BRIDGE NO: TUS-250-12.32R
SFN: 7904835
BRIDGE DESCRIPTION: E.B. U.S.R. 250 OVER I-77, RAMP E & STONE CREEK

CARPENTER MARTY transportation

CALCULATED BY: AMR **DATE:** 06/21/21
CHECKED BY: MTJ **DATE:** 06/21/21

ESTIMATED QUANTITIES

ITEM	ITEM EXT.	DESCRIPTION
ITEM 202	11203	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

Rear
Average Deck Thickness = 0.88 ft
Plan Area = 295.11

Rear Intermediate Joint
Average Deck Thickness = 0.88 ft
Plan Area = 275.06

Forward Intermediate Joint
Average Deck Thickness = 0.88 ft
Plan Area = 259.41

Forward
Average Deck Thickness = 0.88 ft
Plan Area = 125.37

Parapets
Parapet Area = 4.17 sf
Parapet Length Removed = 35.88 ft

Total volume of superstructure concrete removed = 37.00 CY
Cost/CY = $1,000
$37,000

Rear Abutment
Rear Abutment Backwall Plan Area = 131.09 ft^2
Total height of backwall removed = 1.46 ft
Volume = 7.08 CY

Forward Abutment
Forward Abutment Backwall Plan Area = 60.62 ft^2
Total height of backwall removed = 1.46 ft
Volume = 3.27 CY

Parapet Area = 4.17 sf
Length = 6.55 ft
Volume = 1.01 CY

Total Volume of abutment concrete removed = 11.37 CY
Cost/CY = $1,500
$17,049

Structural Steel

	Weight	Length	Number	Weight
End Crossframes	8.20 plf	25.35	4	831.48 lb
	8.20 plf	15	1	123.00 lb
	Area	Thickness	Number	Weight
Beam Guides	1.19 sf	1.00 in	12	580.65 lb
Bearing Stiffeners =	2.63 sf	0.63 in	12	803.91 lb

Cost/Ton = $5,000
$5,848

$60,000

Total Quantity = LS

Designer: AMR Date: 9-15-21
Checker: MTJ Date: 9-15-21

ITEM 202	23500	WEARING COURSE REMOVED

Forward Abutment Backwall Width = 1.25 FT
Toe to Toe Parapet = 44.17 FT

Total Quantity = 7 SY

ITEM 509	10000	EPOXY COATED REINFORCING STEEL

Abutment Total = 1914 lb

Superstructure Total = 1688 lb

ITEM 509	20001	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL, AS PER PLAN

	Bar Size	Number	Length	Weight
Abutment	#5 in wingwalls	12	2	25.03 lb
Superstructure	#5 in parapet	8	41.24	344.11 lb
	transverse #6	468	3.99	2804.71 lb
	longitudinal #6	690	5.25	3778.27 lb
	transverse #7	468	4.06	3883.76 lb

Assume 25 % Replaced

Abutment Total = 7 lb
Superstructure Total = 2703 lb

ITEM 510	10000	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT

Rear Abutment = 209 EACH
Forward Abutment = 96 EACH

Total = 305 EACH

ITEM 511	34410	CLASS QC2 CONCRETE, SUPERSTRUCTURE

Rear
Average Deck Thickness = 0.90 ft
Plan Area = 295.11 sf

Rear Intermediate Joint
Average Deck Thickness = 0.90 ft
Plan Area = 275.06 sf

Forward Intermediate Joint
Average Deck Thickness = 0.90 ft
Plan Area = 259.41 sf

Forward
Average Deck Thickness = 0.90 ft
Plan Area = 125.37 sf

Parapets
Superstructure
Parapet Area = 4.17 sf
Parapet Length = 35.88 ft

Abutments
Parapet Area = 4.17 sf
Parapet Length = 6.55 ft

Total volume of superstructure concrete = 38 CY
Total volume of substructure concrete = 2 CY

Designer: AMP Date: 9-15-21
Checker: MTS Date: 9-15-21

ITEM 511	45710	CLASS QC1 CONCRETE, ABUTMENT

Rear Abutment Backwall Plan Area = 131.09 ft
Height of backwall = 1.46 ft

Forward Abutment Backwall Plan Area = 60.62 ft
Average height of backwall = 1.46 ft

Total Quantity = 11 CY

ITEM 512	10100	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

Abutments **Rear** Area
Perimeter = 11.68 ft
Length = 6.55 ft

Abutment Total = 9 SY

Superstructure
Perimeter = 11.68 ft
Length = 34.22 ft

Superstructure Total = 45 SY

ITEM 512	10300	SEALING OF CONCRETE BRIDGE DECKS WITH HMWM RESIN

Rear Abutment	Length	Area		
On Backwall =	4.22 FT	1.00 SY		
Deck	R.A.	Joint 1	Joint 2	F.A.
Transverse =	96.95 FT	136.08 FT	128.12 FT	44.21 FT
Area =	91.00 SY			
Forward Abutment				
	Length	Area		
On Backwall =	2.93 FT	1.00 SY		

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

End Crossframe Weight = 8.20 plf
Length (A-E)= 25.10 ft
Length (G) = 15.00 ft
Angle Weight = 946.28 lb
Bottom End Cross frame Plates = 612.50 lb

Additional Crossframe replacement horizontal = 12.58 ft

Beam Guide area = 1.46 sf
Thickness = 1.00 in

Bearing Stiffener area = 2.63 sf
Thickness = 0.63 in

Locations = 12 EACH

Total Weight = 3181 lb

ITEM 513	21000	TRIMMING OF BEAM END

Total Quantity = 6 EACH

Designer: AMP Date: 9-15-21
Checker: MTS Date: 9-15-21

ITEM 514	00050	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL

Beam Perimeter = 13.88 ft
Total Length = 20.00 ft
Number of Beams = 6 EACH
Locations = 2 EACH
Transverse Stiffener Area = 5.25 sf
Number of Stiffeners = 288 EACH
Area = 4842.00 sf

Type A Diaphragm Perimeter = 11.00 ft
Length = 9.10 ft
Stiffener Plate Area = 6.00 sf
Locations = 10 EACH
Area = 1061.00 sf

Intermediate Crossframe Perimeter = 1.00 ft
Length = 29.40 ft
Locations = 10 EACH
Area = 294.04 sf

End Crossframe Perimeter = 1.33 ft
Length = 34.70 ft
Locations = 10 EACH
Bottom Plate Area = 16.00 sf
Area = 622.67 sf

15C40 Perimeter = 3.74 ft
Length = 12.72 ft
Locations = 10 EACH
Area = 475.73 sf

Total Quantity = 7300 SF

ITEM 514	00056	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT

Total = 7300 SF

ITEM 514	00060	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT

Beams A-D

Forward Abutment End Crossframe Perimeter = 1.33 ft
Total Length = 25.10 ft
Locations = 4

Beam G

Forward Abutment End Crossframe Perimeter = 1.33 ft
Total Length = 15.00 ft
Locations = 1

Bearing Stiffener Area = 5.25
Number = 12

Additional Area = 217 SF

Total Quantity = 7550 SF

Designer: AMP Date: 9-15-21
Checker: MTS Date: 9-15-21

ITEM 514	00066	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT
		Total = 7550 SF
ITEM 514	00504	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL
		Total = 4 MNHR
ITEM 514	10000	FINAL INSPECTION REPAIR
		Total = 4 EACH
ITEM 516	11211	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL, AS PER PLAN
		Rear = 101.89 ft Rear Hinge = 71.35 ft Forward Hinge = 67.28 ft Forward = 46.67 ft Total Quantity = 288 FT
ITEM 516	44201	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE) (12.5" X 15" X 3.124"
		Total Quantity = 6 EACH
ITEM 516	47001	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN
		Locations = 6 EACH Cost/ Location = $1,500 Total Cost = $9,000 Total Quantity = LS
ITEM 519	11101	PATCHING CONCRETE STRUCTURE, AS PER PLAN
		Forward Abutment Area = 18 SF
SPECIAL	53000400	STRUCTURE MISC.: CLEANING OF DRAINAGE SYSTEMS
		Scupper Locations = 25 EACH