

# DISTRICT 10 - BRIDGE DEPARTMENT

MUSKINGUM DRIVE, BOX 658, MARIETTA OHIO 45750

COUNTY: VIN ROUTE: 50 SECTION: 28.74

SHEET 1 OF 3

Item 202, Wearing Course Removed

$$12' \times 27.5' / 9 = 36.7 \text{ SY}$$

(Bridge Length) (Pavement Width)  $\Rightarrow$  37 SY

Item 511, Class QC1 Concrete, Retaining/Wingwall

$$4 \times \left[ 12.75' \times \left( \frac{11' + 6.5'}{2} \right) \times \left( \frac{15'}{12} \right) \right] / 27 = 20.7 \text{ CY}$$

$$4 \times (0.75 \text{ ft}^2 \times 11 \text{ ft}) / 27 = 1.3 \text{ CY}$$

Total = 22.0 CY

$\Rightarrow$  22 CY

Item 511, Class QC1 Concrete, Footing

$$4 \times \left[ 7.5' \times \left( \frac{14.44' + 11.33'}{2} \right) \times 2' \right] / 27 = 28.7 \text{ CY}$$

$$2 \times \left[ 7.5' \times \left( \frac{9.33' + 15.56'}{2} \right) \times 2' \right] / 27 = 13.9 \text{ CY}$$

$$4 \times \left[ 1.5' \times \left( \frac{11.96' + 11.33'}{2} \right) \times 2' \right] / 27 = 5.2 \text{ CY (Cutoff Wall)}$$

$$2 \times \left[ 1.5' \times \left( \frac{9.33' + 10.58'}{2} \right) \times 2' \right] / 27 = 2.3 \text{ CY (Cutoff Wall)}$$

$$2 \times [12' \times 3.42' \times 1'] / 27 = 3.1 \text{ CY (Footing Cap)}$$

Total = 53.2 CY

$\Rightarrow$  54 CY

DATE: 7/3/2023

CALCULATED BY: KDZ  
CHECKED BY:

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SHEET 2 OF 3

CALCULATED BY: KDZ  
 CHECKED BY: \_\_\_\_\_  
 DATE: 7/3/2023  
 DATE: \_\_\_\_\_

Item 511, Class QC1 Concrete, Headwall

$$2 \times (12' \times 1.25' \times 1') / 27 = 1.2 \text{ CY}$$

$$\Rightarrow 2 \text{ CY}$$

Item 512, Sealing of Concrete Surfaces (Non-Epoxy)

Wingwalls

$$\text{Front: } 4 \times [12.75' \times (10' + 1') \times \frac{1}{2}] / 9 = 31.2 \text{ SY}$$

$$\text{Top: } 4 \times [(13.6' + 0.75') \times 1.25'] / 9 = 8.0 \text{ SY}$$

$$\text{Back: } 4 \times [(13.6' + 1') \times 1'] / 9 = 6.5 \text{ SY}$$

$$\text{Side: } 4 \times [1' \times 1.25'] / 9 = 0.6 \text{ SY}$$

$$\text{Total} = 46.3 \text{ SY}$$

Headwalls

$$\text{Front: } 2 \times (12' \times 1') / 9 = 2.7 \text{ SY}$$

$$\text{Top: } 2 \times (12' \times 1.25') / 9 = 3.4 \text{ SY}$$

$$\text{Back: } 2 \times (12' \times 0.5') / 9 = 1.4 \text{ SY}$$

$$\text{Total} = 7.5 \text{ SY}$$

Box

$$\text{Inside: } 2 \times [(1.42' + 6' + 1.42' + 8' + 1.42' + 6' + 1.42' + 8') \times 2'] / 9 = 15.0 \text{ SY}$$

$$\text{Face: } 2 \times [4 \times (1' \times 1' \times \frac{1}{2}) + (12' \times 1') + 2 \times (8' \times 1')] / 9 = 6.7 \text{ SY}$$

$$\text{Total} = 21.7 \text{ SY}$$

$$\text{Total} = 46.3 \text{ SY} + 7.5 \text{ SY} + 21.7 \text{ SY} = 75.5 \text{ SY}$$

$$\Rightarrow 76 \text{ SY}$$

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SHEET 3 OF 3

## Item 512, Type 2 Waterproofing

Sides and Wing wall Overlap

$$2 \times (56.5' \times 10') / 9 = 125.6 \text{ SY}$$

Top and Overlap

$$14' \times 54.5' / 9 = 84.8 \text{ SY}$$

$$\text{Total} = 210.4 \text{ SY}$$

⇒ 211 SY

## Item 516, 1" Preformed Expansion Joint Filler

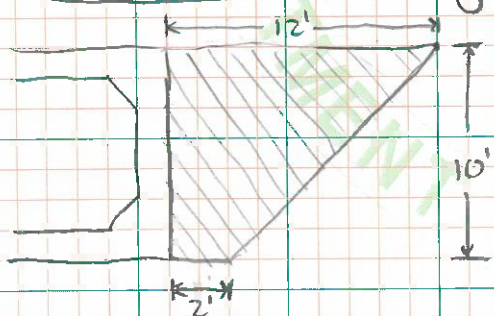
$$4 \times (11' \times 1.25') = 55 \text{ SF}$$

## Item 518, Porous Backfill with Geotextile Fabric

$$4 \times \left[ 13.27' \times \left( \frac{10' + 5.5'}{2} \right) \times 1.5' \right] / 27 = 22.9 \text{ CY}$$

⇒ 23 CY

## Item 613, Low Strength Mortar Backfill (Type 2)



Length of Culvert Under Pavement: 33 ft

$$2 \times \left[ 33' \times \left( (10' \times 2') + \left( \frac{10' \times 10'}{2} \right) \right) \right] / 27 = 171.2 \text{ CY}$$

⇒ 172 CY

7/3/2023

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