DISTRICT 10 - BRIDGE DEPARTMENT

MUSKINGUM DRIVE, BOX 658, MARIETTA OHIO 45750

COUNTY: MRG ROUTE: 555 SECTION: 23.05 SHEET 1 OF 3

DATE:

DATE:

CALCULATED BY:

CHECKED BY:

CLASS QC2 CONCRETE, SUPERSTRUCTURE

DECK: (30')(95.29')(19"/12)/27 = 167.64 CY

2[(4')(95.29')(1"/12)]/27 = 2.35 CY

REAR ABUT: (3.32')(1.66')(2.25')/27 = 0.46 CY

½(3.32' + 3.48')(16.55')(2.25')/27 = 4.69 CY

½(3.48' + 3.17')(16.55')(2.25')/27 = 4.59 CY

(3.17')(1.66')(2.25')/27 = 0.44 CY

DEDUCT AS SEAT: (20"/12)(33.10')(0.5')/27 = 1.02 CY

FWD ABUT: (3.21')(1.66')(2.25')/27 = 0.44 CY

½(3.21' + 3.43')(16.55')(2.25')/27 = 4.58 CY

½(3.43' + 3.17')(16.55')(2.25')/27 = 4.55 CY

(3.17')(1.66')(2.25')/27 = 0.44 CY

DEDUCT AS SEAT: (20"/12)(33.10')(0.5')/27 = 1.02 CY

PIERS: ½[π(1.5')²(2')]/27 = 0.26 CY × 2 = 0.52 CY

½(2.02' + 2.04')(2.03')(3')/27 = 0.46 CY × 2 = 0.92 CY

½(2.13' + 2.31')(12.14')(3')/27 = 2.99 CY × 2 = 5.98 CY

½(2.31' + 2.13')(12.14')(3')/27 = 2.99 CY × 2 = 5.98 CY

½(2.04' + 2.02')(2.03')(3')/27 = 0.46 CY × 2 = 0.92 CY

½[π(1.5')²(2')]/27 = 0.26 CY × 2 = 0.52 CY

TOTAL = 202.98 CU YD

NYLON REINFORCED NEOPRENE SHEETING

REAR: (52.83')(3') = 158.49 SF

(4.82')(3') = 14.46 SF

(4.67')(3') = 14.01 SF

186.96 SF

FWD: (52.83')(3') = 158.49 SF

(4.71')(3') = 14.13 SF

(4.67')(3') = 14.01 SF

186.63 SF

TOTAL = 186.96 + 186.63 = 373.59 SQ FT

REINFORCED CONCRETE APPROACH SLAB

2[(30')(25')/9] = 166.67 SQ YD

DISTRICT 10 - BRIDGE DEPARTMENT

MUSKINGUM DRIVE, BOX 658, MARIETTA OHIO 45750

COUNTY: MAG ROUTE: 555 SECTION: 23.05 SHEET 2 OF 3

DATE: DATE:

CALCULATED BY: CHECKED BY:

CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING

REAR : (3')(3')(52.83') /27 = 17.61 CY

½(3.47'+5.30')(5.5')(2.25')/27 = 2.01 CY

(5.30')(2.62')(2.25')/27 = 1.16 CY

(1.98')(36.60')(2.25')/27 = 6.04 CY

(5.15')(1.62')(2.25')/27 = 0.70 CY

½(5.15'+2.98')(6.5')(2.25')/27 = 2.20 CY

29.72 CY

FWD : (3')(3')(52.83')/27 = 17.61 CY

½(3.35'+5.18')(5.5')(2.25')/27 = 1.95 CY

(5.18')(2.62')(2.25')/27 = 1.13 CY

(1.97')(36.60')(2.25')/27 = 6.01 CY

(5.14')(1.62')(2.25')/27 = 0.69 CY

½(5.14'+2.97')(6.5')(2.25')/27 = 2.20 CY

29.59 CY

TOTAL ABUT = 29.72 + 29.59 = 59.31 CU YD

½" PEJF

REAR : (0.75')(36.41') = 27.31 SF

FWD : (0.75')(36.41') = 27.31 SF

54.62 SF

1" PEJF

REAR : (0.67')(36.41') = 24.39 SF

(3.24')(2.48') = 8.04 SF

(3.08')(2.48') = 7.64 SF

40.07 SF

FWD : (0.67')(36.41') = 24.39 SF

(3.13')(2.48') = 7.76 SF

(3.08')(2.48') = 7.64 SF

39.79 SF

TOTAL = 40.07 + 39.79 = 79.86 SF

DISTRICT 10 - BRIDGE DEPARTMENT

MUSKINGUM DRIVE, BOX 658, MARIETTA OHIO 45750

COUNTY: MRG ROUTE: 555 SECTION: 23.05 SHEET 3 OF 3

DATE: DATE:

CALCULATED BY: CHECKED BY:

SEALING OF CONCRETE SURFACES (NON-EPOXY)

SUPER: $2 \times (20" + 6")(95.29') / 9 = 45.88$ SY

REAR ABUT:

$(2.54')(2.25') / 9 = 0.64$ SY

$\frac{1}{2}(2.54' + 4.37')(5.5') / 9 = 2.11$ SY

$(4.37')(4.42') / 9 = 2.15$ SY

$\frac{1}{2}(2.70' + 2.95')(16.55') / 9 = 5.20$ SY

$\frac{1}{2}(2.95' + 2.55')(16.55') / 9 = 5.06$ SY

$(4.22')(3.31') / 9 = 1.55$ SY

$\frac{1}{2}(4.22' + 2.05')(6.5') / 9 = 2.26$ SY

$(2.05')(2.25') / 9 = 0.51$ SY

$(9.34')(1') / 9 = 1.04$ SY

$(5.86')(2.25') / 9 = 1.45$ SY

$(4.42')(2.25') / 9 = 1.11$ SY

$(10.39')(1') / 9 = 1.15$ SY

$(6.85')(2.25') / 9 = 1.71$ SY

$(3.31')(2.25') / 9 = 0.83$ SY

26.77 SY

FWD ABUT:

$(2.42')(2.25') / 9 = 0.61$ SY

$\frac{1}{2}(2.42' + 4.25')(5.5') / 9 = 2.04$ SY

$(4.25')(4.42') / 9 = 2.09$ SY

$\frac{1}{2}(2.58' + 2.89')(16.55') / 9 = 5.03$ SY

$\frac{1}{2}(2.89' + 2.54')(16.55') / 9 = 4.99$ SY

$(4.21')(3.31') / 9 = 1.55$ SY

$\frac{1}{2}(4.21' + 2.04')(6.5') / 9 = 2.26$ SY

$(2.04')(2.25') / 9 = 0.51$ SY

$(9.34')(1') / 9 = 1.04$ SY

$(5.80')(2.25') / 9 = 1.45$ SY

$(4.42')(2.25') / 9 = 1.11$ SY

$(10.40')(1') / 9 = 1.16$ SY

$(6.85')(2.25') / 9 = 1.71$ SY

$(3.31')(2.25') / 9 = 0.83$ SY

26.38 SY

ABUT TOTAL: $26.77 + 26.38 = 53.15$ SQ YD

POROUS BACKFILL WITH GEOTEXTILE FABRIC

REAR:

$\frac{1}{2}(4.97' + 6.80')(5.5')(2') / 27 = 2.40$ CY

$(6.80')(3.84')(2') / 27 = 1.93$ CY

$\frac{1}{2}(6.80' + 6.96')(16.55')(2') / 27 = 8.43$ CY

$\frac{1}{2}(6.96' + 6.65')(16.55')(2') / 27 = 8.39$ CY

$(6.65')(3.89')(2') / 27 = 1.92$ CY

$\frac{1}{2}(6.65' + 4.48')(6.5')(2') / 27 = 2.68$ CY

25.70 CY

FWD:

$\frac{1}{2}(4.85' + 6.68')(5.5')(2') / 27 = 2.35$ CY

$(6.68')(3.84')(2') / 27 = 1.90$ CY

$\frac{1}{2}(6.68' + 6.90')(16.55')(2') / 27 = 8.32$ CY

$\frac{1}{2}(6.90' + 6.64')(16.55')(2') / 27 = 8.30$ CY

$(6.64')(3.89')(2') / 27 = 1.91$ CY

$\frac{1}{2}(6.64' + 4.47')(6.5')(2') / 27 = 2.67$ CY

25.45 CY

TOTAL: $25.70 + 25.45 = 51.15$ CU YD