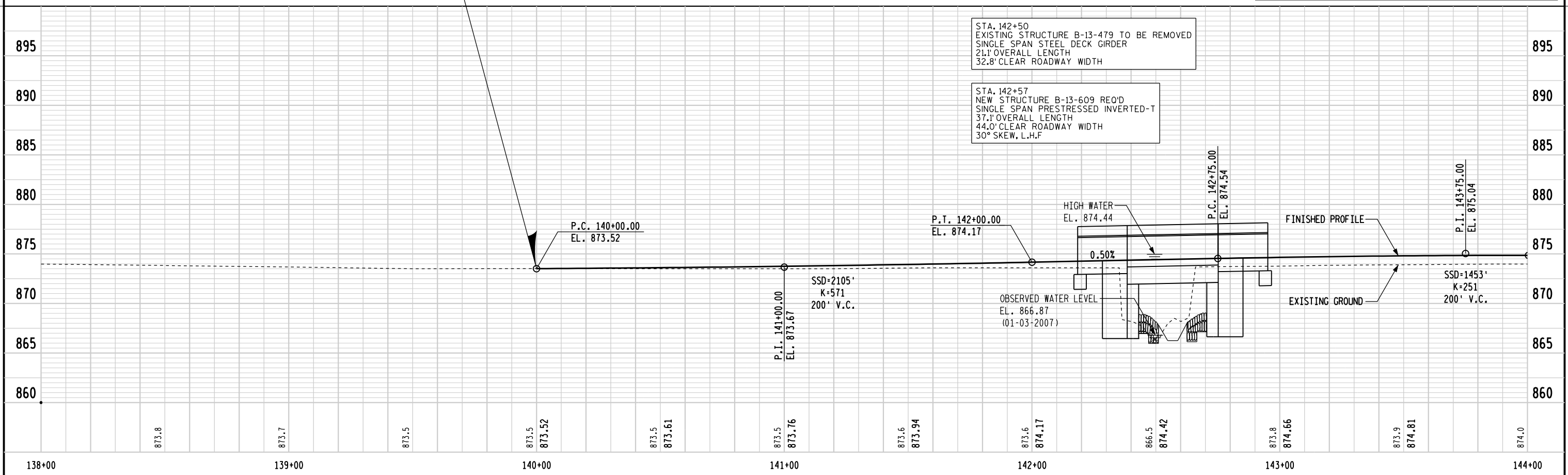
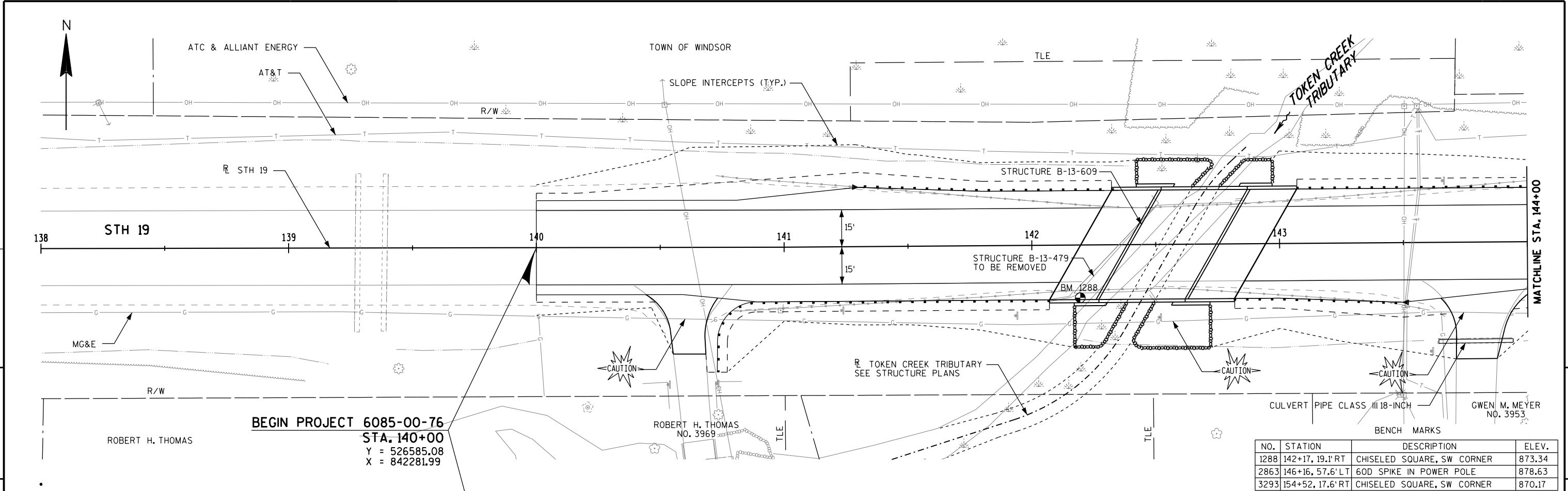
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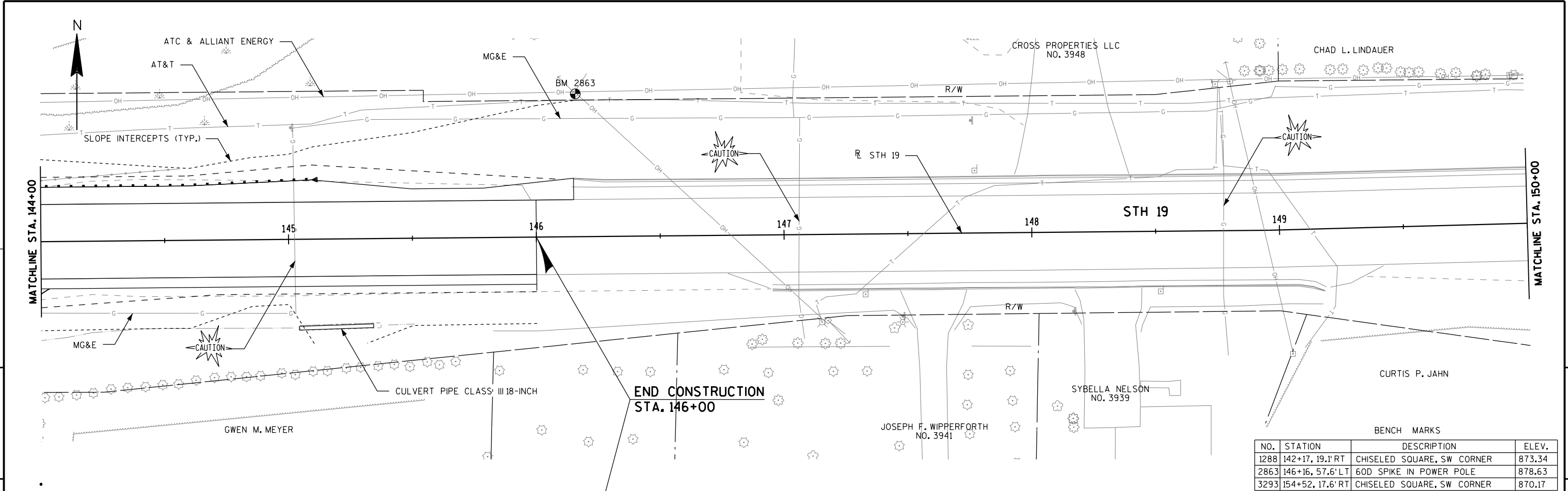
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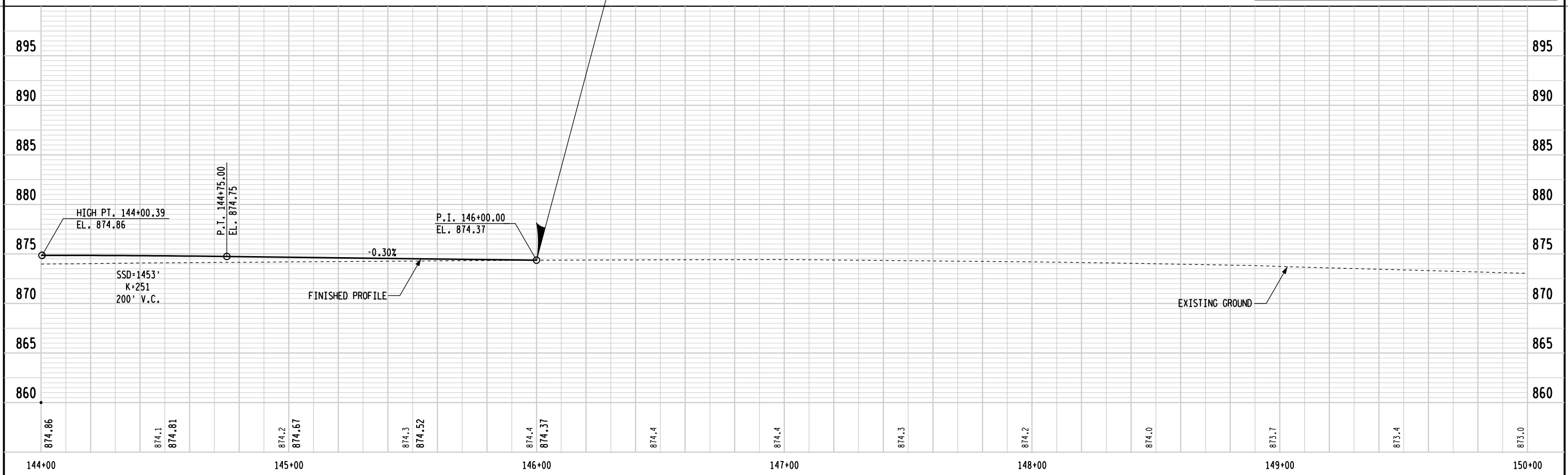
R/W MONUMENT POINT NUMBER AND COORDINATE TABLE

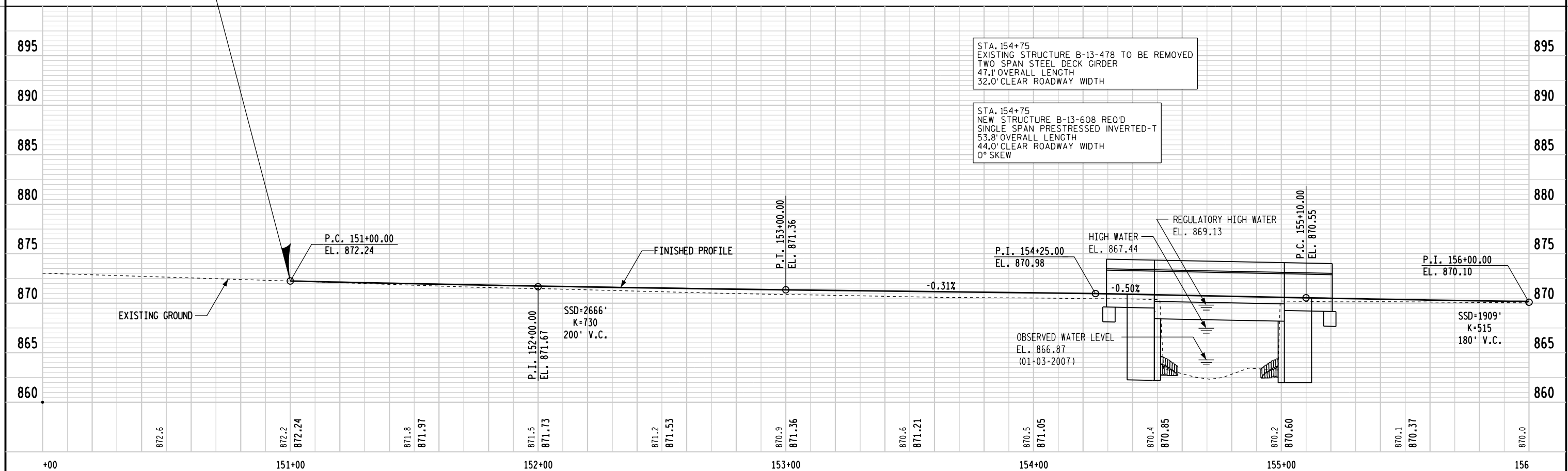
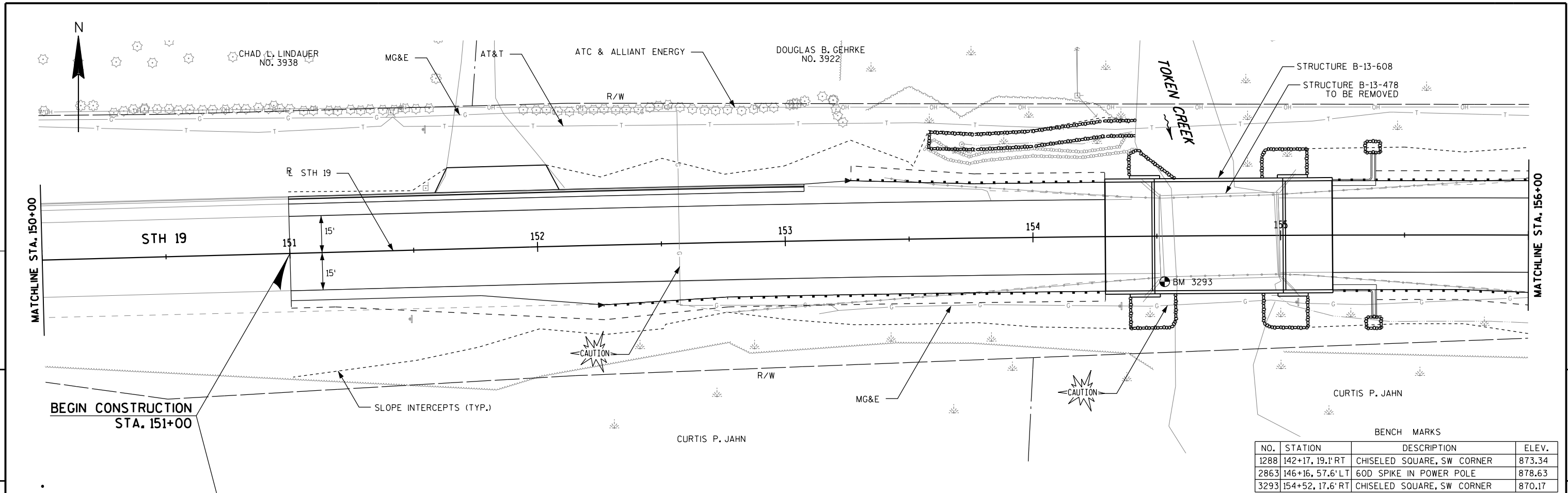
R/W MONUMENT POINT NUMBER AND COORDINATE TABLE			R/W MONUMENT POINT NUMBER AND COORDINATE TABLE			R/W MONUMENT POINT NUMBER AND COORDINATE TABLE			R/W MONUMENT POINT NUMBER AND COORDINATE TABLE			R/W MONUMENT POINT NUMBER AND COORDINATE TABLE			R/W MONUMENT POINT NUMBER AND COORDINATE TABLE		
POINT	Y	X	POINT	Y	X	POINT	Y	X	POINT	Y	X	POINT	Y	X	POINT	Y	X
100	526639.809	842652.553															
101	526646.959	842652.656															
102	526649.694	842963.174															
106	526651.668	843181.388															
107	526652.985	843330.322															
108	526657.364	843494.043															
111	526661.926	843965.174															
112	526656.494	843965.099															
113	526655.906	844283.575															
114	526603.952	844326.862															
115	526547.797	844373.649															
116	526562.289	843881.760															
117	526547.403	843496.984															
118	526538.026	843333.396															
119	526558.922	843182.213															
120	526557.074	843007.223															
121	526526.344	842707.485															
122	526525.538	842482.072															
123	526523.757	841982.074															
124	526585.348	841981.949															
125	526639.417	841981.838															
126	526635.438	842481.847															

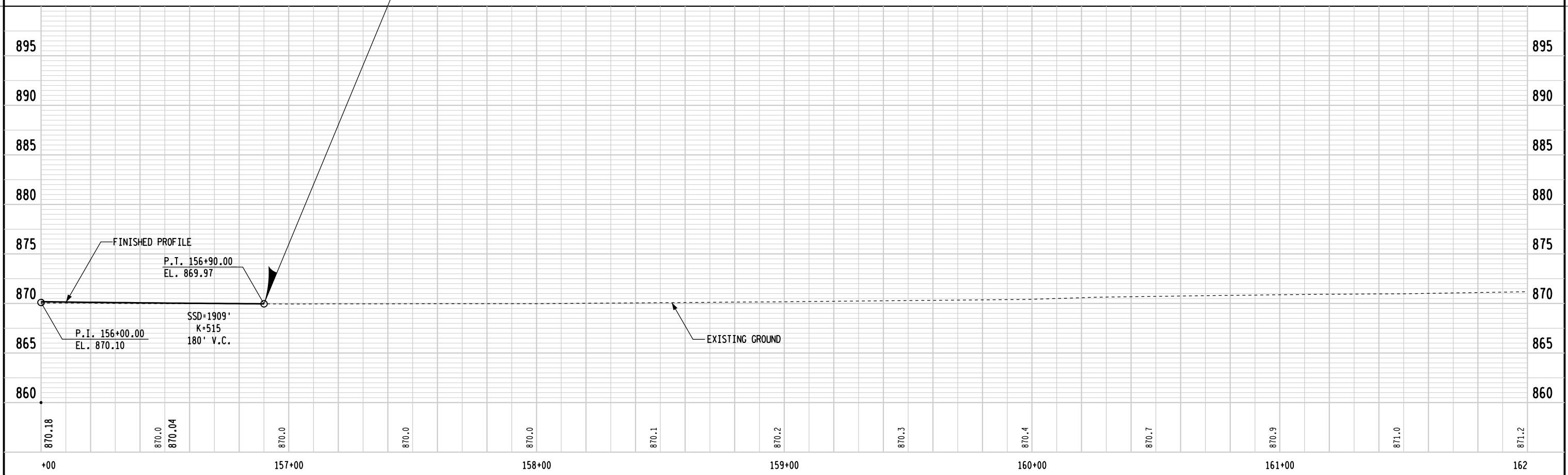
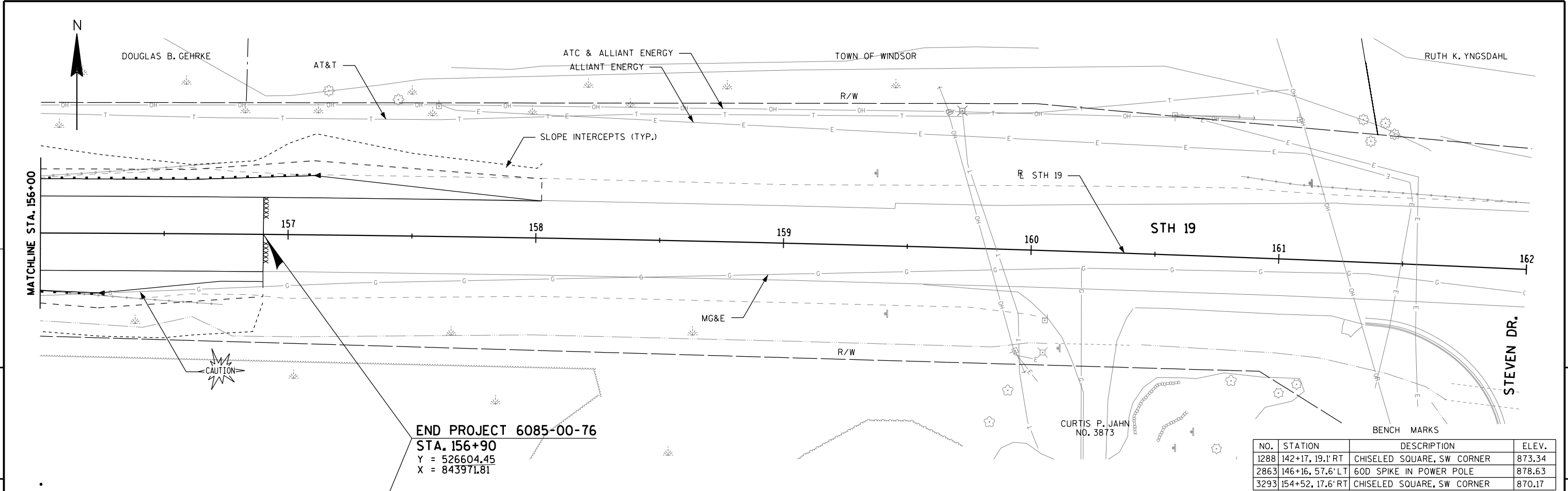


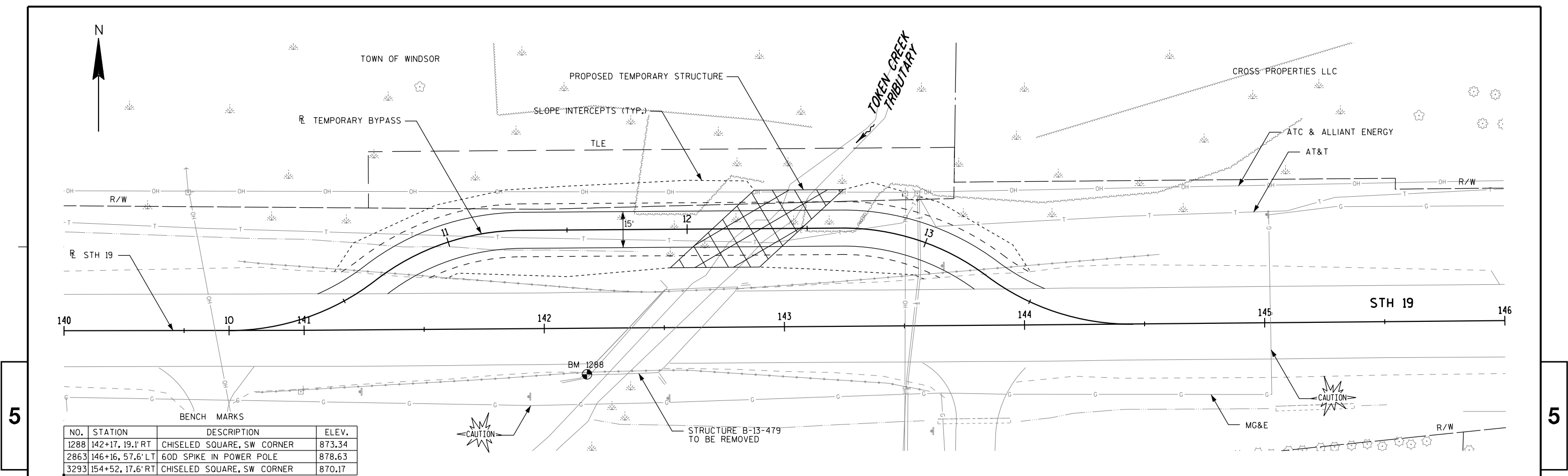


BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
1288	142+17, 19.1' RT	CHISELED SQUARE, SW CORNER	873.34
2863	146+16, 57.6' LT	60D SPIKE IN POWER POLE	878.63
3293	154+52, 17.6' RT	CHISELED SQUARE, SW CORNER	870.17

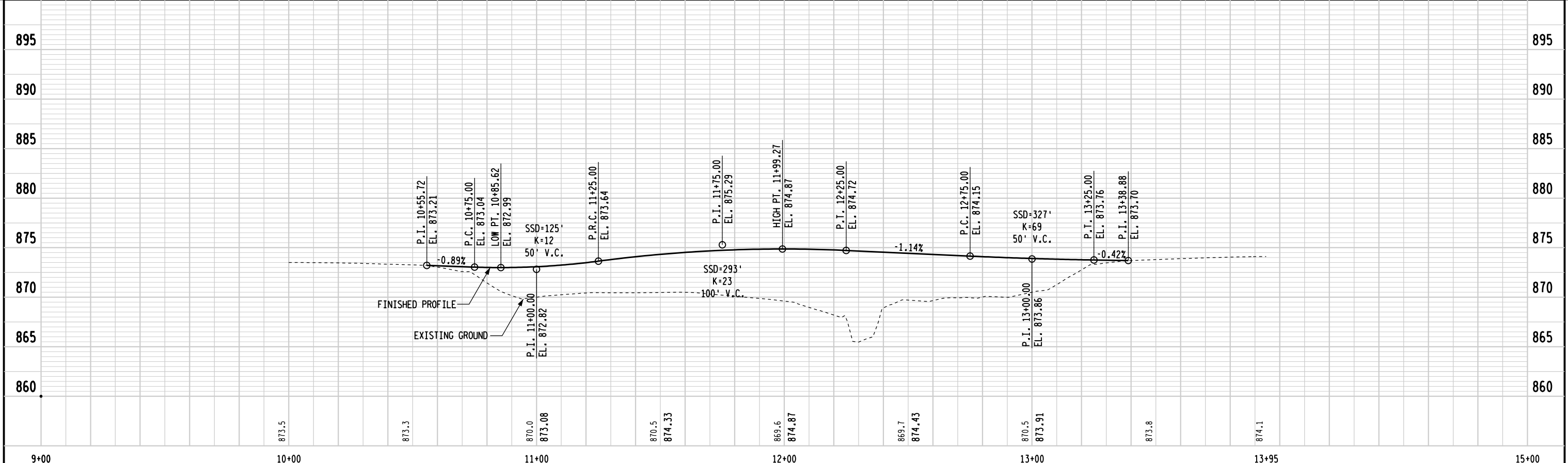






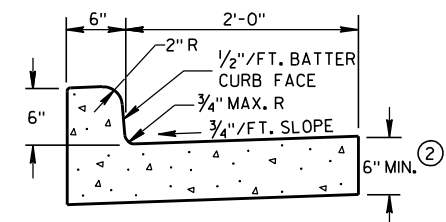


NO.	STATION	DESCRIPTION	ELEV.
1288	142+17, 19.1' RT	CHISELED SQUARE, SW CORNER	873.34
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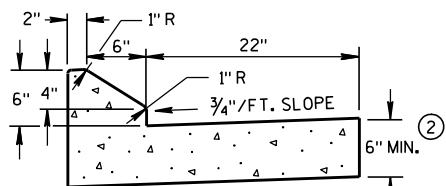


Standard Detail Drawing List

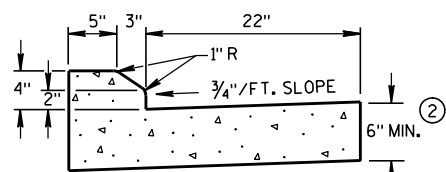
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D02-06	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08F07-05	STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE DRAINS
12A03-10	NAME PLATE (STRUCTURES)
13A03-05	CONCRETE PAVEMENT SHOULDERS
13C01-15	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C09-09A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-09B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-09C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C11-10A	RURAL DOWELED CONCRETE PAVEMENT
13C11-10B	RURAL DOWELED CONCRETE PAVEMENT
13C18-01A	CONCRETE PAVEMENT JOINTING
13C18-01B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-01C	CONCRETE PAVEMENT JOINT TIES
13C18-01D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
14B07-13A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B15-07A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-07B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-07C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-11D	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS
14B20-11G	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL
14B20-11H	STEEL THRIE BEAM STRUCTURE APPROACH, SINGLE SLOPE ATTACHMENT
14B24-07A	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-07B	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-07C	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B27-01A	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01B	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01C	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B42-02A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-01A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A02-07	DELINEATOR POST, DELINEATOR BRACKET AND DELINEATOR
15C02-04A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C06-05	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-15A	PAVEMENT MARKING (MAINLINE)
15D28-01	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D31-01	TRAFFIC CONTROL, TEMPORARY BYPASS ROADWAY



TYPES A & D ①



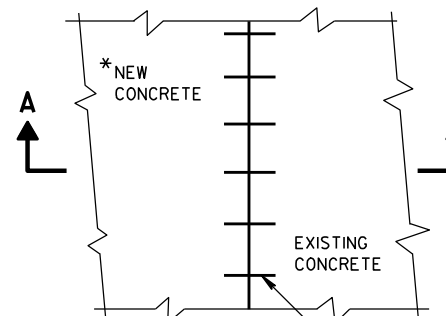
6" SLOPED CURB TYPES G & J ①



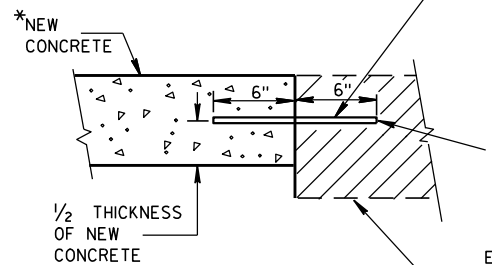
4" SLOPED CURB TYPES G & J ①

CONCRETE CURB & GUTTER 30"

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



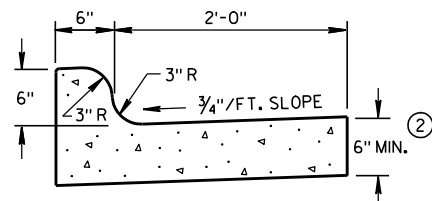
PLAN VIEW

SECTION A-A
TIE BARS DRILLED
INTO EXISTING PAVEMENT

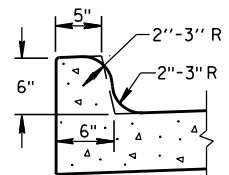
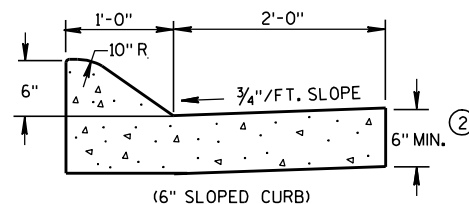
NO. 6 TIE BARS SPACED 2'-6" C-C,
INSTALLED PERPENDICULAR
TO THE LONGITUDINAL JOINT.

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

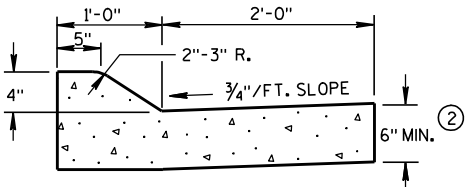
EXISTING
CONCRETE



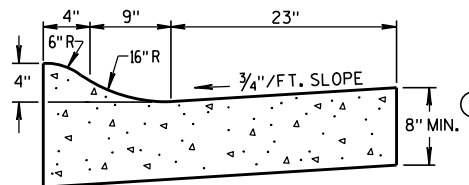
TYPES K & L ①

OPTIONAL CURB SHAPE
FOR TYPES K & L ①

(6" SLOPED CURB)

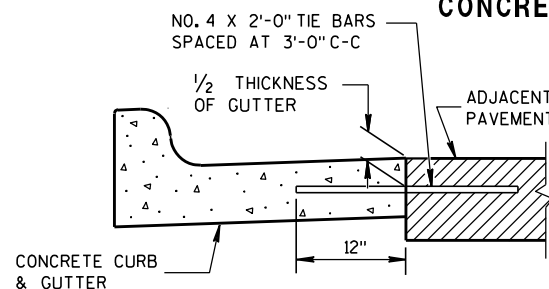


TYPES A & D ①

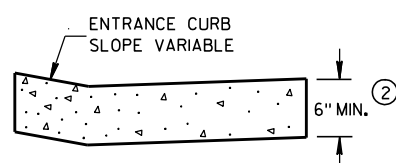
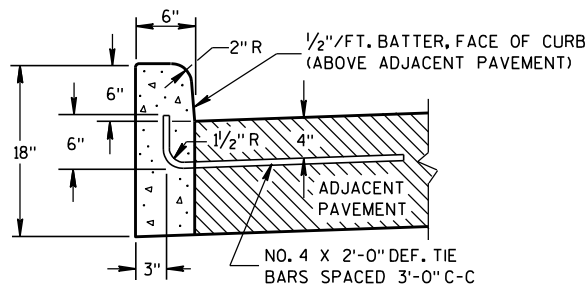


4" SLOPED CURB TYPES R & T ① ④

CONCRETE CURB & GUTTER 36"

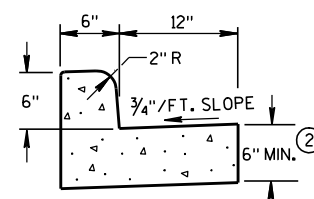
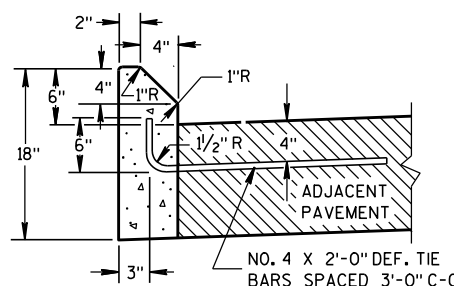


TYPICAL TIE BAR LOCATION ①

DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)

TYPES A & D ①

CONCRETE CURB

TYPES A & D
CONCRETE CURB & GUTTER 18"

TYPES G & J ①

GENERAL NOTES

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

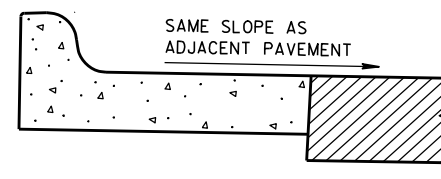
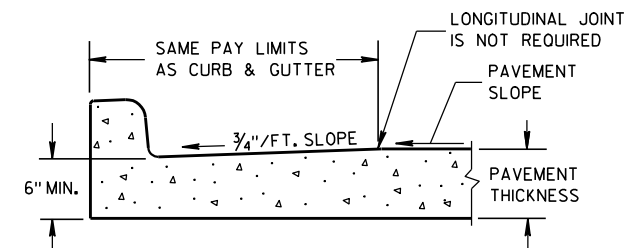
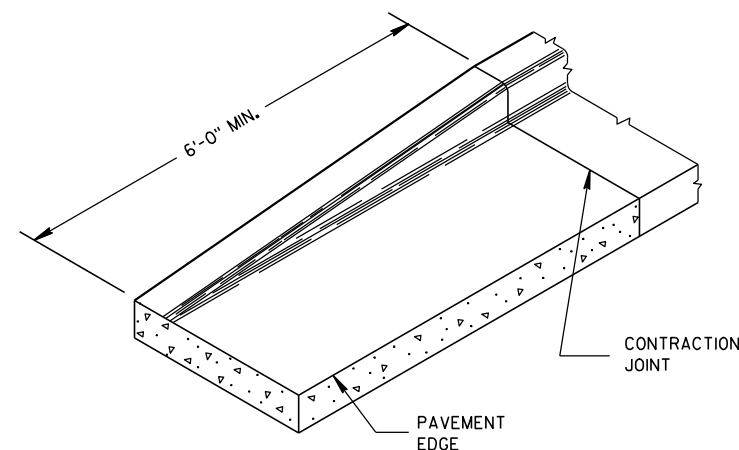
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

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

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

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

REVERSE SLOPE GUTTER ⑤
(TYPICAL FOR ALL CURB & GUTTER TYPES)PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER

END SECTION CURB & GUTTER

CONCRETE CURB, CONCRETE
CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/4/08

DATE

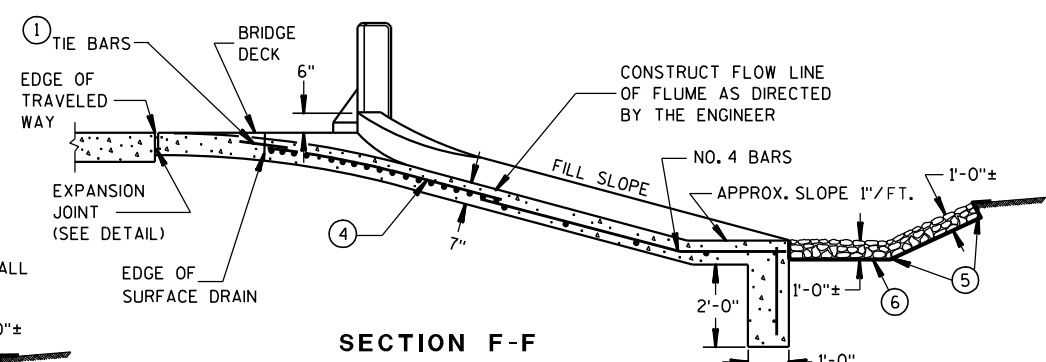
FHWA

/S/ Jerry H. 7

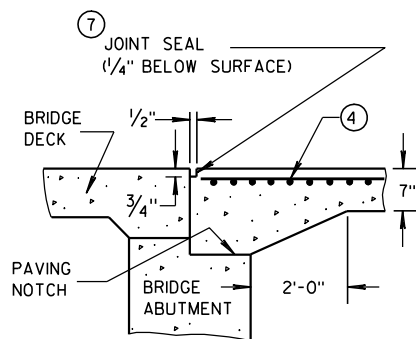
ROADWAY STANDARDS 62

ENGINEER

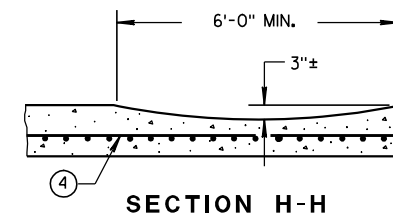
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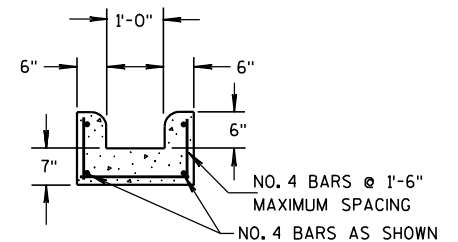
SECTION F-F



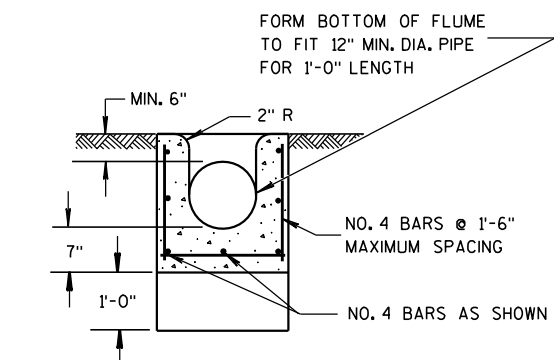
SECTION D-D



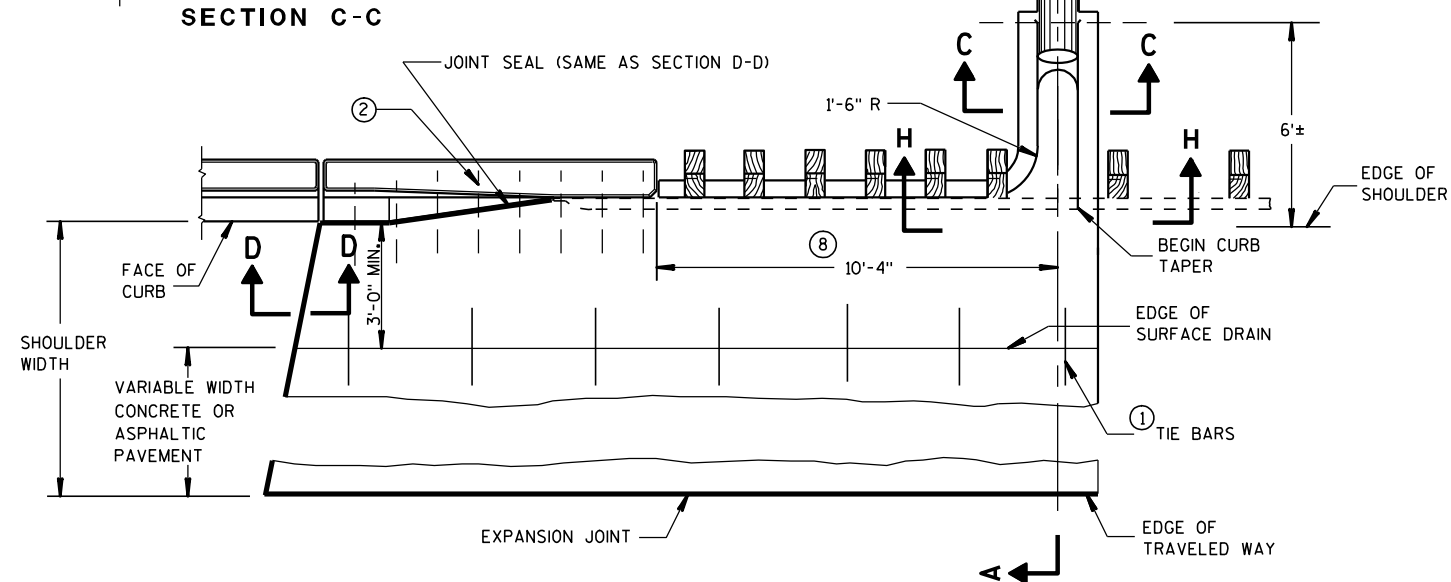
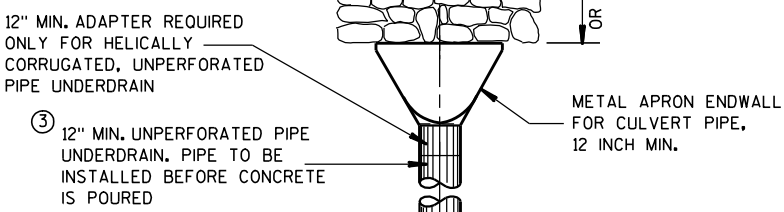
SECTION H-H



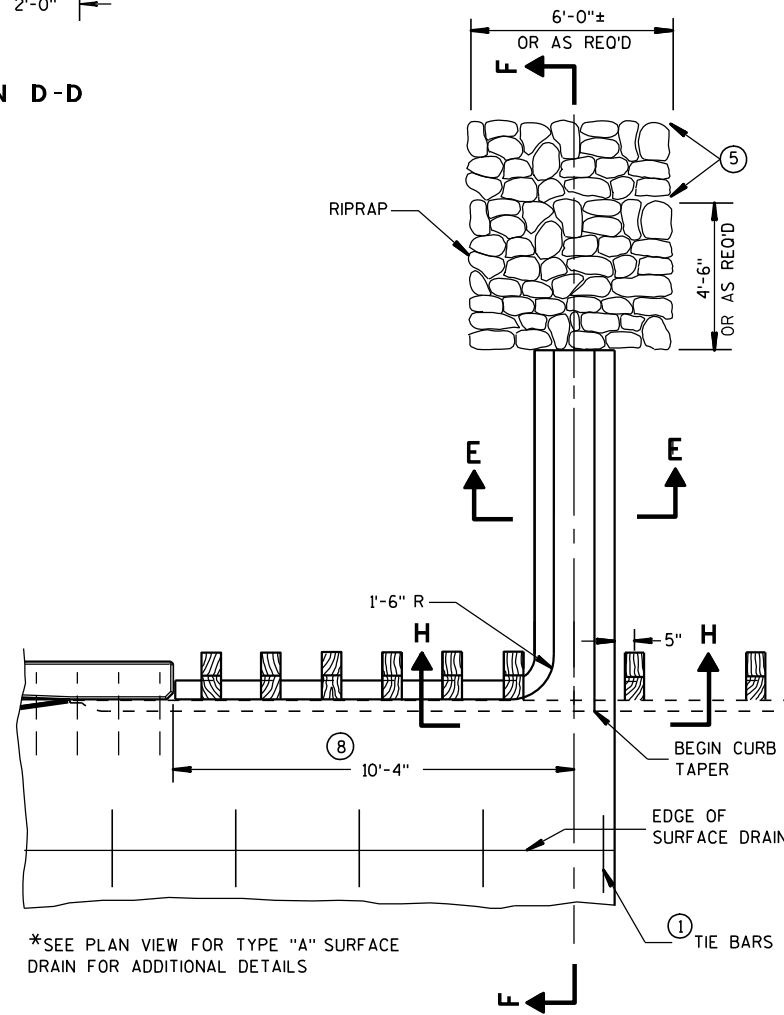
SECTION E-E



SECTION C-C



PLAN VIEW
SURFACE DRAIN WITH PIPE
TYPE "A"



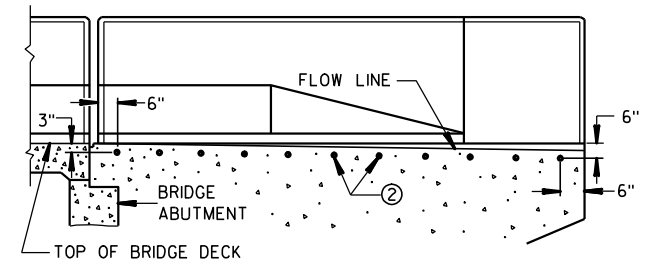
* PARTIAL PLAN VIEW
SURFACE DRAIN WITHOUT PIPE
TYPE "B"

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.

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

- ① NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" CENTERS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE.
- ② NO. 4 X 2'-0" TIE BARS SPACED AT 12" CENTERS TO BE PLACED BY BRIDGE CONTRACTOR, OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
- ③ PIPE UNDERDRAIN MAY BE ANY OF THE MATERIALS LISTED IN SECTION 612.2 OF THE STANDARD SPECIFICATIONS EXCEPT DRAIN TILE.
- ④ MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.
- ⑤ LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.
- ⑥ GEOTEXTILE FABRIC, TYPE 'R'
- ⑦ HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.
- ⑧ THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE STEEL PLATE BEAM GUARD. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 3'-1½".



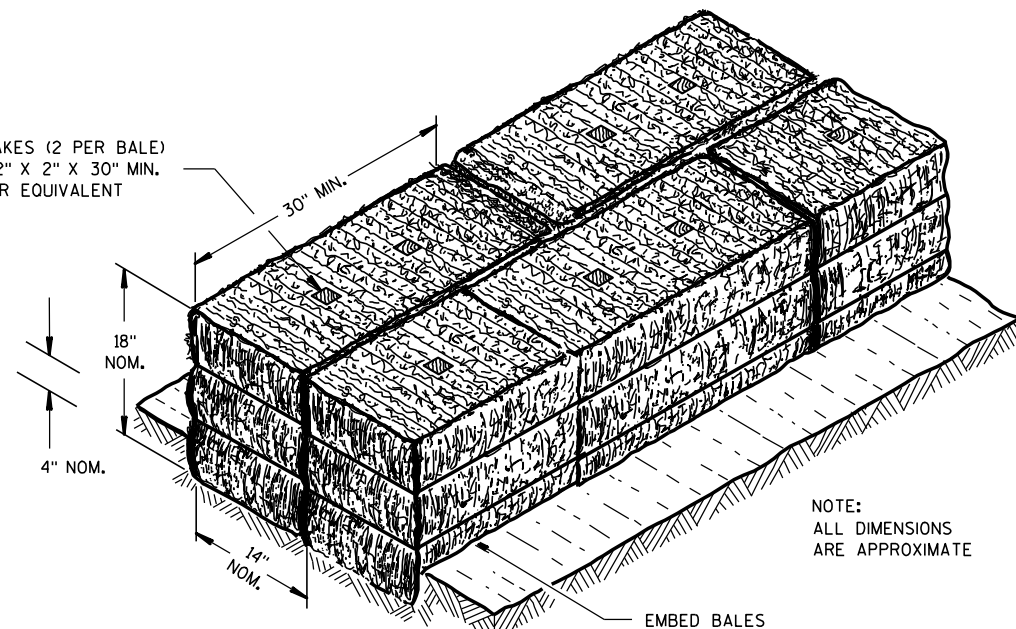
LOCATION OF TIE BARS IN WINGWALL

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

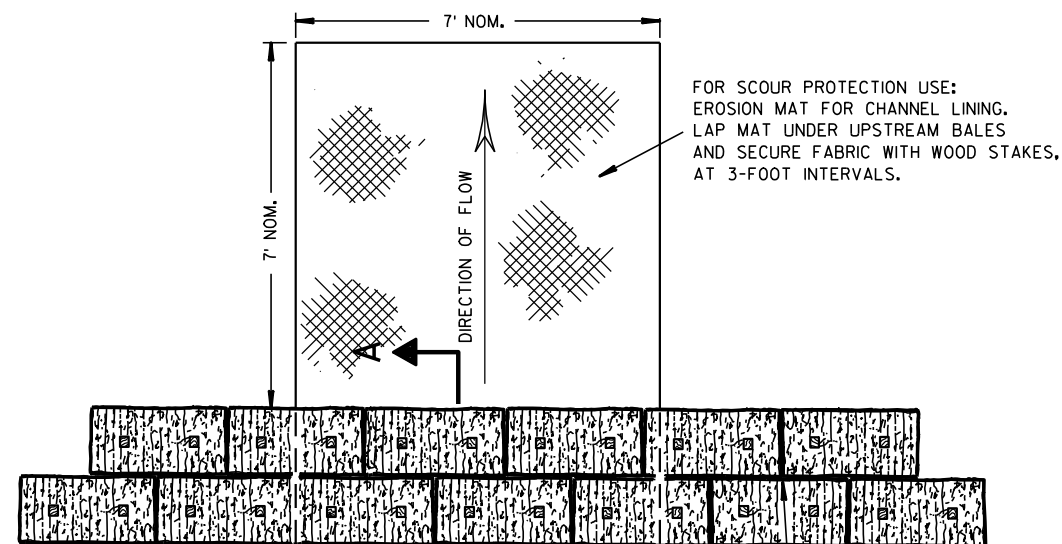
APPROVED
9/4/08 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS 63 'MENT
ENGINEER

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



SECTION A-A

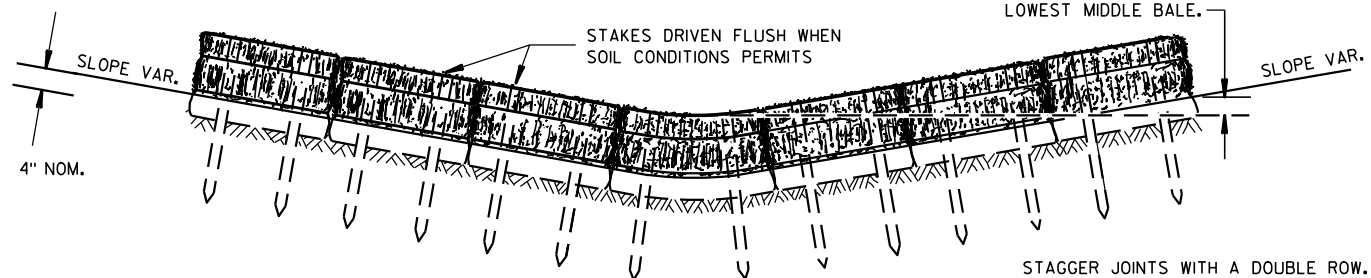
NOTE:
ALL DIMENSIONS
ARE APPROXIMATE



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.



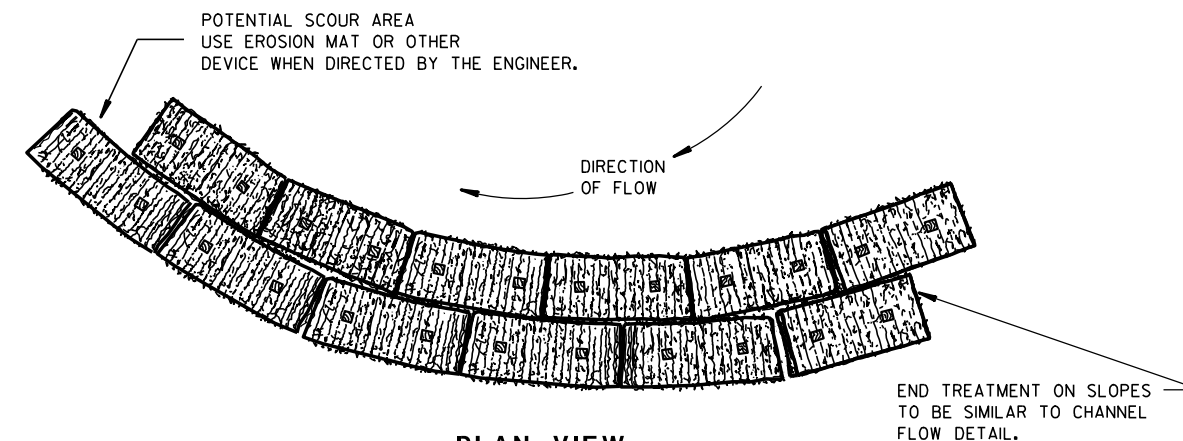
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

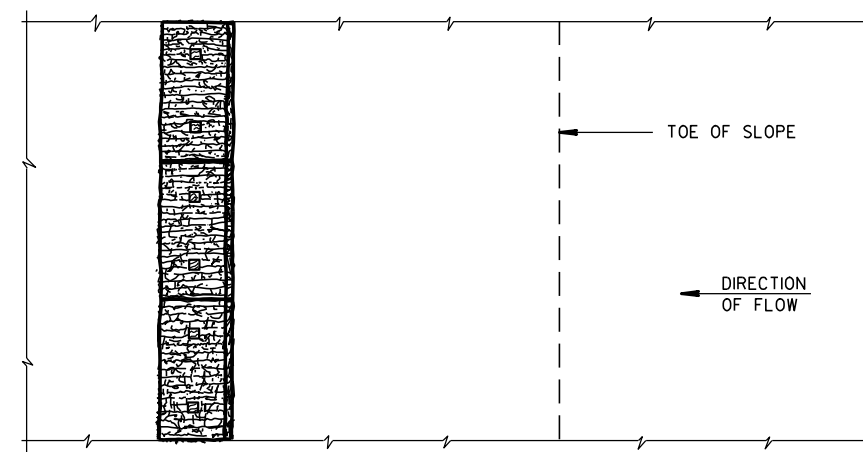
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- 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.

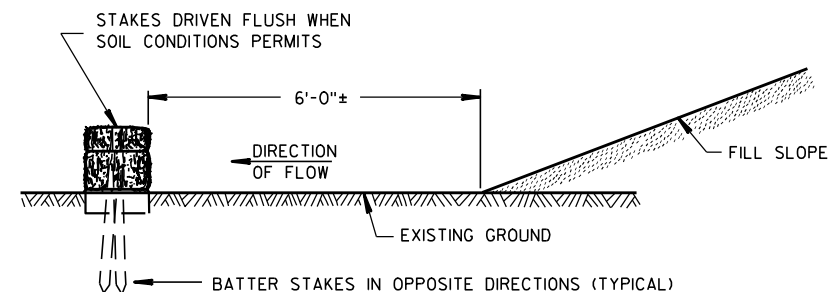


PLAN VIEW

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

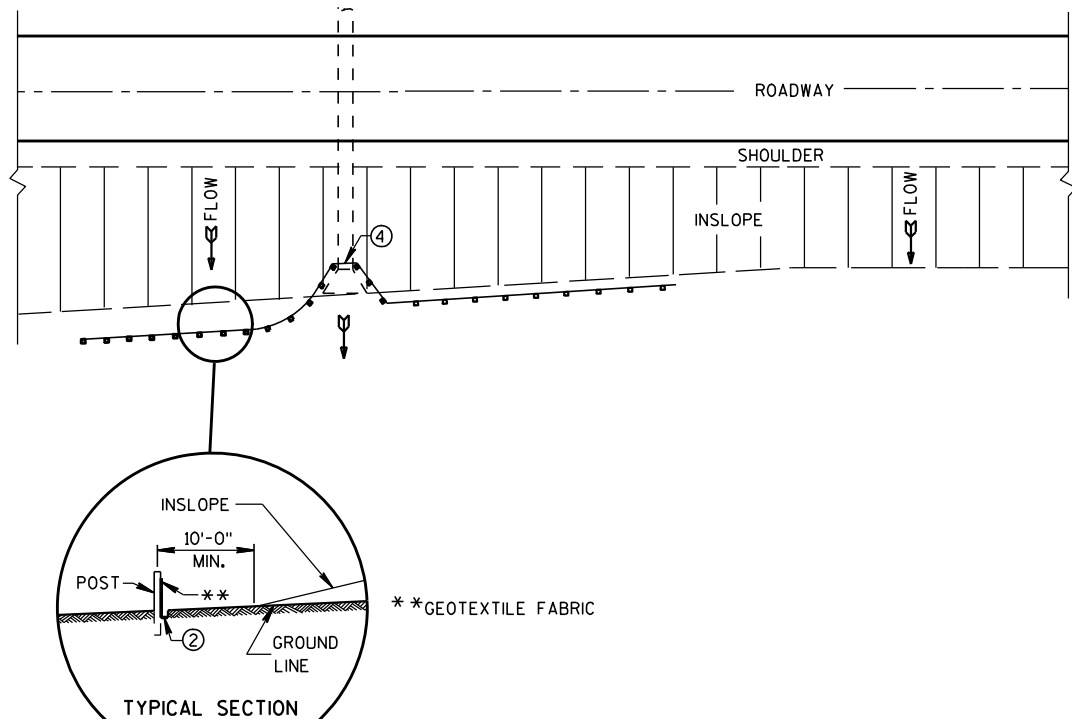
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

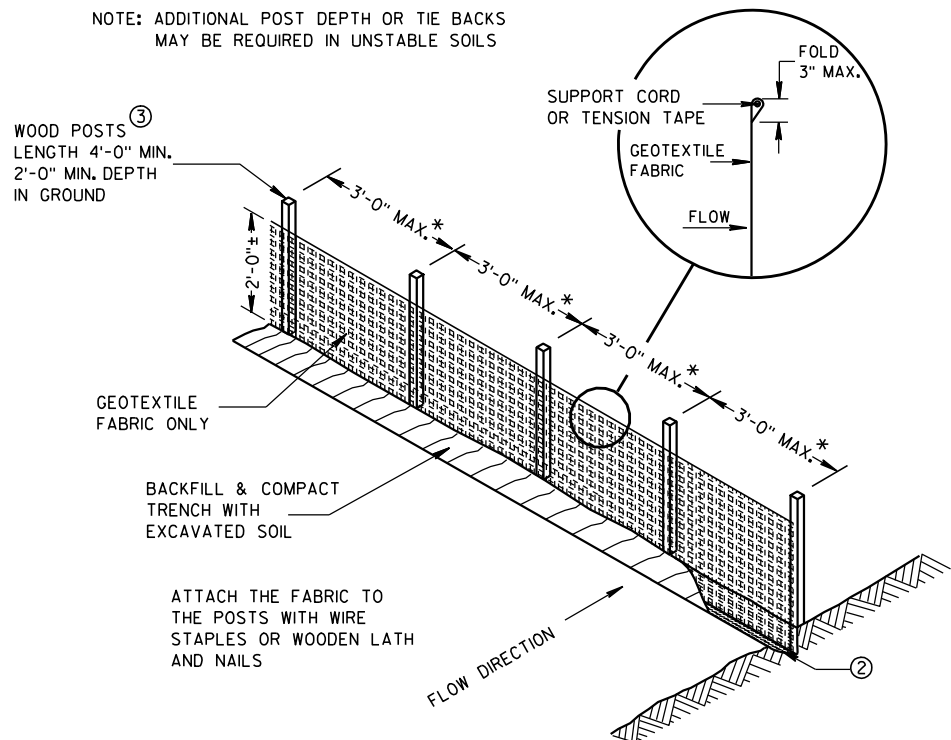
6/04/02
DATE

/S/ Beth Conn-----
CHIEF ROADWAY DEVELOPER 64 ENGINEER

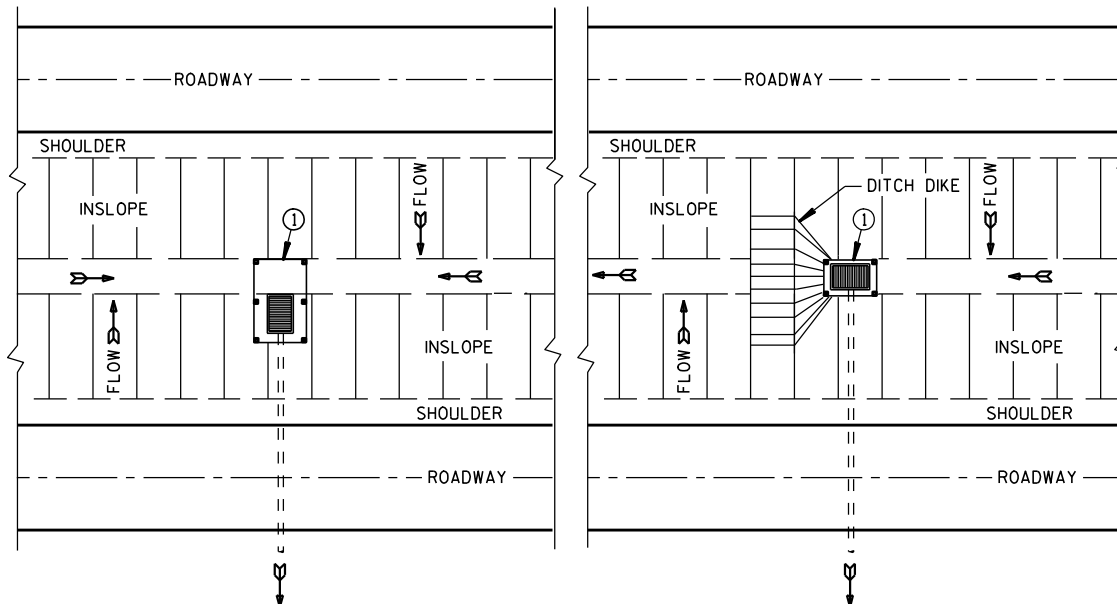
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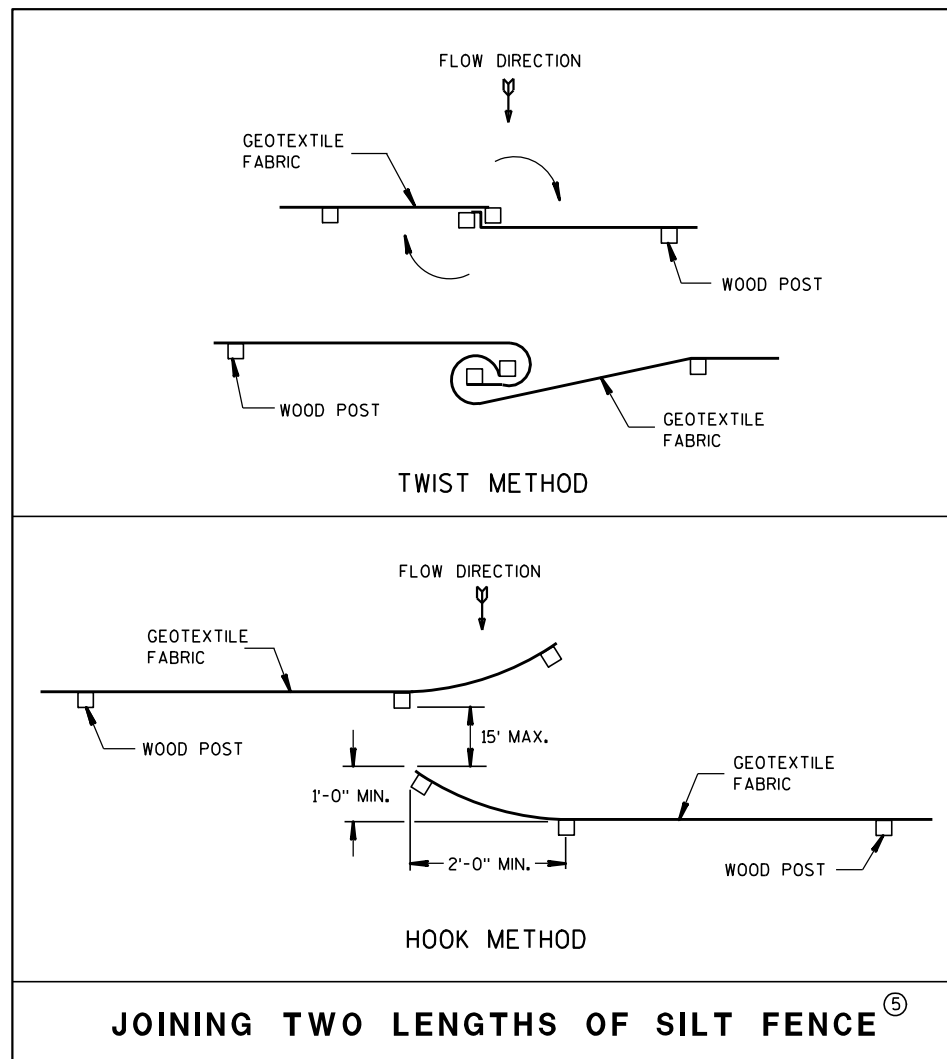
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



SITUATION 1
SITUATION 2
PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

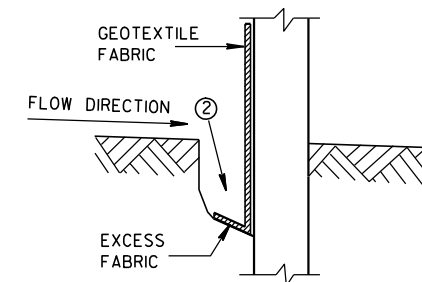


JOINING TWO LENGTHS OF SILT FENCE (5)

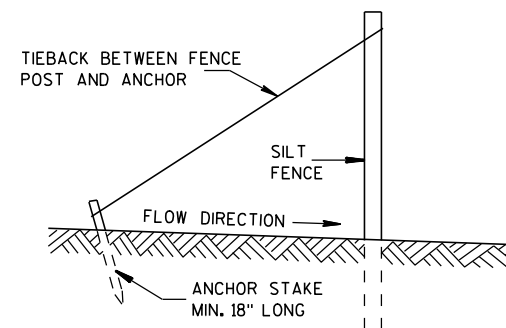
GENERAL NOTES

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

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

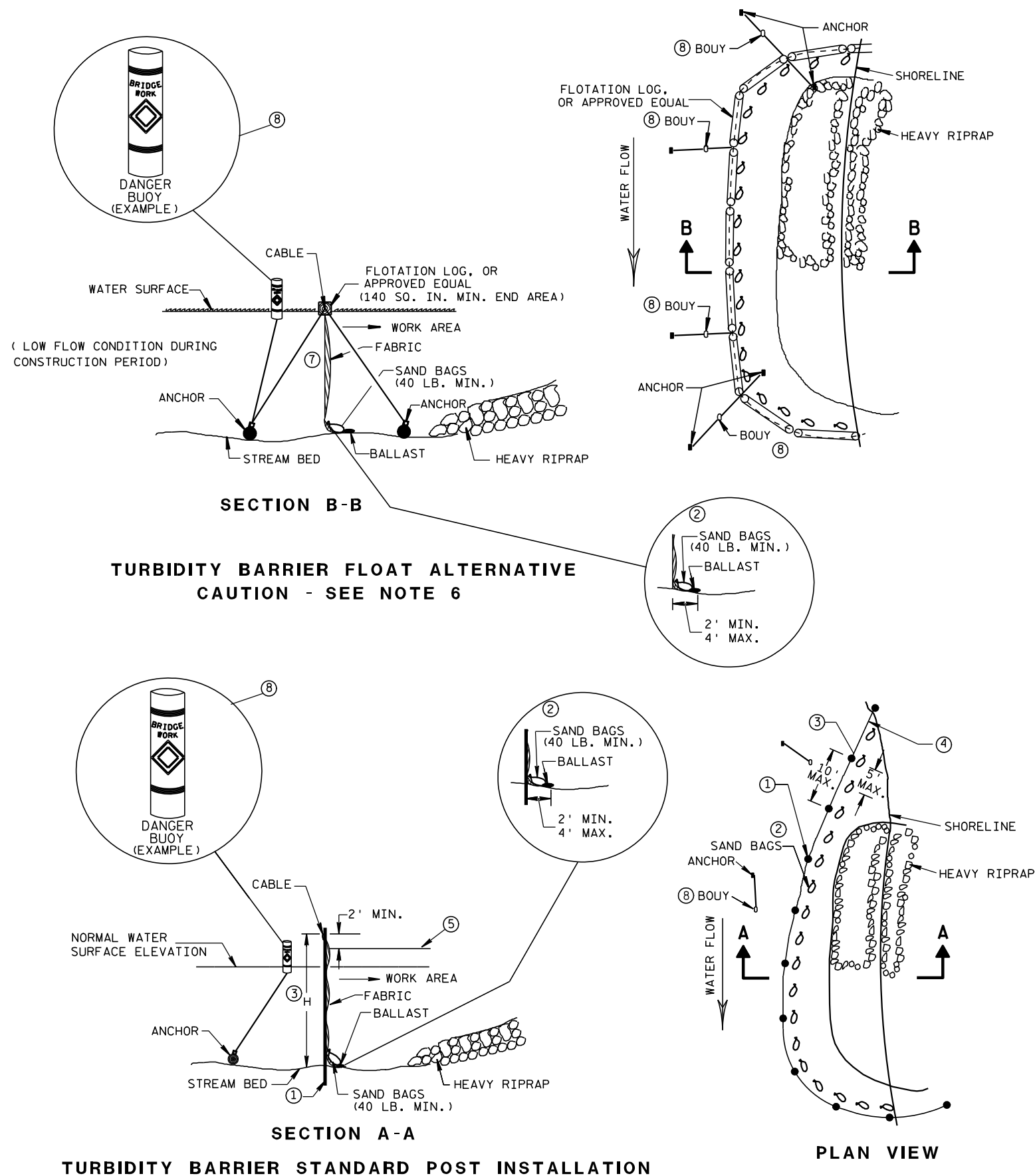


TRENCH DETAIL



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-29-05 DATE	/S/ Beth Conn CHIEF ROADWAY DEVELOPER 65 ENGINEER
FHWA	

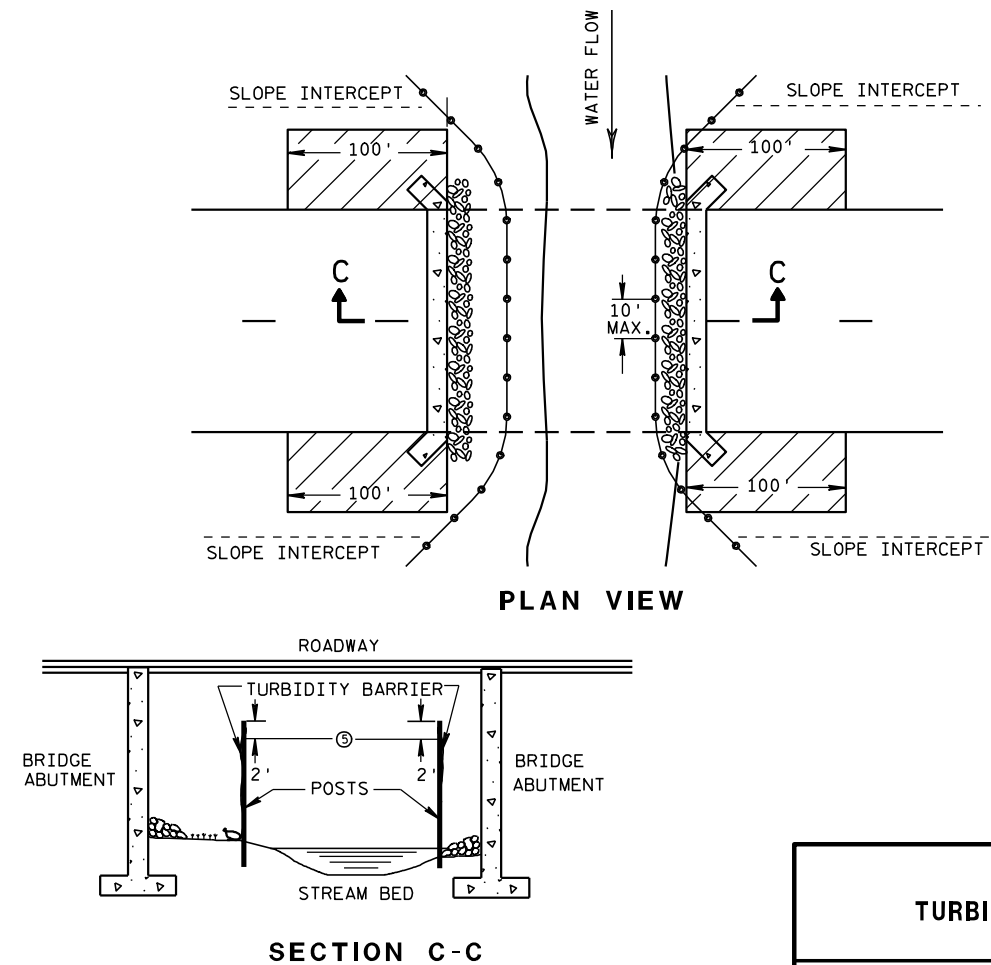


GENERAL NOTES

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

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

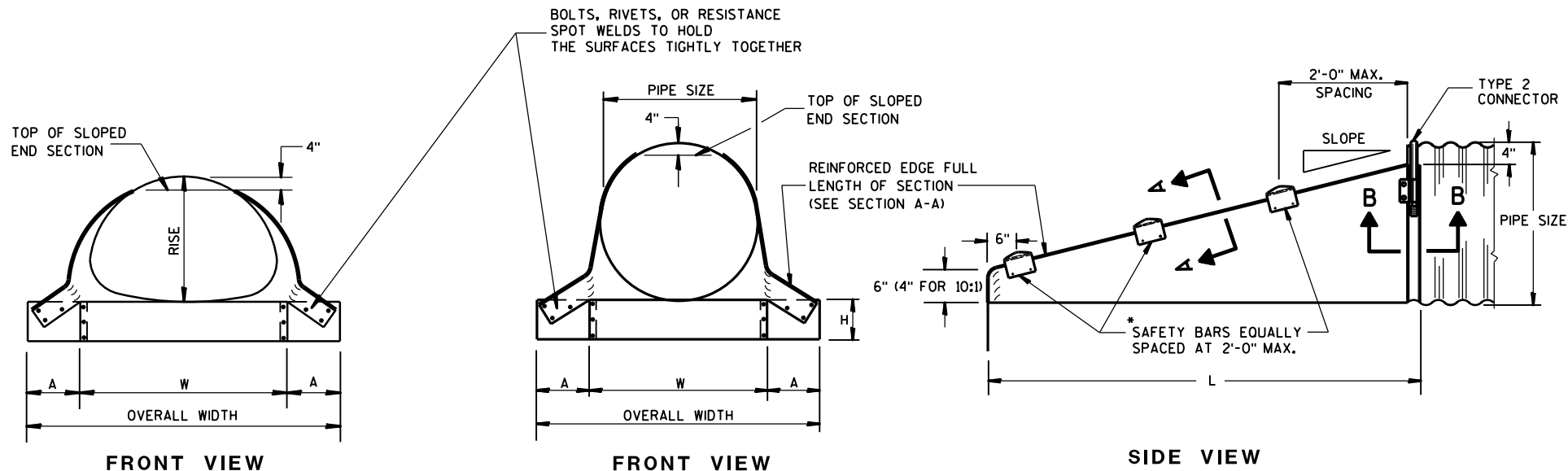
APPROVED

6/04/02
DATE

FWHA

/S/ Beth Conn
CHIEF ROADWAY DEVELOPER

66 INEER



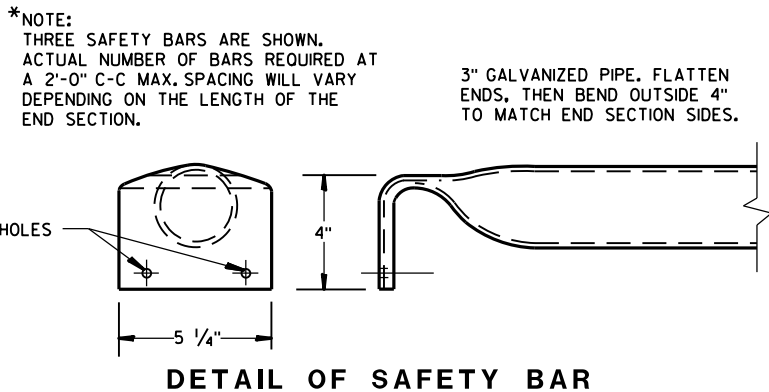
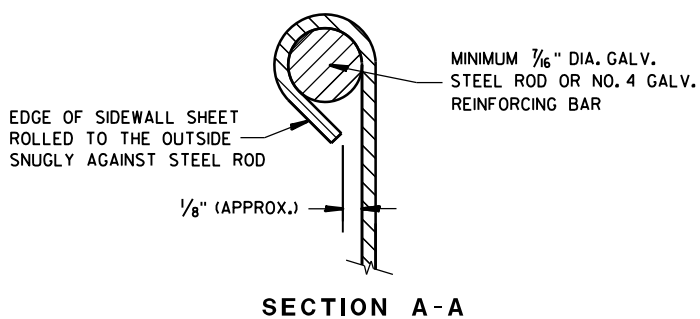
GENERAL NOTES

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

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

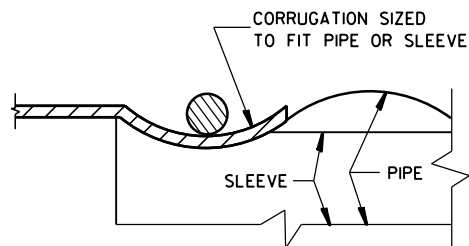
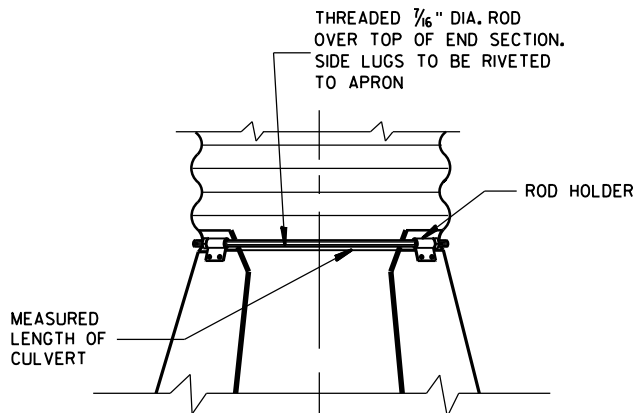
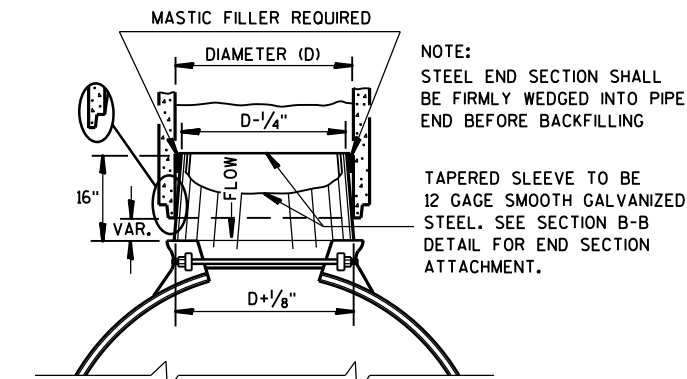
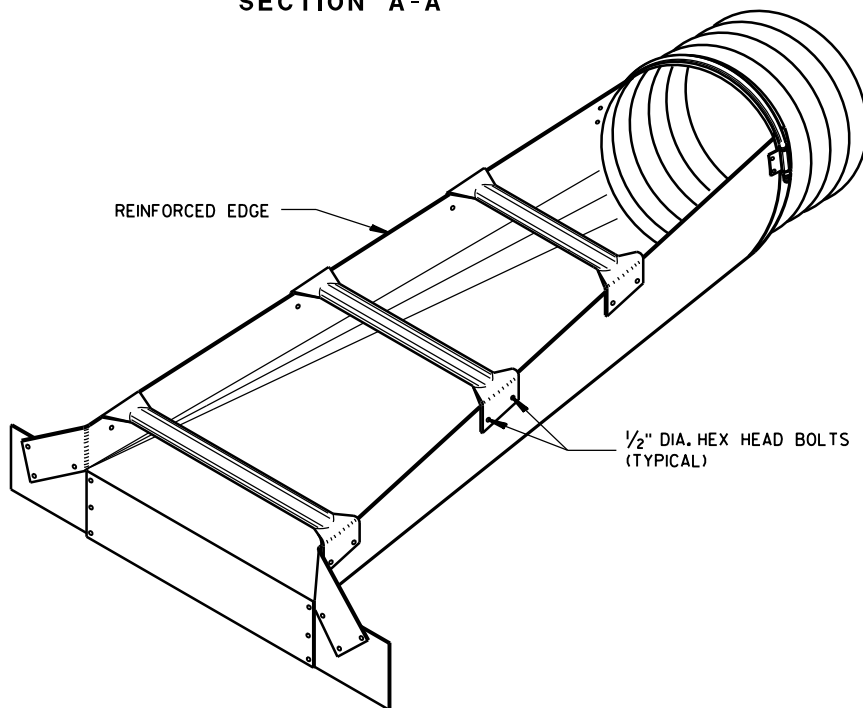
SAFETY BARS SHALL BE FABRICATED FROM GALVANIZED STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A-53, GRADE B, SCHEDULE 40 OR APPROVED EQUAL.

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



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

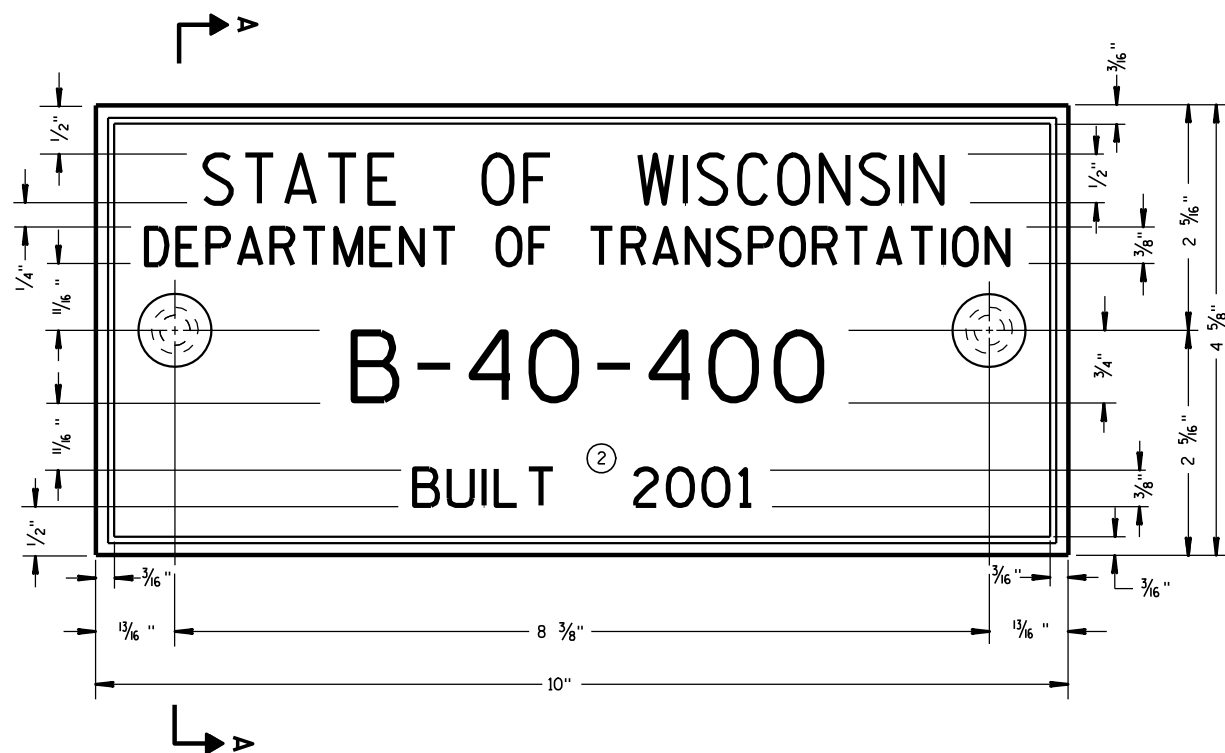
① * MINIMUM THICKNESS OF ALL 10:1 SLOPED SIDE DRAINS IS 0.109".
② ACTUAL SLOPE GREATER THAN 10:1.



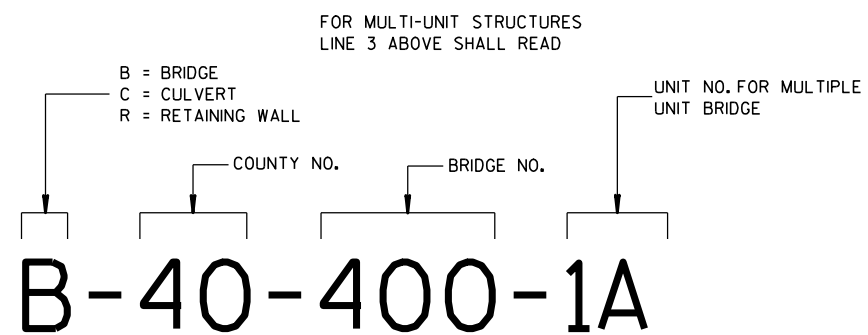
STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE DRAINS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/14/2012
DATE
/S/ Jerry H. Zoog
ROADWAY STANDARDS ENGINEER
67
NT
FHWA



TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)



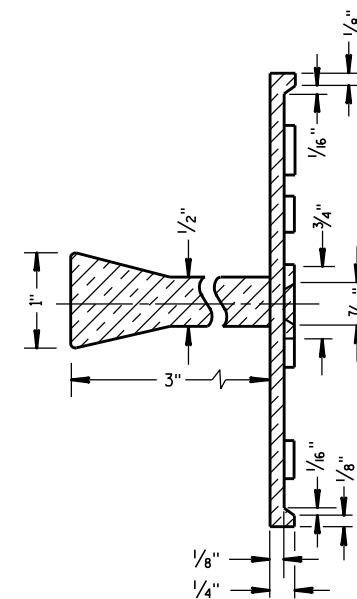
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

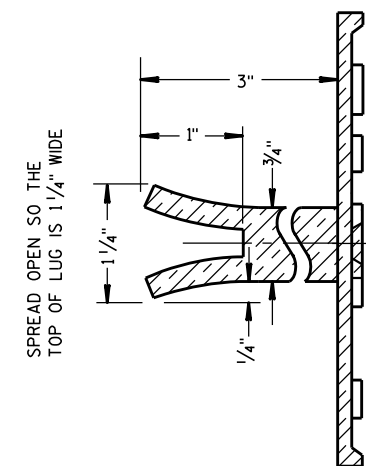
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.

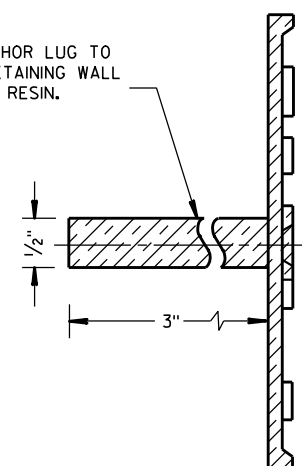


SECTION A-A



ALTERNATE LUG

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10
DATE

FHWA

/S/ Scot Beck
CHIEF STRUCTURAL DEVELOPER

JEER



① PAVEMENT DEPTH, DOWEL BAR SIZE
AND JOINT SPACING TABLE

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

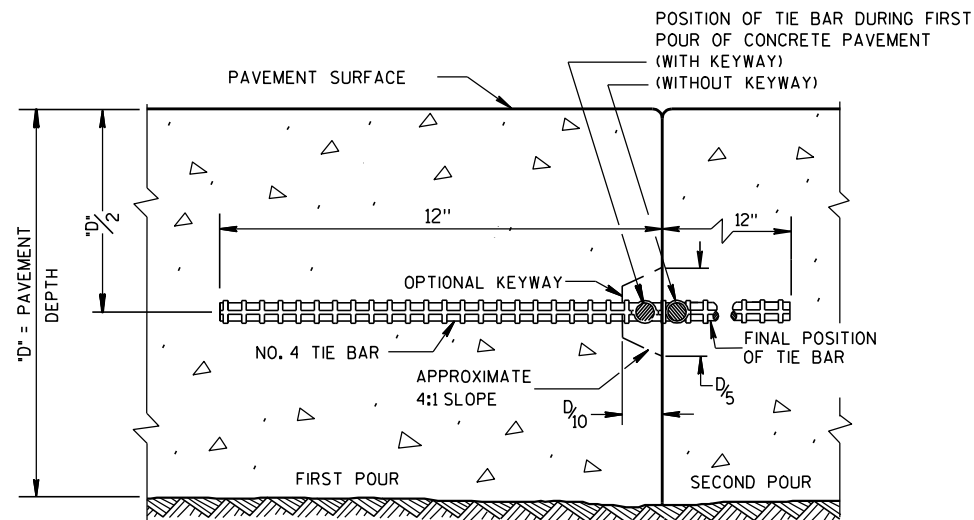
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

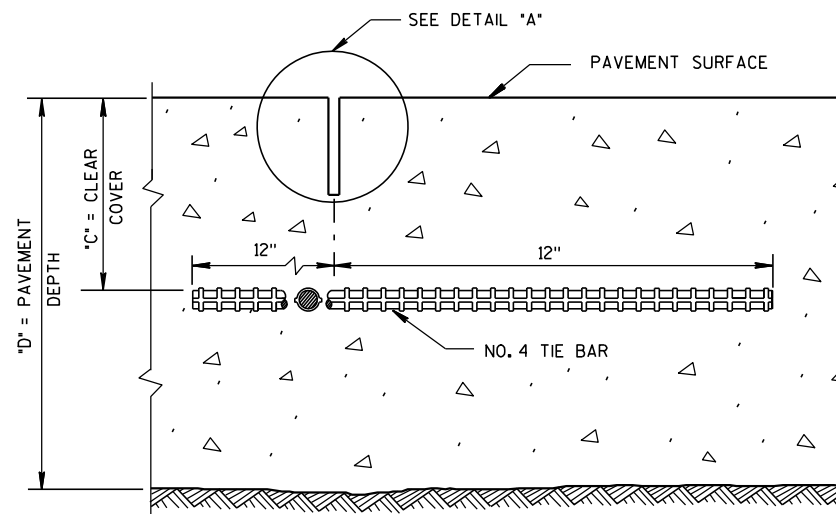
FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE STANDARD SPECIFICATIONS.

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





CONSTRUCTION JOINT



SAWED JOINT

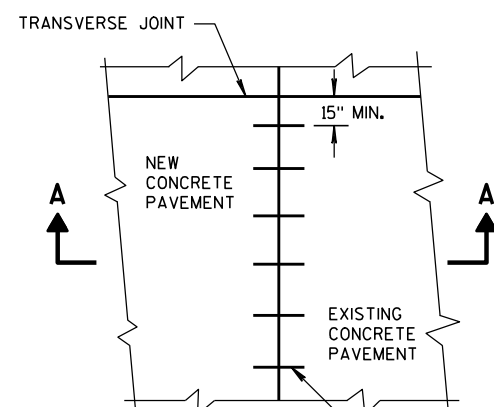
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

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

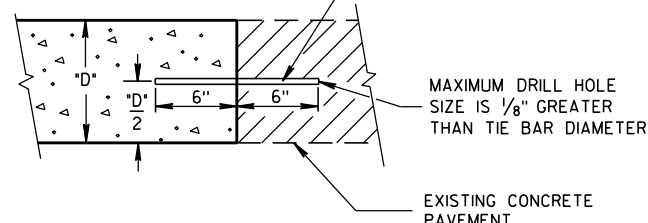
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

- ① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

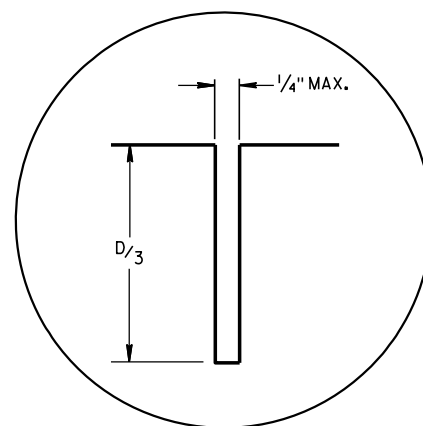


PLAN VIEW

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

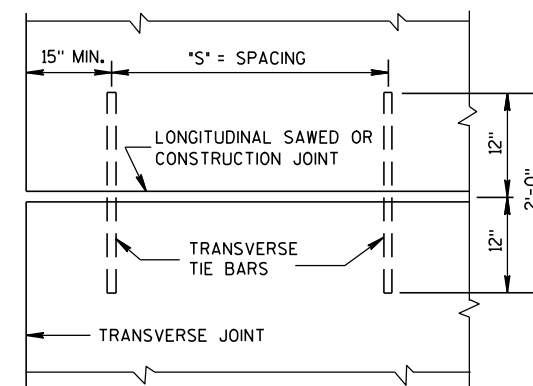


**SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT
TIE BARS ANCHORED
INTO EXISTING PAVEMENT**



DETAIL "A"

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



**PLAN VIEW
SHOWING LOCATION OF TIE BARS**

**CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

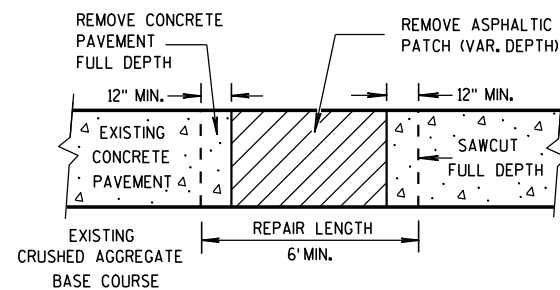
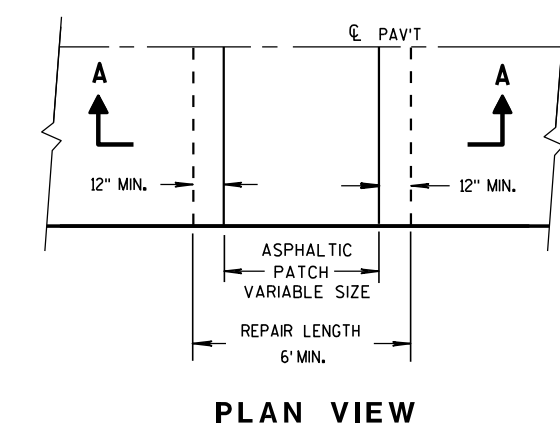
APPROVED

10-5-2010
DATE

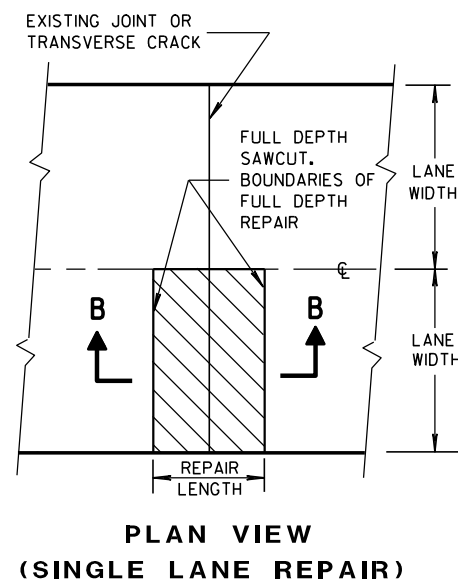
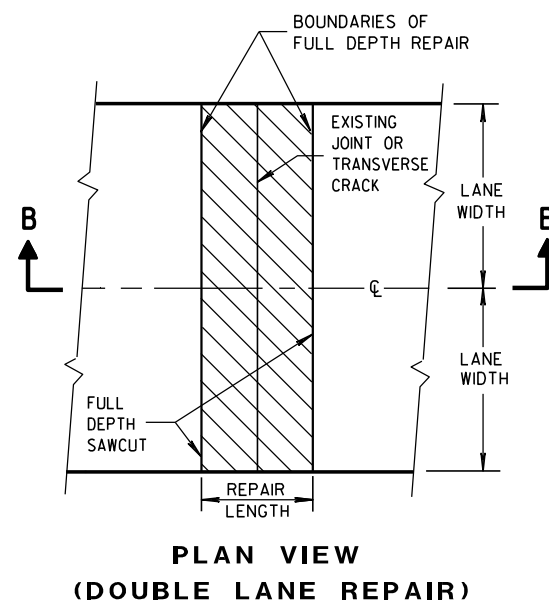
FHWA

/S/ Deb Bischoff
PAVEMENT POLICY & Di 70

INEER



SECTION A-A
HMA PATCH REMOVAL



FULL DEPTH CONCRETE PAVEMENT REMOVAL

(SEE NOTE)

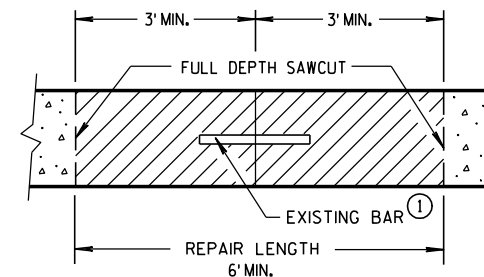
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES. ADDITIONAL SAW CUTS ARE NOT PAID FOR BY THE DEPARTMENT.

PROVIDE 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK IN THE SAME LANE.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

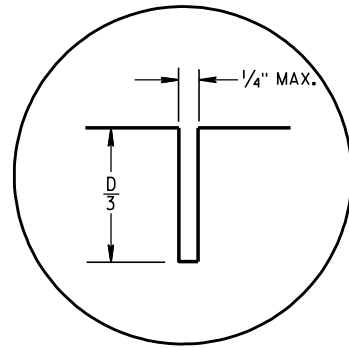
① DOWEL BARS MIGHT NOT EXIST.



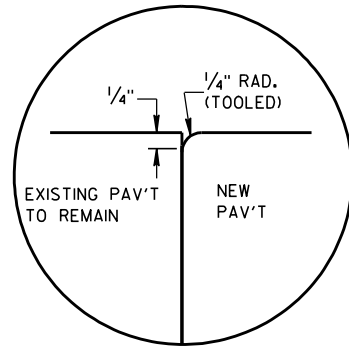
SECTION B-B
CONCRETE REMOVAL

CONCRETE PAVEMENT REPAIR
AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

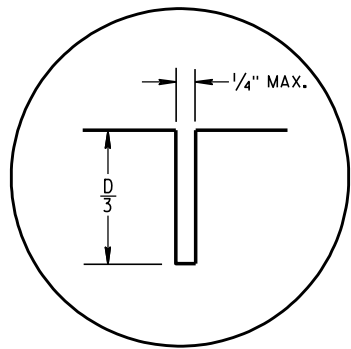


C1

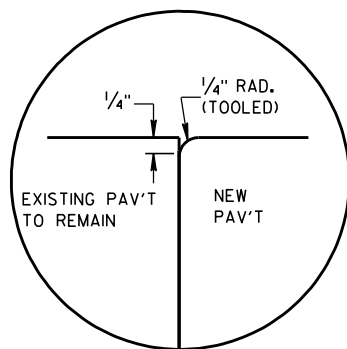


C2

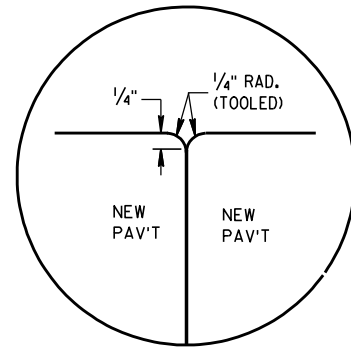
TRANSVERSE JOINTS



L1

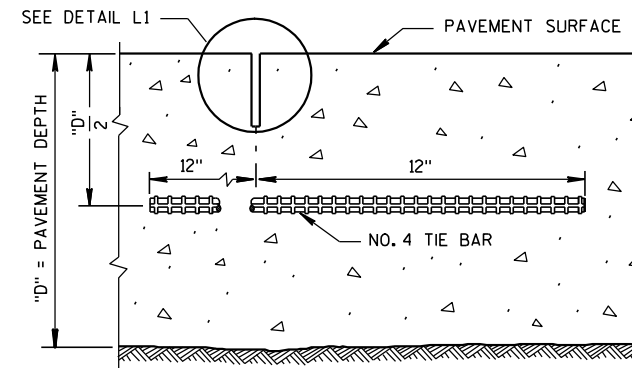


L2

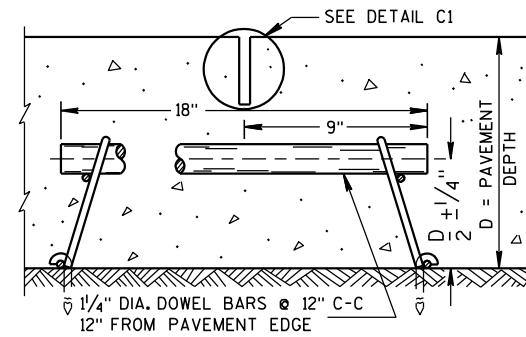


L3

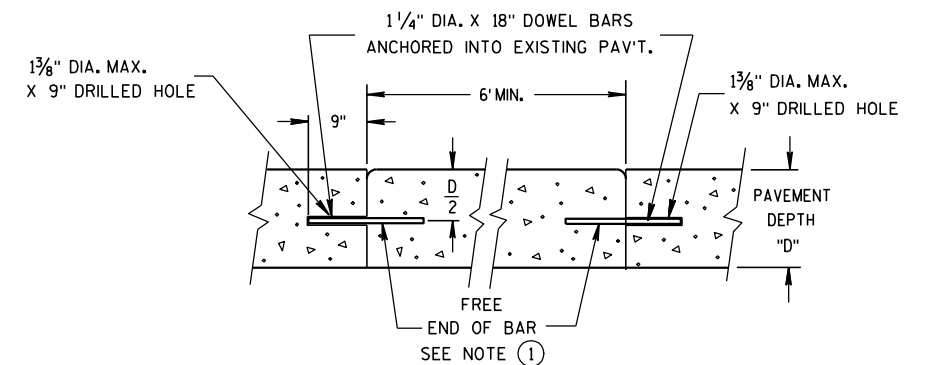
LONGITUDINAL JOINTS



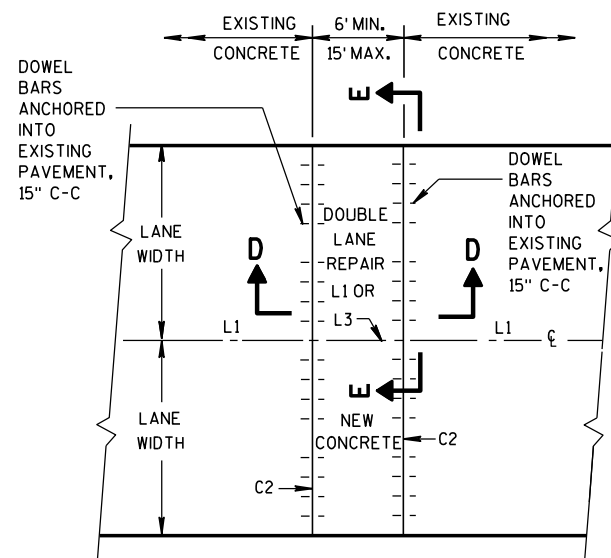
SECTION C-C
SAWED LONGITUDINAL JOINT



SECTION F-F
CONTRACTION JOINT

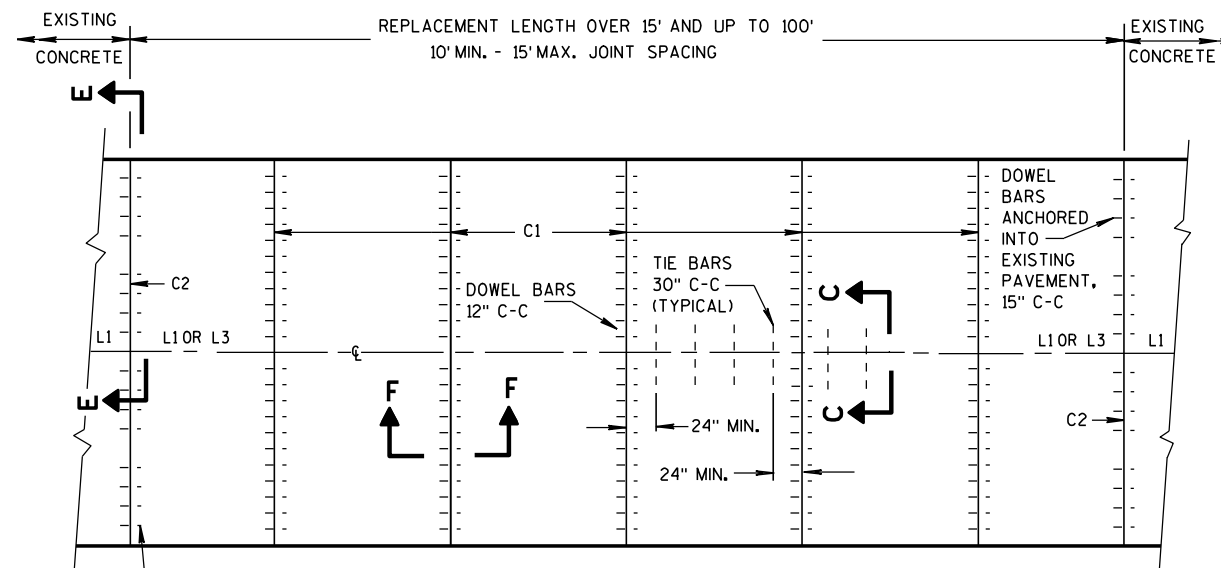


SECTION D-D



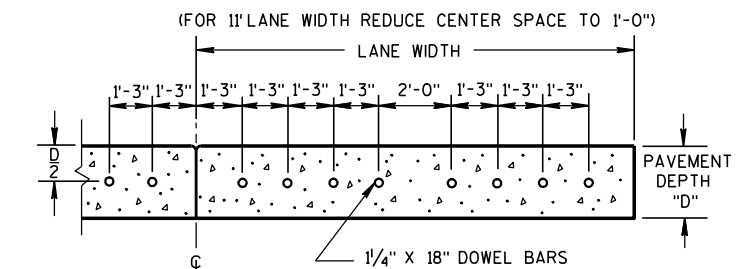
PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPLACEMENT



SECTION E-E
SPACING OF DOWEL BARS
ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

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

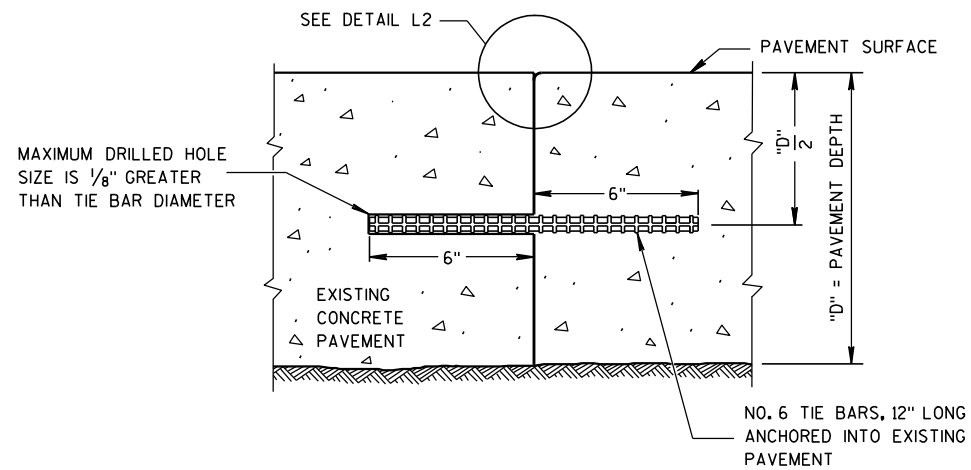
CONCRETE PAVEMENT REPAIRS OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 24 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

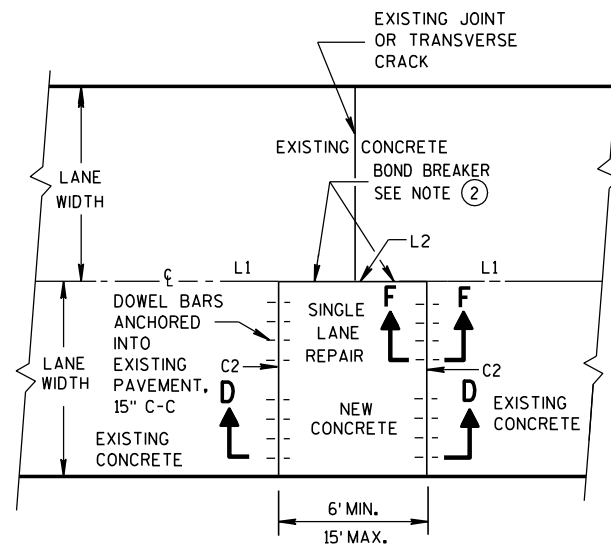
- APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.



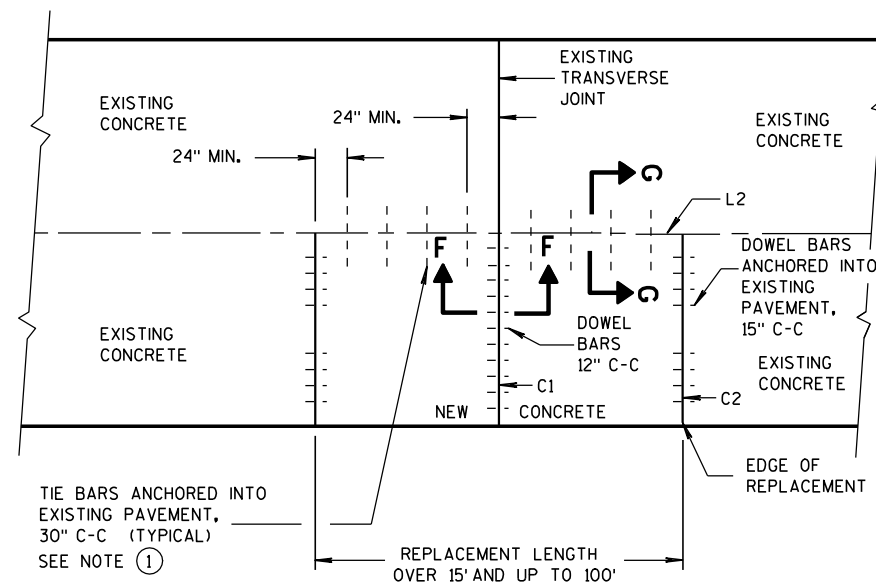
SECTION G-G
TIE BARS ANCHORED
INTO EXISTING PAVEMENT

GENERAL NOTES

- ① WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES AND TO SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.
- ② USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.



PLAN VIEW
SINGLE LANE
CONCRETE PAVEMENT REPAIR



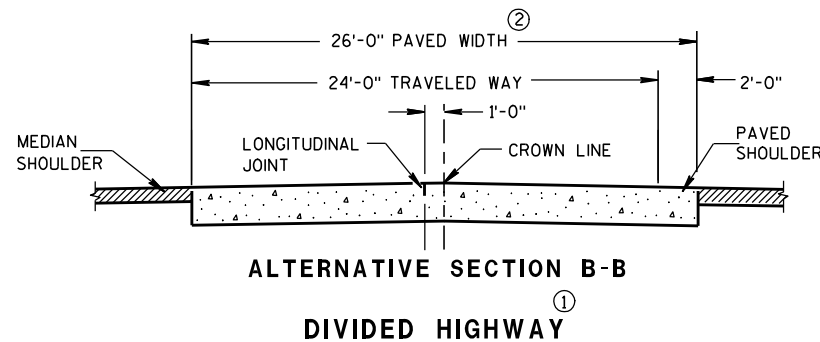
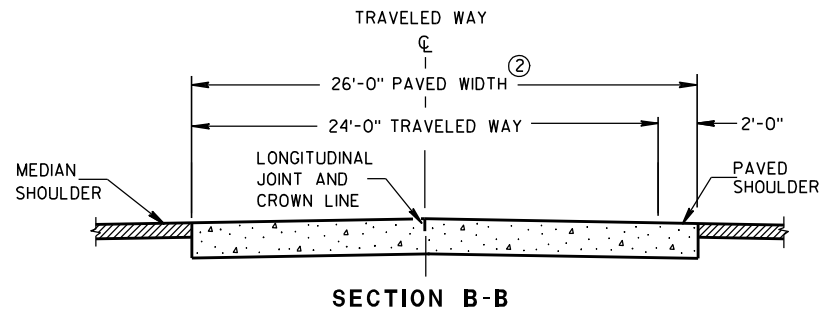
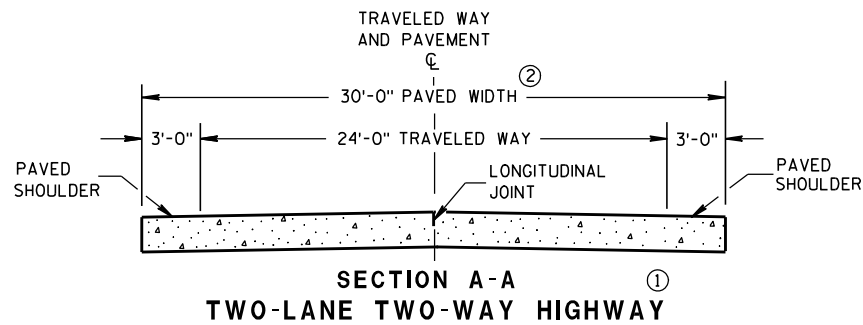
PLAN VIEW
SINGLE LANE
CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

DATE 11-1-2011 /S/ Deb Bischoff
PAVEMENT POLICY & DE 73 NEER
FHWA



GENERAL NOTES

CONTRACTION JOINTS

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

DO NOT SEAL OR FILL CONTRACTION JOINTS.

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

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

CONSTRUCTION JOINTS

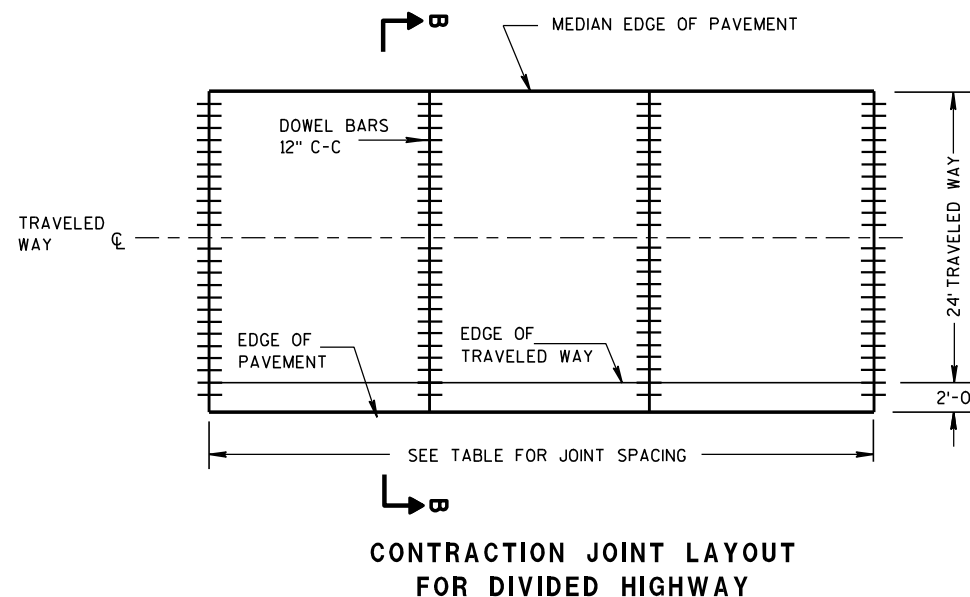
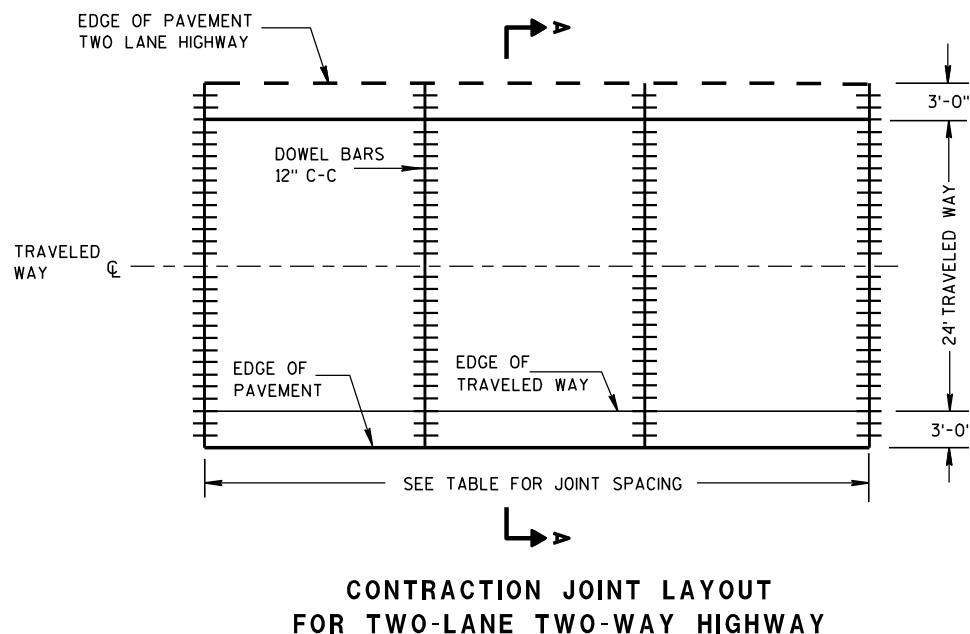
LOCATE CONSTRUCTION JOINTS A MINIMUM OF 4 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

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

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

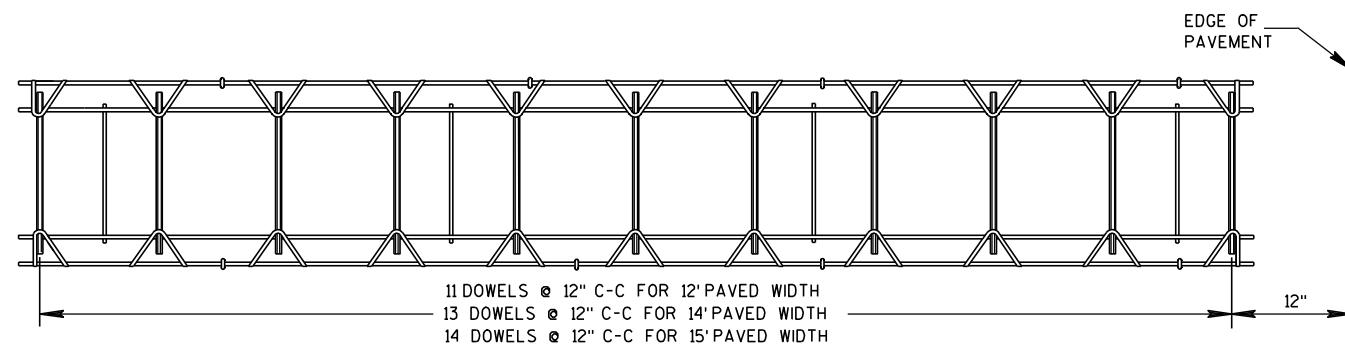
PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

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

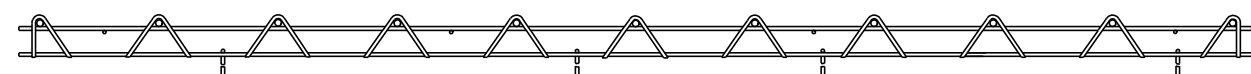


RURAL DOWELED
CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

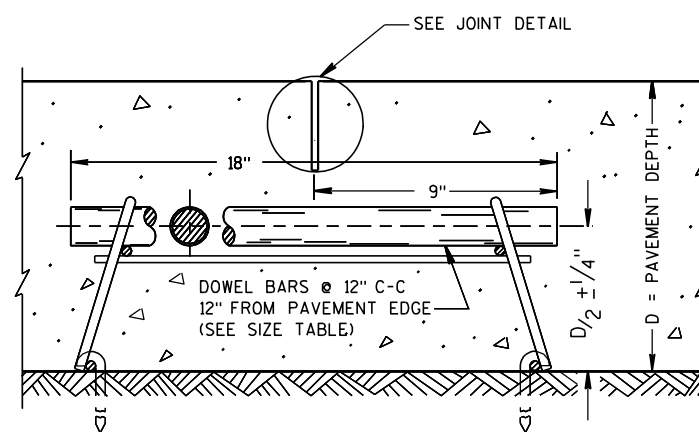


PLAN VIEW

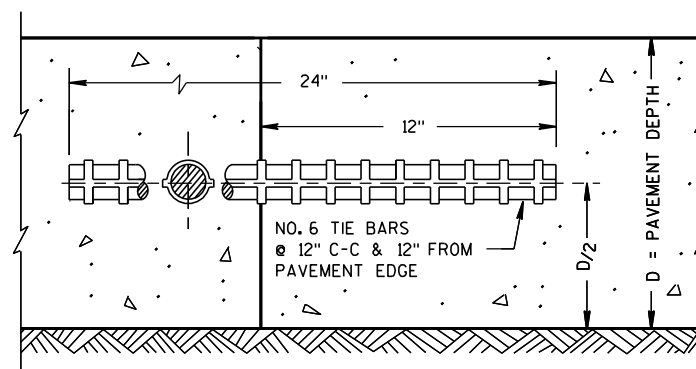


SIDE VIEW

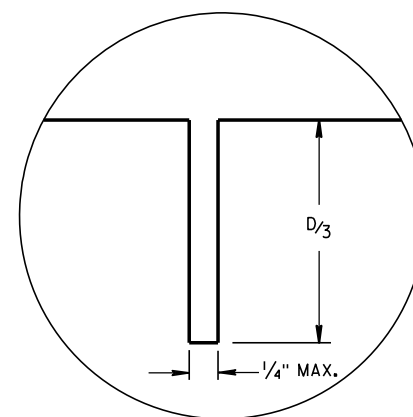
(NORMAL TO CENTERLINE)

CONTRACTION JOINT DOWEL ASSEMBLY^①

DOWELED CONTRACTION JOINT



CONSTRUCTION JOINT

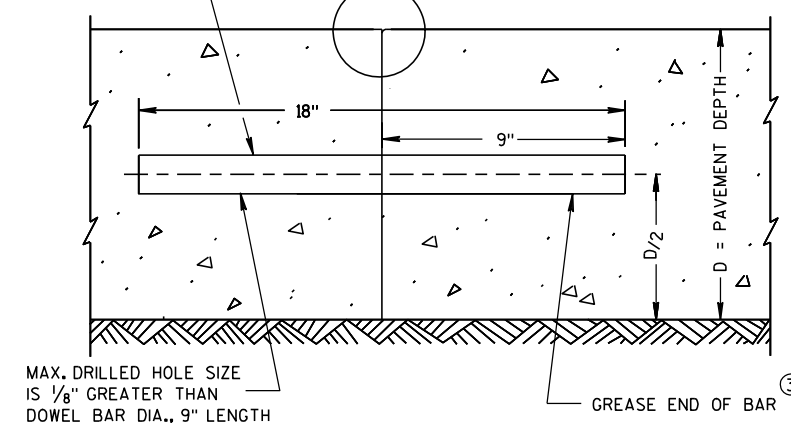
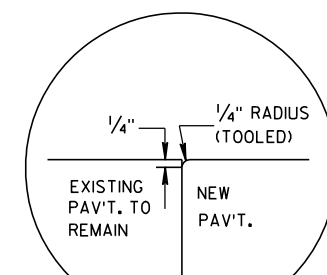


JOINT DETAIL

GENERAL NOTES

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

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

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

④ DOWEL BAR DETAIL

RURAL DOWELED
CONCRETE PAVEMENTSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12/11/09

DATE

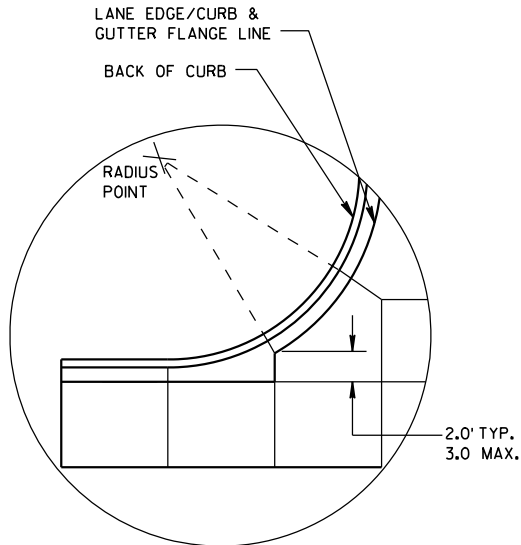
FHWA

/S/ Deb Bischoff

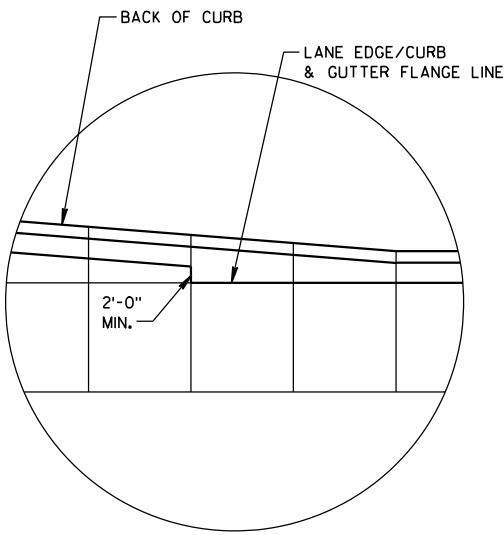
PAVEMENT POLICY & DESIGN

75

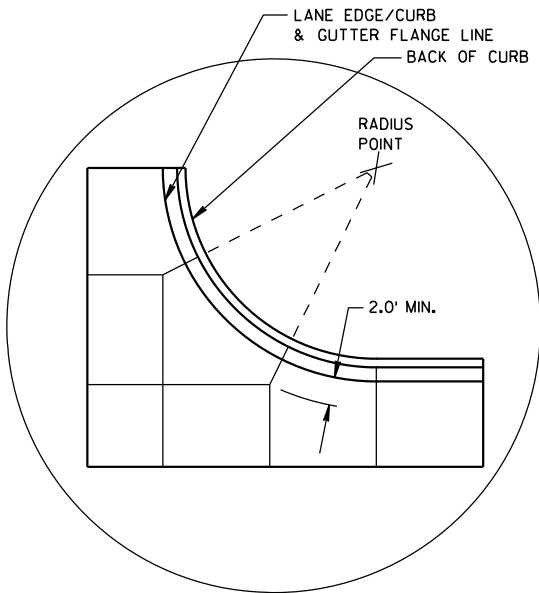
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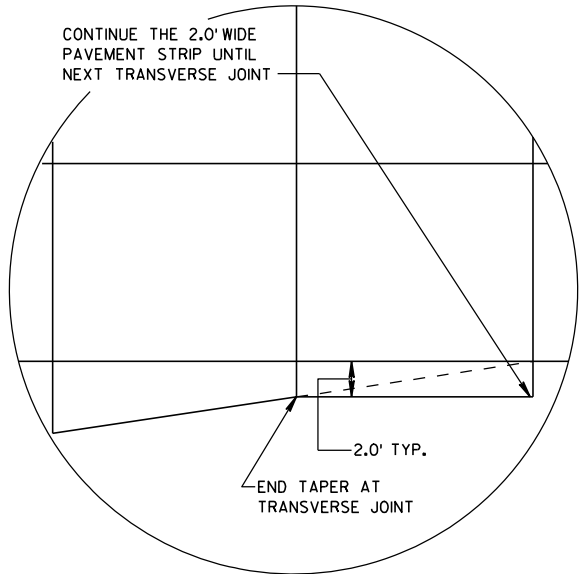
DETAIL "A"



DETAIL "B"



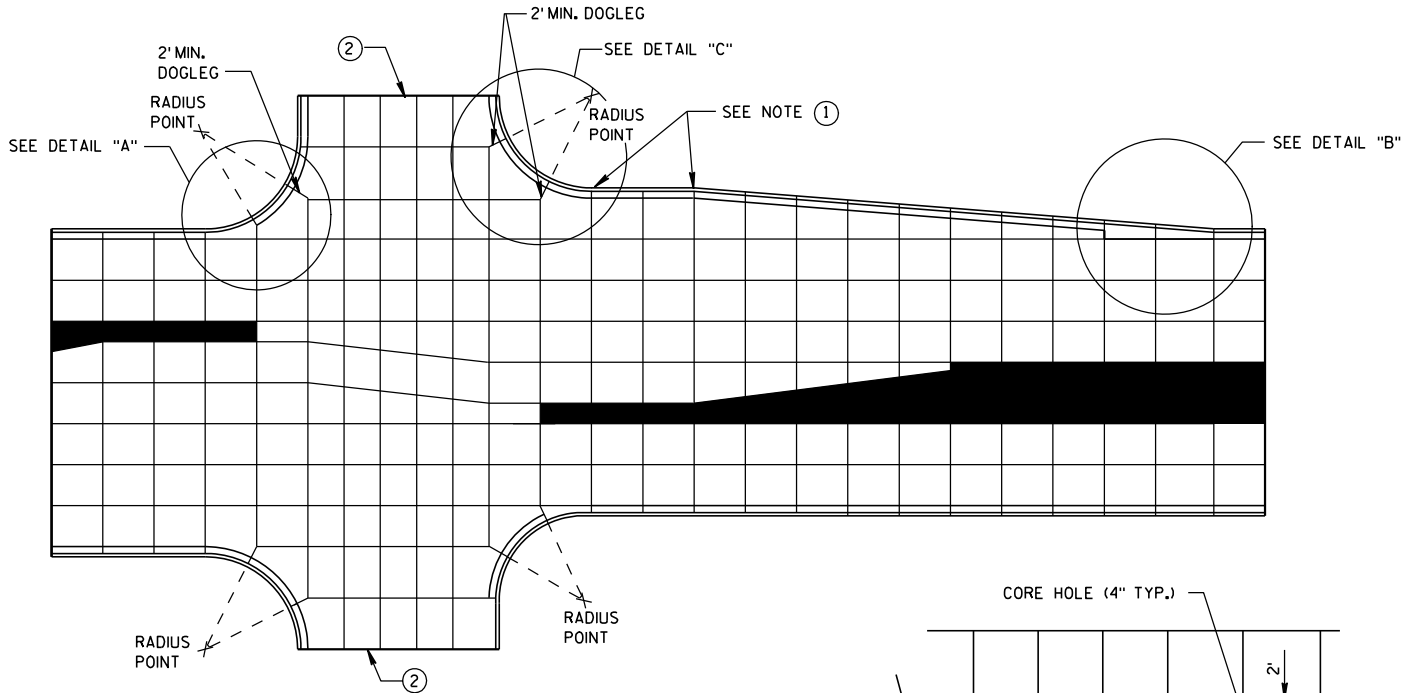
DETAIL "C"



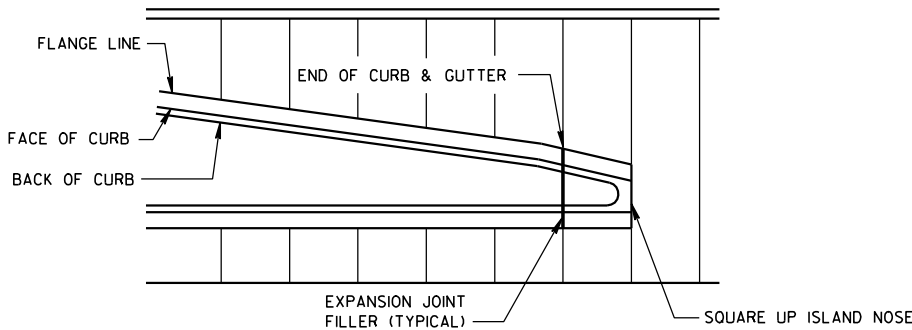
DETAIL "D"

GENERAL NOTES

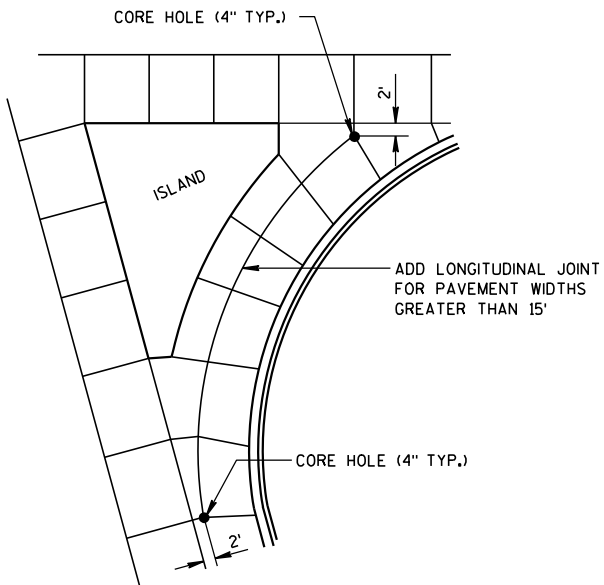
- THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.
- ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.
- CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.
- ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER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



STANDARD INTERSECTION



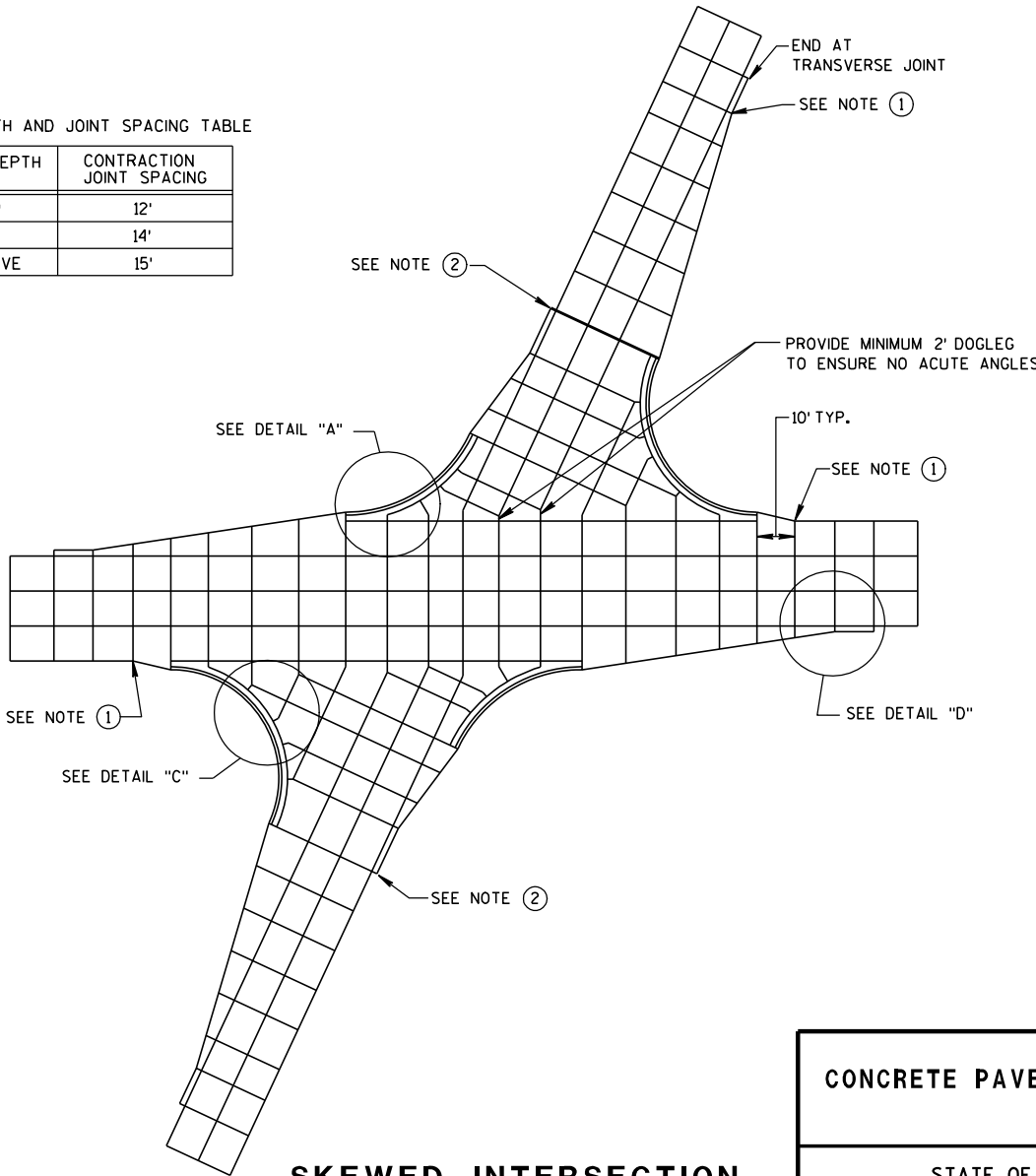
APPROACH TO MEDIAN



LARGE RIGHT TURN

PAVEMENT DEPTH AND JOINT SPACING TABLE

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



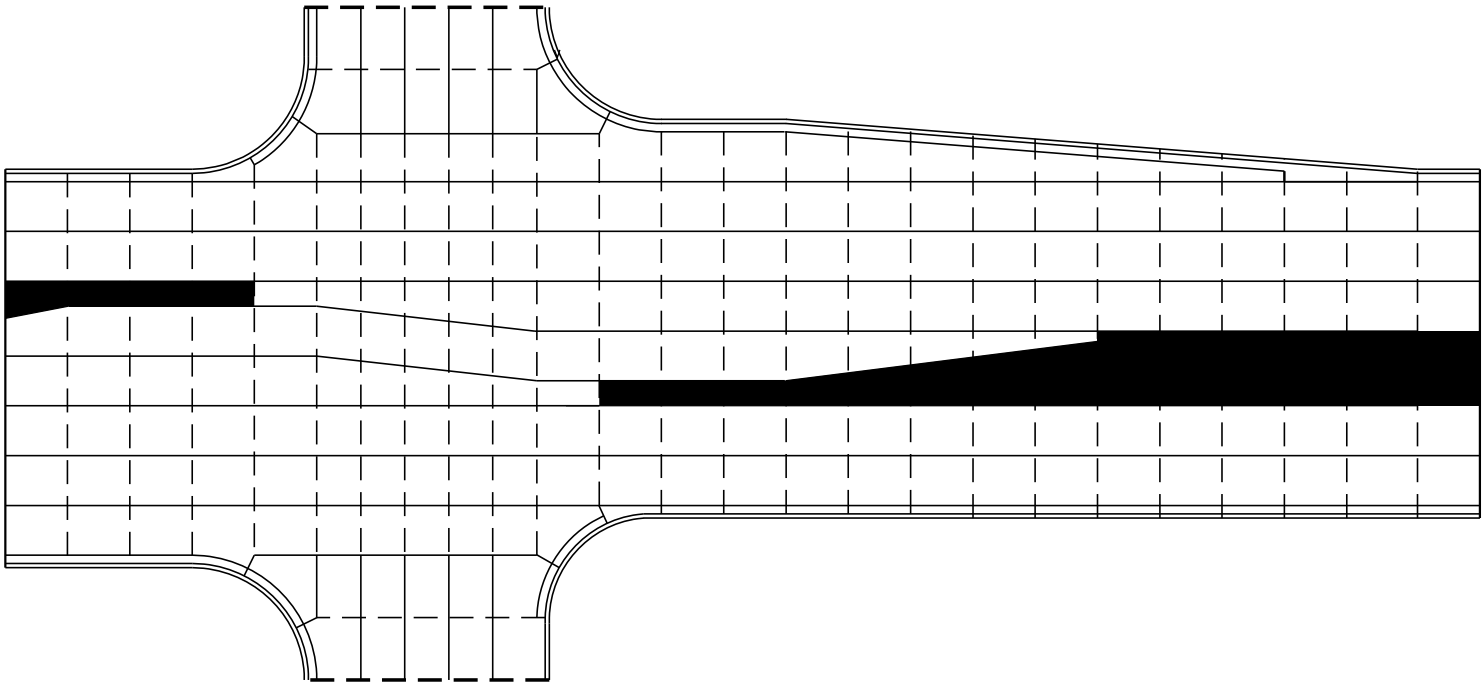
SKEWED INTERSECTION

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

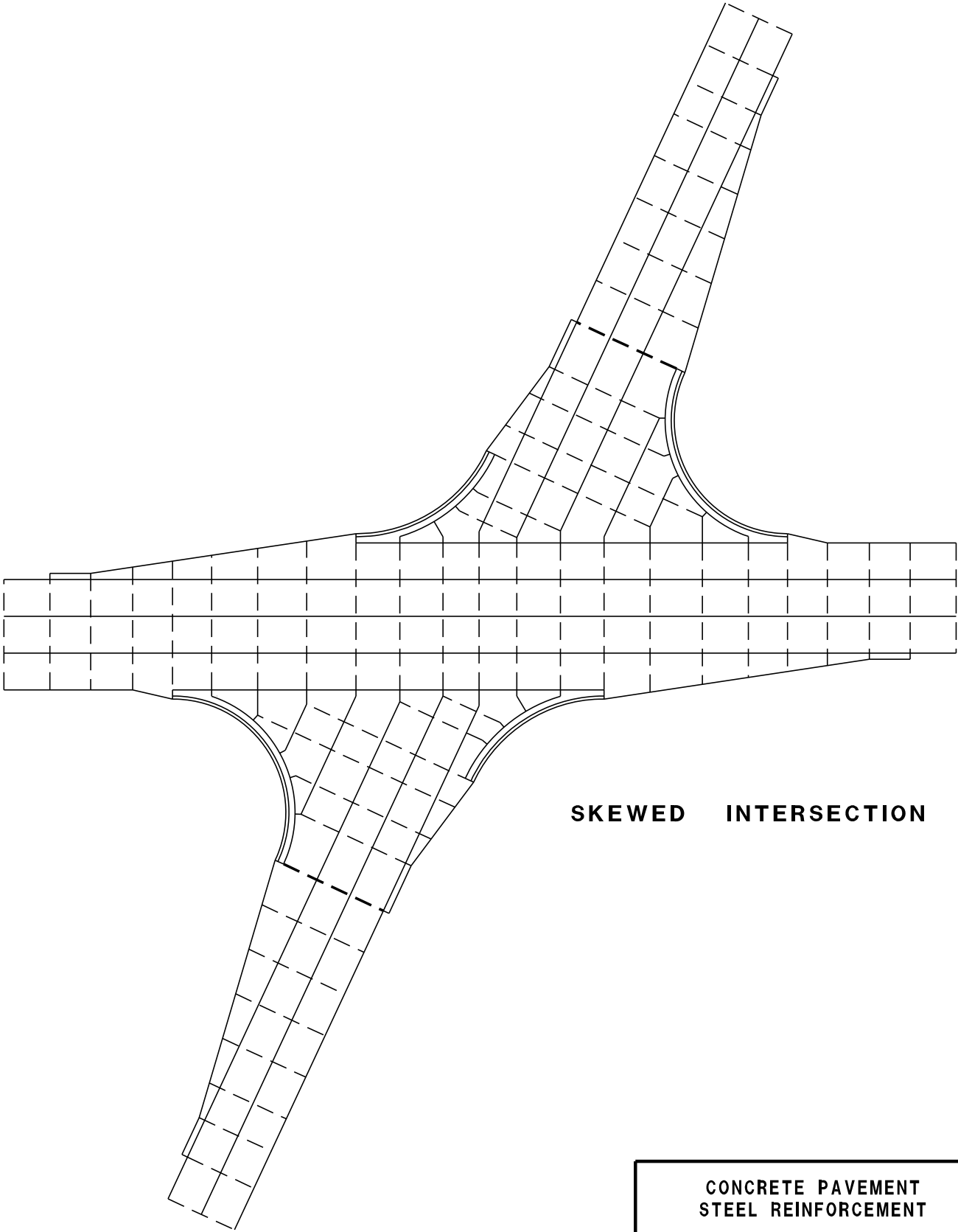
- POTENTIAL DOWELED EXPANSION JOINT
- - - DOWELED JOINT
- _____ TIED JOINT



STANDARD INTERSECTION

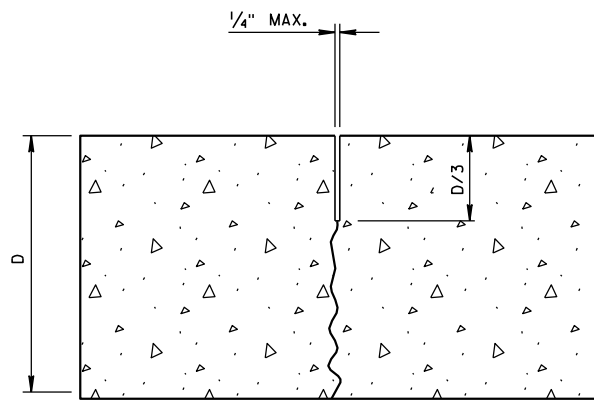
GENERAL NOTES

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

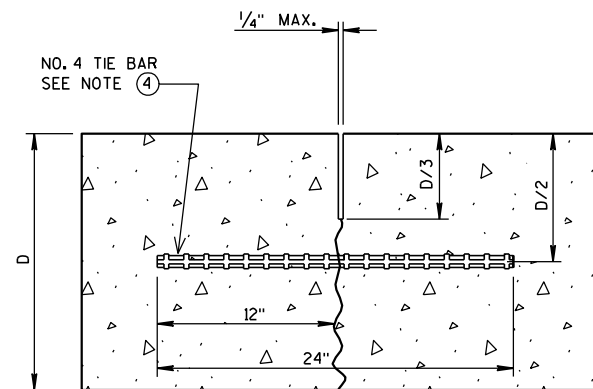


SKEWED INTERSECTION

CONCRETE PAVEMENT STEEL REINFORCEMENT
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

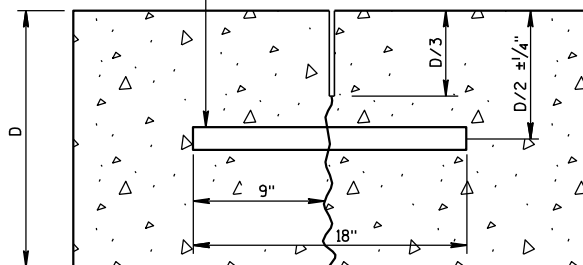


UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

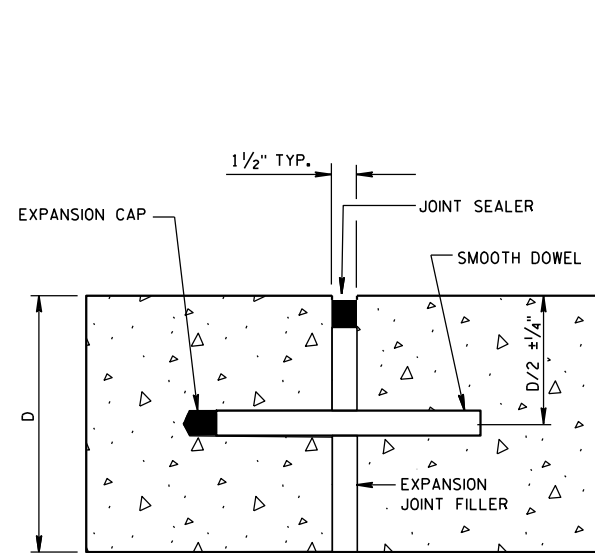
DOWEL BARS AT 12" C-C
12" FROM PAVEMENT EDGE



DOWELED-TRANSVERSE

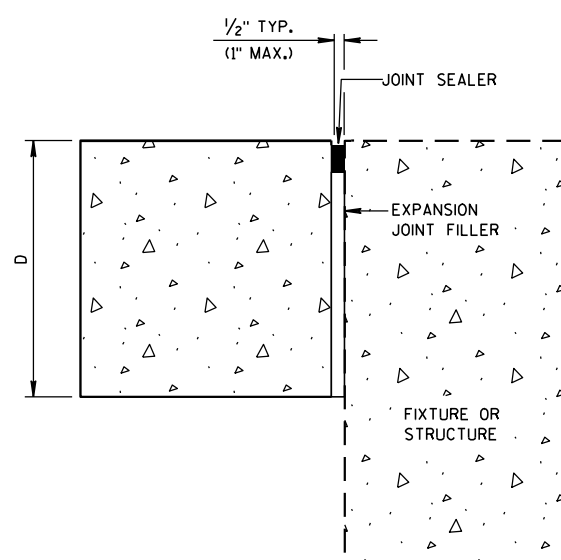
CONTRACTION JOINTS

SEE NOTE ②



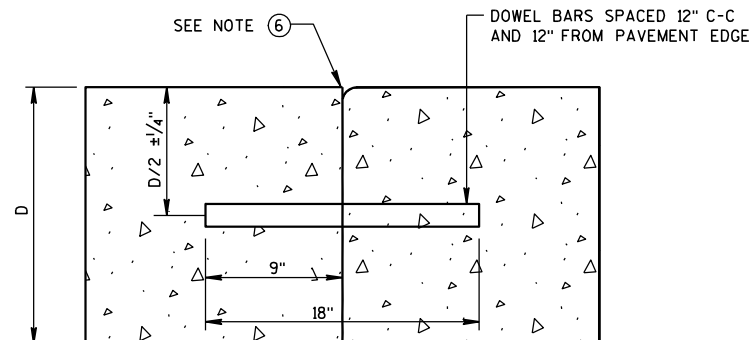
DOWELED-TRANSVERSE

SEE NOTE ①



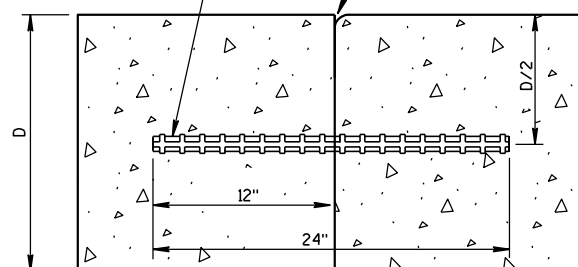
UNTIED-LONGITUDINAL

EXPANSION JOINTS



DOWELED TRANSVERSE

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

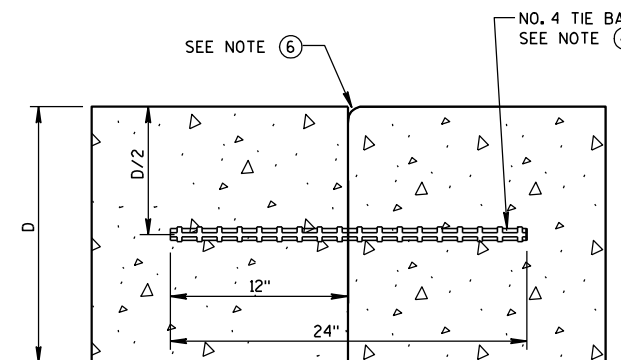


TIED TRANSVERSE

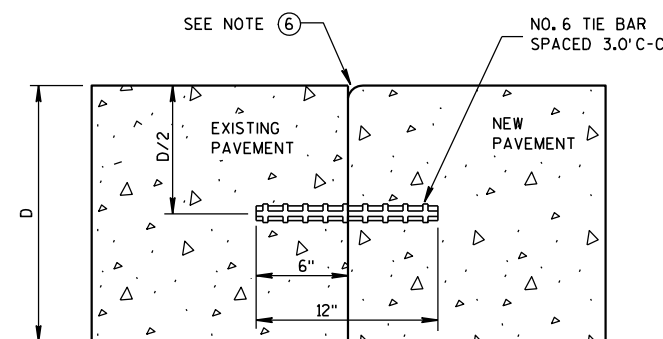
SEE NOTE ③

CONSTRUCTION JOINTS

SEE NOTE ⑤



TIED LONGITUDINAL

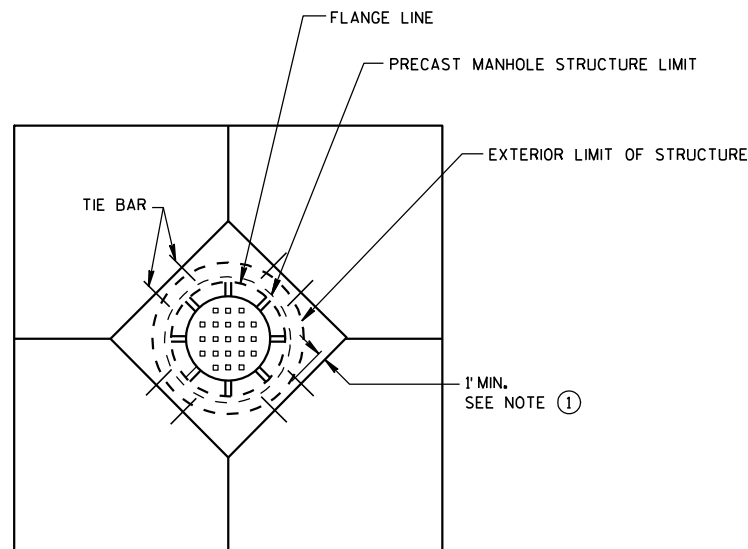


TIED LONGITUDINAL TO EXISTING

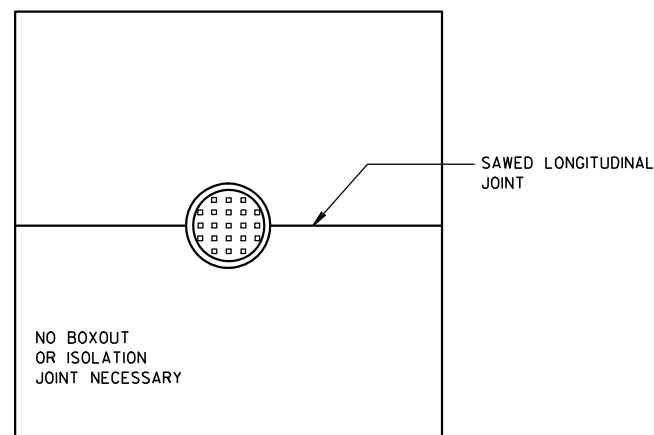
- ### GENERAL NOTES
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
 2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
 3. LOCATE CONSTRUCTION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

CONCRETE PAVEMENT JOINT TYPES

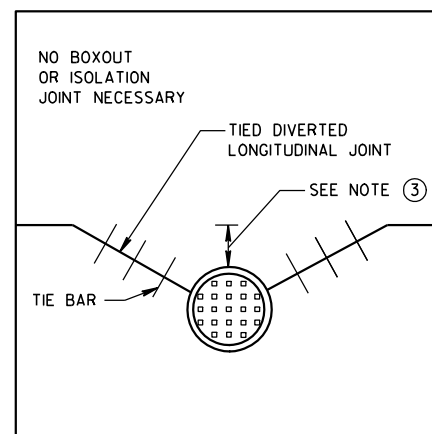
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



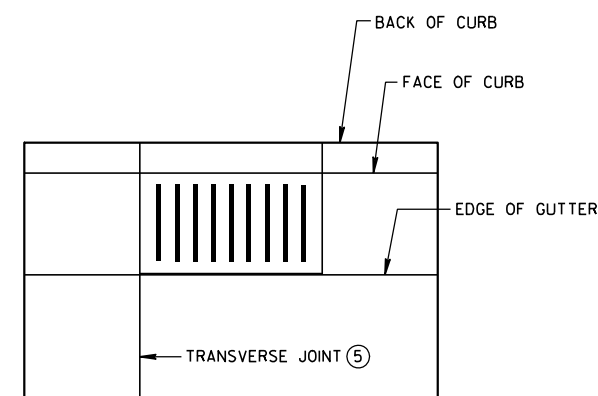
**DIAGONAL MANHOLE BOXOUT
FOR CONSTRUCTION JOINTS**



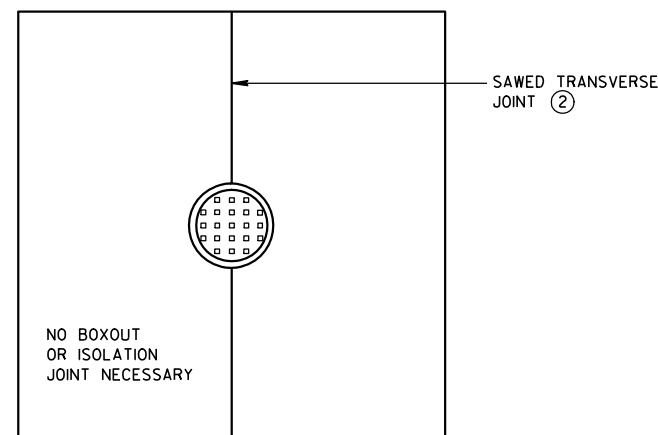
**MANHOLE WITH
LONGITUDINAL JOINT**



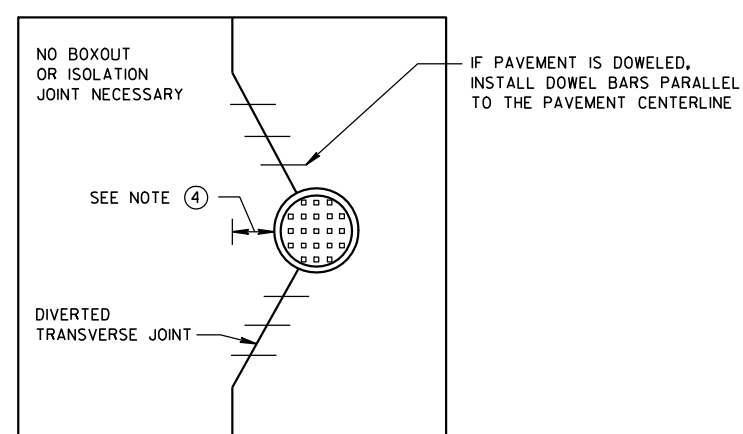
**MANHOLE WITH DIVERTED
LONGITUDINAL CONTRACTION JOINT**



**INLET WITH
TRANSVERSE JOINT**



**MANHOLE WITH
TRANSVERSE JOINT**



**MANHOLE WITH DIVERTED
TRANSVERSE CONTRACTION JOINT**

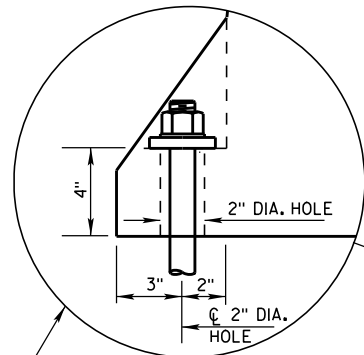
GENERAL NOTES

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

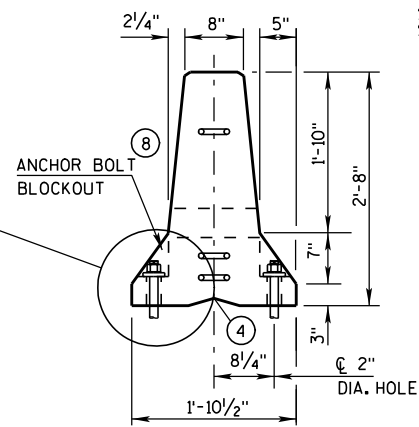
**CONCRETE PAVEMENT
JOINTING AT UTILITY FIXTURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

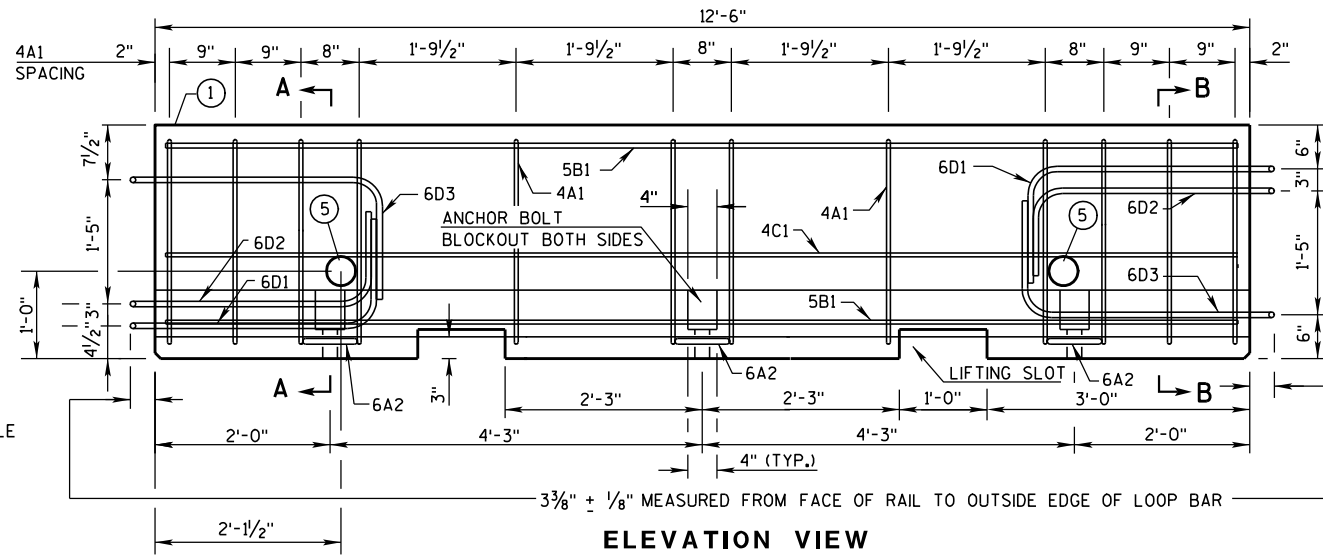
APPROVED
10-5-2010 /S/ Deb Bischoff
DATE PAVEMENT POLICY & D 79 INEER
FHWA



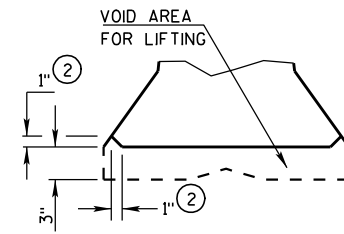
ANCHOR ON TRAFFIC SIDE
ONLY WHEN REQUIRED
(SEE SHEET D FOR ADDITIONAL
ANCHOR DETAIL)



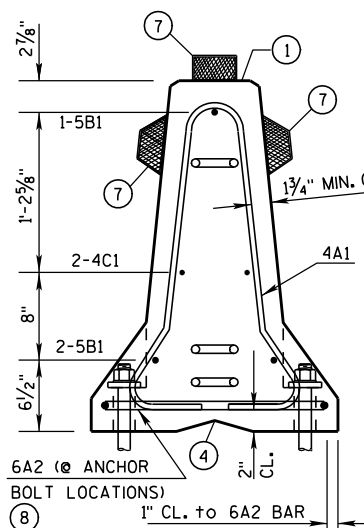
END VIEW



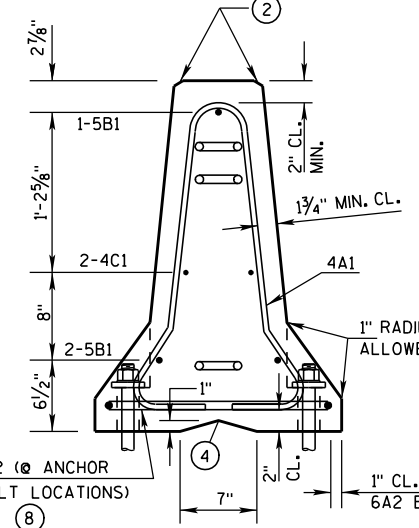
ELEVATION VIEW



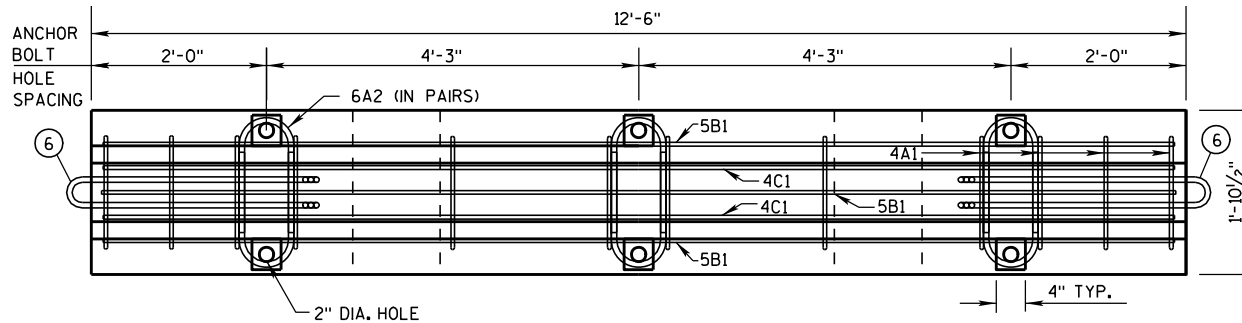
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

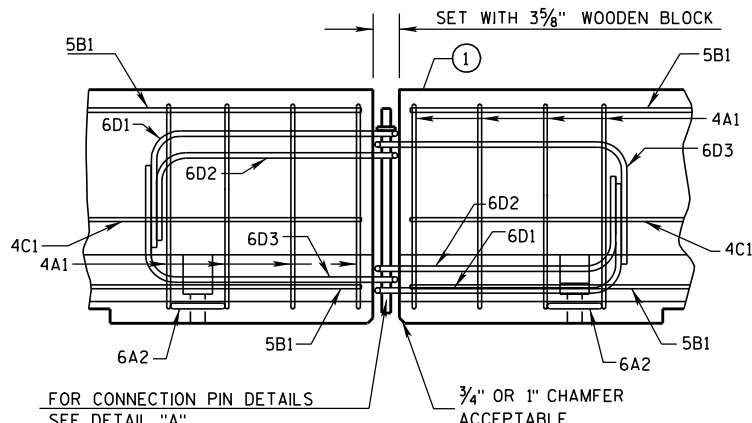


SECTION B-B
(STIRRUP PLACEMENT)

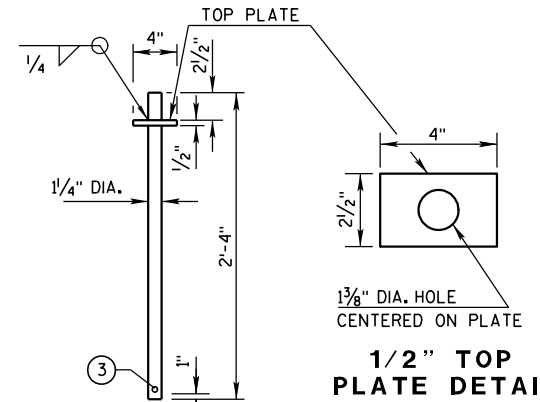


PLAN VIEW

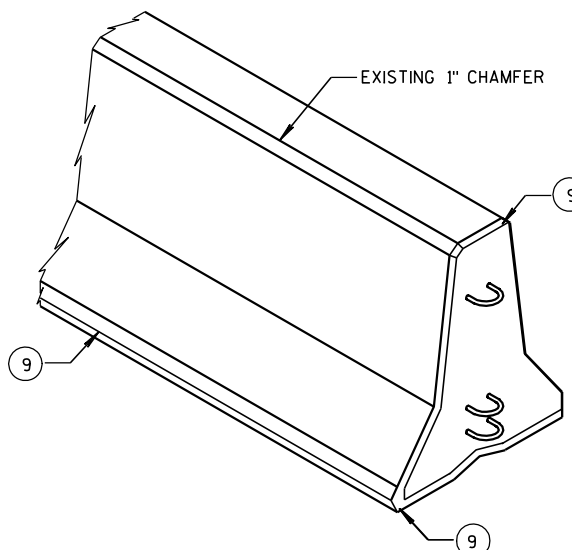
DETAILS OF BARRIER SECTION



DETAILS OF BARRIER CONNECTION



DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-13(g) THRU 14B7-13(h).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE 3/4" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-1/2" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN 1/8" OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

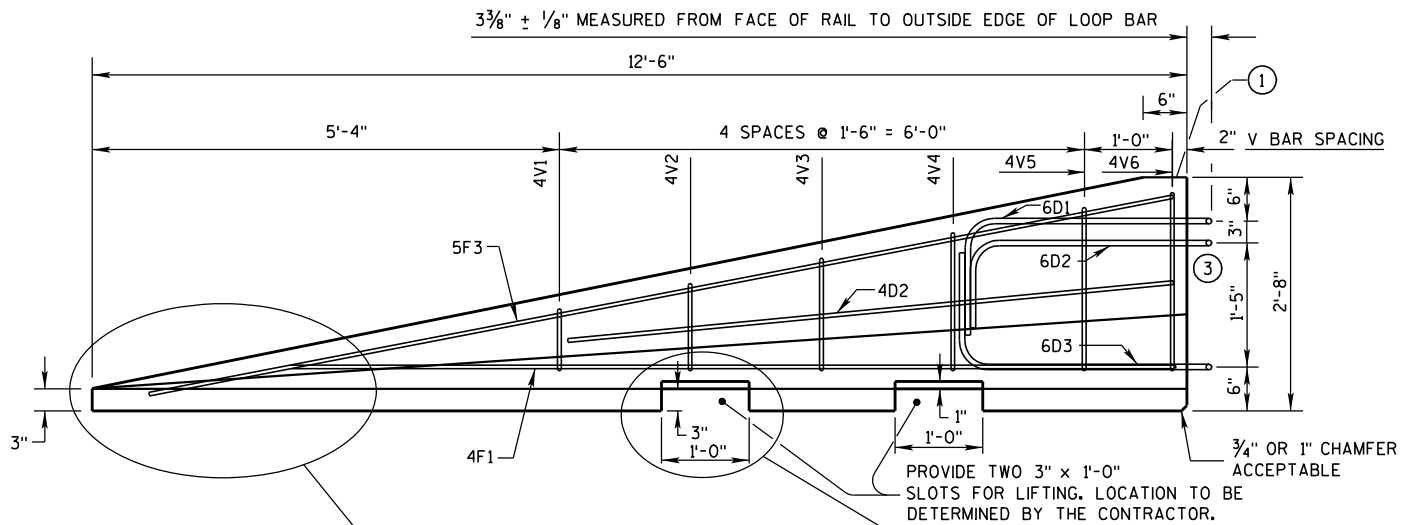
PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR EPOXY ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

- MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - TYPE: WICBTP
 - MANUFACTURER
 - DATE MANUFACTURED (MONTH AND YEAR)
- 1" CHAMFER TO PREVENT SPALLING.
- A 3/8" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..
- "V" NOTCH IS OPTIONAL.
- THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).
- NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.
- USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.
- SEE SHEET D FOR ANCHORING CRITERIA.
- 1" CHAMFER OPTIONAL.

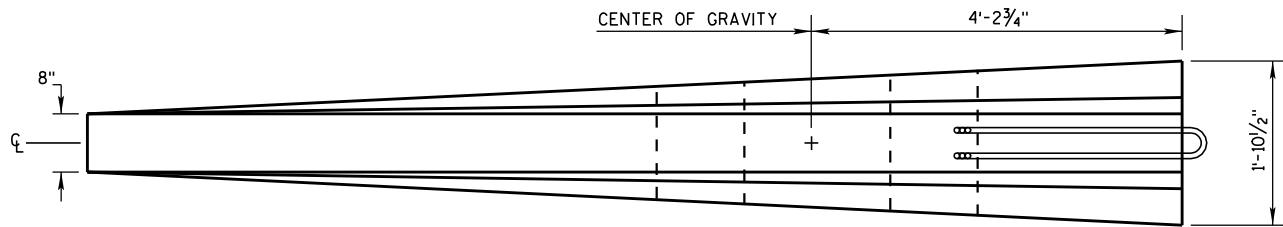
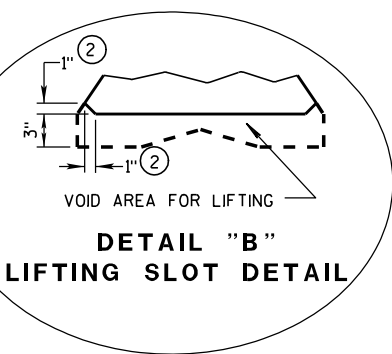
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

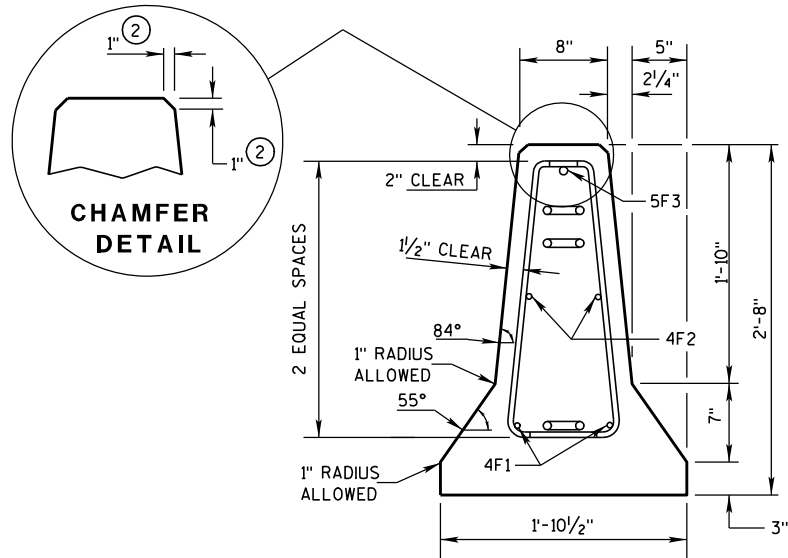


SEE DETAIL "C", BENT BAR DETAIL

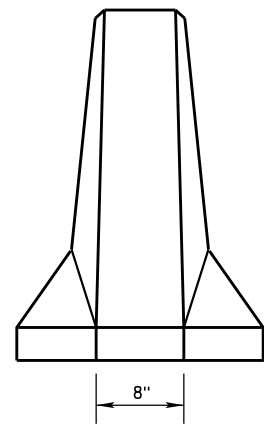
SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



PLAN VIEW

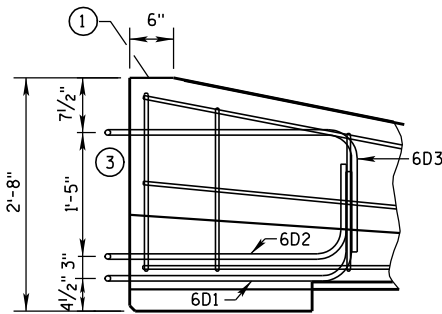


END SECTION



FRONT ELEVATION

DETAILS OF BARRIER TAPER SECTION

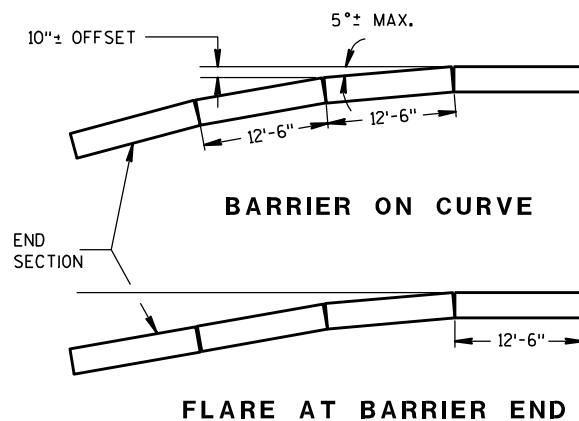


SIDE ELEVATION

LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

- ① MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
a. TYPE W/CBTP
b. MANUFACTURER
c. DATE MANUFACTURED (MONTH AND YEAR)
- ② 1" CHAMFER TO PREVENT SPALLING.
- ③ NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1

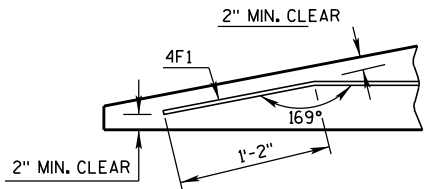
**CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

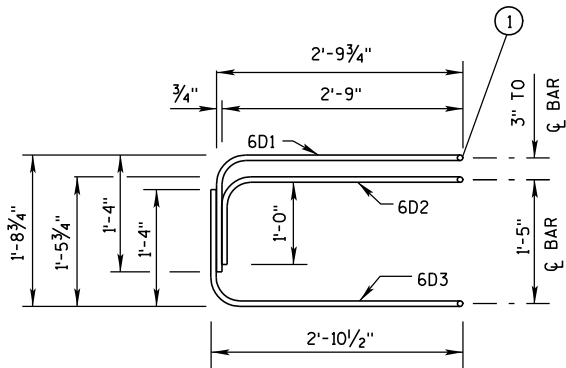
BARRIER TAPER SECTION
BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

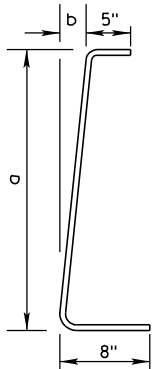
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



DETAIL "C"
BENT BAR DETAIL



ELEVATION
LOOP BAR ASSEMBLY



4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

BAR	a	b
V1	10"	1"
V2	1'-1"	1 1/4"
V3	1'-5"	1 5/8"
V4	1'-8"	1 7/8"
V5	2'-0 1/2"	2 3/8"
V6	2'-3"	2 3/4"

TAPER BARRIER SECTION

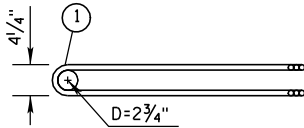
GENERAL NOTES

① NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

BARRIER SECTION
BILL OF MATERIALS

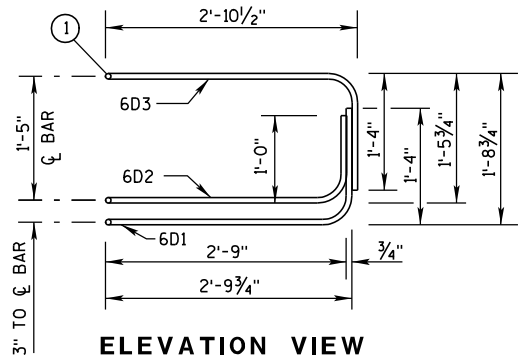
(PER 12'-6" BARRIER SECTION)

BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"

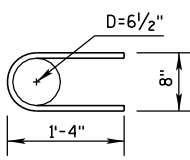


PLAN VIEW
LOOP BAR ASSEMBLY

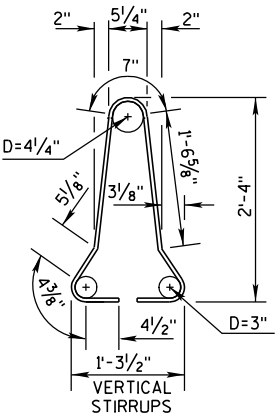
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2

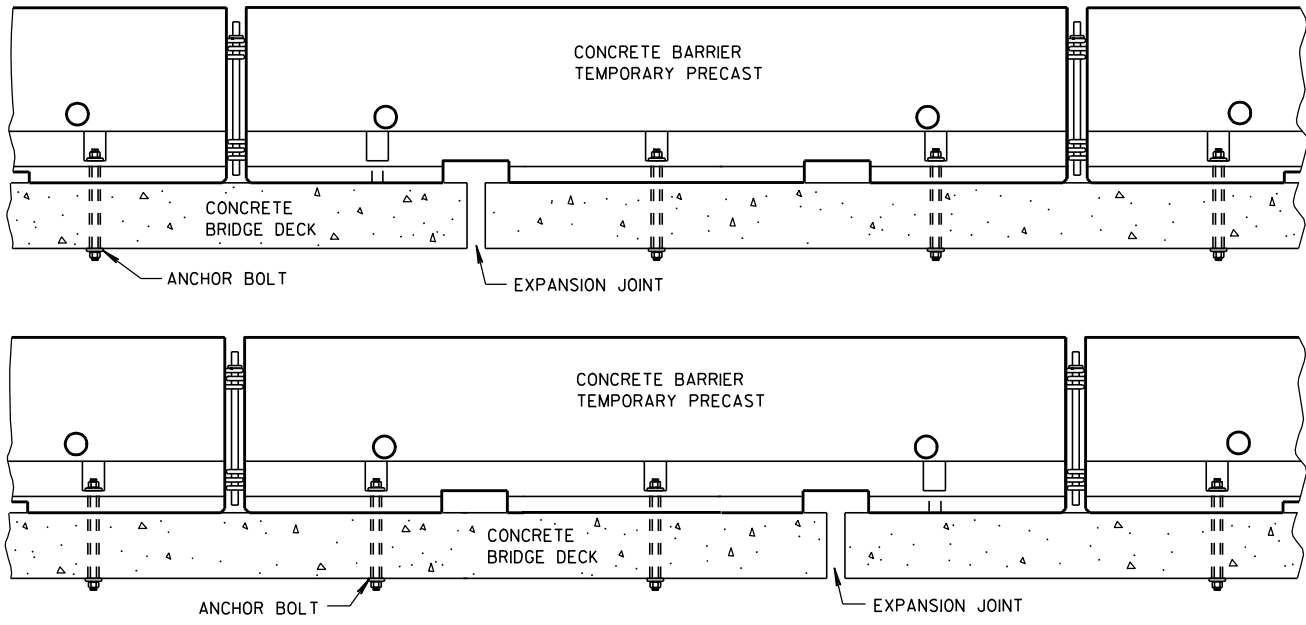


4A1

BARRIER SECTION

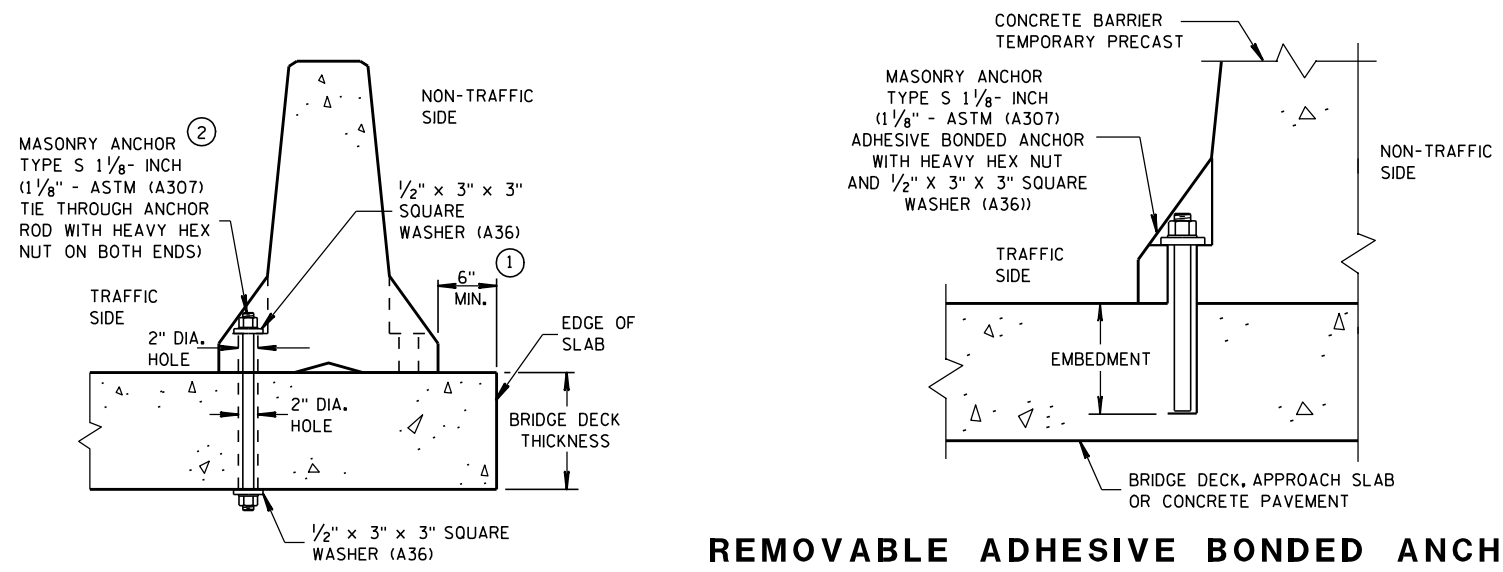
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)

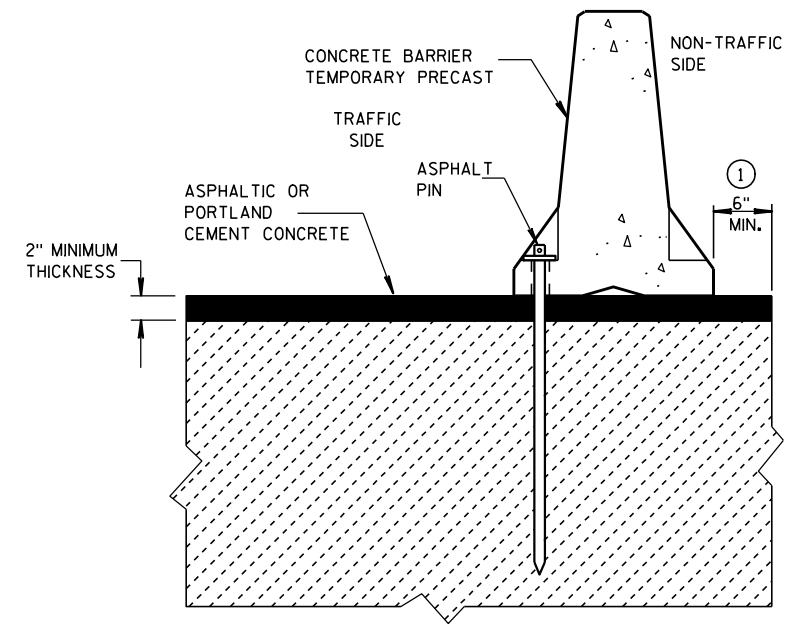


THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)

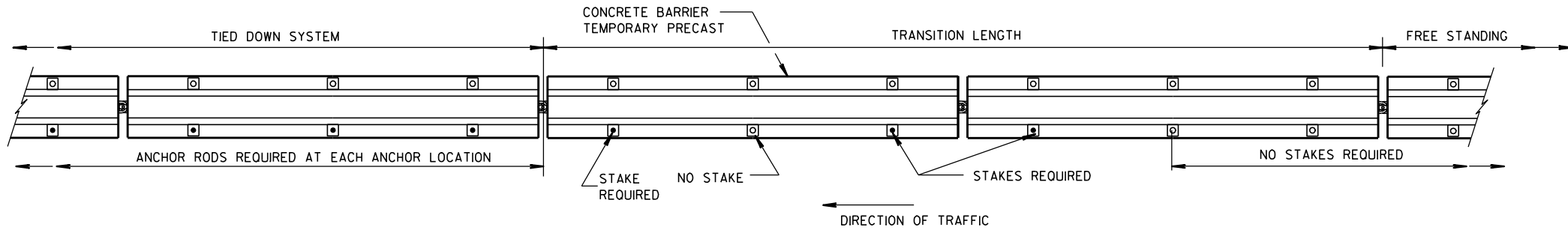
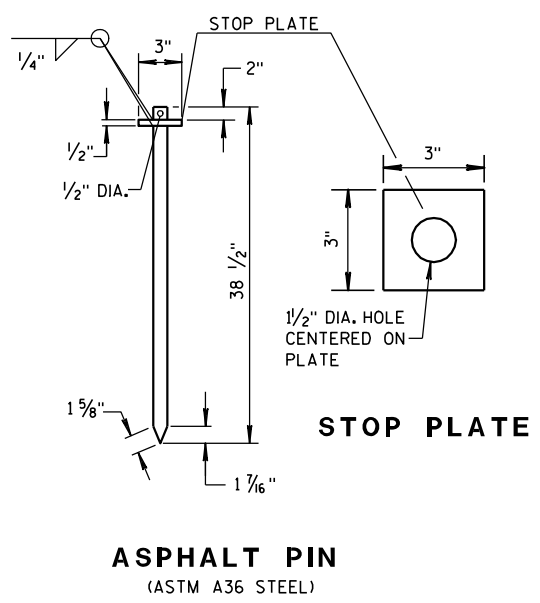
REMOVABLE ADHESIVE BONDED ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)



STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

GENERAL NOTES

① CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V,
FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT,
IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF
AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V,
FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT,
IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF
AND THE POSTED SPEED IS 40 MPH OR LESS.

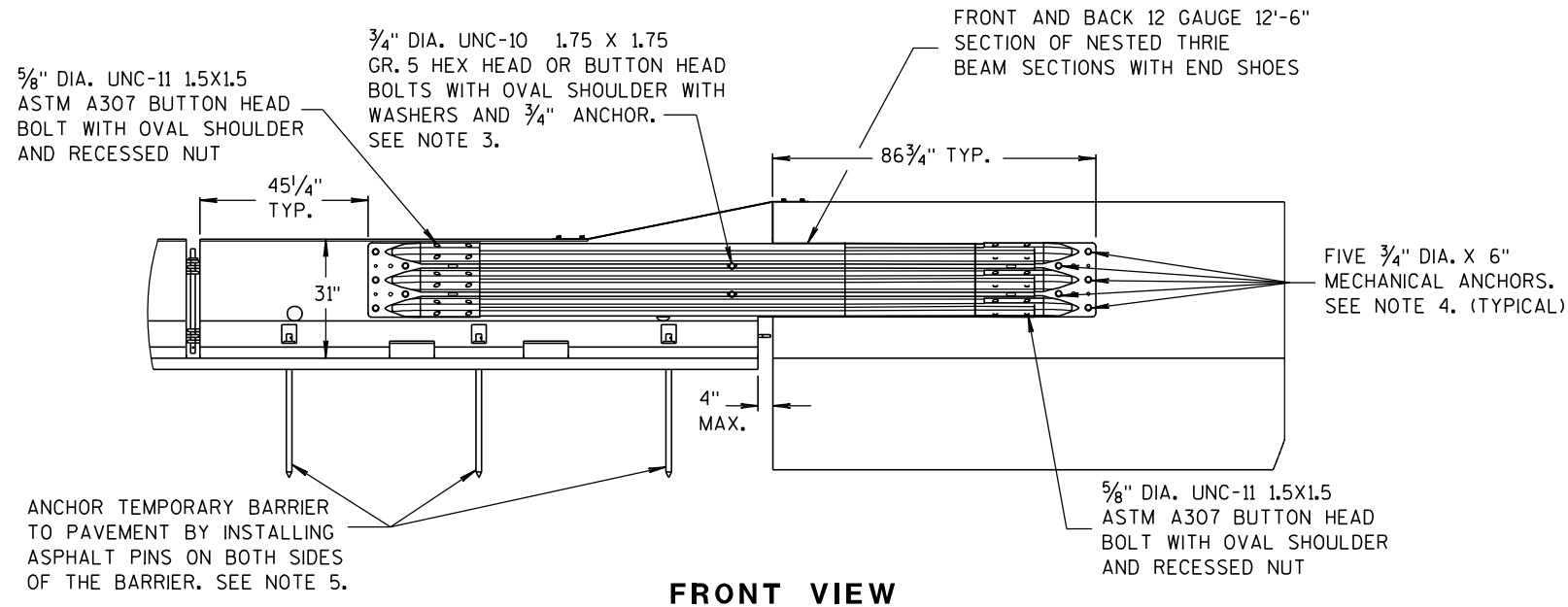
② ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT
INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE
BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE
S 1 1/8-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE
ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALL ANCHOR BOLTS AND COMPLETELY
FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CON-
CRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERCIAL GROUT OR EPOXY MATERIAL
IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.

**CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"**

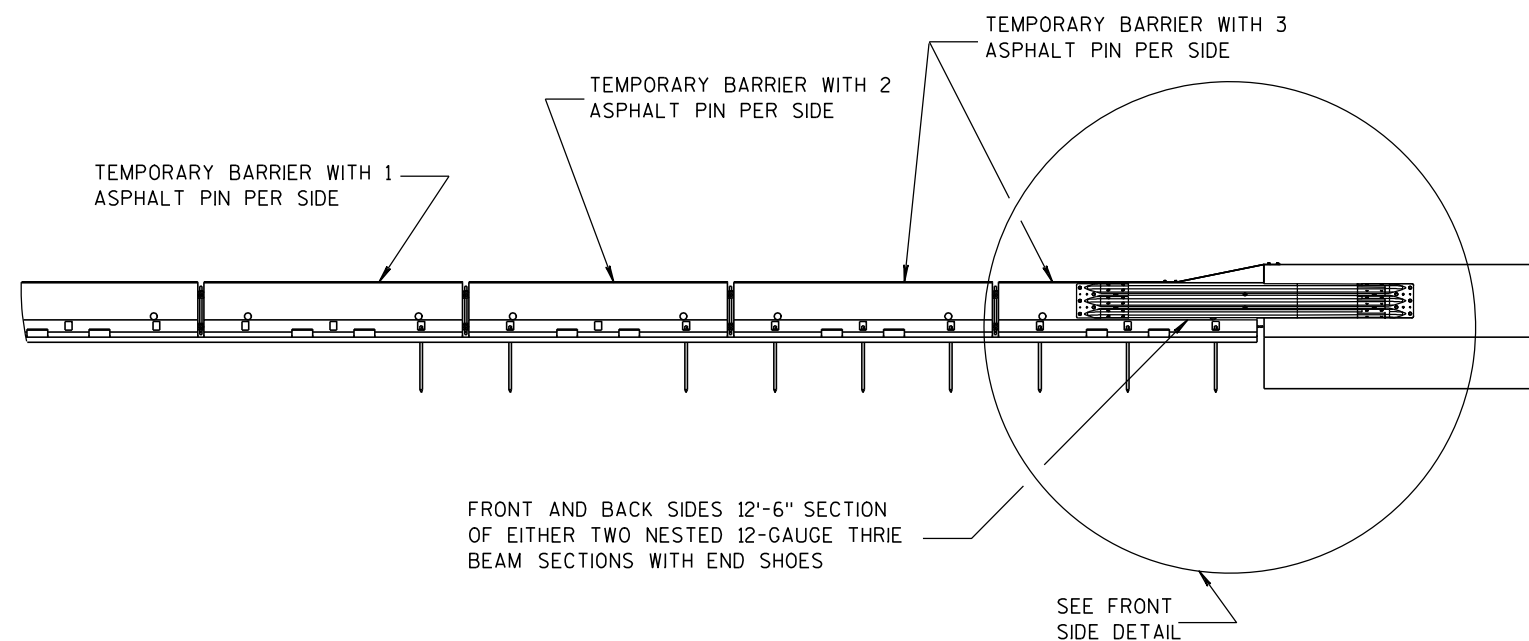
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



FRONT VIEW

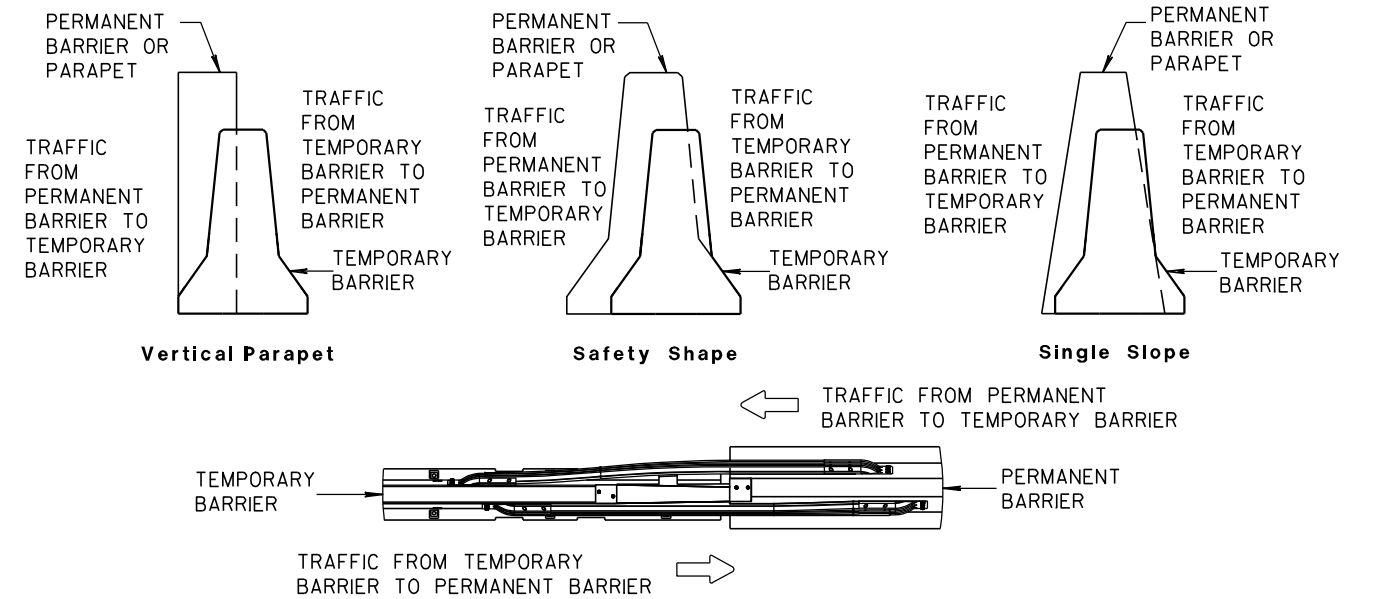
NOTES

1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.

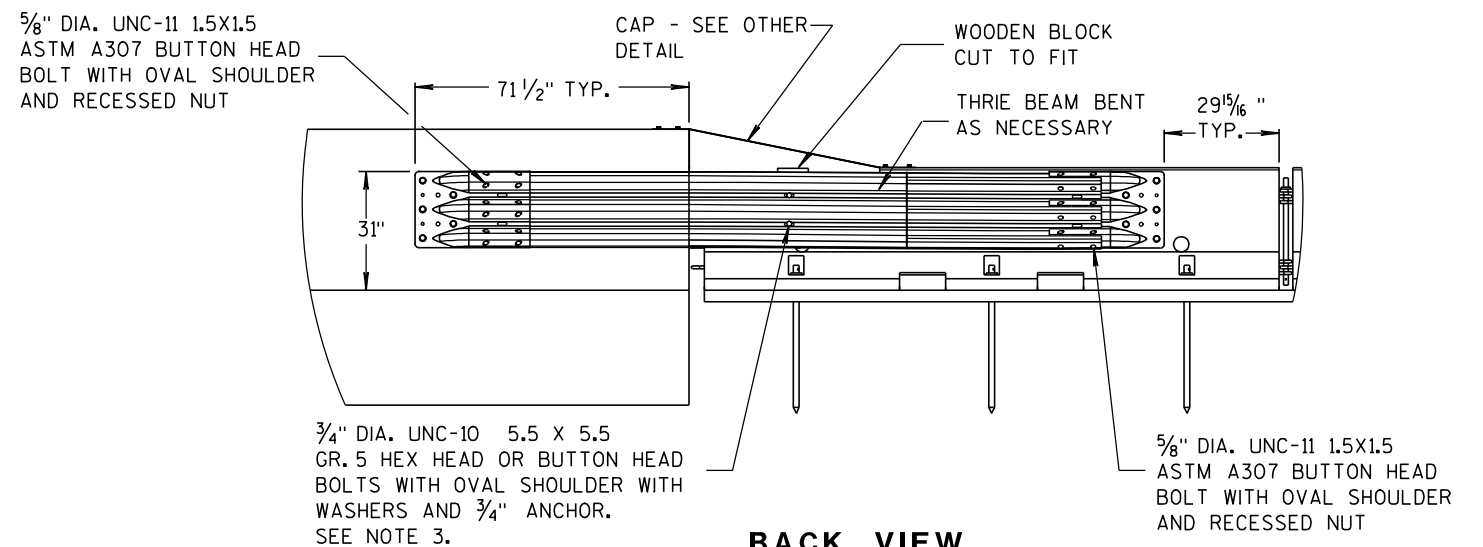


FRONT VIEW

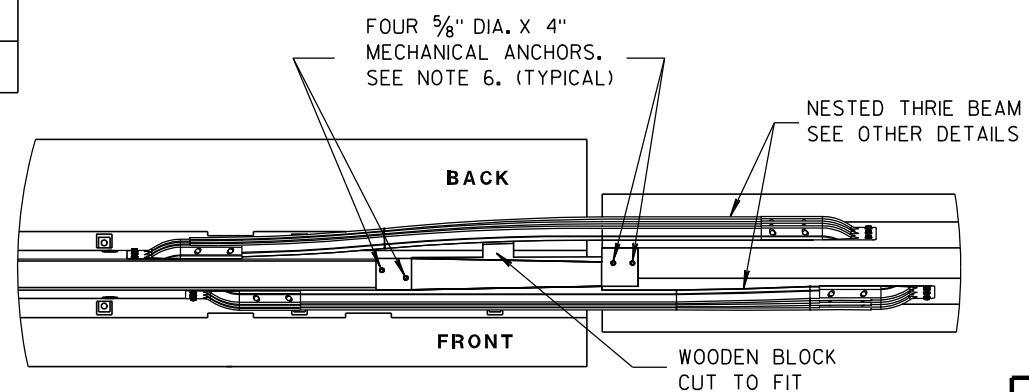
BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM



TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM



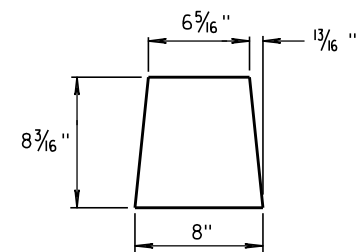
BACK VIEW



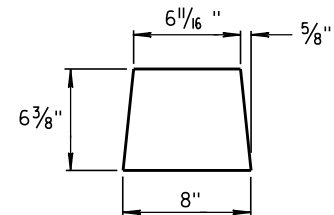
PLAN VIEW

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

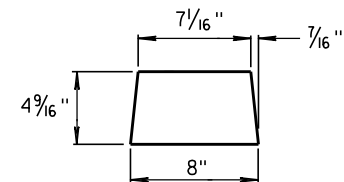
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



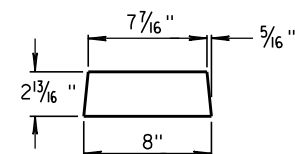
GUSSET 1



GUSSET 2

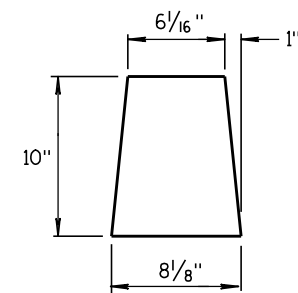


GUSSET 3

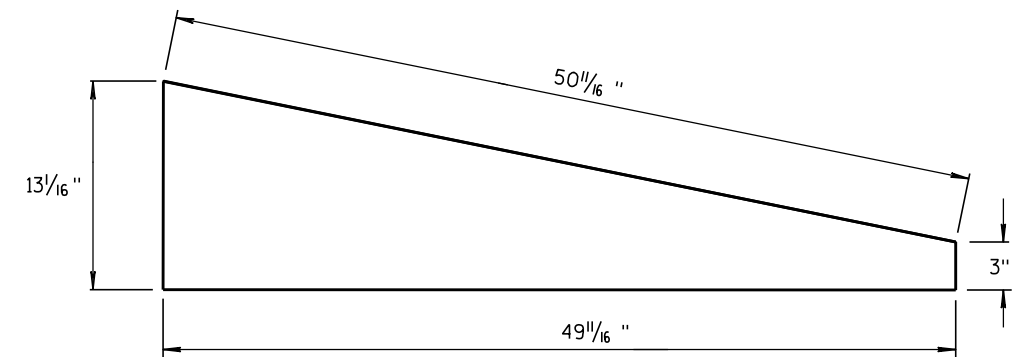


GUSSET 4

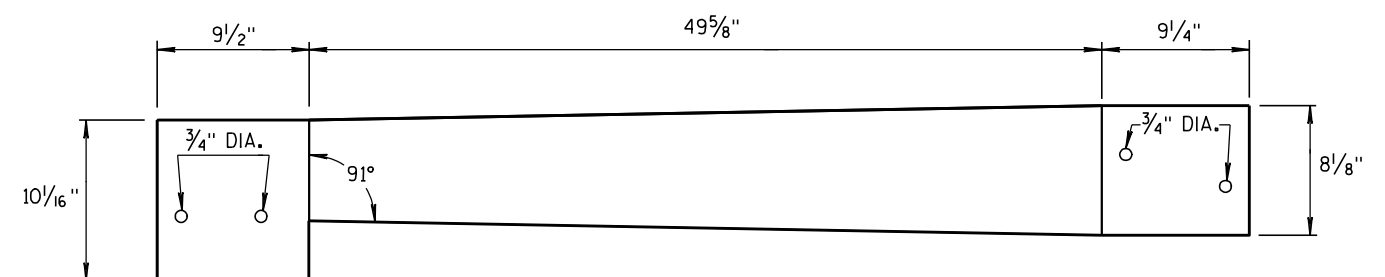
GUSSETS



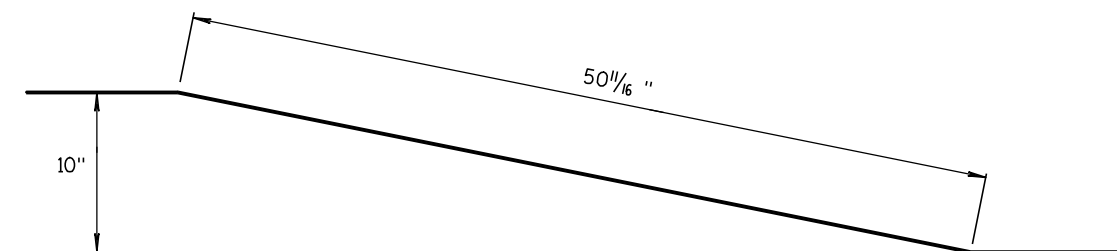
END PLATE



SIDE PLATE

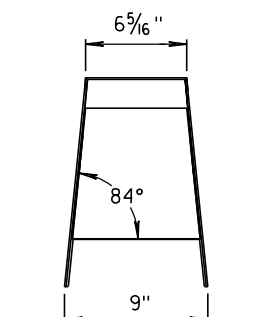


TOP PLATE

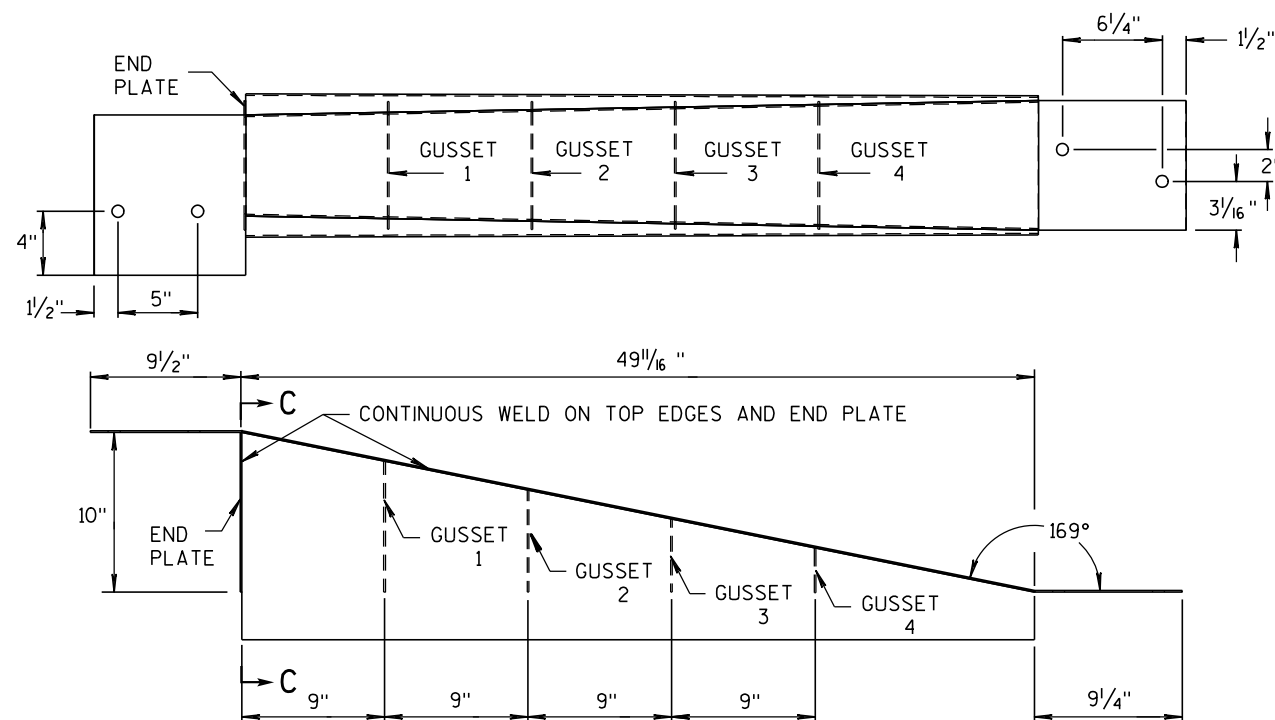


**SIDE, TOP AND END PLATES FOR CAP
FROM TEMPORARY CONCRETE BARRIER
TO 42" PERMANENT CONCRETE BARRIER**

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.



SECTION C-C



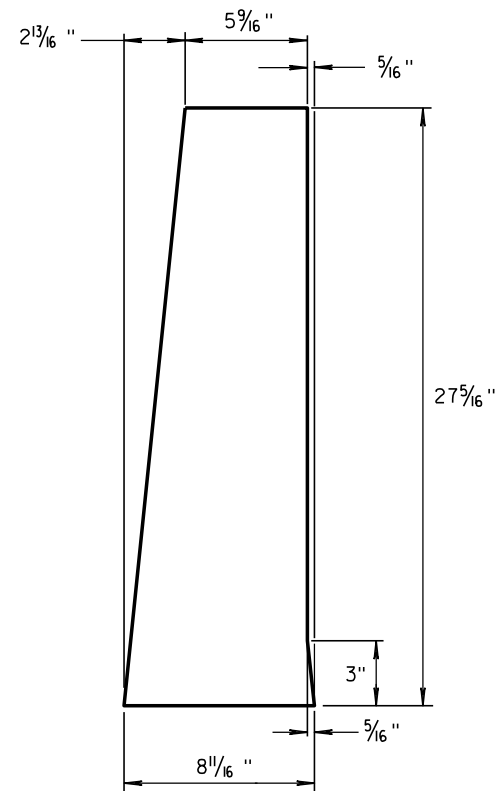
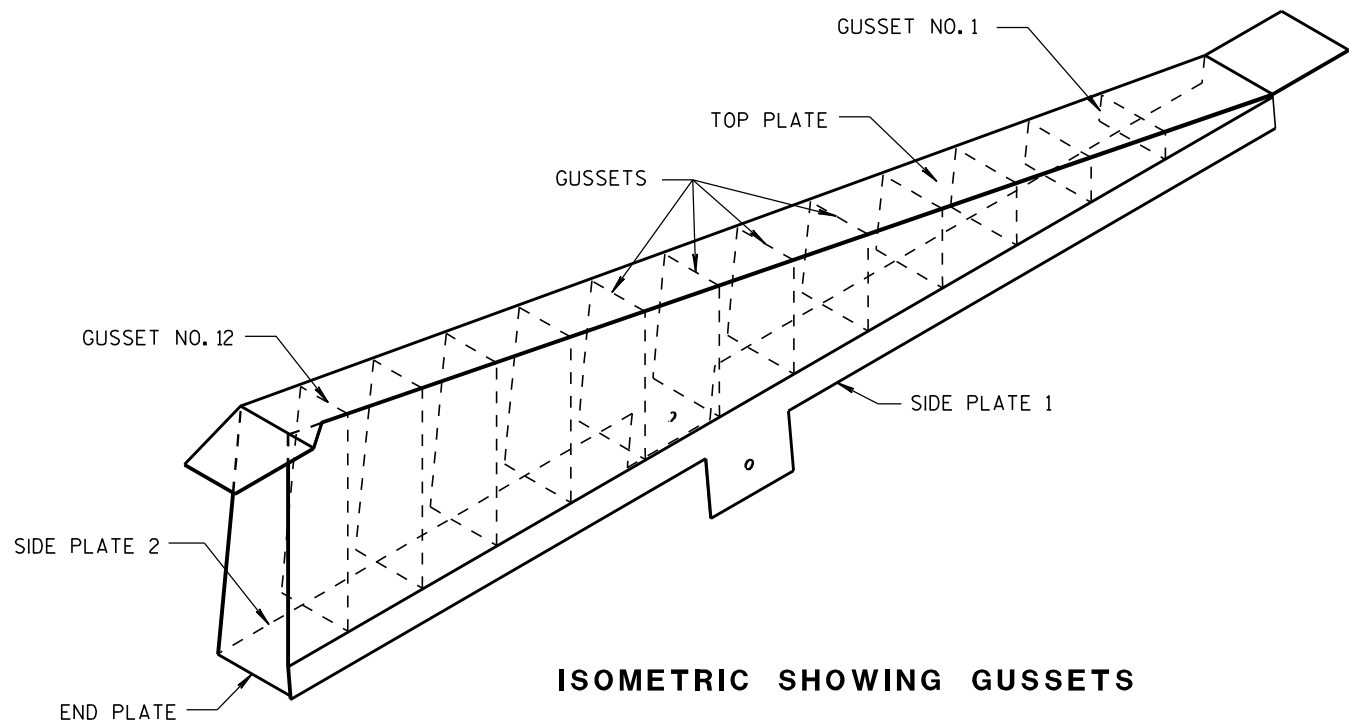
NOTES

- FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
- TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

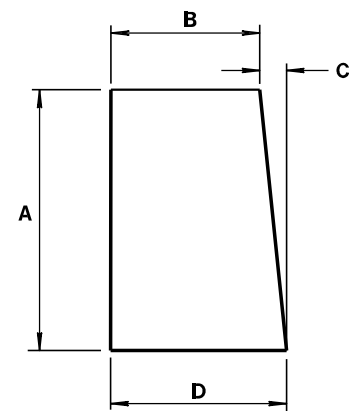
**CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 42" PERMANENT CONCRETE BARRIER**

**CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



1/8" STEEL PLATE

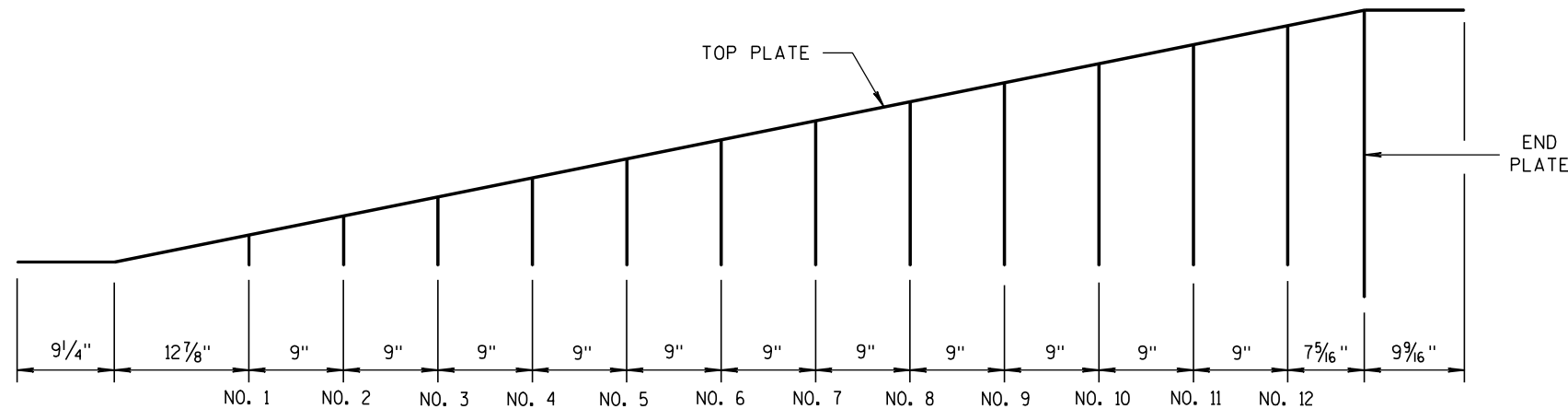


ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 11/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8"	11/16 "	8 1/16 "
4	8 5/16 "	7 3/16 "	7/8"	8 1/16 "
5	10 1/8 "	7"	1 1/16 "	8 1/16 "
6	11 5/16 "	6 13/16 "	1 1/4"	8 1/16 "
7	13 3/4"	6 5/8"	1 7/16 "	8 1/16 "
8	15 9/16 "	6 7/16 "	1 9/16 "	8 1/16 "
9	17 3/8"	6 1/4"	1 13/16 "	8 1/16 "
10	19 3/16 "	6 1/16 "	1 15/16 "	8 1/16 "
11	21"	5 7/8"	2 3/16 "	8 1/16 "
12	22 13/16 "	5 11/16 "	2 5/16 "	8 1/16 "

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

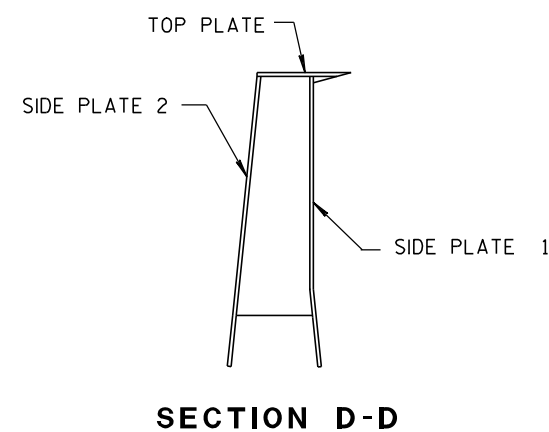
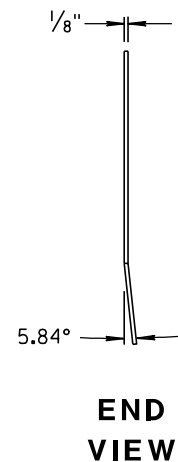
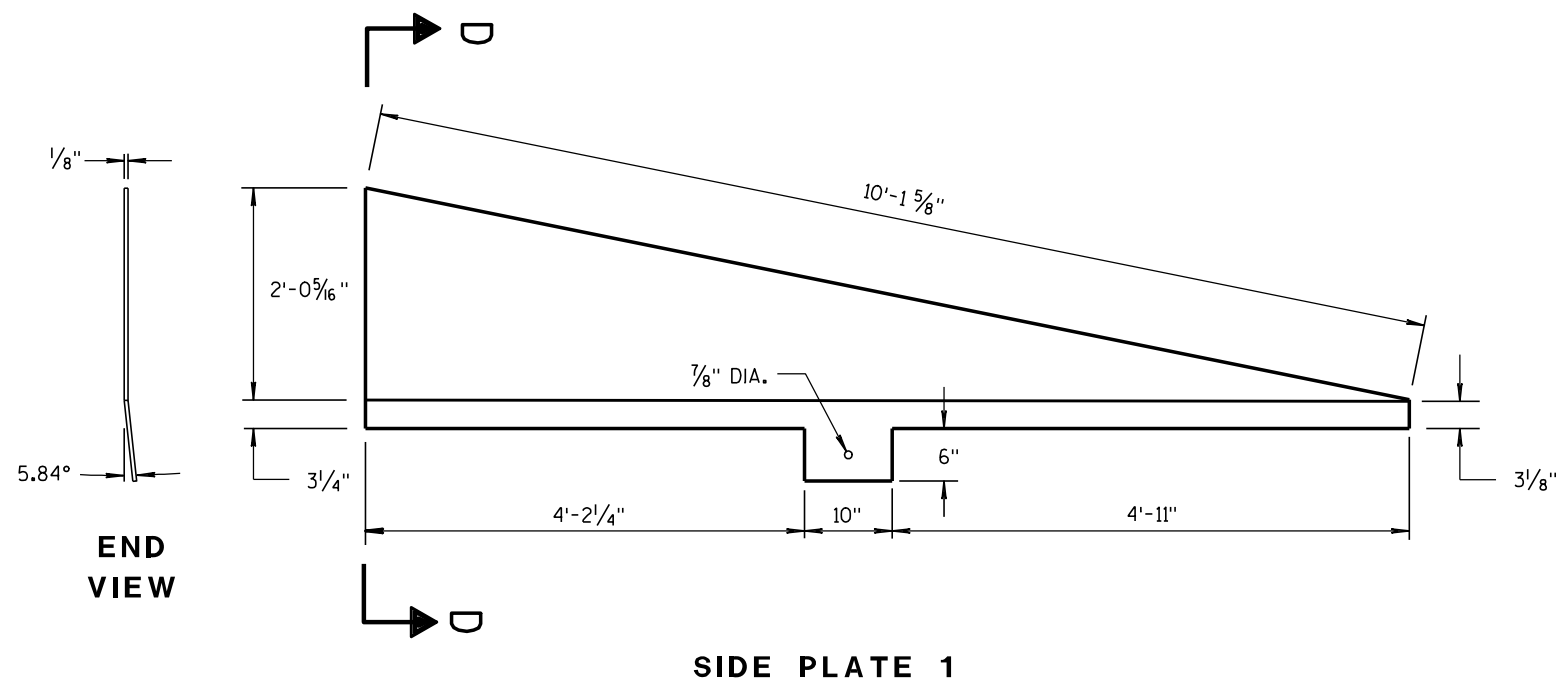
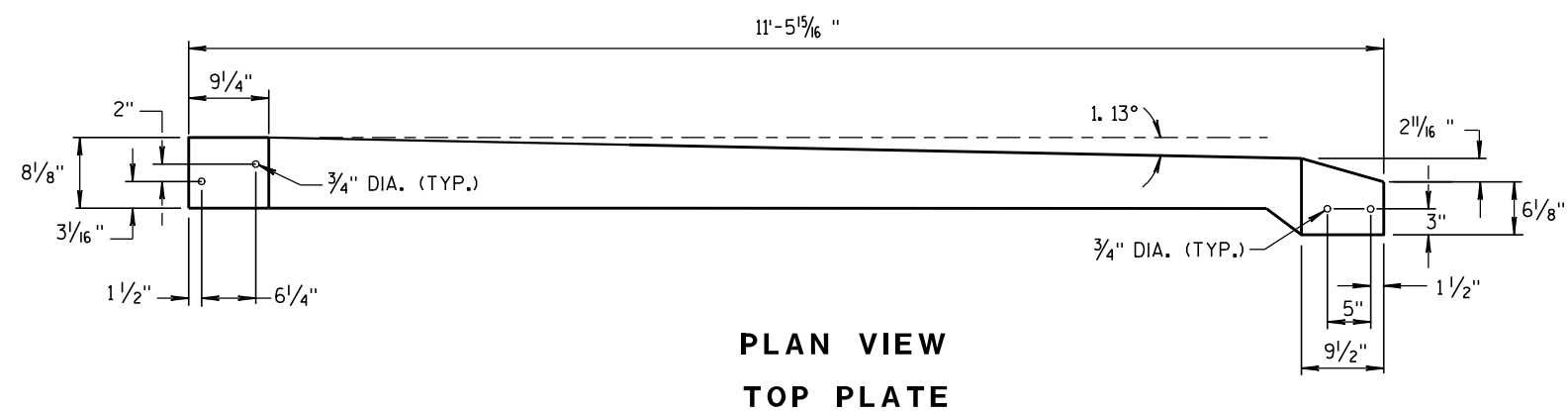
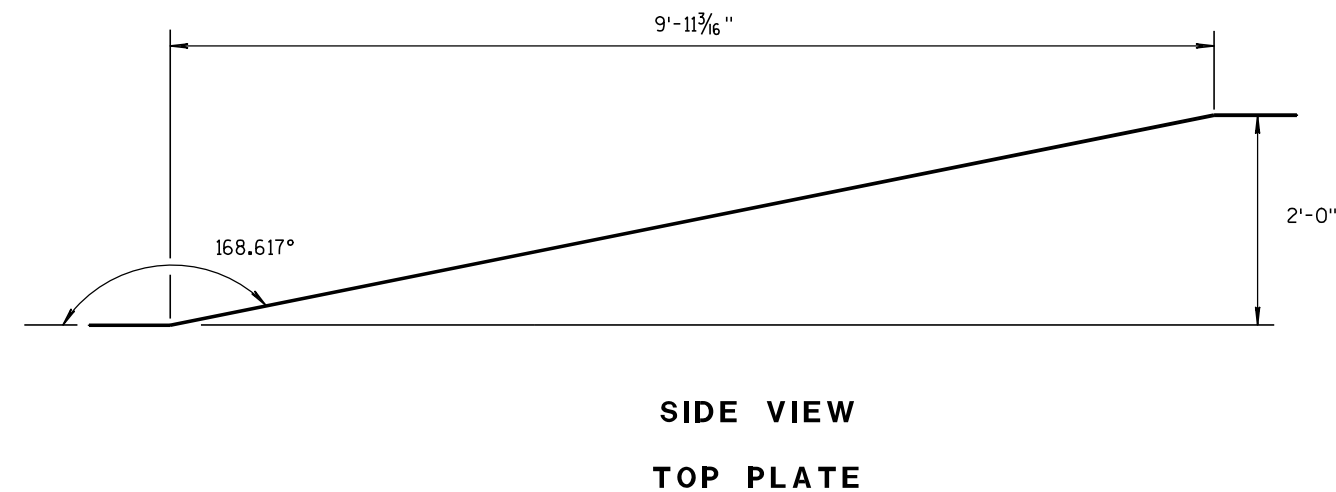
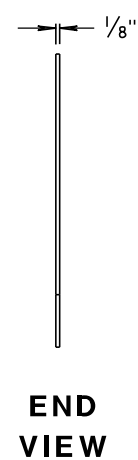
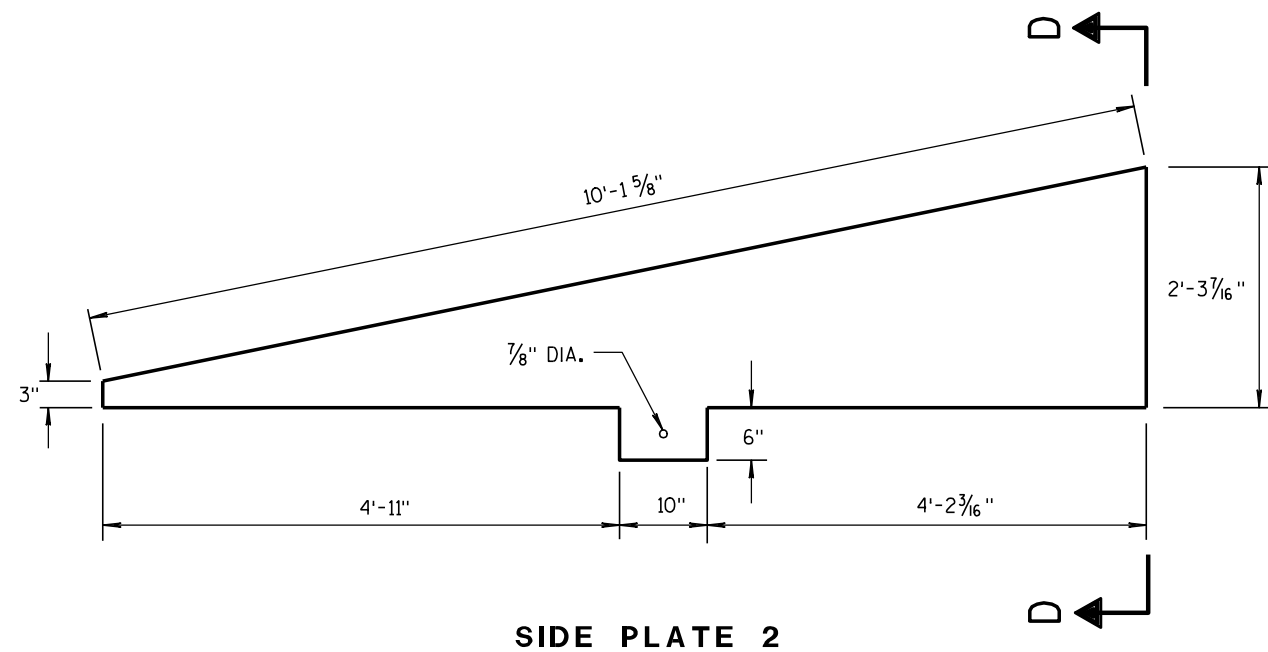
GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 56" PERMANENT CONCRETE BARRIER**

**CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012

DATE

FHWA

/S/ Jerry H. 7-13h

ROADWAY STANDARD 87

ENGINEER

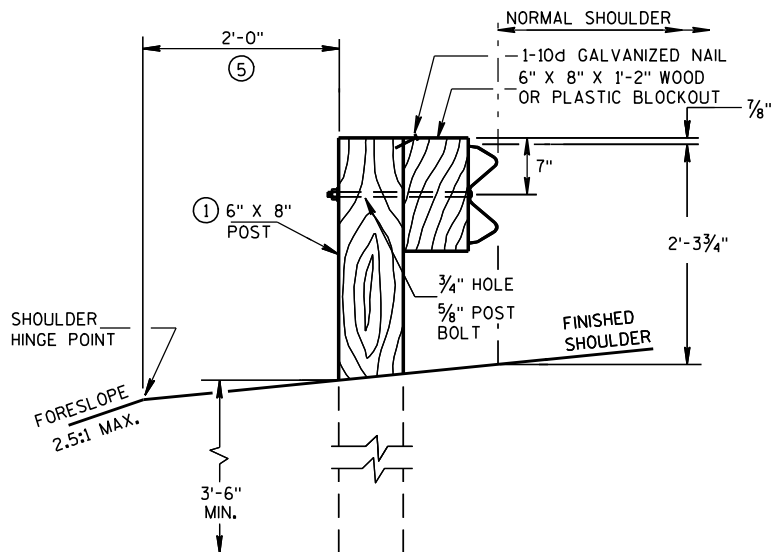
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GENERAL NOTES

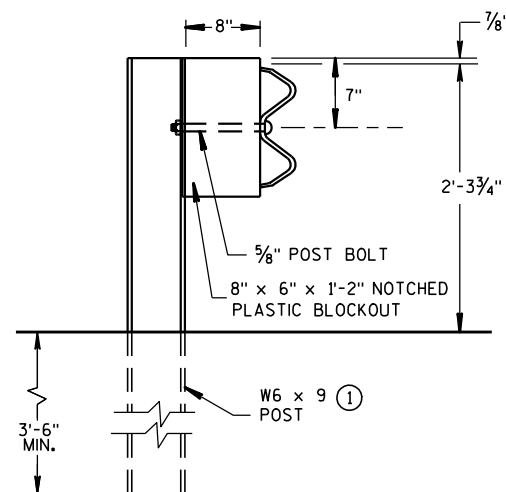
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, AND THE APPLICABLE SPECIAL PROVISIONS.

- ① W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS.
DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.
- ② USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111 EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPALTER COATING ON GALVANIZED POSTS.
- ③ INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ④ USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.
- ⑤ IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).
- ⑥ IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 1/2 INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN THE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATELY.

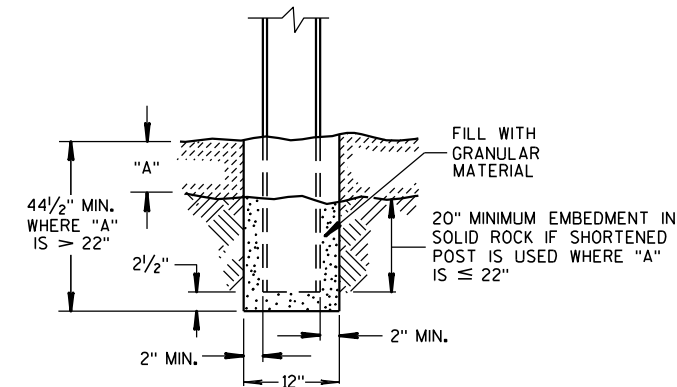
INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS. ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



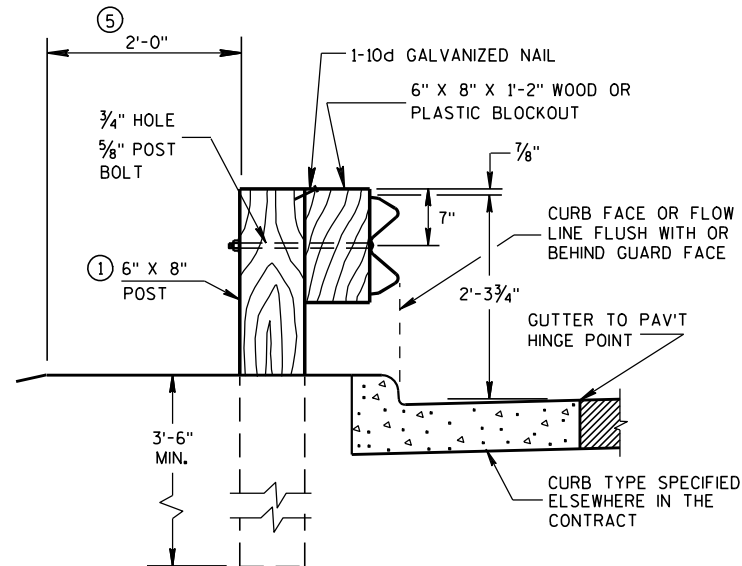
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



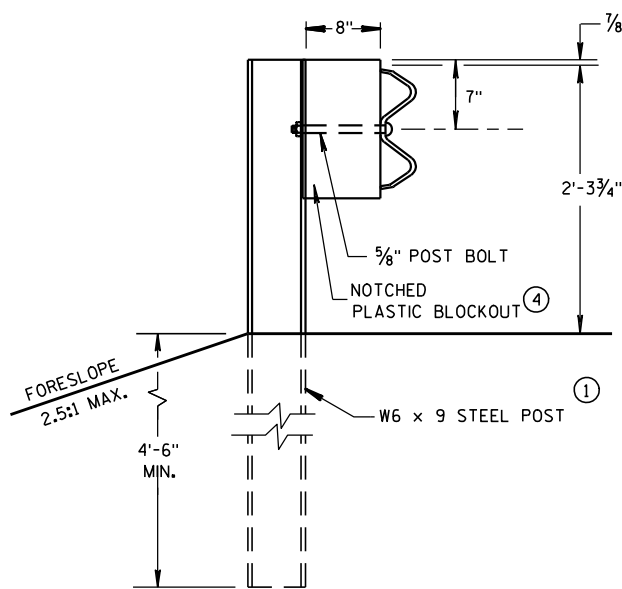
END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION



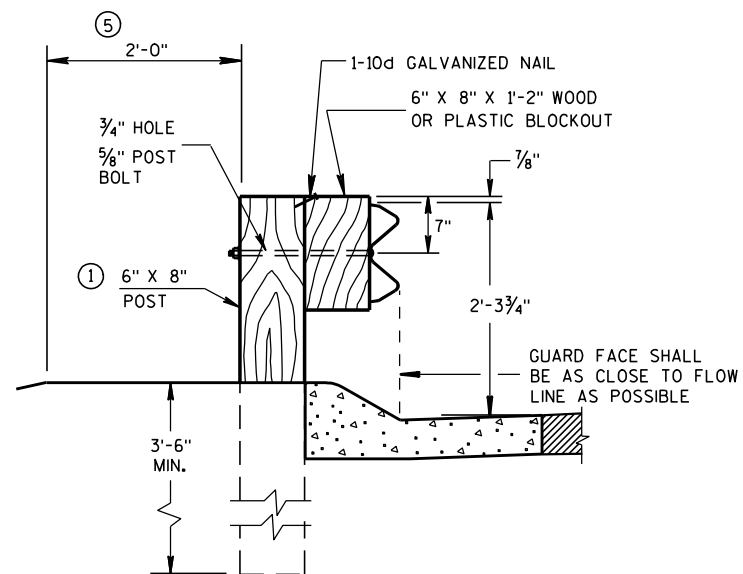
END VIEW
SETTING STEEL OR WOOD POST IN ROCK ⑥



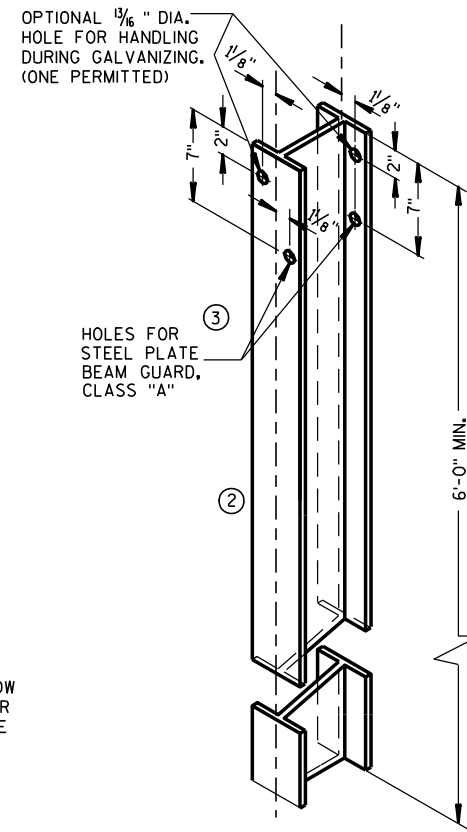
END VIEW
LOCATED ALONG A CURBED ROADWAY



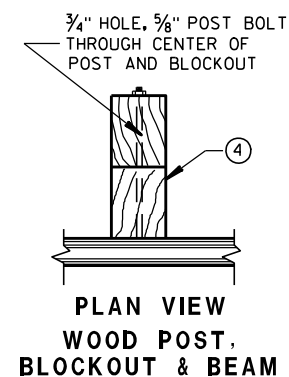
END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)



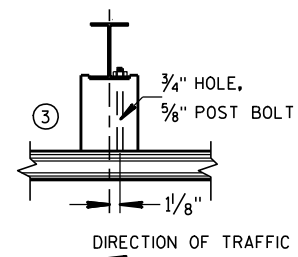
END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY



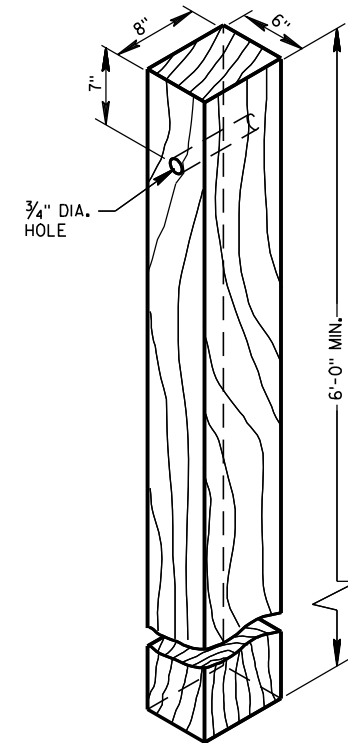
STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) ①
ALL HOLES 1/8" DIAMETER EXCEPT AS NOTED



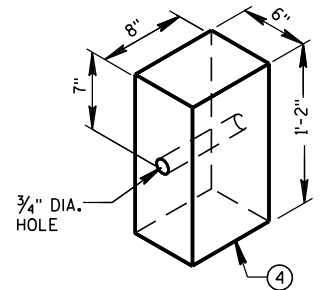
PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



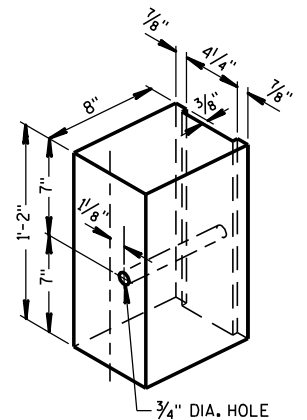
PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM



WOOD POST
(6" X 8") NOMINAL



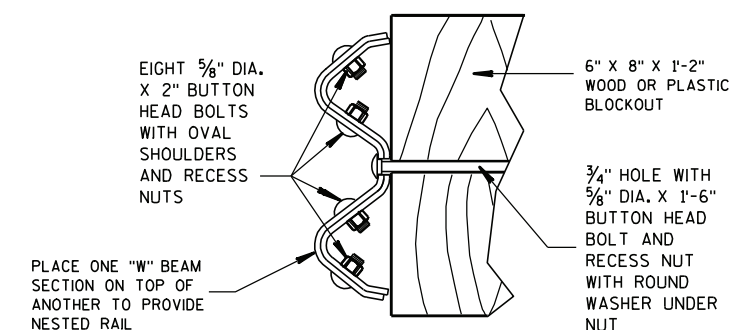
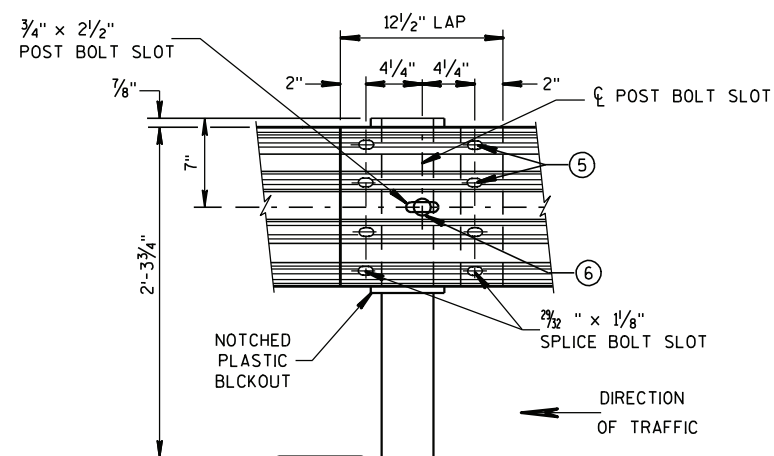
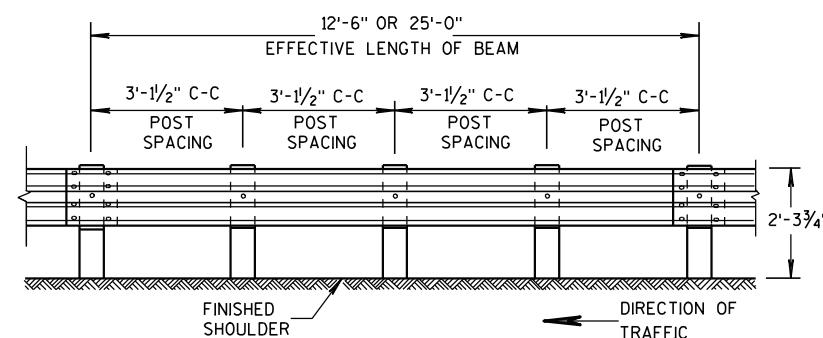
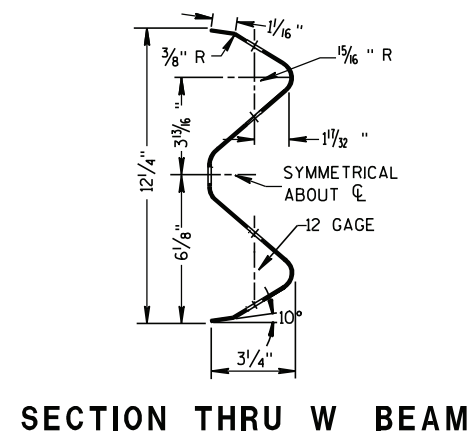
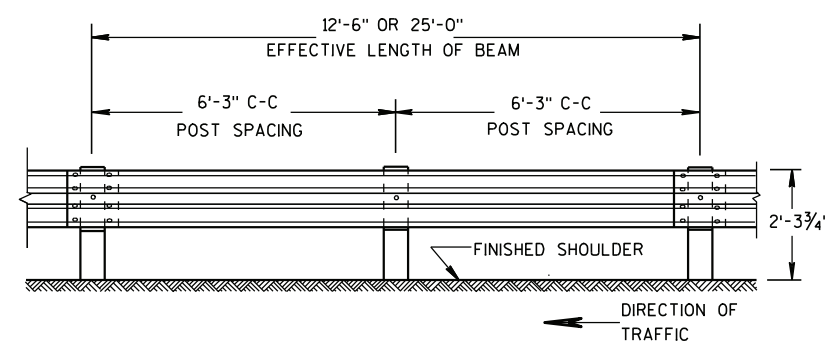
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



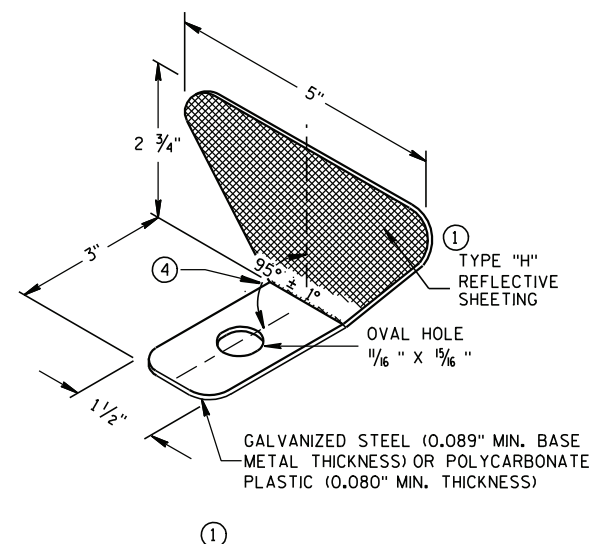
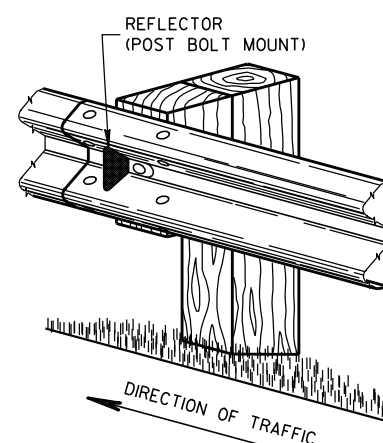
TYPICAL NOTCHED
PLASTIC BLOCKOUT
FOR STEEL POSTS ①

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

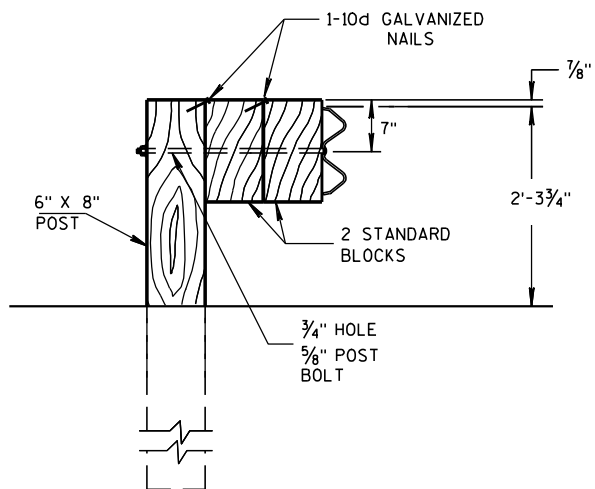
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	1 1	3
TWO WAY TRAFFIC	< 200' > 200'	25' C-C 50' C-C	1 (3)	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 (4)	3

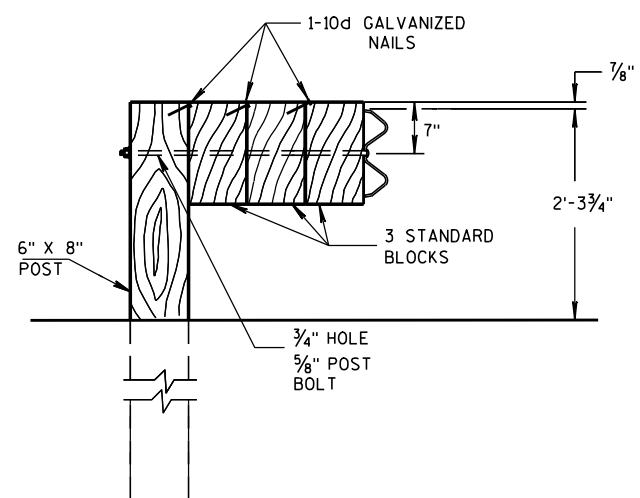


- ## GENERAL NOTES
- ① PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
 - ② DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
 - ③ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
 - ④ PROVIDE AN ANGLE OF BEND OF $90^\circ \pm 1^\circ$ FOR TWO-SIDED REFLECTORS.
 - ⑤ 8 - $\frac{5}{8}$ " ϕ X 2 " BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.
 - ⑥ $\frac{5}{8}$ " ϕ X 1'-6" BUTTON HEAD BOLT AND AND RECESS NUT WITH ROUND WASHER UNDER NUT.



DETAIL FOR DOUBLE BLOCKS

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

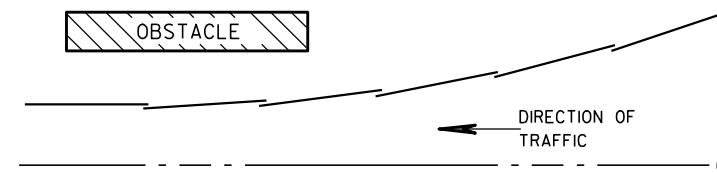


DETAIL FOR TRIPLE BLOCKS

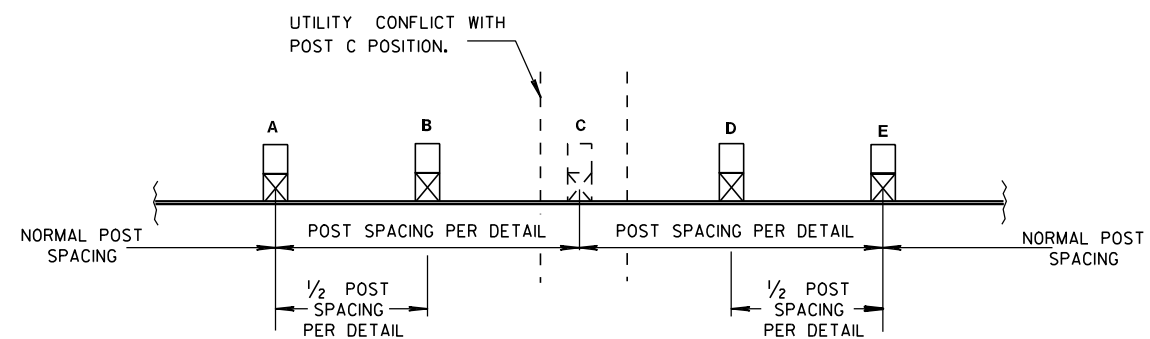
TRIPLE BLOCK DETAIL IS LIMITED TO ONE
LOCATION WITHIN A BEAM GUARD RUN.

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

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



PLAN VIEW BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/11
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS 90 ENT
ENGINEER
FHWA

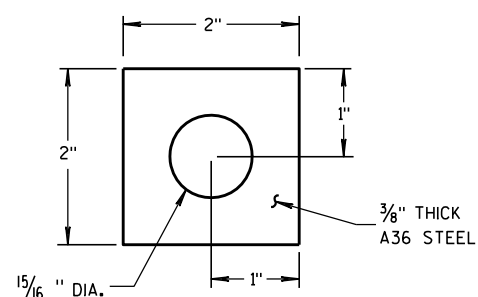
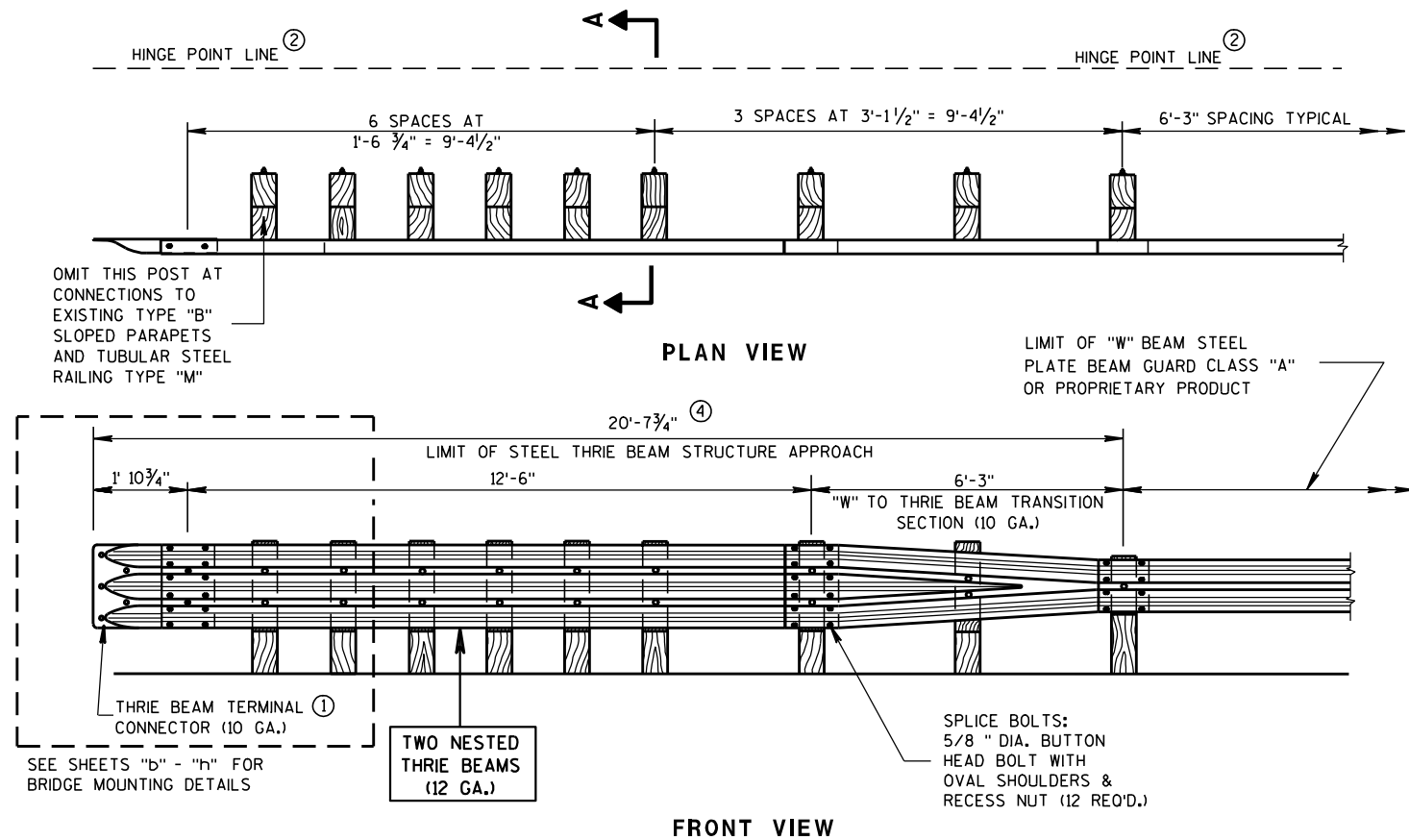


PLATE WASHER DETAIL

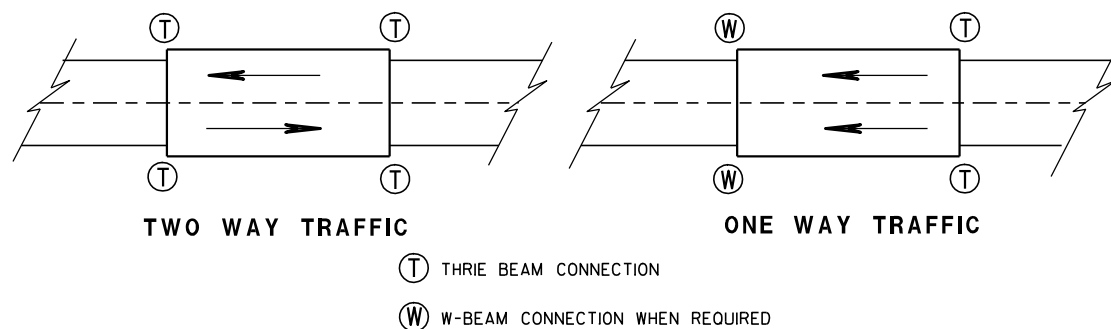
GENERAL NOTES

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

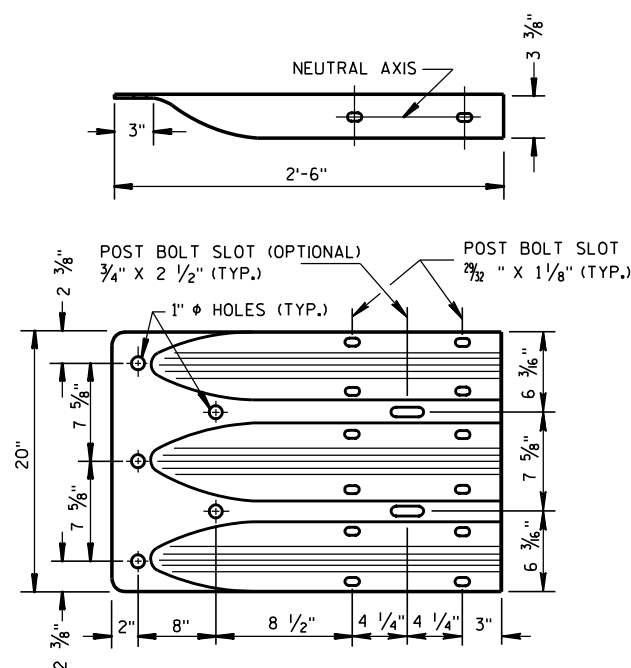
DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

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

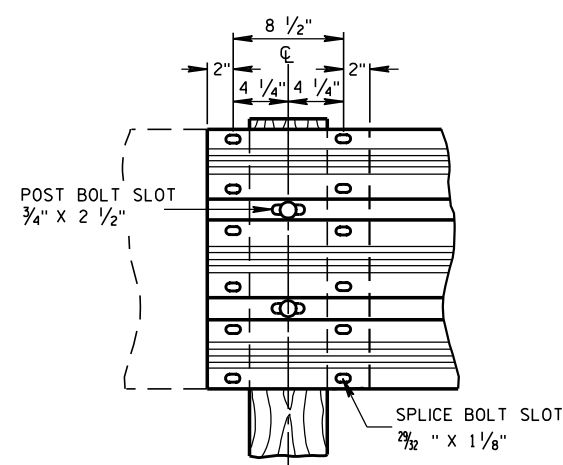
- ① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.
- ② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.
- ③ POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.
- ④ ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



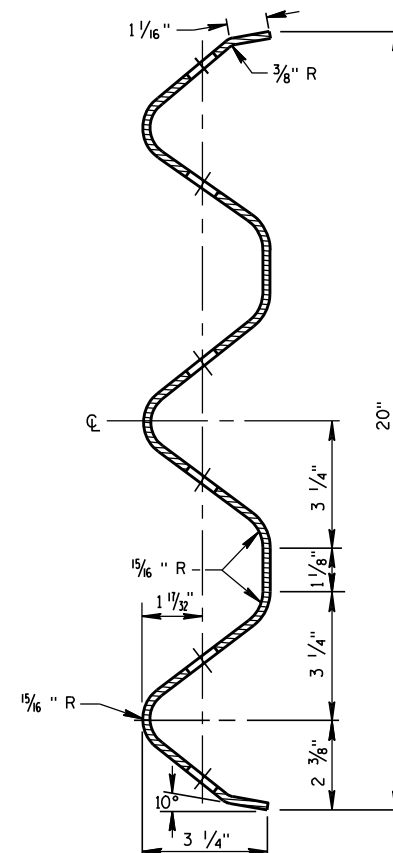
TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE



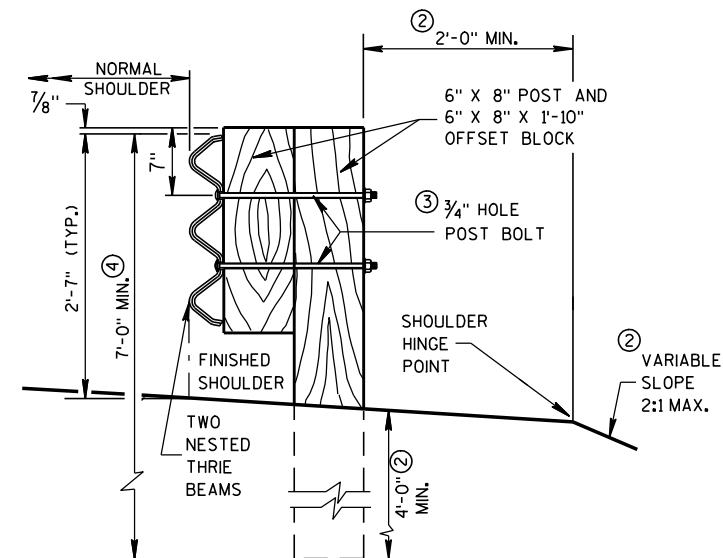
THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE



SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION A-A

STEEL THRIE BEAM STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012

DATE

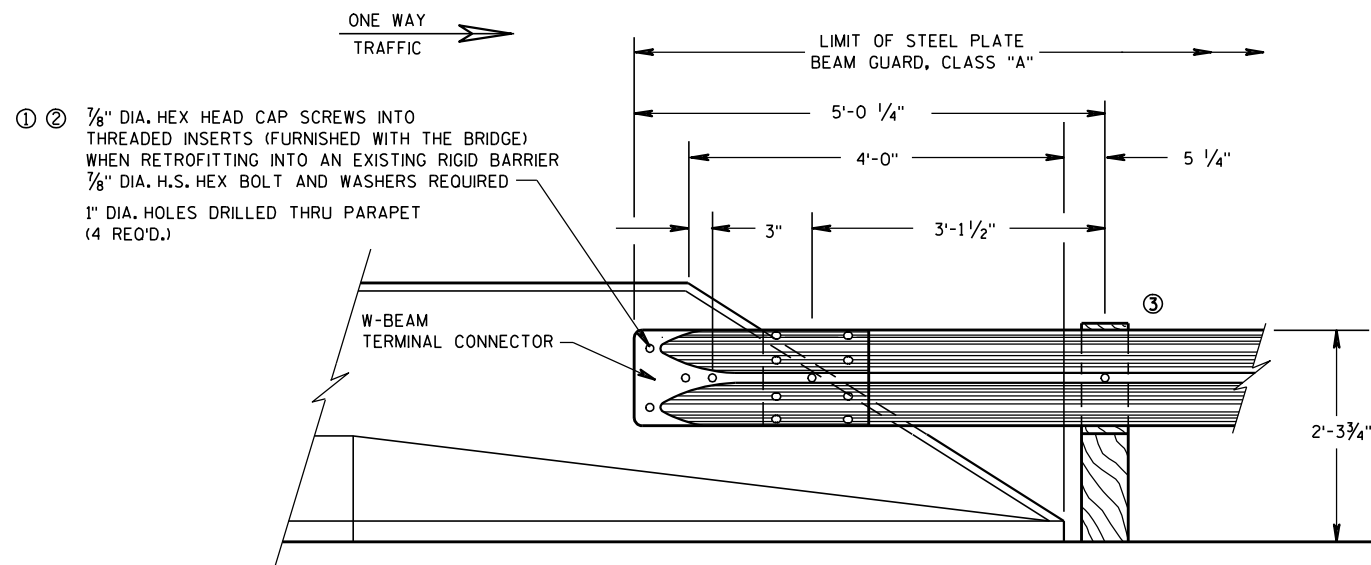
/s/ Jerry H. Zoon

ROADWAY STANDARDS [91

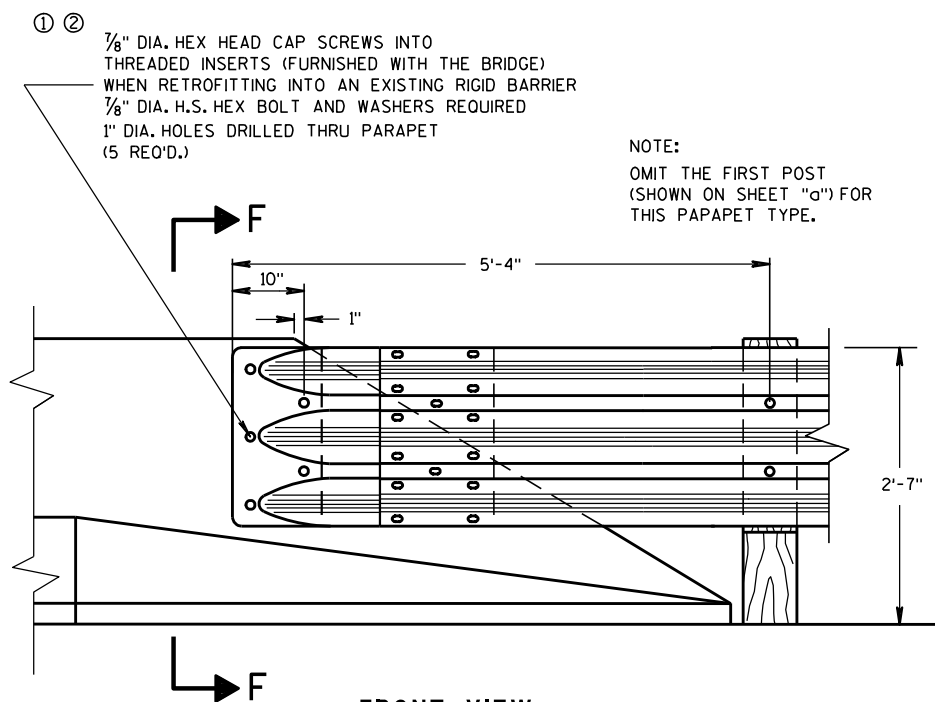
FHWA

ENGINEER

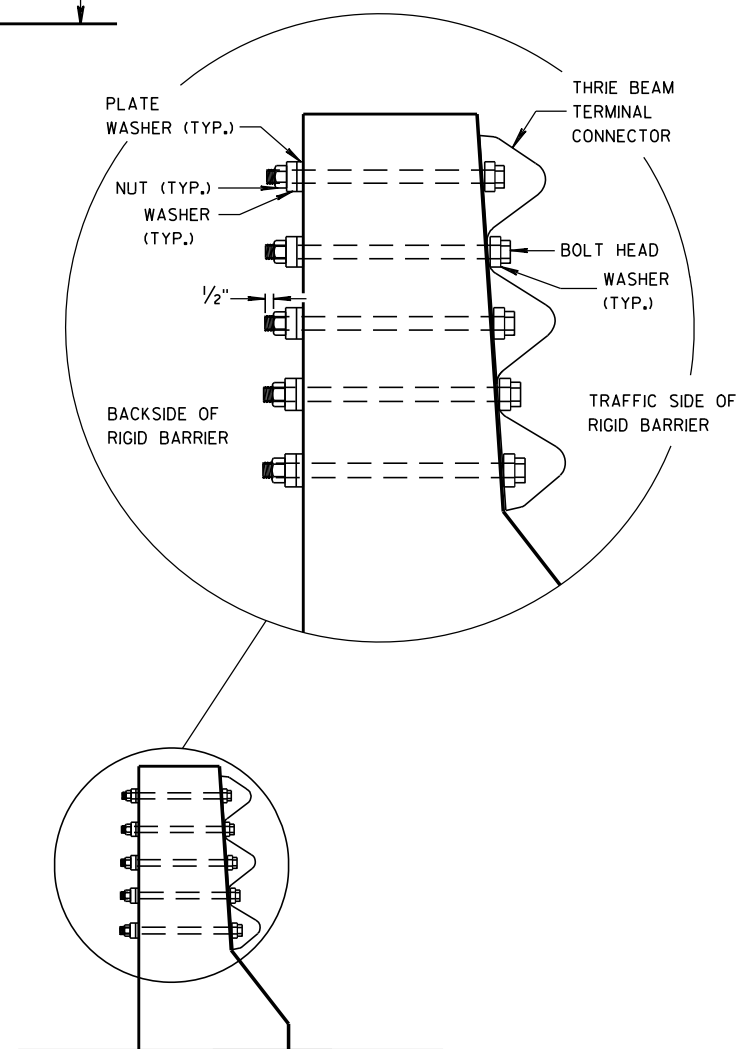
ENT



FRONT VIEW
W BEAM CONNECTION TO
PARAPETS WITH SLOPED ENDS
 (USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)



THRIE BEAM CONNECTION TO BRIDGE
PARAPETS WITH SLOPED ENDS



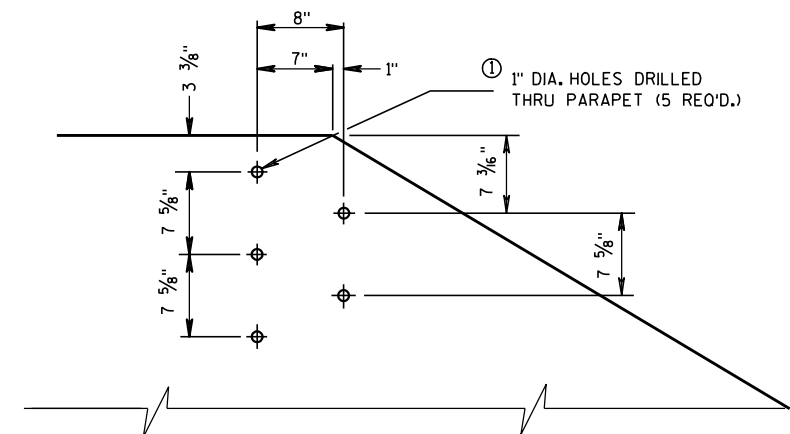
SECTION F-F

GENERAL NOTES

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

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION

STEEL THRIE BEAM STRUCTURE
APPROACH CONNECTION TO
SLOPED END PARAPETS

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

APPROVED
 8/31/2012 DATE /S/ Jerry H. Zoppo
 ROADWAY STANDARDS ENGINEER
 FHWA



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

STEEL THRIE BEAM STRUCTURE APPROACH

COVER PLATE PANELS ARE $\frac{3}{16}$ " THICK.

ALL STIFFENERS ARE $\frac{1}{4}$ " THICK.

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

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

ALL HOLE DIAMETERS SHALL BE 1".

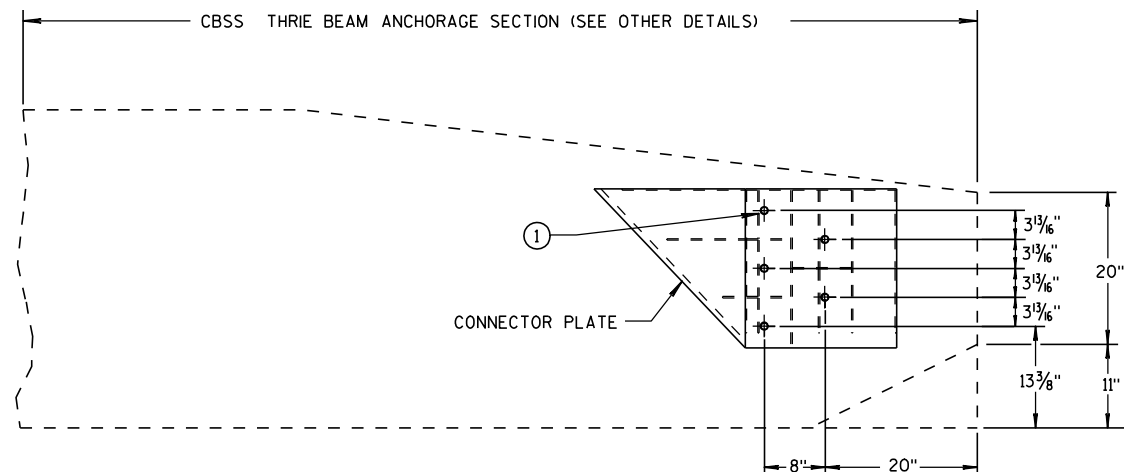
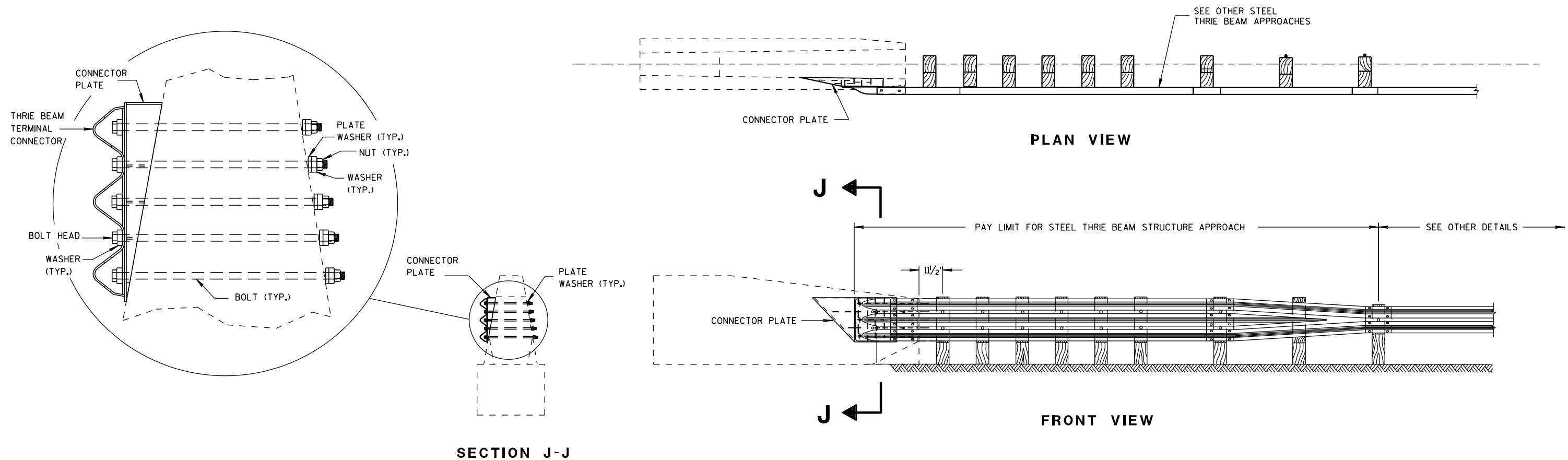
FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

- ① STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND $\frac{3}{16}$ " FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.
- ② STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
 $\frac{3}{16}$ " FILLET WELD BY 1" LONG SPACED AT 2".

**STEEL THRIE BEAM
STRUCTURE APPROACH,
CONNECTOR PLATE DETAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 /S/ Jerry H. Zoppo
DATE ROADWAY STANDARDS 93 ENT
ENGINEER
FHWA



CONNECTOR PLATE LOCATION

STEEL THRIE BEAM STRUCTURE APPROACH

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 614.

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

- ① BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

STEEL THRIE BEAM
STRUCTURE APPROACH,
SINGLE SLOPE ATTACHMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012

DATE

FHWA

/S/ Jerry H. Zacc

ROADWAY STANDARDS 94

ENGINEER

MENT

BILL OF MATERIALS

NOTE NO.	QTY.	DESCRIPTION
①	4	WOOD BREAKAWAY TERMINAL POST: 5 1/2" X 7 1/2" X 3'-9"
②	**	STEEL TUBE: OPTION 1 - QUANTITY OF 4 TS 8" X 6" X 0.188", 4'-6" LONG OR OPTION 2 - QUANTITY OF 2 TS 8" X 6" X 0.188", 6'-0" AND 2 TS 8" X 6" X 0.188", 4'-6" LONG
③	2	SOIL PLATE: 2'-0" X 1'-6" X 1/4" **
④	4	WOOD BREAKAWAY CRT POST: 6" X 8" X 6'-0"
⑤	6	WOOD OFFSET BLOCKS: 6' X 8" X 1'-2"
⑥	1	PIPE SLEEVE: 2" X 5 1/2" STANDARD PIPE
⑦	1	BEARING PLATE
⑧	1	BCT CABLE ASSEMBLY
⑨	1	CABLE ANCHOR BOX
⑩	1	STRUT & YOKE
⑪	1	STEEL PLATE BEAM, END PANEL 12 GA, 13'-6 1/2" LONG FOR SKT-350, ET-2000 AND ET-2000 PLUS
⑫	3	STEEL PLATE BEAM: 12 GA, 13'-6 1/2"
⑬	1	ET-2000/ET-2000 PLUS GUARDRAIL EXTRUDER OR SKT-350 IMPACT HEAD: AS FURNISHED BY MANUFACTURER
⑭	1	REFLECTIVE SHEETING TYPE H: 18" X 18"
⑮	1	E.A.T. MARKER POST

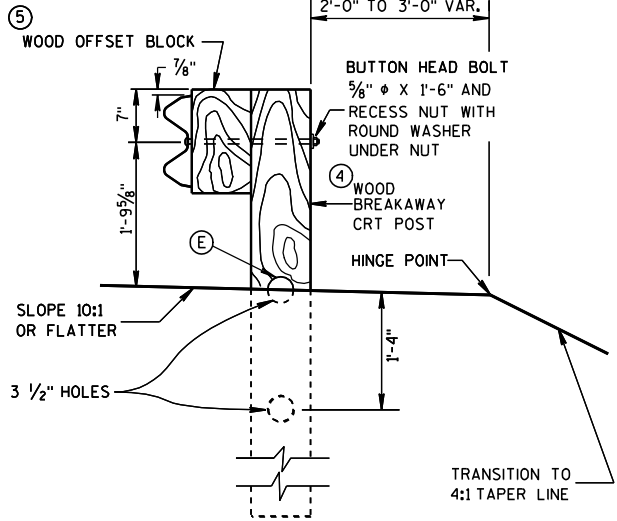
GENERAL NOTES

FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS. IF NONE ARE AVAILABLE, INSTALL 5/8" Ø X 1'-6" BUTTON HEAD BOLTS AT ALL POSTS EXCEPT FOR POST 1.

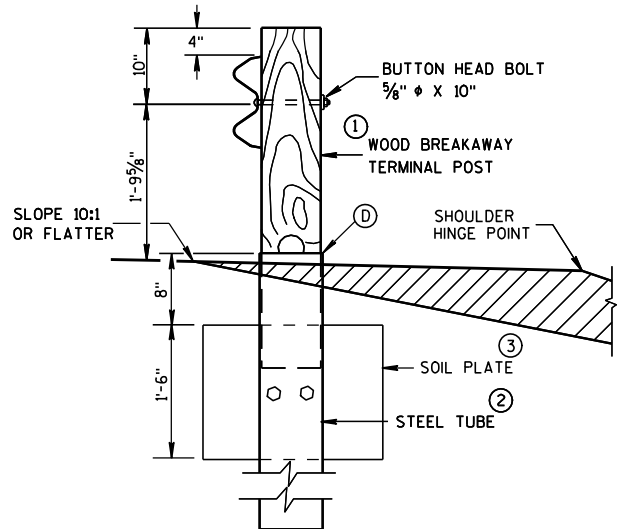
- (A) THE SLOPE IN THE AREA BOUNDED BY THE EXTENDED VEHICLE RUNOUT PATH (EVRP), THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.
- (C) THE 13 SLOT FIRST RAIL PANEL MAY BE USED IN LIEU OF THE 3 SLOT RAIL PANEL ON SKT-350 ONLY.
- (D) THE TOP OF THE STEEL TUBE ON POSTS 1 THROUGH 4 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.
- (E) THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST 5 THROUGH 8 SHALL BE 3/4" ABOVE THE FINISHED GROUND LINE.
- (F) SHEETING IS ATTACHED TO 0.040 ALUMINUM SHEET AND ATTACHED TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS, ONE SCREW PER CORNER OF E.A.T. STEEL POSTS SHALL NOT BE ALLOWED FOR USE WITH ENERGY ABSORBING TERMINALS.
- DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

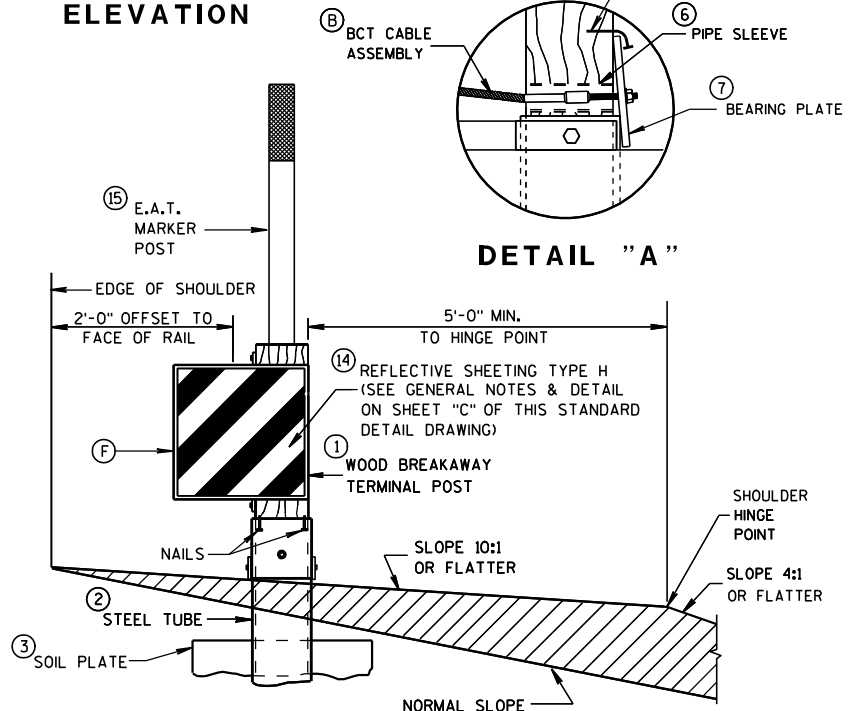
** SDD SHOWS 4 - 54 INCH STEEL TUBES WITH SOIL PLATES INSTALLED ON POST 1 AND POST 2. POST 3 AND 4 DO NOT NEED SOIL PLATES. AN ALTERNATIVE INSTALLATION WOULD CONSIST OF 2 - 72 INCH STEEL TUBES ON POST 1 AND POST 2 AND 54 INCH TUBES ON POSTS 3 AND 4. THE ALTERNATIVE INSTALLATION DOES NOT REQUIRE SOIL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



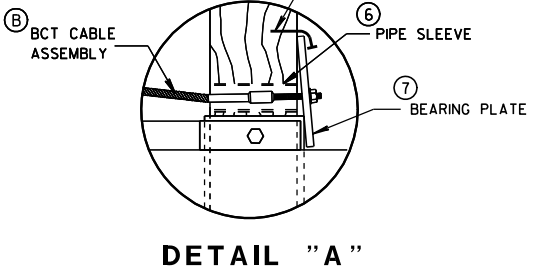
SECTION C-C
TYPICAL AT POST NOS. 6, 8



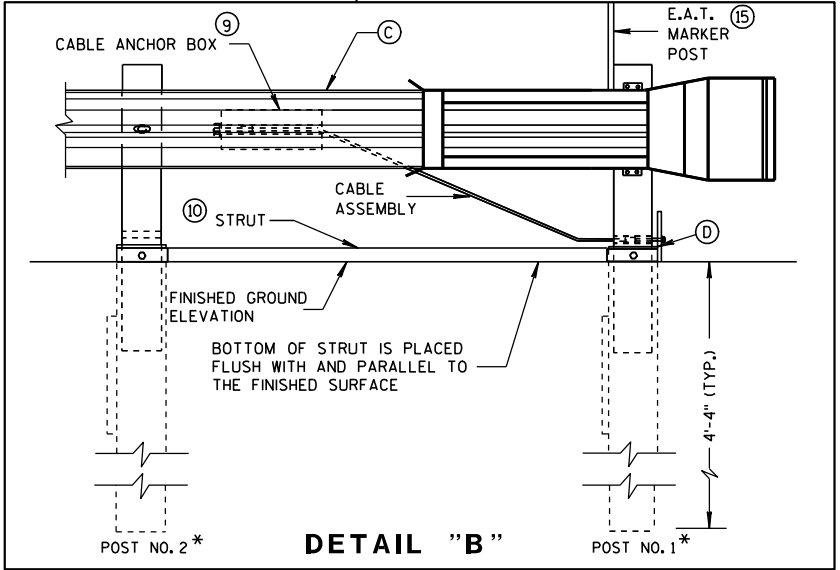
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



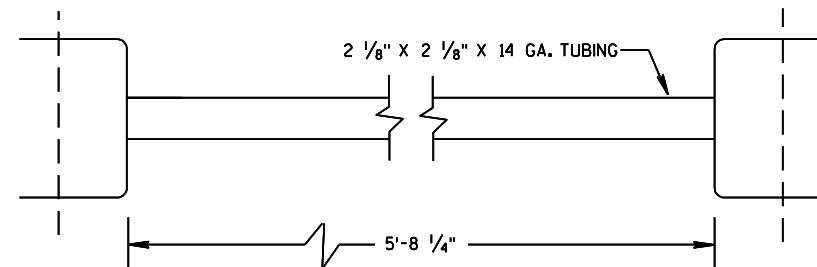
DETAIL "A"



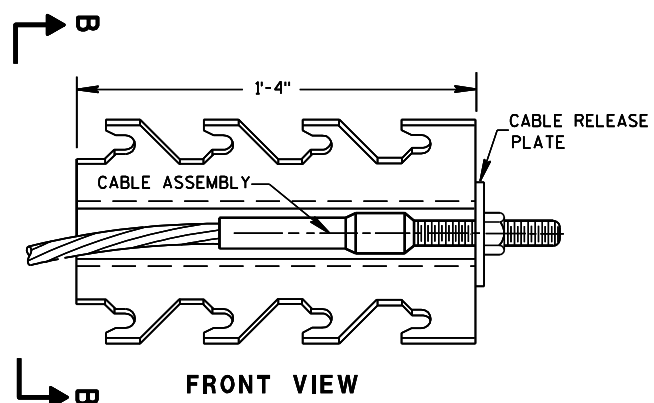
DETAIL "B"

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

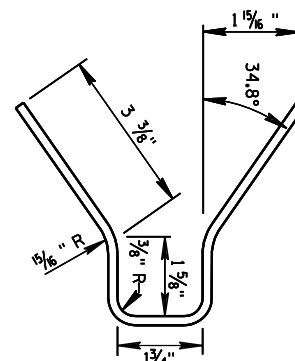


⑩ STRUT DETAIL (SKT-350)

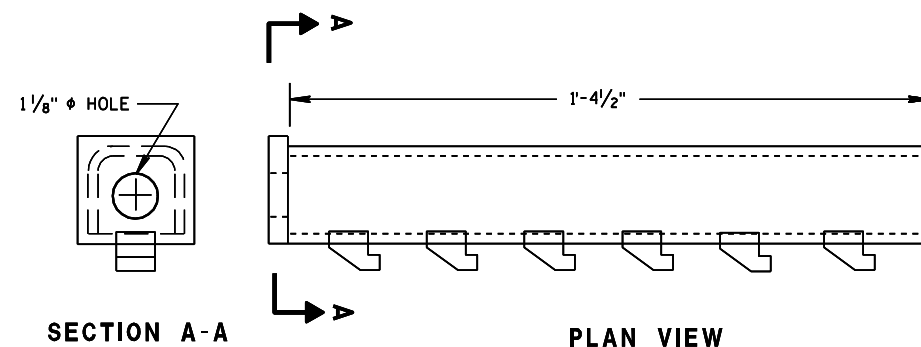


⑨ CABLE ANCHOR BOX (SKT-350)

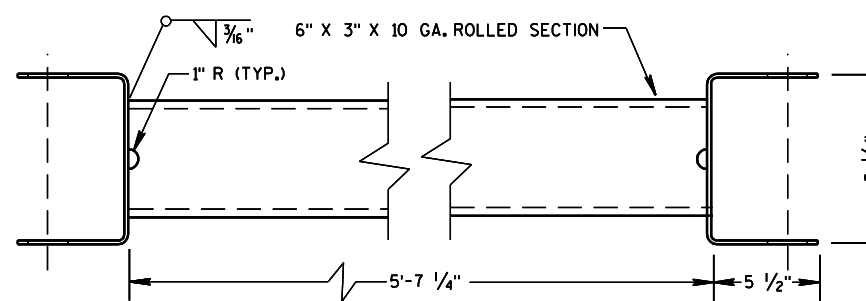
(SKT-350)



SECTION B-B

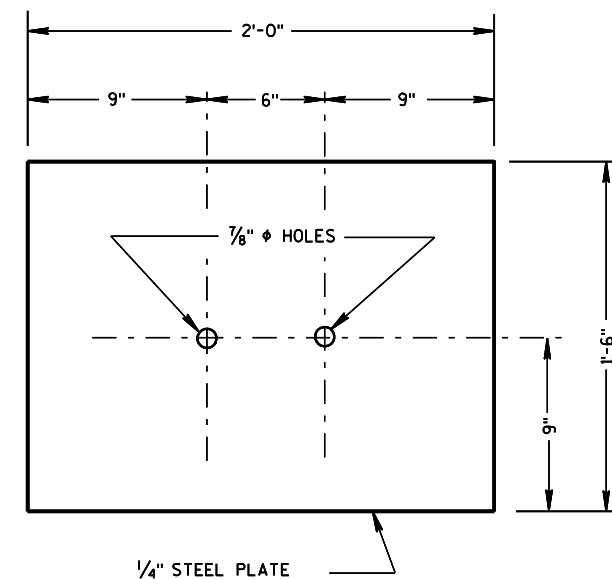


⑨ CABLE ANCHOR BOX (ET-2000/ET-2000 PLUS)

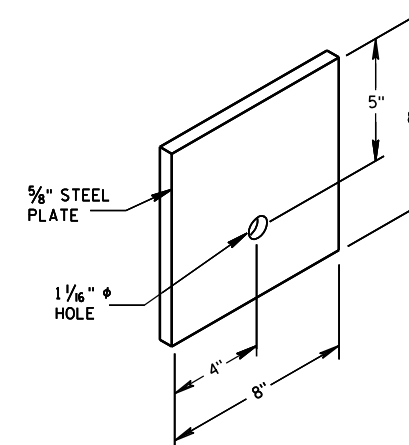


⑩ STRUT DETAIL (ET-2000/ET-2000 PLUS)

(ET-2000/ET-2000 PLUS)



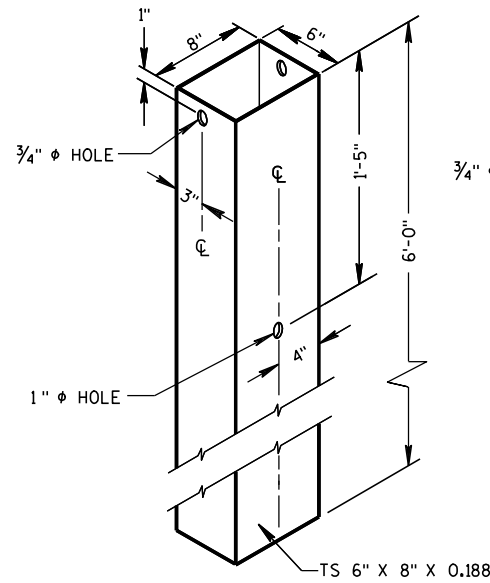
③ SOIL PLATE
(SKT-350, ET-2000/ET-2000 PLUS)



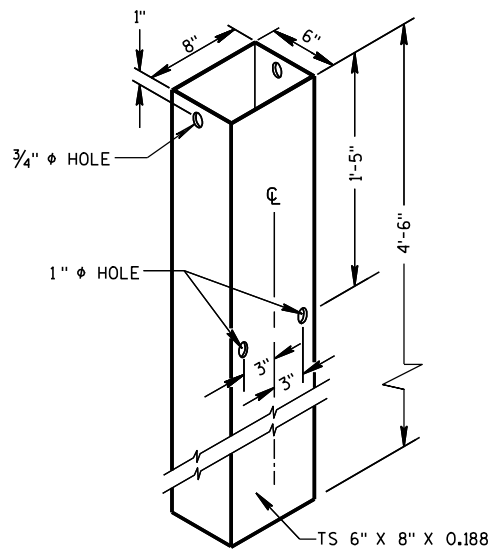
⑦ STEEL BEARING PLATE
(SKT-350, ET-2000/ET-2000 PLUS)

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

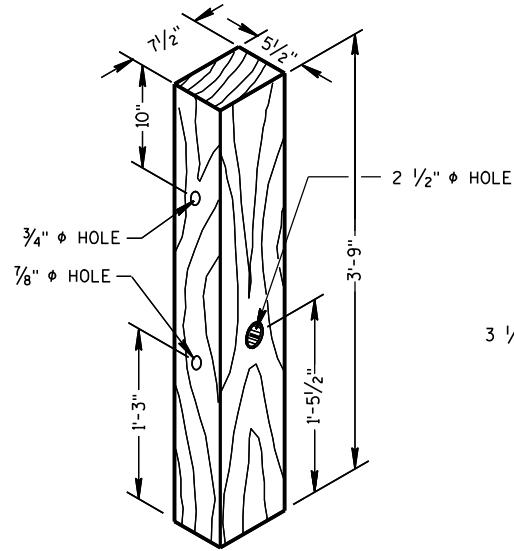
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



② 72" STEEL TUBE
(POSTS NO. 1-4)

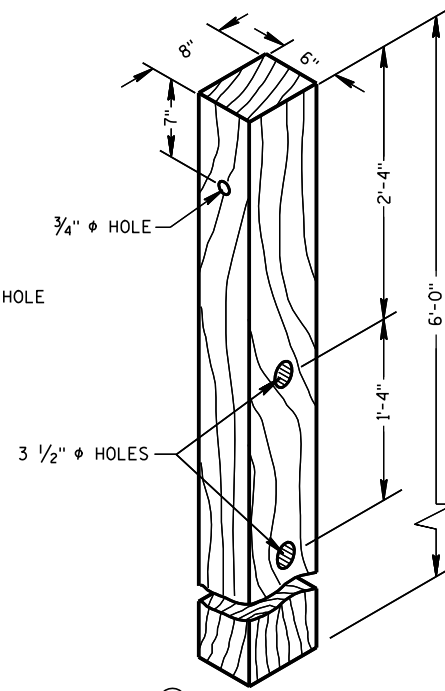


② 54" STEEL TUBE
(POSTS NO. 1-4)

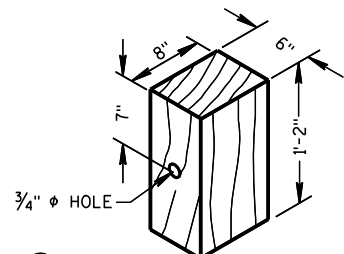


① TERMINAL POST
(POSTS NO. 1-4)

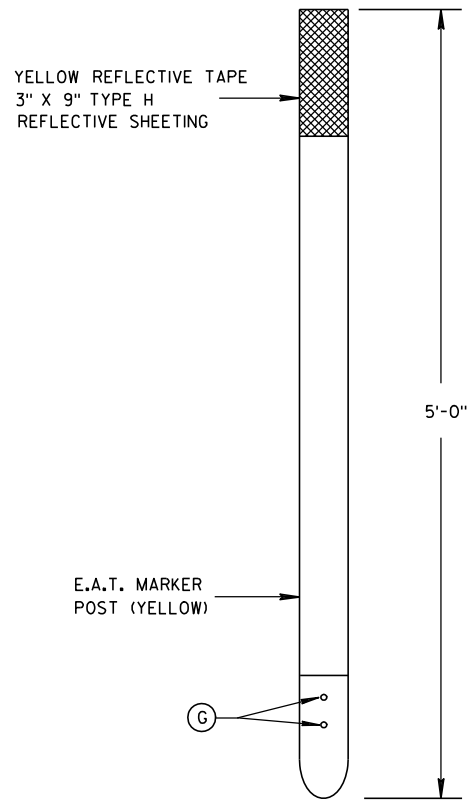
WOOD BREAKAWAY POSTS



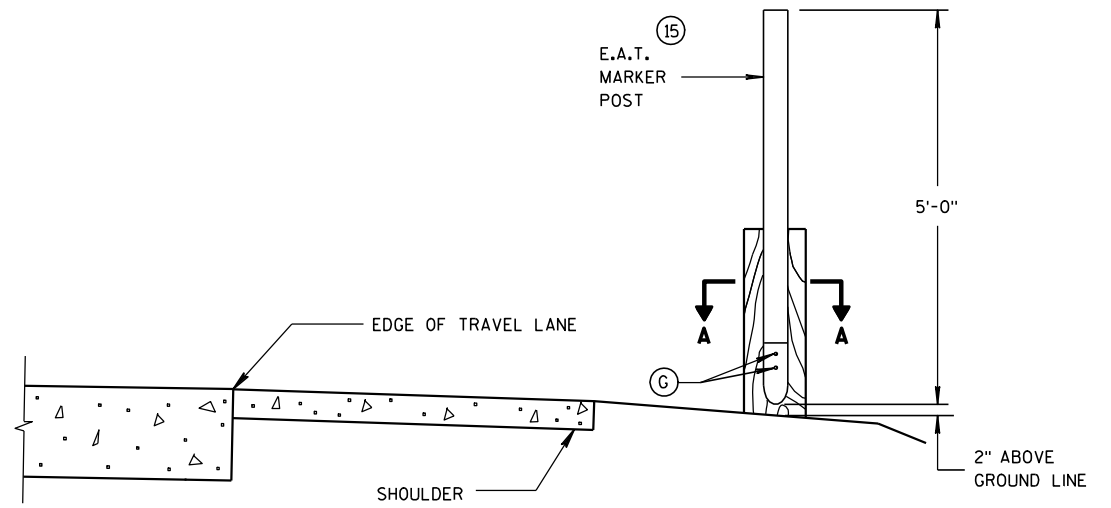
④ CRT POST
(POSTS NO'S 5-8)



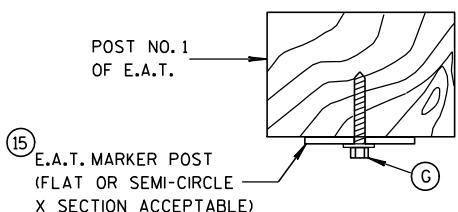
⑤ WOOD OFFSET BLOCK
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



FRONT VIEW SIDE VIEW
⑮ E.A.T. MARKER POST



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



SECTION A-A

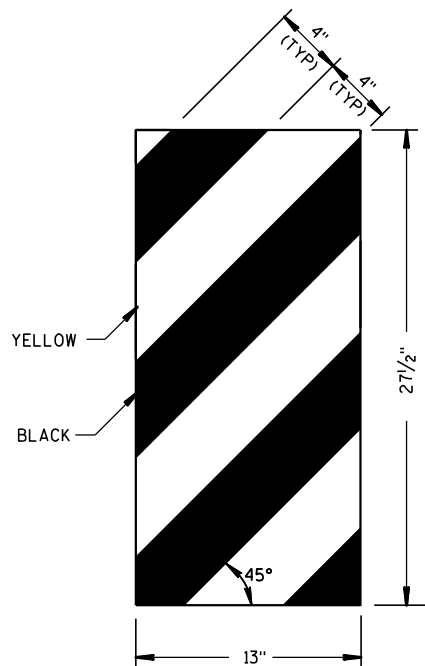
GENERAL NOTES

STEEL PLATE BEAM GUARD, ENERGY ABSORBING TERMINAL SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH, WHICH SHALL INCLUDE HARDWARE, STEEL PLATE BEAM GUARD, POSTS, REFLECTIVE SHEETING AND INSTALLATION AS SHOWN.

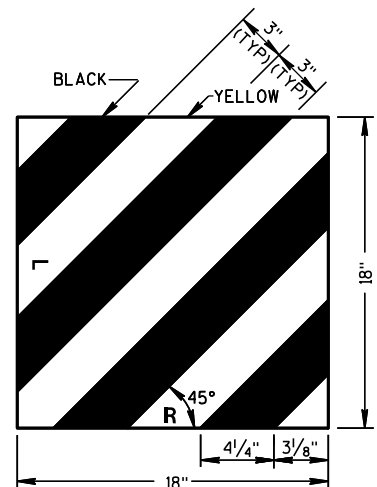
WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 1/2" INCHES DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH, PLACED IN THE HOLE AND BACKFILLED WITH ADEQUATELY COMPACTED MATERIAL EXCAVATED FROM THE HOLE.

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

⑮ 1/2" DIA. X 3" LAG BOLT WITH WASHER.



ET-2000 PLUS ONLY



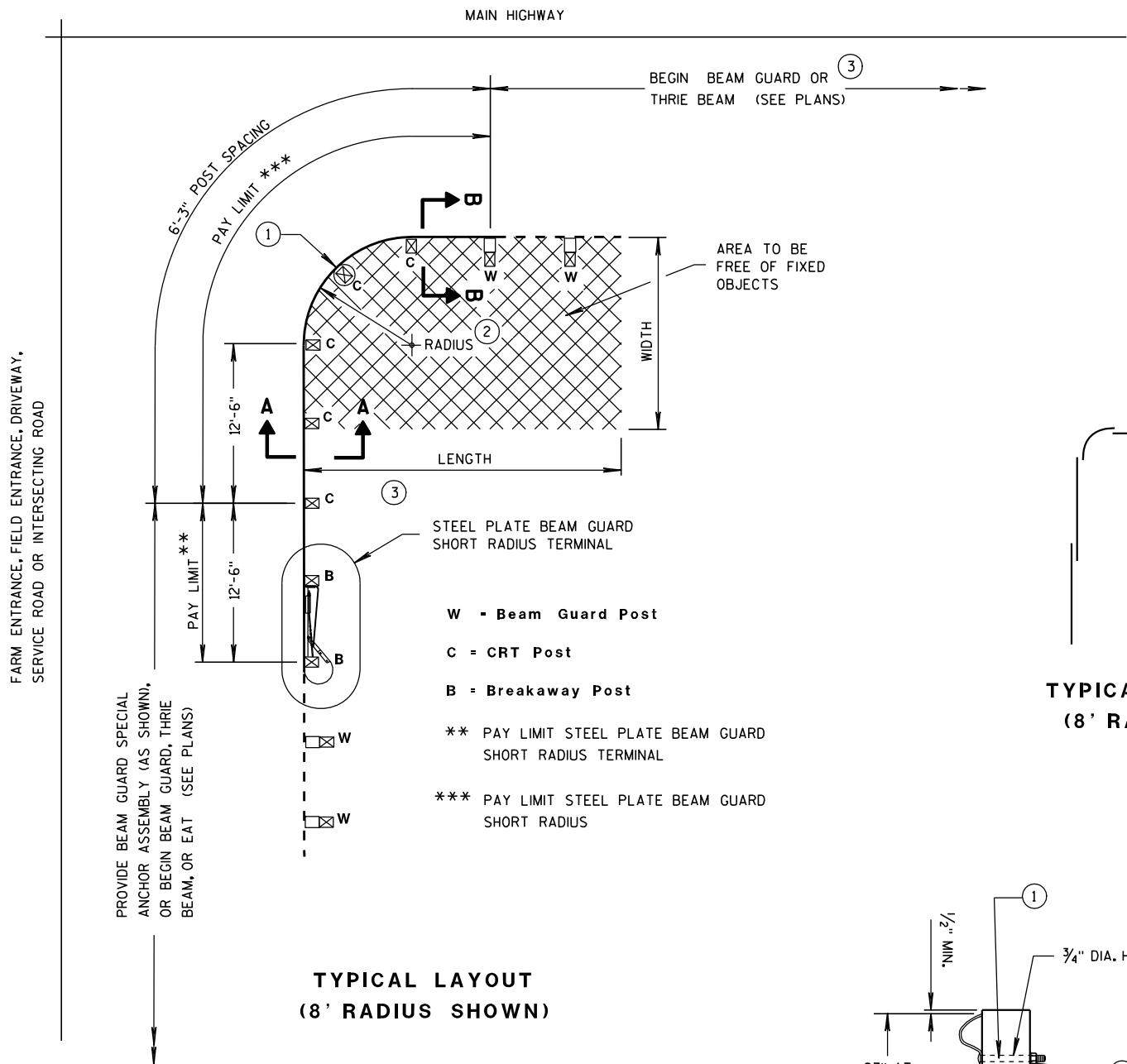
ET-2000 AND SKT-350

⑭ REFLECTIVE SHEETING DETAILS

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

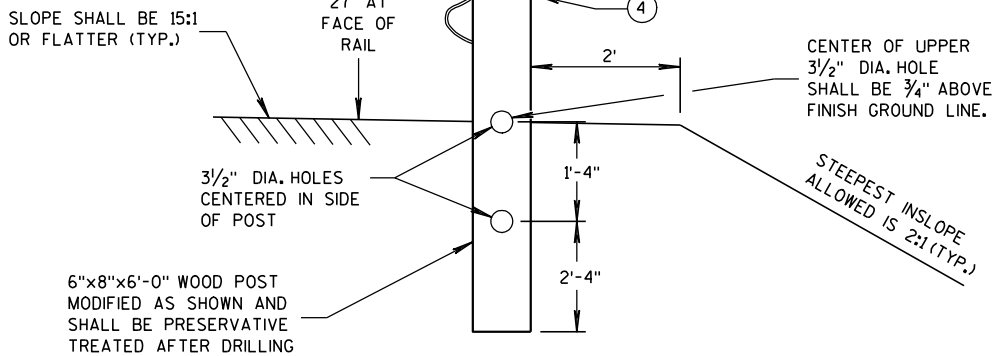
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-12-10 DATE /S/ Jerry H. Zacc
ROADWAY STANDARDS 97
ENGINEER
FHWA



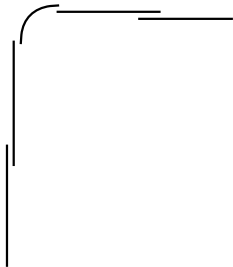
TYPICAL LAYOUT
(8' RADIUS SHOWN)

- W - Beam Guard Post
C = CRT Post
B = Breakaway Post
** PAY LIMIT STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
*** PAY LIMIT STEEL PLATE BEAM GUARD SHORT RADIUS



SECTION A-A
(CRT POST)

TYPICAL LAP SPLICES
(8' RADIUS SHOWN)



GENERAL NOTES

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

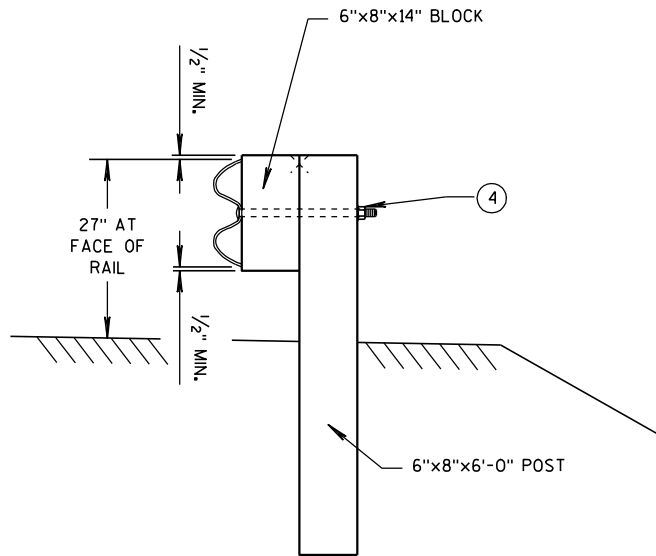
SHOP BEND CURVED RAIL SECTIONS.

SEE STANDARD DETAIL DRAWING 14 B 15 FOR OTHER DETAIL.

- ON THE 8 FOOT RADIUS INSTALLATION, DO NOT INSTALL BUTTON HEAD BOLT AT CENTER CRT POST.
- RADIUS FROM 8' - 36'. SEE PLAN.
- HEIGHT TRANSITION MAY BE REQUIRED. SEE PLAN OR PROJECT ENGINEER.
- 5/8" Ø X 1'-6" BUTTON HEAD BOLT AND RECESS NUT WITH ROUND WASHER UNDER NUT.

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

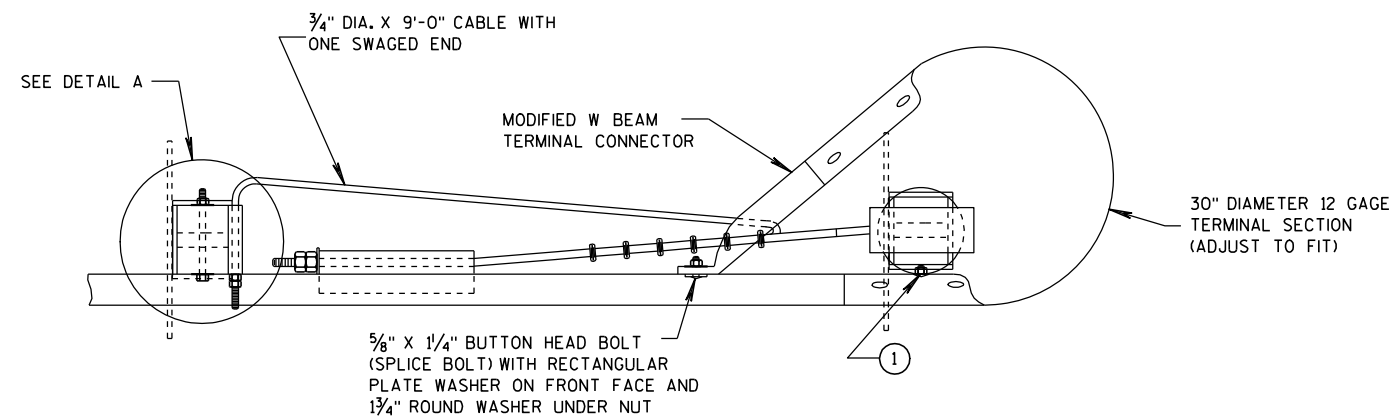
* THE NUMBER OF RAILS IS BASED ON A 90° INTERSECTION. SEE PLAN FOR NON 90° INSTALLATIONS.



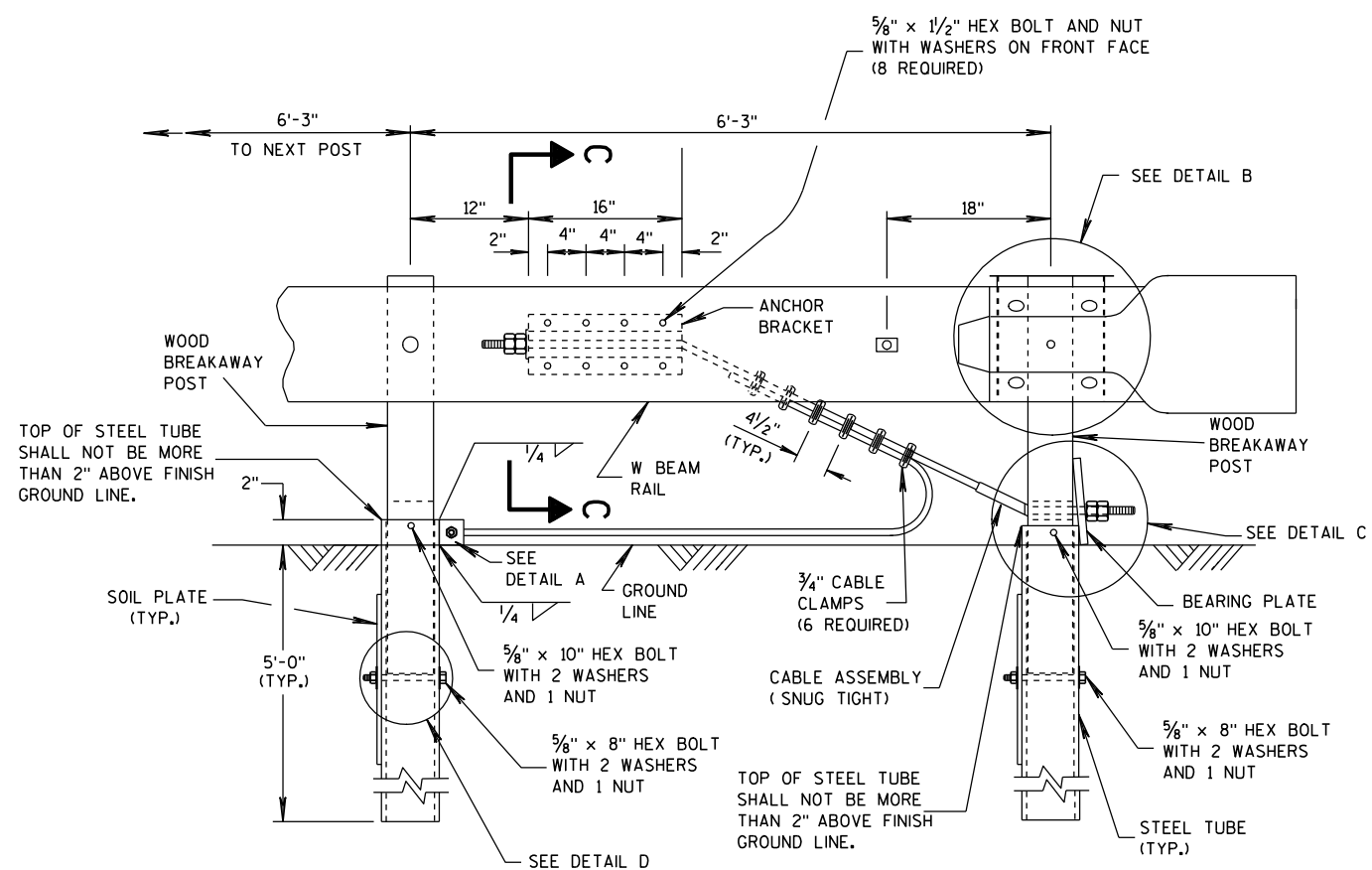
SECTION B-B
(BEAM GUARD POST)

STEEL PLATE BEAM GUARD
SHORT RADIUS TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



PLAN VIEW

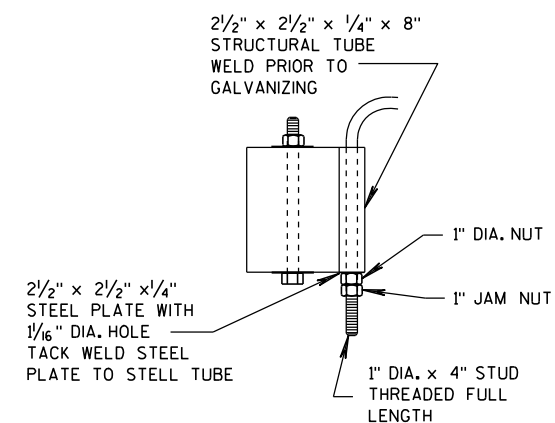


ELEVATION VIEW

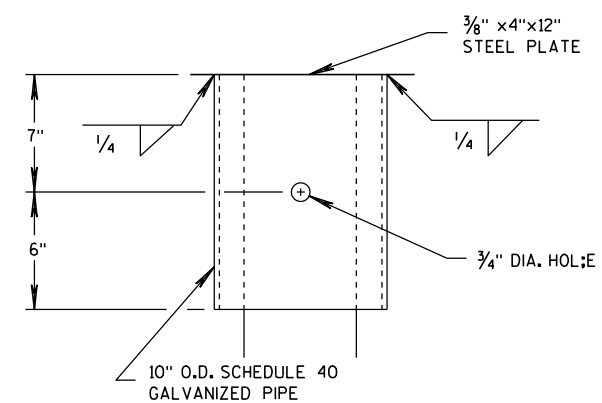
STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

GENERAL NOTES

- ① ATTACH W BEAM RAIL TO THE STEEL PIPE WITH A $\frac{5}{8}$ " X 2" BUTTON HEAD BOLT WITH NO WASHER. CONNECTION TO THE POST IS NOT REQUIRED.
- INSTALL GALVANIZED $\frac{3}{4}$ " (6X19) PREFORMED WIRE OR INDEPENDENT WIRE ROPE CORE CONFORMING TO AASHTO M 30. MANUFACTURE WIRE ROPE OUT OF IMPROVED FLOW STEEL WITH A MINIMUM BREAKING STRENGTH OF 42,800 PSI.



DETAIL A



DETAIL B

(BEAM GUARD AND TERMINAL SECTION NOT SHOWN)

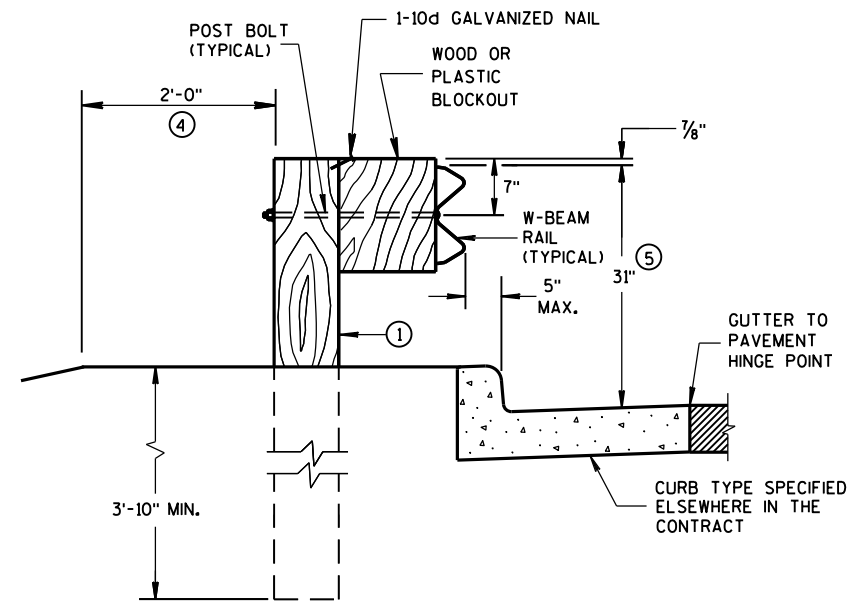
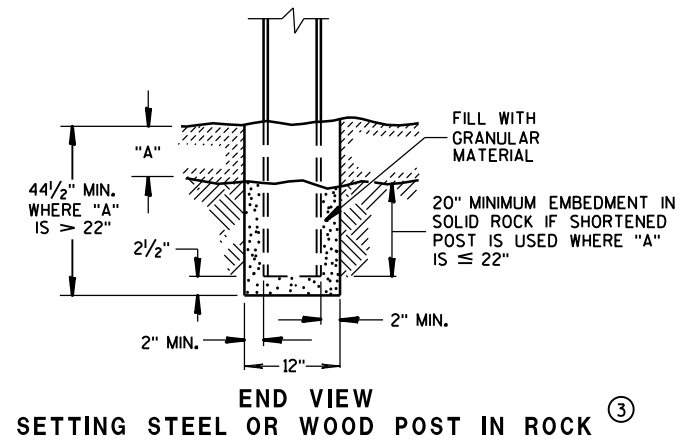
STEEL PLATE BEAM GUARD
SHORT RADIUS TERMINALSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



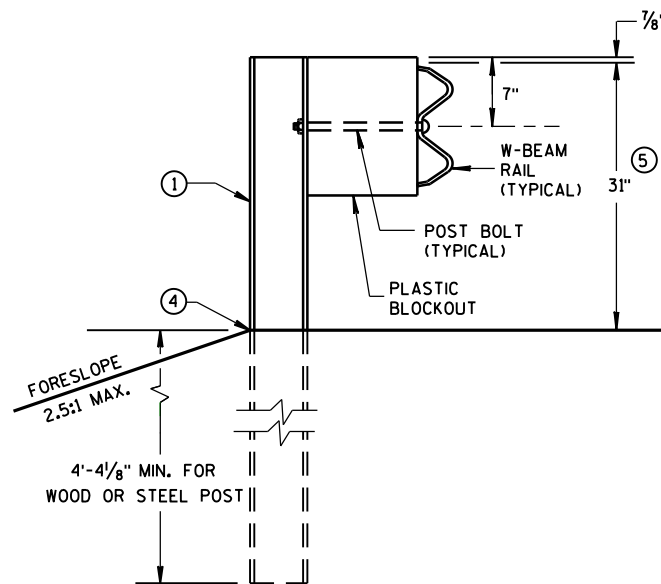
STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 12/18/08 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS ENGINEER 100 INT
FHWA	

S.D.D. 14 B 42-2a

- S.D.D. 14 B 42-2a**

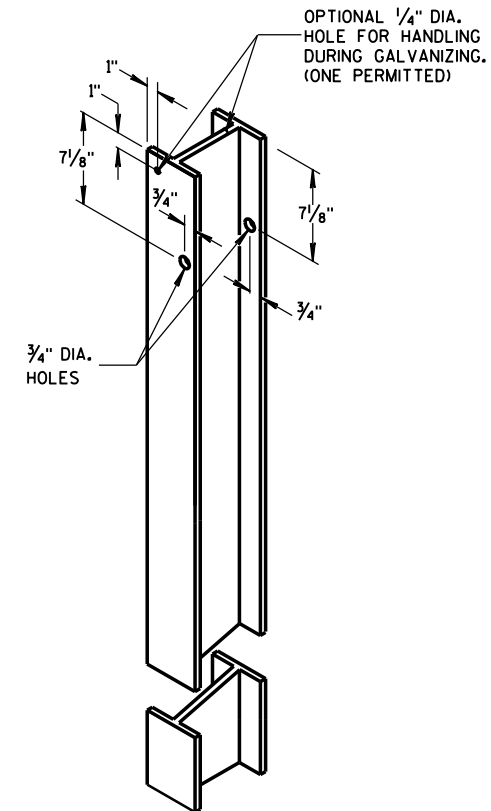


END VIEW
LOCATED ALONG A CURBED ROADWAY

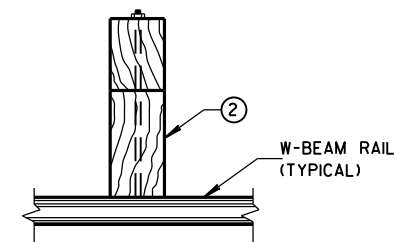


END VIEW

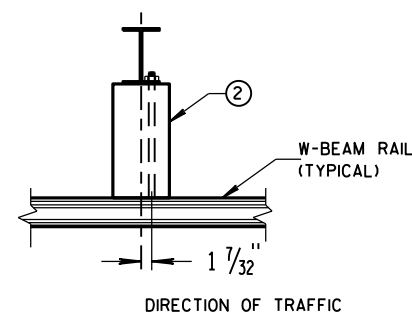
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



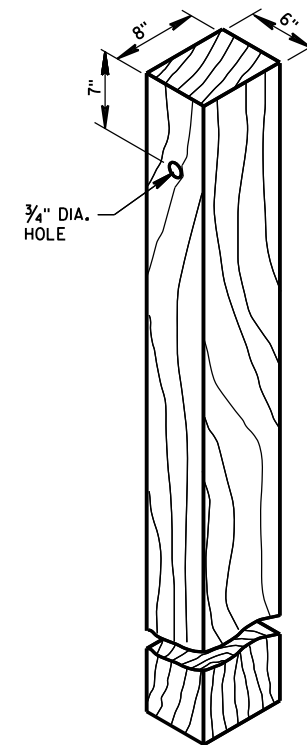
**STEEL POST &
HOLE PUNCHING DETAIL
(w6X9)^①**



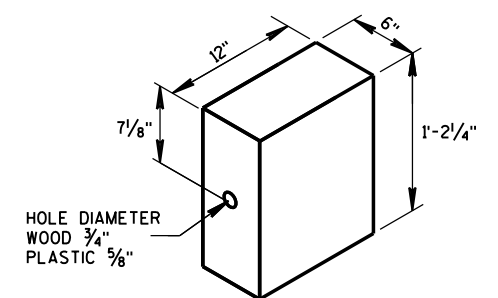
**PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM**



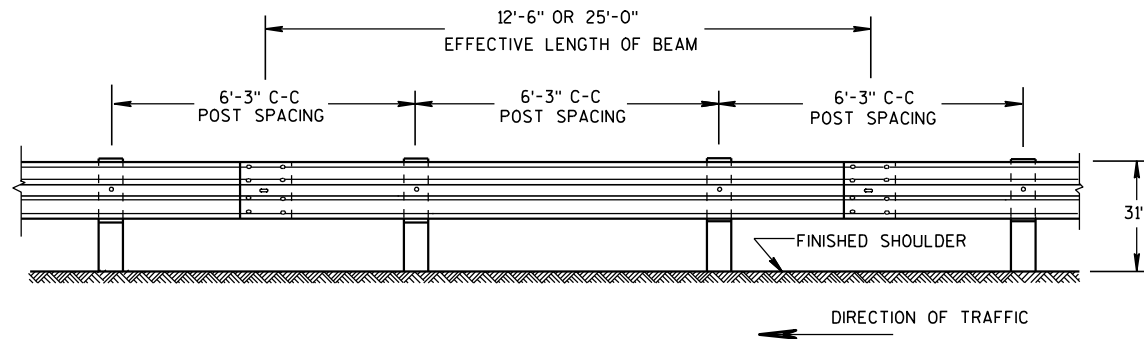
PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM



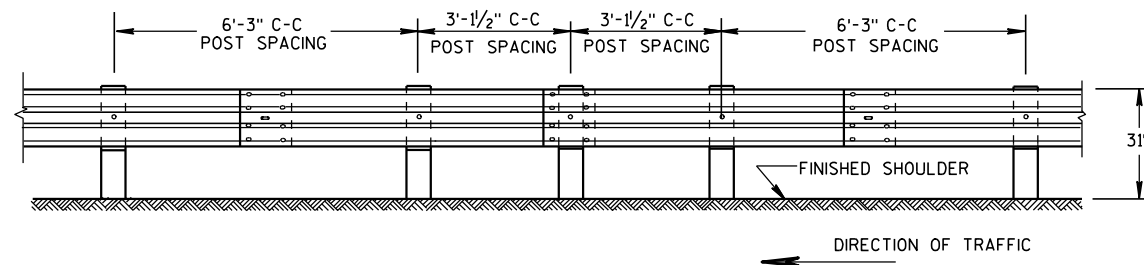
WOOD POST
(6" X 8") NOMINAL ^①



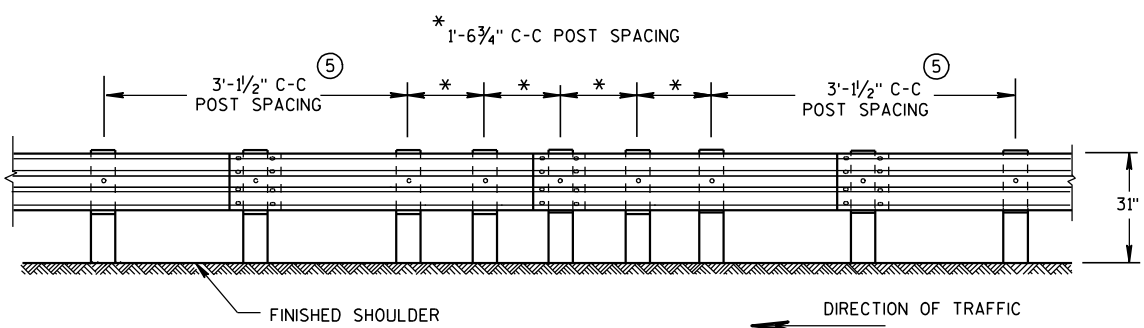
**WOOD OR
PLASTIC BLOCKOUT** ②



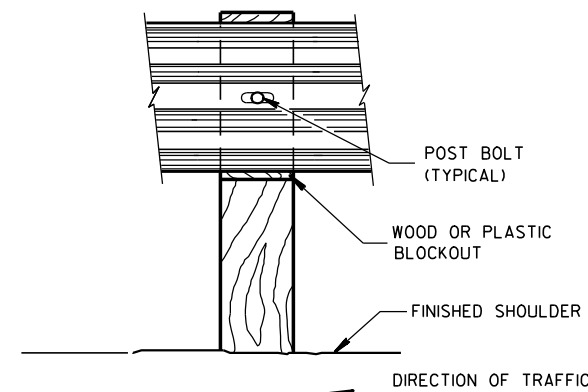
FRONT VIEW
POST SPACING STANDARD INSTALLATION



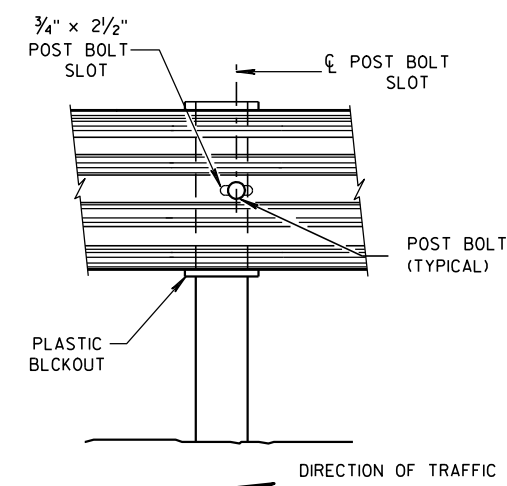
FRONT VIEW
**HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



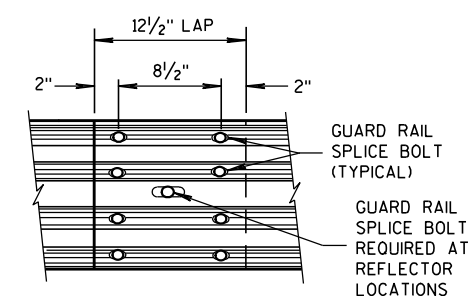
FRONT VIEW
QUARTER POST SPACING (QS)



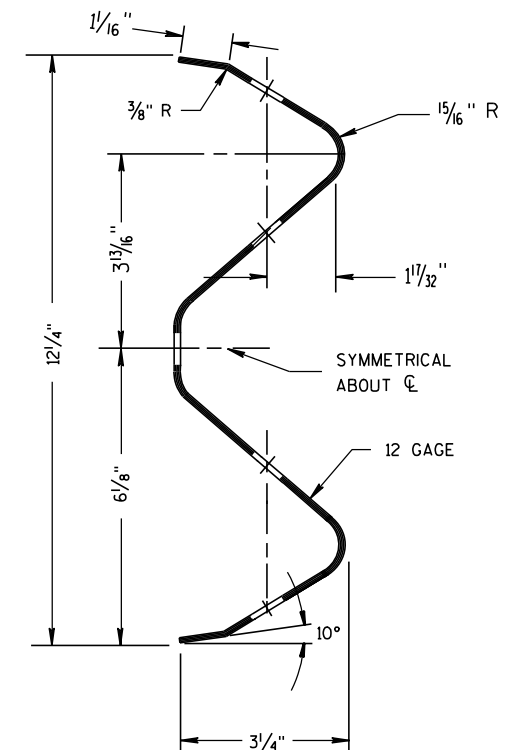
FRONT VIEW AT WOOD POST



FRONT VIEW AT STEEL POST



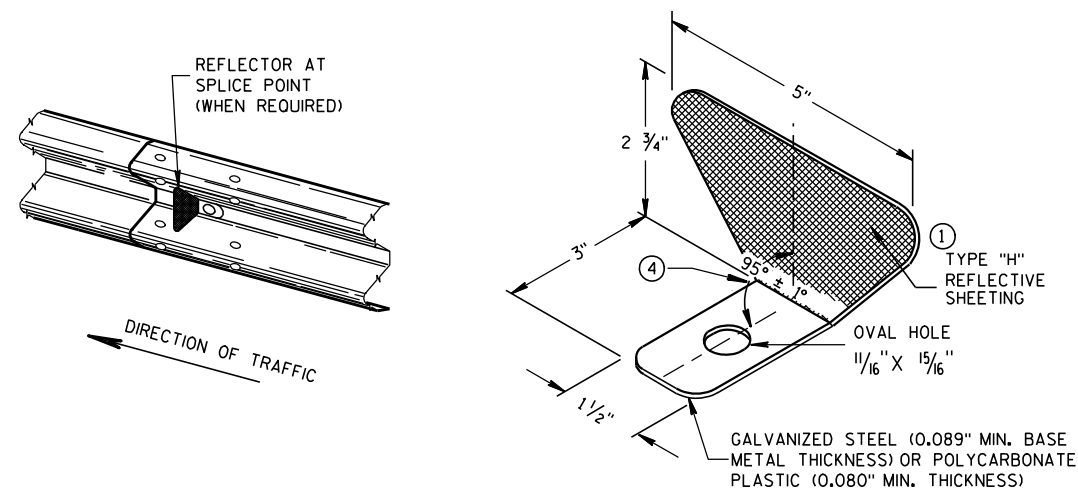
**FRONT VIEW
MID-SPAN BEAM SPLICE**



SECTION THRU W-BEAM RAIL

REFLECTOR SPACING

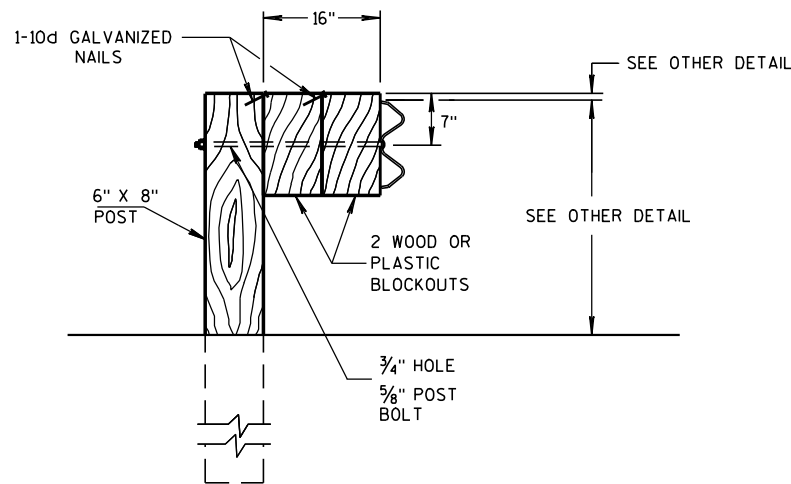
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2	



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

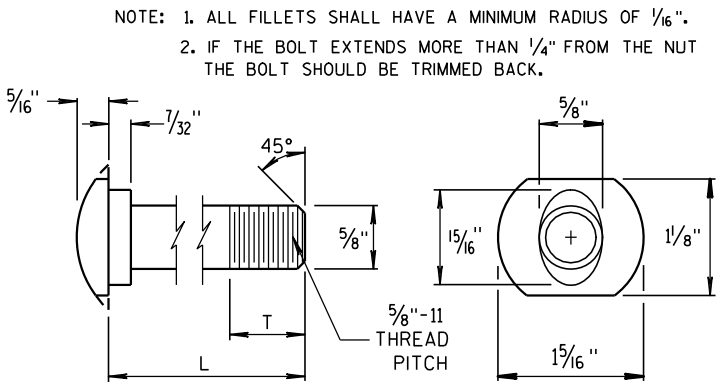
GENERAL NOTES

- 1 PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
 - 2 DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
 - 3 REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
 - 4 PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.
 - 5 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.
- POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.
- GUARD RAIL SPLICE BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

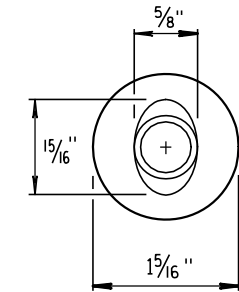


DETAIL FOR 16" BLOCKOUT DEPTH

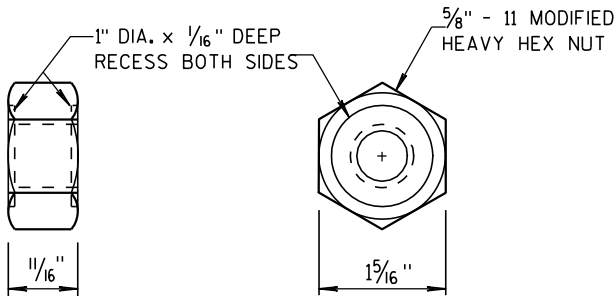
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



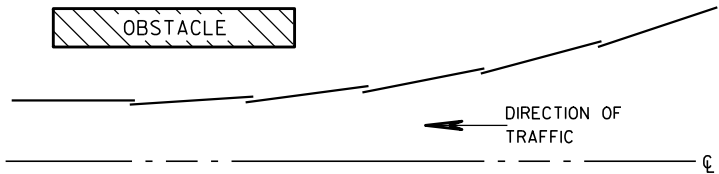
POST BOLT TABLE



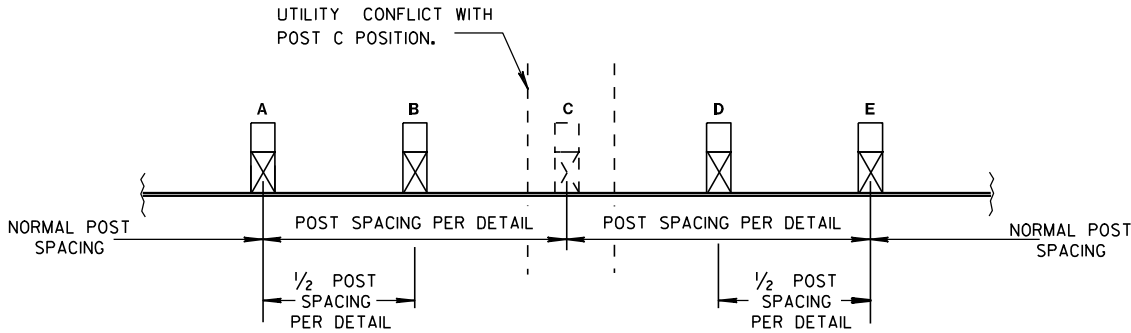
ALTERNATE BOLT HEAD



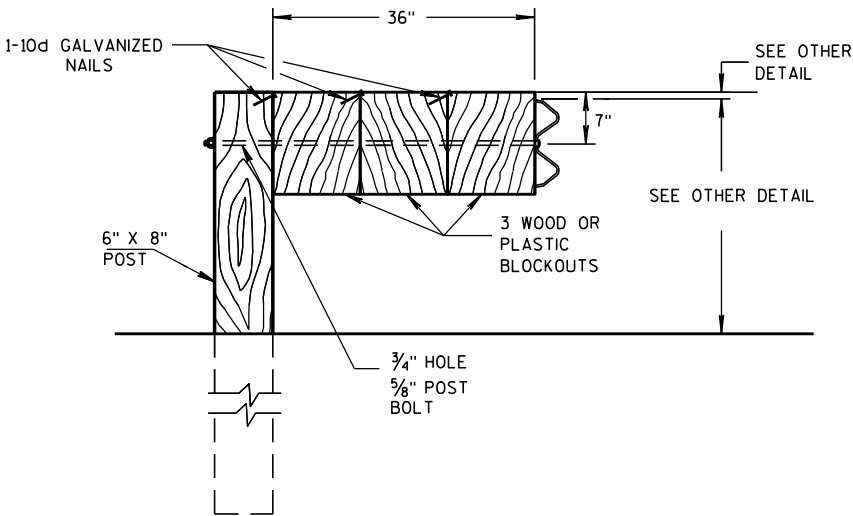
POST BOLT AND RECESS NUT



PLAN VIEW
BEAM LAPPING DETAIL



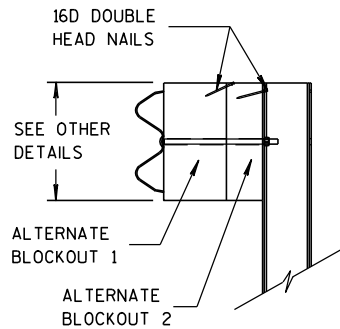
POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



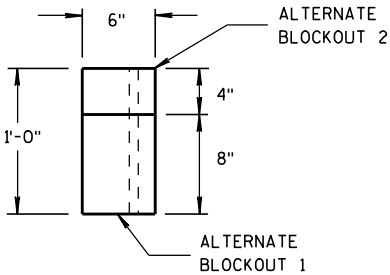
DETAIL FOR 36" BLOCKOUT DEPTH

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

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



SIDE VIEW



TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE 11/15/2011
103
ENT

FHWA ROADWAY STANDARDS ENGINEER

GENERAL NOTES

- (A) THE SLOPE IN THE AREA BOUNDED BY THE EXTENDED VEHICLE RUNOUT PATH (EVRP), THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.
- (C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.
- (D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.
- (E) SHEETING IS ATTACHED TO 0.040 ALUMINUM SHEET AND ATTACHED TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER OF E.A.T.
- (F) 1/2" DIAMETER X 3" LONG LAG BOLT AND WASHER.
- (G) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.
- (H) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

SEE SDD 14B42 FOR MORE INFORMATION.

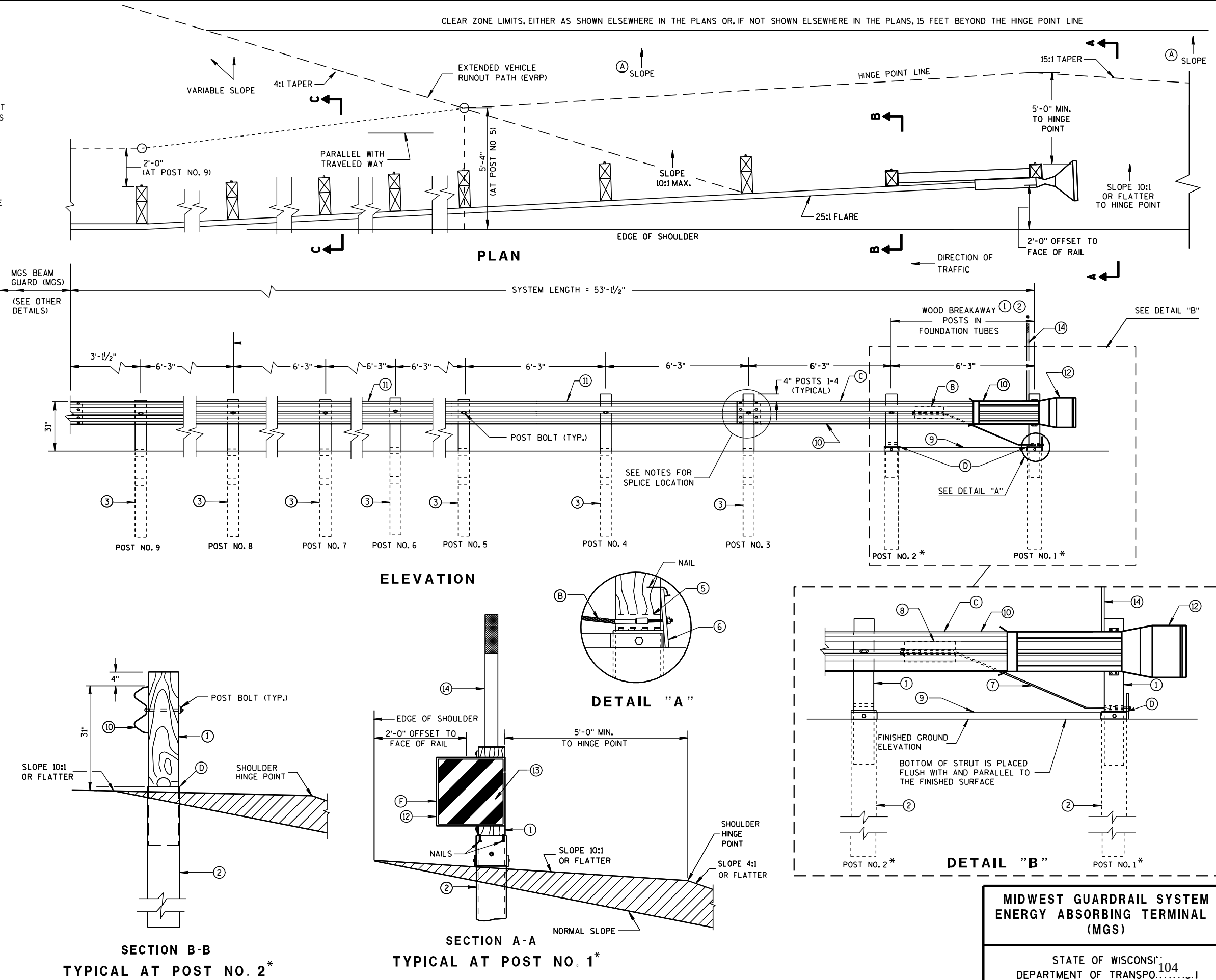
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

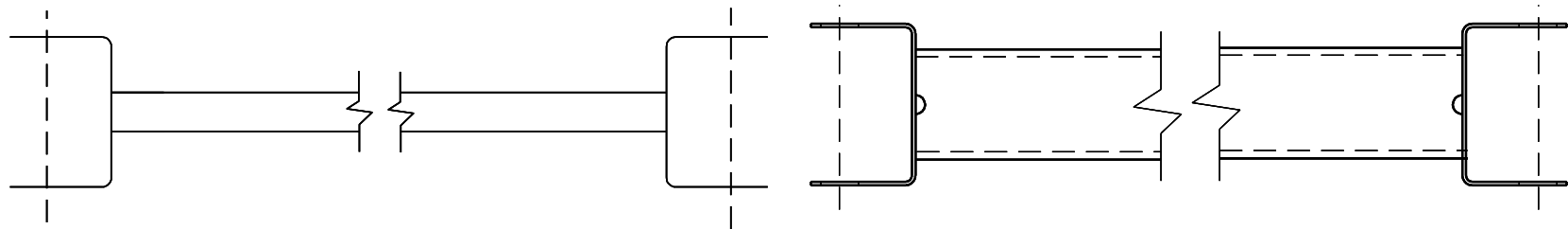
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

PATTERN AND COLORS ON REFLECTIVE SHEETING TYPE H ARE TO CONFORM TO OM3-L OR OM3-R OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

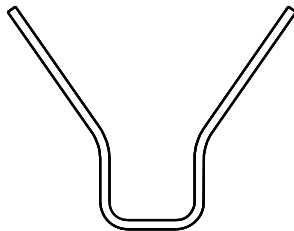
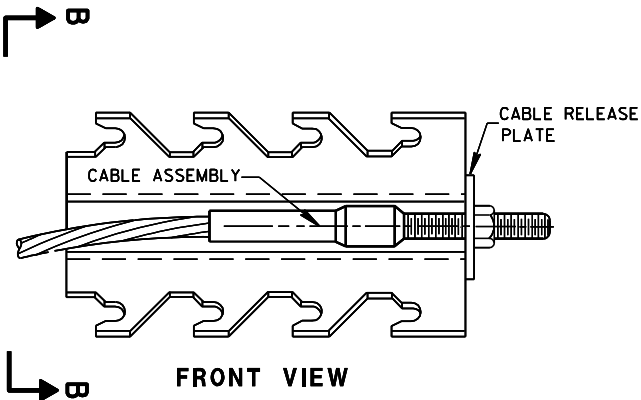
THE CENTER OF THE UPPER 3/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE ($\pm \frac{3}{4}$ ")



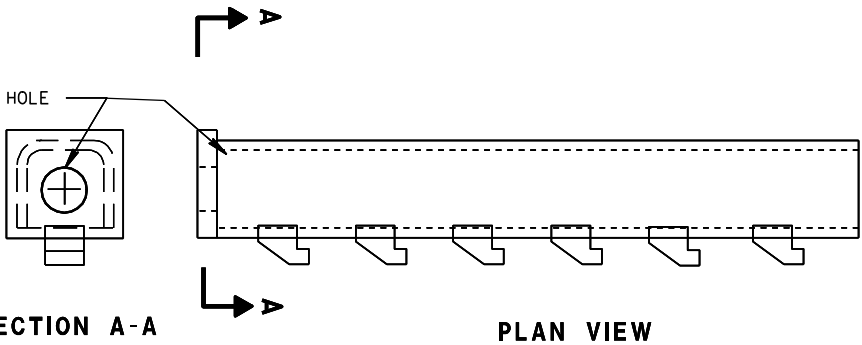


9 H

GENERIC GROUND STRUT



SECTION B-B



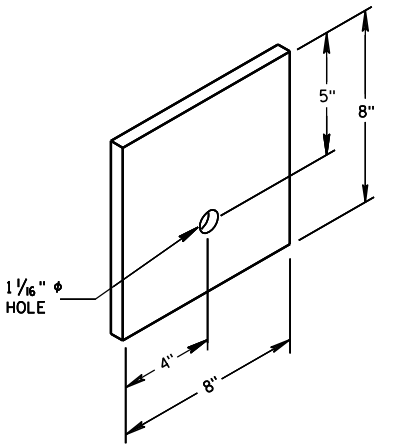
PLAN VIEW

8 H

GENERIC ANCHOR CABLE BOX

BILL OF MATERIALS

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

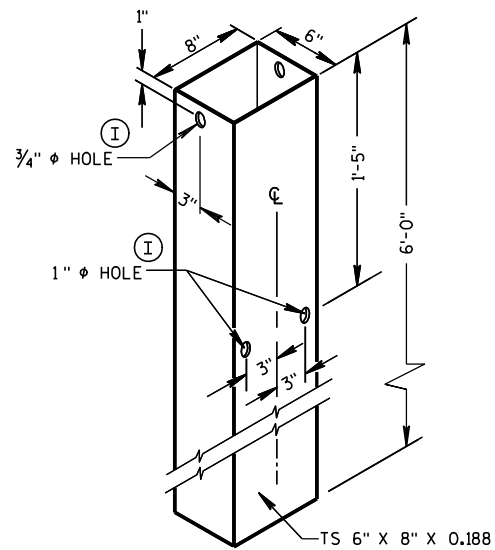


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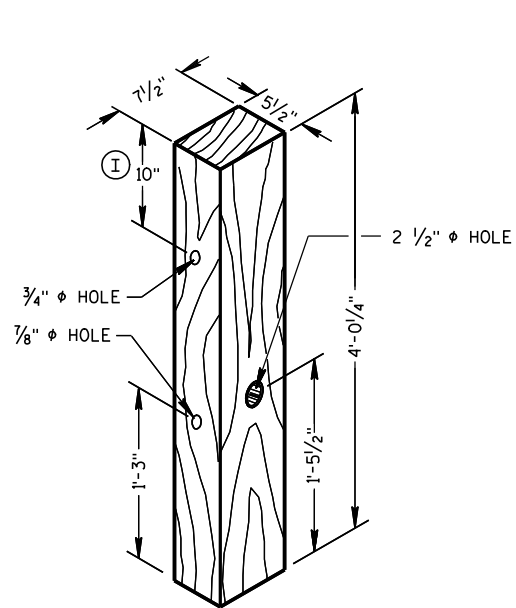
BEARING PLATE

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

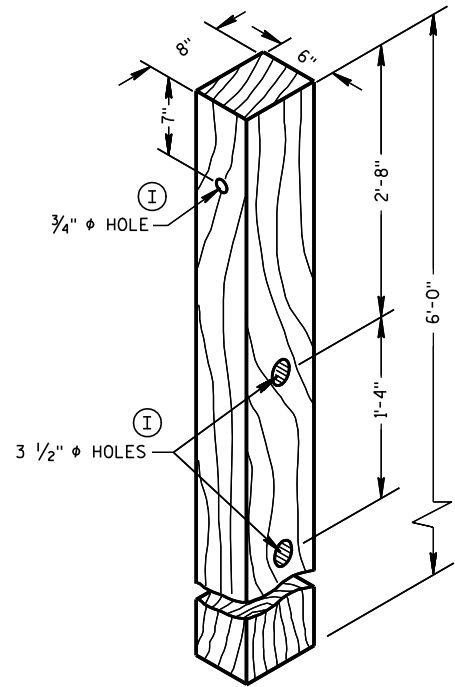
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



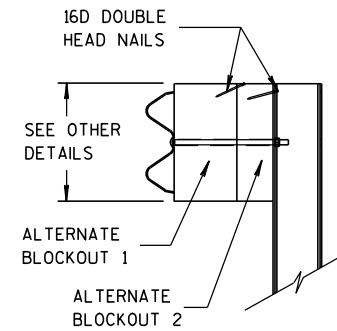
FOUNDATION TUBE ②



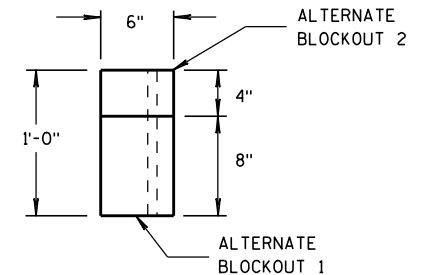
WOOD BREAKAWAY POST ①



WOOD CRT POST ③

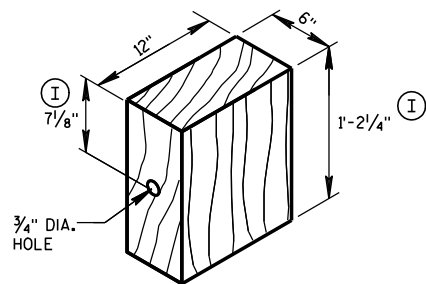


SIDE VIEW



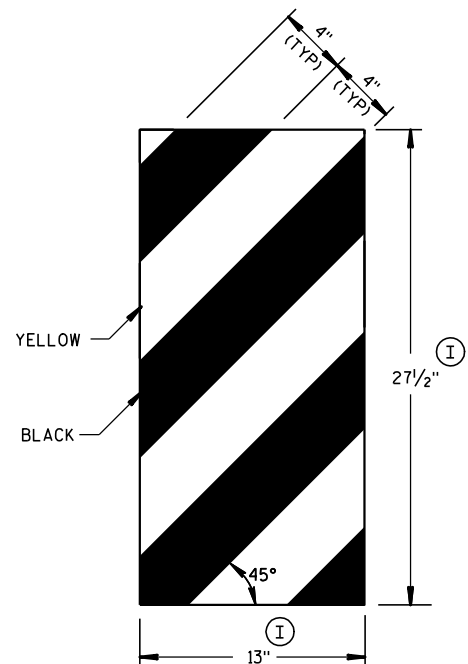
TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

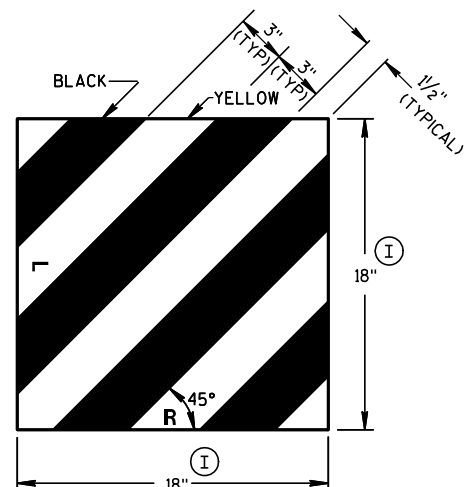


WOOD BLOCKOUT ④

YELLOW REFLECTIVE TAPE
3" X 9" TYPE H
REFLECTIVE SHEETING



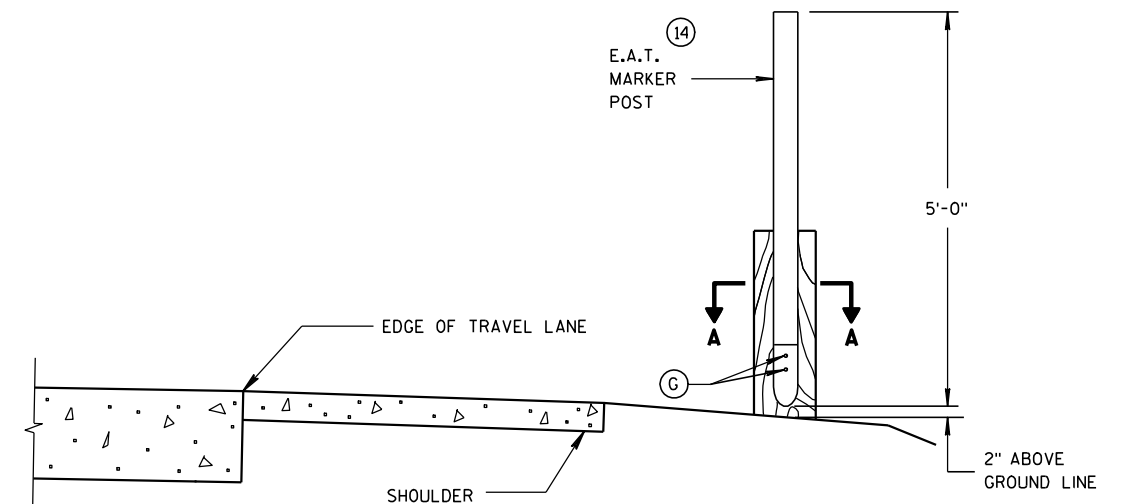
GENERIC REFLECTIVE SHEETING ⑬ ④



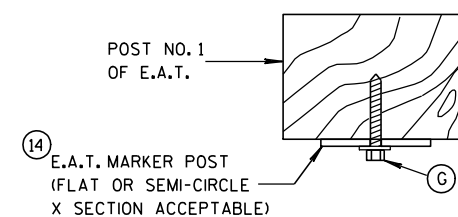
FRONT VIEW

SIDE VIEW

E.A.T. MARKER POST ⑭



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

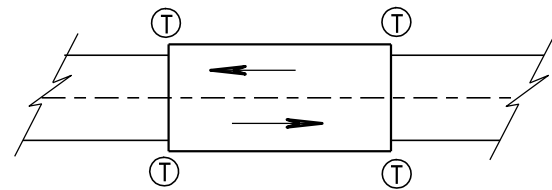


SECTION A-A

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

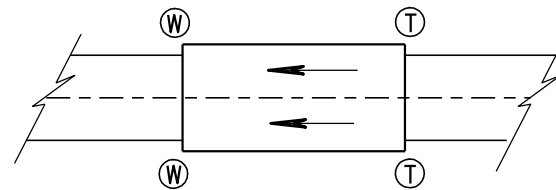
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/2011 DATE /S/ Jerry H. 3000
DATE ROADWAY STANDARDS 106 CENT
FHWA ENGINEER



TWO WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION



ONE WAY TRAFFIC

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

GENERAL NOTES

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

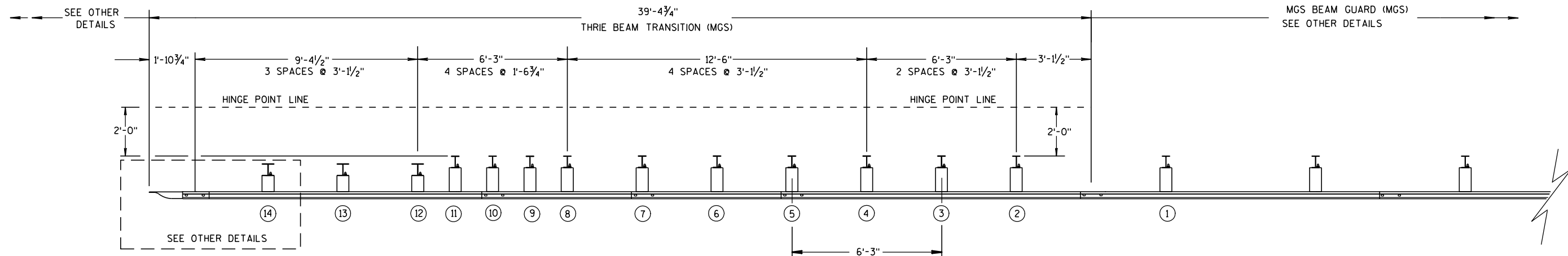
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

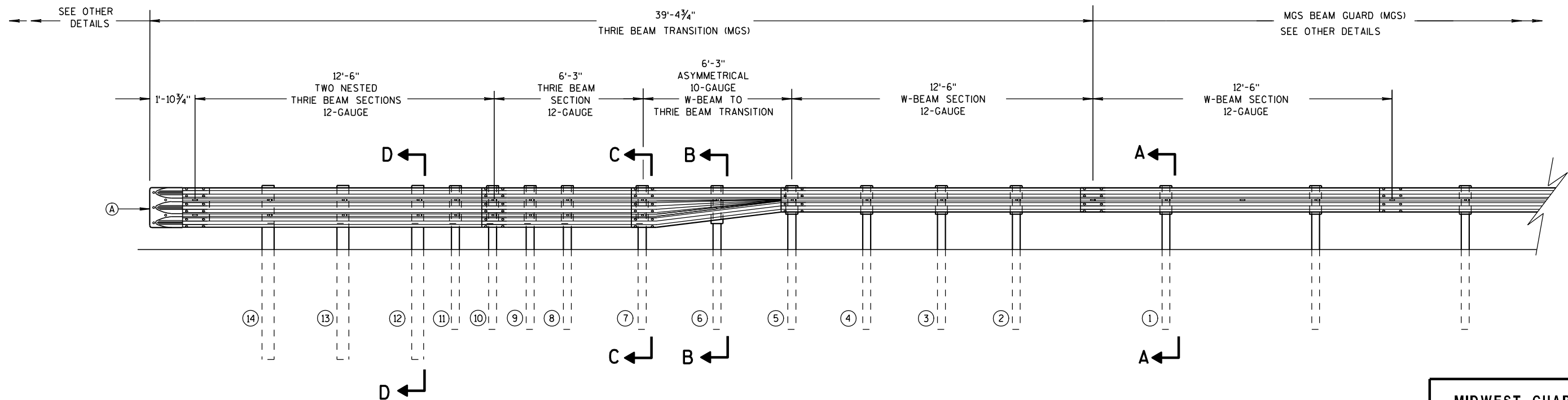
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

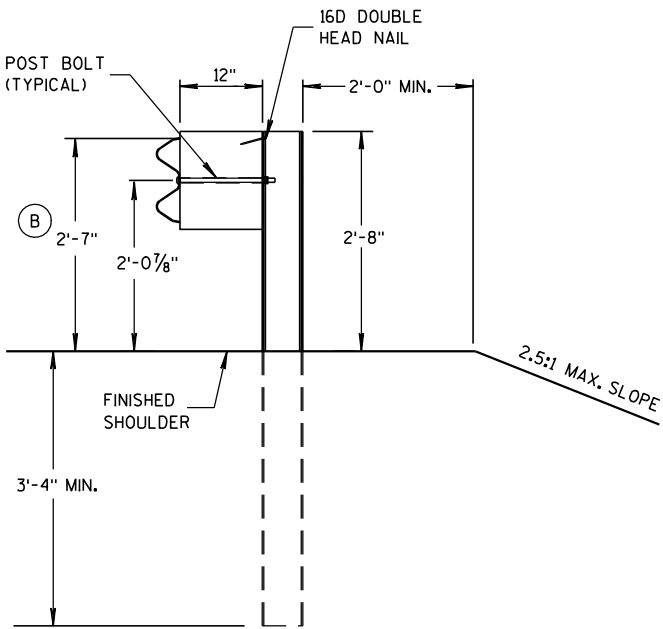
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

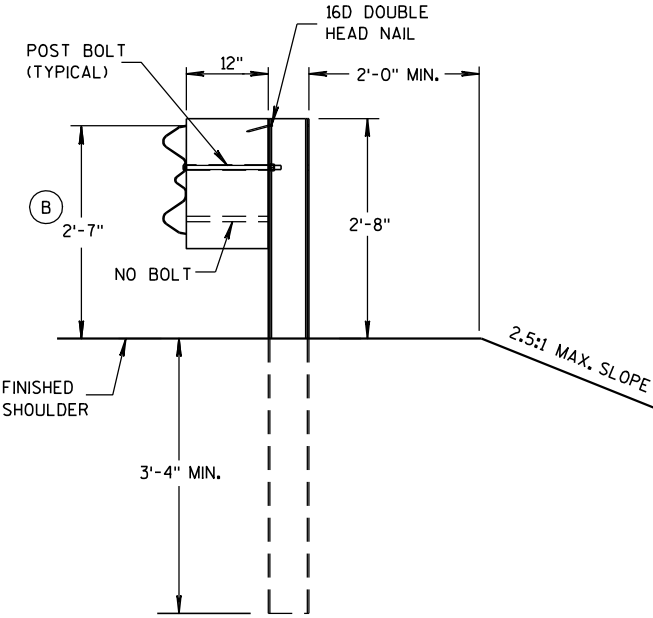
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GENERAL NOTES

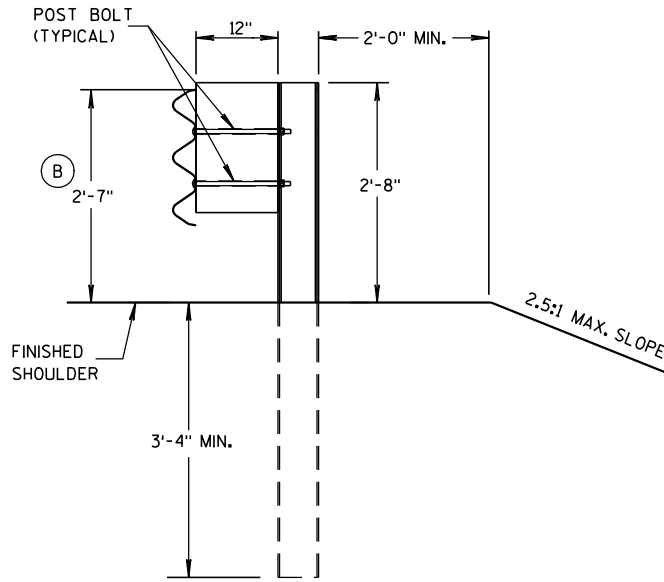
(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.



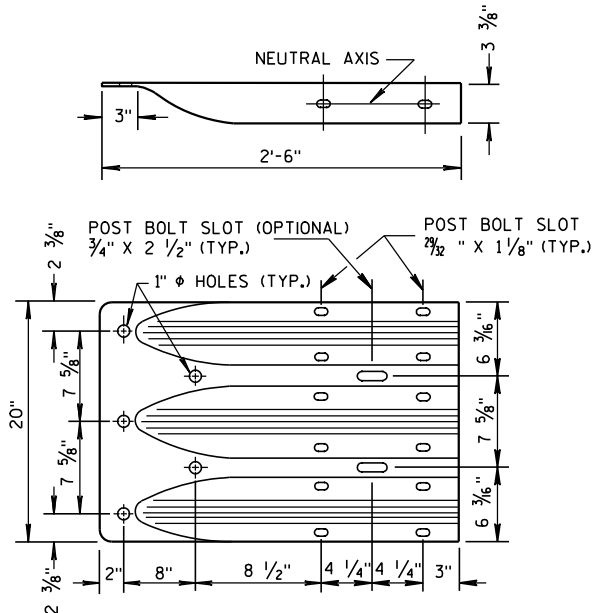
SECTION A-A
POSTS 1-5



SECTION B-B
POST 6



SECTION C-C
POSTS 7-11



THRIE BEAM
TERMINAL CONNECTOR

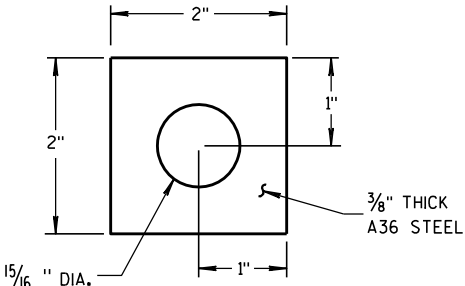
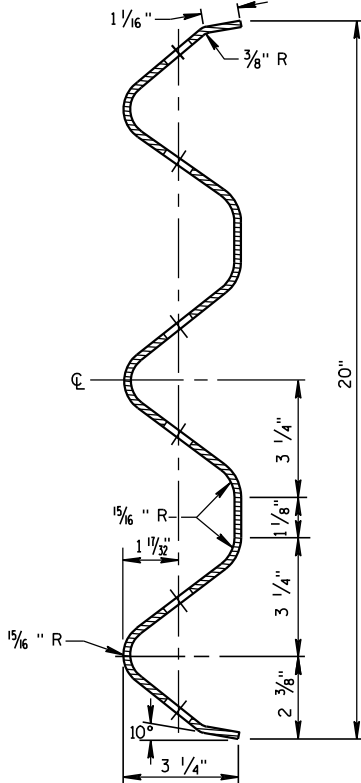
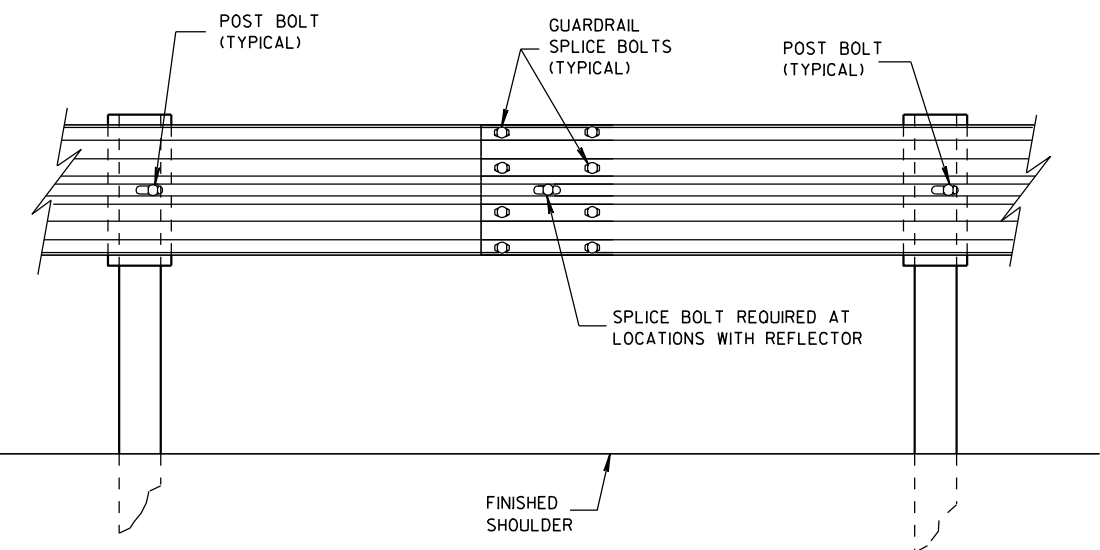


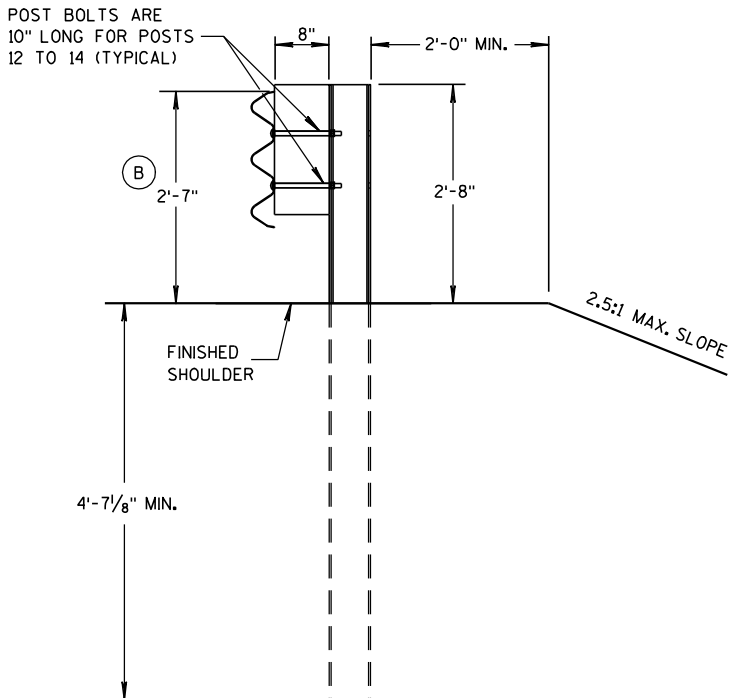
PLATE WASHER DETAIL



SECTION THRU THRIE
BEAM RAIL ELEMENT



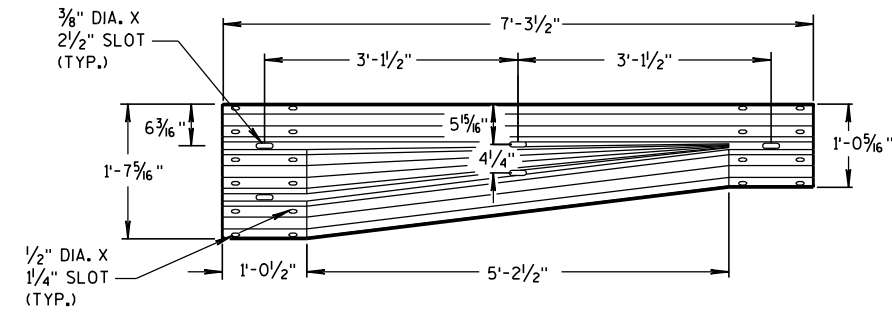
SPLICE DETAIL



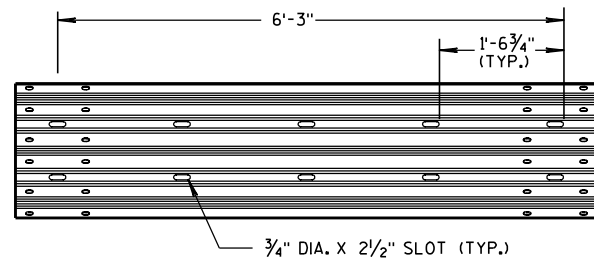
SECTION D-D
POSTS 12-14

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

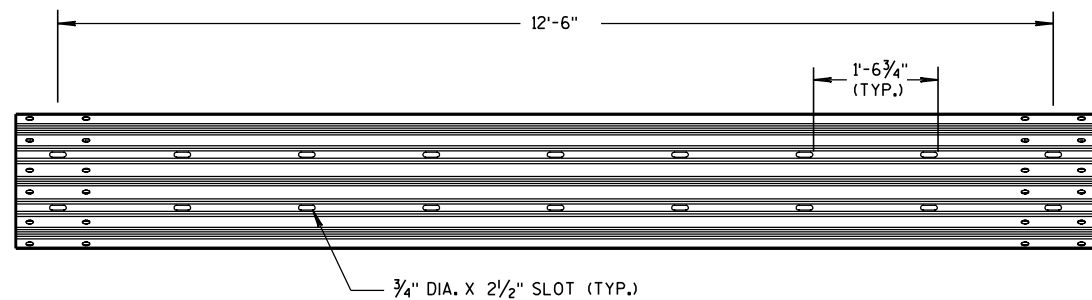
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



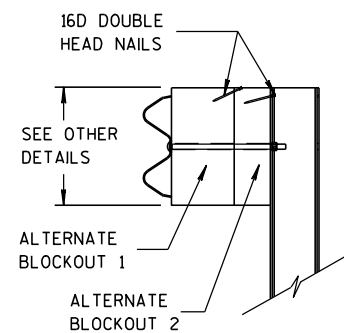
W-BEAM TO THRIE BEAM TRANSITION SECTION



6'-3" THRIE BEAM SECTION

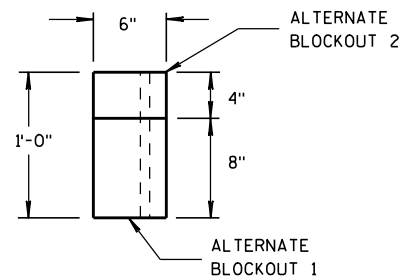


12'-6" THRIE BEAM SECTION

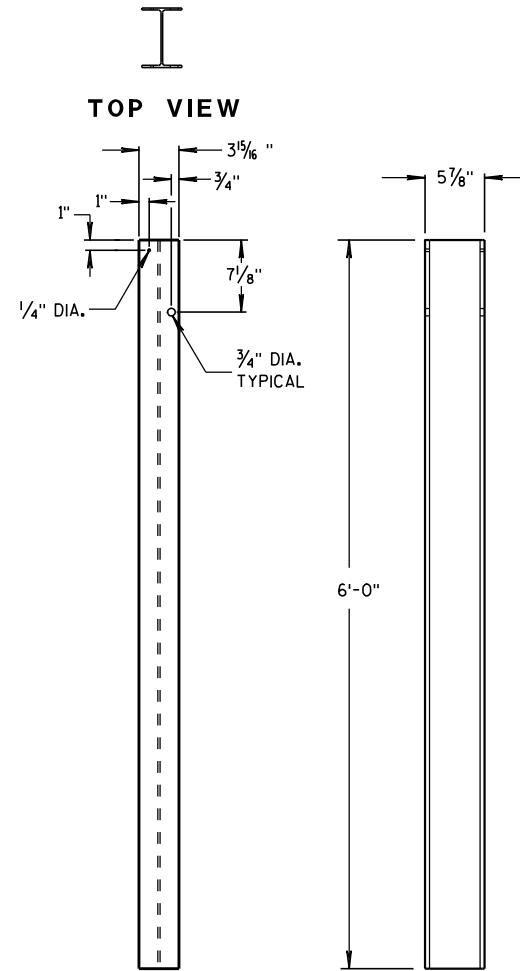


SIDE VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



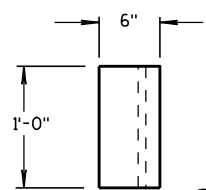
TOP VIEW



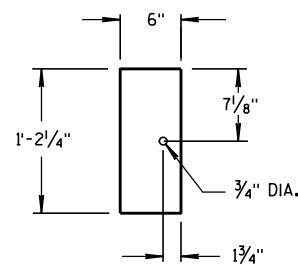
FRONT VIEW

SIDE VIEW

STEEL POSTS 1-5

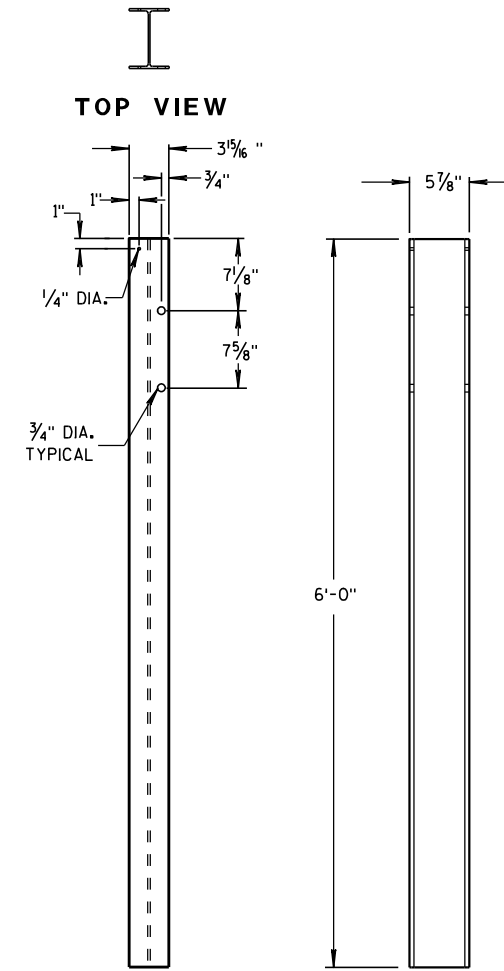


TOP VIEW



FRONT VIEW

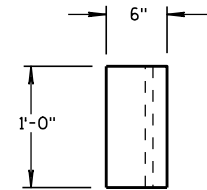
BLOCKOUT POSTS 1-5



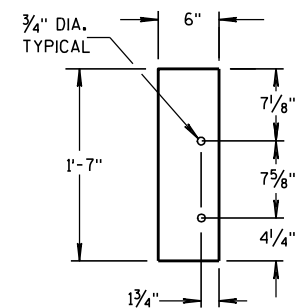
FRONT VIEW

SIDE VIEW

STEEL POSTS 6-11

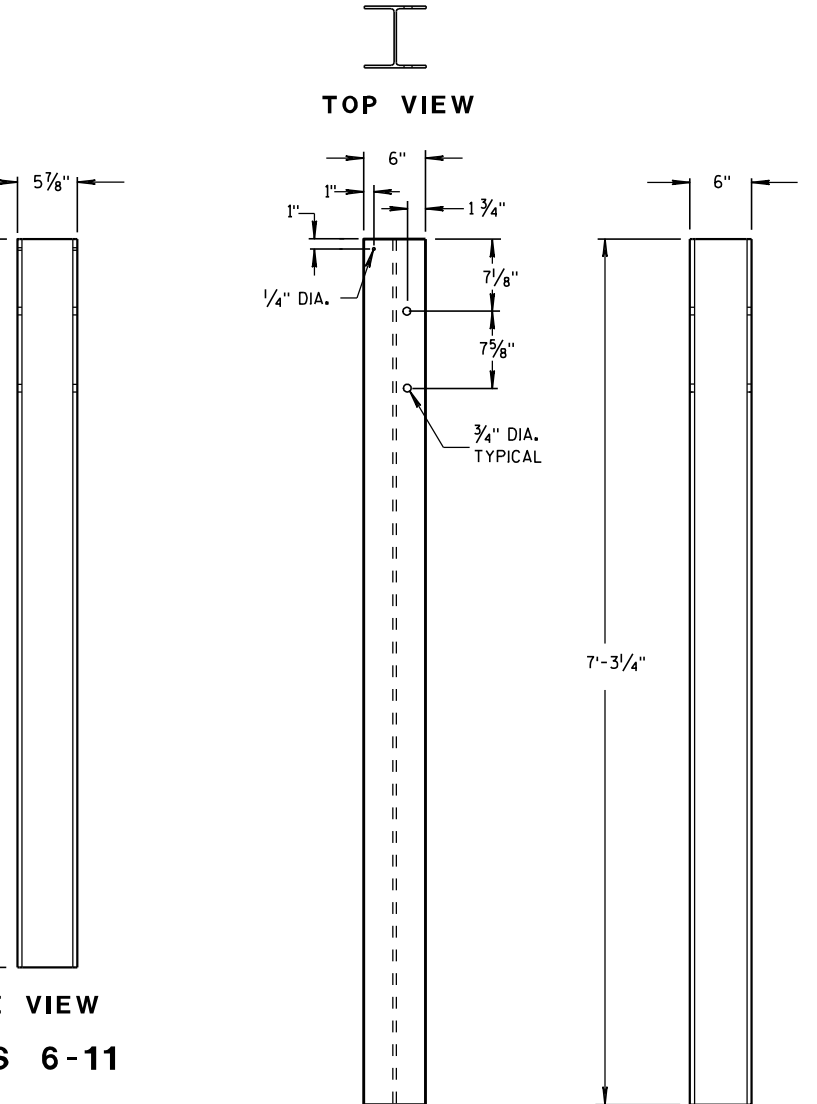


TOP VIEW



FRONT VIEW

BLOCKOUT POSTS 6-11



FRONT VIEW

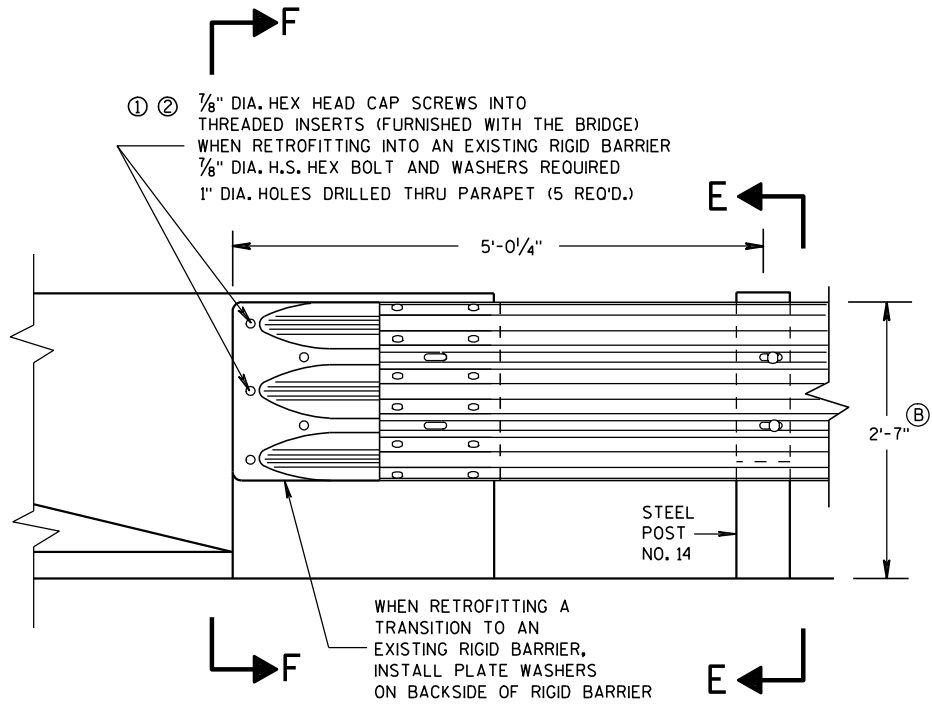
SIDE VIEW

STEEL POSTS 12-14

STEEL POST SIZES

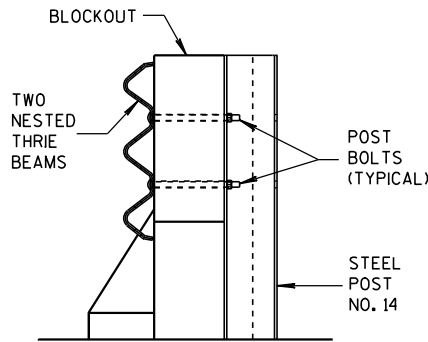
POST NUMBER	SECTION TYPE	LENGTH
①	W6x9	72"
②	W6x9	72"
③	W6x9	72"
④	W6x9	72"
⑤	W6x9	72"
⑥	W6x9	72"
⑦	W6x9	72"
⑧	W6x9	72"
⑨	W6x9	72"
⑩	W6x9	72"
⑪	W6x9	72"
⑫	W6x15	87 1/8"
⑬	W6x15	87 1/8"
⑭	W6x15	87 1/8"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)



FRONT VIEW

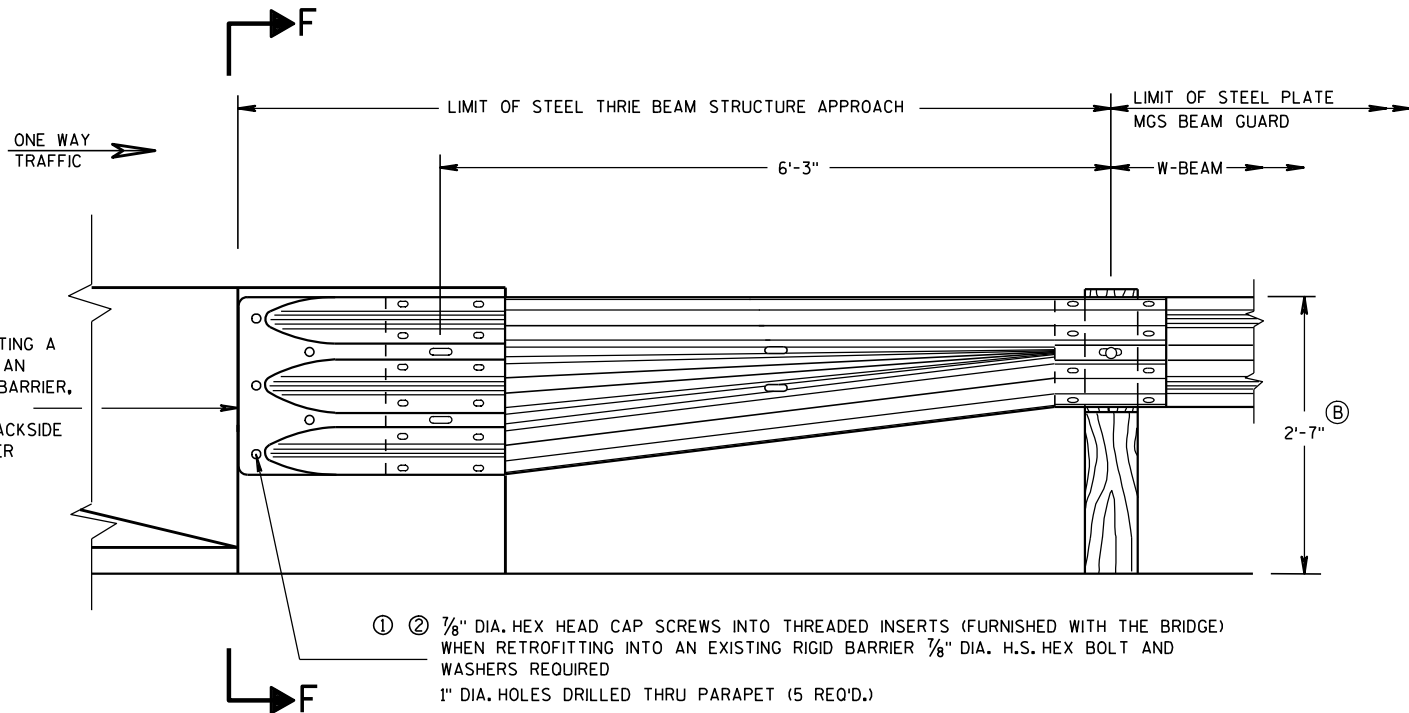
THRIE BEAM CONNECTION TO BRIDGE
PARAPET WITH SQUARE ENDS



SECTION E-E

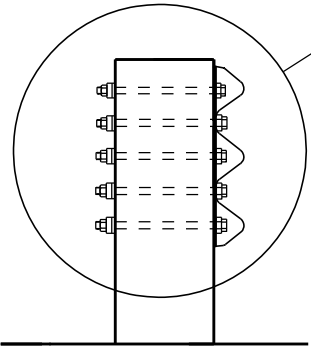
GENERAL NOTES

- THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.
- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
 - ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS, BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
 - ③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".
- ④ TOLERANCE FOR TOP OF BEAM IS ± 1".

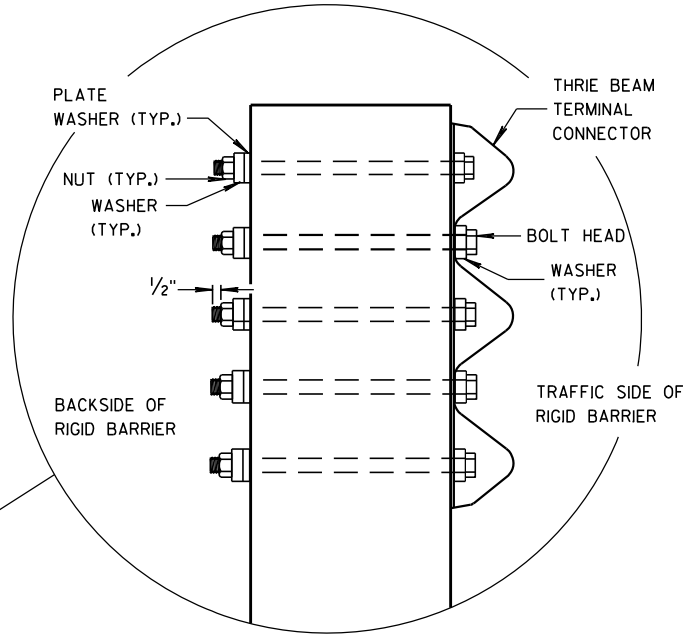


FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO
BRIDGE PARAPETS WITH SQUARE ENDS
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



SECTION F-F

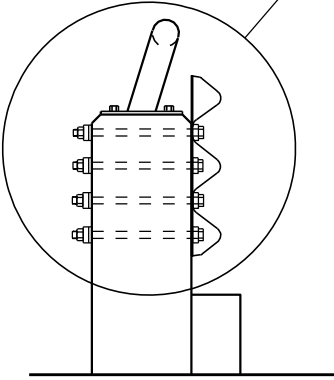
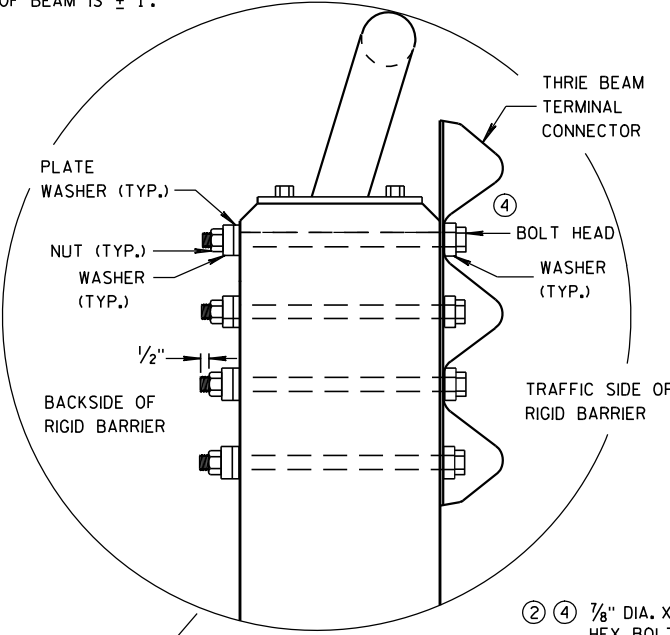


MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/31/2012 DATE	/S/ Jerry H. Zapp ROADWAY STANDARDS 110 ENGINEER
FHWA	

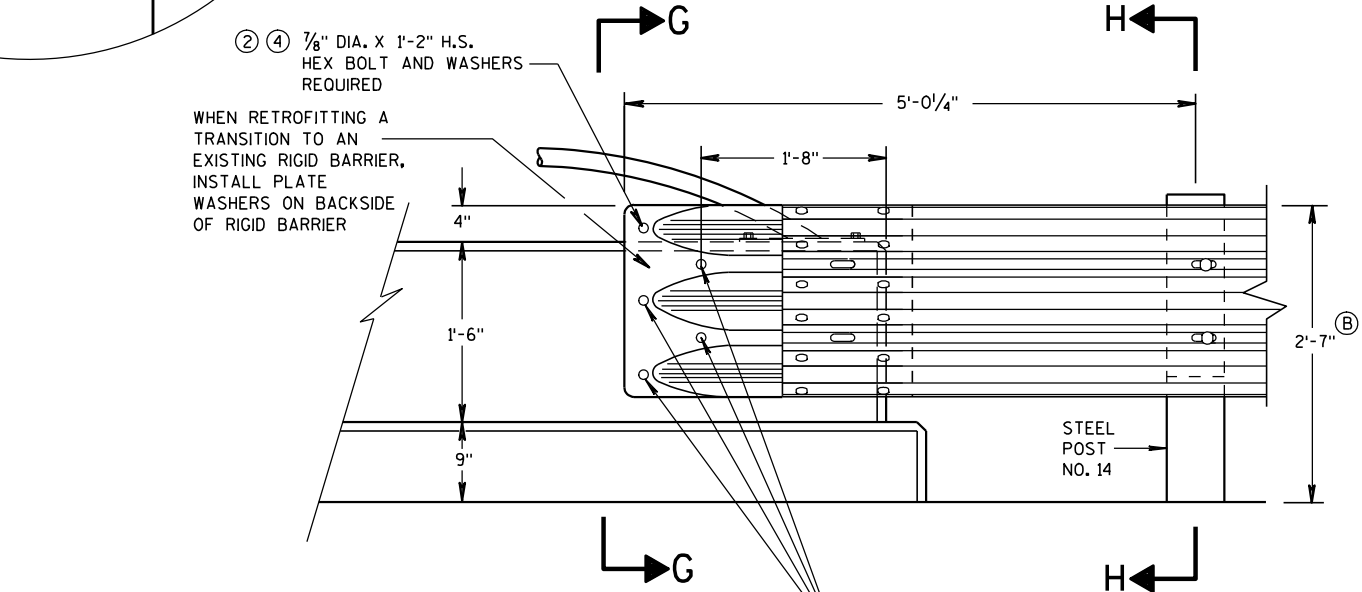
GENERAL NOTES

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

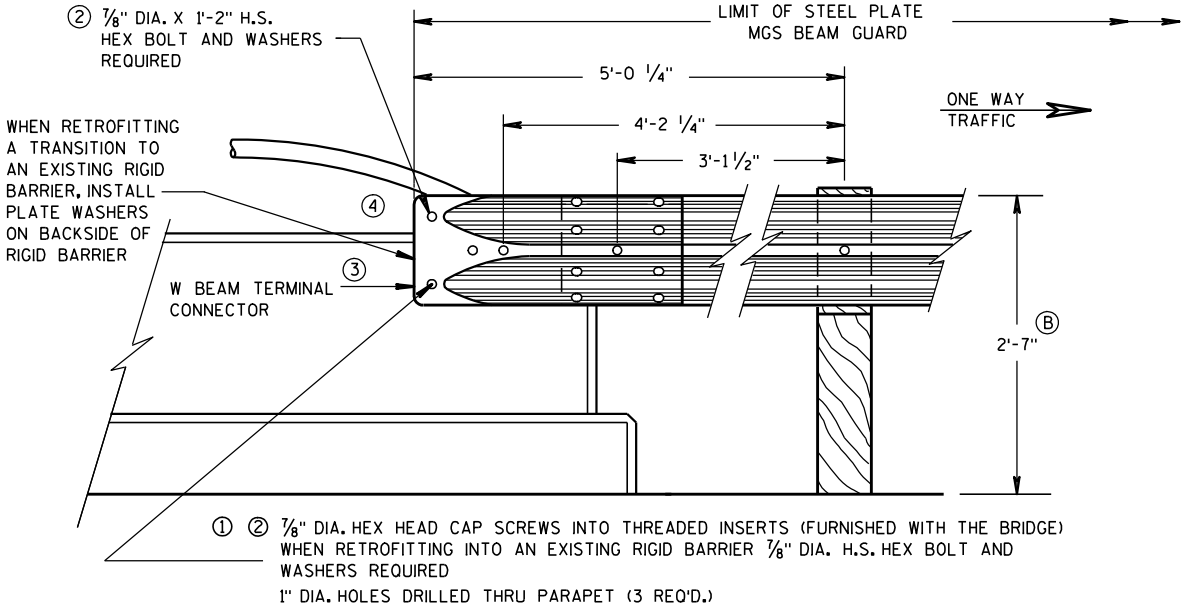
- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X $\frac{5}{8}$ " THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 $\frac{1}{2}$ ". BLOCK IS INCIDENTAL TO THE CONTRACT.
- ④ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.
- ⑤ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.



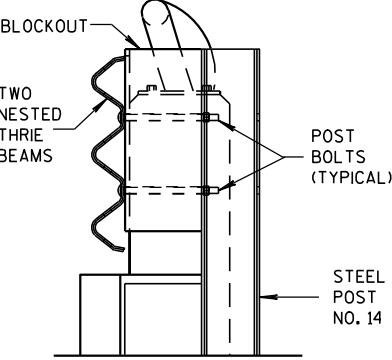
SECTION G-G



- ① ② $\frac{7}{8}$ " DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER $\frac{7}{8}$ " DIA. H.S. HEX BOLT AND WASHERS REQUIRED 1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)



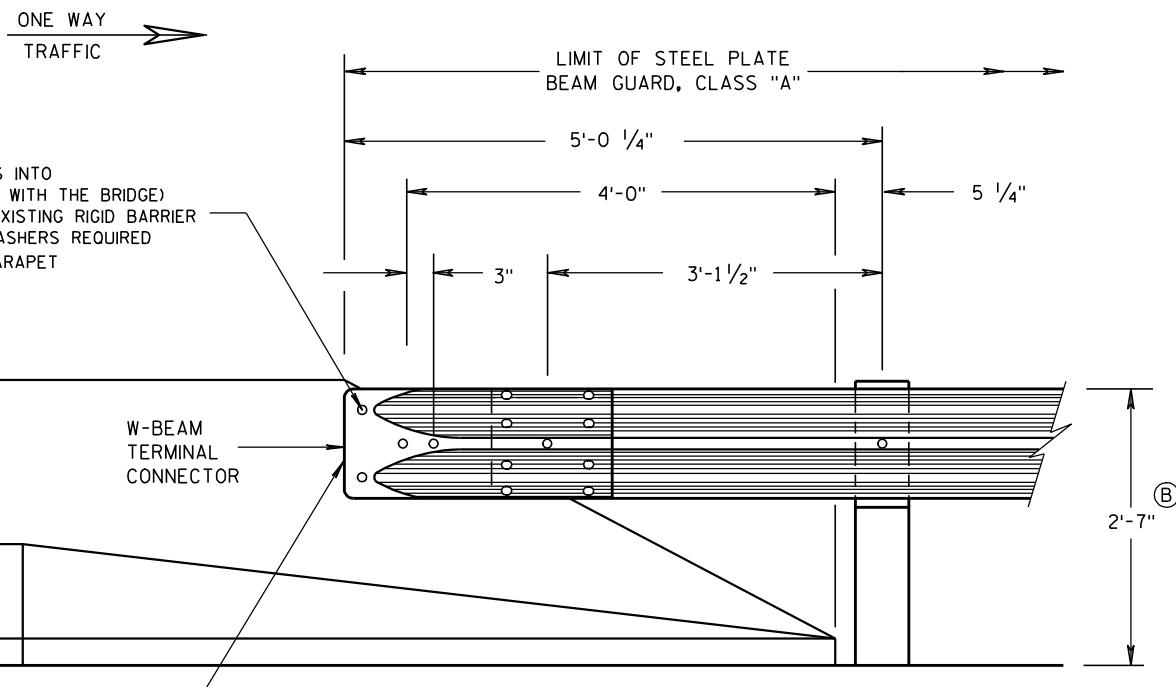
FRONT VIEW
W BEAM CONNECTION TO VERTICAL FACE PARAPET
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



SECTION H-H

FRONT VIEW
THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8-31-2012 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS ENGINEER
FHWA	



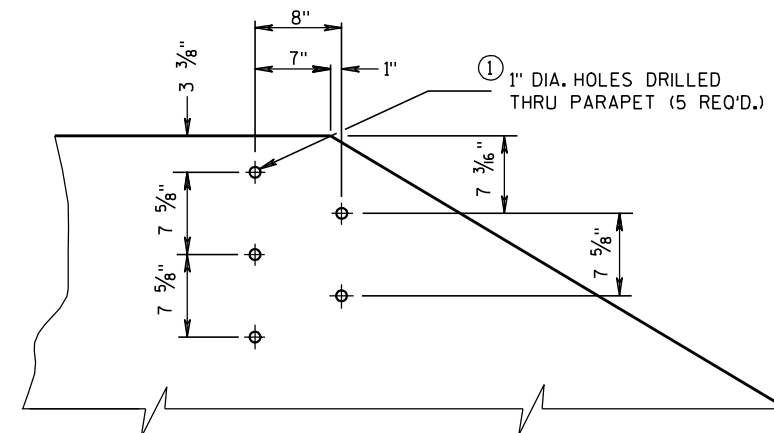
FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

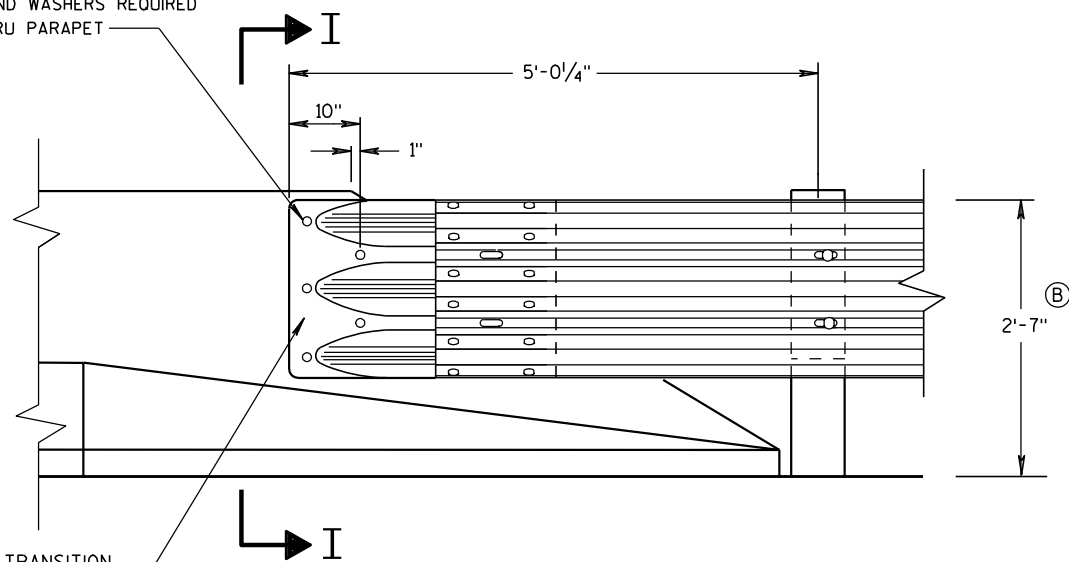
GENERAL NOTES

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.



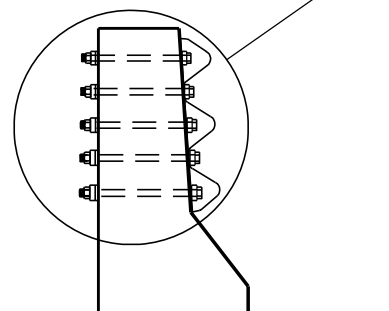
DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION

- ① ② 1/8" DIA. HEX HEAD CAP SCREWS INTO
THREADED INSERTS (FURNISHED WITH THE BRIDGE)
WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER
1/8" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET
(5 REQ'D.)

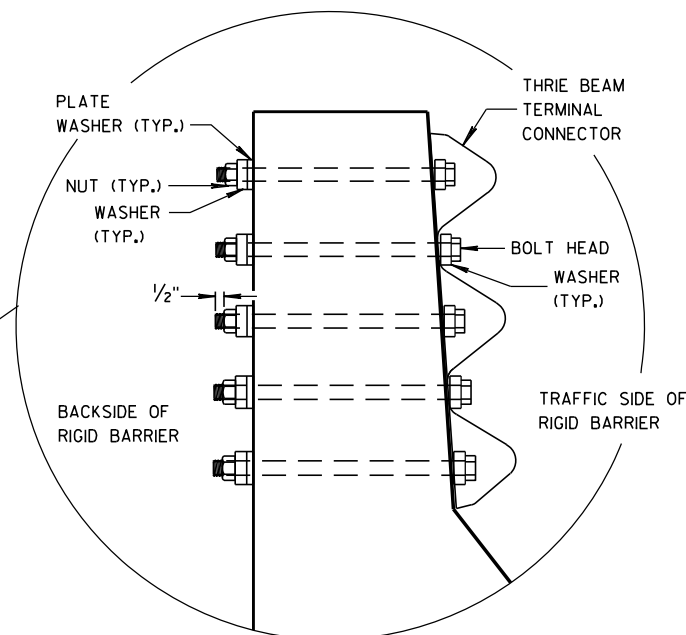


FRONT VIEW

THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS



SECTION I-I

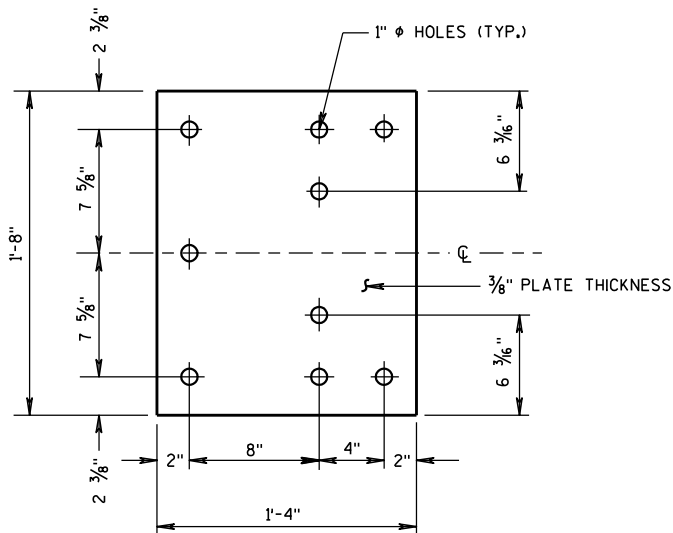


MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

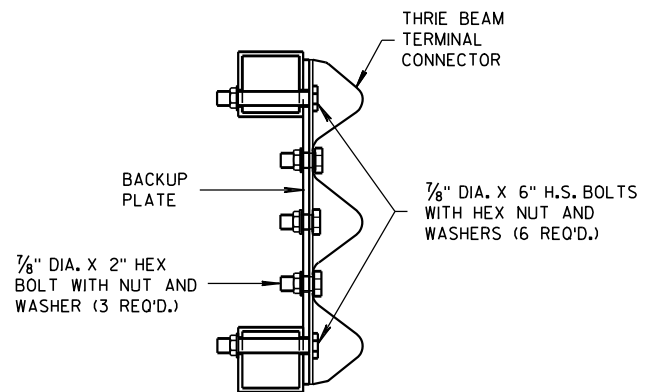
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012
DATE
FHWA

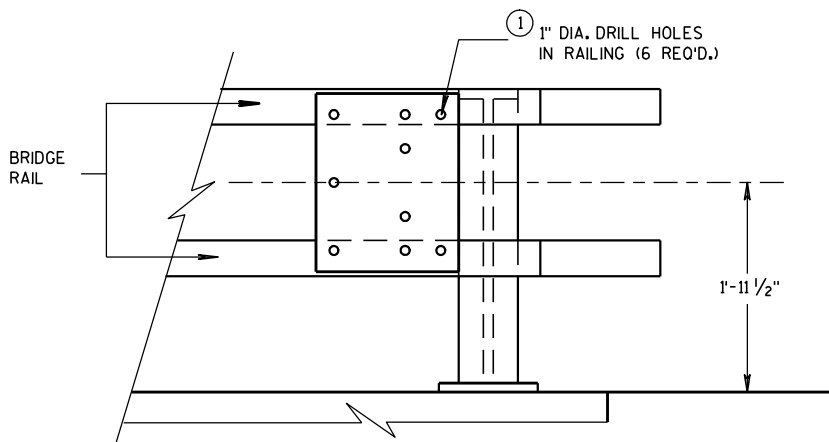
/S/ Jerry H. Zapp
ROADWAY STANDARDS 112 ENT
ENGINEER



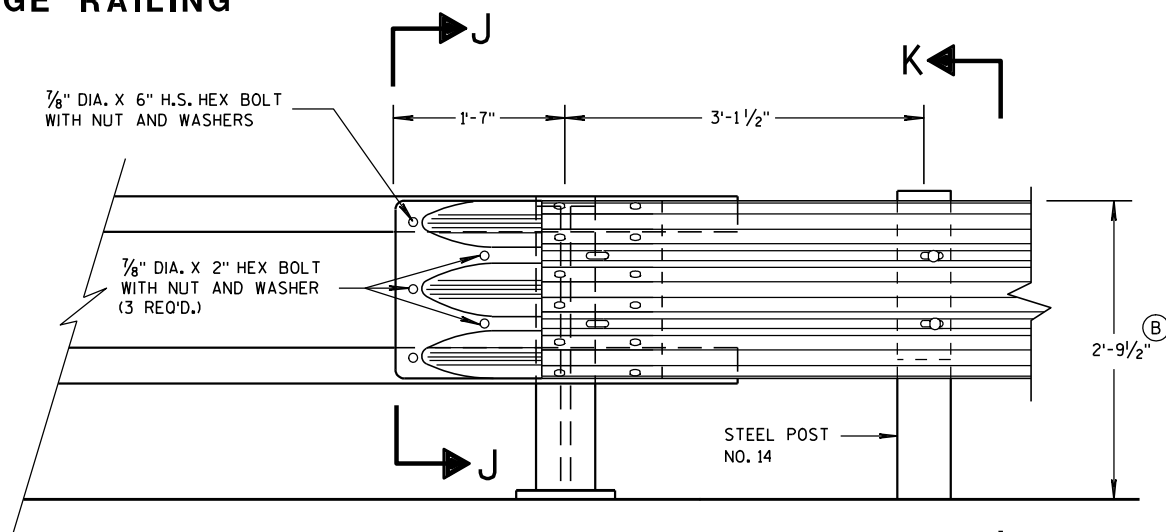
BACK-UP PLATE DETAIL



SECTION J-J



BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

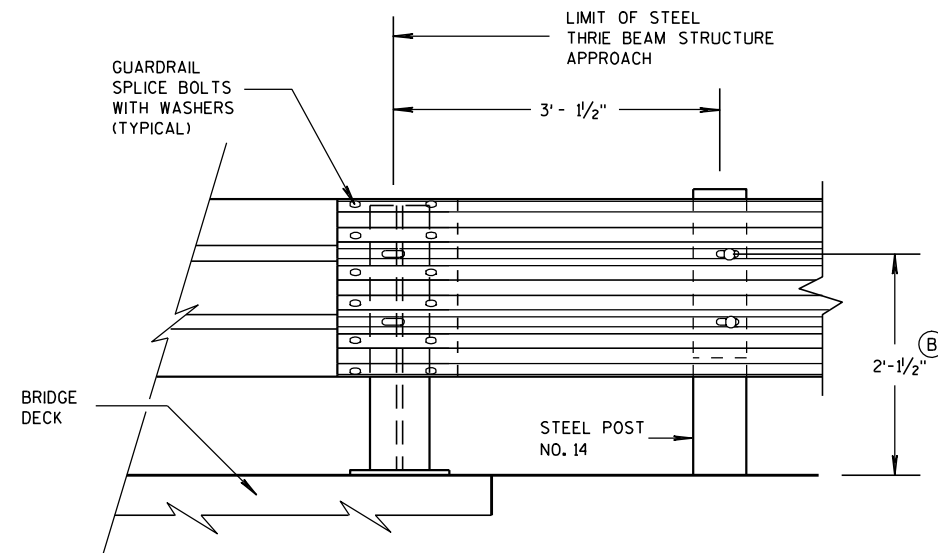


FRONT VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

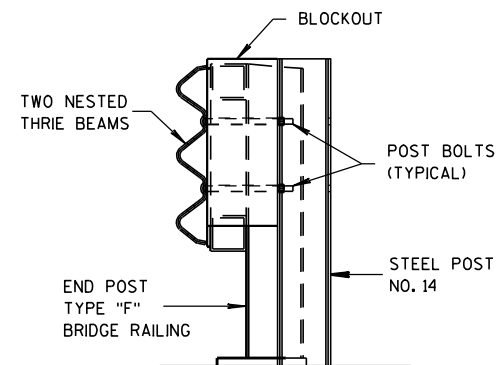
GENERAL NOTES

- ① DRILLING HOLES THROUGH THE PAPER, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.



FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



SECTION K-K

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012

DATE

FHWA

/S/ Jerry H. Zogg

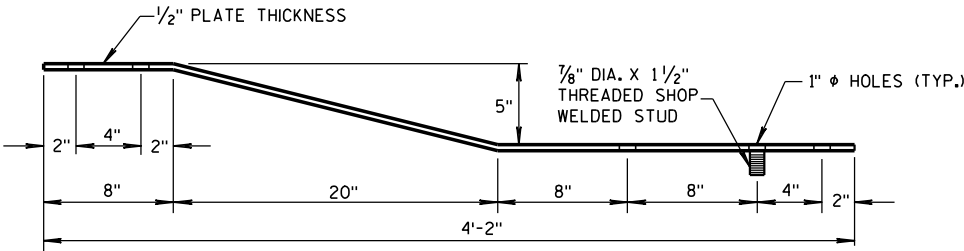
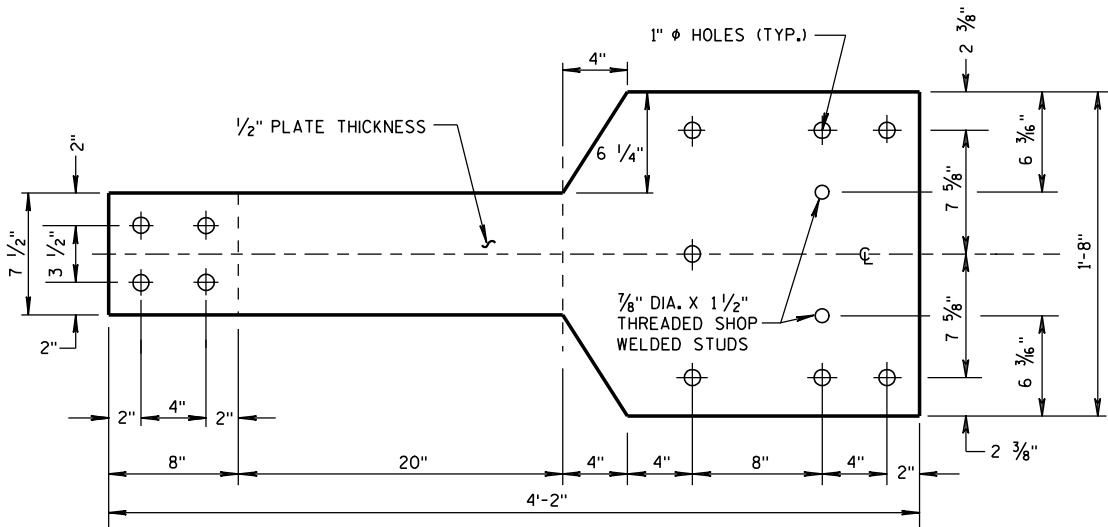
ROADWAY STANDARDS

ENGINEER

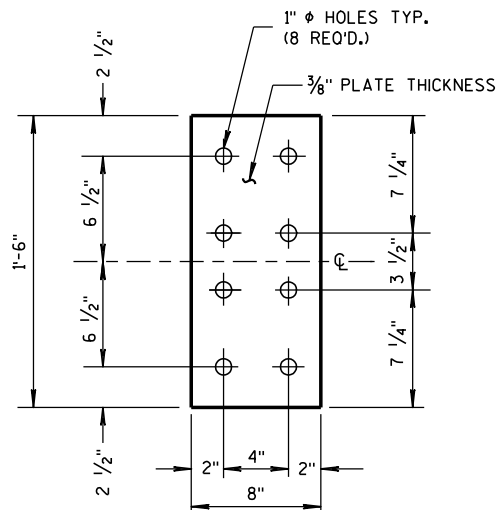
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GENERAL NOTES

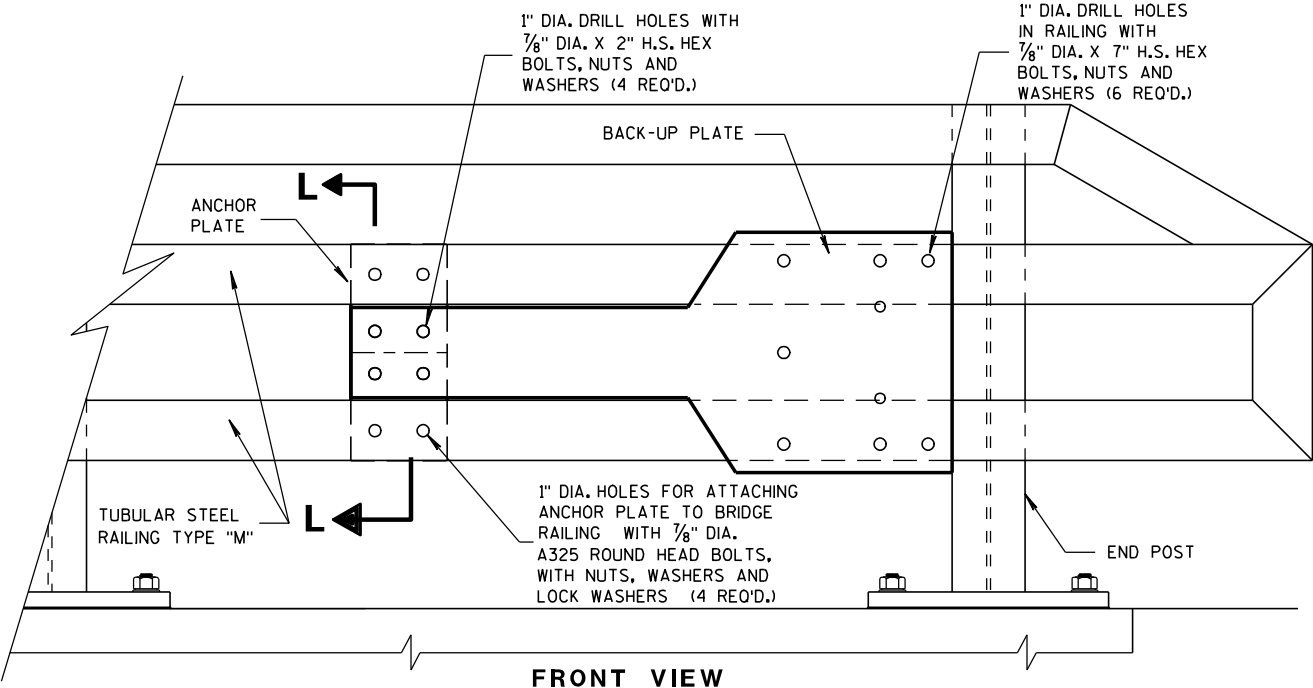
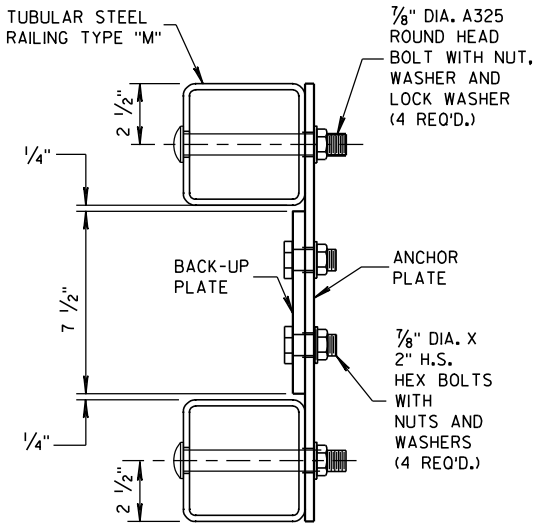
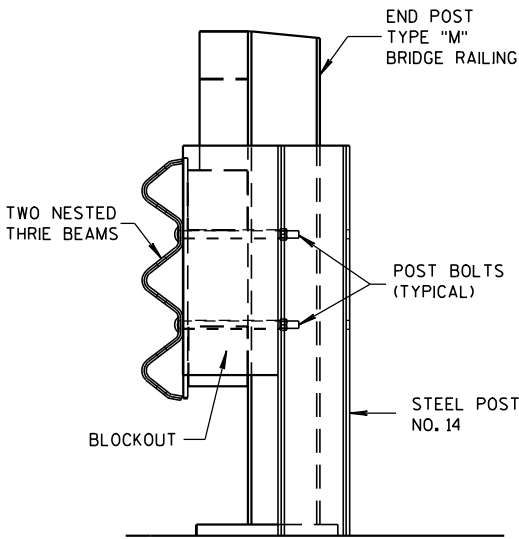
(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.



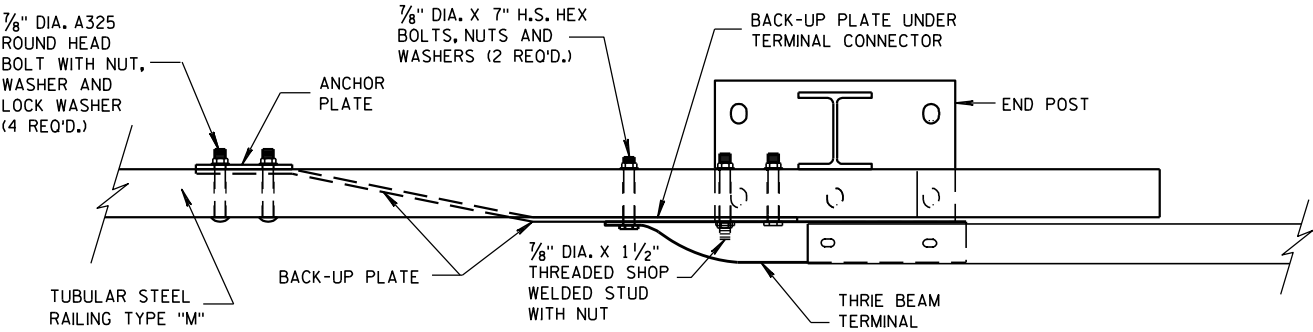
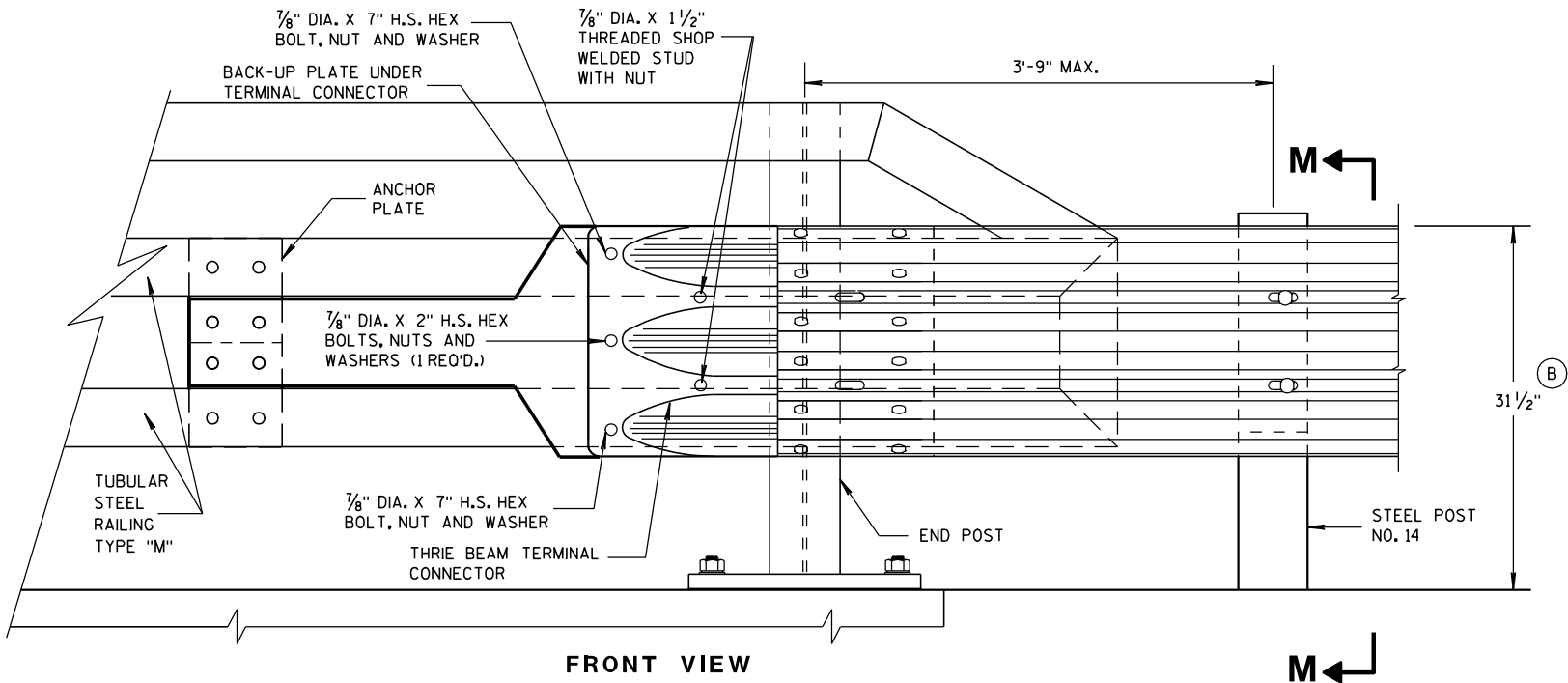
BACK-UP PLATE DETAIL, TYPE "M"



ANCHOR PLATE DETAIL, TYPE "M"



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



THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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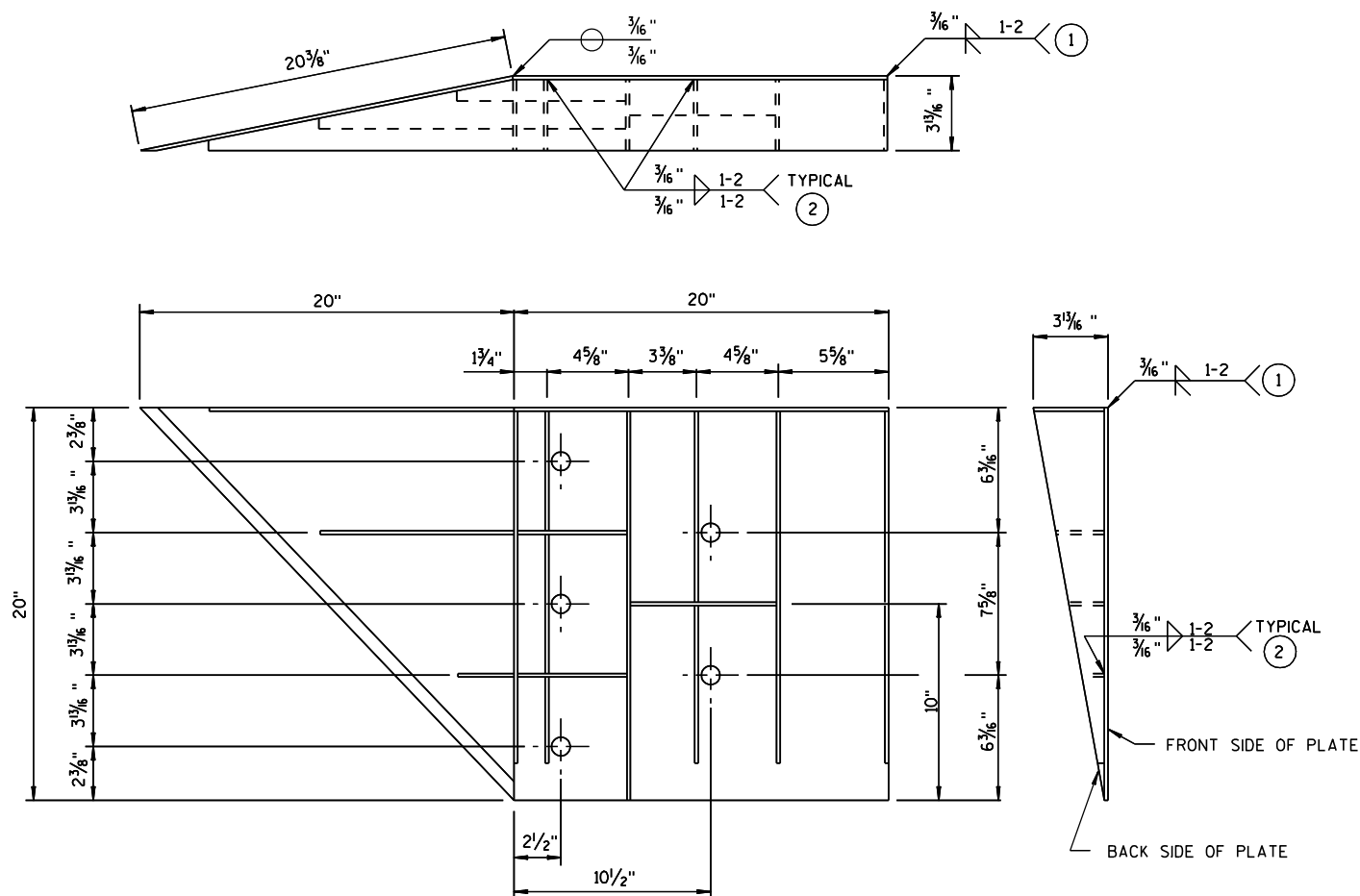
FHWA

/S/ Jerry H. Z...

ROADWAY STANDARDS 114

ENGINEER

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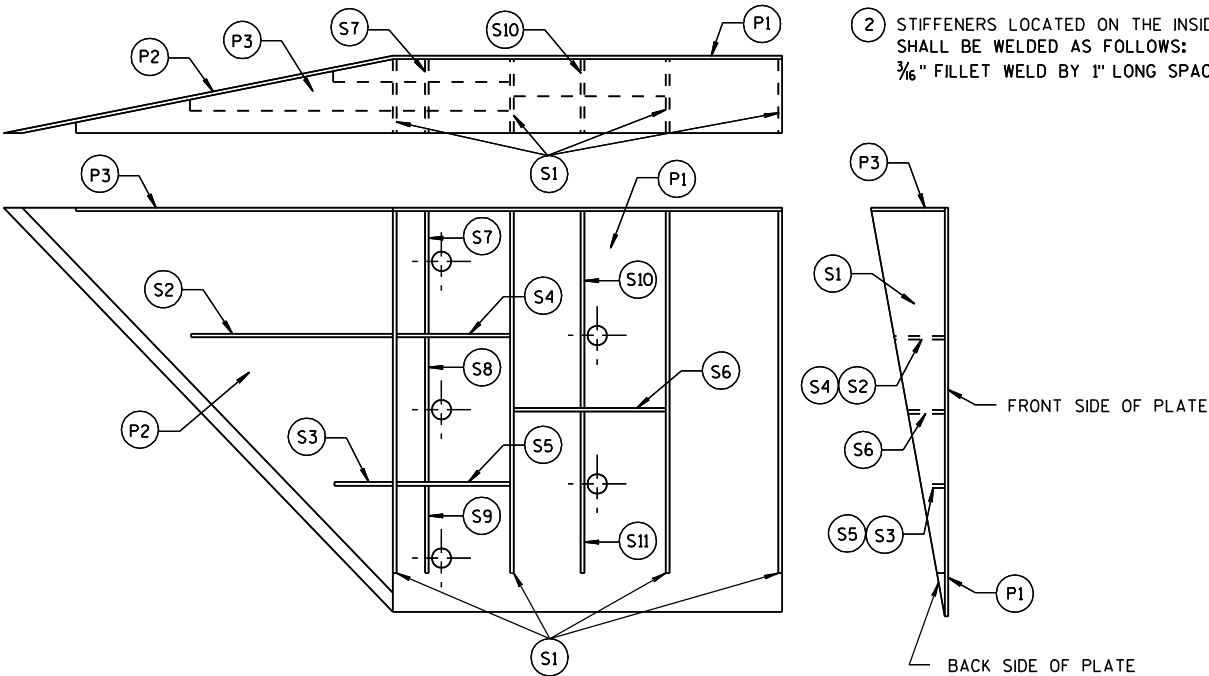


WELDING INSTRUCTION
(VIEWED FROM BACK SIDE OF PLATE)

SINGLE SLOPE CONNECTION PLATE

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

PLATE AND STIFFENER IDENTIFICATION
(VIEWED FROM BACK SIDE OF PLATE)



GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

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

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

ALL HOLE DIAMETERS SHALL BE 1".

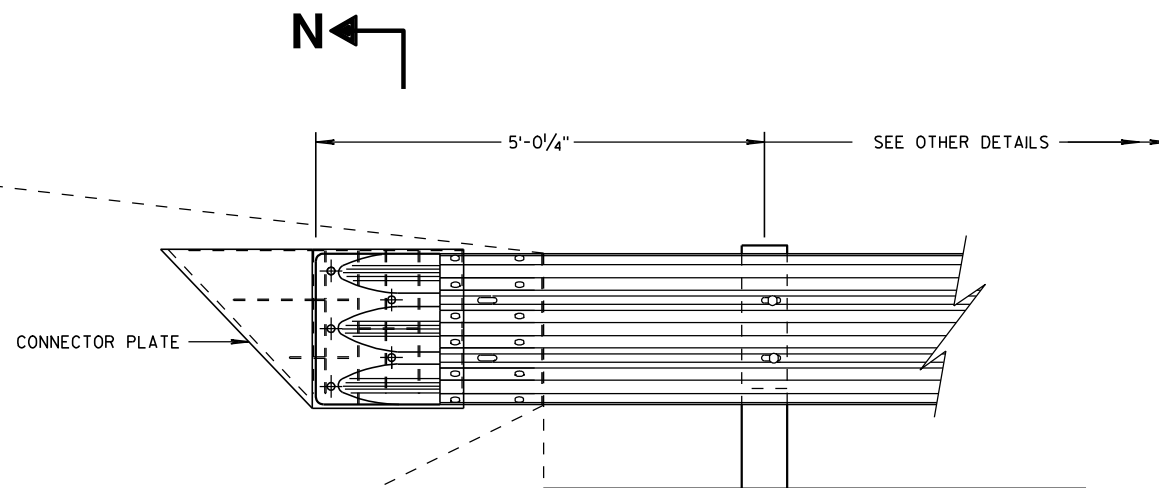
FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

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

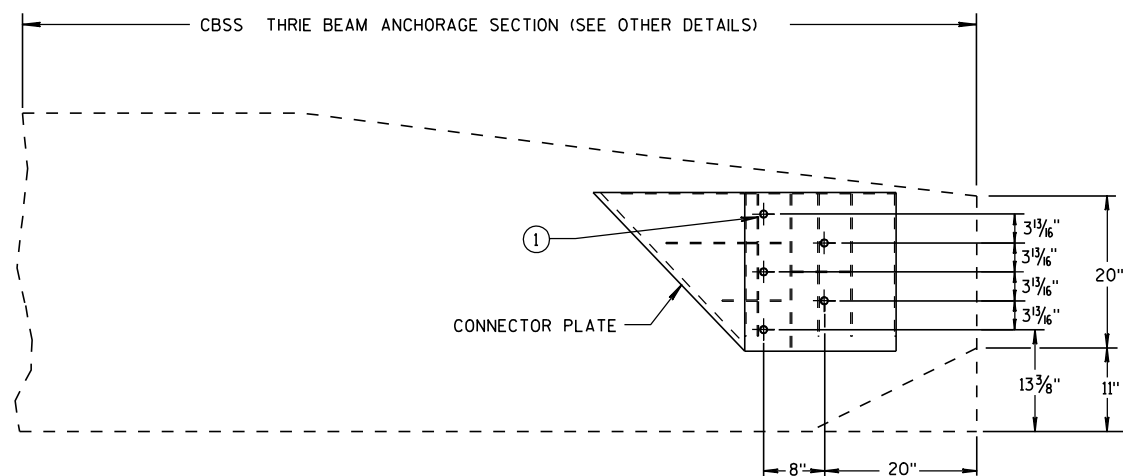
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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8/31/2012 DATE /S/ Jerry H. 115 JENT
FHWA ROADWAY STANDARDS ENGINEER



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER

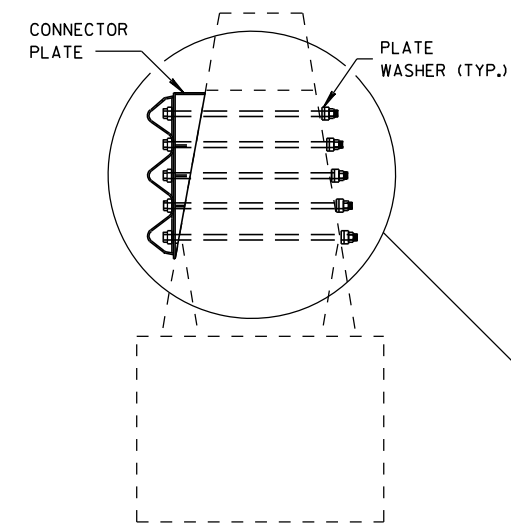


SINGLE SLOPE CONNECTION PLATE PLACEMENT

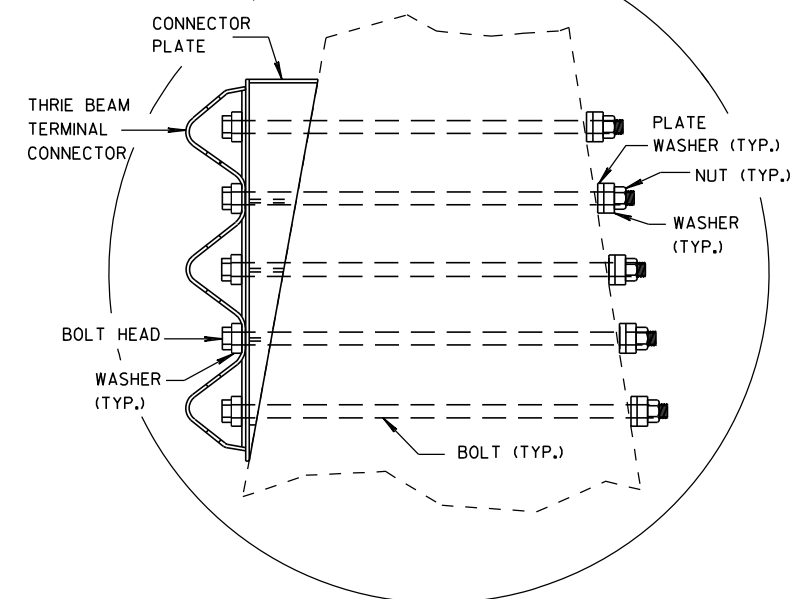
GENERAL NOTES

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

- ① BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



SECTION N-N



**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

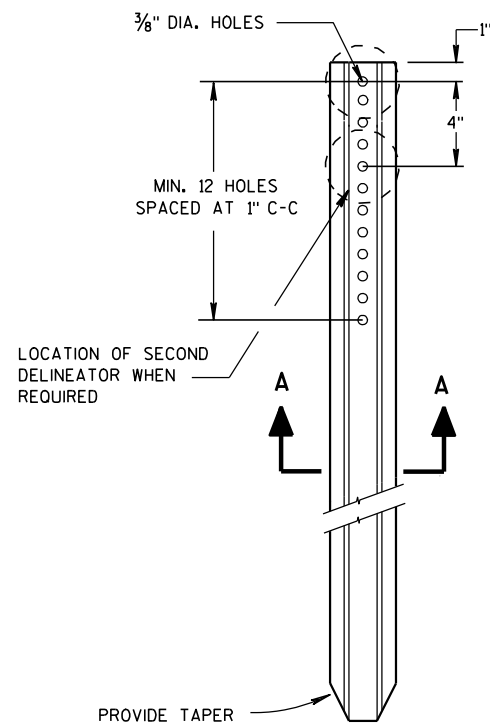
APPROVED

8/31/2012

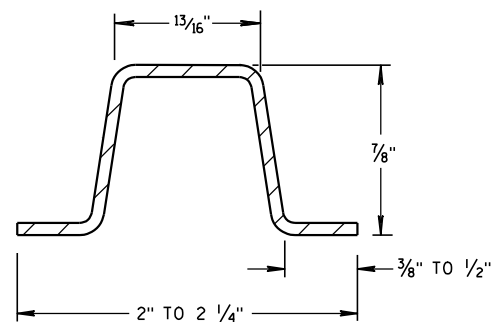
DATE

FHWA

/S/ Jerry H. [Signature]
ROADWAY STANDARDS i 116 ENT
ENGINEER

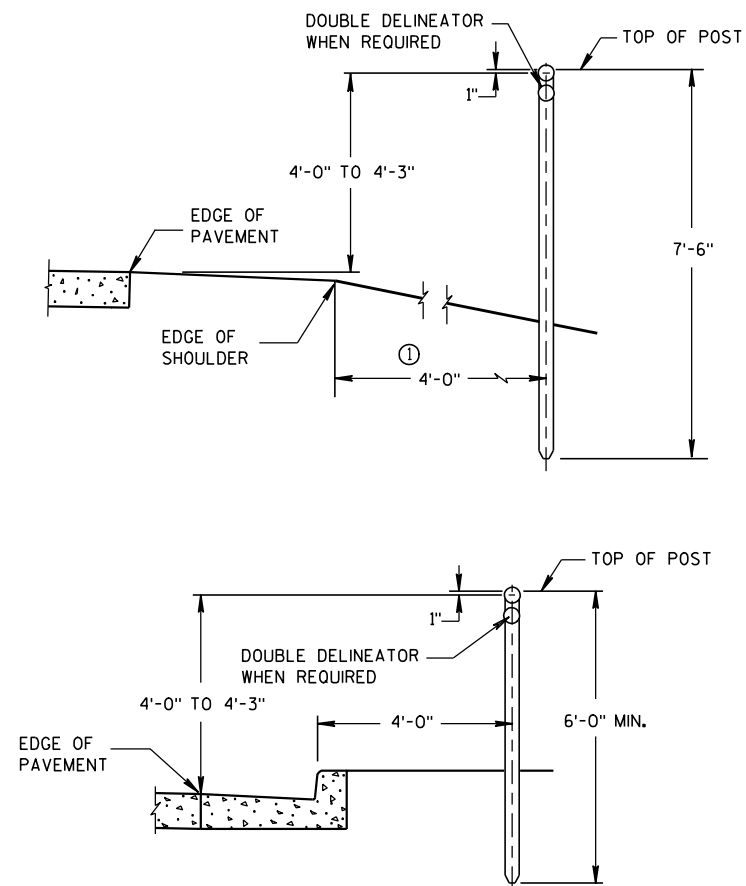


DELINEATOR POST



SECTION A-A

WEIGHT 1.12 LBS PER FT. $\pm$ 0.1 LB.



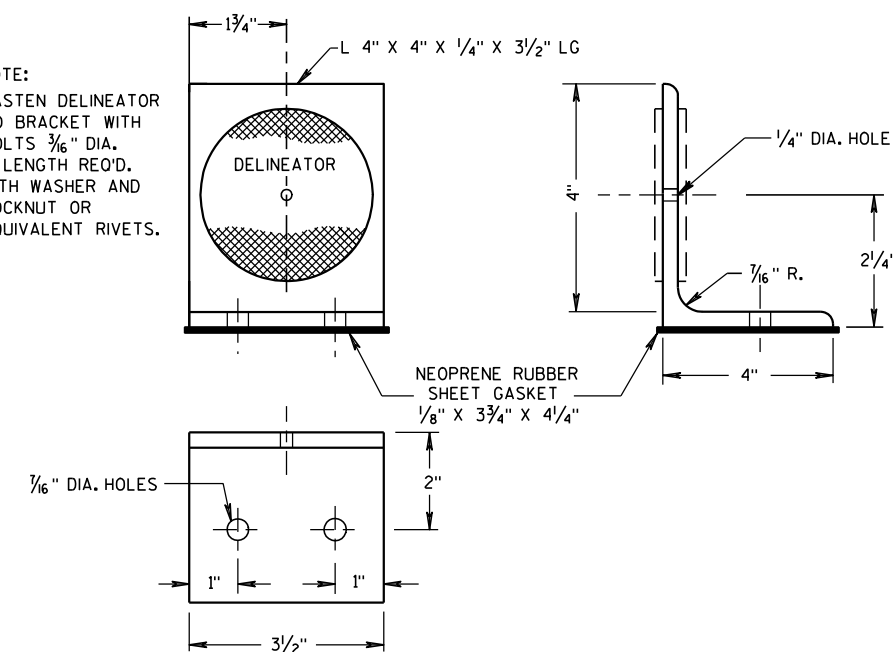
TYPICAL INSTALLATIONS OF DELINEATOR POSTS

GENERAL NOTES

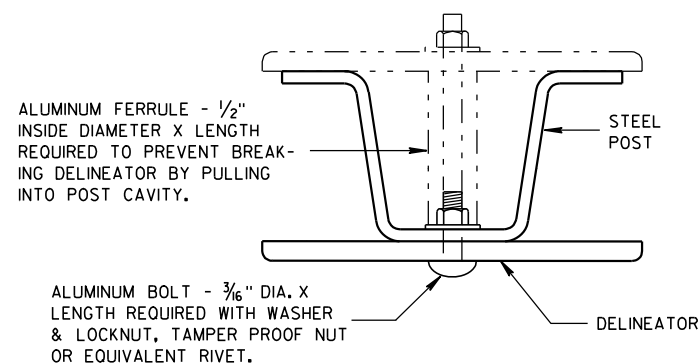
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- ① DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.

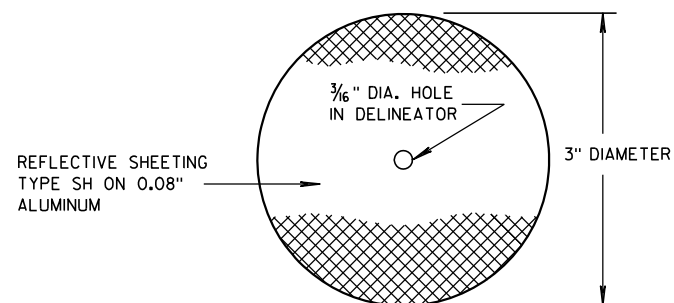
NOTE:
FASTEN DELINEATOR
TO BRACKET WITH
BOLTS $\frac{3}{16}$ " DIA.
X LENGTH REQ'D.
WITH WASHER AND
LOCKNUT OR
EQUIVALENT RIVETS.



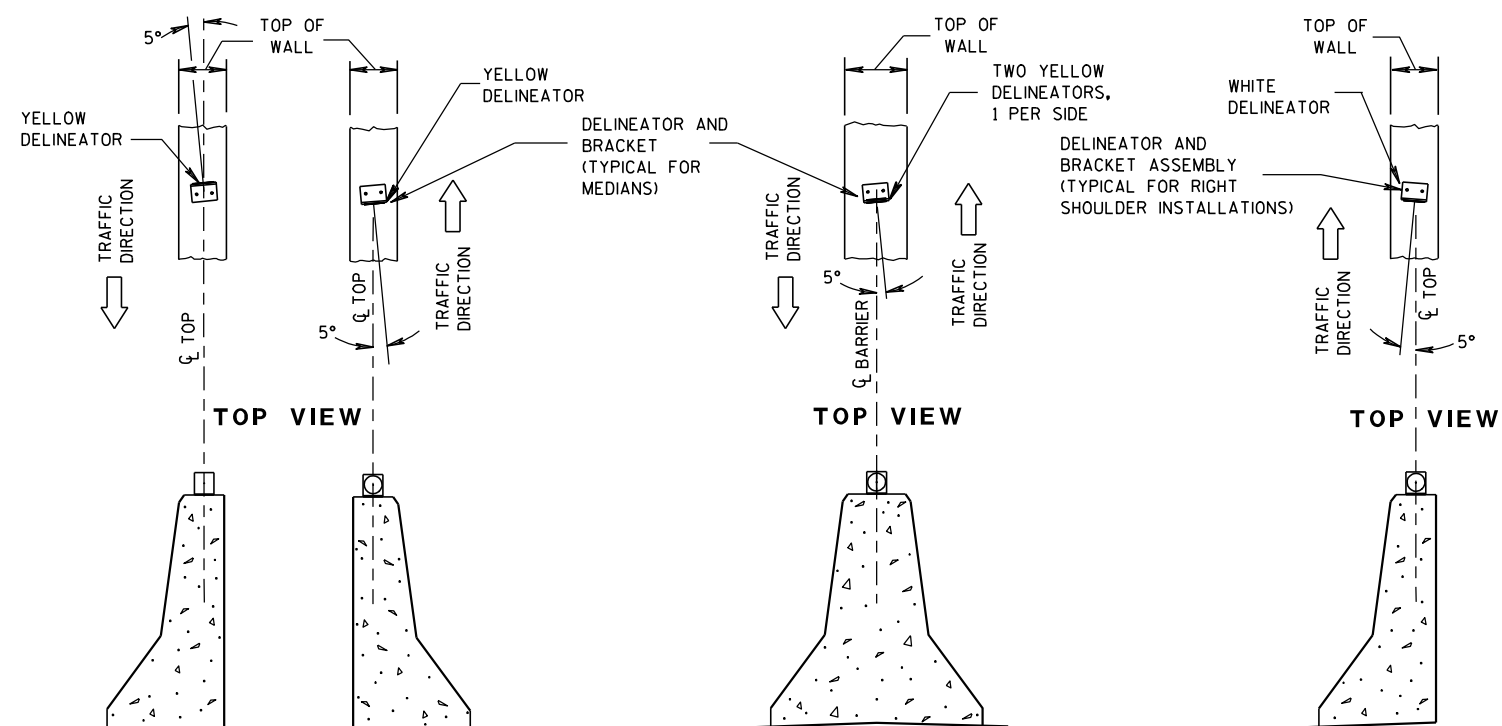
DELINEATOR BRACKET



MOUNTING DETAIL FOR DELINEATOR



DELINEATOR

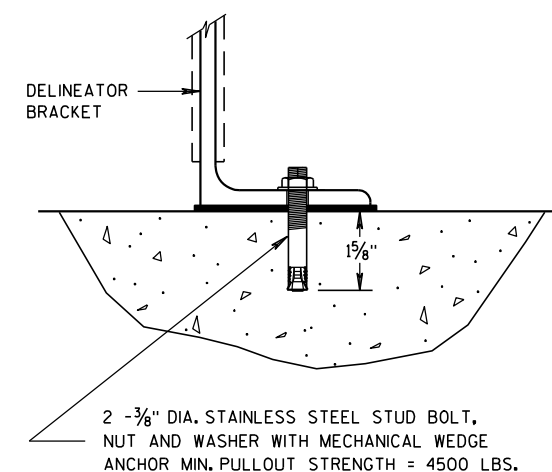


DOUBLE BARRIERS IN MEDIAN

MEDIAN BARRIER

**BARRIER LOCATED
TO RT. OF TRAFFIC FLOW**

LOCATION AND AIMING DETAILS FOR DELINEATORS MOUNTED ON CONCRETE BARRIERS



DELINEATOR BRACKET MOUNTING DETAIL

DELINEATOR POST, DELINEATOR BRACKET AND DELINEATOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

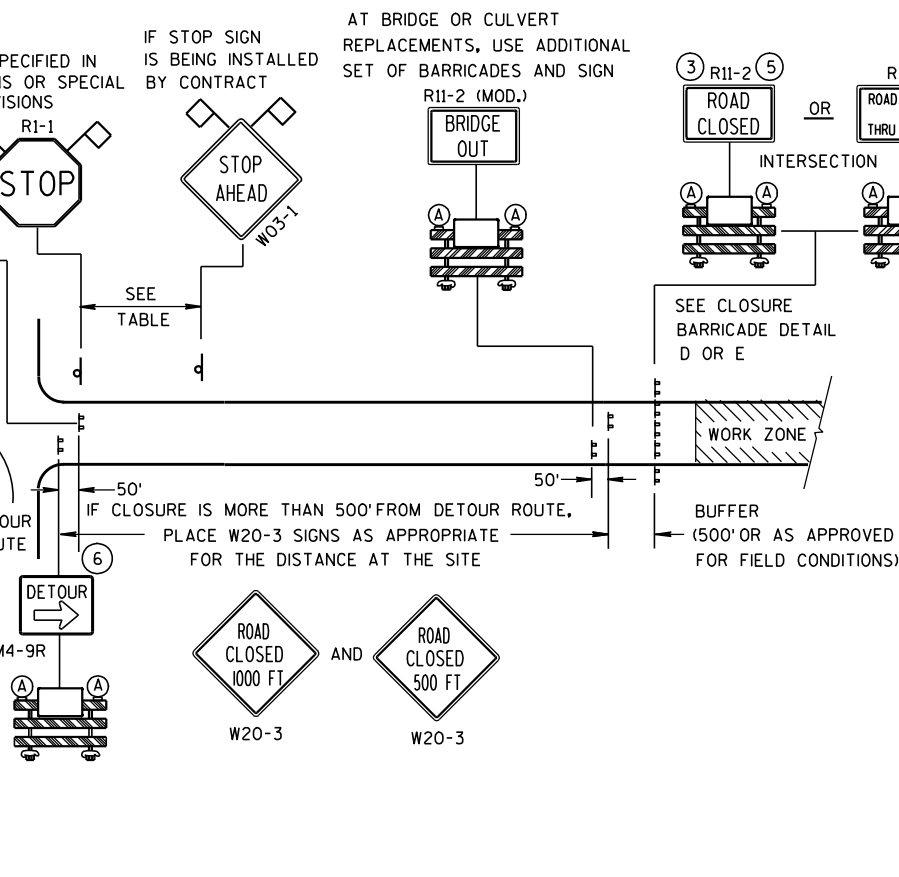
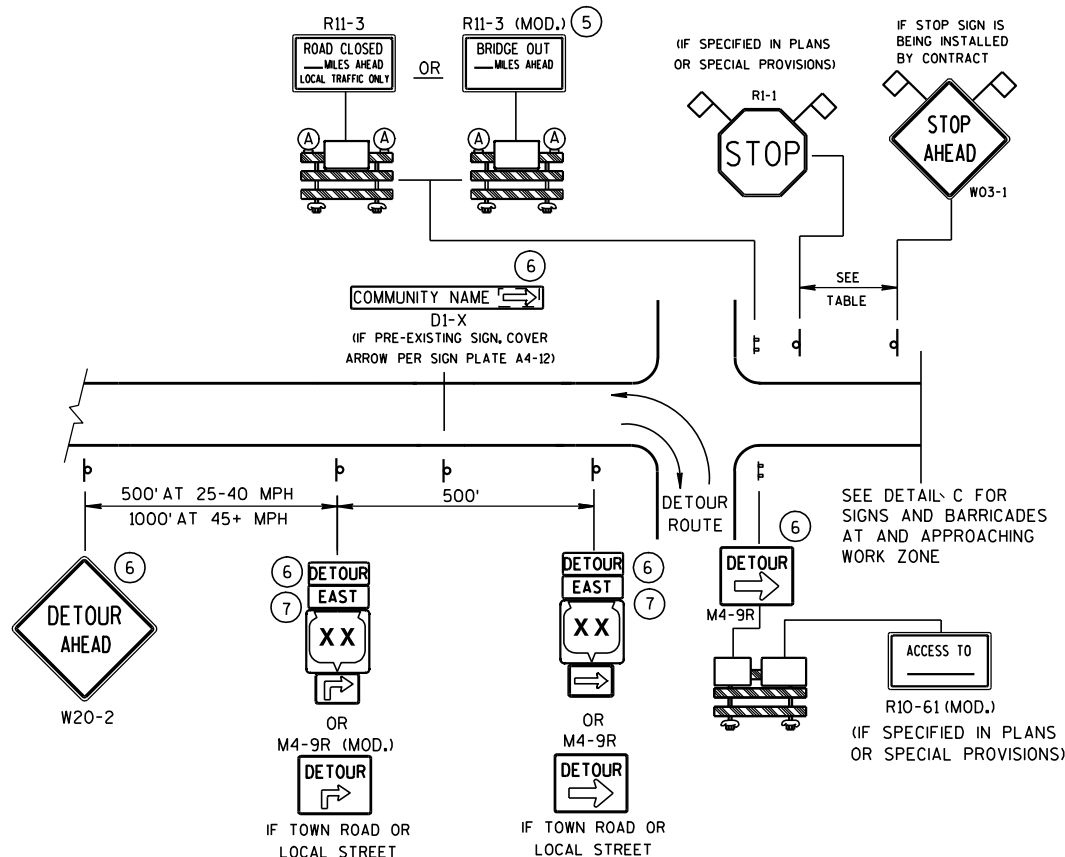
1/25/2011

DATE

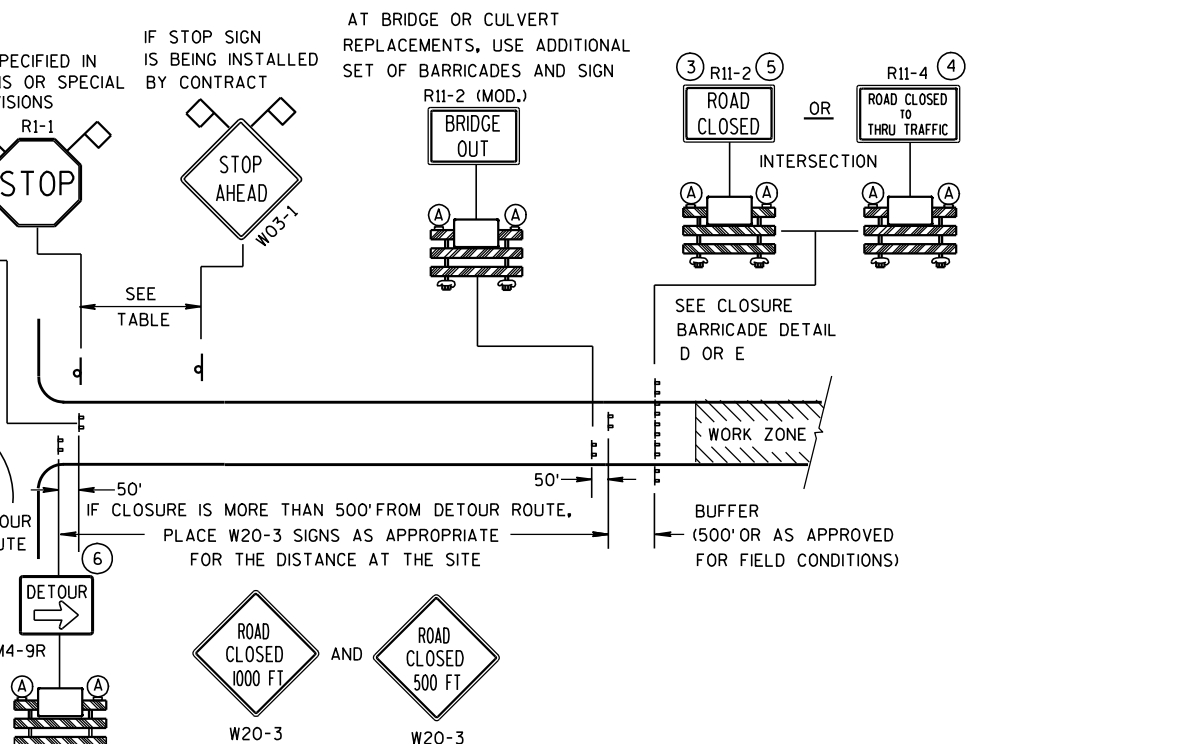
FHWA

/S/ Thomas N. Nothmann
STATE TRAFFIC ENGINEER

DESIGN



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR



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

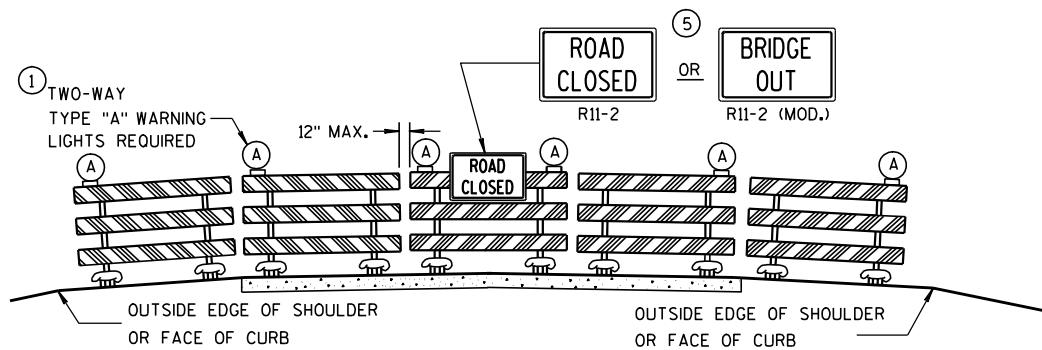
SEE SDD 15C2-4b
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

LEGEND

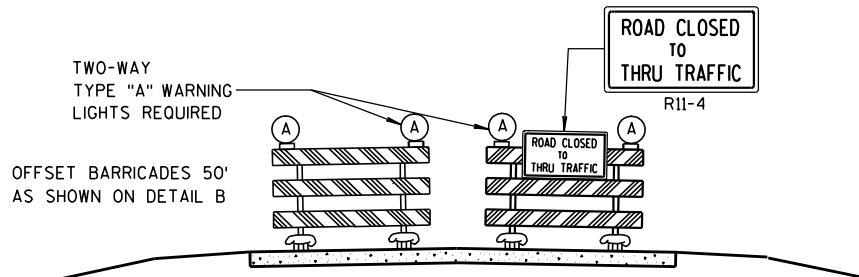
- POST MOUNTED SIGN
- TYPE III BARRICADES
- TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT (FOR NIGHT USE)
- WORK ZONE
- DETOUR EAST M4-8 M3-X
- MI-4 OR MI-5A OR MI-6
- MO5-1 OR MO6-1
- FLAGS, 16" X 16" MIN., (ORANGE)

**BARRICADES AND SIGNS
FOR
MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2-4a FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

THE REFLECTIVE SHEETING USED ON R11-2, R11-3, R11-4, R10-61 AND R1-1 SIGNS SHALL COMPLY WITH SUBSECTION 637.2.2.2 OF THE STANDARD SPECIFICATIONS.

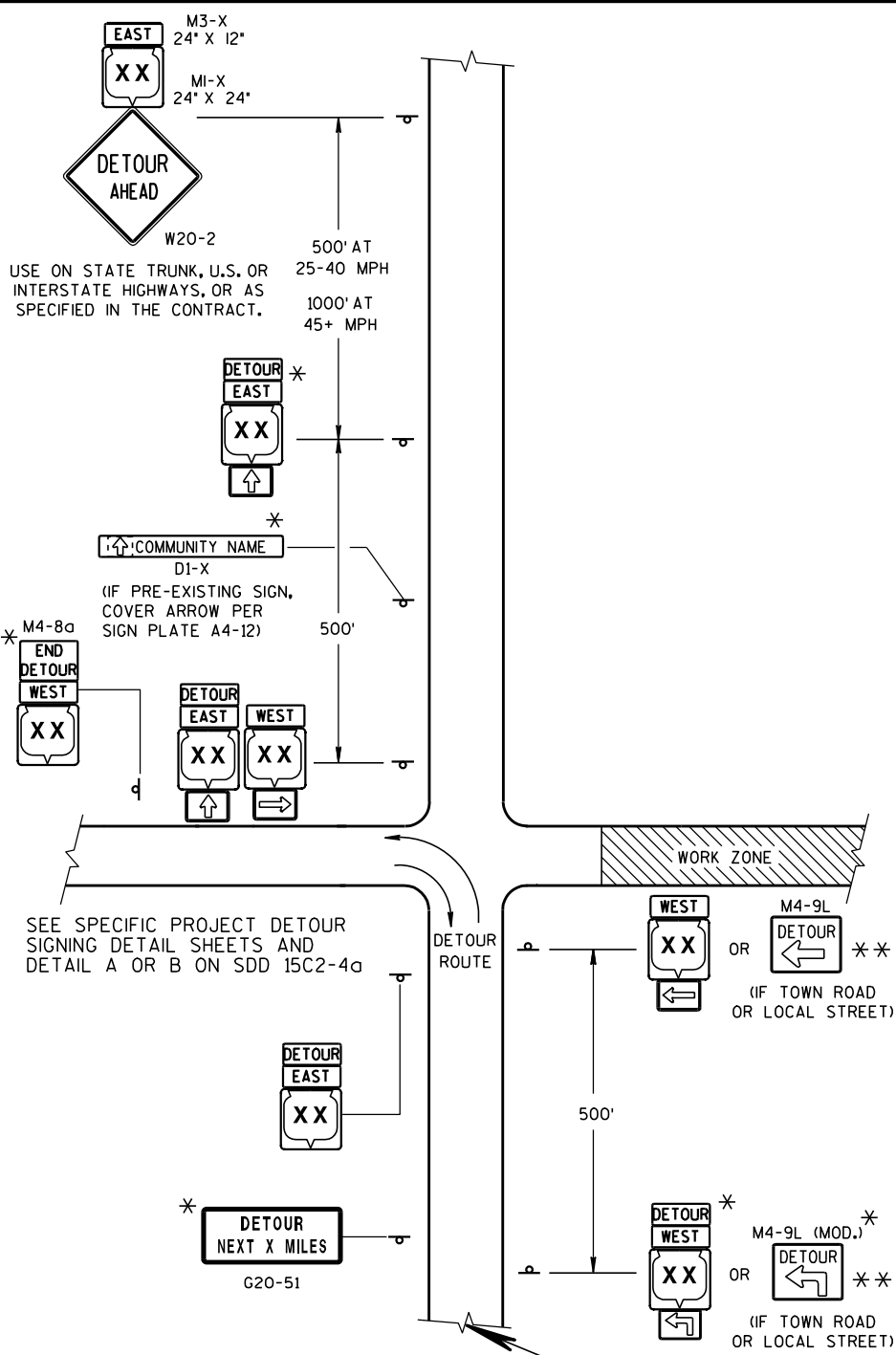
"WO AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

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

- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X AND M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION		
APPROVED		
9/16/03 DATE	/S/ Thomas N. N CHIEF SIGNS AND MAR	119 ENGINEER
FHWA		



LEGEND

POST MOUNTED SIGN

WORK ZONE

DETOUR EAST M4-8 M3-X

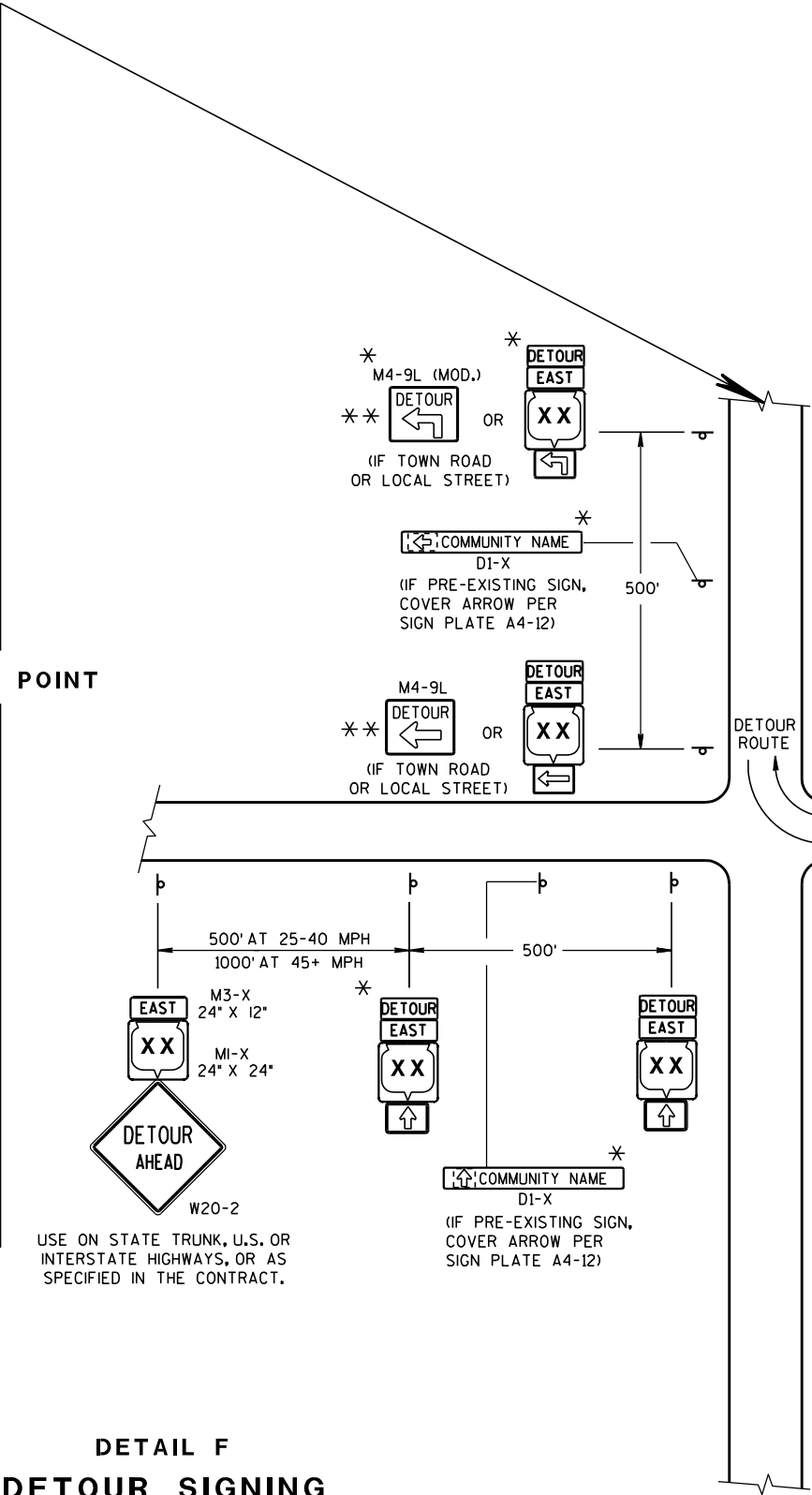
M1-4 OR COUNTY M1-5A OR M1-6

M05-1 OR M06-1 OR M06-1

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

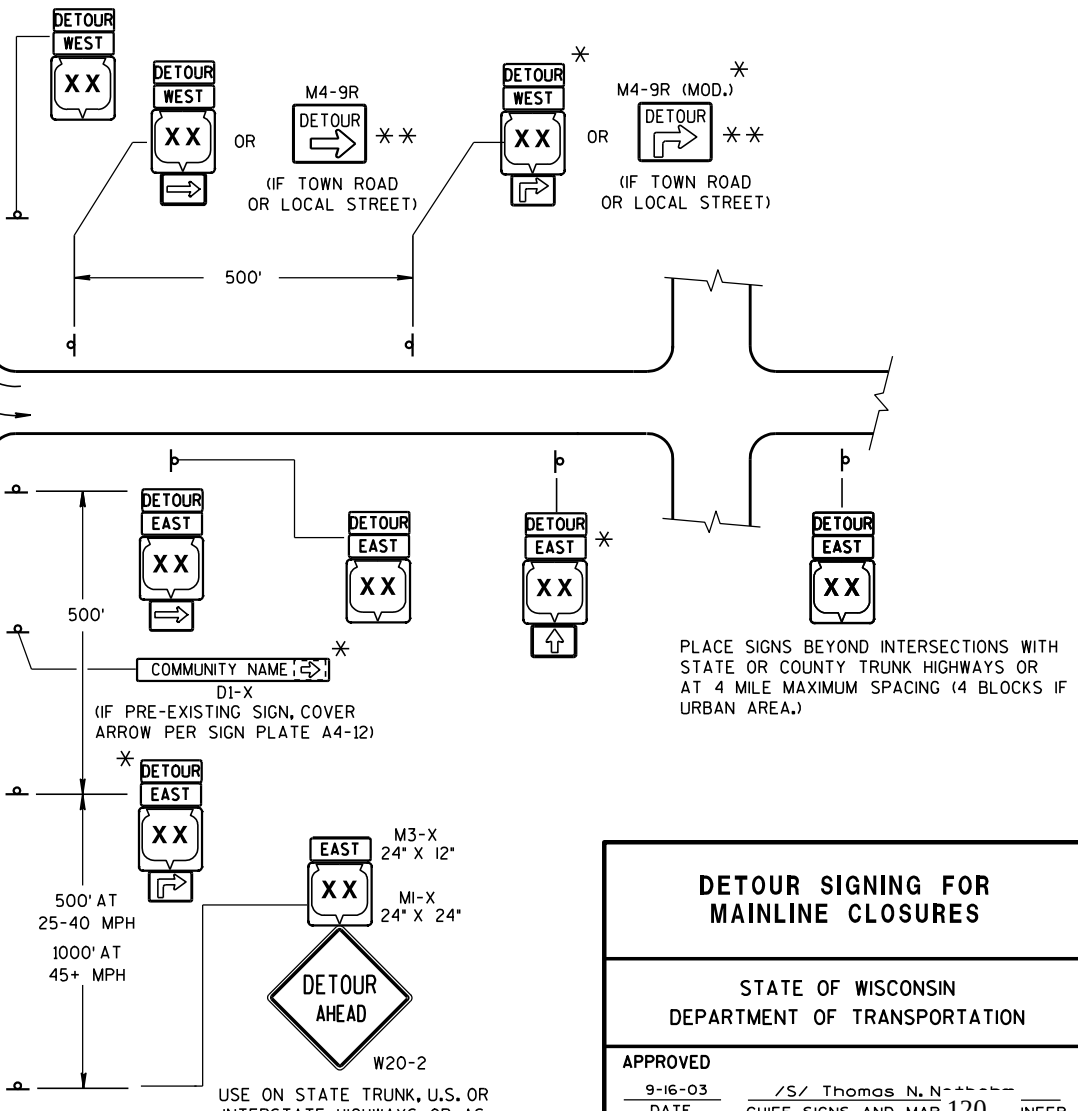
MATCH POINT

DETAIL F
DETOUR SIGNING



GENERAL NOTES

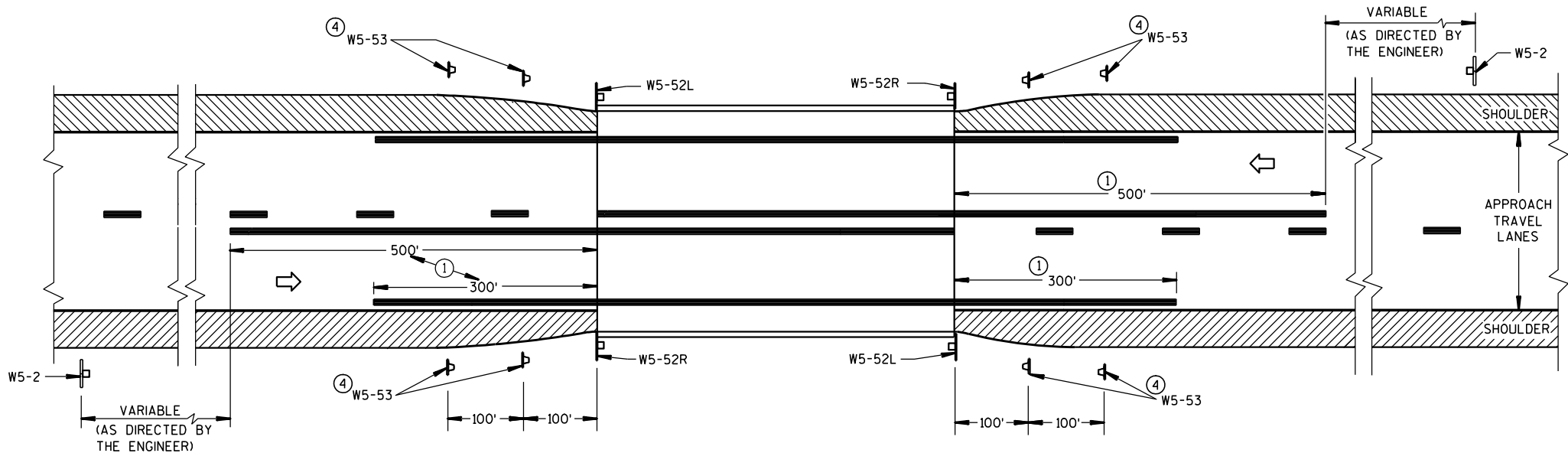
- THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.
- THE SPACING BETWEEN TRAFFIC CONTROL AND DETOUR SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.
- SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- "MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- SIGN SIZES SHALL BE AS FOLLOWS:
- M3-X AND M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M4-9 SHALL BE 30" X 24".
 - M4-8a SHALL BE 24" X 18".
 - G20-51 SHALL BE 60" X 24".
 - W20-2 SHALL BE 48" X 48".
 - D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- * OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.
- ** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.



DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

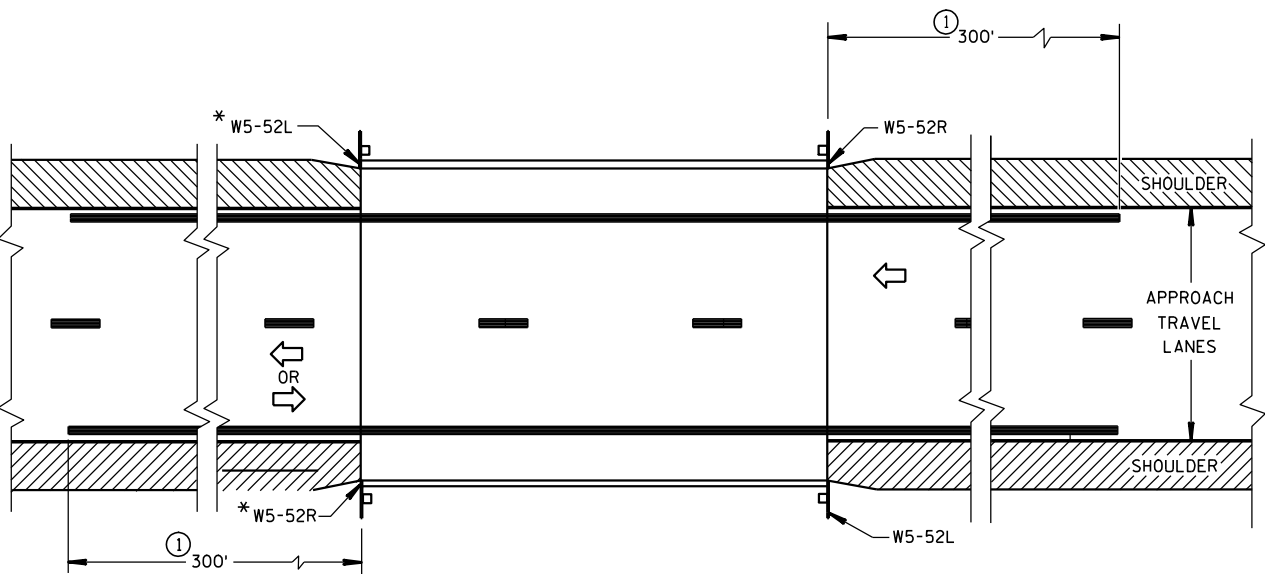
APPROVED
9-16-03 DATE /S/ Thomas N. N... CHIEF SIGNS AND MAR 120 INEER
FHWA



SITUATION 1

WARRANTING CRITERION:

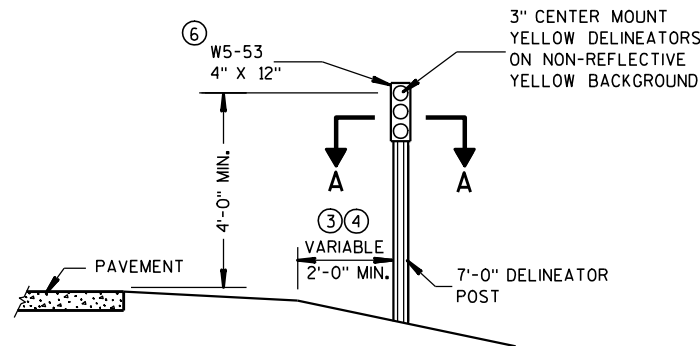
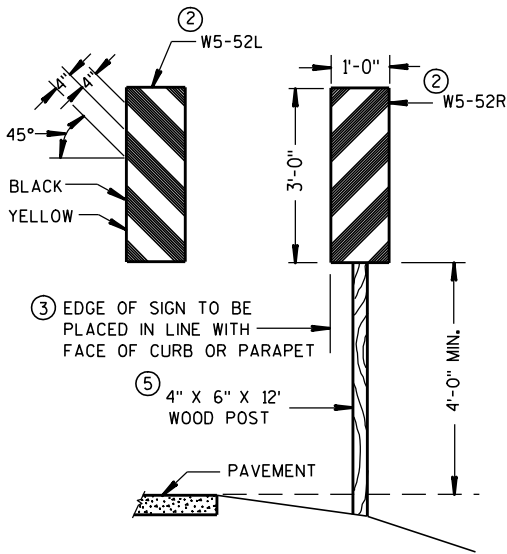
BRIDGE WIDTH IS AT LEAST 18 FEET BUT LESS THAN 24 FEET



SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE IS LESS THAN 6 FEET WIDER (ON EACH SIDE) THAN APPROACH TRAVEL LANES.



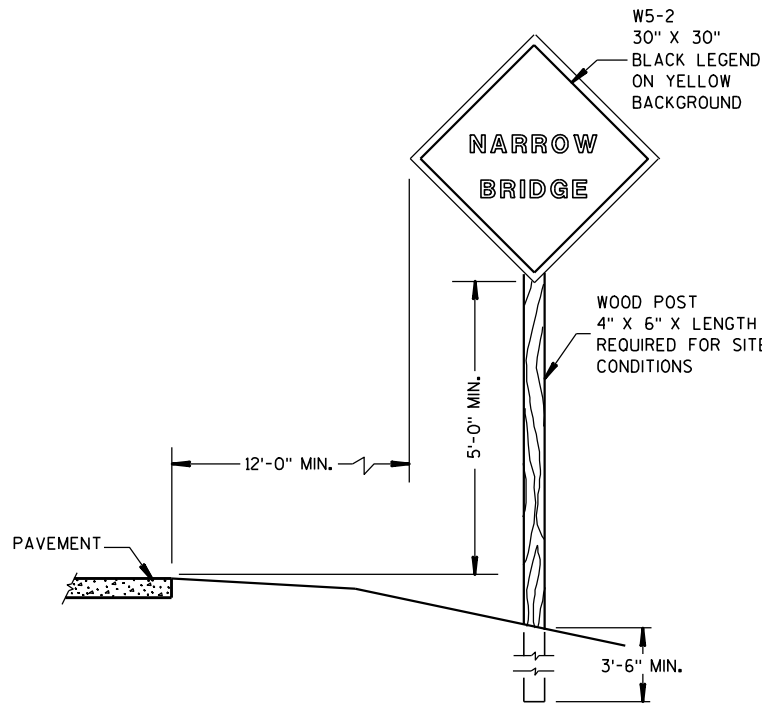
OBJECT MARKER PLACEMENT

GENERAL NOTES

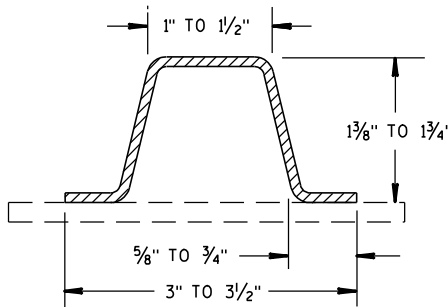
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

PAVEMENT MARKING SHOWN ON THIS DRAWING IS NOT REQUIRED UNLESS OTHERWISE SPECIFIED IN THE CONTRACT. WHEN SPECIFIED, PAVEMENT MARKING SHALL CONFORM TO THIS DRAWING AND OTHER CONTRACT REQUIREMENTS.

- ① MINIMUM DISTANCE UNLESS OTHERWISE SHOWN ON THE PLAN.
- ② FACE OF OBJECT MARKERS W5-52R AND W5-52L SHALL BE COVERED WITH TYPE H REFLECTIVE SHEETING.
- ③ LOCATE OBJECT MARKER POST(S) BEHIND GUARDRAIL WHEN PRESENT.
- ④ OBJECT MARKERS (W5-53) SHALL BE LOCATED ALONG A LINE FLARED AWAY FROM THE BRIDGE CORNER TO DELINEATE THE NARROWING OF THE SHOULDER OR BERM.
- ⑤ A 12 FOOT DELINEATOR POST MAY BE USED INSTEAD OF A WOOD POST.
- ⑥ NON-BID ITEM. INCIDENTAL TO OTHER ITEMS.



SIGN PLACEMENT



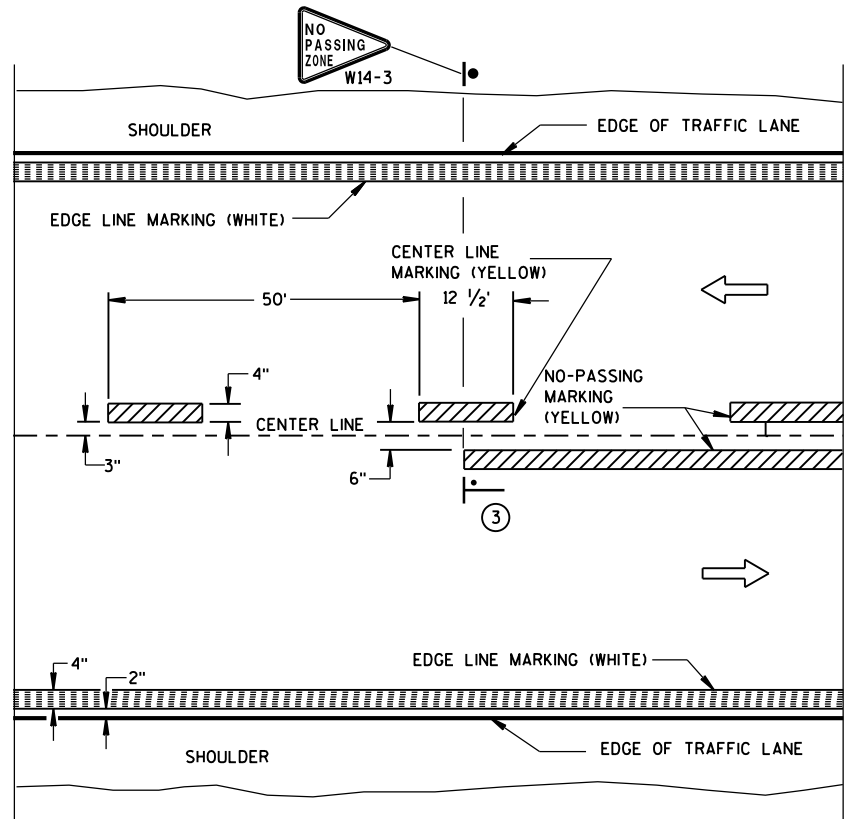
SECTION A-A

(MINIMUM WEIGHT 1.9 LBS. PER FT. AFTER GALVANIZING)

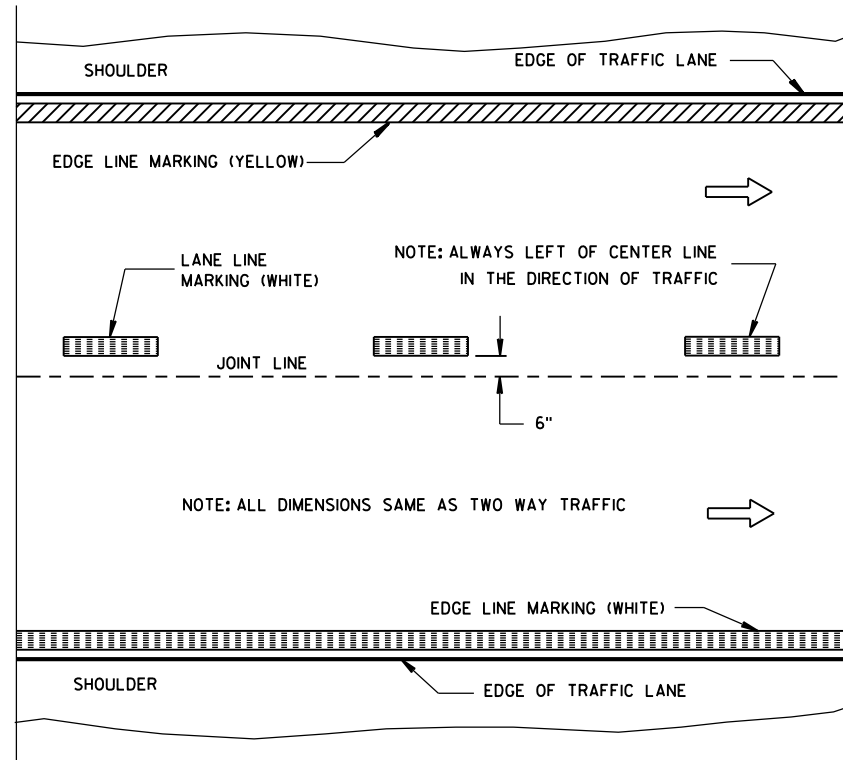
SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/5/06 DATE /S/ Thomas N. [Signature] STATE TRAFFIC ENGINE 121 SIGN
FHWA

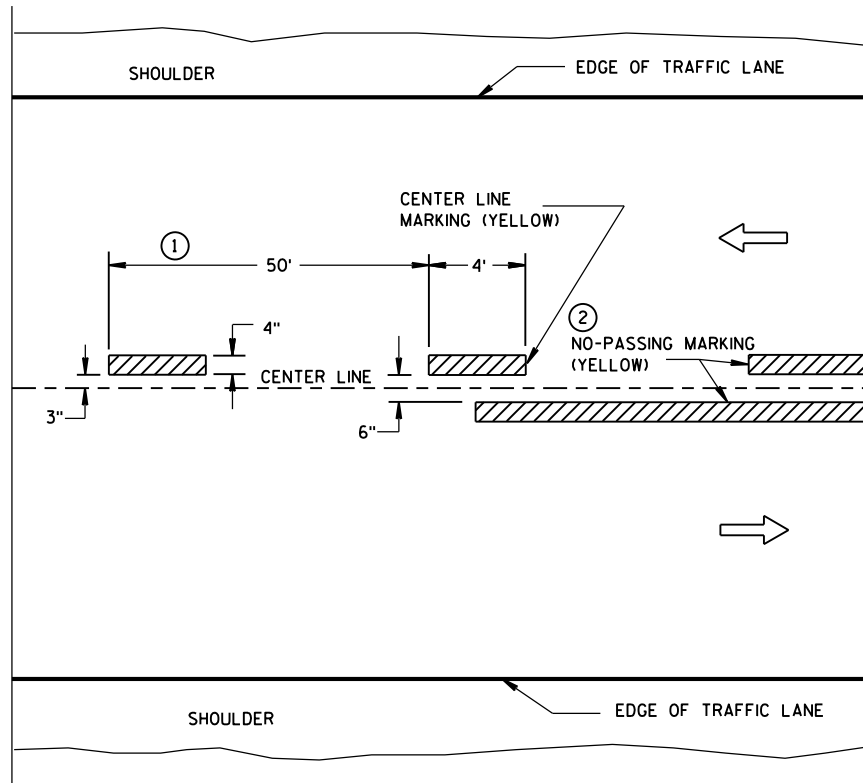


TWO WAY TRAFFIC

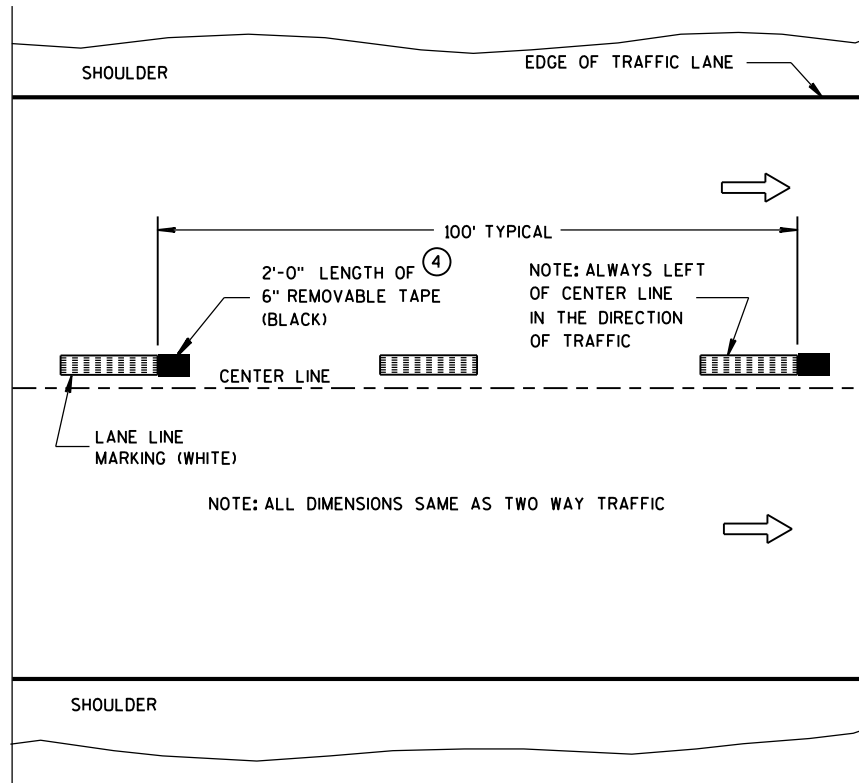


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

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

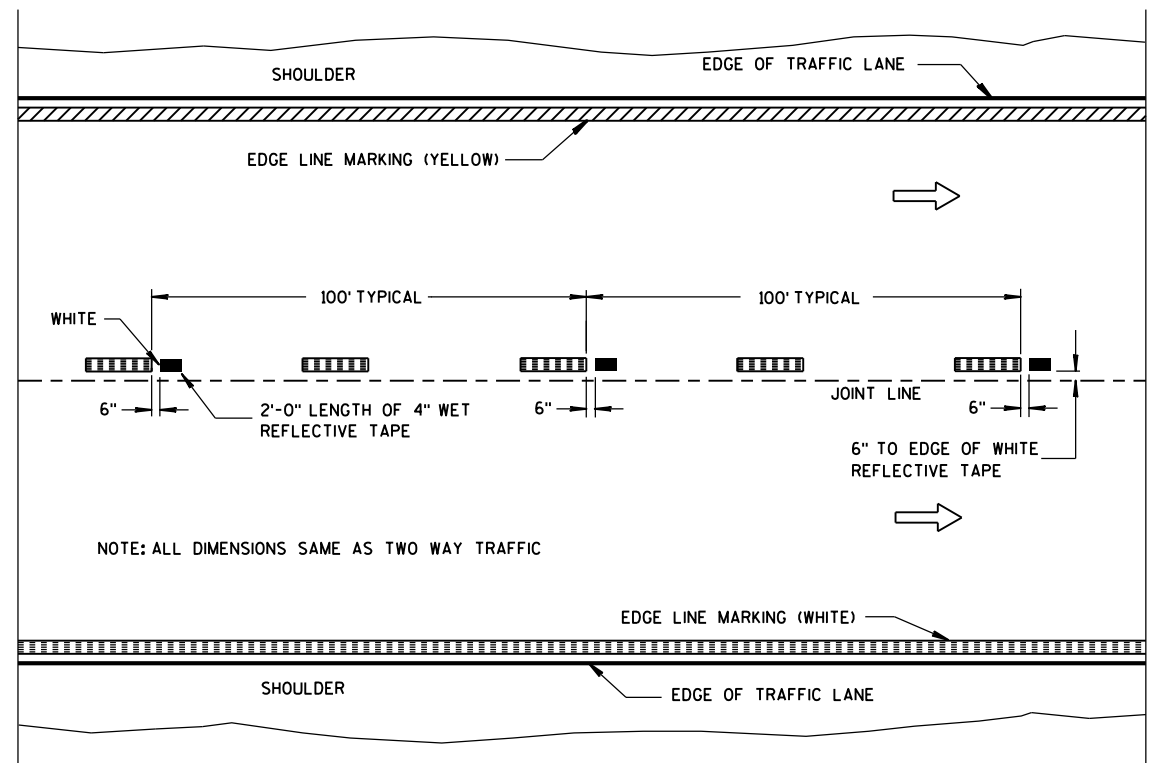
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



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

LEGEND

- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10-1-2012 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINE 122 :SIGN
FHWA

GENERAL NOTES

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

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

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

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

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

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

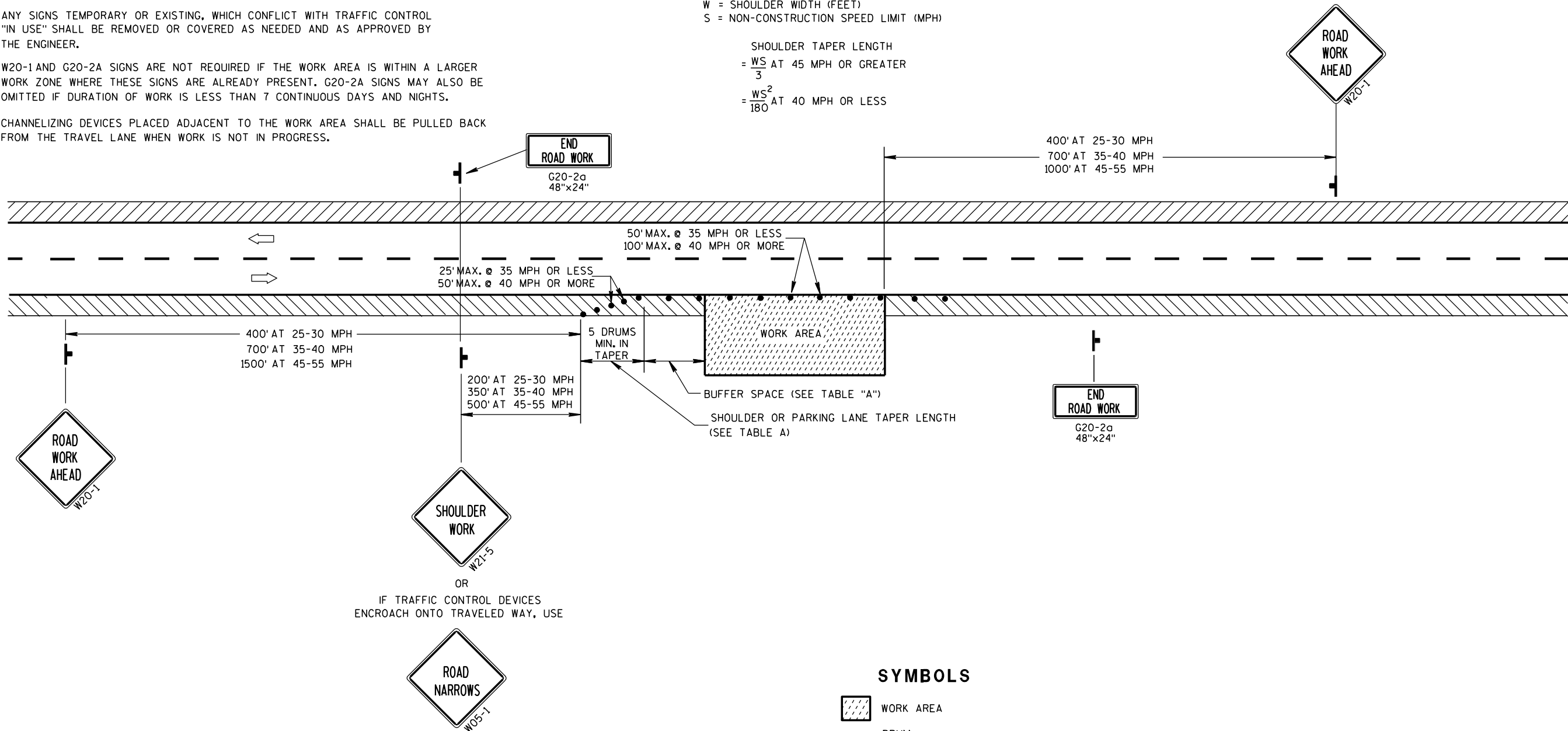
CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

TABLE A

SHOULDER TAPER LENGTH (FEET)					BUFFER SPACE (FEET)
S \ W	4	6	8	10	
30	20	30	40	50	85
35	30	45	55	70	120
40	40	55	75	90	170
45	60	90	120	150	220
50	70	100	135	170	280
55	75	110	150	185	335

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

SHOULDER TAPER LENGTH
= $\frac{WS}{3}$ AT 45 MPH OR GREATER
= $\frac{WS^2}{180}$ AT 40 MPH OR LESS



SYMBOLS

- WORK AREA
- DRUM
- POST MOUNTED SIGN
- DIRECTION OF TRAFFIC FLOW

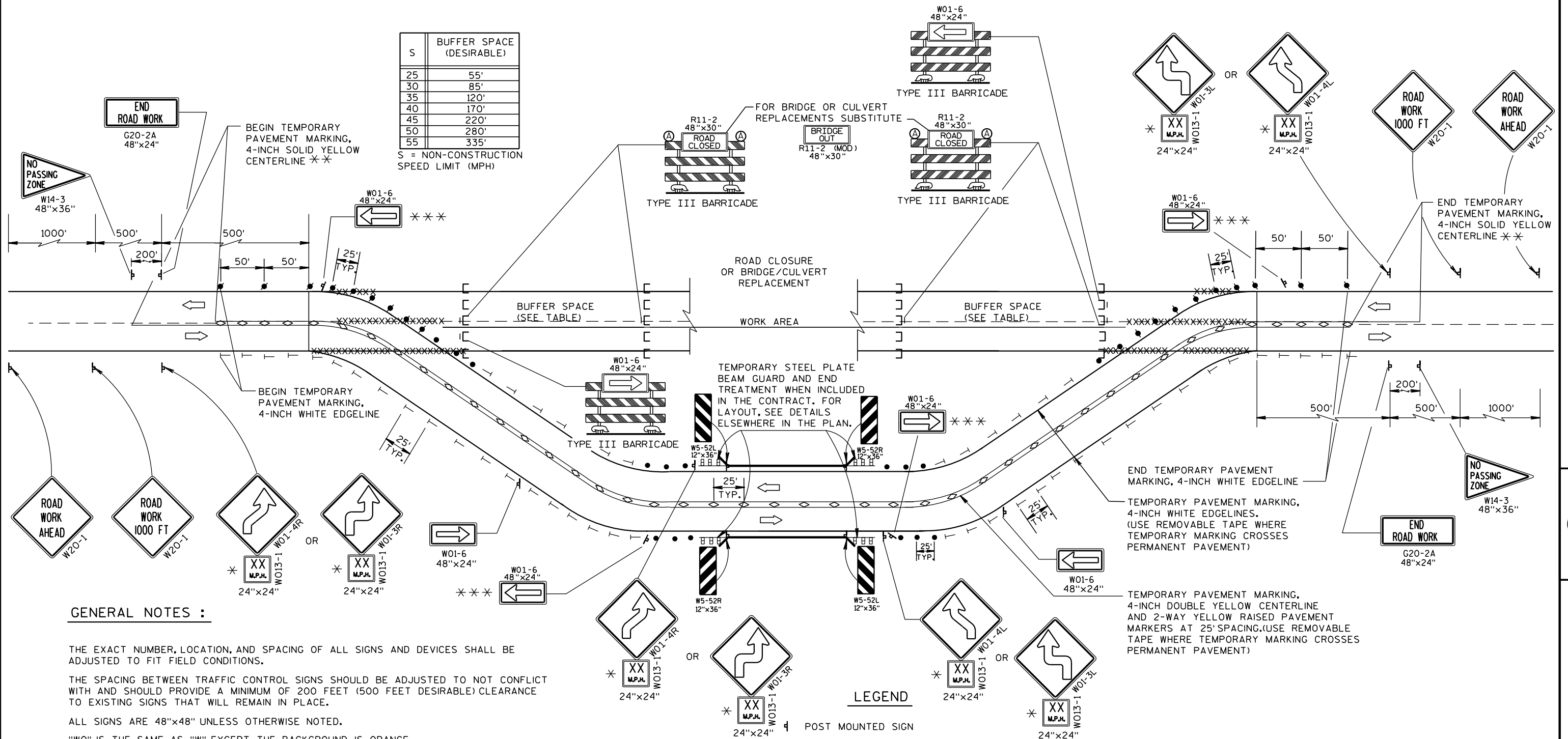
TRAFFIC CONTROL,
WORK ON SHOULDER OR
PARKING LANE,
UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/00 /S/ Chester J. [Signature]
DATE CHIEF SIGNS AND MARK 123 NNEER
FHWA

S	BUFFER SPACE (DESIRABLE)
25	55'
30	85'
35	120'
40	170'
45	220'
50	280'
55	335'

S = NON-CONSTRUCTION
SPEED LIMIT (MPH)



GENERAL NOTES :

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

EQUIPMENT, VEHICLES, OR MATERIAL SHOULD NOT BE STORED IN BUFFER SPACE.

* INDICATE THE ADVISORY SPEED PLATE LEGEND IN THE MISCELLANEOUS QUANTITIES. IF ADVISORY SPEED IS GREATER THAN 30 MPH, USE THE W01-4 SIGN. IF ADVISORY SPEED IS 30 MPH OR LESS, USE THE W01-3 SIGN.

** WHEN THE DISTANCE TO/FROM THE NEXT CLOSEST NO-PASSING ZONE IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES AS INDICATED IN THE SPECIFICATIONS, THE TWO ZONES SHALL BE CONNECTED.

*** OMIT THESE W01-6 SIGNS IF THE ADVISORY SPEED OF THE CURVE IS GREATER THAN 30 MPH.

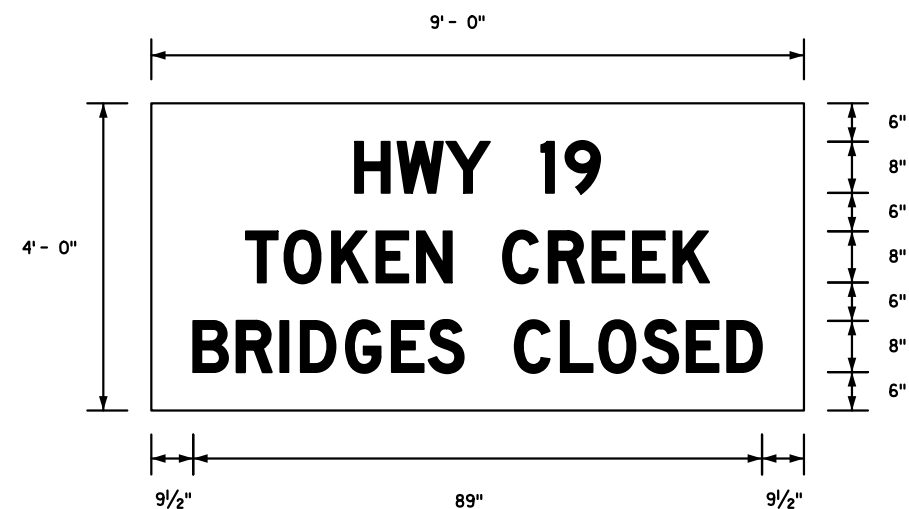
LEGEND

- POST MOUNTED SIGN
- ⬮ DRUM WITH WARNING LIGHT, TYPE C (STEADY-BURN)
- DRUM
- / □ TYPE III BARRICADE (8' EQUIVALENT) WITHOUT / WITH SIGN
- Ⓐ WARNING LIGHT, TYPE A (LOW-INTENSITY FLASHING)
- TEMPORARY DELINEATOR, CRYSTAL (WHITE) (SINGLE DELINEATOR)
- ◇ TEMPORARY RAISED PAVEMENT MARKERS (TWO-WAY YELLOW)
- XXX REMOVE PAVEMENT MARKING
- ➡ DIRECTION OF TRAFFIC FLOW
- ▬▬▬ TEMPORARY STEEL PLATE BEAM GUARD AND END TREATMENT

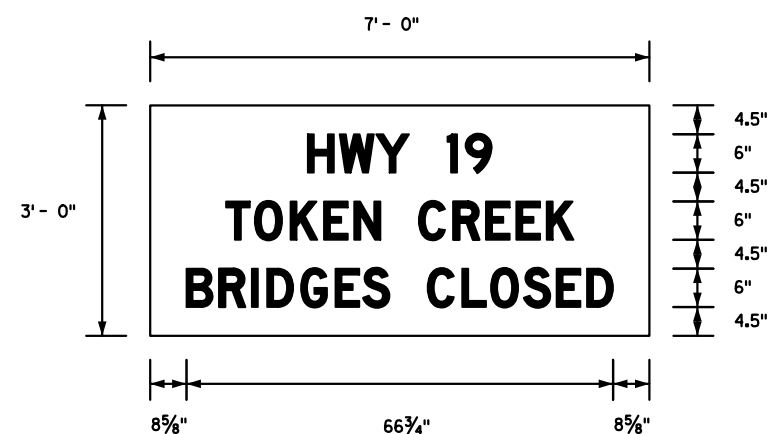
TRAFFIC CONTROL, TEMPORARY BYPASS ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

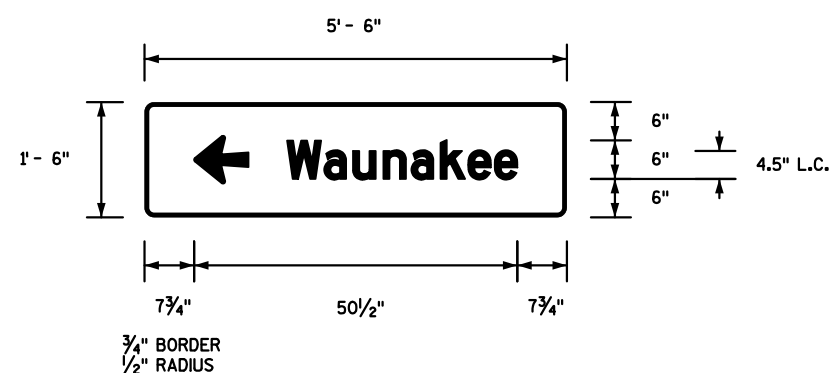
APPROVED
5/23/2000 /S/ Chester J. _____
DATE CHIEF SIGNS AND MAR 124 INEER
FHWA



SIGN (20B)



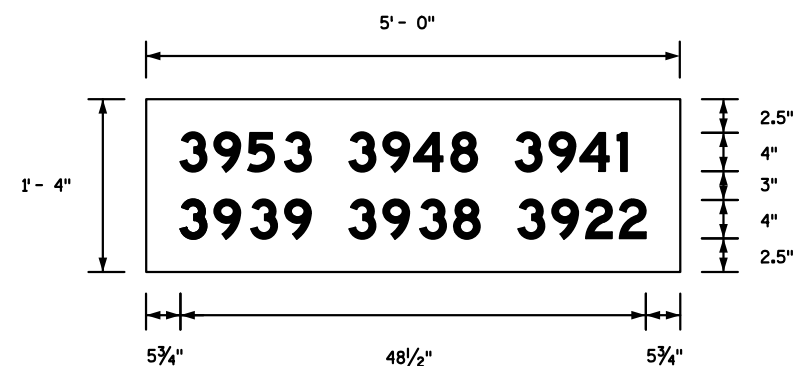
SIGN (20A)



SIGN (21)

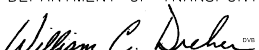
NOTES

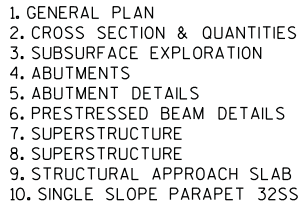
1. SIGN IS FIXED MESSAGE SIGN - TYPE F REFLECTIVE SHEETING - REFERENCE WISDOT STANDARD SPECIFICATION FOR HIGHWAY AND STRUCTURE CONSTRUCTION LATEST EDITION.
2. COLOR:
BACKGROUND - SIGN 20A, SIGN 20B, AND 21 - ORANGE
BACKGROUND - R10-61 PLAQUE - WHITE
MESSAGE - BLACK
3. MESSAGE SERIES - D
4. CORNERS MAY BE SQUARE OR ROUNDED WHEN BASE MATERIAL IS PLYWOOD. WHEN BASE MATERIAL IS METAL, THE CORNERS SHALL BE ROUNDED.



HOUSE NUMBER PLAQUE
FASTENED TO R10-61
OPTICALLY CENTER

NO.	STATION	DESCRIPTION	ELEVATION
3293	154+52.2	CHISELED SQUARE SW CORNER OF BRIDGE 17.6' RT	870.17

NO.	DATE	REVISION	BY
			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED			3/22/13
CHIEF		STRUCTURES DESIGN ENGINEER	DATE
STRUCTURE B-13-608			
STH 19 OVER TOKEN CREEK			
COUNTY	DANE	TOWN/CITY/VILLAGE	BURKE/WINDSOR
DESIGN SPEC.			
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	MSK	DESIGN C'D.	ETP
DRAWN BY		MJK	PLANS C'D.
ETP			
GENERAL PLAN		SHEET 1 OF 10	
		126	



880
875
870
865
860
855

PROFILE GRADE LINE

REGULATORY HIGH WATER
EL. 869.13

OBSERVED WATER LEVEL
EL. 863.82
(01-03-2007)

HIGH WATER¹⁰⁰
EL. 867.44

SINGLE SLOPED PARAPET TYPE 32SS
SEE SHEET 10 FOR DETAILS

TOP OF BERM
EL. 864.25

FIX.

ORIGINAL GROUND LINE

EL. 861.75

RIPRAP HEAVY
SEE "RIPRAP DETAIL"
ON THIS SHEET

STREAM BED
EL. 862.35

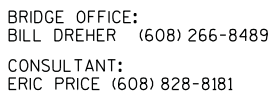
10 3/4-INCH X 0.365-INCH
C.I.P. CONC. PILING (TYP.)

FIX.

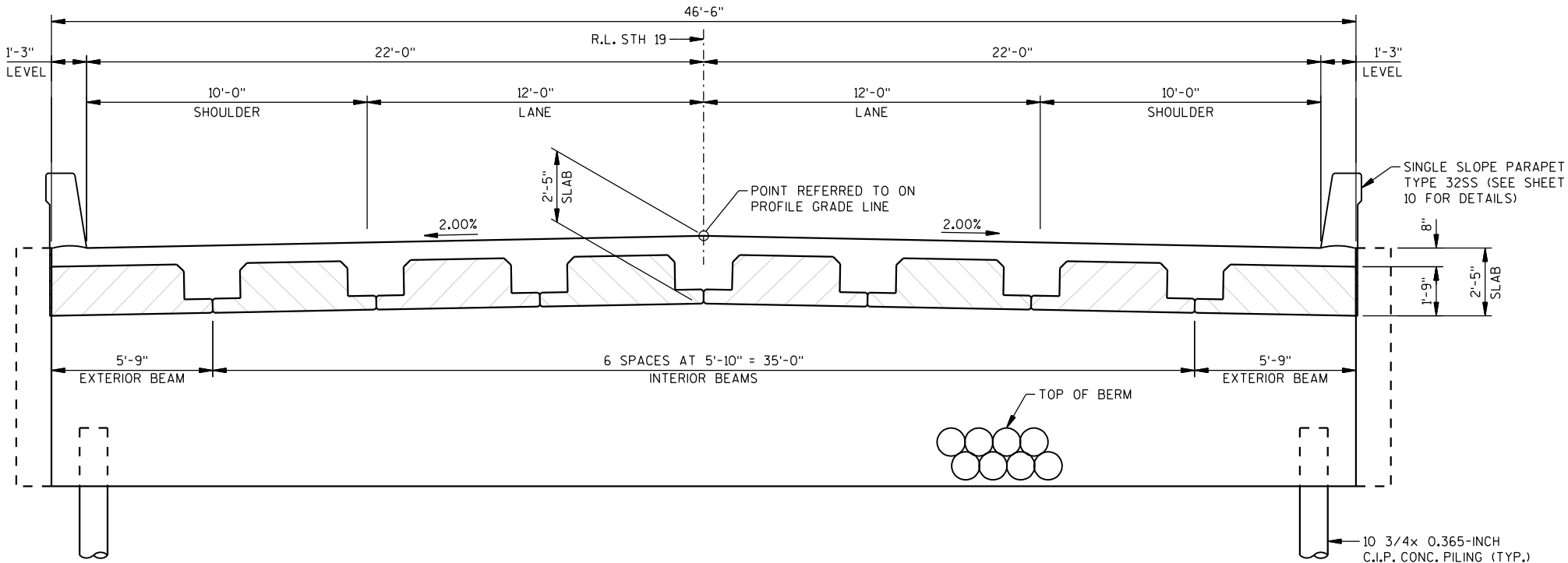
TOP OF BERM
EL. 864.00

EL. 861.50

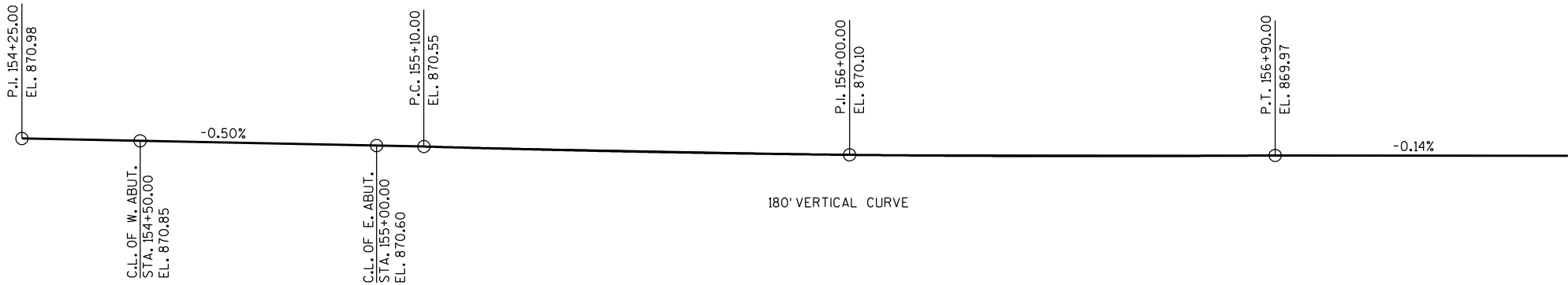
ELEVATION
(NORMAL TO TOKEN CREEK)



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PLOT TIME: 9:40:30 AM
BATCH PRINT SHEET 2 OF 10



TYPICAL SECTION THRU STRUCTURE
(LOOKING EAST)



PROFILE GRADE LINE, STH 19

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEM	UNIT	WEST APPROACH	WEST ABUTMENT	EAST ABUTMENT	EAST APPROACH	SUPER.	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS, STATION 154+75	LS	—	—	—	—	—	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-13-608	LS	—	—	—	—	—	1
210.0100	BACKFILL STRUCTURE	CY	—	165	165	—	—	330
502.0100	CONCRETE MASONRY BRIDGES	CY	5	54	54	5	110	228
502.0200	CONCRETE MASONRY BRIDGES HES	CY	59	—	—	59	—	118
502.3200	PROTECTIVE SURFACE TREATMENT	SY	116	—	—	116	323	555
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	—	3,060	3,060	—	—	6,120
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	10,580	1,860	1,860	10,580	16,170	41,050
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	—	8	8	—	—	16
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	—	11	11	—	—	22
550.2106	PILING CIP CONCRETE 10 3/4 X 0.365-INCH	LF	—	500	450	—	—	950
606.0300	RIPRAP HEAVY	CY	—	55	60	—	—	115
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	62	80	80	62	—	284
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2	—	—	2	—	4
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	—	110	120	—	—	230
SPV.0085.01	BAR STEEL REINFORCEMENT HS STAINLESS BRIDGES	LB	—	1,030	1,030	—	—	2,060
SPV.0090.01	PRESTRESSED DECK BEAM INTERIOR B-13-608	LF	—	—	—	—	305	305
SPV.0090.02	PRESTRESSED DECK BEAM EXTERIOR B-13-608	LF	—	—	—	—	102	102
NON-BID ITEMS								
	FILLER	SIZE	—	—	—	—	—	1/2" & 3/4"

STATE PROJECT NUMBER

6085-00-76

GENERAL NOTES

- DRAWINGS SHALL NOT BE SCALED.
- BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.
- THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE FABRIC TYPE HR TO THE LIMITS SHOWN ON SHEET 1 OR AS DIRECTED BY THE ENGINEER.
- THE FIRST DIGIT OF A THREE DIGIT BAR MARK AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.
- THE EXISTING STRUCTURE (B-13-478) IS A TWO SPAN CONCRETE DECK GIRDER STRUCTURE, 47.1' LONG x 34.3' WIDE.
- AT THE BACKFACE OF ABUTMENTS, ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.
- THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.
- SUPERSTRUCTURE QUANTITIES INCLUDE CONCRETE AND REINFORCEMENT BARS OF THE PARAPET ON THE DECK.
- PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE, TO THE FRONT FACE AND TOP OF PARAPETS, INCLUDING PARAPETS ON STRUCTURAL APPROACH SLABS AND BOTH PAVING NOTCHES.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-608			
		DRAWN BY JJD	PLANS CK'D. ETP
CROSS SECTION & QUANTITIES		SHEET 2 OF 10 127	

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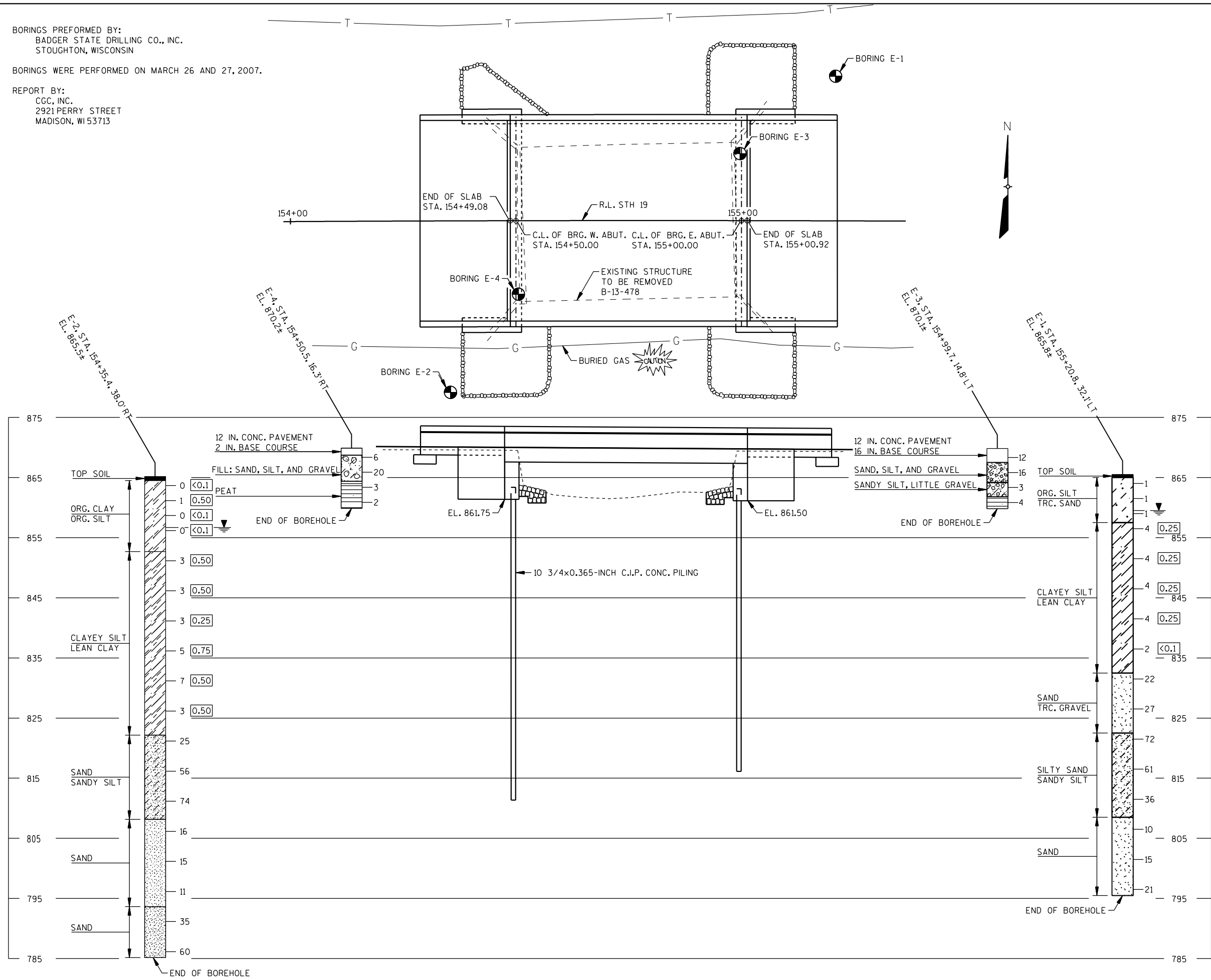
BATCH PRINT SHEET 3 OF 10

8

BORINGS PERFORMED BY:
BADGER STATE DRILLING CO., INC.
STOUGHTON, WISCONSIN

BORINGS WERE PERFORMED ON MARCH 26 AND 27, 2007.

REPORT BY:
CGC, INC.
2921 PERRY STREET
MADISON, WI 53713



STATE PROJECT NUMBER

6085-00-76

ABBREVIATIONS

F — FINE
WS — WEATHERED
M — MEDIUM
C — COARSE
SO — SOUND

MATERIAL SYMBOLS

TOPSOIL

SAND

GRAVEL

SILT

PEAT

CLAY

SANDSTONE

LIMESTONE

IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

LEGEND OF BORING

UNCONFINED STRENGTH
BLOWS PER FT.
USING 140# WT.
FALLING 30"

WASH SAMPLE

SHELBY TUBE — S.T.

GROUND WATER ELEVATION

NO GROUND WATER OBSERVED ABOVE THIS ELEVATION

BORING NO.
STA.
ELEV.
SANDY GRAVEL
F. BOULDERS OR COBBLES
SAND
SILTY CLAY
SO
LIMESTONE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-608			
DRAWN BY		MJK	PLANS CK'D. ETP
SUBSURFACE EXPLORATION		SHEET 3 OF 10 128	

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BATCH PRINT SHEET 4 OF 10



▲ ABUTMENTS TO BE SUPPORTED ON 10 3/4-INCH X 0.365-INCH CAST-IN-PLACE PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 145 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 50 FEET LONG FOR THE WEST ABUTMENT AND 45 FEET LONG FOR THE EAST ABUTMENT.

THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

- PIPE UNDERDRAIN WRAPPED 6-INCH, SLOPE 0.5% MIN. TO SUITABLE DRAIN. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.
- 1/2" FILLER - TO EXTEND FROM BRIDGE SEAT TO TOP OF CONCRETE WING.
- ▽ 18" (R.M.W.) RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS AT BACK FACE.
- ◆ 3/4" FILLER - TO EXTEND MIN. 1'-4" DOWN FROM TOP OF CONCRETE WING.
- ▼ 1/2" FILLER - TO EXTEND FULL LENGTH OF ABUTMENT BODY.

** ELEVATIONS & DIMENSIONS ARE GIVEN AT THE C.L. OF BEARING.
 FOR WING DETAILS AND ELEVATIONS, SEE SHEET 5.

(X) INDICATES WING NUMBER

- ▲ KEYED CONST. JOINT FORMED BY BEVELED 2" X 6".

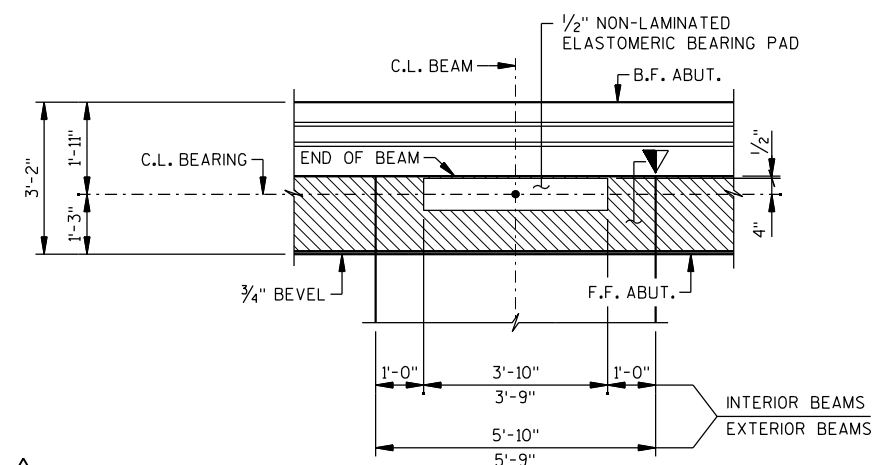
C507, C408 AND SS901 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.

IF 't' IS 1/4"
OR LESS

B-U4a
OR
B-U4a-GF

CAST-IN-PLACE
PIPE PILE

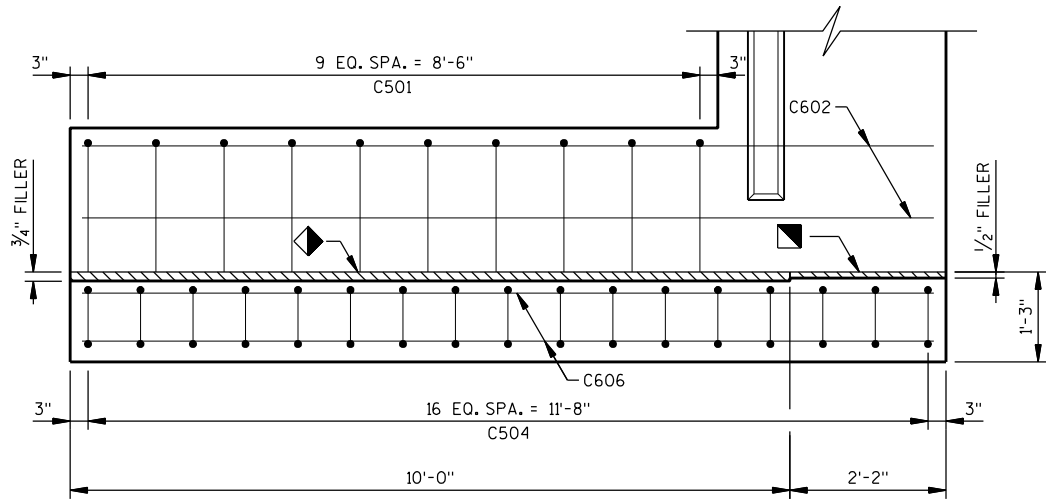
CIP PILE WELD DETAIL



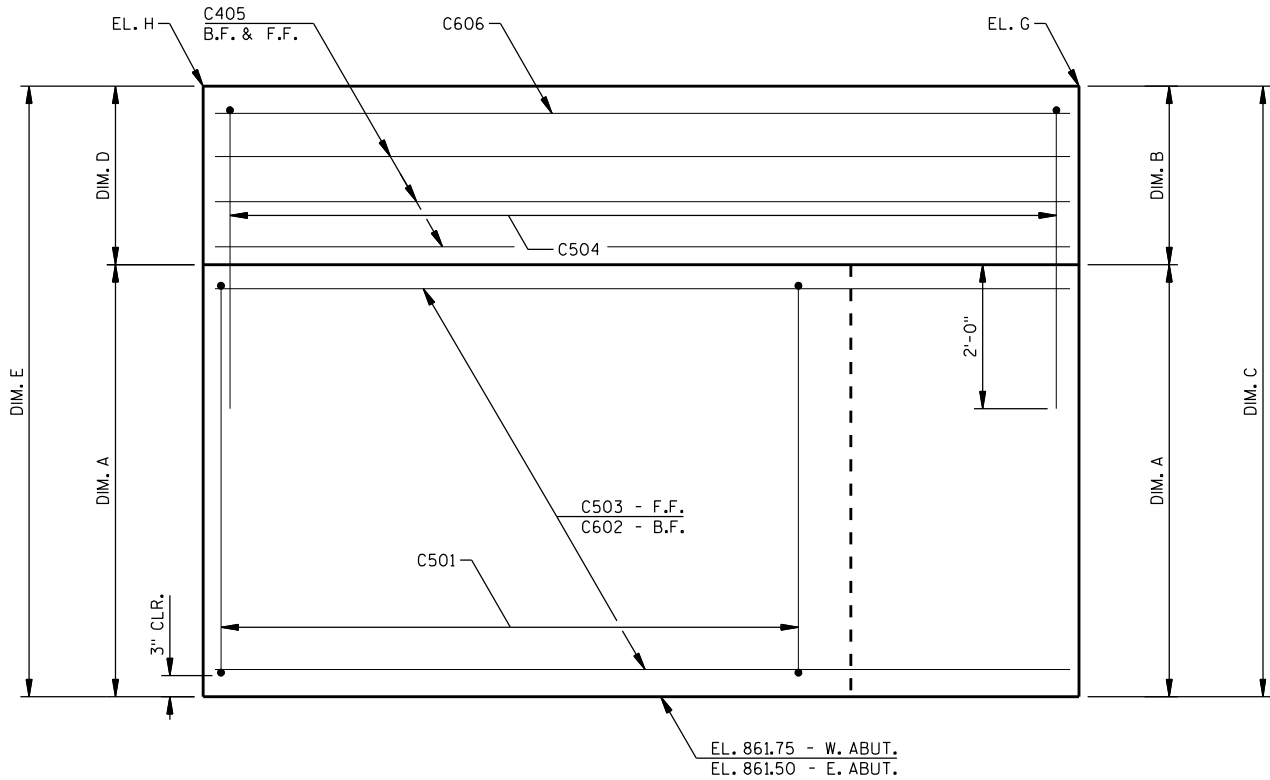
GIRDER SEAT DETAIL

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-608			
DRAWN BY		JJD	PLANS CK'D. ETP
ABUTMENTS		SHEET 4 OF 10 129	

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BATCH PRINT SHEET 5 OF 10



PLAN - WINGS 1 THRU 4



ELEVATION - WINGS 1 THRU 4

TABLE OF VARIABLES

WINGS	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E	EL. G	EL. H
1 & 2	6'-2 1/8"	2'-5 5/8"	8'-7 3/4"	2'-6 3/8"	8'-8 1/2"	870.40	870.46
3 & 4	6'-2 1/8"	2'-5 5/8"	8'-8"	2'-5 1/8"	8'-7 3/8"	870.17	870.11

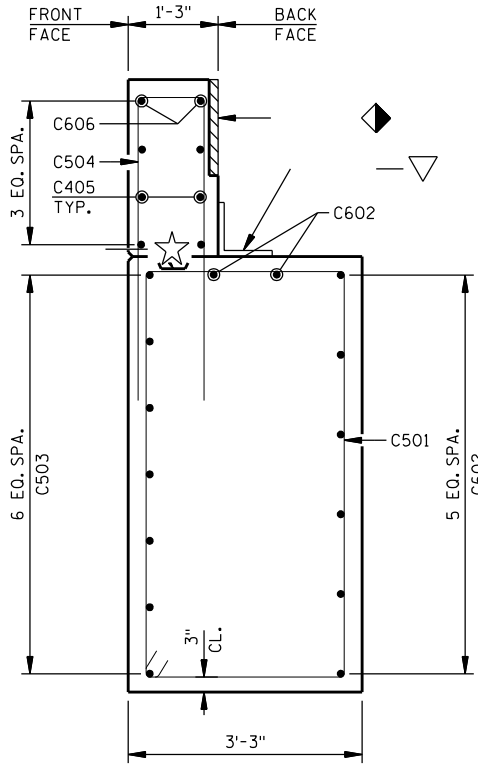
SEE "GENERAL PLAN" SHEET FOR WING NUMBERS.

LEGEND

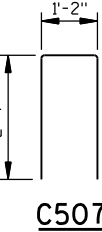
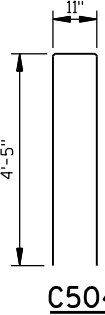
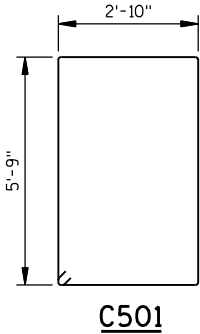
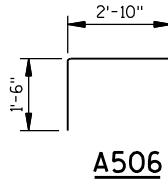
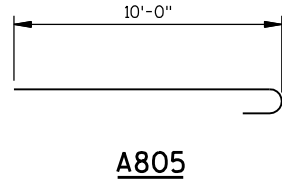
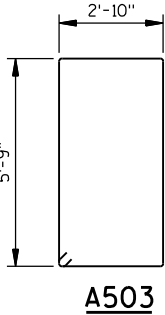
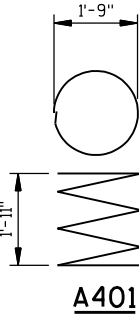
- OPTIONAL CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 6. (18" R.M.W. AT B.F. & 3/4" "V" GROOVE AT F.F. IF JOINT IS USED).
- 1/2" FILLER - TO EXTEND FROM BRIDGE SEAT TO TOP OF CONCRETE WING.
- 3/4" FILLER - TO EXTEND MIN. 1'-4" DOWN FROM TOP OF CONCRETE WING.
- 18" RUBBERIZED MEMBRANE WATERPROOFING (R.M.W.). SEAL ALL HORIZONTAL AND VERTICAL JOINTS AT BACK FACE.

NOTES

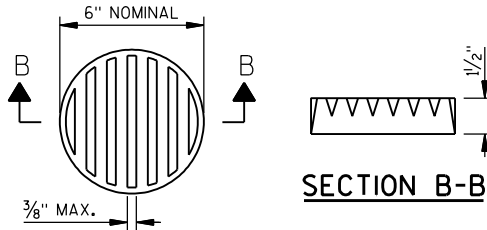
SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).



SECTION THRU WING



SS901



RODENT SHIELD DETAIL

DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

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

BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR. BOTH ABUTMENTS ARE INCLUDED IN THIS BILL OF BARS.

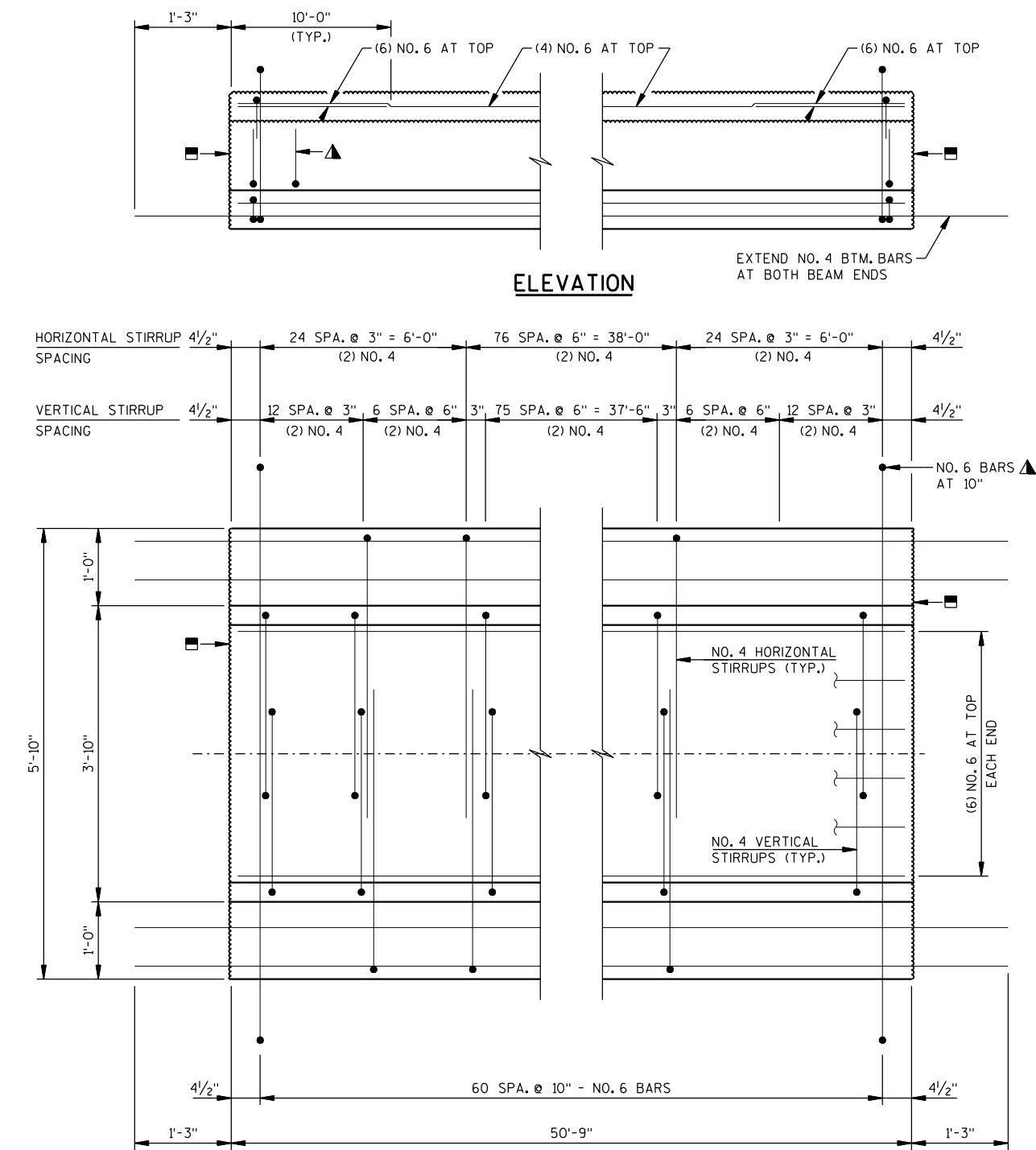
MARK	NO.	REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
NON-COATED BARS						TOTAL WEIGHT = 6,120 LBS
A401	20	28 - 0	X		BODY, 1 PER PILE	VERT.
A402	40	2 - 3			BODY, 2 PER PILE	VERT.
A503	120	17 - 7	X		BODY STIRRUPS	VERT.
A604	20	48 - 8			BODY	HORIZ.
A805	28	10 - 11	X		BODY - B.F.	HORIZ.
A506	50	5 - 7	X		BODY TOP	VERT.
A407	6	24 - 4			BODY TOP	HORIZ.
A608	14	38 - 10			BODY - B.F.	HORIZ.
COATED BARS						TOTAL WEIGHT = 3,720 LBS
C501	40	17 - 7	X		WING STIRRUP	VERT.
C602	24	11 - 10			WING - B.F.	HORIZ.
C503	28	11 - 10			WING - F.F.	HORIZ.
C504	68	9 - 6	X		WING	VERT.
C405	24	11 - 8			WING - B.F. & F.F.	HORIZ.
C606	8	11 - 8			WING TOP	HORIZ.
C507	94	6 - 1	X		ABUT. DIAPHRAGM	VERT.
C408	186	4 - 11			ABUT. DIAPHRAGM	VERT.
STAINLESS BARS						2,060 LBS
SS901	94	6 - 5	X		ABUTMENT TO APPROACH SLAB	HORIZ.

STRUCTURE B-13-608

ABUTMENT DETAILS

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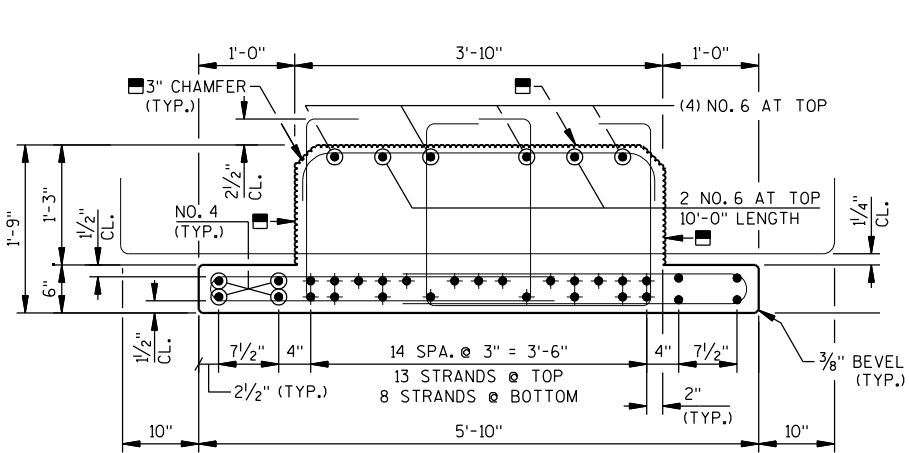
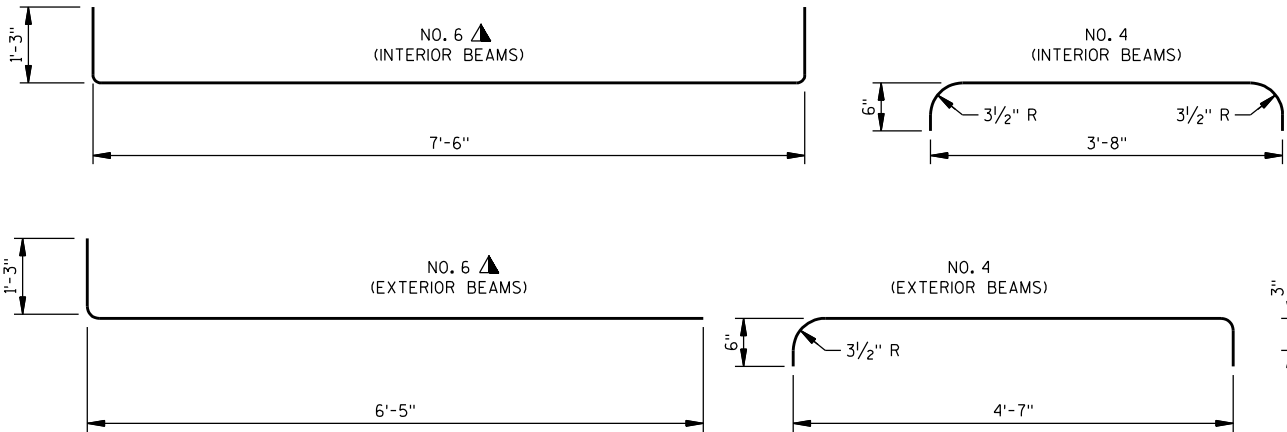
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ELEVATION

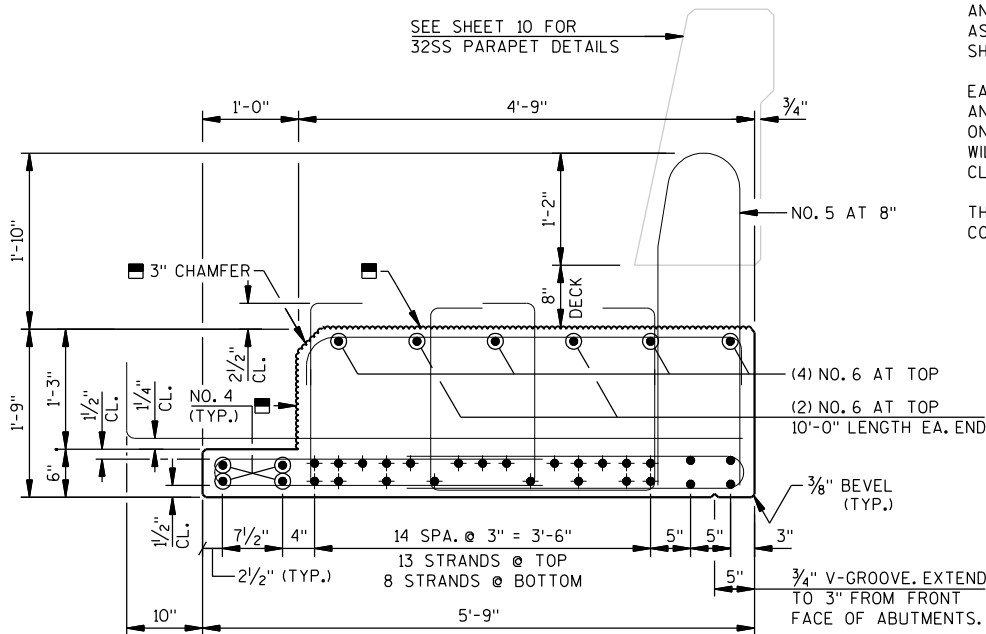
PLAN

INTERIOR BEAM SHOWN, EXTERIOR SIMILAR



TYPICAL SECTION - INTERIOR BEAM

ROUGHENED CONTACT SURFACE WITH 1/4" AMPLITUDE.
ALL OTHER SURFACES SMOOTH CONCRETE FINISH.



TYPICAL SECTION - EXTERIOR BEAM

ROUGHENED CONTACT SURFACE WITH 1/4" AMPLITUDE.
ALL OTHER SURFACES SMOOTH CONCRETE FINISH.

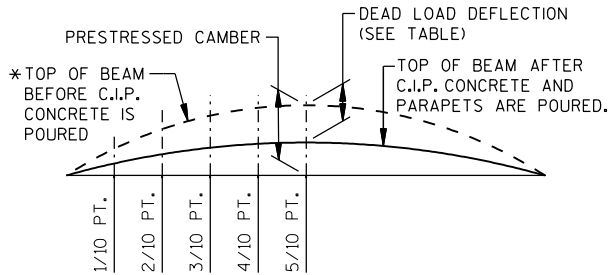
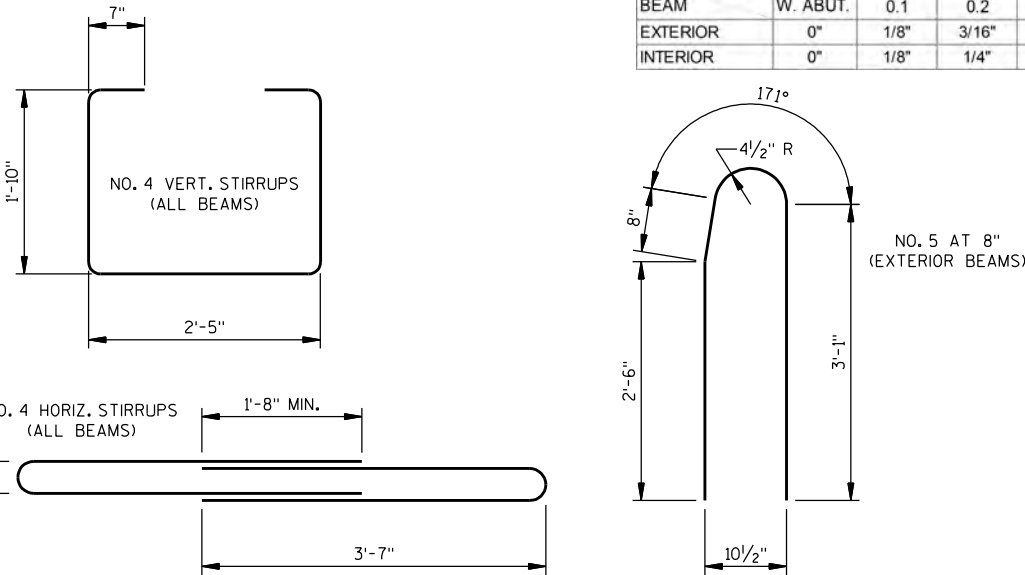
DEADLOAD DEFLECTION TABLE

POINT	C.L. BRG.										C.L. BRG.
BEAM	W. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	E. ABUT.
EXTERIOR	0"	1/8"	3/16"	3/16"	1/4"	5/16"	1/4"	3/16"	3/16"	1/8"	0"
INTERIOR	0"	1/8"	1/4"	3/8"	7/16"	1/2"	7/16"	3/8"	1/4"	1/8"	0"

DEFLECTIONS NOTES

DEFLECTIONS ARE SYMMETRICAL ABOUT THE 0.5 POINT OF THE SPAN.

DEFLECTIONS SHOWN IN THE TABLE INCLUDE DEFLECTIONS DUE TO CAST-IN-PLACE TOPPING AND PARAPETS.



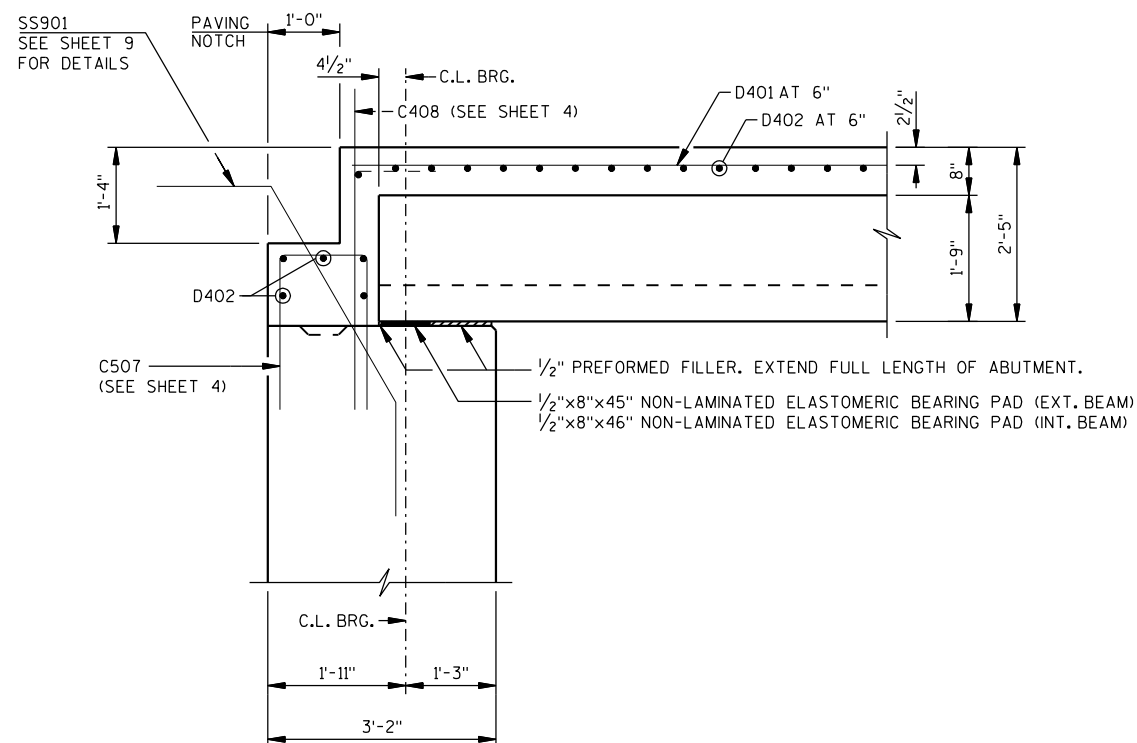
CAMBER DEFLECTION DIAGRAM

*THE THEORETICAL INITIAL CAMBER VALUE AT TIME OF STRAND RELEASE AT MIDSPAN IS 0.6" FOR INTERIOR BEAMS AND 0.5" FOR EXTERIOR BEAMS (FOR INFORMATIONAL PURPOSES ONLY).

NO.	DATE	REVISION	BY
1	3/22/2013	1	JJD
2	3/22/2013	2	JJD
3	3/22/2013	3	JJD
4	3/22/2013	4	JJD
5	3/22/2013	5	JJD
6	3/22/2013	6	JJD
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75	3/22/2013	75	JJD
76	3/22/2013	76	JJD
77	3/22/2013	77	JJD
78	3/22/2013	78	JJD
79	3/22/2013	79	JJD
80	3/22/2013	80	JJD
81	3/22/2013	81	JJD
82	3/22/2013	82	JJD
83	3/22/2013	83	JJD
84	3/22/2013	84	JJD
85	3/22/2013	85	JJD
86	3/22/2013	86	JJD
87	3/22/2013	87	JJD
88	3/22/2013	88	JJD
89	3/22/2013	89	JJD
90	3/22/2013	90	JJD
91	3/22/2013	91	JJD
92	3/22/2013	92	JJD
93	3/22/2013	93	JJD
94	3/22/2013	94	JJD
95	3/22/2013	95	JJD
96	3/22/2013	96	JJD
97	3/22/2013	97	JJD
98	3/22/2013	98	JJD
99	3/22/2013	99	JJD
100	3/22/2013	100	JJD

PRESTRESSED
BEAM DETAILS

SHEET 6 OF 10
131

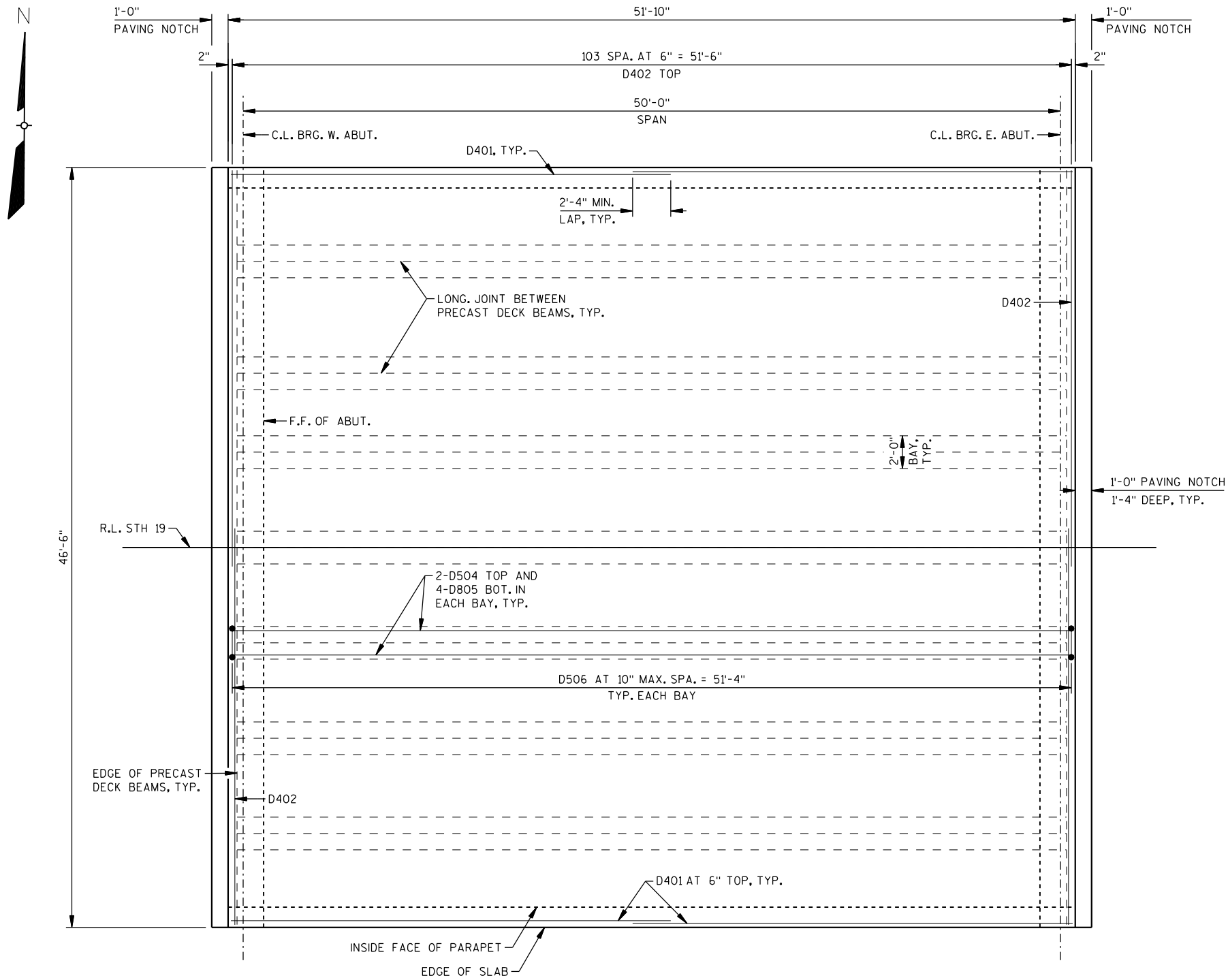


LONGITUDINAL SECTION

STAGGER D506 STIRRUPS TO AVOID NO. 6 TRANSVERSE BARS PROJECTING FROM BEAMS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-608			
DRAWN BY		MES	PLANS CK'D. ETP
SUPERSTRUCTURE		SHEET 7 OF 10 — 132 —	

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PLAN

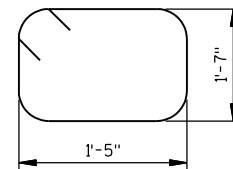
TOP OF DECK ELEVATIONS

	℄ BRG. W. ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	℄ BRG. E. ABUT.
N. EDGE OF DECK	870.41	870.39	870.36	870.34	870.31	870.29	870.26	870.24	870.21	870.19	870.16
CROWN OR ℄	870.85	870.83	870.80	870.78	870.75	870.73	870.70	870.68	870.65	870.63	870.60
S. EDGE OF DECK	870.41	870.39	870.36	870.34	870.31	870.29	870.26	870.24	870.21	870.19	870.16

ALL BAR STEEL REINFORCEMENT SHOWN IN THIS BILL SHALL BE EPOXY COATED.

MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT = 14,710 LBS
D401	186	26 - 11			DECK - TOP	LONGIT.
D402	228	24 - 3			DECK - TOP	TRANSV.
D403	-	---			NOT USED	-
D504	14	51 - 6			DECK - OVER JOINTS - TOP	LONGIT.
D805	28	51 - 6			DECK - OVER JOINTS - BOT.	LONGIT.
D506	441	6 - 8	X		DECK - OVER JOINTS	STIRRUPS

STAGGER D506 STIRRUPS TO AVOID NO.6 TRANSVERSE BARS PROJECTING FROM BEAMS.

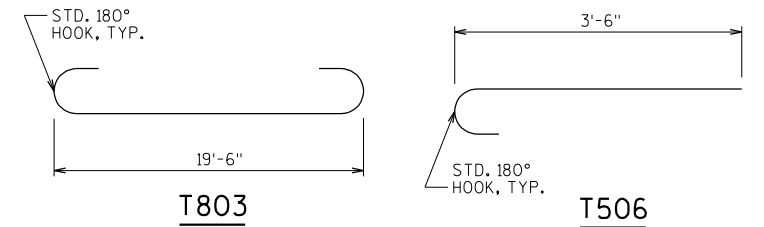


D506

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-608			
DRAWN BY		MES	PLANS CK'D. ETP
SUPERSTRUCTURE		SHEET 8 OF 10 — 133 —	



MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION	
COATED BARS					TOTAL WEIGHT = 19,220 LBS	
T501	94	12 - 1	X		APPROACH SLAB FOOTING	STIRRUP
T802	24	46 - 2			APPROACH SLAB FOOTING	TRANSV.
T803	154	21 - 4	X		APPROACH SLAB - BOT.	LONGIT.
T504	94	19 - 6			APPROACH SLAB - TOP	LONGIT.
T505	84	46 - 2			APPROACH SLAB - TOP & BOT.	TRANSV.
T506	80	4 - 1	X		APPROACH SLAB - TOP - WING	TRANSV.

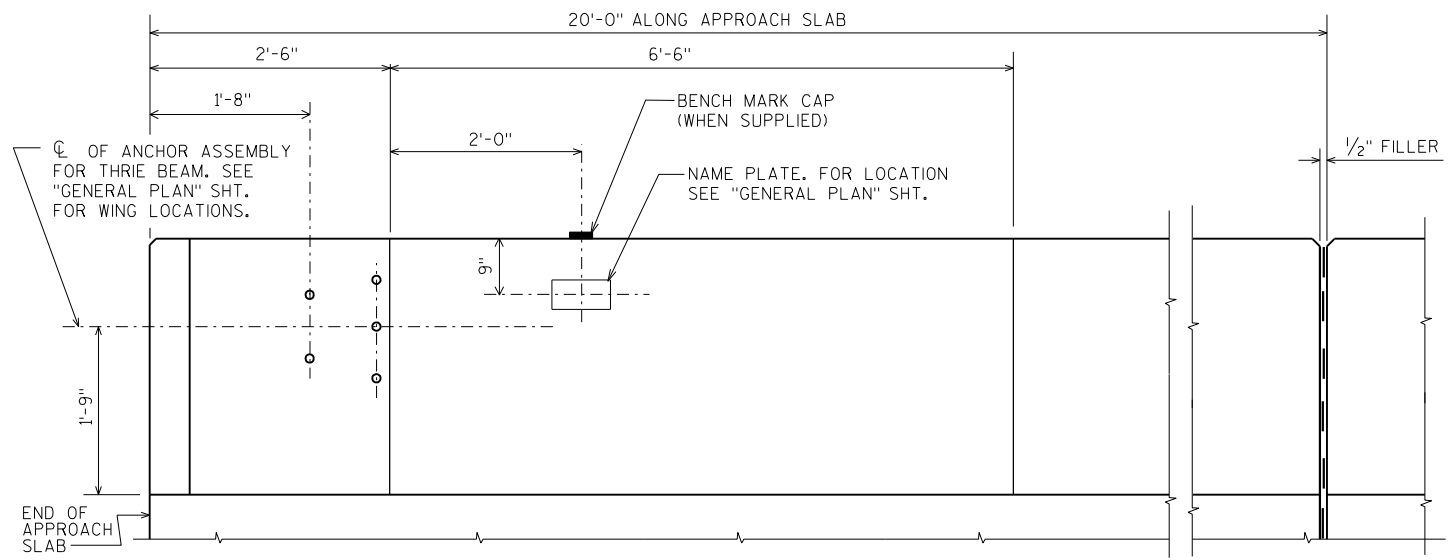


* PAVING NOTCH MEASURED NORMAL TO ABUTMENT
** WEIGHT INCLUDED IN "BAR STEEL REINFORCEMENT HS COATED BRIDGES".

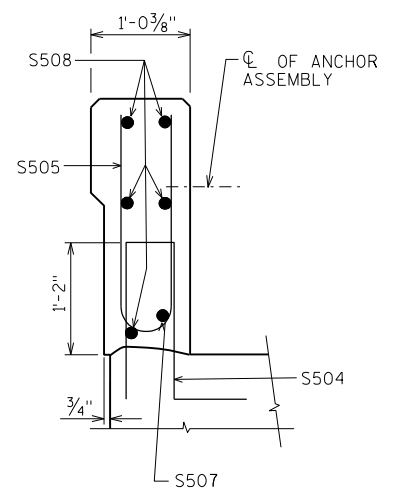
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-608			
		DRAWN BY	MES PLANS CK'D. ETP
STRUCTURAL APPROACH SLAB		SHEET 9 OF 10 134	

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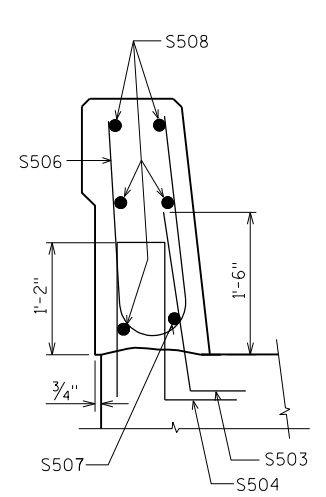
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1 2 3 4
1 2 3 4
7 7
12



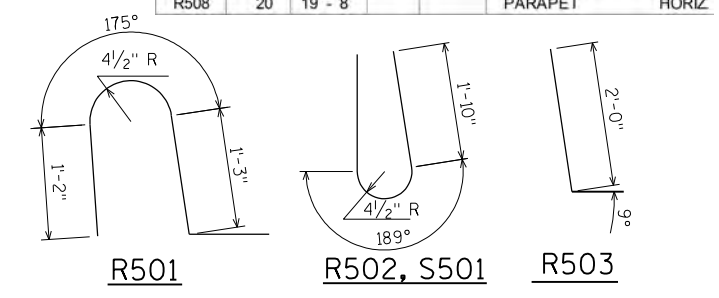
INSIDE ELEVATION



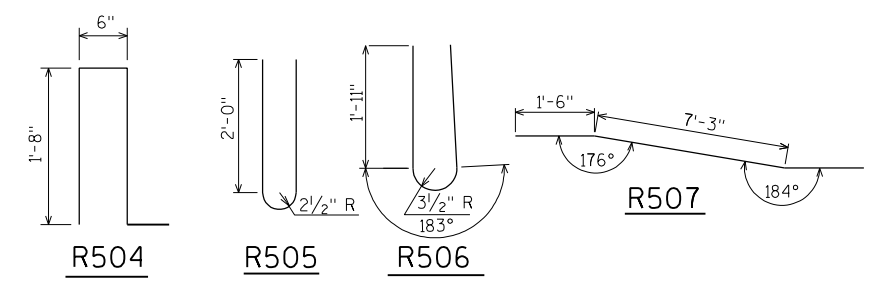
SECTION A



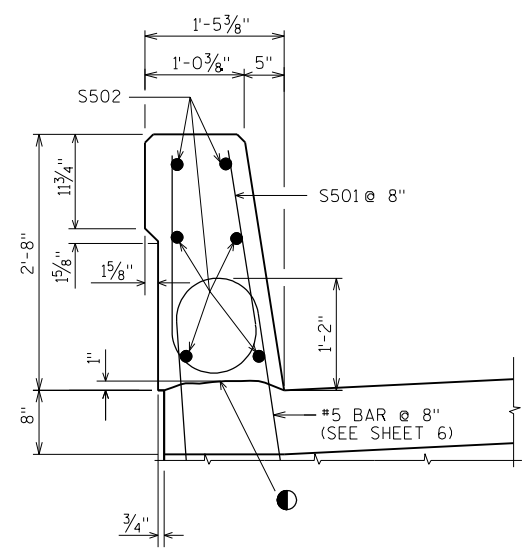
SECTION B



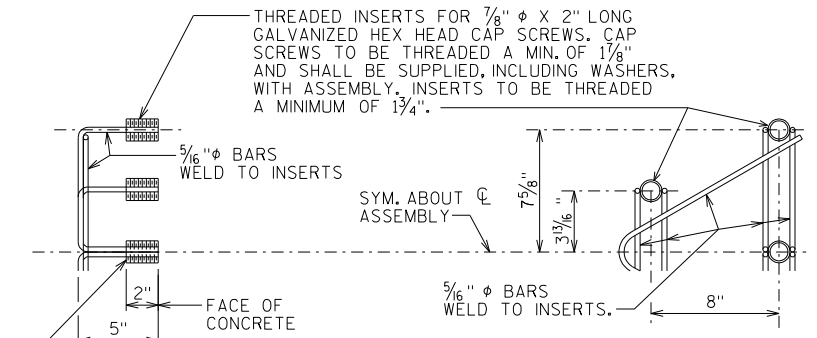
R501 R502, S501 R503



R504 R505 R506 R507



SECTION C



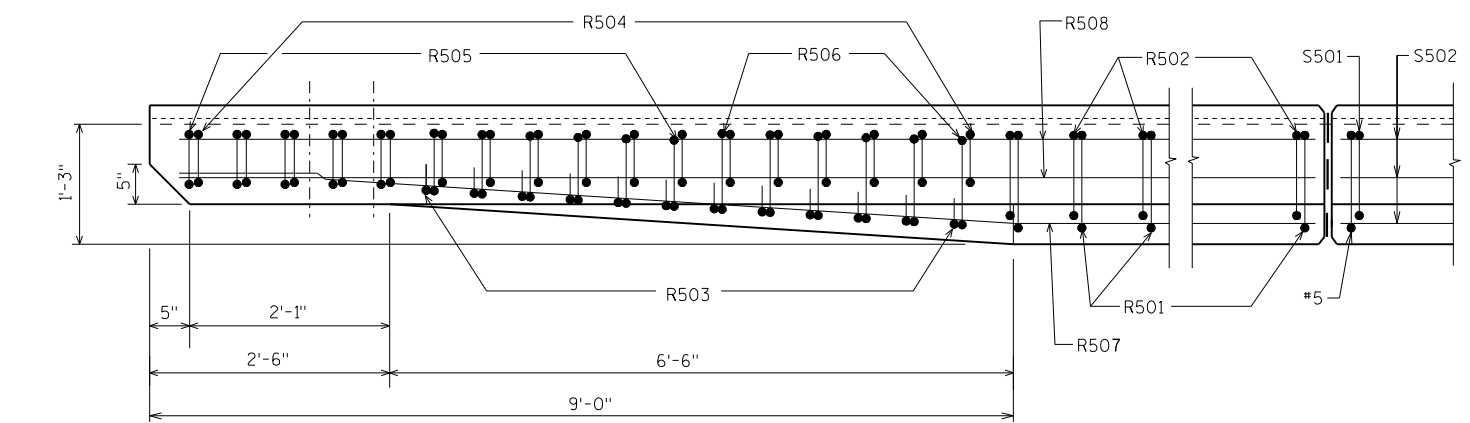
DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.
ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

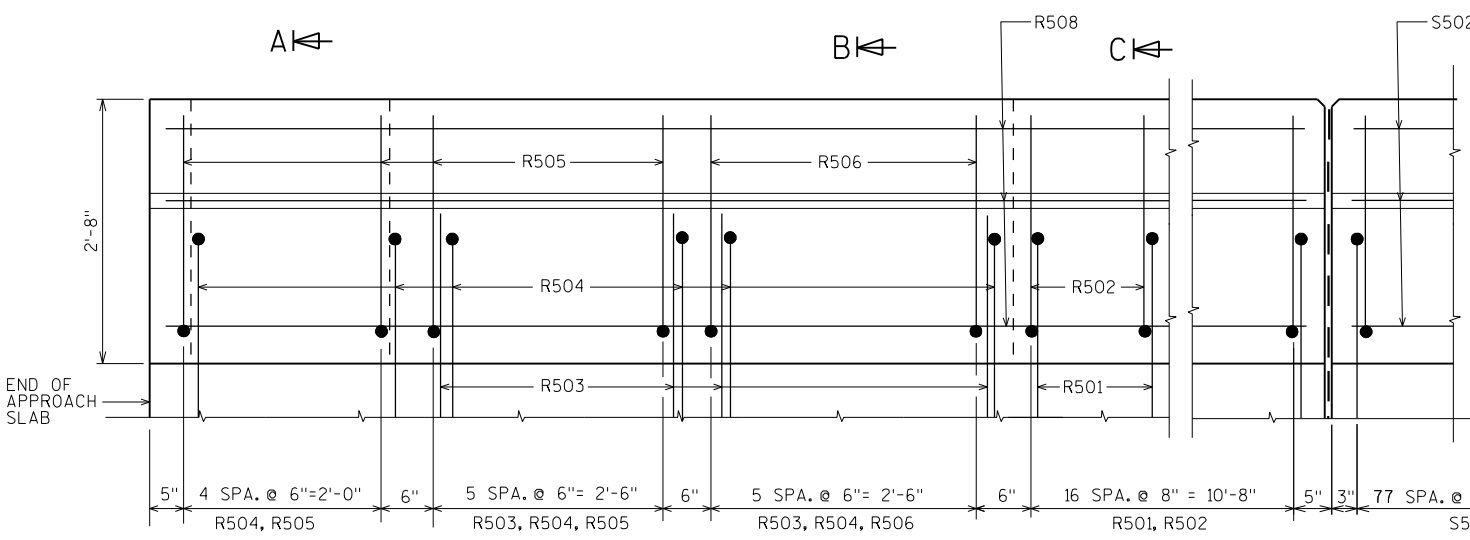
BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL BAR STEEL REINFORCEMENT SHOWN IN THIS BILL SHALL BE EPOXY COATED.

MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT =
S501	156	5 - 0	X		PARAPET	VERT.
S502	12	51 - 6			PARAPET	HORIZ



PLAN

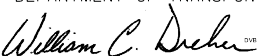


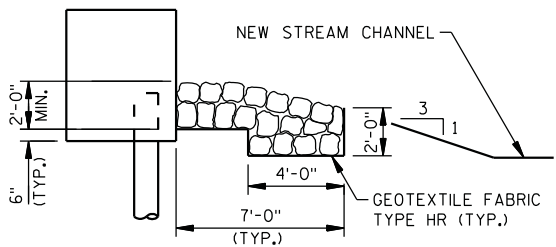
OUTSIDE ELEVATION

CONST. JOINT - STRIKE OFF AS SHOWN.

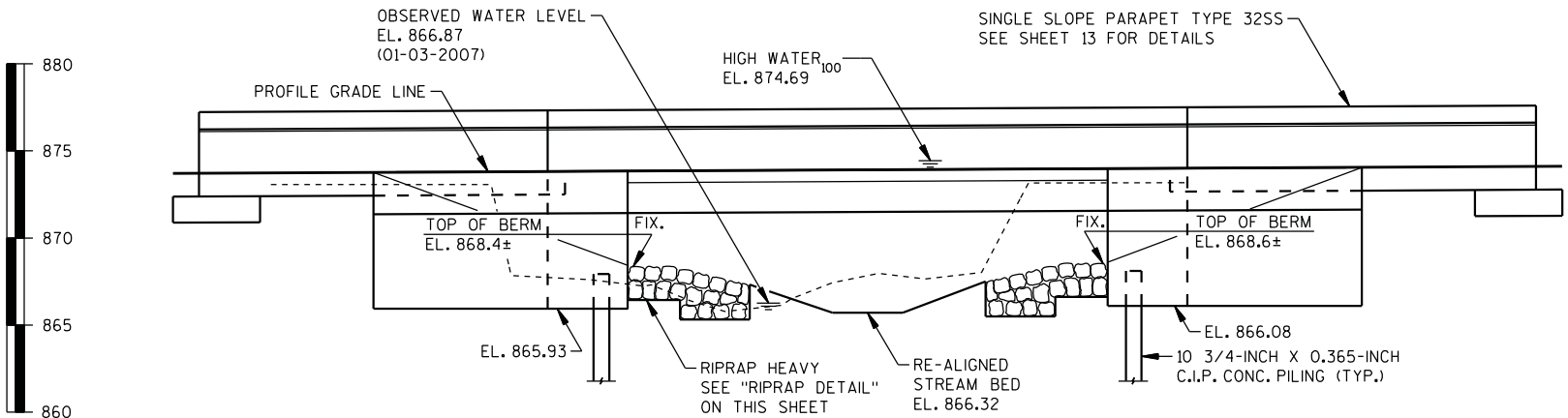
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-608			
DRAWN BY		MES	PLANS CKD. ETP
SINGLE SLOPE PARAPET 32SS		SHFFT 10 OF 10 135	

Q ₅ _____	292	CFS
HW ₅ _____	873.61	FT.
MIN. AREA (BR.) _____	71.8	SQ. FT.
MIN. LOW STEEL EL. _____	871.25	FT.

NO.	DATE	REVISION	BY
			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED			3/22/13
CHIEF STRUCTURES DESIGN ENGINEER			DATE
STRUCTURE B-13-609			
STH 19 OVER TOKEN CREEK TRIBUTARY			
COUNTY	DANE	TOWN/CITY/VILLAGE	BURKE/WINDSOR
DESIGN SPEC.			
AASHTO LRFD	BRIDGE DESIGN	SPECIFICATIONS	
DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
MSK	ETP	MJK	ETP
GENERAL PLAN		SHEET 1 OF 13	
		136	

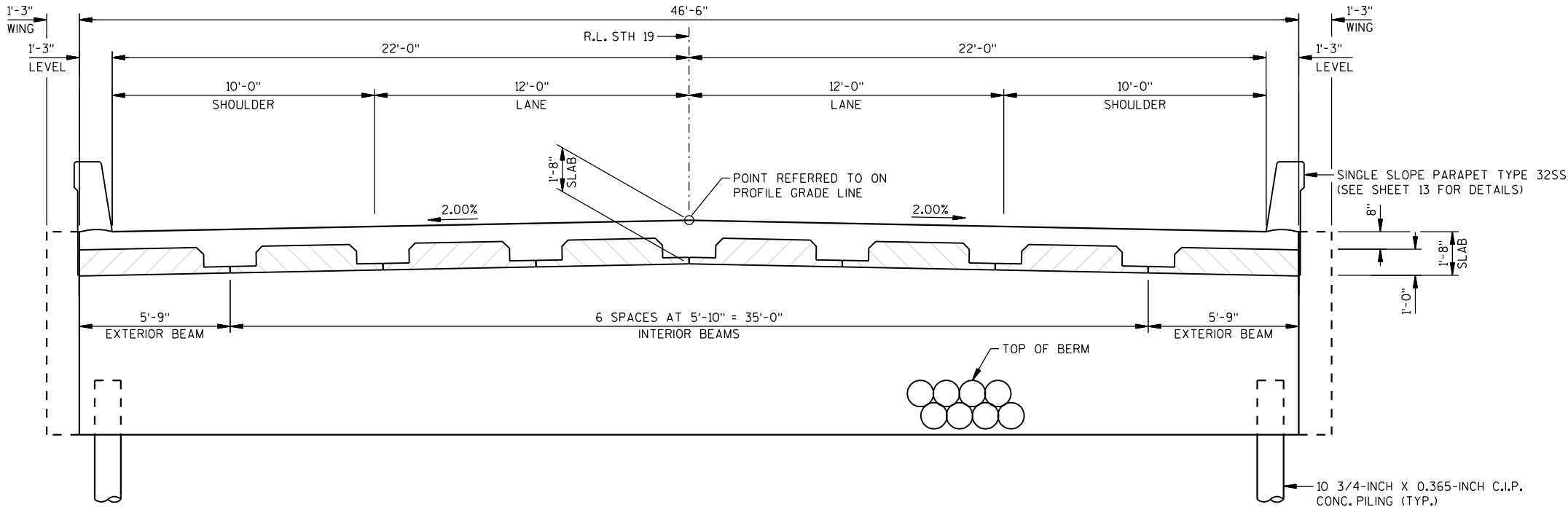


BRIDGE OFFICE:
BILL DREHER (608) 266-8489
CONSULTANT:
ERIC PRICE (608) 828-8181

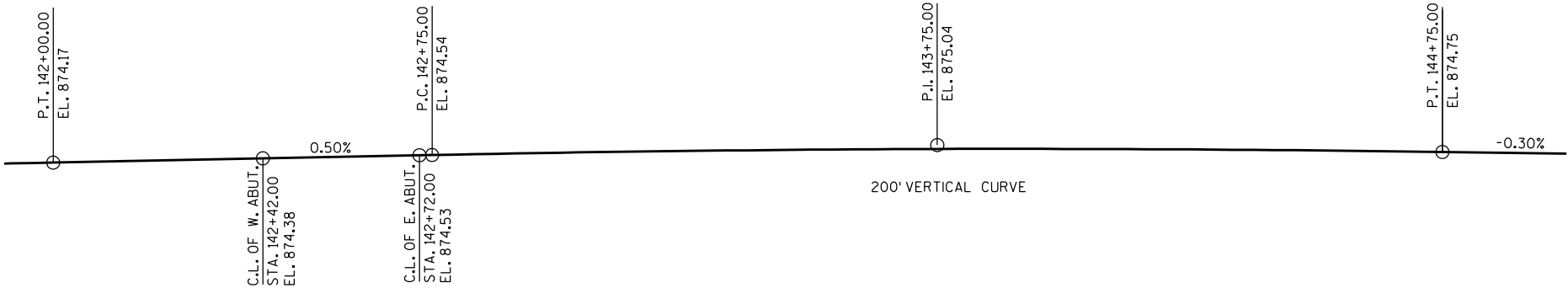


NO.	STATION	DESCRIPTION	ELEVATION
1288	142+17	CHISELED SQUARE SW CORNER OF BRIDGE 19.1' RT	873.34

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TYPICAL SECTION THRU STRUCTURE
(LOOKING EAST)



PROFILE GRADE LINE, STH 19

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEM	UNIT	WEST APPROACH	WEST ABUTMENT	EAST ABUTMENT	EAST APPROACH	SUPER.	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS, STATION 142+57	LS	—	—	—	—	—	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-13-609	LS	—	—	—	—	—	1
210.0100	BACKFILL STRUCTURE	CY	—	185	185	—	—	370
502.0100	CONCRETE MASONRY BRIDGES	CY	5	73	73	5	75	231
502.0200	CONCRETE MASONRY BRIDGES HES	CY	59	—	—	59	—	118
502.3200	PROTECTIVE SURFACE TREATMENT	SY	116	—	—	116	225	457
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	—	3,950	3,950	—	—	7,900
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	11,115	1,605	1,605	11,115	10,510	35,950
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	—	8	8	—	—	16
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	—	3	3	—	—	6
526.0100	TEMPORARY STRUCTURE STATION 12+29	LS	—	—	—	—	—	1
550.2106	PILING CIP CONCRETE 10 3/4 X 0.365-INCH	LF	—	240	240	—	—	480
606.0300	RIPRAP HEAVY	CY	—	85	85	—	—	170
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	70	85	85	70	—	310
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	—	2	2	—	—	4
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	—	170	170	—	—	340
SPV.0085.01	BAR STEEL REINFORCEMENT HS STAINLESS BRIDGES	LB	—	800	800	—	—	1,600
SPV.0090.03	PRESTRESSED DECK BEAM INTERIOR B-13-609	LF	—	—	—	—	185	185
SPV.0090.04	PRESTRESSED DECK BEAM EXTERIOR B-13-609	LF	—	—	—	—	62	62
SPV.0105.01	STREAM RELOCATION STRUCTURE B-13-609	LS	—	—	—	—	—	1
NON-BID ITEMS								
	FILLER	SIZE	—	—	—	—	—	1/2" & 3/4"

STATE PROJECT NUMBER

6085-00-76

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE FABRIC TYPE HR TO THE LIMITS SHOWN ON SHEET 10R AS DIRECTED BY THE ENGINEER.

THE FIRST DIGIT OF A THREE DIGIT BAR MARK AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

THE EXISTING STRUCTURE (B-13-479) IS A SINGLE SPAN CONCRETE DECK GIRDER STRUCTURE, 21.1' LONG x 34.7' WIDE.

AT THE BACKFACE OF ABUTMENTS, ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

SUPERSTRUCTURE QUANTITIES INCLUDE CONCRETE AND REINFORCEMENT BARS OF THE PARAPETS ON THE DECK.

PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE, TO THE FRONT FACE AND TOP OF PARAPETS, INCLUDING PARAPETS ON STRUCTURAL APPROACH SLABS AND BOTH PAVING NOTCHES.

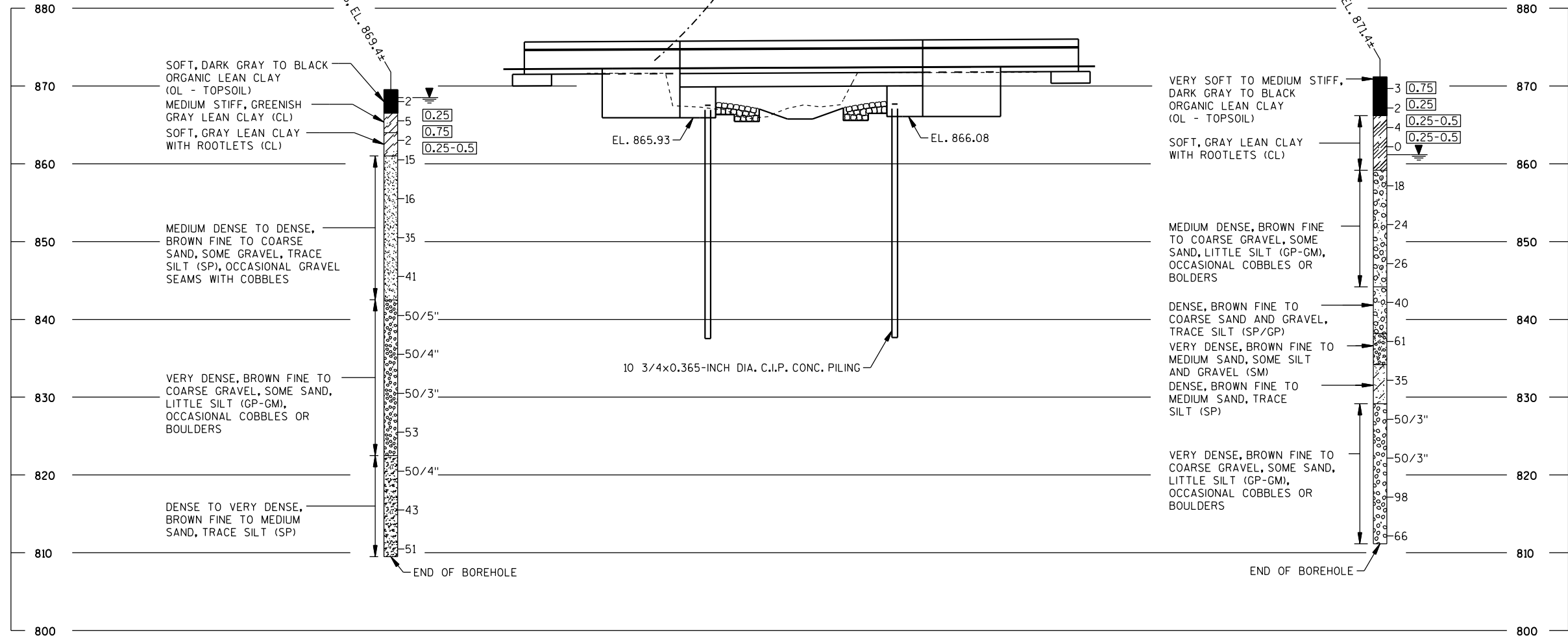
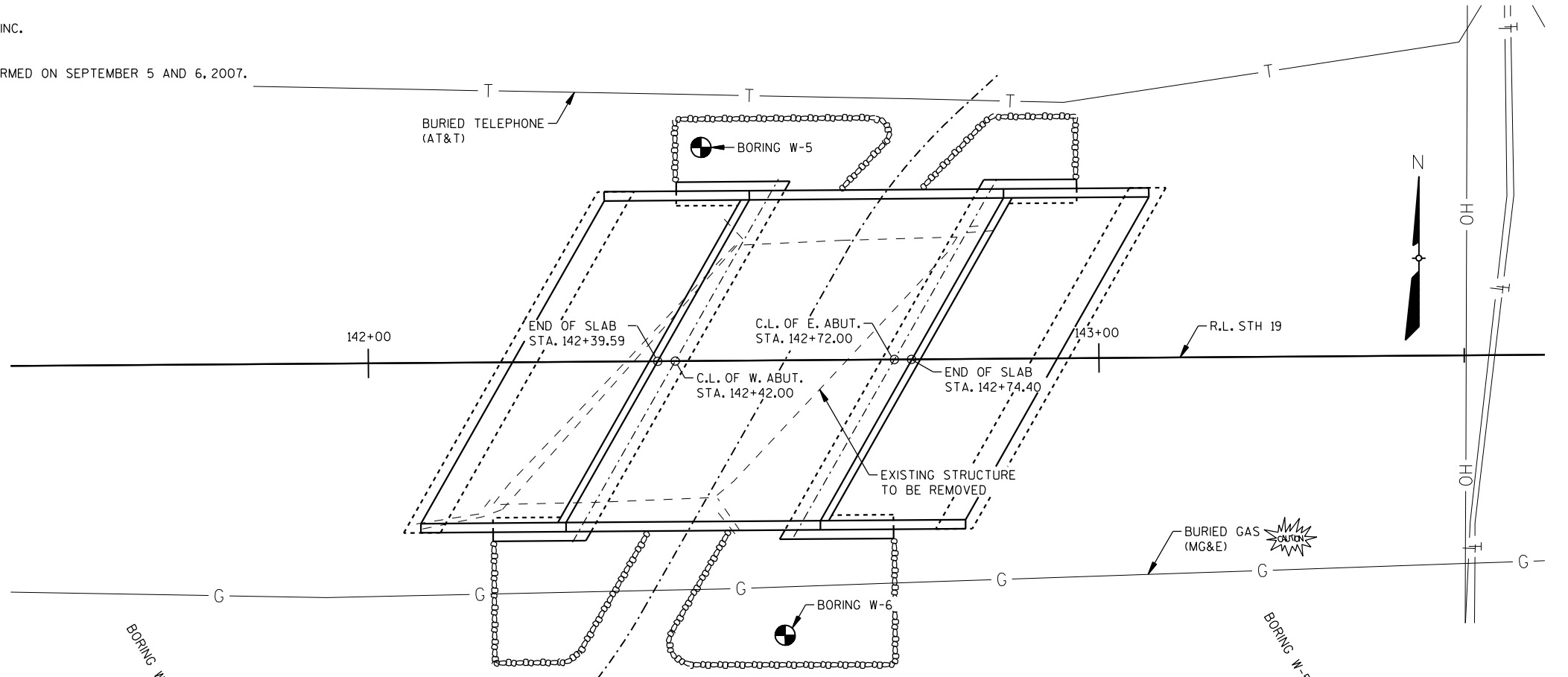
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-609			
DRAWN BY		MJK	PLANS CK'D. ETP
CROSS SECTION & QUANTITIES			SHEET 2 OF 13 137

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BATCH PRINT SHEET 3 OF 13

BORINGS PERFORMED BY:
BADGER STATE DRILLING CO., INC.
STOUGHTON, WISCONSIN

BORINGS W5 THRU W6 WERE PERFORMED ON SEPTEMBER 5 AND 6, 2007.

REPORT BY:
CGC, INC.
2921 PERRY STREET
MADISON, WI 53713



STATE PROJECT NUMBER
6085-00-76

ABBREVIATIONS
F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS
TOPSOIL SILT SANDSTONE
SAND PEAT LIMESTONE
GRAVEL CLAY IGNEOUS ROCK

LEGEND OF PROBING
PROBING NO. STA. ELEVATION
95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

LEGEND OF BORING
BORING NO. STA. ELEV.
UNCONFINED STRENGTH → 7.7
BLOWS PER FT. USING 140# WT. FALLING 30"
WASH SAMPLE
SHELBY TUBE — S.T.
GROUND WATER ELEVATION
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SANDY GRAVEL
F. BOULDERS OR COBBLES
SAND
SILTY CLAY
SO
LIMESTONE
UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CAGED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION
TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-609			
DRAWN BY		MJK	PLANS CK'D. MSK
SUBSURFACE EXPLORATION		SHEET 3 OF 13 138	

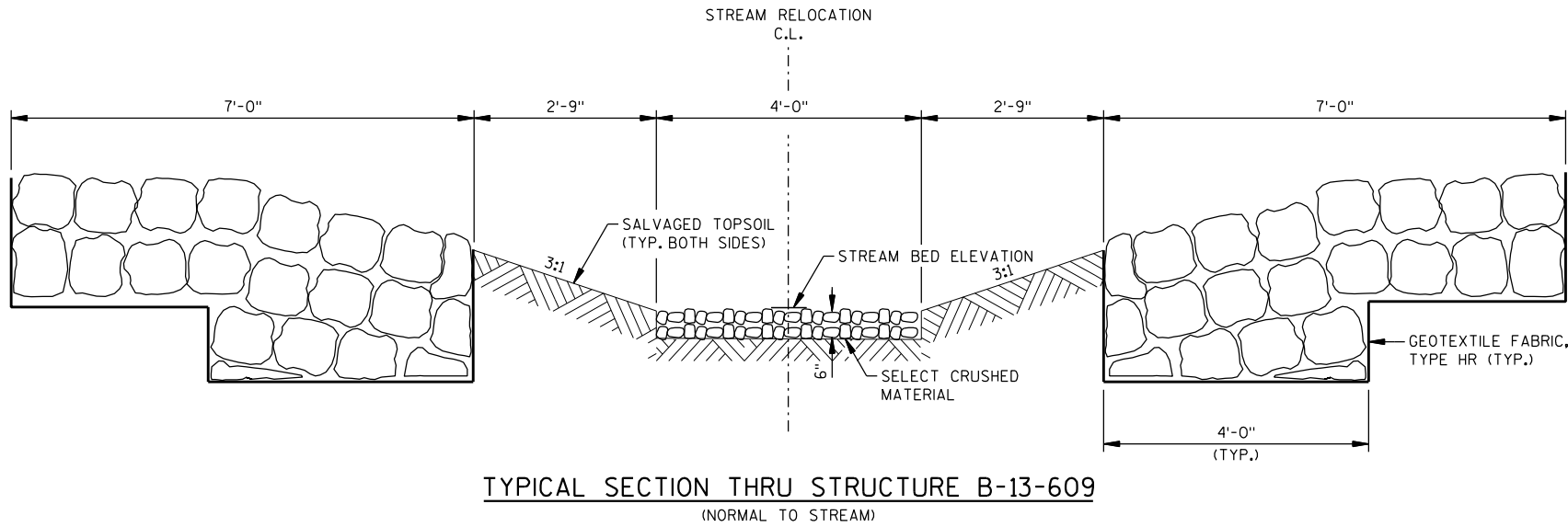
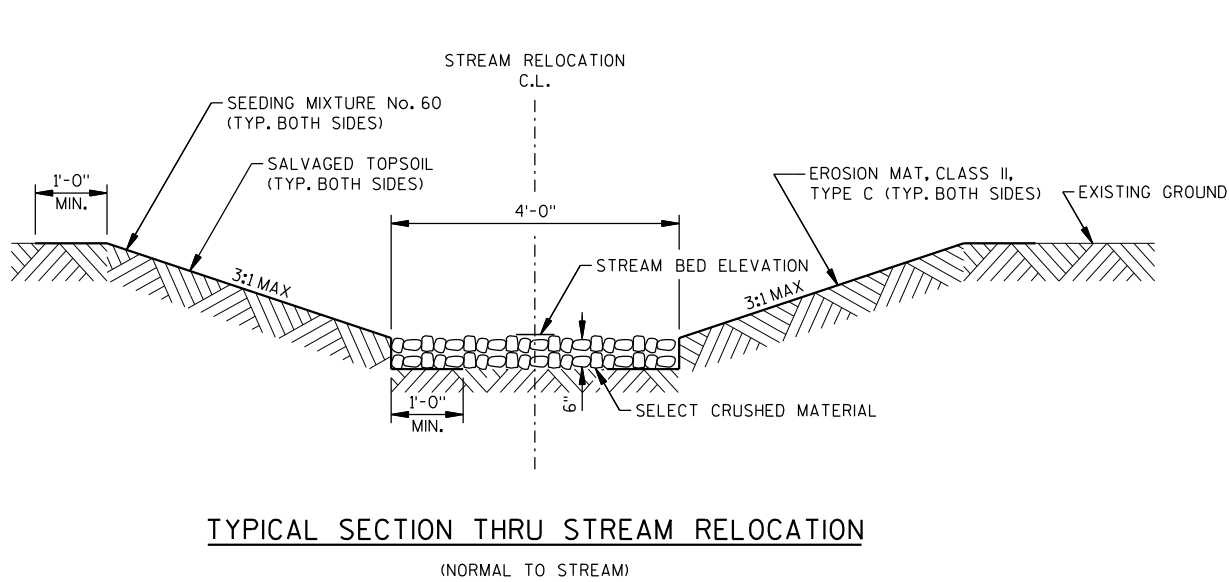
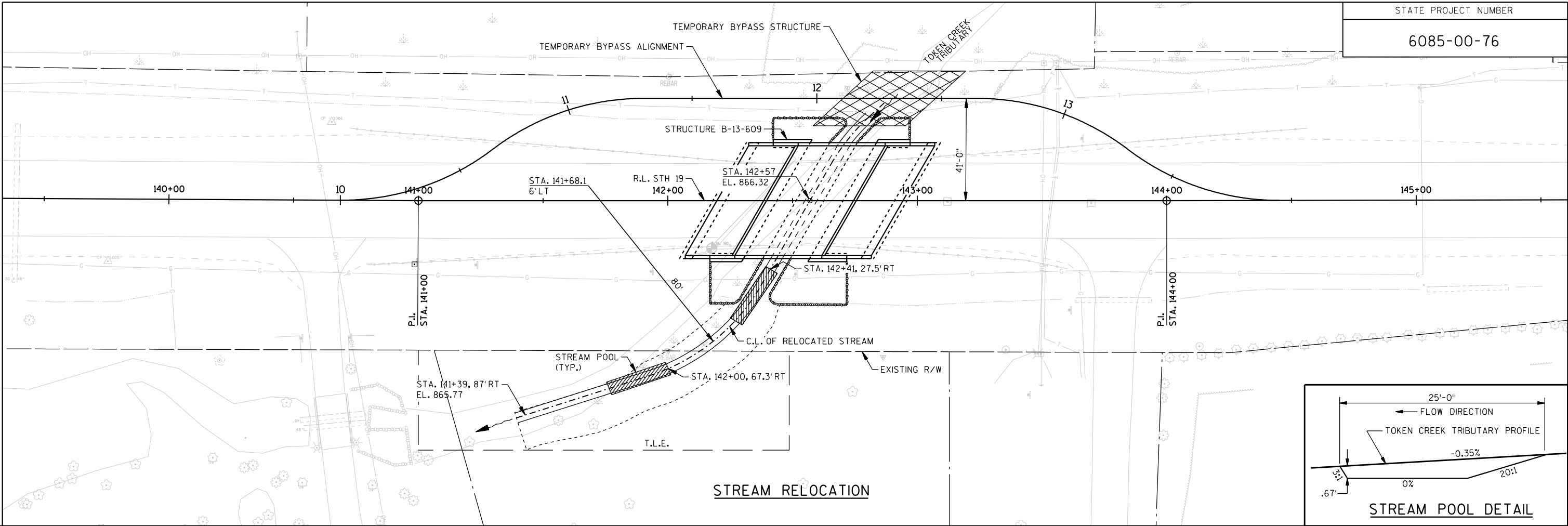
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BATCH PRINT SHEET 4 OF 13

8



STREAM RELOCATION DETAILS

NOTES

INCORPORATE EXISTING MISPLACED RIPRAP INTO PROPOSED RIPRAP LOCATIONS.

SELECT CRUSHED MATERIAL AND STREAM POOLS INCLUDED IN BID ITEM "STREAM RELOCATION B-13-609".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-609			
DRAWN BY		MJK	PLANS CK'D. ETP
STREAM RELOCATION PLAN		SHEET 4 OF 13 139	

8



WINGS	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E	EL. G	EL. H
1	6'-2 $\frac{1}{8}$ "	1'-9 $\frac{1}{4}$ "	7'-11 $\frac{3}{8}$ "	1'-8 $\frac{3}{8}$ "	7'-10 $\frac{1}{2}$ "	873.88	873.81
2	6'-3 $\frac{1}{8}$ "	1'-9 $\frac{1}{4}$ "	8'-1 $\frac{1}{8}$ "	1'-8 $\frac{1}{4}$ "	8'-0 $\frac{1}{8}$ "	874.01	873.94
3	6'-3 $\frac{3}{8}$ "	1'-8 $\frac{1}{8}$ "	8'-0 $\frac{3}{4}$ "	1'-9 $\frac{1}{8}$ "	8'-1 $\frac{1}{2}$ "	874.14	874.20
4	6'-2 $\frac{1}{4}$ "	1'-9"	7'-11 $\frac{1}{8}$ "	1'-10"	8'-0 $\frac{1}{4}$ "	874.01	874.09

SEE "GENERAL PLAN" SHEET FOR WING NUMBERS.

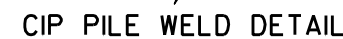
☆ **OPTIONAL CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 X 6.**
(18" R.M.W. AT B.F. & $\frac{3}{4}$ " "V" GROOVE AT F.F. IF JOINT IS USED).

■ **$\frac{1}{2}$ " FILLER - TO EXTEND FROM BRIDGE SEAT TO TOP OF CONCRETE WING.**

▽ **18" (R.M.W.) RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS AT BACK FACE.**

◀ **$\frac{3}{4}$ " FILLER - TO EXTEND MIN. 1'-4" DOWN FROM TOP OF CONCRETE WING.**

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE).

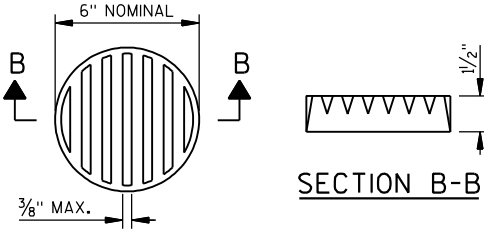


NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-609			
DRAWN BY		MJK	PLANS CK'D. ETP
ABUTMENT DETAILS		SHEET 6 OF 13 — 141 —	

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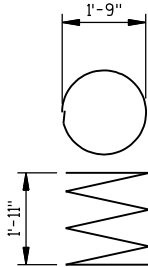


RODENT SHIELD DETAIL

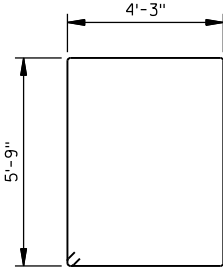
DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD,PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

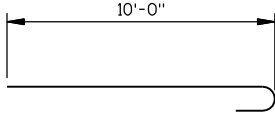
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL.THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH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



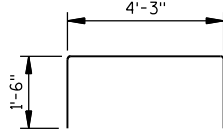
A401



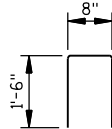
A503



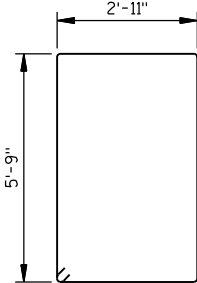
A806



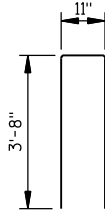
A508



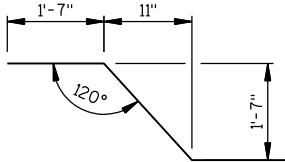
A410



C501



C506



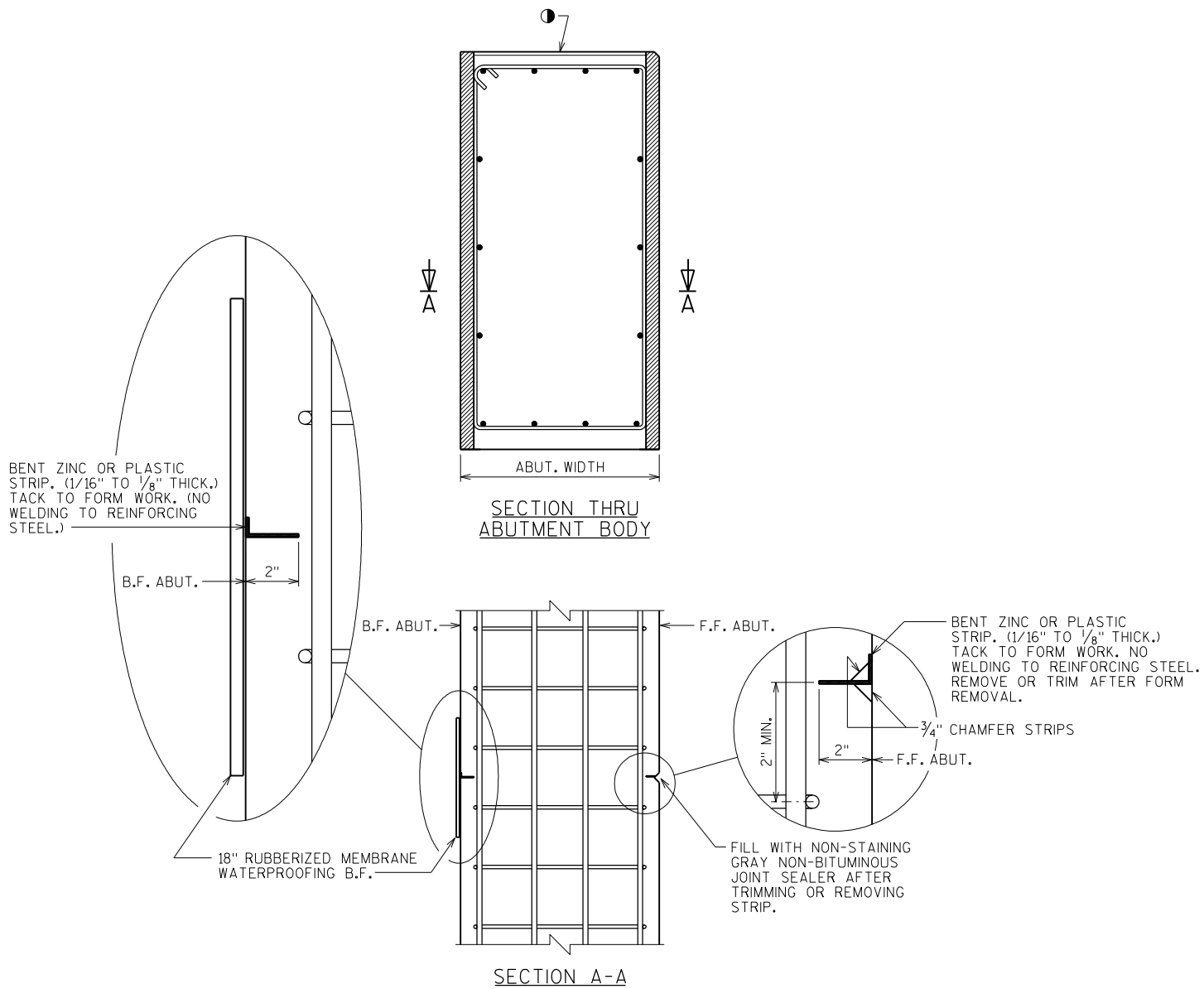
SS901

BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT-TO-OUT OF BAR.
BOTH ABUTMENTS ARE INCLUDED IN THIS BILL OF BARS.

MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION	
NON-COATED BARS					TOTAL WEIGHT = 7,900 LBS	
A401	16	28 - 0	X		BODY, 1 PER PILE	VERT.
A402	32	2 - 3			BODY, 2 PER PILE	VERT.
A503	140	20 - 7	X		BODY STIRRUPS	VERT.
A604	22	31 - 10			BODY	HORIZ.
A605	22	27 - 3			BODY	HORIZ.
A806	28	10 - 11	X		BODY - B.F.	HORIZ.
A607	28	24 - 8			BODY - B.F.	HORIZ.
A508	34	7 - 0	X		BODY - TOP	VERT.
A409	8	16 - 0			BODY - TOP	HORIZ.
A410	108	3 - 6	X		BODY - TOP	VERT.
A411	4	27 - 3			BODY - TOP	HORIZ.
A412	4	28 - 4			BODY - TOP	HORIZ.
COATED BARS					TOTAL WEIGHT = 3,210 LBS	
C501	40	17 - 11	X		WING STIRRUP	VERT.
C602	16	11 - 2			WINGS 1 & 3 - B.F.	HORIZ.
C503	14	12 - 4			WINGS 1 & 3 - F.F.	HORIZ.
C604	16	10 - 4			WINGS 2 & 4 - B.F.	HORIZ.
C505	14	15 - 3			WINGS 2 & 4 - F.F.	HORIZ.
C506	82	8 - 0	X		WING	VERT.
C407	12	7 - 9			WINGS 1 & 3 - B.F. & F.F	HORIZ.
C608	8	8 - 4			WINGS 1 & 3 - TOP	HORIZ.
C409	12	8 - 10			WINGS 2 & 4 - B.F. & F.F	HORIZ.
C610	8	9 - 5			WINGS 2 & 4 - TOP	HORIZ.
C411	182	4 - 2			ABUT. DIAPHRAGM	VERT.
COATED BARS					TOTAL WEIGHT = 1,600 LBS	
SS901	94	5 - 0	X		ABUTMENT TO APPROACH SLAB	HORIZ.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-609			
DRAWN BY		MJK	PLANS CK'D. ETP
ABUTMENT DETAILS		SHEET 7 OF 13 142	



ALTERNATE CONSTRUCTION JOINT AT ABUTMENT

NOTES

PARTIAL ZINC OR PLASTIC BULKHEAD MAY BE USED AS ALTERNATE CONSTRUCTION JOINT, WITH THE PERMISSION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

VERTICAL CONSTRUCTION JOINT KEYWAY IS NOT REQUIRED WHEN USING ALTERNATE CONSTRUCTION JOINT.

CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD.

- USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY 1/2" DEEP.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-609			
DRAWN BY		MJK	PLANS CK'D. ETP
ALTERNATE CONSTRUCTION JOINT		SHEET 8 OF 13 143 ALT JOINT 10-08	

PRESTRESSED CAMBER

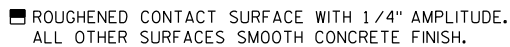
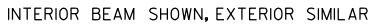
DEAD LOAD DEFLECTION (SEE TABLE)

*TOP OF BEAM BEFORE C.I.P. CONCRETE IS POURED

TOP OF BEAM AFTER C.I.P. CONCRETE AND PARAPETS ARE POURED.

1/10 PT. 2/10 PT. 3/10 PT. 4/10 PT. 5/10 PT.

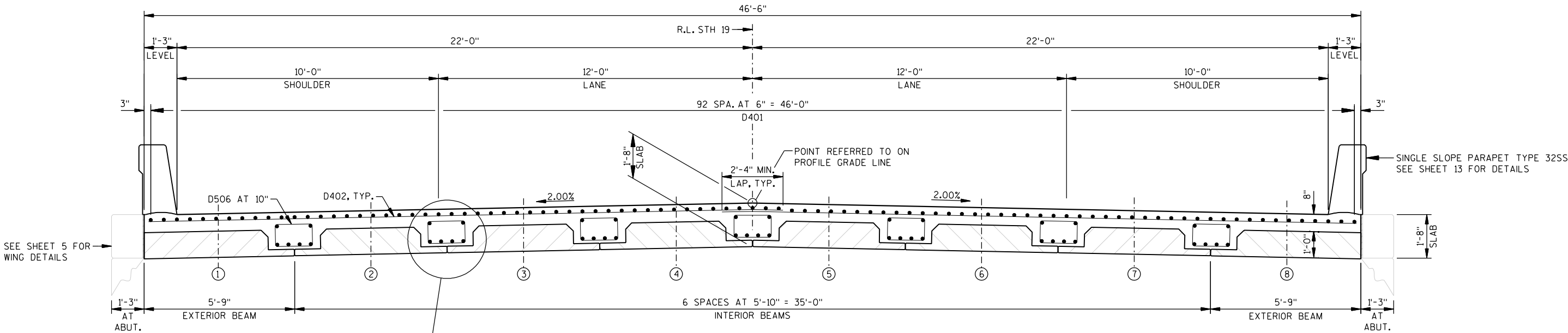
*THE THEORETICAL INITIAL CAMBER VALUE AT TIME OF STRAND RELEASE AT MIDSPAN IS 0.2" FOR INTERIOR BEAMS AND 0.2" FOR EXTERIOR BEAMS (FOR INFORMATIONAL PURPOSES ONLY).



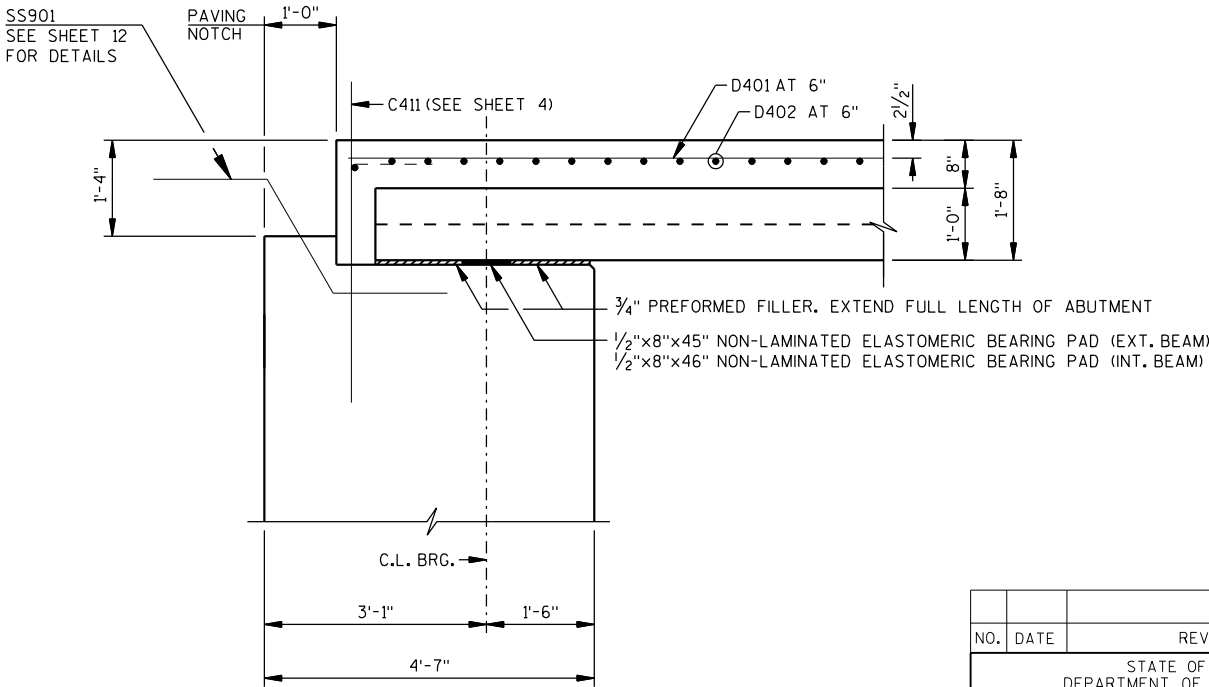
POINT	C.L. BRG.										C.L. BRG.
BEAM	W. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	E. ABUT.
EXTERIOR	0°	1/16"	1/8"	1/8"	3/16"	3/16"	3/16"	1/8"	1/8"	1/16"	0"
INTERIOR	0°	1/8"	3/16"	3/16"	1/4"	5/16"	1/4"	3/16"	3/16"	1/8"	0"

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-609			
DRAWN BY		MJK	PLANS CK'D. ETP
PRESTRESSED BEAM DETAILS		SHEET 9 OF 13 144	

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PLOT TIME: 9:31:32 AM
BATCH PRINT SHEET 10 OF 13



SECTION THRU STRUCTURE



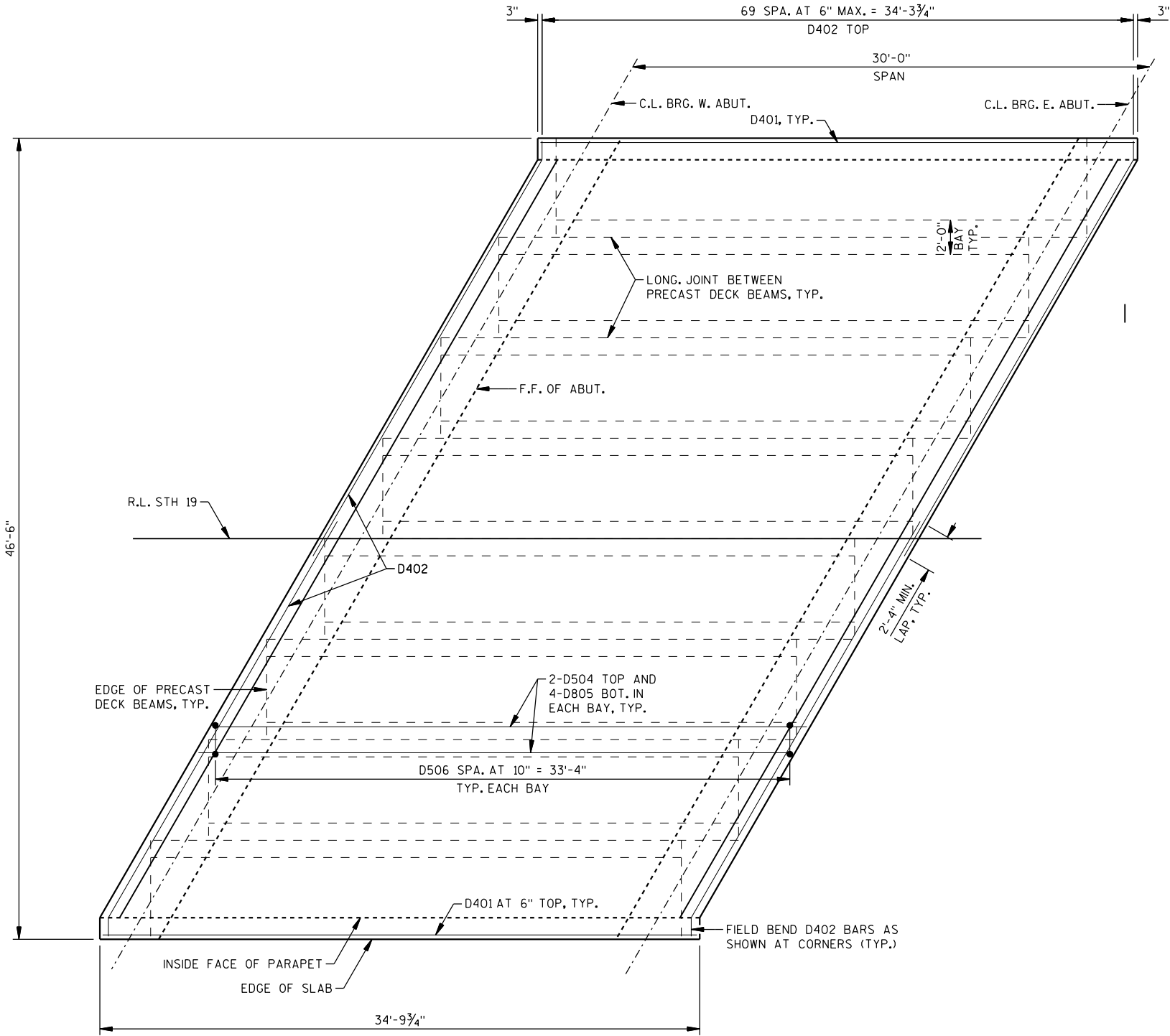
LONGITUDINAL SECTION

NOTES

AFTER PRECAST BEAMS ARE IN PLACE, FIELD BEND C411 BARS. SEE SHEET 4 FOR DETAILS.
STAGGER D506 STIRRUPS TO AVOID NO. 6 TRANSVERSE BARS PROJECTING FROM BEAMS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-609			
DRAWN BY		MES	PLANS CK'D. ETP
SUPERSTRUCTURE		SHEET 10 OF 13 145	

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PLOT DATE: 3/22/2013 PLOT TIME: 9:31:35 AM



PLAN

TOP OF DECK ELEVATIONS

	℄ BRG. W. ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	℄ BRG. E. ABUT.
N. EDGE OF DECK	874.00	874.02	874.03	874.05	874.06	874.08	874.09	874.10	874.12	874.13	874.15
CROWN OR R	874.38	874.39	874.41	874.42	874.44	874.45	874.47	874.48	874.50	874.51	874.53
S. EDGE OF DECK	873.88	873.89	873.91	873.92	873.94	873.95	873.97	873.98	874.00	874.01	874.03

STATE PROJECT NUMBER

6085-00-76

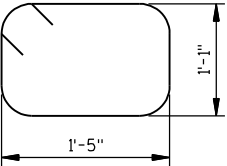
BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL BAR STEEL REINFORCEMENT SHOWN IN THIS BILL SHALL BE EPOXY COATED.

MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT = 9,520 LBS
D401	93	34 - 5			DECK - TOP	LONGIT.
D402	140	27 - 10			DECK - TOP	TRANSV.
D403	-	- - -			NOT USED	-
D504	14	34 - 5			DECK - OVER JOINTS - TOP	LONGIT.
D805	28	34 - 5			DECK - OVER JOINTS - BOT.	LONGIT.
D506	287	5 - 8	X		DECK - OVER JOINTS	STIRRUPS

NOTES

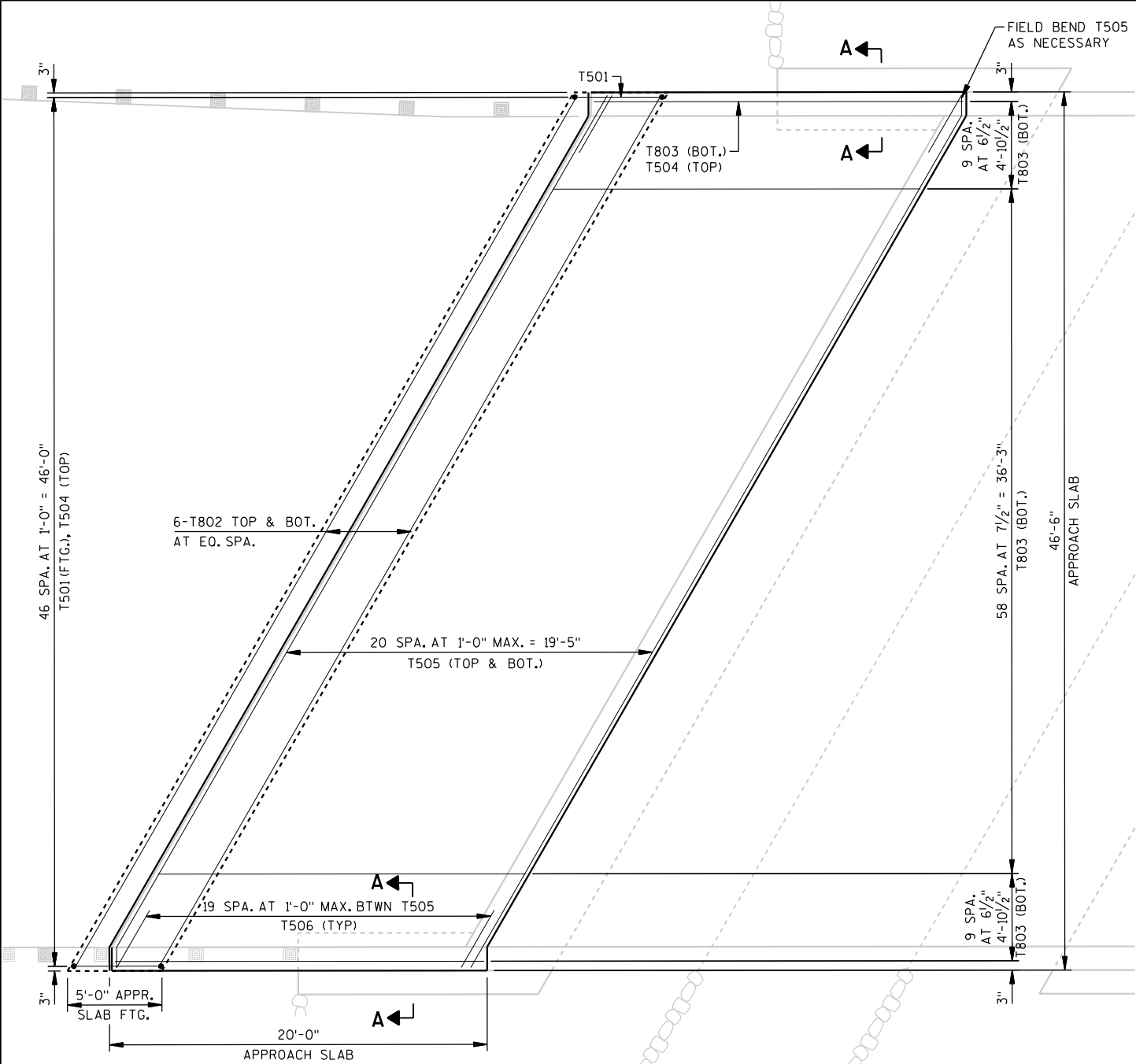
STAGGER D506 STIRRUPS TO AVOID NO. 6 TRANSVERSE BARS PROJECTING FROM BEAMS.



D506

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-609			
DRAWN BY		MES	PLANS CK'D. ETP
SUPERSTRUCTURE		SHEET 11 OF 13 146	

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BATCH PRINT SHEET 12 OF 13



APPROACH SLAB PLAN

(WEST APPROACH SHOWN, EAST APPROACH SIMILAR)

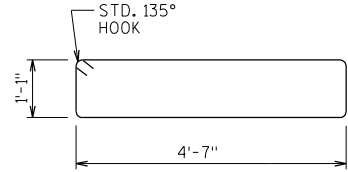
NOTES:

- (T01) PIPE UNDERDRAIN WRAPPED 6-INCH AT APPROACH SLAB, LOCATED ONLY ON UPHILL SIDE OF APRON FOOTING, SLOPE 0.5% MIN. TO SUITABLE DRAINAGE.
- (T02) STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE LENGTH OF THE FOOTING.
- (T03) PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE LENGTH OF THE SUBGRADE.
- POLYETHYLENE SHEETS ARE INCIDENTAL TO "CONCRETE MASONRY BRIDGES HES".
- ALL STRUCTURAL APPROACH SLAB CONCRETE PAID FOR UNDER "CONCRETE MASONRY BRIDGES HES".

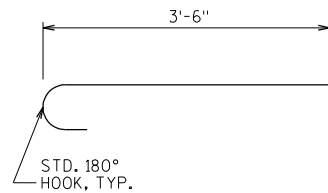
DESIGN DATA:

ALLOWABLE SOIL BEARING PRESSURE: 2,000 P.S.F.
CONCRETE STRENGTH f'c: 4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60, fy: 60,000 P.S.I.

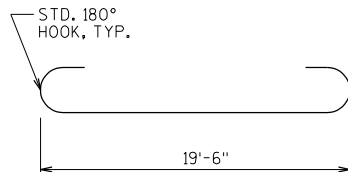
- * PAVING NOTCH MEASURED NORMAL TO ABUTMENT
** WEIGHT INCLUDED IN "BAR STEEL REINFORCEMENT HS COATED BRIDGES".



T501



T506

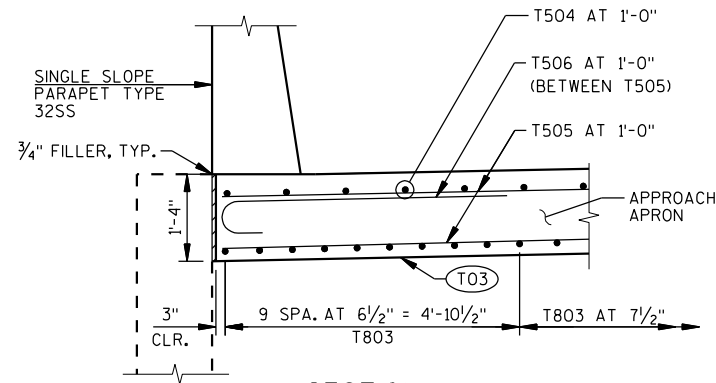


T803

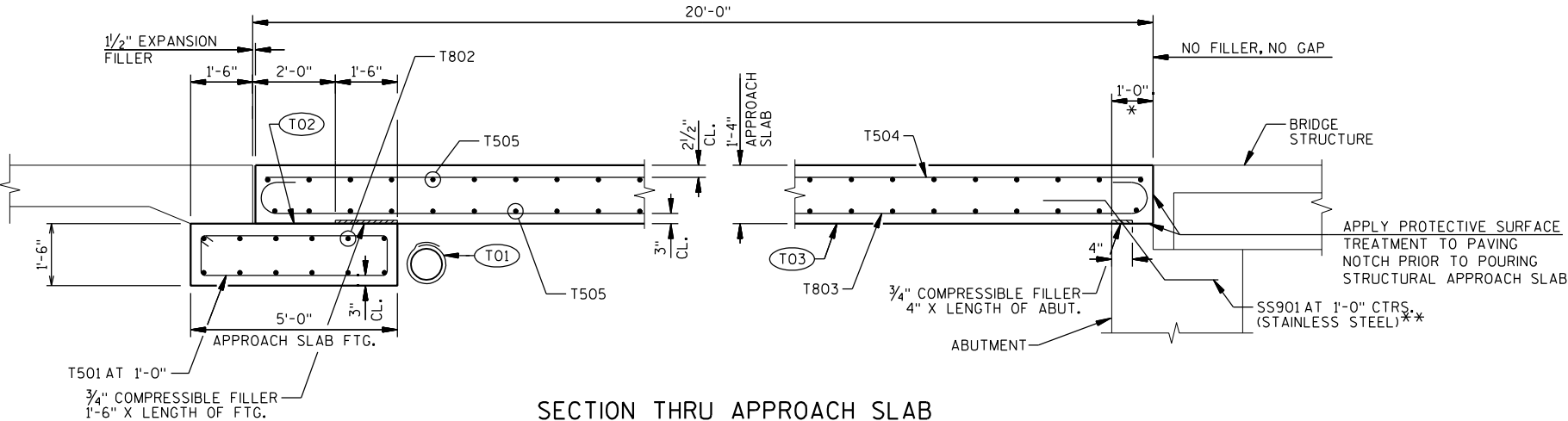
BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
BOTH ABUTMENTS ARE INCLUDED IN THIS BILL OF BARS.

MARK	NO.	REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
COATED BARS						TOTAL WEIGHT = 20,290 LBS
T501	94	12 - 1	X			APPROACH SLAB FOOTING STIRRUP
T802	24	53 - 3				APPROACH SLAB FOOTING TRANSV.
T803	154	21 - 4	X			APPROACH SLAB - BOT. LONGIT.
T504	94	19 - 6				APPROACH SLAB - TOP LONGIT.
T505	84	53 - 3				APPROACH SLAB - TOP & BOT. TRANSV.
T506	80	4 - 1	X			APPROACH SLAB - TOP - WING TRANSV.



SECTION A-A

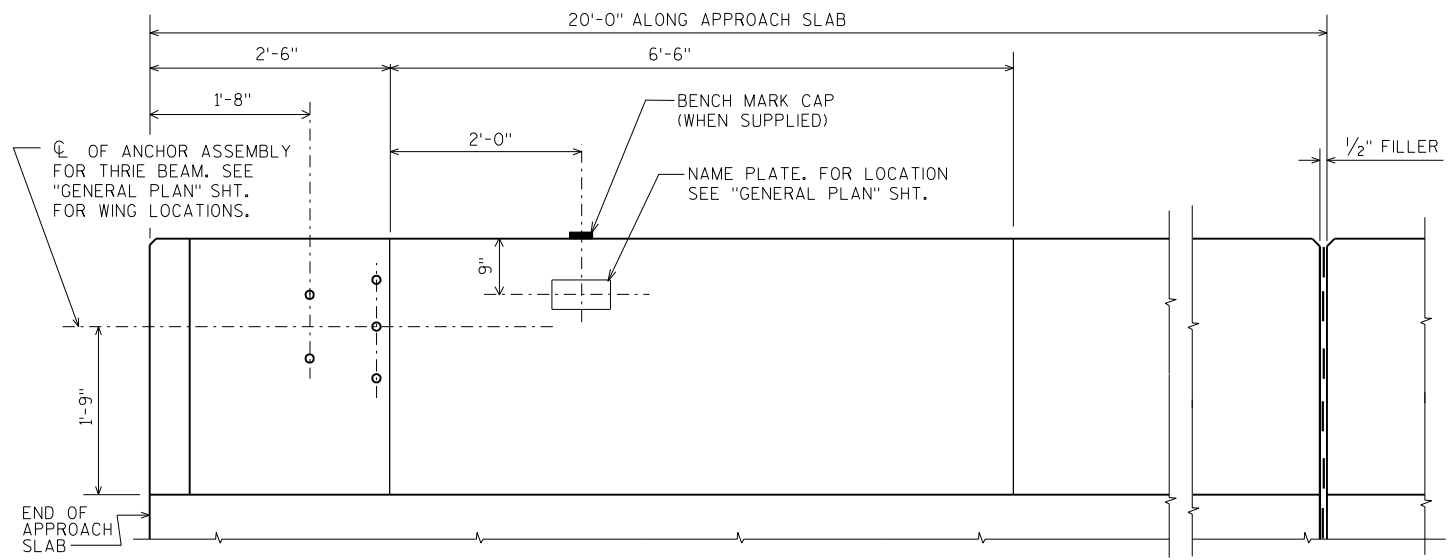


SECTION THRU APPROACH SLAB
(WEST APPROACH SHOWN, EAST APPROACH SIMILAR)

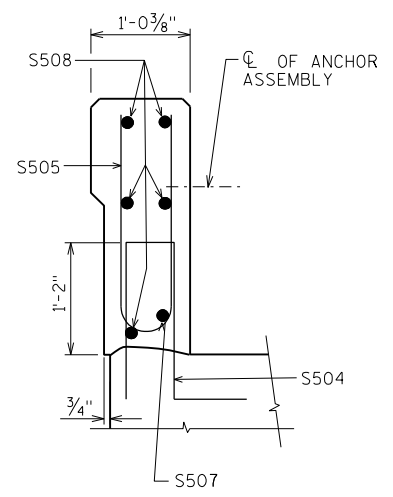
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-609			
DRAWN BY		MES	PLANS CK'D. ETP
STRUCTURAL APPROACH SLAB		SHEET 12 OF 13 147	

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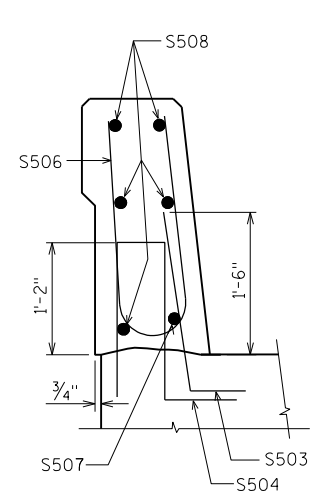
8
1 2 3 4
1 2 3 4
7 7
12



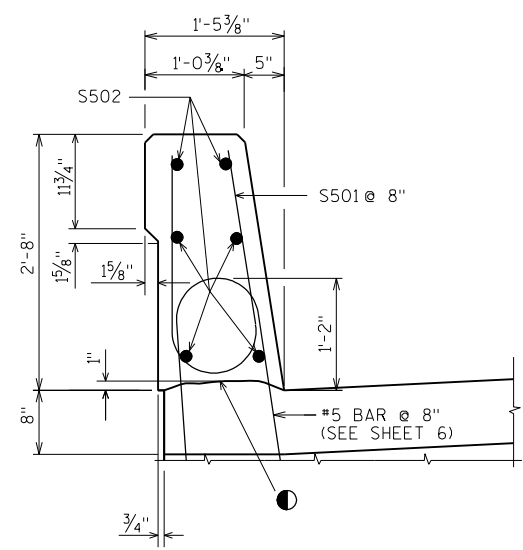
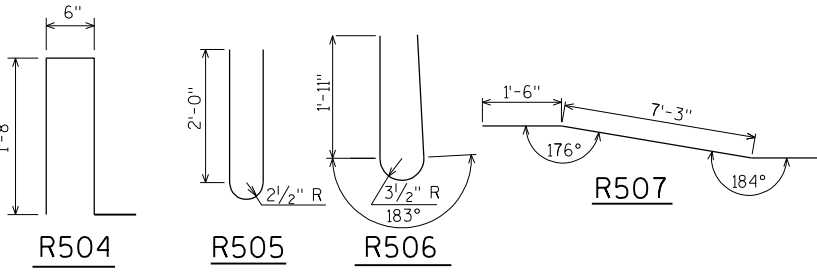
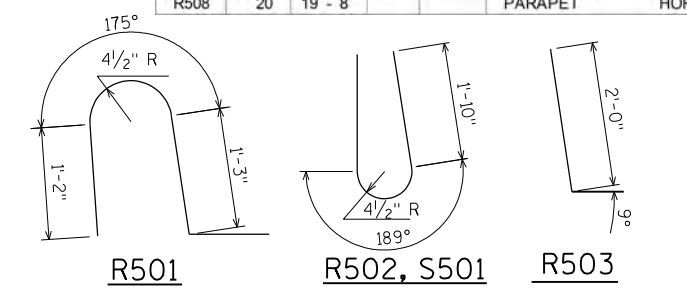
INSIDE ELEVATION



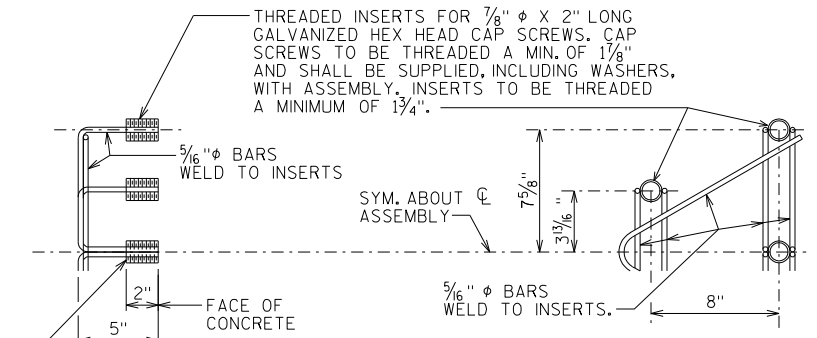
SECTION A



SECTION B



SECTION C



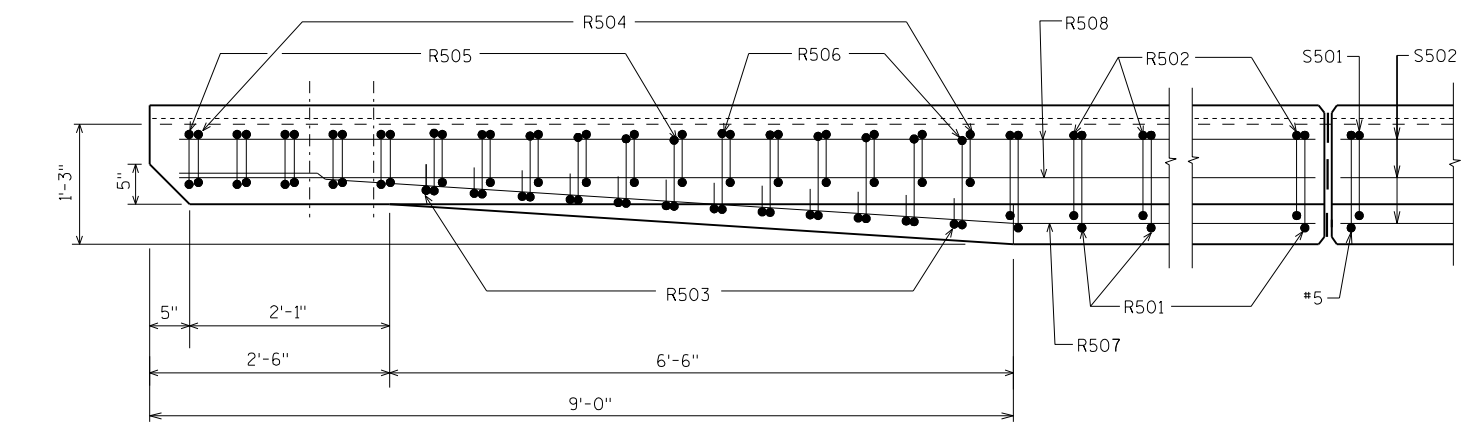
DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.
ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

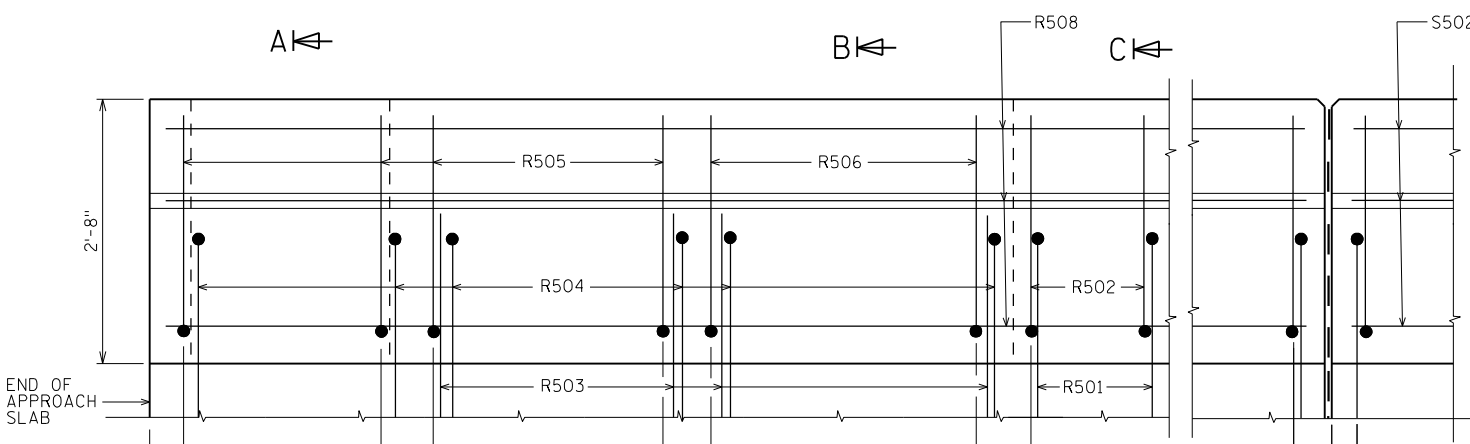
BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL BAR STEEL REINFORCEMENT SHOWN IN THIS BILL SHALL BE EPOXY COATED.

MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION	TOTAL WEIGHT =
S501	106	5 - 0	X		PARAPET	VERT.
S502	12	34 - 5			PARAPET	HORIZ



PLAN



OUTSIDE ELEVATION

STATE PROJECT NUMBER
6085-00-76

BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
▲ LENGTH SHOWN FOR BAR IS AN AVG. LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.
BOTH APPROACH SLABS ARE INCLUDED IN THIS BILL OF BARS.

MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
COATED BARS					TOTAL WEIGHT = 1,940 LBS
R501	68	4 - 5	X		PARAPET VERT.
R502	68	5 - 0	X		PARAPET VERT.
R503	44	2 - 9	X		PARAPET VERT.
R504	68	4 - 4	X		PARAPET VERT.
R505	44	4 - 9	X		PARAPET VERT.
R506	24	4 - 10	X		PARAPET VERT.
R507	4	19 - 8	X		PARAPET HORIZ.
R508	20	19 - 8			PARAPET HORIZ.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-609			
DRAWN BY MES		PLANS CKD. ETP	
SINGLE SLOPE PARAPET 32SS		SHEET 13 OF 13 148	

WEST OF STRUCTURE B-13-609

STATION	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		MASS ORDINATE
	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL		CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL		CUT	EXPANDED	
		FILL			FILL			FILL	
				NOTE 1	NOTE 2	NOTE 3	1.00 NOTE 1	1.3	NOTE 4
140+00	36	23	0	0	0	0	0	0	0
140+50	29	23	2	60	42	2	60	2	16
140+62	31	23	3	13	10	1	73	3	18
141+00	26	23	8	40	32	8	113	14	16
141+29	22	23	18	26	24	14	139	32	-1
141+50	20	23	16	16	18	13	155	49	-19
141+54	19	23	16	3	3	2	158	53	-23
141+79	16	23	17	16	21	16	175	73	-47
142+00	12	23	28	11	18	18	186	96	-77
				186	167	74			

NOTES:
1 - CUT
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL
3 - FILL
4 - MASS ORDINATE

CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
DOES NOT SHOW UP IN CROSS SECTIONS
DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
USABLE CUT - (FILL)*FILL FACTOR

EAST OF STRUCTURE B-13-609

STATION	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		MASS ORDINATE	
	CUT	SALVAGED/ UNUSABLE PAVEMENT MATERIAL		CUT	SALVAGED/ UNUSABLE PAVEMENT MATERIAL		CUT	EXPANDED FILL		
		FILL			FILL					
			NOTE 1			NOTE 2		NOTE 3		1.00 NOTE 1
143+00	1	23	40	0	0	0	0	0	0	
143+25	1	23	32	1	21	33	1	43	-63	
143+48	0	23	36	0	19	29	1	81	-120	
143+50	0	23	9	0	2	2	1	83	-123	
143+79	2	23	5	1	24	8	2	93	-157	
144+00	4	23	10	2	18	6	5	101	-180	
144+50	6	23	9	9	42	18	13	125	-237	
144+60	10	23	6	3	8	3	16	129	-246	
144+85	13	23	5	10	21	5	27	136	-263	
145+00	15	23	5	8	13	3	34	139	-271	
145+10	37	23	0	10	8	1	44	140	-271	
145+50	78	23	0	85	33	0	129	140	-219	
145+54	45	0	0	9	2	0	138	140	-212	
146+00	78	0	0	104	0	0	243	140	-108	
				243	210	108				

STATION	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		MASS ORDINATE	
	CUT	SALVAGED / UNUSABLE PAVEMENT MATERIAL		CUT	SALVAGED / UNUSABLE PAVEMENT MATERIAL		CUT	EXPANDED FILL		
		FILL			FILL					
				NOTE 1	NOTE 2	NOTE 3	1.00 NOTE 1	1.3	NOTE 4	
146+00	45	0	0	0	0	0	0	0	0	
146+15	62	0	0	30	0	0	30	0	30	
				30	0	0				

NOTES:
1 - CUT
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL
3 - FILL
4 - MASS ORDINATE

CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
DOES NOT SHOW UP IN CROSS SECTIONS
DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
USABLE CUT - (FILL)*FILL FACTOR

WEST OF STRUCTURE B-13-608

STATION	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		MASS ORDINATE
	CUT	SALVAGED / UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED / UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	
				NOTE 1	NOTE 2	NOTE 3	1.00 NOTE 1	1.3	NOTE 4
151+00	58	23	1	0	0	0	0	0	0
151+50	38	23	1	88	42	2	88	3	44
151+75	30	23	4	31	21	2	120	5	52
152+00	26	23	4	26	21	4	146	10	52
152+26	23	23	7	24	22	6	169	18	47
152+50	20	23	7	19	20	6	189	25	38
152+51	20	23	6	1	1	0	190	26	38
152+76	17	23	3	17	21	4	207	31	29
153+00	15	23	5	14	20	4	221	36	18
153+27	19	23	5	17	23	5	238	43	6
153+50	13	23	7	14	19	5	252	49	- 6
153+52	13	23	7	1	2	1	253	50	- 7
153+77	25	23	19	17	21	12	270	66	- 27
154+00	23	23	30	20	19	21	290	93	- 53
				290	250	72			

NOTES:

1 - CUT

2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL

3 - FILL

4 - MASS ORDINATE

CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL

DOES NOT SHOW UP IN CROSS SECTIONS

DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME

USABLE CUT - (FILL)*FILL FACTOR

EAST OF STRUCTURE B-13-608

STATION	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		MASS ORDINATE	
	CUT	SALVAGED / UNUSABLE PAVEMENT MATERIAL		CUT	SALVAGED / UNUSABLE PAVEMENT MATERIAL		CUT	EXPANDED FILL		
		FILL			FILL			FILL		
				NOTE 1	NOTE 2	NOTE 3	1.00 NOTE 1	1.3	NOTE 4	
155+50	27	23	22	0	0	0	0	0	0	
155+74	28	23	15	25	20	17	25	22	-17	
155+99	28	23	25	26	21	19	51	46	-36	
156+00	28	23	26	1	1	1	52	47	-37	
156+24	31	23	25	26	20	23	78	77	-61	
156+50	33	23	18	31	22	21	109	104	-78	
156+61	34	23	15	14	9	7	122	113	-83	
156+86	34	23	5	32	21	9	154	125	-84	
156+90	34	23	1	5	3	0	159	125	-83	
				159	117	96				

STATION	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		MASS ORDINATE
	CUT	SALVAGED / UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED / UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	
NOTE 1	NOTE 2	NOTE 3	1.00 NOTE 1	1.3	NOTE 4				
156+90	7	0	0	0	0	0	0	0	
157+00	6	0	4	2	0	1	2	2	0
157+11	5	0	7	2	0	2	5	4	0
157+50	5	0	1	8	0	6	12	12	0
158+00	5	0	0	9	0	1	21	13	8
158+02	5	0	0	0	0	0	22	13	9
				22	0	10			

NOTES:
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DOES NOT SHOW UP IN CROSS SECTIONS
DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
USABLE CUT - (FILL)*FILL FACTOR

WEST OF TEMPORARY STRUCTURE (BYPASS AT STRUCTURE B-13-609)

STATION	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		MASS ORDINATE
	CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	
					1.00	1.3	
			NOTE 1	NOTE 3	NOTE 1		NOTE 4
10+56	0	0	0	0	0	0	0
10+69	22	0	5	0	5	0	5
11+00	38	0	35	0	40	0	40
11+50	8	0	43	0	83	0	83
12+00	0	0	7	0	90	0	90
			90	0			

EAST OF TEMPORARY STRUCTURE (BYPASS AT STRUCTURE B-13-609)

STATION	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		MASS ORDINATE
	CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	
					1.00	1.3	
			NOTE 1	NOTE 3	NOTE 1		NOTE 4
12+50	2	0	0	0	0	0	0
13+00	22	0	22	0	22	0	41
13+28	22	0	23	0	45	0	64
13+39	0	0	4	0	49	0	64
			49	0			

NOTES:
1 - CUT
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CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
DOES NOT SHOW UP IN CROSS SECTIONS
DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
USABLE CUT - (FILL)*FILL FACTOR

REMOVING BYPASS (WEST OF TEMPORARY STRUCTURE)

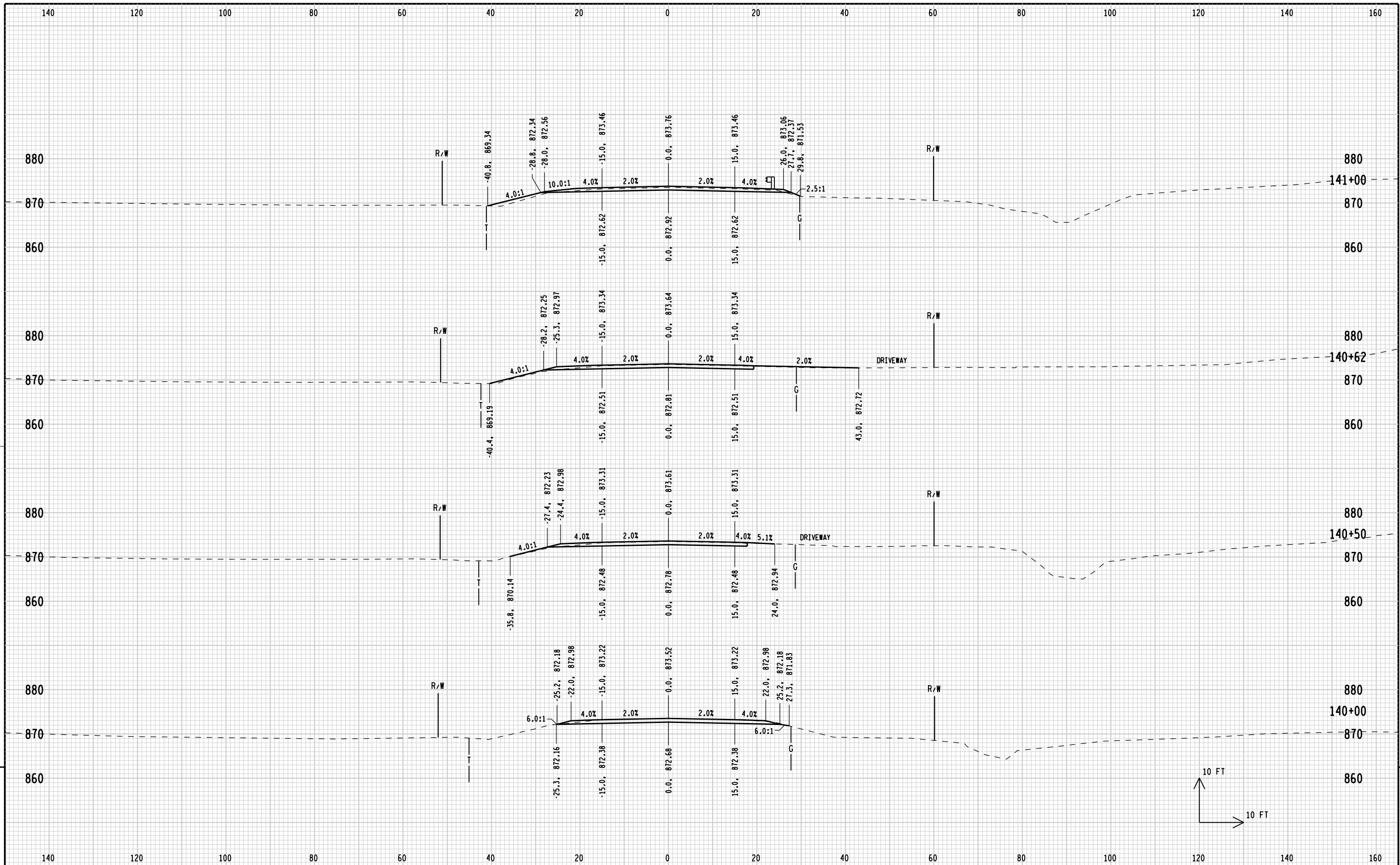
STATION	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		MASS ORDINATE		
	CUT	SALVAGED / UNUSABLE PAVEMENT MATERIAL		CUT	SALVAGED / UNUSABLE PAVEMENT MATERIAL		CUT	EXPANDED FILL			
		FILL			FILL						
				NOTE 1	NOTE 2	NOTE 3	1.00 NOTE 1	1.3	NOTE 4		
10+56	3	0	0	0	0	0	0	0	0		
10+69	22	0	22	6	0	5	6	7	-1		
11+00	68	0	38	51	0	35	57	52	5		
11+50	114	0	8	168	0	43	225	107	118		
12+00	164	0	0	257	0	7	482	117	365		
				482	0	90					

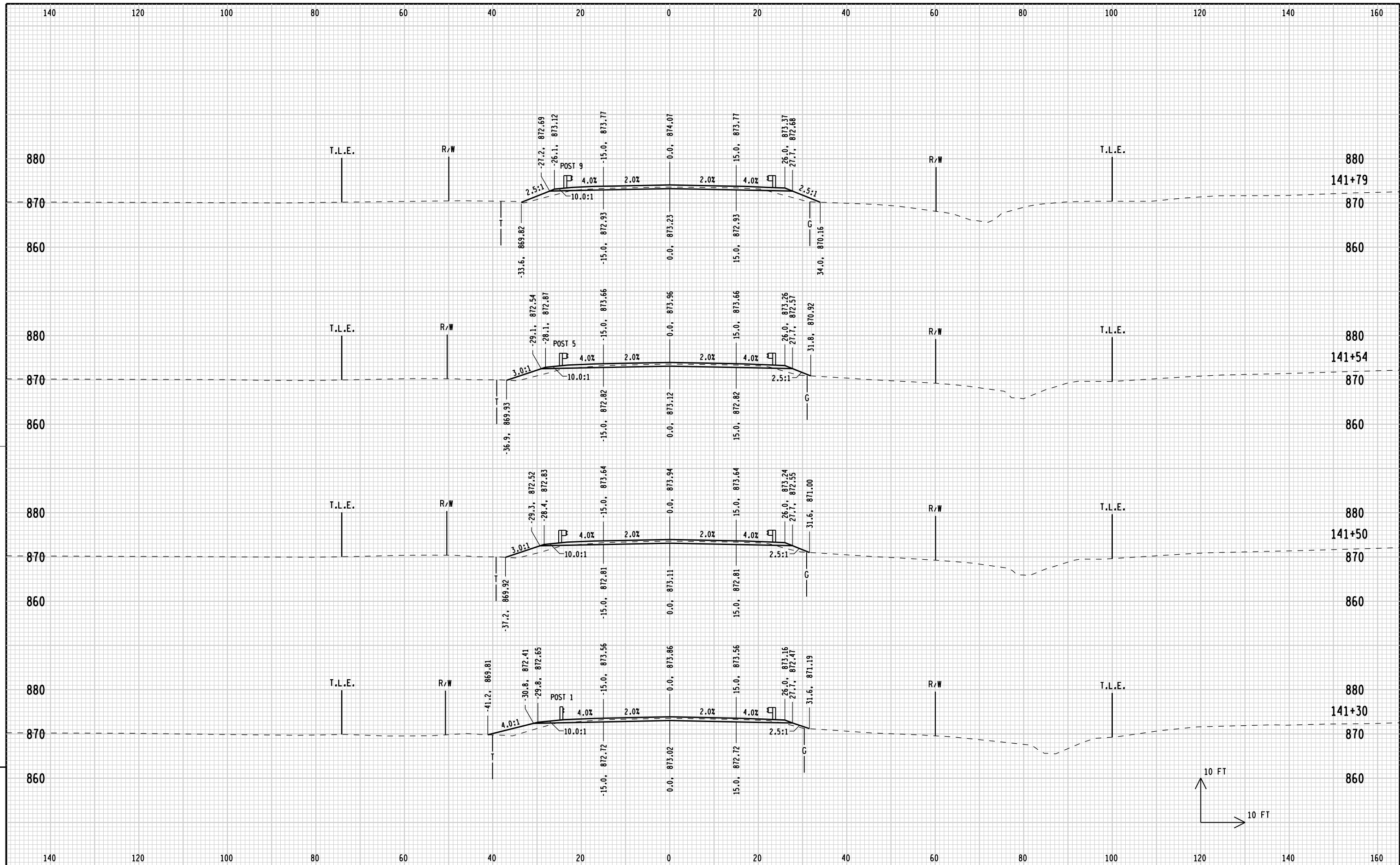
REMOVING BYPASS (EAST OF TEMPORARY STRUCTURE)

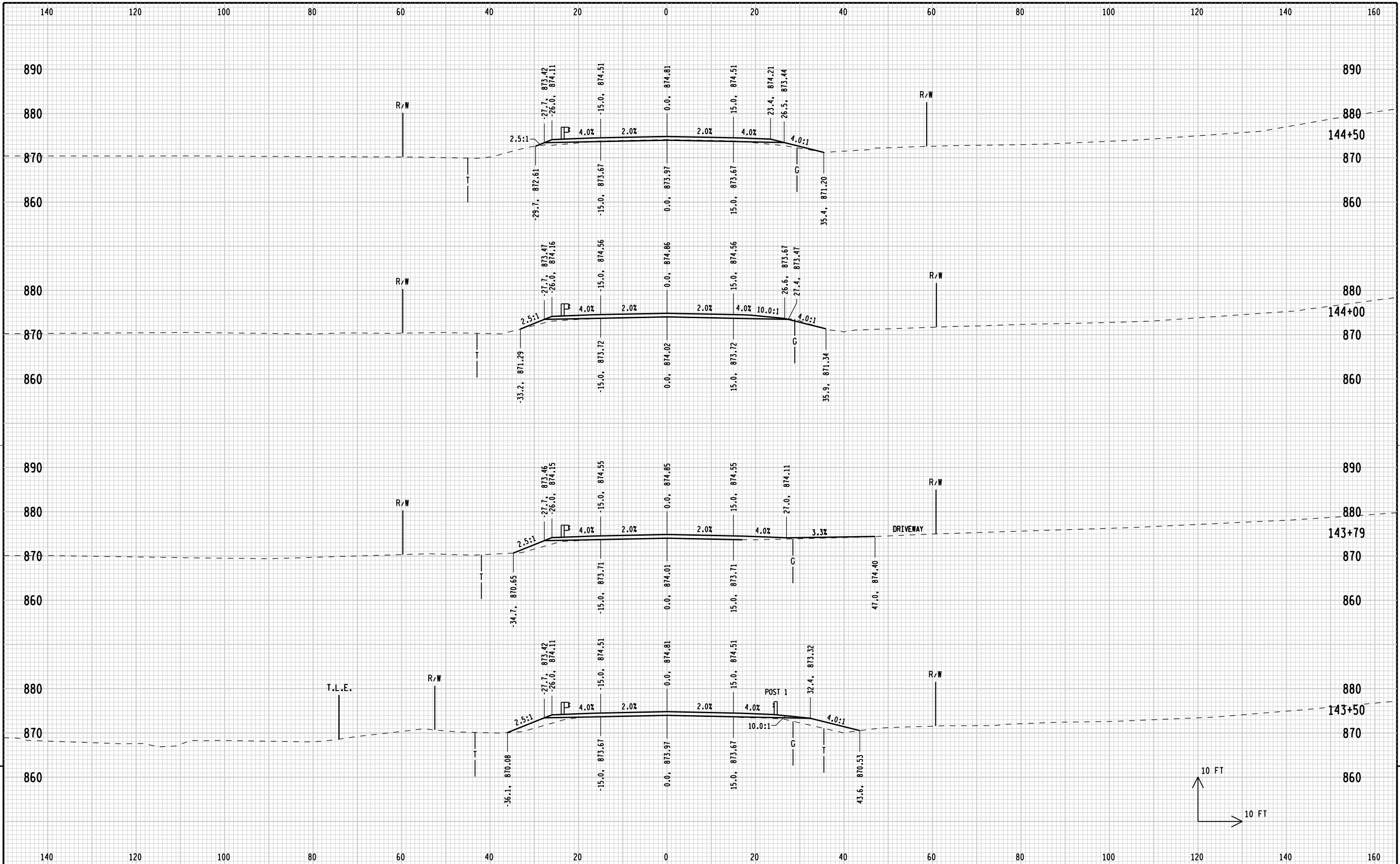
STATION	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		MASS ORDINATE
	CUT	SALVAGED / UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED / UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	
NOTE 1	NOTE 2	NOTE 3	1.00 NOTE 1	1.3	NOTE 4				
12+50	152	0	2	0	0	0	0	0	0
13+00	81	0	22	216	0	22	216	29	187
13+28	17	0	22	51	0	23	267	59	208
13+39	2	0	0	4	0	4	271	65	206
				271	0	50			

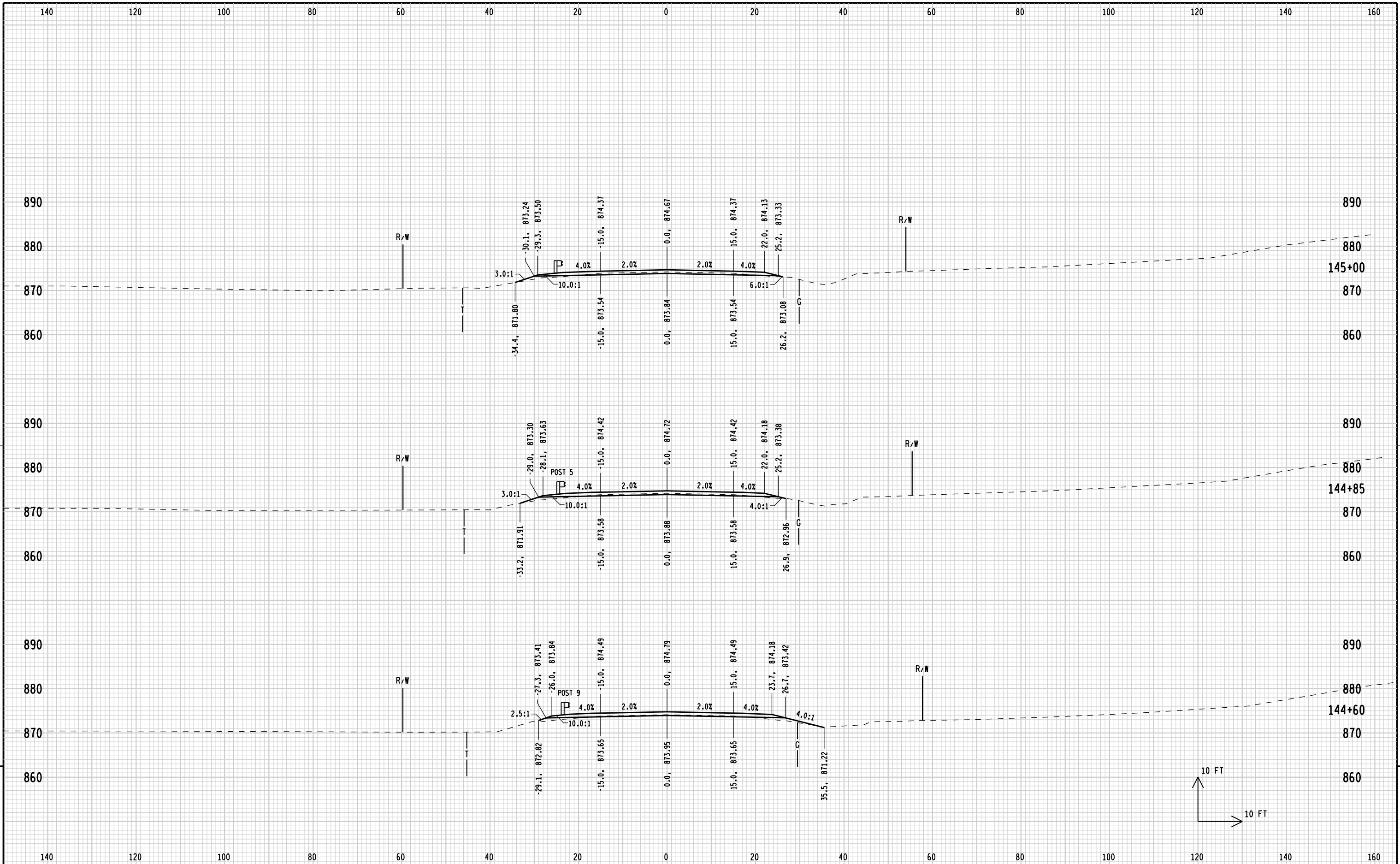
NOTES:
1 - CUT
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3 - FILL
4 - MASS ORDINATE

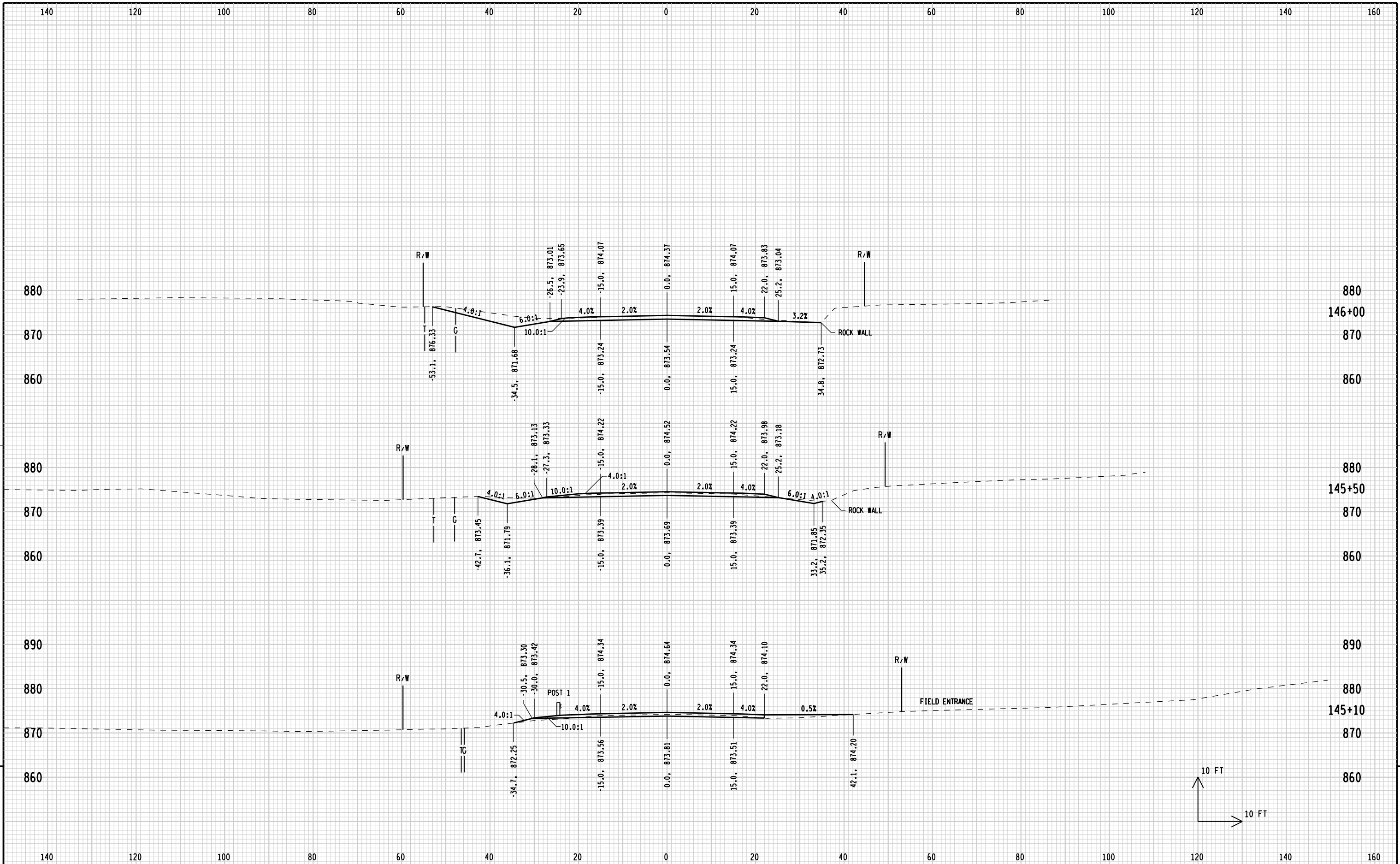
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USABLE CUT - (FILL)*FILL FACTOR

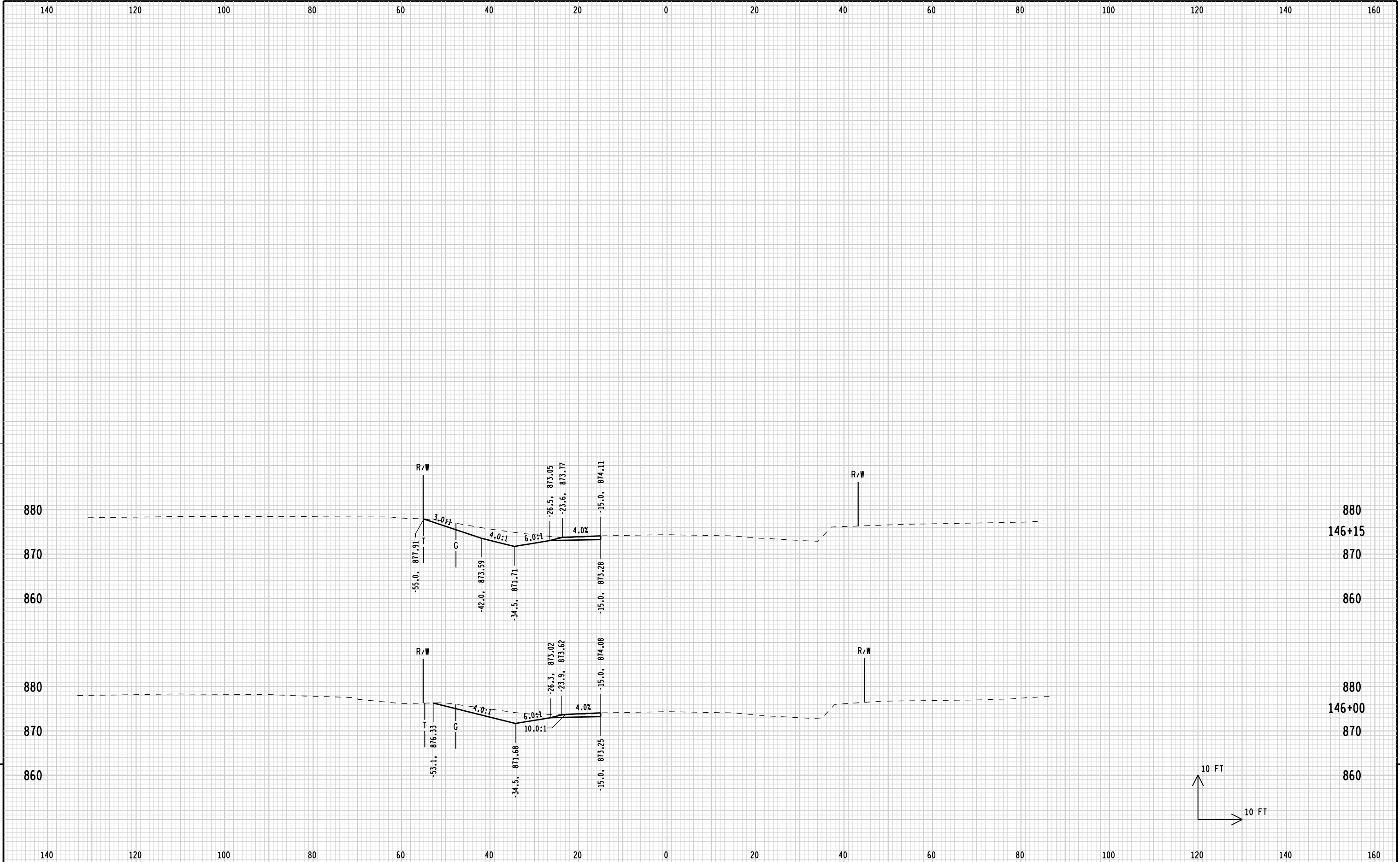






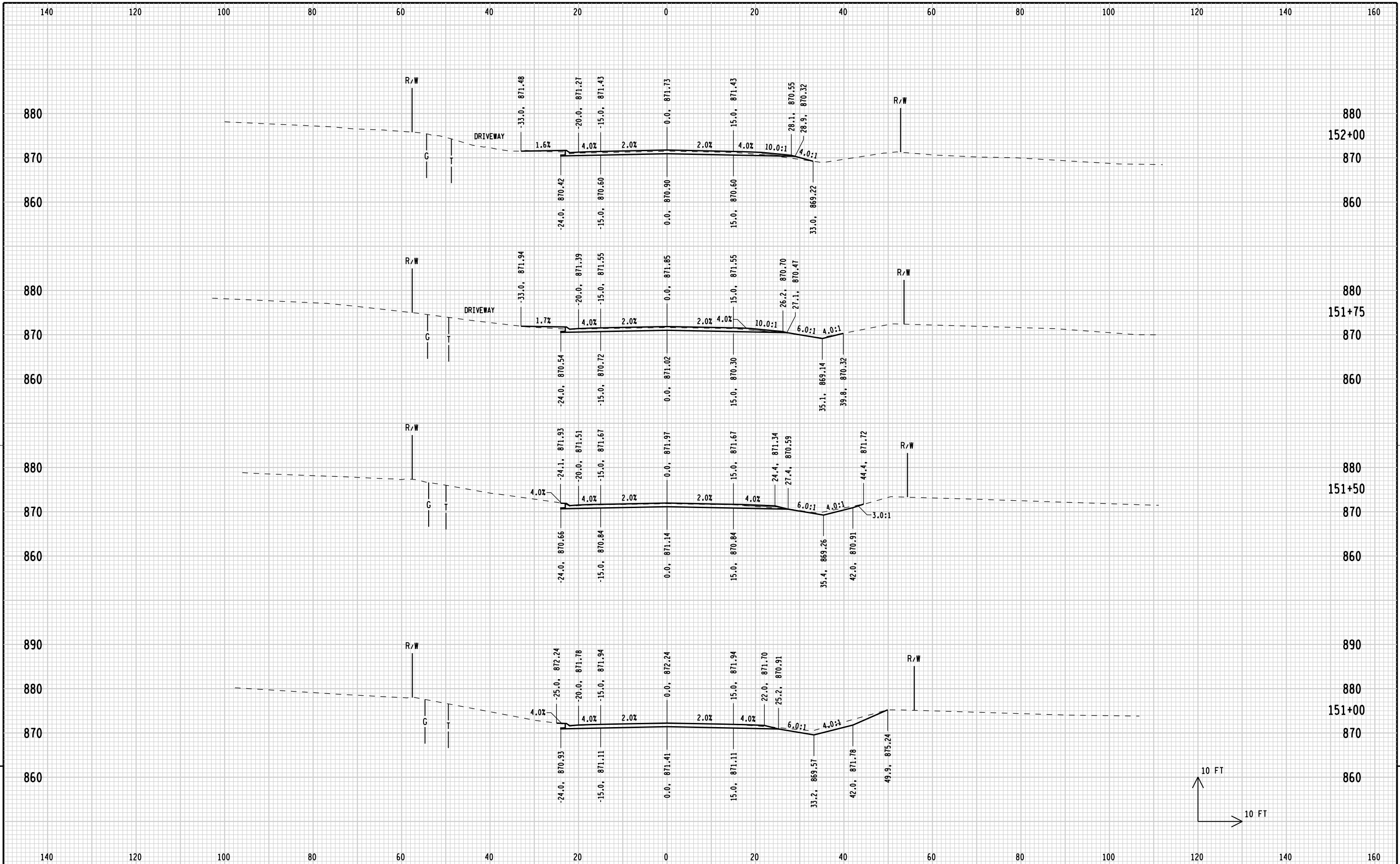


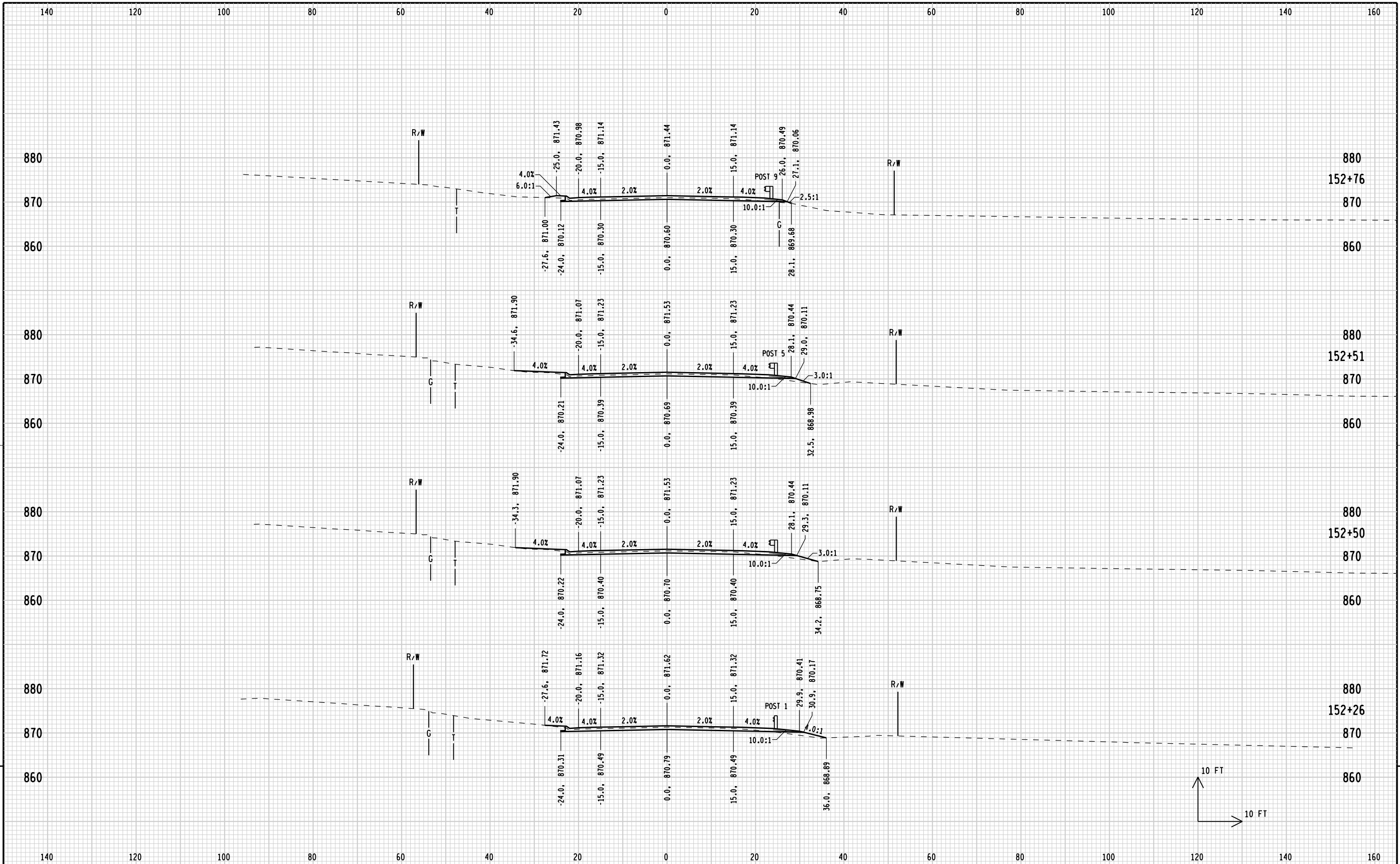


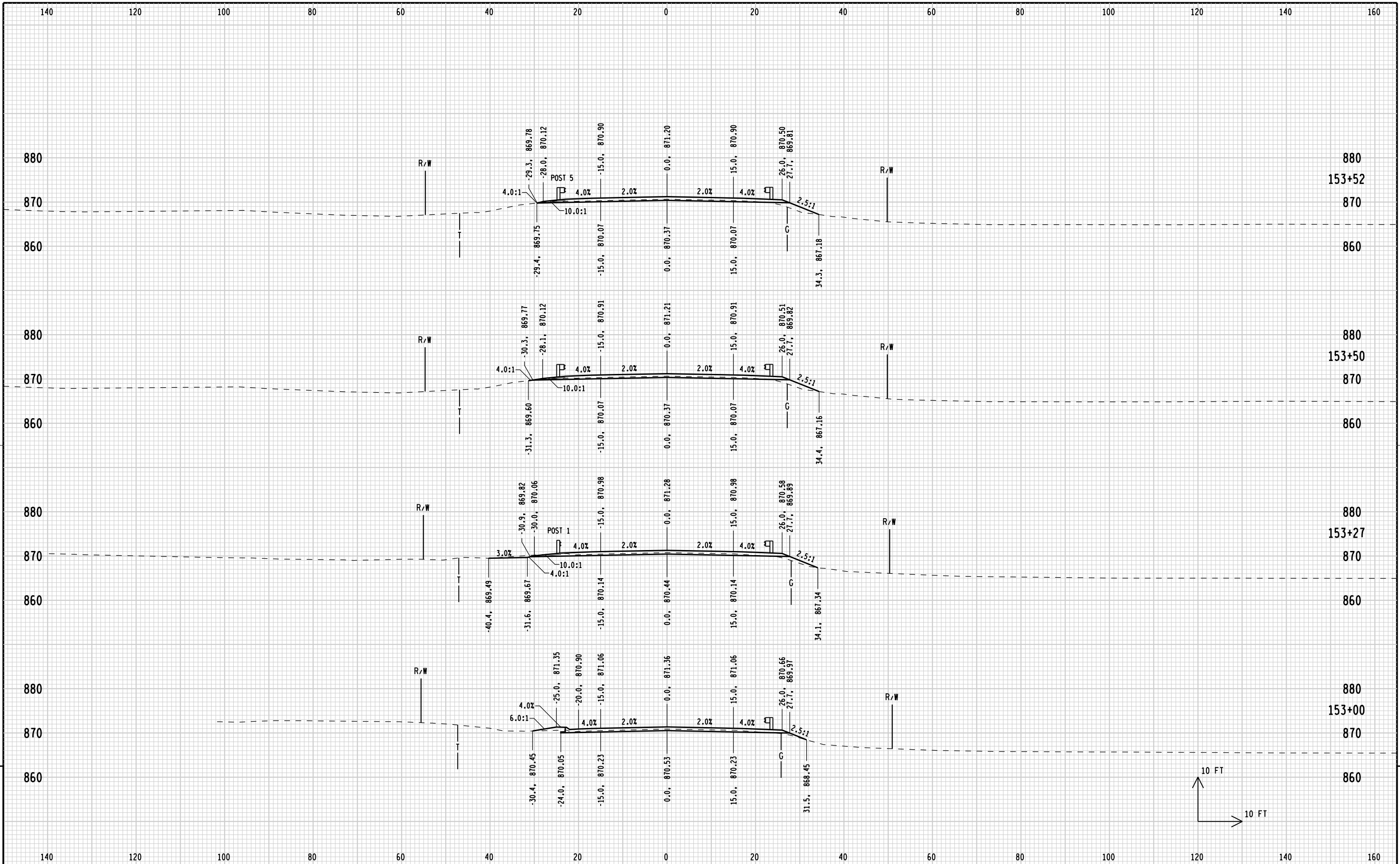


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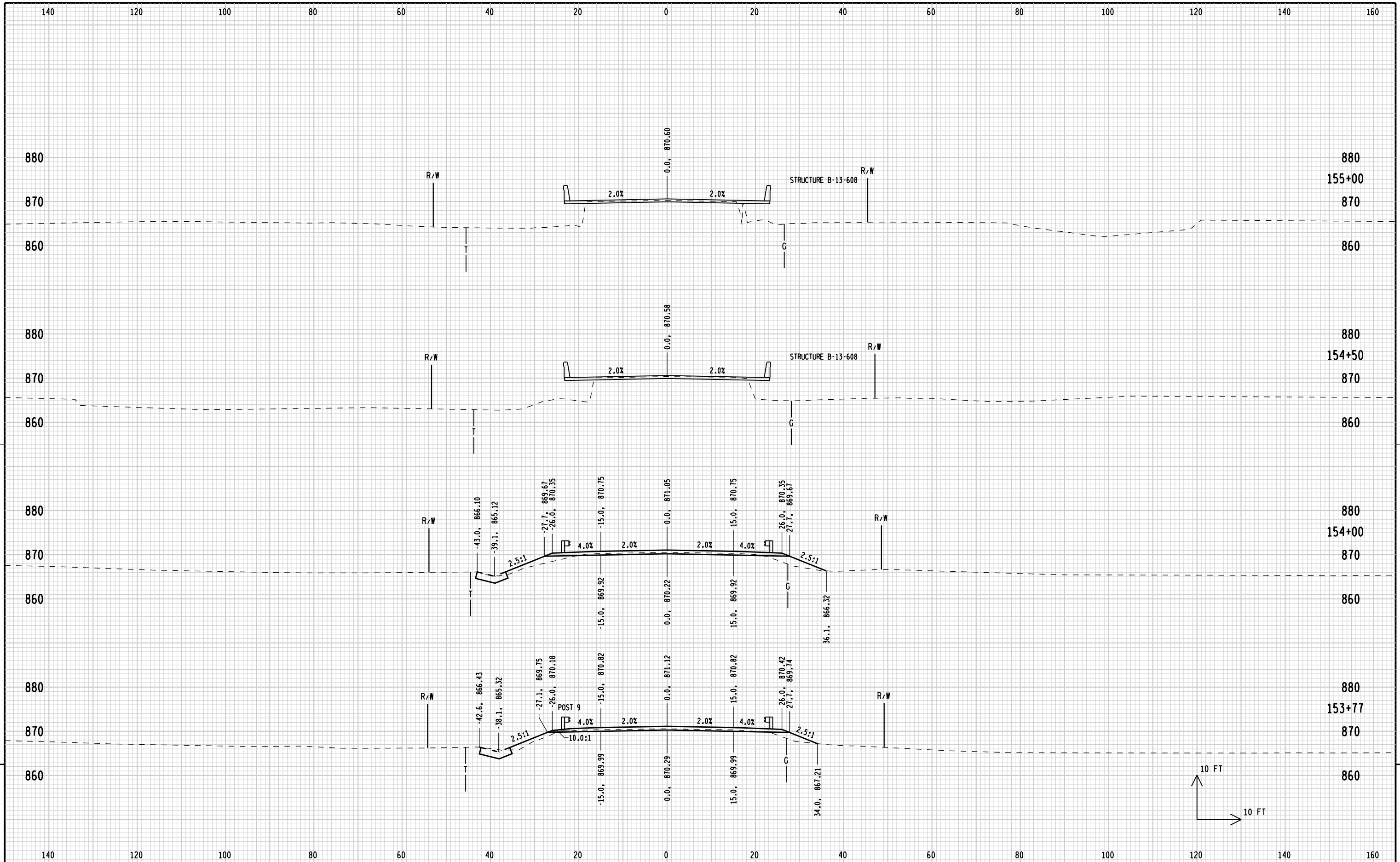


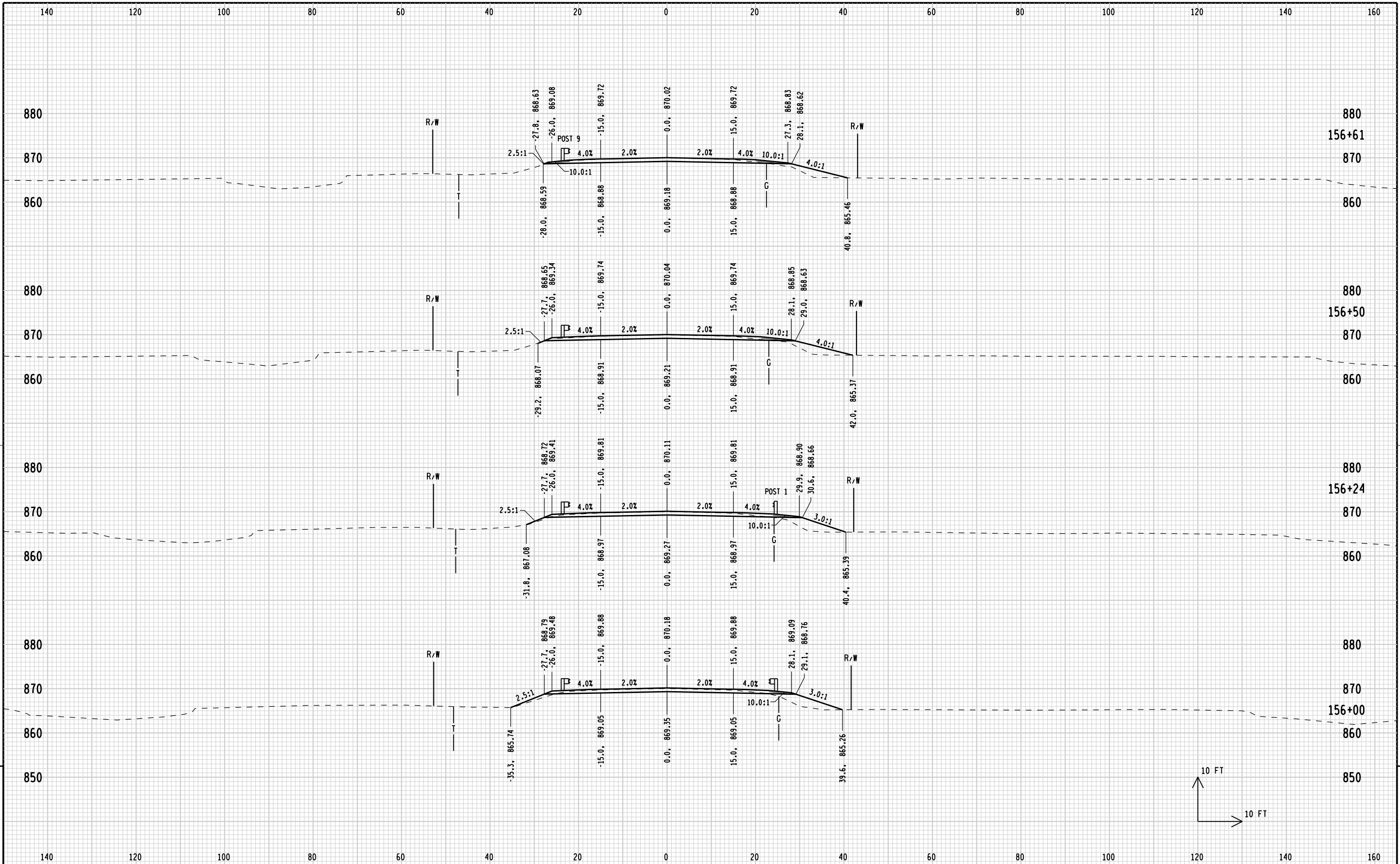




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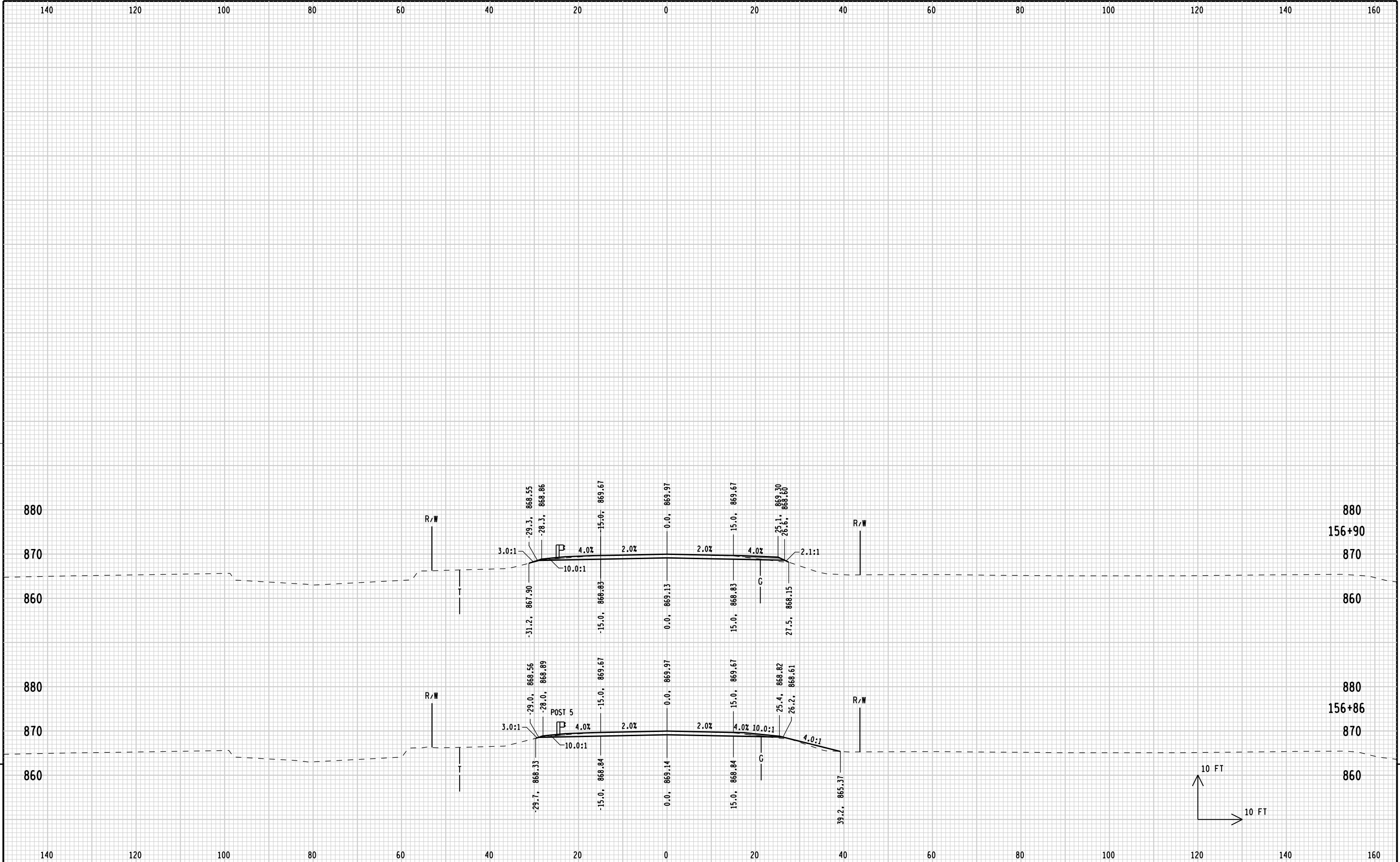
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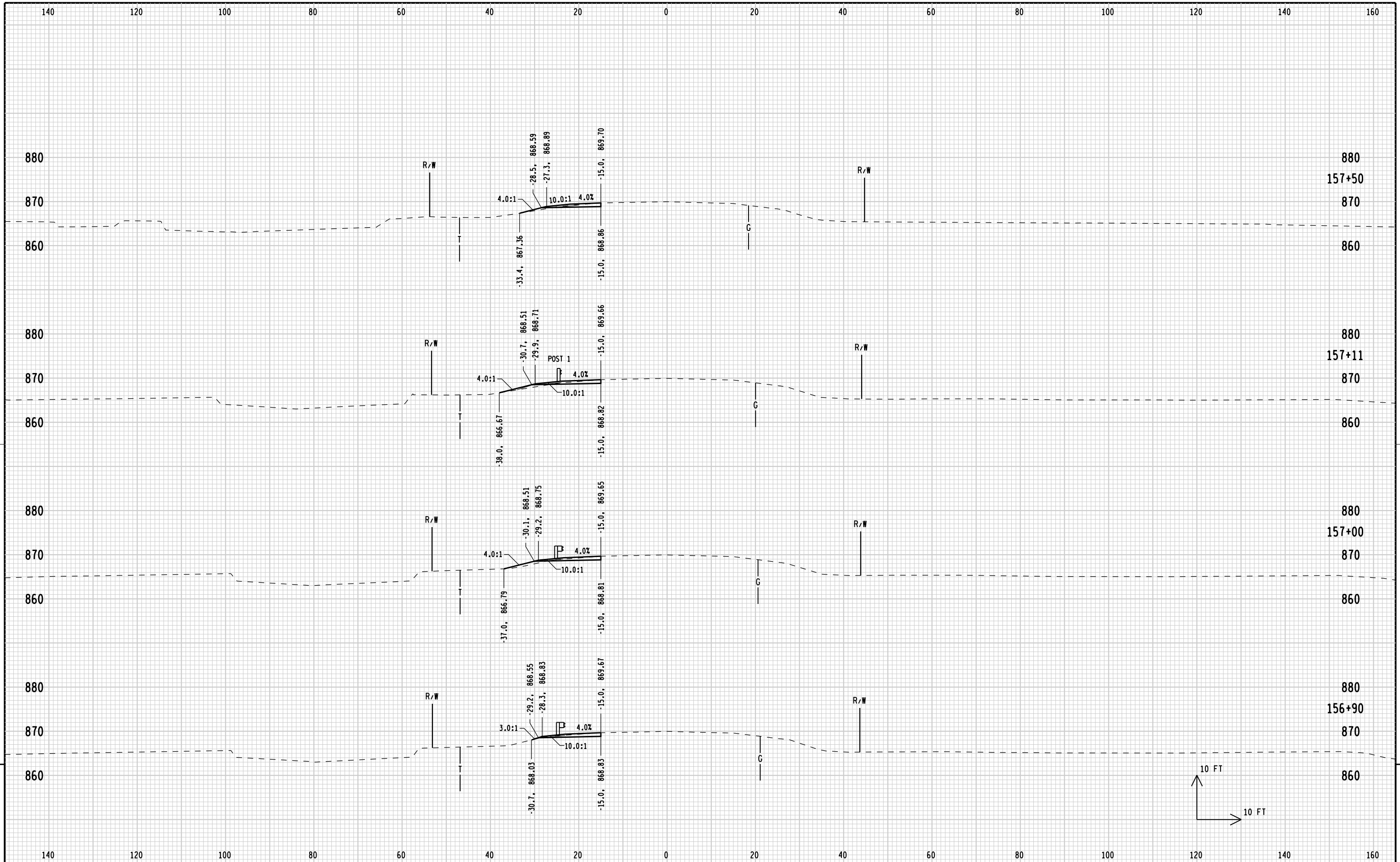


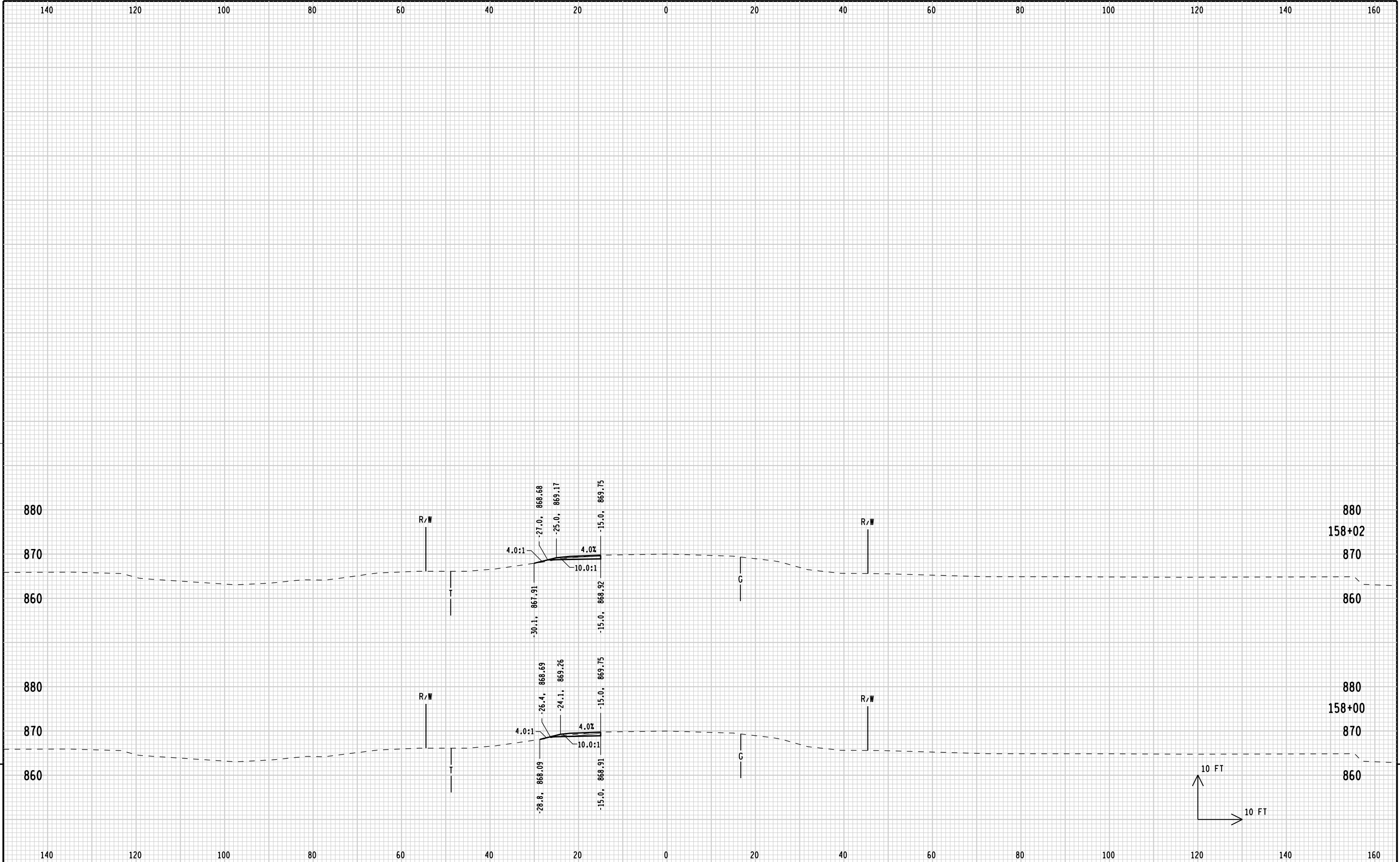


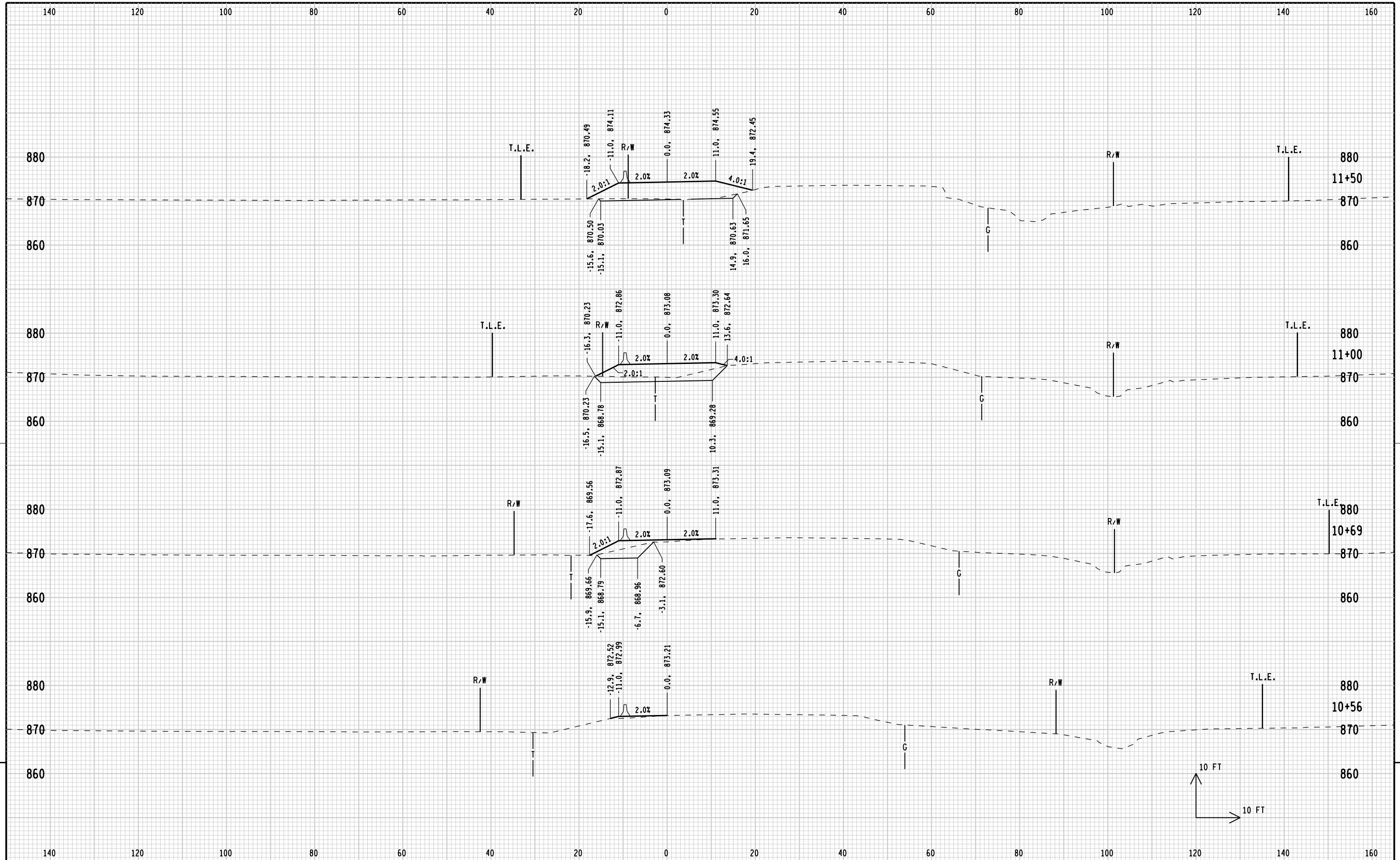
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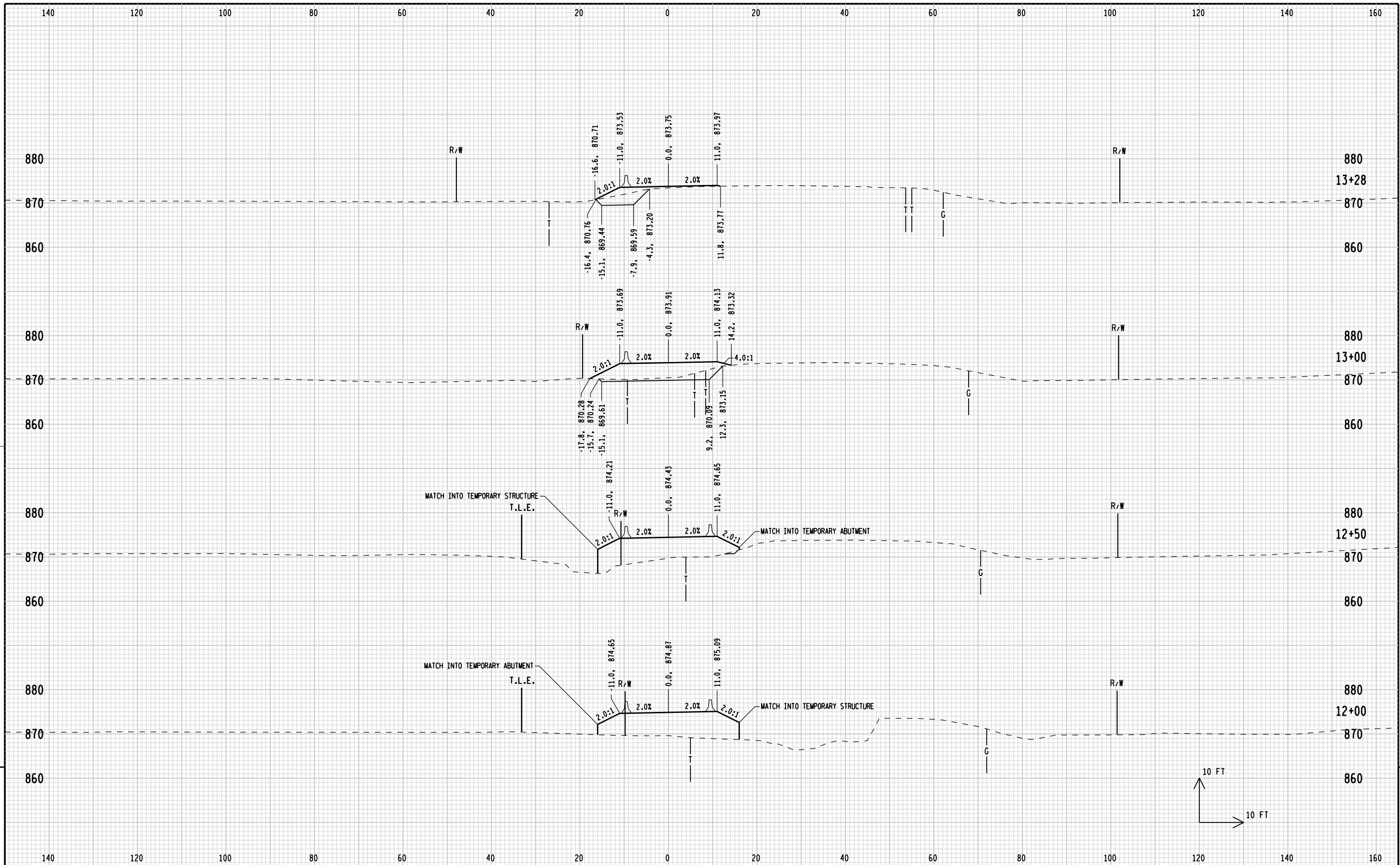
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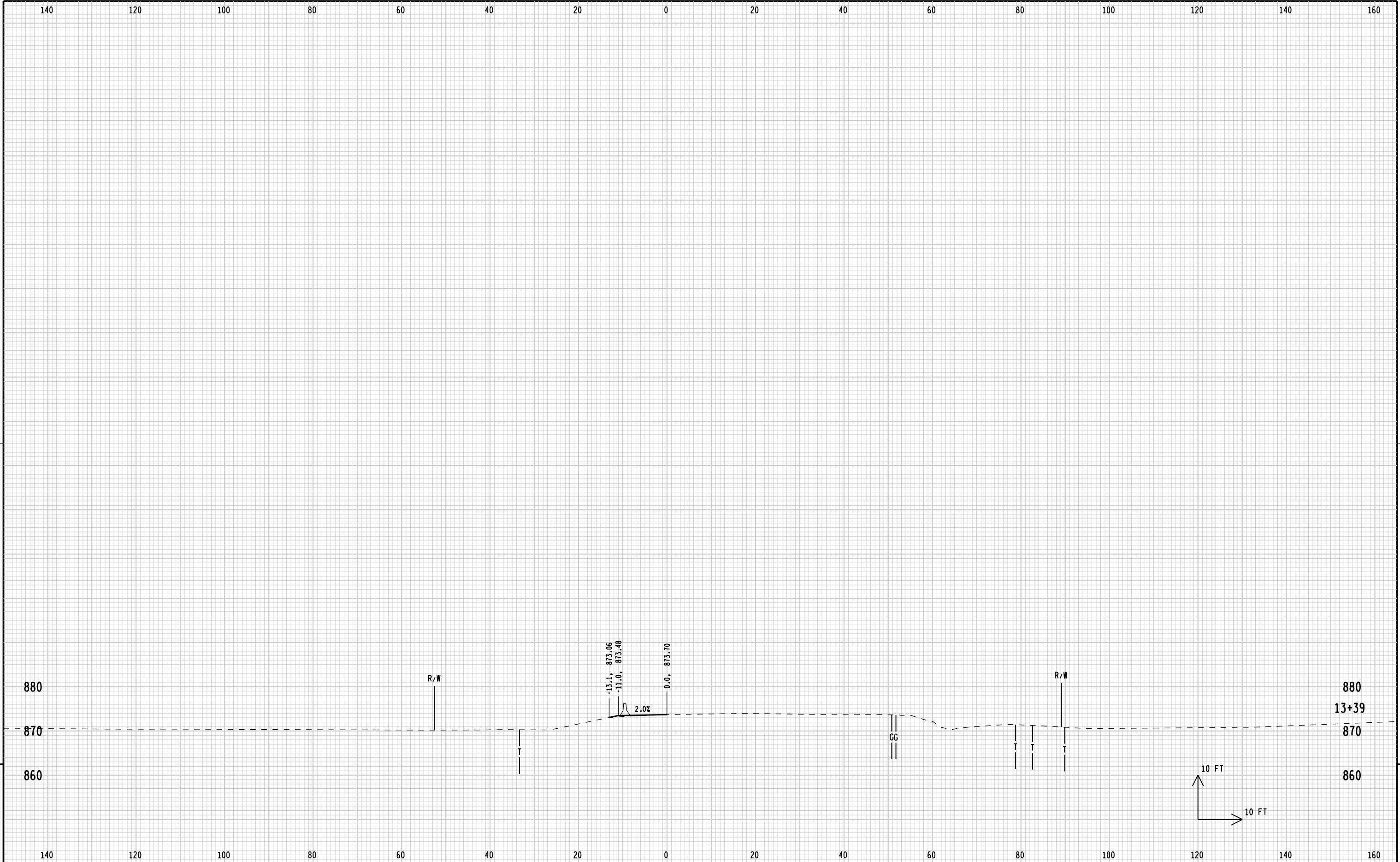








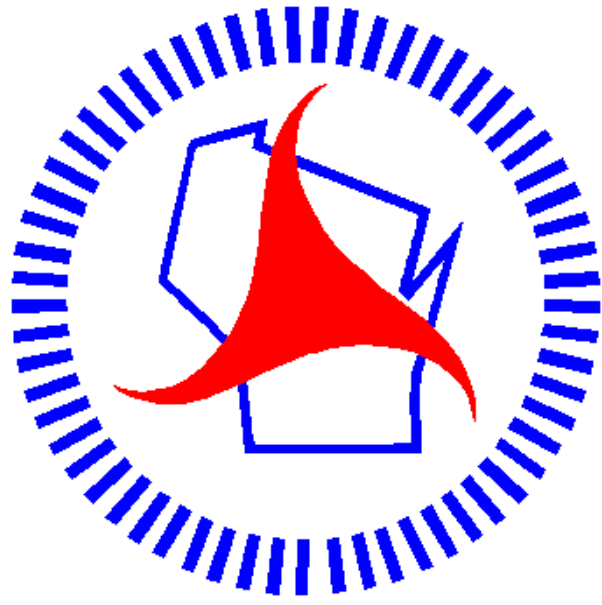




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PROJECT NUMBER: 6085-00-76	HWY: STH 19	COUNTY: DANE	CROSS SECTIONS: BYPASS AT STRUCTURE B-13-609	SHEET 173	E
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