FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

318
394

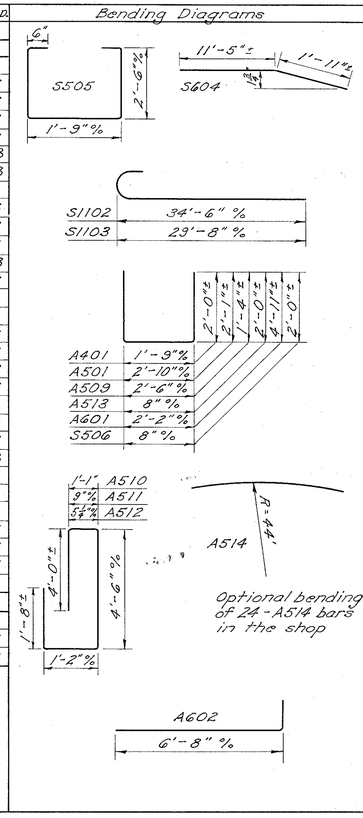
LAK-2-0.00

REINFORCING STEEL LIST

Mark	No.	Length	Weight	Shp.
Superstructure				
S501	24	31'-3"	782	S
S502	12	28'-4"	355	S
S503	20	30'-2"	629	S
S504	648	1'-10"	1239	S
S505	648	7'-3"	4900	B
S506	356	4'-5"	1640	B
S601	150	28'-11"	6515	S
S602	75	25'-10"	2910	S
S603	83	45'-4"	5651	S
S604	83	13'-3"	1652	B
S605	83	30'-0"	3740	S
S606	83	39'-8"	4945	S
S701	141	46'-6"	13,401	S
S702	141	11'-6"	3314	S
S703	141	30'-0"	8646	S
S704	141	40'-0"	11,528	S
S1101	369	50'-4"	98,678	S
S1102	114	35'-11"	21,754	B
S1103	112	31'-1"	18,496	B
S1104	57	32'-6"	9,842	S
S1105	56	24'-2"	7,190	S
S1106	300	34'-1"	54,325	S
S1107	146	13'-4"	10,342	S
S1108	150	18'-0"	14,345	S
S1109	40	30'-3"	6,429	S
Railing Bars				
R501	112	17'-8"	*	S
R502	64	8'-10"	*	S

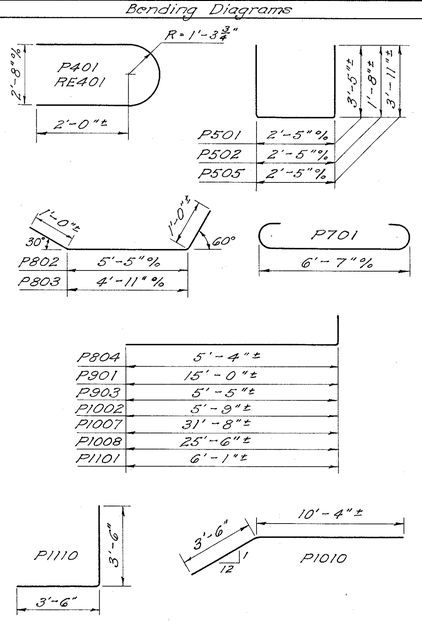
* Included with railing for payment.

Bending Diagrams



Mark	No.	Length	Weight	Shp.
Abutments				
A401	224	5'-6"	823	B
A501	448	6'-9"	3154	B
A502	8	35'-5"	296	S
A503	8	34'-9"	290	S
A504	8	29'-5"	245	S
A505	8	28'-8"	233	S
A506	48	6'-8"	334	S
A507	48	7'-9"	388	S
A508	16	12'-0"	200	S
A509	64	4'-11"	328	B
A510	8	11'-11"	99	B
A511	8	11'-7"	97	B
A512	8	11'-3"	94	B
A513	56	4'-5"	258	B
A514	24	10'-0"	250	S
A514	24	10'-0"	250	B
A601	84	11'-8"	1472	B
A602	48	7'-4"	529	B
A603	16	11'-10"	284	S
A604	56	5'-6"	463	S
A701	32	7'-8"	502	S
A801	8	36'-0"	769	S
A802	8	30'-0"	641	S
A1001	8	35'-7"	1225	S
A1002	8	29'-6"	1016	S
Replacement Bars				
RE401	1	8'-1"	--	B
RE501	1	5'-7"	--	S
RE601	2	5'-11"	--	S
RE701	3	6'-2"	--	S
RE801	1	6'-6"	--	S
RE901	1	6'-10"	--	S
RE1001	1	7'-2"	--	S
RE1101	14	7'-6"	--	S

Bending Diagrams



Mark	No.	Length	Weight	Shp.
Piers				
P401	24	8'-1"	130	B
P501	184	9'-0"	1727	B
P502	220	5'-6"	1262	B
P503	4	35'-6"	148	S
P504	4	30'-3"	126	S
P505	36	10'-3"	385	B
P506	8	26'-11"	225	S
P601	136	6'-6"	1328	S
P701	256	8'-3"	4317	B
P702	14	41'-0"	1173	S
P703	14	34'-6"	987	S
P704	14	28'-10"	825	S
P705	14	34'-0"	973	S
P801	40	38'-1"	4067	S
P802	8	7'-5"	158	B
P803	16	6'-11"	296	B
P804	8	6'-3"	134	B
P805	22	23'-9"	1395	S
P806	22	22'-11"	1346	S
P807	22	26'-0"	1527	S
P808	22	25'-3"	1483	S
P809	22	25'-1"	1473	S
P810	22	38'-1"	2237	S
P811	8	35'-10"	765	S
P812	8	30'-10"	659	S
P813	16	27'-7"	1178	S

Mark	No.	Length	Weight	Shp.
Piers (Cont'd)				
P901	28	16'-0"	1523	B
P902	10	39'-6"	1343	S
P903	20	6'-5"	437	B
P904	10	26'-4"	895	S
P905	10	25'-6"	867	S
P1001	12	31'-8"	1635	S
P1002	40	6'-10"	1176	B
P1003	10	26'-0"	1119	S
P1004	10	25'-2"	1083	S
P1005	10	26'-9"	1151	S
P1006	10	26'-0"	1119	S
P1007	10	32'-9"	1409	B
P1008	10	26'-7"	1144	B
P1009	12	45'-6"	2349	S
P1010	12	13'-10"	714	B
P1101	176	7'-3"	6779	B
P1102	18	24'-1"	2303	S
P1103	18	23'-3"	2223	S
P1104	10	24'-7"	1306	S
P1105	10	23'-3"	1262	S
P1106	10	25'-0"	1328	S
P1107	10	24'-1"	1279	S
P1108	18	25'-5"	2431	S
P1109	18	24'-7"	2351	S
P1110	44	6'-3"	1578	B
P1111	24	21'-3"	2710	S
P1112	16	25'-6"	2168	S
P1113	16	24'-8"	2097	S
P1114	16	26'-8"	2267	S
P1115	16	25'-10"	2196	S

REPLACEMENT BARS:
If the reinforcing bars are fabricated from stock which has previously been tested and approved by the Ohio Highway Testing Laboratory, test samples as provided in Sec. S-4.02 need not be furnished and replacement bars will not be required.

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, A700 is a No. 7 size bar and A1014 is a No. 10 size.

SPIRAL BARS

Mark	No.	Core Dia. % Spiral	Length	Pitch	No. of Turns	Weight
SP401	2	32"	20'-1"	4½"	56	726
SP402	1	32"	19'-3"	4½"	54	349
SP403	2	32"	20'-6"	4½"	57	739
SP404	1	32"	19'-8"	4½"	55	356
SP405	3	32"	21'-0"	4½"	59	1140
SP406	3	32"	22'-2"	4½"	62	1205
SP407	3	32"	21'-5"	4½"	60	1166
SP408	1	32"	22'-6"	4½"	63	408
SP409	4	32"	21'-9"	4½"	61	1580
SP410	2	32"	22'-9"	4½"	64	828

SPIRAL REINFORCING BARS:
The "Length" shown in the steel list for the spiral bars is the distance from the top of the footing to the bottom of the pier cap.
The "No of Turns" shown is the "Length" divided by the pitch, plus 3 turns (total number of closed coils), expressed as the nearest whole number. Spiral reinforcing bars shall not have deformations but shall in other respects conform to Item S-4. 1½ closed coils shall be provided at the ends of each spiral unit.
Four steel channel, tee or angle spacers, weighing approximately 0.68 lb. per lin. ft. of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers, based on 0.68 lb. per lin. ft. will be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Superstr.	Piers	Abuts.	Gen.
E-2	lump	sum	Cofferdams, cribs and sheeting				lump
E-2	1200	cu.yd.	Unclassified excavation, including shale		880	320	
S-1	1397	cu.yd.	Class "C" concrete, superstructure	1397			
S-1	176	cu.yd.	Class "C" concrete, pier caps and columns		176		
S-1	229	cu.yd.	Class "E" concrete, abutments			229	
S-1	210	cu.yd.	Class "E" concrete, pier footings		210		
S-4	418,557	lb.	Reinforcing steel	313,248	91,063	14,246	
S-9	290	sq.ft.	½" preformed expansion joint filler		28	262	
S-9	50	sq.ft.	½" gray sponge rubber preformed expansion joint filler			50	
S-14	652.12	lin.ft.	Railing (aluminum rail and supports and concrete parapet)	652.12			
S-16	lump	sum	First test pile				lump
S-18	1220	lin.ft.	Steel piles, 12 BP 53			1220	
S-29	17	each	Scuppers (type "A")	17			
S-29	6	each	Scuppers (type "B")	6			
S-29	53	cu.yd.	Porous backfill			53	

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

REINFORCING STEEL LIST AND ESTIMATED QUANTITIES

BRIDGE NO. LAK-2-0031 L&R
OVER LLOYD ROAD
STA. 116+28.00
117+72.50
LAKE COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.Y.	J.Y.		C.P.D.	BFG	2-18-59	