DISTRICT 10 - BRIDGE DEPARTMENT

MUSKINGUM DRIVE, BOX 658, MARIETTA OHIO 45750

COUNTY: HOC ROUTE: 93 SECTION: 12.47 SHEET 1 OF 5

DATE: DATE:

CALCULATED BY: CHECKED BY:

WEARING COURSE REMOVED

APPROACH SLABS : REAR : ½ (60.73' + 52.4') (25') /9 = 157.13 SY

FWD : ½ (58' + 55.5') (25') /9 = 157.64 SY

314.77 SY

CLASS QC2 CONCRETE, BRIDGE DECK

(66.33') (97') (8.5") /12 /27 = 168.79 CY

HAUNCH : (0.96') (97') (2") /12 /27 x 9 BEAMS = 5.17 CY

LEFT OVERHANG : (1.69') (97') (2") /12 /27 = 1.01 CY

½ (.75') (97') (.19') /27 = 0.26 CY

RIGHT OVERHANG : (1.69') (97') (2") /12 /27 = 1.01 CY

½ (0.75') (97') (0.07') /27 = 0.09 CY

SIDEWALK : ½ (0.66' + 0.79') (8') (97') /27 = 20.84 CY

(0.79') (1') (97') /27 = 2.84 CY

200.01 CU YD

CLASS QC2 CONCRETE, BRIDGE DECK (PARAPET)

14' TRANSITION SECTION = 1.82 CY

(4.09 SF) (12.18') /27 = 1.84 CY

(4.08 SF) (97') /27 = 14.66 CY

(4.08 SF) (12.46') /27 = 1.88 CY

14' TRANSITION SECTION = 1.82 CY

20.02 CU YD

TYPE 2 WATERPROOFING

REAR ABUT : (89.58') (3') /9 = 29.86 SY

FWD ABUT : (85') (3') /9 = 28.33 SY

58.19 SQ YD

DISTRICT 10 - BRIDGE DEPARTMENT

MUSKINGUM DRIVE, BOX 658, MARIETTA OHIO 45750

COUNTY: HOC ROUTE: 93 SECTION: 12.47 SHEET 2 OF 5

CALCULATED BY: _____ DATE: _____

CHECKED BY: _____ DATE: _____

CLASS QC1 CONCRETE, ABUTMENT

REAR : $\frac{1}{2}(0.41' + 2.91')(7.5')(1.5')/27 = 0.69$ CY

$(2.91')(1.14')(1.5')/27 = 0.18$ CY

$(2.91')(0.60')(3.75')/27 = 0.24$ CY

$(2.91')(1.75')(1.75')/27 = 0.33$ CY

$\frac{1}{2}(2.91' + 3.42')(31.58')(1.75')/27 = 6.48$ CY

$\frac{1}{2}(3.48' + 3.04')(24.07')(1.75')/27 = 5.04$ CY

$(3.04')(9.27')(1.75')/27 = 1.83$ CY

$(3.04')(0.72')(3.75')/27 = 0.30$ CY

$(3.04')(1.12')(1.50')/27 = 0.19$ CY

$\frac{1}{2}(3.04' + 0.48')(7.75')(1.50')/27 = 0.76$ CY

$\frac{1}{2}(0.67' + 0.80')(8.02')(1.75')/27 = 0.38$ CY

$(0.80')(1.25')(1.75')/27 = 0.06$ CY

DEDUCT AS SEAT : $(1.5')(0.5')(66.51')/27 = 1.85$ CY

14.63 CY

FWD : $\frac{1}{2}(0.87' + 2.94')(7.25')(1.75')/27 = 0.90$ CY

$(2.94')(11.46')(1.75')/27 = 2.18$ CY

$\frac{1}{2}(2.94' + 3.36')(24.06')(1.75')/27 = 4.91$ CY

$\frac{1}{2}(3.36' + 2.91')(31.58')(1.75')/27 = 6.42$ CY

$(2.91')(3.39')(1.75')/27 = 0.64$ CY

$\frac{1}{2}(2.91' + 0.84')(7.25')(1.75')/27 = 0.88$ CY

$\frac{1}{2}(0.67' + 0.77')(8.02')(1.75')/27 = 0.37$ CY

$(0.77')(1.17')(1.75')/27 = 0.06$ CY

DEDUCT AS SEAT : $(1.5')(0.5')(66.51')/27 = 1.85$ CY

14.51 CY

TOTAL = 14.63 + 14.51 = 29.14 CU YD

DISTRICT 10 - BRIDGE DEPARTMENT

MUSKINGUM DRIVE, BOX 658, MARIETTA OHIO 45750

COUNTY: HOC ROUTE: 93 SECTION: 12.47 SHEET 3 OF 5

DATE: DATE:

CALCULATED BY: CHECKED BY:

SEALING OF CONCRETE SURFACES (NON-EPOXY)

LEFT DECK EDGE/PARAPET : (7.34')(97')/9 = 79.11 SY

RIGHT DECK EDGE/PARAPET : (9.44')(97')/9 = 101.74 SY

180.85 SQ YD

LEFT REAR PARAPET : (5')(19.75')/9 = 10.97 SY

(8')(5')/9 = 4.44 SY

(6')(1.5')/9 = 1.00 SY

LEFT FWD PARAPET : (5')(19.75')/9 = 10.97 SY

(8')(5')/9 = 4.44 SY

(6')(1.5')/9 = 1.00 SY

RIGHT REAR PARAPET : (7.83')(12.13')/9 = 10.55 SY

(6.58')(14')/9 = 10.24 SY

RIGHT FWD PARAPET : (7.83')(12.46')/9 = 10.84 SY

(6.58')(14')/9 = 10.24 SY

74.69 SQ YD

REAR ABUT : ½(0' + 25.39')(50.86')/9 = 71.74 SY

½(25.80' + 28.30')(7.5')/9 = 22.54 SY

(28.30')(3.56')/9 = 11.19 SY

½(28.30' + 28.81')(31.58')/9 = 100.20 SY

½(28.81' + 28.43')(24.06')/9 = 76.54 SY

(28.43')(11.29')/9 = 35.66 SY

½(28.43' + 25.87')(9.05')/9 = 27.30 SY

½(25.87' + 0')(50.45')/9 = 72.51 SY

(2')(66.68')/9 = 14.82 SY

(2.01')(3.89')/9 = 0.87 SY

(2.01')(4.02')/9 = 0.90 SY

(1.50')(64.88')/9 = 10.81 SY

(0.59')(3.75')/9 = 0.25 SY

(0.73')(3.75')/9 = 0.30 SY

(1.50')(66.32')/9 = 11.05 SY

456.68 SQ YD

DISTRICT 10 - BRIDGE DEPARTMENT

MUSKINGUM DRIVE, BOX 658, MARIETTA OHIO 45750

COUNTY: HOC ROUTE: 93 SECTION: 12.47 SHEET 4 OF 5

DATE: DATE:

CALCULATED BY: CHECKED BY:

SEALING OF CONCRETE SURFACES (NON-EPOXY)

FWD ABUT : (4.87')(1.75') /9 = 0.95 SY

½ (4.87' + 6.94')(7.25') /9 = 4.76 SY

(6.94')(11.53') /9 = 8.89 SY

½ (6.94' + 7.36')(24.06') /9 = 19.11 SY

½ (7.36' + 6.91')(31.58') /9 = 25.04 SY

(6.91')(3.32') /9 = 2.55 SY

½ (6.91' + 4.84')(7.25') /9 = 4.73 SY

(4.84')(1.75') /9 = 0.94 SY

(2.95')(2') /9 = 0.66 SY

(65.17')(2') /9 = 14.48 SY

(3.03')(2') /9 = 0.67 SY

(9.88')(1.75') /9 = 1.92 SY

(9.36')(1.75') /9 = 1.82 SY

86.52 SQ YD

ABUT TOTAL = 456.68 + 86.52 = 543.20 SQ YD

1" PEJF

REAR ABUTMENT : (2.91')(1.50') = 4.37 SF

(3.04')(1.50') = 4.56 SF

8.93 SQ FT

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COUNTY: HOC ROUTE: 93 SECTION: 12.47 SHEET 5 OF 5

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POROUS BACKFILL WITH GEOTEXTILE FABRIC

REAR ABUTMENT : $\frac{1}{2}(0' + 3.41')(11.5')(4')/27 = 2.90$ CY

$(3.41')(1.22')(4')/27 = 0.62$ CY

$\frac{1}{2}(3.41' + 3.92')(33.93')(2')/27 = 9.21$ CY

$\frac{1}{2}(3.92' + 3.54')(24.06')(2')/27 = 6.65$ CY

$(3.54')(10.13')(2')/27 = 2.66$ CY

$\frac{1}{2}(3.54' + 0')(12.86')(3.18')/27 = 2.68$ CY

24.72 CY

FWD ABUTMENT : $\frac{1}{2}(1.87' + 3.94')(7.25')(2')/27 = 1.56$ CY

$(3.94')(11.53')(2')/27 = 3.37$ CY

$\frac{1}{2}(3.94' + 4.36')(24.06')(2')/27 = 7.40$ CY

$\frac{1}{2}(4.36' + 3.91')(31.58')(2')/27 = 9.67$ CY

$(3.91')(3.32')(2')/27 = 0.96$ CY

$\frac{1}{2}(3.91' + 1.84')(7.25')(2')/27 = 1.54$ CY

24.50 CY

TOTAL = 24.72 + 24.50 = 49.22 CU YD

REINFORCED CONCRETE APPROACH SLAB

REAR : AREA BY COMPUTER = 1703 SF / 9 = 189.22 SY

FWD : $(66.33')(25')/9 = 184.25$ SY

373.47 SQ YD