

BRIDGE NO: MOT-00004-17.790R
 SFN: 5760445
 BRIDGE DESCRIPTION: SR 4 over Webster Street



CALCULATED BY: STK
 CHECKED BY: BWR

DATE: 08/11/22
 DATE: 08/11/22

ESTIMATED QUANTITIES

Note to Designer: Edit Blue Text Only!

GENERAL INPUT:

Skew = 7.00 degrees

DECK:

Bridge limits = 170.05 ft
 Deck width =
 Average deck width = 68.00 ft
 Slab thickness = 0.73 ft

REAR ABUTMENT
 68.00 ft

FORWARD ABUTMENT
 68.00 ft

ABUTMENTS:

	<u>REAR ABUTMENT</u>	<u>FORWARD ABUTMENT</u>
Length of breastwall (from proposed abutment plan) =	69.09 ft	67.67 ft
Length of backwall =	69.09 ft	67.67 ft
Width of breastwall =	3.75 ft	3.75 ft
Width of approach slab =	64.67 ft	64.67 ft
Thickness of approach slab =	1.25 ft	1.25 ft
Existing bottom of footing elevation =	745.09	748.13

Top of deck elevations at bridge limits:

Left toe of parapet elevation =	755.43	758.8
Right toe of parapet elevation =	760.05	763.08
Average top of deck elevation =	757.74	760.94
Approach slab seat elevation =	<u>Left</u> 754.18 <u>Right</u> 758.80	<u>Left</u> 757.6 <u>Right</u> 761.83
Average approach slab seat elevation =	756.49	759.69
Average beam seat elevation =	753.62	756.53

	<u>Wingwall 1</u>	<u>Wingwall 2</u>	<u>Wingwall 3</u>	<u>Wingwall 4</u>
Wingwall thickness =			1.50 ft	
Overall wingwall length =	16.75 ft	16.00 ft	16.50 ft	16.50 ft

PARAPET DATA:

Perimeter of epoxy sealing standard SBR-1-20 section = 7.83 ft

ITEM	ITEM EXT.	DESCRIPTION
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ITEM 202	11203	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN
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Approximate area of deck to remove = 11328.00 ft²
 Cost to remove deck = \$20/ft²
 Approximate volume of abutment concrete to remove = 1900.00 ft³
 Cost to remove concrete = \$200/cy
 Total cost = \$241,000
 Quantity = Lump

ITEM 202	22900	APPROACH SLAB REMOVED
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Rear approach slab plan area = 1200.00 ft²
 Forward approach slab plan area = 1200.00 ft²
 Total Quantity = 267 sq yd

ITEM 202	23500	WEARING COURSE REMOVED																																						
<p>Rear approach slab plan area = 1200.00 ft² Forward approach slab plan area = 1200.00 ft²</p> <p>Total Quantity = 267 sq yd</p>																																								
ITEM 202	32800	CONCRETE SLOPE PROTECTION REMOVED																																						
<p>Area of slope protection to remove at rear abutment = 888.00 ft² Area of slope protection to remove at forward abutment = 748.00 ft²</p> <p>Total Quantity = 182 sq yd</p>																																								
ITEM 203	10000	EXCAVATION																																						
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ITEM 204	30010	GRANULAR MATERIAL, TYPE B																																						
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ITEM 204	50001	GEOTEXTILE FABRIC, AS PER PLAN																																						
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ITEM 503	11100	COFFERDAMS AND EXCAVATION BRACING																																						
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ITEM 503	21300	UNCLASSIFIED EXCAVATION																																						
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ITEM 509	10000	EPOXY COATED STEEL REINFORCEMENT																						
<p style="text-align: center;"> Abutment total = 6545 lb Diaphragm Guide total = 705 lb Approach Slab Total = 36310 lb Total Quantity = 43560 lb </p>																								
ITEM 509	26000	GALVANIZED STEEL REINFORCEMENT																						
<p style="text-align: center;"> Total for abutment diaphragm = 9072 lb Total for bridge deck = 104402 lb Total Quantity = 113474 lb </p>																								
ITEM 509	30020	NO. 4 DEFORMED GFRP REINFORCEMENT																						
<p style="text-align: center;"> Parapet total = 5956.67 ft Total Quantity = 5957 ft </p>																								
ITEM 510	10000	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT																						
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ITEM 511	33501	SEMI-INTEGRAL DIAPHRAGM GUIDE, AS PER PLAN																						
<p style="text-align: center;"> Number of abutments = 2 each Number of diaphragm guides per abutment = 1 each Total Quantity = 2 each </p>																								
ITEM 511	34446	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK																						
<p style="text-align: center;"><u>Deck concrete:</u></p> <p style="text-align: center;"> Total width of bridge = 68.00 ft Length of new bridge deck = 170.33 ft Thickness of new deck = 0.73 ft Deck volume = 8445.69 ft³ </p> <p style="text-align: center;"><u>Deck haunch concrete:</u></p> <p style="text-align: center;"> Length of beam = 167.00 ft Average haunch area = 0.28 ft² Number of beams = 8 each Volume of haunches = 376.60 ft³ </p> <p style="text-align: center;"><u>Deck overhang concrete:</u></p> <p style="text-align: center;"> Average overhang width = 1.91 ft Additional thickness = 0.37 ft Length of deck = 170.33 ft Number of sides = 2 each Volume of overhangs = 242.65 ft³ </p> <p style="text-align: center;"><u>Additional deck concrete for light pilaster:</u></p> <p style="text-align: center;"> Additional plan area for deck concrete = 4.85 ft² Thickness of deck = 1.10 ft Number of pilasters = 2 each Volume of additional deck concrete for pilasters = 10.69 ft³ </p>																								
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<u>Girder deductions from diaphragm:</u>		
Cross section area of girder =	49.98 in ²	49.98 in ²
Web thickness =	0.68 in	0.68 in
Flange thickness =	1.10 in	1.10 in
*Area per girder to be deducted =	0.24 ft ²	0.24 ft ²
Face of diaphragm to girder end (along CL beam) =	1.28 ft	1.75 ft
Volume deduction from diaphragm per girder =	0.31 ft ³	0.42 ft ³
Total deduction for all girders =	2.48 ft ³	3.38 ft ³
<u>Diaphragm guide deduction:</u>		
Area of diaphragm guide =	4.37 ft ²	5.21 ft ²
Length of diaphragm guide =	3.81 ft	3.81 ft
Deduction for diaphragm guide =	16.65 ft ³	19.85 ft ³
Total net diaphragm volume =	883.02 ft ³	860.37 ft ³

Total Quantity = 401 cu yd

ITEM 511	34450	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)
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<u>Parapet:</u>	
Area of standard section =	4.08 ft ²
Length of standard section =	170.33 ft
Number of sides =	2 each
Volume of parapet transition on approach slab =	49.14 ft ³
Number of parapet transitions on approach slab =	4 each
Additional height of parapet on approach slab due to asphalt = 1.19 ft	
Width of parapet concrete =	1.50 ft
Length of parapet on approach slab =	14.00 ft
Number of locations =	4 each
Additional plan area of light pilaster = 4.62 ft ²	
Height of pilaster parapet =	3.50 ft
Number of pilasters =	2 each
Total volume of parapet =	1719.80 ft ³

Total Quantity = 64 cu yd

ITEM 511	44110	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING
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	<u>REAR ABUTMENT</u>		<u>FORWARD ABUTMENT</u>	
Area of breastwall from CADD =	83.43 ft ²		67.67 ft ²	
Width of breastwall =	3.75 ft		3.75 ft	
Volume of breastwall concrete =	312.86 ft ³		253.76 ft ³	
	<u>Wingwall 1</u>	<u>Wingwall 2</u>	<u>Wingwall 3</u>	<u>Wingwall 4</u>
Area of wingwall below construction joint =	42.19 ft ²	29.29 ft ²	29.05 ft ²	40.03 ft ²
Wingwall thickness below construction joint =			1.83 ft	
Area of wingwall above construction joint =	78.17 ft ²	72.90 ft ²	82.31 ft ²	83.02 ft ²
Wingwall thickness above construction joint =			1.50 ft	
Volume of wingwall =	194.60 ft ³	163.05 ft ³	176.72 ft ³	197.92 ft ³

Total Quantity = 49 cu yd

ITEM 511	81300	CONCRETE, MISC.: AESTHETIC TEST PANEL
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Total Quantity = 2 each

ITEM 512	10100	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
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	<u>REAR ABUTMENT</u>	<u>FORWARD ABUTMENT</u>
<u>Breastwall:</u>		
Area of breastwall to seal (including diaphragm guide) =	98.37 ft ²	142.45 ft ²
	<u>Wingwall 1</u>	<u>Wingwall 2</u>
Area of wingwall to seal =	45.78 ft ²	41.34 ft ²
Wingwall thickness =	1.50 ft	
Length of top of wingwalls =	16.75 ft	16.00 ft
Total area per abutment =	234.62 ft ²	293.72 ft ²
	<u>PIER 1</u>	<u>PIER 2</u>
Number of columns =	6 each	6 each
Diameter of column =	3.00 ft	3.00 ft
Average height of column from groundline =	14.28 ft	15.49 ft
Area of columns to seal =	807.51 ft ²	875.94 ft ²
Area of pier cap to seal =	273.37 ft ²	273.37 ft ²
Number of sides of pier cap =	2 each	2 each
Area of pier cap end to seal =	12.00 ft ²	12.00 ft ²
Number of pier cap ends =	2 each	2 each
Area of underside of pier cap to seal =	158.44 ft ²	158.44 ft ²
Total area of pier cap to seal =	729.18 ft ²	729.18 ft ²
Total Pier quantity = 3141.81 ft ²		

Parapet and edge of deck:

Distance under deck = 1.91 ft

Parapet perimeter (SBR-1-20 section) = 7.83 ft

Average cantilever deck slab thickness = 1.10 ft

Deck width along back face of parapet = 0.17 ft

Perimeter of sealing on deck (SBR-1-20 section) = 11.01 ft

Length of superstructure to be sealed = 170.33 ft

Number of sides = 2 each

Area of parapet on bridge to be sealed = 3,750.31 ft²

	<u>REAR ABUTMENT</u>	<u>FORWARD ABUTMENT</u>
Area of diaphragm to be sealed =	129.68 ft ²	146.70 ft ²
Total superstructure quantity = 4026.69 ft ²		

Approach Slabs:

Average perimeter for SBR-1-20 transition = 7.24 ft

Length of parapet transition = 14.00 ft

Number of transitions = 4 each

Quantity for sealing of parapet on approach slab = 405.44 ft²

Quantity for abutments = 59 sq yd

Quantity for piers = 350 sq yd

Quantity for superstructure = 448 sq yd

Quantity for general = 46 sq yd

Total Quantity = 903 sq yd

ITEM 512	33000	TYPE 2 WATERPROOFING
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	<u>REAR ABUTMENT</u>	<u>FORWARD ABUTMENT</u>
Width of waterproofing =	3.00 ft	3.00 ft
Height of waterproofing =	8.80 ft	9.20 ft
Area of waterproofing =	26.40 ft ²	27.60 ft ²

Total Quantity = 6 sq yd

ITEM 512	74000	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES
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Total R.A. sealer to remove = 56.40 ft²
 Total F.A. sealer to remove = 65 sq yd
 Total Pier 1 sealer to remove = 1536.69 ft²
 Total Pier 2 sealer to remove = 1605.12 ft²

Abutment total = 14 sq yd
 Pier total = 350 sq yd
 Total Quantity = 364 sq yd

ITEM 513	10201	STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN
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Fatigue Retrofits

Thickness of top flange plate = 0.05 ft
 Width of top flange plate = 0.88 ft
 Length of top flange plate = 1.67 ft
 Thickness of filler plate = 0.05 ft
 Width of filler plate = 0.88 ft
 Length of filler plate = 0.83 ft
 Unit weight of steel = 490 lb/ft³
 Number of top flange retrofit plates per beam line = 4 each
 Number of beam lines = 8 each
 Total weight of fatigue retrofits = 1786.48 lb

Bottom Flange Strengthened Plate

Plate Thickness = 0.04 ft
 Width of plate = 1.42 ft
 Length of plate = 8.00 ft
 Unit weight of steel = 490 lb/ft³
 Number of beams = 8 each
 Number of piers = 1 each
 Total weight of bottom flange plates = 1851.11 lb

Crossframes

Number of standard crossframe bays = 10 each
 Total length of standard crossframe bay = 27.44 ft
 Unit weight of standard crossframe angle = 6.1 lb/ft
 Number of pier crossframe bays = 2 each
 Total length of pier crossframe bay = 36.70 ft
 Unit weight of pier crossframe angle = 8.2 lb/ft
 Total weight of new crossframes = 2275.72 lb

Total Quantity = 5914 lb

ITEM 513	20000	WELDED STUD SHEAR CONNECTORS
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Number of beams = 8 each
 Number of rows of shear connectors per beam = 280 each
 Number of shear connectors per row = 3 each

Total Quantity = 6720 each

ITEM 514	00050	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL
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Total length of W36x170 section face/face diaphragm = 163.80 ft
 Total length of W36x170 section 1 ft away from face of diaphragm = 161.80 ft
 Depth of W36x170 = 3.02 ft
 Flange width of W36x170 = 1.00 ft
 Nominal measurement of W36x170 = 9.03 ft
 Number of existing beams = 8 each
 Area of existing beams to paint = 11692.75 ft²

Perimeter of existing crossframe angle = 1.00 ft
 Total length of existing crossframe bay = 27.44 ft
 Number of existing crossframe bays = 61 each
 Perimeter of existing pier crossframe angle = 1.33 ft
 Total length of existing pier crossframe angle = 36.70 ft
 Number of existing pier crossframe bays = 12 each
 Area of existing crossframes to paint = 2261.04 ft²

Total Quantity = 13954 ft²

ITEM 514	00056	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT																														
Total Quantity = 13954 ft ²																																
ITEM 514	00060	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT																														
Total Quantity of existing steel to paint = 14099 ft ²																																
Number of new standard crossframes to paint = 10 each Perimeter of standard crossframe angle = 1.00 ft Total length of standard crossframe bay = 27.44 ft Number of new pier crossframes to paint = 2 each Perimeter of pier crossframe angle = 1.33 ft Total length of pier crossframe bay = 36.70 ft Area of new crossframes to paint = 372.27 ft ²																																
Total Quantity = 14471 ft ²																																
ITEM 514	00066	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT																														
Total Quantity = 14471 ft ²																																
ITEM 514	00504	GRINDING FINIS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL																														
Amount to provide per BDM 404.1.11 for each beam = 1 min/ft Total length of beams = 1294.40 ft																																
Total Quantity = 22 man hour																																
ITEM 514	10000	FINAL INSPECTION REPAIR																														
Total length of beams = 1294.40 ft Per C&MS 514.21: inspect every = 150.00 ft Number of crossframe assemblies = 73 each Per C&MS 514.21: inspect = 5%																																
Total Quantity = 13 each																																
ITEM 514	27700	FIELD PAINTING, MISC.: COATING OF BEAM ENDS																														
Nominal measurement of beam = 9.03 ft Length of R.A. beam end for surface prep and prime coat = 2.50 ft Length of F.A. beam end for surface prep and prime coat = 2.75 ft Number of beams = 8 each																																
Total Quantity = 380 ft ²																																
ITEM 516	13600	1" PREFORMED EXPANSION JOINT FILLER																														
<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;"></th> <th style="width: 25%; text-align: center;"><u>REAR ABUTMENT</u></th> <th style="width: 25%; text-align: center;"><u>FORWARD ABUTMENT</u></th> </tr> </thead> <tbody> <tr> <td>Length of PEJF between abutment and concrete slope protection =</td> <td style="text-align: center;">106.96 ft</td> <td style="text-align: center;">106.93 ft</td> </tr> <tr> <td>Thickness of concrete slope protection =</td> <td style="text-align: center;">0.50 ft</td> <td style="text-align: center;">0.50 ft</td> </tr> <tr> <td>Abutment quantity =</td> <td style="text-align: center;">53.48 ft²</td> <td style="text-align: center;">53.47 ft²</td> </tr> <tr> <td colspan="3">Area of PEJF between parapets at bridge limits = 4.08 ft²</td> </tr> <tr> <td colspan="3" style="text-align: center;">Number of locations = 4 each</td> </tr> <tr> <td colspan="3" style="text-align: center;">Quantity = 16.33 ft²</td> </tr> <tr> <td colspan="3" style="text-align: center;">Abutment Quantity = 107 ft²</td> </tr> <tr> <td colspan="3" style="text-align: center;">Superstructure Quantity = 17 ft²</td> </tr> <tr> <td colspan="3" style="text-align: center;">Total Quantity = 124 ft²</td> </tr> </tbody> </table>				<u>REAR ABUTMENT</u>	<u>FORWARD ABUTMENT</u>	Length of PEJF between abutment and concrete slope protection =	106.96 ft	106.93 ft	Thickness of concrete slope protection =	0.50 ft	0.50 ft	Abutment quantity =	53.48 ft ²	53.47 ft ²	Area of PEJF between parapets at bridge limits = 4.08 ft ²			Number of locations = 4 each			Quantity = 16.33 ft ²			Abutment Quantity = 107 ft ²			Superstructure Quantity = 17 ft ²			Total Quantity = 124 ft ²		
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ITEM 516	44100	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (11" X 17" X 2.049" WITH A 12" X 18" X 1.5" LOAD PLATE)																																								
<p>Number of abutment bearings = 16 each</p> <p>Total Quantity = 16 each</p>																																										
ITEM 516	44100	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (12" X 18.5" X 2.049" WITH A 13" X 26" X VARIES LOAD PLATE)																																								
<p>Number of bearings at pier 2 = 8 each</p> <p>Total Quantity = 8 each</p>																																										
ITEM 516	44100	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (12" X 18.5" X 2.499" WITH A 13" X 19.5" X VARIES LOAD PLATE)																																								
<p>Number of bearings at pier 1 = 8 each</p> <p>Total Quantity = 8 each</p>																																										
ITEM 516	47001	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN																																								
<p>Number of beams to support = 8 each</p> <p>Number of substructures = 4 each</p> <p>Number of supports = 32 each</p> <p>Lump sum cost to use = \$64,000</p> <p>Total Quantity = Lump</p>																																										
ITEM 518	21200	POROUS BACKFILL WITH GEOTEXTILE FABRIC																																								
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ITEM 518	40000	6" PERFORATED CORRUGATED PLASTIC PIPE			
		Length of pipe =	<u>REAR ABUTMENT</u> 71.56 ft	<u>FORWARD ABUTMENT</u> 69.20 ft	
		Total Quantity = 141 ft			
ITEM 518	40010	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS			
		Length of pipe =	<u>Wingwall 1</u> 31.50 ft	<u>Wingwall 2</u> 19.00 ft	<u>Wingwall 3</u> 29.00 ft
				<u>Wingwall 4</u> 20.00 ft	
		Total Quantity = 100 ft			
ITEM 526	25011	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN			
		Rear approach plan area = 1672.93 ft ²			
		Forward approach plan area = 1674.34 ft ²			
		Total Quantity = 372 sq yd			
ITEM 526	90020	TYPE B INSTALLATION			
		Rear approach length = 67.51 ft			
		Forward approach length = 65.70 ft			
		Width of mesh = 5.00 ft			
		Total Quantity = 75 sq yd			
ITEM SPECIAL	53013000	FORM LINER			
		<u>Parapet</u>			
		Height of form liner on parapet standard section = 3.00 ft			
		Total length of formliner on parapet standard section = 340.67 ft			
		Area of formliner on parapet transition = 25.90 ft ²			
		Number of transitions = 4 each			
		Superstructure total = 1126 sq ft			
		<u>Abutments</u>			
		Area of formliner =	<u>Wingwall 1</u> 41.20 ft ²	<u>Wingwall 2</u> 37.00 ft ²	<u>Wingwall 3</u> 42.30 ft ²
		Abutment total =	171 sq ft		
		Total Quantity = 1297 ft ²			
ITEM 601	21000	CONCRETE SLOPE PROTECTION			
		Area of slope protection to remove at rear abutment = 888.00 ft ²			
		Area of slope protection to remove at forward abutment = 748.00 ft ²			
		Total Quantity = 182 sq yd			
ITEM 607	39900	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC			
		Length of fence on left parapet = 165.00 ft			
		Length of fence of right parapet = 165.00 ft			
		Total Quantity = 330 ft			

ITEM 840	23000	SELECT GRANULAR BACKFILL
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	REAR APPROACH		FORWARD APPROACH	
	Phase 1	Phase 2	Phase 1	Phase 2
	Layer 1 transverse area =	31.69 ft ²	35.42 ft ²	31.83 ft ²
Longitudinal length of layer 1 =	8.00 ft	8.00 ft	8.00 ft	8.00 ft
Layer 2 transverse area =	32.54 ft ²	35.66 ft ²	31.83 ft ²	36.50 ft ²
Longitudinal length of layer 2 =	17.00 ft	17.00 ft	17.00 ft	11.00 ft
Layer 3 transverse area =	32.54 ft ²	34.95 ft ²	31.83 ft ²	36.90 ft ²
Longitudinal length of layer 3 =	17.00 ft	23.50 ft	17.00 ft	14.00 ft
Layer 4 transverse area =	24.07 ft ²	25.19 ft ²	25.86 ft ²	24.47 ft ²
Longitudinal length of layer 4 =	23.50 ft	23.50 ft	23.50 ft	14.00 ft
Layer 5 transverse area =	12.76 ft ²	0.00 ft ²	14.00 ft ²	0.00 ft ²
Longitudinal length of layer 5 =	23.50 ft	0.00 ft	23.50 ft	0.00 ft
Volume of backfill =	2225.39 ft ³	2302.87 ft ³	2273.57 ft ³	1552.68 ft ³

Total Quantity = 310 cu yd

ITEM 844	10001	CONCRETE PATCHING WITH GALVANIC ANODE PROTECTION, AS PER PLAN
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R.A. Quantity = 21.00 ft²
Pier 1 Quantity = 15.00 ft²
Pier 2 Quantity = 4.50 ft²

Abutment total = 21 ft²
Pier total = 20 ft²
Total Quantity = 41 ft²

ITEM 863	00100	GEOGRID, TYPE P1
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	REAR APPROACH		FORWARD APPROACH	
	Phase 1	Phase 2	Phase 1	Phase 2
Layer 1 Longitudinal length =	16.75 ft	16.75 ft	16.75 ft	16.75 ft
Layer 1 Horizontal length =	30.70 ft	35.45 ft	31.67 ft	36.50 ft
Layer 2 Longitudinal length =	25.75 ft	28.75 ft	25.75 ft	19.75 ft
Layer 2 Horizontal length =	30.70 ft	35.45 ft	31.67 ft	36.50 ft
Layer 3 Longitudinal length =	25.75 ft	32.25 ft	25.75 ft	22.75 ft
Layer 3 Horizontal length =	30.70 ft	37.23 ft	31.67 ft	36.50 ft
Layer 4 Longitudinal length =	32.25 ft	32.25 ft	32.25 ft	22.75 ft
Layer 4 Horizontal length =	28.40 ft	28.26 ft	30.13 ft	28.40 ft
Layer 5 Longitudinal length =	32.25 ft	0.00 ft	32.25 ft	0.00 ft
Layer 5 Horizontal length =	25.60 ft	0.00 ft	18.10 ft	0.00 ft
Area of geogrids in the transverse direction =	3836.78 ft ²	3725.03 ft ²	3716.67 ft ²	2808.73 ft ²

Total Quantity = 1566 sq yd