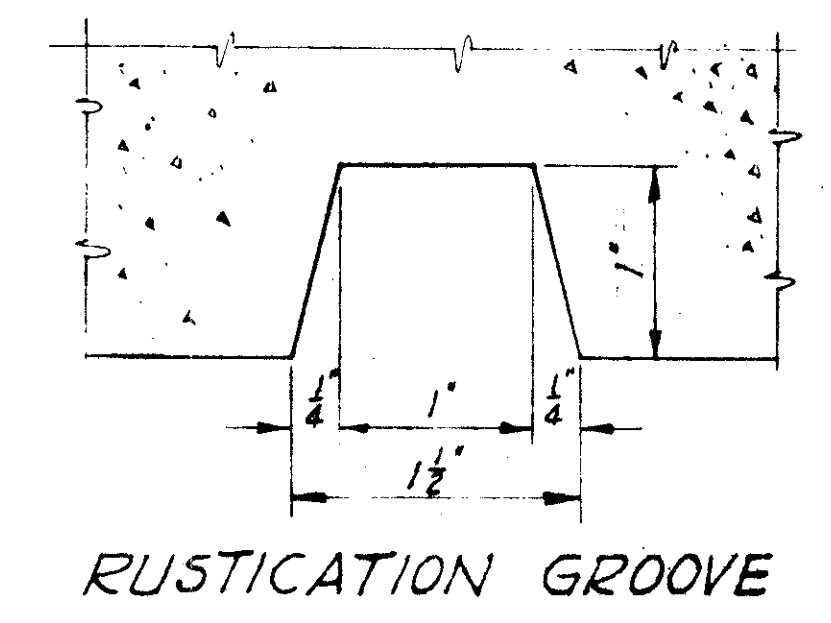
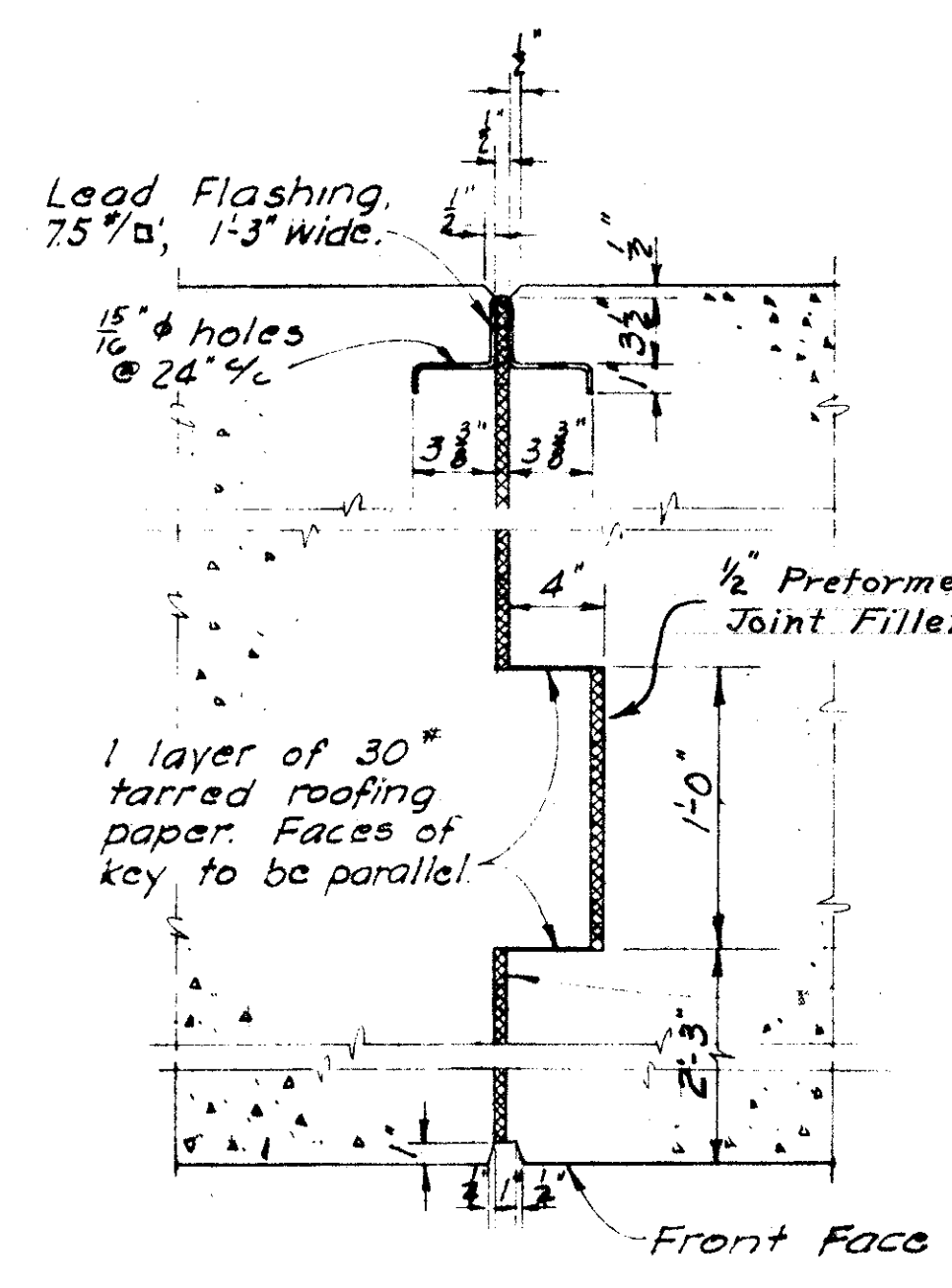
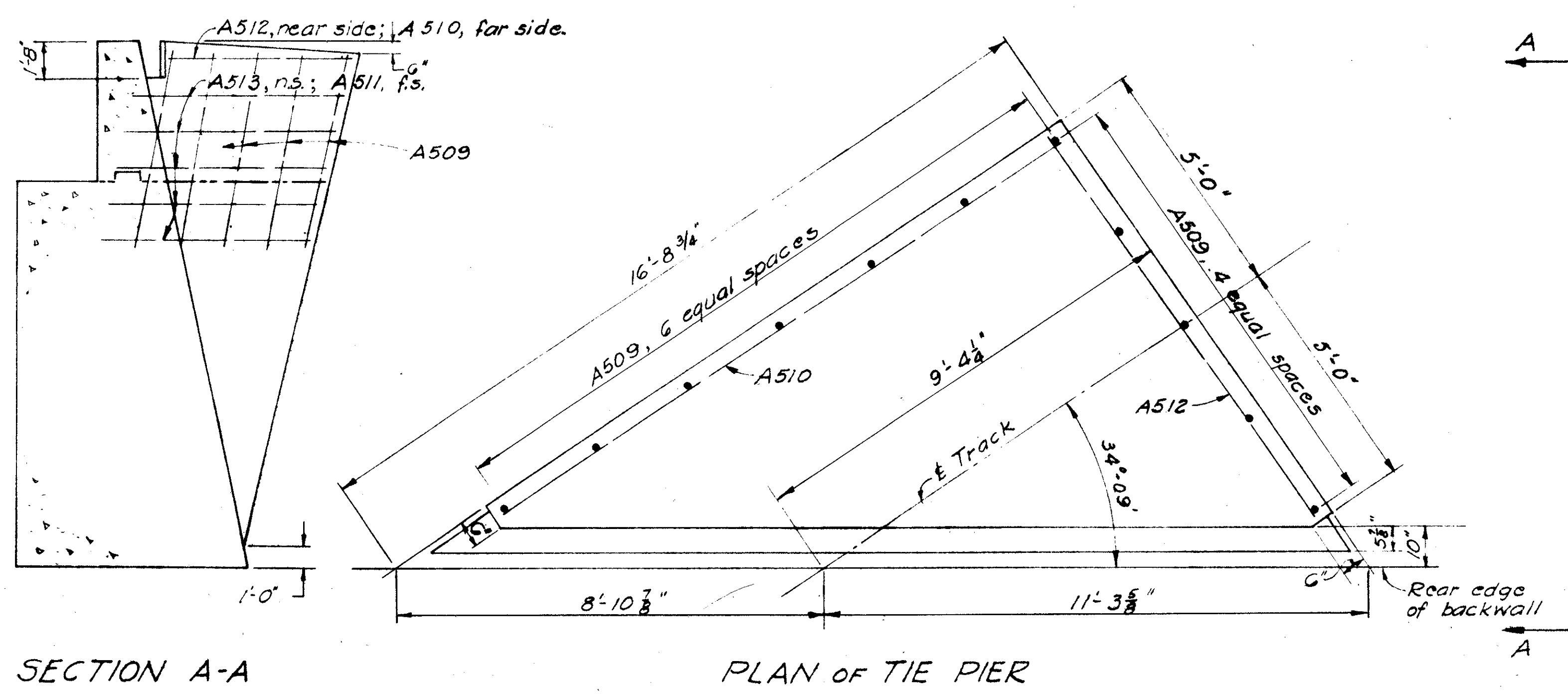


LAK - 640 - 2.56



NOTE: Tarrred roofing paper shall be included with Preformed Expansion Joint Filler for payment.

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 TRACKS: After the Contractor has completed all excavation and backfill adjacent to the railroad tracks in compliance with Sec. E-2.04 and 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 re-surfacing the railroad tracks.

EXPANSION JOINT DETAIL

GENERAL NOTES

DESIGN: A.R.E.A. Specifications for Steel Railway Bridges, 1958 Edition, and Cooper's E-72 live load.

CONSTRUCTION SPECIFICATIONS: State of Ohio, Department of Highways, Construction and Material Specifications, dated January 1, 1959; Supplemental Specifications Numbers S-103 and S-107, both revised February 16, 1955. Supplemental Spec. No. S-207, dated April 28, 1955, shall be used for the field connections of the Temporary Trestles only.

GRADE: Track - 0.023% descending Eastward  
Steel - Level.

WELDING of structural steel shall be Class 'A' and shall comply with Sec. 5-7.22 of the Construction and Material Specifications.

RIVETS shall be 3/8" diameter; open holes shall be 1/2" diameter.

REINFORCING STEEL shall be intermediate grade billet steel and shall be of a deformed type.

PIER AND ABUTMENT FOOTINGS shall extend a minimum of 3" into hard shale.

FOUNDATION BEARING PRESSURE: Wingwall footings are designed for a maximum bearing pressure of 22 tons per sq. ft. Pier and abutment footings, for a maximum of 7 tons per sq. ft.

EARTH between pedestals shall be thoroughly compacted up to the elevation of the bottom of the abutment breast-wall before the breast-wall is placed.

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. 5-1.22. The rubbing of concrete surfaces will not be permitted.

WATERPROOFING: Asphalt mastic protection course including 1/2" asphalt mastic leveling course and membrane waterproofing types 'a' and 'd' shall comply with Supplemental Spec. S-103. 3" pneumatically placed mortar (Shotcrete) shall comply with Item S-6. The Type 'A' waterproofing shall cover all surfaces on the back of wingwalls from the top of footings to the ground line, and all surfaces of the back of the abutment wall from the top of pedestals to the Type 'a' and 'd' waterproofing extending over the bridge seat.

FLASHING shall be asphalt roofing felt, 65 lb. grade, in accordance with ASTM Specification D-224-50T.

POROUS BACKFILL, 1-1/2" thick, shall extend up to the Railroad ballast and to the surface of the earth shoulders, and outward to the ends of the wingwalls and surface of the embankment slopes. The porous backfill shall extend down to the flow line of the 8" diameter, perforated, bituminous coated, corrugated metal pipe abutment drains.

UTILITY LINES: All labor and expense involved in relocating the affected utility lines shall be borne by the Owners of the lines. The Contractors 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 Company. 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 Company in the relocation of these lines. The cost of the relocation shall be included in the Railroad Force Account Work.

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

CONSTRUCTION PROCEDURE: See Sheet No. 56  
See Additional Notes on Sheets No. 48 & 58

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

ABUTMENT DETAILS  
ESTIMATED QUANTITIES - GENERAL NOTES  
BRIDGE No. LAK-640-0282  
N.Y.C. RR. OVER S.R. 640

LAKE COUNTY STA 149+06.60

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
CPD	CPD		WCK	BFG	5-18-59	5-18-59

ESTIMATED QUANTITIES									
Item	Total	Unit	Description	Abutments	Wing-walls	Retaining Walls	Pier	Superstr.	General
E-2	Lump	Sum	Cofferdams, cribs, and sheeting						Lump
E-2	2800	Cu. Yds.	Unclassified excavation	2050	280	90	380		
E-2	22	Cu. Yds.	Shale excavation	16			6		
S-1	10	Cu. Yds.	Class 'C' concrete, superstructure					10	
S-1	236	Cu. Yds.	Class 'C' concrete, pier cap and columns				236		
S-1	1633	Cu. Yds.	Class 'E' concrete, walls	1544	194	95			
S-1	991	Cu. Yds.	Class 'E' concrete, footings and abutment pedestals	810	75	31	75		
S-3	964	Sq. Yds.	Type 'A' waterproofing	707	180	77			
S-103	993	Sq. Yds.	Membrane waterproofing, Type 'd'					993	
S-103	210	Sq. Yds.	Membrane waterproofing, Type 'a' and 'd'					210	
S-103	125	Cu. Yds.	Poured-in-place asphaltic mastic, including 1/2" asphalt mastic leveling course and welded wire fabric					125	
S-4	128,577	Lbs.	Reinforcing steel	58,667	9,231	4,081	56,351	247	
S-6	188	Sq. Yds.	3" pneumatically placed mortar (Shotcrete) including welded wire fabric					188	
S-107	1,420,000	Lbs.	Structural steel					1,420,000	
S-7	30,000	Lbs.	Structural steel, castings					30,000	
S-8	1,450,000	Lbs.	Field painting of structural steel					1,450,000	
S-9	1565	Sq. Ft.	1/2" preformed expansion joint filler	1345	220				
S-9	5,455	Lbs.	Lead flashing, 75 lbs. per sq. ft.	3275	625	155		1400	
S-14	285.33	Lin. Ft.	Railing, wrought iron pipe					285.33	
S-14	30.98	Lin. Ft.	Railing (aluminum rail and supports and concrete parapet)				30.98		
S-29	396	Lin. Ft.	8" perforated bituminous coated, corrugated metal pipe and specials	250	113	33			
S-29	238	Lin. Ft.	8" bituminous coated, corrugated metal pipe and specials	212				26	
S-29	794	Lin. Ft.	8" half round perforated corrugated galvanized deck drain with bottom pan and specials					794	
S-29	405	Cu. Yds.	Porous backfill	290	80	35			
I-8	2	Each	Drainage manhole, complete						2
Special	1400	Sq. Ft.	Asphalt roofing, 65 lb. grade.					1400	
Special	Lump	Sum	Temporary detour for New York Central Railroad						Lump

REV. 11-19-59