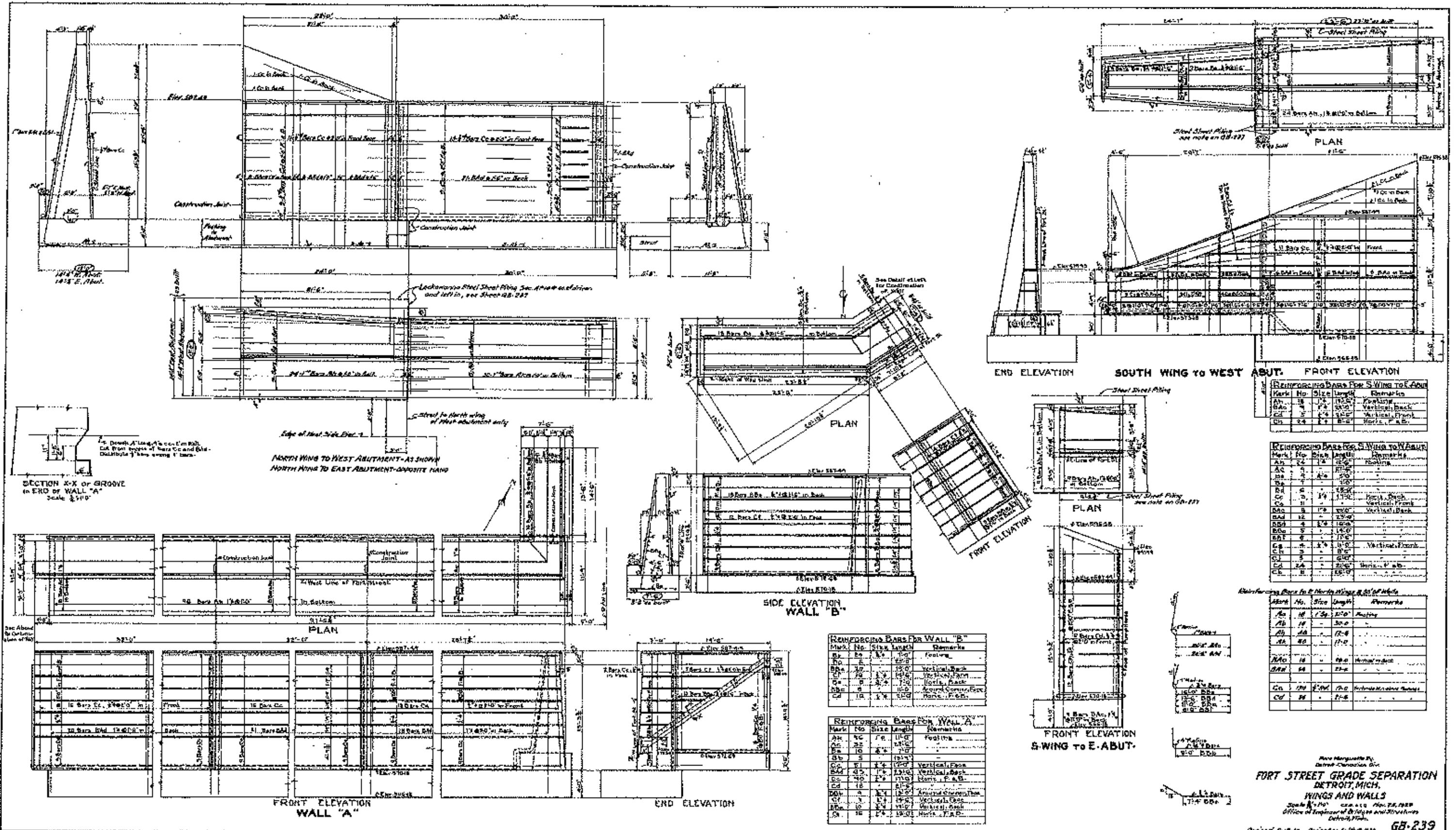


39 X 22 3/8 CATLG B0033769



REINFORCING BARS FOR S WING TO E ABUT.

Mark	No.	Size	Length	Remarks
Ah	18	1 1/2"	11'-0"	Feetings
Ba	3	1 1/2"	11'-0"	Vertical Back
Cc	3	1 1/2"	11'-0"	Vertical Front
Dd	24	1 1/2"	11'-0"	Horizontal P.A.B.

REINFORCING BARS FOR S WING TO WEST ABUT.

Mark	No.	Size	Length	Remarks
Ah	24	1 1/2"	11'-0"	Feetings
Ac	4	1 1/2"	11'-0"	Feetings
Ba	2	1 1/2"	11'-0"	Vertical Back
Cc	11	1 1/2"	11'-0"	Vertical Front
Dd	8	1 1/2"	11'-0"	Vertical Back
Ee	12	1 1/2"	11'-0"	Vertical Back
Ff	8	1 1/2"	11'-0"	Vertical Back
Gg	2	1 1/2"	11'-0"	Vertical Front
Hh	3	1 1/2"	11'-0"	Vertical Front
Ii	3	1 1/2"	11'-0"	Vertical Front
Jj	24	1 1/2"	11'-0"	Horizontal P.A.B.
Kk	2	1 1/2"	11'-0"	Horizontal P.A.B.

REINFORCING BARS FOR NORTH WING & WEST ABUT.

Mark	No.	Size	Length	Remarks
Ah	18	1 1/2"	11'-0"	Feetings
Ab	18	1 1/2"	11'-0"	Feetings
Ac	18	1 1/2"	11'-0"	Feetings
Ad	18	1 1/2"	11'-0"	Feetings
Ae	18	1 1/2"	11'-0"	Feetings
Af	18	1 1/2"	11'-0"	Feetings
Ag	18	1 1/2"	11'-0"	Feetings
Ah	18	1 1/2"	11'-0"	Feetings
Bi	18	1 1/2"	11'-0"	Feetings
Bj	18	1 1/2"	11'-0"	Feetings
Bk	18	1 1/2"	11'-0"	Feetings
Bl	18	1 1/2"	11'-0"	Feetings
Bm	18	1 1/2"	11'-0"	Feetings
Bn	18	1 1/2"	11'-0"	Feetings
Bo	18	1 1/2"	11'-0"	Feetings
Bp	18	1 1/2"	11'-0"	Feetings
Bq	18	1 1/2"	11'-0"	Feetings
Br	18	1 1/2"	11'-0"	Feetings
Bs	18	1 1/2"	11'-0"	Feetings
Bt	18	1 1/2"	11'-0"	Feetings
Bu	18	1 1/2"	11'-0"	Feetings
Bv	18	1 1/2"	11'-0"	Feetings
Bw	18	1 1/2"	11'-0"	Feetings
Bx	18	1 1/2"	11'-0"	Feetings
By	18	1 1/2"	11'-0"	Feetings
Bz	18	1 1/2"	11'-0"	Feetings

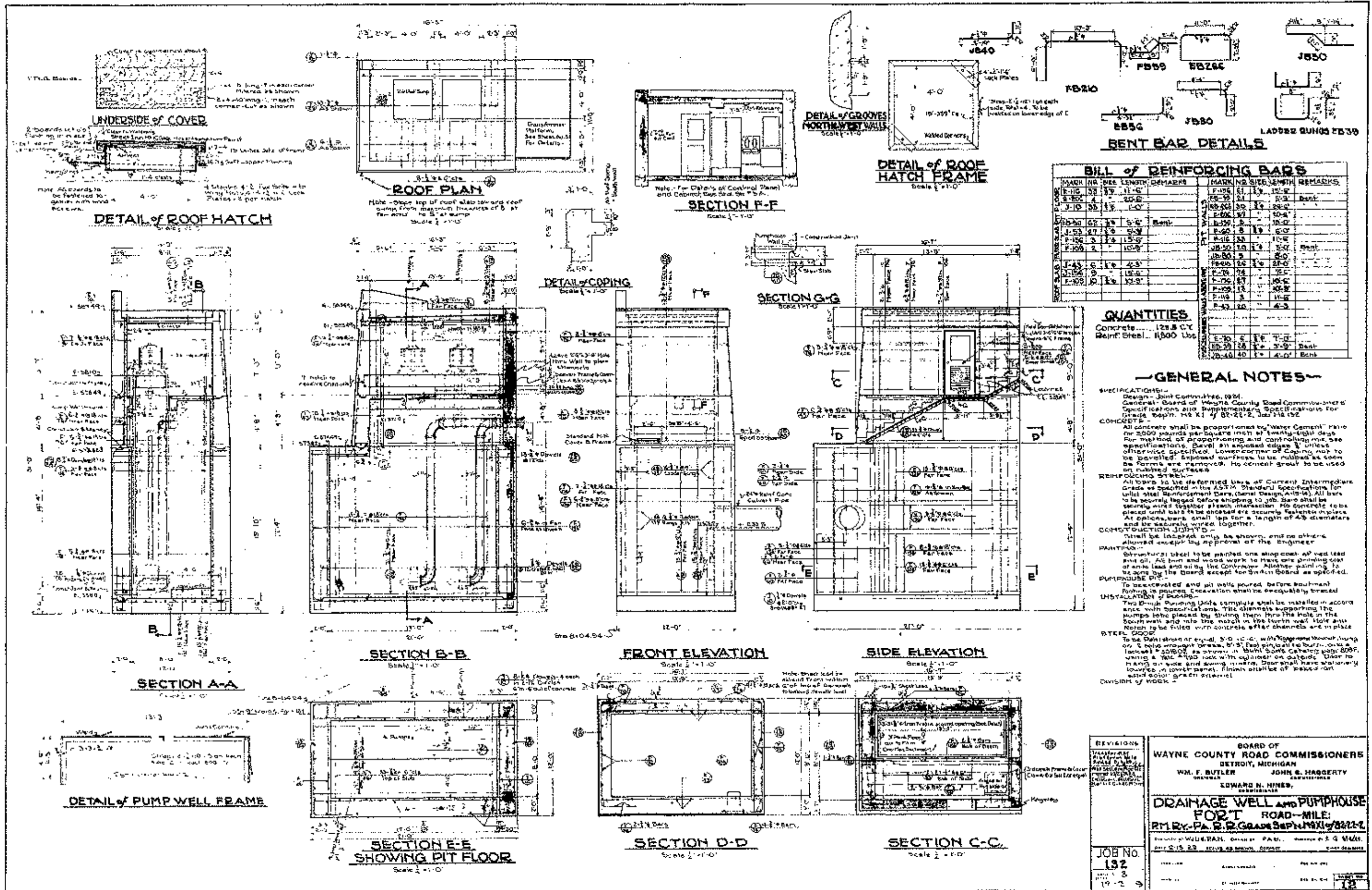
REINFORCING BARS FOR WALL "B"

Mark	No.	Size	Length	Remarks
Ba	18	1 1/2"	11'-0"	Feetings
Bb	18	1 1/2"	11'-0"	Feetings
Bc	18	1 1/2"	11'-0"	Feetings
Bd	18	1 1/2"	11'-0"	Feetings
Be	18	1 1/2"	11'-0"	Feetings
Bf	18	1 1/2"	11'-0"	Feetings
Bg	18	1 1/2"	11'-0"	Feetings
Bh	18	1 1/2"	11'-0"	Feetings
Bi	18	1 1/2"	11'-0"	Feetings
Bj	18	1 1/2"	11'-0"	Feetings
Bk	18	1 1/2"	11'-0"	Feetings
Bl	18	1 1/2"	11'-0"	Feetings
Bm	18	1 1/2"	11'-0"	Feetings
Bn	18	1 1/2"	11'-0"	Feetings
Bo	18	1 1/2"	11'-0"	Feetings
Bp	18	1 1/2"	11'-0"	Feetings
Bq	18	1 1/2"	11'-0"	Feetings
Br	18	1 1/2"	11'-0"	Feetings
Bs	18	1 1/2"	11'-0"	Feetings
Bt	18	1 1/2"	11'-0"	Feetings
Bu	18	1 1/2"	11'-0"	Feetings
Bv	18	1 1/2"	11'-0"	Feetings
Bw	18	1 1/2"	11'-0"	Feetings
Bx	18	1 1/2"	11'-0"	Feetings
By	18	1 1/2"	11'-0"	Feetings
Bz	18	1 1/2"	11'-0"	Feetings

REINFORCING BARS FOR WALL "A"

Mark	No.	Size	Length	Remarks
Ah	18	1 1/2"	11'-0"	Feetings
Ac	25	1 1/2"	11'-0"	Feetings
Ad	10	1 1/2"	11'-0"	Feetings
Ae	5	1 1/2"	11'-0"	Feetings
Af	11	1 1/2"	11'-0"	Vertical Front
Ba	18	1 1/2"	11'-0"	Vertical Back
Bb	18	1 1/2"	11'-0"	Vertical Back
Bc	18	1 1/2"	11'-0"	Vertical Back
Bd	18	1 1/2"	11'-0"	Vertical Back
Be	18	1 1/2"	11'-0"	Vertical Back
Bf	18	1 1/2"	11'-0"	Vertical Back
Bg	18	1 1/2"	11'-0"	Vertical Back
Bh	18	1 1/2"	11'-0"	Vertical Back
Bi	18	1 1/2"	11'-0"	Vertical Back
Bj	18	1 1/2"	11'-0"	Vertical Back
Bk	18	1 1/2"	11'-0"	Vertical Back
Bl	18	1 1/2"	11'-0"	Vertical Back
Bm	18	1 1/2"	11'-0"	Vertical Back
Bn	18	1 1/2"	11'-0"	Vertical Back
Bo	18	1 1/2"	11'-0"	Vertical Back
Bp	18	1 1/2"	11'-0"	Vertical Back
Bq	18	1 1/2"	11'-0"	Vertical Back
Br	18	1 1/2"	11'-0"	Vertical Back
Bs	18	1 1/2"	11'-0"	Vertical Back
Bt	18	1 1/2"	11'-0"	Vertical Back
Bu	18	1 1/2"	11'-0"	Vertical Back
Bv	18	1 1/2"	11'-0"	Vertical Back
Bw	18	1 1/2"	11'-0"	Vertical Back
Bx	18	1 1/2"	11'-0"	Vertical Back
By	18	1 1/2"	11'-0"	Vertical Back
Bz	18	1 1/2"	11'-0"	Vertical Back

Prepared by  
 Detroit-Canadian Co.  
**FORT STREET GRADE SEPARATION**  
 DETROIT, MICH.  
 WINGS AND WALLS  
 Scale 1/4" = 1'-0"  
 Office of Engineer of Bridges and Structures  
 Detroit, Mich.



**BILL OF REINFORCING BARS**

MARK	NO.	SIZE	LENGTH	REMARKS	MARKING	SIZE	LENGTH	REMARKS
B-110	22	1/2"	11'-0"		F-110	1/2"	11'-0"	
B-120	4	1/2"	20'-0"		F-120	1/2"	20'-0"	Bank
B-130	22	1/2"	11'-0"		F-130	1/2"	11'-0"	
B-140	22	1/2"	11'-0"		F-140	1/2"	11'-0"	
B-150	22	1/2"	11'-0"		F-150	1/2"	11'-0"	
B-160	22	1/2"	11'-0"		F-160	1/2"	11'-0"	
B-170	22	1/2"	11'-0"		F-170	1/2"	11'-0"	
B-180	22	1/2"	11'-0"		F-180	1/2"	11'-0"	
B-190	22	1/2"	11'-0"		F-190	1/2"	11'-0"	
B-200	22	1/2"	11'-0"		F-200	1/2"	11'-0"	
B-210	22	1/2"	11'-0"		F-210	1/2"	11'-0"	
B-220	22	1/2"	11'-0"		F-220	1/2"	11'-0"	
B-230	22	1/2"	11'-0"		F-230	1/2"	11'-0"	
B-240	22	1/2"	11'-0"		F-240	1/2"	11'-0"	
B-250	22	1/2"	11'-0"		F-250	1/2"	11'-0"	
B-260	22	1/2"	11'-0"		F-260	1/2"	11'-0"	
B-270	22	1/2"	11'-0"		F-270	1/2"	11'-0"	
B-280	22	1/2"	11'-0"		F-280	1/2"	11'-0"	
B-290	22	1/2"	11'-0"		F-290	1/2"	11'-0"	
B-300	22	1/2"	11'-0"		F-300	1/2"	11'-0"	
B-310	22	1/2"	11'-0"		F-310	1/2"	11'-0"	
B-320	22	1/2"	11'-0"		F-320	1/2"	11'-0"	
B-330	22	1/2"	11'-0"		F-330	1/2"	11'-0"	
B-340	22	1/2"	11'-0"		F-340	1/2"	11'-0"	
B-350	22	1/2"	11'-0"		F-350	1/2"	11'-0"	
B-360	22	1/2"	11'-0"		F-360	1/2"	11'-0"	
B-370	22	1/2"	11'-0"		F-370	1/2"	11'-0"	
B-380	22	1/2"	11'-0"		F-380	1/2"	11'-0"	
B-390	22	1/2"	11'-0"		F-390	1/2"	11'-0"	
B-400	22	1/2"	11'-0"		F-400	1/2"	11'-0"	
B-410	22	1/2"	11'-0"		F-410	1/2"	11'-0"	
B-420	22	1/2"	11'-0"		F-420	1/2"	11'-0"	
B-430	22	1/2"	11'-0"		F-430	1/2"	11'-0"	
B-440	22	1/2"	11'-0"		F-440	1/2"	11'-0"	
B-450	22	1/2"	11'-0"		F-450	1/2"	11'-0"	
B-460	22	1/2"	11'-0"		F-460	1/2"	11'-0"	
B-470	22	1/2"	11'-0"		F-470	1/2"	11'-0"	
B-480	22	1/2"	11'-0"		F-480	1/2"	11'-0"	
B-490	22	1/2"	11'-0"		F-490	1/2"	11'-0"	
B-500	22	1/2"	11'-0"		F-500	1/2"	11'-0"	

**QUANTITIES**  
 Concrete..... 128.5 CY  
 Reinf. Steel..... 11800 lbs

**GENERAL NOTES**

**SPECIFICATIONS**  
 Design - Joint Committee, 1924.  
 General - Board of Wayne County Road Commissioners.  
 Specifications and Supplements, Specific Provisions for  
 Grade, Sep. 11, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932.

**CONCRETE**  
 All concrete shall be proportioned by "Water Cement" Ratio  
 for 2000 pounds per cubic foot of twenty-eight days.  
 For method of proportioning and controlling, see  
 specifications. Level on exposed edges, unless  
 otherwise specified. Lower corner of coping not to  
 be beveled. Exposed surfaces to be rubbed as soon  
 as forms are removed. No cement grout to be used  
 on rubbed surfaces.

**REINFORCING STEEL**  
 All steel to be of the best of Current Intermediate  
 Grade as specified in the A.S.T.M. Standard Specifications for  
 Steel Reinforcing Bars, (Special Design, A10-14). All bars  
 to be securely lagged before shipping to job. Bars shall be  
 securely wired together at each intersection. No concrete to be  
 placed until bars are checked and securely fastened in place.  
 At corners, bars shall lap for a length of 4-6 diameters  
 and be securely wired together.

**CONCRETE JOINTS**  
 Shall be located only as shown, and as others  
 allowed except by approval of the Engineer.

**PAINTING**  
 Structural steel to be painted one shop coat of red lead  
 and oil. All iron and wood work to have one priming coat  
 of white lead and oil by the Contractor. All other painting to  
 be done by the Board except for Division Board as specified.

**PUMPHOUSE**  
 To be excavated and pit walls poured before foundation  
 footing is poured. Excavation shall be adequately braced.

**INSTALLATION OF PUMPS**  
 Two Brown Pumping Units complete shall be installed in accord  
 ance with specifications. The channels supporting the  
 pumps to be placed by sliding them into the hole in the  
 South wall and into the notch in the North wall. Hole and  
 notch to be filled with concrete after channels are in place.

**STEEL DOOR**  
 To be fabricated of steel, 3'-0" x 6'-0", with 1/2" thick  
 or 3/4" thick wrought brass, 5'-5" deep, painted to match  
 inside of door. To be hung on Bushy's Casters with 800#  
 chain and Yale #100 lock with cylinder on outside. Door to  
 hang on side and swing inward. Door shall have water-tight  
 gaskets on lower panel. Finish outside of door to  
 match color of brick exterior.

**REVISIONS**

NO.	DESCRIPTION
1	As shown

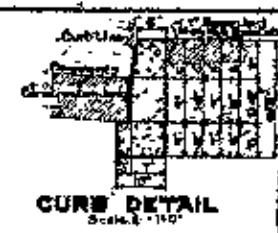
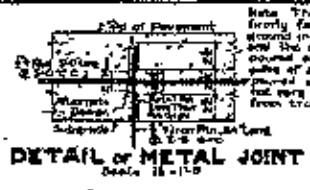
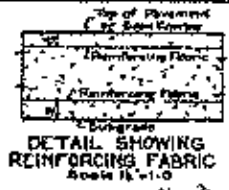
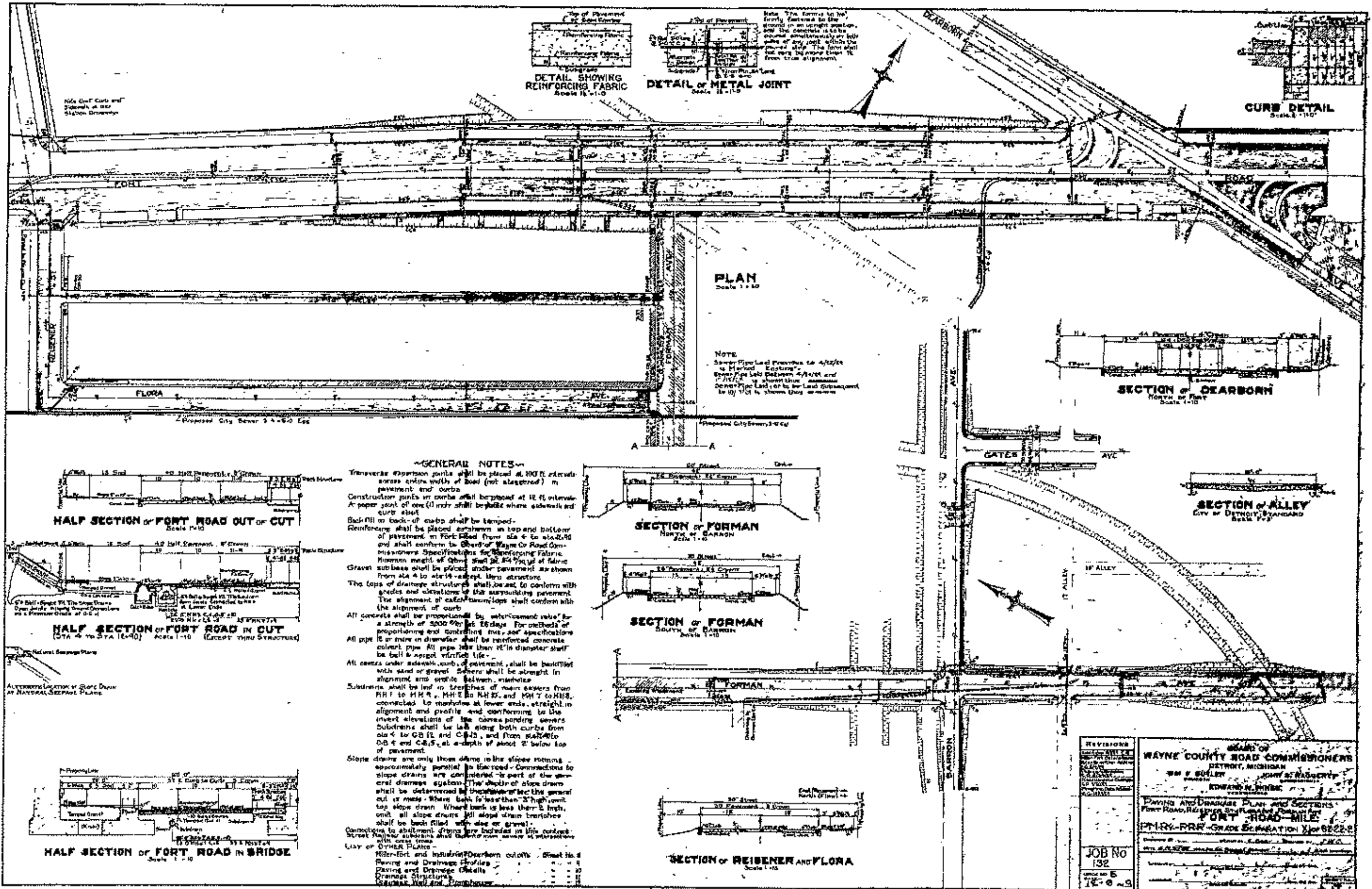
**BOARD OF WAYNE COUNTY ROAD COMMISSIONERS**  
 DETROIT, MICHIGAN  
 WM. F. BUTLER, Chairman  
 JOHN S. HAGERTY, Commissioner  
 EDWARD N. HINES, Commissioner

**DRAINAGE WELL AND PUMPHOUSE**  
 FORT ROAD - MILE  
 RIVER-P.A. R. GRADE SEP. 11, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932.

DESIGNED BY: W. H. HARRIS, CIVIL ENGINEER, DETROIT, MICH.  
 DATE: 2-15-23

**JOB NO. 192**  
 SHEET 3 OF 3  
 19-2-23



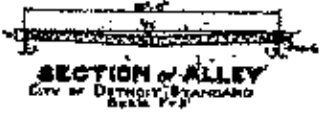
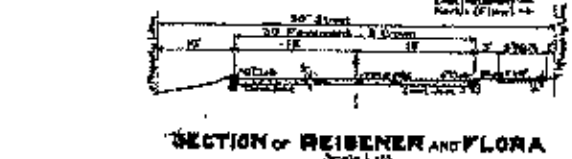
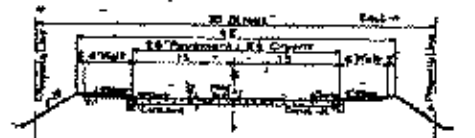
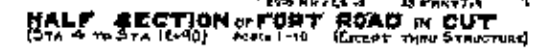


**PLAN**  
Scale 1" = 40'

**NOTE**  
Sewer Pipe Lead Provided to 4/12/14  
to Marked "Expansions"  
Sewer Pipe Lead Between 4/12/14 and  
17/12/14 to show that same  
Sewer Pipe Lead, or to be Lead Subsequent  
to 10/1/14 to show that same

**GENERAL NOTES**

- Transverse expansion joints shall be placed at 100 ft intervals across entire width of road (not staggered) in pavement and curbs.
- Construction joints in curbs shall be spaced at 12 ft intervals. A paper joint of one (1) inch shall be placed where sidewalks and curbs abut.
- Backfill on back of curbs shall be tamped.
- Reinforcing shall be placed between top and bottom of pavement in Fort Road from Sta 4+ to Sta 4+10 and shall conform to Board of Wayne Co Road Commissioners Specifications for Reinforcing Fabric. Minimum weight of bars shall be #4 spaced at 18" on center.
- Gravel subbase shall be placed under pavement as shown from Sta 4+ to Sta 4+10 except where structure.
- The tops of drainage structures shall be set to conform with grades and elevations of the surrounding pavement. The alignment of catch basins shall conform with the alignment of curbs.
- All concrete shall be proportioned by reinforcement ratio for a strength of 3000 psi at 28 days. For methods of proportioning and controlling mix, see specifications.
- All pipe 18" or more in diameter shall be reinforced concrete culvert pipe. All pipe less than 18" in diameter shall be cast iron pipe.
- All covers under sidewalks, curbs, or pavement, shall be bedded with sand or gravel. Covers shall be straight in alignment and set to grade between manholes.
- Subdrains shall be laid in trenches of main sewers from R.H. to M.H. 1, M.H. 2 to M.H. 3, and M.H. 4 to M.H. 5, connected to manholes at lower ends, straight in alignment and profile and conforming to the invert elevations of the corresponding sewers. Subdrains shall be laid along both curbs from Sta 4+ to Sta 4+10 and C-12, and from Sta 4+10 to Sta 4+ and C-15, at a depth of about 2' below top of pavement.
- Slope drains are only those drains in the slope portions, approximately parallel to the road. Connections to slope drains are considered a part of the general drainage system. The depth of slope drains shall be determined by the height of the general cut or mass. Where both is less than 2' high, top slope drain. Where both is less than 2' high, one, all slope drains. All slope drain trenches shall be back filled with sand or gravel.
- Connections to abutment drains are included in this contract. Street manhole subdrains shall be shown, wherever indicated on other plans.



REVISIONS		BOARD OF WAYNE COUNTY ROAD COMMISSIONERS DETROIT, MICHIGAN	
NO.	DATE	BY	FOR
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
JOB NO 132		DATE 12-0-13	
SCALE 1/4" = 1'-0"		DATE 12-22-13	