

**GENERAL NOTES**

**DESIGN:** AREA. Specifications for Steel Railway Bridge, 1956 Edition, and Cooper's E-72 live load.

**CONSTRUCTION SPECIFICATIONS:** State of Ohio, Department of Highways, Construction and Material Specifications, dated January 1st, 1959; Supplemental Specifications No. S-103, revised 2-16-55; No. S-107, revised 2-16-55; and No. 24, dated 5-28-48.

**REFERENCE** shall be made to Standard Drawing AR-1-57, revised 2-2-59; and Standard Construction Drawing I-8 M.H. No. 1.

**PIER AND ABUTMENT FOOTINGS** shall extend a minimum of 3" into hard shale or to the elevation shown, whichever is lower.

**FOUNDATION BEARING PRESSURE:** Retaining wall and wing wall footings are designed for a maximum bearing pressure of 2½ tons per sq. ft. and pier and abutment footings for a maximum of 7 tons per sq. ft..

**POROUS BACKFILL,** 1½" thick, shall extend up to the railroad ballast and to the surface of the earth shoulders, and transversely from the west ends of the retaining walls to the ends of the wing walls and the surface of embankment slopes. The porous backfill shall extend down to the flow line of the 8" dia. perforated, bituminous coated corrugated metal pipe drain.

**WATERPROOFING:** 3-Ply membrane waterproofing, Type "c" with 1½" preformed asphalt blocks protection shall comply with Supplemental Specification No. S-103.  
Type "x" waterproofing shall be used for damp-proofing the back faces of the abutments, retaining walls, and wing walls above the footings and the top of the tie piers.

**SURFACE FINISH OF CONCRETE:** form liners or plywood shall be used on all exposed surfaces of abutments, wings, and piers. These surfaces are to be grout cleaned according to Sec. S-1.22. The rubbing of concrete surfaces will not be permitted.

**REINFORCING STEEL:** All reinforcing steel shall be deformed bars and shall meet the requirements of Sec. M-71, intermediate grade billet steel.

**WELDING** shall be Class "A" and shall comply with Sec. S-7.22 of the Construction and Material Specifications. Any welds shown as field welds may, at the option of the Contractor, be made in the shop.

**RIVETS** for main material of girder and for floor beam connections shall be 1" dia. with 1½" open holes; all other rivets shall be ¾" φ with 1½" open holes.

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**UTILITY LINES:** All labor and expense involved in relocating the affected utility lines shall be borne by the owners. The Contractor and owners are requested to cooperate by arranging their work in such a manner that inconvenience to either will be held to a minimum.

**RAILROAD AERIAL LINES** shall be relocated by the railroad. The Contractor shall use all precautions necessary to see that the lines are not disturbed during the construction stage and shall cooperate with the railroad in the relocation of these lines. The cost of the relocation shall be included in the railroad force account work.

**CONSTRUCTION PROCEDURE:** See Sheet No. 56

**SHOP DRAWINGS** for the girders shall include an overall layout with dimensions showing the relative unloaded vertical position of each girder or girder segment with respect to the others in the same girder line and with respect to a full length base or work line taking into account the profile of the highway.

**SHOP ASSEMBLY** Reaming of holes for rivets or high strength bolts in shop or field splices of girder segments shall be done with at least three adjacent segments assembled in their correct unloaded positions as shown on the shop drawing layout required in the above note.

**SHEETING AND BRACING:** Before construction is started, eight sets of prints showing details of the sheeting and bracing to be used for excavation adjacent to the railroad tracks shall be submitted to the Director for approval by the Department of Highways and by the Railroad Company affected.

**ALIGNING RAILROAD TRACK:** After the Contractor has completed all excavation and backfill adjacent to the railroad tracks in compliance with Sec. E-2.04 and Sec. E-2.08 of the Construction and Material Specifications, subject to the supervision of the Railroad Company, nothing in Sec. E-2.04, E-2.08 or G-8.07 of the Specifications shall be construed to hold the Contractor liable for aligning and resurfacing the railroad tracks.

**ITEM S-15** Temporary run-around earthwork for railroad, as per plan. The lump sum price bid for this item shall include the following:  
 (1) The extension and/or protection of culverts, manholes or other existing drainage facilities.  
 (2) The construction of roadbed for detour tracks including I-22 subbase and drainage ditches as required.  
 (3) The restoration of ground to original condition after removal of the detour tracks by removal of ballast and fill material.  
 (4) Any other phases of this item not herein specified but necessary to carry out this part of the Contract.

**ESTIMATED QUANTITIES**

ITEM	TOTAL	UNIT	DESCRIPTION	ABUT.	WING WALLS	RETAIN WALLS	PIER	SUPER.	GENERAL
E-2	Lump	Sum	Cofferdams, cribs, and sheeting.						Lump
E-2	2520	Cu. Yds.	Unclassified excavation	1850	220	90	360		
E-2	20	Cu. Yds.	Shale excavation	16			4		
S-1	247	Cu. Yds.	Class "C" concrete, superstructure					247	
S-1	188	Cu. Yds.	Class "C" concrete, pier cap & columns				188		
S-1	1434	Cu. Yds.	Class "E" concrete, walls.	1210	129	95			
S-1	917	Cu. Yds.	Class "E" concrete, footings & abutment pedestals	760	59	31	67		
S-3	853	Sq. Yds.	Type "A" waterproofing	646	130	77			
S-103	568	Sq. Yds.	Membrane waterproofing, Type "c"					568	
S-103	568	Sq. Yds.	1½" preformed asphalt block protection					568	
S-4	117,708	Lbs.	Reinforcing steel	52,232	7613	4081	30,341	23,441	
S-107	732,000	Lbs.	Structural steel					732,000	
S-8	732,000	Lbs.	Field painting of structural steel					732,000	
S-9	1,047	Sq. Ft.	½" Preformed expansion joint filler.	1000	47				
S-9	53	Sq. Ft.	¾" Preformed expansion joint filler					53	
S-9	55	Lin. Ft.	24" - 20 gage copper strip					55	
S-9	120	Lin. Ft.	10" - 20 gage copper strip					120	
S-9	316	Lin. Ft.	6" - 16 gage copper strip					316	
S-9	3,480	Lbs.	Sheet lead, 7.5 #/sq. ft.	3200	125	155			
S-14	102.98	Lin. Ft.	Railing (aluminum rail and supports, and concrete parapet)	72		30.98			
S-14	146.56	Lin. Ft.	Hondrail (wrought iron pipe)					146.56	
S-23	345	Lin. Ft.	8" perforated bituminous coated corrugated metal pipe, including specials.	312		33			
S-29	370	Cu. Yds.	Porous backfill	280	55	35			
S-29	Lump	Sum	Drainage for structure, as per plan						Lump
SS-24	560	Sq. Ft.	Sidewalk grating (including painting of grating)					560	
S-15	Lump	Sum	Temporary Run-around Earthwork for Railroad, as per plan						Lump

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

**ESTIMATED QUANTITIES & GENERAL NOTES**  
BRIDGE No. LAK-640-0286  
UNDER N.Y.C. & ST. L. R.R.  
LAKE COUNTY Sta. 150+86.66

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
N.E.Y.	C.M.	C.M.	W.C.K.	B.F.G.	8-3-59	10-8-59