

**CITY OF DETROIT**  
 DEPARTMENT OF PUBLIC WORKS  
 CITY ENGINEER'S OFFICE  
 BUREAU OF PUBLIC STRUCTURES

**JOHN R STREET**  
**RAILROAD SEPARATION**

APPROVED: *M. W. Skinn* 8-27-37  
 SURVEY BOOKS: 188-1282, 188-1283, 188-1284

**EXHIBIT D**

ELEV. 130  
 STATION 0+00  
 2+79.83  
 3+00  
 4+00  
 0+04.7

DATE

UNIT

ITEM

PLAN EXTRAS

NO.

DESCRIPTION

UNIT

QUANTITY  
ESTIMATE FINAL

MICHIGAN STATE HIGHWAY DEPARTMENT  
 MURRAY D. VAN WAGONER - COMMISSIONER  
 SEC. 1 T. 15 R. 11 E TWP. WAYNE CO.  
 BRIDGE FILE NO. XI OF 82 22 49 ROAD JOHN R. STREET  
 CROSSING GRAND TRUNK WESTERN RR IN CITY OF DETROIT

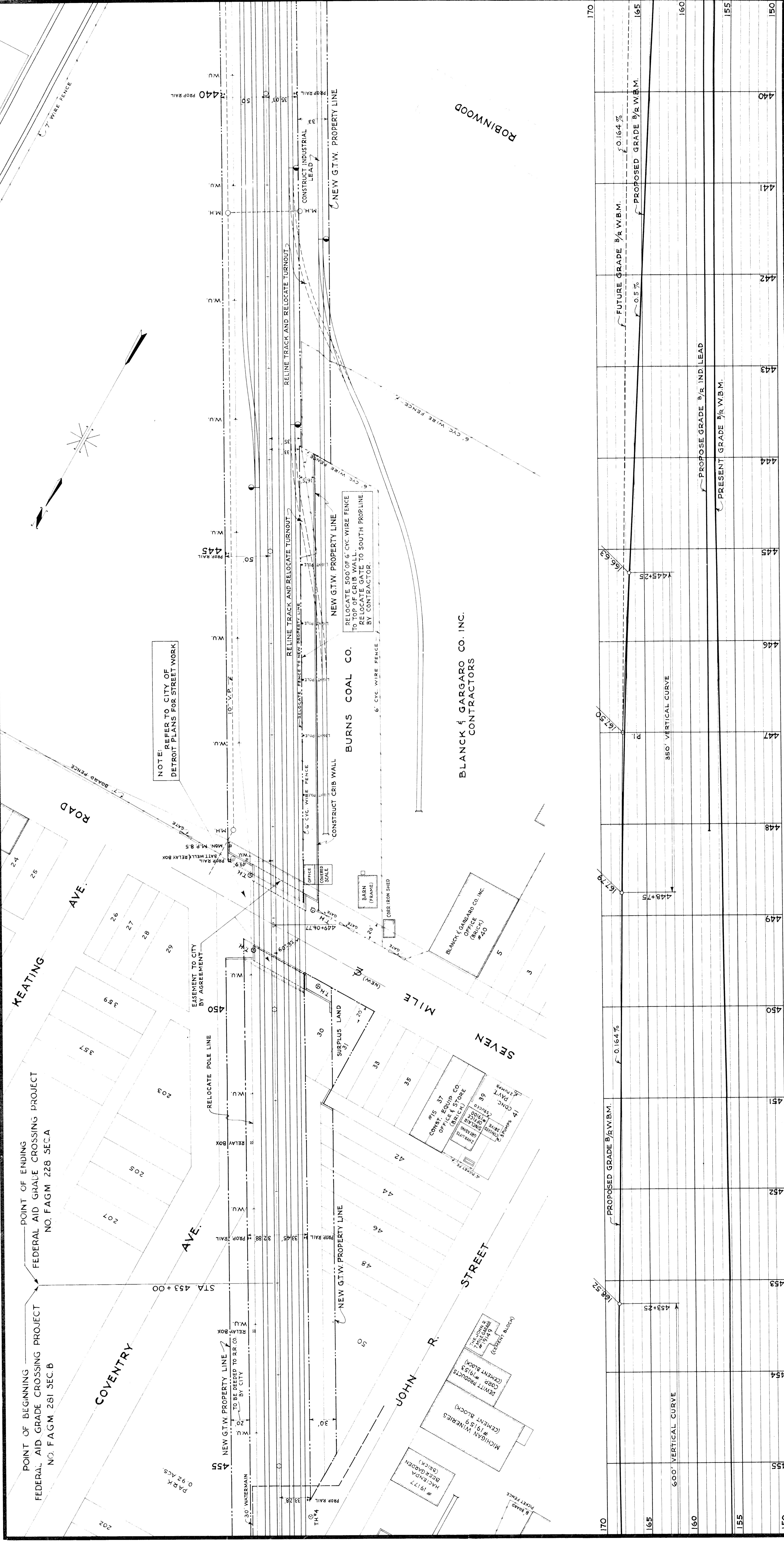
BILL OF MATERIAL

APPROVED	CHIEF DRAFTER
APPROVED	ENGINEER OF BRIDGE DESIGN
QUANT. REVISED	DATE
DRAWN BY	DATE
CHECKED BY	DATE
SHEET 3 OF 24	

XI OF 82-22-49

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

660  
1555



NOTE: REFER TO CITY OF DETROIT PLANS FOR STREET WORK

RELOCATE 500' OF 6" CYC WIRE FENCE TO TOP OF CRIB WALL. RELOCATE TO SOUTH PROPLINE. RELOCATE TO SOUTH PROPLINE BY CONTRACTOR.

RELOCATE 500' OF 6" CYC WIRE FENCE TO TOP OF CRIB WALL. RELOCATE TO SOUTH PROPLINE. RELOCATE TO SOUTH PROPLINE BY CONTRACTOR.

BLANK & GARGANO CO. INC. CONTRACTORS

**MICHIGAN STATE HIGHWAY DEPARTMENT**  
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SEC. 1 T.I.S. R. 11 E. TWP. WAYNE CO.  
 BRIDGE FILE NO. XI OF 82-22-49 ROADS JOHN R. ST. AND SEVEN MILE RD.  
 CROSSING GRANDTRUNK WESTERN R.R. IN CITY OF DETROIT

**RAILWAY TRACK PLAN AND PROFILE**  
 STATION 440+00 TO STATION 455+00

SCALE: VERTICAL 1" = 5 FT.  
 HORIZONTAL 1" = 50 FT.

APPROVED: \_\_\_\_\_  
 CHIEF ENGINEER

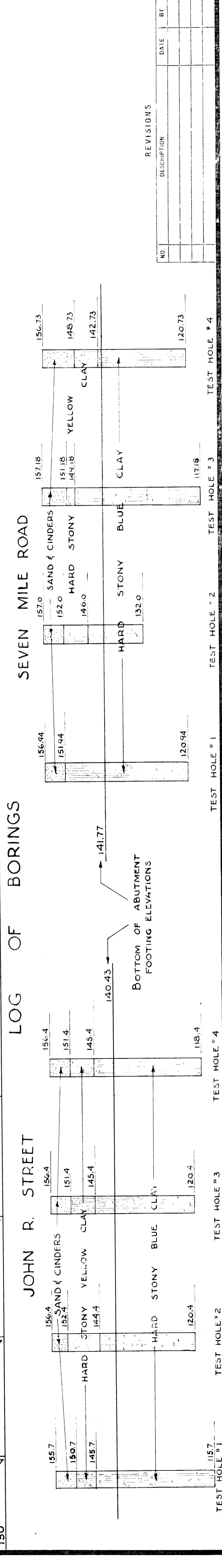
APPROVED: \_\_\_\_\_  
 ENGINEER OF BRIDGE DESIGN

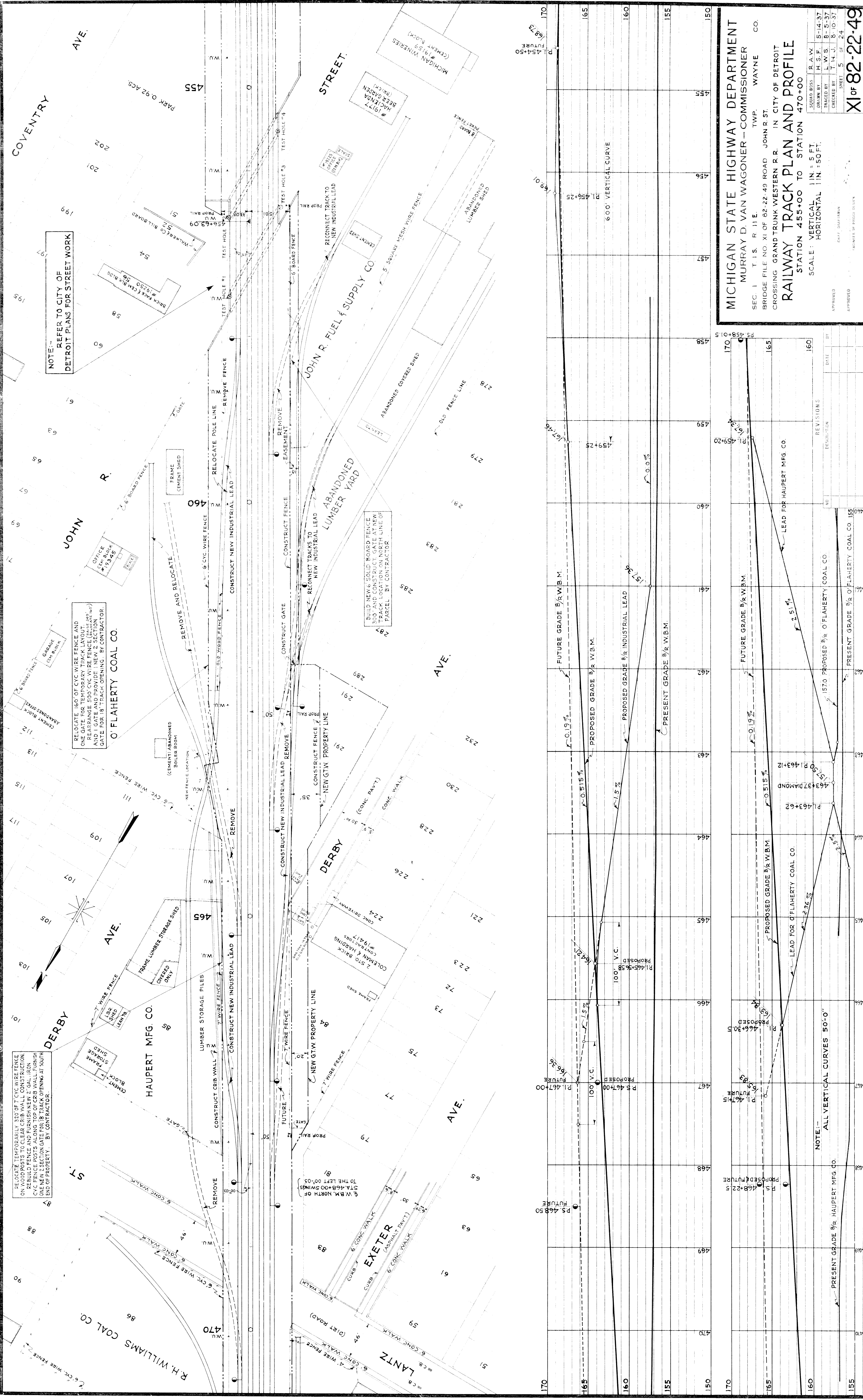
REVISIONS:

NO.	DESCRIPTION	DATE	BY

SQUAD BOSS: R.A.V. 5-14-37  
 DRAWN BY: H.S.F. 7-30-37  
 CHECKED BY: T.H.J. 8-8-37  
 SHEET 4 OF 4

XI OF 82-22-20  
 XI OF 82-22-49





NOTE: REFER TO CITY OF DETROIT PLANS FOR STREET WORK

RELOCATE 160' OF CYC WIRE FENCE AND ONE GATE FOR TEMPORARY TRACK LAYOUT. REARRANGE 500' CYC WIRE FENCE (PAR. 455 AND 460) AND PROVIDE IN NEW 2' SECTION GATE FOR 18" TRACK OPENING. BY CONTRACTOR.

RELOCATE TEMPORARILY 300' OF 7" CYC WIRE FENCE ON WOOD POSTS TO CLEAR CRIB WALL CONSTRUCTION. REBUILD FENCE AND FURNISH NEW 2" GAL. IRON CYC FENCE POSTS ALONG TOP OF CRIB WALL. FURNISH ONE NEW 2' SECTION GATE FOR 18" TRACK OPENING AT SOUTH END OF PROPERTY. BY CONTRACTOR.

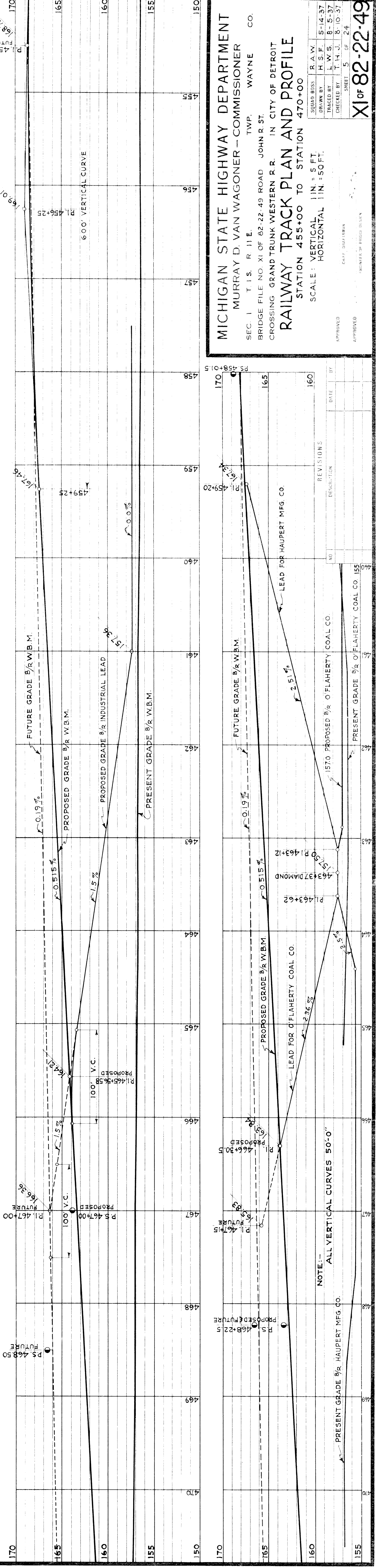
BUILD NEW 1/2" SOLID BOARD FENCE 300' AND CONSTRUCT GATE AT NEW TRACK LOCATION ON NORTH LINE OF PARCEL BY CONTRACTOR.

NOTE: ALL VERTICAL CURVES 50'-0"

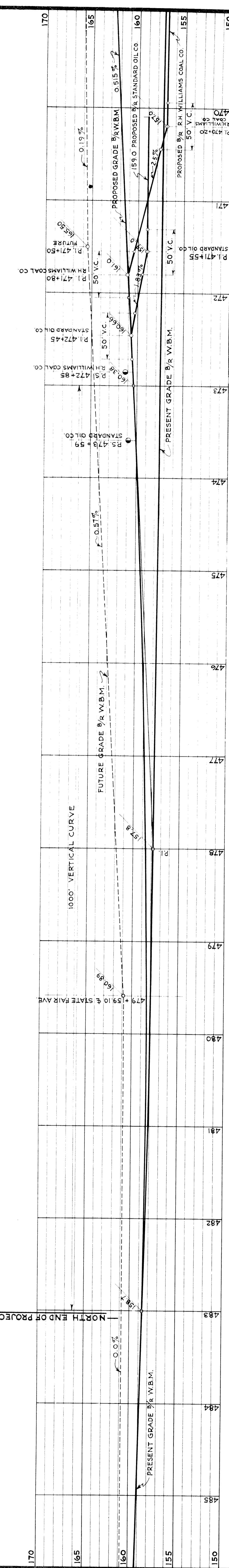
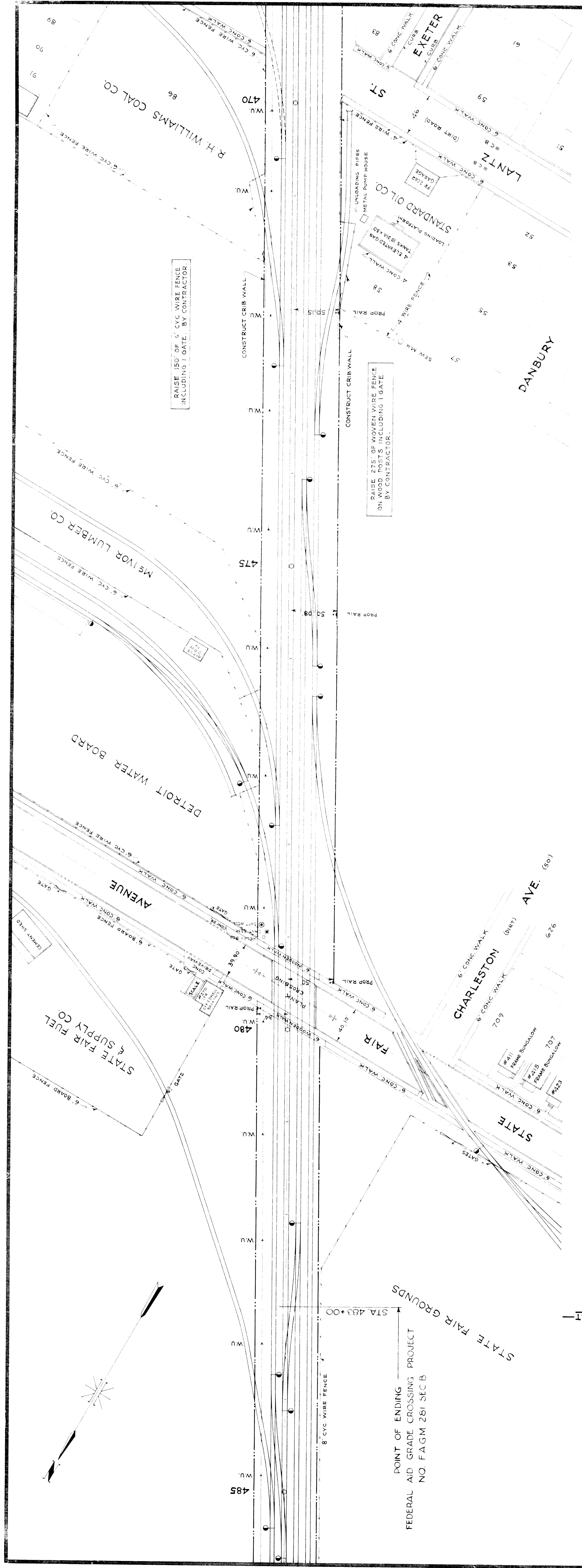
MICHIGAN STATE HIGHWAY DEPARTMENT  
 MURRAY D. VAN WAGONER - COMMISSIONER  
 SEC. 1 T. 15. R. 11 E. WAYNE CO.  
 BRIDGE FILE NO. XI OF 82-22-49 ROAD JOHN R. ST.  
 CROSSING GRAND TRUNK WESTERN R.R. IN CITY OF DETROIT  
**RAILWAY TRACK PLAN AND PROFILE**  
 STATION 455+00 TO STATION 470+00  
 SCALE: VERTICAL 1" = 5' FT.  
 HORIZONTAL 1" = 50' FT.

DESIGNED BY	RAY	5-14-37
DRAWN BY	H.S.F.	8-5-37
CHECKED BY	L.W.S.	8-10-37
APPROVED	T.H.J.	8-10-37
APPROVED	SHEEL	5 OF 24

XI of 82-22-49



NO.	REVISIONS	DATE	BY
1	REVISIONS		
2	REVISIONS		
3	REVISIONS		
4	REVISIONS		
5	REVISIONS		



RAISE 150' OF 6' C.C. WIRE FENCE INCLUDING 1 GATE. BY CONTRACTOR.

RAISE 375' OF WOVEN WIRE FENCE ON WOOD POSTS INCLUDING 1 GATE BY CONTRACTOR.

POINT OF ENDING FEDERAL AID GRADE CROSSING PROJECT NO. FAGM 251 SEC B  
 STATE FAIR GROUNDS  
 STA. 483+00

**MICHIGAN STATE HIGHWAY DEPARTMENT**  
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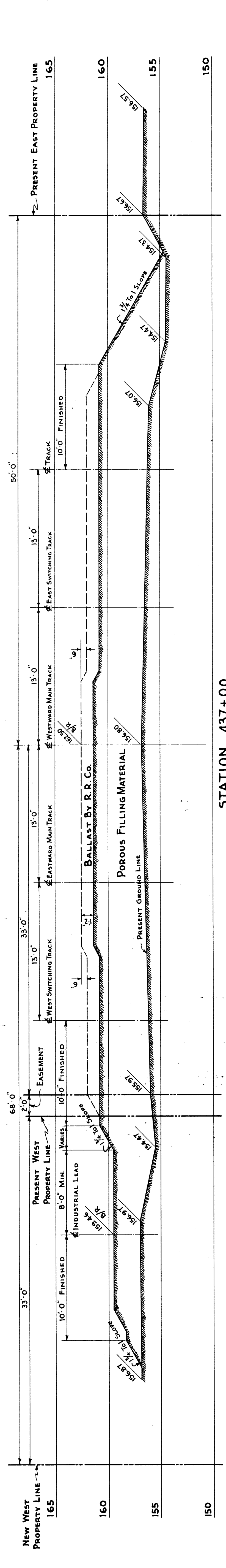
**RAILWAY TRACK PLAN AND PROFILE**  
 STATION 470+00 TO STATION 485+00  
 SCALE: VERTICAL 1" = 5 FT.  
 HORIZONTAL 1" = 50 FT.

APPROVED: [Signature] DATE: [ ]  
 APPROVED: [Signature] DATE: [ ]

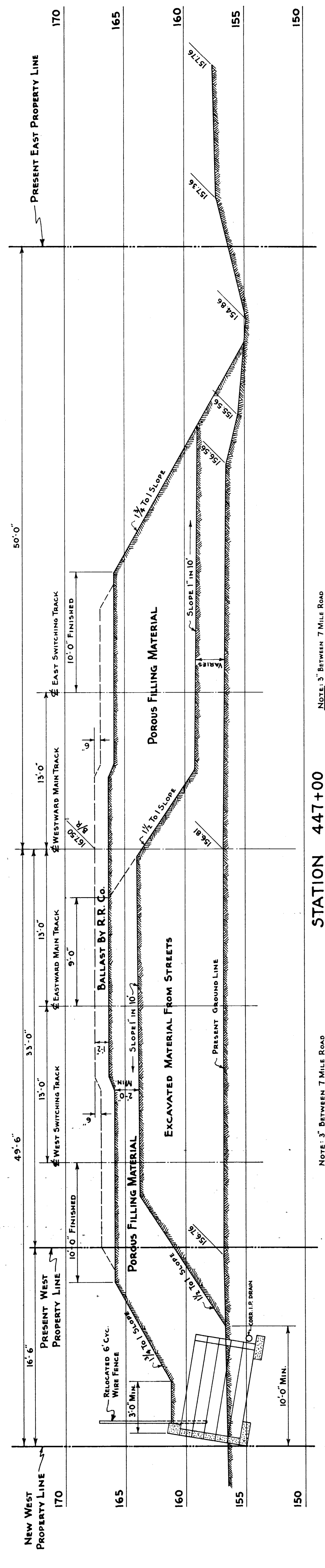
REVISIONS

NO.	DESCRIPTION	DATE	BY

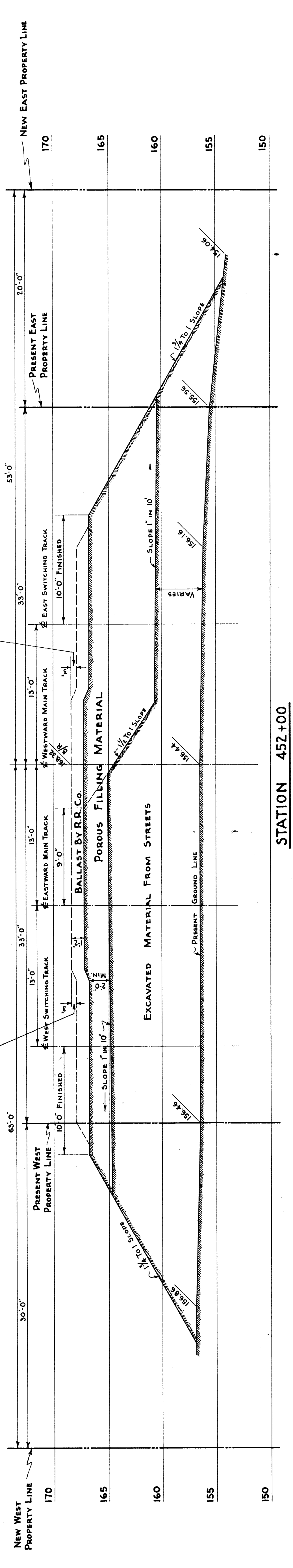
PROJECT: UP BRIDGE DESIGN  
 SHEET 6 OF 24  
 XI OF 82-22-49



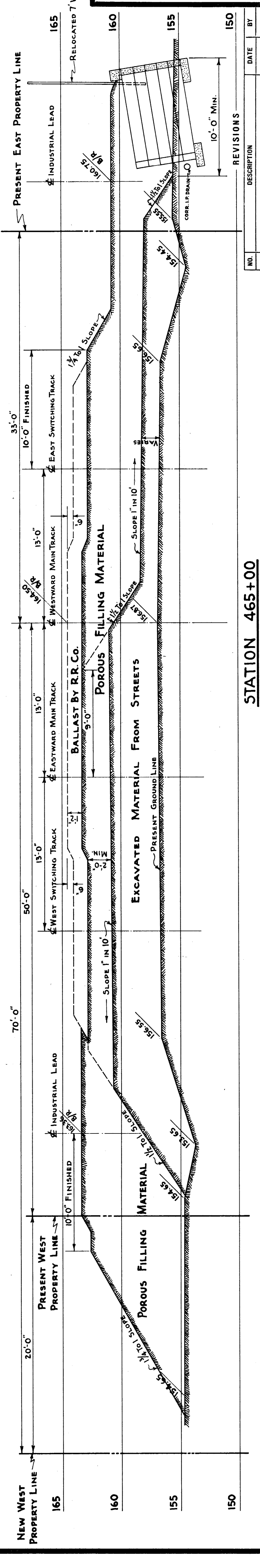
STATION 437+00



STATION 447+00



STATION 452+00



STATION 465+00

**MICHIGAN STATE HIGHWAY DEPARTMENT**  
**MURRAY D. VAN WAGONER - COMMISSIONER**  
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 BRIDGE FILE NO. XI OF 82-22-20  
 CROSSING GRAND TRUNK WESTERN R.R. IN CITY OF DETROIT

**TYPICAL CROSS SECTIONS OF RIGHT OF WAY**  
 SCALE: 1 IN. = 5 FT.

SQUAD BOSS	R.A.W.	8-10-37
DRAWN BY	H.S.F.	8-12-37
CHECKED BY	T.H.J.	8-13-37
SHEET	7	OF

APPROVED: *[Signature]* CHIEF ENGINEER  
 DATE: 6-27-37  
 ENGINEER OF BRIDGE DESIGN

NO.	DESCRIPTION	DATE	BY

XI OF 82-22-20  
 XI OF 82-22-49

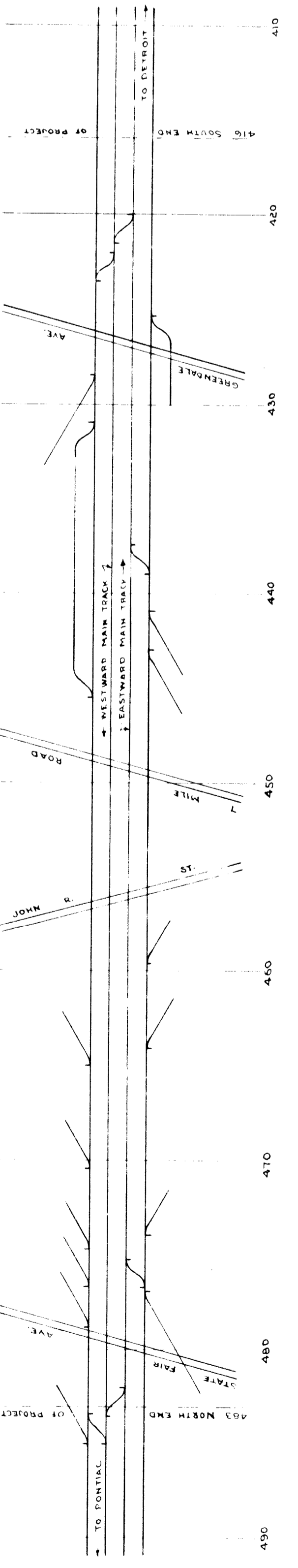


DIAGRAM No 1  
PRESENT TRACK LAYOUT

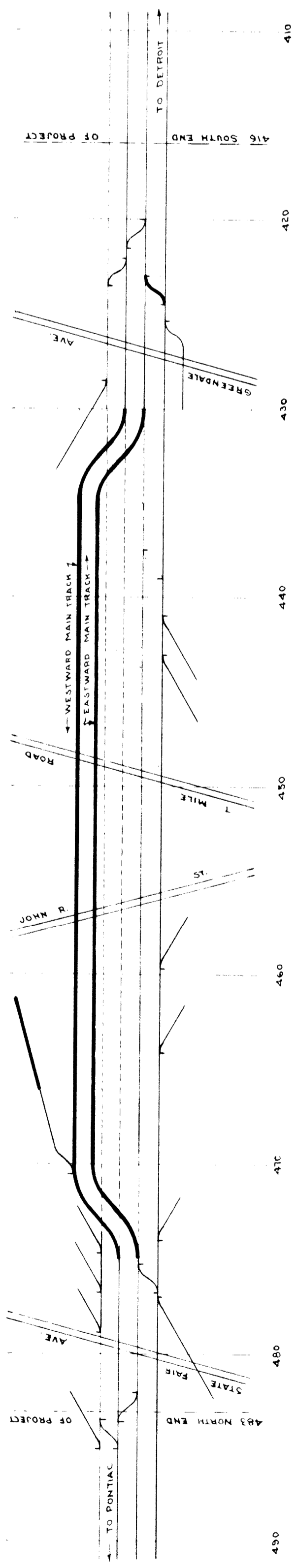


DIAGRAM No 2

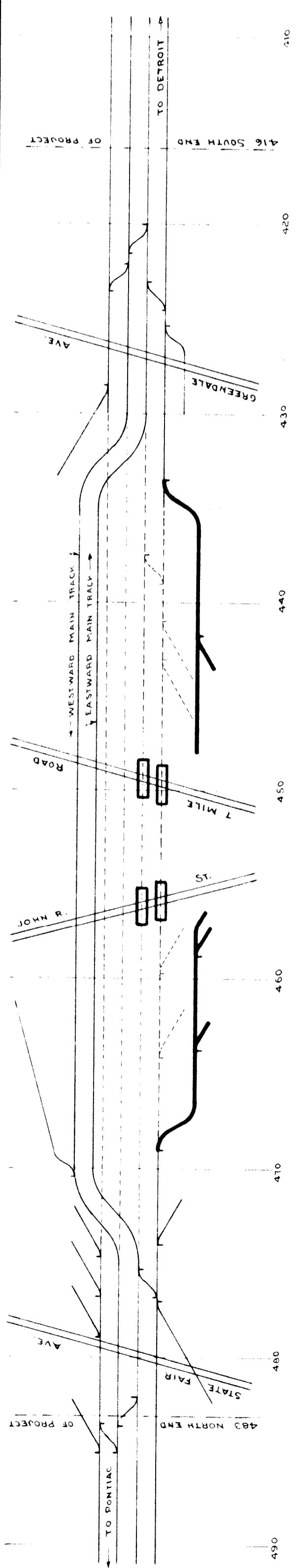


DIAGRAM No 3

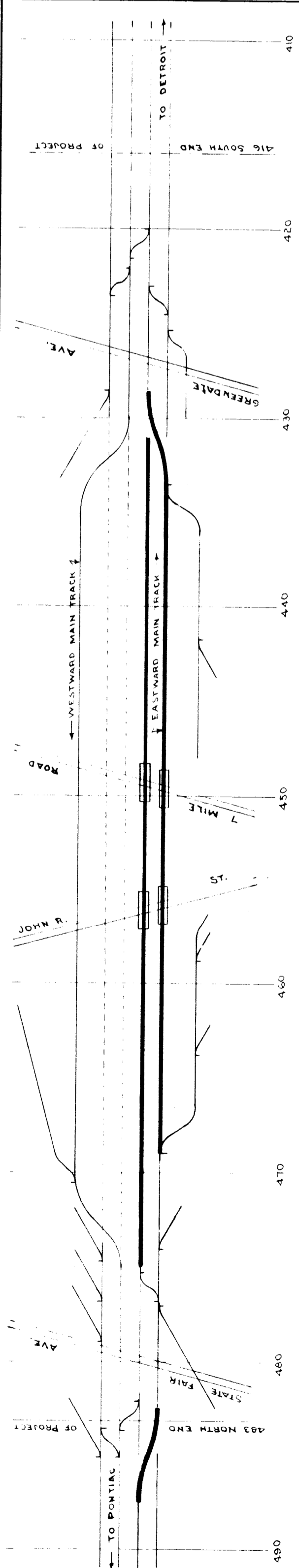


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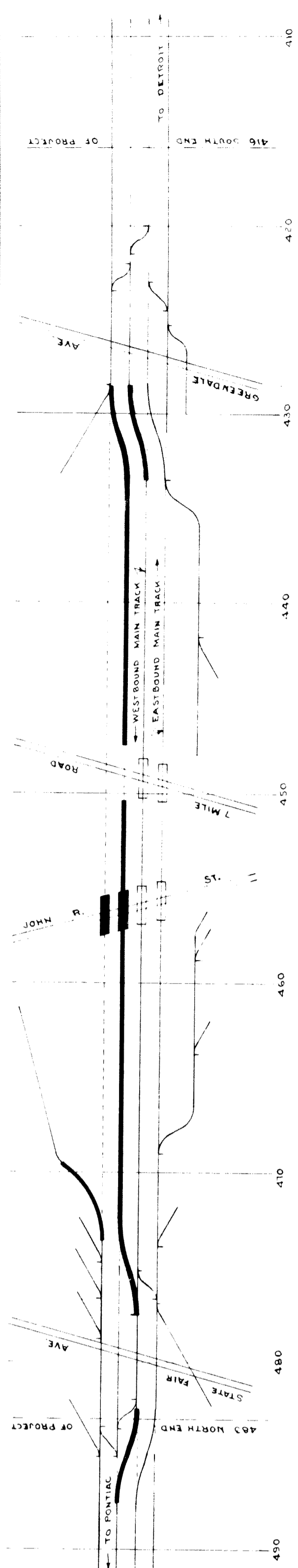


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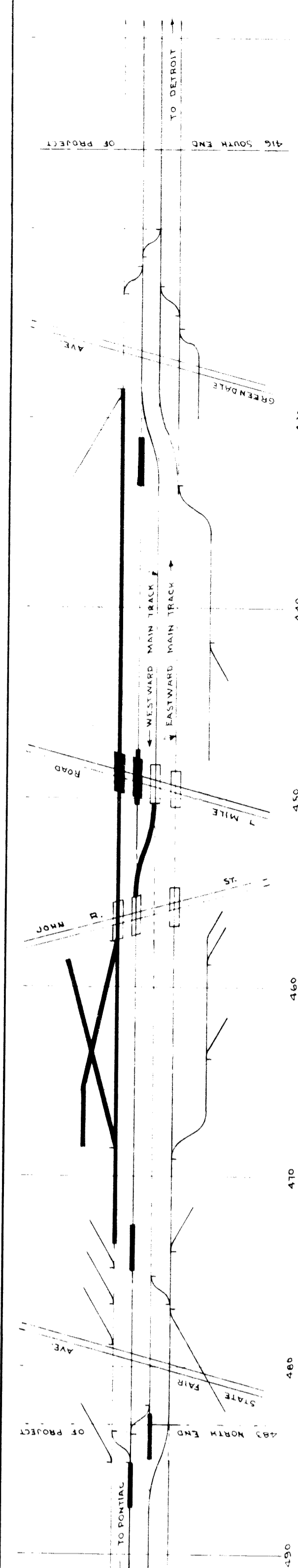


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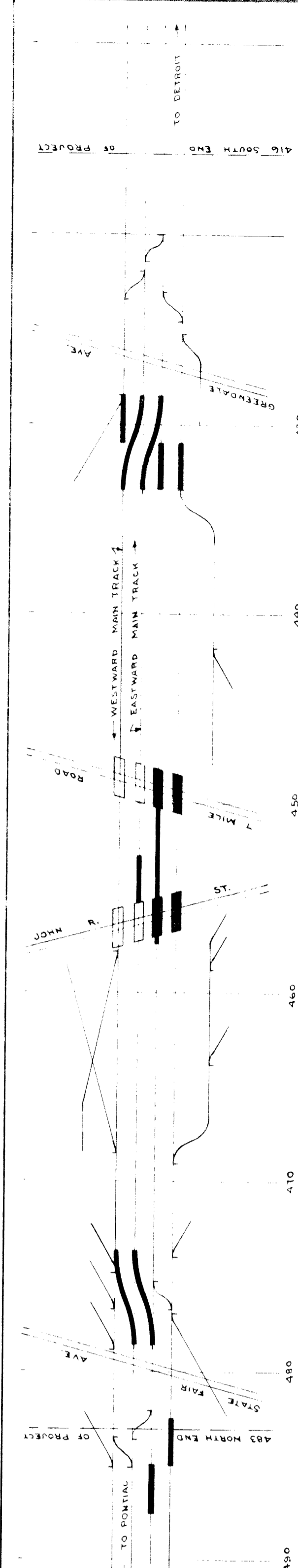


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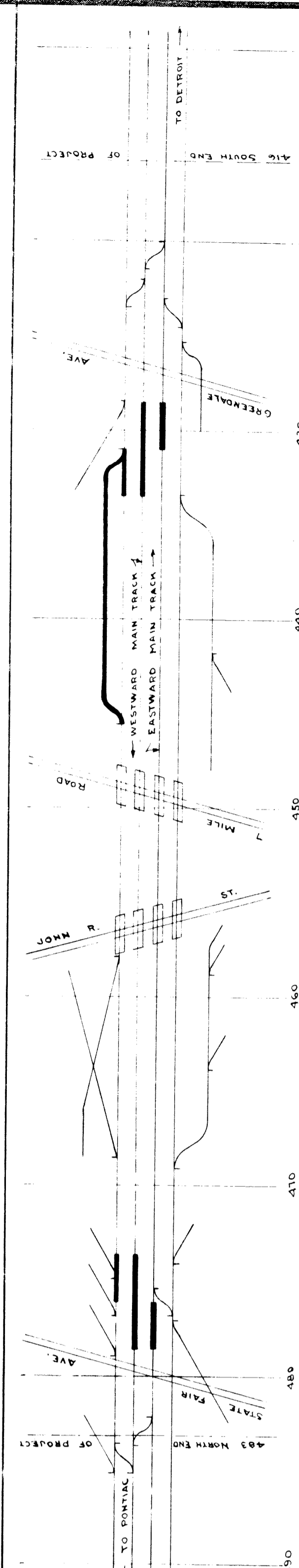


DIAGRAM No 8  
FINAL TRACK LAYOUT

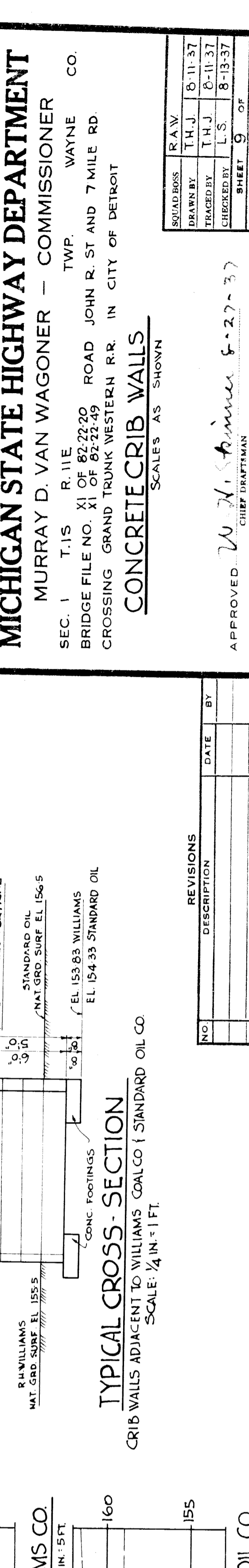
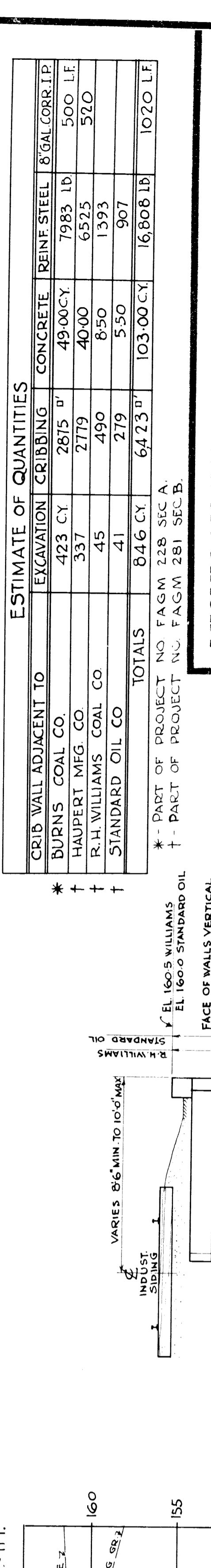
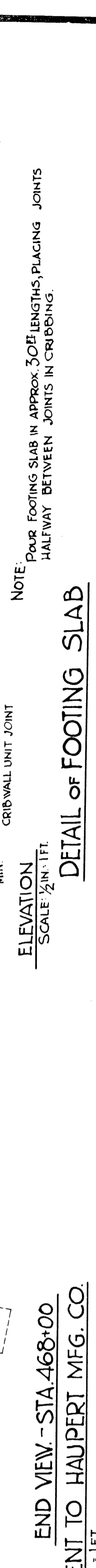
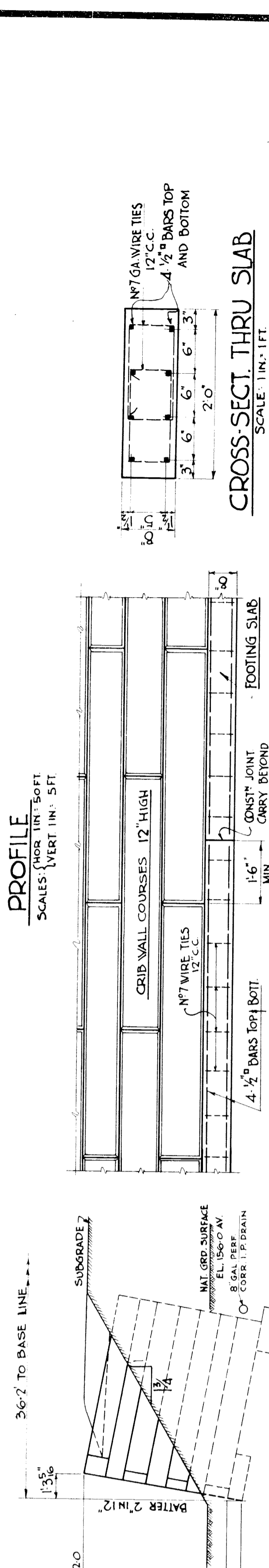
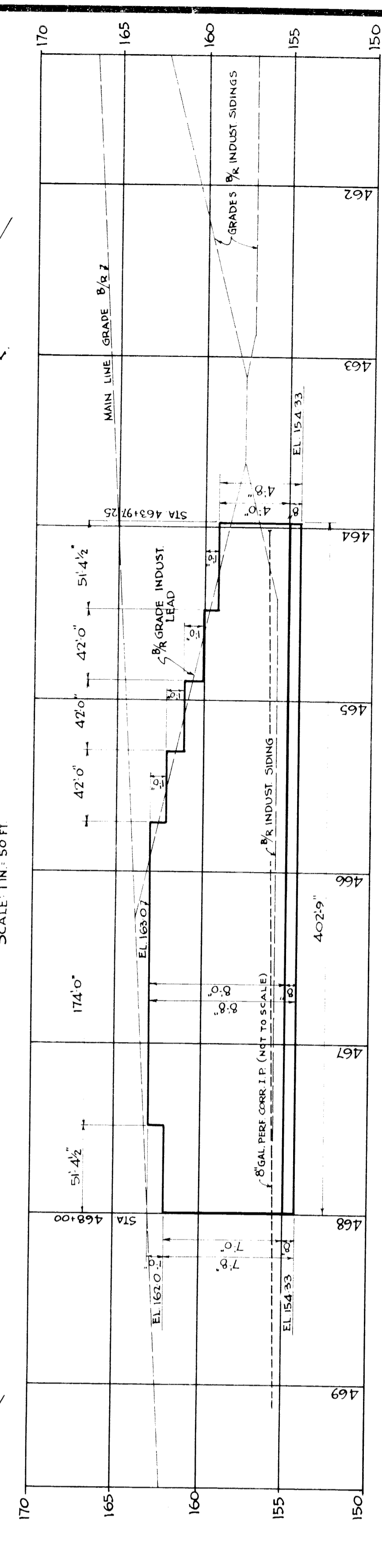
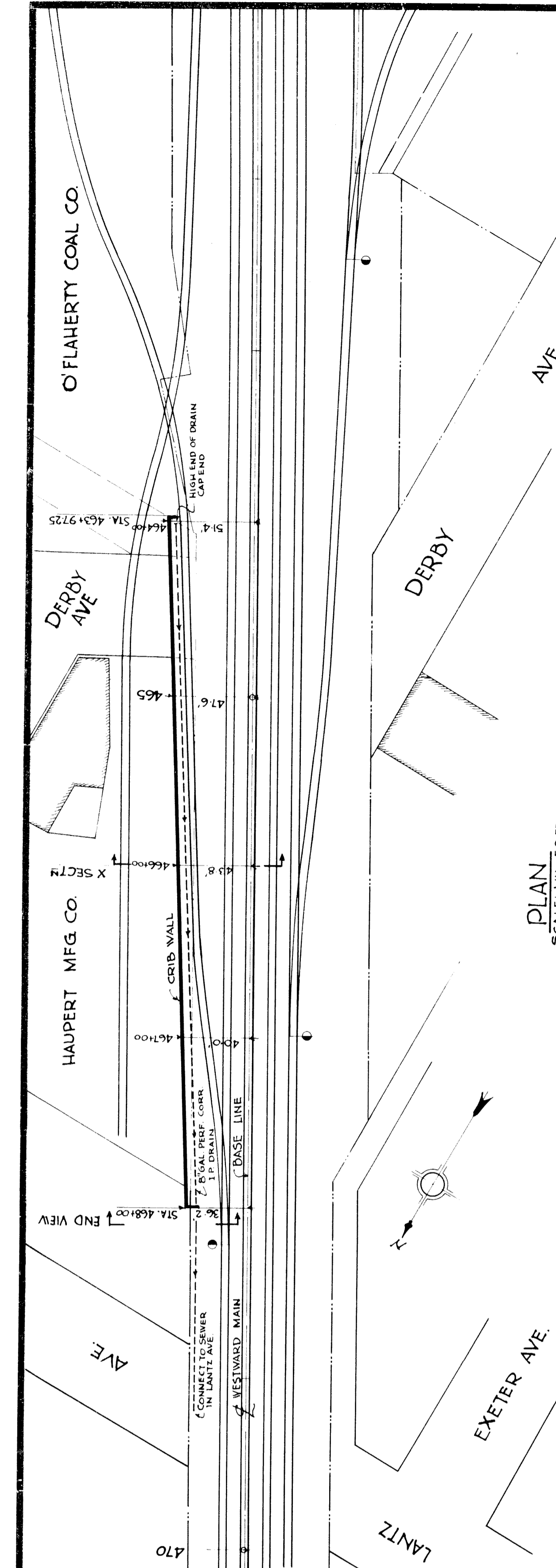
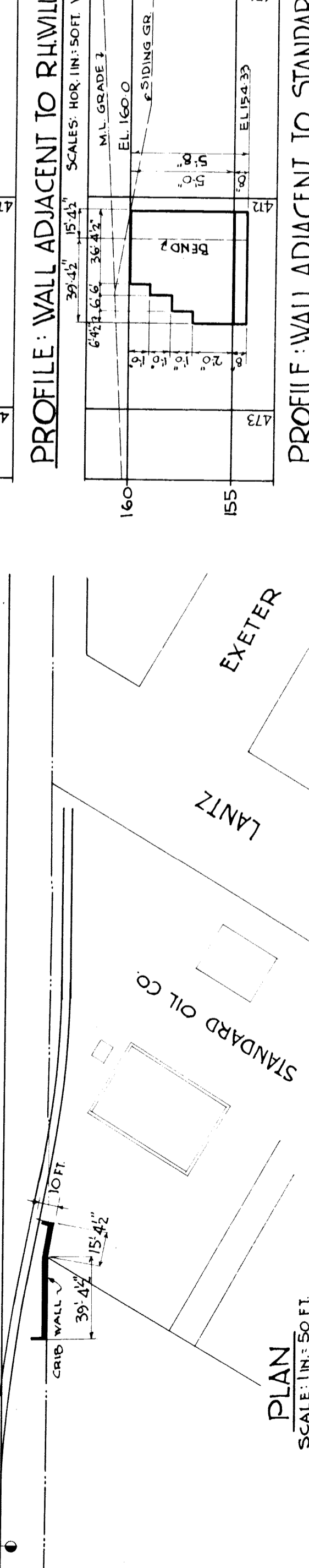
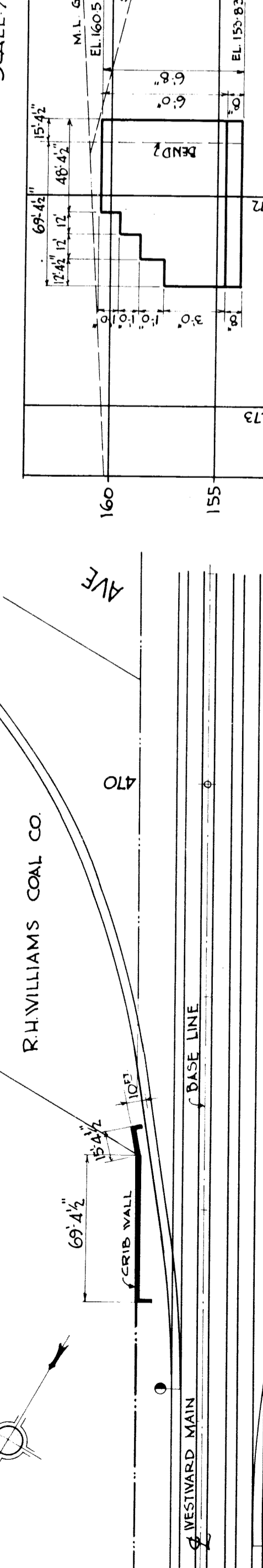
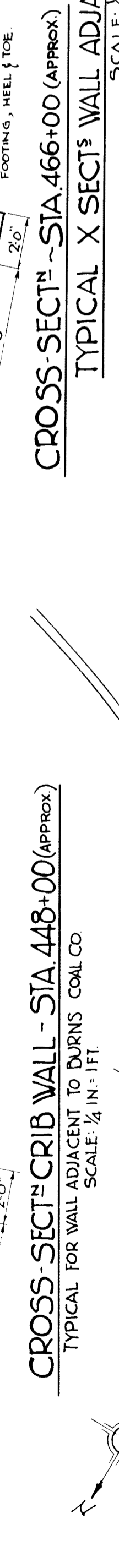
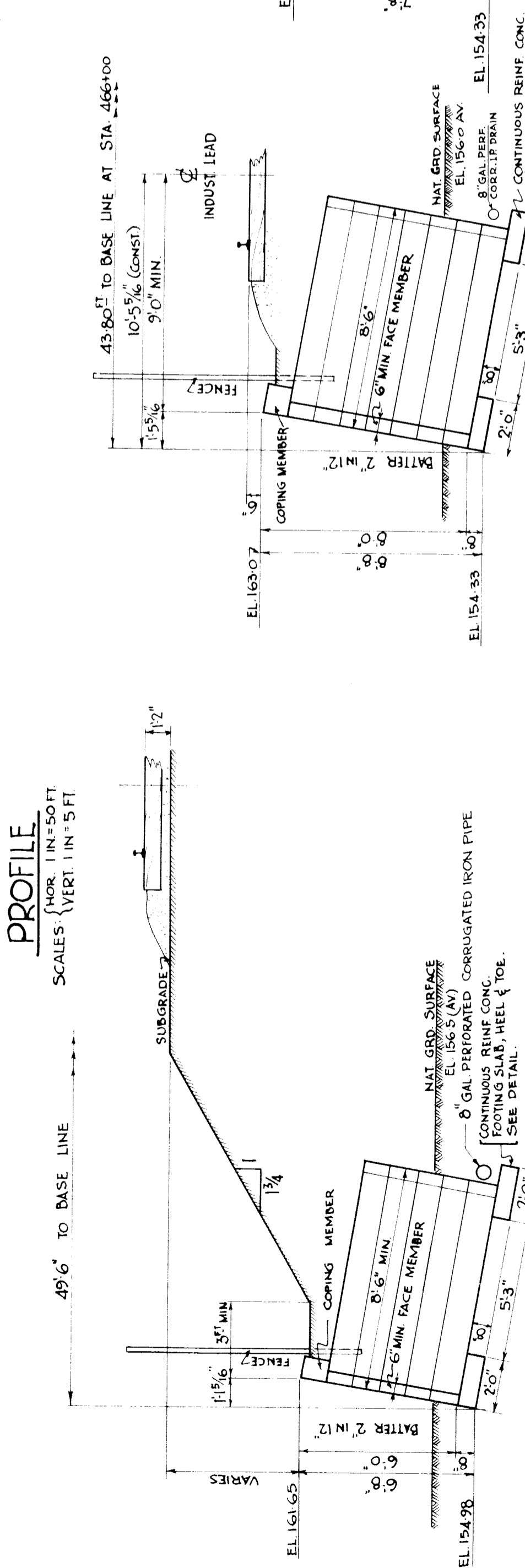
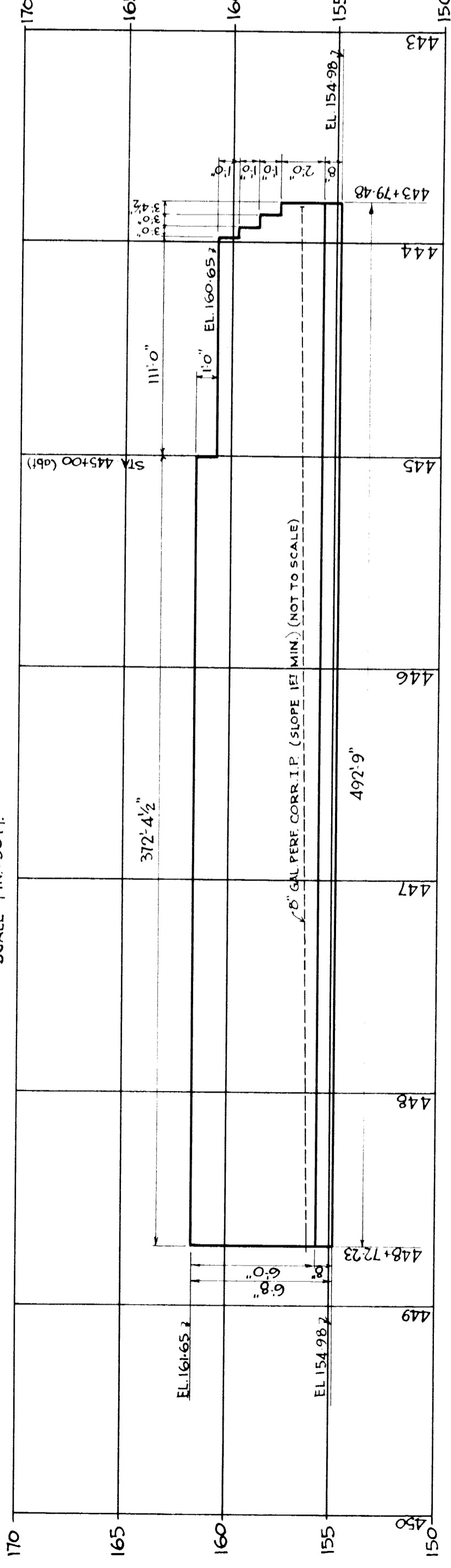
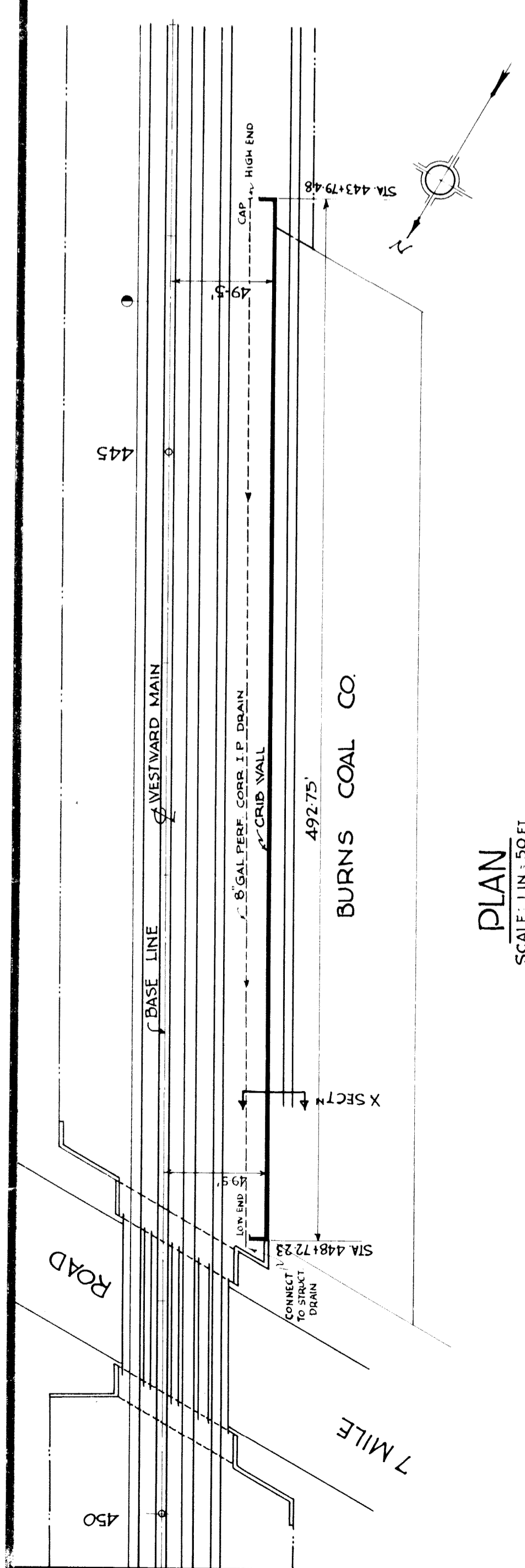
**GENERAL NOTES**  
 HEAVY LINES INDICATE SUCCESSIVE TRACK CHANGES.  
 DOTTED LINES INDICATE PERMANENT TRACKS WHICH HAVE BEEN REMOVED.  
 SEE SPECIFICATIONS FOR DESCRIPTION OF OPERATION AND DIAGRAM REFERENCES.

MICHIGAN STATE HIGHWAY DEPARTMENT  
 SEC. 1 T. 15 S. R. 11 E. TWP. WAYNE CO.  
 BRIDGE FILE NO. XI OF 82-22-20 ROADS JOHN R. ST. AND SEVEN MILE RD.  
 CROSSING GRAND TRUNK WESTERN RR. IN CITY OF DETROIT

DIAGRAM SHOWING SCHEDULE OF OPERATION

APPROVED	CHIEF ENGINEER
APPROVED	ENGINEER OF BRIDGE DESIGN
SQUAD ROOM	RAW. 81337
DRAWN BY	H.S.F. 81337
CHECKED BY	A.N.L. 81337
FILED BY	
SHEET	8





**ESTIMATE OF QUANTITIES**

CRIB WALL ADJACENT TO	EXCAVATION	CRIBBING	CONCRETE	REIN. STEEL	8 GAL CORR. I.P.
BURNS COAL CO.	423 CY	2875 L	49,000 CY	7983 LB	500 LF
HAUPERT MFG. CO.	337	2779	4000	6523	520
R.H. WILLIAMS COAL CO.	45	490	850	1393	
STANDARD OIL CO.	41	279	550	907	
<b>TOTALS</b>	<b>846 CY</b>	<b>6423 L</b>	<b>103,000 CY</b>	<b>16,808 LB</b>	<b>1020 LF</b>

\* PART OF PROJECT NO. FAGM 228 SEC. A  
† PART OF PROJECT NO. FAGM 281 SEC. B.

**MICHIGAN STATE HIGHWAY DEPARTMENT**  
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SEC. 1 T-15 R. 11E TWP. WAYNE CO.  
BRIDGE FILE NO. XI OF 82-22-20 ROAD JOHN R. ST AND 7 MILE RD  
CROSSING GRAND TRUNK WESTERN R.R. IN CITY OF DETROIT

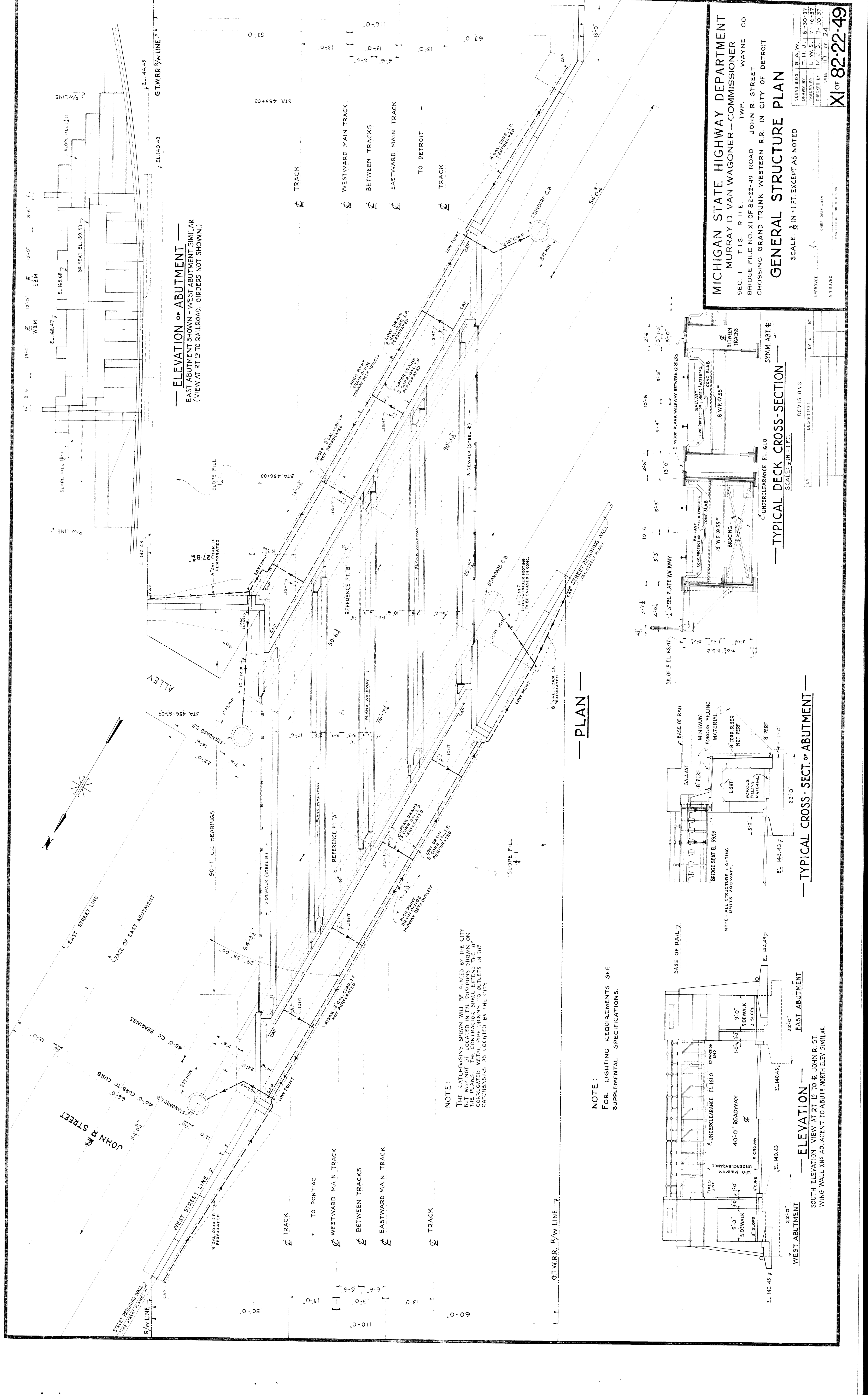
**CONCRETE CRIB WALLS**  
SCALE: AS SHOWN

APPROVED: *W. H. ...* CHIEF DRAFTSMAN  
APPROVED: *...* ENGINEER OF BRIDGE DESIGN

REVISIONS: NO. DESCRIPTION DATE BY

REVISED BY	DATE	BY
RAW	8-11-37	
T.H.J.	8-11-37	
T.H.J.	8-11-37	
L.S.	8-13-37	
...	...	...

NO. OF SHEETS: 9  
SHEET: 9  
DATE: 8-22-20  
PROJECT: XI OF 82-22-20



**ELEVATION OF ABUTMENT**  
 EAST ABUTMENT SHOWN - WEST ABUTMENT SIMILAR  
 (VIEW AT RT 15 TO RAILROAD - GIRDERS NOT SHOWN.)

**PLAN**

**TYPICAL DECK CROSS-SECTION**  
 SCALE: 1/2" IN. = 1 FT.

**ELEVATION - WEST ABUTMENT**  
 SOUTH ELEVATION - VIEW AT RT. 15 TO JOHN R. ST.  
 WING WALL XNS ADJACENT TO ABUTTS NORTH ELEV. SIMILAR.

NOTE:  
 THE CATCHBASINS SHOWN WILL BE PLACED BY THE CITY BUT MAY NOT BE LOCATED IN THE POSITIONS SHOWN ON THE PLANS. THE CONTRACTOR SHALL EXTEND THE 10" HIGH METAL PIPE DRAINS TO OUTLETS IN THE CATCHBASINS AS LOCATED BY THE CITY.

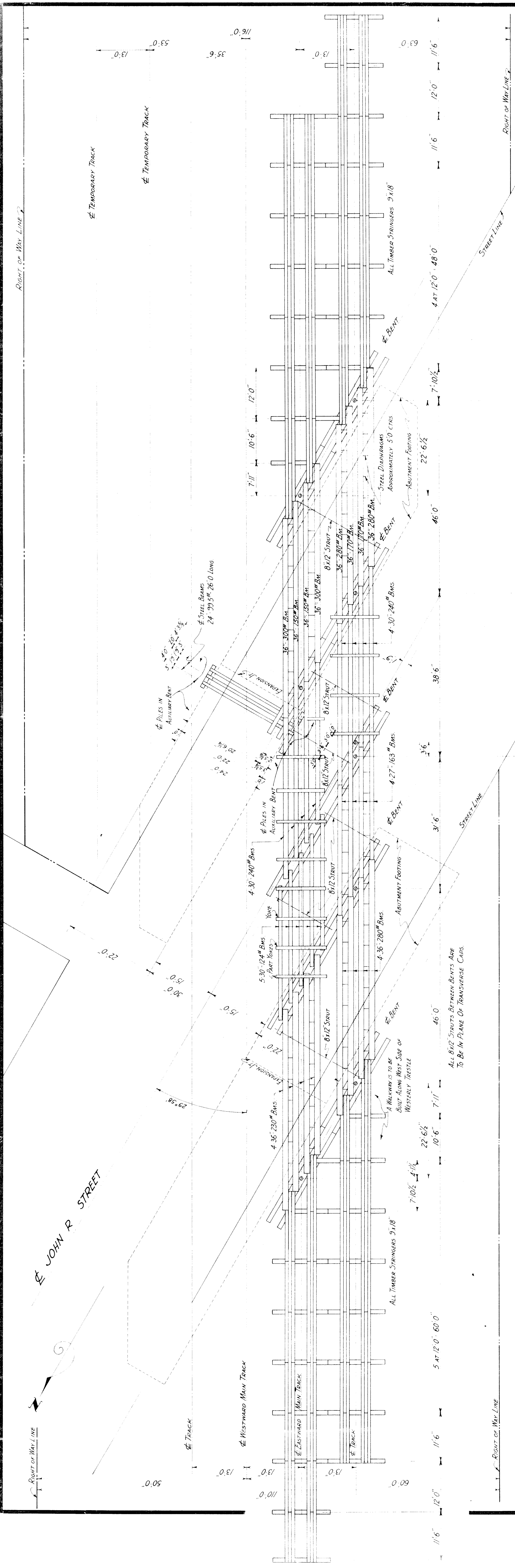
NOTE:  
 FOR LIGHTING REQUIREMENTS SEE SUPPLEMENTAL SPECIFICATIONS.

**MICHIGAN STATE HIGHWAY DEPARTMENT**  
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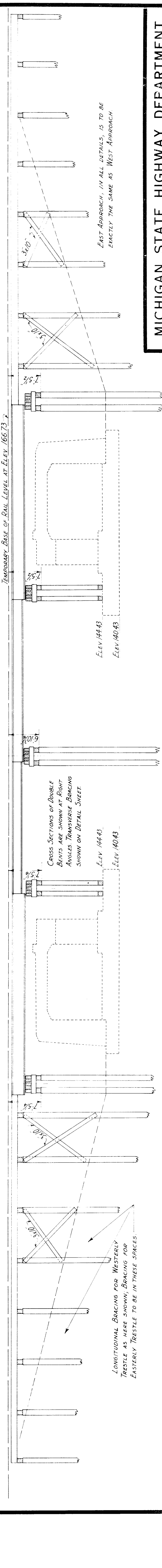
**GENERAL STRUCTURE PLAN**  
 SCALE: 1/2" IN. = 1 FT. EXCEPT AS NOTED

SUBMITTAL	R.A.W.	6-30-37
DRAWN BY	T.H.J.	7-16-37
CHECKED BY	L.V.S.	7-20-37
APPROVED	M.L.D.	7-20-37
APPROVED	SHEP DRAFTSMAN	
APPROVED	ENGINEER OF BRIDGE DESIGN	

APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_ BY: \_\_\_\_\_



PLAN OF TEMPORARY TRESTLES



**MICHIGAN STATE HIGHWAY DEPARTMENT**  
**MURRAY D. VAN WAGONER - COMMISSIONER**  
 TWP. WAYNE CO.  
 SEC. 1 T. 11-S. R. 11 E  
 BRIDGE FILE NO. X1 OF 82-22-49 ROAD JOHN R STREET  
 CROSSING GRAND TRUNK WESTERN RR. IN CITY OF DETROIT

**TEMPORARY OPERATING TRESTLE**  
 SCALE:  $\frac{1}{32}'' = 1'-0''$

APPROVED \_\_\_\_\_ CHIEF ENGINEER  
 APPROVED \_\_\_\_\_ ENGINEER OF BRIDGE DESIGN

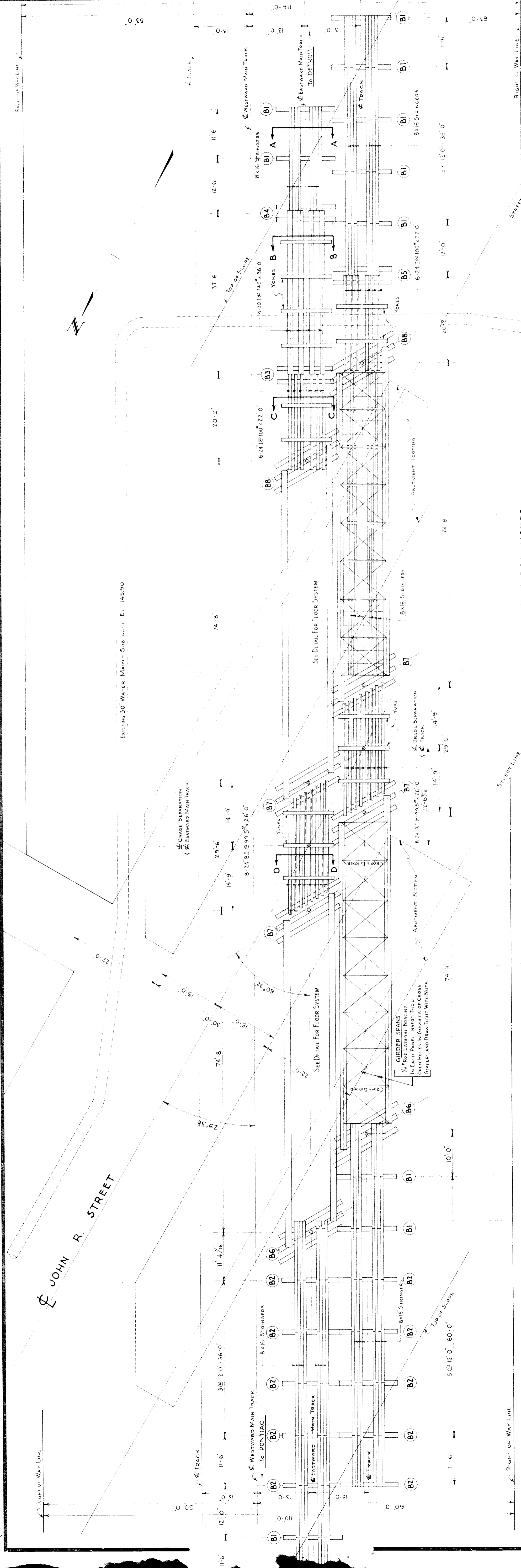
DESIGNED BY	RAW	11-23-37
CHECKED BY	RAW	12-6-37
DRAWN BY	RAW	11-26-37
SHEET NO.	117	TWP

XI of 82-22-49

LONGITUDINAL SECTION OF WESTERLY TRESTLE ON TRACK

**GENERAL NOTES**  
 SEE SPECIFICATIONS FOR MATERIAL AND REMOVAL  
 SIZE OF TIMBERS ARE TAKEN  $\frac{1}{2}''$  LESS THAN NOMINAL SIZE.  
 CAPS ARE TO BE SET ON EDGE  
 PILING IS TO BE CUT OFF, NOT PULLED.  
 IF TIMBERS VARY IN DEPTH, ADJUST PILE CUTOFF ELEVATION  
 AND DEPTH OF BLOCKING OVER CAPS  
 RAILROAD WILL FURNISH 30" x 240" AND 24" x 99.5"  
 STEEL BEAMS; CONTRACTOR WILL FURNISH ALL  
 OTHER STEEL BEAMS FOR TEMPORARY TRESTLE.

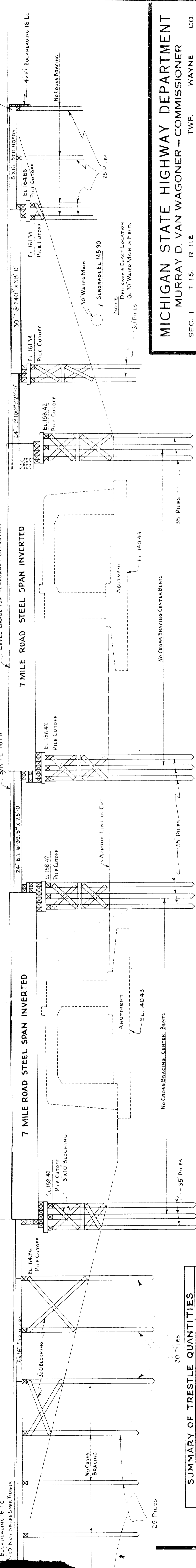
NO	DATE	REVISIONS
		DESCRIPTION



**PLAN OF TEMPORARY TRESTLES**

**GENERAL NOTES**

- MATERIALS - SEE SUPPLEMENTAL SPECIFICATIONS
- SIZE OF TIMBERS FIGURED 1/2" LESS THAN NORMAL SIZE
- CAPS ARE TO BE SET ON EDGE
- PILING TO BE CUT OFF
- DO NOT PULL
- STRUCTURAL STEEL BEAMS MAY BE OBTAINED FROM RAILROAD GIRDER SPANS TO BE FURNISHED BY STATE HIGHWAY DEPT. EXCLUSIVE OF BOLTS FOR FIELD CONNECTION SEE SUPPLEMENTAL SPECIFICATIONS
- REMOVAL SEE SUPPLEMENTAL SPECIFICATIONS
- IF TIMBERS VARY IN DEPTH ADJUST PILE CUTOFF ELEVATION AND DEPTH OF BLOCKING OVER CAPS



**ELEVATION OF TRESTLE ON EASTWARD MAIN TRACK**

SUMMARY OF TRESTLE QUANTITIES	
PILING FURNISHED	9700 LF
PILING DRIVEN	8770 LF
TIES	46000 BF
STRINGERS	40300 BF
CAPS AND CRIB TIMBERS	40900 BF
BRACING	5600 BF
WALKWAY AND GD. TIMBERS	8500 BF
BLOCKING	5500 BF
MISC. IRON	13900 #
STEEL BEAMS	104270 #
STEEL GIRDER SPANS	651900 #
TURNED BOLTS FOR GIRDER SPANS	3700 #

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 CROSSING GRAND TRUNK WESTERN R.R. IN CITY OF DETROIT

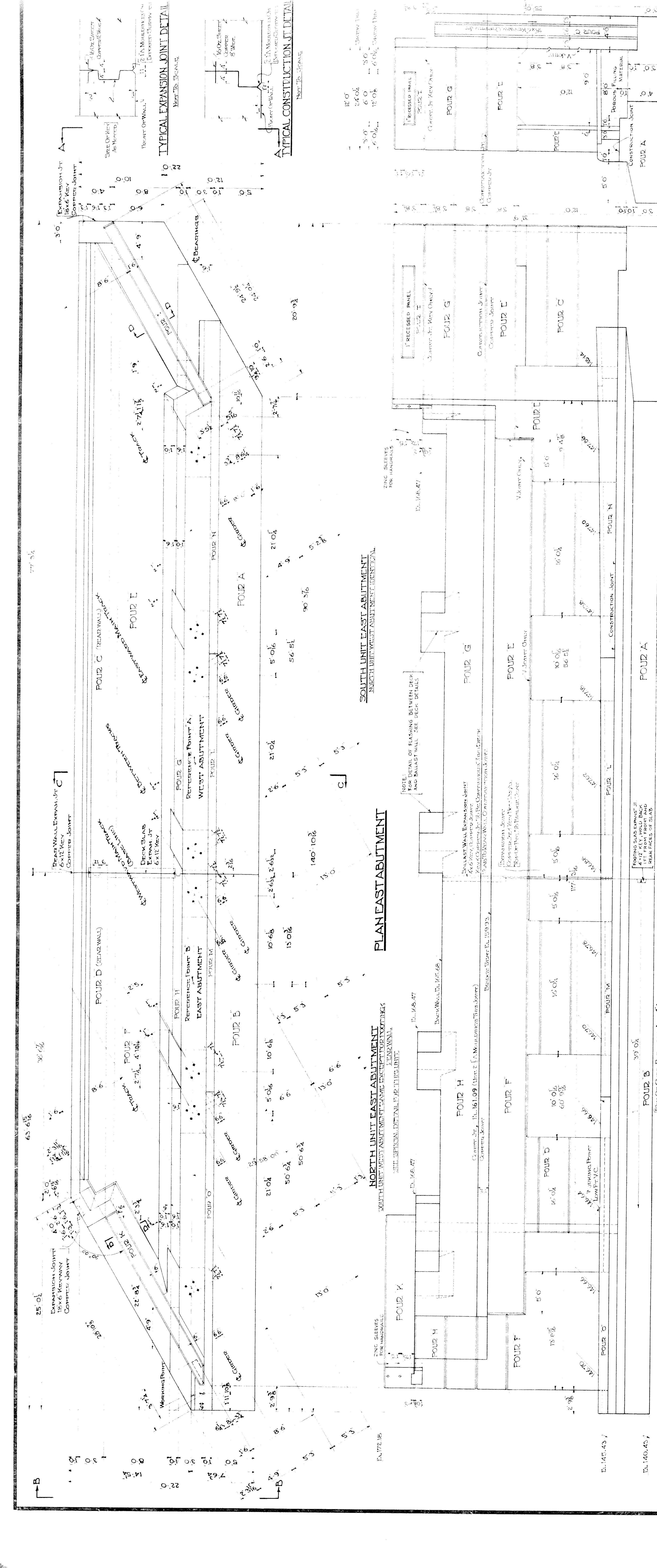
**TEMPORARY OPERATING TRESTLE**  
 SCALE: 3/32" = 1'-0"

APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_  
 CHECKED BY: A. N. L. 8-12-37  
 DRAWN BY: H. S. F. 7-29-37  
 DESIGNED BY: A. N. L. 8-12-37

SHEET 11 OF 24  
**XI OF 82-22-49**

REVISIONS	
NO.	DESCRIPTION





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

SEC 1 T1S R11E  
BRIDGE FILE NO. XI of 82-22-49 ROAD JOHN R. ST.  
CROSSING GRAND TRUNK WESTERN RR. IN CITY OF DETROIT

SCALE: 3/8" = 1'-0"

**ABUTMENT DETAILS**

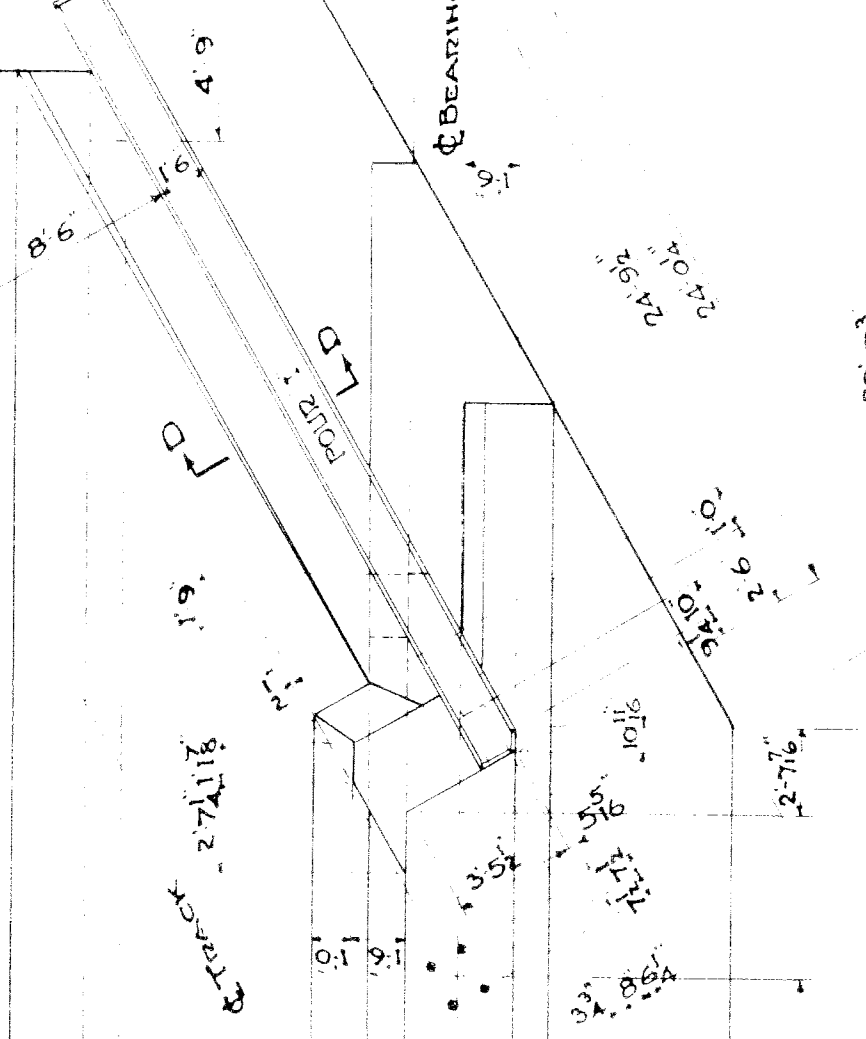
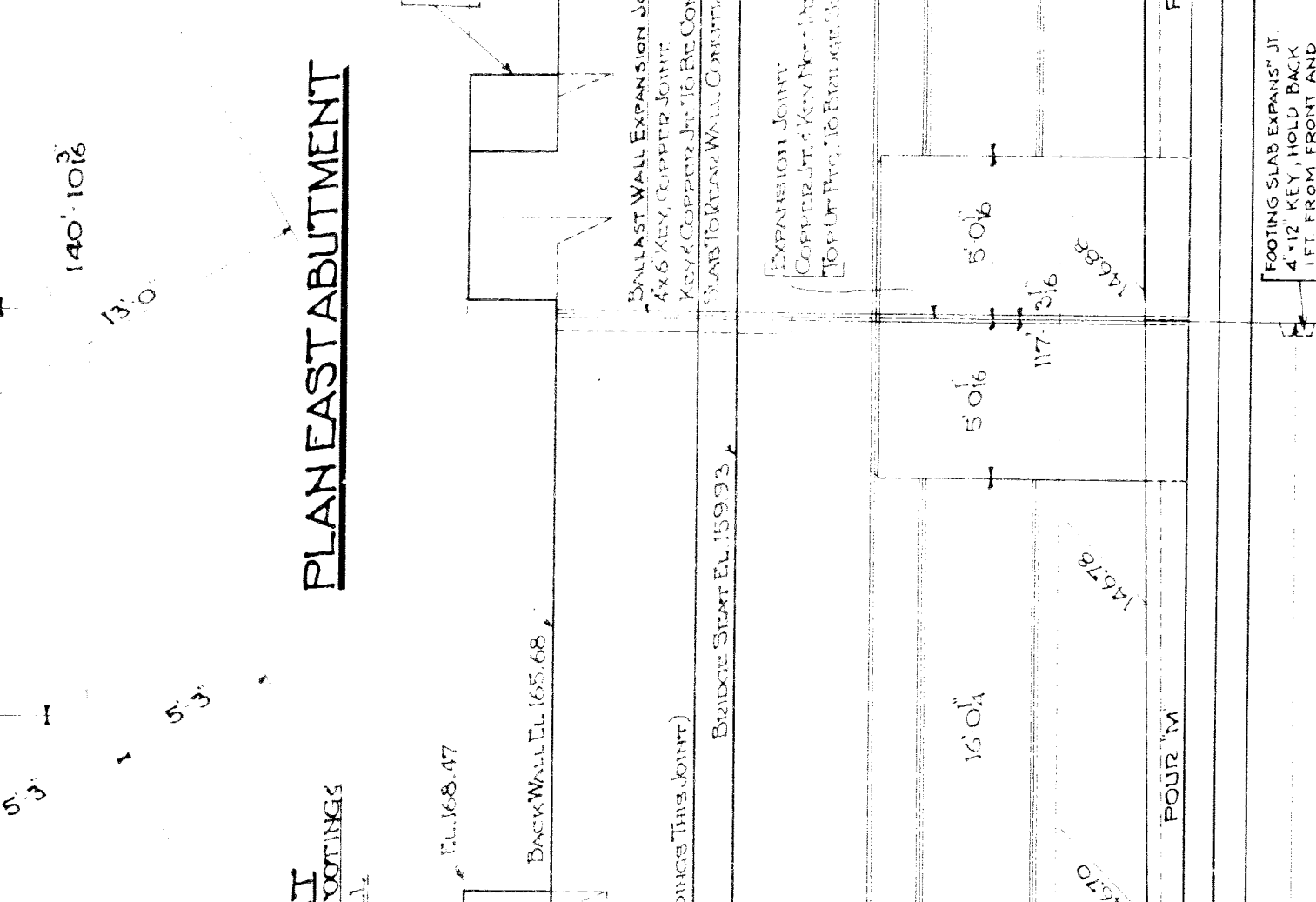
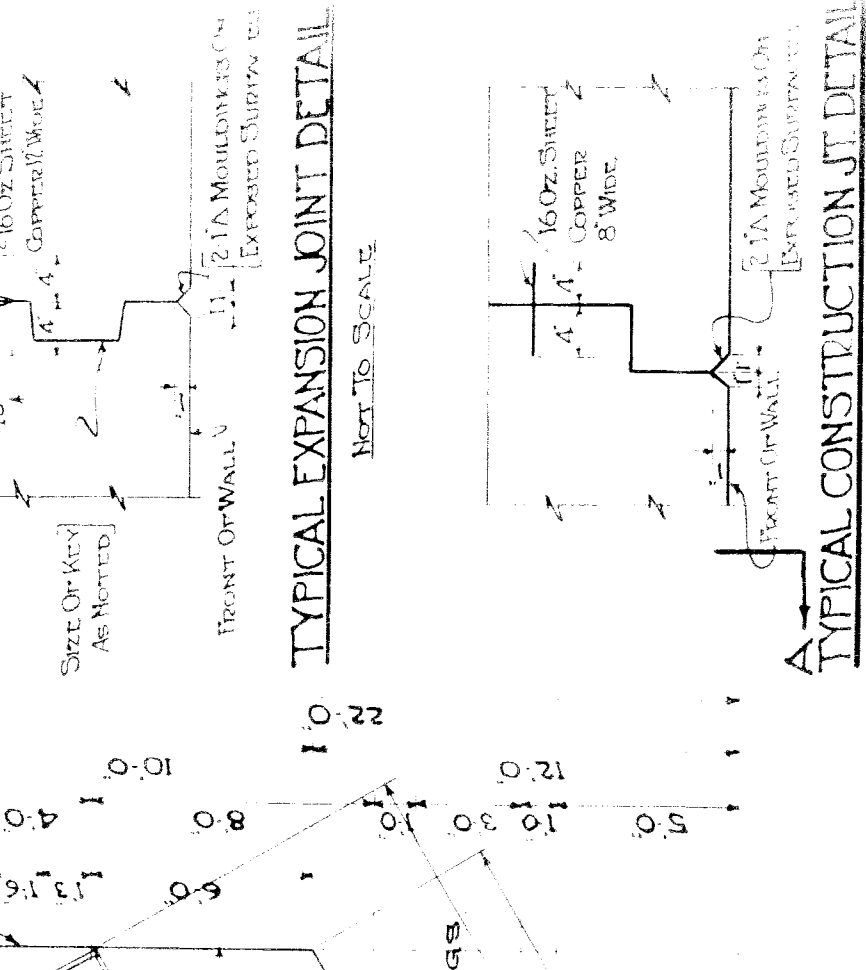
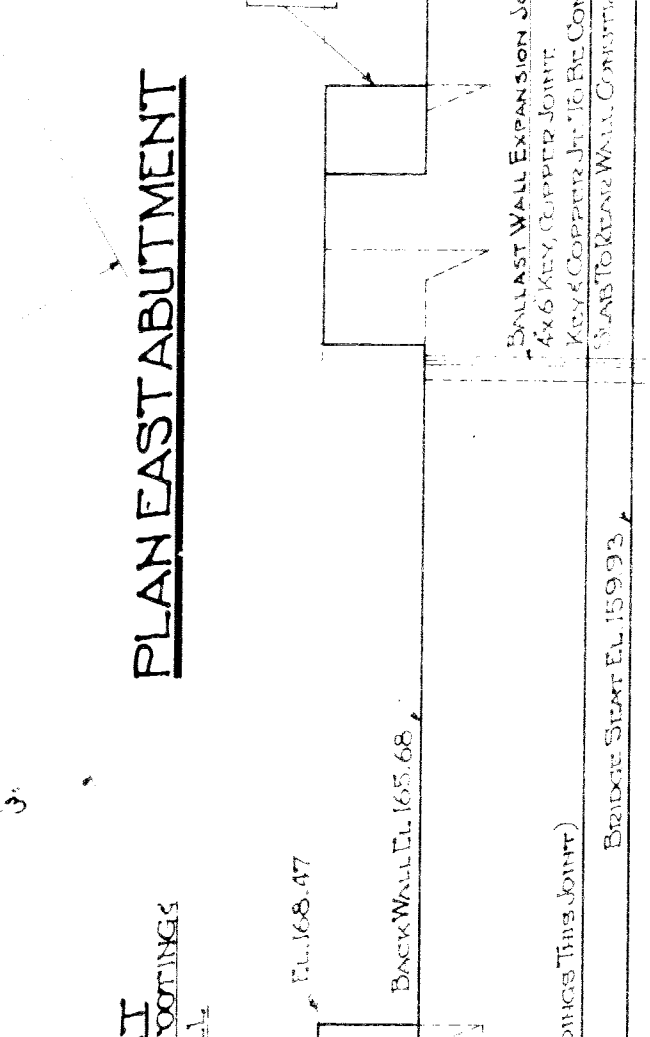
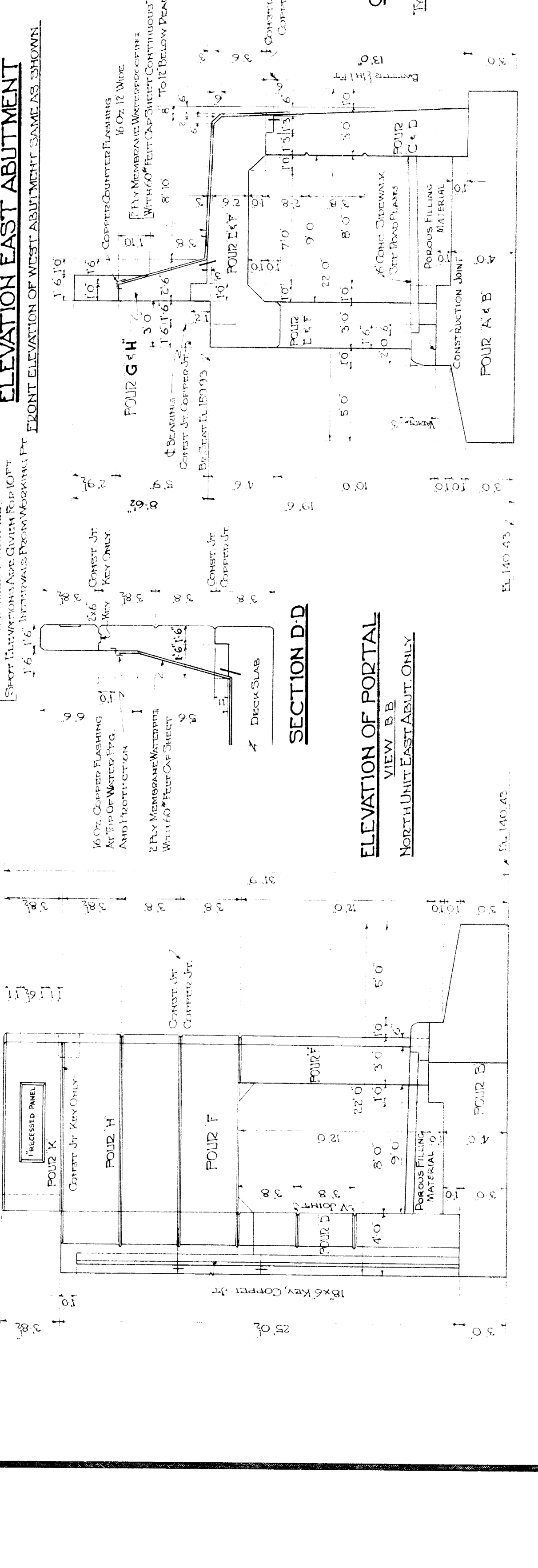
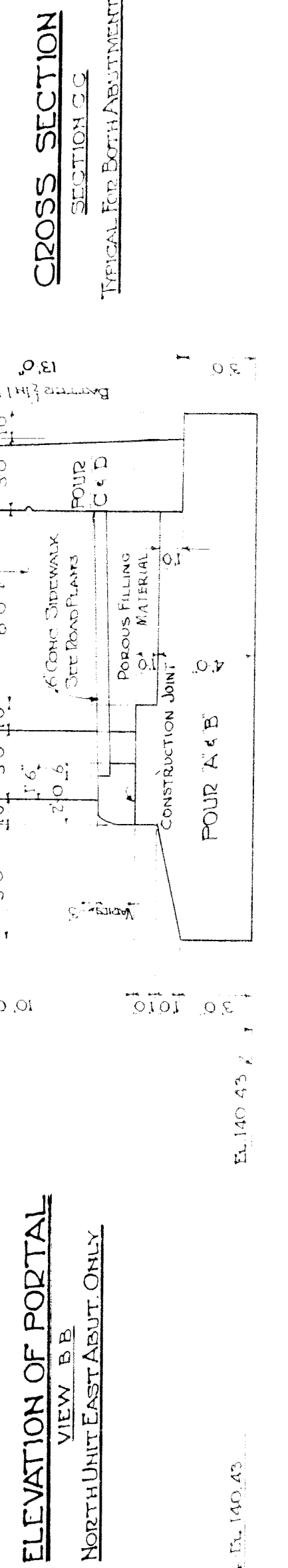
DATE: 10/19/24

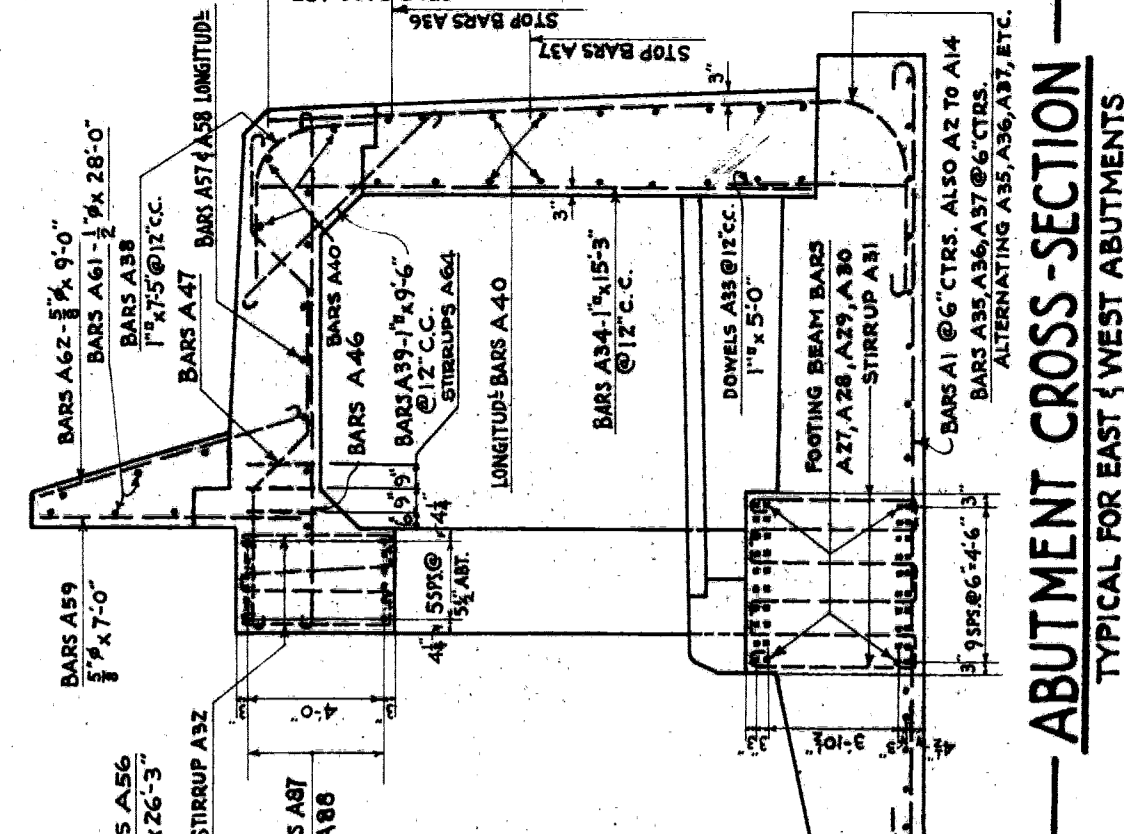
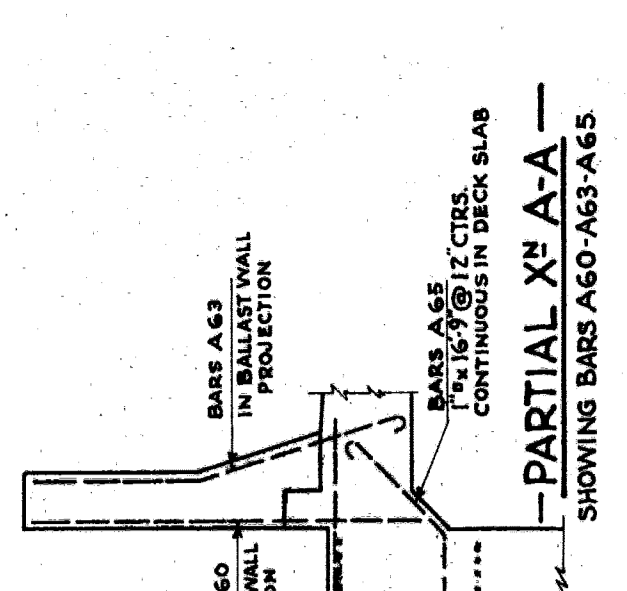
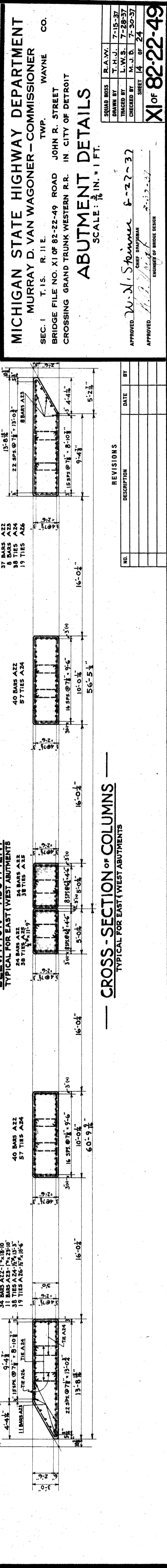
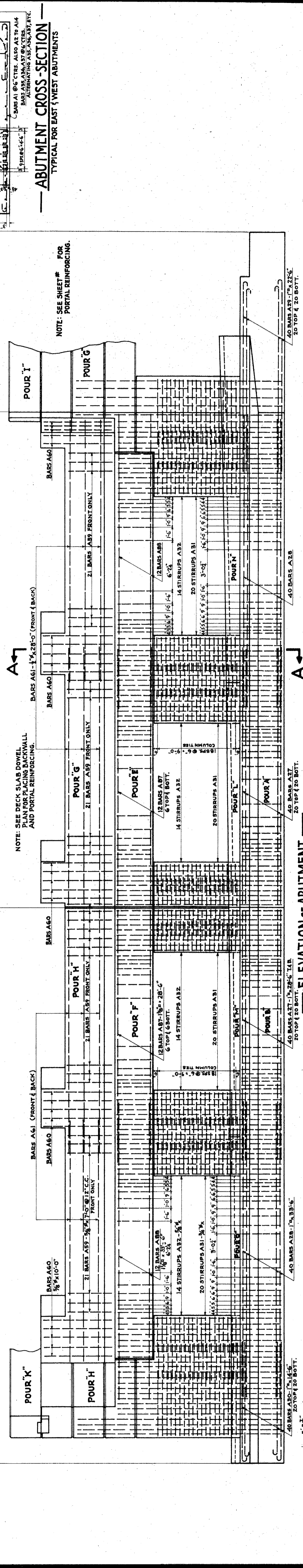
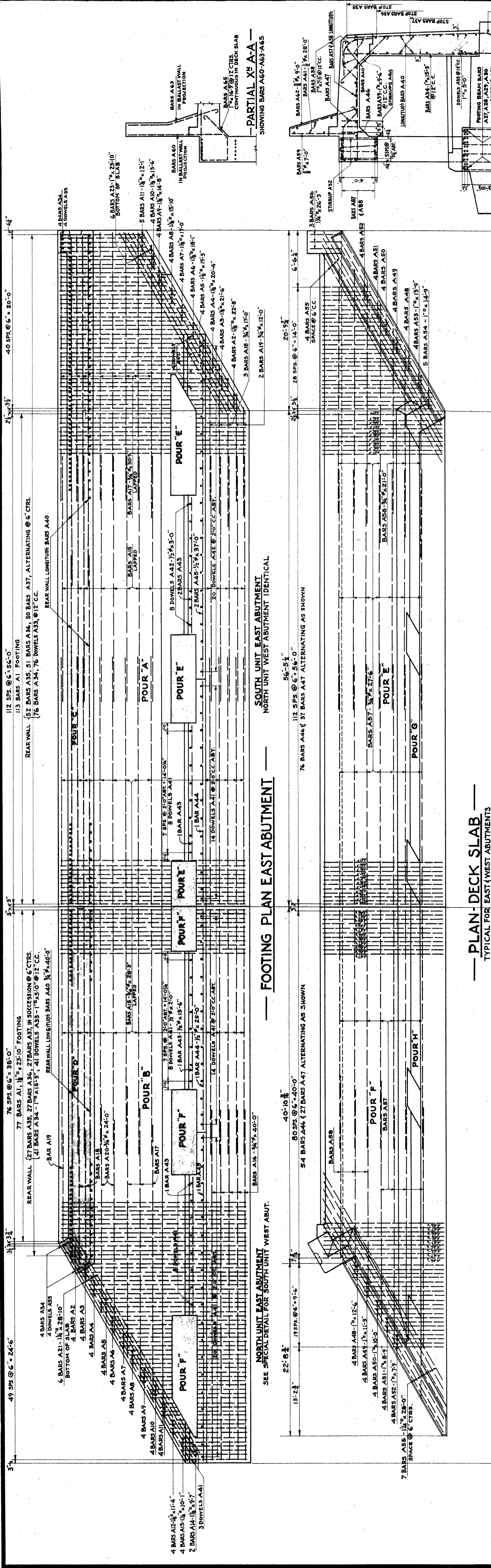
NO. 13 OF 24

XI of 82-22-4

**CONCRETE QUANTITIES**

POUR	EAST ABUT.	WEST ABUT.
A	230.10 CY	230.10 CY
B	178.50	203.70
C	101.50	101.50
D	54.10	53.89
E	153.90	153.90
F	122.30	122.00
G	37.90	37.90
H	33.30	33.00
I	5.00	5.00
L	4.60	4.60
M	2.80	2.80
N	2.20	6.00
O	2.80	2.80
P	51.70	
TOTAL	935.00 CY	1011.00 CY
		1946.00 CY





REVISIONS

NO.	DESCRIPTION	DATE	BY

**MICHIGAN STATE HIGHWAY DEPARTMENT**  
**COMMISSIONER**  
 SEC. 1 MURRAY D. VAN WAGONER  
 TWP. WAYNE CO.  
 T. 15. R. 11 E.  
 BRIDGE FILE NO. XI OF 82-22-49 ROAD JOHN R. STREET  
 CROSSING GRAND TRUNK WESTERN R.R. IN CITY OF DETROIT

**ABUTMENT DETAILS**  
 SCALE: 3/16" = 1' FT.

APPROVED: *W. A. Spink*  
 CHIEF ENGINEER

APPROVED: *H. P. [Signature]*  
 ENGINEER OF BRIDGE DESIGN

APPROVED: *[Signature]*  
 CHIEF SUPERVISOR

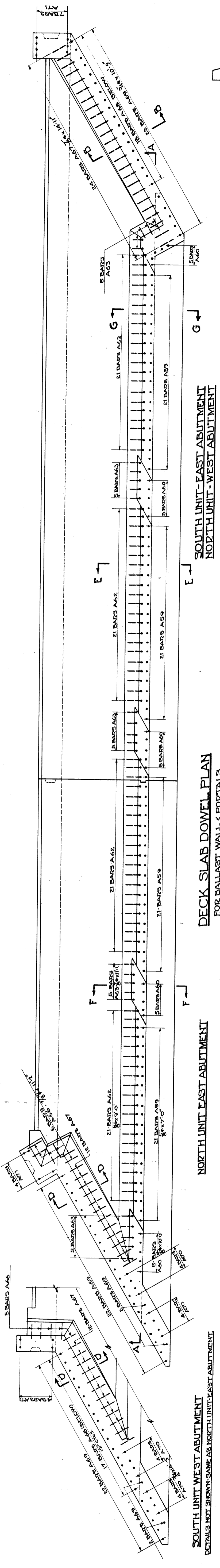
APPROVED: *[Signature]*  
 SUPERVISOR

APPROVED: *[Signature]*  
 ENGINEER

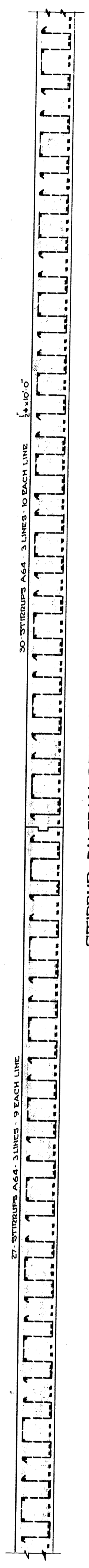
XI of 82-22-49



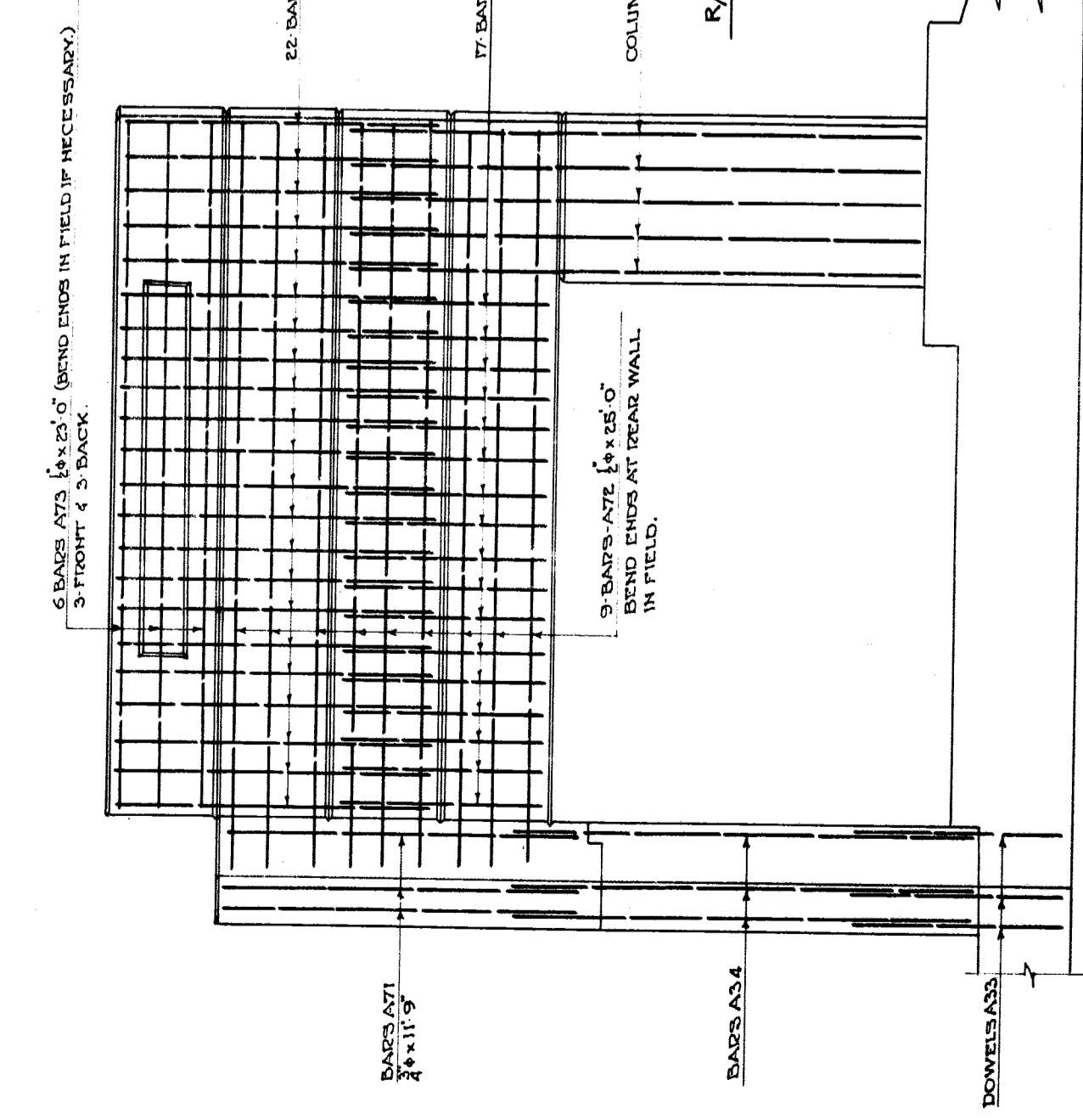




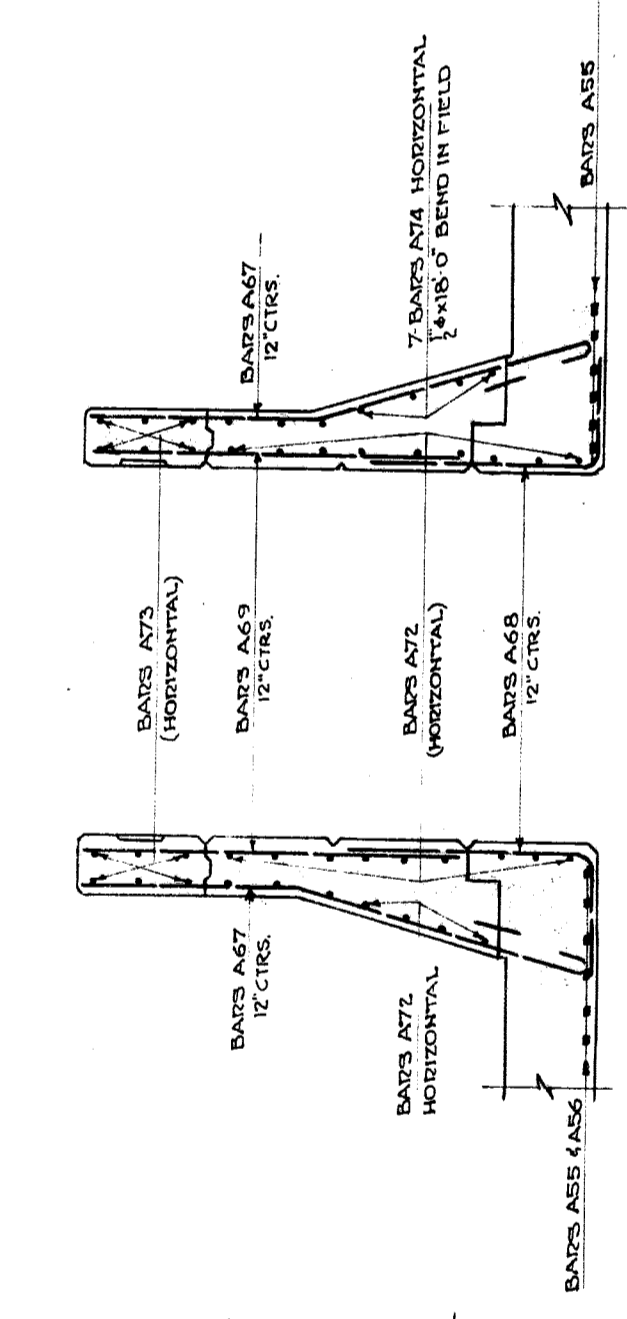
**DECK SLAB DOWEL PLAN**  
FOR BALLAST WALL & PORTALS



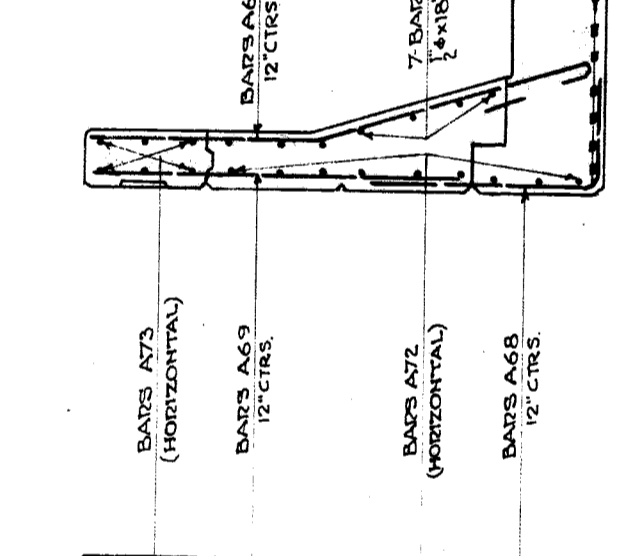
**STIRRUP DIAGRAM DECK SLAB**  
SECTION A-A



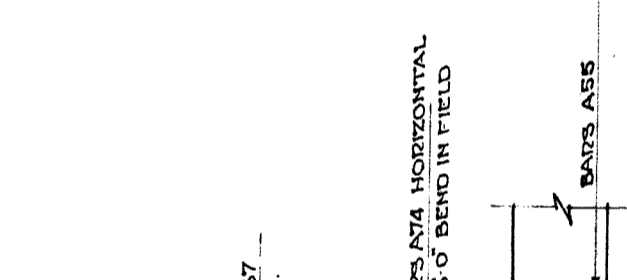
**TYPICAL DETAIL OF PORTAL REINFORCING**  
PORTAL OF SOUTH UNIT WEST ABUTMENT SHOWN - OTHERS SIMILAR



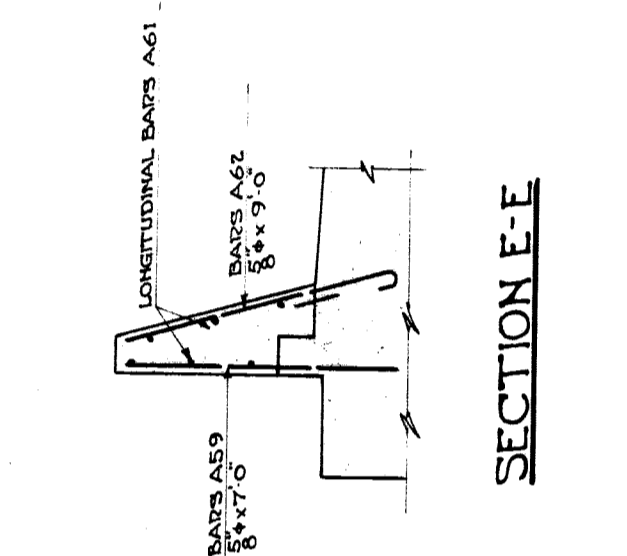
**SECTION B-B**



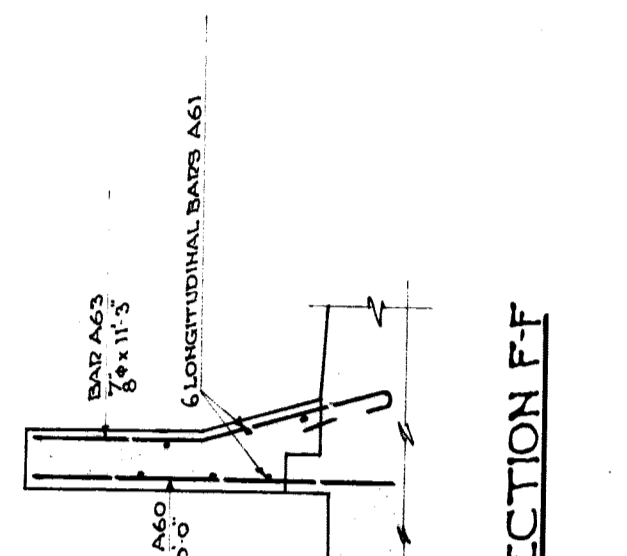
**SECTION C-C**



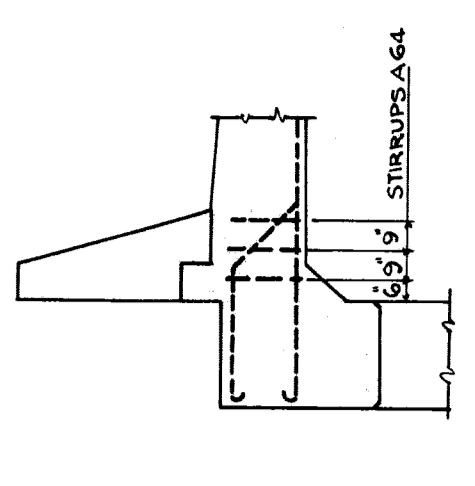
**SECTION D-D**



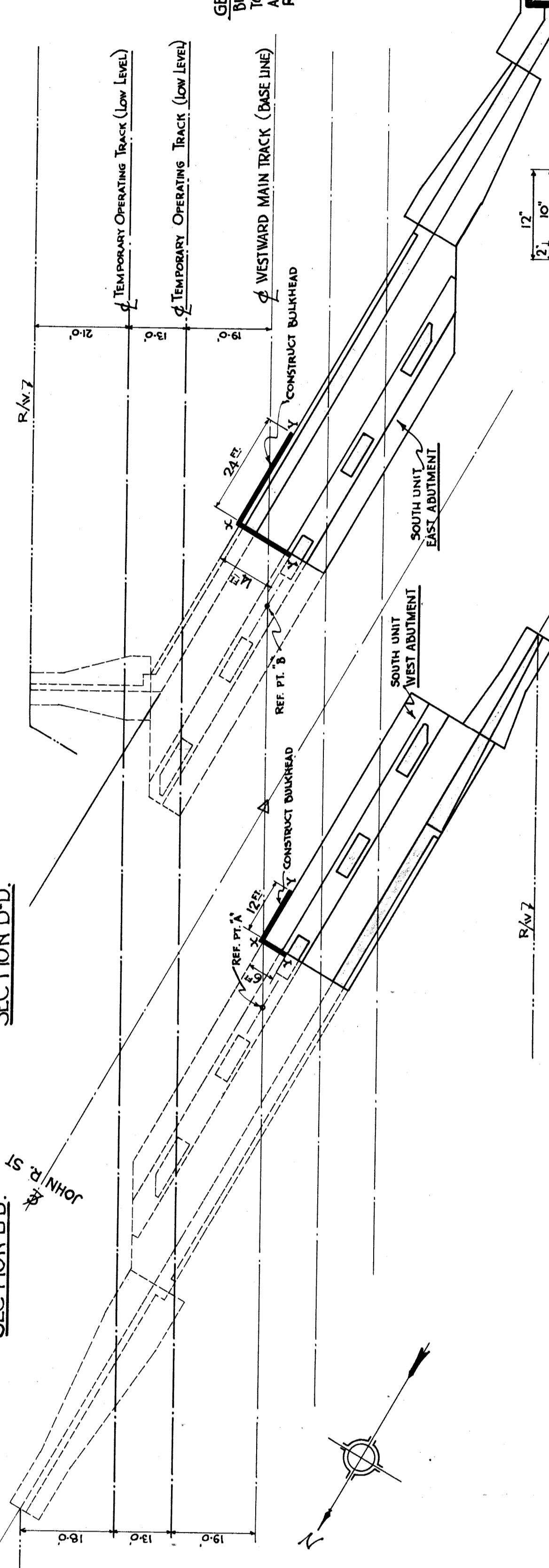
**SECTION E-E**



**SECTION F-F**



**SECTION G-G**



**LAYOUT OF FOUNDATION BULKHEADS**  
METHOD OF PROTECTING FOUNDATION AND TEMPORARY OPERAT' TRK.  
SCALE: 1/4" = 20 FT.

**TYPICAL X SECTION OF SHEET PILING**  
WAKEFIELD TYPE CUT FROM 6" X 12"  
SCALE: 1/4" = 1 FT.

**GENERAL NOTES ON BULKHEADS**  
BULKHEADS ARE TO BE BUILT WITH WAKEFIELD TYPE SHEET PILING (SEE DETAIL). PILING TO BE DRIVEN TO ELEVATION OF 4' BELOW FOUNDATION OF FOOTING SLAB. SHORE AND BRACE BULKHEAD TO MAKE A RIGID UNIT. LENGTH OF PILING VARIES FROM 20 FT AT POINTS 'X' TO 12 FT AT POINTS 'Y'. REMOVAL TO BE BY CUTOFF AS DIRECTED. DO NOT PULL.

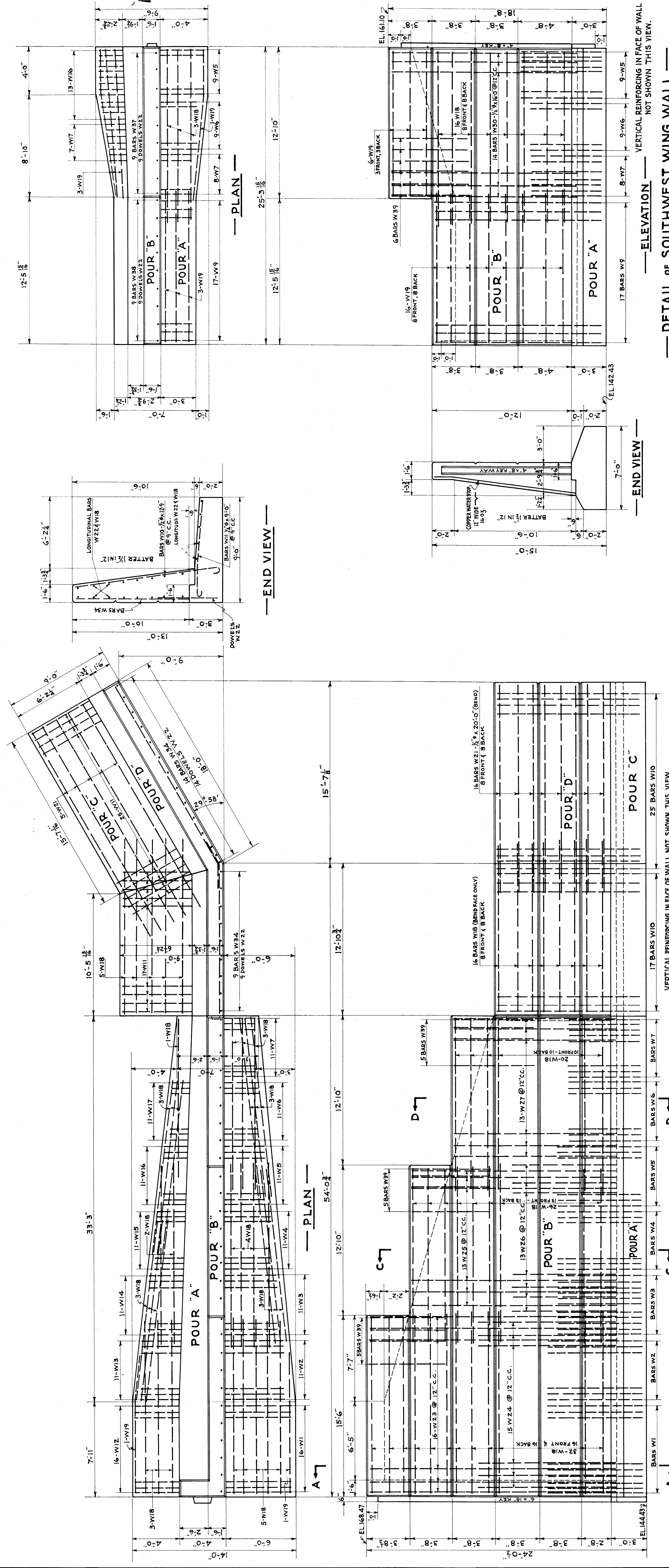
**MICHIGAN STATE HIGHWAY DEPARTMENT**  
MURRAY D. VAN WAGONER - COMMISSIONER  
SEC. 1 T. 1 S. R. 1 E  
BRIDGE FILE NO. XI OF 82-22-49 ROAD JOHN R. STREET  
TWP. WAYNE CO.  
CROSSING GRAND TRUNK WESTERN R.R. IN CITY OF DETROIT

**ABUTMENT DETAILS**  
SCALE: 1/4" = 1'-0"  
EXCEPT AS SHOWN

APPROVED: *W. H. S. Palmer* - 8-27-37  
CHIEF ENGINEER  
APPROVED: *W. H. S. Palmer* - 8-27-37  
SHEET 16 OF 24

NO.	REVISIONS	DESCRIPTION	DATE	BY





NOTE: SECTIONS A-A, C-C, D-D ARE IDENTICAL WITH SIMILAR X'S OF NORTHWEST WING WALL. SEE SHEET #

— ELEVATION —  
— PLAN —

VERTICAL REINFORCING IN FACE OF WALL NOT SHOWN THIS VIEW.

— ELEVATION —  
— END VIEW —

VERTICAL REINFORCING IN FACE OF WALL NOT SHOWN THIS VIEW.

— DETAIL OF SOUTHWEST WING WALL —

— DETAIL OF SOUTHEAST WING WALL —

CONCRETE QUANTITIES				
POUR	N.E. WING	N.W. WING	S.E. WING	S.W. WING
A	25.00	51.20	42.70	18.70
B	41.00	79.80	69.30	27.30
C			23.00	
D			25.00	
TOTAL	66.00	131.00	160.00	46.00
TOTAL FOR ALL FOUR WING WALLS				403.00

MICHIGAN STATE HIGHWAY DEPARTMENT  
MURRAY D. VAN WAGONER—COMMISSIONER  
SEC. 1 T.I.S. R. 11E. WAYNE CO.  
BRIDGE FILE NO. XI OF 82-22-49 ROAD JOHN R. STREET  
CROSSING GRAND TRUNK WESTERN R.R. IN CITY OF DETROIT

WING WALL DETAILS

SCALE: 1/4 IN. = 1 FT.

APPROVED	CHIEF ENGINEER	DATE	BY

NO.	REVISIONS	DESCRIPTION	DATE	BY

REVISIONS

DESCRIPTION

DATE

BY

REVISIONS

DESCRIPTION

DATE

BY

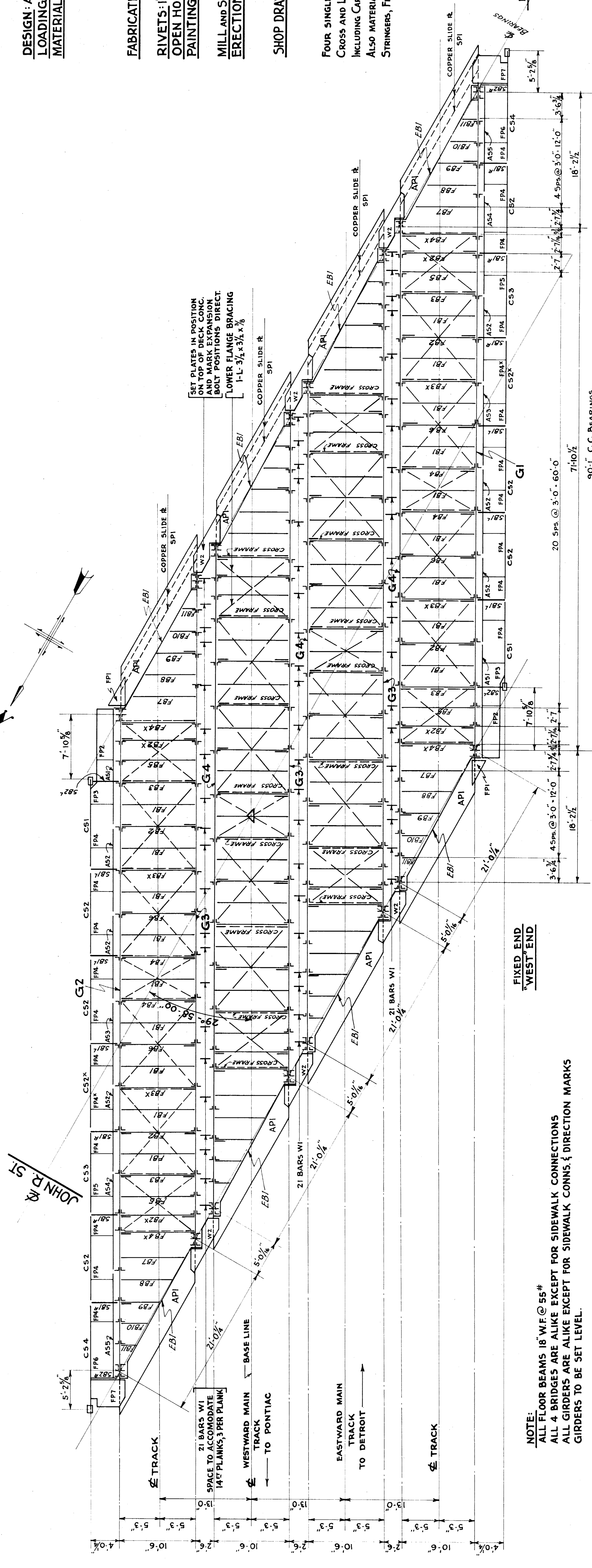
REVISIONS

DESCRIPTION

DATE

BY

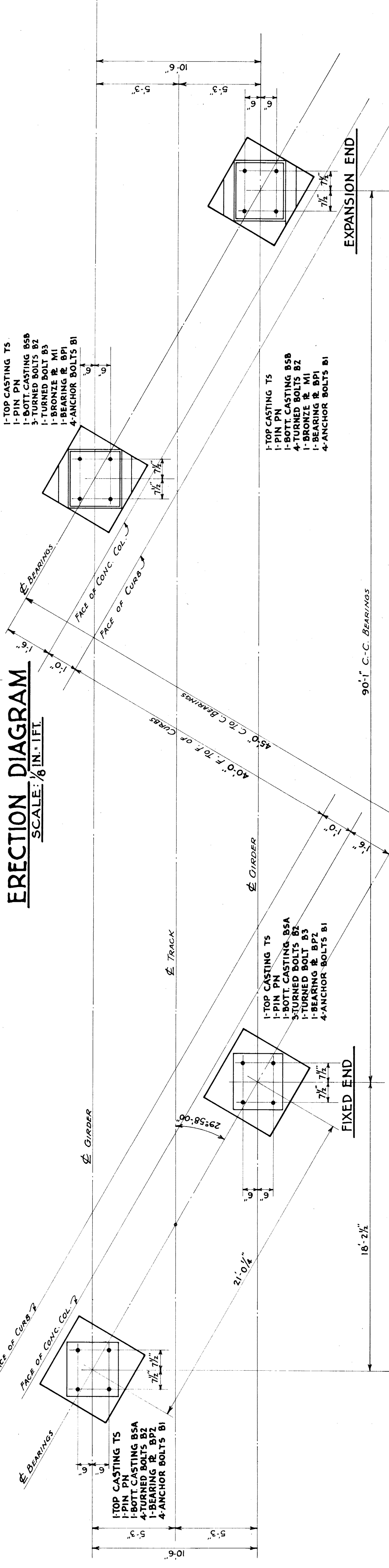
JOHN R. ST.



FIXED END WEST END

NOTE:  
ALL FLOOR BEAMS 18" W.F. @ 55#  
ALL 4 BRIDGES ARE ALIKE EXCEPT FOR SIDEWALK CONNECTIONS & DIRECTION MARKS  
ALL GIRDERS ARE ALIKE EXCEPT FOR SIDEWALK CONNS. & DIRECTION MARKS  
GIRDERS TO BE SET LEVEL.

**ERECTION DIAGRAM**  
SCALE: 1/8 IN. = 1 FT.



FIXED END

EXPANSION END

TABLE OF STRESSES		
MEMBER	LOAD	SECTION
GIRDER	D.L.	3,848,000
	L.L.	171,000
	TOTAL	4,019,000
	TOTAL	555,100
FLOOR-BEAM	D.L.	7,900
	L.L.	21,600
	TOTAL	29,500

**ANCHOR BOLT SETTING DIAGRAM & ASSEMBLY OF PIER MEMBERS**  
DIAGRAM FOR ONE BRIDGE ONLY - OTHER BRIDGES SIMILAR  
NOT TO SCALE

MICHIGAN STATE HIGHWAY DEPARTMENT  
MURRAY D. VAN WAGONER - COMMISSIONER  
T. I. S. R. IIE TWP. WAYNE CO.  
BRIDGE FILE NO. XI OF 82-22-49 ROAD JOHN R ST.  
CROSSING GRAND TRUNK WESTERN R.R. IN CITY OF DETROIT

**STRUCTURAL STEEL**  
ERECTION DIAGRAM

APPROVED: *W. M. S. ...*  
ENGINEER OF BRIDGE DESIGN

NO.	REVISIONS	DATE	BY

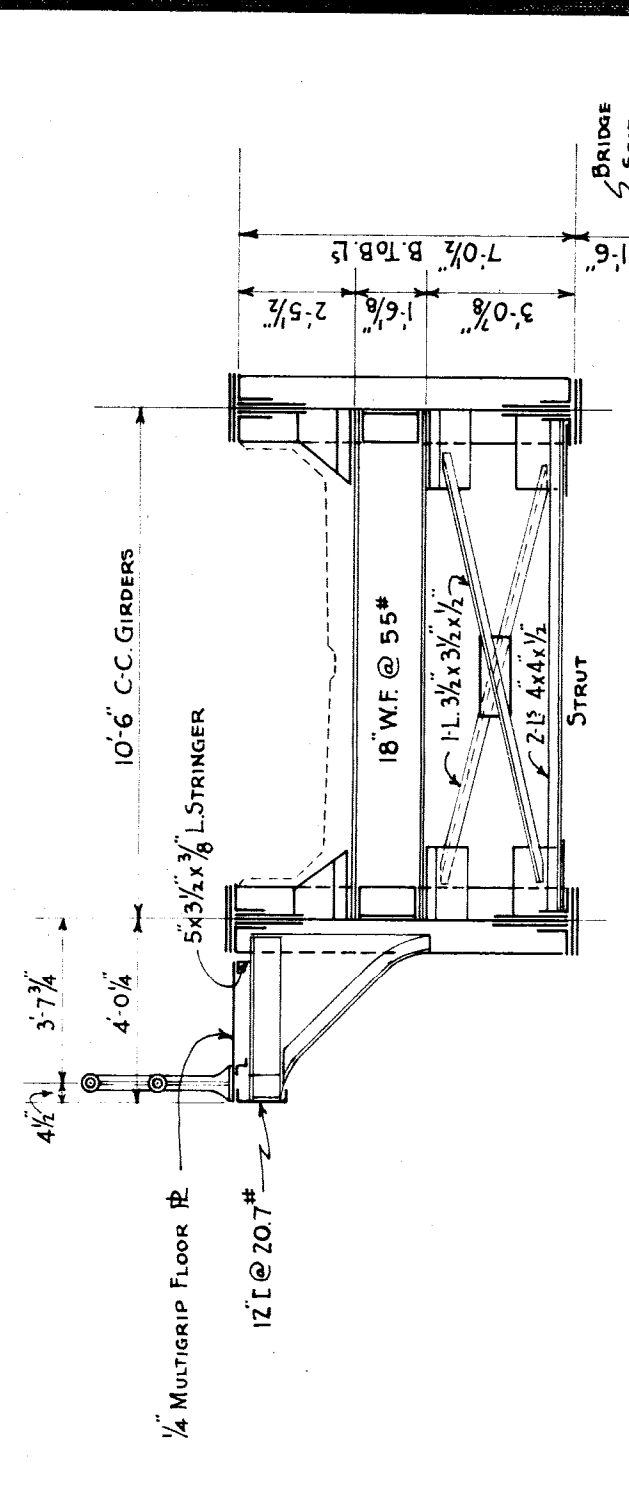
**GENERAL NOTES**  
DESIGN: A.R.E.A. SPECIFICATIONS FOR STEEL RAILWAY BRIDGES 1935.  
LOADING: E72 WITH FULL IMPACT.  
MATERIALS: STRUCTURAL STEEL AS PER A.S.T.M. SPECIFICATION A7-34.  
RIVET STEEL A141-33.  
CARBON STEEL CASTINGS A154-33T.  
PHOSPHOR BRONZE PLATES B22-21.  
PAINT MATERIALS AS PER MICHIGAN STATE HIGHWAY DEPT. SPECIFICATIONS.  
FABRICATION: TO BE IN ACCORDANCE WITH A.R.E.A. SPECIFICATIONS FOR STEEL RAILWAY BRIDGES 1935. SEE DETAIL SHEETS FOR SPECIAL REQUIREMENTS.  
RIVETS: 1" THRU WEB & FLANGES OF GIRDERS; 7/8" OTHER PARTS.  
OPEN HOLES: 1/4" THRU WEB & FLANGES OF GIRDERS; 1/8" OTHER PARTS, UNLESS NOTED OTHERWISE.  
PAINTING: TO BE IN ACCORDANCE WITH M.S.H.D. STANDARD SPECIFICATIONS AS MODIFIED BY SUPPLEMENTAL SPECIFICATIONS.  
MILL AND SHOP INSPECTION: BY MICHIGAN STATE HIGHWAY DEPARTMENT.  
ERECTION: TO BE IN ACCORDANCE WITH A.R.E.A. SPECIFICATIONS FOR STEEL RAILWAY BRIDGES 1935.

**SHOP DRAWINGS:** FABRICATOR SHALL FURNISH DETAILS FOR CHECKING AND INKED LINE TRACINGS OF ALL SHOP DRAWINGS FOR PERMANENT RECORDS.  
**STRUCTURAL STEEL REQUIRED**  
FOUR SINGLE SPANS, CONSISTING OF GIRDERS, FLOOR BEAMS, END FLOOR BEAMS, BALLAST APRONS, CROSS AND LATERAL BRACING, WALKWAY PLATES AND BARS, ROLLED STEEL SLAB BEARINGS, INCLUDING CARBON STEEL CASTINGS, PINS, STEEL & P. BRONZE PLATES, ANCHOR BOLTS AND CONNECTIONS ALSO MATERIAL FOR TWO SIDEWALKS CONSISTING OF CANTILEVER BRACKETS, CHANNEL AND ANGLE STRINGERS, FLOOR PLATES, HANDRAIL POSTS, PIPE RAILS & CONNECTIONS.

**ESTIMATED WEIGHT**

STRUCTURAL STEEL	918,669 LB.
CAST CARBON STEEL	13,336 LB.
PHOSPHOR BRONZE PLS.	272 LB.
<b>TOTAL</b>	<b>932,277 LB.</b>

(WTS. DO NOT INCLUDE [MINERAL INSULATION])

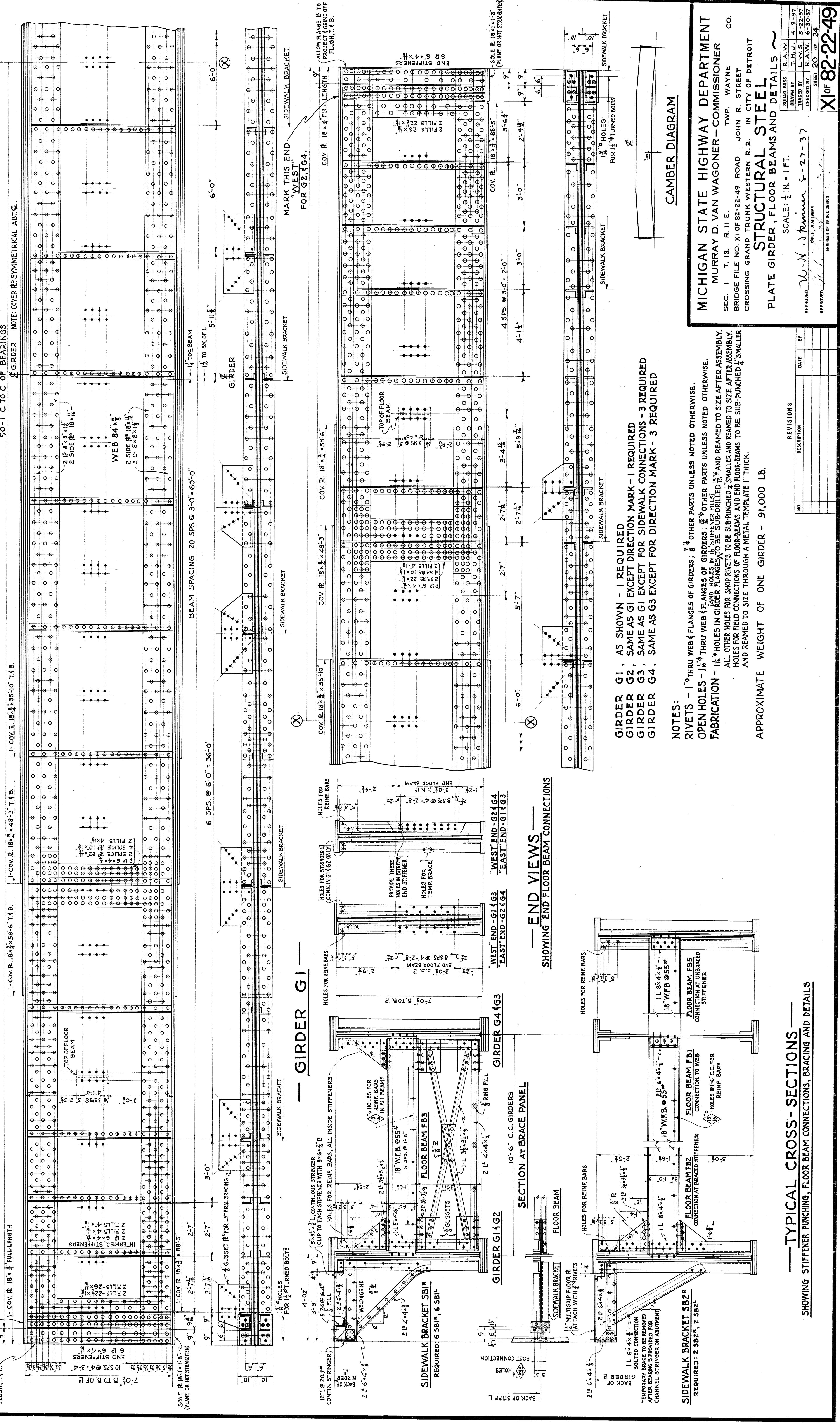


**TYPICAL DECK CROSS-SECTION**  
SECTION AT BRACE PANEL FOR ONE SPAN CARRYING SIDEWALK  
OTHER SPANS SIMILAR  
SCALE: 1/4 IN. = 1 FT.

MARK THIS END "WEST" FOR G1, G3.

91-7 O.T.O.O.

90'-1" C. TO C. OF BEARINGS

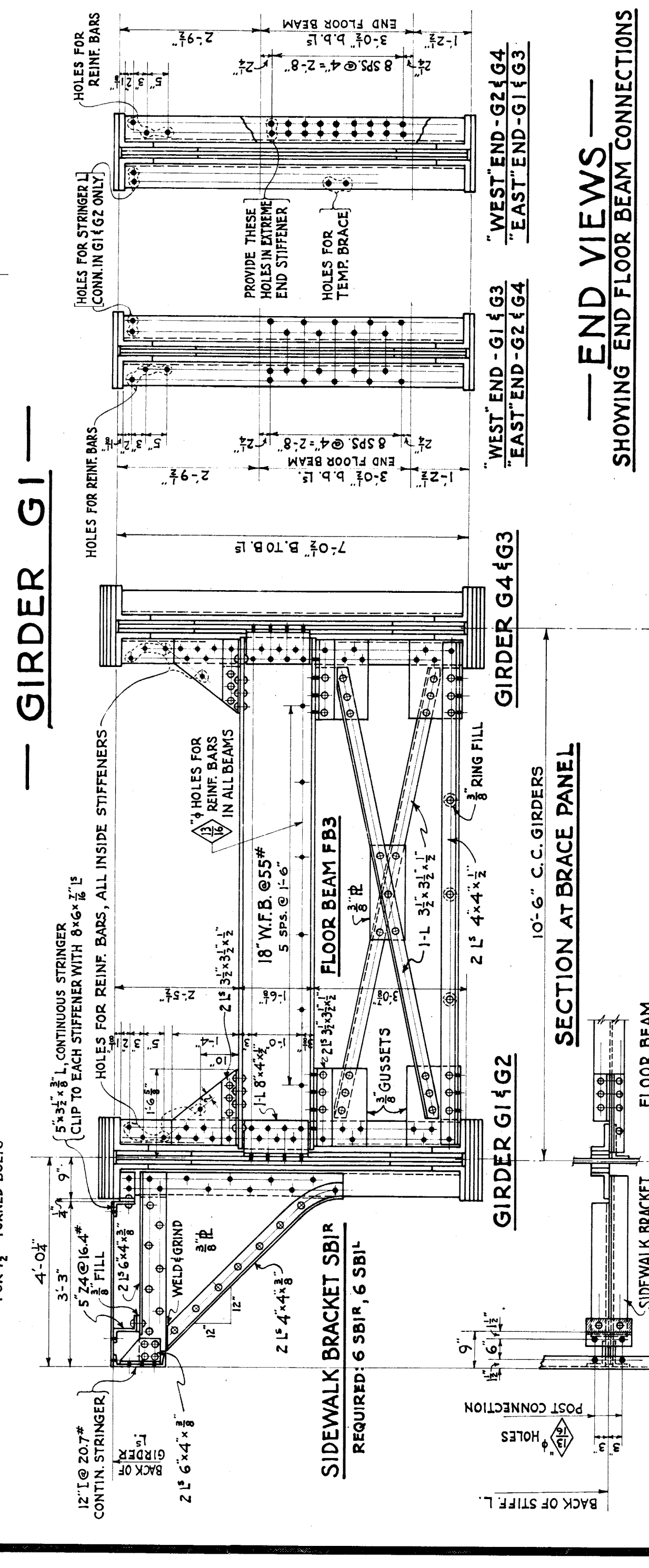


GIRDER G1, AS SHOWN - 1 REQUIRED  
 GIRDER G2, SAME AS G1 EXCEPT DIRECTION MARK - 1 REQUIRED  
 GIRDER G3, SAME AS G1 EXCEPT FOR SIDEWALK CONNECTIONS - 3 REQUIRED  
 GIRDER G4, SAME AS G3 EXCEPT FOR DIRECTION MARK - 3 REQUIRED

**NOTES:**  
 RIVETS - 1/4 THRU WEB & FLANGES OF GIRDERS; 7/8 OTHER PARTS UNLESS NOTED OTHERWISE.  
 OPEN HOLES - 1/2 THRU WEB & FLANGES OF GIRDERS; 1/4 OTHER PARTS UNLESS NOTED OTHERWISE.  
 (AND HOLES IN WEB & STIFFENERS FILLS)  
 FABRICATION - 1/4 HOLES IN GIRDER FLANGES TO BE SUB-DRILLED 1/8" AND REAMED TO SIZE AFTER ASSEMBLY.  
 ALL OTHER HOLES FOR SHOP RIVETS TO BE SUB-PUNCHED 1/2" SMALLER AND REAMED TO SIZE AFTER ASSEMBLY.  
 HOLES FOR FIELD CONNECTIONS OF FLOOR-BEAMS AND END FLOOR-BEAMS TO BE SUB-PUNCHED 1/4" SMALLER AND REAMED TO SIZE THROUGH A METAL TEMPLATE 1" THICK.

APPROXIMATE WEIGHT OF ONE GIRDER - 91,000 LB.

**— GIRDER G1 —**



**— END VIEWS —  
 SHOWING END FLOOR BEAM CONNECTIONS**

**SECTION AT BRACE PANEL**

**SECTION AT BRACE PANEL**

**— TYPICAL CROSS-SECTIONS —  
 SHOWING STIFFENER PUNCHING, FLOOR BEAM CONNECTIONS, BRACING AND DETAILS**



**MICHIGAN STATE HIGHWAY DEPARTMENT**  
**MURRAY D. VAN WAGONER - COMMISSIONER**  
 SEC. 1 T. 15. R. 11 E.  
 BRIDGE FILE NO. XI OF 82-22-49 ROAD JOHN R. STREET  
 CROSSING GRAND TRUNK WESTERN R.R. IN CITY OF DETROIT CO.

**STRUCTURAL STEEL**  
 PLATE GIRDER, FLOOR BEAMS AND DETAILS

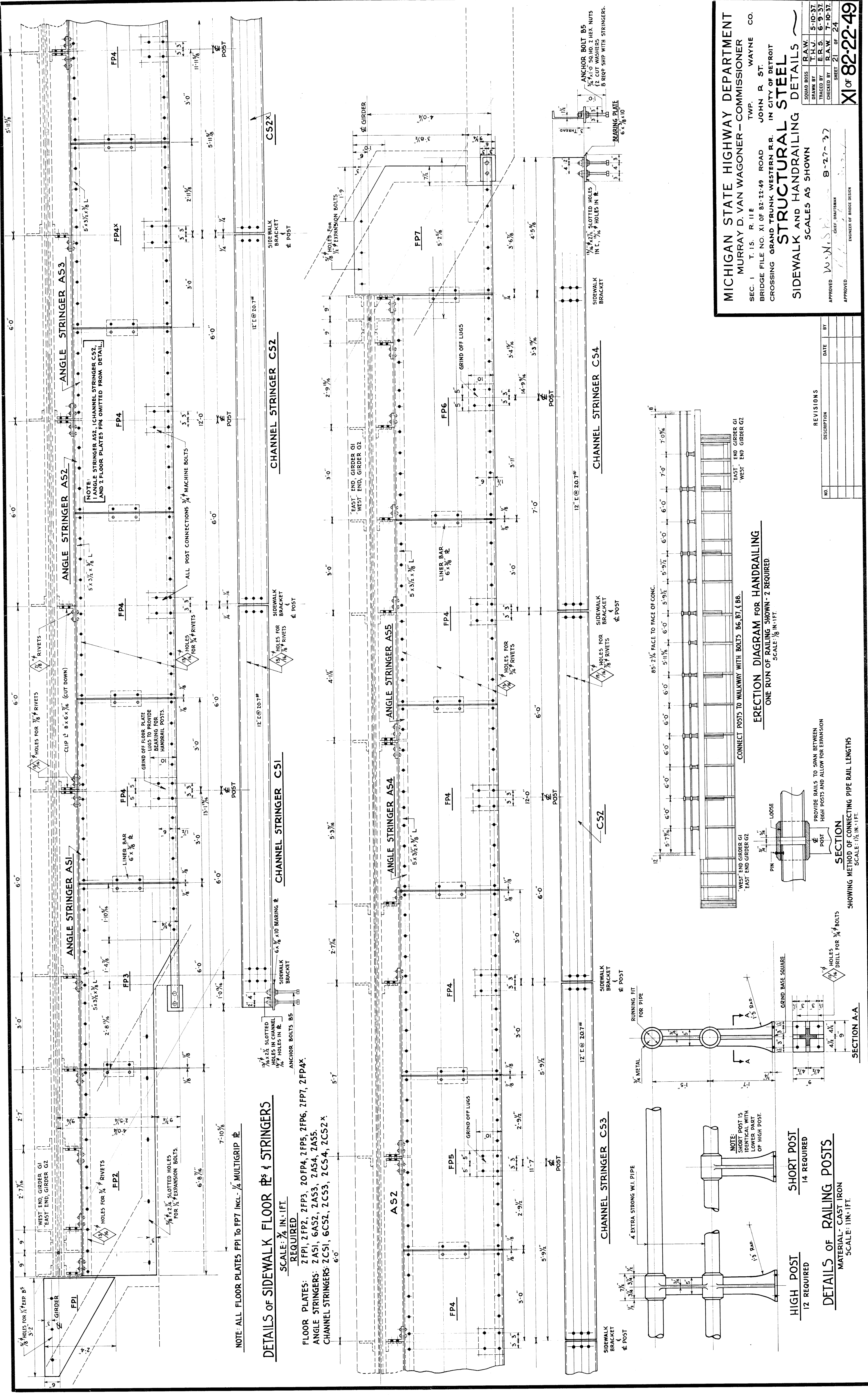
SCALE: 1/2" IN. = 1 FT.

APPROVED *W.H. ...* ENGINEER OF BRIDGE DESIGN  
 APPROVED *M.H. ...*

SHEET 20 OF 24

**X1 OF 82-22-49**

NO.	REVISIONS	DATE	BY



MICHIGAN STATE HIGHWAY DEPARTMENT  
 MURRAY D. VAN WAGONER - COMMISSIONER  
 TWP. JOHN R. ST. WAYNE CO.  
 SEC. 1 T. 15. R. 11E  
 BRIDGE FILE NO. XI OF 82-22-49 ROAD IN CITY OF DETROIT  
 CROSSING GRAND TRUNK WESTERN R.R.

**STRUCTURAL STEEL**  
 SIDEWALK AND HANDRAILING DETAILS  
 SCALES AS SHOWN

APPROVED: *W. J. G. GIBBS* CHIEF ENGINEER  
 8-27-37  
 ENGINEER OF BRIDGE DESIGN

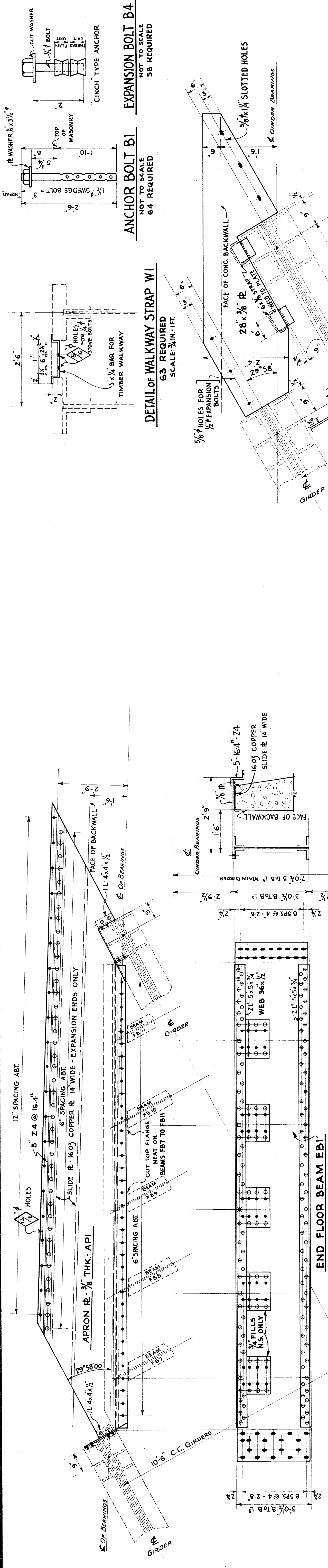
APPROVED: *J. R. H. H. H. H.*  
 8-27-37  
 T. 15. R. 11E  
 WAYNE CO.

REVISIONS

NO.	DATE	DESCRIPTION

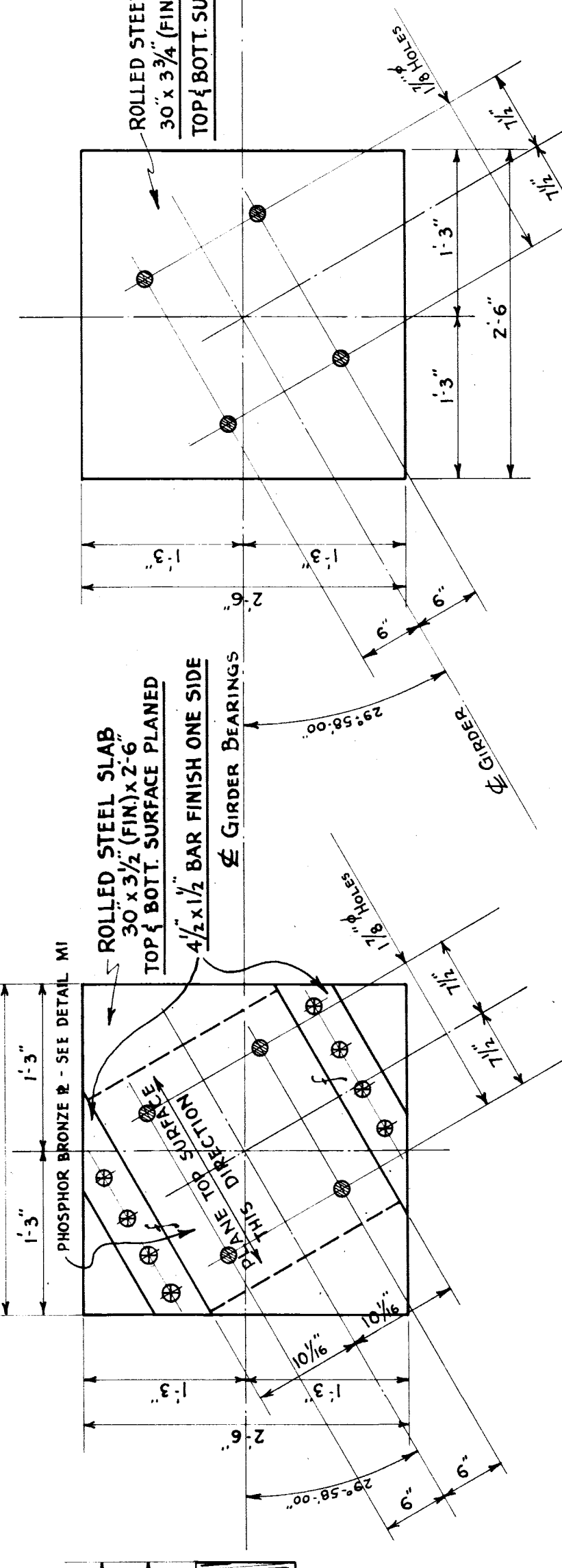
SQUAD BOSS RAW 5-10-37  
 DRAWN BY T.H.J. 6-9-37  
 TRACED BY E.R.S. 7-10-37  
 CHECKED BY B.A.W. 7-10-37  
 SHEET 21 OF 24

**XI of 82-22-49**

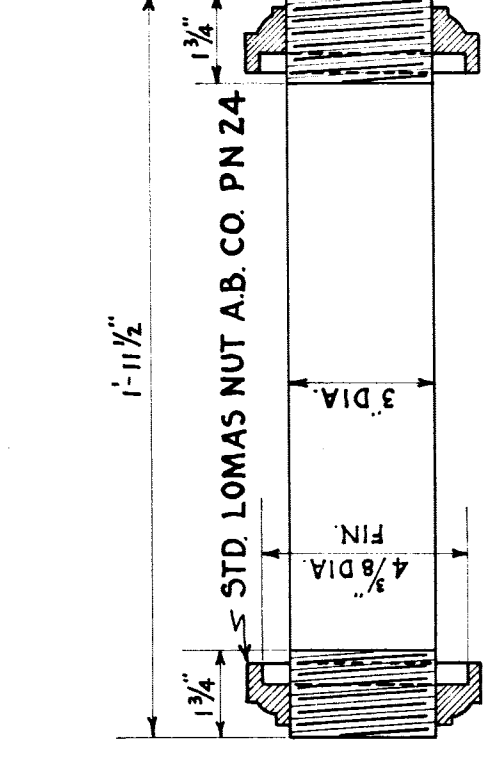


**DETAIL OF END FLOOR BEAM EBI**  
**BALLAST APRON API & SLIDE PLATE SPI**  
 REQUIRED: 8 EBI, 8 API, 4 SPI  
 SCALE: 1/2 IN. = 1 FT.

**WALKWAY END PLATE W2**  
 6 REQUIRED  
 SCALE: 1/4 IN. = 1 FT.



**FIXED END BEARING B2**  
**BEARING PLATE DETAILS**  
 SCALE: 1 IN. = 1 FT.  
 REQUIRED: 8B1, 8B2, 8M1.



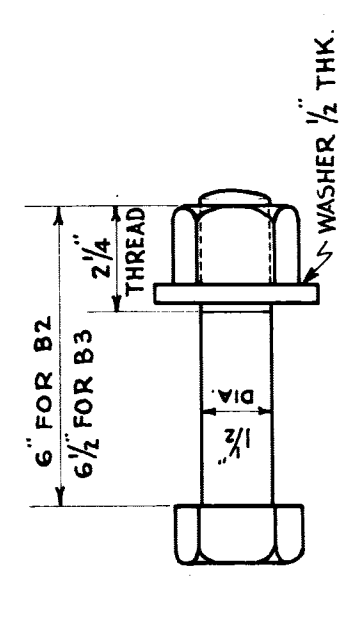
**DETAIL OF PIN PN**  
 MATERIAL: COLD ROLLED STEEL  
 SCALE: 3 IN. = 1 FT.  
 16 REQUIRED

**EXPANSION END BEARING B1**

**SLIDE R M1**

MARK	NO REQ'D	SIZE	LENGTH	WASHERS	REMARKS
B1	64	1 1/2"	2'-6"	64 R	SWEDGE ANCHOR BOLTS AS DETAILED
B2	56	1 1/2"	6"	56 R	TURNUED BOLTS AS DETAILED END CASTINGS TO GIRDERS
B3	8	1 1/2"	6 1/2"	8 R	
B4	58	1 1/2"	2'	58 (CUT)	EXPANSION BOLT-Z UNIT TYPE AS DETAILED-WALKWAY(SIDEWALK) TO CONC
B5	8	3/4"	1'-0"	16 (CUT)	CHANNEL STRINGERS TO CONC-AS DETAILED
B6	28	3/4"	2 1/4"	28 (CUT)	
B7	24	3/4"	2 1/2"	24 (CUT)	MACHINE BOLTS-HEX HD. & NUT HANDRAIL POSTS TO RAIL STRINGERS
B8	52	3/4"	2 3/4"	52 (CUT)	

**END CASTINGS TS, BSA & BSB**  
 MATERIAL: CAST STEEL ANNEALED  
 SCALE: 1/2 IN. = 1 FT.  
 16 TS  
 8 BSA  
 8 BSB



**TURNUED BOLTS B2 & B3**  
 SCALE: 3 IN. = 1 FT.  
 56 B2  
 8 B3

NOTES:  
 RIVETS 7/8"  
 OPEN HOLES 1/8"  
 UNLESS OTHERWISE NOTED.  
 SCALES AS SHOWN.

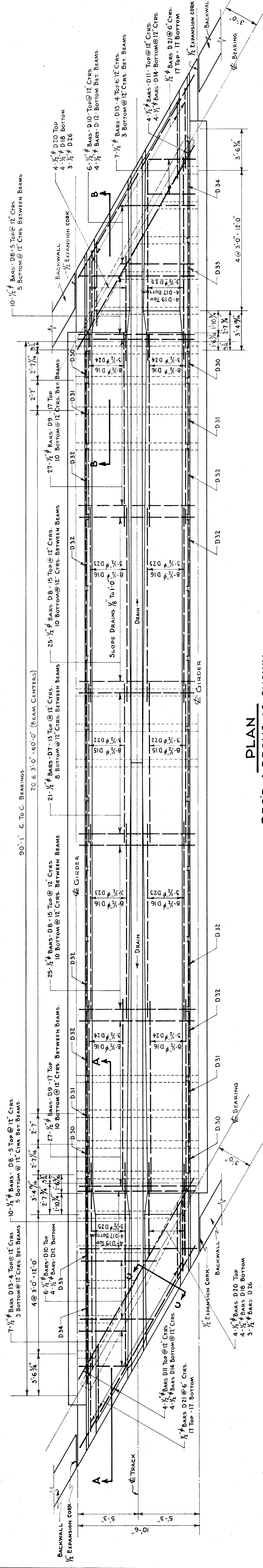
MICHIGAN STATE HIGHWAY DEPARTMENT  
 MURRAY D. VAN WAGONER - COMMISSIONER  
 SEC. 1 T. 15. R. 11E TWP. WAYNE CO.  
 BRIDGE FILE NO. XI OF 82-22-49 ROAD JOHN R. ST.  
 CROSSING GRAND TRUNK WESTERN R.R. IN CITY OF DETROIT

**STRUCTURAL STEEL**  
**END FLOOR BEAM, BEARINGS & MISCEL DETAILS**

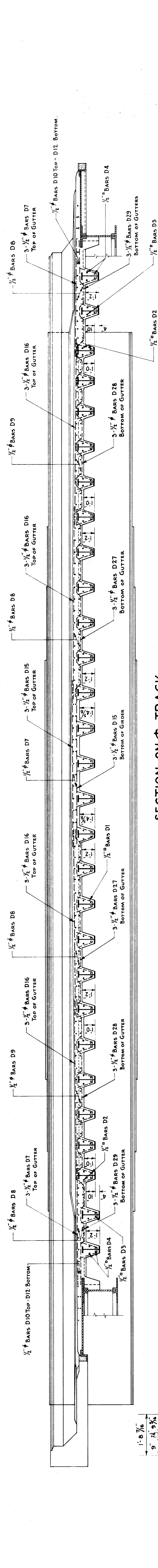
APPROVED: *[Signature]* CHIEF DRAFTSMAN  
 8-27-37

APPROVED: *[Signature]* ENGINEER OF BRIDGE DESIGN

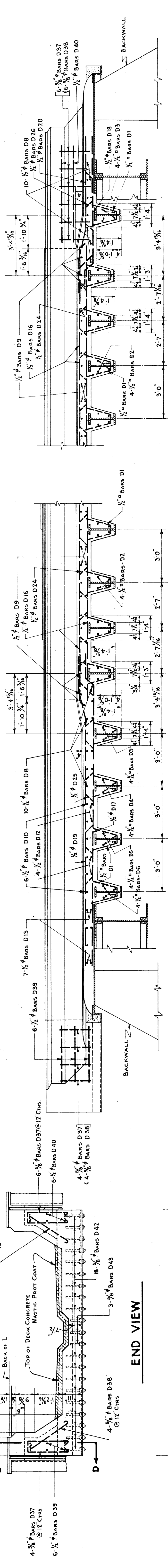
NO.	REVISIONS	DATE	BY



**PLAN**  
REQD 4 DECKS AS SHOWN  
SCALE: 1/4" IN. = 1 FT.



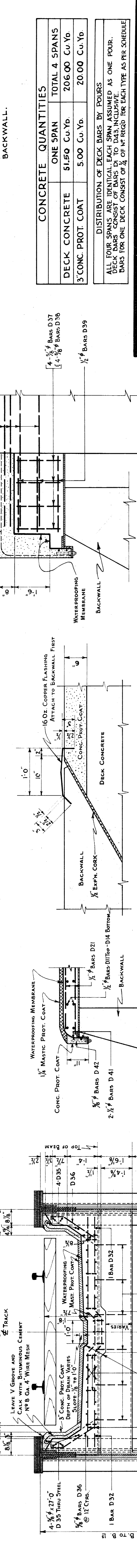
**SECTION A-A**  
SCALE: 3/8" IN. = 1 FT.



**SECTION B-B**  
SCALE: 3/8" IN. = 1 FT.

NOTE: SEE STRUCTURAL STEEL DETAILS FOR COPPER SLIDE PLATES ON BACKWALL.

**SECTION C-C**  
SCALE: 1/2" IN. = 1 FT.



**TYPICAL CROSS SECTION**  
SCALE: 1/2" IN. = 1 FT.

**DETAIL OF FLASHING**  
SCALE: 1 IN. = 1 FT.

**SECTION D-D**  
SCALE: 1/2" IN. = 1 FT.

CONCRETE QUANTITIES	
DECK CONCRETE	51.50 Cu Yd.
3" CONC. PROT. COAT	5.00 Cu Yd.
TOTAL 4 SPANS	206.00 Cu Yd.
	20.00 Cu Yd.

DISTRIBUTION OF DECK BARS BY SPANS  
ALL FOUR SPANS ARE IDENTICAL. EACH SPAN ASSUMED AS ONE FOUR-DECK SPAN. CONSIST OF BARS D1 TO D43 INCLUSIVE. BARS FOR ONE DECK CONSIST OF 1/4 OF REQRD FOR EACH TYPE AS PER SCHEDULE.

**MICHIGAN STATE HIGHWAY DEPARTMENT**  
MURRAY D. VAN WAGONER - COMMISSIONER  
TWP. WAYNE CO.  
SEC. 1 T. 15. R. 11 E.  
BRIDGE FILE NO. XI OF 82-22-49 ROAD JOHN R ST.  
CROSSING GRAND TRUNK WESTERN R.R. IN CITY OF DETROIT

**DECK DETAILS**

SCALES AS SHOWN

APPROVED: *W. J. S. [Signature]* 8-27-37  
CHIEF DESIGNER

APPROVED: [Signature]  
ENGINEER OF BRIDGE DESIGN

NO.	DESCRIPTION	DATE	BY

REVISIONS

SUBMITTAL	DATE	BY

DATE	BY

DATE	BY

DATE	BY

DATE	BY

DATE	BY

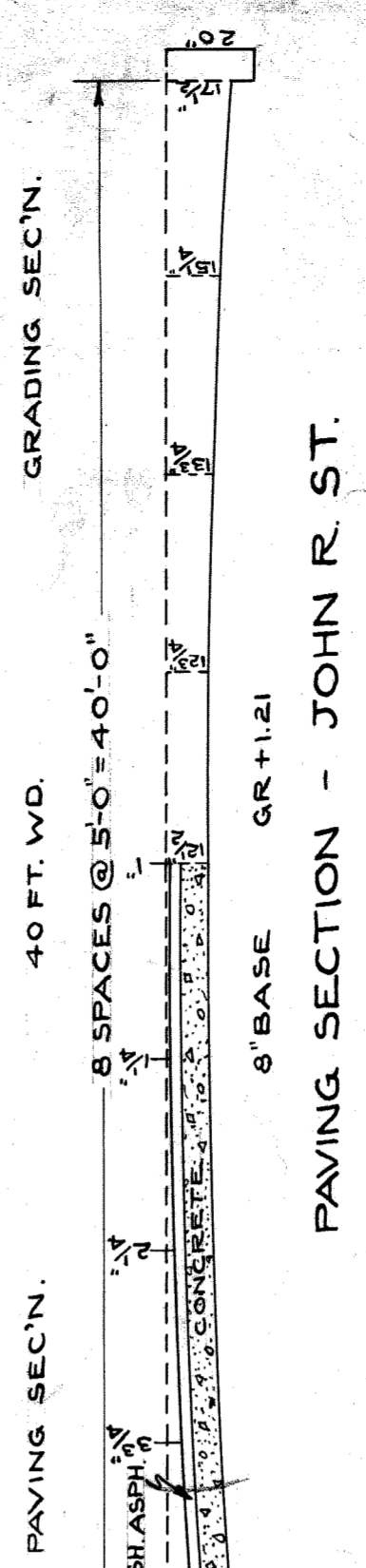
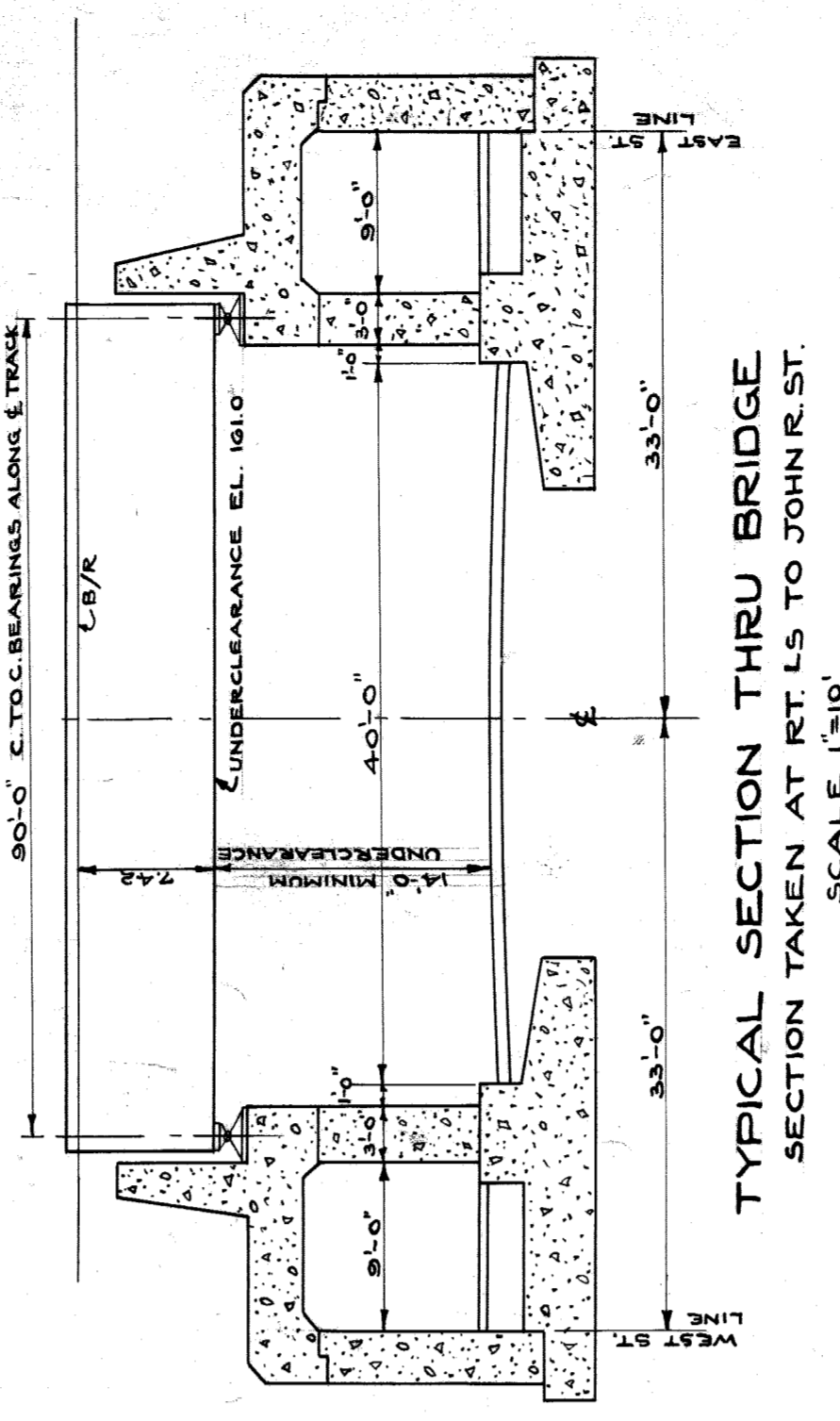
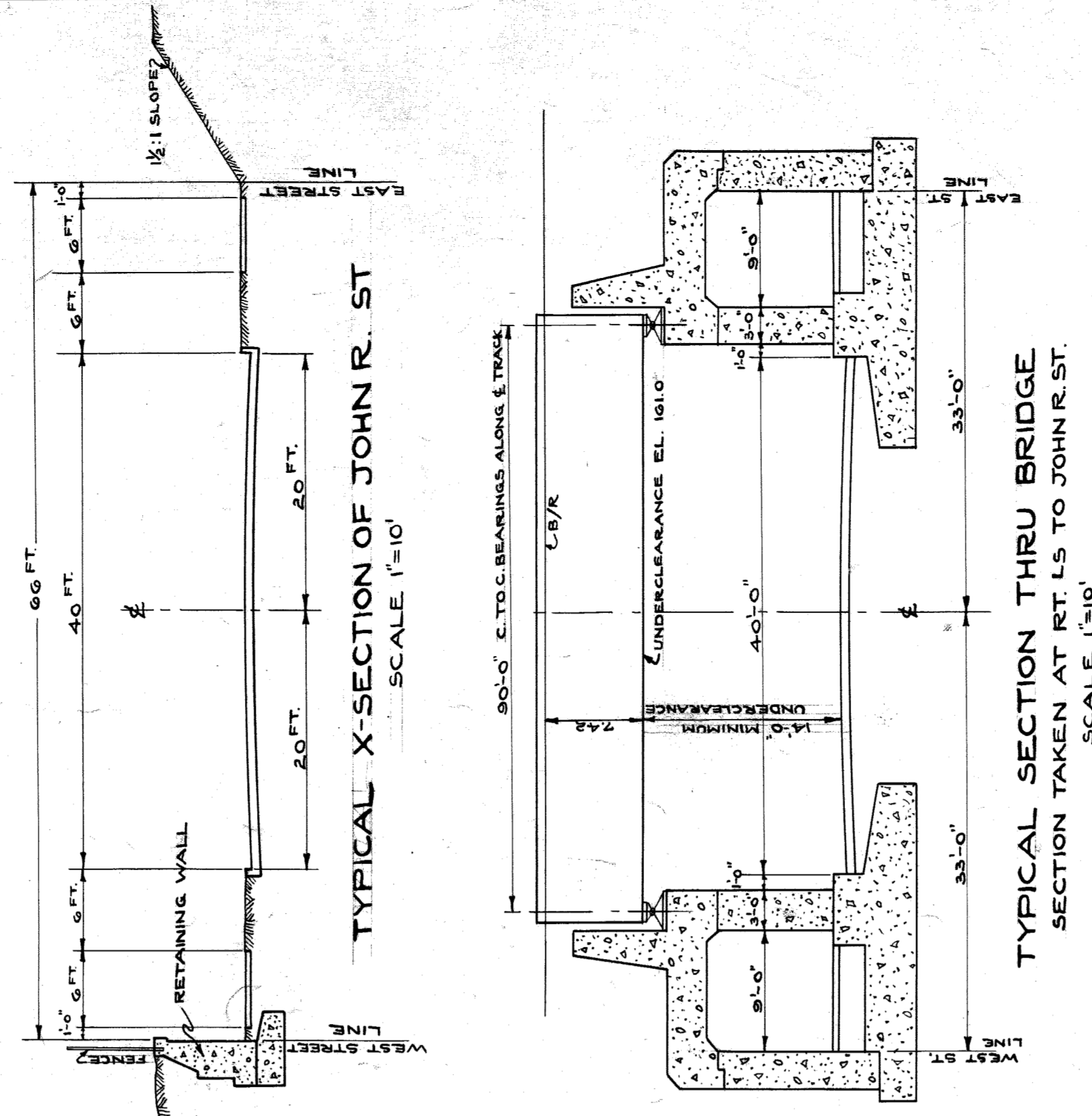
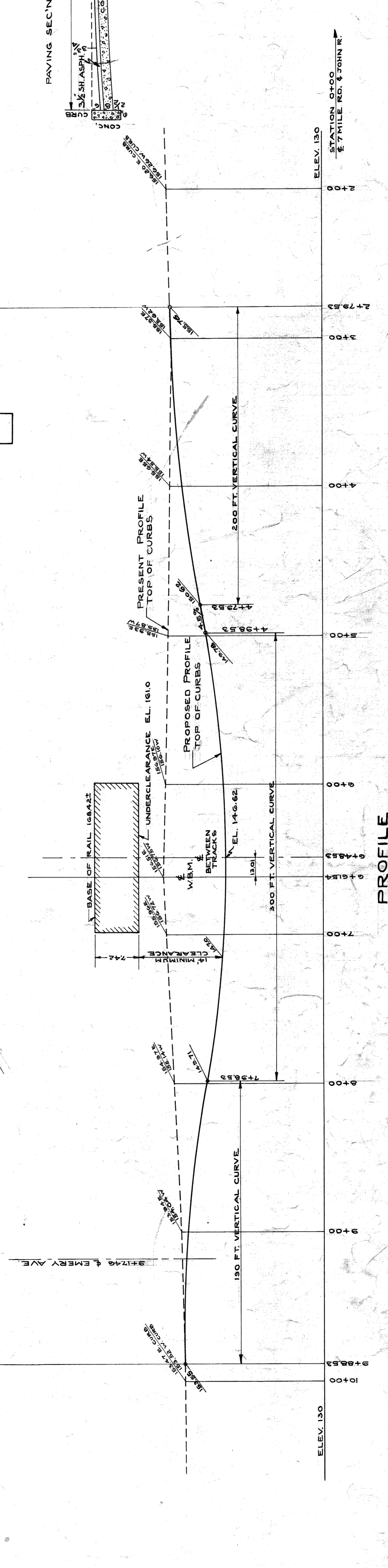
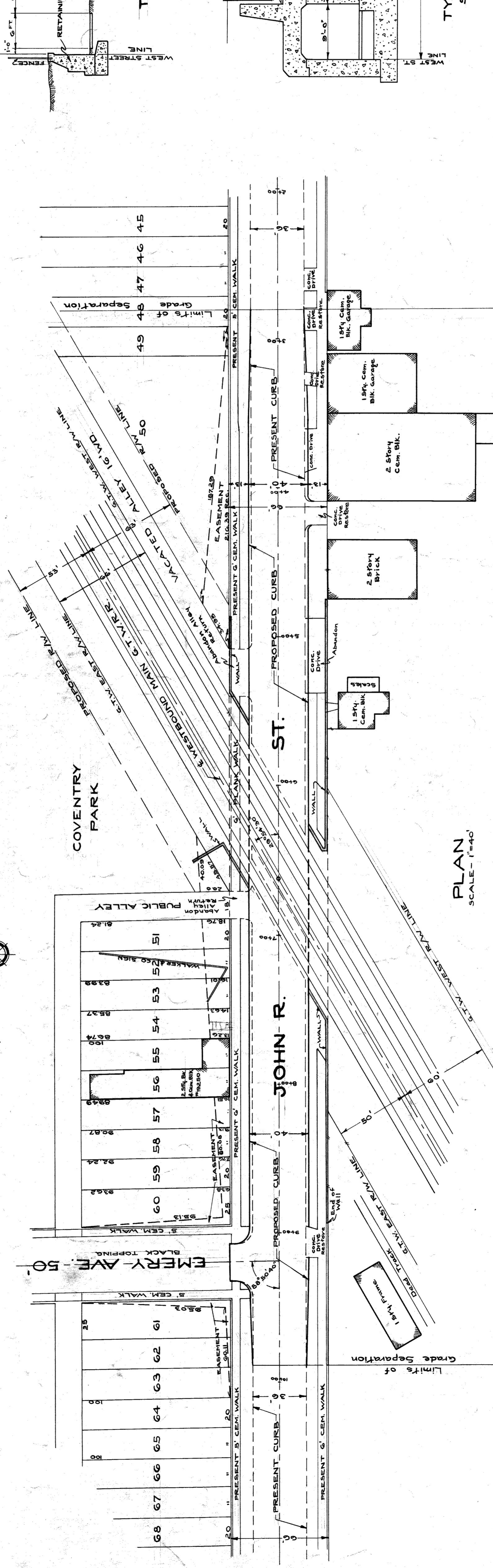
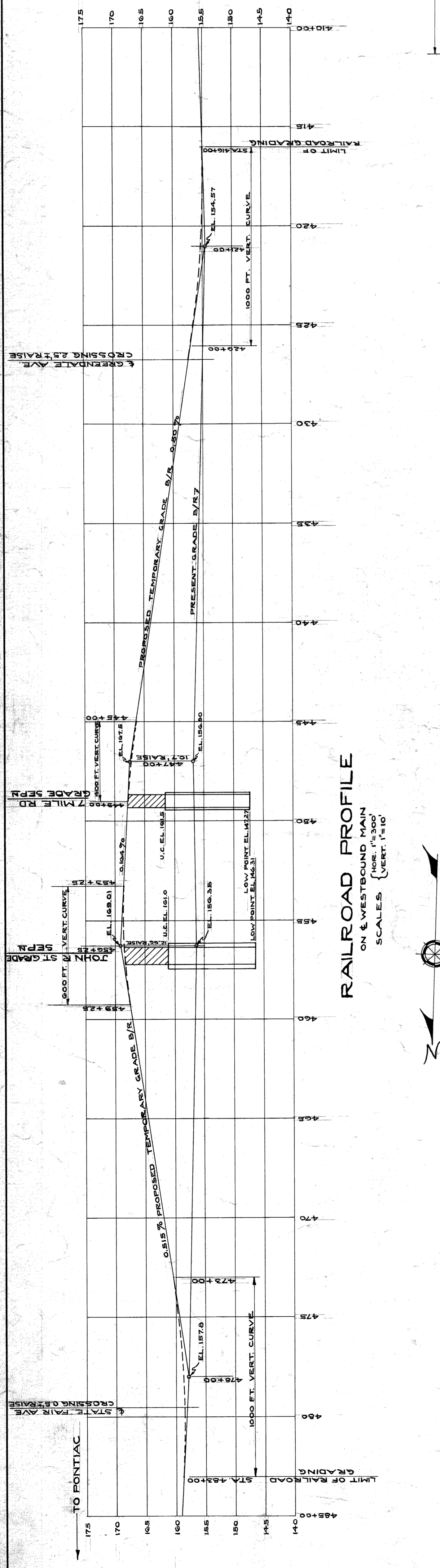
DATE	BY

SHEET 23 OF 24  
XI OF 82-22-49





43  
9.25.2/6/47



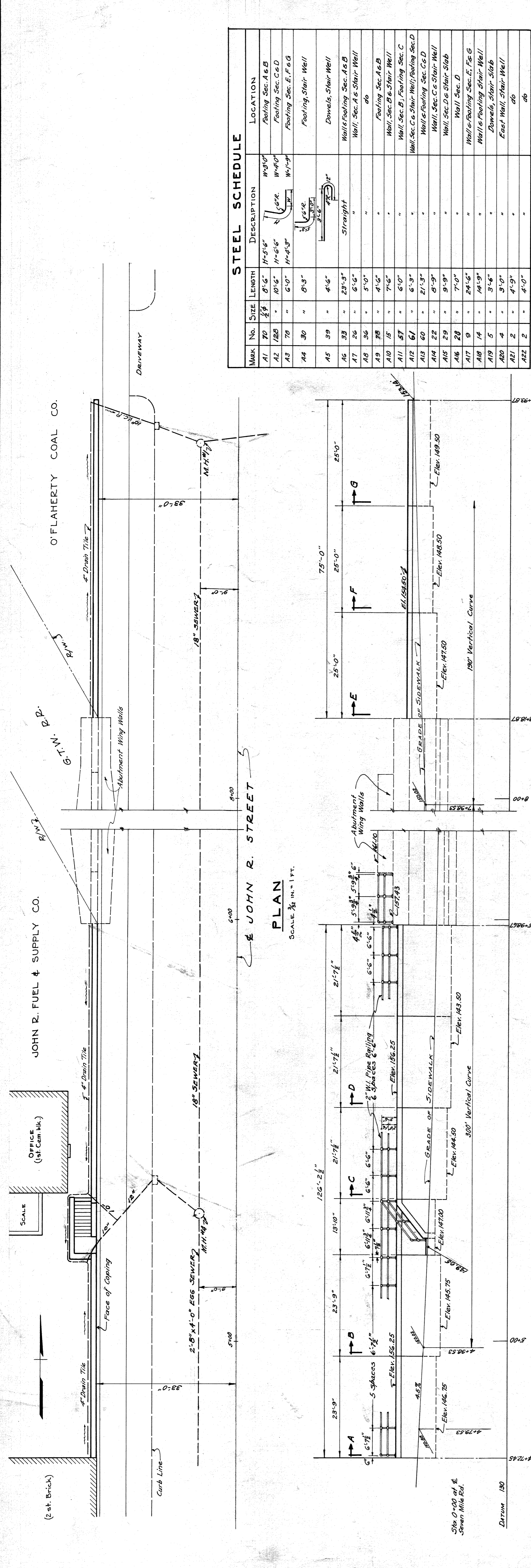
**EXHIBIT "D"**

**PAVING SECTION - JOHN R. ST.**

CITY OF DETROIT  
DEPARTMENT OF PUBLIC WORKS  
CITY ENGINEER'S OFFICE  
BUREAU OF PUBLIC STRUCTURES  
JOHN R. STREET  
GRADE SEPARATION  
SCALE AS INDICATED JUNE 1937  
SURVEY BOOKS 792-1282-1337

*Curve elev. changed to agree with ordinance H.B. 341*

File XU101-27



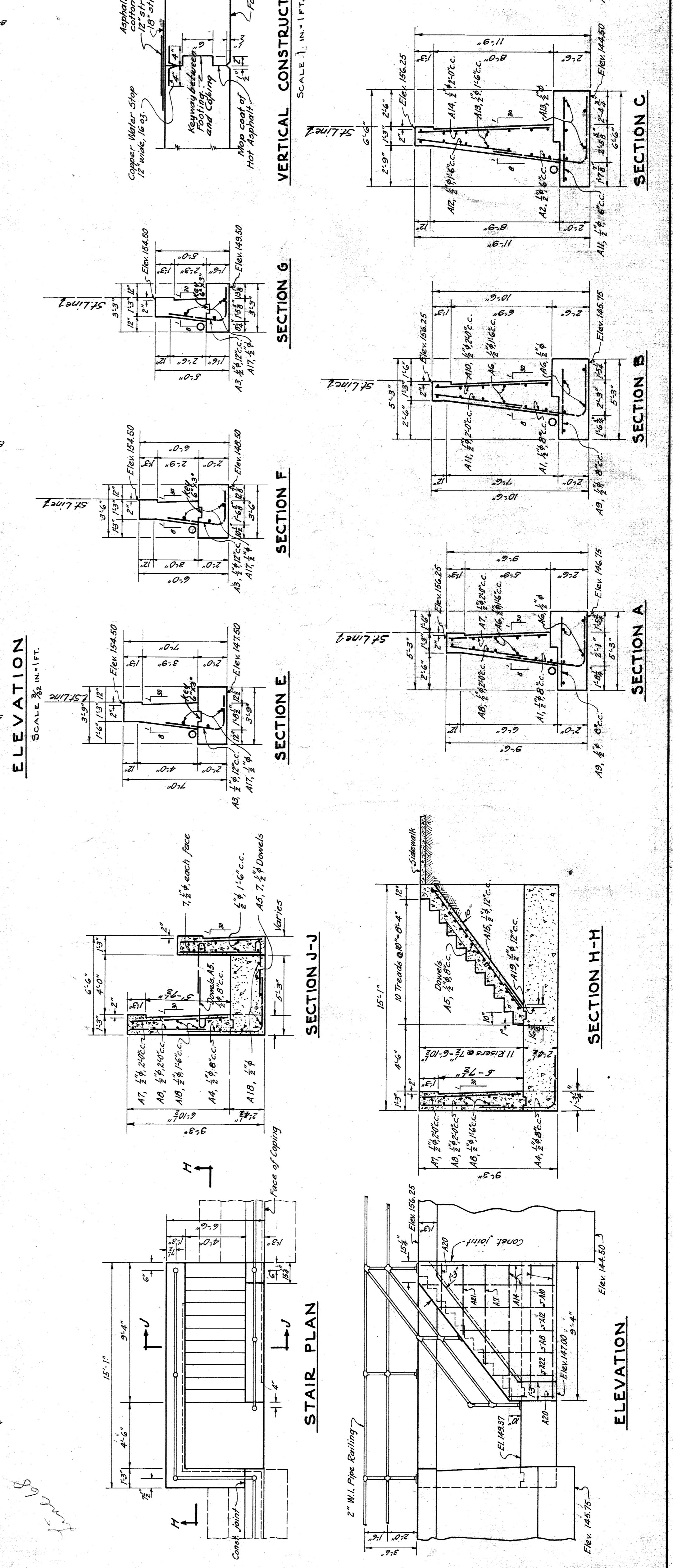
Mark No.	SIZE	LENGTH	DESCRIPTION	LOCATION
A1	70	8'-6"	W-3" x 1/2"	Footing Sec. A & B
A2	120	10'-6"	W-4" x 1/2"	Footing Sec. C & D
A3	70	6'-0"	W-3" x 1/2"	Footing Sec. E, F, G
A4	30	8'-3"	W-3" x 1/2"	Footing, Stair Well
A5	39	4'-6"	1/2" x 1/2" x 1/2"	Dowels, Stair Well
A6	33	23'-3"	Straight	Walls Footing Sec. A & B
A7	36	6'-6"	"	Wall, Sec. A & Stair Well
A8	36	3'-0"	"	do
A9	38	4'-6"	"	Footing Sec. A & B
A10	15	7'-6"	"	Wall, Sec. B & Stair Well
A11	57	6'-0"	"	Wall, Sec. B, Footing Sec. C
A12	61	6'-3"	"	Wall, Sec. C & Stair Well; Footing Sec. D
A13	60	21'-3"	"	Wall, Sec. C & Stair Well
A14	22	8'-9"	"	Wall, Sec. D & Stair Well
A15	29	9'-9"	"	Wall, Sec. D & Stair Well
A16	28	7'-0"	"	Wall, Sec. D
A17	9	24'-6"	"	Wall, Footing Sec. E, F, G
A18	14	14'-9"	"	Wall, Footing Stair Well
A19	5	3'-6"	"	Dowels, Stair Slab
A20	4	3'-0"	"	East Wall, Stair Well
A21	2	4'-9"	"	do
A22	2	4'-0"	"	do

**ESTIMATE OF QUANTITIES**

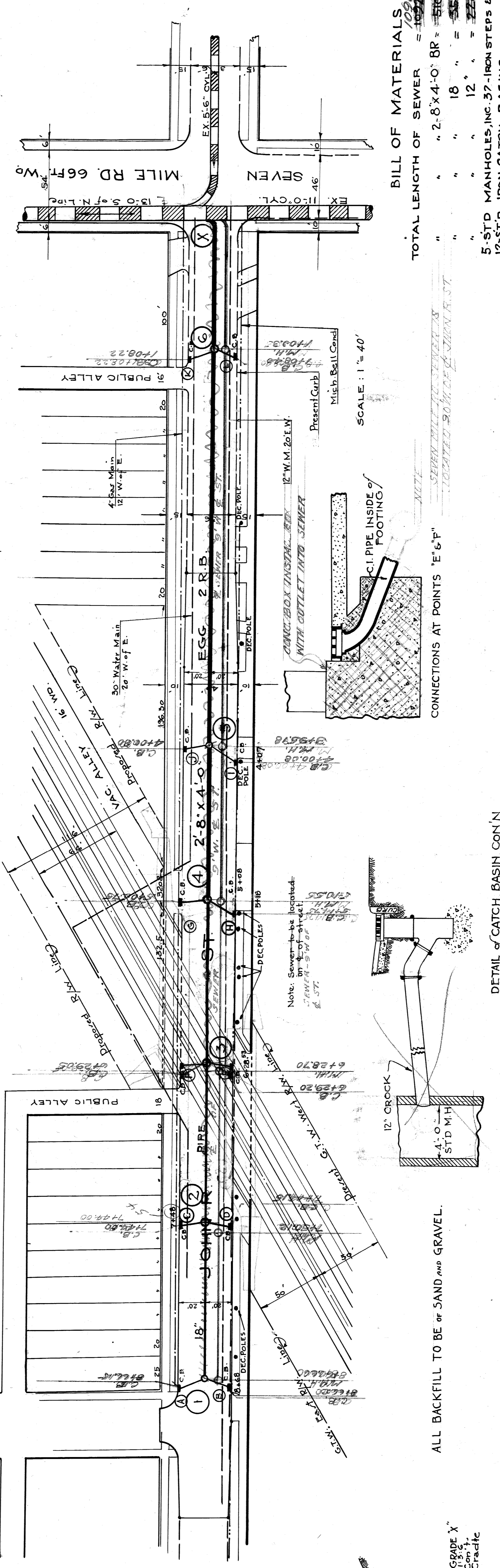
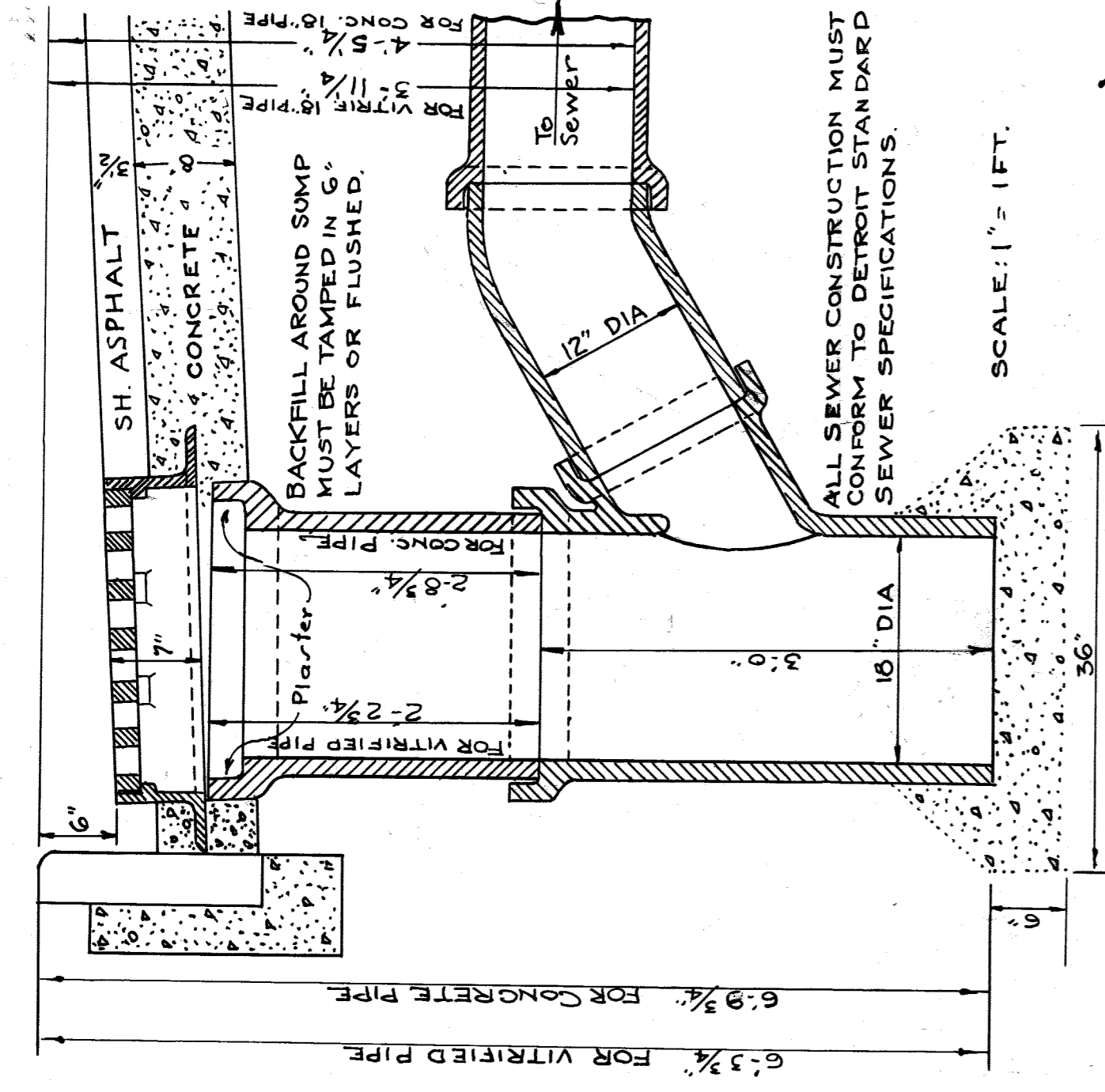
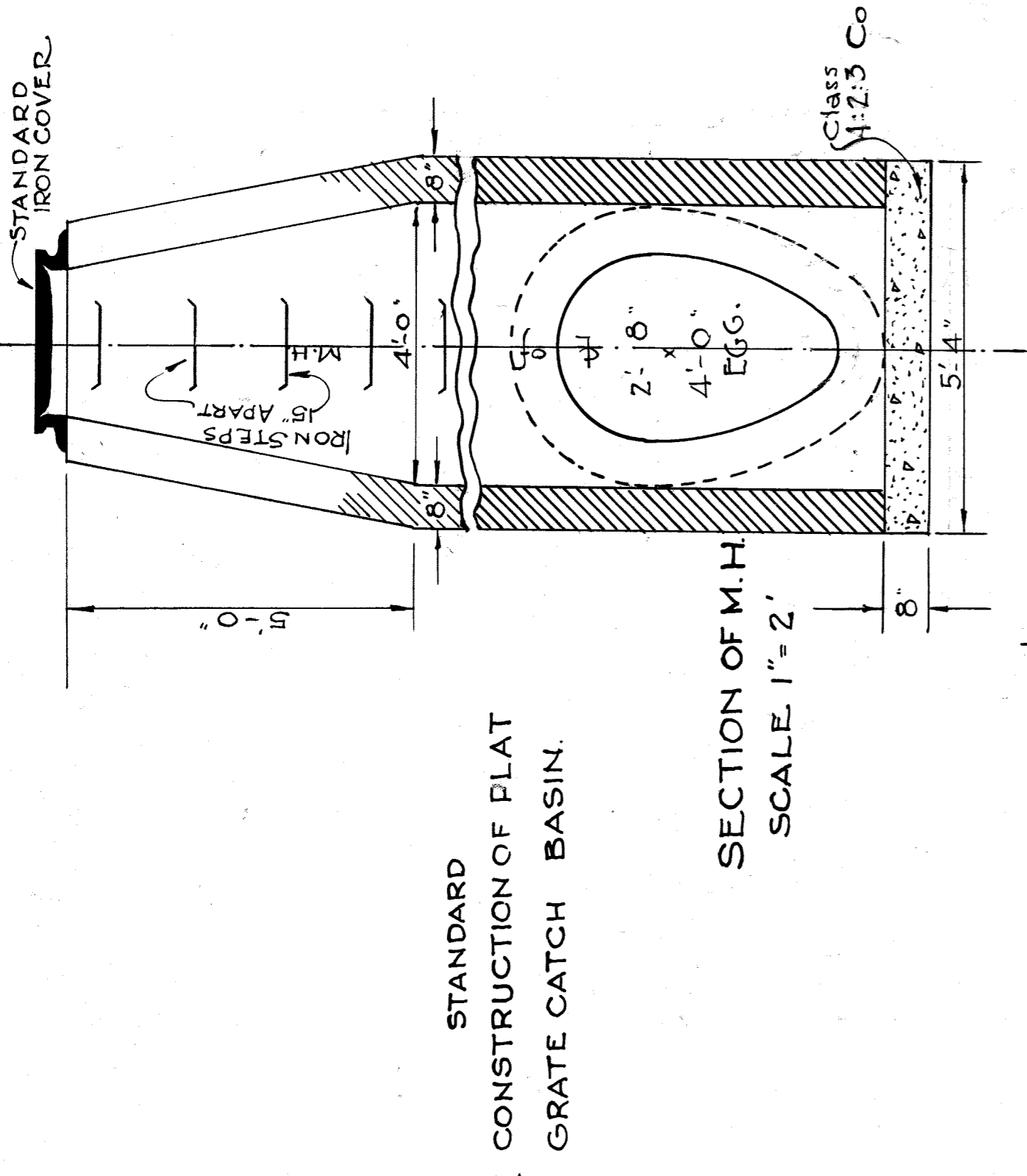
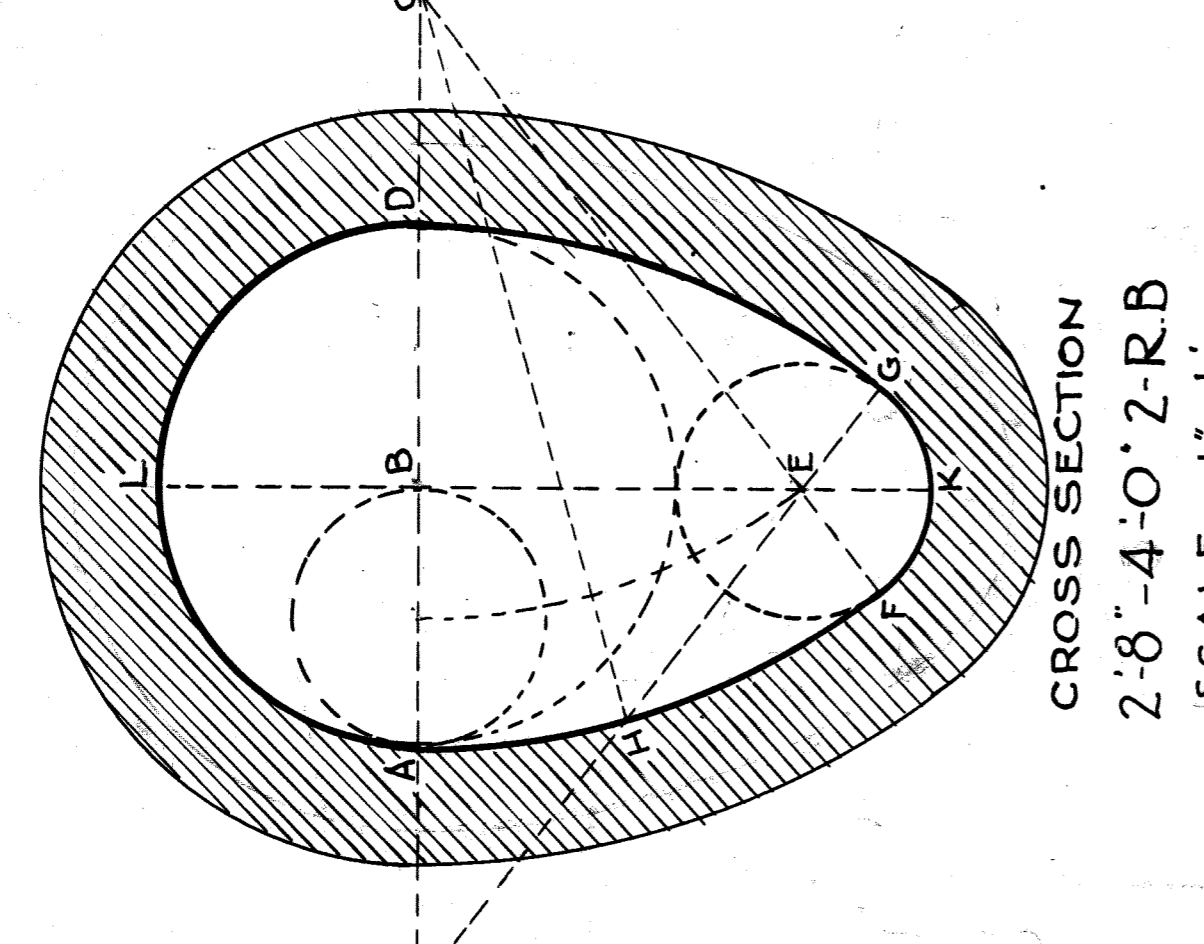
Excavation	340 Cu. Yds.
Concrete (Class 2, 1:2:3)	150 Cu. Yds.
Reinforcement Steel	5000 Lbs.
Formwork	1630 Sq. Ft.
Waterproofing	1630 Sq. Ft.
Copper Water Stop (1605)	55 Lin. Ft.
Gravel Fill, around Drain Tie (150 H. Lin. Foot)	442 Cu. Yds.
2" W.I. Pipe, Railing	214 Lin. Ft.
10" Vitrified Clay Pipe	214 Lin. Ft.
1/2" Dowels	14 "

**GENERAL NOTES:**  
 Top edges of coping shall have a 1" chamfer.  
 Exposed surfaces of concrete shall be rubbed smooth immediately after forms are removed.  
 Back of walls and construction joints to receive two brush coats of Asphalt waterproofing.

CITY OF DETROIT  
 DEPARTMENT OF PUBLIC WORKS  
 BUREAU OF PUBLIC STRUCTURES  
 JOHN R. STREET - G.T.W. R. R.  
 GRADE SEPARATION  
 RETAINING WALL PLANS  
 SCALE 1/4" = 1'-0", EXCEPT AS NOTED.  
 NOV. 1937



A-B = 1'-4"  
 A-C = 4'-0"  
 E-K = 0'-8"  
 B-E = 2'-0"  
 L-K = 4'-0"  
 A-D = 2'-8"  
 C-H = 4'-0"



**BILL OF MATERIALS**

TOTAL LENGTH OF SEWER = 1098.90' Mor L.

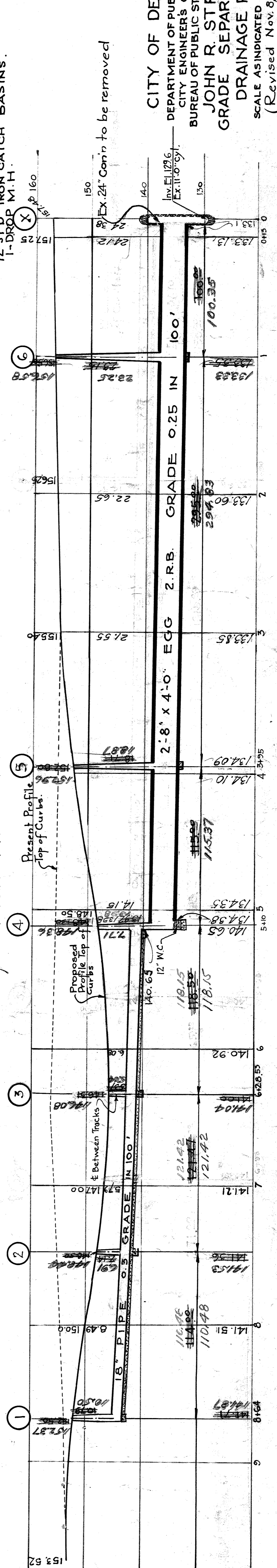
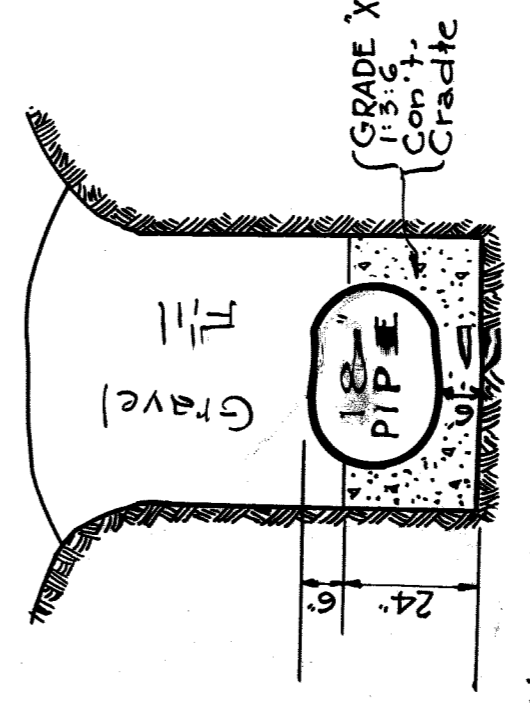
" " 2'-8" x 4'-0" BR = 510.55' @ 10.55 = 5383.50

" " " 18" " = 359.05' @ 3.0 = 1077.15

" " " 12" " = 229.30' @ 12.1 = 2774.51

5-STD IRON MANHOLES, INC. 37-IRON STEPS & 5 IRON COVERS.

12-STD IRON CATCH BASINS.

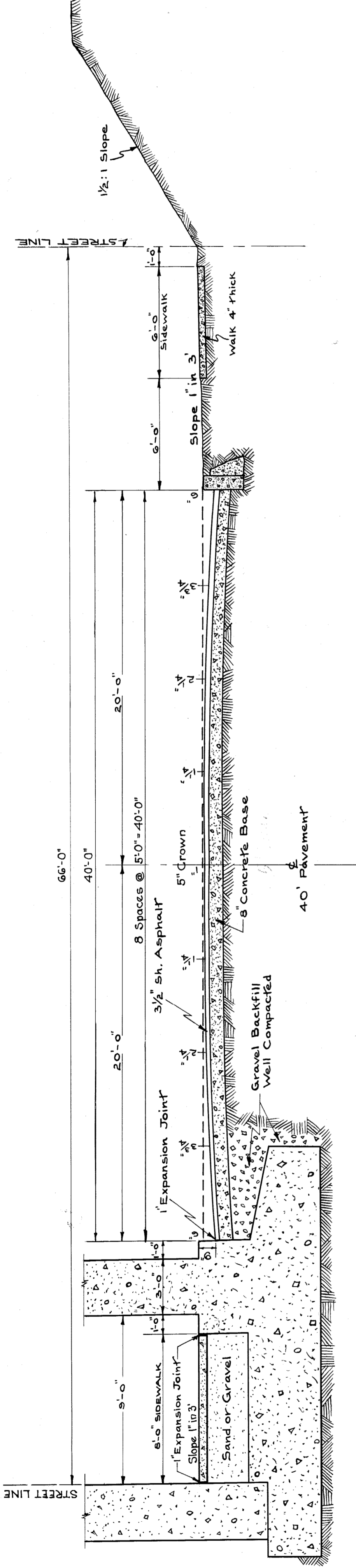


ALL BACKFILL TO BE OF SAND AND GRAVEL.

CITY OF DETROIT  
 DEPARTMENT OF PUBLIC WORKS  
 CITY ENGINEER'S OFFICE  
 BUREAU OF PUBLIC STRUCTURES  
 JOHN R. STREET  
 DRAINAGE PLAN  
 GRADE SEPARATION

SCALE AS INDICATED AUG. 1937  
 (Revised Nov. 8, 1937)  
 DRAWN BY S.B.N. CHECKED BY J.L.  
 SHEET No. OF SHEETS.

File XU101-29



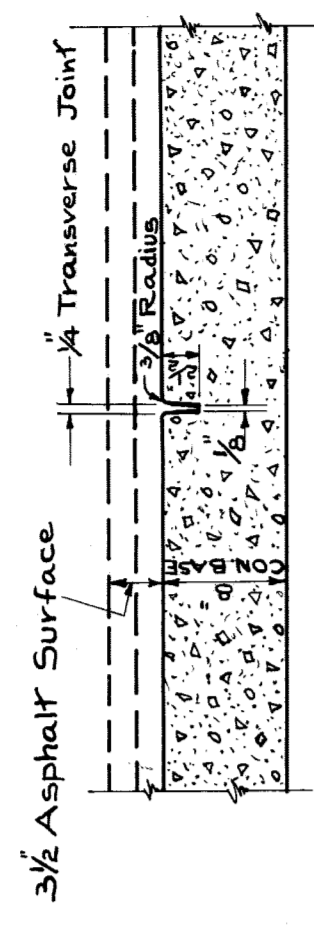
TYPICAL CROSS SECTION OF PAVEMENT UNDER BRIDGE

TYPICAL CROSS SECTION OF PAVEMENT ON APPROACH

ESTIMATE OF PAVING QUANTITIES	ITEM	QUANTITY
Note: - For Sewer, Manholes and Catch Basin Quantities, See Drainage Structure Plans.	Earth Excavation	12,250 cu. yds.
	Removing Old pavement	2,700 sq. yds.
	Fine Grading	709 Stations
	Removing Old Conc. Sidewalk	736 Sq. yds.
	New 8" Concrete Base	3,388 "
	New 4" Concrete Sidewalk	812.8 Sq. Ft.
	6" Concrete Straight Curb	1140 lin. ft.
	6" Concrete Circular Curb	97 "
	3 1/2" Asphalt Top	3,388 Sq. yds.
	Sodding	500 "

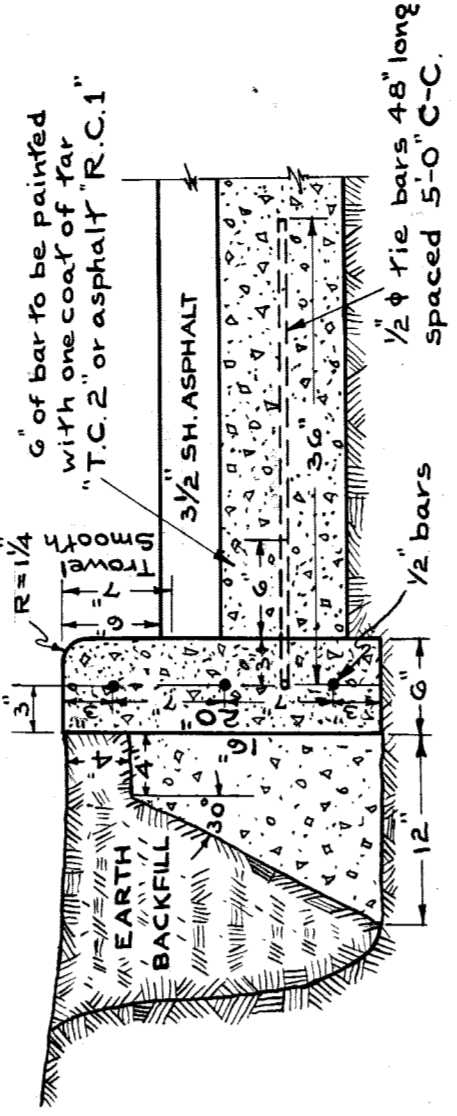
DETAIL SHOWING TRANSVERSE PLANE OF WEAKNESS JOINT SCALE 1/4"=1'

These joints to be placed in concrete base only, at approximately 40' equal intervals between. The transverse joint is to be formed immediately following the placing of concrete and shall be of right angles to the center line of the street. After the concrete has hardened sufficiently, the form is to be removed and the edges are to be rounded to a 7/8" radius. No filler is to be placed in this joint.

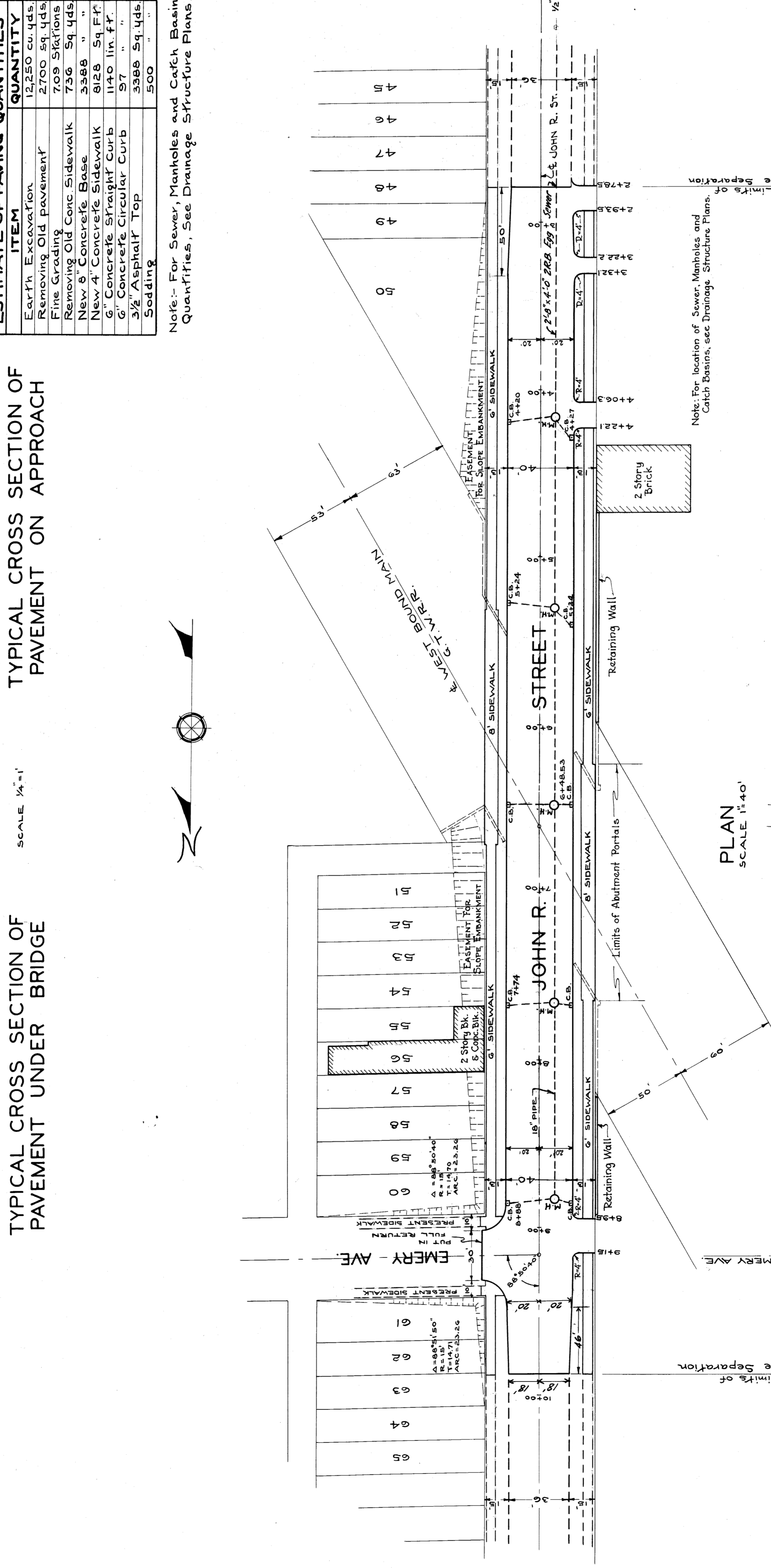
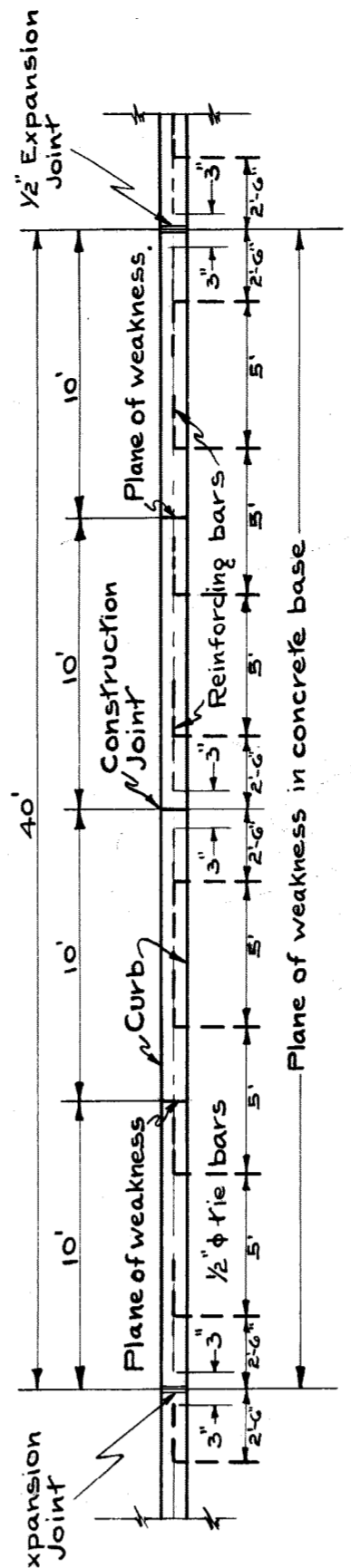


DETAIL SHOWING CONCRETE CURB SCALE 1/4"=1'

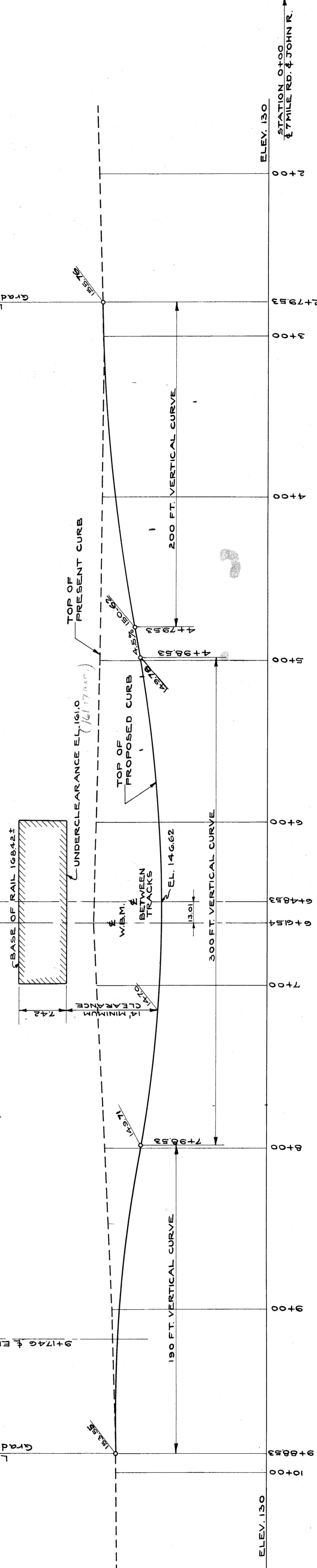
Area behind curb to be backfilled with lean concrete after forms are removed. CONCRETE MIX { CURB 1:2:3 BACKING 1:3:6



PLAN SKETCH SHOWING STEEL REINFORCEMENT, TIE BARS AND JOINTS IN CONCRETE CURB SCALE 1/8"=6"



PLAN SCALE 1"=40'



PROFILE ALONG PROPOSED CURB OF JOHN R. ST. SCALE { HOR. 1"=40' VER. 1"=10'

CITY OF DETROIT  
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JOHN R. ST. - G.T.W.R.R.  
GRADE SEPARATION  
PAVEMENT DRAWING  
SCALE AS INDICATED  
AUG. 1937  
SURVEY BOOKS 782-1282-1337