

Cranberry Township, PA • Hermitage, PA
Waynesburg, PA • Mansfield, OH
St. Clairsville, OH
724-981-0155

CALCULATION SHEET

JOB NO. 119034 SHEET NO. 1 OF 6
SUBJECT CVY-42-1457 EST. QTY'S
CALCULATED BY JLS DATE 4/23/21
CHECKED BY dhf DATE 6/24/21
REVISED BY _____ DATE _____

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

LS

ITEM SPECIAL - PIPE CLEANOUT, 24" AND UNDER

FROM GENERAL NOTES = 200 FT.

200 FT.

ITEM 202 - VANDAL PROTECTION FENCE REMOVED AND RESET, AS PER PLAN

@ ABUT. JOINTS $(1.75' + 3.33') \times 4 = 20.32'$

PIER JOINTS $(5.08' \times 7) + 2.08' = 37.66'$

@ RAILING REPLACEMENT = $115.83'$ (WEST RAIL) + $225.56'$ (EAST RAIL) = $341.39'$

TOTAL = $399.37' = \underline{400 FT.}$

400 FT.

ITEM 509 - EPOXY COATED REINFORCING STEEL

ABUTS = 901 LB

SUPER = 5916 LB

RAILING = 3131 LB

TOTAL = 9948 LB.

9948 LB.

ITEM 511 - CLASS QC2 CONCRETE, SUPERSTRUCTURE

R.A. $(1.66' + 2.30') \times 1.0' \times 2.5' = 9.90 \text{ FT}^3$

F.A. $(1.75' \times 2) \times 1.0' \times 2.5' = 8.75 \text{ FT}^3$

TOTAL ABUTS = $18.65' \div 27 = 0.69 = \underline{1 \text{ C.Y.}}$

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CALCULATION SHEET

 JOB NO. 119034 SHEET NO. 2 OF 6
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ITEM 511 - CLASS QC CONCRETE, SUPERSTRUCTURE (CONT'D)		
DECK RAILING	$(3.02' + 3.21' + 2.94' + 2.94') 1.0' \times 2.5' = 30.28 \text{ FT}^3 \div 27 = 1.12 \text{ C.Y.}$	
PIER JOINT RAILING	$= (2.0833' \times 1.0' \times 2.5') 15 \text{ LOCATIONS} = 78.12 \text{ FT}^3 \div 27 = 2.89 \text{ C.Y.}$	
RAILING REPLACE UNIT 3	$= (1.0' \times 2.5') (115.83' + 215.0') + (1.58' \times 1.5' \times 2.5') + (1.58' \times 1.42' \times 2.5') = 838.61 \text{ FT}^3 \div 27 = 31.06 \text{ C.Y.}$	
TOTAL SUPER	$= 35.07 = \underline{36 \text{ C.Y.}}$	37 C.Y.
TOTAL CLASS QC2 CONC.	$= 1.0 + 36.0 = \underline{37 \text{ C.Y.}}$	
ITEM 511 - CLASS QC SCC CONC., SUPERSTRUCTURE, AS PER PLAN (w/STEEL FIBERS)		
R.A.	$(82.66' \text{ AVG.} \times 1.25' \times 1.42') + (8.03' \text{ AVG.} \times 1.25' \times 1.15' \text{ AVG.}) + (6.77' \times 0.5' \times 2.03' \text{ AVG.}) + (1.71' \times 1.17' \times 1.40') + (8.63' \times 1.25' \times 1.16') + (7.29' \times 0.5' \times 1.41') + (2.13' \times 1.17' \times 1.41') = 189.10 \text{ FT}^3$	
F.A.	$(70.17' \times 1.25' \times 1.42') + (8.0' \times 1.25' \times 1.15' \text{ AVG.}) + (6.75' \times 0.5' \times 2.04') + (1.75' \times 1.0' \times 2.61') + (8.0' \times 1.25' \times 1.15') + (6.75' \times 0.5' \times 2.04') + (1.75' \times 1.17' \times 1.41') + (1.75' \times 1.0' \times 0.77') + (1.75' \times 0.75' \times 0.75') = 171.11 \text{ FT}^3$	
TOTAL ABUTS	$= 360.21 \text{ FT}^3 \div 27 = 13.34 = \underline{14 \text{ C.Y.}}$	
REAR JOINT	$(80.78' \times 2.94' \times 1.0') + (8.03' \times 2.94' \times 1.14') + (8.58' \times 2.94' \times 1.16') + (3.0' \times 1.17' \times 1.33') + (3.0' \times 1.0' \times 0.86') + (3.21' \times 1.17' \times 1.31') + (3.21' \times 1.0' \times 0.85') - (80.26' \times 13.21 \text{ IN}^3 / 144) = 301.21 \text{ FT}^3$	
FWD JT.	$(70.0' \times 2.94' \times 1.0') + (8.0' \times 2.94' \times 1.14') 2 + (2.94' \times 1.17' \times 1.41') 2 + (2.94' \times 1.0' \times 0.89') 2 - (68.0' \times 13.21 \text{ IN}^3 / 144) = 268.13 \text{ FT}^3$	36 C.Y.
TOTAL SUPER	$= 569.34 \text{ FT}^3 \div 27 = 21.09 = \underline{22 \text{ C.Y.}}$	
TOTAL CLASS QC SCC	$= 14 + 22 = \underline{36 \text{ C.Y.}}$	

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ITEM 511 - CLASS QC2 CONC., SIDEWALK WEARING SURFACE, AS PER PLAN

$$\text{@ R.A.} = (8.0' \times 2.63') + (8.55' \times 2.63') = 43.53 \text{ FT}^2$$

$$\text{UNIT 1} = (35.0' + 16.0' + 55.0') 8.0' = 848.0 \text{ FT}^2$$

$$\text{UNIT 2} = (360.0' + 30.0' + 101.0') 8.0' = 3928.0 \text{ FT}^2$$

$$\text{UNIT 3} = (151.0' + 135.0' + 72.0' + 80.0') 8.0' = 3504.0 \text{ FT}^2$$

$$\text{UNIT 4} = (10.0' + 78.0' + 96.0') 8.0' = 1472.0 \text{ FT}^2$$

$$\text{@ F.A.} = (8.0' \times 2.63') 2 = 42.08 \text{ FT}^2$$

$$\text{TOTAL} = 9837.61 = \underline{\underline{9838 \text{ S.F.}}}$$

9838 S.F.

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN

$$\begin{aligned} \text{PIER 4} = & [(4.0' \times 4) 21.5] 4 + (68.0' \times 4.0') + (56.0' \times 4.0') + \\ & (68.0' \times 7.81' \times 2) + (10.0' \times 0.15' \times 4) + (10.0' \times 0.31' \times 4) - (6.0' \times 1.25' \times 2) + \\ & (7.0' \times 0.47' \times 4) + (2.81' \times 2.0' \times 2) + (3.75' \times 4.0' \times 2) - (4.0' \times 4.0' \times 4) + \\ & (6.13' \times 4.0' \times 2) = 2997.0 \text{ FT}^2 \end{aligned}$$

$$\begin{aligned} \text{PIER 7} = & [(4.5' \times 4) 34.81] 4 + (68.0' \times 4.5') + (56.0' \times 4.5') + \\ & (68.0' \times 5.50' \times 2) - (5.75' \times 1.5' \times 2) + (10.0' \times 0.16' \times 4) - (4.5' \times 4.5' \times 4) + \\ & (10.0' \times 0.32' \times 4) + (7.0' \times 0.47' \times 4) + (4.0' \times 4.5' \times 2) + \\ & (5.94' \times 4.5' \times 2) = 3835.89 \text{ FT}^2 \end{aligned}$$

$$\begin{aligned} \text{PIER 10} = & [(4.5' \times 4) 34.57] 4 + (68.0' \times 4.5') + (56.0' \times 4.5') + \\ & (68.0' \times 5.5' \times 2) - (5.75' \times 1.5' \times 2) + (10.0' \times 0.16' \times 4) - (4.5' \times 4.5' \times 4) + \\ & (10.0' \times 0.32' \times 4) + (7.0' \times 0.47' \times 4) + (4.0' \times 4.5' \times 2) + \\ & (5.94' \times 4.5' \times 2) = 3818.61 \text{ FT}^2 \end{aligned}$$

ITEM 512 - SEALING OF CONC. SURFACES (EPOXY-URETHANE), AS PER PLAN (CONT'D)

$$\begin{aligned} \text{PIER 14} = & [(4.0' \times 4) 1443'] 4 + (68.0' \times 4.0') + \\ & (68.0' \times 7.5' \times 2) - (6.0' \times 1.25' \times 2) + (10.0' \times 0.16' \times 4) + (56.0' \times 4.0') \\ & (10.0' \times 0.32' \times 4) + (7.0' \times 0.47' \times 4) + (2.81' \times 2.0' \times 2) + (4.0' \times 4.0' \times 4) + \\ & (3.75' \times 4.0' \times 2) + (6.13' \times 4.0' \times 2) = 2483.16 \text{ FT}^2 \end{aligned}$$

$$\text{TOTAL PIER AREA} = 13,114.66 \text{ FT}^2$$

SUBTRACT FOR BEARINGS

$$\text{P4 } (0.92' \times 1.67' \times 8) + (1.17' \times 1.92' \times 8) = 30.26 \text{ FT}^2 (-)$$

$$\text{P7 } (1.33' \times 2.0') 16 = 42.56 \text{ FT}^2 (-)$$

$$\text{P10 } (1.33' \times 2.0') 16 = 42.56 \text{ FT}^2 (-)$$

$$\text{P14 } (1.17' \times 1.92' \times 8) + (1.0' \times 1.83' \times 8) = 32.61 \text{ FT}^2 (-)$$

$$\text{TOTAL BEARINGS} = 147.99 \text{ FT}^2 (-)$$

$$\text{TOTAL PIER SEALING} = 13,114.66 - 147.99 = 12,966.67 \div 9 =$$

$$1440.74 = \underline{1441 \text{ S.Y.}}$$

1441 S.Y.

ITEM 512 - REMOVAL OF EXIST. COATINGS FROM CONC. SURFACES, AS PER PLAN

$$\text{PIER 4 } 2997.0 \text{ FT}^2 - 30.26 \text{ FT}^2 - 26.0 \text{ FT}^2 (\text{REPAIR AREA}) = 2940.74 \text{ FT}^2$$

$$\text{PIER 7 } 3835.89 \text{ FT}^2 - 42.56 \text{ FT}^2 = 3793.33 \text{ FT}^2$$

$$\text{PIER 10 } 3818.61 \text{ FT}^2 - 42.56 \text{ FT}^2 - 56.5 \text{ FT}^2 (\text{REPAIR AREA}) = 3719.55 \text{ FT}^2$$

$$\text{PIER 14 } 2483.16 \text{ FT}^2 - 32.61 \text{ FT}^2 - 330.0 \text{ FT}^2 (\text{REPAIR AREA}) = 2120.55 \text{ FT}^2$$

$$\text{TOTAL} = 12,574.17 \text{ FT}^2 \div 9 = 1397.13 = \underline{1398 \text{ S.Y.}}$$

1398 S.Y.

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JOB NO. 119034 SHEET NO. 5 OF 6
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<u>ITEM 516 - ELASTOMERIC STRIP SEAL W/O STEEL EXTRUSIONS, AS PER PLAN</u>			
52.0' + (1.30' + 6.70' + 1.0')2 = 70.0' PER LOCATION			
REPLACE @ PIER 4 & PIER 14 JOINTS = <u>140.0'</u>			<u>140 FT</u>
<u>ITEM 516 - STRUCTURAL EXPANSION JOINT INCL. ELASTOMERIC STRIP SEAL</u>			
R.A. = 35.9323' + 45.0156 = 80.95'			
F.A. = 34.0' + 34.0' = 68.0'			
TOTAL = 148.95 = <u>149 FT.</u>			<u>149 FT</u>
<u>ITEM SPECIAL - MODULAR EXPANSION JOINT</u>			
70.0' PER LOCATION			
REPLACE @ PIERS 7 & 10 = <u>140 FT</u>			<u>140 FT</u>
<u>ITEM 518 - 8" PIPE DOWNSPOUT, INCLUDING SPECIALS, AS PER PLAN</u>			
PER GENERAL NOTE = <u>200 FT</u>			<u>200 FT</u>
<u>ITEM 518 - DOWNSPOUT MODIFICATION, 8"</u>			
PER GENERAL NOTE = <u>2 EACH</u>			<u>2 EACH</u>

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ITEM 518 - STRUCTURED DRAINAGE, MISC: FLUSHING & CLEANING OF THE DRAINAGE

SYSTEM INCLUDING SCUPPERS AND DOWNSPOUTS

- PIER 2 = 88.0'
- PIER 4 = 157.0'
- PIER 5 = 137.0'
- PIER 6 = 161.0'
- PIER 7 = 150.0'
- PIER 8 = 143.0'
- PIER 9 = 140.0'
- PIER 10 = 141.0'
- PIER 11 = 145.0'
- PIER 12 = 155.0'
- PIER 13 = 116.0'
- PIER 14 = 115.0'
- PIER 15 = 104.0'
- F.A. = 48.0'

TOTAL = 1800 FT

1800 FT

ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

- PIER 4 = 26.0 FT²
- PIER 10 = 56.5 FT²
- PIER 14 = 330.5 FT²

TOTAL = 413 S.F.

413 S.F.

ITEM 519 - PATCHING CONCRETE BRIDGE DECK - TYPE B

@ F.A. = $26.0' \times 2.5' = 65 \text{ FT}^2 \div 9 = 7.22 = \underline{8 \text{ S.Y.}}$

8 S.Y.

ITEM SPECIAL - TIMBER SUBDECK

SPANS 10 & 11 = $(139.0' + 139.0') 64.0' = \underline{17,792 \text{ SF}}$

17,792 S.F.