



Project: HIG-73-21.04
Bridge: HIG-00073-21.110
Client: ODOT District 9

HIG-00073-21.110 Bridge Quantity Calculations

PID: 119769

DESIGN: GLA CHECK: RG		DATE: 6/18/2025 DATE: 6/20/2025		ESTIMATED QUANTITIES					SFN: 3601750
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	SUPER.	GEN.	REFERENCE SHEET NO.	
202	11003	LUMP		STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN			LUMP	3	
202	22900	80	SQ YD	APPROACH SLAB REMOVED			80		
202	23500	571	SQ YD	WEARING COURSE REMOVED			571		
503	11101	LUMP		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN	LUMP			1, 2, 3, 4, 9, 11,13	
503	21100	130	CU YD	UNCLASSIFIED EXCAVATION	130				
503	31121	139	CU YD	SHALE EXCAVATION, AS PER PLAN	139			3	
509	10000	50,856	LB	EPOXY COATED STEEL REINFORCEMENT	13,446	37,410			
511	33419	62	CU YD	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN		62		12, 14	
511	33500	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE	2				
511	34446	112	CU YD	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK		112			
511	44112	87	CU YD	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	87				
511	46512	67	CU YD	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	67				
512	10100	386	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	129	257			
512	33000	27	SQ YD	TYPE 2 WATERPROOFING	27				
515	15020	5	EACH	DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I - BEAM MEMBERS, LEVEL 3, TYPE 4 (111'-8" LONG)		5			
515	20000	12	EACH	INTERMEDIATE DIAPHRAGMS		12			
516	13900	40	SQ FT	2" PREFORMED EXPANSION JOINT FILLER	40				
516	14020	107	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	107				
516	44201	10	EACH	ELASTOMERIC BEARINGS WITH INTERNAL LAMINATES (14"x18"x3.398") AND LOAD PLATE (15"x19"x2") (NEOPRENE), AS PER PLAN	10			15	
517	70100	236	FT	RAILING (THREE STEEL TUBE BRIDGE RAILING)		236			
518	21200	75	CU YD	POROUS BACKFILL WITH GEOTEXTILE FABRIC	75				
518	22300	294	FT	SPECIAL - STEEL DRIP STRIP		294		21	
518	40000	128	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	128				
518	40011	26	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	26			13, 16	
524	94604	140	FT	DRILLED SHAFTS, 30" DIAMETER, INTO BEDROCK	140				
524	94702	10	FT	DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK	10				
526	25010	178	SQ YD	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T = 15")			178		
526	90010	64	FT	TYPE A INSTALLATION			64		
613	41201	189	CU YD	LOW STRENGTH MORTAR BACKFILL, AS PER PLAN	189			4	
625	33000	1	EA	STRUCTURE GROUNDING SYSTEM	1				
894	10000	2	EA	THERMAL INTEGRITY PROFILING (TIP) TEST	2				



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QUANTITY COMPUTATIONS

DESCRIPTION: STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

ITEM NO. 202E11003
QUANTITY 83000
UNIT LUMP

Portions of Structure Removal:

Deck:

Deck Length	=	141.09	ft
Deck Width	=	32	ft
Deck area to be removed =		4514.88	SF
Cost per 1 SF	=	\$28	
Total cost	=	\$126,417	

Lump
Sum = \$126,417

TOTAL = 83000.00 LUMP



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QUANTITY COMPUTATIONS

DESCRIPTION: APPROACH SLAB REMOVED

ITEM NO. 202E22900
QUANTITY 80
UNIT SY

Forward & Rear Approach Slab

Width of the approach slab	=	24	ft
Length of the approach slab	=	15	ft
No of Approach Slabs	=	2	
Volume	=	80	SY



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QUANTITY COMPUTATIONS

DESCRIPTION: WEARING SURFACE REMOVED

ITEM NO. 202E23500
QUANTITY 571
UNIT SY

Deck

Length = 138 ft
Width = 32 ft

Approach Slab

Length = 24
Width = 15
No = 2

Area = 5136 SF
= 570.67 SY

TOTAL = **571** SY



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QUANTITY COMPUTATIONS

DESCRIPTION: COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN

ITEM NO. 503E11101
QUANTITY 1
UNIT LUMP

Total Cost = 45,000

Say = **\$45,000**



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QUANTITY COMPUTATIONS

DESCRIPTION: UNCLASSIFIED EXCAVATION

ITEM NO. 503E21100
QUANTITY 130
UNIT CY

Abutment	Width (FT)	Length (FT)	Avg Ht (FT)	Vol. (CF)	Vol. (CY)	
Rear Abutment	6.67	64	8.2	3498.7	129.6	one foot outside proposed footing
Total Abuts=					129.6	

Total 129.6 CY



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QUANTITY COMPUTATIONS

DESCRIPTION: SHALE EXCAVATION, AS PER PLAN

ITEM NO. 503E31121
QUANTITY 139
UNIT CY

Abutment	Width (FT)	Length (FT)	Avg Ht (FT)	Vol. (CF)	Vol. (CY)
Forward Abutment	6.67	64	8.8	3754.7	139.1
				Total Abuts=	139.1

Total 139.1 CY



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QUANTITY COMPUTATIONS

DESCRIPTION: EPOXY COATED REINFORCING STEEL

ITEM NO. 509E10000
QUANTITY 50856
UNIT LB

	LB/CY	VOL (CY)	Wt (LBS)
Deck			31119
Abut			6291
Diaphragm			13446
Abutment	75.68	125	87.00

Total = 50856

Total 50856



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QUANTITY COMPUTATIONS

DESCRIPTION: CLASS QC2 CONCRETE SUPERSTRUCTURE, AS PER PLAN

ITEM NO. 511E33419
QUANTITY 62
UNIT CY

Main Slab

Abutment
Diaphragm
Beam Area

Area (SF) into
Diaphragm
(FT) # Beams Vol (CY)

		Ave Ht	Width (FT)	Length (FT)	Vol (CY)	
Rear	=	6.49	3.67	35	30.86	812.65
For	=	6.49	3.67	35	30.86	806.16317
				Abutment Diaphragms Total=	61.72	

* subtract deck thickness from diaphragm ht since it is included above

Total Qty = 61.72

Total 62.00



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QUANTITY COMPUTATIONS

DESCRIPTION: SEMI-INTEGRAL DIAPHRAGM GUIDE

ITEM NO. 511E33500
QUANTITY 2
UNIT EACH

Abutments #
 2

Total **2**



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QUANTITY COMPUTATIONS

DESCRIPTION: CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK

ITEM NO. 511E34446
QUANTITY 112
UNIT CY

Main Slab

		Area (SF)	Length (FT)	Vol (CY)
Area of the	=	22.67	106.33	89.26

<u>Haunch</u>		T (FT)	Width (FT)	Length (FT)	# Beams	Vol (CY)
Average	=	0.307	1.670	106.33	5	10.10

Outside		T (FT)	Avg Width	Length (FT)	# Beams	Vol (CY)
		0.962	1.667	106.33	2	12.62

Total Qty	=					111.99
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Total 112.0



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QUANTITY COMPUTATIONS

DESCRIPTION: CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING

ITEM NO. 511E44112
QUANTITY 87
UNIT CY

		Ht (FT)	Lengh (FT)	Width (FT)	Area (SF)	#	Vol (CY)
Rear Abutment							
Stem	=	5.58	35.00	3.67		1	26.55
WW 1	=	9.11	13	1.5		1	6.58
		12.22	1.5	1.5		1	1.02
WW 2	=	9.11	13	1.5		1	6.58
		12.22	1.5	1.5		1	1.02
Total							41.74
Forward							
Stem	=	6.07	35.00	3.67			28.88
WW 1	=	9.605	13	1.5		1	6.94
		12.71	1.5	1.5		1	1.06
WW 2	=	9.605	13	1.5		1	6.94
		12.71	1.5	1.5		1	1.06
Total=							44.87
Abutments Total =							86.61

Total **87.00**



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QUANTITY COMPUTATIONS

DESCRIPTION: CLASS QC1 CONCRETE, FOOTING

ITEM NO. 511E46512
QUANTITY 67
UNIT CY

		Length (FT)	Width (FT)	Ht (FT)	Area (SF)	#	Vol (CY)
Abutments	=	64.00	4.67	3	0.00	2	67.00
						Total=	67.00

Total **67.00**



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QUANTITY COMPUTATIONS

DESCRIPTION: **SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)**

ITEM NO. 512E10100
QUANTITY 386
UNIT SY

		Ht (FT)	Lengh (FT)	Width (FT)	Cad Area (SF)	#	Area (SY)
Rear	=				286.57		31.84
Right WW			19.20	2			4.27
top/Side			19.20	2			4.27
Left WW							
		6.06	35.00				23.57
Diaphragm	=						
Forward	=				295.47		32.83
Right WW			19.20	2			4.27
Left WW			19.20	2			4.27
Diaphragm	=	6.06	35.00				23.57
Abutments Total =							128.87
Total							129
Deck			106.33	10.85		2	256.43
Deck Total							257

Total **386**



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QUANTITY COMPUTATIONS

DESCRIPTION: TYPE 2 WATERPROOFING

ITEM NO. 512E33000
QUANTITY 27
UNIT SY

		Ht (FT)	Length (FT)	Width (FT)	#	Vol (SY)
Rear Abut-	=	10.47		3	1.00	3.49
Forw Abut-		10.96		3	1.00	3.65
R.A Wing -	=		14.50	3	2.00	9.67
F.A Wing -			14.50	3	2.00	9.67
Total=						26.48
Total						27.00



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QUANTITY COMPUTATIONS

DESCRIPTION: DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM
MEMBERS, LEVEL 3, TYPE 4 (111'-8" LONG)

ITEM NO. 515E15020
QUANTITY 5
UNIT EA

Total Number of Beams	=	5
Length of the beam	=	111.67
Cost per beam	=	32,000
Total cost of beams	=	\$160,000



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QUANTITY COMPUTATIONS

DESCRIPTION: INTERMEDIATE DIAPHRAGM

ITEM NO. 515E20000
QUANTITY 12
UNIT EACH

#	Diaphram	# Bays	# Spans	Total (FT)
	3	4	1	12

TOTAL = 12 EACH



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QUANTITY COMPUTATIONS

DESCRIPTION: 2" PREFORMED EXPANSION JOINT FILLER

ITEM NO. 516E13900
QUANTITY 40
UNIT SF

	No	Length (ft)	Height (ft)	Area (SF)
Rear Abutment	2	1.50	6.64	19.92
Forward Abutment	2	1.50	6.64	19.92
			Total =	39.84

Total = **40** SF



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QUANTITY COMPUTATIONS

DESCRIPTION: SEMI INTEGRAL ABUTMENT EXPANSION JOINT SEAL

ITEM NO. 516E14020
QUANTITY 107
UNIT FT

	Length (ft)	#	Total (ft)
Horizontal Joint - Rear Abutment	37.00	1	37.00
Horizontal Joint - Forward Abutment	37.00	1	37.00
Vertical Joint - Rear Abutment	8.05	2	16.10
Vertical Joint - Forward Abutment	8.05	2	16.10
Total=			106.20

TOTAL = 107 FT



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QUANTITY COMPUTATIONS

DESCRIPTION: ELASTOMERIC BEARINGS WITH INTERNAL LAMINATES
(14"x18"x3.398") AND LOAD PLATE (15"x19"x2") (NEOPRENE), AS PER
PLAN

ITEM NO. 516E44201
QUANTITY 10
UNIT EA

# Beams	# Abuts	Total
5	2	10

TOTAL = 10 EA



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QUANTITY COMPUTATIONS

DESCRIPTION: RAILING (THREE STEEL TUBE BRIDGE RAILING)

ITEM NO. 517E70100
QUANTITY 236
UNIT FT

	Length (ft)	#	Total (ft)
Left Side	118.00	1	118.00
Right Side	118.00	1	118.00
Total=			236.00

TOTAL = 236 FT



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QUANTITY COMPUTATIONS

DESCRIPTION: POROUS BACKFILL WITH GEOTEXTILE FABRIC

ITEM NO. 518E21200
QUANTITY 75
UNIT CY

	Width (FT)	Length (FT)	Height (FT)	#	VOL (CY)
Forward Abutment and Wingwalls	2	38.00	10.47	1	29.47
Rear Abutment and Wingwalls	2	38.00	10.96	1	30.85
	2	13.00	7.61	2	14.66
	2	13.00	8.105	2	15.61
Total =					74.98

ABUTMENTS TOTAL= **75.00** CY



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QUANTITY COMPUTATIONS

DESCRIPTION: SPECIAL - STEEL DRIP STRIP

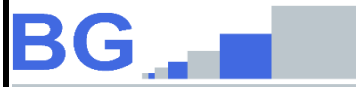
ITEM NO. 518E22300
QUANTITY 294
UNIT FT

	Length (ft)	#	Total (ft)
Left Side	105.00	1	105.00
Right Side	105.00	1	105.00

# Posts	Sides	Length	Total
14.00	2	3.00	84.00

Total= 294.00

TOTAL = 294 FT



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QUANTITY COMPUTATIONS

DESCRIPTION: 6" DIA. PERFORATED CORRUGATED PLASTIC PIPE

ITEM NO. 518E40000
QUANTITY 128
UNIT FT

	Len (ft)	
Rear Abutment	64	(Including the wingwalls)
Forward Abutment	64	(Including the wingwalls)
Total =	128	

Total **128**



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QUANTITY COMPUTATIONS

DESCRIPTION: 6" DIA. NONPERFORATED CORRUGATED PLASTIC PIPE, AS PER
PLAN

ITEM NO. 518E40011
QUANTITY 26
UNIT FT

	Len (ft)	#	Total (FT)
R.A	13.000	2	26
F.A	12.000	2	24

Total **26.0** ft



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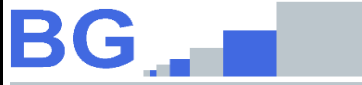
QUANTITY COMPUTATIONS

DESCRIPTION: DRILLED SHAFTS, 30" DIAMETER, INTO BEDROCK

ITEM NO. 524E94604
QUANTITY 140
UNIT FT

	No of piles	Estimated Length (FT)	Total Length (FT)
Rear	7	10	70
Forward	7	10	70
Total Abuts =			140

140



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QUANTITY COMPUTATIONS

DESCRIPTION: DRILLED SHAFTS, 36" DIAMETER, ABOVE BEDROCK

ITEM NO. 524E94702
QUANTITY 10
UNIT FT

	No of piles	Length	Total (FT)
Rear	7	0.75	5.25
Forward	7	0.67	4.67
Total Abuts =			9.92
Total=			9.92



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QUANTITY COMPUTATIONS

DESCRIPTION: REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS
PER PLAN

ITEM NO. 526E25010
QUANTITY 178
UNIT SY

Length (ft)	Width (ft)	#	Total (SF)	Total (SY)
25	32	2	1600.0	177.8

TOTAL = **178.0** SY



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QUANTITY COMPUTATIONS

DESCRIPTION: TYPE A INSTALLATION, AS PER PLAN

ITEM NO. 526E900010
QUANTITY 64
UNIT FT

Length (ft)	#	Total (FT)
32	2	64.0

TOTAL = **64.0** FT



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QUANTITY COMPUTATIONS

DESCRIPTION: LOW STRENGTH MORTAR BACKFILL

ITEM NO. 518E41201
QUANTITY 189
UNIT CY

	Area (Sq Ft)	Length (FT)	Height (FT)	#	VOL (CY)
Forward Abutment and Wingwalls	77.40	32.00	0	1	91.73
Rear Abutment and Wingwalls	81.72	32.00	0	1	96.86
Total =					188.59

ABUTMENTS TOTAL= **189.00** CY



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QUANTITY COMPUTATIONS

DESCRIPTION: STRUCTURE GROUNDING SYSTEM

ITEM NO. 625E33000
QUANTITY 1
UNIT EA

1.0

TOTAL = **1** EA



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QUANTITY COMPUTATIONS

DESCRIPTION: THERMAL INTEGRITY PROFILING (TIP) TEST

ITEM NO. 894E10000
QUANTITY 2
UNIT EA

TOTAL = **2** EA