

ITEM NO. 202E11203 STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN LS

STEEL RAILING

Existing Bridge Railing Length =	40.00	FT
Wt. Per Ft. =	80.00	LBS/FT
Wt. Per Side =	3200	LBS
Wt. For 2 Sides =	6400	LBS

STEEL BEAMS

Existing Bridge Beam Length =	40.00	FT
Type of Beam Section =	W18X50	(FIELD DATA, SITE SURVEY)
Wt. of Beam Per FT. =	50.00	LBS/FT (AISC Dimensions Table)
Wt. Per Beam =	2000	LBS
Total # of Beams =	6.00	LBS
Total Wt. of Beams =	12000	LBS

STEEL CFS

SPA. B/W Exist. Beams =	2.50	FT
C/F Length =	2.50	FT (Assume Same Length)
Type of CF Section =	WT4X24	(FIELD DATA, SITE SURVEY)
Wt. of CF Per FT. =	34.00	LBS/FT (AISC Dimensions Table)
Wt. of 1 CF =	85	LBS (Total for the bridge)
Total # of CF =	20.00	LBS
Total Wt. of CFs =	1700	LBS

Total Steel Items to be Removed =	20100	LBS (Railing+Beams+CF)
Cost of Steel Items to be Removed Per LB. =	\$1.75	(Assume)
Total Cost of Steel Items to be Removed =	\$35,175.00	

ASPHALT CONCRETE DECK (WEARING COURSE REMOVED)

Area =	569.00	SF (CAD Basemap)
Area =	64	SY
Cost for Removal Per SY =	\$5.00	(ODOT Hist. Bid Data)
Total Cost for Removal =	\$320.00	

TIMBER DECK

Timber Deck Area =	569.00	SF (CAD Basemap)
Timber Deck Area =	64	SY
Cost for Removal Per SY =	\$15.00	(Assume)
Total Cost for Removal =	\$960.00	

STONE ABUTMENTS (FA & RA)

Thick. Of Abutments =	2.00	FT (CAD Basemap)
Length of Abutment =	29.00	FT (CAD Basemap, Ignore slope of WW)
Ht. of Courses Removed =	6	FT (Assume Ht. of Abutments)
Vol. for Removal of FA Abut. Per CY =	13	CY
Vol. for Removal of RA Abut. Per CY =	13	CY (Assume Same As FA)
Total Vol. for Removal for Both Abutments =	26	CY
Cost for Removal Per CY =	\$250.00	
Total Cost for Removal =	\$6,500.00	

Total Cost for Items to be Removed = \$45,000.00 Rounded to the nearest \$K

ITEM NO. 503E11101 COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN LS

LOCATION	LENGTH (FT.)	AVG. EX. GROUND EL.	BOT. FTG. EL.	AVG. RETAINED HEIGHT (FT.)	EMBEDMENT DEPTH (FT)	TOTAL HEIGHT (FT.)	TOTAL AREA (SF)
NORTHEAST	35.00	801.50	794.47	7.03	14.06	7.03	246.05
NORTHWEST	30.00	803.00	796.46	6.54	13.08	6.54	196.2
SOUTHEAST	30.00	802.00	794.47	7.53	15.06	7.53	442.25
SOUTHWEST	30.00	803	796.46	6.54	13.08	6.54	228.00
TOTAL COST =							\$12,000.00

1. ASSUMES 2 TIMES THE RETAINED HEIGHT

ITEM NO. 503E21300 UNCLASSIFIED EXCAVATION LS

For excavation of soil for construction of substructure units. Engineer Judgement.

LOCATION	LENGTH (FT.)	WIDTH (FT.)	PLAN AREA (SF)	AVG. EX. GROUND EL.	BOT. FTG. EL.	DEPTH (FT.)	VOLUME (CY)
REAR ABUT. FOOTING	54.9167	3.00	284.58	807.50	796.46	11.04	116.36
FWD. ABUT. FOOTING	40.0000	3.00	255.00	807.50	794.47	13.03	123.06
TOTAL =							239.42
UNIT COST (\$/CY) =							\$30.00
COST =							\$12,000.00

1- PER C&MS 503

ITEM NO. 507E00150 STEEL PILES HP10X42, DRIVEN FT

Refer to Geotechnical Report by TTL dated May 9, 2023

Rear Abutment:	
Estimated Length =	50.00 FT
No. Piles =	8.00
Total Length (Rear) =	400.00 FT
Forward Abutment:	
Estimated Length =	70.00 FT
No. Piles =	7.00
Total Length (Fwd) =	490.00 FT
Total Length (Abut.) =	890.00 FT
Total Length =	890.00
TOTAL	890 FT

ITEM NO. 507E11100 STEEL PILES HP10X42, FURNISHED FT

Refer to Geotechnical Report by TTL dated May 9, 2023

Rear Abutment:	
Furnished Length =	55.00 FT
No. Piles =	8.00
Total Length (Rear) =	440.00 FT
Forward Abutment:	
Furnished Length =	75.00 FT
No. Piles =	7.00
Total Length (Fwd) =	525.00 FT
Total Length (Abut.) =	965.00 FT
Total Length =	965.00
TOTAL	965 FT

ITEM NO. 507E33300 STEEL POINTS OR SHOES EA

TOTAL	15 EA
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ITEM NO. 509E10000 EPOXY COATED REINFORCING STEEL LBS

CONCRETE ITEM	RATIO (LB/CY)	TOTAL CONCRETE VOLUME (CY)	SUBTOTAL (LBS)
CLASS O/C CONCRETE, SUPERSTRUCTURE			
CLASS O/C1 CONCRETE, ABUTMENT, INCLUDING FOOTING			
Total =			18487

SEE REINFORCING STEEL SCHEDULE

ITEM NO. 510E10000 DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT EACH

Total Area =	12 EACH
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ITEM NO. S1E31611 CLASS OC-2 CONCRETE, SUPERSTRUCTURE CY

Deck
 T/T Roadway Width = 24.00 FT
 O/O Deck Width = 24.00 FT
 Length = 47.65 FT (Face to Face of Backwall)
 Average Topping Thickness = 9.18 IN (Calculated in Screenshot Spreadsheet)
 Skew Angle = 30 deg (+/-)
 Avg. Additional Topping Thickness = 2 IN
 Volume, [A] = 35.9 CY

Backwall
 Total Length of Backwall = 27.7 FT
 Backwall Width = 1.000 FT
 Backwall Height = 2.1817 FT
 No. of Backwalls = 2.0000
 Volume, [B] = 4.48 CY
TOTAL, [A] + [B] = 39 CY

ITEM NO. S1E4M10 CLASS OC1 CONCRETE, ABUTMENT, INCLUDING FOOTING CY

Unit	Length (FT)	Width (FT)	Height (FT)	CAD Measured (sf)	Volume (cy)
Abutment Footing	84.92	3.00	3.00	-	18.31
Subtotal, [A] =					19

Unit	Length (FT)	Width (FT)	Height (FT)	CAD Measured (sf)	Volume (cy)
Abutment Footing	49.00	3.00	3.00	-	16.33
Subtotal, [B] =					17

SUBTOTAL = [A] + [B] = 36.00 CY

Unit	Length (FT)	Triangular Length (if varies) (FT)	Width (FT)	Height or Min Height (if varies) (FT)	Max Height (if varies) (FT)	CAD Area (Plan View) (SF)	Volume (CY)
Rear Breast Wall	28.10	3.00	3.00	5.56	5.56	-	17.30
Fwd Breast Wall	28.10	3.00	3.00	7.64	7.64	-	23.84
Rear North Wingwall	3.86	10.05	3.00	0.00	2.61	-	2.58
Rear South Wingwall	4.43	8.48	3.00	0.00	2.21	-	2.13
Fwd North Wingwall	4.47	5.98	3.00	0.00	2.17	-	1.80
Fwd South Wingwall	6.20	4.26	3.00	0.00	2.60	-	2.41
Subtotal, [C] =							51

SUBTOTAL = [C] = 51 CY
TOTAL = [A] + [B] + [C] + [C] = 87.00 CY

ITEM NO. S1E10100 SEALING OF CONCRETE SURFACES (EPOXY URETHANE) SY

SUPERSTRUCTURE (BOX BEAM)
 Perimeter = 2.18 FT
 Span Length = 46.50 FT
 Face to Face of Abutment = 43.04 FT
 Area Each Side = 93.89 SF

Note: Abutment diaphragms shall not be sealed

Total Area (Both Sides) = 188.0 SF
Total SS Sealing Area, [A] = 21 SY

SUBSTRUCTURE

Subarea	Length (FT)	Avg. Exposed Height (FT)	Max Height (FT)	Width (FT)	Area (SY)
Rear Abutment	28.10	4.00	-	-	12.49
Fwd Abutment	28.10	5.00	-	-	15.61
Area, [B] =					29

Rounded to nearest 10th

WINGWALLS
 Sealing Per WW

LOCATION	CAD AREA (SF)	WIDTH (FT)	LENGTH (FT)	HEIGHT (FT) - ESTIMATED FROM PLANS	AREA (SY)
REAR, LT TOP	-	3.00	13.92	-	4.64
REAR, RT TOP	-	3.00	12.91	-	4.30
FWD, LT TOP	-	3.00	10.45	-	3.48
FWD, RT TOP	-	3.00	10.46	-	3.49
REAR, LT SIDE	-	3.00	-	3.00	1.00
REAR, RT SIDE	-	3.00	-	3.00	1.00
FWD, LT SIDE	-	3.00	-	3.00	1.00
FWD, RT SIDE	-	3.00	-	3.00	1.00
REAR, LT FRONT	-	-	13.92	1.50	2.32
REAR, RT FRONT	-	-	12.91	5.00	7.17
FWD, LT FRONT	-	-	10.45	4.00	4.64
FWD, RT FRONT	-	-	10.46	2.25	2.61
REAR, LT BACK	-	-	13.92	2.50	3.87
REAR, RT BACK	-	-	12.91	1.25	1.79
FWD, LT BACK	-	-	10.45	1.00	1.16
FWD, RT BACK	-	-	10.46	2.00	2.32
Total Wingwall Sealing Area, [C] =					46

TOTAL SEALING AREA = [A] + [B] + [C] = 96 SY

ITEM NO. S1E12030 PRESTRESSED CONCRETE COMPOSITE BOX BEAM BRIDGE MEMBERS, LEVEL 1, CR17-48 (47'-8") EACH

No. Girders = 6
TOTAL GIRDERS = 6 EACH

ITEM NO. **516E13400** **3/4" PREFORMED EXPANSION JOINT FILLER** SF

Pipe Perimeter =	4.37	FT
Length =	3.41	FT
Area =	16	SF

ITEM NO. **516E13601** **2" PREFORMED EXPANSION JOINT FILLER** SF

RA, Left Wingwall	Rear Abutment Diag. Ht. =	2.610	FT
	Rear Abutment Width =	3.464	FT
	Area =	9.041	SF
RA, Right Wingwall	Rear Abutment Diag. Ht. =	2.210	FT
	Rear Abutment Width =	3.464	FT
	Area =	7.656	SF
FA, Left Wingwall	Rear Abutment Diag. Ht. =	2.170	FT
	Rear Abutment Width =	3.464	FT
	Area =	7.517	SF
FA, Right Wingwall	Rear Abutment Diag. Ht. =	2.600	FT
	Rear Abutment Width =	3.464	FT
	Area =	9.007	SF
TOTAL	33	SF	

ITEM NO. **516E14020** **SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL** FT

TOTAL	59	FT
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ITEM NO. **516E41100** **18" PREFORMED BEARING PAD, TYPE CDP** EA

SEE BDM 2023 S.306.4.2.1

TOTAL	12	EA
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ITEM NO. **516E44000** **ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE)(7"X7"X1.5885" AND 8"X8"X1.5" LOAD PLATE)** EA

TOTAL	24	EA
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ITEM NO. **517E72306** **RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP AND TYPE 2 STEEL POSTS)** FT

Total Length (Left Railing) =	50.8696	FT
Total Length (Right Railing) =	50.8696	FT
TOTAL	102	FT

ITEM NO. **518E20000** **PREFABRICATED GEOCOMPOSITE DRAIN** SY

Total Length of PCD =	62.20	FT
Est. Ht. of Drain =	6.00	FT
Total	62.000	SY

ITEM NO. **518E22200** **SPECIAL - STEEL DRIP STRIP** FT

Length (ea. Side) =	43.04	FT
No. Sides	2.00	
No. Posts (Each Side) =	9.00	
Upturn Length (Ea. Post) =	1.50	SEE VIEW C-C ON DS-1-92
Total	114	FT

ITEM NO. **530E00600** **SPECIAL - STRUCTURES: WELDED DEFORMED WIRE CONCRETE REINFORCEMENT** SF

Area =	1200.000	SF
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(FROM SITE PLAN, ROUNDED UP TO NEAREST WHOLE SF)

ITEM NO. **613E41200** **LOW STRENGTH MORTAR** CY

Location	Length (FT.)	Height (FT.)	Width 1 (FT.)	Width 2 (FT.)	Volume (CY.)
Rear Abutment	54.92	9.95	1.00	19.9	221.6041391
Front Abutment	49.00	12.03	1.00	24.05	284.2465046
Volume	505	CY			