

ESTIMATED QUANTITIES			
ITEM	TOTAL	UNIT	DESCRIPTION
S-1	76.5	Cu.Yds.	Class "C" concrete, pier above footing
S-1	88	Cu.Yds.	Class "E" concrete, footings
S-4	15,115	Lbs.	Reinforcing Steel
Special 235	Lin.Ft.		Keyway cut into existing columns

NOTE: The foregoing quantities do not take account of the following work:
a. Cofferdams, cribs and sheeting
b. Excavation above shale
c. Shale excavation
d. Resetting pier in vertical position
e. Removal of loose concrete between column and footing and ramming of dry mix concrete into opening.
f. Removal of concrete strut.

REINFORCING STEEL LIST					BENDING DIAGRAM	
MARK	SIZE	No.	LENGTH	WEIGHT	SHAPE	
X0a	1 1/4"	18	13'-6"	1291	S	
X0b	1 1/4"	18	9'-5"	901	B	
X8a	1"	56	14'-2"	2697	B	X8a
X8b	1"	28	14'-9"	1404	B	X8b
X8c	1"	44	10'-10"	1621	B	X8c
X8d	1"	12	14'-0"	571	S	X8d
X8e	1"	22	15'-7"	1128	B	X8e
X8f	1"	12	11'-3"	459	S	X8f
X8h	1"	12	14'-1"	609	B	X8h
X7a	1"	34	10'-10"	983	B	X7a
X7b	1"	14	13'-3"	495	B	X7b
X7c	1"	12	25'-7"	820	B	X7c
X5a	3/4"	36	6'-11"	374	B	X5a
X5b	3/4"	28	13'-6"	568	S	X5b
X5c	3/4"	4	12'-6"	75	S	X5c
X5d	3/4"	4	9'-9"	59	S	X5d
X5e	3/4"	4	11'-2"	67	B	X5e
X5f	3/4"	4	8'-8"	52	S	X5f
X5h	3/4"	4	5'-11"	36	S	X5h
X5j	3/4"	6	7'-8"	69	S	X5j
X5k	3/4"	12	5'-3"	95	S	X5k
X5m	3/4"	12	6'-9"	122	S	X5m
X5n	3/4"	12	8'-6"	153	S	X5n
X5o	3/4"	12	10'-3"	185	S	X5o
X5p	3/4"	8	11'-9"	141	S	X5p
X5r	3/4"	6	15'-6"	140	S	X5r

EXPLANATORY NOTE
After Pier No. 1 had been built and the compacted embankment placed, this pier tipped towards the East due to unexpected great horizontal earth pressure against the pier columns and strut. This force caused the columns to break at the top of the footings, the heel of the footings to break, and other secondary breaks and cracks in the columns to occur at the top of the footing dowels, at approximately 1'-0" above the dowels and at the point where the bottom strut intersects the columns.

NOTE
Loose concrete at the junction of each existing column and its footing shall be removed and a dry mix of class "C" concrete (or the mortar portion of this class) shall be rammed into all openings between column and footing.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

SUPPLEMENTAL DETAILS FOR PIER NO. 1.
BRIDGE NO. LA-6-47 OVER CHAGRIN RIVER
LAKE COUNTY
SEC. LAK-G-(3.60-3.76) STA. 250+33.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
CFB.	CFB.	JNP	CFB	MNC	12-18-51	6-23-52
					1-15-52	

