ITEM 617 - COMPACTED AGGREGATE, AS PER PLAN

THIS ITEM SHALL CONSIST OF PLACING COMPACTED AGGREGATE TO A THICKNESS OF 6" AT THE LIMITS SHOWN ON SHEETS P.012 - P.013, AND AS PER SECTION A-A ON SHEET P.009. ALL REQUIREMENTS OF ITEM 617 SHALL APPLY IN ADDITION TO THE FOLLOWING:

THE LOCATIONS WHERE COMPACTED AGGREGATE WILL BE PLACED SHALL BE VOID OF ALL VEGETATION AND DEBRIS. IF EMBANKMENT IS REQUIRED TO ASSURE THE AGGREGATE THICKNESS DESIRED, IT SHALL BE PLACED AND COMPACTED AS PER THE ENGINEER'S APPROVAL.

PLACE EMBANKMENT ALONG THE EDGE OF THE COMPACTED AGGREGATE TO FORM A SMOOTH TRANSITION, THEN SEED, MULCH AND WATER AS PER THE ENGINEER.

ITEMS TO BE DISPOSED OF SHALL BE DONE SO AS PER SECTIONS 105.16 AND 105.17 OF THE CURRENT YEAR, CM&S.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 617, COMPACTED AGGREGATE, AS PER PLAN AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT, AND MATERIALS TO COMPLETE THE ABOVE WORK.

FOR MORE INFORMATION, SEE SCD MOT-103-10.

SEQUENCE OF CONSTRUCTION

I.R.-74

THE POSTED LEGAL SPEED LIMIT IS 65 MPH. THE MAINTENANCE OF TRAFFIC (MOT) DESIGN SPEED SHALL ALSO BE 65 MPH.

FOR WORK BEING DONE ON THE RACE ROAD BRIDGE OVER I.R.-74, MOT TRAFFIC SHALL BE MAINTAINED WITHIN THE EXISTING 12' LANES AND BOTH SHOULDERS. THE SHOULDERS SHALL BE REDUCED TO 2' IN WIDTH BY USE OF PORTABLE BARRIERS (PB) AND DRUMS AS PER SCD MT-95.45. SEE SHEET P.012 FOR FURTHER INFORMATION.

FOR CONSTRUCTION TRAFFIC ACCESS TO THE MEDIAN, SEE MOT PLAN SHEET P.012 AND SCD MT-103.10.

PLACE ITEM 617 - COMPACTED AGGREGATE, AS PER PLAN, TO THE LIMITS SHOWN ON MOT PLAN SHEET P.012. FOR FURTHER COMPACTED AGGREGATE INFORMATION, SEE NOTE ON THIS SHEET.

SEE NOTE "SIDE ROAD STRUCTURES OVER FREEWAY" ON THIS SHEET FOR SAFETY NET OR PLATFORM REQUIREMENTS DURING THE RACE ROAD BRIDGE WORK OVER I.R.-74.

WITH TRAFFIC IN THIS PATTERN THE CONTRACTOR SHALL REMOVE THE EXISTING GUARDRAIL IN THE I.R.-74 MEDIAN, SEE MOT PLAN SHEET P.012. DEMOLISH THE RACE ROAD BRIDGE AS PER THE PLANS. CONSTRUCT THE PROPOSED BRIDGE COMPONENTS AS PER THE STRUCTURE PLANS. INSTALL THE PROPOSED VANDAL PROTECTION FENCE AS SHOWN IN THE PLANS.

THE CONTRACTOR SHALL PERFORM THE I-74 SHOULDER RESURFACING IN COORDINATION WITH THE ADJACENT PLANNED PROJECT PID 88679. FOR MORE INFORMATION, SEE "COORDINATION WITH ADJACENT PROJECTS" NOTE ON SHEET P.008.

THE INSTALLATION OF THE PROPOSED GUARDRAIL, ATTENUATOR, END TERMINALS AND ASSOCIATED ITEMS FOR BOTH MEDIAN AND SHOULDERS MAY ALSO OCCUR AT THIS TIME, AS PER THE PLANS.

ONCE ALL WORK HAS BEEN COMPLETED AND APPROVED BY THE ENGINEER, THE CONTRACTOR SHALL REMOVE THE WORK ZONE IMPACT ATTENUATORS (WZIA), PORTABLE BARRIER (PB), LEVELING PADS (LP), COMPACTED AGGREGATE AND ALL RELATED MOT ITEMS.

ITEMS TO BE DISPOSED OF SHALL BE DONE SO AS PER SECTIONS 105.16 AND 105.17 OF THE CURRENT YEAR, CM&S.

WITH THE ABOVE WORK COMPLETED AND APPROVED BY THE ENGINEER, ALL LANES AND SHOULDERS SHALL BE OPEN TO THRU TRAFFIC.

SEQUENCE OF CONSTRUCTION

RACE ROAD

ACCESS TO ALL PROPERTIES SHALL BE MAINTAINED AT ALL TIMES. IF A PROPERTY HAS MORE THAN ONE ENTRANCE DRIVE, ONE DRIVE MAY BE CLOSED DURING CONSTRUCTION.

WHEN THE CONTRACTOR DEEMS THAT THE CLOSURE OF RACE ROAD IS NEEDED TO START THE PROPOSED BRIDGE AND ROADWAY WORK, A DETOUR HAS BEEN PROVIDED ON SHEET P.014.

NOTE THAT DURING THE DEMOLITION/CONTRUCTION OF THE BRIDGE, CLOSURE OF I.R 74 LANES AND SHOULDERS WILL BE REQUIRED. FOR THE SHOULDER CLOSURES, SEE SCD MT-95.45. FOR LANE CLOSURES, SEE SCD MT-95.40.

WITH TRAFFIC IN THIS PATTERN, THE CONTRACTOR SHALL DEMOLISH PORTIONS OF THE RACE ROAD BRIDGE AS PER THE PLANS. CONSTRUCT THE NEW MSE WALLS AND PROPOSED BRIDGE ITEMS. INSTALL ALL THE PROPOSED MEDIAN GUARDRAIL AND ATTENUATOR ITEMS AS PER THE PLANS, AS APPROVED BY THE ENGINEER.

THE CONTRACTOR SHALL THEN PERFORM ALL OF THE REMOVALS AS PER THE PLANS FOR RACE ROAD. CONSTRUCT THE EARTHWORK WORK, INSTALL THE PROPOSED DRAINAGE ITEMS AND PLACE THE PROPOSED PAVEMENT AS PER THE PLANS. PLACE ALL ROADWAY ITEMS, SIGNING AND PAVEMENT MARKINGS. COMPLETE ALL REMAINING INCIDENTAL PLAN ITEMS AT THIS TIME, TO BE APPROVED BY THE ENGINEER.

ITEMS TO BE DISPOSED OF SHALL BE DONE SO AS PER SECTIONS 105.16 AND 105.17 OF THE CURRENT YEAR, CM&S.

ONCE ALL OF THE ABOVE WORK HAS BEEN COMPLETED AND APPROVED BY THE ENGINEER, THE DETOUR FOR RACE ROAD SHALL BE REMOVED. RACE ROAD SHALL THEN BE OPEN TO THRU TRAFFIC.

LANE VALUE CONTRACT TABLE

THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE AS DESIGNATED IN THE "LANE VALUE CONTRACT TABLE" FOR EACH UNIT OF TIME A LANE/SHOULDER/RAMP IS CLOSED BY THE CONTRACTOR'S ACTION WHILE NOT OTHERWISE PERMITTED BY THE LANE VALUE CONTRACT TABLE.

NO CLOSURES SHALL HAPPEN 2 HOURS BEFORE (EASTBOUND) OR 2 HOURS AFTER (WESTBOUND) EVENTS AT GREAT AMERICAN BALL PARK, PAYCOR STADIUM, HERITAGE BANK ARENA OR ANY LOCAL VENUE EVENT GENERATING ATTENDANCE OVER 10,000 PEOPLE.

LANE VALUE CONTRACT TABLE

SECTION (SLM)	EXISTING NUMBER OF LANES PER DIRECTION	LANE CLOSURES ARE **NOT** PERMITTED:			LANE CLOSURES PERMITTED	DISINCENTIVE AMOUNTS PER MINUTE PER LANE
		LANE REDUCTION	MON TO FRI	SAT AND SUN	15 MIN. SHORT DURATION LANE CLOSURE	
HAM-74-13.35						
IR-74 (9.330 - 17.440)	2	2 TO 1	6AM-7PM	7AM-9AM 2PM-7PM	4AM-12AM	$235
SHORT TERM SHOULDER CLOSURES ARE NOT PERMITTED 5AM-9AM AND 3PM-7PM MONDAY-FRIDAY						

MAINTENANCE OF TRAFFIC GENERAL NOTES

HAM-74-13.35

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DESIGN AGENCY
fishbeck

DESIGNER JAL

REVIEWER JAH 05/01/24

PROJECT ID 110563

SHEET P.011 TOTAL 103

SHEET NUM.													PART.	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
P.005	P.006	P.007	P.008	P.017	P.018	P.019	P.020	P.021	P.035				01/IMS/10						
																		ROADWAY	
													LS	201	11000	LS		CLEARING AND GRUBBING	P.005
				18	410								428	202	23000	428	SY	PAVEMENT REMOVED	
					472								472	202	30000	472	SF	WALK REMOVED	
				55									55	202	30700	55	FT	CONCRETE BARRIER REMOVED	
				26									26	202	32000	26	FT	CURB REMOVED	
				231									231	202	32500	231	FT	CURB AND GUTTER REMOVED	
						26							26	202	35100	26	FT	PIPE REMOVED, 24" AND UNDER	
				1,313									1,313	202	38000	1,313	FT	GUARDRAIL REMOVED	
				2									2	202	42010	2	EACH	ANCHOR ASSEMBLY REMOVED, TYPE E	
				4									4	202	42040	4	EACH	ANCHOR ASSEMBLY REMOVED, TYPE T	
				5									5	202	47000	5	EACH	BRIDGE TERMINAL ASSEMBLY REMOVED	
				4									4	202	47800	4	EACH	IMPACT ATTENUATOR REMOVED	
				4									4	202	53100	4	EACH	MAILBOX REMOVED	
								1,682	469				2,151	203	10000	2,151	CY	EXCAVATION	
									592				592	203	20000	592	CY	EMBANKMENT	
					1,545								1,545	204	10000	1,545	SY	SUBGRADE COMPACTION	
				625									625	606	15050	625	FT	GUARDRAIL, TYPE MGS	
				150									150	606	15550	150	FT	GUARDRAIL, BARRIER DESIGN, TYPE MGS	
				3									3	606	26150	3	EACH	ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)	
				7									7	606	26550	7	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
				3									3	606	35002	3	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
				1									1	606	35102	1	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	
				2									2	606	60012	2	EACH	IMPACT ATTENUATOR, TYPE 1 (BIDIRECTIONAL)	
					1,375								1,375	608	12000	1,375	SF	5" CONCRETE WALK	
								1,880					1,880	622	41100	1,880	FT	PORTABLE BARRIER, UNANCHORED	
				4									4	SPECIAL	69050100	4	EACH	MAILBOX SUPPORT SYSTEM, SINGLE	P.06
		LS											LS	SPECIAL	69098400	LS		ITEM SPECIAL - CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION	P.07
	LS												LS	SPECIAL	69098400	LS		MISC.:WORK INVOLVING ASBESTOS CONTAINING MATERIALS	P.06
																		EROSION CONTROL	
50						4							54	601	21050	54	SY	TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT	
						62							62	601	23000	62	SY	ARTICULATING CONCRETE BLOCK REVETMENT SYSTEM, TYPE 1	
			15										15	616	10000	15	MGAL	WATER	
									280				280	659	00300	280	CY	TOPSOIL	
									2,518				2,518	659	10000	2,518	SY	SEEDING AND MULCHING	
									126				126	659	14000	126	SY	REPAIR SEEDING AND MULCHING	
									126				126	659	15000	126	SY	INTER-SEEDING	
									0.35				0.35	659	20000	0.35	TON	COMMERCIAL FERTILIZER	
									0.53				0.53	659	31000	0.53	ACRE	LIME	
									14				14	659	35000	14	MGAL	WATER	
													10,000	832	30000	10,000	EACH	EROSION CONTROL	
						79							79	836	10000	79	SY	SEEDING AND EROSION CONTROL WITH TURF REINFORCING MAT, TYPE 1	
																		DRAINAGE	
						0.2							0.2	602	20000	0.2	CY	CONCRETE MASONRY	
25													25	605	13300	25	FT	6" UNCLASSIFIED PIPE UNDERDRAINS	
						372							372	605	14000	372	FT	6" BASE PIPE UNDERDRAINS	
40													40	605	31100	40	FT	AGGREGATE DRAINS	
25						30							55	611	00510	55	FT	6" CONDUIT, TYPE F FOR UNDERDRAIN OUTLETS	
						65							65	611	04600	65	FT	12" CONDUIT, TYPE C	
						33							33	611	04600	33	FT	12" CONDUIT, TYPE C, 706.1	
						2							2	611	98470	2	EACH	CATCH BASIN, NO. 2-2B	
						1							1	611	99574	1	EACH	MANHOLE, NO. 3	
1						2							3	611	99710	3	EACH	PRECAST REINFORCED CONCRETE OUTLET	

GENERAL SUMMARY

HAM-74-13.35

DESIGN AGENCY
fishbeck

DESIGNER
JAL/JBT

REVIEWER
JPC 05/01/24

PROJECT ID
110563

SHEET P.015 TOTAL 103

PAVEMENT SUBSUMMARY

STATION RANGE			TYPICAL SECTION	SIDE	DISTANCE (D)	CADD GENERATED AREA	202 PAVEMENT REMOVED	202 WALK REMOVED		204 SUBGRADE COMPACTION	254 PAVEMENT PLANING, ASPHALT CONCRETE (3" THICKNESS)	301 ASPHALT CONCRETE BASE, PG64-22, (449)	304 AGGREGATE BASE	407 TACK COAT (APPLIED AT 0.055 GAL/SY x 2 APPLICATIONS)	441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	441 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (449)		608 5" CONCRETE WALK	609 CURB, TYPE 6	609 COMBINATION CURB AND GUTTER, TYPE 3	609 CURB, TYPE 4-C, AS PER PLAN	452 7" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC 1P	
					FT	SY	SY	SF		SY	SY	CY	CY	GAL	CY	CY		SF	FT	FT	FT	SY	
17+19.55	TO	18+00.88		LT/RT	81.33	45.19	215.96	192.00															
17+52.97	TO	18+78.66		LT	125.69													691.30					
23+30.00	TO	23+50.86		LT/RT	20.86		55.20	280.00															
17+19.55	TO	17+25.55		LT	6.00															6.00			
17+25.55	TO	18+52.71		LT															127.16				
17+81.70	TO	17+87.70		RT	6.00															6.00			
17+87.70	TO	18+34.50		RT	46.80														46.80				
18+34.50	TO	18+52.67		RT	18.17																18.17		
21+21.33	TO	22+40.96		LT														682.84					
21+64.33	TO	21+86.40		LT															22.07				
17+19.55	TO	18+00.88		LT		45.19				45.19		7.53	7.53	4.97	1.88	1.88							
17+19.55	TO	18+00.88		LT/RT	81.33	192.65					192.65			21.19	8.03	8.03							
18+00.88	TO	18+78.45		LT/RT	77.57	251.96				266.33		43.19	42.47	27.72	10.50	10.50							
18+78.45	TO	19+08.66		LT/RT	30.21	100.00				138.08			23.01										
20+91.33	TO	21+21.33		LT/RT	30.00	100.00				138.08			23.01										
21+21.33	TO	23+30.00		LT/RT	208.67	675.45				714.10		115.80	113.86	74.30	28.14	28.14							
23+30.00	TO	23+50.00		LT/RT	20.00	55.18					55.18			6.07	2.30	2.30							
23+30.00	TO	23+50.00		RT	20.00	10.35				14.06		2.03	1.85	1.14	0.43	0.43							
DRIVEWAYS																							
17+78.93				LT		24.06	24.06																
						84.27				84.27												84.27	
18+10.83				RT		55.26	55.26																
						44.99				44.99												44.99	
22+49.67				LT		31.55	31.55																
						68.95				68.95												68.95	
22+99.86				RT		27.73	27.73																
						30.30				30.30												30.30	
SUBTOTALS							409.75	472.00		1544.34	247.83	168.55	211.74	135.39	51.28	51.28		1374.14	196.03	12.00	18.17	228.51	
TOTALS CARRIED TO GENERAL SUMMARY							410	472		1545	248	169	212	136	52	52		1375	197	12	19	229	

HAM-74-13.35

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DESIGN AGENCY
fishbeck

DESIGNER
JAL/JBT

REVIEWER
JPC 05/01/24

PROJECT ID
110563

SHEET P.018 TOTAL 103

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

AS-1-15	REVISED	1/20/23
AS-2-15	REVISED	1/20/23
BR-2-15	REVISED	1/21/22
PSID-1-13	REVISED	1/20/23
SBR-1-20	REVISED	7/21/23
SICD-2-14	REVISED	1/15/21
VPF-1-90	REVISED	7/21/23

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS:

SS840	DATED	7/21/23
SS878	DATED	1/21/22

REFER TO THE FOLLOWING HIGHWAY LIGHTING STANDARD DRAWINGS

HL-30.11	REVISED	7/21/23
HL-30.31	REVISED	4/17/20
HL-50.21	REVISED	7/15/22

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 1.00 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

VEHICULAR LIVE LOAD: HL-93
FUTURE WEARING SURFACE (FWS) OF 0.060 KSF

DESIGN DATA

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH
4.0 KSI (ABUTMENT AND PIER FOOTING)

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH
4.5 KSI (MOMENT SLAB)

CONCRETE CLASS QC3 WITH QC/QA - COMPRESSIVE STRENGTH
4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC3 WITH QC/QA - COMPRESSIVE STRENGTH
4.0 KSI (PIER ABOVE FOOTING)

GALVANIZED STEEL REINFORCEMENT - MINIMUM YIELD
STRENGTH 60 KSI

GFRP REINFORCEMENT - BRIDGE RAILING

STEEL H-PILES - ASTM A572 - YIELD STRENGTH 50 KSI

CONCRETE FOR PRESTRESSED BEAMS:
COMPRESSIVE STRENGTH (FINAL) - 8.0 KSI
COMPRESSIVE STRENGTH (RELEASE) - 6.0 KSI

WELDED WIRE FABRIC:
YIELD STRENGTH - 70 KSI

PRESTRESSING STRAND:
AREA = 0.217 SQ. IN.
ULTIMATE STRENGTH = 270 KSI
INITIAL STRESS = 202.5 KSI (LOW RELAXATION STRANDS)

MONOLITHIC WEARING SURFACE

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

UTILITY LINES

THE UTILITIES SHALL BEAR ALL EXPENSE INVOLVED IN RELOCATING THE AFFECTED UTILITY LINES. THE CONTRACTOR AND UTILITIES ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM. SEE ROADWAY PLANS FOR ADDITIONAL COORDINATION NOTES.

PLANS OF EXISTING BRIDGE

CONSTRUCTION PLANS FOR THE EXISTING BRIDGE ARE AVAILABLE FOR REFERENCE BY CONTACTING THE OHIO DEPARTMENT OF TRANSPORTATION, DISTRICT 8 OFFICE.

ODOT DISTRICT 8 OFFICE PHONE #: (513) 932-3030

THESE PLANS HAVE ALSO BEEN INCLUDED FOR DOWNLOAD IN THE REFERENCE SECTION OF THE BID PACKAGE ON THE OFFICE OF CONTRACTS FTP SITE.

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

EXISTING ABUTMENTS SHALL BE REMOVED IN THEIR ENTIRETY TO AVOID CONFLICT WITH PROPOSED MSE WALL REINFORCEMENT STRAPS. EXISTING PIER 2 AND FOUNDATION SHALL BE REMOVED ENTIRELY AS WELL. PIERS 1 AND 3 SHALL BE REMOVED THREE FEET BELOW PROPOSED GROUND SURFACE.

PROPRIETARY RETAINING WALL DATA

THE PROPRIETARY WALL SUPPLIER SHALL DESIGN THE INTERNAL STABILITY OF A MECHANICALLY STABILIZED EARTH (MSE) WALL IN ACCORDANCE WITH SS 840 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 1.61 K/FT 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 ABUTMENT REINFORCED SOIL MASS, AS DESIGNED, PRODUCES A MAXIMUM STRENGTH LIMIT STATE BEARING PRESSURE OF 6.7 KIPS PER SQUARE FOOT (REAR ABUTMENT) AND 7.8 KIPS PER SQUARE FOOT (FORWARD ABUTMENT). THE FACTORED BEARING RESISTANCE IS 7.0 KIPS PER SQUARE FOOT (REAR ABUTMENT) AND 8.0 KIPS PER SQUARE FOOT (FORWARD ABUTMENT).

PIER FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM SERVICE LIMIT STATE BEARING PRESSURE OF 15.8 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LIMIT STATE BEARING PRESSURE OF 22.4 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 25.0 KIPS PER SQUARE FOOT.

THE MSE WALL "A" SOIL MASS, AS DESIGNED, PRODUCES A MAXIMUM SERVICE LIMIT STATE BEARING PRESSURE OF 4.0 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LIMIT STATE BEARING PRESSURE OF 6.7 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 7.0 KIPS PER SQUARE FOOT.

THE MSE WALL "B" SOIL MASS, AS DESIGNED, PRODUCES A MAXIMUM SERVICE LIMIT STATE BEARING PRESSURE OF 5.4 KIPS PER SQUARE FOOT AND A MAXIMUM STRENGTH LIMIT STATE BEARING PRESSURE OF 7.7 KIPS PER SQUARE FOOT. THE FACTORED BEARING RESISTANCE IS 7.8 KIPS PER SQUARE FOOT.

FOOTINGS

FOOTINGS SHALL EXTEND A MINIMUM OF 3 INCHES INTO BEDROCK OR TO THE ELEVATION SHOWN, WHICHEVER IS LOWER.

ITEM 507 - PREBORED HOLES, AS PER PLAN:

PREBORED HOLES SHALL EXTEND AT LEAST 5 FT INTO BEDROCK AT EACH PILE. THE DIAMETER OF THE PREBORED HOLE SHALL BE A MINIMUM 2-IN LARGER THAN THE DIAGONAL DIMENSION OF THE PILE. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AN OPEN HOLE.

THE PREBORED HOLES SHALL BE CLEAN AND FREE OF ALL DELETERIOUS MATERIALS PRIOR TO BACKFILLING OPERATIONS. BACKFILL THE VOID BETWEEN THE PILE AND THE PREBORED HOLE WITH CLASS QC MISC. CONCRETE UP TO THE BOTTOM OF PILE SLEEVE. BACKFILL THE VOID TO THE BOTTOM OF FOOTING ELEVATION WITH GRANULAR MATERIAL CONFORMING TO 703.11, STRUCTURAL BACKFILL TYPE 2, EXCEPT 100 PERCENT OF THE MATERIAL SHALL PASS THROUGH A ¾-IN SIEVE. PAYMENT FOR THE PREBORED HOLES INCLUDES THE BACKFILL MATERIAL.

THE DEPARTMENT WILL MEASURE PREBORED HOLES BY THE NUMBER OF FEET OF PREBORED HOLE LENGTHS MEASURED FROM THE SURFACE OF GROUND AT THE TIME OF BORING TO THE REQUIRED BOTTOM ELEVATION OF THE HOLE. PAYMENT SHALL INCLUDE EXCAVATION OF THE HOLES, PROTECTION OF THE HOLES, PIER PILE ENCASEMENT PIPE, STRUCTURAL BACKFILL TYPE 2 AND CLASS QC MISC. CONCRETE.

ITEM 507 - STEEL PILES HP10X42, FURNISHED, AS PER PLAN:

THIS WORK CONSISTS OF MOBILIZATION, FURNISHING, AND PLACING, NOT DRIVING, STEEL PILES INTO PREBORED HOLES. PLACE EACH PILE VERTICALLY WITHIN THE HOLE SO IT IS NOT INCLINED MORE THAN ONE INCH BETWEEN TOP AND BOTTOM. SUPPORT THE PILE SO THAT IT DOES NOT MOVE DURING PLACEMENT OF BACKFILL MATERIAL.

TOTAL FACTORED LOAD IS 208 KIPS PER PILE FOR THE ABUTMENT PILES.

REAR ABUTMENT PILES:
HP10X42, 40 FEET LONG, ORDER LENGTH

FORWARD ABUTMENT PILES:
HP10X42, 35 FEET LONG, ORDER LENGTH

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 2.24 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".

CONSTRUCTION AROUND EXISTING 24" WATER MAIN

THE CONTRACTOR SHALL USE CAUTION DURING ACTIVITIES IN THE VICINITY OF THE EXISTING 24" WATER MAIN (DO NOT DISTURB). THE WATER MAIN SHALL NOT BE UNDERCUT FOR ANY REASON. SEE ROADWAY GENERAL NOTES FOR ADDITIONAL COORDINATION.

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

THE COLOR OF THE FINISH COAT FOR THE RAILING, ABUTMENTS AND PIER SHALL BE FEDERAL STANDARD 595C-16622 (GRAY).

THE COLOR OF THE FINISH COAT FOR THE MSE WALL SHALL BE FEDERAL STANDARD 595C-17778 (LIGHT NEUTRAL).

THE SURFACE AREA PAY QUANTITY IS BASED ON A FLAT SURFACE. ANY ADDITIONAL SEALING COSTS DUE TO THE RECESSED RECTANGULAR RUSTICATION GROOVES SHALL BE INCLUDED IN THE UNIT BID FOR THIS ITEM.

ALTERNATE AESTHETIC TREATMENTS

ALTERNATIVE 1 SHALL INCLUDE ODOT STANDARD VANDAL PROTECTION FENCING PER VPF-1-90 AS DETAILED IN THESE PLANS. THE FASCIA BEAMS, SHALL BE SEALED USING ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE). THE COLOR OF THE FINISH COAT SHALL BE FEDERAL STANDARD 595C-16622 (GRAY).

ALTERNATIVE 2 SHALL INCLUDE VARIABLE HEIGHT AESTHETIC FENCE AS DETAILED IN THESE PLANS. THE COLOR OF THE FINISH COAT FOR THE FASCIA BEAMS SHALL BE FEDERAL STANDARD 595C-14062 (DARK GREEN).

ITEM 511 - CLASS QC2 CONCRETE MISC.: MOMENT SLAB

THIS ITEM SHALL INCLUDE ALL CONCRETE FOR MOMENT SLABS, SIDEWALKS AND BARRIERS MOUNTED ON MOMENT SLABS AS DETAILED IN THESE PLANS. PAYMENT FOR THIS ITEM SHALL ALSO INCLUDE ALL OTHER NECESSARY MATERIAL, LABOR, AND EQUIPMENT TO FORM AND PLACE THE CONCRETE MOMENT SLABS, SIDEWALKS AND BARRIERS AND SHALL BE INCLUDED IN THE UNIT PRICE FOR ITEM 511 - CLASS QC2 CONCRETE, MISC.: MOMENT SLAB.

ALL RAILING REINFORCEMENT IS INCLUDED WITH ITEM 509 - GALVANIZED STEEL REINFORCEMENT AND ITEM 509 - NO. 4 DEFORMED GFRP REINFORCEMENT.

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

THIS ITEM INCLUDES THE PORTION OF GRANULAR MATERIAL WHICH WILL ENCASE SOIL REINFORCEMENTS FROM THE PORTION OF MSE WALL ADJACENT TO APPROACH SLABS AND MOMENT SLABS. THIS GRANULAR MATERIAL SHALL MEET THE REQUIREMENTS OF SUPPLEMENTAL SPECIFICATION 840.

GRANULAR MATERIAL SHALL BE PLACED IN 6 INCH LIFTS AND COMPACTED TO 98% STANDARD PROCTOR MAXIMUM DRY DENSITY.

MINIMUM SOIL REINFORCEMENT LENGTHS

MINIMUM SOIL REINFORCEMENT LENGTH AT EACH ABUTMENT SHALL BE;

REAR ABUTMENT	20.0 FT
FORWARD ABUTMENT	23.0 FT

GENERAL NOTES (1 OF 4)
BRIDGE NO. HAM-74-1335
RACE ROAD OVER I.R. 74

SFN 3108680

DESIGN AGENCY fishbeck

DESIGNER	CHECKER
BMV	JPC

REVIEWER JBD 04/30/24

PROJECT ID 110563

SUBSET	TOTAL
S.02	45

SHEET	TOTAL
P.040	103

HAM-74-13.35

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 7/25/2024 TIME: 3:40:14 PM USER: bvasaris
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ITEM 503, COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN

FURNISH AND INSTALL DRILLED SHAFTS IN ACCORDANCE WITH CMS 524 EXCEPT AS MODIFIED AND SUPPLEMENTED BELOW.

EXCAVATE THE HOLE FOR THE DRILLED SHAFT WITHIN 3" OF THE PLAN LOCATION IN THE HORIZONTAL PLANE. IF FIELD CONDITIONS INDICATE GREATER DEPTHS, NOTIFY THE ENGINEER FOR FURTHER EVALUATION.

PLACE THE SOLDIER PILE VERTICALLY WITHIN THE HOLE SO IT IS NOT INCLINED MORE THAN 1" BETWEEN THE TOP AND BOTTOM. PLACE THE SOLDIER PILE SO THAT THE FLANGES ARE PARALLEL TO THE CENTERLINE OF CONSTRUCTION. 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.

USE CLASS QC5 CONCRETE ACCORDING TO CMS 511. THE CONTRACTOR MAY PLACE CONCRETE USING THE FREE FALL METHOD PROVIDED THE DEPTH OF WATER IS LESS THAN 6 INCHES AND THE CONCRETE FALLS WITHOUT STRIKING THE SIDES OF THE HOLE. POURING CONCRETE ALONG THE WEB OF THE SOLDIER PILE IS ACCEPTABLE.

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

PLACE HARDWOOD LAGGING SO THAT THE SOLDIER PILE FLANGE OVERLAPS THE END OF THE LAGGING BY AT LEAST 3 INCHES AT BOTH ENDS OF THE LAGGING.

THE INSTALLATION SEQUENCE SHALL BE SUCH THAT NO DRILLED SHAFT IS INSTALLED ADJACENT TO EITHER AN OPEN DRILLED SHAFT EXCAVATION OR A DRILLED SHAFT IN WHICH THE CONCRETE HAS LESS THAN A 48 HOUR CURE. INSTALLING THE SHAFTS IN AN ALTERNATING SEQUENCE OR ANY OTHER SEQUENCE THAT MEETS THIS CRITERIA IS PERMISSIBLE.

CARE SHALL BE EXERCISED AS TO COVERING UNATTENDED OPEN SHAFTS. TEMPORARY COVERS SHALL BE OF ADEQUATE STRENGTH TO PREVENT A PERSON OR ANIMAL FROM FALLING IN. NO DRILLED SHAFT EXCAVATION SHALL BE LEFT UN-POURED OVERNIGHT.

THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS USED TO CONSTRUCT THE DRILLED SHAFTS AND PLACEMENT OF THE HARDWOOD LAGGING.

FURNISH AND INSTALL HARDWOOD LAGGING TO SERVE AS TEMPORARY LAGGING FOR THE SOLDIER PILE WALL. THE LAGGING SHALL CONSIST OF HARDWOOD WITH NOMINAL 4"x12" DIMENSIONS. LAGGING SHALL BE PLACED IN A TOP-DOWN MANNER SUCH THAT NO MORE THAN 3 FEET OF UNSUPPORTED EXCAVATION IS EXPOSED. EXCAVATION FOR PLACEMENT OF THE LAGGING SHALL BE PERFORMED IN SUCH A MANNER THAT THE LAGGING IS TIGHT AGAINST THE EXCAVATED FACE. ANY VOIDS BEHIND THE LAGGING SHALL BE BACKFILLED WITH NO. 57 CRUSHED CARBONATE STONE AS DIRECTED BY THE ENGINEER.

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. THE DEPARTMENT WILL NOT MAKE ADDITIONAL PAYMENT FOR PROVIDING AN ALTERNATE DESIGN.

ITEM 503, STRUCTURAL EXCAVATION, MISC.: REAR ABUTMENT

FURNISH AND INSTALL TEMPORARY SHORING FOR THE PROTECTION OF THE 24 INCH WATER MAIN TO THE LIMITS SHOWN IN THESE PLANS AND IN ACCORDANCE WITH CMS 503.

ALL LABOR, EQUIPMENT, AND MATERIALS FOR THE ABOVE SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 503 STRUCTURAL EXCAVATION, MISC.: REAR ABUTMENT.

ITEM 503, STRUCTURAL EXCAVATION, MISC.: FORWARD ABUTMENT

FURNISH AND INSTALL TEMPORARY SHORING FOR THE PROTECTION OF THE 24 INCH WATER MAIN TO THE LIMITS SHOWN IN THESE PLANS AND IN ACCORDANCE WITH CMS 503.

ALL LABOR, EQUIPMENT, AND MATERIALS FOR THE ABOVE SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 503 STRUCTURAL EXCAVATION, MISC.: FORWARD ABUTMENT.

ITEM 625, PULL BOX, 725.06, SIZE 7

A MINIMUM OF 2 FEET HORIZONTAL CLEARANCE SHALL BE PROVIDED BETWEEN THE NEAREST OUTSIDE EDGE OF PULL BOX AND THE OUTSIDE EDGE OF GAS MAIN.

ITEM 638, WATER WORK, MISC.: VIDEO INSPECTION

IF EXCAVATION EXPOSES THE 24" WATER MAIN, THE CONTRACTOR IS REQUIRED TO SUBMIT A PRE-CONSTRUCTION AND POST-CONSTRUCTION VIDEO OF THE EXTERIOR CONDITION OF THE CONDUIT TO THE ENGINEER. THE RECORDING SHALL IDENTIFY THE DATE AND TIME OF INSPECTION, DESCRIPTION OF CONDUIT BEING INSPECTED, LOCATION, AND VIEWING DIRECTION. RECORD THE ENTIRE RUN OF CONDUIT BEING INSPECTED.

FURNISH THE VIDEO RECORDING IN A DIGITAL, REPRODUCIBLE FORMAT ON PORTABLE HARD DRIVE, FLASH DRIVE, OR AS DETERMINED APPROPRIATE BY THE ENGINEER.

THE DEPARTMENT WILL PAY FOR ALL LABOR, EQUIPMENT, AND MATERIALS FOR VIDEO INSPECTION OF 24" WATER MAIN IN THE PER EACH CONTRACT PRICE FOR ITEM 638 WATER WORK MISC.: VIDEO INSPECTION.

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

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-SYNTHETIC 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-SYNTHETIC 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-SYNTHETIC FIBERS ACCORDING TO THE MANUFACTURE'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-SYNTHETIC 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.

ITEM 511 - CLASS QC3 CONCRETE, MISC.: WITH QC/QA, PIER ABOVE FOOTINGS (CONTINUED)

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 ENGINEER CAN REDUCE THE BATCH LOAD SIZE AT ANY TIME AS NEEDED TO CORRECT/IMPROVE CONCRETE QUALITY. THE TRANSIT MIXER CHARGE SHALL BE LIMITED TO 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 CONCRETE 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.

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

GENERAL NOTES (3 OF 4)
BRIDGE NO. HAM-74-1335
RACE ROAD OVER I.R. 74

SFN 3108680
DESIGN AGENCY fishbeck
DESIGNER BMV | CHECKER JPC
REVIEWER JBD 04/30/24
PROJECT ID 110563
SUBSET S.04 | TOTAL 45
SHEET P.042 | TOTAL 103

HAM-74-13.35

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

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

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

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
CORROSION INHIBITOR	515.15

THE CLASS QC3 CONCRETE FOR THE SUPERSTRUCTURE SHALL MEET THE FOLLOWING CRITERIA:
WATER/CEMENT RATIO = 0.40 MAXIMUM; MINIMUM 4 LBS/CY MACRO-SYNTHETIC FIBERS (1.5 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-SYNTHETIC 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-SYNTHETIC FIBERS ACCORDING TO THE MANUFACTURE'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-SYNTHETIC 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.

ITEM 511 - CLASS QC3 CONCRETE, MISC.: WITH QC/QA, SUPERSTRUCTURE (CONTINUED)

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

ITEM 511 - CLASS QC3 CONCRETE, MISC.: WITH QC/QA, SIDEWALK (CONTINUED)

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 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 CONCRETE 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, DIAPHRAGMS, AND SIDEWALKS ARE TO USE THE SAME MIX DESIGN AS THE BRIDGE DECK. THE CONTRACTOR SHOULD BE ADVISED THAT THE CONCRETE RETARDING AGENTS MAY NEED TO BE ADDED TO OFFSET THE EFFECTS OF THE MIGRATING CORROSION INHIBITOR SELECTED. USE SELF-COMPACTING CONCRETE ON DECORATIVE RAILING.

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.

ABBREVIATIONS

ABUT.	-	ABUTMENT
ADT	-	AVERAGE DAILY TRAFFIC
ADTT	-	AVERAGE DAILY TRUCK TRAFFIC
APPR.	-	APPROACH
BM	-	BENCHMARK
BOT.	-	BOTTOM
BRG.	-	BEARING
BTWN.	-	BETWEEN
C/C	-	CENTER TO CENTER
C.J.	-	CONSTRUCTION JOINT
CL	-	CENTERLINE
CLR.	-	CLEAR
CMS	-	CONSTRUCTION & MATERIAL SPECIFICATIONS
CONC.	-	CONCRETE
CONSTR.	-	CONSTRUCTION
CP	-	CONTROL POINT
DIA.	-	DIAMETER
DWG.	-	DRAWING
E.F.	-	EACH FACE
EB	-	EASTBOUND
EL.	-	ELEVATION
EQ.	-	EQUAL
EX.	-	EXISTING
EXP.	-	EXPANSION
F.A.	-	FORWARD ABUTMENT
F.F.	-	FAR FACE
GA.	-	GAUGE
H.S.	-	HIGH STRENGTH
JT	-	JOINT
LT.	-	LEFT
MGS	-	MIDWEST GUARDRAIL SYSTEM
MIN.	-	MINIMUM
N.F.	-	NEAR FACE
NPCPP	-	NON-PERFORATED CORRUGATED PLASTIC PIPE
O/O	-	OUT TO OUT
PCPP	-	PERFORATED CORRUGATED PLASTIC PIPE
PEJF	-	PREFORMED EXPANSION JOINT FILLER
PROP.	-	PROPOSED
R.A.	-	REAR ABUTMENT
ROW	-	RIGHT OF WAY
RT.	-	RIGHT
SHLDR.	-	SHOULDER
SPA.	-	SPACED
STA.	-	STATION
STD.	-	STANDARD
TYP.	-	TYPICAL
T/T	-	TOE TO TOE
U.N.O.	-	UNLESS NOTED OTHERWISE
VERT.	-	VERTICAL
WB	-	WESTBOUND
WWR	-	WELDED WIRE REINFORCEMENT

GENERAL NOTES (4 OF 4)
BRIDGE NO. HAM-74-1335
RACE ROAD OVER I.R. 74

SFN 3108680

DESIGN AGENCY fishbeck

DESIGNER	CHECKER
TLC	BMV

REVIEWER JBD 04/30/24

PROJECT ID 110563

SUBSET	TOTAL
S.05	45

SHEET	TOTAL
P.043	103

HAM-74-13.35

MODEL: Sheet PAPERSIZE: 34x22 (in.) DATE: 7/25/2024 TIME: 3:53:36 PM USER: bvasaris
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MADE BY: BMV DATE: 4/19/2024
CHECKED BY: TLC DATE: 4/25/2024

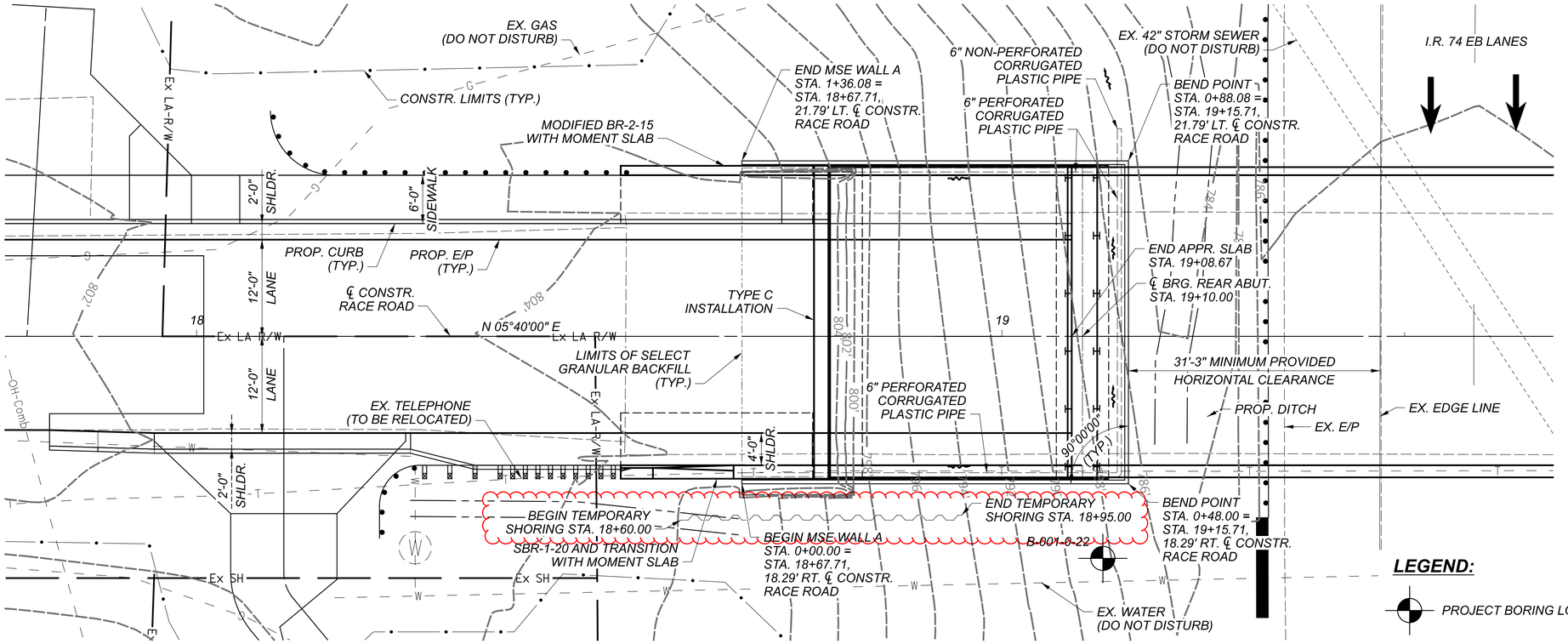
ESTIMATED QUANTITIES

ITEM	EXTENSION	01/IMS/10	UNIT	DESCRIPTION	ABUT.	PIER	SUPER.	GEN.	REFERENCE SHEET NO.
202	11003	LUMP		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN					S.02/45
202	22900	167	SY	APPROACH SLAB REMOVED				167	
202	23500	167	SY	WEARING COURSE REMOVED				167	
203	35111	479	CY	GRANULAR MATERIAL, TYPE B, AS PER PLAN	479				S.02/45
503	11101	LUMP		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN					S.04/45
503	21300	LUMP		UNCLASSIFIED EXCAVATION					
503	31500	LUMP		STRUCTURAL EXCAVATION, MISC: REAR ABUTMENT					S.04/45
503	31500	LUMP		STRUCTURAL EXCAVATION, MISC: FORWARD ABUTMENT					S.04/45
507	00101	900	FT	STEEL PILES HP10X42, FURNISHED, AS PER PLAN	900				S.02/45
507	92201	262	FT	PREBORED HOLES, AS PER PLAN	262				S.02/45
509	26000	114,538	LB	GALVANIZED STEEL REINFORCEMENT	9,680	15,063	80,947	8,848	
509	30020	4,603	FT	NO. 4 DEFORMED GFRP REINFORCEMENT			4,603		
511	33500	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE	2				
511	34460	71	CY	CLASS QC SCC CONCRETE, BRIDGE DECK (PARAPET)			71		
511	43510	78	CY	CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING	78				
511	46510	27	CY	CLASS QC1 CONCRETE, FOOTING		27			
511	53012	81	CY	CLASS QC2 CONCRETE, MISC.: MOMENT SLAB				81	S.02/45
511	53014	48	CY	CLASS QC3 CONCRETE, MISC.: WITH QC/QA, SUPERSTRUCTURE	41	7			S.05/45
511	53014	241	CY	CLASS QC3 CONCRETE, MISC.: WITH QC/QA, BRIDGE DECK			241		S.05/45
511	53014	45	CY	CLASS QC3 CONCRETE, MISC.: WITH QC/QA, PIER ABOVE FOOTINGS		45			S.04/45
511	53014	36	CY	CLASS QC3 CONCRETE, MISC.:WITH QC/QA, SIDEWALK			36		S.05/45
512	10050	231	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)				231	
512	10100	524	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) (LIGHT NEUTRAL) (MSE WALLS)				524	S.02/45
512	10100	771	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) (GRAY)	67	48	431	225	S.02/45
515	15080	10	EACH	DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 3, TYPE WF42-49 (90'-7" LENGTH)			10		
515	20000	24	EACH	INTERMEDIATE DIAPHRAGMS			24		
516	10010	78	FT	ARMORLESS PREFORMED JOINT SEAL				78	
516	13200	78	SF	1/2" PREFORMED EXPANSION JOINT FILLER				78	
516	13600	16	SF	1" PREFORMED EXPANSION JOINT FILLER				16	
516	13900	614	SF	2" PREFORMED EXPANSION JOINT FILLER				614	
516	14020	78	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	78				
516	44101	10	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (2 9/16" x 2'-4" x 10" WITH W-SECTION)	10				S.21/45
516	44101	10	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (2 9/16" x 2'-4" x 10")		10			S.21/45
526	30011	259	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17"), AS PER PLAN				259	S.03/45
526	90031	78	FT	TYPE C INSTALLATION, AS PER PLAN				78	S.03/45
SPECIAL	53013000	2,148	SF	FORM LINER				2,148	S.31/45
601	21000	17	SY	CONCRETE SLOPE PROTECTION	17				
622	25000	1	EACH	CONCRETE BARRIER END SECTION, TYPE D				1	
625	25502	660	FT	CONDUIT, 3", 725.05				660	
625	29920	2	EACH	STRUCTURE JUNCTION BOX				2	
625	30520	4	EACH	PULL BOX, 725.06, SIZE 7				4	S.04/45
625	33000	1	EACH	STRUCTURE GROUNDING SYSTEM				1	
638	98000	4	EACH	WATER WORK, MISC.: VIDEO INSPECTION				4	S.04/45
840	20000	6,246	SF	MECHANICALLY STABILIZED EARTH WALL				6,246	
840	21000	1,588	CY	WALL EXCAVATION				1,588	
840	22000	566	SY	FOUNDATION PREPARATION				566	
840	23000	2,817	CY	SELECT GRANULAR BACKFILL				2,817	
840	25010	306	FT	6" DRAINAGE PIPE, PERFORATED				306	
840	25020	10	FT	6" DRAINAGE PIPE, NON-PERFORATED				10	
840	26000	337	FT	CONCRETE COPING				337	
840	27000	5	DAY	ON-SITE ASSISTANCE				5	
878	25000	LUMP		INSPECTION AND COMPACTION TESTING OF UNBOUND MATERIALS					

ESTIMATED QUANTITIES (1 OF 2)
BRIDGE NO. HAM-74-1335
RACE ROAD OVER I.R. 74

SFN 3108680
DESIGN AGENCY fishbeck
DESIGNER TLC | CHECKER BMV
REVIEWER JBD 04/30/24
PROJECT ID 110563
SUBSET S.06 | TOTAL 45
SHEET P.044 | TOTAL 103

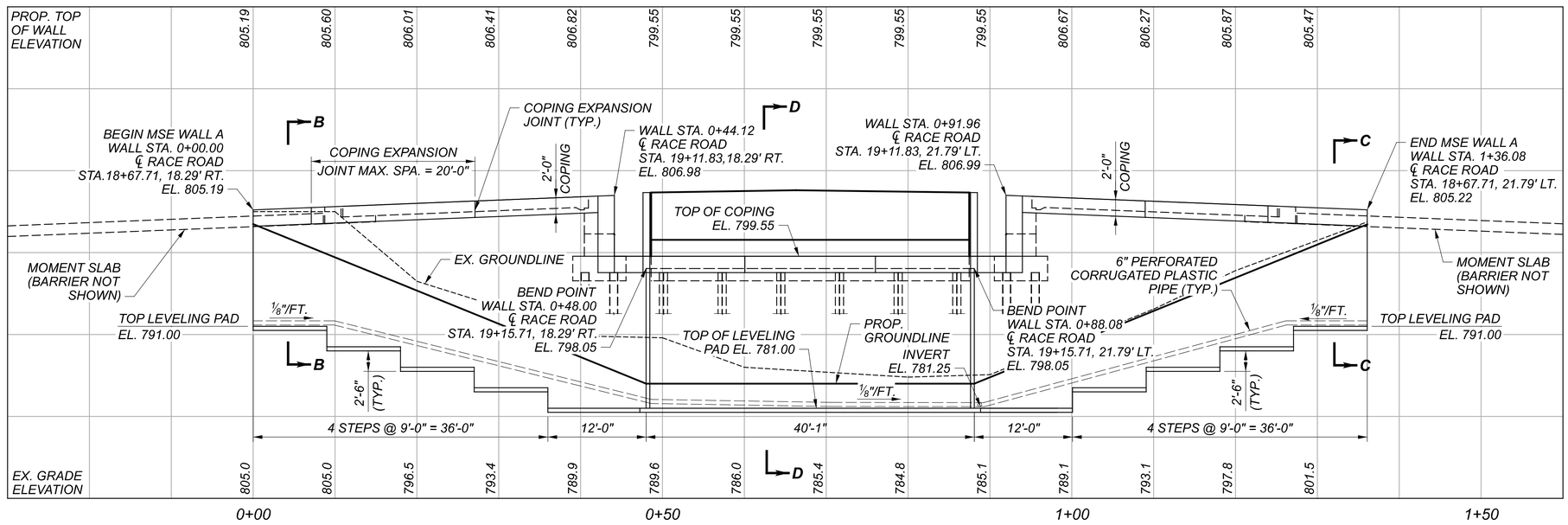
HAM-74-13.35



MSE WALL A PLAN

NOTES:

1. ALL STATIONS, OFFSETS, ELEVATIONS AND DIMENSIONS MEASURED ALONG FRONT FACE OF MSE WALL PANEL.
2. FOR SECTIONS B-B, C-C, D-D SEE SHEET S.15/ 45 .
3. FOR MOMENT SLAB DETAILS SEE SHEETS S.34/ 45 THRU S.38/ 45 .



PROFILE ALONG MSE WALL A

HAM-74-13.35

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PLAN AND ELEVATION
MSE RETAINING WALL A

DESIGN AGENCY
fishbeck

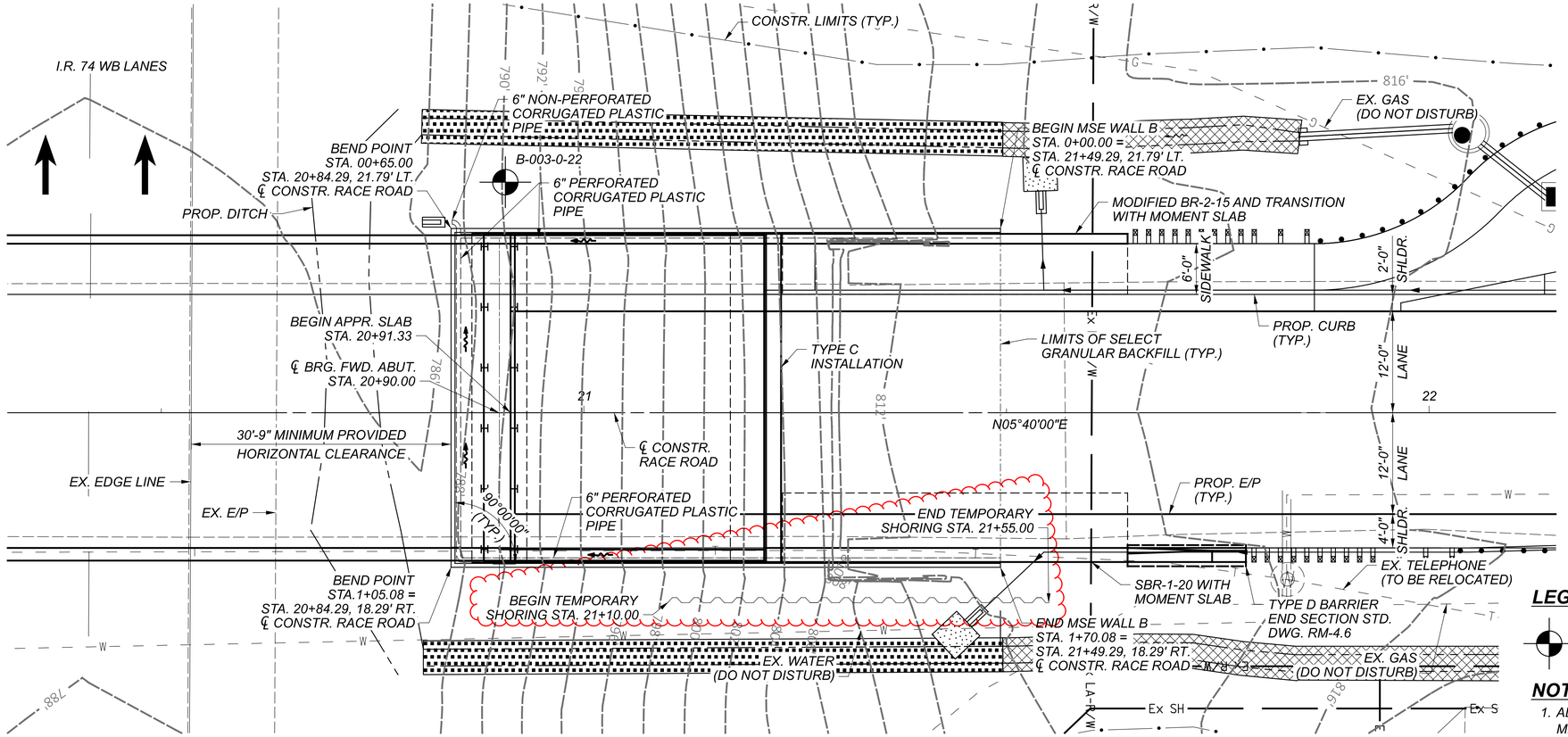
DESIGNER
BMV

REVIEWER
JPC 04/30/24

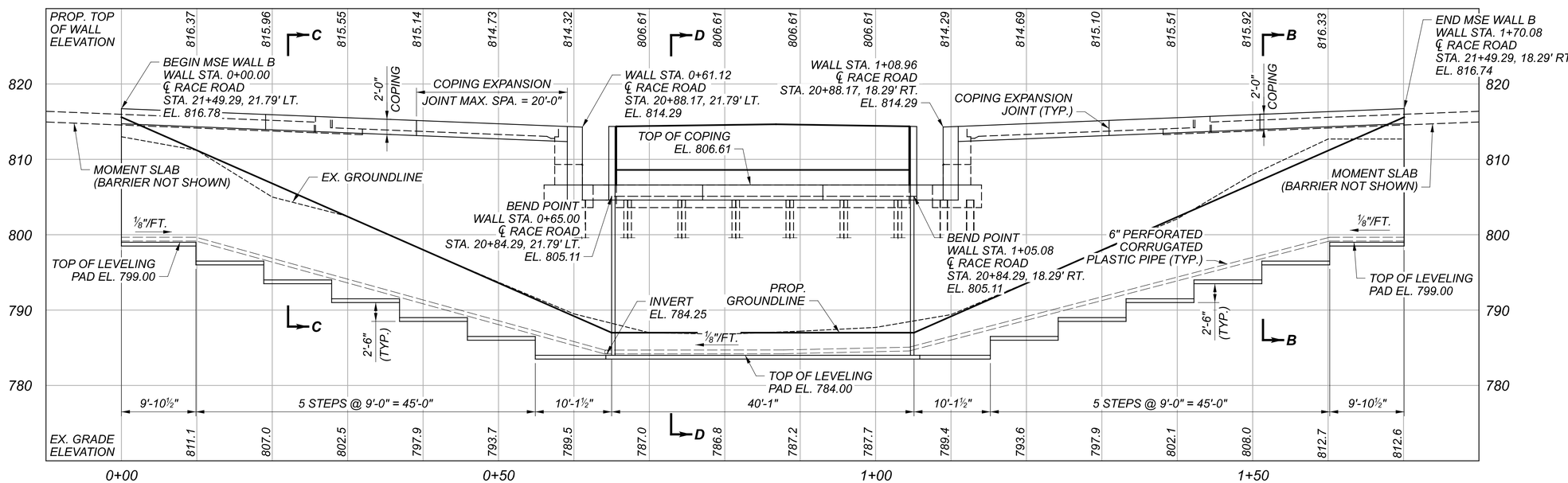
PROJECT ID
110563

SUBSET S.13 | TOTAL 45

SHEET P.051 | TOTAL 103



MSE WALL B PLAN



PROFILE ALONG MSE WALL B

LEGEND:

PROJECT BORING LOCATION

NOTES:

1. ALL STATIONS, OFFSETS, ELEVATIONS AND DIMENSIONS MEASURED ALONG FRONT FACE OF MSE WALL PANEL.
2. FOR SECTIONS B-B, C-C, D-D SEE SHEET S.15/ 45 .
3. FOR MOMENT SLAB DETAILS SEE SHEETS S.34/ 45 THRU S.38/ 45 .

PLAN AND ELEVATION
MSE RETAINING WALL B

DESIGN AGENCY: fishbeck

DESIGNER	
BMV	
REVIEWER	
JPC 04/30/24	
PROJECT ID	
110563	
SUBSET	TOTAL
S.14	45
SHEET	TOTAL
P.052	103

HAM-74-13.35

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