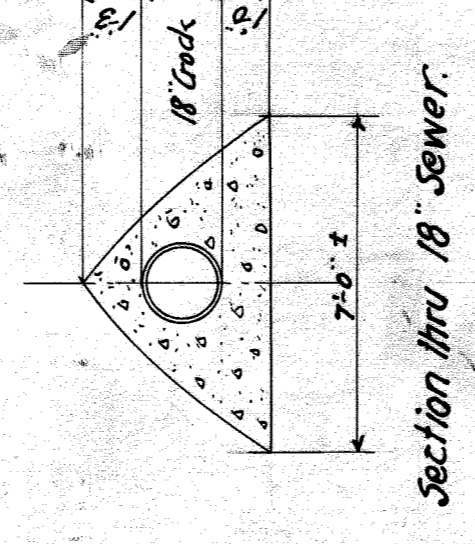
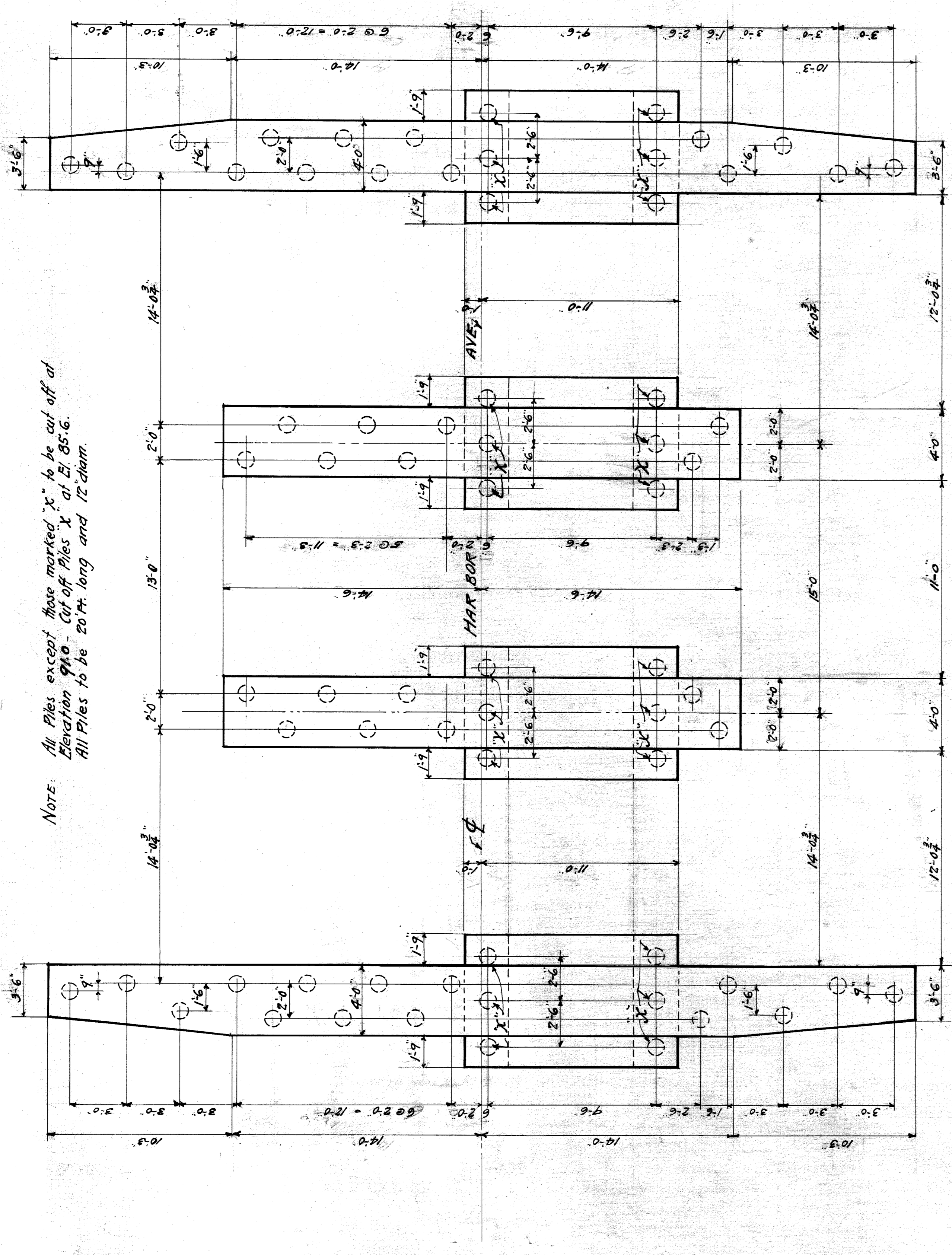


PROFILE
 Horiz. 1" = 30'
 Scale: Vert. 1" = 10'

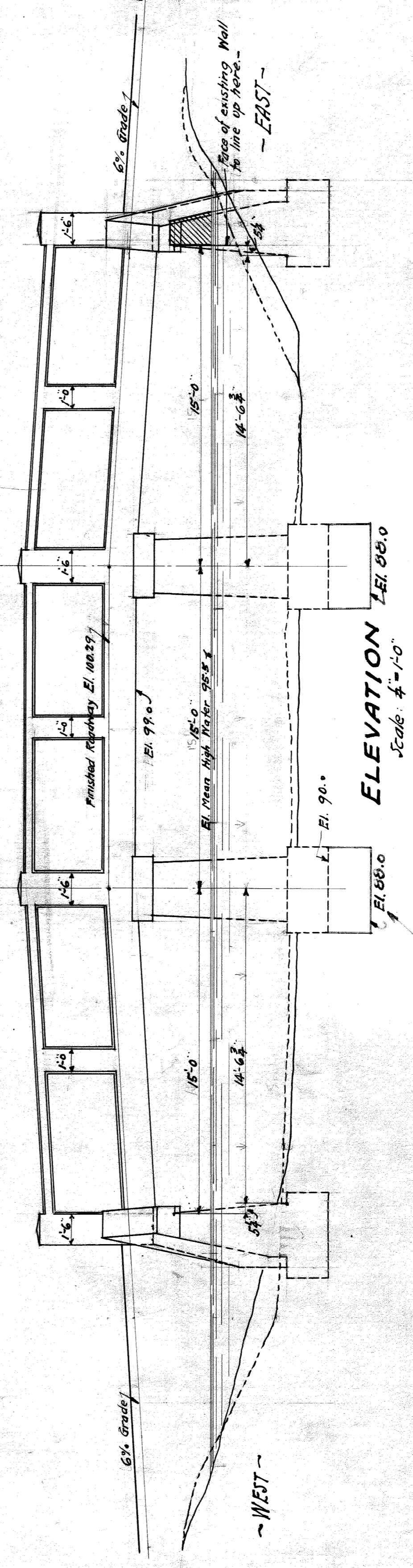


Section thru 18" sewer.



NOTE: All Piles except those marked "x" to be cut off at Elevation 99.0 - Cut off Piles "x" at El. 85.6. All Piles to be 20 ft long and 12 diam.

FOUNDATION AND PILING PLAN
 Scale: 1/4" = 1'-0"



ELEVATION
 Scale: 1/4" = 1'-0"

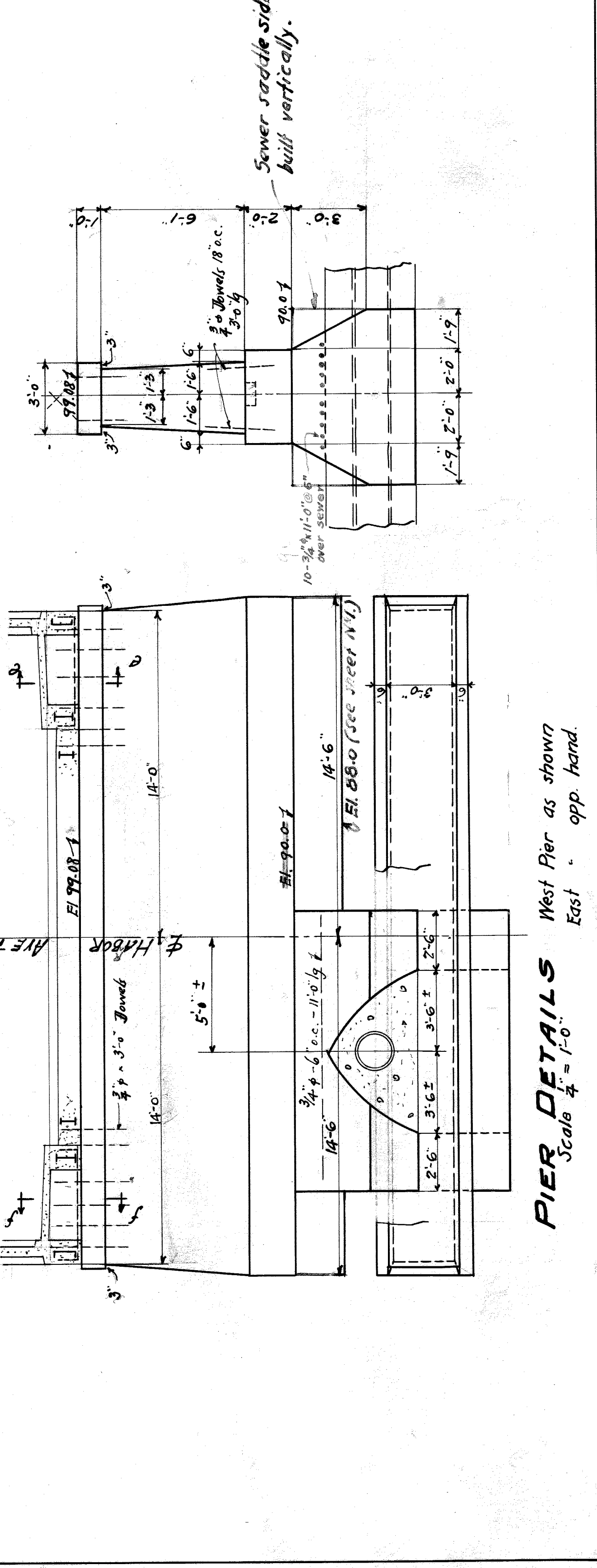
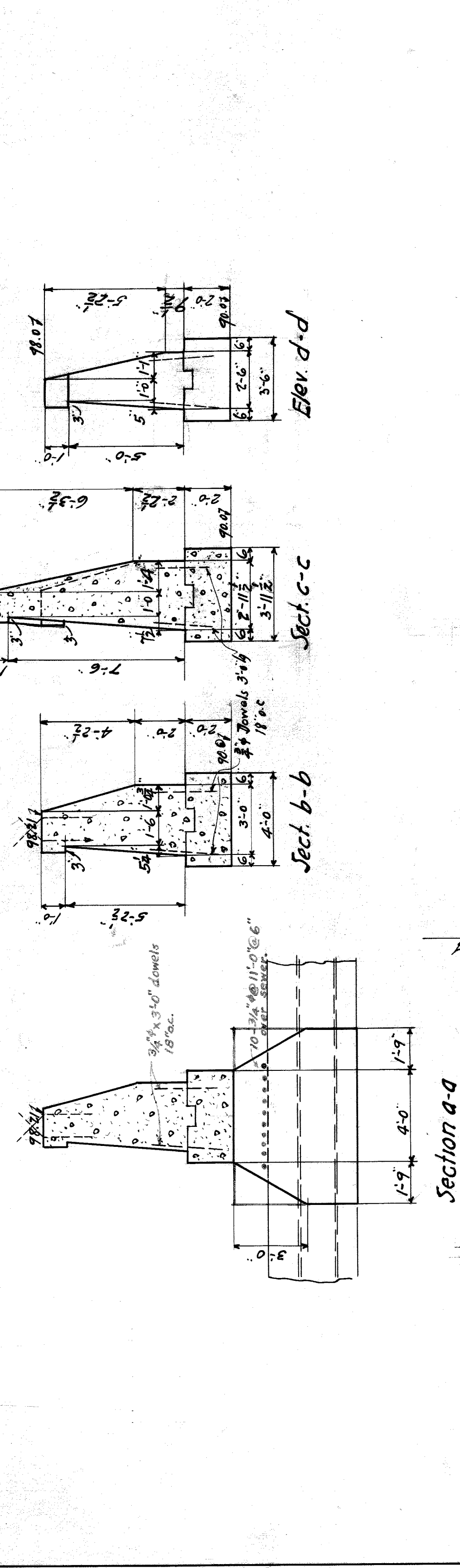
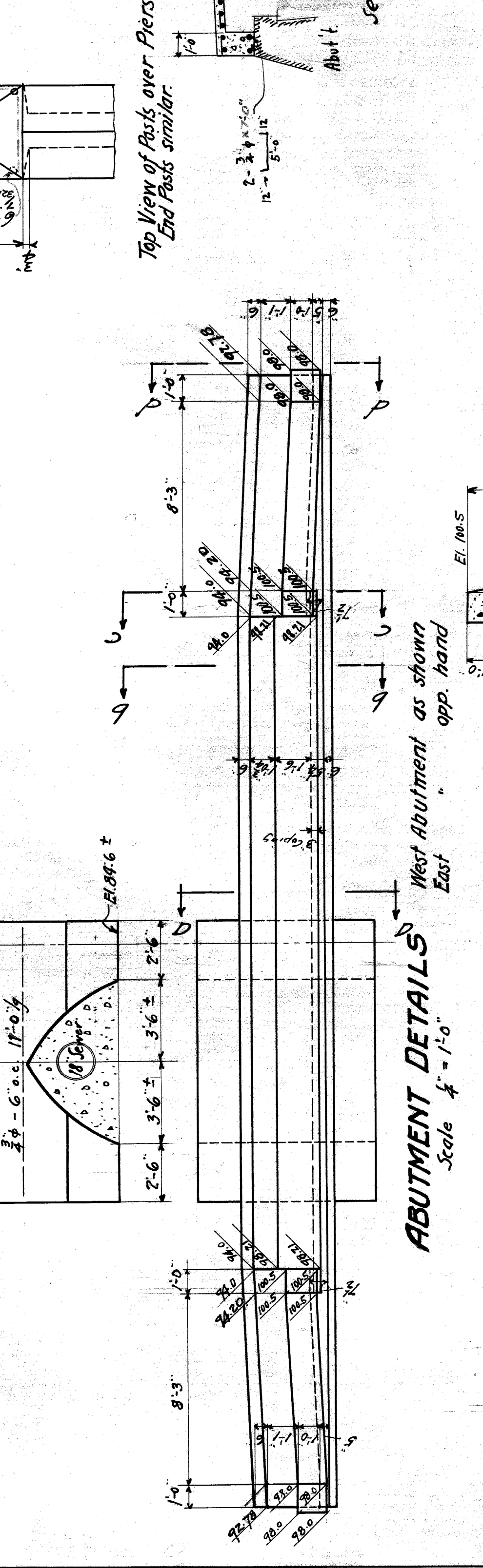
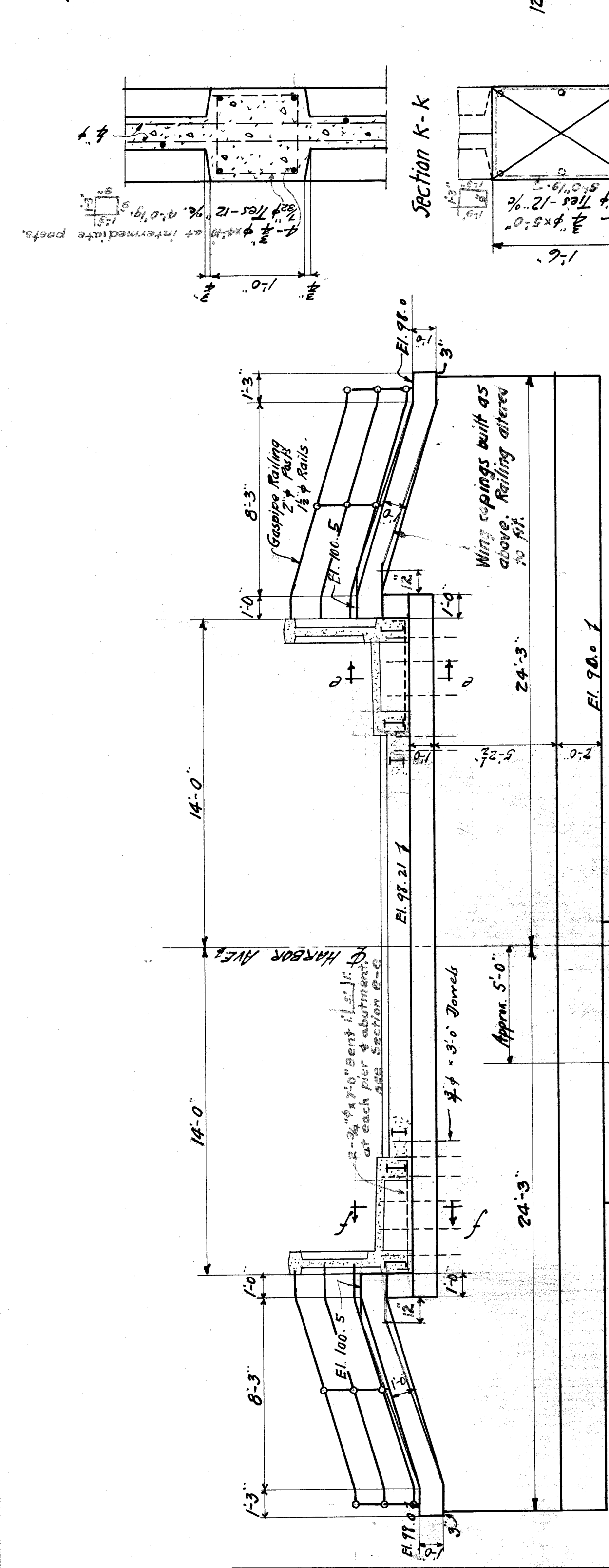
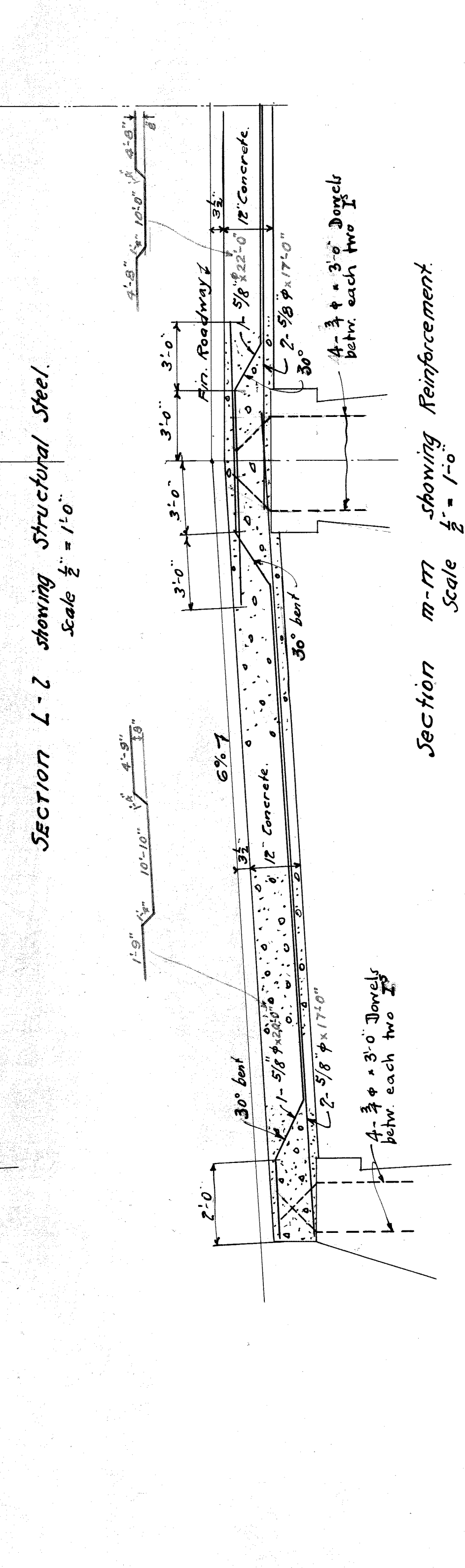
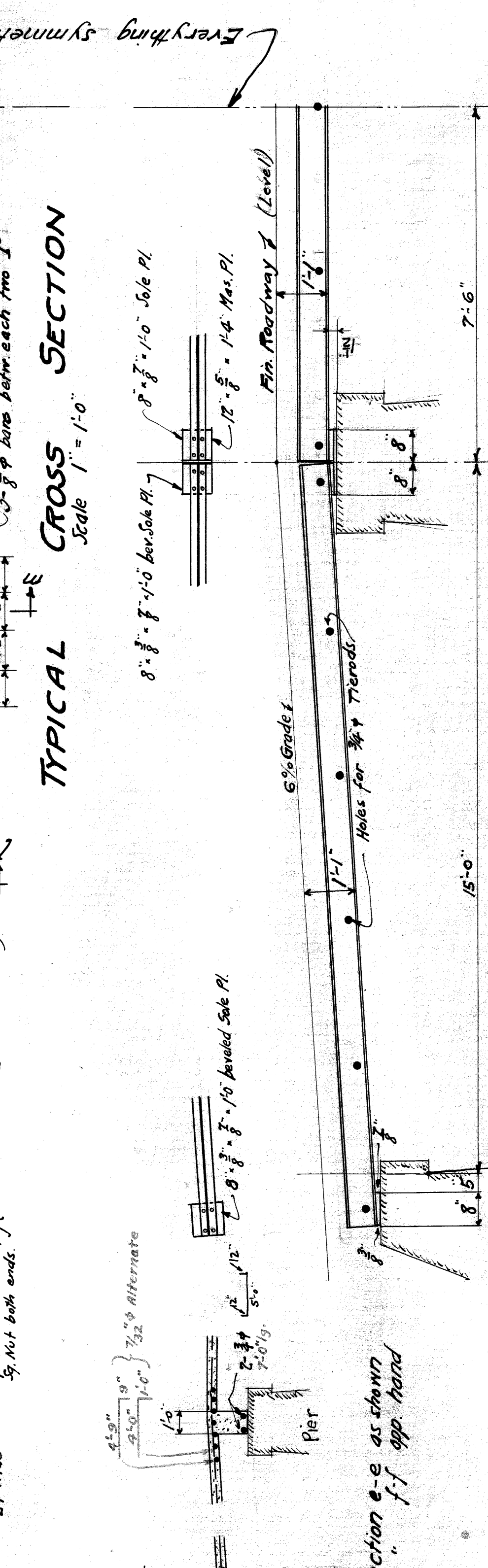
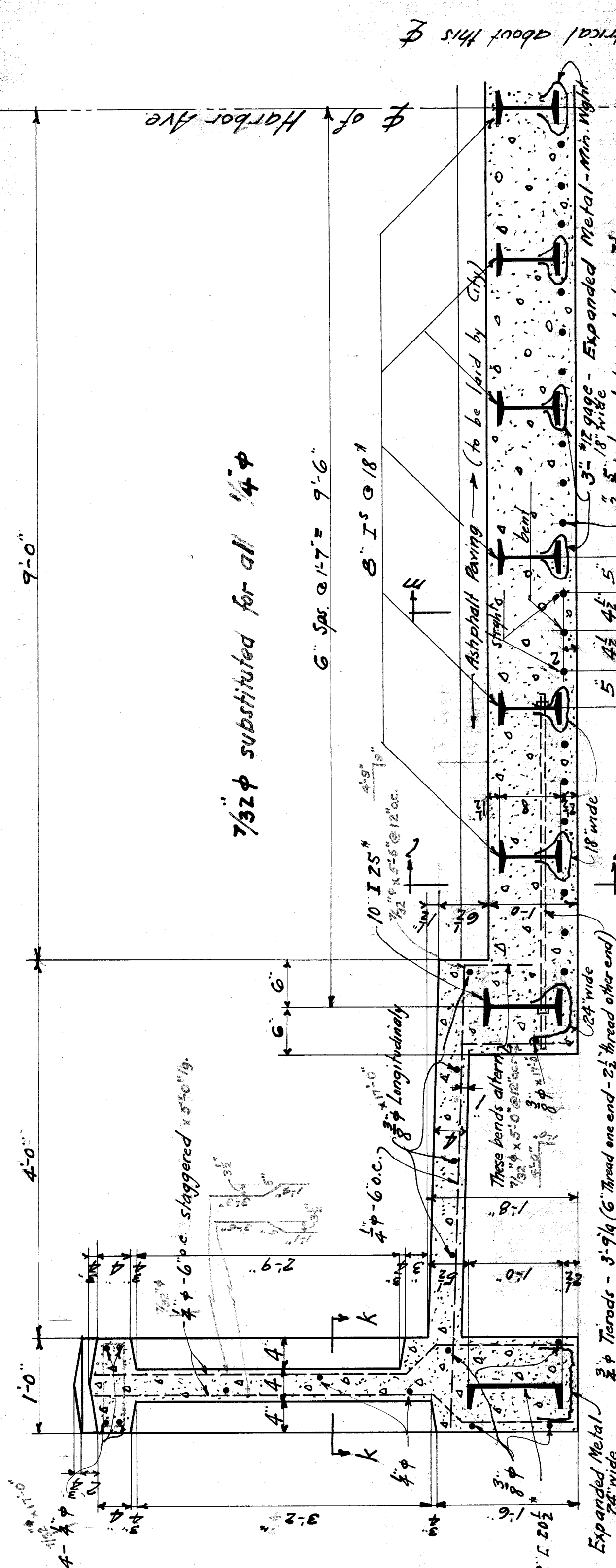
Piers built 2 ft lower on account of muck encountered in center of channel.

GENERAL NOTES:

- LOADING: Roadway: 18 Ton Tract (Impact: 25%)
- Sidewalks: 100 #/ft²
- UNIT STRESSES: Concrete in Compression 650 #/in²
- Reinforcing Steel in Tension 16000 #/in²
- Steel Deanna 16000 #/in²
- Pile Pressure 15 TONS
- CONCRETE MIX: 1:2:4

CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 OFFICE OF CITY ENGINEER
 DIVISION OF GRADE SEPARATION AND BRIDGES
HARBOR AVE. BRIDGE
 OVER
FIRST CHANNEL
 EAST LAKEWOOD BLVD.

SCALES INDICATED
 DRAWN BY: R.S.
 CHECKED BY:
 AUG. 15, 1921
 SHEET 1 OF 2



BILL OF MATERIAL		MATERIAL		
No.	Size Length	Remarks	No. Size Length	Remarks
130	3/4" phi 3'-0"	Stra. Dowels at Bents	24	5/8" phi 17'-0" Straight
128	3/4" phi 3'-0"	Bent " " Top	12	5/8" phi 22'-0" Bent
20	3/4" phi 11'-0"	Stra.	48	3/4" phi 5'-0" Stra.
128	3/4" phi 3'-0"	Bent Dowels at Top	40	1/2" phi 5'-0" Bent
74	3/4" phi 3'-0"	Stra. Dowels at Bent	20	3/4" phi 4'-0" Stra.
20	3/4" phi 11'-0"	Stra.	30	1/2" phi 4'-0" Bent
16	3/4" phi 7'-0"	Bent	78	1/2" phi 5'-0" Bent
96	1/2" phi 5'-0"	Bent	18	1/2" phi 5'-0" Stra.
54	1/2" phi 5'-0"	Bent	24	1/2" phi 17'-0" Stra.
48	1/2" phi 17'-0"	Stra.		
24	1/2" phi 20'-0"	Bent		

Chair Spacers called for in Specifications.

CITY OF DETROIT
 DEPARTMENT OF PUBLIC WORKS
 OFFICE OF CITY ENGINEER
 DIVISION OF GRADE SEPARATION & BRIDGES
HARBOR AVE. BRIDGE
 OVER
FIRST CHANNEL
 EAST OF LAKEWOOD BLD.

Aug. 15, 1921.
 Revised 6/19/21.
 Bill of Material added, other changes
 made in orange color. 2/14/21. #45/22

Made by: R.S.
 Check: J.S.

Scales indicated.

Street 2 (of 2)
 File BW 241-2

REVISED	DATE	BY	REASON

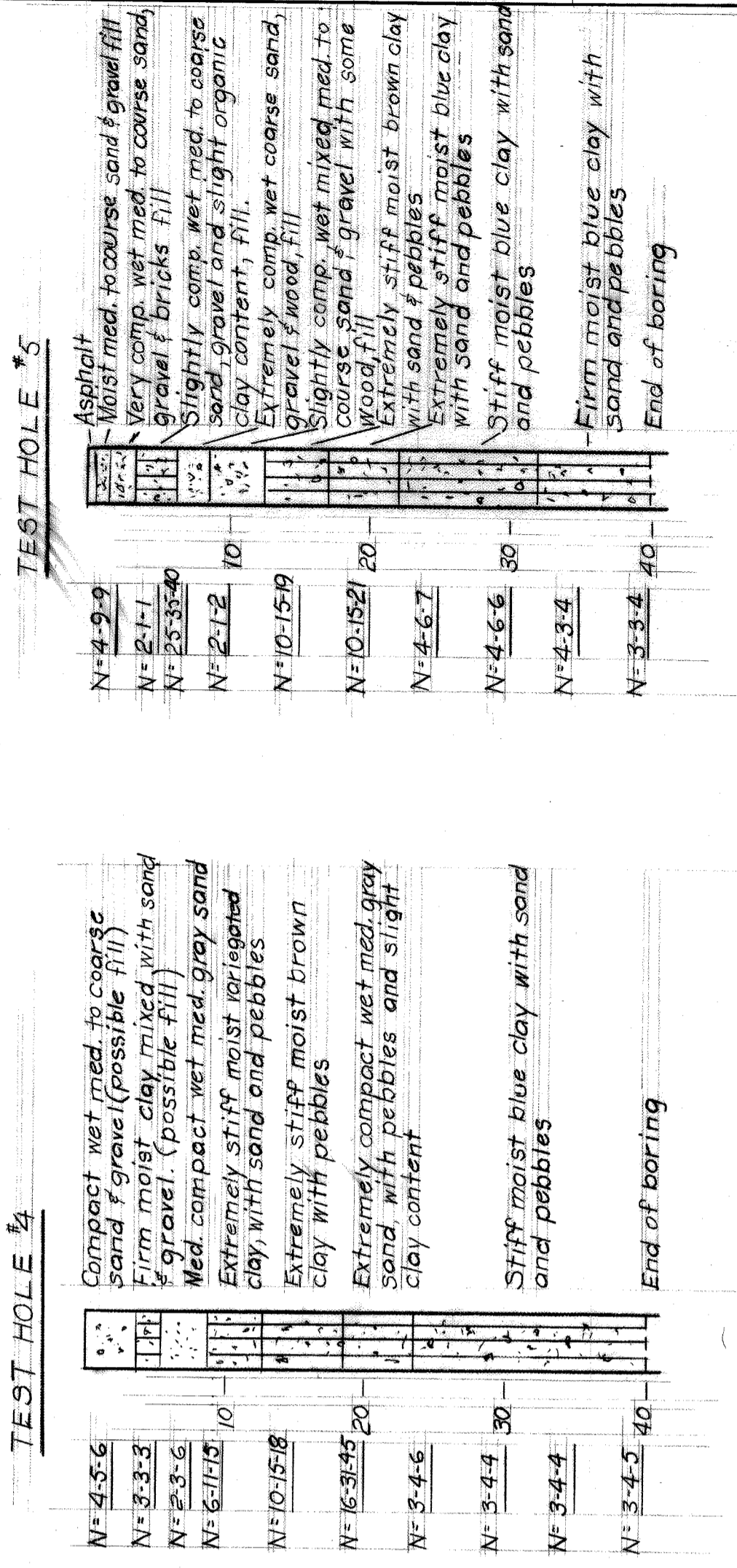
DESIGNED BY: M.L.
 DRAWN BY: A.G. & L.G.
 CHECKED BY: *[Signature]*
 APPROVED: *[Signature]*

CITY OF DETROIT
CITY ENGINEERING DEPARTMENT

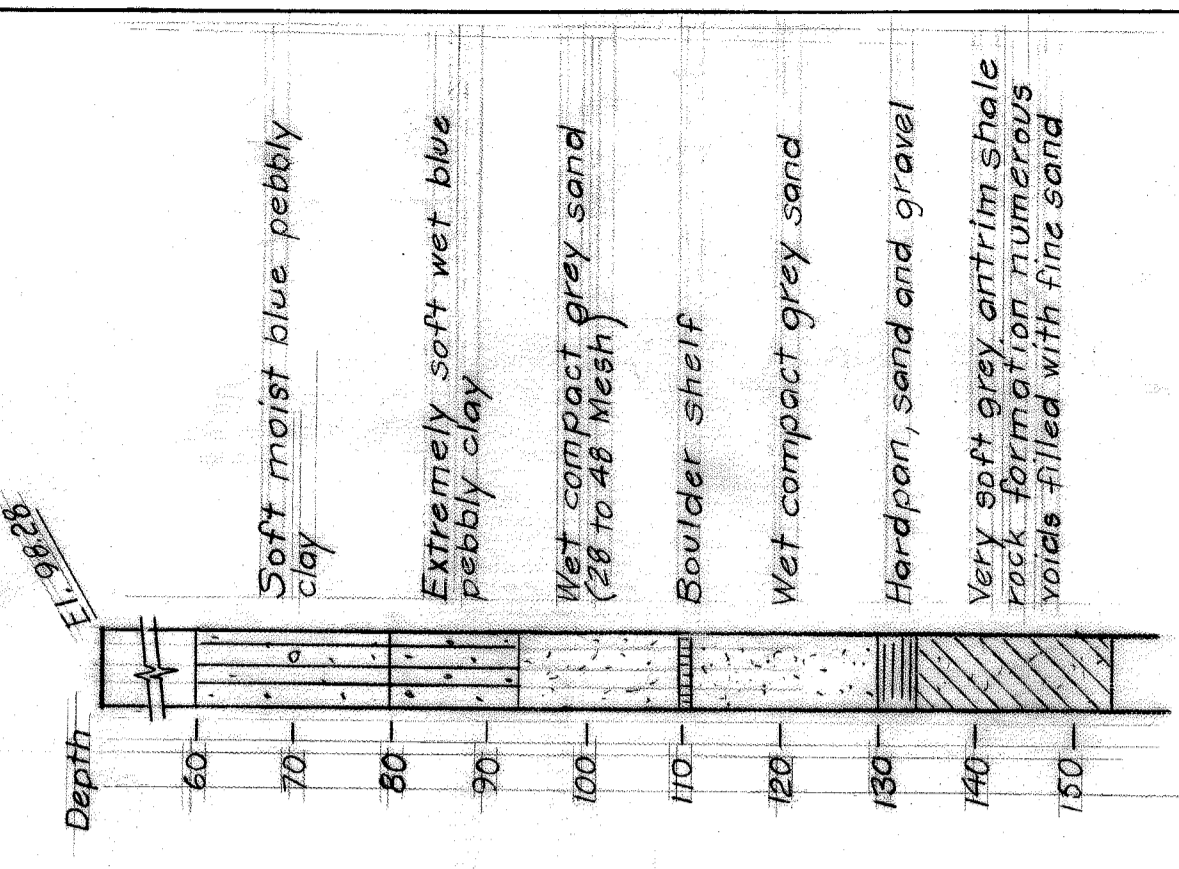
HARBOR ISLAND AVE. BRIDGE OVER BOAT CANAL DEMOLITION AND RECONSTR.
 GENERAL DRAWING & SOIL BORINGS

A.O. 78-22-11
 CONTRACT NO. PW 6618
 DRAWING NO.
 SHEET 2 OF 11
 DATE 7-83

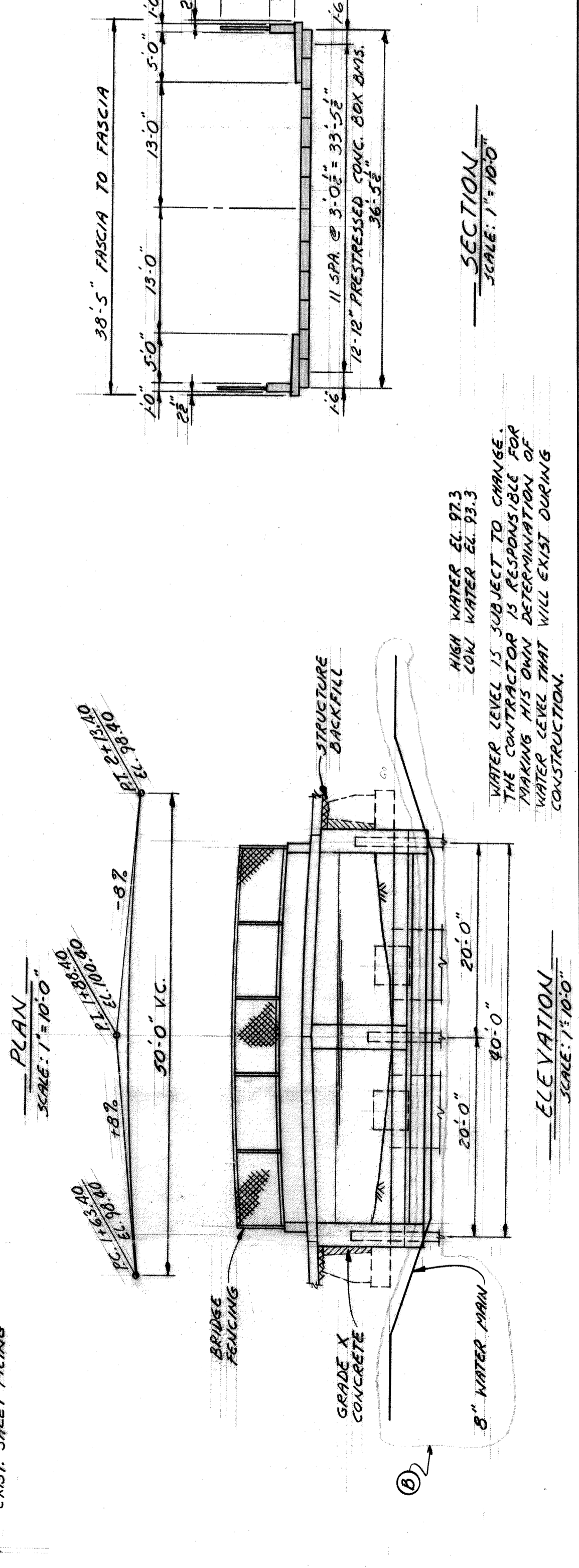
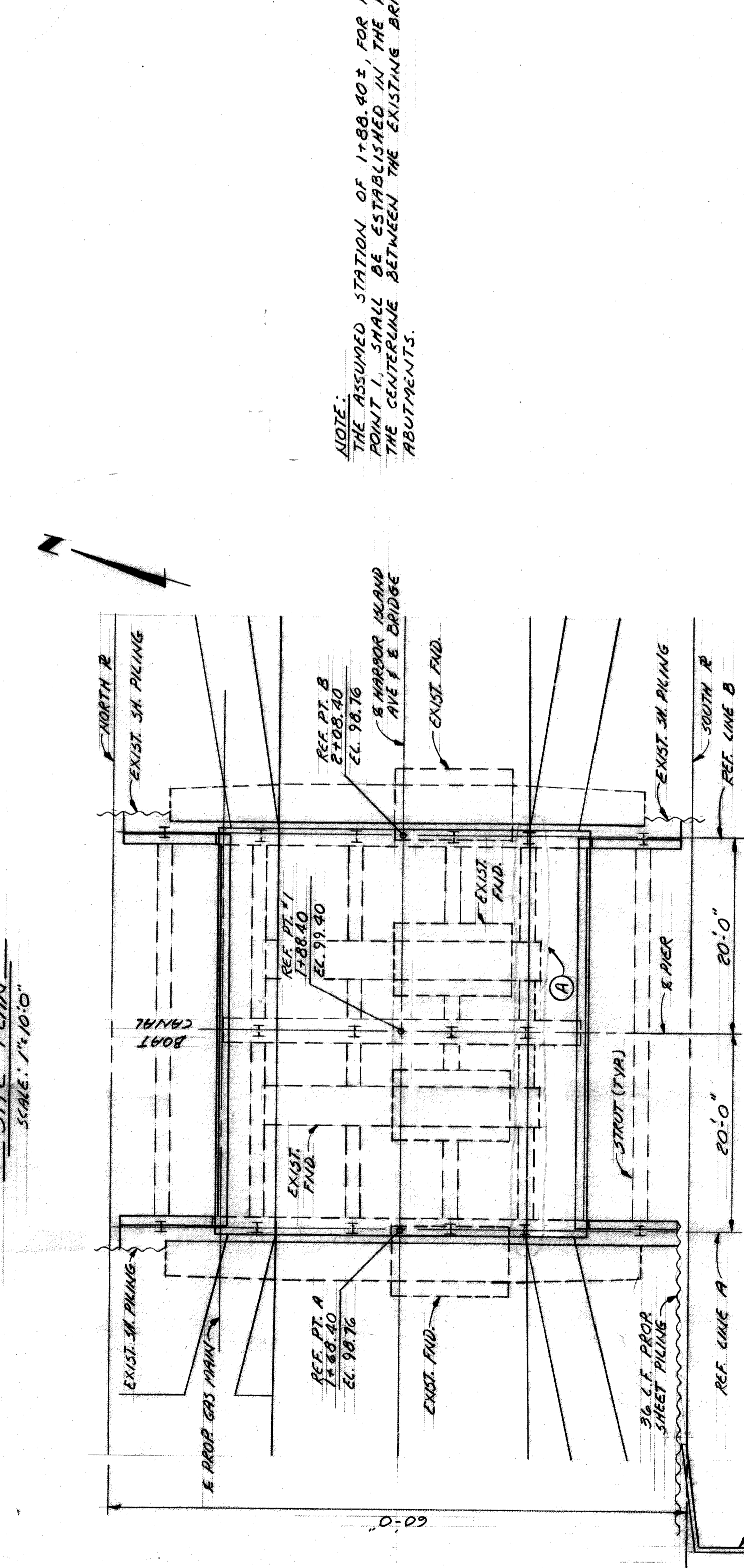
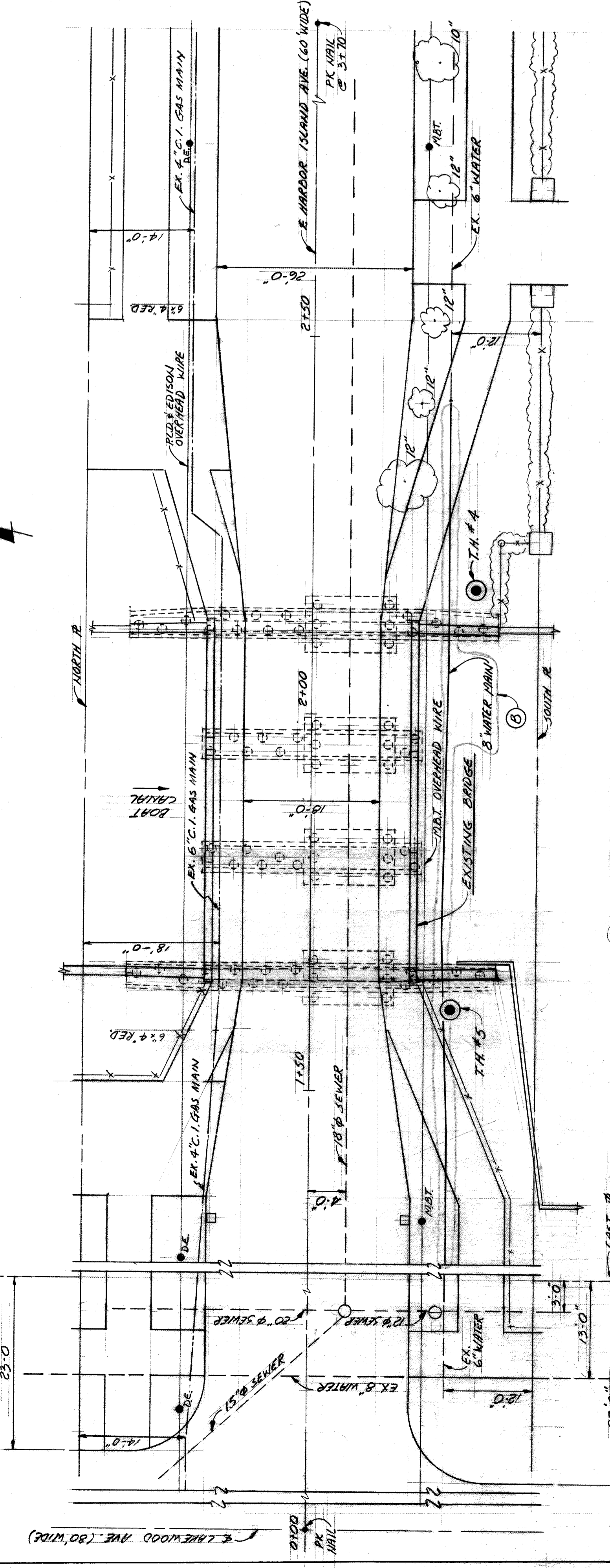
SOIL BORINGS



TOPO. SEC. NO. G1-A-10
 BORING TH. 13A
 ON S.E. KLENK AVE. 10' W. OFF. # ALTER 20'
 FROM SEWER DRW. G-2 W. SH. 2' AT 15'
 DATED NOV. 1933



GENERAL NOTES:
 THE DESIGN OF THIS STRUCTURE IS BASED ON THE HIGHWAY DEPARTMENT OF STATE HIGHWAYS SPECIFICATIONS FOR THE DESIGN OF HIGHWAY BRIDGES, 1958 EDITION AND CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES AND LOADS. LIVE LOAD PLUS IMPACT DEFLECTION DOES NOT EXCEED 1/1000 OF SPAN LENGTH.
 THE DESIGN OF THE STRUCTURAL MEMBERS IS BASED ON MATERIAL OF THE FOLLOWING GRADES AND STRESSES:
 SUBSTRUCTURE CONCRETE: $f'_c = 3000$ PSI
 STRUCTURE CONCRETE: $f'_c = 3000$ PSI
 STEEL REINFORCEMENT: $f_y = 60000$ PSI
 STRUCTURAL STEEL: A36
 PRESTRESSED CONCRETE: $f_y = 40000$ PSI
 PRESTRESSED STRANDS: $f_y = 30000$ PSI
 PRESTRESSED STRANDS: $f_y = 270000$ PSI



CONSTRUCTION BENCH MARKS
 C.B.M. #1 TOP OF RAMP ON HYDRANT W. SIDE OF PARKING LOT E. N. OF COMFORT STA. (CAKEWOOD PARK W.) EL. 100.93
 C.B.M. #2 OLD R.B.M. ON WALK N.E. COR. CAKEWOOD & HARBOR EL. 96.45
 C.B.M. #3 SPIKE IN D.E. POLE N. SIDE HARBOR ISLAND OPP. HOUSE #1801 EL. 96.55

NOTES:
 THE ASSUMED STATION OF 1+80.902, FOR REFERENCE POINT 1, SHALL BE ESTABLISHED IN THE FIELD AS THE CENTERLINE BETWEEN THE EXISTING BRIDGE ABUTMENTS.
 HIGH WATER EL. 97.3
 LOW WATER EL. 95.3
 WATER LEVEL IS SUBJECT TO CHANGE. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINATION OF WATER LEVEL THAT WILL EXIST DURING CONSTRUCTION.

DW-241

REVISIONS

NO.	DESCRIPTION	DATE
1	As per contract.	7-88
2	Revisions per engineer's notes.	7-88
3	Revisions per engineer's notes.	7-88
4	Revisions per engineer's notes.	7-88
5	Revisions per engineer's notes.	7-88

DESIGNED BY: *ALB*
 DRAWN BY: *AG*
 CHECKED BY: *AG*
 APPROVED BY: *AG*

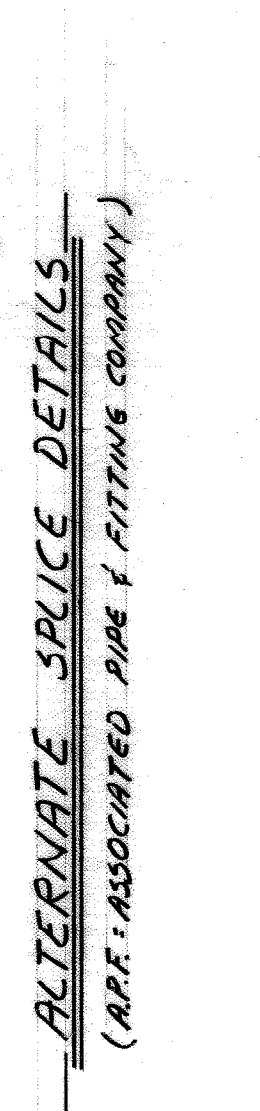
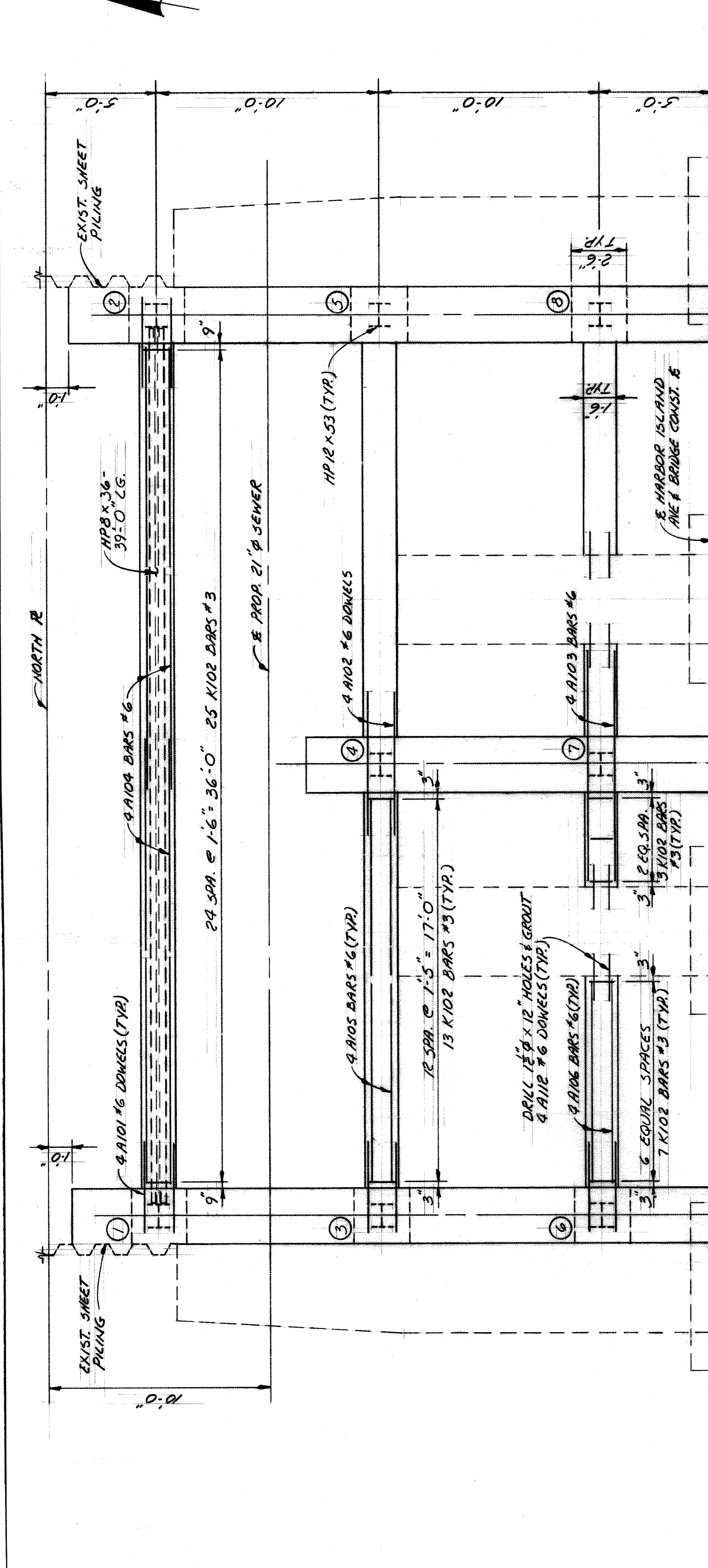
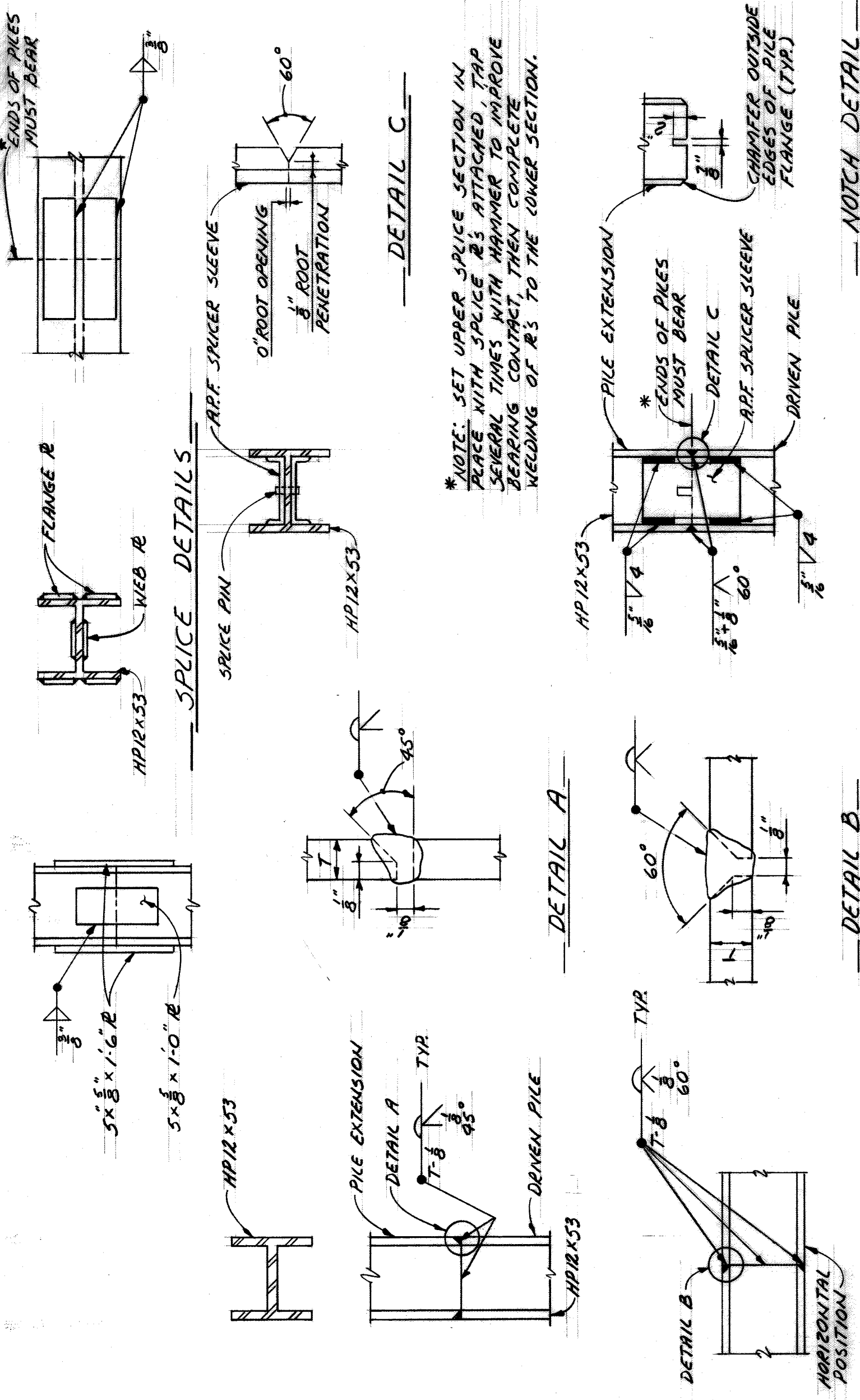
CITY OF DETROIT

CITY ENGINEERING DEPARTMENT

HARBOR ISLAND AVE. BRIDGE OVER BOAT CANAL DEMOLITION AND RECONSTR.

FOUNDATION PLAN & DETAILS

A.O. 78-22-11
 CONTRACT NO. PW 6618
 DRAWING NO.
 SHEET 4 OF 11
 DATE 7-83

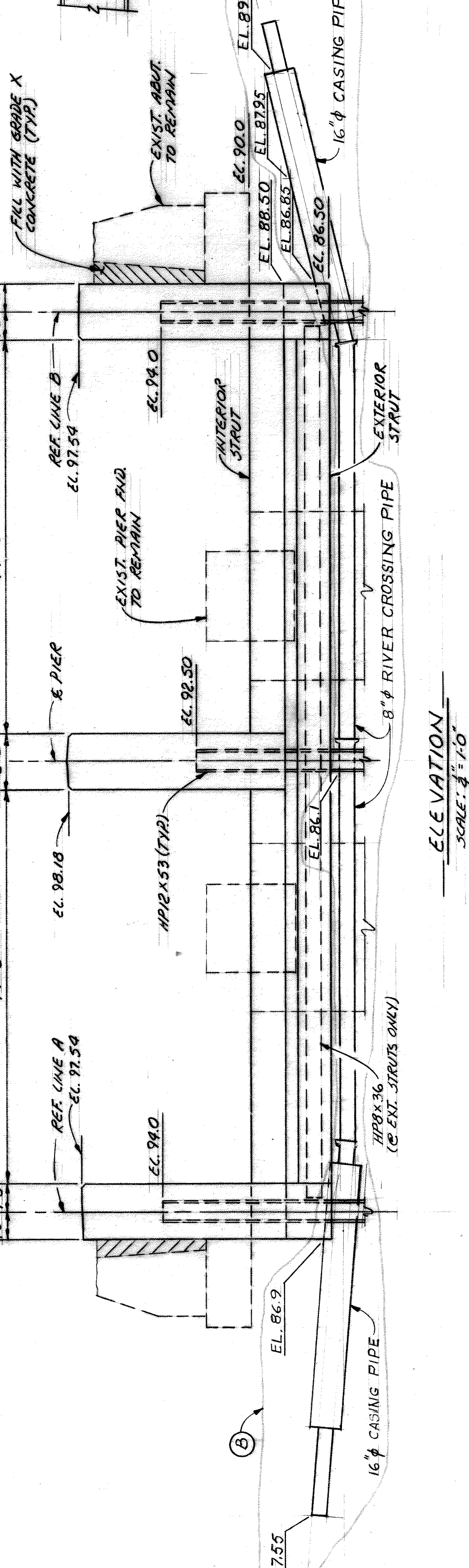
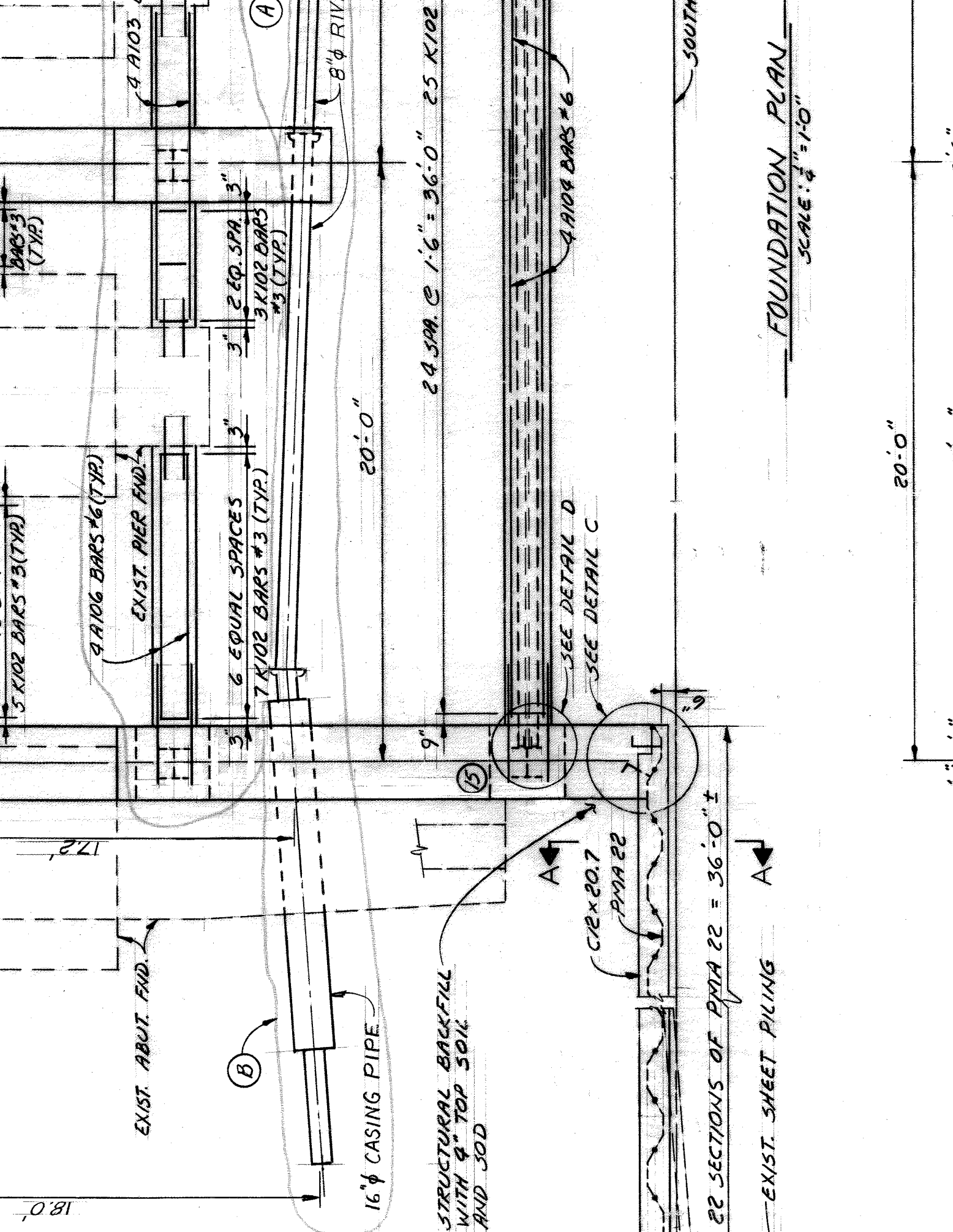
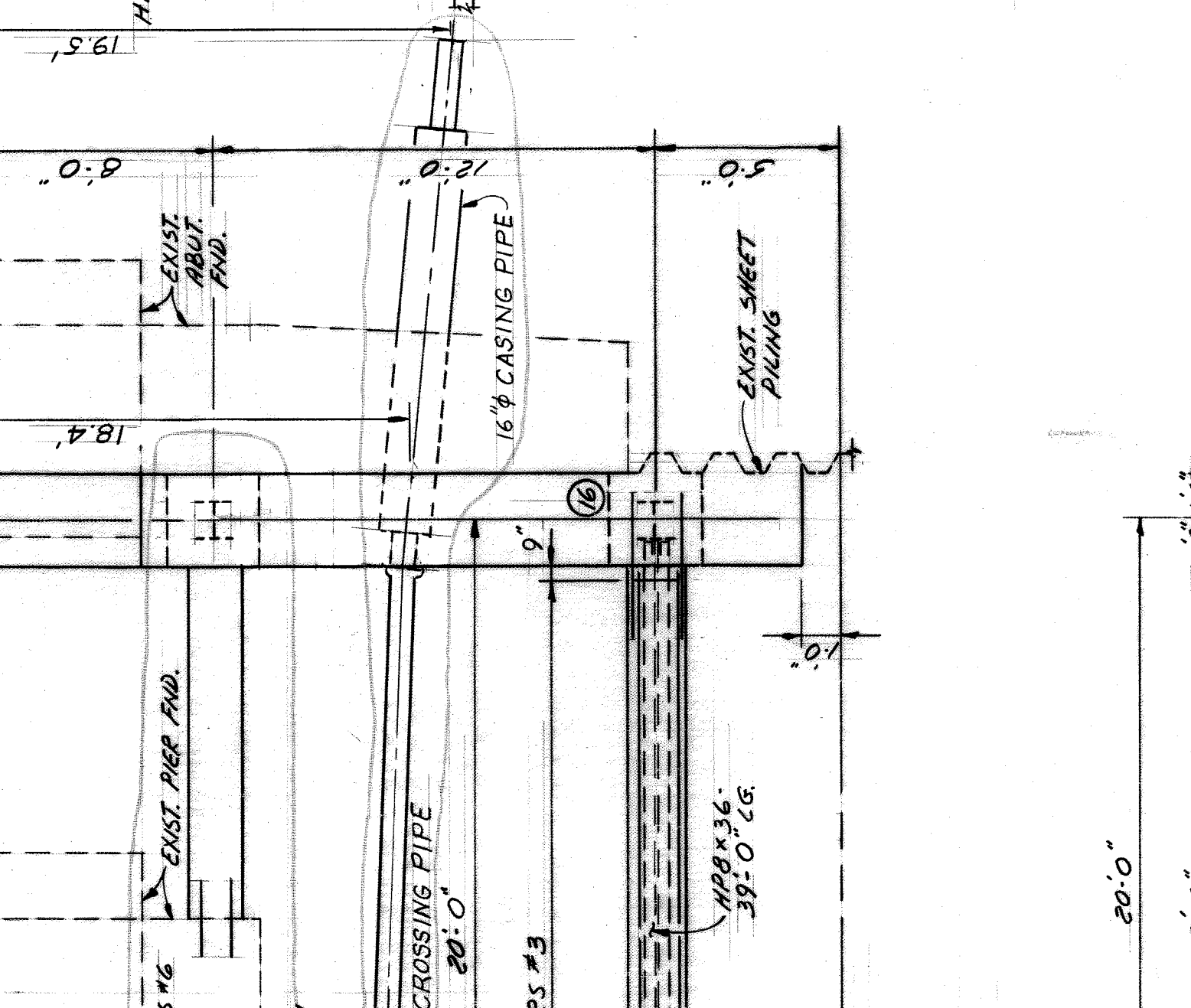
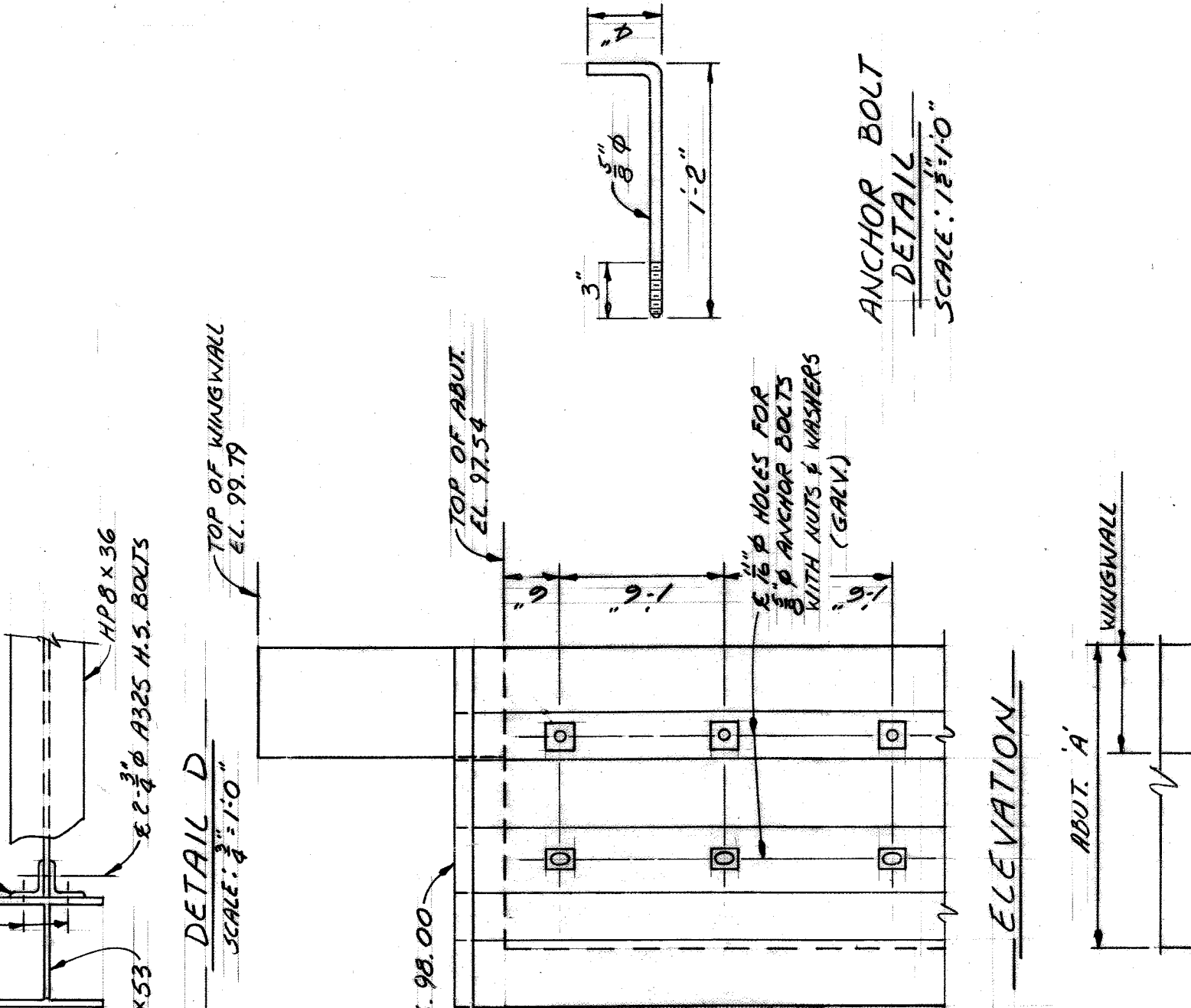
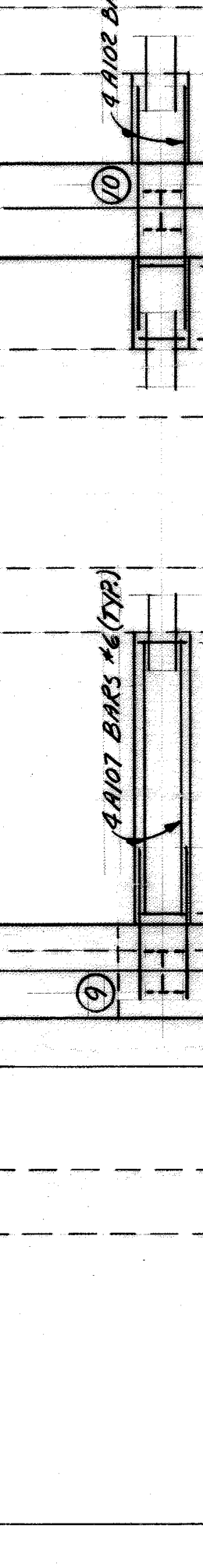
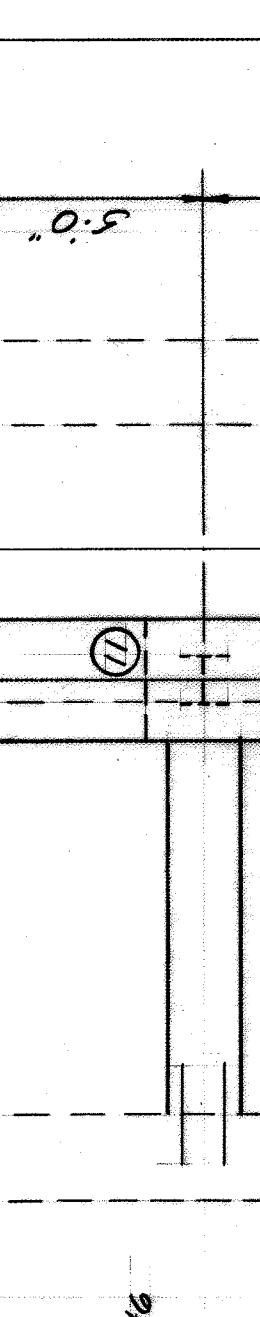
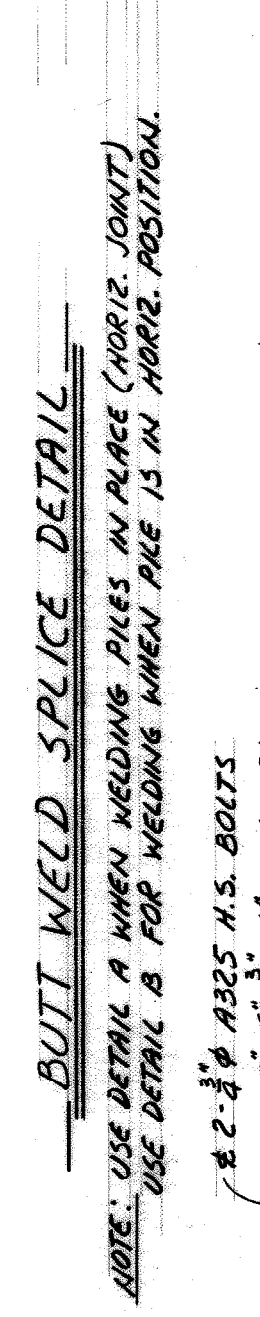


REINFORCING BAR SCHEDULE

BAR	A	D	C	D	SIZE	LENGTH
A101				1	#6	8'-0"
A102				6	#6	6'-6"
A103				6	#6	10'-6"
A104				6	#6	21'-0"
A105				6	#6	77'-0"
A106				6	#6	8'-6"
A107				6	#6	6'-9"
A108				8	#6	32'-6"
A109				8	#6	21'-0"
A110				6	#8	32'-5"
A111				6	#8	20'-3"
A112				6	#8	5'-0"
A113				6	#8	5'-0"
A114				6	#8	9'-3"
A115				8	#8	21'-3"
A116				8	#8	10'-6"
A117				6	#8	20'-6"
A118				8	#8	9'-3"
A119				8	#8	10'-6"
D101		A8	20		#6	11'-4"
D102		58	20		#6	13'-4"
D103		29	7		#6	8'-3"
D108		29	20		#6	7'-4"
K101	20	18	19	20	#3	9'-4"
K102	10	18	19	10	#3	5'-0"

(REINFORCING FOR ABUTMENTS, PIER AND STRUTS)

NOTES:
 ALL PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 60 TONS PER MAOT. J. 22. 07.
 STEEL PILES SHALL BE AP12X53.
 PILES SHALL BE DRIVEN IN ACCORDANCE WITH THE MAOT STANDARD SPECIFICATION.
 PILES ARE TO BE DRIVEN TO SUCH ACCURACY THAT THE ENDS OF THE PILES TO BE EMBEDDED IN THE CONCRETE ARE WITHIN 5' OF THE DESIGNATED PILE PENETRATION, EL. 79.0.
 THE ESTIMATED PILE LENGTH IS 125' FOR EACH PILE OF A TOTAL OF 2000 L.F. FOR ALL 16 PILES. THE CONTRACTOR WILL BE PAID ONLY FOR THE ACTUAL PILING LEFT IN PLACE BELOW THE CUT OFF ELEVATION AT THE UNIT PRICE PER LINEAL FOOT SUBMITTED WITH HIS PROPOSAL.
 LENGTH OF PERMANENT STEEL SHEET PILING PMA 22 TO BE 20 FEET.



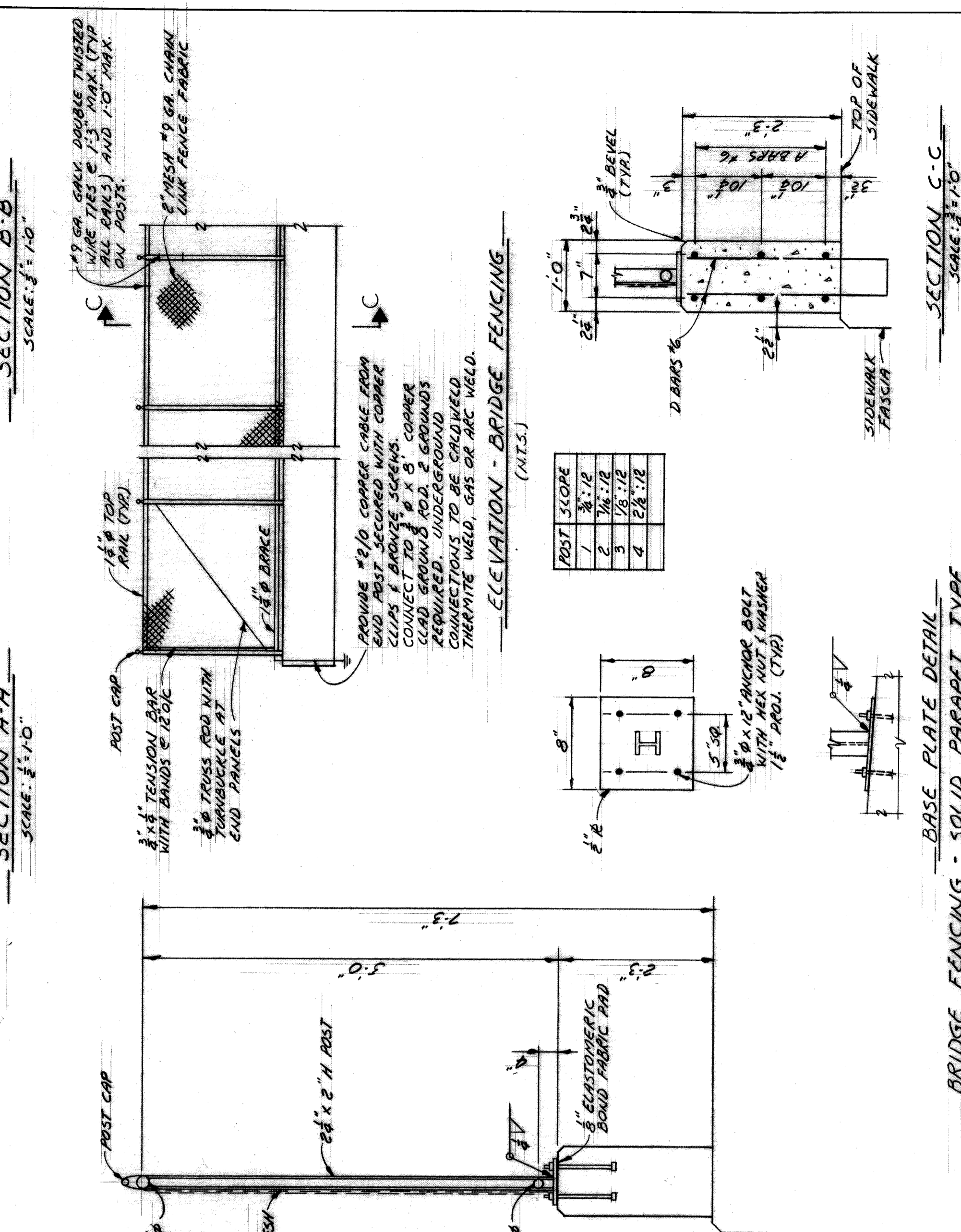
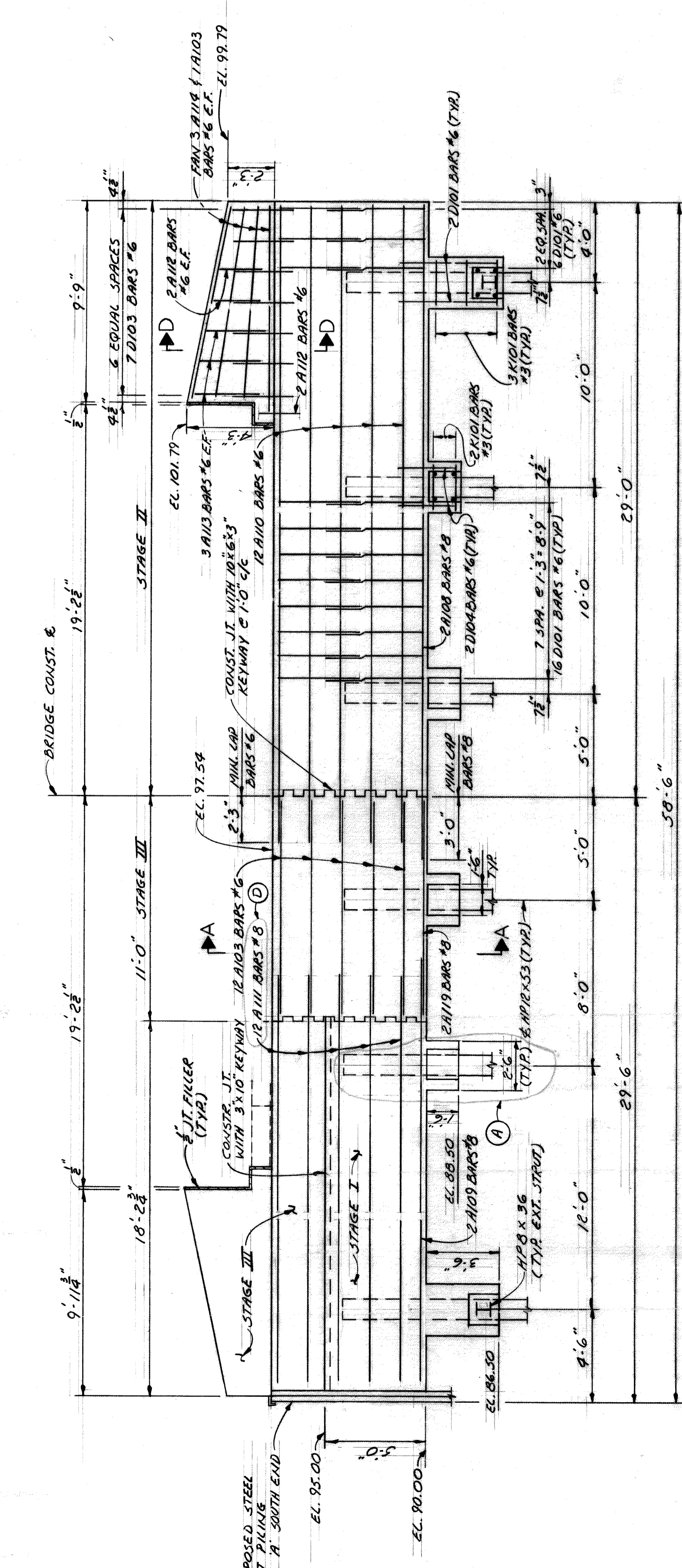
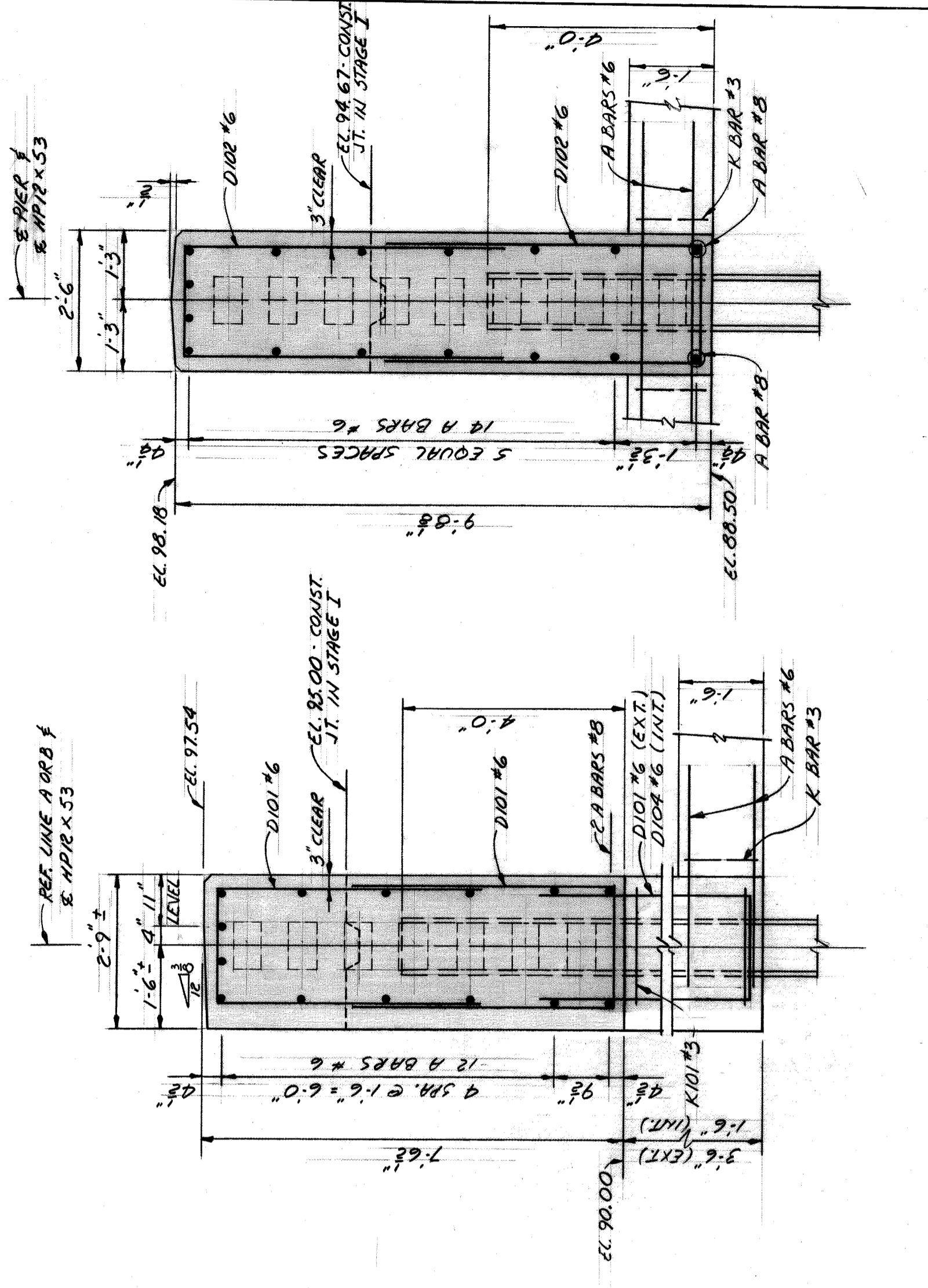
REV	DATE	BY	DESCRIPTION
1	3-21-83	A.G.M.C.	Allocate plus & steel 1/2" of bridge
2	3-21-83	A.G.M.C.	Reinforcing size increased to #8

DESIGNED BY M.C.
 DRAWN BY A.G.
 CHECKED BY *[Signature]*
 APPROVED: *[Signature]*

CITY OF DETROIT
 CITY ENGINEERING DEPARTMENT

HARBOR ISLAND AVE. BRIDGE OVER BOAT CANAL DEMOLITION AND RECONSTR. FOUNDATION AND FENCING DETAILS

A.O. 78-22-11
 CONTRACT NO. PW 668
 DRAWING NO.
 SHEET 5 OF 11
 DATE 7-83



POST	SCOPE
1	3/4" x 1/2"
2	1/2" x 1/2"
3	1/2" x 1/2"
4	2 1/2" x 1/2"

NOTES:

THE CHAIN LINK FENCE AND FENCING SHALL CONFORM TO THE M.D.T. SPECIFICATIONS FOR HIGHWAY CONSTRUCTION 1970 EDITION. DIMENSIONS ARE NOMINAL ALONG & FENCING POSTS. THE POSTS SHALL BE 2" x 2" STEEL H POSTS WEIGHING 6.1 LBS. PER FT. GALVANIZED NOMINAL 1 1/2" PIPE SHALL BE 1 1/2" OUTSIDE DIAMETER STEEL PIPE OR TUBING WEIGHING 227 LBS. PER FT. GALVANIZED. POSTS AND TUBING SHALL BE FURNISHED WITH THE MANUFACTURER'S STANDARD CONNECTIONS AND FASTENINGS. CONNECTIONS SHALL BE WITHIN 5% OF THAT SPECIFIED. THE POSTS SHALL BE PERFORATED VERTICALLY.

ALL COMPONENTS ARE TO BE GALVANIZED AFTER FABRICATION. BOLTS, NUTS AND WASHERS ARE TO BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. DESIGNATION A193. ALL FABRIC FOR CHAIN LINK FENCE SHALL BE FURNISHED WITH KNUCKLING OF BOTH ENDS. ALL FABRIC FOR CHAIN LINK FENCE SHALL BE 2" MESH. ALL FENCING SHALL HAVE AN OUTSIDE DIAMETER OF 2.875" AND WEIGHT OF 5.79 LBS. PER FT. MAY BE SUBSTITUTED FOR THE H POSTS.

