

SHEET NUM.				PART.	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	
3	6	9	21	01/BRO/B R					STRUCTURE OVER 20 FOOT SPAN (VAN-49-5.24, 8101087)		
				LUMP	LUMP	202	11002	LS	STRUCTURE REMOVED, OVER 20 FOOT SPAN		
				300	300	202	23500	300	WEARING COURSE REMOVED		
				LUMP	LUMP	503	11100	LS	COFFERDAMS AND EXCAVATION BRACING		
				LUMP	LUMP	503	21300	LS	UNCLASSIFIED EXCAVATION		
				LUMP	LUMP	505	11100	LS	PILE DRIVING EQUIPMENT MOBILIZATION		
				720	720	507	00100	720	FT	STEEL PILES HP10X42, FURNISHED	
				<del>640</del>	<del>640</del>	<del>507</del>	<del>00150</del>	<del>640</del>	FT	STEEL PILES HP10X42, DRIVEN	
				16	16	507	93300	16	EACH	STEEL POINTS OR SHOES	
				<del>36,784</del>	<del>36,784</del>	<del>503</del>	<del>10001</del>	<del>36,784</del>	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN	18
				118	118	511	21520	118	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE	
				75	75	511	43510	75	CY	CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING	
				117	117	512	10100	117	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
				111,058	111,058	513	10221	111,058	LB	STRUCTURAL STEEL MEMBERS, LEVEL 1, AS PER PLAN	18-20
				888	888	513	20001	888	EACH	WELDED STUD SHEAR CONNECTORS, AS PER PLAN	20
				68	68	516	13200	68	SF	1/2" PREFORMED EXPANSION JOINT FILLER	
				68	68	516	13600	68	SF	1" PREFORMED EXPANSION JOINT FILLER	
				58	58	516	13900	58	SF	2" PREFORMED EXPANSION JOINT FILLER	
				101	101	516	14014	101	FT	INTEGRAL ABUTMENT EXPANSION JOINT SEAL	
				8	8	516	43201	8	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE), AS PER PLAN (12"x12"x2")	29
				179	179	517	70000	179	FT	RAILING (TWIN STEEL TUBE)	
				LUMP	LUMP	518	21230	LS	POROUS BACKFILL WITH GEOTEXTILE FABRIC		
				203	203	SPECIAL	51822300	203	FT	STEEL DRIP STRIP	23
				116	116	518	40000	116	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	
				98	98	518	40011	98	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	20
				178	178	526	25001	178	SY	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN	20
				74	74	526	90010	74	FT	TYPE A INSTALLATION	
				31	31	846	00110	31	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM	
									MAINTENANCE OF TRAFFIC		
	20			20	253	02000	20	CY	PAVEMENT REPAIR		
	20			20	407	10000	20	GAL	TACK COAT		
	10			10	441	50000	10	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22		
	1			1	616	10000	1	MGAL	WATER		
	50			50	617	10100	50	CY	COMPACTED AGGREGATE		
									INCIDENTALS		
				LS	614	11000	LS		MAINTAINING TRAFFIC		
				5	619	16010	5	MNTH	FIELD OFFICE, TYPE B		
				LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING		
				LS	624	10000	LS		MOBILIZATION		

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**GENERAL SUMMARY**

**VAN-49-5.24**

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**STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS**

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWING(S):

AS-1-15	DATED/REVISED	7/17/15
AS-2-15	DATED/REVISED	1/18/19
DS-1-92	DATED/REVISED	7/18/03
GSD-1-19	DATED/REVISED	1/15/21
ICD-1-20	DATED/REVISED	7/17/20
TST-1-99	DATED/REVISED	1/15/21

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATION:

800	DATED	10/15/21
846	DATED	4/17/15

**DESIGN SPECIFICATIONS**

DESIGN SPECIFICATIONS: THIS STRUCTURE CONFORMS TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION AND OHIO DOT BRIDGE DESIGN MANUAL, 2020.

**EXISTING BRIDGE PLANS**

THE EXISTING BRIDGE PLANS MAY BE INSPECTED IN THE OFFICE OF STRUCTURAL ENGINEERING IN COLUMBUS, OHIO OR AT THE ODOT DISTRICT 1 OFFICE, 1885 N. McCULLOUGH STREET, LIMA, OHIO 45801.

**DESIGN LOADING**

SUPERSTRUCTURE: HL-93

FUTURE WEARING SURFACE (FWS) OF 60 POUNDS PER SQUARE FOOT.

**DESIGN DATA**

CONCRETE QC2- COMPRESSIVE STRENGTH 4500 PSI (SUPERSTRUCTURE)

CONCRETE QC1 - COMPRESSIVE STRENGTH 4000 PSI (SUBSTRUCTURE)

REINFORCING STEEL - ASTM A615 OR A996, GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI

STRUCTURAL STEEL - (GALVANIZED) ASTM A709 GRADE 50- YIELD STRENGTH 50 KSI

STEEL H-PILES  
ASTM A572 - YIELD STRENGTH 50 KSI

**DECK PROTECTION METHOD**

EPOXY COATED REINFORCING STEEL  
2.5" CONCRETE COVER  
STAINLESS STEEL DRIP STRIPS

**MONOLITHIC WEARING SURFACE**

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

**EXISTING STRUCTURE VERIFICATION**

EXISTING STRUCTURE VERIFICATION: DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO 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, 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 WHICH HAVE BEEN VERIFIED IN THE FIELD.

**DEMOLITION DEBRIS**

THE CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID AND/OR LIMIT DEMOLITION FROM ENTERING THE STREAM. ANY MATERIAL THAT DOES ENTER THE STREAM SHALL BE IMMEDIATELY REMOVED.

**PILES TO BEDROCK**

DRIVE PILES TO REFUSAL ON BEDROCK. THE DEPARTMENT WILL CONSIDER REFUSAL TO BE OBTAINED WHEN THE PILE PENETRATION IS AN INCH OR LESS AFTER RECEIVING AT LEAST 20 BLOWS FROM THE PILE HAMMER. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL.

THE TOTAL FACTORED LOAD IS 115 KIPS PER PILE FOR THE REAR AND FWD. ABUTMENT PILES.

ABUTMENT PILES:  
HP10X42 PILES 45 FEET LONG, ORDER LENGTH

**STEEL PILE POINTS**

USE STEEL PILE POINTS TO PROTECT THE TIPS OF THE STEEL H-PILES AT BOTH ABUTMENTS.

**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 2.3 KIPS FOR A TOTAL MACHINE LOAD OF 18.4 KIPS.

A MIN. OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".  
A MAX. SPACING OF OVERHANG FALSEWORK BRACKETS OF 48"  
A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA BEAM TO THE FACE OF THE SAFETY HANDRAIL OF 65".

**ITEM 202, STRUCTURE REMOVED, OVER 20 FOOT SPAN**

DESCRIPTION: THIS WORK CONSISTS OF THE COMPLETE REMOVAL OF THE EXISTING SUPERSTRUCTURE AND SUBSTRUCTURE TO A DEPTH EQUAL TO 789.87' AT THE ABUTMENTS AND THE LOWER OF: THE BOTTOM OF THE PROPOSED ROCK CHANNEL PROTECTION SLOPE LAYER OR 1' BELOW STREAM BOTTOM AT THE PIERS.

**ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN**

ITEM 509 - EPOXY COATED REINFORCING STEEL, AS PER PLAN: IN ADDITION TO THE PROVISIONS OF ITEM 509, FIELD BEND AND/OR FIELD CUT THE REINFORCING STEEL DESIGNATED IN THE PLANS, AS NECESSARY, IN ORDER TO MAINTAIN THE REQUIRED CLEARANCES AND BAR SPACINGS. REPAIR ALL DAMAGE TO THE EPOXY COATING, AS A RESULT OF THIS WORK, ACCORDING TO C&MS 509.09

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

SEAL ALL CONCRETE SURFACES ON THE ABUTMENT AND WINGWALL ABOVE THE SURFACE OF THE GROUND AND SEAL DECK EDGES AS SHOWN ON SHEET 24 PER ITEM 512 OF THE 2019 CONSTRUCTION AND MATERIAL SPECIFICATIONS BOOK.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

THE FOLLOWING QUANTITIES ARE INCLUDED IN THE STRUCTURE ESTIMATED QUANTITIES TO SEAL ALL SURFACES ABOVE GROUND LEVEL PER ITEM 512, SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

ABUTMENTS & WINGWALLS: 80 SY  
SUPERSTRUCTURE - DECK EDGE: 37 SY

**ITEM 513, STRUCTURAL STEEL MEMBERS, LEVEL 1, AS PER PLAN**

THE STRUCTURAL STEEL BEAMS AND ATTACHED BEARING SUPPORTS, SPLICE PLATES, CROSSFRAMES AND CONNECTION PLATES SHALL BE GALVANIZED AS PER CMS 711.02. BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED AND FURNISHED AS PER STD. DWG. GSD-1-19, CMS 513.20, CMS 711.02, CMS 711.09, AND SUPPLEMENT 1080.

**1.0 DESCRIPTION**

IN ADDITION TO THE REQUIREMENTS OF CONSTRUCTION AND MATERIAL SPECIFICATION 513, THIS ITEM SHALL CONSIST OF FURNISHING ALL NECESSARY LABOR, MATERIALS AND EQUIPMENT TO CLEAN AND GALVANIZE ALL STRUCTURAL STEEL SURFACES, AS SPECIFIED HEREIN. THE GALVANIZED COATING SYSTEM MAY BE APPLIED BY A GALVANIZER NOT QUALIFIED AS A FABRICATION SHOP UNDER CONSTRUCTION AND MATERIAL SPECIFICATION 513, BUT THE APPROVED FABRICATOR OF THE STRUCTURAL STEEL SHALL BE RESPONSIBLE FOR THE QUALITY OF THE APPLIED GALVANIZED COATING SYSTEM AND ANY REPAIRS, RE-FABRICATING AND ADDITIONAL LAYDOWNS REQUIRED TO ASSURE THE FABRICATED STEEL MEETS ALL REQUIREMENTS OF THIS SPECIFICATION. SECTIONS 513.27 AND 513.28 SHALL NOT APPLY.

THIS ITEM SHALL ALSO INCLUDE GALVANIZING, PER C&MS 711.02, OF ALL NUTS, WASHERS, BOLTS AND ANCHOR BOLTS.

THE BEARING SUPPORTS CONSISTING OF THE HP12x53 SECTION AND THE STEEL LOAD PLATES SHALL BE WELDED TO THE W40x277 BEAMS PRIOR TO GALVANIZING. THE WEIGHT OF THE HP12x53 SECTIONS AND LOAD PLATES SHALL BE INCLUDED WITH ITEM 513 - STRUCTURAL STEEL MEMBERS, LEVEL 1, AS PER PLAN FOR PAYMENT.

THE LAMINATED ELASTOMERIC BEARING PADS SHALL NOT BE BONDED TO THE STEEL LOAD PLATES.

**2.0 PRE-FABRICATION MEETING**

IN ADDITION TO THE PRE-FABRICATION MEETING REQUIREMENTS UNDER C&MS 513.07, BOTH THE FABRICATOR'S QUALITY CONTROL SPECIALIST, (QCS) AND GALVANIZER'S QCS COATING APPLICATOR SHALL BE PRESENT AND DISCUSS METHODS OF OPERATION, QUALITY CONTROL, INCLUDING REPAIRS, TRANSPORTATION, ERECTION METHODS TO ACCOMPLISH ALL PHASES OF THE PREPARATION AND COATING WORK REQUIRED BY THIS SPECIFICATION.

**GENERAL NOTES**

VAN-49-5.24  
OVER TWENTYSEVENMILE CREEK

VAN-49-5.24  
PID No. 105154

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DESIGN AGENCY  
ODOT DISTRICT ONE,  
CAPITAL PROGRAMS

DATE  
9/13/2021  
REVIEWED  
JRC  
STRUCTURE FILE NUMBER  
8101087

DRAWN  
MAL  
REVISOR  
MAL  
DESIGNED  
MAL  
CHECKED  
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ESTIMATED QUANTITIES										
ITEM	EXTENSION	01/BRO/BR TOTAL	UNIT	DESCRIPTION	APPR. SLAB	ABUT.	SUPER.	GEN.	SHEET #	
202	11002	LUMP		STRUCTURE REMOVED, OVER 20 FOOT SPAN				LUMP	18	
202	23500	300	SY	WEARING COURSE REMOVED			300	LUMP		
503	11100	LUMP		COFFERDAMS AND EXCAVATION BRACING				LUMP		
503	21300	LUMP		UNCLASSIFIED EXCAVATION				LUMP		
505	11100	LUMP		PILE DRIVING EQUIPMENT MOBILIZATION				LUMP		
507	00100	720	FT	STEEL PILES HP10X42, FURNISHED		720				
507	00150	640	FT	STEEL PILES HP10X42, DRIVEN		640				
507	93300	16	EACH	STEEL POINTS OR SHOES		16				
509	10001	36784	LB	EPOXY COATED REINFORCING STEEL, AS PER PLAN		18,000	21,778		18	
511	21520	118	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE		44	74			
511	43510	75	CY	CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING		75				
512	10100	117	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)		80	37		18	
513	10221	111058	POUND	STRUCTURAL STEEL MEMBERS, LEVEL 1, AS PER PLAN			111058		18-20	
513	20001	888	EACH	WELDED STUD SHEAR CONNECTORS, AS PER PLAN			888		20	
516	13200	68	SF	1/2" PREFORMED EXPANSION JOINT FILLER		68				
516	13600	68	SF	1" PREFORMED EXPANSION JOINT FILLER		68				
516	13900	58	SF	2" PREFORMED EXPANSION JOINT FILLER		58				
516	14014	101	FT	INTEGRAL ABUTMENT EXPANSION JOINT SEAL		101				
516	43201	8	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES ONLY (NEOPRENE), AS PER PLAN (12" x 12" x 2")		8			29	
517	70000	179	FT	RAILING (TWIN STEEL TUBE)			179			
518	21230	LUMP		POROUS BACKFILL WITH GEOTEXTILE FABRIC		LUMP				
SPECIAL	51822300	203	FT	STEEL DRIP STRIP (DS-1-92)			203		24	
518	40000	116	FT	6" PERFORATED CORRUGATED PLASTIC PIPE		116				
518	40011	98	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN		98			20	
526	25001	178	SY	REINFORCED CONCRETE APPROACH SLABS (T=15"), AS PER PLAN	178				20	
526	90010	74	FT	TYPE A INSTALLATION	74					
601	32104	178	CY	ROCK CHANNEL PROTECTION, TYPE B WITH GEOTEXTILE FABRIC*		178				
846	00110	31	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM	31				31	

\* NOTE: ITEM 601 - ROCK CHANNEL PROTECTION, TYPE B WITH GEOTEXTILE FABRIC IS PAID FOR UNDER EROSION CONTROL QUANTITIES, SEE GENERAL SUMMARY, SHEET 7

DESIGN AGENCY  
ODOT DISTRICT ONE,  
CAPITAL PROGRAMS

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ESTIMATED QUANTITIES  
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VAN-49-5.24  
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