

DISTRICT 10 - BRIDGE DEPARTMENT

MUSKINGUM DRIVE, BOX 658, MARIETTA OHIO 45750

COUNTY: MEG ROUTE: 733 SECTION: 1.13

SHEET 1 OF 3

CLASS QL1 CONCRETE RETAINING/WING WALL

$$\text{INLET: } \frac{1}{2}(6.08' + 9.5')(13.17')(1') / 27 = 3.80 \text{ CY}$$

$$\frac{1}{2}(6.33' + 9.5')(12.17')(1') / 27 = 3.57 \text{ CY}$$

$$(0.415F)(9.5') / 27 = 0.14 \text{ CY}$$

$$(1')(1')(9.5') / 27 = 0.35 \text{ CY}$$

$$\text{OUTLET: } \frac{1}{2}(7.33' + 9.5')(13.17')(1') / 27 = 4.10 \text{ CY}$$

$$\frac{1}{2}(6.75' + 9.5')(11.08')(1') / 27 = 3.34 \text{ CY}$$

$$(0.415F)(9.5') / 27 = 0.14 \text{ CY}$$

$$\underline{15.44 \text{ CU. YD.}}$$

CLASS QL1 CONCRETE FOOTING

$$\text{INLET: } \frac{1}{2}(11.96' + 14.85')(7')(1.5') / 27 = 5.21 \text{ CY}$$

$$\frac{1}{2}(21.04' + 23.92')(7')(1.5') / 27 = 8.74 \text{ CY}$$

$$(9.25')(7')(1.5') / 27 = 3.60 \text{ CY}$$

$$\frac{1}{2}(11.96' + 12.58')(2.5')(1.5') / 27 = 1.70 \text{ CY}$$

$$\frac{1}{2}(15.54' + 16.16')(2.5')(1.5') / 27 = 2.20 \text{ CY}$$

$$(9.25')(2.5')(1.5') / 27 = 1.28 \text{ CY}$$

$$(18.08')(2.92')(1') / 27 = 1.96 \text{ CY}$$

$$(0.255F)(18.08') / 27 = 0.17 \text{ CY}$$

$$\text{OUTLET: } \frac{1}{2}(11.96' + 14.85')(7')(1.5') / 27 = 5.21 \text{ CY}$$

$$\frac{1}{2}(27.92' + 30.85')(7')(1.5') / 27 = 11.43 \text{ CY}$$

$$\frac{1}{2}(11.96' + 12.58')(2.5')(1.5') / 27 = 1.70 \text{ CY}$$

$$\frac{1}{2}(27.92' + 28.58')(2.5')(1.5') / 27 = 3.92 \text{ CY}$$

$$(18')(2.92')(1') / 27 = 1.95 \text{ CY}$$

$$(0.255F)(18') / 27 = 0.17 \text{ CY}$$

$$\underline{49.24 \text{ CU. YD.}}$$

CLASS QL2 CONCRETE HEADWALL

$$\text{INLET: } (18')(1')(0.5') / 27 = 0.33 \text{ CY}$$

$$\text{OUTLET: } (18')(1')(0.5') / 27 = 0.33 \text{ CY}$$

$$\underline{0.66 \text{ CU. YD.}}$$

DATE:

DATE:

TCRW

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SHEET 2 OF 3

TYPE 2 WATER PROOFING

$$(9') (54') / 9 = 54 \times 2 = 108 \text{ SY}$$

TYPE 3 WATER PROOFING

$$(20') (52') / 9 = 115.56 \text{ SY}$$

1" PREFORMED EXPANSION JOINT FILLER

$$(9.5') (1') \times 4 = 38 \text{ SF}$$

POURIOUS BACKFILL

$$\frac{1}{2} (8' + 9.58') (14.85') (1.5') / 27 = 5.19 \text{ CY}$$

$$\frac{1}{2} (8' + 4.83') (13.17') (1.5') / 27 = 4.69 \text{ CY}$$

$$\frac{1}{2} (8' + 5.83') (14.85') (1.5') / 27 = 5.70 \text{ CY}$$

$$\frac{1}{2} (8' + 5.25') (11.08') (1.5') / 27 = 4.08 \text{ CY}$$

$$\underline{19.66 \text{ CU. YD.}}$$

LOW STRENGTH MORTAR BACKFILL

$$(2') (9') (52') / 27 \times 2 = 69.33 \text{ CY}$$

$$\frac{1}{2} (9') (9') (52') / 27 \times 2 = 156 \text{ CY}$$

$$\underline{225.33 \text{ CU. YD.}}$$

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SHEET 3 OF 3

SEALING OF CONCRETE SURFACES

INLET: $\frac{1}{2}(9' + 1')(13.17')/9 = 7.32 \text{ SY}$

$(1')(1')/9 = 0.11 \text{ SY}$

$\frac{1}{2}(1' + 0.5')(13.17')/9 = 1.10 \text{ SY}$

$\frac{1}{2}(9' + 1.83')(12.17')/9 = 7.32 \text{ SY}$

$(1')(1.83')/9 = 0.20 \text{ SY}$

$\frac{1}{2}(1.83' + 0.5')(12.17')/9 = 1.58 \text{ SY}$

$(1')(0.5')/9 \times 2 = 0.11 \text{ SY}$

$(1')(1')/9 = 0.11 \text{ SY}$

$(12.17')(1')/9 = 1.35 \text{ SY}$

$(18')(1')/9 = 2.0 \text{ SY}$

$(13.17')(1')/9 = 1.46 \text{ SY}$

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

$(18')(0.5')/9 = 1.0 \text{ SY}$

OUTLET: $\frac{1}{2}(9' + 1')(13.17')/9 = 7.32 \text{ SY}$

$(1')(1')/9 = 0.11 \text{ SY}$

$\frac{1}{2}(1' + 0.5')(13.17')/9 = 1.10 \text{ SY}$

$\frac{1}{2}(9' + 1')(11.08')/9 = 6.16 \text{ SY}$

$(1')(1')/9 = 0.11 \text{ SY}$

$\frac{1}{2}(1' + 0.5')(11.08')/9 = 0.92 \text{ SY}$

$(11.08')(1')/9 = 1.23 \text{ SY}$

$(13.17')(1')/9 = 1.46 \text{ SY}$

$(18')(1')/9 = 2.0 \text{ SY}$

$(18')(0.5')/9 = 1.0 \text{ SY}$

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

FACE OF BOX: $2 \times (8')(1')/9 \times 2 = 3.56 \text{ SY}$

$(16')(1')/9 \times 2 = 3.56 \text{ SY}$

$4 \times \frac{1}{2}(1')(1')/9 \times 2 = 0.44 \text{ SY}$

INSIDE BOX: $[(2 \times 14') + (2 \times 5') + (4 \times 1.41')] \times 2/9 = 9.70 \text{ SY}$

TOTAL = 62.43 SQ. YD.

CALCULATED BY: TLRW DATE: _____
 CHECKED BY: _____ DATE: _____