

OFFICE COPY

MICHIGAN
 STATE HIGHWAY DEPARTMENT
 MURRAY D. VAN WAGONER
 STATE HIGHWAY COMMISSIONER

*Seamus O'Sheahan
 M.P. 6/10/40*

**PLANS OF PROPOSED
 FEDERAL AID GRADE CROSSING PROJECT
 NO. F A G M 245 SEC. F(5) (ON)
 YPSILANTI - DETROIT ROAD
 CITY OF DETROIT
 WAYNE CO.**

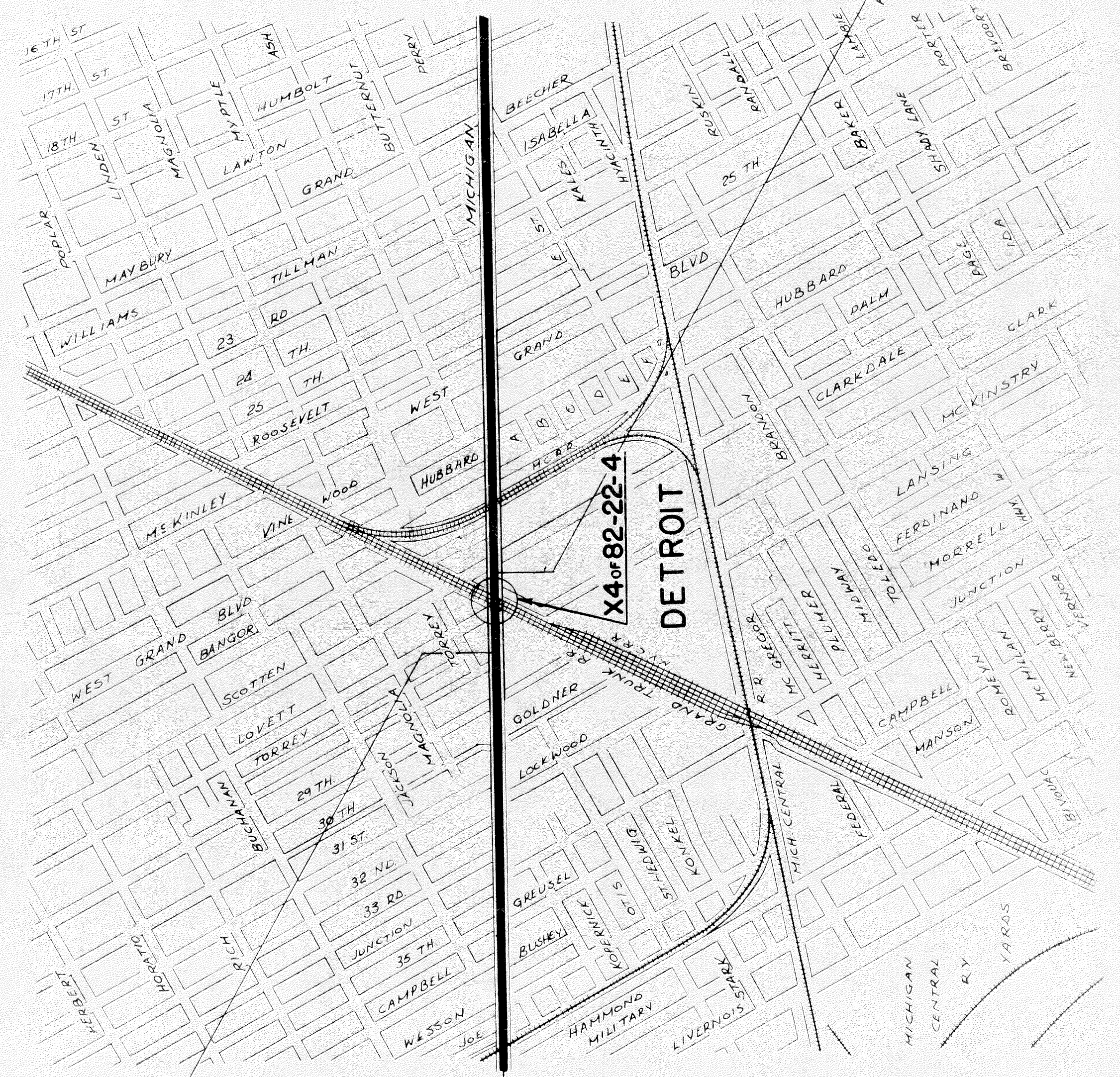
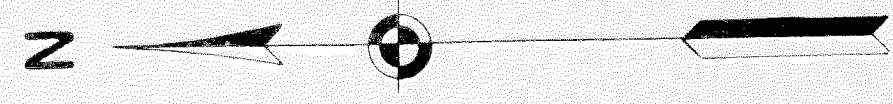
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GENERAL PLAN OF SITE
3	GENERAL STRUCTURE PLAN
4 and 5	BILL OF MATERIAL
6	TEMPORARY TRACK LAYOUT & OPERATION SCHEDULE (G.T.W.)
7	FINAL TRACK LAYOUT & PROFILES (G.T.W.)
8 and 9	G.T.W. RR TEMPORARY TRESTLE
10	TRACK PLAN (N.Y.C.)
11 to 14	FALSEWORK (N.Y.C.)
15	STEEL SHEET PILING AND MISCELLANEOUS DETAILS
16 and 17	NORTH ABUTMENT
18	BACKWALL DETAILS - SOUTH ABUTMENT
19	DETAILS OF PIER
20 to 26	CLARK AVE. EXTENSION RETAINING WALL
27	DECK DETAILS (G.T.W.)
28	WATERPROOFING & DECK PLAN (N.Y.C.)
29	LIST OF REINFORCING BARS
30 to 35	STRUCTURAL STEEL PLANS (N.Y.C.)
36 to 38	GENERAL STEEL PLANS (N.Y.C.)
39	RAILING DETAILS (G.T.W.)
40	HANDRAILING PLAN (N.Y.C.)
41 to 45	EXISTING TEMPORARY TRESTLES - CONTRACT #1 DWGS
46 to 48	EXISTING G.T.W. STRUCTURE
49 to 59	EXISTING N.Y.C. STRUCTURE
345 of S-23-B-4	TYPICAL CROSS SECTIONS
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20 to 22 of S-23-B-4	PLAN & PROFILE
23 to 25 of S-23-B-4	SPECIAL DETAILS
37 of S-23-B-4	CONSTRUCTION PROGRESS SCHEDULE
44 of S-23-B-4	QUANTITIES

NOTES APPLYING TO STANDARD PLANS
 Where the following items are called for on plans, they are to be constructed according to the Standard Plan List below opposite each item unless otherwise indicated.

- Manholes, Catch Basins and Inlets
- Cover A
- Cover B
- Cable Guard Rail
- Cover E
- Catch Basin Trap
- Barricade and Construction Sign

TITLE SHEET LEGEND

PROPOSED PROJECT	-----
TL OR FA PAVED	=====
TL OR FA IMPROVED NOT PAVED	-----
TL OR FA UNIMPROVED	-----
NON TL OR FA PAVED	-----
NON TL OR FA IMPROVED NOT PAVED	-----
NON TL OR FA UNIMPROVED	-----
COUNTY LINE	-----
CITY OR VILLAGE	-----
TOWNSHIP LINE	-----
SECTION LINE	-----
RAIL ROADS	-----

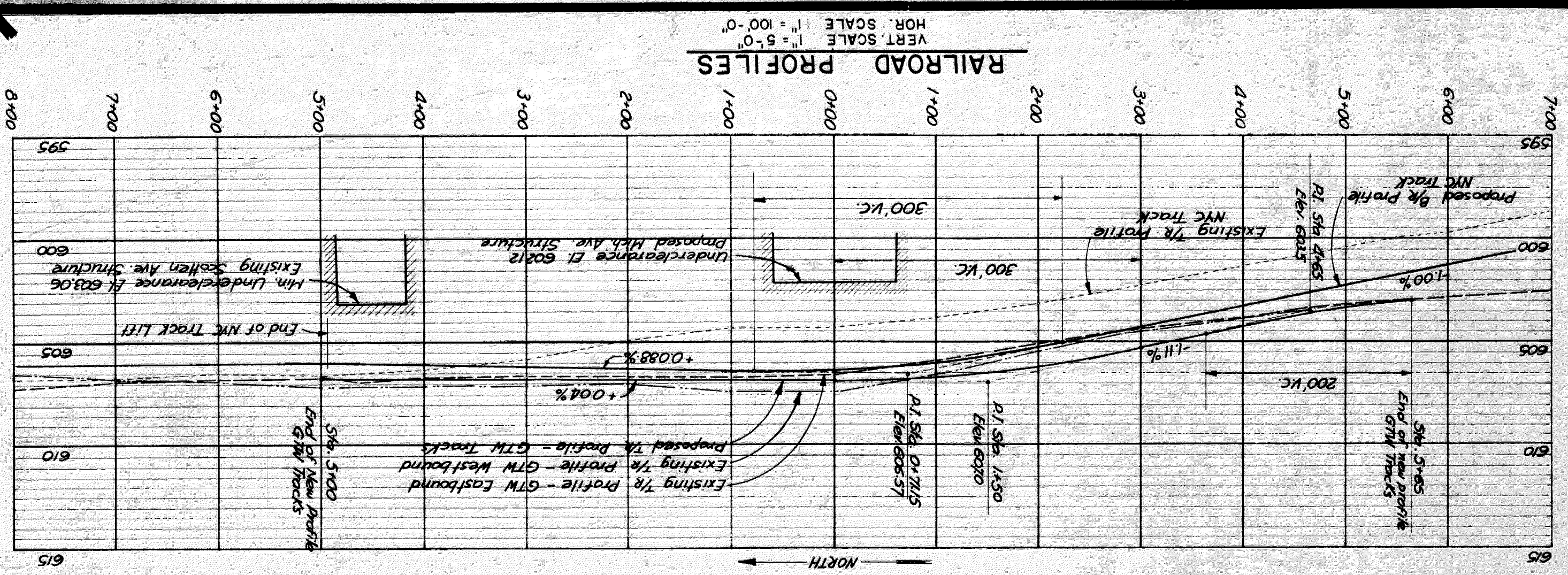


APPROVAL RECOMMENDED: *J. L. Barton*
City Engineer

APPROVED: *J. L. Barton*
City Engineer

CHECKED	BRIDGE DIVISION APPROVAL	DATE
RECOMMENDED FOR APPROVAL	CHIEF BRIDGE DIVISION	DATE
APPROVED	ENGINEER OF BRIDGE DESIGN	DATE
APPROVED	BRIDGE ENGINEER	DATE
APPROVED	ROAD DIVISION APPROVAL	DATE
APPROVED	ROAD ENGINEER	DATE
APPROVED	STATE HIGHWAY DEPARTMENT APPROVAL	DATE
APPROVED	DEPUTY COMMISSIONER IN CHARGE OF CONSTRUCTION & OPERATIONS	DATE
APPROVED	DEPUTY COMMISSIONER - CHIEF ENGINEER	DATE
APPROVED	MURRAY D. VAN WAGONER STATE HIGHWAY COMMISSIONER	DATE
RECOMMENDED FOR APPROVAL	PUBLIC ROADS ADMINISTRATION	
RECOMMENDED FOR APPROVAL	DISTRICT ENGINEER	
APPROVED	COMMISSIONER	

See correction sheet for 312 Bridge Sheet 2335136 Road plans



MICHIGAN STATE HIGHWAY DEPARTMENT
MURRAY D. VAN WAGONER - COMMISSIONER
 T. 25 R. 11 E
 BRIDGE FILE NO. X4 OF 82-22-4 ROAD MICHIGAN AVE. AT STA. 52 + 06.59 WAYNE CO.
 CROSSING G.T.W. RR. & N.Y.C. RR. IN CITY OF DETROIT

GENERAL PLAN OF SITE

APPROVED: *J. H. ...* CHIEF ENGINEER
 APPROVED: *A. H. ...* CHIEF OF BUREAU

DATE: 4-26-40

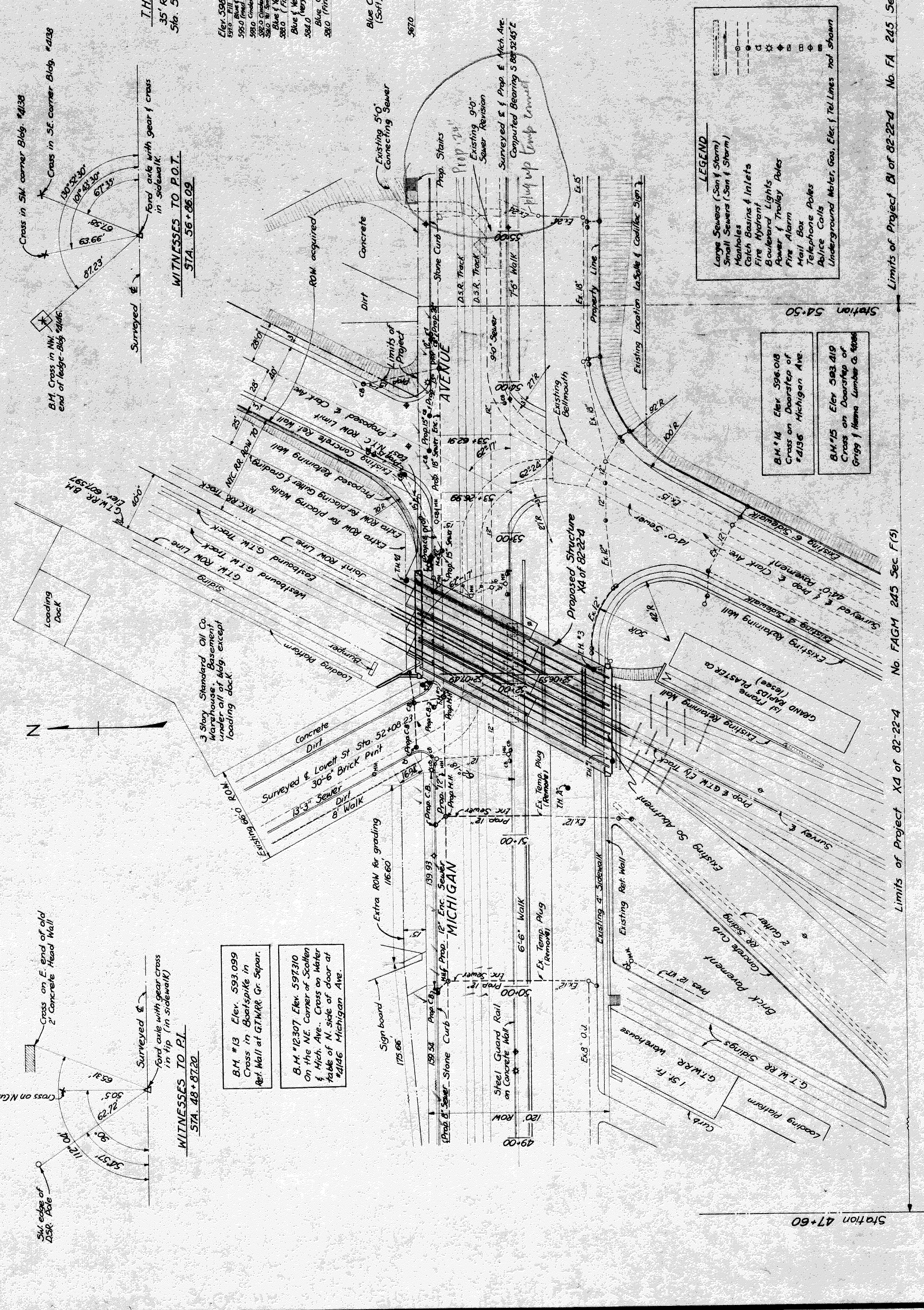
SHEET 2 OF 99

FILE NO. X4 OF 82-22-4

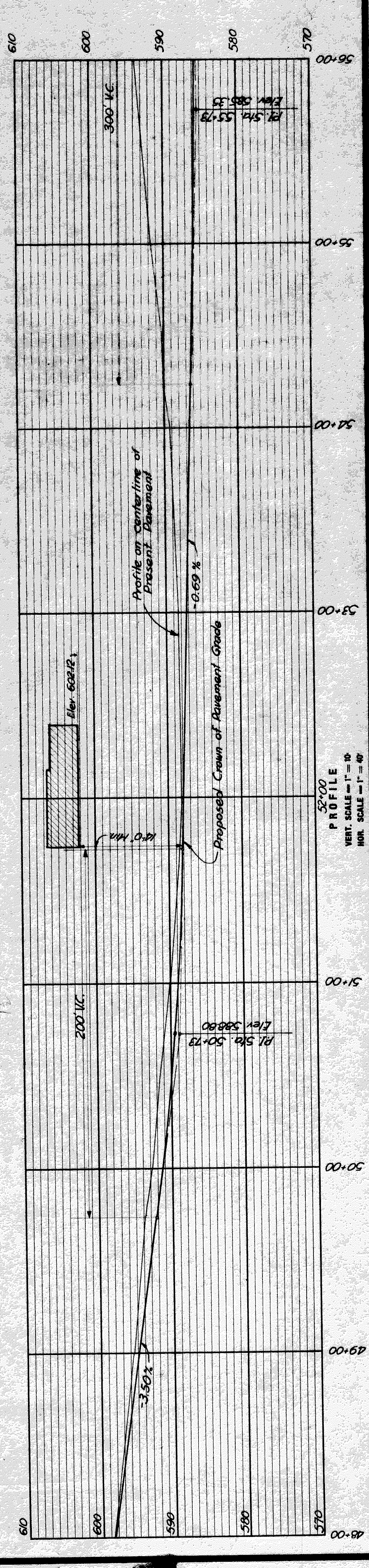
CONTRACT No. 4

LOG OF BORINGS

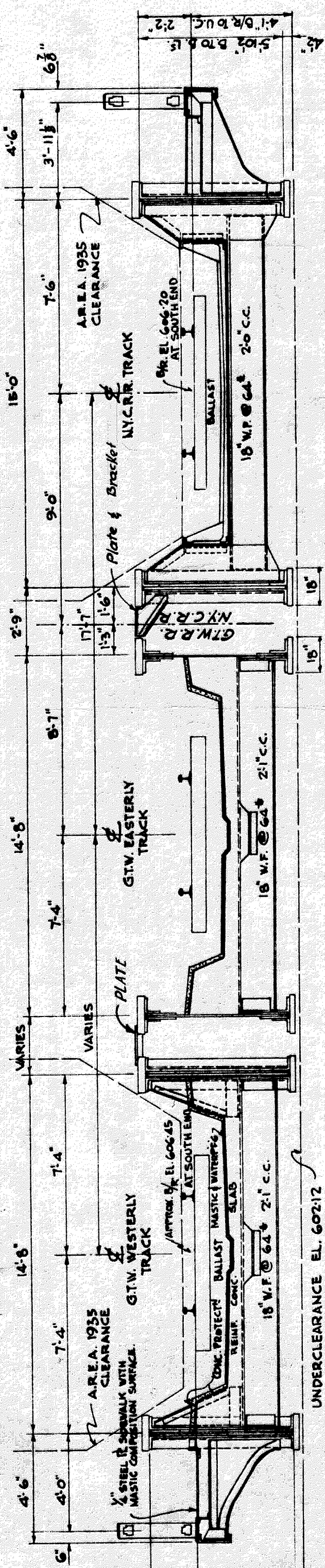
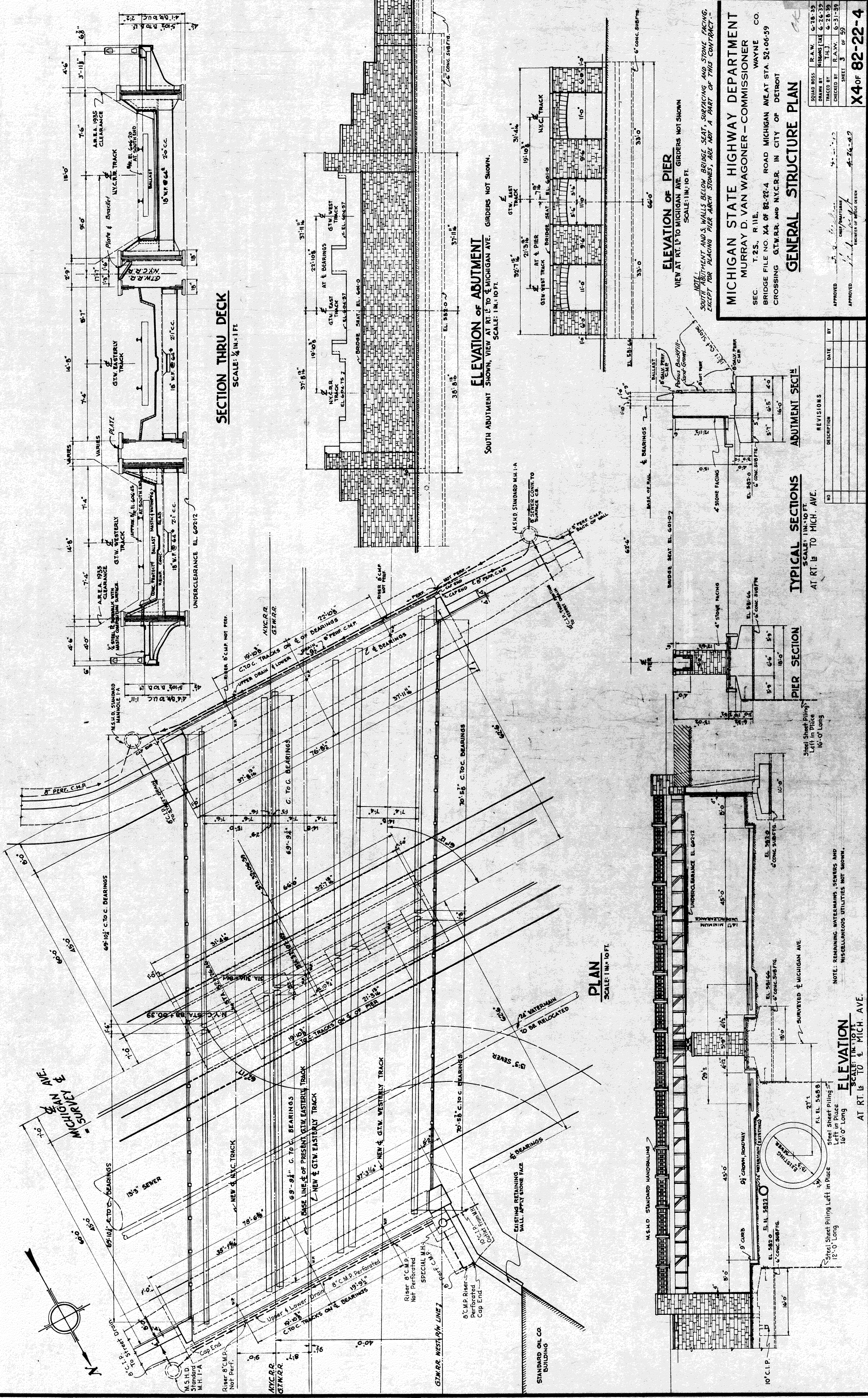
Station	Direction	Depth (ft)	Soil Description	Elevation
I.H. 1 65 Right Sta. 57+45	Right	0-1	Blue Clay (Firm)	587.3
		1-2	Blue Clay (Firm)	587.3
		2-3	Blue Clay (Firm)	587.3
		3-4	Blue Clay (Firm)	587.3
I.H. 2 62 Left Sta. 52+00	Left	0-1	Blue Clay (Firm)	589.5
		1-2	Blue Clay (Firm)	589.5
		2-3	Blue Clay (Firm)	589.5
		3-4	Blue Clay (Firm)	589.5
I.H. 3 50 Right Sta. 52+10	Right	0-1	Yellow Clay (Firm)	594
		1-2	Yellow Clay (Firm)	594
		2-3	Yellow Clay (Firm)	594
		3-4	Yellow Clay (Firm)	594
I.H. 4 70 Left Sta. 52+10	Left	0-1	Sand & Gravel	580.0
		1-2	Sand & Gravel	580.0
		2-3	Sand & Gravel	580.0
		3-4	Sand & Gravel	580.0



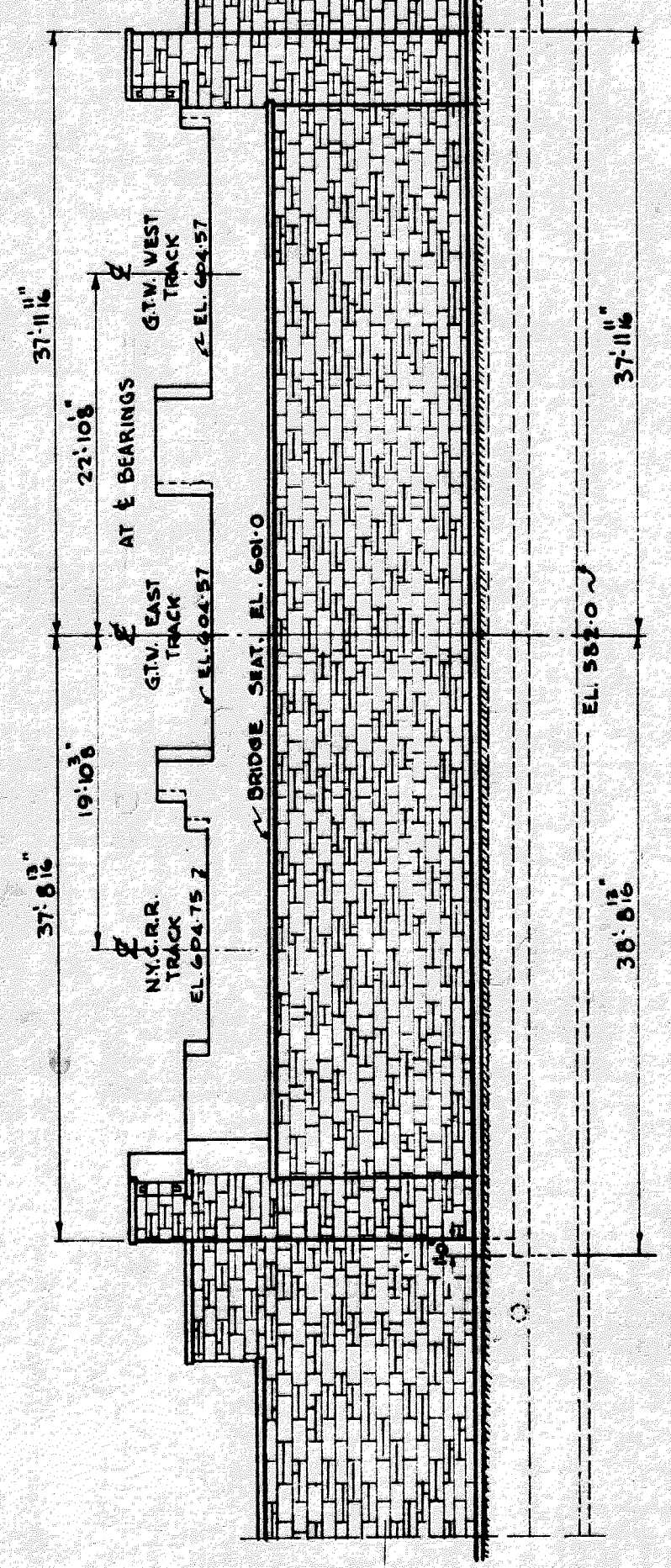
- LEGEND**
- Large Sewers (San & Storm)
 - Small Sewers (San & Storm)
 - Manholes
 - Catch Basins & Inlets
 - Fire Hydrant
 - Gas Meters
 - Telephone Poles
 - Mail Box
 - Telephone Poles
 - Abcise Coils
 - Underground Water, Gas, Elec. & Tel. Lines not shown



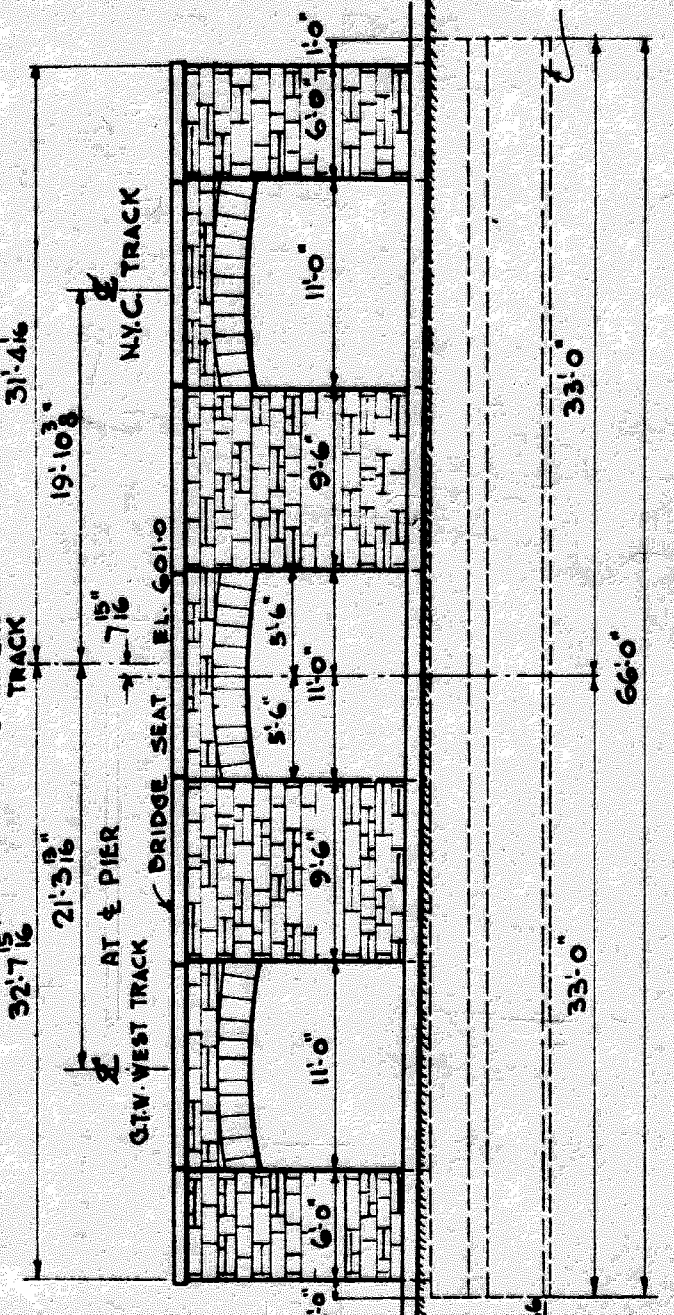
File XU 29-2



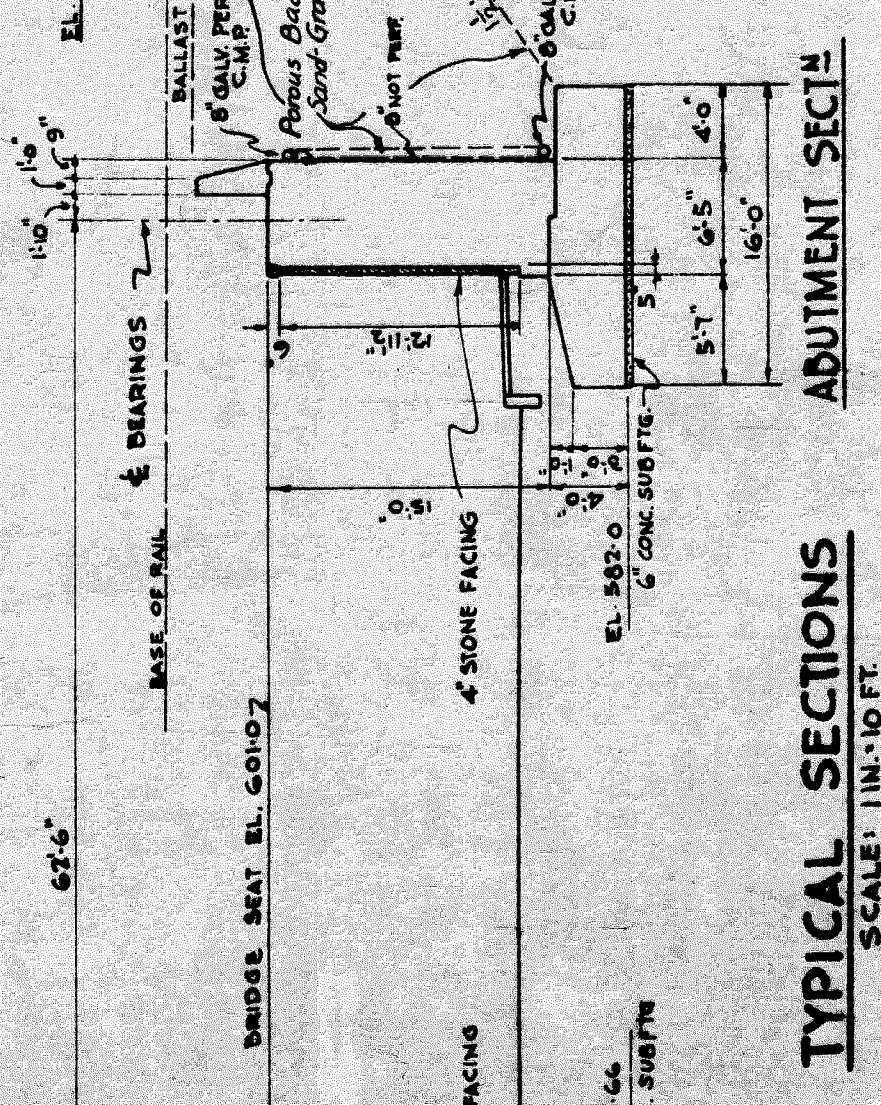
SECTION THRU DECK
SCALE: 1/4 IN. = 1 FT.



ELEVATION OF ABUTMENT
SOUTH ABUTMENT SHOWN, VIEW AT RT. 15 TO & MICHIGAN AVE. GIRDERS NOT SHOWN.
SCALE: 1 IN. = 10 FT.



ELEVATION OF PIER
VIEW AT RT. 15 TO MICHIGAN AVE. GIRDERS NOT SHOWN.
SCALE: 1 IN. = 10 FT.



TYPICAL SECTIONS
SCALE: 1 IN. = 10 FT.
AT RT. 15 TO MICH. AVE.

PLAN
SCALE: 1 IN. = 10 FT.

ELEVATION
SCALE: 1 IN. = 10 FT.
AT RT. 15 TO & MICH. AVE.

GENERAL STRUCTURE PLAN

MICHIGAN STATE HIGHWAY DEPARTMENT
MURRAY D. VAN WAGONER - COMMISSIONER

SEC. T. 2S, R. 11E.
BRIDGE FILE NO. X4 OF 82-22-4 ROAD MICHIGAN AVE AT STA. 52+06.59
CROSSING G.T.W.R.R. AND N.Y.C.R.R. IN CITY OF DETROIT

APPROVED: [Signature] ENGINEER OF HIGHWAY DEPARTMENT
CHECKED BY: [Signature] R.A.M.V. 6-31-39
TRACED BY: [Signature] T.H.J. 6-28-39
DRAWN BY: [Signature] H.A.W. 6-28-39
SQUAD BOSS: [Signature] R.A.W. 6-28-39

X4 OF 82-22-4

CONTRACT No. 4

NO.	REVISIONS	DATE	BY

NOTE: REMAINING WATERMANS, SEWERS AND MISCELLANEOUS UTILITIES NOT SHOWN.

Steel Sheet Piling Left in Place 16'-0" Long

Steel Sheet Piling Left in Place 12'-0" Long

Steel Sheet Piling Left in Place 16'-0" Long

DATE

PLAN EXTRAS

ITEM	DESCRIPTION	UNIT	QUANTITY	
			ESTIMATE	FINAL
1	STRUCTURE X4 of 82-22-4-C-4 Temporary Trestles - North a) Timber Piles - Furnished b) Timber Piles - Driven c) Timber & Lumber - Furnished d) Timber & Lumber - Placed e) Fabrication & Erection - Sheet Pile f) Miscellaneous Hardware	Lin. Ft. M.B.M. M.B.M. Lbs. Lbs.	3657.5 3457.5 50.6 54.3 20,030 6,169	
2	Removal of Existing Structures	Lump Sum		
3	Steel Sheet Piling Left in Place	Sq. Ft.	2421.0	
4	Unclassified Excavation North Abutment	Cu. Yds. Sq. Yds.	2166.0 710.0	
	Clark Ave. Ext. Retaining Wall	"	286.0	
	Clark Ave. Ext. Retaining Wall	"	1170.0	
5	Grade X Concrete - Substructure North Abutment South Abutment Clark Ave. Ext. Retaining Wall	Cu. Yds. Cu. Yds. Cu. Yds. Cu. Yds.	1601.0 31.0 302.0 739.0	
6	Grade X Concrete - Gutter	Cu. Yds.	11.0	
7	Grade X Concrete - Bumping Post	Cu. Yds.	8.0	
8	Grade X Concrete - Superstructure	Cu. Yds.	191.0	
9	Heating & Hoisting Superstr. Concrete N.Y.C. Superstructure	Cu. Yds. Cu. Yds.	10.1 10.1	
10	Cement North Abutment South Abutment Clark Ave. Ext. Retaining Wall Bumping Post Superstructure	Bbls. Lbs. Lbs. Lbs. Lbs. Lbs.	2490.0 127.5 42.75 415.0 1015.0 11.0 262.75	
11	Steel Reinforcement North & South Abutments Clark Ave. Ext. Ret. Wall & Gutter Superstructure	Lbs. Lbs. Lbs. Lbs.	119,374 34,844 30,340 24,349	
12	Fabrication & Erection Structural Steel	Lbs.	1,115,094	
13	Bridge Railing	Lin. Ft.	274.4	
14	Field Painting - Structural Steel	Lump Sum		
15	Rubbed Surface Finish North Abutment South Abutment Clark Ave. Ext. Retaining Wall Bumping Post	Sq. Ft. Sq. Ft. Sq. Ft. Sq. Ft. Sq. Ft.	1575.0 131.0 131.0 1105.0 219.0	
16	1/2" Cork Filler Clark Ave. Ext. Retaining Wall Superstructure	Sq. Ft. Sq. Ft. Sq. Ft.	95.0 10.0 85.0	
17	3/4" Cork Filler	Sq. Ft.	192.0	
18	Sheet Coops North Abutment South Abutment Clark Ave. Ext. Retaining Wall Superstructure	Lbs. Lbs. Lbs. Lbs. Lbs.	456.0 175.0 7.0 7.0 148.0	
19	Damp-proofing North Abutment South Abutment Clark Ave. Ext. Retaining Wall	Sq. Ft. Sq. Ft. Sq. Ft. Sq. Ft.	4851.0 1670.0 111.0 2800.0	
20	Bridge Deck Waterproofing	Sq. Ft.	6823.0	
21	Mastic Protective Base - 1/2" to 3/4" Thick	Sq. Ft.	1693.0	
22	Mastic Protective Cover - 1/2" Thick	Sq. Ft.	3240.0	
23	Mastic Protective Cover - 1/4" Thick	Sq. Ft.	1467.0	
24	Mastic Composition Surfacing	Sq. Ft.	545.0	
25	Drain Coatings - Cast Iron	Lbs.	8967.0	
26	Perous Backfill Sand - Gravel (Comp'd) North Abutment South Abutment Clark Ave. Ext. Retaining Wall	Cu. Yds. Cu. Yds. Cu. Yds. Cu. Yds.	1711.0 1550.0 16.0 145.0	
27	Corrugated Metal Pipe - Perforated	Lin. Ft.	473.0	
28	Corrugated Metal Pipe	Lin. Ft.	28.0	
29	Cast Iron Pipe	Lin. Ft.	33.0	
30	Cast Iron Pipe	Lin. Ft.	12.0	
31	Cover X	Each	1	
32	Cover E	Each	3	
33	Removing South Trestles	Lump Sum		
34	Credit for Materials Removed from South Trestles a) Timber Piles b) Structural Steel - NYC Trestle c) Miscellaneous Hardware	Lump Sum Lbs. Lbs. Lbs.	94.9 36,380 10,250	

MICHIGAN STATE HIGHWAY DEPARTMENT
MURRAY D. VAN WAGONER - COMMISSIONER
 SEC T. 25 R. 11E. WAYNE CO.
 BRIDGE FILE NO. X4 OF 82-22-4 ROAD MICHIGAN AVE AT STA. 52 + 07.59
 CROSSING G.T.W. RR. & N.Y.C. RR. IN CITY OF DETROIT

BILL OF MATERIAL.

APPROVED: *J. A. V. [Signature]* CHIEF ENGINEER
 APPROVED: *A. A. [Signature]* MEMBER OF BOARD DESIGN
 SQUAD BOSS: [Signature] 4-24-42
 DRAWN BY: [Signature] 4-24-42
 CHECKED BY: [Signature] 4-24-42
 SHEET 4 OF 59

File XU 29-4
 X4 OF 82-22-4
 CONTRACT No. 4

Note: Items marked with an asterisk (*) are not included in total.

ITEM	UNIT	DATE	DESCRIPTION	QUANTITY	
				ESTIMATE	FINAL
APPROACHES 82-29 C 28					
1. Removing Old Pavement	Sq. Yds.	2023			
2. Removing Sidewalk	Sq. Yds.	812			
3. Removing Masonry & Concrete	Cu. Yds.	106			
4. Removing Railway Track (Single - Track, Not Under Service)	Lin. Ft.	1040			
5. Removing Chain Link Fence	Lin. Ft.	389			
6. Earth Excavation	Cu. Yds.	2446			
7. Sand Gravel Fill (loose measure)	Cu. Yds.	1500			
8. Crushed Stone Fill (loose measure)	Cu. Yds.	136			
9. Manholes 1A	Each	4			
10. Catch Basins 3B	Each	5			
11. Catch Basin Traps	Each	4			
12. 6" Sewer with Open Joints	Lin. Ft.	275			
13. 8" Sewer with Open Joints	Lin. Ft.	205			
14. 8" Sewer	Lin. Ft.	9			
15. 12" Sewer	Lin. Ft.	71			
16. 12" Encased Sewer	Lin. Ft.	309			
17. 15" Encased Sewer	Lin. Ft.	87			
18. 6" Tile Underdrain	Lin. Ft.	390			
19. 2 Cable Guard Rail	Lin. Ft.	50			
20. Plank Sidewalk	Sq. Ft.	2080			

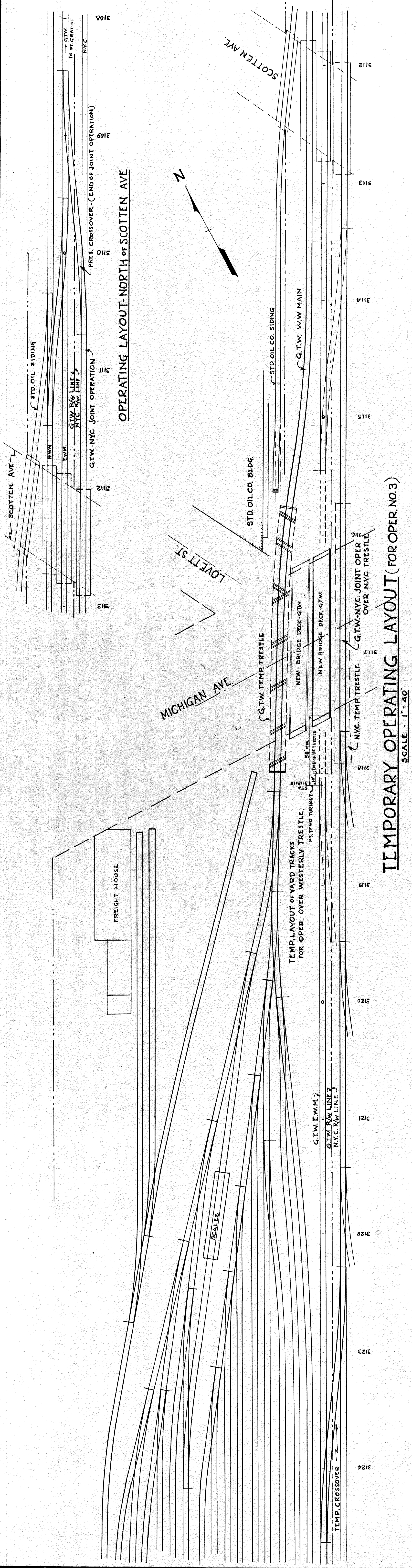
PLAN EXTRAS.

MICHIGAN STATE HIGHWAY DEPARTMENT
MURRAY D. VAN WAGONER - COMMISSIONER
SEC. T. S. R. IIE WAYNE CO.
BRIDGE FILE NO. X4 OF 82-22-4 ROAD MICHIGAN AVE. AT STA. 52 + 07.59
CROSSING G.T.W. RR. 4 N.Y.C.RR. IN CITY OF DETROIT

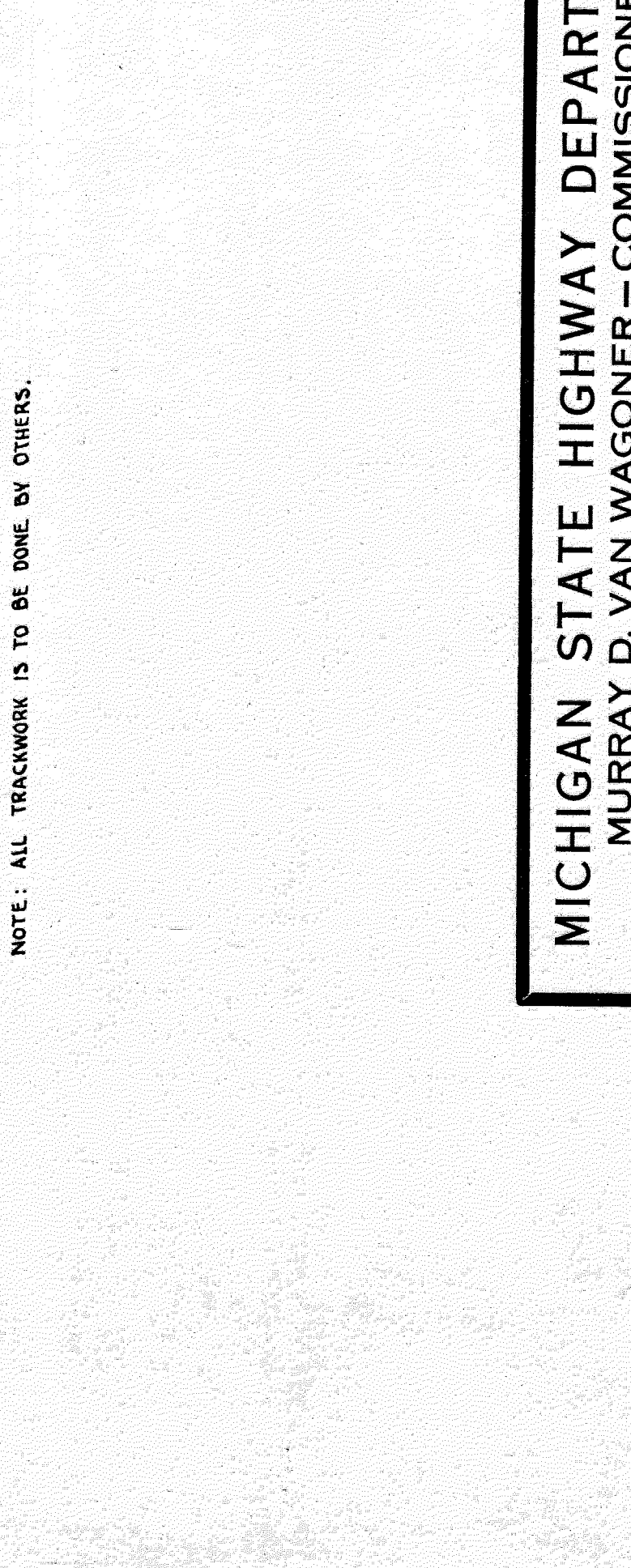
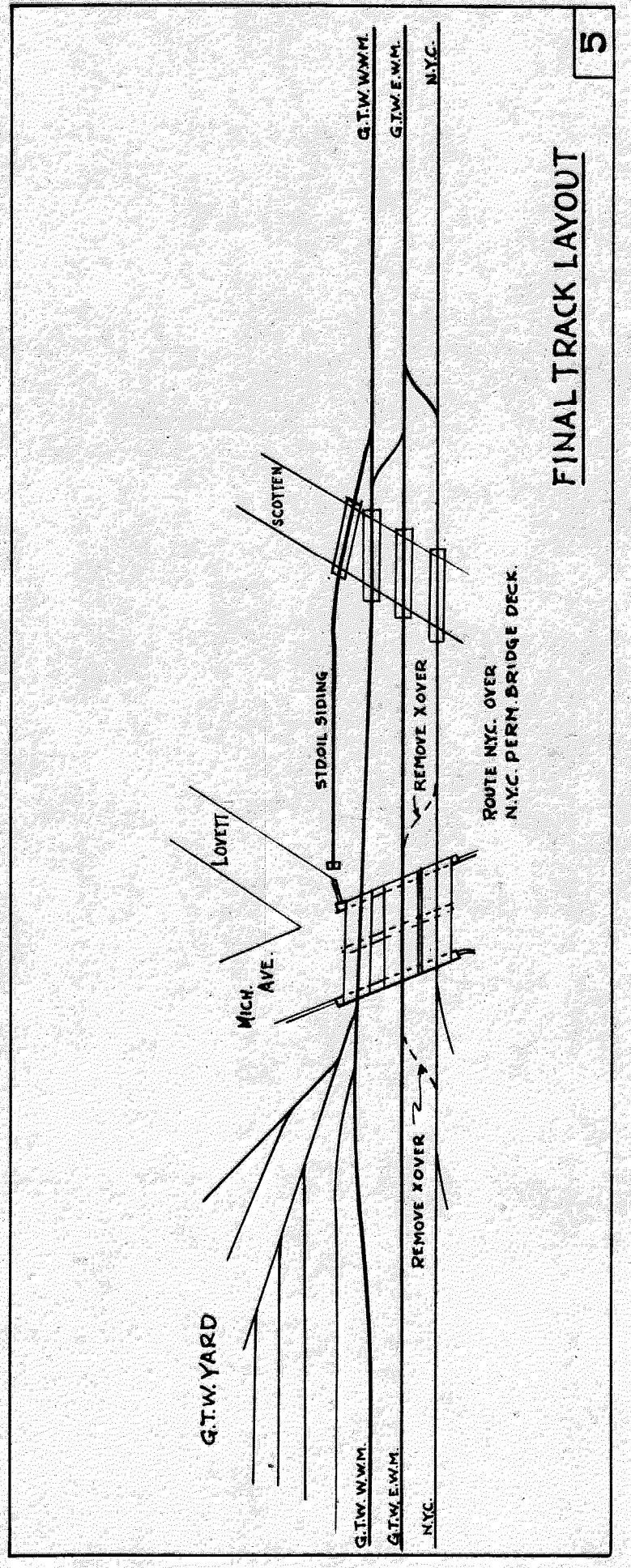
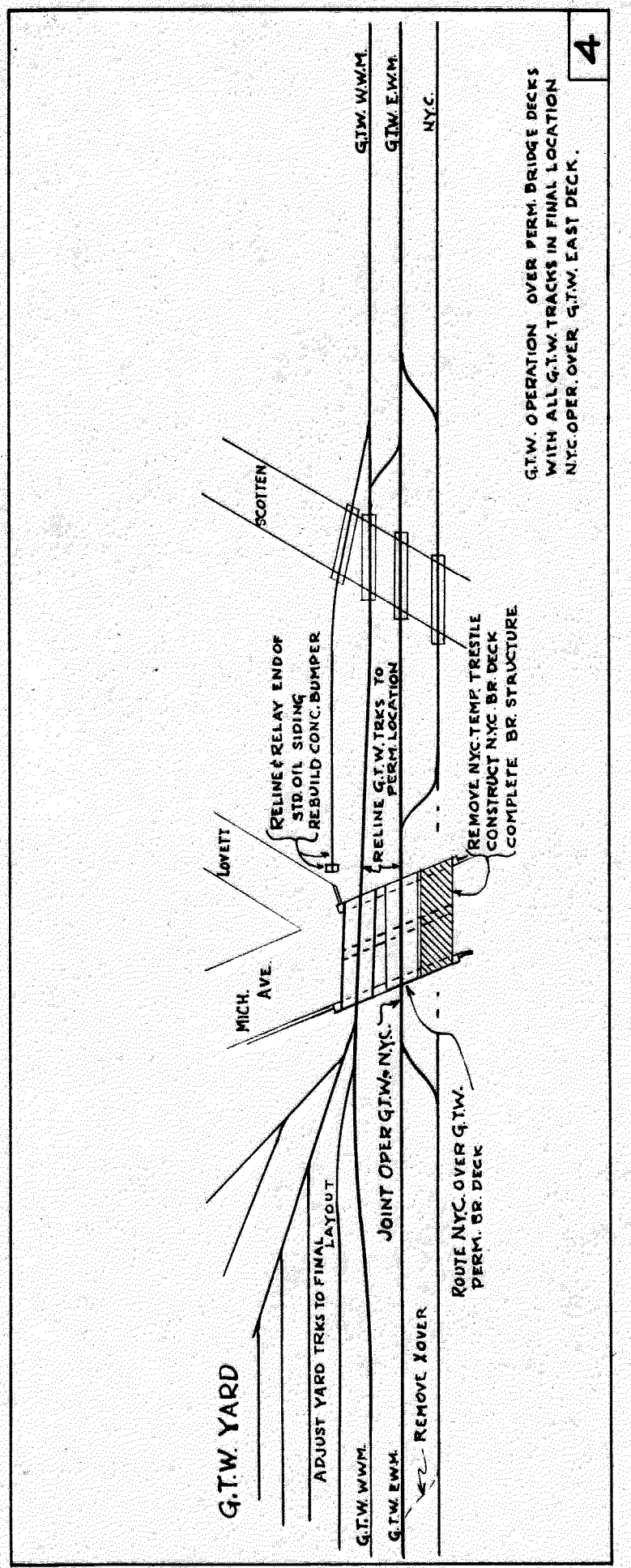
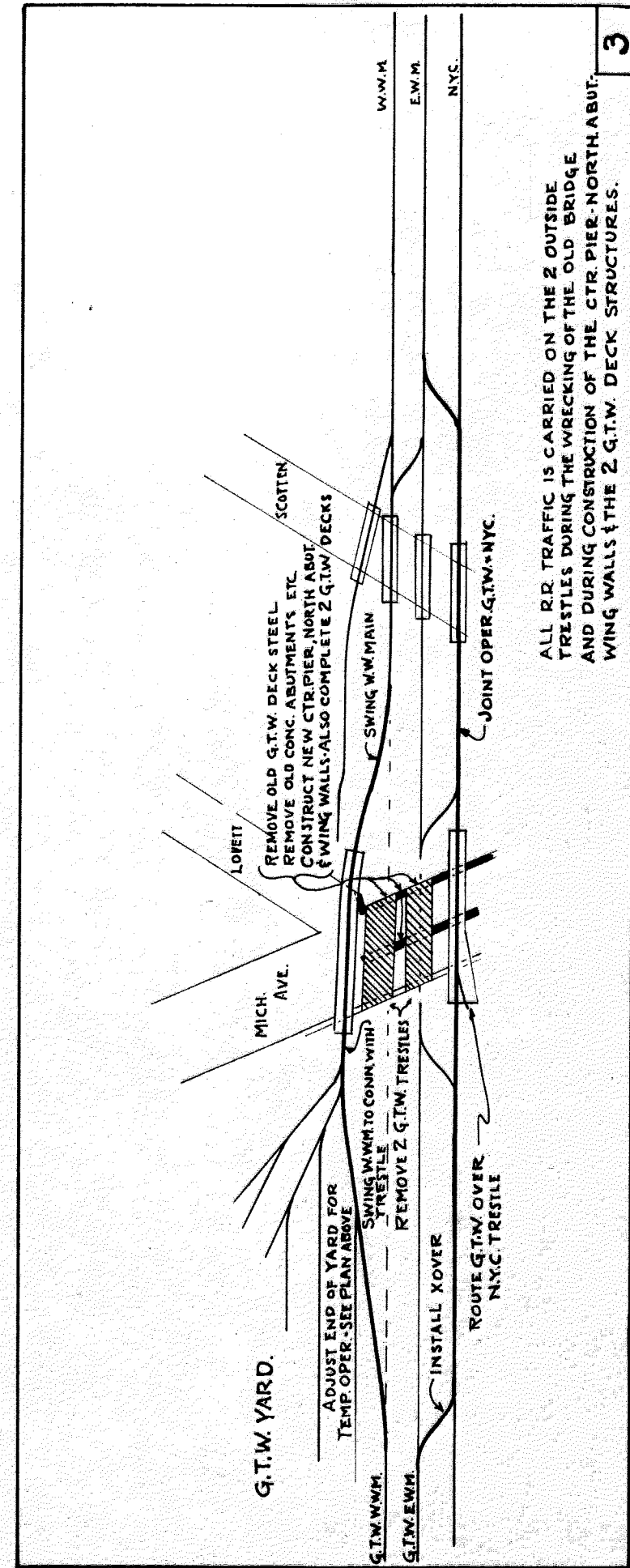
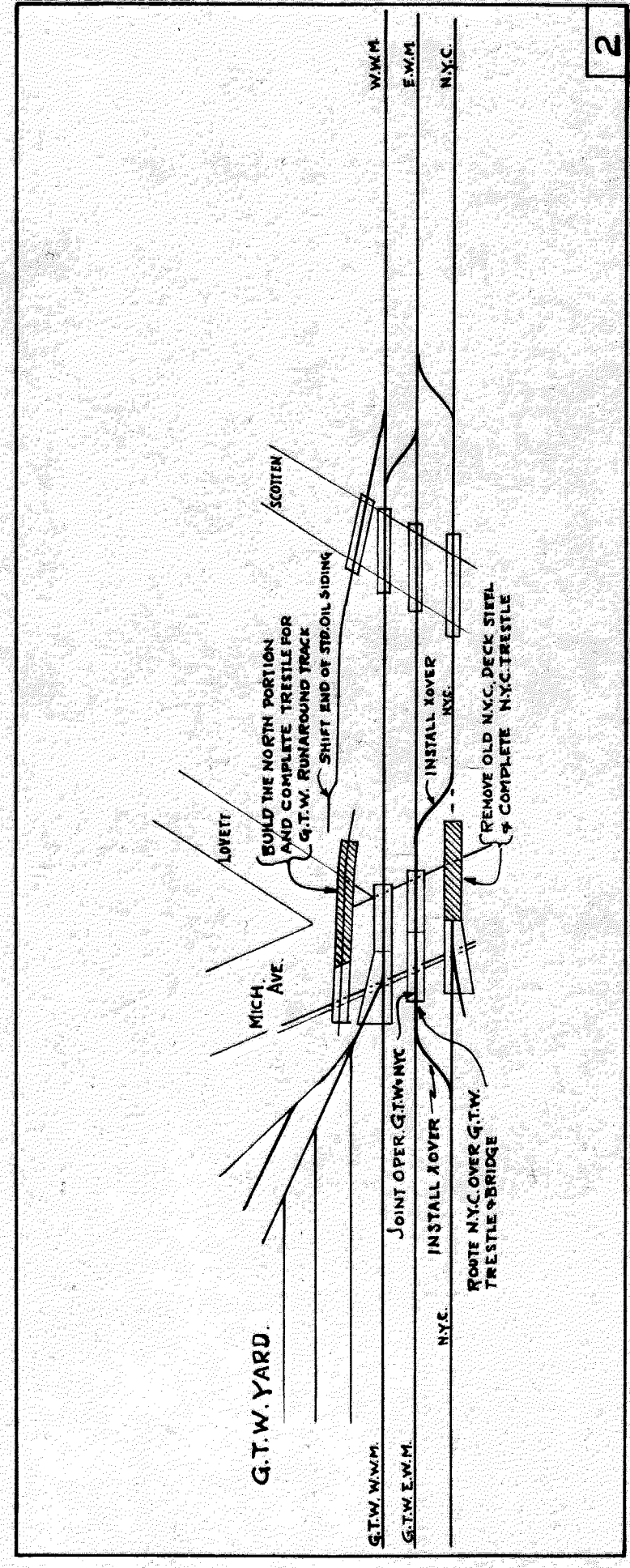
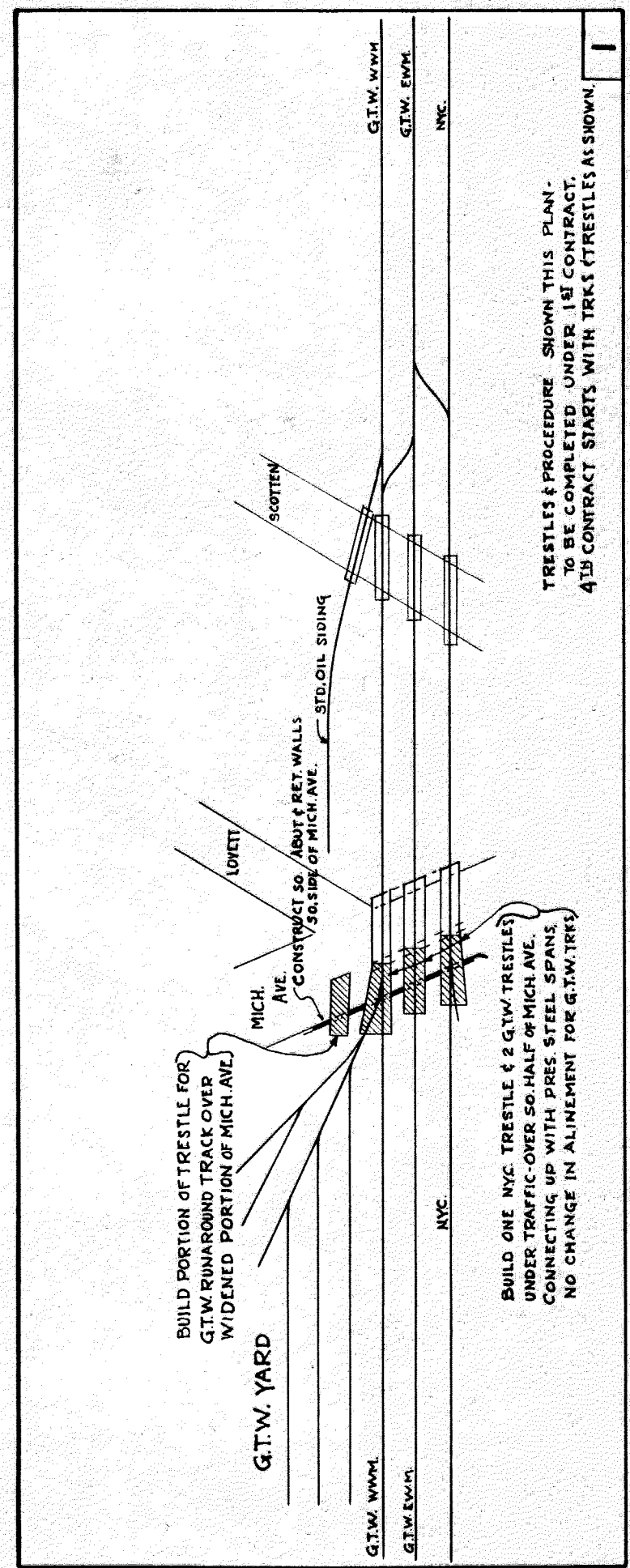
BILL OF MATERIAL.

APPROVED: *J. J. Gieseler* CHIEF DRAFTSMAN
APPROVED: *M. A. Wright* ENGINEER OF BRIDGE DESIGN
SQUAD BOSS *P. J. ...* 4-28-60
DRAWN BY *TRAKIS* 4-28-60
CHECKED BY SHEET 5 OF 59
X4 OF 82-22-4
CONTRACT No. 4
File XU 29-5

Note: Items marked with an asterisk (*) are not included in total.



TEMPORARY OPERATING LAYOUT (FOR OPER. NO. 3)
SCALE - 1" = 40'



NOTE: ALL TRACKWORK IS TO BE DONE BY OTHERS.

DIAGRAMS SHOWING SCHEDULE OF OPERATION
NOT TO SCALE

REVISIONS

NO.	DESCRIPTION	DATE	BY

APPROVED: *[Signature]* CHIEF DRAFTSMAN
APPROVED: *[Signature]* ENGINEER OF BRIDGE DESIGN

TRACED BY: M. J. B. 1-18-40
CHECKED BY: T. H. J. 1-29-40
SHEET 6 OF 59

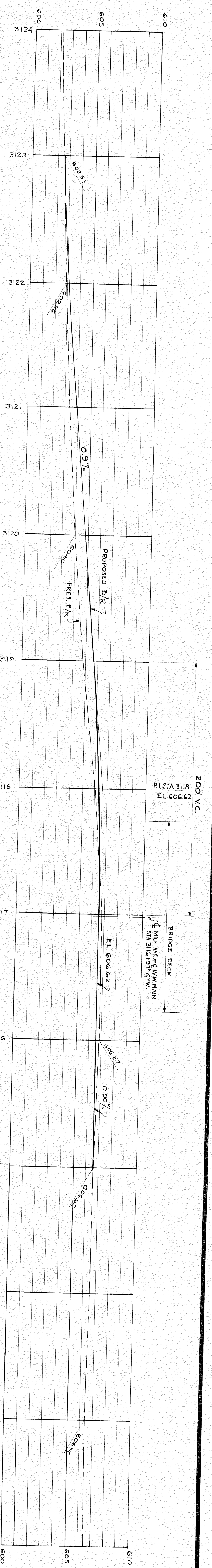
MICHIGAN STATE HIGHWAY DEPARTMENT
MURRAY D. VAN WAGONER - COMMISSIONER
WAYNE CO.
T. 25 R. 11 E.
BRIDGE FILE NO. X-4-OF-82-22-4 ROAD MICHIGAN AVE. AT STA. 52+06.59
CROSSING G.T.W. RR. AND N.Y.C. RR. IN CITY OF DETROIT.

TEMPORARY TRACK LAYOUT & OPER. SCHEDULE
SCALE: AS SHOWN

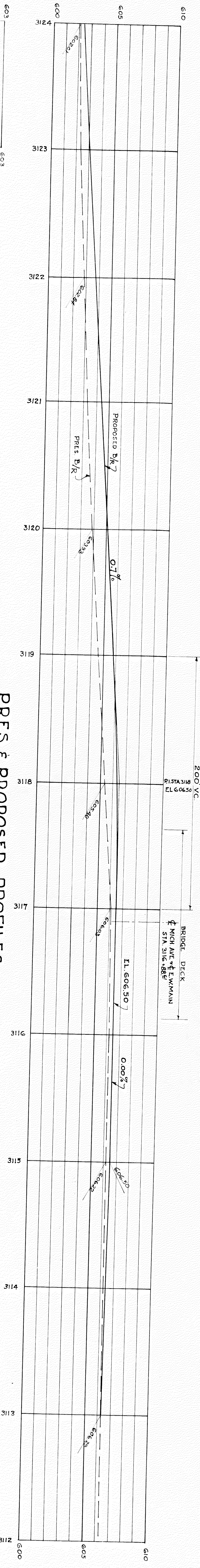
672

X4 of 82-22-4

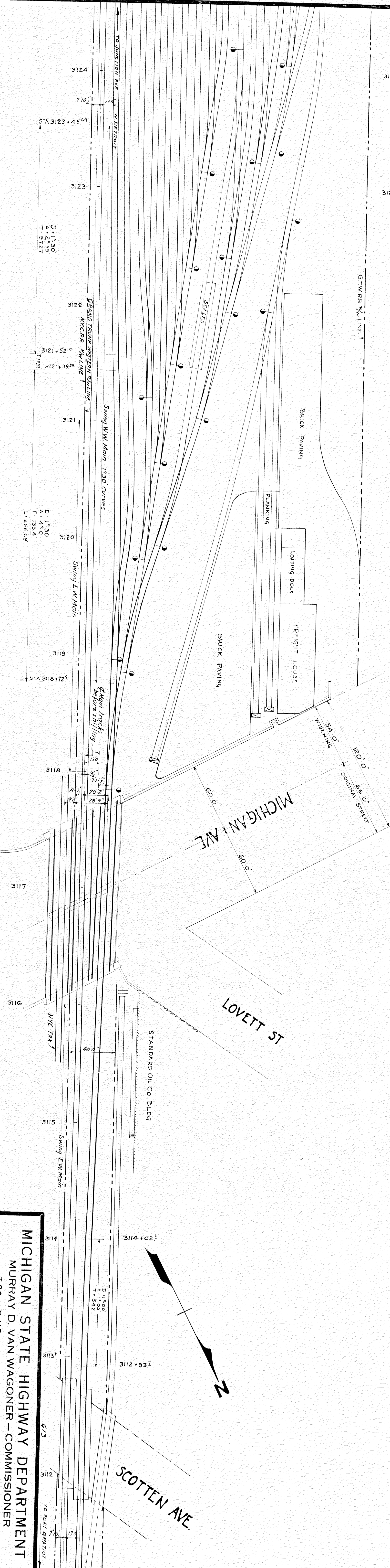
File XU 29-6 CONTRACT No. 4



**PRES & PROPOSED PROFILES
FOR WESTWARD MAIN-GTW**
SCALES: HOR. 1"=40' VERT. 1"=4'



**PRES & PROPOSED PROFILES
FOR EASTWARD MAIN-GTW**
SCALES: HOR. 1"=40' VERT. 1"=4'



FINAL TRACK LAYOUT - G.T.W.
SCALE - 1/4" = 40 FT

NO	REVISIONS	DATE	BY

MICHIGAN STATE HIGHWAY DEPARTMENT
MURRAY D. VAN WAGONER - COMMISSIONER

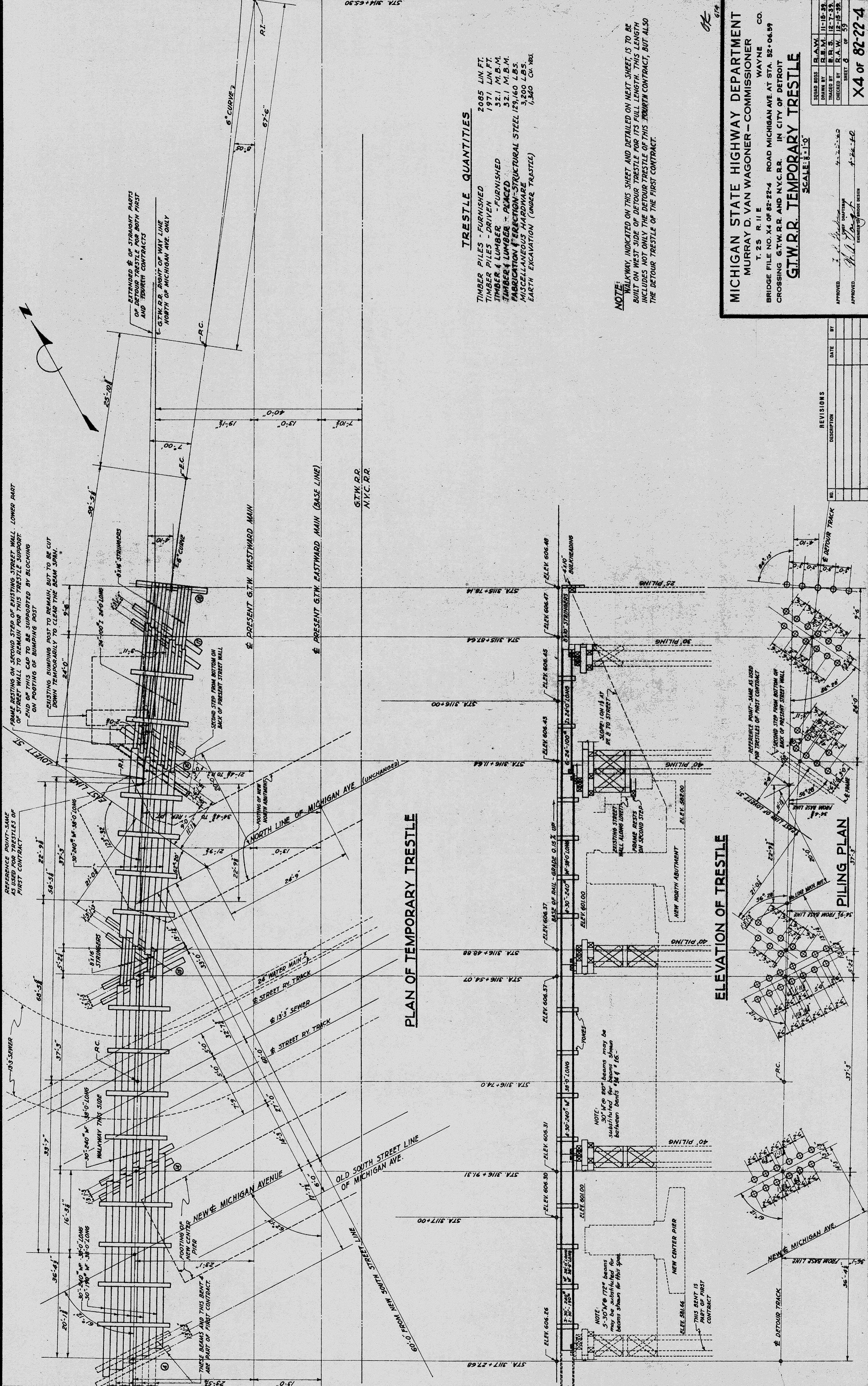
BRIDGE FILE NO. X4 OF 82-22-4
ROAD MICHIGAN AVE. AT STA. 52+06.59
IN CITY OF DETROIT.

FINAL TRACK LAYOUT & PROFILES
SCALES AS SHOWN

APPROVED: [Signature] CHIEF ENGINEER
APPROVED: [Signature] ENGINEER IN CHARGE

SOLID BRSS	RAW	1-6-40
DRAWN BY	M.J.B.	1-10-40
CHECKED BY	L.S.	2-6-40
SHEET	7	OF 59

FIP Y11 29-7
X4 OF 82-22-4



PLAN OF TEMPORARY TRESTLE

ELEVATION OF TRESTLE

PILING PLAN

TRESTLE QUANTITIES

TIMBER PILES - FURNISHED	2085 LIN. FT.
TIMBER PILES - DRIVEN	1971 LIN. FT.
TIMBER & LUMBER - FURNISHED	52.1 M.B.M.
TIMBER & LUMBER - PLACED	52.1 M.B.M.
FABRICATION & ERECTION - STRUCTURAL STEEL	129,160 LBS.
MISCELLANEOUS HARDWARE	3,200 LBS.
EARTH EXCAVATION (UNDER TRESTLE)	1,340 CU. YDS.

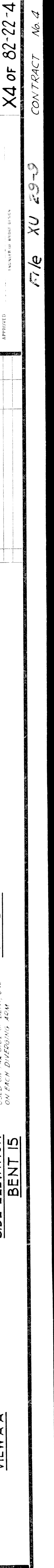
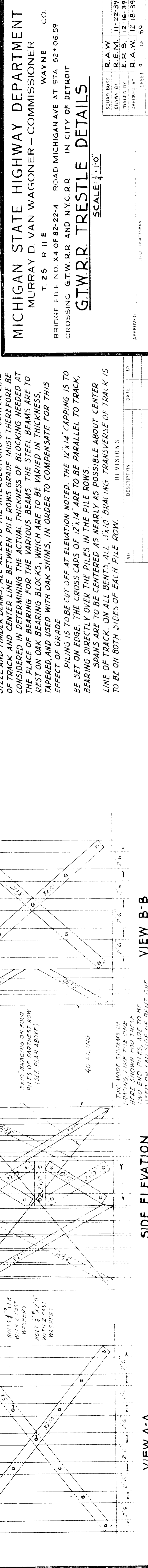
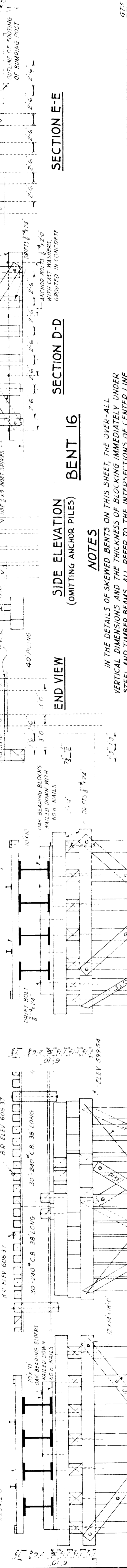
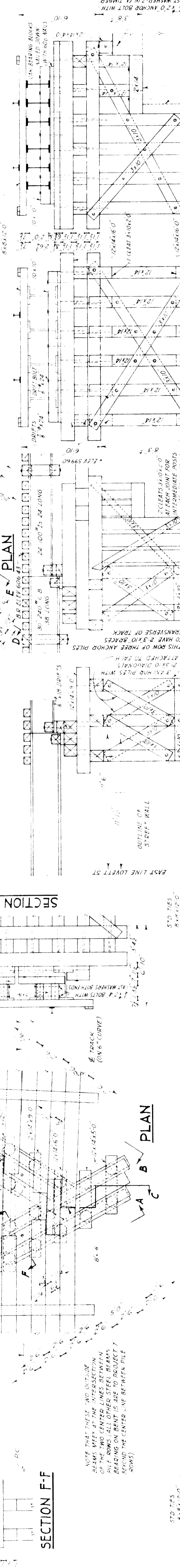
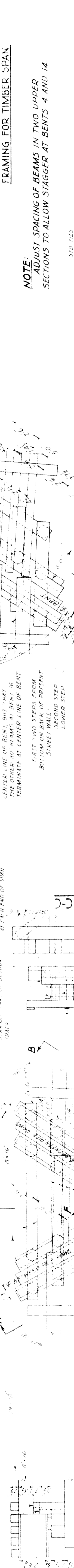
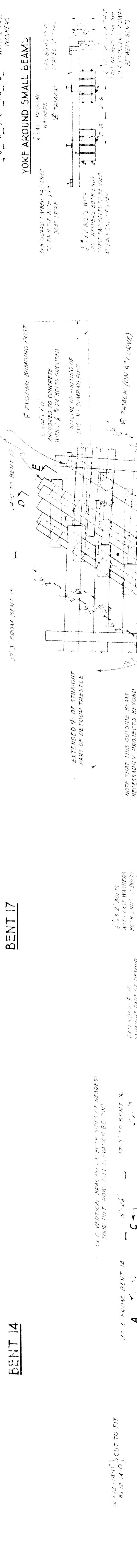
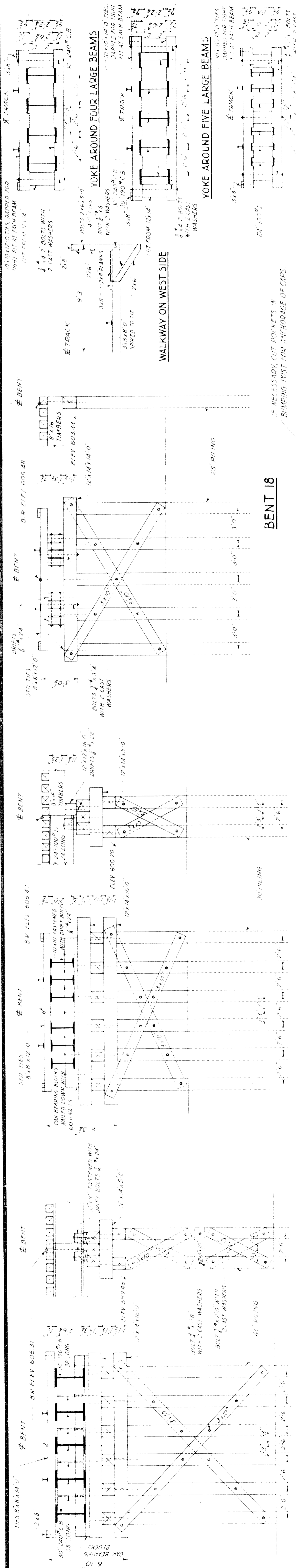
NOTE: WALKWAY, INDICATED ON THIS SHEET AND DETAILED ON NEXT SHEET, IS TO BE BUILT ON WEST SIDE OF DETOUR TRESTLE FOR ITS FULL LENGTH. THIS LENGTH INCLUDES NOT ONLY THE DETOUR TRESTLE OF THIS CONTRACT, BUT ALSO THE DETOUR TRESTLE OF THE FIRST CONTRACT.

MICHIGAN STATE HIGHWAY DEPARTMENT
MURRAY D. VAN WAGONER - COMMISSIONER
 T. 25 R. 11 E
 BRIDGE FILE NO. X4 OF 82-22-4 ROAD MICHIGAN AVE. AT STA. 52+06.89
 CROSSING G.T.W. R.R. AND N.Y.C. R.R. IN CITY OF DETROIT
G.T.W. R.R. TEMPORARY TRESTLE
 SCALE: 1"=1'-0"

SQUAD BOSS	R.A.W.	11-16-33
DRAWN BY	R.E.M.	12-7-33
CHECKED BY	R.A.W.	12-15-33
APPROVED	W.D. [Signature]	1-24-34
ENGINEER OF RECORD	W.D. [Signature]	1-24-34

X4 of 82-22-4
CONTRACT No. 4

NO.	DESCRIPTION	DATE



BRIDGE FILE NO. X4 OF 82-22-4 ROAD MICHIGAN AVE AT STA. 52+06.59
 CROSSING G.T.W.R.R. AND N.Y.C.R.R. IN CITY OF DETROIT
MICHIGAN STATE HIGHWAY DEPARTMENT
 MURRAY D. VAN WAGONER - COMMISSIONER
 T. 25 R. 11 E
 WAYNE CO.

SCALE: 1/4" = 1'-0"
 DRAWN BY: R.A.W.
 CHECKED BY: E.R.S.
 SHEET 9 OF 59
 DATE: 11-22-39
 12-16-39
 12-18-39

NOTES
 IN THE DETAILS OF SKEWED BENTS ON THIS SHEET, THE OVER-ALL VERTICAL DIMENSIONS AND THE THICKNESS OF BLOCKING IMMEDIATELY UNDER STEEL AND TIMBER BEAMS, ALL REFER TO THE INTERSECTIONS OF CENTER LINE OF TRACK AND CENTER LINE BETWEEN PILE ROWS GRADE. MUST THEREFORE BE CONSIDERED IN DETERMINING THE ACTUAL THICKNESS OF BLOCKING NEEDED AT THE PLACE OF BEARING FOR THE VARIOUS BEAMS. THE STEEL BEAMS ARE TO REST ON OAK BEARING BLOCKS, WHICH ARE TO BE VARIED IN THICKNESS, TAPERED, AND USED WITH OAK SHIMS, IN ORDER TO COMPENSATE FOR THE EFFECT OF GRADE.
 PILING IS TO BE CUT OFF AT ELEVATION NOTED. THE 12"x14" CAPPING IS TO BE SET ON EDGE. THE CROSS CAPS OF 12"x14" ARE TO BE PARALLEL TO TRACK, BEARING DIRECTLY OVER THE PILES IN THE PILE ROWS.
 SPANS ARE TO BE CENTERED AS NEARLY AS POSSIBLE ABOUT CENTER LINE OF TRACK. ON ALL BENTS, ALL 3"x10" BRACING TRANSVERSE OF TRACK IS TO BE ON BOTH SIDES OF EACH PILE ROW.

SECTION F-F
 NOTE THAT THESE TWO OUTSIDE BEAMS MEET AT THE INTERSECTION OF THE TWO CENTER LINES BETWEEN PILE ROWS (ALL OTHER STEEL BEAMS BEARING ON BENT IS ARE TO PROJECT BEYOND THE CENTER LINE BETWEEN PILE ROWS)

SECTION C-C
 NOTE THAT THIS OUTSIDE BEAM NECESSARILY PROJECTS BEYOND CENTER LINE OF BENT. THE OTHER 30" BEAMS AT BENT 16 TERMINATE AT CENTER LINE OF BENT. FIRST TWO STEPS FORM STEEL WALL. SECOND STEP LOWER STEP.

SECTION D-D
 THIS ROW OF THREE ANCHOR PILES ATTACHED TO TRACK IS TO BE 2' 3" LONG. 3"x10" DIAPHRAGMS TO BE ATTACHED TO TRACK.

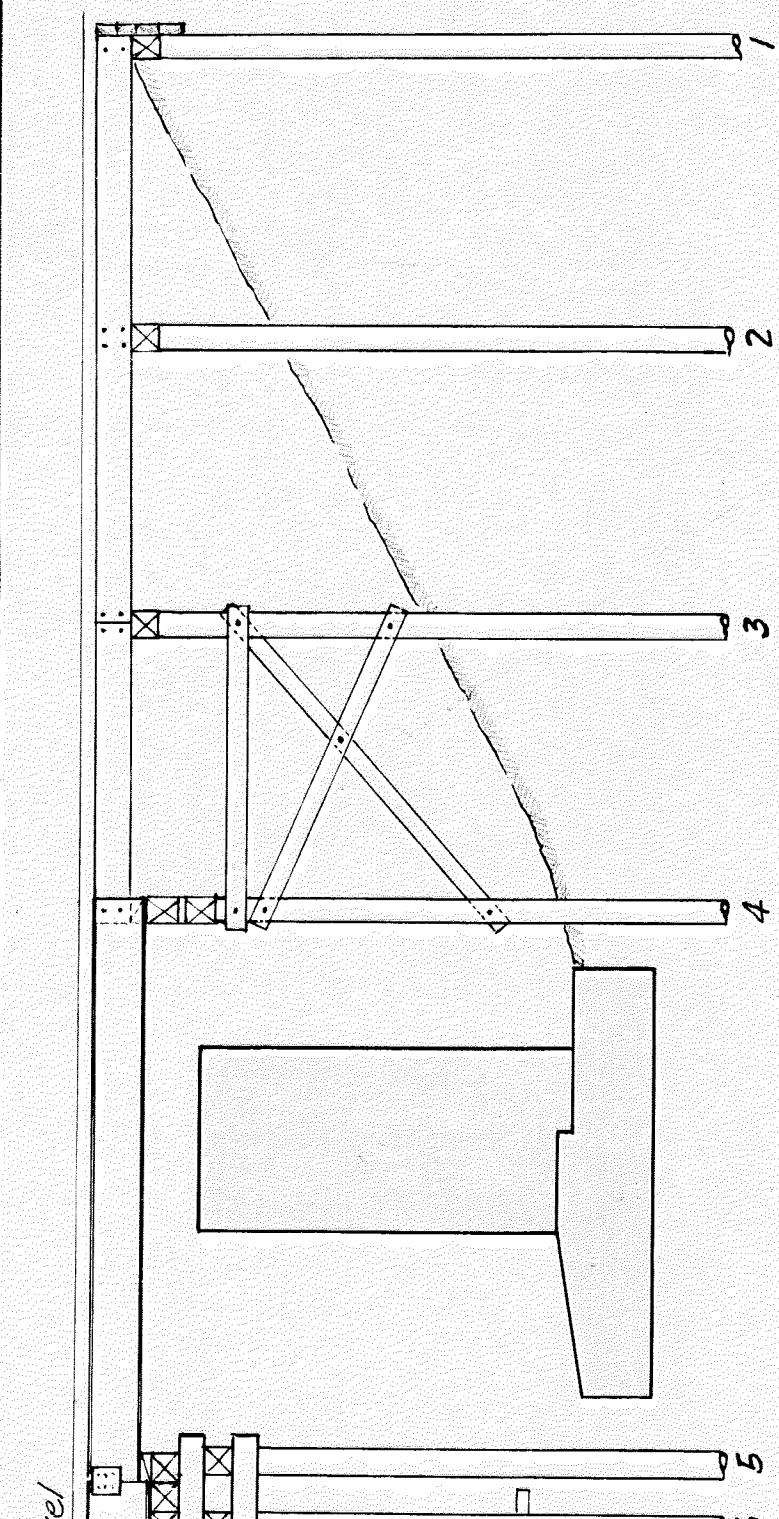
SECTION E-E
 THIS ROW OF THREE ANCHOR PILES ATTACHED TO TRACK IS TO BE 2' 3" LONG. 3"x10" DIAPHRAGMS TO BE ATTACHED TO TRACK.

SECTION G-G
 THIS ROW OF THREE ANCHOR PILES ATTACHED TO TRACK IS TO BE 2' 3" LONG. 3"x10" DIAPHRAGMS TO BE ATTACHED TO TRACK.

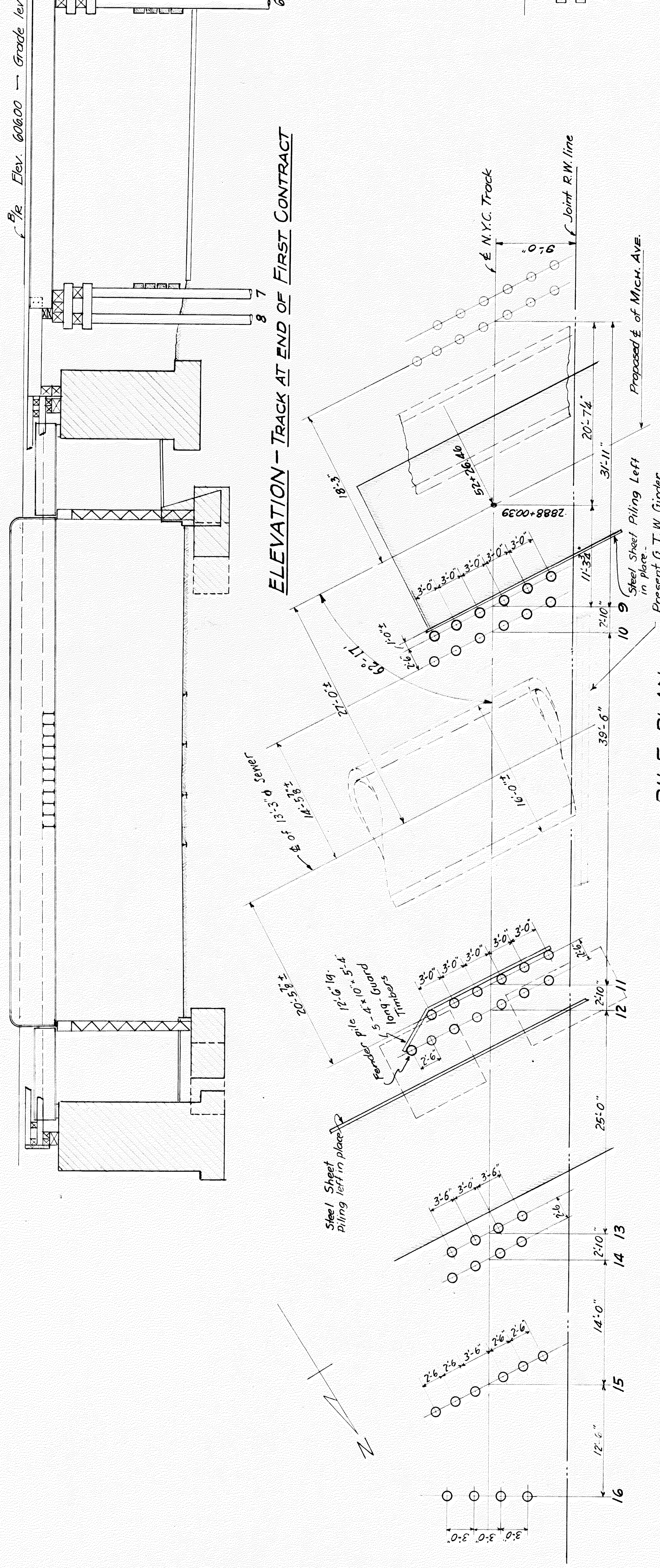
SECTION H-H
 THIS ROW OF THREE ANCHOR PILES ATTACHED TO TRACK IS TO BE 2' 3" LONG. 3"x10" DIAPHRAGMS TO BE ATTACHED TO TRACK.

SECTION I-I
 THIS ROW OF THREE ANCHOR PILES ATTACHED TO TRACK IS TO BE 2' 3" LONG. 3"x10" DIAPHRAGMS TO BE ATTACHED TO TRACK.

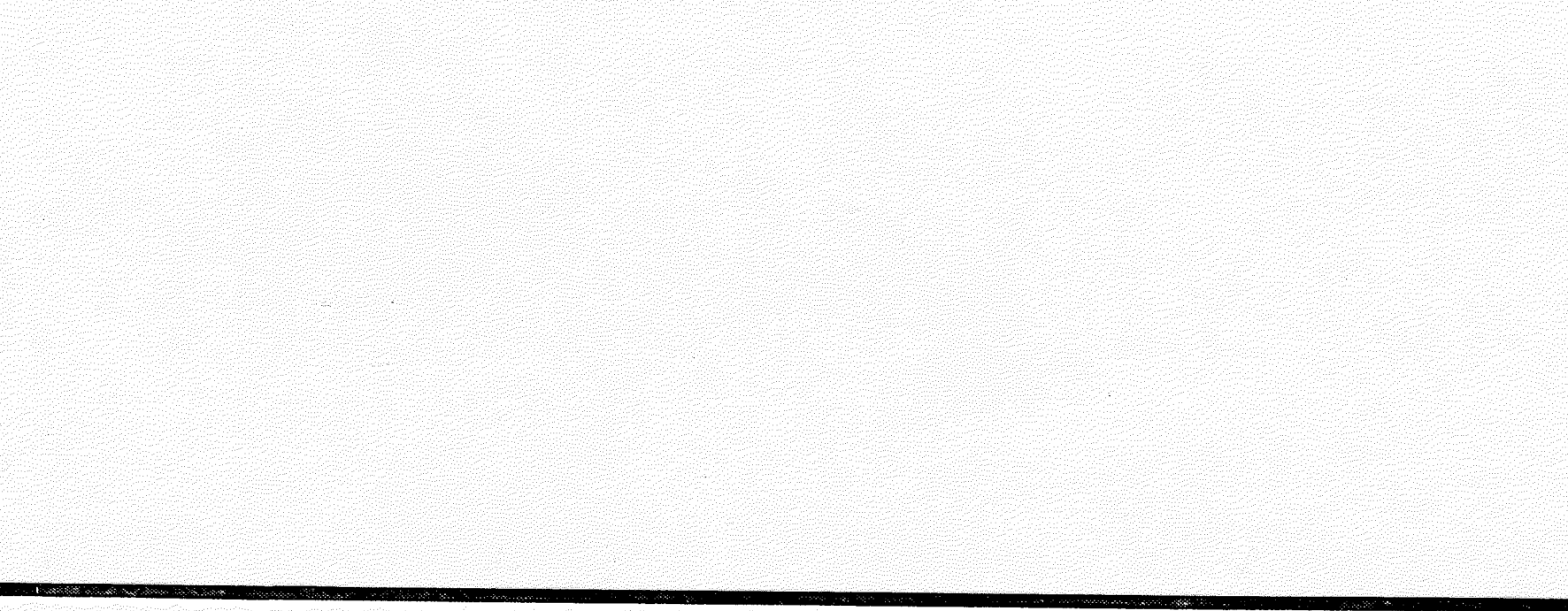
NO.	REVISIONS	DATE	BY



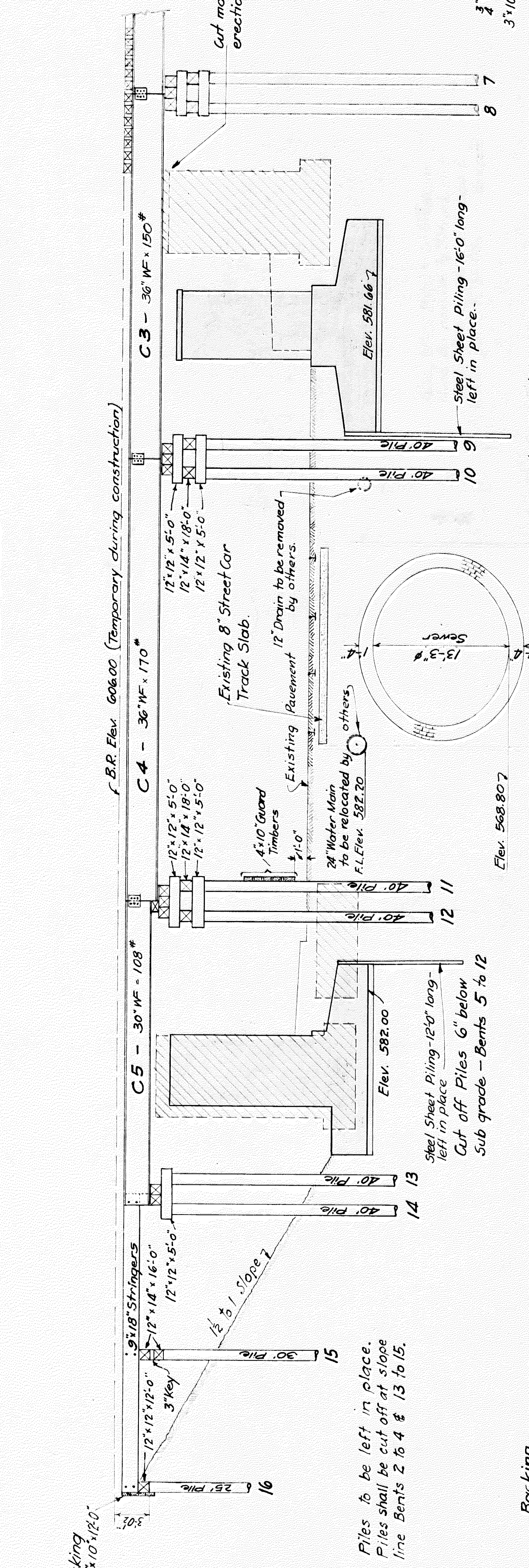
ELEVATION - TRACK AT END OF FIRST CONTRACT



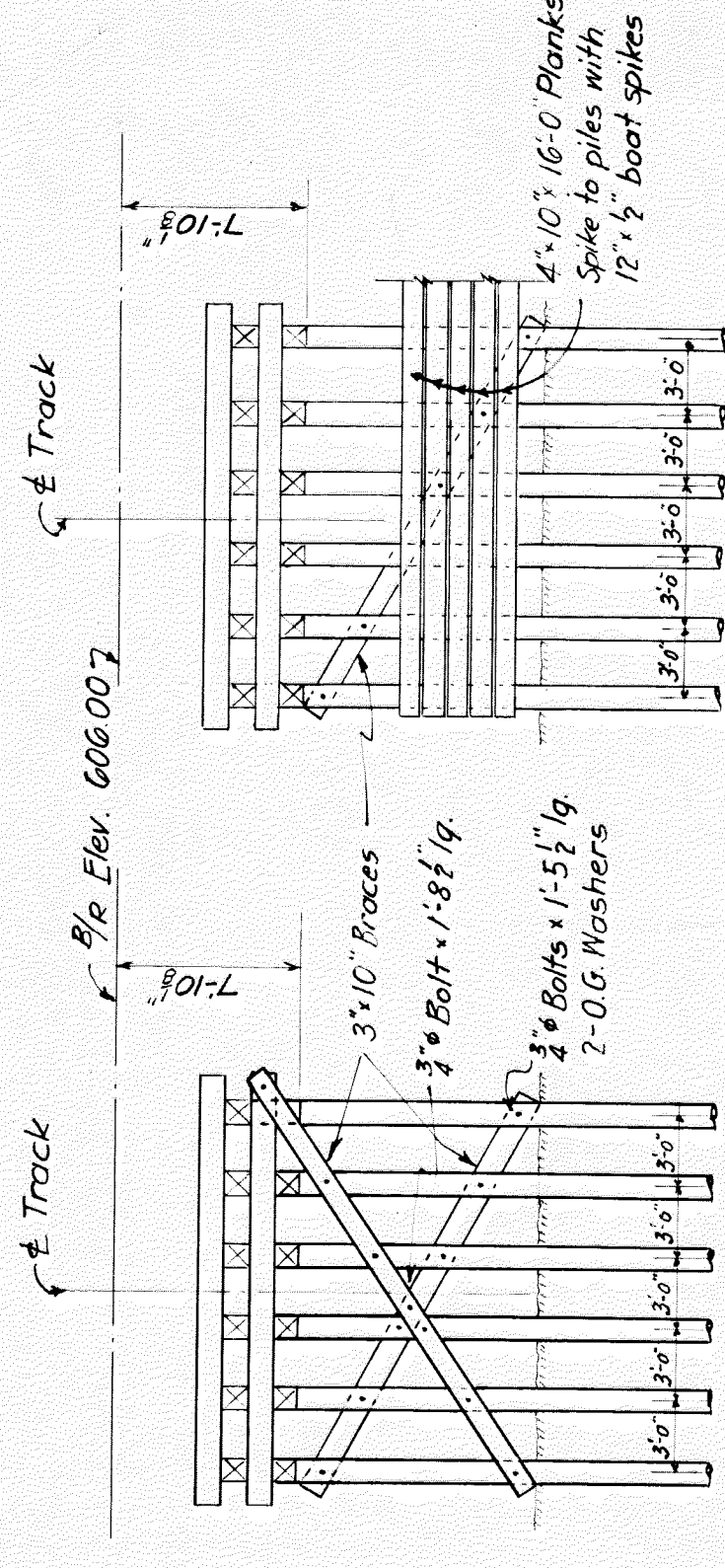
PILE PLAN



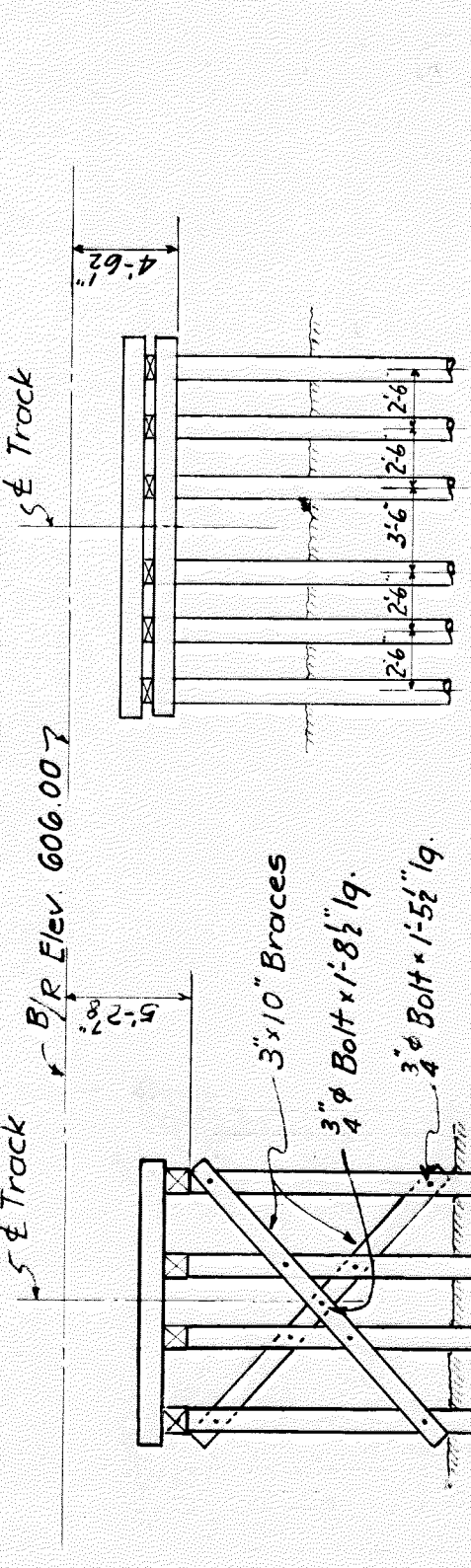
SECTION ALONG E OF TRACK



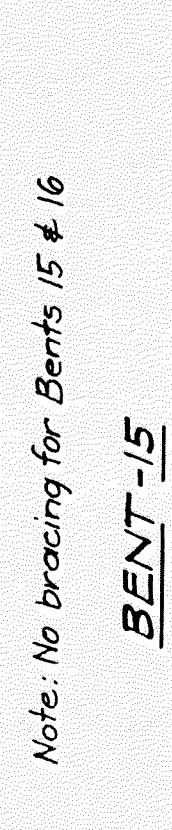
PLAN OF STRINGERS



BENTS - 9, 10 & 12



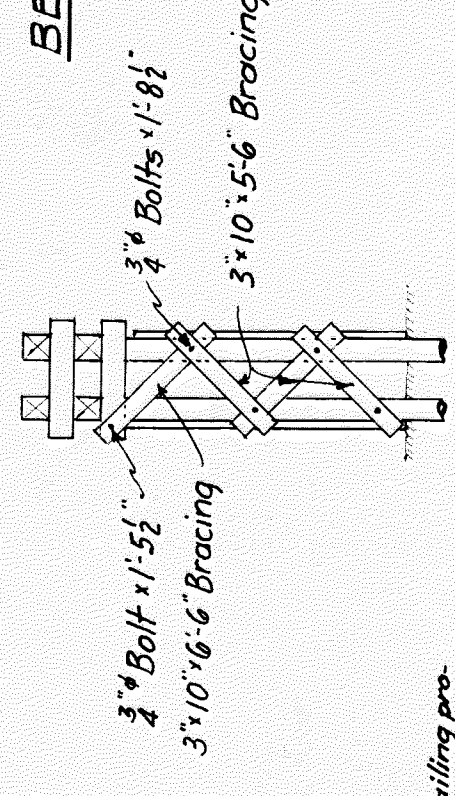
BENTS - 13 & 14



BENT-15

Note: No bracing for Bents 15 & 16

Note: All Bracing Bolts to have 2-Cast iron O.G. washers.



END VIEW BENTS-9-10, 11-12, 13 & 14

Hand Railing on this side under 1st Contract

Hand Railing to be provided on this side of existing truss to Bent #1 after G.T.W. Trussle is removed.

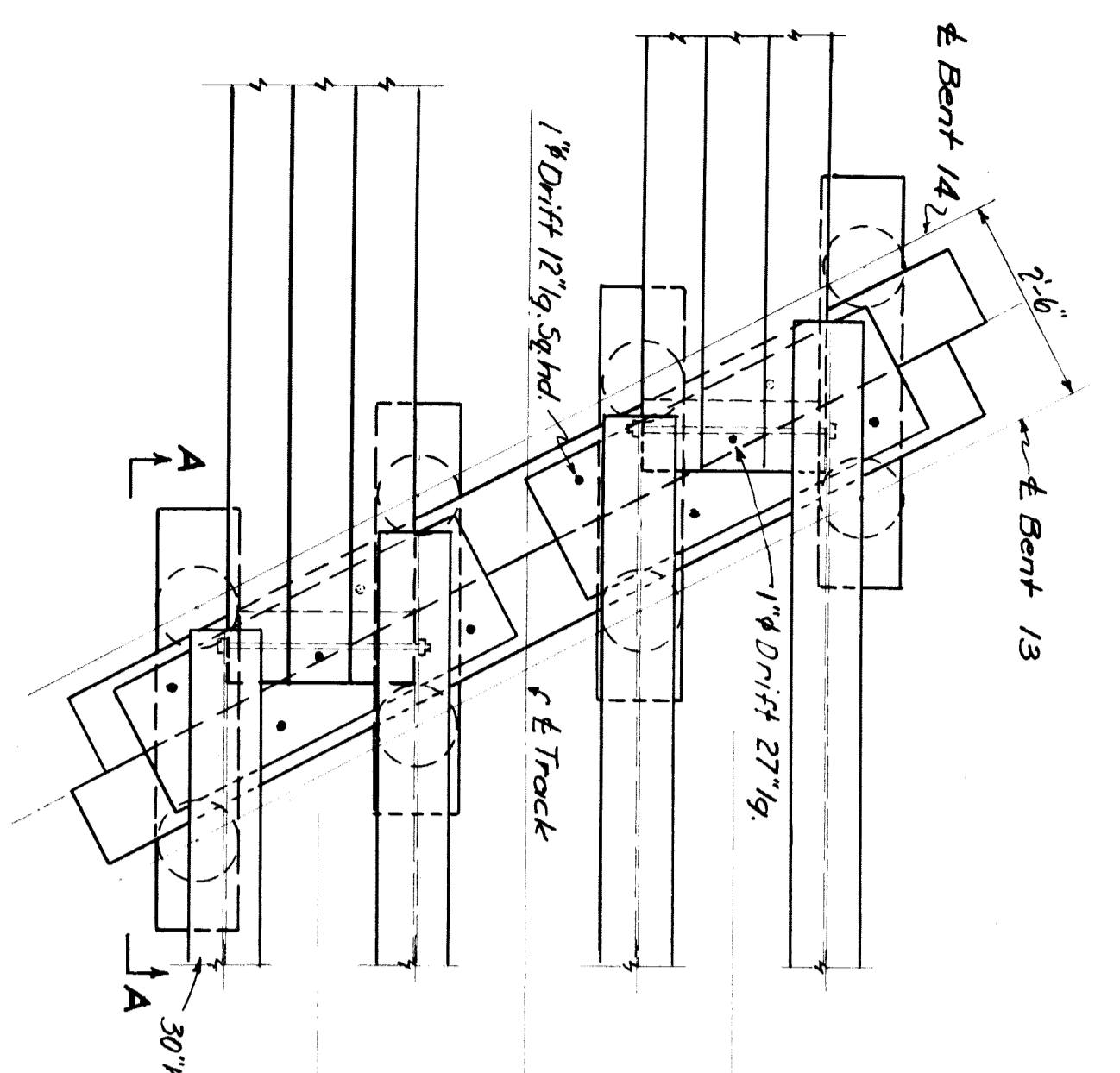
MICHIGAN STATE HIGHWAY DEPARTMENT
 MURRAY D. VAN WAGONER - COMMISSIONER
 T. Z. S. R. 11 E.
 BRIDGE FILE NO. X4-82-22-4 ROAD MICHIGAN AVENUE
 CROSSING N.Y.C. P.R. IN DETROIT
 N.Y.C.R.R. FALSEWORK - NORTH HALF
 Scale 1/8" = 1'-0"

APPROVED: [Signature] CHIEF ENGINEER
 APPROVED: [Signature] ENGINEER OF BRIDGE DESIGN

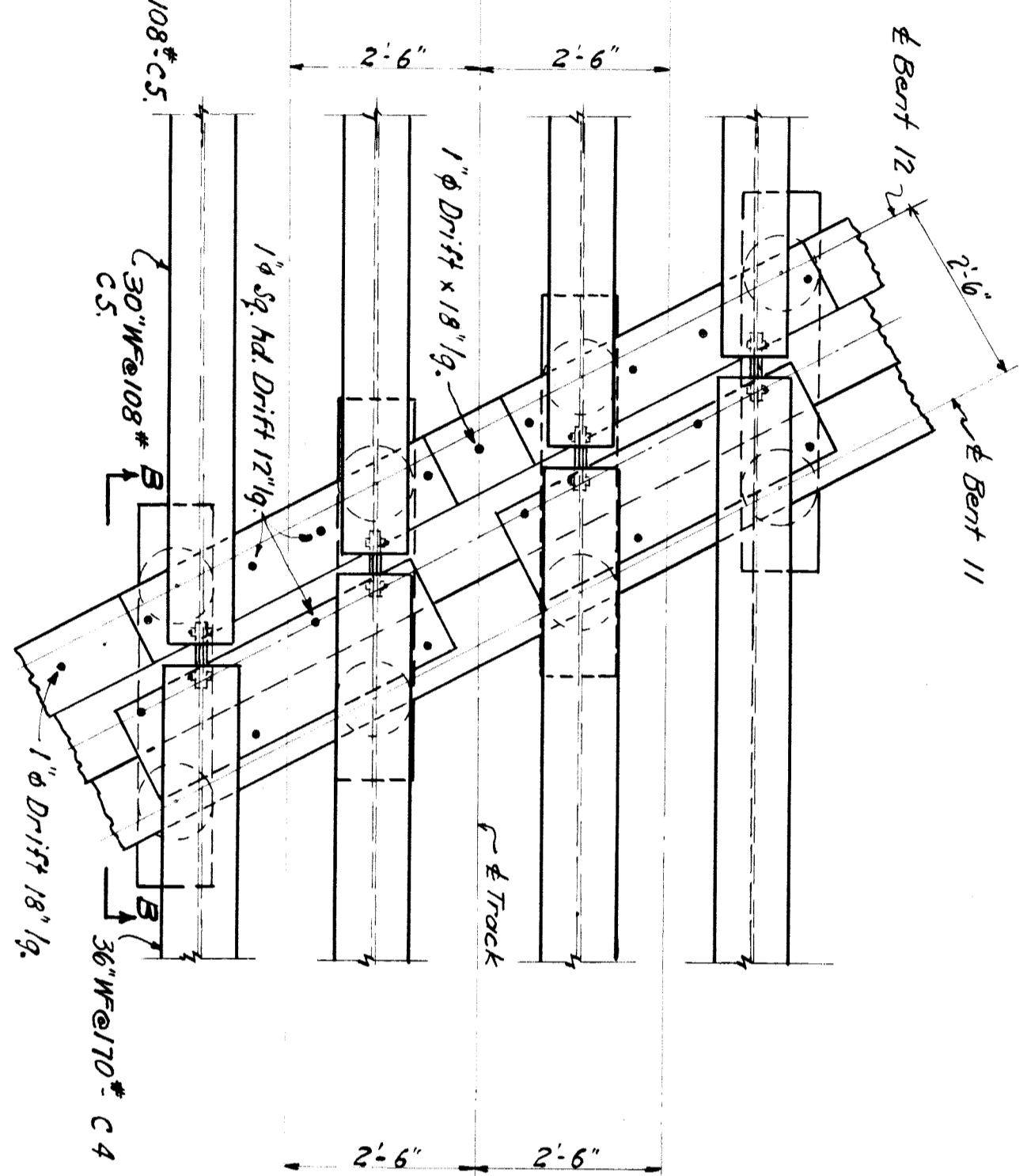
SQUAD BOSS: K.G.C.H.
 DRAWN BY: E.L.A.
 TRACED BY: W.J.B.
 CHECKED BY: H.S.F.
 SHEET II OF 59

X4 of 82-22-4

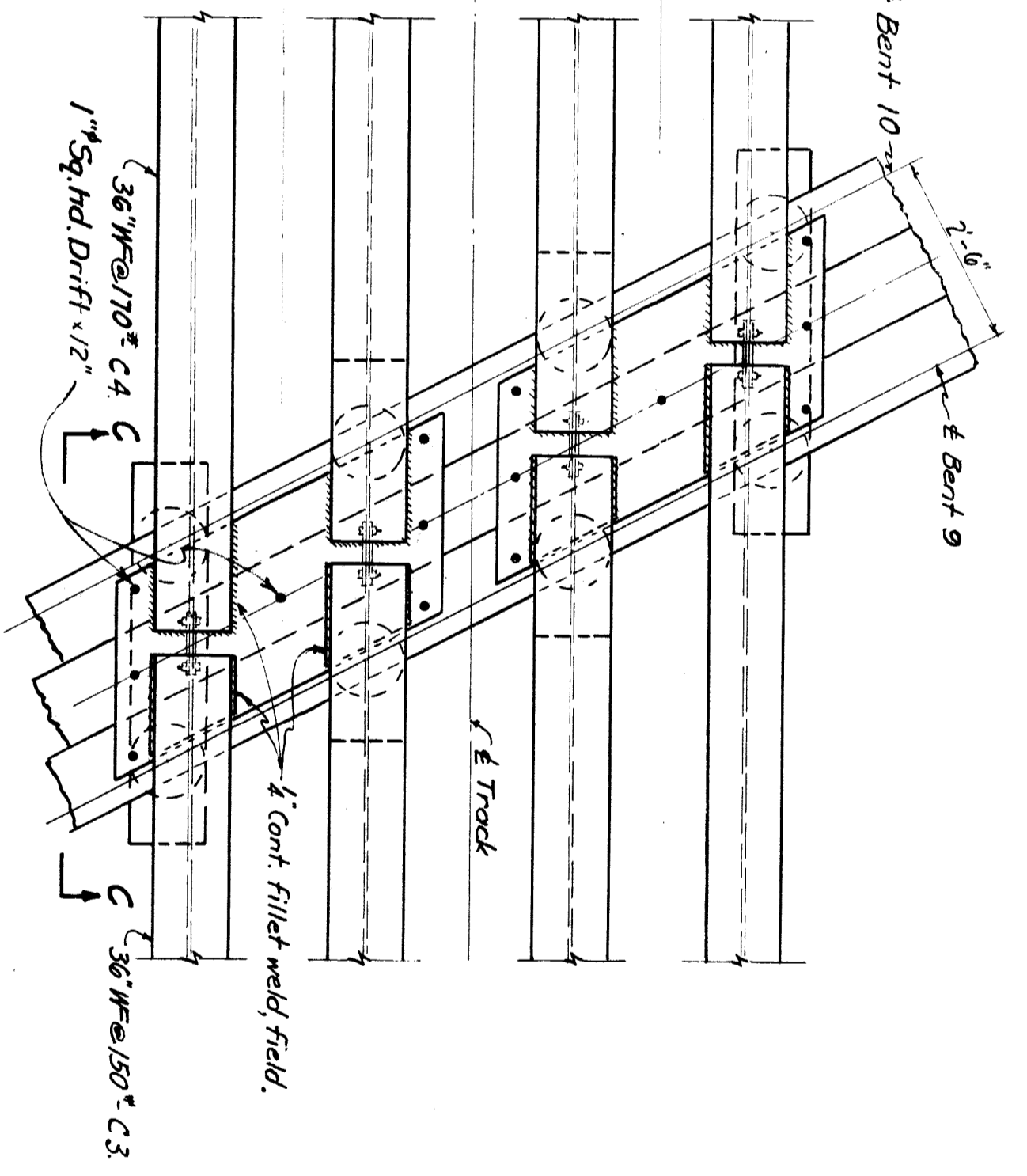
NO.	REVISIONS	DESCRIPTION	DATE	BY



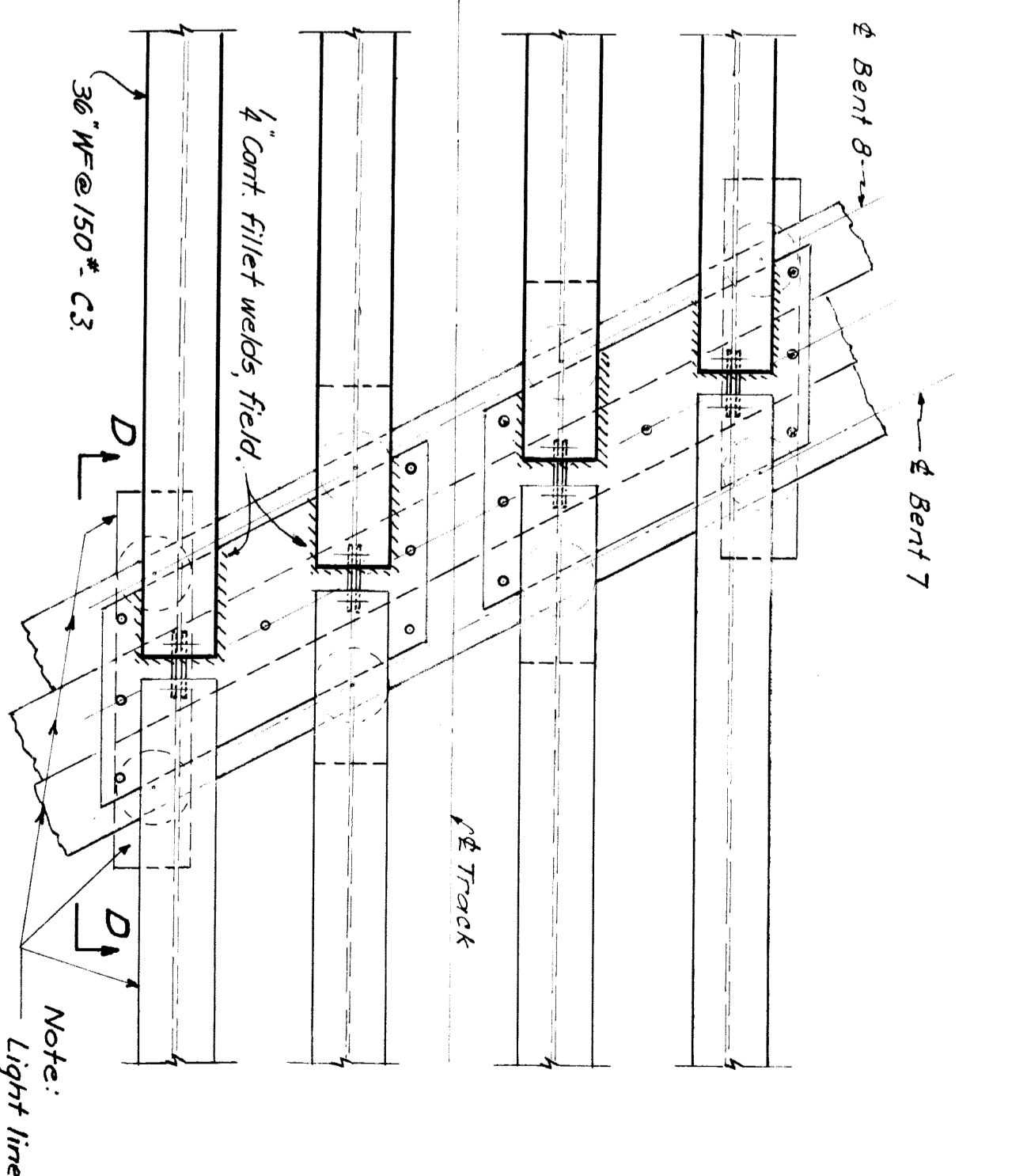
PLAN - BENTS 13-14



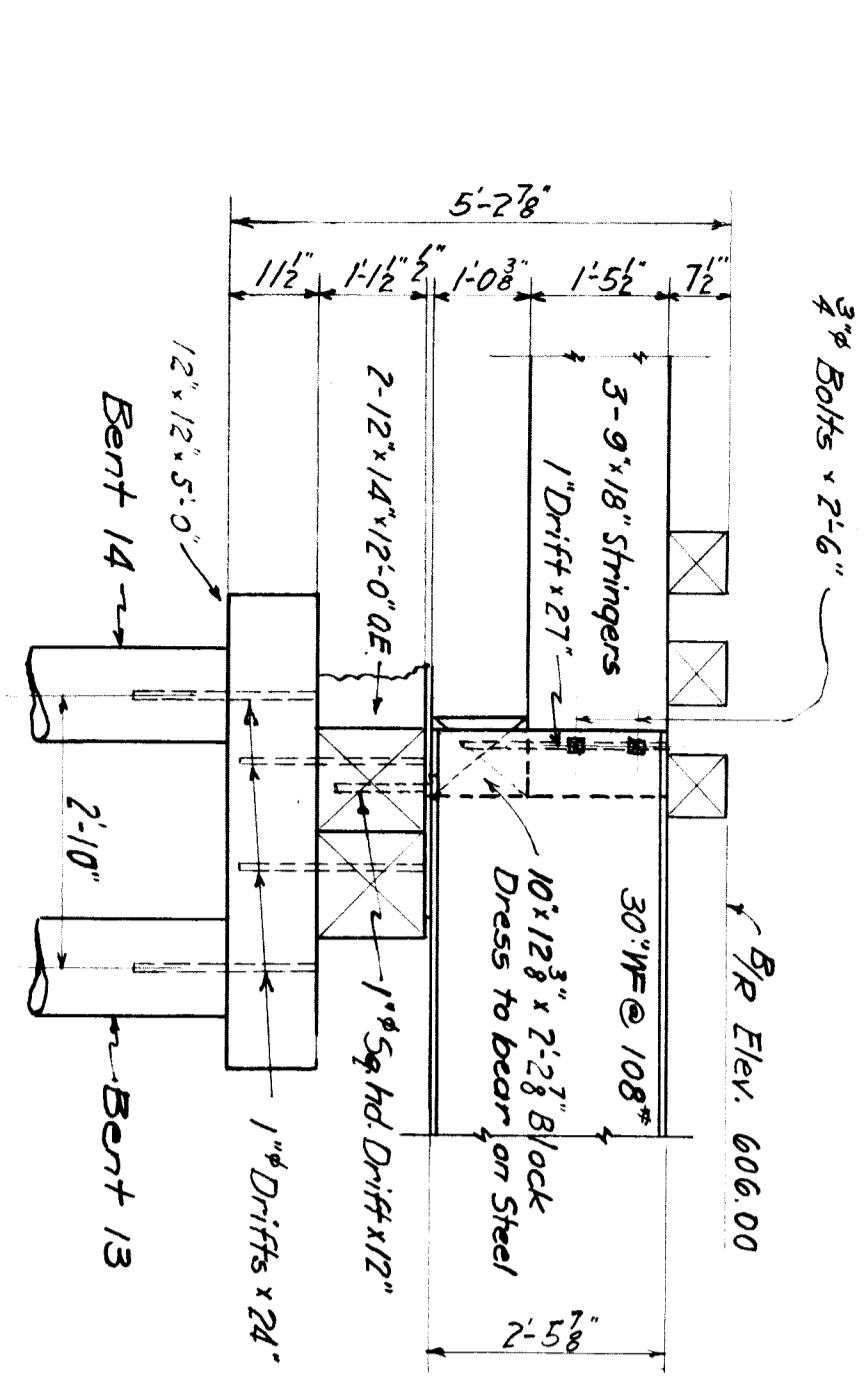
PLAN - BENTS 11-12



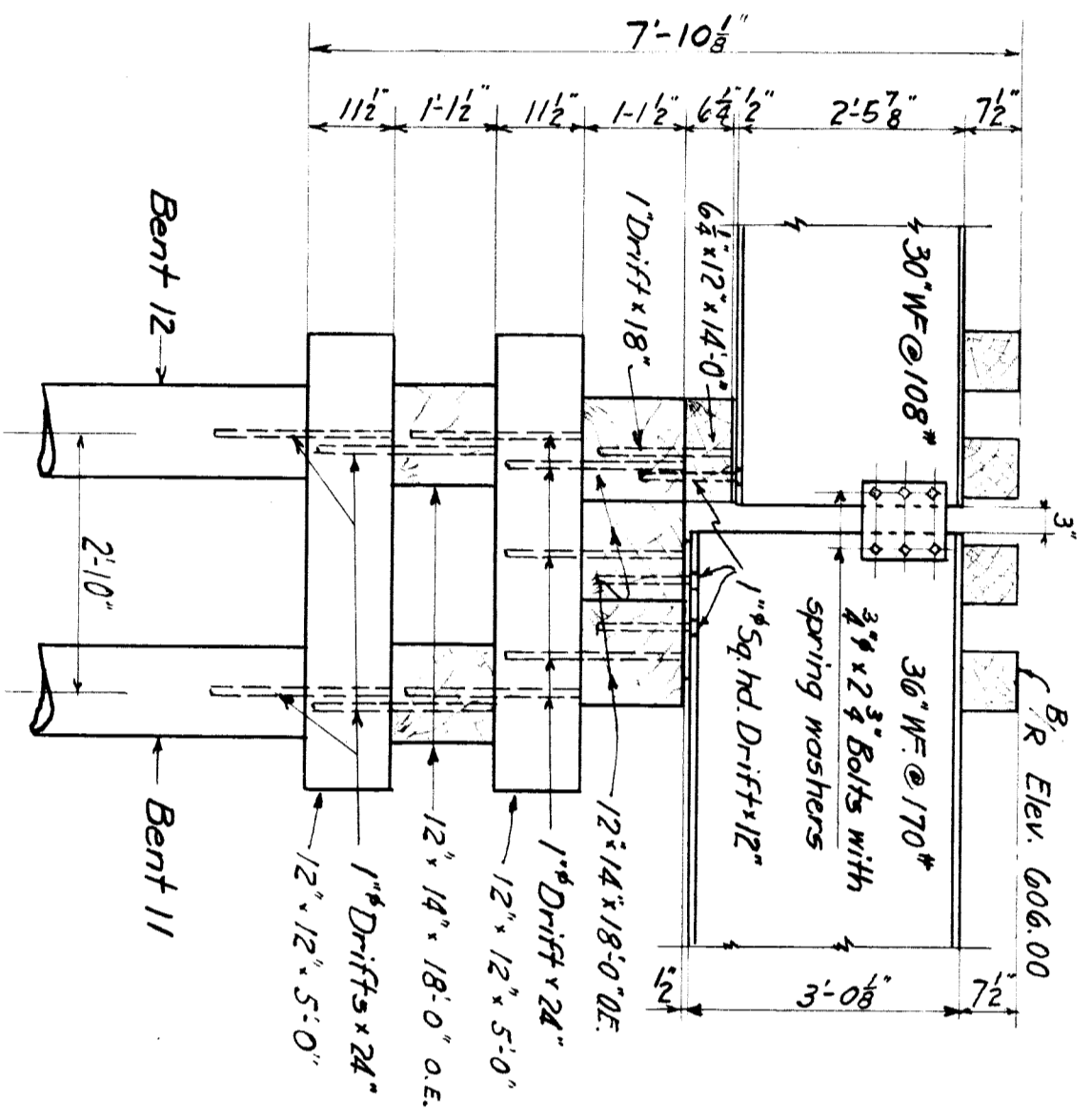
PLAN - BENTS 9-10



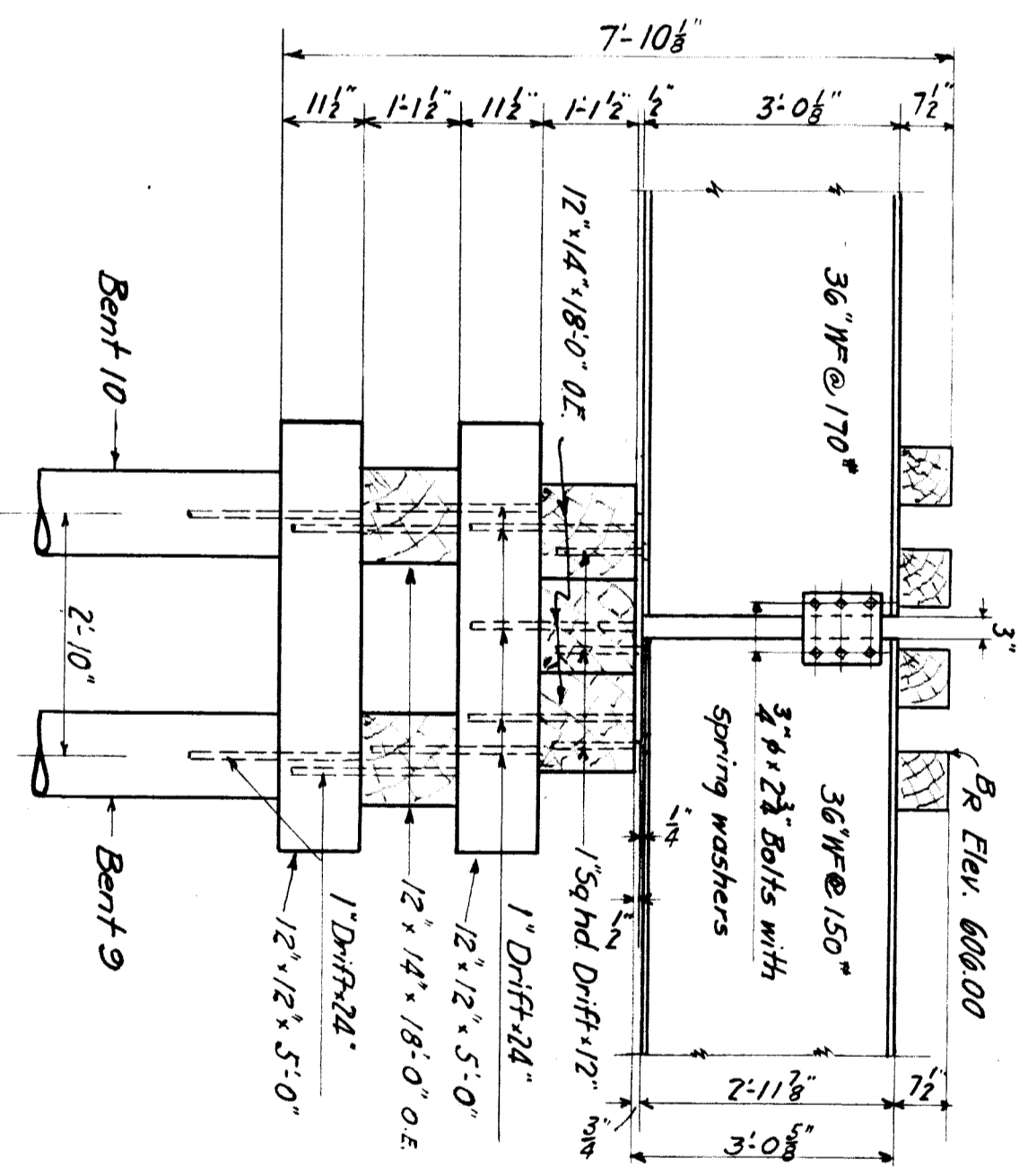
PLAN - BENT 7-8



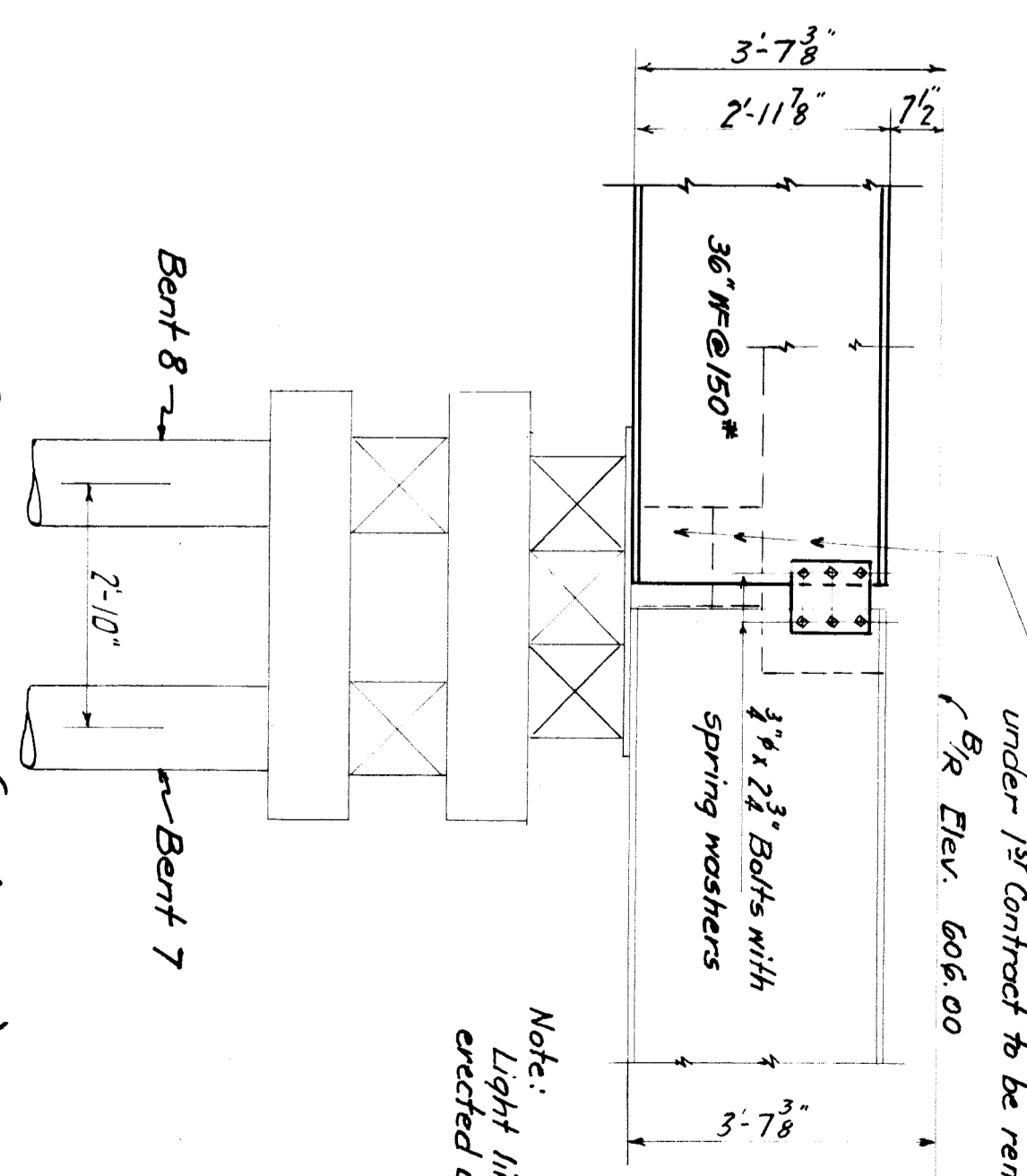
SECTION - A-A (Bents 13-14)



SECTION - B-B (Bents 11-12)



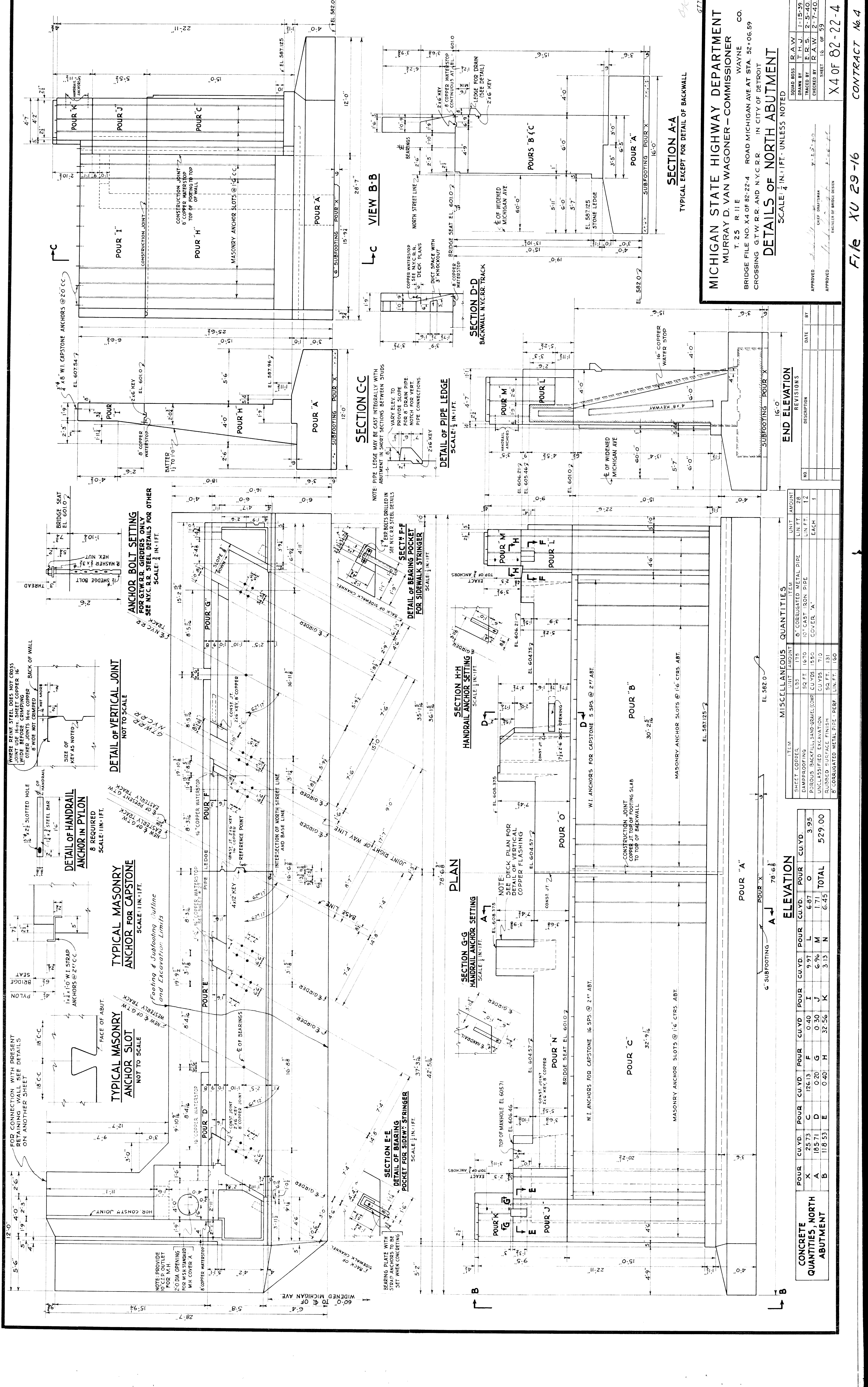
SECTION - C-C (Bents 9-10)



SECTION - D-D (Bents 7-8)

NO.	DESCRIPTION	DATE	BY

MICHIGAN STATE HIGHWAY DEPARTMENT
 MURRAY D. VAN WAGONER - COMMISSIONER
 T. 2 S. R. 11 E.
 BRIDGE FILE NO. X4-82-22-4 ROAD IN DETROIT
 CROSSING N.Y.C. R.R. MICHIGAN AVE. CO.
N.Y.C.R.R. FALSEWORK - NORTH HALF
CAP FRAMING
 Scale 1/2" = 1'-0"
 APPROVED: *[Signature]*
 CHIEF ENGINEER
 ENGINEER OF BRIDGE DESIGN
 DRAWN BY: *[Signature]*
 CHECKED BY: *[Signature]*
 SHEET 13 OF 59
 X4-82-22-4
 7-31-40
 2-3-40
 E-21-40



MICHIGAN STATE HIGHWAY DEPARTMENT
MURRAY D. VAN WAGONER - COMMISSIONER
 WAYNE CO.
 T. 25 R. 11 E
 BRIDGE FILE NO. X4 OF 82-22-4 ROAD MICHIGAN AVE AT STA. 52+06.59
 CROSSING G.T.W. R.R. AND N.Y.C. R.R. IN CITY OF DETROIT

DETAILS OF NORTH ABUTMENT
 SCALE: 1/4" = 1'-0" UNLESS NOTED

APPROVED: [Signature] CHIEF ENGINEER
 APPROVED: [Signature] ENGINEER OF BRIDGE DESIGN

DATE: [Blank] REVISIONS: [Blank]

NO. [Blank] DESCRIPTION [Blank]

UNIT AMOUNT UNIT AMOUNT
 SHEET COPPER LBS 175 6' CORRUGATED METAL PIPE LIN. FT. 28
 DAMPROOFING SQ. FT. 1670 10" CAST IRON PIPE LIN. FT. 12
 POROUS BACKFILL SAND-GRAVEL (COMP) CU YDS 1590 COVER 'A'
 UNCLASSIFIED EXCAVATION CU YDS 710
 RUBBED SURFACE FINISH SQ. FT. 131
 6' CORRUGATED METAL PIPE - PERF. LIN. FT. 160

CONCRETE QUANTITIES, NORTH ABUTMENT

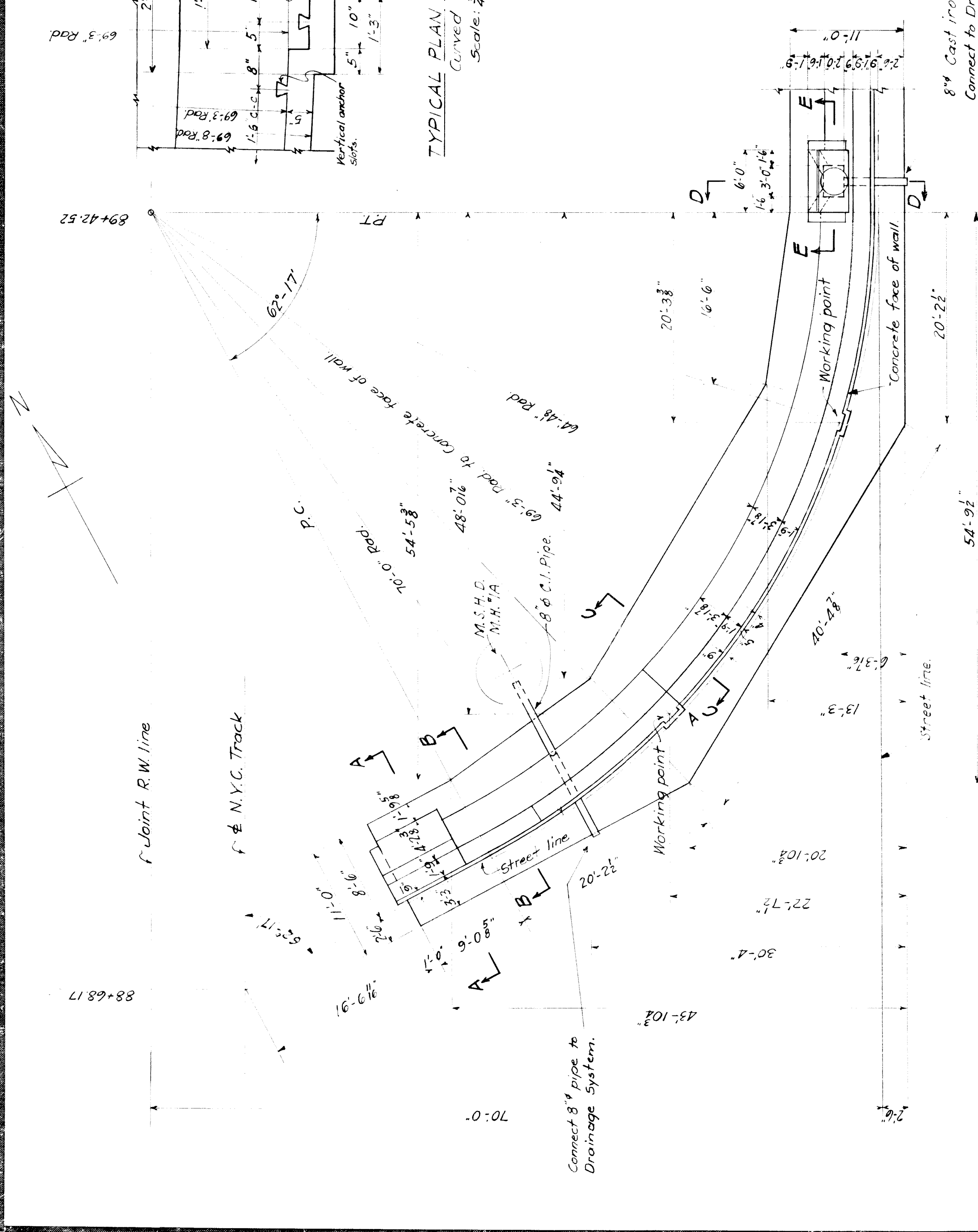
POUR	C.U.Y.D.	POUR	C.U.Y.D.	POUR	C.U.Y.D.	POUR	C.U.Y.D.	POUR	C.U.Y.D.	POUR	C.U.Y.D.	TOTAL
X	25.73	C	126.13	F	0.40	I	9.97	L	6.87	O	3.95	
A	185.71	D	0.20	G	0.30	J	6.76	M	1.71			
B	118.53	E	0.40	H	32.56	K	3.13	N	6.45			
												529.00

MISCELLANEOUS QUANTITIES

ITEM	UNIT	AMOUNT	ITEM	UNIT	AMOUNT
6' CORRUGATED METAL PIPE	LIN. FT.	28	10" CAST IRON PIPE	LIN. FT.	12
COVER 'A'	EACH	1			

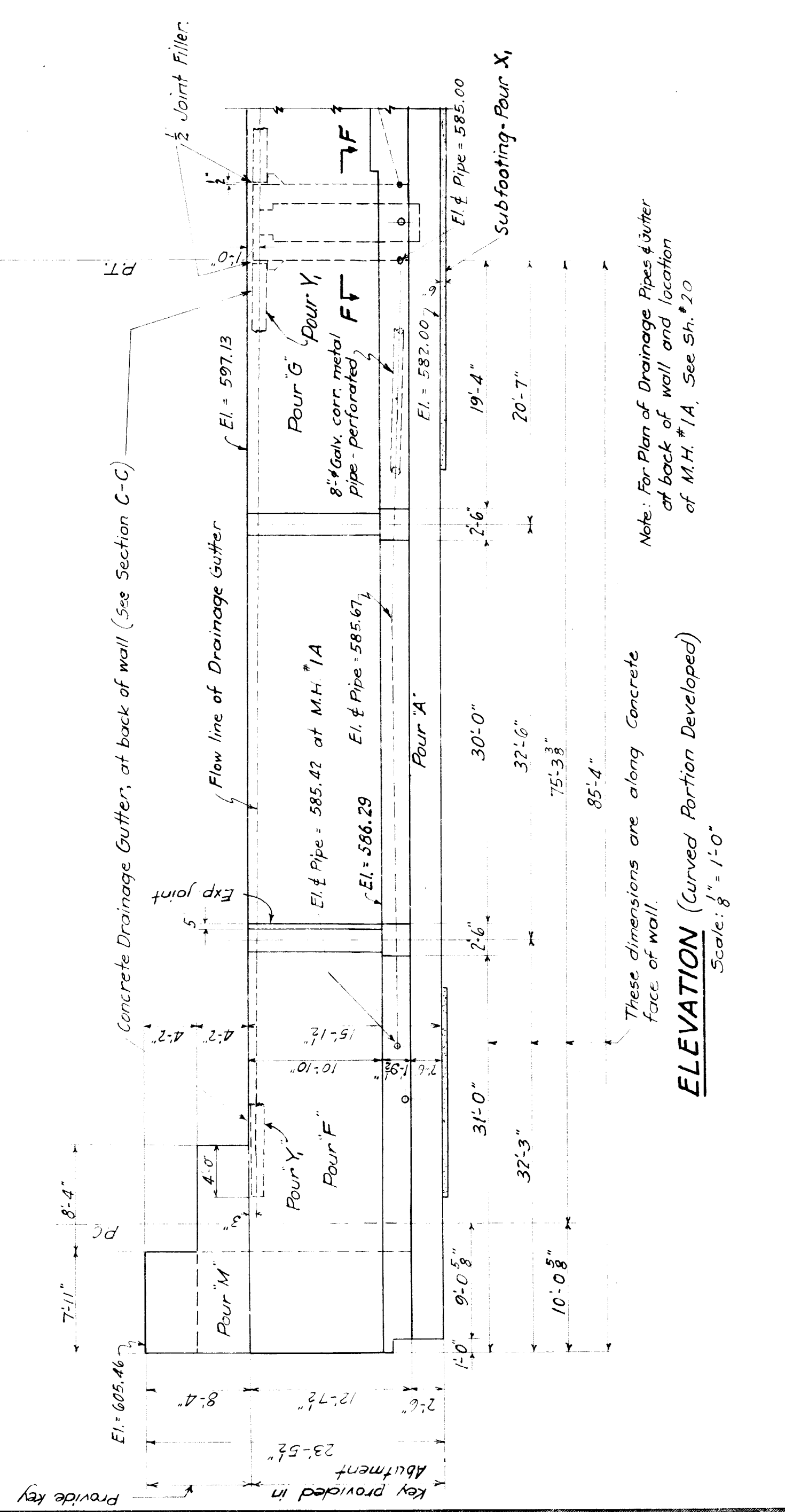
ELEVATION

POUR	C.U.Y.D.	POUR	C.U.Y.D.	POUR	C.U.Y.D.	POUR	C.U.Y.D.	POUR	C.U.Y.D.	POUR	C.U.Y.D.	TOTAL
X	25.73	C	126.13	F	0.40	I	9.97	L	6.87	O	3.95	
A	185.71	D	0.20	G	0.30	J	6.76	M	1.71			
B	118.53	E	0.40	H	32.56	K	3.13	N	6.45			
												529.00



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

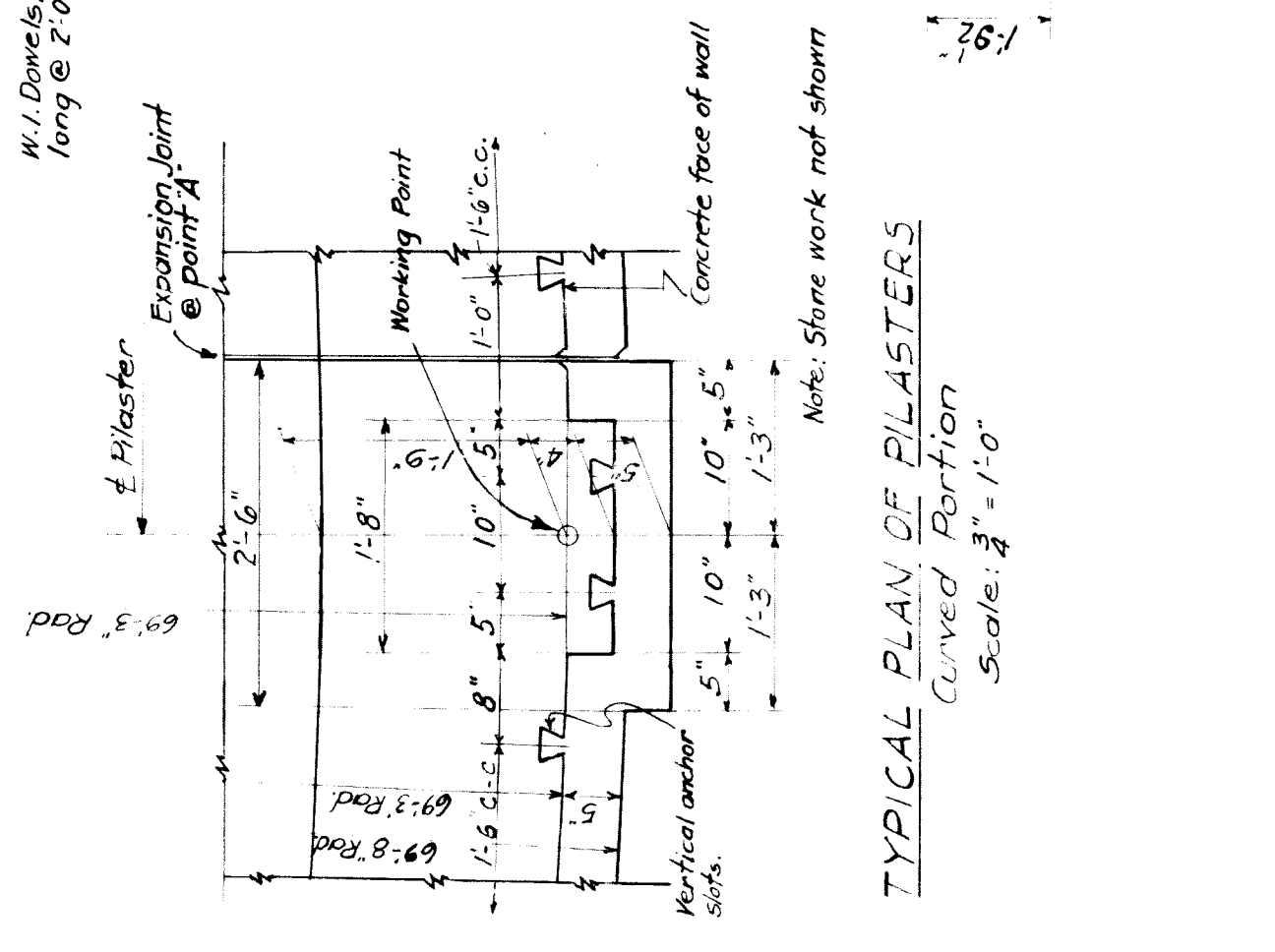
Note: In Plan & Elevation Stone work is not shown.



ELEVATION
(Curved Portion Developed)
Scale: 1/8" = 1'-0"

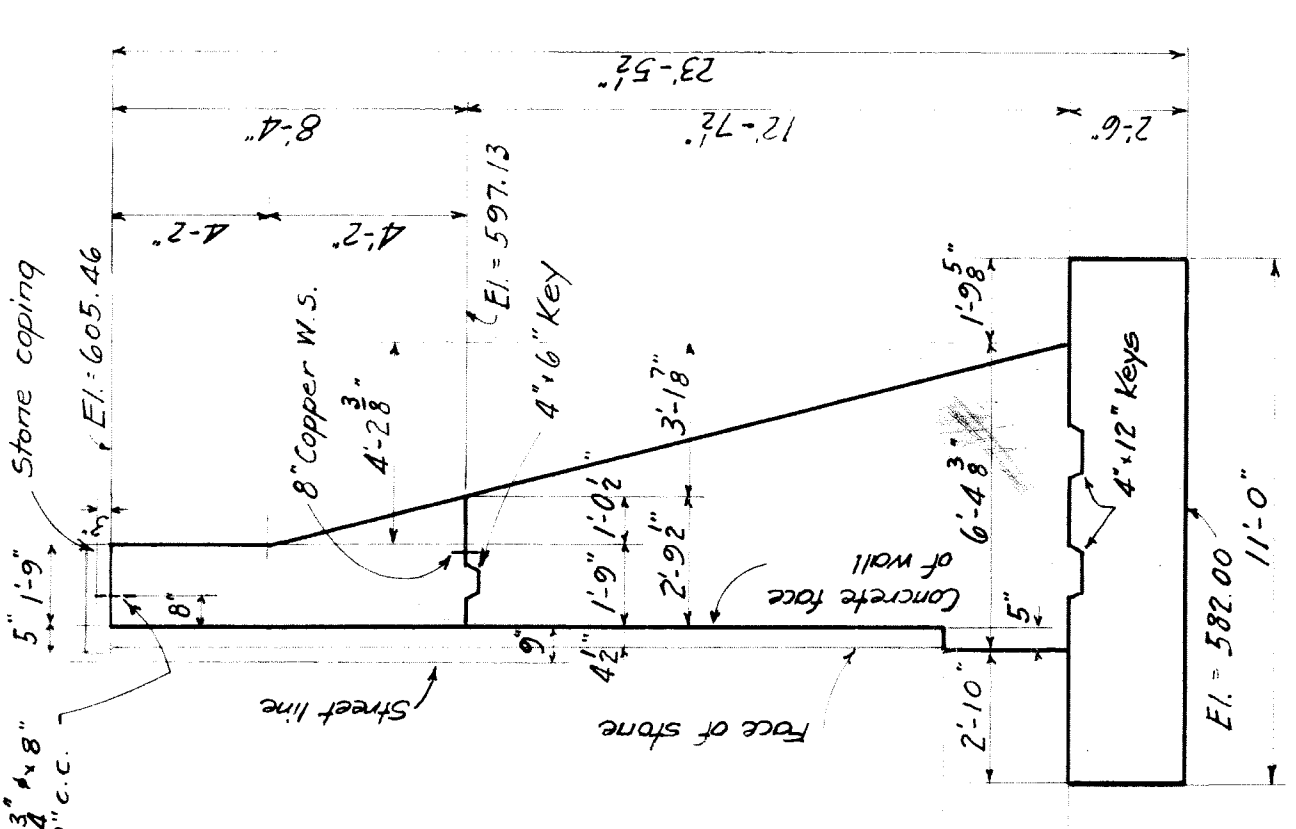
Note: For Plan of Drainage Pipes & Joints at back of wall and location of M.H. #1A. See Sh. #20

These dimensions are along concrete face of wall.

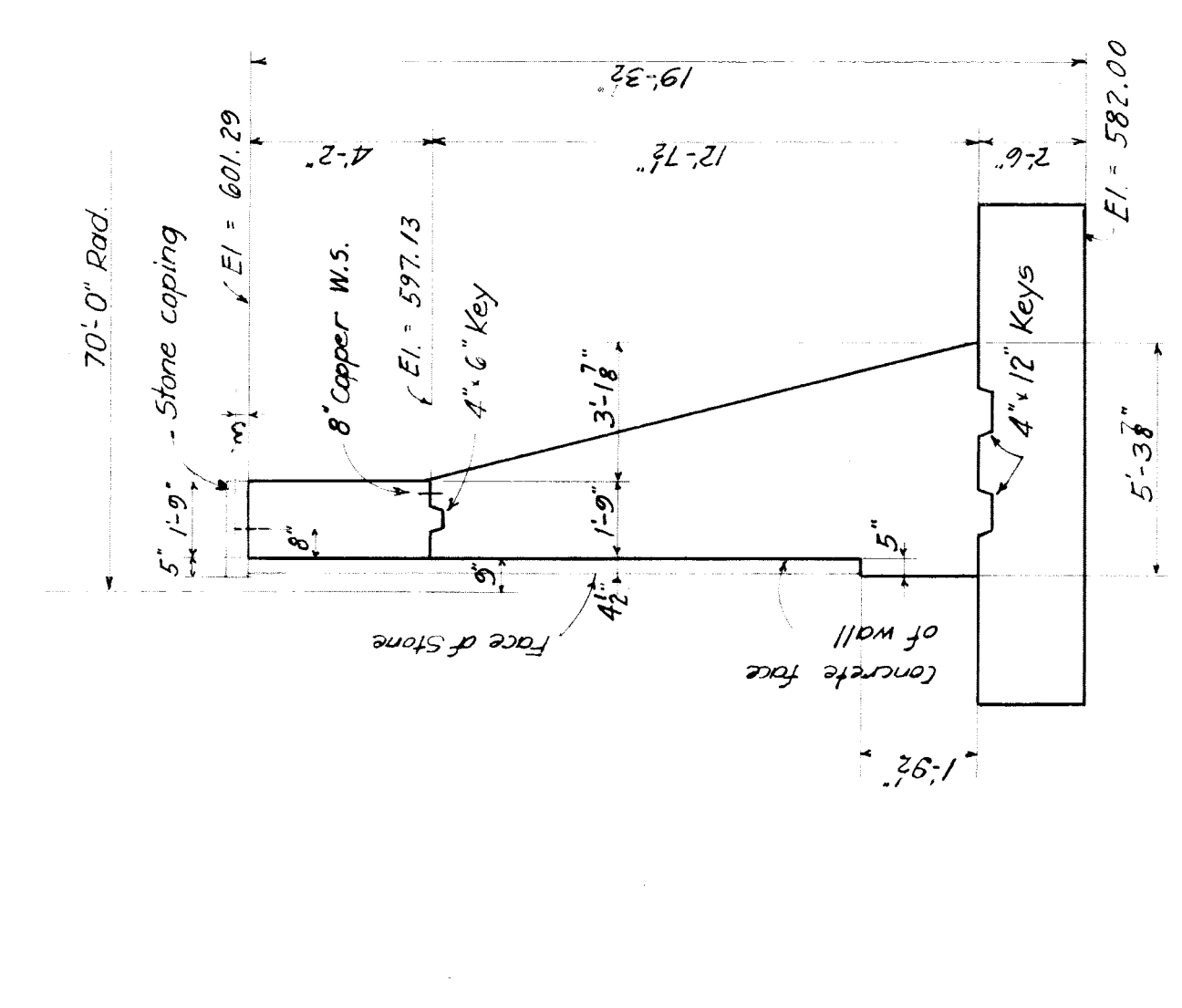


TYPICAL PLAN OF PILASTERS
Curved Portion
Scale: 3/8" = 1'-0"

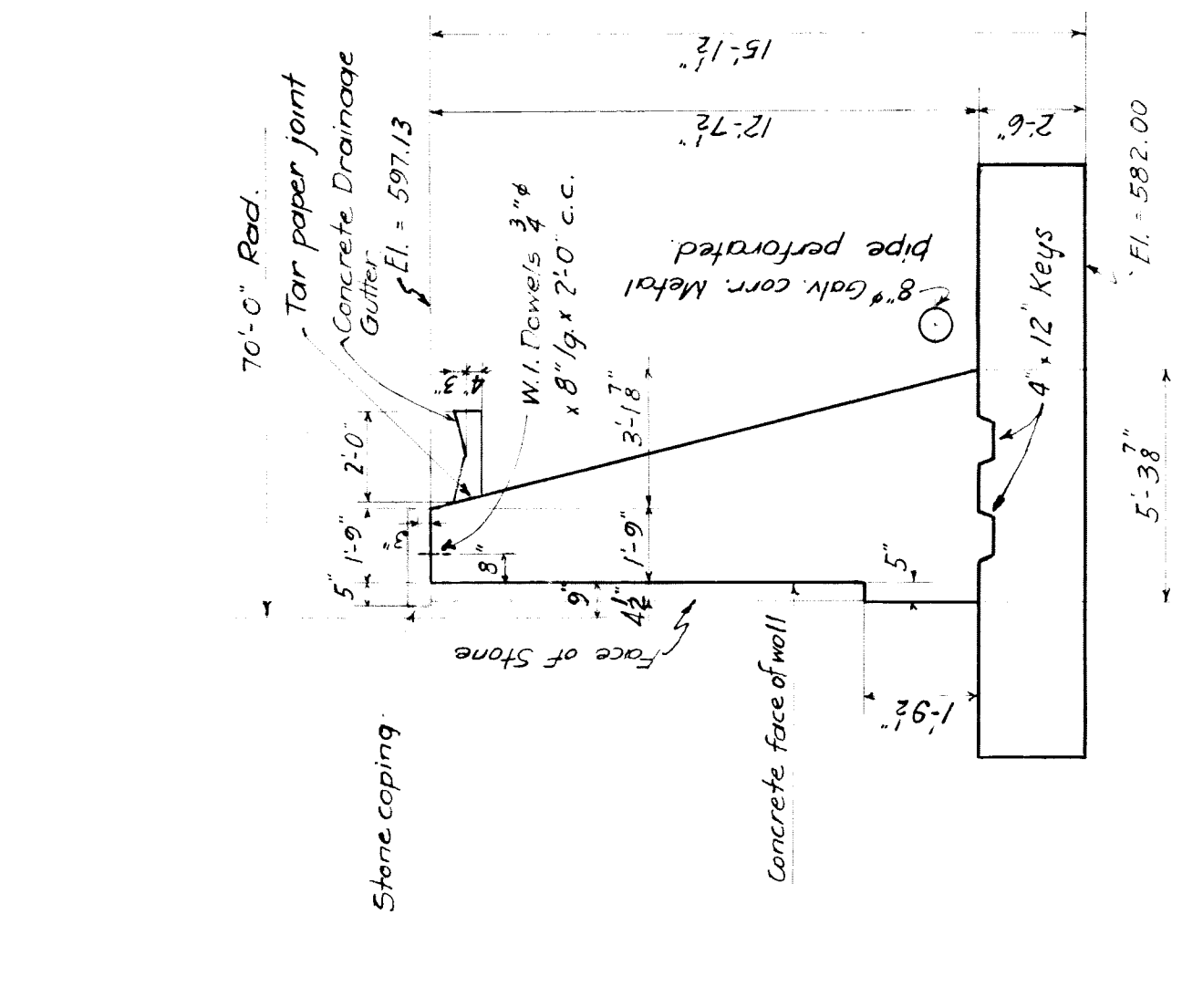
Note: Stone work not shown



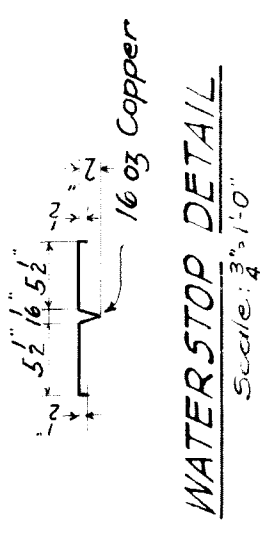
SECTION A-A
Scale: 1/4" = 1'-0"



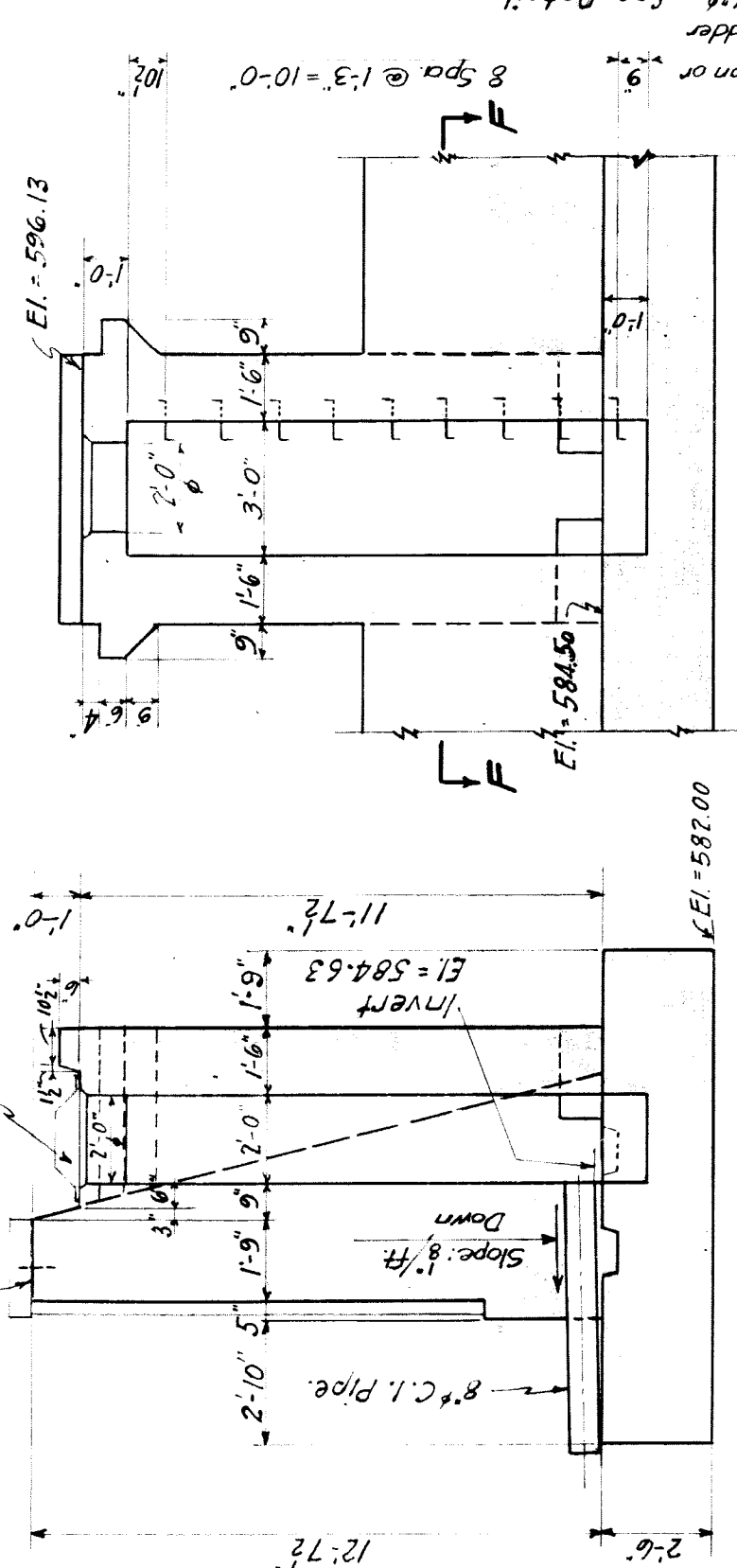
SECTION B-B
Scale: 1/4" = 1'-0"



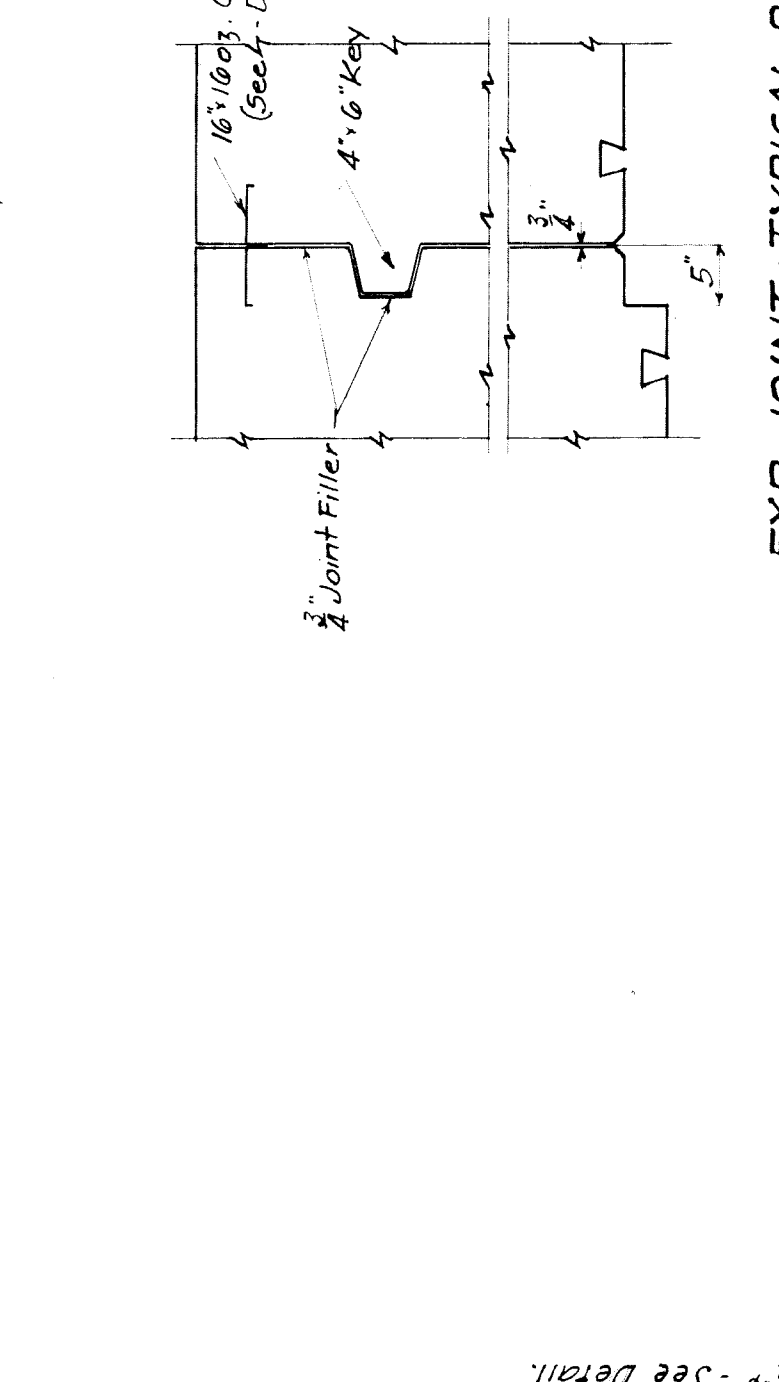
SECTION C-C
Scale: 1/4" = 1'-0"



WATERSTOP DETAIL
Scale: 3/8" = 1'-0"

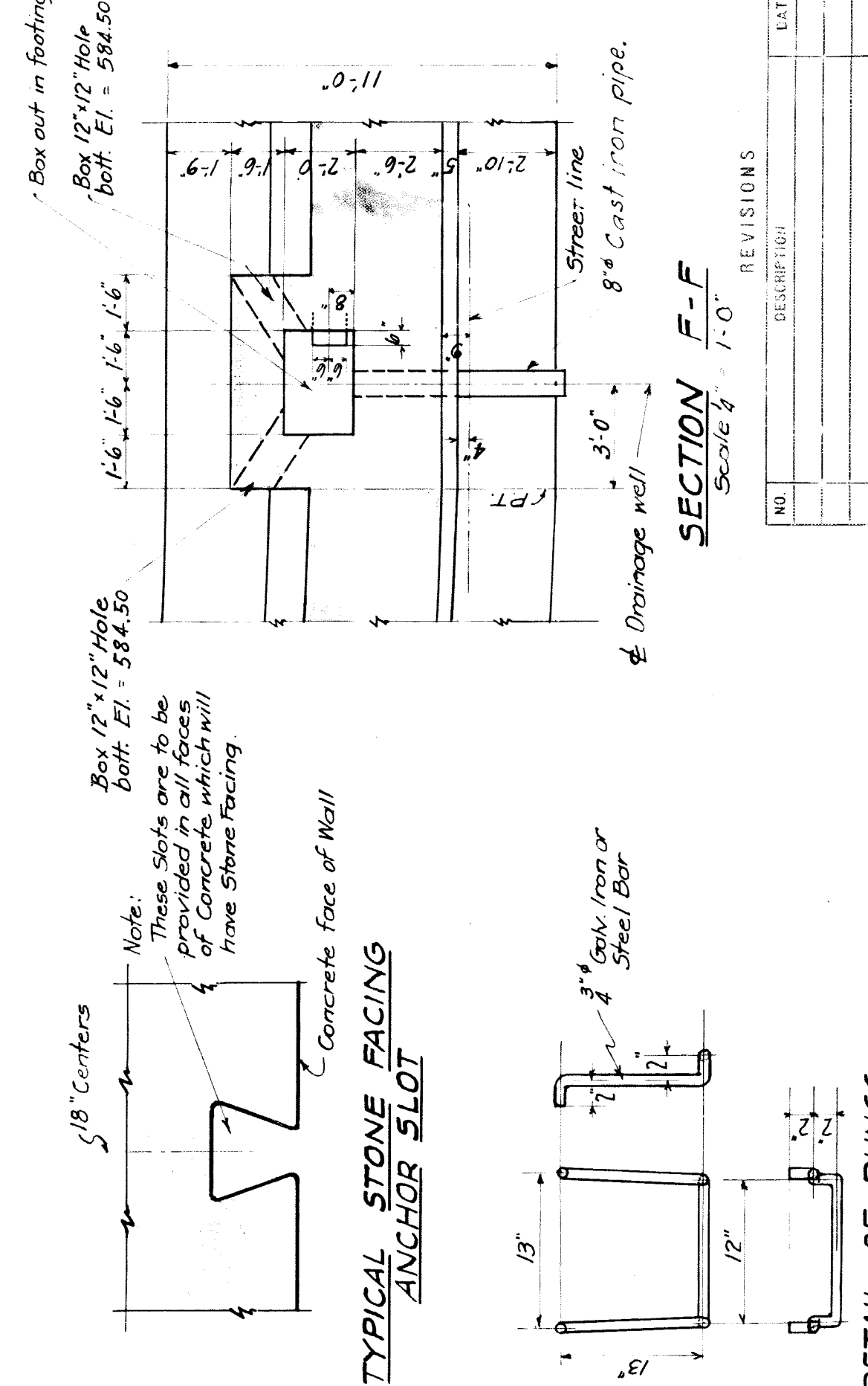


SECTION D-D
Scale: 1/4" = 1'-0"



EXP JOINT-TYPICAL DETAIL
Scale: 3/8" = 1'-0"

For Quantities See Sheet #23
Reinforcing Bars - See Sheet #24
General Notes



TYPICAL STONE FACING ANCHOR SLOT

DETAIL OF RUNGS

MICHIGAN STATE HIGHWAY DEPARTMENT
MURRAY D. VAN WAGONER - COMMISSIONER
WAYNE CO.
BRIDGE FILE NO. X4 82-22-4 ROAD
T. 25, R. 11 E.
IN DETROIT
CROSSING N.Y.C. R.R.
CLARK AVE. EXTENSION RETAINING WALL
DETAILS - MICH. AVE. END
Scale: 1/8" = 1'-0"

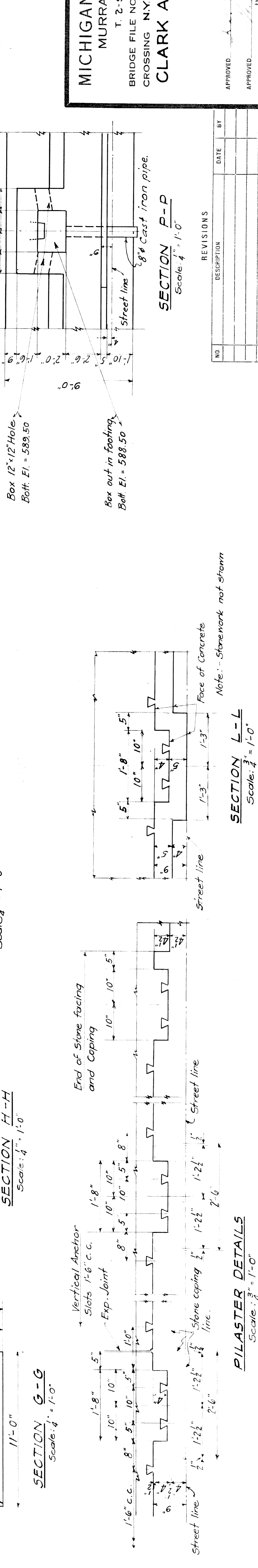
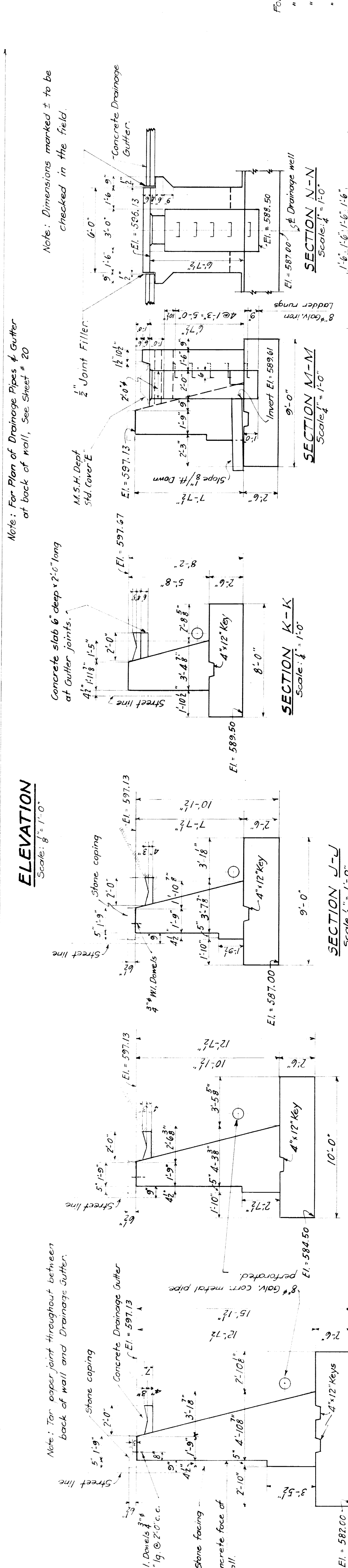
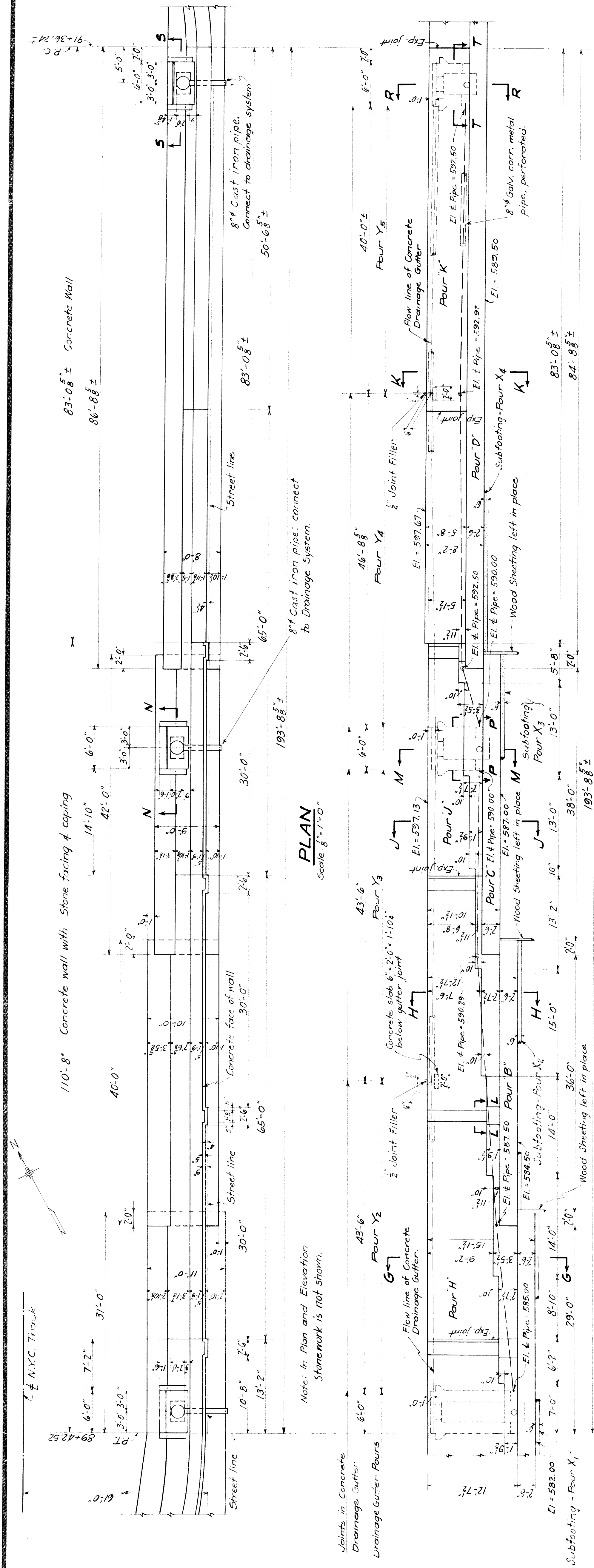
DESIGNED BY	W.J.B.	DATE	10-24-39
CHECKED BY	H.S.T.	DATE	1-13-40
APPROVED		DATE	

REVISIONS

NO.	DATE	BY	DESCRIPTION

APPROVED: *[Signature]*
ENCLAVE UP BRIDGE

SHEET 21 OF 59
X4 OF 82-22-4
CONTRACT No. 4



For Quantities See Sheet # 23
Reinf Bars # 25
General Notes # 1
Exp. Joint, Anchor Slots & Ladder
Runng Details See Sheet # 21

MICHIGAN STATE HIGHWAY DEPARTMENT
MURRAY D. VAN WAGONER - COMMISSIONER
WAYNE CO. MICHIGAN AVE. IN DETROIT
BRIDGE FILE NO. X4 OF 82-22-4 ROAD CROSSING N.Y.C. RR.
CLARK AVE. EXTENSION RETAINING WALL
DETAILS - MIDDLE PORTION
Scale: 1/4" = 1'-0"

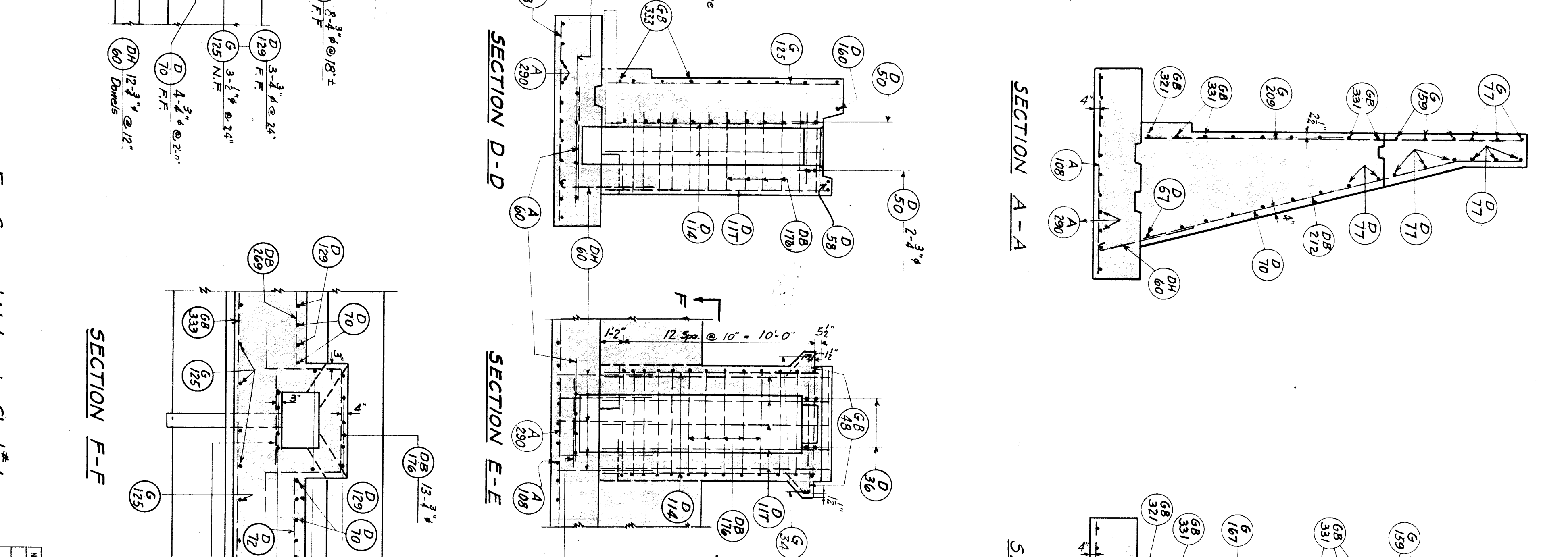
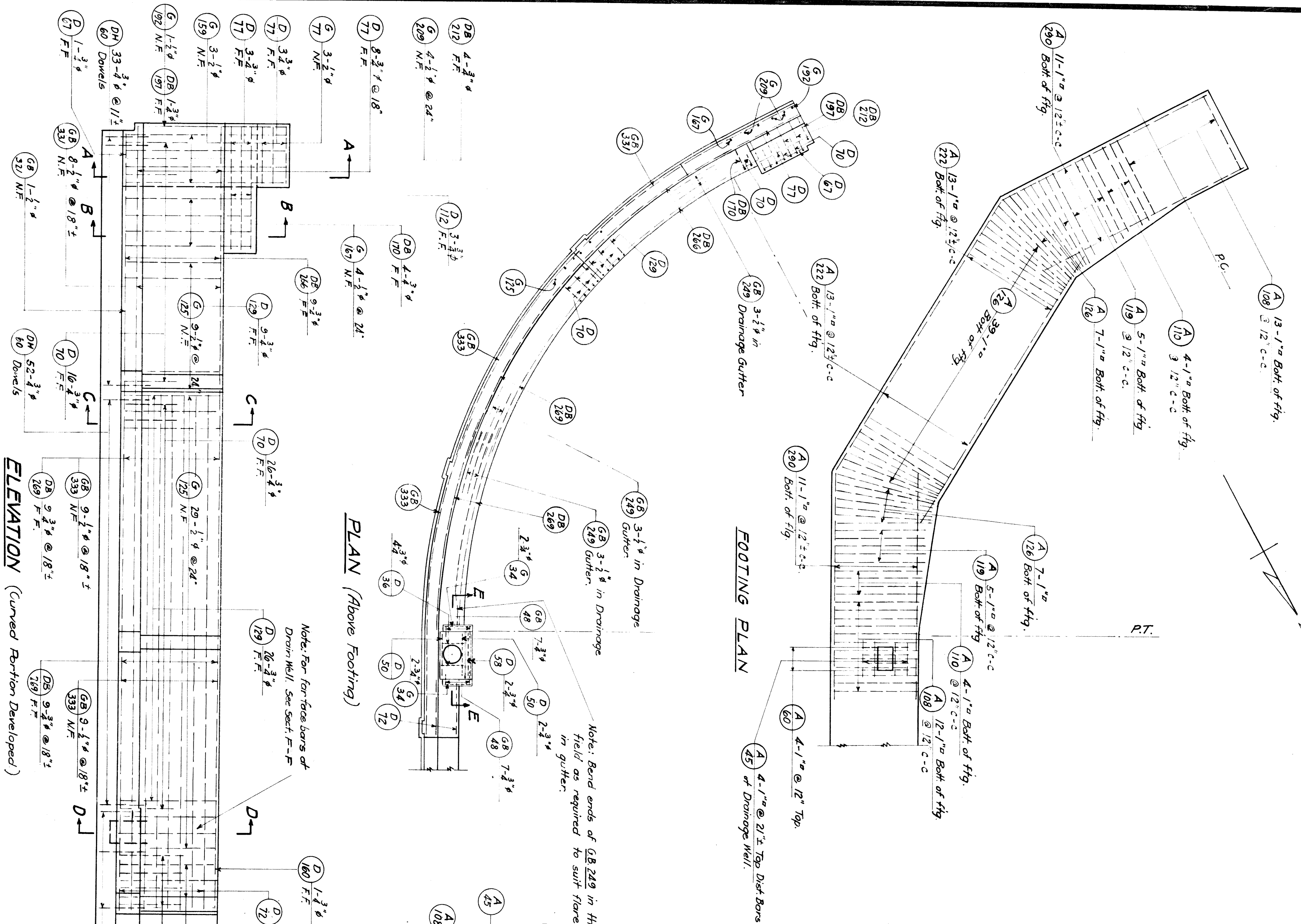
APPROVED: [Signature]
CHIEF ENGINEER

APPROVED: [Signature]
ENGINEER OF BRIDGE DESIGN

REVISIONS

NO.	DESCRIPTION	DATE	BY

SHEET 22 OF 59
X4 OF 82-22-4
CONTRACT No. 4
File XU 29-22



REINFORCING BAR LIST

MARK	NO.	SIZE	LENGTH	LOCATION
A 108	25	1" x 16"	16'-8"	Footings, Transverse
A 110	8	"	11'-0"	"
A 119	10	"	11'-9"	"
A 126	53	"	12'-6"	"
A 222	22	"	29'-0"	Lengthwise
A 222	26	"	27'-2"	"
A 405	4	"	6'-0"	at Drain Well
A 45	4	"	4'-5"	"
DB 331	1	"	32'-1"	Wall - horiz.
DB 331	1	"	15'-9"	"
DB 331	3	"	7'-7"	"
DB 333	18	"	33'-3"	"
DB 266	9	3/4"	26'-6"	Wall - horiz.
DB 77	14	"	7'-7"	"
DB 112	3	"	11'-2"	"
DB 269	18	"	26'-9"	"
DB 160	1	"	16'-0"	"

REINFORCING BAR LIST

MARK	NO.	SIZE	LENGTH	LOCATION
G 192	1	1/2"	19'-2"	Wall - vert.
G 209	4	"	20'-9"	"
G 167	4	"	16'-7"	"
G 125	41	"	12'-5"	"
DB 197	1	3/4"	19'-7"	"
DB 212	4	"	21'-2"	"
DB 110	4	"	17'-0"	"
DB 70	45	"	12'-9"	"
DB 72	8	"	7'-0"	"
DB 60	97	"	6'-0"	Downs Fig. 4 wall
DB 117	13	"	17'-6"	Drain well, horiz.
DB 114	6	"	11'-4"	"
DB 50	15	"	5'-0"	"
DB 36	4	"	3'-4"	"
DB 58	2	"	11'-10"	"
DB 48	14	1/2"	5'-8"	gutter supports
DB 34	4	"	3'-4"	"
DB 249	9	1/2"	24'-9"	Drainage gutter

REINFORCING BAR LIST

MARK	NO.	SIZE	LENGTH	LOCATION
DB 197	1	3/4"	19'-7"	"
DB 170	4	"	12'-11"	"
DB 212	4	"	21'-2"	"

BENDING DETAILS

LEGEND

- A = 1" Bar, D = 3/4" Bar
- G = 1/2" Bars, B = Bent bars.
- H = Straight bar with one hook.
- F.F. means far face.
- N.F. means near.

REVISIONS

NO.	DESCRIPTION	DATE	BY

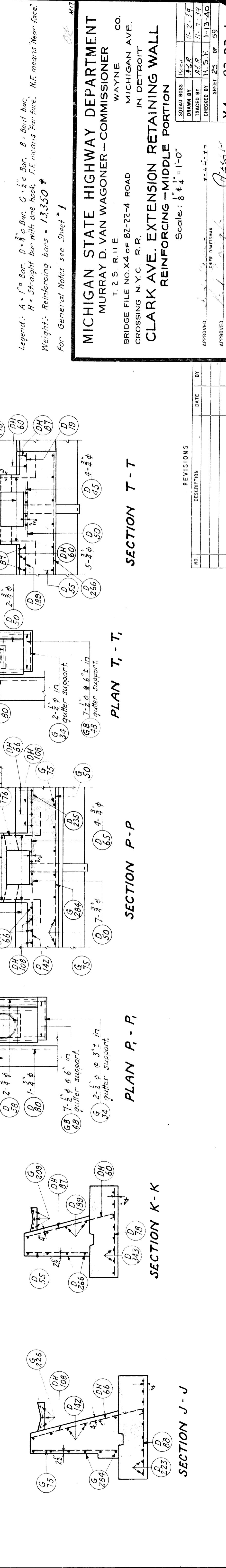
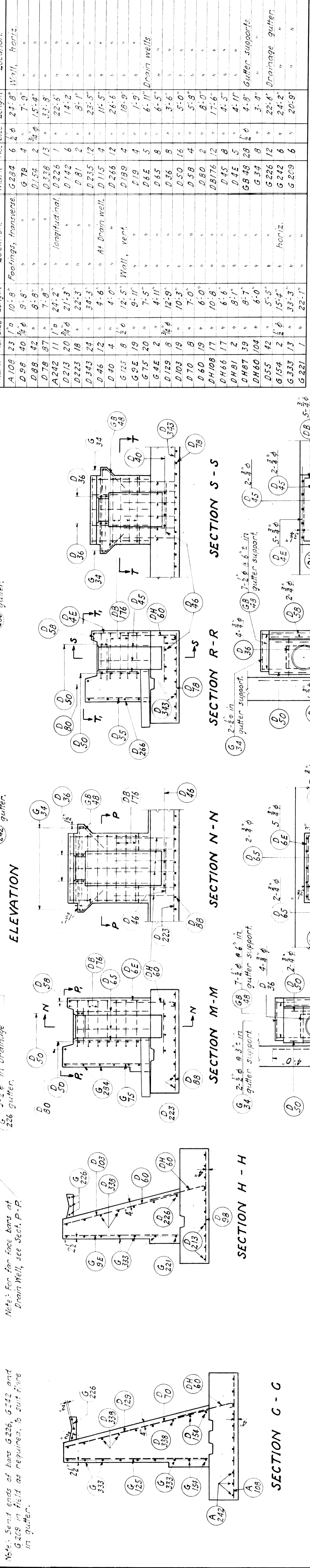
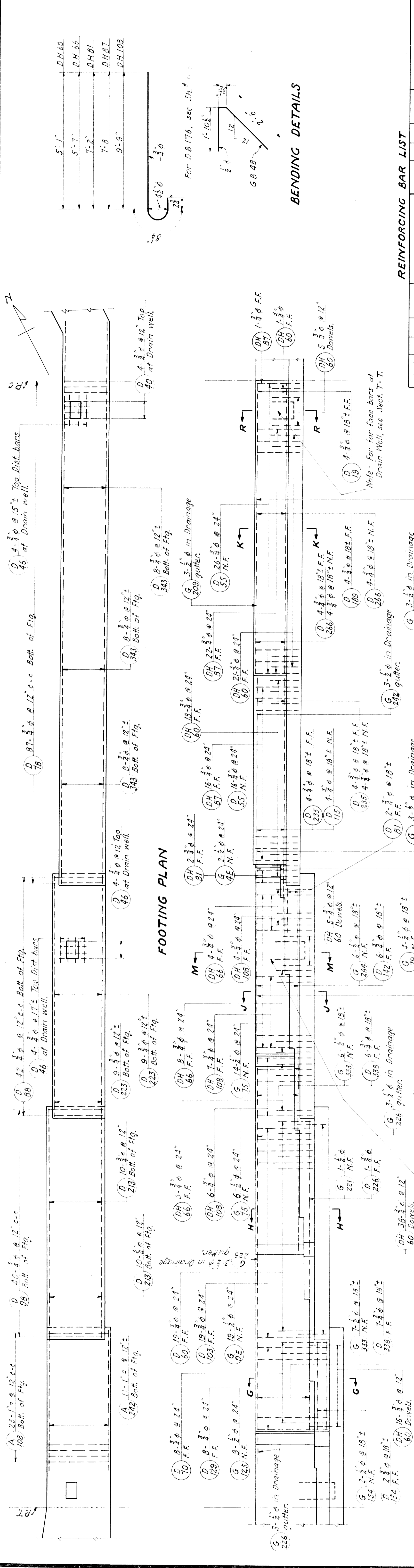
APPROVED

ENGINEER OF BRIDGE DESIGN

FILE NO. 82-22-4

CONTRACT NO. 4

MICHIGAN STATE HIGHWAY DEPARTMENT
MURRAY D. VAN WAGONER - COMMISSIONER
 T. Z. S. R. I.I.E.
 BRIDGE FILE NO. X4 OF 82-22-4 ROAD
 CROSSING N.Y.C. R.R.
CLARK AVE. EXTENSION RETAINING WALL
 REINFORCING - MICH. AVE. END
 Scales: 1/4" = 1'-0"



MICHIGAN STATE HIGHWAY DEPARTMENT
MURRAY D. VAN WAGONER - COMMISSIONER
 T. 25 R. 11 E.
 BRIDGE FILE NO. X4 OF 82-22-4 ROAD
 CROSSING N.Y.C. R.R.
CLARK AVE. EXTENSION RETAINING WALL
REINFORCING - MIDDLE PORTION

WAYNE CO.
 IN DETROIT

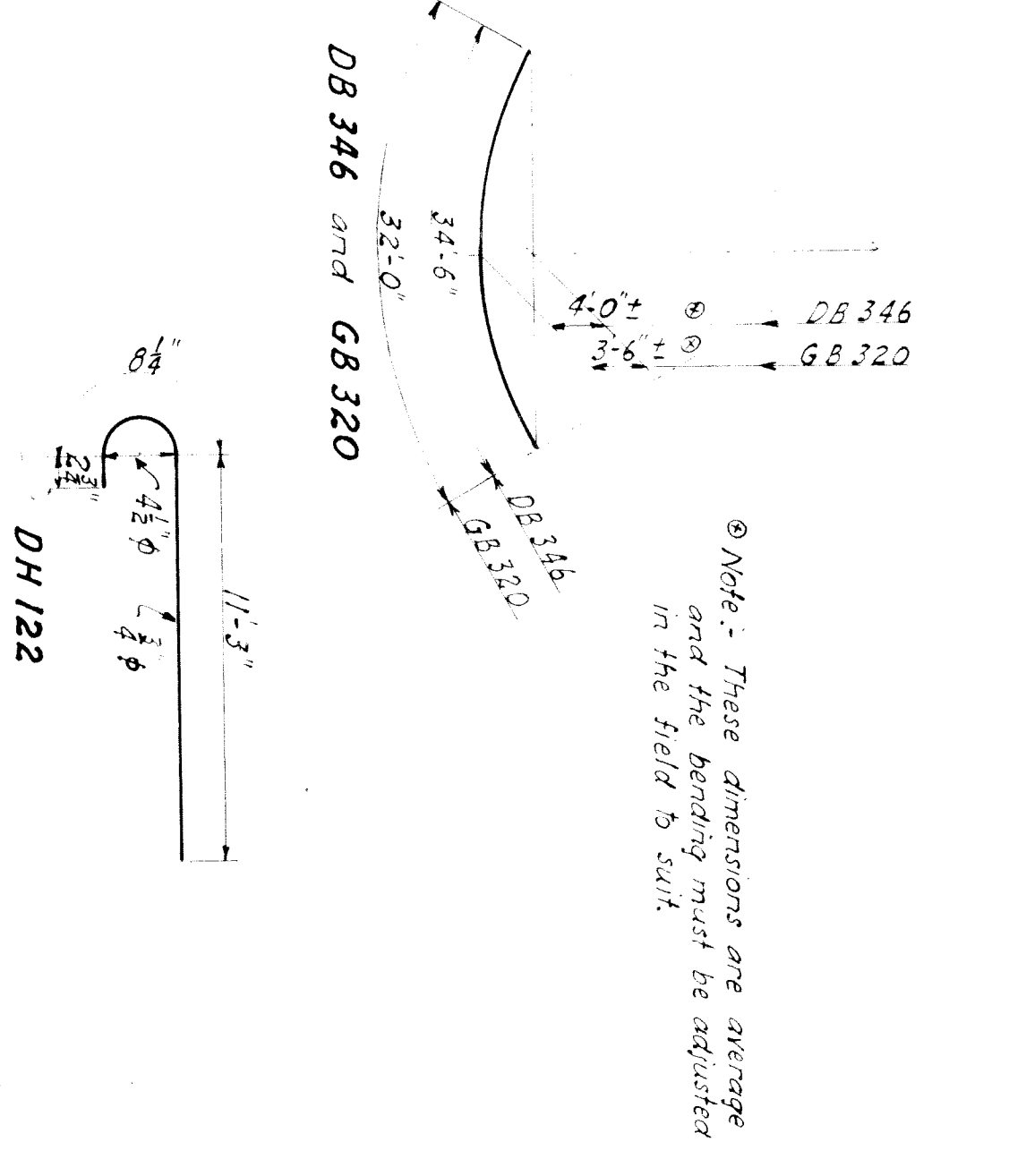
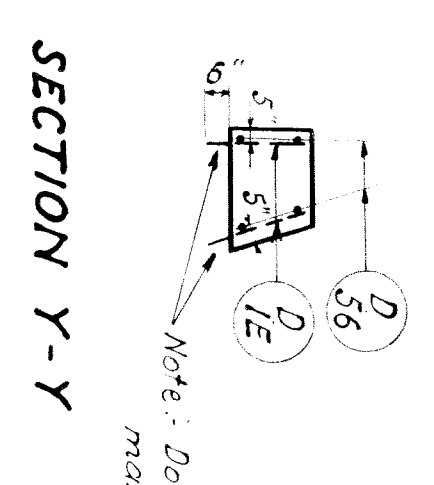
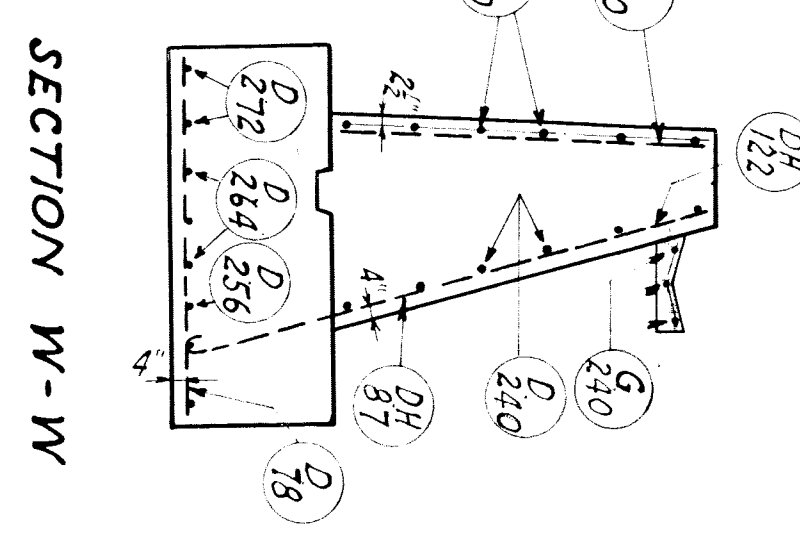
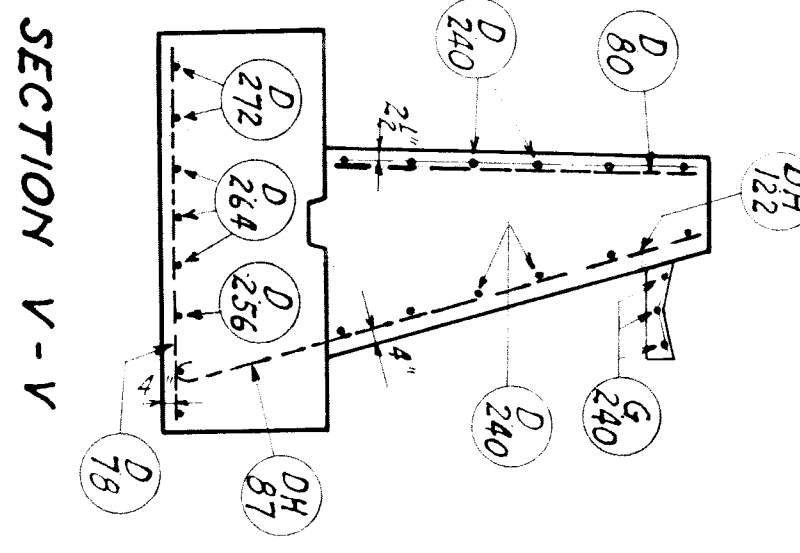
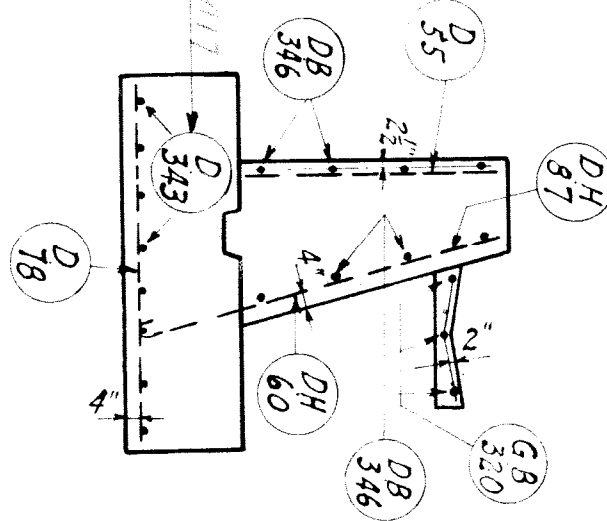
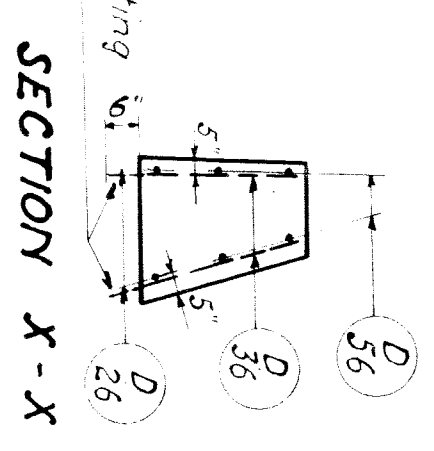
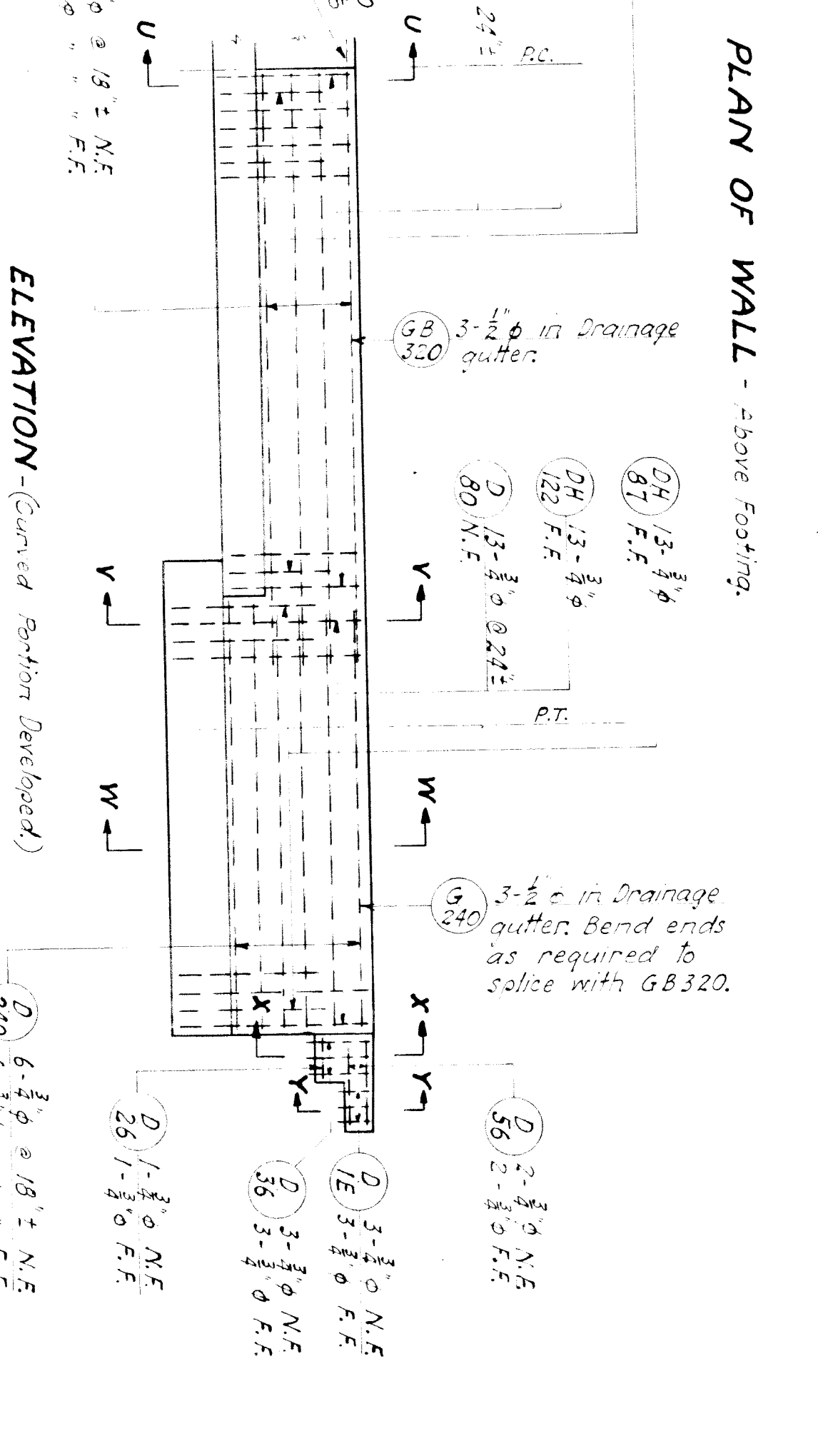
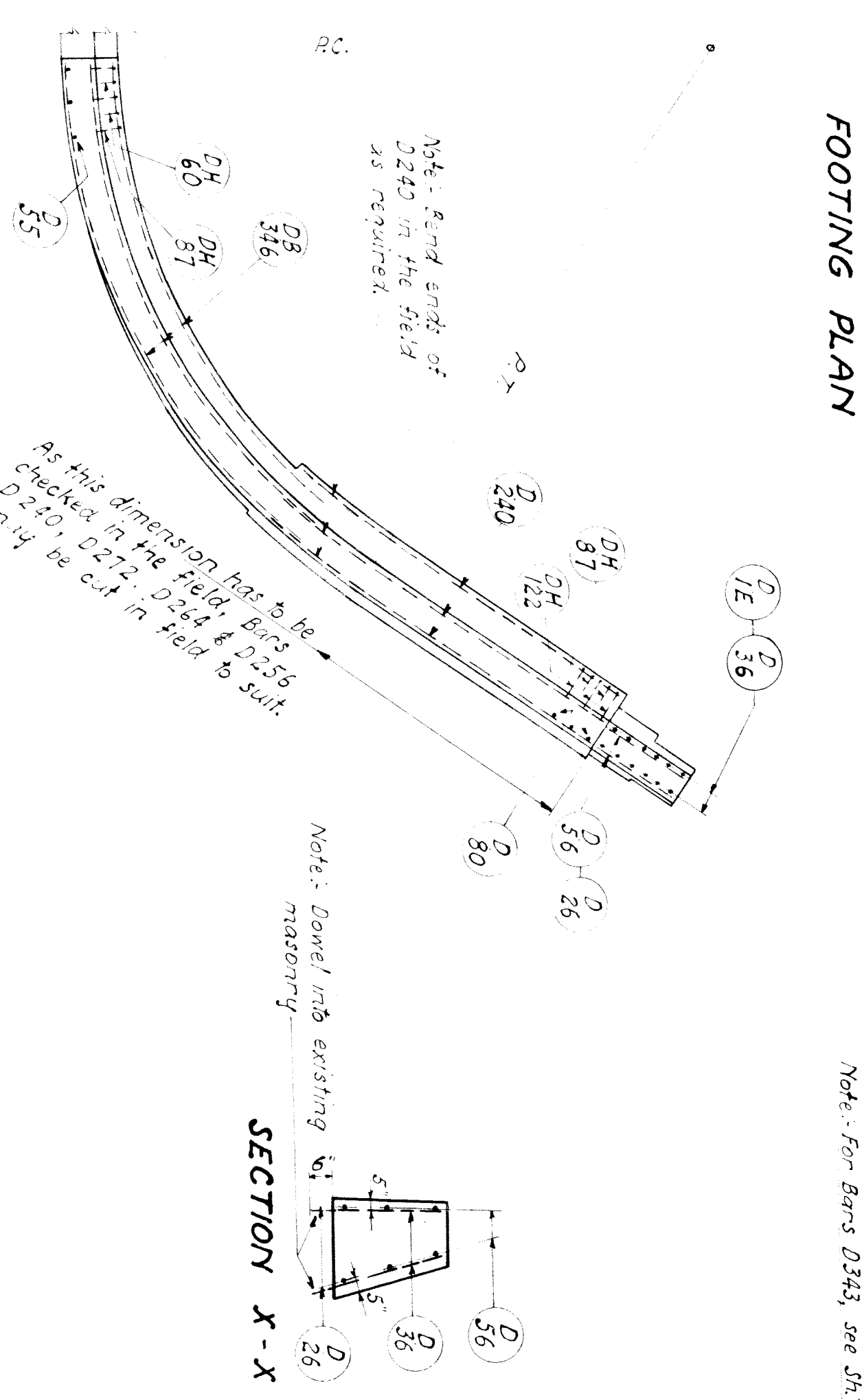
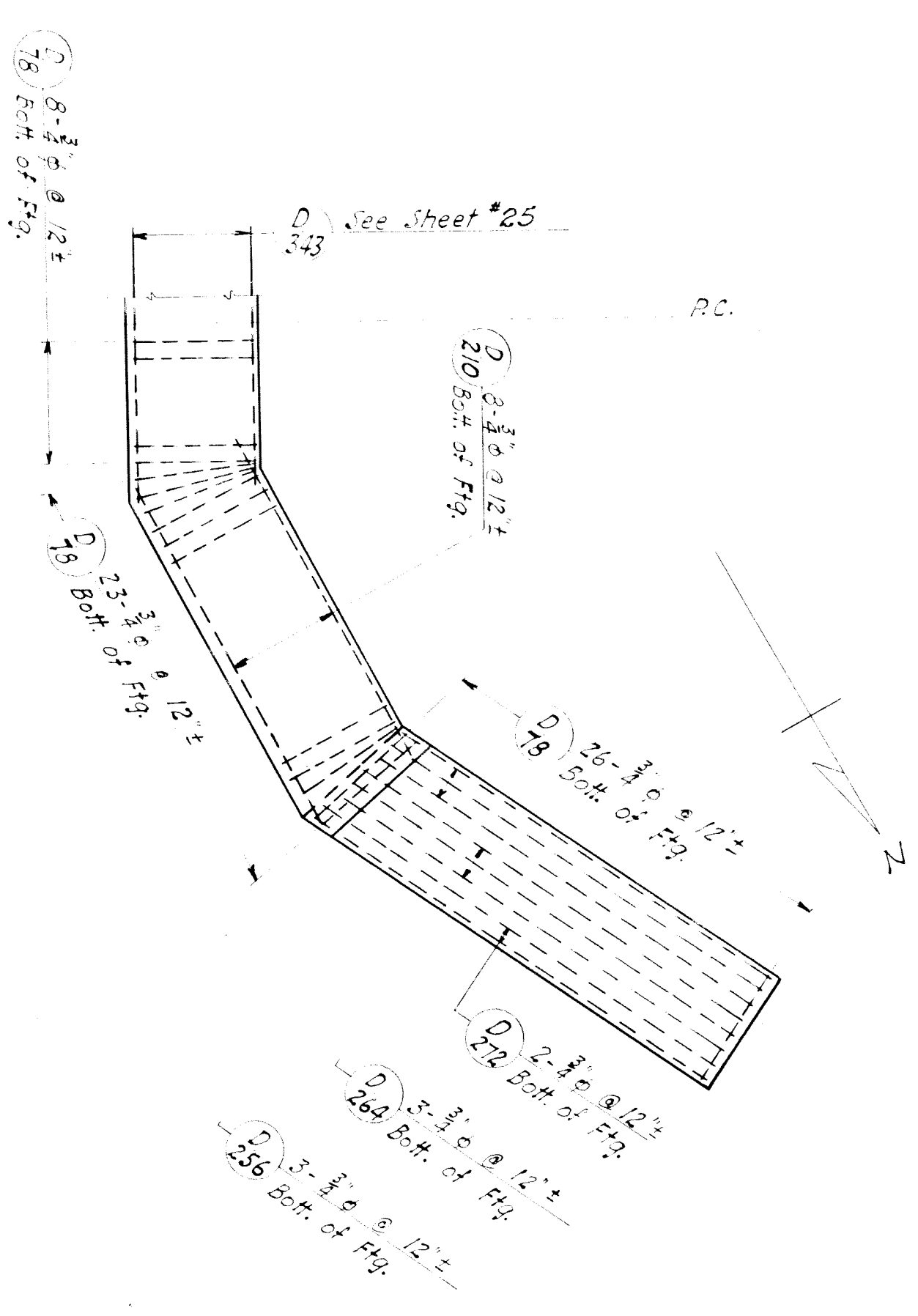
APPROVED: [Signature]
 ENGINEER OF BRIDGE DESIGN

APPROVED: [Signature]
 BRIDGE ENGINEER

REVISIONS

NO.	DESCRIPTION	DATE

SHEET 25 OF 59
 X4 OF 82-22-4
 CONTRACT No. 4



Mark	No.	Size	Length	Location
D73	57	3/8"	7'-8"	Footings, Transverse
D210	8	"	21'-0"	" Longitudinal
D256	3	"	25'-6"	"
D264	3	"	26'-4"	"
D272	2	"	27'-2"	"
DB346	3	"	34'-6"	Wall Horiz.
D240	12	"	24'-0"	"
D26	2	"	2'-6"	"
D56	4	"	5'-5"	"
D55	16	"	5'-5"	Vert.
D90	13	"	8'-0"	"
D36	6	"	3'-6"	"
D16	6	"	1'-11"	"
DH60	15	"	6'-0"	"
DH87	29	"	8'-7"	"
DH122	13	"	12'-2"	"
GB320	3	2"	32'-0"	Drainage gutter
G240	3	"	24'-0"	"

Legend: D = 3/8" Bar. H = Straight bar with one hook.
 G = 2" Bar. S = Bent Bar.
 FF means far face. NF means near face.
 Weight: Reinforcing bars = 3.330 #
 For General Notes, see Sheet #1

MICHIGAN STATE HIGHWAY DEPARTMENT
 MURRAY D. VAN WAGONER - COMMISSIONER
 T. 2-S, R. 11-E.
 BRIDGE FILE NO. X4 OF 82-22-4 ROAD
 CLARK AVE. EXTENSION RETAINING WALL
 REINFORCING - SCOTTEN AVE. END
 Scale: 8" = 4' = 1'-0"

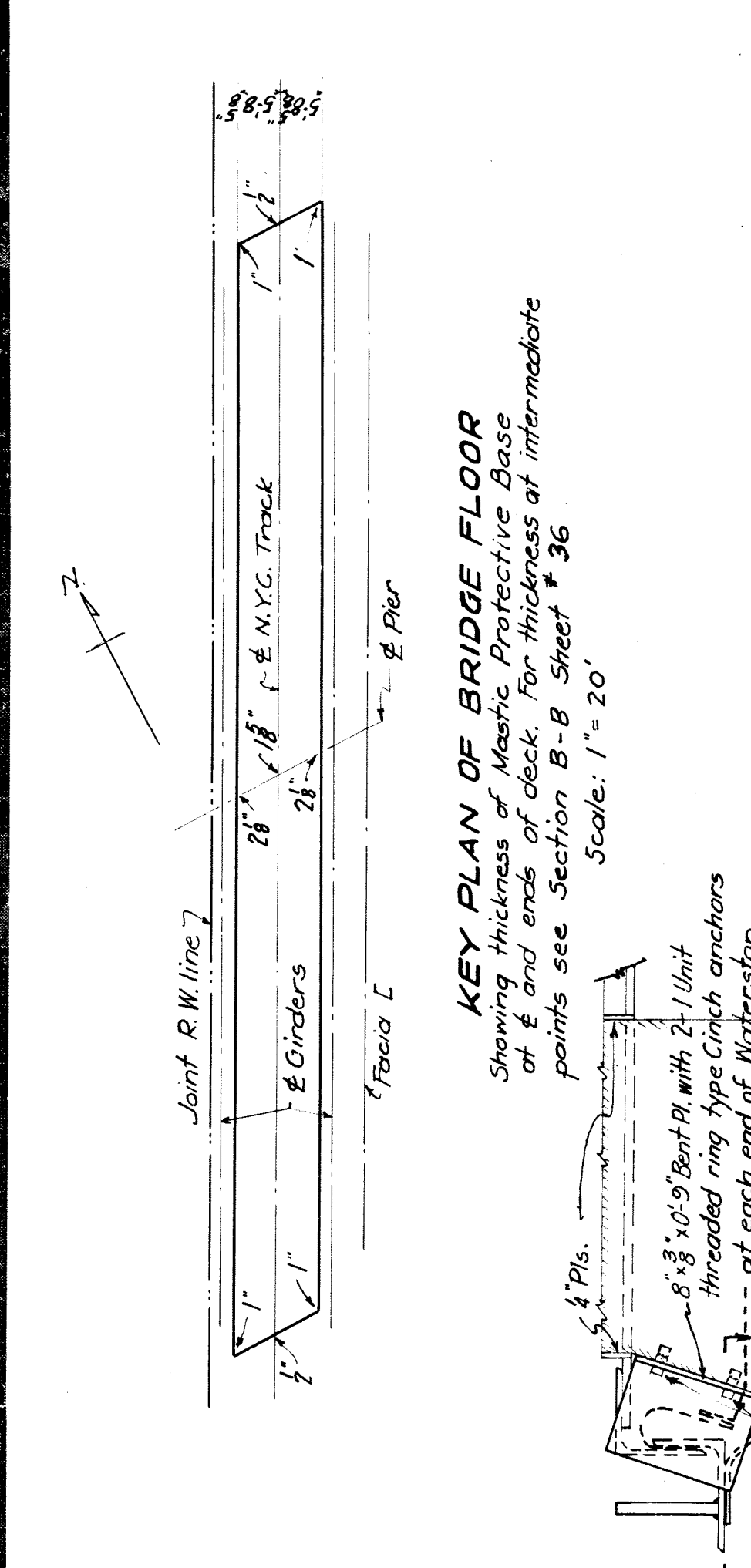
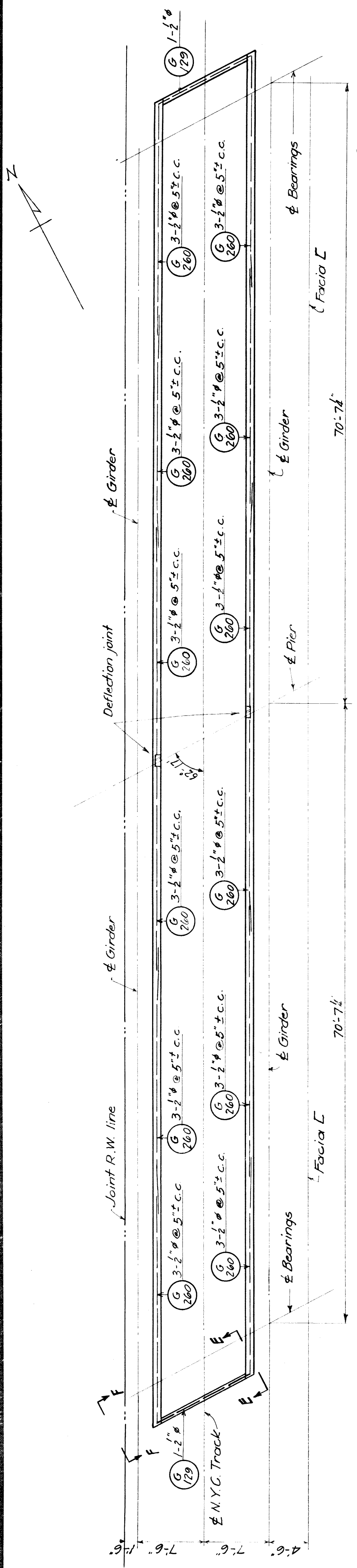
NO.	DESCRIPTION	DATE	BY

REVISIONS

APPROVED: [Signature] CHIEF DIVISION ENGINEER OF BRIDGE DESIGN
 APPROVED: [Signature] ENGINEER OF BRIDGE DESIGN

DESIGNED BY: SQUAD BISS
 DRAWN BY: [Signature]
 CHECKED BY: H.S.F.
 SHEET 26 OF 59

X4 OF 82-22-4

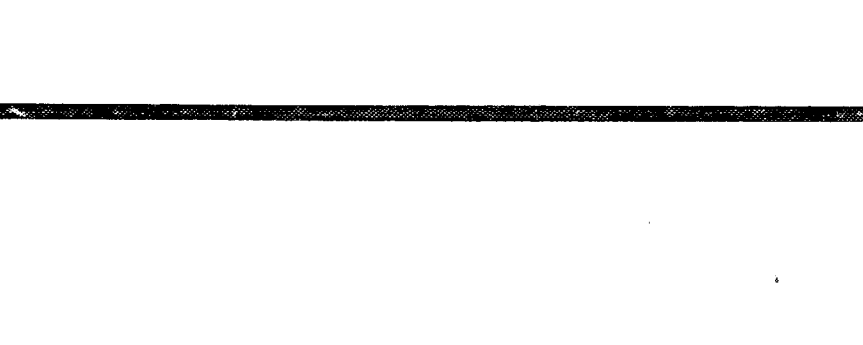
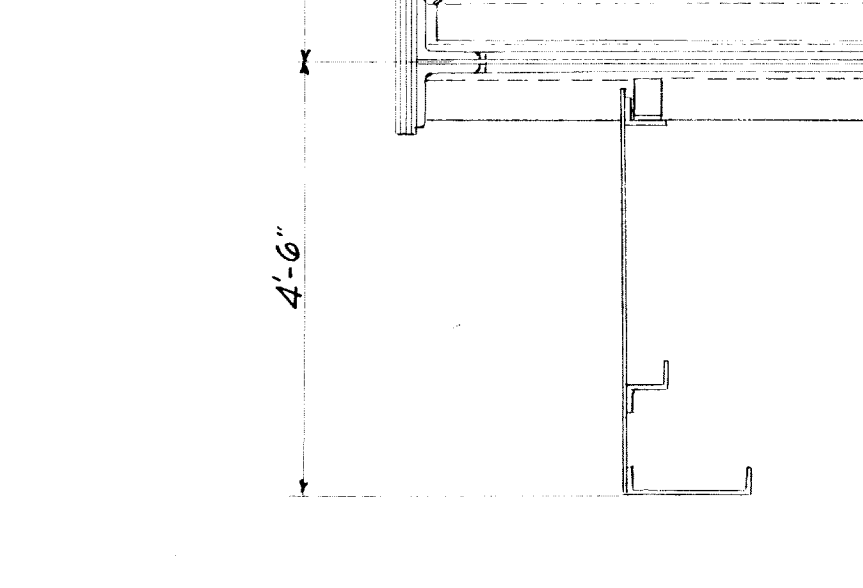
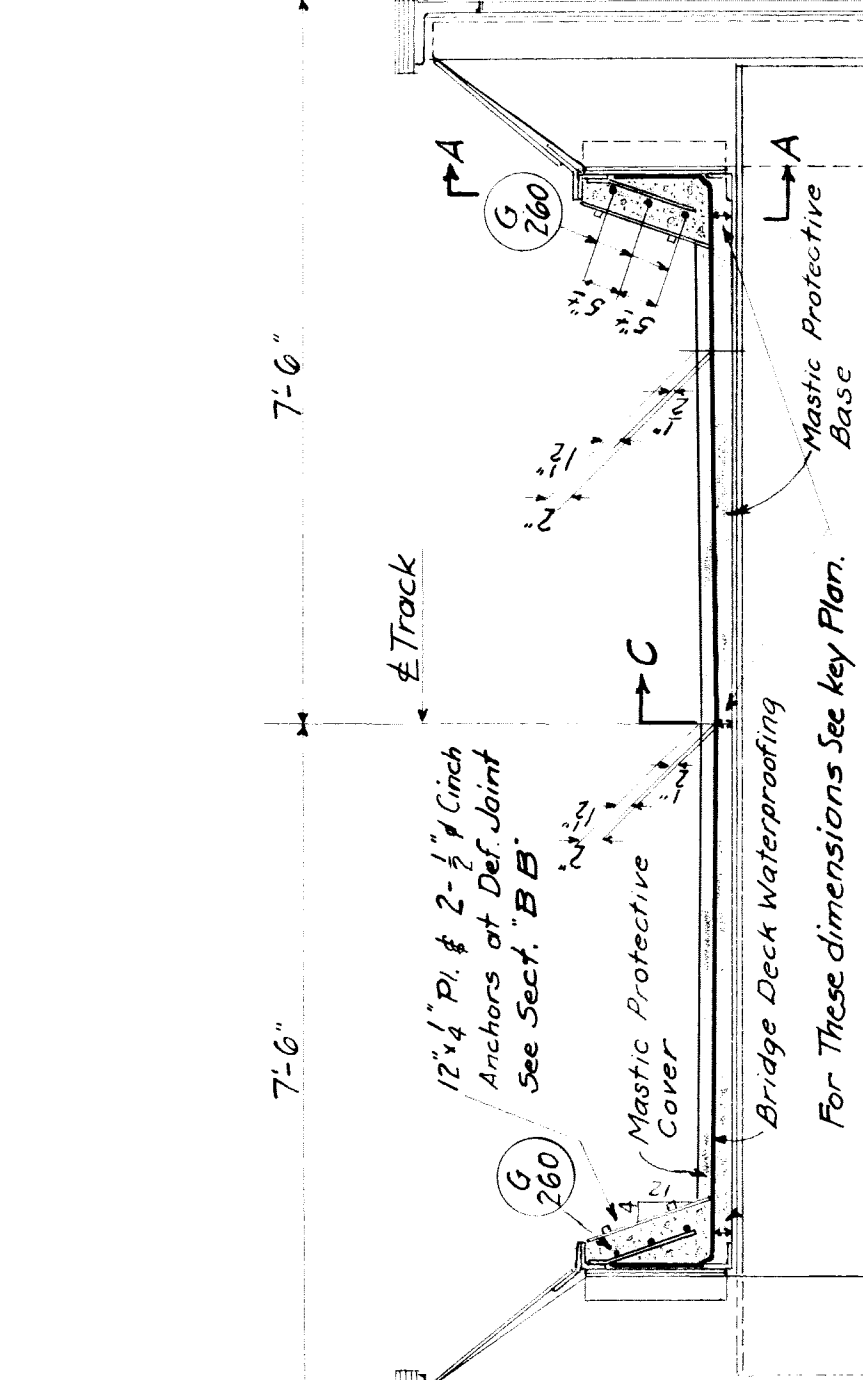
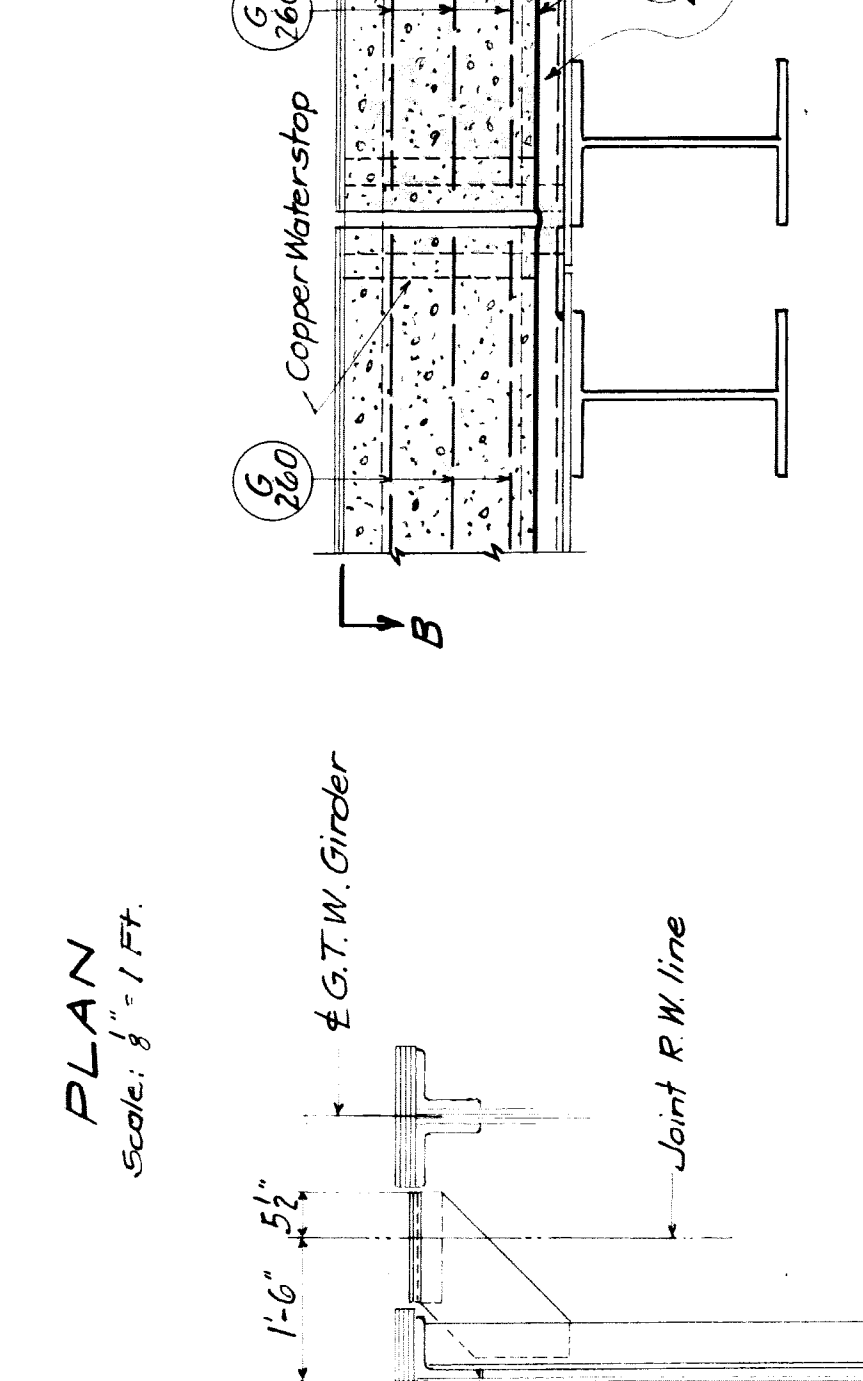
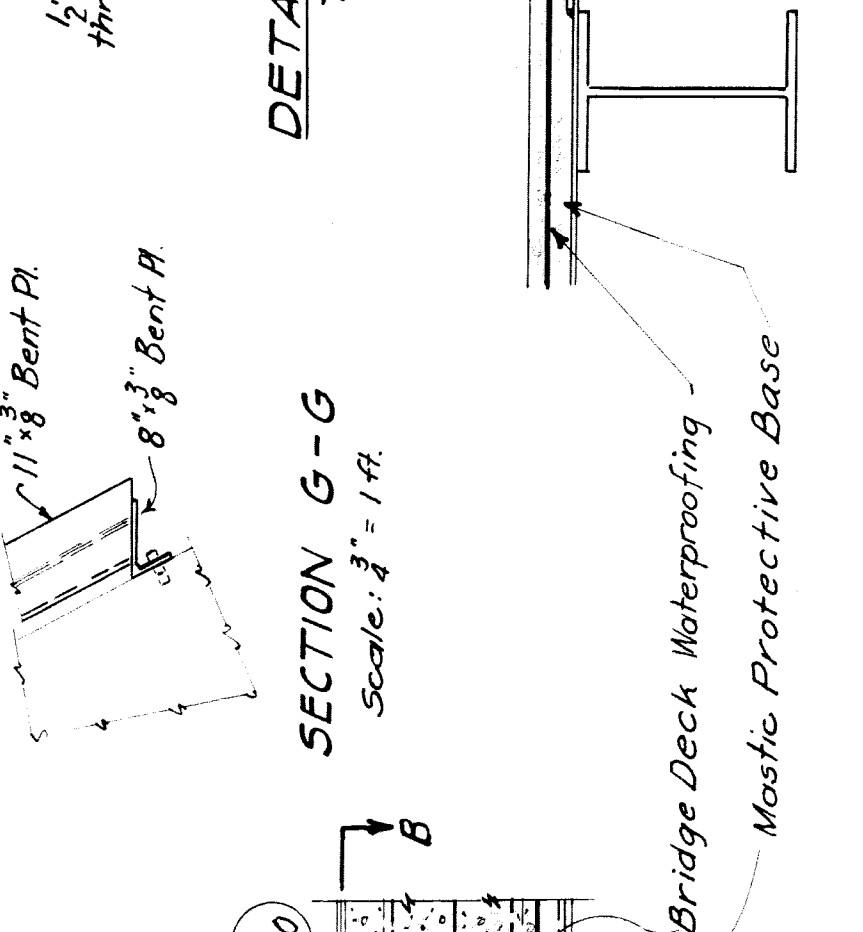


QUANTITIES

Item	Unit	Quantity	Remarks
Concrete	C.Y.	10.1	Net
Bridge Deck Waterproofing	S.F.	2083	
Mastic Protective Cover - 1/2"	S.F.	1467	
Mastic Protective Base - 1/2" x 2 1/2"	S.F.	1693	
Sheet Copper	Lbs.	4	
Steel Reinforcement	Lbs.	642	
1/2" x 3/8" Protection Plates	Lbs.	506	
1/2" x 1" Unit Cinch Anchors-40	Lbs.	26	
1/2" x 1" Top Bolts 1" long x 3/8" Min-40	Lbs.	3	

REINFORCING BARS

Mark	No	Size	Length	Location
G 260	36	1/2"	26'-0"	Ballast trough wall
G 129	2	"	12'-9"	End Straps



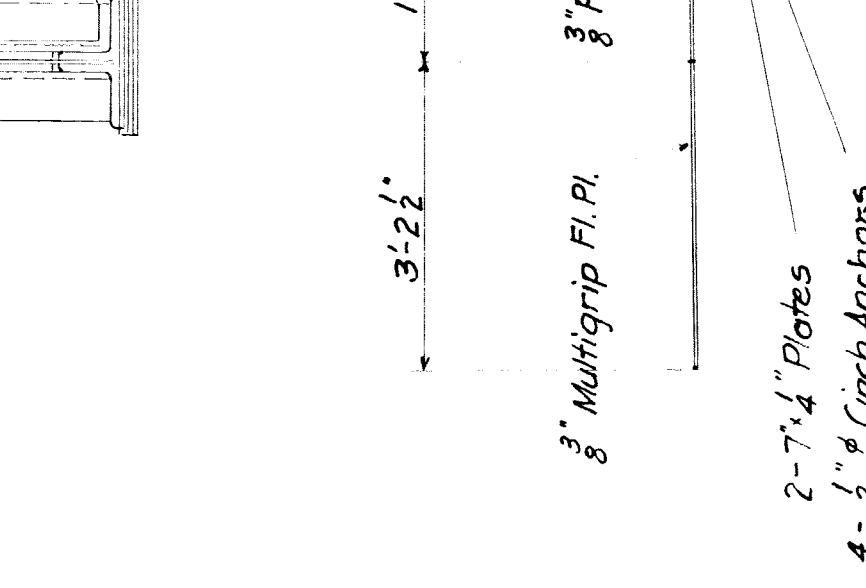
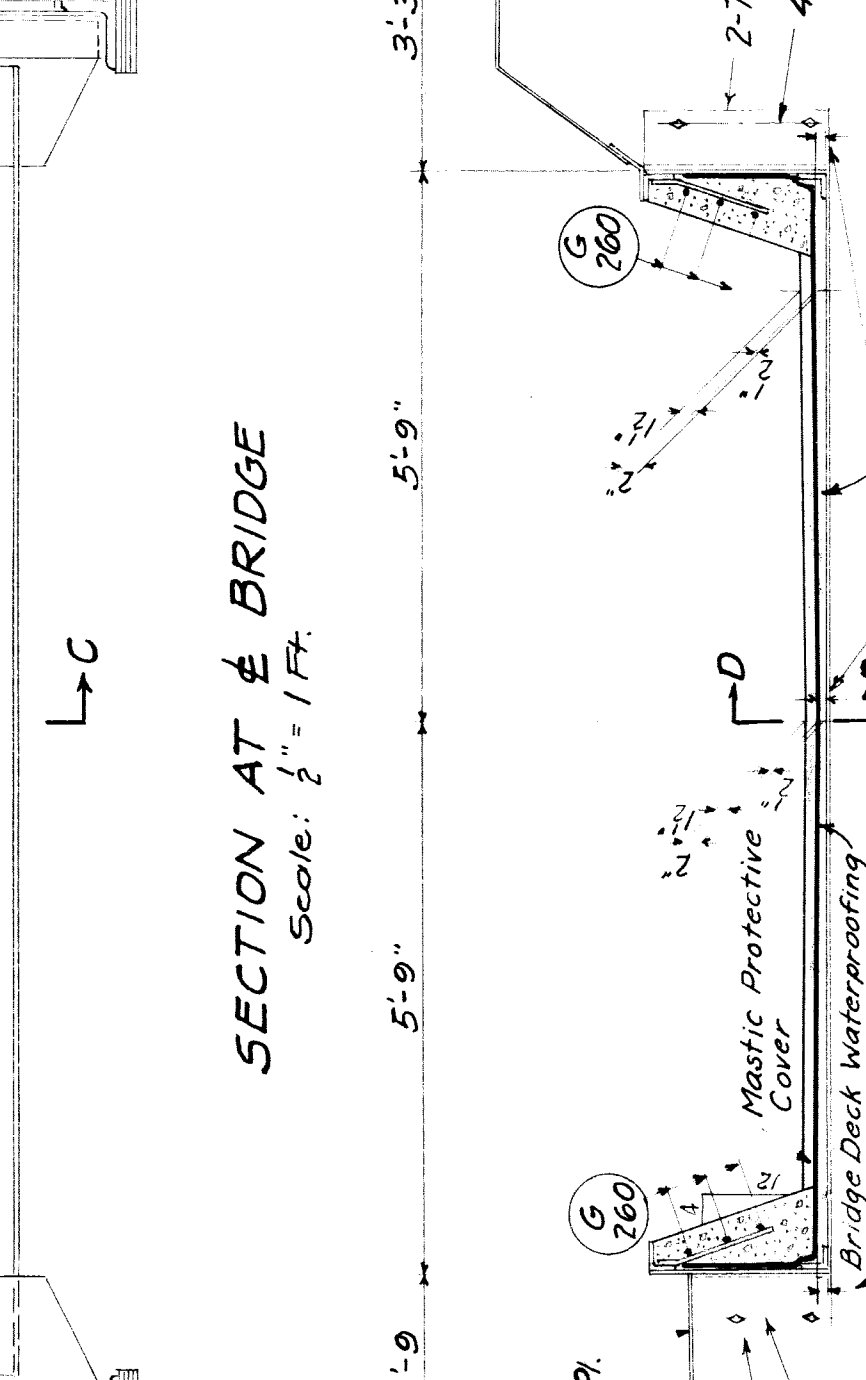
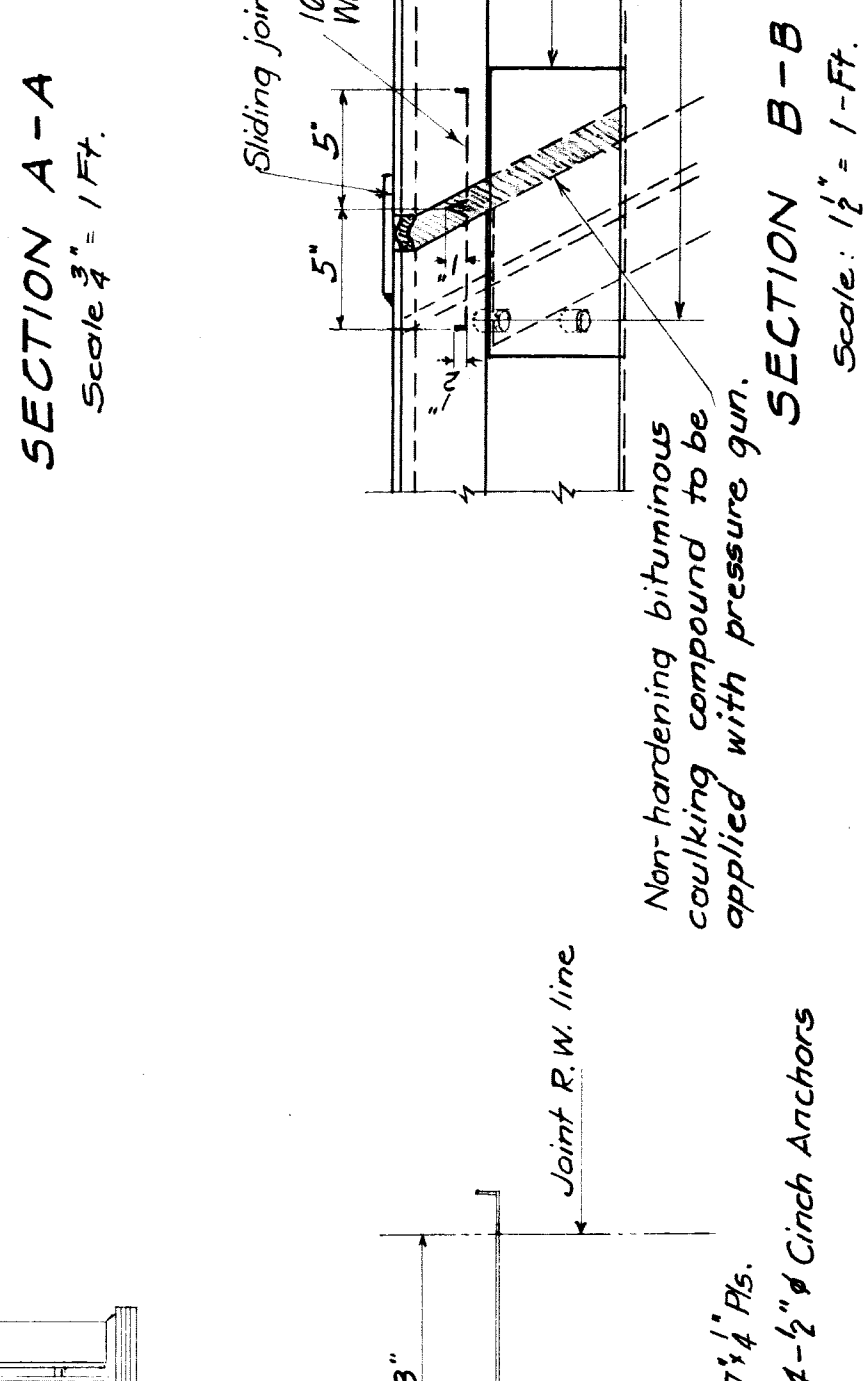
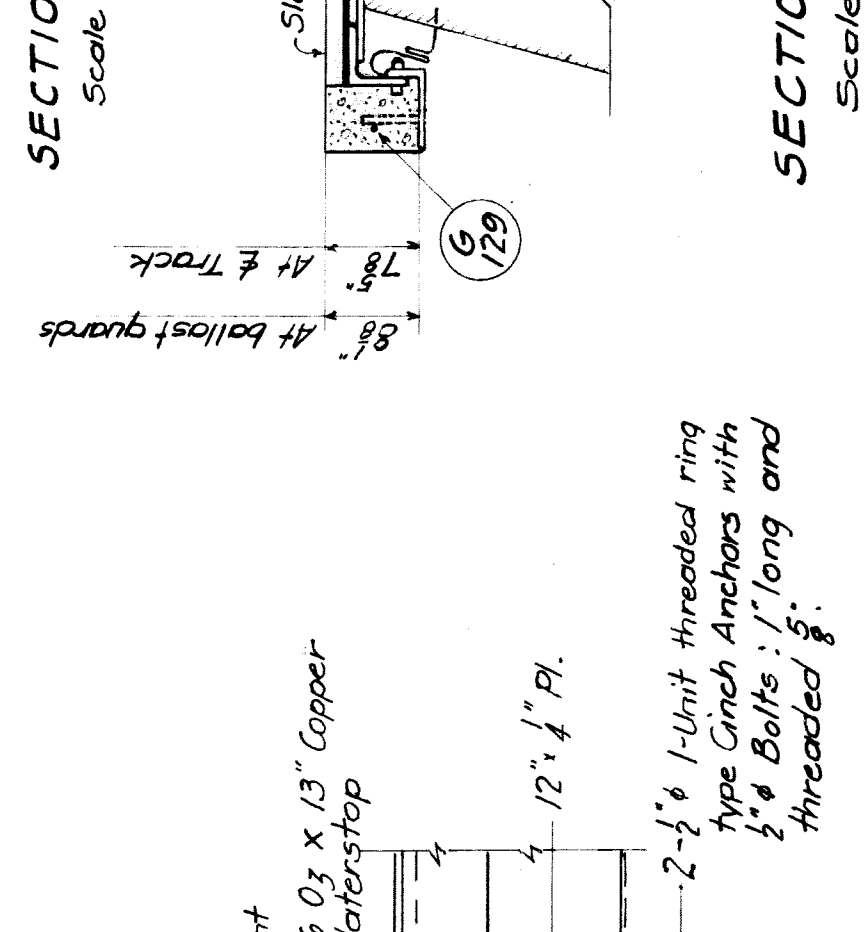
NOTES

Concrete: Grade "A" as per M.S.H. Dept Standard Specifications.

Reinforcing Steel: Intermediate Grade as per A.S.T.M. Standard Specification for Billet-Steel Concrete Reinforcement Bars, Designation A-15-33

Waterproofing: A.R.E.A. Specification for Waterproofing of Solid Floor Ry. Bridges - Asphaltic Surface Primer, Type A Membrane and Poured in Place Mastic. All other materials as per M.S.H. Dept Standard Specifications. See Supplemental Specifications for additional notes.

General Notes: - See Sheet # 1



MICHIGAN STATE HIGHWAY DEPARTMENT
MURRAY D. VAN WAGONER - COMMISSIONER
 T. T. S. R. I. I. E.
 BRIDGE FILE NO. X4-82-22-4 ROAD
 CROSSING N.Y.C. R.R. WAYNE, CO.
 IN DETROIT

WATERPROOFING & DECK PLAN

Scales as noted
 For N.Y.C.R.R.

APPROVED: [Signature]
 CHIEF, DIVISION OF BRIDGE DESIGN

APPROVED: [Signature]
 ENGINEER OF BRIDGE DESIGN

SHEET 28 OF 59
 X40f82-22-4

CONTRACT No. 4

File XU 29-28

CONTRACT No. 4

BAR LIST - NORTH ABUT. & SOUTH ABUT. BACKWALL

MARK	NO. & SIZE	LENGTH	BENDING DIAGRAM	WEIGHT
A1	75 1" 17'6"	15'-0"		3504
A2	72 1" 18'3"	8'-9"		3508
A3	104 3/4" 8'3"	7'-0"		1209
A4	36 3/4" 26'4"		STRAIGHT	1424
A5	92 3/4" 4'0"		do	553
A6	72 1" 15'3"		do	2932
A7	63 3/4" 14'6"		do	1372
A8	16 3/4" 18'6"		do	445
A9	16 3/4" 19'6"		do	469
A10	77 5/8" 16'0"		do	1285
A11	60 3/8" 17'3"		do	1080
A12	86 3/4" 7'0"		do	628
A13	43 5/8" 3'9"			168
A14	29 3/4" 17'0"		STRAIGHT	740
A15	42 3/4" 13'6"			852
A16	63 3/4" 6'9"			639
A17	10 3/4" 21'6"		STRAIGHT	323
A18	45 3/4" 20'0"		do	1352
A19	41 3/4" 5'0"		do	308
A20	45 3/4" 9'0"		do	608
A21	20 3/4" 13'0"			391
A22	42 3/4" 8'6"			536
A23	8 3/4" 12'0"		STRAIGHT	144
A24	34 3/4" 6'4"		do	324
A25	18 3/4" 3'9"			101
A26	2 5/8" 8'6"			18
A27	154 5/8" 4'0"		STRAIGHT	642
A28	105 5/8" 7'5"			813
A29	17 5/8" 15'0"			266
A30	8 5/8" 11'0"			92
A31	20 5/8" 11'3"			235

BAR LIST - NO. ABUT. & SO. ABUT. BACKWALL - CONTINUED

MARK	NO. & SIZE	LENGTH	BENDING DIAGRAM	WEIGHT
A32	8 5/8" 14'0"			42
A33	8 5/8" 17'8"			53
A34	28 3/4" 8'4"		STRAIGHT	350
A35	26 5/4" 6'2"			167
A36	8 3/4" 13'3"			40
A37	8 3/4" 18'3"			55
A38	10 5/4" 9'2"			96
TOTAL				27844

BAR LIST - CENTER PIER

MARK	NO. & SIZE	LENGTH	BENDING DIAGRAM	WEIGHT
P1	88 1" 19'6"	17'-0"		5834
P2	24 3/4" 24'0"		STRAIGHT	865
P3	18 1 1/8" 24'6"		do	1898
P4	40 1 1/8" 24'6"		do	5207
P5	77 1" 24'6"		do	6414
P6	40 1" 15'3"			2074
P7	78 3/4" 14'6"			1699
P8	250 1/2" 16'4"			3470
P9	124 1" 18'0"		STRAIGHT	7589
P10	22 1" 13'9"			1029
P11	12 1" 19'6"			796
P12	21 1/2" 8'5"			150
P13	6 1/2" 8'9"			45
P14	6 1/2" 9'3"			47
P15	33 3/8" 10'0"			124
TOTAL				37241

BAR LIST - DECK

MARK	NO. & SIZE	LENGTH	BENDING DIAGRAM	WEIGHT
D1	108 1" 16'0"		STRAIGHT	1154
D2	424 1/2" 16'7"		do	4697
D3	512 1" 14'6"			4939
D4	584 5/8" 3'2"			1931
D5	160 5/8" 20'0"		STRAIGHT	3338
D6	24 1" 10'0"		do	160
D7	160 1/2" 20'7"		do	2200
D8	80 1/2" 24'7"		do	1314
D9	360 1" 4'6"		do	1082
D10	32 1" 9'0"		do	192
D11	52 5/8" 5'8"			307
D12	8 1" 9'2"			49
D13	16 1" 16'5"			175
D14	21 5/8" 7'0"			153
D15	18 5/8" 5'6"			103
D16	12 3/4" 2'6"			45
D17	24 5/8" 1'8"			42
D18	40 5/8" 11"			38
D19	12 5/8" 6"			6
D20	264 1/2" 5'0"		STRAIGHT (PLAIN BARS)	882
D21	7 5/8" 5'10"			42
TOTAL				23707

NO. 8 GA. 4" WELDED WIDE MESH 1900 SQ. FT.

REVISIONS

NO.	DESCRIPTION	DATE	BY

MICHIGAN STATE HIGHWAY DEPARTMENT
 BRIDGE FILE NO. X4 OF 82-22-4
 ROAD MICHIGAN AVE. AT STA. 52+06.59
 CROSSING GTW.R.R. & NYC. P.R.
 IN CITY OF DETROIT

LIST OF REINFORCING BARS

JOINT ABUTS, CENTERPIER & GTW DECKS

WAYNE CO.
 ENGINEER OF BRIDGE DESIGN

APPROVED: *[Signature]*
 CHIEF ENGINEER

APPROVED: *[Signature]*
 ENGINEER OF BRIDGE DESIGN

NO. 8 GA. 4" WELDED WIDE MESH 1900 SQ. FT.

APPROVED: *[Signature]*
 CHIEF ENGINEER

APPROVED: *[Signature]*
 ENGINEER OF BRIDGE DESIGN

APPROVED: *[Signature]*
 ENGINEER OF BRIDGE DESIGN

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 ENGINEER OF BRIDGE DESIGN

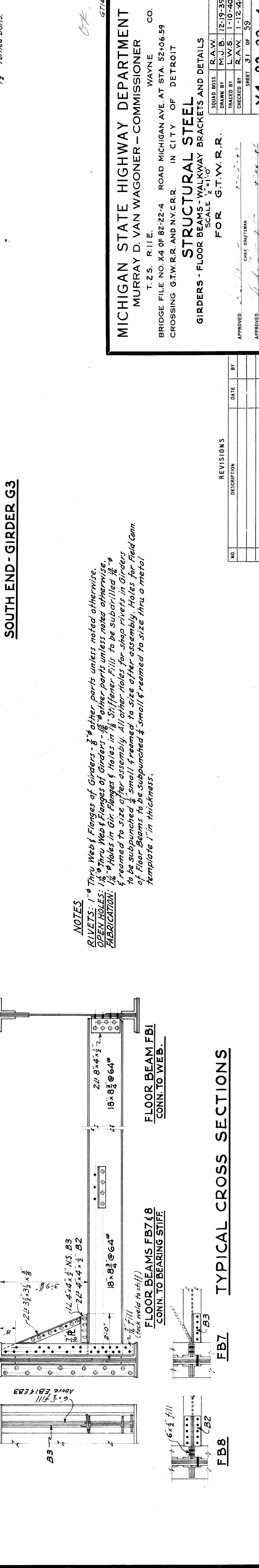
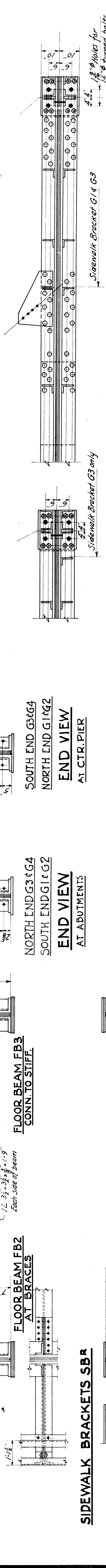
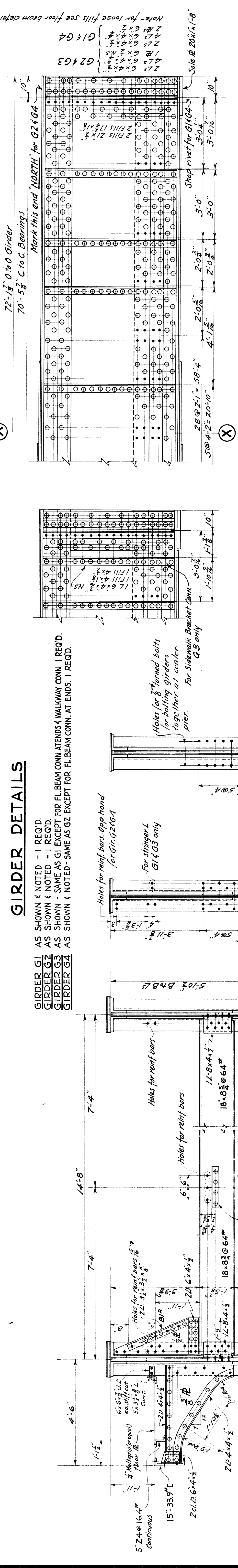
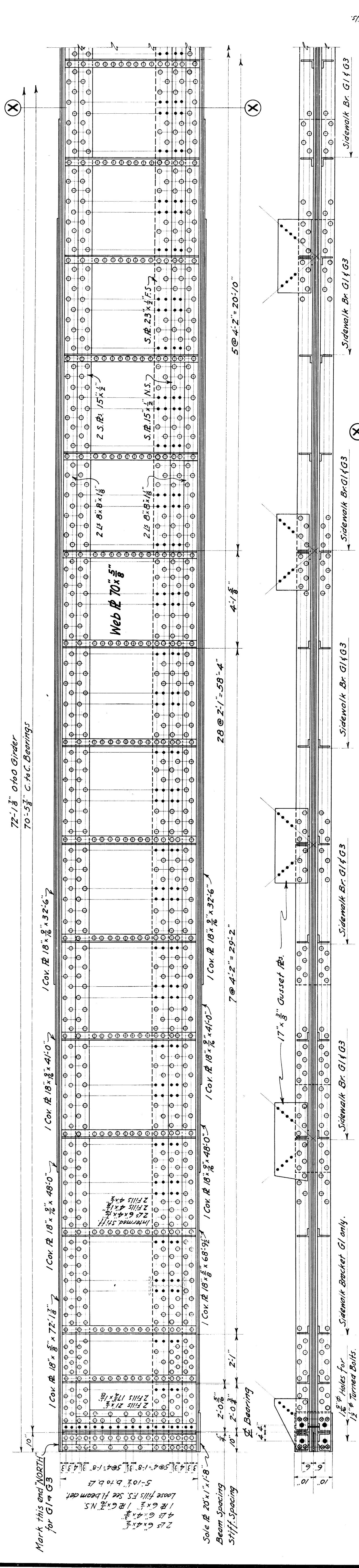
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APPROVED: *[Signature]*
 ENGINEER OF BRIDGE DESIGN



NOTES
 RIVETS: 1" thru Web & Flanges of Girders - 3/4" other parts unless noted otherwise.
 OPEN HOLES: 1/4" thru Web & Flanges of Girders - 1/2" other parts unless noted otherwise.
 FABRICATION: 1/8" thru Holes in Gir. Flanges & Holes in 1/2" Stiffener Fills to be subdrilled 1/8" & reamed to size after assembly. All other Holes for shop rivets in Girders of Floor Beams to be subdrilled & small & reamed to size after assembly. Holes for Field Conn. template 1" in thickness.

MICHIGAN STATE HIGHWAY DEPARTMENT
 MURRAY D. VAN WAGONER - COMMISSIONER
 T. Z. S. R. I. I. E.
 BRIDGE FILE NO. X4 OF 82-22-4 ROAD MICHIGAN AVE. AT STA. 52+06.59
 CROSSING G.T.W.R.R. AND N.Y.C.R.R. IN CITY OF DETROIT

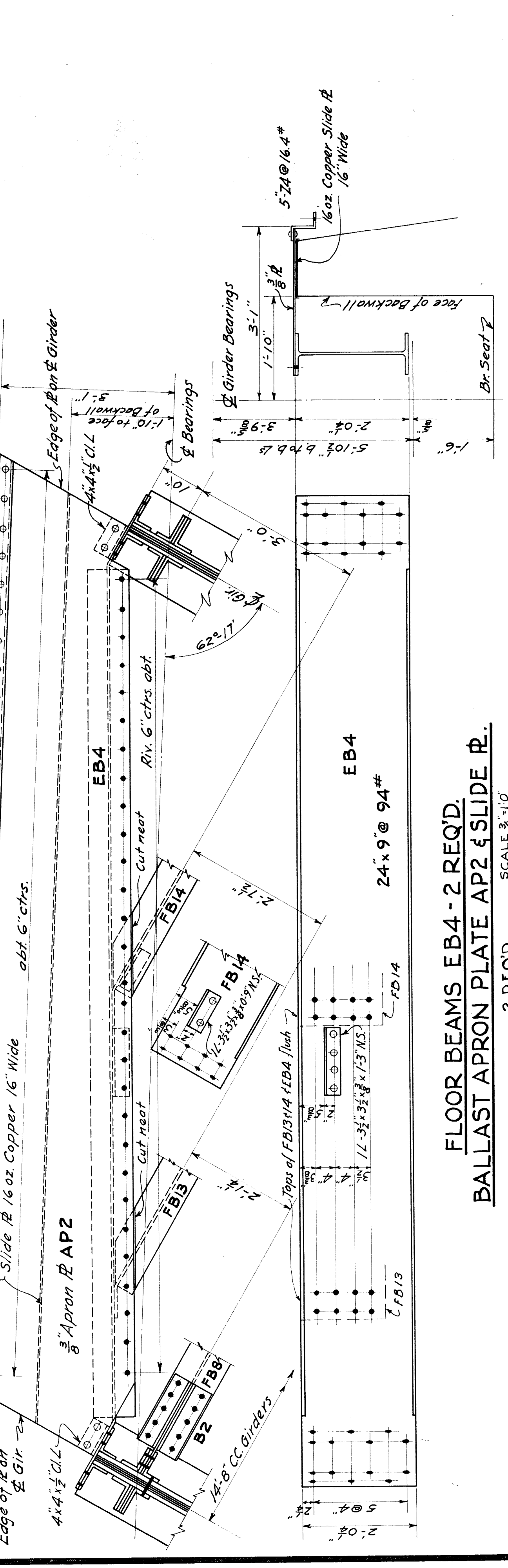
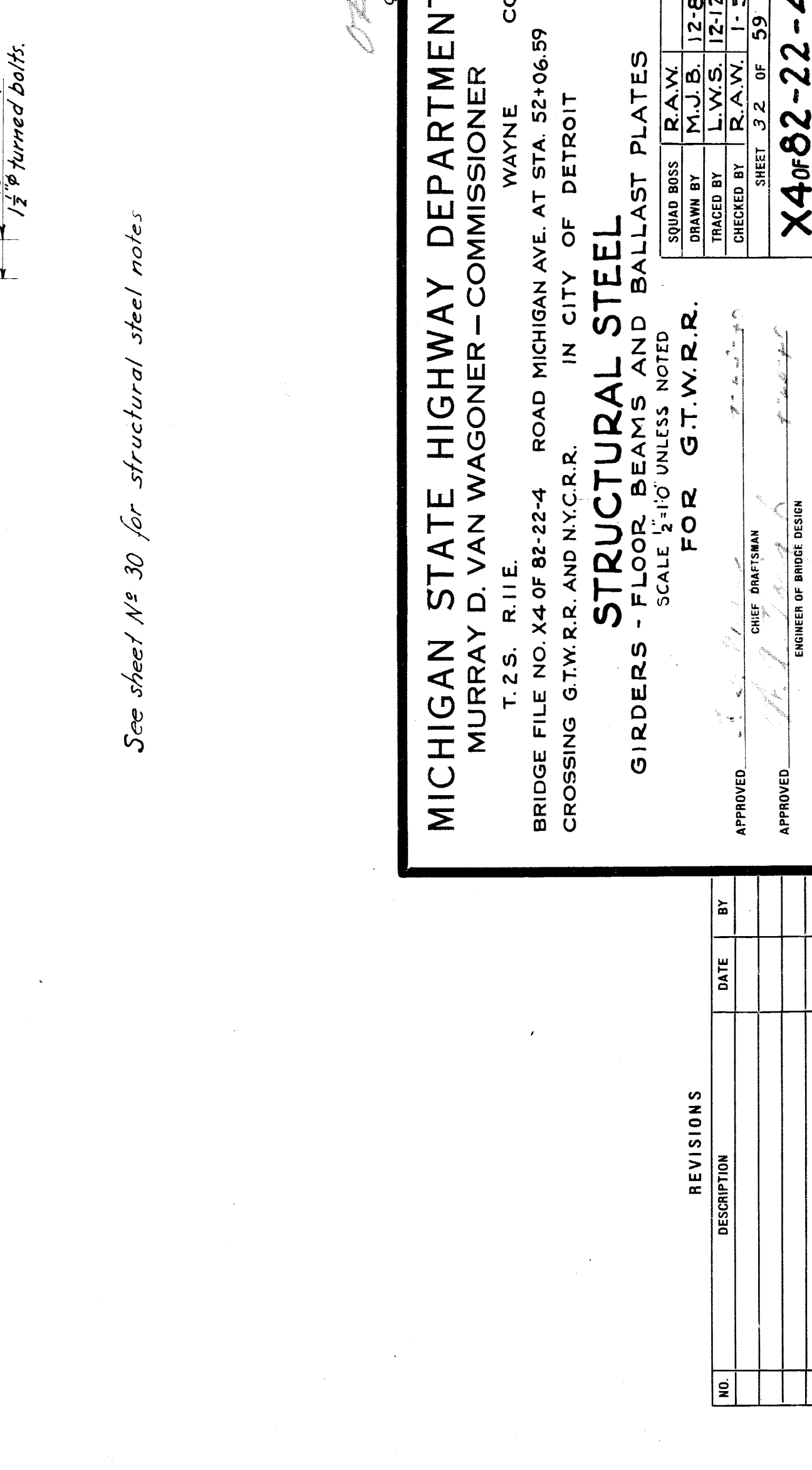
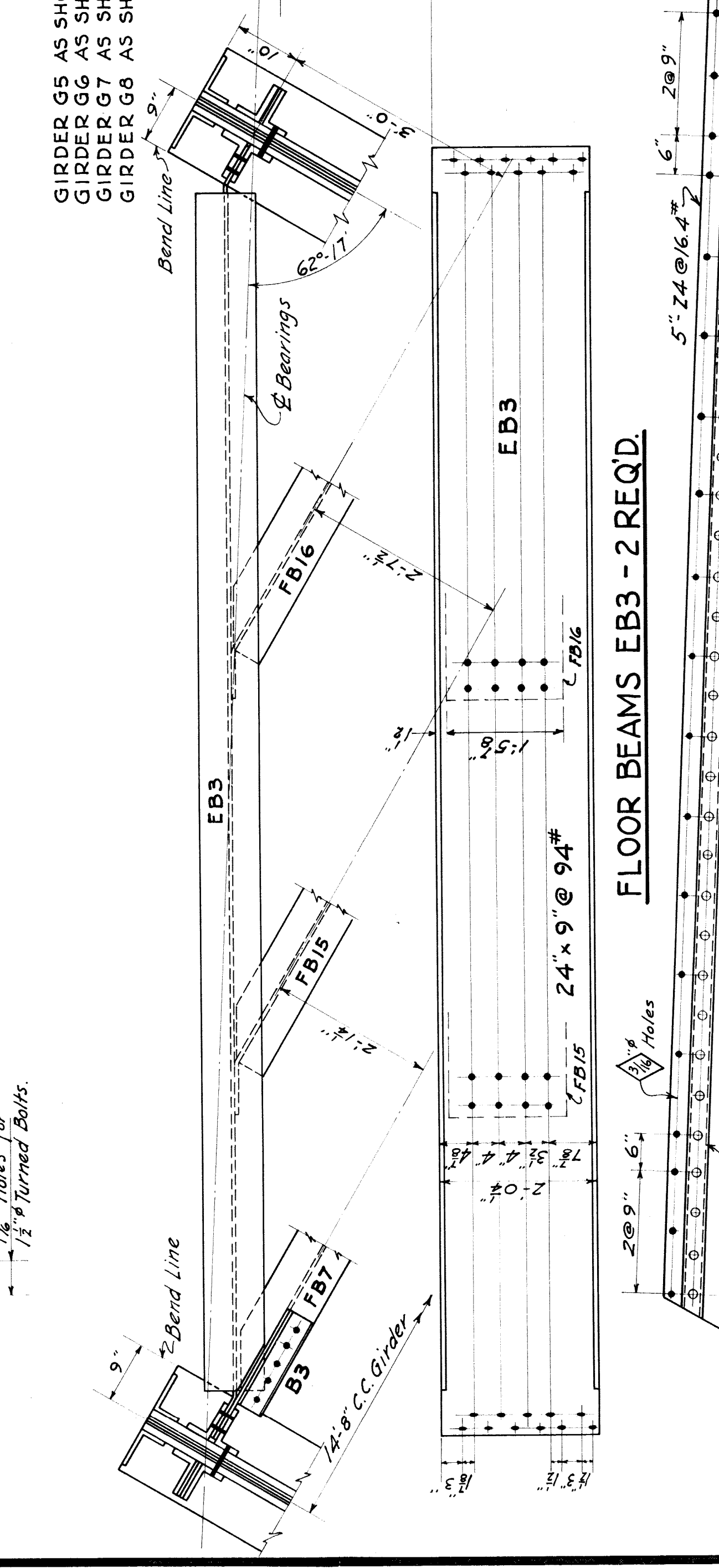
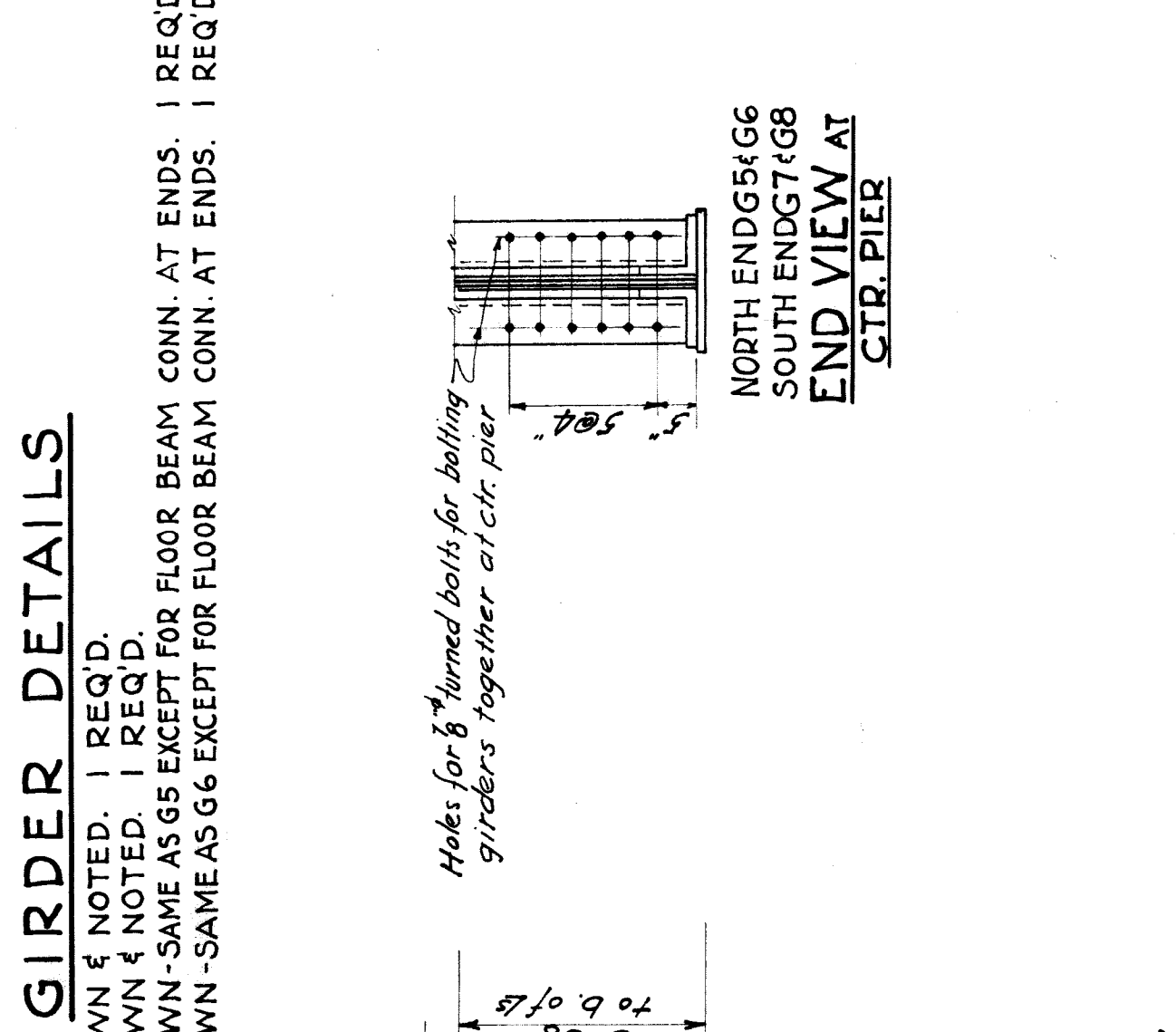
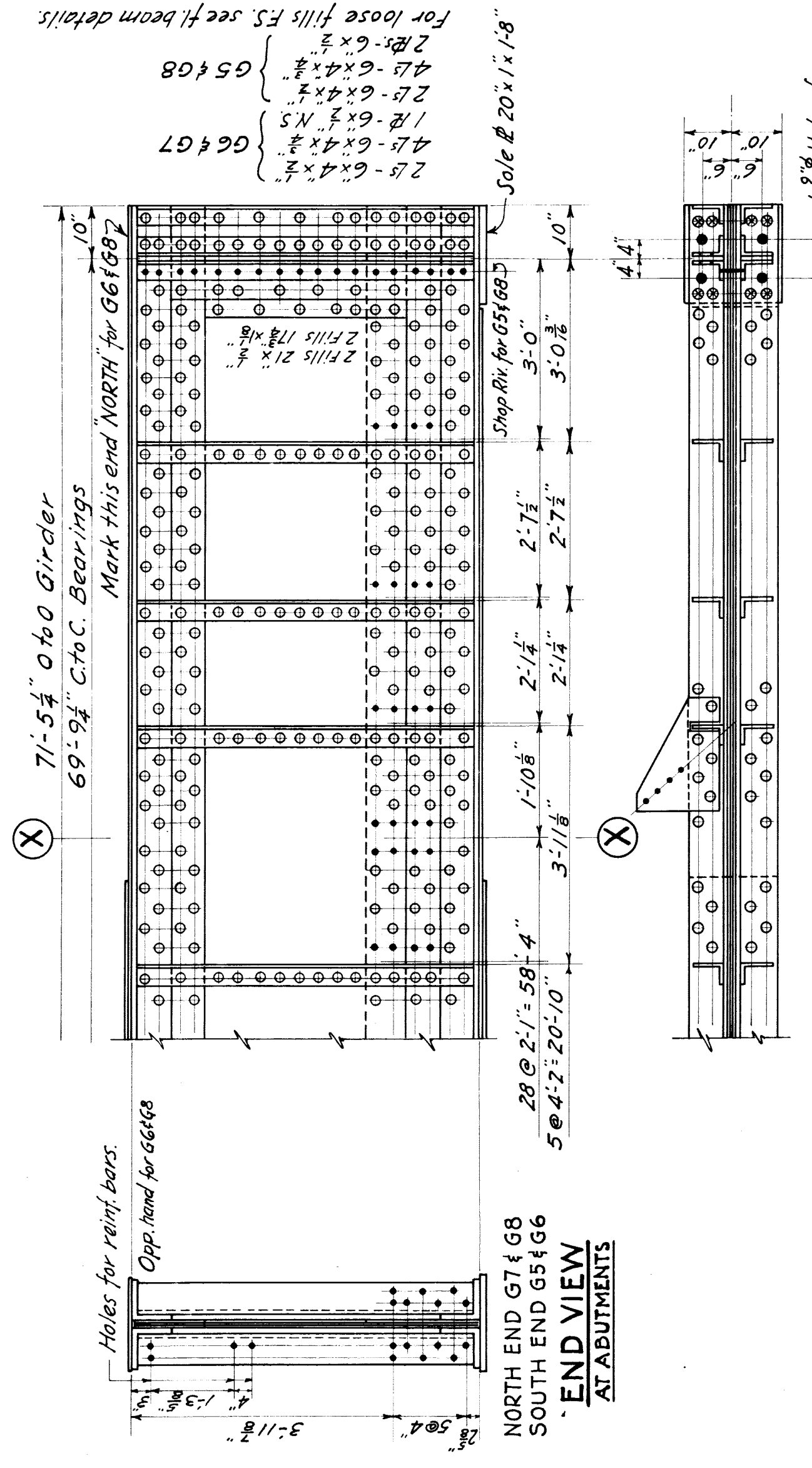
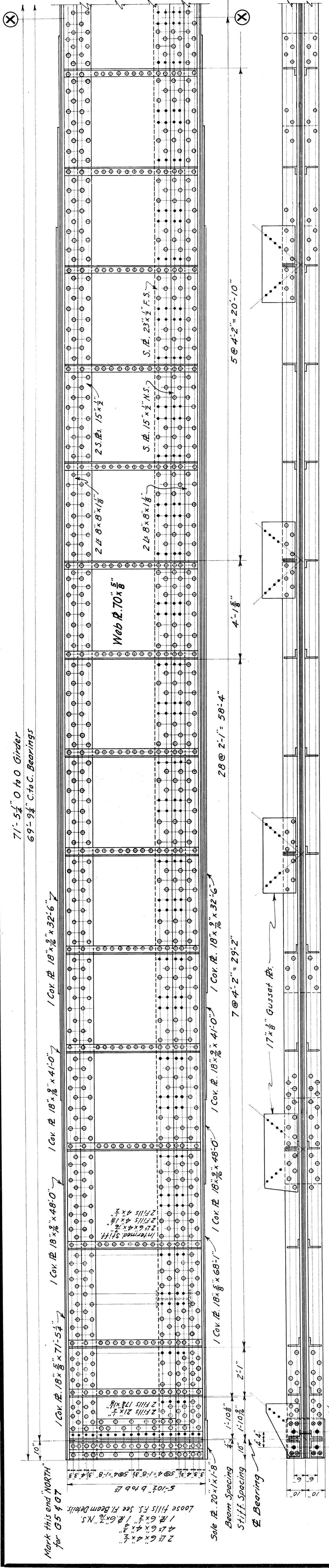
STRUCTURAL STEEL
 GIRDERS - FLOOR BEAMS - WALKWAY BRACKETS AND DETAILS
 SCALE 1/2" = 1'-0"

FOR G.T.W.R.R.

APPROVED: [Signature] CHIEF DRAFTSMAN
 APPROVED: [Signature] ENGINEER OF BRIDGE DESIGN

REVISIONS
 NO. DESCRIPTION DATE BY

SHEET 31 OF 59
 X4082-22-4
 CONTRACT No. 4



GIRDER DETAILS
 GIRDER G5 AS SHOWN & NOTED. 1 REQ'D.
 GIRDER G6 AS SHOWN & NOTED. 1 REQ'D.
 GIRDER G7 AS SHOWN - SAME AS G5 EXCEPT FOR FLOOR BEAM CONN. AT ENDS. 1 REQ'D.
 GIRDER G8 AS SHOWN - SAME AS G6 EXCEPT FOR FLOOR BEAM CONN. AT ENDS. 1 REQ'D.

See sheet No. 30 for structural steel notes

MICHIGAN STATE HIGHWAY DEPARTMENT
 MURRAY D. VAN WAGONER - COMMISSIONER
 T. S. R. IIE.
 BRIDGE FILE NO. X4 OF 82-22-4 ROAD MICHIGAN AVE. AT STA. 52+06.59
 CROSSING G.T.W.R.R. AND N.Y.C.R.R. IN CITY OF DETROIT

STRUCTURAL STEEL
 GIRDERS - FLOOR BEAMS AND BALLAST PLATES
 SCALE 3/4" = 1'-0" UNLESS NOTED
 FOR G.T.W.R.R.

APPROVED: _____
 CHIEF ENGINEER

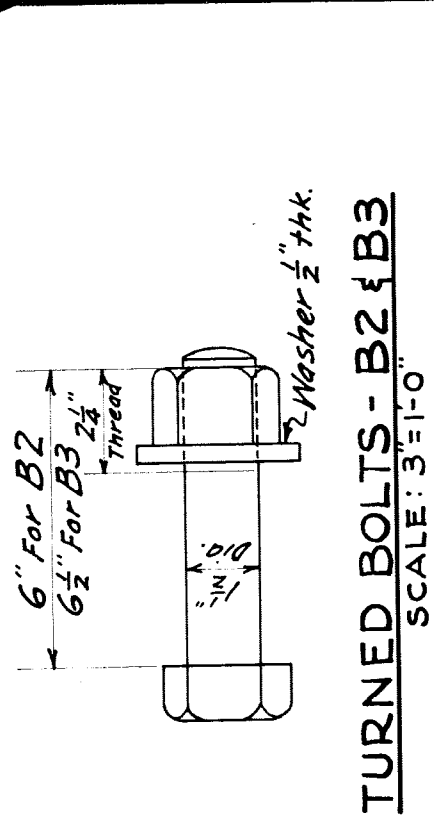
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DATE: _____

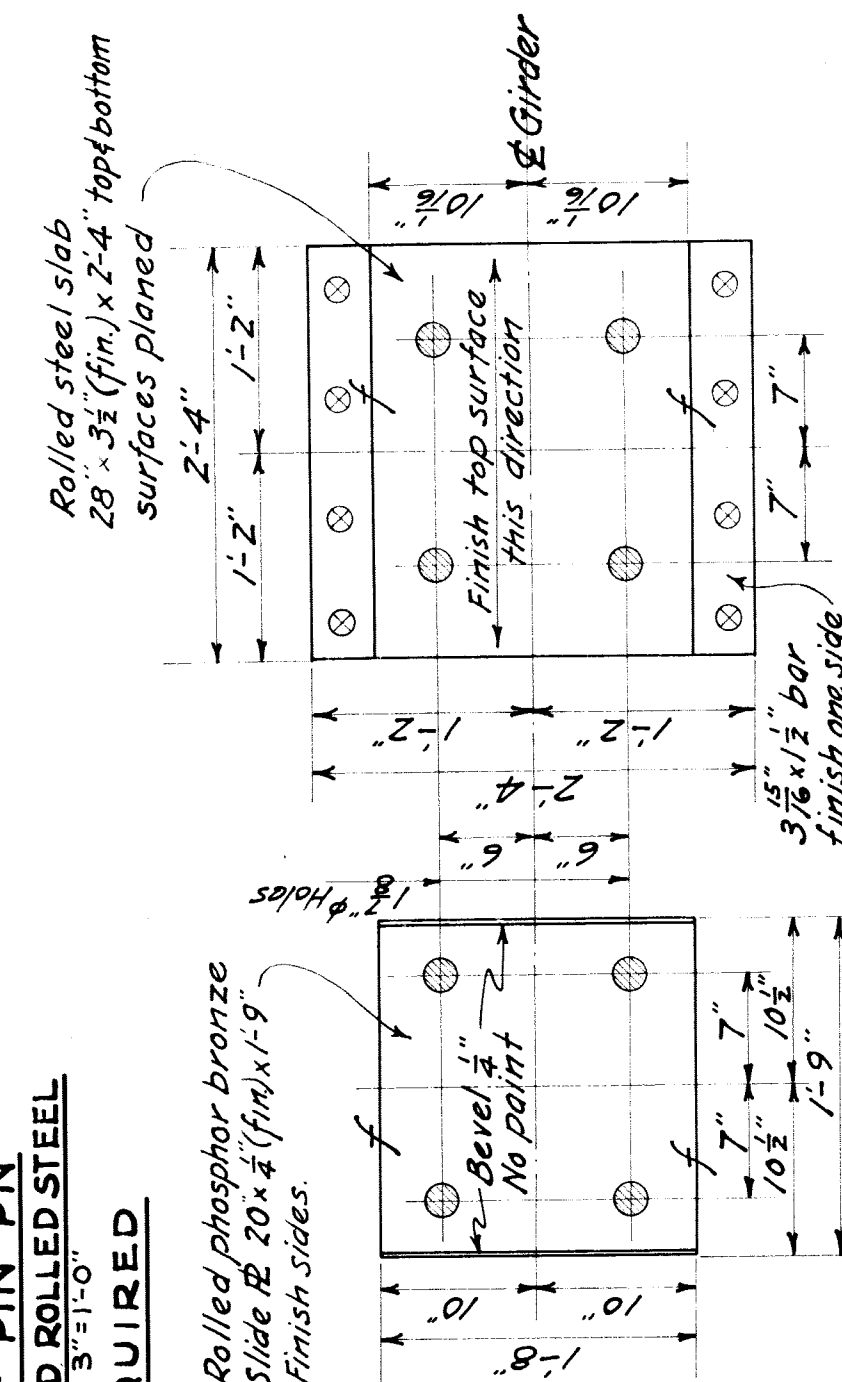
REVISIONS
 NO. DESCRIPTION DATE BY

FLOOR BEAMS EB4 - 2 REQ'D.
BALLAST APRON PLATE AP2 & SLIDE R.
 2 REQ'D.
 SCALE 3/4" = 1'-0"

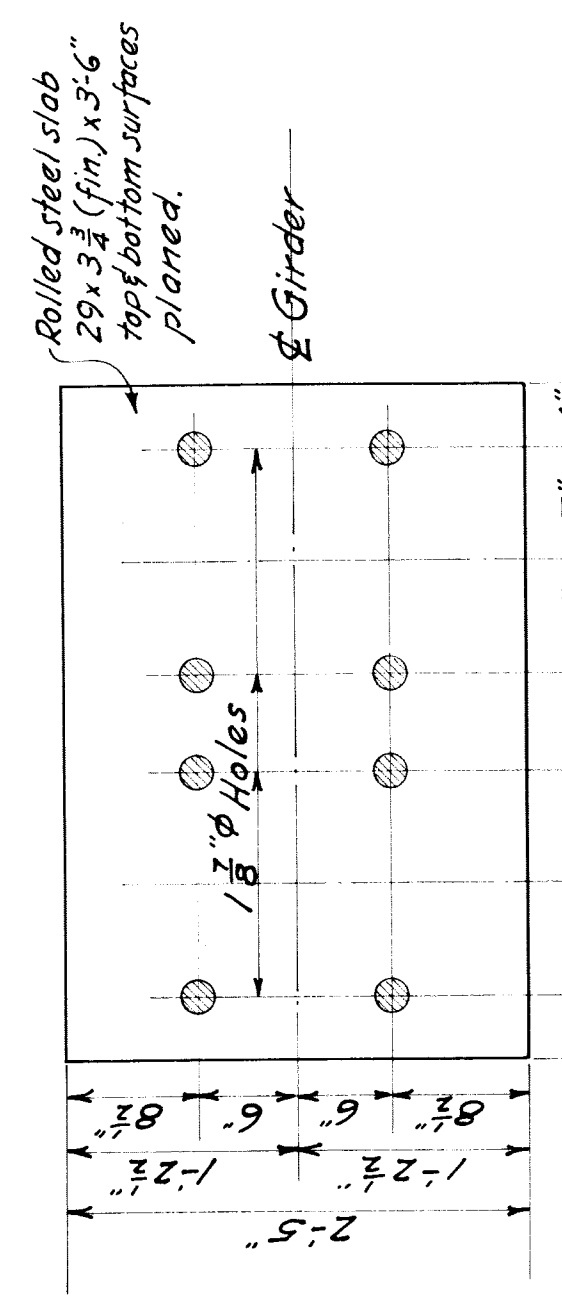
X4 of 82-22-4
 SHEET 32 OF 59



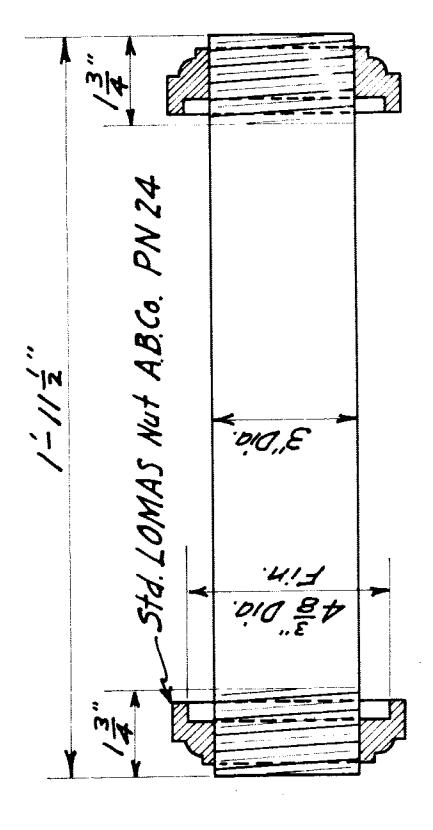
TURNED BOLTS - B2 & B3
SCALE: 3/4" = 1'-0"
REQD. 48-B2 - 16-B3



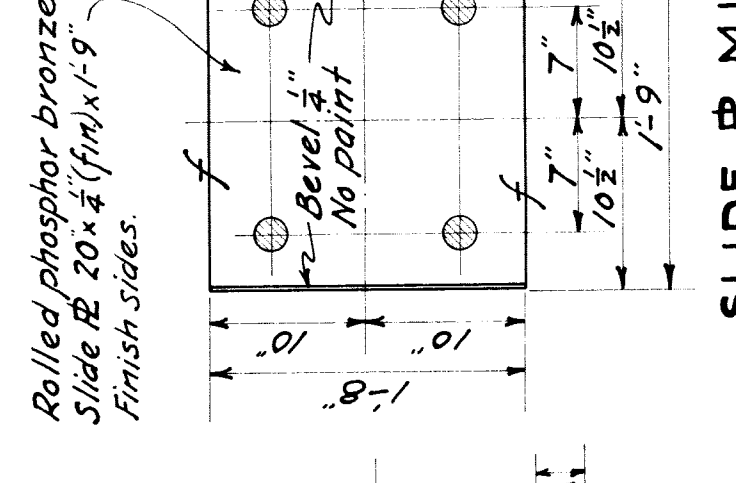
EXPANSION END BEARING BPI
SCALE: 1" = 1'-0"



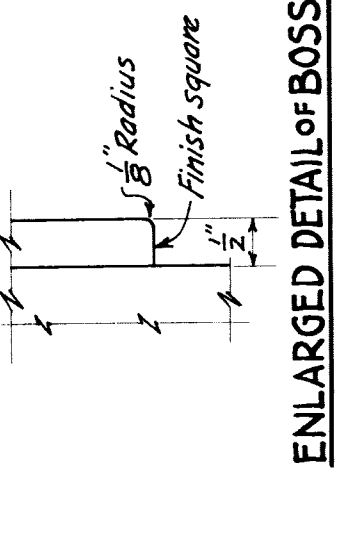
FIXED END (CTR. PIER) BEARING B2
SCALE: 1" = 1'-0"
REQD. 8-M1, 8-BPI & 4-BP2



DETAIL OF PIN PN
MATERIAL: COLD ROLLED STEEL
SCALE: 3/4" = 1'-0"
16 REQUIRED

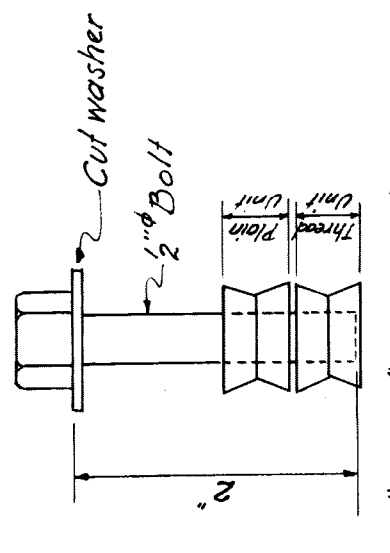


SLIDE B MI
SCALE: 1" = 1'-0"



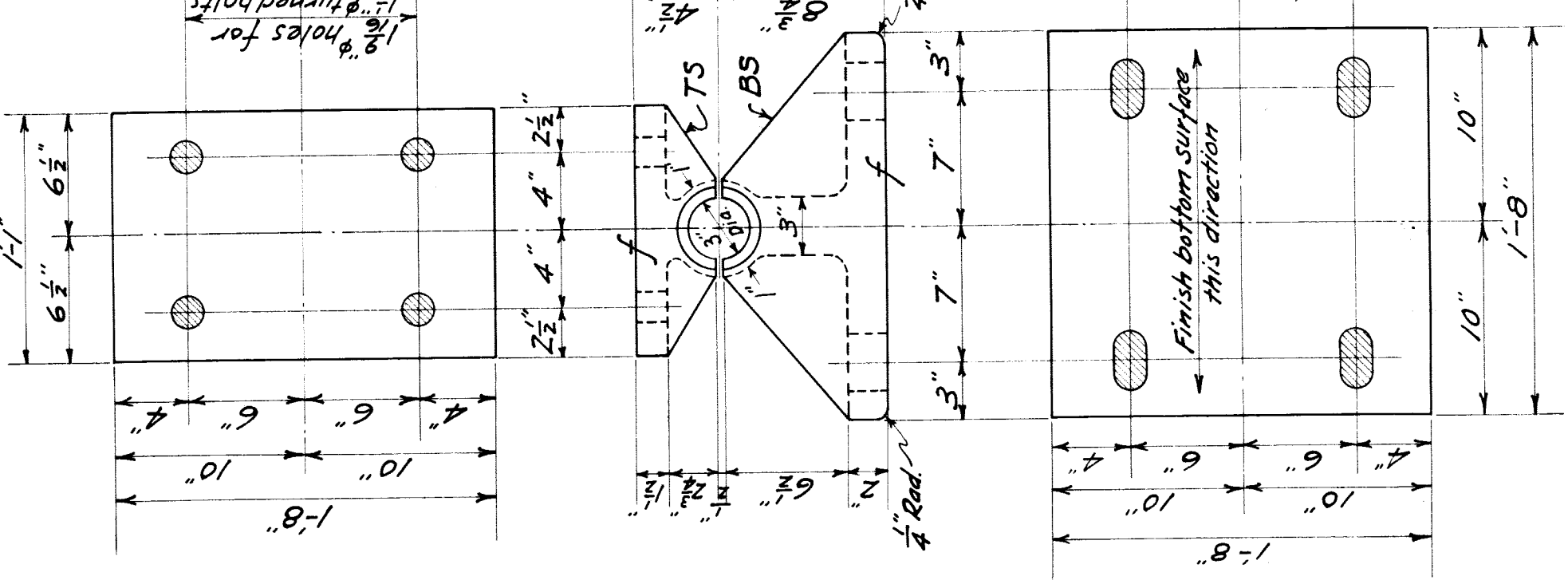
ENLARGED DETAIL OF BOSS
SCALE: 1 1/2" = 1'-0"

END CASTINGS TS-BSB
REQD. 16-TS, 8-BSA, 8-BSB
MATERIAL: CAST STEEL ANNEALED
SCALE: 1 1/2" = 1'-0"



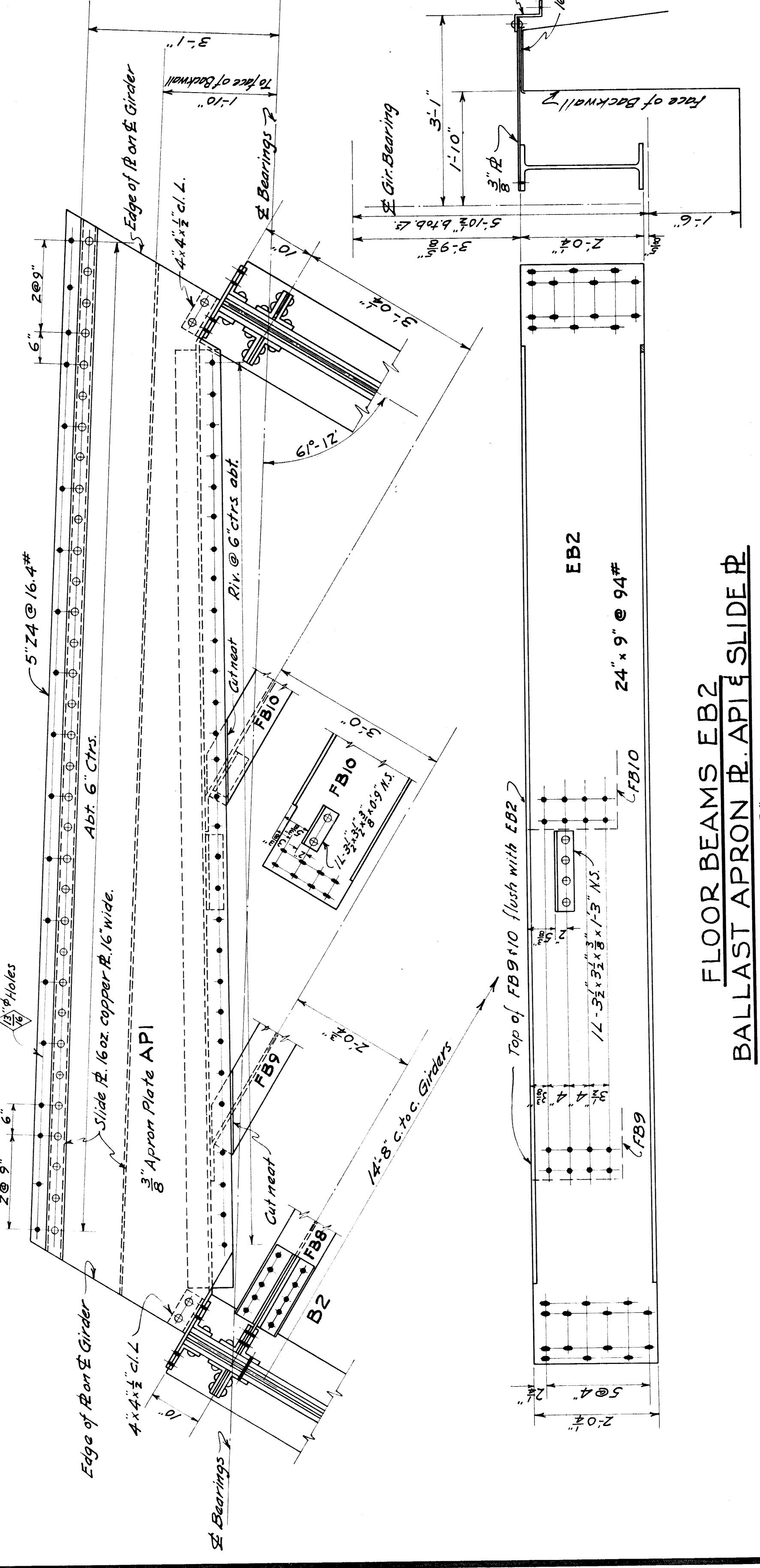
EXPANSION BOLT B4
NOT TO SCALE
33 REQD.

TURNED BOLTS
8 x 3/4" Lg with 1/2" thick washers
Connecting Girders together at
Center Pier
48 REQD.



ANCHOR BOLT BI
NOT TO SCALE
4B REQD.

FLOOR BEAMS EBI
2 REQUIRED
SCALE: 3/4" = 1'-0"



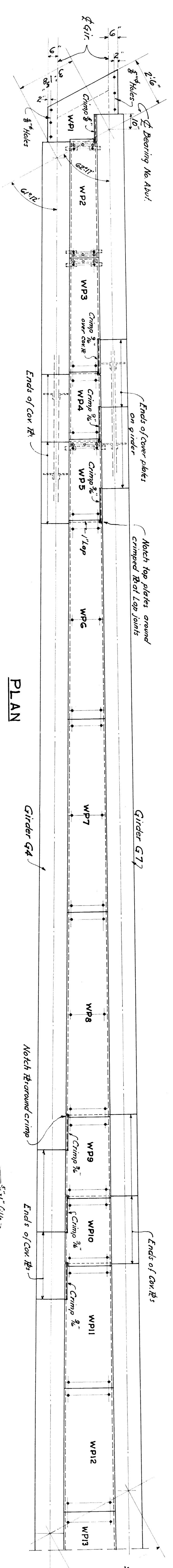
FLOOR BEAMS EB2
BALLAST APRON B API & SLIDE B
SCALE: 3/4" = 1'-0"
2 REQUIRED

MICHIGAN STATE HIGHWAY DEPARTMENT
MURRAY D. VAN WAGONER - COMMISSIONER
T. 25. R. 11 E. WAYNE CO.
BRIDGE FILE NO. X40F82-22-4 ROAD MICHIGAN AVE. AT STA. 52+06.59
CROSSING G.T.W.R.R. AND N.Y.C.R.R. IN CITY OF DETROIT

STRUCTURAL STEEL
FLOOR BEAMS - BALLAST PLATES & BEARINGS
SCALES AS SHOWN
FOR G.T.W.R.R.

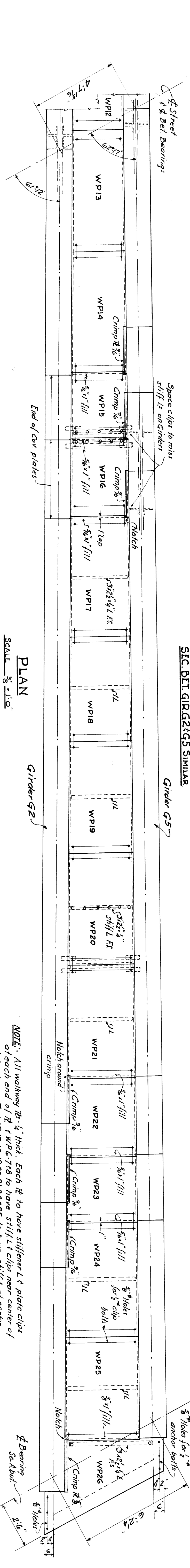
DESIGNED BY	SCALE	SHEET
CHECKED BY	3/4" = 1'-0"	33 OF 59
APPROVED		

APPROVED: [Signature]
ENGINEER OF BRIDGE DESIGN



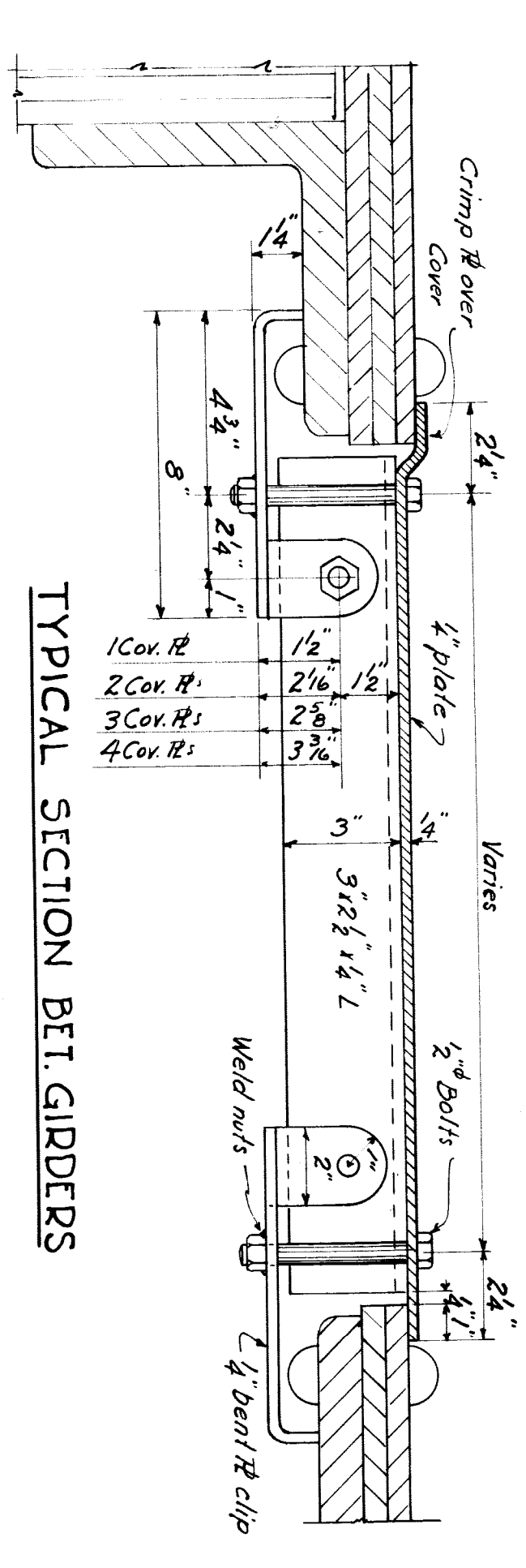
PLAN

SECTION-φ BET GIRDERS G4-G7
SEC. BET GIRDERS G5 SIMILAR

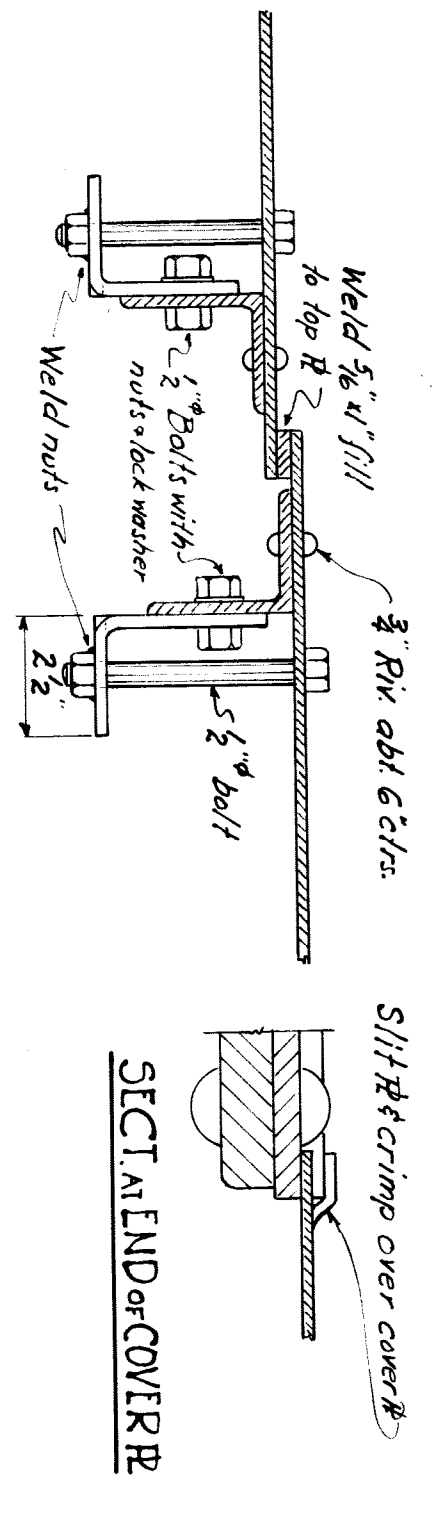


PLAN

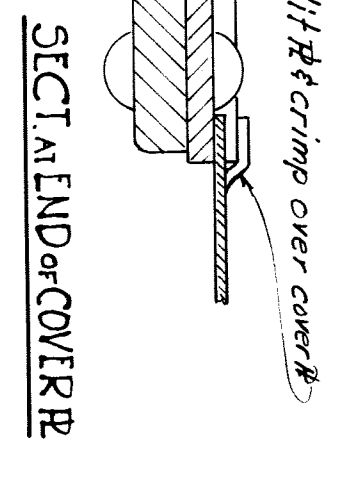
WALKWAY PLATES WP1 to WP26 INCL.
REQD - 26 PL - WP1 to WP 26 INCL.



TYPICAL SECTION BET. GIDDERS



SEC. AT LAP JOINT

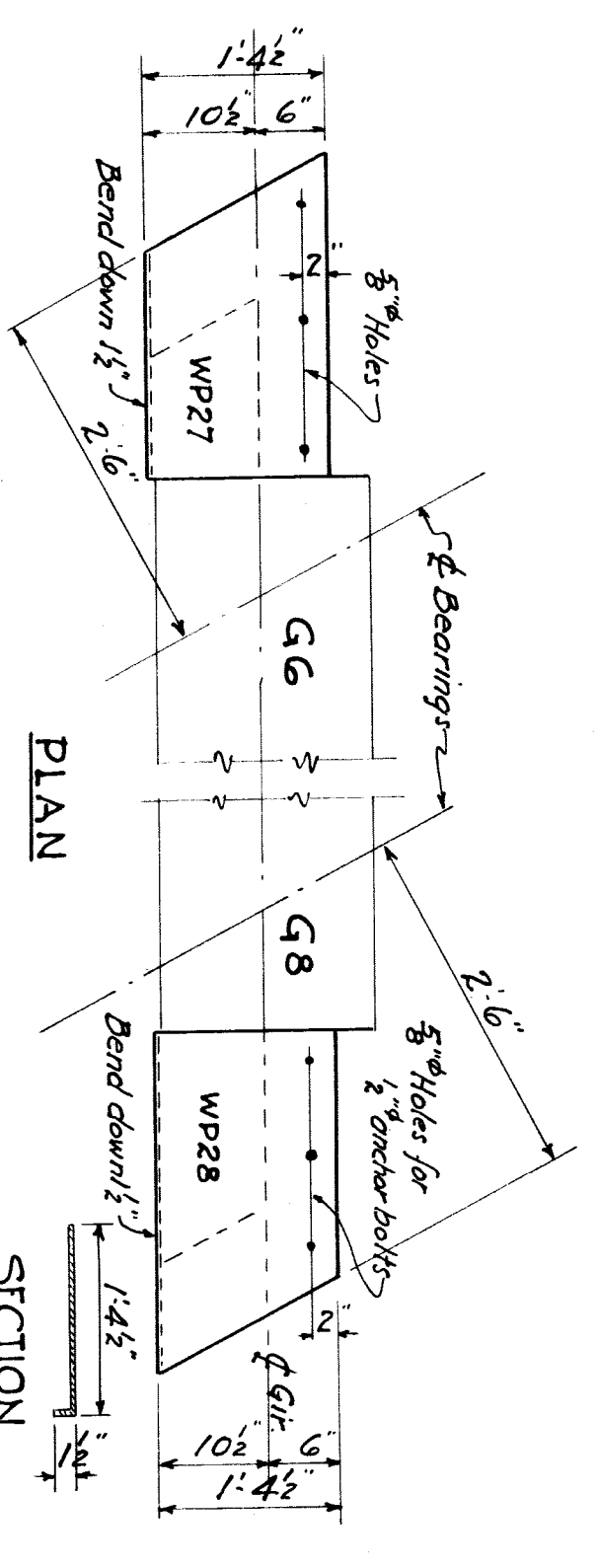


SECT AT END OF COVER

WALKWAY R DETAILS

SCALE 3/4"=1'-0"

NOTE: SHIP RS SHOP ASSEMBLED INCLUDING CLIP R & BOLTS



WALKWAY RWP27 & WWP28
REQD - 1 WP27 - 1 WP28
SCALE 3/4"=1'-0"

NOTES:
Rivets 3/8" - Hole 1/2" for 3/8" Rivets
Other holes 5/8" for 3/4" bolts.

NOTE: All walkway R's 1/4" thick. Each R to have stiffener L & plate clips of each end of R. φ WP6-718 to have stiff L & clip near center of plate also. R's WP17-18-19-20-21-24-25 to have stiff L at center. R's WP1- WP26-27-28 have no clip conn. WP26 has one angle stiff.

NO	REVISIONS	DATE	BY

MICHIGAN STATE HIGHWAY DEPARTMENT
MURRAY D. VAN WAGONER - COMMISSIONER

T.25 R.11E
BRIDGE FILE NO. X4 OF 82-22-4 ROAD MICHIGAN AVE. AT STA. 52+06.59
CROSSING G.T.W.R.R. & N.W.C.R.R. IN CITY OF DETROIT
WAYNE CO.

STRUCT. STEEL DETAILS
WALKWAY RS BETWEEN SPANS
SCALE AS NOTED
FOR G.T.W.R.R.

APPROVED: *[Signature]* CHIEF ENGINEER
APPROVED: *[Signature]* ENGINEER OF BRIDGE DESIGN

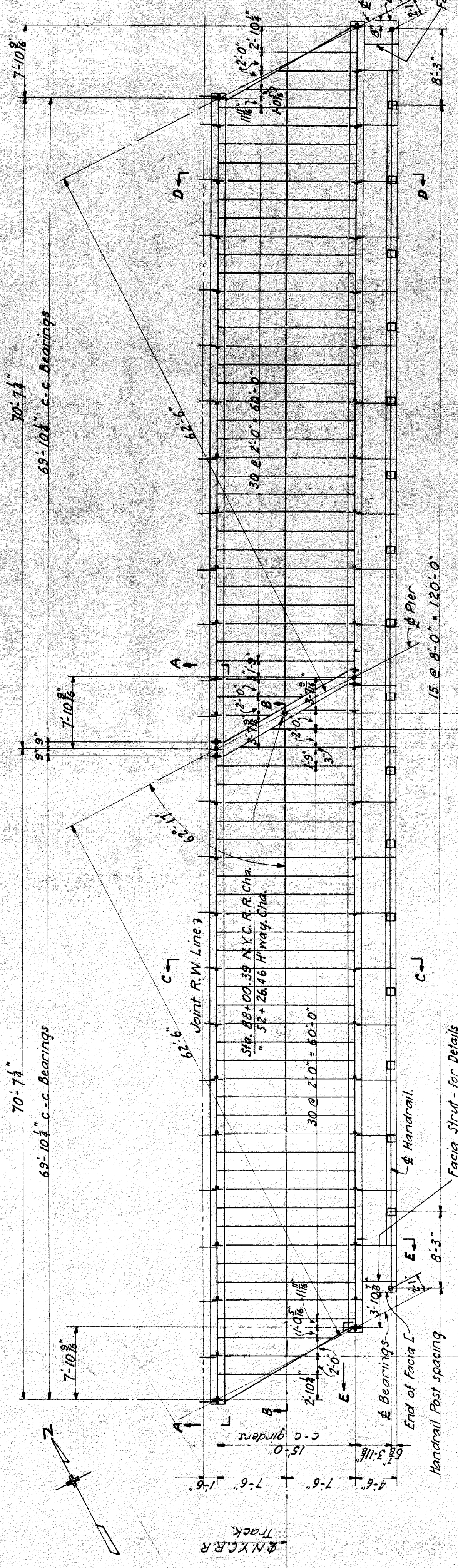
DESIGNED BY	RAVW	1-10-40
CHECKED BY	RAVW	1-10-40
SHEET	35	OF 59

DRAWN BY: M.L.B. DEC. 39
CHECKED BY: W.K.M.B. 2-3-40
ENGINEER: RAVW 1-10-40
SHEET 35 OF 59

X4#82-22-4

File XU 29-35

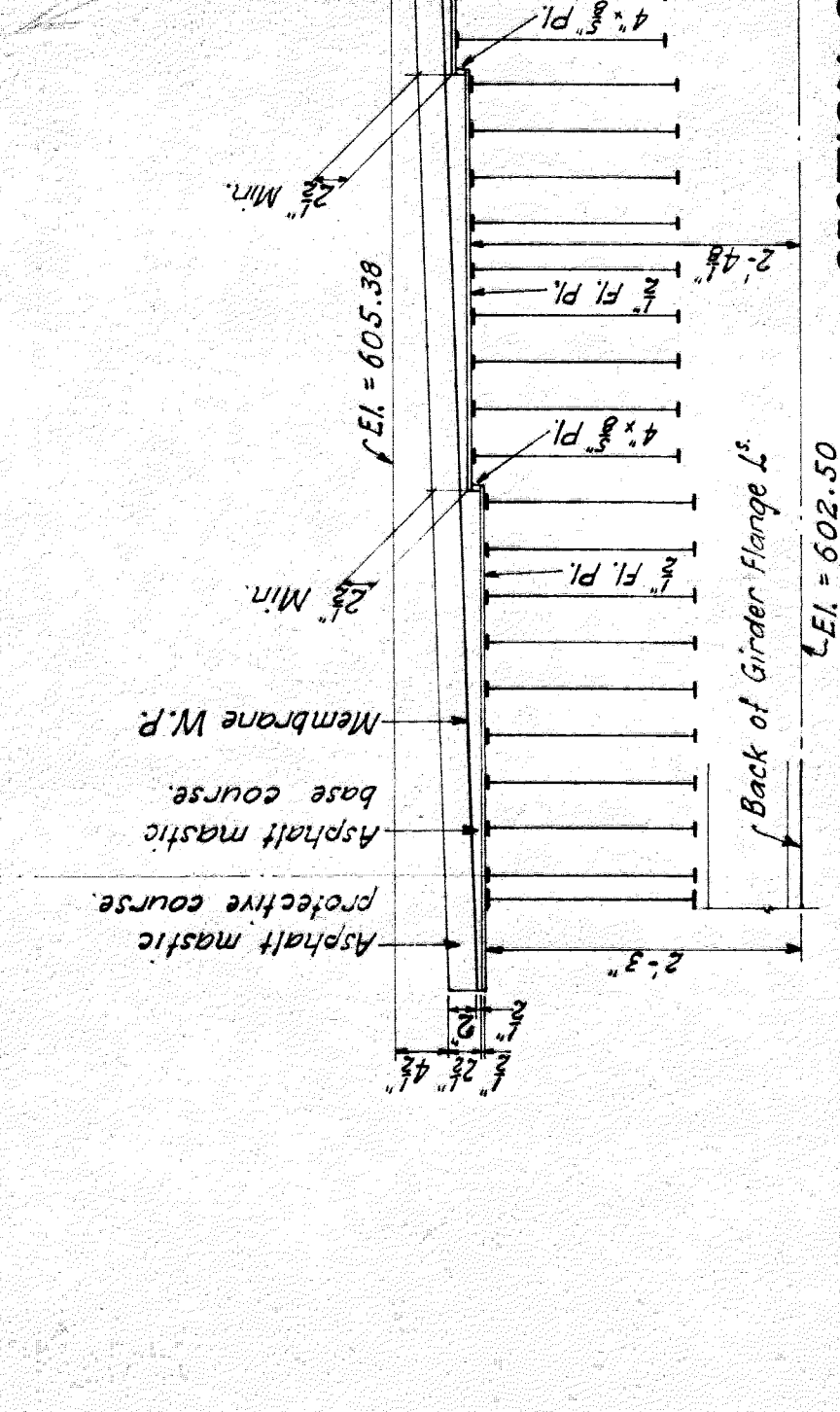
CONTRACT No. 4



PLAN
Scale $\frac{1}{8}'' = 1'-ft.$

Design Notes: Girder 70' ± Span (with Sidewalk)

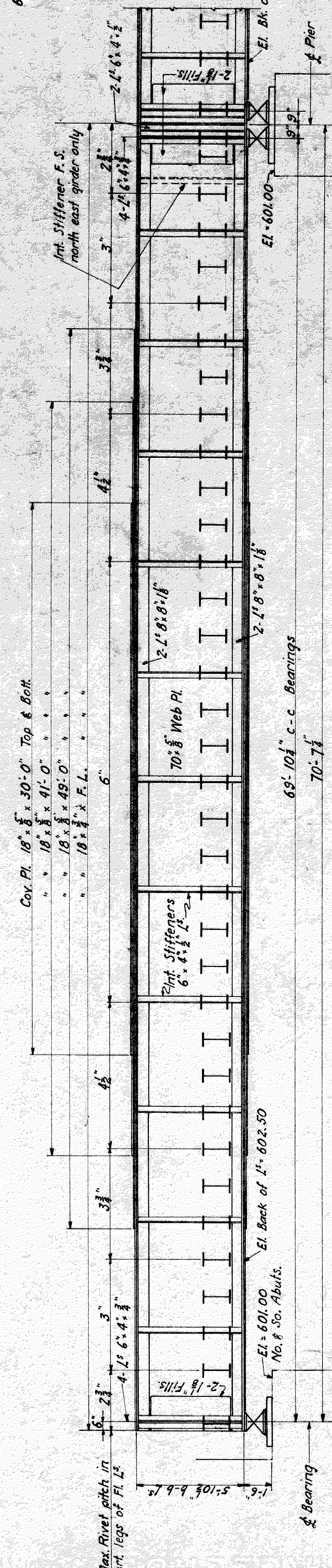
D.L.	L.L.	Moments	S.M. Read.	S.M. Prov.
2,355,000 #	2,987,100 #	I	4870 c	5710 c
		Total	1,933,900 #	7,276,000 #
			4850 #	4900 #
			Gr. A' Read.	Gr. A' Prov.
			41,200 #	43,750 #
			123,000 #	453,000 #



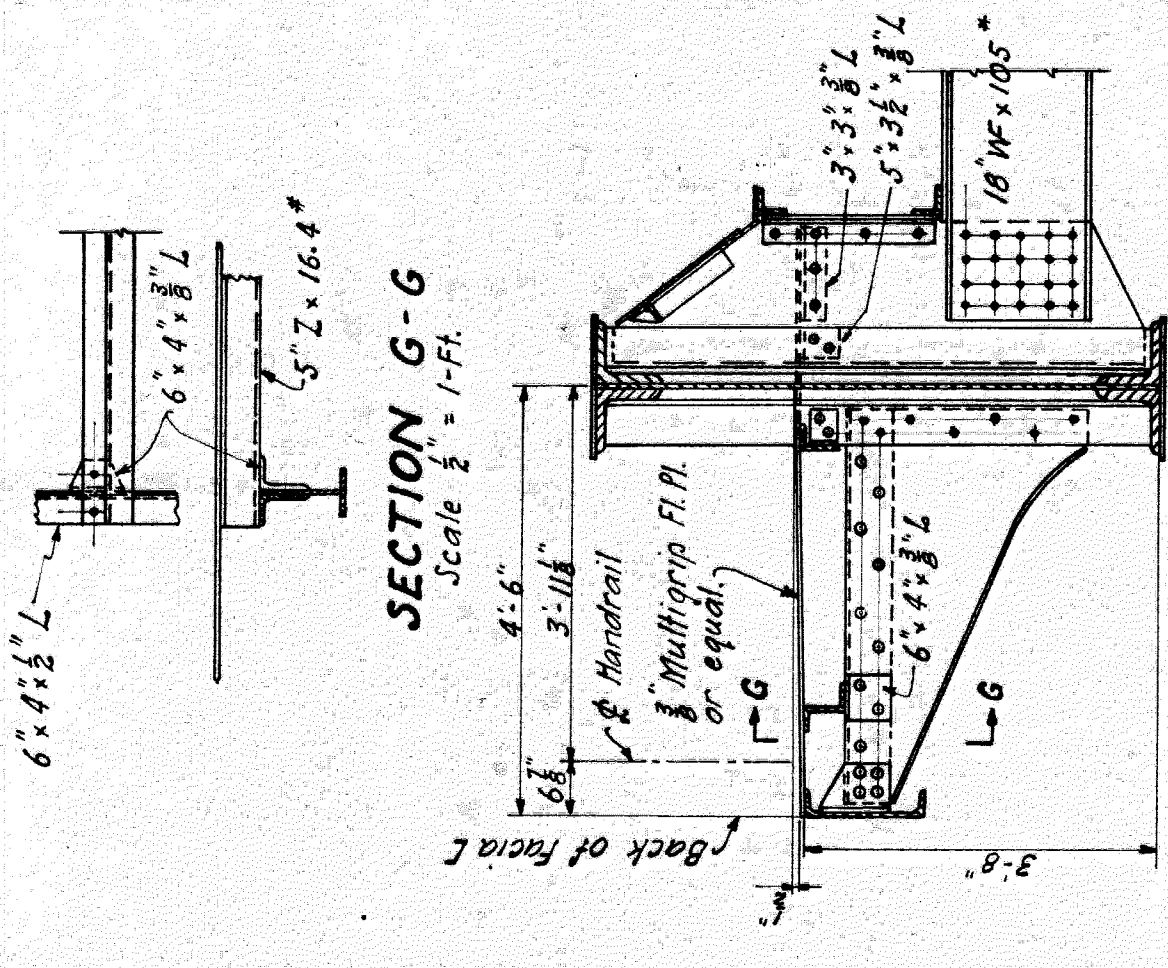
SECTION B-B
Horiz. Scale $\frac{1}{2}'' = 1'-ft.$
Vert. Scale $\frac{1}{4}'' = 1'-ft.$

Design Notes: Floor Beam 15' Span.

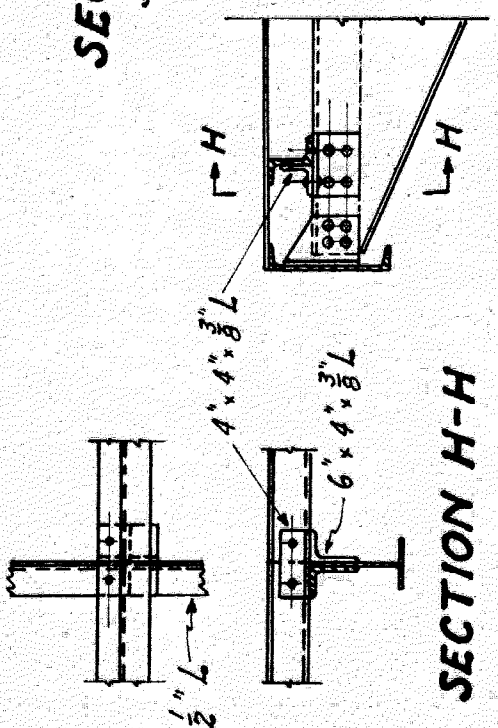
D.L.	L.L.	Moments	S.M. Read.	S.M. Prov.
16,850 #	70,000 #	I	Total	104 #
			68,550 #	155,000 #



SECTION A-A
Scale $\frac{1}{4}'' = 1'-ft.$

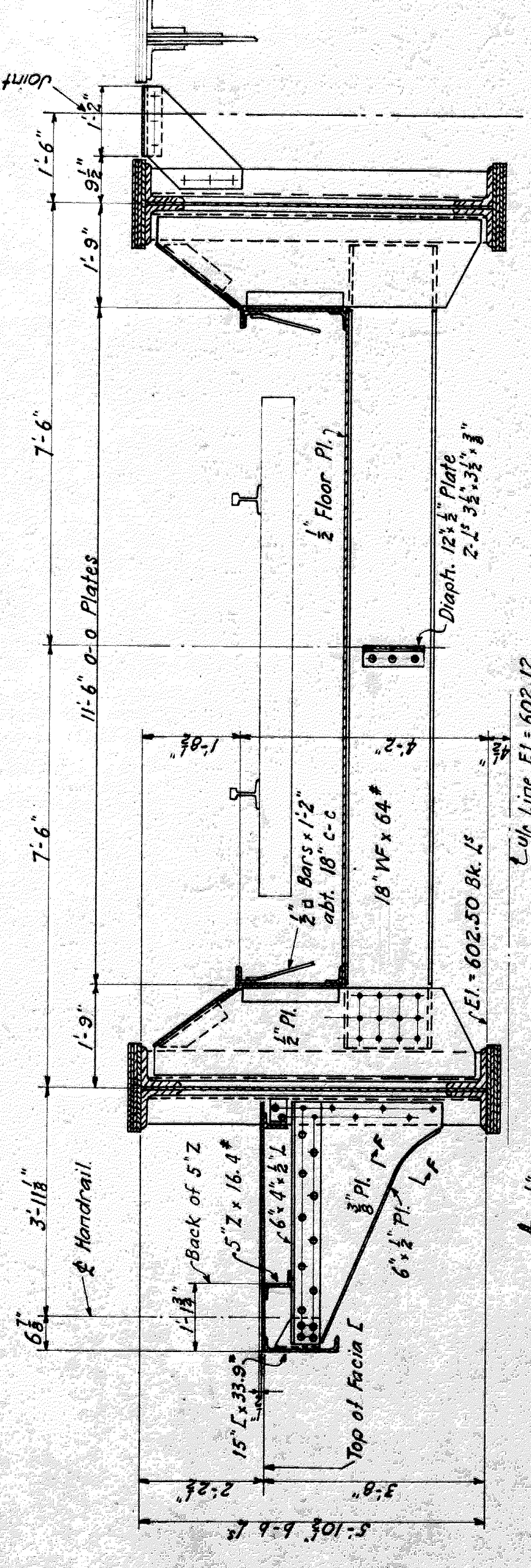


SECTION G-G
Scale $\frac{1}{2}'' = 1'-ft.$



SECTION H-H
Scale $\frac{1}{2}'' = 1'-ft.$

DETAIL AT JOINT IN Z BAR
Scale $\frac{1}{2}'' = 1'-ft.$



SECTION C-C
Scale $\frac{1}{2}'' = 1'-ft.$

SECTION F-F
Scale $1'' = 1'-ft.$

NOTES:
Rivets: 1" in Girders except O.S. legs of stiffener angles, 3/8" elsewhere unless noted.
Holes: 1/16" in Girders except O.S. legs of stiffener angles, 1/8" elsewhere unless noted.
For General Notes see Sheet # 38 & # 1

MICHIGAN STATE HIGHWAY DEPARTMENT
MURRAY D. VAN WAGONER - COMMISSIONER
T. 25-R-11 E
BRIDGE FILE NO. X4 82-22-4 ROAD MICHIGAN AVE. WAYNE CO.
CROSSING N.Y.C. R.R.

GENERAL STEEL PLAN

Scale: 1" = 1'-ft.

REVISIONS

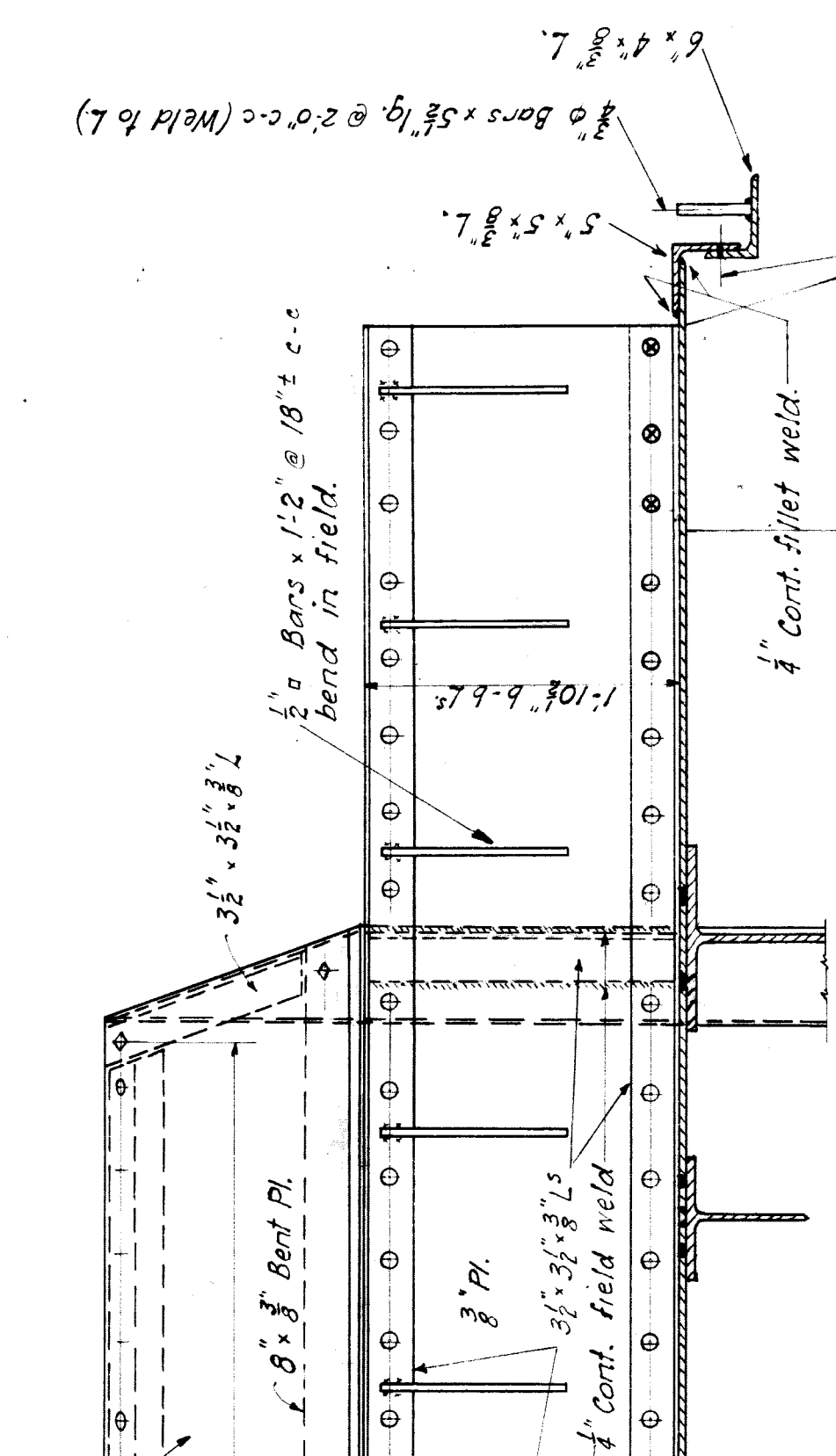
NO.	DESCRIPTION	DATE	BY

APPROVED: *J. S. ...*
ENGINEER OF PUBLIC DESIGN

X4#82-22-4

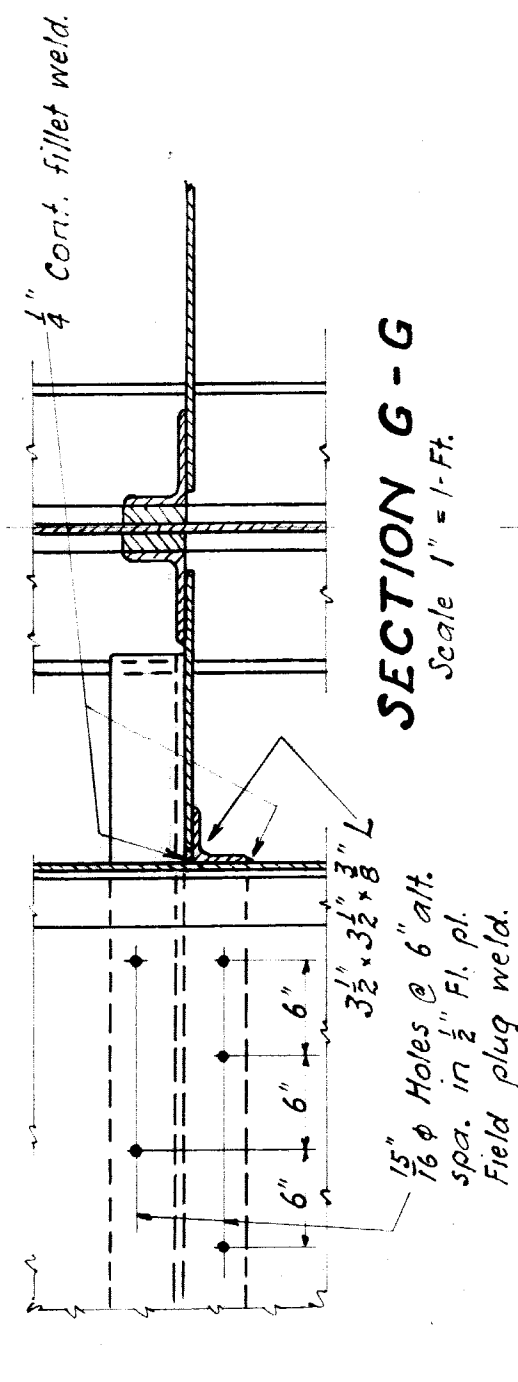
File XU 29-36

CONTRACT No. 4

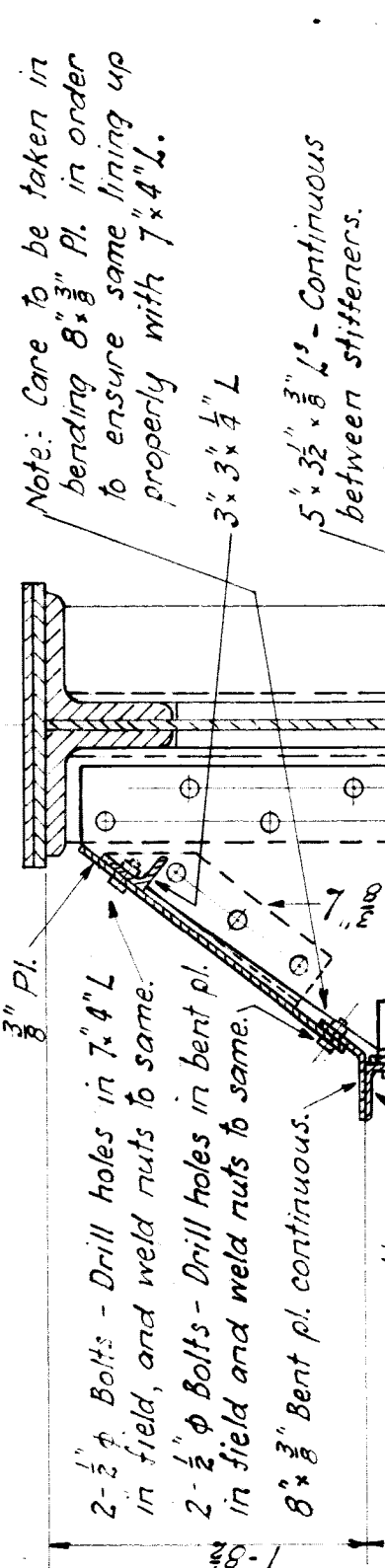


SECTION E-E
Scale 1" = 1'-ft.

1/2" ϕ Holes for 1/2" ϕ Bolts x 1 1/2" lg. @ 12" c-c.
Bolts furnished by Struct. Steel Contractor.

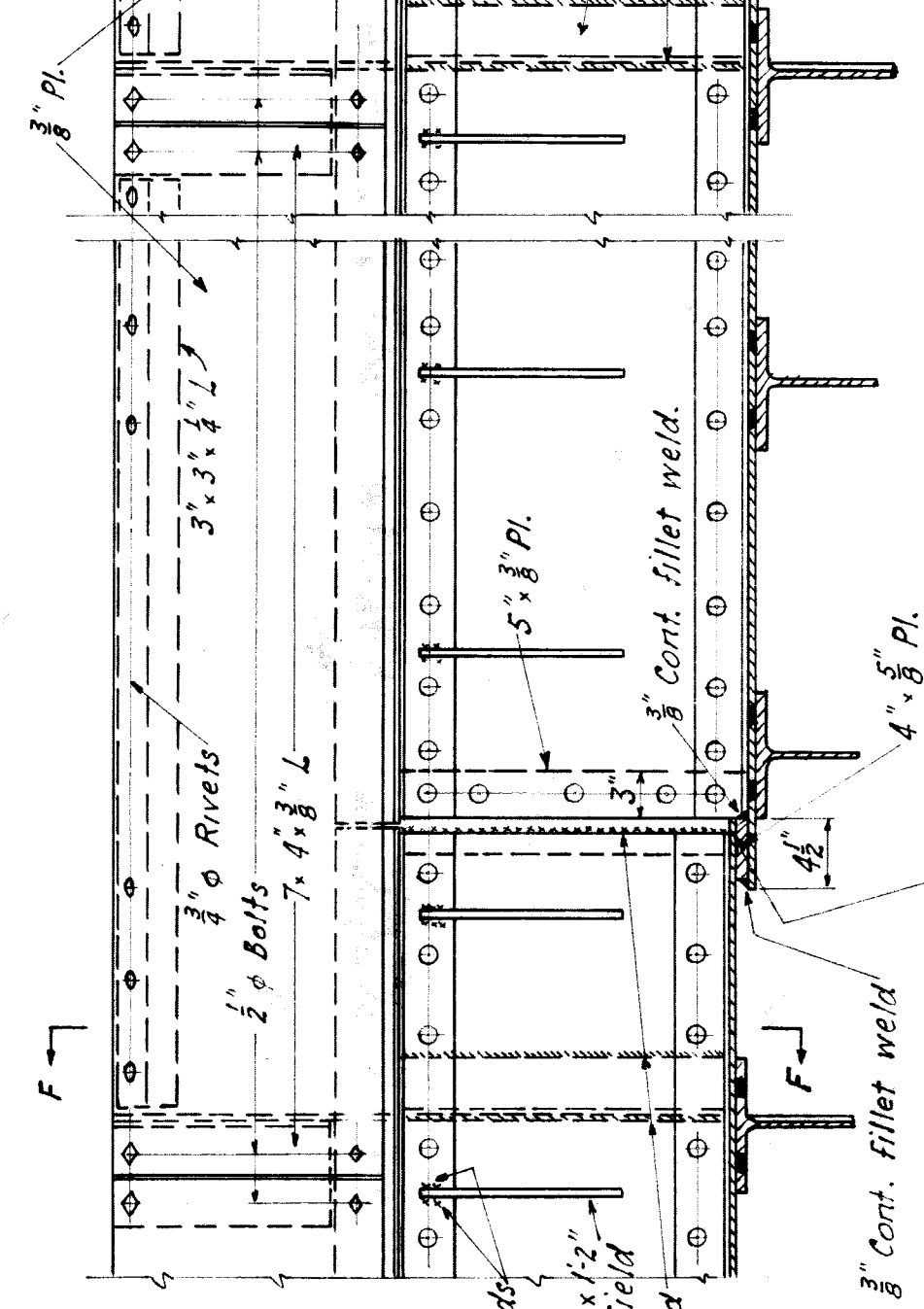


SECTION G-G
Scale 1" = 1'-ft.



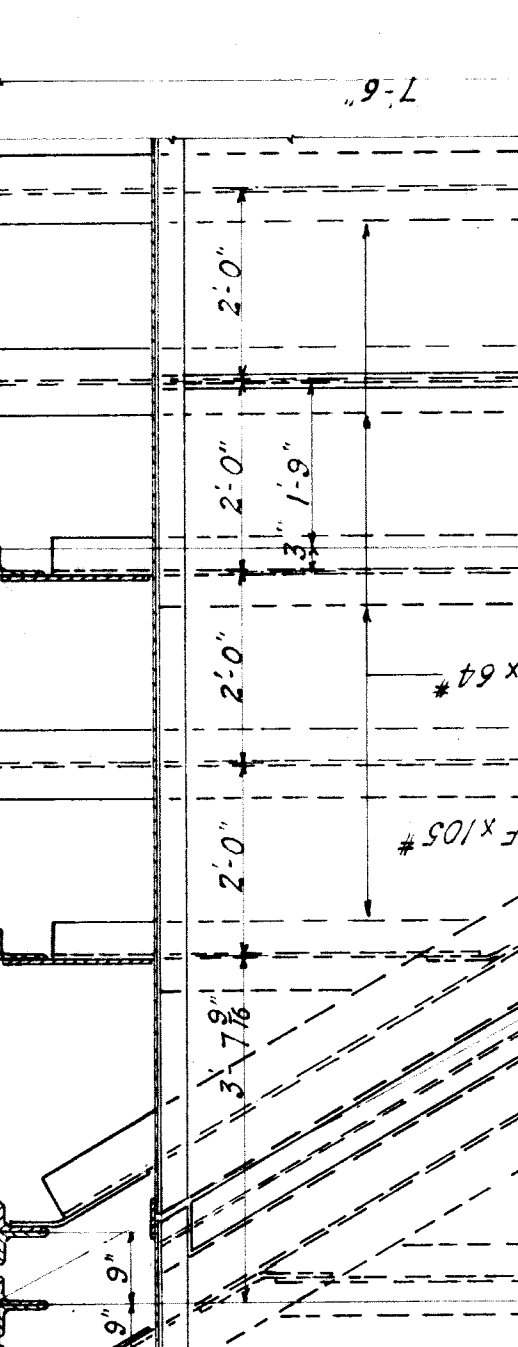
SECTION F-F
Scale 1" = 1'-ft.

Note: Care to be taken in bending B₁ in order to ensure same lining up properly with 1/4" L.
5" x 3/8" L. Continuous between stiffeners.
6" x 5/8" L. (C.F. 6x6) F.S.

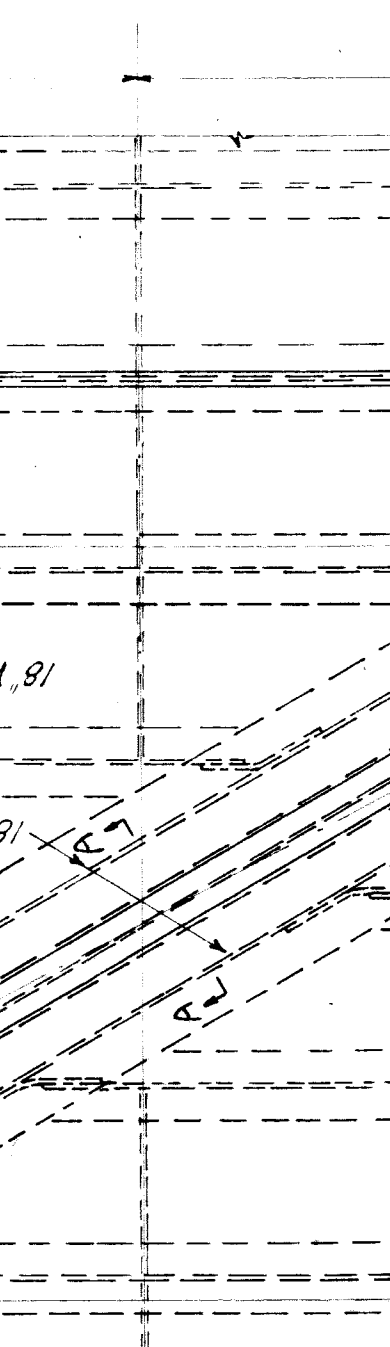


SECTION E-E
Scale 1" = 1'-ft.

1/2" ϕ Holes for 1/2" ϕ Bolts x 1 1/2" lg. @ 12" c-c.
Bolts furnished by Struct. Steel Contractor.

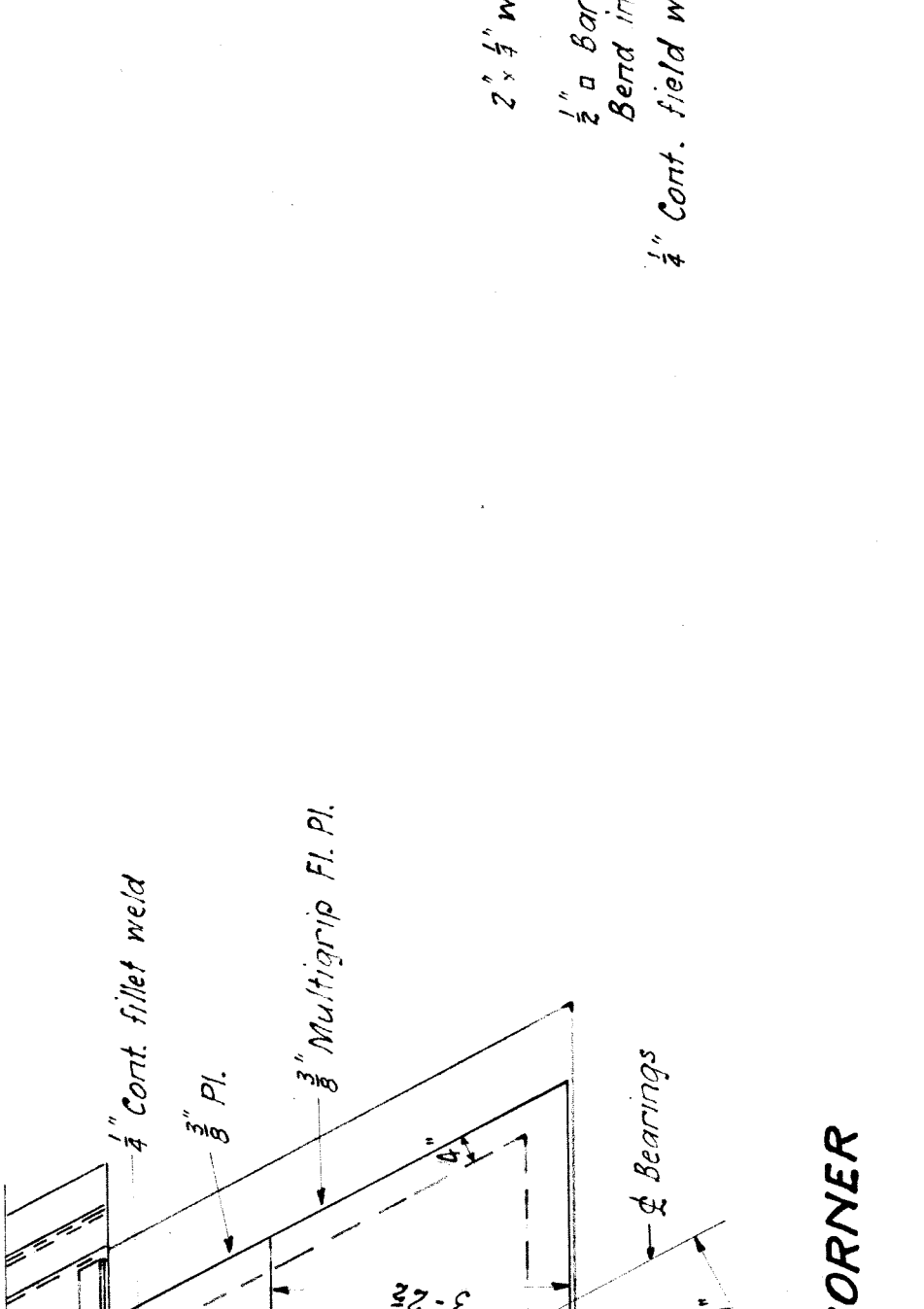


SECTION G-G
Scale 1" = 1'-ft.

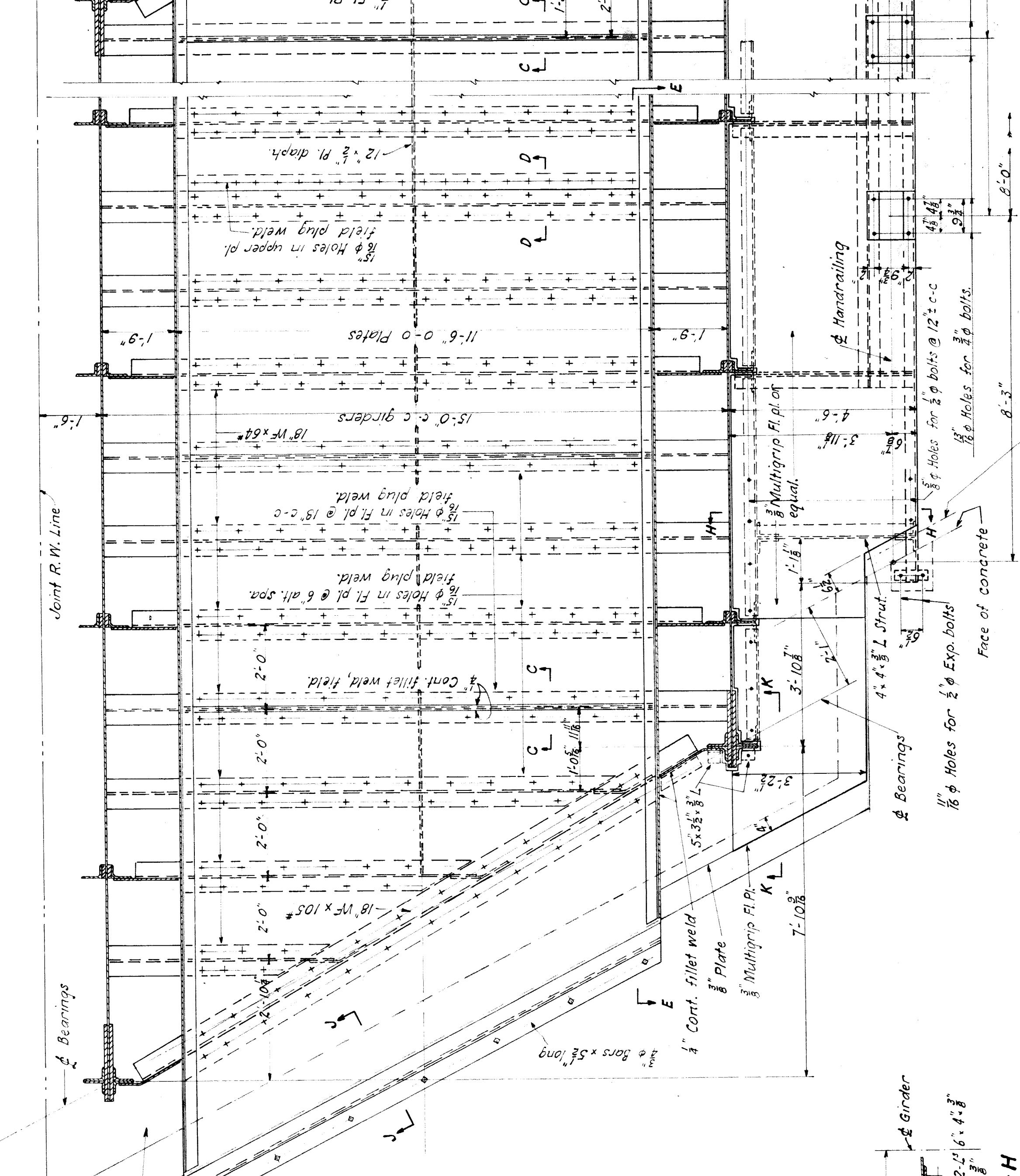


SECTION F-F
Scale 1" = 1'-ft.

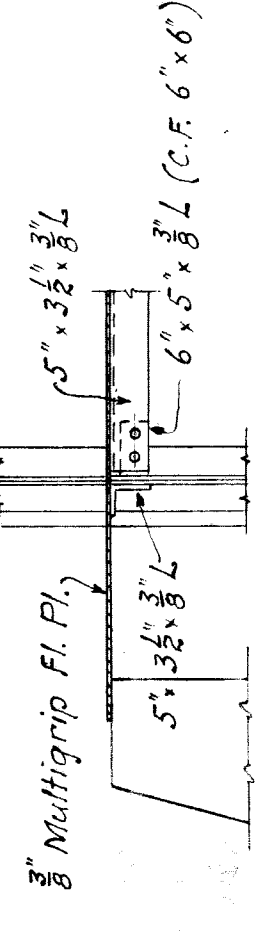
Note: Care to be taken in bending B₁ in order to ensure same lining up properly with 1/4" L.
5" x 3/8" L. Continuous between stiffeners.
6" x 5/8" L. (C.F. 6x6) F.S.



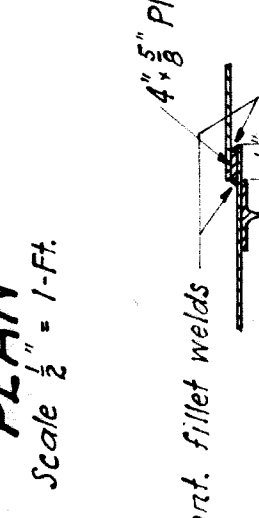
PLAN AT NORTH EAST CORNER
Scale 1/2" = 1'-ft.



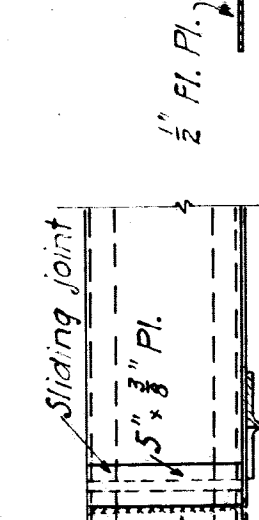
PLAN
Scale 1/2" = 1'-ft.



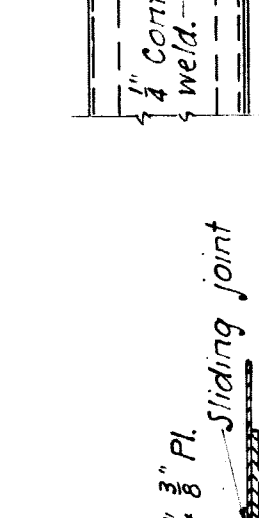
SECTION K-K
Scale 1/2" = 1'-ft.



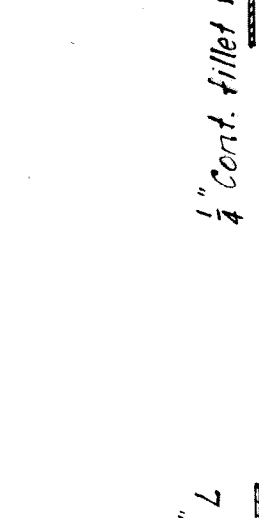
SECTION D-D
Scale 1/2" = 1'-ft.



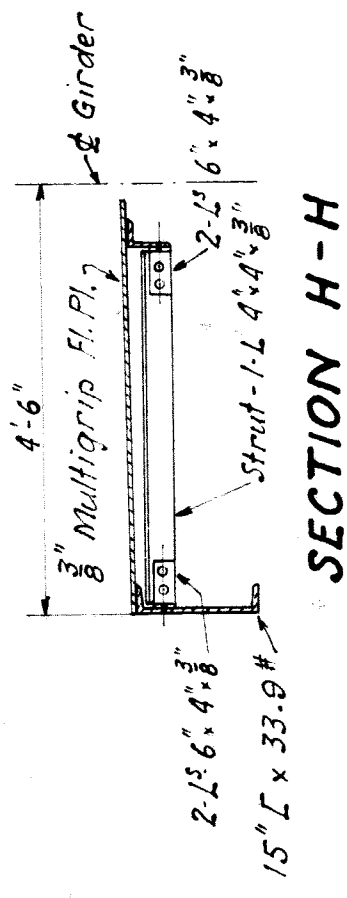
SECTION C-C
Scale 1/2" = 1'-ft.



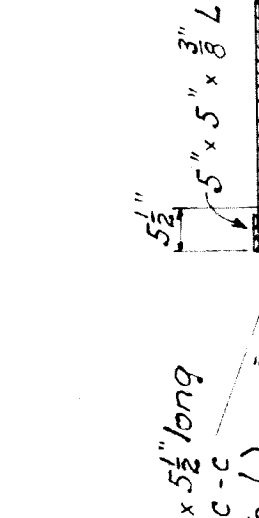
SECTION B-B
Scale 1/2" = 1'-ft.



SECTION A-A
Scale 1/2" = 1'-ft.



SECTION H-H
Scale 1/2" = 1'-ft.



SECTION J-J
Scale 1/2" = 1'-ft.

For details at this point see Sht. #38

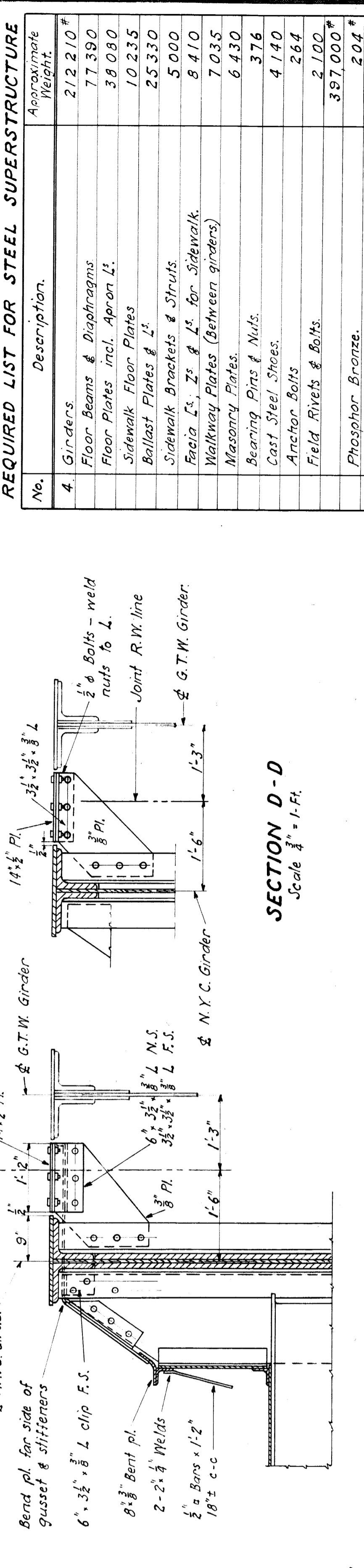
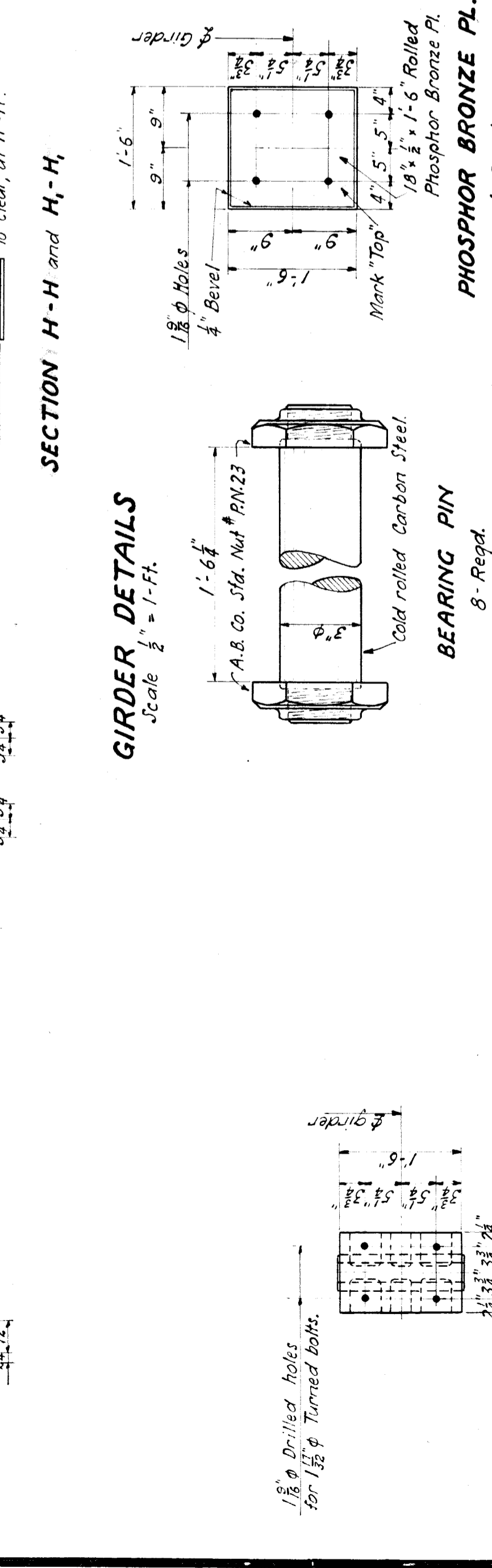
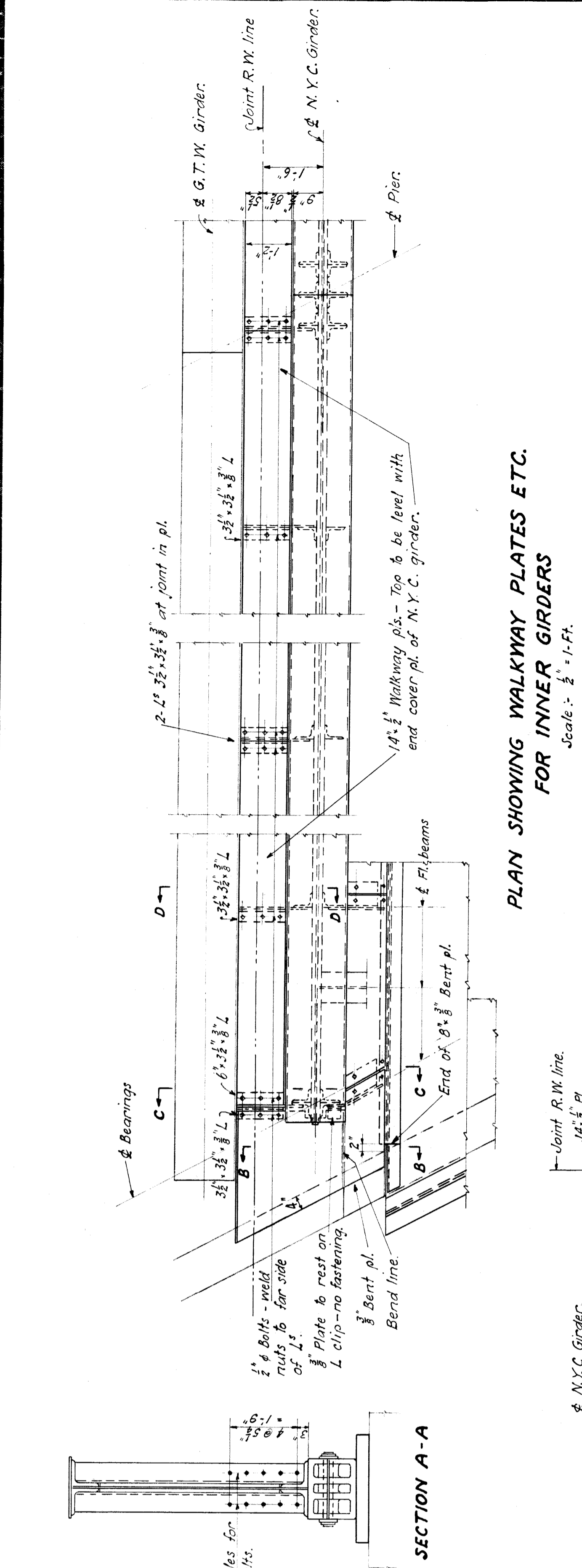
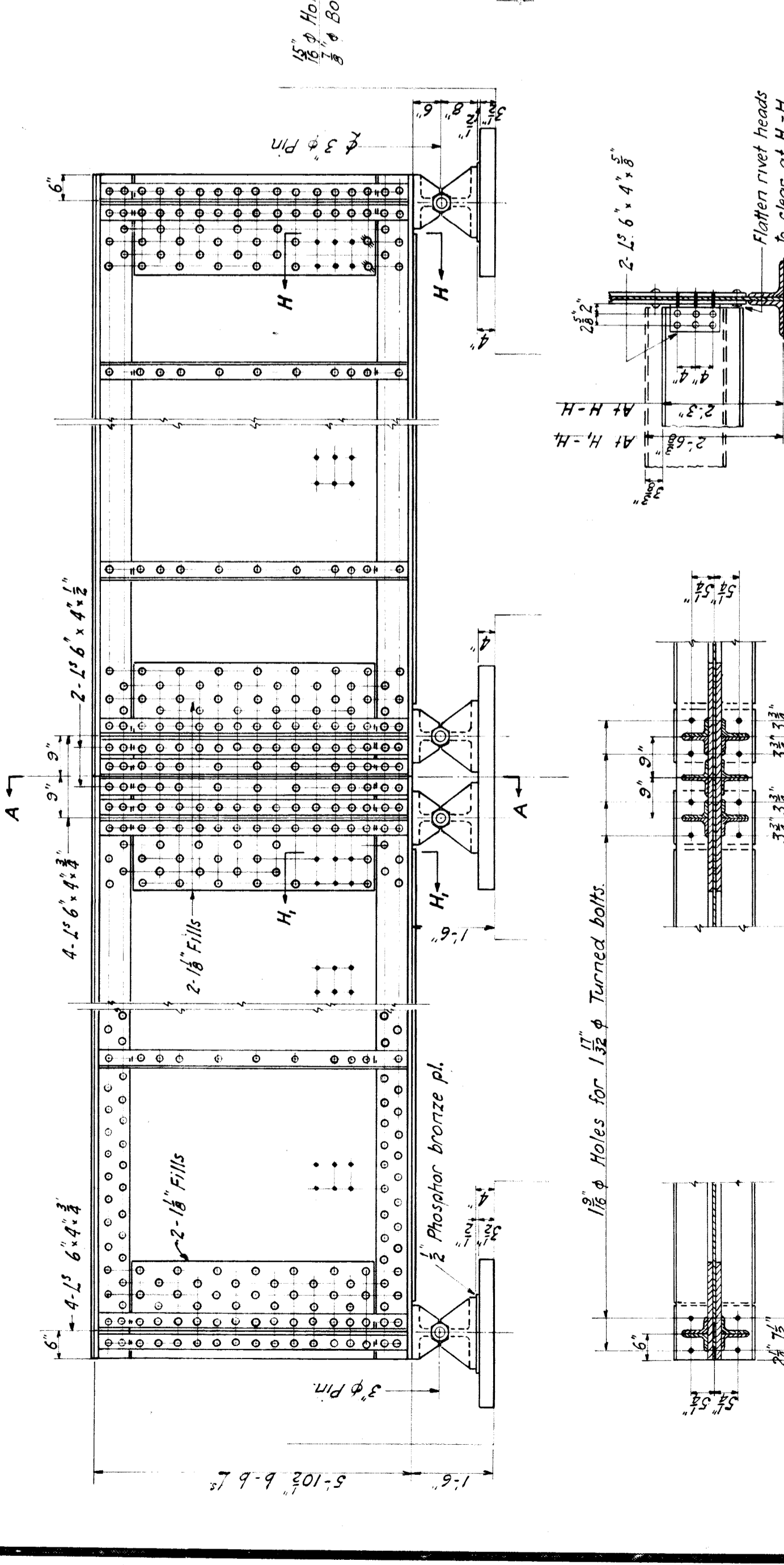
MICHIGAN STATE HIGHWAY DEPARTMENT
MURRAY D. VAN WAGONER - COMMISSIONER
WAYNE CO.
T. 25-R. 11E
BRIDGE FILE NO. X4 82-22-4 ROAD MICHIGAN AVE.
CROSSING N.Y.C. R.R. DETROIT

STEEL-FLOOR DETAILS
Scale: 1/2" = 1'-0"

SQUAD BOSS	KSC:EH	7-25-37
DRAWN BY	F.F.P.	8-2-39
CHECKED BY	H.S.F.	1-4-40
APPROVED	J. J. ...	CHIEF DESIGNER
APPROVED	J. J. ...	ENGINEER OF BRIDGE DESIGN

REVISIONS
NO. DESCRIPTION DATE BY

X4 of 82-22-4
File XU 29-37
CONTRACT No. 4



PLAN SHOWING WALKWAY PLATES ETC. FOR INNER GIRDERS
Scale: 1/4" = 1'-0"

REQUIRED LIST FOR STEEL SUPERSTRUCTURE

No.	Description.	Approximate Weight.
4	Girders.	212,210#
	Floor Beams & Diaphragms	77,390
	Floor Plates incl. Apron L's.	30,080
	Sidewalk Floor Plates	10,235
	Ballast Plates & L's	25,330
	Sidewalk Brackets & Struts	5,000
	Face L's, Z's & L's for Sidewalk.	8,410
	Walkway Plates (between girders)	7,035
	Masonry Plates.	6,430
	Bearing Pins & Nuts.	376
	Cast Steel Shoes.	4,140
	Anchor Bolts	264
	Field Rivets & Bolts.	2,100#
	Phosphor Bronze.	204#
	W.P. Protection Plates, Cinch Anchors & Top Bolts	397,504#
	TOTAL	397,744#

GENERAL NOTES FOR NYCRR STEEL SUPERSTRUCTURE

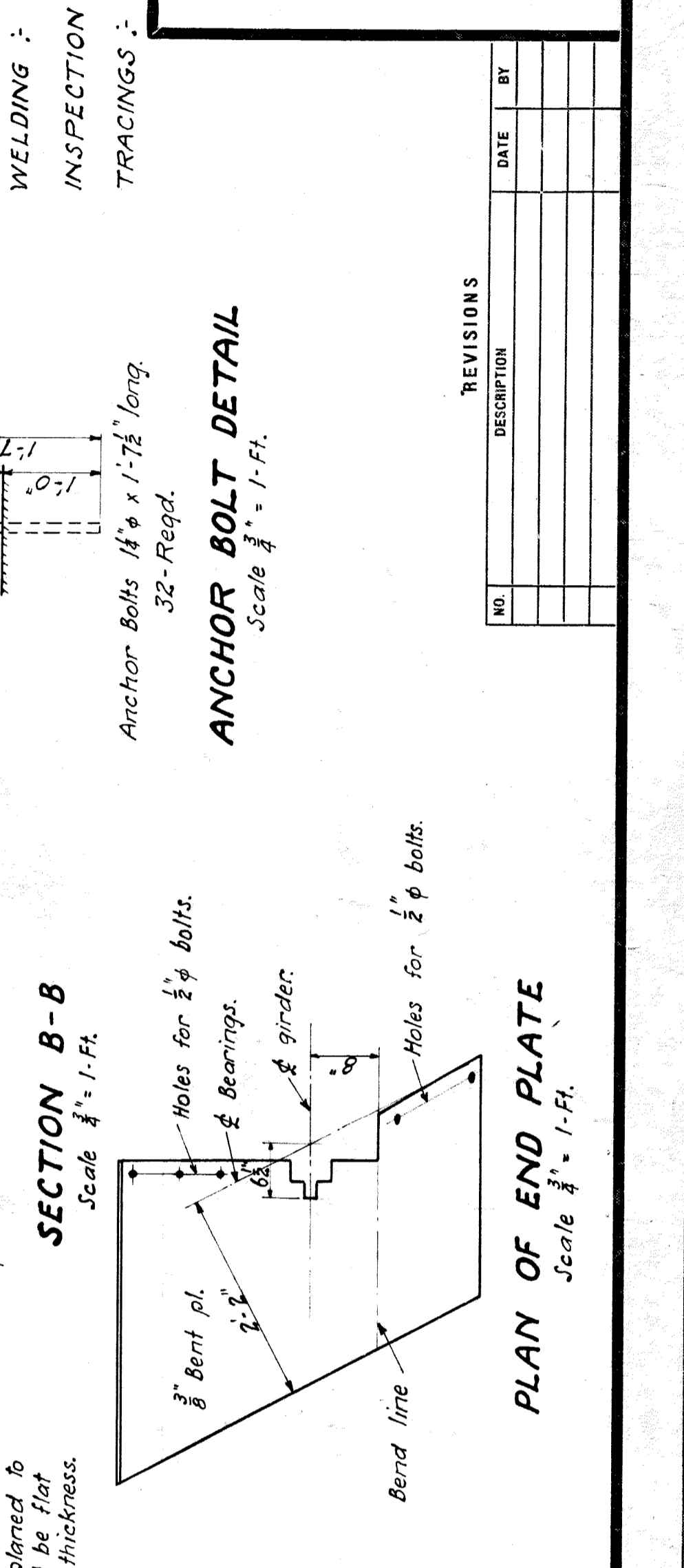
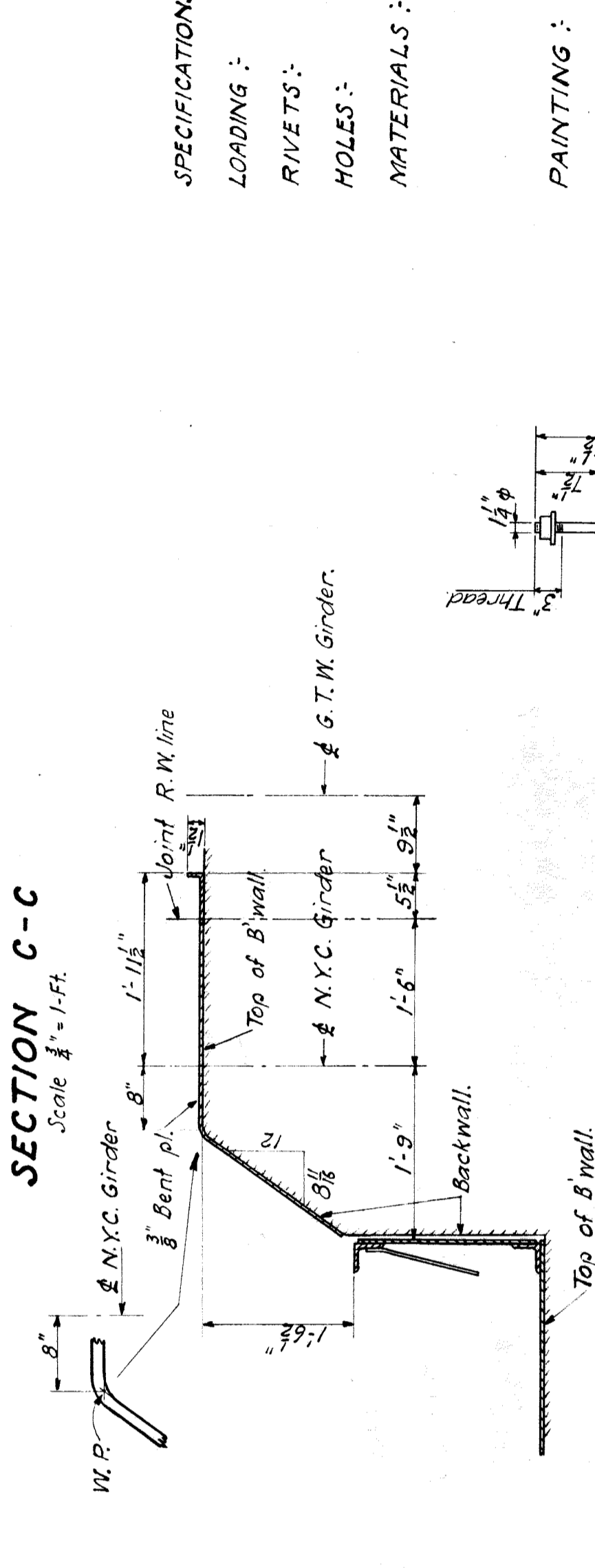
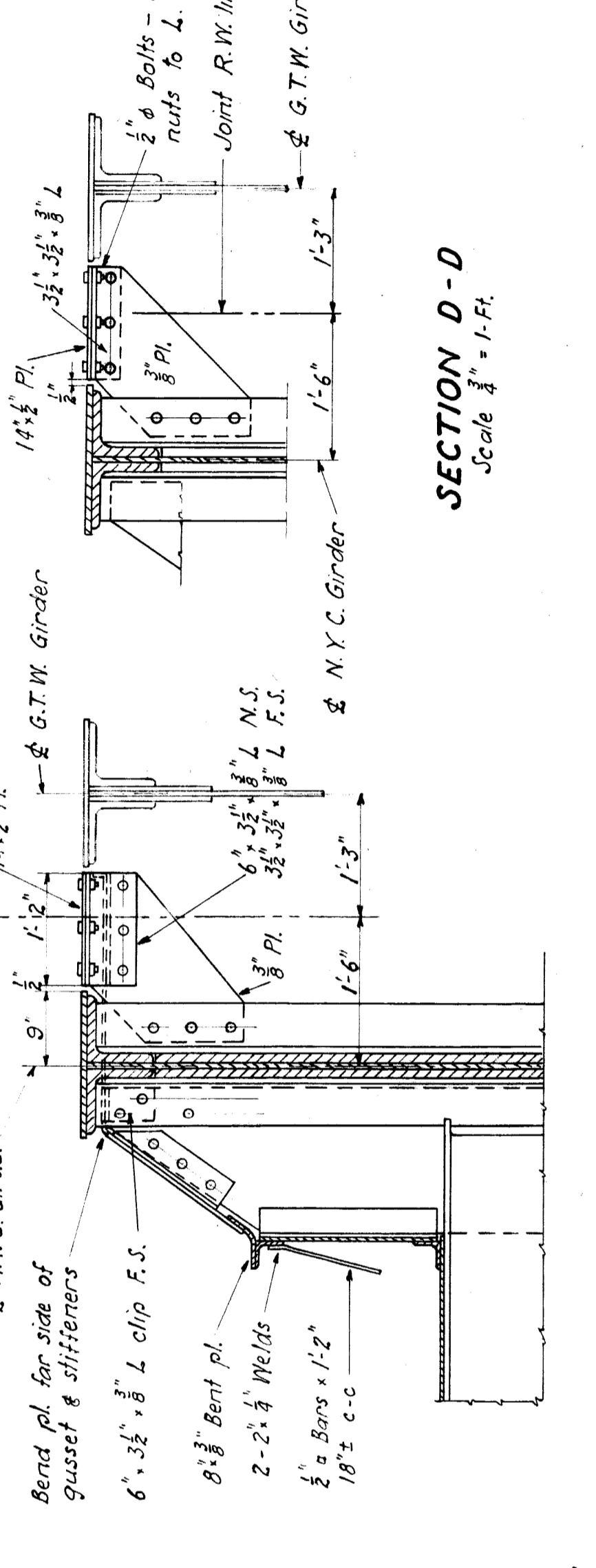
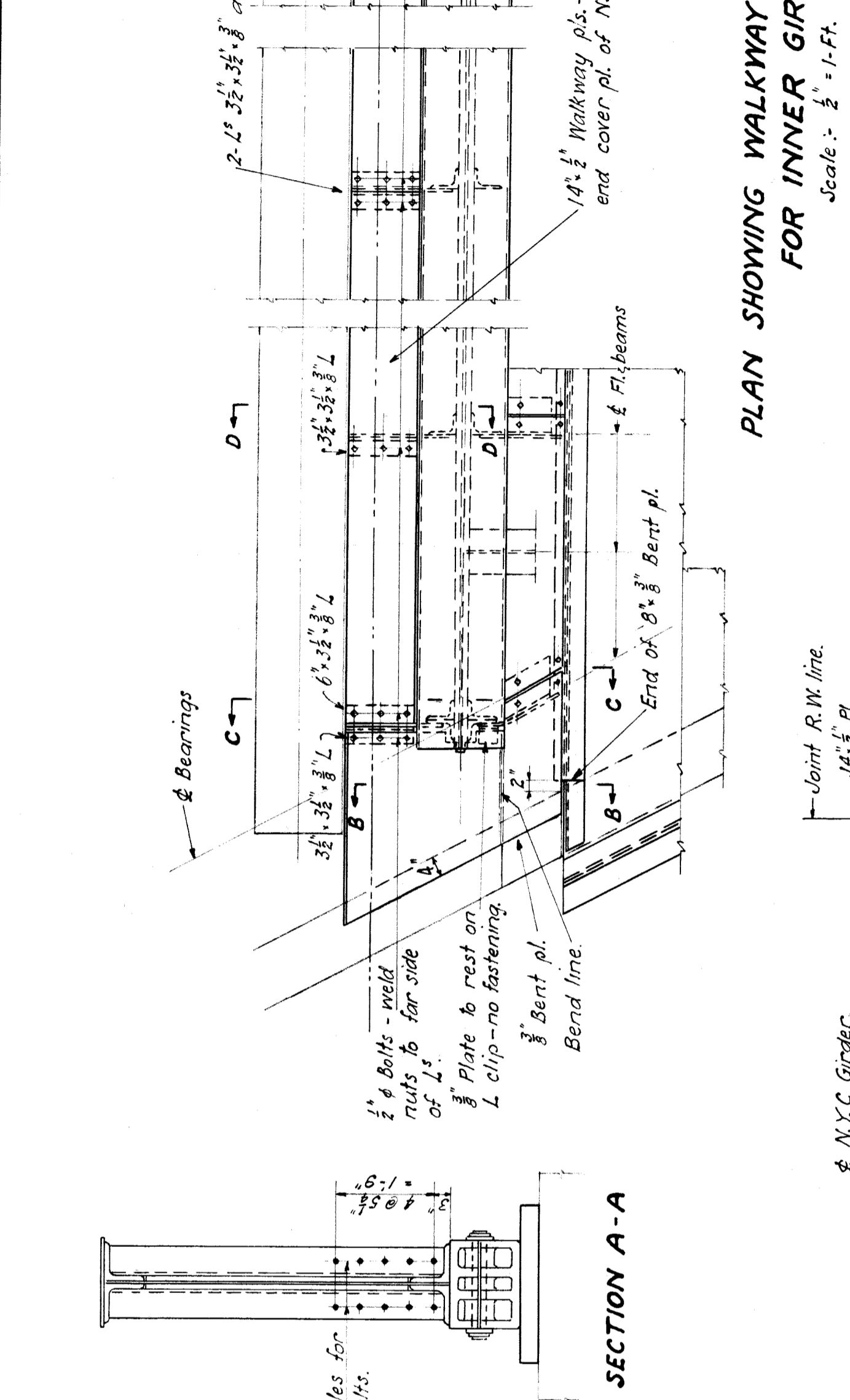
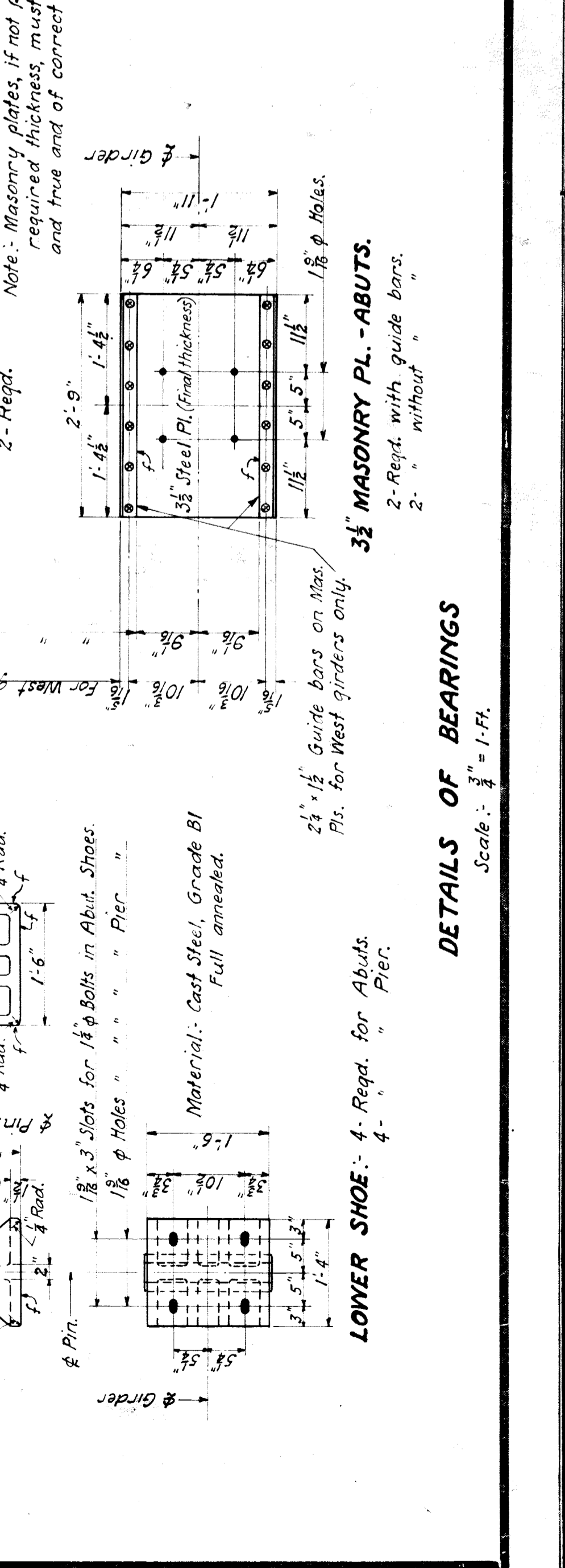
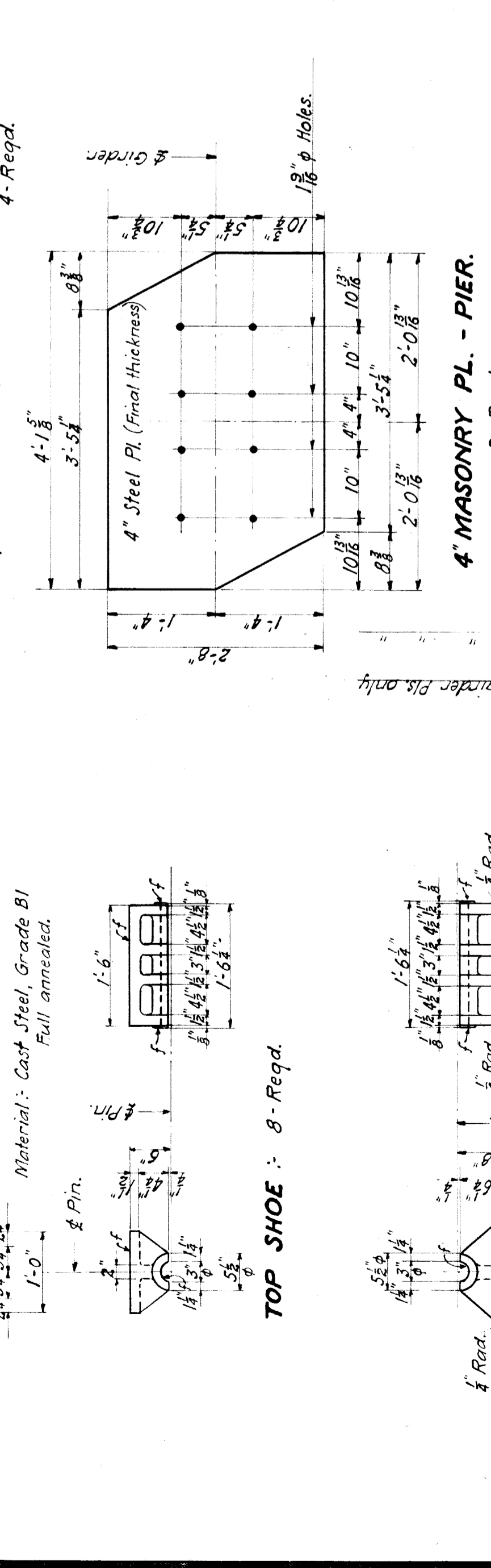
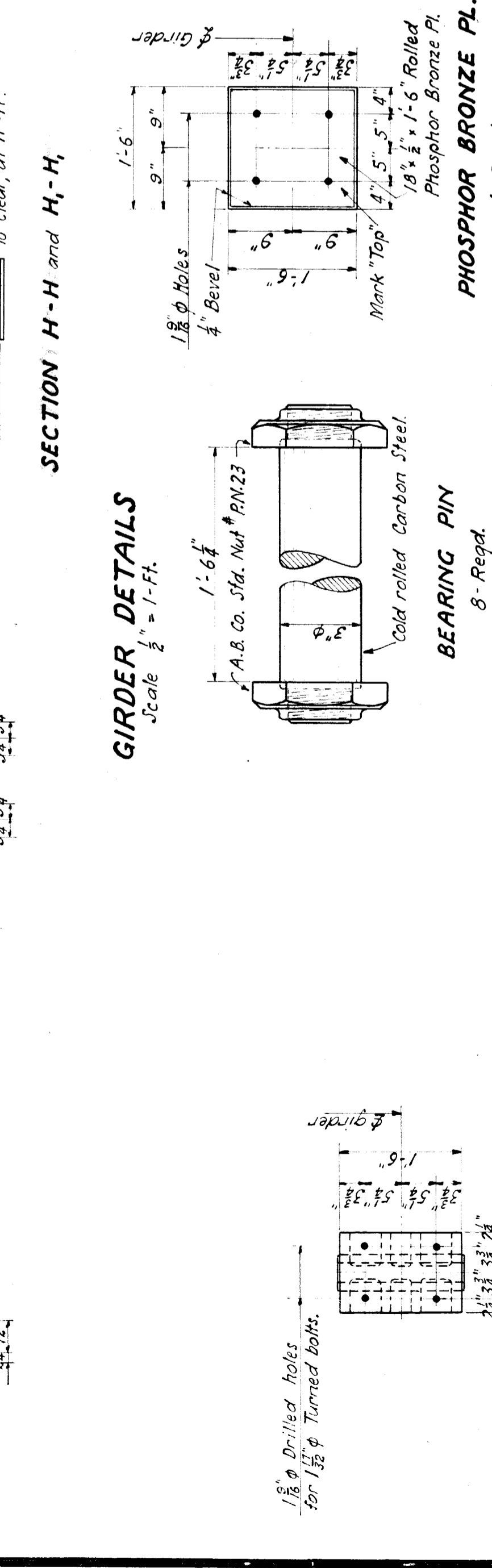
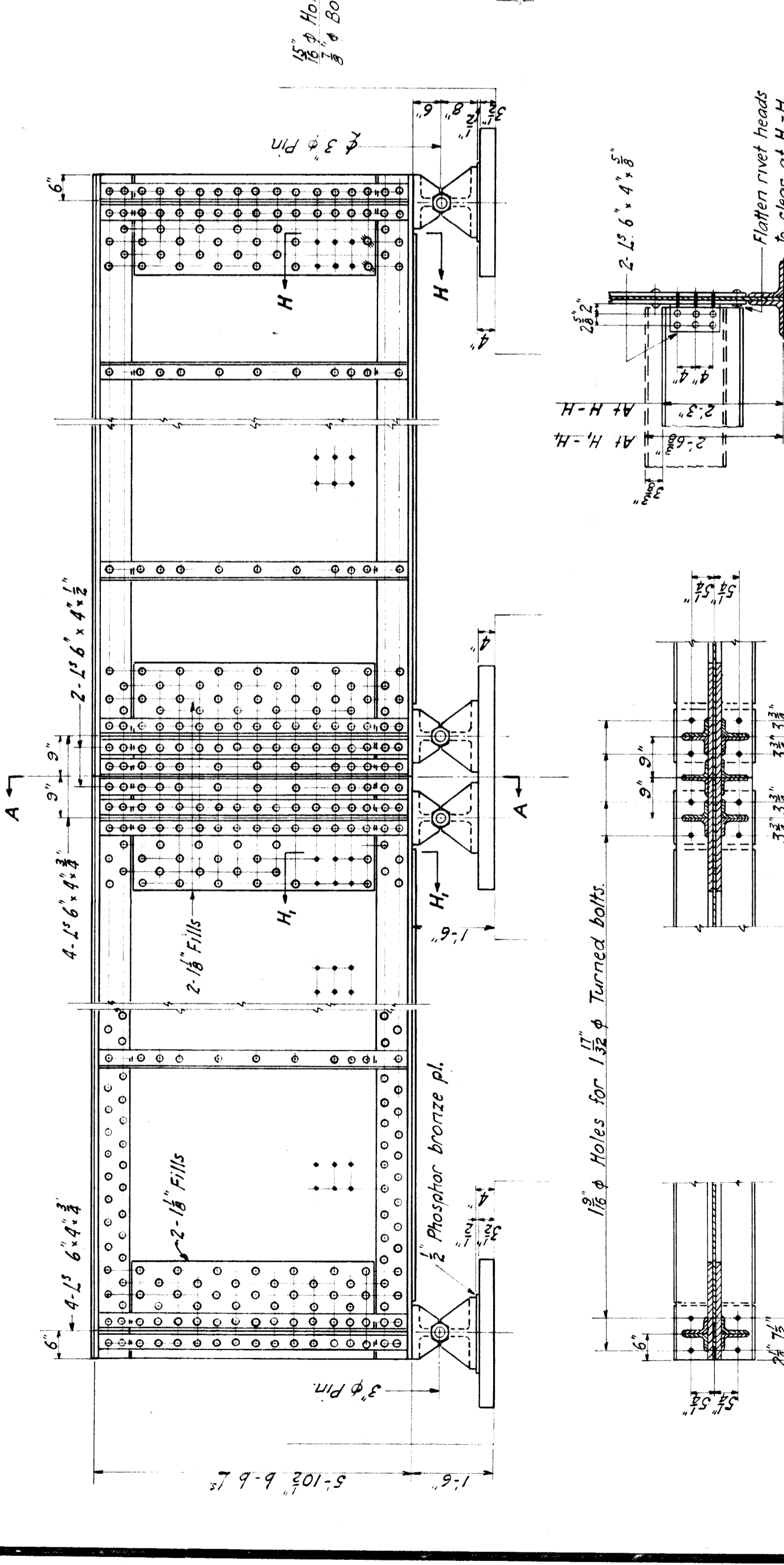
SPECIFICATIONS: A.R.E.A. Specifications for Steel Railway Bridges, 1939 Manual, except as noted below.
LOADING: Coopers E 70
RIVETS: 1" in girders except O.S. legs of stiffener L's; 7/8" elsewhere unless noted.
HOLES: 1 1/8" in girders except O.S. legs of stiffener L's; 1 1/2" elsewhere unless noted.
MATERIALS: Carbon Structural Steel: As per A.S.T.M. Specifications - Serial A-7-36.
 Carbon River Steel: As per A.S.T.M. Specifications - Serial A-141-33.
 Carbon Steel Castings: As per A.S.T.M. Specifications - Serial A27-36 T. Grade "B-1".
 Phosphor Bronze: As per A.S.T.M. Specifications - Serial B100-38 T. Type "A".
 Paint: As per Standard Specifications.
PAINTING: Shop & Field Paint as per Standard and Supplemental Specifications.
WELDING: All welding to be Shielded Arc. Workmanship etc. as per Supplemental Specs.
INSPECTION: Mill and Shop Inspection by M.S.H.Way, Dept.
TRACINGS: Steel Co. to furnish inked linen tracings of all shop drawings.

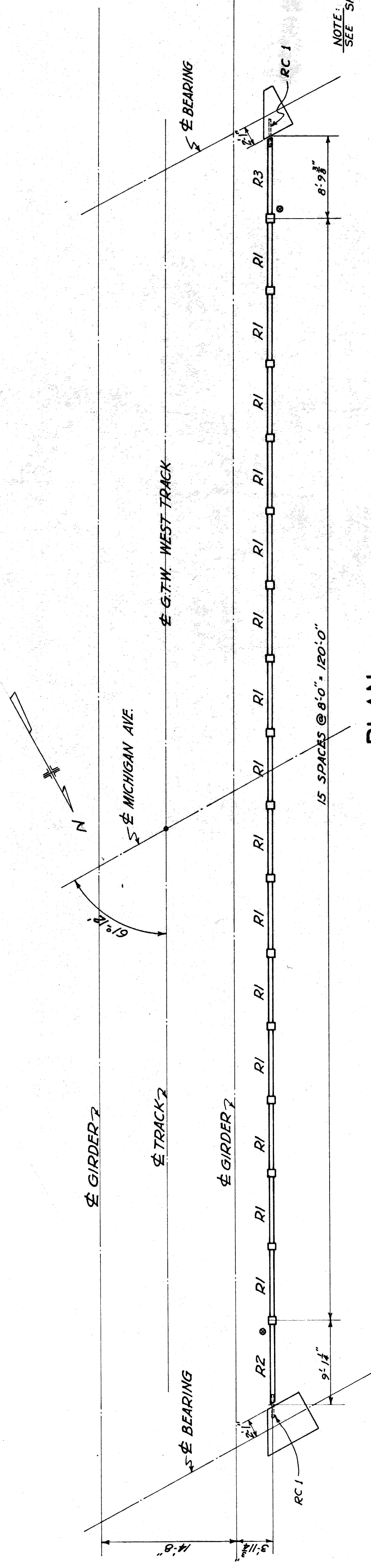
MICHIGAN STATE HIGHWAY DEPARTMENT
MURRAY D. VAN WAGONER - COMMISSIONER
 T. Z. S. R. I. E.
 BRIDGE FILE NO. X4-82-22-4 ROAD
 CROSSING N.Y.C. R.R.
 WAYNE, CO.
 MICHIGAN AVE.
 DETROIT

STEEL-GIRDER DETAILS & BEARINGS
 Scale: 1/4" = 1'-0"
 For NYCRR

APPROVED: [Signature] CHIEF ENGINEER
 APPROVED: [Signature] ENGINEER OF BRIDGE DESIGN

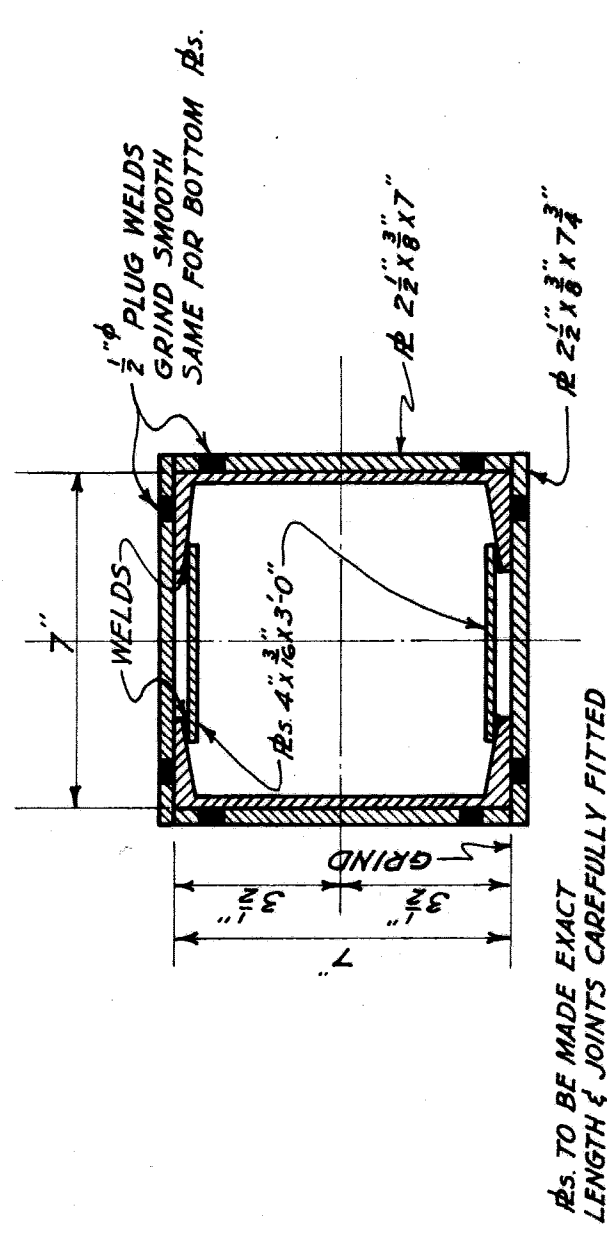
SHEET 29 OF 39
 X4-82-22-4





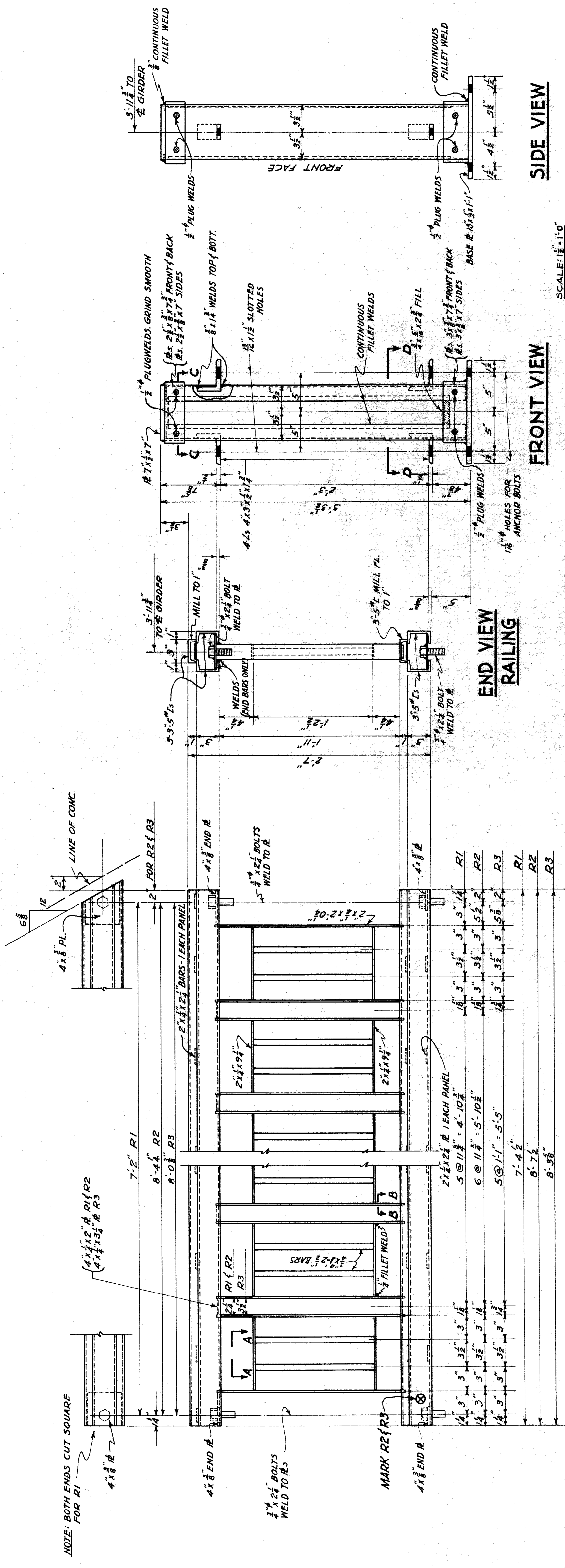
NOTE: FOR RAILING CLIPS RC 1 SEE SHEET NO. 40

PLAN



SECTION C-C

AS TO BE MADE EXACT LENGTH & JOINTS CAREFULLY FITTED



FRONT VIEW

SIDE VIEW

SECTION D-D

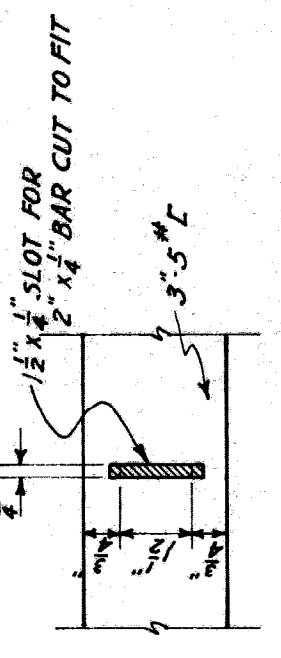
SCALE: 3/4" = 1'-0"

RAILING UNITS
REQD. - 15 R1 - 1R2 - 1R3

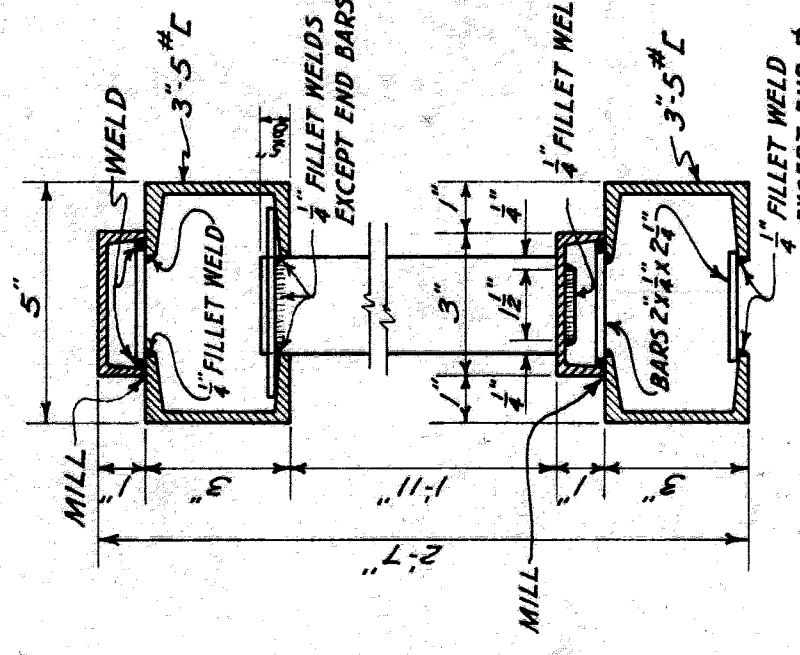
SCALE: 1/2" = 1'-0"

MATERIAL REQUIRED	
15	R1 RAILING PANELS
1	R2
1	R3
16	RP POSTS
68	3/8" HEX. NUTS - 64 LOCK WASHERS (RAILING TO POSTS)
64	BOLTS - 1/2" x 2 1/2" WITH 32° BEVEL & 90° CUT
	WASHERS - POSTS TO WALKWAY
	ALL BOLTS TO HAVE STD. HEXAGON HEADS.

GENERAL NOTES
MATERIAL SHALL BE STRUCTURAL GRADE STEEL, A.S.T.M. SPEC. A7-36. WELDING SHALL CONFORM TO THE BEST PRACTICE FOR ELEC. ARC WELDING. DURING WELDING, WELDS TO BE GRIND AND FLASH WITH ALL EXPOSED SURFACES. POST BASES TO BE SHAP WELDED TO POSTS. SHOP PAINT #2 COAT OF FIELD PAINT-IN ACCORDANCE WITH MICH. STATE HWY. SPECIFICATIONS.



VIEW-A-A



SECT. THRU RAILING

SCALE: 3/4" = 1'-0"

DETAILS FOR RAILING POSTS RP
16 REQUIRED RP

6779

MICHIGAN STATE HIGHWAY DEPARTMENT
MURRAY D. VAN WAGONER - COMMISSIONER
WAYNE CO.
T. 25 R. 11 E
BRIDGE FILE NO. X4 OF 82-22-4 ROAD MICHIGAN AVE. AT STA. 52+06.59
CROSSING G.T.W.R.R. AND N.Y.C.R.R. IN CITY OF DETROIT

RAILING DETAILS
SCALE AS SHOWN
FOR G.T.W.R.R.

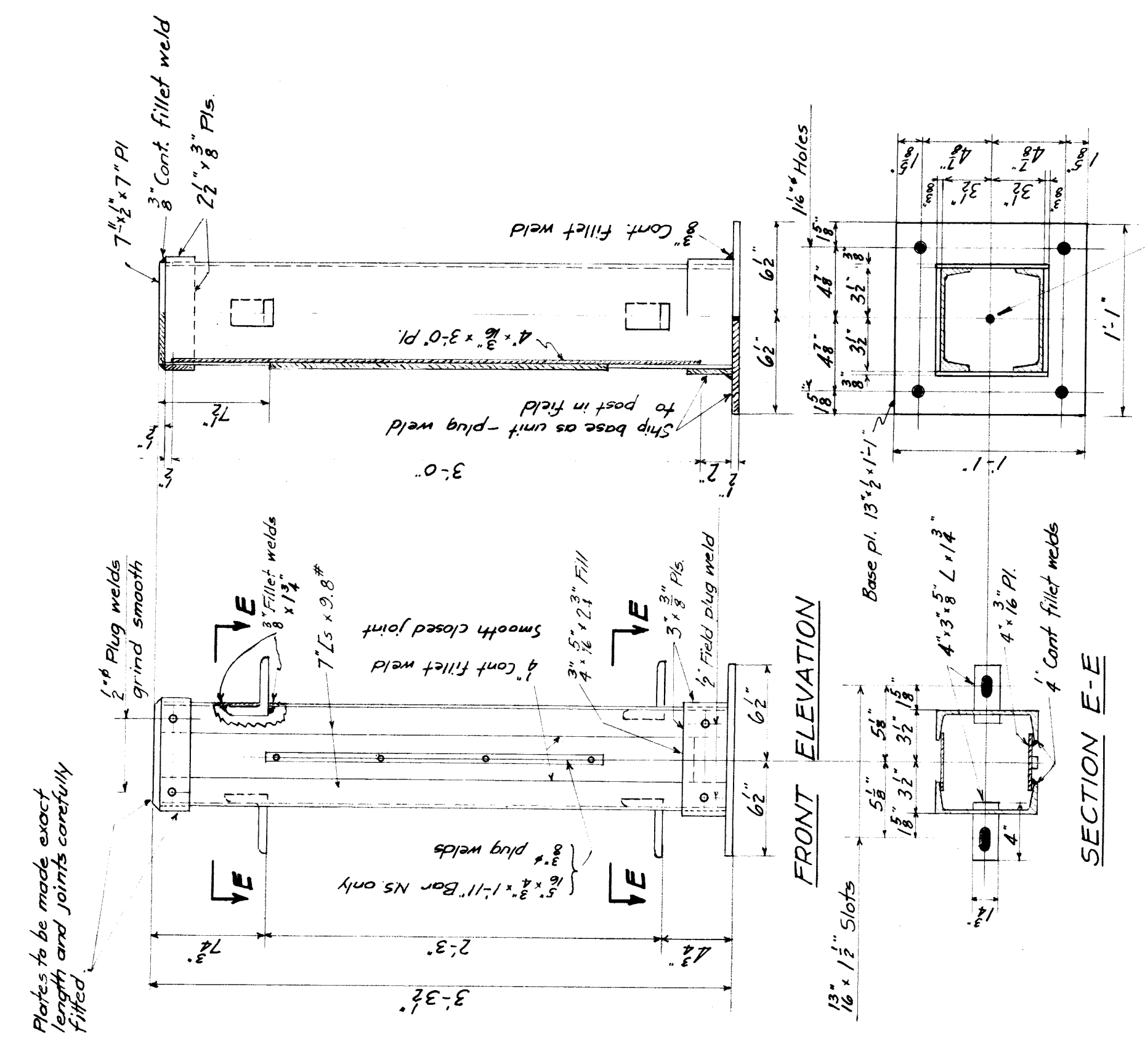
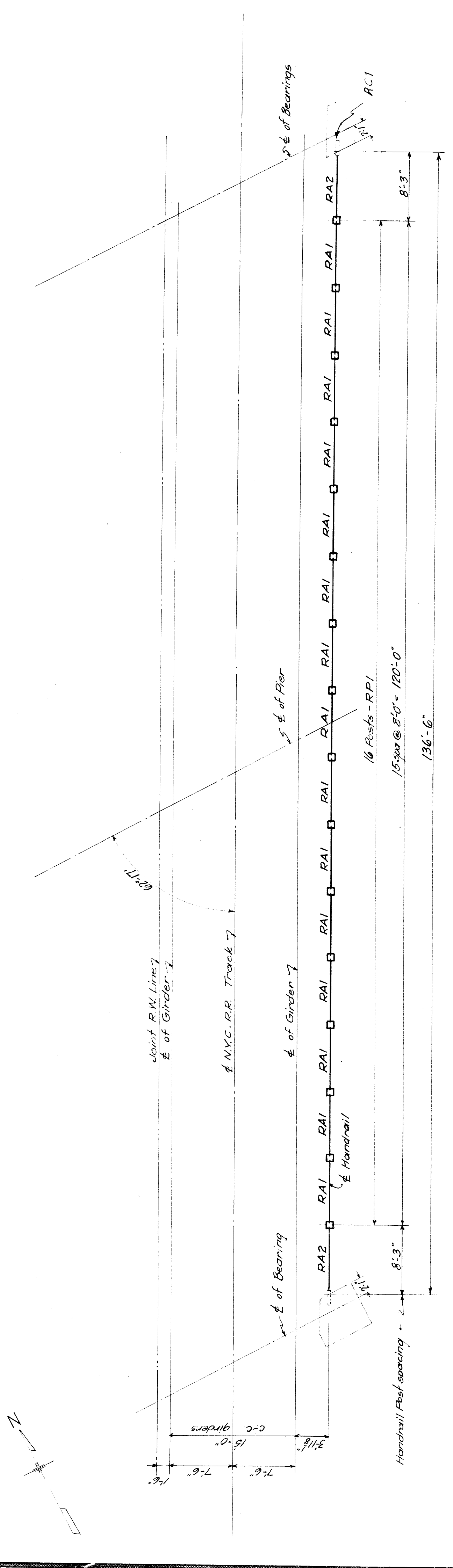
APPROVED: *[Signature]* CHIEF ENGINEER
APPROVED: *[Signature]* ENGINEER OF BRIDGE DESIGN

DESIGNED BY	R.A.W.	10-24-39
CHECKED BY	R.A.W.	11-9-40
SHEET	27	OF 32

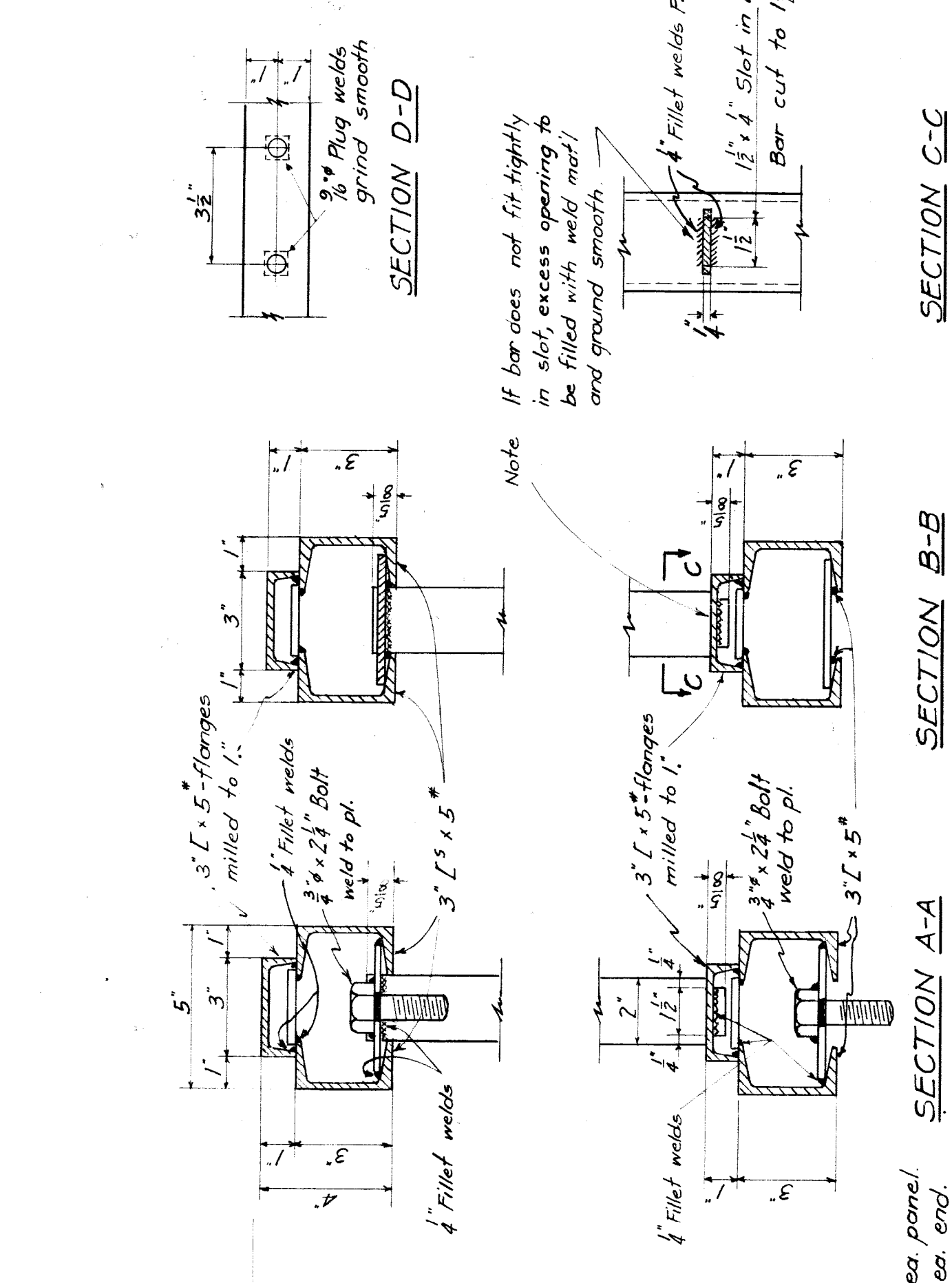
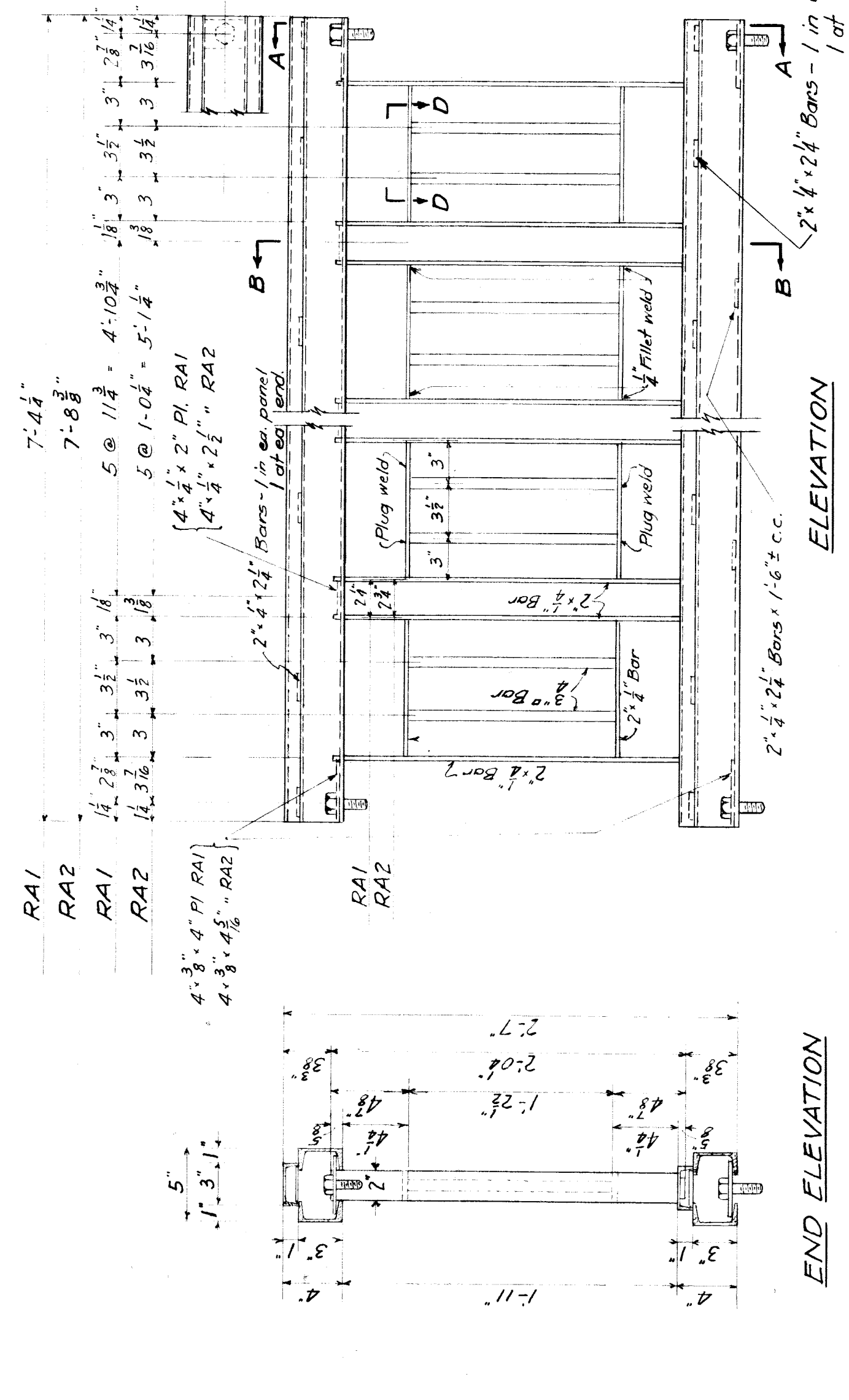
X4082-22-4

CONTRACT No. 4

File XU 29-39



POST DETAILS - RPI
Scale: 1/2" = 1'-0"



RAILING CLIP DETAILS
R C I

QUANTITIES

NO	Mark	Description
15	RA1	Railing Panels
2	RA2	"
16	RPI	"
64		Bolts 4 nuts 3/4" x 2 1/2" with level washers (flange)
68		" " " 3/4" x 2 1/2" " lock " (Railing)
8	R C I	Railing Anchor in Pylon

RAILING DETAILS
Scale: 1/2" = 3" = 1'-0"

SECTION C-C
Scale: 3" = 1'-0"

SECTION B-B
Scale: 3" = 1'-0"

SECTION A-A
Scale: 1/2" = 3" = 1'-0"

END ELEVATION
Scale: 1/2" = 1'-0"

MICHIGAN STATE HIGHWAY DEPARTMENT
MURRAY D. VAN WAGONER - COMMISSIONER
WAYNE CO.
BRIDGE FILE NO. X4 OF 82-22-4 ROAD MICHIGAN AVENUE
CROSSING N.Y.C. R.R. IN DETROIT

HANDRAILING PLAN
Scale: 1/2" = 3" = 1'-0"
For N.Y.C.R.R.

APPROVED: [Signature]
ENGINEER OF BRIDGE CENTER

APPROVED: [Signature]
CHIEF ENGINEER

REVISIONS

NO.	DESCRIPTION	DATE	BY

SOULD BASS
DRAWN BY: W.J.B.
CHECKED BY: H.S.F.
SHEET 40 OF 59

X4 OF 82-22-4
CONTRACT No. 4

File XUE29-40