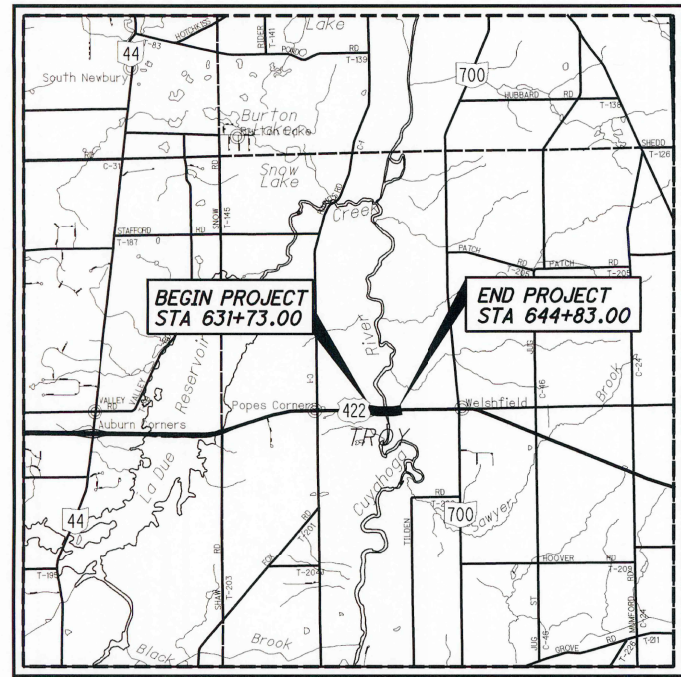


GEA - US 422-12.26 Deck  
 210056 PID - 102434  
 Dist 12 1/28/2021

Contract Proposal available @  
 www.contracts.dot.state.oh.us

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LOCATION MAP

LATITUDE: 41° 23' 12" N LONGITUDE: 81° 09' 27" W



PORTION TO BE IMPROVED	—————
INTERSTATE HIGHWAY	—————
FEDERAL ROUTES	—————
STATE ROUTES	—————
COUNTY & TOWNSHIP ROADS	—————
OTHER ROADS	—————

**DESIGN DESIGNATION**

CURRENT ADT (2021)	14,000
DESIGN YEAR ADT (2041)	15,000
DESIGN HOURLY VOLUME (2041)	1,500
DIRECTIONAL DISTRIBUTION	58%
TRUCKS (24 HOUR B&C)	10%
DESIGN SPEED	50 MPH
LEGAL SPEED	45 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
03 PRINCIPAL ARTERIAL (RURAL)	
NHS PROJECT	YES

**DESIGN EXCEPTIONS**

NONE REQUIRED

**UNDERGROUND UTILITIES**

CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG.

Call Before You Dig  
**1-800-362-2764**

(Non-members must be called directly)

**1-800-925-0988**

PLAN PREPARED BY:

**STRUCTUREPOINT**  
INC.

2660 CORPORATE EXCHANGE DR, STE 300  
 COLUMBUS, OH 43221  
 TEL 614.901.2235 FAX 614.901.2236  
 www.structurepoint.com

ENGINEERS SEAL:

SIGNED: *Bruce Fraser*  
 DATE: 10/8/20

ENGINEERS SEAL:

SIGNED: *Chris Bettinger*  
 DATE: 10/8/20

STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
BP-3.1	1/17/20	MGS-6.1	1/19/18	MT-101.90	7/21/17	800-2019	10/16/20
BP-4.1	7/19/17			MT-105.10	1/17/20	832	10/19/15
						846	4/17/15
DM-1.1	7/21/17			TC-41.20	10/18/13		12/10/2020
DM-1.2	1/18/15			TC-42.20	10/18/13		
DM-4.1	7/20/18	AS-1-15	7/17/15	TC-52.10	10/18/13		
DM-4.2	7/20/12	AS-2-15	1/18/19	TC-52.20	7/20/18		
DM-4.3	1/15/16	GSD-1-19	1/18/19				
DM-4.4	1/15/16	PCB-91	1/18/13				
		SBR-1-13	7/20/18				
MGS-1.1	1/19/18	SICD-1-96	7/18/14				
MGS-2.1	1/19/18	SICD-2-14	7/18/14				
MGS-3.1	1/19/18						
MGS-3.2	1/18/13	MT-97.10	4/19/19				
MGS-4.2	7/19/13	MT-97.12	1/20/17				
MGS-4.3	1/18/13	MT-101.70	1/17/20				

**PROJECT DESCRIPTION**

IMPROVEMENT OF 0.25 MILES OF US ROUTE 422 BY DECK REPLACEMENT AND WIDENING OF STRUCTURE OVER THE CUYAHOGA RIVER, INCLUDING APPROACH RECONSTRUCTION AND WIDENING.

**EARTH DISTURBED AREAS**

PROJECT EARTH DISTURBED AREA: 2.64 ACRES  
 ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.25 ACRES  
 NOTICE OF INTENT EARTH DISTURBED AREA: 2.89 ACRES

**2019 SPECIFICATIONS**

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED: *[Signature]*  
 DATE: 10/13/20 DISTRICT DEPUTY DIRECTOR

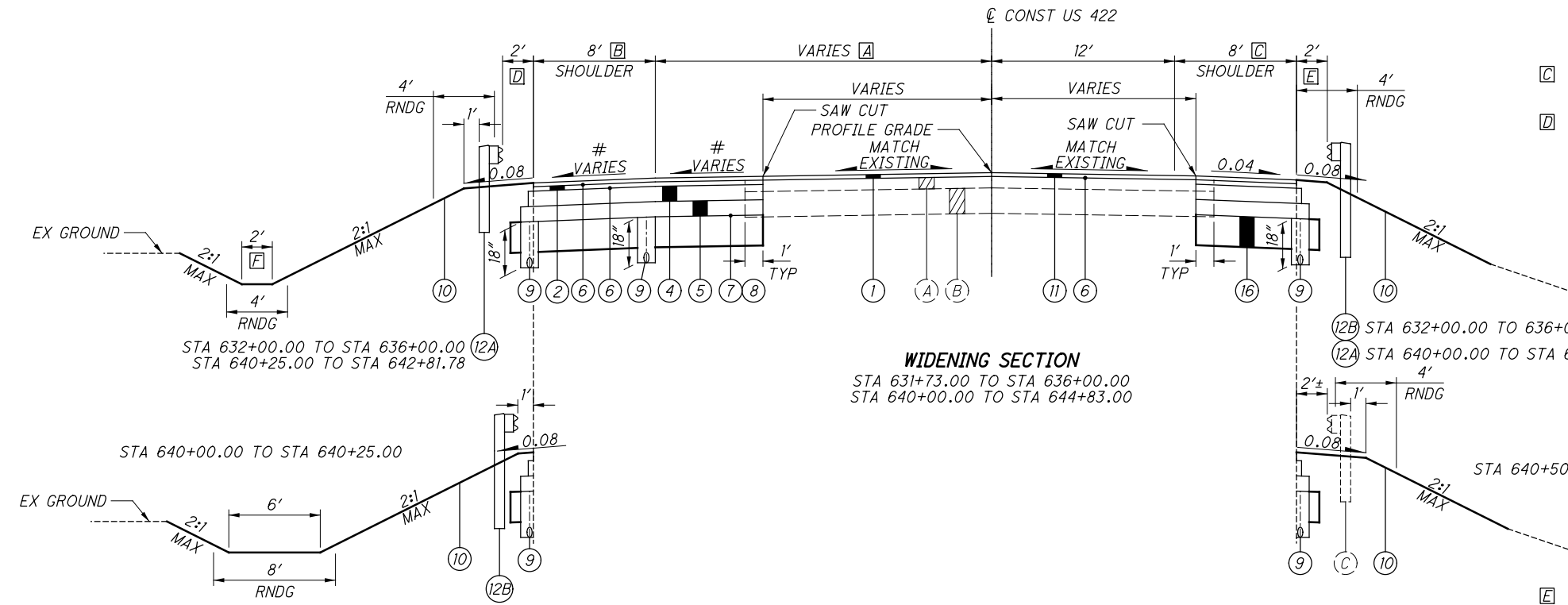
APPROVED: \_\_\_\_\_  
 DATE: \_\_\_\_\_ DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. **E170 (310)**

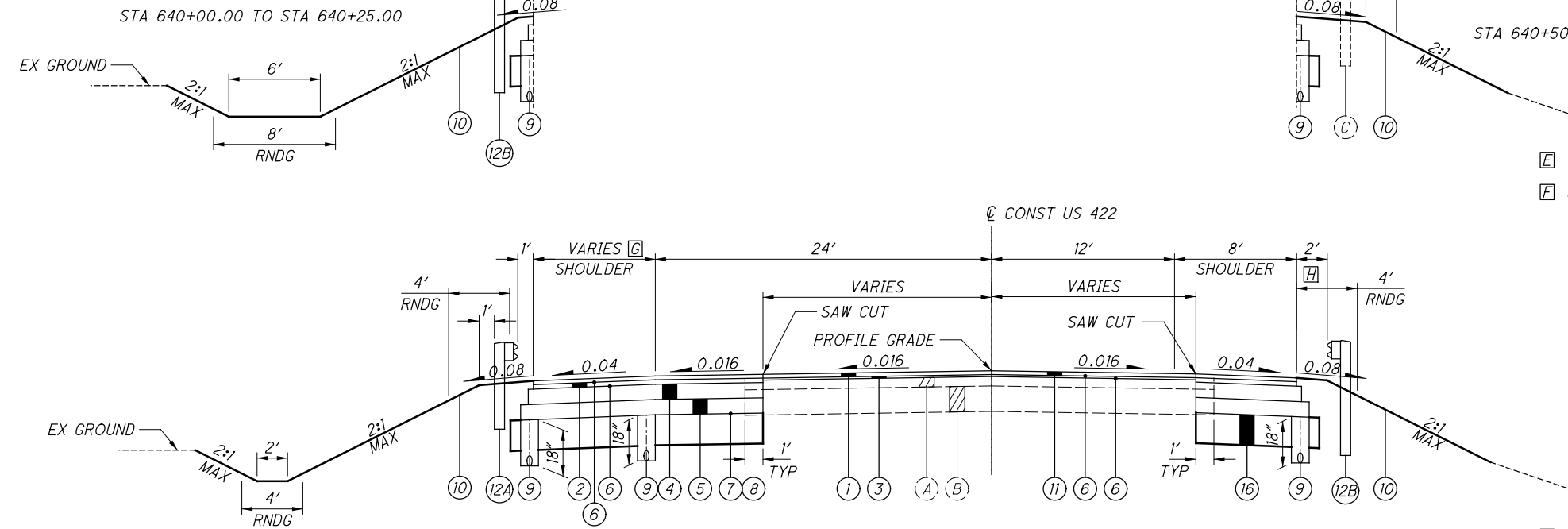
CONSTRUCTION PROJECT NO. **102434**

RAILROAD INVOLVEMENT **NONE**

**GEA - 422 - 12.26**



**WIDENING SECTION**  
 STA 631+73.00 TO STA 636+00.00  
 STA 640+00.00 TO STA 644+83.00



**WIDENING SECTION (WITH PROFILE ADJUSTMENT)**  
 STA 636+00.00 TO STA 636+80.00

**A** TAPERS FROM 12.0' AT STA 631+73.00 TO 24.0' AT STA 635+73.00  
 24.0' FROM STA 635+73.00 TO STA 636+00.00  
 24.0' FROM STA 640+00.00 TO STA 640+83.00  
 TAPERS FROM 24.0' AT STA 640+83.00 TO 12.0' AT STA 644+83.00

**B** TAPERS FROM 3.2' AT STA 631+73.00 TO 8.0' AT STA 632+93.00  
 TAPERS FROM 8.0' AT STA 635+62.93 TO 9.1' AT STA 636+00.00  
 TAPERS FROM 11.0' AT STA 640+00.00 TO 10.7' AT STA 641+17.15  
 TAPERS FROM 10.7' AT STA 640+25.35 TO 8.0' AT STA 644+83.00  
 TAPERS FROM 8.0' AT STA 644+33.00 TO 2.7' AT STA 644+83.00

**C** TAPERS FROM 3.8' AT STA 631+73.00 TO 8.0' AT STA 632+23.00  
 TAPERS FROM 8.0' AT STA 643+70.50 TO 3.5' AT STA 644+83.00

**D** TAPERS FROM 5.1' AT STA 632+00.00 TO 2.0' AT STA 632+93.00  
 TAPERS FROM 2.0' AT STA 635+62.93 TO 1.0' AT STA 635+96.67  
 1.0' FROM STA 635+96.67 TO STA 636+00.00  
 1.0' FROM STA 640+25.00 TO STA 640+83.33  
 TAPERS FROM 1.0' AT STA 640+83.33 TO 2.0' AT STA 641+17.15

**E** TAPERS FROM 3.6' AT STA 632+00.00 TO 2.0' AT STA 632+23.00

**F** 6' FROM STA 640+00.00 TO STA 641+19.97  
 4' FROM STA 641+74.51 TO STA 642+90.11  
 4' FROM STA 643+37.21 TO STA 644+50.00

**G** TAPERS FROM 9.1' AT STA 636+00.00 TO 10.7' AT STA 636+54.65  
 TAPERS FROM 10.7' AT STA 636+54.65 TO 11.0' AT STA 636+80.00

**H** TAPERS FROM 2.0' AT STA 636+58.96 TO 1.4' AT STA 636+80.00

# SEE SUPERELEVATION TABLE FOR CROSS SLOPES

**LEGEND**

- ① ITEM 441 - 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN, PG70-22M
- ② ITEM 441 - 1.75" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448)
- ③ ITEM 441 - VARIABLE DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448) (0"-2")
- ④ ITEM 301 - 6" ASPHALT CONCRETE BASE, PG64-22
- ⑤ ITEM 304 - 6" AGGREGATE BASE
- ⑥ ITEM 407 - NON-TRACKING TACK COAT

- ⑦ ITEM 204 - SUBGRADE COMPACTION
- ⑧ ITEM 204 - PROOF ROLLING
- ⑨ ITEM 605 - 4" BASE PIPE UNDERDRAINS
- ⑩ ITEM 659 - SEEDING AND MULCHING
- ⑪ ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (1.5")
- ⑫A ITEM 606 - GUARDRAIL, TYPE MGS
- ⑫B ITEM 606 - GUARDRAIL, TYPE MGS WITH LONG POSTS

- ⑬ ITEM 511 - CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)
- ⑭ ITEM 526 - REINFORCED CONCRETE APPROACH SLAB (1' = 15')
- ⑮ ITEM 609 - CURB, TYPE 4-C
- ⑯ ITEM 204 - EXCAVATION OF SUBGRADE, 12"  
ITEM 204 - GRANULAR MATERIAL, TYPE B  
ITEM 204 - GEOTEXTILE FABRIC
- ⑰ ITEM 304 - 8" AGGREGATE BASE
- ⑱ ITEM 441 - 1.25" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22

- (A) EX ASPHALT PAVEMENT (±6")
- (B) EX AGGREGATE BASE (±10")
- (C) EX GUARDRAIL TO REMAIN

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**ITEM 614, MAINTAINING TRAFFIC**

A MINIMUM OF 1 LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT, THE COMPLETED PAVEMENT, ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, ITEM 615 ROADS FOR MAINTAINING TRAFFIC, AND TEMPORARY SURFACES USING ITEMS 410 AND 614.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DETERMINED BY THE ENGINEER FOR THE MAINTENANCE OF DRIVEWAY ACCESS DURING CONSTRUCTION.

ITEM 410, TRAFFIC COMPACTED SURFACE,  
TYPE A OR B 100 CU. YD.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH C&MS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC SHALL ALSO INCLUDE LABOR, EQUIPMENT AND MATERIALS REQUIRED TO MEET THE REQUIREMENTS DETAILED IN THE ENVIRONMENTAL COMMITMENT NOTES SHOWN WITHIN THE PLANS. THESE INCLUDE, BUT ARE NOT LIMITED TO, INSTALLATION OF TEMPORARY CONSTRUCTION FENCING, WATERWAY SIGNAGE, BOUYS, MARKERS, AND UNDER DECK APRONS.

**PART-WIDTH CONSTRUCTION**

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND TO CONSTRUCT THE FULL PAVEMENT WIDTH IN STAGES, EXERCISE CARE TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LAP LONGITUDINAL JOINTS AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1.

**PLACEMENT OF ASPHALT CONCRETE**

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT THAT ONE-WAY TRAFFIC WILL BE PERMITTED FOR MINIMUM PERIODS OF TIME CONSISTENT WITH THE REQUIREMENTS OF THE SPECIFICATIONS FOR PROTECTION OF COMPLETED ASPHALT CONCRETE COURSES.

**TRENCH FOR WIDENING**

TRENCH EXCAVATION FOR BASE WIDENING SHALL BE ONLY ON ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS. THE LENGTH OF WIDENING TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

**OVERNIGHT TRENCH CLOSING**

THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 12 INCHES BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT EXCEPT FOR A SHORT LENGTH (25 FEET OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED BASE WIDENING SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

**DUST CONTROL**

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616, WATER 15 M. GAL.

**ITEM 614, WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (BIDIRECTIONAL)**

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NONGATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING'S APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS, FROM THE ROADWAY STANDARDS APPROVED PRODUCTS WEB PAGE.

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

WHEN GATING IMPACT ATTENUATORS ARE DESIRED, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR ACCEPTANCE.

THE COST FOR THE ADDITIONAL BARRIER REQUIRED FOR A GATING IMPACT ATTENUATOR SHALL BE INCLUDED IN THE COST OF THE GATING IMPACT ATTENUATOR.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

**MAINTENANCE OF CANOE TRAFFIC**

CANOE TRAFFIC SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION OF THE PROJECT EITHER THROUGH EXISTING RIVER CHANNEL OR THROUGH PORTAGE TRAIL APPROVED BY THE ENGINEER.

ADEQUATE SIGNING UPSTREAM SHALL BE INSTALLED AND MAINTAINED BY THE CONTRACTOR. THE FOLLOWING TYPE SIGNS ARE CONSIDERED TO BE MINIMUM TREATMENT:

1. APPROXIMATELY ONE-QUARTER MILE UPSTREAM, ADVANCED WARNING TYPE SIGNS ON BOTH BANKS;
2. APPROXIMATELY 300 FEET UPSTREAM, SIGNS SPECIFYING ACTIONS REQUIRED OF CANOEIST ON BOTH BANKS;
3. APPROXIMATELY ONE-QUARTER MILE DOWNSTREAM, ADVANCE WARNING TYPE SIGNS ON BOTH BANKS; AND
4. APPROXIMATELY 300 FEET DOWNSTREAM, SIGNS SPECIFYING ACTIONS REQUIRED OF CANOEIST OF BOTH BANKS.

THE ABOVE SIGNING SHALL BE MOUNTED IN SUCH A WAY AS TO BE A MINIMUM OF 4 FEET ABOVE THE WATER LEVEL, UNOBSTRUCTED BY TREE BRANCHES, AND PROPERLY ANGLED FOR MAXIMUM VISIBILITY FROM THE MAIN CLEAR CHANNEL. THE METHOD OF SUPPORTING THE SIGNS SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. UPON COMPLETION OF THE PROJECT, THE SIGNS AND SUPPORT SYSTEMS SHALL BE COMPLETELY REMOVED FROM THE RIVER CHANNEL. THE CONTRACTOR SHALL NOTIFY LOCAL CANOE LIVERIES USING THIS PORTION OF THE RIVER AT LEAST 10 DAYS PRIOR TO ANY CHANGES AFFECTING CANOE TRAFFIC.

PORTAGE TRAILS IF USED SHALL BE CONSTRUCTED AND MAINTAINED BY THE CONTRACTOR WITH THE LEAST POSSIBLE DISTURBANCE TO THE SURROUNDING AREA. THE TRAIL SHALL BE ADEQUATELY MARKED IN BOTH DIRECTIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE RIGHT-OF-WAY FOR THE PORTAGE TRAILS IF REQUIRED.

IN THE EVENT PIPES ARE USED TO DIVERT OR CARRY RIVER WATER, BOTH THE INLET AND OUTLET ENDS SHALL BE ADEQUATELY PROTECTED BY GRATES OR FENCE SO THAT PEOPLE OR CANOES ARE NOT DRAWN THROUGH OR HELD BY THEM.

**DELINEATION OF PORTABLE AND PERMANENT BARRIER**

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) USED FOR TRAFFIC CONTROL; AND, ON PERMANENT CONCRETE BARRIER (INCLUDING BRIDGE PARAPETS) LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE.

BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THE SPACING SHALL BE AS PER TRAFFIC SCD MT-101.70. OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614.03 AND SCD MT-101.70. WHEN THE PB CONTAINS GLARE SCREEN, ONE SET OF THREE VERTICAL STRIPES OF SHEETING SHALL BE CONSIDERED EQUIVALENT TO AN OBJECT MARKER, ONE-WAY.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE PLANS AND CARRIED TO THE GENERAL SUMMARY:

ITEM 614, BARRIER REFLECTOR, TYPE 1 (ONE-WAY)	18 EACH
ITEM 614, OBJECT MARKER, ONE-WAY	18 EACH

PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIAL, LABOR, INCIDENTALS AND EQUIPMENT NECESSARY FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING EACH OF THE ABOVE ITEMS.

**EXISTING RUMBLE STRIPS**

THE AREA OF THE EXISTING RUMBLE STRIPS SHALL BE MILLED AT LEAST 2 INCHES; THE MILLED SURFACE AND THE SIDES SHALL BE COVERED WITH ODOT APPROVED AC LIQUID AND THEN FILLED WITH ASPHALT. ITEM 441 ASPHALT CONCRETE SURFACE COURSE TYPE 1, (448), PG64-22 SHALL BE USED TO FILL THE RUMBLE STRIPS. PAYMENT FOR ALL WORK ASSOCIATED WITH MILLING, AC LIQUID, TRAFFIC CONTROL, AND FILLING OF THE RUMBLE STRIPS SHALL BE CONSIDERED INCIDENTAL TO AND INCLUDED IN THE LUMP SUM PRICE FOR ITEM 614 - MAINTAINING TRAFFIC, AS PER PLAN.

**LOCAL ACCESS**

INGRESS AND EGRESS SHALL BE MAINTAINED TO ALL RESIDENTIAL AND COMMERCIAL PROPERTIES. DRIVEWAY CLOSURE MAY BE NECESSARY TO ENABLE WORK ON OR IN FRONT OF A DRIVE. THE CONTRACTOR WILL BE RESPONSIBLE FOR NOTIFYING OWNERS, RESIDENTS, OR BUSINESS OPERATORS IN WRITING AT LEAST 48 HOURS BUT NOT MORE THAN 72 HOURS PRIOR TO CLOSURE. THE ENGINEER SHALL BE GIVEN A LIST OF THE PERSONS THAT WERE GIVEN NOTICES WITH THE DATE OF NOTICE INCLUDED. CLOSURE IS PERMITTED ONLY DURING WORK HOURS AND ACCESS MUST BE RETURNED AT THE END OF EACH WORKING DAY. PROPERTIES WITH MULTIPLE DRIVES MAY HAVE ONE DRIVE CLOSED AT A TIME, WHILE WORK IS PERFORMED IN THE AREA OF THE CLOSED DRIVE. ON COMMERCIAL DRIVEWAYS, THE CONTRACTOR SHALL MAKE EVERY EFFORT TO MAINTAIN A MINIMUM 10' WIDE ACCESSIBLE PATH THROUGH THE DRIVE AREA AT ALL TIMES OF CONSTRUCTION.

INDIVIDUAL DRIVE CLOSURES SHALL BE KEPT TO THE MINIMUM TIME NEEDED FOR CONSTRUCTION ACTIVITIES. EVERY EFFORT MUST BE MADE TO ACCOMMODATE THE OWNER'S NEED FOR ACCESS.

**ITEM 614 - BUSINESS ENTRANCE (M4-H15) SIGN, AS PER PLAN**

THE BUSINESS ENTRANCE (M4-H15) SIGN SHOULD BE PROVIDED AT EACH TEMPORARILY RELOCATED COMMERCIAL DRIVEWAY FOR WHICH THE RELOCATION IS NOT OBVIOUS TO THE MOTORIST. THE PROJECT ENGINEER SHALL DETERMINE WHETHER OR NOT THE DRIVEWAY RELOCATION IS, OR IS NOT, OBVIOUS AND WHETHER OR NOT A SIGN SHOULD BE PROVIDED. ONLY ONE SIGN PER BUSINESS SHALL BE PERMITTED. THE SIGN SHALL BE 36 INCH X 48 INCH IN SIZE WITH TYPE G OR TYPE H ORANGE RETROREFLECTIVE SHEETING. THE SIGN LEGEND SHALL BE PLACED ON BOTH SIDES OF THE SIGN (BACK TO BACK). THE SIGN SHALL HAVE THE STANDARD M4-H15 LEGEND WITH THE WORD "BUSINESS" ON THE TOP LINE, EXCEPT UNDER UNUSUAL CIRCUMSTANCES WHERE IT MAY NOT BE INTUITIVE THAT A DRIVEWAY SERVES A SPECIFIC BUSINESS. IN SUCH UNUSUAL CASES, THE ACTUAL BUSINESS NAME MAY BE SUBSTITUTED FOR THE WORD "BUSINESS".

THE SIGN SHALL BE MOUNTED ON TWO NO. 3 POSTS OR ON TEMPORARY POSTS IN ACCORDANCE WITH SCD MT-105.10 AND IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION. THE SIGN SHALL BE CLEARLY VISIBLE AND SHALL CLEARLY IDENTIFY THE LOCATION OF THE DRIVEWAY. THE SIGN SHOULD BE POSITIONED AT 90 DEGREES TO THE DIRECTION(S) OF TRAFFIC. THE SIGN MAY NEED TO BE MOVED FOR EACH PHASE OF THE MAINTENANCE OF TRAFFIC OPERATIONS.

PAYMENT FOR ALL COSTS ASSOCIATED WITH MANUFACTURING, MOUNTING, RELOCATING, AND REMOVING THE SIGN, INCLUDING ALL LABOR, MATERIALS AND EQUIPMENT SHALL BE INCLUDED IN THE CONTRACT PRICE PER EACH FOR ITEM 614-BUSINESS ENTRANCE SIGN.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS ITEM.

ITEM 614, BUSINESS ENTRANCE SIGN, AS PER PLAN 1 EACH



REVISED: 2020-11-06

STAMPSTAMPS  
USER  
DATES  
FILES

SHEET NUM.													PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
									20	21	42	01/NHS/BR	EXT	TOTAL					
<b>TRAFFIC CONTROL</b>																			
										0.35		0.35	618	43000	0.35	MILE	RUMBLE STRIPES, CENTER LINE (ASPHALT CONCRETE)		
										35		35	621	00100	35	EACH	RPM		
										17		17	621	54000	17	EACH	RAISED PAVEMENT MARKER REMOVED		
									127			127	630	03100	127	FT	GROUND MOUNTED SUPPORT, NO. 3 POST		
									30			30	630	80100	30	SF	SIGN, FLAT SHEET		
									8			8	630	84900	8	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL		
									10			10	630	86002	10	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL		
									2			2	630	87500	2	EACH	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL		
										0.41		0.41	644	00104	0.41	MILE	EDGE LINE, 6"		
										0.38		0.38	644	00300	0.38	MILE	CENTER LINE		
										50		50	644	00400	50	FT	CHANNELIZING LINE, 8"		
										281		281	644	00700	281	FT	TRANSVERSE/DIAGONAL LINE		
										1		1	644	01300	1	EACH	LANE ARROW		
										0.08		0.08	646	10010	0.08	MILE	EDGE LINE, 6"		
										0.08		0.08	646	10200	0.08	MILE	CENTER LINE		
										68		68	646	10600	68	FT	TRANSVERSE/DIAGONAL LINE		
<b>STRUCTURE OVER 20 FOOT SPAN (GEA-422-12.26)</b>																			
											LS	LS	202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	40, 47	
											133	133	202	22900	133	SY	APPROACH SLAB REMOVED		
											LS	LS	503	11101	LS		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	40	
											LS	LS	503	21300	LS		UNCLASSIFIED EXCAVATION		
											LS	LS	505	11100	LS		PILE DRIVING EQUIPMENT MOBILIZATION		
											1,080	1,080	507	00500	1,080	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN		
											1,170	1,170	507	00551	1,170	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED, AS PER PLAN	40	
											510	510	507	00700	510	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN		
											540	540	507	00751	540	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED, AS PER PLAN	40	
											121,067	121,067	509	10000	121,067	LB	EPOXY COATED REINFORCING STEEL		
											172	172	510	10001	172	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN	40	
											2	2	511	33500	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE		
											347	347	511	34446	347	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK		
											66	66	511	34450	66	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)		
											8	8	511	42510	8	CY	CLASS QC1 CONCRETE, PIER CAP		
											92	92	511	43510	92	CY	CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING		
											791	791	512	10100	791	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)		
											9	9	512	33000	9	SY	TYPE 2 WATERPROOFING		
											240,457	240,457	513	10260	240,457	LB	STRUCTURAL STEEL MEMBERS, LEVEL 3		
											5,784	5,784	513	20000	5,784	EACH	WELDED STUD SHEAR CONNECTORS		
											14,531	14,531	514	00060	14,531	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT		
											14,531	14,531	514	00066	14,531	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT		
											17	17	516	13600	17	SF	1" PREFORMED EXPANSION JOINT FILLER		
											44	44	516	13900	44	SF	2" PREFORMED EXPANSION JOINT FILLER		
											137	137	516	14020	137	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL		
											16	16	516	44201	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (13" x 11 1/2" x 3 1/4")	67	
											16	16	516	44201	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (14" x 16" x 3 7/8")	68	
											4	4	518	12301	4	EACH	SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN	40	
											78	78	518	21200	78	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC		
											172	172	518	40000	172	FT	6" PERFORATED CORRUGATED PLASTIC PIPE		
											60	60	518	40010	60	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS		
											2	2	523	20000	2	EACH	DYNAMIC LOAD TESTING		
											335	335	526	25000	335	SY	REINFORCED CONCRETE APPROACH SLABS (T=15")		
											125	125	526	90010	125	FT	TYPE A INSTALLATION		
											278	278	601	32204	278	CY	ROCK CHANNEL PROTECTION, TYPE C WITH GEOTEXTILE FABRIC		
											56	56	846	00110	56	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM		

CALCULATED  
ARM  
CHECKED  
MTL

**GENERAL SUMMARY**

**GEA - 422 - 12.26**

14  
77

REVISED: 2020-11-12

USER STAMPS  
DATES  
FILES

SHEET NUM.

PART.

ITEM

ITEM

GRAND

UNIT

DESCRIPTION

SEE SHEET NO.

CALCULATED  
ARM  
CHECKED  
MTL

OFFICE

7

16

01/NHS/  
BR

EXT

TOTAL

MAINTENANCE OF TRAFFIC

100		100	410	12000	100	CY
	4	4	614	12384	4	EACH
18		18	614	13310	18	EACH
18		18	614	13350	18	EACH
	0.42	0.42	614	21000	0.42	MILE
	0.84	0.84	614	22010	0.84	MILE
1		1	614	40051	1	EACH
LS		LS	615	10000	LS	ROADS FOR MAINTAINING TRAFFIC
	151	151	615	20000	151	SY
15		15	616	10000	15	MGAL
	450	450	622	41100	450	FT
	460	460	622	4110	460	FT

TRAFFIC COMPACTED SURFACE, TYPE A OR B	
WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (BIDIRECTIONAL)	
BARRIER REFLECTOR, TYPE 1, (ONE WAY)	
OBJECT MARKER, ONE WAY	
WORK ZONE CENTER LINE, CLASS I	
WORK ZONE EDGE LINE, CLASS I, 6"	
BUSINESS ENTRANCE SIGN, AS PER PLAN	
ROADS FOR MAINTAINING TRAFFIC	
PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	
WATER	
PORTABLE BARRIER, UNANCHORED	
PORTABLE BARRIER, ANCHORED	

7

INCIDENTALS

LS		LS	614	11000	LS
15		15	619	16011	15
LS		LS	623	10000	LS
LS		LS	624	10000	LS

MAINTAINING TRAFFIC	
FIELD OFFICE, TYPE B, AS PER PLAN	
CONSTRUCTION LAYOUT STAKES AND SURVEYING	
MOBILIZATION	

8

GENERAL SUMMARY

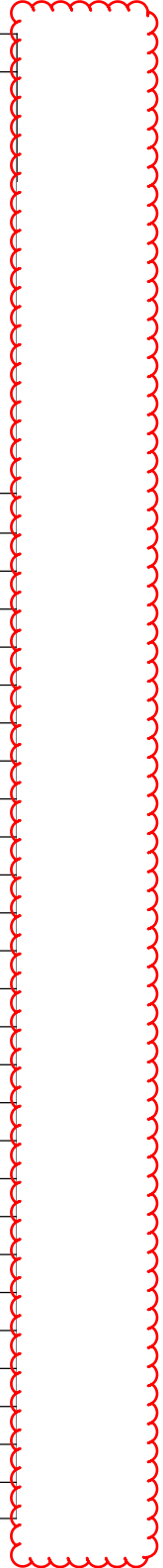
GEA - 422 - 12.26

15  
77

SHEET NO.	REF. NO.	STATION	SIDE	DRIVE TYPE	PAVEMENT TYPE	CADD GENERATED PAVEMENT REMOVED AREA		EXCAVATION	EMBANKMENT	SUBGRADE COMPACTION (DRIVEWAYS)	8" AGGREGATE BASE	1.75" AC INTERMEDIATE COURSE, TYPE 1, (448)	NON-TRACKING TACK COAT	1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22
						SQ FT	SQ FT							
24	DR-1	639+59.00	LT	COMM.	ASPH	1357.60								
24	DR-2	640+10.00	RT	COMM.	ASPH	1170.30	2641.40	100	200	293	65	14	22	10
25	DR-3	641+47.07	LT	COMM.	ASPH	1621.80	1222.00	50	100	136	30	7	10	5
25	DR-4	643+12.35	LT	COMM.	ASPH	1181.00	1045.50	50	100	116	26	6	9	4
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>								<b>200</b>	<b>400</b>	<b>545</b>	<b>121</b>	<b>27</b>	<b>41</b>	<b>19</b>

SHEET NO.	REFERENCE NO.	ALIGNMENT	STATION		614		615	622	622	
			FROM	TO	WORK ZONE EDGE LINE, CLASS 1, 6"	WORK ZONE CENTER LINE, CLASS 1	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (BIDIRECTIONAL)	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	PORTABLE BARRIER, UNANCHORED	PORTABLE BARRIER, ANCHORED
					MILE	MILE	SY	FT	FT	
<b>US 422 PHASE 1</b>										
9-10	EL-1	US 422	633+73	642+83	0.17					
9-10	EL-2	US 422	633+73	642+83	0.17					
9-10	CL-1	US 422	633+73	642+83		0.17				
9	IA-1	US 422	635+85	636+13			1			
9	IA-2	US 422	640+72	640+99			1			
9	TP-1	US 422	634+83	637+55				72		
9-10	TP-2	US 422	639+30	642+06				79		
9	PB-1	US 422	636+13	640+72					230	
<b>US 422 PHASE 2</b>										
11-12	EL-3	US 422	631+73	644+83	0.25					
11-12	EL-4	US 422	631+73	644+83	0.25					
11-12	CL-2	US 422	631+73	644+83		0.25				
11	IA-3	US 422	635+89	636+16			1			
11	IA-4	US 422	640+64	640+91			1			
11	PB-2	US 422	636+16	640+64					220	
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>					<b>0.84</b>	<b>0.42</b>	<b>4</b>	<b>151</b>	<b>450</b>	<b>460</b>

STATION TO STATION	SIDE	MATERIAL	CAD MEASURED AREAS	204	204	204	204	204	254	301	304	407	441	441	441	609
				SQ FT	SQ YD	HR	CU YD	CU YD	SQ YD	SQ YD	CU YD	CU YD	GAL	CU YD	CU YD	
<b>US 422 - PAVEMENT PLANING</b>																
STA 631+73.00 TO STA 636+00.00	LT/RT	ASPHALT	12518.00						1391			250	58			
STA 636+00.00 TO STA 636+80.00	LT/RT	ASPHALT	2401.00						267			48	11		7	
STA 640+00.00 TO STA 644+83.00	LT/RT	ASPHALT	13842.40						1538			277	64			
<b>US 422 - APPROACH SLAB</b>																
STA 637+28.17 TO STA 637+53.17	LT/RT	CONC	1508.25													36
STEP (LEVEL 2)	LT/RT	CONC	1533.25	170	0.5						28					
STA 639+26.83 TO STA 639+51.83	LT/RT	CONC	1508.25													50
STEP (LEVEL 2)	LT/RT	CONC	1533.25	170	0.5						28					
<b>US 422 - FULL DEPTH</b>																
STA 631+73.00 TO STA 637+28.17	LT/RT	ASPHALT	11798.00									157	55	64		
STEP (LEVEL 3)	LT/RT	ASPHALT	12150.90							225						
STEP (LEVEL 4)	LT/RT	ASPHALT	12685.50								235					
STEP (SUBGRADE)	LT/RT	ASPHALT	13444.30	1494	0.5	297	297	1150								
STA 639+51.83 TO STA 644+83.00	LT/RT	ASPHALT	11821.90									158	55	64		
STEP (LEVEL 3)	LT/RT	ASPHALT	12156.60							225						
STEP (LEVEL 4)	LT/RT	ASPHALT	12663.60								235					
STEP (SUBGRADE)	LT/RT	ASPHALT	13403.60	1489	0.5	296	296	1150								
<b>SUBTOTAL</b>				3324	2	593	593	2300	3196	450	526	890	243	128	7	86
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>				<b>3324</b>	<b>2</b>	<b>593</b>	<b>593</b>	<b>2300</b>	<b>3196</b>	<b>450</b>	<b>526</b>	<b>890</b>	<b>243</b>	<b>135</b>		<b>86</b>





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ESTIMATED QUANTITIES					CALCULATED BY: AMI CHECKED BY: SJF			DATE: 4/26/2019 DATE: 4/26/2019	
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTS.	PIERS	SUPER STR.	GENERAL	SEE SHT. NO.
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	2,9/35
202	22900	133	SY	APPROACH SLAB REMOVED				133	
503	11101	LUMP		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN				LUMP	2/35
503	21300	LUMP		UNCLASSIFIED EXCAVATION				LUMP	
505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP	
507	00500	1080	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN	1080				
507	00551	1170	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED, AS PER PLAN	1170				2/35
507	00700	510	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, DRIVEN		510			
507	00751	540	FT	16" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED, AS PER PLAN		540			19/35
509	10000	121067	LB	EPOXY COATED REINFORCING STEEL	7863	1220	111984		
510	10001	172	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN	172				2/35
511	33500	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE	2				
511	34446	347	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK			347		
511	34450	66	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)			66		
511	42510	8	CY	CLASS QC1 CONCRETE, PIER CAP		8			
511	43510	92	CY	CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING	92				
512	10100	791	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	42	63	686		
512	33000	9	SY	TYPE 2 WATERPROOFING	9				
513	10260	240457	LB	STRUCTURAL STEEL MEMBERS, LEVEL 3			240457		
513	20000	5784	EACH	WELDED STUD SHEAR CONNECTORS			5784		
514	00060	14531	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			14531		
514	00066	14531	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			14531		
516	13600	17	SF	1" PREFORMED EXPANSION JOINT FILLER				17	
516	13900	44	SF	2" PREFORMED EXPANSION JOINT FILLER	44				
516	14020	137	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	137				
516	44201	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (13" x 11 1/2" x 3 1/4")	16				29/35
516	44201	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (14" x 16" x 3 7/8")	16				30/35
518	12301	4	EACH	SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN				4	2/35
518	21200	78	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	78				
518	40000	172	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	172				
518	40010	60	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	60				
523	20000	2	EACH	DYNAMIC LOAD TESTING	1	1			
526	25000	335	SY	REINFORCED CONCRETE APPROACH SLABS (T=15")				335	
526	90010	125	FT	TYPE A INSTALLATION				125	
601	32204	278	CY	ROCK CHANNEL PROTECTION, TYPE C WITH GEOTEXTILE FABRIC	278				
846	00110	56	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM				56	

QUANTITIES CARRIED TO THE GENERAL SUMMARY

**ESTIMATED QUANTITIES**  
 BRIDGE NO. GEA-422-1226  
 OVER CUYAHOGA RIVER

**GEA - 422 - 12.26**  
 PID No. 102434

4 / 35

42  
77

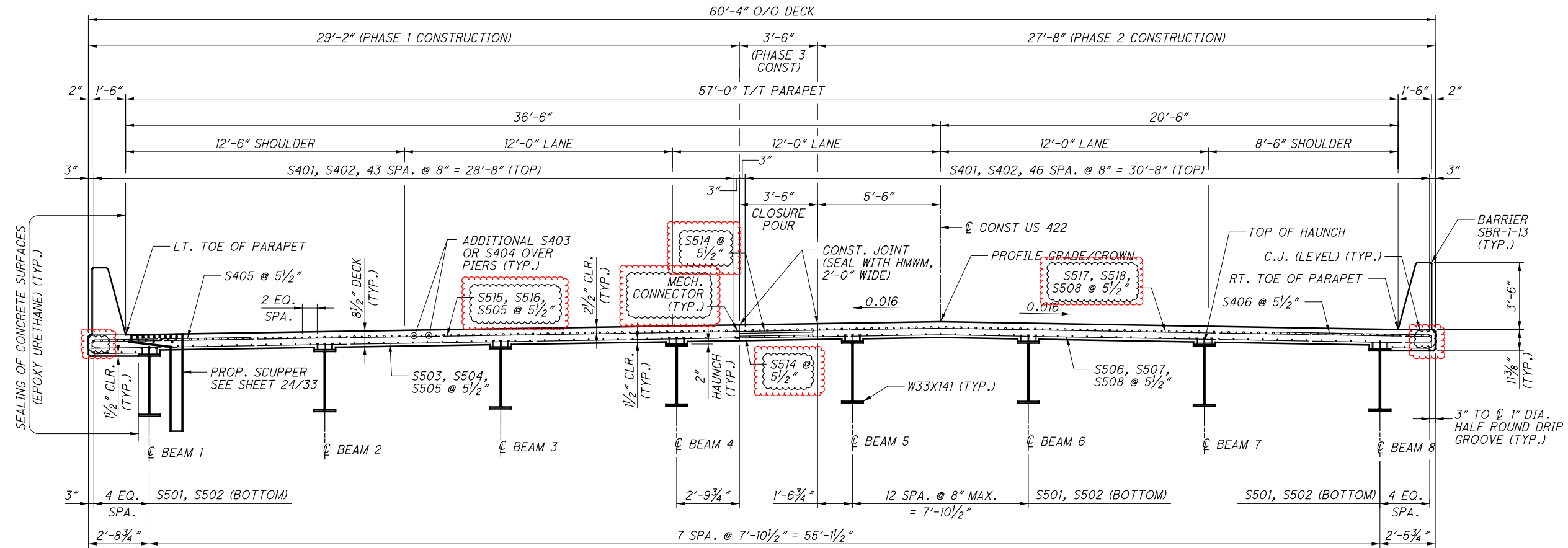
DESIGN AGENCY  
**STRUCTUREPOINT**  
 2000 CORPORATE PARKWAY, SUITE 200  
 WESTLAND, MI 48090  
 TEL: (313) 237-2200 FAX: (313) 237-2202  
 WWW.STRUCTUREPOINT.COM

DESIGNED: AMI  
 CHECKED: SJF

DRAWN: TLH  
 REVISED:

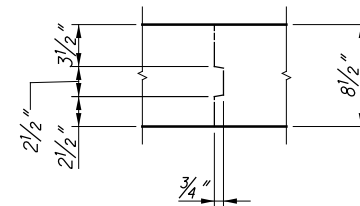
REVIEWED: CLB  
 DATE: 2/10/19  
 STRUCTURE FILE NUMBER: 2801779

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**TRANSVERSE SECTION**

MINIMUM BAR LAP	
#4	2'-0"
#5	3'-3"



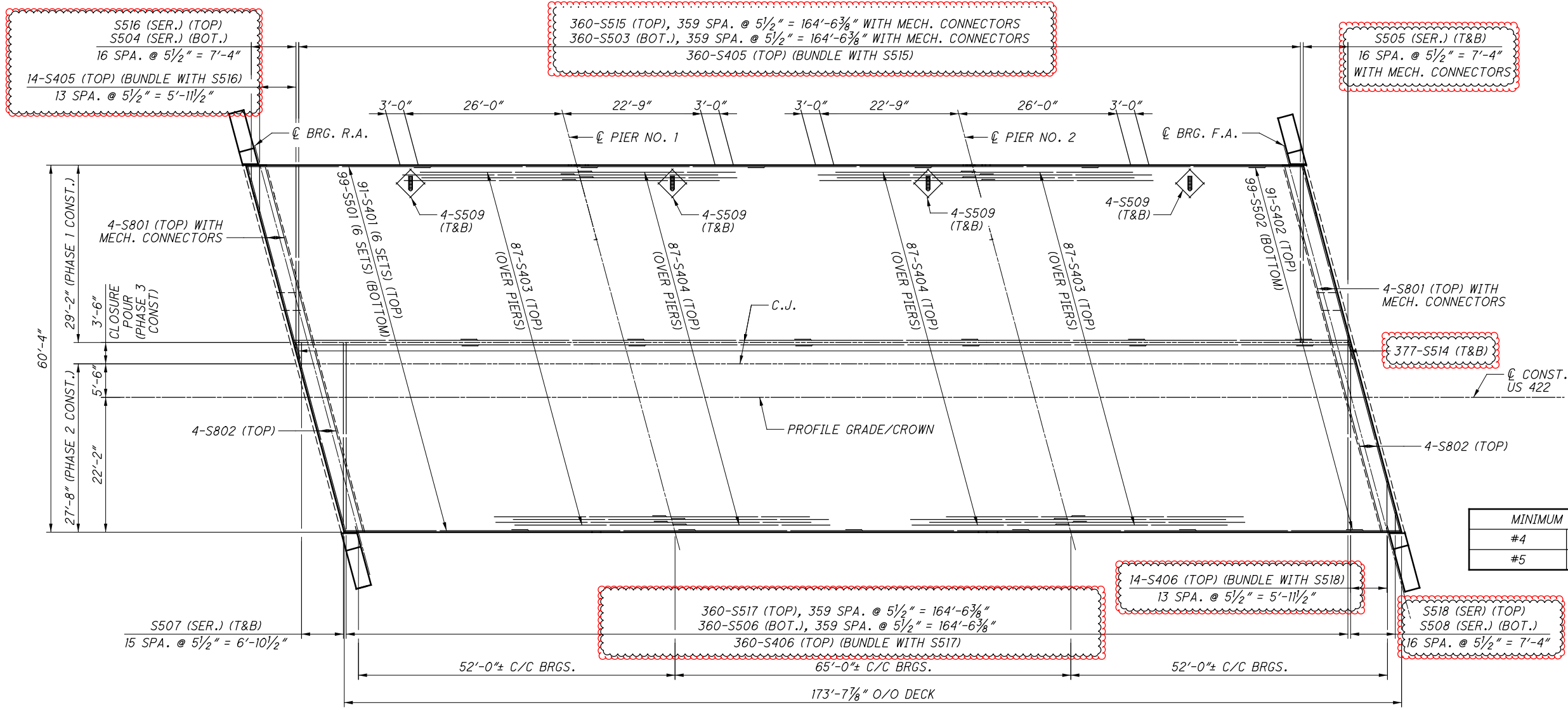
**CONSTRUCTION JOINT KEYWAY DETAIL**

REFER TO CMS 511.12 FOR  
ADDITIONAL INFORMATION

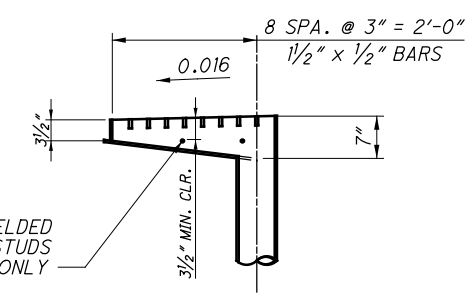
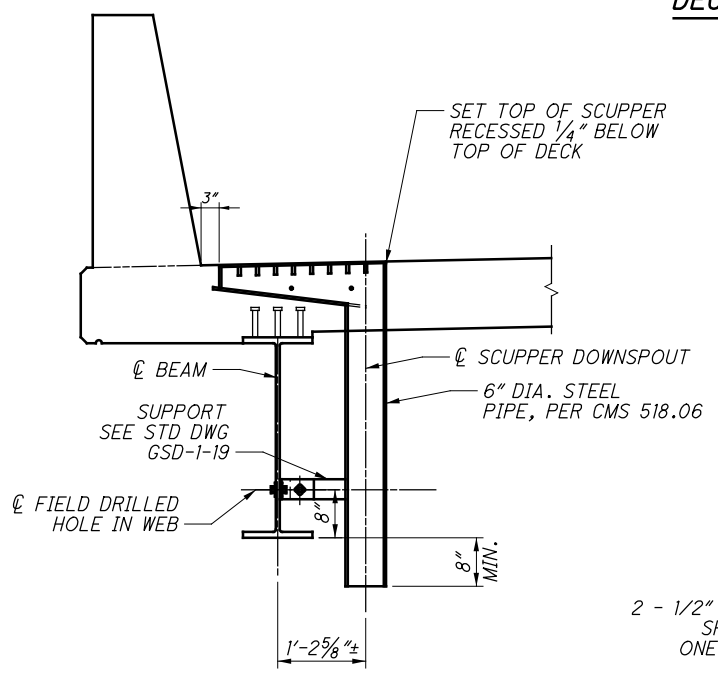
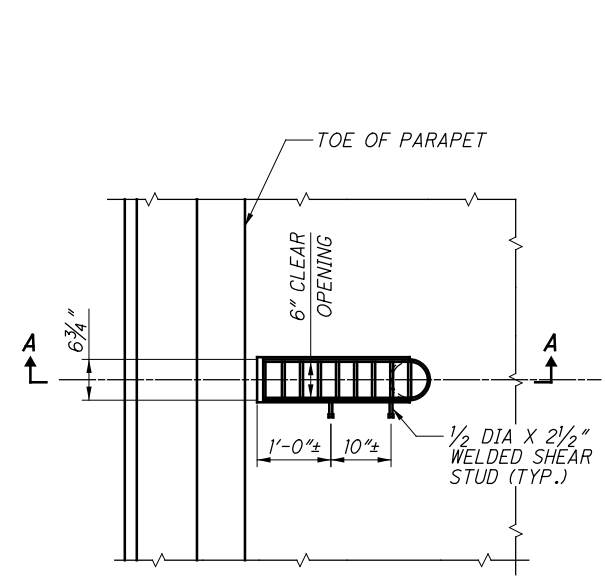
**NOTES:**

- THE ESTIMATED QUANTITY OF DECK SLAB CONCRETE IS BASED ON THE CONSTANT DECK SLAB THICKNESS, AS SHOWN, PLUS THE QUANTITY OF CONCRETE THAT FORMS EACH BEAM HAUNCH. THE ESTIMATE ASSUMES A CONSTANT HAUNCH THICKNESS OF THREE INCHES AND A HAUNCH WIDTH EQUAL TO THE TOP FLANGE WIDTH. DEVIATE FROM THIS HAUNCH THICKNESS AS NECESSARY TO PLACE THE DECK SURFACE AT THE FINISHED GRADE.  
  
THE HAUNCH THICKNESS WAS MEASURED AT THE CENTERLINE OF THE BEAM, FROM THE SURFACE OF THE DECK TO THE BOTTOM OF THE TOP FLANGE MINUS THE DECK SLAB THICKNESS. THE AREA OF ALL EMBEDDED STEEL PLATES HAS BEEN DEDUCTED FROM THE HAUNCH QUANTITY IN ACCORDANCE WITH 511.23.
- FOR PARAPET REINFORCING, SEE SHEET 31/35.
- FOR INTERMEDIATE DIAPHRAGM DETAILS, SEE STANDARD DRAWING GSD-1-19 AND SHEET 22/35.

	DESIGN AGENCY <b>STRUCTUREPOINT</b> <small>2000 CORPORATION PARKWAY SUITE 100          FORT WORTH, TEXAS 76104          TEL: 817-335-2200 FAX: 817-335-2201          WWW.STRUCTUREPOINT.COM</small>
DRAWN TMT CHECKED SUF	REVIEWED CLB DATE 2/10/19 STRUCTURE FILE NUMBER 2801779
<b>TRANSVERSE SECTION</b> BRIDGE NO. GEA-422-1226 OVER CUYAHOGA RIVER	
<b>GEA - 422 - 12.26</b> PID No. 102434	
23 / 35	
<div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 auto;"> <span style="margin-right: 5px;">61</span> <span>77</span> </div>	



MINIMUM BAR LAP	
#4	2'-1"
#5	3'-3"



- NOTES:**
1. FABRICATE SCUPPERS FROM MIN. 3/8" THICK STEEL PLATE; ASTM A36 OR EQUAL.
  2. ALL SCUPPER COMPONENTS (ANGLES, BARS, SCUPPERS, ETC.) SHALL BE GALVANIZED.
  3. FOR TRANSVERSE SECTION, SEE SHEET 23/35.
  4. FOR PARAPET DETAILS, SEE SHEET 31/35.
  5. FOR END DIAPHRAGM DETAILS, SEE SHEETS 25/35 TO 26/35.
  6. FOR ADDITIONAL SCUPPER DETAILS AND NOTES, SEE STANDARD DRAWING GSD-1-19.
  7. DECK POUR SEQUENCE: CONTINUOUSLY POUR FROM ONE END TO OTHER IN EACH PHASE OF CONSTRUCTION.

**SCUPPER DETAILS**  
(4 REQUIRED)

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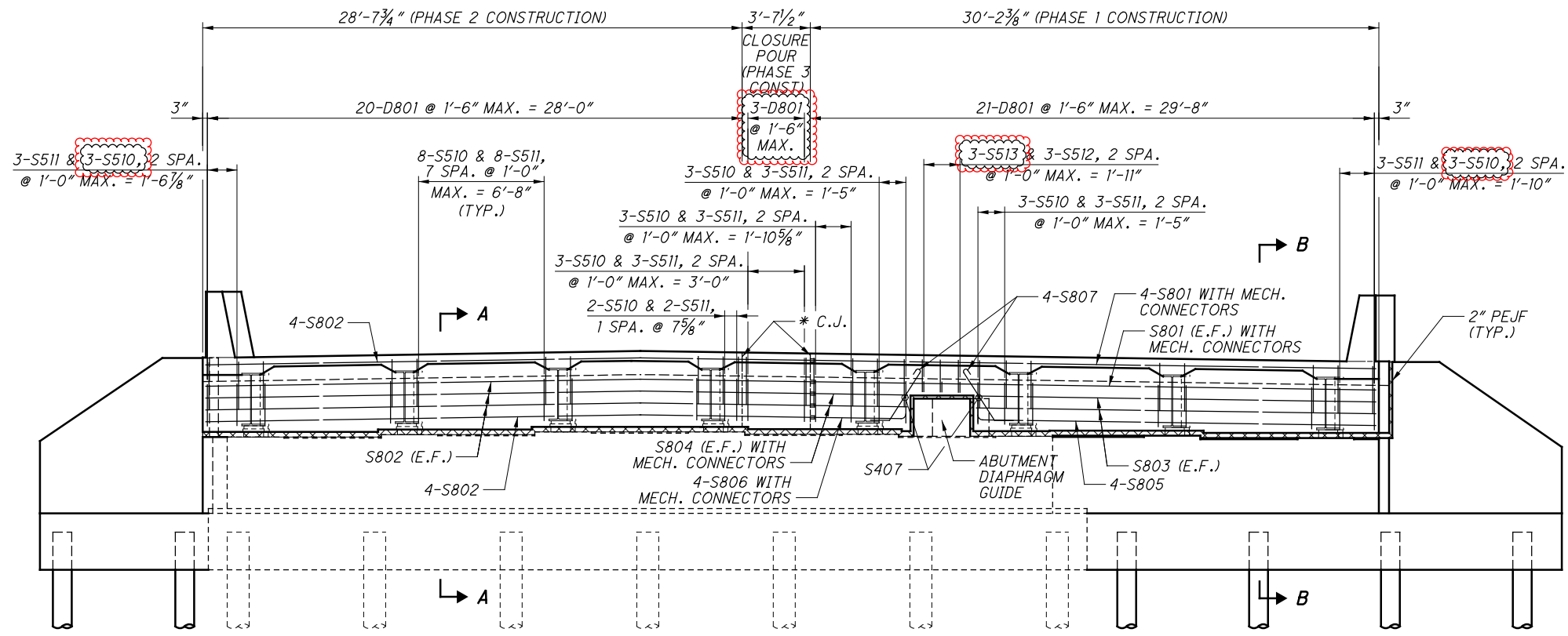
**DESIGN AGENCY**  
**STRUCTUREPOINT**  
 2000 CORPORATE PARKWAY, SUITE 100  
 FORT WORTH, TEXAS 76104  
 TEL: 817-339-2200 FAX: 817-339-2201  
 WWW.STRUCTUREPOINT.COM

**DATE** 2/10/19  
**REVIEWED** CLB  
**DESIGNED** AMI  
**DRAWN** TLH  
**CHECKED** JMM  
**STRUCTURE FILE NUMBER** 2801779

**DECK PLAN**  
 BRIDGE NO. GEA-422-1226  
 OVER CUYAHOGA RIVER

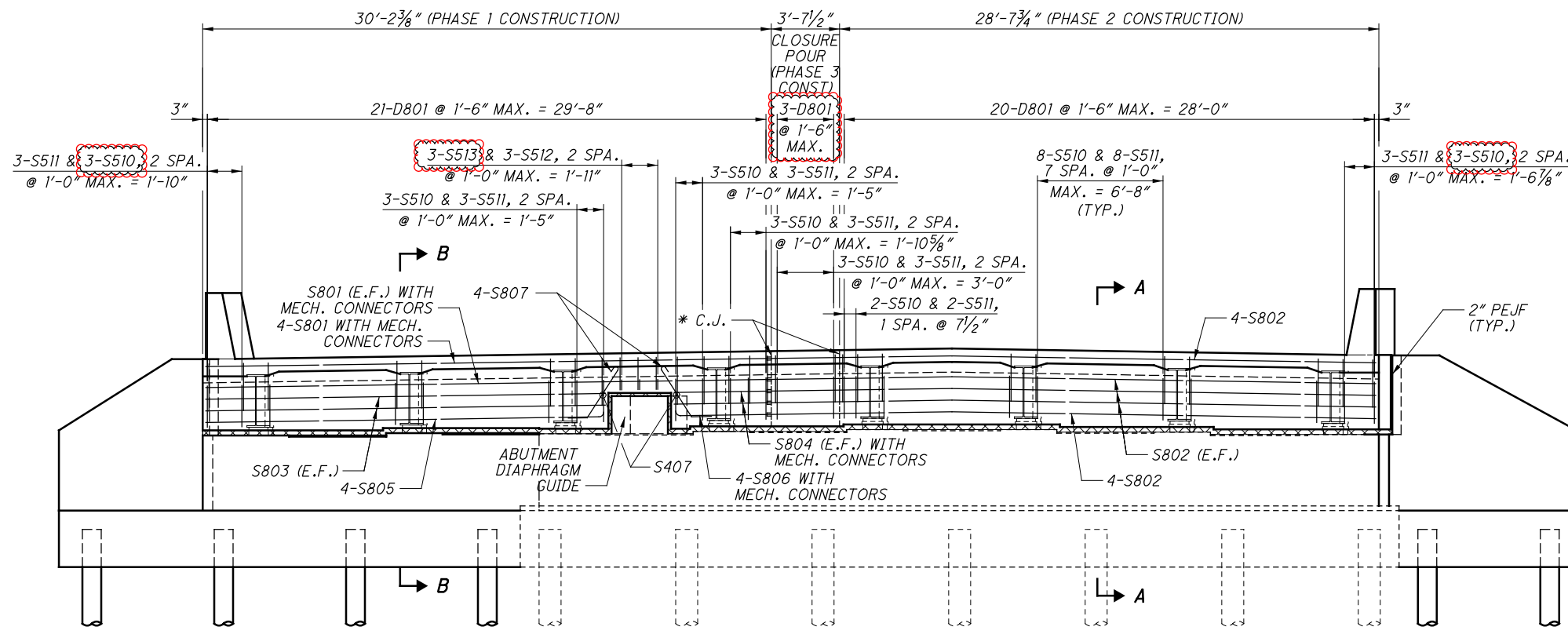
**GEA-422-12.26**  
**PID No. 102434**

24 / 35  
 62 / 77



END DIAPHRAGM ELEVATION  
REAR ABUTMENT

\* 3'-0" WIDE TYPE 2 WATERPROOFING ON BACKFACE CENTERED ON JOINT FROM TOP OF SEAT TO BOTTOM OF APPROACH SLEA



END DIAPHRAGM ELEVATION  
FORWARD ABUTMENT

NOTES:

1. PLACE THE DIAPHRAGM CONCRETE ENCASING THE STRUCTURAL MEMBER ENDS OF AN INDIVIDUAL PHASE WITH THE DECK CONCRETE OR AT LEAST 48 HOURS BEFORE PLACEMENT OF THE DECK CONCRETE. IF PLACED SEPARATELY, LOCATE A HORIZONTAL CONSTRUCTION JOINT IN THE DIAPHRAGM AS SHOWN ON PSID-1-13, SHEET 7 OF 10 FOR PRESTRESSED I-BEAM SUPERSTRUCTURES OR AS SHOWN ON SICD-1-96 FOR STEEL SUPERSTRUCTURES AND PLACE REMAINING DIAPHRAGM CONCRETE WITH THE DECK. PLACE CLOSURE POUR CONCRETE IN THE DIAPHRAGM AND DECK CONCURRENTLY.
2. FOR SECTIONS A-A AND B-B, SEE SHEET 26/35.
3. FOR ABUTMENT DIAPHRAGM GUIDE DETAILS, SEE SHEETS 15/35 AND 18/35.
4. SEE STANDARD DRAWING SICD-1-96 FOR ADDITIONAL DETAILS.

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MARK	NUMBER TOTAL	LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
<b>SUPERSTRUCTURE</b>											
S401	546	30'-0"	10942	STR							
S402	91	5'-10"	355	STR							
S403	174	28'-1"	3264	STR							
S404	174	25'-9"	2993	STR							
S405	374	9'-5"	2353	2	7'-1"	0'-7 1/4"	1'-11"				
S406	374	9'-2"	2290	2	7'-1"	0'-7 1/4"	1'-8"				
S407	4	3'-6"	9	STR							
S501	594	30'-0"	18586	STR							
S502	99	8'-7"	886	STR							
① S503	360	29'-0"	10889	STR							
	1 SR	2'-5"									
S504	OF	TO	286	STR						1'-8 1/2"	
	17	29'-10"									
	2 SR	1'-1"									
① S505	OF	TO	523	STR						1'-8 1/2"	
	17	28'-5"									
S506	360	30'-11"	11609	STR							
	2 SR	4'-3"									
S507	OF	TO	570	STR						1'-8 1/2"	
	16	29'-11"									
	1 SR	3'-0"									
S508	OF	TO	296	STR						1'-8 1/2"	
	17	30'-4"									
S509	32	9'-6"	117	STR							
S510	120	11'-10"	1481	3	2'-1"	3'-6"					
S511	120	7'-9"	970	2	2'-6"	3'-0"	2'-6"				
S512	6	8'-8"	54	3	0'-6"	3'-6"					
S513	6	6'-1"	38	2	1'-8"	3'-0"	1'-8"				
S514	754	3'-5"	2687	STR							
① S515	360	29'-7"	11108	16	29'-0"						
	1 SR	3'-0"			2'-5"						
S516	OF	TO	297	16	TO					1'-8 1/2"	
	17	30'-5"			29'-10"						
S517	360	31'-6"	11828	16	30'-11"						
	1 SR	3'-7"			3'-0"						
S518	OF	TO	306	16	TO					1'-8 1/2"	
	17	30'-11"			30'-4"						
① S801	12	30'-0"	961	STR							
S802	28	32'-0"	2392	STR							
S803	8	21'-1"	450	STR							
① S804	8	5'-4"	114	STR							
S805	8	22'-4"	477	1	1'-5"	21'-1"					
① S806	8	6'-7"	139	1	1'-5"	5'-4"					
S807	16	4'-10"	206	18	3'-0"	0'-7"	0'-11"				
D801	88	4'-10"	1136	18	2'-8"	1'-0"	1'-0"				
		SUB-TOTAL									
		(100,612)									

① REQUIRES MECHANICAL CONNECTORS (782 REQUIRED)

MARK	NUMBER TOTAL	LENGTH	WEIGHT (LBS.)	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
<b>PARAPETS</b>											
PS501	406	7'-4"	3105	23	0'-11"	3'-3"	3'-0"			0'-3"	
PS502	48	30'-0"	1502	STR							
PS503	8	8'-10"	74	STR							
PS504	8	9'-1"	76	STR							
PS505	16	14'-8"	245	STR							
PS506	32	7'-2"	239	STR							
PS507	12	11'-3"	141	STR							
PS601	406	2'-5"	1474	1	1'-0"	1'-7"					
PS602	406	3'-1"	1880	37	1'-7"	0'-11"	0'-3 1/2"				
PS603	4	9'-1"	55	STR							
PS604	8	14'-8"	176	STR							
PS605	16	7'-2"	172	STR							
PS606	6	11'-3"	101	STR							
		SUB-TOTAL			9,240						
<b>PARAPETS (ON APPROACH SLAB)</b>											
AS501	48	7'-4"	367	23	0'-11"	3'-3"	3'-0"			0'-3"	
AS502	16	5'-9"	96	25	1'-10"	2'-5"	1'-5"	0'-1 1/2"	0'-5"		
AS503	16	6'-5"	107	STR							
AS504	32	10'-0"	334	STR							
AS505	8	13'-5"	112	STR							
AS506	4	13'-0"	54	STR							
AS507	4	10'-8"	45	STR							
AS508	2	10'-3"	21	STR							
AS509	4	13'-9"	57	STR							
AS510	2	10'-11"	23	STR							
AS601	48	3'-1"	222	37	1'-7"	0'-11"	0'-3 1/2"				
	4 SR	4'-0"				3'-2"					
AS602	OF	TO	265	1	1'-0"	TO				0'-1"	
	10	4'-10"				4'-0"					
AS603	32	4'-0"	192	1	1'-0"	3'-2"					
AS604	48	2'-5"	174	1	1'-0"	1'-7"					
AS605	2	10'-5"	31								
AS606	2	10'-9"	32	STR							
		SUB-TOTAL			2,132						

**NOTES:**

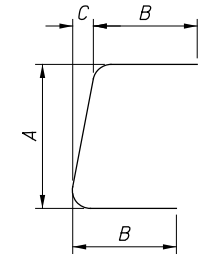
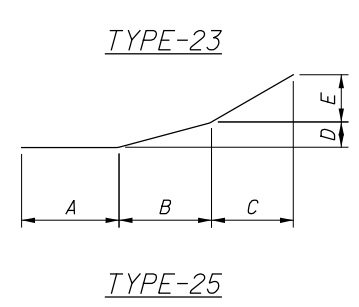
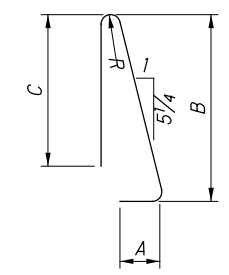
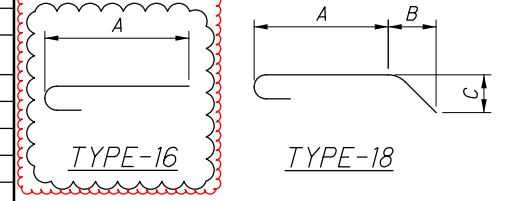
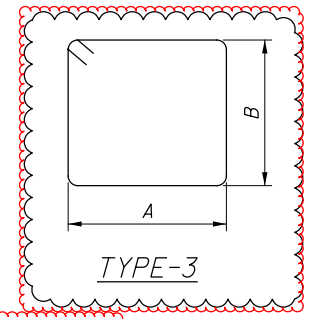
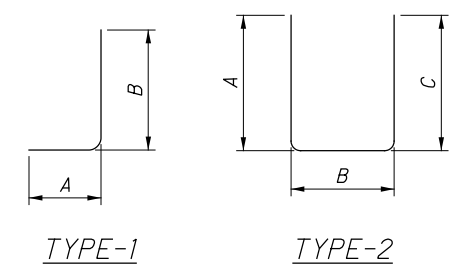
ALL REINFORCING STEEL SHALL BE EPOXY COATED, GRADE 60.  
 LENGTHS ARE RECORDED IN FEET - INCHES.  
 "STR" IN THE TYPE COLUMN INDICATES STRAIGHT BARS.  
 ALL DIMENSIONS ARE MEASURED OUT-TO-OUT OF BAR.  
 THE LENGTH OF BENT BARS IS MEASURED ALONG THE CENTERLINE.

THE BAR SIZE NUMBER IS SPECIFIED ON THE PLANS IN THE BAR MARK COLUMN. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHERE FOUR DIGITS ARE USED, INDICATES THE BAR SIZE NUMBER. FOR EXAMPLE, P601 IS A NO. 6 BAR.  
 "R" INDICATES INSIDE RADIUS, UNLESS OTHERWISE NOTED.  
 "STD" WRITTEN IN PLACE OF A DIMENSION INDICATES A STANDARD BEND AT THE END OF THE BAR.

FOR STANDARD HOOK DIMENSIONS, SEE SECTION 509.05 OF THE SPECIFICATIONS.

PAYMENT FOR REINFORCING STEEL SHALL BE INCLUDED IN THE CONTRACT PRICE BID FOR ITEM 509, EPOXY COATED REINFORCING STEEL.

REINFORCING SAMPLES: REFER TO CMS SECTIONS 106.02, 700, 709.01 THROUGH 709.05 AND 709.08. SUFFICIENT ADDITIONAL REINFORCING STEEL SHALL BE PROVIDED FOR SAMPLING. RANDOM SAMPLES SHALL BE REPLACED IN THE STRUCTURE BY THE ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH 509.07.



**NOTES (CONT'D.):**

① REQUIRES MECHANICAL CONNECTORS (NON-PROTRUDING TYPE)

AN APPROVED TYPE OF MECHANICAL CONNECTOR FOR REINFORCING SHALL BE PROVIDED. INSTALLATION OF THE CONNECTORS SHALL CONFORM WITH RECOMMENDED MANUFACTURER'S PROCEDURES. IF A DOWEL BAR SPLICE IS FURNISHED, THE MINIMUM DOWEL BAR LENGTH TO BE INCLUDED WITH THE CONNECTOR SHALL BE GIVEN BY THE DIMENSION "L" SHOWN BELOW:  
 #5 REINFORCING BAR, L = 3'-3"  
 #8 REINFORCING BAR, L = 6'-9"

WHERE MECHANICAL CONNECTORS ARE REQUIRED THE REINFORCING BAR LENGTH IS MEASURED TO THE CONSTRUCTION JOINT. EXTRA BAR LENGTH AND/OR BAR PREPARATION MAY BE NECESSARY DEPENDING ON THE TYPE OF MECHANICAL CONNECTOR FURNISHED.

DESIGN AGENCY: STRUCTUREPOINT  
 DATE: 4/10/19  
 REVIEWED: CLB  
 DRAWN: TLH  
 CHECKED: JMM  
 STRUCTURE FILE NUMBER: 2801779  
**REINFORCING STEEL LIST - 2**  
 BRIDGE NO. GEA-422-1226  
 OVER CUYAHOGA RIVER  
**GEA - 422-12.26**  
 PID No. 102434  
 35 / 35  
 73  
 77