REV.	BY	DATE
1	GF	09/09/20

1 CONSTRUCTION NOISE NOTE REMOVED

DATE COMPLETED

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

UTILITIES
LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

CENTURYLINK/QWEST
DANIEL BECKETT
441 WEST BROAD ST.
PATASKALA, OHIO 43062
(740) 927-8282
DANIEL.E.BECKETT@CENTURYLINK.COM

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

EXISTING PLANS
EXISTING PLANS ENTITLED MAD-70-8.62 (PID 107109), MAD-70-10.27 (PID 83245), S.R. 29 IMPROVEMENTS AT I-70 EASTBOUND RAMPS (PID 109471), MAD-70-8.68 (PID 19124), MAD-70-6.25 (I-70-3(9)75), & D06-EXTRUSIGN-CITIES (PID 89303) MAY BE INSPECTED IN THE ODOT DISTRICT 6 OFFICE IN DELAWARE, OHIO.

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

PROTECTION OF RIGHT-OF-WAY LANDSCAPING
PRIOR TO BEGINNING WORK, THE CONTRACTOR, THE PROJECT ENGINEER, AND A REPRESENTATIVE OF THE MAINTAINING AGENCY WILL REVIEW AND RECORD ALL LANDSCAPING ITEMS WITHIN THE RIGHT-OF-WAY (BOTH WITHIN AND OUTSIDE THE CONSTRUCTION LIMITS). A RECORD OF THIS REVIEW WILL BE KEPT IN THE PROJECT ENGINEER'S FILES. PRIOR TO FINAL ACCEPTANCE, A FINAL REVIEW OF LANDSCAPING ITEMS WILL BE MADE.

CONSTRICT ALL ACTIVITIES, EQUIPMENT STORAGE, AND STAGING TO WITHIN THE CONSTRUCTION LIMITS. UNLESS OTHERWISE IDENTIFIED IN THE PLANS OR PROPOSAL, THE CONSTRUCTION LIMITS ARE IDENTIFIED AS 30 FEET FROM THE EDGE OF PAVEMENT.

SUBMIT A WRITTEN REQUEST TO THE PROJECT ENGINEER TO USE ANY AREA OUTSIDE THESE LIMITS. THE DOCUMENT SUBMITTED MUST CLEARLY IDENTIFY THE AREA AND EXPLAIN THE PROPOSED USE AND RESTORATION OF THE AREA. USE OF THESE AREAS FOR DISPOSAL OF WASTE MATERIAL AND CONSTRUCTION DEBRIS, EXCAVATION OF BORROW MATERIAL AND PLACEMENT
OF PORTABLE PLANTS IS PROHIBITED. THE REQUEST MUST BE APPROVED, IN WRITING, BEFORE THE CONTRACTOR HAS PERMISSION TO USE THE AREA.

ANY ITEMS DAMAGED BEYOND THE CONSTRUCTION LIMITS, AS DEFINED ABOVE, WILL BE REPLACED IN KIND OR AS APPROVED BY THE PROJECT ENGINEER.

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

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"	6		6
30"	1		1
48"	1		1

CONTRACTION AND/OR EXPANSION JOINTS
ALTHOUGH SPECIFIC LOCATIONS OF CERTAIN CONTRACTION AND EXPANSION JOINTS HAVE BEEN DETAILED ON THIS PLAN, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. IN ALL CASES, THE PROVISION OF EXPANSION JOINTS AT ALL MAJOR STRUCTURES INCLUDING THE MAXIMUM SPACING BETWEEN CONTRACTION JOINTS IS IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP-2.2 AND THE SPECIFICATIONS.

1

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

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

PROJECT CONTROL

POSITIONING METHOD: GPS (VRS)
MONUMENT TYPE: CONCRETE MONUMENTS

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: GEOID12A

HORIZONTAL POSITIONING

REFERENCE FRAME: NAV83 (2011)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE, SOUTH ZONE
COMBINED SCALE FACTOR: 1.0000000000
ORIGIN OF COORDINATE
SYSTEM: 1 METER = OHIO STATE PLANE, SOUTH ZONE (0,0)

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 823.

UNITS ARE IN U.S. SURVEY FEET. USE THE FOLLOWING CONVERSION FACTOR: 1 METER = 3.280833333 U.S. SURVEY FEET.

BENCHMARKS FOR PROJECT MAD-29-10.61

BM-#	DESCRIPTION		
BM-1	NORTHING: 714844.27	EASTING: 1732586.10	ELEV: 964.41
	TOP OF IRON PIN IN CENTERLINE CONCRETE MONUMENT AT STATION 551+00 ±150 FT EAST OF OVERHEAD TRUSS SIGN SUPPORT OVER WEST BOUND I-70 EXIT 79/EXIT 80.		
BM-4	NORTHING: 715219.77	EASTING: 1735544.56	ELEV: 964.18
	"CJ" CUT NORTH SIDE CONCRETE PAD FOR CABLE GUARDRAIL BARRIER ±100 FT WEST OF EMERGENCY TURN AROUND, ±1/2 MILE EAST OF SR-29 OVERPASS IN MEDIAN.		

MEDIAN AND/OR CURBING ON APPROACH SLABS
WITHIN THE LIMITS OF THE APPROACH SLAB, TRANSITION THE SHAPE OF THE MEDIAN AND/OR CURBING ON APPROACH SLABS FROM THE STANDARD SECTION ON THE APPROACHES TO THE SECTION USED ON THE BRIDGE.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL
WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A W-BEAM, BEAM SPLICE AS SHOWN IN AASHTO M 180-12, EXCEPT THE BEAM WASHERS ARE NOT TO BE USED. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

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

ITEM 659, SOIL ANALYSIS TEST	1 EACH
ITEM 659, TOPSOIL	90 CU. YD.
ITEM 659, SEEDING AND MULCHING	811 SQ. YD.
ITEM 659, REPAIR SEEDING AND MULCHING	41 SQ. YD
ITEM 659, COMMERCIAL FERTILIZER	0.12 TON
ITEM 659, LIME	0.17 ACRES
ITEM 659, WATER	6 M. GAL.

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

EXISTING SUBSURFACE DRAINAGE
PROVIDE UNOBSTRUCTED OUTLETS FOR ALL EXISTING UNDERDRAINS OR AGGREGATE DRAINS ENCOUNTERED DURING CONSTRUCTION.

PROVIDE AN OUTLET PER STANDARD CONSTRUCTION DRAWING DM-1.1 FOR ALL UNDERDRAINS THAT OUTLET TO A SLOPE. UNDERDRAINS THAT CAN BE CONNECTED TO THE NEW OR EXISTING UNDERDRAINS AT THE END OF THE PROJECT LIMITS AS WELL AS ALL NECESSARY BENDS OR BRANCHES REQUIRED FOR CONNECTION ARE INCLUDED IN THE BASIS OF PAYMENT FOR UNCLASSIFIED PIPE UNDERDRAINS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 605, 6" UNCLASSIFIED PIPE UNDERDRAINS 20 FT.

ASBESTOS ABATEMENT
ON JULY 24, 2017, MR. MATTHEW GEIGER, OHIO DEPARTMENT OF HEALTH (ODH) CERTIFIED ASBESTOS HAZARD EVALUATION SPECIALIST (AHES OH #35832) OF LAWHON & ASSOCIATES, INC. (L&A) CONDUCTED AN ASBESTOS SURVEY OF MAD-00029-10610 (OH-29) BRIDGE (SFN #4900243) OVER I-70, MADISON, OHIO. NO ASBESTOS CONTAINING MATERIAL (ACM) WAS IDENTIFIED IN THE COURSE OF THE SURVEY.

A COPY OF THE OHIO ENVIRONMENTAL PROTECTION AGENCY NOTIFICATION FOR ASBESTOS DEMOLITION AND RENOVATION FORM WITH SECTIONS I-IV & VI COMPLETED IS AVAILABLE AT THE DISTRICT 6 ODOT OFFICE (PLANNING DEPARTMENT). THE FORM MUST BE SUBMITTED TO OEPA-CDO (P.O. BOX 1049, COLUMBUS, OHIO 43216-1049) AT LEAST 10 DAYS PRIOR TO DEMOLITION/RENOVATION ACTIVITIES.

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE B
THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

THE FACE OF THE TYPE B IMPACT HEAD SHALL BE COVERED WITH TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, MGS TYPE B, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING REFLECTIVE SHEETING AND ALL RELATED HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446), AS PER PLAN (PG76-22M) (T=1.5")
THE SURFACE COURSE BINDER FOR RAMP B PAVEMENT SHALL BE PG76-22M.

ANTI-SEGREGATION EQUIPMENT
PROVIDE ANTI-SEGREGATION EQUIPMENT FOR ALL COURSES OF UNIFORM THICKNESS IN ACCORDANCE WITH CMS 401.12.

RIGHT-OF-WAY
WORK TO BE PERFORMED ON MADISON COUNTY ROAD RIGHT-OF-WAY (SNYDER LANE) PER LETTER OF AGREEMENT DATED 5/6/20.

CALCULATED GF CHECKED DWO

GENERAL NOTES

MAD-29-10.61

SHEET NUM.												PART. 01/IMS/BR	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
6	7	8	13	46	50													
																	TRAFFIC CONTROL	
				5								5	621	00100	5	EACH	RPM (2-WAY, YELLOW/YELLOW)	
				7								7	621	00100	7	EACH	RPM (2-WAY, RED/YELLOW)	
			26									26	626	00102	26	EACH	BARRIER REFLECTOR, TYPE 1 (BIDIRECTIONAL)	
			4									4	626	00110	4	EACH	BARRIER REFLECTOR, TYPE 2 (BIDIRECTIONAL)	
1												1	632	90400	1	EACH	SIGNALIZATION, MISC.: RWIS SENSOR, VX21-2	44
				0.03								0.03	644	00104	0.03	MILE	EDGE LINE, 6"	
				0.02								0.02	644	00300	0.02	MILE	CENTER LINE	
				0.49								0.49	646	10010	0.49	MILE	EDGE LINE, 6"	
				0.13								0.13	646	10200	0.13	MILE	CENTER LINE	
				140								140	831	00100	140	FT	LONGITUDINAL CHANNELIZING DEVICE	
				140								140	831	00500	140	FT	REMOVAL OF LONGITUDINAL CHANNELIZING DEVICE	
																	STRUCTURE OVER 20 FOOT SPAN (MAD-29-1061)	
					LS							LS	202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	61
					176							176	202	22900	176	SY	APPROACH SLAB REMOVED	
					163							163	503	21100	163	CY	UNCLASSIFIED EXCAVATION	
					172,799							172,799	509	10000	172,799	LB	EPOXY COATED REINFORCING STEEL	
					272							272	510	10000	272	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
					8							8	511	33501	8	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN	69
					697							697	511	34447	697	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN	49
					178							178	511	34450	178	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)	
					15							15	511	44110	15	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	
					1,756							1,756	512	10050	1,756	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)	
					4,080							~~4,080~~	~~513~~	~~20001~~	~~4,080~~	EACH	WELDED STUD SHEAR CONNECTORS, AS PER PLAN	62
					1,074							1,074	513	90000	1,074	LB	STRUCTURAL STEEL, MISC.: ADDITIONAL INTERMEDIATE BRACING MEMBERS	49
					LS							LS	513	95020	LS		STRUCTURAL STEEL, MISC.: FIELD DRILLED HOLES IN EXISTING GIRDERS	61
					56,262							56,262	514	00050	56,262	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL	
					56,262							56,262	514	00056	56,262	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT	
					57,327							57,327	514	00060	57,327	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	
					57,327							57,327	514	00066	57,327	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT	
					45							45	514	00504	45	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL	
					26							26	514	10000	26	EACH	FINAL INSPECTION REPAIR	
					129							129	516	10010	129	FT	ARMORLESS PREFORMED JOINT SEAL	
					126							126	516	13600	126	SF	1" PREFORMED EXPANSION JOINT FILLER	
					210							210	516	13900	210	SF	2" PREFORMED EXPANSION JOINT FILLER	
					388							388	516	25000	388	SF	NYLON REINFORCED NEOPRENE SHEETING	
					15							15	516	44201	15	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN	64
																	(22" x 26" x 3.80" WITH 23" x 27" x 1.5" PLATE)	
					10							10	516	44401	10	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN	64
																	(17.5" x 17.5" x 5.70" WITH 23" x 20" x 1.5" PLATE)	
					10							10	516	46501	10	EACH	BEARING, PTFE (TEFLON), AS PER PLAN	64
					LS							LS	516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	49
					68							68	518	21200	68	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	
					222							222	519	11101	222	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN	49
					217							217	526	30000	217	SY	REINFORCED CONCRETE APPROACH SLABS (T=17")	
					129							129	526	90030	129	FT	TYPE C INSTALLATION	
					1,074							1,074	607	39900	1,074	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC	
																	MAINTENANCE OF TRAFFIC	
		500										500	614	11110	500	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
	LS											LS	614	12420	LS		DETOUR SIGNING	
	10											10	614	13000	10	CY	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
		18										18	614	18600	18	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN	
	1	1										2	616	10000	2	MGAL	WATER	
																	INCIDENTALS	
												LS	103	05000	LS		PREMIUM FOR CONTRACT PERFORMANCE BOND AND FOR PAYMENT BOND	
												LS	614	11000	LS		MAINTAINING TRAFFIC	
												18	619	16010	18	MNTH	FIELD OFFICE, TYPE B	
												LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
												LS	624	10000	LS		MOBILIZATION	

1 ~~4,080~~ 1,074

REV. BY	DATE	DESCRIPTION
GF	09/09/20	△ QUANTITY CHANGE FOR ITEM 513E90000

DATE COMPLETED

CALCULATED GF CHECKED DWO

GENERAL SUMMARY

MAD-29-10.61

ESTIMATED QUANTITES

ITEM	ITEM EXT	TOTAL	UNIT	DESCRIPTION	GEN	ABUT	PIERS	SUPER	REF. SHEET
202	11203	1	LS	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	1				15/30
202	22900	176	SY	APPROACH SLAB REMOVED	176				
503	21100	163	CY	UNCLASSIFIED EXCAVATION		163			
509	10000	172799	LB	EPOXY COATED REINFORCING STEEL		1360		171439	
510	10000	272	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT		84	188		
511	33501	8	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN		8			23/30
511	34447	697	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK, AS PER PLAN				697	3/30
511	34450	178	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)		14		164	
511	44110	15	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING		15			
512	10050	1756	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)		142	381	1233	
513	20001	4080	EACH	WELDED STUD SHEAR CONNECTORS, AS PER PLAN				4080	16/30
513	90000	1074	LB	STRUCTURAL STEEL, MISC.: ADDITIONAL INTERMEDIATE BRACING MEMBERS				1 1074	3/30
513	95020	1	LS	STRUCTURAL STEEL, MISC.: FIELD DRILLED HOLES IN EXISTING GIRDERS				1	15/30
514	00050	56262	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL				56262	
514	00056	56262	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT				56262	
514	00060	57327	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT				57327	
514	00066	57327	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT				57327	
514	00504	45	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL				45	
514	10000	26	EACH	FINAL INSPECTION REPAIR				26	
516	10010	129	FT	ARMORLESS PREFORMED JOINT SEAL	129				
516	13600	126	SF	1" PREFORMED EXPANSION JOINT FILLER		126			
516	13900	210	SF	2" PREFORMED EXPANSION JOINT FILLER		210			
516	25000	388	SF	NYLON REINFORCED NEOPRENE SHEETING		388			
516	44201	15	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN			15		18/30
				(22" x 26" x 3.80" WITH 23" x 27" x 1.5" PLATE)					
516	44401	10	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN		10			18/30
				(17.5" x 17.5" x 5.70" WITH 23" x 20" x 1.5" PLATE)					
516	46501	10	EACH	BEARING, PTFE (TEFLON), AS PER PLAN		10			18/30
516	47001	1	LS	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN				1	3/30
518	21200	68	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC		68			
519	11101	222	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN		82	140		3/30
526	30000	217	SY	REINFORCED CONCRETE APPROACH SLABS (T=17")	217				
526	90030	129	FT	TYPE C INSTALLATION	129				
607	39900	1074	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC				1074	

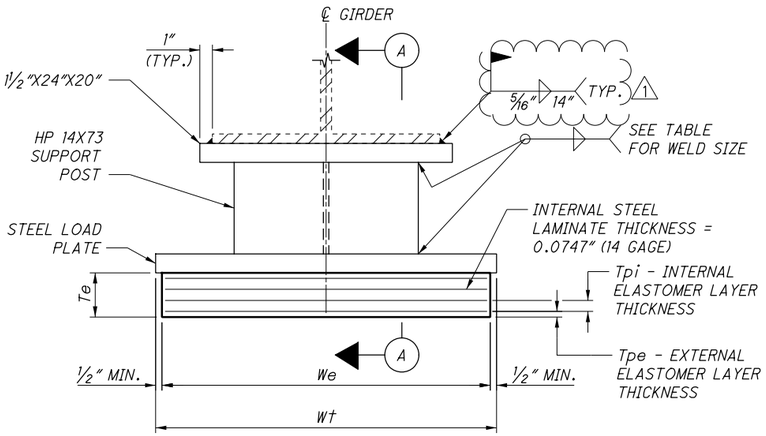
REV. BY	DATE	DESCRIPTION
GF	09/09/20	⚠ QUANTITY CHANGE FOR ITEM 513E90000
	DATE COMPLETED	

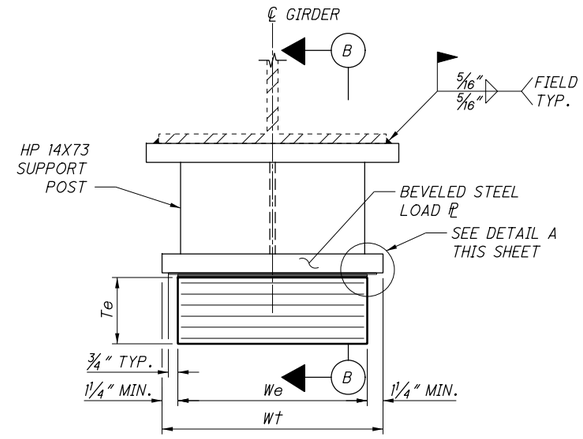
PARSONS
100 E. Campus View Blvd., Suite 250 • Columbus, Ohio 43235

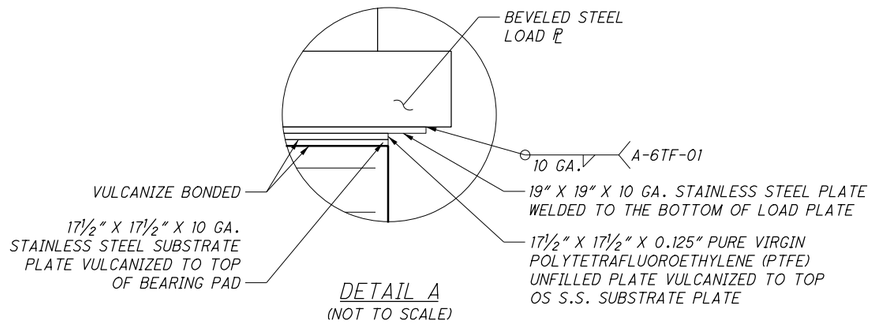
DESIGNED JRE | DRAWN GF | CHECKED JLW | REVIEWED RWB | DATE 3/17 | REVISED | STRUCTURE FILE NUMBER 4900243

ESTIMATED QUANTITIES
BRIDGE NO. MAD-SR29-1061
OVER I.R. 70

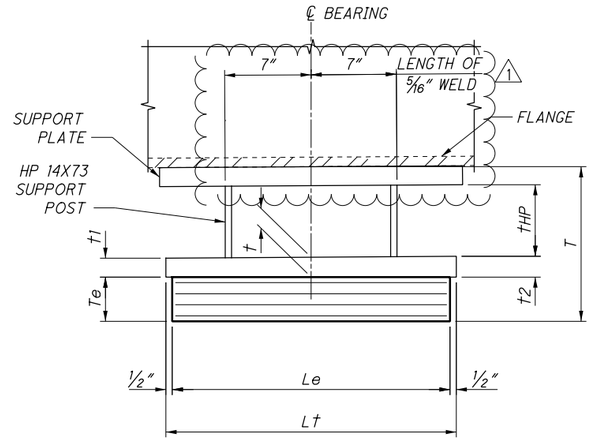
MAD-29-10.61
PID No. 104867





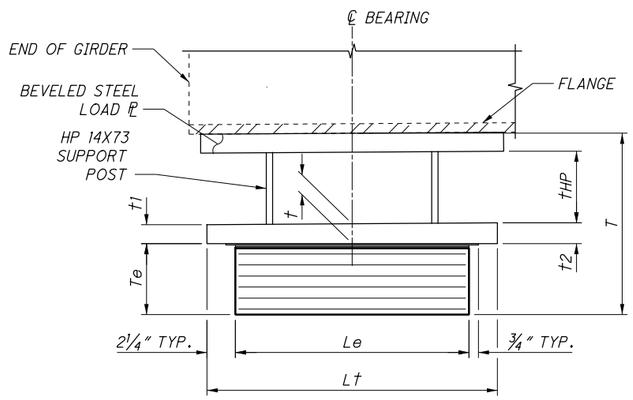


DETAIL A
(NOT TO SCALE)



SECTION A-A

LAMINATED ELASTOMERIC
EXPANSION BEARING AT PIERS



SECTION B-B

LAMINATED ELASTOMERIC EXPANSION
BEARING WITH SLIDING PLATES AT ABUTMENTS

ELASTOMERIC BEARING DATA

BEARING LOCATION	BEARING TYPE	NO. REQ'D.	DEAD LOAD	LIVE LOAD	TOTAL LOAD	Le	We	Tpi	Tpe	NO. OF Tpi's	NO. OF Tpe's	NUMBER OF INTERNAL LAMINATES	Te	STEEL LOAD PLATE					HP14X73	FILLET WELD	T
														Lt	Wt	t	t1	t2	tHP		
REAR ABUTMENT	EXP	5	111.9	69.1	181.0	17.5	17.5	0.875	0.438	5	2	6	5.698	23	20	1.626	1.500	1.751	3.033	0.3125	12.250
PIER 1	EXP	5	303.3	128.1	431.4	22	26	0.875	0.438	3	2	4	3.799	23	27	1.576	1.500	1.652	12.375	0.3125	19.250
PIER 2	EXP	5	345.8	133.4	479.2	22	26	0.875	0.438	3	2	4	3.799	23	27	1.500	1.500	1.500	15.451	0.3125	22.250
PIER 3	EXP	5	294.3	199.3	493.6	22	26	0.875	0.438	3	2	4	3.799	23	27	1.576	1.652	1.500	12.375	0.3125	19.250
FORWARD ABUTMENT	EXP	5	111.9	69.1	181.0	17.5	17.5	0.875	0.438	5	2	6	5.698	23	20	1.626	1.751	1.500	3.033	0.3125	12.250

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NOTES:

1. ELASTOMERIC BEARINGS: THE ELASTOMER SHALL HAVE A HARDNESS OF 60 DUROMETER. THE BEARINGS WERE DESIGNED IN ACCORDANCE WITH SECTION 14.7.6 (METHOD A) OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE LONG TERM COMPRESSION PROOF LOAD TEST (AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION II, SECTION 18.7.2.6) IS NOT REQUIRED.

2. THE STEEL LOAD PLATES SHALL BE ASTM A709 GRADE 50 STEEL. PAINT EXPOSED SURFACES OF LOAD PLATES TO MATCH GIRDERS.

3. THE STEEL LOAD PLATE SHALL BE BONDED BY VULCANIZATION TO THE ELASTOMER DURING THE MOLDING PROCESS.

4. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND BE VISIBLE AFTER THE BEARING IS INSTALLED.

5. TOTAL DESIGN LOAD FOR BEARINGS EQUALS THE SUM OF THE DEAD LOADS AND LIVE LOADS TABULATED IN THE BEARING TABLE.

6. THE UNIT PRICE FOR BEARINGS SHALL INCLUDE ALL MATERIALS, LABOR, TESTING, HP SHAPES, SLIDING PLATES AND INCIDENTALS NECESSARY TO FURNISH AND INSTALL LAMINATED ELASTOMERIC BEARINGS WITH AND WITHOUT SLIDING PLATES. PAYMENT SHALL BE MADE AT THE CONTRACT PRICE PER EACH FOR THE APPROPRIATE ITEM 516.

7. LOADS SHOWN ARE SERVICE LOADS WITH NO LOAD FACTOR OR IMPACT FACTORS INCLUDED.

8. PTFE SURFACE (FORWARD AND REAR ABUTMENT):
FINISHED UNFILLED DIMPLED LUBRICATED PTFE SHEETS SHALL BE MADE FROM 100 PERCENT VIRGIN PTFE RESIN AND SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

TENSILE STRENGTH ASTM D4894 - 2800 PSI (MINIMUM)
ELONGATION ASTM D4894 - 200 PERCENT (MINIMUM)
SPECIFIC GRAVITY ASTM D792 - 2.13 (MINIMUM)
MELTING POINT ASTM D4894 - 623°F (±2°F)

THE SHEET SHALL BE RECESSED AND EPOXY BONDED TO THE STEEL SUBSTRATE. THE SHOULDERS OF THE RECESS SHALL BE SHARP AND SQUARE AND THE DEPTH SHALL BE EQUAL TO ONE-HALF OF THE PTFE THICKNESS. PTFE SHEET SHALL BE COMMERCIALLY ETCHED ON IT'S BONDING SIDE. THE BONDING SURFACE OF THE SUBSTRATE SHALL BE CLEANED OF RUST, SCALE, OIL, AND GREASE BY THE BLAST CLEANING AND WIPED WITH A CLEANING SOLVENT. BLAST CLEANING SHALL BE PERFORMED WITHIN A MAXIMUM OF FOUR HOURS PRIOR TO BONDING.

THE ADHESIVE MATERIAL, THE BONDING PROCEDURES TO BE USED, AND SURFACE SHALL CONFORM TO THE REQUIREMENTS OF FEDERAL SPECIFICATION MMM-A-134 AND THE MANUFACTURER'S RECOMMENDATIONS. THE ADHESION BETWEEN THE PTFE AND THE STEEL SUBSTRATE PLATE SHALL BE TESTED IN ACCORDANCE WITH ASTM D429, METHOD B. THE MINIMUM PEEL STRENGTH SHALL BE 25 POUNDS PER INCH.

AFTER COMPLETION OF THE BONDING OPERATION, THE PTFE SHALL BE FREE OF BUBBLES.

9. STAINLESS STEEL PLATES (FORWARD AND REAR ABUTMENTS):
THE STAINLESS STEEL SURFACE SHALL CONFORM TO ASTM A167 OR A240 TYPE 304 AND SHALL HAVE A #8 MINIMUM FINISH OR BETTER.

STAINLESS STEEL SHALL BE ATTACHED TO THE LOAD PLATE BY A CONTINUOUS WELD AROUND ITS ENTIRE PERIMETER. WELDS SHALL CONFORM TO THE AWS REQUIREMENTS FOR STAINLESS STEEL. THE WELDER SHALL BE PRE-QUALIFIED BY TEST WELDS PREPARED, WELDED, AND TESTED IN ACCORDANCE WITH 6.7 OF ANSI/AWS D1.3, STRUCTURAL WELDING CODE - SHEET STEEL. AFTER WELDING, THE SHEET STEEL SHALL BE FLAT, FREE FROM WRINKLES, AND IN CONTINUOUS CONTACT WITH ITS BACKING PLATE. NO ROUGHNESS FROM THE WELD PROTRUDING ABOVE THE SURFACE OF THE STAINLESS STEEL SHALL BE PERMITTED.

10. LUBRICANT (FORWARD AND REAR ABUTMENT):
LUBRICANT SHALL BE SILICONE GREASE WHICH SATISFIES MILITARY SPECIFICATION MIL-S-8660.

INSTALLATION OF SLIDING BEARINGS (FORWARD AND REAR ABUTMENT):
A REPRESENTATIVE SHALL BE PRESENT ON SITE FOR A SUFFICIENT PERIOD OF TIME TO ENSURE THAT THE CONTRACTOR IS INSTALLING THE BEARINGS PROPERLY.

REV.	BY	DATE	DESCRIPTION
	GF	09/09/20	1 BRG. DIMENSIONS & WELD CLARIFICATION
			DATE COMPLETED

PARSONS
100 E. Campus View Blvd., Suite 250 • Columbus, Ohio 43235

DESIGNED	DRAWN	REVIEWED	DATE
JRE	MAW	RWB	3/17
CHECKED	REVISED	STRUCTURE FILE NUMBER	
JRE		4900243	

BEARING DETAILS
BRIDGE NO. MAD-SR29-1061
OVER I.R. 70

MAD-29-10.61
PID No. 104867