ITEM 611 - MANHOLE RECONSTRUCTED TO GRADE, AS PER PLAN

THE CONTRACTOR SHALL RECONSTRUCT EXISTING MANHOLES TO THE ELEVATIONS SHOWN IN THE TABLE BELOW. THIS WORK AND MATERIALS SHALL CONFORM TO THE ODOT CONSTRUCTION AND MATERIALS SPECIFICATIONS AND STANDARD CONSTRUCTION DRAWINGS FOR ITEM 611 AND APPLICABLE PAVEMENT ITEMS. ANY VENTED LIDS WILL BE REPLACED WITH A NON-VENTED LID. ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO PERFORM THIS WORK, INCLUDING ANY PAVEMENT REMOVAL, REPLACEMENT AND REPAIR INCIDENTAL TO THE RECONSTRUCTION TO GRADE SHALL BE INCLUDED IN THE UNIT PRICE BID PER EACH FOR ITEM 611, MANHOLE RECONSTRUCTED TO GRADE, AS PER PLAN. PAVEMENT REPLACEMENT SHALL UTILIZE ASPHALT CONCRETE MATERIAL APPROVED BY THE ENGINEER FROM THE TOP OF THE MANHOLE TO THE EXISTING PAVEMENT SURFACE. MANHOLE RECONSTRUCTIONS SHALL BE COMPLETED PRIOR TO PROPOSED PAVEMENT WORK IN THE AREA.

THE FOLLOWING TABLE LISTS THE LOCATIONS AND THE PROPOSED ELEVATION FOR THE MANHOLES RECONSTRUCTED TO GRADE.

STRUCTURE	STATION	OFFSET	SIDE	EX. RIM ELEV.	PR. RIM ELEV.
D2-161-574	2088+94.94	85.62	RT.	909.52	909.30
D2-161-573	2091+92.85	78.54	RT.	913.75	912.60
D2-161-572	2094+84.91	77.78	RT.	916.8	915.65
D2-161-623	2101+44.87	61.57	RT.	924.87	924.20
D2-161-616	2109+44.53	66.55	LT.	933.8	932.00
D2-161-615	2112+45.90	66.07	LT.	936.71	934.95
D2-161-610	2118+43.66	65.67	LT.	942.32	940.50
D2-161-609	2121+45.54	66.76	LT.	945.33	943.80
D2-161-316	240+66.25	40.89	RT.	828.596	827.18
D2-161-318	242+97.55	46.08	RT.	827.38	825.96
D2-161-513	270+84.18	35.9	RT.	863.72	861.85
D2-161-516	270+83.07	22.5	LT.	864.85	863.43
D2-161-406	133+74.03	18.16	RT.	833.33	831.91
D2-161-420	140+75.84	16.58	RT.	830.54	829.12
D2-161-423	142+52.09	18.69	RT.	829.88	828.45
D2-161-674	173+34.43	19.05	LT.	886.93	885.51
D2-161-654	176+05.78	18.85	LT.	889.53	888.11
D2-161-650	176+79.84	22.86	LT.	890.38	888.96
D2-161-646	179+93.72	20.62	LT.	893.46	892.04
D2-161-642	182+24.74	9.95	LT.	897.07	895.65
D2-161-639	184+98.17	10.85	LT.	902.64	901.22
D2-161-636	186+71.75	15.13	LT.	906.35	904.93

ITEM 254 - PAVEMENT PLANING, PORTLAND CEMENT CONCRETE, AS PER PLAN (T=VARIES)

THIS ITEM SHALL CONFORM TO THE SPECIFICATIONS OF ITEM 254 IN THE CMS, WITH THE FOLLOWING CONDITIONS:

THE REMOVAL OF THE EXISTING ASPHALT LAYER AS WELL AS PORTIONS OF THE EXISITNG APPROACH SLAB SHALL BE REMOVED IN ORDER TO PROPERLY INSTALL THE ASPHALT INTERMEDIATE COURSE LIFTS.

PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIALS SHALL BE INCLUDED IN THE FOLLOWING ITEM:
ITEM 254 - PAVEMENT PLANING, PORTLAND CEMENT CONCRETE, AS PER PLAN (T=VARIES)

ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN, PG70-22M &
ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN, PG76-22M

LOCATE LONGITUDINAL JOINTS IN THE SURFACE COURSE SUBJECT TO THE FOLLOWING REQUIREMENTS:

FOR PAVEMENT SECTIONS WITH 2 LANES IN A SINGLE DIRECTION, PLACE A SINGLE COLD LONGITUDINAL JOINT BETWEEN THE 2 LANES.

FOR PAVEMENT SECTIONS WITH 3 OR 4 LANES IN A SINGLE DIRECTION, (PG 70-22M ONLY) PLACE A SINGLE COLD LONGITUDINAL JOINT BETWEEN THE SECOND AND THIRD LANE FROM THE MEDIAN.

FOR PAVEMENT SECTIONS WITH 5 OR 6 LANES IN A SINGLE DIRECTION, (PG 70-22M ONLY) PLACE 2 COLD LONGITUDINAL JOINTS. THE FIRST WILL BE PLACED BETWEEN THE SECOND AND THIRD LANE FROM THE MEDIAN. THE SECOND WILL BE PLACED BETWEEN THE FOURTH AND FIFTH LANE FROM THE MEDIAN.

WHEN LANES BECOME IN CONTACT WITH THE STRIPED GORE, THEY ARE CONSIDERED TO BE ON THE RAMP AND COUNTED SEPARATELY FROM THE MAINLINE.

A COLD LONGITUDINAL JOINT IS PERMITTED BETWEEN THE MAINLINE AND SHOULDER FOR THIS PROJECT. THIS INCLUDES ONE JOINT ALONG ONE OF THE TWO LINES THAT MAKE UP THE STRIPED GORE. ITEM 872 VRAM QUANTITIES DO NOT INCLUDE THE STRIPED GORE LOCATIONS AND IS NOT TO BE PLACED THERE.

ITEM 452 - 9" NON-REINFORCED CONCRETE, CLASS QC 1P, AS PER PLAN CONTRACTION JOINTS IN CONCRETE PAVEMENT OR BASE WIDENING

WHERE NEW CONCRETE IS PLACED ADJACENT TO AND TIED TO EXISTING CONCRETE, THE CONTRACTION JOINT SPACING REQUIRED IN STANDARD CONSTRUCTION DRAWING BP-2.2 WILL BE WAIVED. CONSTRUCT CONTRACTION JOINTS IN THE NEW CONCRETE PAVEMENT TO FORM A CONTINUOUS LINE WITH ALL CONTRACTION JOINTS IN THE EXISTING CONCRETE PAVEMENT. INSTALL EXPANSION JOINTS IN THE NEW CONCRETE PAVEMENT TO FORM A CONTINUOUS LINE WITH ALL EXPANSION JOINTS IN THE EXISTING CONCRETE PAVEMENT. INSTALL TYPE D LONGITIDUAL JOINT BETWEEN THE FACE OF EXISTING PAVEMENT AND PROPOSED PAVEMENT.

ITEM 690 - SPECIAL - QC 1 CONCRETE PER C&MS 499

PLACE QC 1 CONCRETE PER C&MS 499 TO FILL THE GAP BETWEEN THE EXISTING PAVEMENT OF EXISTING MAINLINE 161 WB/RAMP R AND THE PROPOSED BARRIER WALL. CONCRETE SHALL FILL GAP FROM TO TOP OF SUBGRADE TO LEVEL OF EXISTING PAVEMENT.

FINISH THE SURFACE TO PROVIDE A SMOOTH TRANSITION FROM THE EXISTING PAVEMENT, MATCHING THE EXISTING PAVEMENT PROFILE AND CROSS SLOPE. TEXTURE THE SURFACE IN THE LONGITUDINAL OR TRANSVERSE DIRECTION USING A BROOM TO PRODUCE A UNIFORM, GRITTY TEXTURE. IMMEDIATELY AFTER THE FINISHING OPERATIONS HAVE BEEN COMPLETED AND ALL FREE WATER HAS DISSIPATED, SPRAY AND SEAL THE CONCRETE SURFACE USING A CURING MEMBRANE MEETING 705.05, 705.06, OR 705.07 TYPE 2 TO PROVIDE A CONTINUOUS UNIFORM FILM EQUAL TO A WHITE SHEET OF TYPING PAPER. APPLY A MINIMUM OF 1 GALLON OF MATERIAL FOR EACH 150 SQUARE FEET OF SURFACE TREATED.

PAYMENT SHALL BE MADE PER THE FOLLOWING ITEM:
ITEM 690 - SPECIAL - QC 1 CONCRETE PER C&MS 499 CY

ENVIRONMENTAL COMMITMENTS

NO IN-STREAM WORK ON BIG WALNUT CREEK, ALUM CREEK, SUGAR RUN, ROSE RUN, AND BLACK LICK CREEK: THE PROJECT INVOLVES CONSTRUCTION ACTIVITIES THAT WILL OCCUR DIRECTLY OVER LISTED CREEKS. NO WORK BELOW THE ORDINARY HIGH WATER MARK OF THE STREAM WILL OCCUR, INCLUDING THE PLACEMENT OF TEMPORARY OR PERMANENT FILL, OR FORDING THE STREAM. NO DEBRIS MAY BE SWEPT OR WASHED INTO THE STREAMS.

WATERWAY PERMIT: THE CONTRACTOR SHALL NOT PERFORM WORK WITHIN THE JURISDICTIONAL BOUNDARIES OF ANY WATERWAY, INCLUDING WETLANDS, UNTIL THE NECESSARY WATERWAY PERMIT(S) ARE OBTAINED. THIS INCLUDES THE PLACEMENT OF ANY TEMPORARY OR PERMANENT FILLS.

SECTION 4(F): THE FOLLOWING MEASURES TO MINIMIZE HARM HAVE BEEN ADDED AS PROJECT PLAN NOTES TO ADDRESS IMPACTS TO THE NEW ALBANY LEISURE TRAIL:
A. ACCESS TO THE NEW ALBANY LEISURE TRAIL WILL BE MAINTAINED AT ALL TIMES, EXCEPT FOR THE TIME NEEDED TO COMPLETE CONSTRUCTION ACTIVITIES AT THE US 62 INTERCHANGE WITH SR 161, WHICH WILL BE LESS THAN THE TIME NEEDED FOR CONSTRUCTION OF THE PROJECT (APPROXIMATELY FOUR MONTHS IN TOTAL). PEDESTRIANS USING THE NEW ALBANY LEISURE TRAIL WILL BE SHIFTED TO EITHER SIDE OF THE ROADWAY TO MAINTAIN TRAFFIC WHENEVER FULL CLOSURES ARE NOT REQUIRED.
B. TEMPORARY CONSTRUCTION FENCING SHALL BE INSTALLED ACROSS THE NEW ALBANY LEISURE TRAIL ON EITHER SIDE OF THE US 62 INTERCHANGE WITH SR 161 PRIOR TO THE START OF CONSTRUCTION ACTIVITIES THAT REQUIRE A FULL CLOSURE OF THE TRAIL TO PROTECT THE NEW ALBANY LEISURE TRAIL AND THE PUBLIC.
C. APPROPRIATE SIGNAGE SHALL BE INSTALLED TO ALERT USERS OF THE NEW ALBANY LEISURE TRAIL OF CONSTRUCTION ACTIVITIES, ACCESS RESTRICTIONS OR CLOSURES.

ENVIRONMENTAL COMMITMENTS CONTINUED

D. THE CONTRACTOR SHALL BE REQUIRED TO CLOSELY COORDINATE THE CONSTRUCTION SCHEDULE WITH ODOT AND THE CITY OF NEW ALBANY PRIOR TO THE START OF CONSTRUCTION ACTIVITIES AT THE US 62 INTERCHANGE WITH SR 161.

SECTION 4(F): THE FOLLOWING MEASURES TO MINIMIZE HARM HAVE BEEN ADDED AS PROJECT PLAN NOTES TO ADDRESS IMPACTS TO THE BIG WALNUT CREEK RECREATIONAL WATERWAY.
A. RECREATIONAL BOATING ACCESS ALONG BIG WALNUT CREEK WITHIN THE PROJECT AREA SHALL BE MAINTAINED AT ALL TIMES BY SHIFTING BOAT TRAFFIC TO ONE SIDE OF THE STREAM UTILIZING SIGNAGE/BUOYS AND/OR MARKERS, EXCEPT FOR THE TIME NEEDED TO TEMPORARILY COMPLETE FULL-LENGTH BRIDGE WORK WHICH WILL BE LESS THAN THE TIME NEEDED FOR CONSTRUCTION OF THE PROJECT (APPROXIMATELY ONE MONTH IN TOTAL).
B. THE CONTRACTOR SHALL PLACE APPROPRIATE SIGNAGE/BUOYS AND/OR MARKERS 300 FEET UPSTREAM AND DOWNSTREAM OF THE PROJECT AREA TO ALERT PADDLERS/BOATERS OF CONSTRUCTION ACTIVITY, INCLUDING 'WATER TRAIL CLOSED' SIGNS WHEN CLOSURES TO THE BIG WALNUT CREEK RECREATIONAL WATERWAY WILL OCCUR.
C. THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER WHEN ACCESS RESTRICTIONS TO BIG WALNUT CREEK BECOME NECESSARY DURING ANY PHASE OF CONSTRUCTION AND/OR IMPACTS TO BOATER SAFETY WILL OCCUR. THE PROJECT MANAGER/ENGINEER SHALL NOTIFY THE ODNR TRAILS ADMINISTRATOR PRIOR TO ANY CHANGES BEING IMPLEMENTED.
D. THE PROJECT ENGINEER SHALL NOTIFY THE ODNR TRAILS ADMINISTRATOR 14 CALENDAR DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES AT THE SR 161 BRIDGES OVER BIG WALNUT CREEK TO ALLOW ODNR TO POST NOTICE OF IMPENDING PROJECT CONSTRUCTION ON THE APPROPRIATE ODNR WEBPAGES AND ASSOCIATED ONLINE BOATING MAPS. AS PART OF NOTIFICATION EFFORTS, THE PROJECT ENGINEER SHALL ALSO PROVIDE PLANS THAT INDICATE SIGNAGE LOCATION ALONG THE WATERWAY AND ANY ADDITIONAL PLANNED NOTIFICATION EFFORTS WITH ODNR THAT WILL TAKE PLACE DURING OR AFTER CONSTRUCTION. THE ODNR TRAILS ADMINISTRATOR WILL BE NOTIFIED WHEN THE PROJECT IS COMPLETE, AND ALL SIGNAGE HAS BEEN REMOVED.

ENDANGERED SPECIES: THE PROJECT IS LOCATED WITHIN THE KNOWN HABITAT RANGES OF THE FEDERALLY ENDANGERED NORTHERN LONG-EARED AND INDIANA BAT,AND THE STATE ENDANGERED LITTLE BROWN AND TRICOLORED BATS. NO TREES SHALL BE REMOVED UNDER THIS PROJECT FROM APRIL 1 THROUGH SEPTEMBER 30. ALL NECESSARY TREE REMOVAL SHALL OCCUR FROM OCTOBER 1 THROUGH MARCH 31. THIS REQUIREMENT IS NECESSARY TO AVOID AND MINIMIZE IMPACTS TO THESE SPECIES AS REQUIRED BY THE ENDANGERED SPECIES ACT AND ORC 1531.25. FOR THE PURPOSES OF THIS NOTE, A TREE IS DEFINED AS A LIVE, DYING, OR DEAD WOODY PLANT, WITH A TRUNK THREE INCHES OR GREATER IN DIAMETER AT A HEIGHT OF 4.5 FEET ABOVE THE GROUND SURFACE, AND WITH A MINIMUM HEIGHT OF 13 FEET.

ENDANGERED SPECIES: APPROXIMATELY 21.29 ACRES OF SUITABLE WOODED HABITAT (SWH) IS PRESENT WITH THE STUDY AREA. UP TO 19.43 ACRES MAY BE IMPACTED BY THE PROJECT. THE REMAINING 1.86 ACRES HAVE BEEN MARKED AS "DO NOT DISTURB (DND)" WITHIN THE DESIGN PLANS.

FLOODPLAINS: THE PROJECT IS LOCATED WITHIN FEMA FLOOD ZONES AND THE PROJECT DESIGNER SHALL ENSURE THE PROJECT IS DESIGNED TO COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL FLOODPLAIN PROTECTION STANDARDS. APPROPRIATE FLOODPLAIN PERMITTING SHALL BE OBTAINED PRIOR TO THE START OF CONSTRUCTION. A STATEMENT OF FINDINGS DETAILING THE RESULTS OF THE FINAL FLOODPLAIN ANALYSIS WILL BE MADE AVAILABLE ON THE PROJECT WEBSITE.

GENERAL NOTES

DESIGN AGENCY

DESIGNER CLW

REVIEWER MJL 02/10/23

PROJECT ID 116322

SHEET 58 TOTAL 846

FRA-161-15.80

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 5/5/2023 TIME: 1:44:17 PM USER: MLORENZ
pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 06\Franklin\116322401-Engineering_HDR\Roadway\Sheets\116322_GN4005.dgn

SHEET NUM.													PART.	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
64	140	400	405	422	435	440	443	444	509	541	580		01/NHS/03						
																		LIGHTING (CONT.)	
										3			3	625	98000	3	EACH	LIGHTING, MISC.: AEP POWER SERVICE, CITY OF COLUMBUS	540
											2		2	625	98000	2	EACH	LIGHTING, MISC.: AEP POWER SERVICE, CITY OF NEW ALBANY	539
										3	2		5	625	98000	5	EACH	LIGHTING, MISC.:CT METER CABINET, 480V, AEP POWERED STREET LIGHT CIRCUITS (MIS-59)	577
										9			9	625	98000	9	EACH	LIGHTING, MISC.:CITY, LUMINAIRE, LED, COBRA HEAD, (30' MH) (MIS-800)	539
										49	16		65	625	98000	65	EACH	LIGHTING, MISC.:CITY, LUMINAIRE, LED, COBRA HEAD, (40' MH) (MIS-800)	539
										17			17	625	98000	17	EACH	LIGHTING, MISC.:CITY, LUMINAIRE, LED, TEAR DROP (MIS-801)	539
										2	2		4	625	98000	4	EACH	LIGHTING, MISC.:CITY, LUMINAIRE, LED, UNDERPASS (MIS-804)	539
										32	13		45	625	98000	45	EACH	LIGHTING, MISC.:CITY, FOUNDATION REMOVAL (MIS-900)	539
										6,482			6,482	625	98100	6,482	FT	LIGHTING, MISC.:CITY, UNDERGROUND CIRCUIT, 2-WIRE (MIS-403)	539
										26,518	12,660		39,178	625	98100	39,178	FT	LIGHTING, MISC.:CITY, UNDERGROUND CIRCUIT, 3-WIRE (MIS-404)	539
										11,958	3,010		14,968	625	98100	14,968	FT	LIGHTING, MISC.:'CITY, 2" CONDUIT, CONCRETE ENCASED (MIS-700)	539
										957	133		1,090	625	98100	1,090	FT	LIGHTING, MISC.:'CITY, 3" CONDUIT-JACKING OR DRILLLING (MIS-701)	539
										5			5	625	98100	5	FT	LIGHTING, MISC.:CITY, CONDUIT REPAIR (MIS-706)	539
										LS			LS	625	98200	LS		LIGHTING, MISC.:CITY OF COLUMBUS, UNDERGROUND SYSTEM REMOVAL (MIS-902)	539
											LS		LS	625	98200	LS		LIGHTING, MISC.:CITY OF NEW ALBANY, UNDERGROUND SYSTEM REMOVAL (MIS-902)	577
										LS			LS	625	98200	LS		LIGHTING, MISC.:MAINTAIN EXISTING LIGHTING, CITY OF COLUMBUS	539
											LS		LS	625	98200	LS		LIGHTING, MISC.:MAINTAIN EXISTING LIGHTING, CITY OF NEW ALBANY	577
										LS			LS	625	98200	LS		LIGHTING, MISC.:POLE IDENTIFICATION TAG INSTALLATION	539
																		TRAFFIC SURVEILLANCE	
									36				36	625	25402	36	FT	CONDUIT, 2", 725.05	
									22,360				22,360	625	25502	22,360	FT	CONDUIT, 3", 725.05	
									1,566				1,566	625	25900	1,566	FT	CONDUIT, JACKED OR DRILLED, 3"	
									724				724	625	25920	724	FT	CONDUIT, MISC.: 2-3" CONDUIT BANK, CONCRETE ENCASED, AS PER PLAN	506
									408				408	625	25920	408	FT	CONDUIT, MISC.: 3" FIBERGLASS CONDUIT ATTACHED TO STRUCTURE, AS PER PLAN	506
									8,509				8,509	625	29100	8,509	FT	TRENCH, 36" DEEP	
									27				27	625	30710	27	EACH	PULL BOX, 725.08, 32"	
									9				9	625	31500	9	EACH	MEDIAN PULL BOX	
									17				17	625	31510	17	EACH	PULL BOX REMOVED	
									6,479				6,479	632	29900	6,479	FT	MESSENGER WIRE, 7 STRAND, ¼" DIAMETER WITH ACCESSORIES	506
									6,479				6,479	632	62810	6,479	FT	INTERCONNECT CABLE, MISC.: AERIAL FIBER OPTIC INSTALLATION	507
									18,866				18,866	632	62810	18,866	FT	INTERCONNECT CABLE, MISC.: UNDERGROUND FIBER OPTIC INSTALLATION	507
									2				2	632	70400	2	EACH	CONDUIT RISER, 2" DIAMETER	
									29				29	632	89300	29	EACH	WOOD POLE, CLASS 7, 35'	507
									22,879				22,879	804	15050	22,879	FT	FIBER OPTIC CABLE, 288 FIBER AS PER PLAN	131 & 508
									1,728				1,728	804	35001	1,728	EACH	FUSION SPLICE, AS PER PLAN	507
									5				5	804	37001	5	EACH	SPLICE ENCLOSURE, AS PER PLAN	507
									1,250				1,250	804	98000	1,250	FT	FIBER OPTIC CABLE, MISC.: REROUTED	507
																		TRAFFIC CONTROL	
								103					103	620	00500	103	EACH	DELINEATOR, POST GROUND MOUNTED	
69					2,143								2,212	621	00100	2,212	EACH	RPM	
69				2,000									2,069	621	54000	2,069	EACH	RAISED PAVEMENT MARKER REMOVED	
						42							42	625	32000	42	EACH	GROUND ROD	
	58	13	13					655					739	626	00102	739	EACH	BARRIER REFLECTOR, TYPE 1 (ONE WAY)	
	491												491	626	00102	491	EACH	BARRIER REFLECTOR, TYPE 1 (BI-DIRECTIONAL)	
	164												164	626	00110	164	EACH	BARRIER REFLECTOR, TYPE 2 (ONE WAY)	
	36												36	626	00110	36	EACH	BARRIER REFLECTOR, TYPE 2 (BI-DIRECTIONAL)	
								204					204	626	00116	204	EACH	BARRIER REFLECTOR, TYPE 5 (ONE WAY)	
								7					7	626	00116	7	EACH	BARRIER REFLECTOR, TYPE 5 (BI-DIRECTIONAL)	
							1,424.5						1,424.5	630	03100	1,424.5	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
							64						64	630	04100	64	FT	GROUND MOUNTED SUPPORT, NO. 4 POST	
							38.8						38.8	630	06400	38.8	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, S4X7.7	
							21						21	630	07000	21	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W8X18	
							44.8						44.8	630	07600	44.8	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W10X12	
							51.8						51.8	630	08000	51.8	FT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, W12X30	
							8						8	630	08200	8	EACH	GROUND MOUNTED SUPPORT, PIPE	
							14						14	630	08600	14	EACH	SIGN POST REFLECTOR	
							4						4	630	09000	4	EACH	BREAKAWAY STRUCTURAL BEAM CONNECTION	
						11							11	630	72320	11	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.31, DESIGN 6	
						4							4	630	72330	4	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.31, DESIGN 10	
						9							9	630	72340	9	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.31, DESIGN 12	

GENERAL SUMMARY

DESIGN AGENCY

HDR

DESIGNER VLE

REVIEWER MJL 02/10/23

PROJECT ID 116322

SHEET 126 TOTAL 846

FRA-161-15.80

SHEET NUM.													PART.	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
64	422	435	438	440	443	485							01/NHS/03						
																		TRAFFIC CONTROL (CONT.)	
				1									1	630	72410	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-15.116, DESIGN 1	
				8									8	630	72420	8	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-15.116, DESIGN 2	
					35								35	630	79611	35	EACH	SIGN SUPPORT ASSEMBLY, BARRIER MOUNTED, AS PER PLAN	423
					1,290.8								1,290.8	630	80100	1,290.8	SF	SIGN, FLAT SHEET	
					596								596	630	80200	596	SF	SIGN, GROUND MOUNTED EXTRUSHEET	
				8,629									8,629	630	80224	8,629	SF	SIGN, OVERHEAD EXTRUSHEET	
				14									14	630	84010	14	EACH	CONCRETE BARRIER MEDIAN OVERHEAD SIGN SUPPORT FOUNDATION, TYPE TC-21.50	
					10								10	630	84500	10	EACH	GROUND MOUNTED STRUCTURAL BEAM SUPPORT FOUNDATION	
				26									26	630	84510	26	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION	
				2									2	630	84511	2	EACH	RIGID OVERHEAD SIGN SUPPORT FOUNDATION, AS PER PLAN	422
			110										110	630	84900	110	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
					2								2	630	85100	2	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
			33										33	630	85400	33	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL	
			111										111	630	86002	111	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
			42										42	630	86102	42	EACH	REMOVAL OF GROUND MOUNTED STRUCTURAL BEAM SUPPORT AND DISPOSAL	
			9										9	630	86272	9	EACH	REMOVAL OF GROUND MOUNTED PIPE SUPPORT AND DISPOSAL	
			50										50	630	87400	50	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	
				1									1	630	89100	1	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND REERECTION, TYPE TC-12.30	
			15										15	630	89706	15	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-12.30	
			11										11	630	89804	11	EACH	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-15.115	
					1								1	630	97700	1	EACH	SIGNING, MISC.: SAFE SIGN BREAKAWAY SYSTEM	422
			3										3	631	94490	3	EACH	REMOVAL, MISC.: DYNAMIC MESSAGE SIGN	422
		271											271	644	00720	271	FT	CHEVRON MARKING	
		13											13	644	01350	13	EACH	LANE REDUCTION ARROW	
2													2	644	01410	2	EACH	WORD ON PAVEMENT, 96"	
8													8	644	50100	8	EACH	PAVEMENT MARKING, MISC.: LANE ARROW, 72"	64
1,343													1,343	644	50300	1,343	FT	PAVEMENT MARKING, MISC.: EDGE LINE, 5", WHITE	64
1,343													1,343	644	50300	1,343	FT	PAVEMENT MARKING, MISC.: EDGE LINE, 5", YELLOW	64
1,343													1,343	644	50300	1,343	FT	PAVEMENT MARKING, MISC.: LANE LINE, 5"	64
1,219													1,219	644	50300	1,219	FT	PAVEMENT MARKING, MISC.: CHANNELIZING LINE, 10", WHITE	64
72													72	644	50300	72	FT	PAVEMENT MARKING, MISC.: STOP LINE, 20", WHITE	64
	8												8	647	21012	8	EACH	SPEED MEASUREMENT MARKING, TYPE B125	422
		1											1	807	12010	1	MILE	WET REFLECTIVE EPOXY PAVEMENT MARKING, EDGE LINE, 6"	
		1											1	807	12110	1	MILE	WET REFLECTIVE EPOXY PAVEMENT MARKING, LANE LINE, 6"	
		33.9											33.9	807	13010	33.9	MILE	WET REFLECTIVE SPRAY THERMOPLASTIC PAVEMENT MARKING, EDGE LINE, 6"	
		39.8											39.8	807	13110	39.8	MILE	WET REFLECTIVE SPRAY THERMOPLASTIC PAVEMENT MARKING, LANE LINE, 6"	
		12,993											12,993	807	13310	12,993	FT	WET REFLECTIVE SPRAY THERMOPLASTIC PAVEMENT MARKING, CHANNELIZING LINE, 12"	
		14,600											14,600	807	13410	14,600	FT	WET REFLECTIVE SPRAY THERMOPLASTIC PAVEMENT MARKING, DOTTED LINE, 6"	
		5,419											5,419	807	13430	5,419	FT	WET REFLECTIVE SPRAY THERMOPLASTIC PAVEMENT MARKING, DOTTED LINE, 12"	
		74											74	850	10010	74	MILE	GROOVING FOR 6" RECESSED PAVEMENT MARKING, (ASPHALT)	
		14,600											14,600	850	10110	14,600	FT	GROOVING FOR 6" RECESSED PAVEMENT MARKING, (ASPHALT)	
		18,405											18,405	850	10130	18,405	FT	GROOVING FOR 12" RECESSED PAVEMENT MARKING, (ASPHALT)	
		10,177											10,177	850	20110	10,177	FT	GROOVING FOR 6" RECESSED PAVEMENT MARKING, (CONCRETE)	
																		TRAFFIC SIGNALS	
						2							2	625	00450	2	EACH	CONNECTION, FUSED PULL APART	481
						2							2	625	00460	2	EACH	CONNECTION, UNFUSED PULL APART	481
						2							2	625	00480	2	EACH	CONNECTION, UNFUSED PERMANENT	481
						12,321							12,321	625	22990	12,321	FT	NO. 6 AWG 600 VOLT DISTRIBUTION CABLE	
						1,512							1,512	625	23000	1,512	FT	NO. 4 AWG 600 VOLT DISTRIBUTION CABLE	
						1,641							1,641	625	23100	1,641	FT	NO. 2 AWG 600 VOLT DISTRIBUTION CABLE	
						435							435	625	23308	435	FT	DISTRIBUTION CABLE, MISC.: 1 CONDUCTOR, NO. 12 AWG	481
						1,092							1,092	625	23308	1,092	FT	DISTRIBUTION CABLE, MISC.: 1 CONDUCTOR, NO. 3 AWG	481
						783							783	625	23308	783	FT	DISTRIBUTION CABLE, MISC.: 1 CONDUCTOR, NO. 1/0 AWG	481
						109							109	625	25400	109	FT	CONDUIT, 2", 725.04	
						2,326							2,326	625	25408	2,326	FT	CONDUIT, 2", 725.051	
						175							175	625	25908	175	FT	CONDUIT, JACKED OR DRILLED, 725.052, 2"	
						162							162	625	25909	162	FT	CONDUIT, JACKED OR DRILLED, 725.052, AS PER PLAN, 2"	481
						4,103							4,103	625	29010	4,103	FT	TRENCH, 30" DEEP	

GENERAL SUMMARY

FRA-161-15.80

DESIGN AGENCY

DESIGNER VLE

REVIEWER MJL 02/10/23

PROJECT ID 116322

SHEET 127 TOTAL 846

PRE-PURCHASING NOTES REMOVED FROM THIS SHEET.

FRA-161-15.80

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 4/27/2023 TIME: 3:39:57 PM USER: MLORENZ
pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 06\Franklin\116322\401-Engineering_HDR\Roadway\Sheets\116322_GN9001.dgn

PRE-PURCHASE ITEMS NOTES

DESIGN AGENCY

HDR

DESIGNER
CLW

REVIEWER
MJL 02/10/23

PROJECT ID
116322

SHEET 130 | TOTAL 846

REF NO.	SHEET NO.	STATION TO STATION			625 CONNECTION, FUSED PULL APART EACH	625 CONNECTION, UNFUSED PULL APART EACH	625 CONNECTION, UNFUSED PERMANENT EACH	625 NO. 6 AWG 600 VOLT DISTRIBUTION CABLE FT	625 NO. 4 AWG 600 VOLT DISTRIBUTION CABLE FT	625 NO. 2 AWG 600 VOLT DISTRIBUTION CABLE FT	625 DISTRIBUTION CABLE, MISC.:1 CONDUCTOR, NO. 12 AWG FT	625 DISTRIBUTION CABLE, MISC.:1 CONDUCTOR, NO. 3 AWG FT		625 DISTRIBUTION CABLE, MISC.:1 CONDUCTOR, NO. ⅜ AWG FT	625 CONDUIT, 2", 725.04 FT	625 CONDUIT, 2", 725.051 FT	625 CONDUIT, 2", JACKED OR DRILLED, 725.052 FT	625 CONDUIT, 2", JACKED OR DRILLED, 725.052, AS PER PLAN FT	625 TRENCH, 30" DEEP FT	625 MEDIAN JUNCTION BOX, AS PER PLAN EACH	625 BARRIER JUNCTION BOX EACH	625 PULL BOX, 725.08, 18" EACH	625 PULL BOX, 725.08, 24" EACH	625 PULL BOX, 725.08, 32" EACH	625 PULL BOX, 725.08, 48", TYPE 1 EACH
	490	2008+00.00	TO	2030+50.00	2	2	2	5853			435				109	1251			1266		2	5			1
	491	2030+50.00	TO	2053+00.00					915							91		162	86			3			1
	492	2053+00.00	TO	2075+50.00																					
	493	2075+50.00	TO	2098+00.00				1794								10			113		2	1			1
	494	2098+00.00	TO	2120+50.00				4674		243						43	175		43		3	1	1		1
	495	2120+50.00	TO	2143+00.00																					
	496	2143+00.00	TO	2165+50.00								1092				151			382	3		1		6	
	497	2165+50.00	TO	2188+00.00																4				2	
	498	2180+00.00	TO	2210+50.00																2					
	499	2210+50.00	TO	2233+00.00											783	212			235	2		3		2	1
	500	2233+00.00	TO	2255+50.00						1398						418			921	3		3		3	1
	501	2255+50.00	TO	2278+00.00																2					
	502	2278+00.00	TO	2300+00.00																2				2	
	503	2300+50.00	TO	2323+00.00															524	3				3	
	504	2323+00.00	TO	2345+50.00					597							150			533	4		3		2	1
	505	2345+50.00	TO	2371+50.00																3				2	
TOTALS CARRIED TO GENERAL SUMMARY					2	2	2	12321	1512	1641	435	1092		783	109	2326	175	162	4103	28	7	20	1	22	7

SUB-SUMMARY
ODOT ITS

DESIGN AGENCY

DESIGNER
RLS

REVIEWER
AMR 02/10/23

PROJECT ID
116322

SHEET 485 | TOTAL 846

FRA-161-15.80

ITEM 625 - LIGHTING, MISC: LUMINAIRE, LED, COBRA HEAD, (40' MH) (MIS-800)

LUMINAIRES FOR CONVENTIONAL LIGHTING UNITS WITH A 40' MOUNTING HEIGHT SHALL BE AMERICAN ELECTRIC AUTOBAHN SERIES ATBO-P452-480-R2-3K-(BLANK)-(BLANK)-P7-NL-SH (18,270 LUMENS /125 WATTS), OR APPROVED EQUAL. THE FIXTURE SUPPLIED SHALL BE IN FULL CONFORMANCE WITH MIS-800.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 625, "ITEM 625 - LIGHTING, MISC: LUMINAIRE, LED, COBRA HEAD, (40' MH) (MIS-800)", WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 625 - LIGHTING, MISC: LUMINAIRE, LED, COBRA HEAD, (30' MH) (MIS-800)

LUMINAIRES FOR CONVENTIONAL LIGHTING UNITS WITH A 30' MOUNTING HEIGHT SHALL BE AMERICAN ELECTRIC AUTOBAHN SERIES ATBO-P203-480-R2-3K-(BLANK)-(BLANK)-P7-NL-SH (10,050 LUMENS/ 70 WATTS), OR APPROVED EQUAL. THE FIXTURE SUPPLIED SHALL BE IN FULL CONFORMANCE WITH MIS-800.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 625, "ITEM 625 - LIGHTING, MISC: LUMINAIRE, LED, COBRA HEAD, (30' MH) (MIS-800)", WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 625 - LIGHTING, MISC: LUMINAIRE, LED, TEARDROP (MIS-801)

LUMINAIRES FOR TEAR DROP LIGHTING UNITS WITH SHALL BE HOLOPHANE ESPLANDE SERIES ESL3-P25S-30K-HVOLT-TG3-QSM-PR7E-SH-NL3X3 (12,630 LUMENS/ 82 WATTS), OR APPROVED EQUAL. THE FIXTURE SUPPLIED SHALL BE IN FULL CONFORMANCE WITH MIS-801.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 625, "ITEM 625 - LIGHTING, MISC: LUMINAIRE, LED, TEARDROP (MIS-801)", WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 625 - LIGHTING, MISC: CITY LUMINAIRE, LED, UNDERPASS (MIS-804)

LUMINAIRES FOR UNDERPASS LIGHTING SHALL BE HOLOPHANE TNLEDMED-PK2-30K-HVOLT-UDP-DGRA (8,486 LUMENS/ 70 WATTS). THE FIXTURE SUPPLIED SHALL BE IN FULL CONFORMANCE WITH MIS-804.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 625, "ITEM 625 - "LIGHTING, MISC: LUMINAIRE, LED, UNDERPASS (MIS-804)", WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 625 - LUMINAIRE, LOW MAST, SOLID STATE (LED), AS PER PLAN: 480V

LUMINAIRES FOR LOW MAST LIGHTING UNITS WITH SYMMETRIC DISTRIBUTION SHALL BE HOLOPHANE HMLED4-PK4-30K-HVOLT-HGR-AW-PR7-SH (81,258 LUMENS/582 WATTS), OR APPROVED EQUAL.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 625, "LUMINAIRE,LOW MAST, SOLID STATE (LED) AS PER PLAN", WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 625 - LIGHTING, MISC: CITY, PULL BOX, 17"X30"X24

WHEN SPECIFIED IN THE PLANS, THIS PULL BOX SHALL CONFORM WITH MIS 54, EXCEPT THAT THE DIMENSIONS OF THE PULL BOX SHALL BE 17"X30"X24".

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER CMS ITEM 625, "LIGHTING, MISC: CITY, PULL BOX, 17"X30"X24", WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 625 - LIGHTING, MISC: CITY OF COLUMBUS, UNDERGROUND SYSTEM REMOVAL (MIS-902)

REMOVAL OF UNDERGROUND LIGHTING SYSTEMS SHALL BE COMPLETED IN CONFORMANCE WITH MIS-902. CONDUIT UNDER ROADS AND RAMPS WHICH IS NOT DESIGNATED FOR REUSE MAY BE REMOVED OR ABANDONED IN PLACE.

ITEM 625 - MEDIAN LIGHT POLE FOUNDATION, 24"X10' DEEP, AS PER PLAN "A"

THIS ITEM SHALL CONSIST OF PROVIDING A MEDIAN LIGHT POLE FOUNDATION, IN CONFORMANCE WITH ODOT STANDARD DRAWING HL-20.13, EXCEPT THAT THE CONDUIT FOR THE GROUNDING CABLE SHALL BE 1" PVC, AND THE GROUND ROD SHALL MEET CITY OF COLUMBUS SPECIFICATIONS. PAYMENT FOR THIS ITEM WILL BE MADE FOR EACH FOUNDATION, IN PLACE. THE GROUND ROD SHALL BE CONSIDERED INCIDENTAL TO THIS PAY ITEM.

ITEM 625 - SERVICE TO UNDERPASS LIGHTING, AS PER PLAN

THIS ITEM SHALL CONSIST OF PROVIDING COMPLETE ELECTRICAL SERVICE FOR AN UNDERPASS LIGHTING SYSTEM. THE WORK SHALL INCLUDE ALL INCIDENTALS NECESSARY TO PROVIDE COMPLETE UNDERPASS LIGHTING SYSTEM, INCLUDING CONDUIT, JACKING OR BORING, PULL BOXES, CONDUIT RISERS, PIER-MOUNTED CONDUIT, SPLICE BOXES, SPLICE KITS, #10 AWG WIRE, AND ATTACHMENT HARDWARE. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL MATERIAL TO THE CITY OF COLUMBUS FOR APPROVAL, PRIOR TO ORDERING ANY MATERIALS.

PAYMENT SHALL BE MADE AT THE UNIT BID PRICE,UNDER CMS ITEM 625,"SERVICE TO UNDERPASS LIGHTING, AS PER PLAN" FOR EACH LIGHTED UNDERPASS,WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIAL AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER, IN PLACE,TESTED AND ACCEPTED.

ITEM 625 - LIGHTING, MISC: MAINTAIN EXISTING LIGHTING, CITY OF COLUMBUS

THE CONTRACTOR SHALL MAINTAIN EXISTING LIGHTING LEVELS WITHIN THE CITY OF COLUMBUS MAINTAINED PROJECT AREA TO THE SATISFACTION OF THE CITY OF COLUMBUS, DIVISION OF POWER. A COMBINATION OF EXISTING, PROPOSED AND/OR TEMPORARY LIGHT POLES CAN BE USED TO ACHIEVE THAT GOAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE AFOREMENTIONED ITEMS UNTIL DIVISION OF POWER HAS COMPLETED INSPECTION AND TAKEN ACCEPTANCE. ALL ADDITIONS, RELOCATIONS AND/OR ADJUSTMENTS MADE TO MAINTAIN LIGHTING FACILITIES DUE TO CONSTRUCTION STAGING OR OTHERWISE SHALL BE DONE AT NO ADDITIONAL COST TO THE CONTRACT.

ITEM 625 - MEDIAN LIGHT POLE FOUNDATION, 24"X10' DEEP, AS PER PLAN "B"

THIS ITEM SHALL CONSIST OF PROVIDING A MEDIAN LIGHT POLE FOUNDATION WITH TWO JUNCTION BOXES, AS SHOWN IN THE DETAILS PROVIDED ON SHEET 564.

ITEM 625 - MEDIAN LIGHT POLE FOUNDATION, 24"X10' DEEP, AS PER PLAN "C"

THIS ITEM SHALL CONSIST OF PROVIDING A MEDIAN LIGHT POLE FOUNDATION WITH A FIVE FOOT LONG MEDIAN SECTION, AS SHOWN IN THE DETAILS PROVIDED ON SHEET 565.

ITEM 625 - LIGHTING, MISC: POLE IDENTIFICATION TAG INSTALLATION

UNDER THIS ITEM, THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL LABOR AND EQUIPMENT NECESSARY TO INSTALL POLE IDENTIFICATION TAGS ON ALL CITY OWNED LIGHT POLES WITHIN THE PROJECT. POLE IDENTIFICATION TAGS, AND A LOCATION MAP WILL BE PROVIDED TO THE CONTRACTOR BY THE CITY OF COLUMBUS DIVISION OF POWER. LOCATION AND ORIENTATION OF THE IDENTIFICATION TAG IS TO BE SUCH THAT THE TAGS ARE TO BE INSTALLED ON THE POLES 6' ABOVE POLE BASE TO THE TOP OF THE TAG, AND ORIENTED OFF CENTER TOWARDS ON-COMING TRAFFIC FLOW. CONTACT THE DIVISION OF POWER PROJECT MANAGER FOR COORDINATION. PAY ITEM WILL BE AT A LUMP SUM COST.

CITY OF COLUBUS PAY ITEMS

THE FOLLOWING ITEMS SHALL CONFORM TO CITY OF COLUMBUS STANDARD DRAWINGS AND SPECIFICATIONS, CURRENT EDITION, AND ALL SUPPLEMENTS THERETO:

* ITEM 625 - LIGHTING, MISC: PULL BOX, 13"X24" (MIS-54)
* ITEM 625 - LIGHTING, MISC: CT METER CABINET, 480 VOLT, AEP POWERED STREET LIGHT CIRCUITS (MIS-59)
* ITEM 625 - LIGHTING, MISC: STREET LIGHT FOUNDATION, 6' (MIS-201)
* ITEM 625 - LIGHTING, MISC: STREET LIGHT FOUNDATION, 8' (MIS-202)
* ITEM 625 - LIGHTING, MISC: POLE, ALUMINUM, 8' BRACKET, T-BASE, 30' MOUNTING HEIGHT (MIS 300)
* ITEM 625 - LIGHTING, MISC: POLE, ALUMINUM, 15' BRACKET, T-BASE, 30' MOUNTING HEIGHT (MIS 300)
* ITEM 625 - LIGHTING, MISC: POLE, ALUMINUM, 15' BRACKET, T-BASE, 40' MOUNTING HEIGHT (MIS 302)
* ITEM 625 - LIGHTING, MISC: POLE, ALUMINUM, 6' BRACKET, T-BASE, 31' MOUNTING HEIGHT, BLACK/GREEN (TEARDROP) (MIS 305)
* ITEM 625 - LIGHTING, MISC: UNDERGROUND CIRCUIT, 2-WIRE (MIS-403)
* ITEM 625 - LIGHTING, MISC: UNDERGROUND CIRCUIT, 3-WIRE MIS-404
* ITEM 625 - LIGHTING, MISC: POLE TO BE WIRED, 2-WIRE (MIS-500)
* ITEM 625 - LIGHTING, MISC: POLE TO BE WIRED, 3-WIRE (MIS-501)
* ITEM 625 - LIGHTING, MISC: 3-WIRE, 480V PAD MOUNT (MIS-603)
* ITEM 625 - LIGHTING, MISC: 2" CONDUIT, CONCRETE ENCASED (MIS-700)
* ITEM 625 - LIGHTING, MISC: 3" RIGID STEEL WITH 2" CONDUIT INSERT (MIS 702)
* ITEM 625 - LIGHTING, MISC: CONDUIT REPAIR (MIS-706)
* ITEM 625 - LIGHTING, MISC: FOUNDATION REMOVAL (MIS-900)

GROUNDING AND BONDING

THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS) AND THE HL AND TC SERIES OF STANDARD CONSTRUCTION DRAWINGS ARE MODIFIED AS FOLLOWS:

1. ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS (725.04) IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING CONDUCTOR.

2. CONDUITS.
A. THE 725.04 CONDUIT SHALL HAVE GROUNDING BUSHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE WITH GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR USE WITH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED.

B. THE 725.05 CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS.

C. BOTH ENDS OF METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.

D. METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.

E. JUNCTION BOXES SHALL BE GROUNDED PER HL-30.41. IF THE BOX IS GROUNDED WITH A SEPARATE GROUND ROD, THE CONDUIT FOR THE GROUNDING WIRE SHALL BE ROUTED TO THE GROUND ROD IN A 1" SCH 40 PVC CONDUIT. THE GROUND ROD SHALL MEET CITY OF COLUMBUS SPECIFICATIONS, AND SHALL BE CONSIDERED INCIDENTAL TO THE OTHER VARIOUS BID ITEMS..

3. PAYMENT.
A. ALL MATERIALS AND WORK REQUIRED TO COMPLETE THE EFFECTIVE GROUND FAULT CURRENT PATH SYSTEM ARE INCIDENTAL TO THE CONDUCTORS INSTALLED.

	NON-PAYMENT SPECIFICATIONS
MIS	ITEM DESCRIPTION
1	STREET LIGHT LOCKOUT/TAGOUT (LOTO)
2	GUIDELINES FOR INSPECTION & ACCEPTANCE OF STREET LIGHTING SYSTEMS
3	GUIDELINES FOR STREET LIGHTING "MATERIALS FOR APPROVAL" SUBMITTAL PACKAGES
4	INSPECTION CHECKLIST

3894-E

LIGHTING PLAN - GENERAL NOTES - CITY OF COLUMBUS CIRCUITS

DESIGN AGENCY
EGGEMAN ENGINEERING & CONSULTING
6958 OLD CLIFTON RD
SPRINGFIELD, OH 45502
(937) 319-6426

DESIGNER MJH

REVIEWER KAE 02/10/23

PROJECT ID 116322

SHEET 539 TOTAL 846

FRA-161-15.80
MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 5/9/2023 TIME: 9:57:22 AM USER: MLORENZ
pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 06\Franklin\116322\401-Engineering_HDR\Lighting\Sheets\116322_LN4102.dgn

SHEET NUMBER FROM LIGHTING PLAN											PARTICIPATION			ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	542	543	544	545	546	547	548	549	550	551									
																		LIGHTING	
	2													625	00480	2	EACH	CONNECTION, UNFUSED PERMANENT	
	12	18	19	22										625	10494	71	EACH	LIGHT POLE, LOW MAST, ALMB50	
	11	17	18	22										625	14307	68	EACH	MEDIAN LIGHT POLE FOUNDATION, 24" X 10' DEEP, AS PER PLAN "A"	
	1		1											625	14307	2	EACH	MEDIAN LIGHT POLE FOUNDATION, 24" X 10' DEEP, AS PER PLAN "B"	
		1												625	14307	1	EACH	MEDIAN LIGHT POLE FOUNDATION, 24" X 10' DEEP, AS PER PLAN "C"	
	1630													625	23300	1630	FT	NO. 2 AWG 2400 VOLT DISTRIBUTION CABLE	
	12	18	19	22										625	26273	71	EACH	LUMINAIRE, LOW MAST, SOLID STATE (LED), AS PER PLAN	
			4	1										625	29910	5	EACH	JUNCTION BOX	
		2	2											625	29910	4	EACH	TRANSITION JUNCTION BOX	
		1	1											625	33000	2	EACH	STRUCTURE GROUNDING SYSTEM	
							1							625	37101	1	EACH	SERVICE TO UNDERPASS LIGHTING, AS PER PLAN	
					4	2		7	7					625	98000	20	EACH	LIGHTING, MISC.: PULL BOX, 13"X24" (MIS-54)	
	1		2		1	4	5							625	98000	13	EACH	LIGHTING, MISC.: CITY, PULL BOX, SPECIAL, 17"X30"x24"	
					6	7	2	2	7	2				625	98000	26	EACH	LIGHTING, MISC: STREET LIGHT FOUNDATION, 6' (MIS-201)	
					15	9		14	5	6				625	98000	49	EACH	LIGHTING, MISC: STREET LIGHT FOUNDATION, 8' (MIS-202)	
									5					625	98000	5	EACH	LIGHTING, MISC: POLE, ALUMINUM, 8' BRACKET, T-BASE, 30' MOUNTING HEIGHT (MIS 300)	
								2	2					625	98000	4	EACH	LIGHTING, MISC: POLE, ALUMINUM, 15' BRACKET, T-BASE, 30' MOUNTING HEIGHT (MIS 300)	
					15	9		14	5	6				625	98000	49	EACH	LIGHTING, MISC: POLE, ALUMINUM, 15' BRACKET, T-BASE, 40' MOUNTING HEIGHT (MIS 302)	
					6	7	2			2				625	98000	17	EACH	LIGHTING, MISC: POLE, ALUMINUM, 6' BRACKET, T-BASE, 31' MOUNTING HEIGHT, BLACK/GREEN (TEARDROP) (MIS 305)	
							2	16	12	10				625	98000	40	EACH	LIGHTING, MISC.: POLE TO BE WIRED, 2-WIRE (MIS-500)	
	12	18	19	22	21	16	2							625	98000	110	EACH	LIGHTING, MISC.: POLE TO BE WIRED, 3-WIRE (MIS-501)	
	1		1				1							625	98000	3	EACH	LIGHTING, MISC: 3-WIRE, 480V PAD MOUNT (MIS-603)	
	1		1				1							625	98000	3	EACH	LIGHTING, MISC: AEP POWER SERVICE	
	1		1				1							625	98000	3	EACH	LIGHTING, MISC: CT METER CABINET, 480 VOLT, AEP POWERED STREET LIGHT CIRCUITS (MIS-59)	
								2	7					625	98000	9	EACH	LIGHTING, MISC.: LUMINAIRE, LED, COBRA HEAD, (30' MH) (MIS-800)	
					15	9		14	5	6				625	98000	49	EACH	LIGHTING, MISC.: LUMINAIRE, LED, COBRA HEAD, (40' MH) (MIS-800)	
					6	7	2			2				625	98000	17	EACH	LIGHTING, MISC.: LUMINAIRE, LED, TEARDROP (MIS-801)	
							2							625	98000	2	EACH	LIGHTING, MISC.: LUMINAIRE, LED, UNDERPASS (MIS-804)	
	32													625	98000	32	EACH	LIGHTING, MISC.: FOUNDATION REMOVAL (MIS-900)	
							130	2951	2128	1273				625	98100	6482	FT	LIGHTING, MISC.: UNDERGROUND CIRCUIT, 2-WIRE (MIS-403)	
	2905	4850	4976	5886	3618	3164	1119							625	98100	26518	FT	LIGHTING, MISC.: UNDERGROUND CIRCUIT, 3-WIRE (MIS-404)	
	120		94		3137	2581	1064	2425	1599	1218				625	98100	12338	FT	LIGHTING, MISC.: 2" CONDUIT, CONCRETE ENCASED (MIS-700)	
	91	91	62	62	69	363	77	47	95					625	98100	957	FT	LIGHTING, MISC: 3" RIGID STEEL WITH 2" CONDUIT INSERT (MIS 702)	
	5													625	98100	5	FT	LIGHTING, MISC.: CITY, CONDUIT REPAIR (MIS-706)	
	LS													625	98200	LS	LUMP	LIGHTING, MISC.: CITY OF COLUMBUS, UNDERGROUND SYSTEM REMOVAL (MIS-902)	
	LS													625	98200	LS	LUMP	LIGHTING, MISC: MAINTAIN EXISTING LIGHTING, CITY OF COLUMBUS	
	LS													625	98200	LS	LUMP	LIGHTING, MISC: POLE IDENTIFICATION TAG INSTALLATION	

LIGHTING PLAN - QUANTITY SUBSUMMARY - CITY OF COLUMBUS

DESIGN AGENCY

EGGEMAN ENGINEERING & CONSULTING
6958 OLD CLIFTON RD
SPRINGFIELD, OH 45502
(937) 319-6426

DESIGNER MJH

REVIEWER KAE 02/10/23

PROJECT ID 116322

SHEET 541 TOTAL 846

3894-E

FRA-161-15.80

SHEET NO.	CALL-OUT	LOCATION	SIDE	625																															
				CONNECTION, UNFUSED PERMANENT	LIGHT POLE, LOW MAST: ALMB50	MEDIAN LIGHT POLE FOUNDATION, 24" X 10' DEEP, AS PER PLAN A	MEDIAN LIGHT POLE FOUNDATION, 24" X 10' DEEP, AS PER PLAN B	NO. 2 AWG 2400 VOLT DISTRIBUTION CABLE	LUMINAIRE, LOW MAST, SOLID STATE (LED), AS PER PLAN: TYPE V		LIGHTING, MISC.: CITY, PULL BOX, SPECIAL, 17"X30"x24"	LIGHTING, MISC.: POLE TO BE WIRED, 3-WIRE (MIS-501)	LIGHTING, MISC.: 3 WIRE, 480V, PAD MOUNT (MIS-603)	LIGHTING, MISC.: AEP POWER SERVICE	LIGHTING, MISC: CT METER CABINET, 480V, AEP POWER (MIS-59)	LIGHTING, MISC.: FOUNDATION REMOVAL (MIS-900)		LIGHTING, MISC.: UNDERGROUND CIRCUIT, 3-WIRE (MIS-404)	LIGHTING, MISC.: 2" CONDUIT, CONCRETE ENCASED (MIS-700)	LIGHTING, MISC.: 3" RIGID STEEL WITH 2" CONDUIT INSERT (MIS-702)	LIGHTING, MISC.: CONDUIT REPAIR (MIS-706)		LIGHTING, MISC.: CoC, UNDERGROUND SYSTEM REMOVAL (MIS-902)	LIGHTING, MISC.: MAINTAIN EXISTING LIGHTING, CITY OF COLUMBUS	LIGHTING, MISC.: POLE IDENTIFICATION AND TAG INSTALLATION										
		FROM - TO		EACH	EACH	EACH	EACH	FT	EACH		EACH	EACH	EACH	EACH	EACH	EACH		FT	FT	FT	FT		LUMP	LUMP	LUMP									
																							LS	LS	LS									
552	ALL	VARIES	VAR	2				1630													5													
553	ALL	VARIES	VAR													17																		
554	ALL	VARIES	VAR													15																		
		CKT #848 - LEG A																																
555	A1	2095+64	CL		1	1			1			1																						
	A1 TO A2	2095+64 TO 2097+98	CL															244																
	A2	2097+98	CL		1	1			1			1																						
	A2 TO A3	2097+98 TO 2100+31	CL															243																
	A3	2100+31	CL		1	1			1			1																						
	A3 TO A4	2100+31 TO 2102+65	CL															244																
	A4	2102+65	CL		1	1			1			1																						
	A-4 TO A-5	2102+65 TO 2104+99	CL															244																
	A5	2104+99	CL		1	1			1			1																						
	A5 TO A6	2104+99 TO 2107+37	CL															244																
	A6	2107+37	CL		1	1			1			1																						
	A6 TO A7	2107+37 TO 2109+72	CL															245																
	A7	2109+72	CL		1	1			1			1																						
	A7 TO A8	2109+72 TO 2112+08	CL															244																
	A8	2112+08	CL		1	1			1			1																						
	A8 TO A9	2112+08 TO 2114+54	CL															256																
	A9	2114+54	CL		1	1			1			1																						
	A9 TO A10	2114+54 TO 2116+97	CL															253																
↓	A10	2116+97	CL		1	1			1			1																						
555-556	A10 TO A11	2116+97 TO 2119+54	CL															267																
556	A11	2119+54	CL		1	1			1			1																						
	A11 TO A12	2119+54 TO 2122+14	CL															270																
	A12	2122+14	CL		1		1		1			1																						
	A12 TO PB1	2122+18 TO 2122+18	CL-RT															101		91														
	PB1	2122+18	RT								1																							
	PB1 TO #848	2122+18 TO 2122+58	RT															50	120															
↓	CKT #848	2122+58	RT										1	1	1																			
	TOTALS TO THE COLUMBUS SUBSUMMARY			2	12	11	1	1630	12		1	12	1	1	1	32		2905	120	91	5		LS	LS	LS									

LIGHTING PLAN - SUBSUMMARY, COLUMBUS CIRCUITS
MAINLINE (SR 161 HIGHWAY LIGHTING)

DESIGN AGENCY

EGGEMAN ENGINEERING & CONSULTING
6958 OLD CLIFTON RD
SPRINGFIELD, OH 45502
(937) 319-6426

DESIGNER: MJH

REVIEWER: KAE 02/10/23

PROJECT ID: 116322

SHEET: 542 | TOTAL: 846

3894-E

FRA-161-15.80

EXISTING CABLE AND CONDUIT

THE LOCATION OF EXISTING CIRCUIT CABLE, AS SHOWN IN THIS PLAN, WERE APPROXIMATED FROM EXISTING DESIGN PLANS. PRIOR TO INITIATING ANY NEW CONSTRUCTION, THE CONTRACTOR SHALL FIELD VERIFY THE ASSUMED CIRCUIT INFORMATION.

EXISTING CONDUITS NOT DESIGNATED FOR REUSE, AS INDICATED IN THE PLAN (OR AS A RESULT OF THE FIELD REVIEW/CONFIRMATION), MAY BE ABANDONED IN PLACE OR REMOVED. THE CONTRACTOR SHALL REMOVE ALL EXISTING LIGHTING CIRCUIT CABLE, WHICH IS NOT DESIGNATED FOR REUSE, AND DISPOSED OF THE MATERIAL OFF OF THE PROJECT SITE. THE REMOVAL OR ABANDONMENT OF CONDUIT SYSTEMS AND REMOVAL OF ALL CIRCUIT CABLE SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS LIGHTING BID ITEMS. IN ADDITION, CLEANING OF CONDUIT SYSTEMS WHICH ARE DESIGNATED FOR REUSE SHALL ALSO BE CONSIDER INCIDENTAL AND INCLUDED WITH THE VARIOUS BID ITEMS.

ITEM 625 - LIGHTING, MISC: CITY LUMINAIRE, LED, COBRA HEAD, 40' MOUNTING HEIGHT, MIS-800

SEE SHEET 539 FOR GENERAL NOTE.

ITEM 625 - LUMINAIRE, LED, UNDERPASS (MIS-804)

SEE SHEET 539 FOR GENERAL NOTE.

ITEM 625 - LUMINAIRE, LOW MAST, SOLID STATE (LED), AS PER PLAN

SEE SHEET 539 FOR GENERAL NOTE.

ITEM 625 - LIGHTING, MISC: CITY, PULL BOX, SPECIAL, 17"X30"X24

SEE SHEET 539 FOR GENERAL NOTE.

ITEM 625 - MEDIAN LIGHT POLE FOUNDATION, 24"X10' DEEP, AS PER PLAN "A"

SEE SHEET 539 FOR GENERAL NOTE.

ITEM 625 - SERVICE TO UNDERPASS LIGHTING, AS PER PLAN

SEE SHEET 539 FOR GENERAL NOTE.

ITEM 625 - LIGHTING, MISC: MAINTAIN EXISTING LIGHTING, CITY OF NEW ALBANY

THE CONTRACTOR SHALL MAINTAIN EXISTING LIGHTING LEVELS WITHIN THE CITY OF NEW ALBANY MAINTAINED PROJECT AREA TO THE SATISFACTION OF THE ENGINEER. A COMBINATION OF EXISTING, PROPOSED AND/OR TEMPORARY LIGHT POLES CAN BE USED TO ACHIEVE THAT GOAL. ALL ADDITIONS, RELOCATIONS AND/OR ADJUSTMENTS MADE TO MAINTAIN LIGHTING FACILITIES DUE TO CONSTRUCTION STAGING OR OTHERWISE SHALL BE DONE AT NO ADDITIONAL COST TO THE CONTRACT.

GROUNDING AND BONDING

SEE SHEET 539 FOR GENERAL NOTE.

CITY OF COLUBUS SPECIFICATIONS

THE FOLLOWING ITEMS SHALL CONFORM TO CITY OF COLUMBUS STANDARD DRAWINGS AND SPECIFICATIONS, CURRENT EDITION, AND ALL SUPPLEMENTS THERETO:

* ITEM 625 - LIGHTING, MISC: CITY FOUNDATION, 8', MIS-202
* ITEM 625 - LIGHTING, MISC: CITY, CONVENTIONAL,15' BRACKET, T-BASE, MIS-302
* ITEM 625 - LIGHTING, MISC: CITY UNDERGROUND CIRCUIT, 3-WIRE, MIS-404
* ITEM 625 - LIGHTING, MISC: CITY LIGHT POLE WIRED, 3-WIRE, MIS-501
* ITEM 625 - LIGHTING, MISC: CITY 3-WIRE, 480V PAD MOUNT, MIS-603
* ITEM 625 - LIGHTING, MISC: 2" CONDUIT, CONCRETE ENCASED, MIS-700
* ITEM 625 - LIGHTING, MISC: CITY 3" RIGID STEEL WITH 2" CONDUIT INSERT, MIS-702
* ITEM 625 - LIGHTING, MISC: CITY FOUNDATION REMOVAL, MIS 900

ITEM 625 - LIGHTING, MISC: AEP POWER SERVICE, CITY OF NEW ALBANY

IN ADDITION TO THE REQUIREMENTS OF THE SPECIFICATIONS OF ODOT ITEM 625, THE FOLLOWING IS ADDED. THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS:

POWER COMPANY - AEP
ADDRESS - 700 MORRISON ROAD
GAHANNA, OHIO 43230
PHONE NUMBER - (740) 647-2080
CONTACT NAME - ROBERT MATTHEWS
E-MAIL: REMATTHEWS@AEP.COM

THIS ITEM OF WORK SHALL INCLUDE ALL WORK NECESSARY TO PROVIDE A COMPLETE POWER SERVICE, AS SHOWN IN THE PLANS. THIS WORK INCLUDES, BUT IS NOT LIMITED TO, CONDUIT, TRENCHING, CONDUIT RISERS, POWER CABLE, AND ANY OTHER INCIDENTALS NECESSARY TO PROVIDE A COMPLETE POWER SERVICE FROM THE POWER SERVICE POLE TO THE PROPOSED CONTROL CABINET.

THE CONTRACTOR SHALL COIL 10' OF POWER CABLE SLACK AT THE TOP OF THE DESIGNATED AEP POWER POLE. ALL SPLICES TO AEP FACILITIES WILL BE MADE BY AEP FORCES.

THE CONTRACTOR SHALL CONTACT AEP AT THE OUTSET OF THE PROJECT TO COORDINATE POWER SERVICE ARRANGEMENTS, TO ALLOW AEP THE TIME NECESSARY TO RESET POLES, PLACE NEW POLES, OR ANY OTHER WORK NECESSARY TO PROVIDE POWER. IN ADDITION, THE CONTRACTOR SHALL CONTACT AEP A MINIMUM OF FOUR WEEKS PRIOR TO THE ENERGIZATION OF EACH POWER SERVICE, TO ARRANGE THE POWER SERVICE SPLICE.

THE ENGINEER SHALL ENSURE THAT EACH POWER SERVICE ELECTRICAL ENERGY ACCOUNT IS IN THE NAME OF AND THAT THE BILLING ADDRESS IS TO THE MAINTAINING AGENCY NOTED IN THE PLANS.

CMS SPECIFICATION 625.15 SHALL BE AMENDED TO READ: "CHARGES MADE BY THE POWER COMPANY FOR ESTABLISHING OF THE ACCOUNT, EXTENSION OF COMPANY FACILITIES, CONNECTION OF CUSTOMER EQUIPMENT TO THE POWER COMPANY FACILITIES AND ENERGY WILL BE BORNE BY ODOT. THIS COMPENSATION IS FOR INVOICED COST WITHOUT MARK-UP."

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH CMS ITEM 625, "LIGHTING MISC.: AEP POWER SERVICE, CITY OF NEW ALBANY" WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

LIGHTING, MISC.: CITY ON NEW ALBANY, UNDERGROUND SYSTEM REMOVAL (MIS 902)

REMOVAL OF UNDERGROUND LIGHTING SYSTEMS SHALL BE COMPLETED IN CONFORMANCE WITH MIS-902. CONDUIT UNDER ROADS AND RAMPS WHICH IS NOT DESIGNATED FOR REUSE MAY BE REMOVED OR ABANDONED IN PLACE.

LIGHTING PLAN - GENERAL NOTES - CITY OF NEW ALBANY

DESIGN AGENCY
EGGEMAN ENGINEERING & CONSULTING
6958 OLD CLIFTON RD
SPRINGFIELD, OH 45502
(937) 319-6426

DESIGNER MJH
REVIEWER KAE 02/10/23
PROJECT ID 116322
SHEET 577 TOTAL 846

FRA-161-15.80

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 5/9/2023 TIME: 9:57:53 AM USER: MLORENZ
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SHEET NO.	CALL-OUT	LOCATION	SIDE	625																												
				LIGHT POLE, LOW MAST	MEDIAN LIGHT POLE FOUNDATION, 24" X 10' DEEP, AS PER PLAN A	LUMINAIRE, LOW MAST, SOLID STATE (LED), AS PER PLAN	TRANSITION JUNCTION BOX	STRUCTURE GROUNDING SYSTEM	SERVICE TO UNDERPASS LIGHTING, AS PER PLAN		LIGHTING, MISC.: CITY, PULL BOX, SPECIAL, 17"X30"X24"	LIGHTING, MISC.: FOUNDATION, 8', MIS 202	LIGHTING, MISC.: POLE, 15' BRACKET, T-BASE, 40' MH, MIS-302	LIGHTING, MISC.: CITY, POLE TO BE WIRED, 3-WIRE, MIS-501		LIGHTING, MISC.: CITY, 3 WIRE, 480V, PAD MOUNT, MIS-603	LIGHTING, MISC.: AEP POWER SERVICE CITY OF NEW ALBANY	LIGHTING, MISC.: CT METER CABINET: 480V, AEP POWER (MIS-59)	LIGHTING, MISC.: LUMINAIRE, LED, COBRA HEAD, (40' MH) MIS-800	LIGHTING, MISC.: CITY, LUMINAIRE, LED, UNDERPASS, MIS-804	LIGHTING, MISC.: CITY, FOUNDATION REMOVAL, MIS 900		LIGHTING, MISC.: CITY, UNDERGROUND CIRCUIT, 3-WIRE, MIS-404	LIGHTING, MISC.: CITY, 2" CONDUIT, CONCRETE ENCASED, MIS-700	LIGHTING, MISC.: 3" STEEL CONDUIT WITH 2" INSERT, MIS-702	LIGHTING, MISC.: CONA UNDERGROUND SYSTEM REMOVAL (MIS-902)	LIGHTING, MISC.: MAIN-TAIN EXISTING LIGHTING, CITY OF NEW ALBANY						
		FROM - TO		EACH	EACH	EACH	EACH	EACH	EACH		EACH	EACH	EACH	EACH		EACH	EACH	EACH	EACH	EACH	EACH		FT	FT	FT	LUMP	LUMP					
	CIRCUIT G-A																															
583	NA-49	2328+14	RT	1	1	1								1																		
	NA-49 TO NA-50	2328+14 TO 2330+50	RT																				244									
	NA-50	2330+50	RT	1	1	1								1																		
	NA-50 TO NA-51	2330+50 TO 2332+01	RT																				261									
	NA-51	2332+01	RT	1	1	1								1																		
	NA-51 TO NA-52	2332+01 TO 2335+35	RT																				244									
	NA-52	2335+35	RT	1	1	1								1																		
	NA-52 TO NA-53	2335+35 TO 2337+15	RT																				190									
	NA-53	2337+15	RT	1	1	1								1																		
	NA-53 TO NA-54	2337+15 TO 2339+45	RT																				240									
	NA-54	2339+45	RT	1	1	1								1																		
	NA-54 TO NA-55	2339+45 TO 2341+72	RT																				237									
	NA-55	2341+72	RT	1	1	1								1																		
	NA-55 TO NA-56	2341+72 TO 2343+95	RT																				233									
	NA-56	2343+95	RT	1	1	1								1																		
	NA-56 TO NA-57	2343+95 TO 2346+29	RT																				244									
	NA-57	2346+29	RT	1	1	1								1																		
583- 584	NA-57 TO NA-58	2346+29 TO 2348+64	RT																				245									
584	NA-58	2348+64	RT	1	1	1								1																		
	NA-58 TO NA-59	2348+64 TO 2351+02	RT																				248									
	NA-59	2351+02	RT	1	1	1								1																		
	NA-59 TO NA-60	2351+02 TO 2353+34	RT																				242									
	NA-60	2353+34	RT	1	1	1								1																		
	NA-60 TO NA-61	2353+34 TO 2355+68	RT																				245									
	NA-61	2355+68	RT	1	1	1								1																		
	NA-61 TO NA-62	2355+68 TO 2358+22	RT																				265									
	NA-62	2358+22	RT	1	1	1								1																		
	NA-62 TO NA-63	2358+22 TO 2360+78	RT																				264									
	NA-63	2360+78	RT	1	1	1								1																		
	NA-63 TO NA-66	2360+78 TO 2362+94	RT - LT																				393									
	CIRCUIT G-B																															
	NA-66	2362+94	LT														1	1														
	NA-66 TO NA-65	2362+94 TO 2363+18	LT																				76	66								
	NA-65	2363+18	LT								1																					
	NA-65 TO NA-64	2363+18 TO 2363+25	LT - RT																				82		72							
	NA-64	2363+25	RT	1	1	1								1																		
	NA-64 TO NA-67	2363+25 TO 2365+73	RT																				258									
	NA-67	2365+73	RT	1	1	1								1																		
	NA-67 TO NA-68	2363+73 TO 2368+23	RT																				260									
	NA-68	2368+23	RT	1	1	1								1																		
	NA-68 TO NA-69	2368+23 TO 2370+71	RT																				258									
	NA-69	2370+71	RT	1	1	1								1																		
582	REMOVALS																					6									
583	REMOVALS																					7									
TOTALS - THIS SHEET				19	19	19	0	0	0		1	0	0	19		1	1	1	0	0	13		4485	66	72							
TOTALS - SHEET 578				22	22	22	2	1	0		1	0	0	22		1	1	1	0	0	0		5111	50	61							
TOTALS - SHEET 579				0	0	0	0	0	1		1	16	16	17		0	0	0	16	2	0		3064	2894	0							
TOTALS TO THE GENERAL SUMMARY				41	41	41	2	1	1		3	16	16	58		2	2	2	16	2	13		12660	3010	133	LUMP	LUMP					

FRA-161-15.80

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LIGHTING PLAN - SUBSUMMARY, CITY OF NEW ALBANY

DESIGN AGENCY
EGGEMAN ENGINEERING & CONSULTING
6958 OLD CLIFTON RD
SPRINGFIELD, OH 45502
(937) 319-6426

DESIGNER MJH
REVIEWER KAE 02/10/23
PROJECT ID 116322
SHEET 580 TOTAL 846

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN

THE FINISH COAT COLOR SHALL BE NEW ALBANY GREEN. THE CUSTOM COLOR SHALL MATCH SHERWIN WILLIAM'S NEW ALBANY GREEN (N.A.G. - 4322). APPROVAL OF THE FINAL CUSTOM COLOR (NEW ALBANY GREEN) SHALL BE OBTAINED FROM ODOT. THE PAINT SUPPLIER MUST SUBMIT A 12 INCH X 12 INCH PAINT SAMPLE CARD BEFORE APPROVAL.

ITEM 514 - FIELD PAINTING OF DAMAGED STRUCTURAL STEEL, AS PER PLAN

REPAIR THE EXISTING PAINTED AREAS OF THE EXISTING STEEL AT THE END FRAMES AND EXPANSION JOINTS THAT ARE DAMAGED AS PART OF THE INSTALLATION AND FIELD WELDING OF THE NEW STRUCTURAL STEEL MEMBER. THE REPAIR SHALL BE PERFORMED PER CMS 514.22. NEW PRIME COAT SHALL BE ORGANIC ZINC PER CMS 708.02 AND THE FINISH COAT SHALL BE COLOR NEW ALBANY GREEN MATCHING SHERWIN-WILLIAMS'S NEW ALBANY GREEN (N.A.G. - 4322) AS SPECIFIED UNDER ITEM 514, FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN.

ITEM 514 - FIELD PAINTING MISC.: EPOXY COATING REPAIR OF EXISTING EPOXY COATED REINFORCING STEEL

THIS ITEM CONSISTS OF REPAIRING THE EPOXY COATING ON THE EXISTING DECK REINFORCING STEEL BARS TO REMAIN. DAMAGED AREAS OF THE EPOXY COATING ON THE PORTIONS OF THE TRANSVERSE REINFORCING STEEL BARS TO BE INCORPORATED IN THE NEW DECK SHALL BE REPAIRED PER ASTM A775-19 SECTIONS 11.3 THROUGH 11.5, APPENDIX X1.3.11 THROUGH X1.3.12, AND ANNEX A2.

THE PAY ITEM INCLUDES ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS REQUIRED TO REPAIR THE ENTIRE EXPOSED LENGTH OF EACH EXISTING EPOXY COATED TRANSVERSE DECK REINFORCING STEEL BAR TO BE INCORPORATED IN THE NEW DECK.

ITEM 516, STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN

THIS ITEM IS PER CMS 516 WITH THE FOLLOWING ADDITIONS.

THIS ITEM IS ONLY FOR REPLACEMENT OF A PORTION OF THE EXISTING EXPANSION JOINTS AT BOTH THE REAR AND FORWARD ABUTMENTS AS DETAILED IN THE PLANS TO MATCH THE PROPOSED MODIFIED CROSS SLOPES. THIS ITEM ALSO INCLUDES CLEANING OF THE EXISTING STRIP SEAL RETAINERS, FIELD MEASUREMENTS, AND ALL MATERIAL, LABOR AND EQUIPMENT NECESSARY TO INSTALL NEW STRIP SEAL GLANDS FOR THE ENTIRE WIDTH OF THE BRIDGE IN BOTH THE EXISTING AND PROPOSED EXPANSION JOINTS AT BOTH THE REAR AND FORWARD ABUTMENTS.

THE EXISTING EXPANSION JOINTS WERE CONSTRUCTED FOLLOWING ODOT STANDARD DRAWING EXJ-4-87 REVISED 07/19/02. THE PROPOSED STRIP SEAL RETAINER AND GLAND SHALL MATCH THE EXISTING STRIP SEAL RETAINER AND GLAND. THE EXISTING STRIP SEAL JOINT SYSTEM WAS MANUFACTURED BY THE D.S. BROWN COMPANY AND IS TYPE SSA2 FRAME RAIL RETAINER WITH AN A2R-400 STRIP SEAL GLAND.

THE EXISTING REAR AND FORWARD EXPANSION JOINTS WERE EACH SIZED FOR A 3-INCH-WIDE STRIP SEAL GLAND. THE D.S. BROWN A2R-400 STRIP SEAL GLAND CAN BE USED FOR A 3-INCH-WIDE DIMENSION. PRIOR TO ORDERING THE PROPOSED EXPANSION JOINT MATERIAL, FIELD VERIFY EACH JOINT OPENING AND EXISTING STRIP SEAL GLAND SIZE AND RECORD THE TEMPERATURE AT THE TIME OF MEASUREMENT. SET THE SIZE OF EACH PROPOSED JOINT OPENING WIDTH TO MATCH EACH EXISTING JOINT OPENING WIDTH AT THE TIME OF INSTALLATION OF THE PROPOSED EXPANSION JOINT.

FOR ADDITIONAL INFORMATION AND QUESTIONS REGARDING THE EXISTING OR PROPOSED EXPANSION JOINT, THE CONTRACTOR MAY CONTACT THE FOLLOWING PERSONNEL AT THE D.S. BROWN COMPANY:

JACK MAZUR
EMAIL: JMAZUR@DSBROWN.COM
PHONE: (419) 379-5085
WEBSITE: DSBROWN.COM

THE PROPOSED STRIP SEAL RETAINER SHALL BE FIELD WELDED TO THE EXISTING STRIP SEAL RETAINER TO ALLOW FOR A COMPLETE SEAL BETWEEN THE TWO RETAINERS.

ITEM 516 - STRUCTURAL JOINT OR JOINT SEALER, MISC.: HOT APPLIED JOINT SEALER PER CMS 705.04

THIS ITEM SHALL INCLUDE PLACEMENT OF HOT APPLIED JOINT SEALER MEETING THE REQUIREMENTS OF CMS 705.04 AT THE TOP OF THE BACKWALL AND AT THE FACE OF THE WINGWALL WHERE AN ASPHALT CONCRETE WEARING SURFACE IS PLACED ON THE APPROACH SLAB.

ALONG THE THE TOP OF THE NEW BACKWALL, THE HOT APPLIED JOINT SEALER SHALL BE 2 INCH DEEP BY 1 INCH WIDE AND SHALL BE CONSTRUCTED AS DETAILED IN ODOT STANDARD CONSTRUCTION DRAWING AS-1-15, SHEET 2 OF 2, DETAIL C.

ALONG THE FACE OF THE WINGWALL, THE HOT APPLIED JOINT SEALER SHALL BE 1 INCH DEEP BY 1 INCH WIDE AND SHALL BE CONSTRUCTED AS DETAILED IN ODOT STANDARD CONSTRUCTION DRAWING AS-2-15, SHEET 5 OF 14, SECTION A-A.

ABBREVIATIONS

ABUT. - ABUTMENT
ADT - AVERAGE DAILY TRAFFIC
ADTT - AVERAGE DAILY TRUCK TRAFFIC
APPR. - APPROACH
B - BOTTOM
℄ - BASELINE
BM - BENCHMARK
BOT./BOTT./BTM. - BOTTOM
BRG. - BEARING
℄ - CENTERLINE
C/C - CENTER TO CENTER
C.I.P. - CAST-IN-PLACE
C.J. - CONSTRUCTION JOINT
CLR./CL. - CLEAR
C&MS OR CMS - CONSTRUCTION AND MATERIAL SPECIFICATIONS
CONC. - CONCRETE
CONSTR./CONST. - CONSTRUCTION
CVN - CHARPY V-NOTCH
DIA. - DIAMETER
DIM. - DIMENSION
DND - DO NOT DISTURB
DWG. - DRAWING
E - EAST
EB - EASTBOUND
E.F. - EACH FACE
EL. OR ELEV. - ELEVATION
EOP - EDGE OF PAVEMENT
EQ. - EQUAL
EST. - ESTIMATED
EX. - EXISTING
EXP. - EXPANSION
F.A. - FORWARD ABUTMENT
F/F - FACE TO FACE
F.F. - FAR FACE
F.S. - FIELD SPLICE
FT. - FOOT OR FEET
FWD. - FORWARD
FWS - FUTURE WEARING SURFACE
GBL - GRADE BREAK LINE
HMWM - HIGH MOLECULAR WEIGHT METHACRYLATE
HW - HIGH WATER
IN. - INCH
JT. - JOINT
L.F. - LEFT FORWARD
LT. - LEFT
LTBR - LEFT TOE BRIDGE RAILING
MAX. - MAXIMUM
MIN. - MINIMUM
MISC. - MISCELLANEOUS
N - NORTH
NB - NORTHBOUND
N.F. - NEAR FACE
NO. - NUMBER
N.P.C.P.P. - NON-PERFORATED CORRUGATED PLASTIC PIPE
OHWM - ORDINARY HIGH WATER MARK
O/O - OUT TO OUT
P.C.P.P. - PERFORATED CORRUGATED PLASTIC PIPE
P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
PG - PROFILE GRADE
PROP. - PROPOSED
PRV'D - PROVIDED
PSF - POUNDS PER SQUARE FOOT
P.V.I. - POINT OF VERTICAL INTERSECTION
Q - FLOW RATE
R - RADIUS
R.A. - REAR ABUTMENT
RCP - ROCK CHANNEL PROTECTION
REQD. - REQUIRED
R.F. - RIGHT FORWARD
R.R. - RAILROAD
RT. - RIGHT
RTBR - RIGHT TOE BRIDGE RAILING
R/W - RIGHT OF WAY
S - SOUTH
SB - SOUTHBOUND
SER. - SERIES
SHLDR - SHOULDER
SIP - STAY IN PLACE
SLPR. - SLEEPER
SPA. - SPACE OR SPACES
STA. - STATION
STD. - STANDARD
STR - STRAIGHT
T - TOP
T&B - TOP & BOTTOM
TBR - TO BE REMOVED
TEMP. - TEMPORARY
T.O.S. OR T/S - TOP OF SLOPE
T/T - TOE TO TOE
TYP. - TYPICAL
U.N.O. - UNLESS NOTED OTHERWISE
VAR. - VARIES
V - VELOCITY
W - WEST
WB - WESTBOUND
WP - WORK POINT
WWR - WELDED WIRE REINFORCEMENT

GENERAL NOTES (2 OF 2)
BRIDGE NO. FRA-00161-16.620 A
CDW (SR 161) OVER BIG WALNUT CREEK

SFN 2509539

DESIGN AGENCY
E.L. ROBINSON ENGINEERING
1468 West 9th St, Suite 800 Cleveland, Ohio
950 Goodale Blvd, Suite 180 Grandview Heights, Ohio

DESIGNER	CHECKER
MJM	AEF

REVIEWER: RER 02/10/23

PROJECT ID: 116322

SUBSET	TOTAL
3	20

SHEET	TOTAL
590	846

FRA-161-15.80

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 4/27/2023 TIME: 3:21:22 PM USER: MLORENZ
pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 06\Franklin\116322\401-Engineering_HDR\Structures\SFN_2509539\Sheets\116322_SFN_2509539_SN002.dgn

MADE BY: JOL DATE: 11/29/2022
CHECKED BY: MJM DATE: 12/9/2022

ESTIMATED QUANTITIES

STRUCTURAL FILE NUMBER: 2509539

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIER	SUPER.	GEN.	REFERENCE SHEET NO.
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					GENERAL NOTES (1 OF 2)
509	10000	49,372	LB	EPOXY COATED STEEL REINFORCEMENT	274		49,098		
509	20001	40	LB	CONCRETE REINFORCEMENT, REPLACEMENT OF EXISTING CONCRETE REINFORCEMENT, AS PER PLAN			40		GENERAL NOTES (1 OF 2)
509	30020	5,346	FT	NO. 4 DEFORMED GFRP REINFORCEMENT			5,346		
510	10001	10	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN	10				GENERAL NOTES (1 OF 2)
511	34445	147	CY	CLASS QC2 CONCRETE, BRIDGE DECK, AS PER PLAN			147		GENERAL NOTES (1 OF 2)
511	34448	52	CY	CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET)			52		
511	44110	2	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	2				
512	10100	379	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	21		358		
512	44450	11	SY	TYPE E WATERPROOFING	11				
513	10200	553	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF			553		
514	00060	65	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			65		
514	00067	65	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			65		GENERAL NOTES (2 OF 2)
514	21001	LUMP		FIELD PAINTING OF DAMAGED STRUCTURAL STEEL, AS PER PLAN					GENERAL NOTES (2 OF 2)
514	27702	1,014	EACH	FIELD PAINTING, MISC.: EPOXY COATING REPAIR OF EXISTING EPOXY COATED REINFORCING STEEL			1,014		GENERAL NOTES (2 OF 2)
516	11901	34	FT	HORIZONTAL EXTENSION OF STRUCTURAL EXPANSION JOINT, AS PER PLAN	34				
516	13600	27	SF	1" PREFORMED EXPANSION JOINT FILLER	27				
516	14600	74	FT	STRUCTURAL JOINT OR JOINT SEALER, MISC.: HOT APPLIED JOINT SEALER PER CMS 705.04	74				GENERAL NOTES (2 OF 2)

ESTIMATED QUANTITIES
BRIDGE NO. FRA-00161-16.620 A
CDW (SR 161) OVER BIG WALNUT CREEK

SFN 2509539

DESIGN AGENCY
E.L. ROBINSON ENGINEERING
1468 West 9th St, Suite 800 Cleveland, Ohio
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DESIGNER	CHECKER
MJM	LAH

REVIEWER
RER 02/10/23

PROJECT ID
116322

SUBSET	TOTAL
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SHEET	TOTAL
591	846

FRA-161-15.80

ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN

THE FINISH COAT COLOR SHALL BE NEW ALBANY GREEN. THE CUSTOM COLOR SHALL MATCH SHERWIN WILLIAM'S NEW ALBANY GREEN (N.A.G. - 4322). APPROVAL OF THE FINAL CUSTOM COLOR (NEW ALBANY GREEN) SHALL BE OBTAINED FROM ODOT. THE PAINT SUPPLIER MUST SUBMIT A 12 INCH X 12 INCH PAINT SAMPLE CARD BEFORE APPROVAL.

ITEM 514 - FIELD PAINTING OF DAMAGED STRUCTURAL STEEL, AS PER PLAN

REPAIR THE EXISTING PAINTED AREAS OF THE EXISTING STEEL AT THE END FRAMES AND EXPANSION JOINTS THAT ARE DAMAGED AS PART OF THE INSTALLATION AND FIELD WELDING OF THE NEW STRUCTURAL STEEL MEMBER. THE REPAIR SHALL BE PERFORMED PER CMS 514.22. NEW PRIME COAT SHALL BE ORGANIC ZINC PER CMS 708.02 AND THE FINISH COAT SHALL BE COLOR NEW ALBANY GREEN MATCHING SHERWIN-WILLIAMS'S NEW ALBANY GREEN (N.A.G. - 4322) AS SPECIFIED UNDER ITEM 514, FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN.

ITEM 514 - FIELD PAINTING MISC.: EPOXY COATING REPAIR OF EXISTING EPOXY COATED REINFORCING STEEL

THIS ITEM CONSISTS OF REPAIRING THE EPOXY COATING ON THE EXISTING DECK REINFORCING STEEL BARS TO REMAIN. DAMAGED AREAS OF THE EPOXY COATING ON THE PORTIONS OF THE TRANSVERSE REINFORCING STEEL BARS TO BE INCORPORATED IN THE NEW DECK SHALL BE REPAIRED PER ASTM A775-19 SECTIONS 11.3 THROUGH 11.5, APPENDIX X1.3.11 THROUGH X1.3.12, AND ANNEX A2.

THE PAY ITEM INCLUDES ALL LABOR, MATERIAL, EQUIPMENT, AND INCIDENTALS REQUIRED TO REPAIR THE ENTIRE EXPOSED LENGTH OF EACH EXISTING EPOXY COATED TRANSVERSE DECK REINFORCING STEEL BAR TO BE INCORPORATED IN THE NEW DECK.

ITEM 516 - HORIZONTAL EXTENSION OF STRUCTURAL EXPANSION JOINT, AS PER PLAN

THIS ITEM IS PER CMS 516 WITH THE FOLLOWING ADDITIONS.

THIS ITEM IS ONLY FOR REPLACEMENT OF A PORTION OF THE EXISTING EXPANSION JOINTS AT BOTH THE REAR AND FORWARD ABUTMENTS AS DETAILED IN THE PLANS TO MATCH THE PROPOSED MODIFIED CROSS SLOPES. THIS ITEM ALSO INCLUDES CLEANING OF THE EXISTING STRIP SEAL RETAINER, FIELD MEASUREMENTS, AND ALL MATERIAL, LABOR AND EQUIPMENT NECESSARY TO INSTALL NEW STRIP SEAL GLANDS FOR THE ENTIRE WIDTH OF THE BRIDGE IN BOTH THE EXISTING AND PROPOSED EXPANSION JOINTS AT BOTH THE REAR AND FORWARD ABUTMENTS.

THE EXISTING EXPANSION JOINTS WERE CONSTRUCTED FOLLOWING ODOT STANDARD DRAWING EXJ-4-87 REVISED 07/19/02. THE PROPOSED STRIP SEAL RETAINER AND GLAND SHALL MATCH THE EXISTING STRIP SEAL RETAINER AND GLAND. THE EXISTING STRIP SEAL JOINT SYSTEM WAS MANUFACTURED BY THE D.S. BROWN COMPANY AND IS TYPE SSA2 FRAME RAIL RETAINER WITH AN A2R-400 STRIP SEAL GLAND.

THE EXISTING REAR EXPANSION JOINT WAS SIZED FOR A 3-INCH-WIDE STRIP SEAL GLAND AND THE EXISTING FORWARD EXPANSION JOINT WAS SIZED FOR A 4-INCH-WIDE STRIP SEAL GLAND. THE D.S. BROWN A2R-400 STRIP SEAL GLAND CAN BE USED FOR BOTH 3-INCH-WIDE AND 4-INCH-WIDE DIMENSIONS. PRIOR TO ORDERING THE PROPOSED EXPANSION JOINT MATERIAL, FIELD VERIFY EACH JOINT OPENING AND EXISTING STRIP SEAL GLAND SIZE AND RECORD THE TEMPERATURE AT THE TIME OF MEASUREMENT. SET THE SIZE OF EACH PROPOSED JOINT OPENING WIDTH TO MATCH EACH EXISTING JOINT OPENING WIDTH AT THE TIME OF INSTALLATION OF THE PROPOSED EXPANSION JOINT.

FOR ADDITIONAL INFORMATION AND QUESTIONS REGARDING THE EXISTING OR PROPOSED EXPANSION JOINT, THE CONTRACTOR MAY CONTACT THE FOLLOWING PERSONNEL AT THE D.S. BROWN COMPANY:

JACK MAZUR
EMAIL: JMAZUR@DSBROWN.COM
PHONE: (419) 379-5085
WEBSITE: DSBROWN.COM

THE PROPOSED STRIP SEAL RETAINER SHALL BE FIELD WELDED TO THE EXISTING STRIP SEAL RETAINER TO ALLOW FOR A COMPLETE SEAL BETWEEN THE TWO RETAINERS.

ITEM 516 - STRUCTURAL JOINT OR JOINT SEALER, MISC.: HOT APPLIED JOINT SEALER PER CMS 705.04

THIS ITEM SHALL INCLUDE PLACEMENT OF HOT APPLIED JOINT SEALER MEETING THE REQUIREMENTS OF CMS 705.04 AT THE TOP OF THE BACKWALL AND AT THE FACE OF THE WINGWALL WHERE AN ASPHALT CONCRETE WEARING SURFACE IS PLACED ON THE APPROACH SLAB.

ALONG THE THE TOP OF THE NEW BACKWALL, THE HOT APPLIED JOINT SEALER SHALL BE 2 INCH DEEP BY 1 INCH WIDE AND SHALL BE CONSTRUCTED AS DETAILED IN ODOT STANDARD CONSTRUCTION DRAWING AS-1-15, SHEET 2 OF 2, DETAIL C.

ALONG THE FACE OF THE WINGWALL, THE HOT APPLIED JOINT SEALER SHALL BE 1 INCH DEEP BY 1 INCH WIDE AND SHALL BE CONSTRUCTED AS DETAILED IN ODOT STANDARD CONSTRUCTION DRAWING AS-2-15, SHEET 5 OF 14, SECTION A-A.

ITEM 847 - SUPERPLASTICIZED DENSE CONCRETE OVERLAY, AS PER PLAN (1 1/2" THICK)

ITEM 847 - SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN

THESE ITEMS SHALL BE CONSTRUCTED PER SUPPLEMENTAL SPECIFICATION 847 DATED 1-15-2021 WITH THE FOLLOWING MODIFICATIONS.

THE NEW SUPERPLASTICIZED DENSE CONCRETE OVERLAY IS TO BE CONSTRUCTED ON THE EXISTING RIGHT FORWARD APPROACH SLAB AS DETAILED IN THE PLANS.

QUANTITIES FOR PAVEMENT PLANNING PORTLAND CEMENT CONCRETE (1/4" THICK) AND (1 1/2" THICK) HAVE BEEN INCLUDED IN THE QUANTITIES FOR SURFACE PREPARATION. THE 1 1/2" THICK PAVEMENT PLANNING SHALL EXTEND 5 FEET FROM THE CONSTRUCTION PHASE LINE, WITH THE 1/4" THICK PAVING BETWEEN USED IN THE REMAINING AREA ADJACENT TO THE RAILING.

THE CONTRACTOR SHALL SET THE DECK FINISHING MACHINE TO MATCH THE PROPOSED MODIFIED CROSS SLOPE AS DETAILED IN THE PLANS. THE VARIABLE THICKNESS IS THE ADDITIONAL CONCRETE REQUIRED BELOW THE 1½ INCH-THICK OVERLAY REQUIRED TO ADJUST THE CROSS SLOPE TO MATCH THE PROPOSED MODIFIED CROSS SLOPE.

FOR THE UNIFORM OVERLAY THICKNESS EXCEEDING 5-INCH (6'-3" FROM THE TOE OF PARAPET) PLACE A 12 X 12 – D12 X D12 EPOXY COATED WELDED WIRE REINFORCEMENT (WWR) WITH A 2.5-IN MINIMUM COVER TO THE TOP SURFACE AND 1.5-IN MINIMUM COVER TO THE PREPARED SURFACE. WELDED WIRE SHALL MEET THE REQUIREMENTS PER CMS 709.11 AND SHALL BE EPOXY-COATED PER CMS 709.14. THIS WELDED WIRE REINFORCEMENT SHALL BE CONSIDERED INCIDENTAL AND SHALL BE INCLUDED WITH THE PRICE BID UNDER ITEM 847 - SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN.

ABBREVIATIONS

ABUT. - ABUTMENT
ADT - AVERAGE DAILY TRAFFIC
ADTT - AVERAGE DAILY TRUCK TRAFFIC
APPR. - APPROACH
B - BOTTOM
℄ - BASELINE
BM - BENCHMARK
BOT./BOTT./BTM. - BOTTOM
BRG. - BEARING
BU - BUILDABLE UNIT
℄ - CENTERLINE
C/C - CENTER TO CENTER
C.I.P. - CAST-IN-PLACE
C.J. - CONSTRUCTION JOINT
CLR./CL. - CLEAR
C&MS OR CMS - CONSTRUCTION AND MATERIAL SPECIFICATIONS
CONC. - CONCRETE
CONSTR./CONST. - CONSTRUCTION
CVN - CHARPY V-NOTCH
DIA. - DIAMETER
DIM. - DIMENSION
DND - DO NOT DISTURB
DS - DRILLED SHAFT
DWG. - DRAWING
E - EAST
EB - EASTBOUND
E.F. - EACH FACE
EL. OR ELEV. - ELEVATION
EOP - EDGE OF PAVEMENT
EQ. - EQUAL
EST. - ESTIMATED
EX. - EXISTING
EXP. - EXPANSION
F.A. - FORWARD ABUTMENT
F/F - FACE TO FACE
F.F. - FAR FACE
F.S. - FIELD SPLICE
FT. - FOOT OR FEET
FWD. - FORWARD
GBL - GRADE BREAK LINE
HMWM - HIGH MOLECULAR WEIGHT METHACRYLATE
HW - HIGH WATER
IN. - INCH
JT. - JOINT
L.F. - LEFT FORWARD
LT. - LEFT
LTBR - LEFT TOE BRIDGE RAILING
MAX. - MAXIMUM
MIN. - MINIMUM
MISC. - MISCELLANEOUS
MSE - MECHANICALLY STABILIZED EARTH
N - NORTH
NB - NORTHBOUND
N.F. - NEAR FACE
NO. - NUMBER
N.P.C.P.P. - NON-PERFORATED CORRUGATED PLASTIC PIPE
OHWM - ORDINARY HIGH WATER MARK
O/O - OUT TO OUT
P.C.P.P. - PERFORATED CORRUGATED PLASTIC PIPE
P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
PG - PROFILE GRADE
PROP. - PROPOSED
PRV'D - PROVIDED
PSF - POUNDS PER SQUARE FOOT
P.V.I. - POINT OF VERTICAL INTERSECTION
Q - FLOW RATE
R - RADIUS
R.A. - REAR ABUTMENT
RCP - ROCK CHANNEL PROTECTION
REQD. - REQUIRED
R.F. - RIGHT FORWARD
R.R. - RAILROAD
RT. - RIGHT
RTBR - RIGHT TOE BRIDGE RAILING
R/W - RIGHT OF WAY
S - SOUTH
SB - SOUTHBOUND
SER. - SERIES
SHLDR - SHOULDER
SIP - STAY IN PLACE
SLPR. - SLEEPER
SPA. - SPACE OR SPACES
STA. - STATION
STD. - STANDARD
STR - STRAIGHT
T - TOP
T&B - TOP & BOTTOM
TBR - TO BE REMOVED
TEMP. - TEMPORARY
T.O.S. OR T/S - TOP OF SLOPE
T/T - TOE TO TOE
TYP. - TYPICAL
U.N.O. - UNLESS NOTED OTHERWISE
VPF - VANDAL PROTECTIVE FENCE
VAR. - VARIES
V - VELOCITY
W - WEST
WB - WESTBOUND
WP - WORK POINT
WWR - WELDED WIRE REINFORCEMENT

GENERAL NOTES (2 OF 2)
BRIDGE NO. FRA-00161-16.590 B
CDE (SR 161) OVER BIG WALNUT CREEK

SFN 2509520

DESIGN AGENCY
E.L. ROBINSON ENGINEERING
1468 West 9th St, Suite 800 Cleveland, Ohio
950 Goodale Blvd, Suite 180 Grandview Heights, Ohio

DESIGNER	CHECKER
MJM	AEF

REVIEWER
RER 02/10/23

PROJECT ID
116322

SUBSET	TOTAL
3	20

SHEET	TOTAL
610	846

FRA-161-15.80

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MADE BY: JOL DATE: 11/28/2022
CHECKED BY: MJM DATE: 12/9/2022

ESTIMATED QUANTITIES

STRUCTURAL FILE NUMBER: 2509520

ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIER	SUPER.	GEN.	REFERENCE SHEET NO.
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					GENERAL NOTES (1 OF 2)
254	01010	22	SY	PAVEMENT PLANING, PORTLAND CEMENT CONCRETE (1/4" THICK)				22	
254	01010	14	SY	PAVEMENT PLANING, PORTLAND CEMENT CONCRETE (1 ½" THICK)				14	
509	10000	55,537	LB	EPOXY COATED STEEL REINFORCEMENT	227		55,310		
509	20001	40	LB	CONCRETE REINFORCEMENT, REPLACEMENT OF EXISTING CONCRETE REINFORCEMENT, AS PER PLAN			40		GENERAL NOTES (1 OF 2)
509	30020	5,521	FT	NO. 4 DEFORMED GFRP REINFORCEMENT			5,521		
510	10001	10	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN	10				GENERAL NOTES (1 OF 2)
511	34445	146	CY	CLASS QC2 CONCRETE, BRIDGE DECK, AS PER PLAN			146		GENERAL NOTES (1 OF 2)
511	34448	53	CY	CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET)			53		
511	44110	3	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	3				
512	10100	385	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	21		364		
512	44450	15	SY	TYPE E WATERPROOFING	15				
513	10200	554	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF			554		
514	00060	64	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			64		
514	00067	64	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN			64		GENERAL NOTES (2 OF 2)
514	21001	LUMP		FIELD PAINTING OF DAMAGED STRUCTURAL STEEL, AS PER PLAN					GENERAL NOTES (2 OF 2)
514	27702	1,594	EACH	FIELD PAINTING, MISC.: EPOXY COATING REPAIR OF EXISTING EPOXY COATED REINFORCING STEEL			1,594		GENERAL NOTES (2 OF 2)
516	10000	16	FT	PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL	16				
516	11901	34	FT	HORIZONTAL EXTENSION OF STRUCTURAL EXPANSION JOINT, AS PER PLAN	34				
516	13600	26	SF	1" PREFORMED EXPANSION JOINT FILLER	26				
516	14600	59	FT	STRUCTURAL JOINT OR JOINT SEALER, MISC.: HOT APPLIED JOINT SEALER PER CMS 705.04	59				GENERAL NOTES (2 OF 2)
847	10201	35	SY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY, AS PER PLAN (1 ½" THICK)				35	GENERAL NOTES (2 OF 2)
847	20201	2	CY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN				2	GENERAL NOTES (2 OF 2)
847	30000	LUMP		TEST SLAB					
847	50000	2	SY	HAND CHIPPING				2	

ESTIMATED QUANTITIES
BRIDGE NO. FRA-00161-16.590 B
CDE (SR 161) OVER BIG WALNUT CREEK

SFN 2509520

DESIGN AGENCY

E.L. ROBINSON ENGINEERING
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DESIGNER	CHECKER
MJM	LAH

REVIEWER
RER 02/10/23

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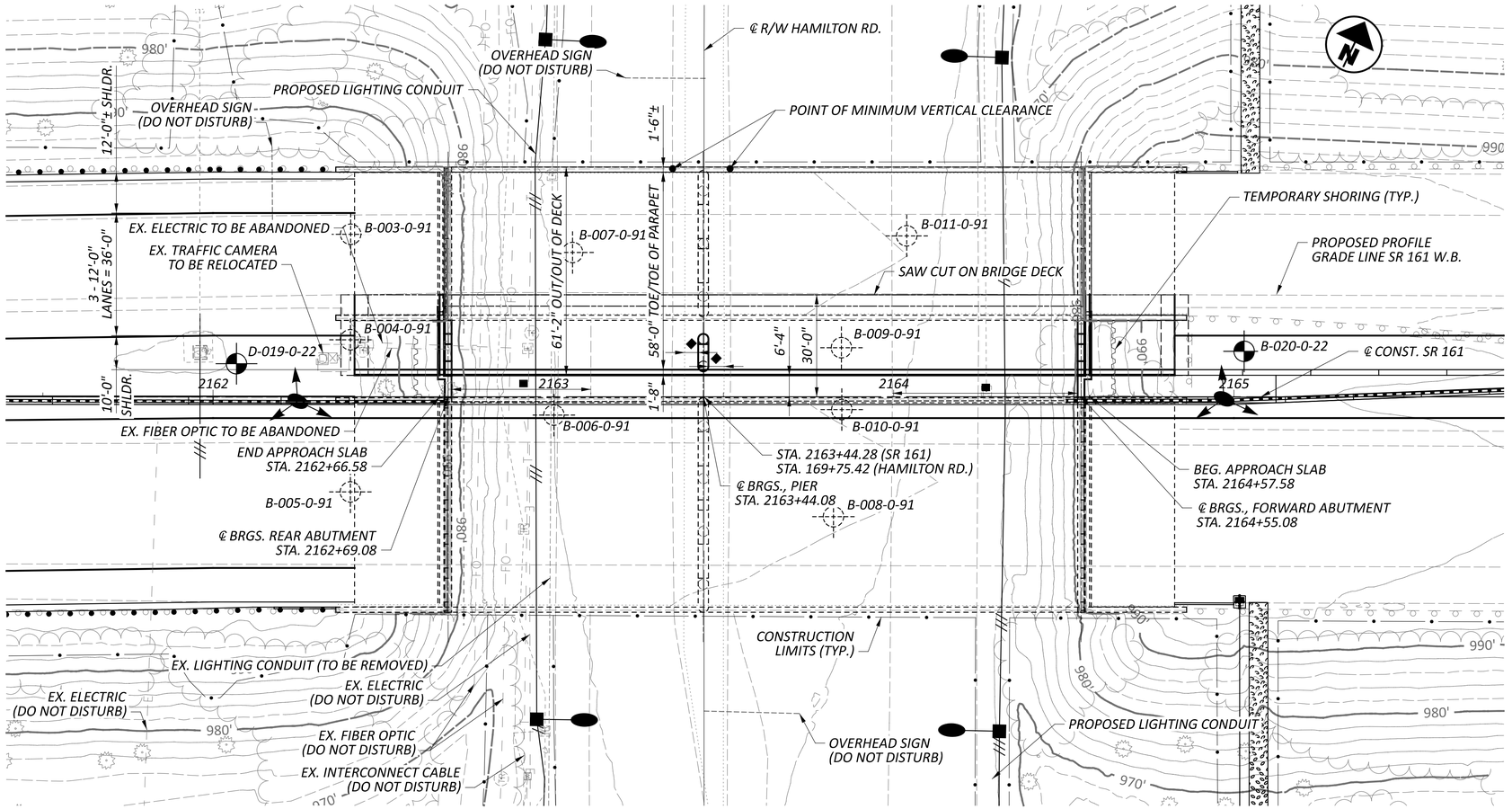
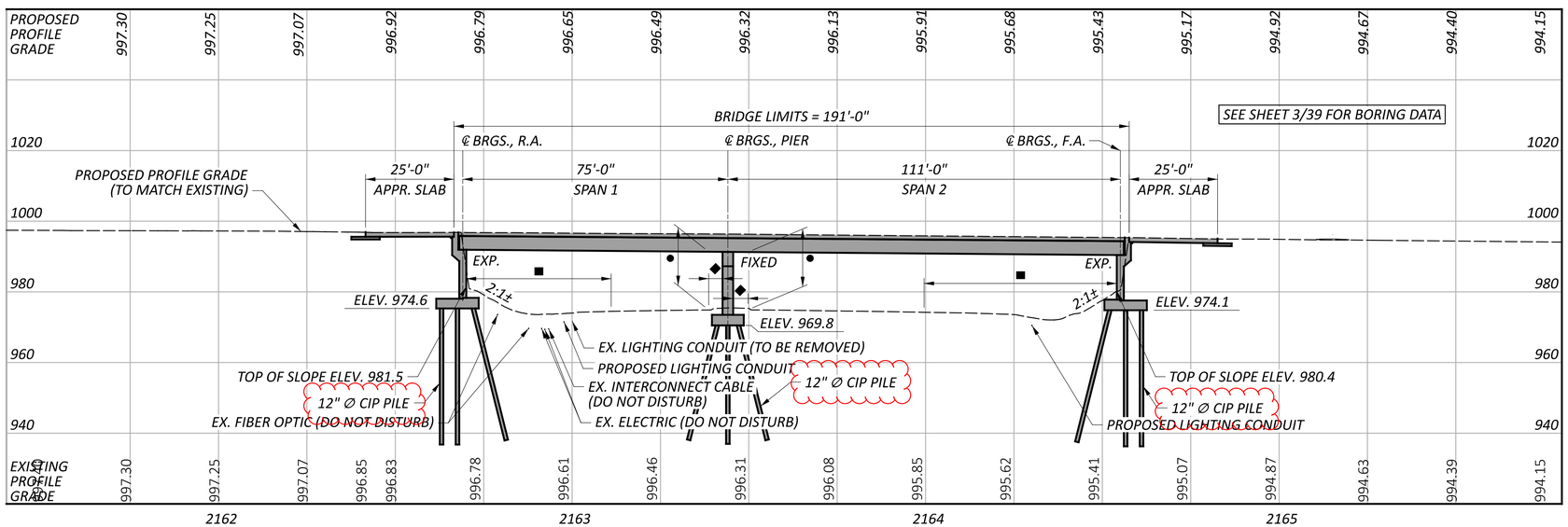


PLAN



PROFILE ALONG PROPOSED PROFILE GRADE LINE SR 161 W.B.

BENCHMARK DATA

CP01	STA. 2134+01.23,	ELEV. 972.56,	OFFSET 202.98 RT.,	CMON
CP109	STA. 2145+95.89,	ELEV. 984.39,	OFFSET 88.69 RT.,	CMON
CP111	STA. 2189+38.84,	ELEV. 962.81,	OFFSET 78.12 RT.,	CMON

FOR ADDITIONAL BENCHMARK INFORMATION, SEE ROADWAY PLANS.

NOTES:

EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

PROFILE GRADE LINES ARE SET USING GRAPHIC GRADES MATCHING APPROXIMATELY THE EXISTING PAVEMENT SURVEY AND CONSIST OF 5 FOOT TANGENT SECTIONS WITH A MINIMUM GRADE OF 0.44% AND A MAXIMUM GRADE OF 1.08%. INDIVIDUAL GRADES AND VPI HAVE NOT BEEN SHOWN FOR CLARITY.

DESIGN TRAFFIC:

2024 ADT = 64716 2024 ADTT = 5177
2045 ADT = 86550 2045 ADTT = 6924
DIRECTIONAL DISTRIBUTION = 0.50

FOUNDATION DATA:

ALL PROPOSED PILES SHALL BE 12" DIAMETER CIP CONCRETE PILES (ALTERNATE 1) WITH ESTIMATED LENGTHS OF 40 FEET (REAR ABUTMENT), 35 FEET (PIER 1), AND 40 FEET (FORWARD ABUTMENT).

H10X42 STEEL H-PILES (ALTERNATE 2) SHALL BE LOCATED AT THE SAME LOCATION, SPACING, AND BATTER AS THE CIP PILES. ESTIMATED LENGTHS FOR THE HP10X42 PILES SHALL BE 65 FEET (REAR ABUTMENT), 55 FEET (PIER 1), AND 60 FEET (FORWARD ABUTMENT). THE H-PILES SHALL BE ORIENTED WITH THE FLANGES PARALLEL TO THE ℄ BEARING.

LEGEND:

PROJECT BORING LOCATION — HISTORIC BORING LOCATION

- 16'-6" REQUIRED MINIMUM VERTICAL CLEARANCE
  16'-7½"± ACTUAL MINIMUM VERTICAL CLEARANCE (HAMILTON RD. NB)
  16'-8⅝"± ACTUAL MINIMUM VERTICAL CLEARANCE (HAMILTON RD. SB)
- ■ 15'-0" REQUIRED MINIMUM HORIZONTAL CLEARANCE
  54'-6"± ACTUAL MINIMUM HORIZONTAL CLEARANCE (HAMILTON RD. NB)
  41'-0"± ACTUAL MINIMUM HORIZONTAL CLEARANCE (HAMILTON RD. SB)
- ◆ 4'-0" REQUIRED MINIMUM HORIZONTAL CLEARANCE
  4'-0"± ACTUAL MINIMUM HORIZONTAL CLEARANCE (HAMILTON RD. NB)
  4'-0"± ACTUAL MINIMUM HORIZONTAL CLEARANCE (HAMILTON RD. SB)

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL GIRDER WITH COMPOSITE REINFORCED CONCRETE DECK, SUPPORTED ON PARTIAL HEIGHT WALL-TYPE ABUTMENT AND CAP AND COLUMN PIER.
SPANS: 75'-0"±, 111'-0"± C/C BRG.
ROADWAY: 42'-0"± TOE/TOE PARAPET
LOADING: HS-20-44(CASE 1) & ALTERNATE MILITARY LOADING
SKEW: NONE
WEARING SURFACE: 1"± MONOLITHIC CONCRETE
APPROACH SLABS: 25'± LONG (AS-1-81)
ALIGNMENT: TANGENT
CROWN: 0.016± FT./FT.
STRUCTURE FILE NUMBER: 2509253
DATE BUILT: 1996
DISPOSITION: TO BE WIDENED

PROPOSED STRUCTURE

PROPOSED WORK: WIDEN ABUTMENTS, WIDEN PIER, WIDEN DECK WITH NEW COMPOSITE STEEL PLATE GIRDERS, WIDEN APPROACH SLABS, SEAL CONCRETE SURFACES, PATCH EX. DECK EDGES AND PARAPETS
SPANS: 75'-0", 111'-0" C/C BEARINGS
ROADWAY: 58'-0" (L) TOE/TOE PARAPET
LOADING: SEE GENERAL NOTES
SKEW: NONE
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: 25'-0" LONG, TYPE A (AS-1-15 & AS-2-15)
ALIGNMENT: TANGENT
CROWN: 0.016 FT./FT.
DECK AREA: 11683 SF
COORDINATES: LATITUDE 40°05'02.10" N LONGITUDE 82°51'14.71" W

SITE PLAN

BRIDGE NO. FRA-00161-18.600 L
SR 161 OVER CR 103 (HAMILTON RD.)

SFN 2509253
DESIGN AGENCY
COMPASS INFRASTRUCTURE GROUP
DESIGNER CAE | CHECKER ERK
REVIEWER GLG 02/10/23
PROJECT ID 116322
SUBSET 1 | TOTAL 39
SHEET 628 | TOTAL 846

FRA-161-15.80

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD BRIDGE AND ROADWAY DRAWINGS:

AS-1-15	REVISED	7-17-2015
AS-2-15	REVISED	1-18-2019
EXJ-4-87	REVISED	7-15-2022
GSD-1-19	REVISED	1-15-2021
PCB-91	REVISED	7-17-2020
RM-4.2	DATED	4-17-2020
SBR-1-20	REVISED	7-17-2020

DESIGN SPECIFICATIONS:

THE NEW PORTIONS OF THIS STRUCTURE CONFORM TO THE 9TH EDITION OF THE "LRFD BRIDGE SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2020 AND ODOT BRIDGE DESIGN MANUAL, 2020.

OPERATIONAL IMPORTANCE:

A LOAD MODIFIER OF 1.00 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.

DESIGN LOADING:

DECK: PROPOSED DECK - HL-93 + 0.06 KSF FUTURE WEARING SURFACE

DECK: EXISTING DECK - HS-20-44 (CASE 1) + ALTERNATE MILITARY + 0.00 KSF FUTURE WEARING SURFACE

SUPERSTRUCTURE: PROPOSED GIRDERS - 89% HL-93 + 0.06 KSF FUTURE WEARING SURFACE

SUPERSTRUCTURE: EXISTING GIRDERS - AS LOAD RATED 65% HL-93 + 0.06 KSF FUTURE WEARING SURFACE

SUBSTRUCTURE: PROPOSED SUBSTRUCTURES - HL-93 + 0.06 KSF FUTURE WEARING SURFACE

SUBSTRUCTURE: EXISTING SUBSTRUCTURES - HS-20-44 (CASE 1) + ALTERNATE MILITARY + 0.00 KSF FUTURE WEARING SURFACE

FOUNDATION: PROPOSED - HL-93 + 0.06 KSF FUTURE WEARING SURFACE

FOUNDATION: EXISTING - HS-20-44 (CASE 1) + ALTERNATE MILITARY + 0.00 KSF FUTURE WEARING SURFACE

THIS STRUCTURE (SFN 2509253) RECEIVED AN APPROVED DESIGN EXCEPTION FOR DESIGN LOADING STRUCTURAL CAPACITY.

DESIGN DATA (PROPOSED WORK ONLY):

CONCRETE CLASS QC2: COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1: COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

CONCRETE REINFORCEMENT:
EPOXY COATED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI (DECK, RAILING, ABUTMENTS, PIER, APPROACH SLAB, SLEEPER SLAB)
UNCOATED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI (ABUTMENTS)
GFRP REINFORCEMENT (BRIDGE RAILING)

STRUCTURAL STEEL: ASTM A709 GRADE 50 - MINIMUM YIELD STRENGTH 50 KSI (BEARINGS AND STEEL MEMBERS)

STEEL CAST-IN-PLACE PILES: ASTM A252 GRADE 3 - MINIMUM YIELD STRENGTH 45 KSI (ALTERNATE 1)

STEEL H-PILES - ASTM A572 - YIELD STRENGTH 50 KSI (ALTERNATE 2)

MONOLITHIC WEARING SURFACE:

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

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN:

THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE DECKS INCLUDING CONCRETE BRIDGE RAILING, DECK JOINTS, AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, GIRDERS, CROSSFRAMES, ETC.). THIS ITEM INCLUDES TAKING SURVEY SHOTS OF THE EXISTING BEAM FLANGES, AS NOTED IN THE PLANS, BEFORE AND AFTER DECK REMOVAL AND CALCULATING THE REQUIRED ITEMS TO DETERMINE THE SCREED AND TOP OF HAUNCH ELEVATIONS. IT SHALL ALSO INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES THAT ARE NOT SEPARATELY LISTED FOR PAYMENT. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE DEPARTMENT WILL NOT PERMIT THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS. DO NOT BEGIN WORK UNTIL THE ENGINEER ACCEPTS THE METHOD OF REMOVAL AND THE WEIGHT OF THE HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING CONCRETE REINFORCEMENT TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH CONCRETE REINFORCEMENT THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO C&MS 501.05.

PROTECTION OF STEEL SUPPORT SYSTEMS: BEFORE DECK SLAB CUTTING BEGINS, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF DECK. DRILL SMALL DIAMETER PILOT HOLES 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK CUTS OVER OR WITHIN 2 INCHES OF FLANGE EDGES SHALL NOT EXTEND LOWER THAN THE BOTTOM LAYER OF CONCRETE REINFORCEMENT IN THE DECK SLAB. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF THE DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE ENGINEER. OBTAIN THE ENGINEER'S APPROVAL BEFORE PERFORMING REPAIR.

REMOVAL METHODS: THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (STEEL GIRDER), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS. DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (E.G., FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE ENGINEER. OBTAIN THE ENGINEER'S APPROVAL BEFORE PERFORMING REPAIR.

DECK REMOVALS: DUE TO THE PRESENCE OF WELDED STUDS TO THE EXISTING STRUCTURAL STEEL, SUBMIT A DETAILED PROCEDURE OF THE DECK REMOVAL WITH THE ENGINEERED DRAWINGS ACCORDING TO C&MS 501.05. DEPARTMENT ACCEPTANCE IS NOT REQUIRED. THE PROCEDURE SHALL INCLUDE ALL DETAILS, EQUIPMENT AND METHODS TO BE USED FOR REMOVAL OF THE CONCRETE OVER THE FLANGES AND AROUND THE STUDS. REPLACE OR REPAIR MAIN STEEL AND STUDS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN ACCORDING TO C&MS 501.05.C TO THE ENGINEER TO REPLACE OR REPAIR STRUCTURAL STEEL AND STUDS DAMAGED BY THE REMOVAL OPERATIONS. THE DEPARTMENT WILL NOT PAY FOR DAMAGE REPAIRS.

EXISTING WELDED ATTACHMENTS: REMOVE EXISTING WELDED ATTACHMENTS (E.G., FINISHING MACHINE AND FORM SUPPORTS; AND SUPPORTS FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) LOCATED IN THE TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACE SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING CONCRETE REINFORCEMENT, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN (CONT'D.)

REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING STEEL REINFORCEMENT DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. THE DEPARTMENT WILL NOT PERMIT HYDRAULIC HOE-RAM TYPE HAMMERS. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18-IN LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH CONCRETE REINFORCEMENT THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

MEASUREMENT & PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

PILE DESIGN LOADS (ULTIMATE BEARING VALUE) (ALTERNATE 1):

THE ULTIMATE BEARING VALUE IS AS FOLLOWS:
REAR ABUTMENT: 151 KIPS PER PILE
FORWARD ABUTMENT: 166 KIPS PER PILE
PIER: 166 KIPS PER PILE

ABUTMENT PILES: 12" DIAMETER CAST-IN-PLACE 45 FEET LONG, ORDER LENGTH

TWO DYNAMIC LOAD TESTING ITEMS

PIER PILES: 12" DIAMETER CAST-IN-PLACE 40 FEET LONG, ORDER LENGTH

ONE DYNAMIC LOAD TESTING ITEM

PROVIDE PLAIN CYLINDRICAL CASINGS WITH A MINIMUM PILE WALL THICKNESS OF 0.281 INCHES FOR THE CAST-IN-PLACE REINFORCED CONCRETE PILES.

USE CONICAL STEEL PILE POINTS TO PROTECT THE TIPS OF THE PROPOSED STEEL CIP REINFORCED CONCRETE PIPE PILES AT ALL SUBSTRUCTURES.

BORING DATA

BORING	℄ CONST. SR 161 STATION	OFFSET	TOP OF ROCK
B-003-0-91	2162+40±	48'± LT.	ELEV. 927.9±
B-004-0-91	2162+40±	17'± LT.	ELEV. 910.0±
B-005-0-91	2162+40±	28'± RT.	ELEV. 901.1±
B-006-0-91	2163+00±	5'± RT.	N/A
B-007-0-91	2163+06±	42'± LT.	ELEV. 926.6±
B-008-0-91	2163+82±	35'± RT.	N/A
B-009-0-91	2163+85±	14'± LT.	ELEV. 922.2±
B-010-0-91	2163+85±	4'± RT.	ELEV. 918.9±
B-011-0-91	2164+04±	47'± LT.	ELEV. 928.7±
B-020-0-22	2165+03±	13'± LT.	ELEV. 917.5±
D-019-0-22	2162+07±	10'± LT.	N/A

PILES TO BEDROCK (ALTERNATE 2)

DRIVE PILES TO REFUSAL ON BEDROCK. THE DEPARTMENT 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 106 KIPS PER PILE FOR THE REAR ABUTMENT PILES. THE TOTAL FACTORED LOAD IS 116 KIPS PER PILE FOR THE FORWARD ABUTMENT PILES. THE TOTAL FACTORED LOAD IS 116 KIPS PER PILE FOR THE PIER PILES.

REAR ABUTMENT PILES:
HP10X42 PILES 70 FEET LONG, ORDER LENGTH

FORWARD ABUTMENT PILES:
HP10X42 65 FEET LONG, ORDER LENGTH

PIER PILES:
HP10X42 60 FEET LONG, ORDER LENGTH

USE STEEL PILE POINTS TO PROTECT THE TIPS OF THE PROPOSED STEEL H-PILES AT ALL STRUCTURES.

PILE SPLICES (ALTERNATE 2)

IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN C&MS 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.

ITEM 201, CLEARING AND GRUBBING, AS PER PLAN:

ALTHOUGH NO TREES OR STUMPS ARE SPECIFICALLY MARKED FOR REMOVAL WITHIN THE PLANS, A LUMP SUM QUANTITY IS INCLUDED IN THE STRUCTURE ESTIMATED QUANTITIES FOR ITEM 201, CLEARING AND GRUBBING, AS PER PLAN. SCALPING IS NOT REQUIRED FOR THIS ITEM OF WORK. ALL VEGETATION SHALL BE REMOVED WITHIN 15 FEET OF THE STRUCTURES.

ALL OTHER PROVISIONS AS SET FORTH IN THE C&MS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 201, CLEARING AND GRUBBING, AS PER PLAN.

ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN:

THE DESIGN SHOWN ON THE PLANS FOR TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATIVE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH C&MS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE FOR COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN.THE DEPARTMENT WILL NOT MAKE ADDITIONAL PAYMENT FOR PROVIDING AN ALTERNATIVE DESIGN.

ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN:

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH C&MS ITEM 503, THE BACKFILL MATERIAL SHALL BE PLACED AND COMPACTED IN 6" LIFTS.

ITEM 509 - REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN:

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT CONCRETE REINFORCEMENT BY THE NUMBER OF POUNDS ACCEPTED IN PLACE. REPLACE ALL EXISTING STEEL REINFORCEMENT BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW CONCRETE REINFORCEMENT OF THE SAME SIZE, COATING, AND MATERIAL AT NO COST TO THE DEPARTMENT.

ITEM 510 - DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN:

DOWEL BARS SHALL BE INSTALLED USING NONSHRINK, NONMETALLIC GROUT PER 510 AND ACI 355.4. ALL EXISTING REINFORCING STEEL BARS IN THE AREA OF THE DOWEL HOLE SHALL BE LOCATED WITH THE AID OF A REINFORCING STEEL BAR LOCATOR (PACHOMETER) PRIOR TO DRILLING THE HOLES. IF AN EXISTING BAR IS ENCOUNTERED AT THE SAME LOCATION AS A PROPOSED DOWEL HOLE, THE DOWEL HOLE SHALL BE MOVED TO EITHER SIDE OF THE EXISTING BAR. ALL DOWELS SHALL BE PLACED SUCH THAT A MINIMUM OF 6" IS PROVIDED FROM THE CENTER OF THE DOWEL TO THE EDGE OF ALL EXISTING CONCRETE SURFACES. ALL WORK ASSOCIATED WITH INSTALLATION OF THE DOWEL BARS AND ANY REQUIRED RELOCATIONS SHALL BE INCLUDED WITH ITEM 510, DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN FOR PAYMENT.

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 MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

GENERAL NOTES (1 OF 2)
BRIDGE NO. FRA-00161-18.600 L&R
SR 161 OVER CR 103 (HAMILTON RD.)

SFN 2509253
SFN 2509261
DESIGN AGENCY
COMPASS INFRASTRUCTURE GROUP
DESIGNER CAE | CHECKER ERK
REVIEWER GLG 02/10/23
PROJECT ID 116322
SUBSET 3 | TOTAL 39
SHEET 630 | TOTAL 846

FRA-161-15.80

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 5/10/2023 TIME: 3:15:20 PM USER: bkronk
pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 06\Franklin\116322\401-Engineering_HDR\Structures\SFN_2509253\Sheets\116322_SFN_2509253_SN001.dgn

ITEM 516 - HORIZONTAL EXTENSION OF STRUCTURAL EXPANSION JOINT, AS PER PLAN:

THIS ITEM IS PER CMS 516 WITH THE FOLLOWING ADDITIONS.

THIS ITEM IS FOR REPLACEMENT OF A PORTION AND WIDENING OF THE EXISTING EXPANSION JOINTS AT BOTH THE REAR AND FORWARD ABUTMENTS AS DETAILED IN THE PLANS TO MATCH THE PROPOSED CROSS SLOPES. THIS ITEM ALSO INCLUDES CLEANING OF THE EXISTING STRIP SEAL RETAINERS, FIELD MEASUREMENTS, AND ALL MATERIAL, LABOR, AND EQUIPMENT NECESSARY TO INSTALL NEW STRIP SEAL GLANDS FOR THE ENTIRE WIDTH OF THE BRIDGE IN BOTH THE EXISTING AND PROPOSED EXPANSION JOINTS AT BOTH THE REAR AND FORWARD ABUTMENTS.

THE EXISTING EXPANSION JOINTS WERE CONSTRUCTED FOLLOWING RETIRED ODOT STANDARD DRAWING EXJ-4-87 (REVISED 1-5-89) AND THE EXISTING PLANS. THE PROPOSED STRIP SEAL RETAINER AND GLAND SHALL MATCH THE EXISTING STRIP SEAL RETAINER AND GLAND. THE EXISTING STRIP SEAL JOINT SYSTEM WAS MANUFACTURED BY WATSON BOWMAN ACME AND IS A WBA TYPE A EDGE MEMBER, PART #1918 WITH A WBA SE-500 GLAND, PART #083.

THE EXISTING REAR AND FORWARD EXPANSION JOINTS WERE EACH SIZED FOR A 5-INCH-WIDE STRIP SEAL GLAND. THE WBA SE-500 STRIP SEAL GLANDS ARE AVAILABLE AND CAN BE USED FOR A 5-INCH-WIDE DIMENSION. PRIOR TO ORDERING THE PROPOSED EXPANSION JOINT MATERIAL, FIELD VERIFY EACH JOINT OPENING AND EXISTING STRIP SEAL GLAND SIZE AND RECORD THE TEMPERATURE AT THE TIME OF MEASUREMENT. SET THE SIZE OF EACH PROPOSED JOINT OPENING WIDTH TO MATCH EACH EXISTING JOINT OPENING WIDTH AT THE TIME OF INSTALLATION OF THE PROPOSED EXPANSION JOINT.

FOR ADDITIONAL INFORMATION AND QUESTIONS REGARDING SUGGESTED REMOVAL PROCEDURES OF THE EXISTING EXPANSION JOINT OR INSTALLATION OF THE PROPOSED EXPANSION JOINT, THE CONTRACTOR MAY CONTACT THE FOLLOWING PERSONNEL AT WATSON BOWMAN ACME:

NICK GRAZIANI
EMAIL: NICHOLAS.GRAZIANI@WATSONBOWMANACME.COM
PHONE: (219) 240-9770
WEBSITE: WATSONBOWMANACME.COM

THE PROPOSED STRIP SEAL RETAINER SHALL BE FIELD WELDED TO THE EXISTING STRIP SEAL RETAINER TO ALLOW FOR A COMPLETE SEAL BETWEEN THE TWO RETAINERS.

ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN:

PRIOR TO THE SURFACE CLEANING SPECIFIED IN C&MS 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED STEEL REINFORCEMENT. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

ITEM 601 - CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN:

WITH PRIOR APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY REDRESS THE SLOPES WITH THE EXISTING CRUSHED AGGREGATE. WHERE ADDITIONAL MATERIAL IS REQUIRED, FURNISH AND PLACE CRUSHED AGGREGATE IN ACCORDANCE WITH C&MS 601.06. AN ESTIMATED QUANTITY OF 50 SQUARE YARDS HAS BEEN PROVIDED FOR BID PURPOSES. ACTUAL QUANTITIES OF SLOPE TO BE REDRESSED SHALL BE AS DIRECTED BY THE ENGINEER. ALL COSTS OF LABOR AND MATERIAL NECESSARY TO REDRESS THE SLOPES CAN BE INCLUDED WITH ITEM 601, CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN.

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO C&MS SECTIONS 102.05, 105.02, AND 513.04. BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

EXISTING BRIDGE PLANS:

EXISTING BRIDGE PLANS MAY BE INSPECTED IN THE OFFICE OF STRUCTURAL ENGINEERING IN COLUMBUS, OHIO OR AT THE ODOT DISTRICT 6 OFFICE IN DELAWARE, OHIO.

COLORS AND SURFACE TREATMENT:

FIELD PAINTING OF STRUCTURAL STEEL: PAINT ALL PROPOSED STRUCTURAL STEEL INCLUDING BEARING STEEL LOAD PLATES, PER ITEM 514 WITH A THREE COAT PAINT SYSTEM CONSISTING OF AN INORGANIC ZINC PRIME COAT, AN EPOXY INTERMEDIATE COAT, AND A URETHANE FINISH COAT. THE FINAL COLOR OF THE TOP COAT SHALL MATCH THE EXISTING STRUCTURAL STEEL COLOR OF NEW ALBANY GREEN. NEW ALBANY GREEN SHALL MATCH THE PAINT TONE COLOR PMS5535. THE INORGANIC PRIME COAT IS SHOP APPLIED WHILE THE INTERMEDIATE AND TOP COATS ARE FIELD APPLIED.

BRIDGE RAILING AND DECK OVERHANG: SEAL CONCRETE SURFACES, AS SHOWN IN THE PLANS, WITH A CLEAR NON-EPOXY SEALER.

PIERS AND ABUTMENTS: SEAL CONCRETE SURFACES, AS SHOWN IN THE PLANS WITH AN EPOXY-URETHANE SEALER. TINT SO THE FINAL COLOR SHALL MATCH THE EXISTING CONCRETE SEALER OF FEDERAL COLOR STANDARD NO. 37722 (WHITE).

ABBREVIATIONS:

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

ABUT. - ABUTMENT
APPR. - APPROACH
BEG. - BEGIN
BOT. - BOTTOM
BRG. - BEARING
BRGS. - BEARINGS
BTWN. - BETWEEN
℄ - CENTERLINE
C/C - CENTER TO CENTER
CIP - CAST-IN-PLACE
C.J. - CONSTRUCTION JOINT
CLR. - CLEARANCE
CP - COMPLETE PENETRATION BUTT WELD
CMP - CORRUGATED METAL PIPE
C&MS - CONSTRUCTION AND MATERIAL SPECIFICATIONS
CONC. - CONCRETE
CONST. - CONSTRUCTION
CS - INDICATES BUTT WELD SUBJECT TO COMPRESSIVE STRESSES ONLY
CY - CUBIC YARD
CVN. - CHARPY V-NOTCH TESTING
∅ - DIAMETER
DWG. - DRAWING
E.B. - EASTBOUND
E.F. - EACH FACE
ELEV., EL. - ELEVATION
EMB. - EMBEDMENT
EX. - EXISTING
EXP. - EXPANSION
F.A. - FORWARD ABUTMENT
F.F. - FAR FACE
FT/FT - FOOT PER FOOT
FTG. - FOOTING
GALV. - GALVANIZED
GFRP - GLASS FIBER REINFORCED PLASTIC PIPE
HDPE - HIGH DENSITY POLYETHYLENE
J.T. - JOINT
LT. - LEFT
MAX. - MAXIMUM
MIN. - MINIMUM
N.F. - NEAR FACE
NO./# - NUMBER
NPCPP - NON-PERFORATED CORRUGATED PLASTIC PIPE
O/O - OUT TO OUT
PCPP - PERFORATED CORRUGATED PLASTIC PIPE
PEJF - PREFORMED EXPANSION JOINT FILLER
PROP. - PROPOSED
PVC - POLYVINYL CHLORIDE
R.A. - REAR ABUTMENT
RD. - ROAD
RT. - RIGHT
R/W - RIGHT OF WAY
SHLDR. - SHOULDER
SPA. - SPACES OR SPACING
SR - STATE ROUTE
STA. - STATION
STD. - STANDARD
T/T - TOE TO TOE
TYP. - TYPICAL
W.B. - WESTBOUND
U.N.O. - UNLESS NOTED OTHERWISE

GENERAL NOTES (2 OF 2)

BRIDGE NO. FRA-00161-18.600 L&R
SR 161 OVER CR 103 (HAMILTON RD.)

SFN 2509253
SFN 2509261
DESIGN AGENCY
COMPASS INFRASTRUCTURE GROUP
DESIGNER CAE | CHECKER ERK
REVIEWER GLG 02/10/23
PROJECT ID 116322
SUBSET 4 | TOTAL 39
SHEET 631 | TOTAL 846

FRA-161-15.80

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 4/27/2023 TIME: 1:27:01 PM USER: bkronk
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ESTIMATED QUANTITIES

CALCULATED BY: RFB — DATE: 11/4/22
CHECKED BY: ERK — DATE: 11/14/22

ALT. (X)	ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	LEFT STRUCTURE (WESTBOUND): SFN 2509253					RIGHT STRUCTURE (EASTBOUND): SFN 2509261				
						ABUT.	PIERS	SUPER.	GENERAL	SEE SHEET	ABUT.	PIERS	SUPER.	GENERAL	SEE SHEET
	201	11001	LS	-	CLEARING AND GRUBBING, AS PER PLAN				LS	3 / 39				LS	3 / 39
	202	11203	LS	-	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LS	3 / 39, 18 / 39					
	202	22901	34	SY	APPROACH SLAB REMOVED, AS PER PLAN				34	7 / 39, 8 / 39, 9 / 39					
	503	11101	LS	-	COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN				LS	3 / 39, 10 / 39					
	503	21301	LS	-	UNCLASSIFIED EXCAVATION, AS PER PLAN				LS	3 / 39					
	505	11100	LS	-	PILE DRIVING EQUIPMENT MOBILIZATION				LS						
	509	10000	67294	LB	EPOXY COATED REINFORCING STEEL	14167	6111	47016							
	509	20001	792	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	183		529	80	3 / 39					
	509	25000	560	LB	UNCOATED REINFORCING STEEL	560									
	509	30020	3713	FT	NO. 4 GFRP DEFORMED BARS			3713							
	510	10001	114	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN	114				3 / 39					
	511	34446	133	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK			133							
	511	34450	37	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)			29	8						
	511	41012	12	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS		12								
	511	44112	69	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	69									
	511	46512	67	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	49	18								
	512	10050	246	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)			198	48						
	512	10100	128	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	91	37								
	512	33000	26	SY	TYPE 2 WATERPROOFING	26									
	512	74000	5	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	5									
	513	10280	42400	LB	STRUCTURAL STEEL MEMBERS, LEVEL 4			42400							
	513	20000	1332	EACH	WELDED STUD SHEAR CONNECTORS			1332							
	514	00050	203	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			203							
	514	00056	203	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			203							
	514	00060	5133	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			5133							
	514	00066	5133	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			5133							
	514	00504	1	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			1							
	514	10000	2	EACH	FINAL INSPECTION REPAIR			2							
	516	11901	46	FT	HORIZONTAL EXTENSION OF STRUCTURAL EXPANSION JOINT, AS PER PLAN			46		4 / 39, 33 / 39					
	516	13600	74	SF	1" PREFORMED EXPANSION JOINT FILLER	74									
	516	44201	2	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (16"x21"x3.273" WITH A 17"x29"xVARIES LOAD PLATE)		2			25 / 39					
	516	44301	2	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (13.5"x14"x4.232" WITH A 14.5"x15"xVARIES LOAD PLATE)	2				25 / 39					
	516	44301	2	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (13.5"x15.5"x4.482" WITH A 14.5"x16.5"xVARIES LOAD PLATE)	2				25 / 39					
	518	21200	66	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC				66						
	518	40000	40	FT	6" PERFORATED CORRUGATED PLASTIC PIPE				40						
	518	40010	17	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS				17						
	519	11101	32	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN									32	4 / 39, 32 / 39
	526	25010	132	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15")				132						
	526	90010	48	FT	TYPE A INSTALLATION				48						
	601	20001	50	SY	CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN				50	4 / 39					
					STRUCTURE ALTERNATES										
X	507	00500	1050	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN (ALTERNATE 1)	560	490								
X	507	00550	1190	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED (ALTERNATE 1)	630	560								
X	507	93300	28	EACH	STEEL POINTS OR SHOES (ALTERNATE 1)	14	14								
X	523	20000	3	EACH	DYNAMIC LOAD TESTING (ALTERNATE 1)	2	1								
X	507	00100	1785	FT	STEEL PILES HP10X42, FURNISHED (ALTERNATE 2)	945	840								
X	507	00150	1645	FT	STEEL PILES HP10X42, DRIVEN (ALTERNATE 2)	875	770								
X	507	93300	28	EACH	STEEL POINTS OR SHOES (ALTERNATE 2)	14	14								

ESTIMATED QUANTITIES
BRIDGE NO. FRA-00161-18.600 L&R
SR 161 OVER CR 103 (HAMILTON RD.)

SFN 2509253
SFN 2509261
DESIGN AGENCY
COMPASS INFRASTRUCTURE GROUP
DESIGNER CAE | CHECKER ERK
REVIEWER GLG 02/10/23
PROJECT ID 116322
SUBSET 5 | TOTAL 39
SHEET 632 | TOTAL 846

FRA-161-15.80

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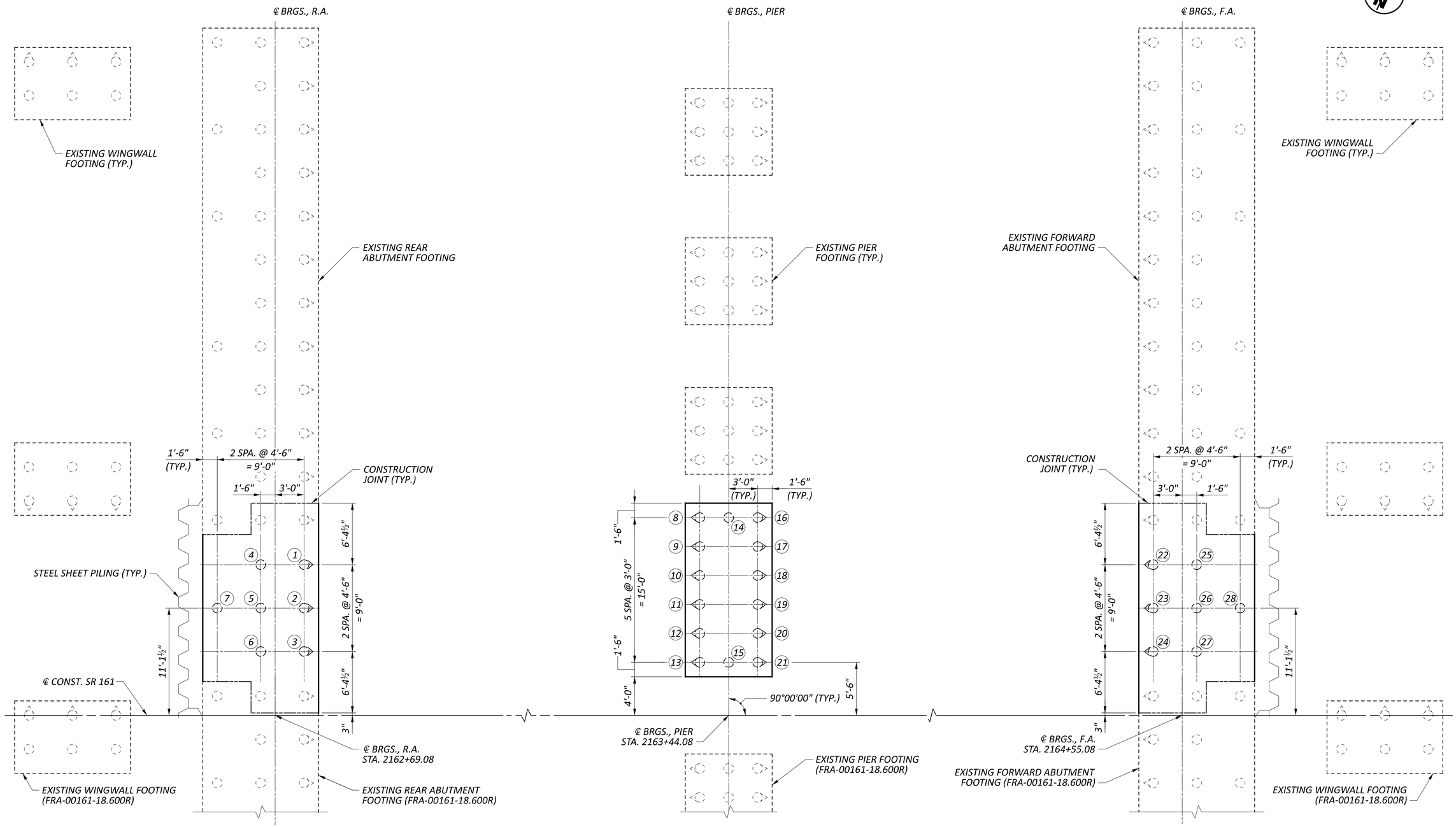

FOUNDATION PLAN

NOTE:

1. 12" Ø REINFORCED CONCRETE CIP PILES (ALTERNATE 1) ARE SHOWN IN THE PLANS. HP10X42 STEEL H-PILES (ALTERNATE 2) SHALL BE LOCATED AT THE SAME LOCATION, SPACING, AND BATTER AS THE CIP PILES. THE H-PILES SHALL BE ORIENTED WITH THE FLANGES PARALLEL TO THE CENTERLINE OF ABUTMENT BEARINGS AND CENTERLINE OF PIER.

LEGEND:

- PROPOSED 12" Ø CAST-IN- PLACE PILE
- PROPOSED 12" Ø CAST-IN-PLACE PILE BATTERED 1:4
- (1) INDICATES PILE NUMBER
- EXISTING 12"Ø CAST-IN-PLACE PILE
- EXISTING 12"Ø CAST-IN-PLACE PILE BATTERED 1:4

FRA-161-15.80

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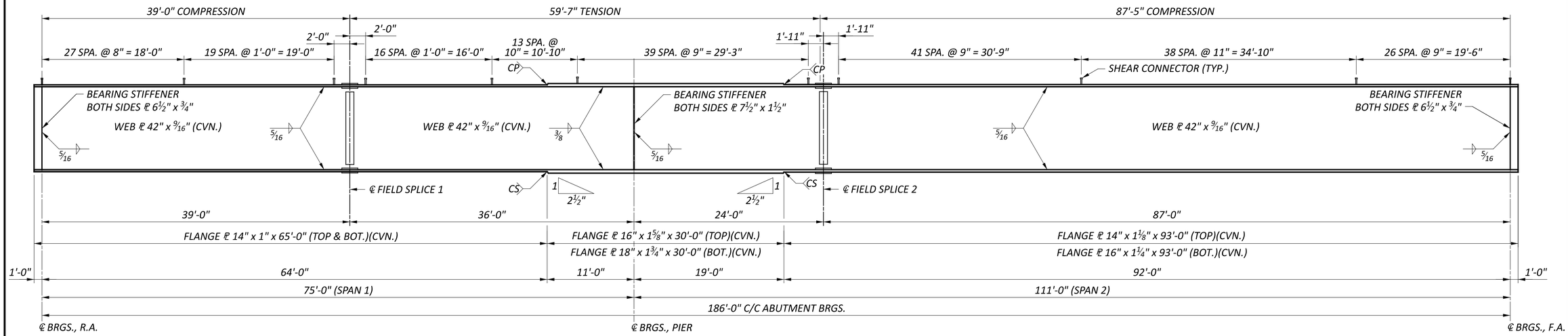
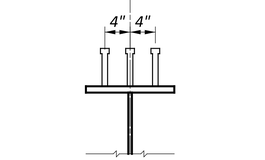
FOUNDATION PLAN
BRIDGE NO. FRA-00161-18.600 L
SR 161 OVER CR 103 (HAMILTON RD.)

SFN	2509253
DESIGN AGENCY	COMPASS INFRASTRUCTURE GROUP
DESIGNER	CAE
CHECKER	BCD
REVIEWER	GLG 02/10/23
PROJECT ID	116322
SUBSET	11
TOTAL	39
SHEET	638
TOTAL	846



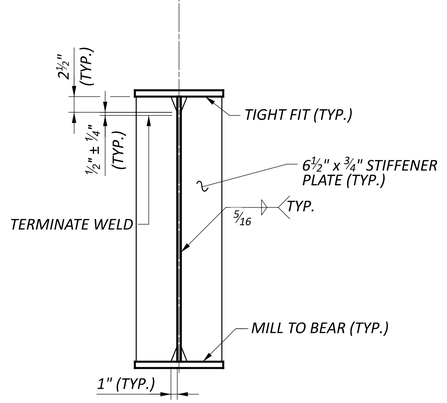
BEAM ELEVATION

VERTICAL ELEVATION EXAGGERATED

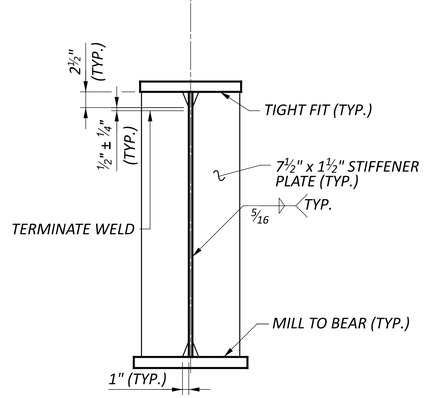


STUD SHEAR CONNECTOR

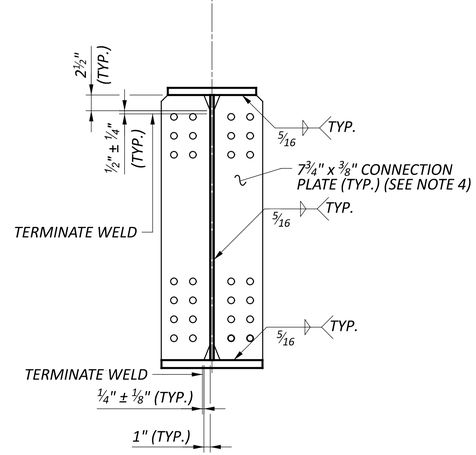
⅞" ϕ x 6"



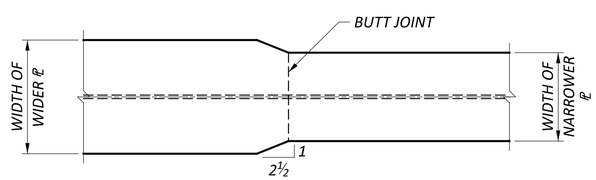
ABUTMENT BEARING STIFFENER PLATE DETAIL



PIER BEARING STIFFENER PLATE DETAIL



CONNECTION STIFFENER PLATE DETAIL



FLANGE TRANSITION DETAIL

NOTES:

1. *WELD ATTACHMENT OF SUPPORTS FOR CONCRETE DECK FINISHING TO AREAS OF THE FASCIA STRINGER FLANGES DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND BE AT LEAST ¼" FOR THICKNESS UP TO ¾" OR 5/16" FOR GREATER THAN ¾" THICK.*
2. *WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.*
3. *SEE SHEET 23 / 39 FOR INTERMEDIATE CROSS FRAME DETAIL*
4. *OMIT CONNECTION PLATE ON EXPOSED SIDE OF FASCIA BEAM*

GIRDER ELEVATION AND SECTIONS
BRIDGE NO. FRA-00161-18.600 L
SR 161 OVER CR 103 (HAMILTON RD.)

SFN 2509253
DESIGN AGENCY
COMPASS INFRASTRUCTURE GROUP
DESIGNER JFK | CHECKER ERK
REVIEWER GLG 02/10/23
PROJECT ID 116322
SUBSET 21 | TOTAL 39
SHEET 648 | TOTAL 846

FRA-161-15.80

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 4/27/2023 TIME: 1:28:20 PM USER: bkronk
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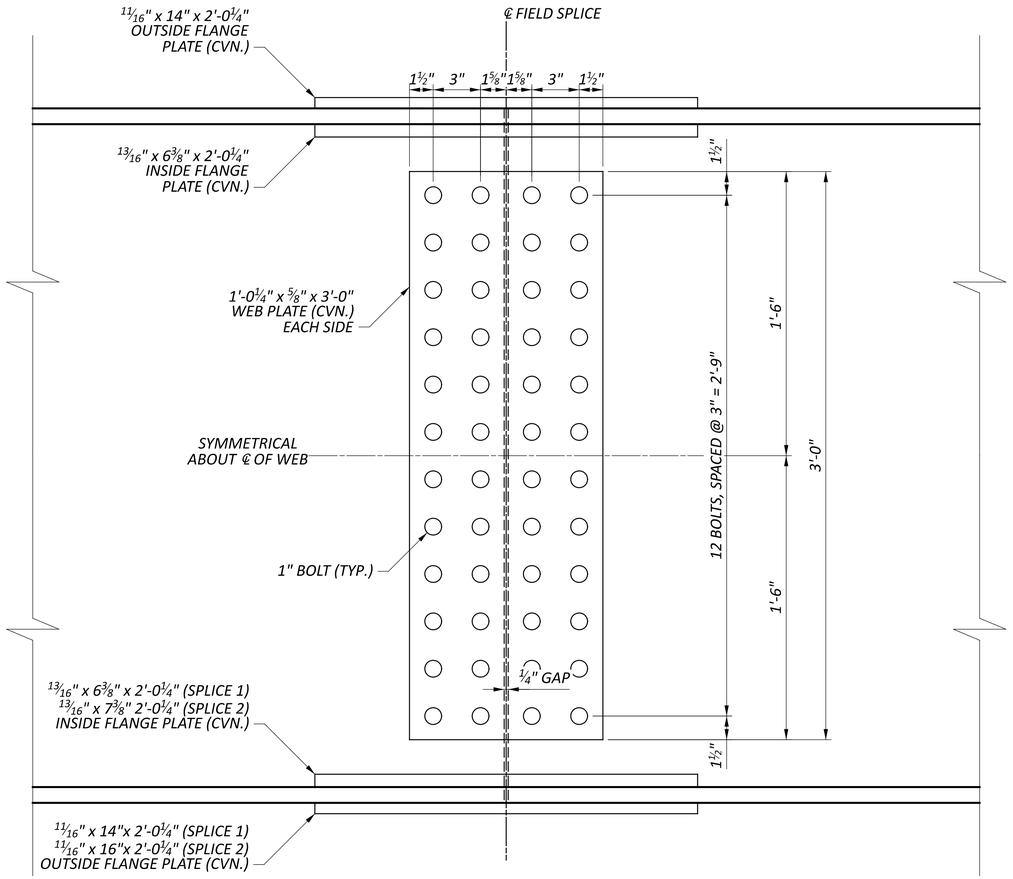
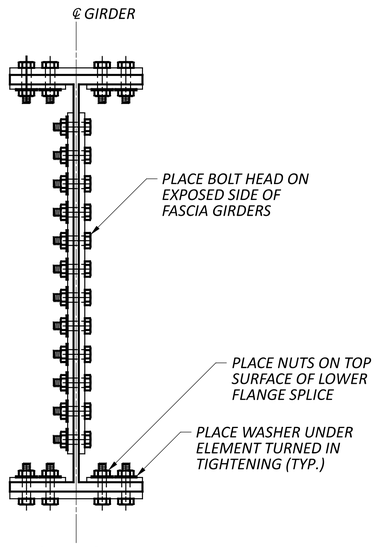


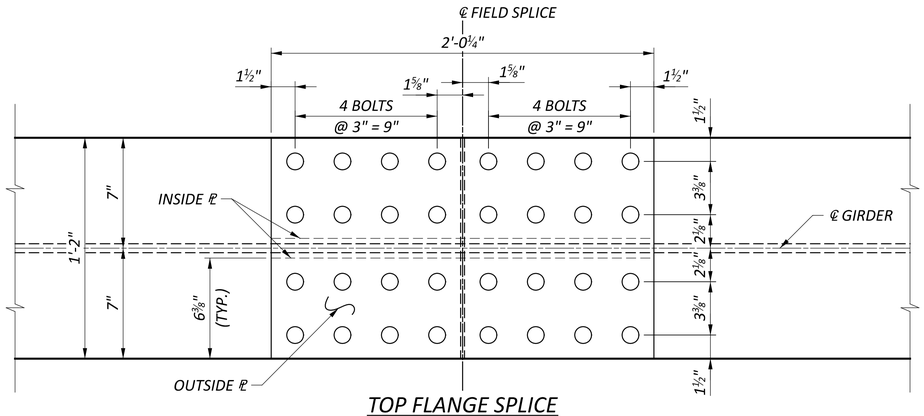
SPLICE DETAIL
FIELD SPLICE 1 + 2



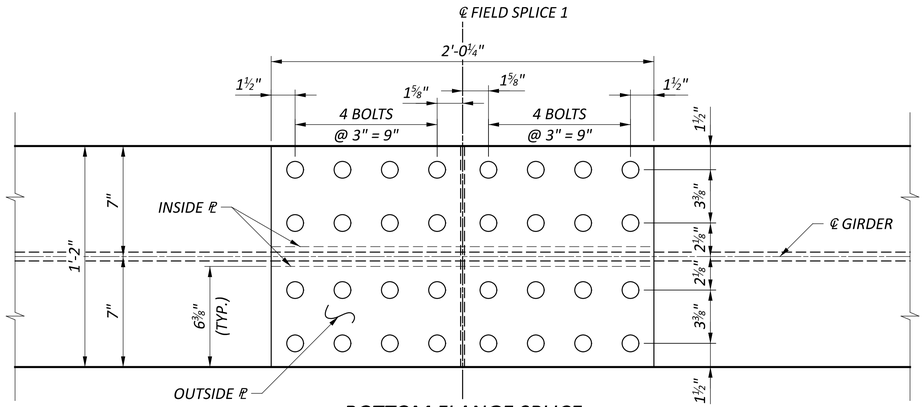
SECTION
FIELD SPLICE 1 SHOWN,
FIELD SPLICE 2 SIMILAR

NOTES:

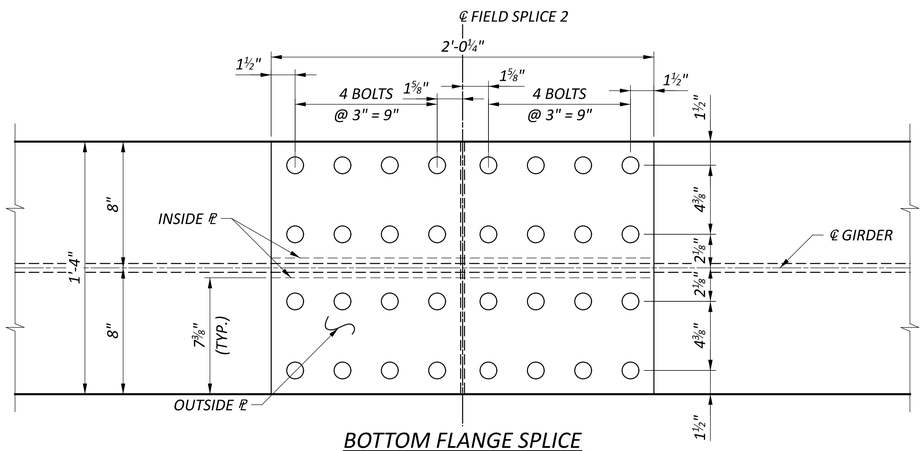
1. CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN.), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN 711.01.
2. HIGH STRENGTH BOLTS SHALL BE 1" DIAMETER ASTM F3125, GRADE A325 TYPE 1 WITH 1 1/16" DIAMETER HOLES.



TOP FLANGE SPLICE
FIELD SPLICE 1 + 2



BOTTOM FLANGE SPLICE
FIELD SPLICE 1



BOTTOM FLANGE SPLICE
FIELD SPLICE 2

GIRDER SPLICE DETAILS
BRIDGE NO. FRA-00161-18.600 L
SR 161 OVER CR 103 (HAMILTON RD.)

SFN	2509253
DESIGN AGENCY	COMPASS INFRASTRUCTURE GROUP
DESIGNER	JGM
CHECKER	ERK
REVIEWER	GLG 02/10/23
PROJECT ID	116322
SUBSET	22
TOTAL	39
SHEET	649
TOTAL	846

FRA-161-15.80

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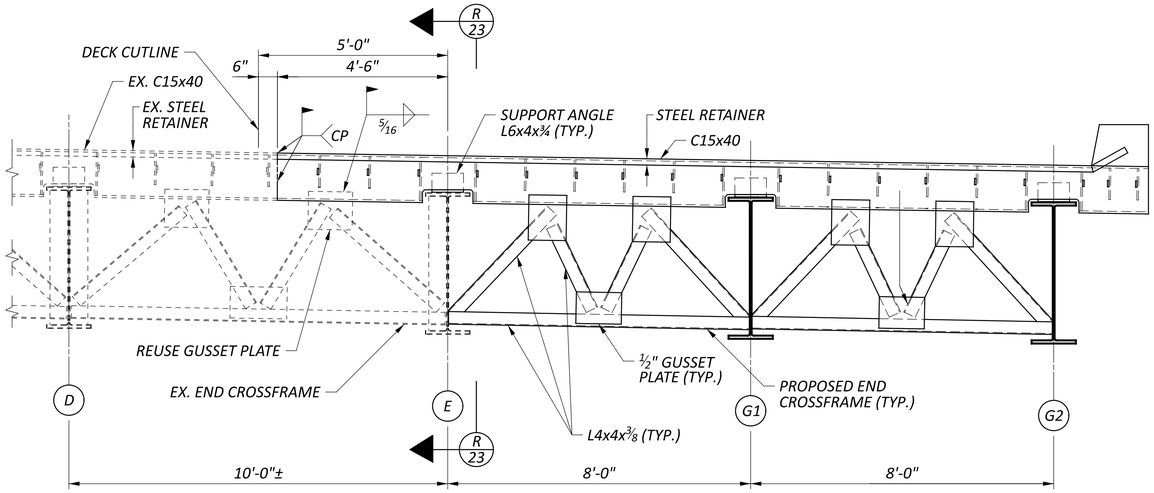
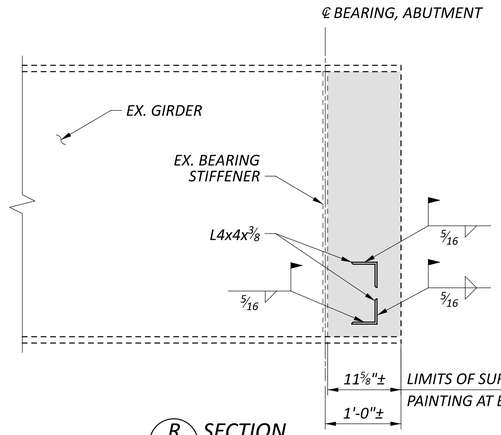


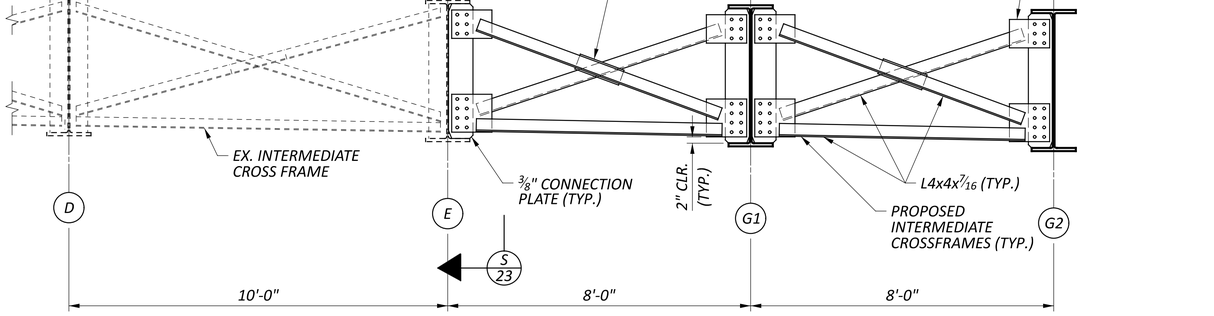
END CROSSFRAME DETAIL

LOOKING UPSTATION AT FORWARD ABUTMENT



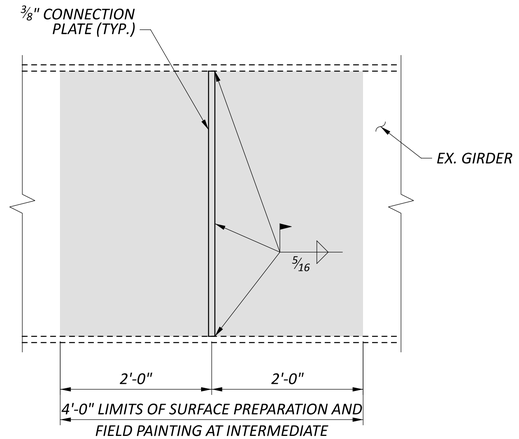
R 23 SECTION

EXPANSION JOINT NOT SHOWN



INTERMEDIATE CROSSFRAME DETAIL

LOOKING UPSTATION



S 23 SECTION

GUSSET PLATES AND ANGLES NOT SHOWN

NOTES:

1. FOR ADDITIONAL EXPANSION JOINT DETAILS, SEE SHEET 33 / 39.
2. REFER TO ODOT STD. DWGS. GSD-1-19 AND EXJ-4-87 FOR ADDITIONAL DETAILS.
3. PROPOSED CROSSFRAMES AND CONNECTION PLATES SHALL BE SHOP PRIMED AND FIELD PAINTED WITH AN IZEU THREE COAT PAINT SYSTEM PER CMS 514.
4. EXISTING STRUCTURAL STEEL COATINGS DAMAGED BY THE INSTALLATION OF THE PROPOSED CONNECTION PLATES AND CROSSFRAMES SHALL BE SURFACE PREPPED AND FIELD PAINTED WITH AN OZEU THREE COAT PAINT SYSTEM PER CMS 514. SEE DETAILS THIS SHEET FOR LIMITS OF REPAIR.

CROSSFRAME DETAILS

BRIDGE NO. FRA-00161-18.600 L

SR 161 OVER CR 103 (HAMILTON RD.)

SFN 2509253

DESIGN AGENCY

COMPASS INFRASTRUCTURE GROUP

DESIGNER	CHECKER
CAE	JGM

REVIEWER: GLG 02/10/23

PROJECT ID: 116322

SUBSET	TOTAL
23	39

SHEET	TOTAL
650	846

FRA-161-15.80

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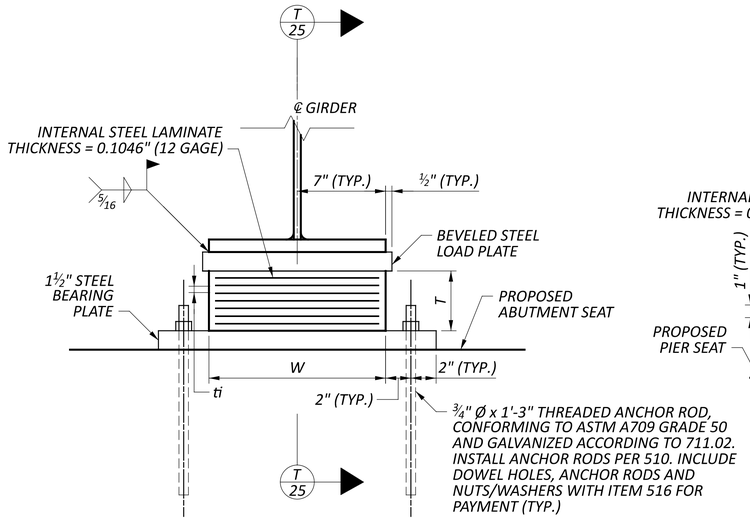
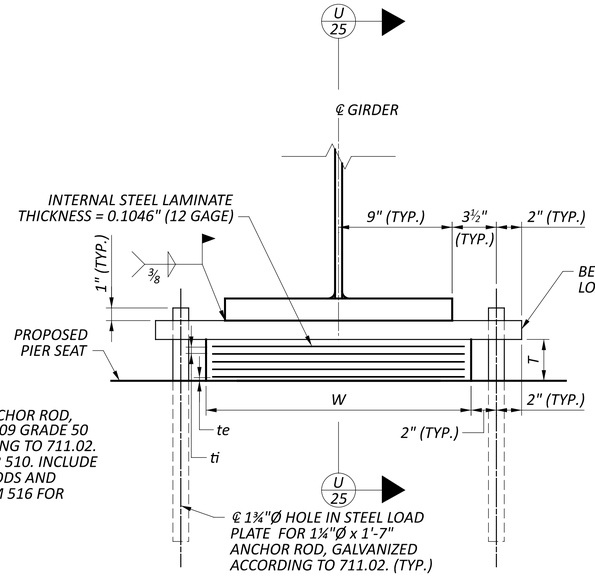
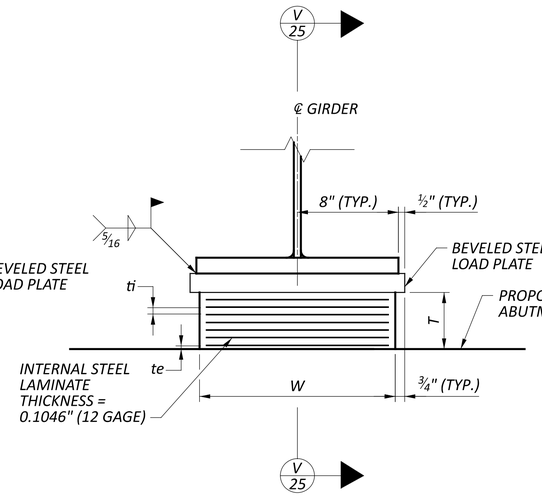


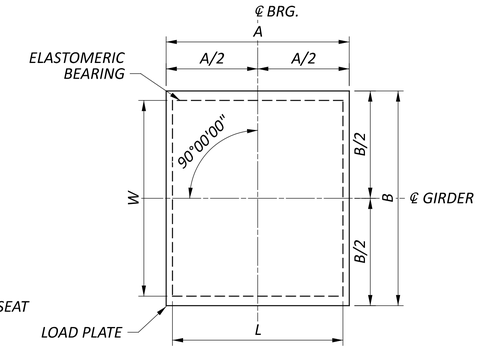
LAMINATED ELASTOMERIC EXPANSION BEARING REAR ABUTMENT



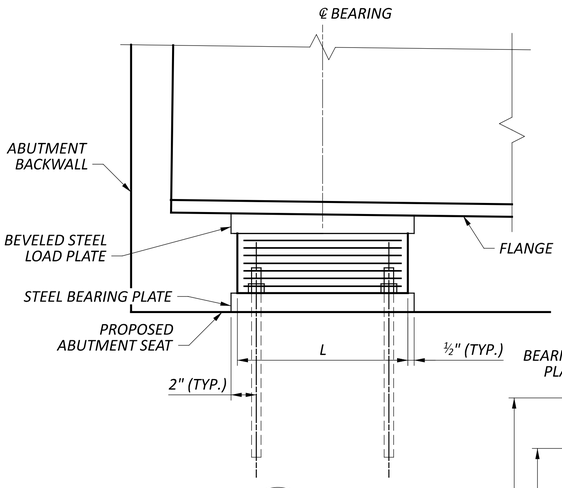
LAMINATED ELASTOMERIC FIXED BEARING PIER

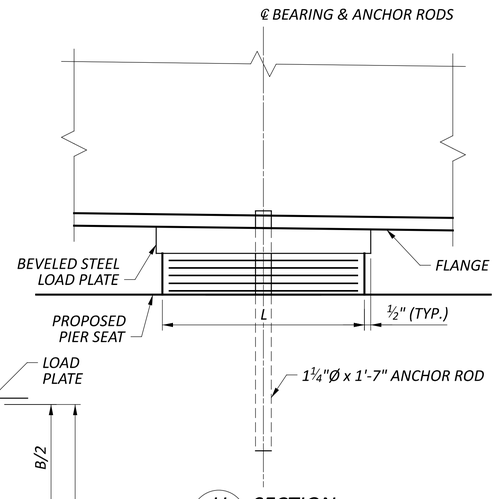


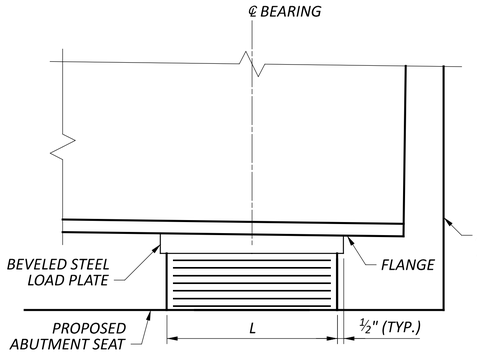
LAMINATED ELASTOMERIC EXPANSION BEARING FORWARD ABUTMENT

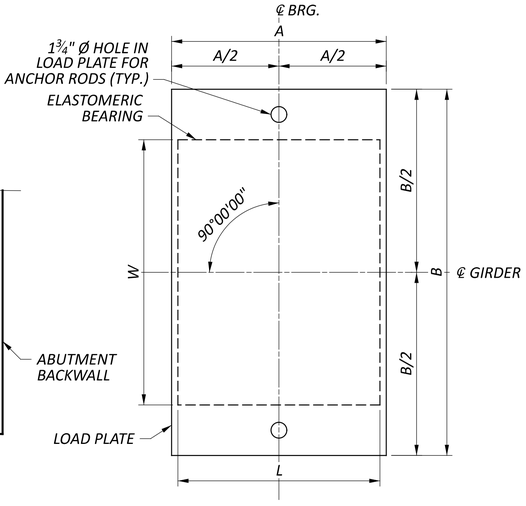


FWD. ABUTMENT PLAN

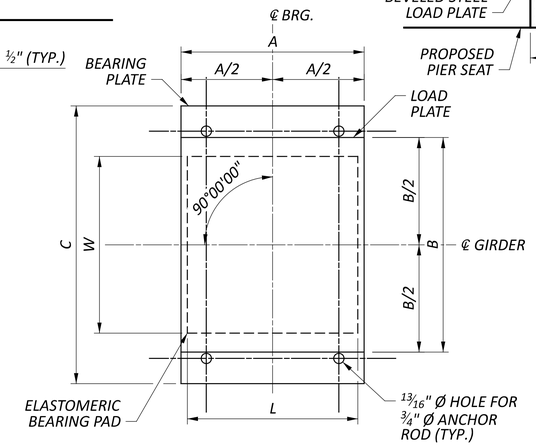




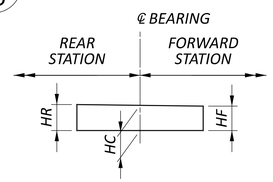




PIER PLAN



REAR ABUTMENT PLAN



BEVELED LOAD PLATE DETAIL

NOTES:

1. ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE SPECIFICATIONS. THE LONG-TERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.
2. STEEL LOAD PLATES AND BEARING PLATES SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS. THE STEEL LOAD PLATES AND BEARING PLATES SHALL BE ASTM A709 GRADE 50 AND PAINTED PER ITEM 514.
3. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE AND A DIRECTION ARROW THAT POINTS UPSTATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.

LEGEND:

ti - THICKNESS OF INTERNAL LAYERS

te - THICKNESS OF EXTERNAL LAYERS

T - TOTAL THICKNESS OF ELASTOMERIC BEARING

N - NUMBER OF STEEL LAMINATES, INTERNAL STEEL LAMINATE THICKNESS = 0.1046" (12 GAGE)

ELASTOMERIC BEARINGS

LOCATION	BEARING TYPE	NO. REQ'D	BEARING DIMENSIONS						STEEL LOAD PLATE					STEEL BEARING PLATE		REACTIONS *		MAXIMUM DESIGN LOAD *
			L	W	ti	te	T	N	A	B	HR	HC	HF	A	C	DL	LL	
REAR ABUTMENT	EXPANSION	2	13.5"	14"	0.4375"	-	4.232"	7	14.5"	15"	1 9/16"	1 ½"	1 7/16"	14.5"	22"	36.50 K	66.73 K	103.23 K
PIER	FIXED	2	16"	21"	0.500"	0.250"	3.273"	5	17"	29"	2 1/16"	2"	1 15/16"	-	-	217.01 K	143.12 K	360.13 K
FORWARD ABUTMENT	EXPANSION	2	13.5"	15.5"	0.500"	0.250"	4.482"	7	14.5"	16.5"	1 9/16"	1 ½"	1 7/16"	-	-	79.10 K	77.83 K	156.93 K

* REACTIONS ARE UNFACTORED AND WITHOUT IMPACT

BEARING DETAILS
BRIDGE NO. FRA-00161-18.600 L
SR 161 OVER CR 103 (HAMILTON RD.)

SFN 2509253

DESIGN AGENCY

COMPASS INFRASTRUCTURE GROUP

DESIGNER	CHECKER
JFK/ERK	JGM

REVIEWER: GLG 02/10/23

PROJECT ID: 116322

SUBSET	TOTAL
25	39

SHEET	TOTAL
652	846

FRA-161-15.80

MARK	NUMBER	LENGTH	MATERIAL	WEIGHT	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
LEFT BRIDGE REAR ABUTMENT (60 KSI, EPOXY COATED)												
RA501	23	6'-9"	ECSR	162	1	10"	6'-0"					
RA502	2	17'-10"	ECSR	37	2	8'-3"	1'-7"	8'-3"				
RA503	16	13'-4"	ECSR	223	STR							
RA504	28	22'-4"	ECSR	652	STR							
RA506	18	11'-6"	ECSR	216	12	3'-0"	2'-7"	1'-0"	3'-7"	3'-3"		
RA507	2	8'-5"	ECSR	18	STR							
RA508	7	18'-6"	ECSR	135	STR							
RA509	7	7'-10"	ECSR	57	2	3'-3"	1'-7"	3'-3"				
RA510	1	24'-6"	ECSR	26	STR							
RA511	10	19'-6"	ECSR	203	STR							
RA512	12	6'-0"	ECSR	75	STR							
RA513	5	17'-0"	ECSR	89	STR							
RA514	2	22'-10"	ECSR	48	2	10'-9"	1'-7"	10'-9"				
RA601	12	14'-11"	ECSR	269	STR							
RA602	16	16'-0"	ECSR	385	2	2'-4"	11'-8"	2'-4"				
RA604	18	11'-3"	ECSR	304	2	5'-1"	1'-5"	5'-1"				
RA605	18	8'-7"	ECSR	232	2	3'-9"	1'-5"	3'-9"				
RA606	21	8'-3"	ECSR	260	2	3'-10"	11"	3'-10"				
RA607	16	21'-9"	ECSR	523	STR							
RA608	2	10'-2"	ECSR	31	3	1'-5"	3'-3"					
RA701	21	10'-2"	ECSR	436	STR							
RA702	9	15'-4"	ECSR	282	STR							
RA801	13	4'-10"	ECSR	168	18	2'-7"	1'-0"	1'-0"				
RA901	18	15'-9"	ECSR	964	2	2'-4"	11'-8"	2'-4"				
RA1001	30	10'-6"	ECSR	1,355	1	1'-10"	9'-0"					
SUB-TOTAL				7,150	ITEM 509 - EPOXY COATED REINFORCING STEEL							
LEFT BRIDGE REAR ABUTMENT (60 KSI, UNCOATED)												
RA505U#	38	3'-9"	USR	149	STR							
RA603U#	20	4'-6"	USR	135	STR							
SUB-TOTAL				284	ITEM 509 - UNCOATED REINFORCING STEEL							

MARK	NUMBER	LENGTH	MATERIAL	WEIGHT	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
LEFT BRIDGE FORWARD ABUTMENT (60 KSI, EPOXY COATED)												
FA501	23	6'-9"	ECSR	162	1	10"	6'-0"					
FA502	2	17'-0"	ECSR	35	2	7'-10"	1'-7"	7'-10"				
FA503	16	12'-6"	ECSR	209	STR							
FA504	26	22'-4"	ECSR	606	STR							
FA506	18	11'-6"	ECSR	216	12	3'-0"	2'-7"	1'-0"	3'-7"	3'-3"		
FA507	2	8'-5"	ECSR	18	STR							
FA508	7	17'-6"	ECSR	127	STR							
FA509	7	7'-10"	ECSR	57	2	3'-3"	1'-7"	3'-3"				
FA510	1	24'-6"	ECSR	26	STR							
FA511	10	19'-6"	ECSR	203	STR							
FA512	12	6'-0"	ECSR	75	STR							
FA513	5	17'-0"	ECSR	89	STR							
FA514	2	21'-10"	ECSR	46	2	10'-3"	1'-7"	10'-3"				
FA601	12	14'-11"	ECSR	269	STR							
FA602	16	16'-0"	ECSR	385	2	2'-4"	11'-8"	2'-4"				
FA604	18	11'-1"	ECSR	300	2	5'-0"	1'-5"	5'-0"				
FA605	18	8'-5"	ECSR	228	2	3'-8"	1'-5"	3'-8"				
FA606	21	8'-3"	ECSR	260	2	3'-10"	11"	3'-10"				
FA607	16	21'-9"	ECSR	523	STR							
FA608	2	10'-2"	ECSR	31	3	1'-5"	3'-3"					
FA701	21	9'-4"	ECSR	401	STR							
FA702	9	14'-4"	ECSR	264	STR							
FA801	13	4'-10"	ECSR	168	18	2'-7"	1'-0"	1'-0"				
FA901	18	15'-9"	ECSR	964	2	2'-4"	11'-8"	2'-4"				
FA1001	30	10'-6"	ECSR	1,355	1	1'-10"	9'-0"					
SUB-TOTAL				7,017	ITEM 509 - EPOXY COATED REINFORCING STEEL							
LEFT BRIDGE FORWARD ABUTMENT (60 KSI, UNCOATED)												
FA505U#	36	3'-9"	USR	141	STR							
FA603U#	20	4'-6"	USR	135	STR							
SUB-TOTAL				276	ITEM 509 - UNCOATED REINFORCING STEEL							

LEGEND:

 # - BAR TO BE DOWELED INTO EXISTING STRUCTURE.

NOTE:

SEE SHEET 39 / 39 FOR BAR BENDING DIAGRAMS AND ADDITIONAL NOTES.

CONCRETE REINFORCEMENT BAR LIST - (1 OF 3)
BRIDGE NO. FRA-00161-18.600 L
SR 161 OVER CR 103 (HAMILTON RD.)

SFN 2509253

DESIGN AGENCY

COMPASS INFRASTRUCTURE GROUP

DESIGNER	CHECKER
JFK/RFB	ERK

REVIEWER: GLG 02/10/23

PROJECT ID: 116322

SUBSET	TOTAL
37	39

SHEET	TOTAL
664	846

FRA-161-15.80

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MARK	TOTAL	LENGTH	MATERIAL	WEIGHT (LBS.)	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
LEFT BRIDGE DECK (60 KSI, EPOXY COATED)												
S401	168	30'-0"	ECSR	3,367	STR							
S402	28	19'-1"	ECSR	357	STR							
S501	198	30'-0"	ECSR	6,195	STR							
S502	33	25'-7"	ECSR	881	STR							
S503	346	9'-1"	ECSR	3,278	2	1'-9"	7"	7'-0"				
S601	26	30'-0"	ECSR	1,172	STR							
S602	26	34'-4"	ECSR	1,341	STR							
S603	346	24'-0"	ECSR	12,473	16	23'-4"						
S604	346	23'-4"	ECSR	12,126	STR							
SUB-TOTAL				41,190	ITEM 509 - EPOXY COATED REINFORCING STEEL							

MARK	TOTAL	LENGTH	MATERIAL	WEIGHT (LBS.) or LENGTH (FT.)	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
LEFT BRIDGE RAILING (60 KSI, EPOXY COATED)												
R601	263	7'-0"	ECSR	2,765	23	6"	3'-3"	3'-3"			2"	
R602	263	7'-9"	ECSR	3,061	37	11"	10"	1'-5"	1'-0"	7"		
SUB-TOTAL				5,826	ITEM 509 - EPOXY COATED STEEL REINFORCEMENT							
LEFT BRIDGE RAILING (GFRP)												
R401G	66	30'-0"	GFRP	1,980'-0"	STR							
R402G	11	19'-1"	GFRP	209'-11"	STR							
R403G	8	9'-0"	GFRP	72'-0"	STR							
R404G	68	10'-0"	GFRP	680'-0"	STR							
R405G	22	25'-11"	GFRP	570'-2"	STR							
R406G	16	12'-6"	GFRP	200-0"	STR							
SUB-TOTAL				3712'-1"	ITEM 509 - NO. 4 GFRP DEFORMED BARS							

MARK	REAR	FORWARD	TOTAL	LENGTH	MATERIAL	WEIGHT (LBS.)	TYPE	DIMENSIONS						
								A	B	C	D	E	R	INC.
LEFT BRIDGE APPROACH SLAB (60 KSI, EPOXY COATED) (FOR INFORMATION ONLY)														
AS501	58	58	116	23'-2"	ECSR	2,803	STR							
AS502	17	17	34	24'-6"	ECSR	869	STR							
AS1001	41	41	82	25'-11"	ECSR	9,145	16	24'-6"						
SUB-TOTAL						12,817	INCLUDED WITH ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15") FOR PAYMENT							

MARK	REAR	FORWARD	TOTAL	LENGTH	MATERIAL	WEIGHT (LBS.)	TYPE	DIMENSIONS						
								A	B	C	D	E	R	INC.
LEFT BRIDGE SLEEPER SLAB (60 KSI, EPOXY COATED) (FOR INFORMATION ONLY)														
SS501	8	8	16	23'-2"	ECSR	387	STR							
SS502	25	25	50	7'-6"	ECSR	391	STR							
SUB-TOTAL						778	INCLUDED WITH ITEM 526 - TYPE A INSTALLATION FOR PAYMENT							

NOTE:

SEE SHEET 39 / 39 FOR BAR BENDING DIAGRAMS AND ADDITIONAL NOTES.

CONCRETE REINFORCEMENT BAR LIST - (2 OF 3)
BRIDGE NO. FRA-00161-18.600 L
SR 161 OVER CR 103 (HAMILTON RD.)

SFN 2509253

DESIGN AGENCY: COMPASS INFRASTRUCTURE GROUP

DESIGNER	CHECKER
JFK/RFB	ERK

REVIEWER: GLG 02/10/23

PROJECT ID: 116322

SUBSET	TOTAL
38	39

SHEET	TOTAL
665	846

FRA-161-15.80

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 5/10/2023 TIME: 3:21:01 PM USER: bkronk
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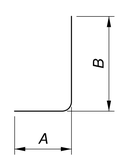
MARK	TOTAL	LENGTH	MATERIAL	WEIGHT	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
LEFT BRIDGE PIER (60 KSI, EPOXY COATED)												
SP401	2	365'-10"	ECSR	489	27	0'-4"	2'-6"	15'-2"				
P501	12	9'-3"	ECSR	116	2	3'-5"	2'-8"	3'-5"				
P502	4	8'-0"	ECSR	33	STR							
P503	8	10'-4"	ECSR	86	24	2'-8"	3'-1"				1'-4"	
P601	4	16'-0"	ECSR	96	2	3'-8"	8'-11"	3'-8"				
P602	4	17'-2"	ECSR	103	2	3'-8"	10'-1"	3'-8"				
P603	4	17'-8"	ECSR	106	2	3'-8"	10'-6"	3'-8"				
P801	24	19'-6"	ECSR	1,250	17	17'-8"						
P802	51	10'-6"	ECSR	1,430	17	8'-8"						
P1001	20	17'-8"	ECSR	1,520	STR							
P1002	20	10'-3"	ECSR	882	1	1'-10"	8'-9"					
			SUB-TOTAL	6,111	ITEM 509 - EPOXY COATED REINFORCING STEEL							

BAR BENDING DIAGRAMS



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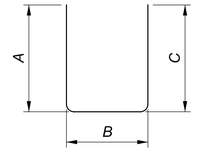

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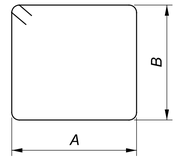

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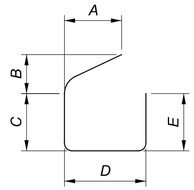
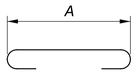


TYPE-12

TYPE-16



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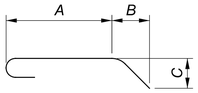

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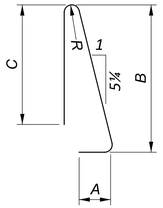

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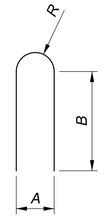

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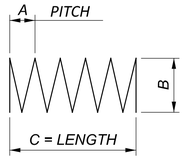

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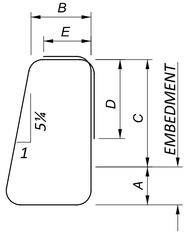


TYPE-37

NOTES:

1. THE LETTER PREFIX INDICATES BAR LOCATION. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE TWO DIGITS WHEN FOUR DIGITS ARE USED INDICATED BAR SIZE NUMBER. ALL REINFORCING IS ASSUMED EPOXY COATED UNLESS OTHERWISE INDICATED BY A LETTER SUFFIX. IF A LETTER SUFFIX IS PROVIDED, IT INDICATES BAR OR BAR COATING TYPE. EXAMPLE: R401G

   R: THE LOCATION OF THE BARS IN THE STRUCTURE (BRIDGE RAILING)
   4: BAR SIZE DIMENSION NO. 4
   01: SEQUENCE NUMBER
   G: GFRP REINFORCEMENT

   THE FOLLOWING IS A LIST OF BAR LOCATION PREFIXES:
   S: SUPERSTRUCTURE
   R: BRIDGE RAILING
   RA: REAR ABUTMENT
   FA: FORWARD ABUTMENT
   P: PIER
   AS: APPROACH SLAB
   SS: SLEEPER SLAB

   THE FOLLOWING IS A LIST OF BAR MATERIAL SUFFIXES:
   G: GFRP REINFORCEMENT
   U: UNCOATED REINFORCEMENT

2. BAR DIMENSIONS ARE SHOWN OUT-TO-OUT UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BAR BEND AT THE END OF THE BAR. STRAIGHT BARS ARE INDICATED BY "STR."

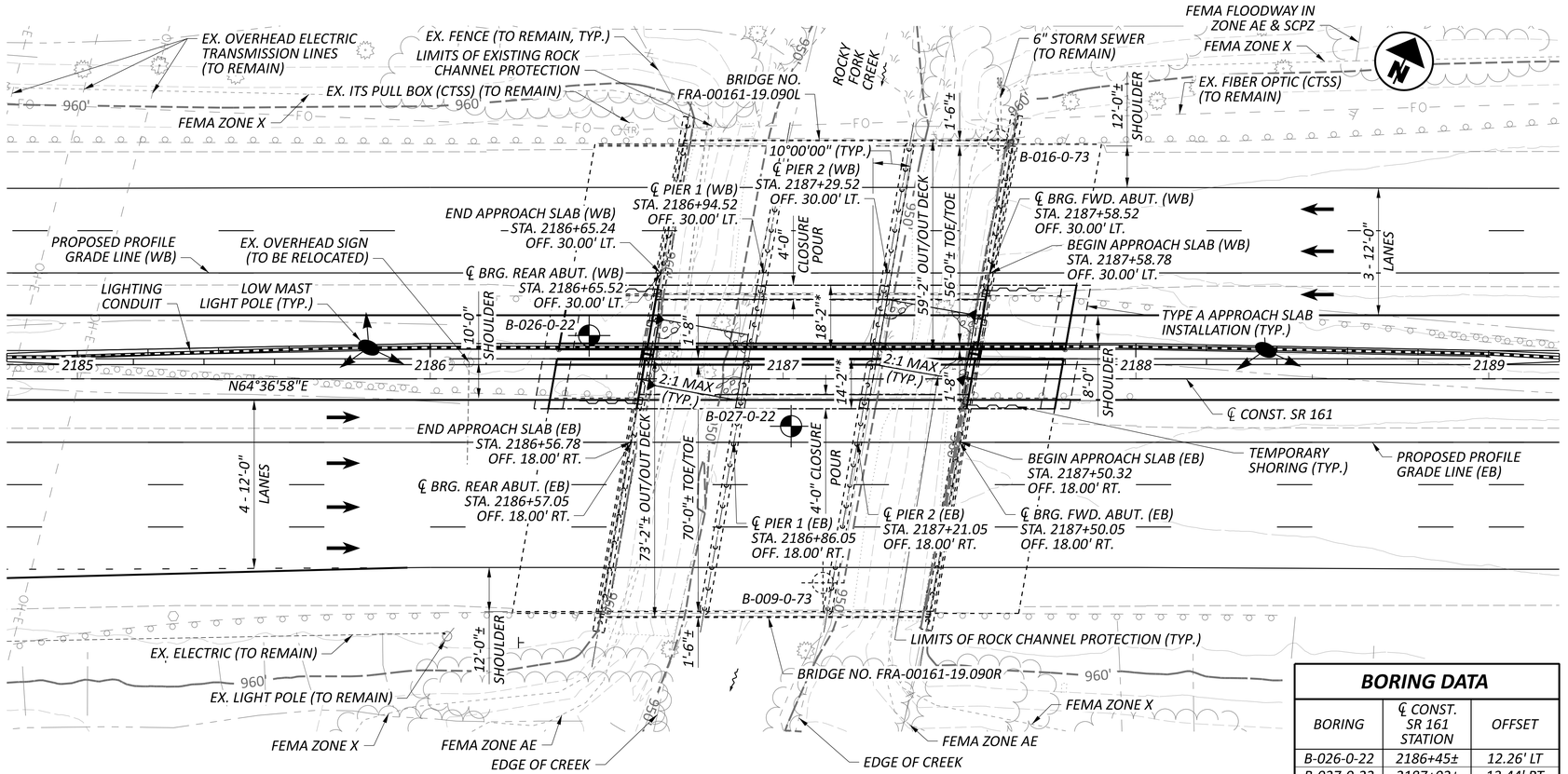
3. BAR MATERIAL:

   "ECSR" = GRADE 60 EPOXY COATED REINFORCING STEEL
   "GFRP" = GLASS FIBER REINFORCED POLYMER
   "USR" = GRADE 60 UNCOATED REINFORCING STEEL

CONCRETE REINFORCEMENT BAR LIST - (3 OF 3)
BRIDGE NO. FRA-00161-18.600 L
SR 161 OVER CR 103 (HAMILTON RD.)

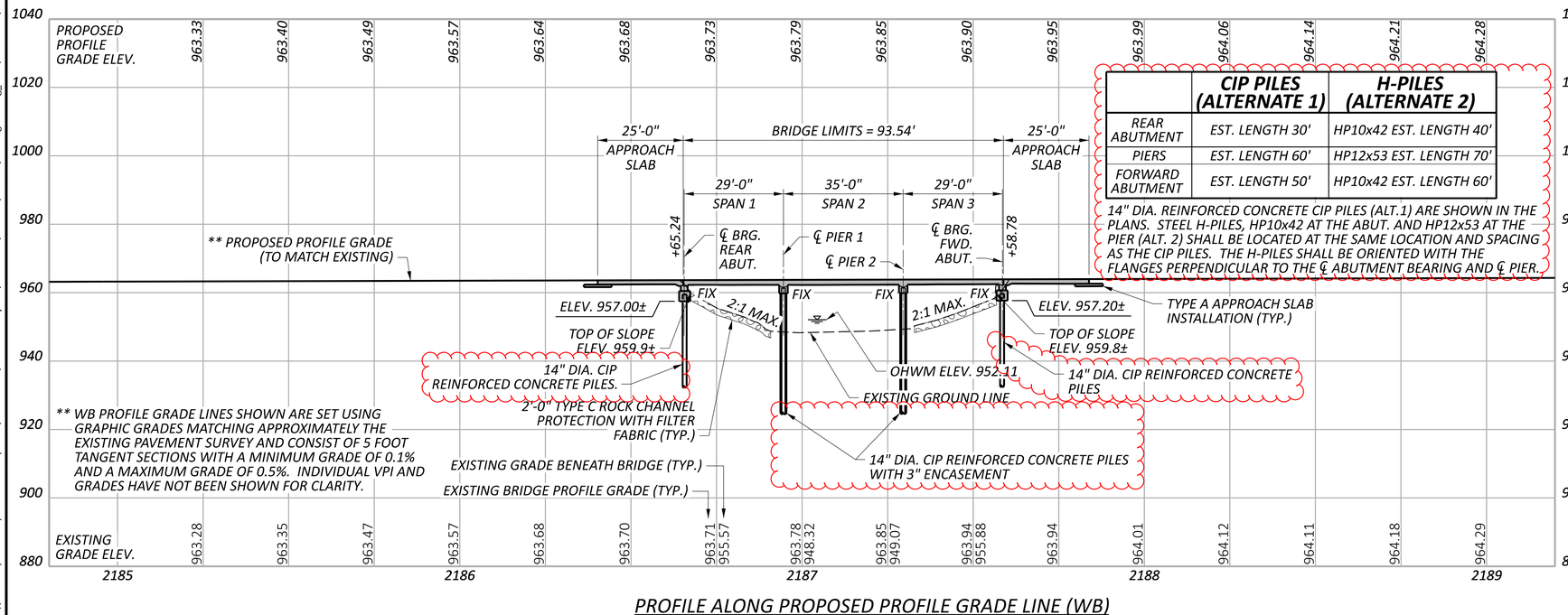
SFN 2509253
DESIGN AGENCY
COMPASS INFRASTRUCTURE GROUP
DESIGNER JFK/RFB | CHECKER ERK
REVIEWER GLG 02/10/23
PROJECT ID 116322
SUBSET 39 | TOTAL 39
SHEET 666 | TOTAL 846

FRA-161-15.80



PLAN

BORING DATA		
BORING	℄ CONST. SR 161 STATION	OFFSET
B-026-0-22	2186+45±	12.26' LT
B-027-0-22	2187+02±	13.44' RT



	CIP PILES (ALTERNATE 1)	H-PILES (ALTERNATE 2)
REAR ABUTMENT	EST. LENGTH 30'	HP10x42 EST. LENGTH 40'
PIERS	EST. LENGTH 60'	HP12x53 EST. LENGTH 70'
FORWARD ABUTMENT	EST. LENGTH 50'	HP10x42 EST. LENGTH 60'

14" DIA. REINFORCED CONCRETE CIP PILES (ALT.1) ARE SHOWN IN THE PLANS. STEEL H-PILES, HP10x42 AT THE ABUT. AND HP12x53 AT THE PIER (ALT. 2) SHALL BE LOCATED AT THE SAME LOCATION AND SPACING AS THE CIP PILES. THE H-PILES SHALL BE ORIENTED WITH THE FLANGES PERPENDICULAR TO THE ℄ ABUTMENT BEARING AND ℄ PIER.

PROFILE ALONG PROPOSED PROFILE GRADE LINE (WB)

BENCHMARK DATA

CP111 STA. 2189+38.84, ELEV. 962.81, OFFSET 78.12 RT., ℄ CONST. SR 161, CONCRETE MONUMENT
CP112 STA. 2214+68.95, ELEV. 973.54, OFFSET 94.22 LT., ℄ CONST. SR 161, CONCRETE MONUMENT

FOR ADDITIONAL BENCHMARK INFORMATION, SEE ROADWAY PLANS.

NOTES

1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
2. FOR EASTBOUND PROFILE, SEE SHEET 2 OF 33.
3. AN ELEVATION ADJUSTMENT OF -0.50' WAS USED TO ESTABLISH EXISTING SUBSTRUCTURE ELEVATIONS FROM THE EXISTING PLANS.

DESIGN TRAFFIC:
2024 ADT = 64716 2024 ADTT = 5177
2045 ADT = 86550 2045 ADTT = 6924
DIRECTIONAL DISTRIBUTION = 0.50

LEGEND

HISTORIC BORING LOCATION

PROJECT BORING LOCATION

* PHASE 1A CONSTRUCTION

HYDRAULIC DATA

DRAINAGE AREA= 10.4 SQ. MILES
Q(50)= 1910 CFS V(50)= 5.10 FT/S
Q(100)= 2250 CFS V(100)= 5.49 FT/S
STRUCTURE CLEARS THE 50 YEAR DESIGN HW BY 4.24 FEET.

EXISTING STRUCTURE

TYPE: CONTINUOUS REINFORCED CONCRETE SLAB ON CAPPED PILE ABUTMENTS AND CAPPED PILE PIERS.
SPANS: 29'-0"±, 35'-0"±, 29'-0"± C/C BEARINGS
ROADWAY: 42'-0"± (LEFT/WB); 60'-0"± (RIGHT/EB) TOE/TOE BRIDGE RAILING
LOADING: HS-20-44 & ALTERNATE MILITARY LOADING
SKEW: 10°00'00"± LEFT FORWARD
WEARING SURFACE: 1" MONOLITIC CONCRETE
APPROACH SLABS: 25'-0"± LONG (AS-1-81)
ALIGNMENT: TANGENT
CROWN: 0.016± FT./FT.
STRUCTURE FILE NUMBER: 2509288 (LEFT/WB); 2509296 (RIGHT/EB)
DATE BUILT: 1996
DISPOSITION: TO BE WIDENED

PROPOSED STRUCTURE

PROPOSED WORK: FOR BOTH L AND R STRUCTURES, WIDEN CONCRETE SLAB ON WIDENED CAPPED PILE ABUTMENTS AND CAPPED PILE PIERS
SPANS: 29'-0", 35'-0", 29'-0" C/C BEARINGS
ROADWAY: 56'-0"± (LEFT/WB) ; 70'-0"± (RIGHT/EB) TOE/TOE BRIDGE RAILING
DESIGN LOADING: SEE GENERAL NOTES
SKEW: 10°00'00" LEFT FORWARD
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: 25'-0" LONG, 15" THICK (AS-1-15) TYPE A INSTALLATION (AS-2-15)
ALIGNMENT: TANGENT
CROWN: 0.016 FT/FT
DECK AREA: 5,534 SF (LEFT/WB); 6,844 SF (RIGHT/EB)
COORDINATES: LATITUDE 40°05'12.00"N (LEFT); 40°05'11.54"N (RIGHT)
LONGITUDE 82°50'46.75"W (LEFT); 82°50'46.58"W (RIGHT)

SITE PLAN - (1 OF 2)
BRIDGE NO. FRA-00161-19.090 L&R
SR 161 OVER ROCKY FORK CREEK

SFN 2509288 (L)
SFN 2509296 (R)
DESIGN AGENCY
HDR
8890 LYRA DR. SUITE 100 COLUMBUS, OH 43240 614.839.5770
DESIGNER JTW CHECKER CMR
REVIEWER DWW 02/10/23
PROJECT ID 116322
SUBSET 1 TOTAL 33
SHEET 667 TOTAL 846

FRA-161-15.80

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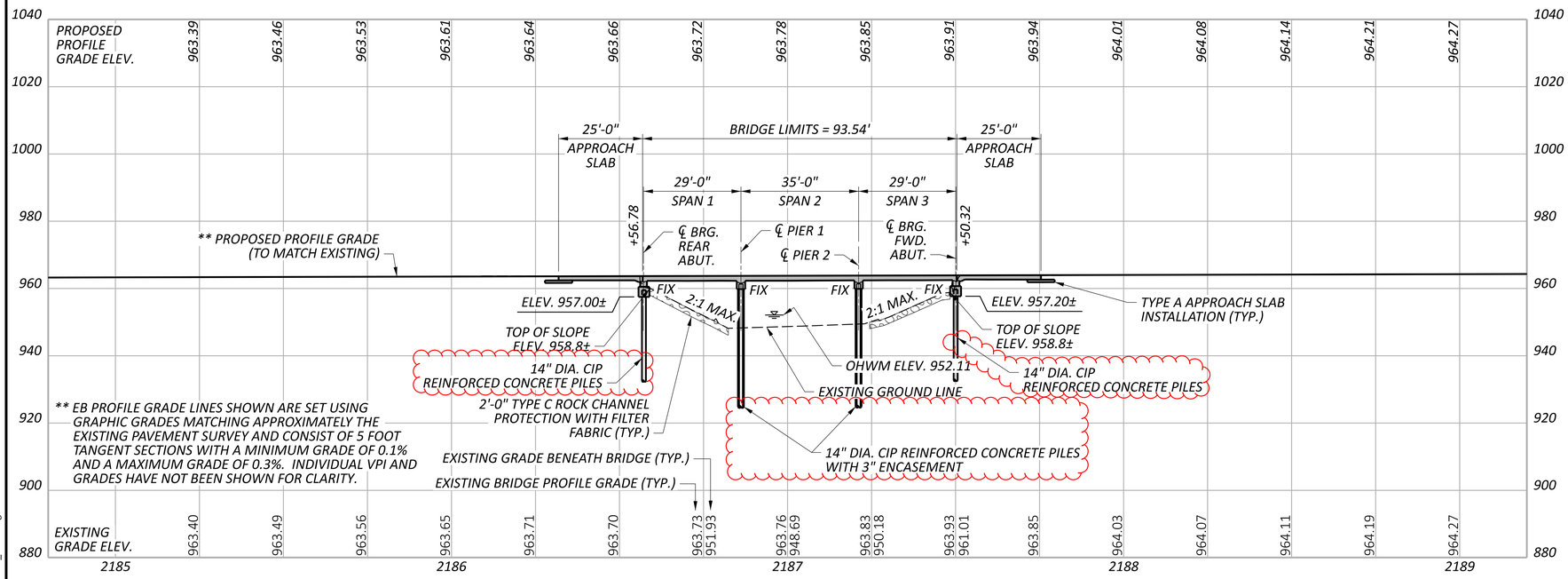

PROFILE ALONG PROPOSED PROFILE GRADE LINE (EB)

	CIP PILES (ALTERNATE 1)	H-PILES (ALTERNATE 2)
REAR ABUTMENT	EST. LENGTH 30'	HP10x42 EST. LENGTH 40'
PIERS	EST. LENGTH 60'	HP12x53 EST. LENGTH 70'
FORWARD ABUTMENT	EST. LENGTH 50'	HP10x42 EST. LENGTH 60'

14" DIA. REINFORCED CONCRETE CIP PILES (ALT.1) ARE SHOWN IN THE PLANS. STEEL H-PILES, HP10x42 AT THE ABUTMENTS AND HP12x53 AT THE PIER (ALT. 2) SHALL BE LOCATED AT THE SAME LOCATION AND SPACING AS THE CIP PILES. THE H-PILES SHALL BE ORIENTED WITH THE FLANGES PERPENDICULAR TO THE ℄ ABUTMENT BEARING AND ℄ PIER.

NOTE:

1. FOR ADDITIONAL INFORMATION, NOTES, AND ASSOCIATED PLAN VIEW, SEE SHEET 1 OF 33.

SITE PLAN - (2 OF 2)
BRIDGE NO. FRA-00161-19.090 L&R
SR 161 OVER ROCKY FORK CREEK

FRA-161-15.80

MODEL: BLP_SR161_EB_3 - Profile 1 [Sheet] PAPERSIZE: 34x22 (in.) DATE: 5/10/2023 TIME: 9:12:05 PM USER: JWROTEN
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SFN 2509288 (L)
SFN 2509296 (R)
DESIGN AGENCY

8890 LYRA DR.
SUITE 100
COLUMBUS, OH 43240
614.839.5770

DESIGNER	CHECKER
JTW	CMR

REVIEWER DWW 02/10/23
PROJECT ID 116322
SUBSET 2 | TOTAL 33
SHEET 668 | TOTAL 846

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD BRIDGE AND ROADWAY DRAWINGS:

AS-1-15	REVISED	07-17-15
AS-2-15	REVISED	01-18-19
CPP-1-08	REVISED	07-21-17
CS-1-08	DATED	01-15-21
RM-4.2	REVISED	04-17-20
SBR-1-20	REVISED	07-17-20

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

800	DATED	SEE PROPOSAL
846	DATED	04-17-15

DESIGN SPECIFICATIONS:

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

OPERATIONAL IMPORTANCE:

A LOAD MODIFIER OF 1.05 HAS BEEN ASSUMED FOR THE DESIGN OF THE ABUTMENTS AND PIERS IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN LOADING INCLUDES:

SUPERSTRUCTURE: PROPOSED WIDENED SLAB - HL-93 & 0.060 KSF FUTURE WEARING SURFACE

SUPERSTRUCTURE: EXISTING SLAB - HS20-44 AND THE ALTERNATE MILITARY LOADING & 0.00 KSF FUTURE WEARING SURFACE

SUBSTRUCTURE: PROPOSED SUBSTRUCTURES - HL-93 & 0.060 KSF FUTURE WEARING SURFACE

SUBSTRUCTURE: EXISTING SUBSTRUCTURE - HS20-44 AND THE ALTERNATE MILITARY LOADING & 0.00 KSF FUTURE WEARING SURFACE

FOUNDATION: PROPOSED - HL-93 & 0.060 KSF FUTURE WEARING SURFACE

FOUNDATION: EXISTING - HS20-44 AND THE ALTERNATE MILITARY LOADING & 0.00 KSF FUTURE WEARING SURFACE

DESIGN DATA:

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

CONCRETE REINFORCEMENT:
UNCOATED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60-KSI (ABUTMENT)
EPOXY COATED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60-KSI (ABUTMENT, PIER, SUPERSTRUCTURE, BRIDGE RAILING, APPROACH SLAB)
GFRP REINFORCEMENT (BRIDGE RAILING)

STEEL CIP PILES - ASTM A252 GRADE 3 - YIELD STRENGTH 45 KSI (ALTERNATE 1)

STEEL H-PILES - ASTM A572 - YIELD STRENGTH 50 KSI (ALTERNATE 2)

MONOLITHIC WEARING SURFACE:

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

PROPOSED WORK:

1. PHASED REMOVAL OF THE EXISTING RAILINGS, SLABS, APPROACH SLABS, ABUTMENTS, WINGWALLS AND PIERS.
2. PHASED CONSTRUCTION OF THE CIP PILES, ABUTMENTS, PIERS, SLABS, APPROACH SLABS AND RAILINGS.
3. PATCHING OF EXISTING CONCRETE BRIDGE RAILING.
4. INSTALLATION OF ROCK CHANNEL PROTECTION.
5. SEALING OF CONCRETE SURFACES.

PLANS OF EXISTING BRIDGE

CONSTRUCTION PLANS FOR THE EXISTING BRIDGE ARE ON FILE AT THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 6 OFFICE, 400 EAST WILLIAM STREET, DELAWARE, OH 43015 AND ARE AVAILABLE FOR REFERENCE.

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO C&MS SECTIONS 102.05 AND 105.02. BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN:

DESCRIPTION:

THIS WORK CONSISTS OF THE REMOVAL OF PORTIONS OF CONCRETE BRIDGE RAILINGS, SLABS, ABUTMENTS AND WINGWALLS, AND PIERS, AS SHOWN IN THESE PLANS. THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE DEPARTMENT WILL NOT PERMIT THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT. DO NOT BEGIN WORK UNTIL THE ENGINEER ACCEPTS THE METHOD OF REMOVAL AND APPROVES THE WEIGHT OF THE HAMMER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING CONCRETE REINFORCEMENT TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH CONCRETE REINFORCEMENT THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO C&MS 501.05.

MAXIMUM REMOVAL LIMITS:

SOUND THE EXISTING CONCRETE AT THE ABUTMENTS, PIERS, AND RAILINGS TO DETERMINE THE LIMITS OF THE CONCRETE TO BE REMOVED AND COMPARE THESE LIMITS TO THE AREAS SHOWN IN THE PLANS. IF NEW AREAS ARE DISCOVERED OR IF THE DIMENSIONS OF THE PLAN AREAS INCREASE BY MORE THAN 25% IN ANY DIRECTION, DOCUMENT THE AREAS AND NOTIFY THE ENGINEER FOR EVALUATION TWO WEEKS PRIOR TO REMOVAL. THE ENGINEER WILL DETERMINE IF PATCHING IN DISCRETE SECTIONS/STAGES IS NEEDED OR IF THE INSTALLATION OF TEMPORARY FALSEWORK IS REQUIRED.

CUT LINE CONSTRUCTION JOINT PREPARATION:

SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE CONCRETE REINFORCEMENT, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING STEEL REINFORCEMENT DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUBSTRUCTURE CONCRETE REMOVAL:

REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. THE DEPARTMENT WILL NOT PERMIT HYDRAULIC HOE-RAM TYPE HAMMERS. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH CONCRETE REINFORCEMENT THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

PARTIAL REMOVAL OF THE PIER PILE CAP CREATES A CANTILEVER CAP SECTION WHICH WILL CONTINUE TO SUPPORT THE SLAB SUPERSTRUCTURE DURING CONSTRUCTION. THE EXISTING CANTILEVER CAP SECTION WAS ANALYZED FOR AN ASSUMED CONSTRUCTION LIVE LOADING ON THE SLAB OF 0.05 KSF AND A 8 WHEEL SCREED MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.2 KIPS PER WHEEL. IF THE CONTRACTOR'S MEANS AND METHODS EXCEED THESE LOADING ASSUMPTIONS THE EXISTING PIER CAP SHALL BE ANALYZED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER FOR THE ANTICIPATED CONSTRUCTION LOADS. SUBMIT ENGINEERING CALCULATIONS AND DRAWINGS PER CMS 501.05 TO THE ENGINEER FOR ACCEPTANCE.

MEASUREMENT & PAYMENT:

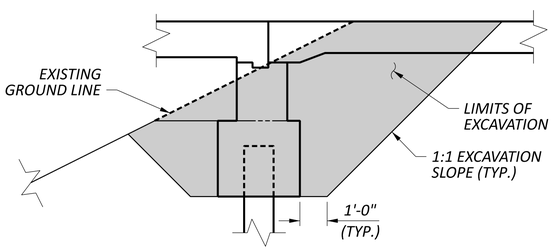
THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

ITEM 503 - COFFERDAMS AND EXCAVATION BRACING:

TEMPORARY SHEETING SHALL BE DESIGNED BY THE CONTRACTOR. ENGINEERING DRAWINGS SHALL BE PREPARED PER CMS 501.05 AND SHALL BE PREPARED, SIGNED, SEALED AND DATED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE LUMP SUM PRICE FOR COFFERDAMS AND EXCAVATION BRACING.

ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN:

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH PERTINENT SECTIONS OF CMS SECTION 503 AND SHALL INCLUDE THE EXCAVATION AND BACKFILLING REQUIRED TO CONSTRUCT THE NEW PORTIONS OF THE ABUTMENTS AND WINGWALLS (SEE DIAGRAM BELOW). EXCAVATION AND BACKFILLING REQUIRED FOR SUBSTRUCTURE REMOVAL AND STRUCTURE DRAINAGE SHALL BE INCLUDED WITH RESPECTIVE ITEMS 202 AND 518.



EXCAVATION DIAGRAM
(TYP. ALL 4 ABUTMENTS)

ITEM 509 - REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN:

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION WITH EPOXY COATED REINFORCING STEEL OF THE SAME SIZE. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE. REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW EPOXY COATED REINFORCING STEEL OF THE SAME SIZE AT NO COST TO THE DEPARTMENT.

ITEM 510 - DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN:

DOWEL BARS SHALL BE INSTALLED USING NONSHRINK, NONMETALLIC GROUT PER 510 AND ACI 355.4. ALL EXISTING REINFORCING STEEL BARS IN THE AREA OF THE DOWEL HOLE SHALL BE LOCATED WITH THE AID OF A REINFORCING STEEL BAR LOCATOR (PACHOMETER) PRIOR TO DRILLING THE HOLES. IF AN EXISTING BAR IS ENCOUNTERED AT THE SAME LOCATION AS A PROPOSED DOWEL HOLE, THE DOWEL HOLE SHALL BE MOVED TO EITHER SIDE OF THE EXISTING BAR.

PILE DESIGN LOADS (ULTIMATE BEARING VALUE) (ALTERNATE 1)

THE ULTIMATE BEARING VALUE IS 229 KIPS PER PILE FOR THE ABUTMENT PILES. THE ULTIMATE BEARING VALUE IS 246 KIPS PER PILE FOR THE PIER PILES.

REAR ABUTMENT PILES:
14 IN DIAMETER CAST-IN-PLACE REINFORCED CONCRETE PILES 35 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM.

FORWARD ABUTMENT PILES:
14 IN DIAMETER CAST-IN-PLACE REINFORCED CONCRETE PILES 55 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM.

PIER PILES:
14 IN DIAMETER CAST-IN-PLACE REINFORCED CONCRETE PILES 65 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM.

PROVIDE PLAIN CYLINDRICAL CASINGS WITH A MINIMUM PILE WALL THICKNESS OF 0.250 INCH FOR THE CAST-IN-PLACE REINFORCED CONCRETE PILES.

ITEM SPECIAL - PILE ENCASEMENT (ALTERNATE 1)

ENCASE ALL CIP PILES FOR THE CAPPED PILE PIERS IN CONCRETE CONFORMING TO C&MS 511 (F'C = 4.0-KSI). PROVIDE A CONCRETE SLUMP BETWEEN 6 TO 8 INCHES WITH THE USE OF A SUPERPLASTICIZER. PLACE THE CONCRETE WITHIN A FORM CONSISTING OF POLYETHYLENE PIPE (C&MS 707.33), OR PVC PIPE (C&MS 707.42). THE ENCASEMENT SHALL EXTEND FROM 3 FEET BELOW THE FINISHED GROUND SURFACE UP TO THE CONCRETE PIER CAP. POSITION THE PIPE SO THAT AT LEAST 3 INCHES OF CONCRETE COVER IS PROVIDED AROUND THE EXTERIOR OF THE PILE. THE DEPARTMENT WILL MEASURE PILE ENCASEMENT BY THE NUMBER OF FEET. THE DEPARTMENT WILL DETERMINE THE SUM AS THE LENGTH MEASURED ALONG THE AXIS OF EACH PILE FROM THE BOTTOM OF THE ENCASEMENT TO THE BOTTOM OF THE PIER CAP. THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM - SPECIAL, PILE ENCASEMENT.

PILE DESIGN LOADS (ULTIMATE BEARING VALUE) (ALTERNATE 2)

THE ULTIMATE BEARING VALUE (UBV) IS 229 KIPS PER PILE FOR THE ABUTMENT PILES. THE UBV IS 246 KIPS PER PILE FOR THE PIER PILES. THE PIER PILES WERE DESIGNED TO ACCOMMODATE 3 FT. OF SCOUR. DRIVE THE PIER PILES TO THE UBV OR A TIP ELEVATION OF 932, WHICHEVER IS DEEPER.

REAR ABUTMENT PILES:
HP10X42 PILES 45 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM

FORWARD ABUTMENT PILES:
HP10X42 PILES 65 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM

PIER PILES:
HP12X53 PILES 75 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM

PILE SPLICES (ALTERNATE 2)

IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN C&MS 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.

ITEM SPECIAL - PILE ENCASEMENT (ALTERNATE 2)

ENCASE ALL STEEL H-PILES FOR THE CAPPED PILE PIERS IN CONCRETE CONFORMING TO C&MS 511 (F'C = 4.0-KSI). PROVIDE A CONCRETE SLUMP BETWEEN 6 TO 8 INCHES WITH THE USE OF A SUPERPLASTICIZER. PLACE THE CONCRETE WITHIN A FORM THAT CONSISTS OF POLYETHYLENE PIPE (C&MS 707.33), OR PVC PIPE (C&MS 707.42). THE ENCASEMENT SHALL EXTEND FROM 3 FEET BELOW THE FINISHED GROUND SURFACE UP TO THE CONCRETE PIER CAP. POSITION THE PIPE SO THAT AT LEAST 3 INCHES OF CONCRETE COVER IS PROVIDED AROUND THE EXTERIOR OF THE PILE. THE DEPARTMENT WILL MEASURE PILE ENCASEMENT BY THE NUMBER OF FEET. THE DEPARTMENT WILL DETERMINE THE SUM AS THE LENGTH MEASURED ALONG THE AXIS OF EACH PILE FROM THE BOTTOM OF THE ENCASEMENT TO THE BOTTOM OF THE PIER CAP. THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM - SPECIAL, PILE ENCASEMENT.

STRUCTURE GENERAL NOTES - (1 OF 2)
BRIDGE NO. FRA-00161-19.090 L&R
SR 161 OVER ROCKY FORK CREEK

SFN 2509288 (L)
SFN 2509296 (R)

DESIGN AGENCY
HDR
8890 LYRA DR.
SUITE 100
COLUMBUS, OH 43240
614.839.5770

DESIGNER	CHECKER
JTW	THS

REVIEWER: DWW 02/10/23

PROJECT ID: 116322

SUBSET	TOTAL
4	33

SHEET	TOTAL
670	846

FRA-161-15.80

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ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

PRIOR TO THE SURFACE CLEANING SPECIFIED IN C&MS 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED STEEL REINFORCEMENT. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

ITEM 601 - ROCK CHANNEL PROTECTION, TYPE C WITH FILTER, AS PER PLAN

THE EMBANKMENT SLOPES BETWEEN BRIDGES SHALL BE REDRESSED AND FURNISHED WITH NEW ROCK CHANNEL PROTECTION, TYPE C MATERIAL WITH FILTER FABRIC AS SHOWN IN THESE PLANS.

WITH PRIOR APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY REDRESS THE EXISTING SLOPE PROTECTION WITH THE EXISTING ROCK CHANNEL PROTECTION. WHERE ADDITIONAL MATERIAL IS REQUIRED, FURNISH AND PLACE ROCK CHANNEL PROTECTION IN ACCORDANCE WITH CMS 601. ALL ADDITIONAL QUANTITIES SHALL BE DIRECTED BY THE EINGINEER. ANY ADDITIONAL LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO REDRESS THE EXISTING SLOPE PROTECTION SHALL BE PAID FOR AT THE CONTRACT UNIT BID PRICE FOR ITEM 601 - ROCK CHANNEL PROTECTION, TYPE C WITH FILTER, AS PER PLAN.

ABBREVIATIONS

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

ABUT. - ABUTMENT
APPR. - APPROACH
℄ - BASELINE
BOT. - BOTTOM
BRG. - BEARING
BRGS. - BEARINGS
BTA - BRIDGE TERMINAL ASSEMBLY
℄ - CENTERLINE
C/C - CENTER TO CENTER
CIP - CAST-IN-PLACE
C.J. - CONSTRUCTION JOINT
CLR. - CLEARANCE
CP - COMPLETE PENETRATION BUTT WELD
CMS - CONSTRUCTION AND MATERIAL SPECIFICATIONS
CONC. - CONCRETE
CONST. - CONSTRUCTION
C.P.P. - CORRUGATED PLASTIC PIPE
CS - INDICATES BUTT WELD SUBJECT TO COMPRESSIVE STRESSES ONLY
CU YD - CUBIC YARD
CVN - CHARPY V-NOTCH TESTING
DIA. - DIAMETER
EB - EAST BOUND
E.F. - EACH FACE
ELEV., EL. - ELEVATION
EQ. - EQUAL
EX. - EXISTING
EXP. - EXPANSION
F.A. - FORWARD ABUTMENT
F.F. - FAR FACE
F/F - FACE TO FACE
F.S. - FIELD SPLICE
FT/FT - FOOT PER FOOT
FTG. - FOOTING
FWD. - FORWARD
GEN. - GENERAL
INT. - INTEGRAL
LF - LEFT FORWARD
LT. - LEFT
MAX. - MAXIMUM
M.E. - MATCH EXISTING
MIN. - MINIMUM
MISC. - MISCELLANEOUS
MOT - MAINTENANCE OF TRAFFIC
N.F. - NEAR FACE
NO./# - NUMBER
OHWM - ORDINARY HIGH WATER MARK
O/O - OUT TO OUT
P.C.P.P - PERFORATED CORRUGATED PLASTIC PIPE
P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
PG - PROFILE GRADE
PGL - PROFILE GRADE LINE
PROP. - PROPOSED
PT - POINT OF TANGENCY
PVC - POINT OF VERTICAL CURVATURE
PVI - POINT OF VERTICAL INTERSECTION
PVT - POINT OF VERTICAL TANGENCY
R. - RADIUS
R.A. - REAR ABUTMENT
RCP - ROCK CHANNEL PROTECTION
RF - RIGHT FORWARD
RT. - RIGHT
R/W - RIGHT OF WAY
SAN. - SANITARY
SER. - SERIES
SHLDR. - SHOULDER
SHT. - SHEET
S.O. - SERIES OF
SPA. - SPACES OR SPACING
SQ FT - SQUARE FOOT
SR - STATE ROUTE
STA. - STATION
STD. - STANDARD
STM. - STORM
STR. - STRAIGHT
TBM - TEMPORARY BENCH MARK
TEMP. - TEMPORARY
T.O.S. - TOE OF SLOPE
T/RAILING - TOE OF RAILING
T/T - TOE TO TOE
TYP. - TYPICAL
U.G. - UNDERGROUND
U.N.O - UNLESS NOTED OTHERWISE
VAR. - VARIES
VC - VERTICAL CURVE
VERT. - VERTICAL
WB - WEST BOUND
W/O - WITHOUT

STRUCTURE GENERAL NOTES - (2 OF 2)
BRIDGE NO. FRA-00161-19.090 L&R
SR 161 OVER ROCKY FORK CREEK

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SFN 2509296 (R)

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CALC:	CMR	DATE:	11/11/2022
CHECKED:	DGJ	DATE:	11/16/2022

ESTIMATED QUANTITIES

ALT (X)	ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	LEFT STRUCTURE (WESTBOUND): SFN 2509288					RIGHT STRUCTURE (EASTBOUND): SFN 2509296				
						ABUT.	PIERS	SUPER.	GEN.	SEE SHEET	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
	202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	4 & 8 - 11 / 33				LUMP	4 & 8 - 11 / 33
	202	22901	34	SY	APPROACH SLAB REMOVED, AS PER PLAN				17	8 / 33				17	8 / 33
	503	11100	LUMP		COFFERDAMS AND EXCAVATION BRACING				LUMP	4 / 33				LUMP	4 / 33
	503	21101	105	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	60				4 / 33	45				4 / 33
	505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP					LUMP	
	509	10000	57065	LB	EPOXY COATED REINFORCING STEEL	2052	1232	28136			1562	930	23153		
	509	20001	96	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	3	6	30	9	4 / 33	3	6	30	9	4 / 33
	509	25000	286	LB	UNCOATED REINFORCING STEEL	156					130				
	509	30020	3764	FT	NO. 4 GFRP DEFORMED BARS		1882					1882			
	510	10001	66	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN	36				4 & 13 - 16 / 33	30				4 & 13 - 16 / 33
	511	32212	163	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE			91					72		
	511	34450	44	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)			22					22		
	511	43212	12	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER		7					5			
	511	43512	25	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT INCLUDING FOOTING	14					11				
	512	10050	378	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	10	28	104	47		8	22	112	47	
	512	33000	10	SY	TYPE 2 WATERPROOFING	5					5				
	516	13600	61	SF	1" PREFORMED EXPANSION JOINT FILLER	47					14				
	518	21200	9	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	5					4				
	519	11101	17	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN								17		5 / 33
	523	20000	3	EACH	DYNAMIC LOAD TESTING	2	1			4 / 33					4 / 33
	526	25010	180	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15")				101				79		
	526	90010	66	FT	TYPE A INSTALLATION				37				29		
	601	32201	90	CY	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER, AS PER PLAN	45				5 / 33	45				5 / 33
	846	00110	25	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM				14	28 & 29 / 33			11		28 & 29 / 33
					STRUCTURE ALTERNATES										
X	507	00600	760	FT	14" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN (ALTERNATE 1)	80	360				80	240			
X	507	00650	830	FT	14" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED (ALTERNATE 1)	90	390				90	260			
X	SPECIAL	50771200	155	FT	SPECIAL - PILE ENCASEMENT (ALTERNATE 1)		93			12, 17 & 18 / 33		62			12, 17 & 18 / 33
X	507	00100	220	FT	STEEL PILES HP10x42, FURNISHED (ALTERNATE 2)	110					110				
X	507	00150	200	FT	STEEL PILES HP10x42, DRIVEN (ALTERNATE 2)	100					100				
X	507	00200	750	FT	STEEL PILES HP12x53, FURNISHED (ALTERNATE 2)		450					300			
X	507	00250	700	FT	STEEL PILES HP12x53, DRIVEN (ALTERNATE 2)		420					280			
X	SPECIAL	50771200	155	FT	SPECIAL - PILE ENCASEMENT (ALTERNATE 2)		93			12, 17 & 18 / 33		62			12, 17 & 18 / 33

ESTIMATED QUANTITIES
BRIDGE NO. FRA-00161-19.090 L&R
SR 161 OVER ROCKY FORK CREEK

SFN 2509288 (L)
SFN 2509296 (R)

DESIGN AGENCY
HDR
8890 LYRA DR.
SUITE 100
COLUMBUS, OH 43240
614.839.5770

DESIGNER JTW | CHECKER THS
REVIEWER DWW 02/10/23
PROJECT ID 116322
SUBSET 6 | TOTAL 33
SHEET 672 | TOTAL 846

FRA-161-15.80

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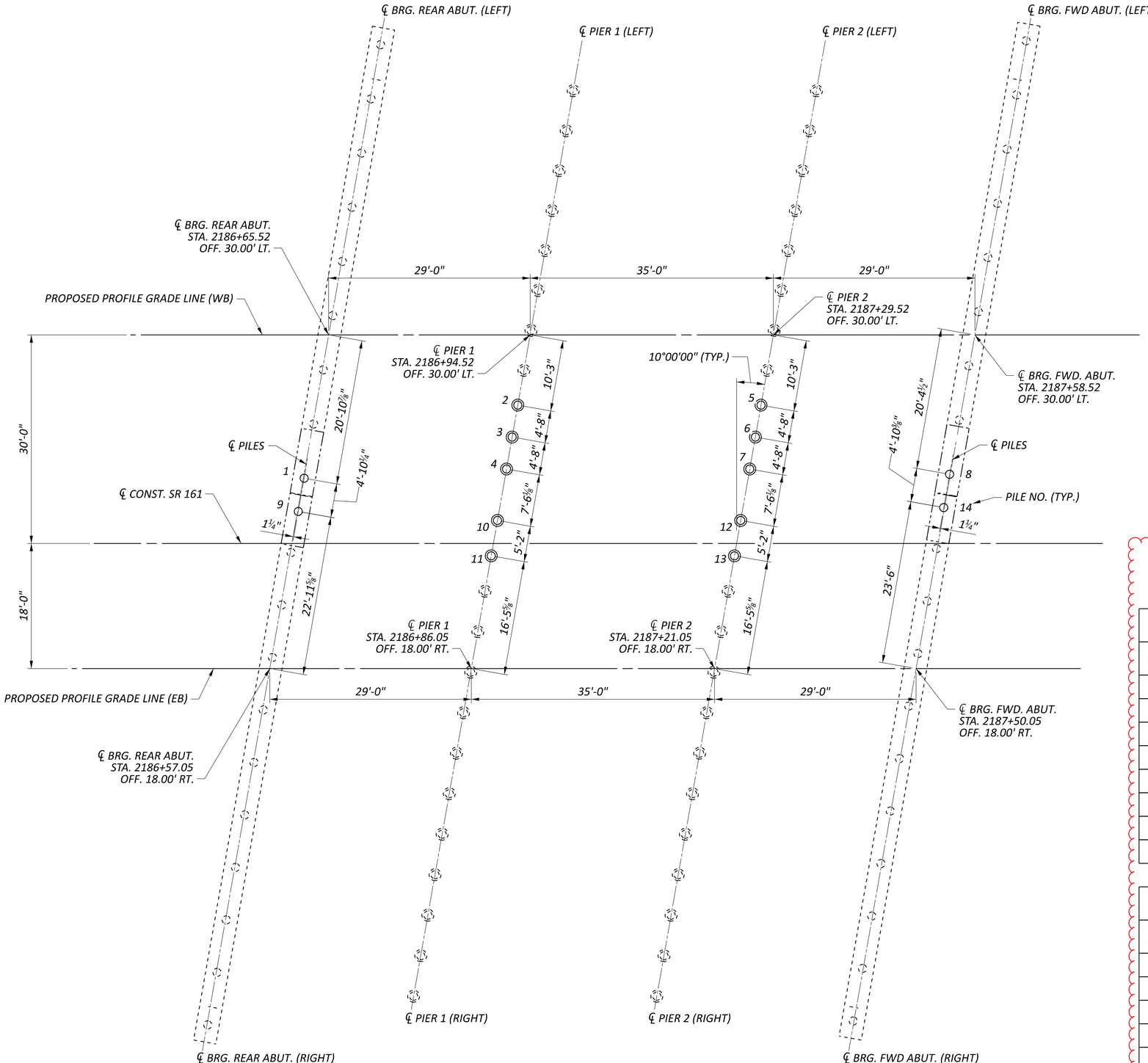

FOUNDATION PLAN

LEGEND:

- ◌ - EXISTING 14" ø CAST-IN-PLACE PILE
- ◌ - EXISTING 14" ø CAST-IN-PLACE PILE WITH ENCASEMENT
- ○ - PROPOSED 14" ø CAST-IN-PLACE PILE
- ◎ - PROPOSED 14" ø CAST-IN-PLACE PILE WITH ENCASEMENT (SEE PIER SHEETS 17 AND 18 OF 33)

NOTES:

1. FOR ADDITIONAL PILE INFORMATION, SEE GENERAL NOTES SHEET 4 OF 33.
2. FOR ABUTMENT AND PIER DETAILS, SEE SHEETS 13 THRU 18 OF 33.
3. ABUTMENT PILE CUTOFF ELEVATION EQUALS THE BOTTOM OF FOOTING PLUS 2'-0" EMBEDMENT. PIER PILE CUTOFF ELEVATION EQUALS THE BOTTOM OF CAP PLUS 1'-6" EMBEDMENT.
4. 14" DIA. REINFORCED CONCRETE CIP PILES (ALT. 1) ARE SHOWN IN THE PLANS. STEEL H-PILES, HP10x42 AT THE ABUTMENTS AND HP12x53 AT THE PIER (ALT. 2) SHALL BE LOCATED AT THE SAME LOCATION AND SPACING AS THE CIP PILES. THE H-PILES SHALL BE ORIENTED WITH THE FLANGES PERPENDICULAR TO THE ℄ ABUTMENT BEARING AND ℄ PIER.

H-PILE PILING TABLE (ALTERNATE 2)

PILE NO.	LOCATION	PILE CUT OFF EL.	ESTIMATED PILE TIP EL.	ESTIMATED LENGTH	NO. OF PILES
1	REAR ABUT. (LEFT)	959.00	920.0±	40	1
2-4	PIER 1 (LEFT)	961.49	899.0±	70	3
5-7	PIER 2 (LEFT)	961.57	899.0±	70	3
8	FWD. ABUT. (LEFT)	959.20	904.0±	60	1
9	REAR ABUT. (RIGHT)	959.00	920.0±	40	1
10-11	PIER 1 (RIGHT)	961.49	899.0±	70	2
12-13	PIER 2 (RIGHT)	961.57	899.0±	70	2
14	FWD. ABUT. (RIGHT)	959.20	904.0±	60	1

CIP PILING TABLE (ALTERNATE 1)

PILE NO.	LOCATION	PILE CUT OFF EL.	ESTIMATED PILE TIP EL.	ESTIMATED LENGTH	NO. OF PILES
1	REAR ABUT. (LEFT)	959.00	930.0±	30	1
2-4	PIER 1 (LEFT)	961.49	904.0±	60	3
5-7	PIER 2 (LEFT)	961.57	904.0±	60	3
8	FWD. ABUT. (LEFT)	959.20	914.0±	50	1
9	REAR ABUT. (RIGHT)	959.00	930.0±	30	1
10-11	PIER 1 (RIGHT)	961.49	904.0±	60	2
12-13	PIER 2 (RIGHT)	961.57	904.0±	60	2
14	FWD. ABUT. (RIGHT)	959.20	914.0±	50	1

FOUNDATION PLAN
BRIDGE NO. FRA-00161-19.090 L&R
SR 161 OVER ROCKY FORK CREEK

SFN 2509288 (L)
SFN 2509296 (R)

DESIGN AGENCY
HDR
8890 LYRA DR.
SUITE 100
COLUMBUS, OH 43240
614.839.5770

DESIGNER JTW | CHECKER THS
REVIEWER DWW 02/10/23
PROJECT ID 116322
SUBSET 12 | TOTAL 33
SHEET 678 | TOTAL 846

FRA-161-15.80

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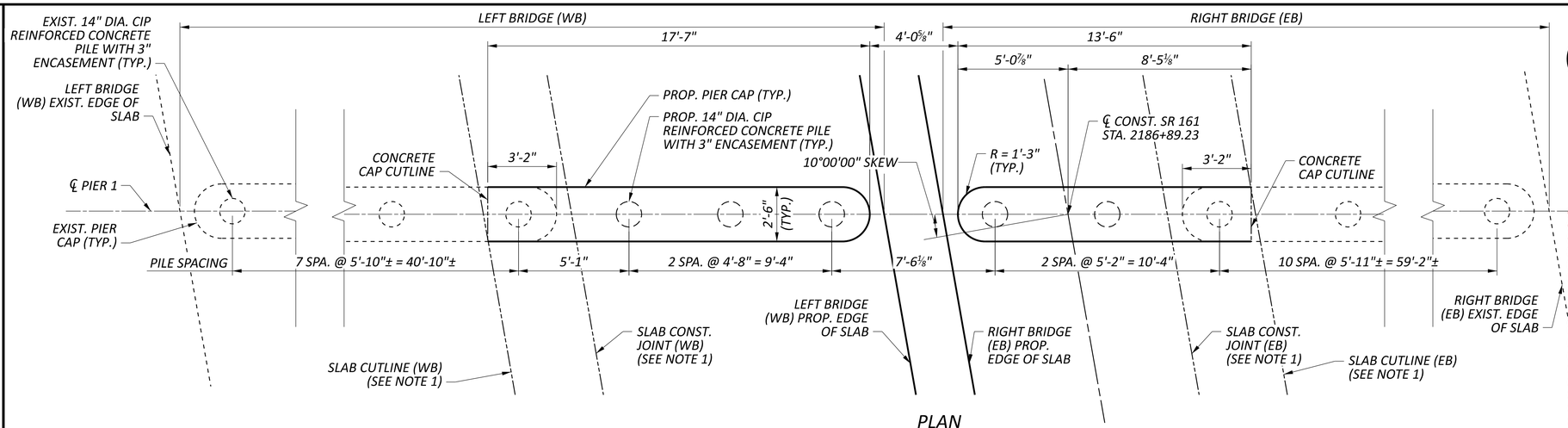
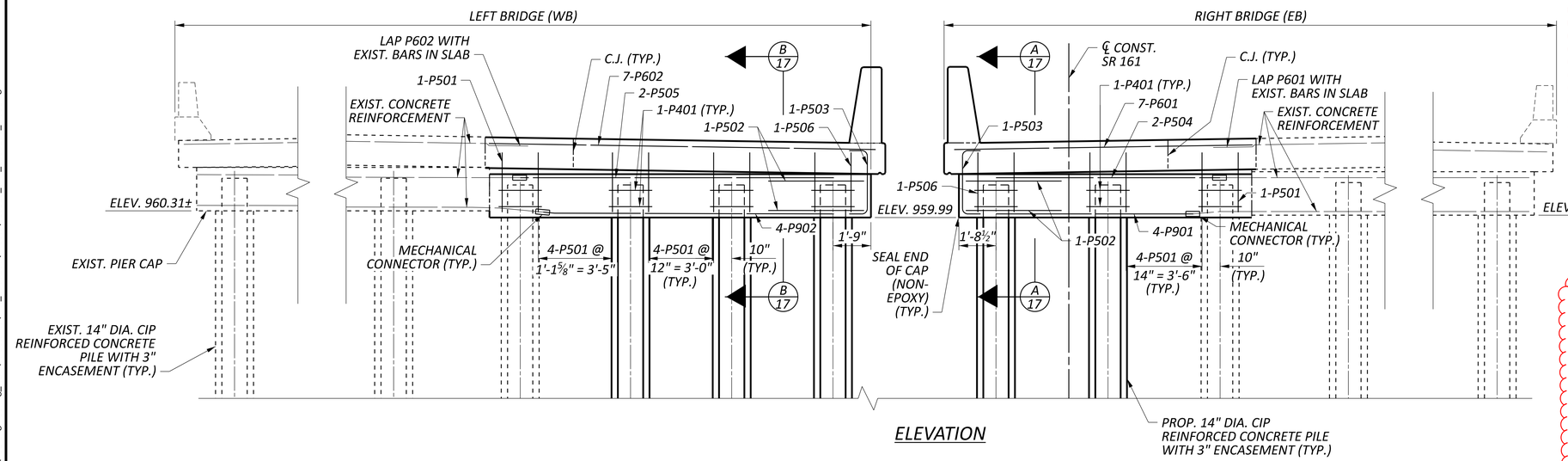
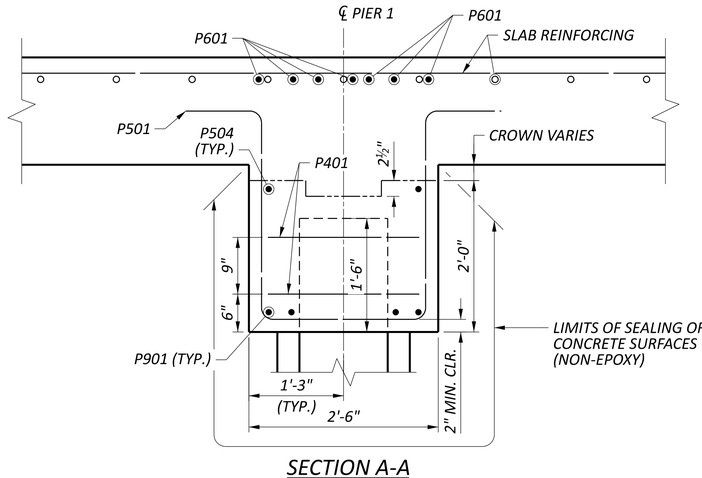


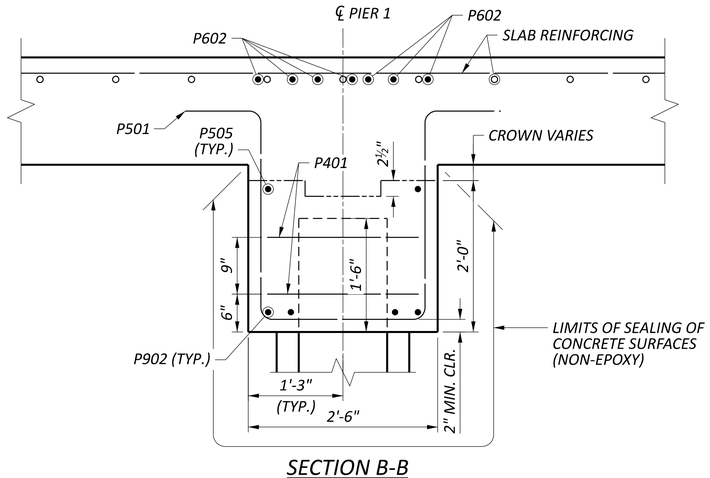
PLAN



ELEVATION

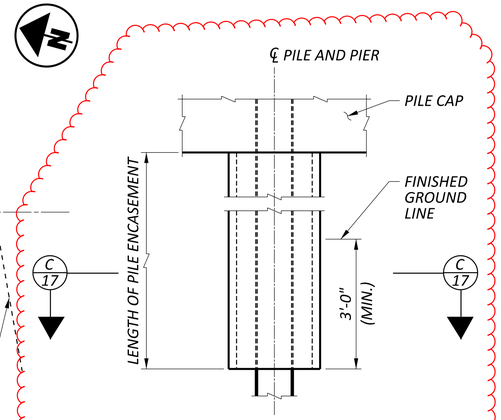


SECTION A-A

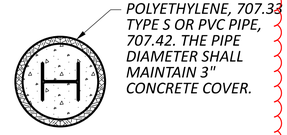


SECTION B-B

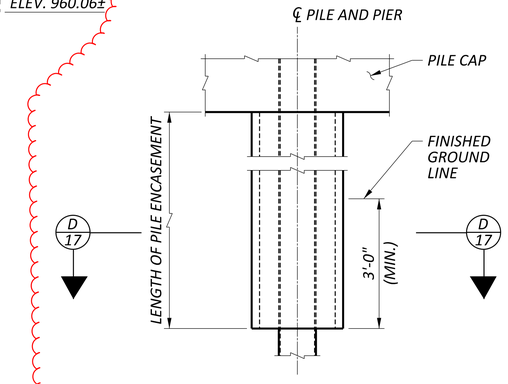
MINIMUM REQUIRED LAP	
#4	2'-4"
#5	2'-11"
#6	3'-4"



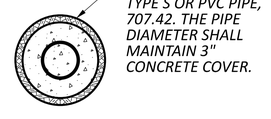
PILE ENCASEMENT
(ALTERNATE 2)



SECTION C-C
SHOWING HP12x53 STEEL PILE
(ALTERNATE 2)



PILE ENCASEMENT
(ALTERNATE 1)



SECTION D-D
SHOWING 14-INCH CIP PIPE PILE
(ALTERNATE 1)

NOTES:

1. FOR SLAB PLAN SEE SHEETS 19 THRU 22 OF 33.
2. FOR ADDITIONAL NOTES AND DETAILS, SEE ODOT STD. DWG. CPP-1-08.

RIGHT (EB) & LEFT (WB) BRIDGE PIER 1 PLAN AND ELEVATION
BRIDGE NO. FRA-00161-19.090 L&R
SR 161 OVER ROCKY FORK CREEK

SFN 2509288 (L)
SFN 2509296 (R)
DESIGN AGENCY

8890 LYRA DR.
SUITE 100
COLUMBUS, OH 43240
614.839.5770

DESIGNER	CHECKER
CRG	CMR

REVIEWER
DWW 02/10/23

PROJECT ID 116322

SUBSET	TOTAL
17	33

SHEET	TOTAL
683	846

FRA-161-15.80

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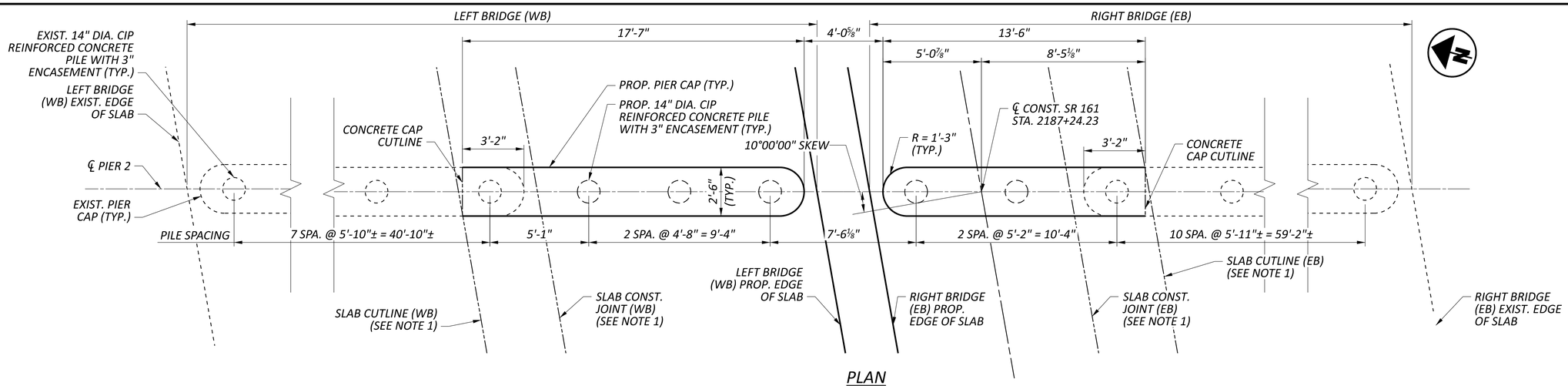
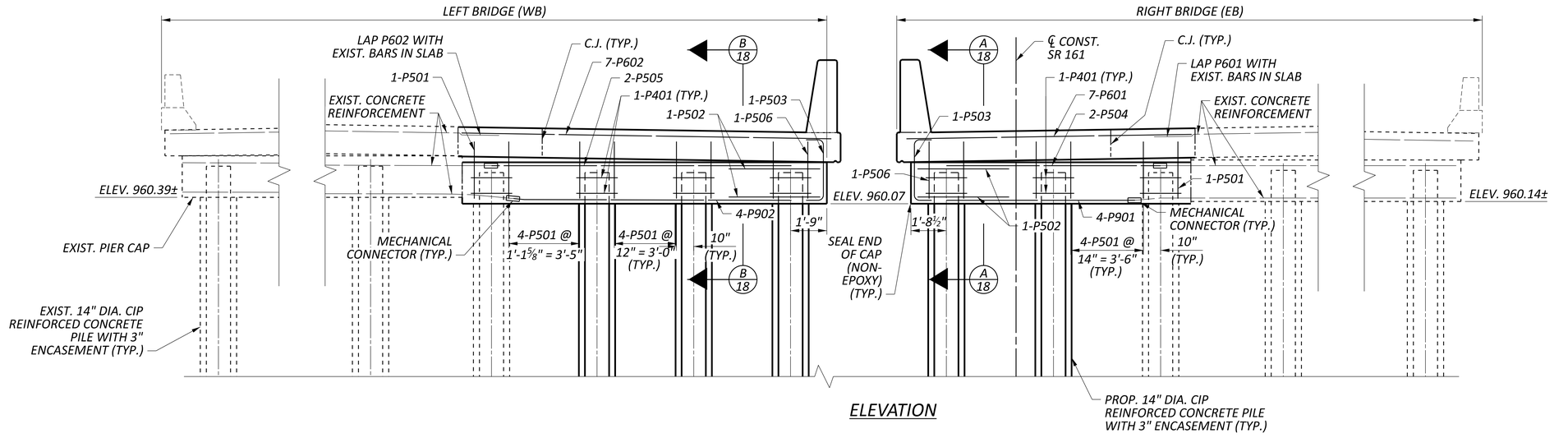
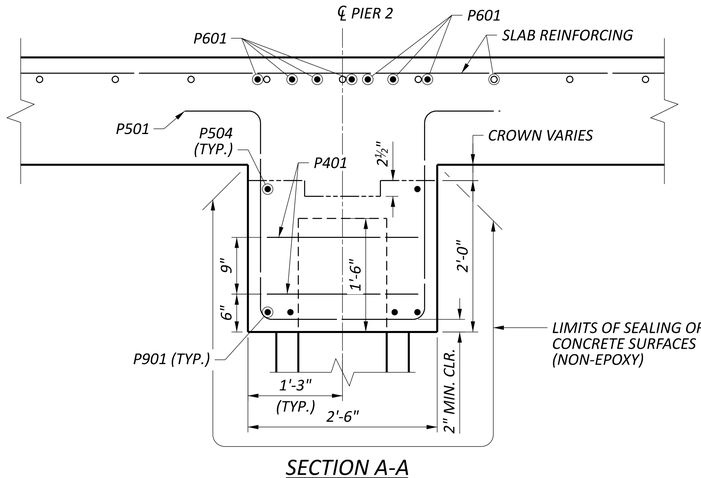


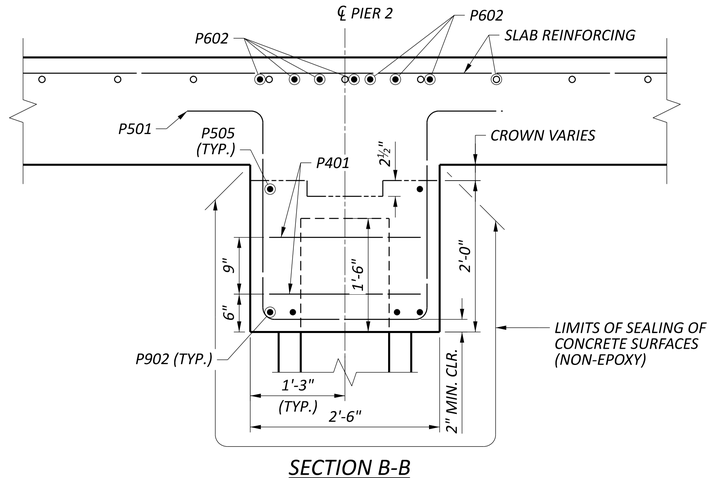
PLAN



ELEVATION



SECTION A-A



SECTION B-B

MINIMUM REQUIRED LAP	
#4	2'-4"
#5	2'-11"
#6	3'-4"

NOTES:

1. FOR SLAB PLAN SEE SHEETS 19 THRU 22 OF 33.
2. FOR ADDITIONAL NOTES AND DETAILS, SEE ODOT STD. DWG. CPP-1-08.
3. FOR PILE ENCASEMENT DETAILS, SEE SHEET 17 OF 33.

RIGHT (EB) & LEFT (WB) BRIDGE PIER 2 PLAN AND ELEVATION
BRIDGE NO. FRA-00161-19.090 L&R
SR 161 OVER ROCKY FORK CREEK

SFN 2509288 (L)
SFN 2509296 (R)
DESIGN AGENCY
HDR
8890 LYRA DR.
SUITE 100
COLUMBUS, OH 43240
614.839.5770
DESIGNER CRG | CHECKER CMR
REVIEWER DWW 02/10/23
PROJECT ID 116322
SUBSET 18 | TOTAL 33
SHEET 684 | TOTAL 846

FRA-161-15.80

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MARK	NUMBER	LENGTH	MATERIAL	WEIGHT (LBS.)	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
LEFT BRIDGE REAR ABUTMENT (60 KSI, EPOXY COATED)												
RA501	20	7'-10"	ECSR	163	2	2'-7"	2'-11"	2'-7"				
RA507	8	2'-9"	ECSR	23	2	0'-9"	1'-6"	0'-9"				
RA508	4	9'-2"	ECSR	38	40	9'-2"						
RA509	2	18'-4"	ECSR	38	40	18'-4"						
RA511	8	10'-9"	ECSR	90	3	1'-8"	3'-5"					
RA512	2	13'-9"	ECSR	29	3	1'-8"	4'-11"					
RA513	2	3'-0"	ECSR	6	41	1'-6"	0'-8"	0'-3 ½"	1'-0"			
RA515	2	18'-2"	ECSR	38	STR							
RA802	4	9'-2"	ECSR	98	40							
RA803	13	5'-5"	ECSR	188	18	3'-1"	1'-0"	1'-0"				
RA1002	4	18'-4"	ECSR	316	40	18'-4"						
SUB-TOTAL				1027	ITEM 509 - EPOXY COATED REINFORCING STEEL							
LEFT BRIDGE REAR ABUTMENT (60 KSI, UNCOATED)												
RA510U	18	4'-2"	USR	78	1	1'-8"	2'-7"					
SUB-TOTAL				78	ITEM 509 - UNCOATED REINFORCING STEEL							

MARK	NUMBER	LENGTH	MATERIAL	WEIGHT (LBS.)	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
LEFT BRIDGE FORWARD ABUTMENT (60 KSI, EPOXY COATED)												
FA501	20	7'-10"	ECSR	163	2	2'-7"	2'-11"	2'-7"				
FA502	4	9'-9"	ECSR	41	40	9'-9"						
FA503	2	18'-2"	ECSR	38	40	18'-2"						
FA505	8	10'-9"	ECSR	90	3	1'-8"	3'-5"					
FA506	2	13'-9"	ECSR	29	3	1'-8"	4'-11"					
FA507	8	2'-9"	ECSR	23	2	0'-9"	1'-6"	0'-9"				
FA513	2	3'-0"	ECSR	6	41	1'-6"	0'-8"	0'-3 ½"	1'-0"			
FA514	2	18'-0"	ECSR	38	STR							
FA801	4	9'-9"	ECSR	104	40	9'-9"						
FA803	13	5'-2"	ECSR	180	18	2'-10"	1'-0"	1'-0"				
FA1001	4	18'-2"	ECSR	313	40	18'-2"						
SUB-TOTAL				1025	ITEM 509 - EPOXY COATED REINFORCING STEEL							
LEFT BRIDGE FORWARD ABUTMENT (60 KSI, UNCOATED)												
FA504U	18	4'-2"	USR	78	1	1'-8"	2'-7"					
SUB-TOTAL				78	ITEM 509 - UNCOATED REINFORCING STEEL							

MARK	NUMBER	LENGTH	MATERIAL	WEIGHT (LBS.)	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
LEFT BRIDGE PIER 1 (60 KSI, EPOXY COATED)												
P401	8	8'-6"	ECSR	45	3	2'-0"	2'-0"					
P501	13	8'-10"	ECSR	120	6	2'-2"	2'-9"	0'-10"				
P502	2	10'-0"	ECSR	21	24	2'-0"	3'-5"				1'-0"	
P503	1	4'-2"	ECSR	4	2	0'-10"	2'-9"	0'-10"				
P505	2	14'-4"	ECSR	30	40	14'-4"						
P506	1	8'-8"	ECSR	9	6	2'-0"	2'-9"	0'-10"				
P602	7	18'-3"	ECSR	192	STR							
P902	4	14'-4"	ECSR	195	40	14'-4"						
SUB-TOTAL				616	ITEM 509 - EPOXY COATED REINFORCING STEEL							

MARK	NUMBER	LENGTH	MATERIAL	WEIGHT (LBS.)	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
LEFT BRIDGE PIER 2 (60 KSI, EPOXY COATED)												
P401	8	8'-6"	ECSR	45	3	2'-0"	2'-0"					
P501	13	8'-10"	ECSR	120	6	2'-2"	2'-9"	0'-10"				
P502	2	10'-0"	ECSR	21	24	2'-0"	3'-5"				1'-0"	
P503	1	4'-2"	ECSR	4	2	0'-10"	2'-9"	0'-10"				
P505	2	14'-4"	ECSR	30	40	14'-4"						
P506	1	8'-8"	ECSR	9	6	2'-0"	2'-9"	0'-10"				
P602	7	18'-3"	ECSR	192	STR							
P902	4	14'-4"	ECSR	195	40	14'-4"						
SUB-TOTAL				616	ITEM 509 - EPOXY COATED REINFORCING STEEL							

NOTES:

1. *FOR GENERAL NOTES, SEE SHEETS 4 AND 5 OF 33.*
2. *FOR BAR BEND DIAGRAM AND ADDITIONAL NOTES, SEE SHEET 33 OF 33.*

CONCRETE REINFORCEMENT BAR LIST - (1 OF 4)
BRIDGE NO. FRA-00161-19.090 L&R
SR 161 OVER ROCKY FORK CREEK

SFN 2509288 (L)

SFN 2509296 (R)

DESIGN AGENCY

8890 LYRA DR.
SUITE 100
COLUMBUS, OH 43240
614.839.5770

DESIGNER	CHECKER
JTW	CMR

REVIEWER: DWW 02/10/23

PROJECT ID: 116322

SUBSET	TOTAL
30	33

SHEET	TOTAL
696	846

FRA-161-15.80

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 5/10/2023 TIME: 11:12:04 AM USER: JWROTEN
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MARK	NUMBER	LENGTH	MATERIAL	WEIGHT (LBS.)	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
LEFT BRIDGE SUPERSTRUCTURE (60 KSI, EPOXY COATED)												
S402	96	17'-0"	ECSR	1090	STR							
S501	88	17'-3"	ECSR	1583	STR							
S502	44	11'-2"	ECSR	512	STR							
S503	76	3'-2"	ECSR	251	2	1'-3"	0'-11"	1'-3"				
S602	90	18'-0"	ECSR	2433	STR							
S801	80	32'-10"	ECSR	7013	16	31'-11"						
S802	40	40'-7"	ECSR	4334	STR							
S803	88	31'-0"	ECSR	7284	STR							
S804	3	34'-10"	ECSR	279	STR							
SUB-TOTAL				24779	ITEM 509 - EPOXY COATED REINFORCING STEEL							

MARK	NUMBER	LENGTH	MATERIAL	WEIGHT (LBS.) OR LENGTH (FT.)	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
LEFT BRIDGE RAILING (60 KSI, EPOXY COATED)												
R601	155	7'-5"	ECSR	1727	37	0'-9 ½"	1'-3"	2'-3 ½"	0'-7"	1'-0"		
R602	155	7'-0"	ECSR	1630	23	0'-6"	3'-3"	3'-3"			2"	
SUB-TOTAL				3357	ITEM 509 - EPOXY COATED REINFORCING STEEL							
LEFT BRIDGE RAILING (GFRP)												
R401G	27	30'-0"	GFRP	810'-0"	STR							
R402G	9	6'-6"	GFRP	58'-6"	STR							
R403G	28	10'-0"	GFRP	280'-0"	STR							
R404G	8	11'-8"	GFRP	93'-4"	STR							
R405G	18	24'-7"	GFRP	442'-6"	STR							
R406G	16	12'-4"	GFRP	197'-4"	STR							
SUB-TOTAL				1881'-8"	ITEM 509 - NO. 4 GFRP DEFORMED BARS							

MARK	NUMBER	LENGTH	MATERIAL	WEIGHT (LBS.)	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
LEFT BRIDGE APPROACH SLAB (60 KSI, EPOXY COATED)												
AS501	114	18'-1"	ECSR	2150	STR							
AS502	26	23'-7"	ECSR	640	STR							
AS1001	64	25'-11"	ECSR	7137	16	24'-6"						
SUB-TOTAL				**	INCLUDED WITH ITEM 526 - REINFORCED CONCRETE APPROACH SLAB WITH QC/QA (T=15") FOR PAYMENT							

MARK	NUMBER	LENGTH	MATERIAL	WEIGHT (LBS.)	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
LEFT BRIDGE SLEEPER SLAB (60 KSI, EPOXY COATED)												
SS501	16	17'-11"	ECSR	299	STR							
SS502	38	7'-7"	ECSR	301	STR							
SUB-TOTAL				**	INCLUDED WITH ITEM 526 - TYPE A INSTALLATION FOR PAYMENT							

NOTES:

1. *FOR GENERAL NOTES, SEE SHEETS 4 AND 5 OF 33.*
2. *FOR BAR BEND DIAGRAM AND ADDITIONAL NOTES, SEE SHEET 33 OF 33.*

CONCRETE REINFORCEMENT BAR LIST - (2 OF 4)
BRIDGE NO. FRA-00161-19.090 L&R
SR 161 OVER ROCKY FORK CREEK

SFN 2509288 (L)
SFN 2509296 (R)

DESIGN AGENCY

8890 LYRA DR.
SUITE 100
COLUMBUS, OH 43240
614.839.5770

DESIGNER	CHECKER
JTW	CMR

REVIEWER
DWW 02/10/23

PROJECT ID
116322

SUBSET	TOTAL
31	33

SHEET	TOTAL
697	846

FRA-161-15.80

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 5/10/2023 TIME: 11:12:12 AM USER: JWROTEN
pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 06\Franklin\116322\401-Engineering_HDR\Structures\SFN_2509288\Sheets\116322_SFN_2509288_SL002.dgn

MARK	NUMBER	LENGTH	MATERIAL	WEIGHT (LBS.)	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
RIGHT BRIDGE REAR ABUTMENT (60 KSI, EPOXY COATED)												
RA501	16	7'-10"	ECSR	131	2	2'-7"	2'-11"	2'-7"				
RA502	4	7'-2"	ECSR	30	40	7'-2"						
RA503	2	14'-2"	ECSR	30	40	14'-2"						
RA505	6	10'-5"	ECSR	65	3	1'-8"	3'-3"					
RA506	2	13'-9"	ECSR	29	3	1'-8"	4'-11"					
RA507	8	2'-9"	ECSR	23	2	0'-9"	1'-6"	0'-9"				
RA513	2	3'-0"	ECSR	6	41	1'-6"	0'-8"	0'-3 ½"	1'-0"			
RA514	2	14'-0"	ECSR	29	STR							
RA801	4	7'-2"	ECSR	77	40	7'-2"						
RA803	9	5'-5"	ECSR	130	18	3'-1"	1'-0"	1'-0"				
RA1001	4	14'-2"	ECSR	244	40	14'-2"						
SUB-TOTAL				794	ITEM 509 - EPOXY COATED REINFORCING STEEL							
RIGHT BRIDGE REAR ABUTMENT (60 KSI, UNCOATED)												
RA504U	14	4'-1"	USR	60	1	1'-8"	2'-6"					
SUB-TOTAL				60	ITEM 509 - UNCOATED REINFORCING STEEL							

MARK	NUMBER	LENGTH	MATERIAL	WEIGHT (LBS.)	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
RIGHT BRIDGE FORWARD ABUTMENT (60 KSI, EPOXY COATED)												
FA501	14	7'-10"	ECSR	114	2	2'-7"	2'-11"	2'-7"				
FA507	8	2'-9"	ECSR	23	2	0'-9"	1'-6"	0'-9"				
FA508	4	6'-8"	ECSR	28	40	6'-8"						
FA509	2	14'-3"	ECSR	30	40	14'-3"						
FA511	5	10'-7"	ECSR	55	3	1'-8"	3'-4"					
FA512	2	13'-9"	ECSR	29	3	1'-8"	4'-11"					
FA513	2	3'-0"	ECSR	6	41	1'-6"	0'-8"	0'-3 ½"	1'-0"			
FA515	2	14'-1"	ECSR	29	STR							
FA802	4	6'-8"	ECSR	71	40	6'-8"						
FA803	10	5'-2"	ECSR	138	18	2'-10"	1'-0"	1'-0"				
FA1002	4	14'-3"	ECSR	245	40	14'-3"						
SUB-TOTAL				768	ITEM 509 - EPOXY COATED REINFORCING STEEL							
RIGHT BRIDGE FORWARD ABUTMENT (60 KSI, UNCOATED)												
FA510U	16	4'-2"	USR	70	1	1'-8"	2'-7"					
SUB-TOTAL				70	ITEM 509 - UNCOATED REINFORCING STEEL							

MARK	NUMBER	LENGTH	MATERIAL	WEIGHT (LBS.)	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
RIGHT BRIDGE PIER 1 (60 KSI, EPOXY COATED)												
P401	6	8'-6"	ECSR	34	3	2'-0"	2'-0"					
P501	9	8'-10"	ECSR	83	6	2'-2"	2'-9"	0'-10"				
P502	2	10'-0"	ECSR	21	24	2'-0"	3'-5"				1'-0"	
P503	1	4'-2"	ECSR	4	2	0'-10"	2'-9"	0'-10"				
P504	2	10'-6"	ECSR	22	40	10'-6"						
P506	1	8'-8"	ECSR	9	6	2'-0"	2'-9"	0'-10"				
P601	7	14'-2"	ECSR	149	STR							
P901	4	10'-6"	ECSR	143	40	10'-6"						
SUB-TOTAL				465	ITEM 509 - EPOXY COATED REINFORCING STEEL							

MARK	NUMBER	LENGTH	MATERIAL	WEIGHT (LBS.)	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
RIGHT BRIDGE PIER 2 (60 KSI, EPOXY COATED)												
P401	6	8'-6"	ECSR	34	3	2'-0"	2'-0"					
P501	9	8'-10"	ECSR	83	6	2'-2"	2'-9"	0'-10"				
P502	2	10'-0"	ECSR	21	24	2'-0"	3'-5"				1'-0"	
P503	1	4'-2"	ECSR	4	2	0'-10"	2'-9"	0'-10"				
P504	2	10'-6"	ECSR	22	40	10'-6"						
P506	1	8'-8"	ECSR	9	6	2'-0"	2'-9"	0'-10"				
P601	7	14'-2"	ECSR	149	STR							
P901	4	10'-6"	ECSR	143	40	10'-6"						
SUB-TOTAL				465	ITEM 509 - EPOXY COATED REINFORCING STEEL							

NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 4 AND 5 OF 33.
2. FOR BAR BEND DIAGRAM AND ADDITIONAL NOTES, SEE SHEET 33 OF 33.

CONCRETE REINFORCEMENT BAR LIST - (3 OF 4)
BRIDGE NO. FRA-00161-19.090 L&R
SR 161 OVER ROCKY FORK CREEK

SFN 2509288 (L)

SFN 2509296 (R)

DESIGN AGENCY

8890 LYRA DR.
SUITE 100
COLUMBUS, OH 43240
614.839.5770

DESIGNER	CHECKER
JTW	CMR

REVIEWER
DWW 02/10/23

PROJECT ID
116322

SUBSET	TOTAL
32	33

SHEET	TOTAL
698	846

FRA-161-15.80

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 5/10/2023 TIME: 11:12:19 AM USER: JWROTEN
pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 06\Frank\in\116322\401-Engineering_HDR\Structures\SFN_2509288\Sheets\116322_SFN_2509288_SL003.dgn

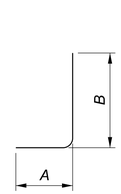
MARK	NUMBER	LENGTH	MATERIAL	WEIGHT (LBS.)	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
RIGHT BRIDGE SUPERSTRUCTURE (60 KSI, EPOXY COATED)												
S401	96	13'-0"	ECSR	834	STR							
S501	70	17'-3"	ECSR	1259	STR							
S502	35	11'-2"	ECSR	408	STR							
S503	76	3'-2"	ECSR	251	2	1'-3"	0'-11"	1'-3"				
S601	90	14'-0"	ECSR	1893	STR							
S801	64	32'-10"	ECSR	5611	16	31'-11"						
S802	32	40'-7"	ECSR	3467	STR							
S803	70	31'-0"	ECSR	5794	STR							
S804	3	34'-10"	ECSR	279	STR							
SUB-TOTAL				19796	ITEM 509 - EPOXY COATED REINFORCING STEEL							

MARK	NUMBER	LENGTH	MATERIAL	WEIGHT (LBS.) OR LENGTH (FT.)	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
RIGHT BRIDGE RAILING (60 KSI, EPOXY COATED)												
R601	155	7'-5"	ECSR	1727	37	0'-9 ½"	1'-3"	2'-3 ½"	0'-7"	1'-0"		
R602	155	7'-0"	ECSR	1630	23	0'-6"	3'-3"	3'-3"			2"	
SUB-TOTAL				3357	ITEM 509 - EPOXY COATED REINFORCING STEEL							
RIGHT BRIDGE RAILING (GFRP)												
R401G	27	30'-0"	GFRP	810'-0"	STR							
R402G	9	6'-6"	GFRP	58'-6"	STR							
R403G	28	10'-0"	GFRP	280'-0"	STR							
R404G	8	11'-8"	GFRP	93'-4"	STR							
R405G	18	24'-7"	GFRP	442'-6"	STR							
R406G	16	12'-4"	GFRP	197'-4"	STR							
SUB-TOTAL				1881'-8"	ITEM 509 - NO. 4 GFRP DEFORMED BARS							

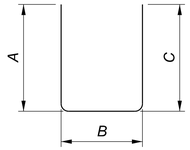
MARK	NUMBER	LENGTH	MATERIAL	WEIGHT (LBS.)	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
RIGHT BRIDGE APPROACH SLAB (60 KSI, EPOXY COATED)												
AS502	22	23'-7"	ECSR	541	STR							
AS503	114	14'-0"	ECSR	1665	STR							
AS1001	50	25'-11"	ECSR	5576	16	24'-6"						
SUB-TOTAL				**	INCLUDED WITH ITEM 526 - REINFORCED CONCRETE APPROACH SLAB WITH QC/QA (T=15") FOR PAYMENT							

MARK	NUMBER	LENGTH	MATERIAL	WEIGHT (LBS.)	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
RIGHT BRIDGE SLEEPER SLAB (60 KSI, EPOXY COATED)												
SS502	30	7'-7"	ECSR	237	STR							
SS503	16	13'-10"	ECSR	231	STR							
SUB-TOTAL				**	INCLUDED WITH ITEM 526 - TYPE A INSTALLATION FOR PAYMENT							

BAR BENDING DIAGRAM



TYPE-1



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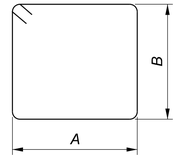

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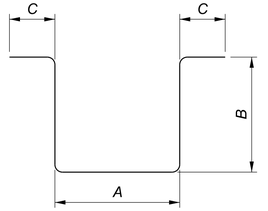

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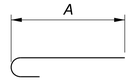

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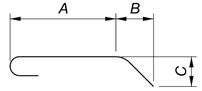

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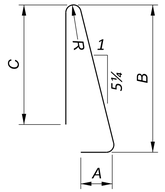
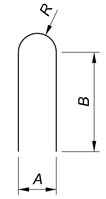


TYPE-23



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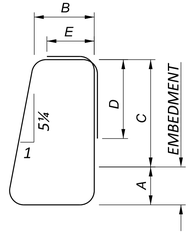

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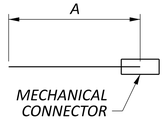

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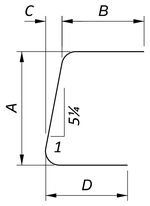

TYPE-41

NOTES:

1. FOR GENERAL NOTES, SEE SHEETS 4 AND 5 OF 33.

2. THE LETTER PREFIX INDICATES BAR LOCATION. THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE TWO DIGITS WHEN FOUR DIGITS ARE USED INDICATES BAR SIZE NUMBER. ALL REINFORCEMENT IS ASSUMED EPOXY COATED UNLESS OTHERWISE INDICATED BY A LETTER SUFFIX. IF A LETTER SUFFIX IS PROVIDED, IT INDICATES BAR OR BAR COATING TYPE. EXAMPLE: R401G

   R: THE LOCATION OF THE BARS IN THE STRUCTURE (BRIDGE RAILING)
   4: BAR SIZE DIMENSION NO. 4
   01: SEQUENCE NUMBER
   G: GFRP REINFORCEMENT

   THE FOLLOWING IS A LIST OF BAR LOCATION PREFIXES:
   S: SUPERSTRUCTURE
   R: BRIDGE RAILING
   RA: REAR ABUTMENT
   FA: FORWARD ABUTMENT
   P: PIER
   AS: APPROACH SLAB
   SS: SLEEPER SLAB

   THE FOLLOWING IS A LIST OF BAR MATERIAL SUFFIXES:
   G: GFRP REINFORCEMENT
   U: UNCOATED REINFORCEMENT

3. BAR DIMENSIONS ARE SHOWN OUT-TO-OUT UNLESS OTHERWISE NOTED. "STD." WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BAR BEND AT THE END OF THE BAR. STRAIGHT BARS ARE INDICATED BY "STR."

4. BAR MATERIAL:

   "ECSR" = GRADE 60 EPOXY COATED STEEL REINFORCEMENT
   "USR" = GRADE 60 UNCOATED STEEL REINFORCEMENT
   "GFRP" = GLASS FIBER REINFORCED POLYMER

CONCRETE REINFORCEMENT BAR LIST - (4 OF 4)
BRIDGE NO. FRA-00161-19.090 L&R
SR 161 OVER ROCKY FORK CREEK

SFN 2509288 (L)
SFN 2509296 (R)

DESIGN AGENCY
HDR
8890 LYRA DR.
SUITE 100
COLUMBUS, OH 43240
614.839.5770

DESIGNER	CHECKER
JTW	CMR

REVIEWER
DWW 02/10/23

PROJECT ID
116322

SUBSET	TOTAL
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SHEET	TOTAL
699	846

FRA-161-15.80

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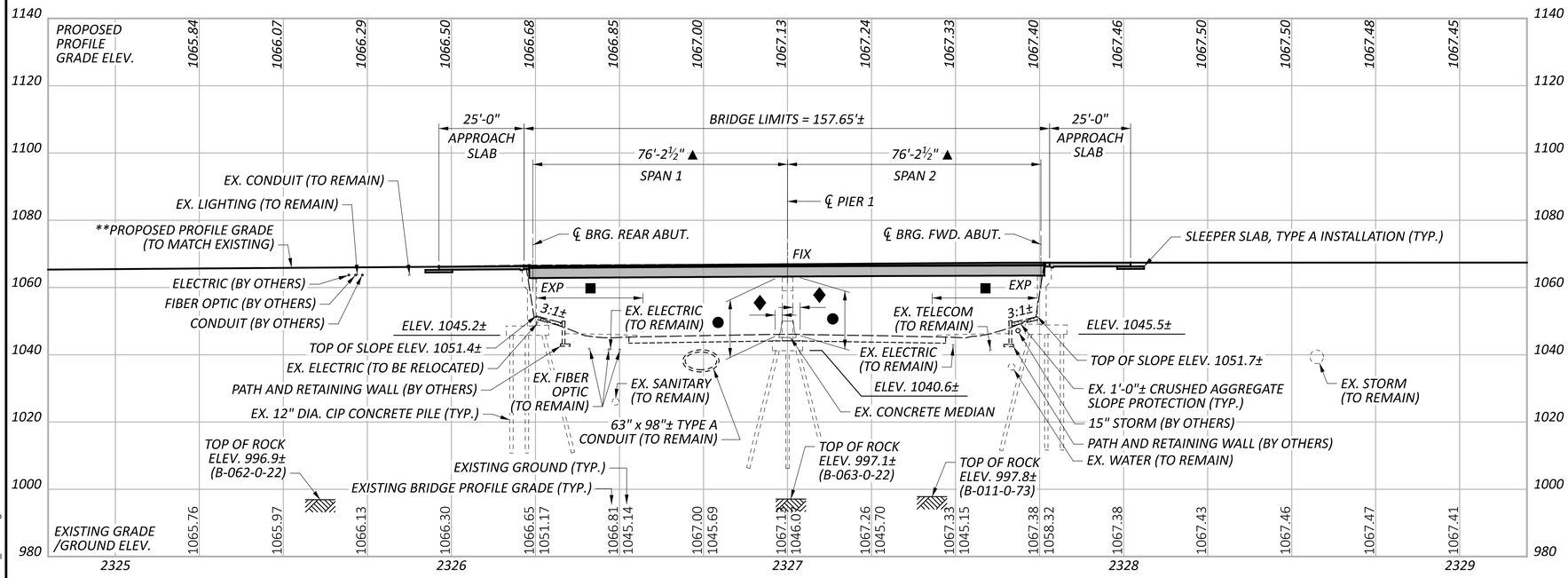
22_SFN_2509288_SL004.dgn



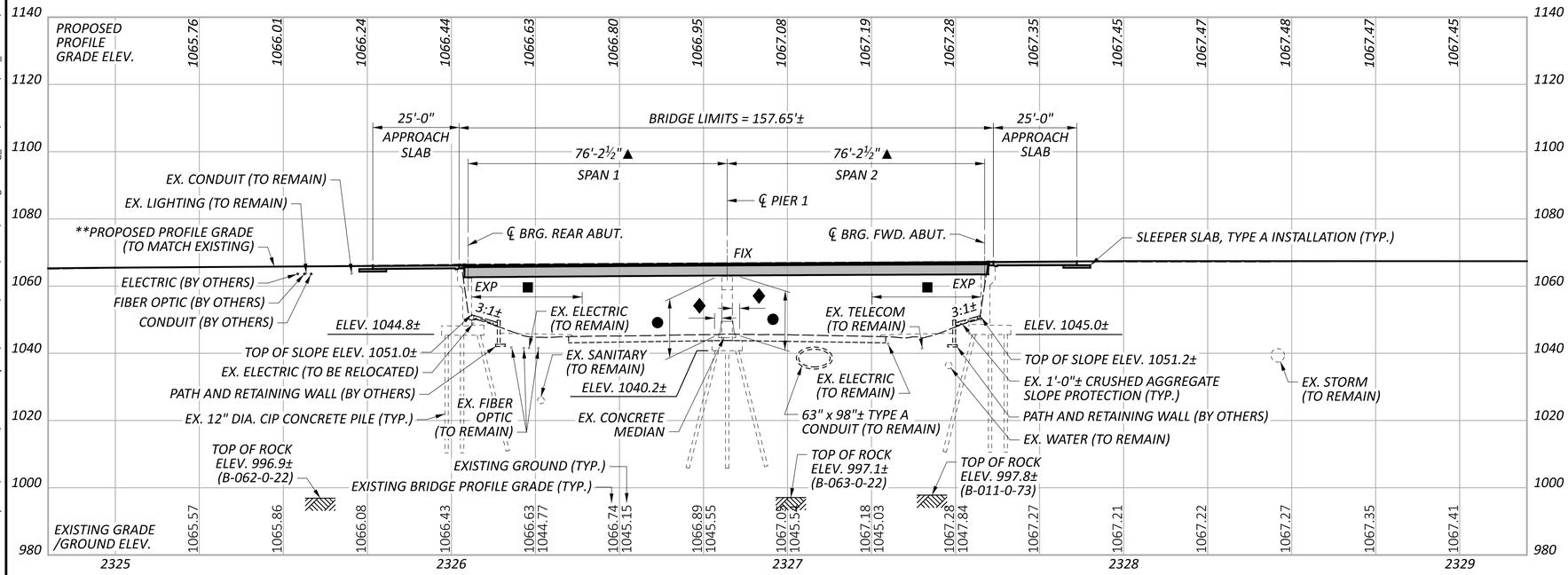
PROFILE ALONG PROPOSED PROFILE GRADE LINE (WB)

FOUNDATION DATA

ALL PROPOSED REAR AND FORWARD ABUTMENT PILES SHOWN IN THE PLANS ARE 12" DIA. REINFORCED CONCRETE CIP PILES (ALTERNATE 1) WITH AN ESTIMATED LENGTH OF 40 FEET.

HP10x42 STEEL H-PILES (ALTERNATE 2) SHALL BE LOCATED AT THE SAME LOCATION, SPACING AND BATTER AS THE CIP PILES WITH AN ESTIMATED LENGTH OF 55 FEET. THE H-PILES SHALL BE ORIENTED WITH THE FLANGES PARALLEL TO THE ℄ ABUTMENT BEARING.

ALL PROPOSED PIER 1 DRILLED SHAFTS SHALL BE 3'-6" DIAMETER.



PROFILE ALONG PROPOSED PROFILE GRADE LINE (EB)

**EB AND WB PROFILE GRADE LINES SHOWN ARE SET USING GRAPHIC GRADES MATCHING APPROXIMATELY THE EXISTING PAVEMENT SURVEY AND CONSIST OF 5 FOOT TANGENT SECTIONS WITH A MINIMUM GRADE OF 0.1% AND A MAXIMUM GRADE OF 0.9%. INDIVIDUAL VPI AND GRADES HAVE NOT BEEN SHOWN FOR CLARITY.

▲ - MEASURED ALONG REFERENCE CHORD

NOTE:

1. FOR ADDITIONAL INFORMATION, NOTES, AND ASSOCIATED PLAN VIEW, SEE SHEET 1 OF 54.

SITE PLAN - (2 OF 2)
BRIDGE NO. FRA-00161-21.730 L&R
SR 161 OVER US 62 (JOHNSTOWN RD.)

SFN 2503530 (R)
SFN 2503565 (L)
DESIGN AGENCY
HDR
8890 LYRA DR. SUITE 100 COLUMBUS, OH 43240 614.839.5770
DESIGNER RBK | CHECKER BTA
REVIEWER DWW 02/10/23
PROJECT ID 116322
SUBSET 2 | TOTAL 54
SHEET 701 | TOTAL 846

FRA-161-15.80

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:

REFER TO THE FOLLOWING STANDARD DRAWINGS:

AS-1-15	REVISED	7-17-2015
AS-2-15	REVISED	1-18-2019
EXJ-4-87	REVISED	7-15-2022
GSD-1-19	REVISED	1-15-2021
HL-30.31	REVISED	4-17-2020
HL-50.21	REVISED	7-15-2022
RM-4.2	REVISED	4-17-2020
SBR-1-20	REVISED	7-17-2020

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

800	DATED	SEE PROPOSAL
848	DATED	1-15-2021
894	DATED	4-16-2021

DESIGN SPECIFICATIONS:

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

OPERATIONAL IMPORTANCE:

A LOAD MODIFIER OF 1.05 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.

DESIGN LOADING INCLUDES:

PROPOSED DECK AND SUPERSTRUCTURE: HL-93 AND 0.060 KSF FUTURE WEARING SURFACE (FWS)
EXISTING DECK: HS-20-44 & ALTERNATE MILITARY LOADING
EXISTING SUPERSTRUCTURE: AS LOAD RATED (HL-93) AND 0.060 KSF FUTURE WEARING SURFACE (FWS)

PROPOSED SUBSTRUCTURE AND FOUNDATION: HL-93 AND 0.060 KSF FUTURE WEARING SURFACE (FWS)
EXISTING SUBSTRUCTURE AND FOUNDATION: HS-20-44 & ALTERNATE MILITARY LOADING

THIS BRIDGE RECEIVED AN APPROVED DESIGN EXCEPTION FOR DESIGN LOADING STRUCTURAL CAPACITY.

DESIGN DATA:

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)
CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)
CONCRETE CLASS QC5, WITH 1.0-IN MAX. AGGREGATE SIZE - COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFT)
CONCRETE REINFORCEMENT:
- UNCOATED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI (ABUTMENT)
- EPOXY COATED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60 KSI (DECK, BRIDGE RAILING, ABUTMENT, PIER, APPROACH SLAB)
- GFRP REINFORCEMENT (BRIDGE RAILING)

STRUCTURAL STEEL - ASTM A709 GRADE 50 - YIELD STRENGTH 50 KSI
~~STEEL CIP PILES - ASTM A252 GRADE 3 - YIELD STRENGTH 45 KSI~~ (ALTERNATE 1)
STEEL H-PILES - ASTM A572 - YIELD STRENGTH 50 KSI (ALTERNATE 2)

MONOLITHIC WEARING SURFACE:

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

PROPOSED WORK:

1. PHASED REMOVAL OF THE EXISTING RAILINGS, DECK, APPROACH SLABS, ABUTMENTS
2. PHASED CONSTRUCTION OF THE PILES, ABUTMENTS, PIERS, BEAMS, CROSSFRAMES, DECK AND RAILING.
3. PHASED CONSTRUCTION OF EXISTING BRIDGE DECK OVERLAY OF RIGHT BRIDGE (EASTBOUND).
4. PATCHING OF EXISTING CONCRETE BRIDGE RAILING OF RIGHT BRIDGE (EASTBOUND).
5. INSTALLATION OF ABUTMENT SLOPE PROTECTION.
6. PAINTING OF STRUCTURAL STEEL AND SEALING OF CONCRETE SURFACES.

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN:

DESCRIPTION:
THIS WORK CONSISTS OF THE REMOVAL OF CONCRETE DECKS INCLUDING CONCRETE BRIDGE RAILING, DECK JOINTS AND OTHER APPURTENANCES FROM STEEL SUPPORTING SYSTEMS (BEAMS, GIRDERS, CROSSFRAMES, ETC.). THIS ITEM INCLUDES TAKING SURVEY SHOTS OF THE EXISTING BEAM FLANGES, AS NOTED IN THE PLANS, BEFORE AND AFTER DECK REMOVAL AND CALCULATING THE REQUIRED ITEMS TO DETERMINE THE SCREED AND TOP OF HAUNCH ELEVATIONS. IT SHALL ALSO INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND THAT ARE NOT SEPARATELY LISTED FOR PAYMENT. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE DEPARTMENT WILL NOT PERMIT THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS. DO NOT BEGIN WORK UNTIL THE ENGINEER ACCEPTS THE METHOD OF REMOVAL AND THE WEIGHT OF HAMMER SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING CONCRETE REINFORCEMENT TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH CONCRETE REINFORCEMENT THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO C&MS 501.05

ITEM 202, PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN: (CONT'D)

PROTECTION OF STEEL SUPPORT SYSTEMS:
BEFORE DECK SLAB CUTTING BEGINS, DRAW THE OUTLINE OF PRIMARY STEEL MEMBERS IN CONTACT WITH THE BOTTOM OF THE DECK ON THE SURFACE OF DECK. DRILL CUTS OVER OR WITHIN 2 INCHES OUTSIDE THESE LINES TO CONFIRM THE LOCATION OF FLANGE EDGES. DECK REINFORCEMENT IN THE DECK SLAB. CUTS MADE OUTSIDE 2 INCHES OF FLANGE EDGES MAY EXTEND THE FULL DEPTH OF DECK. PERFORM WORK CAREFULLY DURING CUTTING OF THE DECK SLAB TO AVOID DAMAGING STEEL MEMBERS THAT ARE TO BE INCORPORATED INTO THE PROPOSED STRUCTURE. REPLACE OR REPAIR STEEL MEMBERS DAMAGED BY THE DECK SLAB CUTTING OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AN OHIO REGISTERED PROFESSIONAL ENGINEER TO THE ENGINEER. OBTAIN ENGINEER'S APPROVAL BEFORE PERFORMING REPAIR.

REMOVAL METHOD:
THE CONTRACTOR MAY REMOVE CONCRETE BY CUTTING AND BY MEANS OF HAND OPERATED PNEUMATIC HAMMERS EMPLOYING POINTED OR BLUNTED CHISEL TYPE TOOLS. FOR REMOVALS OVER STRUCTURAL MEMBERS (PRESTRESSED BOX BEAM, I-BEAM, STEEL BEAM STEEL GIRDER, ETC.), THE CONTRACTOR MAY USE A HAMMER HEAVIER THAN 35 POUNDS BUT NOT TO EXCEED 90 POUNDS UNLESS APPROVED BY THE ENGINEER. REMOVAL METHODS OVER STRUCTURAL MEMBERS SHALL ENSURE ADEQUATE DEPTH CONTROL AND PREVENT NICKING OR GOUGING THE PRIMARY STRUCTURAL MEMBERS. DUE TO THE POSSIBLE PRESENCE OF ATTACHMENTS (E.G., FINISHING MACHINE, SCUPPER AND FORM SUPPORTS, ETC.) TO EXISTING STRUCTURAL MEMBERS, PERFORM WORK CAREFULLY DURING DECK REMOVAL TO AVOID DAMAGING STRUCTURAL MEMBERS THAT ARE TO REMAIN. REPLACE OR REPAIR STRUCTURAL MEMBERS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN, DEVELOPED BY AND OHIO REGISTERED PROFESSIONAL ENGINEER TO THE ENGINEER. OBTAIN THE ENGINEER'S APPROVAL BEFORE PERFORMING REPAIR.

DECK REMOVALS - COMPOSITE DECK DESIGN - STEEL SUPERSTRUCTURES:
DUE TO THE PRESENCE OF WELDED STUDS TO THE EXISTING STRUCTURAL STEEL, SUBMIT A DETAILED PROCEDURE OF THE DECK REMOVAL WITH THE ENGINEERED DRAWINGS ACCORDING TO C&MS 501.05. DEPARTMENT ACCEPTANCE IS NOT REQUIRED. THE PROCEDURE SHALL INCLUDE ALL DETAILS, EQUIPMENT AND METHODS TO BE USED FOR REMOVAL OF THE CONCRETE OVER THE FLANGES AND AROUND THE STUDS. REPLACE OR REPAIR MAIN STEEL AND STUDS DAMAGED BY THE REMOVAL OPERATIONS AT NO COST TO THE PROJECT. AT LEAST 7 DAYS BEFORE PERFORMING REPAIR WORK, SUBMIT A PROPOSED REPAIR PLAN ACCORDING TO C&MS 501.05C TO THE ENGINEER TO REPLACE OR REPAIR STRUCTURAL STEEL AND STUDS DAMAGED BY THE REMOVAL OPERATIONS. THE DEPARTMENT WILL NOT PAY FOR DAMAGE REPAIRS.

EXISTING WELDED ATTACHMENTS:
REMOVE EXISTING WELDED ATTACHMENTS (E.G., FINISHING MACHINE AND FORM SUPPORTS; AND SUPPORTS FOR SCUPPERS AND BULB ANGLES WHICH ARE TO BE REMOVED) LOCATED IN THE DESIGNATED TENSION PORTIONS OF THE TOP FLANGES OF EXISTING STEEL MEMBERS AND GRIND THE FLANGE SURFACES SMOOTH. CAREFULLY GRIND PARALLEL TO THE FLANGES.

CUT LINE CONSTRUCTION JOINT PREPARATION:
SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING CONCRETE REINFORCEMENT, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING STEEL REINFORCEMENT DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUBSTRUCTURE CONCRETE REMOVAL:
REMOVE CONCRETE BY MEANS OR APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. THE DEPARTMENT WILL NOT PERMIT HYDRAULIC HOE-RAM TYPE HAMMERS. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18-IN LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH CONCRETE REINFORCEMENT THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

MEASUREMENT AND PAYMENT:
THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

ITEM 503, UNCLASSIFIED EXCAVATION, AS PER PLAN:

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH PERTINENT SECTIONS OF CMS SECTION 503 AND SHALL INCLUDE THE EXCAVATION AND BACKFILLING REQUIRED TO CONSTRUCT THE NEW PORTIONS OF THE ABUTMENTS (SEE DIAGRAM SHEET 30). EXCAVATION AND BACKFILLING REQUIRED FOR SUBSTRUCTURE REMOVAL AND STRUCTURE DRAINAGE SHALL BE INCLUDED WITH RESPECTIVE ITEMS 202 AND 518.

PILE DESIGN LOADS (ULTIMATE BEARING VALUE): (ALTERNATE 1)

THE ULTIMATE BEARING VALUE IS 259 KIPS PER PILE FOR THE REAR AND FORWARD ABUTMENT PILES.

ABUTMENT PILES:
12" CAST-IN-PLACE REINFORCED CONCRETE PILES, 45 FEET LONG, ORDER LENGTH
1 DYNAMIC LOAD TESTING ITEM

PROVIDE PLAIN CYLINDRICAL CASINGS WITH A MINIMUM PILE WALL THICKNESS OF 0.281 INCH FOR THE CAST-IN-PLACE REINFORCED CONCRETE PILES.

USE CONICAL STEEL PILE POINTS TO PROTECT THE TIPS OF THE PROPOSED STEEL CIP REINFORCED CONCRETE PIPE PILES AT BOTH ABUTMENTS.

PILES TO BEDROCK: (ALTERNATE 2)

DRIVE PILES TO REFUSAL ON BEDROCK. THE DEPARTMENT 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 181 KIPS PER PILE FOR THE ABUTMENT PILES.

ABUTMENT PILES:
HP10X42 PILES 60 FEET LONG, ORDER LENGTH

USE STEEL PILE POINTS TO PROTECT THE TIPS OF THE PROPOSED STEEL H-PILES AT BOTH ABUTMENTS.

PILE SPLICES: (ALTERNATE 2)

IN LIEU OF USING THE FULL PENETRATION BUTT WELDS SPECIFIED IN C&MS 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.

ITEM SPECIAL - STRUCTURES, MISC.: VIBRATION MONITORING:

MONITOR GROUND VIBRATIONS CAUSED BY PILE DRIVING TO MINIMIZE THE POTENTIAL FOR DAMAGE TO THE EXISTING RETAINING WALL IN FRONT OF THE PROPOSED ABUTMENTS.

RETAIN AN EXPERIENCED VIBRATION SPECIALIST TO ESTABLISH THE ACCEPTABLE VIBRATION LIMITS AND TO PERFORM THE VIBRATION MONITORING. USE A VIBRATION SPECIALIST THAT IS AN EXPERT IN THE INTERPRETATION OF VIBRATION DATA, AND WHO MEETS ONE OF THE FOLLOWING CRITERIA: 1) IS A REGISTERED ENGINEER WITH AT LEAST TWO YEARS OF PROVEN EXPERIENCE IN MONITORING VIBRATIONS ON SIMILAR CONSTRUCTION PROJECTS, OR 2) HAS AT LEAST FIVE YEARS OF PROVEN EXPERIENCE IN MONITORING VIBRATIONS ON SIMILAR CONSTRUCTION PROJECTS. DO NOT USE A VIBRATION SPECIALIST THAT IS AN EMPLOYEE OF THE CONTRACTOR.

SUBMIT A RESUME OF THE CREDENTIALS OF THE PROPOSED VIBRATION SPECIALIST AT OR BEFORE THE PRECONSTRUCTION MEETING. INCLUDE IN THE RESUME A LIST OF CONSTRUCTION PROJECTS ON WHICH THE VIBRATION SPECIALIST WAS RESPONSIBLY IN CHARGE OF MONITORING THE VIBRATIONS. LIST A DESCRIPTION OF THE PROJECTS, WITH DETAILS OF THE VIBRATION INTERPRETATIONS MADE ON THE PROJECT. LIST THE NAMES AND TELEPHONE NUMBERS OF PROJECT OWNERS WITH SUFFICIENT KNOWLEDGE OF THE PROJECTS TO VERIFY THE SUBMITTED INFORMATION. OBTAIN THE ENGINEER'S ACCEPTANCE OF THE VIBRATION SPECIALIST BEFORE BEGINNING ANY PILE DRIVING WORK. ALLOW 30 DAYS FOR THE REVIEW OF THIS DOCUMENTATION.

USE SEISMOGRAPHS CAPABLE OF CONTINUOUSLY RECORDING THE PEAK PARTICLE VELOCITY FOR THREE MUTUALLY PERPENDICULAR COMPONENTS OF VIBRATION, AND OF PROVIDING A PERMANENT RECORD OF THE ENTIRE VIBRATION EVENT. USE A SUFFICIENT NUMBER OF SEISMOGRAPHS TO PROVIDE REDUNDANCY IN CASE ONE DEVICE SHOULD FAIL. SUBMIT A PLAN OF THE PROPOSED SEISMOGRAPH LOCATIONS TO THE ENGINEER FOR REVIEW.

THE VIBRATION SPECIALIST SHALL PERFORM THE FOLLOWING:

1. MEASURE THE AMBIENT GROUND VIBRATIONS NEAR THE EXISTING RETAINING WALL BEFORE PILE DRIVING BEGINS.
2. ESTABLISH VIBRATION LIMITS TO MINIMIZE POTENTIAL DAMAGE TO THE EXISTING RETAINING WALL AND EXPLAIN WHY THEY ARE BEING USED TO THE ENGINEER BEFORE DRIVING PILES NEAR THE EXISTING RETAINING WALL.
3. MONITOR GROUND VIBRATIONS DURING PILE DRIVING.
4. IMMEDIATELY INFORM THE CONTRACTOR AND ENGINEER IF THE VIBRATION LIMITS ARE REACHED OR EXCEEDED.
5. FURNISH THE DATA RECORDED AND INCLUDE THE FOLLOWING:
   A. IDENTIFICATION OF SEISMOGRAPH.
   B. DISTANCE AND DIRECTION OF SEISMOGRAPH FROM PILE DRIVING.
   C. START TIME AND DURATION OF PILE DRIVING.
   D. LIST OF PILES DRIVEN DURING EACH MONITORING INTERVAL.

IMMEDIATELY SUSPEND ALL PILE DRIVING OPERATIONS IF THE VIBRATION LIMITS ARE REACHED OR EXCEEDED. EVALUATE ALTERNATIVE CONSTRUCTION PROCEDURES TO REDUCE THE VIBRATIONS.

SUBMIT THREE COPIES OF THE FINAL REPORT WHICH CONTAINS ALL MEASUREMENTS, INTERPRETATIONS, AND RECOMMENDATIONS TO THE ENGINEER.

THE DEPARTMENT WILL PAY FOR THIS ITEM AT THE CONTRACT LUMP SUM PRICE FOR ITEM SPECIAL - STRUCTURES, MISC.: VIBRATION MONITORING. THE DEPARTMENT WILL PAY THE FINAL TWENTY PERCENT AFTER THE ENGINEER RECEIVES THE FINAL REPORT.

THE DEPARTMENT WILL PAY ACCORDING TO C&MS 109.05 FOR ALTERNATIVE CONSTRUCTION PROCEDURES THAT THE ENGINEER DETERMINES ARE NECESSARY TO REDUCE VIBRATIONS.

GENERAL NOTES (1 OF 2)
BRIDGE NO. FRA-00161-21.730 L&R
SR 161 OVER US 62 (JOHNSTOWN RD.)

SFN 2503530 (R)
SFN 2503565 (L)

DESIGN AGENCY
HDR
8890 LYRA DR.
SUITE 100
COLUMBUS, OH 43240
614.839.5770

DESIGNER	CHECKER
RBK	BTA

REVIEWER: DWW 02/10/23
PROJECT ID: 116322

SUBSET	TOTAL
4	54

SHEET	TOTAL
703	846

FRA-161-15.80

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 5/10/2023 TIME: 2:10:03 PM USER: JSCHROCK
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ITEM SPECIAL - STRUCTURES, MISC.: PRECONSTRUCTION CONDITION SURVEY:

BEFORE PILE DRIVING BEGINS, CONDUCT A CONDITION SURVEY OF ALL EXISTING BUILDINGS, STRUCTURES, AND UTILITIES WITHIN 200-FT OF THE PILE DRIVING WORK. THE PURPOSE OF THE SURVEY IS TO DOCUMENT THE CONDITION OF THE BUILDINGS, STRUCTURES OR UTILITIES PRIOR TO PILE DRIVING, SO THAT CLAIMS OF DAMAGE CAUSED BY THE PILE DRIVING CAN BE VERIFIED.

RETAIN AN EXPERIENCED VIBRATION SPECIALIST TO PERFORM OR SUPERVISE THE CONDITION SURVEY. USE A VIBRATION SPECIALIST THAT MEETS THE QUALIFICATION REQUIREMENTS FOR VIBRATION MONITORING.

RECORD THE CONDITION OF EXISTING STRUCTURES AND MATERIALS, USING WRITTEN TEXT, PHOTOGRAPHS, AND VIDEO RECORDINGS. RECORD THE LOCATION, SIZE, AND TYPE OF ALL CRACKS AND OTHER STRUCTURAL DEFICIENCIES.

IF OWNERS FAIL TO ALLOW ACCESS TO THE PROPERTY FOR THE PRECONSTRUCTION CONDITION SURVEY, SEND A CERTIFIED LETTER TO THE OWNER. DOCUMENT THE NOTIFICATION EFFORT AND THE CERTIFIED LETTER IN THE REPORT.

SUBMIT THREE COPIES OF A REPORT TO THE ENGINEER THAT SUMMARIZES THE PRECONSTRUCTION CONDITION OF THE EXISTING RETAINING WALLS, AND THAT IDENTIFIES AREAS OF CONCERN.

THE DEPARTMENT WILL PAY FOR THIS ITEM AT THE CONTRACT LUMP SUM PRICE FOR ITEM SPECIAL - STRUCTURES, MISC.: PRECONSTRUCTION CONDITION SURVEY.

DRILLED SHAFTS BEARING ON ROCK:

THE MAXIMUM FACTORED LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 1135 KIPS AT PIER 1. THIS LOAD IS RESISTED BY TIP RESISTANCE OF THE SHAFTS BEARING ON ROCK. THE FACTORED TIP RESISTANCE IS 3377 KIPS. THE TIP RESISTANCE IS TO BE ACHIEVED BEARING ON BEDROCK. ENSURE THAT THE ENTIRE BOTTOM OF THE DRILLED SHAFT EXCAVATION IS IN BEDROCK BEFORE TERMINATION OF DRILLING.

LATERALLY LOADED DRILLED SHAFTS:

THE MAXIMUM FACTORED LATERAL LOAD AND BENDING MOMENT TO BE SUPPORTED BY EACH DRILLED SHAFT AT PIER 1 ARE 45 KIPS AND 1095 KIP-FEET, RESPECTIVELY. THESE LOADS PRODUCE A MAXIMUM FACTORED BENDING MOMENT OF 1181 KIP-FEET, AND A MAXIMUM FACTORED SHEAR OF 87 KIPS, WITHIN THE DRILLED SHAFT.

ITEM 894, THERMAL INTEGRITY PROFILER (T.I.P.) TEST:

PERFORM INTEGRITY TESTING ON 2 OF THE DRILLED SHAFTS AT PIER 1 BY THERMAL INTEGRITY PROFILING (TIP). PERFORM TIP TESTING PER ASTM D7949, "STANDARD TEST METHODS FOR THERMAL INTEGRITY PROFILING OF CONCRETE DEEP FOUNDATIONS," METHOD B, AND PER SUPPLEMENTAL SPECIFICATION 894.

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO C&MS SECTIONS 102.05, 105.02 AND 513.04. BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL WORK BASED UPON ACTUAL DETAILS DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

ITEM 509, REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN:

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT CONCRETE REINFORCEMENT BY THE NUMBER OF POUNDS ACCEPTED IN PLACE. REPLACE ALL EXISTING STEEL REINFORCEMENT BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW CONCRETE REINFORCEMENT OF THE SAME SIZE, COATING, AND MATERIAL AT NO COST TO THE DEPARTMENT.

ITEM 519, PATCHING CONCRETE STRUCTURE, AS PER PLAN:

PRIOR TO THE SURFACE CLEANING SPECIFIED IN C&MS 519.04 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL , BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED STEEL REINFORCEMENT. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

ITEM 503, COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN:

THE DESIGN SHOWN ON THE PLANS FOR TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE PROJECT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE SIDES OF EXCAVATIONS. IF CONSTRUCTING AN ALTERNATE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH C&MS 501.05. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE FOR COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN. THE DEPARTMENT WILL NOT MAKE ADDITIONAL PAYMENT FOR PROVIDING AN ALTERNATE DESIGN.

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 IN.

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

ITEM 201, CLEARING AND GRUBBING, AS PER PLAN:

ALTHOUGH NO TREES OR STUMPS ARE SPECIFICALLY MARKED FOR REMOVAL WITHIN THE PLANS, A LUMP SUM QUANTITY IS INCLUDED IN THE STRUCTURE ESTIMATED QUANTITIES FOR ITEM 201, CLEARING AND GRUBBING, AS PER PLAN. SCALPING IS NOT REQUIRED FOR THIS ITEM OF WORK. ALL VEGETATION SHALL BE REMOVED WITHIN 15 FEET OF THE STRUCTURES.

ALL OTHER PROVISIONS AS SET FORTH IN THE CMS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM BID PRICE FOR ITEM 201, CLEARING AND GRUBBING, AS PER PLAN.

ITEM 510, DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN:

DOWEL BARS SHALL BE INSTALLED USING NONSHRINK, NONMETALLIC GROUT PER 510 AND ACI 355.4. ALL EXISTING REINFORCING STEEL BARS IN THE AREA OF THE DOWEL HOLE SHALL BE LOCATED WITH THE AID OF A REINFORCING STEEL BAR LOCATOR (PACHOMETER) PRIOR TO DRILLING THE HOLES. IF AN EXISTING BAR IS ENCOUNTERED AT THE SAME LOCATION AS A PROPOSED DOWEL HOLE, THE DOWEL HOLE SHALL BE MOVED TO EITHER SIDE OF THE EXISTING BAR.

ITEM 516, HORIZONTAL EXTENSION OF STRUCTURAL EXPANSION JOINT, AS PER PLAN:

THIS ITEM IS PER CMS 516 WITH THE FOLLOWING ADDITIONS.

THIS ITEM IS FOR REPLACEMENT OF A PORTION AND WIDENING OF THE EXISTING EXPANSION JOINTS AT BOTH THE REAR AND FORWARD ABUTMENTS AS DETAILED IN THE PLANS TO MATCH THE PROPOSED CROSS SLOPES. THIS ITEM ALSO INCLUDES CLEANING OF THE EXISTING STRIP SEAL RETAINERS, FIELD MEASUREMENTS, AND ALL MATERIAL, LABOR AND EQUIPMENT NECESSARY TO INSTALL NEW STRIP SEAL GLANDS FOR THE ENTIRE WIDTH OF THE BRIDGE IN BOTH THE EXISTING AND PROPOSED EXPANSION JOINTS AT BOTH THE REAR AND FORWARD ABUTMENTS.

THE EXISTING EXPANSION JOINTS WERE CONSTRUCTED FOLLOWING RETIRED ODOT STANDARD DRAWING EXJ-4-87 (REVISED 1-5-89) AND THE EXISTING PLANS. THE PROPOSED STRIP SEAL RETAINER AND GLAND SHALL MATCH THE EXISTING STRIP SEAL RETAINER AND GLAND. THE EXISTING STRIP SEAL JOINT SYSTEM WAS MANUFACTURED BY WATSON BOWMAN ACME AND IS A WBA TYPE A EDGE MEMBER, PART #1918 WITH A WBA SE-400 GLAND, PART #100.

THE EXISTING REAR AND FORWARD EXPANSION JOINTS WERE EACH SIZED FOR A 4-INCH-WIDE STRIP SEAL GLAND. THE WBA SE-400 STRIP SEAL GLAND ARE AVAILABLE AND CAN BE USED FOR A 4-INCH-WIDE DIMENSION. PRIOR TO ORDERING THE PROPOSED EXPANSION JOINT MATERIAL, FIELD VERIFY EACH JOINT OPENING AND EXISTING STRIP SEAL GLAND SIZE AND RECORD THE TEMPERATURE AT THE TIME OF MEASUREMENT. SET THE SIZE OF EACH PROPOSED JOINT OPENING WIDTH TO MATCH EACH EXISTING JOINT OPENING WIDTH AT THE TIME OF INSTALLATION OF THE PROPOSED EXPANSION JOINT.

FOR ADDITIONAL INFORMATION AND QUESTIONS REGARDING SUGGESTED REMOVAL PROCEDURES OF THE EXISTING EXPANSION JOINT OR INSTALLATION OF THE PROPOSED EXPANSION JOINT, THE CONTRACTOR MAY CONTACT THE FOLLOWING PERSONNEL AT WATSON BOWMAN ACME:

NICK GRAZIANI
EMAIL: NICHOLAS.GRAZIANI@WATSONBOWMANACME.COM
PHONE: (219) 240-9770
WEBSITE: WATSONBOWMANACME.COM

THE PROPOSED STRIP SEAL RETAINER SHALL BE FIELD WELDED TO THE EXISTING STRIP SEAL RETAINER TO ALLOW FOR A COMPLETE SEAL BETWEEN THE TWO RETAINERS.

ITEM 601, CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN:

WITH PRIOR APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY REDRESS THE SLOPES WITH THE EXISTING CRUSHED AGGREGATE. WHERE ADDITIONAL MATERIAL IS REQUIRED, FURNISH AND PLACE CRUSHED AGGREGATE IN ACCORDANCE WITH C&MS 601.06. AN ESTIMATED QUANTITY OF 26 SQUARE YARDS HAS BEEN PROVIDED FOR BID PURPOSES. ACTUAL QUANTITIES OF SLOPE TO BE REDRESSED SHALL BE AS DIRECTED BY THE ENGINEER. ALL COSTS OF LABOR AND MATERIAL NECESSARY TO REDRESS THE SLOPES SHALL BE INCLUDED WITH ITEM 601, CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN.

PLANS OF EXISTING BRIDGES:

CONSTRUCTION PLANS FOR THE EXISTING BRIDGES ARE ON FILE AT THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 6 OFFICE, 400 EAST WILLIAM STREET, DELAWARE, OH 43015 AND ARE AVAILABLE FOR REFERENCE.

COLORS AND SURFACE TREATMENT:

FIELD PAINTING OF STRUCTURAL STEEL: PAINT ALL PROPOSED STRUCTURAL STEEL, INCLUDING BEARING STEEL LOAD PLATES, PER ITEM 514 WITH A THREE COAT PAINT SYSTEM CONSISTING OF AN INORGANIC ZINC PRIME COAT, AN EPOXY INTERMEDIATE COAT AND A URETHANE FINISH COAT. THE FINAL COLOR OF THE TOP COAT SHALL MATCH THE EXISTING STRUCTURAL STEEL COLOR OF NEW ALBANY GREEN. NEW ALBANY GREEN SHALL MATCH THE PAINT TONE COLOR PMS5535. THE INORGANIC PRIME COAT IS SHOP APPLIED WHILE THE INTERMEDIATE AND TOP COATS ARE FIELD APPLIED.

BRIDGE RAILING AND DECK OVERHANG: SEAL CONCRETE SURFACES, AS SHOWN IN THE PLANS, WITH A CLEAR NON-EPOXY SEALER.

PIER AND ABUTMENTS: SEAL CONCRETE SURFACES, AS SHOWN IN THE PLANS, WITH AN EPOXY-URETHANE SEALER. TINT SO THE FINAL COLOR SHALL MATCH THE EXISTING CONCRETE SEALER OF FEDERAL COLOR STANDARD NO. 37722 (WHITE).

ABBREVIATIONS:

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

ABUT. - ABUTMENT
APPR. - APPROACH
℄ - BASELINE
BOT. - BOTTOM
BRG. - BEARING
BRGS. - BEARINGS
BTA - BRIDGE TERMINAL ASSEMBLY
℄ - CENTERLINE
C/C - CENTER TO CENTER
CIP - CAST-IN-PLACE
C.J. - CONSTRUCTION JOINT
CLR. - CLEARANCE
CP - COMPLETE PENETRATION BUTT WELD
CMS - CONSTRUCTION AND MATERIAL SPECIFICATIONS
CONC. - CONCRETE
CONST. - CONSTRUCTION
C.P.P. - CORRUGATED PLASTIC PIPE
CS - INDICATES BUTT WELD SUBJECT TO COMPRESSIVE STRESSES ONLY
CU YD - CUBIC YARD
CVN - CHARPY V-NOTCH TESTING
DIA. - DIAMETER
EB - EASTBOUND
E.F. - EACH FACE
ELEV., EL. - ELEVATION
EQ. - EQUAL
EX. - EXISTING
EXP. - EXPANSION
F.A. - FORWARD ABUTMENT
F.F. - FAR FACE
F/F - FACE TO FACE
F.S. - FIELD SPLICE
FT/FT - FOOT PER FOOT
FTG. - FOOTING
FWD. - FORWARD
GEN. - GENERAL
INT. - INTEGRAL
LF - LEFT FORWARD
LT. - LEFT
MAX. - MAXIMUM
M.E. - MATCH EXISTING
MIN. - MINIMUM
MISC. - MISCELLANEOUS
MOT - MAINTENANCE OF TRAFFIC
N.F. - NEAR FACE
NO./# - NUMBER
O/O - OUT TO OUT
P.C.P.P - PERFORATED CORRUGATED PLASTIC PIPE
P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
PG - PROFILE GRADE
PGL - PROFILE GRADE LINE
PROP. - PROPOSED
PT - POINT OF TANGENCY
PVC - POINT OF VERTICAL CURVATURE
PVI - POINT OF VERTICAL INTERSECTION
PVT - POINT OF VERTICAL TANGENCY
R. - RADIUS
R.A. - REAR ABUTMENT
RCP - ROCK CHANNEL PROTECTION
RF - RIGHT FORWARD
RT. - RIGHT
R/W - RIGHT OF WAY
SAN. - SANITARY
SER. - SERIES
SHLDR. - SHOULDER
SHT. - SHEET
S.O. - SERIES OF
SPA. - SPACES OR SPACING
SR - STATE ROUTE
STA. - STATION
STD. - STANDARD
STM. - STORM
STR. - STRAIGHT
SQ. FT. - SQUARE FOOT
TBM - TEMPORARY BENCH MARK
TEMP. - TEMPORARY
T.O.S. - TOE OF SLOPE
T/RAILING - TOE OF RAILING
T/T - TOE TO TOE
TYP. - TYPICAL
U.G. - UNDERGROUND
U.N.O - UNLESS NOTED OTHERWISE
VAR. - VARIES
VC - VERTICAL CURVE
VERT. - VERTICAL
WB - WESTBOUND
W/O - WITHOUT

GENERAL NOTES (2 OF 2)
BRIDGE NO. FRA-00161-21.730 L&R
SR 161 OVER US 62 (JOHNSTOWN RD.)

SFN 2503530 (R)
SFN 2503565 (L)

DESIGN AGENCY

8890 LYRA DR.
SUITE 100
COLUMBUS, OH 43240
614.839.5770

DESIGNER	CHECKER
RBK	BTA

REVIEWER: DWW 02/10/23

PROJECT ID: 116322

SUBSET	TOTAL
5	54

SHEET	TOTAL
704	846

FRA-161-15.80

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 5/10/2023 TIME: 7:42:20 PM USER: ROKENDAL
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CALC:	RBK	DATE:	11/22/2022
CHECKED:	DGJ	DATE:	11/22/2022

ESTIMATED QUANTITIES

ALT (X)	ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	LEFT STRUCTURE (WESTBOUND): SFN 2503565					RIGHT STRUCTURE (EASTBOUND): SFN 2503530				
						ABUT.	PIERS	SUPER.	GEN.	SEE SHEET	ABUT.	PIERS	SUPER.	GEN.	SEE SHEET
	201	11001	LS		CLEARING AND GRUBBING, AS PER PLAN					5 / 54					5 / 54
	202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					4, 9-19, 30, 40 / 54					4, 9-19, 30, 42 / 54
	202	22901	68	SY	APPROACH SLAB REMOVED, AS PER PLAN				34	10-19 / 54				34	10-19 / 54
	503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN					5, 22-23 / 54					5, 22-23 / 54
	503	21101	416	CY	UNCLASSIFIED EXCAVATION, AS PER PLAN	208				4 / 54	208				4 / 54
	505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION										
	509	10000	124294	LB	EPOXY COATED REINFORCING STEEL	17649	3657	39170	1113		17649	3732	40090	1234	
	509	20001	580	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	12		238	40	5 / 54	12		238	40	5 / 54
	509	25000	1308	LB	UNCOATED REINFORCING STEEL	654					654				
	509	30020	6277	FT	NO. 4 GFRP DEFORMED BARS			2370	763				2370	774	
	510	10001	264	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN	132				5 / 54	132				5 / 54
	511	34446	221	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK			108					113		
	511	34450	66	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)			24	9				24	9	
	511	41012	19	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS		9					10			
	511	44113	171	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING, AS PER PLAN	86				30 / 54	85				30 / 54
	511	46512	112	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	56					56				
	512	10050	335	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)			166					169		
	512	10100	348	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	102	26		44		104	28		44	
	512	33000	40	SY	TYPE 2 WATERPROOFING	20					20				
	512	74000	20	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	10					10				
	513	10260	144000	LB	STRUCTURAL STEEL MEMBERS, LEVEL 3			72000					72000		
	513	20000	2364	EACH	WELDED STUD SHEAR CONNECTORS			1182					1182		
	514	00050	460	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			230					230		
	514	00056	460	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT			230					230		
	514	00060	9040	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			4520					4520		
	514	00066	9040	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			4520					4520		
	514	00504	2	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL			1					1		
	514	10000	2	EACH	FINAL INSPECTION REPAIR			1					1		
	516	11901	97	FT	HORIZONTAL EXTENSION OF STRUCTURAL EXPANSION JOINT, AS PER PLAN			49		5, 48 / 54			48		5, 48 / 54
	516	13600	94	SF	1" PREFORMED EXPANSION JOINT FILLER	47					47				
	516	13900	9	SF	2" PREFORMED EXPANSION JOINT FILLER									9	
	516	44101	8	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (11" x 13" x 2.17" WITH 12" x 14" x 1.5" LOAD PLATE)	4				37 / 54	4				37 / 54
	516	44101	4	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (23" x 11.5" x 2.65" WITH 24" x 24.5" x 1.5" LOAD PLATE)		2			37 / 54		2			37 / 54
	518	21200	124	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	62					62				
	518	40000	94	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	47					47				
	518	40010	32	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	16					16				
	519	11101	10	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN									10	5, 47 / 54
	524	94802	94	FT	DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK		47					47			
	526	25010	264	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15")				132					132	
	526	90010	100	FT	TYPE A INSTALLATION				50					50	
	SPECIAL	53000200	LS		STRUCTURES, MISC.: VIBRATION MONITORING					4 / 54					4 / 54
	SPECIAL	53000200	LS		STRUCTURES, MISC.: PRECONSTRUCTION CONDITION SURVEY					5 / 54					5 / 54
	601	20000	80	SY	CRUSHED AGGREGATE SLOPE PROTECTION				40					40	
	601	20001	26	SY	CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN				13	5 / 54				13	5 / 54
	848	10200	609	SY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY USING HYDRODEMOLITION (1.75" THICK)								609		
	848	20000	609	SY	SURFACE PREPARATION USING HYDRODEMOLITION								609		
	848	30200	11	CY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY								11		
	848	50000	20	SY	HAND CHIPPING								20		
	848	50100	LS		TEST SLAB										
	894	10000	2	EACH	THERMAL INTEGRITY PROFILING (TIP) TEST		1					1			
					STRUCTURE ALTERNATES										
X	507	00500	1520	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN (ALTERNATE 1)	760					760				
X	507	00550	1710	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED (ALTERNATE 1)	855					855				
X	507	93300	38	EACH	STEEL POINTS OR SHOES (ALTERNATE 1)	19					19				
X	523	20000	1	EACH	DYNAMIC LOAD TESTING (ALTERNATE 1)	1									
X	507	00100	2280	FT	STEEL PILES HP10x42, FURNISHED (ALTERNATE 2)	1140					1140				
X	507	00150	2090	FT	STEEL PILES HP10x42, DRIVEN (ALTERNATE 2)	1045					1045				
X	507	93300	38	EACH	STEEL POINTS OR SHOES (ALTERNATE 2)	19					19				

ESTIMATED QUANTITIES
BRIDGE NO. FRA-00161-21.730 L&R
SR 161 OVER US 62 (JOHNSTOWN RD.)

SFN 2503530 (R)
SFN 2503565 (L)

DESIGN AGENCY
8890 LYRA DR.
SUITE 100
COLUMBUS, OH 43240
614.839.5770

DESIGNER	CHECKER
RBK	DGJ

REVIEWER: DWW 02/10/23
PROJECT ID: 116322

SUBSET	TOTAL
6	54

SHEET	TOTAL
705	846

FRA-161-15.80

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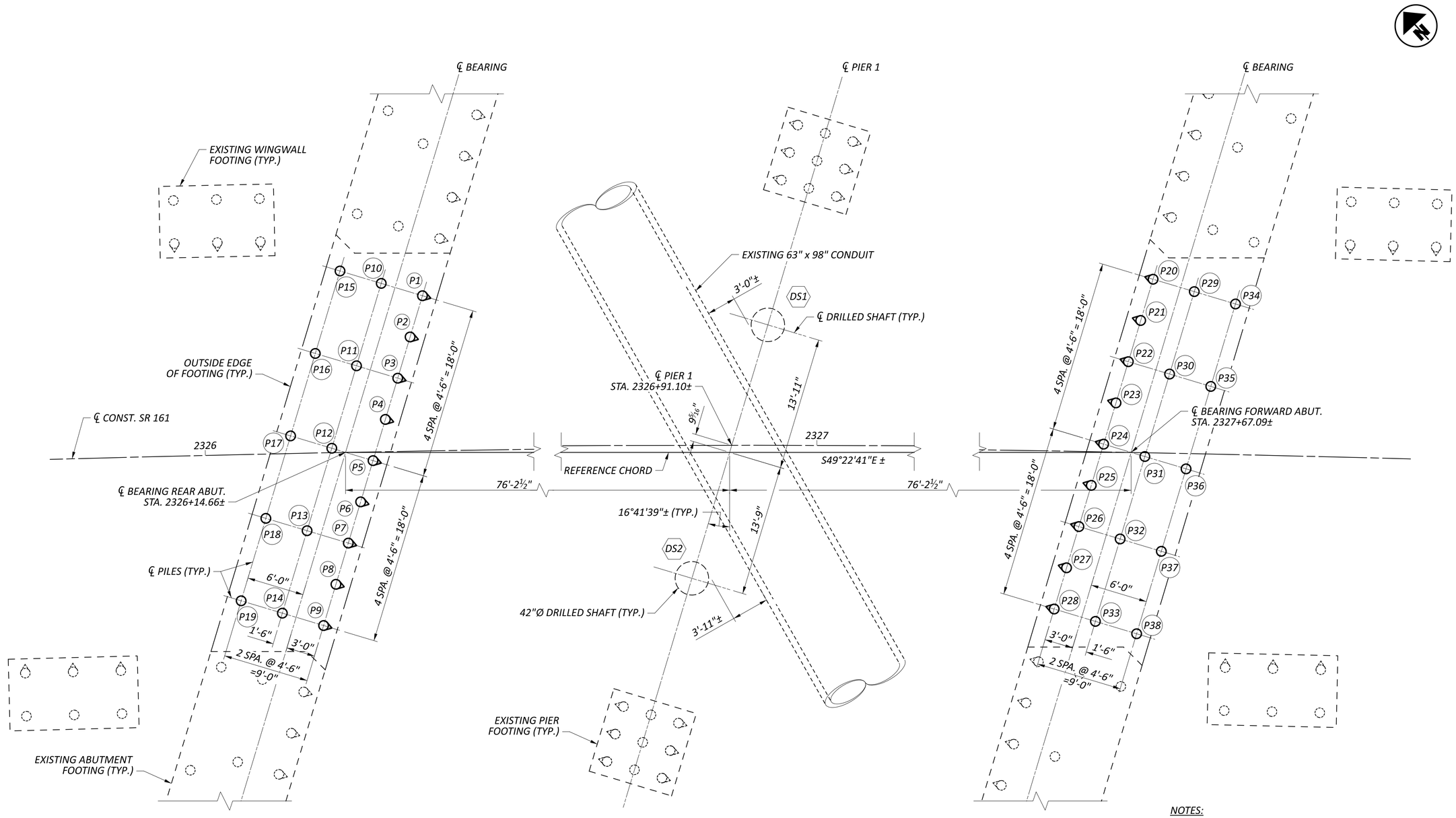

PLAN

LEGEND:

- P# — PILE NUMBER
- DS# — DRILLED SHAFT NUMBER
- EXISTING 12"±Ø CIP PILE (VERTICAL)
- EXISTING 12"±Ø CIP PILE (BATTERED 1H:4V)
- 12"Ø CIP PILE (VERTICAL)
- 12"Ø CIP PILE (BATTERED 1H:4V)

NOTES:

1. FOR REAR ABUTMENT DETAILS, SEE SHEETS 24 THRU 26 OF 54.
2. FOR FORWARD ABUTMENT DETAILS, SEE SHEETS 27 THRU 29 OF 54.
3. FOR DRILLED SHAFT DETAILS, SEE SHEET 21 OF 54.
4. FOR PIER 1 DETAILS, SEE SHEETS 31 THRU 32 OF 54.
5. FOR STRUCTURE GROUNDING DETAILS, SEE ODOT STD. DWG. HL-50.21. STRUCTURE GROUNDING SHALL BE INCLUDED WITH ITEM 625, HIGHWAY LIGHTING, FOR PAYMENT. FOR ADDITIONAL DETAILS, SEE LIGHTING PLANS.
6. 12" DIA. REINFORCED CONCRETE CIP PILES (ALTERNATE 1) ARE SHOWN IN THE PLANS AT THE ABUTMENTS. HP10x42 STEEL H-PILES (ALTERNATE 2) SHALL BE LOCATED AT THE SAME LOCATION, SPACING AND BATTER AS THE CIP PILES. THE H-PILES SHALL BE ORIENTED WITH THE FLANGES PARALLEL TO THE ℄ ABUTMENT BEARING.

FOUNDATION PLAN

BRIDGE NO. FRA-00161-21.730 L&R
SR 161 OVER US 62 (JOHNSTOWN RD.)

SFN 2503530 (R)

SFN 2503565 (L)

DESIGN AGENCY

8890 LYRA DR.
SUITE 100
COLUMBUS, OH 43240
614.839.5770

DESIGNER	CHECKER
RBK	JML

REVIEWER: DWW 02/10/23

PROJECT ID: 116322

SUBSET	TOTAL
20	54

SHEET	TOTAL
719	846

FRA-161-15.80

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 5/10/2023 TIME: 2:10:28 PM USER: JSCHROCK
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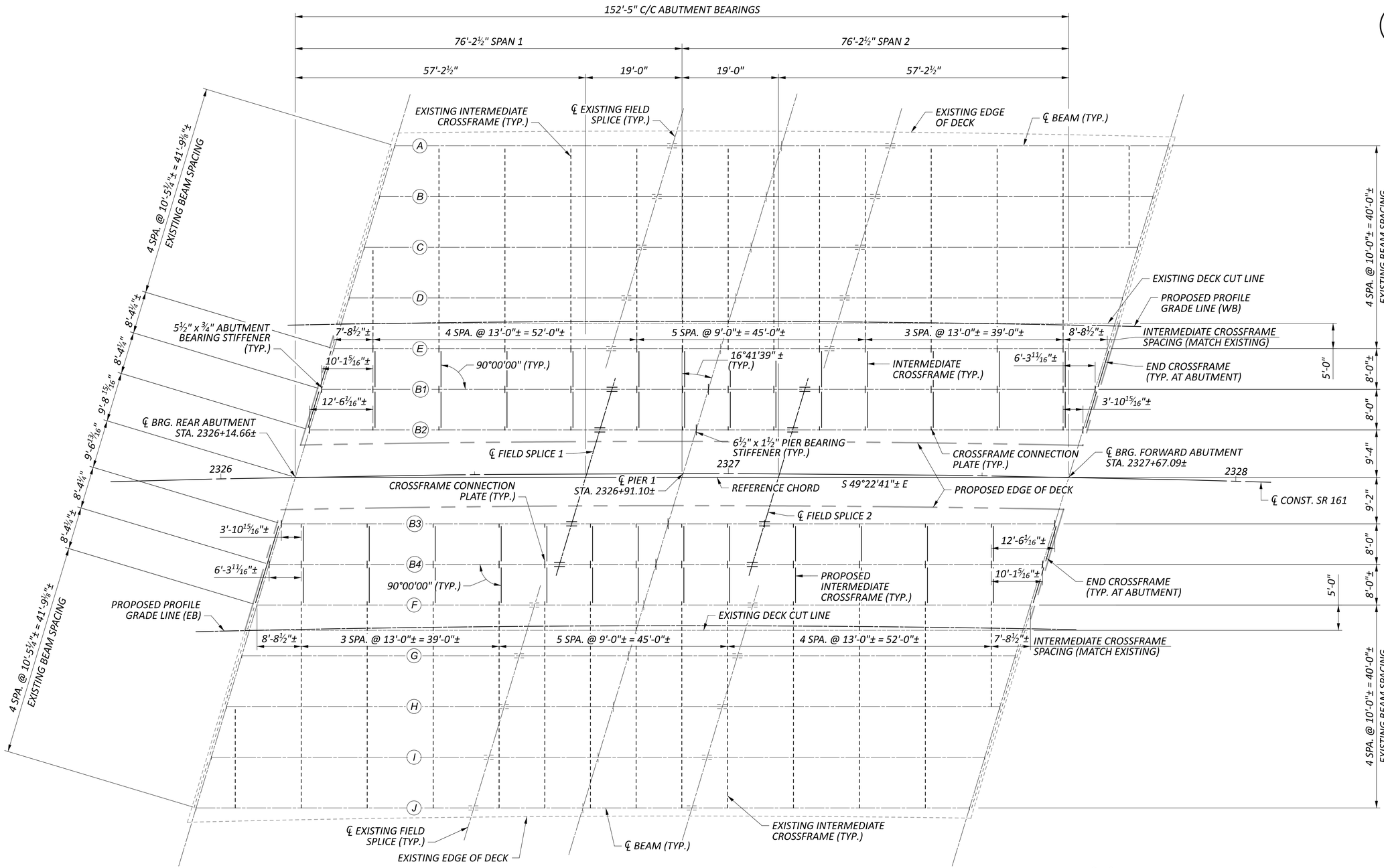

FRAMING PLAN

LEGEND:

(X) EXISTING BEAM

(B#) PROPOSED BEAM

NOTES:

1. ALL STRUCTURAL STEEL SHALL BE ASTM A709 GR. 50.
2. FOR BEAM ELEVATION AND FIELD SPLICE DETAILS, SEE SHEET 34 OF 54.
3. FOR CROSSFRAME DETAILS, SEE SHEET 35 OF 54.
4. FOR GENERAL NOTES, SEE SHEETS 4 AND 5 OF 54.
5. FOR TRANSVERSE SECTIONS, SEE SHEET 46 OF 54.
6. FOR BEARING DETAILS, SEE SHEET 37 OF 54.
7. FOR DECK DETAILS, SEE SHEETS 38 AND 39 OF 54.

FRAMING PLAN
BRIDGE NO. FRA-00161-21.730 L&R
SR 161 OVER US 62 (JOHNSTOWN RD.)

FRA-161-15.80

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 4/27/2023 TIME: 4:51:20 PM USER: JSCHROCK
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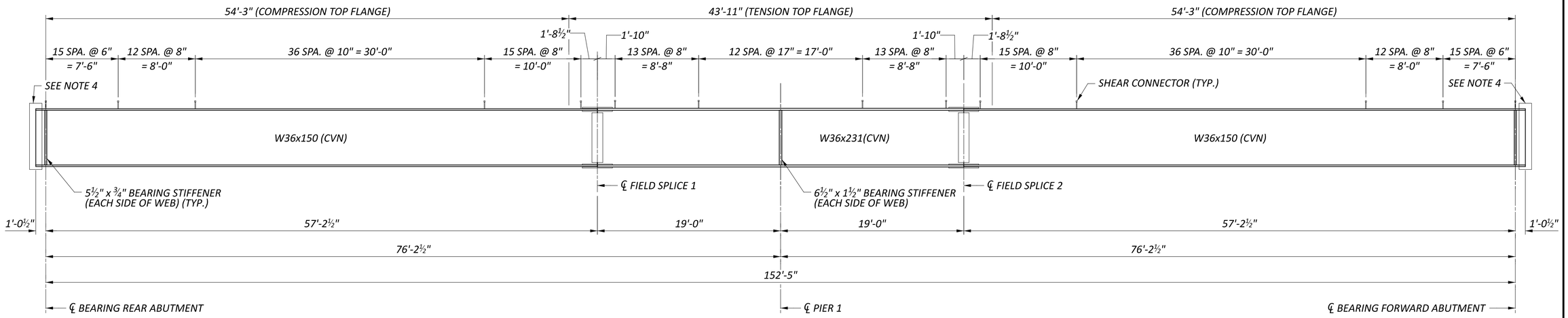
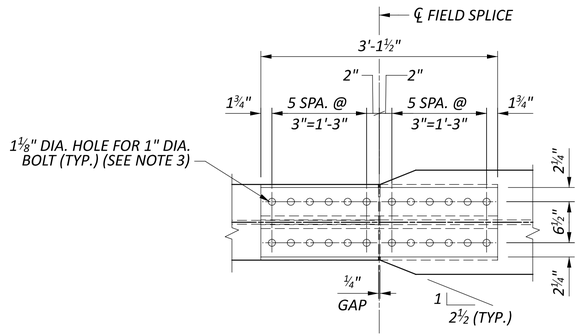
SFN	2503530 (R)
SFN	2503565 (L)
DESIGN AGENCY	

8890 LYRA DR.
SUITE 100
COLUMBUS, OH 43240
614.839.5770

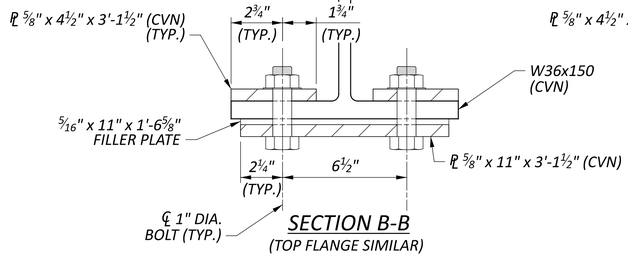
DESIGNER	CHECKER
AJB	RBK
REVIEWER	
DWW 02/10/23	
PROJECT ID	
116322	
SUBSET	TOTAL
33	54
SHEET	TOTAL
732	846



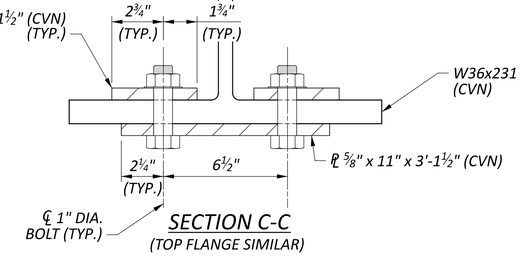
BEAM ELEVATION
(CROSSFRAME CONNECTION PLATES NOT SHOWN)



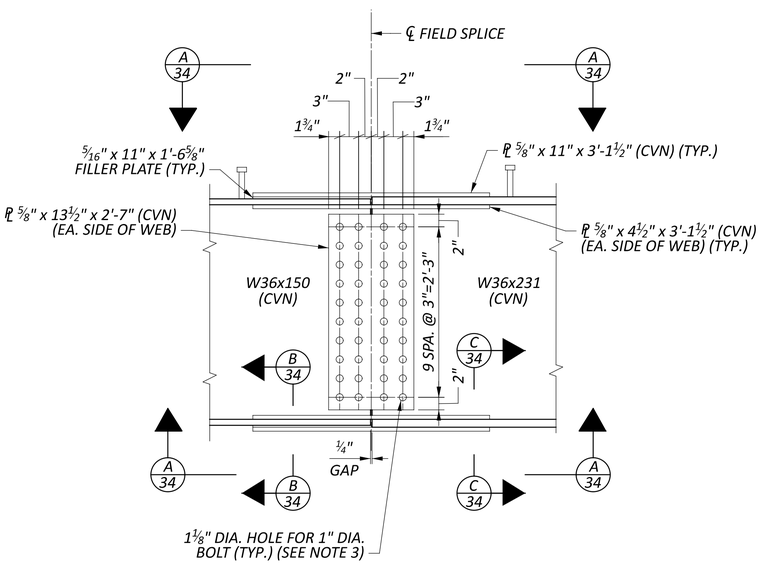
VIEW A-A



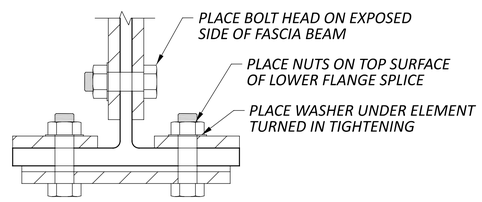
SECTION B-B
(TOP FLANGE SIMILAR)



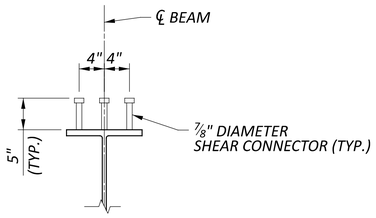
SECTION C-C
(TOP FLANGE SIMILAR)



FIELD SPLICE DETAIL



BOLT ORIENTATION DETAIL



SHEAR CONNECTOR DETAIL

NOTES:

1. WELD ATTACHMENTS OF SUPPORTS FOR CONCRETE DECK FINISHING MACHINE TO AREAS OF THE FASCIA STRINGER TOP FLANGE DESIGNATED "COMPRESSION". DO NOT WELD ATTACHMENTS TO AREAS DESIGNATED "TENSION". FILLET WELDS TO COMPRESSION FLANGES SHALL BE AT LEAST 1" FROM EDGE OF FLANGE, BE NO MORE THAN 2" LONG, AND BE AT LEAST ¼" FOR THICKNESSES UP TO ¾" OR ⅝" FOR GREATER THAN ¾" THICK.
2. CVN: WHERE A SHAPE OR PLATE IS DESIGNATED (CVN), FURNISH MATERIAL THAT MEETS THE MINIMUM NOTCH TOUGHNESS REQUIREMENTS AS SPECIFIED IN C&MS 711.01.
3. HIGH STRENGTH BOLTS SHALL BE 1" DIAMETER ASTM F3125 GRADE A325, TYPE I IN 1⅛" DIAMETER HOLES. THREADS ARE PERMITTED TO BE INCLUDED IN THE SHEAR PLANE FOR FLANGE AND WEB SPLICE BOLTS.
4. CLIP CORNERS OF TOP AND BOTTOM FLANGES TO MAINTAIN CLEARANCE TO ABUTMENT BACKWALL. SEE FLANGE CLIP DETAIL ON SHEET 36 OF 54.
5. ALL SPLICE MATERIAL SHALL BE ASTM A709 GRADE 50 STEEL.

BEAM ELEVATION
BRIDGE NO. FRA-00161-21.730 L&R
SR 161 OVER US 62 (JOHNSTOWN RD.)

SFN 2503530 (R)
SFN 2503565 (L)
DESIGN AGENCY
HDR
8890 LYRA DR.
SUITE 100
COLUMBUS, OH 43240
614.839.5770
DESIGNER AJB | CHECKER RBK
REVIEWER DWW 02/10/23
PROJECT ID 116322
SUBSET 34 | TOTAL 54
SHEET 733 | TOTAL 846

FRA-161-15.80

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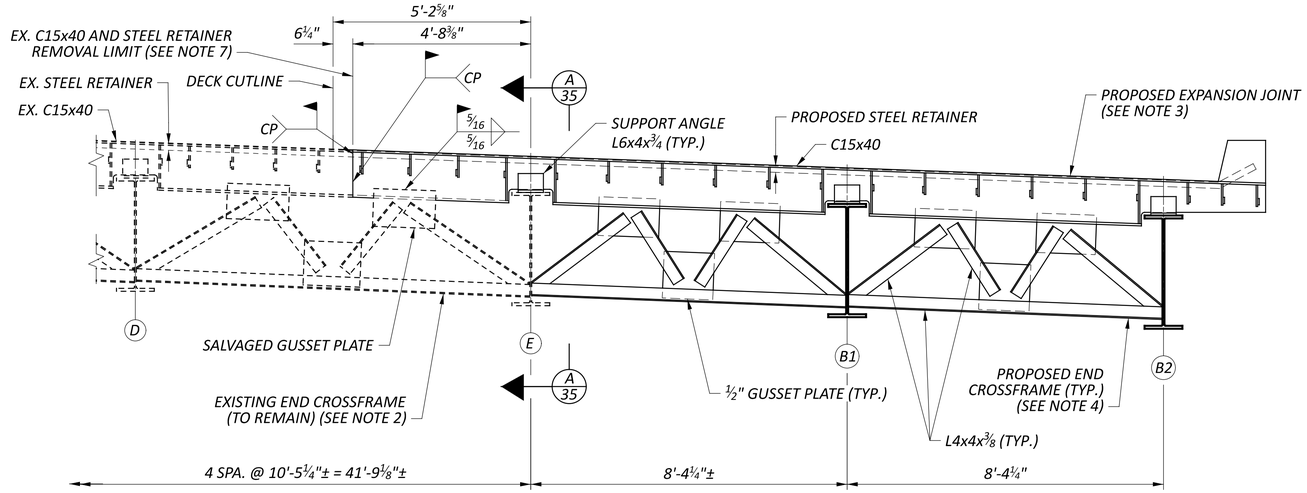
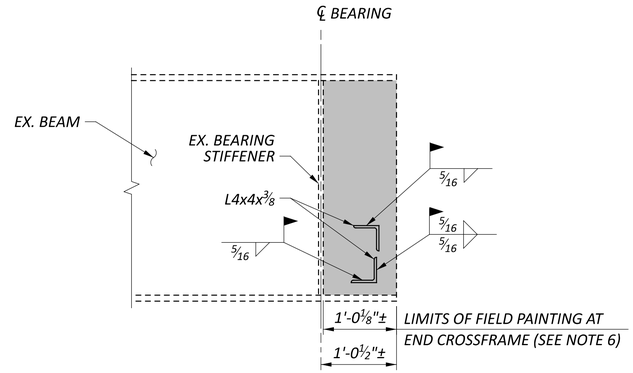


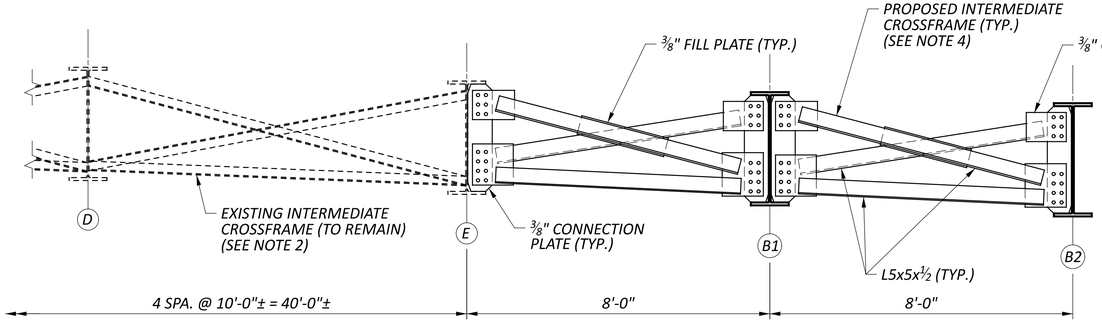
END CROSSFRAME DETAIL

(LEFT BRIDGE FORWARD ABUTMENT SHOWN, OTHER LOCATIONS SIMILAR)
(LOOKING AHEAD STATION)



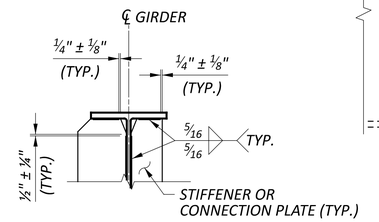
VIEW A-A

(EXPANSION JOINT NOT SHOWN)

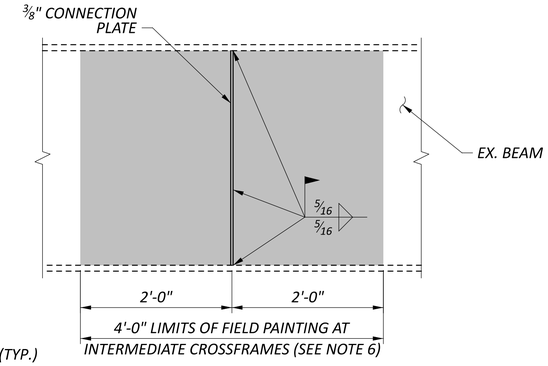


INTERMEDIATE CROSSFRAME DETAIL

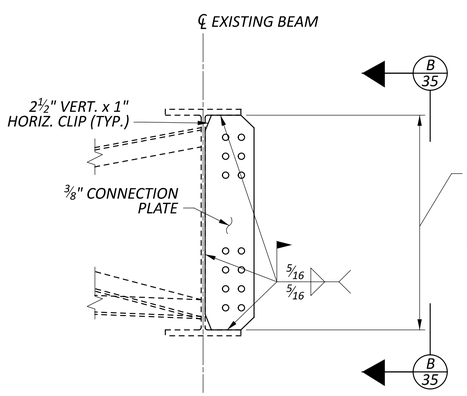
(LEFT BRIDGE SHOWN, RIGHT BRIDGE SIMILAR)
(LOOKING AHEAD STATION)



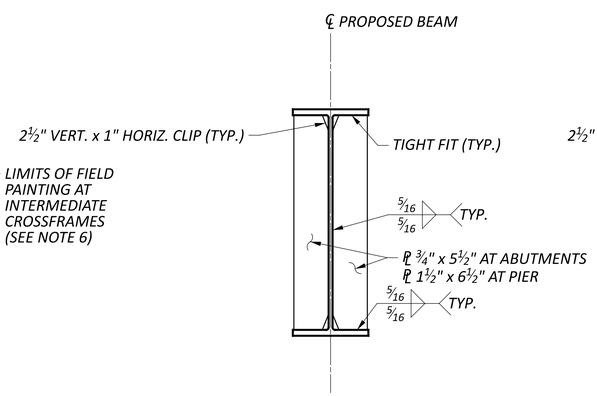
STIFFENER AND CONNECTION PLATE WELD TERMINATION DETAILS



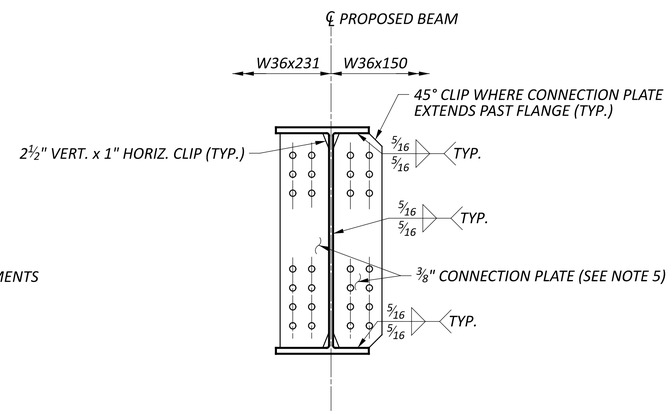
VIEW B-B



EXISTING BEAM CONNECTION PLATE DETAIL



BEARING STIFFENER DETAIL



CONNECTION PLATE DETAIL

LEGEND:

(X) *EXISTING BEAM*

(B#) *PROPOSED BEAM*

NOTES:

1. *FOR GENERAL NOTES, SEE SHEETS 4 AND 5 OF 54.*
2. *FOR PHASE CONSTRUCTION DETAILS SHEETS 7 AND 8 OF 54.*
3. *FOR ADDITIONAL EXPANSION JOINT DETAILS, SEE SHEET 48 OF 54.*
4. *FOR ADDITIONAL INTERMEDIATE AND END CROSSFRAME DETAILS, SEE ODOT STD. DWG. GSD-1-19.*
5. *OMIT CONNECTION PLATE ON EXPOSED SIDE OF FASCIA BEAM.*
6. *EXISTING STRUCTURAL STEEL COATINGS DAMAGED BY THE INSTALLATION OF PROPOSED CONNECTION PLATES AND CROSSFRAMES SHALL BE SURFACE PREPPED AND FIELD PAINTED WITH AN OZEU THREE COAT PAINT SYSTEM PER C&MS 514. SEE DETAILS THIS SHEET FOR LIMITS OF REPAIR.*
7. *FOR REMOVAL DETAILS, SEE SHEETS 9 THRU 19 OF 54.*

SUPERSTRUCTURE DETAILS - (1 OF 2)
BRIDGE NO. FRA-00161-21.730 L&R
SR 161 OVER US 62 (JOHNSTOWN RD.)

SFN	2503530 (R)
SFN	2503565 (L)
DESIGN AGENCY	

8890 LYRA DR.
SUITE 100
COLUMBUS, OH 43240
614.839.5770

DESIGNER	CHECKER
AJB	RBK
REVIEWER	
DWW 02/10/23	
PROJECT ID	
116322	
SUBSET	TOTAL
35	54
SHEET	TOTAL
734	846

FRA-161-15.80

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 4/27/2023 TIME: 4:51:40 PM USER: JSCHROCK
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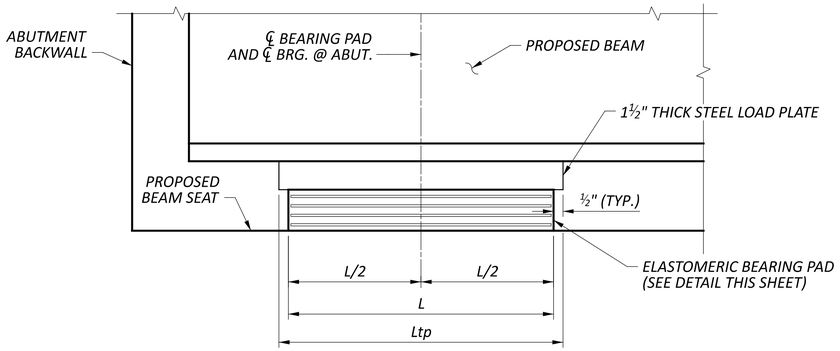
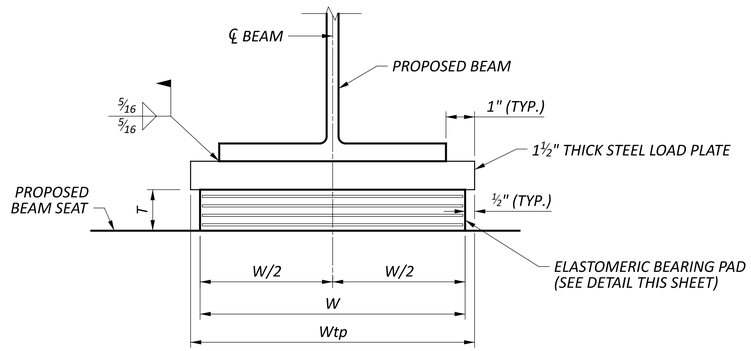
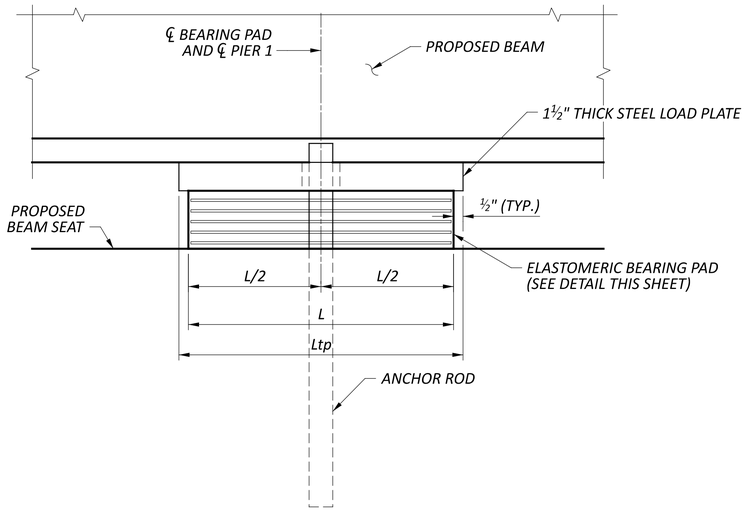


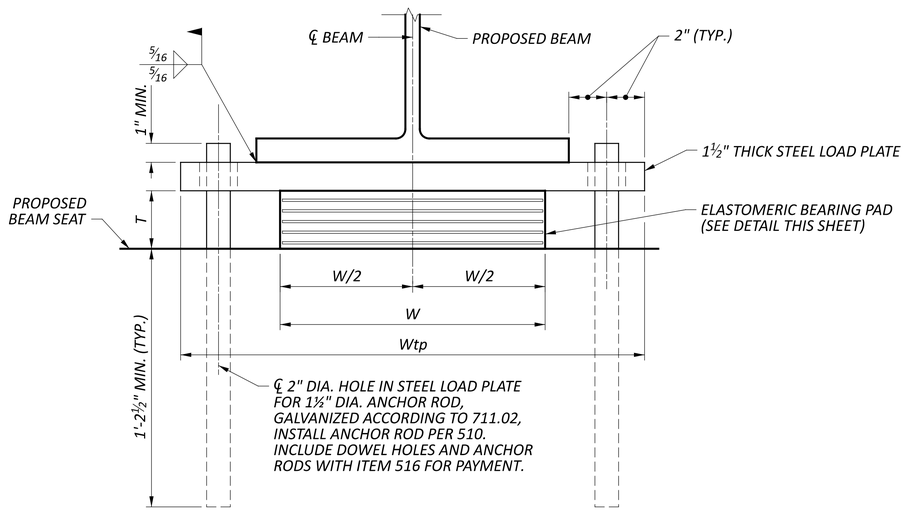
ABUTMENT BEARING ELEVATION VIEW



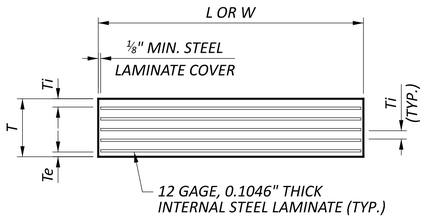
ABUTMENT BEARING END VIEW



PIER BEARING ELEVATION VIEW



PIER BEARING END VIEW



ELASTOMERIC BEARING PAD DETAIL
(SEE ELASTOMERIC BEARING DATA TABLE)

ELASTOMERIC BEARING DATA

LOCATION		NO. REQ'D	BEARING TYPE	BEARING PAD DIMENSIONS								TOP STEEL LOAD PLATE DIM.			DESIGN REACTIONS*		MAX. DESIGN REACTIONS*
				L	W	Ti	Te	T	N	NO. OF Ti	NO. OF Te	Ltp	Ttp	Wtp	DL	LL	
LEFT BRIDGE	REAR ABUTMENT	2	EXP.	11"	13"	0.375"	0.25"	2.17"	4	4	1	12"	1 ½"	14"	52 KIPS	72 KIPS	124 KIPS
	PIER 1	2	FIX.	23"	11 ½"	0.375"	0.25"	2.65"	5	5	1	24"	1 ½"	24 ½"	184 KIPS	124 KIPS	308 KIPS
	FWD. ABUTMENT	2	EXP.	11"	13"	0.375"	0.25"	2.17"	4	4	1	12"	1 ½"	14"	52 KIPS	72 KIPS	124 KIPS
RIGHT BRIDGE	REAR ABUTMENT	2	EXP.	11"	13"	0.375"	0.25"	2.17"	4	4	1	12"	1 ½"	14"	52 KIPS	72 KIPS	124 KIPS
	PIER 1	2	FIX.	23"	11 ½"	0.375"	0.25"	2.65"	5	5	1	24"	1 ½"	24 ½"	184 KIPS	124 KIPS	308 KIPS
	FWD. ABUTMENT	2	EXP.	11"	13"	0.375"	0.25"	2.17"	4	4	1	12"	1 ½"	14"	52 KIPS	72 KIPS	124 KIPS

LEGEND:

L = LENGTH OF ELASTOMERIC BEARING
W = WIDTH OF ELASTOMERIC BEARING
Ti = THICKNESS OF INTERNAL ELASTOMER LAYER
Te = THICKNESS OF EXTERNAL ELASTOMER LAYER
T = TOTAL THICKNESS OF ELASTOMERIC BEARING
N = NUMBER OF INTERNAL STEEL LAMINATES
Ltp = LENGTH OF STEEL LOAD PLATE
Ttp = THICKNESS OF STEEL LOAD PLATE
Wtp = WIDTH OF STEEL LOAD PLATE
* = REACTIONS SHOWN ARE SERVICE LOADS WITHOUT IMPACT

NOTES:

1. ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONG-TERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.
2. THE STEEL LOAD PLATE SHALL BE BONDED TO THE ELASTOMER BY VULCANIZATION DURING THE MOLDING PROCESS.
3. ALL STRUCTURAL STEEL SHALL BE ASTM A709, GR. 50 AND PRIME PAINTED IN ACCORDANCE WITH C&MS 708.01.
4. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UPSTATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.
5. ANCHOR RODS SHALL BE IN ACCORDANCE WITH ASTM F1554, GRADE 55.

BEARING DETAILS
BRIDGE NO. FRA-00161-21.730 L&R
SR 161 OVER US 62 (JOHNSTOWN RD.)

SFN 2503530 (R)
SFN 2503565 (L)
DESIGN AGENCY

8890 LYRA DR.
SUITE 100
COLUMBUS, OH 43240
614.839.5770

DESIGNER DRS | CHECKER RBK
REVIEWER DWW 02/10/23
PROJECT ID 116322
SUBSET 37 | TOTAL 54
SHEET 736 | TOTAL 846

FRA-161-15.80

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 4/27/2023 TIME: 4:51:49 PM USER: JSCHROCK
pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 06\Franklin\116322\401-Engineering_HDR\Structures\SFN_2503530\Sheets\116322_SFN_2503530_SB001.dgn

MARK	NUMBER	LENGTH	MATERIAL	WEIGHT (LBS.)	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
REAR ABUTMENT (60 KSI, EPOXY COATED)												
RA501	45	6'-7"	ECSR	309	1	0'-10"	5'-10"					
RA502	36	13'-3"	ECSR	498	STR							
RA503	35	12'-9"	ECSR	465	12	2'-7"	3'-0 1/8"	1'-3"	3'-6 3/4"	4'-3"		
RA504	1 SERIES OF 6	17'-11" TO 18'-5"	ECSR	114	STR							0'-1 1/4"
RA505	1 SERIES OF 7	17'-6" TO 17'-11"	ECSR	129	STR							0'-0 7/8"
RA506	13	8'-1"	ECSR	110	2	3'-1"	2'-2"	3'-1"				
RA507	14	23'-1"	ECSR	337	STR							
RA508	14	23'-11"	ECSR	349	STR							
RA509	13	23'-8"	ECSR	321	STR							
RA510	13	22'-11"	ECSR	311	STR							
RA511	10	19'-6"	ECSR	203	STR							
RA512	2	7'-4"	ECSR	15	STR							
RA513	5	6'-7"	ECSR	34	2	2'-1"	2'-8"	2'-1"				
RA514	2	7'-6"	ECSR	16	STR							
RA515	1 SERIES OF 5	8'-5" TO 9'-3"	ECSR	46	1	2'-2"	6'-4" TO 7'-2"					0'-2 1/2"
RA516	5	11'-2"	ECSR	58	42	5'-10"	0'-9 1/4"	2'-4 7/8"	3'-1"			
RA517	3	9'-6"	ECSR	30	42	3'-1"	1'-6"	1'-6"	4'-4"			
RA518	5	11'-8"	ECSR	61	43	6'-6"	0'-8 5/8"	2'-3"	3'-1"			
RA519	3	7'-6"	ECSR	23	42	2'-4"	1'-6"	1'-6"	3'-1"			
RA520	8	20'-8"	ECSR	172	STR							
RA521	1	22'-6"	ECSR	23	STR							
RA522	8	20'-7"	ECSR	172	STR							
RA523	1	22'-7"	ECSR	24	STR							
RA525	4	5'-11"	ECSR	25	STR							
RA526	1	11'-5"	ECSR	12	44	3'-1"	0'-10 1/2"	0'-9"	5'-4"	2'-0"		
RA527	1	12'-5"	ECSR	13	44	3'-1"	1'-9"	1'-6"	5'-3"	2'-0"		
RA528	1	11'-5"	ECSR	12	44	3'-1"	0'-10 1/2"	0'-9"	5'-4"	2'-0"		
RA529	2	12'-5"	ECSR	26	44	3'-1"	1'-9"	1'-6"	5'-3"	2'-0"		
RA530	2	8'-9"	ECSR	18	42	3'-1"	1'-0"	1'-0"	4'-4"			
RA531	2	6'-9"	ECSR	14	42	2'-4"	1'-0"	1'-0"	3'-1"			
RA602	52	23'-9"	ECSR	1,855	STR							
RA603	35	9'-1"	ECSR	478	2	4'-0"	1'-5"	4'-0"				
RA604	39	5'-11"	ECSR	347	2	2'-5"	1'-5"	2'-5"				
RA605	39	7'-5"	ECSR	434	2	3'-5"	0'-11"	3'-5"				
RA701	46	11'-8"	ECSR	1,097	STR							
RA702	2	12'-4"	ECSR	50	19	9'-10 3/8"	1'-9 1/2"	1'-9 1/4"				
RA801	26	5'-0"	ECSR	347	18	2'-9"	1'-0"	1'-0"				
RA901	49	12'-11"	ECSR	2,152	16	11'-8"						
RA902	2	12'-4"	ECSR	84	19	9'-10 3/8"	1'-9 1/2"	1'-9 1/4"				
RA1001	59	11'-5"	ECSR	2,898	1	1'-10"	9'-11"					
RA1002	48	13'-3"	ECSR	2,737	STR							
RA1003	1 SERIES OF 9	17'-9" TO 18'-3"	ECSR	697	STR							0'-0 3/4"
RA1004	1 SERIES OF 8	17'-4" TO 17'-9"	ECSR	604	STR							0'-0 3/4"
			SUB-TOTAL	17,720	ITEM 509 - EPOXY COATED REINFORCING STEEL							
REAR ABUTMENT (60 KSI, UNCOATED)												
RA524U	76	3'-7"	USR	284	19	3'-1"	0'-5 3/4"	0'-1 7/8"				
RA601U	48	4'-8"	USR	336	19	4'-0"	0'-7 3/4"	0'-2 3/8"				
RA606U	8	2'-10"	USR	34	STR							
			SUB-TOTAL	654	ITEM 509 - UNCOATED REINFORCING STEEL							

MARK	NUMBER	LENGTH	MATERIAL	WEIGHT (LBS.)	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
FORWARD ABUTMENT (60 KSI, EPOXY COATED)												
FA501	44	6'-7"	ECSR	302	1	0'-10"	5'-10"					
FA502	35	13'-8"	ECSR	499	STR							
FA503	34	12'-9"	ECSR	452	12	2'-7"	3'-0 1/8"	1'-3"	3'-6 3/4"	4'-3"		
FA504	1 SERIES OF 7	18'-5" TO 18'-11"	ECSR	136	STR							0'-1"
FA505	1 SERIES OF 6	17'-11" TO 18'-5"	ECSR	114	STR							0'-1 1/4"
FA506	13	8'-1"	ECSR	110	2	3'-1"	2'-2"	3'-1"				
FA507	15	23'-5"	ECSR	366	STR							
FA508	15	22'-9"	ECSR	356	STR							
FA509	14	22'-10"	ECSR	333	STR							
FA510	14	23'-6"	ECSR	343	STR							
FA511	10	19'-6"	ECSR	203	STR							
FA512	2	7'-2"	ECSR	15	STR							
FA513	5	6'-7"	ECSR	34	2	2'-1"	2'-8"	2'-1"				
FA514	2	7'-0"	ECSR	15	STR							
FA515	1 SERIES OF 5	8'-4" TO 9'-1"	ECSR	45	1	2'-2"	6'-3" TO 7'-0"					0'-2 1/4"
FA516	5	11'-6"	ECSR	60	43	6'-4"	0'-7 1/2"	2'-3"	3'-1"			
FA517	3	7'-7"	ECSR	24	42	3'-1"	1'-6"	1'-6"	2'-5"			
FA518	5	11'-4"	ECSR	59	42	6'-0"	0'-8"	2'-4 5/8"	3'-1"			
FA519	3	9'-5"	ECSR	29	42	4'-3"	1'-6"	1'-6"	3'-1"			
FA520	8	20'-7"	ECSR	172	STR							
FA521	1	21'-4"	ECSR	22	STR							
FA522	8	20'-2"	ECSR	168	STR							
FA523	1	23'-10"	ECSR	25	STR							
FA525	4	5'-11"	ECSR	25	STR							
FA526	1	11'-5"	ECSR	12	44	3'-1"	0'-10 1/2"	0'-9"	5'-4"	2'-0"		
FA527	1	12'-5"	ECSR	13	44	3'-1"	1'-9"	1'-6"	5'-3"	2'-0"		
FA528	1	11'-5"	ECSR	12	44	3'-1"	0'-10 1/2"	0'-9"	5'-4"	2'-0"		
FA529	2	12'-5"	ECSR	26	44	3'-1"	1'-9"	1'-6"	5'-3"	2'-0"		
FA530	2	6'-10"	ECSR	14	42	3'-1"	1'-0"	1'-0"	2'-5"			
FA531	2	8'-8"	ECSR	18	42	4'-3"	1'-0"	1'-0"	3'-1"			
FA602	52	23'-3"	ECSR	1,816	STR							
FA603	35	9'-1"	ECSR	478	2	4'-0"	1'-5"	4'-0"				
FA604	39	5'-11"	ECSR	347	2	2'-5"	1'-5"	2'-5"				
FA605	39	7'-5"	ECSR	434	2	3'-5"	0'-11"	3'-5"				
FA701	45	11'-8"	ECSR	1,073	STR							
FA702	2	12'-4"	ECSR	50	19	9'-10 1/4"	1'-9 1/2"	1'-9 1/4"				
FA801	26	5'-0"	ECSR	347	18	2'-9"	1'-0"	1'-0"				
FA901	48	12'-11"	ECSR	2,108	16	11'-8"						
FA902	2	12'-4"	ECSR	84	19	9'-10 1/4"	1'-9 1/2"	1'-9 1/4"				
FA1001	57	11'-5"	ECSR	2,800	1	1'-10"	9'-11"					
FA1002	46	13'-8"	ECSR	2,705	STR							
FA1003	1 SERIES OF 8	18'-3" TO 18'-9"	ECSR	637	STR							0'-0 7/8"
FA1004	1 SERIES OF 9	17'-9" TO 18'-3"	ECSR	697	STR							0'-0 3/4"
			SUB-TOTAL	17,578	ITEM 509 - EPOXY COATED REINFORCING STEEL							
FORWARD ABUTMENT (60 KSI, UNCOATED)												
FA524U	76	3'-7"	USR	284	19	3'-1"	0'-5 3/4"	0'-1 7/8"				
FA601U	48	4'-8"	USR	336	19	4'-0"	0'-7 3/4"	0'-2 3/8"				
FA606U	8	2'-10"	USR	34	STR							
			SUB-TOTAL	654	ITEM 509 - UNCOATED REINFORCING STEEL							

NOTES:

1. FOR GENERAL NOTES, SEE SHEET 4 AND 5 OF 54.

NOTES (CONT'D):

2. FOR BAR BENDING DIAGRAMS AND ADDITIONAL NOTES, SEE SHEET 54 OF 54.

CONCRETE REINFORCEMENT BAR LIST - (1 OF 4)
BRIDGE NO. FRA-00161-21.730 L&R
SR 161 OVER US 62 (JOHNSTOWN RD.)

SFN 2503530 (R)

SFN 2503565 (L)

DESIGN AGENCY

8890 LYRA DR.
SUITE 100
COLUMBUS, OH 43240
614.839.5770

DESIGNER	CHECKER
JML	RBK

REVIEWER: DWW 02/10/23

PROJECT ID: 116322

SUBSET	TOTAL
51	54

SHEET	TOTAL
750	846

FRA-161-15.80

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 5/10/2023 TIME: 2:10:41 PM USER: JSCHROCK
pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 06\Franklin\116322\401-Engineering_HDR\Structures\SFN_2503530\Sheets\116322_SFN_2503530_SL001.dgn

MARK	NUMBER	LENGTH	MATERIAL	WEIGHT (LBS.)	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
LEFT BRIDGE DRILLED SHAFT (60 KSI, EPOXY COATED)												
DS601	94	9'-6"	ECSR	1342	39						1'-3"	
DS1101	12	53'-3"	ECSR	3395	STR.							
SUB-TOTAL				**	INCLUDED WITH ITEM 524 - DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK FOR PAYMENT							

MARK	NUMBER	LENGTH	MATERIAL	WEIGHT (LBS.)	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
RIGHT BRIDGE DRILLED SHAFT (60 KSI, EPOXY COATED)												
DS601	94	9'-6"	ECSR	1342	39						1'-3"	
DS1101	12	53'-3"	ECSR	3395	STR.							
SUB-TOTAL				**	INCLUDED WITH ITEM 524 - DRILLED SHAFTS, 42" DIAMETER ABOVE BEDROCK FOR PAYMENT							

MARK	NUMBER	LENGTH	MATERIAL	WEIGHT (LBS.)	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
LEFT BRIDGE PIER 1 (60 KSI, EPOXY COATED)												
P501	14	4'-0"	ECSR	59	10	2 1/8"	9 3/4"	2'-6 1/2"	10"			
P502	6	4'-1"	ECSR	26	2	10"	2'-8"	10"				
P503	1	3'-8"	ECSR	4	2	10"	2'-3"	10"				
P504	2	6'-7"	ECSR	14	2	10"	5'-2"	10"				
P505	2	7'-2"	ECSR	15	2	10"	5'-9"	10"				
P601	8	12'-0"	ECSR	144	3	1'-11"	3'-8"					
P602	9	10'-9"	ECSR	146	24	2'-3 5/8"	3'-8"				1'-1 1/8"	
P603	6	9'-4"	ECSR	85	STR.							
P604	2	6'-9"	ECSR	20	STR.							
P605	4 SERIES OF 12	10'-6" TO 12'-0"	ECSR	811	3	1'-11"	2'-11" TO 3'-8"					1 5/8"
P606	2	10'-4"	ECSR	31	3	1'-11"	2'-10"					
P607	29	9'-6"	ECSR	414	39						1'-3"	
P801	2	9'-5"	ECSR	51	20	8"	3'-2"	3'-0"	3'-2"	8"		
P802	2	10'-9"	ECSR	58	20	10"	3'-10"	3'-0"	3'-10"	10"		
P803	1	12'-2"	ECSR	33	20	1'-0"	4'-6"	3'-0"	4'-6"	1'-0"		
P1101	12	17'-4"	ECSR	1105	STR.							
P1103	2	13'-4"	ECSR	142	2	2'-0"	10'-0"	2'-0"				
P1104	2	14'-8"	ECSR	156	2	2'-0"	11'-4"	2'-0"				
P1105	2	15'-1"	ECSR	161	2	2'-0"	11'-9"	2'-0"				
P1106	1	15'-4"	ECSR	82	2	2'-0"	12'-0"	2'-0"				
P1107	2	9'-4"	ECSR	100	STR.							
SUB-TOTAL				3657	ITEM 509 - EPOXY COATED REINFORCING STEEL							

MARK	NUMBER	LENGTH	MATERIAL	WEIGHT (LBS.)	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
RIGHT BRIDGE PIER 1 (60 KSI, EPOXY COATED)												
P501	14	4'-0"	ECSR	59	10	2 1/8"	9 3/4"	2'-6 1/2"	10"			
P601	8	12'-0"	ECSR	144	3	1'-11"	3'-8"					
P602	9	10'-9"	ECSR	146	24	2'-3 5/8"	3'-8"				1'-1 1/8"	
P603	6	9'-4"	ECSR	85	STR.							
P604	2	6'-9"	ECSR	20	STR.							
P605	4 SERIES OF 12	10'-6" TO 12'-0"	ECSR	811	3	1'-11"	2'-11" TO 3'-8"					1 5/8"
P606	2	10'-4"	ECSR	31	3	1'-11"	2'-10"					
P607	32	9'-6"	ECSR	457	39						1'-3"	
P801	2	9'-5"	ECSR	51	20	8"	3'-2"	3'-0"	3'-2"	8"		
P802	2	10'-9"	ECSR	58	20	10"	3'-10"	3'-0"	3'-10"	10"		
P803	1	12'-2"	ECSR	33	20	1'-0"	4'-6"	3'-0"	4'-6"	1'-0"		
P1102	12	18'-9"	ECSR	1196	STR.							
P1103	2	13'-4"	ECSR	142	2	2'-0"	10'-0"	2'-0"				
P1104	2	14'-8"	ECSR	156	2	2'-0"	11'-4"	2'-0"				
P1105	2	15'-1"	ECSR	161	2	2'-0"	11'-9"	2'-0"				
P1106	1	15'-4"	ECSR	82	2	2'-0"	12'-0"	2'-0"				
P1107	2	9'-4"	ECSR	100	STR.							
SUB-TOTAL				3732	ITEM 509 - EPOXY COATED REINFORCING STEEL							

NOTES:

1. FOR GENERAL NOTES, SEE SHEET 4 AND 5 OF 54.
2. FOR BAR BENDING DIAGRAMS AND ADDITIONAL NOTES, SEE SHEET 54 OF 54.

CONCRETE REINFORCEMENT BAR LIST - (2 OF 4)
BRIDGE NO. FRA-00161-21.730 L&R
SR 161 OVER US 62 (JOHNSTOWN RD.)

SFN 2503530 (R)

SFN 2503565 (L)

DESIGN AGENCY
HDR
8890 LYRA DR.
SUITE 100
COLUMBUS, OH 43240
614.839.5770

DESIGNER	CHECKER
RBK	JML

REVIEWER: DWW 02/10/23

PROJECT ID: 116322

SUBSET	TOTAL
52	54

SHEET	TOTAL
751	846

FRA-161-15.80

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 5/10/2023 TIME: 2:10:48 PM USER: JSCHROCK
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MARK	NUMBER	LENGTH	MATERIAL	WEIGHT (LBS.)	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
LEFT BRIDGE SUPERSTRUCTURE (60 KSI, EPOXY COATED)												
S401	185	30'-0"	ECSR	3708	STR.							
S402	37	13'-3"	ECSR	328	STR.							
S403	281	10'-1"	ECSR	1893	2	2'-2 5/8"	7 5/8"	7'-4 5/8"				
S501	155	30'-0"	ECSR	4850	STR.							
S502	31	17'-10"	ECSR	577	STR.							
S503	270	7'-2"	ECSR	2019	STR.							
S504	270	19'-7"	ECSR	5515	STR.							
S505	1 SERIES OF 10	7'-4" TO 23'-8"	ECSR	162	STR.							1'-9 3/4"
S506	1 SERIES OF 13	1'-10" TO 23'-6"	ECSR	172	STR.							1'-9 3/4"
S507	1 SERIES OF 4	4'-0" TO 7'-0"	ECSR	23	STR.							1'-0"
S508	1	2'-6"	ECSR	3	19	10"	1'-7"	6"				
S601	102	30'-4"	ECSR	4647	STR.							
S602	270	11'-8"	ECSR	4732	STR.							
S603	270	15'-7"	ECSR	6320	STR.							
S604	1 SERIES OF 10	7'-4" TO 23'-8"	ECSR	233	STR.							1'-9 3/4"
S605	1 SERIES OF 13	1'-10" TO 23'-6"	ECSR	248	STR.							1'-9 3/4"
S606	1 SERIES OF 4	4'-0" TO 7'-0"	ECSR	33	STR.							1'-0"
S607	1	2'-6"	ECSR	4	19	10"	1'-7"	6"				
SUB-TOTAL				35467	ITEM 509 - EPOXY COATED REINFORCING STEEL							

MARK	NUMBER	LENGTH	MATERIAL	WEIGHT (LBS.) OR LENGTH (FT.)	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
LEFT BRIDGE RAILING (60 KSI, EPOXY COATED)												
R601	170	7'-6"	ECSR	1915	37	11"	9 1/2"	1'-5"	1'-0"	7"		
R602	211	7'-0"	ECSR	2219	23	6"	3'-3"	3'-3"			2"	
R603	41	7'-8"	ECSR	473	37	1'-0"	9 1/2"	1'-5"	1'-0"	7"		
R604	2 SERIES OF 11	4'-4" TO 5'-2"	ECSR	157	1	1'-0"	3'-6" TO 4'-4"					1"
R605	8	4'-4"	ECSR	52	1	1'-0"	3'-6"					
SUB-TOTAL				4816	ITEM 509 - EPOXY COATED REINFORCING STEEL							
LEFT BRIDGE RAILING (GFRP)												
R401G	55	30'-0"	GFRP	1650'-0"	STR.							
R402G	11	9'-4"	GFRP	102'-8"	STR.							
R403G	56	10'-0"	GFRP	560'-0"	STR.							
R404G	8	7'-1"	GFRP	56'-8"	STR.							
R405G	11	26'-0"	GFRP	286'-0"	STR.							
R406G	4	12'-10"	GFRP	51'-4"	STR.							
R407G	4	12'-6"	GFRP	50'-0"	STR.							
R408G	11	13'-5"	GFRP	147'-7"	STR.							
R409G	4	12'-4"	GFRP	49'-4"	STR.							
R410G	11	10'-0"	GFRP	110'-0"	STR.							
R411G	6	6'-4"	GFRP	38'-0"	25	2'-6"	2'-5"	1'-4 1/4"	1 1/2"	5"		
R412G	6	5'-1"	GFRP	30'-6"	STR.							
SUB-TOTAL				3132'-1"	ITEM 509 - NO. 4 GFRP DEFORMED BARS							

MARK	NUMBER	LENGTH	MATERIAL	WEIGHT (LBS.)	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
RIGHT BRIDGE SUPERSTRUCTURE (60 KSI, EPOXY COATED)												
S401	190	30'-0"	ECSR	3808	STR.							
S402	38	13'-3"	ECSR	337	STR.							
S404	281	10'-11"	ECSR	2049	2	2'-6 5/8"	7 5/8"	7'-10 7/8"				
S501	160	30'-0"	ECSR	5007	STR.							
S502	32	17'-10"	ECSR	596	STR.							
S503	270	7'-2"	ECSR	2019	STR.							
S509	270	20'-1"	ECSR	5656	STR.							
S510	1 SERIES OF 10	7'-4" TO 23'-6"	ECSR	161	STR.							1'-9 1/2"
S511	1 SERIES OF 13	1'-10" TO 23'-6"	ECSR	172	STR.							1'-9 3/4"
S512	1	2'-6"	ECSR	3	19	10"	1'-7"	6"				
S513	1 SERIES OF 4	4'-0" TO 7'-0"	ECSR	23	STR.							1'-0"
S601	105	30'-4"	ECSR	4784	STR.							
S602	270	11'-8"	ECSR	4732	STR.							
S608	270	16'-1"	ECSR	6523	STR.							
S609	1 SERIES OF 10	7'-4" TO 23'-6"	ECSR	232	STR.							1'-9 1/2"
S610	1 SERIES OF 13	1'-10" TO 23'-6"	ECSR	248	STR.							1'-9 3/4"
S611	1	2'-6"	ECSR	4	19	10"	1'-7"	6"				
S612	1 SERIES OF 4	4'-0" TO 7'-0"	ECSR	33	STR.							1'-0"
SUB-TOTAL				36387	ITEM 509 - EPOXY COATED REINFORCING STEEL							

MARK	NUMBER	LENGTH	MATERIAL	WEIGHT (LBS.) OR LENGTH (FT.)	TYPE	DIMENSIONS						
						A	B	C	D	E	R	INC.
RIGHT BRIDGE RAILING (60 KSI, EPOXY COATED)												
R601	170	7'-6"	ECSR	1915	37	11"	9 1/2"	1'-5"	1'-0"	7"		
R602	226	7'-0"	ECSR	2377	23	6"	3'-3"	3'-3"			2"	
R603	56	7'-8"	ECSR	645	37	1'-0"	9 1/2"	1'-5"	1'-0"	7"		
SUB-TOTAL				4937	ITEM 509 - EPOXY COATED REINFORCING STEEL							
RIGHT BRIDGE RAILING (GFRP)												
R401G	55	30'-0"	GFRP	1650'-0"	STR.							
R402G	11	9'-4"	GFRP	102'-8"	STR.							
R403G	56	10'-0"	GFRP	560'-0"	STR.							
R404G	8	7'-1"	GFRP	56'-8"	STR.							
R405G	22	26'-0"	GFRP	572'-0"	STR.							
R406G	8	12'-10"	GFRP	102'-8"	STR.							
R407G	8	12'-6"	GFRP	100'-0"	STR.							
SUB-TOTAL				3144'-0"	ITEM 509 - NO. 4 GFRP DEFORMED BARS							

NOTES:

1. FOR GENERAL NOTES, SEE SHEET 4 AND 5 OF 54.
2. FOR BAR BENDING DIAGRAMS AND ADDITIONAL NOTES, SEE SHEET 54 OF 54.

CONCRETE REINFORCEMENT BAR LIST - (3 OF 4)
BRIDGE NO. FRA-00161-21.730 L&R
SR 161 OVER US 62 (JOHNSTOWN RD.)

SFN 2503530 (R)
SFN 2503565 (L)

DESIGN AGENCY

8890 LYRA DR.
SUITE 100
COLUMBUS, OH 43240
614.839.5770

DESIGNER	CHECKER
RBK	JML

REVIEWER: DWW 02/10/23
PROJECT ID: 116322
SUBSET: 53 TOTAL: 54
SHEET: 752 TOTAL: 846

FRA-161-15.80

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 5/10/2023 TIME: 2:10:56 PM USER: JSCHROCK
pw:\\ohiodot-pw.bentley.com:ohiodot-pw-02\Documents\01 Active Projects\District 06\Franklin\116322\401-Engineering_HDR\Structures\SFN_2503530\Sheets\116322_SFN_2503530_SL003.dgn