



E.L. ROBINSON
ENGINEERING

Computation for: **ESTIMATED QUANTITIES**

SFN: **5707056**

Structure: **MOT-75-1044**

PID: **91606**

Design: **GMW** Date **July 16, 2017**

Check: **DTA** Date **July 17, 2017**

Update: _____ Date _____

Recheck: _____ Date _____

File Names

Comments



1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 202E11203 PAY UNIT: LS
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN

SUPPLEMENTAL DESCRIPTION: _____

	SUBTOTAL	TOTAL
SPECIAL INSTRUCTIONS:	TOTAL	LS



1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 202E22900 PAY UNIT: SY
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: APPROACH SLAB REMOVED

SUPPLEMENTAL DESCRIPTION: _____

				SUBTOTAL	TOTAL
<u>Southeast Approach Slab:</u>					
Area measured in Microstation	=	1333.58 ft ²	=	148.18 SY	
				149	149
<u>Southwest Approach Slab:</u>					
Area measured in Microstation	=	1353.16 ft ²	=	150.35 SY	
				151	300
<u>Northeast Approach Slab:</u>					
Area measured in Microstation	=	1534.89 ft ²	=	170.54 SY	
				171	471
<u>Northwest Approach Slab:</u>					
Area measured in Microstation	=	1780.18 ft ²	=	197.80 SY	
				198	669
SPECIAL INSTRUCTIONS:				TOTAL	669



E.L. ROBINSON
ENGINEERING

1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
614-586-0642 • Fax 614-586-0648

DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 503E11100 PAY UNIT: LS
SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: COFFERDAMS AND EXCAVATION BRACING

SUPPLEMENTAL DESCRIPTION: _____

	SUBTOTAL	TOTAL
SPECIAL INSTRUCTIONS:	TOTAL	LS



E.L. ROBINSON
ENGINEERING

1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
614-586-0642 • Fax 614-586-0648

DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 503E21300 PAY UNIT: LS
SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: UNCLASSIFIED EXCAVATION

SUPPLEMENTAL DESCRIPTION: _____

	SUBTOTAL	TOTAL
SPECIAL INSTRUCTIONS: CHECK UNIT OF MEASURE	TOTAL	LS



DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

ITEM: 504E11101 PAY UNIT: SF
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN

SUPPLEMENTAL DESCRIPTION: SECTION MODULUS = 21.5 IN3/FT

						SUBTOTAL	TOTAL
REAR ABUTMENT SHEET PILING							
	<u>Location</u>	<u>Bottom EL</u>	<u>Top EL</u>	<u>Height (ft)</u>	<u>Width (ft)</u>	<u>Area (SF)</u>	
	Joint 1	734.57	761.18	26.6	12.4	330.2	
	Joint 2	734.57	760.97	26.4	12.2	322.1	
	Joint 3	734.57	761.06	26.5	12.3	325.6	
				Total:		977.9	978
						978	978
SPECIAL INSTRUCTIONS:						TOTAL	978



E.L. ROBINSON
ENGINEERING

1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
614-586-0642 • Fax 614-586-0648

DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 504E11101 PAY UNIT: SF
SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN

SUPPLEMENTAL DESCRIPTION: SECTION MODULUS = 33.5 IN3/FT

						SUBTOTAL	TOTAL
FWD ABUTMENT SHEET PILING							
<u>Location</u>	<u>Bottom EL</u>	<u>Top EL</u>	<u>Height (ft)</u>	<u>Width (ft)</u>	<u>Area (SF)</u>		
Joint 1	716.22	748.14	31.9	15.1	482.6		
Joint 2	716.52	748.29	31.8	15.0	475.6		
Joint 3	716.82	748.73	31.9	15.1	482.2		
Total:					1440.4	1,441	1,441
SPECIAL INSTRUCTIONS:						TOTAL	1,441



1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 509E10000 PAY UNIT: LB
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: EPOXY COATED REINFORCING STEEL

SUPPLEMENTAL DESCRIPTION: _____

		SUBTOTAL	TOTAL
DECK	1,075,375 LB	1,075,375	1,075,375
MOD. EXPANSION JOINT REGION	13774 LB	13,774	1,089,149
BARRIER			
Superstructure:	101452 LB	101,452	1,190,601
Approach Slab:	2823 LB	2,823	1,193,424
REAR ABUTMENT	10783 LB	10,783	1,204,207
FORWARD ABUTMENT	12044 LB	12,044	1,216,251
SPECIAL INSTRUCTIONS:		TOTAL	1,216,251



1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 509E20000 PAY UNIT: LB
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL

SUPPLEMENTAL DESCRIPTION: _____

		SUBTOTAL	TOTAL
ABUTMENT REBAR	500 LB	500	500
SPECIAL INSTRUCTIONS:		TOTAL	500



DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

ITEM: 510E10000 PAY UNIT: EACH
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT

SUPPLEMENTAL DESCRIPTION: _____

			SUBTOTAL	TOTAL
FWD. ABUT.				
82	EACH	SHEET AF001		
73	EACH	SHEET AF002		
20	EACH	SHEET AF003		
18	EACH	SHEET AF004		
193	EACH	TOTAL FORWARD ABUT.	193	193
REAR ABUT.				
65	EACH	SHEET AR001		
67	EACH	SHEET AR002		
25	EACH	SHEET AR003		
16	EACH	SHEET AR004		
173	EACH	TOTAL REAR ABUT.	173	366
SPECIAL INSTRUCTIONS:			TOTAL	366



1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
614-586-0642 • Fax 614-586-0648

DESIGN: FTB DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 511E34446 PAY UNIT: CY
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK
 SUPPLEMENTAL DESCRIPTION: _____

		SUBTOTAL	TOTAL
DECK			
Deck thickness	8.75 IN		
LEFT PLAN AREA MINUS MOD. JOINT BLOCKOUT	60308.75 SQ FT		
DECK THICKNESS	0.73 FT		
LEFT DECK VOL.	43975.13 CF		
LEFT DECK VOL.	1628.708526 CY	1,629	1,629
RIGHT PLAN AREA MINUS MOD. JOINT BLOCKOUT	57021.83 sq ft		
DECK THICKNESS	0.73 FT		
RIGHT DECK VOL.	41578.42 CF		
RIGHT DECK VOL.	1539.941397 CY	1,540	3,169
DECK HAUNCH-LEFT BRIDGE			
DEPTH FROM CENTER OF HAUNCH	3.5 IN		
FLANGE WIDTH	20.00 IN		
HAUNCH EXTENSION FROM FLANGE	9.00 IN		
AVG. FLANGE THICKNESS	1.75 IN		
X-SECTION AREA	0.81 SF		
TOTAL LT. BRIDGE GIRDER LENGTH	6593.13 FT		
VOLUME	5368.36 CF		
VOLUME	198.83 CY	199	3,368
DECK HAUNCH-RIGHT BRIDGE			
DEPTH FROM CENTER OF HAUNCH	3.5 IN		
FLANGE WIDTH	20.00 IN		
HAUNCH EXTENSION FROM FLANGE	9.00 IN		
AVG. FLANGE THICKNESS	1.75 IN		
X-SECTION AREA	0.81 SF		
TOTAL RT. BRIDGE GIRDER LENGTH	6066.14 FT		
VOLUME	4939.27 CF		
VOLUME	182.94 CY	183	3,551
DECK EDGE-LEFT BRIDGE			
LEFT EDGE WIDTH	2.73 FT		
HEIGHT	1.13 FT		
ORIGINAL HEIGHT TO SUBTRACT	0.73 FT		
LENGTH GIRDER A	920.53 FT		
VOLUME	994.75 CF		
VOLUME-LEFT EDGE	36.84 CY	37	3,588
RIGHT EDGE WIDTH	3.50 FT		
HEIGHT	1.13 FT		
ORIGINAL HEIGHT TO SUBTRACT	0.73 FT		
LENGTH GIRDER J	933.91 FT		
VOLUME	1291.66 CF		
VOLUME-RIGHT EDGE	47.84 CY	48	3,636
DECK EDGE-RIGHT BRIDGE			
LEFT EDGE WIDTH	3.272857143 FT		
HEIGHT	1.13 FT		
ORIGINAL HEIGHT TO SUBTRACT	0.73 FT		
LENGTH GIRDER K	934.66 FT		
VOLUME	1210.86 CF		
VOLUME-LEFT EDGE	44.85 CY	45	3,681
RIGHT EDGE WIDTH	3.19 FT		
HEIGHT	1.13 FT		
ORIGINAL HEIGHT TO SUBTRACT	0.73 FT		



1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
614-586-0642 • Fax 614-586-0648

DESIGN: FTB DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 511E34446 PAY UNIT: CY
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK
 SUPPLEMENTAL DESCRIPTION: _____

		SUBTOTAL	TOTAL
LENGTH GIRDER R	943.25 FT		
VOLUME	1189.07 CF		
VOLUME-RIGHT EDGE	44.04 CY	45	3,726
DROP SLAB			
TOTAL LENGTH REAR ABUT.	134.34 FT		
TOTAL LENGTH FWD ABUT.	157.19 FT		
CROSS-SECTIONAL AREA	3.22 SF		
VOLUME DROP-SLAB	938.37 CF		
VOLUME DROP-SLAB	34.75 CY	35	3,761
SPECIAL INSTRUCTIONS: CHECK UNIT OF MEASURE		TOTAL	3,761



DESIGN: GMW **DATE:** 7/16/17 **UPDATE:** _____ **DATE:** _____
CHECK: DTA **DATE:** 7/17/17 **RECHECK:** _____ **DATE:** _____
STRUCTURE: MOT-75-1044 **SFN:** 5707056 **PID:** 91606

1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
614-586-0642 • Fax 614-586-0648

ITEM: 511E34450 **PAY UNIT:** CY
SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)

SUPPLEMENTAL DESCRIPTION: _____

	SUBTOTAL	TOTAL
SBR-1-13 Parapet Cross-Sectional Area = 4.0833 ft ² (outside barriers)		
SBR-2-13 Parapet Cross-Sectional Area = 6.1533 ft ² (inside barriers)		
Median Approach Slab Barrier = 16.9941 ft ²		
Superstructure: Volume of Railing with Full Cross-Sectional Area (from RA002.dgn):		
Railing Lengths:		
Left, Exterior = 930.69 ft		
Left, Interior = 933.71 ft		
Right, Interior = 933.85 ft		
Right, Exterior = 952.74 ft		
Volume of barriers excluding transition region = 4.08 ft ² * (930.69 + 952.74) ft + 6.15 ft ² * (933.71 + 933.85) ft =		
Volume of 14'-0" Transition Region:		
# of transition regions = 4		
Volume of each transition region = 1.82 CY (from SBR-1-13 Std. Drawing)		
Total Volume of Parapet Transitions = 4 * 1.82 CY = 7.28 CY		
Total Volume of Parapets = 710.45 CY + 7.28 CY = 717.73 CY	718	718
Approach Slab: Volume of Railing with Full Cross-Sectional Area (from RA002.dgn):		
Railing Lengths:		
Rear AS, Median = 26.56 ft		
FWD AS, Median = 26.50 ft		
Volume of barriers excluding transition region = 16.99 ft ² * (26.56 + 26.5) ft =		
	34	752



E.L. ROBINSON
ENGINEERING

1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
614-586-0642 • Fax 614-586-0648

DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 511E34450 PAY UNIT: CY
SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK (PARAPET)

SUPPLEMENTAL DESCRIPTION: _____

	SUBTOTAL	TOTAL
SPECIAL INSTRUCTIONS: CHECK UNIT OF MEASURE	TOTAL	752



DESIGN: DTA DATE: 10/24/16 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

ITEM: 511E44110 PAY UNIT: CY
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING

SUPPLEMENTAL DESCRIPTION: _____

		SUBTOTAL	TOTAL
REAR ABUTMENT			
ABUTMENT BACKWALL BELOW APPR. SLAB SEAT =	605.24 SF		
DEPTH =	1.42 FT		
VOLUME =	857.42 CF		
ABUTMENT BACKWALL ABOVE APPR. SLAB SEAT =	153.717 SF		
DEPTH =	1.50 FT		
VOLUME =	230.58 CF		
LENGTH OF APPR. SLAB SEAT =	130.58 FT		
WIDTH OF APPR SLAB SEAT =	0.58 FT		
HEIGHT OF APPR SLAB SEAT =	2.04 FT		
VOLUME	155.39 CF		
LEFT WINGWALL AREA =	120.86 SF		
LEFT WINGWALL THICKNESS =	1.50 FT		
VOLUME	181.29 CF		
RIGHT WINGWALL AREA =	152.86 SF		
RIGHT WINGWALL THICKNESS =	1.50 FT		
VOLUME	229.29 CF		
ABUTMENT TOTAL	1653.96 CF 61.26 CY	62	62
FORWARD ABUTMENT			
ABUTMENT BACKWALL BELOW APPROACH SLAB SEAT =	706.41 SF		
DEPTH =	1.42 FT		
VOLUME =	1000.75 CF		
ABUTMENT BACKWALL ABOVE APPR. SLAB SEAT =	179.91 SF		
DEPTH =	1.50 FT		
VOLUME =	269.87 CF		
LENGTH OF APPR. SLAB SEAT =	153.58 FT		
WIDTH OF APPR SLAB SEAT =	0.58 FT		
HEIGHT OF APPR SLAB SEAT =	2.04 FT		
VOLUME	182.76 CF		
LEFT WINGWALL AREA =	125.50 SF		
LEFT WINGWALL THICKNESS =	1.50 FT		
VOLUME	188.25 CF		
RIGHT WINGWALL AREA =	104.70 SF		
RIGHT WINGWALL THICKNESS =	1.50 FT		
VOLUME	157.05 CF		
ABUTMENT TOTAL	1798.67 CF 66.62 CY	67	129



E.L. ROBINSON
ENGINEERING

1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
614-586-0642 • Fax 614-586-0648

DESIGN: DTA DATE: 10/24/16 UPDATE: _____ DATE: _____
CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 511E44110 PAY UNIT: CY
SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING

SUPPLEMENTAL DESCRIPTION: _____

	SUBTOTAL	TOTAL
SPECIAL INSTRUCTIONS:	TOTAL	129



1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 511E53014 PAY UNIT: CY
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: CLASS QC3 CONCRETE, MISC.:

SUPPLEMENTAL DESCRIPTION: MODULAR EXPANSION JOINT, AS PER PLAN

	SUBTOTAL	TOTAL
Cross-sectional Area: height = 1.166667 ft width = 1.5 ft area = 1.75 sf approx. area of support box: height = 0.666667 ft width = 0.75 ft area = 0.5 sf area of concrete at boxes= 1.75 sf - 0.5 sf = 1.25 sf approx. # of support boxes: Rear Abutment = 35 boxes Forward Abutment = 41 boxes approx. width of boxes = 1.25 ft Total rear abutment length = 134.16 ft Total rear end of deck length = 134.34 ft length without boxes = 134.16 ft + 134.34 ft - 2*(1.25 x 35 boxes) = 181 ft vol. of concrete = 181 ft x 1.75 sf = 271.5 cf length with boxes = 87.5 ft vol. of concrete= 87.5 ft x 1.25 sf = 109.375 cf Total forward abutment length = 157.02 ft Total fwd. end of deck length = 157.19 ft length without boxes = 157.02 ft + 157.19 ft - 2*(1.25 x 41 boxes) = 211.71 ft vol. of concrete = 211.71 ft x 1.75 sf = 370.4925 cf length with boxes = 102.5 ft vol. of concrete= 102.5 ft x 1.25 sf = 128.125 cf <div style="text-align: right;"> Total = 879.4925 cf 32.5738 cy </div>	33	33
SPECIAL INSTRUCTIONS: ADD SUPPLEMENTAL DESCRIPTION	TOTAL	33



1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
614-586-0642 • Fax 614-586-0648

DESIGN: DTA DATE: 10/24/16 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 512E10100 PAY UNIT: SY

SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

SUPPLEMENTAL DESCRIPTION: _____

		SUBTOTAL	TOTAL
BARRIER - OUTSIDE			
PERIMETER =	9.6 FT		
LEFT SIDE LENGTH =	919.85 FT		
RIGHT SIDE LENGTH =	942.84 FT		
TOTAL AREA =	17881.82 SQ FT		
BARRIER - MEDIAN			
PERIMETER =	5.68 FT		
LEFT SIDE LENGTH =	933.58 FT		
RIGHT SIDE LENGTH =	933.85 FT		
TOTAL AREA =	10607.00 SQ FT		
BARRIER - APPROACH SLABS			
AVG. PERIMETER =	7.31 FT		
LEFT SIDE LENGTH =	38.83 FT		
RIGHT SIDE LENGTH =	37.66 FT		
TOTAL AREA =	559.14 SQ FT		
TOTAL PARAPET SEAL AREA			
	29047.97 SF		
	3227.552 SY	3,228	3,228
REAR ABUTMENT			
FACE OF BEAM SEAT =	362.83 SF		
BEAM SEAT =	375.54 SF		
FACE OF BACKWALL =	915.48 SF		
LEFT WINGWALL FACE =	87.25 SF		
RIGHT WINGWALL FACE =	91.84 SF		
TOTAL REAR ABUT. =	203.66 SY	204	3,432
FORWARD ABUTMENT			
FACE OF BEAM SEAT =	443.89 SF		
BEAM SEAT =	440.44 SF		
FACE OF BACKWALL =	1069.13 SF		
LEFT WINGWALL FACE =	86.74 SF		
RIGHT WINGWALL FACE =	86.79 SF		
TOTAL FWD. ABUT.	236.33 SY	237	3,669
SPECIAL INSTRUCTIONS:		TOTAL	3,669



E.L. ROBINSON
ENGINEERING

1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
614-586-0642 • Fax 614-586-0648

DESIGN: FTB DATE: 4/14/16 UPDATE: _____ DATE: _____
CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 512E33000 PAY UNIT: SY
SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: TYPE 2 WATERPROOFING

SUPPLEMENTAL DESCRIPTION: _____

			SUBTOTAL	TOTAL
REAR ABUTMENT (3' WIDE STRIP)				
STRIP LENGTH	20.50	FT		
OVERLAP LENGTH	4.50	FT		
STRIP WIDTH	3	FT		
FORWARD ABUTMENT (3' WIDE STRIP)				
STRIP LENGTH	20.52	FT		
OVERLAP LENGTH	4.50	FT		
STRIP WIDTH	3	FT		
TOTAL	150.06	SF		
TOTAL	16.67	SY	17	17
SPECIAL INSTRUCTIONS: CHECK UNIT OF MEASURE			TOTAL	17



DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

ITEM: 513E10201 PAY UNIT: LB
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN

SUPPLEMENTAL DESCRIPTION: _____

		SUBTOTAL	TOTAL
END CROSSFRAMES			
<i>L5"x5"x5/8" (10.66' Spacing)</i>		<i>L5"x5"x5/8" (10.00' Spacing)</i>	
Avg. Horiz. Length =	9.46 ft	Avg. Horiz. Length =	8.80 ft
# Horiz. X-Frames =	1 ea	# Horiz. X-Frames =	1 ea
Avg. Diag. Length =	4.83 ft	Avg. Diag. Length =	4.83 ft
# Diag. X-Frames =	2 ea	# Diag. X-Frames =	2 ea
# X-Frames =	1 ea	# X-Frames =	10 ea
Weight / ft =	20.00 lb / ft	Weight / ft =	20.00 lb / ft
Total =	382.40 lb	Total =	3692.00 lb
<i>L5"x5"x5/8" (10.49' Spacing)</i>		<i>L5"x5"x5/8" (6.99' Spacing)</i>	
Avg. Horiz. Length =	9.29 ft	Avg. Horiz. Length =	5.79 ft
# Horiz. X-Frames =	1 ea	# Horiz. X-Frames =	1 ea
Avg. Diag. Length =	4.83 ft	Avg. Diag. Length =	4.83 ft
# Diag. X-Frames =	2 ea	# Diag. X-Frames =	2 ea
# X-Frames =	1 ea	# X-Frames =	2 ea
Weight / ft =	20.00 lb / ft	Weight / ft =	20.00 lb / ft
Total =	379.00 lb	Total =	618.00 lb
<i>L5"x5"x5/8" (10.48' Spacing)</i>		<i>L5"x5"x5/8" (7.86' Spacing)</i>	
Avg. Horiz. Length =	9.28 ft	Avg. Horiz. Length =	6.66 ft
# Horiz. X-Frames =	1 ea	# Horiz. X-Frames =	1 ea
Avg. Diag. Length =	4.83 ft	Avg. Diag. Length =	4.83 ft
# Diag. X-Frames =	2 ea	# Diag. X-Frames =	2 ea
# X-Frames =	11 ea	# X-Frames =	1 ea
Weight / ft =	20.00 lb / ft	Weight / ft =	20.00 lb / ft
Total =	4166.80 lb	Total =	326.40 lb
<i>L5"x5"x5/8" (6.58' Spacing)</i>		<i>1/2" x 9 3/4" x 2'-6" Plate</i>	
Avg. Horiz. Length =	5.38 ft	Length =	2.50 ft
# Horiz. X-Frames =	1 ea	# Plates =	27 ea
Avg. Diag. Length =	4.83 ft	Weight / ft =	16.63 lb / ft
# Diag. X-Frames =	2 ea	Total =	1122.53 lb
# X-Frames =	1 ea		
Weight / ft =	20.00 lb / ft		
Total =	300.80 lb		
<i>1/2" x 1'-1" Plate</i>		<i>1/2" x 1'-5" x 1'-7 1/2" Plate</i>	

(Assumed plate was 1'-1", took shape area and



DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

ITEM: 513E10201 PAY UNIT: LB
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: STRUCTURAL STEEL MEMBERS, LEVEL UF, AS PER PLAN

SUPPLEMENTAL DESCRIPTION: _____

		SUBTOTAL	TOTAL
<i>divided by 1'-1" to get length)</i>			
Length =	2.37 ft	Length =	1.63 ft
# Plates =	27 ea	# Plates =	27 ea
Weight / ft =	22.10 lb / ft	Weight / ft =	28.91 lb / ft
Total =	1414.18 lb	Total =	1268.43 lb
<i>1/2" x 1'-0" x 4'-5" Plate</i>		<i>MC12x50 (10.66' Spacing)</i>	
Length =	4.42 ft	Length =	9.66 ft
# Plates =	27 ea	# Channels =	1 ea
Weight / ft =	20.40 lb / ft	Weight / ft =	50.00 lb / ft
Total =	2432.72 lb	Total =	483.00 lb
<i>MC12x50 (10.00' Spacing)</i>		<i>MC12x50 (10.49' Spacing)</i>	
Length =	9.00 ft	Length =	9.49 ft
# Channels =	10 ea	# Channels =	1 ea
Weight / ft =	50.00 lb / ft	Weight / ft =	50.00 lb / ft
Total =	4500.00 lb	Total =	474.50 lb
<i>MC12x50 (6.99' Spacing)</i>		<i>MC12x50 (10.48' Spacing)</i>	
Length =	5.99 ft	Length =	9.48 ft
# Channels =	2 ea	# Channels =	11 ea
Weight / ft =	50.00 lb / ft	Weight / ft =	50.00 lb / ft
Total =	599.00 lb	Total =	5214.00 lb
<i>MC12x50 (7.86' Spacing)</i>		<i>MC12x50 (6.58' Spacing)</i>	
Length =	6.86 ft	Length =	5.58 ft
# Channels =	1 ea	# Channels =	1 ea
Weight / ft =	50.00 lb / ft	Weight / ft =	50.00 lb / ft
Total =	343.00 lb	Total =	279.00 lb
		Sum =	27995.75
		6% Assumed for Nuts, Bolts, etc. =	1679.76
		27,996	27,996
		1,680	29,676
SPECIAL INSTRUCTIONS: CHECK UNIT OF MEASURE		TOTAL	29,676



DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

ITEM: 513E10280 PAY UNIT: LB
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: STRUCTURAL STEEL MEMBERS, LEVEL 4

SUPPLEMENTAL DESCRIPTION: _____

						SUBTOTAL	TOTAL																																																																																																								
<table border="1"> <thead> <tr> <th>Girder</th> <th>Length (ft)</th> <th>Web Weight (lb / ft)</th> <th>Flange Weight (lb / ft)</th> <th># Flanges (ea)</th> <th>Girder Weight (lb)</th> </tr> </thead> <tbody> <tr><td>A</td><td>37.74</td><td>127.8</td><td>68</td><td>2</td><td>9955.81</td></tr> <tr><td>C</td><td>37.76</td><td>127.8</td><td>68</td><td>2</td><td>9961.09</td></tr> <tr><td>D</td><td>37.88</td><td>127.8</td><td>68</td><td>2</td><td>9992.74</td></tr> <tr><td>E</td><td>37.88</td><td>127.8</td><td>68</td><td>2</td><td>9992.74</td></tr> <tr><td>F</td><td>37.88</td><td>127.8</td><td>68</td><td>2</td><td>9992.74</td></tr> <tr><td>G</td><td>37.88</td><td>127.8</td><td>68</td><td>2</td><td>9992.74</td></tr> <tr><td>H</td><td>37.88</td><td>127.8</td><td>68</td><td>2</td><td>9992.74</td></tr> <tr><td>J</td><td>37.88</td><td>127.8</td><td>68</td><td>2</td><td>9992.74</td></tr> <tr><td>K</td><td>37.88</td><td>127.8</td><td>68</td><td>2</td><td>9992.74</td></tr> <tr><td>L</td><td>37.88</td><td>127.8</td><td>68</td><td>2</td><td>9992.74</td></tr> <tr><td>M</td><td>37.88</td><td>127.8</td><td>68</td><td>2</td><td>9992.74</td></tr> <tr><td>N</td><td>37.88</td><td>127.8</td><td>68</td><td>2</td><td>9992.74</td></tr> <tr><td>O</td><td>37.88</td><td>127.8</td><td>68</td><td>2</td><td>9992.74</td></tr> <tr><td>P</td><td>32.88</td><td>127.8</td><td>76.5</td><td>2</td><td>9232.70</td></tr> <tr><td>R</td><td>33.25</td><td>127.8</td><td>76.5</td><td>2</td><td>9336.60</td></tr> <tr> <td colspan="5" style="text-align: right;">Sum =</td> <td>148406.39</td> <td>lb</td> <td></td> </tr> </tbody> </table>						Girder	Length (ft)	Web Weight (lb / ft)	Flange Weight (lb / ft)	# Flanges (ea)	Girder Weight (lb)	A	37.74	127.8	68	2	9955.81	C	37.76	127.8	68	2	9961.09	D	37.88	127.8	68	2	9992.74	E	37.88	127.8	68	2	9992.74	F	37.88	127.8	68	2	9992.74	G	37.88	127.8	68	2	9992.74	H	37.88	127.8	68	2	9992.74	J	37.88	127.8	68	2	9992.74	K	37.88	127.8	68	2	9992.74	L	37.88	127.8	68	2	9992.74	M	37.88	127.8	68	2	9992.74	N	37.88	127.8	68	2	9992.74	O	37.88	127.8	68	2	9992.74	P	32.88	127.8	76.5	2	9232.70	R	33.25	127.8	76.5	2	9336.60	Sum =					148406.39	lb		148,406	148,406
Girder	Length (ft)	Web Weight (lb / ft)	Flange Weight (lb / ft)	# Flanges (ea)	Girder Weight (lb)																																																																																																										
A	37.74	127.8	68	2	9955.81																																																																																																										
C	37.76	127.8	68	2	9961.09																																																																																																										
D	37.88	127.8	68	2	9992.74																																																																																																										
E	37.88	127.8	68	2	9992.74																																																																																																										
F	37.88	127.8	68	2	9992.74																																																																																																										
G	37.88	127.8	68	2	9992.74																																																																																																										
H	37.88	127.8	68	2	9992.74																																																																																																										
J	37.88	127.8	68	2	9992.74																																																																																																										
K	37.88	127.8	68	2	9992.74																																																																																																										
L	37.88	127.8	68	2	9992.74																																																																																																										
M	37.88	127.8	68	2	9992.74																																																																																																										
N	37.88	127.8	68	2	9992.74																																																																																																										
O	37.88	127.8	68	2	9992.74																																																																																																										
P	32.88	127.8	76.5	2	9232.70																																																																																																										
R	33.25	127.8	76.5	2	9336.60																																																																																																										
Sum =					148406.39	lb																																																																																																									
<p>BEARING STIFFENERS</p> <p>Length = 5.00 ft # Stiffeners = 2 ea # Girders = 15 ea Weight / ft = 23.80 lb / ft</p> <p>Total = 3570.00 lb</p>						3,570	151,976																																																																																																								
<p>SPLICE PLATES</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><i>15" x 7/16" x 4'-8" Plates</i></p> <p>Length = 4.67 ft # Plates = 2 ea # Girders = 15 ea Weight / ft = 22.32 lb / ft</p> <p>Total = 3124.82 lb</p> </div> <div style="width: 45%;"> <p><i>1'-7" x 7/8" x 2'-3 1/2" Plates</i></p> <p>Length = 2.29 ft # Plates = 2 ea # Girders = 15 ea Weight / ft = 56.50 lb / ft</p> <p>Total = 3884.43 lb</p> </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="width: 45%;"> <p><i>7 1/2" x 1/8" x 4'-8" Plates</i></p> <p>Length = 4.67 ft # Plates = 2 ea # Girders = 15 ea Weight / ft = 3.20 lb / ft</p> <p>Total = 448.00 lb</p> </div> <div style="width: 45%;"> <p><i>8" x 1" x 2'-3 1/2" Plates</i></p> <p>Length = 2.29 ft # Plates = 4 ea # Girders = 15 ea Weight / ft = 27.20 lb / ft</p> <p>Total = 3740.05 lb</p> </div> </div>						11,197	163,173																																																																																																								
<p>FILL PLATES</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><i>1'-7" x 1/4" x 1'-1 3/4" Fill Plates</i></p> <p>Length = 1.15 ft # Plates = 2 ea # Girders = 4 ea Weight / ft = 16.15 lb / ft</p> </div> <div style="width: 45%;"> <p><i>1'-7" x 5/8" x 1'-1 3/4" Fill Plates</i></p> <p>Length = 1.15 ft # Plates = 2 ea # Girders = 11 ea Weight / ft = 40.40 lb / ft</p> </div> </div>																																																																																																															



DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

ITEM: 513E10280 PAY UNIT: LB
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: STRUCTURAL STEEL MEMBERS, LEVEL 4

SUPPLEMENTAL DESCRIPTION: _____

		SUBTOTAL	TOTAL
Total =	148.04 lb		
<i>1'-7" x 3/8" x 1'-1 3/4" Fill Plates</i>			
Length =	1.15 ft		
# Plates =	2 ea		
# Girders =	11 ea		
Weight / ft =	24.23 lb / ft		
Total =	610.78 lb		
<i>1'-7" x 7/8" x 1'-1 3/4" Fill Plates</i>			
Length =	1.15 ft		
# Plates =	2 ea		
# Girders =	2 ea		
Weight / ft =	56.50 lb / ft		
Total =	258.95 lb		
<i>1'-7" x 1/2" x 1'-1 3/4" Fill Plates</i>			
Length =	1.15 ft		
# Plates =	2 ea		
# Girders =	2 ea		
Weight / ft =	32.30 lb / ft		
Total =	148.04 lb	2,184	165,357
Intermediate Crossframes:			
<i>L4"x4"x3/8" - Bay 1</i>		<i>1/2" x 5" x 2'-0" Filler Plate</i>	
Avg. Horiz. Length =	7.12 ft	Length =	2.00 ft
# Horiz. X-Frames =	2 ea	# Plates =	8 ea
Avg. Diag. Length =	7.57 ft	Weight / ft =	8.51 lb / ft
# Diag. X-Frames =	2 ea		
# X-Frames =	8 ea	Total =	136.16 lb
Weight / ft =	9.80 lb / ft		
Total =	2303.39 lb	Sum =	2439.55
<i>L4"x4"x3/8" - Bay 2 - Bay 10</i>		<i>1/2" x 5" x 2'-0" Filler Plate</i>	
Avg. Horiz. Length =	8.55 ft	Length =	2.00 ft
# Horiz. X-Frames =	2 ea	# Plates =	62 ea
Avg. Diag. Length =	9.00 ft	Weight / ft =	8.51 lb / ft
# Diag. X-Frames =	2 ea		
# X-Frames =	62 ea	Total =	1055.24 lb
Weight / ft =	9.80 lb / ft		
Total =	21326.76 lb	Sum =	22382.00
<i>L4"x4"x3/8" - Bay 11</i>		<i>1/2" x 5" x 2'-0" Filler Plate</i>	
Avg. Horiz. Length =	7.34 ft	Length =	2.00 ft
# Horiz. X-Frames =	2 ea	# Plates =	6 ea
Avg. Diag. Length =	7.79 ft	Weight / ft =	8.51 lb / ft
# Diag. X-Frames =	2 ea		
# X-Frames =	6 ea	Total =	102.12 lb
Weight / ft =	9.80 lb / ft		



1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 513E10280 PAY UNIT: LB
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: STRUCTURAL STEEL MEMBERS, LEVEL 4

SUPPLEMENTAL DESCRIPTION: _____

		SUBTOTAL	TOTAL
Total = 1779.29 lb			
Sum = 1881.41			
<i>L4"x4"x3/8" - Bay 12</i>			
<i>1/2" x 5" x 2'-0" Filler Plate</i>			
Avg. Horiz. Length = 7.18 ft	Length = 2.00 ft		
# Horiz. X-Frames = 2 ea	# Plates = 6 ea		
Avg. Diag. Length = 7.63 ft	Weight / ft = 8.51 lb / ft		
# Diag. X-Frames = 2 ea			
# X-Frames = 6 ea	Total = 102.12 lb		
Weight / ft = 9.80 lb / ft			
Total = 1741.66 lb	Sum = 1843.78	28,547	193,904
STIFFENER PLATE			
<i>1/2" x 8" x 5'-0" Plate</i>			
Length = 7.34 ft			
# Plates = 2 ea			
# X-Frames = 82 ea			
Weight / ft = 13.60 lb / ft			
Total = 16371.14 lb		16,371	210,275
6% Assumed for Nuts, Bolts, etc. = 12616.50		12,617	222,892
SPECIAL INSTRUCTIONS: CHECK UNIT OF MEASURE		TOTAL	222,892



1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 513E17001 PAY UNIT: FT
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: STRUCTURAL STEEL MEMBERS, MODULAR EXPANSION JOINT, LEVEL UF, AS PER PLAN

SUPPLEMENTAL DESCRIPTION: _____

	SUBTOTAL	TOTAL
Left Bridge Expansion Joint Lengths: Rear = 65.67 ft FWD = 82.05 ft <hr style="width: 20%; margin-left: 0;"/> SUM = 147.72 ft Right Bridge Expansion Joint Lengths: Rear = 65.50 ft FWD = 72.04 ft <hr style="width: 20%; margin-left: 0;"/> SUM = 137.54 ft TOTAL = 147.72 ft + 137.54 ft = 285.26 ft	286	286
SPECIAL INSTRUCTIONS:	TOTAL	286



DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

ITEM: 513E20000 PAY UNIT: EACH
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: WELDED STUD SHEAR CONNECTORS

SUPPLEMENTAL DESCRIPTION: _____

					SUBTOTAL	TOTAL
GIRDER	Girder Length (ft)	spacing (ft)	#/row	Quantity		
A	920.52	0.833	3	3,315		
B	301.90	0.833	3	1,089		
C	710.78	0.833	3	2,559		
D	928.47	0.833	3	3,345		
E	929.56	0.833	3	3,348		
F	930.65	0.833	3	3,351		
G	931.73	0.833	3	3,357		
H	932.82	0.833	3	3,360		
J	933.91	0.833	3	3,363		
K	934.66	0.833	3	3,366		
L	935.75	0.833	3	3,369		
M	936.84	0.833	3	3,375		
N	937.92	0.833	3	3,378		
O	939.01	0.833	3	3,381		
P	940.09	0.833	3	3,387		
Q	437.58	0.833	3	1,578		
R	943.25	0.833	3	3,396		
SUM =				52,317	52,317	52,317
 Shear Studs on End Crossframes						
# of shear studs per crossframe = 11						
# of end crossframes = 27						
Total = 297					297	52,614
 SPECIAL INSTRUCTIONS:					TOTAL	52,614



E.L. ROBINSON
ENGINEERING

1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
614-586-0642 • Fax 614-586-0648

DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 513E95020 PAY UNIT: LS
SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: STRUCTURAL STEEL, MISC.:

SUPPLEMENTAL DESCRIPTION: TEMPORARY SUPPORT OF EXISTING STRUCTURE

	SUBTOTAL	TOTAL
SPECIAL INSTRUCTIONS: ADD SUPPLEMENTAL DESCRIPTION	TOTAL	LS



DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

ITEM: 514E00050 PAY UNIT: SF
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL

SUPPLEMENTAL DESCRIPTION: _____

SUBTOTAL TOTAL

Existing Girder 5' End Sections and bolted splice sections

Girder	Flange (in)		Web (in)		Perimeter (in)	Length (ft)	Area (ft ²)
	b _f	t _f	d	t _w			
A	20	1.625	60	0.375	182.50	12.67	192.64
B	20	1.625	60	0.375	182.50	5.00	76.04
C	20	1.625	60	0.375	182.50	7.67	116.60
D	20	1.625	60	0.375	182.50	12.67	192.64
E	20	1.625	60	0.375	182.50	12.67	192.64
F	20	1.625	60	0.375	182.50	12.67	192.64
G	20	1.625	60	0.375	182.50	12.67	192.64
H	20	1.625	60	0.375	182.50	12.67	192.64
J	20	1.625	60	0.375	182.50	12.67	192.64
K	20	1.625	60	0.375	182.50	12.67	192.64
L	20	1.625	60	0.375	182.50	12.67	192.64
M	20	1.625	60	0.375	182.50	12.67	192.64
N	20	1.625	60	0.375	182.50	12.67	192.64
O	20	1.625	60	0.375	182.50	12.67	192.64
P	20	1.625	60	0.375	182.50	12.67	192.64
Q	20	1.625	60	0.375	182.50	5.00	76.04
R	20	1.625	60	0.375	182.50	12.67	192.64

SUM = 2,965.63 ft²

Including 25% detail factor to account for misc. stiffeners, and misc. steel:
 = 2965.63 * 1.25 = 3,707.03 ft²

3,708 3,708

Existing Bearing Stiffeners

Area of Stiffener Face = 8 in. * 60 in. / 144 in²/ft² =
 = 3.33 ft²
 # of faces per bearing location = 4
 # of abutment bearing locations = 31

 Total Bearing Stiffener area = 3.33 * 4 * 31 =
 = 413.33 ft²

413 4,121

SPECIAL INSTRUCTIONS:

TOTAL 4,121



DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

ITEM: 514E00057 PAY UNIT: SF
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, AS PER PLAN

SUPPLEMENTAL DESCRIPTION: _____

SUBTOTAL TOTAL

Existing Girder 5' End Sections and bolted splice sections

Girder	Flange (in)		Web (in)		Perimeter (in)	Length (ft)	Area (ft ²)
	b _f	t _f	d	t _w			
A	20	1.625	60	0.375	182.50	12.67	192.64
B	20	1.625	60	0.375	182.50	5.00	76.04
C	20	1.625	60	0.375	182.50	7.67	116.60
D	20	1.625	60	0.375	182.50	12.67	192.64
E	20	1.625	60	0.375	182.50	12.67	192.64
F	20	1.625	60	0.375	182.50	12.67	192.64
G	20	1.625	60	0.375	182.50	12.67	192.64
H	20	1.625	60	0.375	182.50	12.67	192.64
J	20	1.625	60	0.375	182.50	12.67	192.64
K	20	1.625	60	0.375	182.50	12.67	192.64
L	20	1.625	60	0.375	182.50	12.67	192.64
M	20	1.625	60	0.375	182.50	12.67	192.64
N	20	1.625	60	0.375	182.50	12.67	192.64
O	20	1.625	60	0.375	182.50	12.67	192.64
P	20	1.625	60	0.375	182.50	12.67	192.64
Q	20	1.625	60	0.375	182.50	5.00	76.04
R	20	1.625	60	0.375	182.50	12.67	192.64

SUM = 2,965.63 ft²

Including 25% detail factor to account for misc. stiffeners, and misc. steel:
 = 2965.63 * 1.25 = 3,707.03 ft²

3,708 3,708

Existing Bearing Stiffeners

Area of Stiffener Face = 8 in. * 60 in. / 144 in²/ft² =
 = 3.33 ft²
 # of faces per bearing location = 4
 # of abutment bearing locations = 31

 Total Bearing Stiffener area = 3.33 * 4 * 31 =
 = 413.33 ft²

413 4,121

SPECIAL INSTRUCTIONS:

TOTAL 4,121



DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

ITEM: 514E00060 PAY UNIT: SF
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT

SUPPLEMENTAL DESCRIPTION: _____

SUBTOTAL TOTAL

New Girder Sections

Girder	Flange (in)		Web (in)		Perimeter (in)	Length (ft)	Area (ft ²)
	b _f	t _f	d	t _w			
A	20	1	60	0.5625	180.88	37.74	568.83
C	20	1	60	0.5625	180.88	37.76	569.20
D	20	1	60	0.5625	180.88	37.87	570.88
E	20	1	60	0.5625	180.88	37.87	570.88
F	20	1	60	0.5625	180.88	37.87	570.88
G	20	1	60	0.5625	180.88	37.87	570.88
H	20	1	60	0.5625	180.88	37.87	570.88
J	20	1	60	0.5625	180.88	37.87	570.88
K	20	1	60	0.5625	180.88	37.87	570.88
L	20	1	60	0.5625	180.88	37.87	570.88
M	20	1	60	0.5625	180.88	37.87	570.88
N	20	1	60	0.5625	180.88	37.87	570.88
O	20	1	60	0.5625	180.88	37.87	570.88
P	20	1.125	60	0.5625	181.13	32.87	496.20
R	20	1.125	60	0.5625	181.13	33.25	501.88

SUM = 8,415.78 ft²

Including 25% detail factor to account for crossframes, stiffeners, and misc. steel:
 = 8415.78 * 1.25 = 10,519.73 ft²

10,520 10,520

Existing Girder 5' End Sections and bolted splice sections

Girder	Flange (in)		Web (in)		Perimeter (in)	Length (ft)	Area (ft ²)
	b _f	t _f	d	t _w			
A	20	1.625	60	0.375	182.50	12.67	192.64
B	20	1.625	60	0.375	182.50	5.00	76.04
C	20	1.625	60	0.375	182.50	7.67	116.60
D	20	1.625	60	0.375	182.50	12.67	192.64
E	20	1.625	60	0.375	182.50	12.67	192.64
F	20	1.625	60	0.375	182.50	12.67	192.64
G	20	1.625	60	0.375	182.50	12.67	192.64
H	20	1.625	60	0.375	182.50	12.67	192.64
J	20	1.625	60	0.375	182.50	12.67	192.64
K	20	1.625	60	0.375	182.50	12.67	192.64
L	20	1.625	60	0.375	182.50	12.67	192.64
M	20	1.625	60	0.375	182.50	12.67	192.64
N	20	1.625	60	0.375	182.50	12.67	192.64
O	20	1.625	60	0.375	182.50	12.67	192.64
P	20	1.625	60	0.375	182.50	12.67	192.64
Q	20	1.625	60	0.375	182.50	5.00	76.04
R	20	1.625	60	0.375	182.50	12.67	192.64

SUM = 2,965.63 ft²

Including 25% detail factor to account for stiffeners, and misc. steel:
 = 2965.63 * 1.25 = 3,707.03 ft²

3,708 14,228

Existing Bearing Stiffeners

Area of Stiffener Face = 8 in. * 60 in. / 144 in²/ft² =
 = 3.33 ft²



DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

ITEM: 514E00060 PAY UNIT: SF
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT

SUPPLEMENTAL DESCRIPTION: _____

	SUBTOTAL	TOTAL
# of faces per bearing location = 4		
# of abutment bearing locations = 31		
 Total Bearing Stiffener area = $3.33 * 4 * 31 =$ = 413.33 ft ²	414	14,642
SPECIAL INSTRUCTIONS:	TOTAL	14,642



1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 514E00066 PAY UNIT: SF
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: FIELD PAINTING STRUCTURAL STEEL, FINISH COAT

SUPPLEMENTAL DESCRIPTION: _____

	SUBTOTAL	TOTAL
From "Item 514E00060 - Field Painting Structural Steel, Intermediate Coat" calculation, = 14,642 ft ²	14,642	14,642
SPECIAL INSTRUCTIONS:	TOTAL	14,642



1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

DESIGN: DTA DATE: 10/24/16 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 514E10000 PAY UNIT: EACH
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: FINAL INSPECTION REPAIR

SUPPLEMENTAL DESCRIPTION: _____

	SUBTOTAL	TOTAL
Total Beam Length = 155 ft 1 Location per = 150.00 ft <div style="background-color: #e0ffe0; padding: 2px; display: inline-block;">Total = 1.03 ea</div> <div style="background-color: #e0ffe0; padding: 2px; display: inline-block;">Sum = 1.03 ea = 1.00</div>	1	1
SPECIAL INSTRUCTIONS:	TOTAL	1



DESIGN: DTA DATE: 10/24/16 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

ITEM: 516E13200 PAY UNIT: SF
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: 1/2" PREFORMED EXPANSION JOINT FILLER

SUPPLEMENTAL DESCRIPTION: _____

		SUBTOTAL	TOTAL
	Area (ft ²)		
<u>Rear Abutment:</u>			
	Backwall = 12.9	13	13
	Median Barrier on Backwall = 8.3	9	22
	Approach Slab = 175.9	176	198
<u>FWD Abutment:</u>			
	Backwall = 12.4	13	211
	Median Barrier on Backwall = 8.0	9	220
	Approach Slab = 175.9	176	396



E.L. ROBINSON
ENGINEERING

1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
614-586-0642 • Fax 614-586-0648

DESIGN: DTA DATE: 10/24/16 UPDATE: _____ DATE: _____
CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 516E13200 PAY UNIT: SF
SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: 1/2" PREFORMED EXPANSION JOINT FILLER

SUPPLEMENTAL DESCRIPTION: _____

	SUBTOTAL	TOTAL
SPECIAL INSTRUCTIONS:	TOTAL	396



1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

DESIGN: DTA DATE: 10/24/16 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 516E13600 PAY UNIT: SF
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: 1" PREFORMED EXPANSION JOINT FILLER

SUPPLEMENTAL DESCRIPTION: _____

					SUBTOTAL	TOTAL
	Length (ft)	x	Depth (ft) =	Area (ft ²)		
<u>Rear Abutment:</u>						
	Southeast Wingwall =	17.39	x	2.3125 =	40.2	
	Southwest Wingwall =	21.16	x	2.3125 =	48.9	
	Median Barrier =		x	=	14.8	
<u>FWD Abutment:</u>						
	Northeast Wingwall =	18.27	x	2.3125 =	42.2	
	Northwest Wingwall =	15.73	x	2.3125 =	36.4	
	Median Barrier =		x	=	14.8	
				SUM =	197.4	
					198	198



E.L. ROBINSON
ENGINEERING

1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
614-586-0642 • Fax 614-586-0648

DESIGN: DTA DATE: 10/24/16 UPDATE: _____ DATE: _____
CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 516E13600 PAY UNIT: SF
SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: 1" PREFORMED EXPANSION JOINT FILLER

SUPPLEMENTAL DESCRIPTION: _____

		SUBTOTAL	TOTAL
SPECIAL INSTRUCTIONS:		TOTAL	198



1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 516E44101 PAY UNIT: EACH
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN

SUPPLEMENTAL DESCRIPTION: 17" x 22" x 2.2988" WITH 23" x 28" x 1.625" LOAD PLATE

	SUBTOTAL	TOTAL
# Bearings at Right Bridge, Rear Abutment = 7		
# Bearings at Right Bridge, FWD Abutment = 8		
SUM = 15	15	15
SPECIAL INSTRUCTIONS: 2"-3" TK, SPECIFY DIMENSIONS	TOTAL	15



1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 516E44101 PAY UNIT: EACH
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN

SUPPLEMENTAL DESCRIPTION: 17" x 22" x 2.2988" WITH 23" x 28" x 1.875" LOAD PLATE

	SUBTOTAL	TOTAL
# Bearings at Left Bridge, Rear Abutment = 7		
# Bearings at Left Bridge, FWD Abutment = 9		
SUM = 16	16	16
SPECIAL INSTRUCTIONS: 2"-3" TK, SPECIFY DIMENSIONS		
	TOTAL	16



1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 516E44201 PAY UNIT: EACH
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN

SUPPLEMENTAL DESCRIPTION: 17" x 22" x 3.3232" WITH 23" x 28" x 1.5625" LOAD PLATE

	SUBTOTAL	TOTAL
<u>Right Bridge:</u> Pier 1 = 7 Pier 3 = 7 Pier 5 = 8 Pier 7 = 8 <hr/> SUM = 30	30	30
SPECIAL INSTRUCTIONS: 3"-4" TK, SPECIFY DIMENSIONS	TOTAL	30



1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 516E44201 PAY UNIT: EACH
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN

SUPPLEMENTAL DESCRIPTION: 17" x 22" x 3.3232" WITH 23" x 28" x 1.8125" LOAD PLATE

	SUBTOTAL	TOTAL
Left Bridge: Pier 1 = 7 Pier 3 = 8 Pier 5 = 8 Pier 7 = 9 <hr/> SUM = 32	32	32
SPECIAL INSTRUCTIONS: 3"-4" TK, SPECIFY DIMENSIONS	TOTAL	32



1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 516E44201 PAY UNIT: EACH
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN

SUPPLEMENTAL DESCRIPTION: 17" x 22" x 3.3232" WITH 23" x 28" x 0.5" LOAD PLATE

	SUBTOTAL	TOTAL
Right Bridge: Pier 2 = 7 Pier 6 = 8 <hr/> SUM = 15	15	15
SPECIAL INSTRUCTIONS: 3"-4" TK, SPECIFY DIMENSIONS	TOTAL	15



1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 516E44201 PAY UNIT: EACH
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN

SUPPLEMENTAL DESCRIPTION: 17" x 22" x 3.3232" WITH 23" x 28" x 1.0" LOAD PLATE

	SUBTOTAL	TOTAL
Left Bridge: Pier 2 = 8 Pier 6 = 9 <hr/> SUM = 17	17	17
SPECIAL INSTRUCTIONS: 3"-4" TK, SPECIFY DIMENSIONS	TOTAL	17



1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 516E44201 PAY UNIT: EACH
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN

SUPPLEMENTAL DESCRIPTION: 17" x 22" x 3.3232" WITH 18" x 28" x 3.375" LOAD PLATE

	SUBTOTAL	TOTAL
Right Bridge: Pier 4 = 7	7	7
SPECIAL INSTRUCTIONS: 3"-4" TK, SPECIFY DIMENSIONS	TOTAL	7



1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 516E44201 PAY UNIT: EACH
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN

SUPPLEMENTAL DESCRIPTION: 17" x 22" x 3.3232" WITH 18" x 28" x 3.875" LOAD PLATE

	SUBTOTAL	TOTAL
Left Bridge: Pier 4 = 8	8	8
SPECIAL INSTRUCTIONS: 3"-4" TK, SPECIFY DIMENSIONS	TOTAL	8



E.L. ROBINSON
ENGINEERING

1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
614-586-0642 • Fax 614-586-0648

DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 516E47000 PAY UNIT: LS
SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE

SUPPLEMENTAL DESCRIPTION: _____

	SUBTOTAL	TOTAL
SPECIAL INSTRUCTIONS:	TOTAL	LS



1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 518E12301 PAY UNIT: EACH
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN

SUPPLEMENTAL DESCRIPTION: _____

		SUBTOTAL	TOTAL
LEFT BRIDGE	22 EACH	22	22
RIGHT BRIDGE	11 EACH	11	33
SPECIAL INSTRUCTIONS: GIRDER BRIDGES		TOTAL	33



1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
614-586-0642 • Fax 614-586-0648

DESIGN: DTA DATE: 10/23/16 UPDATE: _____ DATE: _____
CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 518E21201 PAY UNIT: CY
SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: POROUS BACKFILL WITH GEOTEXTILE FABRIC, AS PER PLAN

SUPPLEMENTAL DESCRIPTION: _____

	SUBTOTAL	TOTAL
REAR ABUTMENT:		
ELEVATION AREA = 1168.56 SF		
DEPTH OF BACKFILL = 2 FT		
SUBGRADE SECTION AREA = -1.18 SF		
SUBGRADE LENGTH = 130.28 FT		
VOLUME = 2183.39 CF		
RA-LEFT WINGWALL		
PLAN AREA = -1.21 SF		
DEPTH OF BACKFILL = 8.45 FT		
-10.22 CF		
RA-RIGHT WW		
PLAN AREA = 11.71 SF		
DEPTH OF BACKFILL = 8.73 FT		
102.23 CF		
TOTAL RA = 2275.39 CF		
84.27 CY		
FORWARD ABUTMENT		
ELEVATION AREA = 1310.28 SF		
DEPTH OF BACKFILL = 2 FT		
SUBGRADE SECTION AREA = -1.18 SF		
SUBGRADE LENGTH = 153.67 FT		
VOLUME = 2439.23 CF		
FA-LEFT WW		
PLAN AREA = 8.75 SF		
DEPTH OF BACKFILL = 8.27 FT		
72.36 CF		
FA-RIGHT WW		
PLAN AREA = 2.49 SF		
DEPTH OF BACKFILL = 8.18 FT		
20.37 CF		
TOTAL FA = 2531.96 CF		
93.78 CU		
TOTAL ABUTMENT VOL = 178.0501	179	179
SPECIAL INSTRUCTIONS: CHECK UNIT OF MEASURE	TOTAL	179



E.L. ROBINSON
ENGINEERING

1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
614-586-0642 • Fax 614-586-0648

DESIGN: DTA DATE: 10/23/16 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 518E21201 PAY UNIT: CY
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: POROUS BACKFILL WITH GEOTEXTILE FABRIC, AS PER PLAN

SUPPLEMENTAL DESCRIPTION: _____

SUBTOTAL TOTAL



1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

DESIGN: FTB DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 518E40000 PAY UNIT: FT
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: 6" PERFORATED CORRUGATED PLASTIC PIPE

SUPPLEMENTAL DESCRIPTION: _____

	SUBTOTAL	TOTAL
Rear Abutment = 145 ft		
FWD Abutment = 162 ft		
SUM = 307 ft	307	307
SPECIAL INSTRUCTIONS:	TOTAL	307



1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 518E40011 PAY UNIT: FT
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN

SUPPLEMENTAL DESCRIPTION: _____

		SUBTOTAL	TOTAL
	Rear Abutment West = 42		
	Rear Abutment East = 49		
	Forward Abutment East = 45		
	Total: 136	136	136
SPECIAL INSTRUCTIONS:		TOTAL	136



DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

ITEM: 526E25011 PAY UNIT: SY
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN

SUPPLEMENTAL DESCRIPTION: _____

		SUBTOTAL	TOTAL
Rear Approach Slab =	2,801.2 ft ² *Measured in Microstation		
FWD Approach Slab =	3,430.3 ft ²		
SUM =	6,231.5 ft ² = 692.4 SY	693	693
SPECIAL INSTRUCTIONS:		TOTAL	693



1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 526E90020 PAY UNIT: SY
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: TYPE B INSTALLATION

SUPPLEMENTAL DESCRIPTION: _____

	SUBTOTAL	TOTAL
Rear Abutment = 2801.156 SF		
Forward Abutment = 3430.31 SF		
<u>SUM = 6231.466 SF</u> = 692.4 SY	693	693
SPECIAL INSTRUCTIONS:	TOTAL	693



1801 Watermark Drive, Suite 310 • Columbus, Ohio 43215
 614-586-0642 • Fax 614-586-0648

DESIGN: GMW DATE: 7/16/17 UPDATE: _____ DATE: _____
 CHECK: DTA DATE: 7/17/17 RECHECK: _____ DATE: _____
 STRUCTURE: MOT-75-1044 SFN: 5707056 PID: 91606

ITEM: 607E39900 PAY UNIT: FT
 SUBJECT: ESTIMATED QUANTITIES

DESCRIPTION: VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC

SUPPLEMENTAL DESCRIPTION: _____

	SUBTOTAL	TOTAL
Length Along Left Barrier = 130.625 ft Length Along Right Barrier = 130.625 ft Total: 261.25 ft	262	262
SPECIAL INSTRUCTIONS:	TOTAL	262

MADE BY: GMW CHECKED BY: DTA		DATE: 7/16/2017 DATE: 7/17/2017		ESTIMATED QUANTITIES				STRUCTURAL FILE NUMBER: 5707056	
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIER	SUPER.	GEN.	REFERENCE SHEET NO.
202	11203	LUMP		PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				LUMP	6, 10, 12, AND 23 THRU 31 OF 91
202	22900	669	SY	APPROACH SLAB REMOVED				669	
503	11100	LUMP		COFFERDAMS AND EXCAVATION BRACING	LUMP				
503	21300	LUMP		UNCLASSIFIED EXCAVATION	LUMP				
504	11101	978	SF	STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN (SECTION MODULUS = 21.5 IN ³ /FT)	978				26 AND 27 OF 91
504	11101	1,441	SF	STEEL SHEET PILING LEFT IN PLACE, AS PER PLAN (SECTION MODULUS = 33.5 IN ³ /FT)	1,441				29 AND 30 OF 91
509	10000	1,216.251	LB	EPOXY COATED REINFORCING STEEL	22,827		1,190,601	2,823	
509	20000	500	LB	REINFORCING STEEL, REPLACEMENT OF EXISTING REINFORCING STEEL	500				
510	10000	366	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT	366				
511	34446	3,761	CY	CLASS OC2 CONCRETE WITH QC/QA BRIDGE DECK			3,761		
511	34450	752	CY	CLASS OC2 CONCRETE WITH QC/QA BRIDGE DECK (PARAPET)			718	34	
511	44110	129	CY	CLASS OC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	129				
511	53014	33	CY	CLASS OC3 CONCRETE, MISC.: MODULAR EXPANSION JOINT, AS PER PLAN				33	\$\$1044CEXOP\$1044CS
512	10100	3,669	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	441		3,228		
512	33000	17	SY	TYPE 2 WATERPROOFING	17				
513	10201	29,878	LB	STRUCTURAL STEEL MEMBERS, LEVEL UP, AS PER PLAN			29,676		\$\$1044CGMND44CSDOF\$1044CS
513	10280	222,392	LB	STRUCTURAL STEEL MEMBERS, LEVEL 4			222,392		
513	17001	286	FT	STRUCTURAL STEEL MEMBERS, MODULAR EXPANSION JOINT, LEVEL UP, AS PER PLAN			286		6, 7, AND 84 THRU 87 OF 91
513	20000	52,614	EACH	WELDED STUD SHEAR CONNECTORS			52,614		
513	95020	LUMP		STRUCTURAL STEEL, MISC.: TEMPORARY SUPPORT OF EXISTING STRUCTURE			LUMP		\$\$1044CMOP\$1044CS
514	00050	4,121	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL			4,121		
514	00057	4,121	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT, AS PER PLAN			4,121		\$\$1044CSDOF\$1044CS
514	00060	14,642	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT			14,642		
514	00066	14,642	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT			14,642		
514	10000	1	EACH	FINAL INSPECTION REPAIR			1		
516	13200	396	SF	1/2" PREFORMED EXPANSION JOINT FILLER	44			352	
516	13600	198	SF	1" PREFORMED EXPANSION JOINT FILLER				198	
516	44101	15	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (17' x 22' x 2.2888" WITH 23' x 28' x 1.825" LOAD PLATE)	15				\$\$1044CBROF\$1044CS
516	44101	16	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (17' x 22' x 2.2888" WITH 23' x 28' x 1.875" LOAD PLATE)	16				\$\$1044CBROF\$1044CS
516	44201	30	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (17' x 22' x 3.3232" WITH 23' x 28' x 1.5625" LOAD PLATE)		30			\$\$1044CBROF\$1044CS
516	44201	32	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (17' x 22' x 3.3232" WITH 23' x 28' x 1.8125" LOAD PLATE)		32			\$\$1044CBROF\$1044CS
516	44201	15	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (17' x 22' x 3.3232" WITH 23' x 28' x 1.0" LOAD PLATE)		15			\$\$1044CBROF\$1044CS
516	44201	17	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (17' x 22' x 3.3232" WITH 23' x 28' x 1.0" LOAD PLATE)		17			\$\$1044CBROF\$1044CS
516	44201	7	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (17' x 22' x 3.3232" WITH 18' x 28' x 3.375" LOAD PLATE)		7			\$\$1044CBROF\$1044CS
516	44201	8	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN (17' x 22' x 3.3232" WITH 18' x 28' x 3.875" LOAD PLATE)		8			\$\$1044CBROF\$1044CS
516	47000	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE			LUMP		
518	12301	33	EACH	SCUPPERS, INCLUDING SUPPORTS, AS PER PLAN			33		\$\$1044CMOP\$1044CS
518	21201	179	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC, AS PER PLAN	179				\$\$1044CARHRD44CAFOP\$1044CS
518	40000	307	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	307				
518	40011	136	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN	136				\$\$1044CARND44CAFOP\$1044CS
526	25011	693	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15"), AS PER PLAN				693	\$\$1044CASOF\$1044CS
526	90020	693	SY	TYPE B INSTALLATION				693	
607	39900	262	FT	VANDAL PROTECTION FENCE, 6' STRAIGHT, COATED FABRIC			262		