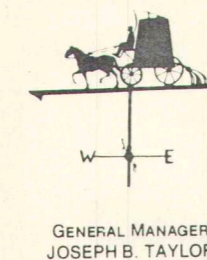


# PORTLAND WATER DISTRICT — PORTLAND, MAINE

## CUMBERLAND FORESIDE RESERVOIR RESERVOIR APPURTENANCES



GENERAL LOCATION MAP



*Portland Water District*

225 DOUGLASS ST., PORTLAND, ME. 04104

POST OFFICE BOX 3553  
TELEPHONE (207) 774-5961

April 9, 1980

Mr. Donald Hemphill  
C de Enforcement Officer  
4 Blanchard Road  
Cumberland, Maine 04021

Subject: Cumberland Foreside Reservoir

Dear Mr. Hemphill:

Progress to date on the reservoir project includes site clearing, structural excavation, a concrete leveling course poured on ledge and partial completion of the altitude valve vault.

On April 14, 1980, the Natgun Corporation will arrive on site to begin construction of the reservoir. A summary of their proposed schedule is as follows:

1. Structural fill beginning April 14, 1980.
2. Precast wall and dome panels beginning May 1, 1980.
3. Wall footings and floor beginning May 12, 1980.
4. Erection of dome roof beginning June 2, 1980.
5. Erect precast wall panels beginning July 7, 1980.
6. Prestress dome roof beginning July 21, 1980.
7. Prestress reservoir wall beginning August 18, 1980.
8. Shotcrete cover coat and wall finishing beginning September 8, 1980.
9. Embankments and finish grade site beginning October 13, 1980.
10. Job closeout week of November 3, 1980.

I would like to arrange a brief meeting with you sometime during the week of April 14, 1980 to introduce you to Mr. Larry Doughty, superintendent for Natgun Corporation, and Mr. Gerald Mayberry who will monitor and coordinate the project for the District. I will contact you on Friday, April 11th to arrange this meeting.

I would be pleased to answer any questions you may have about the project and to cooperate with you in every way possible.

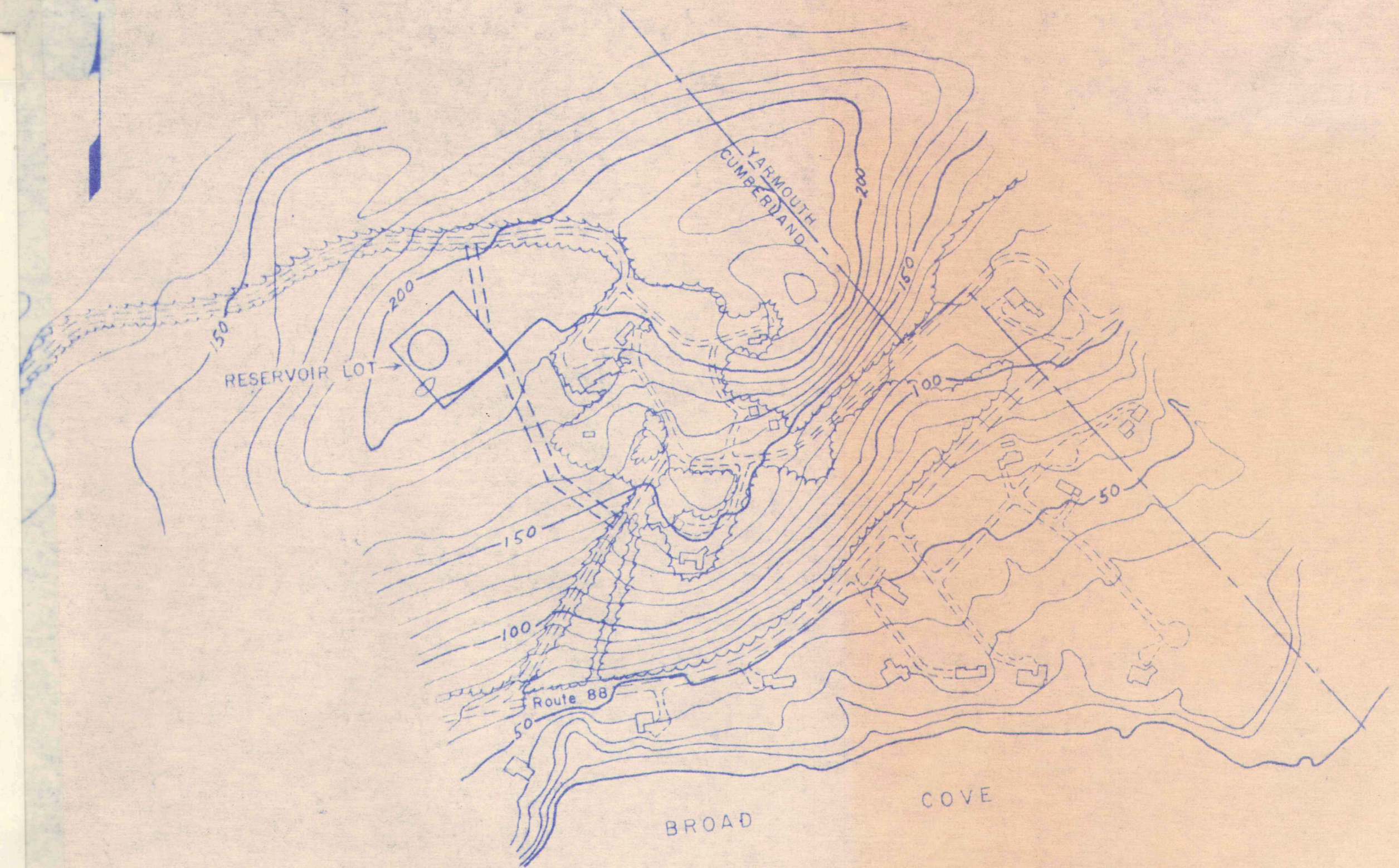
Very truly yours,  
PORTLAND WATER DISTRICT

*Jay C. Hewett*  
Jay C. Hewett, P.E.  
Chief Engineer

JCH:jt

cc: G. E. Mayberry  
Larry Doughty

*Serving* PORTLAND SOUTH PORTLAND WESTBROOK CAPE ELIZABETH CUMBERLAND FALMOUTH GORHAM SCARBOROUGH STANDISH WINDHAM



PROJECT AREA

100 200 400 600 800 1000 ft

### INDEX

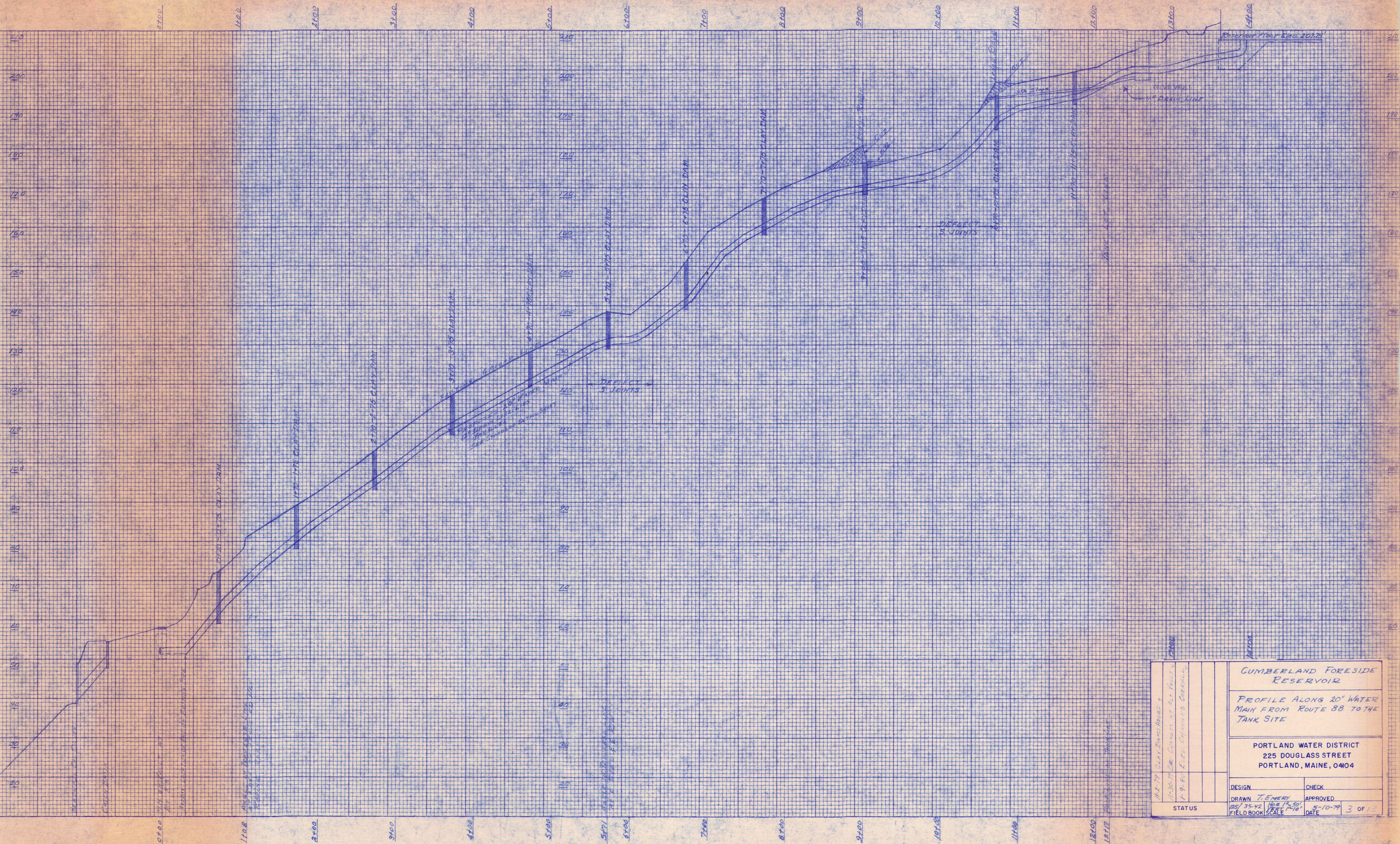
#### SHEET NO.

1. COVER / INDEX
2. PLAN OF MAINS
3. PROFILE OF MAINS
4. X SECTIONS OF MAINS STA. 0+00 to 3+00
5. " " " " " 3+50 to 6+50
6. " " " " " 7+00 to 10+00
7. " " " " " 10+50 to 12+17

#### SHEET NO.

8. X SECTIONS OF MAINS STA. 12+25 to 13+50
9. DETAIL SHEET
10. SITE PLAN
11. ALTITUDE VALVE VAULT LAYOUT
12. ENERGY DISSIPATOR - PLAN / PROFILE
13. " " PLAN / DETAILS



[illegible]

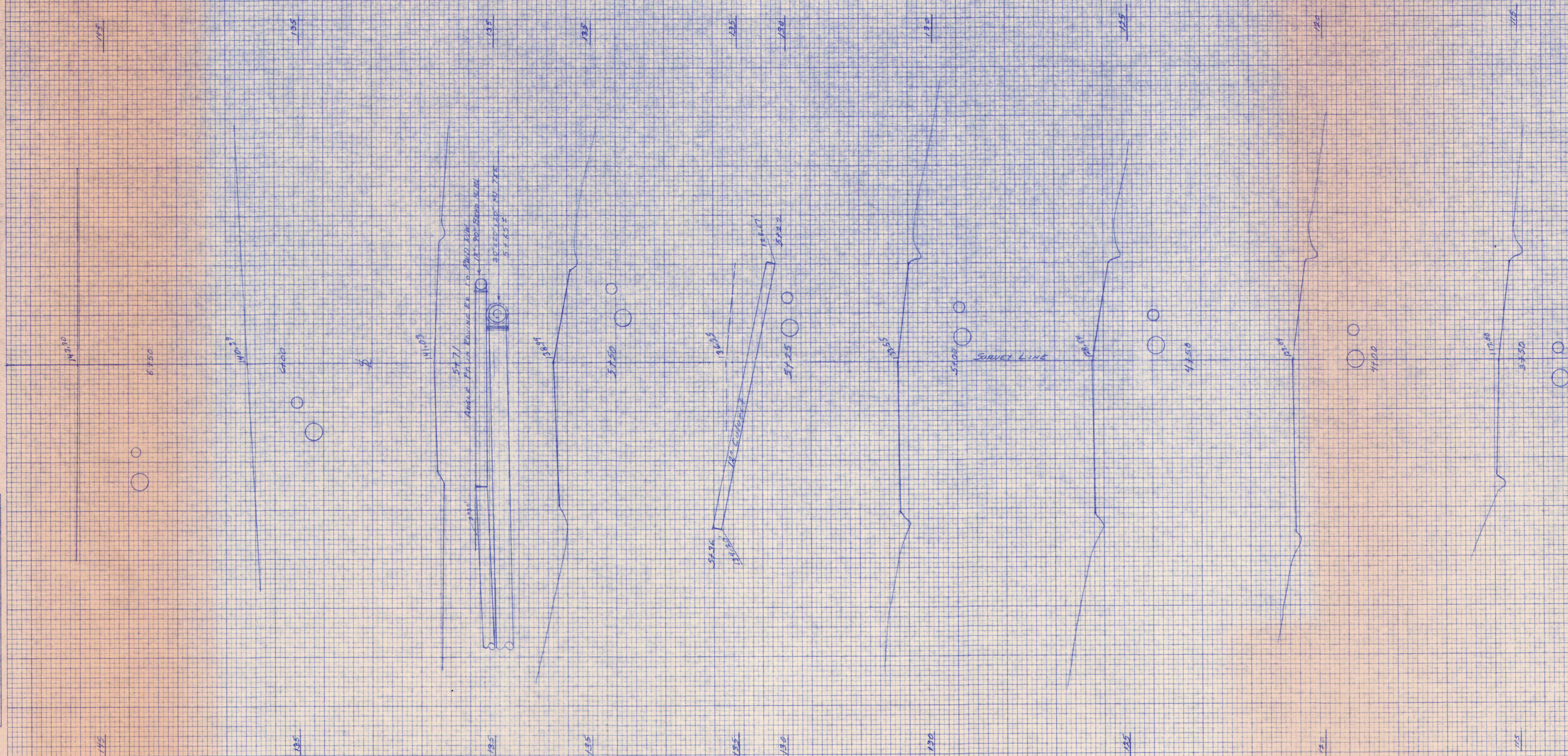
NO	VERBS CHECKED		
NOTE BOOK	VERBS		
SURVEY	TEMPLATE		
ORIGINAL	PLOTTED		
	SURVEYED	BY	DATE

NO.	WHS CHECKED		
HOLE BOOK	VERBS		
	TEMPLATE		
	BOTTLED		
	BREWED		
SURVEY			
FINAL		BY	DATE

CROSS SECTIONS ALONG THE  
PROPOSED WATER LINE TO CUMBERLAND  
TANK FROM RT. 88  
SCALE 1"=5' N&V

NO.	DATE	BY	REVIEWED	DATE
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

NO.	DATE	BY	REVIEWED	DATE
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				



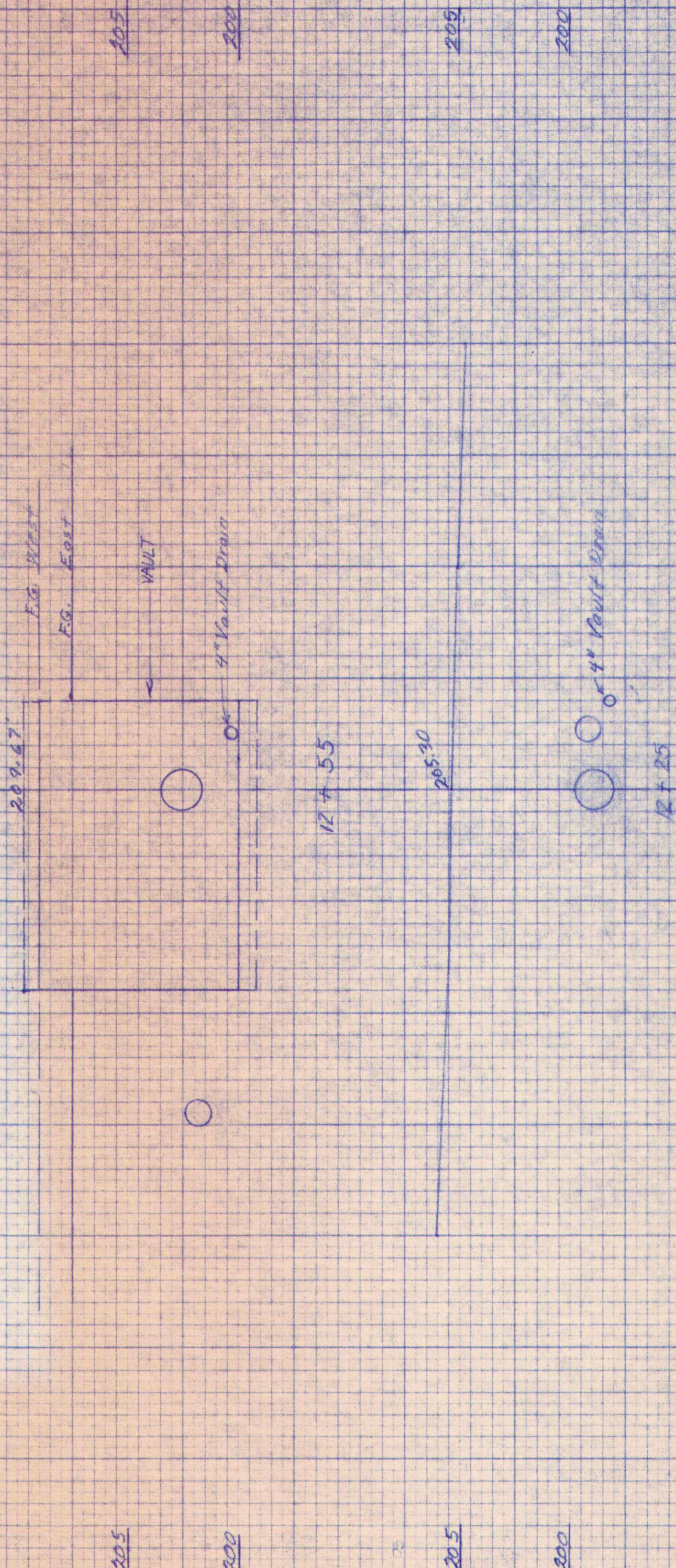
CROSS SECTIONS ALONG THE  
PROPOSED WATER LINE TO CUMBERLAND  
TANK FROM RT 88  
SCALE 1" = 5' H&V

Rev. 1-980 Elevations



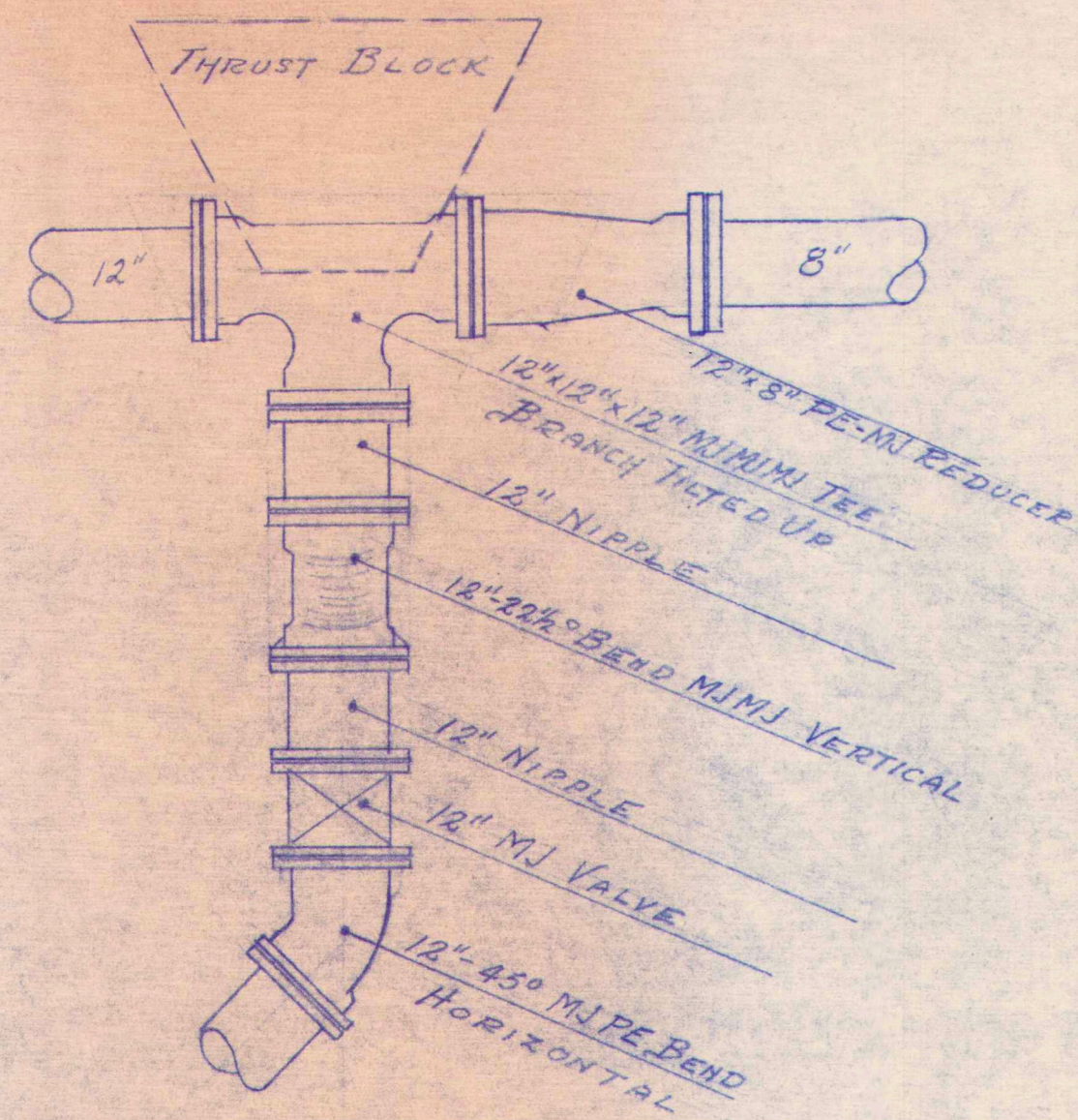


NO.	VEHS CHECKED	VEHS	TEMPERATURE	BA	DATE
MOBILE BOOK					
SURVEY					
ENVY					

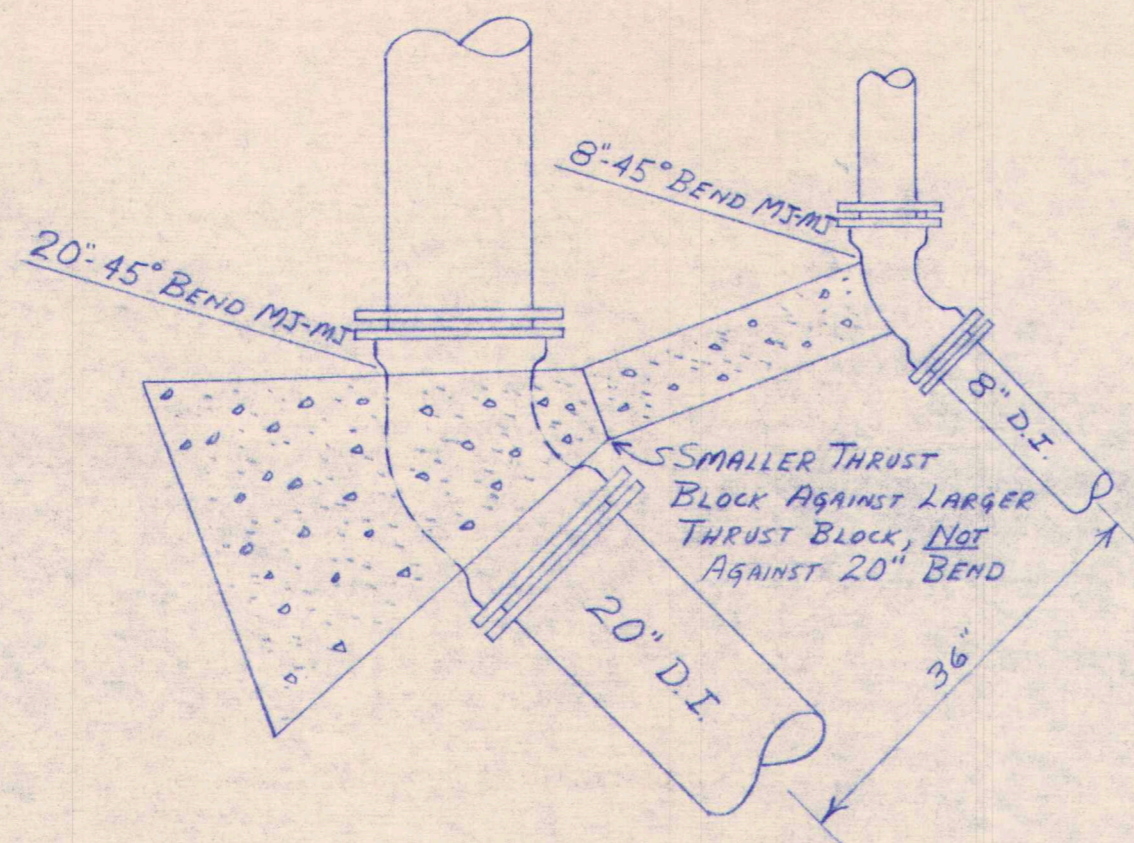


8 OF 13

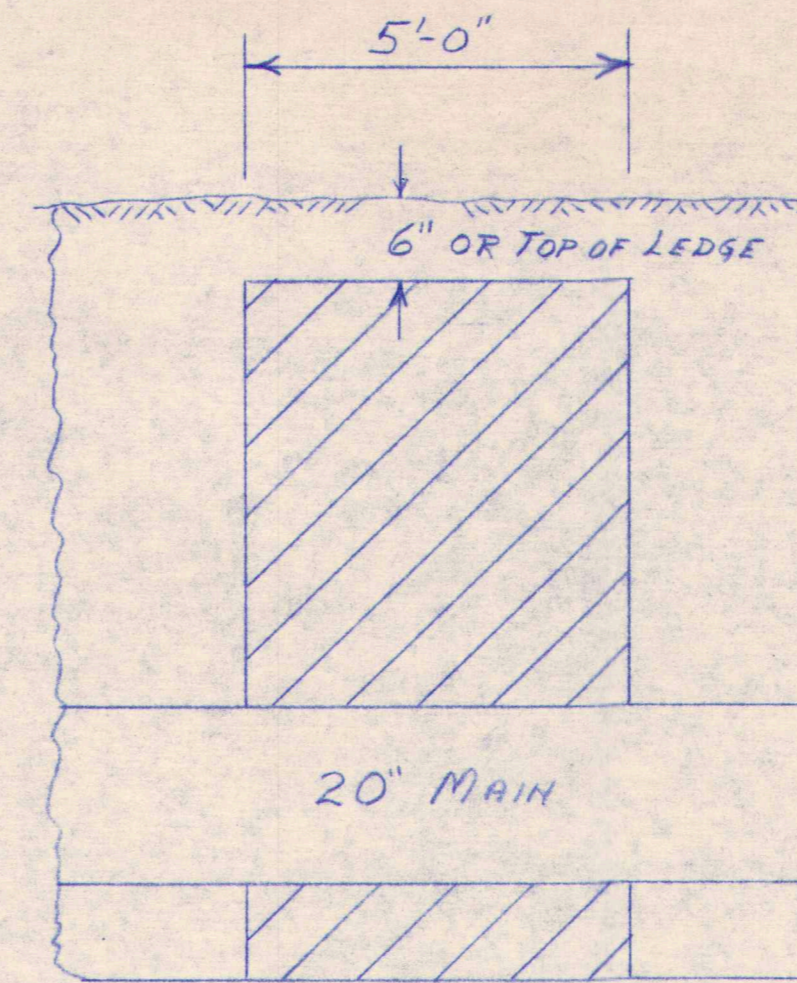
Rev. 1-7-80 Elevations



DETAIL 1 - PLAN VIEW  
SEE SHEET #2  
FOR LOCATION

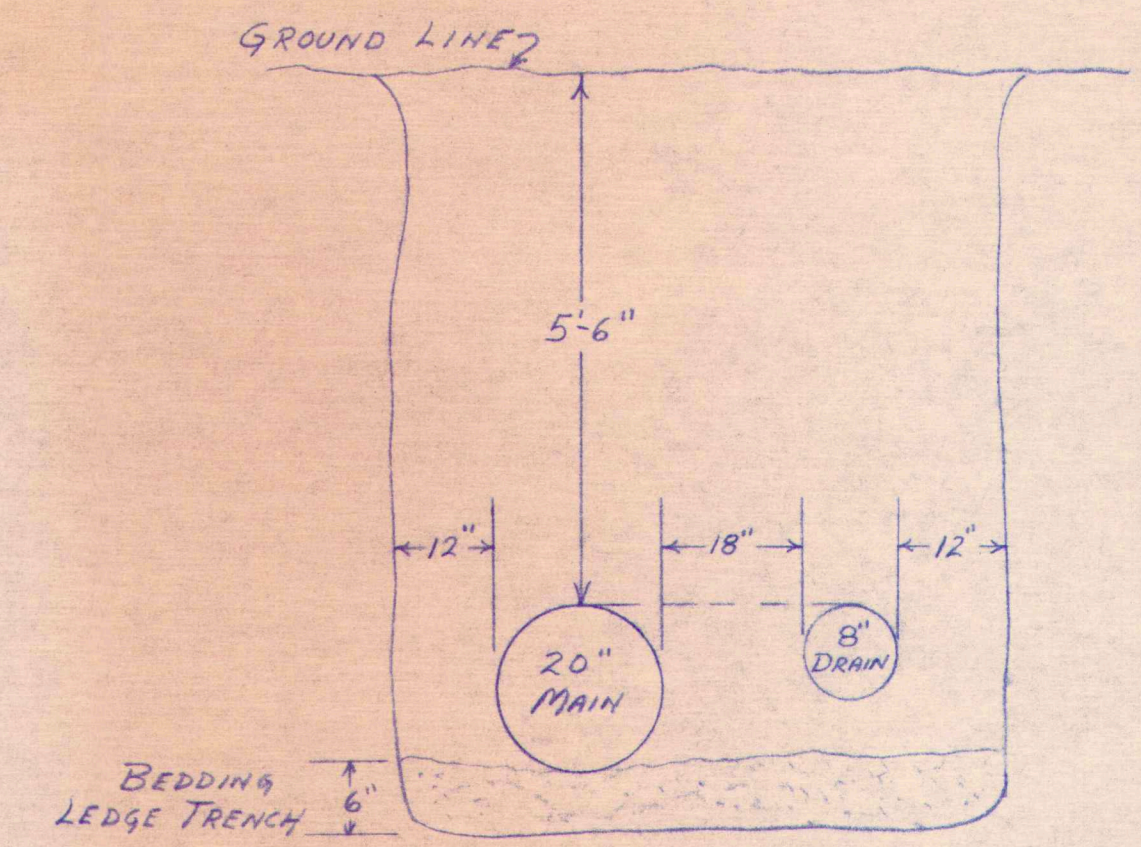


DETAIL 3  
SEE SHEET #2  
FOR LOCATION

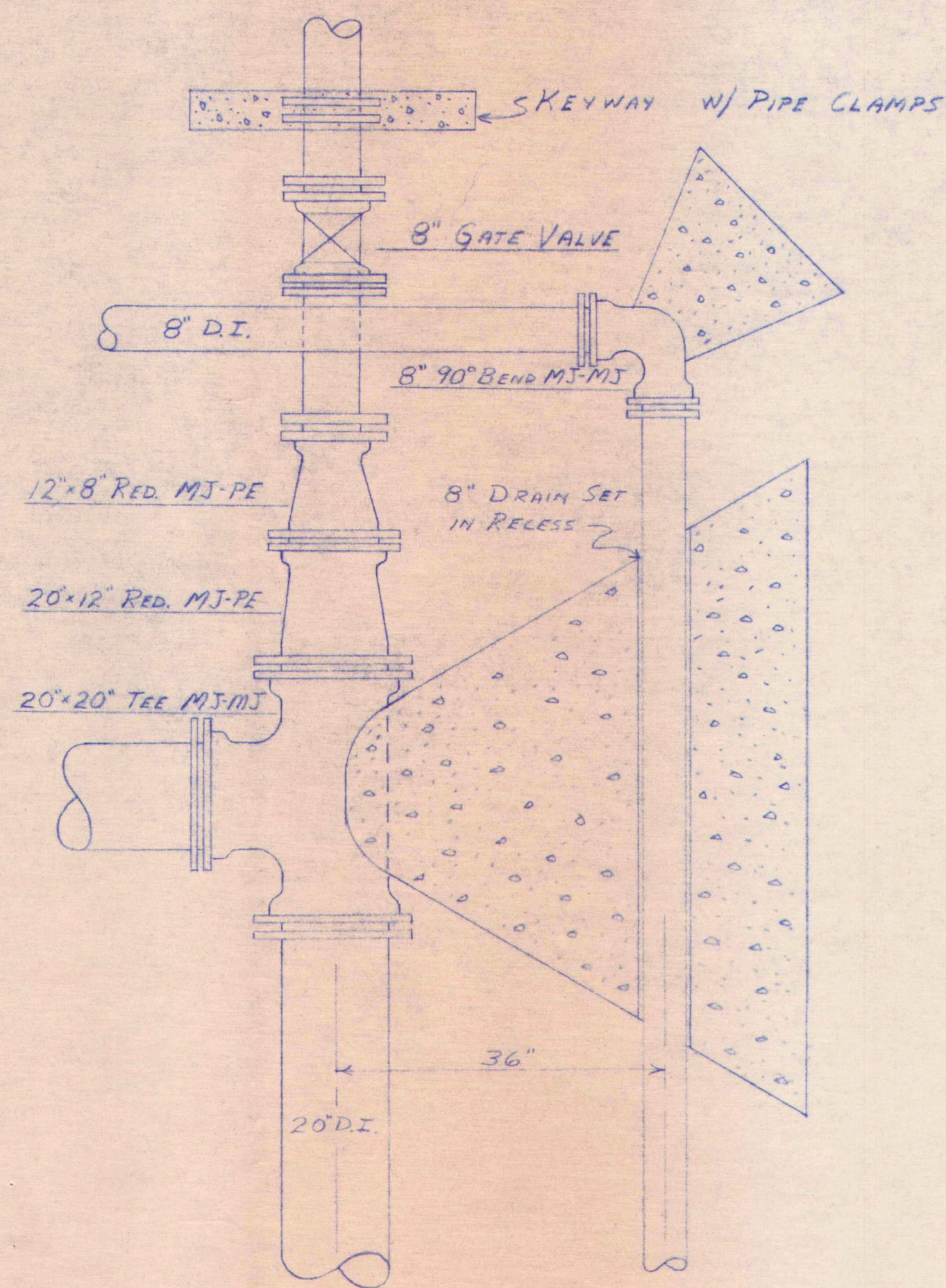


TYPICAL CLAY DAM

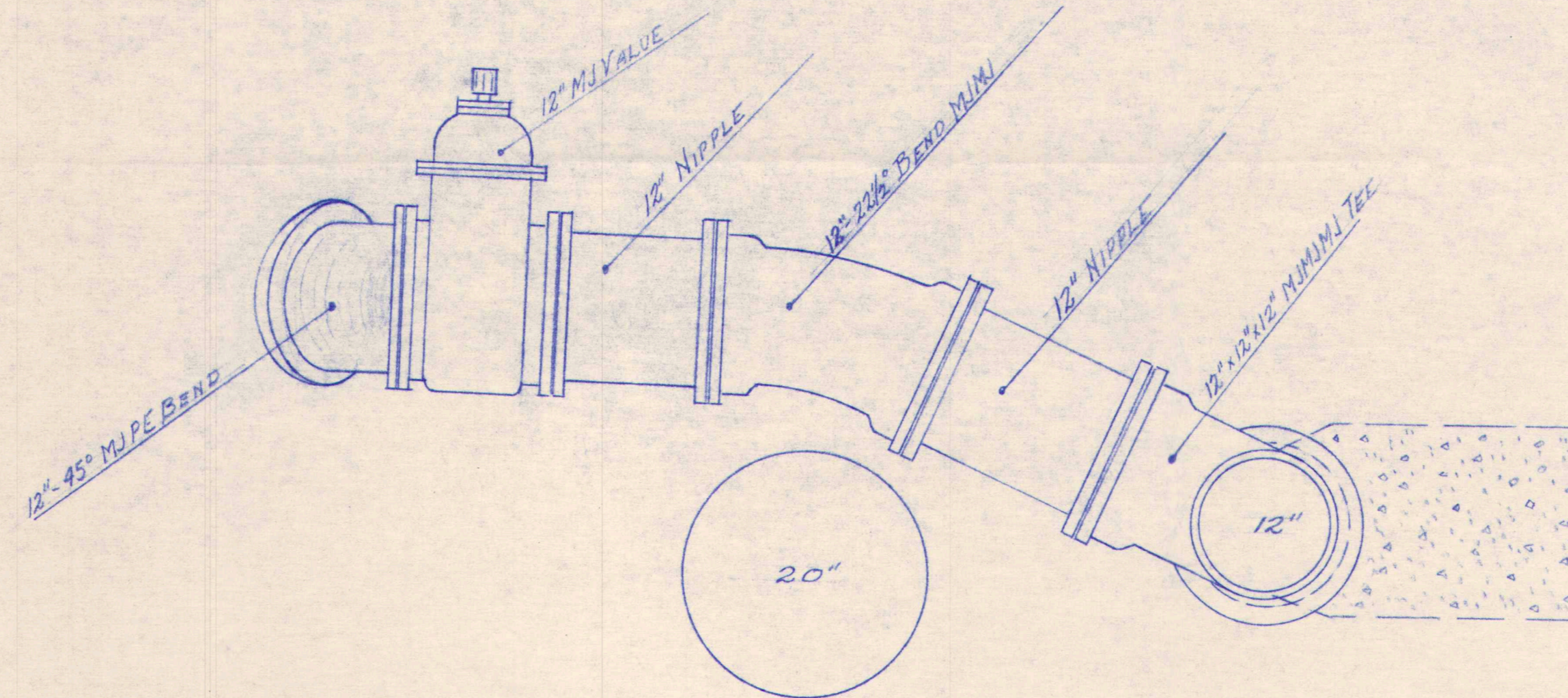
NOTE:  
5' THICK CLAY DAM REQUIRED  
IN LEDGE TRENCH ONLY.  
CLAY MUST FILL ENTIRE  
TRENCH SECTION; BE  
THOROUGHLY COMPACTED,  
INCLUDING UNDER THE  
PIPE(S).



TYPICAL TRENCH SECTION  
20" MAIN & 8" TANK DRAIN



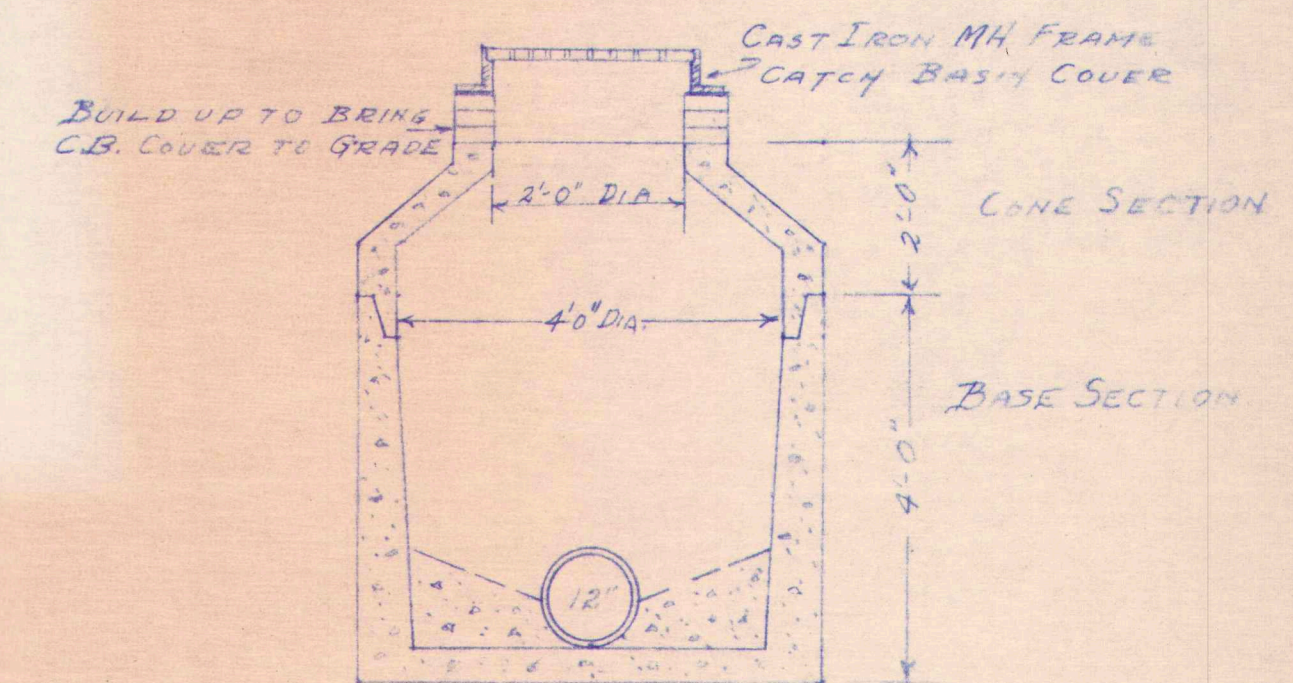
DETAIL 2  
SEE SHEET #2  
FOR LOCATION



DETAIL 1 - VERTICAL VIEW  
SEE SHEET 2 FOR LOCATION

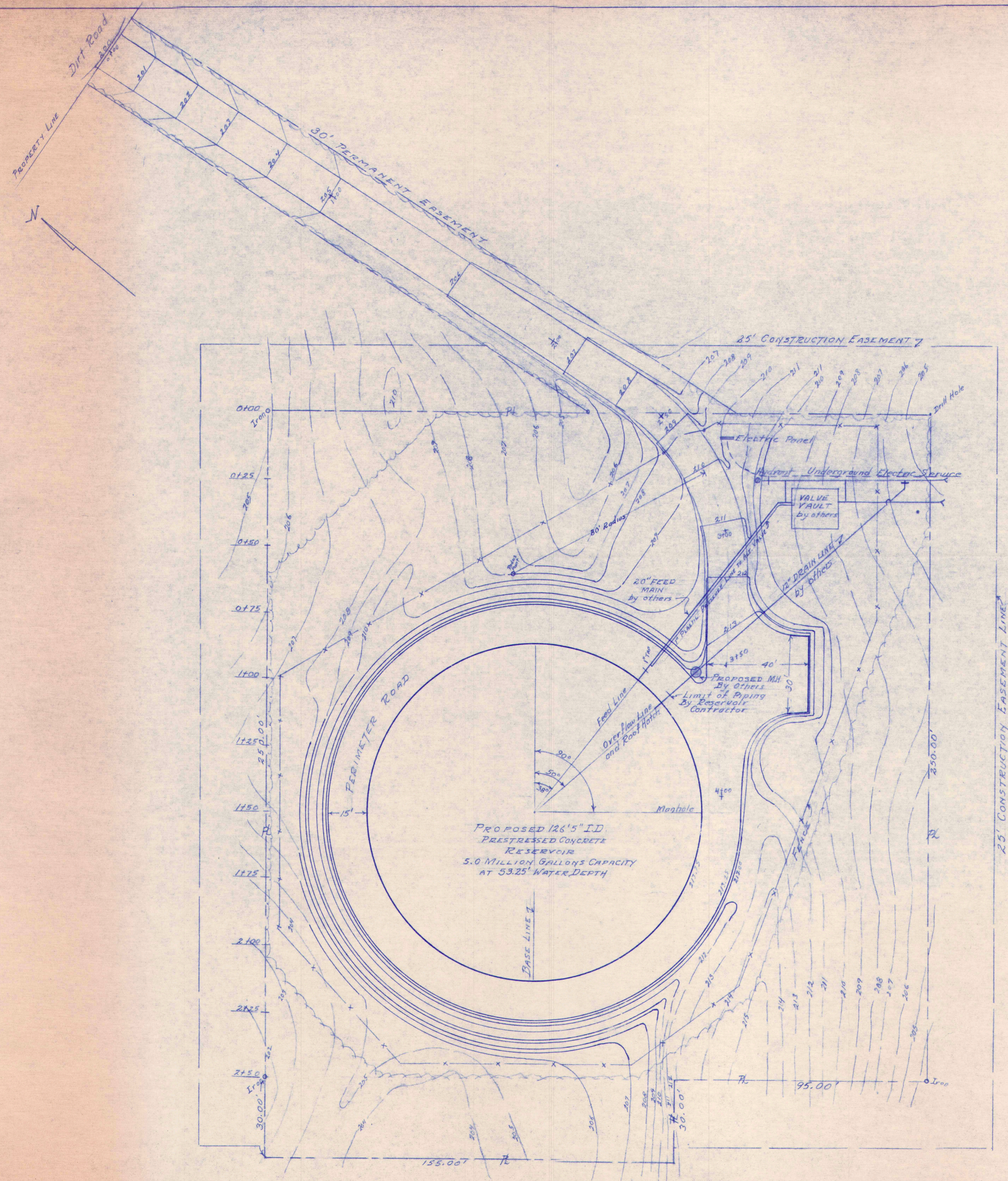
DIMENSIONS OF THRUST BLOCK  
FACE AGAINST UNDISTURBED SOIL

PIPE SIZE	LAYING CONDITIONS		
	SOFT	FIRM	LEDGE
8"	CONSULT ENGINEERING DEPT.	2.5' x 1.5'	2' x 1'
12"		4' x 2'	2.5' x 1.5'
16"		6' x 2.5'	4' x 2'
20"		8' x 3'	6' x 2'
24"		10' x 3.5'	6' x 3'



PRECAST CONCRETE MANHOLE  
ON DRAIN LINE  
NO SCALE

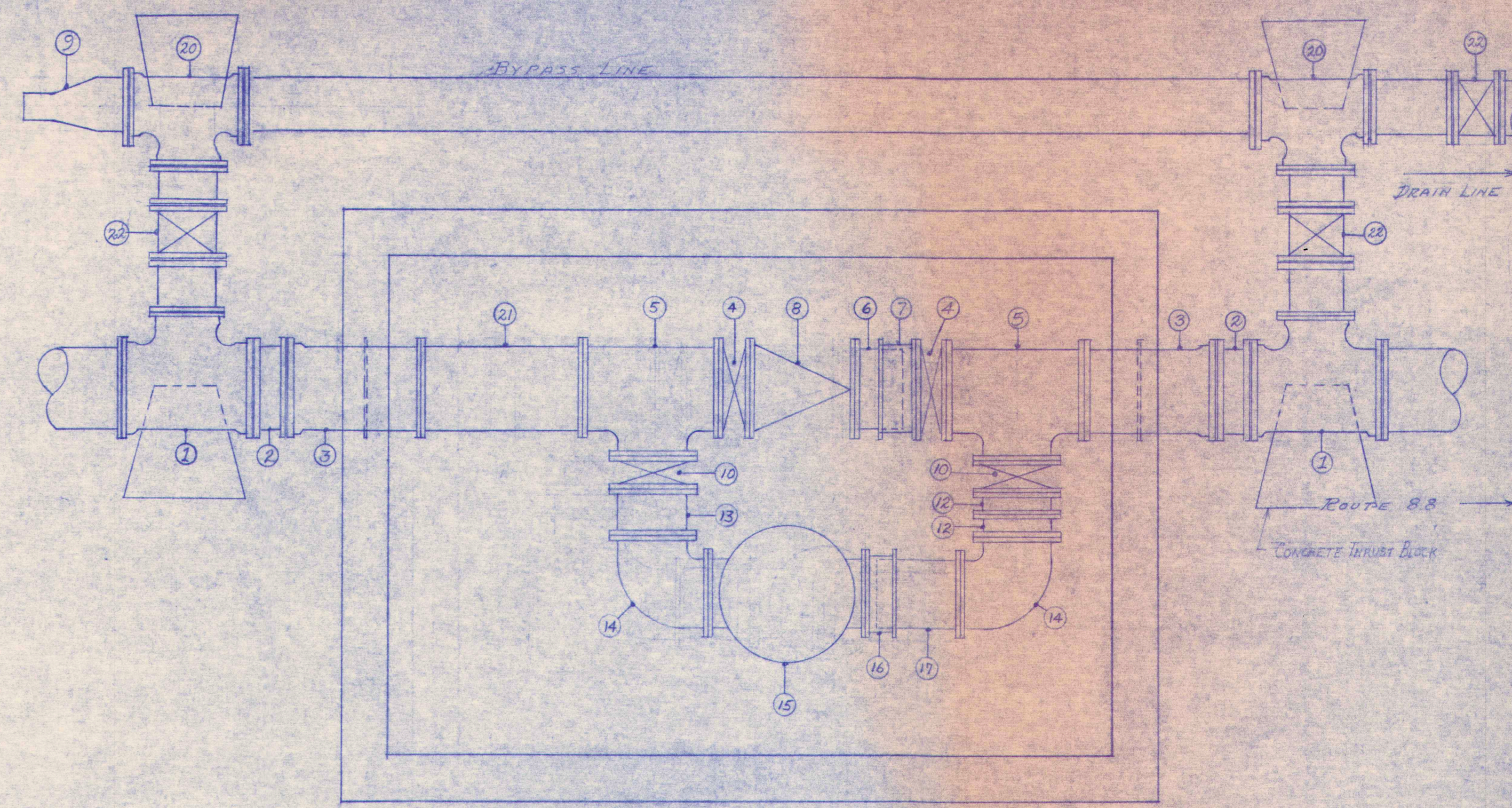
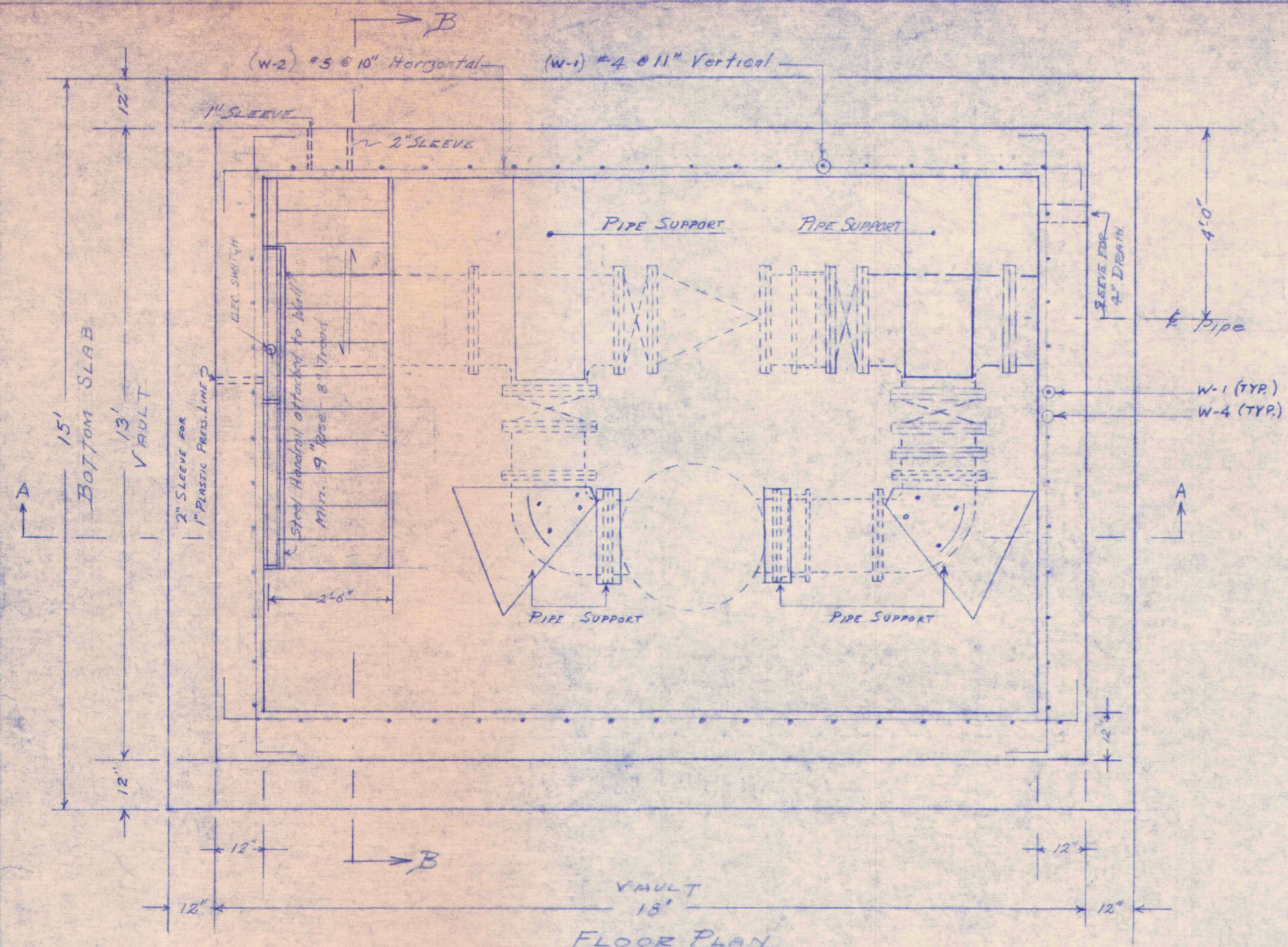
CUMBERLAND FORESIDE RESERVOIR	
DETAILS OF 20" TANK FEED LINE & 8" DRAIN LINE	
PORTLAND WATER DISTRICT 225 DOUGLASS STREET PORTLAND, MAINE, 04104	
DESIGN HEWETT	CHECK
DRAWN D. COFFIN	APPROVED
STATUS	DATE 11-15-79
FIELD BOOK SCALE	3 OF 13



— PROPOSED CONTOURS  
 --- EXISTING CONTOURS

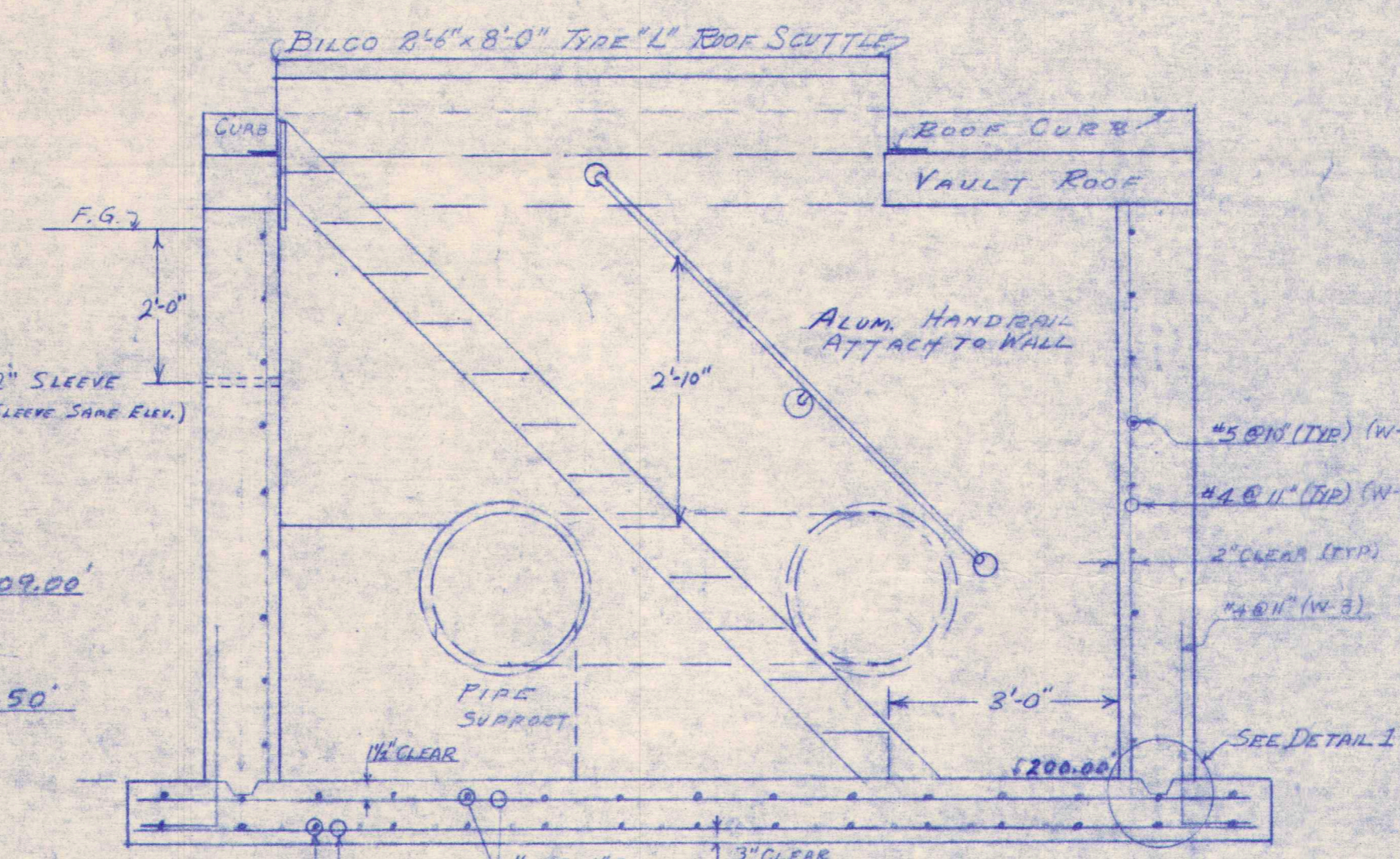
NOTE  
 THE MANHOLE ON THE DRAIN IS NOT TO BE PLACED  
 UNTIL AFTER RESERVOIR IS CONSTRUCTED

CUMBERLAND FORESIDE RESERVOIR	
SITE PLAN	
PORTLAND WATER DISTRICT 225 DOUGLASS STREET PORTLAND, MAINE, 04104	
DESIGN DRAWN J. EMERY DATE 12-26-79	CHECK APPROVED DATE 12-26-79
STATUS 3-12-80 12000 1" Prest. Press. Line B 12-80 12000 1" Prest. Press. Line B 12-80 12000 1" Prest. Press. Line B 12-80 12000 1" Prest. Press. Line B	2 OF 8

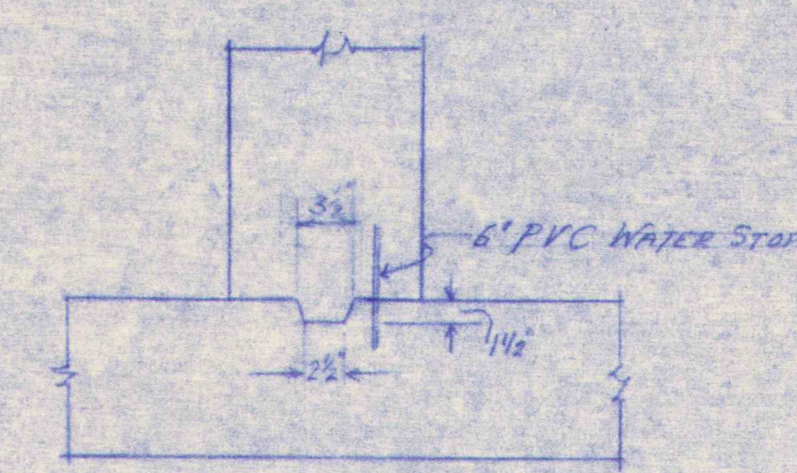


MECHANICAL PLAN  
SCALE 1/2"=1'-0"

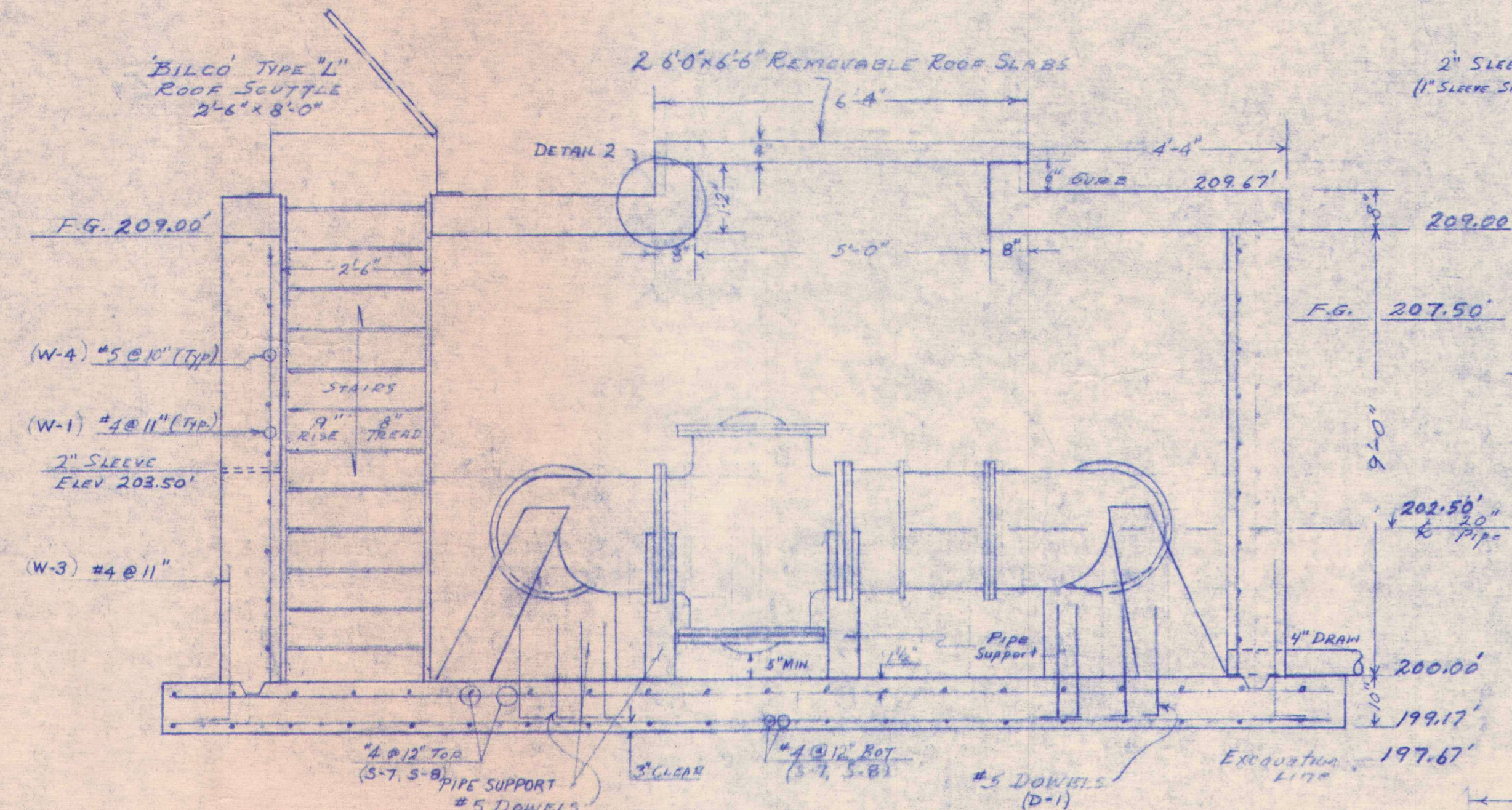
- SCHEDULE OF FITTINGS**
- 20"x12" MINUTEE
  - 20"x15" PE PE PIPE
  - 20"x30" MFL WALL PIPE
  - 20" BUTTERFLY VALVE
  - 20"x20"x16" FL FL TEE
  - 20"x13" FL PE PIPE
  - 20"x13" FL COUPLING ADAPTER
  - 20" CHECK VALVE FL FL (EDDY)
  - 18"x6" PE PE REDUCER
  - 16" BUTTERFLY VALVE
  - 16"x6" FL FL PIPE
  - 16"x12" FL FL PIPE
  - 16"-90° FL FL BEND
  - 16" DOUBLE ACTION FL FL ALTITUDE VALVE
  - 16"x13" FL COUPLING ADAPTER
  - 16"x21" FL PE PIPE
  - 12"-90° MINUTEE BEND
  - 20"x12"x12" MINUTEE
  - 20"x12" FL FL PIPE
  - 12" MINUTEE VALVE



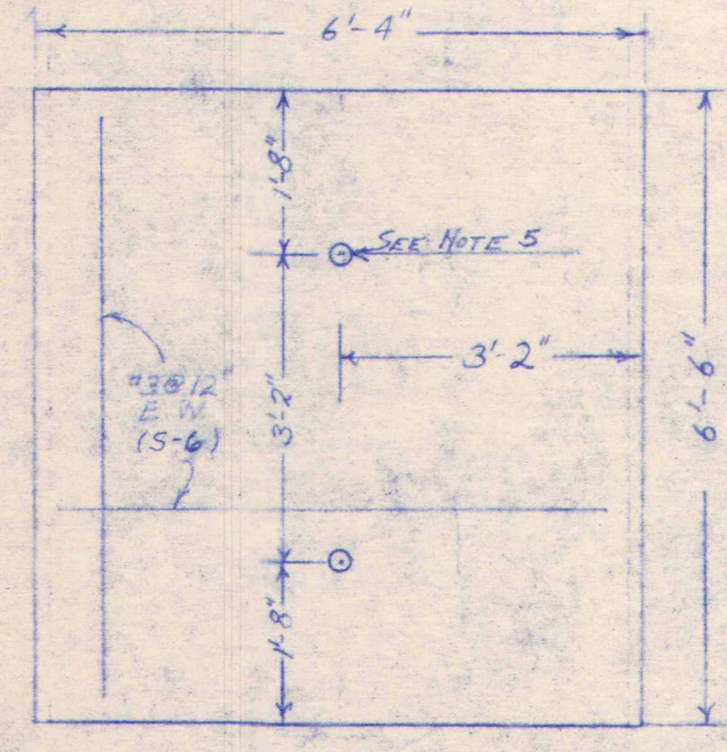
SECTION B-B  
NOT TO SCALE



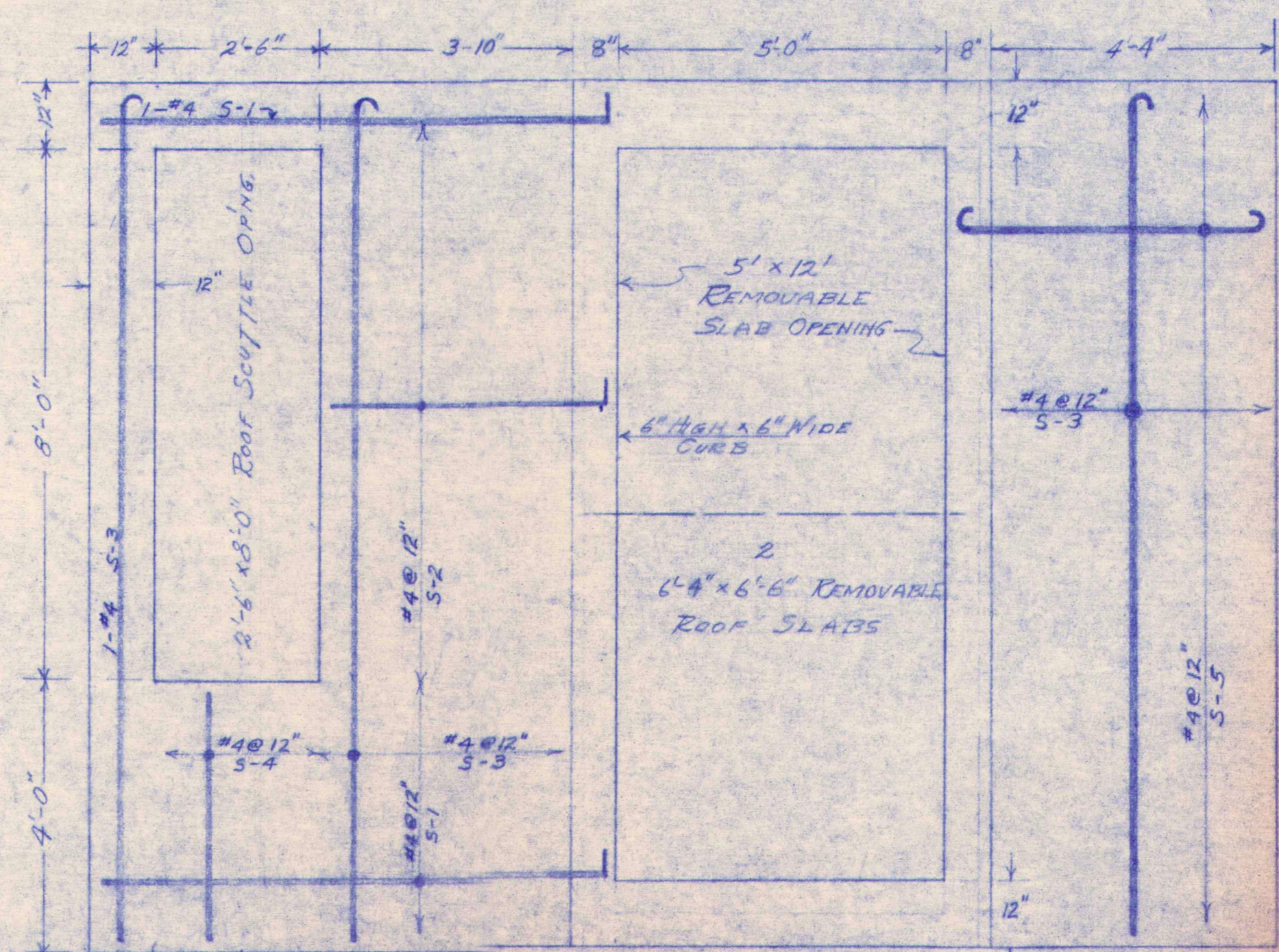
DETAIL 1  
TYPICAL SHEAR KEY  
SCALE 1"=1'-0"



SECTION A-A  
NOT TO SCALE



REMOVABLE ROOF SLAB  
SCALE 1/2"=1'-0"

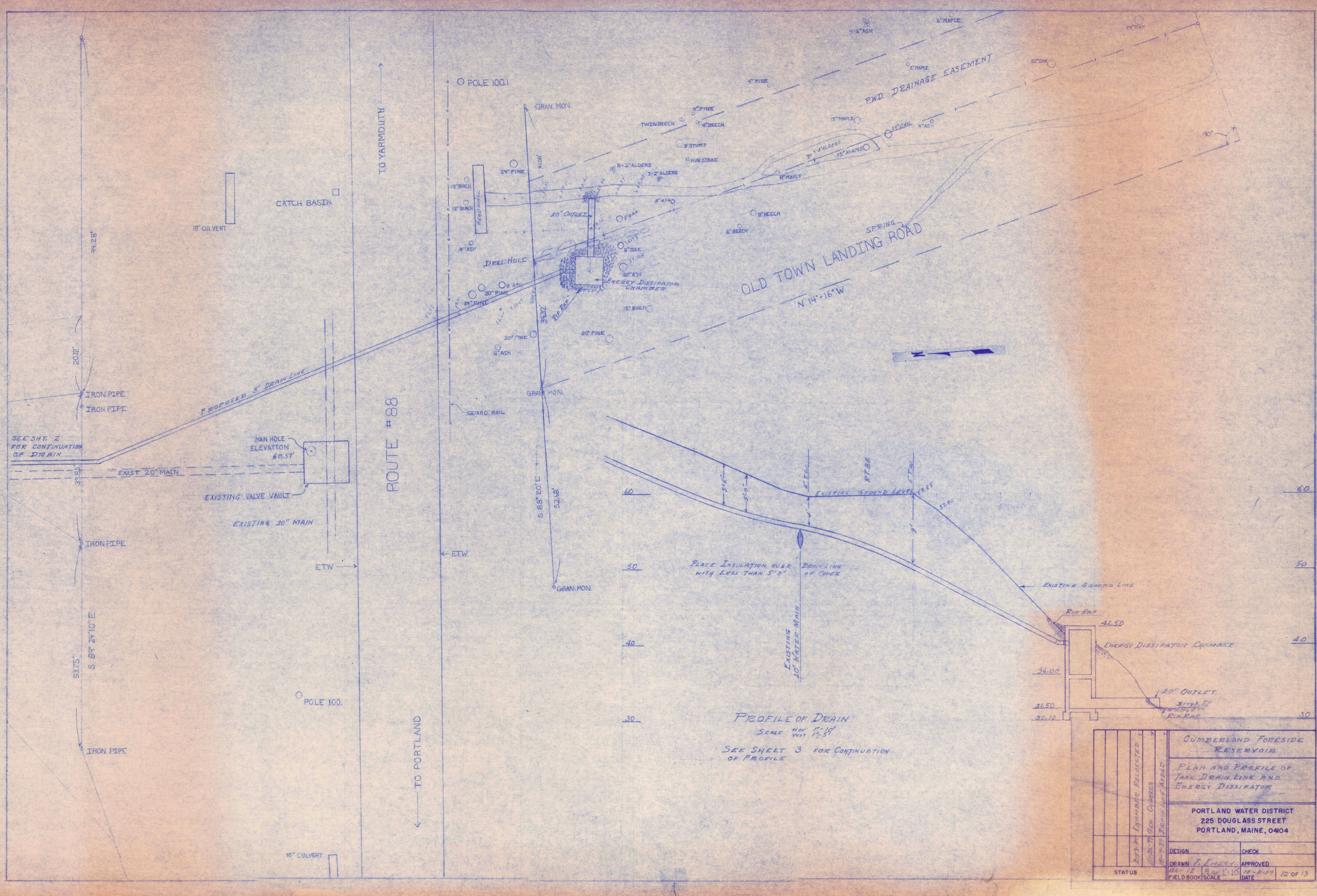


TOP SLAB PLAN  
SCALE 1/2"=1'-0"

**NOTES**

- CONCRETE STRENGTH AT 28 DAYS SHALL BE 3000 PSI. MAXIMUM AGGREGATE SIZE 1 1/2".
- REINFORCING STEEL SHALL BE ASTM A-615, A-616, OR A-617, GRADE 60.
- BAR SUPPORTS SHALL CONFORM TO CRSI STANDARDS.
- HATCH COVER FOR STAIRWAY SHALL BE EQUAL TO 'BILCO' TYPE 'L' ROOF SCUTTLE 2'-6" x 8'-0".
- LIFTING POINTS IN TOP SLABS SHALL CONSIST OF 2" DIAMETER GALV. PIPE SLEEVES CAST THROUGH SLABS & THREADED TO RECEIVE BRASS PLUGS.
- VALVE BOXES FOR OPERATING VALVES IN ALTITUDE VAULT TO BE LOCATED OVER OPERATING NUTS IN THE FIELD.

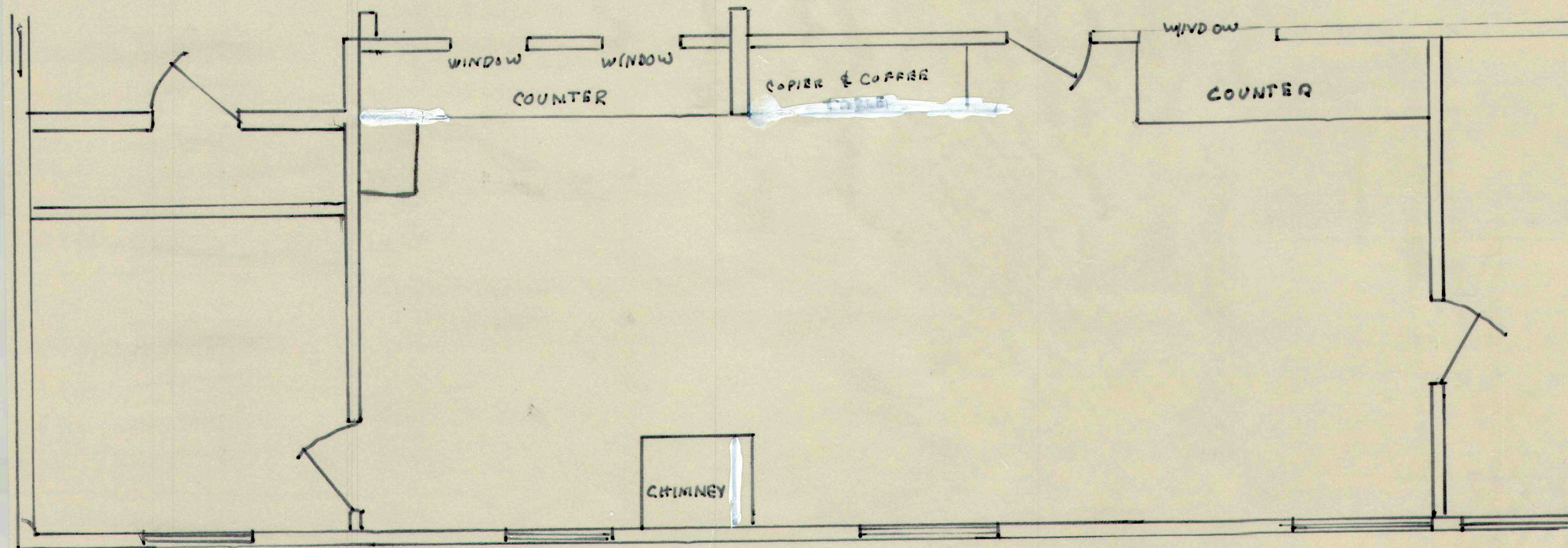
GUMBER AND FORESIDE RESERVOIR	
ALTITUDE VALVE VAULT AND MECHANICAL LAYOUT	
PORTLAND WATER DISTRICT 225 DOUGLASS STREET PORTLAND, MAINE, 04104	
DESIGN: L. BENETT	CHECK:
DRAWN: T. KELLY	APPROVED:
STATUS:	DATE: 11 OF 13



PROFILE OF DRAIN  
SCALE HORIZ 1"=10'  
VERT 1"=5'  
SEE SHEET 3 FOR CONTINUATION  
OF PROFILE

CUMBERLAND FORESIDE RESERVOIR	
PLAN AND PROFILE OF TANK DRAIN LINE AND ENERGY DISSIPATOR	
PORTLAND WATER DISTRICT 225 DOUGLASS STREET PORTLAND, MAINE, 04104	
DESIGN	CHECK
DRAWN J. EMERY	APPROVED
126-12 PLAN 1:10	10-8-79
FIELD BOOK SCALE	DATE
STATUS	12 OF 13



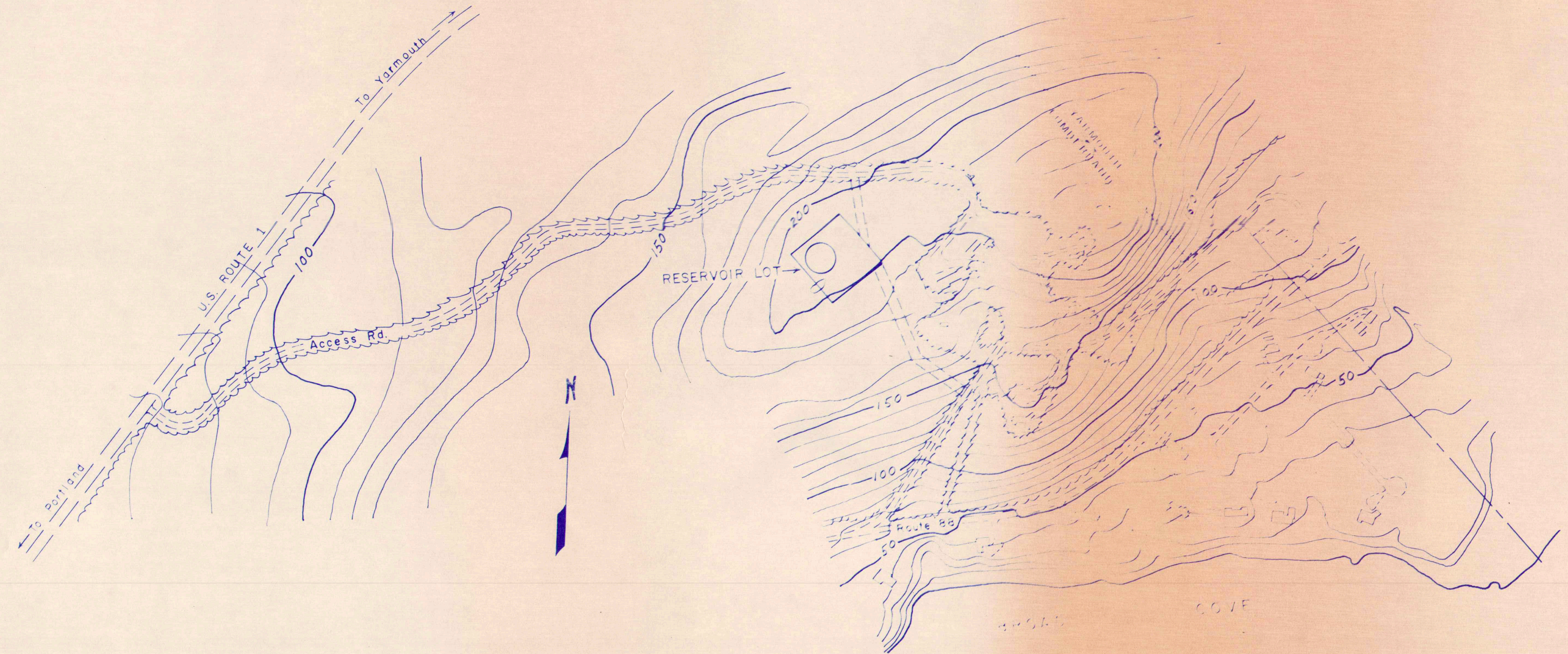


# CUMBERLAND FORESIDE RESERVOIR

## CONTRACT DRAWINGS



GENERAL LOCATION MAP



PROJECT AREA

### INDEX

#### SHEET NO.

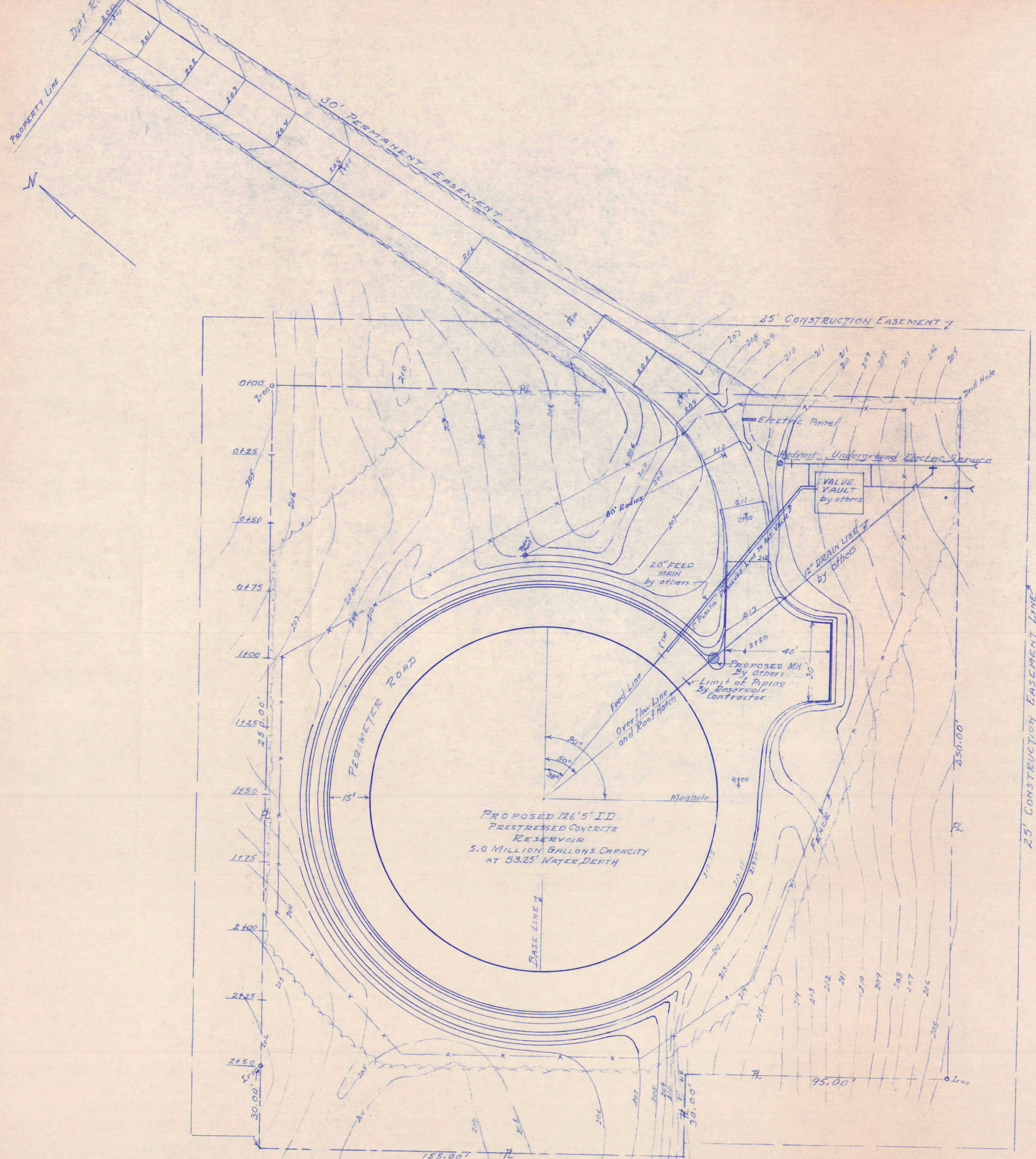
1. COVER / INDEX
2. SITE PLAN
3. RESERVOIR PLAN / DETAILS
4. RESERVOIR DETAILS

#### SHEET NO.

5. ACCESS ROAD PROFILE
6. ACCESS ROAD CROSS SECTIONS
7. RESERVOIR SITE CROSS SECTIONS
8. RESERVOIR SITE CROSS SECTIONS

*Joseph B. Taylor*  
GENERAL MANAGER

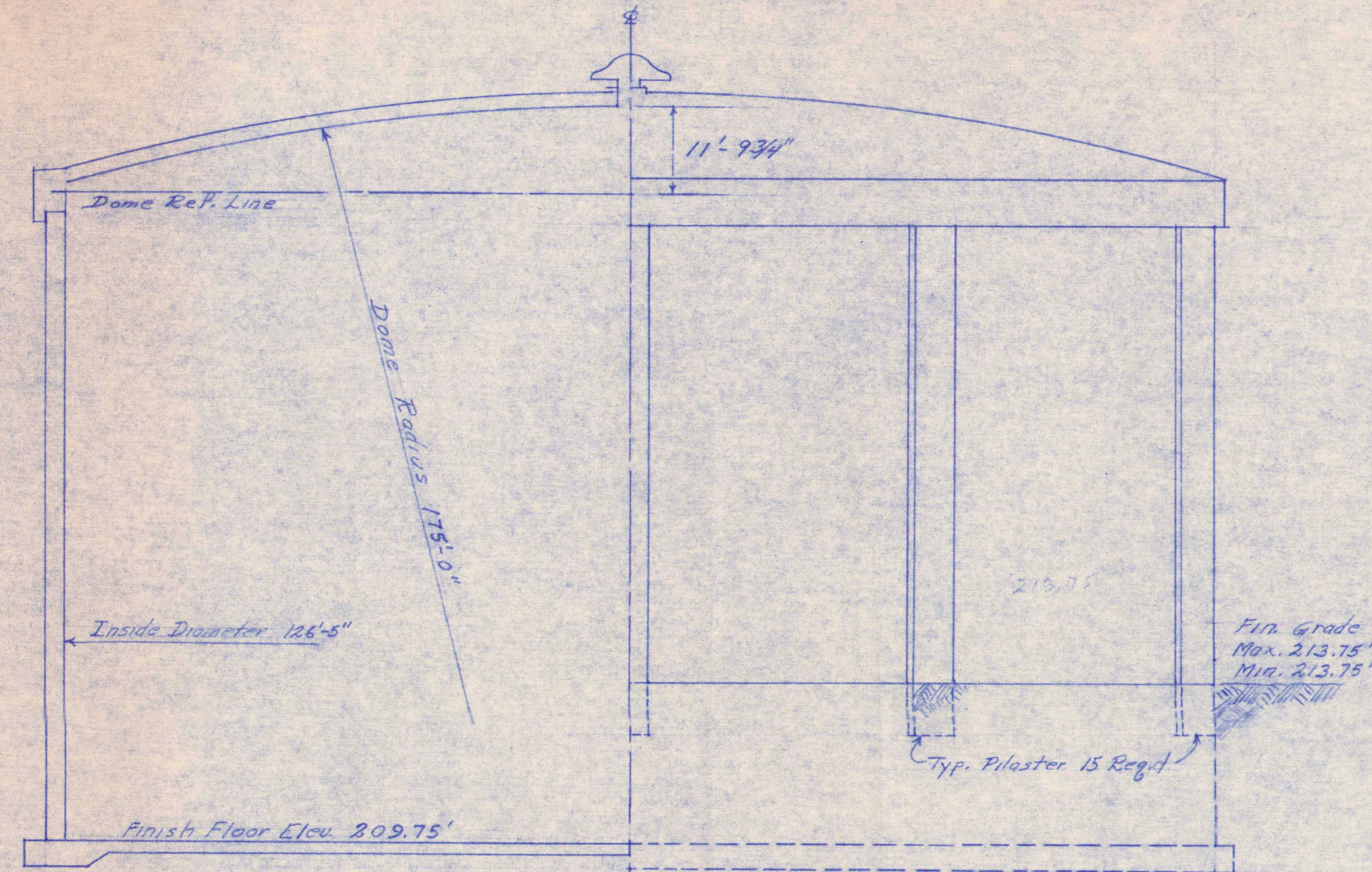
*Jay Vank Hewitt*  
CHIEF ENGINEER



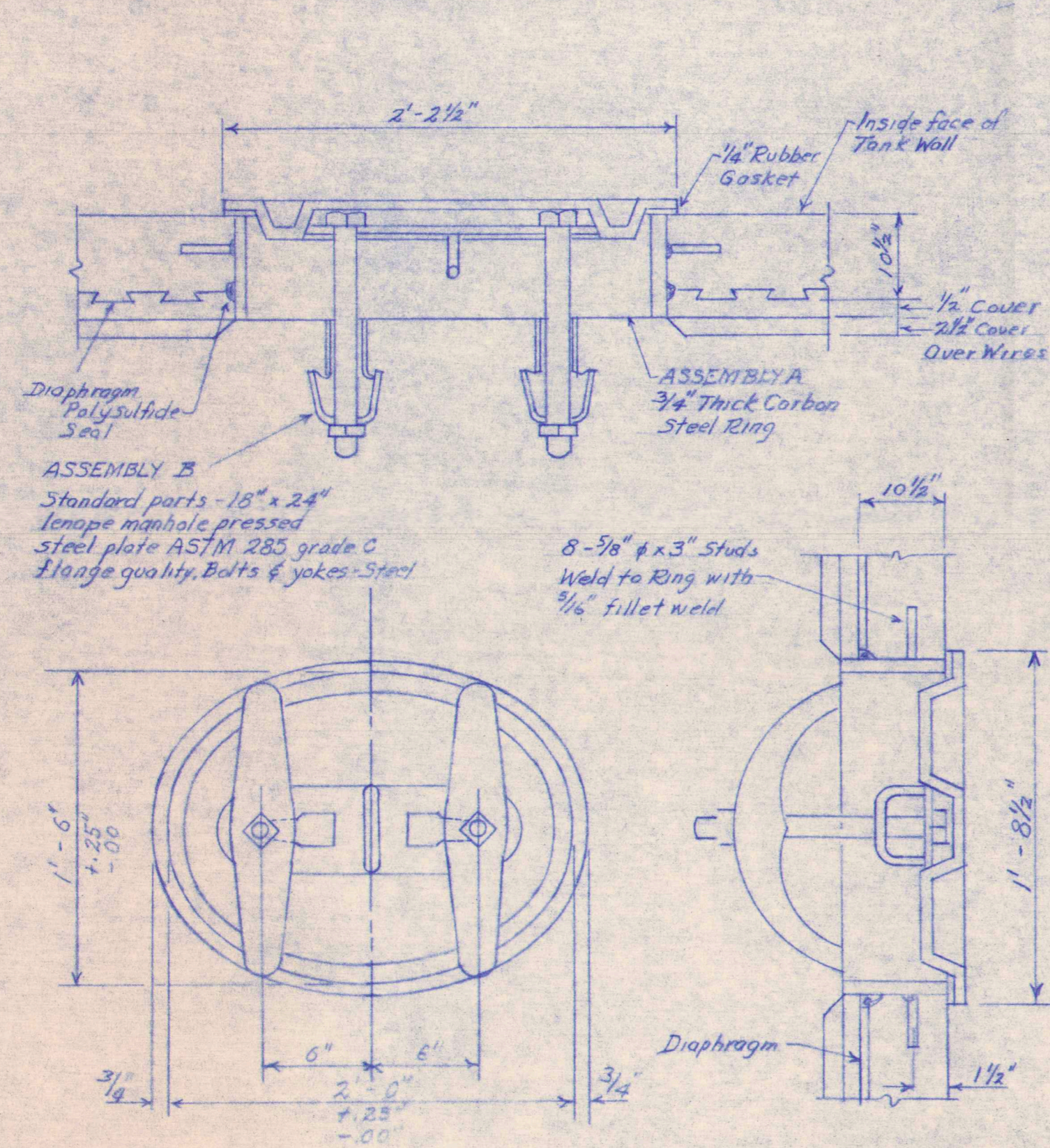
NOTE  
 THE MANHOLE ON THE DRAIN IS NOT TO BE PLACED  
 UNTIL AFTER RESERVOIR IS CONSTRUCTED

1.00	ADDED 1" PERIM. PRESS. LINE	CUMBERLAND FORESIDE RESERVOIR	
		SITE PLAN	
8.00	MANHOLE ADDED	PORTLAND WATER DISTRICT	
		225 DOUGLASS STREET	
5.75	REVISION - REVISION	PORTLAND, MAINE, 04104	
		DESIGN	

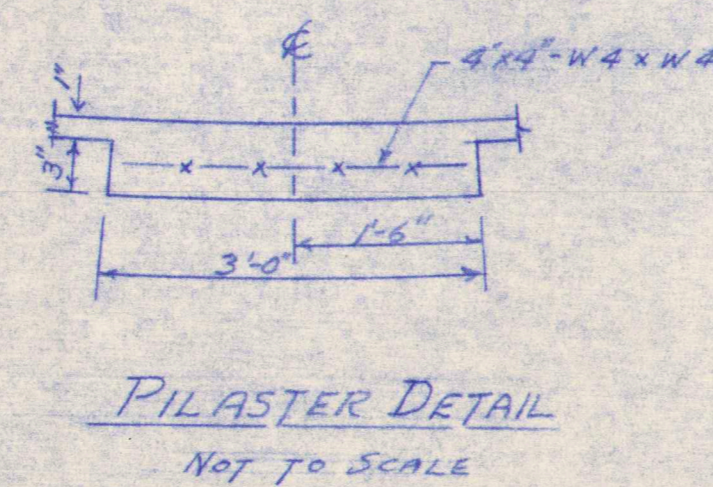
— PROPOSED CONTOURS  
 --- EXISTING CONTOURS



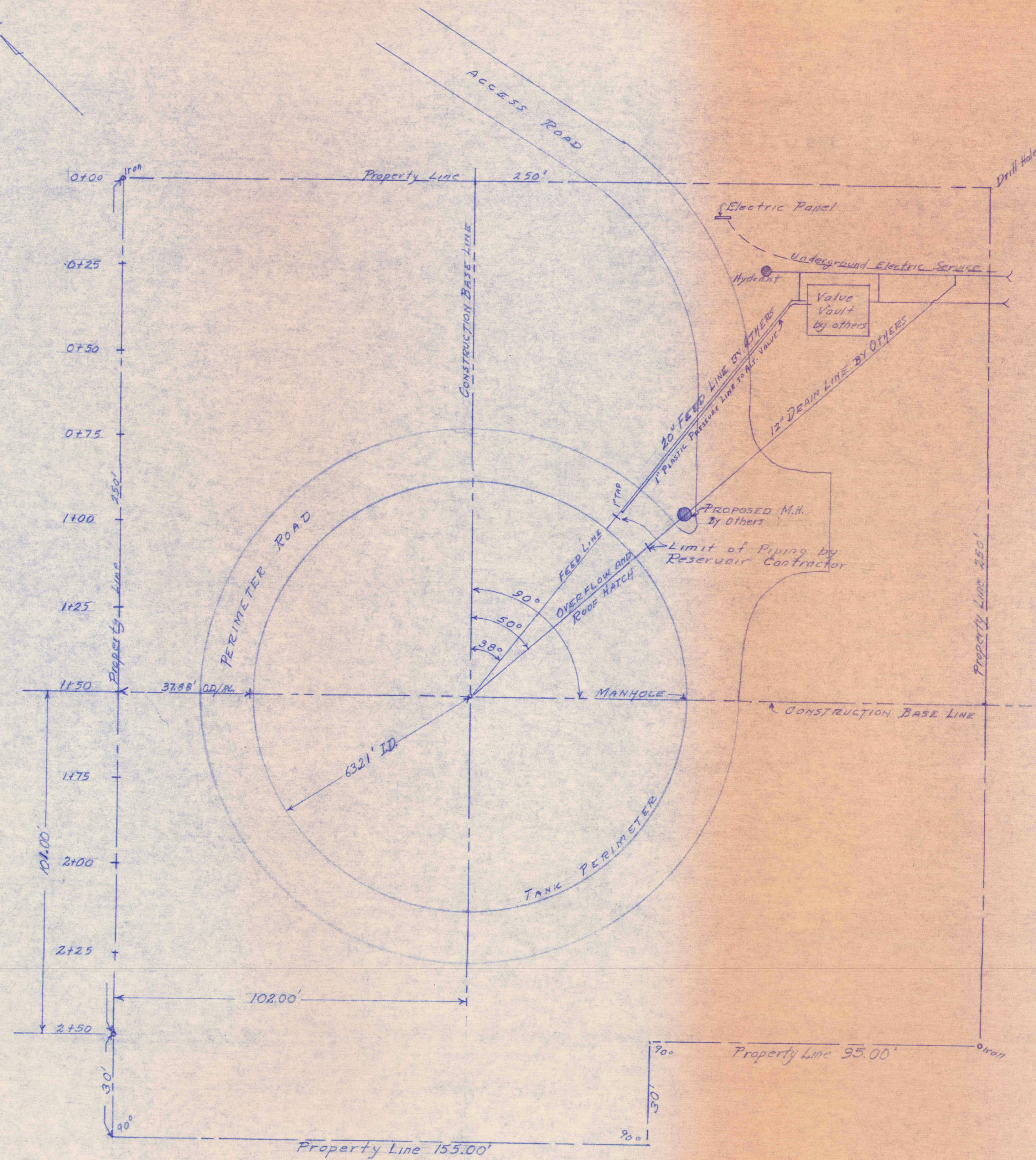
TANK SECTION & ELEVATION  
NOT TO SCALE



WALL MANHOLE

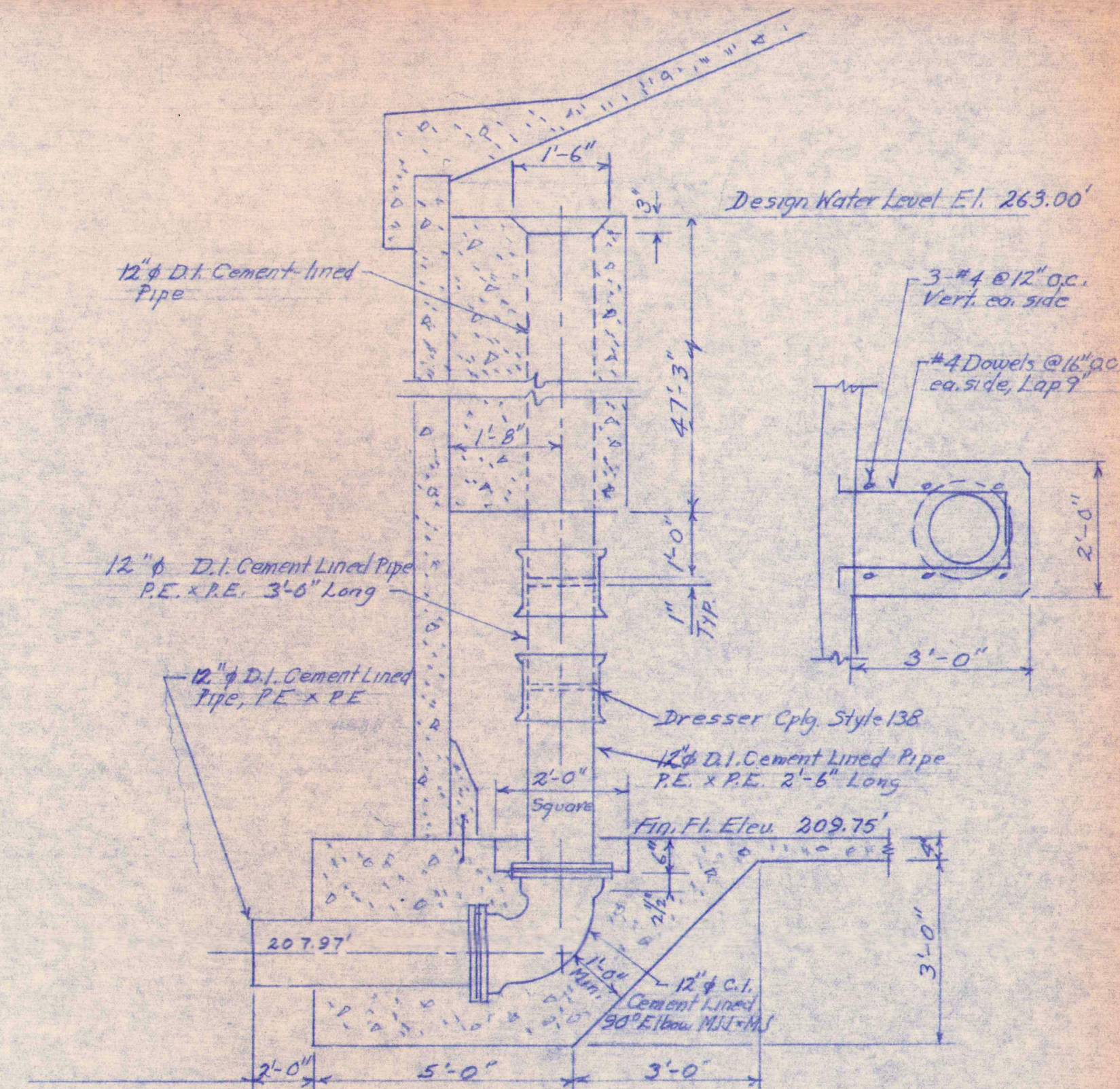
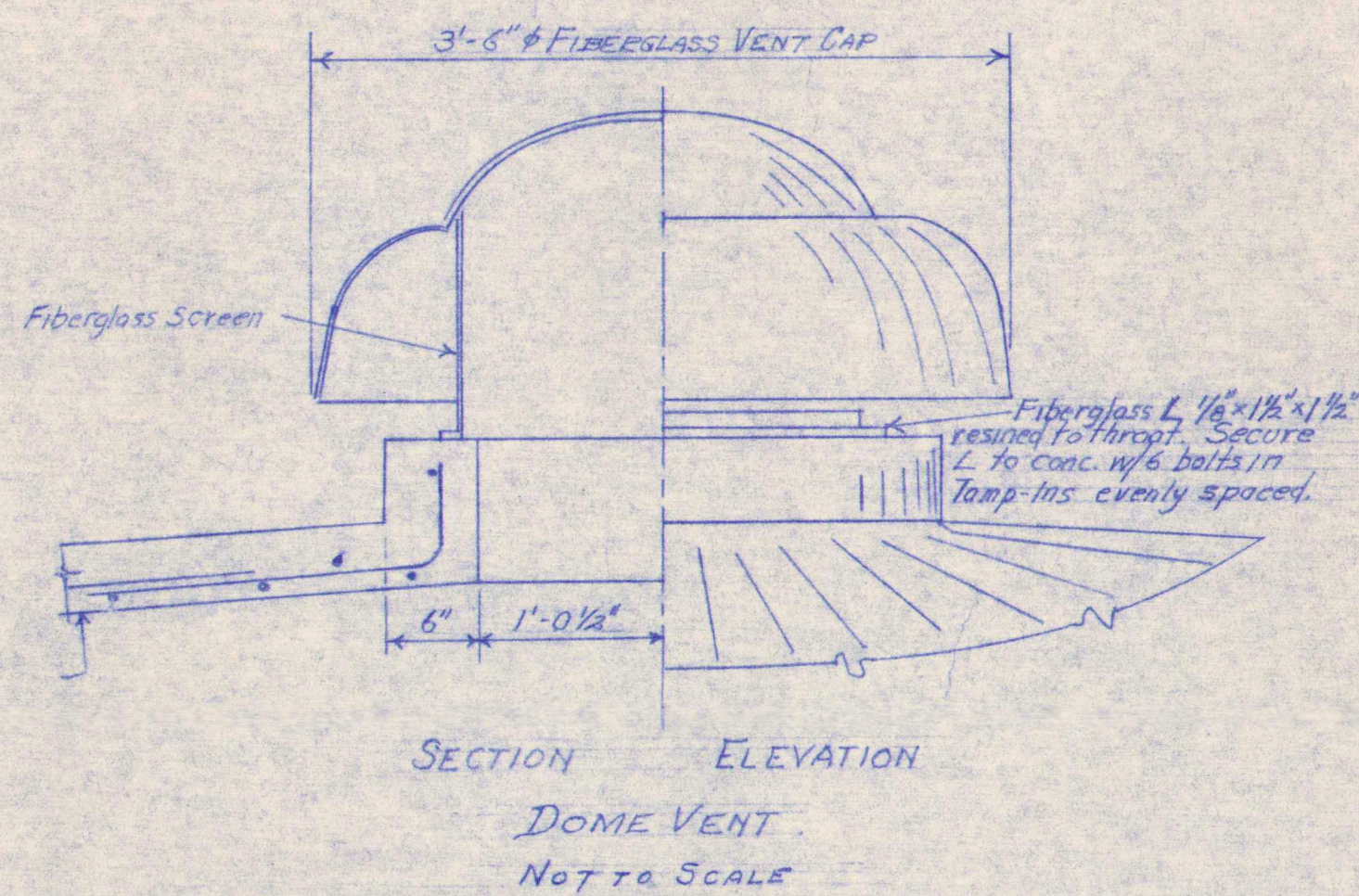
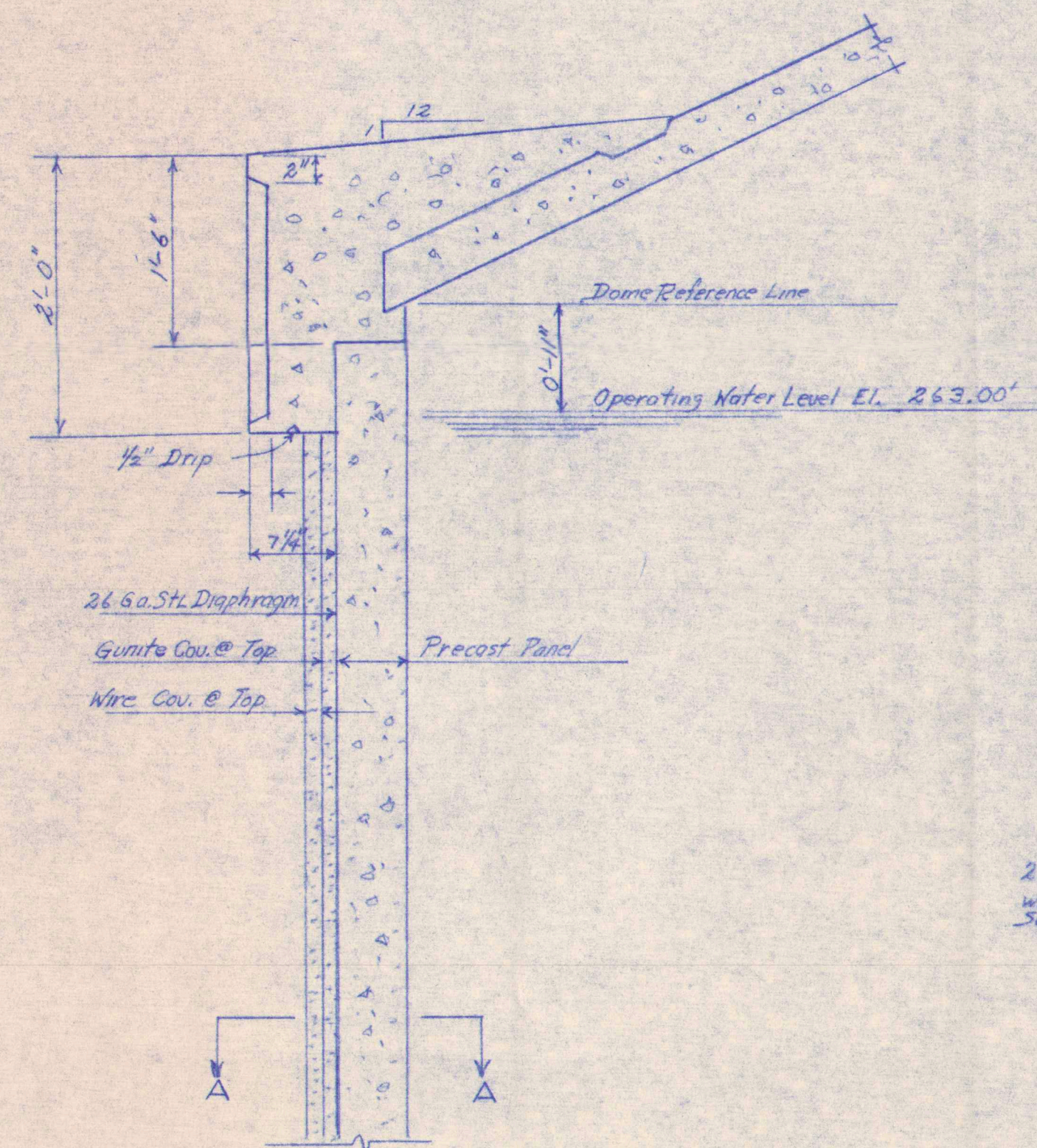


PILASTER DETAIL  
NOT TO SCALE

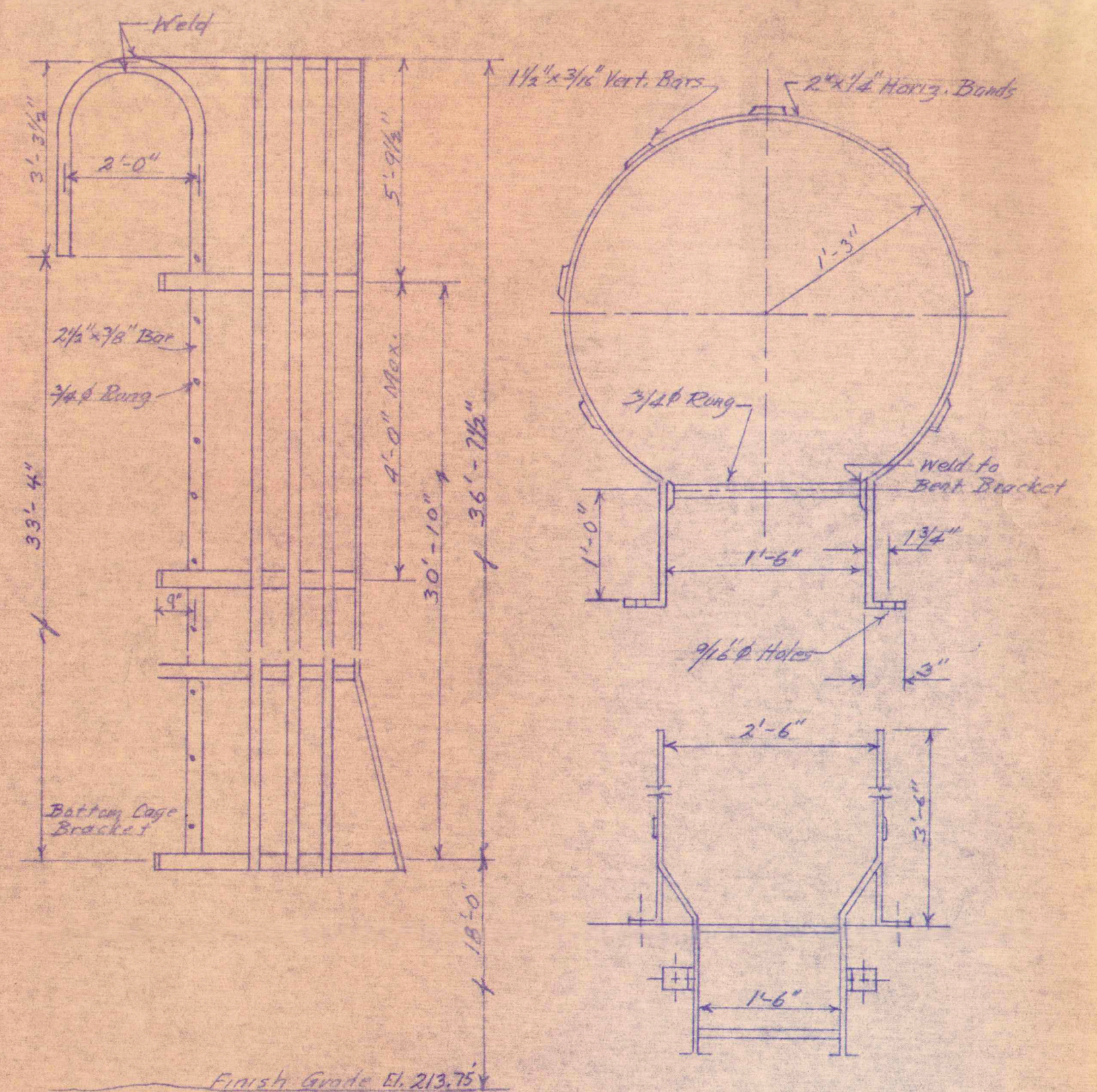


SITE PLAN  
SCALE 1"=20'

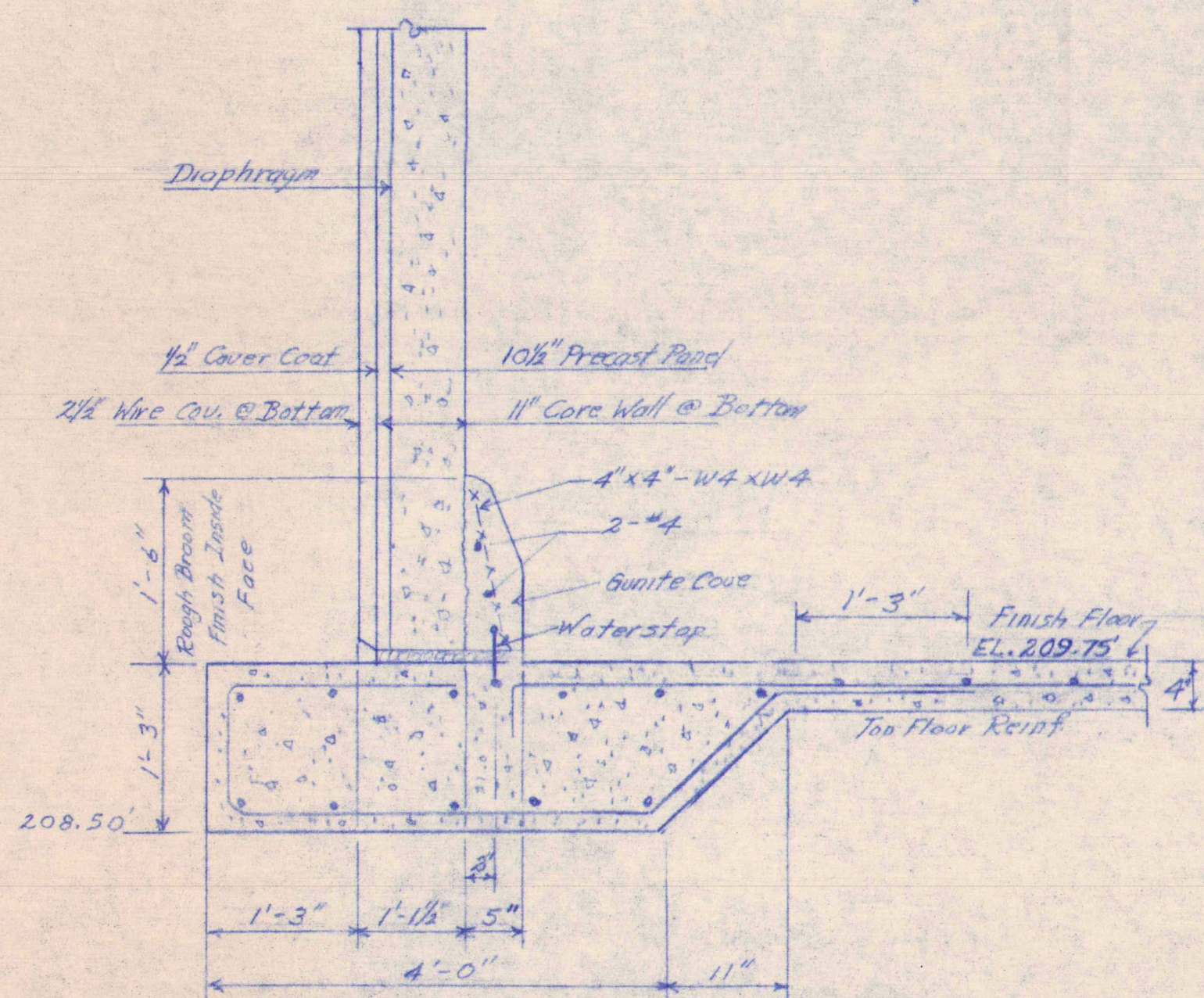
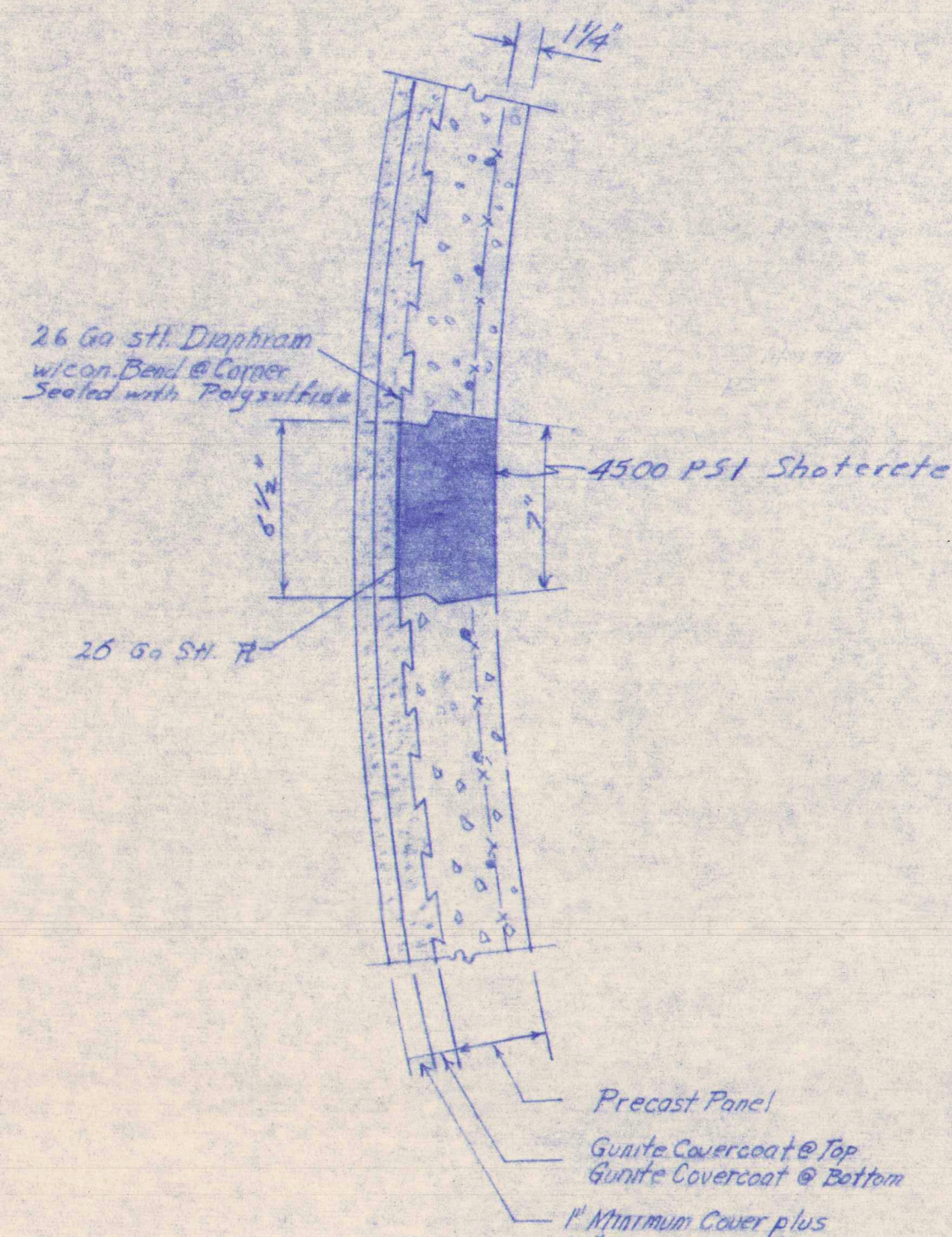
		CUMBERLAND FORESIDE RESERVOIR	
		RESERVOIR PLAN/DETAILS	
		PORTLAND WATER DISTRICT 225 DOUGLASS STREET PORTLAND, MAINE, 04104	
STATUS	DESIGN	J.C.H.	CHECK J.C.H.
	DRAWN	TEE	APPROVED Jch
FIELD BOOK SCALE		DATE	3 OF 8



OVERFLOW  
NOT TO SCALE

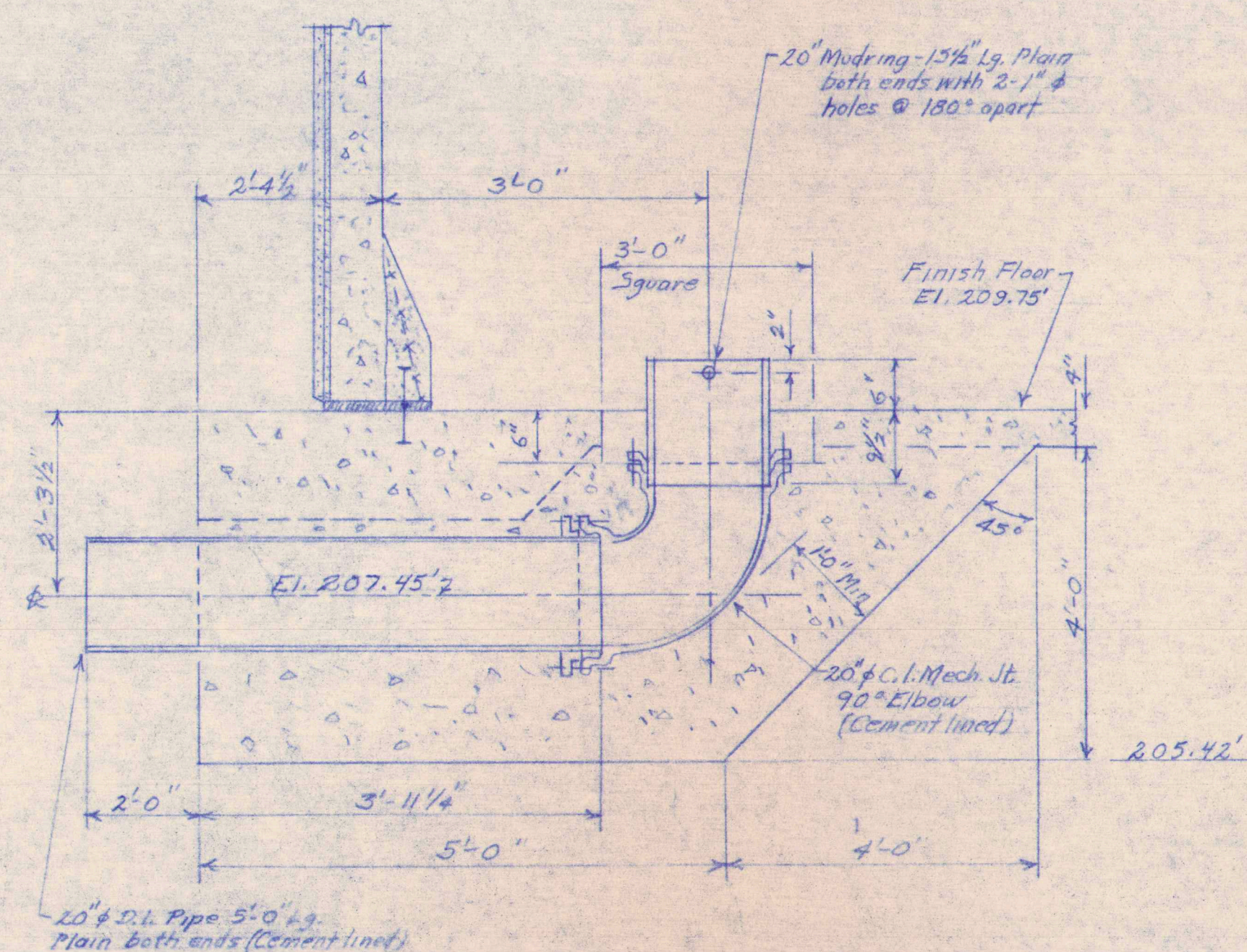


LADDER DETAIL WITH CAGE  
NOT TO SCALE

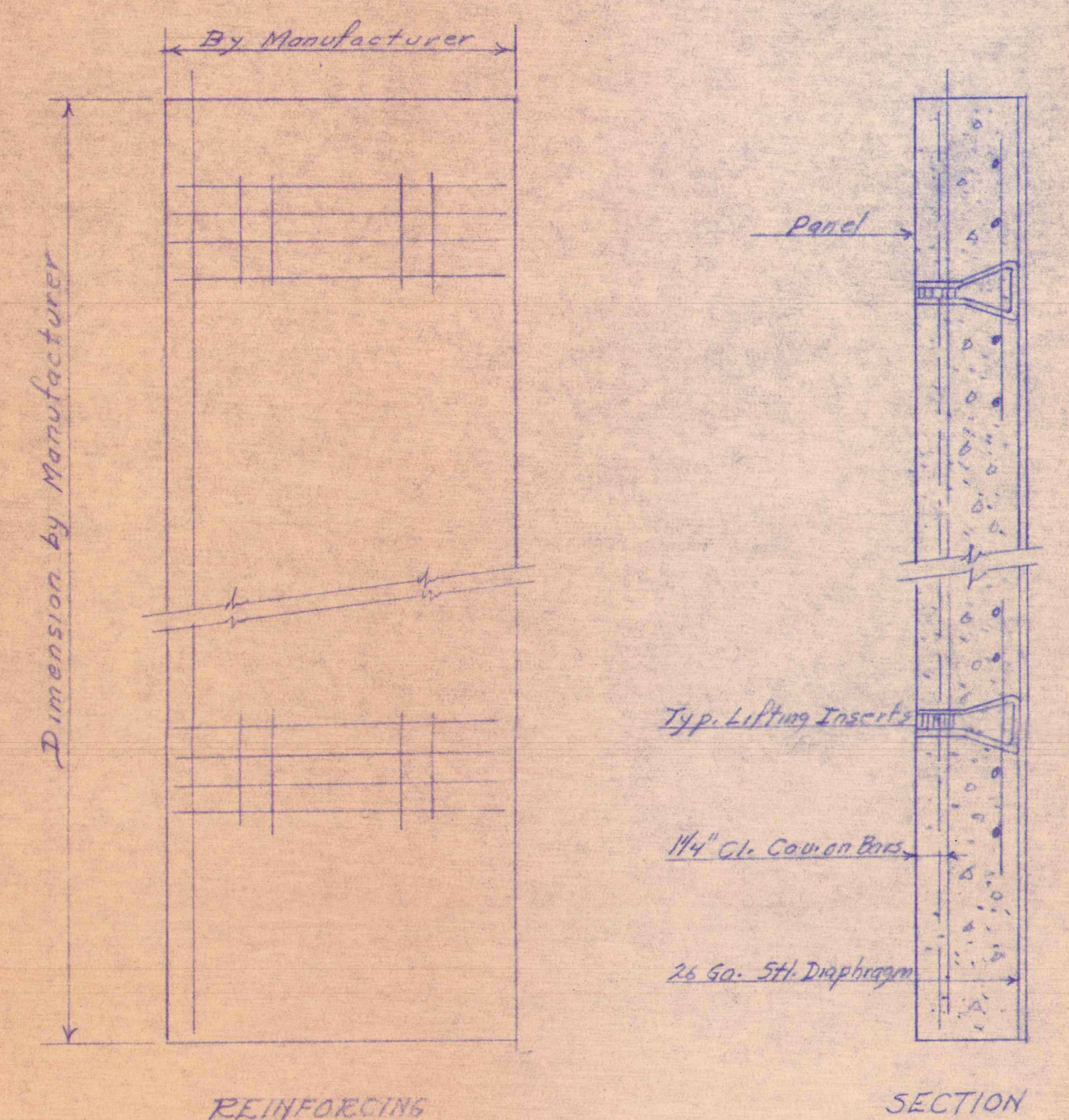


NOTE:  
2-9'4" x 125" Lg 40 Disconnector Rubber Pads @ each Wall Panel,  
9" Continuous Waterstop, with 1"x3" Cont. Sponge Filler Pads inside Waterstop,  
1"x2" Continuous Sponge Filler Pads outside Waterstop,  
12"x1"x12" Sponge Filler Pad between Rubber Pads @ Wall Joint  
Wall Thickness & Reinforcing Steel Size & Spacing by Contractor

TYPICAL WALL SECTION  
NOT TO SCALE

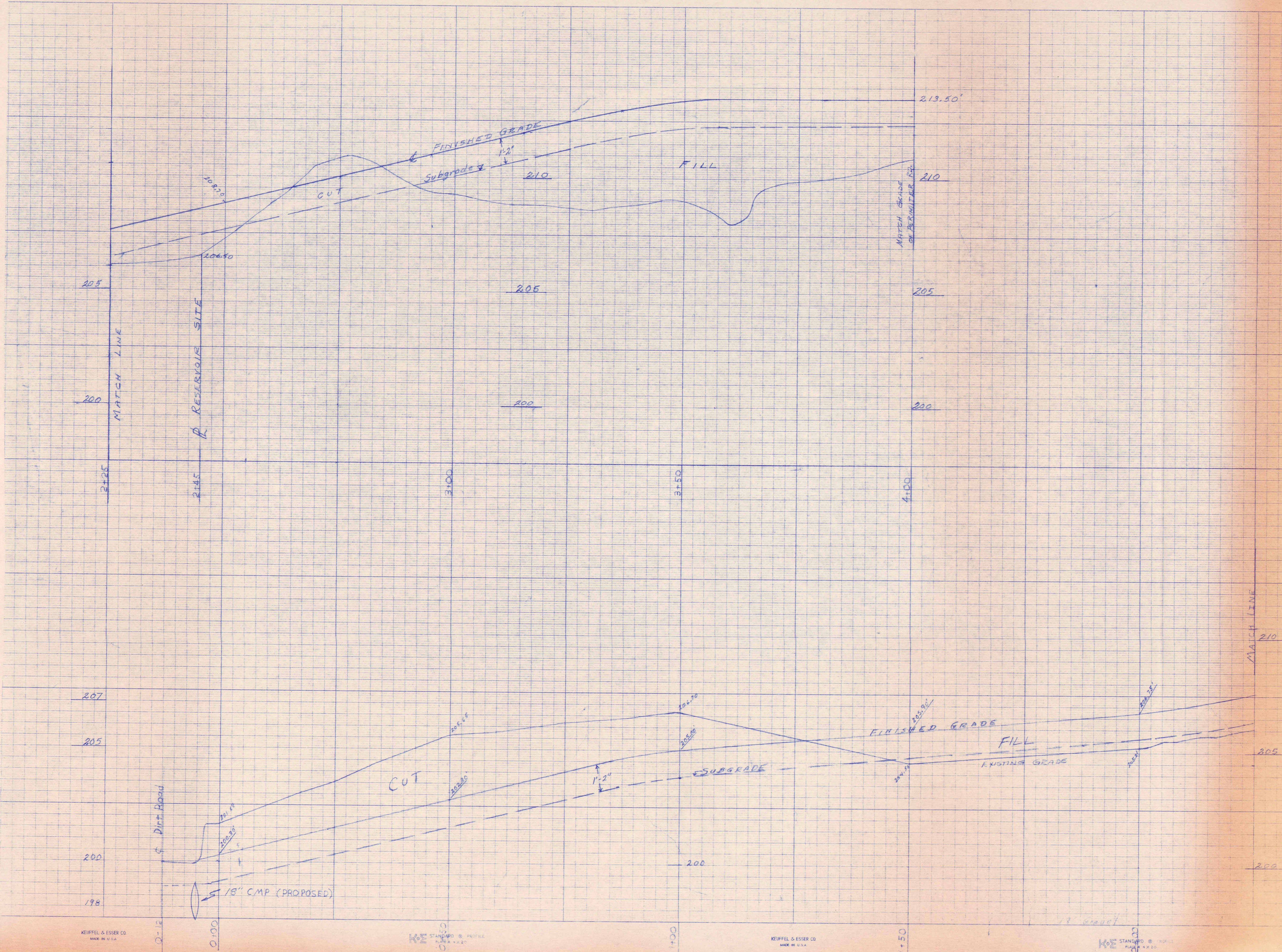


INLET-OUTLET  
NOT TO SCALE



WALL PANEL  
NOT TO SCALE

GUMBERLAND FORESIDE RESERVOIR	
RESERVOIR DETAILS	
PORTLAND WATER DISTRICT 225 DOUGLASS STREET PORTLAND, MAINE, 04104	
DESIGN JCH	CHECK JCH
DRAWN TEE	APPROVED JCH
STATUS	DATE
FIELD BOOK SCALE	4 OF 8



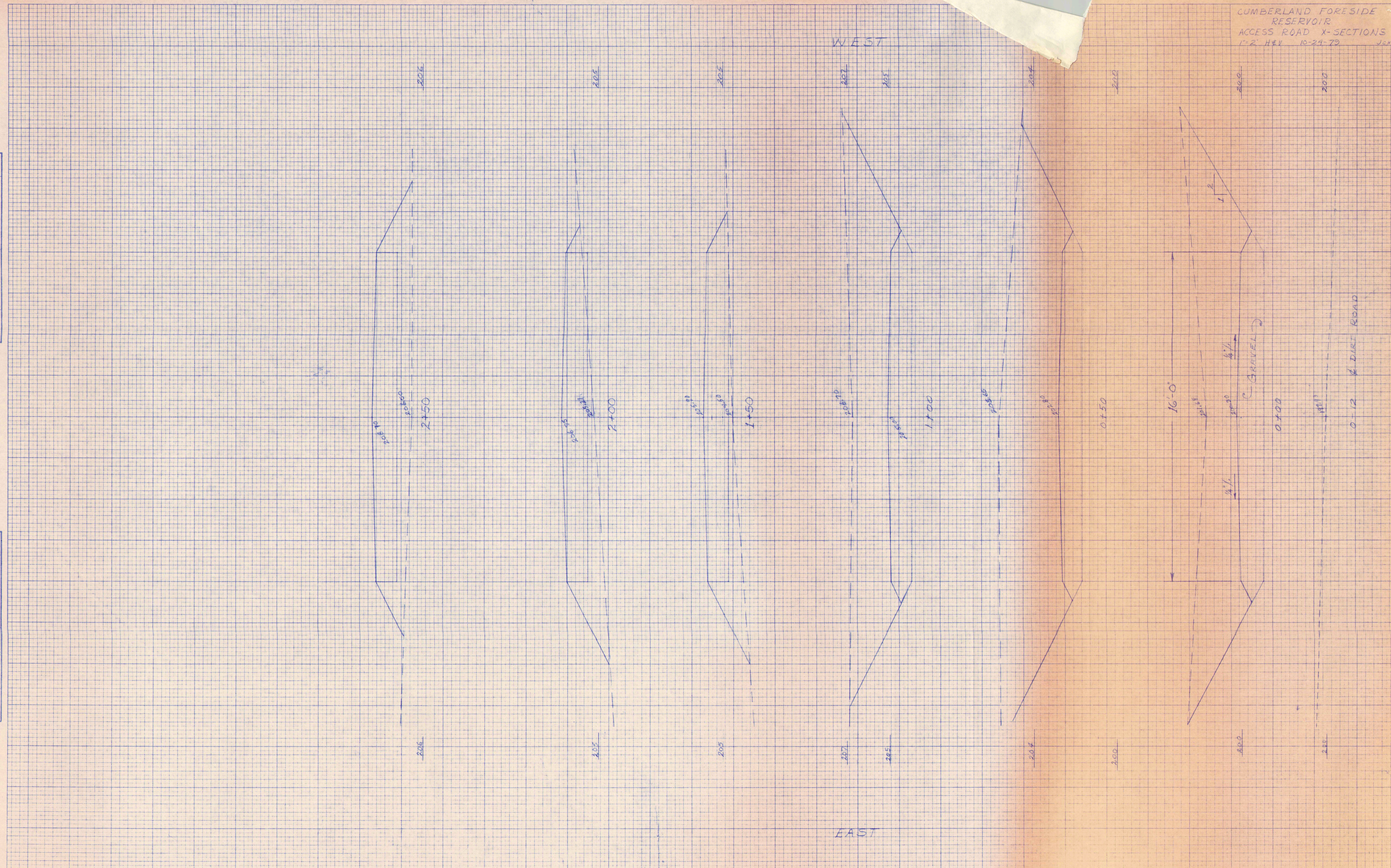
NOTE: WORK TO SUBGRADE BY OWNER; WORK TO FINISH GRADE BY CONTRACTOR

CUMBERLAND FORESIDE RESERVOIR	
PROPOSED ACCESS ROAD CENTERLINE PROFILE	
PORTLAND WATER DISTRICT 225 DOUGLASS STREET PORTLAND, MAINE, 04104	
DESIGN K. KERN	CHECK JH
DRAWN W. PEDNAULT	APPROVED JH
125-44	DATE 6-29-79
FIELD BOOK SCALE	5 OF 8

FINAL	SURVEYED	BY	DATE
SURVEY	PLOTTED		
NOTE BOOK	TEMP. DATE		
NO.	AREAS CHECKED		

ORIGINAL	SURVEYED	BY	DATE
SURVEY	PLOTTED		
NOTE BOOK	TEMP. DATE		
NO.	AREAS CHECKED		

CUMBERLAND FORESIDE  
RESERVOIR  
ACCESS ROAD X-SECTIONS  
1"=2' H&V 10-29-79 JCH

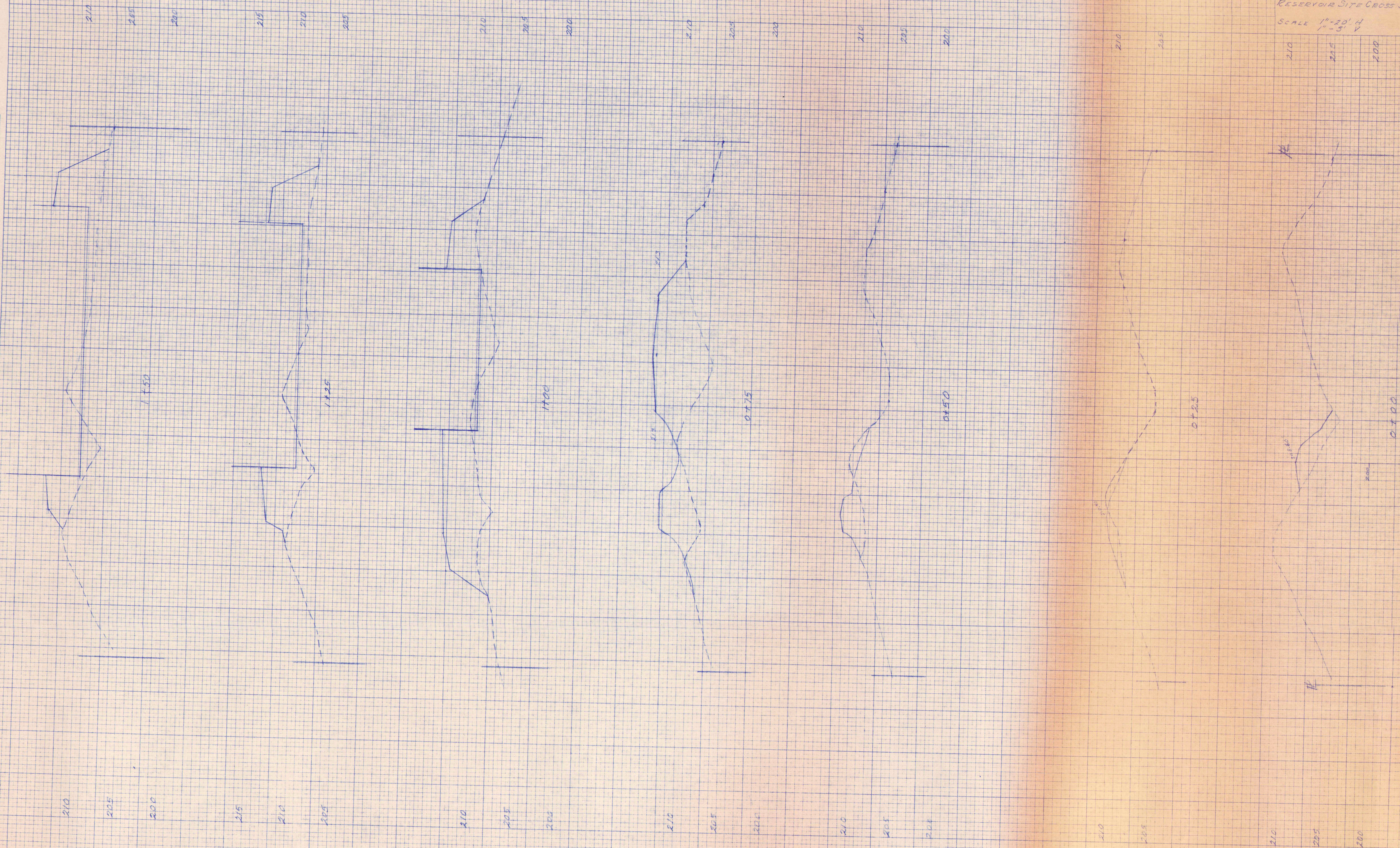


HIGHWAY FEDERAL AID SHEET  
PLATE 3-FULL CROSS SECTION-FULL LINE  
FIELDING  
PRINTED IN U.S.A.

SHEET 6 OF 8

ORIGINAL	SURVEYED	DATE
SURVEY	PLOTTED	BY
NOTE BOOK	TEMPLATE	
NO.	AREAS CHECKED	

FINAL	SURVEYED	DATE
SURVEY	PLOTTED	BY
NOTE BOOK	TEMPLATE	
NO.	AREAS CHECKED	



FINAL SURVEY	SURVEYED	BY	DATE
	PLOTTED		
	NOTE BOOK TEMPLATE		
	NO.		
AREAS CHECKED			

ORIGINAL SURVEY	SURVEYED	BY	DATE
	PLOTTED		
	NOTE BOOK TEMPLATE		
	NO.		
AREAS CHECKED			

# RESERVOIR SITE CROSS SECTIONS

SCALE 1"=20' H  
1"=5' V

10-25-79  
REVISED 1-2-80

NOTE  
EXISTING GROUND LINE  
PROPOSED GROUND LINE

215 210 205 200 210 205 200 210 205 200

215 210 205 200 210 205 200 210 205 200

215 210 205 200 210 205 200 210 205 200