

DISTRICT 10 - BRIDGE DEPARTMENT

MUSKINGUM DRIVE, BOX 658, MARIETTA OHIO 45750

COUNTY: NOB ROUTE: 147 SECTION: 16.82

SHEET 1 OF 3

CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING

$$\text{INLET: } \frac{1}{2}(6' + 7.5')(10.33')(1')/27 = 2.58 \text{ CY}$$

$$(0.41 \text{ SQ FT})(7.5')/27 = 0.11 \text{ CY}$$

$$\frac{1}{2}(5.5' + 7.5')(9.08')(1')/27 = 2.19 \text{ CY}$$

$$\text{OUTLET: } \frac{1}{2}(5.5' + 7.5')(10.33')(1')/27 = 2.49 \text{ CY}$$

$$(0.41 \text{ SQ FT})(7.5')/27 = 0.11 \text{ CY}$$

$$(7.5')(11.58')(1')/27 = 3.22 \text{ CY}$$

$$\underline{10.70 \text{ CY}}$$

CLASS QC1 CONCRETE, FOOTING

$$\text{INLET: } \frac{1}{2}(9.47' + 11.75')(5.5')(1.5')/27 = 3.24 \text{ CY}$$

$$\frac{1}{2}(24.39' + 26.67')(5.5')(1.5')/27 = 7.80 \text{ CY}$$

$$\frac{1}{2}(9.47' + 10.09')(1.5')(2.5')/27 = 1.36 \text{ CY}$$

$$\frac{1}{2}(24.39' + 25.01')(1.5')(2.5')/27 = 3.43 \text{ CY}$$

$$(16')(2.08')(1')/27 = 1.23 \text{ CY}$$

$$\text{OUTLET: } \frac{1}{2}(9.47' + 11.75')(5.5')(1.5')/27 = 3.24 \text{ CY}$$

$$\frac{1}{2}(26.89' + 29.17')(5.5')(1.5')/27 = 8.56 \text{ CY}$$

$$\frac{1}{2}(9.47' + 10.09')(1.5')(2.5')/27 = 1.36 \text{ CY}$$

$$\frac{1}{2}(26.89' + 27.51')(1.5')(2.5')/27 = 3.78 \text{ CY}$$

$$(16')(2.08')(1')/27 = 1.23 \text{ CY}$$

$$\underline{35.23 \text{ CY}}$$

CLASS QC1 CONCRETE, HEADWALL

$$\text{INLET: } (16')(1')(0.5')/27 = 0.30 \text{ CY}$$

$$\text{OUTLET: } (16')(1')(0.5')/27 = 0.30 \text{ CY}$$

$$\underline{0.60 \text{ CY}}$$

TYPE 2 WATERPROOFING

$$(7')(45.5')/9 = 35.38 \times 2 = 70.78 \text{ SY}$$

TYPE 3 WATERPROOFING

$$(18')(43.50')/9 = 87 \text{ SY}$$

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SHEET 2 OF 3

SEALING OF CONCRETE SURFACES

INLET : $\frac{1}{2}(0.5' + 6.5')(10.37') / 9 = 4.02 \text{ SY}$

$(0.5')(1') / 9 = 0.06 \text{ SY}$

$(0.5')(11.25') / 9 = 0.63 \text{ SY}$

$(10.44')(1') / 9 = 1.16 \text{ SY}$

$(0.41 \text{ SQ FT}) / 9 = 0.05 \text{ SY}$

$\frac{1}{2}(0.5' + 6.5')(9.17') / 9 = 3.57 \text{ SY}$

$(0.5')(1') / 9 = 0.06 \text{ SY}$

$(0.5')(9.17') / 9 = 0.51 \text{ SY}$

$(9.30')(1') / 9 = 1.03 \text{ SY}$

HEADWALL : $(0.5' + 1')(16') / 9 = 2.67 \text{ SY}$

FACE OF BOX : $(28 \text{ SQ FT}) / 9 = 3.11 \text{ SY}$

INSIDE BOX : $(35.66')(2') / 9 = 7.92 \text{ SY}$

24.79 SY

OUTLET : $\frac{1}{2}(0.8' + 6.5')(10.35') / 9 = 4.19 \text{ SY}$

$(0.8')(1') / 9 = 0.09 \text{ SY}$

$(0.8')(11.25') / 9 = 1.00 \text{ SY}$

$(10.53')(1') / 9 = 1.17 \text{ SY}$

$(0.41 \text{ SQ FT}) / 9 = 0.05 \text{ SY}$

$\frac{1}{2}(0.67' + 6.5')(11.67') / 9 = 4.65 \text{ SY}$

$(0.67')(1') / 9 = 0.07 \text{ SY}$

$(0.67')(11.67') / 9 = 0.87 \text{ SY}$

$(11.67')(1') / 9 = 1.30 \text{ SY}$

HEADWALL : $(0.5' + 1')(16') / 9 = 2.67 \text{ SY}$

FACE OF BOX : $(28 \text{ SQ FT}) / 9 = 3.11 \text{ SY}$

INSIDE BOX : $(35.66')(2') / 9 = 7.92 \text{ SY}$

27.09 SY

TOTAL = $24.79 + 27.09 = 51.88 \text{ SY}$

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SHEET 3 OF 3

1" PREFORMED EXPANSION JOINT FILLER

$$\text{INLET: } (1')(7.5') \times 2 = 15 \text{ SF}$$

$$\text{OUTLET: } (1')(7.5') \times 2 = 15 \text{ SF}$$

$$\underline{30 \text{ SF}}$$

POROUS BACKFILL WITH GEOTEXTILE FABRIC

$$\text{INLET: } \frac{1}{2}(4.5' + 6')(1.5')(10.33') / 27 = 3.01 \text{ CY}$$

$$(6')(1.5')(1.53') / 27 = 0.51 \text{ CY}$$

$$\frac{1}{2}(4' + 6')(1.5')(9.17') / 27 = 2.55 \text{ CY}$$

$$\underline{6.07 \text{ CY}}$$

$$\text{OUTLET: } \frac{1}{2}(4' + 6')(1.5')(10.33') / 27 = 2.87 \text{ CY}$$

$$(6')(1.5')(1.53') / 27 = 0.51 \text{ CY}$$

$$(6')(1.5')(11.67') / 27 = 3.89 \text{ CY}$$

$$\underline{7.27 \text{ CY}}$$

$$\text{TOTAL} = 6.07 + 7.27 = 13.34 \text{ CY}$$

LOW STRENGTH MORTAR BACKFILL

$$(2')(7')(43.5') / 27 = 22.56 \text{ CY}$$

$$\frac{1}{2}(7')(7')(43.5') / 27 = 39.47 \text{ CY}$$

$$\underline{62.03 \times 2 = 124.06 \text{ CY}}$$

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