



REINFORCING STEEL LIST FOR TWO STRUCTURES

ABUTMENTS					PIERS								
MARK	ABUT. 1 NO.	ABUT. 2 NO.	ABUT. 3 NO.	ABUT. 4 NO.	TOTAL	LENGTH	WEIGHT	TYPE	A	B	C	D	E
A 501	15	15	15	15	60	23'-9"	1,486	STR.					
A 502	15	15	15	15	60	22'-5"	1,403	STR.					
A 503			68	68	136	5'-10"	827	2	2'-5"	1'-3"	2'-5"		
A 504	8	8	8	8	32	8'-3"	275	STR.					
A 505	12	12	12	12	48	6'-3"	313	STR.					
A 506	18	18	18	18	72	6'-4"	475	1	6'-0"	6"			
A 507	12	12	12	12	48	8'-3"	413	2	4'-0"	6"	4'-0"		
A 508	8	8	8	8	32	10'-0"	334	STR.					
A 509	4	4	4	4	16	11'-3"	188	STR.					
A 510	12	12	12	12	48	17'-2"	859	STR.					
A 511	4	4	4	4	16	4'-0"	67	STR.					
A 512	16	16	16	16	64	3'-3"	217	STR.					
A 513	12	12	12	12	48	4'-10"	200	2	2'-0"	1'-4"	1'-9"		
A 514	2 Series of 6 = 12 Ea. Abut.				4 Series of 6 = 24	4'-2"	876	2	1'-8"	1'-4"	1'-5"	Increment of 1/8"	
A 515	2	2	2	2	8	1'-10"	15	2	6"	1'-4"	3"		
A 516	22	22	22	22	88	5'-1"	467	2	2'-5"	6"	2'-5"		
A 601			104	104	208	8'-7"	2,682	2	3'-2"	2'-7"	3'-2"		
A 602			74	74	148	5'-10"	1,297	1	5'-0"	1'-0"			
A 603	30	30			60	9'-6"	856	1	5'-6"	4'-2"			
A 604	44	44			88	9'-10"	1,300	1	5'-4"	4'-8"			
A 605	44	44	44	44	176	15'-6"	4,097	6	6'-8"	1'-5"	5'-2"	11"	2'-0"
A 606			14	14	28	14'-9"	620	2	7'-0"	1'-1"	7'-0"		
A 607	18	18			36	10'-0"	541	1	7'-9"	2'-5"			
A 608	12	12			24	9'-5"	339	1	7'-9"	1'-10"			
A 609	16	16	12	12	56	12'-2"	1,023	STR.					
A 610	12	12	12	12	48	10'-0"	721	STR.					
A 611	6	6	6	6	24	17'-2"	619	STR.					
A 612	4	4	4	4	16	17'-4"	417	STR.					
A 701	30	30	30	30	120	5'-1"	1,247	2	1'-0"	3'-5"	1'-0"		
A 901	8	8	16	16	48	22'-11"	3,740	STR.					
A 902	8	8	12	12	40	14'-5"	1,961	STR.					
A 903			4	4	8	9'-5"	256	1	9'-2"	6"			
A 904	4	4	4	4	16	13'-6"	734	STR.					
A 905	6	6	6	6	24	8'-8"	707	4	8'-2"	1'-3"			
A 906	8	8	8	8	32	7'-2"	780	4	4'-8"	1'-3"			
R 401	22	22	22	22	88	2'-3"			2	1'-0"	8"	1'-0"	
R 402	8	8	8	8	32	15'-11"							

MARK	HIGH PIERS	LOW PIERS	TOTAL	LENGTH	WEIGHT	TYPE	A	B	C
P 401	5760		5760	2"	29,413	4	2"	6"	
P 402	960		960	"b"	11,434	3	6"	"b"	"b"
P 403	480		480	"c"	876	3	6"	"c"	
P 404	64		64	11'-4"	484	2	4'-6"	2'-8"	4'-6"
P 405		42	42	23'-4"	655	3	6"	5'-8"	5'-8"
P 601	64		64	9'-4"	897	2	9'-0"	5'-8"	2'-0"
P 602	16		16	35'-6"	853	STR.			
P 603		96	96	1'-3"	180	STR.			
P 801		272	272	14'-6"	1,053	STR.			
P 802		160	160	7'-2"	306,267	1 STR.	6'-3"	1'-2"	
P 803		140	140	14'-9"	5,514	STR.			
P 804		20	20	22'-9"	1,215	STR.			
P 1101	320		320	19'-0"	32,303	STR.			
P 1102	352		352	12'-1"	22,598	1	11'-4"	9"	
P 1103	704		704	26'-2"	97,873	STR.			
P 1106	112		112	15'-0"	8,926	5	11'-5"	3'-7"	
P 1107	32		32	19'-0"	3,230	STR.			
P 1108	72		72	35'-3"	13,484	STR.			

7'-8 Series of 12 EA. Size, 60 Sizes. Length Varies from 6'-8" to 8'-8" by increments of 3/8". A Varies from 5'-8" to 7'-8" by increments of 3/8".
 2'-8 Series of 2 EA. Size, 60 Sizes. Length Varies from 15'-2" to 20'-6" by increments of 1/8". B Varies from 5'-8" to 7'-8" by increments of 3/8". C Varies from 1'-7" to 2'-3" by increments of 1/4".
 1'-8 Series of 1 EA. Size, 60 Sizes. Length Varies from 23'-4" to 31'-4" by increments of 1/8". B & C Varies from 5'-8" to 7'-8" by increments of 3/8".
 Bar size is indicated in the Bar Mark. The first digit where three digits are used, and the first two digits where four are used, indicate the bar size number. For example A401 is a no. 4 size bar and A114 is a no. 11 size bar.

THE METHOD OF STEEL ERECTION shall be determined by the fabricator and shall be shown on the shop detail plans.

POROUS BACKFILL: 2 feet thick full length of the abutment shall extend up to the underside of the approach slab and outward to the wings. Excavation therefore, in excess of that required for the abutment shall be considered as included in the bid price per cubic yard for porous backfill.

ALL GUSSET Rs shall be 1/2" unless otherwise shown.

GENERAL NOTES

REFERENCE shall be made to standard drawings RB-1-55 Dated 3-1-55, CSB-2-56 Sheets 213, Revised 3-1-58 FAR-1-57, Revised 3-1-58; and to Supplemental Specifications I-127, Revised 11-16-57; 5-114, Revised 8-1-57; and 5-207, Dated 4-28-55, with Paragraph 7.(b) of P. 2 deleted.

DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structure" of the State of Ohio, Department of Highways, dated 9-1-57, with Revisions thereof dated 2-21-58.

RAILING: Measurement for payment shall be to far end of parapet on abutments. The price per linear foot of railing includes payment for guard rail, posts, anchors, fittings, reinforced concrete parapet and parapet expansion joint filler.

EXCAVATION QUANTITY: includes the removal of material bound by the finished roadway slope and the bottom plane of the footing as described in Sec. 2.09. Backfill behind the abutment shall be made with material meeting the requirements of Sec. I-22 and shall be compacted in accordance with requirements for embankment compaction. Payment for backfill shall be included with Item E-2.

SHOP CONNECTIONS: 3/8" Rivets
 FIELD CONNECTIONS: 3/8" Rivets; or High Strength Steel Bolts, tightened by method (a) of the above listed supplemental Specification 5-207.

WELDING: of structural steel shall be Class "A" except as otherwise shown. Class "B" welds shown thus: Any welds shown as field welds may, at the option of the contractor, be made in the shop.

CONCRETE DECK PLACING: In order to facilitate water curing of the concrete of the deck slab, the placing of concrete shall progress up grade. The slab may be placed in sections, between Transverse construction joints which are parallel to the bearings and are located near the center of any span.

FOOTINGS: Abutments 1 & 2 and Pier footings shall extend a minimum of three inches (3") into solid shale or to the elevation shown, whichever is lower.

FOUNDATION BEARING PRESSURES:
 ABUTMENTS: 3.4 Tons per Sq. Ft. maximum.
 LOW PIERS: 3.0 Tons per Sq. Ft. maximum.
 HIGH PIERS: 6.0 Tons per Sq. Ft. maximum.

SLOPE FACING: (S-29.05 Type) shall be provided under the structure at both abutments. The porous material shall be 12" thick and shall extend from the face of the abutment down to the undisturbed slope face and transversely three feet beyond the edges of the superstructure.

PILES FOR ABUTMENTS 3 AND 4: Piles shall be driven to firm contact with shale. If the length of penetration is approximately equal to the depth to shale according to the bridge foundation investigation report, the firm contact shall be considered as attained when the formula in Sec. S-18.05 is not less than the following value for a Pile Hammer of the indicated energy rating:

Hammer, Ft. Lb.	Tons Per Pile
7,000	34
11,000	25
15,000	25

If the energy rating of the Hammer is between the ratings given above, the required formula capacity shall be determined by interpolation. The design load is 25 tons per pile.

This sheet is to be used for construction and supersedes Sheet No. (40) of the Bidding Plans. 9-16-58
 SEC. C-34-B FED. AID PROJ. NO. ACI-1103 (30)

PREPARED BY
 CAPITOL ENGINEERING ASSOCIATES, DILLSBURG, PA.
 FOR

STATE OF OHIO
 DEPARTMENT OF HIGHWAYS
 DIVISION OF DESIGN AND CONSTRUCTION
 BUREAU OF BRIDGES

GENERAL NOTES, QUANTITIES &
 REINFORCING STEEL LIST
 BRIDGE NO. LAK-1-2252
 S.R.I. OVER GRAND RIVER
 LAKE COUNTY
 STA. 833 + 75.00

DESIGNED	DRAWN	TRACED	CHECKED	REVISED	DATE
					9-16-58

SUPERSTRUCTURE													
MARK	WEST BRIDGE		EAST BRIDGE		TOTAL	LENGTH	WEIGHT	TYPE	A	B	C	D	E
	GIRDER SPANS	TRUSS SPANS	GIRDER SPANS	TRUSS SPANS									
R 401	408	976	408	976	2768	2'-5"		2	1'-0"	8"	1'-0"		
R 403	16	48	16	48	128	14'-2"		STR.					
R 404	32	144	32	144	352	17'-6"		STR.					
R 405	16		16		32	7'-6"		STR.					
R 406		32		32	64	14'-6"		STR.					
R 407		32		32	64	15'-6"		STR.					
R 408		64		64	128	16'-6"		STR.					
R 409	16		16		32	8'-0"		STR.					
R 410	16		16		32	18'-9"		STR.					
R 411		32		32	64	20'-0"		STR.					
R 412		16		16	32	15'-5"		STR.					
S 501	408	1952	408	1952	4720	1'-11"	9,436	2	5'	1'-4"	5'		
S 502	204	976	204	976	2360	2'-0"	4,923	STR.					
S 503	204	976	204	976	2360	3'-5"	8,610	2	1'-6"	8"	1'-6"		
S 601	226	1072	226	1072	2596	43'-8"	110,265	STR.					
S 602		990		528	1056	15'-0"	23,792	STR.					
S 603	24	1896	24	1896	3840	32'-2"	181,682	STR.					
S 604	272		272		544	39'-0"	34,210	STR.					
S 701	226	1072	226	1072	2596	43'-8"	231,705	STR.					

ESTIMATED QUANTITIES FOR TWO STRUCTURES										
ITEM	TOTAL	UNIT	DESCRIPTION	SUPERSTRUCTURE		SUBSTRUCTURE			GENERAL	
				GIRDER SPANS	TRUSS SPANS	ABUTMENTS	PIERS			
E-2		Lump Sum	Cofferdams, cribs & sheeting						Lump	
E-2	880	Cu. Yd.	Shale & rock excavation				191	683		
E-2	564	Cu. Yd.	Unclassified excavation				294	270		
S-1	2390	Cu. Yd.	Class "C" concrete superstructure	384	2006					
S-1	981	Cu. Yd.	Class "C" concrete pier columns & cap				98	98		
S-1	1,101	Cu. Yd.	Class "E" concrete, footings				127	974		
S-1	202	Cu. Yd.	Class "E" concrete, abutments above footings				202			
S-4	921,632	Lb.	Reinforcing steel	110,406	554,011	32,352		224,857		
S-7	5,679,220	Lb.	Structural steel	579,220	5,100,000					
S-7	75,400	Lb.	Steel castings		75,400					
S-8	5,754,620	Lb.	Field painting of structural steel	579,220	5,175,400					
S-14	3512	Lin. Ft.	Railing (Aluminum rail & supports, concrete parapet)	576	2,900		116			
S-16		Lump Sum	First Test Pile						Lump	
S-18	1,056	Lin. Ft.	Steel Pile (12 BP 53)				1,056			
S-29	2810	Lin. Ft.	Downspouts - 6" in Dia. Standard wrought iron Pipe or hotdipped galvanized steel pipe, including specials.	2,500	2,810					
S-29	681	Cu. Yd.	Slope facing (S-29.05 Type)				681			
S-29	120	Cu. Yd.	Porous Backfill				120			