SHEET NUMBER									PARTICIPATION							ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
OFFICE CALCS	55	291	292	294	297	326	332	336	01/NHS/PV	02/NHS/PV	03/ENH/PV	04/ENH/PV	06/ENH/OT	07/ENH/OT	08/ENH/OT						
																				ROADWAY	
	LS								LS	LS						201	11000	LS		CLEARING AND GRUBBING	35
			9	3					6	4	1	1				202	20010	12	EACH	HEADWALL REMOVED	
		60882							30494	20329	6035	4024				202	23000	60882	SY	PAVEMENT REMOVED	
		27866							16720	11146						202	23001	27866	SY	PAVEMENT REMOVED, AS PER PLAN	39
		13691							6629	4420	1585	1057				202	30000	13691	SF	WALK REMOVED	
		5							3	2						202	30700	5	FT	CONCRETE BARRIER REMOVED	
		13446							4074	2716	3994	2662				202	32000	13446	FT	CURB REMOVED	
		17							10	7						202	32001	17	FT	CURB REMOVED, AS PER PLAN	38
		1057							524	350	110	73				202	32500	1057	FT	CURB AND GUTTER REMOVED	
			5174			251			2081	1387	1083	722	152			202	35100	5425	FT	PIPE REMOVED, 24" AND UNDER	
			550	229					415	276	53	35				202	35200	779	FT	PIPE REMOVED, OVER 24"	
		3683							2210	1473						202	38000	3683	FT	GUARDRAIL REMOVED	
			17			11			8	6	4	2	1	7		202	58000	28	EACH	MANHOLE REMOVED	
			106						50	33	14	9				202	58100	106	EACH	CATCH BASIN REMOVED	
			103						62	41						SPECIAL	20270000	103	FT	FILL AND PLUG EXISTING CONDUIT, 18"	40
			108						65	43						SPECIAL	20270000	108	FT	FILL AND PLUG EXISTING CONDUIT, 24"	40
			94						56	38						SPECIAL	20270000	94	FT	FILL AND PLUG EXISTING CONDUIT, 6' X 3' BOX	40
		1225							698	466	37	24				202	75000	1225	FT	FENCE REMOVED	
		5							3	2						202	75250	5	EACH	GATE REMOVED	
						31			2	1	4	3	17	4		202	75610	31	EACH	VALVE BOX REMOVED	
		8							1	1	4	2				202	98100	8	EACH	REMOVAL MISC.: BOLLARDS REMOVED	36
						1							1			202	98100	1	EACH	REMOVAL MISC.: BOOSTER STATION REMOVED	36
		1									1					202	98100	1	EACH	REMOVAL MISC.: CISTERN REMOVED	36
						2							2			202	98100	2	EACH	REMOVAL MISC.: FIRE VAULT REMOVED	36
		1							1							202	98100	1	EACH	REMOVAL MISC.: FLAG POLE REMOVED	36
		8							3	2	2	1				202	98100	8	EACH	REMOVAL MISC.: LIGHT REMOVED	36
		1							1							202	98100	1	EACH	REMOVAL MISC.: SHED REMOVED	36
		30							12	8	6	4				202	98100	30	EACH	REMOVAL MISC.: SIGN REMOVED	36
		22							5	4	8	5				202	98100	22	EACH	REMOVAL MISC.: SPRINKLER HEAD REMOVED	36
		1							1							202	98100	1	EACH	REMOVAL MISC.: SUMP PUMP VAULT REMOVED	36
	2	6							5	3						202	98100	8	EACH	REMOVAL MISC.: UTILITY VAULT REMOVED	36
	4000								2400	1600						202	98200	4000	FT	REMOVAL MISC.: DUCT BANK REMOVED	36
		33							20	13						202	98200	33	FT	REMOVAL MISC.: WALL REMOVED	36
					74532				32275	21517	12444	8296				203	10000	74532	CY	EXCAVATION	
					27990				15302	10201	1492	995				203	20000	27990	CY	EMBANKMENT	
					2433				1460	973						203	20001	2433	CY	EMBANKMENT, AS PER PLAN	38
22738							7896		8330	5554	10050	6700				204	10000	30634	SY	SUBGRADE COMPACTION	
					5343				2042	1361	1164	776				204	13000	5343	CY	EXCAVATION OF SUBGRADE	
					5343				2042	1361	1164	776				204	30011	5343	CY	GRANULAR MATERIAL, TYPE B, AS PER PLAN	38
62	5						6		38	25	6	4				204	45000	73	HOUR	PROOF ROLLING	
					4163				1804	1202	694	463				204	50000	4163	SY	GEOTEXTILE FABRIC	
					6776				2077	1384	1989	1326				204	51000	6776	SY	GEOGRID	37
2890									1734	1156						206	10500	2890	TON	CEMENT	
97182									58309	38873						206	11000	97182	SY	CURING COAT	
97182									58309	38873						206	15010	97182	SY	CEMENT STABILIZED SUBGRADE, 12 INCHES DEEP	
		2326							1335	890	61	40				606	15050	2326	FT	GUARDRAIL, TYPE MGS	
		125									75	50				606	17360	125	FT	GUARDRAIL, TYPE MGS, LONG-SPAN	
		6							4	2						606	26150	6	EACH	ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)	37
		16							7	5	2	2				606	26550	16	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
		2							1	1						606	35002	2	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
		2							1	1						606	35102	2	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	
		1810							1086	724						607	98000	1810	FT	FENCE, MISC.: WOOD FENCE	38
								112756	11380	7586	3931	2620			87239	608	10000	112756	SF	4" CONCRETE WALK	
								1160	262	174	79	53			592	608	13001	1160	SF	6" CONCRETE WALK, AS PER PLAN	37
								2709	28	18	154	102			2407	608	15001	2709	SF	8" CONCRETE WALK, AS PER PLAN	37
								13012	2570	1713	276	184			8269	608	52000	13012	SF	CURB RAMP	

NO.	DESCRIPTION	REV. BY	DATE
1	REVISED EMBANKMENT AND EXCAVATION QUANTITIES	TMT	12-17-2020
5	REVISED SUBGRADE STABILIZATION QTY, AND EARTHWORK QTYS FOR RETAINING WALL #1 AND DETENTION POND #1	TMT	1-22-2021
6	ADDED EXCAVATION QUANTITY	TMT	1-13-2021
7	REVISED CURB RAMP QUANTITY	TMT	2/5/2021

CALCULATED JMB
CHECKED MDG

GENERAL SUMMARY

MED-18-12.99

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STATION TO STATION		SIDE	LENGTH	AVERAGE WIDTH W	CURVE CORRECTION	SURFACE AREA A A=LxW	CADD AREAS	608 4" CONCRETE WALK			608 6" CONCRETE WALK, AS PER PLAN			608 8" CONCRETE WALK, AS PER PLAN			608 CURB RAMP		
FROM	TO							SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF
								01/NHS/PV 02/NHS/PV	03/ENH/PV 04/ENH/PV	08/ENH/OT	01/NHS/PV 02/NHS/PV	03/ENH/PV 04/ENH/PV	08/ENH/OT	01/NHS/PV 02/NHS/PV	03/ENH/PV 04/ENH/PV	08/ENH/OT	01/NHS/PV 02/NHS/PV	03/ENH/PV 04/ENH/PV	08/ENH/OT
S.R. 18																			
85+31.78	85+41.78	LT	10.00	4.48	1.0075	45.13		45.13											
85+41.78	86+17.03	LT	75.25	5.00	1.0075	379.05		379.05											
86+17.03	86+38.88	LT	21.85	5.00	1.0075	110.06					110.06								
86+38.88	88+31.16	LT	CADD				969.19	969.19											
89+09.03	92+68.54	LT	359.51	5.00	1.0075	1810.94		1810.94											
92+68.54	CURB RAMP	LT	CADD				116.92										116.92		
92+83.41	CURB RAMP	LT	CADD				23.87	23.87											
93+46.83	CURB RAMP	LT	CADD				77.69	77.69											
93+61.34	CURB RAMP	LT	CADD				121.27										121.27		
CURB RAMP	99+35.50	LT	CADD				93.75										93.75		
99+35.50	CURB RAMP	LT	CADD				430.09	430.09											
CURB RAMP	137+29.07	LT	CADD				250.94												250.94
137+29.07	138+81.11	LT	152.04	10.00	0.9843	1496.52				1496.52									
138+81.11	139+63.91	LT	CADD				815.05			815.05									
139+63.91	139+73.92	LT	CADD				98.65									98.65			
CURB RAMP	144+70.26	LT	CADD				140.44										140.44		
144+70.26	147+93.82	LT	323.56	6.00		1941.36		1941.36											
147+93.82	CURB RAMP	LT	CADD				156.79										156.79		
CURB RAMP	148+56.18	LT	CADD				62.72										62.72		
148+56.18	148+67.93	LT	11.75	6.00		70.50		70.50											
148+67.93	CURB RAMP	LT	CADD				62.72										62.72		
CURB RAMP	149+25.28	LT	CADD				121.79										121.79		
149+25.28	153+98.07	LT	472.79	6.00		2836.74		2836.74											
153+98.07	CURB RAMP	LT	CADD				148.92										148.92		
CURB RAMP	154+21.25	LT	CADD				60.84	60.84											
154+21.25	CURB RAMP	LT	CADD				141.03										141.03		
CURB RAMP	155+35.14	LT	CADD				140.61										140.61		
155+35.14	155+40.76	LT	CADD				40.29	40.29											
CURB RAMP	155+55.63	LT	CADD				156.63										156.63		
155+55.63	161+99.85	LT	CADD				3863.26	3863.26											
161+99.85	162+07.21	LT	CADD				45.58							45.58					
169+65.40	CURB RAMP	LT	CADD				51.81										51.81		
82+83.44	83+06.44	RT	23.00	4.28		98.44		98.44											
83+06.44	83+08.44	RT	2.00	4.95	0.9925	9.83		9.83											
83+08.44	85+39.28	RT	230.84	5.00	0.9925	1145.60		1145.60											
85+39.28	85+63.79	RT	24.51	5.00	0.9925	121.64					121.64								
85+63.79	85+69.24	RT	5.45	5.00	0.9925	27.05		27.05											
85+69.24	85+92.45	RT	23.21	5.00	0.9925	115.19					115.19								
85+92.45	90+43.88	RT	451.43	5.00	0.9925	2240.33		2240.33											
90+43.88	90+93.88	RT	CADD				247.75	247.75											
90+93.88	92+58.34	RT	164.46	5.00	0.9925	816.17		816.17											
92+58.34	CURB RAMP	RT	CADD				194.61										194.61		
CURB RAMP	93+75.65	RT	CADD				316.87										316.87		
CURB RAMP	97+62.03	RT	CADD				3835.59			3835.59									
97+62.03	CURB RAMP	RT	CADD				1005.23										1005.23		
SUBTOTALS CARRIED TO SHEET 336								17135		6148	347			46		99	3033		251

CALCULATED CJC
CHECKED MDG

WALK CALCULATIONS

NO.	DESCRIPTION	REV. BY	DATE
7	REVISED CURB RAMP QUANTITY	TMT	2/5/2021

MED-18-12.99

STATION TO STATION		SIDE	LENGTH	AVERAGE WIDTH W	CURVE CORRECTION	SURFACE AREA A A=LxW	CADD AREAS	608 4" CONCRETE WALK			608 6" CONCRETE WALK, AS PER PLAN			608 8" CONCRETE WALK, AS PER PLAN			608 CURB RAMP		
FROM	TO							SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF
								01/NHS/PV 02/NHS/PV	03/ENH/PV 04/ENH/PV	08/ENH/OT	01/NHS/PV 02/NHS/PV	03/ENH/PV 04/ENH/PV	08/ENH/OT	01/NHS/PV 02/NHS/PV	03/ENH/PV 04/ENH/PV	08/ENH/OT	01/NHS/PV 02/NHS/PV	03/ENH/PV 04/ENH/PV	08/ENH/OT
FOOTE RD.																			
10+37.00	10+50.00	RT	CADD				77.41		77.41										
10+50.00	11+97.03	RT	147.03	6.00		882.18			882.18										
11+97.03	CURB RAMP	RT	CADD				77.54											77.54	
CURB RAMP	12+54.45	RT	CADD				117.43											117.43	
12+54.45	14+27.95	RT	173.50	6.00		1041.00			1041.00										
14+27.95	15+20.98	RT	93.03	6.00	0.9742	543.76			543.76										
15+20.98	15+91.49	RT	70.51	6.00		423.06			423.06										
15+91.49	16+44.97	RT	CADD				343.90		343.90										
CURB RAMP	17+69.81	RT	CADD				116.84										116.84		
17+69.81	18+79.77	RT	CADD				764.90	764.90											
18+79.77	19+43.61	RT	63.84	6.00	1.0258	392.93			392.93										
19+43.61	19+72.78	RT	29.17	6.00		175.02			175.02										
19+72.78	CURB RAMP	RT	CADD				114.96											114.96	
CURB RAMP	20+39.75	RT	CADD				149.67											149.67	
20+39.75	21+00.00	RT	60.25	6.00		361.50			361.50										
21+00.00	21+40.00	RT	40.00	6.00		240.00			240.00										
21+40.00	23+26.67	RT	186.67	6.00		1120.02			1120.02										
23+26.67	23+86.50	RT	59.83	6.00		358.98			358.98										
23+86.50	24+08.50	RT	22.00	6.00		132.00			132.00										
24+08.50	24+13.50	RT	5.00	6.00		30.00			30.00										
24+13.50	24+26.24	RT	12.74	6.00		76.44			76.44										
24+26.24	24+68.82	RT	CADD				255.53								255.53				
24+68.82	25+07.19	RT	38.37	6.00		230.22			230.22										
25+07.19	25+29.18	RT	21.99	6.00		131.94						131.94							
25+29.18	25+33.00	RT	3.82	6.00		22.92			22.92										
25+33.00	25+53.00	RT	CADD				99.37		99.37										
SUBTOTALS THIS SHEET								765	6551			132			256		117	460	
SUBTOTALS SHEET 333								17135		6148	347			46		99	3033		251
SUBTOTALS SHEET 334										66962			592			2308	415		5716
SUBTOTALS SHEET 335								1066		14129	89						718		2302
TOTALS CARRIED TO GENERAL SUMMARY								18966	6551	87239	436	132	592	46	256	2407	4283	460	8269

CALCULATED CJC
CHECKED MDG

NO.	DESCRIPTION	REV. BY	DATE
7	REVISED CURB RAMP QUANTITY	TMT	2/5/2021

WALK CALCULATIONS

MED-18-12.99

336
1085

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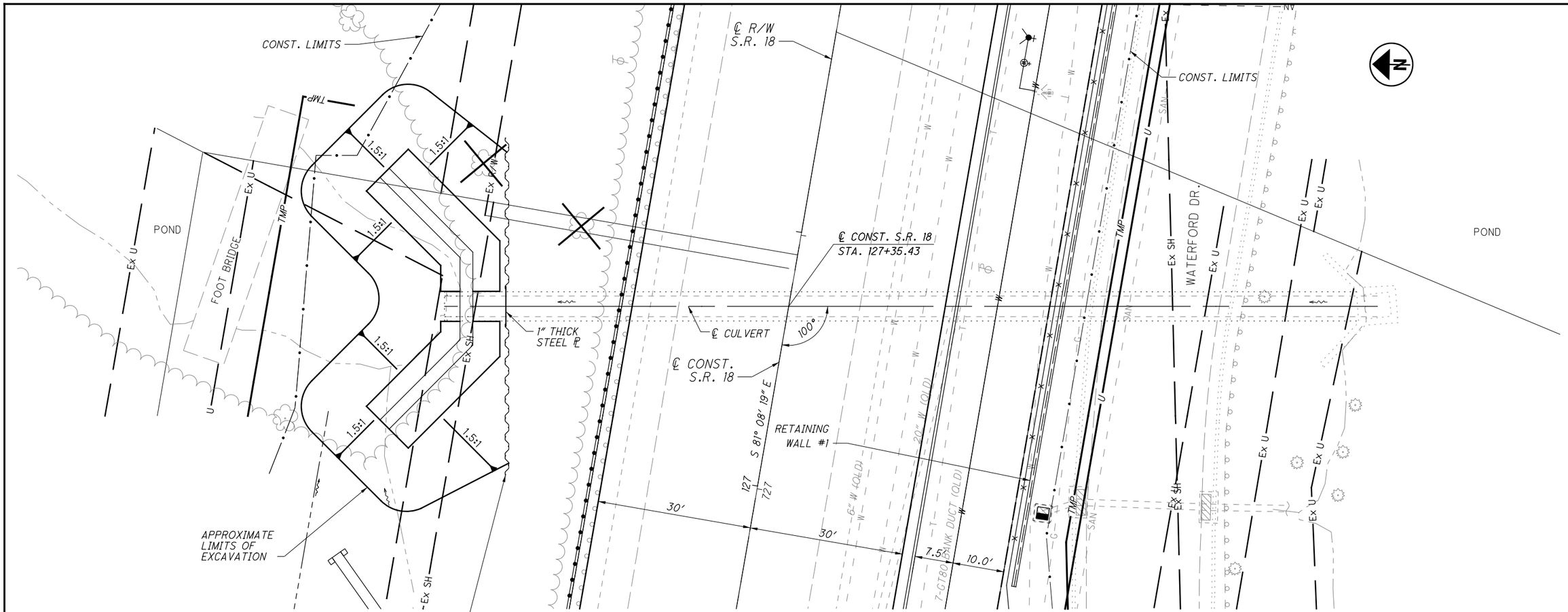
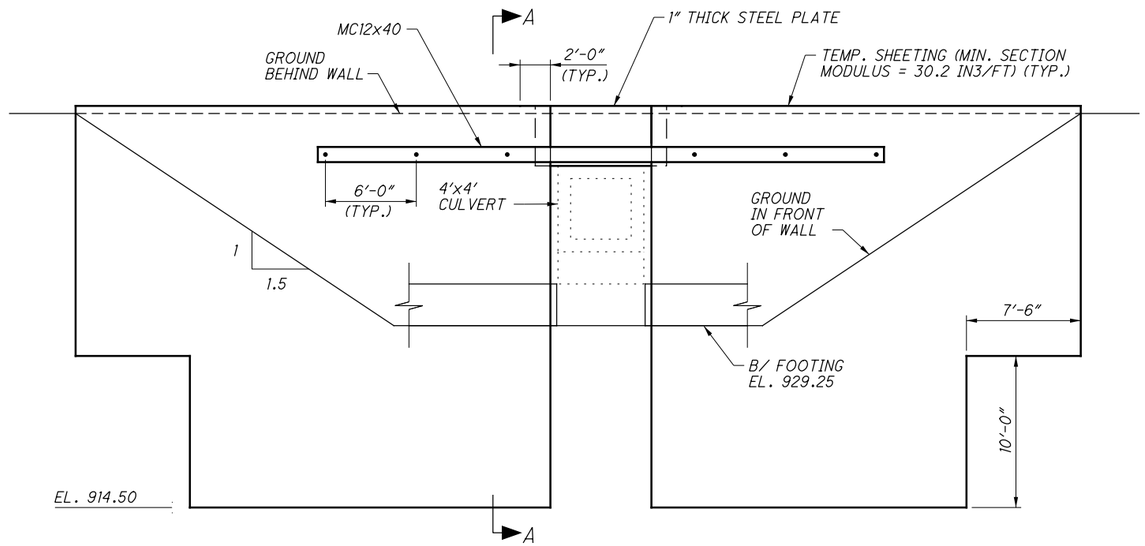


PLAN



CULVERT #3 EXCAVATION BRACING DETAILS

NOTES:

1. FOR THIS CULVERT, THE CONTRACTOR SHALL PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH CMS 501.05. THE DESIGN SHOWN ON THE PLANS FOR TEMPORARY SUPPORT OF EXCAVATION IS ONE REPRESENTATIVE DESIGN THAT MAY BE USED TO CONSTRUCT THE CULVERT. THE CONTRACTOR MAY CONSTRUCT THE DESIGN SHOWN ON THE PLANS OR PREPARE AN ALTERNATE DESIGN TO SUPPORT THE SIDES OF EXCAVATION. IF CONSTRUCTING AN ALTERNATE DESIGN FOR TEMPORARY SUPPORT OF EXCAVATION, PREPARE AND PROVIDE PLANS IN ACCORDANCE WITH CMS 501.05. NO ADDITIONAL PAYMENT WILL BE MADE FOR PROVIDING AN ALTERNATE DESIGN.

   ALL STEEL SHEETING, WALER, AND STEEL PLATES SHALL BE ASTM A572, GRADE 50.

   ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ODOT CMS 503. THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE FOR ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN.

2. FOR SECTION A-A, SEE SHEET 686.

NO.	DESCRIPTION	REV. BY	DATE
7	REVISED TIP ELEVATION OF SHEETING	TMT	2/5/21

DESIGN AGENCY
GPD GROUP.
Glaus, Pyle, Schomer, Burns & Deweese, Inc.
520 South Main Street, Suite 2531, Akron, OH 44311 330.572.2100

DESIGNED	DRAWN	REVIEWED	DATE
DGN	MOJ	DJC	9-21-20
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RFV			

EXCAVATION BRACING DETAILS
CULVERT #3
STA. 127+35.43

MED-18-12.99
PID No. 92953

2 / 9

685
1085

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ITEM 632 - SIGNAL SUPPORT FOUNDATION

PRIOR TO ORDERING THE SIGNAL SUPPORTS, THE CONTRACTOR SHALL CONTACT OUPS TO HAVE ALL THE UTILITIES LOCATED IN THE FIELD THEN MEET WITH THE PROJECT ENGINEER TO LOCATE THE PROPOSED SUPPORT LOCATIONS TO INSURE THERE ARE NO CONFLICTS WITH UTILITIES. IF THERE ARE ISSUES, THE PROJECT ENGINEER SHALL PROVIDE GUIDANCE AS TO THE RELOCATION OF THE SUPPORT POLES.

PAYMENT WILL BE AT THE CONTRACT UNIT PRICE AND WILL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND OTHER INCIDENTALS NECESSARY FOR EACH SUPPORT FURNISHED, IN PLACE, COMPLETE AND ACCEPTED.

ITEM 632 - SIGNALIZATION, MISC.: SIGNAL SUPPORT, MECHANICAL DAMPER FOR TC-81.21 MAST ARM (GREATER THAN 59' IN LENGTH)

THIS ITEM SHALL CONSIST OF THE CONTRACTOR INSTALLING A TUNED MASS-SPRING TYPE DAMPER ON A TC-81.21 MAST ARM SIGNAL SUPPORT TO REDUCE THE POSSIBILITY OF HARMONIC VIBRATIONS CAUSED BY WIND LOADS. A MECHANICAL DAMPER SHALL BE APPLIED TO ALL MAST ARMS OVER 59 FEET IN LENGTH. THE INSTALLED DAMPER SHALL BE CAPABLE OF REDUCING THE LOADED MAXIMUM VERTICAL MOVEMENT AT THE TIP OF THE ARM TO 8 INCHES MEASURED FROM THE HIGHEST TO THE LOWEST POINT OF DEFLECTION AT WIND SPEEDS OF 5-20 MPH. THE DAMPER SHALL INCREASE THE INHERENT DAMPING RATIO OF A TYPICAL UNLEADED MAST ARM SUPPORT (Fn=1-2 Hz) BY 0.01. THIS INCREASE SHALL BE DOCUMENTED BY LABORATORY TESTING AVAILABLE FROM THE MANUFACTURER.

ALL ATTACHMENT HARDWARE CONNECTIONS SHALL BE STAINLESS STEEL. THE DAMPER SHALL BE ATTACHED TO THE ARM WITHIN 8 FEET OF MAST ARM TIP. INSTALLATION SHALL BE PER THE MANUFACTURER'S GUIDELINES. STATIC DAMPERS SUCH AS HORIZONTAL FLAT SIGN MOUNTINGS SHALL NOT BE USED. ACCEPTABLE DEVICES INCLUDE THE FOLLOWING OR APPROVED EQUAL:

1. VALMONT STRUCTURES MITIGATOR - MODEL TR1

PAYMENT FOR ITEM 632 - SIGNALIZATION, MISC.: SIGNAL SUPPORT, MECHANICAL DAMPER FOR TC-81.21 MAST ARM (GREATER THAN 59' IN LENGTH) SHALL BE MADE AT THE CONTRACT UNIT PRICE PER EACH COMPLETE AND IN PLACE, AND SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO COMPLETE THE WORK.

ITEM 809 - ADVANCE RADAR DETECTION, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING A WAVETRONIX SMARTSENSOR ADVANCE DETECTION UNIT (MODEL SS-200E). THE DETECTION UNIT SHALL INCLUDE THE FOLLOWING:

1. POWER SHALL BE PROVIDED FROM THE TRAFFIC CABINET.
2. ALL REQUIRED INPUTS CARDS SHALL BE INCLUDED IN THE TRAFFIC CABINET AND SHALL BE COMPATIBLE WITH CALTRANS, NEMA TS1 AND NEMA TS2 DETECTOR RACKS. THE CARDS SHALL PROVIDE TRUE PRESENCE DETECTOR CALLS OR CONTACT CLOSURE TO THE TRAFFIC CONTROLLER.
3. THE UNIT SHALL BE MOUNTED DIRECTLY TO A POLE OR MAST ARM, AS RECOMMENDED BY THE MANUFACTURER. CABLE(S) SHALL BE PROVIDED AS REQUIRED AND RECOMMENDED BY THE MANUFACTURER.
4. SURGE PROTECTION DEVICES, AS RECOMMENDED BY THE MANUFACTURER SHALL BE INCLUDED BOTH AT THE POLE WHERE THE UNIT IS LOCATED TO PROTECT THE UNIT AND IN THE TRAFFIC CABINET TO PROTECT THE CABINET ELECTRONICS.
5. THE MANUFACTURER'S REPRESENTATIVE SHALL BE ON SITE DURING INSTALLATION AND TESTING AND SHALL PROVIDE ONSITE TRAINING ON THE SETUP, OPERATION AND MAINTENANCE OF THE UNIT.
6. A SERIAL TO ETHERNET COMMUNICATIONS MODULE AND ETHERNET CABLE (MINIMUM 7 FEET).
7. THE POWER SUPPLY AND COMMUNICATION MODULES SHALL BE SECURED TO A SINGLE PANEL THAT CAN BE MOUNTED INTERIOR TO THE TRAFFIC CABINET. THE PANEL SHALL INCLUDE MODULAR-PLUG STYLE CONNECTIONS FOR UP TO FOUR (4) SENSOR CABLES. ADDITIONAL SENSORS MAY BE HARD-WIRED TO THE COMMUNICATION MODULES, AS NECESSARY.

ITEM 809 - ADVANCE RADAR DETECTION (CONTINUED)

8. THE CONTRACTOR SHALL INSTALL THE RADAR DETECTION PRIOR TO REMOVING THE TEMPORARY DETECTION.
9. THE INSTALLATION SHALL INCLUDE ALL CONTROLLER PROGRAMMING FOR COMPLETE INSTALLATION, WHICH INCLUDES MODIFICATIONS FOR REMOVAL OF EXISTING DETECTION.

PAYMENT FOR ITEM 809 - ADVANCE RADAR DETECTION, AS PER PLAN SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH UNIT, COMPLETE AND IN PLACE INCLUDING ALL REQUIRED CABINET HARDWARE, MOUNTING BRACKETS, CABLES, CONDUIT, CONNECTIONS TESTED AND ACCEPTED, AND ANY OTHER NECESSARY HARDWARE TO ESTABLISH A FULLY FUNCTIONAL DETECTION SYSTEM.

ITEM 809 - STOP LINE RADAR DETECTION, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING A WAVETRONIX SMARTSENSOR MATRIX DETECTION UNIT. THE DETECTION UNIT SHALL INCLUDE THE FOLLOWING:

1. POWER SHALL BE PROVIDED FROM THE TRAFFIC CABINET.
2. ALL REQUIRED INPUTS CARDS SHALL BE INCLUDED IN THE TRAFFIC CABINET AND SHALL BE COMPATIBLE WITH CALTRANS, NEMA TS1 AND NEMA TS2 DETECTOR RACKS. THE CARDS SHALL PROVIDE TRUE PRESENCE DETECTOR CALLS OR CONTACT CLOSURE TO THE TRAFFIC CONTROLLER.
3. THE UNIT SHALL BE MOUNTED DIRECTLY TO A POLE OR MAST ARM, AS RECOMMENDED BY THE MANUFACTURER. CABLE(S) SHALL BE PROVIDED AS REQUIRED AND RECOMMENDED BY THE MANUFACTURER.
4. SURGE PROTECTION DEVICES, AS RECOMMENDED BY THE MANUFACTURER SHALL BE INCLUDED BOTH AT THE POLE WHERE THE UNIT IS LOCATED TO PROTECT THE UNIT AND IN THE TRAFFIC CABINET TO PROTECT THE CABINET ELECTRONICS.
5. THE MANUFACTURER'S REPRESENTATIVE SHALL BE ON SITE DURING INSTALLATION AND TESTING AND SHALL PROVIDE ONSITE TRAINING ON THE SETUP, OPERATION AND MAINTENANCE OF THE UNIT.
6. A SERIAL TO ETHERNET COMMUNICATIONS MODULE AND ETHERNET CABLE (MINIMUM 7 FEET).
7. THE POWER SUPPLY AND COMMUNICATION MODULES SHALL BE SECURED TO A SINGLE PANEL THAT CAN BE MOUNTED INTERIOR TO THE TRAFFIC CABINET. THE PANEL SHALL INCLUDE MODULAR-PLUG STYLE CONNECTIONS FOR UP TO FOUR (4) SENSOR CABLES. ADDITIONAL SENSORS MAY BE HARD-WIRED TO THE COMMUNICATION MODULES, AS NECESSARY.
8. THE CONTRACTOR SHALL INSTALL THE RADAR DETECTION PRIOR TO REMOVING THE TEMPORARY DETECTION.
9. THE INSTALLATION SHALL INCLUDE ALL CONTROLLER PROGRAMMING FOR COMPLETE INSTALLATION, WHICH INCLUDES MODIFICATIONS FOR REMOVAL OF EXISTING DETECTION.

PAYMENT FOR ITEM 809 - STOP LINE RADAR DETECTION, AS PER PLAN SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH UNIT, COMPLETE AND IN PLACE INCLUDING ALL REQUIRED CABINET HARDWARE, MOUNTING BRACKETS, CABLES, CONDUIT AND CONNECTIONS TESTED AND ACCEPTED.

ITEM 632 - SIGNALIZATION, MISC.: TEST HOLE PERFORMED

IT IS ANTICIPATED THAT THE CONTRACTOR WILL ENCOUNTER UNDERGROUND UTILITIES WHILE EXCAVATING FOR SIGNAL SUPPORT FOUNDATIONS. IF, AFTER ACCURATELY IDENTIFYING THE PROPOSED LOCATION OF THE FOUNDATION, AS SHOWN IN THE PLAN, AND AFTER MODIFYING THAT LOCATION, IF NECESSARY, BASED ON THE FIELD MARKING OF UNDERGROUND UTILITY LOCATION, THE CONTRACTOR DISCOVERS A UTILITY CONFLICT DURING HIS EXCAVATION OPERATION, HE WILL BE COMPENSATED FOR THE LABOR AND EQUIPMENT COST ASSOCIATED FOR EACH PARTIAL FOUNDATION EXCAVATION ACCORDING TO HIS BID PRICE.

NO.	DESCRIPTION	REV. BY	DATE
7	REVISED RADAR DETECTION NOTE	TMT	2/5/2021

ITEM 632 - SIGNALIZATION, MISC.: TEST HOLE PERFORMED (CONTINUED)

BEFORE THE CONTRACTOR BEGINS THE EXCAVATION AT THE MODIFIED LOCATION, HE SHALL VERIFY THAT THERE WILL BE NO OVERHEAD UTILITY CONFLICTS RESULTING FROM THE NEW SIGNAL SUPPORT LOCATION. NEW SUPPORT LOCATIONS ARE TO BE APPROVED BY THE ENGINEER.

THE CONTRACTOR'S WORK UNDER THIS BID ITEM SHALL INCLUDE BACKFILLING, COMPACTING, AND RESTORATION OF THE EXCAVATION TO ITS ORIGINAL CONDITION.

EXCAVATIONS SHALL NOT BE LEFT OPEN OVERNIGHT.

PAYMENT FOR THIS ITEM SHALL BE AT THE UNIT PRICE BID PER EACH ITEM 632 - SIGNALIZATION - MISC.: TEST HOLE PERFORMED. A QUANTITY OF 8 HAS BEEN CARRIED TO THE SIGNALIZATION GENERAL SUMMARY. TO BE USED AS DIRECTED BY THE ENGINEER.

ITEM 632 - POWER SERVICE, AS PER PLAN

POWER SERVICE SHALL BE AS PER C&MS ITEM 632 AND SCD TC-83.10 WITH THE FOLLOWING EXCEPTIONS:

1. THE METER BASE MOUNTING HEIGHT SHALL BE NO MORE THAN 5 FEET HIGH TO THE CENTER OF THE METER BASE FROM THE GROUND.
2. THE CONTRACTOR SHALL SUPPLY THE NECESSARY METER BASES.
3. ALL POWER SERVICES SHALL BE METERED. THE METER SHALL HAVE A LEVER OPERATED BYPASS.

DISCONNECT SWITCH ENCLOSURES FURNISHED IN ACCORDANCE WITH CMS ITEM 632, POWER SERVICE, AS PER PLAN, SHALL INCLUDE A PADLOCK EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNON 660, WITH LOCK BODY OF BRONZE OR BRASS AND KEYING SHALL BE TO THE STATE MASTER.

THE POWER SOURCE LOCATION SHALL BE AS INDICATED IN THE PLANS OR AS DETERMINED IN THE FIELD BY THE ENGINEER. THE CONTRACTOR SHALL CONTACT OHIO EDISON FOR INFORMATION REGARDING THE METER BASE INSTALLATION PRIOR TO ORDERING POLES. THE CONTRACTOR WILL BE RESPONSIBLE FOR REQUESTING AND SCHEDULING ANY INSPECTIONS OHIO EDISON MAY REQUIRE FOR THE POWER SERVICE HOOK UP. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT OHIO EDISON FOR THE ELECTRICAL SERVICE CONNECTION. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR SPLICE POWER CABLE INTO OHIO EDISON'S CIRCUITS. THE VOLTAGE SUPPLIED SHALL BE NOMINALLY 120 VOLTS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS AND THE PAYING OF ALL FEES. THE CONTRACTOR SHALL PAY ALL POWER CHARGES UNTIL THE SIGNAL IS ACCEPTED BY THE MAINTAINING AGENCY.

DUE TO THE INTENDED RELOCATION OF EXISTING UTILITY POLES, THE PROPOSED POWER SOURCE LOCATION HAS NOT BEEN IDENTIFIED AT ALL PROJECT INTERSECTIONS. DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE POWER SOURCE LOCATION AT ANY INTERSECTION THAT HAS NOT BEEN PREVIOUSLY IDENTIFIED IN THE PLANS. ALL POWER SOURCE LOCATIONS SHALL BE APPROVED BY THE ENGINEER. REGARDLESS OF WHETHER THE POWER SOURCE LOCATION HAS BEEN IDENTIFIED IN THE PLANS OR NOT, ALL ITEMS ASSOCIATED WITH THE POWER SERVICE THAT ARE NECESSARY TO PROVIDE COMPLETE ELECTRICAL SERVICE TO EACH TRAFFIC SIGNAL INSTALLATION, INCLUDING, BUT NOT LIMITED TO CONDUIT RISERS, CONDUIT, TRENCHING, PULL BOXES AND POWER SERVICE CABLE, SHALL BE INCIDENTAL TO AND INCLUDED UNDER ITEM 632 - POWER SERVICE, AS PER PLAN, AS PER C&MS 632.24.

THE COST FOR ALL NECESSARY ITEMS AND ASSOCIATED LABOR SHALL BE INCLUDED IN THE CONTRACT BID PRICE FOR ITEM 632 - POWER SERVICE, AS PER PLAN.

ITEM 632 - SIGNAL SUPPORT, TYPE TC-81.21, DESIGN ( ), AS PER PLAN

ITEM 632 - SIGNAL SUPPPORT, TYPE TC-12.30, DESIGN ( ), AS PER PLAN

THIS ITEM SHALL CONFORM TO ITEM 632.15 AND 732.11, EXCEPT THAT POLES SHALL BE TAPERED TUBES OF CONTINUOUS TAPER. POLES CONSISTING OF STRAIGHT SECTIONS WITH A TAPERED EFFECT ACCOMPLISHED BY THE USE OF REDUCERS SHALL NOT BE PERMITTED. POLES SHALL BE ROUND IN SHAPE. OCTAGON SHAPED POLES ARE NOT PERMITTED.

CALCULATED JWG CHECKED KMG

TRAFFIC SIGNAL GENERAL NOTES

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