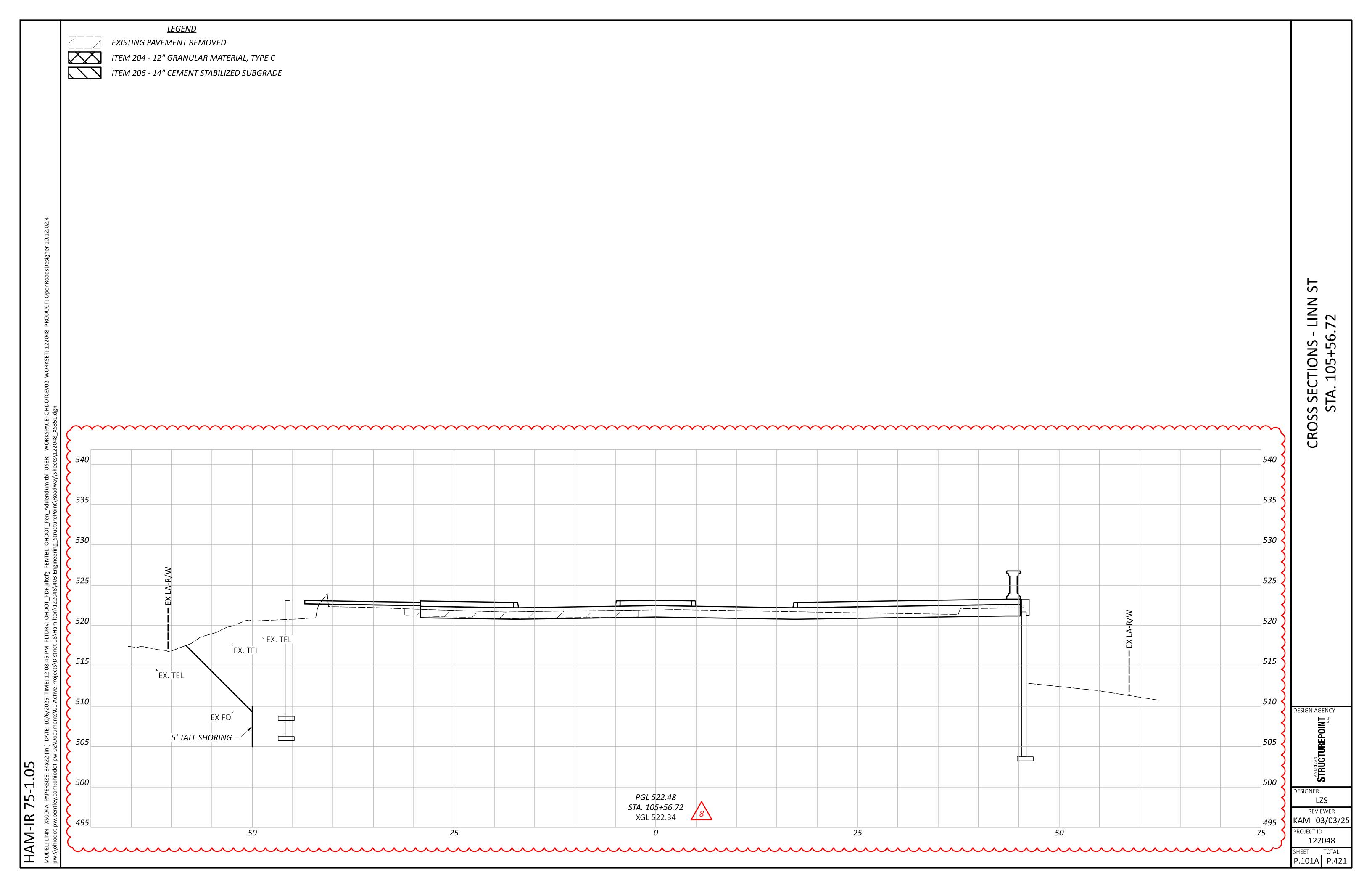
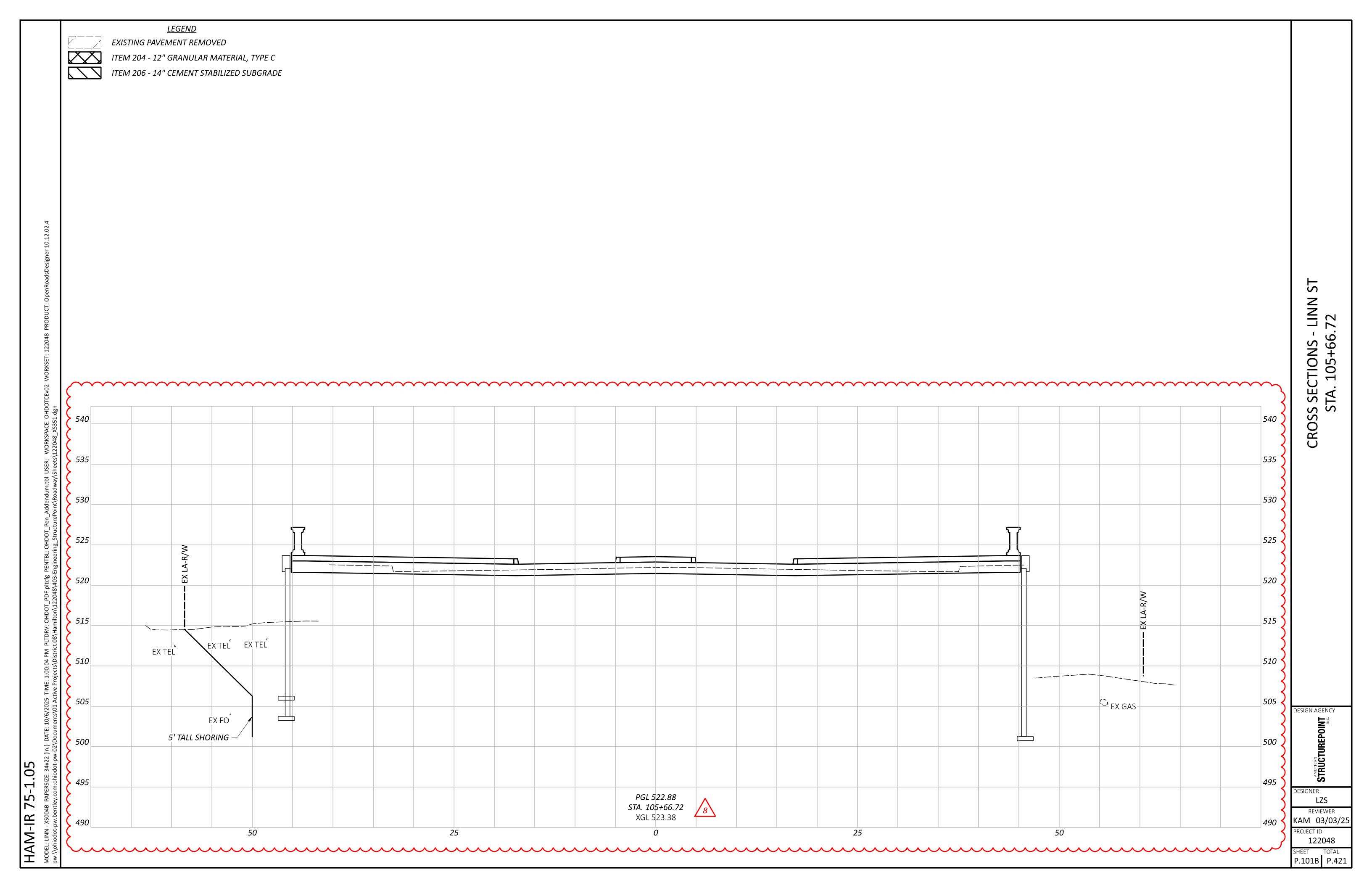
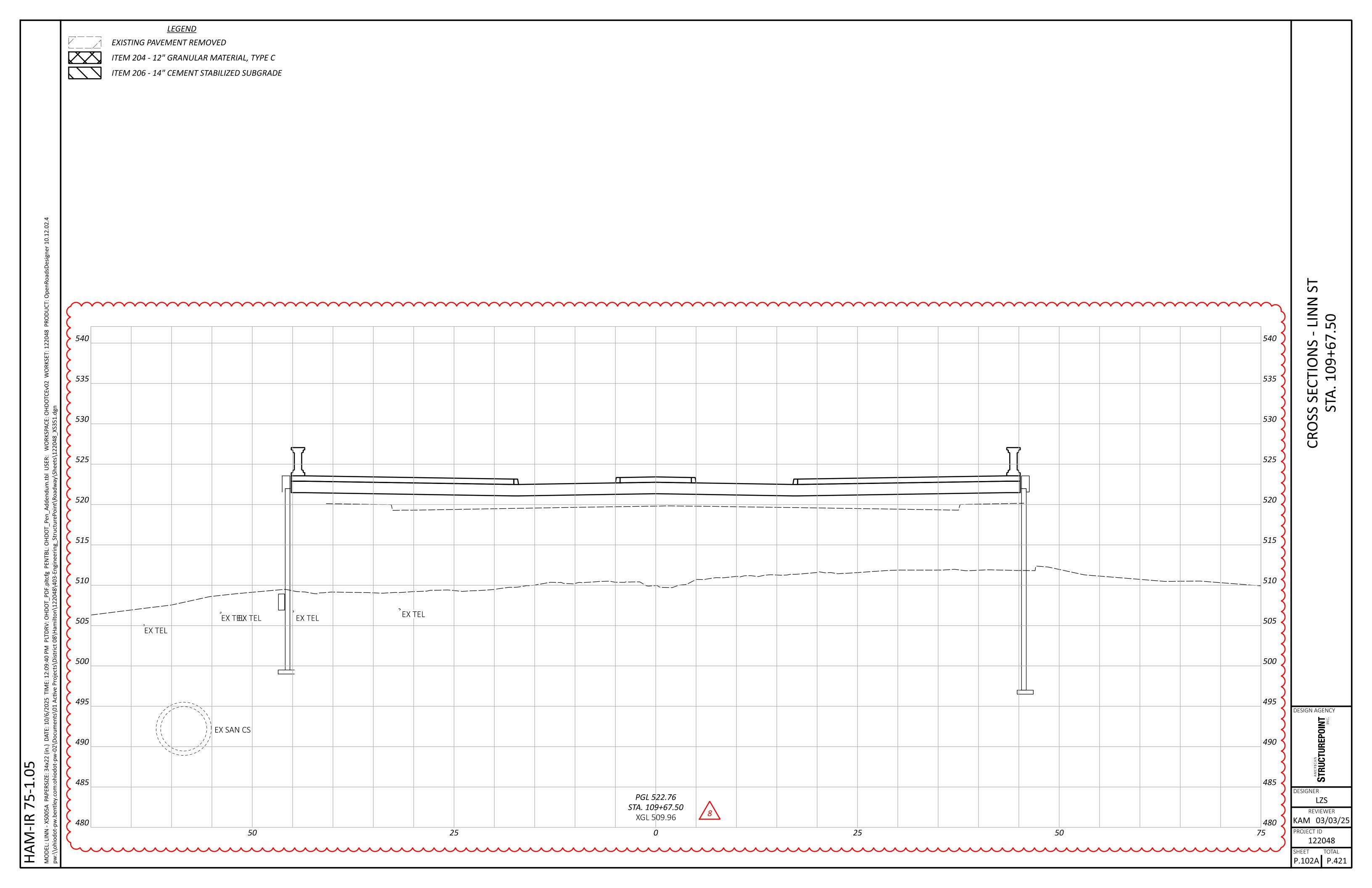
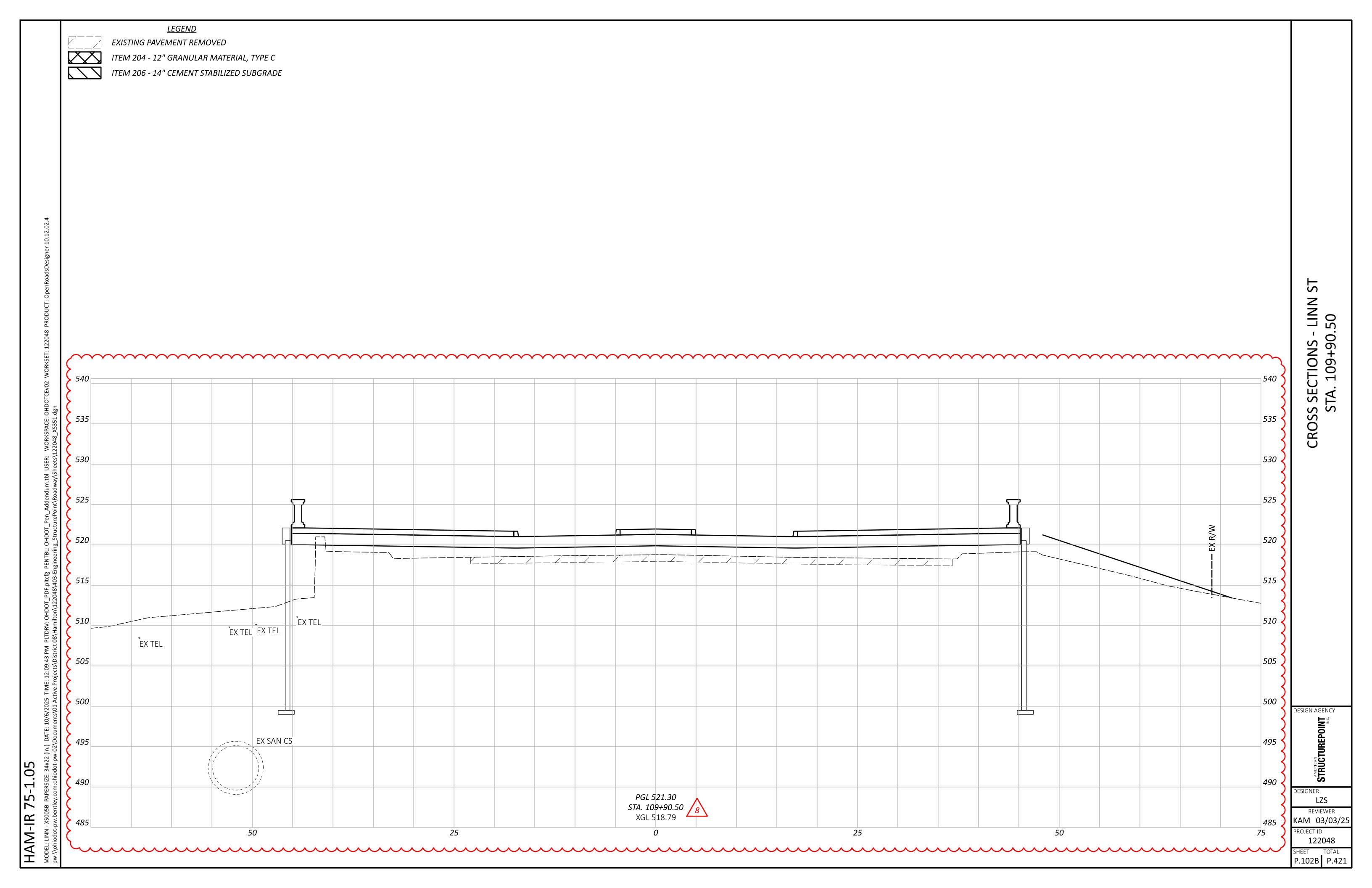
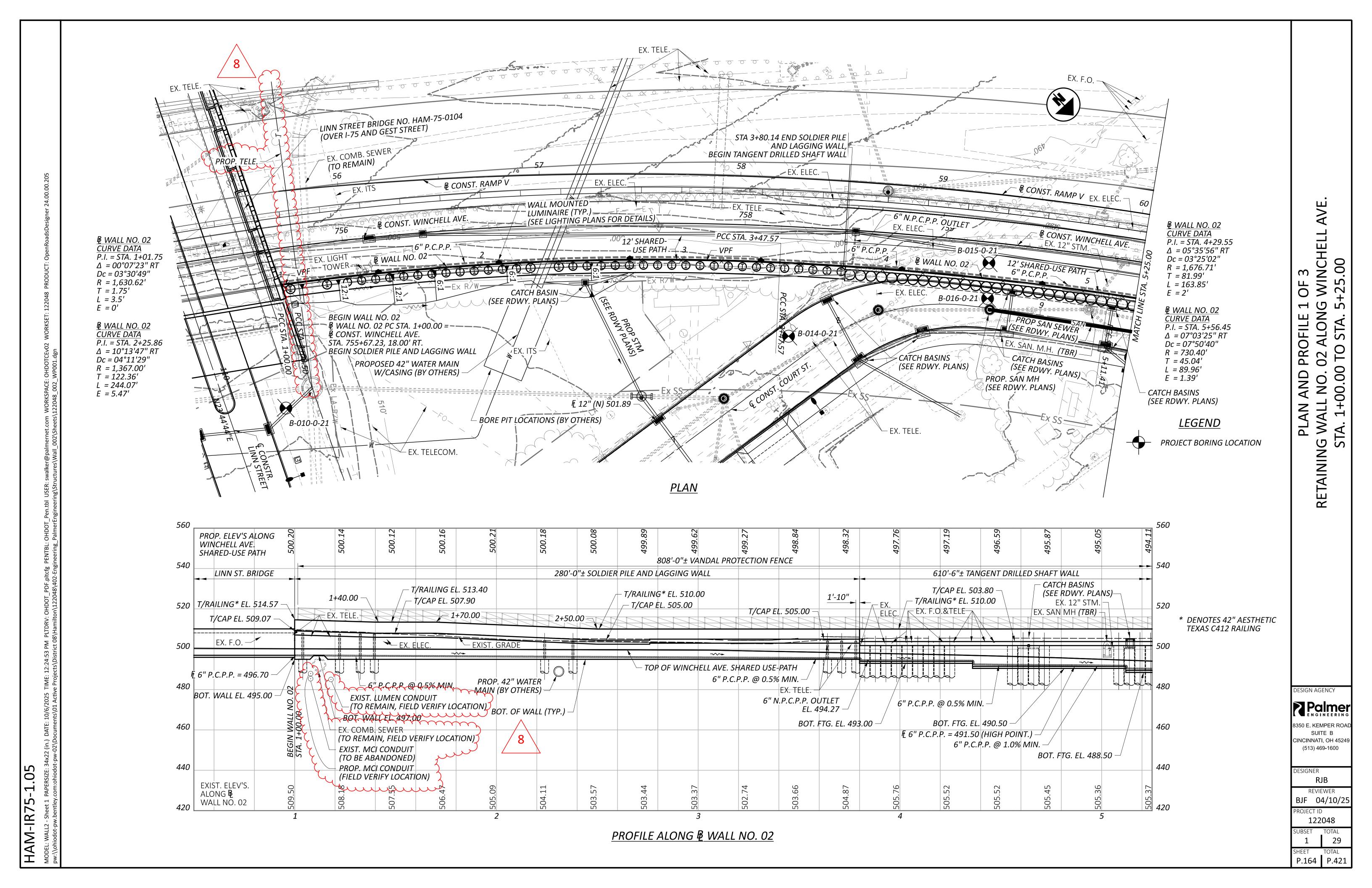
	SHEET NUM.		PART.	ITE	ITEN	GRAN		UNIT	DESCRIPTION	SEE SHEET	
OFFICE CALCS	P.249 P	P.250 01/IMS	02/IMS 03	B/IMS	EXT	TOTA		UNII	DESCRIPTION	NO.	
CALCS									STRUCTURE OVER 20 FOOT SPAN (HAM-75-0104) (SFN 3109098)		
				LS 20	02 1100	B LS			STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	P.245	
	634			534 20				SY	APPROACH SLAB REMOVED	1,12,15	
	LS			LS 20					STEPS REMOVED		
	27		27	20	03 2000	. 27		CY	EMBANKMENT, AS PER PLAN	P.245	
	864		864	20	3511	864	1	CY	GRANULAR MATERIAL, TYPE B, AS PER PLAN	P.248	
	LS LS		LS	50					COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN UNCLASSIFIED EXCAVATION	P.245	
			15	50					PILE DRIVING EQUIPMENT MOBILIZATION		
	4,680		4,680	50			\sim	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN, AS PER PLAN	P.248A	
	4,960 8	\	4,960	50			4 /2	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED		
	5,500		5,500	50				FT	14" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN, AS PER PLAN	P.248A	
	5,880		5,880	50			80	FT	14" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	5.245	
	280		280	50		$-\infty$		FI	PREBORED HOLES, AS PER PLAN	P.245	
	502,155		840 / 8	50			\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	LB	PREBORED HOLES, AS PER PLAN GALVANIZED STEEL REINFORCEMENT	P.248	
	4,000		4.000	50				I R	CONCRETE REINFORCEMENT, MISC.: ADDITIONAL GALVANIZED STEEL REINFORCEMENT FOR FOOTINGS	P.248A	
	313		313	52				CY	CLASS QC SCC CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN	P.245	
	279		279	52	11 4651.	3 279	9	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING, AS PER PLAN	P.248A	
	510		510		$\begin{array}{c c} & & & 4051 \\ \hline 11 & & 5151 \\ \end{array}$			CY	CLASS QC2 CONCRETE WITH QC/QA, SIDEWALK, AS PER PLAN	P.247	
	83		83	52				CY	CLASS QC2 CONCRETE, MISC.: RAISED MEDIAN, WITH QC/QA	P.247	
	98		98	52				CY	CLASS QC2 CONCRETE, MISC.: PLANTER WALLS, WITH QC/QA		
	1,079		1,079	52	11 5301	1,07	79	CY	CLASS QC3 CONCRETE, MISC.: BRIDGE DECK, WITH QC/QA	P.246	
											(
	237		237	52				CY	CLASS QC3 CONCRETE, MISC.: PIER ABOVE FOOTINGS, WITH QC/QA	P.246	
	155		155	52				CY	CLASS QC3 CONCRETE, MISC.: ABUTMENT NOT INCLUDING FOOTING, WITH QC/QA	P.246	
	48		48	52					CONCRETE, MISC.: PRECAST CONCRETE PLINTHS	P.247	
	3,868 2,827		<i>3,868 2,827</i>		12 1000 12 1005			SY	SEALING OF CONCRETE SURFACES, AS PER PLAN	P.245	
	2,027		2,027	31	1003	2,02		31	SEALING OF CONCRETE SURFACES (NON-EPOXY)		(
	3,868		3,868	52	12 1010	3,86	58	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	P.245	
	61		61	52	12 3300	61		SY	TYPE 2 WATERPROOFING		
	844		844	SPE				SY	WATERPROOFING FOR PLANTERS AREAS	P.247	
	128,300		128,300	52				LB	STRUCTURAL STEEL MEMBERS, LEVEL 3, AS PER PLAN	P.246	
	1,275,300	1,	,275,300	52	13 1028	1,275,3	300	LB	STRUCTURAL STEEL MEMBERS, LEVEL 4, AS PER PLAN	P.246	
	9,784		9.784	52	13 2000	9,78	34	EACH	WELDED STUD SHEAR CONNECTORS		
	15,361		15,361	52				SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	P.245	
	15,361		15,361	52	14 0006			SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT	P.245	
	182		182	51	16 1001	182	2	FT	ARMORLESS PREFORMED JOINT SEAL		
	11		11	51	16 1001	. 11		FT	ARMORLESS PREFORMED JOINT SEAL, AS PER PLAN	P.248	
	258		258		16 1121	250	2	ГТ	STRUCTURAL EVRANSION IOINT INCLURING ELASTOMERIC STRIP SEAL AS RER DI ANI	P.317	
	81		258 81	51	16 1300 16 1300			SF	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN 1/4" PREFORMED EXPANSION JOINT FILLER	P.317	
	64		64	51				SF	1/2" PREFORMED EXPANSION JOINT FILLER		
	356		356		16 1390			SF	2" PREFORMED EXPANSION JOINT FILLER		
	9		9	51				EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (13"x12"x2.358" EXP. BEARING)	P.287	
Į.											
	1		9		16 4410				ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (13"x12"x2.358" FIXED BEARING)	P.287	
			Л	51	16 4420	4			ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (23"x18"x3.448" FIXED BEARING)	P.287	
			4					$\Gamma \wedge C'$	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (20"x15"x3.448" FIXED BEARING)	P.287	Ī
	5		5	51	16 4420	. 5					
	5 4 5 5 4 E		5 4 5	51 51	16 4420 16 4430	5 4		EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (18"x14"x4.068" EXP. BEARING)	P.287	
	4 5 4 5 4 5 5		5 4 5 5	51 51	16 4420	5 4		EACH			
	4 5 4 5 4 5 4 4 4		5 4 5 4 5	51 51	16 4420 16 4430 16 4430	5 2 4 2 5		EACH EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (18"x14"x4.068" EXP. BEARING)	P.287	DESIGN
	4 5 4 5 4 5 4 5 4 5		5 4 5 4 5	51 51 51	16 4420 16 4430 16 4430 16 4430	5 2 4 2 5		EACH EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (18"x14"x4.068" EXP. BEARING) ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (16"x13"x4.068" EXP. BEARING)	P.287 P.287	DESIGN
	4 5 4 5 4 5 4 5 29		5 4 5 4 5 29	51 51 51	16 4420 16 4430 16 4430 16 4430 16 4430	5 4 5 4 4 5 2 5 29		EACH EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (18"x14"x4.068" EXP. BEARING) ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (16"x13"x4.068" EXP. BEARING) ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (19"x16"x4.068" EXP. BEARING)	P.287 P.287 P.287	DESIGN
	276		276	51 51 51 51 51 51	16 4420 16 4430 16 4430 16 4430 16 4430 17 7630 18 2000	5 4 5 4 5 4 5 29 0 276	5	EACH EACH EACH FT SY	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (18"x14"x4.068" EXP. BEARING) ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (16"x13"x4.068" EXP. BEARING) ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (19"x16"x4.068" EXP. BEARING) ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (17"x13"x4.068" EXP. BEARING) RAILING, MISC.: SIDEWALK RAILING AT REAR ABUTMENT MSE WALLS PREFABRICATED GEOCOMPOSITE DRAIN	P.287 P.287 P.287 P.287 P.287	DESIGN
				51 51 51 51 51 51	16 4420 16 4430 16 4430 16 4430 16 4430 17 7630	5 4 5 4 5 4 5 29 0 276	5	EACH EACH EACH FT SY	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (18"x14"x4.068" EXP. BEARING) ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (16"x13"x4.068" EXP. BEARING) ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (19"x16"x4.068" EXP. BEARING) ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (17"x13"x4.068" EXP. BEARING) RAILING, MISC.: SIDEWALK RAILING AT REAR ABUTMENT MSE WALLS	P.287 P.287 P.287 P.287	DESIGN
	276		276	51 51 51 51 51 51	16 4420 16 4430 16 4430 16 4430 17 7630 18 2000 18 2120	5 4 5 4 5 5 7 4 7 5 9 29 9 276 1 65	5	EACH EACH EACH FT SY	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (18"x14"x4.068" EXP. BEARING) ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (16"x13"x4.068" EXP. BEARING) ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (19"x16"x4.068" EXP. BEARING) ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (17"x13"x4.068" EXP. BEARING) RAILING, MISC.: SIDEWALK RAILING AT REAR ABUTMENT MSE WALLS PREFABRICATED GEOCOMPOSITE DRAIN	P.287 P.287 P.287 P.287 P.287	DESIGN
	276 65		276 65	51 51 51 51 51 51 51	16 4420 16 4430 16 4430 16 4430 17 7630 18 2000 18 2120	5 4 4 5 5 4 5 6 5 6 5 6 5 6 5 6 5 6 7 6 7 6 7 6 7 6	7	EACH EACH EACH FT SY	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (18"x14"x4.068" EXP. BEARING) ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (16"x13"x4.068" EXP. BEARING) ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (19"x16"x4.068" EXP. BEARING) ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (17"x13"x4.068" EXP. BEARING) RAILING, MISC.: SIDEWALK RAILING AT REAR ABUTMENT MSE WALLS PREFABRICATED GEOCOMPOSITE DRAIN POROUS BACKFILL WITH GEOTEXTILE FABRIC, AS PER PLAN	P.287 P.287 P.287 P.287 P.287	
	276 65 767		276 65 767	51 51 51 51 51 51 51	16 4420 16 4430 16 4430 16 4430 17 7630 18 2000 18 2120 18 3980 18 6210	5 4 4 5 5 4 5 6 5 6 5 6 5 6 5 6 5 6 6 5 6 6 5 6 6 5 6 6 5 6	7	EACH EACH EACH FT SY	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (18"x14"x4.068" EXP. BEARING) ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (16"x13"x4.068" EXP. BEARING) ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (19"x16"x4.068" EXP. BEARING) ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (17"x13"x4.068" EXP. BEARING) RAILING, MISC.: SIDEWALK RAILING AT REAR ABUTMENT MSE WALLS PREFABRICATED GEOCOMPOSITE DRAIN POROUS BACKFILL WITH GEOTEXTILE FABRIC, AS PER PLAN 4" PERFORATED CORRUGATED PLASTIC PIPE	P.287 P.287 P.287 P.287 P.287 P.246	DESIGN
	276 65 767		276 65 767	51 51 51 51 51 51 51 51	16 4420 16 4430 16 4430 16 4430 17 7630 18 2000 18 2120 18 3980 18 6210 23 2000	5 4 4 5 5 4 5 6 5 6 5 6 5 6 5 6 6 5 6 6 6 6	7	EACH EACH EACH FT SY CY FT FT	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (18"x14"x4.068" EXP. BEARING) ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (16"x13"x4.068" EXP. BEARING) ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (19"x16"x4.068" EXP. BEARING) ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (17"x13"x4.068" EXP. BEARING) RAILING, MISC.: SIDEWALK RAILING AT REAR ABUTMENT MSE WALLS PREFABRICATED GEOCOMPOSITE DRAIN POROUS BACKFILL WITH GEOTEXTILE FABRIC, AS PER PLAN 4" PERFORATED CORRUGATED PLASTIC PIPE STRUCTURE DRAINAGE, MISC.: NEOPRENE TROUGH AND DRAINAGE OUTLETS	P.287 P.287 P.287 P.287 P.287 P.246 P.322	DESIGN
	276 65 767 89 4 602		276 65 767 89 4 4 602	51 51 51 51 51 51 51 51 51 52 52 52	16 4420 16 4430 16 4430 16 4430 17 7630 18 2000 18 2120 18 3980 18 6210 23 2050 26 3001	5 4 4 5 2 5 2 29 3 276 4 65 6 767 8 89 9 4 9 4	7	EACH EACH EACH FT SY CY FT FT EACH EACH SY	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (18"x14"x4.068" EXP. BEARING) ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (16"x13"x4.068" EXP. BEARING) ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (19"x16"x4.068" EXP. BEARING) ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (17"x13"x4.068" EXP. BEARING) RAILING, MISC.: SIDEWALK RAILING AT REAR ABUTMENT MSE WALLS PREFABRICATED GEOCOMPOSITE DRAIN POROUS BACKFILL WITH GEOTEXTILE FABRIC, AS PER PLAN 4" PERFORATED CORRUGATED PLASTIC PIPE STRUCTURE DRAINAGE, MISC.: NEOPRENE TROUGH AND DRAINAGE OUTLETS DYNAMIC LOAD TESTING RESTRIKE REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN	P.287 P.287 P.287 P.287 P.287 P.246 P.322	DESIGN RI KAM PROJEC
	276 65 767 89 4 4 602	180 LS	276 65 767 89 4 4	51 51 51 51 51 51 51 51 51 52 52	16 4420 16 4430 16 4430 16 4430 17 7630 18 2000 18 2120 18 3980 18 6210 23 2050 26 3001 26 9003	5 4 4 5 5 4 5 29 0 276 6 65 0 767 0 89 0 4 1 602 0 180	2	EACH EACH EACH FT SY CY FT FT EACH EACH SY	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (18"x14"x4.068" EXP. BEARING) ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (16"x13"x4.068" EXP. BEARING) ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (19"x16"x4.068" EXP. BEARING) ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (17"x13"x4.068" EXP. BEARING) RAILING, MISC.: SIDEWALK RAILING AT REAR ABUTMENT MSE WALLS PREFABRICATED GEOCOMPOSITE DRAIN POROUS BACKFILL WITH GEOTEXTILE FABRIC, AS PER PLAN 4" PERFORATED CORRUGATED PLASTIC PIPE STRUCTURE DRAINAGE, MISC.: NEOPRENE TROUGH AND DRAINAGE OUTLETS DYNAMIC LOAD TESTING RESTRIKE	P.287 P.287 P.287 P.287 P.287 P.246 P.322 P.245	DESIGNE RE KAM PROJECT 12 SHEET











STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:

VPF-1-24 REVISED 7/19/24

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

800 REVISED 7/18/25 894 REVISED 4/16/21

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.

DESIGN ASSUMPTIONS

SOIL UNIT WEIGHT, Y = 120 pcfANGLE OF INTERNAL FRICTION, ϕ 30°

DESIGN DATA

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4.0 KSI
(CONCRETE FACING, COPING, WALL CAP AND MOMENT
SLAB, CIP WALL AND FOOTING)

CONCRETE CLASS QC SCC - WITH 1" MAX. AGGREGATE SIZE - COMPRESSIVE STRENGTH 4.5 KSI (TEXAS C412 RAILING)

CONCRETE CLASS QC5, WITH 1" MAX. AGGREGATE SIZE - COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFTS)

GALVANIZED STEEL REINFORCEMENT - MIN. YIELD STRENGTH - 60 KSI

GALVANIZED STEEL SOLDIER PILES – ASTM A572 - YIELD STRENGTH 50 KSI

FOUNDATION BEARING RESISTANCE

THE SPREAD FOOTINGS OF THE CAST-IN-PLACE SECTION OF WALL 02, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LIMIT STATE BEARING PRESSURE OF (3.7) KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LIMIT STATE BEARING PRESSURE OF (5.1) KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS (12.5) KIPS PER SQUARE FOOT.

LATERALLY LOADED DRILLED SHAFTS, 60" TANGENT DRILLED SHAFT WALL - SHAFTS 38-137 AND 142-153

THE MAXIMUM FACTORED LATERAL LOAD AND BENDING MOMENT TO BE SUPPORTED BY EACH DRILLED SHAFT ARE 116 KIPS, AND 989 KIP-FEET, RESPECTIVELY. THESE LOADS PRODUCE A MAXIMUM FACTORED BENDING MOMENT OF 1,573 KIP-FEET, AND A MAXIMUM FACTORED SHAR OF 120 KIPS, WITHIN THE DRILLED SHAFT.

ITEM 503 - UNCLASSIFIED EXCAVATION, AS PER PLAN

THIS ITEM INCLUDES ANY WALL EXCAVATION OUTSIDE THE EXCAVATION REQUIRED FOR THE ROADWAY FROM THE PROPOSED ROADWAY SURFACE TO THE BOTTOM OF THE WALL FACING.

ITEM SPECIAL - STRUCTURE: PRECONSTRUCTION CONDITION SURVEY

BEFORE PILE DRIVING BEGINS, CONDUCT A CONDITION SURVEY OF ALL EXISTING BUILDINGS, STRUCTURES, SEWERS 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, SEWERS AND BUILDING MATERIALS, USING WRITTEN TEXT, PHOTOGRAPHS, AND VIDEO RECORDINGS. INSPECT INTERIOR WALLS, CEILINGS, AND FLOORS THAT ARE ACCESSIBLE. INSPECT THE EXTERIOR OF THE BUILDING THAT IS VISIBLE FROM GROUND LEVEL. ALSO RECORD THE LOCATION, SIZE, AND TYPE OF ALL CRACKS AND OTHER STRUCTURAL DEFICIENCIES.

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

SUBMIT THREE COPIES OF THE REPORT TO THE ENGINEER THAT SUMMARIZES THE PRECONSTRUCTION CONDITION OF THE BUILDINGS, STRUCTURES, AND UTILITIES, AND THAT IDENTIFIES AREAS OF CONCERN.

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

THE CONTRACTOR IS REQUIRED TO FIELD LOCATE SEVERAL COMBINED AND STORM SEWERS IN THE PLANS (NOISEWALL 5, NOISEWALL 6, WALL 2, LINN STREET STRUCTURE, ETC.) AS WELL AS THE MCI AND LUMEN TELECOMMUNICATION LINE AT WALL 2. THESE ITEMS SHALL BE LOCATED WITHIN 30 DAYS OF THE SIGNED CONTRACT SO THAT THEIR LOCATION CAN BE TAKEN INTO ACCOUNT FOR THE UPCOMING WORK. FAILURE TO FIELD LOCATE THESE ITEMS WITHIN 30 DAYS OF A SIGNED CONTRACT SHALL BE CONSIDERED A NON-EXCUSABLE DELAY (C&MS 108.06.E).

ITEM SPECIAL - RETAINING WALL: TIMBER LAGGING

THIS WORK CONSISTS OF FURNISHING AND PLACING TIMBER LAGGING / BETWEEN THE SOLDIER PILES BELOW THE EXISTING GROUND SURFACE. FURNISH TIMBER LAGGING CONSISTING OF CONSTRUCTION GRADE, UNTREATED HARDWOOD WITH A MAXIMUM THICKNESS OF 6". TO PERMIT DRAINAGE, PROVIDE 1/4 TO 1/2-INCH SPACES BETWEEN LAGGING BOARDS USING 3/8-INCH SPACER BLOCKS OR OTHER MEANS ACCEPTABLE TO THE ENGINEER.

ITEM 507 - STEEL PILES, MISC.: SOLDIER PILES, W27X258 ITEM 507 - STEEL PILES, MISC.: SOLDIER PILES, W27X178

THIS WORK CONSISTS OF FURNISHING AND PLACING STEEL SOLDIER PILES INTO DRILLED HOLES. FURNISH SOLDIER PILES CONSISTING OF STRUCTURAL STEEL MEMBERS THAT MEET THE PLAN REQUIREMENTS AND CONFORM TO ASTM A572, GRADE 50 IN ACCORDANCE WITH C&MS 711.01. GALVANIZE SOLDIER PILES AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH C&MS 711.02. DO NOT FIELD WELD OR SPLICE STEEL SOLDIER PILES.

THE DEPARTMENT WILL MEASURE SOLDIER PILES ALONG THE AXIS OF THE SOLDIER PILE FROM THE TOP OF WALL ELEVATION TO THE BOTTOM OF THE DRILLED SHAFT, AS DETERMINED BY THE ENGINEER. THE DEPARTMENT WILL PAY FOR SOLDIER PILES AT THE CONTRACT UNIT PRICE PER FOOT FOR ITEM 507, STEEL PILES, MISC.: SOLDIER PILES, W27X178.

THE CONTRACTOR IS REQUIRED TO CONTACT THE METROPOLITAN SEWER DISTRICT OF GREATER CINCINNATI TO ACCURATELY LOCATE THE EXISTING 66" SANITARY SEWER LINE PRIOR TO INSTALLATION OF SHAFTS AT LOCATIONS 1 AND 2.

THE CONTRACTOR IS REQUIRED TO CONTACT GREATER CINCINNATI WATER WORKS TO ACCURATELY LOCATE THE PROPOSED 42" WATER MAIN PRIOR TO INSTALLATION OF SHAFTS AT LOCATION 16 AND 17.

SHAFTS AT LOCATIONS 1, 2, 16, AND 17 SHALL BE CASED TO AVOID LOSS OF FILL AROUND UTILITY LINES AND THE CASING SHALL BE LEFT IN PLACE.

COSTS ASSOCIATED WITH THE ADDITIONAL REQUIREMENTS STATED IN THIS NOTE (LOCATING SEWER AND FURNISHING AND PLACING CASING) SHALL BE INCLUDED IN THE APPLICABLE ITEM 507 - STEEL PILES, MISC. PAY ITEM.

ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN, (PERMANENT GRAFFITI PROTECTION)

APPLY A PERMANENT GRAFFITI COATING QUALIFIED ACCORDING TO \$1083 THAT IS COMPATIBLE WITH THE CONCRETE SEALER OVER WHICH IT IS APPLIED. APPLY THE GRAFFITI COATING IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.

GRAFFITI PROTECTION SHALL BE APPLIED TO ALL SURFACES SEALED
WITH EPOXY URETHANE SEALANT. GRAFFITI PROTECTION SHALL HAVE A
CLEAR FINISH.

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

SEAL SURFACES OF THE CAST-IN-PLACE CONCRETE WALL FACING,
PILASTERS, RAILING AND COPING AS SHOWN IN THE PLANS WITH AN
EPOXY URETHANE SEALER ACCORDING TO C&MS 512. COLOR SHALL BE
LIGHT NEUTRAL (FEDERAL STD. #17778).

ITEM 513 - WELDED STUD SHEAR CONNECTORS, AS PER PLAN

WELD HEADED STEEL STUDS TO THE FLANGES OF THE SOLDIER PILE TO CONNECT THE CAST-IN-PLACE CONCRETE WALL FACING TO THE SOLDIER PILE. ATTACH HEADED STUDS ACCORDING TO C&MS 513.22 AND AS SHOWN IN THE PLANS. THE CONTRACTOR MAY ATTACH THE STUDS EITHER BEFORE PLACING THE SOLDIER PILE IN THE DRILLED HOLE OR AFTER EXCAVATING IN FRONT OF THE WALL. PROTECT THE HEADED STUDS FROM DAMAGE UNTIL THE CONCRETE WALL FACING IS POURED. REPAIR OR REPLACE DAMAGED HEADED STUDS AT NO EXPENSE TO THE DEPARTMENT.

ITEM 517 - RAILING MISC.: TEXAS C412 RAILING

THIS WORK CONSISTS OF FURNISHING AND PLACING TEXAS C412 RAIL CONCRETE RAILING AS SPECIFIED IN THE PLANS.

ARCHITECTURAL FORMLINER IS NOT PERMITTED TO CREATE THE SHAPE OF THE RAILING.

USE CONCRETE CLASS QC SCC CONCRETE.

PAYMENT FOR THIS ITEM WILL BE ON A LINEAR FOOT BASIS. THE APPROXIMATE AVERAGE RAILING AREA PER FOOT OF TEXAS RAILING IS 8.7 SQ FT.

ITEM 524 - DRILLED SHAFTS, 42" DIAMETER ABOVE BEDROCK, AS PER PLAN

THIS WORK CONSISTS OF FURNISHING AND INSTALLING DRILLED SHAFTS FOR SOLDIER PILE WALLS. THE DRILLED SHAFTS ARE REINFORCED WITH SOLDIER PILES INSTEAD OF REINFORCING STEEL CAGES. THE SOLDIER PILES EXTEND ABOVE THE TOP OF THE DRILLED SHAFT. FURNISH AND INSTALL THE DRILLED SHAFTS ACCORDING TO C&MS 524 EXCEPT AS MODIFIED AND SUPPLEMENTED BELOW.

EXCAVATE THE HOLE FOR THE DRILLED SHAFT WITHIN 3 INCHES OF THE PLAN LOCATION. PLACE THE SOLDIER PILE WITHIN THE HOLE SO IT IS VERTICAL. PLACE THE SOLDIER PILE SO THAT THE FLANGES ARE PARALLEL TO THE CENTERLINE OF THE ROW OF DRILLED SHAFTS. DO NOT ALLOW THE ORIENTATION OF THE FLANGES TO VARY BY MORE THAN 10 DEGREES. SUPPORT THE SOLDIER PILE SO THAT IT DOES NOT MOVE DURING CONCRETE PLACEMENT. VERTICAL ALIGNMENT TOLERANCE SHALL BE $\pm \frac{1}{8}$ " PER FOOT OF DEPTH.

CHECK THE POSITION, THE VERTICAL ALIGNMENT AND ORIENTATION OF THE SOLDIER PILE IMMEDIATELY AFTER CONCRETE PLACEMENT. MAKE CORRECTIONS AS NECESSARY TO MEET THE ABOVE TOLERANCES.

FILL THE HOLE ABOVE THE CONCRETE TO THE EXISTING GROUND SURFACE WITH ITEM 613 LOW STRENGTH MORTAR BACKFILL (LSM). LSM BACKFILL SHALL BE INCIDENTAL TO THIS ITEM.

REMOVE CONCRETE AND LSM AS NECESSARY FROM AROUND THE SOLDIER PILE IN ORDER TO PLACE THE LAGGING. WAIT AT LEAST 12 HOURS AFTER PLACING CONCRETE BEFORE PLACING LAGGING.

THE DEPARTMENT WILL MEASURE DRILLED SHAFTS ABOVE BEDROCK,
AS PER PLAN, ALONG THE AXIS OF THE DRILLED SHAFT FROM THE
GREATER OF THE EXISTING GROUND SURFACE TO THE BOTTOM OF THE
DRILLED SHAFT OR THE BOTTOM OF CAP TO THE BOTTOM OF THE
DRILLED SHAFT.

PAYMENT IS FULL COMPENSATION FOR CONSTRUCTING THE DRILLED SHAFTS, INCLUDING FURNISHING AND PLACING CONCRETE AND LSM, AND REMOVAL OF CONCRETE OR LSM FROM AROUND THE SOLDIER PILES IN ORDER TO PLACE LAGGING.

Palmer
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8350 E. KEMPER ROAD
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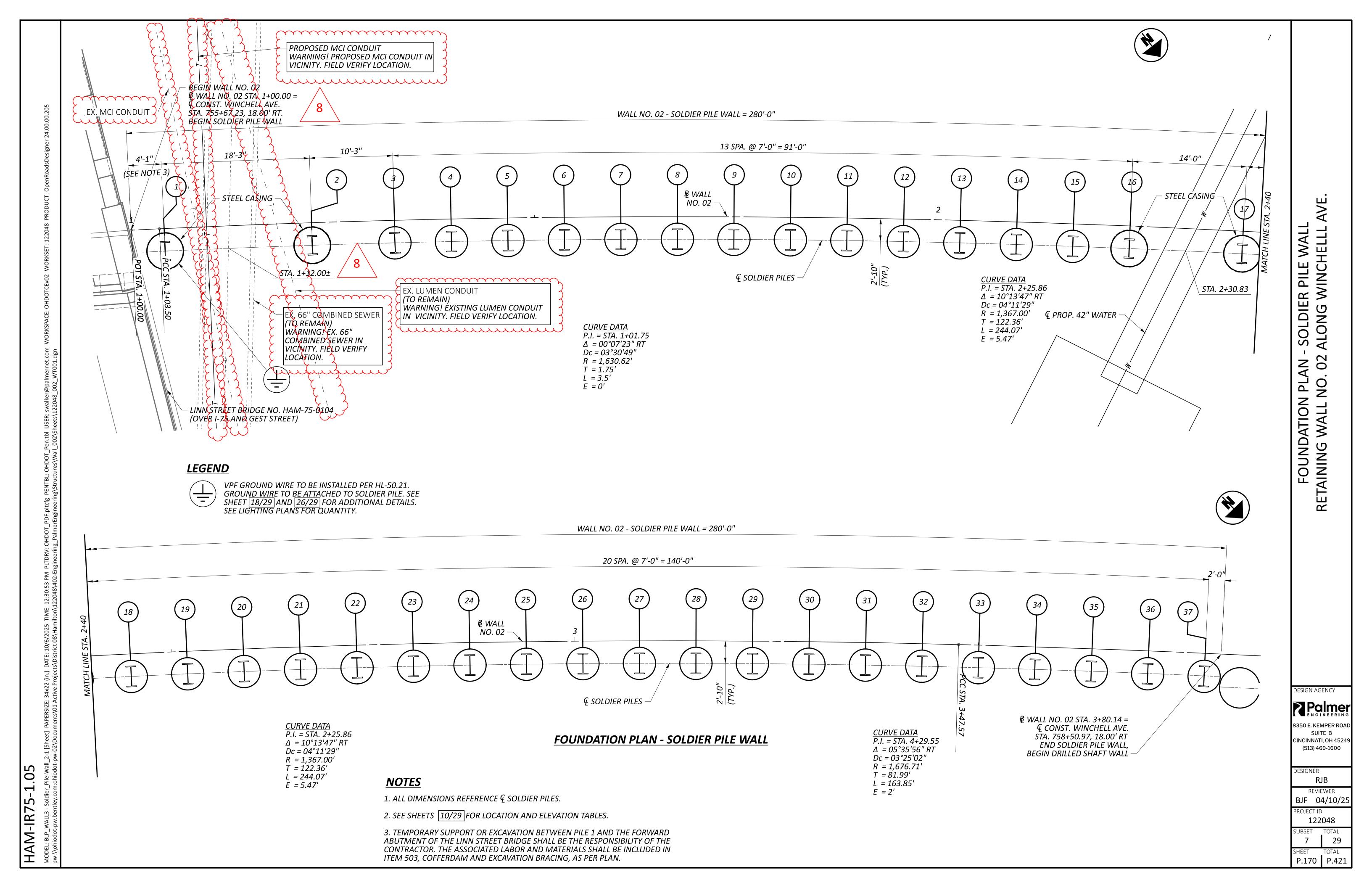
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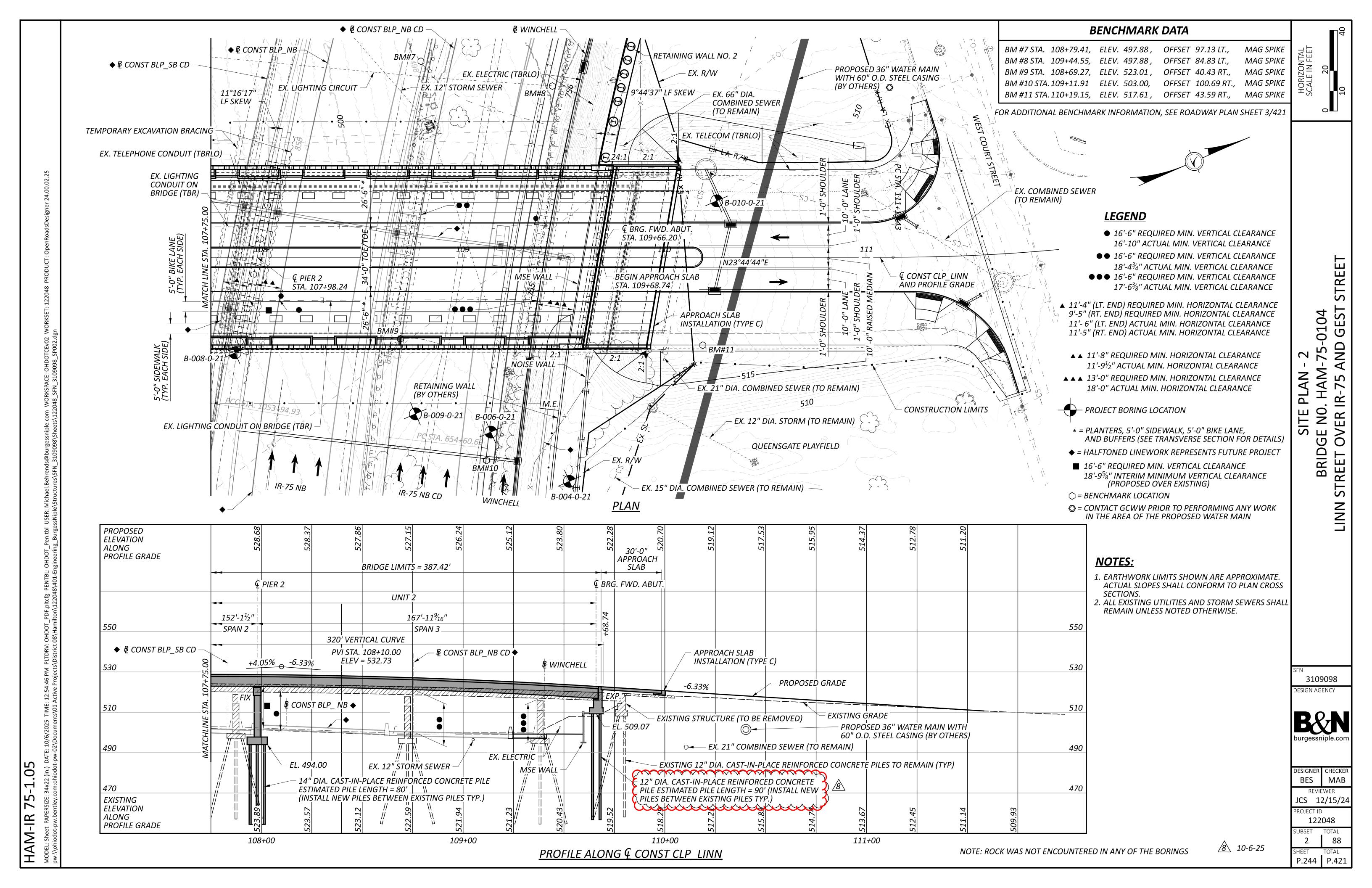
REVIEWER
BJF 04/10/25

PROJECT ID
122048

SUBSET TOTAL
4 29

SHEET TOTAL
P.167 P.421





GENERAL NOTES:

REFER TO THE FOLLOWING STANDARD BRIDGE AND ROADWAY DRAWINGS:

AS-1-15 REVISED 1-20-23 RM AS-2-15 REVISED 7-21-23 26 EXJ-4-87 REVISED 1-19-24 GSD-1-19 REVISED 7-19-24

RM-2.1 REVISED 7-19-13 26999 DATED 01-03 (CITY OF CINCINNATI)

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

800 DATED 07-18-25 840 DATED 07-19-24 851 DATED 07-19-24

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO THE 9[™] 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 EDITION WITH REVISIONS THROUGH JULY 2024, EXCEPT AS NOTED ELSEWHERE IN THE PLANS.

SPECIAL DESIGN SPECIFICATIONS:

THIS BRIDGE REQUIRED THE USE OF A THREE-DIMENSIONAL MODEL USING THE FINITE ELEMENT DESIGN METHOD TO ANALYZE THE STRUCTURE. THE COMPUTER PROGRAM USED FOR STRUCTURAL ANALYSIS WAS MDX VERSION 2023.11.21. THIS PROGRAM WAS USED FOR THE DESIGN OF THE STEEL GIRDERS AND CROSSFRAMES AND TO CALCULATE REACTIONS FOR THE DESIGN OF THE BEARINGS AND SUBSTRUCTURES.

DEAD LOAD DISTRIBUTIONS: THE WEIGHT OF THE STEEL SUPERSTRUCTURE AND CONCRETE DECK WAS APPLIED TO EACH ELEMENT IN THE MODEL BASED ON LOCAL SECTION PROPERTIES. THE WEIGHT OF THE FUTURE WEARING SURFACE, SIDEWALK, RAISED MEDIAN, LIGHT POLES AND PLANTER POTS WAS APPLIED TO EACH GIRDER BASED ON TRIBUTARY AREA. PARAPET, SCREEN WALL, PILASTERS AND PLANTER WEIGHT WAS APPLIED TO THE EXTERIOR GIRDERS.

UNIT LOADS USED IN THE ANALYSIS ARE LISTED BELOW:

FUTURE WEARING SURFACE 60 LB/SF
PARAPET/PILASTERS + PLANTERS + SCREEN WALL + SIDEWALK + LIGHT
POLES + RAISED MEDIAN:
GIRDER/BEAM LINES 1 & 9 (UNIT 1) - 4.268 KIPS/FT
GIRDER/BEAM LINES 1 & 9 (UNIT 2) - 3.640 KIPS/FT
GIRDER/BEAM LINES 2 & 8 (UNITS 1 & 2) - 1.448 KIPS/FT
GIRDER/BEAM LINES 3 & 7 (UNITS 1 & 2) - 0.880 KIPS/FT
GIRDER/BEAM LINE 5 (UNITS 1 & 2) - 0.750 KIPS/FT

LIVE LOAD DISTRIBUTION: THE DESIGN AND LOAD RATING ANALYSES WERE CARRIED OUT BY APPLYING TRUCK AND LANE LOADS DIRECTLY TO THE FINITE ELEMENT MODELS, RATHER THAN BY USING CALCULATED DISTRIBUTION FACTORS.

OPERATIONAL IMPORTANCE:

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

DESIGN LOADING:

HL-93

FUTURE WEARING SURFACE (FWS) OF 0.060 KSF SATURATED SOIL UNIT WEIGHT OF 0.115 KCF PLANTER WALL CONCRETE UNIT WEIGHT OF 0.150 KCF SIDEWALK LIVE LOAD OF 0.075 KSF

DESIGN DATA:

CONCRETE CLASS QC3 COMPRESSIVE STRENGTH 4.5 KSI (DECK AND APPROACH SLABS) CONCRETE CLASS QC2 COMPRESSIVE STRENGTH 4.5 KSI (SIDEWALKS, RAISED MEDIAN, AND PLANTER WALLS) CONCRETE CLASS QC SCC COMPRESSIVE STRENGTH 4.5 KSI (PARAPETS) CONCRETE CLASS QC3 COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE EXCLUDING FOOTINGS)

CONCRETE CLASS QC1 COMPRESSIVE STRENGTH 4.0 KSI (FOOTINGS)
GALVANIZED STEEL REINFORCEMENT MINIMUM YIELD STRENGTH 60 KSI
STRUCTURAL STEEL ASTM A709 GRADE 50W YIELD STRENGTH 50 KSI
STEEL CIP PILES ASTM A 252 GRADE 3 YIELD STRENGTH 45 KSI
STEEL SHEET PILING ASTM A572 GRADE 50 YIELD STRENGTH 50 KSI

<u>DECK PROTECTION METHOD:</u>

GALVANIZED REINFORCING STEEL 2½"CONCRETE COVER CLASS QC3 CONCRETE

MONOLITHIC WEARING SURFACE:

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

EXISTING STRUCTURE PLANS:

THE EXISTING STRUCTURE PLANS ARE AVAILABLE ONLINE THROUGH THE FOLLOWING WEBSITE:ftp://ftp.dot.state.oh.us/pub/Contracts/Attach/D08-113361/Reference%20Files/

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BECOME FAMILIAR WITH ALL PERTINENT EXISTING DRAWINGS AND DETAILS RELEVANT TO THIS PROJECT.

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

IN ADDITION TO THE REQUIREMENTS OF CMS 202, THIS ITEM INCLUDES THE FOLLOWING WORK:

1. REMOVE THE EXISTING RAMP BRIDGE SUPERSTRUCTURES AND PIERS FROM GEST STREET TO LINN STREET. FOR EXISTING RAMP R (EAST OF LINN ST.), REMOVE EXISTING PIERS 1-3 DOWN TO THE BOTTOM OF FOOTING. FOR EXISTING RAMP S (WEST OF LINN ST.), REMOVE EXISTING PIER 1 DOWN TO THE BOTTOM OF FOOTING AND REMOVE EXISTING PIERS 2 & 3 DOWN TO THE TOP OF FOOTING. DO NOT REMOVE THE EXISTING ABUTMENTS, RETAINING WALLS AND EMBANKMENTS SUPPORTING THE GEST ST. RAMPS.

2. REMOVE EXISTING PIERS 1, 2, 3, 4, AND 6 DOWN TO THE BOTTOM OF FOOTING. REMOVE EXISTING PIER 5 DOWN TO TOP OF FOOTING. REMOVAL OF PORTIONS OF EXISTING PAVEMENT AND BARRIERS AS NEEDED TO REMOVE EXISTING PIERS IS INCIDENTAL TO THIS ITEM OF WORK.

3. CUT OFF EXISTING PILES AT EXISTING PIER 1 AND EXISTING FORWARD ABUTMENT AS NOTED ON THE FOUNDATION PLANS.

MOT AND PHASE CONSTRUCTION:

THE EXISTING LINN ST. BRIDGE WILL BE CLOSED WITH A DETOUR OF TRAFFIC. REMOVE THE EXISTING SUPERSTRUCTURE AND THE EXISTING SUBSTRUCTURE DURING MOT PHASE 1. CONSTRUCT THE PROPOSED STRUCTURE DURING MOT PHASES 1 AND 2. SHORT TERM CLOSURES OF I-75 AND WINCHELL AVE. WILL BE REQUIRED FOR DEMOLITION AND ERECTION OF THE NEW SUPERSTRUCTURE.

SEE MAINTANENCE OF TRAFFIC PLANS FOR ADDITIONAL DETAILS AND NOTES.

PILE DESIGN LOADS (ULTIMATE BEARING VALUE):

THE ULTIMATE BEARING VALUE IS 251 KIPS PER PILE FOR THE REAR ABUTMENT PILES AND 316 KIPS PER PILE FOR THE FORWARD ABUTMENT PILES. THE ULTIMATE BEARING VALUE IS 383 KIPS PER PILE FOR THE PIER 1 PILES AND 377 KIPS PER PILE FOR THE PIER 2 PILES.

REAR ABUTMENT PILES:

12" DIA. CIP PILES 80 FEET LONG, ORDER LENGTH 1 DYNAMIC LOAD TESTING ITEM

FORWARD ABUTMENT PILES:

12" DIA. CIP PILES 95 FEET LONG, ORDER LENGTH 1 DYNAMIC LOAD TESTING ITEM

PIER 1 PILES:

14" DIA. CIP PILES 65 FEET LONG, ORDER LENGTH 1 DYNAMIC LOAD TESTING ITEM

PIER 2 PILES:

14" DIA. CIP PILES 85 FEET LONG, ORDER LENGTH 1 DYNAMIC LOAD TESTING ITEM

PROVIDE PLAIN CYLINDRICAL CASINGS WITH A MINIMUM PILE WALL THICKNESS OF 0.25 INCH AT ABUTMENTS AND AT PIERS FOR THE CAST-IN-PLACE REINFORCED CONCRETE PILES.

PILE DRIVING:

USE A PILE DRIVING HAMMER WITH A MINIMUM RATED ENERGY OF 42,000 FOOT-POUNDS TO INSTALL THE PILES. ENSURE THAT STRESSES IN THE PILES DURING DRIVING DO NOT EXCEED 40,500 POUNDS PER SQUARE INCH.

PLEASE SEE THE PROPOSAL FOR DUKE ENERGY DISTRIBUTION AND CHARTER COMMUNICATIONS. THE CONTRACTOR IS REMINDED OF C&MS 102.05, AND OTHER CONTRACT REQUIREMENTS, AS THE LOCATION OF THE NOTED ELECTRIC LINES AND COMMUNICATION LINES IN RELATION TO THE PROPOSED WORK MAY NECESSITATE ALTERNATE MEANS AND METHODS OF CONSTRUCTION. ONE POTENTIAL EXAMPLE IS LOW OVERHEAD DRIVING CONDITIONS, ALONG WITH SPLICING, FOR THE NEW PROPOSED PILING NEAR THIS LOCATION.

PILE DRIVING CONSTRAINTS:

PRIOR TO DRIVING ABUTMENT PILES TO THE ULTIMATE BEARING VALUE (UBV), CONSTRUCT THE MSE WALL AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENT UP TO THE BOTTOM OF THE FOOTING FOR A MINIMUM DISTANCE OF 200-FT BEHIND EACH ABUTMENT. THE CONTRACTOR SHALL PRE-DRIVE ABUTMENT PILES BEFORE CONSTRUCTING MSE WALLS. PRE-DRIVING CONSISTS OF INSTALLING THE ABUTMENT PILES INTO THE SOIL ONLY AS FAR AS NECESSARY SO THAT THE PILE WILL REMAIN VERTICAL DURING MSE WALL CONSTRUCTION. INSTALL PILE SLEEVES AROUND PILES BEFORE CONSTRUCTING THE MSE WALL. PROVIDE AT LEAST THREE FEET OF PILE ABOVE THE TOP OF THE PILE SLEEVE TO MEET THE REQUIREMENTS OF C&MS 507.09 REGARDING SPLICES. DO NOT DRIVE ABUTMENT PILES TO THE UBV UNTIL AFTER THE ABOVE REQUIRED MSE WALL AND EMBANKMENT HAVE BEEN CONSTRUCTED AND A 60 CALENDAR DAY WAITING PERIOD HAS ELAPSED (REAR ABUTMENT ONLY).

NO WAITING PERIOD IS REQUIRED AT THE FORWARD ABUTMENT. THE ENGINEER MAY ADJUST THE LENGTH OF THE WAITING PERIOD BASED ON SETTLEMENT PLATFORM READINGS. AFTER THE SPECIFIED WAITING PERIOD HAS ELAPSED, DRIVE ABUTMENT PILES TO THE UBV. IN ORDER TO REMOVE ANY NEGATIVE SKIN FRICTION THAT HAS DEVELOPED DURING THE WAITING PERIOD, DRIVE EACH ABUTMENT PILE A DISTANCE OF AT LEAST 0.5 INCH.

ITEM 507 - PREBORED HOLES, AS PER PLAN:

USE PREBORED HOLES, 20' DEEP, AT SPECIFIED LOCATIONS AT PIER 2 AS SHOWN ON THE FOUNDATION PLAN, TO VERIFY THAT EXISTING BATTERED PILES WILL NOT INTERFERE WITH PROPOSED PILES. NOTIFY THE ENGINEER IF PROPOSED PILES CANNOT BE DRIVEN AT THE PLAN LOCATIONS, SO THAT ALTERNATE LOCATIONS CAN BE APPROVED PRIOR TO DRIVING PILES.

PRIOR TO DRIVING PILES, BACKFILL THE PREBORED HOLES WITH DRY SAND. PROPRIETARY RETAINING WALL DATA:

THE PROPRIETARY WALL SUPPLIER SHALL DESIGN THE INTERNAL STABILITY OF A MECHANICALLY STABILIZED EARTH (MSE) WALL IN ACCORDANCE WITH SS840 TO SUPPORT THE ABUTMENT. THE DESIGN FOR INTERNAL STABILITY SHALL INCLUDE A NOMINAL (I.E. UNFACTORED) HORIZONTAL STRIP LOAD DUE TO FRICTION (FR) FROM THE SUPERSTRUCTURE OF 1.15 K/FT AT THE REAR ABUTMENT AND 2.76 K/FT AT THE FORWARD ABUTMENT APPLIED PERPENDICULAR TO THE FACE OF WALL AT THE BASE OF THE CONCRETE FOOTING. THIS STRIP LOAD DOES NOT INCLUDE EARTH PRESSURE LOADS FROM THE ABUTMENT BACKFILL. HOWEVER, THE PROPRIETARY WALL SUPPLIER SHALL INCLUDE EARTH PRESSURE LOADS FROM THE ABUTMENT BACKFILL IN THE DESIGN CALCULATIONS.

FOUNDATION BEARING RESISTANCE:

THE REAR ABUTMENT REINFORCED SOIL MASS, AS DESIGNED, PRODUCES A MAXIMUM SERVICE LIMIT STATE BEARING PRESSURE OF 3.7 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LIMIT STATE BEARING PRESSURE OF 5.2 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 5.9 KIPS PER SQUARE FOOT.

THE FORWARD ABUTMENT REINFORCED SOIL MASS, AS DESIGNED, PRODUCES A MAXIMUM SERVICE LIMIT STATE BEARING PRESSURE OF 4.6 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LIMIT STATE BEARING PRESSURE OF 6.7 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 14.6 KIPS PER SQUARE FOOT.

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE):

TINT SO THE FINAL COLOR IS FEDERAL COLOR STANDARD NO. 17778, LIGHT NEUTRAL.

<u>ITEM 512 - SEALING OF CONCRETE SURFACES, AS PER PLAN, (PERMANENT GRAFFITI PROTECTION):</u>

APPLY A PERMANENT GRAFFITI COATING QUALIFIED ACCORDING TO S1083 THAT IS COMPATIBLE WITH THE CONCRETE SEALER OVER WHICH IT IS APPLIED. THE GRAFFITI COATING SHALL BE CLEAR. APPLY THE GRAFFITI COATING IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS. APPLY THE GRAFFITI COATING TO ALL EXPOSED CONCRETE SURFACES OF THE MSE WALLS, ABUTMENTS, PIERS, PARAPETS, AND PLANTER WALLS.

<u>ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT:</u> <u>ITEM 514 - FIELD PAINTING STRUCTURAL STEEL, FINISH COAT:</u>

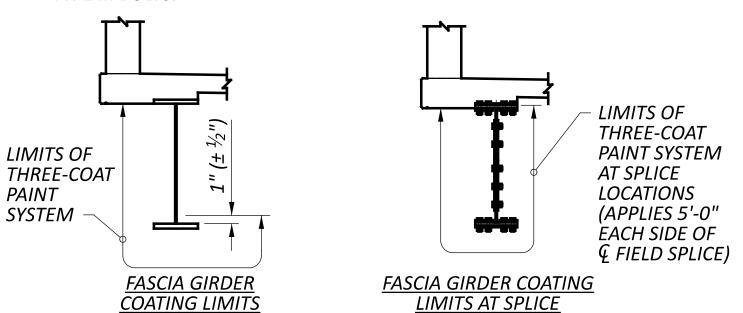
APPLY INTERMEDIATE AND FINISH COATS IN THE FIELD PER CMS 514 TO THE SURFACES NOTED IN THE FOLLOWING DIAGRAMS (APPLIES TO BOTH FASCIA GIRDERS AND INCLUDES STIFFENERS AND SPLICE PLATES/BOLTS ON THE OUTBOARD (FASCIA) SIDE AND BOTTOM OF FASCIA GIRDERS).

ADDITIONALLY, PAINT THE LAST 10 FT OF EACH GIRDER END ADJACENT TO THE ABUTMENTS AND PIER 1 INCLUDING ALL CROSS-FRAMES AND OTHER STEEL WITHIN THESE LIMITS.

THE PRIME COAT SHALL BE 708.01. FOR THE ENDS OF INTERIOR GIRDERS, THE TOP COAT COLOR SHALL CLOSELY APPROACH FEDERAL STANDARD NO. 595B - 20045 OR 20059 (THE COLOR OF WEATHERING STEEL). FOR THE FASCIA GIRDERS, THE TOP COAT COLOR SHALL CLOSELY APPROACH FEDERAL STANDARD NO. 595B - 34058 (DARK GREEN).

USE TYPE I BOLTS FOR PAINTED WEATHERING STEEL LOCATIONS WITH COATING SYSTEMS THAT ARE ZINC BASED, SUCH AS OZEU, IZEU, GALVANIZING OR METALLIZING.

USE GRADE A325, TYPE III BOLTS FOR UN-COATED WEATHERING STEEL BOLT LOCATIONS. IF THE FAYING SURFACES UNDER BOTH THE HEAD AND NUT OF A WEATHERING STEEL MEMBER ARE COATED, SPECIFY GALVANIZED GRADE A325 TYPE I BOLTS. OTHERWISE, SPECIFY GRADE A325, TYPE III BOLTS.



ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN:

THE REQUIREMENTS OF 511.03 AND 511.04 SHALL APPLY TO THIS ITEM OF WORK. THIS ITEM SHALL INCLUDE BUT IS NOT LIMITED TO THE CONCRETE AND STEEL REINFORCEMENT NECESSARY TO FORM AND PLACE THE APPROACH SLABS AS SHOWN IN THE PLANS. PAYMENT FOR THIS ITEM SHALL ALSO INCLUDE THE ITEMS LISTED ON STANDARD DRAWING AS-1-15 AND ALL OTHER NECESSARY MATERIALS, LABOR, AND EQUIPMENT AND SHALL BE INCLUDED IN THE UNIT PRICE BID PER SQUARE YARD FOR ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN.

THE REQUIREMENTS IN THE GENERAL NOTES FOR ITEM 511 - CLASS QC3 CONCRETE, MISC.: BRIDGE DECK, WITH QC/QA SHALL APPLY TO THIS ITEM OF WORK.

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 PARAMATERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.86 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103 INCHES.

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 INCHES.

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

FOR UNIT 1 DECK ONLY, ALL SCREED RAILS SHALL BE SUPPORTED ON THE GIRDERS. HAND WELDING OF RAIL SUPPORTS TO COMPRESSION REGIONS OF THE TOP FLANGE IS PERMITTED. ALTERNATE MEANS OF ATTACHMENT OF RAIL SUPPORTS TO TENSION REGIONS OF TOP FLANGES WILL BE REQUIRED. METHODS WHICH USE AUTOMATIC ENDWELDED STUDS TO ATTACH RAIL SUPPORT BASE PLATES TO THE TENSION REGIONS ARE PERMITTED. ANY SUPPORT HARDWARE WHICH WILL REMAIN IN THE CONCRETE SHALL BE GALVANIZED. FOR TOP FLANGE STRESS CONDITIONS, SEE SHEET 35/88.

<u>ITEM 511 - CLASS QC SCC CONCRETE WITH QC/QA, BRIDGE DECK</u> (PARAPET), AS PER PLAN:

SEE SHEETS 58/88 TO 65/88 FOR PARAPET DETAILS, INCLUDING JOINT TREATMENTS. THIS ITEM INCLUDES PARAPETS ON BRIDGE AND APPROACH SLABS.

ITEM SPECIAL - STRUCTURES: TEMPORARY SUPPORTS FOR GIRDERS:

PROVIDE TEMPORARY SUPPORTS FOR THE UNIT 2 GIRDER ERECTION AS SHOWN ON SHEET 32/88.

<u> ITEM 840 - AESTHETIC SURFACE TREATMENT:</u>

USE CONCRETE FORM LINERS TO CREATE AESTHETIC SURFACE TREATMENT ON THE MSE WALL FACING PANELS. THE FORM LINER SHALL BE PATTERN 1107, MISSION FLUTE FROM SPEC FORMLINERS, INC., OR APPROVED EQUAL. THE FORM LINER RELIEF DEPTH SHALL BE 1.5 INCHES. FABRICATE AND INSTALL THE MSE WALL PANELS SUCH THAT THE VERTICAL FINS AND VALLEYS IN THE FRACTURE FIN AESTHETIC TREATMENT ALIGN VERTICALLY ACROSS ADJACENT PANELS FROM THE TOP OF THE WALL TO THE BOTTOM OF THE WALL. USE THE SAME FRACTURED FIN PATTERN ON ALL WALLS ON THE PROJECT.

FORM LINERS SHALL BE CAPABLE OF WITHSTANDING ANTICIPATED CONCRETE POUR PRESSURES WITHOUT LEAKAGE OR CAUSING PHYSICAL DEFECTS. FORM LINERS SHALL BE REMOVABLE WITHOUT CAUSING CONCRETE SURFACE DAMAGE. USE A FORM RELEASE PRODUCT AS RECOMMENDED BY THE FORM LINER MANUFACTURER. USE MANUFACTURER'S APPLICATION RATES AND ALL OTHER MANUFACTURER'S INSTRUCTIONS. FORM RELEASE PRODUCTS SHALL BE FULLY COMPATIBLE WITH THE FORM LINER MATERIAL AND THE EPOXY-URETHANE SEALER TO BE APPLIED TO THE FINISHED SURFACES.

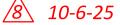
ALIGN THE FORM LINER PATTERNS ACROSS ALL JOINTS BETWEEN MSE WALL PANELS.

FORM LINERS SHALL EXTEND A MINIMUM OF 1'-0" BELOW THE PROPOSED GROUND OR SIDEWALK SURFACE AT THE FRONT FACE OF THE WALL. FORM LINERS MAY EXTEND LOWER BUT THE PAY LIMITS SHALL BE 1'-0" BELOW THE PROPOSED GROUND OR SIDEWALK SURFACE.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID FOR ITEM 840 - AESTHETIC SURFACE TREATMENT, WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM AS SPECIFIED ABOVE AND IN A SATISFACTORY AND WORKMANLIKE MANNER.

<u>ITEM 203 - EMBANKMENT AS PER PLAN:</u>

PLACE AND COMPACT EMBANKMENT IN 6-INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT BETWEEN STATIONS 104+50 TO 111+00.



DESIGNER CHECKER
MAB BES

REVIEWER
JCS 12/15/24
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ITEM 503 - COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN:

THE DESIGN SHOWN ON THE PLANS FOR TEMPORARY SUPPORT OF EXCAVATION AT PIER 2 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 CMS 501.05.

THIS ITEM SHALL ALSO INCLUDE ALL DESIGN, MATERIALS AND LABOR FOR ANY EXCAVATION BRACING NECESSARY TO CONSTRUCT THE MSE WALLS AT EACH ABUTMENT. SUBMIT ENGINEERED DRAWINGS PER C&MS 503.03.

THE DEPARTMENT WILL PAY FOR THE TEMPORARY SUPPORT OF EXCAVATION AT THE CONTRACT LUMP SUM PRICE FOR COFFERDAMS AND EXCAVATION BRACING. THE DEPARTMENT WILL NOT MAKE ADDITIONAL PAYMENT FOR PROVIDING AN ALTERNATE DESIGN AT PIER 2.

<u>ITEM SPECIAL - STRUCTURAL SURVEY AND MONITORING OF VIBRATION:</u>

MONITOR GROUND VIBRATIONS CAUSED BY PILE DRIVING TO MINIMIZE THE **POTENTIAL FOR:**

1) DAMAGE TO THE POLICE OFFICE, HOTEL AND PARKING GARAGES LOCATED NEAR THE REAR ABUTMENT, AND TO THE 66" COMBINED SEWER AT THE FORWARD ABUTMENT.

2) UNACCEPTABLE LEVELS OF VIBRATION ANNOYANCE WITH RESPECT TO HUMAN RESPONSE AT THE POLICE OFFICE, HOTEL AND PARKING GARAGES LOCATED NEAR THE REAR ABUTMENT.

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 EXISTING STRUCTURES BEFORE PILE DRIVING BEGINS.
- 2. ESTABLISH VIBRATION LIMITS TO MINIMIZE POTENTIAL DAMAGE TO EXISTING STRUCTURES AND EXPLAIN WHY THEY ARE BEING USED TO THE ENGINEER BEFORE DRIVING PILES NEAR EXISTING STRUCTURES.
- 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 IF THE VIBRATION LIMITS ARE REACHED OR EXCEEDED. EVALUATE ALTERNATIVE CONSTRUCTION PROCEDURES, SUCH AS PREBORED HOLES, 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 - STRUCTURAL SURVEY AND MONITORING OF VIBRATION. 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.

BEFORE PILE DRIVING BEGINS, CONDUCT A CONDITION SURVEY OF ALL EXISTING BUILDING, 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 BUILDING MATERIALS, USING WRITTEN TEXT, PHOTOGRAPHS, AND VIDEO RECORDINGS. INSPECT INTERIOR WALLS, CEILINGS, AND FLOORS THAT ARE ACCESSIBLE. INSPECT THE EXTERIOR OF THE BUILDING THAT IS VISIBLE FROM GROUND LEVEL. ALSO RECORD THE LOCATION, SIZE, AND TYPE OF ALL CRACKS AND OTHER STRUCTURAL DEFICIENCIES.

IF OWNERS OR OCCUPANTS FAIL TO ALLOW ACCESS TO THE PROPERTY FOR THE PRECONSTRUCTION CONDITION SURVEY, SEND A CERTIFIED LETTER TO THE OWNER OR OCCUPANT. 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 BUILDINGS, STRUCTURES, AND UTILITIES, AND THAT IDENTIFIES AREAS OF CONCERN.

PAYMENT FOR THE PRECONSTRUCTION CONDITION SURVEY IS INCLUSIVE OF THE CONTRACT LUMP SUM PRICE FOR ITEM SPECIAL - STRUCTURAL SURVEY AND MONITORING OF VIBRATION.

<u>ITEM 511 - CLASS QC3 CONCRETE, MISC.: PIER ABOVE FOOTINGS, WITH QC/QA</u>

<u>ITEM 511 - CLASS QC3 CONCRETE, MISC.: ABUTMENT NOT INCLUDING</u> <u>FOOTING, WITH QC/QA</u>

THIS ITEM MODIFIES THE STANDARD 511 CONCRETE FOR STRUCTURES SPECIFICATION TO INCLUDE MACRO-SYNTHETIC, AND CORROSION INHIBITORS INTO THE SUBSTRUCTURE CONCRETE. THIS ITEM SHALL CONFORM TO CMS 511 WITH THE FOLLOWING CONDITIONS AND **REVISIONS:**

PROVIDE MATERIALS CONFORMING TO 511.02 EXCEPT AS MODIFIED BELOW:

PORTLAND CEMENT CONCRETE

499.03, CLASS QC 3 MEETING A DESIGN STRENGTH OF 4.000 PSI, WITH MACRO-SYNTHETIC FIBERS WITH MODIFICATION PER 511.02

FIBERS FOR CONCRETE

ASTM C 1116, TYPE III

CORROSION INHIBITOR 515.15

THE CLASS QC3 CONCRETE FOR THE SUBSTRUCTURE SHALL MEET THE **FOLLOWING CRITERIA:**

WATER/CEMENT RATIO = 0.40 MAXIMUM; MINIMUM 4 LBS/CY MACRO-SYTHETIC FIBERS (1.0 IN. MIN. TO 2.5 IN. MAX.) MEETING ASTM C1116 TYPE III SHALL BE ADDED TO THE MIX.

MIX SHALL INCLUDE A MIGRATING CORROSION INHIBITOR AS MANUFACTURED BY AN APPROVED SUPPLIER LISTED ON ODOT'S QUALIFIED APPROVED SUPPLIERS, ITEM 515,15, THE DOSAGE RATE LISTED ON THE ODOT QUALIFIED APPROVED SUPPLIERS LIST WILL APPLY.

THE MACRO-SYNTHETIC FIBERS SHALL BE INCORPORATED INTO THE MIX IN SUCH A WAY THAT NO 'BALLING' OCCURS. UPON INSPECTION OF THE MIX AT THE TIME OF PLACEMENT, IF ANY 'BALLING' OCCURS, THE ENGINEER SHALL REJECT THE REMAINDER OF THE LOAD AT ANY TIME DURING THE POUR. IT IS IMPORTANT TO FOLLOW INDUSTRY STANDARDS AND ASTM SPECIFICATIONS ON THE PREMIXING OF THE CEMENT, AGGREGATE, AND MACRO-SYNTHETIC FIBERS PRIOR TO THE ADDITION OF WATER AND ADMIXTURES. PROVIDE MACRO-SYNTHETIC-FIBERS THAT ARE MONOFILAMENT FIBERS MADE FROM VIRGIN POLYPROPYLENE, POLYETHYLENE, OR CO-POLYMERS THAT ARE INERT TO ALKALI ATTACK. ENSURE THE MACRO-SYTHETIC FIBERS HAVE A MINIMUM TENSILE STRENGTH OF 70 KSI, A MINIMUM MODULUS OF ELASTICITY OF 800 KSI, A MINIMUM FILAMENT DIAMETER OF 0.012 INCHES, AND ASPECT RATIO BETWEEN 60 AND 100, AND ARE BETWEEN 1.5 AND 2.5 INCHES IN LENGTH. STORE THE MACRO-SYTHETIC FIBERS ACCORDING TO THE MANUFACTURER'S RECOMMENDATION AND KEEP THE MATERIAL FREE FROM DUST, DIRT AND MOISTURE. PLACING THE BAG THAT THE FIBERS COME IN INTO THE CONCRETE MIX IS NOT PERMITTED.

USE A MINIMUM DOSAGE RATE OF MACRO-SYTHETIC FIBERS OF 4.0 LBS/CY OF CONCRETE. DETERMINE THE FINAL PROPOSED DOSAGE RATE THROUGH MIX TESTING. ENSURE THE FIBER REINFORCED CONCRETE MEETS OR EXCEEDS A MINIMUM EQUIVALENT FLEXURAL STRENGTH RATIO OF 25% ACCORDING TO ASTM C 1609. ENSURE THE FINAL PROPOSED MIX IS WORKABLE AND ABLE TO BE PRODUCED SUCH THAT BALLING OR CLUMPING OF THE FIBERS IS NOT A PROBLEM AS DETERMINED BY THE ENGINEER. UTILIZE A LABORATORY REGULARLY INSPECTED BY THE CEMENT AND CONCRETE REFERENCE LABORATORY (CCRL) OF THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY, OR OTHER APPROVED REFERENCE LABORATORY, TO PERFORM THE TESTING. BEFORE USE, SUBMIT DOCUMENTATION TO THE PROJECT ENGINEER CERTIFYING BOTH THE MACRO-SYNTHETIC FIBERS AND THE MIX MEET OR EXCEED THE REQUIRED PROPERTIES. SAMPLING WILL BE ALLOWED FOR TESTING PURPOSES. A DEMONSTRATION OF THE MIX PRODUCTION OR TRIAL MIX, MAY BE REQUIRED BY THE ENGINEER PRIOR TO PLACING ANY OF THE MÍX ON THE PROJECT.

THE BATCH WEIGHTS SHALL BE CORRECTED TO COMPENSATE FOR THE MOISTURE CONTAINED IN THE AGGREGATE AT THE TIME OF USE. A CHEMICAL ADMIXTURE (705.12, TYPE A OR D) SHALL BE USED. THE TRANSIT MIXER CHARGE SHALL BE LIMITED TO $\frac{3}{4}$ OF ITS RATED CAPACITY OR 6 CUBIC YARDS, WHICHEVER IS SMALLER. THE FIRST THREE TRANSIT MIXER LOADS ARE REQUIRED TO BE AT THE MINIMUM YARDAGE LISTED ABOVE TO SHOW PROOF OF THE SUCCESSFUL BATCHING OPERATION. AFTER CONSISTENCY IN THE DELIVERED MATERIAL HAS BEEN ESTABLISHED, THE CONCRETE SUPPLIER MAY INCREASE THE BATCH DELIVERED QUANTITIES AS LONG AS THE QUALITY REMAINS ACCEPTABLE TO THE ENGINEER. THE ENGINEER CAN REDUCE THE BATCH LOAD SIZE AT ANY TIME AS NEEDED TO CORRECT/IMPROVE CONCRETE QUALITY.

CONCRETE SUPPLIERS SHOULD RECOGNIZE THAT THE CORROSION INHIBITOR AND ADMIXTURES MAY HAVE AN EFFECT ON STRENGTH ENTRAINED AIR CONTENT, WORKABILITY, ETC. OF THEIR CONCRETÉ MIXES. THE CORROSION INHIBITÓR IS SUGGESTÉD TO BE A MCI PRODUCT BY CORTEC OR AN APPROVED EQUAL FROM THE QUALIFIED PRODUCTS LIST. THE CONCRETE SUPPLIER'S CHOICE OF ONE OF THESE CORROSION INHIBITORS DOES NOT ALLEVIATE MEETING DESIGN REQUIREMENTS. PLEASE BE ADVISED THAT SOME PRODUCTS ON THE LIST EFFECT THE DELIVERED MIX PROPERTIES GREATLY WHILE OTHER PRODUCTS DO NOT.

THE CONTRACTOR SHOULD BE ADVISED THAT CONCRETE RETARDING AGENTS MAY NEED TO BE ADDED TO OFFSET THE EFFECTS OF THE MIGRATING CORROSION INHIBITOR SELECTED.

ITEM 511 - CLASS QC3 CONCRETE, MISC.: BRIDGE DECK, WITH QC/QA:

THIS ITEM MODIFIES THE STANDARD 511 CONCRETE FOR STRUCTURES SPECIFICATION TO INCLUDE MACRO-SYNTHETIC, AND CORROSION INHIBITORS INTO THE SUPERSTRUCTURE CONCRETE. THIS ITEM SHALL CONFORM TO CMS 511 WITH THE FOLLOWING CONDITIONS AND **REVISIONS:**

PROVIDE MATERIALS CONFORMING TO 511.02 EXCEPT AS MODIFIED **BELOW:**

PORTLAND CEMENT CONCRETE

499.03, CLASS QC 3 MEETING A DESIGN STRENGTH OF 4,500 PSI, WITH MACRO-SYNTHETIC FIBERS WITH MODIFICATION PER 511.02

FIBERS FOR CONCRETE

ASTM C 1116, TYPE III 515.15

CORROSION INHIBITOR

THE CLASS QC3 CONCRETE FOR THE SUPERSTRUCTURE SHALL MEET THE **FOLLOWING CRITERIA:**

WATER/CEMENT RATIO = 0.40 MAXIMUM; MINIMUM 4 LBS/CY MACRÓ-SYTHETIC FIBERS (1.5 IN. MIN. TÓ 2.5 IN. MAX.) MÉETING ASTM C1116 TYPE III SHALL BE ADDED TO THE MIX.

MIX SHALL INCLUDE A MIGRATING CORROSION INHIBITOR AS MANUFACTURED BY AN APPROVED SUPPLIER LISTED ON ODOT'S QUALIFIED APPROVED SUPPLIERS, ITEM 515.15. THE DOSAGE RATE LISTED ON THE ODOT QUALIFIED APPROVED SUPPLIERS LIST WILL APPLY.

THE MACRO-SYNTHETIC FIBERS SHALL BE INCORPORATED INTO THE MIX IN SUCH A WAY THAT NO 'BALLING' OCCURS. UPON INSPECTION OF THE MIX AT THE TIME OF PLACEMENT, IF ANY 'BALLING' OCCURS, THE ENGINEER SHALL REJECT THE REMAINDER OF THE LOAD AT ANY TIME DURING THE POUR. IT IS IMPORTANT TO FOLLOW INDUSTRY STANDARDS AND ASTM SPECIFICATIONS ON THE PREMIXING OF THE CEMENT, AGGREGATE, AND MACRO-SYNTHETIC FIBERS PRIOR TO THE ADDITION OF WATER AND ADMIXTURES. PROVIDE MACRO-SYNTHETIC-FIBERS THAT ARE MONOFILAMENT FIBERS MADE FROM VIRGIN POLYPROPYLENE, POLYETHYLENE, OR CO-POLYMERS THAT ARE INERT TO ALKALI ATTACK. ENSURE THE MACRO-SYTHETIC FIBERS HAVE A MINIMUM TENSILE STRENGTH OF 70 KSI, A MINIMUM MODULUS OF ELASTICITY OF 800 KSI, A MINIMUM FILAMENT DIAMETER OF 0.012 INCHES, AND ASPECT RATIO BETWEEN 60 AND 100, AND ARE BETWEEN 1.5 AND 2.5 INCHES IN LENGTH. STORE THE MACRO-SYTHETIC FIBERS ACCORDING TO THE MANUFACTURER'S RECOMMENDATION AND KEEP THE MATERIAL FREE FROM DUST, DIRT AND MOISTURE. PLACING THE BAG THAT THE FIBERS COME IN INTO THE CONCRETE MIX IS NOT PERMITTED.

USE A MINIMUM DOSAGE RATE OF MACRO-SYTHETIC FIBERS OF 4.0 LBS/CY OF CONCRETE. DETERMINE THE FINAL PROPOSED DOSAGE RATE THROUGH MIX TESTING. ENSURE THE FIBER REINFORCED CONCRETE MEETS OR EXCEEDS A MINIMUM EQUIVALENT FLEXURAL STRENGTH RATIO OF 25% ACCORDING TO ASTM C 1609. ENSURE THE FINAL PROPOSED MIX IS WORKABLE AND ABLE TO BE PRODUCED SUCH THAT BALLING OR CLUMPING OF THE FIBERS IS NOT A PROBLEM AS DETERMINED BY THE ENGINEER. UTILIZE A LABORATORY REGULARLY INSPECTED BY THE CEMENT AND CONCRETE REFERENCE LABORATORY (CCRL) OF THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY, OR OTHER APPROVED REFERENCE LABORATORY, TO PERFORM THE TESTING. BEFORE USE, SUBMIT DOCUMENTATION TO THE PROJECT ENGINEER CERTIFYING BOTH THE MACRO-SYNTHETIC FIBERS AND THE MIX MEET OR EXCEED THE REQUIRED PROPERTIES. SAMPLING WILL BE ALLOWED FOR TESTING PURPOSES. A DEMONSTRATION OF THE MIX PRODUCTION OR TRIAL MIX, MAY BE REQUIRED BY THE ENGINEER PRIOR TO PLACING ANY OF THE MIX ON THE PROJECT.

THE BATCH WEIGHTS SHALL BE CORRECTED TO COMPENSATE FOR THE MOISTURE CONTAINED IN THE AGGREGATE AT THE TIME OF USE. A CHEMICAL ADMIXTURE (705.12, TYPE A OR D) SHALL BE USED. THE TRANSIT MIXER CHARGE SHALL BE LIMITED TO $\frac{3}{4}$ OF ITS RATED CAPACITY OR 6 CUBIC YARDS. WHICHEVER IS SMALLER. THE FIRST THREE TRANSIT MIXER LOADS ARE REQUIRED TO BE AT THE MINIMUM YARDAGE LISTED ABOVE TO SHOW PROOF OF THE SUCCESSFUL BATCHING OPERATION. AFTER CONSISTENCY IN THE DELIVERED MATERIAL HAS BEEN ESTABLISHED, THE CONCRETE SUPPLIER MAY INCREASE THE BATCH DELIVERED QUANTITIES AS LONG AS THE QUALITY REMAINS ACCEPTABLE TO THE ENGINEER. THE ENGINEER CAN REDUCE THE BATCH LOAD SIZE AT ANY TIME AS NEEDED TO CORRECT/IMPROVE CONCRETE QUALITY.

CONCRETE SUPPLIERS SHOULD RECOGNIZE THAT THE CORROSION INHIBITOR AND ADMIXTURES MAY HAVE AN EFFECT ON STRENGTH, ENTRAINED AIR CONTENT, WORKABILITY, ETC. OF THEIR CONCRETÉ MIXES. THE CORROSION INHIBITOR IS SUGGESTED TO BE A MCI PRODUCT BY CORTEC OR AN APPROVED EQUAL FROM THE QUALIFIED PRODUCTS LIST.

THE CONCRETE SUPPLIER'S CHOICE OF ONE OF THESE CORROSION INHIBITORS DOES NOT ALLEVIATE MEETING DESIGN REQUIREMENTS. PLEASE BE ADVISED THAT SOME PRODUCTS ON THE LIST EFFECT THE DELIVERED MIX PROPERTIES GREATLY WHILE OTHER PRODUCTS DO NOT.

APPROACH SLABS ARE TO USE THE SAME MIX DESIGN AS THE BRIDGE DECK. THE CONTRACTOR SHOULD BE ADVISED THAT CONCRETE RETARDING AGENTS MAY NEED TO BE ADDED TO OFFSET THE EFFECTS OF THE MIGRATING CORROSION INHIBITOR SELECTED.

THE CONTRACTOR SHALL PROVIDE TRADITIONAL BRIDGE DECK FORMS CONFORMING TO CMS 508. PERMANENT STAY-IN-PLACE (SIP) FORMS ARE NOT ALLOWED. THE PLACING OF THE DECK AND THE APPROACH SLABS IN THE SAME CONCRETE POUR IS NOT PERMITTED.

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 3, AS PER PLAN:

THIS ITEM OF WORK INCLUDES ALL STRUCTURAL STEEL FOR UNIT 1 OF THE SUPERSTRUCTURE.

SEE BEAM DETAILS AND INTERMEDIATE DIAPHRAGM DETAILS FOR STIFFENER ORIENTATION.

SEE BEAM DETAILS FOR STIFFENER CLIP DIMENSIONS.

SEE INTERMEDIATE DIAPHRAGM DETAILS AND END CROSSFRAME DETAILS FOR BOLT HOLE SIZES.

ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 4, AS PER PLAN:

THIS ITEM OF WORK INCLUDES ALL STRUCTURAL STEEL FOR UNIT 2 OF THE SUPERSTRUCTURE.

SEE GIRDER DETAILS AND INTERMEDIATE CROSSFRAME DETAILS FOR STIFFENER ORIENTATION.

SEE GIRDER FIELD SPLICE DETAILS, INTERMEDIATE CROSSFRAME DETAILS AND END CROSSFRAME DETAILS FOR BOLT HOLE SIZES.

ITEM 518 - POROUS BACKFILL WITH GEOTEXTILE FABRIC, AS PER PLAN:

THIS ITEM SHALL INCLUDE THE AGGREGATE BACKFILL AND GEOTEXTILE FABRIC THAT ARE SHOWN IN THE TALL AND SHORT PLANTER AREAS ON SHEET 71/88 AND IN THE PLANTER POTS ON SHEET 74/88

FURNISH POROUS BACKFILL CONSISTING OF GRAVEL, WITH A NO. 57 SIZE GRADATION ACCORDING TO TABLE 703.01-1. COMPACTION IS NOT REQUIRED.

ITEM 605 - 6" UNCLASSIFIED PIPE UNDERDRAINS, AS PER PLAN:

THIS ITEM SHALL INCLUDE:

1. PIPES FOR PLANTER DRAINAGE OUTLETS AT ABUTMENTS, FROM BACK FACE OF ABUTMENT BACKWALL TO ROADWAY DRAINAGE STRUCTURES. SEE SHEET 72/88 FOR DETAILS.

FURNISH NON-PERFORATED PVC PIPES PER CMS 707.41.

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ITEM 516 - ARMORLESS PREFORMED JOINT SEAL, AS PER PLAN:

THIS WORK CONSISTS OF INSTALLING THE ARMORLESS PREFORMED JOINT SEAL BETWEEN THE UNIT 1 AND UNIT 2 PLANTER WALLS AT THE PIER 1 EXPANSION JOINT. INSTALL THE ARMORLESS PREFORMED JOINT SEAL IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND UNDER THE SUPERVISION OF THE MANUFACTURER'S DESIGNATED REPRESENTATIVE.

SELECT THE ARMORLESS PREFORMED JOINT SEAL FROM ONE OF THE MANUFACTURERS LISTED BELOW:

R.J. WATSON, INC. 11035 WALDEN AVENUE ALDEN, NY 14004-9616 PHONE: (716) 901-7020 FAX: (716) 901-7015

- SILICOFLEX SF500 (MAX. MOVEMENT RATING: 5")

WATSON BOWMAN ACME CORP. *95 PINEVIEW DRIVE* AMHERST, NY 14228-2121 PHONE: (716) 691-7566 FAX: (716) 691-9239

- WABO SPS-500 (MAX. MOVEMENT RATING: 5")

D.S. BROWN COMPANY 300 EAST CHERRY STREET NORTH BALTIMORE, OH 45872-1227 PHONE: (419) 257-3561 FAX: (419) 257-2200 - V-500 (MAX. MOVEMENT RATING: 5")

THE SEAL AND ADHESIVE ARE AN INTEGRAL JOINT SYSTEM THAT SHALL BE DESIGNED AND SUPPLIED BY THE SAME MANUFACTURER.

RECESS THE JOINT SEAL AT LEAST $\frac{1}{2}$ " BELOW AND NO MORE THAN 2" BELOW THE TOP AND FACE OF PLANTER WALL. CONTINUALLY CHECK AND ADJUST THE DEPTH OF THE JOINT SEAL BY HAND AS NECESSARY BECAUSE WHEN THE JOINT SEAL OPENING CLOSES, THE JOINT SEAL WILL HAVE THE TENDENCY TO RISE. THEREFORE, AT THE JOINT SEAL'S MINIMUM WIDTH, THE TOP OF THE JOINT SEAL SHALL STILL BE AT LEAST $\frac{1}{2}$ " BELOW THE PLANTER WALL SURFACE.

SUBMIT THE JOINT SEAL INSTALLATION PROCEDURES TO THE ENGINEER AT LEAST SEVEN (7) DAYS BEFORE CONSTRUCTION BEGINS. THE DEPARTMENT'S ACCEPTANCE IS NOT REQUIRED.

THE DEPARTMENT WILL MEASURE THE ARMORLESS PREFORMED JOINT SEAL BY THE NUMBER OF FEET HORIZONTALLY AND VERTICALLY ALONG THE JOINT CENTERLINE.

THE DEPARTMENT WILL INCLUDE ALL MATERIALS, LABOR, EQUIPMENT, SURFACE PREPARATIONS, TOOLS, TRAFFIC CONTROL, AND INCIDENTALS NEEDED TO COMPLETE THE WORK DESCRIBED ABOVE IN THE CONTRACT PRICE FOR ITEM 516 - ARMORLESS PREFORMED JOINT SEAL, AS PER PLAN.

ITEM SPECIAL - BRIDGE PILASTER LETTERS:

DESCRIPTION:

THIS WORK CONSISTS OF PREPARING SHOP DRAWINGS, COORDINATING WITH THE CITY OF CINCINNATI, AND INSTALLING THE LETTERING ON THE BRIDGE PILASTERS AS SHOWN ON SHEET 63/88 AND AS SPECIFIED HEREIN.

SANDBLASTED GRAPHICS 1/8" DEPTH. IN-FILL RECESSED AREAS WITH SHERWIN WILLIAMS (SW 2849 WESTCHESTER GRAY) OR APPROVED EQUAL.

: FULL-SIZE ART FILE TO BE PROVIDED BY DOTE. : SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL. THE CITY OF CINCINNATI SHALL HAVE 21 CALENDAR DAYS TO REVIEW THE SHOP DRAWINGS. IN THE EVENT THE SHOP DRAWINGS ARE NOT APPROVED, THE CITY OF CINCINNATI SHALL HAVE 21 CALENDAR DAYS TO REVIEW ANY RESUBMISSIONS UNTIL THE SHOP DRAWINGS ARE APPROVED. : CONTRACTOR TO MEET ON-SITE WITH CITY STAFF TO CONFIRM LOCATIONS, PRIOR TO SANDBLASTING THE FINAL GRAPHICS INTO THE WALL. CONTACT BRIAN RHODES brian.rhodes@cincinnati-oh.gov /OR/ JOELL ANGEL-CHUMBLEY joell.angel-chumbley@cincinnati-oh.gov WITH ANTICIPATED INSTALL SCHEDULE.

METHOD OF MEASUREMENT:

THE DEPARTMENT WILL MEASURE THE BRIDGE PILASTER LETTERS BY THE NUMBER OF PILASTERS TO WHICH THE LETTERS ARE APPLIED.

BASIS OF PAYMENT:

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM SPECIAL - BRIDGE PILASTER LETTERS, WHICH SHALL INCLUDE ALL NECESSARY LABOR, MATERIALS, AND EQUIPMENT TO COMPLETE THIS ITEM OF WORK, INCLUDING PREPARING SHOP DRAWINGS, COORDINATING WITH THE CITY OF CINCINNATI, AND INSTALLING THE LETTERING.

ITEM 203 - GRANULAR MATERIAL, TYPE B, AS PER PLAN:

IN AREAS WHERE GRANULAR MATERIAL, TYPE B OVERLAPS WITH SELECT GRANULAR BACKFILL (I.E. IN THE AREAS OF SOIL REINFORCEMENT FOR THE MSE WALLS RUNNING PARALLEL TO & CONST. CLP LINN), THE GRANULAR MATERIAL, TYPE B, SHALL MEET THE REQUIREMENTS OF SUPPLEMENTAL SPECIFICATION 840.03.E. IN OTHER AREAS, GRANULAR MATERIAL, TYPE B SHALL CONFORM TO CMS 203.

ITEM 517 - RAILING MISC.: SIDEWALK RAILING AT REAR ABUTMENT MSE WALL

THIS ITEM SHALL CONFORM TO CMS 517 EXCEPT AS NOTED HEREIN. SEE SHEET 65/88 FOR RAILING DETAILS AND ADDITIONAL REQUIREMENTS.

MECHANICAL CONNECTORS:

AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING BARS SHALL BE PROVIDED. INSTALLATION OF CONNECTORS SHALL CONFORM WITH MANUFACTURER'S RECOMMENDED PROCEDURES.

CONNECTORS USED WITH GALVANIZED BARS SHALL BE GALVANIZED. COATING FOR BOTH CONNECTORS AND BARS SHALL CONFORM TO THE SAME SPECIFICATIONS. COATINGS WHICH HAVE BEEN DAMAGED OR WHICH OTHERWISE DO NOT MEET SPECIFICATIONS WITH RESPECT TO COLOR, CONTINUITY AND UNIFORMITY SHALL BE REPLACED WITH MATERIAL THAT MEETS THE SPECIFICATIONS.

SUPPLY AND INSTALL CAPS FOR MECHANICAL CONNECTORS TO PREVENT CONCRETE INTRUSION INTO THE CONNECTORS DURING THE DECK POUR.

CONNECTORS SHALL CONFORM WITH ITEM 509 AND ARE CONSIDERED INCIDENTAL TO THE BID PRICE PER POUND FOR ITEM 509.

ITEM 659 - TOPSOIL, AS PER PLAN:

THIS ITEM OF WORK SHALL CONFORM WITH CMS 659, EXCEPT AS NOTED BELOW.

TOPSOIL SHALL BE MACADAM 2/6MM AND 25% BY VOLUME ENRICHED BIOCHAR AND MATURE COMPOST MIXED EQUALLY.

THE COMPOST SHALL BE MATURE, AND THE BIOCHAR SHALL BE NUTRITIONALLY ENRICHED WITH HYGIENIZED ORGANIC FERTILIZER OR MINERAL FERTILIZER NPK 5-1-4 WITH MICRONUTRIENTS.

ITEM 507 - PREBORED HOLES, AS PER PLAN:



PROVIDE 15'-LONG PREBORED HOLES AT THE REAR ABUTMENT AND FORWARD ABUTMENT. THE AUGURED HOLE DIAMETER SHALL BE FROM 2 INCHES TO 4 INCHES LARGER THAN THE DIAMETER OF THE PILE. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AN OPEN HOLE. THE HOLE SHALL REMAIN OPEN UNTIL PLACEMENT OF THE PILE TO THE BOTTOM OF THE PREBORED HOLE IS COMPLETE. AFTER PLACEMENT OF THE PILES TO THE BOTTOM OF THE PREBORED HOLES IS COMPLETE AND PRIOR TO COMMENCING CONSTRUCTION OF THE MSE EMBANKMENT, BACKFILL ANY VOIDS WITH GRANULAR MATERIAL CONFORMING TO CMS 703.11, STRUCTURAL BACKFILL TYPE 2, EXCEPT 100 PERCENT OF THE MATERIAL SHALL PASS THROUGH A ¾ INCH SIEVE, AND REMOVE THE TEMPORARY CASINGS IF USED. PAYMENT FOR THE PREBORED HOLES INCLUDES THE BACKFILL MATERIAL AND MAINTAINING AN OPEN HOLE. IF A CASING IS REQUIRED TO MAINTAIN AN OPEN HOLE, PROVIDE SMOOTH STEEL CASINGS OF SUFFICIENT STRENGTH TO WITHSTAND HANDLING AND INSTALLATION STRESSES AND SURROUNDING EARTH PRESSURE. WHEN USED, CASINGS SHALL BE ADVANCED USING A TWISTING MECHANISM. A VIBRATORY OR IMPACT HAMMER SHALL NOT BE USED TO INSTALL CASINGS.

STANDARD ABBREVIATIONS LIST: APPROX. = APPROXIMATE BOT. OR BTM. = BOTTOM BRG. = BEARINGS BRGS. = BEARINGS B.S. = BOTH SIDES B# = BEAM NUMBER c/c = CENTER-TO-CENTERC.J. = CONSTRUCTION JOINT CJP = COMPLETE JOINT PENETRATION CLR. = CLEARCMS OR C&MS = CONSTRUCTION AND MATERIALS SPECIFICATIONS CONST. = CONSTRUCTION CS = INDICATES BUTT WELD SUBJECT TO COMPRESSIVE STRESSES ONLY CVN = CHARPY V-NOTCHDIA. = DIAMETER EB = EASTBOUNDE.F. = EACH FACE EL. = ELEVATION EMBED. = EMBEDMENT EQ. = EQUAL EXP. = EXPANSION F.A. = FORWARD ABUTMENT F.F. = FAR FACEF.S. = FIELD SPLICE FWD = FORWARDGFRP = GLASS FIBER REINFORCED POLYMER G# = GIRDER NUMBER HMWM = HIGH MOLECULAR WEIGHT METHACRYLATE H.S. = HIGH STRENGTH

LF = LEFT FORWARD

LT. = LEFTMAX. = MAXIMUM

M.C. = MECHANICAL CONNECTOR

M.E. = MATCH EXISTING MIN. = MINIMUM

MGS = MIDWEST GUARDRAIL SYSTEM

NB = NORTHBOUND

N.F. = NEAR FACENPCPP = NON-PERFORATED CORRUGATED PLASTIC PIPE

O.D. = OUTSIDE DIAMETER

o/o = OUT-TO-OUT

PCB = PORTABLE CONCRETE BARRIER

PCPP = PERFORATED CORRUGATED PLASTIC PIPE

PEJF = PREFORMED EXPANSION JOINT FILLER

P.G. = PROFILE GRADE

PGD = PREFABRICATED GEOCOMPOSITE DRAIN

R.A. = REAR ABUTMENT

RAD. = RADIUSRT. = RIGHT

SB = SOUTHBOUND

SCH = SCHEDULE

SHLD. = SHOULDER

SHT. = SHEET S.O. OR SR = SERIES OF

SPA. = SPACES

STA. = STATION

SYMM. = SYMMETRICAL TBR = TO BE REMOVED

TBRLO = TO BE RELOCATED BY OTHERS

T&B = TOP AND BOTTOM

T/R = TOP OF ROCK

t/t = TOE-TO-TOE

U.N.O. = UNLESS NOTED OTHERWISE

VAR. = VARIES

WB = WESTBOUND

W.P. = WORK POINT

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				ESTIMATED QUANTITIES		CALC.	DATE	CHK'D	DATE
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUT.	XAC/BES PIERS	4/9/2025 SUPER.	JDG/MAB GENERAL	
202	11003	TOTAL	LS	STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	ADOT.	FILIS	JOPEN.	LS	3/88
202	22900	634	SY	APPROACH SLAB REMOVED				634	3,00
202	30204		LS	STEPS REMOVED				LS	
203	20001	27	CY	EMBANKMENT, AS PER PLAN	27				3/88
203	35111	864	CY	GRANULAR MATERIAL, TYPE B, AS PER PLAN	864				6/88
503	11101		LS	COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN				LS	4/88
503	21300	8	LS	UNCLASSIFIED EXCAVATION		LS			
505	11100		\ LS	PILE DRIVING EQUIPMENT MOBILIZATION	~~~~	5		LS	
507	00501	\$ 4680	₹ FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN, AS PER PLAN	4680	\sim			6A/88
507	00550	4960	∫ FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	4960	3			
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507	00601	5500	FT	14" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN, AS PER PLAN		5500			6A/88
507	00650	5880	FT	14" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED		5880			
507	92201	280	FT	PREBORED HOLES, AS PER PLAN	\sim	280			3/88
507	92201	840	FT	PREBORED HOLES, AS PER PLAN	840				6/88
509	26001	502155	LB	GALVANIZED STEEL REINFORCEMENT, AS PER PLAN	27993	77520	396642		70/88
509	40000	4000	LB	CONCRETE REINFORCEMENT, MISC.: ADDITIONAL GALVANIZED STEEL REINFORCEMENT FOR FOOTINGS	2000	2000			6A/88
511	34463	313	CY	CLASS QC SCC CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET), AS PER PLAN			313		3/88
511	46513	307	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING, AS PER PLAN	146	161			6A/88
511	51513	510	CY	CLASS QC2 CONCRETE WITH QC/QA, SIDEWALK, AS PER PLAN			510		5 /88
511	53012	83	CY	CLASS QC2 CONCRETE, MISC.: RAISED MEDIAN, WITH QC/QA			83		5 /88
511	53012	98	CY	CLASS QC2 CONCRETE, MISC.: PLANTER WALLS, WITH QC/QA			98		
511	53014	1079	CY	CLASS QC3 CONCRETE, MISC.: BRIDGE DECK, WITH QC/QA			1079		4/88
511	53014	237	CY	CLASS QC3 CONCRETE, MISC.: PIER ABOVE FOOTINGS, WITH QC/QA		237			4/88
511	53014	155	CY	CLASS QC3 CONCRETE, MISC.: ABUTMENT NOT INCLUDING FOOTING, WITH QC/QA	155				4/88
511	81300	48	EACH	CONCRETE, MISC.: PRECAST CONCRETE PLINTHS			48		5/88
512	10001	3868	SY	SEALING OF CONCRETE SURFACES, AS PER PLAN	740	1316	1812		3/88
512	10050	2827	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)			2827		
512	10100	3868	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	740	1316	1812		3/88
512	33000	61	SY	TYPE 2 WATERPROOFING	61				
SPECIAL	51267200	844	SY	WATERPROOFING FOR PLANTERS AREAS			844		5/88
513	10261	128300	LB	STRUCTURAL STEEL MEMBERS, LEVEL 3, AS PER PLAN			128300		4/88
513	10281	1275300	LB	STRUCTURAL STEEL MEMBERS, LEVEL 4, AS PER PLAN			1275300		4/88
513	20000	9784	EACH	WELDED STUD SHEAR CONNECTORS					
514	00060						9784		
514	00000	15361	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			15361		3/88
516	00066	15361	SF SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			15361 15361		3/88 3/88
				·			15361		3/88
516	00066	15361	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			15361 15361		
	00066 10010	15361 182 11	SF FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT ARMORLESS PREFORMED JOINT SEAL			15361 15361 182 11		3/88
516	00066 10010 10011 11211	15361 182 11 258	SF FT FT	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT ARMORLESS PREFORMED JOINT SEAL ARMORLESS PREFORMED JOINT SEAL, AS PER PLAN STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN			15361 15361 182 11 258		3/88
516 516	00066 10010 10011 11211 13000	15361 182 11 258 81	SF FT FT FT SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT ARMORLESS PREFORMED JOINT SEAL ARMORLESS PREFORMED JOINT SEAL, AS PER PLAN STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN 1/4" PREFORMED EXPANSION JOINT FILLER			15361 15361 182 11 258 81		3/88
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ESTIMATED QUANTITIES - 1 BRIDGE NO. HAM-75-0104 LINN STREET OVER IR-75 AND GEST STREET

SFN
3109098
DESIGN AGENCY



DESIGNER CHECKER
BES XAC

REVIEWER
JCS 01/02/25

PROJECT ID
122048

SUBSET TOTAL
7 88

SHEET TOTAL
P.249 P.421

