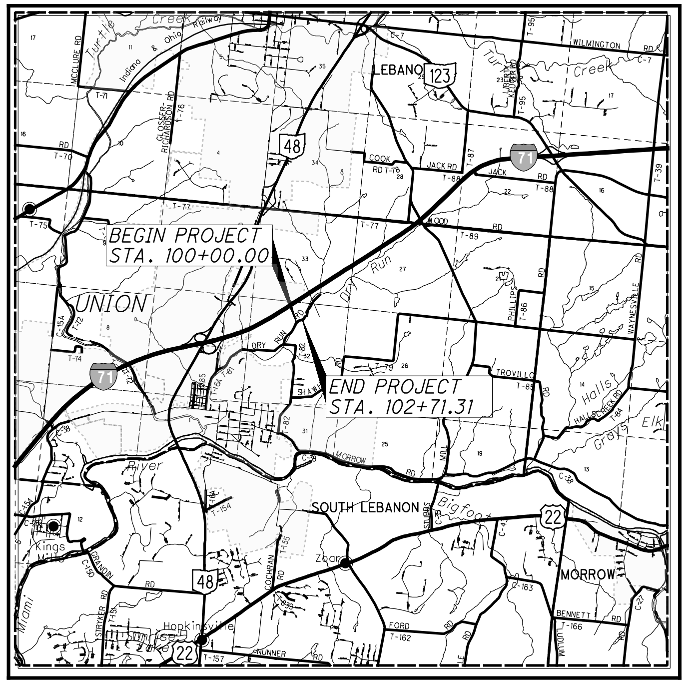


LOCATION MAP

LATITUDE: 84°12'01"   LONGITUDE: 39°23'17"

SCALE IN MILES

0 1 2 3 4

PORTION TO BE IMPROVED
INTERSTATE HIGHWAY
FEDERAL ROUTES
STATE ROUTES
COUNTY & TOWNSHIP ROADS
OTHER ROADS

DESIGN DESIGNATION

CURRENT ADT (2023) ____ 347
TRUCKS (24 HOUR B&C) ____ 1
DESIGN SPEED ____ 25
LEGAL SPEED ____ 55
DESIGN FUNCTIONAL CLASSIFICATION:
LOCAL ROAD
NHS PROJECT ____ NO

DESIGN EXCEPTIONS

NONE

UNDERGROUND UTILITIES
Contact Two Working Days Before You Dig
OHIO811.org Before You Dig
OHIO811, 8-1-1, or 1-800-362-2764
(Non-members must be called directly)

PLAN PREPARED BY:

fishbeck
FISHBECK
10856 REED HARTMAN HIGHWAY
SUITE 175
CINCINNATI, OH 45242
(513) 469-2370

WAR-TR81-1.22

DRY RUN ROAD

UNION TOWNSHIP

WARREN COUNTY

INDEX OF SHEETS:

PROJECT DESCRIPTION

REPLACEMENT OF EXISTING STRUCTURE WITH A SINGLE SPAN SLAB BRIDGE ON STEEL PILES, INCLUDING ABUTMENTS, WINGWALLS, GUARDRAIL, AND PAVEMENT ON A NEW ALIGNMENT EXISTING ABUTMENTS TO REMAIN

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	0.3 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.2 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	N/A ACRES

2019 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

ENGINEERS SEAL:

STATE OF OHIO
JONATHAN PATRICK CARROLL
E-73100
REGISTERED PROFESSIONAL ENGINEER

SIGNED: [signature]
DATE: 1-05-23

ENGINEERS SEAL:

STATE OF OHIO
JEROD A. HILLER
E-77281
REGISTERED PROFESSIONAL ENGINEER

SIGNED: [signature]
DATE: 1-05-23

STANDARD CONSTRUCTION DRAWINGS					SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
CPA-1-08	DATED 07/18/08				800 10/21/22	
DBR-2-73	REVISED 7/19/02				832 7/15/22	
DS-1-92	REVISED 7/15/22					
SB-1-08	REVISED 01/15/21					

APPROVED ____
DATE ____ WARREN COUNTY COMMISSIONER

APPROVED ____
DATE ____ WARREN COUNTY COMMISSIONER

APPROVED ____
DATE ____ WARREN COUNTY COMMISSIONER

APPROVED ____
DATE ____ WARREN COUNTY ENGINEER

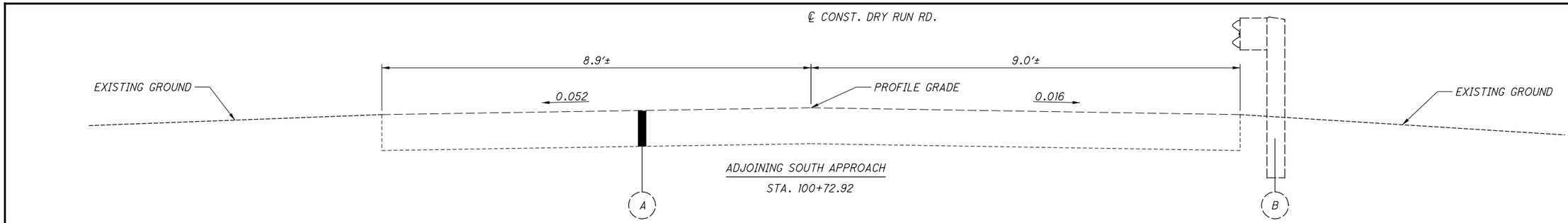
FEDERAL PROJECT NO.

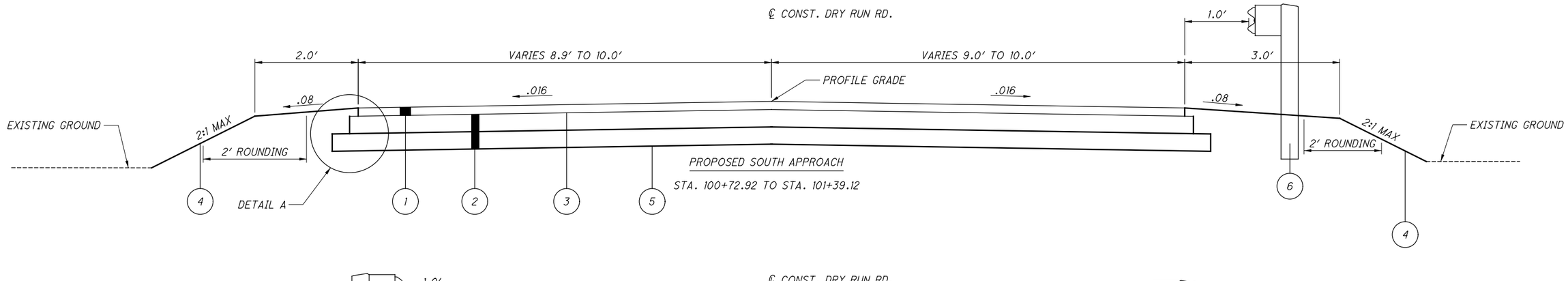
PID NO.

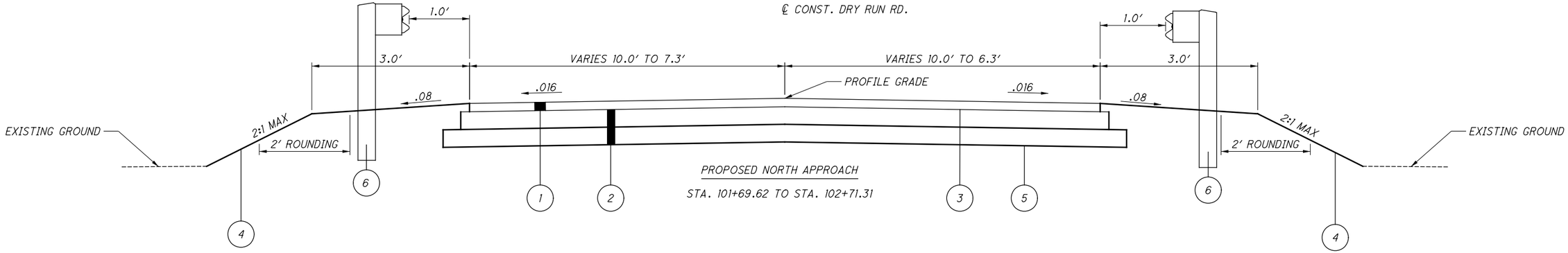
CONSTRUCTION PROJECT NO.

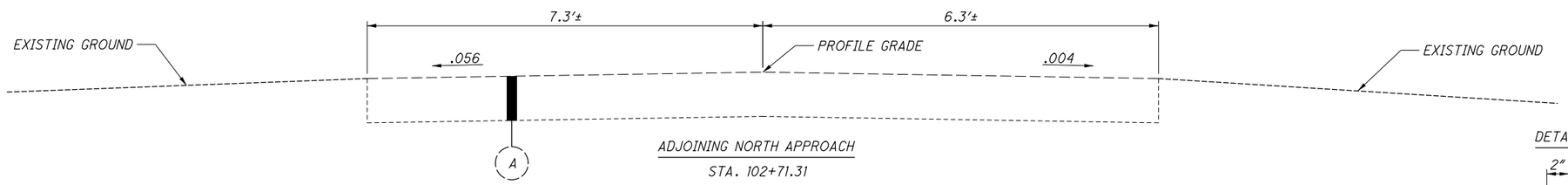
RAILROAD INVOLVEMENT

WAR-TR81-1.22







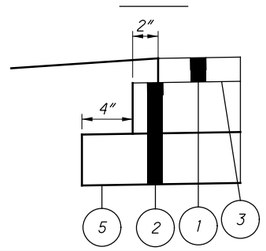


LEGEND

1	ITEM 441 - 2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	4	ITEM 659 - SEEDING AND MULCHING	A	EXISTING ASPHALT PAVEMENT (15"±)
2	ITEM 301 - 8" ASPHALT CONCRETE BASE, PG64-22 (2 LIFTS)	5	ITEM 204 - SUBRADE COMPACTION	B	EXISTING GUARDRAIL
3	ITEM 407 - TACK COAT (0.10 GAL/SQ/YD)	6	ITEM 606 - GUARDRAIL, TYPE 5		

NOTE: TRANSITION EXISTING CROSS SLOPES TO 0.016 CROSS SLOPE WITHIN 10'

DETAIL A



CALCULATED IAV
CHECKED JAH

TYPICAL SECTIONS

WAR-TR81-1.22

2
29

CALCULATED IAV
CHECKED JAH

GENERAL NOTES

UTILITIES

LISTED BELOW ARE ALL UTILITY OWNERS LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS:

DUKE ENERGY:
139 EAST 4TH STREET
CINCINNATI, OH 45202
AARON WRIGHT: 513-514-8211, 513-479-1886 (MOBILE)

SPECTRUM:
10920 KENWOOD RD
CINCINNATI, OH 45242
KENT RIEGER: 513-386-5499, 513-233-5678 (MOBILE)

DUKE GAS:
139 E. 4TH ST
CINCINNATI, OH 45202
BRIAN HOLLMANN: 513-906-0128

CENTURYLINK:
20 N MECHANICS ST
LEBANON, OH 45036
JORDAN LANGSTON: 513-933-3502, 513-885-9444 (MOBILE)

WESTERN WATER COMPANY:
3639 BENNET ROAD
MORROW, OH 45152
PAUL KILBURN: 513-899-3211, 513-490-1367 (MOBILE)

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

ITEM 659, SEEDING AND MULCHING 316 SY

ITEM 659, TOPSOIL 36 CY
(316 SY) X (111 CY / 1000 SY) = 35.08 CY

ITEM 659, LIME 0.07 ACRE
(316 SY) X (9 CY / 43560 SWFT) = 0.07 ACRE

ITEM 659, COMMERCIAL FERTILIZER 0.04 TON
(316 SY) X (1 TON / 7410 SY) = 0.04 TON

ITEM 659, WATER 2 MGAL
(316 SY) X (0.0054 MGAL / SY) = 1.71 MGAL

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS, FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLY TO ALL CROSS SECTIONS EVEN THOUGH OTHERWISE SHOWN.

SURVEYING PARAMETERS

PRIMARY PROJECT CONTROL MONUMENTS GOVERN ALL POSITIONING ON THIS PROJECT. SEE THIS SHEET FOR A TABLE CONTAINING PROJECT CONTROL INFORMATION.

USE THE FOLLOWING PROJECT CONTROL, VERTICAL POSITIONING, AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

PROJECT CONTROL

POSITIONING METHOD: ODOT VRS

MONUMENT TYPE: TYPE B

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: GEOID18

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD83 (2011)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE SOUTH ZONE
COMBINED SCALE FACTOR: 1.00000000
ORIGIN OF COORDINATE SYSTEM: 0,0,0

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE CMS 623.

UNITS ARE IN U.S. SURVEY FEET

CLEARING AND GRUBBING

REMOVE ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS UNDER THE LUMP SUM BID ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED:

12" X 2 TREES

48" X 1 TREE

ITEM 606 - BRIDGE TERMINAL ASSEMBLY, TYPE 4, AS PER PLAN

THIS ITEM SHALL CONSIST OF THE CONSTRUCTION OF A CURVED BRIDGE TERMINAL ASSEMBLY, TYPE 4, AS PER THE DETAILS ON SHEETS 10 & 11 AND PER PIS GR-3.4.

PAYMENT FOR THE WORK SHALL BE MADE AT THE UNIT PRICE BID, PER EACH, FOR ITEM 606 - BRIDGE TERMINAL ASSEMBLY, TYPE 4, AS PER PLAN AND SHALL INCLUDE ALL MATERIALS NECESSARY TO CONSTRUCT THE ASSEMBLY.

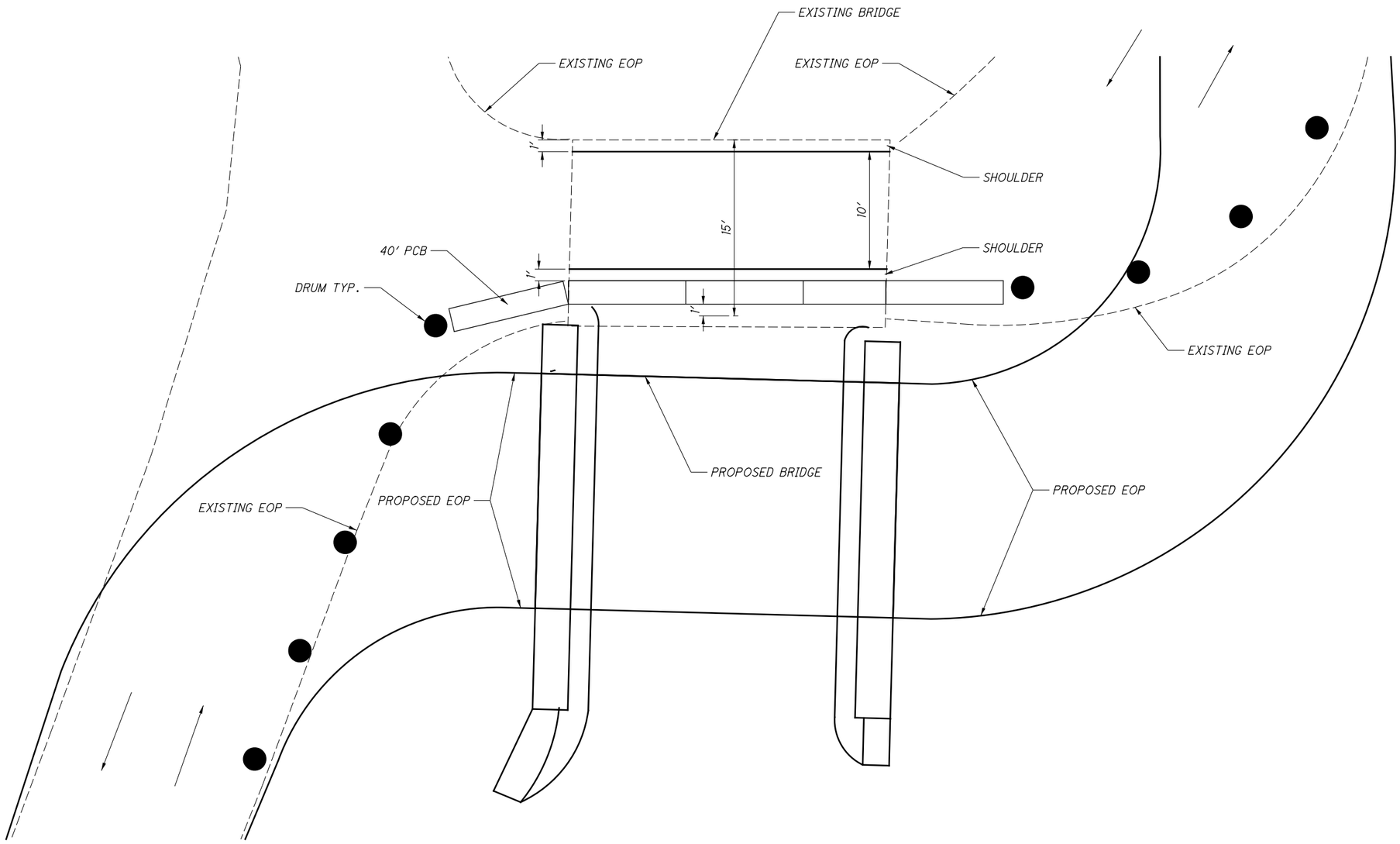
BENCHMARK DATA

POINT	NORTHING	EASTING	STATION	OFFSET	ELEVATION	DESCRIPTION
BM #1	510009.2750	1487922.6929	100+81.45	10.89' LT	674.04	RR SPIKE SET IN TP
BM #2	510064.4783	1487976.8456	101+33.45	34.08' LT	674.73	MAG NAIL SET
BM #3	510046.8110	1488051.6086	102+24.13	5.48' RT	674.32	MAG NAIL SET

WAR-TR81-1.22

ITEM 614, MAINTAINING TRAFFIC

DRY RUN ROAD WILL REMAIN OPEN AT ALL TIMES DURING CONSTRUCTION. A MINIMUM WIDTH OF 15' ON THE NORTH SIDE OF THE EXISTING BRIDGE IS TO REMAIN USEABLE DURING CONSTRUCTION FOR A ONE-LANE, TWO-WAY TEMPORARY TRAFFIC OPERATION. THE 15' WIDTH WILL ACCOMMODATE A 10' TRAVEL LANE WITH 1' SHOULDERS, A 2' PORTABLE CONCRETE BARRIER, AND A 1' OFFSET BEHIND THE PORTABLE CONCRETE BARRIER. THE PAYMENT FOR ALL WORK AND INCIDENTALS ASSOCIATED SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 614 MAINTAINING TRAFFIC.



CALCULATED IAV
CHECKED JAH

MAINTENANCE OF TRAFFIC
GENERAL NOTES

WAR-TR81-1.22

SHEET NUMBER						ITEM	ITEM EXT.	UNIT	TOTAL	DESCRIPTION	SEE SHEET NO.
3	4	6	7	9	20						
										ROADWAY	
LS						201	11000	LS	LS	CLEARING AND GRUBBING	
		296				202	23000	SY	296	PAVEMENT REMOVED	
		269				202	38000	FT	269	GUARDRAIL REMOVED	
				62		203	10000	CY	62	EXCAVATION	
				181		203	20000	CY	181	EMBANKMENT	
		225				606	13000	FT	225	GUARDRAIL, TYPE 5	
		4				606	26500	EACH	4	ANCHOR ASSEMBLY, TYPE T	
		4				606	35141	EACH	4	BRIDGE TERMINAL ASSEMBLY, TYPE 4, AS PER PLAN	
										EROSION CONTROL	
35.1						659	00300	CY	36	TOPSOIL	
				316		659	10000	SY	316	SEEDING AND MULCHING	
						659	31000	ACRE	0.07	LIME	
0.04						659	20000	TON	0.04	COMMERCIAL FERTILIZER	
1.7						659	35000	MGAL	2	WATER	
										PAVEMENT	
		374				204	10000	SY	374	SUBGRADE COMPACTION	
		32				252	01500	FT	32	FULL DEPTH PAVEMENT SAWING	
		91				301	56000	CY	91	ASPHALT CONCRETE BASE, PG64-22	
		44				407	10000	GAL	44	TACK COAT	
		25				441	10000	CY	25	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	
										TRAFFIC CONTROL	
						626	00102	EACH	12	BARRIER REFLECTOR, TYPE 2	
					7	630	85100	EACH	7	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
					9	630	86002	EACH	9	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
					71.5	630	03100	FT	72	GROUND MOUNTED SUPPORT, NO. 3 POST	
										STRUCTURE OVER 20 FOOT SPAN (WAR-TR81-1.22)	23
										INCIDENTALS	
						614	11000	LS		MAINTAINING TRAFFIC	
						623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
						624	10000	LS		MOBILIZATION	

CALCULATED IAV
CHECKED JAH

GENERAL SUMMARY

WAR-TR81-1.22

PAVEMENT CALCULATIONS

STATION LIMITS			SIDE	WIDTH (FT)	AREA (SF)	204 SUBGRADE COMPACTION	252 FULL DEPTH PAVEMENT SAWING	301 ASPHALT CONCRETE BASE, PG64-22	407 TACK COAT	441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22
						SY	FT	CY	GAL	CY
Dry Run Road - South Approach										
100+73.41		101+39.12			1286.37		17.87		14.29	7.94
	66.2									
			LIFT 1		1308.40			16.15		
			LIFT 2		1352.49	150.28		16.70		
Dry Run Road - North Approach					1902.08		13.58		21.13	11.74
101+69.62		102+71.31								
	101.69									
			LIFT 1		1936.21			23.90		
			LIFT 2		2004.49	222.72		24.75		
Driveway			LIFT 1		734.26			9.06	8.16	4.53
			TRIANGLE		8.91	0.99		0.11		
SUBTOTALS						373.99	31.45	90.68	43.59	24.21
TOTALS CARRIED TO GENERAL SUMMARY						374	32	91	44	25

ROADWAY SUBSUMMARY

REF NO.	SHEET	STATION FROM	STATION TO	SIDE	PAVEMENT REMOVED	GUARDRAIL REMOVED	ANCHOR ASSEMBLY, TYPE T	BTA, TYPE 4, AS PER PLAN	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPISOSAL	GROUND MOUNTED SUPPORT, NO. 3 POST	GUARDRAIL, TYPE 5	BARRIER REFLECTOR
					SY	FT	EACH	EACH	EACH	EACH	FT	FT	EACH
R-1	7	100+42.41	102+10.73	RT		167.5							
R-2	7	101+34.48	102+61.66	LT		101.36							
GR-1	7	100+34.48		RT			1	1					3
GR-2	7	100+42.41		LT			1	1					3
GR-3	7	102+10.73		RT			1	1					3
GR-4	7	102+62.11		LT			1	1					3
S-1	20	101+21.35		LT					1	2	13.5		
S-2	20	102+06.81		RT					1	2	13.5		
S-3	20	102+61.07		LT					1	1	10.5		
S-4	20	102+35.98		LT					1	1	8.5		
S-5	20	102+09.55		RT					1	1	8.5		
S-6	20	102+00.05		LT					1	1	8.5		
S-7	20	101+90.78		LT					1	1	8.5		
		SOUTH APPROACH			119.56							100.00	
		100+73.41	101+41.02										
		NORTH APPROACH			176.22							125.00	
		101+68.39	102+71.31										
	SUBTOTALS				295.78	268.86	4	4	7	9	71.5	225.00	12
	SUBTOTALS CARRIED TO GENERAL SUMMARY				296	269	4	4	7	9	72	225	12

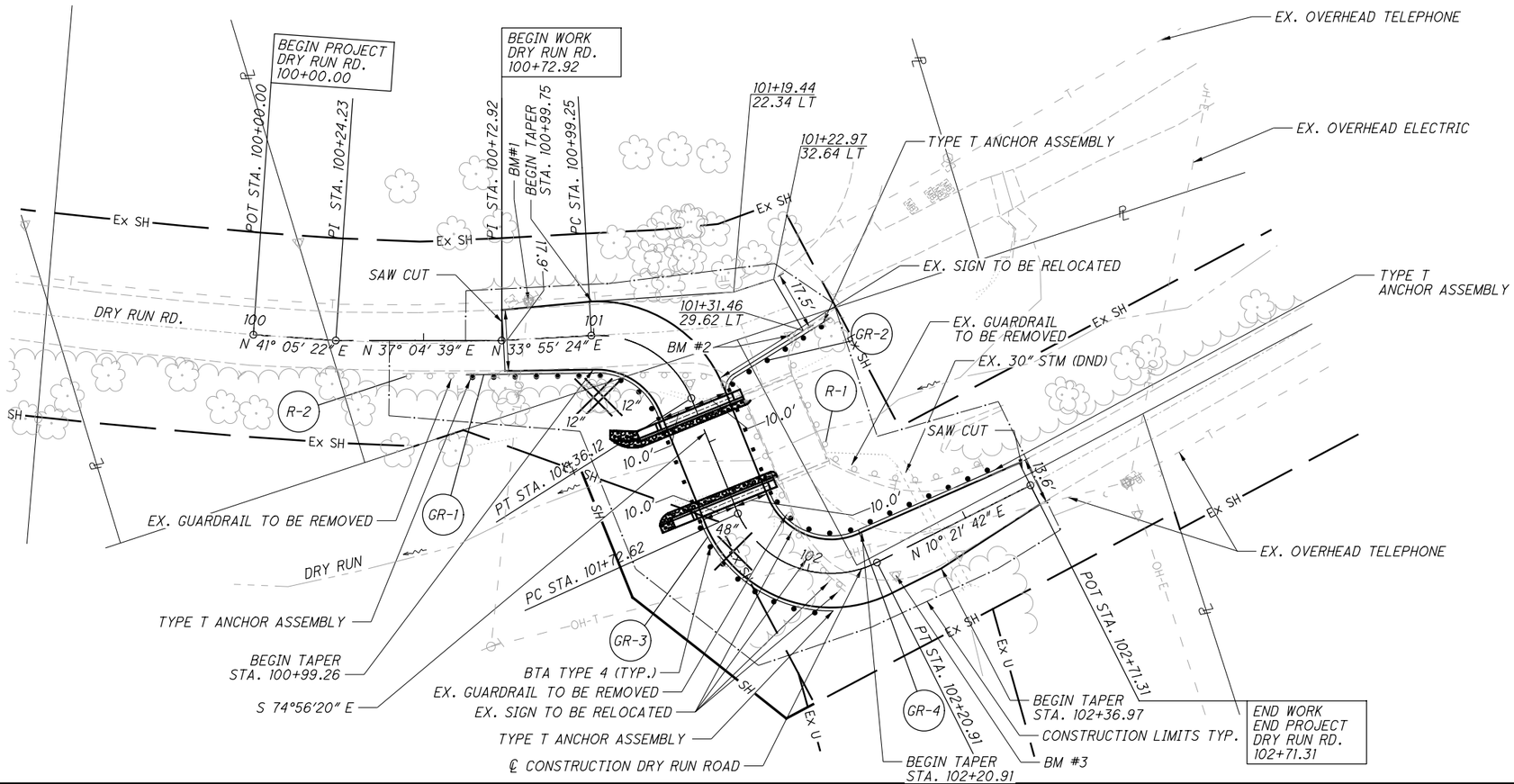
CALCULATED IAV
CHECKED JAH

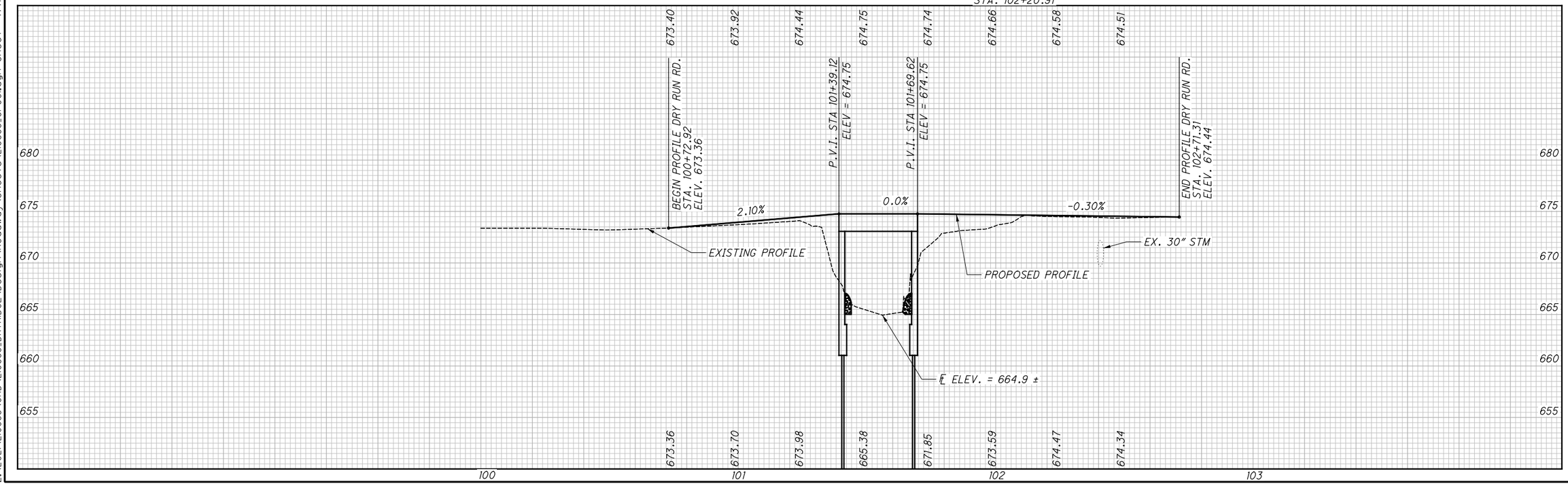
ESTIMATED QUANTITIES

WAR-TR81-1.22

℄ PROPOSED
CURVE DATA
P.I. STA. 101+20.42
Δ = 70° 25′ 15″ (RT.)
Dc = 190° 59′ 09″
R = 30.00′
T = 21.17′
L = 36.87′
E = 6.72′
C = 34.59′
C.B. = N 69° 08′ 01″ E

℄ PROPOSED
CURVE DATA
P.I. STA. 102+03.81
Δ = 92° 13′ 12″ (LT.)
Dc = 190° 59′ 09″
R = 30.00′
T = 31.19′
L = 48.29′
E = 13.27′
C = 43.24′
C.B. = N 56° 28′ 18″ E





HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED JAV
CHECKED JAH

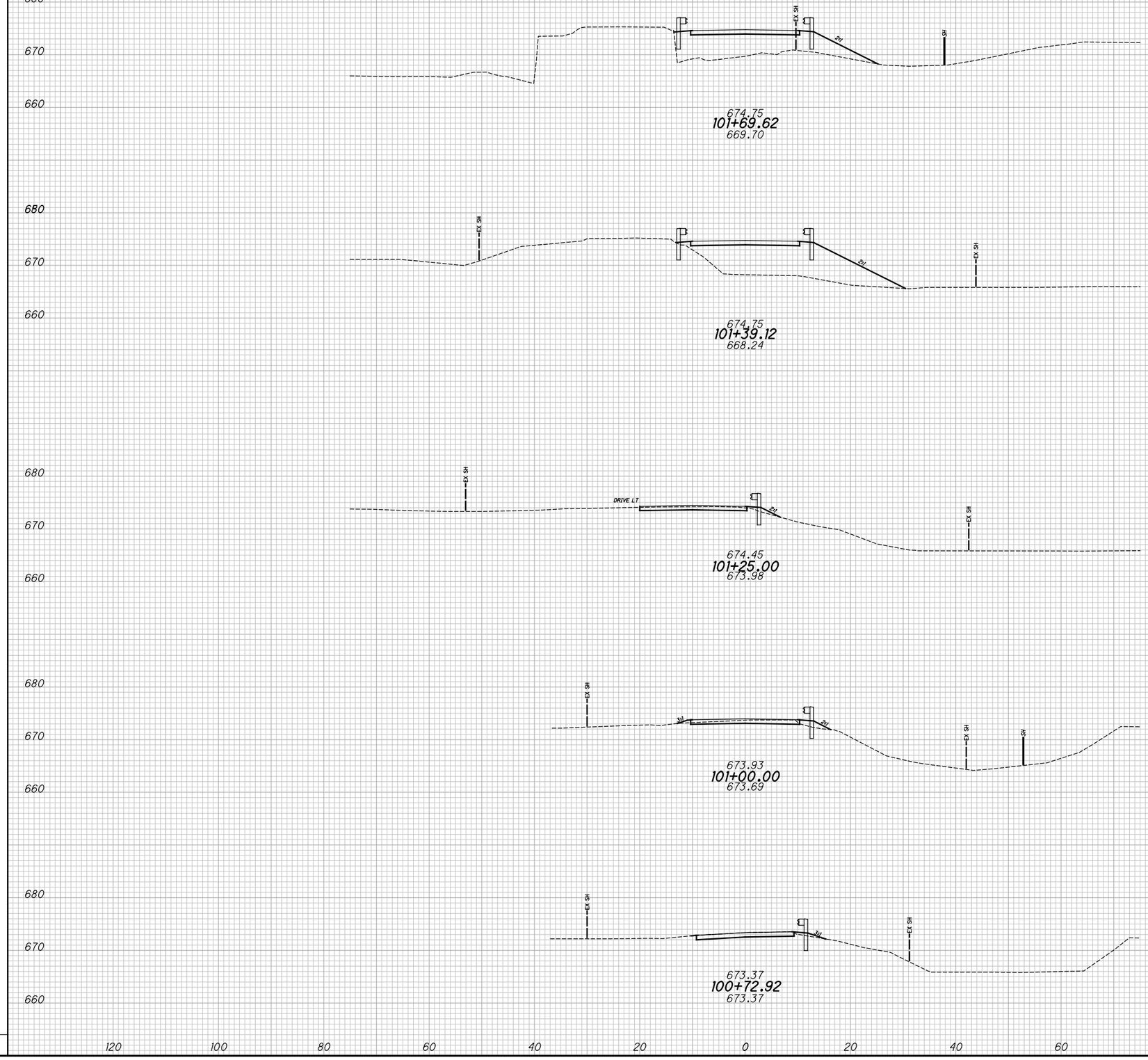
PLAN AND PROFILE
STA. 100+00.00 TO 102+71.31

WAR-TR81-1.22

7
29

Z:\202\210888\CAD\210888_DRYRIDGE\Design\Roadway\Sheets\210888_GP001.dgn Sheet 7/17/2023 3:53:55 PM jpcarroll

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	45	0	0	0	104
26	27	0	183	2	49
8	25	4	3	5	5
10	27	6	6	3	5
8		0	3		
	124			10	163



CALCULATED IAV
CHECKED JAH

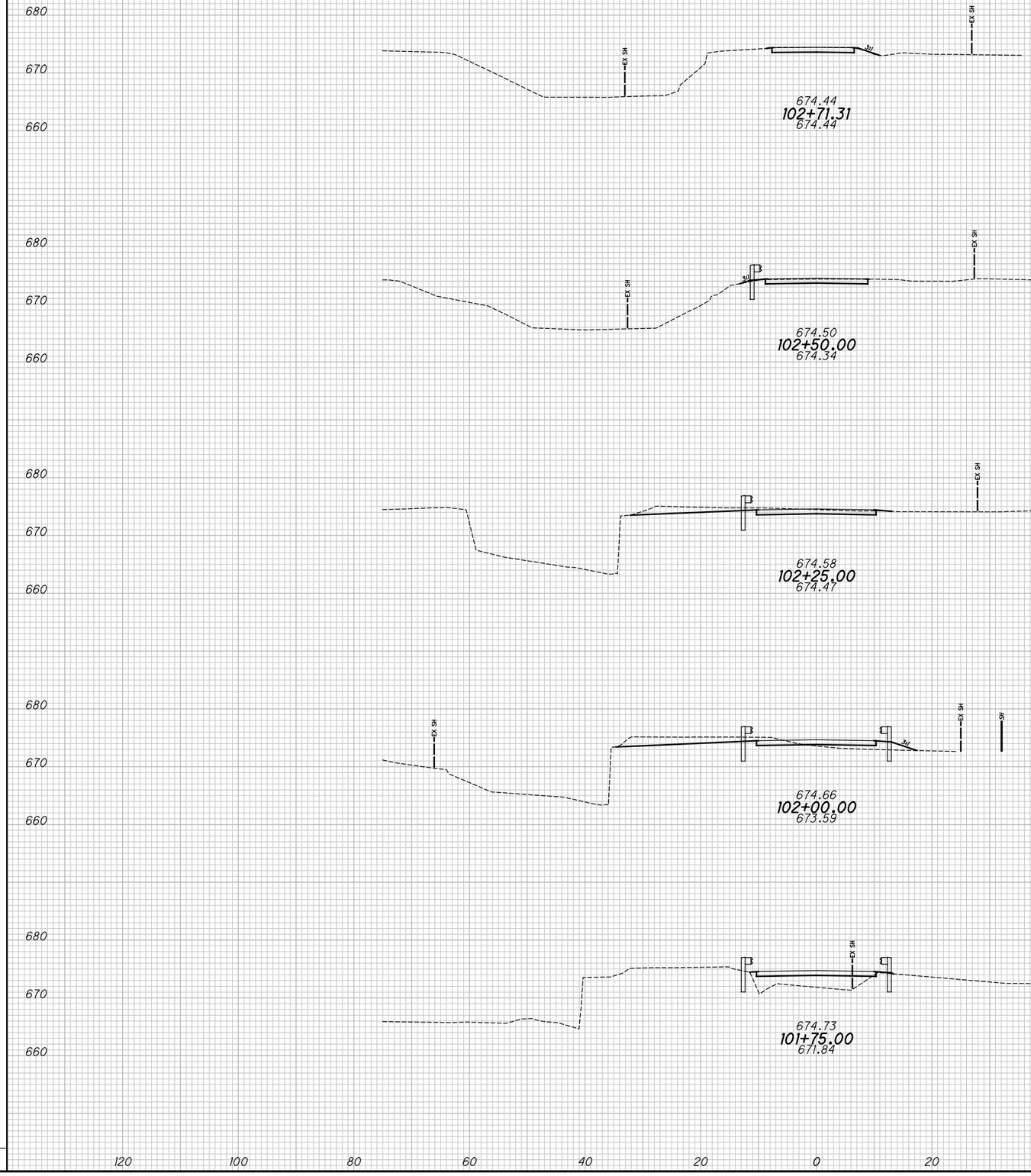
CROSS SECTIONS

STA. 100+73.41 TO STA. 101+69.62

WAR-TR81-1.22

8
29

SEEDING	
END WIDTH	SQ. YDS.
0	9
7	46
26	82
33	53
5	2
	192



EARTHWORK SUBSUMMARY		
QUANTITIES FROM SHEET	ITEM 203 (CY)	
	EXCAVATION	EMBANKMENT
8	10	163
THIS SHEET	52	18
TOTALS	62	181

SEEDING SUBSUMMARY	
QUANTITIES FROM SHEET	ITEM 659 (SY)
	SEEDING AND MULCHING
8	124
THIS SHEET	192
TOTALS	316

END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	0		
0	1	0	1
19	3	9	2
34	13	25	8
1	0	17	7
		1	0
		52	18

CALCULATED JAV
CHECKED JAH

CROSS SECTIONS
STA. 101+75.00 TO STA. 102+71.30

WAR-TR81-1.22

9
29

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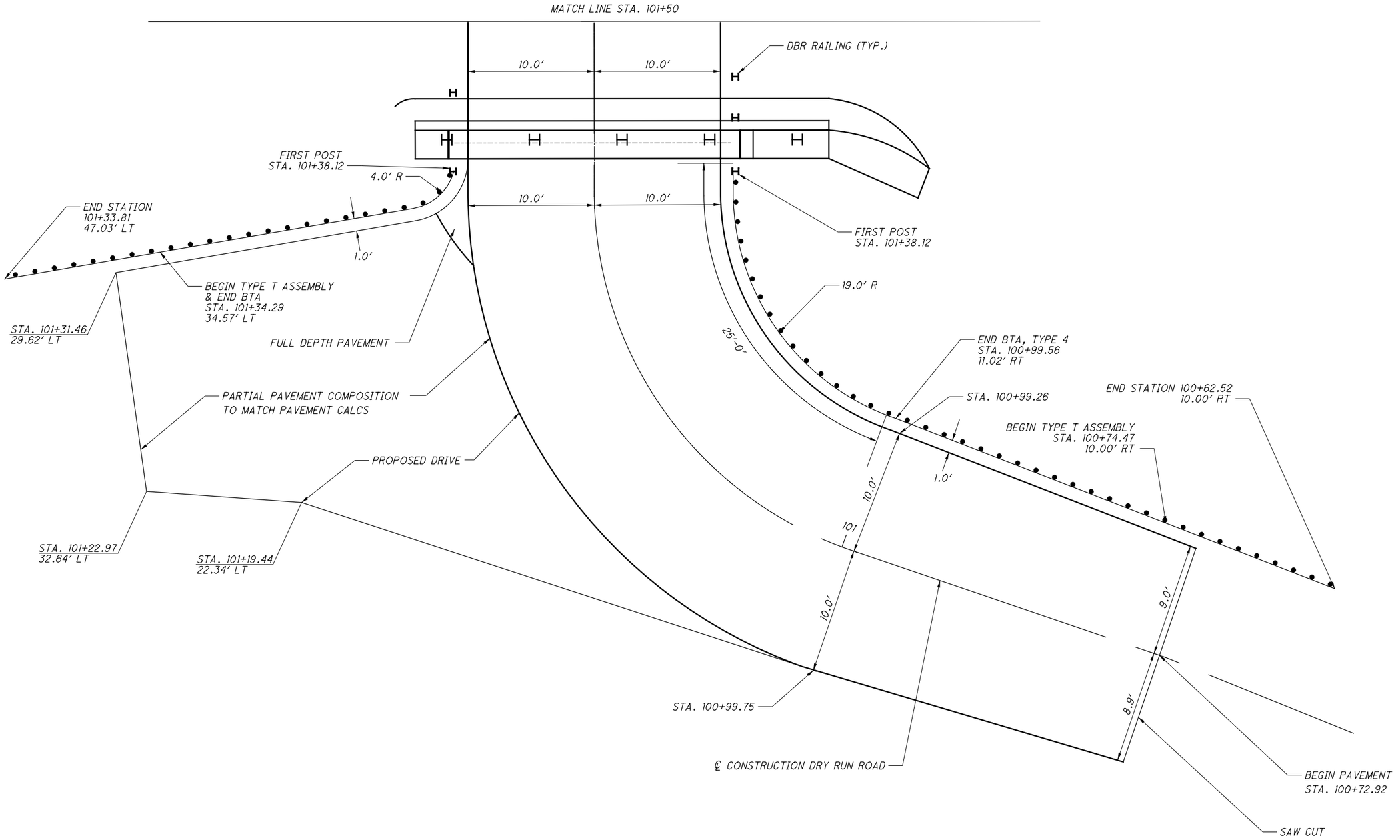

N

0 2.5 5 10
HORIZONTAL
SCALE IN FEET

CALCULATED IAV
CHECKED JAH

GUARDRAIL AND PAVEMENT DETAILS

WAR-TR81-1.22

10
29

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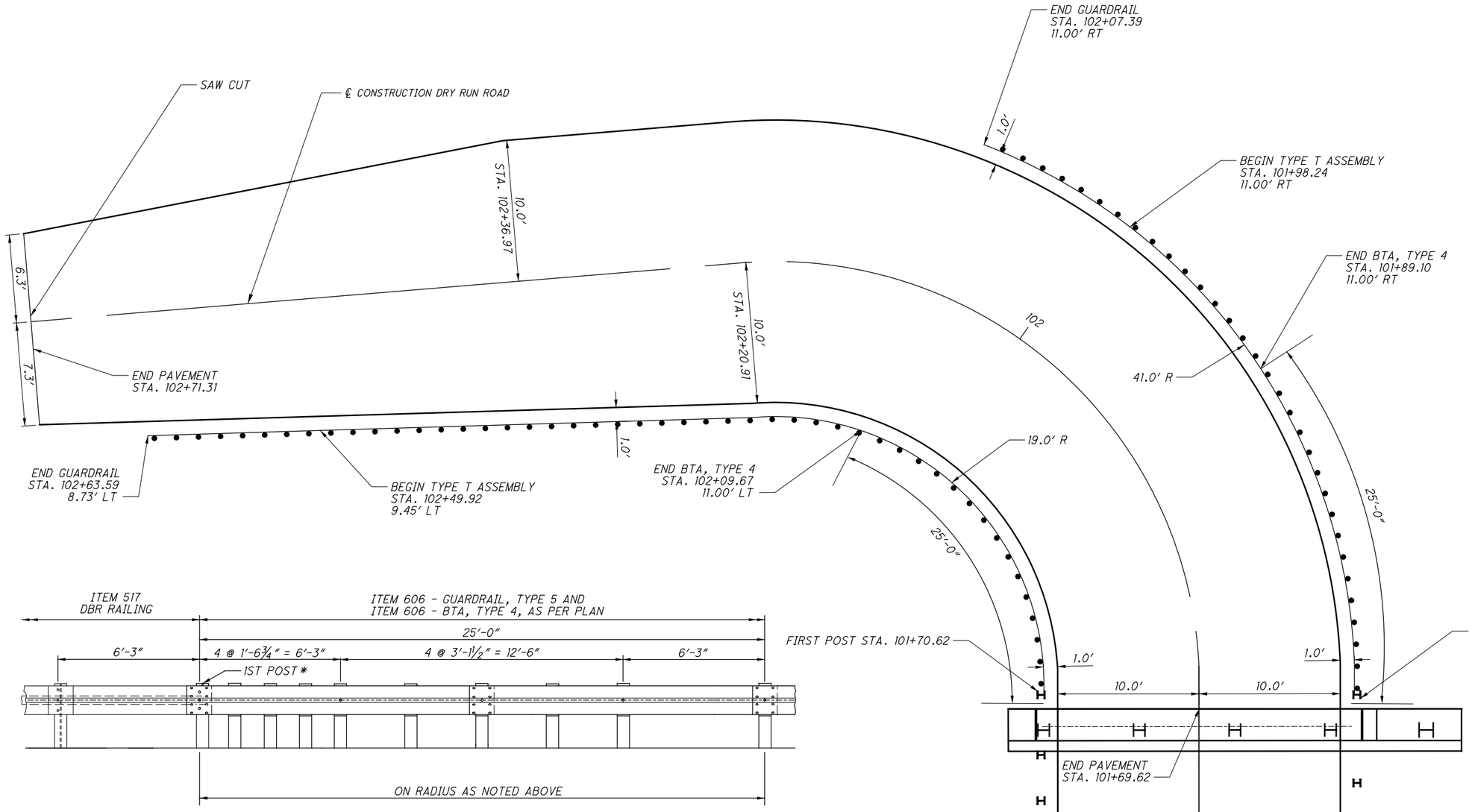


ITEM 606 - BRIDGE TERMINAL ASSEMBLY, TYPE 4, AS PER PLAN (CURVED)

HORIZONTAL SCALE IN FEET
0 2.5 5 10

CALCULATED IAV
CHECKED JAH

GUARDRAIL AND PAVEMENT DETAILS

WAR-TR81-1.22

11
29

Z:\2021\210888\CAD\210888_DRYRIDGE\Design\Roadway\Sheets\210888_GR001.dgn Sheet1 1/17/2023 4:47:26 PM jahiller

NOTES

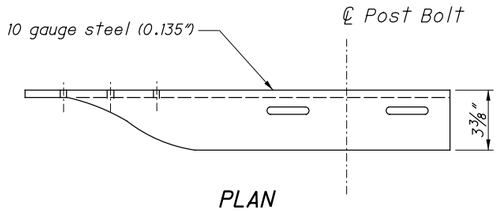
GENERAL: *Components shown on this drawing are used in a variety of guardrail systems. See individual guardrail drawing for specific applications.*

See CMS 606 for guardrail specifications not covered on these drawings.

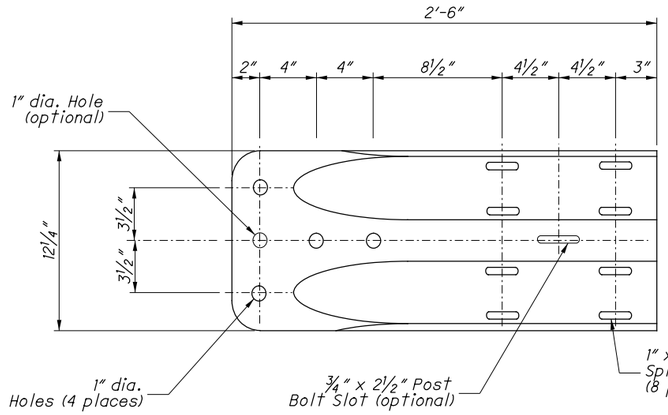
Refer to AASHTO M 180 for dimensional details of W-Beam and Thrie-Beam rail elements, related buffer and end sections, beam splices, post and splice bolts, nuts, and Type 1 W-Beam to Thrie-Beam Transition sections.

RAIL ELEMENTS: *W-Beam Rail has an effective length of 12'-6" unless otherwise specified, with ¾" x 2½" post bolt slots on 6'-3" centers regardless of post spacing. Field punch or drill bolt holes or slots for irregularly spaced posts as specified in CMS 606.04.*

RAIL SPLICES: *Lap splices between two rail elements or between a rail and terminal connector in the direction of traffic. Lap the buffer or flared end sections in the direction of traffic.*

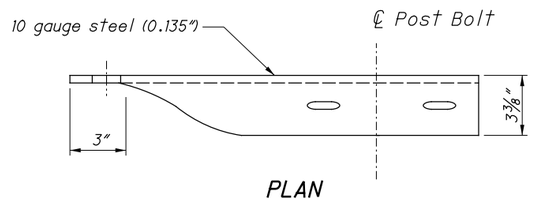


PLAN

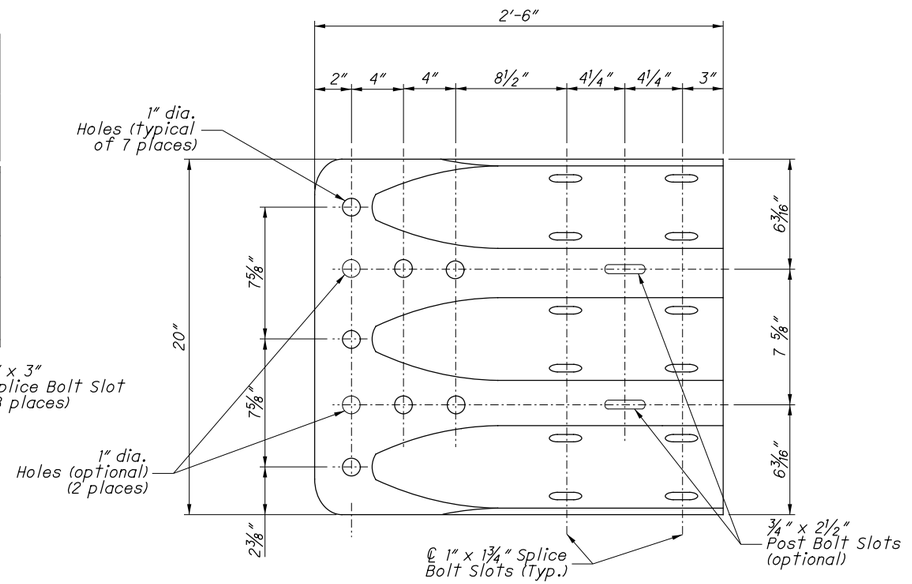


ELEVATION

W-BEAM TERMINAL CONNECTOR

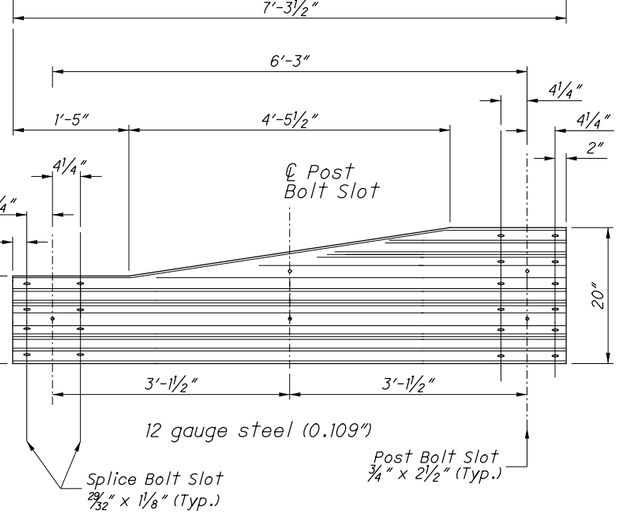


PLAN



ELEVATION

THRIE-BEAM TERMINAL CONNECTOR

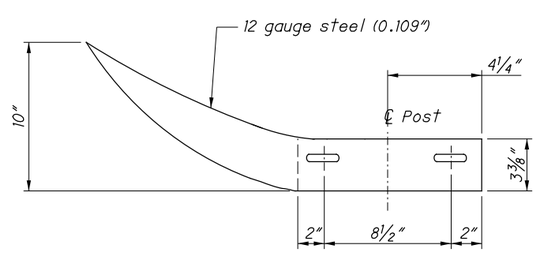


ELEVATION

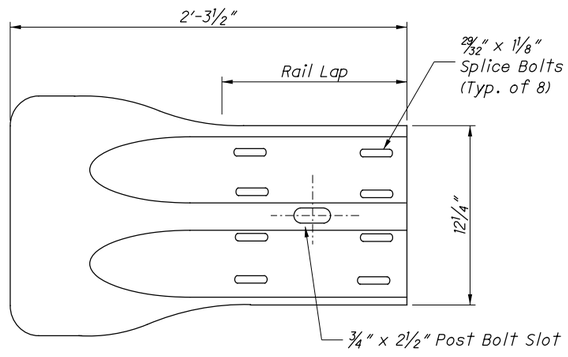
TYPE 2 TRANSITION SECTION

(Asymmetric W to Thrie-Beam)

For details of Type 1 Transition Section (Symmetric), refer to AASHTO M 180, Figure 4.

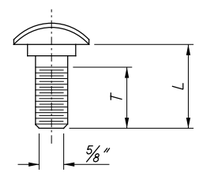


PLAN



ELEVATION

W-BEAM FLARED END SECTION



GUARDRAIL BOLT (For Post and Splice Bolts)		
L	**T min.**	**Bolt Use**
18" (Standard Rail)	4"	Type 5: WP/WB, PB
26" (Barrier Rail)		
10"	4"	Type 5: SP/WB, PB
1¼"	1⅛"	Splice Bolt

WP = Wood Post WB = Wood Blockout
SP = Steel Post PB = Plastic Blockout

Longer Bolt may be needed for round Wood Post larger than 8" dia.

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PLAN INSERT SHEET

GUARDRAIL DETAILS (Rail Components)

PIS GR-1.1

1 / 3

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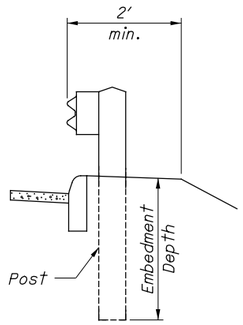
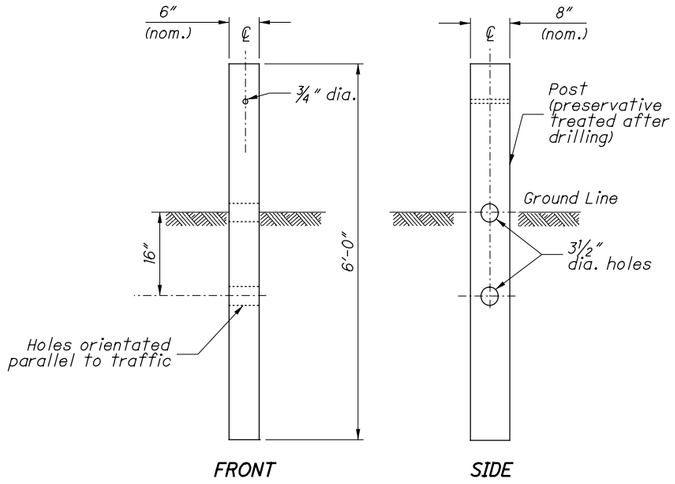
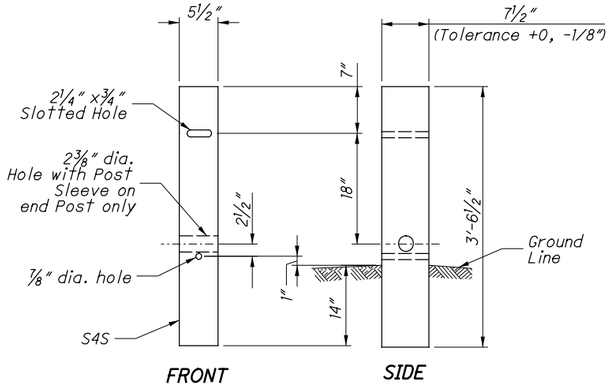


DETAIL A

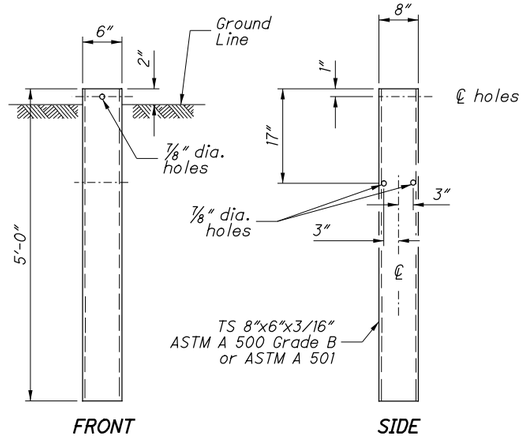
See POST EMBEDMENT DEPTH Note



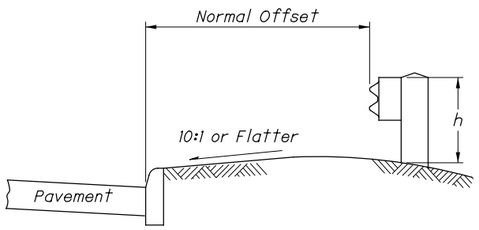
TYPE 1 BREAKAWAY CRT POST

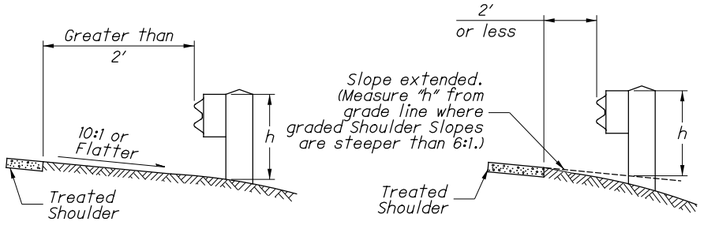


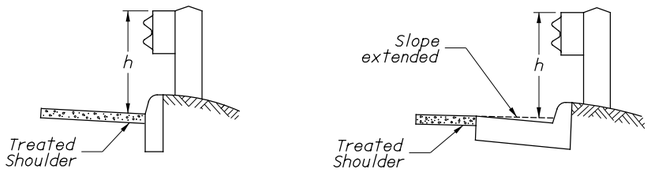
TYPE 2 BREAKAWAY CRT POST



STEEL GROUND TUBE







h = Standard Height (See GUARDRAIL HEIGHT Note)

MEASURING GUARDRAIL HEIGHT

NOTES

GUARDRAIL HEIGHT: *For initial installation, construct the guardrail within ± 1″ of the standard height, h, or* ***29″*** *to the top of W-Beam rail. (See MEASURING GUARDRAIL HEIGHT Detail.)*
When subsequent projects, such as resurfacings, affect the height of existing guardrail, the finished height is to be within ±2.5″ of the standard height.

POST EMBEDMENT DEPTH: *Standard embedment is 3′-5″ min. Where less than 2′ of graded shoulder width (10:1 or flatter) exists, measured from the face of the guardrail (see DETAIL "A"), use longer posts so that a minimum of 5′-5″ embedment depth is provided. Payment for the longer posts will be made at the unit price bid for* ***ITEM 606 - GUARDRAIL POST, 9′, Each.***

SPECIAL POST MOUNTINGS: *Install posts located over a drainage inlet or structure as shown in the FOOTING ANCHOR Detail, or anchor per the details shown on* ***SCD GR-2.2.***

Install posts located over a footing with a cover of less than 2′-6″ with a footing anchor as detailed here. (A plate, as detailed on SECTION B-B of ***SCD GR-2.2,*** *may be used as an alternative attachment method.) Where the cover is between 2′-6″ and 3′-5″,the footing anchor may be omitted and the post encased instead with 4″ (min.) of concrete.*

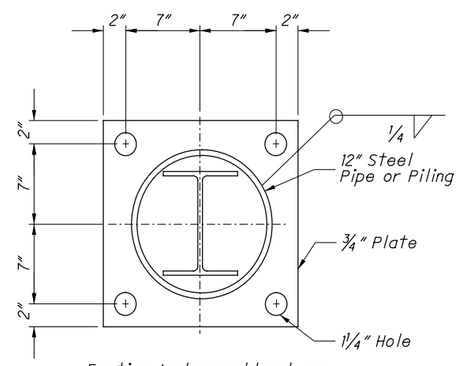
Do not drive posts located over a culvert with less than 4′-3″ of cover; instead set in drilled or dug holes. Where the available post embedment depth is less than 3′-5″, encase the post with a minimum of 4″ concrete.

All costs associated with special post mountings are included in the unit price bid of Item 606 Guardrail of the type specified in the plans.

ANCHORS: *Holes and grouting shall comply with CMS 510. Use either cement or non-shrink, nonmetallic grout.*

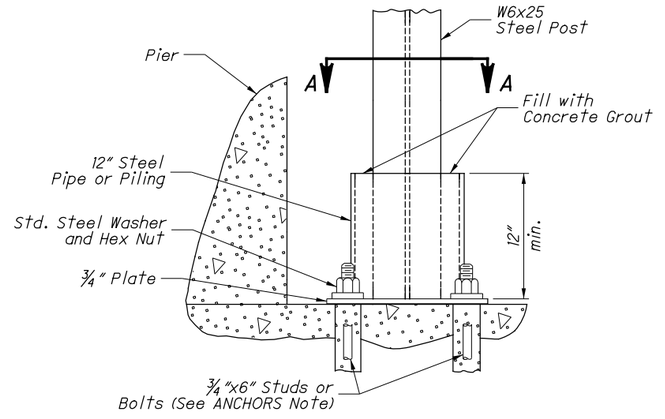
Expansion shield anchors as specified in CMS 712.01 may be substituted except where concrete deterioration has occurred, as determined by the Engineer. Where self-drilling anchors are used, drill the holes with the expansion shield (not by a drill bit) and install the shield flush with the concrete surface.

PROTECTIVE COATING: *In lieu of the complying with CMS 710.06, coat expansion shields, anchors and concrete insert anchor assemblies embedded in concrete in accordance with ASTM A 153 or be of stainless steel. Any bolts screwed into these devices shall meet CMS 710.06. (See sheet 3 for Concrete Insert Anchor Assembly Detail.)*



Footing Anchor and hardware need not be galvanized

SECTION A-A



ELEVATION
FOOTING ANCHOR

See SPECIAL POST MOUNTINGS Note.

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PLAN INSERT SHEET
GUARDRAIL DETAILS
(Rail Components)

PIS GR-1.1

2 / 3

13
29

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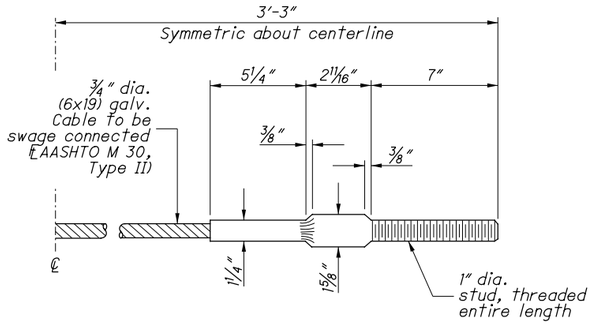
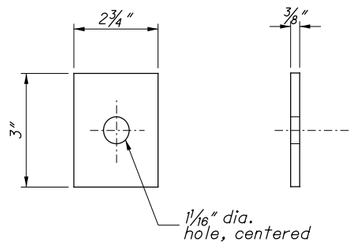
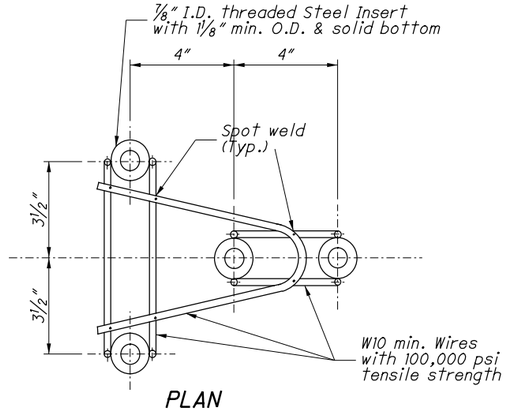


STANDARD SWAGED FITTING AND STUD

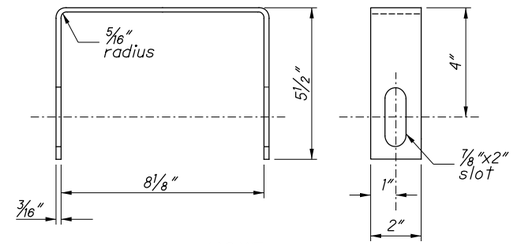
CABLE ANCHOR



END PLATE

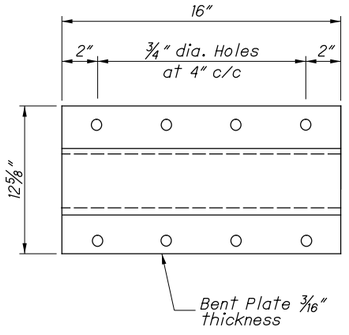


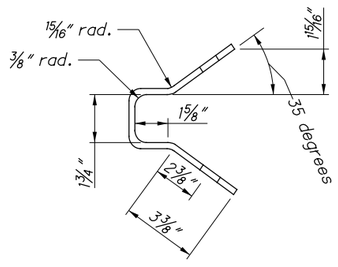
PLAN



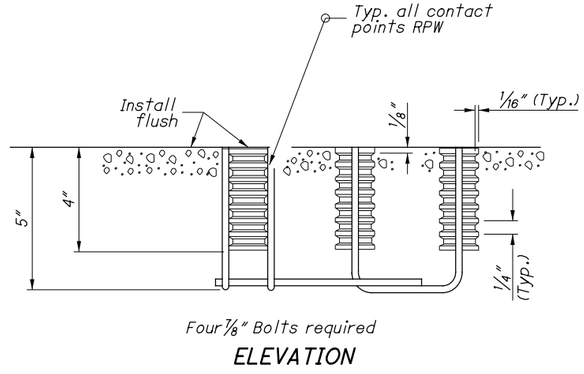
YOKE

Two required in Assembly





ANCHOR BRACKET

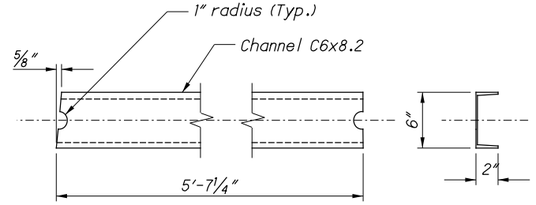


Four ⅞" Bolts required

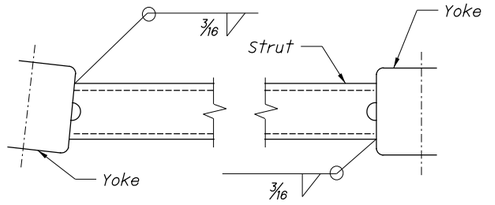
ELEVATION

CONCRETE INSERT ANCHOR ASSEMBLY (W-BEAM ONLY)

See ANCHORS and PROTECTIVE COATINGS Notes on Sheet 2

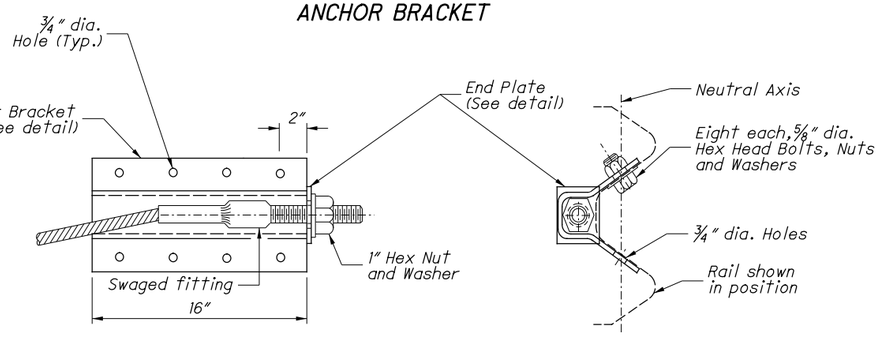


STRUT

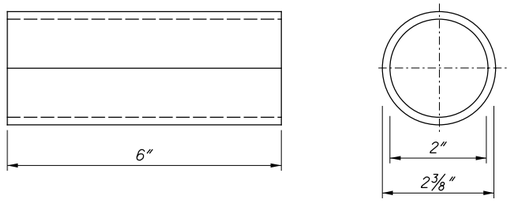


Channel legs shown down. For opposite hand, install Channel legs up.

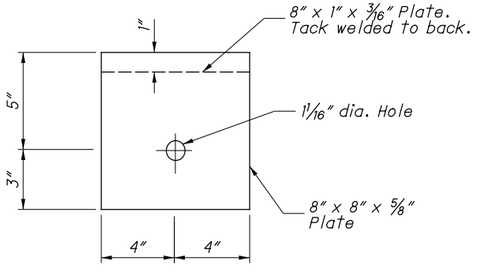
STRUT AND YOKE ASSEMBLY



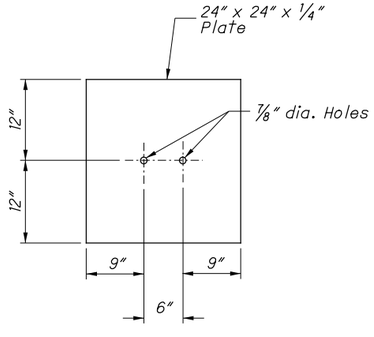
ANCHOR BRACKET ASSEMBLY DETAILS



POST SLEEVE



BEARING PLATE



SOIL PLATE

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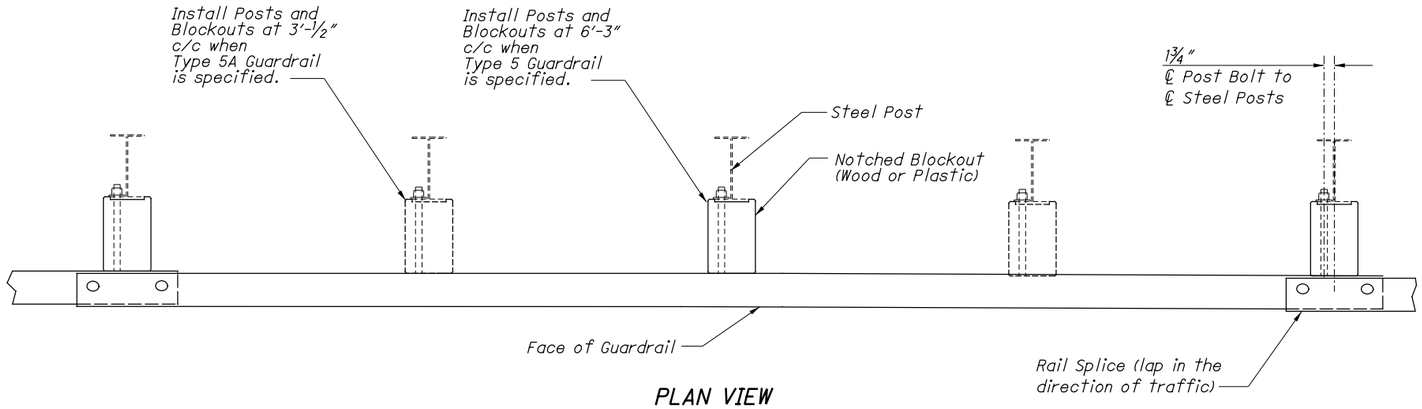
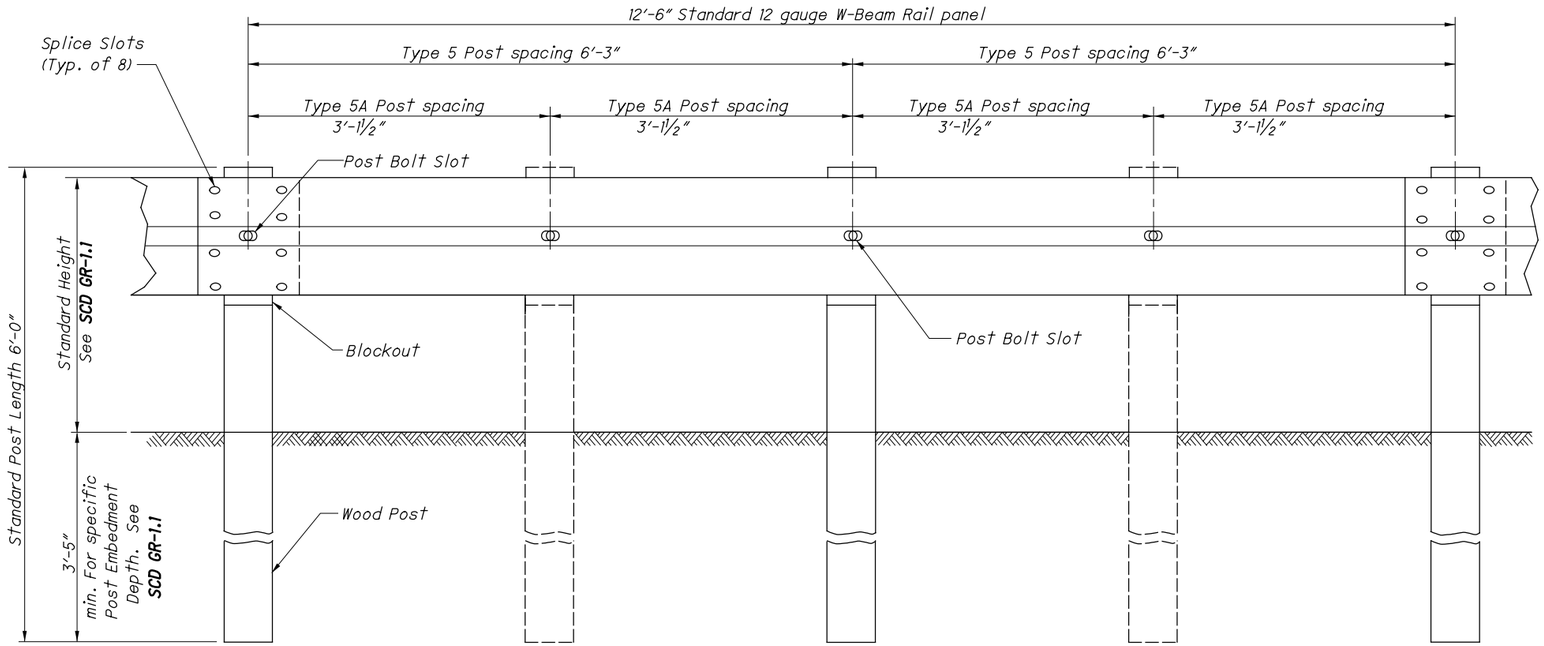
PLAN INSERT SHEET
GUARDRAIL DETAILS (Rail Components)
PIS GR-1.1
3 / 3
14 / 29



PLAN VIEW

(Steel Posts shown)



ELEVATION

(Wood Posts shown)

NOTES

RAIL: Use W-Beam rail meeting AASHTO M 180 Type II Class A, as specified in CMS 606.

POSTS: Posts may be constructed of wood or steel. Wood posts may be round or 6"x8" square-sawed.

Use round wood posts on runs of single-sided rail. The round posts shall be 8"±1 in diameter at the top and not more than 3" larger at the butt with a uniform taper.

Fabricated wood posts with square ends. Posts shall be pressure-treated as per CMS 710.14. Bore bolt holes and, if required, trim the tops of posts after the posts are set.

Steel posts are to be W6x9 or W6x8.5 galvanized steel. Use the same type of post throughout the length of the project unless otherwise specified in the plans or permitted by the Engineer.

All posts are 6'-0" long unless specified otherwise in the Contract Document. Posts may be set in drilled holes or may be driven to grade.

WELDED BEAM POSTS: Welded beam guardrail posts may be used for Item 606, Guardrail, provided the web and flange sizes are as shown here. Welding of the web to the flanges must comply with ASTM A 769, Class 1, using Grade 36 steel [250 MPa yield point] with the following exceptions:

Sec. 7.2 Test reports of tensile properties for each lot shall accompany each shipment.

Sec. 12 Beams that have imperfections repaired by welding shall not be accepted for use in Item 606.

Sec. 13 Random samples shall be tested by the Department from materials delivered to the project site, or other locations designated by the Laboratory.

ALTERNATE POSTS: Engineered guardrail posts having met NCHRP 350 criteria, and listed on the ***Office of Materials Management's*** Approved List are permitted as an equal alternate when installed according to the Manufacturer's instructions and within the limitations shown on the Approved List.

BLOCKOUTS: Blockout dimensions are dependent on post used. Wood Blockouts are to be pressure treated as specified in CMS 710.14. Bore bolt holes. Approved alternate blockouts may be used in lieu of the wood blockouts shown. The approved list is maintained by the ***Office of Roadway Engineering.***

WASHERS: Install appropriate sized standard galvanized steel washers on the nut side of bolts installed on wood posts.

DELINEATION: For barrier reflectors, see CMS 626.

MISCELLANEOUS: For other guardrail details, see **SCD GR-1.1.**

STEEL BEAM POSTS (English)				
Size	**Beam depth**	**Flange width**	**Flange thickness**	**Web thickness**
Rolled W6x8.5	5.8"	3.94"	0.193"	0.170"
Rolled W6x9	5.9"	3.94"	0.215"	0.170"
Welded 6x8.5	6.0"	3.94"	0.193"	0.170"
Welded 6x9	6.0"	3.94"	0.215"	0.170"

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PLAN INSERT SHEET

GUARDRAIL TYPE 5 & 5A

PIS GR-2.1

1 / 2

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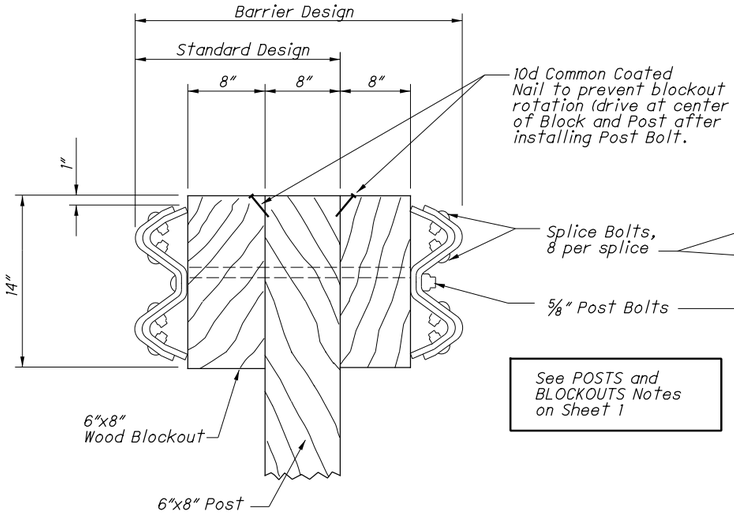
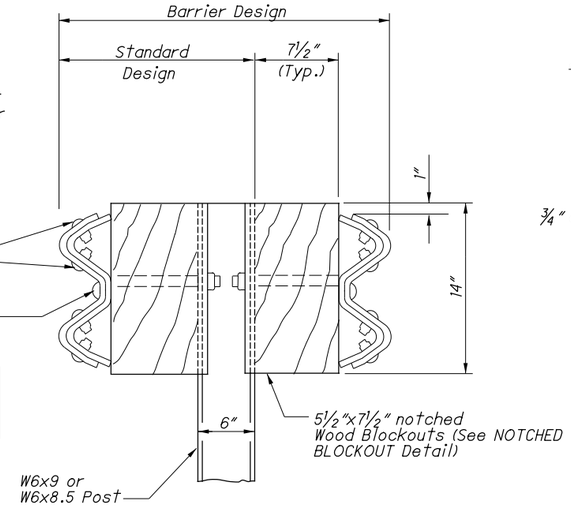
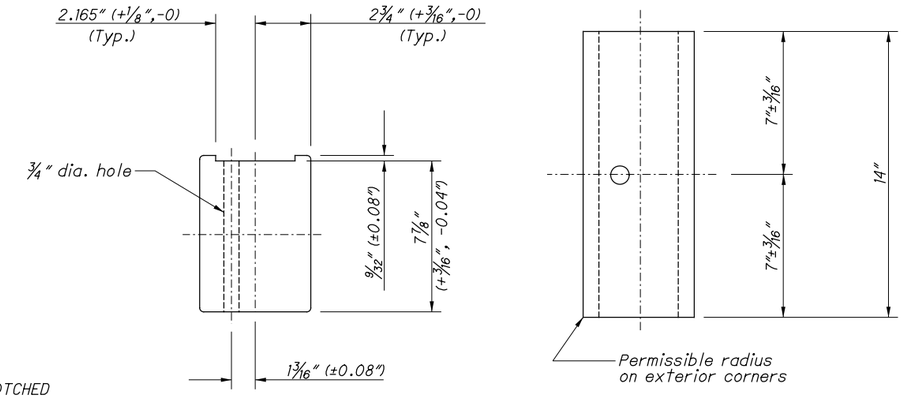


SQUARE WOOD POST



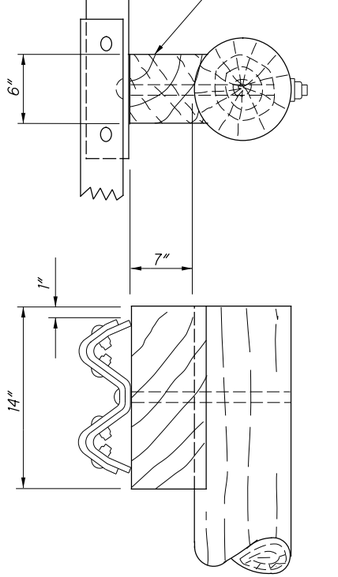
STEEL POST

See POSTS Note, Sheet 1

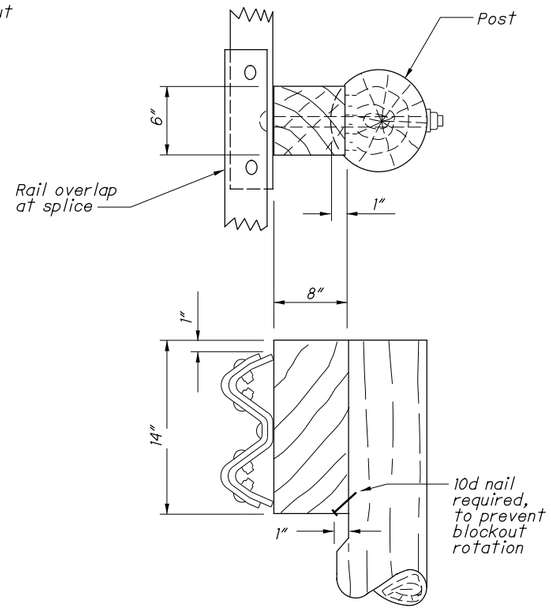


NOTCHED BLOCKOUTS FOR STEEL POSTS

See BLOCKOUTS Note on Sheet 1



Method 1
Routed Blockout

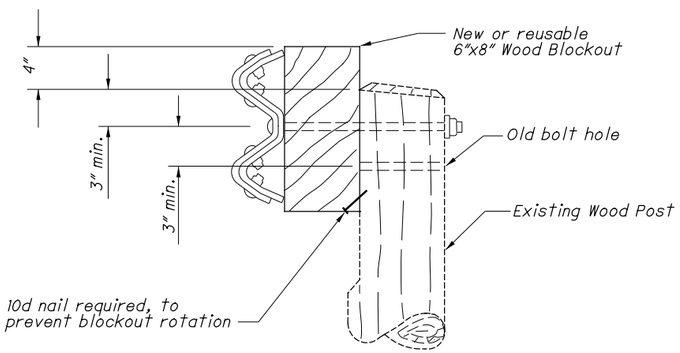


Method 2
Notched Post

Alternate methods of placing the Blockouts on round Posts may be submitted for consideration and approved by the Engineer.

ROUND WOOD POSTS

Single Sided runs only (Standard Design)



WOOD POSTS WITH WOOD BLOCK RAISING EXISTING GUARDRAIL HEIGHT

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GUARDRAIL TYPE 5 & 5A

PIS GR-2.1

2 / 2

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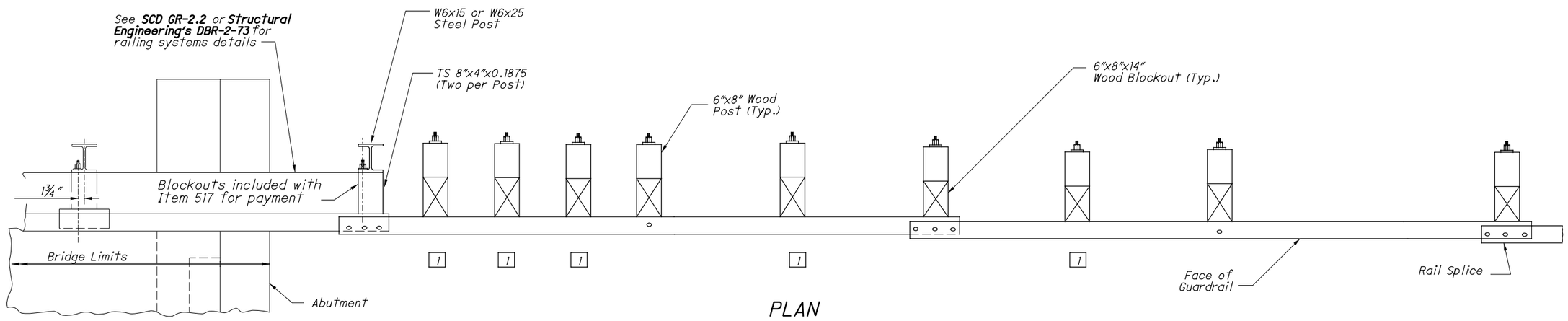
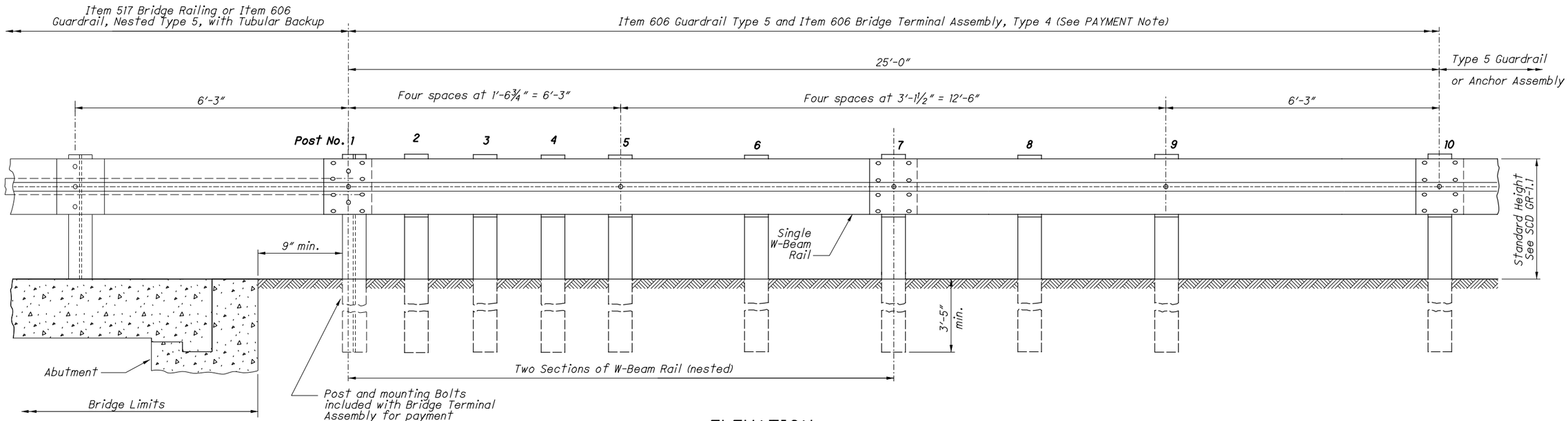


PLAN



ELEVATION

NOTES

GENERAL: *For additional details, see* ***SCD GR-1.1.***

APPLICATION: *The Type 4 Bridge Terminal Assembly shall connect Type 5 Guardrail runs to Type 5 Guardrail with Tubular Backup or to Deep Beam Bridge Guardrail (as shown on* ***Structural Engineering SCD DBR-2-73****).*

DETAIL INFORMATION: *The first post off the bridge shall be steel (W6x15 or W6x25). All holes in the off-structure end of the approach panel rail section spanning the abutment are slotted ¾"x2½". Tighten the bolts as specified for expansion joints in Item 606.05.*

POSTS: *Posts may be set in drilled holes or driven to grade. See* ***SCD GR-1.1*** *for additional Post embedment details. Guardrail is not attached to certian posts (see LEGEND).*

WOOD POSTS - Use square sawed pressure treated wood as specified in CMS 710.14 and fabricated with square ends. Bore bolt holes and trim the tops of posts, if required after the posts are set.

STEEL POSTS - are allowed as an alternate. Use W6x9 or W6x8.5 in lieu of the 6"x8" wood post. Use same post material through-out assembly.

BLOCKOUTS: *Approved alternate blockouts can be found on the Office of Roadway Engineering website. Steel blockouts are not permitted.*

FLARED GUARDRAIL: *Start Standard Guardrail Flares as shown on* ***SCD GR-5.1*** *at or beyond Post No. 10; however, the flare may begin at Post No. 7.*

PAYMENT: Item 606 - Bridge Terminal Assembly, Type 4, Each, *includes the cost of extra components in excess of normal guardrail, such as additional posts and other hardware. The TS 8"x4" spacers and tubular backup rail extending to the first post off the bridge is included with* ***Item 517 - Railing,*** *or* ***Item 606 - Guardrail, Nested Type 5 with Tubular Backup,*** *for payment.*

LEGEND

[1] *Guardrail is not attached to posts at Posts 2, 3, 4, 6, and 8. Blockout is fastened to post with standard Post Bolt.*

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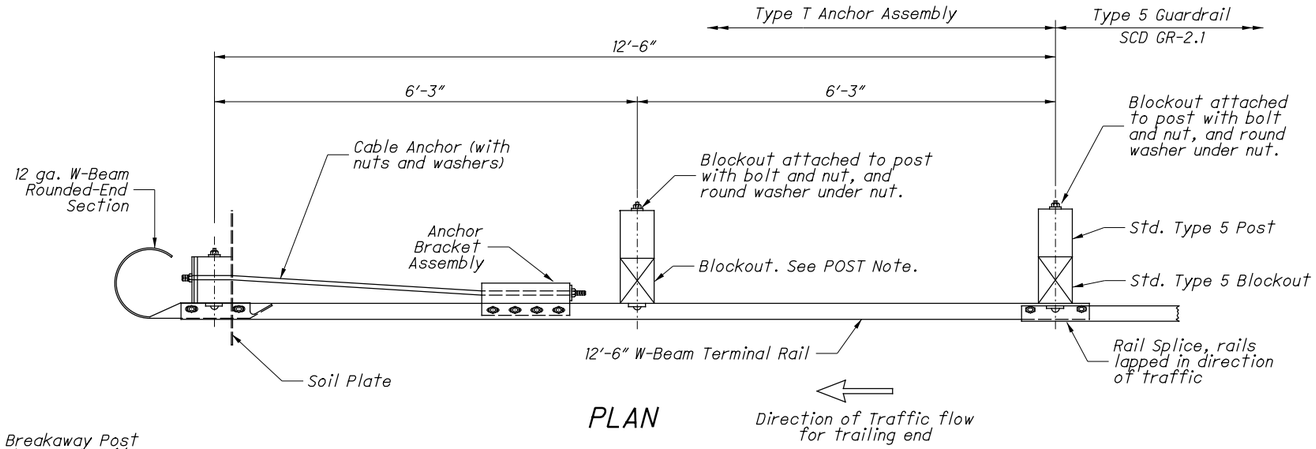
PLAN INSERT SHEET

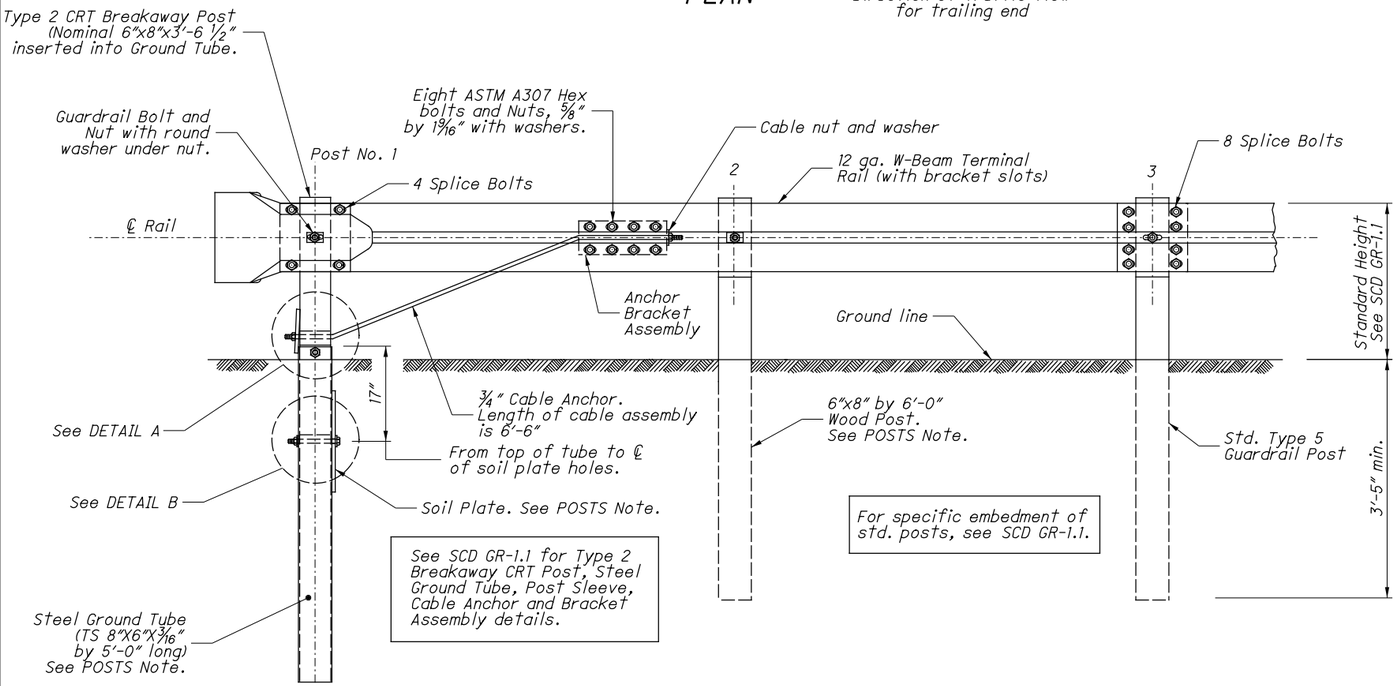
BRIDGE TERMINAL ASSEMBLY, TYPE 4

PIS GR-3.4

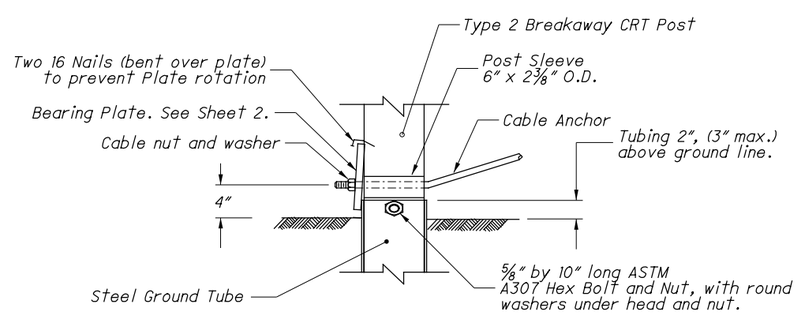
1 / 1

17 / 29

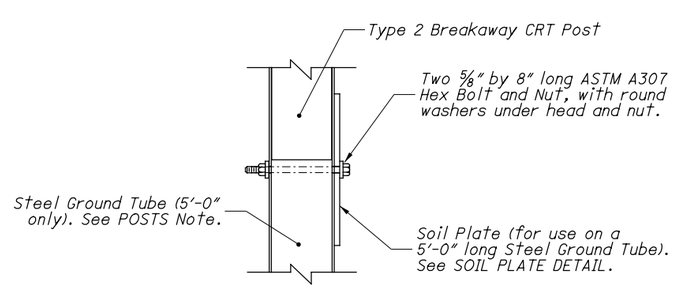




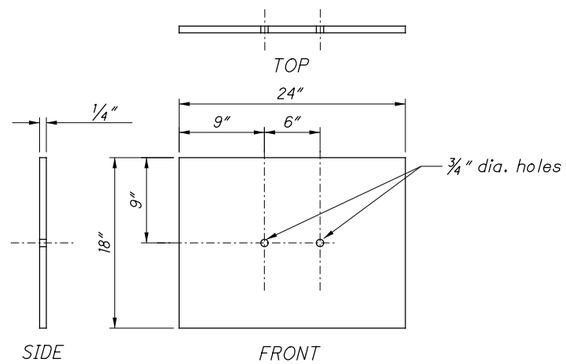
ELEVATION - FOUNDATION TUBE



DETAIL A



DETAIL B



SOIL PLATE DETAIL

NOTES

APPLICATION: *Use Type T Anchor Assemblies on the trailing end of guardrail runs, located outside of the clear zone of opposing traffic. The assembly is 12'-6" long, none of which can be considered the Length of Need for the guardrail run.*

For termination requirements at driveways, see DRIVEWAY OPENING Detail on Sheet 2. For side road approaches and Terminals at Structures, see Location & Design Manual, Volume 1, Figure 603-3.

ANCHORING OPTIONS: *Contractor may choose either the foundation tube (shown on this Sheet) or the concrete footing option (Sheet 2) to construct this anchor assembly.*

If the foundation tube option is chosen, the contractor will take proper care to insure that the Soil Plate fasteners are not broken during the driving process.

Concrete footings may be cast-in-place or precast. Compact fill after placing precast unit.

MATERIALS: *See **SCD GR-1.1** for parts used on this anchor, including the CRT Breakaway Posts, Steel Ground Tube, Post Sleeve, Cable Anchor and Bracket Assembly.*

Bearing Plate and Soil Plate is ASTM A709 Grade 36. Steel Ground Tube shall be ASTM A500, Grade B, and meet CMS 707.10. All angles, channels and plates shall meet CMS 711.01. All structural steel shall be galvanized as specified in CMS 711.02. All bolt washers indicated are standard galvanized steel of the appropriate size.

Concrete shall be class C.

*Components on this anchor that are not detailed on SCD GR-1.1 include: 1) 12'-6" W-Beam Terminal Rail (standard part RWM14a), and 2) W-Beam Rounded End Section (RWE03a). For complete details and specifications, see part descriptions in the **AASHTO/AGC/ARTBA Standardized Hardware Guide.***

POSTS: *Post No. 1 may be an 8'-0" long Steel Ground Tube without a Soil Plate in lieu of the 5'-0" tube with Soil Plate.*

Post No. 2 can be W6x9 (or W6x8.5) with notched wood blockouts or a standard Type 5 post and blockout. Recycled plastic blockouts are permitted.

PAYMENT: *All labor and materials, including the W-Beam Rounded End Section and the W-Beam Terminal Rail for the 12'-6" anchor assembly shall be included in the unit price bid for*

Item 606 - Anchor Assembly, Type T, Each.

OFFICE OF ROADWAY ENGINEERING

DESIGNED . REVIEWED .

REVISION DATE 1/18/2013 CHECKED CHECKED

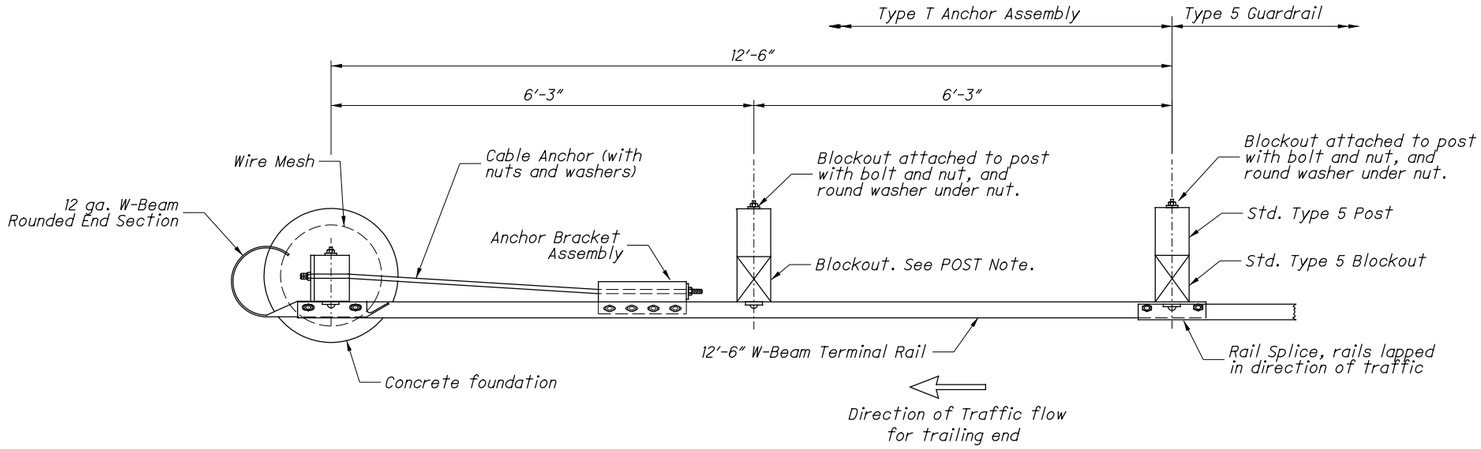
PLAN INSERT SHEET

TYPE T ANCHOR ASSEMBLY (Foundation Tube Option)

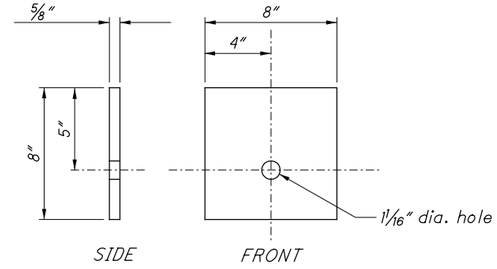
PIS GR-4.2

1 / 2

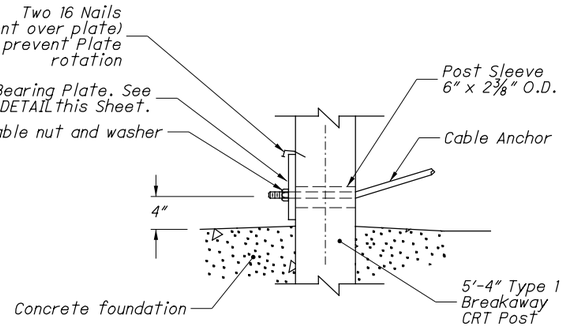
18 / 29



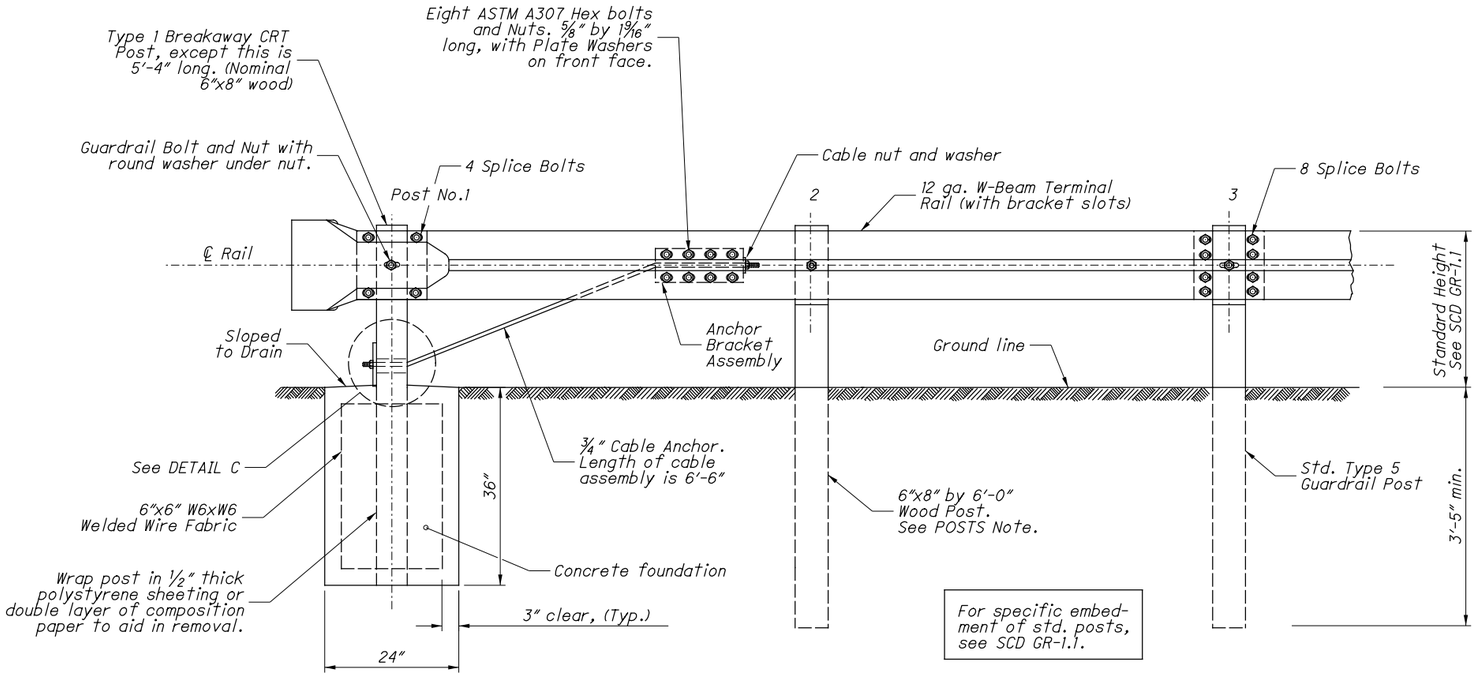
PLAN



BEARING PLATE DETAIL

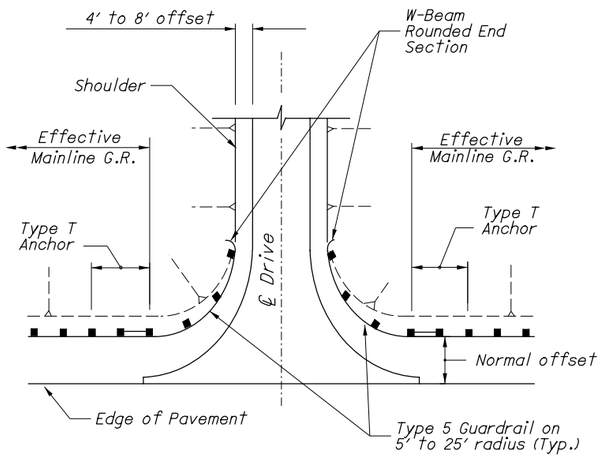


DETAIL C



See SCD GR-1.1 for Type 1 Breakaway CRT Post, Steel Ground Tube, Post Sleeve, Cable Anchor and Bracket Assembly details.

ELEVATION - CONCRETE FOOTER



DRIVEWAY OPENING

OFFICE OF ROADWAY ENGINEERING

DESIGNED IAV
REVIEWED JAH
REVISION DATE 1/18/2013
CHECKED CHECKED

PLAN INSERT SHEET

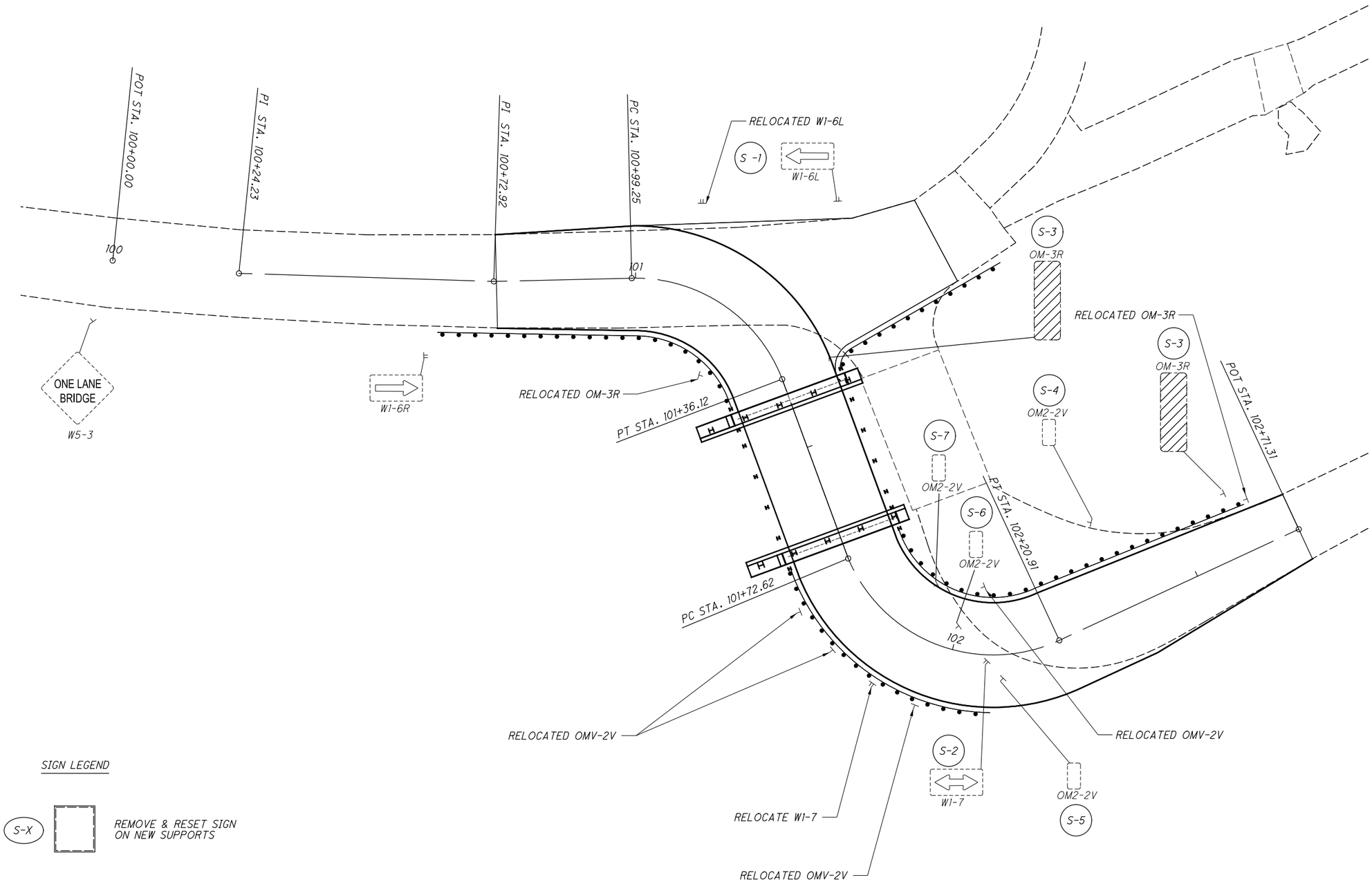
TYPE T ANCHOR ASSEMBLY (Foundation Tube Option)

PIS GR-4.2

2 / 2

19
29

Z:\2021\210888\CAD\210888_DRYRIDGE\Design\Roadway\Sheets\PIS_GR-4.2_1-18-2013.dgn Sheet 2 1/17/2023 4:47:30 PM johiller



SIGN LEGEND

S-X — REMOVE & RESET SIGN ON NEW SUPPORTS

HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED IAV
CHECKED JAH

TRAFFIC CONTROL PLAN

WAR-TR81-1.22

20
29

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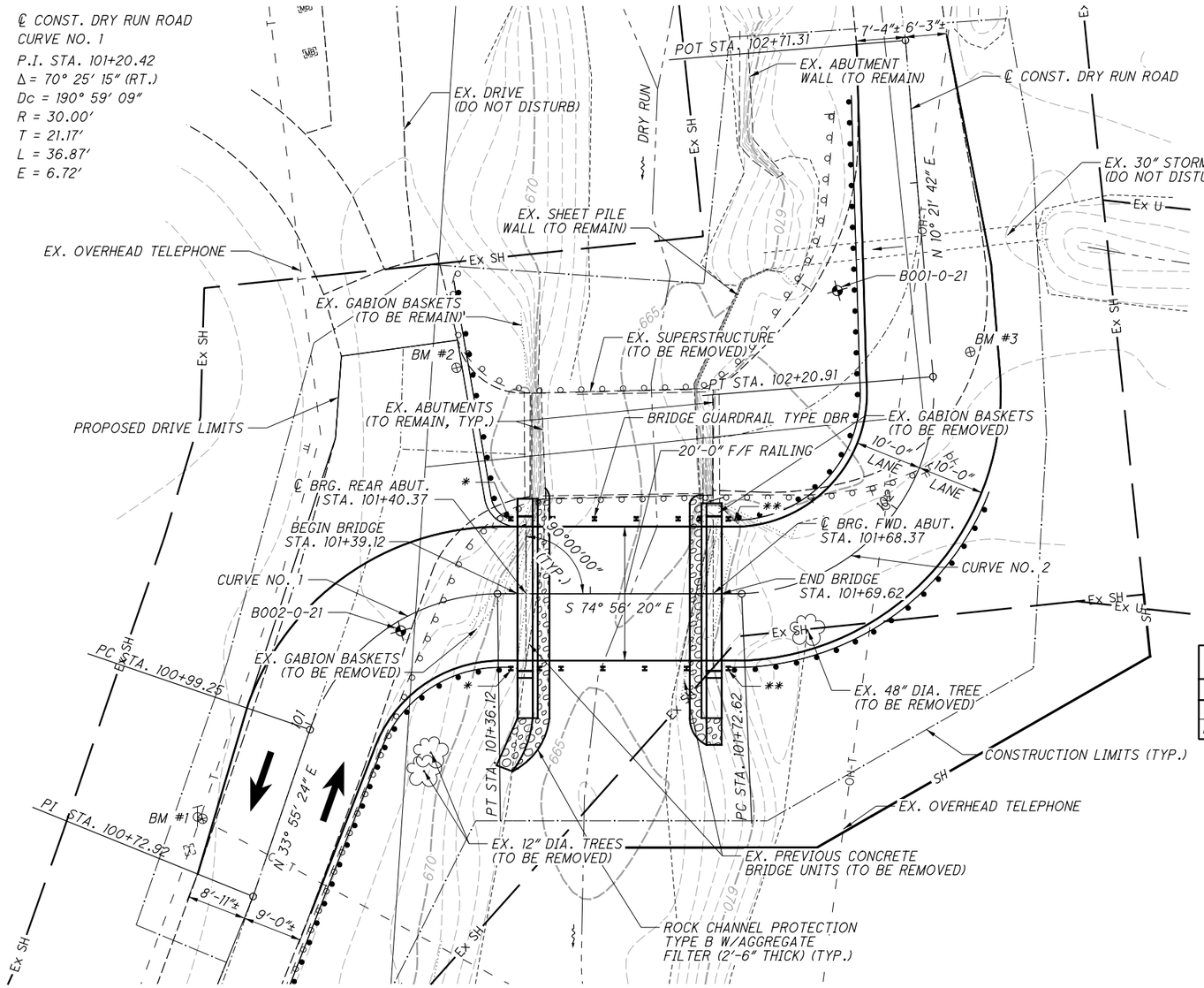
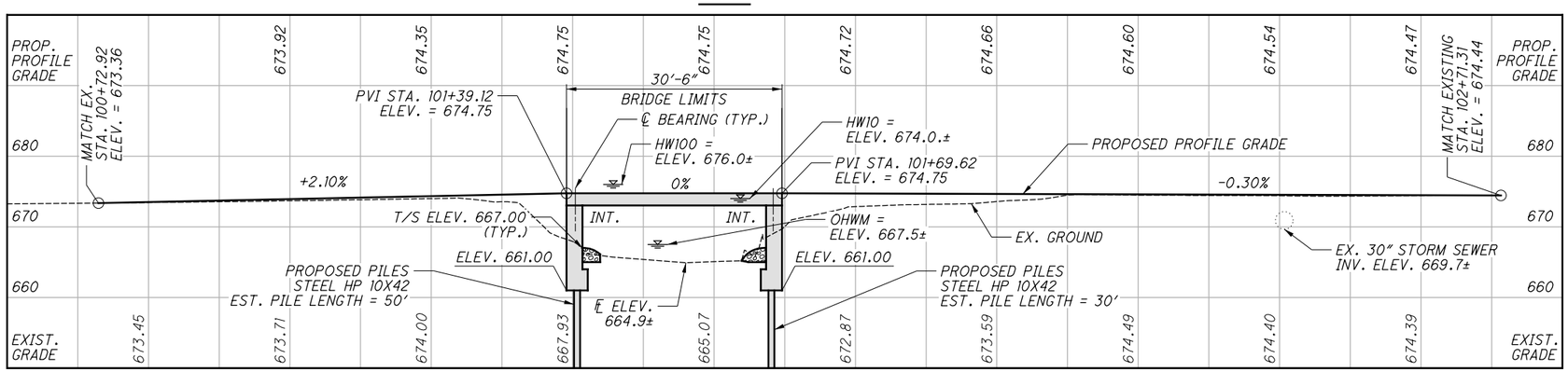


PLAN



PROFILE ALONG ℄ CONST. DRY RUN ROAD

BENCHMARK DATA

BM #1 STA. 100+81.45, ELEV. 674.04, 10.89′ LT., RR SPIKE SET IN POLE
BM #2 STA. 101+33.45, ELEV. 674.73, 34.08′ LT., MAG NAIL SET
BM #3 STA. 102+24.13, ELEV. 674.32, 5.84′ RT., MAG NAIL SET

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. HYDRAULIC ELEVATIONS IN THE PROFILE VIEW ESTABLISHED FROM FEMA FLOOD INSURANCE STUDY PROFILE FOR DRY RUN.
3. THE EXISTING BRIDGE SUPERSTRUCTURE SHALL BE REMOVED. ALL OTHER PORTIONS OF THE BRIDGE SHALL REMAIN, UNLESS NOTED OTHERWISE.
4. FOR BRIDGE RAILING POST LOCATIONS SEE SHEET 7/9.

DESIGN TRAFFIC:
2015 ADT = 347 2015 ADTT = 1

LEGEND

= PROJECT BORING LOCATION
* = BTA 1ST POST STA. 101+38.12
** = BTA 1ST POST STA. 101+70.62

HYDRAULIC DATA

DRAINAGE AREA = 4.63 SQ. MILES
Q (10) = 1370 CFS
Q (100) = 2620 CFS
HW10 ELEV. = 674.0± & HW100 ELEV. = 676.0±

BORING LOCATIONS

BORING	STATION	OFFSET
B-001-0-21	102+34.88	13.20′ LT.
B-002-0-21	101+20.15	1.40′ RT.

℄ CONST. DRY RUN ROAD
CURVE NO. 2
P.I. STA. 102+03.81
Δ = 92° 13′ 12″ (LT.)
Dc = 190° 59′ 09″
R = 30.00′
T = 31.19′
L = 48.29′
E = 13.27′

EXISTING STRUCTURE

TYPE: SINGLE SPAN ROLLED STEEL BEAM BRIDGE WITH TIMBER DECK ON REINFORCED CONCRETE WALL TYPE ABUTMENTS ON STEEL PILES
SPANS: 26′-2″± C/C BEARINGS
ROADWAY: 16′-0″± F/F RAILING
LOADING: HS20-44
SKEW: NONE
WEARING SURFACE: NONE
APPROACH SLABS: NONE
ALIGNMENT: TANGENT
CROWN: NONE
STRUCTURAL FILE NUMBER: 8334463
DATE BUILT: 1982±
DISPOSITION: TO BE REPLACED

PROPOSED STRUCTURE

TYPE: SINGLE SPAN REINFORCED CONCRETE SLAB BRIDGE ON CAPPED PILE INTEGRAL ABUTMENTS
SPANS: 28′-0″ C/C BEARINGS
ROADWAY: 20′-0″ F/F RAILING
LOADING: HL-93 AND 60 PSF FUTURE WEARING SURFACE
SKEW: NONE
WEARING SURFACE: 1″ MONOLITHIC CONCRETE
APPROACH SLABS: NONE
ALIGNMENT: TANGENT
CROWN: 0.016 FT/FT
DECK AREA: 610 SQUARE FEET
COORDINATES: LATITUDE N 39°23′16.57″
LONGITUDE W 84°12′01.03″

DESIGN AGENCY
fishbeck
FISHBECK
10856 REED HARTMAN HWY
SUITE 101
CINCINNATI, OH 45242
(513) 469-2370

DESIGNED	DRAWN	REVIEWED	DATE
CAS	JMK	JPC	10/5/22
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BMG		8334464	

WARREN COUNTY
STA. 101+39.12
STA. 101+69.62

SITE PLAN
BRIDGE NO. WAR-TR81-1.22
DRY RUN ROAD OVER DRY RUN

WAR-TR81-1.22
PID No. NONE

1 / 9

21 / 29

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STANDARD BRIDGE DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

CPA-1-08	DATED 07/18/08
DBR-2-73	REVISED 7/19/02
DS-1-92	REVISED 07/15/22
SB-1-08	REVISED 01/15/21

DESIGN SPECIFICATIONS:
THIS STRUCTURE CONFORMS TO THE 9TH EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO), AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

OPERATIONAL IMPORTANCE:
A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN LOADING:
VEHICULAR LIVE LOAD: HL-93
FUTURE WEARING SURFACE (FWS) OF 0.06 KIPS/FT²

DESIGN DATA:
CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)
CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)
REINFORCING STEEL - MINIMUM YIELD STRENGTH 60 KSI
STEEL H-PILES - ASTM A572 - YIELD STRENGTH 50 KSI

DECK PROTECTION METHOD:
SEALING OF CONCRETE SURFACES
EPOXY COATED REINFORCING STEEL
2½" CONCRETE COVER
STAINLESS STEEL DRIP STRIP
SOLUBLE REACTIVE SILICATE (SRS) TREATMENT

MONOLITHIC WEARING SURFACE:
MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN:
FOLLOW CMS 202 EXCEPT AS NOTED, REMOVE THE ENTIRE EXISTING SUPERSTRUCTURE. THE EXISTING ABUTMENTS THAT SUPPORT THE EXISTING SUPERSTRUCTURE SHALL REMAIN. REMOVE THE PREVIOUS SUBSTRUCTURE CONCRETE CAPS THAT REST ON THE CHANNEL BANKS JUST DOWNSTREAM OF THE EXISTING BRIDGE. REMOVE THE EXISTING GABION BASKETS DOWNSTREAM OF THE EXISTING BRIDGE ONLY. REMOVE THE PREVIOUS CONCRETE OVER-POUR THAT IS LOCATED AT THE SOUTHEAST EMBANKMENT, ONLY THE PORTION WITHIN THE PROPOSED BRIDGE LIMITS.

ITEM 518 - POROUS BACKFILL WITH GEOTEXTILE FABRIC, AS PER PLAN:
THE COST FOR THE MATERIAL AND INSTALLATION OF THE 4" DIAMETER WEEPHOLES AND THE NO.3 BAGGED AGGREGATE SHALL BE INCLUDED IN THE COST FOR PAY ITEM 518, POROUS BACKFILL WITH GEOTEXTILE FABRIC AS PER PLAN.

PILES TO BEDROCK:
DRIVE PILES TO REFUSAL ON BEDROCK. THE COUNTY WILL CONSIDER REFUSAL TO BE OBTAINED WHEN THE PILE PENETRATION IS AN INCH OR LESS AFTER RECEIVING AT LEAST 20 BLOWS FROM THE PILE HAMMER. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL. THE TOTAL FACTORED LOAD IS 158 KIPS PER PILE FOR THE ABUTMENT PILES.

REAR ABUTMENT PILES:
5 - HP10x42 PILES, 55 FEET LONG, ORDER LENGTH
FORWARD ABUTMENT PILES:
5 - HP10x42 PILES, 35 FEET LONG, ORDER LENGTH

PILE SPLICES:
IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN CMS 507.09 TO SPLICE STEEL H-PILES, THE CONTRACTOR MAY USE A MANUFACTURED H-PILE SPLICER. FURNISH SPLICERS FROM THE FOLLOWING MANUFACTURER:

ASSOCIATED PILE AND FITTING CORPORATION
8 WOOD HOLLOW RD. PLAZA 1
PARSIPPANY, NEW JERSEY 07054

INSTALL AND WELD THE SPLICER TO THE PILE SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN ASSEMBLY PROCEDURE SUPPLIED TO THE ENGINEER BEFORE THE WELDING IS PERFORMED.

DECK PLACEMENT DESIGN ASSUMPTIONS:
THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS
AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.2 KIPS.
A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".
A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48".
A MAXIMIM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

ABBREVIATIONS:
THE FOLLOWING ABBREVIATIONS HAVE BEEN USED THROUGHOUT THESE PLANS TO INDICATE THE DESIGNATIONS CONTAINED IN THE LEGEND BELOW:

ABUT. = ABUTMENT
ADT = AVERAGE DAILY TRAFFIC
ADTT = AVERAGE DAILY TRUCK TRAFFIC
& = AND
BRGS., BRG. = BEARINGS
BTWN. = BETWEEN
C/C = CENTER-TO-CENTER
℄ = CENTERLINE
CLR. = CLEAR
CMS = CONSTRUCTION & MATERIAL SPECIFICATIONS
CONST. = CONSTRUCTION
CY = CUBIC YARD
DIA. = DIAMETER
DWG. = DRAWING
E.S. = EACH SIDE
ELEV., EL. = ELEVATION
EST. = ESTIMATED
EQ. = EQUAL
EX., EXIST. = EXISTING
F/F = FACE-TO-FACE
℄ = FLOWLINE
FWD. = FORWARD
F.A. = FORWARD ABUTMENT
FWS = FUTURE WEARING SURFACE
HW = HEADWATER
INT. = INTEGRAL
KIPS = KILOPOUNDS
KSF = KIPS PER SQUARE FOOT
KSI = KIPS PER SQUARE INCH
LBS = POUND
LT. = LEFT
MAX. = MAXIMUM
MIN. = MINIMUM
OHWM = ORDINARY HIGH WATER MARK
PEJF = PREFORMED EXPANSION JOINT FILLER
PSF = POUND PER SQUARE FOOT
PVI = POINT OF VERTICAL INTERSECT
Q = FLOW
R.A. = REAR ABUTMENT
REF. = REFERENCE
RT. = RIGHT
S.O. = SERIES OF
SPA. = SPACES
STD. = STANDARD
STA. = STATION
SQ. = SQUARE
T/S = TOE OF SLOPE
TYP. = TYPICAL
U.N.O. = UNLESS NOTED OTHERWISE
W/ = WITH

DESIGN AGENCY
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FISHBECK
10856 REED HARTMAN HWY
SUITE 101
CINCINNATI, OH 45242
(513) 469-2370

DESIGNED	DRAWN	REVIEWED	DATE
CAS/TLC	CAS	JPC	10/5/22
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BMG		8334464	

GENERAL NOTES
BRIDGE NO. WAR-TR81-1.22
DRY RUN ROAD OVER DRY RUN

WAR-TR81-1.22
PID No. NONE

MADE BY: CAS DATE: 7/26/2022
CHECKED BY: BMG DATE: 7/27/2022

ESTIMATED QUANTITIES

STRUCTURAL FILE NUMBER: 8334464

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	SUPER.	GEN.	REFERENCE SHEET NO.
202	11201	LUMP		PORTIONS OF STRUCTURE REMOVED, AS PER PLAN			LUMP	2/9
503	11100	LUMP		COFFERDAMS AND EXCAVATION BRACING			LUMP	
503	21300	LUMP		UNCLASSIFIED EXCAVATION			LUMP	
505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION			LUMP	
507	00100	450	FT	STEEL PILES HP10X42, FURNISHED	450			
507	00150	400	FT	STEEL PILES HP10X42, DRIVEN	400			
509	10000	14,431	LB	EPOXY COATED REINFORCING STEEL	5,444	8,987		
511	33412	47	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE		47		
511	43510	67	CY	CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING	67			
512	10100	73	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	57	16		
512	10400	68	SY	TREATING OF CONCRETE BRIDGE DECK WITH SRS		68		
516	10000	40	FT	PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL	40			
516	13200	33	SF	1/2" PREFORMED EXPANSION JOINT FILLER	33			
516	13600	110	SF	1" PREFORMED EXPANSION JOINT FILLER	110			
516	14014	90	FT	INTEGRAL ABUTMENT EXPANSION JOINT SEAL	90			
517	72300	65	FT	RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP AND TYPE 2 STEEL POSTS AND ANCHOR BOLTS)		65		
518	21200	31	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC, AS PER PLAN	31			
518	22300	67	FT	SPECIAL - STEEL DRIP STRIP		67		
601	32110	20	CY	ROCK CHANNEL PROTECTION, TYPE B WITH AGGREGATE FILTER			20	

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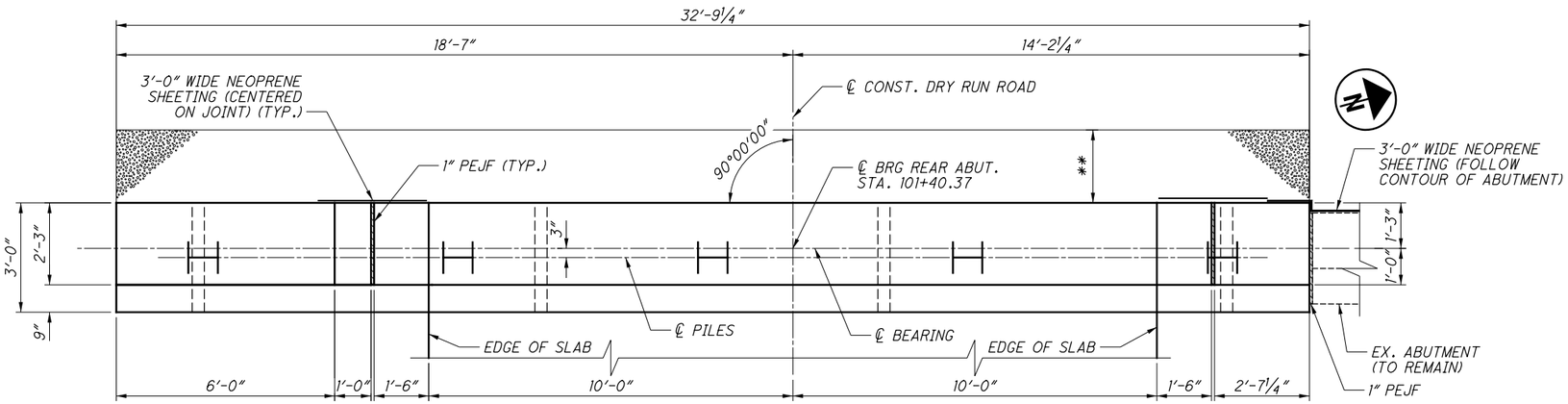
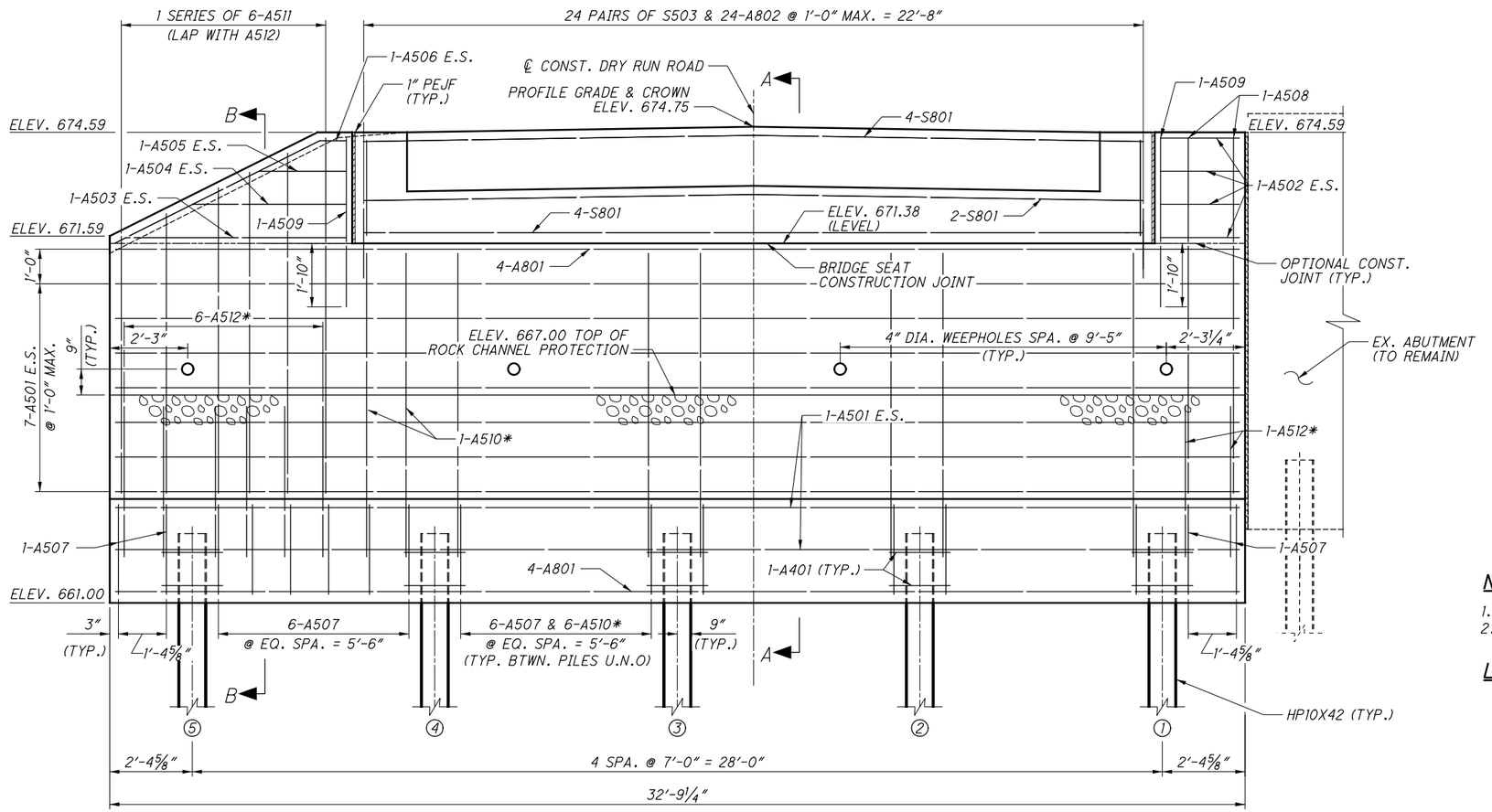
DRAWN CAS
CHECKED BMG
REVIEWED JPC
DATE 10/5/22
REVISED
STRUCTURE FILE NUMBER 8334464

ESTIMATED QUANTITIES
BRIDGE NO. WAR-TR81-1.22
DRY RUN ROAD OVER DRY RUN

WAR-TR81-1.22
PID No. NONE



PLAN



ELEVATION

NOTES:

1. FOR ABUTMENT AND WINGWALL SECTIONS SEE SHEET 6/9.
2. FOR ADDITIONAL ABUTMENT DETAILS, SEE STD. DWG. CPA-1-08.

LEGEND:

(#) - HP10X42 PILE NUMBER SYSTEM
* - VERTICAL REINFORCING TO LAP A507 BARS IN FOOTING
** - LIMITS OF 2'-0" POROUS BACKFILL WITH GEOTEXTILE FABRIC, AS PER PLAN

DESIGN AGENCY
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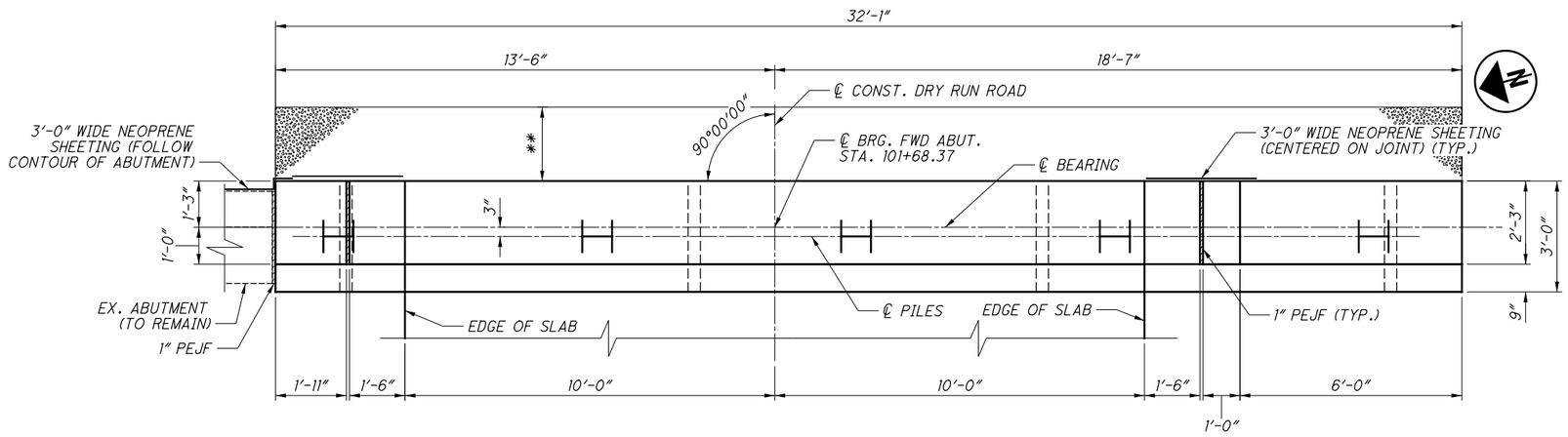
DESIGNED	DRAWN	REVIEWED	DATE
CAS/TLC	CAS	JPC	10/5/22
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BMG		8334464	

REAR ABUTMENT PLAN AND ELEVATION
BRIDGE NO. WAR-TR81-1.22
DRY RUN ROAD OVER DRY RUN

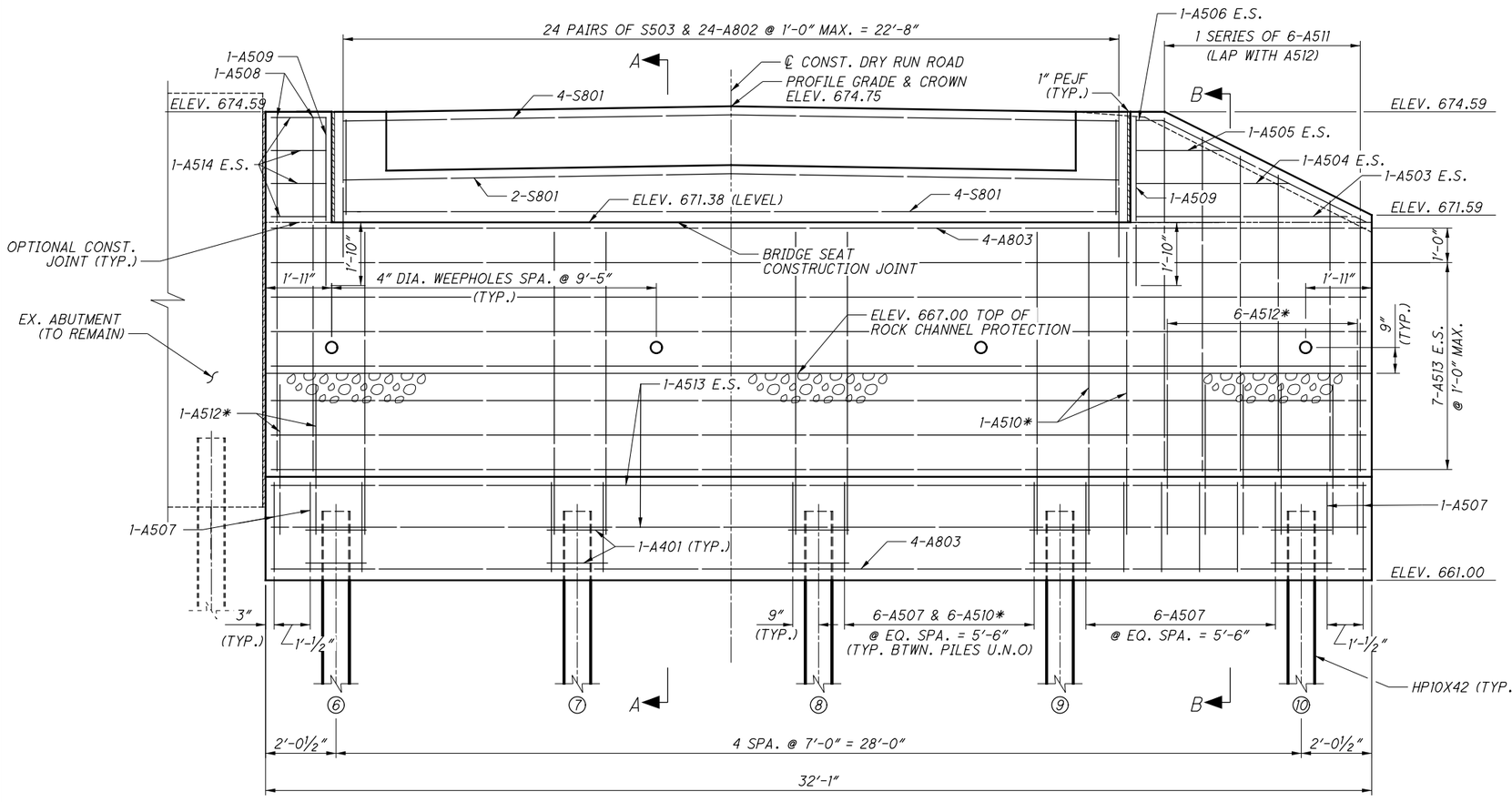
WAR-TR81-1.22
PID No. NONE

4 / 9

24 / 29



PLAN



ELEVATION

LEGEND:

(#) - HP10X42 PILE NUMBER SYSTEM
* - VERTICAL REINFORCING TO LAP A507 BARS IN FOOTING
** - LIMITS OF 2'-0" POROUS BACKFILL WITH GEOTEXTILE FABRIC, AS PER PLAN

NOTES:

1. FOR ABUTMENT AND WINGWALL SECTIONS SEE SHEET 6/9.
2. FOR ADDITIONAL ABUTMENT DETAILS, SEE STD. DWG. CPA-1-08.

DESIGN AGENCY
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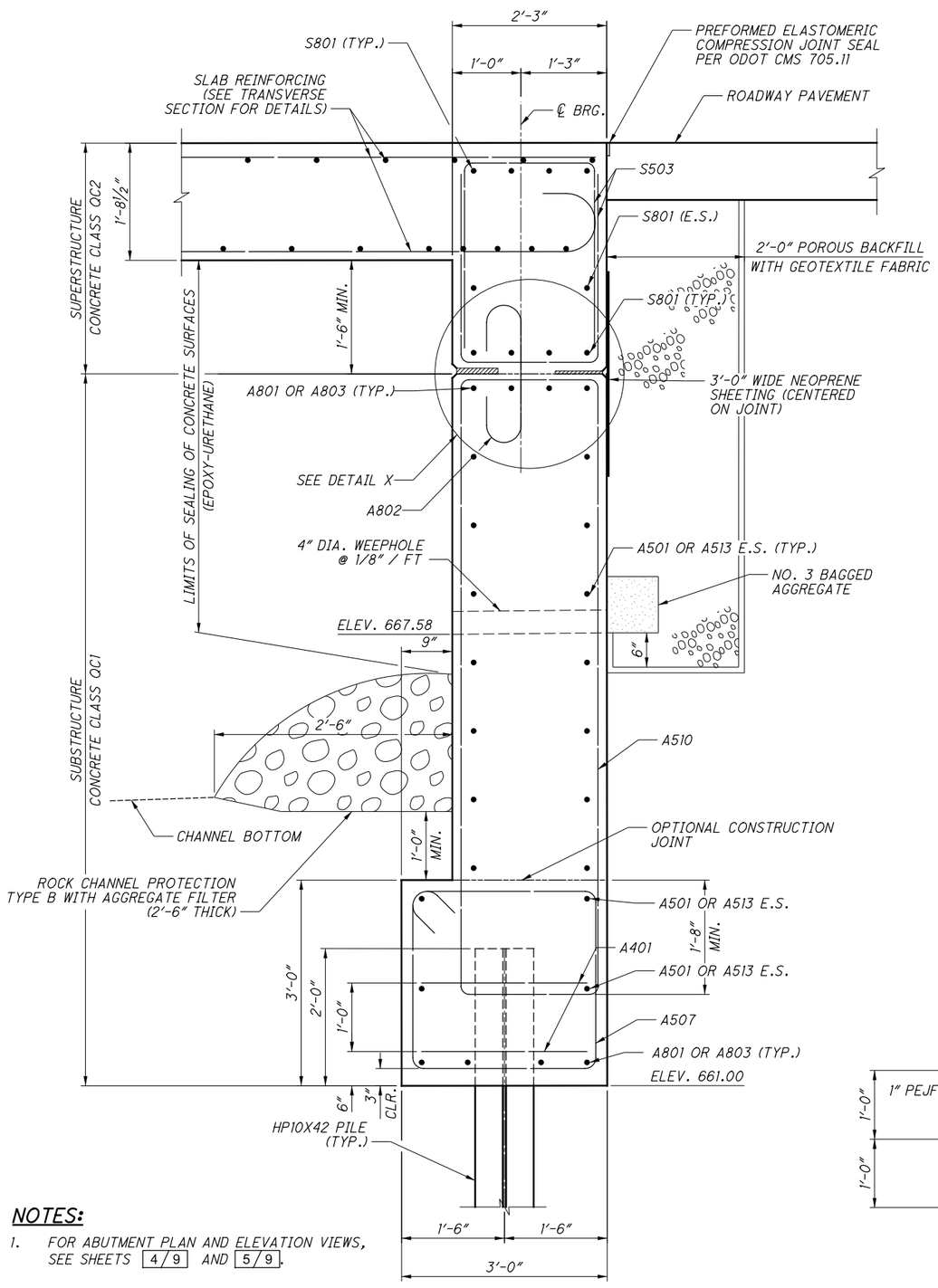
DESIGNED	DRAWN	REVIEWED	DATE
CAS/TLC	CAS	JPC	10/5/22
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BMG		8334464	

FORWARD ABUTMENT PLAN AND ELEVATION
BRIDGE NO. WAR-TR81-1.22
DRY RUN ROAD OVER DRY RUN

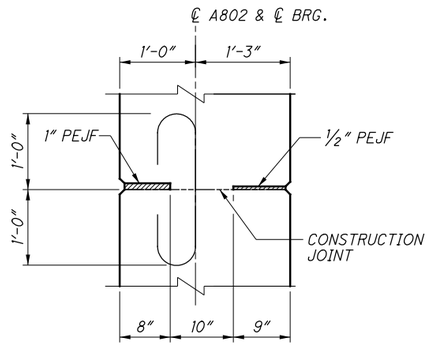
WAR-TR81-1.22
PID No. NONE

5 / 9

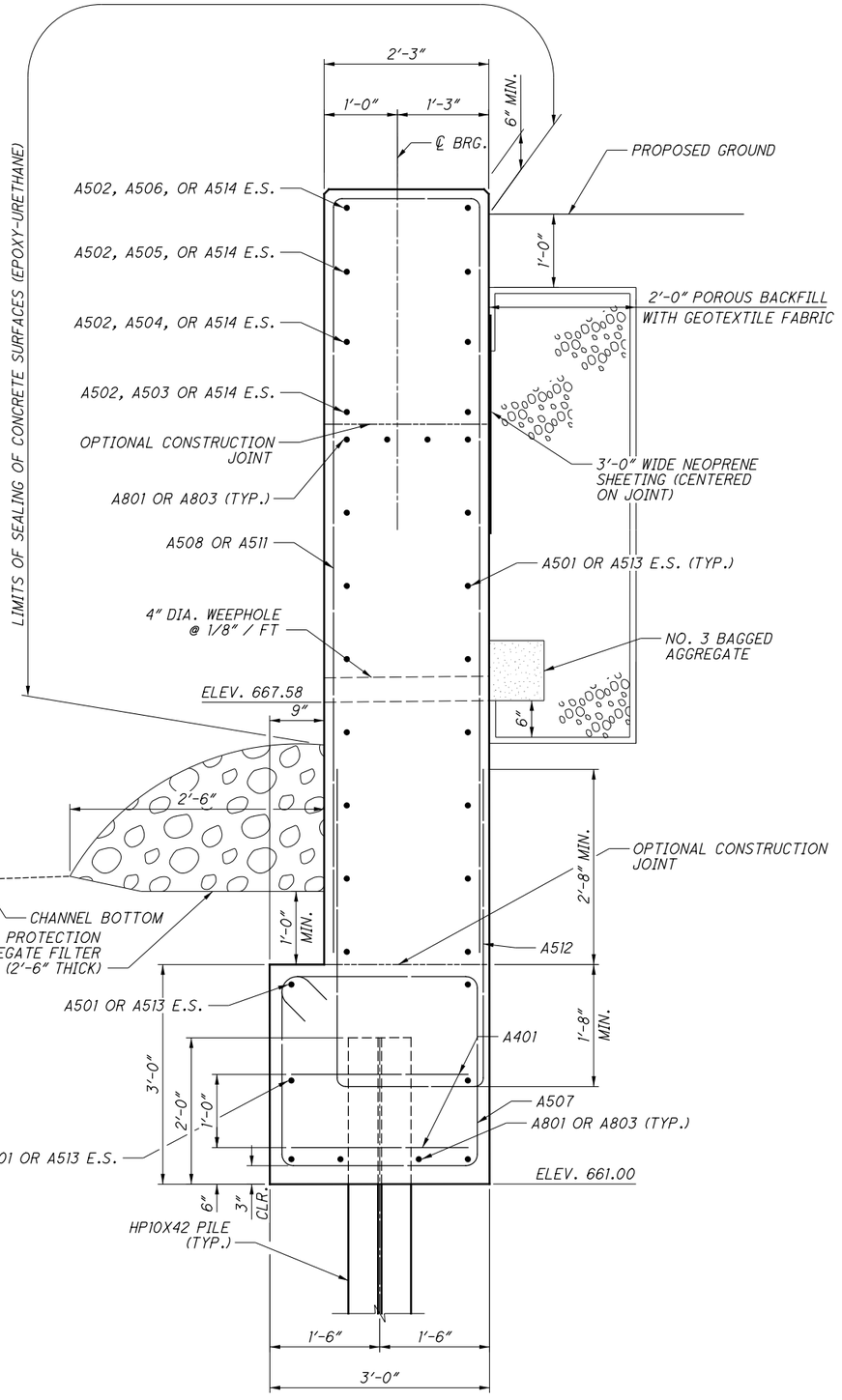
25
29



SECTION A-A



DETAIL X



SECTION B-B

NOTES:

1. FOR ABUTMENT PLAN AND ELEVATION VIEWS, SEE SHEETS 4/9 AND 5/9.

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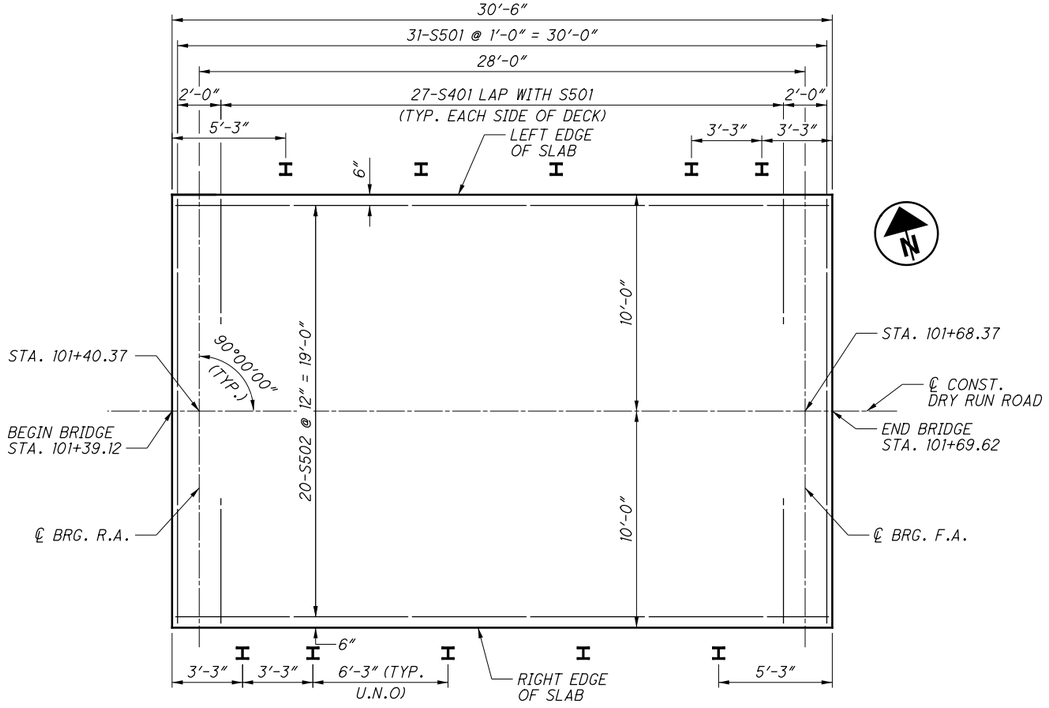
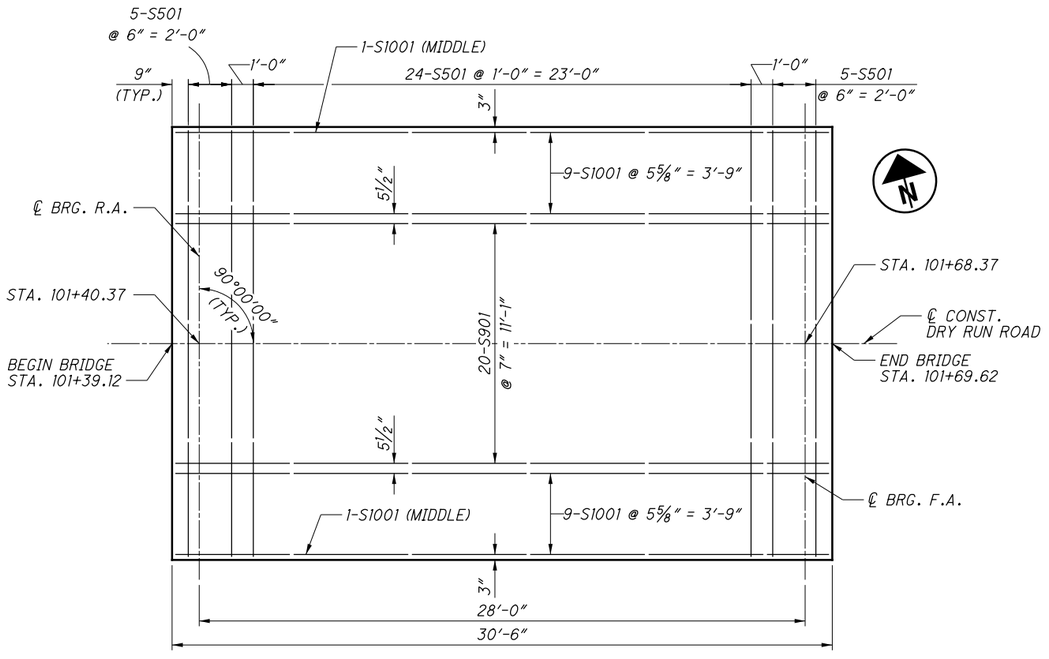
DESIGNED	DRAWN	REVIEWED	DATE
CAS/TLC	CAS	JPC	10/5/22
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BMG		8334464	

ABUTMENT SECTIONS
BRIDGE NO. WAR-TR81-1.22
DRY RUN ROAD OVER DRY RUN

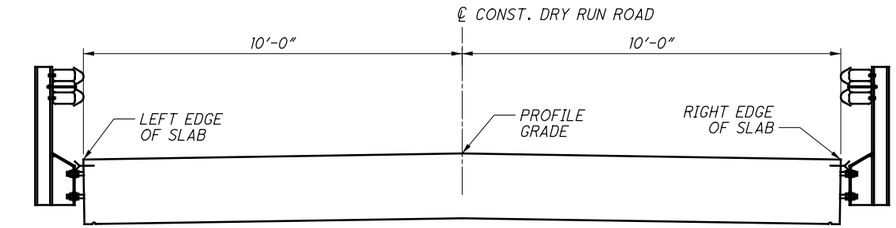
WAR-TR81-1.22
PID No. NONE



SLAB REINFORCING STEEL (TOP)

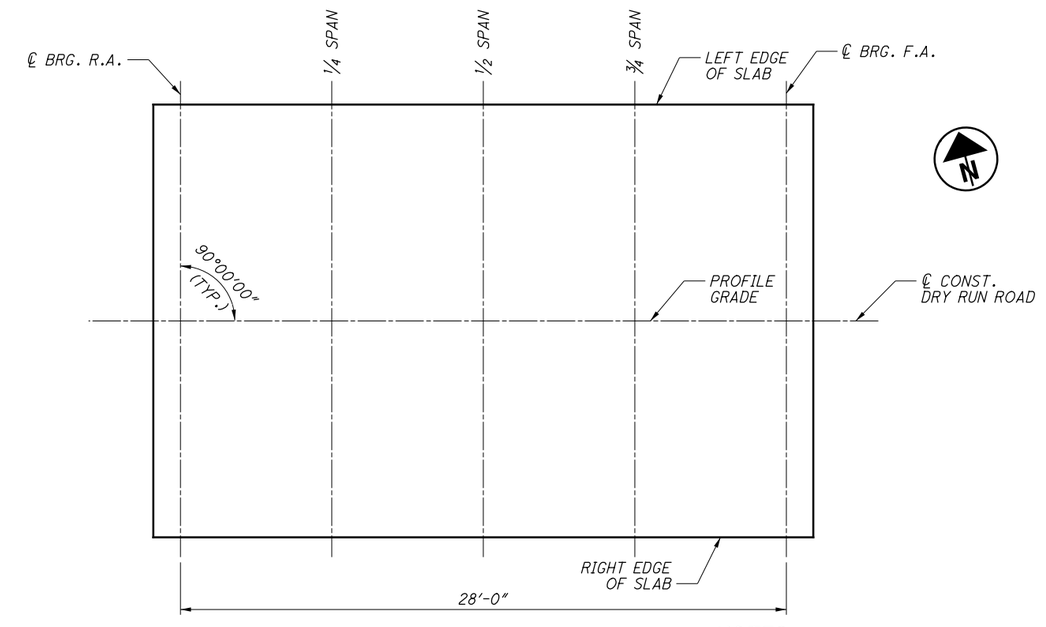


SLAB REINFORCING STEEL (BOTTOM)



TRANSVERSE SECTION

FINAL SLAB ELEVATIONS						
LOCATION	LEFT EDGE OF SLAB		PROFILE GRADE		RIGHT EDGE OF SLAB	
	STATION	ELEVATION	STATION	ELEVATION	STATION	ELEVATION
℄ BRG. R.A.	101+40.37	674.59	101+40.37	674.75	101+40.37	674.59
1/4 SPAN	101+47.37	674.59	101+47.37	674.75	101+47.37	674.59
1/2 SPAN	101+54.37	674.59	101+54.37	674.75	101+54.37	674.59
3/4 SPAN	101+61.37	674.59	101+61.37	674.75	101+61.37	674.59
℄ BRG. F.A.	101+68.37	674.59	101+68.37	674.75	101+68.37	674.59



FINAL SLAB ELEVATION PLAN

NOTES:

1. FINAL SLAB SURFACE ELEVATIONS SHOWN REPRESENT THE SLAB SURFACE LOCATION AFTER ALL ANTICIPATED DEAD LOAD DEFLECTIONS HAVE OCCURED.
2. FOR TRANSVERSE SECTION, SEE SHEET 8/9.

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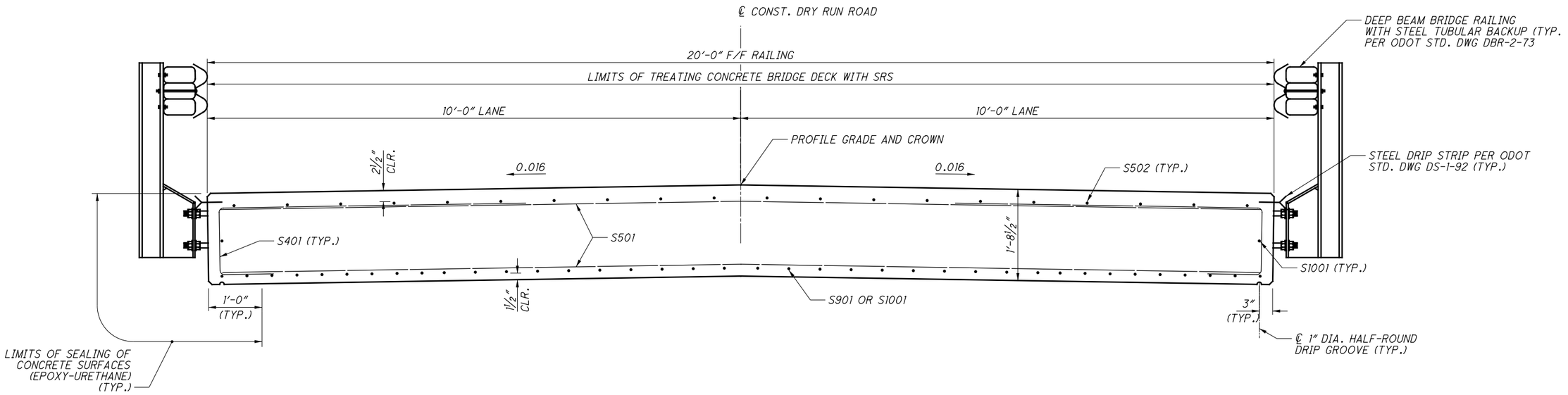
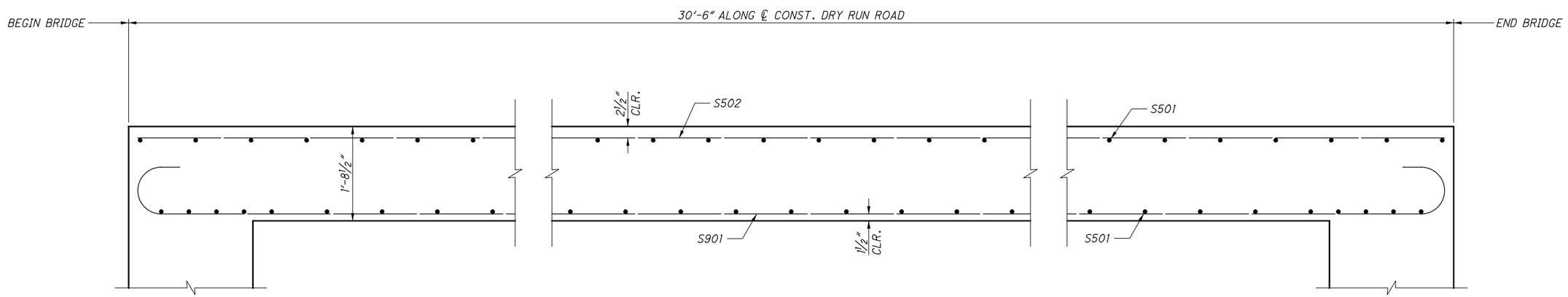
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BMG		8334464	

SLAB PLAN AND ELEVATIONS
BRIDGE NO. WAR-TR81-1.22
DRY RUN ROAD OVER DRY RUN

WAR-TR81-1.22
PID No. NONE



TRANSVERSE SECTION



SLAB ELEVATION

NOTES:

1. FOR SLAB REINFORCING PLAN AND FINAL SLAB SURFACE ELEVATIONS, SEE SHEET 7/9.
2. FOR ADDITIONAL NOTES AND DETAILS, SEE ODOT STD. DWG. CPA-1-08, DS-1-92, SB-1-08 AND DBR-2-73.

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DESIGNED	DRAWN	REVIEWED	DATE
CAS/TLC	CAS	JPC	10/5/22
CHECKED	REVISED	STRUCTURE FILE NUMBER	
BMG		8334464	

TRANSVERSE SECTION & SLAB ELEVATION
BRIDGE NO. WAR-TR81-1.22
DRY RUN ROAD OVER DRY RUN

WAR-TR81-1.22
PID No. NONE

8 / 9

28 / 29

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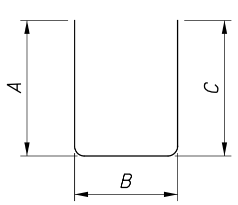
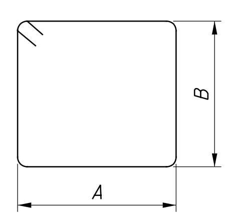
ABUTMENT REINFORCING STEEL LIST											
MARK	**NO.**	**LENGTH**	**WEIGHT**	**TYPE**	**DIM. A**	**DIM. B**	**DIM. C**	**DIM. D**	**DIM. E**	**RAD.**	**INCR.**
A401	20	9′-0″	120	3	1′-9″	2′-6″					
A501	18	32′-5″	609	STR							
A502	8	2′-3″	19	STR							
A503	4	6′-5″	27	STR							
A504	4	4′-6″	19	STR							
A505	4	2′-7″	11	STR							
A506	4	7′-4″	31	19	6′-7″	0′-8″	0′-4″				
A507	56	11′-1″	647	3	2′-8″	2′-7″					
A508	4	22′-2″	92	2	10′-3″	1′-11″	10′-3″				
A509	4	11′-8″	49	2	5′-0″	1′-11″	5′-0″				
A510	40	22′-5″	935	3	1′-11″	9′-0″					
	2	16′-6″			7′-5″		7′-5″				
A511	S.O.	TO	242	2	TO	1′-11″	TO				6-3/4″
	6	22′-2″			10′-3″		10′-3″				
A512	16	10′-4″	172	2	4′-4″	1′-11″	4′-4″				
A513	18	31′-9″	596	STR							
A514	8	1′-7″	13	STR							
A801	8	32′-5″	692	STR							
A802	48	3′-10″	491	17	2′-0″						
A803	8	31′-9″	678	STR							
		TOTAL	5444								

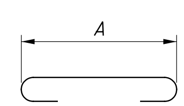
SLAB REINFORCING STEEL LIST											
MARK	**NO.**	**LENGTH**	**WEIGHT**	**TYPE**	**DIM. A**	**DIM. B**	**DIM. C**	**DIM. D**	**DIM. E**	**RAD.**	**INCR.**
S401	54	7′-10″	283	2	5′-9″	1′-3″	1′-0″				
S501	65	19′-6″	1322	STR							
S502	20	30′-2″	629	STR							
S503	96	7′-4″	734	2	2′-10″	1′-11″	2′-10″				
S801	20	22′-6″	1202	STR							
S901	20	32′-8″	2221	17	30′-2″						
S1001	20	30′-2″	2596	STR							
		TOTAL	8987								



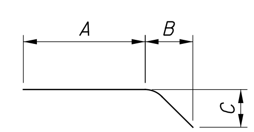
TYPE-2



TYPE-3



TYPE-17



TYPE-19

NOTES:

1. ALL REINFORCING STEEL SHALL BE EPOXY COATED.
2. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT AFTER THE LETTER WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS AFTER THE LETTER WHERE FOUR ARE USED, INDICATES THE BAR SIZE NUMBER.

   EXAMPLE: S1001
   S = SUPERSTRUCTURE BAR
   10 = #10 BAR
   01 = BAR SEQUENCE NUMBER
3. BAR DIMENSIONS SHOWN ARE OUT-TO-OUT UNLESS OTHERWISE INDICATED.
4. STR. IN THE BAR TYPE COLUMN INDICATES A STRAIGHT BAR.
5. RAD. INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.
6. INCR. INDICATES THE LENGTH INCREMENT FOR SERIES BARS.
7. STD. WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF A BAR.

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REVIEWED JPC DATE 10/5/22
STRUCTURE FILE NUMBER 8334464
DRAWN CAS REVISED
DESIGNED CAS/TLC CHECKED BMG

CONCRETE REINFORCEMENT BAR LIST
BRIDGE NO. WAR-TR81-1.22
DRY RUN ROAD OVER DRY RUN

WAR-TR81-1.22
PID No. NONE