



Computation for: FINAL ESTIMATES  
For Brown County

Project Name: BRO-68-4412

Project ID 110556

Designer: HM Date: 12/07/22

Checker: AMT Date: 07/13/23

Backchecker: HM Date: 07/13/23

Updater: HM Date: 07/13/23

Rechecker: AMT Date: 09/08/23

File Names: \_\_\_\_\_  
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Comments: \_\_\_\_\_  
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BRO-68-4412 ESTIMATED QUANTITIES					MADE BY HM	CHECKED BY AMT		
					DATE 12/7/2022	DATE 7/10/2023		
ITEM	ITEM EXT.	TOTAL	UNITS	DESCRIPTION	BRO-68-4412			SHT. REF.
					ABUTS.	SUPER.	GENERAL	
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN			LUMP	
202	23500	363	SY	WEARING COURSE REMOVED			363	
503	11100	LUMP		COFFERDAMS AND EXCAVATION BRACING			LUMP	
503	21100	76	CY	UNCLASSIFIED EXCAVATION	76			
509	10000	85099	LB	EPOXY COATED REINFORCING STEEL	47633	37466		
511	33500	2	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE		2		
511	34446	215	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK		215		
511	44112	164	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING	164			
511	46012	96	CY	CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING	96			
511	46512	89	CY	CLASS QC1 CONCRETE WITH QC/QA, FOOTING	89			
512	10100	579	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	248	332		
515	15100	5	EACH	DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 3, TYPE WF54-49		5		
515	20000	12	EACH	INTERMEDIATE DIAPHRAGM		12		
516	13600	3	SF	1" PREFORMED EXPANSION JOINT FILLER	3			
516	13900	68	SF	2" PREFORMED EXPANSION JOINT FILLER	68			
516	14020	107	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL	107			
516	44100	10	EACH	ELASTOMERIC BEARINGS WITH INTERNAL LAMINATES (15"x22"x2.55") AND LOAD PLATE (16"x23"x2") (NEOPRENE)	10			
517	70100	253	FT	RAILING (THREE STEEL TUBE BRIDGE RAILING)				
518	21200	191	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	191			
518	22300	290	FT	SPECIAL - STEEL DRIP STRIP		290		
518	40000	153	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	153			
518	40010	82	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	82			
524	94804	180	FT	DRILLED SHAFTS, 42" DIAMETER, INTO THE BEDROCK	180			
524	94902	106	FT	DRILLED SHAFTS, 48" DIAMETER, ABOVE BEDROCK	106			
526	30010	267	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17")			267	
526	90010	82	FT	TYPE A INSTALLATION			82	
601	21050	8	SY	TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT	8			
601	32004	322	CY	ROCK CHANNEL PROTECTION, TYPE A, WITH GEOTEXTILE FABRIC	322			
611	99710	4	EACH	PRECAST REINFORCED CONCRETE OUTLET	4			
894	10000	2	EACH	THERMAL INTEGRITY PROFILING (TIP) TEST	2			



Project: ODOT  
 Bridge: BRO-68-4412

**QUANTITY COMPUTATIONS**

Date: 12/7/22  
 By: HM  
 Checked: AMT  
 Sheet: \_\_\_\_\_

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

ITEM NO. 202E11203  
 QUANTITY \$ 167,000.00  
 UNIT LUMP

Superstructure

Beams

7 - B21-48 Beams

Substructure

Piers

Elevation Area of the Pier	=	612.44	SF	See SR001 For drawing (Ht till top of footing considered)
Width	=	4.00	ft	
Volume of Concrete	=	2449.75	CF	
Volume of 2 piers	=	<b>181.46</b>	CY	

Abutment and Wingwalls

Rear Abutment Footing

Rear Abutment Footing	=	819.525	SF	(Plan Area, Measured in BS001)
Rear Abut. Footing Thickness	=	4	ft	
Volume of Footing	=	<b>121.41</b>	CY	

Rear Abutment Stem

Width of the stem	=	2.75	ft
Height of the Abutment Stem	=	23.1667	ft
Length	=	26.25	ft
Volume of Concrete	=	1672.35	CF
	=	<b>61.94</b>	CY

North Abutment - Forward Abut  
 South Abutment - Rear Abut

Rear Abutment Wingwalls

Wingwall Elevation Area	=	376.25	SF	(Measured in SR001)
Thickness at the top	=	1.250	ft	
Thickness at the bottom	=	2.75	ft	
Average Thickness	=	2.000	ft	
Volume of concrete	=	752.5	CF	
For 2 Wingwalls	=	55.74	CY	

Connecting Area

Area	=	3	SF	(Measured in the original drawing)
Ht	=	26.500	ft	
Volume of Concrete	=	79.5001	CF	
For 2 Wingwalls	=	5.89	CY	

Backwall

Area of the backwall	=	1.58	SF	(Measured in SR001)
Length	=	26.25	ft	
Volume	=	1.54	CY	

Total for rear abutment = 246.52 CY

Forward Abutment Footing

Forward Abutment Footing	=	887.606	SF	(Plan Area, Measured in BS001)
Forward Abut. Footing Thickness	=	4		
Volume of Footing	=	131.50	CY	

Forward Abutment Stem

Width of the stem	=	2.75	ft	
Height of the Abutment Stem	=	24.16667	ft	
Length	=	26.25	ft	
Volume of Concrete	=	1744.53	CF	
	=	64.61	CY	

Forward Abutment Wingwalls

Wingwall Elevation Area	=	454.69	SF	(Measured in SR001)
Thickness at the top	=	1.250	ft	
Thickness at the bottom	=	2.75	ft	
Average Thickness	=	2.000	ft	
Volume of concrete	=	909.4	CF	
For 2 Wingwalls	=	67.36	CY	

Connecting Area

Area	=	3	SF	(Measured in the original drawing)
Ht	=	27.500	ft	
Volume of Concrete	=	82.5001	CF	
For 2 Wingwalls	=	6.11	CY	

Backwall

Area of the backwall	=	1.58	SF	(Measured in SR001)
Length	=	26.25	ft	
Volume	=	1.54	CY	
Total for forward abutment	=	271.12	CY	
Total Quantity for abutments	=	517.63	CY	

	Volume (CY)	Price/Unit Vol.	Price
Superstructure	0.00	\$ 20.00	\$ -
Piers	181.46	\$ 200.00	\$ 36,292.62
Abutments	517.63	\$ 200.00	\$ 103,526.70



Project: ODOT  
Bridge: BRO-68-4412

**QUANTITY COMPUTATIONS**

Date: 12/7/22  
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DESCRIPTION: WEARING SURFACE REMOVED

ITEM NO. 202E23500  
QUANTITY 363  
UNIT SY

As per BM191, There is Bituminous Wearing Surface of 3" added in 1996

Width of the bridge	=	28	ft
Bridge Limits	=	116.66	ft
Area to be removed	=	362.94	SY



Project: ODOT  
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**QUANTITY COMPUTATIONS**

Date: 12/7/22  
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DESCRIPTION: COFFERDAMS AND EXCAVATION BRACING

ITEM NO. 503E11100  
QUANTITY \_\_\_\_\_  
UNIT LUMP

Going with 60,000\$ as the cost of Cofferdams for the removal of the columns



Project: ODOT  
Bridge: BRO-68-4412

Date: 12/7/22  
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### QUANTITY COMPUTATIONS

DESCRIPTION: UNCLASSIFIED EXCAVATION

ITEM NO. 503E21100  
QUANTITY 76  
UNIT CY

Unclassified excavation is calculated where there is no removal of existing structure and new excavation has to be done

In our case we are putting the proposed structure in the place of existing structure except for few wingwalls

1' on Either side

#### **Rear Abutment Left Wingwall (WW1)**

6'-6" From the end of the wingwall to the existing Footing needs unclassified Excavation

Area of the Wingwall Measured in the Elevation View	=	23.9	SF
Width of the excavation	=	4	FT
Volume of the excavation	=	95.6	CF

#### **Rear Abutment Right Wingwall (WW2)**

Elevation area of the wingwall	=	23.129	SF
Width of the excavation	=	4	FT
Volume of excavation	=	92.516	CF

Elevation area of the Proposed Footing Excavation	=	169.297	SF	(Only one side)
Width of the excavation	=	5.5	Ft	
Volume of excavation	=	931.1335	CF	



**Forward Abutment Right Wingwall (WW4)**

Width of the excavation	=	4	FT
Area of the Wingwall Measured in the Elevation View	=	21.07	SF
Volume of the excavation	=	84.28	CF

**Forward Abutment Left Wingwall (WW3)**

Width of the excavation	=	4	FT
Area of the Wingwall Measured in the Elevation View	=	20.267	SF
Volume of the excavation	=	81.068	CF
Elevation area of the Proposed Footing Excavation	=	139.698	SF
Width of the excavation	=	5.5	Ft (Only one side)
Volume of excavation	=	768.339	CF

Total Unclassified Excavation	=	2052.9	CF	
	=	<table border="1"><tr><td>76.0</td></tr></table>	76.0	CY
76.0				



Project: ODOT  
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**QUANTITY COMPUTATIONS**

Date: 12/7/22  
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DESCRIPTION: EPOXY COATED REINFORCING STEEL

ITEM NO. 509E10000  
QUANTITY 85099  
UNIT LB

Reinforcement Weight

Deck	37466.0
Abutments	39134.0
Footings	8499.0

85,099



Project: ODOT  
Bridge: BRO-68-4412

QUANTITY COMPUTATIONS

Date: 6/26/23  
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DESCRIPTION: SEMI-INTEGRAL DIAPHRAGM GUIDE

ITEM NO. 511E33500  
QUANTITY 2  
UNIT EACH

Rear Abutment	=	1
Forward Abutment	=	1
Total	=	<span style="border: 1px solid black; padding: 2px;">2</span>



Project: ODOT  
 Bridge: BRO-68-4412

**QUANTITY COMPUTATIONS**

Date: 12/7/22  
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DESCRIPTION: CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK

ITEM NO. 511E34446  
 QUANTITY 215  
 UNIT CY

**SUPERSTRUCTURE:**

Plan area of the Deck = 4756 SF  
 Deck Thickness = 0.708333 ft  
 Volume of Concrete = 3368.8 CF  
 = 124.8 CY

Face of the Abutment to Face of the abutment Distance = 111.167 ft

Haunch Area with Topping Thickness = 30.44 SF (Measured in SS003)  
 Width of the Haunch = 4.083333 ft

Volume = 124.2967 CF  
 = 4.604 CY

Volume of 5 Haunch Concrete = 23.018 CY

Overhang Concrete

Girder 1 Overhang Area = 0.926 SF  
 Girder 5 Overhang Area = 0.926 SF

length of the overhang = 111.167 ft

Volume of the concrete = 205.88 CF  
 = 7.63 CY

Diaphragms

Abut	Girder	Top of Deck EL.	Haunch	Top Flange	Poly. Filler	Top of Beam Seat EL.	Diap. Height
Rear	1	930.30	1.260	0.42	0.223	923.61	4.790
Rear	2	930.46	1.260	0.42	0.223	923.61	4.950
Rear	3	930.61	1.260	0.42	0.223	923.61	5.100
Rear	4	930.49	1.260	0.42	0.223	923.61	4.980
Rear	5	930.37	1.271	0.42	0.223	923.61	4.850
Forward	1	932.09	1.260	0.42	0.223	925.4	4.790
Forward	2	932.26	1.260	0.42	0.223	925.4	4.960
Forward	3	932.43	1.260	0.42	0.223	925.4	5.130
Forward	4	932.32	1.260	0.42	0.223	925.4	5.020
Forward	5	932.32	1.271	0.42	0.223	925.4	5.010

Rear Diaph. Area = 183.70 sf (measured in SR001)  
 Avg Ht = 4.93 ft  
 Volume = 906.35 CF

Area of the beam = 7.10 SF (PSID-1-13)  
 Length into dia. = 3.00 ft (measured in SR003)  
 No. Beams = 5.00  
 Volume to be deducted = 106.49 CF

Rear Abut Diaphragm Volume = 29.62 CY

Forward Dia Area = 183.70 sf (measured in SF001)  
 Avg Ht = 4.98 ft  
 Volume = 915.16 CF

Area of the beam = 7.10 SF (PSID-1-13)  
 Length into dia. = 2.93 ft (measured in SR003)  
 No. Beams = 5.00  
 Volume to be deducted = 103.83 CF

Volume = 30.05 CY

= **215.09**



Project: ODOT  
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**QUANTITY COMPUTATIONS**

Date: 12/7/22  
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DESCRIPTION: CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT NOT INCLUDING FOOTING

ITEM NO. 511E44112  
QUANTITY 164  
UNIT CY

**Stem**

Rear Abutment

Plan Area of the Stem	=	183.70	ft <sup>2</sup>	Measured in SR001
Height of the Stem	=	11.615	ft	
Volume Of Concrete	=	2133.6	CF	

Forward Abutment

Plan Area of the Stem	=	183.70	ft <sup>2</sup>	Measured in SF001
Height of the Stem	=	12.396	ft	
Volume Of Concrete	=	2277.1	CF	
Total Volume of Concrete	=	<span style="border: 1px solid black; padding: 2px;">164.0</span>	CY	



Project: ODOT  
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**QUANTITY COMPUTATIONS**

DESCRIPTION: CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING

ITEM NO. 511E46012  
 QUANTITY 96  
 UNIT CY

**Rear Wingwalls**

WW1 Elevation Area	=	259.92	SF	(Measured in SR002)
Thickness of the WW	=	2	FT	
Volume of Wingwall 1	=	519.84	CF	
Wingwall 1 & Diaphragm Connecting Area	=	4.139	SF	(Measured in SR001)
Height of connecting area	=	18.33	FT	
Volume of Connecting Area	=	75.87	CF	
WW2 Elevation Area	=	278.34	SF	(Measured in SR002)
Thickness of the WW	=	2	FT	
Volume of Wingwall 2	=	556.68	CF	
Wingwall 2 & Diaphragm Connecting Area	=	4.19	SF	(Measured in SR001)
Height of connecting area	=	18.25	FT	
Volume of Connecting Area	=	76.47	CF	
Total Volume of Rear Wingwalls	=	1228.9	CF	
	=	<span style="border: 1px solid black; padding: 2px;">45.5</span>	CY	

**Forward Wingwalls**

WW3 Elevation Area	=	271.36	SF	(Measured in SF002)
Thickness of the WW	=	2	FT	
Volume of Wingwall 3	=	542.72	CF	
Wingwall 3 & Diaphragm Connecting Area	=	4.139	SF	(Measured in SF001)
Height of connecting area	=	19.04	FT	(Measured in SF001)
Volume of Connecting Area	=	78.81	CF	
WW4 Elevation Area	=	343.905	SF	(Measured in SF002)
Thickness of the WW	=	2	FT	
Volume of Wingwall 4	=	687.81	CF	
Wingwall 4 & Diaphragm Connecting Area	=	3.046	SF	(Measured in SF001)
Height of connecting area	=	19.18	FT	(Measured in SF001)
Volume of Connecting Area	=	58.42	CF	
Total Volume of Rear Wingwalls	=	1367.8	CF	
	=	50.7	CY	
Total Volume for both wingwalls	=	96.2	CY	





Project: ODOT  
Bridge: BRO-68-4412

**QUANTITY COMPUTATIONS**

Date: 6/26/23  
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DESCRIPTION: CLASS QC1 CONCRETE WITH QC/QA, FOOTING

ITEM NO. 511E46512  
QUANTITY 89  
UNIT CY

**Footing**

Rear Abutment

Area of the Rear Abut Footing	=	388.74	ft <sup>2</sup>	measured in SO002
Thickness of the Footing	=	3.00	ft	
Volume of Concrete	=	43.19	CY	

Forward Abutment

Area of the Forward Abut Footing	=	410.05	ft <sup>2</sup>	measured in SO002
Thickness of the Footing	=	3.00	ft	
Volume of Concrete	=	45.56	CY	
Total volume of Footing Concrete	=	<span style="border: 1px solid black; padding: 2px;">89</span>		



Project: ODOT  
Bridge: BRO-68-4412

**QUANTITY COMPUTATIONS**

Date: 12/7/22  
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DESCRIPTION: SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

ITEM NO. 512E10100  
QUANTITY 579  
UNIT SY

**SUPERSTRUCTURE:**

Length of the deck	=	118.8854167	ft	
Side Length to be sealed	=	12.550	ft	
Area of Coating on both sides	=	2984.03	SF	331.6

**Rear Abutment**

Abutment Diaphragm

Rear Abutment Diaphragm Front Face Length	=	40.615	ft	
Average Height	=	4.93	ft	
No of beams	=	5		
Area of the beam	=	7.10	SF	
Area to be deducted	=	35.50	SF	
Area of to be coated	=	164.89	SF	

Stem

Rear Abutment Stem Front Face Length	=	40.615	ft	
Beam Seat Elevation	=	923.61		(From SR001)
Top of Ground Elevation	=	916.17		(From SP001)
Ht to be coated	=	7.44	ft	
Area to be coated	=	302.17	SF	

Side area (1' - 10 3/8")

Width	=	1.865	ft	
Height	=	12.37	ft	
Area to be coated (On Both Sides)	=	46.144	SF	

Connecting Portion (1'-8.25" + 1'-2 1/8" + 1'-8.75") - Wingwall 1

Width	=	4.594	ft	
Height	=	11.29	ft	(GL is 1'-1" above in this area)
Area to be coated (On Both Sides)	=	51.866	SF	

Connecting Portion (1'-8.25" + 1'-7 5/8" + 1'-8.75") - Wingwall 2

Width	=	5.052	ft	
Height	=	11.29	ft	(GL is 1'-1" above in this area)
Area to be coated (On Both Sides)	=	57.041	SF	

Wingwall 1

Elevation area (Just wingwall)	=	140.366	SF	(Measured in SR002)
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Wingwall 2

Elevation area (Just wingwall)	=	139.063	SF	(Measured in SR002)
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**Forward Abutment**

Abutment Diaphragm

Forward Abutment Diaphragm Front Face Length	=	40.615	ft	
Average Height	=	4.98	ft	
No of beams	=	5		
Area of the beam	=	7.10	SF	
Area to be deducted	=	35.50	SF	
Area of to be coated	=	166.84	SF	

Stem

Forward Abutment Stem Front Face Length	=	40.615	ft	
Beam Seat Elevation	=	925.4		(From SF001)
Top of Ground Elevation	=	915.23		(From SP001)
Ht to be coated	=	10.17	ft	
Area to be coated	=	413.05	SF	

Side area (1' - 10 3/8")

Width	=	1.865	ft	
Height	=	15.15	ft	
Area to be coated (On Both Sides)	=	56.504	SF	

Connecting Portion (1'-8.25" + 1'-2 1/8" + 1'-8.75") - Wingwall 3

Width	=	4.594	ft	
Height	=	14.24	ft	(GL is 11" above in this area)
Area to be coated (On Both Sides)	=	65.393	SF	

Connecting Portion (1'-8.25" + 10 7/8" + 1'-6 1/8") - Wingwall 4

Width	=	4.104	ft	
Height	=	14.24	ft	(GL is 11" above in this area)
Area to be coated (On Both Sides)	=	58.423	SF	

Wingwall 3

Elevation area (Just wingwall) = 164.586 SF (Measured in SF002)

Wingwall 4

Elevation area (Just wingwall) = 211.016 SF (Measured in SF002)

Top of the wingwalls

Wingwall 1 Width = 2 ft  
Wingwall 2 Width = 2 ft  
Wingwall 3 Width = 2 ft  
Wingwall 4 Width = 2 ft

Wingwall 1 Length = 20.904 ft  
Wingwall 2 Length = 20.211 ft  
Wingwall 3 Length = 20.742 ft  
Wingwall 4 Length = 25.9 ft

Area to be coated - WW1 = 41.808 SF  
Area to be coated - WW2 = 40.422 SF  
Area to be coated - WW3 = 41.484 SF  
Area to be coated - WW4 = 51.800 SF

Connecting Area top portion

WW1 Area = 4.139 SF  
WW2 Area = 4.190 SF  
WW3 Area = 4.139 SF  
WW4 Area = 3.046 SF

Top area of Stem and Diaphragm will not be coated

Total Area = 2228.38 SF  
Total Area For Substructure = 247.60 SY



Project: ODOT  
Bridge: BRO-68-4412

**QUANTITY COMPUTATIONS**

Date: 6/26/23  
By: HM  
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DESCRIPTION: DRAPED STRAND PRESTRESSED CONCRETE BRIDGE I-BEAM MEMBERS, LEVEL 3, TYPE WF54-49 (LENGTH = 117'-2")

ITEM NO. 515E15100  
QUANTITY 5  
UNIT EA

Total Number of Beams	=	5
Length of the beam	=	117.17



Project: ODOT  
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QUANTITY COMPUTATIONS

Date: 6/26/23  
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DESCRIPTION: INTERMEDIATE DIAPHRAGM

ITEM NO. 515E20000  
QUANTITY 12  
UNIT EACH

Bay	No
1	3
2	3
3	3
4	3

Total = **12**



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**QUANTITY COMPUTATIONS**

Date: 12/7/22  
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DESCRIPTION: 1" PREFORMED EXPANSION JOINT FILLER

ITEM NO. 516E13600  
QUANTITY 3  
UNIT SF

Between Approach Slab and Deck

Length (ft)	Thickness (ft)	#
0.50	1.42	4.00

Area (SF)  
2.83

**TOTAL = 3 SF**





Project: ODOT  
Bridge: BRO-68-4412

QUANTITY COMPUTATIONS

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DESCRIPTION: 2" PREFORMED EXPANSION JOINT FILLER

ITEM NO. 516E13900  
QUANTITY 68  
UNIT SF

Location	Length (ft)	Height (ft)	#	Area (SF)
Rear Abutment - Abutment Diaphragm & Wingwall 1	2.54	6.73	1.00	17.10
Rear Abutment - Abutment Diaphragm & Wingwall 2	2.54	6.64	1.00	16.88
Forward Abutment - Abutment Diaphragm & Wingwall 3	2.54	6.63	1.00	16.85
Forward Abutment - Abutment Diaphragm & Wingwall 4	2.54	6.77	1.00	17.21

68.04

Measured in SR001, SR002, SF001, SF002



Project: ODOT  
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**QUANTITY COMPUTATIONS**

Date: 12/7/22  
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DESCRIPTION: SEMI INTEGRAL ABUTMENT EXPANSION JOINT SEAL

ITEM NO. 516E14020  
QUANTITY 107  
UNIT FT

Abutment	Length (ft)	
Rear abutment	53.05	(Measured in SR001)
Forward abutment	53.05	(Measured in SF001)

**TOTAL =** **107** **FT**



Project: ODOT  
Bridge: BRO-68-4412

**QUANTITY COMPUTATIONS**

Date: 6/26/23  
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DESCRIPTION: ELASTOMERIC BEARINGS WITH INTERNAL LAMINATES  
(15"x22"x2.67") AND LOAD PLATE (16"x23"x1.50") (NEOPRENE)

ITEM NO. 516E44100  
QUANTITY 10  
UNIT EA

# Beams	# Abuts	Total
5	2	10



Project: ODOT  
Bridge: BRO-68-4412

QUANTITY COMPUTATIONS

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Checked: AMT  
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DESCRIPTION: RAILING (THREE STEEL TUBE BRIDGE RAILING)

ITEM NO. 517E70100  
QUANTITY 253  
UNIT FT

Right side of the bridge = 126.4375 ft  
Left Side of the bridge = 126.4375 ft  
= 252.875 ft



Project: ODOT  
 Bridge: BRO-68-4412

**QUANTITY COMPUTATIONS**

Date: 12/7/22  
 By: HM  
 Checked: AMT  
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DESCRIPTION: POROUS BACKFILL WITH GEOTEXTILE FABRIC

ITEM NO. 518E21200  
 QUANTITY 191  
 UNIT CY

Wingwall 1 Elevation Area	=	235.00	SF	(Measured in SR002)
Wingwall 2 Elevation Area	=	250.89	SF	(Measured in SR002)
Wingwall 3 Elevation Area	=	248.08	SF	(Measured in SF002)
Wingwall 4 Elevation Area	=	316.99	SF	(Measured in SF002)
Width of the Backfill	=	2.00	ft	
Volume of Wingwall 1	=	470.01	CF	
Volume of Wingwall 2	=	501.79	CF	
Volume of Wingwall 3	=	496.17	CF	
Volume of Wingwall 4	=	633.98	CF	
Rear Abutment Elevation Area	=	743.26	SF	
Width of the Backfill	=	2.00	ft	
Volume of the Rear Abutment	=	1486.51	CF	
Forward Abutment Elevation Area	=	778.95	SF	
Width of the Backfill	=	2.00	ft	
Volume of the Forward Abutment	=	1557.89	CF	
Total Volume	=	5146.35	CF	
	=	190.61	CY	



Project: ODOT  
Bridge: BRO-68-4412

### QUANTITY COMPUTATIONS

Date: 12/7/22  
By: HM  
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DESCRIPTION: SPECIAL - STEEL DRIP STRIP

ITEM NO. 518E22300  
QUANTITY 290  
UNIT FT

DESCRIPTION: SPECIAL - STEEL DRIP STRIP

Length of the deck on one side	=	114.83	ft	(Measured in SP001)
Length of the deck on other side	=	114.83	ft	(Measured in SP001)
Guardrail Post on one side	=	15		
Guardrail Post on other side	=	15		
2'-0" at each guardrail	=	2	ft	
Total steel drip at posts	=	60	ft	
Total		<b>289.67</b>		



Project: ODOT  
Bridge: BRO-68-4412

**QUANTITY COMPUTATIONS**

Date: 12/7/22  
By: HM  
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DESCRIPTION: 6" DIA. PERFORATED CORRUGATED PLASTIC PIPE

ITEM NO. 518E40000  
QUANTITY 153  
UNIT FT

		<b>Len (ft)</b>	
Rear Abutment + WW	74.34		(Measured in SR001)
Forward Abutment + WW	78.42		(Measured in SF001)

Total **153.00**



Project: ODOT  
Bridge: BRO-68-4412

**QUANTITY COMPUTATIONS**

Date: 12/7/22  
By: HM  
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DESCRIPTION: 6" DIA. NONPERFORATED CORRUGATED PLASTIC PIPE,  
INCLUDING SPECIALS

ITEM NO. 518E40010  
QUANTITY 82  
UNIT FT

Abutment	Len (ft)
Wingwall 1	26.00
Wingwall 2	26.00
Wingwall 3	19.00
Wingwall 4	11.00

Total 82.0 ft





Project: ODOT  
Bridge: BRO-68-4412

QUANTITY COMPUTATIONS

Date: 12/7/22  
By: HM  
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DESCRIPTION: DRILLED SHAFTS, 48" DIAMETER, ABOVE BEDROCK

ITEM NO. 524E94902  
QUANTITY 106  
UNIT FT

Substructure	Number of Drilled Shafts	Length (ft.)	Total Length
Rear Abut & WW's	9	5.5	49.5
Forward Abut & WW's	9	6.25	56.25

Total **105.8** ft

DESCRIPTION: DRILLED SHAFTS, 42" DIAMETER, INTO BEDROCK

ITEM NO. 524E94804  
QUANTITY 180  
UNIT FT

Substructure	Number of Drilled Shafts	Length (ft.)	Total Length
Rear Abut & WW's	9	10	90
Forward Abut & WW's	9	10	90

Total **180.0** ft



Project: ODOT  
Bridge: BRO-68-4412

Date: 12/7/22  
By: HM  
Checked: AMT  
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**QUANTITY COMPUTATIONS**

DESCRIPTION: REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=17")

ITEM NO. 526E30010  
QUANTITY 267  
UNIT SY

Rear Abutment Approach Slab Area	=	1200.0	SF	(Measured in the Site Plan)
Forward Abutment Approach Slab AreaArea	=	1200.0	SF	(Measured in the Site Plan)
Total (SF)	=	2400.00	SF	
Total (SY)	=	<span style="border: 1px solid black; padding: 2px;">267</span>	SY	



Project: ODOT  
Bridge: BRO-68-4412

**QUANTITY COMPUTATIONS**

Date: 12/7/22  
By: HM  
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DESCRIPTION: TYPE A INSTALLATION

ITEM NO. 526E90010  
QUANTITY 82  
UNIT FT

Rear Abutment = 40.62 ft (Measured in Site Plan)

Forward Abutment = 40.62 ft (Measured in Site Plan)

**Total = 82 FT**



Project: ODOT  
Bridge: BRO-68-4412

**QUANTITY COMPUTATIONS**

Date: 12/7/22  
By: HM  
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DESCRIPTION: TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT

ITEM NO. 601E21050  
QUANTITY 8  
UNIT SY

	Area (SF)	No of Outlets	Area (SF)
Each Concrete Block is 4'x4'	16.00	4.00	64.00

Area (SY)  
7.11

**Total =** **8** **CY**



Project: ODOT  
Bridge: BRO-68-4412

**QUANTITY COMPUTATIONS**

Date: 12/7/22  
By: HM  
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DESCRIPTION: ROCK CHANNEL PROTECTION, TYPE A, WITH GEOTEXTILE FABRIC

ITEM NO. 601E32004  
QUANTITY 322  
UNIT CY

	Area (SF)	Thickness (FT)	Volume (CF)
Rear Abutment	1565.94	3.00	4697.83
Forward Abutment	1326.22	3.00	3978.66

Volume (CY)  
173.99  
147.36

**Total = 322 CY**



Project: ODOT  
Bridge: BRO-68-4412

**QUANTITY COMPUTATIONS**

Date: 12/7/22  
By: HM  
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DESCRIPTION: PRECAST REINFORCED CONCRETE OUTLET

ITEM NO. 611E99710  
QUANTITY 4  
UNIT EACH

Each

Rear Abutment	2.00
Forward Abutment	2.00

**Total =** **4**



Project: ODOT  
Bridge: BRO-68-4412

**QUANTITY COMPUTATIONS**

Date: 12/7/22  
By: HM  
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DESCRIPTION: THERMAL INTEGRITY PROFILING (TIP) TEST

ITEM NO. 894E10000  
QUANTITY 2  
UNIT EACH

Each

Rear Abutment	1.00
Forward Abutment	1.00

**Total =** **2**