



Final Quantities

# CALCULATION SHEET

**RICHLAND ENGINEERING LIMITED**  
29 North Park Street, Mansfield, Ohio 44902  
419/524-0074 • FAX 419/524-1812

JOB NO. 111048-5 SHEET NO. 1 OF 54  
SUBJECT LOR-611-0344 Final Estimated Quantities  
CALCULATED BY KAK DATE 7/27/15  
CHECKED BY RWC DATE 7/20/14  
REVISED BY \_\_\_\_\_ DATE \_\_\_\_\_

## LOR-611-0344 Estimated Quantities

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

Lump

ITEM 202 - REMOVAL MISC.: DAMAGED PORTAL MEMBER

Lump

\* Separate Funding Source

ITEM 503 - COFFERDAMS AND EXCAVATION BRACING

Lump

ITEM 503 - UNCLASSIFIED EXCAVATION

Lump

ITEM 509 - EPOXY COATED REINFORCING STEEL

4,433 lbs

Forward Abutment = 3687  
Retaining Wall = 746 lbs  
4,433 lbs

ITEM 510 - DOWEL HOLES WITH CEMENT GROUT

12 EA.

FORWARD ABUTMENT Rebuilt Checkwall 6 x 2 = 12 EA.



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**CALCULATION SHEET**

JOB NO. 111048-5 SHEET NO. 2 OF 54

SUBJECT Rivet Removal QTY

CALCULATED BY T.B.W. DATE 7/6/15

CHECKED BY RWC DATE 7/7/15

REVISED BY \_\_\_\_\_ DATE \_\_\_\_\_

Item 202 - Removal misc: Rivets

Lower chord: 337 Each

Upper chord: 77 Each

L62 West Repair: + L18 West Repair (sidewalk)

$4 \times 3 = 12$  Each

$2 \times 4 + 3 \times 4 = 20$  Each

Floorbeam 4 Repair:

$2 \times 3 = 6$  Each

Panel Point 12 Catwalk:

$(8 \times 4) + 2 = 34$  Each

Panel Point 45 Catwalk:

$(2 \times 16) + (4 \times 14) + (2 \times 4) + 2 = 98$  Each

Portal Repair:

$30 \times 2 = 60$  Each

Total

$\Sigma$  All Rivet Removal = 624

624 Each  
644

Lower Chord Rivets To Be Removed					
Span #	Panel Point	Truss	Location	Repair Type	Rivets Removed
1	L1	West	Outside	1,8	2
1	L1	West	Inside	8,8	0
1	L1	East	Inside	8,8	0
1	L1	East	Outside	3,8	2
1	L2	West	Outside	8	3
1	L2	West	Inside	8	3
1	L2	East	Inside	8	3
1	L2	East	Outside	8	3
1	L4	East	Inside	1	2
1	L5	West	Outside	3	2
1	L7	West	Outside	8	0
1	L7	West	Inside	8	0
1	L7	East	Inside	8	0
1	L7	East	Outside	8	0
1	L9	West	Outside	1,6	8
1	L9	West	Inside	0	0
1	L9	East	Inside	0	0
1	L9	East	Outside	1	2
2	L10	West	Outside	1,8	2
2	L10	West	Inside	8,8	0
2	L10	East	Inside	1,8	2
2	L10	East	Outside	1,1	4
2	L11	West	Outside	1,5,6,8	15
2	L11	West	Inside	8,8,8	0
2	L11	East	Inside	8,8,8	0
2	L11	East	Outside	1,1,5,8	17
2	L12	West	Outside	8	0
2	L12	West	Inside	8	0
2	L12	East	Inside	8	0
2	L12	East	Outside	8	0
2	L14	West	Outside	3,8,8	6
2	L14	West	Inside	8,8	3
2	L14	East	Inside	8,8	3
2	L14	East	Outside	3,8,8	6
2	L15	East	Outside	1,1	4
2	L16	West	Outside	8,8	0
2	L16	West	Inside	8,8	0
2	L16	East	Inside	8,8	0
2	L16	East	Outside	8,8	0
2	L17	West	Outside	3,3,8	4
2	L17	West	Inside	8,8	0
2	L17	East	Inside	8,8	0
2	L17	East	Outside	8,8	0
2	L18	West	Outside	8	0
2	L18	West	Inside	8	0
2	L18	East	Inside	8	0
2	L18	East	Outside	8	0
2	L19	West	Outside	1,1,3,4,6	17
2	L19	West	Inside	1,1,4,6	14
2	L19	East	Inside	1,1,4,6	14

2	L19	East	Outside	1,1,4,6	14 /
3	L21	West	Outside	5	5 /
3	L21	East	Outside	5	5 /
3	L22	West	Outside	1,1,3	8 /
3	L22	East	Outside	1,3	5 /
3	L23	West	Outside	1,3,8	7 /
3	L23	West	Inside	8	3 /
3	L23	East	Inside	8	3 /
3	L23	East	Outside	8	3 /
3	L25	West	Outside	1	2 /
3	L28	West	Outside	1,8	2 /
3	L28	West	Inside	8	0
3	L28	East	Inside	8	0
3	L28	East	Outside	1	2 /
3	L29	West	Outside	1,8	3 /
3	L29	West	Inside	8,8	0
3	L29	East	Inside	8,8	0
3	L29	East	Outside	8,8	0
3	L30	West	Outside	8,8	0
3	L30	West	Inside	8,8	0
3	L30	East	Inside	8,8	0
3	L30	East	Outside	8,8	0
4	L33	West	Outside	8	0
4	L33	West	Inside	8	0
4	L33	East	Inside	8	0
4	L33	East	Outside	8	0
4	L34	West	Outside	1,1	6 /
4	L34	West	Inside	8,8	0
4	L34	East	Inside	8,8	0
4	L34	East	Outside	8,8	0
4	L35	West	Outside	8	0
4	L35	West	Inside	1	2 /
4	L35	East	Inside	5,8	5 /
4	L35	East	Outside	5,8	5 /
4	L37	East	Outside	6	5 /
4	L38	East	Inside	1	2 /
4	L39	East	Inside	1	2 /
4	L42	East	Outside	1	2 /
4	L45	West	Outside	5,8	5 /
4	L45	West	Inside	5,8	5 /
4	L45	East	Inside	1	2 /
4	L45	East	Outside	8	0
4	L46	West	Outside	8,8	0
4	L46	West	Inside	8,8	0
4	L46	East	Inside	8,8	0
4	L46	East	Outside	8,8	0
4	L47	West	Outside	1,8	0
4	L47	West	Inside	1,8	0
4	L47	East	Inside	2,8	2 /
4	L47	East	Outside	2,8	2 /
5	L49	East	Outside	1	3 /
5	L50	West	Outside	8,8	0

5	L50	West	Inside	8,8	0
5	L50	East	Inside	8,8	0
5	L50	East	Outside	8,8	0
5	L51	West	Outside	8,8	0
5	L51	West	Inside	8,8	0
5	L51	East	Inside	8,8	0
5	L51	East	Outside	1,3	4 /
5	L52	West	Outside	1,3	4 /
5	L52	West	Inside	8	0
5	L52	East	Inside	1	2 /
5	L52	East	Outside	8	0
5	L54	West	Outside	1	2 /
5	L56	West	Outside	1	2 /
5	L57	West	Outside	3,8	5 /
5	L57	West	Inside	8	3 /
5	L57	East	Inside	8	3 /
5	L57	East	Outside	8	3 /
5	L59	West	Outside	6	6 /
6	L61	West	Outside	1,1,1,6	13 /
6	L61	West	Inside	1,1,1	7 /
6	L61	East	Inside	1,1,1,3	12 /
6	L61	East	Outside	1,1,1,3	12 ✓
6	L62	West	Outside	8	0
6	L62	West	Inside	8	0
6	L62	East	Inside	8	0
6	L62	East	Outside	1,8	2 /
6	L63	West	Outside	3,8	2 /
6	L63	West	Inside	8,8	0
6	L63	East	Inside	8,8	0
6	L63	East	Outside	3,8	2 /
6	L64	West	Outside	8,8	0
6	L64	West	Inside	8,8	0
6	L64	East	Inside	8,8	0
6	L64	East	Outside	3,8	2 /
6	L66	West	Outside	8,8	0
6	L66	West	Inside	8,8	0
6	L66	East	Inside	8,8	0
6	L66	East	Outside	8,8	0
6	L67	West	Outside	8,8	0
6	L67	West	Inside	8,8	0
6	L67	East	Inside	8,8	0
6	L67	East	Outside	8,8	0

Total Rivets Removed (Lower Chord) = ~~339~~  
337

Upper Chord Rivets To Be Removed					
Span #	Panel Point	Truss	Location	Repair Type	Rivets Removed
1	U2	West	Outside	8	0
1	U2	West	Inside	8	0
1	U2	East	Inside	8	0
1	U2	East	Outside	1,1	4 /
1	U5	West	Outside	8,8	0
1	U5	West	Inside	8,8	0
1	U5	East	Inside	8,8	0
1	U5	East	Outside	8,8	0
1	U6	West	Outside	8	3 /
1	U6	West	Inside	8	3 /
1	U6	East	Inside	8	3 /
1	U6	East	Outside	8	3 /
1	U7	West	Outside	8,8	3 /
1	U7	West	Inside	8,8	3 /
1	U7	East	Inside	8,8	3 /
1	U7	East	Outside	8,8	3 /
1	U8	West	Outside	8	0
1	U8	West	Inside	8	0
1	U8	East	Inside	8	0
1	U8	East	Outside	8	0
1	U9	West	Outside	8,8,8	0
1	U9	West	Inside	8,8,8	0
1	U9	East	Inside	8,8,8	0
1	U9	East	Outside	1,8,8	2 /
2	U11	West	Outside	8,8,8	0
2	U11	West	Inside	8,8,8	0
2	U11	East	Inside	8,8,8	0
2	U11	East	Outside	8,8,8	0
2	U12	West	Outside	8,8	0
2	U12	West	Inside	8,8	0
2	U12	East	Inside	8,8	0
2	U12	East	Outside	8,8	0
2	U14	West	Outside	8	0
2	U14	West	Inside	8	0
2	U14	East	Inside	8	0
2	U14	East	Outside	8	0
2	U15	West	Outside	8,8	0
2	U15	West	Inside	8,8	0
2	U15	East	Inside	8,8	0
2	U15	East	Outside	8,8	0
2	U16	West	Outside	8	0
2	U16	West	Inside	8	0
2	U16	East	Inside	8	0
2	U16	East	Outside	8	0
2	U17	West	Outside	8	2 /
2	U17	West	Inside	8	2 /
2	U17	East	Inside	8	2 /
2	U17	East	Outside	8	2 /
2	U18	West	Outside	8	0
2	U18	West	Inside	8	0

2	U18	East	Inside	8	0
2	U18	East	Outside	8	0
2	U19	West	Outside	8	0
2	U19	West	Inside	8	0
2	U19	East	Inside	8	0
2	U19	East	Outside	8	0
3	U21	West	Outside	8	0
3	U21	West	Inside	8	0
3	U21	East	Inside	8	0
3	U21	East	Outside	8	0
3	U25	West	Outside	8	0
3	U25	West	Inside	8	0
3	U25	East	Inside	8	0
3	U25	East	Outside	8	0
3	U26	West	Outside	8	0
3	U26	West	Inside	8	0
3	U26	East	Inside	8	0
3	U26	East	Outside	8	0
3	U29	West	Outside	8	3
3	U29	West	Inside	8	3
3	U29	East	Inside	8	3
3	U29	East	Outside	8	3
3	U30	West	Outside	8	0
3	U30	West	Inside	8	0
3	U30	East	Inside	8	0
3	U30	East	Outside	8	0
3	U31	West	Outside	8,8	0
3	U31	West	Inside	8,8	0
3	U31	East	Inside	8,8	0
3	U31	East	Outside	8,8	0
4	U33	West	Outside	8,8	0
4	U33	West	Inside	8,8	0
4	U33	East	Inside	8,8	0
4	U33	East	Outside	8,8	0
4	U34	West	Outside	8,8,8	0
4	U34	West	Inside	8,8,8	0
4	U34	East	Inside	8,8,8	0
4	U34	East	Outside	8,8,8	0
4	U35	West	Outside	7,7,8	0
4	U35	West	Inside	8	0
4	U35	East	Inside	8	0
4	U35	East	Outside	7,8	0
4	U36	West	Outside	8	0
4	U36	West	Inside	8	0
4	U36	East	Inside	8	0
4	U36	East	Outside	8	0
4	U37	West	Outside	8	0
4	U37	West	Inside	8	0
4	U37	East	Inside	8	0
4	U37	East	Outside	8	0
4	U38	West	Outside	8	0
4	U38	West	Inside	8	0

4	U38	East	Inside	8	0
4	U38	East	Outside	8	0
4	U39	West	Outside	8	0
4	U39	West	Inside	8	0
4	U39	East	Inside	8	0
4	U39	East	Outside	8	0
4	U41	West	Outside	8	0
4	U41	West	Inside	8	0
4	U41	East	Inside	8	0
4	U41	East	Outside	8	0
4	U42	West	Outside	8	0
4	U42	West	Inside	8	0
4	U42	East	Inside	8	0
4	U42	East	Outside	8	0
4	U43	West	Outside	8	0
4	U43	West	Inside	8	0
4	U43	East	Inside	8	0
4	U43	East	Outside	8	0
4	U44	West	Outside	8	0
4	U44	West	Inside	8	0
4	U44	East	Inside	8	0
4	U44	East	Outside	8	0
4	U45	West	Outside	7,8	0
4	U45	West	Inside	7,8	0
4	U45	East	Inside	7,7,8	0
4	U45	East	Outside	8	0
4	U46	West	Outside	8,8,8	0
4	U46	West	Inside	8,8,8	0
4	U46	East	Inside	8,8,8	0
4	U46	East	Outside	8,8,8	0
4	U47	West	Outside	8,8	0
4	U47	West	Inside	8,8	0
4	U47	East	Inside	8,8	0
4	U47	East	Outside	8,8	0
5	U49	West	Outside	8,8	0
5	U49	West	Inside	8,8	0
5	U49	East	Inside	8,8	0
5	U49	East	Outside	8,8	0
5	U50	West	Outside	8	0
5	U50	West	Inside	8	0
5	U50	East	Inside	8	0
5	U50	East	Outside	8	0
5	U51	West	Outside	8	3 /
5	U51	West	Inside	8	3 /
5	U51	East	Inside	8	3 /
5	U51	East	Outside	8	3 /
5	U54	West	Outside	8	0
5	U54	West	Inside	8	0
5	U54	East	Inside	8	0
5	U54	East	Outside	8	0
5	U55	West	Outside	8	0
5	U55	West	Inside	8	0



5	U55	East	Inside	8	0
5	U55	East	Outside	1,8	2
5	U58	East	Outside	1	2
5	U59	West	Outside	8	0
5	U59	West	Inside	8	0
5	U59	East	Inside	8	0
5	U59	East	Outside	8	0
6	U61	West	Outside	8	0
6	U61	West	Inside	8	0
6	U61	East	Inside	8	0
6	U61	East	Outside	8,8	0
6	U62	West	Outside	8	2
6	U62	West	Inside	8	2
6	U62	East	Inside	8	2
6	U62	East	Outside	8	2
6	U63	West	Outside	8	0
6	U63	West	Inside	8	0
6	U63	East	Inside	8	0
6	U63	East	Outside	8	0
6	U64	West	Outside	8	0
6	U64	West	Inside	8	0
6	U64	East	Inside	8	0
6	U64	East	Outside	8	0
6	U65	West	Outside	8,8	0
6	U65	West	Inside	8,8	0
6	U65	East	Inside	8,8	0
6	U65	East	Outside	8,8	0
6	U66	West	Outside	1,1	3
6	U66	West	Inside	8	0
6	U66	East	Inside	8	0
6	U66	East	Outside	8	0

Rivets Removed (Upper Chord) = 77

Additional Repairs				
Span #	Panel Point	Truss	Location	Rivets Removed
1	Panel Point 0	East Truss	Portal	60
1	Panel Point 4	Stringer 6-7	Floor Beam	6
2	Panel Point 12	Full Width	Catwalk	34
4	Panel Point 45	Partial	Catwalk	98 98
6	L62	West	Sidewalk	12
2	L18	West	Sidewalk	8+12 = 20

\* Paid under "Portal Repair"

Added 10/05/15

Rivets Removed (Repairs) = 208 ~~210~~ 230

Total Rivets Removed = 624 ~~626~~ 644

Portal Repair => 60 EA  
 01/BRO/BR => 566 EA  
 584

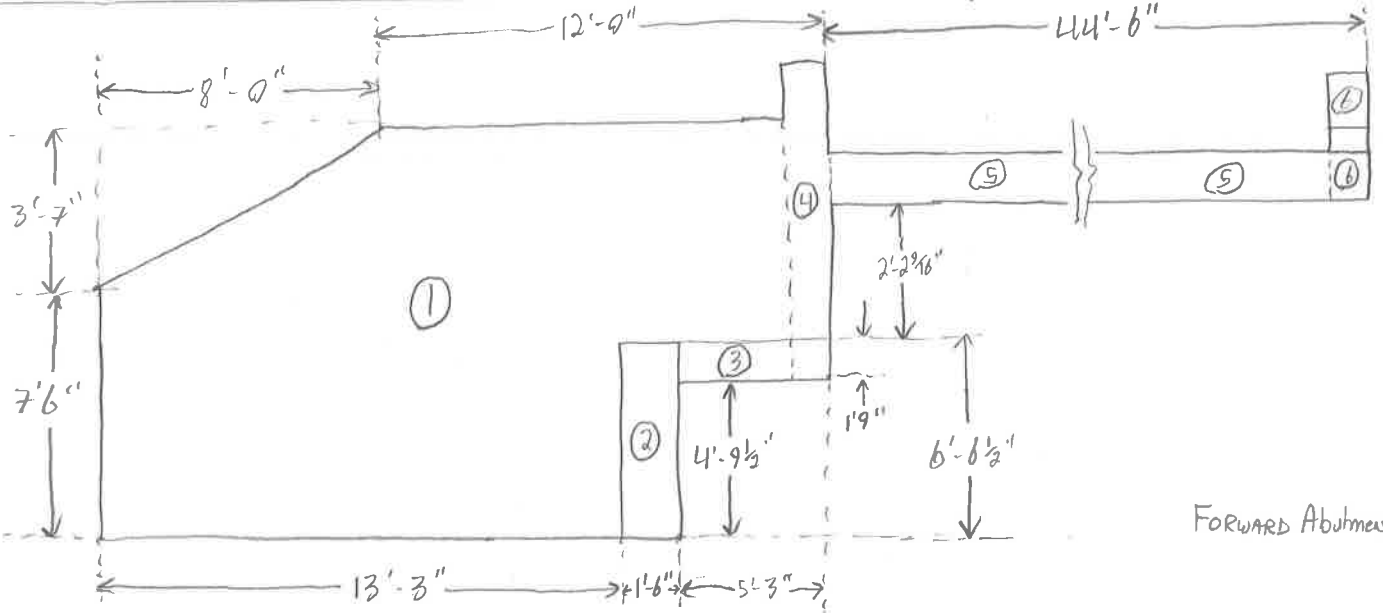


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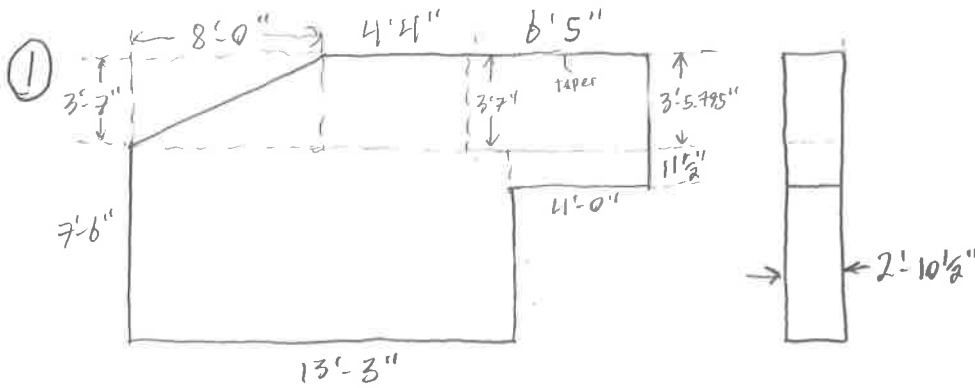
**CALCULATION SHEET**

JOB NO. 111048-5 SHEET NO. 10 OF 54  
 SUBJECT QCI concrete: Abutment  
 CALCULATED BY T.G.W. DATE 7/30/15  
 CHECKED BY Rwc DATE 7/14  
 REVISED BY \_\_\_\_\_ DATE \_\_\_\_\_

Item 511 - CLASS QCI CONCRETE: Abutment As Per Plan

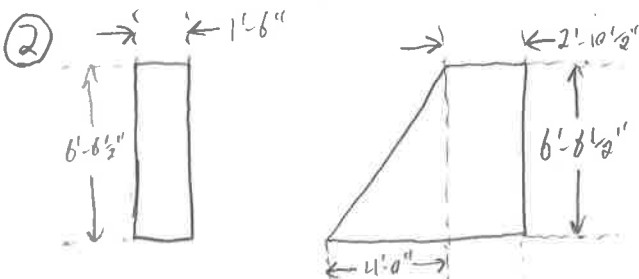


FORWARD Abutment



$$\textcircled{1}: \left[ (8.0' * 3.583' * \frac{1}{2}) + (7.5' * 13.25') + (4.0' * 0.9583') + \left( \frac{3.583' + 3.483'}{2} \right) * 6.417' + (4.33' * 3.583') \right] * 2.875'$$

① = 447.76 CF



$$\textcircled{2} = \left[ (4.0' * 6.542' * \frac{1}{2}) + (2.875' * 6.542') \right] * 1.5'$$

② = 47.84 CF

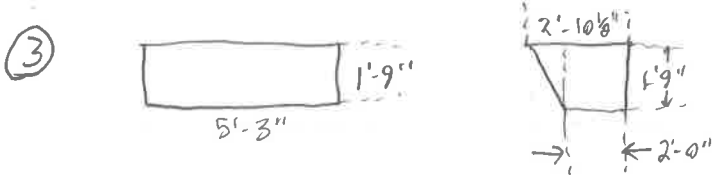


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**CALCULATION SHEET**

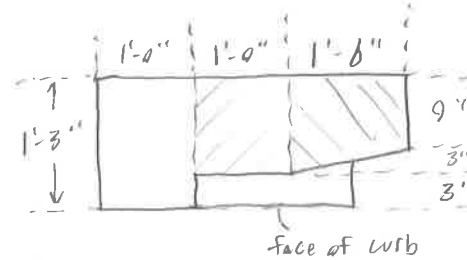
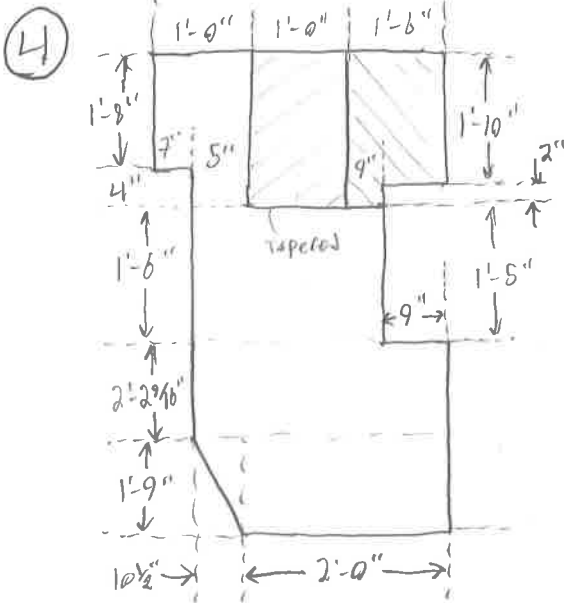
JOB NO. 111048-5 SHEET NO. 11 OF 54  
 SUBJECT QCS concrete: Abutment  
 CALCULATED BY T.G.W. DATE 7/30/15  
 CHECKED BY RWC DATE 7/14  
 REVISED BY \_\_\_\_\_ DATE \_\_\_\_\_

Item 511-CLASS QCS concrete: Abutment (cont.)



$$\textcircled{3} = [(0.875' * 1.75' * 0.5) + (2.0' * 1.75')] * 5.25'$$

$$\textcircled{3} = 22.39 \text{ CF}$$

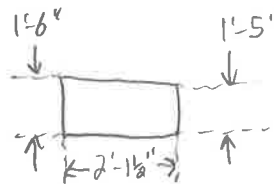


$$\textcircled{4} [(1.0' * 2.0') * 1.0'] + \left\{ [(1.5' * 1.83') + (0.75' * 0.17')] * \left( \frac{0.75' + 1.0'}{2} \right) \right\}$$

$$+ [(1.67' * 1.0') + (0.417' * 0.33')] + (2.125' * 1.5') + (2.214' * 2.875')$$

$$\dots + (1.75' * 0.875' * 0.5) + (2.0' * 1.75')] * 1.25'$$

$$\textcircled{4} = 24.05 \text{ CF}$$



$$\textcircled{5} \left[ \left( \frac{1.5' + 1.417'}{2} \right) * 2.125' \right] * 44.5'$$

$$\textcircled{5} = 137.90 \text{ CF}$$



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**CALCULATION SHEET**

JOB NO. 111048-5 SHEET NO. 12 OF 54

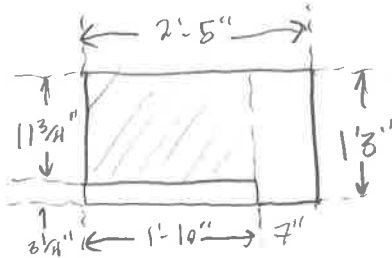
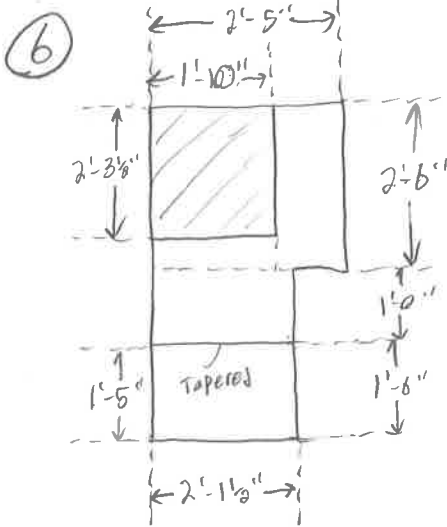
SUBJECT QC1 Concrete: Abutment

CALCULATED BY T.G.W. DATE 7/30/15

CHECKED BY RWC DATE 7/14

REVISED BY \_\_\_\_\_ DATE \_\_\_\_\_

Item 511 - CLASS QC1 Concrete: Abutment (cont.)



$$\textcircled{6} [(2.2917' \times 1.83') \times 0.97917'] + [(2.5' \times 0.583') + (1.83' \times 0.2033') + (1.0' \times 2.125') + (1.4683' \times 2.125')] \times 1.25'$$

$$\textcircled{6} = 12.94 \text{ CF}$$

Total

$$\Sigma \textcircled{1}-\textcircled{6} = 447.76 + 47.84 + 22.39 + 24.05 + 137.9 + 12.94$$

$$\Sigma \textcircled{1}-\textcircled{6} = 692.88 \text{ CF} \div 27 = 25.66 \text{ CY}$$

**26 CY**



# CALCULATION SHEET

## RICHLAND ENGINEERING LIMITED

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JOB NO. 111048-5 SHEET NO. 13 OF 54  
SUBJECT LOR-611-0344 Final Estimated Quantities  
CALCULATED BY KAK DATE 7/27/15  
CHECKED BY RWC DATE 7/14  
REVISED BY \_\_\_\_\_ DATE \_\_\_\_\_

ITEM 511 - CLASS QC1 CONCRETE, Retaining Wall

8 C.Y.

$$\text{Width of Cap} = (2'' + 21'' + 5'') = 28'' = 2'-4''$$

$$\text{Depth of Cap} = 1'-10''$$

$$\text{Length of Cap} = 50'-0''$$

$$\begin{aligned} \text{New Cap Volume} &= 2.33' \times 1.83' \times 50' = 213.9 \text{ ft}^3/27 \\ &= 7.92 \text{ yd}^3 \end{aligned}$$



# CALCULATION SHEET

## RICHLAND ENGINEERING LIMITED

29 North Park Street, Mansfield, Ohio 44902  
419/524-0074 • FAX 419/524-1812

JOB NO. 111048-5 SHEET NO. 14 OF 54

SUBJECT CLASS QC2 CONCRETE QTY'S

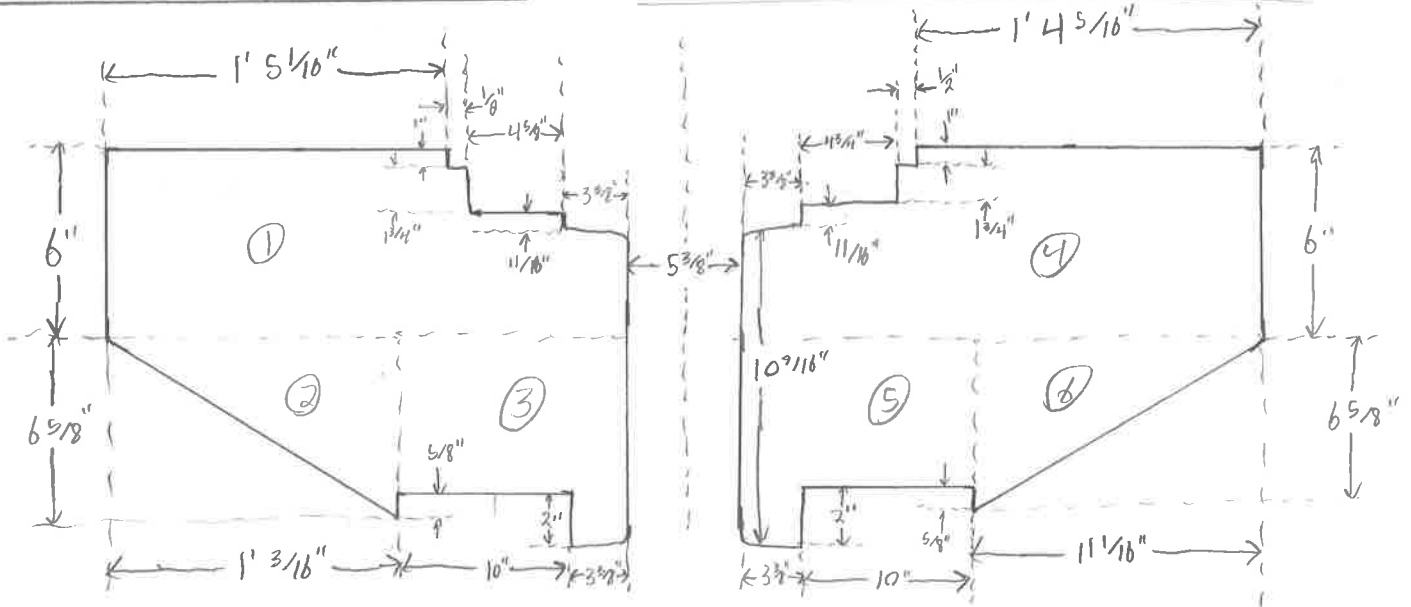
CALCULATED BY T.G.W. DATE 6/30/15

CHECKED BY RWC DATE 7/14

ITEM 511 = CLASS QC2 CONCRETE, MISC.: DECK JOINTS AND SIDEWALK } BY \_\_\_\_\_ DATE \_\_\_\_\_

### Expansion Joint 35

Assume 60° temp.  $1\frac{1}{2}$ " steel Retainer width



$$\textcircled{1} [(0.5' * 2.13') - (0.385' * 0.729') - (0.28' * 0.286')] = \underline{0.897 \text{ SF}}$$

$$\textcircled{2} (0.552' * 1.016') \frac{1}{2} = \underline{0.28 \text{ SF}}$$

$$\textcircled{3} [(1.11' * 0.667') - (0.167' * 0.833')] = \underline{0.601 \text{ SF}}$$

$$\textcircled{4} [(2.08' * 0.5') - (1.385' * 0.729') - (0.28' * 0.286')] = \underline{0.872 \text{ SF}}$$

$$\textcircled{5} (0.552' * 0.972') \frac{1}{2} = \underline{0.254 \text{ SF}}$$

$$\textcircled{6} [(1.11' * 0.667') - (0.167' * 0.833')] = \underline{0.601 \text{ SF}}$$

$$\Sigma \textcircled{1-6} = 3.505 \text{ SF} * 44.5' = \underline{155.97 \text{ CF}}$$

Sidewalk + Curb

$$\begin{array}{|c|} \hline 4'' \\ \hline \text{ } \\ \hline 8'' \\ \hline \end{array} (0.67' * 0.333') = 0.222 \text{ SF} * 4.708' = \underline{1.046 \text{ CF}}$$



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## CALCULATION SHEET

JOB NO. 111048-5 SHEET NO. 15 OF 54

SUBJECT CLASS Q.C2 concrete wtr's

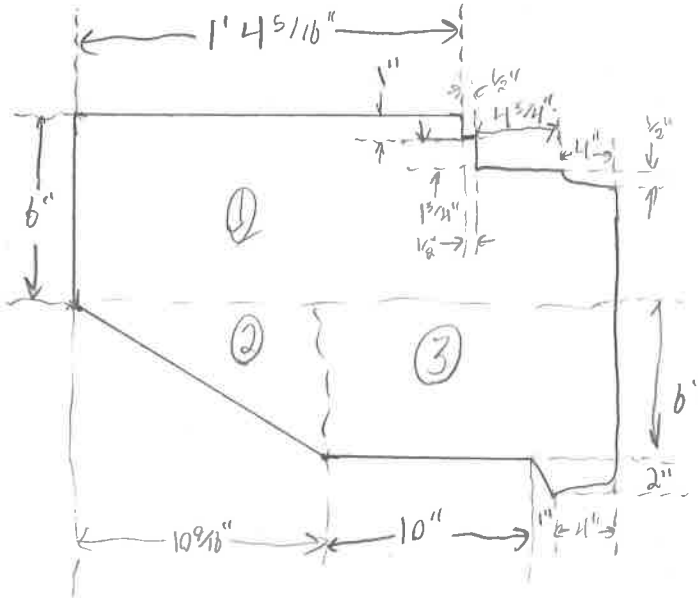
CALCULATED BY T. G. W. DATE 6/30/15

CHECKED BY RWC DATE 7/14

REVISED BY \_\_\_\_\_ DATE \_\_\_\_\_

ITEM 511 - CLASS Q.C2 Concrete, Misc. Deck Joints And Sidewalk (cont.)

### Forward Abutment Expansion Joint



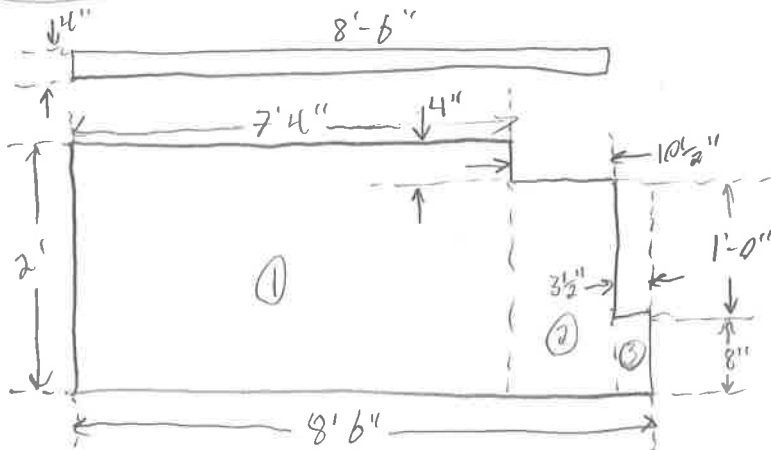
$$① [(0.5' * 2.13') - (0.73' * 0.23')] = \underline{0.897 SF}$$

$$② (0.88' * 0.5') \frac{1}{2} = \underline{0.22 SF}$$

$$③ [(1.25' * 0.5') + (0.375' * 0.19')] = \underline{0.688 SF}$$

$$\Sigma ①-③ = 1.805 SF * 44.5' = \underline{80.32 CF}$$

### Sidewalk + Curb



$$① (7.33' * 2') = \underline{14.66 SF}$$

$$② (0.835' * 1.67') = \underline{1.458 SF}$$

$$③ (0.67' * 0.292') = \underline{0.194 SF}$$

$$\Sigma ①-③ = 16.312 * 0.33' = \underline{5.437 CF}$$

### Total

$$\Sigma \text{ both expansion joints + sidewalks} = (155.97 + 1.046 + 80.32 + 5.437) = \underline{242.77 CF}$$

$$242.77 CF \div 27 = \underline{8.99 CY}$$

**9 CY**



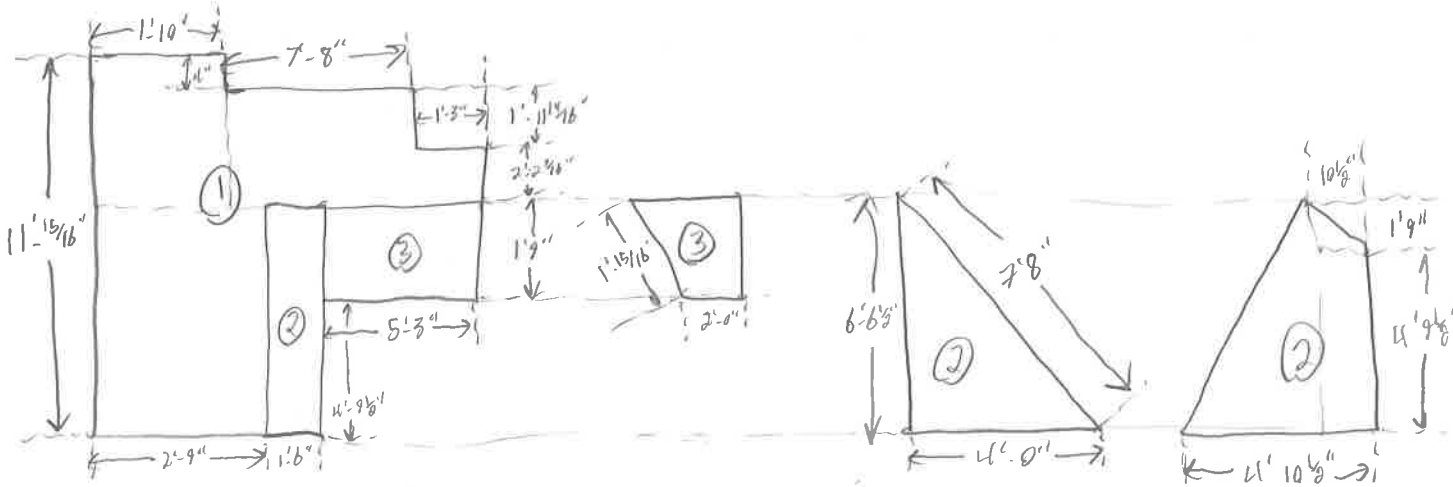
**RICHLAND ENGINEERING LIMITED**  
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**CALCULATION SHEET**

JOB NO. 111048-5 SHEET NO. 16 OF 54  
 SUBJECT Sealing of concrete surfaces (epoxy-urethane)  
 CALCULATED BY T.B.W. DATE 7/7/15  
 CHECKED BY RWC DATE 7/17/15  
 REVISED BY \_\_\_\_\_ DATE \_\_\_\_\_

ITEM 512 - Sealing of Concrete Surfaces (Epoxy-Urethane)

Forward Abutment



①  $(2.75' * 6.54') + (1.83' * 4.54') + (7.67' * 4.2') + (1.25' * 2.214') = \underline{61.28 \text{ SF}}$

②  $(1.5' * 7.67') + (6.54' * 4.0') + (0.875' * 1.75' * 1/2) + (4.79' * 0.875') = \underline{42.62 \text{ SF}}$

③  $(1.08' * 5.25') = \underline{5.68 \text{ SF}}$

$\Sigma \text{ new concrete} = \underline{109.56 \text{ SF}}$

CONCRETE Patching \*wing walls not included\*

Rear Abutment

elevation cont.  
 $(27) + (21) = \underline{48 \text{ SF}}$

Forward Abutment

Plan elevation cont.  
 $(45) + (63) + (22) = \underline{130 \text{ SF}}$

Total

$\Sigma \text{ new concrete + patching} = 109.56 + 130 + 48 = 287.56 \text{ SF} \div 9 = 31.95 \text{ SY}$

**32 SY**





# CALCULATION SHEET

## RICHLAND ENGINEERING LIMITED

29 North Park Street, Mansfield, Ohio 44902  
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JOB NO. 111048-5 SHEET NO. 17 OF 54

SUBJECT 10R-611-0344

CALCULATED BY ALP DATE 8-1-14

CHECKED BY TGW DATE 7-24-15

REVISED BY \_\_\_\_\_ DATE \_\_\_\_\_

### ITEM 512 - SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN

#### DECK:

$$CLC \text{ BEARING} = (205 + 93.5) - (188 + 93.4) = 1700.1' \quad (11/189)$$

$$LL \text{ BRG TO BRIDGE LIMITS} = (2'-1\frac{1}{2}'' ) + 1.5' + 2' + (2'-1\frac{1}{2}'' ) = 7.75' \quad (13/189 + 16/189)$$

$$\text{TOTAL BRIDGE LENGTH} = 1700.1' + 7.75' = 1707.85'$$

$$\text{DECK WIDTH} = 44.5' \quad (21/89)$$

$$\text{DECK AREA} = 1707.85' (44.5') = 76,000 \text{ SF}$$

#### DEDUCTIONS:

##### EXPANSION JOINTS AT ABUTMENTS:

$$\text{REAR ABUTMENT} = [3\frac{1}{8}'' (2) + 4.5625''] (44.5') = 40.1 \text{ SF} \quad (2006 \text{ REPAIR PLANS, } 56/62)$$

$$\text{FORWARD ABUTMENT} = (1'-5\frac{3}{4}'' + 3'' + 3\frac{1}{8}'' ) (44.5') = 88.54 \text{ SF} \quad (1154/189)$$

$$\text{ROADWAY DRAINS} = 1' (42') (12) = 504 \text{ SF} \quad (2006 \text{ REPAIR PLANS, } 58/62 \text{ \& } 1991 \text{ PLANS, } 68/81)$$

$$\text{DEFLECTION JOINTS} = 5 (2.75'' + 2.75'' + 1.5'') (44.5') = 129.79 \text{ SF} \quad (1142/189)$$

##### EXPANSION JOINTS INTERMEDIATE:

$$\text{PP 12} = (1'-7\frac{7}{8}'' + 2\frac{1}{2}'' ) (44.5') = 81.12 \text{ SF} \quad (1991 \text{ PLANS, } 59/81)$$

$$\text{PP 35} = (1'-5\frac{3}{4}'' + 2(1.5'') + 2\frac{3}{8}'' ) (44.5') = 85.76 \text{ SF} \quad (1147/189)$$

$$\text{TOTAL DECK DEDUCTIONS} = 929.31 \text{ SF}$$

$$\text{TOTAL DECK SEALING} = 76000 - 929.31 \text{ SF} = 75,070.69 \text{ SF}$$

#### SIDEWALK:

$$\text{WIDTH} = (6'-11'') + (1'-9'') - 8'' = 8' \quad (1991 \text{ REPAIR PLANS, } 55/81)$$

$$\text{LENGTH} = 1707.85'$$

$$\text{SIDEWALK AREA} = 8' (1707.85') = 13,662.8 \text{ SF}$$

#### DEDUCTIONS:

##### EXPANSION JOINTS AT ABUTMENTS:

$$\text{REAR ABUTMENT} = 8' [11\frac{3}{4}'' + 11\frac{3}{16}'' + 2''] = 10.375 \text{ SF} \quad (2006 \text{ REPAIR PLANS, } 56/62)$$

$$\text{FORWARD ABUTMENT} = 8' [8'' - 3\frac{1}{8}'' + 9'' + 1''] = 9.92 \text{ SF} \quad (1154/189)$$

$$\text{DEFLECTION JOINTS} = 5 (1'') (8') = 8.42 \text{ SF} \quad (1142/189)$$

##### EXPANSION JOINTS INTERMEDIATE:

$$\text{PP 12} = (1'-7\frac{7}{8}'' + 9\frac{7}{8}'' + 2.5'' - 1\frac{1}{2}'' + 2'') (8') = 15.17 \text{ SF} \quad (1991 \text{ PLANS, } 59/81)$$

$$\text{PP 35} = (1'-7\frac{7}{8}'' + 9\frac{7}{8}'' + 2.5'' - 1\frac{5}{8}'' + 2'') (8') = 15.08 \text{ SF} \quad (1991 \text{ PLANS, } 59/81)$$

$$\text{ACCESS HATCHES} = 10 (2.5') (2.5') = 62.5 \text{ SF} \quad (137/189 \text{ \& } 161/189)$$

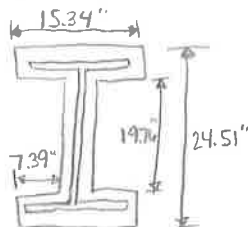
RAILING POSTS = NEGUGIBLE

TRUSS MEMBERS: (1982 EXISTING PLANS)

POLYURETHANE 1/2" AROUND MEMBERS

VERTICALS - ROLLED SHAPES - USE 1 MEMBER SIZE FOR ESTIMATING

W24 X 112



$$A = 15.34 \text{ in} (24.51'') - 19.76'' (7.39'') (2) = 83.93 \text{ in}^2 = 0.58 \text{ ft}^2$$

$$\# \text{ VERTICALS} = 29$$

$$\text{TOTAL AREA} = 0.58 (29) = 16.82 \text{ SF}$$



# CALCULATION SHEET

## RICHLAND ENGINEERING LIMITED

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JOB NO. 111048-5 SHEET NO. 18 OF 54

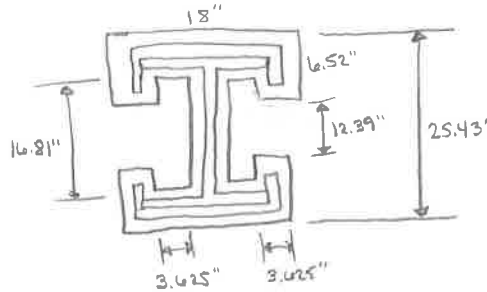
SUBJECT LOR-611-0344

CALCULATED BY ALP DATE 8-1-14

CHECKED BY TGW DATE 7-24-15

REVISED BY \_\_\_\_\_ DATE \_\_\_\_\_

VERTICALS - BUILT UP MEMBERS - USE 1 MEMBER BUILD-UP FOR ESTIMATING  
W21 X 82 ; 2-C 15 X 40



$$A = 25.43(18) - 2(12.39)(3.625) - 2(16.81)(3.625) = 246.04 \text{ in}^2 = 1.71 \text{ SF}$$

# VERTICALS = 35

$$\text{TOTAL AREA} = 35(1.71) = 59.85 \text{ SF}$$

VERTICAL BOX MEMBER (1 MEMBER)

2 PL 18 X 3/4 ; 2-C 18 X 42.7 ; 2 PL 20 1/2 X 3/8

$$A = 21.75(25) = 543.75 \text{ in}^2 = 3.78 \text{ SF}$$

DIAGONALS - ROLLED SHAPE - USE SAME MEMBER AS VERTICALS

$$A = \frac{83.93 \text{ in}^2}{\sin 50.19^\circ} = 109.26 \text{ in}^2 = 0.76 \text{ SF}$$

# DIAGONALS = 47

$$\text{TOTAL AREA} = 0.76(47) = 35.72 \text{ SF}$$

DIAGONALS - BUILT UP SHAPE - USE SAME MEMBER AS VERTICAL

$$A = \frac{1.71 \text{ SF}}{\sin 50.19^\circ} = 2.23 \text{ SF}$$

# DIAGONALS = 14

$$\text{TOTAL AREA} = 14(2.23) = 31.22 \text{ SF}$$

END POSTS - BOX MEMBER

2-PL 20 1/2 X 3/8 ; 2-PL 19 X 3/8 ; 4-L 4 X 4 X 5/16

$$A = 24.25 \text{ in}(22.75 \text{ in}) = 551.69 \text{ in}^2 = 3.83 \text{ SF}$$

# END POSTS = 2

$$\text{TOTAL AREA} = 2(3.83) = 7.66 \text{ SF}$$

$$\text{TOTAL SIDEWALK DEDUCTIONS} = 10.375 + 9.92 + 8.42 + 15.17 + 15.08 + 62.5 + 16.82 + 59.85 + 3.78 + 35.72 + 31.22 + 7.66 = 276.52 \text{ SF}$$

$$\text{TOTAL SIDEWALK SEALING} = 13662.8 - 276.52 = 13386.28 \text{ SF}$$

$$\text{TOTAL SEALING} = 75070.69 + 13386.28 = 88456.97 \text{ SF} = 9829 \text{ SY}$$

ITEM SPECIAL - Sealing, Misc.: Sealing Edges of Roadway

$$\text{C/C Brg} = 1700.0'$$

$$\text{Sealing} = (1700' + 2 \times 2.25') \times 2 = 3409 \text{ Ft}$$

$$\text{\& Brg to End Railing} = 2'3''$$

9829 SY

3409 Ft



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**CALCULATION SHEET**

JOB NO. 111048-5 SHEET NO. 19 OF 54

SUBJECT LOR-611-0358 FINAL Quantities

CALCULATED BY KAK DATE 6/26/15

CHECKED BY RWC DATE 7/14

REVISED BY \_\_\_\_\_ DATE \_\_\_\_\_

ITEM 513 - STRUCTURAL STEEL, MISC.: SHIM SIDEWALK STRINGER BEARING

LUMP

ITEM 513 - STRUCTURAL STEEL, MISC.: SIDEWALK SUPPORT REPAIR

LUMP

ITEM 513 - STRUCTURAL STEEL, MISC.: PORTAL MEMBER REPLACEMENT

LUMP

\* Separate Funding

ITEM 513 - STRUCTURAL STEEL, MISC.: PANEL POINT 12 CATWALK REPLACEMENT

Lump

ITEM 513 - STRUCTURAL STEEL, MISC.: PANEL POINT 45 PARTIAL CATWALK REPLACEMENT

Lump

ITEM 513 - STRUCTURAL STEEL, MISC.: STRINGER DIAPHRAGM CONNECTION REPAIR

Lump

ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR TYPE 1

63EA

Upper chord = 7EA Lower Chord = 56EA

ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR TYPE 2

2 EA.

Lower Chord = 2EA.

ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR TYPE 3

19 EA

Lower Chord = 19EA

ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR TYPE 4

4 EA.

Lower Chord = 4EA



# CALCULATION SHEET

## **RICHLAND ENGINEERING LIMITED**

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JOB NO. 111048-5 SHEET NO. 20 OF 54  
SUBJECT LOR-611-0358 - Estimated Quantity  
CALCULATED BY KAK DATE 6/26/15  
CHECKED BY RWC DATE 7/14  
REVISED BY \_\_\_\_\_ DATE \_\_\_\_\_

ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR TYPE 5

Lower Chord = 8 EA

8 EA

ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR TYPE 6

Lower Chord = 9 EA

9 EA

ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR TYPE 7

Top Chord = 7 EA.

7 EA.

ITEM 513 - STRUCTURAL STEEL, MISC.: TRUSS GUSSET REPAIR TYPE 8

Top Chord = 250 EA      Lower Chord = 160 EA

410 EA.

ITEM 513 - STRUCTURAL STEEL, MISC.: DRILLING STRUCTURAL STEEL, GRINDING, AND NDT

Locations : L6W      L57W      L59W  
              L7W      L25W      L9W  
              L12E      L27W      L11W  
              L23W      L53W

11 TOTAL

ITEM 513 - STRUCTURAL STEEL, MISC.: ACCESS HATCH COVER

Sidewalk Panels ⇒ 11, 13, 21, 33, 36, 45, 48, 60

8 EA.

ITEM 513 - STRUCTURAL STEEL, MISC.: ROADWAY RAILING BOLT REPLACEMENT

WEST Railing = 13      EAST Railing = 3  
Contingency = 5      Contingency = 5  
18      +      8 = 26 EA.

26 EA.

ITEM 513 - STRUCTURAL STEEL, MISC.: NEW BOLT IN OPEN HOLE (ROADWAY CURB)

EAST CURB = 47      Contingency = 5

52 EA.



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**CALCULATION SHEET**

JOB NO. 111048-5 SHEET NO. 21 OF 54  
SUBJECT LOR-611-0358 FINAL QUANTITIES  
CALCULATED BY VAK DATE 6/26/15  
CHECKED BY RWC DATE 7/14  
REVISED BY \_\_\_\_\_ DATE \_\_\_\_\_

ITEM 513 - STRUCTURAL STEEL, MISC.: COUNTERSUNK BOLT REPLACEMENT AT STRINGER BEARINGS

**16 EA**  
**18**

PANEL Point 12 - Stringer	1 W	1	← # of bolts broken
"	2 W	1	
"	3 W	2	
"	4 E	2	
"	5 E	1	
"	6 W	3	
"	7 E	1	
"	7 W	1	
		<u>12</u>	Bolts

PANEL Point 35 - Stringer	1 W	2
"	7 W	2
STRINGER 8 E 1		
" 8 W 1		

- added 10/6/15

12 Bolts + 6 Bolts = 16 EA  
18

ITEM 513 - STRUCTURAL STEEL, MISC.: PEDESTRIAN RAILING REPAIR TYPE A

**33 EA**

West Railing	Post R1 → 55	13
	Post 56 → 106	5
	Post 107 → 158	12
	Post 159 → F7	3
		<u>33 EA</u>

ITEM 513 - STRUCTURAL STEEL, MISC.: PEDESTRIAN RAILING REPAIR TYPE B

**55 EA.**

WEST Railing	Post R1 → 55	21
	Post 56 → 106	7
	Post 107 → 158	8
	Post 159 → F7	19
		<u>55 EA.</u>

ITEM 513 - STRUCTURAL STEEL, MISC.: PEDESTRIAN RAILING REPAIR TYPE C

**1 EA.**

West Railing	Post R1 → 55	1 (post 19)
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ITEM 513 - STRUCTURAL STEEL, MISC.: PEDESTRIAN RAILING REPAIR TYPE D

**1 EA.**

West Railing Post	R159 → F7	1 (post 203)
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LOR-611-0358 Estimated Quantities

SFN 4707443

**PAINTING QUANTITY - QUANTITY TOTAL**

Item	Item Ext	Description	Unit	Total
514	00050	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL	SF	35279
514	00056	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT	SF	35279
514	00060	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	SF	43790
514	00067	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN	SF	43790
514	00504	GRINDING FINIS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL	MN HR	67
514	10000	FINAL INSPECTION REPAIR	EACH	51
514	27700	FIELD PAINTING, MISC.: SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL WITHIN BOX-SHAPED TRUSS MEMBERS	SF	5242
514	27700	FIELD PAINTING, MISC.: SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL WITHIN BOX-SHAPED TRUSS MEMBERS, PRIME COAT	SF	5242
514	27700	FIELD PAINTING, MISC.: SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, SOLVENT CLEANING, SYSTEM OZEU	SF	15570
514	27700	FIELD PAINTING, MISC.: HIGH PRESSURE CLEANING OF GALVANIZED STEEL	SF	15570
514	27700	FIELD PAINTING, MISC.: SURFACE PREPARATION OF EXISTING GALVANIZED STEEL CURBS	SF	850
514	27700	FIELD PAINTING, MISC.: EPOXY INTERMEDIATE COAT OF GALVANIZED ROADWAY RAILING AND CURBS	SF	4732
514	27700	FIELD PAINTING, MISC.: TOP FINISH COAT ON GALVANIZED ROADWAY RAILINGS AND CURBS	SF	15570

**PAINTING QUANTITY - PORTAL REPAIR SUBTOTAL**

Item	Item Ext	Description	Unit	Total
514	00050	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL	SF	37
514	00056	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT	SF	37
514	00060	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	SF	109
514	00067	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN	SF	109
514	00504	GRINDING FINIS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL	MN HR	1
514	10000	FINAL INSPECTION REPAIR	EACH	1
514	27700	FIELD PAINTING, MISC.: SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL WITHIN BOX-SHAPED TRUSS MEMBERS	SF	0
514	27700	FIELD PAINTING, MISC.: SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL WITHIN BOX-SHAPED TRUSS MEMBERS, PRIME COAT	SF	0
514	27700	FIELD PAINTING, MISC.: SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, SOLVENT CLEANING, SYSTEM OZEU	SF	0
514	27700	FIELD PAINTING, MISC.: HIGH PRESSURE CLEANING OF GALVANIZED STEEL	SF	0
514	27700	FIELD PAINTING, MISC.: SURFACE PREPARATION OF EXISTING GALVANIZED STEEL CURBS	SF	0
514	27700	FIELD PAINTING, MISC.: EPOXY INTERMEDIATE COAT OF GALVANIZED ROADWAY RAILING AND CURBS	SF	0
514	27700	FIELD PAINTING, MISC.: TOP FINISH COAT ON GALVANIZED ROADWAY RAILINGS AND CURBS	SF	0

Item	Item Ext	Unit	Quantities from Individual Sheets						
			RAILING & CURB	WEST TRUSS	ROAD DRAINS	DEFLECTION JOINTS	EXPANSION JOINTS	NEW ANGLES	PORTAL REPAIR
514	00050	SF	0.00	0.00	0.00	0.00	0.00	0.00	36.78
514	00056	SF	0.00	0.00	0.00	0.00	0.00	0.00	36.78
514	00060	SF	0.00	0.00	0.00	0.00	0.00	0.00	108.36
514	00067	SF	0.00	0.00	0.00	0.00	0.00	0.00	108.36
514	00504	MN HR	0.00	0.00	0.00	0.00	0.00	0.00	0.50
514	10000	EACH	0.00	0.00	0.00	0.00	0.00	0.00	0.09
514	27700	SF	0.00	0.00	0.00	0.00	0.00	0.00	0.00
514	27700	SF	0.00	0.00	0.00	0.00	0.00	0.00	0.00
514	27700	SF	0.00	0.00	0.00	0.00	0.00	0.00	0.00
514	27700	SF	0.00	0.00	0.00	0.00	0.00	0.00	0.00
514	27700	SF	0.00	0.00	0.00	0.00	0.00	0.00	0.00
514	27700	SF	0.00	0.00	0.00	0.00	0.00	0.00	0.00
514	27700	SF	0.00	0.00	0.00	0.00	0.00	0.00	0.00

LOR-611-0358 Estimated Quantities

SFN 4707443

**PAINTING QUANTITY - 01/BRO/BR SUBTOTAL**

Item	Item Ext	Description	Unit	Total
514	00050	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL	SF	35242
514	00056	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT	SF	35242
514	00060	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	SF	43681
514	00067	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN	SF	43681
514	00504	GRINDING FINNS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL	MN HR	66
514	10000	FINAL INSPECTION REPAIR	EACH	50
514	27700	FIELD PAINTING, MISC.: SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL WITHIN BOX-SHAPED TRUSS MEMBERS	SF	5242
514	27700	FIELD PAINTING, MISC.: SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL WITHIN BOX-SHAPED TRUSS MEMBERS, PRIME COAT	SF	5242
514	27700	FIELD PAINTING, MISC.: SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, SOLVENT CLEANING, SYSTEM OZEU	SF	15570
514	27700	FIELD PAINTING, MISC.: HIGH PRESSURE CLEANING OF GALVANIZED STEEL	SF	15570
514	27700	FIELD PAINTING, MISC.: SURFACE PREPARATION OF EXISTING GALVANIZED STEEL CURBS	SF	850
514	27700	FIELD PAINTING, MISC.: EPOXY INTERMEDIATE COAT OF GALVANIZED ROADWAY RAILING AND CURBS	SF	4732
514	27700	FIELD PAINTING, MISC.: TOP FINISH COAT ON GALVANIZED ROADWAY RAILINGS AND CURBS	SF	15570

Item	Item Ext	Unit	Quantities from Individual Sheets						
			RAILING & CURB	WEST TRUSS	ROAD DRAINS	DEFLECTION JOINTS	EXPANSION JOINTS	NEW ANGLES	PORTAL REPAIR
514	00050	SF	0.00	12646.78	8299.62	8974.68	5320.06	0.00	0.00
514	00056	SF	0.00	12646.78	8299.62	8974.68	5320.06	0.00	0.00
514	00060	SF	0.00	17888.44	8299.62	9404.49	6592.28	1496.09	0.00
514	00067	SF	0.00	17888.44	8299.62	9404.49	6592.28	1496.09	0.00
514	00504	MN HR	0.00	26.56	19.88	13.21	5.80	0.00	0.00
514	10000	EACH	12.97	14.91	6.92	7.84	5.49	1.25	0.00
514	27700	SF	0.00	5241.66	0.00	0.00	0.00	0.00	0.00
514	27700	SF	15569.17	0.00	0.00	0.00	0.00	0.00	0.00
514	27700	SF	15569.17	0.00	0.00	0.00	0.00	0.00	0.00
514	27700	SF	850.00	0.00	0.00	0.00	0.00	0.00	0.00
514	27700	SF	4731.67	0.00	0.00	0.00	0.00	0.00	0.00
514	27700	SF	15569.17	0.00	0.00	0.00	0.00	0.00	0.00



LOR-611-0358 Estimated Quantities

SFN 4707443

**RAILING AND CURB PAINTING QUANTITIES**

**RAILING**

	Plan Sheet	# Vertical Faces	Vertical W (inch)	# Horizntl Faces	Horizntl W (inch)	Length (feet)	Area (SF)
West Truss - Yellow	162	2	6	4	6	1700	5100.00
East Truss - Yellow	162	3	6	6	6	1700	7650.00
<b>RAILING Total =</b>							<b>12750.00 SF</b>

**CURB**

	Plan Sheet	# Vertical Faces	Vertical W (inch)	# Horizntl Faces	Horizntl W (inch)	Length (feet)	Area (SF)
West Truss - Yellow	162	1	8.5	0	0	1700	1204.17
East Truss - Yellow	162	1	8	1	3.4	1700	1615.00
<b>CURB Total =</b>							<b>2819.17 SF</b>

**CURB ABRASIVE BLASTING**

	Plan Sheet	# Vertical Faces	Vertical W (inch)	# Horizntl Faces	Horizntl W (inch)	Length (feet)	Area (SF)
West Truss	162	1	3	0	0	1700	425.00
East Truss	162	1	3	0	0	1700	425.00
<b>CURB ABRASIVE BLASTING Total =</b>							<b>850.00 SF</b>

LOR-611-0358 Estimated Quantities

SFN 4707443

**WEST TRUSS LOWER CHORD PAINTING QUANTITIES**

LOWER CHORD - Inside Box

	Plan Sheet [ShpDwg]	# Vertical Faces	Vertical W (inch)	# Horizntl Faces	Horizntl W (inch)	Length (feet)	# Interior Plates	Area (SF)
L6 L7	163 [406]	2	19.50	2	21.25	5.00	2	45.47
L7 L8	163 [407]	2	19.50	2	21.63	5.00	2	45.98
L8 L9	163 [407]	2	19.50	2	21.63	5.00	2	45.98
L9 L10	163 [408]	2	19.50	2	21.13	5.00	2	45.30
L10 L11	163 [408]	2	19.50	2	21.13	5.00	2	45.30
L11 L12	163 [409]	2	19.50	2	21.50	5.00	2	45.81
L18 L19	163 [202]	2	19.50	2	21.38	5.00	2	45.64
L19 L20	163 [203]	2	19.50	2	21.25	5.00	2	45.47
L20 L21	163 [203]	2	19.50	2	21.25	5.00	2	45.47
L21 L22	163 [204]	2	19.50	2	21.25	25.03	2	181.48
L22 L23	163 [204]	2	19.50	2	21.25	25.02	2	181.44
L23 L24	163 [205]	2	19.50	2	20.75	25.02	2	179.07
L24 L25	163 [205]	2	19.50	2	20.75	25.02	2	179.05
L25 L26	163 [206]	2	19.50	2	20.75	25.02	2	179.05
L26 L27	163 [206]	2	19.50	2	20.75	25.02	2	179.07
L27 L28	163 [207]	2	19.50	2	21.13	25.02	2	180.85
L28 L29	163 [207]	2	19.50	2	21.13	25.00	2	180.73
L29 L30	163 [208]	2	19.50	2	20.88	25.09	2	180.11
L30 L31	163 [208]	2	19.50	2	20.25	26.58	2	187.07
L31 L32	163 [209]	2	19.50	2	19.88	5.00	2	43.58
L32 L33	163 [210ab]	2	19.50	2	19.63	5.00	2	43.23
L33 L34	163 [210ab]	2	19.50	2	20.88	26.86	2	192.07
L34 L35	164 [210b]	2	19.50	2	21.63	25.66	2	187.60
L35 L36	164 [304]	2	19.50	2	21.75	25.03	2	183.85
L36 L37	164 [304]	2	19.50	2	21.88	25.00	2	184.23
L37 L38	164 [305]	2	19.50	2	21.13	5.00	2	45.30
L38 L39	164 [305]	2	19.50	2	20.88	5.00	2	44.95
L39 L40	164 [305]	2	19.50	2	20.88	5.00	2	44.95
L40 L41	164 [306]	2	19.50	2	20.88	5.00	2	44.95
L41 L42	164 [306]	2	19.50	2	20.88	24.99	2	179.48
L42 L43	164 [305]	2	19.50	2	21.13	5.00	2	45.30
L43 L44	164 [304]	2	19.50	2	21.88	5.00	2	46.33
L44 L45	164 [304]	2	19.50	2	21.75	25.03	2	183.85
L45 L46	164 [210b]	2	19.50	2	21.63	25.66	2	187.60
L46 L47	164 [210ab]	2	19.50	2	21.63	5.00	2	45.98
L48 L49	164 [209]	2	19.50	2	19.88	27.53	2	191.43
L49 L50	164 [208]	2	19.50	2	20.25	26.58	2	187.07
L50 L51	164 [208]	2	19.50	2	20.88	25.09	2	180.11
L51 L52	164 [207]	2	19.50	2	21.13	5.00	2	45.30
L53 L54	164 [206]	2	19.50	2	20.75	5.00	2	44.78
L54 L55	164 [206]	2	19.50	2	20.75	5.00	2	44.78
L55 L56	164 [205]	2	19.50	2	20.75	22.25	2	160.50
L56 L57	164 [205]	2	19.50	2	20.75	10.00	2	78.32
L57 L58	164 [204]	2	19.50	2	21.25	15.00	2	113.39
L58 L59	164 [204]	2	19.50	2	21.25	5.00	2	45.47
L59 L60	164 [203]	2	19.50	2	21.25	5.00	2	45.47
L60 L61	164 [203]	2	19.50	2	21.25	5.00	2	45.47
L61 L62	164 [202]	2	19.50	2	21.38	5.00	2	45.64
L64 L65	164 [109]	2	19.50	2	21.75	5.00	2	46.16
L65 L66	164 [109]	2	19.50	2	21.75	5.00	2	46.16

LOWER CHORD - Inside Box Total = 5241.66 SF

LOR-611-0358 Estimated Quantities

SFN 4707443

**WEST TRUSS LOWER CHORD PAINTING QUANTITIES**

LOWER CHORD - Outside Box

	Plan Sheet [ShpDwg]	# Vertical Faces	Vertical W (inch)	# Horizntl Faces	Horizntl W (inch)	Length (feet)	Area (SF)	Grinding Fins, Silvers & Tears (MN HR)
L6 L7	163 [406]	2	20.63	2	22.50	5.00	35.94	0.08
L7 L8	163 [407]	2	20.63	2	22.50	5.00	35.94	0.08
L8 L9	163 [407]	2	20.63	2	22.50	5.00	35.94	0.08
L9 L10	163 [408]	2	20.63	2	22.50	5.00	35.94	0.08
L10 L11	163 [408]	2	20.63	2	22.50	5.00	35.94	0.08
L11 L12	163 [409]	2	20.25	2	22.50	5.00	35.63	0.08
L18 L19	163 [202]	2	20.25	2	22.50	5.00	35.63	0.08
L19 L20	163 [203]	2	20.63	2	22.50	5.00	35.94	0.08
L20 L21	163 [203]	2	20.63	2	22.50	5.00	35.94	0.08
L21 L22	163 [204]	2	20.63	2	22.50	25.03	179.87	0.42
L22 L23	163 [204]	2	20.63	2	22.50	25.02	179.84	0.42
L23 L24	163 [205]	2	20.63	2	22.50	25.02	179.82	0.42
L24 L25	163 [205]	2	20.63	2	22.50	25.02	179.80	0.42
L25 L26	163 [206]	2	20.63	2	22.50	25.02	179.80	0.42
L26 L27	163 [206]	2	20.63	2	22.50	25.02	179.82	0.42
L27 L28	163 [207]	2	20.63	2	22.50	25.02	179.84	0.42
L28 L29	163 [207]	2	20.63	2	22.50	25.00	179.71	0.42
L29 L30	163 [208]	2	20.63	2	22.50	25.09	180.31	0.42
L30 L31	163 [208]	2	20.75	2	22.50	26.58	191.60	0.44
L31 L32	163 [209]	2	20.75	2	22.50	5.00	36.04	0.08
L32 L33	163 [210ab]	2	20.75	2	22.50	5.00	36.04	0.08
L33 L34	163 [210ab]	2	20.63	2	22.50	26.86	193.07	0.45
L34 L35	164 [210b]	2	20.25	2	22.50	25.66	182.84	0.43
L35 L36	164 [304]	2	20.25	2	22.50	25.03	178.33	0.42
L36 L37	164 [304]	2	20.50	2	22.50	25.00	179.15	0.42
L37 L38	164 [305]	2	20.63	2	22.50	5.00	35.94	0.08
L38 L39	164 [305]	2	20.63	2	22.50	5.00	35.94	0.08
L39 L40	164 [305]	2	20.63	2	22.50	5.00	35.94	0.08
L40 L41	164 [306]	2	20.63	2	22.50	5.00	35.94	0.08
L41 L42	164 [306]	2	20.63	2	22.50	24.99	179.63	0.42
L42 L43	164 [305]	2	20.63	2	22.50	5.00	35.94	0.08
L43 L44	164 [304]	2	20.50	2	22.50	5.00	35.83	0.08
L44 L45	164 [304]	2	20.25	2	22.50	25.03	178.33	0.42
L45 L46	164 [210ab]	2	20.25	2	22.50	25.66	182.84	0.43
L46 L47	164 [210b]	2	20.25	2	22.50	5.00	35.63	0.08
L48 L49	164 [209]	2	20.75	2	22.50	27.53	198.45	0.46
L49 L50	164 [208]	2	20.75	2	22.50	26.58	191.60	0.44
L50 L51	164 [208]	2	20.63	2	22.50	25.09	180.31	0.42
L51 L52	164 [207]	2	20.63	2	22.50	5.00	35.94	0.08
L53 L54	164 [206]	2	20.63	2	22.50	5.00	35.94	0.08
L54 L55	164 [206]	2	20.63	2	22.50	5.00	35.94	0.08
L55 L56	164 [205]	2	20.63	2	22.50	22.25	159.92	0.37
L56 L57	164 [205]	2	20.63	2	22.50	10.00	71.88	0.17
L57 L58	164 [204]	2	20.63	2	22.50	15.00	107.81	0.25
L58 L59	164 [204]	2	20.63	2	22.50	5.00	35.94	0.08
L59 L60	164 [203]	2	20.25	2	22.50	5.00	35.63	0.08
L60 L61	164 [203]	2	20.25	2	22.50	5.00	35.63	0.08
L61 L62	164 [202]	2	20.25	2	22.50	5.00	35.63	0.08
L64 L65	164 [109]	2	20.25	2	22.50	5.00	35.63	0.08
L65 L66	164 [109]	2	20.25	2	22.50	5.00	35.63	0.08

LOWER CHORD - Outside Box Totals = 4962.46 SF & 11.52 MN HR

**WEST TRUSS LOWER CHORD PAINTING QUANTITIES**

VERTICALS

	Plan Sheet [ShpDwg]	Perimeter (inch)	Length (feet)	Extra Addition or Reduction of Areas (square inch)	Area (SF)	Grinding Fins, Silvers & Tears (MN HR)		
L7 U7	163 [422]	111.55	5.64	248.63	54.11	0.09		
L9 U9	163 [423]	127.51	5.64	1134.97	67.76	0.09		
L11 U11	164 [424]	126.32	5.64	983.49	66.15	0.09		
L19 U19	163 [230]	127.01	5.66	787.60	65.33	0.09		
L21 U21	163 [232]	126.32	6.61	1153.93	77.64	0.11		
L22 U22	163 [232]	126.32	6.61	1154.12	77.65	0.11		
L23 U23	163 [249]	92.95	5.64	342.58	46.03	0.09		
L24 U24	163 [249]	92.95	5.68	342.58	46.35	0.09		
L25 U25	163 [249]	92.95	5.64	366.08	46.19	0.09		
L26 U26	163 [249]	92.95	5.68	354.33	46.43	0.09		
L27 U27	163 [249]	92.95	5.64	354.33	46.11	0.09		
L28 U28	163 [248]	126.32	5.66	252.02	61.29	0.09		
L29 U29	163 [248]	126.32	6.59	271.90	71.30	0.11		
L30 U30	163 [235]	143.68	9.28	291.75	113.15	0.15		
L31 U31	163 [234]	143.68	3.92	339.13	49.25	0.07		
L33 U33	163 [234]	143.35	4.19	371.63	52.60	0.07		
L34 U34	163 [235]	143.75	10.31	360.98	126.04	0.17		
L35 U35	164 [312]	142.75	5.71	1769.48	80.19	0.10		
L36 U36	164 [311]	127.07	4.96	386.08	55.19	0.08		
L37 U37	164 [311]	127.07	4.96	368.69	55.07	0.08		
L39 U39	164 [311]	127.07	4.96	368.32	55.06	0.08		
L41 U41	164 [311]	127.07	4.96	368.32	55.06	0.08		
L42 U42	164 [311]	127.07	4.96	369.07	55.07	0.08		
L44 U44	164 [311]	127.07	4.96	386.08	55.19	0.08		
L45 U45	164 [312]	142.75	5.71	1769.48	80.19	0.10		
L46 U46	164 [235]	143.75	10.31	360.98	126.04	0.17		
L49 U49	164 [234]	143.68	3.92	339.13	49.25	0.07		
L50 U50	164 [235]	143.68	9.28	291.75	113.15	0.15		
L51 U51	163 [248]	126.32	6.59	271.90	71.30	0.11		
L54 U54	163 [249]	92.95	5.68	354.33	46.43	0.09		
L56 U56	163 [249]	92.95	5.68	342.58	46.35	0.09		
L57 U57	163 [249]	92.95	5.64	342.58	46.03	0.09		
L59 U59	164 [232]	126.32	6.61	1153.93	77.64	0.11		
L61 U61	164 [230]	127.01	5.66	787.60	65.33	0.09		
L65 U65	164 [128]	76.64	5.49	302.32	37.16	0.09		
VERTICALS Totals =					2283.10	SF &	3.50	MN HR

LOR-611-0358 Estimated Quantities

SFN 4707443

**WEST TRUSS LOWER CHORD PAINTING QUANTITIES**

DIAGONALS

	Plan Sheet [ShpDwg]	Perimeter (inch)	Length (feet)	Other Addition or Reduction of Areas (square inch)	Area (SF)	Grinding Fins, Silvers & Tears (MN HR)		
L7 U8	163 [430]	76.93	7.04	181.79	46.40	0.12		
L9 U10	163 [431]	92.95	6.93	770.42	59.00	0.12		
L11 U10	163 [431]	99.70	6.69	601.92	59.78	0.11		
L19 U20	163 [240]	103.70	6.88	-96.61	58.78	0.11		
L21 U20	163 [243]	107.70	6.63	571.99	63.43	0.11		
L22 U21	163 [243]	98.70	6.69	499.99	58.47	0.11		
L23 U22	163 [242]	92.95	6.83	327.49	55.20	0.11		
L24 U23	163 [242]	76.93	6.96	292.52	46.64	0.12		
L25 U24	163 [243]	126.32	6.74	282.21	72.91	0.11		
L26 U25	163 [243]	126.32	6.74	279.08	72.88	0.11		
L26 U27	163 [240]	76.93	7.21	297.52	48.31	0.12		
L27 U28	163 [240]	92.95	7.05	17.78	54.71	0.12		
L28 U29	163 [239]	94.13	7.05	322.82	57.52	0.12		
L29 U30	163 [241]	99.20	8.10	-64.68	66.50	0.13		
L30 U31	163 [239]	94.13	12.05	-158.68	93.44	0.20		
L31 U32	163 [241]	142.75	3.79	283.36	47.07	0.06		
L33 U32	163 [242]	76.93	4.19	319.89	29.07	0.07		
L34 U33	163 [244]	98.95	12.45	274.52	104.59	0.21		
L35 U34	164 [244]	105.70	6.40	224.17	57.89	0.11		
L36 U35	164 [313]	128.43	5.51	429.55	61.90	0.09		
L37 U36	164 [313]	126.64	5.25	263.47	57.21	0.09		
L39 U38	164 [313]	126.64	4.92	258.78	53.74	0.08		
L41 U42	164 [313]	126.64	4.92	258.78	53.74	0.08		
L42 U43	164 [313]	126.64	5.07	260.40	55.29	0.08		
L44 U45	164 [313]	128.43	5.51	429.55	61.90	0.09		
L45 U46	164 [244]	105.70	6.40	224.17	57.89	0.11		
L46 U47	164 [244]	98.95	22.94	274.52	191.06	0.38		
L49 U48	164 [241]	142.75	1.21	283.36	16.32	0.02		
L50 U49	164 [239]	94.13	12.05	-158.68	93.44	0.20		
L51 U50	164 [241]	99.20	8.10	-64.68	66.50	0.13		
L54 U53	164 [240]	76.93	7.21	297.52	48.31	0.12		
L54 U55	164 [243]	126.32	6.74	279.08	72.88	0.11		
L56 U57	164 [242]	76.93	6.96	292.52	46.64	0.12		
L57 U58	164 [242]	92.95	6.83	327.49	55.20	0.11		
L59 U60	164 [243]	107.70	6.63	571.99	63.43	0.11		
L61 U60	164 [240]	103.70	6.88	-96.61	58.78	0.11		
L65 U64	164 [121]	126.64	6.95	281.72	75.34	0.12		
L65 U66	164 [122]	111.87	7.00	566.81	69.19	0.12		
DIAGONALS Totals =					2411.35	SF &	4.56	MN HR

**WEST TRUSS LOWER CHORD PAINTING QUANTITIES**

GUSSET PLATES

	Plan Sheet	Full Area	Area Covering L Chords	Area Covering Verticals	Area Covering Diagonals	Other Area Additions/Reductions	Area (SF)	Grinding Fins, Silvers & Tears (MN HR)		
	[ShpDwg]	(sq inch)	(sq inch)	(sq inch)	(sq inch)	(sq inch)	(SF)	(MN HR)		
L7	163 [406]	3187.19	1211.72	396.00	300.38	0.00	35.53	0.17		
L9	163 [407]	3762.38	1309.69	570.00	461.50	0.00	39.48	0.17		
L11	163 [408]	3969.75	1381.88	570.00	518.00	0.00	41.66	0.17		
L19	163 [202]	4986.00	1458.00	731.25	721.88	0.00	57.64	0.17		
L21	163 [203]	3733.50	1350.94	510.94	506.00	0.00	37.93	0.17		
L22	163 [204]	3274.50	1216.88	501.56	435.75	0.00	31.12	0.17		
L23	163 [204]	3726.00	1423.13	429.00	433.88	0.00	40.00	0.17		
L24	163 [205]	3051.00	1165.31	435.50	300.38	0.00	31.94	0.17		
L25	163 [205]	3996.00	1526.25	429.00	453.75	0.00	44.08	0.17		
L26	163 [206]	3982.50	1521.09	435.50	701.63	0.00	36.79	0.17		
L27	163 [206]	3484.38	1289.06	429.00	433.88	0.00	37.01	0.17		
L28	163 [207]	5313.00	1660.31	626.25	602.43	0.00	67.33	0.17		
L29	163 [207]	5231.25	1438.59	667.50	647.50	0.00	68.82	0.17		
L30	163 [208]	7623.50	2002.38	1138.50	679.58	0.00	105.64	0.17		
L31	163 [209]	6358.50	1680.75	846.00	591.50	675.20	94.70	0.17		
L33	163 [210ab]	7498.00	1909.00	904.50	439.88	738.20	123.03	0.17		
L34	163 [210b]	6510.00	1918.13	1127.25	694.75	0.00	76.94	0.17		
L35	164 [210b]	8440.00	2136.38	909.00	794.38	0.00	127.78	0.17		
L36	164 [304]	3626.00	1327.38	513.75	429.38	0.00	37.65	0.17		
L37	164 [304]	3356.44	1252.97	510.00	403.13	0.00	33.07	0.17		
L39	164 [305]	3414.69	1263.28	508.13	397.50	0.00	34.61	0.17		
L41	164 [305]	3414.69	1263.28	508.13	397.50	0.00	34.61	0.17		
L42	164 [305]	3370.25	1258.13	508.13	399.38	0.00	33.46	0.17		
L44	164 [304]	3626.00	1327.38	513.75	429.38	0.00	37.65	0.17		
L45	164 [210b]	8440.00	2136.38	909.00	794.38	0.00	127.78	0.17		
L46	164 [210b]	6510.00	1918.13	1127.25	694.75	0.00	76.94	0.17		
L49	164 [209]	6358.50	1680.75	846.00	591.50	675.20	94.70	0.17		
L50	164 [208]	7623.50	2002.38	1138.50	679.58	0.00	105.64	0.17		
L51	164 [207]	5231.25	1438.59	667.50	647.50	0.00	68.82	0.17		
L54	164 [206]	3982.50	1521.09	435.50	701.63	0.00	36.79	0.17		
L56	164 [205]	3051.00	1165.31	435.50	300.38	0.00	31.94	0.17		
L57	164 [204]	3726.00	1423.13	429.00	433.88	0.00	40.00	0.17		
L59	164 [203]	3733.50	1350.94	510.94	506.00	0.00	37.93	0.17		
L61	164 [202]	4986.00	1458.00	731.25	721.88	0.00	57.64	0.17		
L65	164 [109]	4198.50	1574.44	310.31	848.25	0.00	40.71	0.17		
GUSSET PLATES Totals =							2027.36	SF &	5.83	MN HR

**WEST TRUSS LOWER CHORD PAINTING QUANTITIES**

FLOORBEAMS

	Plan Sheet [ShpDwg]	# Vertical Faces	Vertical W (inch)	# Horizontl Faces	Horizontl W (inch)	Length (feet)	Area (SF)	Grinding Fins, Silvers & Tears (MN HR)		
L7	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L9	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L11	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L19	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L21	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L22	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L23	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L24	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L25	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L26	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L27	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L28	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L29	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L30	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L34	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L35	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L36	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L37	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L39	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L41	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L42	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L44	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L45	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L46	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L49	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L50	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L51	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L54	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L56	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L57	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L59	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L61	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
L65	165 [107]	2	56.00	4	14.00	2.08	29.17	0.03		
FLOORBEAMS Totals =							962.50	SF &	1.15	MN HR

LOR-611-0358 Estimated Quantities

SFN 4707443

**UNDER ROAD DRAINS PAINTING QUANTITIES**

PANEL 14

	Plan Sheet [ShpDwg]	# Vertical Faces	Vertical W (inch)	# Horizntl Faces	Horizntl W (inch)	Length (feet)	Area (SF)	Grinding Fins, Silvers & Tears (MN HR)
FLOORBEAM	169 [107]	1	56.00	3	14.00	46.21	377.37	0.77
FB STIFFENERS	169 [107]	0	0.00	30	5.63	4.54	63.87	0.08
INT STRINGERS	169 [115]	2	21.00	3	8.25	67.50	375.47	1.13
EXT STRINGERS	169	2	18.12	3	7.53	22.50	110.32	0.38
LOW LAT BRACE	169 [125]	2	5.00	2	7.00	29.40	58.80	0.12
LOW LAT GUSSET	169 [107]	2	0.50	2	36.75	1.17	7.24	w/ bracing
DIAPHRAGMS	169 [116]	1	12.00	2	2.94	19.00	28.31	w/ stringers
POST TEN PLATES	169	8	9.00	0	0.00	1.23	7.38	w/ floorbeam
POST TEN ANCHOR	169	2	9.00	0	0.00	1.17	1.75	w/ floorbeam
POST TEN ROD	169	2	4.32	0	0.00	33.21	23.91	w/ floorbeam
PANEL 14 Totals =								1054.41 SF & 2.47 MN HR

PANEL 20

	Plan Sheet [ShpDwg]	# Vertical Faces	Vertical W (inch)	# Horizntl Faces	Horizntl W (inch)	Length (feet)	Area (SF)	Grinding Fins, Silvers & Tears (MN HR)
FLOORBEAM	169 [107]	1	56.00	3	14.00	46.21	377.37	0.77
FB STIFFENERS	169 [107]	0	0.00	30	5.63	4.54	63.87	0.08
INT STRINGERS	169 [115]	2	21.00	3	8.25	67.50	375.47	1.13
EXT STRINGERS	169	2	18.12	3	7.53	22.50	110.32	0.38
LOW LAT BRACE	169 [125]	2	5.00	2	7.00	29.40	58.80	0.12
LOW LAT GUSSET	169 [107]	2	0.50	2	36.75	1.17	7.24	w/ bracing
DIAPHRAGMS	169 [116]	1	12.00	2	2.94	19.00	28.31	w/ stringers
PANEL 20 Totals =								1021.37 SF & 2.47 MN HR

PANEL 25

	Plan Sheet [ShpDwg]	# Vertical Faces	Vertical W (inch)	# Horizntl Faces	Horizntl W (inch)	Length (feet)	Area (SF)	Grinding Fins, Silvers & Tears (MN HR)
FLOORBEAM	169 [107]	1	56.00	3	14.00	46.21	377.37	0.77
FB STIFFENERS	169 [107]	0	0.00	30	5.63	4.54	63.87	0.08
INT STRINGERS	169 [115]	2	21.00	3	8.25	67.50	375.47	1.13
EXT STRINGERS	169	2	18.12	3	7.53	22.50	110.32	0.38
LOW LAT BRACE	169 [125]	2	5.00	2	7.00	29.40	58.80	0.12
LOW LAT GUSSET	169 [107]	2	0.50	2	36.75	1.17	7.24	w/ bracing
DIAPHRAGMS	169 [116]	1	12.00	2	2.94	19.00	28.31	w/ stringers
PANEL 25 Totals =								1021.37 SF & 2.47 MN HR

PANEL 30

	Plan Sheet [ShpDwg]	# Vertical Faces	Vertical W (inch)	# Horizntl Faces	Horizntl W (inch)	Length (feet)	Area (SF)	Grinding Fins, Silvers & Tears (MN HR)
FLOORBEAM	169 [107]	1	56.00	3	14.00	46.21	377.37	0.77
FB STIFFENERS	169 [107]	0	0.00	30	5.63	4.54	63.87	0.08
INT STRINGERS	169 [115]	2	21.00	3	8.25	97.50	542.34	1.63
EXT STRINGERS	169	2	18.12	3	7.53	32.50	159.35	0.54
LOW LAT BRACE	169 [125]	2	5.00	2	7.00	65.33	130.67	0.27
LOW LAT GUSSET	169 [107]	2	0.50	2	36.75	1.17	7.24	w/ bracing
DIAPHRAGMS	169 [116]	1	12.00	2	2.94	42.00	62.58	w/ stringers
POST TEN PLATES	169	8	9.00	0	0.00	1.23	7.38	w/ floorbeam
POST TEN ANCHOR	169	2	9.00	0	0.00	1.17	1.75	w/ floorbeam
POST TEN ROD	169	2	4.32	0	0.00	33.21	23.91	w/ floorbeam
PANEL 30 Totals =								1376.45 SF & 3.28 MN HR



LOR-611-0358 Estimated Quantities

SFN 4707443

**UNDER ROAD DRAINS PAINTING QUANTITIES**

PANEL 51

	Plan Sheet [ShpDwg]	# Vertical Faces	Vertical W (inch)	# Horizntl Faces	Horizntl W (inch)	Length (feet)	Area (SF)	Grinding Fins, Silvers & Tears (MN HR)
FLOORBEAM	169 [107]	1	56.00	3	14.00	46.21	377.37	0.77
FB STIFFENERS	169 [107]	0	0.00	30	5.63	4.54	63.87	0.08
INT STRINGERS	169 [115]	2	21.00	3	8.25	97.50	542.34	1.63
EXT STRINGERS	169	2	18.12	3	7.53	32.50	159.35	0.54
LOW LAT BRACE	169 [125]	2	5.00	2	7.00	42.47	84.93	0.18
LOW LAT GUSSET	169 [107]	2	0.50	2	36.75	1.17	7.24	w/ bracing
DIAPHRAGMS	169 [116]	1	12.00	2	2.94	42.00	62.58	w/ stringers
POST TEN PLATES	169	8	9.00	0	0.00	1.23	7.38	w/ floorbeam
POST TEN ANCHOR	169	2	9.00	0	0.00	1.17	1.75	w/ floorbeam
POST TEN ROD	169	2	4.32	0	0.00	33.21	23.91	w/ floorbeam
PANEL 51 Totals =								1330.72 SF & 3.19 MN HR

PANEL 56

	Plan Sheet [ShpDwg]	# Vertical Faces	Vertical W (inch)	# Horizntl Faces	Horizntl W (inch)	Length (feet)	Area (SF)	Grinding Fins, Silvers & Tears (MN HR)
FLOORBEAM	169 [107]	1	56.00	3	14.00	46.21	377.37	0.77
FB STIFFENERS	169 [107]	0	0.00	30	5.63	4.54	63.87	0.08
INT STRINGERS	169 [115]	2	21.00	3	8.25	67.50	375.47	1.13
EXT STRINGERS	169	2	18.12	3	7.53	22.50	110.32	0.38
LOW LAT BRACE	169 [125]	2	5.00	2	7.00	29.40	58.80	0.12
LOW LAT GUSSET	169 [107]	2	0.50	2	36.75	1.17	7.24	w/ bracing
DIAPHRAGMS	169 [116]	1	12.00	2	2.94	19.00	28.31	w/ stringers
PANEL 56 Totals =								1021.37 SF & 2.47 MN HR

PANEL 61

	Plan Sheet [ShpDwg]	# Vertical Faces	Vertical W (inch)	# Horizntl Faces	Horizntl W (inch)	Length (feet)	Area (SF)	Grinding Fins, Silvers & Tears (MN HR)
FLOORBEAM	169 [107]	1	56.00	3	14.00	46.21	377.37	0.77
FB STIFFENERS	169 [107]	0	0.00	30	5.63	4.54	63.87	0.08
INT STRINGERS	169 [115]	2	21.00	3	8.25	115.00	639.69	1.92
EXT STRINGERS	169	2	18.12	3	7.53	32.50	159.35	0.54
LOW LAT BRACE	169 [125]	2	5.00	2	7.00	53.90	107.80	0.22
LOW LAT GUSSET	169 [107]	2	0.50	2	36.75	1.17	7.24	w/ bracing
DIAPHRAGMS AT FB	169 [116]	1	12.00	2	2.94	19.00	28.31	w/ stringers
DIAPHRAGMS MID-SPAN	169 [116]	2	12.00	2	2.94	23.00	57.27	w/ stringers
POST TEN PLATES	169	8	9.00	0	0.00	1.23	7.38	w/ floorbeam
POST TEN ANCHOR	169	2	9.00	0	0.00	1.17	1.75	w/ floorbeam
POST TEN ROD	169	2	4.32	0	0.00	33.21	23.91	w/ floorbeam
PANEL 61 Totals =								1473.92 SF & 3.53 MN HR

**UNDER DEFLECTION JOINTS PAINTING QUANTITIES**

PANEL 18

	Plan Sheet [ShpDwg]	# Vertical Faces	Vertical W (inch)	# Horizntl Faces	Horizntl W (inch)	Length (feet)	Area (SF)	Grinding Fins, Silvers & Tears (MN HR)		
FLOORBEAM	168 [107]	1	56.00	3	14.00	46.21	377.37	0.77		
FB STIFFENERS	168 [107]	0	0.00	34	5.63	4.54	72.38	0.08		
INT STRINGERS	168 [115]	2	21.00	3	8.25	54.75	304.55	0.91		
EXT STRINGERS	168	2	18.00	3	8.75	49.75	258.08	0.83		
LOW LAT BRACE	168 [125]	2	4.00	2	12.00	19.70	52.53	0.08		
LOW LAT GUSSET	168 [107]	2	0.50	2	35.50	8.71	52.25	w/ bracing		
DIAPHRAGMS	168 [116]	2	12.00	4	2.94	5.17	15.40	w/ stringers		
DIAPHRAGMS AROUND JT	168	2	9.92	4	7.99	84.00	362.60	w/ floorbeam		
ANGLES	168	2	3.50	2	10.00	46.21	103.97	w/ floorbeam		
PANEL 18 Totals =							1599.12	SF &	2.67	MN HR

PANEL 28

	Plan Sheet [ShpDwg]	# Vertical Faces	Vertical W (inch)	# Horizntl Faces	Horizntl W (inch)	Length (feet)	Area (SF)	Grinding Fins, Silvers & Tears (MN HR)		
FLOORBEAM	168 [107]	2	56.00	4	14.00	46.21	646.92	0.77		
FB STIFFENERS	168 [107]	0	0.00	60	5.63	4.54	127.73	0.08		
INT STRINGERS	168 [115]	2	21.00	3	8.25	60.00	333.75	1.00		
EXT STRINGERS	168	2	18.00	3	8.75	20.00	103.75	0.33		
LOW LAT BRACE	168 [125]	2	3.50	2	6.00	26.13	41.38	0.11		
LOW LAT GUSSET	168 [107]	2	0.50	2	35.50	8.71	52.25	w/ bracing		
DIAPHRAGMS	168 [116]	2	12.00	4	2.94	19.00	56.62	w/ stringers		
DIAPHRAGMS AROUND JT	168	2	9.92	4	7.99	84.00	362.60	w/ floorbeam		
ANGLES	168	2	3.50	2	10.00	46.21	103.97	w/ floorbeam		
PANEL 28 Totals =							1828.97	SF &	2.29	MN HR

PANEL 45

	Plan Sheet [ShpDwg]	# Vertical Faces	Vertical W (inch)	# Horizntl Faces	Horizntl W (inch)	Length (feet)	Area (SF)	Grinding Fins, Silvers & Tears (MN HR)		
EXISTING STEEL										
FLOORBEAM	168 [107]	2	56.00	4	14.00	44.13	617.75	0.74		
FB STIFFENERS	168 [107]	0	0.00	60	5.63	4.54	127.73	0.08		
INT STRINGERS	168 [115]	2	21.00	3	8.25	120.00	667.50	2.00		
EXT STRINGERS	168	2	18.00	3	8.75	40.00	207.50	0.67		
LOW LAT BRACE	168 [125]	2	3.50	2	6.00	52.27	82.76	0.22		
LOW LAT GUSSET	168 [107]	2	0.50	2	35.50	8.71	52.25	w/ bracing		
DIAPHRAGMS	168 [116]	2	12.00	4	2.94	42.00	125.16	w/ stringers		
DIAPHRAGMS AROUND JT	168	2	9.92	4	7.99	84.00	362.60	w/ floorbeam		
ANGLES	168	2	3.50	2	10.00	44.13	99.28	w/ floorbeam		
DRAIN TROUGH	168 [116]	4	8.00	2	13.50	61.67	303.19	1.03		
CATWALK RAILING	77 [E10]	4	8.25	2	4.00	46.21	157.88	0.77		
CATWALK SUPPORT	77 [E10]	4	3.50	4	3.50	26.67	62.22	w/ catwalk rail		
CATWALK HANGER 1	77 [E10]	2	5.00	2	7.00	42.00	84.00	w/ catwalk rail		
CATWALK HANGER 2 INT	77 [E10]	2	4.00	2	3.50	3.50	4.38	w/ catwalk rail		
CATWALK HANGER 2 EXT	77 [E10]	2	8.00	2	4.00	1.00	2.00	w/ catwalk rail		
CATWALK HANGER PLATES	77 [E10]	2	3.25	2	0.50	7.00	4.38	w/ catwalk rail		
PANEL 45 Totals =							2960.58	SF &	5.49	MN HR

	Plan Sheet [ShpDwg]	# Vertical Faces	Vertical W (inch)	# Horizntl Faces	Horizntl W (inch)	Length (feet)	Area (SF)	Grinding Fins, Silvers & Tears (MN HR)		
NEW STEEL										
CATWALK CHECK PLATE	79 [E10]	0	0.00	2	30.00	46.21	231.04	(NEW)		
CATWALK CHANNEL SUPPORT	79 [E10]	4	8.00	6	2.26	46.21	175.44	(NEW)		
CATWALK STRUT	79 [E10]	2	3.50	2	3.50	20.00	23.33	(NEW)		
Totals =							429.81	SF &	0.00	MN HR

**UNDER DEFLECTION JOINTS PAINTING QUANTITIES**

PANEL 52

	Plan Sheet [ShpDwg]	# Vertical Faces	Vertical W (inch)	# Horizntl Faces	Horizntl W (inch)	Length (feet)	Area (SF)	Grinding Fins, Silvers & Tears (MN HR)		
FLOORBEAM	168 [107]	1	56.00	3	14.00	46.21	377.37	0.77		
FB STIFFENERS	168 [107]	0	0.00	30	5.63	4.54	63.87	0.08		
INT STRINGERS	168 [115]	2	21.00	3	8.25	12.00	66.75	0.20		
EXT STRINGERS	168	2	18.00	3	8.75	4.00	20.75	0.07		
LOW LAT BRACE	168 [125]	2	4.00	2	12.00	5.23	13.94	0.02		
LOW LAT GUSSET	168 [107]	2	0.50	2	35.50	8.71	52.25	w/ bracing		
DIAPHRAGMS	168 [116]	1	12.00	2	2.94	31.67	47.18	w/ stringers		
DIAPHRAGMS AROUND JT	168	1	9.92	3	7.99	84.00	237.23	w/ floorbeam		
ANGLES	168	2	3.50	2	10.00	46.21	103.97	w/ floorbeam		
<b>PANEL 52 Totals =</b>							<b>983.30</b>	<b>SF &amp;</b>	<b>1.13</b>	<b>MN HR</b>

PANEL 62

	Plan Sheet [ShpDwg]	# Vertical Faces	Vertical W (inch)	# Horizntl Faces	Horizntl W (inch)	Length (feet)	Area (SF)	Grinding Fins, Silvers & Tears (MN HR)		
FLOORBEAM	168 [107]	2	56.00	4	14.00	46.21	646.92	0.77		
FB STIFFENERS	168 [107]	0	0.00	60	5.63	4.54	127.73	0.08		
INT STRINGERS	168 [115]	2	21.00	3	8.25	24.00	133.50	0.40		
EXT STRINGERS	168	2	18.00	3	8.75	8.00	41.50	0.13		
LOW LAT BRACE	168 [125]	2	3.50	2	10.00	10.45	23.52	0.04		
LOW LAT GUSSET	168 [107]	2	0.50	2	35.50	8.71	52.25	w/ bracing		
DIAPHRAGMS	168 [116]	2	12.00	4	2.94	31.67	94.37	w/ stringers		
DIAPHRAGMS AROUND JT	168	2	9.92	4	7.99	84.00	362.60	w/ floorbeam		
ANGLES	168	2	3.50	2	10.00	46.21	103.97	w/ floorbeam		
SIDEWALK HORIZ SUPPORT	168	2	3.50	2	3.50	5.31	6.20	0.09		
SIDEWALK LONG SUPPORT	168	2	3.50	2	3.00	6.17	6.69	0.10		
SIDEWALK SHORT SUPPORT	168	2	3.00	2	3.00	3.46	3.46	0.01		
<b>PANEL 62 Totals =</b>							<b>1602.71</b>	<b>SF &amp;</b>	<b>1.63</b>	<b>MN HR</b>

**UNDER EXPANSION JOINTS PAINTING QUANTITIES**

PANEL 12

EXISTING STEEL	Plan Sheet [ShpDwg]	# Vertical Faces	Vertical W (inch)	# Horizntl Faces	Horizntl W (inch)	Length (feet)	Area (SF)	Grinding Fins, Silvers & Tears (MN HR)		
FLOORBEAM	170 [107]	2	56.00	4	14.00	44.13	617.75	0.74		
FB STIFFENERS	170 [107]	0	0.00	60	5.63	4.54	127.73	0.08		
INT STRINGERS	170 [115]	2	21.00	3	8.25	64.20	357.11	1.07		
EXT STRINGERS	170	2	18.12	3	7.53	21.40	104.91	0.36		
LOW LAT BRACE	170 [125]	2	3.50	2	10.00	31.36	70.56	0.13		
LOW LAT GUSSET	170 [107]	2	1.13	2	35.50	8.71	53.16	w/ bracing		
DIAPHRAGMS	170 [116]	2	13.00	4	4.19	168.00	598.36	w/ stringers		
CATWALK HANGER 1	75 [E10]	2	5.00	2	7.00	42.00	84.00	w/ catwalk		
CATWALK HANGER 2 INT	75 [E10]	2	4.00	2	3.50	3.50	4.38	w/ catwalk		
CATWALK HANGER 2 EXT	73 [E10]	2	8.00	2	4.00	1.00	2.00	w/ catwalk		
CATWALK HANGER PLATES	73 [E10]	2	3.25	2	0.50	7.00	4.38	w/ catwalk		
EXPANSION TONGUE	170 [107]	2	18.00	4	6.00	6.00	30.00	0.10		
HATCH FRAME	170	1	4.00	2	6.00	12.00	16.00	w/ sw stringer		
SW JOINT ANGLE 1	170	2	4.00	1	3.50	8.75	8.39	w/ sw stringer		
SW JOINT ANGLE 2	170	2	7.00	1	4.00	8.75	13.13	w/ sw stringer		
SW EXP TONGUE	170	2	8.00	1	6.50	15.00	28.13	w/ sw stringer		
SW ANGLE 1	170	2	3.50	1	7.00	24.00	28.00	w/ sw stringer		
SW STRINGER	170	2	15.00	1	3.40	24.00	66.80	0.40		
SW BRACE 1	170	2	3.50	2	7.00	5.50	9.63	w/ sw stringer		
SW BRACE 2	170	2	3.00	2	7.00	6.25	10.42	w/ sw stringer		
SW BRACE 3	170	2	3.00	2	3.00	3.00	3.00	w/ sw stringer		
<b>PANEL 12 EXISTING STEEL Totals =</b>							<b>2237.81</b>	<b>SF &amp;</b>	<b>2.87</b>	<b>MN HR</b>

NEW STEEL

NEW STEEL	Plan Sheet [ShpDwg]	# Vertical Faces	Vertical W (inch)	# Horizntl Faces	Horizntl W (inch)	Length (feet)	Area (SF)	Grinding Fins, Silvers & Tears (MN HR)		
CATWALK CHECKER PLATE	74 [E10]	0	0.00	2	30.00	46.21	231.04	(NEW)		
CATWALK CHANNEL SUPPORT	74 [E10]	4	8.00	6	2.26	46.21	175.44	(NEW)		
CATWALK KICK PLATE	74 [E10]	4	6.25	0	0.00	46.21	96.27	(NEW)		
CATWALK RAILS	74 [E10]	6	3.00	6	3.00	46.21	138.63	(NEW)		
CATWALK SUPPORT	74 [E10]	2	3.50	2	3.50	76.50	89.25	(NEW)		
CATWALK STRUT	74 [E10]	2	3.50	2	3.50	20.00	23.33	(NEW)		
<b>PANEL 12 NEW STEEL Totals =</b>							<b>753.96</b>	<b>SF &amp;</b>	<b>0.00</b>	<b>MN HR</b>

PANEL 35

EXISTING STEEL	Plan Sheet [ShpDwg]	# Vertical Faces	Vertical W (inch)	# Horizntl Faces	Horizntl W (inch)	Length (feet)	Area (SF)	Grinding Fins, Silvers & Tears (MN HR)		
FLOORBEAM	171 [107]	2	56.00	4	14.00	44.13	617.75	0.74		
FB STIFFENERS	171 [107]	0	0.00	60	5.63	4.54	127.73	0.08		
INT STRINGERS	171 [115]	2	21.00	3	9.00	72.00	414.00	1.20		
EXT STRINGERS	171	2	18.00	3	8.75	24.00	124.50	0.40		
LOW LAT BRACE	171 [125]	2	4.00	2	12.00	31.36	83.63	0.13		
LOW LAT GUSSET	171 [107]	2	1.13	2	35.50	8.71	53.16	w/ bracing		
W DIAPHRAGMS	171 [116]	2	10.25	4	10.00	84.00	423.50	w/ floorbeam		
C DIAPHRAGMS	171 [116]	2	12.00	4	4.01	84.00	280.34	w/ stringers		
ANGLES	171	2	10.00	2	3.50	42.00	94.50	w/ floorbeam		
EXPANSION TONGUE	171 [107]	2	18.00	4	6.00	12.00	60.00	0.20		
CATWALK CHECKER PLATE	74 [E10]	0	0.00	2	30.00	46.21	231.04	w/ catwalk		
CATWALK CHANNEL SUPPORT	168 [E10]	4	8.00	6	2.26	46.21	175.44	w/ catwalk		
CATWALK KICK PLATE	168 [E10]	4	6.25	0	0.00	46.21	96.27	w/ catwalk		
CATWALK RAILS	168 [E10]	6	3.00	6	3.00	46.21	138.63	w/ catwalk		
CATWALK STRUT	[E10]	2	3.50	2	3.50	20.00	23.33	w/ catwalk		
CATWALK HANGER 1	[E10]	2	5.00	2	7.00	42.00	84.00	w/ catwalk		
CATWALK HANGER 2 INT	[E10]	2	4.00	2	3.50	3.50	4.38	w/ catwalk		
CATWALK HANGER 2 EXT	[E10]	2	8.00	2	4.00	1.00	2.00	w/ catwalk		
CATWALK HANGER PLATES	[E10]	2	3.25	2	0.50	7.00	4.38	w/ catwalk		
<b>PANEL 35 Totals =</b>							<b>3038.56</b>	<b>SF &amp;</b>	<b>2.74</b>	<b>MN HR</b>

**NEW EXPANSION JOINT PAINTING QUANTITIES**

PANEL 35

	Plan Sheet	# Vertical Faces	Vertical W (inch)	# Horizntl Faces	Horizntl W (inch)	Length (feet)	Area (SF)	Grinding Fins, Silvers & Tears (MN HR)		
2 INBEDED MC12X45	147 / 189	2	12.00	2	4.01	44.50	118.74	0.00		
NRNS CONNECTION PLATES	147 / 189	4	4.00	0	0.00	44.50	59.33	0.00		
SLIDING PLATE SUPPORT	147 / 189	2	2.00	0	0.00	44.50	14.83	0.00		
SLIDING PLATE	147 / 189	0	0.00	1	17.75	44.50	65.82	0.00		
2 INBEDED MC12X45 @ SIDEWALK	149 / 189	3	12.00	4	4.01	6.42	27.82	0.00		
SIDE PLATES	149 / 189	2	5.75	0	0.00	6.42	6.15	0.00		
<b>PANEL 35 Totals =</b>							<b>292.70</b>	<b>SF &amp;</b>	<b>0.00</b>	<b>MN HR</b>

FORWARD ABUTMENT

	Plan Sheet	# Vertical Faces	Vertical W (inch)	# Horizntl Faces	Horizntl W (inch)	Length (feet)	Area (SF)	Grinding Fins, Silvers & Tears (MN HR)		
TWO NEW INBEDED MC12X45s	154 / 189	2	12.00	2	4.01	44.50	118.74	0.00		
SLIDING PLATE SUPPORT	154 / 189	2	2.00	0	0.00	44.50	14.83	0.00		
SLIDING PLATE	154 / 189	0	0.00	1	17.75	44.50	65.82	0.00		
SIDEWALK SIDE PLATE	154 / 189	0	0.00	1	18.00	6.42	9.62	0.00		
EAST CURB PLATE	155 / 189	4	11.00	0	0.00	1.45	5.32	0.00		
UNDERSIDE SIDEWALK (@ ABT)	155 / 189	1	4.50	0	0.00	6.42	2.41	0.00		
UNDERSIDE SIDEWALK (@ BRG)	155 / 189	1	16.50	0	0.00	6.42	8.82	0.00		
<b>FORWARD ABUTMENT Totals =</b>							<b>225.57</b>	<b>SF &amp;</b>	<b>0.00</b>	<b>MN HR</b>

**SELECTED SPOT AREAS PAINTING QUANTITIES**

	Plan Sheet [ShpDwg]	# Vertical Faces	Vertical W (inch)	# Horizntl Faces	Horizntl W (inch)	Length (feet)	Area (SF)	Grinding Fins, Silvers & Tears (MN HR)		
L5U6 EAST TRUSS	172 [430]	1	19.76	0	0.00	0.75	1.24	0.01		
L21U20 EAST TRUSS	172 [243]	1	22.38	2	7.00	7.50	22.73	0.13		
L63U62 EAST TRUSS	172 [122]	2	21.29	4	9.07	3.00	19.72	0.05		
<b>Selected Spot Area Totals =</b>							<b>43.69</b>	<b>SF &amp;</b>	<b>0.19</b>	<b>MN HR</b>

LOR-611-0358 Estimated Quantities

SFN 4707443

**NEW ANGLES PAINTING QUANTITIES**

	Vertical 1 (inch)	Horizntl 1 (inch)	Length 1 (feet)	Vertical 2 (inch)	Horizntl 2 (inch)	Length 2 (feet)	Vertical 3 (inch)	Horizntl 3 (inch)	Length 3 (feet)	Areas of Ends (sq in)	Area (SF)
WEST L1 OUTSIDE	4.00	4.00	3.29							22.50	3.45
WEST L1 INSIDE	4.00	4.00	2.82							15.00	2.93
EAST L1 INSIDE	4.00	4.00	2.82							15.00	2.93
EAST L1 OUTSIDE	4.00	4.00	3.27							15.00	3.38
WEST L2 OUTSIDE	4.00	4.00	2.15							7.50	2.20
WEST L2 INSIDE	4.00	4.00	2.15							7.50	2.20
EAST L2 INSIDE	4.00	4.00	2.15							7.50	2.20
EAST L2 OUTSIDE	4.00	4.00	2.15							7.50	2.20
EAST L4 INSIDE	4.00	4.00	2.65							7.50	2.70
WEST L5 OUTSIDE	4.00	4.00	3.73							7.50	3.78
WEST L7 OUTSIDE	4.00	4.00	1.74							7.50	1.79
WEST L7 INSIDE	4.00	4.00	1.74							7.50	1.79
EAST L7 INSIDE	4.00	4.00	1.74							7.50	1.79
EAST L7 OUTSIDE	4.00	4.00	1.74							7.50	1.79
WEST L9 OUTSIDE	4.00	4.00	3.04							15.00	3.14
WEST L9 INSIDE	4.00	4.00	2.21							7.50	2.26
EAST L9 INSIDE	4.00	4.00	2.21							7.50	2.26
EAST L9 OUTSIDE	4.00	4.00	2.28							7.50	2.33
WEST L10 OUTSIDE	4.00	4.00	4.95							15.00	5.05
WEST L10 INSIDE	4.00	4.00	4.17							7.50	4.22
EAST L10 INSIDE	4.00	4.00	4.95							15.00	5.05
EAST L10 OUTSIDE	4.00	4.00	5.73							15.00	5.83
WEST L11 OUTSIDE	4.00	4.00	4.85	5.38	4.00	2.01	5.00	5.00	3.28	43.00	11.73
WEST L11 INSIDE	4.00	4.00	6.25							22.50	6.41
EAST L11 INSIDE	4.00	4.00	6.25							22.50	6.41
EAST L11 OUTSIDE	4.00	4.00	9.74	5.00	5.00	3.98				24.50	14.88
WEST L12 OUTSIDE	4.00	4.00	2.63							7.50	2.68
WEST L12 INSIDE	4.00	4.00	2.63							7.50	2.68
EAST L12 INSIDE	4.00	4.00	2.63							7.50	2.68
EAST L12 OUTSIDE	4.00	4.00	2.63							7.50	2.68
WEST L14 OUTSIDE	4.00	4.00	8.60							22.50	8.76
WEST L14 INSIDE	4.00	4.00	4.23							15.00	4.33
EAST L14 INSIDE	4.00	4.00	4.23							15.00	4.33
EAST L14 OUTSIDE	4.00	4.00	8.60							22.50	8.76
EAST L15 OUTSIDE	4.00	4.00	7.18							15.00	7.28
WEST L16 OUTSIDE	4.00	4.00	3.63							15.00	3.73
WEST L16 INSIDE	4.00	4.00	3.63							15.00	3.73
EAST L16 INSIDE	4.00	4.00	3.63							15.00	3.73
EAST L16 OUTSIDE	4.00	4.00	3.63							15.00	3.73
WEST L17 OUTSIDE	4.00	4.00	8.38							22.50	8.53
WEST L17 INSIDE	4.00	4.00	3.83							15.00	3.94
EAST L17 INSIDE	4.00	4.00	3.83							15.00	3.94
EAST L17 OUTSIDE	4.00	4.00	3.83							15.00	3.94
WEST L18 OUTSIDE	4.00	4.00	3.67							7.50	3.72
WEST L18 INSIDE	4.00	4.00	3.67							7.50	3.72
EAST L18 INSIDE	4.00	4.00	3.67							7.50	3.72
EAST L18 OUTSIDE	4.00	4.00	3.67							7.50	3.72
WEST L19 OUTSIDE	4.00	4.00	8.78	5.38	4.00	10.28				59.50	21.83
WEST L19 INSIDE	4.00	4.00	8.78	5.38	4.00	10.28				59.50	21.83
EAST L19 INSIDE	4.00	4.00	8.78	5.38	4.00	10.28				59.50	21.83
EAST L19 OUTSIDE	4.00	4.00	8.78	5.38	4.00	10.28				59.50	21.83
WEST L21 OUTSIDE	5.38	4.00	5.35							18.50	6.71
EAST L21 OUTSIDE	5.38	4.00	5.35							18.50	6.71
WEST L22 OUTSIDE	4.00	4.00	9.20							22.50	9.35
EAST L22 OUTSIDE	4.00	4.00	6.20							15.00	6.30
WEST L23 OUTSIDE	4.00	4.00	8.88							22.50	9.03
WEST L23 INSIDE	4.00	4.00	2.42							7.50	2.47
EAST L23 INSIDE	4.00	4.00	2.42							7.50	2.47
EAST L23 OUTSIDE	4.00	4.00	2.42							7.50	2.47
WEST L25 OUTSIDE	4.00	4.00	2.56							7.50	2.61
WEST L28 OUTSIDE	4.00	4.00	7.40							15.00	7.50
WEST L28 INSIDE	4.00	4.00	3.33							7.50	3.39
EAST L28 INSIDE	4.00	4.00	3.33							7.50	3.39
EAST L28 OUTSIDE	4.00	4.00	5.00							7.50	5.05

LOR-611-0358 Estimated Quantities

SFN 4707443

**NEW ANGLES PAINTING QUANTITIES**

	Vertical 1 (inch)	Horizntl 1 (inch)	Length 1 (feet)	Vertical 2 (inch)	Horizntl 2 (inch)	Length 2 (feet)	Vertical 3 (inch)	Horizntl 3 (inch)	Length 3 (feet)	Areas of Ends (sq in)	Area (SF)
WEST L29 OUTSIDE	4.00	4.00	7.83							15.00	7.94
WEST L29 INSIDE	4.00	4.00	6.00							15.00	6.10
EAST L29 INSIDE	4.00	4.00	6.00							15.00	6.10
EAST L29 OUTSIDE	4.00	4.00	6.00							15.00	6.10
WEST L30 OUTSIDE	4.00	4.00	8.66							15.00	8.76
WEST L30 INSIDE	4.00	4.00	8.66							15.00	8.76
EAST L30 INSIDE	4.00	4.00	8.66							15.00	8.76
EAST L30 OUTSIDE	4.00	4.00	8.66							15.00	8.76
WEST L33 OUTSIDE	4.00	4.00	3.25							7.50	3.30
WEST L33 INSIDE	4.00	4.00	3.25							7.50	3.30
EAST L33 INSIDE	4.00	4.00	3.25							7.50	3.30
EAST L33 OUTSIDE	4.00	4.00	3.25							7.50	3.30
WEST L34 OUTSIDE	4.00	4.00	10.25							15.00	10.35
WEST L34 INSIDE	4.00	4.00	7.38							15.00	7.48
EAST L34 INSIDE	4.00	4.00	7.38							15.00	7.48
EAST L34 OUTSIDE	4.00	4.00	7.38							15.00	7.48
WEST L35 OUTSIDE	4.00	4.00	3.47							7.50	3.52
WEST L35 INSIDE	4.00	4.00	4.94							7.50	4.99
EAST L35 INSIDE	4.00	4.00	3.47	5.38	4.00	2.50				26.00	6.72
EAST L35 OUTSIDE	4.00	4.00	3.47	5.38	4.00	2.50				26.00	6.72
EAST L37 OUTSIDE	4.00	4.00	3.32							7.50	3.38
EAST L38 INSIDE	4.00	4.00	2.92							7.50	2.97
EAST L39 INSIDE	4.00	4.00	3.00							7.50	3.05
EAST L42 OUTSIDE	4.00	4.00	3.04							7.50	3.09
WEST L45 OUTSIDE	4.00	4.00	3.33	5.38	4.00	4.07				26.00	8.52
WEST L45 INSIDE	4.00	4.00	3.33	5.38	4.00	4.07				26.00	8.52
EAST L45 INSIDE	4.00	4.00	4.90							7.50	4.95
EAST L45 OUTSIDE	4.00	4.00	3.33							7.50	3.39
WEST L46 OUTSIDE	4.00	4.00	7.38							15.00	7.48
WEST L46 INSIDE	4.00	4.00	7.38							15.00	7.48
EAST L46 INSIDE	4.00	4.00	7.38							15.00	7.48
EAST L46 OUTSIDE	4.00	4.00	7.38							15.00	7.48
WEST L47 OUTSIDE	4.00	4.00	5.08							15.00	5.19
WEST L47 INSIDE	4.00	4.00	5.08							15.00	5.19
EAST L47 INSIDE	4.00	4.00	5.54							15.00	5.65
EAST L47 OUTSIDE	4.00	4.00	5.54							15.00	5.65
EAST L49 OUTSIDE	4.00	4.00	4.55							7.50	4.60
WEST L50 OUTSIDE	4.00	4.00	8.66							15.00	8.76
WEST L50 INSIDE	4.00	4.00	8.66							15.00	8.76
EAST L50 INSIDE	4.00	4.00	8.66							15.00	8.76
EAST L50 OUTSIDE	4.00	4.00	8.66							15.00	8.76
WEST L51 OUTSIDE	4.00	4.00	5.85							15.00	5.96
WEST L51 INSIDE	4.00	4.00	5.85							15.00	5.96
EAST L51 INSIDE	4.00	4.00	5.85							15.00	5.96
EAST L51 OUTSIDE	4.00	4.00	8.47							15.00	8.57
WEST L52 OUTSIDE	4.00	4.00	7.60							15.00	7.70
WEST L52 INSIDE	4.00	4.00	3.21							7.50	3.26
EAST L52 INSIDE	4.00	4.00	4.80							7.50	4.85
EAST L52 OUTSIDE	4.00	4.00	3.21							7.50	3.26
WEST L54 OUTSIDE	4.00	4.00	2.58							7.50	2.64
WEST L56 OUTSIDE	4.00	4.00	3.04							7.50	3.09
WEST L57 OUTSIDE	4.00	4.00	6.39							15.00	6.49
WEST L57 INSIDE	4.00	4.00	2.53							7.50	2.58
EAST L57 INSIDE	4.00	4.00	2.53							7.50	2.58
EAST L57 OUTSIDE	4.00	4.00	2.53							7.50	2.58
WEST L59 OUTSIDE	4.00	4.00	2.13							7.50	2.18
WEST L61 OUTSIDE	4.00	4.00	11.41							30.00	11.61
WEST L61 INSIDE	4.00	4.00	9.45							22.50	9.60
EAST L61 INSIDE	4.00	4.00	9.45	5.38	4.00	4.71				41.00	15.52
EAST L61 OUTSIDE	4.00	4.00	9.45	5.38	4.00	4.71				41.00	15.52
WEST L62 OUTSIDE	4.00	4.00	3.67							7.50	3.72
WEST L62 INSIDE	4.00	4.00	3.67							7.50	3.72
EAST L62 INSIDE	4.00	4.00	3.67							7.50	3.72
EAST L62 OUTSIDE	4.00	4.00	6.75							15.00	6.85

LOR-611-0358 Estimated Quantities

SFN 4707443

**NEW ANGLES PAINTING QUANTITIES**

	Vertical 1 (inch)	Horizntl 1 (inch)	Length 1 (feet)	Vertical 2 (inch)	Horizntl 2 (inch)	Length 2 (feet)	Vertical 3 (inch)	Horizntl 3 (inch)	Length 3 (feet)	Areas of Ends (sq in)	Area (SF)
WEST L63 OUTSIDE	4.00	4.00	4.65							15.00	4.75
WEST L63 INSIDE	4.00	4.00	1.96							7.50	2.01
EAST L63 INSIDE	4.00	4.00	1.96							7.50	2.01
EAST L63 OUTSIDE	4.00	4.00	4.65							15.00	4.75
WEST L64 OUTSIDE	4.00	4.00	3.63							15.00	3.73
WEST L64 INSIDE	4.00	4.00	3.63							15.00	3.73
EAST L64 INSIDE	4.00	4.00	3.63							15.00	3.73
EAST L64 OUTSIDE	4.00	4.00	4.31							15.00	4.42
WEST L66 OUTSIDE	4.00	4.00	4.21							15.00	4.31
WEST L66 INSIDE	4.00	4.00	4.21							15.00	4.31
EAST L66 INSIDE	4.00	4.00	4.21							15.00	4.31
EAST L66 OUTSIDE	4.00	4.00	4.21							15.00	4.31
WEST L67 OUTSIDE	4.00	4.00	2.82							15.00	2.93
WEST L67 INSIDE	4.00	4.00	2.82							15.00	2.93
EAST L67 INSIDE	4.00	4.00	2.82							15.00	2.93
EAST L67 OUTSIDE	4.00	4.00	2.82							15.00	2.93
WEST U2 OUTSIDE	4.00	4.00	1.40							7.50	1.45
WEST U2 INSIDE	4.00	4.00	1.40							7.50	1.45
EAST U2 INSIDE	4.00	4.00	1.40							7.50	1.45
EAST U2 OUTSIDE	4.00	4.00	5.14							15.00	5.24
WEST U5 OUTSIDE	4.00	4.00	3.26							15.00	3.36
WEST U5 INSIDE	4.00	4.00	3.26							15.00	3.36
EAST U5 INSIDE	4.00	4.00	3.26							15.00	3.36
EAST U5 OUTSIDE	4.00	4.00	3.26							15.00	3.36
WEST U6 OUTSIDE	4.00	4.00	2.25							7.50	2.30
WEST U6 INSIDE	4.00	4.00	2.25							7.50	2.30
EAST U6 INSIDE	4.00	4.00	2.25							7.50	2.30
EAST U6 OUTSIDE	4.00	4.00	2.25							7.50	2.30
WEST U7 OUTSIDE	4.00	4.00	4.54							15.00	4.65
WEST U7 INSIDE	4.00	4.00	4.54							15.00	4.65
EAST U7 INSIDE	4.00	4.00	4.54							15.00	4.65
EAST U7 OUTSIDE	4.00	4.00	4.54							15.00	4.65
WEST U8 OUTSIDE	4.00	4.00	2.68							7.50	2.73
WEST U8 INSIDE	4.00	4.00	2.68							7.50	2.73
EAST U8 INSIDE	4.00	4.00	2.68							7.50	2.73
EAST U8 OUTSIDE	4.00	4.00	2.68							7.50	2.73
WEST U9 OUTSIDE	4.00	4.00	6.35							22.50	6.51
WEST U9 INSIDE	4.00	4.00	6.35							22.50	6.51
EAST U9 INSIDE	4.00	4.00	6.35							22.50	6.51
EAST U9 OUTSIDE	4.00	4.00	7.52							22.50	7.68
WEST U11 OUTSIDE	4.00	4.00	6.94							22.50	7.09
WEST U11 INSIDE	4.00	4.00	6.94							22.50	7.09
EAST U11 INSIDE	4.00	4.00	6.94							22.50	7.09
EAST U11 OUTSIDE	4.00	4.00	6.94							22.50	7.09
WEST U12 OUTSIDE	4.00	4.00	6.25							15.00	6.35
WEST U12 INSIDE	4.00	4.00	6.25							15.00	6.35
EAST U12 INSIDE	4.00	4.00	6.25							15.00	6.35
EAST U12 OUTSIDE	4.00	4.00	6.25							15.00	6.35
WEST U14 OUTSIDE	4.00	4.00	1.83							7.50	1.89
WEST U14 INSIDE	4.00	4.00	1.83							7.50	1.89
EAST U14 INSIDE	4.00	4.00	1.83							7.50	1.89
EAST U14 OUTSIDE	4.00	4.00	1.83							7.50	1.89
WEST U15 OUTSIDE	4.00	4.00	3.65							15.00	3.75
WEST U15 INSIDE	4.00	4.00	3.65							15.00	3.75
EAST U15 INSIDE	4.00	4.00	3.65							15.00	3.75
EAST U15 OUTSIDE	4.00	4.00	3.65							15.00	3.75
WEST U16 OUTSIDE	4.00	4.00	2.52							7.50	2.57
WEST U16 INSIDE	4.00	4.00	2.52							7.50	2.57
EAST U16 INSIDE	4.00	4.00	2.52							7.50	2.57
EAST U16 OUTSIDE	4.00	4.00	2.52							7.50	2.57
WEST U17 OUTSIDE	4.00	4.00	1.61							7.50	1.67
WEST U17 INSIDE	4.00	4.00	1.61							7.50	1.67
EAST U17 INSIDE	4.00	4.00	1.61							7.50	1.67
EAST U17 OUTSIDE	4.00	4.00	1.61							7.50	1.67



**NEW ANGLES PAINTING QUANTITIES**

	Vertical 1 (inch)	Horizntl 1 (inch)	Length 1 (feet)	Vertical 2 (inch)	Horizntl 2 (inch)	Length 2 (feet)	Vertical 3 (inch)	Horizntl 3 (inch)	Length 3 (feet)	Areas of Ends (sq in)	Area (SF)
WEST U18 OUTSIDE	4.00	4.00	3.80							7.50	3.85
WEST U18 INSIDE	4.00	4.00	3.80							7.50	3.85
EAST U18 INSIDE	4.00	4.00	3.80							7.50	3.85
EAST U18 OUTSIDE	4.00	4.00	3.80							7.50	3.85
WEST U19 OUTSIDE	4.00	4.00	1.83							7.50	1.89
WEST U19 INSIDE	4.00	4.00	1.83							7.50	1.89
EAST U19 INSIDE	4.00	4.00	1.83							7.50	1.89
EAST U19 OUTSIDE	4.00	4.00	1.83							7.50	1.89
WEST U21 OUTSIDE	4.00	4.00	2.33							7.50	2.39
WEST U21 INSIDE	4.00	4.00	2.33							7.50	2.39
EAST U21 INSIDE	4.00	4.00	2.33							7.50	2.39
EAST U21 OUTSIDE	4.00	4.00	2.33							7.50	2.39
WEST U25 OUTSIDE	4.00	4.00	2.00							7.50	2.05
WEST U25 INSIDE	4.00	4.00	2.00							7.50	2.05
EAST U25 INSIDE	4.00	4.00	2.00							7.50	2.05
EAST U25 OUTSIDE	4.00	4.00	2.00							7.50	2.05
WEST U26 OUTSIDE	4.00	4.00	2.52							7.50	2.57
WEST U26 INSIDE	4.00	4.00	2.52							7.50	2.57
EAST U26 INSIDE	4.00	4.00	2.52							7.50	2.57
EAST U26 OUTSIDE	4.00	4.00	2.52							7.50	2.57
WEST U29 OUTSIDE	4.00	4.00	2.21							7.50	2.26
WEST U29 INSIDE	4.00	4.00	2.21							7.50	2.26
EAST U29 INSIDE	4.00	4.00	2.21							7.50	2.26
EAST U29 OUTSIDE	4.00	4.00	2.21							7.50	2.26
WEST U30 OUTSIDE	4.00	4.00	2.96							7.50	3.01
WEST U30 INSIDE	4.00	4.00	2.96							7.50	3.01
EAST U30 INSIDE	4.00	4.00	2.96							7.50	3.01
EAST U30 OUTSIDE	4.00	4.00	2.96							7.50	3.01
WEST U31 OUTSIDE	4.00	4.00	4.82							15.00	4.93
WEST U31 INSIDE	4.00	4.00	4.82							15.00	4.93
EAST U31 INSIDE	4.00	4.00	4.82							15.00	4.93
EAST U31 OUTSIDE	4.00	4.00	4.82							15.00	4.93
WEST U33 OUTSIDE	4.00	4.00	7.52							15.00	7.63
WEST U33 INSIDE	4.00	4.00	7.52							15.00	7.63
EAST U33 INSIDE	4.00	4.00	7.52							15.00	7.63
EAST U33 OUTSIDE	4.00	4.00	7.52							15.00	7.63
WEST U34 OUTSIDE	4.00	4.00	10.54							22.50	10.70
WEST U34 INSIDE	4.00	4.00	10.54							22.50	10.70
EAST U34 INSIDE	4.00	4.00	10.54							22.50	10.70
EAST U34 OUTSIDE	4.00	4.00	10.54							22.50	10.70
WEST U35 OUTSIDE	4.00	4.00	6.95							22.50	7.10
WEST U35 INSIDE	4.00	4.00	3.83							7.50	3.89
EAST U35 INSIDE	4.00	4.00	3.83							7.50	3.89
EAST U35 OUTSIDE	4.00	4.00	5.32							15.00	5.43
WEST U36 OUTSIDE	4.00	4.00	2.63							7.50	2.68
WEST U36 INSIDE	4.00	4.00	2.63							7.50	2.68
EAST U36 INSIDE	4.00	4.00	2.63							7.50	2.68
EAST U36 OUTSIDE	4.00	4.00	2.63							7.50	2.68
WEST U37 OUTSIDE	4.00	4.00	2.68							7.50	2.73
WEST U37 INSIDE	4.00	4.00	2.68							7.50	2.73
EAST U37 INSIDE	4.00	4.00	2.68							7.50	2.73
EAST U37 OUTSIDE	4.00	4.00	2.68							7.50	2.73
WEST U38 OUTSIDE	4.00	4.00	2.63							7.50	2.68
WEST U38 INSIDE	4.00	4.00	2.63							7.50	2.68
EAST U38 INSIDE	4.00	4.00	2.63							7.50	2.68
EAST U38 OUTSIDE	4.00	4.00	2.63							7.50	2.68
WEST U39 OUTSIDE	4.00	4.00	2.57							7.50	2.63
WEST U39 INSIDE	4.00	4.00	2.57							7.50	2.63
EAST U39 INSIDE	4.00	4.00	2.57							7.50	2.63
EAST U39 OUTSIDE	4.00	4.00	2.57							7.50	2.63
WEST U41 OUTSIDE	4.00	4.00	2.57							7.50	2.63
WEST U41 INSIDE	4.00	4.00	2.57							7.50	2.63
EAST U41 INSIDE	4.00	4.00	2.57							7.50	2.63
EAST U41 OUTSIDE	4.00	4.00	2.57							7.50	2.63

**NEW ANGLES PAINTING QUANTITIES**

	Vertical 1 (inch)	Horizntl 1 (inch)	Length 1 (feet)	Vertical 2 (inch)	Horizntl 2 (inch)	Length 2 (feet)	Vertical 3 (inch)	Horizntl 3 (inch)	Length 3 (feet)	Areas of Ends (sq in)	Area (SF)
WEST U42 OUTSIDE	4.00	4.00	2.63							7.50	2.68
WEST U42 INSIDE	4.00	4.00	2.63							7.50	2.68
EAST U42 INSIDE	4.00	4.00	2.63							7.50	2.68
EAST U42 OUTSIDE	4.00	4.00	2.63							7.50	2.68
WEST U43 OUTSIDE	4.00	4.00	2.68							7.50	2.73
WEST U43 INSIDE	4.00	4.00	2.68							7.50	2.73
EAST U43 INSIDE	4.00	4.00	2.68							7.50	2.73
EAST U43 OUTSIDE	4.00	4.00	2.68							7.50	2.73
WEST U44 OUTSIDE	4.00	4.00	2.63							7.50	2.68
WEST U44 INSIDE	4.00	4.00	2.63							7.50	2.68
EAST U44 INSIDE	4.00	4.00	2.63							7.50	2.68
EAST U44 OUTSIDE	4.00	4.00	2.63							7.50	2.68
WEST U45 OUTSIDE	4.00	4.00	5.10							15.00	5.21
WEST U45 INSIDE	4.00	4.00	5.15							15.00	5.25
EAST U45 INSIDE	4.00	4.00	6.64							22.50	6.79
EAST U45 OUTSIDE	4.00	4.00	3.61							7.50	3.67
WEST U46 OUTSIDE	4.00	4.00	10.54							22.50	10.70
WEST U46 INSIDE	4.00	4.00	10.54							22.50	10.70
EAST U46 INSIDE	4.00	4.00	10.54							22.50	10.70
EAST U46 OUTSIDE	4.00	4.00	10.54							22.50	10.70
WEST U47 OUTSIDE	4.00	4.00	7.52							15.00	7.63
WEST U47 INSIDE	4.00	4.00	7.52							15.00	7.63
EAST U47 INSIDE	4.00	4.00	7.52							15.00	7.63
EAST U47 OUTSIDE	4.00	4.00	7.52							15.00	7.63
WEST U49 OUTSIDE	4.00	4.00	4.82							15.00	4.93
WEST U49 INSIDE	4.00	4.00	4.82							15.00	4.93
EAST U49 INSIDE	4.00	4.00	4.82							15.00	4.93
EAST U49 OUTSIDE	4.00	4.00	4.82							15.00	4.93
WEST U50 OUTSIDE	4.00	4.00	2.96							7.50	3.01
WEST U50 INSIDE	4.00	4.00	2.96							7.50	3.01
EAST U50 INSIDE	4.00	4.00	2.96							7.50	3.01
EAST U50 OUTSIDE	4.00	4.00	2.96							7.50	3.01
WEST U51 OUTSIDE	4.00	4.00	2.21							7.50	2.26
WEST U51 INSIDE	4.00	4.00	2.21							7.50	2.26
EAST U51 INSIDE	4.00	4.00	2.21							7.50	2.26
EAST U51 OUTSIDE	4.00	4.00	2.21							7.50	2.26
WEST U54 OUTSIDE	4.00	4.00	2.52							7.50	2.57
WEST U54 INSIDE	4.00	4.00	2.52							7.50	2.57
EAST U54 INSIDE	4.00	4.00	2.52							7.50	2.57
EAST U54 OUTSIDE	4.00	4.00	2.52							7.50	2.57
WEST U55 OUTSIDE	4.00	4.00	2.00							7.50	2.05
WEST U55 INSIDE	4.00	4.00	2.00							7.50	2.05
EAST U55 INSIDE	4.00	4.00	2.00							7.50	2.05
EAST U55 OUTSIDE	4.00	4.00	4.08							15.00	4.19
EAST U58 OUTSIDE	4.00	4.00	2.96							7.50	3.01
WEST U59 OUTSIDE	4.00	4.00	2.33							7.50	2.39
WEST U59 INSIDE	4.00	4.00	2.33							7.50	2.39
EAST U59 INSIDE	4.00	4.00	2.33							7.50	2.39
EAST U59 OUTSIDE	4.00	4.00	2.33							7.50	2.39
WEST U61 OUTSIDE	4.00	4.00	1.83							7.50	1.89
WEST U61 INSIDE	4.00	4.00	1.83							7.50	1.89
EAST U61 INSIDE	4.00	4.00	1.83							7.50	1.89
EAST U61 OUTSIDE	4.00	4.00	3.17							15.00	3.27
WEST U62 OUTSIDE	4.00	4.00	3.80							7.50	3.85
WEST U62 INSIDE	4.00	4.00	3.80							7.50	3.85
EAST U62 INSIDE	4.00	4.00	3.80							7.50	3.85
EAST U62 OUTSIDE	4.00	4.00	3.80							7.50	3.85
WEST U63 OUTSIDE	4.00	4.00	1.61							7.50	1.67
WEST U63 INSIDE	4.00	4.00	1.61							7.50	1.67
EAST U63 INSIDE	4.00	4.00	1.61							7.50	1.67
EAST U63 OUTSIDE	4.00	4.00	1.61							7.50	1.67
WEST U64 OUTSIDE	4.00	4.00	2.52							7.50	2.57
WEST U64 INSIDE	4.00	4.00	2.52							7.50	2.57
EAST U64 INSIDE	4.00	4.00	2.52							7.50	2.57
EAST U64 OUTSIDE	4.00	4.00	2.52							7.50	2.57

LOR-611-0358 Estimated Quantities

SFN 4707443

**NEW ANGLES PAINTING QUANTITIES**

	Vertical 1 (inch)	Horizntl 1 (inch)	Length 1 (feet)	Vertical 2 (inch)	Horizntl 2 (inch)	Length 2 (feet)	Vertical 3 (inch)	Horizntl 3 (inch)	Length 3 (feet)	Areas of Ends (sq in)	Area (SF)
WEST U65 OUTSIDE	4.00	4.00	3.65							15.00	3.75
WEST U65 INSIDE	4.00	4.00	3.65							15.00	3.75
EAST U65 INSIDE	4.00	4.00	3.65							15.00	3.75
EAST U65 OUTSIDE	4.00	4.00	3.65							15.00	3.75
WEST U66 OUTSIDE	4.00	4.00	4.49							15.00	4.59
WEST U66 INSIDE	4.00	4.00	1.80							7.50	1.85
EAST U66 INSIDE	4.00	4.00	1.80							7.50	1.85
EAST U66 OUTSIDE	4.00	4.00	1.80							7.50	1.85

NEW ANGLES Total = 1496.09 SF

**PORTAL REPAIR PAINTING QUANTITIES**

**NEW MEMBER**

	Plan Sheet [ShpDwg]	# Vertical Faces	Vertical W (inch)	# Horizntl Faces	Horizntl W (inch)	Length (feet)	Area (SF)	Grinding Fins, Silvers & Tears (MN HR)	
NEW MEMBER	170 [107]	4	6.73	2	14.00	15.64	71.58	0.00	
NEW MEMBER Totals =							71.58	SF &	0.00 MN HR

**GUSSET PLATES**

	Plan Sheet [ShpDwg]	Full Area (sq inch)	Area Covering Member (sq inch)	Area Covering Verticals (sq inch)	Area Covering Diagonals (sq inch)	Other Area Additions/Reductions (sq inch)	Area (SF)	Grinding Fins, Silvers & Tears (MN HR)	
RIGHT (@ EAST TRUSS)	135	793.50	111.89	0.00	0.00	0.00	18.93	0.17 MN HR	
CENTER	135 [114]	572.00	174.98	0.00	0.00	0.00	11.03	0.17	
LEFT	135 [114]	346.50	100.95	0.00	0.00	0.00	6.82	0.17	
GUSSET PLATES Totals =							36.78	SF &	0.50 MN HR



# CALCULATION SHEET

## RICHLAND ENGINEERING LIMITED

29 North Park Street, Mansfield, Ohio 44902  
419/524-0074 • FAX 419/524-1812

JOB NO. 111048-5 SHEET NO. 45 OF 54

SUBJECT LOR-611-03.44

CALCULATED BY T.G.W. DATE 7/27/15

CHECKED BY RWC DATE 7/2014

ITEM 514 - FIELD PAINTING, MISC.: SURFACE PREPARATION OF EXISTING STEEL FOR CAULKING

ITEM 514 - FIELD PAINTING, MISC.: EXISTING STEEL PRIME COAT FOR CAULKING

ITEM 514 - FIELD PAINTING, MISC.: EXISTING STEEL INTERMEDIATE COAT FOR CAULKING

ITEM 514 - FIELD PAINTING, MISC.: EXISTING STEEL FINISH COAT FOR CAULKING

### Lower chord:

East truss - 68 panels \* 25' = 1700' (additional length in panels 30-35 + 46-51) \* see shop drawing 5\*

$$\text{Panel 30} - (\sqrt{25^2 + 2^2} - 25) = 0.08'$$

$$\text{Panel 46} - (\sqrt{25^2 + 5.73^2} - 25) = 0.65'$$

$$\text{Panel 31} - (\sqrt{25^2 + 9^2} - 25) = 1.57'$$

$$\text{Panel 47} - (\sqrt{25^2 + 9.73^2} - 25) = 1.85'$$

$$\text{Panel 32} - (\sqrt{25^2 + 16^2} - 25) = 4.16'$$

$$\text{Panel 48} - (\sqrt{25^2 + 17^2} - 25) = 5.23'$$

$$\text{Panel 33} - (\sqrt{25^2 + 17^2} - 25) = 5.73'$$

$$\text{Panel 49} - (\sqrt{25^2 + 16^2} - 25) = 4.16'$$

$$\text{Panel 34} - (\sqrt{25^2 + 9.8^2} - 25) = 1.85'$$

$$\text{Panel 50} - (\sqrt{25^2 + 9^2} - 25) = 1.57'$$

$$\text{Panel 35} - (\sqrt{25^2 + 5.73^2} - 25) = 0.65'$$

$$\text{Panel 51} - (\sqrt{25^2 + 2^2} - 25) = 0.08'$$

$$\Sigma \text{ additional length} = 27.06' + 1700' = 1727.06'$$

$$1727 * 2 \text{ corners} = 3454'$$

$$\text{West truss} - 1727' - (4 * 10') - [5' + (25' * 8) + 25.08' + 26.57' + 10'] - [10' + 26.85' + 25.65' +$$

$$(25' * 2) + 5'] - 10' - (5' + 5' + 25') - (5' + 5' + 25' + 25.85') - (29.15' +$$

$$26.57' + 25.08' + 5') + (10' * 4) - (22.25' + 5') - (5' + 15') = 1023.43'$$

$$2 \text{ corners} * 1023.43' = 2046.86'$$

### Top seams @ Gussets

East side - top seam length @ gusset = 4648"

inaccessible length = 1727"

accessible length = 3321"

$$3321 * 2 \text{ corners} = 6762 \frac{1}{2} = \underline{563.5'}$$

West side -

top seam length @ gusset = 2160'

inaccessible length = 596'

accessible length = 1564'

$$1564 * 2 \text{ corners} = 3128 \frac{1}{2} = \underline{260.7'}$$



# RICHLAND ENGINEERING LIMITED

29 North Park Street, Mansfield, Ohio 44902  
419/524-0074 • FAX 419/524-1812

# CALCULATION SHEET

JOB NO. 111048-5 SHEET NO. 46 OF 54

SUBJECT LOR-611-03.44

CALCULATED BY T.G.W. DATE 7/27/15

CHECKED BY ALP DATE 8/20/14

REVISED BY \_\_\_\_\_ DATE \_\_\_\_\_

Item 514 - Field Painting misc. (continued)

top busses  
bot. chord  
to sidewalk

$$\text{vertical length} = \text{length} - (3'2") - (6'8\frac{1}{2}") = \text{length} - 9.875'$$

## Verticals + Diagonals

$$\text{diagonal length} = \text{length} - \left[ \frac{2'2"}{\cos(39.8^\circ)} \right] - \left[ \frac{6'8\frac{1}{2}"}{\cos(39.8^\circ)} \right] = \text{length} - 12.854'$$

### West Truss:

$$\begin{aligned} \text{verticals} \rightarrow & (6' \times 1 \times 2) + (11.5' \times 8 \times 4) + [4(30.005' - 9.875')] (2) + [4(38.083' - 9.875')] \\ & + [4(30.008' - 9.875')] (2) = \underline{814.94'} \end{aligned}$$

L27-V27  
L52-V52

L29-V39

L19-V19  
L8-V8

$$\begin{aligned} \text{Diagonals} \rightarrow & (5' \times 3 \times 4) + (15' \times 13 \times 4) + (15' \times 2 \times 2) + [4(45.5' - 12.854')] \\ & + [4(44.839' - 12.854')] + [4(38.29' - 12.854')] (2) + [4(39.823' - 12.854')] (2) = \underline{1577.76'} \end{aligned}$$

L10-V11

L15-V16  
L19-V20

V42-L11  
V55-L54  
V4-L15

West Truss = 2393'

### East Truss

1/2 bot. chord

$$\begin{aligned} \text{verticals} \rightarrow & (10' + 3.5' - \frac{9.75"}{12} + 6') (8 \times 2) + (10' + 3.5' - \frac{9.75"}{12} + 6') (4 \times 10) + (10' + 3.5' - \frac{9.75"}{12} + 18.16') (4) \\ & + (13.5' - \frac{9.75"}{12} + 7') (4) + (13.5' - \frac{9.75"}{12} + 6.25') (4) + (13.5' - \frac{9.75"}{12} + 5.5') (4 \times 7) + (13.5' - \frac{9.75"}{12} + 11.11') (4) \\ & + (30.01' - \frac{9.75"}{12} + 11.44') (8) + (57.89' - \frac{9.75"}{12} + 11.25') (2) + (13.5' - \frac{9.75"}{12} + 20.17') (4) = \underline{2399.82'} \end{aligned}$$

$$\begin{aligned} \text{Diagonals} \rightarrow & \frac{3.5'}{\cos(39.8^\circ)} = 4.56' \rightarrow \frac{(\frac{9.75"}{12})}{\cos(39.8^\circ)} = 1.06' \rightarrow \frac{(\frac{11.25"}{12})}{\cos(39.8^\circ)} = 1.22' \\ & (8.825' + 4.56' + 11' - 1.06') (4 \times 8) + (24.18' + 4.56' + 11' - 1.06') (4) + (14.13' + 4.56' + 11' - 1.06') (4 \times 2) \\ & + (9.02' + 4.56' + 11' - 1.06') (4 \times 3) + (7.1' + 4.56' + 11' - 1.06') (4 \times 6) + (10.17' + 4.56' + 11' - 1.06') (4) \\ & + (7.5' + 4.56' + 11' - 1.06') (4 \times 2) + (39.83' - 1.06' - 1.22') (2) + (39.82' - 1.06' - 1.22') (4 \times 2) \\ & + (38.29' - 1.06' - 1.22') (4 \times 3) + (40.46' - 1.06' - 1.22') (4) + (51.47' - 1.06' - 1.22') (4) = \underline{5768.1'} \end{aligned}$$

East Truss = 5768'

### Total

- Lower chord = (3454' + 2047')
- busses = (564' + 261')
- East Truss = 5768'
- West Truss = 2393'

USE 14,500 FT

14,487'



# CALCULATION SHEET

JOB NO. 111048-5 SHEET NO. 47 OF 54

SUBJECT LOR-611-3.44

CALCULATED BY T.B.W. DATE 7/30/15

CHECKED BY ALP DATE 8/14

REVISED BY \_\_\_\_\_ DATE \_\_\_\_\_

## RICHLAND ENGINEERING LIMITED

29 North Park Street, Mansfield, Ohio 44902

419/524-0074 • FAX 419/524-1812

ITEM: 514-Field painting misc. caulking

TOTALS:

L.C. Bottom seam

West truss = East truss  $\rightarrow (3454 * 2) = 6908'$

L.C. Top seam

West truss = East truss  $\rightarrow (563.5 * 2) = 1127'$

East side verticals + diagonals = 5768'

West side verticals + diagonals = 2393'

Contingency = 500'

Use 16,700'

16,696'

\* see surface prep. of existing steel for caulking for calcs.\*



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**CALCULATION SHEET**

JOB NO. 111048-5 SHEET NO. 48 OF 54  
SUBJECT LOR-611-0358 Final Quantities  
CALCULATED BY KAK DATE 6/26/15  
CHECKED BY RWC DATE 7/20/14  
REVISED BY \_\_\_\_\_ DATE \_\_\_\_\_

ITEM 514 - FIELD PAINTING, MISC.: POWER TOOL CLEANING OF PEDESTRIAN RAILING

Lump

ITEM 514 - FIELD PAINTING, MISC.: BRUSH-APPLIED PEDESTRIAN RAILING TWO COAT TOUCH UP

Lump

ITEM 514 - FIELD PAINTING, MISC.: FIELD TOUCH-UP OF NEW AND EXISTING PAINT

Lump

ITEM 514 - FIELD PAINTING, MISC.: CAULKING OPEN BOLT HOLES (ROADWAY CURB)

7 EACH

7 EACH - WEST CURB

ITEM 516 - PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL (2 1/2")

230 FT.

ROADWAY: PP 18 (44'-6") + 2 x (0.75') = 46'  
" 28 46'  
" 45 46'  
" 52 46'  
" 62 46'  
230'

ITEM 516 - PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL (1 3/4")

32 FT

SIWELALK: PP 18 PP 28 PP 45 PP 52 PP 62  
(5.51' + 0.63') + (5.59' + 0.72') + (5.59' + 0.71') + (5.59' + 0.72') + (5.51' + 0.63') = 31.2'

ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL (5"), AS PER PLAN

46 FT

46'-0" @ Panel Point 35

ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL (7"), AS PER PLAN

47 FT

47'-0" @ Forward Abutment

ITEM 516 - STRUCTURAL JOINT OR JOINT SEALER, MISC.: SIDEWALK SLIDING PLATE

7 FT

6'-5" @ Fwd ABUT. => use 7.0ft





# CALCULATION SHEET

JOB NO. 111048-5 SHEET NO. 49 OF 54  
 SUBJECT LOR-611-0358 Final Quantities  
 CALCULATED BY KAK DATE 6/26/15  
 CHECKED BY RWC DATE 7/1/2014  
 REVISED BY \_\_\_\_\_ DATE \_\_\_\_\_

## **RICHLAND ENGINEERING LIMITED**

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### ITEM 516 - STRUCTURAL JOINT OR JOINT SEALER, MISC.: REPAIR DAMAGED DEFLECTION JOINT STEEL FLANGE

PP28      PP45  
 6'-10" + 5'-0"      ⇒ 12'-0"

12 FT

### ITEM 516 - JOINT SEALER, AS PER PLAN

Rear & Fwd Abutment : 2 x 44.5' = 89 FT

89 FT

### ITEM 517 - RAILING, MISC.: RETAINING WALL STEEL PEDESTRIAN RAILING REUSED

50 ft

50 FT

### ITEM 518 - POROUS BACKFILL WITH FILTER FABRIC

Forward Abutment Retaining Wall :  $\left( \left[ (652.94 + 650.72 \times \frac{1}{2}) - 0.33 \right] - (641.25 + 2.0) \right) \times 2.0' \times 50'$   
Sidewalk  
 $= 8.25' \text{ Avg.} \times 2.0' \times 50' = 824.67 \text{ ft}^3 / 27 = 30.5 \text{ yd}^3$   
 Deduct Cap overhang -  $0.42' \times (1.83' - 0.33') \times 50' / 27 = -1.2 \text{ yd}^3$   
 $29.3 \text{ yd}^3 \Rightarrow 30 \text{ yd}^3$

33 yd<sup>3</sup>

FORWARD ABUTMENT :

Section C-C :  $\left[ (1.583' + 2.214' + 1.75') - 0.33' \right] \times 2'-0" \times 5.25' = 54.75 \text{ ft}^3 / 27 = 2.03 \text{ yd}^3$

Section D-D :  $\left[ (7.45' + 3.58' - 0.02') - 0.33' \right] \times 2'-0" \times (7.67' - 2' - 5.25') = 7.29 \text{ ft}^3 / 27 = 0.27 \text{ yd}^3$   
 $2.30 \text{ yd}^3 \Rightarrow 3 \text{ yd}^3$

### ITEM 518 - 6" PERFORATED CORRUGATED PLASTIC PIPE

FORWARD ABUTMENT Retaining Wall: 51 FT

51 FT

### ITEM 518 - 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS

per pipe termination detail at Fwd. Retaining Wall L = 12'-8" ⇒ 13'

13 FT



# CALCULATION SHEET

## RICHLAND ENGINEERING LIMITED

29 North Park Street, Mansfield, Ohio 44902  
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JOB NO. 111048-5 SHEET NO. 50 OF 54

SUBJECT LOR-611-0358 FINAL Quantities

CALCULATED BY KAK DATE 6/30/15

CHECKED BY RWC DATE 7/20/14

REVISED BY \_\_\_\_\_ DATE \_\_\_\_\_

### ITEM 518 - STRUCTURE DRAINAGE, MISC.: NRNS FLASHING (EXPANSION JOINTS)

109 FT

$$P.P.12: \text{ROADWAY Length} \Rightarrow (44.5' + 1.75' \times 2) - \frac{(21'' + 0.45'' \times 2)}{12} = 46.175'$$

(21CB112 + 2-18C42.7)

$$\text{Sidewalk Length} \Rightarrow (6'-11'') + (1.75') - (7.25'/12) = 8.06'$$

Subtotal 54.24'

P.P.35: Same as P.P.12

Subtotal 54.24'

108.48'  $\Rightarrow$  109'

### ITEM 518 - STRUCTURE DRAINAGE, MISC.: NRNS FLASHING (DEFLECTION JOINTS)

231 FT

$$\text{Typical Length: } 44.5' + 1.75' \times 2 - \frac{(22''/12)}{c/c \text{ TRUSS}} = 46.17'$$

Truss Vertical width at each location  
21CB112 + 2R14x7/8 (18)  
21CB82 + 2C15x33.99 (20)

Avg. width  
 $\approx 21 + 0.5 \times 1$   
 $\approx 22''$

21CB112 + 2C18x42.7 (45)  
21CB112 (52)  
21CB112 + 2R14x7/8 (62)

Locations: 18, 28, 45, 52, 62  
(5 Total)

$$\text{Pay Length} = 5 \times 46.17' = 230.8' \Rightarrow 231'$$

### ITEM 518 - STRUCTURE DRAINAGE, MISC.: NRNS FLASHING (ROADWAY DRAINS)

504 FT

Typ. ROADWAY DRAIN (P.P. 2,8,14,20,25,30,51,56,61,67): DRAIN CASTING Length per Shop Drawing.

$$6'-3\frac{1}{2}'' / 5'-1\frac{1}{2}'' \Rightarrow \text{use } 6'-4\frac{1}{5}''-2''$$

$$\text{Typical Length Per Typ. Drain: } [5 \times 6.33' + 2 \times 5.17'] = 42.0'$$

$$\text{Typ. Roadway Drain Subtotal} = 42' \times 10 = 420'$$

Roadway Drain - Panels 36 & 45: Same as Typical

$$\text{Panel 36 \& 45 Subtotal} = 42' \times 2 = 84'$$

TOTAL 504'

### ITEM 518 - STRUCTURE DRAINAGE, MISC.: NRNS FLASHING (LOWER LATERAL BRACING)

160 FT

$$\text{PANELS (2,8,14,20,25,30,51,56,61,67): Length: } 10 \times (2 \times 8'-0'') = 160'$$



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**CALCULATION SHEET**

JOB NO. 111048-5 SHEET NO. 51 OF 54  
SUBJECT LOR-611-0344 Estimated Quantities  
CALCULATED BY RJH DATE 8/3/15  
CHECKED BY RWC DATE 6/20/15  
REVISED BY \_\_\_\_\_ DATE \_\_\_\_\_

ITEM 519 - Patching CONCRETE STRUCTURE

ABUTMENTS:

1597 SF

REAR ABT.

LOCATION	MEASURED QUANTITY	ESTIMATED QUANTITY
ELEVATION	22	27
VIEW A-A	3	4
VIEW A-A (TOP VIEW)	4	5
VIEW B-B	23	28
VIEW B-B (TOP VIEW)	16	20
CONTINGENCY		17
SUB TOTAL	68	101

QUANTITY TOTAL		
LOCATION	MEASURED QUANTITY	ESTIMATED QUANTITY
REAR ABUTMENT	68	101
FORWARD ABUTMENT	89	130
PIER 1	41	60
PIER 2	571	827
PIER 3	330	479
TOTALS	1099	1597

ABUTMENTS 157 / 231  
PIERS 942 / 1366

FORWARD ABT.

LOCATION	MEASURED QUANTITY	ESTIMATED QUANTITY
PLAN	37	45
ELEVATION	52	63
CONTINGENCY		22
SUB TOTAL	89	130

ABUTMENT TOTALS 157 231



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**CALCULATION SHEET**

JOB NO. 111048-5 SHEET NO. 52 OF 54

SUBJECT LoR-611-0344 ESTIMATED QUANTITY

CALCULATED BY RJH DATE 8-3-15

CHECKED BY RWC DATE 8/2015

REVISED BY \_\_\_\_\_ DATE \_\_\_\_\_

Item 519-11100; Patching concrete structure (SF)  
Piers

Pier 1

LOCATION	MEASURED QUANTITY	ESTIMATED QUANTITY
view A-A	5	6
view B-B	36	44
CONTINGENCY	-	10
SUB TOTAL	41	60

Pier 2

LOCATION	MEASURED QUANTITY	ESTIMATED QUANTITY
PLAN	9	11
S. ELEV.	73	88
view A-A	26	32
view B-B	24	29
view C-C	206	248
N. Elev.	14	16
view D-D	209	251
view F-F	6	8
view G-G	2	3
view H-H	2	3
CONTINGENCY		130
SUB TOTAL	571	827



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**CALCULATION SHEET**

JOB NO. 111048-5 SHEET NO. 53 OF 54

SUBJECT LOR-611-0344 ESTIMATED QUANTITY

CALCULATED BY RJH DATE 8-3-15

CHECKED BY RWC DATE 6/2015

REVISED BY \_\_\_\_\_ DATE \_\_\_\_\_

ITEM 519-11100; Patching concrete structure (SF)  
Piers

pier 3

LOCATION	MEASURED QUANTITY	ESTIMATED QUANTITY
S. Elev.	16	20
PLAN TOP OF CAP	10	12
view-A-A	38	46
view B-B	103	124
N. Elev.	50	60
view-c-c	12	15
view D-D	71	86
view E-E	5	6
view F-F	20	24
view G-G	5	6
CONTINGENCY		73
SUB TOTAL	330	479



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# CALCULATION SHEET

JOB NO. 111048-5 SHEET NO. 54 OF 54  
SUBJECT LOR-611-0358 FINAL Quantities  
CALCULATED BY KAK DATE 6/26/15  
CHECKED BY Rwc DATE 6/15  
REVISED BY \_\_\_\_\_ DATE \_\_\_\_\_

ITEM Special - PATCHING CONCRETE CONCRETE Bridge Deck

19 yd<sup>2</sup>

SPAN 1: 0

SPAN 2:  $1' \times 1' + 2.083' \times 0.583' = 2.22 \text{ ft}^2$

SPAN 3:  $2'-0" \times 2'-0" + 3' \times 2.5' = 11.5 \text{ ft}^2$

SPAN 4:  $2' \times 2' + 2' \times 2.5' + 2' \times 2' + 2' \times 2' + 2' \times 2' + 1.5' \times 1.5' + 3.5' \times 3.5' + 1.5' \times 1.5' + 2' \times 1.75' + 1.5' \times 1.5'$   
 $+ 1.67' \times 3' + 1' \times 1' + 2.5' \times 2.5' + 1.5' \times 2' + 2' \times 2.5' + 1.0' \times 1.0' + 1'-0' \times 1.0' + 1.5' \times 1.5' = 68.0 \text{ ft}^2$

SPAN 5:  $4' \times 1' + 2.5' \times 2.5' + 2.75' \times 2' + 2' \times 2' = 19.75 \text{ ft}^2$

SPAN 6:  $2.5' \times 2.5' + 2' \times 2' + 2' \times 1.5' + 2' \times 2.25' + 1.75' \times 1.5' + 5' \times 2.75' = 34.1 \text{ ft}^2$

$135.6 \text{ ft}^2 \div 9 \text{ ft}^2/\text{yd}^2 = 15.1 \text{ yd}^2$   
 $+ 3.0 \text{ yd}^3 \text{ Curbway} = 19 \text{ yd}^3$

ITEM 526 - APPROACH SLABS, MISC.: REPLACE CURB

30 FT.

Forward ABUTMENT App. SUB - West Side - 30 feet

ITEM SPECIAL - STRUCTURE, MISC.: LEVELING DEPRESSIONS IN PIER CAP

Lump

ITEM SPECIAL - STRUCTURE, MISC.: PLYWOOD PIGEON DOORS REMOVED AND REINSTALLED

138 EA.

See TABLE : 138 EA  
in plans

ITEM SPECIAL - STRUCTURE, MISC.: PLYWOOD PIGEON DOORS

25 EA.

U15-U16    U19-U20    U22-U23    U49-U50    Contingency  
2    +    1    +    1    +    1    +    20    = 25 EA

ITEM SPECIAL - STRUCTURE, MISC.: STEEL PIGEON DOORS

3 EA.

L32-U32    L48-U48  
2    +    1    = 3 EA.