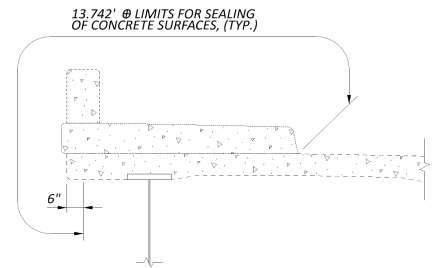
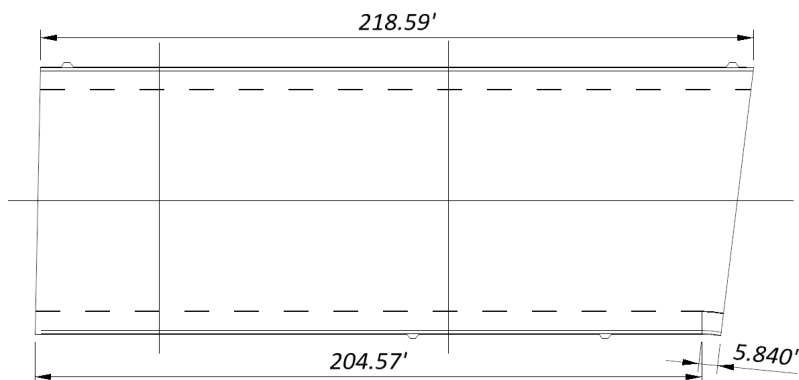


INDEX TO STRUCTURE ESTIMATED QUANTITY CALCULATIONS
BRIDGE NO. HAM-71-0226 (ELSINORE PLACE) OVER I-71

ITEM NO.	DESCRIPTION	SHEET
201-11001	CLEARING AND GRUBBING, AS PER PLAN	1
202-11201	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	1
202-30001	WALK REMOVED, AS PER PLAN	1
511-81100	CONCRETE, MISC. CURB REPAIR	1
512-10401	SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN	1-5
512-10600	CONCRETE REPAIR BY EPOXY INJECTION	6
512-73500	TREATING CONCRETE DECKS WITH GRAVITY FED RESIN	6
512-74000	REMOVAL OF EXISTING COATING FROM CONCRETE SURFACES	7
514-00051	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN	7
514-00056	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT	7
514-00060	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	7
514-00066	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT	7
514-00504	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL, MNHR	8
514-10000	FINAL INSPECTION REPAIR	8
516-47001	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	8
518-12500	SCUPPER, MISC.: GRATE REPLACEMENT	8
518-63300	STRUCTURE DRAINAGE, MISC.: SCUPPER AND DRAINAGE	8
518-63300	STRUCTURE DRAINAGE, MISC.: BRIDGE DRAINAGE SYSTEM REPLACEMENT	8
519-11101	PATCHING CONCRETE STRUCTURE, AS PER PLAN	9
519-12300	PATCHING CONCRETE BRIDGE DECK TYPE - B	9
526-98200	APPROACH SLABS, MISC.: JOINT SEALER	9
530-00200	SPECIAL STRUCTURES: SIDEWALK JOINT REPAIR	9
607-98100	FENCE, MISC.: FENCE REPAIRS	9
608-10001	4" CONCRETE WALK, AS PER PLAN	9

ITEM 201 11001 CLEARING AND GRUBBING, AS PER PLAN**LUMP SUM**ITEM 202 11201 PORTIONS OF STRUCTURE REMOVED, AS PER PLAN**LUMP SUM**ITEM 202 30001 WALK REMOVED, AS PER PLAN

6.0'W x 25.0'L = 150 SF

150 SF511 81100 CONCRETE, MISC. CURB REPAIR**3 FT**ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN**SIDEWALK AND SUPERSTRUCTURE DETAIL****DECK:**

$$(218.59 + 204.57 + 5.84) \times 13.742 =$$

5895.32**APPROACH SLAB**

$$\text{A.S. RAIL } (4.0' + 4.18') \times 5.457' =$$

44.638 SF

$$\text{RA WALK - LT } 159.307 \text{ S.F.} + (25' \times .855') =$$

180.682 SF

$$\text{RA WALK - RT } 157.332 \text{ S.F.} + (25' \times .855') =$$

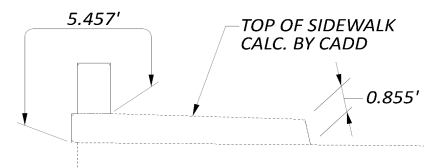
178.707 SF

$$\text{FA WALK - LT } 186.446 \text{ S.F.} + (28.604' \times .855') =$$

210.902 SF

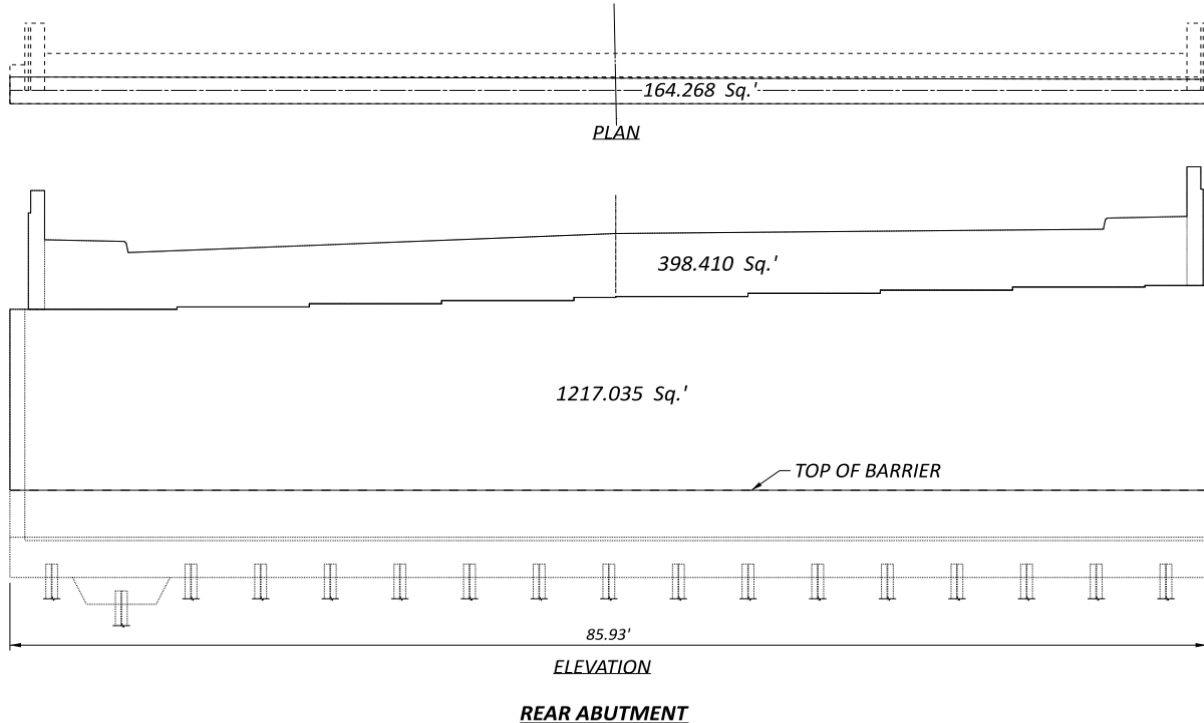
$$\text{FA WALK - RT } 173.902 \text{ S.F.} + (32.116' \times .855') =$$

201.361 SF

816.291 SF

(CONT.)

ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN
(CONTINUED)
(AREAS BY CADD)



REAR ABUTMENT

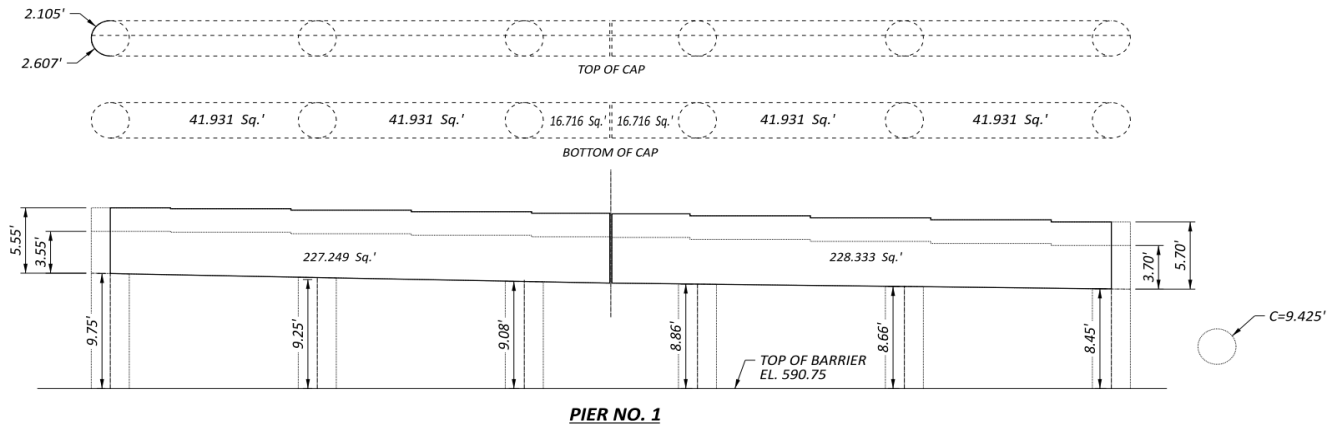
FACE OF ABUTMENT	1217.04 SF
BACKWALL	398.410 SF
SEAT	164.268 SF
	1779.71 SF

(CONT.)

ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN

(CONTINUED)

(AREAS BY CADD)

**PIER NO. 1**

(CAP)

$$\text{SIDES } (227.249 \times 2) + (228.333 \times 2) = 911.164 \text{ SF}$$

$$\text{END } ((3.55 + 3.70) \times 2.607) + ((5.55 + 5.70) \times 2.105) = 42.582 \text{ SF}$$

$$\text{BOTTOM } (41.931 \times 4) + (16.716 \times 2) = 201.156$$

(COLUMNS)

$$(9.75' + 9.25' + 9.08' + 8.86' + 8.66' + 8.45') \times 9.425' = 509.4213 \text{ SF}$$

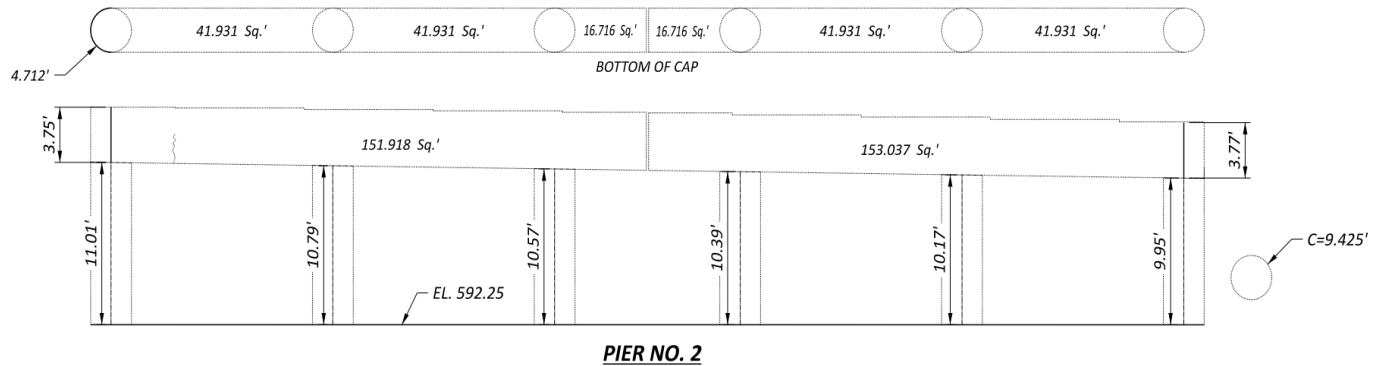
$$1664.323 \text{ SF}$$

(CONT.)

ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN

(CONTINUED)

(AREAS BY CADD)

**PIER NO. 2**

(CAP)

$$\text{SIDES } (151.918 \times 2) + (153.037 \times 2) =$$

609.910 SF

$$\text{END } ((3.75 + 3.77) \times 4.712) =$$

35.434 SF

$$\text{BOTTOM } (41.931 \times 4) + (16.716 \times 2) =$$

201.156 SF

(COLUMNS)

$$9.425 \times (11.012 + 10.793 + 10.574 + 10.387 + 10.158 + 9.948) =$$

592.569 SF

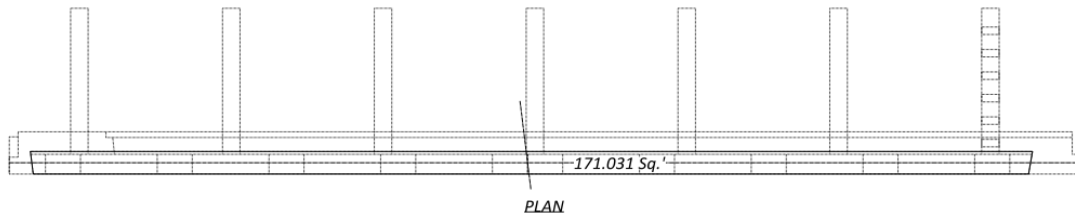
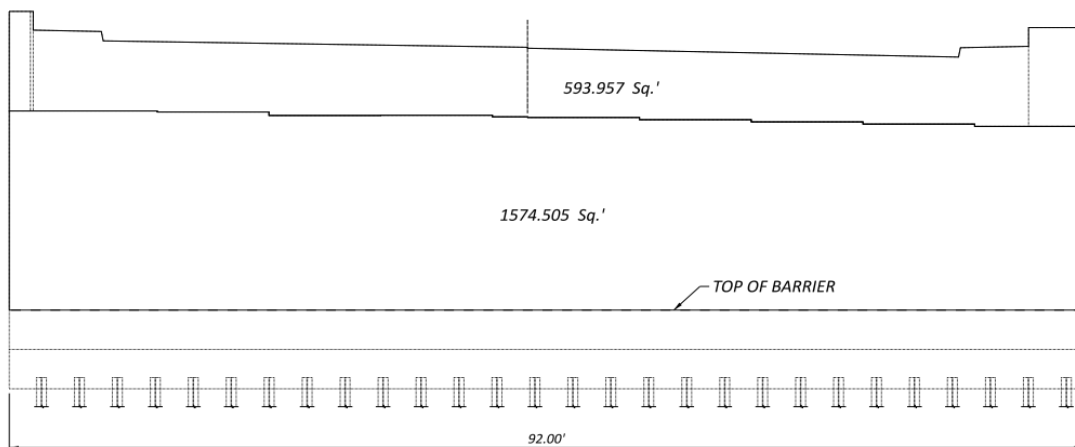
1439.069 SF

(CONT.)

ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN

(CONTINUED)

(AREAS BY CADD)

PLANELEVATIONFORWARD ABUTMENT**FORWARD ABUTMENT**

FACE OF ABUTMENT	1574.51	SF
BACKWALL	593.96	SF
SEAT	171.03	SF
	2339.49	SF

SUPERSTRUCTURE	5895.32	SF
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APPROACH SLAB	816.29	SF
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REAR ABUTMENT	1779.71	SF
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PIER NO. 1	1664.32	SF
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PIER NO. 2	1439.07	SF
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FORWARD ABUTMENT	2339.49	SF
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13934.21	SF
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13934.207 x 1/9 =	1548.25	SY
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1549	SY
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ENGINEERING ASSOCIATES, INC.
CONSULTING ENGINEERS

1935 EAGLE PASS - WOOSTER, OHIO 44691

TELEPHONE: (330) 345-6556

FAX: (330) 345-8077

PROJECT: HAM-71-2.26

PROJ. NO.: 21093 PG.: 6 OF 9

COMP. BY: HK

DATE: 8/11/23

CHKD. BY: TAC DATE: 2/8/24

SUBJECT: BRIDGE NO. HAM-71-0226 (ELSINORE PLACE)

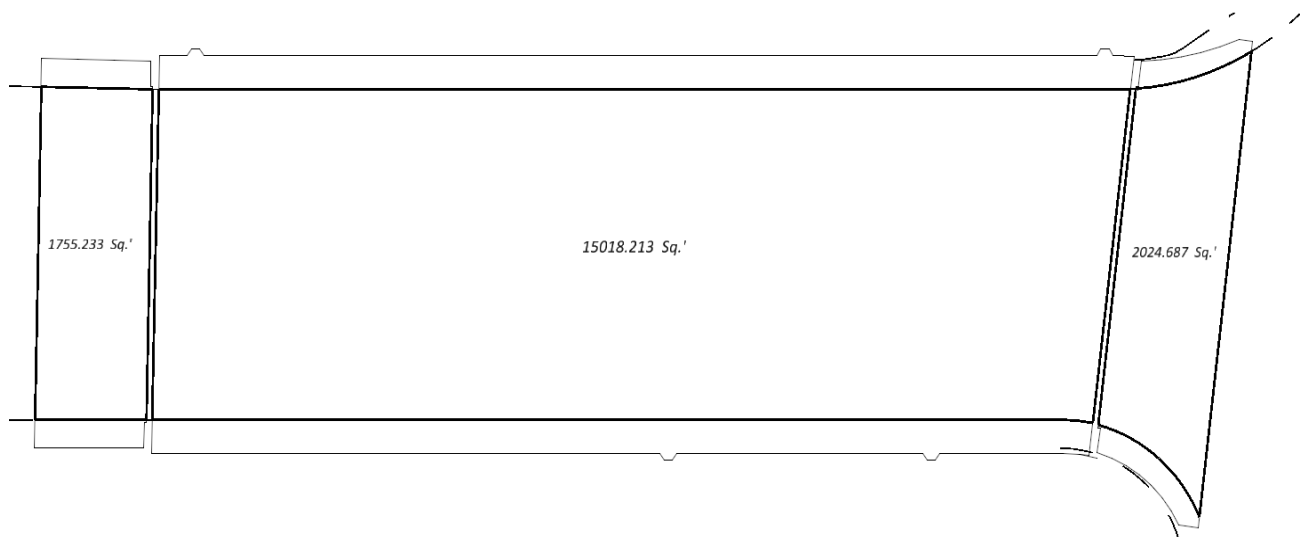
ESTIMATED QUANTITIES SFN: 3106721

ITEM 512 10600 CONCRETE REPAIR BY EPOXY INJECTION

RA	10	FT
FA	68	FT
PIER NO. 2	2	FT
TOTAL	80	FT

80 FT

ITEM 512 73500 TREATING CONCRETE DECKS WITH GRAVITY FED RESIN
(AREAS BY CADD)



DECK	15018.213 SF
RA APPR. SLAB	1755.233 SF
FA APPR. SLAB	2024.687 SF
TOTAL	18798.133 SF

18798.133 x 1/9 = 2088.681 SY

2089 SY

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PROJECT: HAM-71-2.26

PROJ. NO.: 21093 PG.: 7 OF 9

COMP. BY: HK

DATE: 8/11/23

CHKD. BY: TAC

DATE: 2/8/24

SUBJECT: BRIDGE NO. HAM-71-0226 (EL SINORE PLACE)

ESTIMATED QUANTITIES SFN: 3106721

ITEM 512 74000 REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES

FROM EXISTING PLANS HAM-71-1.30/9.00

ABUT.: 458 SY

PIER: 312 SY

SUPER.: 820 SY

TOTAL 1590 SY

1590 SY

ITEM 514 00051 SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN

AVE. L FOR 36": 318.865 /10 = 31.886 +1.75 = 33.636 FT

2 x 36" x 33.636' = 201.816 SF

3 x 12" x 33.636' = 100.908 SF

4 x 1.02" x 33.636' = 11.436 SF

AVE. L FOR 58": 1755.21 /10 = 175.521 +1.5 = 177.021 FT

2 x 58" x 177.021' = 1711.08 SF

3 x 16" x 177.021' = 707.907 SF

4 x 1.25" x (177.021-29') = 61.675 SF

4 x 2" x 29' = 19.333 SF

2814.161 SF

10 BEAMS x 2814.161 SF = 28141.610 SF x 1.21 = 34051.35 SF

34051 SF

ITEM 514 00056 FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT

34051 SF

ITEM 514 00060 FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT

34051 SF

ITEM 514 00066 FIELD PAINTING STRUCTURAL STEEL, FINISH COAT

34051 SF

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CONSULTING ENGINEERS

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PROJECT: HAM-71-2.26

PROJ. NO.: 21093 PG.: 8 OF 9

COMP. BY: HK

DATE: 8/11/23

CHKD. BY: TAC DATE: 2/8/24

SUBJECT: BRIDGE NO. HAM-71-0226 (ELSINORE PLACE)

ESTIMATED QUANTITIES SFN: 3106721

ITEM 514 00504 GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL, MNHR

1 MIN/FT (10)212.604 = 2126 MIN = 35.433 MNHR

35 MNHR

ITEM 514 10000 FINAL INSPECTION REPAIR

10 x 212.604 x 1/300 = 7.087 EA

0.025 x 138 = 3.45 EA

10.537 EA

11 EA

ITEM 516 47001 JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE,
AS PER PLAN

LUMP

ITEM 518 12500 SCUPPER, MISC.: GRATE REPLACEMENT

1 EA

ITEM 518 63300 STRUCTURE DRAINAGE, MISC.: SCUPPER AND DRAINAGE
PIPE CLEANOUT

LUMP

ITEM 518 63300 STRUCTURE DRAINAGE, MISC.: BRIDGE DRAINAGE
SYSTEM REPLACEMENT

LUMP

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CONSULTING ENGINEERS

1935 EAGLE PASS - WOOSTER, OHIO 44691

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PROJECT: HAM-71-2.26

PROJ. NO.: 21093 PG.: 9 OF 9

COMP. BY: HK

DATE: 8/11/23

CHKD. BY: TAC DATE: 1/9/26

SUBJECT: BRIDGE NO. HAM-71-0226 (ELSINORE PLACE)

ESTIMATED QUANTITIES SFN: 3106721

ITEM 519 11101 PATCHING CONCRETE STRUCTURE, AS PER PLAN

SUPERSTRUCTURE 14.00 SF

REAR ABUTMENT 11.00 SF

PIER NO. 1 89.00 SF

PIER NO. 2 3.00 SF

FWD. ABUTMENT 15.00 SF

132.00 SF

132 SF

ITEM 519 12300 PATCHING CONCRETE BRIDGE DECK TYPE - B

350 SF x 1/9 = 38.889 SY

39 SY

ITEM 526 98200 APPROACH SLABS, MISC.: JOINT SEALER

RA 70.0' + (2 x (7/12)) = 71.17 FT

FA 71.7' + (2 x (7/12)) = 72.87 FT

144.03 FT

144 FT

ITEM 530 00200 SPECIAL STRUCTURES: SIDEWALK JOINT REPAIR

LUMP

ITEM 607 98100 FENCE, MISC.: FENCE REPAIRS

PROVIDE 125 EA TO BE USED AT ENGINEERS DIRECTION

125 EA

ITEM 608 10001 4" CONCRETE WALK, AS PER PLAN

6'W x 25.0'L = 150 SF

150 SF

INDEX TO STRUCTURE ESTIMATED QUANTITY CALCULATIONS
BRIDGE NO. HAM-71-0294 (McGREGOR AVE.) OVER I-71

ITEM NO.	DESCRIPTION	SHEET
201-11001	CLEARING AND GRUBBING, AS PER PLAN	1
202-11201	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	1
202-30001	WALK REMOVED, AS PER PLAN	1
202-98000	REMOVAL MISC.: SIGN SUPPORT ATTACHMENTS, ELECTRICAL CONDUIT AND SUPPORTS	1
202-98000	REMOVAL MISC.: UTILITY CONDUITS	1
511-81100	CONCRETE, MISC. CURB REPAIR	1
512-10401	SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN	1-5
512-10600	CONCRETE REPAIR BY EPOXY INJECTION	6
512-73500	TREATING CONCRETE DECKS WITH GRAVITY FED RESIN	6
512-74000	REMOVAL OF EXISTING COATING FROM CONCRETE SURFACES	6
514-00051	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN	7
514-00056	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT	7
514-00060	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	7
514-00066	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT	7
514-00504	GRINDING FINES, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL, MNHR	7
514-10000	FINAL INSPECTION REPAIR	7
516-44301	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN, , 4 1/2"x1'-3"x1'-5" WITH 2"x1'-4"x1'- 6" LOAD PLATE	7
516-47001	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	8
518-63300	STRUCTURE DRAINAGE, MISC.: SCUPPER AND DRAINAGE PIPE CLEANOUT	8
519-11101	PATCHING CONCRETE STRUCTURE, AS PER PLAN	8
519-12300	PATCHING CONCRETE BRIDGE DECK TYPE - B	8
601-20010	CRUSHED AGGREGATE SLOPE PROTECTION	8
608-10001	4" CONCRETE WALK, AS PER PLAN	8
690-71000	ASBESTOS ABATEMENT: WORK INVOLVING ASBESTOS CONTAINING MATERIALS	8

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CONSULTING ENGINEERS

1935 EAGLE PASS - WOOSTER, OHIO 44691

TELEPHONE: (330) 345-6556

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PROJECT: HAM-71-2.26

PROJ. NO.: 21093 PG.: 1 OF 8

COMP. BY: HK

DATE: 8/17/23

CHKD. BY: TAC DATE: 2/20/24

SUBJECT: BRIDGE NO. HAM-71-0294 (McGREGOR AVE.)

ESTIMATED QUANTITIES SFN: 3114236

ITEM 201 11001 CLEARING AND GRUBBING, AS PER PLAN

LUMP SUM

ITEM 202 11201 PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

LUMP SUM

ITEM 202 30001 WALK REMOVED, AS PER PLAN

6.0'W x 35.5'L = 213 SF

213 SF

ITEM 202 98000 REMOVAL MISC.: SIGN SUPPORT ATTACHMENTS, ELECTRICAL
CONDUIT AND SUPPORTS

LUMP SUM

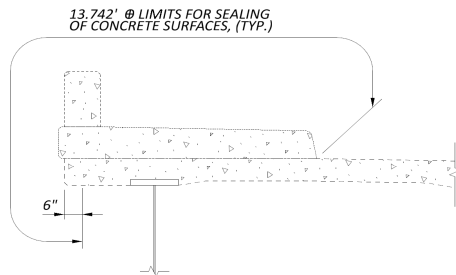
ITEM 202 98000 REMOVAL MISC.: UTILITY CONDUITS

LUMP SUM

511 81100 CONCRETE, MISC. CURB REPAIR

5 FT

ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN



SIDEWALK AND SUPERSTRUCTURE DETAIL

DECK:

(2 x 312.83) x 13.742' =

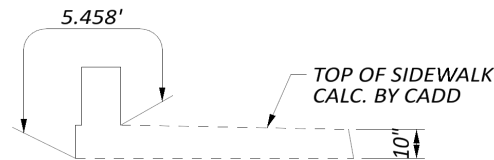
8597.82 SF

(CONT.)

ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN

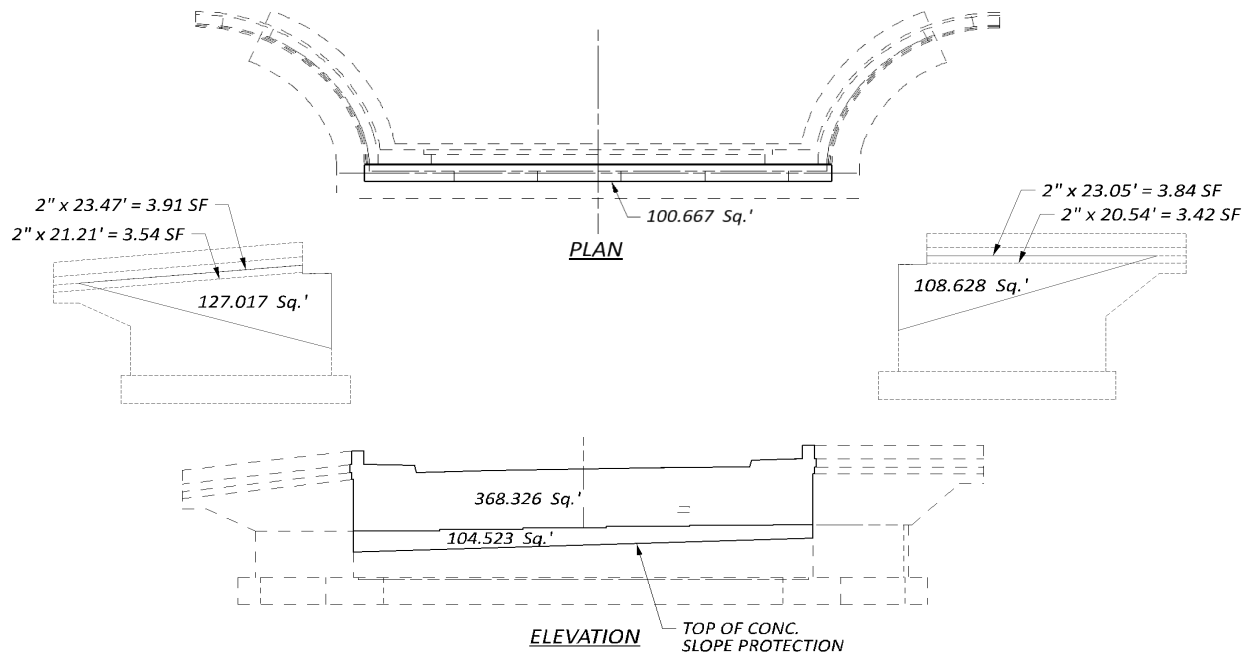
(CONT.)

(AREAS BY CADD)



APPROACH SLAB

A.S. RAIL (28.106' + 28.243' + 16.50' + 16.50') x 5.458' =	487.6668	SF
RA WALK - LT 197.079 S.F. + (37.544' x .833') =	228.3532	SF
RA WALK - RT 197.919 S.F. + (37.685' x .833') =	229.3106	SF
FA WALK - LT 220.500 S.F. + (36.75' x .833') =	251.1128	SF
FA WALK - RT 157.5 S.F. + (26.25' x .833') =	179.3663	SF
	1375.81	SF



REAR ABUTMENT

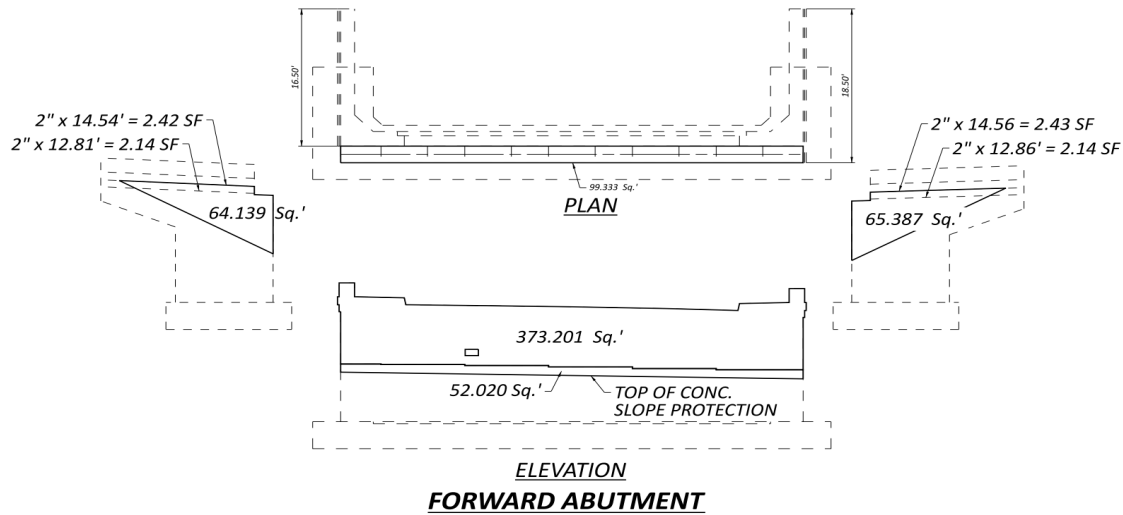
REAR ABUTMENT	
FACE OF ABUTMENT	104.523 SF
BACKWALL	368.326 SF
SEAT	100.667 SF
RIGHT WALL 127.017 + 3.54 + 3.91 =	134.467 SF
LEFT WALL 108.628 + 3.42 + 3.84 =	115.888 SF
	823.871 SF

(CONT.)

ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN

(CONT.)

(AREAS BY CADD)



FORWARD ABUTMENT

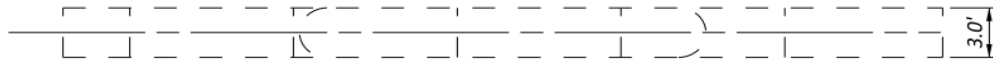
FACE OF ABUTMENT	52.02 SF
BACKWALL	373.201 SF
SEAT	99.333 SF
RIGHT WALL $65.387 + 2.14 + 2.43 =$	86.749 SF
LEFT WALL $64.139 + 2.14 + 2.42 =$	76.463 SF
	687.766 SF

(CONT.)

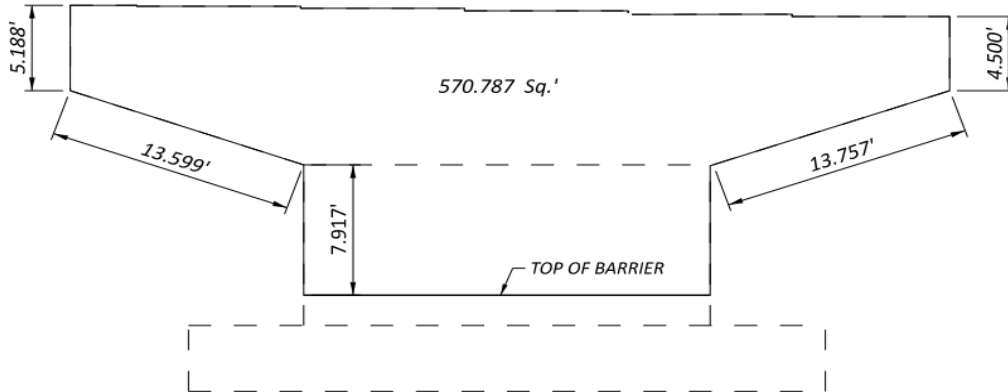
ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN

(CONT.)

(AREAS BY CADD)



PLAN



ELEVATION

PIER NO. 1

PEIR NO. 1

2 x 570.787 SF =

1141.574 SF

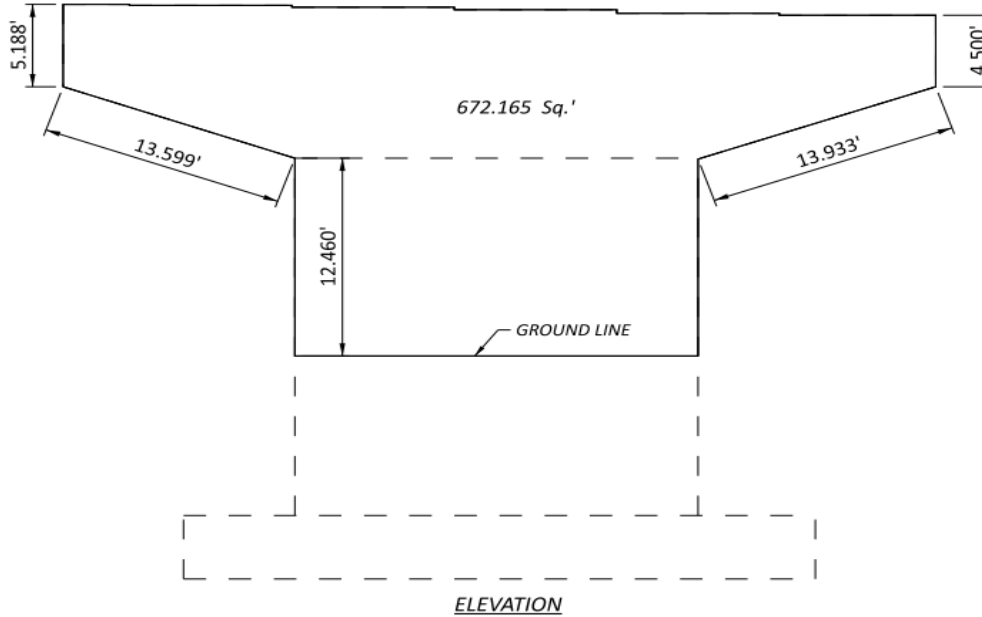
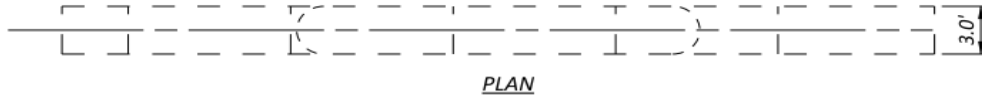
(5.188'+13.599'+7.917'+7.917'+13.757'+4.5) x 3.0' =

158.634 SF

1300.208 SF

(CONT.)

ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN
 (CONT.)
 (AREAS BY CADD)



PIER NO. 2

PEIR NO. 2

2 x 672.165 SF =	1344.33 SF
(5.188'+13.599'+12.460'+12.460'+13.933'+4.5) x 3.0' =	186.42 SF
	1530.75 SF

SUPERSTRUCTURE	8597.82 SF
APPROACH SLAB	1375.81 SF
REAR ABUTMENT	823.87 SF
PIER NO. 1	1300.21 SF
PIER NO. 2	1530.75 SF
FORWARD ABUTMENT	687.77 SF
	14316.22 SF

14316.224 x 1/9 = 1590.69 SY

1591 SY

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CONSULTING ENGINEERS

1935 EAGLE PASS - WOOSTER, OHIO 44691

TELEPHONE: (330) 345-6556

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PROJECT: HAM-71-2.26

PROJ. NO.: 21093 PG.: 6 OF 8

COMP. BY: HK

DATE: 8/17/23

CHKD. BY: TAC DATE: 2/20/24

SUBJECT: BRIDGE NO. HAM-71-0294 (McGREGOR AVE.)

ESTIMATED QUANTITIES SFN: 3114236

ITEM 512 10600 CONCRETE REPAIR BY EPOXY INJECTION

RA 36 FT

FA 10 FT

TOTAL 46 FT

46 FT

ITEM 512 73500 TREATING CONCRETE DECKS WITH GRAVITY FED RESIN

DECK: 312.83' x 36.0' = 11261.88 SF

RA APPR. SLAB: (AREA BY CADD) 1311.768 SF

FA APPR. SLAB: 25.0' x 36.0' = 900.000 SF

TOTAL 13473.65 SF

13473.648 x 1/9 = 1497.072 SY

1497 SY

ITEM 512 74000 REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES

FROM EXISTING PLANS HAM-71-1.30/9.00

ABUT.: 140 SY

PIER: 315 SY

SUPER.: 1022 SY

TOTAL: 1477 SY

1477 SY

ENGINEERING ASSOCIATES, INC.
CONSULTING ENGINEERS

1935 EAGLE PASS - WOOSTER, OHIO 44691

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PROJECT: HAM-71-2.26

PROJ. NO.: 21093 PG.: 7 OF 8

COMP. BY: HK

DATE: 8/17/23

CHKD. BY: TAC DATE: 2/20/24

SUBJECT: BRIDGE NO. HAM-71-0294 (McGREGOR AVE.)

ESTIMATED QUANTITIES SFN: 3114236

ITEM 514 00051 SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN

$$\begin{array}{rcl} 2 \times 60'' \times 308.333' & = & 3083.330 \text{ SF} \\ 3 \times 16'' \times 308.333' & = & 1233.332 \text{ SF} \\ 4 \times 1.5'' \times (2 \times 89.5') & = & 89.500 \text{ SF} \\ 4 \times 2'' \times (2 \times 38') & = & 50.667 \text{ SF} \\ 4 \times 0.75'' \times 54.83' & = & 13.708 \text{ SF} \\ & & \underline{4470.536 \text{ SF}} \\ 6 \text{ BEAMS} \times 4470.536 & = & 26823.217 \text{ SF} \end{array}$$

$$26823.217 \times 1.21 = 32456.093 \text{ SF}$$

32456 SF

ITEM 514 00056 FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT

32456 SF

ITEM 514 00060 FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT

32456 SF

ITEM 514 00066 FIELD PAINTING STRUCTURAL STEEL, FINISH COAT

32456 SF

ITEM 514 00504 GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL, MNHR

$$1 \text{ MIN/FT} (6) 308.333 = 1850 \text{ MIN} = 30.833 \text{ MNHR}$$

31 MNHR

ITEM 514 10000 FINAL INSPECTION REPAIR

$$\begin{array}{rcl} 6 \times 308.333 \times 1/300 & = & 6.167 \text{ EA} \\ 0.025 \times 110 & = & 2.75 \text{ EA} \\ & & \underline{8.917 \text{ EA}} \end{array}$$

9 EA

ITEM 516 44301 ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN, 4 1/2"x1'-3"x1'-5" WITH 2"x1'-4"x1'-6" LOAD PLATE

12 EA

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CONSULTING ENGINEERS

1935 EAGLE PASS - WOOSTER, OHIO 44691

TELEPHONE: (330) 345-6556

FAX: (330) 345-8077

PROJECT: HAM-71-2.26

PROJ. NO.: 21093 PG.: 8 OF 8

COMP. BY: HK

DATE: 8/17/23

CHKD. BY: TAC DATE: 2/20/24

SUBJECT: BRIDGE NO. HAM-71-0294 (McGREGOR AVE.)

ESTIMATED QUANTITIES SFN: 3114236

ITEM 516 47001 JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE,
AS PER PLAN

LUMP

ITEM 518 63300 STRUCTURE DRAINAGE, MISC.: SCUPPER AND DRAINAGE
PIPE CLEANOUT

LUMP

ITEM 519 11101 PATCHING CONCRETE STRUCTURE, AS PER PLAN

SUPERSTRUCTURE 241.00 SF

REAR ABUTMENT 11.00 SF

PIER NO. 1 0.00 SF

PIER NO. 2 0.00 SF

FWD. ABUTMENT 2.00 SF

254.00 SF

254 SF

ITEM 519 12300 PATCHING CONCRETE BRIDGE DECK - TYPE B

4 SY

ITEM 601 20010 CRUSHED AGGREGATE SLOPE PROTECTION

1'D x 56.33'W x 48'L = 2703.840 SF

2703.840 x 1/27 = 100.14 CY

100 CY

ITEM 608 10001 4" CONCRETE WALK, AS PER PLAN

6.0'W x 35.5'L = 213 SF

213 SF

ITEM 690 71000 ASBESTOS ABATEMEN.: WORK INVOLVING ASBESTOS
CONTAINING MATERIALS

LUMP

INDEX TO STRUCTURE ESTIMATED QUANTITY CALCULATIONS
BRIDGE NO. HAM-71-0344 (OAK ST.) OVER I-71

ITEM NO.	DESCRIPTION	SHEET
201-11001	CLEARING AND GRUBBING, AS PER PLAN	1
202-11201	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	1
202-30001	WALK REMOVED, AS PER PLAN	1
512-10401	SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN	1-5
512-10600	CONCRETE REPAIR BY EPOXY INJECTION	6
512-73500	TREATING CONCRETE DECKS WITH GRAVITY FED RESIN	6
512-74000	REMOVAL OF EXISTING COATING FROM CONCRETE SURFACES	6
514-00051	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN	6
514-00056	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT	6
514-00060	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	6
514-00066	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT	6
514-00504	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL, MNHR	7
514-10000	FINAL INSPECTION REPAIR	7
516 44201	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN, 3 1/4" x 1'-1 1/4" x 1'-7 3/4" WITH 2" x 1'-2 1/4" x 1'-8 3/4" LOAD PLATE	7
516 44201	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN, 3 1/4" x 1'-2" x 1'-2" WITH 1 1/2" x 1'-3" x 1'-3" LOAD PLATE	7
516-46700	RESET BEARING	7
516 47001	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	
518-63300	STRUCTURE DRAINAGE, MISC.: SCUPPER AND DRAINAGE PIPE CLEANOUT	7
518-63300	STRUCTURE DRAINAGE, MISC.: BRIDGE DRAINAGE SYSTEM REPLACEMENT	7
519-11101	PATCHING CONCRETE STRUCTURE, AS PER PLAN	8
519-12300	PATCHING CONCRETE BRIDGE DECK TYPE - B	8
607-98100	FENCE, MISC.: FENCE REPAIRS	8
608-10001	4" CONCRETE WALK, AS PER PLAN	8

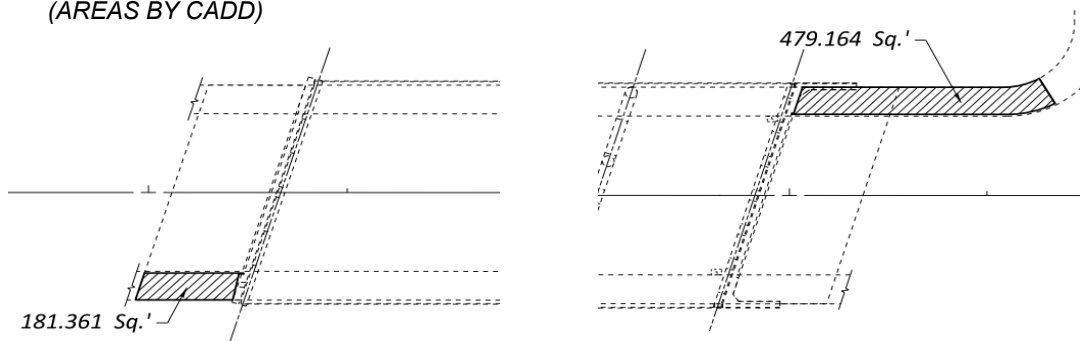
ITEM 201 11001 CLEARING AND GRUBBING, AS PER PLAN

LUMP SUM

ITEM 202 11201 PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

LUMP SUM

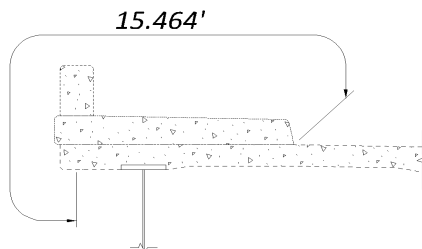
ITEM 202 30001 WALK REMOVED, AS PER PLAN
(AREAS BY CADD)



$$181.361 \text{ SF} + 479.164 \text{ SF} = 660.525 \text{ SF}$$

661 SF

ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN



LIMITS FOR SEALING CONCRETE SURFACES

DECK:

$$(2 \times 262.70) \times 15.464' =$$

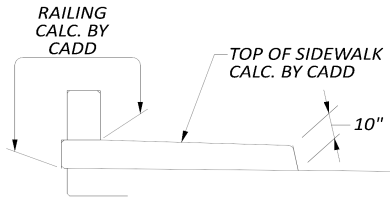
8124.79 SF

(CONT.)

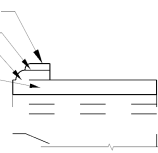
ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN

(CONT.)

(AREAS BY CADD)



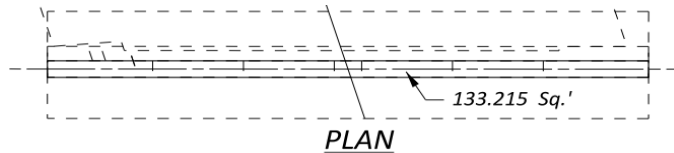
19.651' x 1' = 19.651 SF
 $2 \times (\frac{3}{4}" \times 2.667') = .33 \text{ SF}$
 $2 \times (\frac{1}{2}" \times 3.66') = 0.92 \text{ SF}$
 $2 \times 28.402 \text{ SF} = 56.804 \text{ SF}$
 LT RAIL TOTAL = 77.705 SF



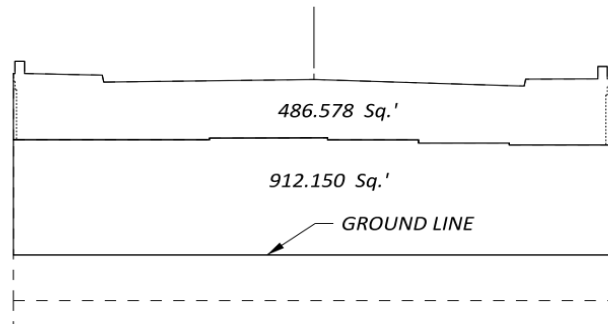
18.654' x 1' = 18.654 SF
 $2 \times (\frac{3}{4}" \times 2.667') = .33 \text{ SF}$
 $2 \times (\frac{1}{2}" \times 3.66') = 0.92 \text{ SF}$
 $2 \times 26.907 \text{ SF} = 53.814 \text{ SF}$
 RT RAIL TOTAL = 73.718 SF

APPROACH SLAB

A.S. RAIL	77.705 LT WALL + 73.718 RT WALL =	151.423	SF
RA WALK - LT	196.249 S.F. + (25.0' x .833') =	217.074	SF
RA WALK - RT	193.861 S.F. + (25.0' x .833') =	214.686	SF
FA WALK - LT	512.878 S.F. + (67.6' x .833') =	569.1888	SF
FA WALK - RT	196.209 S.F. + (25.0' x .833') =	217.034	SF
		<u>1369.406</u>	<u>SF</u>



PLAN



ELEVATION

REAR ABUTMENT

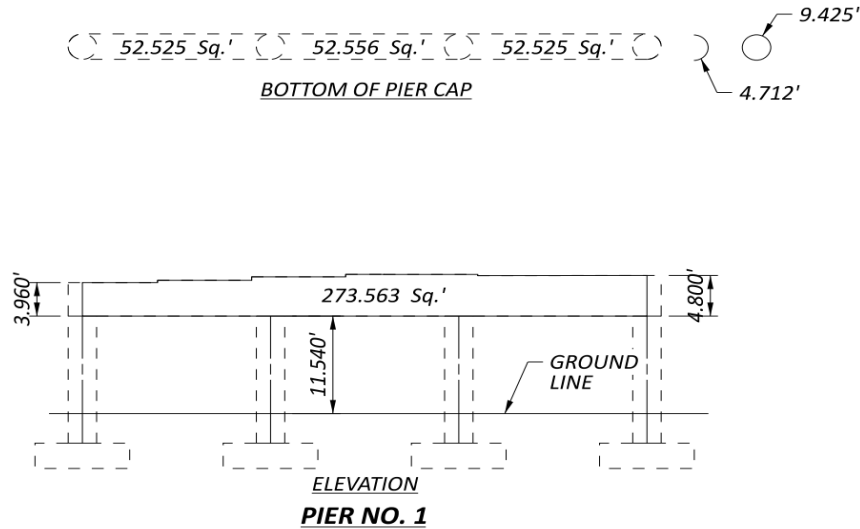
REAR ABUTMENT	
FACE OF ABUTMENT	912.15 SF
BACKWALL	486.578 SF
SEAT	133.215 SF
	<u>1531.943 SF</u>

(CONT.)

ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN

(CONT.)

(AREAS BY CADD)



PIER NO. 1

$$\begin{aligned} \text{CAP} & (2 \times 273.563 \text{ SF}) + (2 \times 52.525 \text{ SF}) + 52.556 \text{ SF} + \\ & (3.96' \times 4.712') + (4.8' \times 4.712') = 746.0091 \text{ SF} \end{aligned}$$

$$\text{COLUMN} \quad 9.425' \times 11.54' \times 4 = 435.058 \text{ SF}$$

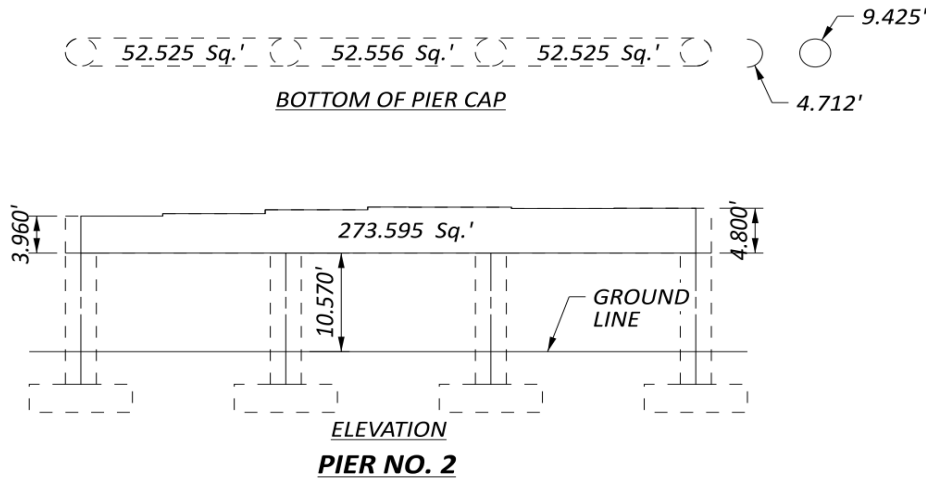
$$1181.067 \text{ SF}$$

(CONT.)

ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN

(CONT.)

(AREAS BY CADD)



PIER NO. 2

$$\begin{aligned} \text{CAP} \quad & (2 \times 273.595 \text{ SF}) + (2 \times 52.525 \text{ SF}) + 52.556 \text{ SF} + \\ & (3.96' \times 4.712') + (4.8' \times 4.712') = \quad \quad \quad 746.0731 \text{ SF} \end{aligned}$$

$$\text{COLUMN} \quad 9.425' \times 10.57' \times 4 = \quad \quad \quad 398.489 \text{ SF}$$

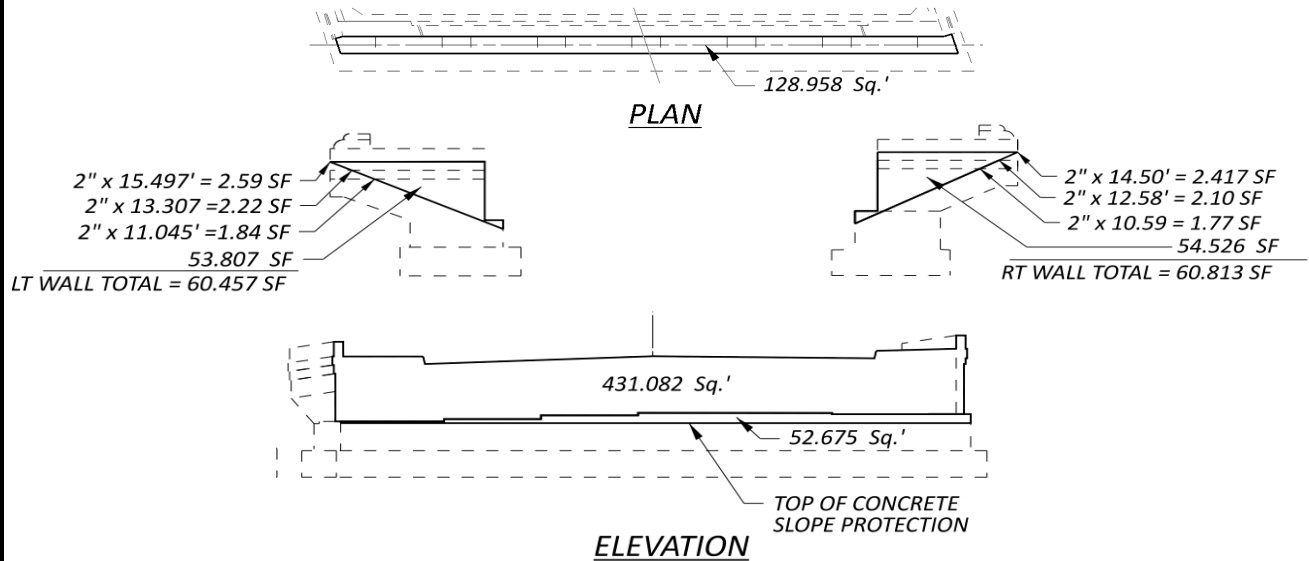
$$\boxed{1144.562 \text{ SF}}$$

(CONT.)

ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN

(CONT.)

(AREAS BY CADD)



FORWARD ABUTMENT

FORWARD ABUTMENT

FACE OF ABUTMENT	52.675 SF
BACKWALL	431.082 SF
SEAT	128.958 SF
RIGHT WALL 68.249 SF + (1'x 18.50') =	60.813 SF
LEFT WALL 59.963 SF + (1'x16.50') =	60.457 SF
	733.985 SF

SUPERSTRUCTURE	8124.786 SF
APPROACH SLAB	1369.406 SF
REAR ABUTMENT	1531.943 SF
PIER NO. 1	1181.067 SF
PIER NO. 2	1144.562 SF
FORWARD ABUTMENT	733.985 SF
	14085.749 SF

14085.749 x 1/9 = 1565.083 SY

1565 SY

ENGINEERING ASSOCIATES, INC.
CONSULTING ENGINEERS

1935 EAGLE PASS - WOOSTER, OHIO 44691

TELEPHONE: (330) 345-6556

FAX: (330) 345-8077

PROJECT: HAM-71-0344

PROJ. NO.: 21093 PG.: 6 OF 8

COMP. BY: HK

DATE: 8/22/23

CHKD. BY: TAC DATE: 2/21/24

SUBJECT: BRIDGE NO. HAM-71-0344 (OAK STREET)

ESTIMATED QUANTITIES SFN: 3114368

ITEM 512 10600 CONCRETE REPAIR BY EPOXY INJECTION

RA 18 FT

FA 30 FT

TOTAL 48 FT

48 FT

ITEM 512 73500 TREATING CONCRETE DECKS WITH GRAVITY FED RESIN

DECK: 262.70' x 44.0' = 11558.8 SF

APPR. SLABS: 2 x (25' x 44') = 2200 SF

TOTAL 13758.8 SF

13758.8 x 1/9 = 1528.76 SY

1529 SY

ITEM 512 74000 REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES

FROM EXISTING PLANS HAM-71-2.92: 942.0 SY

942 SY

ITEM 514 00051 SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN

2 x 54" x 259.5 = 2335.500 SF

3 x 16" x 213.75' = 855.000 SF

4 x 2" x 96.21' = 142.500 SF

4 x 3.375" x 37.50 = 42.188 SF

4 x 1.5" x 80.0' = 40.000 SF

3 x 12" x 45.75' = 137.250 SF

4 x .625" x 45.75' = 9.531 SF

3561.969 SF

7 BEAMS x 3561.969 = 24933.781 SF

24933.781 x 1.21 = 30169.875 SF

30170 SF

ITEM 514 00056 FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT

30170 SF

ITEM 514 00060 FIELD PAINTING STRUCTURALSTEEL, INTERMEDIATE COAT

30170 SF

ITEM 514 00066 FIELD PAINTNG STRUCTURAL STEEL, FINISH COAT

30170 SF

ENGINEERING ASSOCIATES, INC.
CONSULTING ENGINEERS

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TELEPHONE: (330) 345-6556

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PROJECT: HAM-71-0344

PROJ. NO.: 21093 PG.: 7 OF 8

COMP. BY: HK

DATE: 8/22/23

CHKD. BY: TAC DATE: 2/21/24

SUBJECT: BRIDGE NO. HAM-71-0344 (OAK STREET)

ESTIMATED QUANTITIES SFN: 3114368

ITEM 514 00504 GRINDING FINES, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL, MNHR

1 MIN/FT 7 x (213+45) = 1806 MIN = 30.100 MNHR

30 MNHR

ITEM 514 10000 FINAL INSPECTION REPAIR

7 x 258' x 1/300 = 6.020 EA

0.025 x 125 = 3.125 EA

9.145 EA

9 EA

ITEM 516 44201 ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN, 3 1/4" x 1'-1 1/4" x 1'-7 3/4" WITH 2" x 1'-2 1/4" x 1'-8 3/4" LOAD PLATE

7 EA

ITEM 516 44201 ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN, 3 1/4" x 1'-2" x 1'-2" WITH 1 1/2" x 1'-3" x 1'-3" LOAD PLATE

7 EA

ITEM 516 46700 RESET BEARING

1 EA

ITEM 516 47001 JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN

LUMP

ITEM 518 63300 STRUCTURE DRAINAGE, MISC.: SCUPPER AND DRAINAGE PIPE CLEANOUT

LUMP

ITEM 518 63300 STRUCTURE DRAINAGE, MISC.: BRIDGE DRAINAGE SYSTEM REPLACEMENT

LUMP

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PROJECT: HAM-71-0344

PROJ. NO.: 21093 PG.: 8 OF 8

COMP. BY: HK

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SUBJECT: BRIDGE NO. HAM-71-0344 (OAK STREET)

ESTIMATED QUANTITIES SFN: 3114368

ITEM 519 11101 PATCHING CONCRETE STRUCTURE, AS PER PLAN

SUPERSTRUCTURE	287.00	SF
REAR ABUTMENT	17.00	SF
PIER NO. 1	128.50	SF
PIER NO. 2	5.00	SF
FWD. ABUTMENT	4.00	SF
	<u>441.50</u>	<u>SF</u>

442 SF

ITEM 519 12300 PATCHING CONCRETE BRIDGE DECK - TYPE B

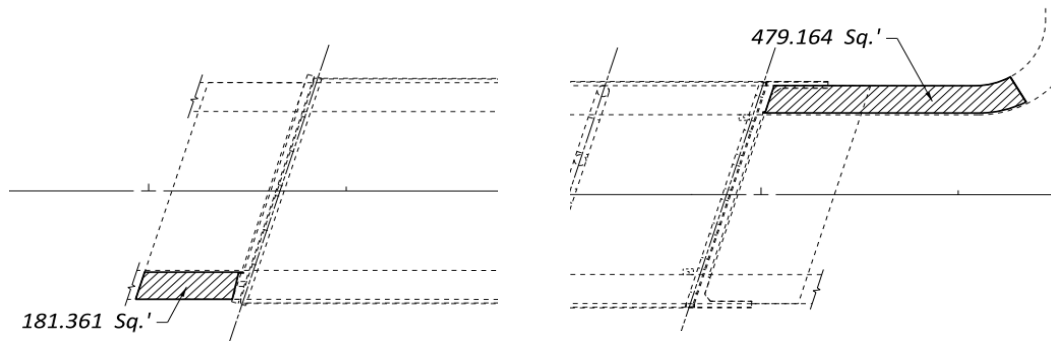
14 SY

ITEM 607 98100 FENCE, MISC.: FENCE REPAIRS

ALL HORIZONTAL RAILS: $32 \times 5 \times 2 =$ 320 EA

320 EA

ITEM 608 10001 4" CONCRETE WALK, AS PER PLAN



$181.361SF + 479.164 SF =$ 660.525 SF

661 SF

INDEX TO STRUCTURE ESTIMATED QUANTITY CALCULATIONS
BRIDGE NO. HAM-71-0344 (OAK ST.) OVER I-71

ITEM NO.	DESCRIPTION	SHEET
201-11001	CLEARING AND GRUBBING, AS PER PLAN	1
202-11201	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	1
202-30001	WALK REMOVED, AS PER PLAN	1
512-10401	SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN	1-5
512-10600	CONCRETE REPAIR BY EPOXY INJECTION	6
512-73500	TREATING CONCRETE DECKS WITH GRAVITY FED RESIN	6
512-74000	REMOVAL OF EXISTING COATING FROM CONCRETE SURFACES	6
514-00051	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN	6
514-00056	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT	6
514-00060	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	6
514-00066	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT	6
514-00504	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL, MNHR	7
514-10000	FINAL INSPECTION REPAIR	7
516 44201	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN, 3 1/4" x 1'-1 1/4" x 1'-7 3/4" WITH 2" x 1'-2 1/4" x 1'-8 3/4" LOAD PLATE	7
516 44201	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN, 3 1/4" x 1'-2" x 1'-2" WITH 1 1/2" x 1'-3" x 1'-3" LOAD PLATE	7
516-46700	RESET BEARING	7
516 47001	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	
518-63300	STRUCTURE DRAINAGE, MISC.: SCUPPER AND DRAINAGE PIPE CLEANOUT	7
518-63300	STRUCTURE DRAINAGE, MISC.: BRIDGE DRAINAGE SYSTEM REPLACEMENT	7
519-11101	PATCHING CONCRETE STRUCTURE, AS PER PLAN	8
519-12300	PATCHING CONCRETE BRIDGE DECK TYPE - B	8
607-98100	FENCE, MISC.: FENCE REPAIRS	8
608-10001	4" CONCRETE WALK, AS PER PLAN	8

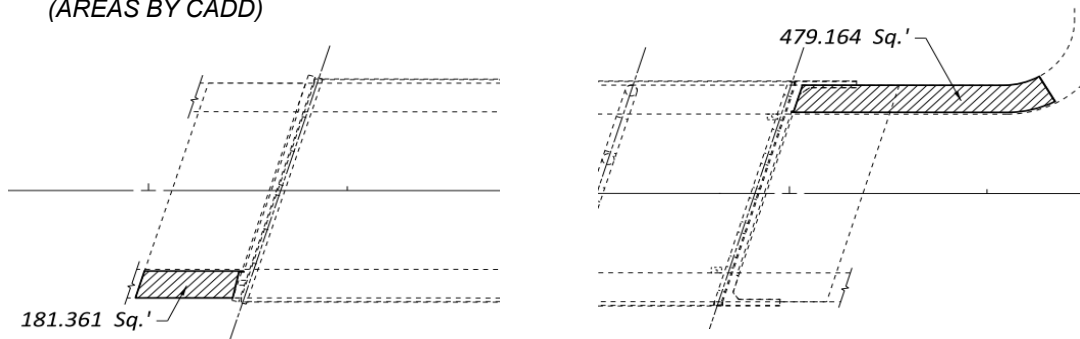
ITEM 201 11001 CLEARING AND GRUBBING, AS PER PLAN

LUMP SUM

ITEM 202 11201 PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

LUMP SUM

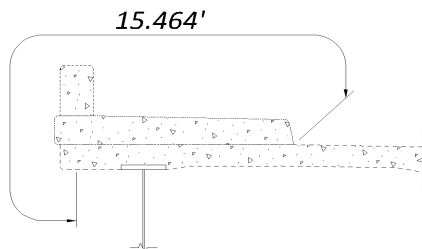
ITEM 202 30001 WALK REMOVED, AS PER PLAN
(AREAS BY CADD)



$$181.361 SF + 479.164 SF = 660.525 SF$$

661 SF

ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN



LIMITS FOR SEALING CONCRETE SURFACES

DECK:

$$(2 \times 262.70) \times 15.464' =$$

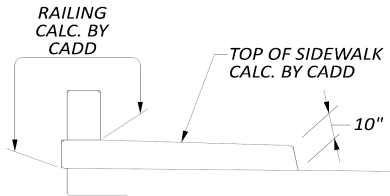
8124.79 SF

(CONT.)

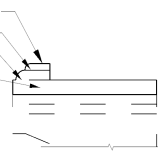
ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN

(CONT.)

(AREAS BY CADD)



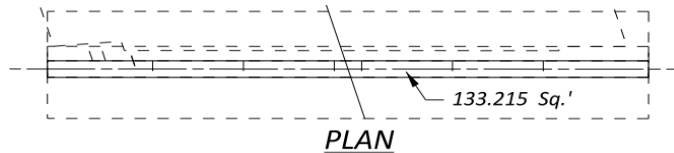
19.651' x 1' = 19.651 SF
 $2 \times (\frac{3}{4}" \times 2.667') = .33 \text{ SF}$
 $2 \times (\frac{1}{2}" \times 3.66') = 0.92 \text{ SF}$
 $2 \times 28.402 \text{ SF} = 56.804 \text{ SF}$
 LT RAIL TOTAL = 77.705 SF



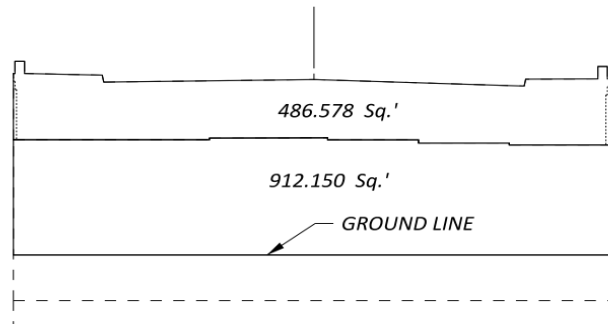
18.654' x 1' = 18.654 SF
 $2 \times (\frac{3}{4}" \times 2.667') = .33 \text{ SF}$
 $2 \times (\frac{1}{2}" \times 3.66') = 0.92 \text{ SF}$
 $2 \times 26.907 \text{ SF} = 53.814 \text{ SF}$
 RT RAIL TOTAL = 73.718 SF

APPROACH SLAB

A.S. RAIL	77.705 LT WALL + 73.718 RT WALL =	151.423	SF
RA WALK - LT	196.249 S.F. + (25.0' x .833') =	217.074	SF
RA WALK - RT	193.861 S.F. + (25.0' x .833') =	214.686	SF
FA WALK - LT	512.878 S.F. + (67.6' x .833') =	569.1888	SF
FA WALK - RT	196.209 S.F. + (25.0' x .833') =	217.034	SF
		<u>1369.406</u>	<u>SF</u>



PLAN



ELEVATION

REAR ABUTMENT

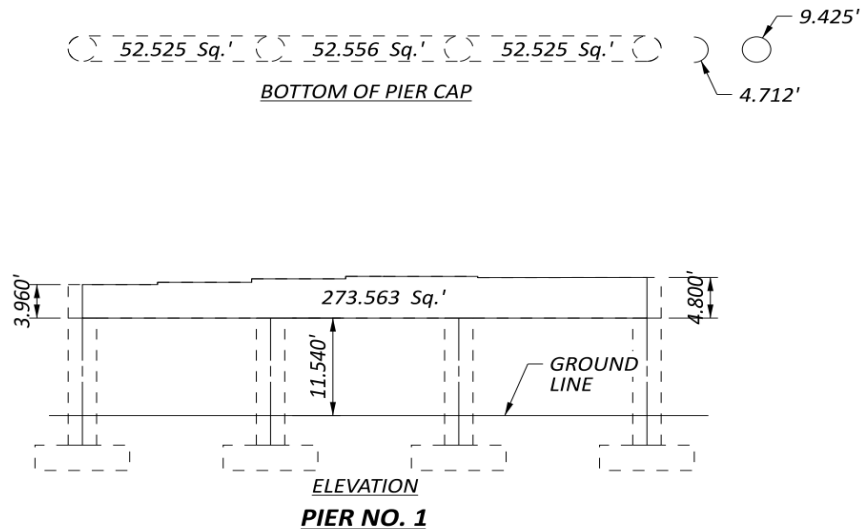
REAR ABUTMENT	
FACE OF ABUTMENT	912.15 SF
BACKWALL	486.578 SF
SEAT	133.215 SF
	<u>1531.943 SF</u>

(CONT.)

ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN

(CONT.)

(AREAS BY CADD)



PIER NO. 1

$$\begin{aligned} \text{CAP} & (2 \times 273.563 \text{ SF}) + (2 \times 52.525 \text{ SF}) + 52.556 \text{ SF} + \\ & (3.96' \times 4.712') + (4.8' \times 4.712') = 746.0091 \text{ SF} \end{aligned}$$

$$\text{COLUMN} \quad 9.425' \times 11.54' \times 4 = 435.058 \text{ SF}$$

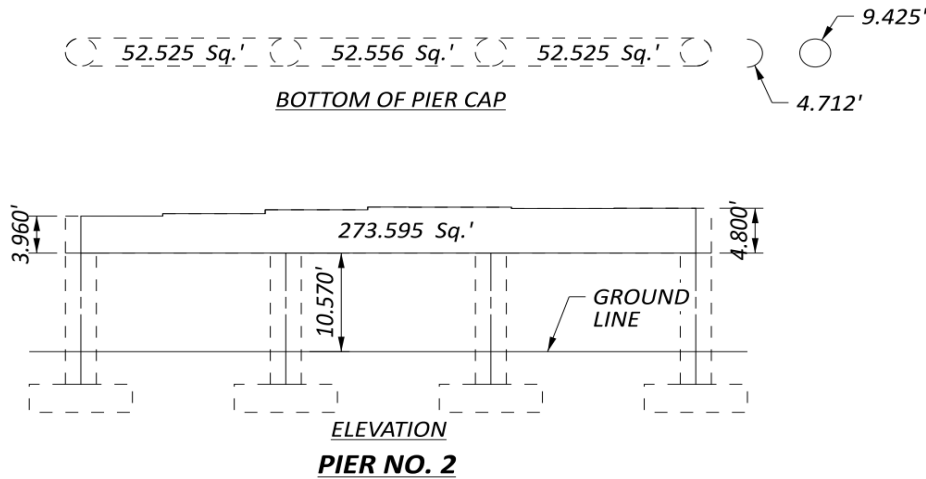
$$1181.067 \text{ SF}$$

(CONT.)

ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN

(CONT.)

(AREAS BY CADD)



PIER NO. 2

$$\begin{aligned} \text{CAP} \quad & (2 \times 273.595 \text{ SF}) + (2 \times 52.525 \text{ SF}) + 52.556 \text{ SF} + \\ & (3.96' \times 4.712') + (4.8' \times 4.712') = \quad 746.0731 \text{ SF} \end{aligned}$$

$$\text{COLUMN} \quad 9.425' \times 10.57' \times 4 = \quad 398.489 \text{ SF}$$

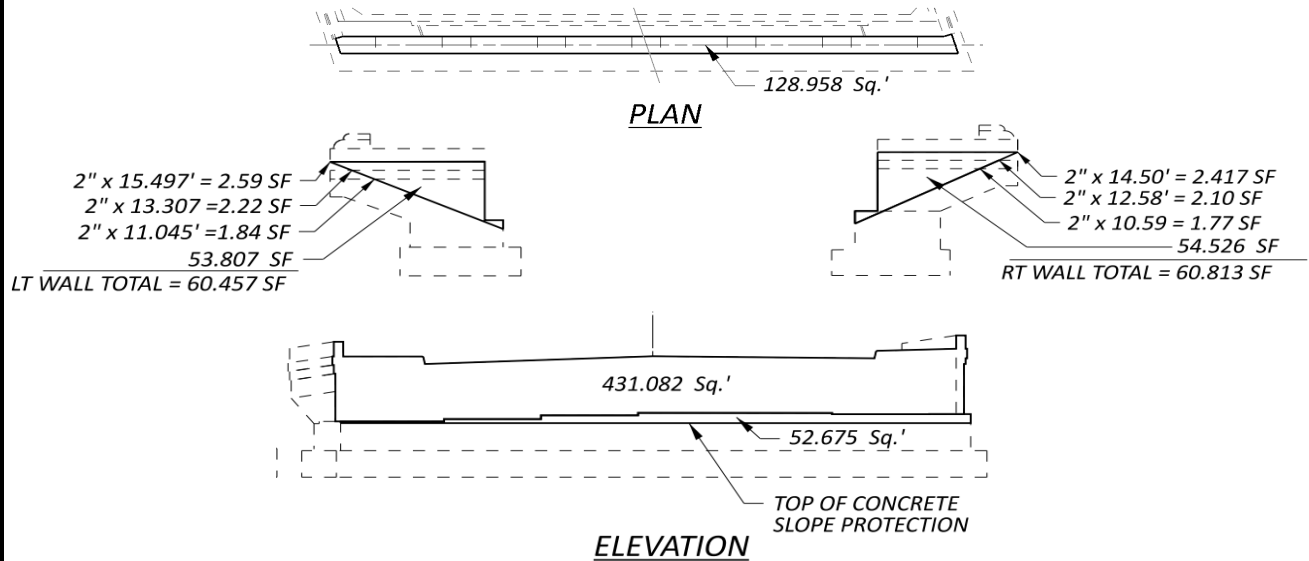
$$\boxed{1144.562 \text{ SF}}$$

(CONT.)

ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN

(CONT.)

(AREAS BY CADD)



FORWARD ABUTMENT

FORWARD ABUTMENT

FACE OF ABUTMENT	52.675 SF
BACKWALL	431.082 SF
SEAT	128.958 SF
RIGHT WALL 68.249 SF + (1'x 18.50') =	60.813 SF
LEFT WALL 59.963 SF + (1'x16.50') =	60.457 SF
	733.985 SF

SUPERSTRUCTURE	8124.786 SF
APPROACH SLAB	1369.406 SF
REAR ABUTMENT	1531.943 SF
PIER NO. 1	1181.067 SF
PIER NO. 2	1144.562 SF
FORWARD ABUTMENT	733.985 SF
	14085.749 SF

14085.749 x 1/9 = 1565.083 SY

1565 SY

ENGINEERING ASSOCIATES, INC.
CONSULTING ENGINEERS

1935 EAGLE PASS - WOOSTER, OHIO 44691

TELEPHONE: (330) 345-6556

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PROJECT: HAM-71-0344

PROJ. NO.: 21093 PG.: 6 OF 8

COMP. BY: HK

DATE: 8/22/23

CHKD. BY: TAC DATE: 2/21/24

SUBJECT: BRIDGE NO. HAM-71-0344 (OAK STREET)

ESTIMATED QUANTITIES SFN: 3114368

ITEM 512 10600 CONCRETE REPAIR BY EPOXY INJECTION

RA 18 FT

FA 30 FT

TOTAL 48 FT

48 FT

ITEM 512 73500 TREATING CONCRETE DECKS WITH GRAVITY FED RESIN

DECK: 262.70' x 44.0' = 11558.8 SF

APPR. SLABS: 2 x (25' x 44') = 2200 SF

TOTAL 13758.8 SF

13758.8 x 1/9 = 1528.76 SY

1529 SY

ITEM 512 74000 REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES

FROM EXISTING PLANS HAM-71-2.92: 942.0 SY

942 SY

ITEM 514 00051 SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN

2 x 54" x 259.5 = 2335.500 SF

3 x 16" x 213.75' = 855.000 SF

4 x 2" x 96.21' = 142.500 SF

4 x 3.375" x 37.50 = 42.188 SF

4 x 1.5" x 80.0' = 40.000 SF

3 x 12" x 45.75' = 137.250 SF

4 x .625" x 45.75' = 9.531 SF

3561.969 SF

7 BEAMS x 3561.969 = 24933.781 SF

24933.781 x 1.21 = 30169.875 SF

30170 SF

ITEM 514 00056 FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT

30170 SF

ITEM 514 00060 FIELD PAINTING STRUCTURALSTEEL, INTERMEDIATE COAT

30170 SF

ITEM 514 00066 FIELD PAINTNG STRUCTURAL STEEL, FINISH COAT

30170 SF

ENGINEERING ASSOCIATES, INC.
CONSULTING ENGINEERS

1935 EAGLE PASS - WOOSTER, OHIO 44691

TELEPHONE: (330) 345-6556

FAX: (330) 345-8077

PROJECT: HAM-71-0344

PROJ. NO.: 21093 PG.: 7 OF 8

COMP. BY: HK

DATE: 8/22/23

CHKD. BY: TAC DATE: 2/21/24

SUBJECT: BRIDGE NO. HAM-71-0344 (OAK STREET)

ESTIMATED QUANTITIES SFN: 3114368

ITEM 514 00504 GRINDING FINES, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL, MNHR

1 MIN/FT 7 x (213+45) = 1806 MIN = 30.100 MNHR

30 MNHR

ITEM 514 10000 FINAL INSPECTION REPAIR

7 x 258' x 1/300 = 6.020 EA

0.025 x 125 = 3.125 EA

9.145 EA

9 EA

ITEM 516 44201 ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN, 3 1/4" x 1'-1 1/4" x 1'-7 3/4" WITH 2" x 1'-2 1/4" x 1'-8 3/4" LOAD PLATE

7 EA

ITEM 516 44201 ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN, 3 1/4" x 1'-2" x 1'-2" WITH 1 1/2" x 1'-3" x 1'-3" LOAD PLATE

7 EA

ITEM 516 46700 RESET BEARING

1 EA

ITEM 516 47001 JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN

LUMP

ITEM 518 63300 STRUCTURE DRAINAGE, MISC.: SCUPPER AND DRAINAGE PIPE CLEANOUT

LUMP

ITEM 518 63300 STRUCTURE DRAINAGE, MISC.: BRIDGE DRAINAGE SYSTEM REPLACEMENT

LUMP

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PROJECT: HAM-71-0344

PROJ. NO.: 21093 PG.: 8 OF 8

COMP. BY: HK

DATE: 8/22/23

CHKD. BY: TAC DATE: 2/21/24

SUBJECT: BRIDGE NO. HAM-71-0344 (OAK STREET)

ESTIMATED QUANTITIES SFN: 3114368

ITEM 519 11101 PATCHING CONCRETE STRUCTURE, AS PER PLAN

SUPERSTRUCTURE	287.00	SF
REAR ABUTMENT	17.00	SF
PIER NO. 1	128.50	SF
PIER NO. 2	5.00	SF
FWD. ABUTMENT	4.00	SF
	<u>441.50</u>	<u>SF</u>

442 SF

ITEM 519 12300 PATCHING CONCRETE BRIDGE DECK - TYPE B

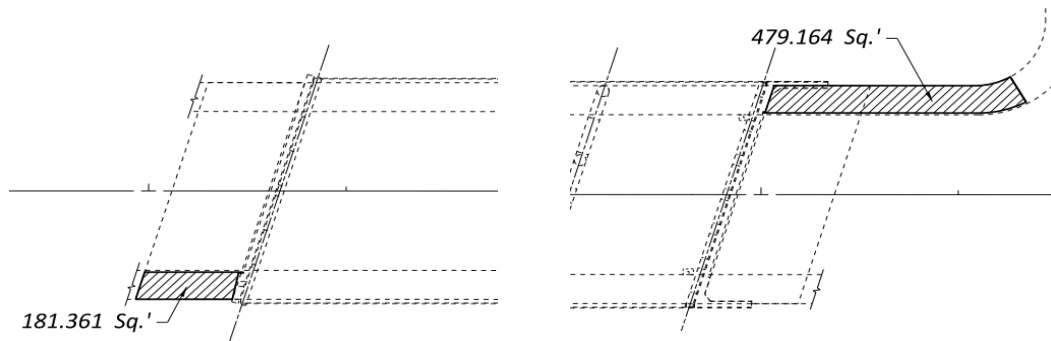
14 SY

ITEM 607 98100 FENCE, MISC.: FENCE REPAIRS

ALL HORIZONTAL RAILS: $32 \times 5 \times 2 =$ 320 EA

320 EA

ITEM 608 10001 4" CONCRETE WALK, AS PER PLAN



$181.361SF + 479.164 SF =$ 660.525 SF

661 SF

INDEX TO STRUCTURE ESTIMATED QUANTITY CALCULATIONS
BRIDGE NO. HAM-71-0294 (McGREGOR AVE.) OVER I-71

ITEM NO.	DESCRIPTION	SHEET
201-11001	CLEARING AND GRUBBING, AS PER PLAN	1
202-11201	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	1
202-30001	WALK REMOVED, AS PER PLAN	1
202-98000	REMOVAL MISC.: SIGN SUPPORT ATTACHMENTS, ELECTRICAL CONDUIT AND SUPPORTS	1
202-98000	REMOVAL MISC.: UTILITY CONDUITS	1
511-81100	CONCRETE, MISC. CURB REPAIR	1
512-10401	SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN	1-5
512-10600	CONCRETE REPAIR BY EPOXY INJECTION	6
512-73500	TREATING CONCRETE DECKS WITH GRAVITY FED RESIN	6
512-74000	REMOVAL OF EXISTING COATING FROM CONCRETE SURFACES	6
514-00051	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN	7
514-00056	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT	7
514-00060	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	7
514-00066	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT	7
514-00504	GRINDING FINES, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL, MNHR	7
514-10000	FINAL INSPECTION REPAIR	7
516-44301	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN, , 4 1/2"x1'-3"x1'-5" WITH 2"x1'-4"x1'- 6" LOAD PLATE	7
516-47001	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	8
518-63300	STRUCTURE DRAINAGE, MISC.: SCUPPER AND DRAINAGE PIPE CLEANOUT	8
519-11101	PATCHING CONCRETE STRUCTURE, AS PER PLAN	8
519-12300	PATCHING CONCRETE BRIDGE DECK TYPE - B	8
601-20010	CRUSHED AGGREGATE SLOPE PROTECTION	8
608-10001	4" CONCRETE WALK, AS PER PLAN	8
690-71000	ASBESTOS ABATEMENT: WORK INVOLVING ASBESTOS CONTAINING MATERIALS	8

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CONSULTING ENGINEERS

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TELEPHONE: (330) 345-6556

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PROJECT: HAM-71-2.26

PROJ. NO.: 21093 PG.: 1 OF 8

COMP. BY: HK

DATE: 8/17/23

CHKD. BY: TAC DATE: 2/20/24

SUBJECT: BRIDGE NO. HAM-71-0294 (McGREGOR AVE.)

ESTIMATED QUANTITIES SFN: 3114236

ITEM 201 11001 CLEARING AND GRUBBING, AS PER PLAN

LUMP SUM

ITEM 202 11201 PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

LUMP SUM

ITEM 202 30001 WALK REMOVED, AS PER PLAN

6.0'W x 35.5'L = 213 SF

213 SF

ITEM 202 98000 REMOVAL MISC.: SIGN SUPPORT ATTACHMENTS, ELECTRICAL
CONDUIT AND SUPPORTS

LUMP SUM

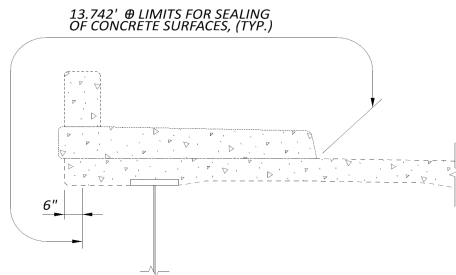
ITEM 202 98000 REMOVAL MISC.: UTILITY CONDUITS

LUMP SUM

511 81100 CONCRETE, MISC. CURB REPAIR

5 FT

ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN



SIDEWALK AND SUPERSTRUCTURE DETAIL

DECK:

(2 x 312.83) x 13.742' =

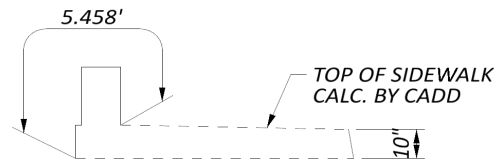
8597.82 SF

(CONT.)

ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN

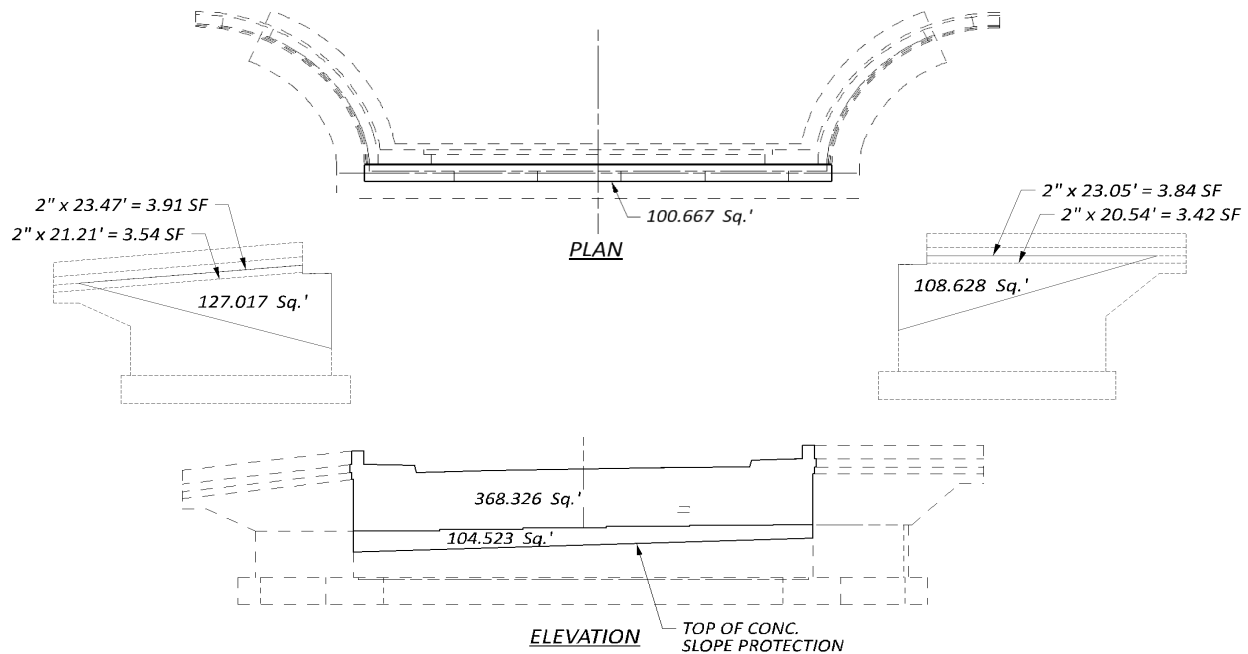
(CONT.)

(AREAS BY CADD)



APPROACH SLAB

A.S. RAIL	$(28.106' + 28.243' + 16.50' + 16.50') \times 5.458' =$	487.6668	SF
RA WALK - LT	$197.079 \text{ S.F.} + (37.544' \times .833') =$	228.3532	SF
RA WALK - RT	$197.919 \text{ S.F.} + (37.685' \times .833') =$	229.3106	SF
FA WALK - LT	$220.500 \text{ S.F.} + (36.75' \times .833') =$	251.1128	SF
FA WALK - RT	$157.5 \text{ S.F.} + (26.25' \times .833') =$	179.3663	SF
		1375.81	SF



REAR ABUTMENT

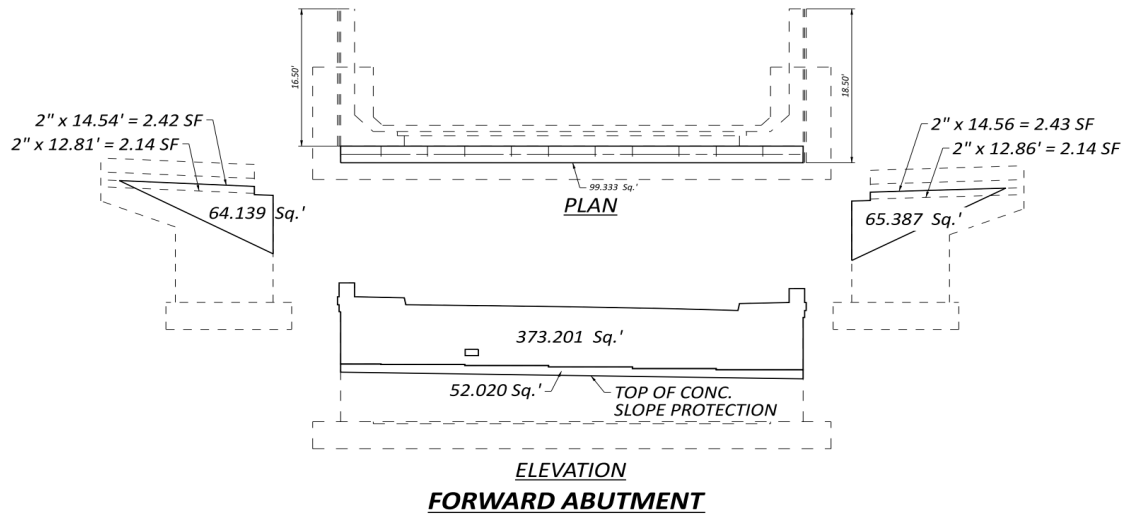
REAR ABUTMENT	
FACE OF ABUTMENT	104.523 SF
BACKWALL	368.326 SF
SEAT	100.667 SF
RIGHT WALL	$127.017 + 3.54 + 3.91 =$ 134.467 SF
LEFT WALL	$108.628 + 3.42 + 3.84 =$ 115.888 SF
	823.871 SF

(CONT.)

ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN

(CONT.)

(AREAS BY CADD)



FORWARD ABUTMENT

FACE OF ABUTMENT 52.02 SF

BACKWALL 373.201 SF

SEAT 99.333 SF

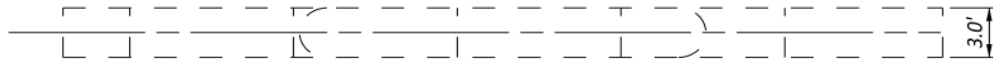
RIGHT WALL $65.387 + 2.14 + 2.43 =$ 86.749 SF

LEFT WALL $64.139 + 2.14 + 2.42 =$ 76.463 SF

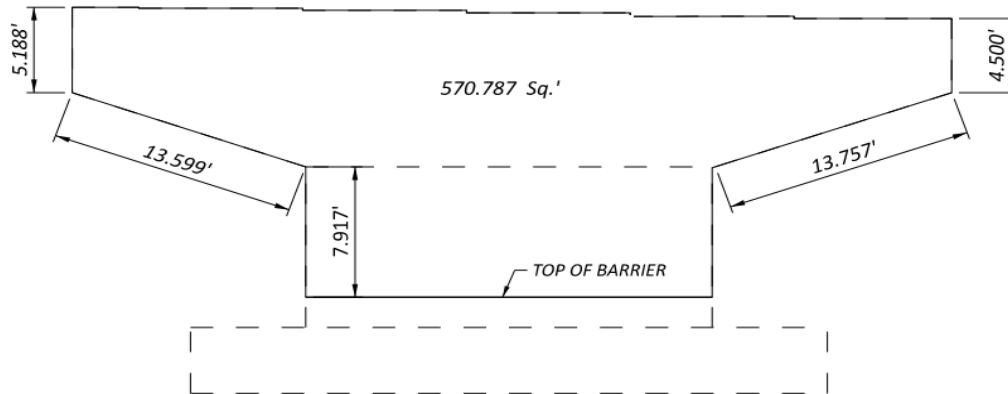
687.766 SF

(CONT.)

ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN
(CONT.)
(AREAS BY CADD)



PLAN



ELEVATION

PIER NO. 1

PIER NO. 1

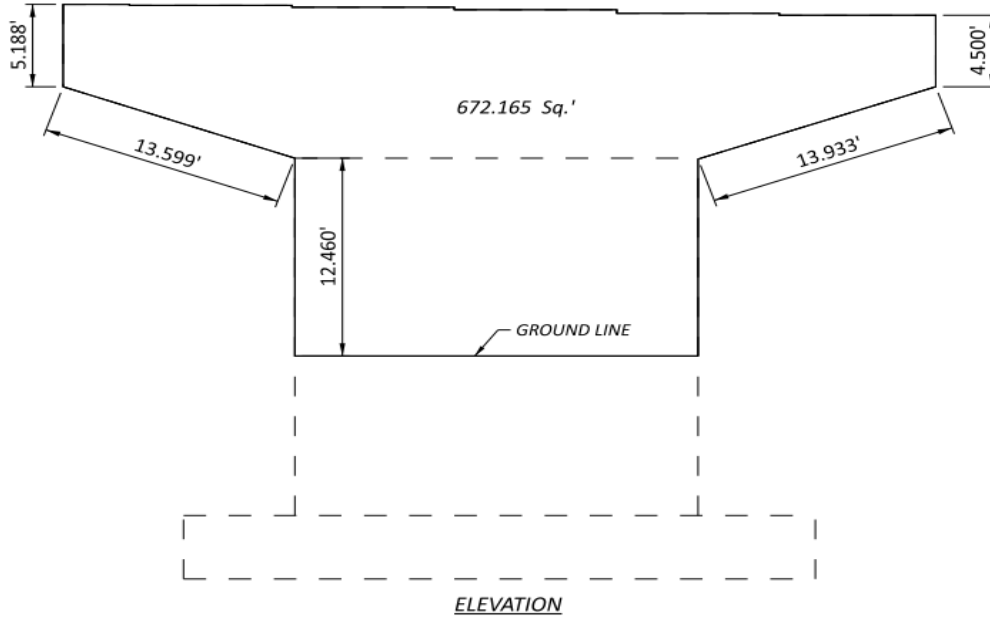
$2 \times 570.787 \text{ SF} = 1141.574 \text{ SF}$

$(5.188' + 13.599' + 7.917' + 7.917' + 13.757' + 4.5) \times 3.0' = 158.634 \text{ SF}$

1300.208 SF

(CONT.)

ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN
 (CONT.)
 (AREAS BY CADD)



PIER NO. 2

PEIR NO. 2

2 x 672.165 SF =	1344.33 SF
(5.188'+13.599'+12.460'+12.460'+13.933'+4.5) x 3.0' =	186.42 SF
	1530.75 SF

SUPERSTRUCTURE	8597.82 SF
APPROACH SLAB	1375.81 SF
REAR ABUTMENT	823.87 SF
PIER NO. 1	1300.21 SF
PIER NO. 2	1530.75 SF
FORWARD ABUTMENT	687.77 SF
	14316.22 SF

14316.224 x 1/9 = 1590.69 SY

1591 SY

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PROJECT: HAM-71-2.26

PROJ. NO.: 21093 PG.: 6 OF 8

COMP. BY: HK

DATE: 8/17/23

CHKD. BY: TAC DATE: 2/20/24

SUBJECT: BRIDGE NO. HAM-71-0294 (McGREGOR AVE.)

ESTIMATED QUANTITIES SFN: 3114236

ITEM 512 10600 CONCRETE REPAIR BY EPOXY INJECTION

RA 36 FT

FA 10 FT

TOTAL 46 FT

46 FT

ITEM 512 73500 TREATING CONCRETE DECKS WITH GRAVITY FED RESIN

DECK: 312.83' x 36.0' = 11261.88 SF

RA APPR. SLAB: (AREA BY CADD) 1311.768 SF

FA APPR. SLAB: 25.0' x 36.0' = 900.000 SF

TOTAL 13473.65 SF

13473.648 x 1/9 = 1497.072 SY

1497 SY

ITEM 512 74000 REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES

FROM EXISTING PLANS HAM-71-1.30/9.00

ABUT.: 140 SY

PIER: 315 SY

SUPER.: 1022 SY

TOTAL: 1477 SY

1477 SY

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PROJ. NO.: 21093 PG.: 7 OF 8

COMP. BY: HK

DATE: 8/17/23

CHKD. BY: TAC DATE: 2/20/24

SUBJECT: BRIDGE NO. HAM-71-0294 (McGREGOR AVE.)

ESTIMATED QUANTITIES SFN: 3114236

ITEM 514 00051 SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN

$$\begin{aligned} 2 \times 60'' \times 308.333' &= 3083.330 \text{ SF} \\ 3 \times 16'' \times 308.333' &= 1233.332 \text{ SF} \\ 4 \times 1.5'' \times (2 \times 89.5') &= 89.500 \text{ SF} \\ 4 \times 2'' \times (2 \times 38') &= 50.667 \text{ SF} \\ 4 \times 0.75'' \times 54.83' &= 13.708 \text{ SF} \\ &= 4470.536 \text{ SF} \\ 6 \text{ BEAMS} \times 4470.536 &= 26823.217 \text{ SF} \end{aligned}$$

$$26823.217 \times 1.21 = 32456.093 \text{ SF}$$

32456 SF

ITEM 514 00056 FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT

32456 SF

ITEM 514 00060 FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT

32456 SF

ITEM 514 00066 FIELD PAINTING STRUCTURAL STEEL, FINISH COAT

32456 SF

ITEM 514 00504 GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL, MNHR

$$1 \text{ MIN/FT} (6) 308.333 = 1850 \text{ MIN} = 30.833 \text{ MNHR}$$

31 MNHR

ITEM 514 10000 FINAL INSPECTION REPAIR

$$\begin{aligned} 6 \times 308.333 \times 1/300 &= 6.167 \text{ EA} \\ 0.025 \times 110 &= 2.75 \text{ EA} \\ &= 8.917 \text{ EA} \end{aligned}$$

9 EA

ITEM 516 44301 ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN, 4 1/2"x1'-3"x1'-5" WITH 2"x1'-4"x1'-6" LOAD PLATE

12 EA

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PROJECT: HAM-71-2.26

PROJ. NO.: 21093 PG.: 8 OF 8

COMP. BY: HK

DATE: 8/17/23

CHKD. BY: TAC DATE: 2/20/24

SUBJECT: BRIDGE NO. HAM-71-0294 (McGREGOR AVE.)

ESTIMATED QUANTITIES SFN: 3114236

ITEM 516 47001 JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE,
AS PER PLAN

LUMP

ITEM 518 63300 STRUCTURE DRAINAGE, MISC.: SCUPPER AND DRAINAGE
PIPE CLEANOUT

LUMP

ITEM 519 11101 PATCHING CONCRETE STRUCTURE, AS PER PLAN

SUPERSTRUCTURE 241.00 SF

REAR ABUTMENT 11.00 SF

PIER NO. 1 0.00 SF

PIER NO. 2 0.00 SF

FWD. ABUTMENT 2.00 SF

254.00 SF

254 SF

ITEM 519 12300 PATCHING CONCRETE BRIDGE DECK - TYPE B

4 SY

ITEM 601 20010 CRUSHED AGGREGATE SLOPE PROTECTION

1'D x 56.33'W x 48'L = 2703.840 SF

2703.840 x 1/27 = 100.14 CY

100 CY

ITEM 608 10001 4" CONCRETE WALK, AS PER PLAN

6.0'W x 35.5'L = 213 SF

213 SF

ITEM 690 71000 ASBESTOS ABATEMEN.: WORK INVOLVING ASBESTOS
CONTAINING MATERIALS

LUMP

INDEX TO STRUCTURE ESTIMATED QUANTITY CALCULATIONS
BRIDGE NO. HAM-71-0344 (OAK ST.) OVER I-71

ITEM NO.	DESCRIPTION	SHEET
201-11001	CLEARING AND GRUBBING, AS PER PLAN	1
202-11201	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	1
202-30001	WALK REMOVED, AS PER PLAN	1
512-10401	SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN	1-5
512-10600	CONCRETE REPAIR BY EPOXY INJECTION	6
512-73500	TREATING CONCRETE DECKS WITH GRAVITY FED RESIN	6
512-74000	REMOVAL OF EXISTING COATING FROM CONCRETE SURFACES	6
514-00051	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN	6
514-00056	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT	6
514-00060	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	6
514-00066	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT	6
514-00504	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL, MNHR	7
514-10000	FINAL INSPECTION REPAIR	7
516 44201	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN, 3 1/4" x 1'-1 1/4" x 1'-7 3/4" WITH 2" x 1'-2 1/4" x 1'-8 3/4" LOAD PLATE	7
516 44201	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN, 3 1/4" x 1'-2" x 1'-2" WITH 1 1/2" x 1'-3" x 1'-3" LOAD PLATE	7
516-46700	RESET BEARING	7
516 47001	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	
518-63300	STRUCTURE DRAINAGE, MISC.: SCUPPER AND DRAINAGE PIPE CLEANOUT	7
518-63300	STRUCTURE DRAINAGE, MISC.: BRIDGE DRAINAGE SYSTEM REPLACEMENT	7
519-11101	PATCHING CONCRETE STRUCTURE, AS PER PLAN	8
519-12300	PATCHING CONCRETE BRIDGE DECK TYPE - B	8
607-98100	FENCE, MISC.: FENCE REPAIRS	8
608-10001	4" CONCRETE WALK, AS PER PLAN	8

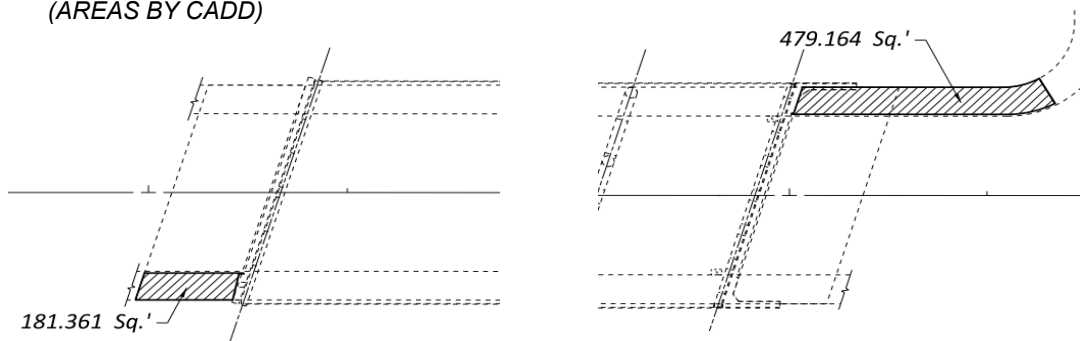
ITEM 201 11001 CLEARING AND GRUBBING, AS PER PLAN

LUMP SUM

ITEM 202 11201 PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

LUMP SUM

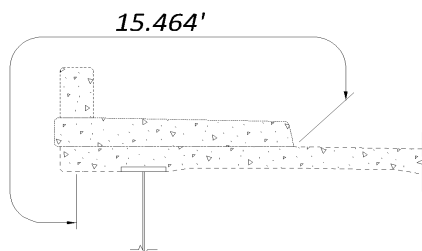
ITEM 202 30001 WALK REMOVED, AS PER PLAN
(AREAS BY CADD)



$$181.361 SF + 479.164 SF = 660.525 SF$$

661 SF

ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN



LIMITS FOR SEALING CONCRETE SURFACES

DECK:

$$(2 \times 262.70) \times 15.464' =$$

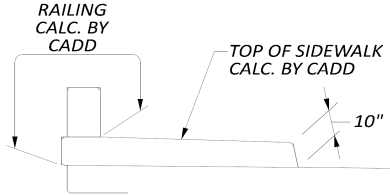
8124.79 SF

(CONT.)

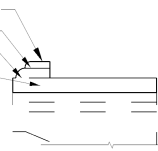
ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN

(CONT.)

(AREAS BY CADD)



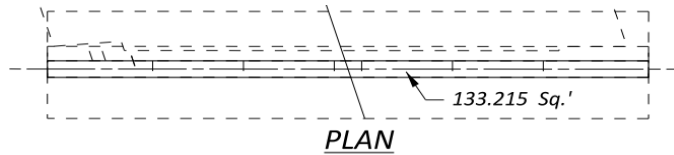
19.651' x 1' = 19.651 SF
 $2 \times (\frac{3}{4}" \times 2.667') = .33 \text{ SF}$
 $2 \times (\frac{1}{2}" \times 3.66') = 0.92 \text{ SF}$
 $2 \times 28.402 \text{ SF} = 56.804 \text{ SF}$
 LT RAIL TOTAL = 77.705 SF



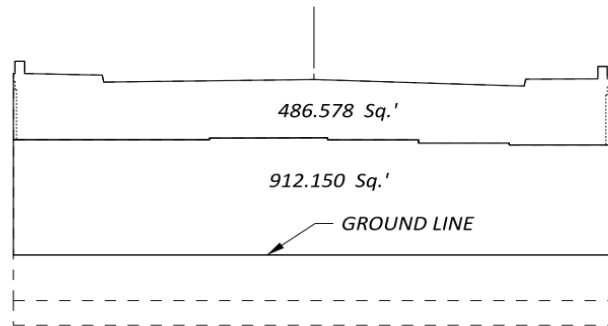
18.654' x 1' = 18.654 SF
 $2 \times (\frac{3}{4}" \times 2.667') = .33 \text{ SF}$
 $2 \times (\frac{1}{2}" \times 3.66') = 0.92 \text{ SF}$
 $2 \times 26.907 \text{ SF} = 53.814 \text{ SF}$
 RT RAIL TOTAL = 73.718 SF

APPROACH SLAB

A.S. RAIL	77.705 LT WALL + 73.718 RT WALL =	151.423	SF
RA WALK - LT	196.249 S.F. + (25.0' x .833') =	217.074	SF
RA WALK - RT	193.861 S.F. + (25.0' x .833') =	214.686	SF
FA WALK - LT	512.878 S.F. + (67.6' x .833') =	569.1888	SF
FA WALK - RT	196.209 S.F. + (25.0' x .833') =	217.034	SF
		<u>1369.406</u>	<u>SF</u>



PLAN



ELEVATION

REAR ABUTMENT

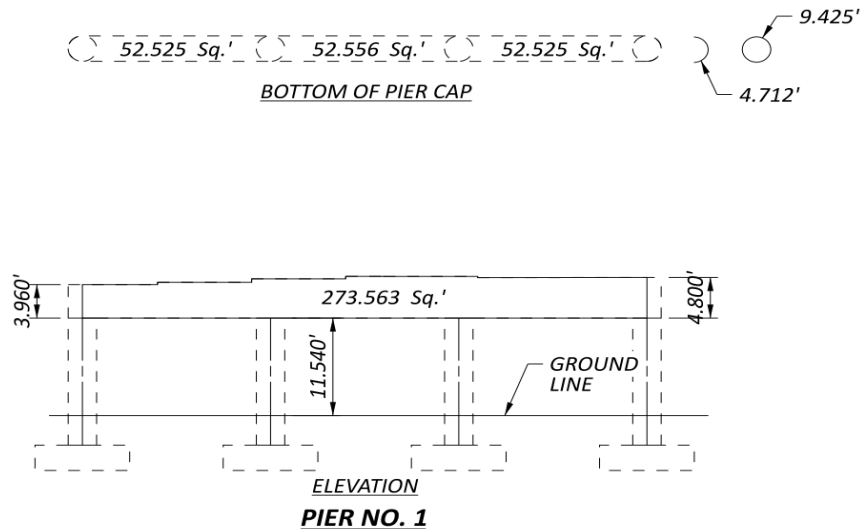
REAR ABUTMENT	
FACE OF ABUTMENT	912.15 SF
BACKWALL	486.578 SF
SEAT	133.215 SF
	<u>1531.943 SF</u>

(CONT.)

ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN

(CONT.)

(AREAS BY CADD)



PIER NO. 1

$$\begin{aligned} \text{CAP} & (2 \times 273.563 \text{ SF}) + (2 \times 52.525 \text{ SF}) + 52.556 \text{ SF} + \\ & (3.96' \times 4.712') + (4.8' \times 4.712') = 746.0091 \text{ SF} \end{aligned}$$

$$\text{COLUMN} \quad 9.425' \times 11.54' \times 4 = 435.058 \text{ SF}$$

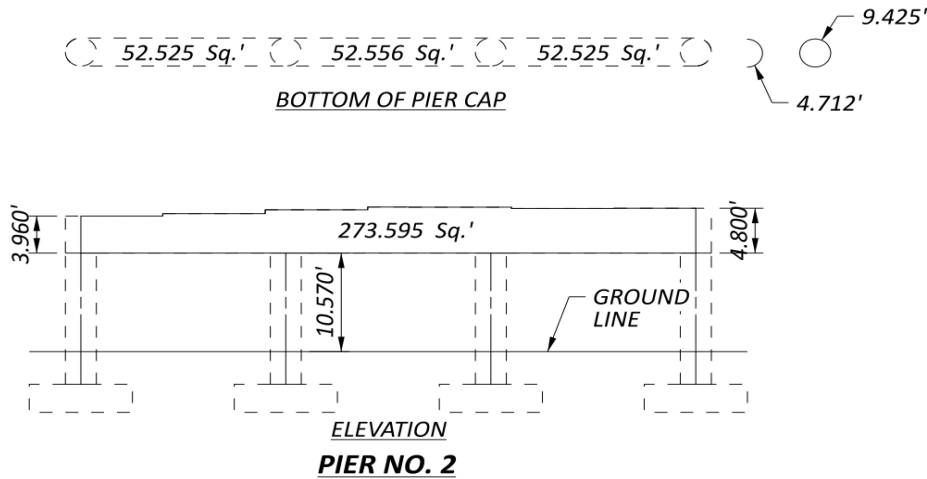
$$1181.067 \text{ SF}$$

(CONT.)

ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN

(CONT.)

(AREAS BY CADD)



PIER NO. 2

$$\text{CAP } (2 \times 273.595 \text{ SF}) + (2 \times 52.525 \text{ SF}) + 52.556 \text{ SF} + (3.96' \times 4.712') + (4.8' \times 4.712') = 746.0731 \text{ SF}$$

$$\text{COLUMN } 9.425' \times 10.57' \times 4 = 398.489 \text{ SF}$$

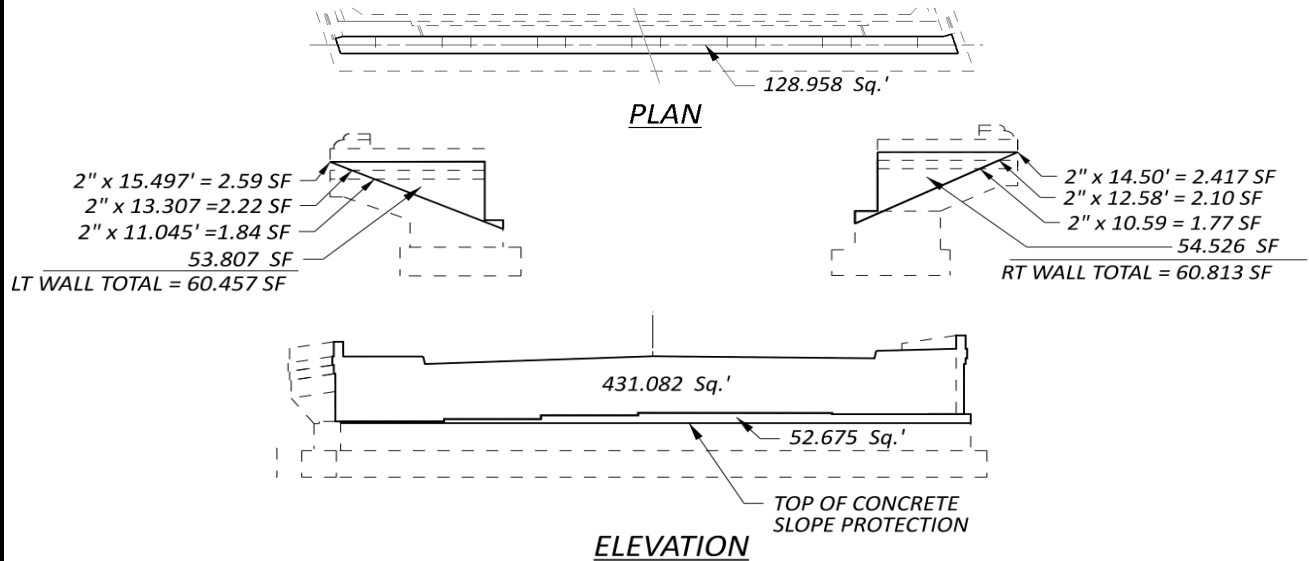
$$1144.562 \text{ SF}$$

(CONT.)

ITEM 512 10401 SEALING CONCRETE BRIDGE DECK WITH SRS, AS PER PLAN

(CONT.)

(AREAS BY CADD)



FORWARD ABUTMENT

FORWARD ABUTMENT

FACE OF ABUTMENT	52.675 SF
BACKWALL	431.082 SF
SEAT	128.958 SF
RIGHT WALL 68.249 SF + (1'x 18.50') =	60.813 SF
LEFT WALL 59.963 SF + (1'x16.50') =	60.457 SF
	733.985 SF

SUPERSTRUCTURE	8124.786 SF
APPROACH SLAB	1369.406 SF
REAR ABUTMENT	1531.943 SF
PIER NO. 1	1181.067 SF
PIER NO. 2	1144.562 SF
FORWARD ABUTMENT	733.985 SF
	14085.749 SF

14085.749 x 1/9 = 1565.083 SY

1565 SY

ENGINEERING ASSOCIATES, INC.
CONSULTING ENGINEERS

1935 EAGLE PASS - WOOSTER, OHIO 44691

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PROJECT: HAM-71-0344

PROJ. NO.: 21093 PG.: 6 OF 8

COMP. BY: HK

DATE: 8/22/23

CHKD. BY: TAC DATE: 2/21/24

SUBJECT: BRIDGE NO. HAM-71-0344 (OAK STREET)

ESTIMATED QUANTITIES SFN: 3114368

ITEM 512 10600 CONCRETE REPAIR BY EPOXY INJECTION

RA 18 FT

FA 30 FT

TOTAL 48 FT

48 FT

ITEM 512 73500 TREATING CONCRETE DECKS WITH GRAVITY FED RESIN

DECK: 262.70' x 44.0' = 11558.8 SF

APPR. SLABS: 2 x (25' x 44') = 2200 SF

TOTAL 13758.8 SF

13758.8 x 1/9 = 1528.76 SY

1529 SY

ITEM 512 74000 REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES

FROM EXISTING PLANS HAM-71-2.92: 942.0 SY

942 SY

ITEM 514 00051 SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL, AS PER PLAN

2 x 54" x 259.5 = 2335.500 SF

3 x 16" x 213.75' = 855.000 SF

4 x 2" x 96.21' = 142.500 SF

4 x 3.375" x 37.50 = 42.188 SF

4 x 1.5" x 80.0' = 40.000 SF

3 x 12" x 45.75' = 137.250 SF

4 x .625" x 45.75' = 9.531 SF

3561.969 SF

7 BEAMS x 3561.969 = 24933.781 SF

24933.781 x 1.21 = 30169.875 SF

30170 SF

ITEM 514 00056 FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT

30170 SF

ITEM 514 00060 FIELD PAINTING STRUCTURALSTEEL, INTERMEDIATE COAT

30170 SF

ITEM 514 00066 FIELD PAINTNG STRUCTURAL STEEL, FINISH COAT

30170 SF

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PROJECT: HAM-71-0344

PROJ. NO.: 21093 PG.: 7 OF 8

COMP. BY: HK

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SUBJECT: BRIDGE NO. HAM-71-0344 (OAK STREET)

ESTIMATED QUANTITIES SFN: 3114368

ITEM 514 00504 GRINDING FINES, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL, MNHR

1 MIN/FT 7 x (213+45) = 1806 MIN = 30.100 MNHR

30 MNHR

ITEM 514 10000 FINAL INSPECTION REPAIR

7 x 258' x 1/300 = 6.020 EA

0.025 x 125 = 3.125 EA

9.145 EA

9 EA

ITEM 516 44201 ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN, 3 1/4" x 1'-1 1/4" x 1'-7 3/4" WITH 2" x 1'-2 1/4" x 1'-8 3/4" LOAD PLATE

7 EA

ITEM 516 44201 ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN, 3 1/4" x 1'-2" x 1'-2" WITH 1 1/2" x 1'-3" x 1'-3" LOAD PLATE

7 EA

ITEM 516 46700 RESET BEARING

1 EA

ITEM 516 47001 JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN

LUMP

ITEM 518 63300 STRUCTURE DRAINAGE, MISC.: SCUPPER AND DRAINAGE PIPE CLEANOUT

LUMP

ITEM 518 63300 STRUCTURE DRAINAGE, MISC.: BRIDGE DRAINAGE SYSTEM REPLACEMENT

LUMP

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ITEM 519 11101 PATCHING CONCRETE STRUCTURE, AS PER PLAN

SUPERSTRUCTURE	287.00	SF
REAR ABUTMENT	17.00	SF
PIER NO. 1	128.50	SF
PIER NO. 2	5.00	SF
FWD. ABUTMENT	4.00	SF
	<u>441.50</u>	<u>SF</u>

442 SF

ITEM 519 12300 PATCHING CONCRETE BRIDGE DECK - TYPE B

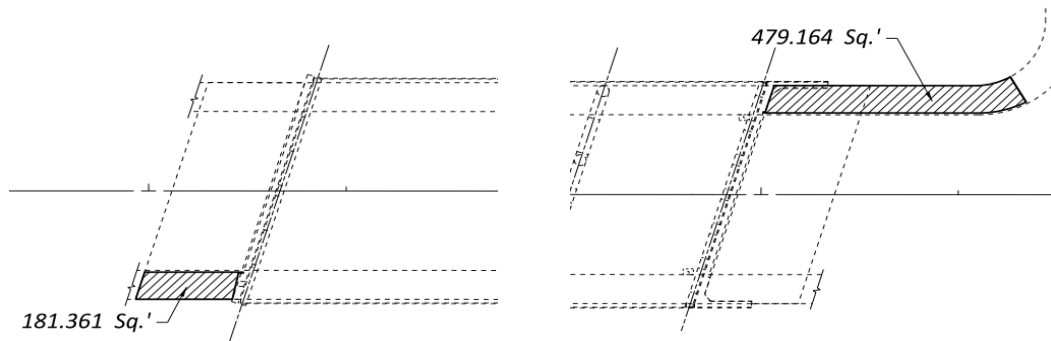
14 SY

ITEM 607 98100 FENCE, MISC.: FENCE REPAIRS

ALL HORIZONTAL RAILS: $32 \times 5 \times 2 =$ 320 EA

320 EA

ITEM 608 10001 4" CONCRETE WALK, AS PER PLAN



$181.361SF + 479.164 SF =$ 660.525 SF

661 SF