

COUNTY OF CUYAHOGA
JOHN O. McWILLIAMS
 COUNTY ENGINEER
 BRIDGE DEPT.
MAIN AVE. BRIDGE
 CITY OF CLEVELAND
PIERS NO. 8 & 9
RIVER PIERS

P.W.A. DOCKET NO. 100-108

Approved: _____
 Date: _____ Planning Department

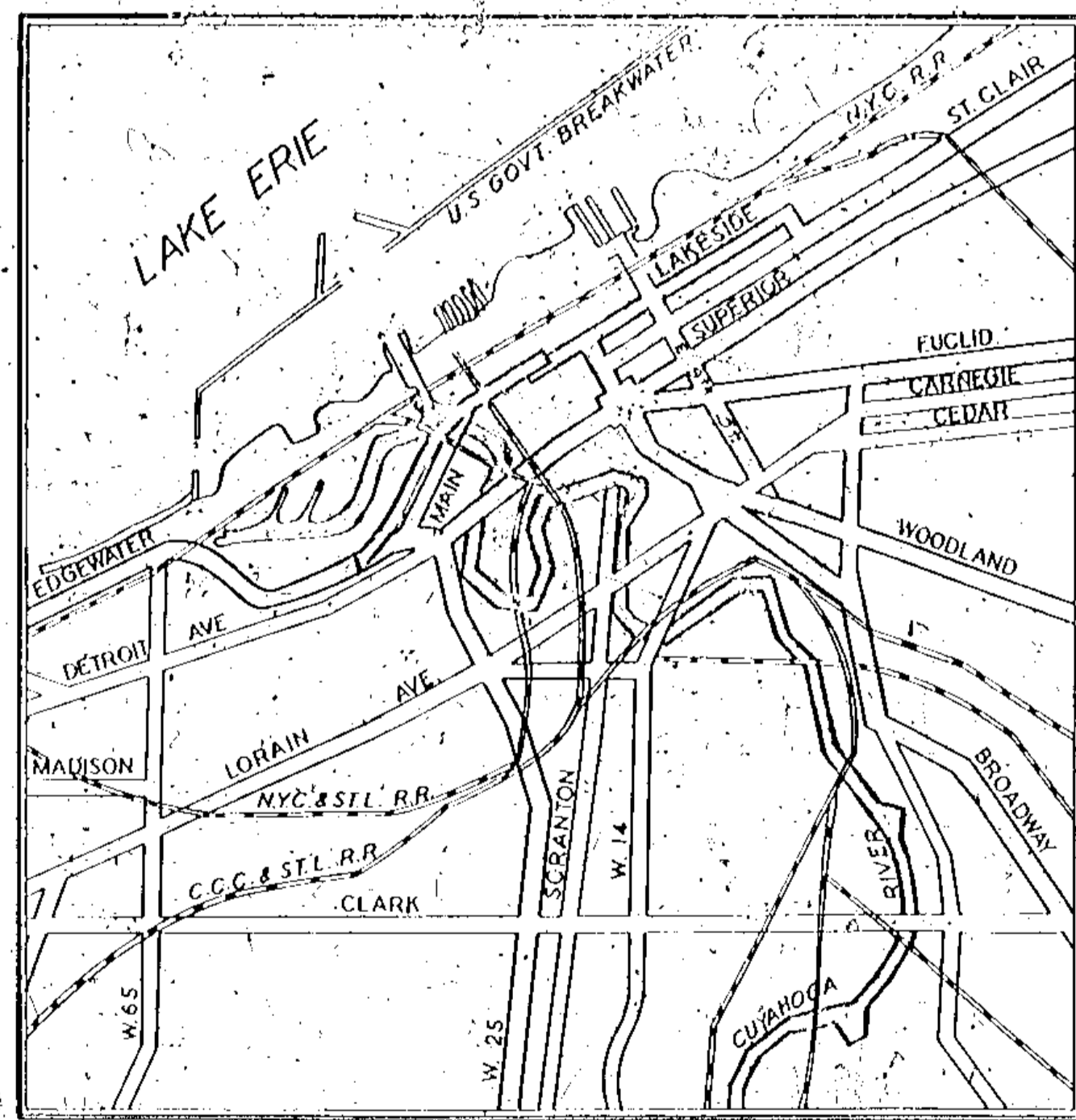
Approved: *John O. McWilliams*
 Date: 7/3/38 County Engineer

Approved: *W.E. Blain*
 Date: 7/3/38 Bridge Department

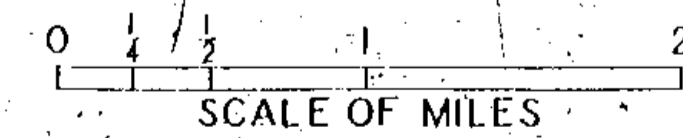
Approved: *William J. Dalton*
 Date: 7/3/38 Consulting Engineer

CONVENTIONAL SIGNS

- State Line
- County Line
- Township Line
- Section Line
- Center Line
- Property Line
- City or Village Line
- Fence Line
- Steam Railroad
- Electric Railroad
- Pipe Line
- Gravel Pit
- Drain Pipe - New
- Drain Pipe - Old



LOCATION PLAN



LOCATION OF BRIDGE
 STATE - HIGHWAYS
 IMPROVED COUNTY ROADS

For Foundation Loads and Stresses for Piers and 9 See Sheets 10 of B-106-D

INDEX OF SHEETS

- 1 TITLE
- 2 WRECKING PLAN
- 3 LOCATION PLAN
- 4 PIER CONCRETE
- 5 REINFORCING STEEL
- 6 BAR DETAILS
- 7 FENDER
- 8 LOADING TESTS

The original set of Contract Drawings were 8 Sheets 9-10 11 are additional now 11

ITEM NO.	APPROX QUANTITIES	ITEMS
SPECIAL	Lump Sum	COFFER DAMS COMPLETE
111 SPECIAL	6360 Cu Yds	EXCAVATION FOR STRUCTURES
SPECIAL	40000 Lin Ft	STEEL BEARING PILES
SPECIAL	8	PILE TESTS
SPECIAL	4	SOIL TESTS
511 SPECIAL	6300 Cu Yds	CLASS A CONCRETE FOR STRUCTURES
512 SPECIAL	1150 Cu Yds	CLASS D CONCRETE FOR STRUCTURES
514 SPECIAL	1020 Cu Yds	CLASS C CONCRETE FOR STRUCTURES
941 SPECIAL	186 TONS	REIN STEEL (MILLIN GRADE DEFORMED)
SPECIAL	52 LIN FT	18" CORRUGATED METAL PIPE SEWER
SPECIAL	52 LIN FT	15" CORRUGATED METAL PIPE SEWER
SPECIAL	42 LIN FT	18" CORRUGATED METAL PIPE SEWER
SPECIAL	40 LIN FT	21" CORRUGATED METAL PIPE SEWER
SPECIAL	24 LIN FT	6" CAST IRON PIPE DRAIN
SPECIAL	120 LIN FT	12" CAST IRON PIPE DRAIN
112 SPECIAL	30 LIN FT	12" CAST IRON PIPE STORM SEWERS
113 SPECIAL	72 LIN FT	20" CAST IRON PIPE STORM SEWERS
114 SPECIAL	100 LIN FT	24" CAST IRON PIPE STORM SEWERS
101 SPECIAL	2	DRINK MANHOLES (A)
102 SPECIAL	2	DRINK MANHOLES (B)
103 SPECIAL	2	DRINK CATCH BASIN
SPECIAL	Lump Sum	FENDERS AS DETAILED

Approved: *John J. ...*
 Date: 7/3/38 County Auditor

Approved: *John J. ...*
 Date: 7/3/38 County Commissioner

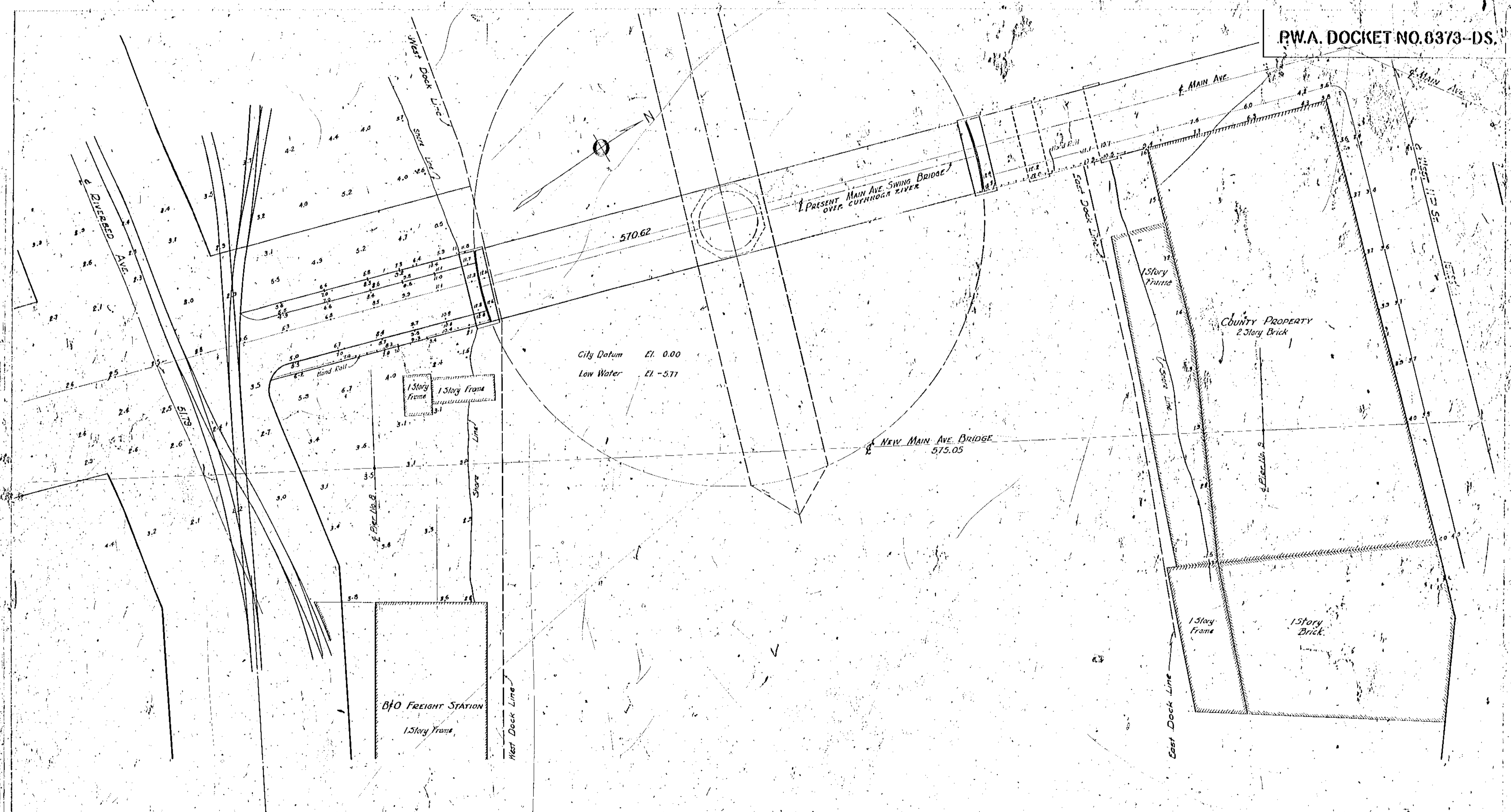
Approved: *John J. ...*
 Date: 7/3/38 County Commissioner

Approved: *John J. ...*
 Date: 7/3/38 County Commissioner


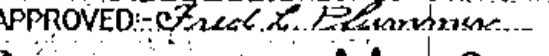
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 Date: 7/3/38 County Commissioner

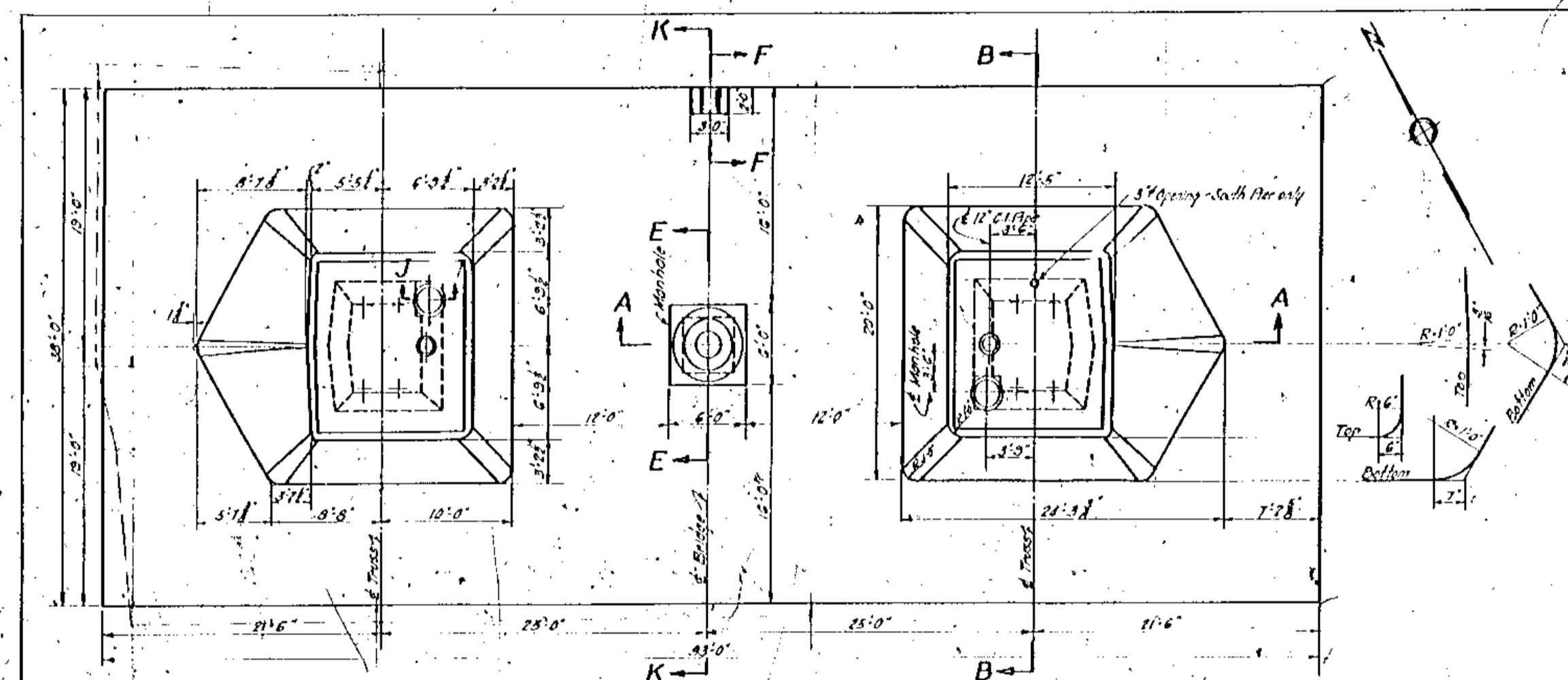
PLAN NO. B. 130

P.W.A. DOCKET NO. 8373-DS.

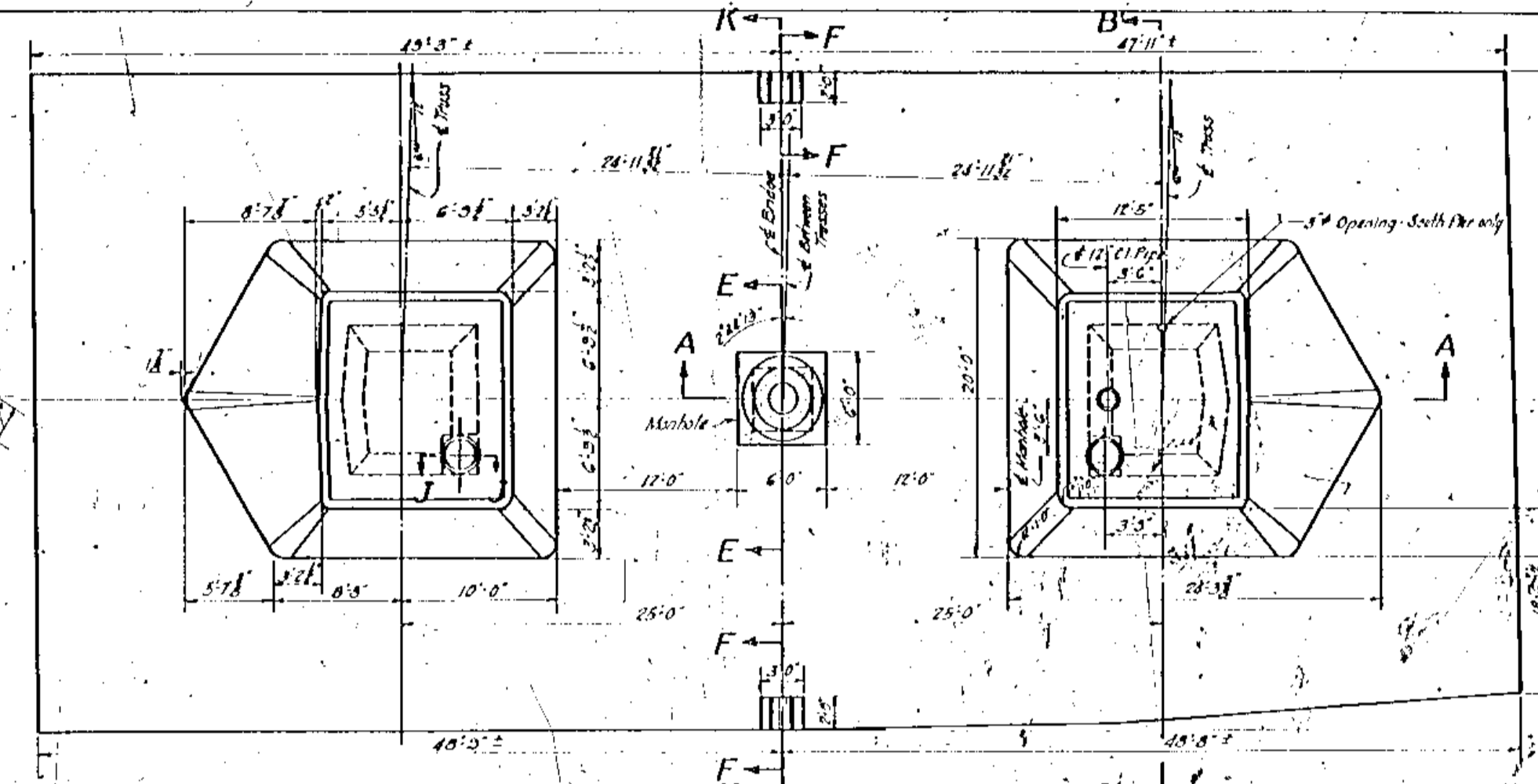


City Datum El. 0.00
Low Water El. -5.77

MAIN AVENUE BRIDGE
PIERS NO. 8&9 — RIVER PIERS
PLAN NO. B.136-B 
SCALE 1" = 20' except as noted DATE Jan. 6, 1935
DRAWN BY Y.E.E. CHECKED BY J.H. REVISIONS
APPROVED: 
CONTRACT No. 2 A-2

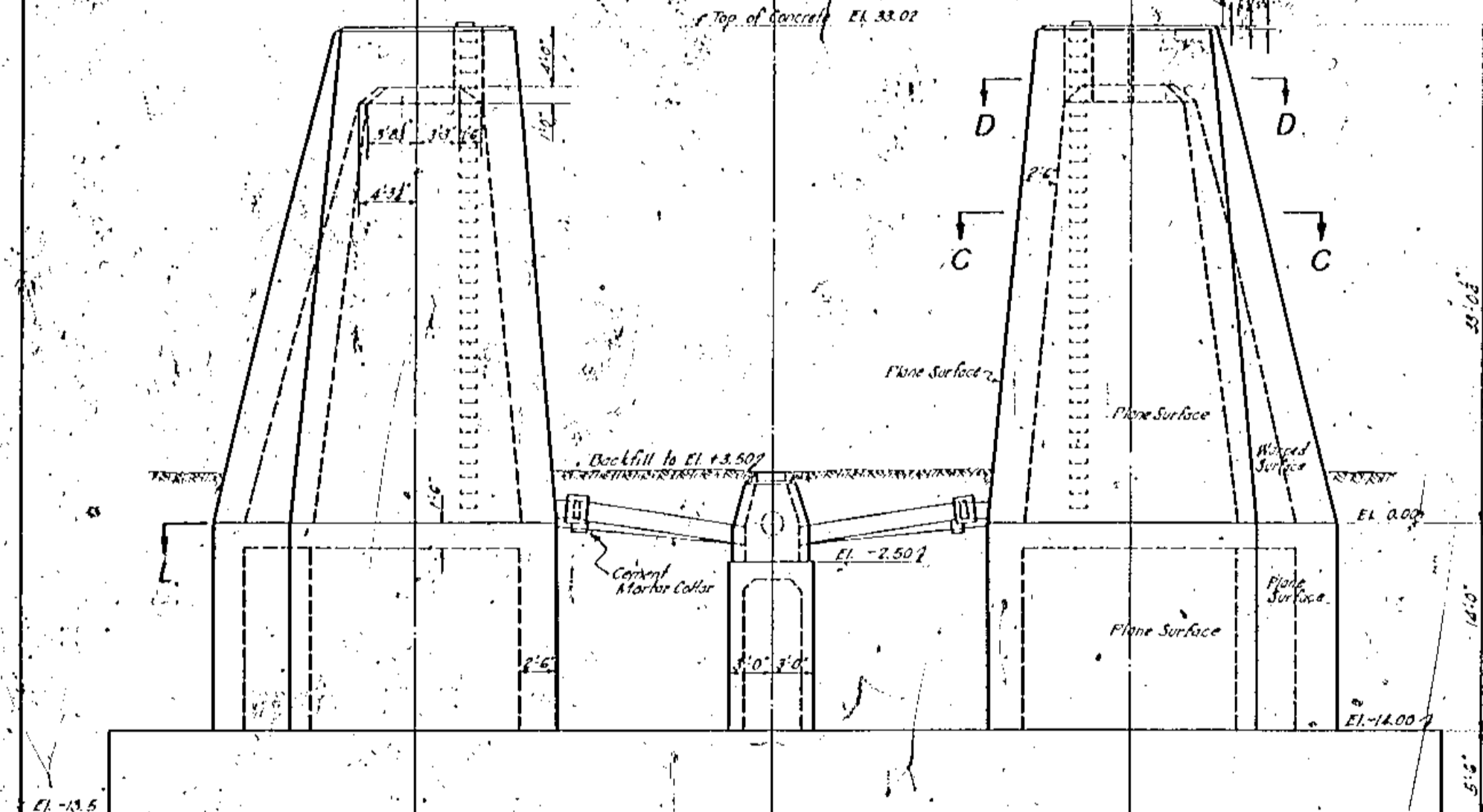


PLAN OF PIER NO. 8

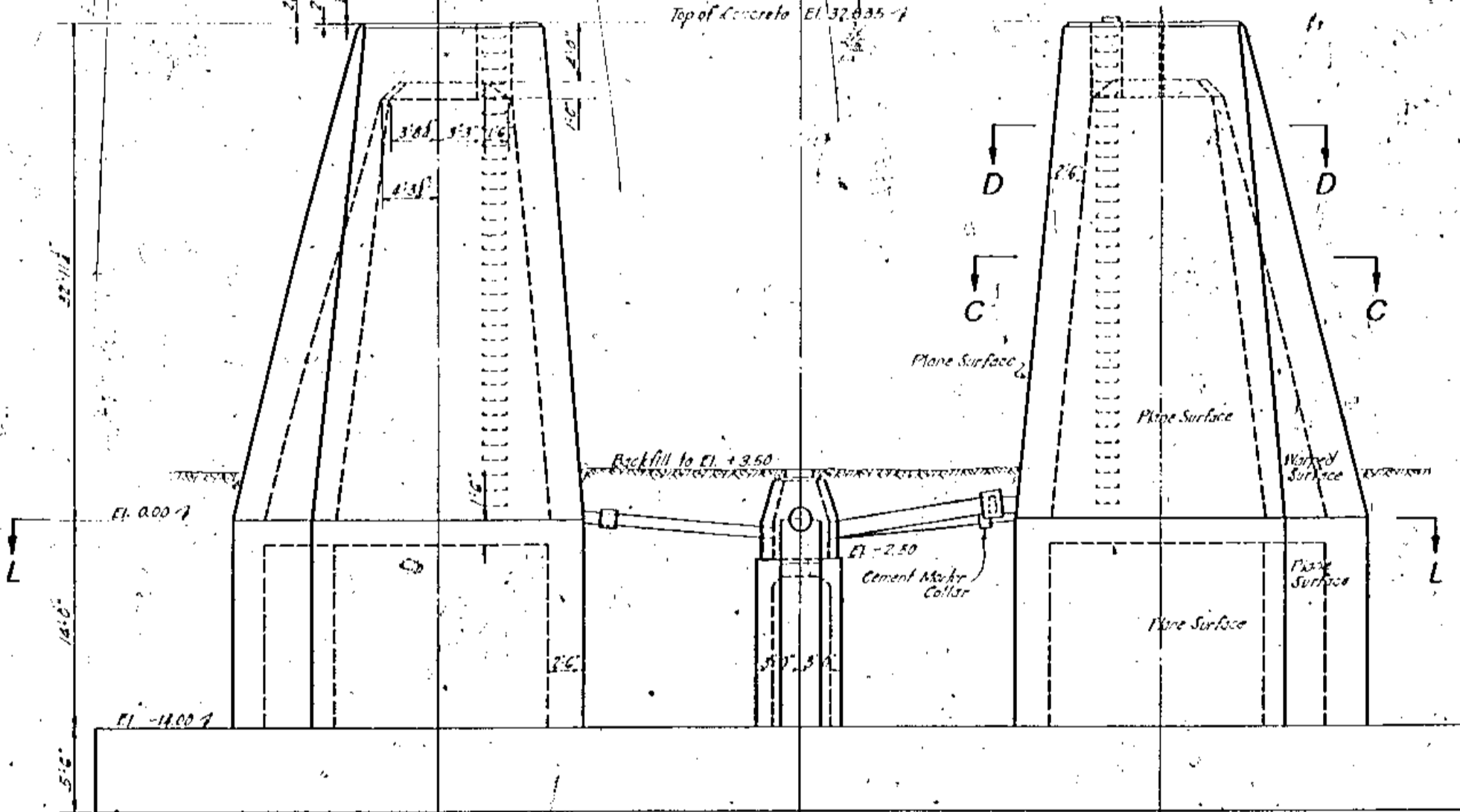


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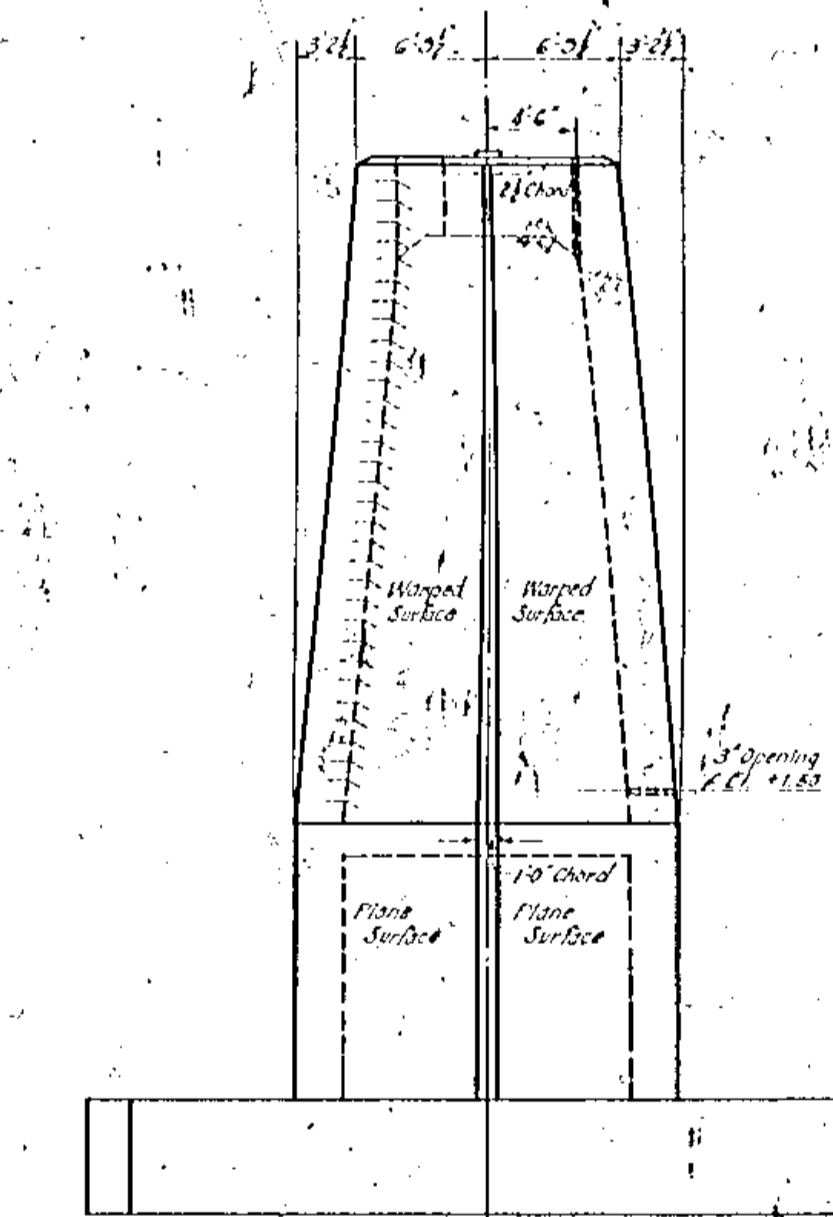
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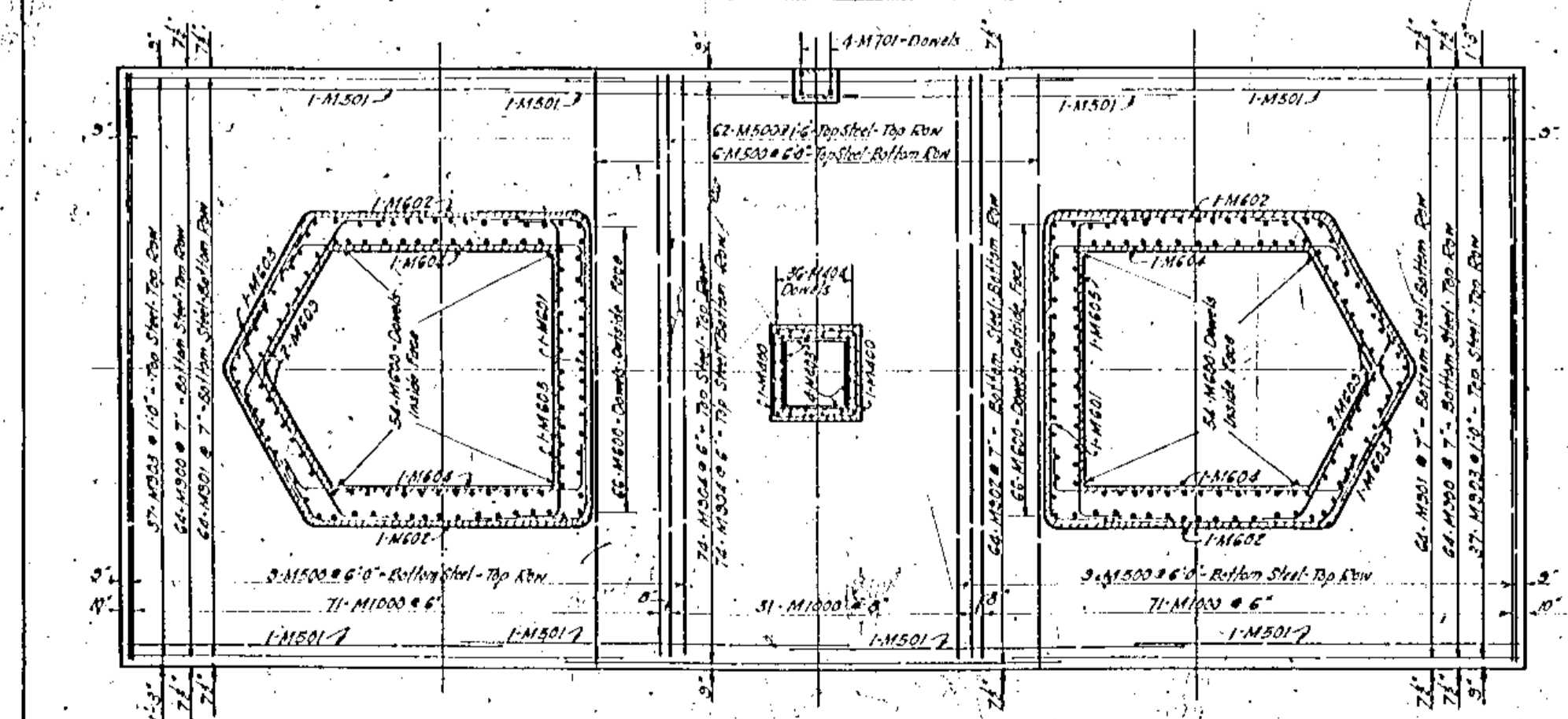
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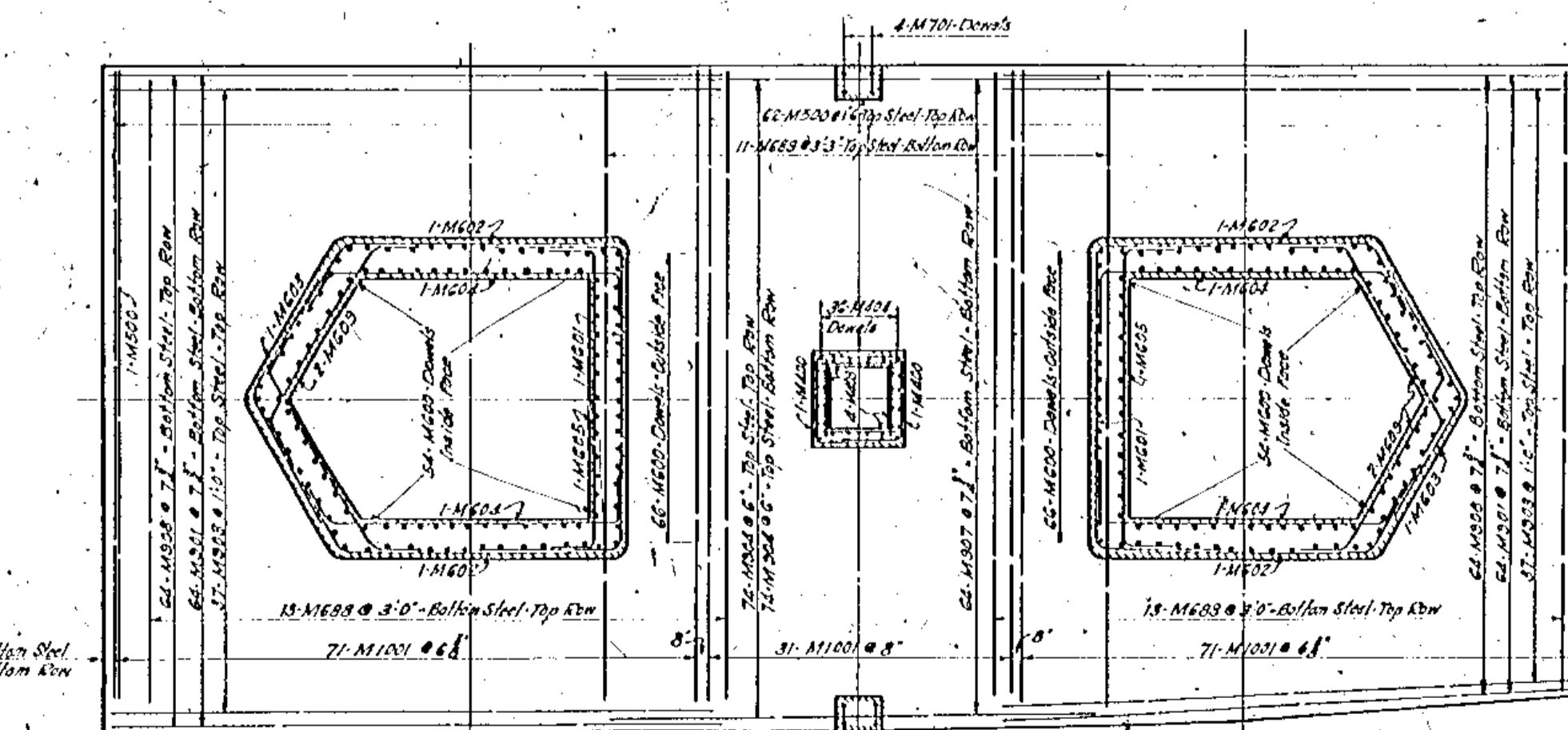
ELEVATION OF PIER NO. 9



END VIEW OF PIER NO. 9
PIER NO. 8 - SIMILAR



PLAN OF FOOTING PIER NO. 8



PLAN OF FOOTING - PIER NO. 9

- (11) For Anchor Bolt Locations
- (6) For Bill of Bars
- (6) For Bar Details
- (5) For Sections
- (11) For Drainage Details

Approved For Record
From Contract Plan B. 136-B
Dated December 21, 1939
Approved January 3, 1940
Checked by J. G. H. 1/3/40

and For the Division
Dated August 11, 1938
Checked August 24, 1938

and For 3 Foundation Details
Dated September 6, 1938.

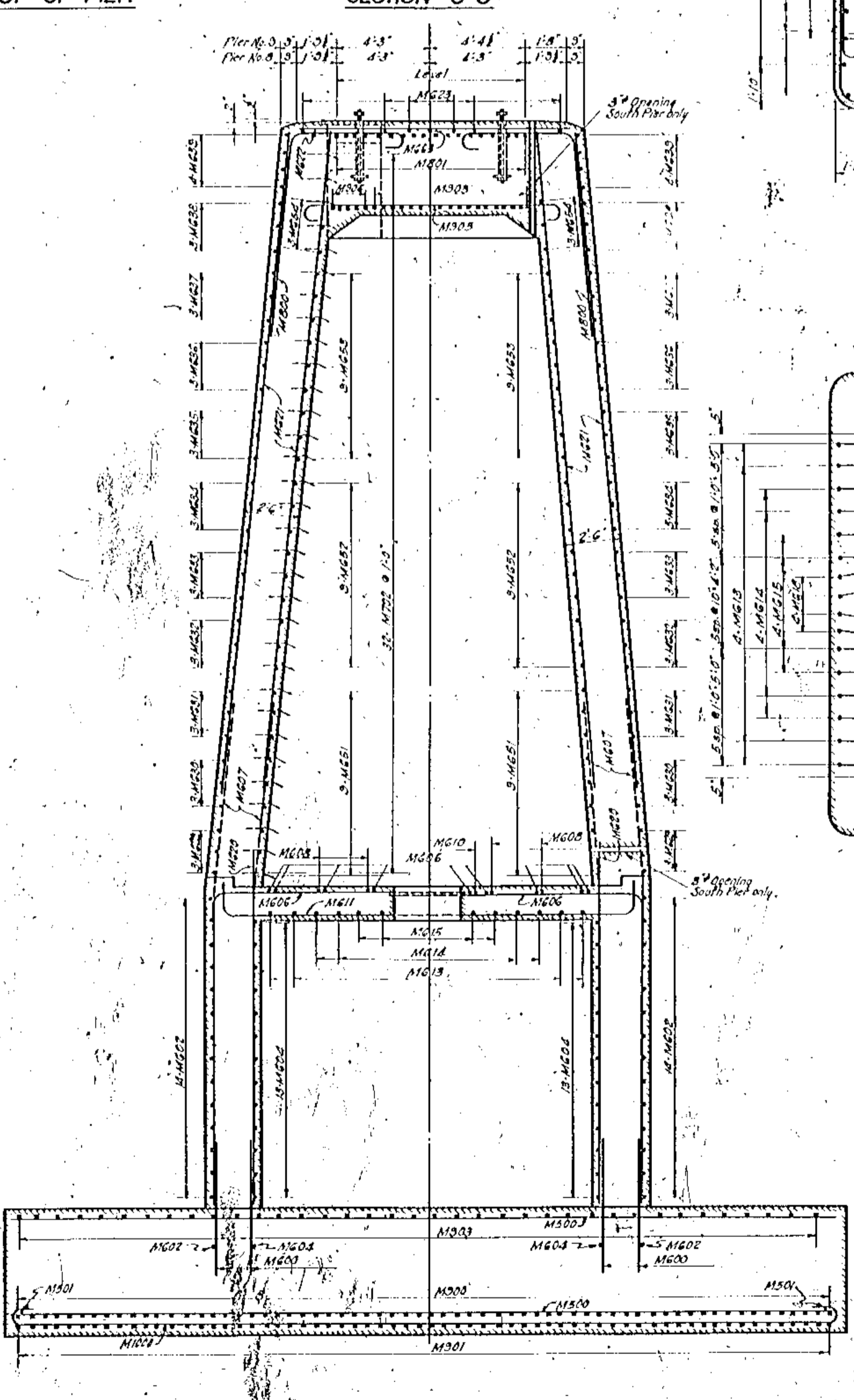
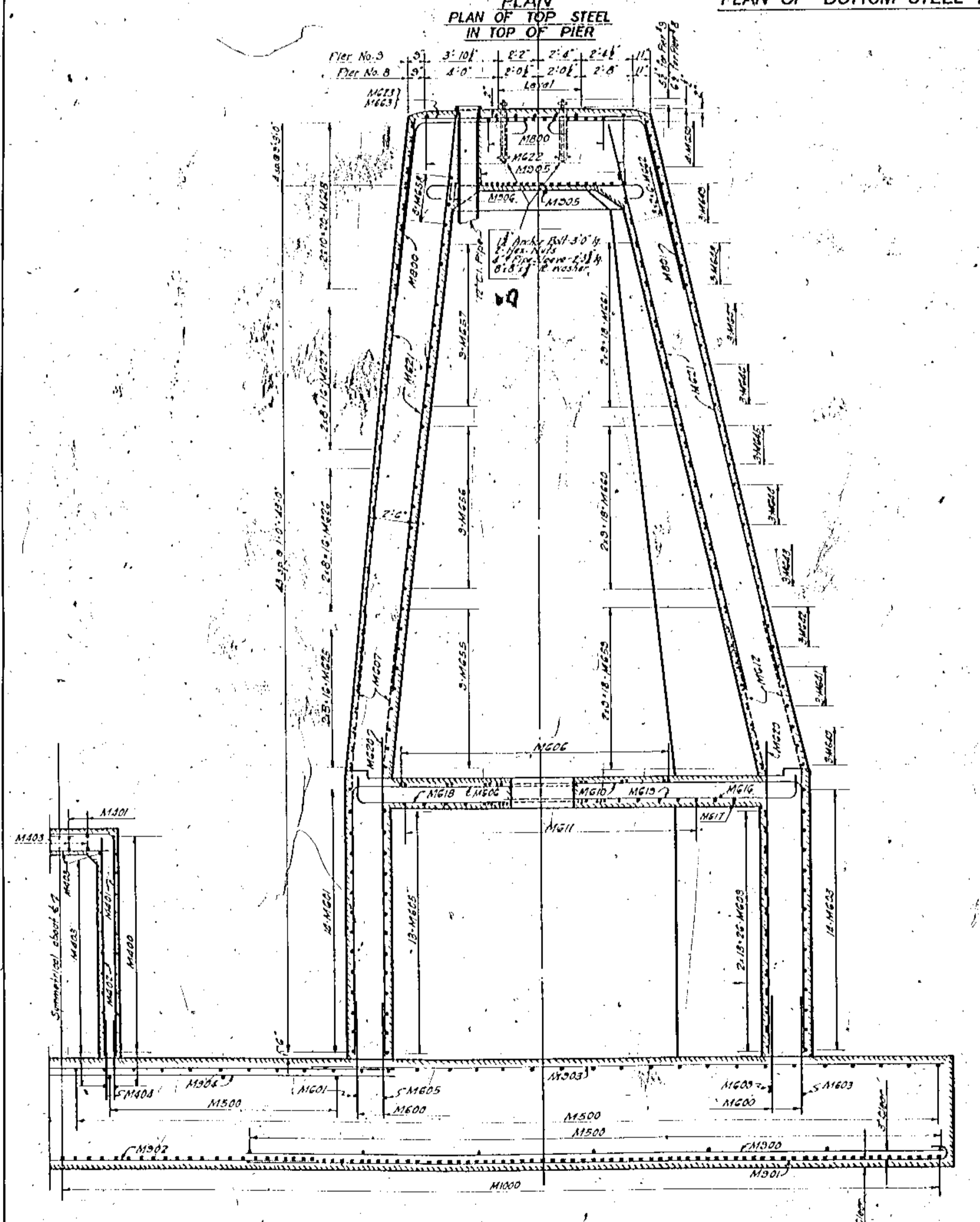
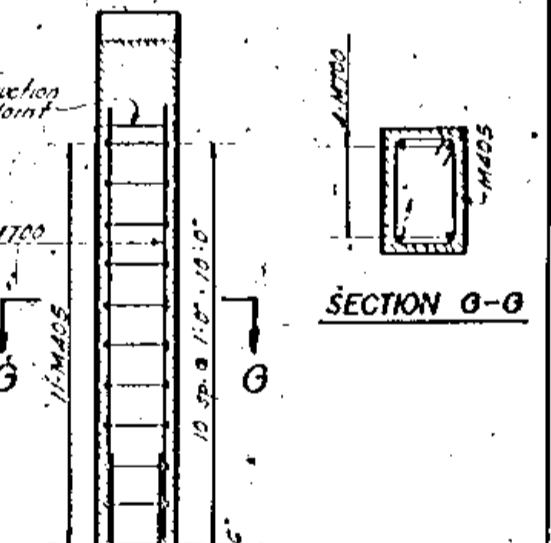
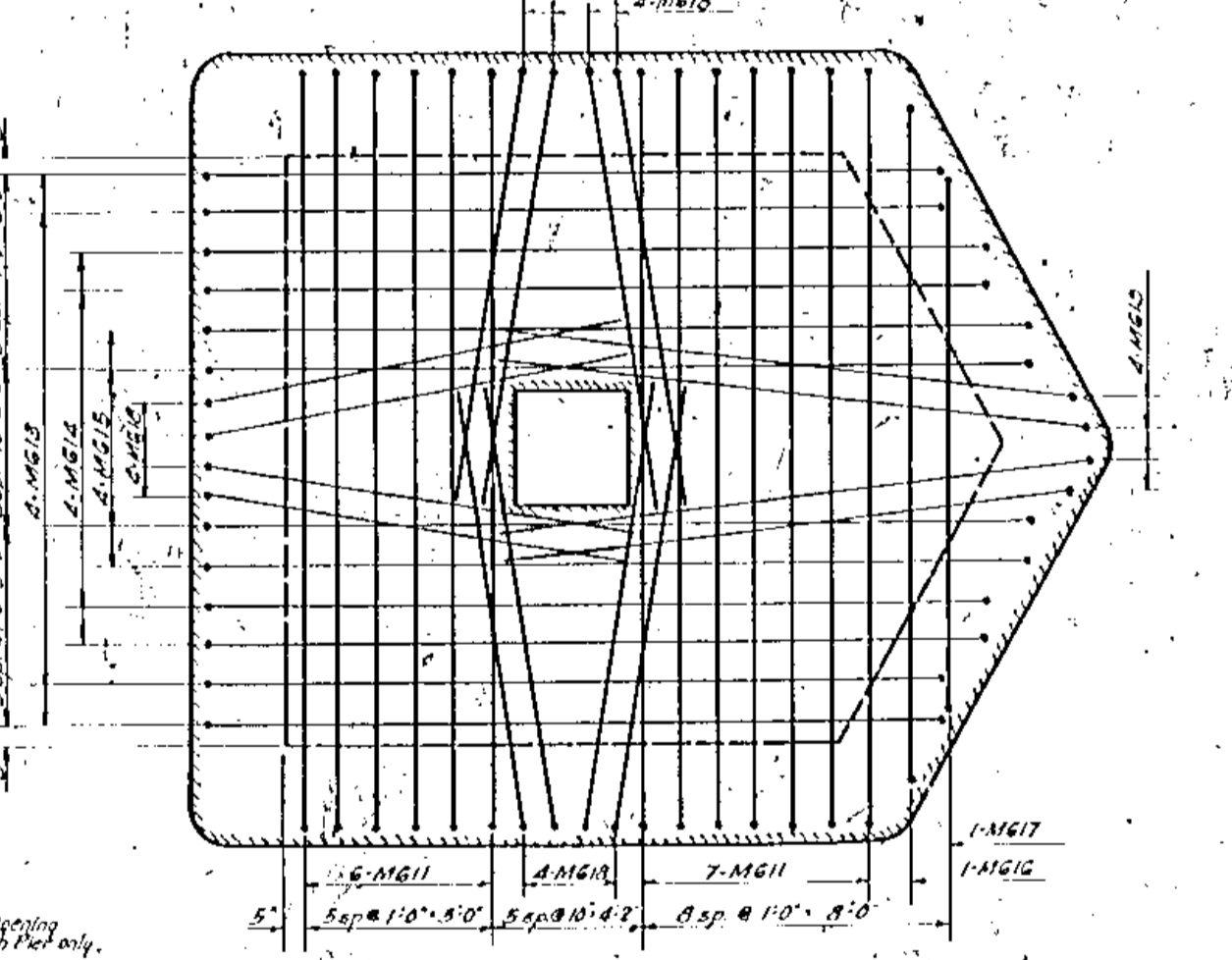
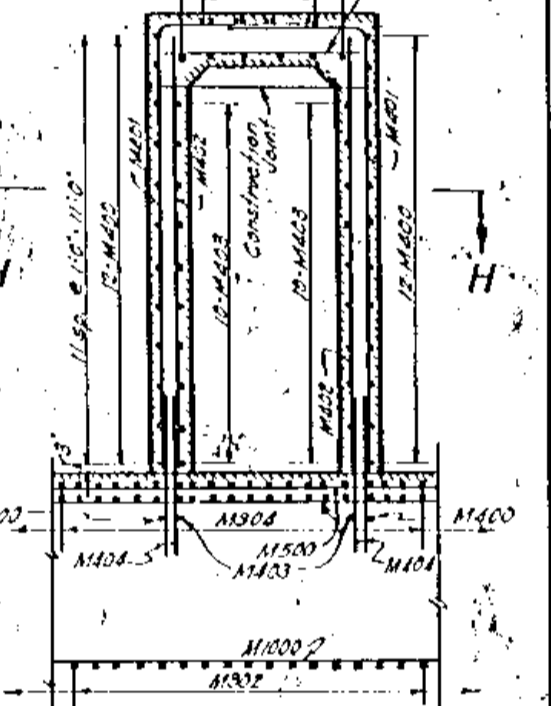
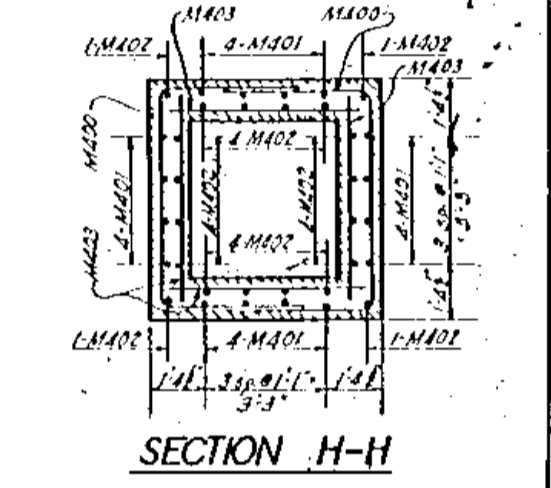
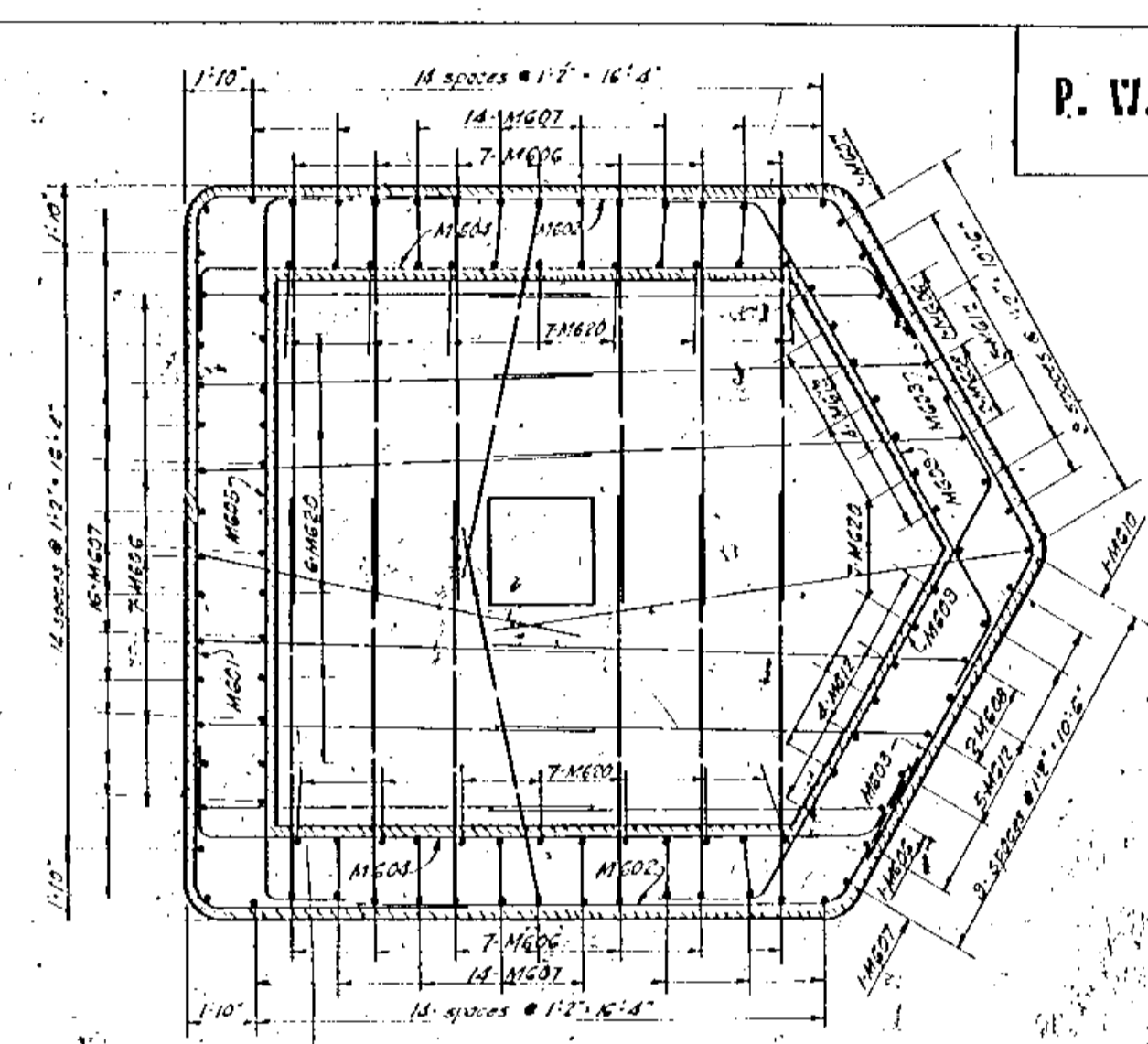
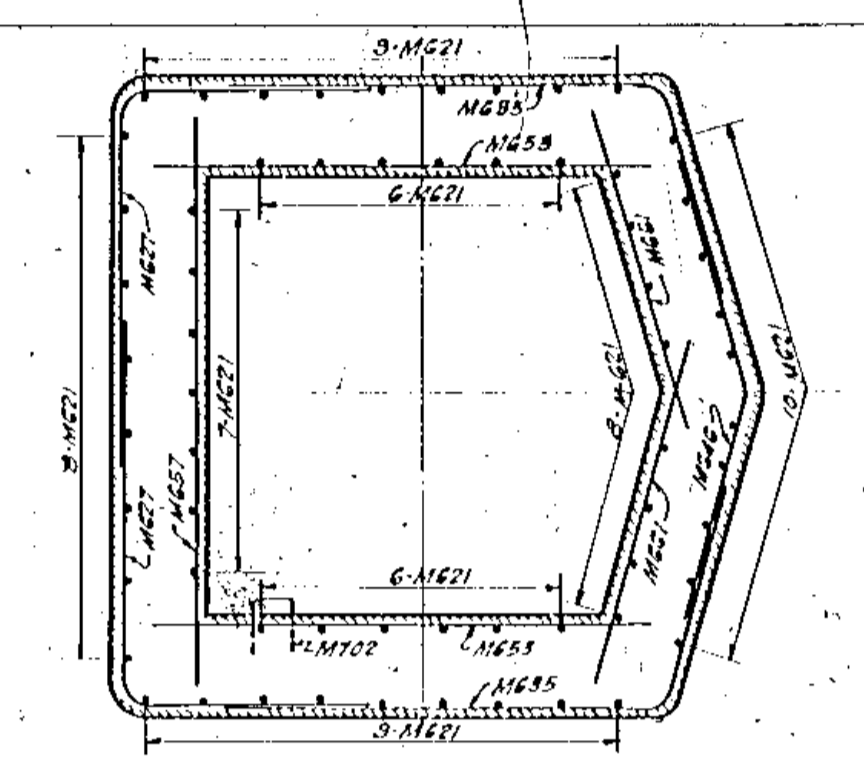
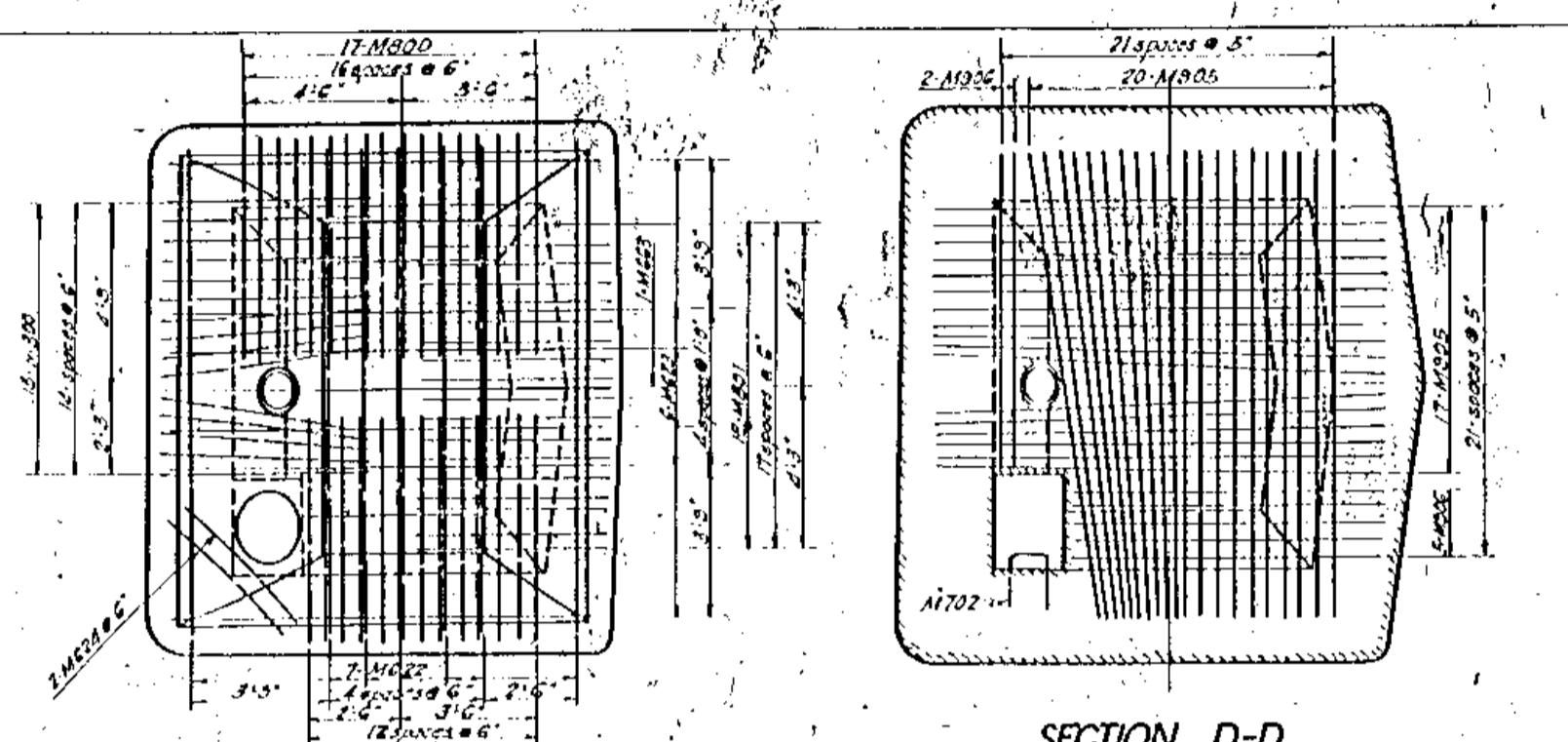
MAIN AVENUE BRIDGE
PIERS NO. 8 & 9 - RIVER PIERS
PIER DETAILS

PLAN NO. B. 136-B

SCALE 1" = 12' DATE Nov. 10, 1939
DRAWN BY A.L.B. CHECKED BY W.H.T.
TRACED BY A.L.B. APPROVED

CONTRACT No. 2

P. VI. A. DOCKET NO. 8373-DS

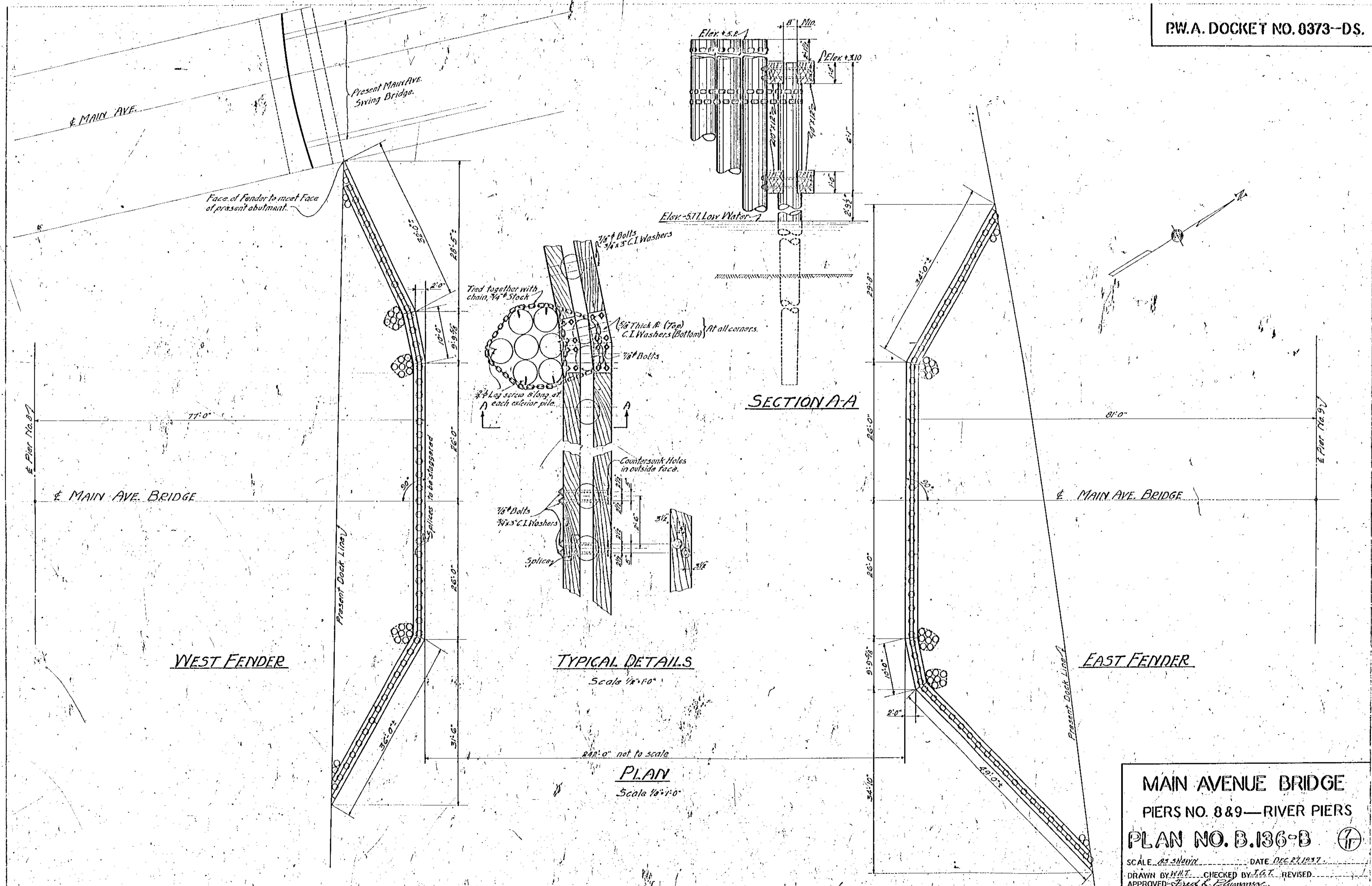


Kept on file for record from Contract No. B-136-34 dated December 15, 1937. Approved February 5, 1938. and for the design for 1938 dated August 31, 1938. Revised April 25, 1938.

MAIN AVENUE BRIDGE
PIERS NO. 8 & 9—RIVER PIERS
REINFORCING DETAILS
PLAN NO. B. 136—B 5
11
SCALE: 1"=1'-0"
DATE: Nov. 10, 1939
DRAWN BY: A.C.B.
TRACED BY: A.C.B.
CHECKED BY: W.H.T.
APPROVED:

CONTRACT No. 2

P.W.A. DOCKET NO. 8373-DS.



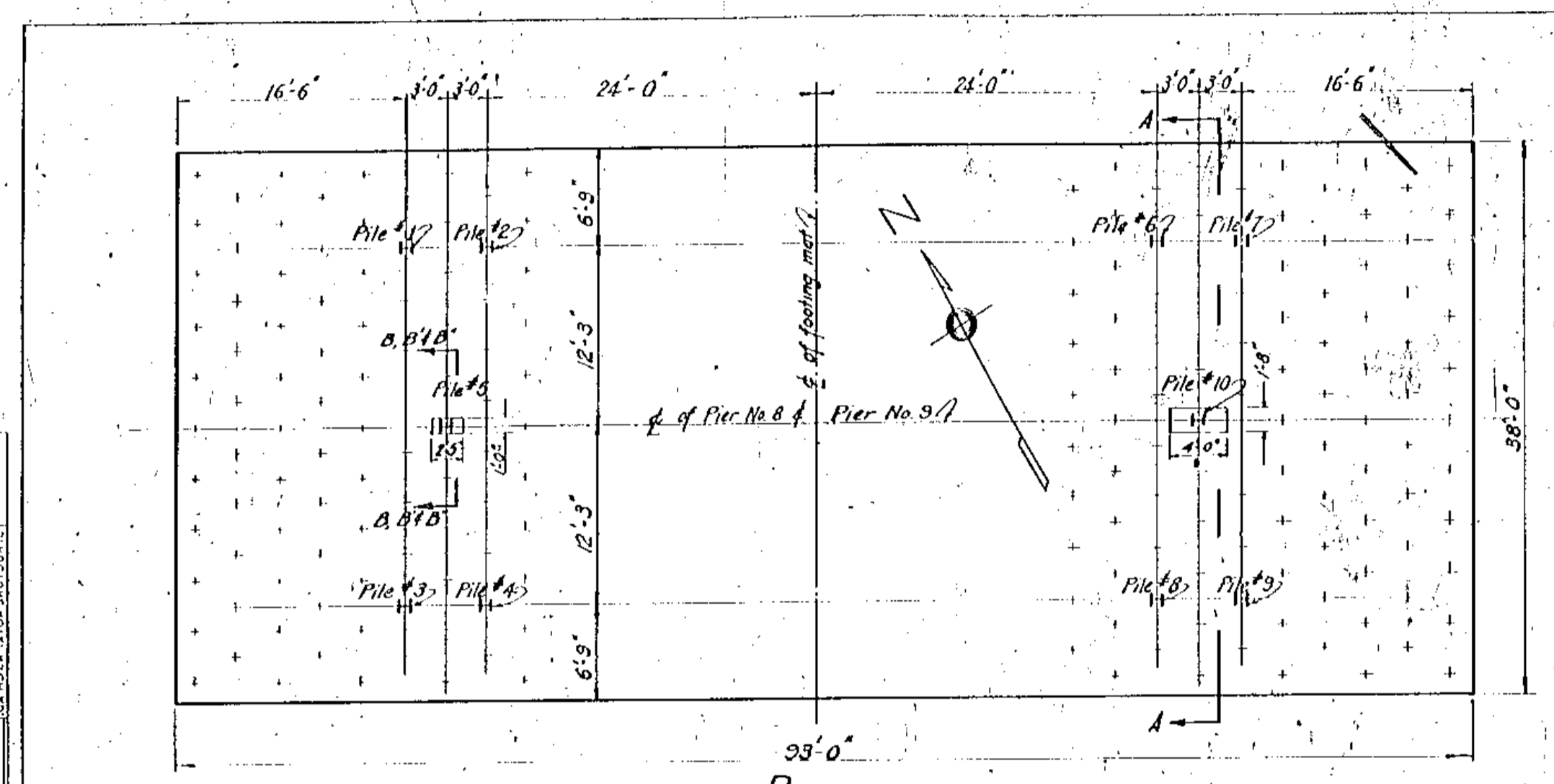
TYPICAL DETAILS
Scale 1/2"=1'-0"

PLAN
Scale 1/8"=1'-0"

MAIN AVENUE BRIDGE
 PIERS NO. 8 & 9—RIVER PIERS
 PLAN NO. B.136-B

SCALE: As shown DATE Dec 27, 1937
 DRAWN BY H.M. CHECKED BY J.C.K. REVISIONS
 APPROVED: [Signature]

CONTRACT No. 2



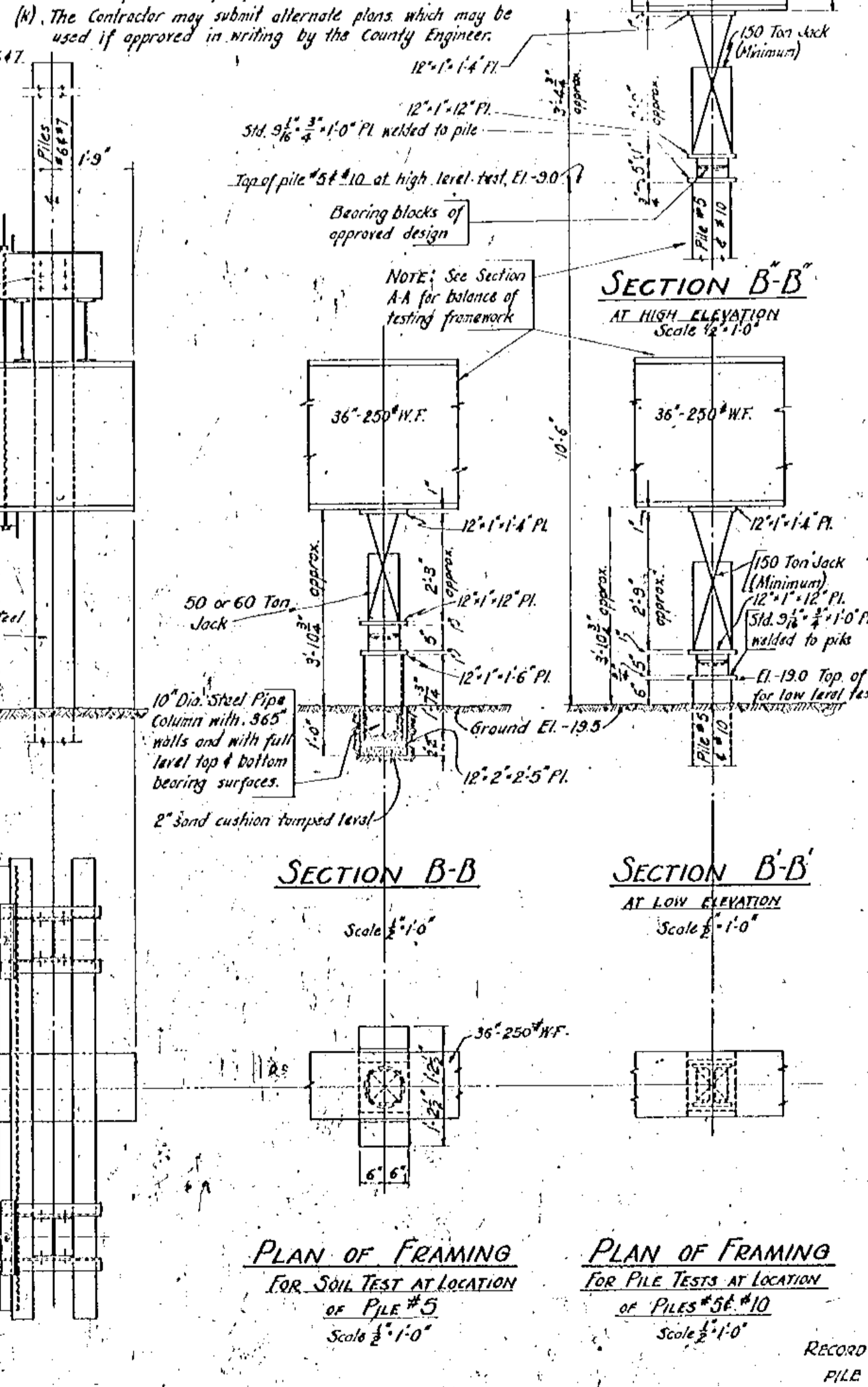
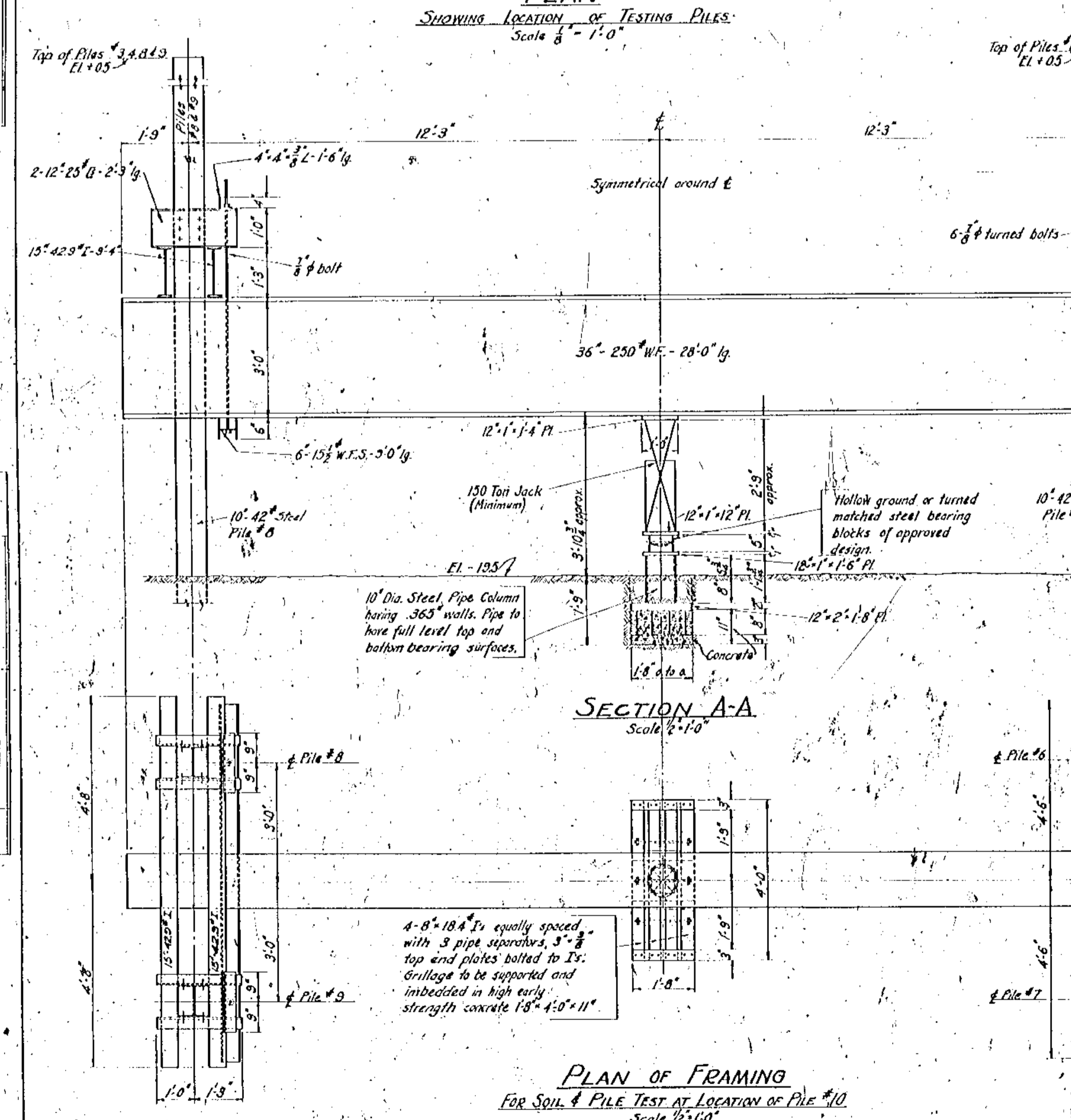
LOAD TESTS PIERS NO. 8 AND NO. 9
GENERAL

- (1) The contractor shall apply the loads with hydraulic jacks. If however, the contractor is unable to maintain the loads, constant within plus or minus 10% with the hydraulic jacks, the County Engineer will require the contractor to build suitable loading platforms and apply static loads for all the tests.
- (2) The contractor shall follow the procedure outlined in detail. However, the County Engineer may change the procedure if in his opinion, the conditions encountered warrant such changes.
- (3) All settlement measurements will be made by the County Engineer. The contractor, however, shall furnish and erect any equipment that may be necessary in the opinion of the County Engineer to make the settlement measurements, except leveling instruments and leveling rods. The contractor shall also assist in making the measurements.
- (4) All piles used in the load tests shall be clearly and accurately marked at one foot intervals before driving, and as directed by the County Engineer.
- (5) The main loading beam shall be securely braced as directed by the County Engineer so as to prevent lateral buckling of the compression flange.
- (6) Items 3 and 29 of soil tests shall be started at times so that Items 3, 6, 7 and Items 29, 30, 31 can be completed during periods from 9:00 A.M. to 4:00 P.M.
- (7) Item 11 of pile tests shall be started about 9:00 A.M. on Monday or Tuesday unless otherwise specified by the County Engineer.
- (8) All framing details shown on this sheet are offered to the Contractor as suggestions. If he desires to follow these suggestions, he shall assume full responsibility for their adequacy.
- (9) If, in the opinion of the County Engineer, any additional material is necessary to complete these tests in accordance with the procedure as outlined, the Contractor shall furnish and erect such material. The price for furnishing and erecting such material shall be included in the unit price bid for pile tests.
- (10) The Contractor may submit alternate plans which may be used if approved in writing by the County Engineer.

P.W.A. DOCKET NO. 8373-DS.

SOIL & TEST PILE SPECIFICATIONS

- SOIL TEST No. 1 PIER No. 8.**
- PROCEDURE:-
1. Drive Pile #1, open end, 60' long to 40' penetration, determining the number of blows per foot penetration at total penetrations of 10', 20', 30', 35' and the last foot of penetration.
 2. Drive Piles #2, #3, and #4, open or closed end, as specified, 60' long to 40' penetration determining the number of blows as for Pile #1.
 3. Dig hole 1'-8" wide, 2'-9" long, and 1'-0" deep at location shown on the plans. Backfill to a depth of two inches with sand, tamping and leveling as directed by the County Engineer. Place bearing plate and block. Fill hole with sand as directed by the County Engineer.
 4. Erect loading beams as shown on the plans.
 5. Place hydraulic jack of not more than 60 ton nor less than 50 ton capacity in position and apply load without impact, eccentricity or fluctuation, increasing the total load in increments of 20,000# at intervals of twenty minutes.
 6. Determine settlement immediately before and after the application of each load increment, and 2, 5, and 10 minutes after the application of each load increment.
 7. Continue the test until settlement progresses at a rate so that load cannot be maintained, and the County Engineer orders that the test be discontinued.
 8. Remove jack, loading block, plate, etc.
- PILE TEST No. 1 PIER No. 8.**
9. Drive Pile #5, open end, length (not greater than 60') and penetration to be as ordered by the County Engineer. Determine number of blows as outlined under Item 1.
 10. Erect loading beams and place bearing cap on pile as shown on the plans.
 11. Place hydraulic jack of not less than 150 ton capacity in position and apply load without impact, eccentricity, or fluctuation, increasing the total load in increments of 15,000# at intervals of 30 minutes.
 12. Determine settlement immediately before and after the application of each load increment, and 5 and 15 minutes after the application of each load increment.
 13. Continue the test as outlined in Items 11 and 12 until the total load equals 200,000#. Hold this load constant for 24 hours determining the settlement 0.5, 15 and 30 minutes, and 1, 2, 4, 8, 12, 16 and 24 hours after the application of this load.
 14. Increase load to 140,000#. Hold this load constant for 60 minutes determining settlement 0.5, 15, 30 and 60 minutes after the application of this load.
 15. Increase load to 180,000#. Hold load and determine settlements as in Item 13, if so ordered by the County Engineer.
 16. Increase load by 20,000# increments applied at intervals of 30 minutes, determining settlement as specified under Item 12.
 17. Continue test until total load equals capacity of jack or until ordered by the County Engineer to discontinue the test.
 18. Remove jack, loading beam, etc.
- PILE TEST No. 2 PIER No. 8.**
19. Drive pile to penetration as specified by the County Engineer. Re-erect loading equipment.
 20. Place jack in position and apply load as in Item 11, increasing the total load in increments of 20,000# at intervals of 30 minutes.
 21. Determine settlements as specified under Item 12.
 22. Determine settlements as specified in Items 21 and 22 until a total load, to be specified by the County Engineer and not to exceed 200,000#, has been applied. Hold this load and determine settlements as specified in Item 13.
 23. Complete test as specified in Items 16, 17, and 18.
 24. Determine settlement 0.1 and 24 hours after all loads have been removed.
- SOIL TEST No. 2 PIER No. 8.**
- While Items 1-24 inclusive are being completed, contractor may
25. Drive Piles #6, #7, #8 and #9, open or closed, length, penetration, and determination of number of blows as specified under Items 1 and 2 unless otherwise directed by the County Engineer, and provided that driving does not disturb the bearing tests covered by Items 1 to 24, inclusive.
 26. Dig hole 1'-8" wide, 4'-0" long, and 1'-0" deep at location shown on the plans. Place grilling beams and backfill to a depth of 11" with high early strength concrete as shown on the plans, finishing surface as directed by the County Engineer.
 27. Not less than 24 hours after the completion of Item 26, place bearing plate and bearing block. Fill hole with sand as directed by the County Engineer.
- After completion of Items 1 to 27, inclusive:
28. Erect loading beams as shown on the plans.
 29. Place hydraulic jack of not less than 150 ton capacity in position and apply load without impact, eccentricity or fluctuation, increasing the total load in increments of 10,000# at intervals of 20 minutes.
 30. Same as Item 6.
 31. Same as Item 7.
 32. Same as Item 8.
- PILE TEST Nos. 3 & 4 PIER No. 8.**
33. Drive Pile #10, closed end, length (not greater than 60') and penetration to be as ordered by the County Engineer. Complete Pile Test No. 3 in accordance with Items 9-24, inclusive, as specified for Pile Test No. 1 & No. 2.
- SOIL & PILE TESTS PIER No. 9.**
- Soil Test No. 3 is to be made as specified under Items 1-8, inclusive.
- Pile Tests Nos. 5 & 6 are to be made as specified under Items 9-24, inclusive.
- Soil Test No. 4 is to be made as specified under Items 25-32, inclusive.
- Pile Tests Nos. 7 & 8 are to be made as specified under Item 33.



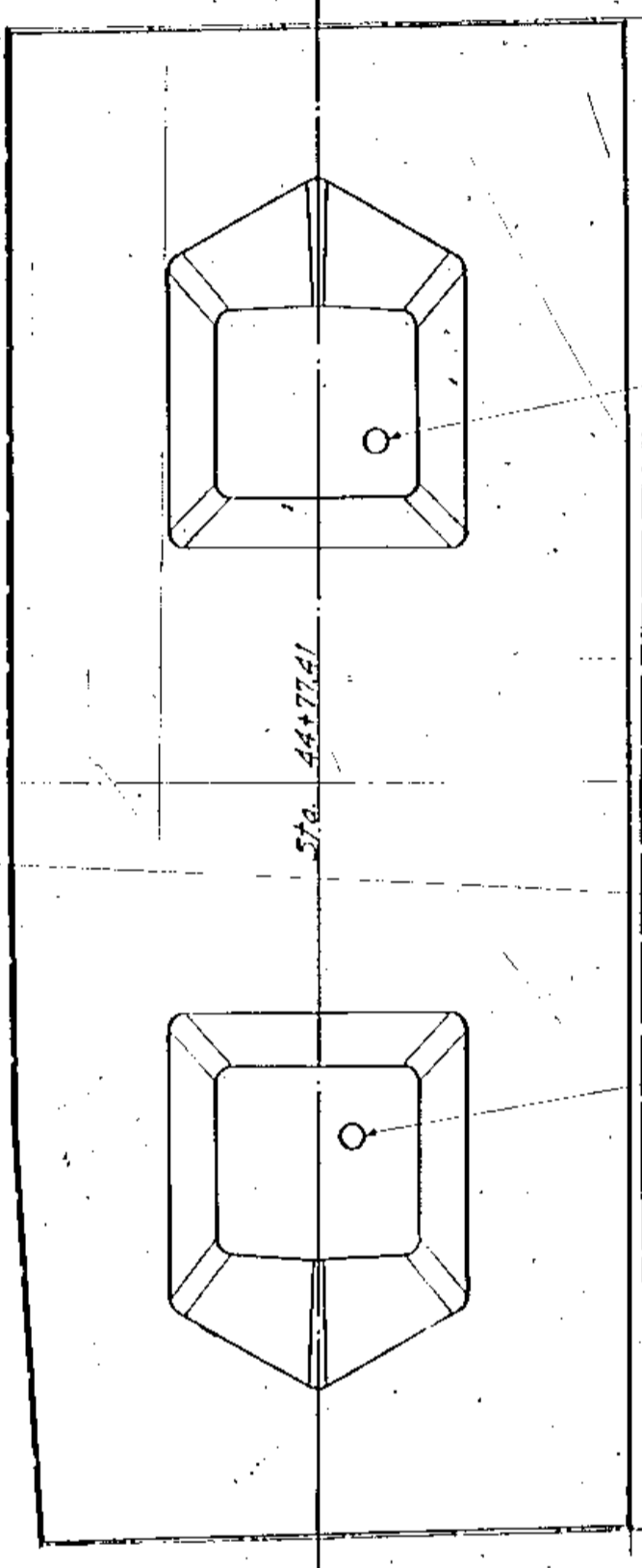
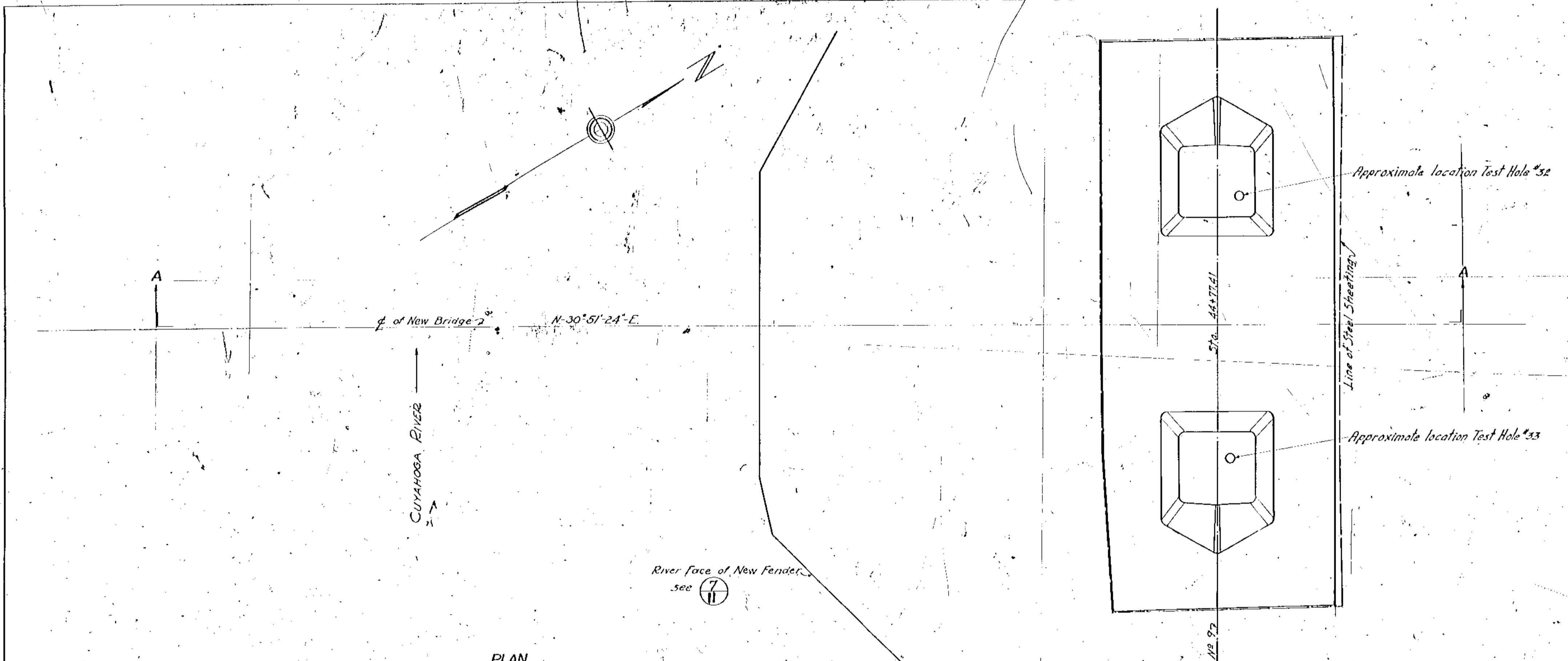
MAIN AVENUE BRIDGE
PIERS NO. 8&9 - RIVER PIERS
PLAN NO. B.136-B

SCALE 1/2" = 1'-0" DATE Jan. 6, 1930
DRAWN BY V.F.E. CHECKED BY A.H. REVISED
APPROVED: Fred L. Edmonson

CONTRACT No. 2

RECORD NOTE: NO PILING WAS USED AND NO PILE TESTS CONDUCTED ON PIERS 8 & 9

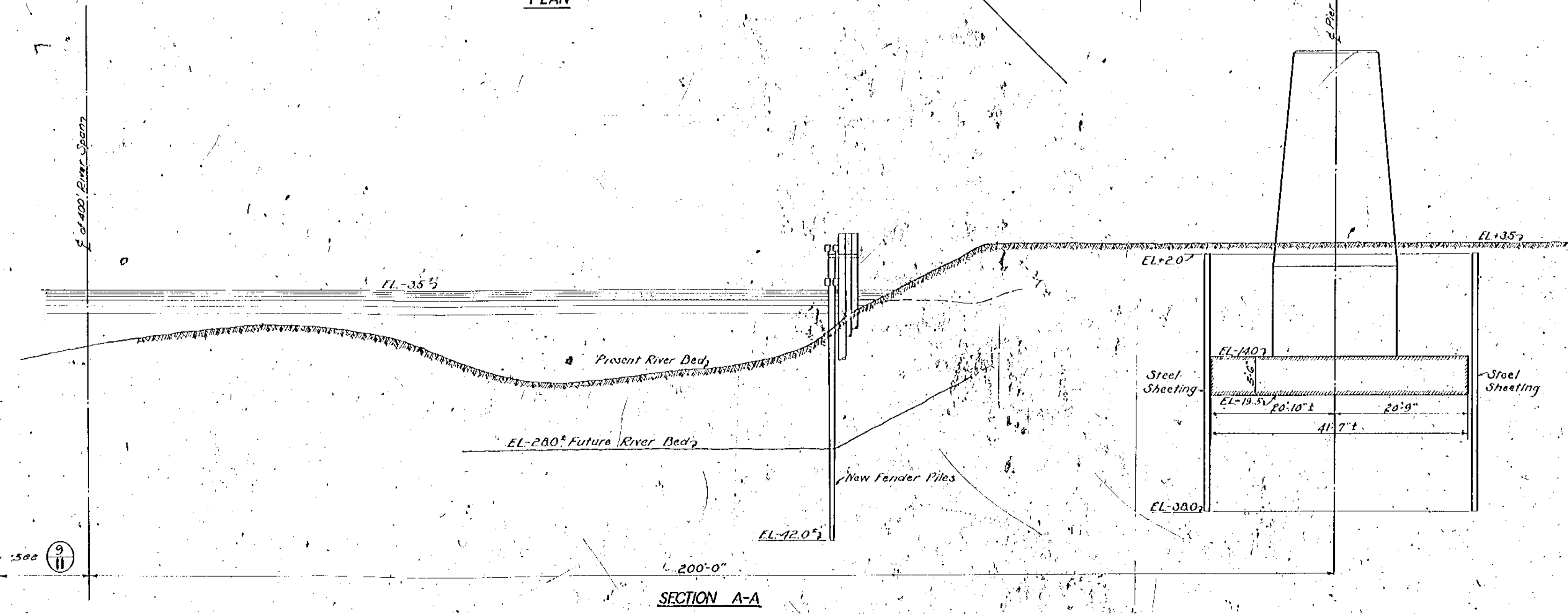
P. V. A. DOCKET NO. 8373-DS



Approximate location Test Hole #32

Line of Steel Sheet Piling

Approximate location Test Hole #33



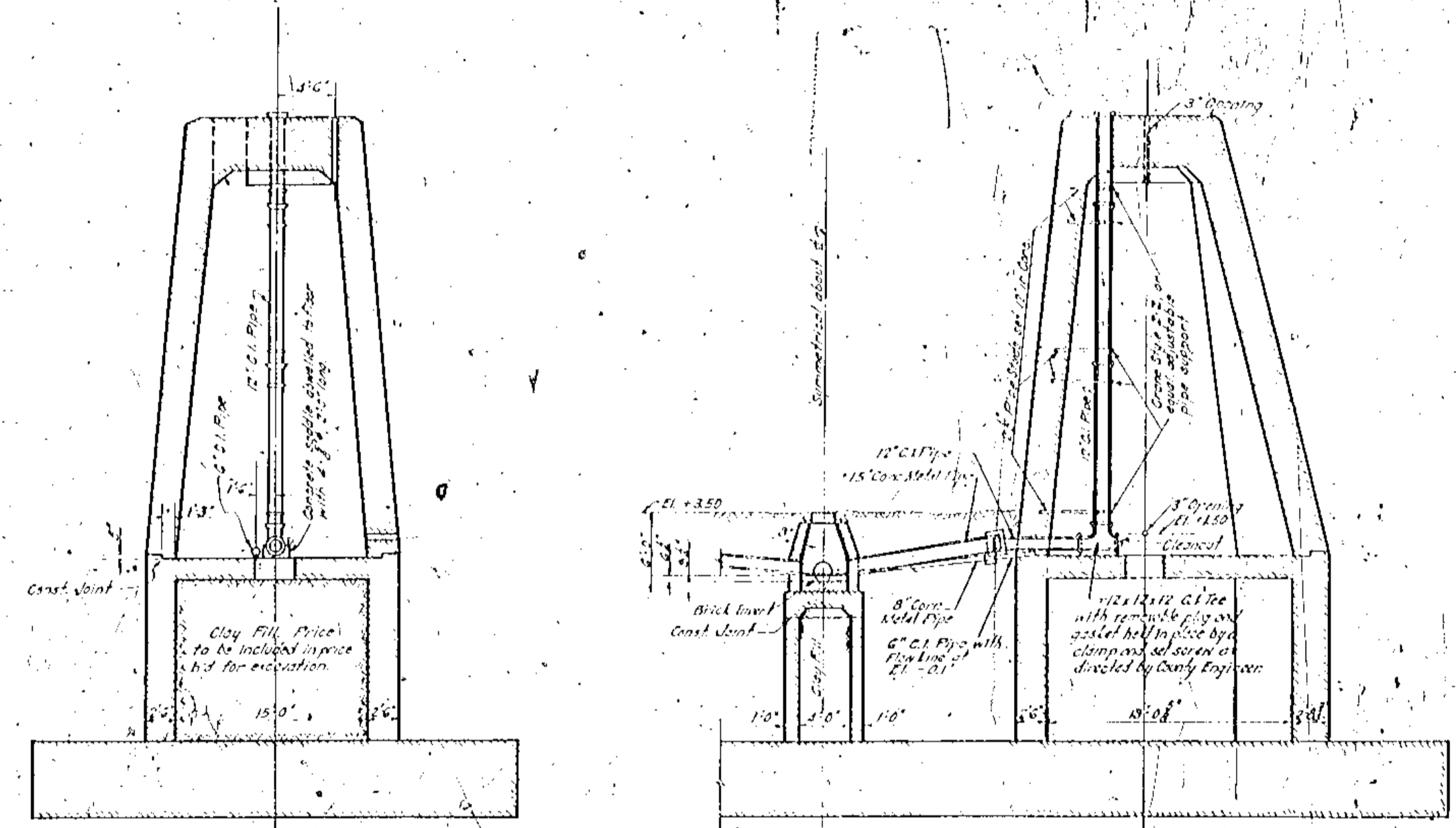
MAIN AVENUE BRIDGE
 PIERS NO. 8 & 9—RIVER PIERS
 PIER NO. 9—STEEL SHEETING
PLAN NO. B. 136-B 10
11

SCALE 1"=10'-0" DATE 7-12-38
 DRAWN BY P.H. CHECKED BY
 TRACED BY J.L.B. APPROVED

CONTRACT No. 2

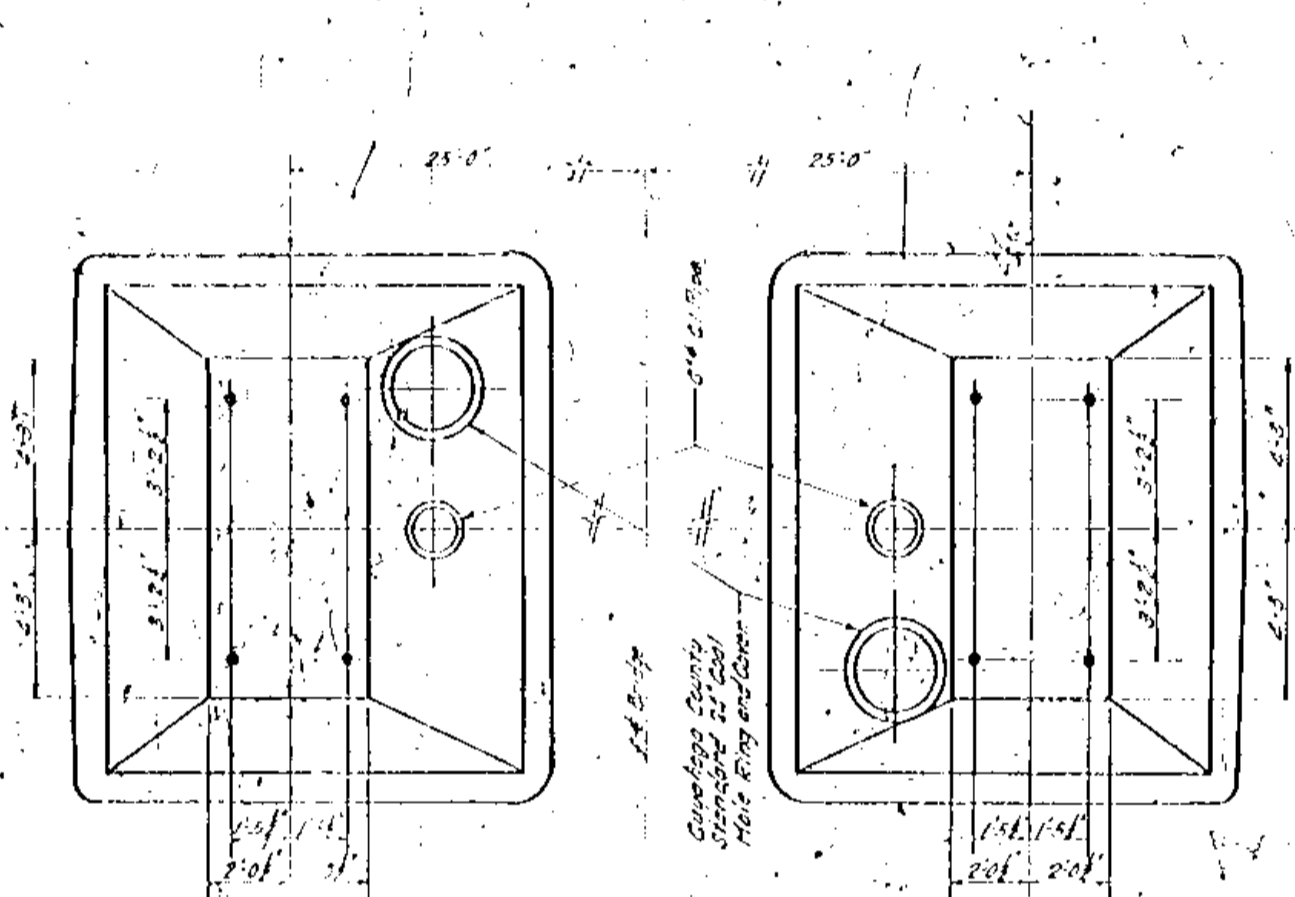
A-2

P. V. A. DUGKEY NO. 8373-98

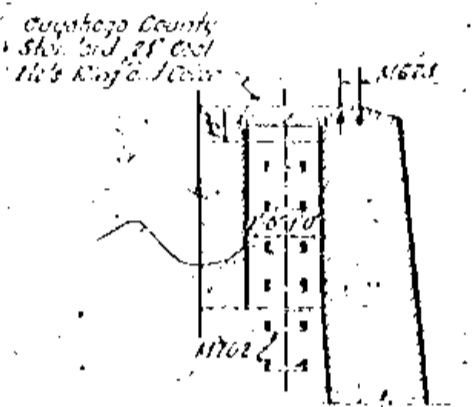


SECTION B-B
Scale - 1/4" = 1'-0"

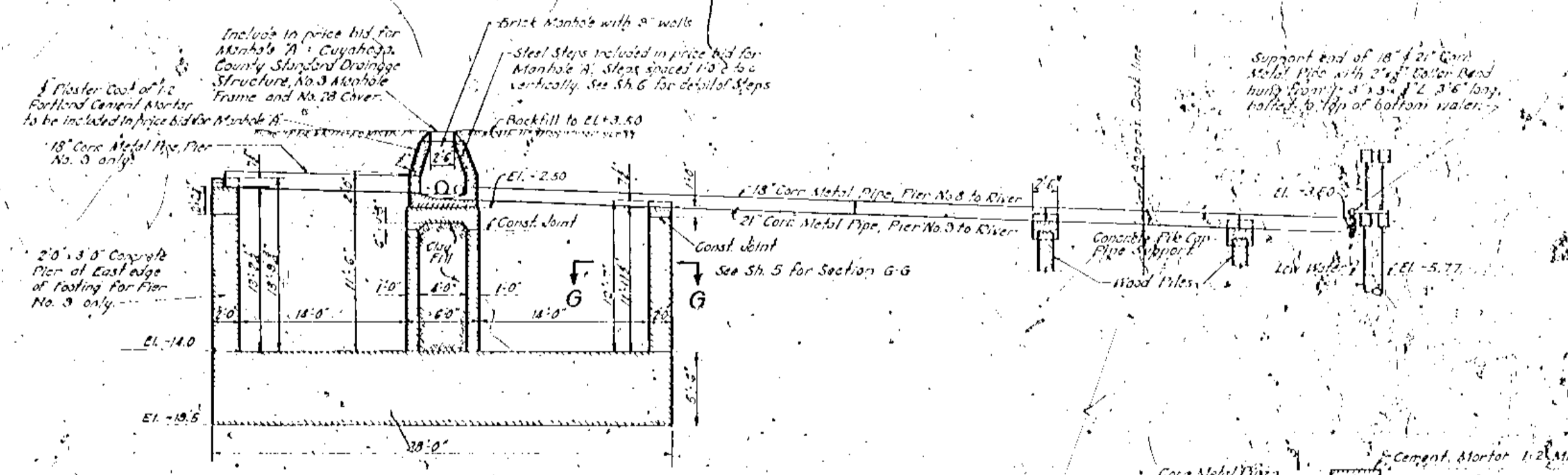
SECTION A-A
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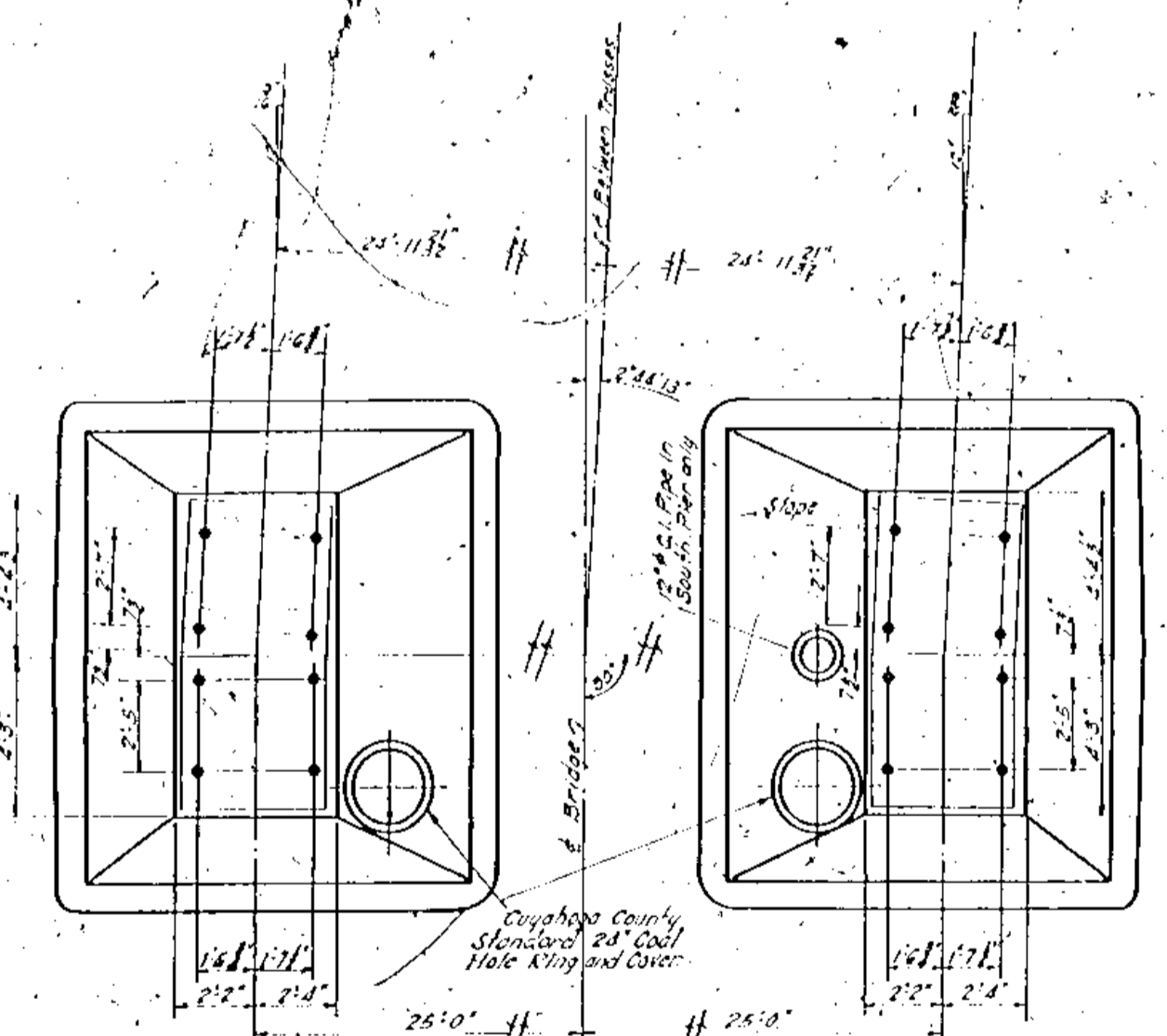
ANCHOR BOLT DETAILS - PIER NO. 8
Scale - 1/4" = 1'-0"



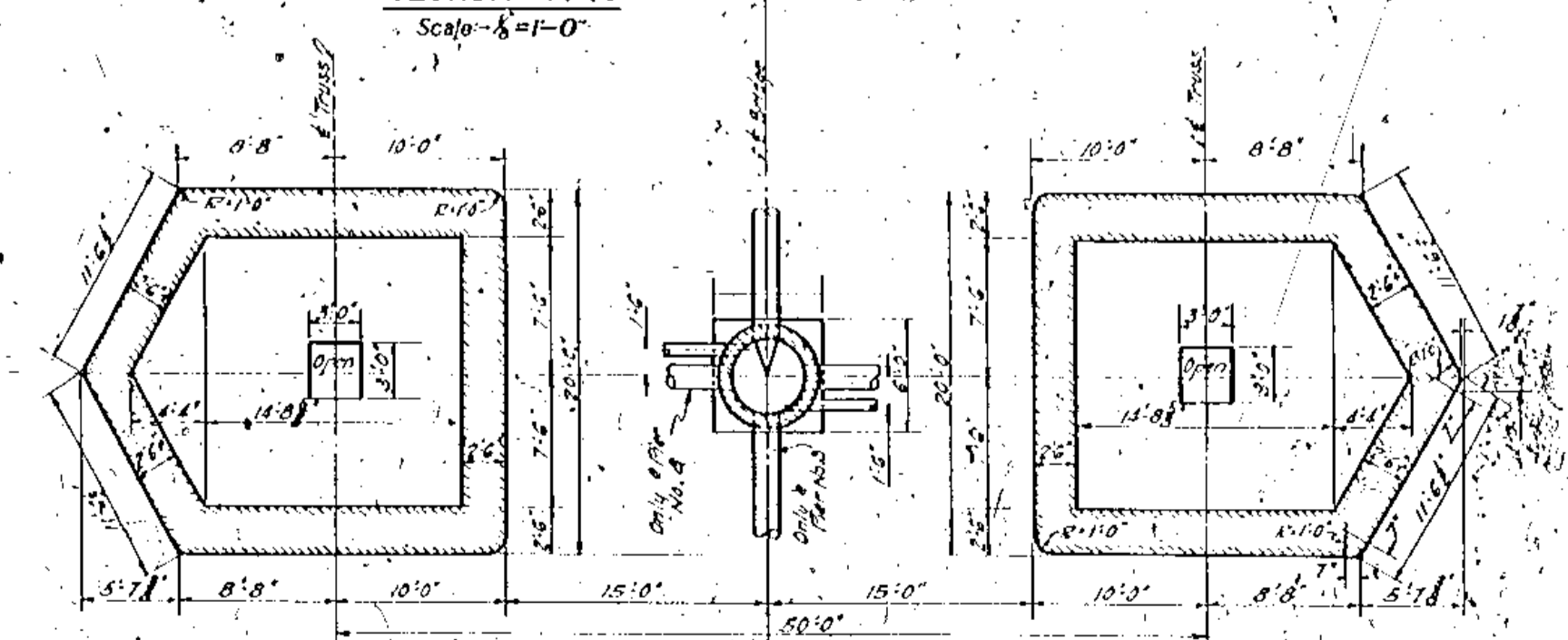
SECTION J-J
Scale - 1/4" = 1'-0"



SECTION K-K
Scale - 1/4" = 1'-0"



ANCHOR BOLT DETAILS - PIER NO. 9
Scale - 1/4" = 1'-0"



SECTION L-L
Scale - 1/4" = 1'-0"

SECTION THROUGH LAP - END ELEVATION
DETAILS OF CEMENT MORTAR COLLAR

Original Record
from Contract No. 136-B
Order December 21, 1939
Approved Drawing List
Revised July 6, 1948

MAIN AVENUE BRIDGE
PIERS NO. 8 & 9 - RIVER PIERS
DRAINAGE DETAILS
PLAN NO. B. 136-B
SCALE - As Shown
DATE - Nov. 10, 1939
DRAWN BY - A.C.B.
TRACED BY - A.L.B.
CHECKED BY - W.H.T.
APPROVED

CONTRACT No. 2