

**ITEM 509 - REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN**

REPLACE ALL EXISTING REINFORCING BARS DEEMED BY THE ENGINEER TO BE UNUSABLE BECAUSE OF CORROSION. THE DEPARTMENT WILL MEASURE THE REPLACEMENT REINFORCING STEEL BY THE NUMBER OF POUNDS ACCEPTED IN PLACE. REPLACE ALL EXISTING REINFORCING STEEL BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK AND ARE DEEMED BY THE ENGINEER TO BE MADE UNUSABLE BY CONCRETE REMOVAL OPERATIONS WITH NEW REINFORCING STEEL OF THE SAME SIZE AND COATING AT NO COST TO THE DEPARTMENT.

**ITEM 514 - FIELD PAINTING, MISC.: ZINC RICH PRIMER**

THIS ITEM SHALL CONSIST OF THE REMOVAL OF ANY LOOSE CONCRETE, CLEANING OF THE PRESTRESSING STRANDS/REINFORCING STEEL, AND APPLICATION OF A ZINC RICH PRIMER LOCATED ON THE BOTTOM OF THE EXISTING BOX BEAM SUPERSTRUCTURE. THE LOOSE CONCRETE SHALL BE REMOVED AS DIRECTED BY THE ENGINEER. ALL DEBRIS SHALL BE COLLECTED AND REMOVED OFF SITE. BLAST CLEAN ALL EXPOSED PRESTRESSING STRANDS/REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVES WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING. APPLY A ZINC RICH PRIMER, PER CMS 708.02B, OVER ALL EXPOSED STEEL SURFACES. THE APPLICATION OF THE PRIMER SHALL FOLLOW CMS 514 AND ALL MANUFACTURER SPECIFICATIONS.

PAYMENT FOR ALL EQUIPMENT, LABOR, AND MATERIALS NEEDED SHALL BE MADE UNDER ITEM 514 - FIELD PAINTING, MISC.: ZINC RICH PRIMER.

**ITEM 516 - 2" DEEP JOINT SEALER, AS PER PLAN**

A 2" DEEP ( 1/2)" WIDE STRIP SHALL BE SAWCUT OUT OF THE ASPHALT ABUTTING CONCRETE AS DETAILED IN THE PLANS. IN LIEU OF SAWCUTTING AFTER CONSTRUCTION, THIS JOINT MAY BE FORMED DURING CONSTRUCTION. JOINT SEALER AS PER 705.04 SHALL BE USED TO SEAL THE JOINT CREATED.

**ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN**

THIS WORK CONSISTS OF RAISING OR RE-POSITIONING EXISTING STRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS. SUBMIT CONSTRUCTION PLANS IN ACCORDANCE WITH C&MS 501.05. IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR A DISTANCE OF THE SEPARATION IN ACCORDANCE WITH C&MS 512.07. THE DEPARTMENT WILL NOT PAY FOR THE COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS. THE BRIDGE BEARINGS SHALL BE FULLY SEATED ALL CONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS. THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

**ITEM 621 - RAISED PAVEMENT MARKER REMOVED**

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

- AUG-29-0767 = 5 EA
- AUG-33-1281 = 0 EA
- AUG-66-1981 = 4 EA
- AUG-197-1424 = 5 EA

RAISED PAVEMENT MARKINGS ARE NOT TO BE INSTALLED ON THIS PROJECT. THE PAY ITEM FOR THEM HAS BEEN INTENTIONALLY EXCLUDED FOR THIS REASON.

**RAISED PAVEMENT MARKERS REMOVED AND PAVEMENT MARKINGS**

THE FOLLOWING ARE THE ESTIMATED QUANTITIES FOR THE PERMANENT PAVEMENT MARKINGS.

BRIDGE LOCATION	STATION TO STATION	646		
		EDGE LINE, 6"	CENTER LINE (DASHED)	CENTER LINE (DOUBLE SOLID)
		MILE	MILE	MILE
AUG-29-0767	403+29 TO 407+75	0.169	0.084	
AUG-33-1281	685+29.70 TO 690+22.55	0.187		0.093
AUG-66-1981	1070+41.38 TO 1073+90.51	0.132	0.066	
AUG-197-1424	752+45.89 TO 756+25.31	0.144		0.072
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>		<b>0.632</b>	<b>0.150</b>	<b>0.165</b>

**ITEM 844 - CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN**

844.01 DESCRIPTION INSTALL CONCRETE PATCHES USING GALVANIC ANODES PER SUPPLEMENTAL SPECIFICATION 844 EXCEPT AS NOTED BELOW. ALL CONCRETE PATCHES SHALL BE PLACED TO THE EXISTING SURFACE UNLESS OTHERWISE DETAILED IN THE PLANS.

844.02 MATERIALS CONCRETE USED SHALL BE QC SCC PER C&MS 499, 511. ALL OTHER REQUIREMENTS LISTED IN SS844.02 APPLY.

844.04 GALVANIC ANODE INSTALLATION INSTALL ANODE UNITS AND REPAIR MATERIAL IMMEDIATELY FOLLOWING PREPARATION AND CLEANING OF STEEL REINFORCEMENT. REPAIR MATERIAL SHALL BE PLACED NO LATER THAN ONE (1) WEEK AFTER CONCRETE REMOVAL UNLESS APPROVED BY THE ENGINEER. GALVANIC ANODES SHALL BE INSTALLED IN THE LOCATIONS AND SPACING AS SPECIFIED IN THE PLANS. IN NO CASE, SHALL THE SPACING EXCEED 18 INCHES.

THE CONTRACTOR SHALL PERFORM HIS WORK AS TO NOT DAMAGE THE EMBEDDED ANODES OR CREATE ANY AIR VOIDS AROUND THE EMBEDDED ANODES WHILE SETTING FORMWORK OR PLACING CONCRETE.

844.06 QUALITY CONTROL THE PROPOSED FORM SYSTEM MUST BE SUBMITTED, AND ACCEPTED BY THE PROJECT ENGINEER PRIOR TO THE INSTALLATION OF ANY FORMWORK. THE FORM SYSTEM SHALL NOT BE SUPPORTED THROUGH THE PATCH. THE FORM SYSTEM SHALL PROVIDE ENOUGH HEAD PRESSURE TO ENSURE THE PATCH IS FULLY CONSOLIDATED AND NULL OF VOIDS. THE FORM SYSTEM SHALL INCORPORATE VENTS ALONG THE TOP OF THE PATCH TO ALLOW ENTRAPPED AIR TO ESCAPE DURING CONCRETE PLACEMENT. THE FORM SYSTEM SHALL INCORPORATE A GATE/VALVE SYSTEM CAPABLE OF CONTAINING THE SELF CONSOLIDATING CONCRETE ONCE CONCRETE PLACEMENT IS COMPLETE.

844.08 BASIS OF PAYMENT PAYMENT FOR ALL OF THE ABOVE DESCRIBED LABOR AND MATERIALS WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 844 CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN

PAYMENT WILL INCLUDE REMOVAL OF THE UNSOUND CONCRETE, FORMWORK, PLACEMENT OF THE QC SCC CONCRETE MIX.

**ITEM 848-SURFACE PREPARATION USING HYDRODEMOLITION, AS PER PLAN**

PREPARE CONCRETE SURFACE USING HYDRODEMOLITION ACCORDING TO SUPPLEMENTAL SPECIFICATION 848 EXCEPT THAT DEPTH OF HYDRODEMOLITION, "D" SHALL BE:

- AUG-29-0767 = 1/2"
- AUG-33-1281 = 1/2"
- AUG-66-1981 = 3/4"
- AUG-197-1424 = 3/4"

**TRAFFIC PROTECTION DURING HYDRODEMOLITION**

IN ACCORDANCE WITH TRAFFIC PROTECTION REQUIREMENTS OF SUPPLEMENTAL SPECIFICATION 848, FALSEWORK SHALL BE PLACED IN BETWEEN THE EXISTING BEAMS ON THE AUG-33-1281 STRUCTURE ABOVE ALL U.S. 33 TRAFFIC PRIOR TO HYDRODEMOLITION.

**ITEM 848-REMOVAL OF DEBONDED OR DETERIORATED EXISTING VARIABLE THICKNESS CONCRETE OVERLAY**

AS PER SS848.19, NO HYDRODEMOLITION IS TO BE PERFORMED ON THE AUG-33-1281 STRUCTURE UNTIL THE UNBONDED VARIABLE THICKNESS EXISTING CONCRETE OVERLAY HAS BEEN REMOVED TO THE ENGINEER'S APPROVAL.

**ITEM 848 - TEST SLAB**

ONLY ONE TEST SLAB IS NEEDED FOR THE PROJECT. THE TEST SLAB IS TO BE PERFORMED PER SS848 BEFORE THE OVERLAY POUR, REGARDLESS OF THE ORDER THE BRIDGES ARE CONSTRUCTED.

**ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN**

ALL REQUIREMENTS OF C&MS 513 APPLY TO SHOP FABRICATED MEMBERS. PERFORM WORK FOR FIELD FABRICATED MEMBERS ACCORDING TO ITEM 513, EXCEPT AS MODIFIED HEREIN. THE DEPARTMENT WILL NOT REQUIRE THE CONTRACTOR PERFORMING FIELD FABRICATION TO BE PRE-QUALIFIED AS SPECIFIED IN S1078. SUBMIT A WRITTEN LETTER OF MATERIAL ACCEPTANCE IN ACCORDANCE WITH C&MS 501.06, TO THE ENGINEER. PROVIDE THE ENGINEER "AS-BUILT" DRAWINGS ACCORDING C&MS 513.06, EXCEPT C&MS 501.04 DOES NOT APPLY. UPON RECEIPT OF THE ENGINEER'S ACCEPTANCE, SUPPLY A COPY OF THE DRAWINGS, ACCORDING TO S1002 TO THE OFFICE OF MATERIAL MANAGEMENT FOR RECORD PURPOSES.

THE FOLLOWING MEMBERS ARE INCLUDED IN THIS ITEM: END CROSSFRAMES AND PLATES

DESIGN AGENCY



DISTRICT 7 ENGINEERING


DESIGNER  
**PJB**

REVIEWER  
DHG 10-28-21

PROJECT ID  
108075

SHEET TOTAL  
P.04 45

SHEET NUM.										PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
		3							CALC	01/NHS/BR	02/STR/BR						
									3,633	451	3,182	202	23500	3,633	SY	<b>ROADWAY</b>	
									200		200	202	38000	200	FT	WEARING COURSE REMOVED	
									412.5		412.5	202	38500	412.5	FT	GUARDRAIL REMOVED	
									21	21		203	10000	21	CY	BRIDGE RAILING REMOVED	
									61	61		204	10000	61	SY	EXCAVATION	
																SUBGRADE COMPACTION	
									100		100	606	13000	100	FT	GUARDRAIL, TYPE 5	
									4		4	606	35000	4	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
																<b>EROSION CONTROL</b>	
									15		15	601	27000	15	CY	DUMPED ROCK FILL, TYPE C	
		1,800								545	1,255	659	10000	1,800	SY	SEEDING AND MULCHING	
		91								28	63	659	14000	91	SY	REPAIR SEEDING AND MULCHING	
		0.24								0.07	0.17	659	20000	0.24	TON	COMMERCIAL FERTILIZER	
		10								3	7	659	35000	10	MGAL	WATER	
									4,000	1,000	3,000	832	30000	4,000	EACH	EROSION CONTROL	
																<b>PAVEMENT</b>	
									9	9		301	46000	9	CY	ASPHALT CONCRETE BASE, PG64-22	
									9	9		304	20000	9	CY	AGGREGATE BASE	
									213	36	177	407	10000	213	GAL	TACK COAT	
									100	22	78	441	50100	100	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG70-22M	
									80		80	609	24510	80	FT	CURB, TYPE 4-C	
									400		400	618	40800	400	FT	RUMBLE STRIPES, EDGE LINE (ASPHALT CONCRETE)	
																<b>TRAFFIC CONTROL</b>	
									14		14	621	54000	14	EACH	RAISED PAVEMENT MARKER REMOVED	
		2									2	630	80101	2	SF	SIGN, FLAT SHEET, AS PER PLAN	3
									0.63	0.19	0.45	646	10010	0.63	MILE	EDGE LINE, 6"	
									0.32	0.09	0.22	646	10200	0.32	MILE	CENTER LINE	
																<b>STRUCTURE REPAIR (AUG-29-0767)</b>	
									LS		LS	202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	3
									100		100	509	20001	100	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	4
									5		5	512	10100	5	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
									100		100	514	27700	100	SF	FIELD PAINTING, MISC.:ZINC PRIMER	4
									73		73	516	31011	73	FT	2" DEEP JOINT SEALER, AS PER PLAN	4
									187.5		187.5	517	75600	187.5	FT	DEEP BEAM BRIDGE RETROFIT RAILING	
									214		214	SPECIAL	51822300	214	FT	STEEL DRIP STRIP	
									349		349	848	10200	349	SY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY USING HYDRODEMOLITION, 2"	
									349		349	848	20001	349	SY	SURFACE PREPARATION USING HYDRODEMOLITION, AS PER PLAN	4
									15		15	848	30200	15	CY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY	
									122		122	848	50000	122	SY	HAND CHIPPING	
									LS		LS	848	50100	LS		TEST SLAB	
																<b>STRUCTURE REPAIR (AUG-33-1281)</b>	
									LS	LS		202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	3
									100	100		509	20001	100	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	4
									1,441	1,441		509	25000	1,441	LB	UNCOATED REINFORCING STEEL	
									218	218		510	10000	218	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
									18	18		511	34410	18	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE	
									333	333		512	10100	333	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
									264	264		512	74000	264	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	
									2,118	2,118		513	10201	2,118	LB	STRUCTURAL STEEL MEMBERS, LEVEL UP, AS PER PLAN	4
									122	122		516	11210	122	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL	
									118	118		516	31011	118	FT	2" DEEP JOINT SEALER, AS PER PLAN	4
									12	12		516	44001	12	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN, (BEARING: 10"x14"x3.27", LOAD PLATE: 11"x15"x1.5")	24
									LS	LS		516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	4
									106	106		844	10001	106	SF	CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN	4
									1,477	1,477		848	10200	1,477	SY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY USING HYDRODEMOLITION, 2 1/4"	
									1,459	1,459		848	20001	1,459	SY	SURFACE PREPARATION USING HYDRODEMOLITION, AS PER PLAN	4
									58	58		848	30200	58	CY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY	
									296	296		848	50000	296	SY	HAND CHIPPING	

DESIGN AGENCY  
  
 DISTRICT 7 ENGINEERING  
 DESIGNER  
**PJB**  
 REVIEWER  
 DHG 10-28-21  
 PROJECT ID  
 108075  
 SHEET TOTAL  
 P.15 45

SHEET NUM.										PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
					5	6			CALC	01/NHS/BR	02/STR/BR						
<b>STRUCTURE REPAIR (AUG-33-1281) CONTINUED</b>																	
									1	1		848	50200	1	CY	FULL-DEPTH REPAIR	
									1,459	1,459		848	50320	1,459	SY	EXISTING CONCRETE OVERLAY REMOVED, 1 3/4"	
									148	148		848	50340	148	SY	REMOVAL OF DEBONDED OR DETERIORATED EXISTING VARIABLE THICKNESS CONCRETE OVERLAY	
<b>STRUCTURE REPAIR (AUG-66-1981)</b>																	
									100		100	509	20001	100	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	4
									2		2	512	10100	2	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
									50		50	514	27700	50	SF	FIELD PAINTING, MISC.:ZINC PRIMER	4
									93		93	516	31011	93	FT	2" DEEP JOINT SEALER, AS PER PLAN	4
									212.5		212.5	517	75600	212.5	FT	DEEP BEAM BRIDGE RETROFIT RAILING	
									246		246	SPECIAL	51822300	246	FT	STEEL DRIP STRIP	
									5		5	844	10001	5	SF	CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN	4
									442		442	848	10200	442	SY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY USING HYDRODEMOLITION, 1 3/4"	
									442		442	848	20001	442	SY	SURFACE PREPARATION USING HYDRODEMOLITION, AS PER PLAN	4
									12		12	848	30200	12	CY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY	
									44		44	848	50000	44	SY	HAND CHIPPING	
									1		1	848	50200	1	CY	FULL-DEPTH REPAIR	
<b>STRUCTURE REPAIR (AUG-197-1424)</b>																	
									LS		LS	202	11203	LS		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN	3
									100		100	509	20001	100	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN	4
									9,890		9,890	509	25000	9,890	LB	UNCOATED REINFORCING STEEL	
									942		942	510	10000	942	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	
									60		60	511	34410	60	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE	
									398		398	512	10100	398	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
									960		960	513	10201	960	LB	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN	4
									63		63	516	11210	63	FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL	
									59		59	516	31011	59	FT	2" DEEP JOINT SEALER, AS PER PLAN	4
									8		8	516	44001	8	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN, (BEARING: 10"x14"x3.27", LOAD PLATE: 11"x15"xVAR.)	38
									LS		LS	516	47001	LS		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	4
									64		64	844	10001	64	SF	CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN	4
									617		617	848	10200	617	SY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY USING HYDRODEMOLITION, 2 1/2"	
									606		606	848	20001	606	SY	SURFACE PREPARATION USING HYDRODEMOLITION, AS PER PLAN	4
									17		17	848	30200	17	CY	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY	
									91		91	848	50000	91	SY	HAND CHIPPING	
									1		1	848	50200	1	CY	FULL-DEPTH REPAIR	
<b>MAINTENANCE OF TRAFFIC</b>																	
						60					60	614	11110	60	hour	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
									LS	LS		614	12420	LS		DETOUR SIGNING	
					2				2			614	18601	2	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	5
<b>INCIDENTALS</b>																	
									LS	LS		614	11000	LS		MAINTAINING TRAFFIC	
									LS	LS		623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
									LS	LS		624	10000	LS		MOBILIZATION	