

RECORD DRAWINGS

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- E5 ELECTRICAL DETAILS
- E6 ELECTRICAL WIRING DIAGRAMS
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RAW WATER INTAKE STRUCTURE

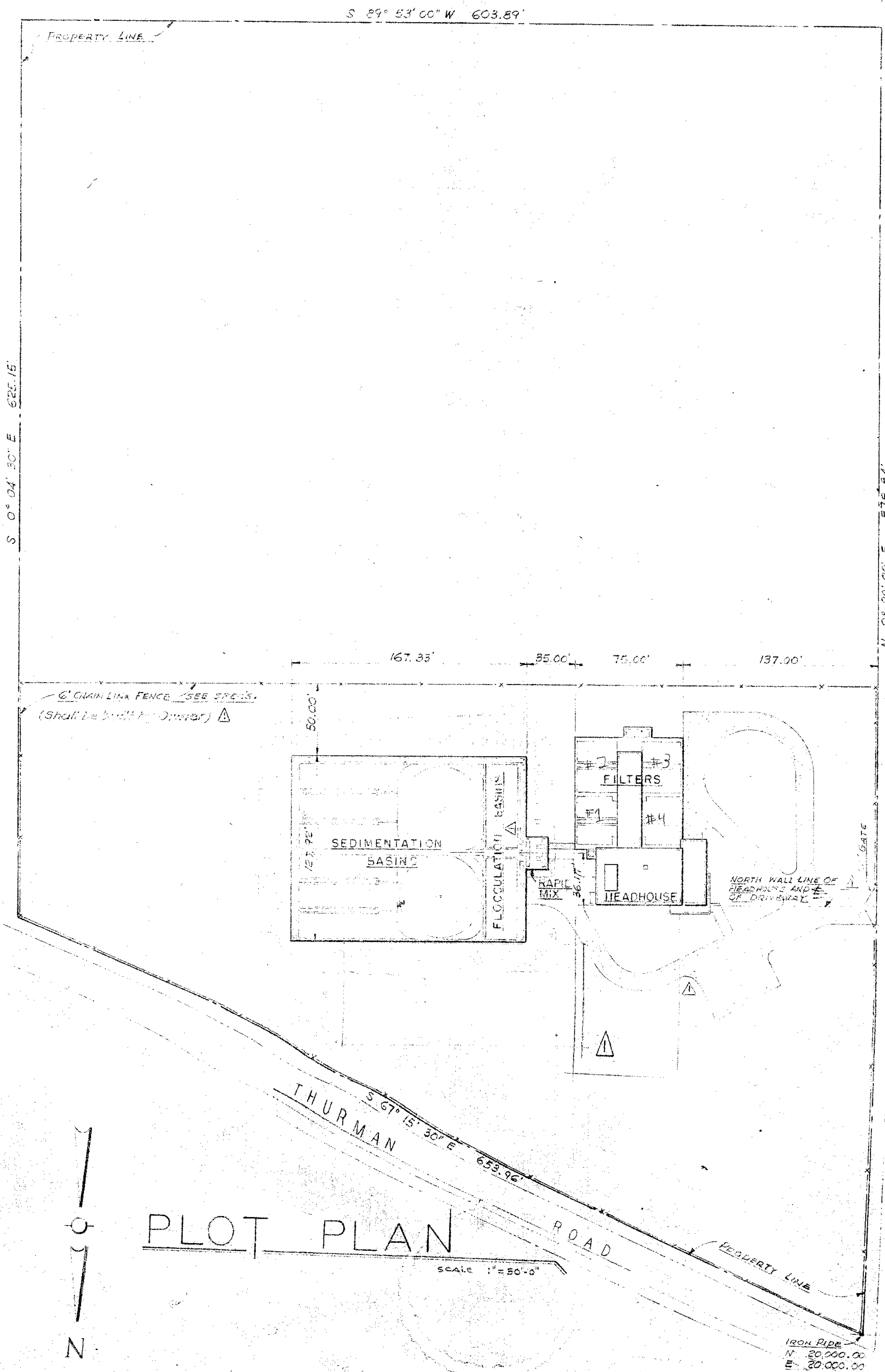
- CI-1 ARCHITECTURAL ELEVATIONS
- CI-2 ARCHITECTURAL DETAILS
- CI-3 CONCRETE OUTLINE-PLANS
- CI-4 CONCRETE OUTLINE-SECTIONS & REINFORCEMENT DETAILS
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DIVISION STREET PUMPING STATION

- C3-1 ARCHITECTURAL ELEVATIONS & VALVE BOX
- C3-2 STRUCTURAL DETAILS
- C3-3 PLOT PLAN-DRYWELL & ELECTRICAL DIAGRAM
- C3-4 PIPING LAYOUT & ELECTRICAL LAYOUT
- C3-5 CROSS SECTION & DETAILS

PIPE LINE WORK

- C4-1 STA. 147+00 TO STA. 162+79±
- C4-2 STA. 132+00 TO STA. 147+00
- C4-3 STA. 117+00 TO STA. 132+00
- C4-4 STA. 102+00 TO STA. 117+00
- C4-5 STA. 87+00 TO STA. 102+00
- C4-6 STA. 70+00 TO STA. 87+00
- C4-7 STA. 55+00 TO STA. 70+00
- C4-8 STA. 40+00 TO STA. 55+00
- C4-9 STA. 25+00 TO STA. 40+00
- C4-10 STA. 10+00 TO STA. 25+00
- C4-11 STA. 0+00 TO STA. 10+00
- C4-12 INTAKE TO TREATMENT PLANT

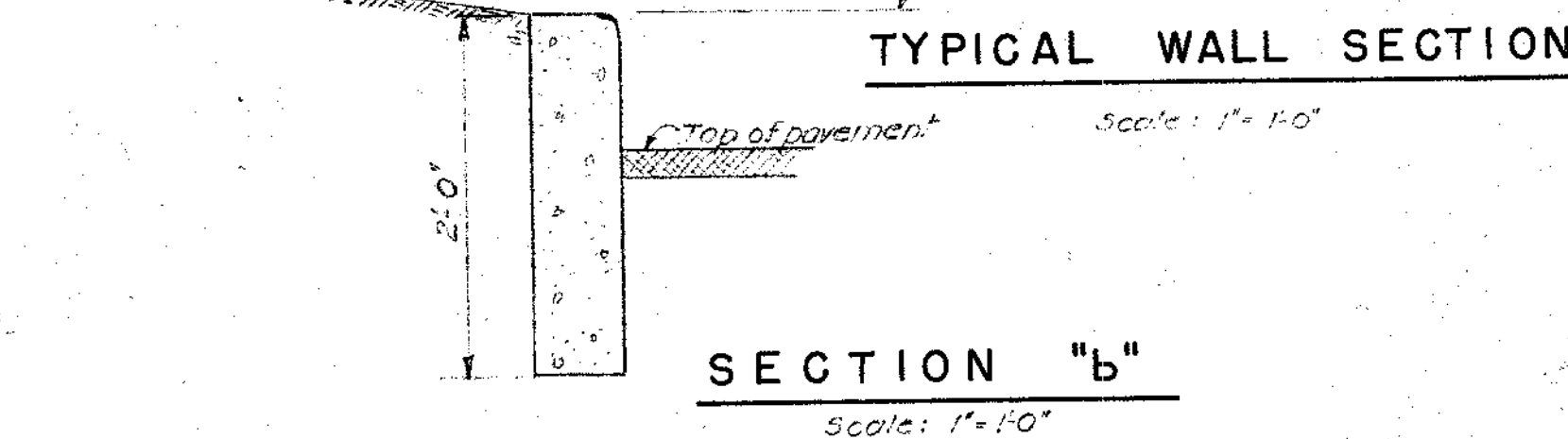
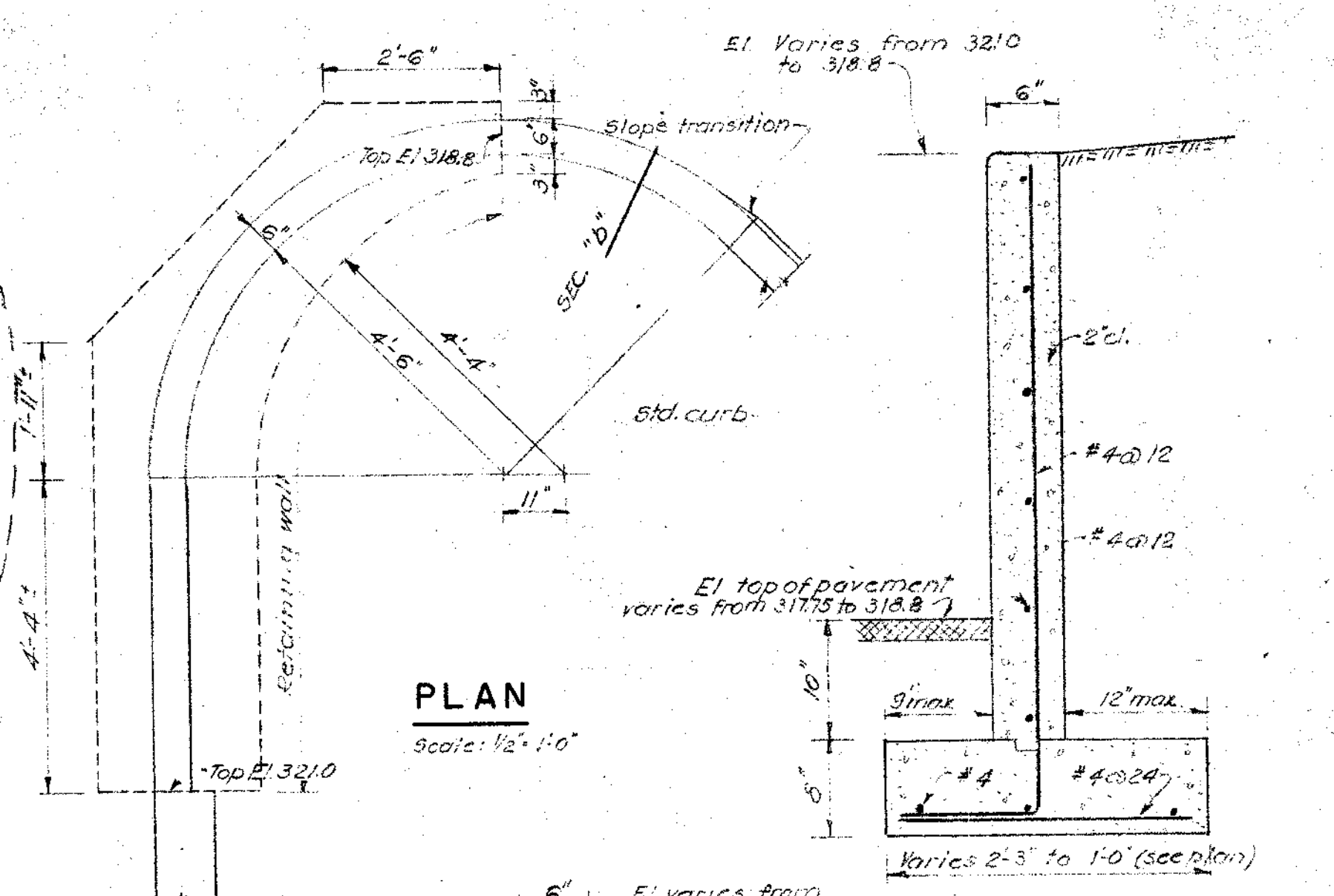
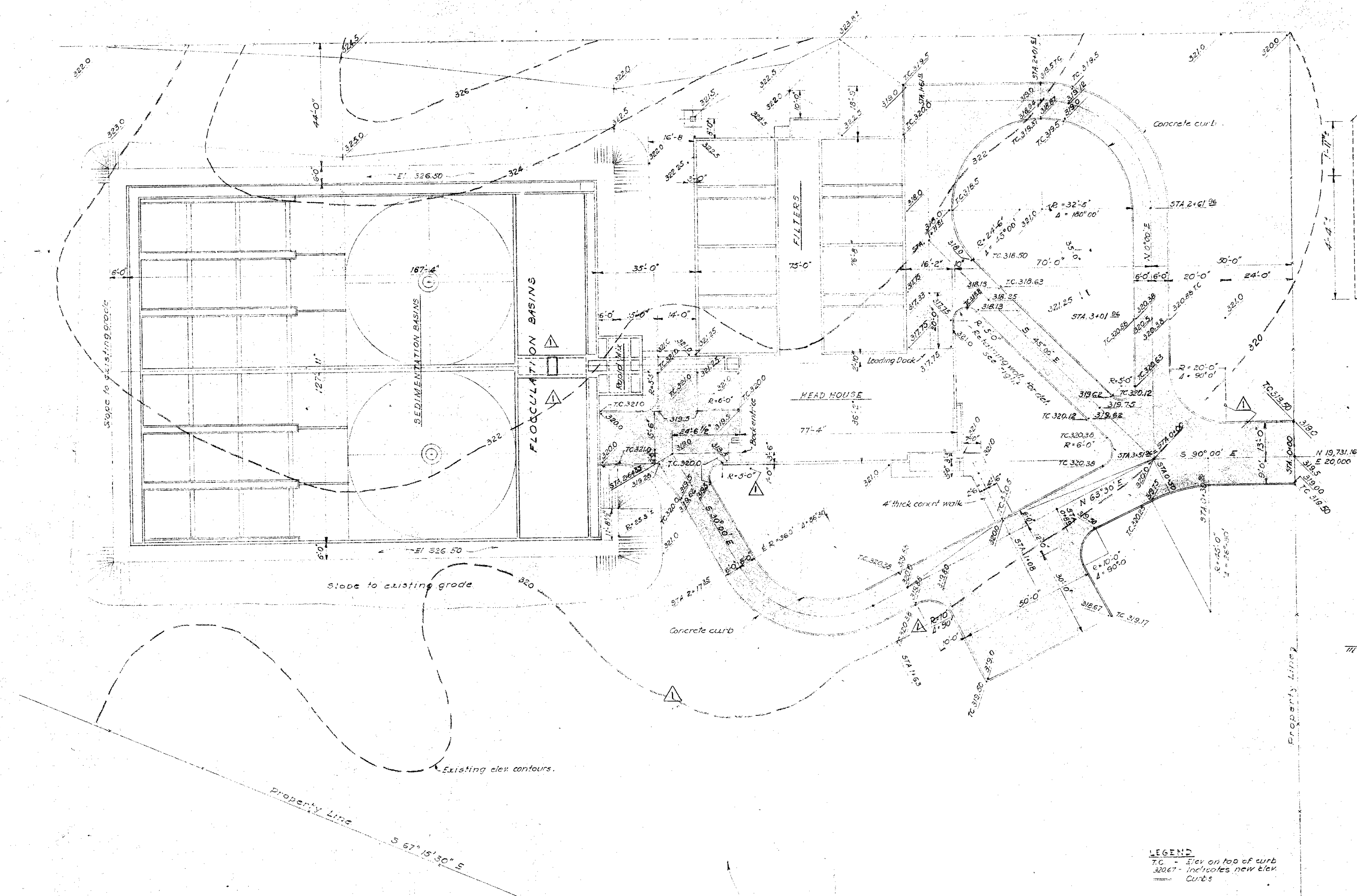


PLOT PLAN

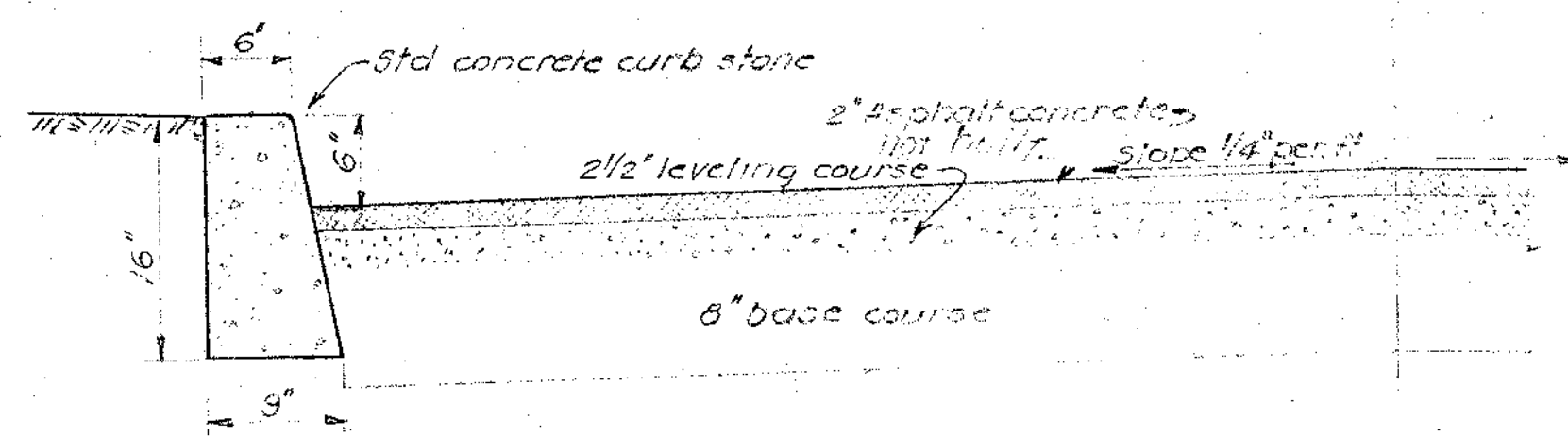
SCALE 1"=50'-0"

DESIGNED BY		APPROVED BY	
DRAWN BY		SCALE	
CHECKED BY		DATE	

STEVENS & THOMPSON
2234 S. W. FIFTH AVENUE
OREGON CITY - WY
WATER SUPPLY P.
SOUTH FORK WATER
WATER PURIFICATION W.
PLOT PLAN
& INDEX TO DRAWING



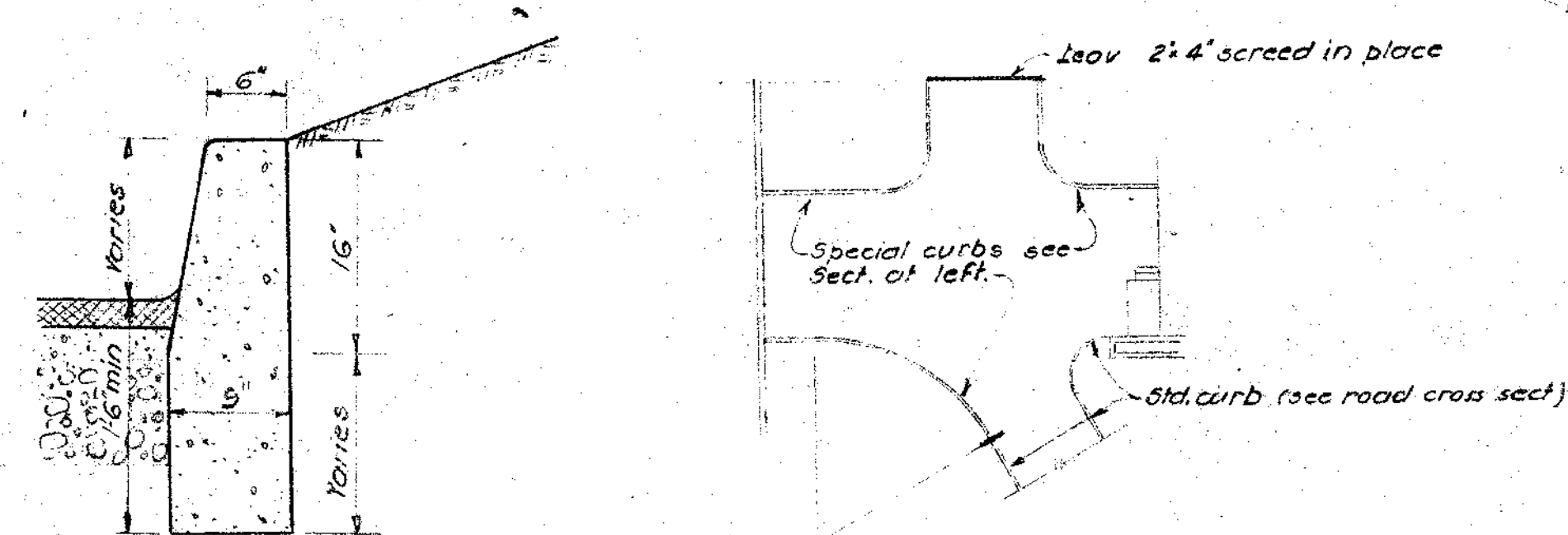
DETAILS OF RETAINING WALL AT LOADING DOCK



TYPICAL ROAD CROSS-SECTION

LEGEND
T.C. - Elev on top of curb
320.67 - Indicates new elev. Curb

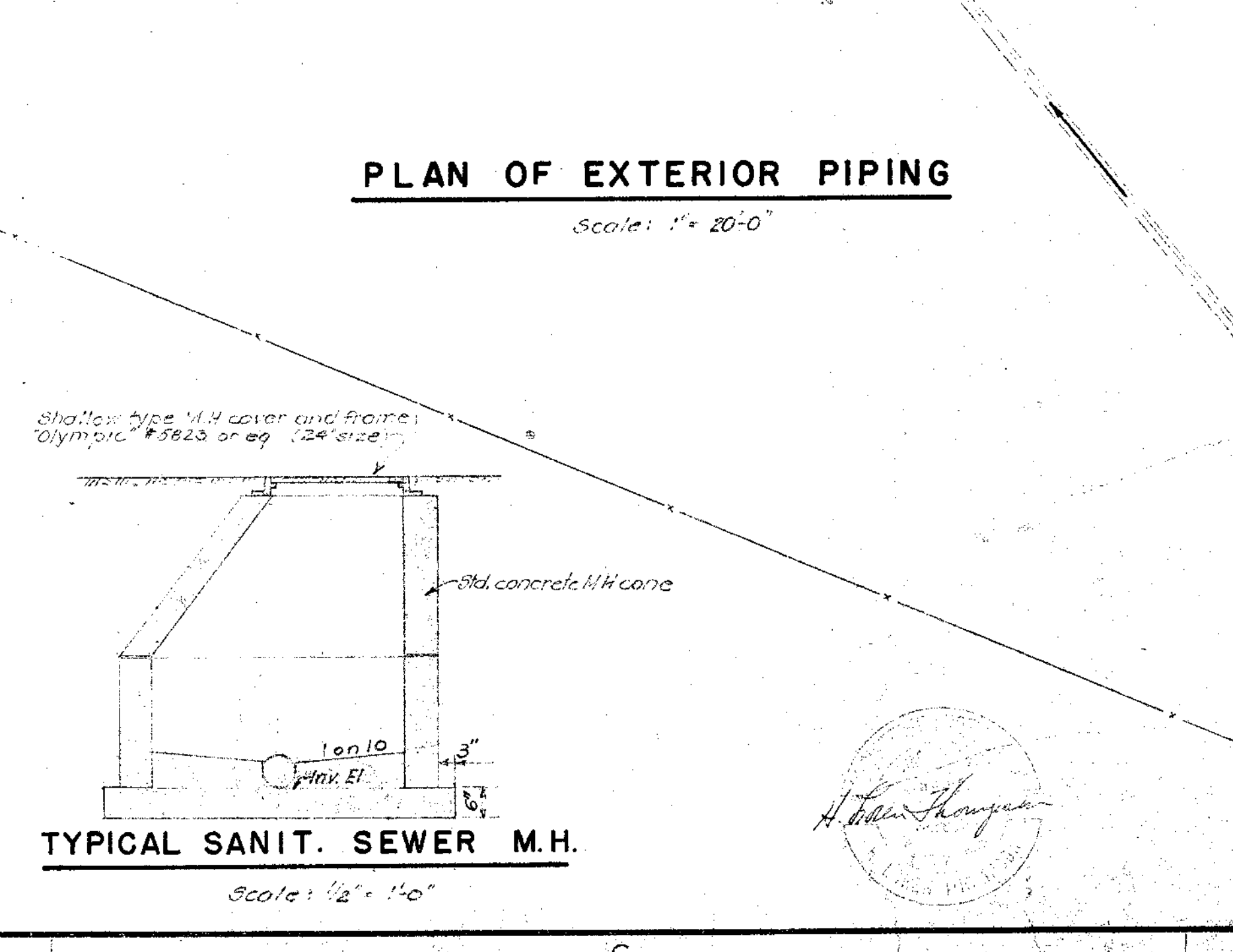
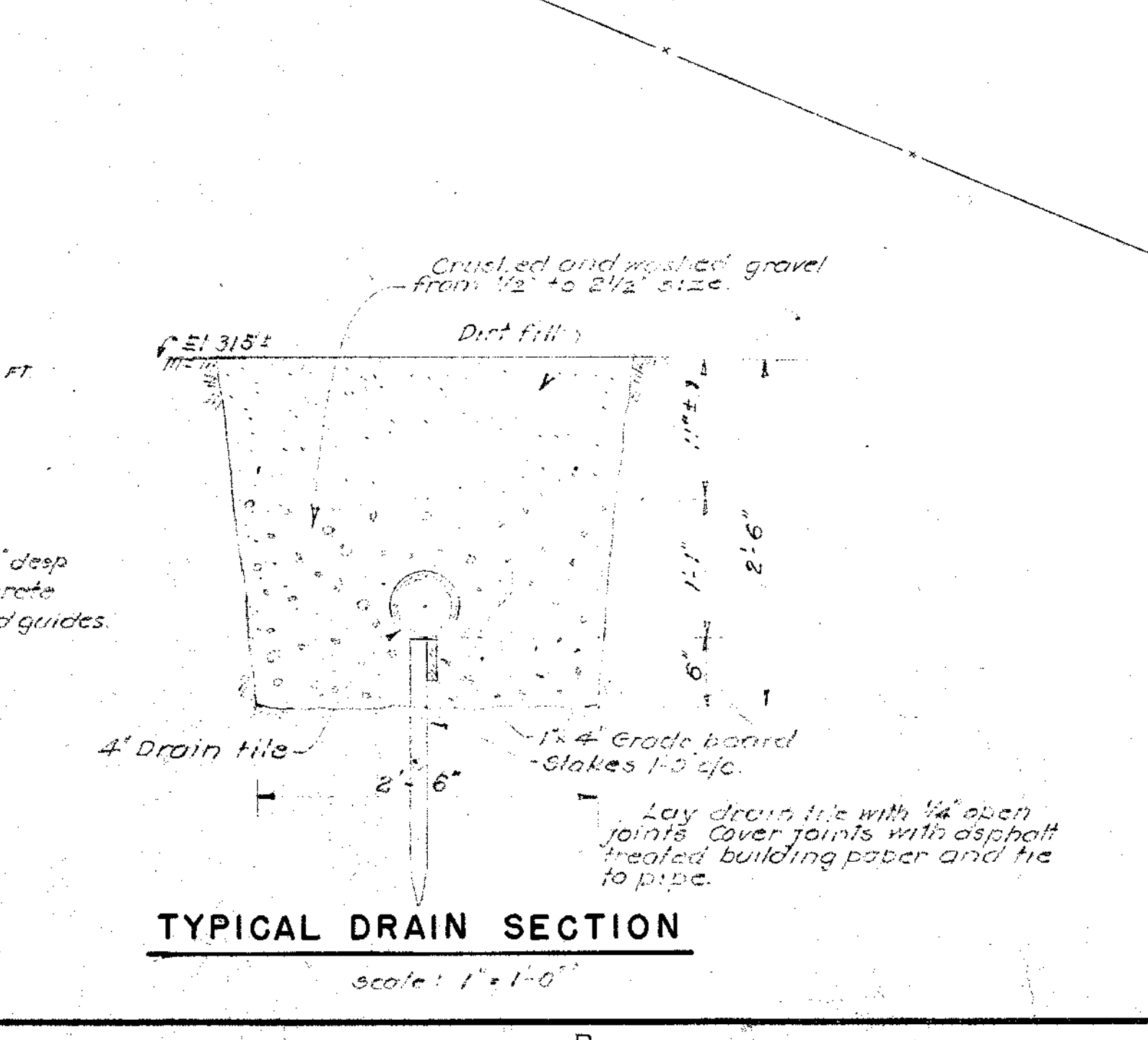
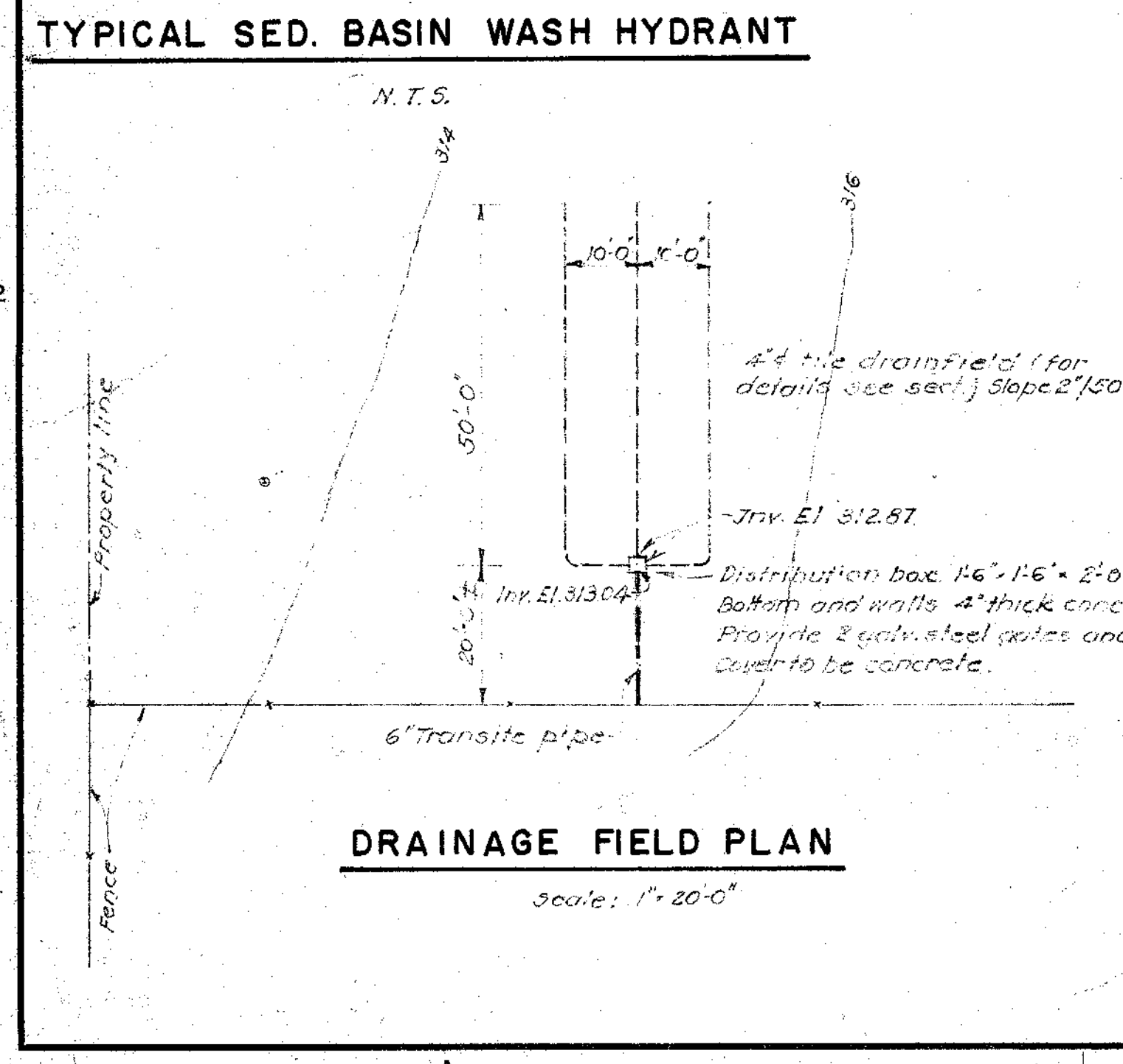
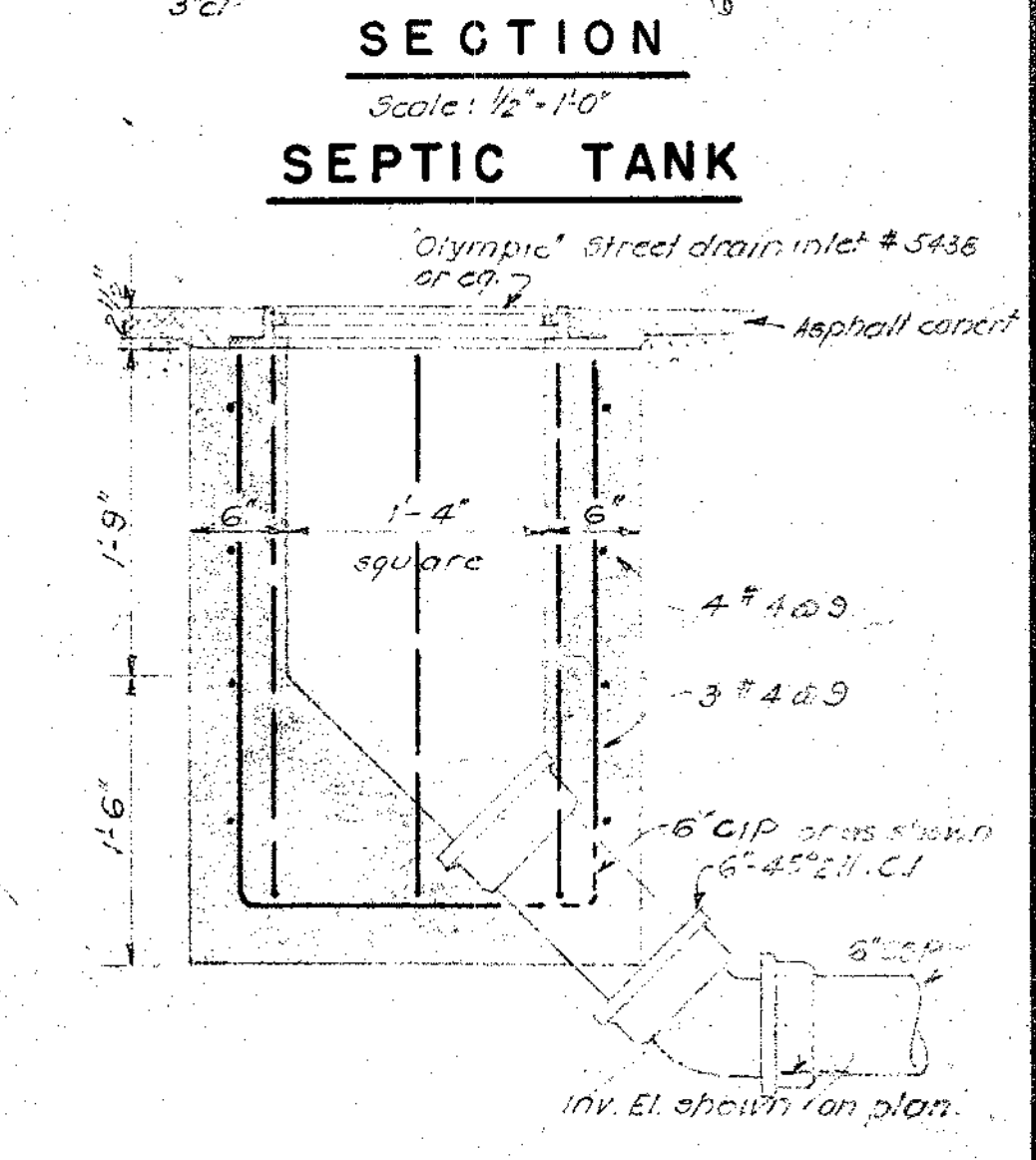
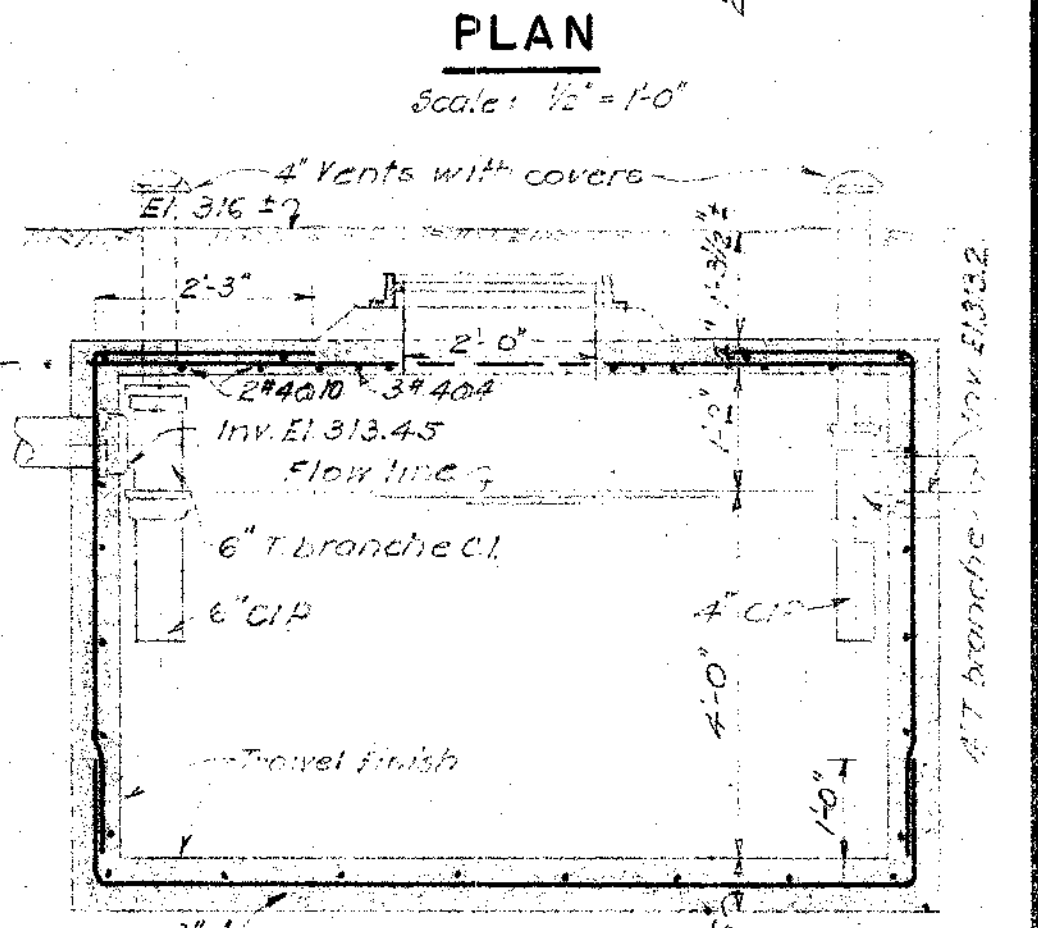
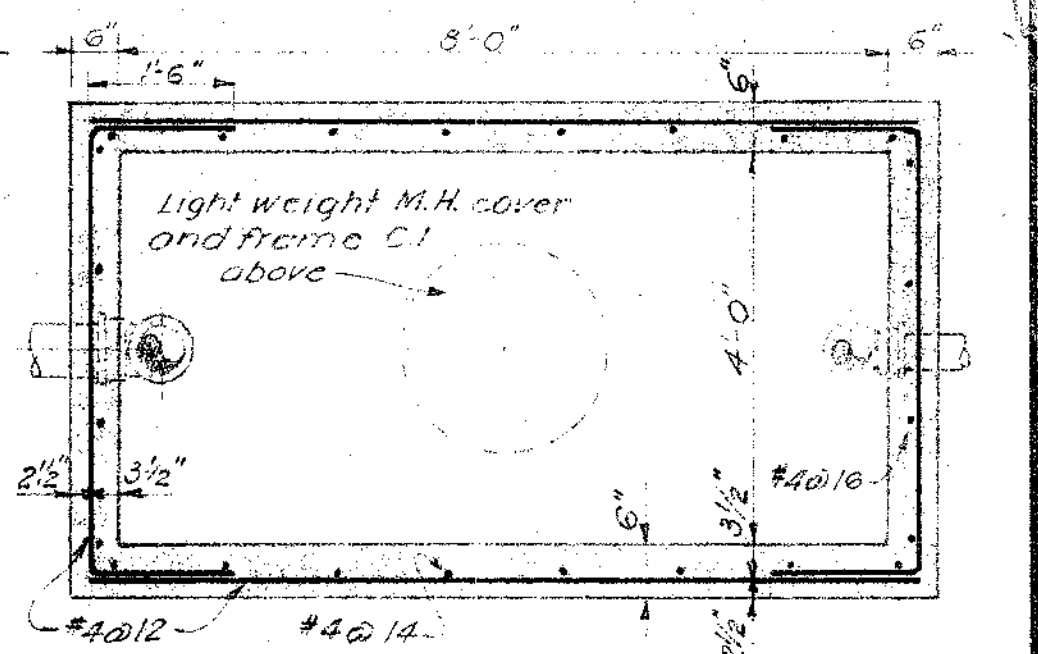
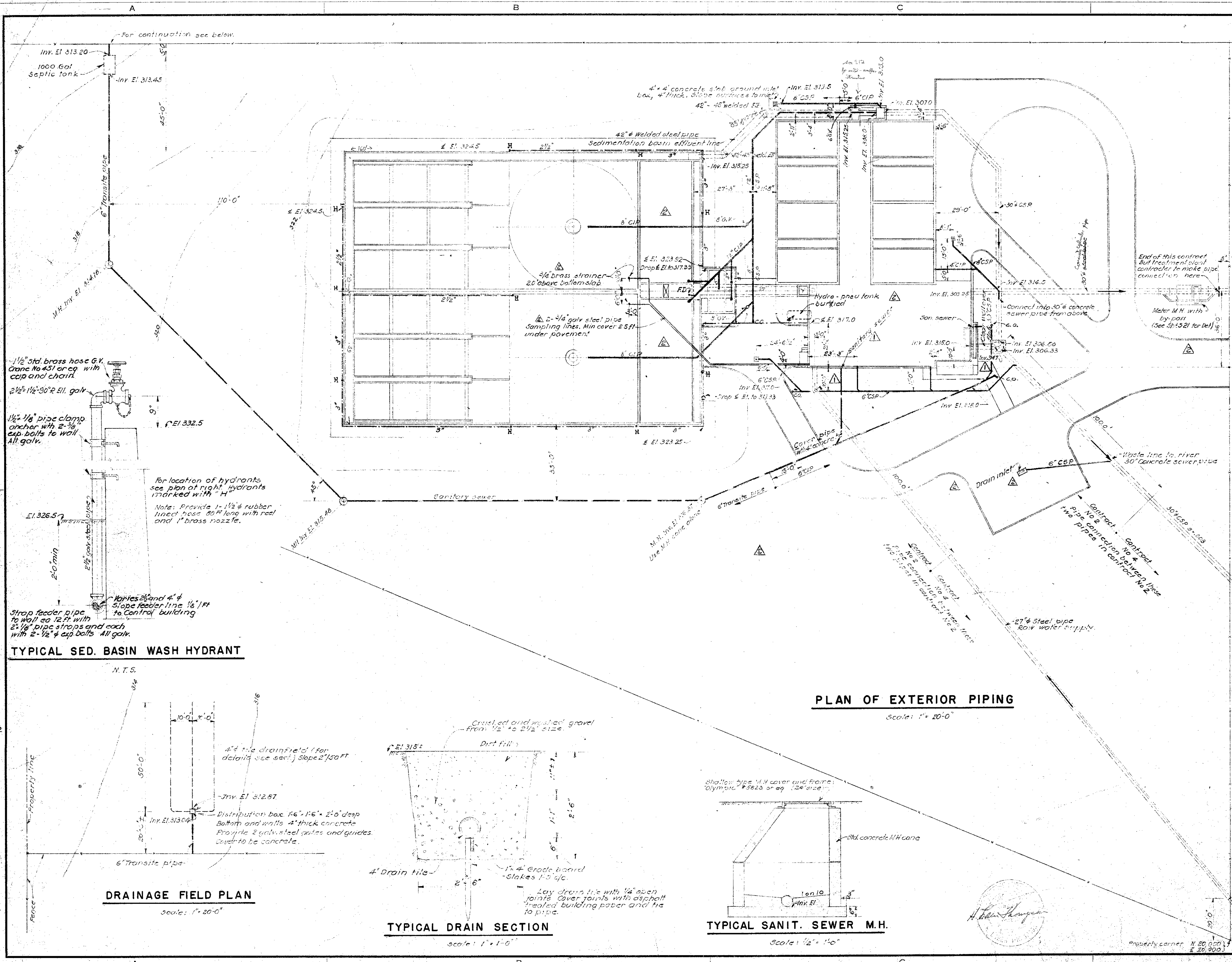
NOTE:
Part of excess excavation to be disposed here, filling up this area to uniform grade as directed by Eng. Additional excess excavation to be moved to S.E. corner of property and disposed there according to directions of Eng. Topsoil of disposed areas to be removed prior of filling. Provide contraction joints for concrete curb's approx every 10'.



GRADING AND PAVEMENT PLAN

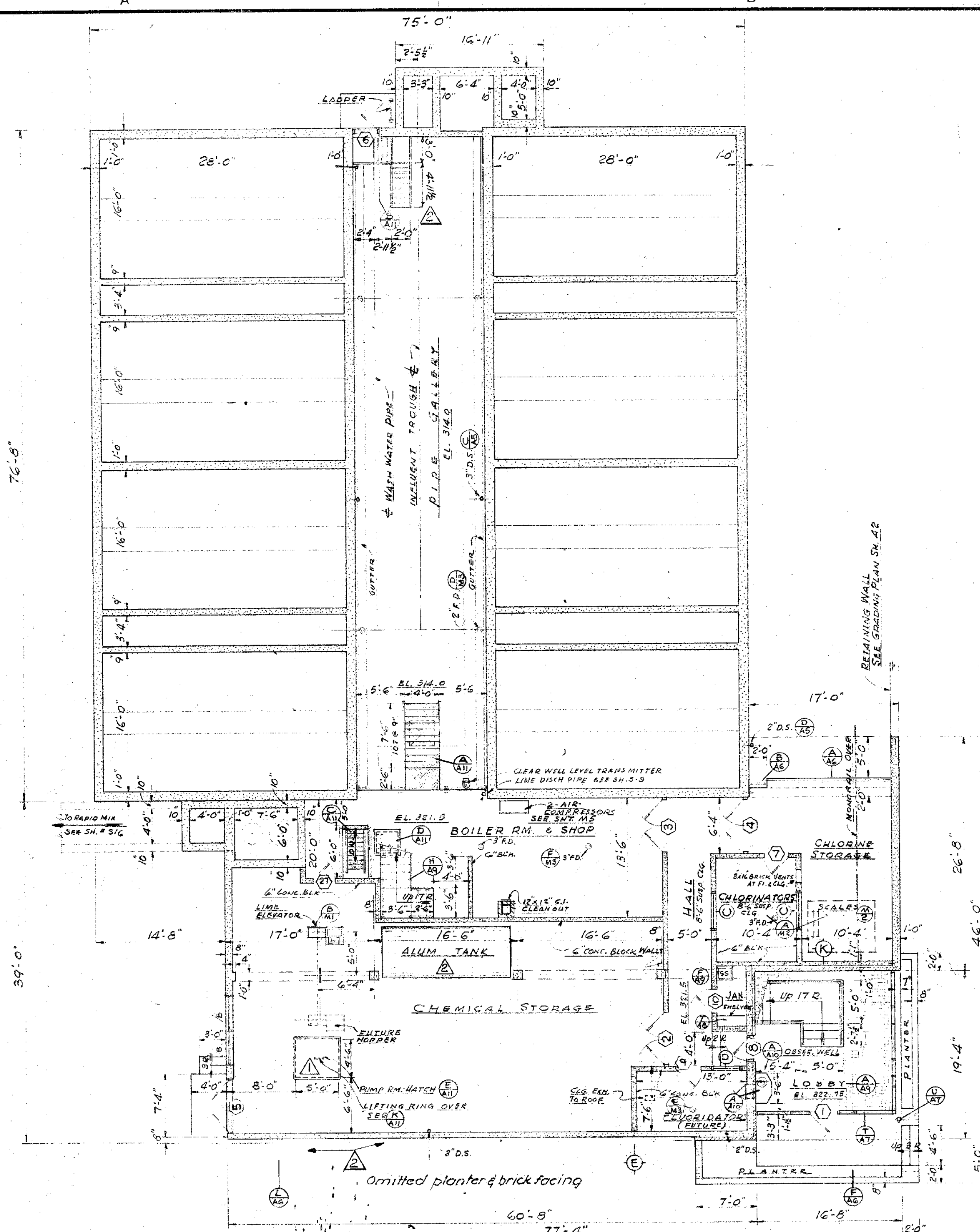
Scale: 1" = 20'-0"

5-29-58	As built	REVISION	DATE	NO.	BY
STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON OREGON CITY - WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD WATER PURIFICATION WORKS ROADS & GRADING					
DESIGNED	F.F.H.	APPROVED BY	DATE	8-1-57	FILE 1160-3029
DRAWN	F.F.H.	SCALE	AS SHOWN		
CHECKED	H.L.T.				
SHEET 77					



REVISION			
DATE	NO.	REVISION	BY
5-29-59	1	As built	ATG
11-1-57	2	Sanitary sewer relocated	Jmh

STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON	
OREGON CITY - WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD WATER PURIFICATION WORKS	
OUTSIDE PIPING	
DESIGNED F. F. H.	APPROVED BY H. L. T.
DRAWN F. F. H.	SCALE AS SHOWN
CHECKED H. L. T.	DATE 8-1-57
SHEET A3 OF 77	



FIRST FLOOR

LEGEND

CONCRETE

CONCRETE BLOCK

FACE BRICK

STRUCTURAL GLAZED TILE

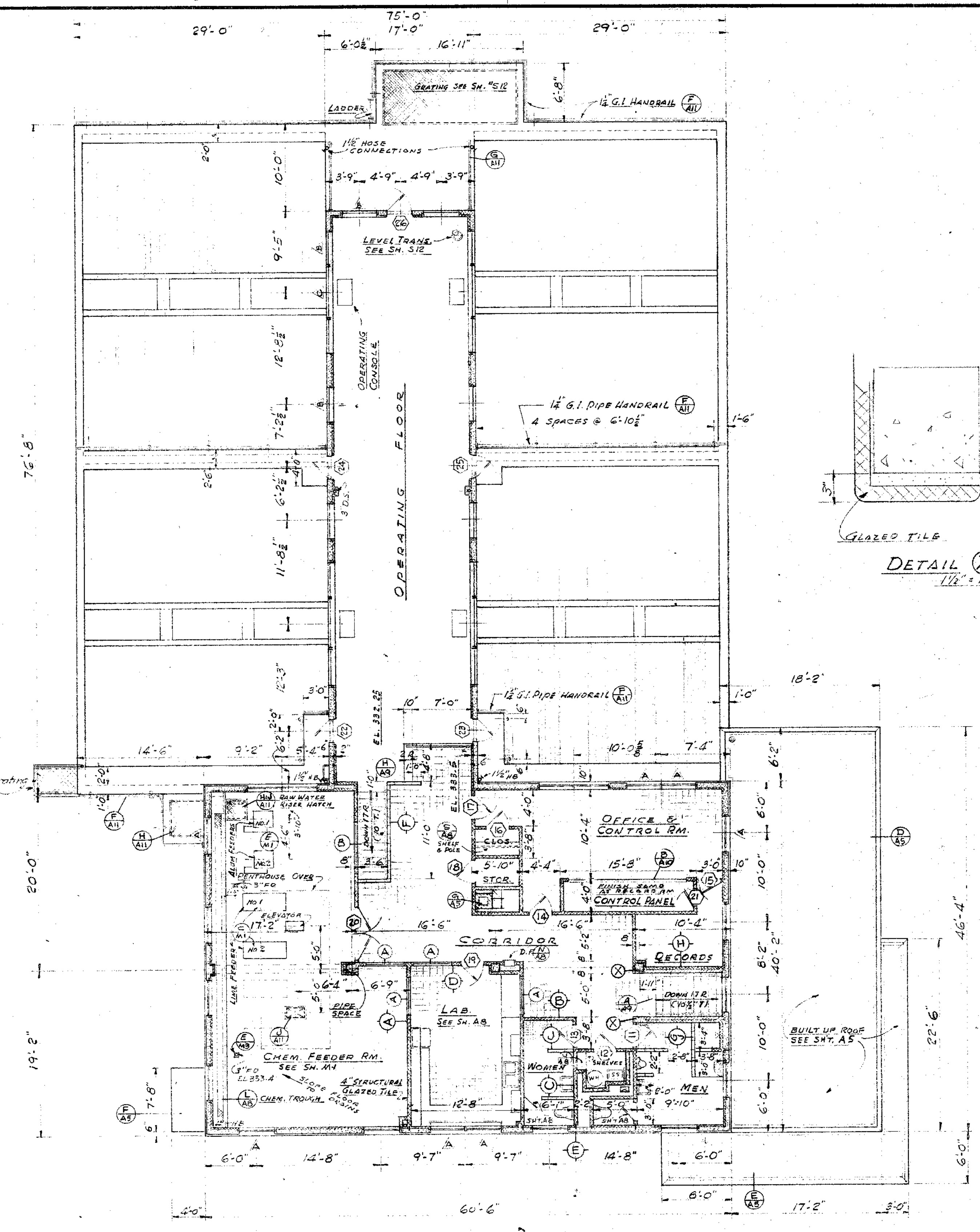
EXTERIOR WINDOWS
SEE SH. AT FOR DETAILS

DOOR NUMBER
SEE SH. AT FOR DETAILS

INTERIOR WINDOWS
SEE SH. AT FOR DETAILS

INTERIOR WALL DETAILS
SEE SH. AT FOR DETAILS

DETAIL DESIGNATION
DRAWING NUMBER



SECOND FLOOR

5-29-59
12-27-57
DATE NO.

As built
PUMP ROOM HATCH RELOCATED
REVISION

ATC
JMH
BY

STEVENS & THOMPSON Consulting Engineers
2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON

OREGON CITY - WEST LINN
WATER SUPPLY PROJECT
SOUTH FORK WATER BOARD

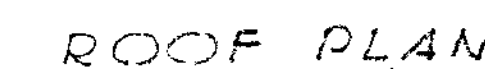
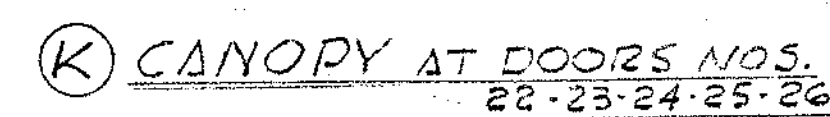
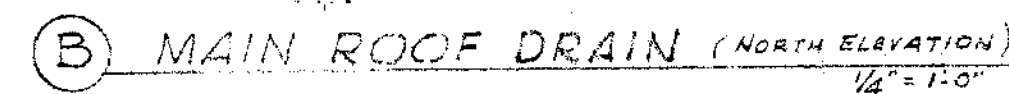
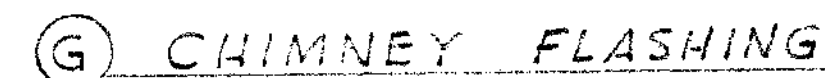
WATER PURIFICATION WORKS
HEADHOUSE & FILTERS
FIRST & SECOND FLOOR PLANS

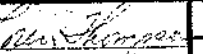
DESIGNED JMH
DRAWN JMH PLK
CHECKED JMH

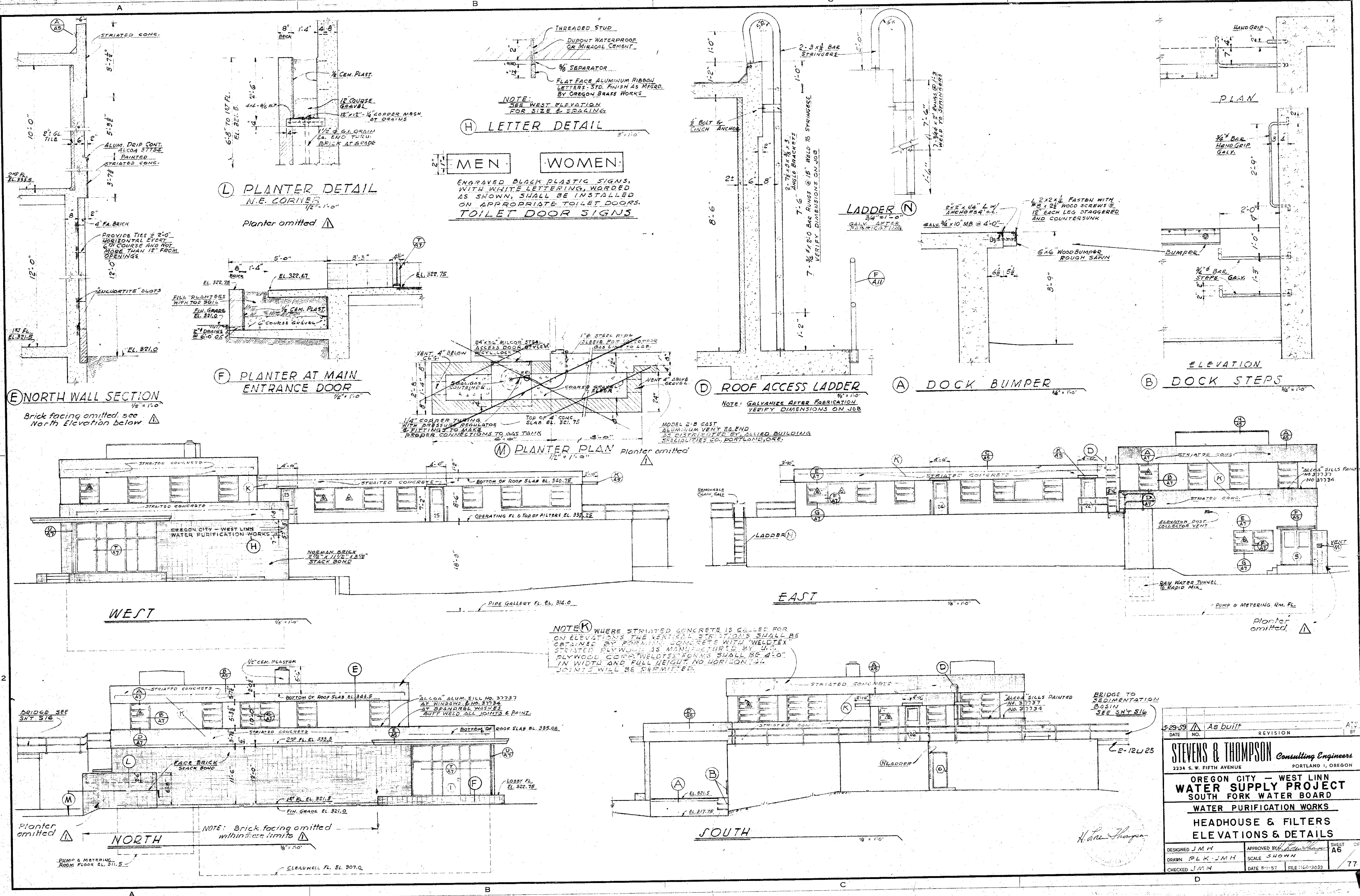
APPROVED BY J. L. Thompson
SCALE As noted
DATE 8-1-57

FILE 1160-5051

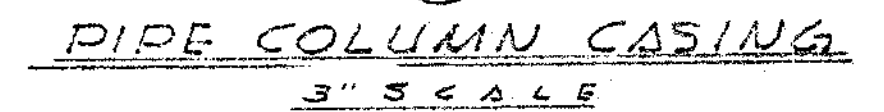
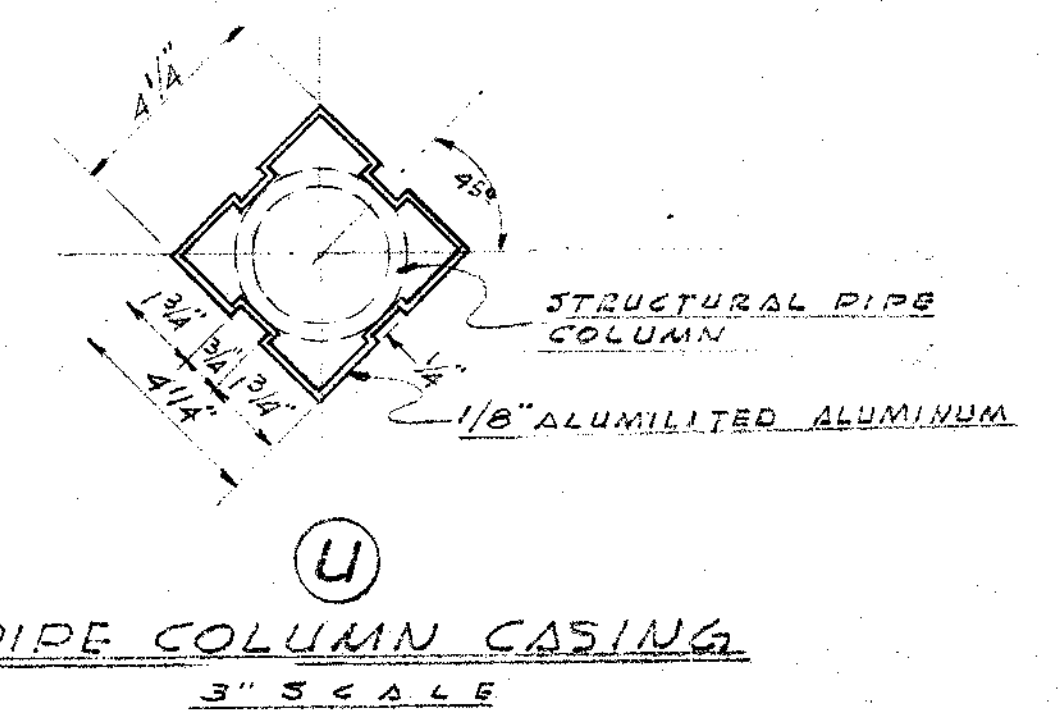
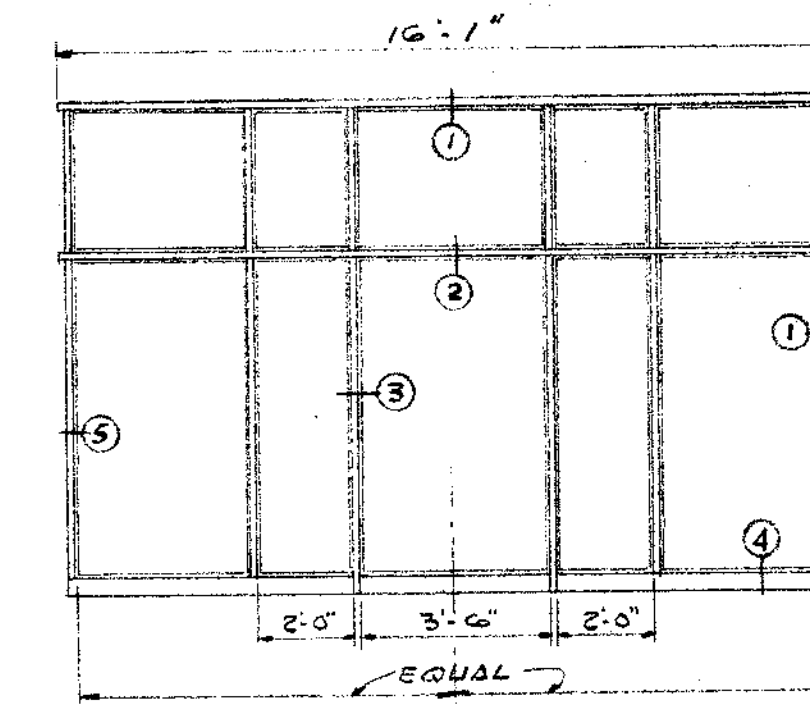
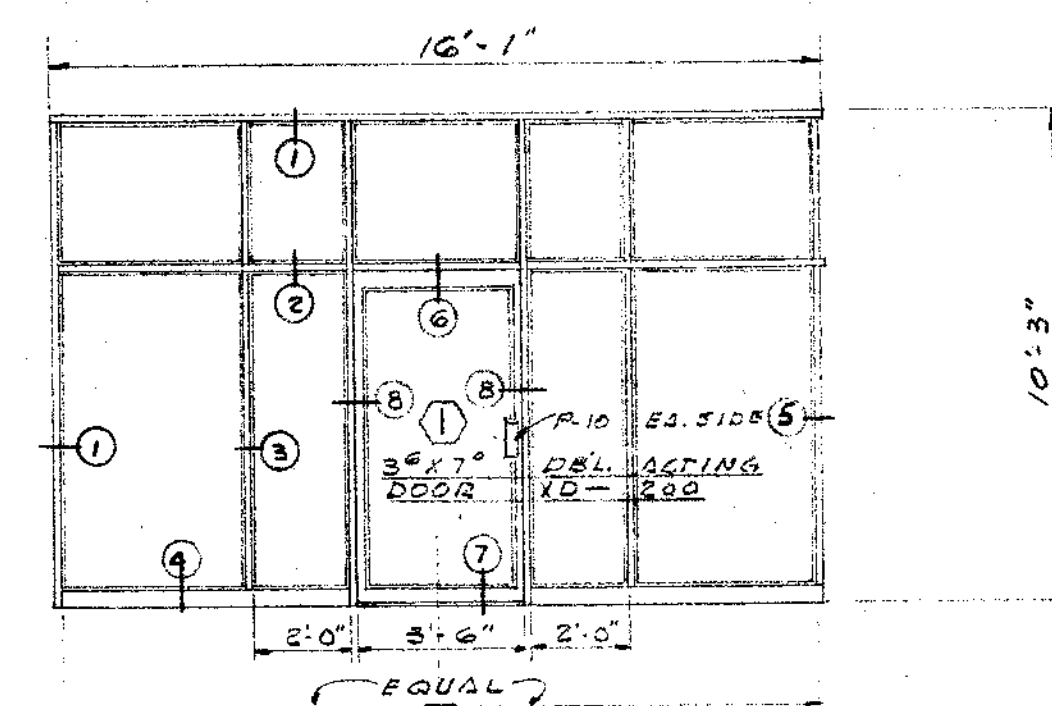
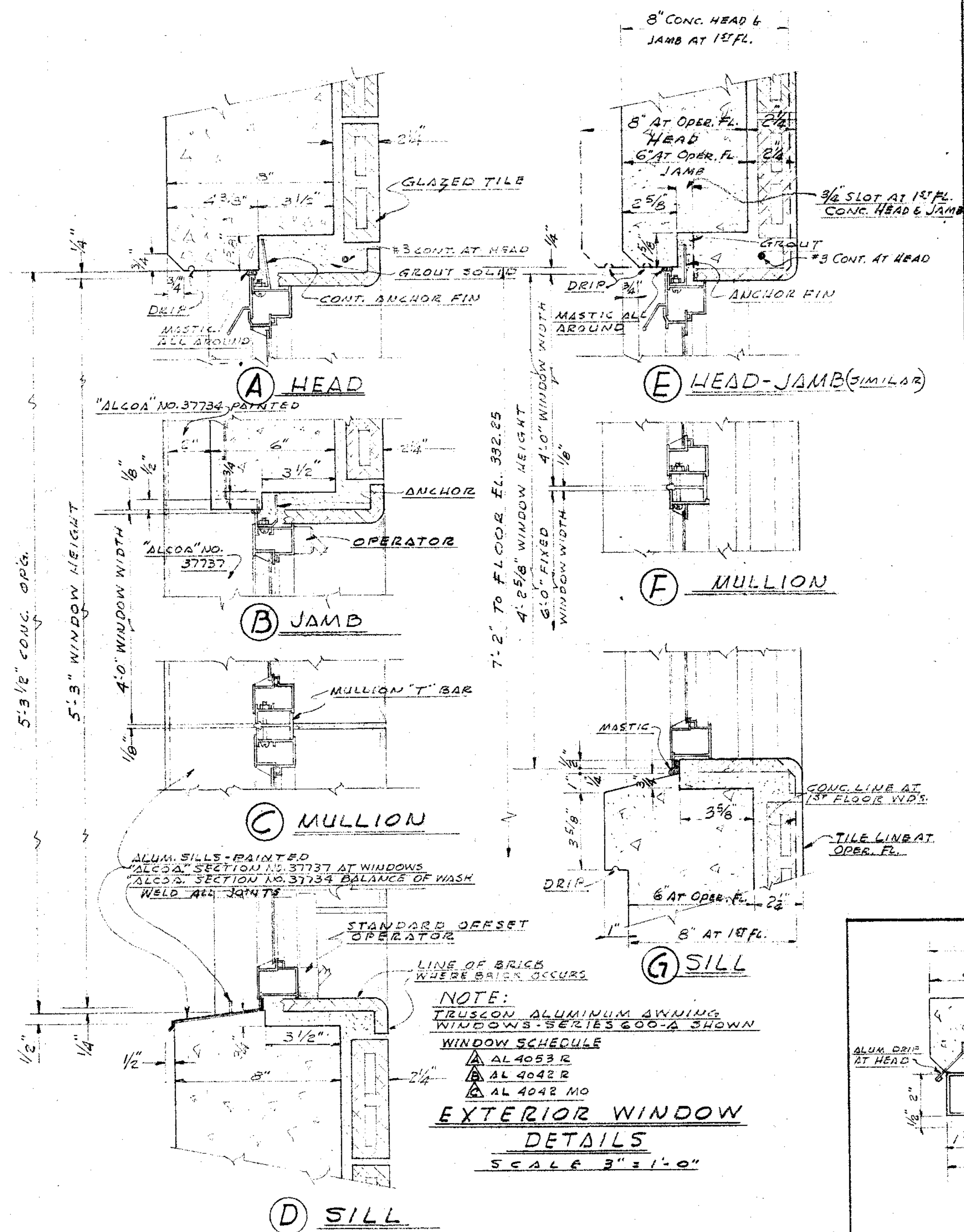
SHEET 44 OF 77



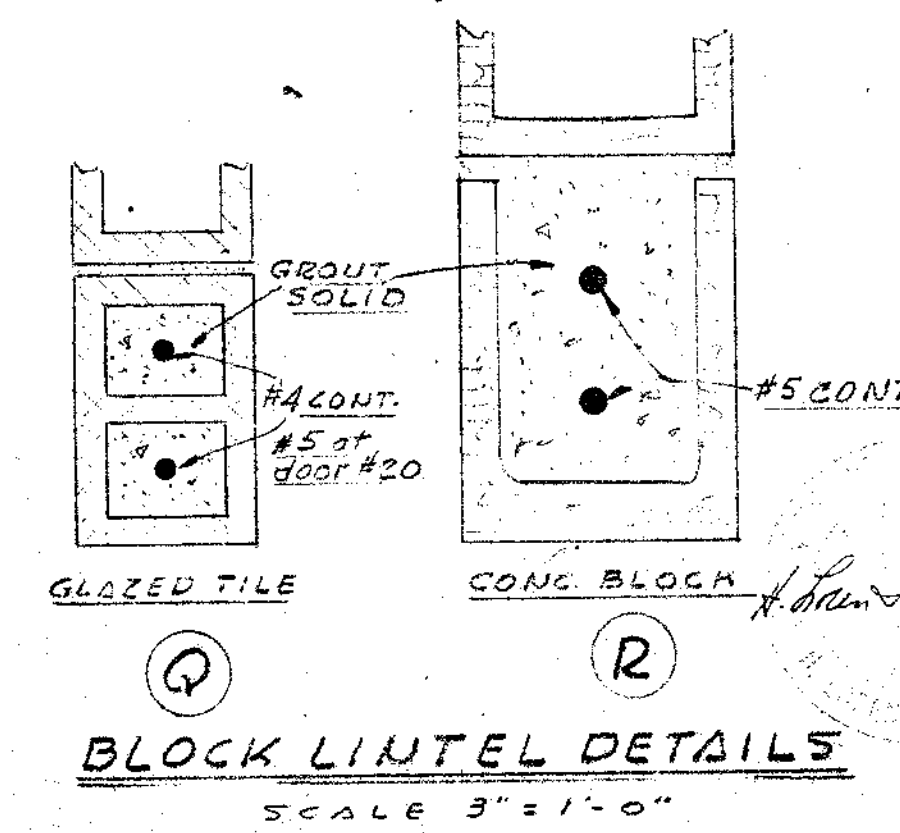
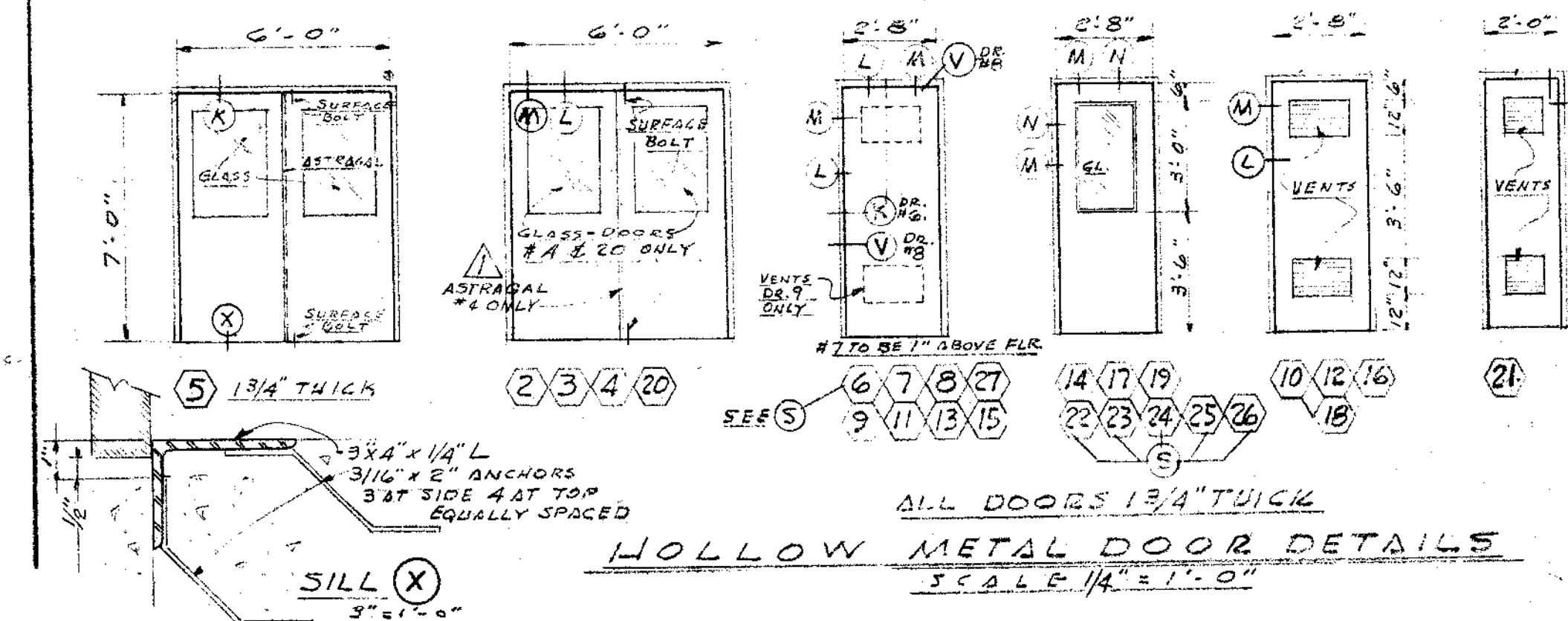
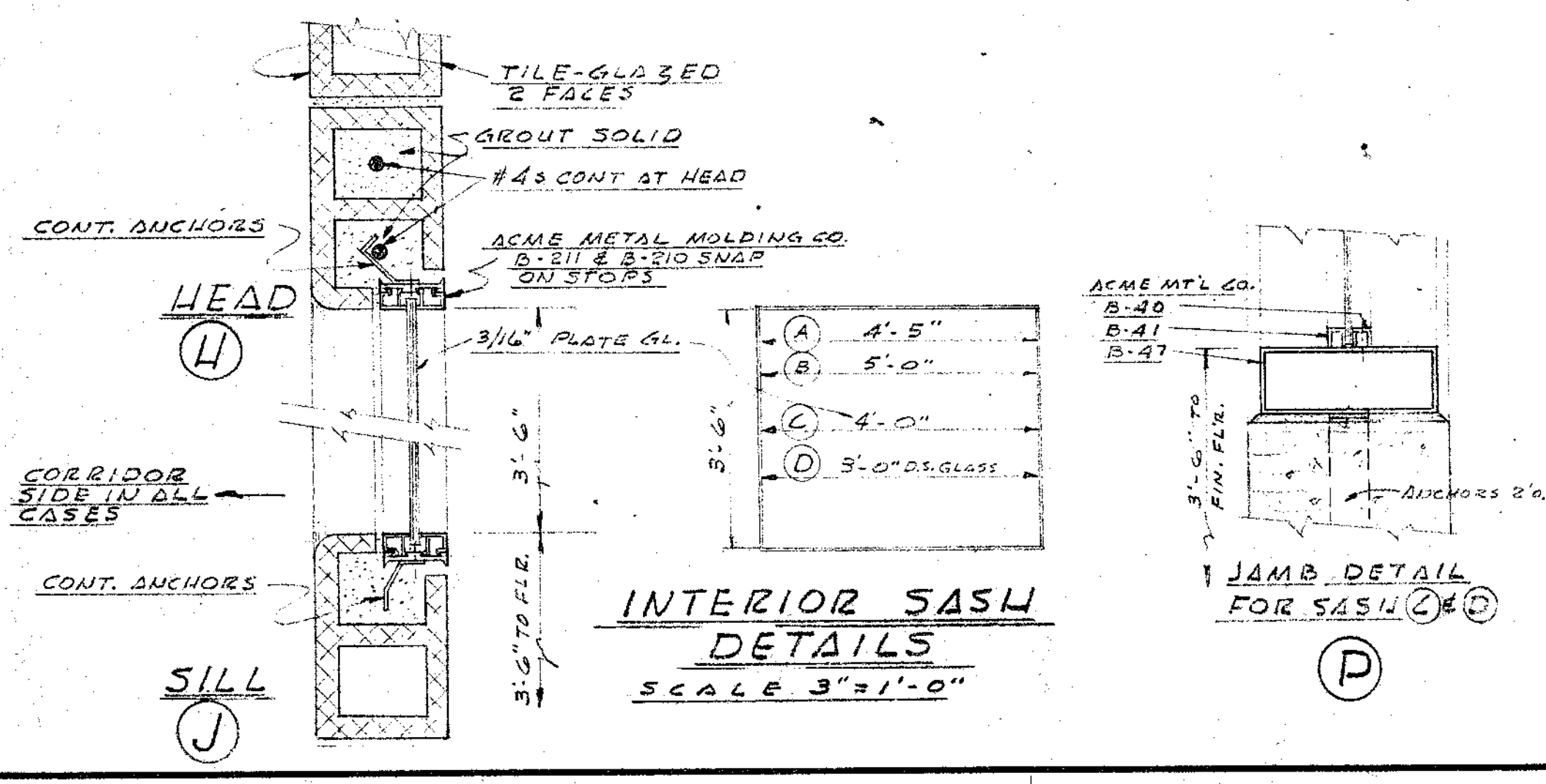
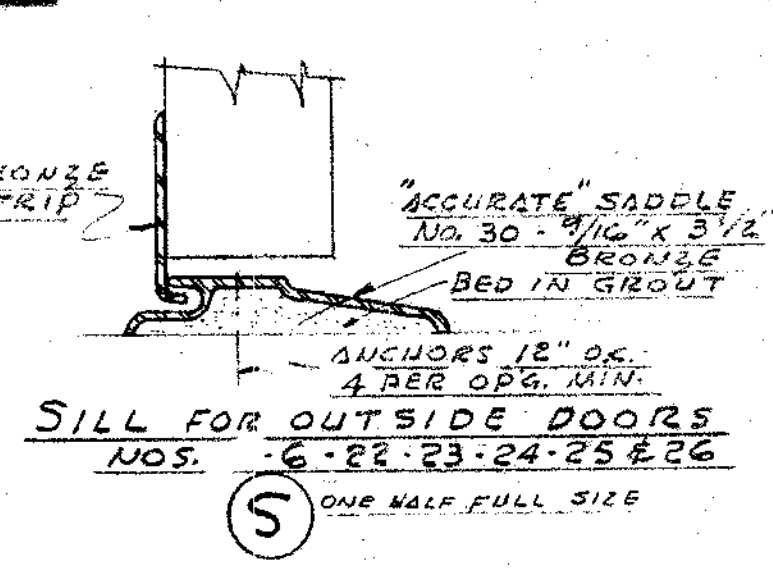
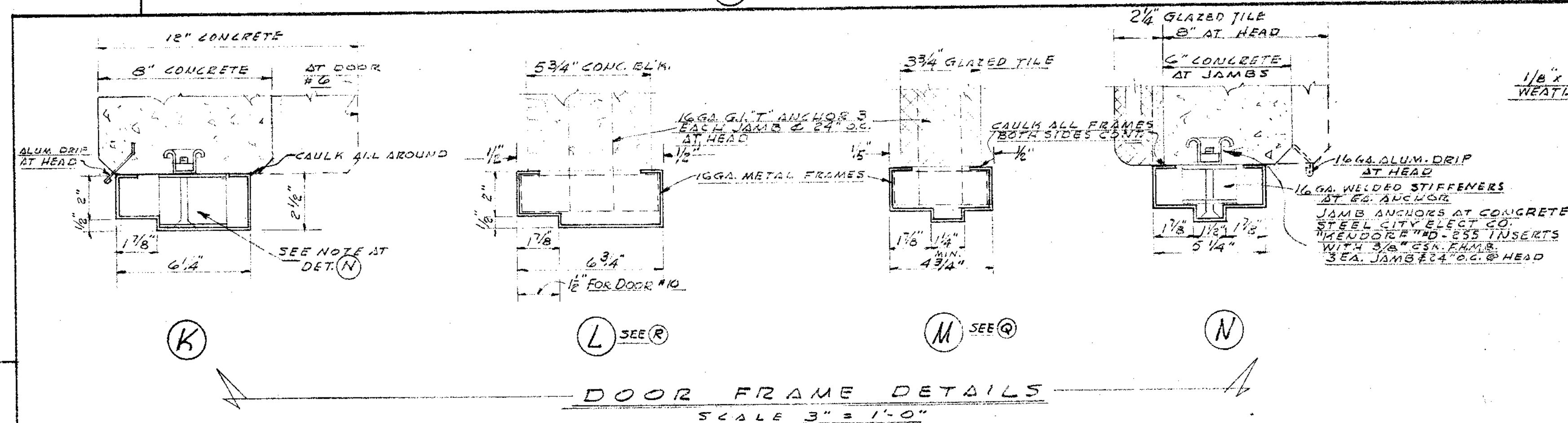
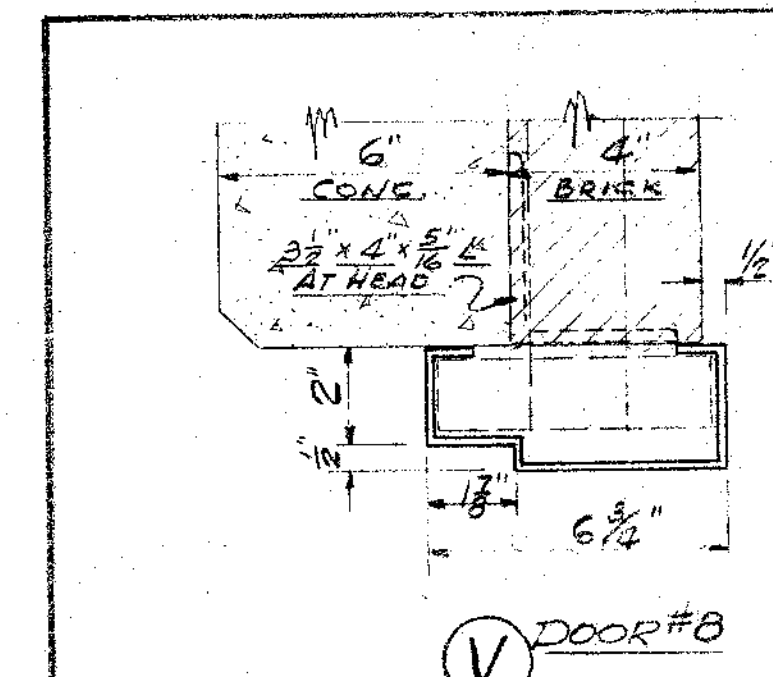
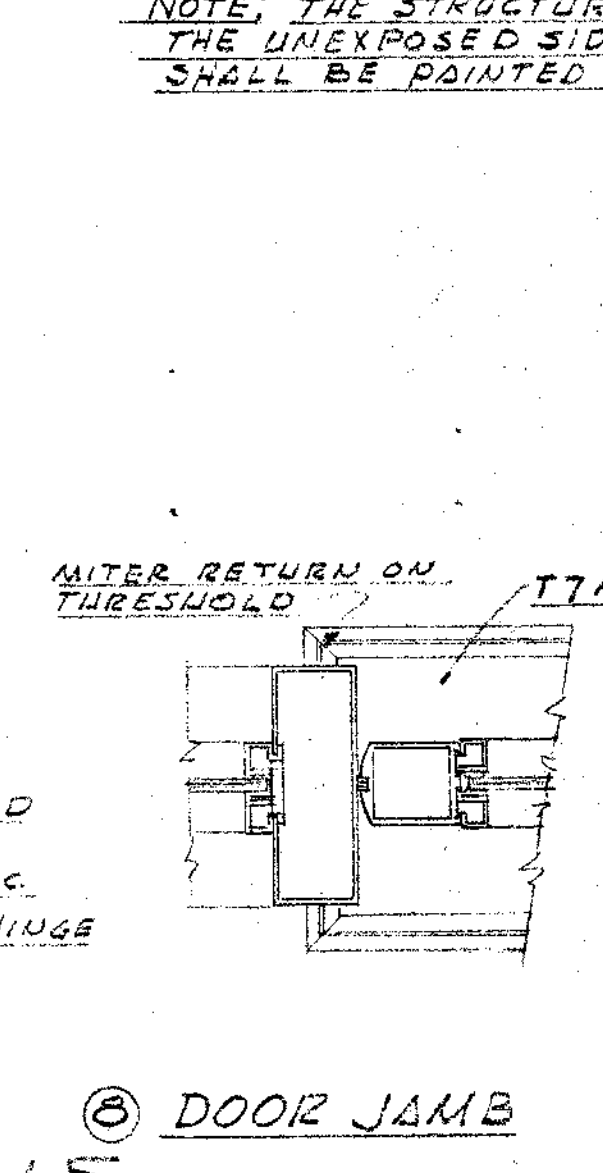
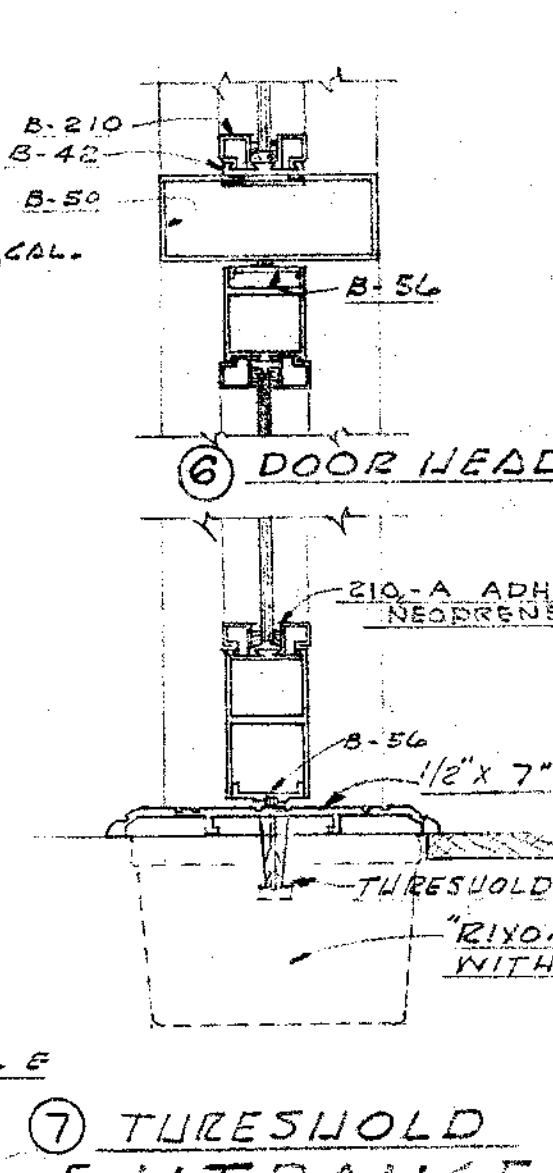
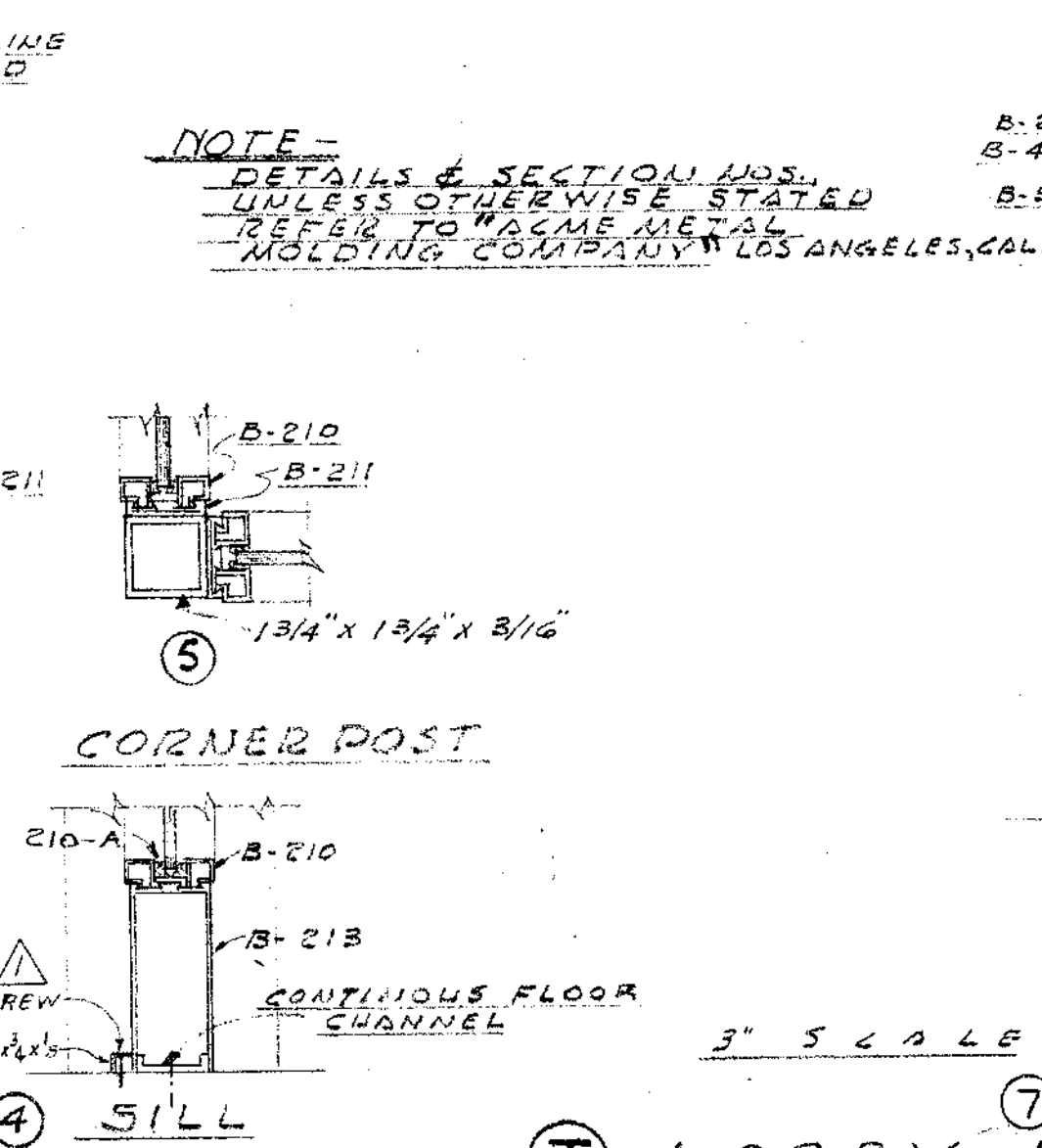
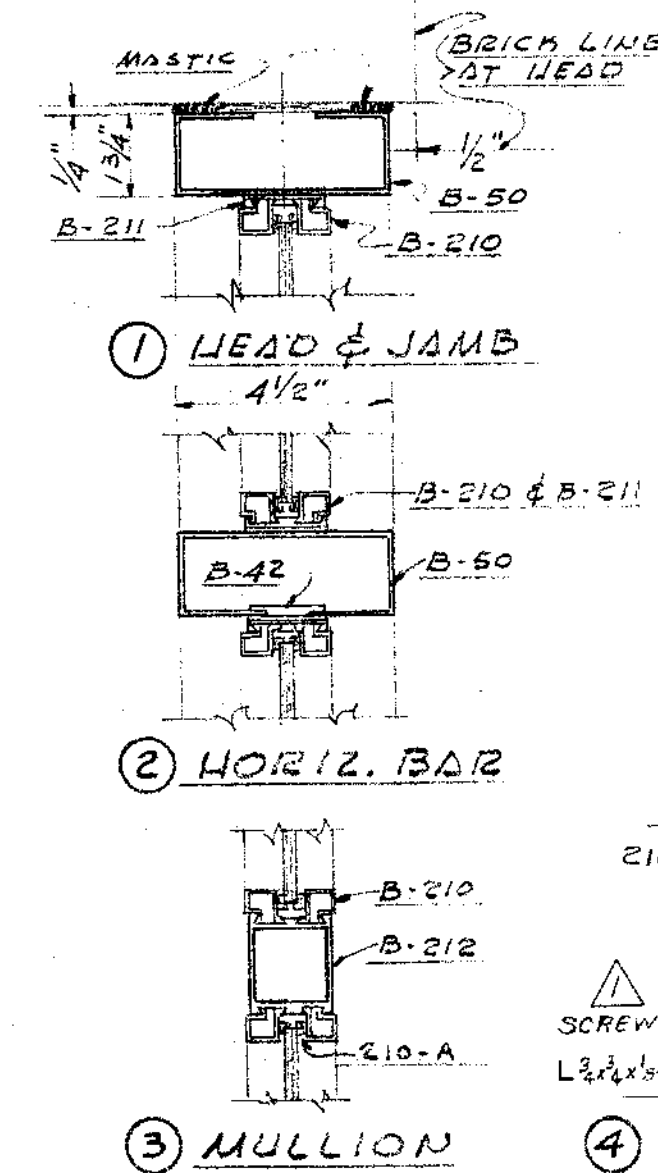
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DATE	NO.		REVISION	BY
STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON				
OREGON CITY — WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD WATER PURIFICATION WORKS HEADHOUSE & FILTERS ROOF PLAN & DETAILS				
DESIGNED	PLK	APPROVED BY		
DRAWN	PLK	DATE SHOWN		
CHECKED	JMH	DATE 8-1-59	FILE 16C-5035	SHEET A5 OF
				77



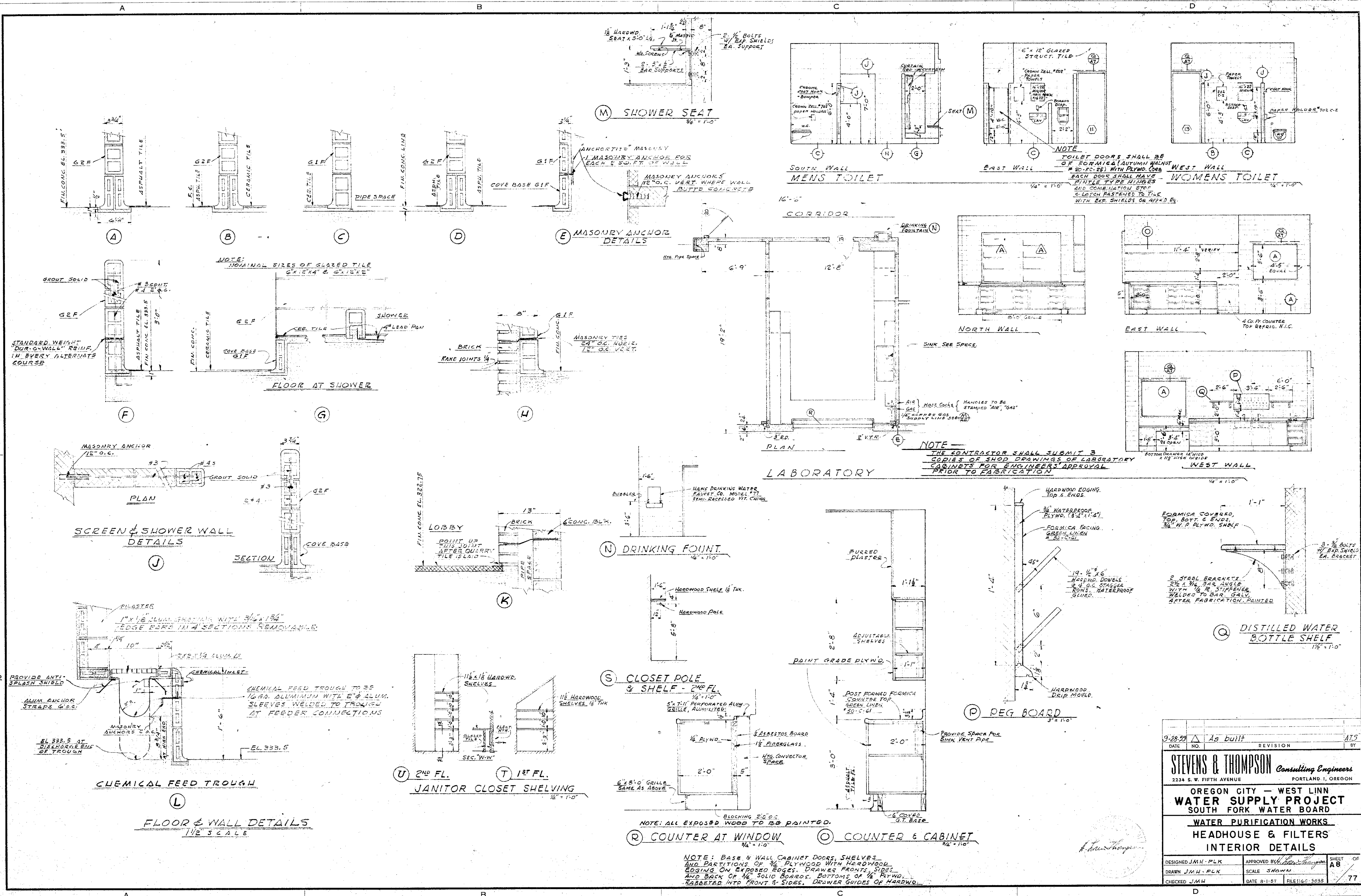
5-29-59	As built	ATG
DATE	NO.	REVISION
STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON		
OREGON CITY - WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD WATER PURIFICATION WORKS HEADHOUSE & FILTERS ELEVATIONS & DETAILS		
DESIGNED J.M.H.	APPROVED BY [Signature]	SHEET 77 OF 77
DRAWN P.L.K.-J.M.H.	SCALE SHOWN	
CHECKED J.M.H.	DATE 8-1-57	FILE 1160-9639

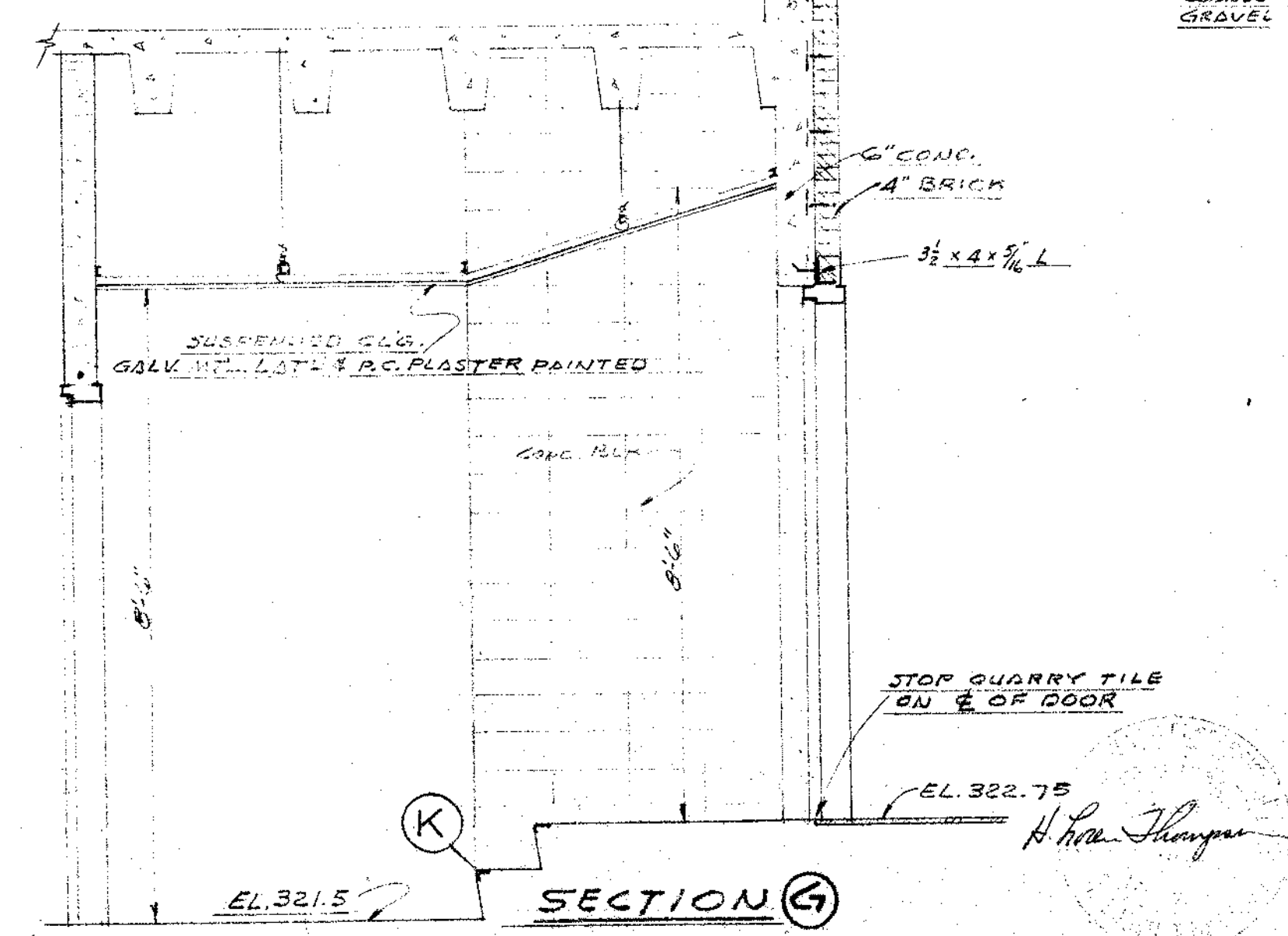
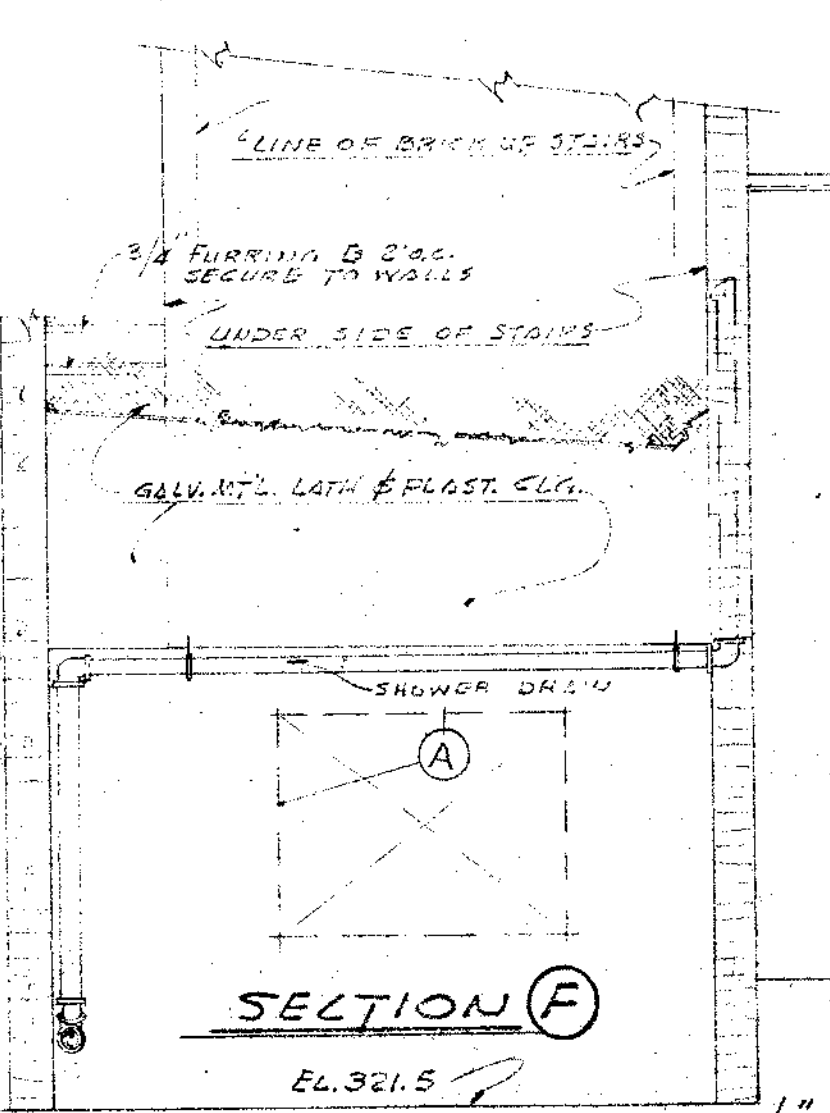
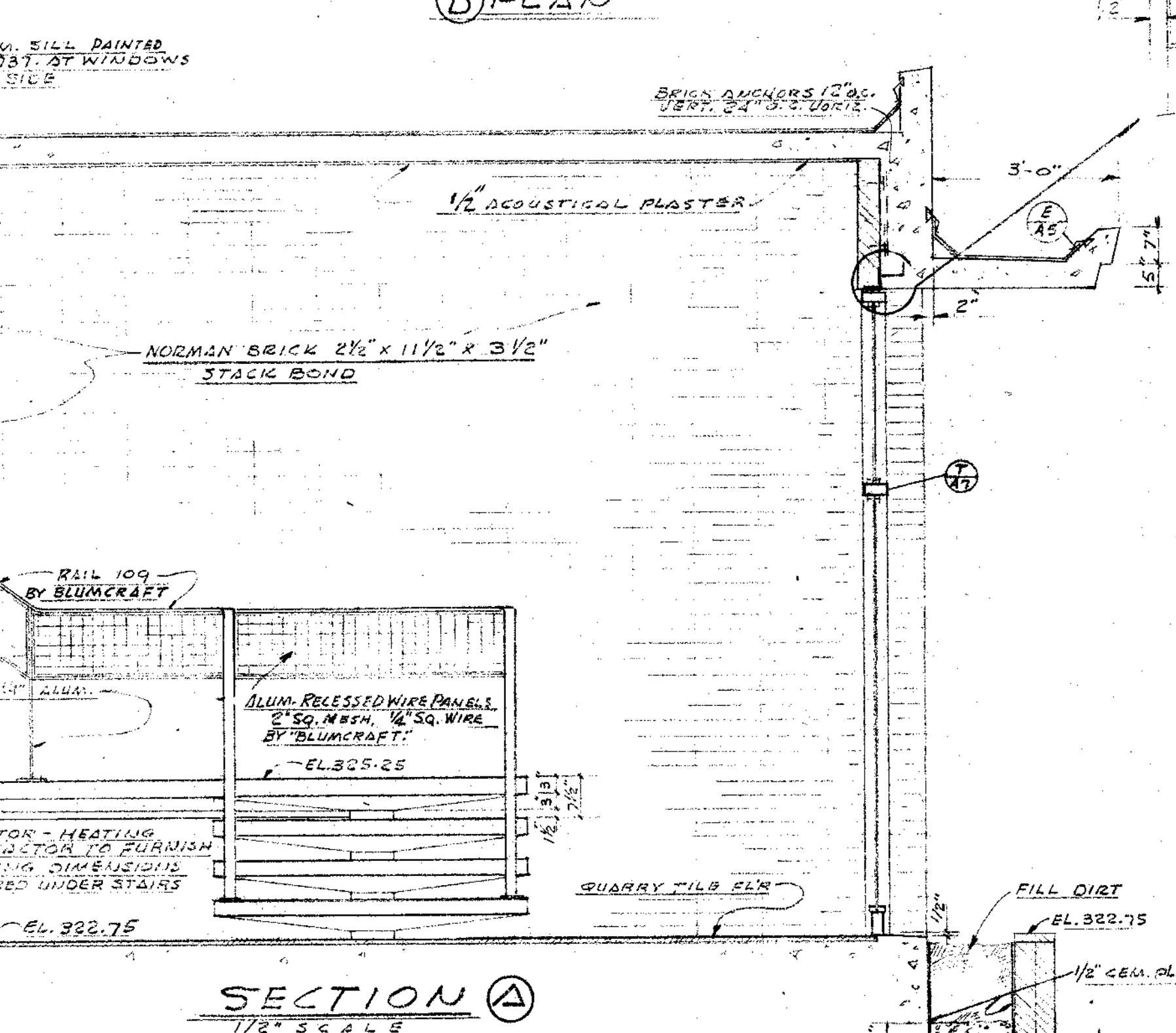
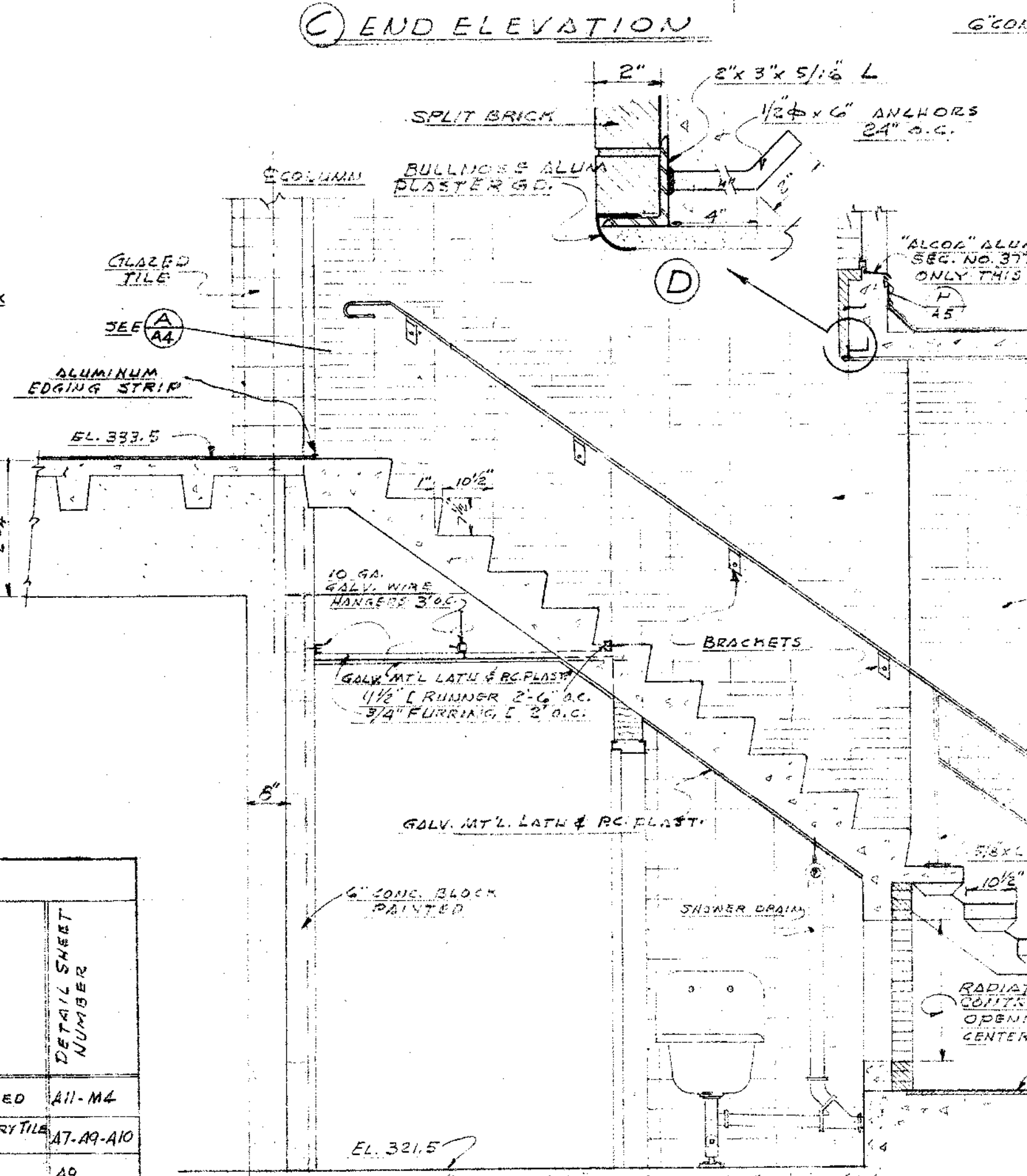
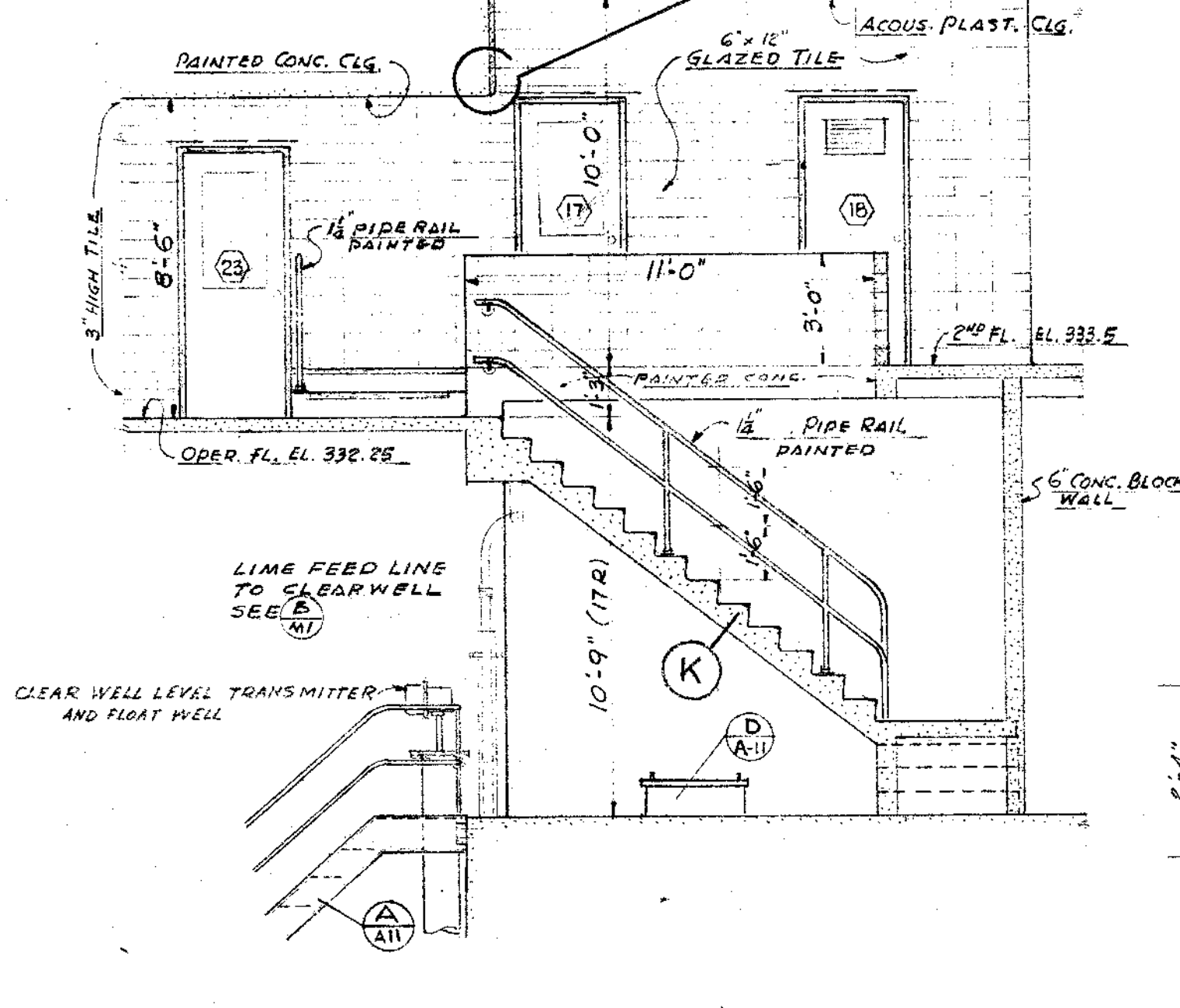
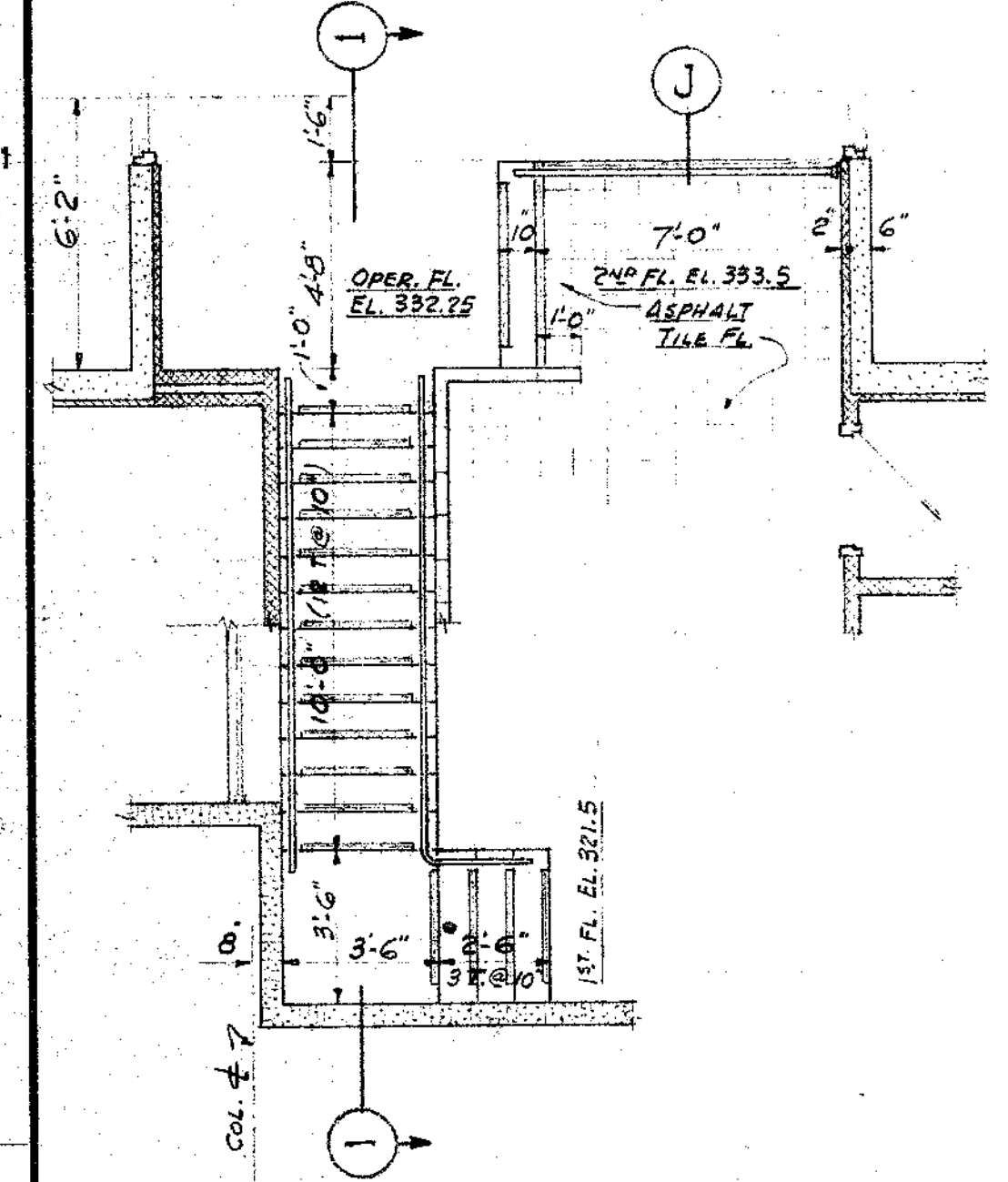
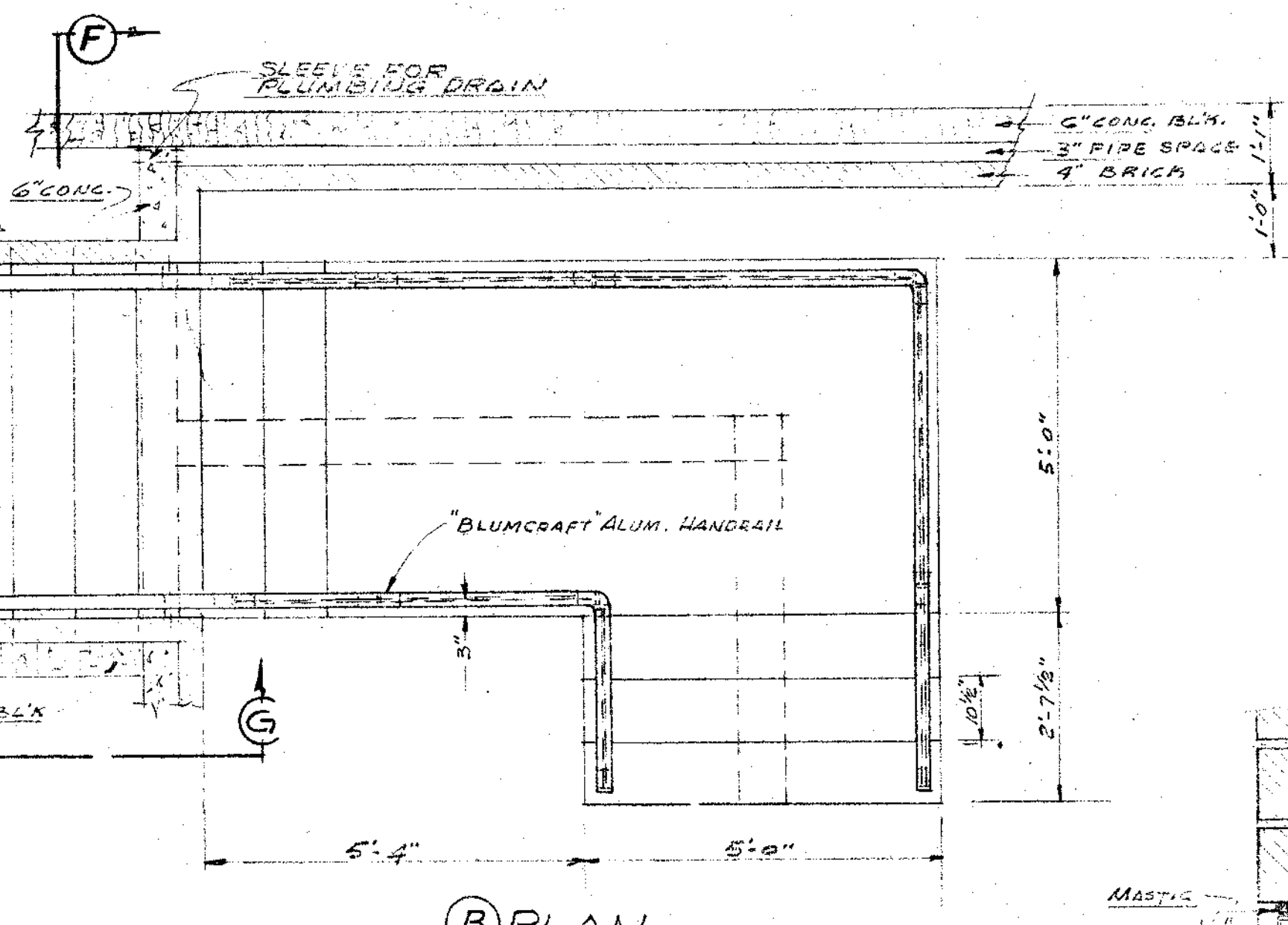
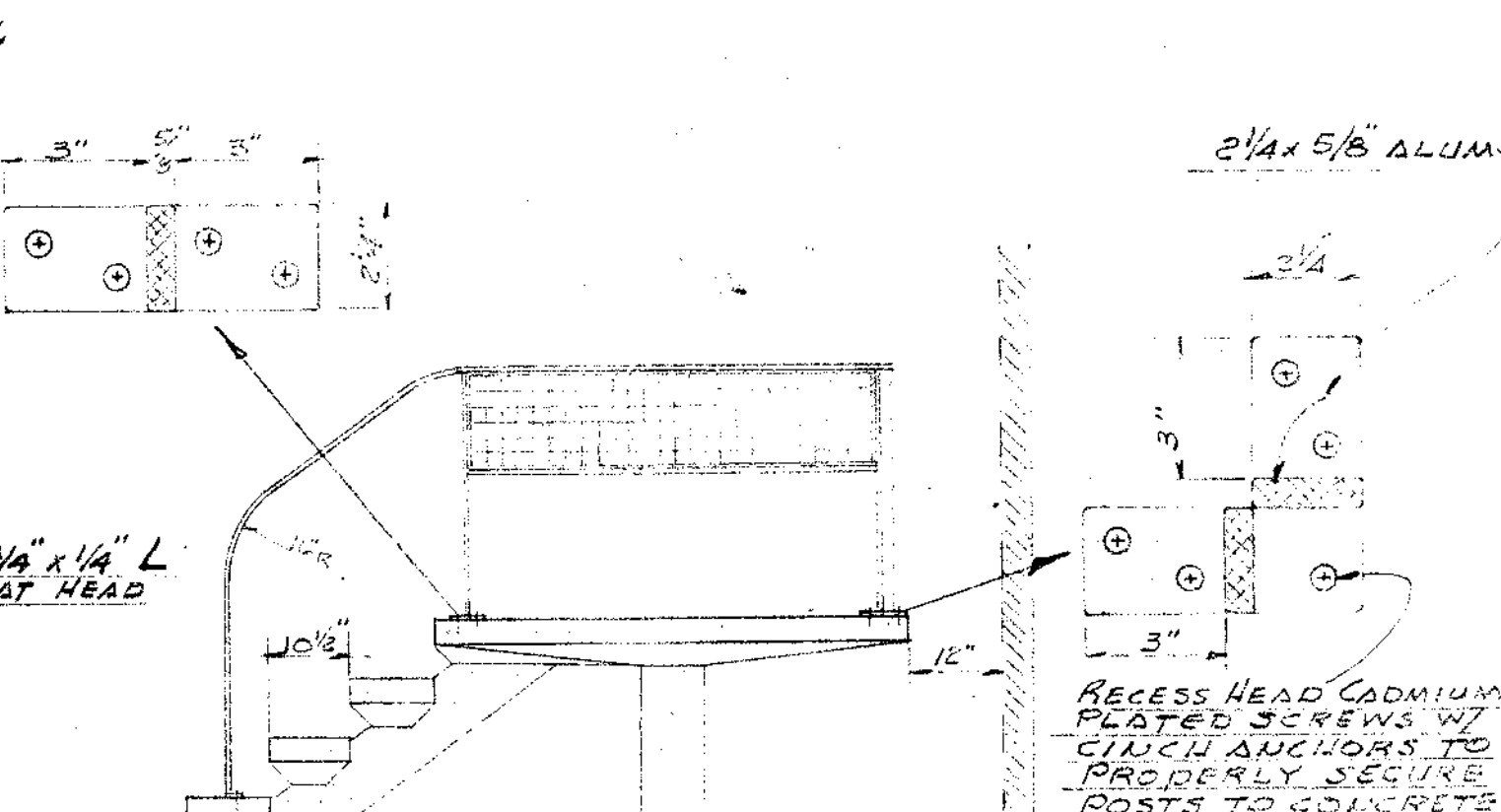
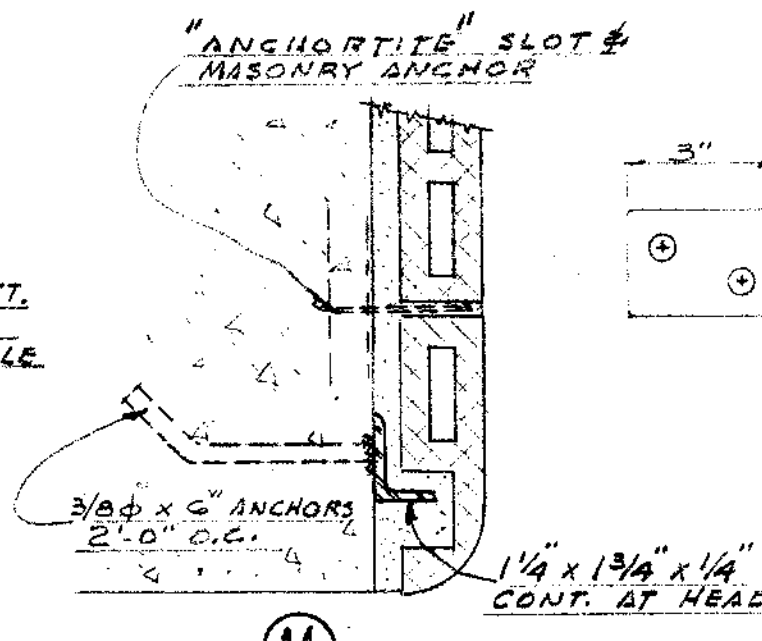
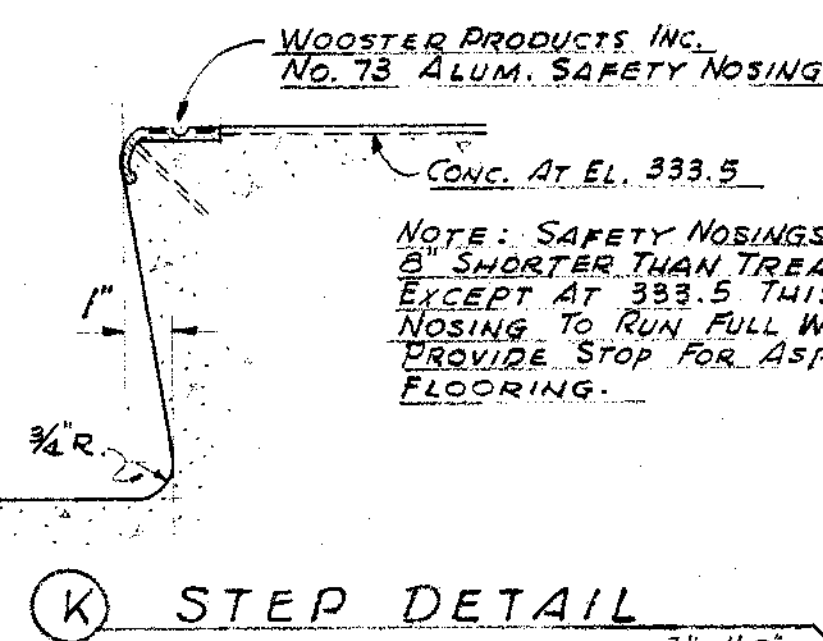
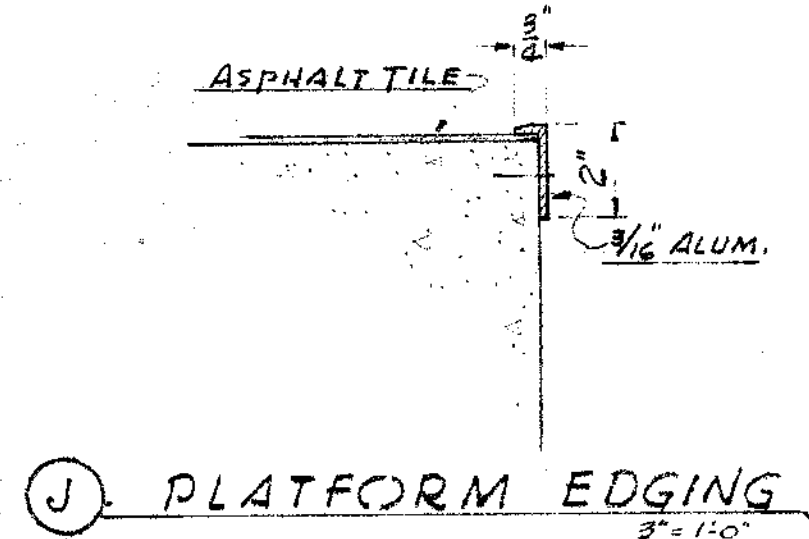


NOTE: THE STRUCTURAL PIPE COLUMN AND THE UNEXPOSED SIDE OF THE ALUMINUM CASING SHALL BE PAINTED WITH A BITUMINOUS PAINT.



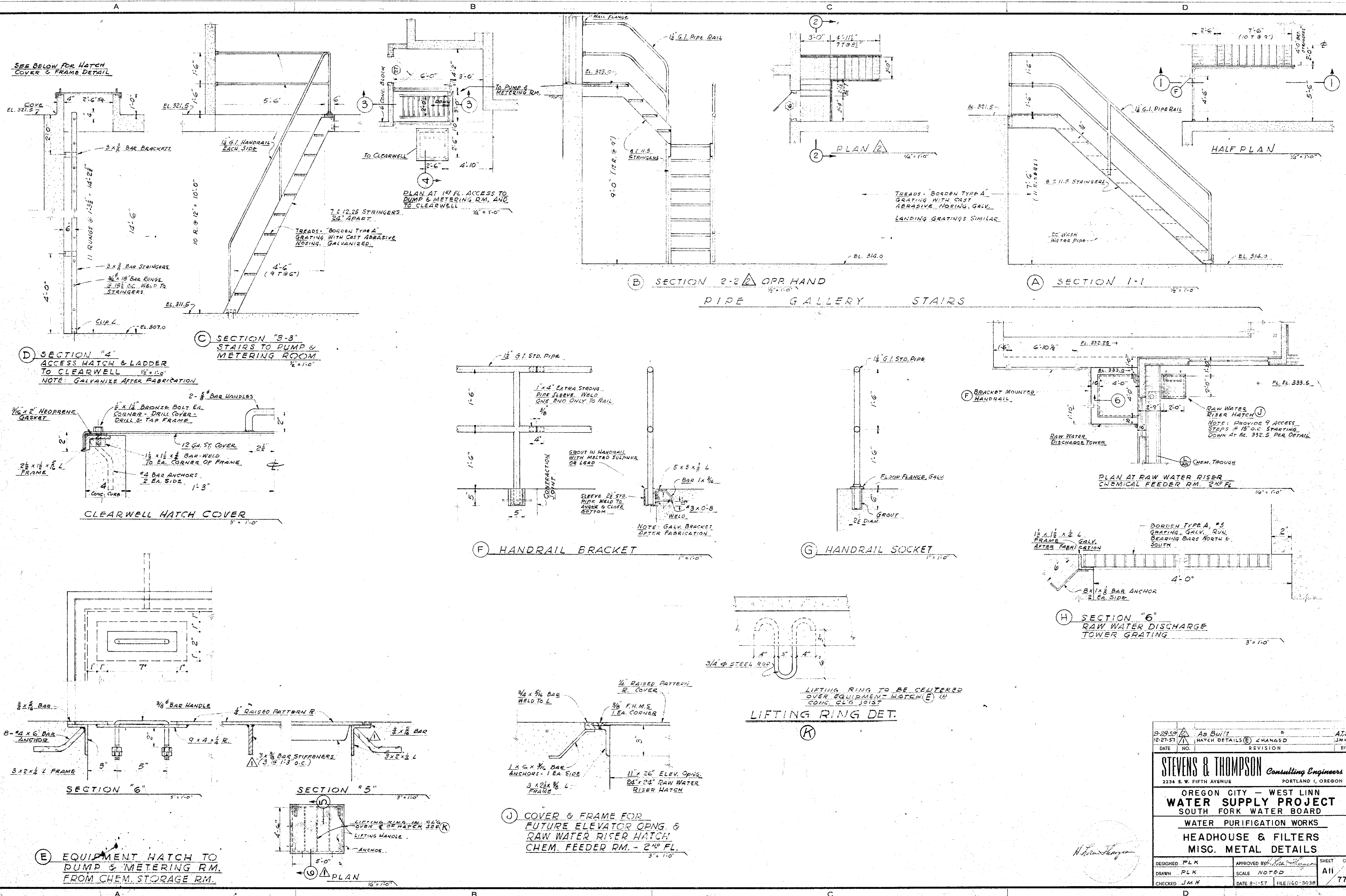
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DATE	NO.	REVISION		BY
STEVENS & THOMPSON		Consulting Engineers		
2234 S. W. FIFTH AVENUE		PORTLAND 1, OREGON		
OREGON CITY — WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD				
<u>WATER PURIFICATION WORKS</u>				
HEADHOUSE & FILTERS				
DOOR, WINDOW & ENTR. DETAILS				
DESIGNED JMW	APPROVED <i>L. J. Thompson</i>		SHEET 47	OF
DRAWN JMW	SCALE SHOWN			
CHECKED PLK	DATE 8-1-57	FILE 160-3934		77

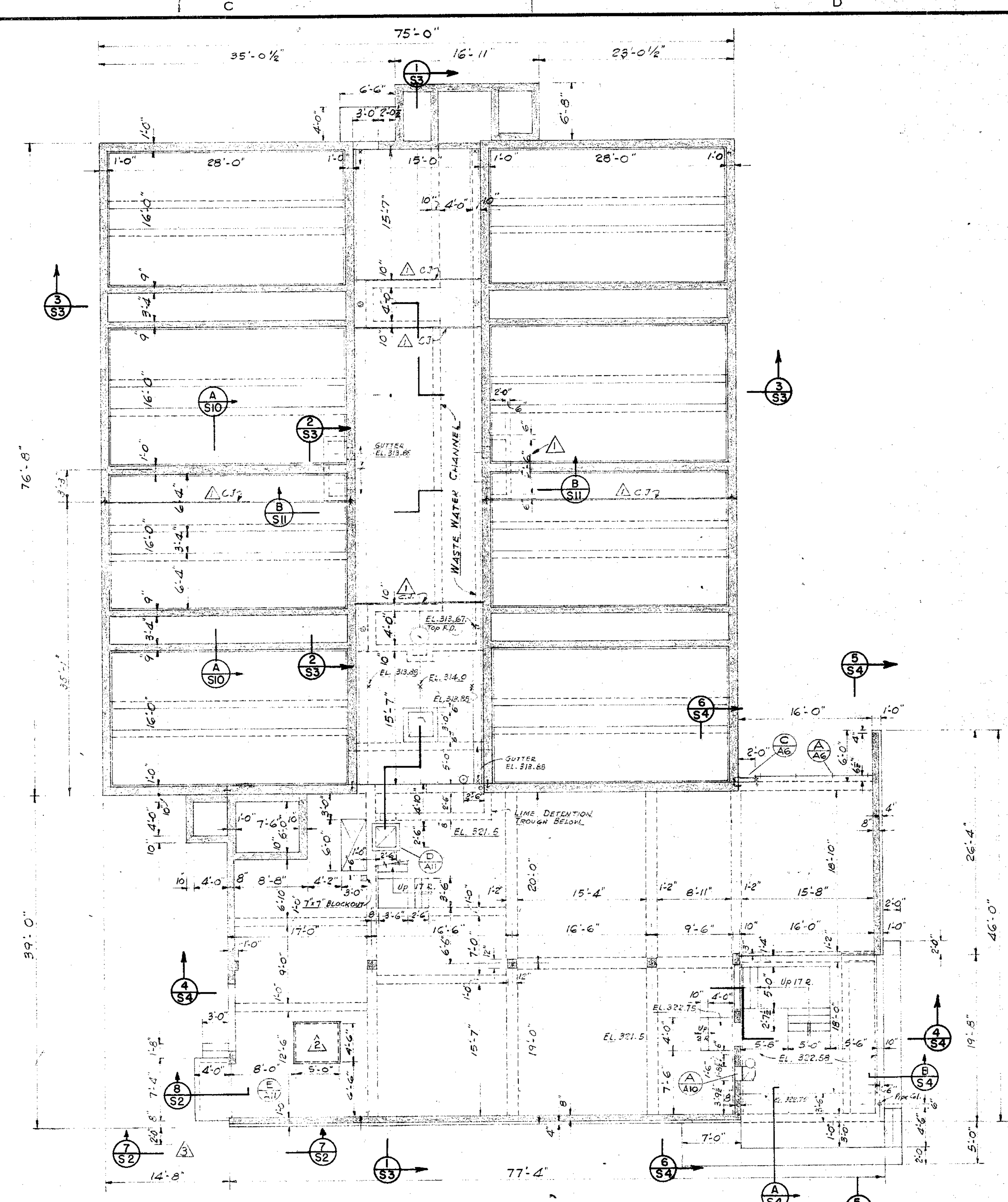
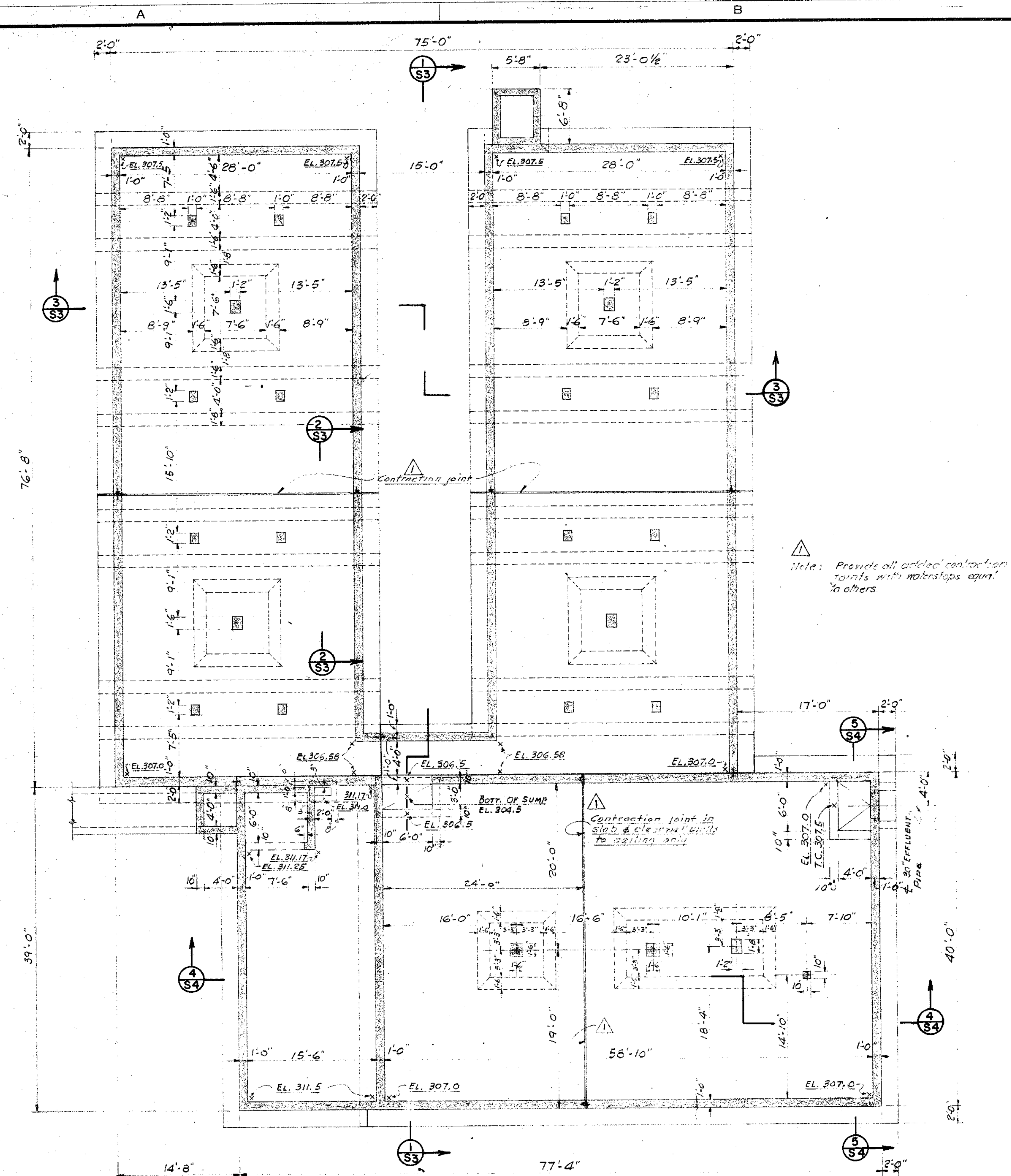




INTERIOR FINISH SCHEDULE									
FLOOR ELEV.	DESCRIPTION OF ROOM	FLOOR	BASE	WALLS	CEILING	REMARKS	DETAIL SHEET NUMBER		
311.5	PUMP & METERING RM.	CONCRETE	GLAZED TILE	CONCRETE	CONCRETE	MET. STAIRS & HANDRAIL PAINTED	A11-M4		
322.75	ENTRANCE LOBBY	CONCRETE	GLAZED TILE	CONCRETE	CONCRETE	OBSERVATION WALL PED. QUARRY TILE	A7-A9-A10		
321.5	HALL	CONCRETE	GLAZED TILE	CONCRETE	CONCRETE	PAINTED CEILING	A9		
"	FLUORIDATOR RM.	CONCRETE	GLAZED TILE	CONCRETE	CONCRETE	PAINTED CEILING	A8-A9		
"	JANITOR	CONCRETE	GLAZED TILE	CONCRETE	CONCRETE	PAINTED CEILING	M2		
"	CHLORINE STORAGE & DOCK	CONCRETE	GLAZED TILE	CONCRETE	CONCRETE	PAINTED CEILING	M2		
"	CHLORINATOR RM.	CONCRETE	GLAZED TILE	CONCRETE	CONCRETE	PAINTED CEILING	M2		
"	CHEMICAL STORAGE	CONCRETE	GLAZED TILE	CONCRETE	CONCRETE	PAINTED CEILING	M2		
"	BOILER RM. & SHOP	CONCRETE	GLAZED TILE	CONCRETE	CONCRETE	PAINTED CEILING	M2		
314.0	PIPE GALLERY	CONCRETE	GLAZED TILE	CONCRETE	CONCRETE	PAINTED CEILING	M2		
331.5	STAIRWAY - BOILER RM. TO 2ND FL.	CONCRETE	GLAZED TILE	CONCRETE	CONCRETE	MET. STAIRS & HANDRAILS PAINTED	A11-M4-M7		
332.75	STAIRWAY - LOBBY TO 2ND FL.	CONCRETE	GLAZED TILE	CONCRETE	CONCRETE	MET. STAIRS & HANDRAILS PAINTED	A9		
333.5	CORRIDOR	CONCRETE	GLAZED TILE	CONCRETE	CONCRETE	MET. STAIRS & HANDRAILS PAINTED	A9		
"	MEN'S TOILET	CONCRETE	GLAZED TILE	CONCRETE	CONCRETE	MET. STAIRS & HANDRAILS PAINTED	A8		
"	WOMEN'S TOILET	CONCRETE	GLAZED TILE	CONCRETE	CONCRETE	MET. STAIRS & HANDRAILS PAINTED	A8		
"	JANITOR	CONCRETE	GLAZED TILE	CONCRETE	CONCRETE	MET. STAIRS & HANDRAILS PAINTED	A8		
"	LABORATORY	CONCRETE	GLAZED TILE	CONCRETE	CONCRETE	MET. STAIRS & HANDRAILS PAINTED	A8		
"	CHEMICAL FEEDER RM.	CONCRETE	GLAZED TILE	CONCRETE	CONCRETE	MET. STAIRS & HANDRAILS PAINTED	A8-A11-M1		
"	STORAGE RM.	CONCRETE	GLAZED TILE	CONCRETE	CONCRETE	MET. STAIRS & HANDRAILS PAINTED	A8-A11-M1		
"	OFFICE & CONTROL RM.	CONCRETE	GLAZED TILE	CONCRETE	CONCRETE	MET. STAIRS & HANDRAILS PAINTED	A10		
"	RECORDS	CONCRETE	GLAZED TILE	CONCRETE	CONCRETE	MET. STAIRS & HANDRAILS PAINTED	A10		
"	CLOSET	CONCRETE	GLAZED TILE	CONCRETE	CONCRETE	MET. STAIRS & HANDRAILS PAINTED	A8		
332.25	OPERATING FLOOR	CONCRETE	GLAZED TILE	CONCRETE	CONCRETE	MET. STAIRS & HANDRAILS PAINTED	A9-M7		

3-28-59
DATE NO. As Built
REVISION
BY
STEVENS & THOMPSON Consulting Engineers
2234 S.W. FIFTH AVENUE PORTLAND 1, OREGON
OREGON CITY - WEST LINN
WATER SUPPLY PROJECT
SOUTH FORK WATER BOARD
WATER PURIFICATION WORKS
HEADHOUSE & FILTERS
FINISH SCHEDULE & STAIRS DETLS
DESIGNED J.M.H. APPROVED BY H. Thompson
DRAWN P.L.K.-J.M.H. SCALE SHOWN
CHECKED J.M.H. DATE 8-1-57 FILE 11-60-3036
SHEET 99 OF 77





9-18-59	AS Buitt	ATC
12-27-57	PUMP ROOM MATCH RELOCATED	JMM
11-13-57	contraction joints added. Dim. changed	JMM
DATE	NO.	REVISION

STEVENS & THOMPSON

2234 S. W. FIFTH AVENUE

Consulting Engineers

PORTLAND 1, OREGON

OREGON CITY — WEST LINN

WATER SUPPLY PROJECT

SOUTH FORK WATER BOARD

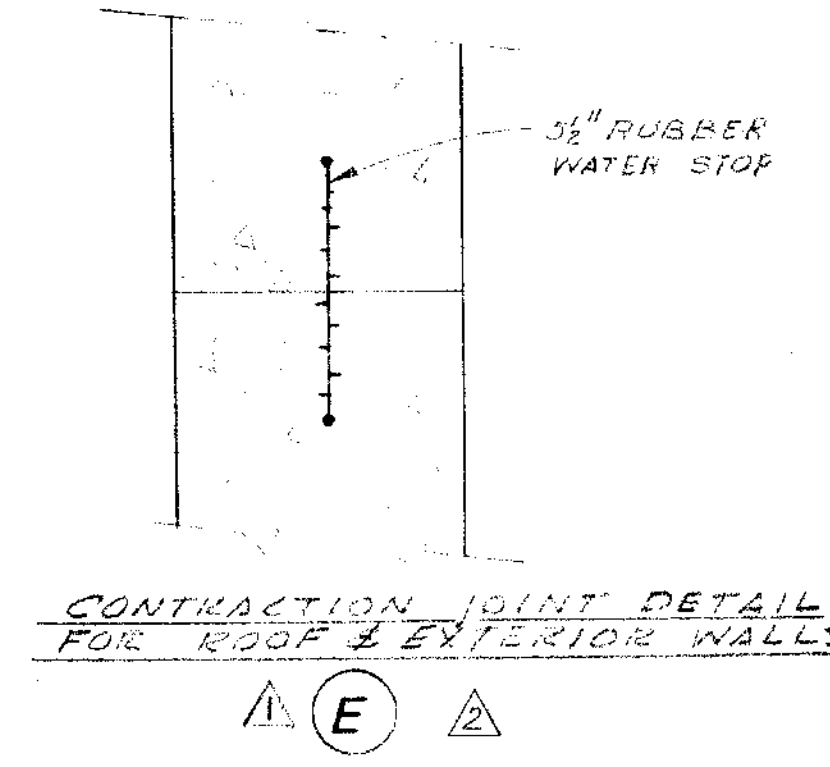
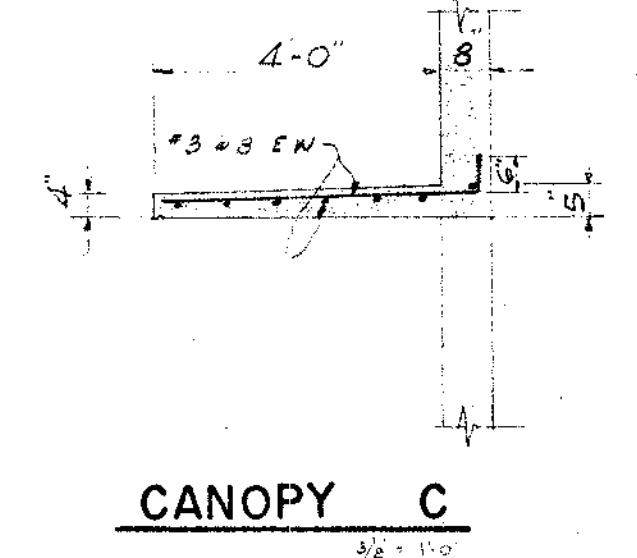
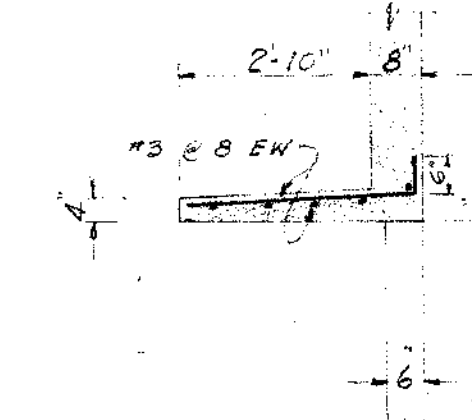
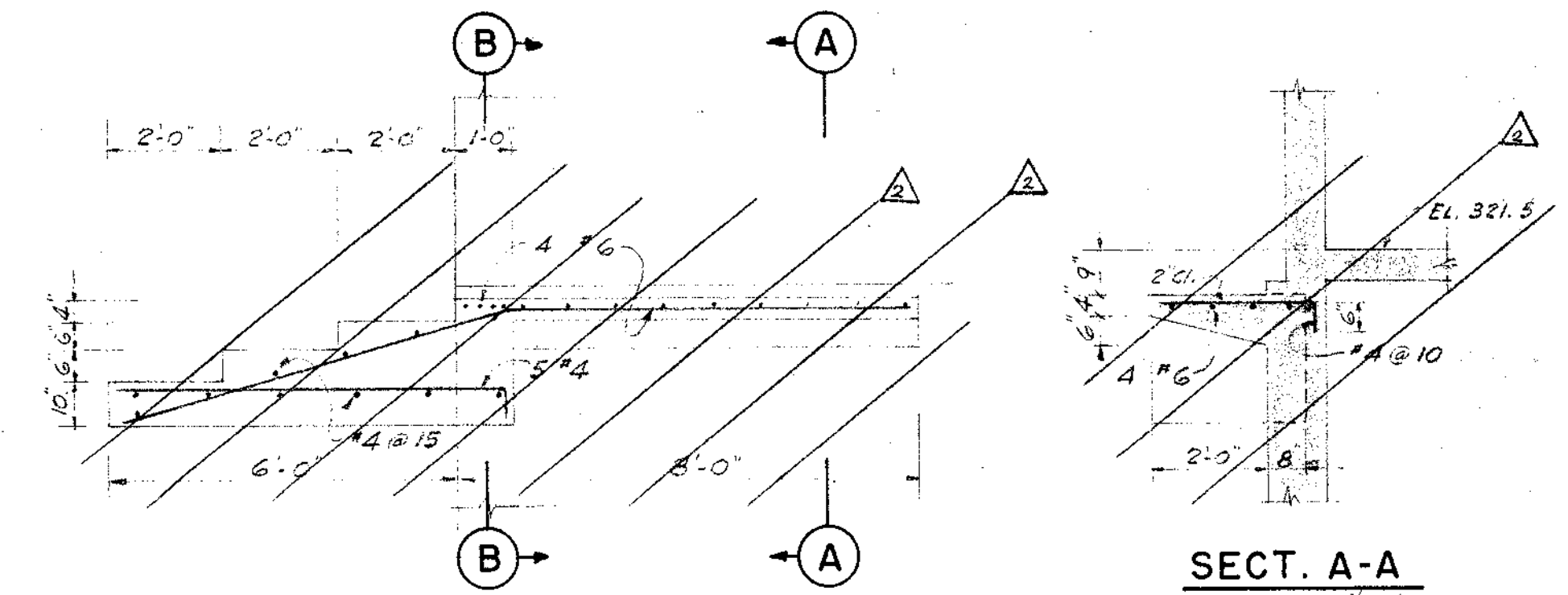
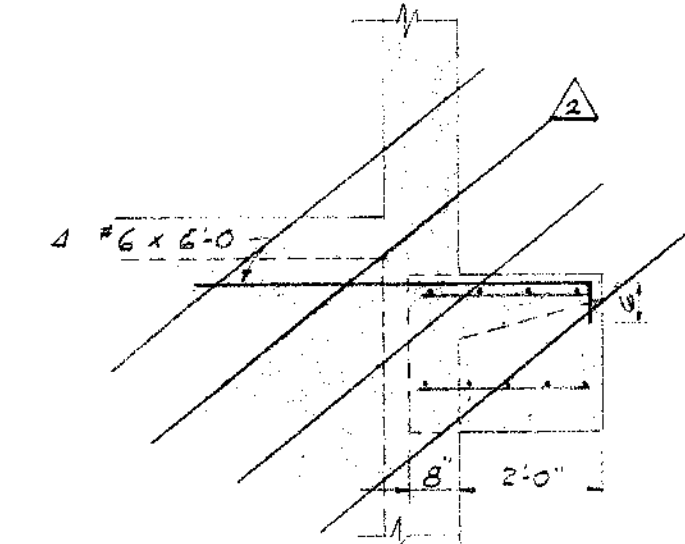
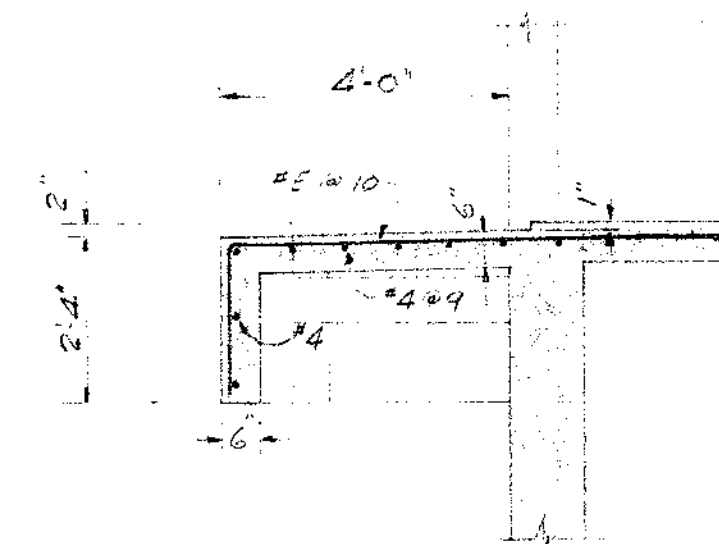
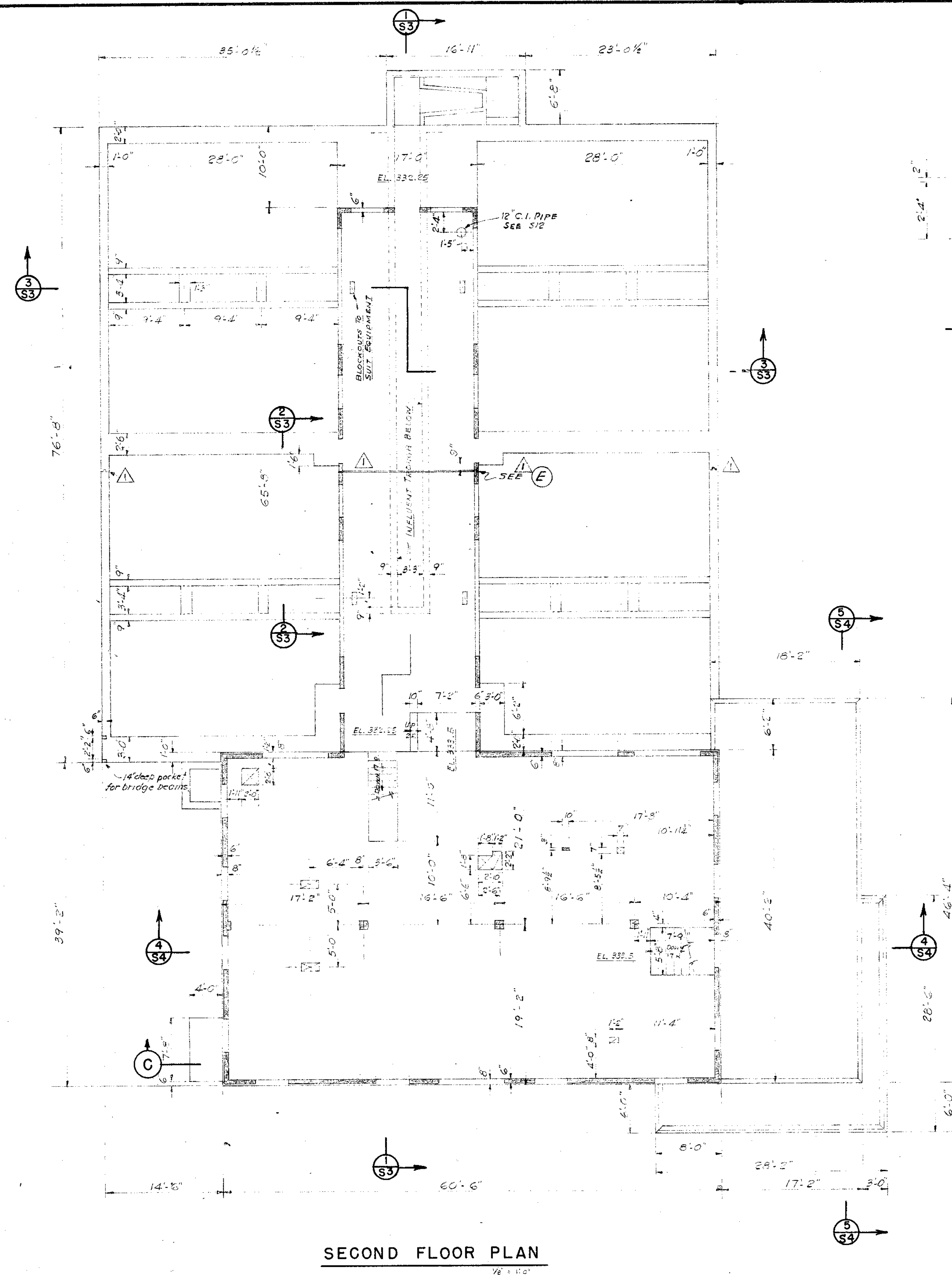
WATER PURIFICATION WORKS

CONCRETE OUTLINE

CLEARWELL & FIRST FLOOR PLAN

DESIGNED <i>EAS</i>	APPROVED BY <i>E. Allen</i>	SHEET OF
DRAWN <i>PLK</i>	SCALE $\frac{1}{8}" = 1'-0"$	S1
CHECKED <i>EAS</i>	DATE <i>8-1-57</i>	77

D



9-23-59		<i>As Built</i>	ATC
11-13-57		<i>extension joints & details added</i>	JWA
DATE	NO.	REVISION	BY

STEVENS & THOMPSON

2234 S. W. FIFTH AVENUE

Consulting Engineers

PORTLAND 1, OREGON

OREGON CITY — WEST LINN

WATER SUPPLY PROJECT

SOUTH FORK WATER BOARD

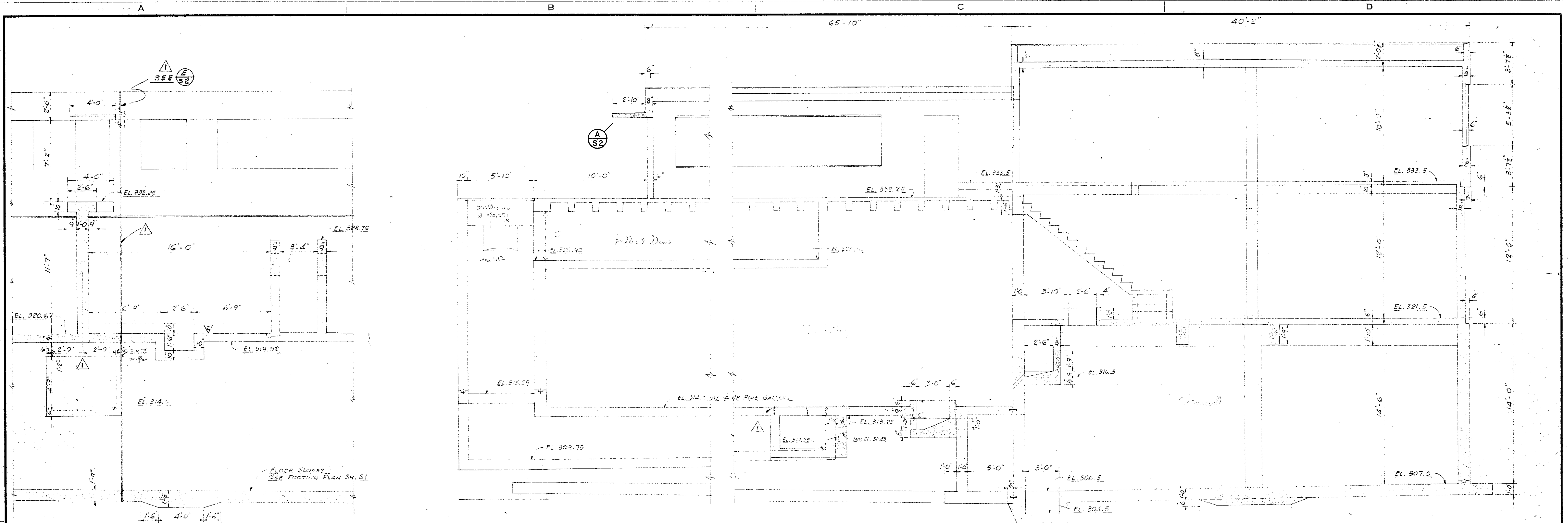
WATER PURIFICATION WORKS

CONCRETE OUTLINE

SECOND FLOOR PLAN

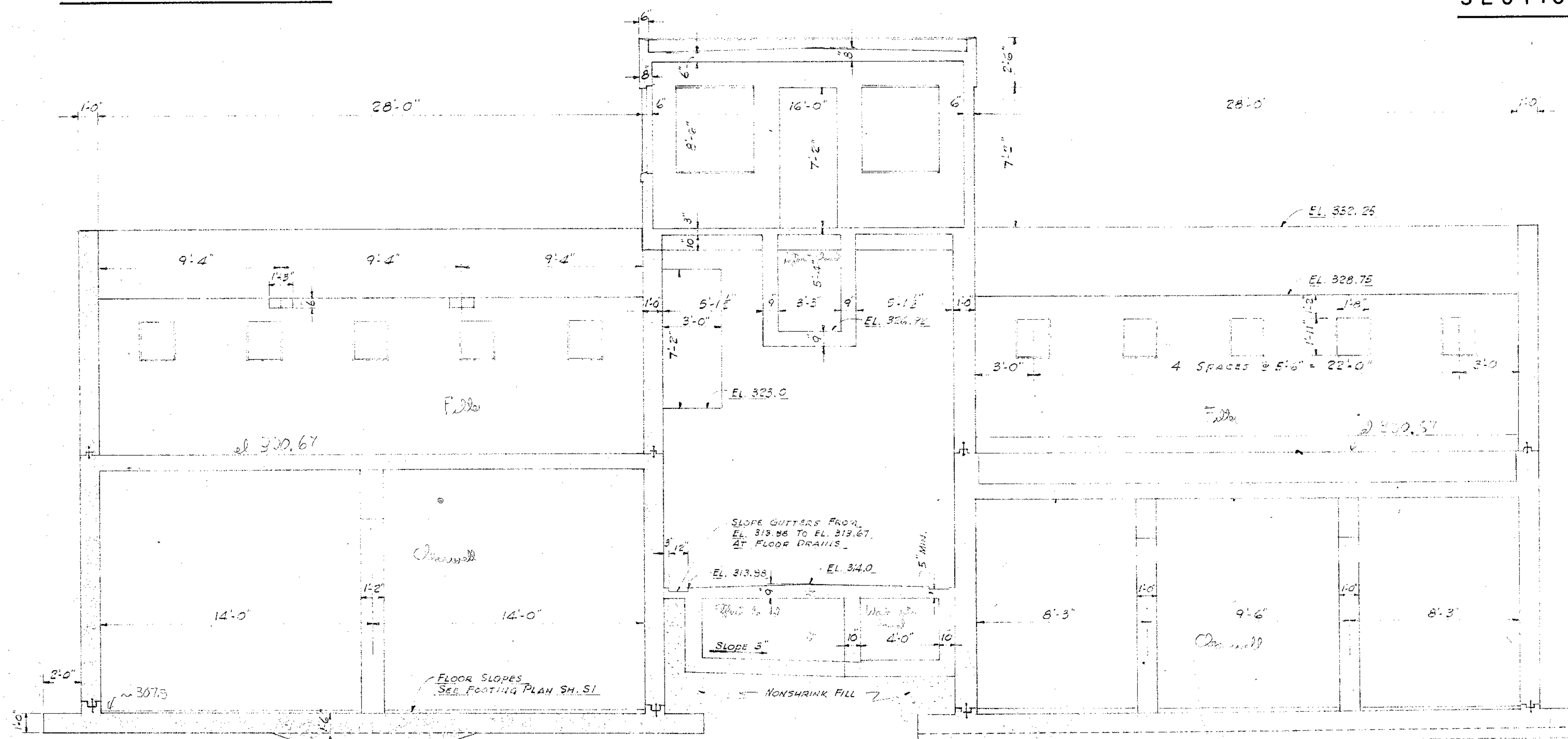
DESIGNED <i>EAS</i>	APPROVED <i>By E. J. Stevens</i>	SHEET
DRAWN <i>PLK</i>	SCALE <i>As noted</i>	S2
CHECKED <i>EAS</i>	DATE <i>8-1-57</i>	FILE <i>160-3039</i>

OF
 77



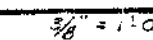
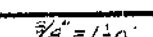
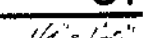
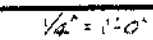
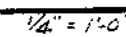
SECTION 2-2 / S1

SECTION 1-1 / S1

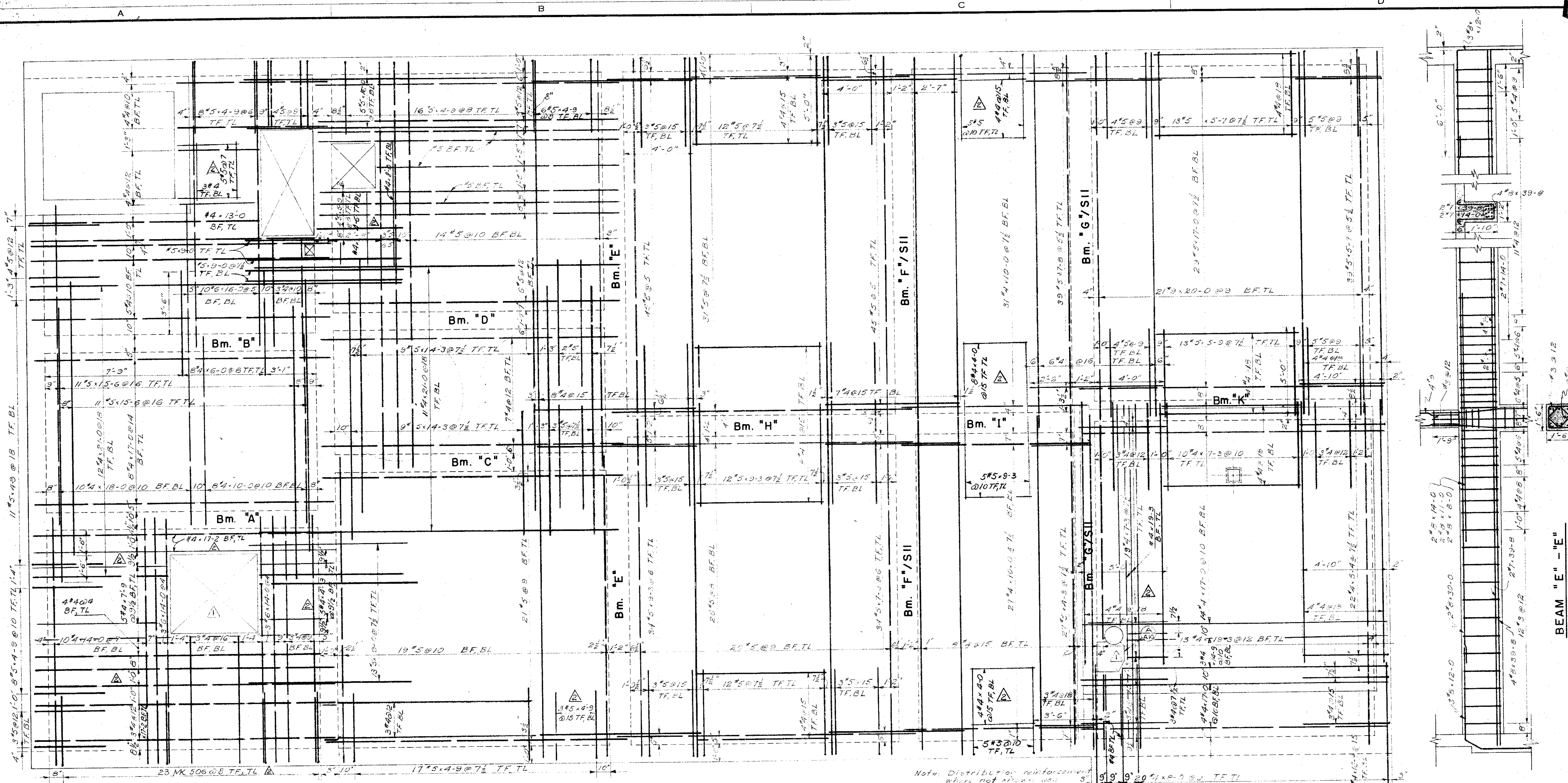


SECTION 3-3 / S1

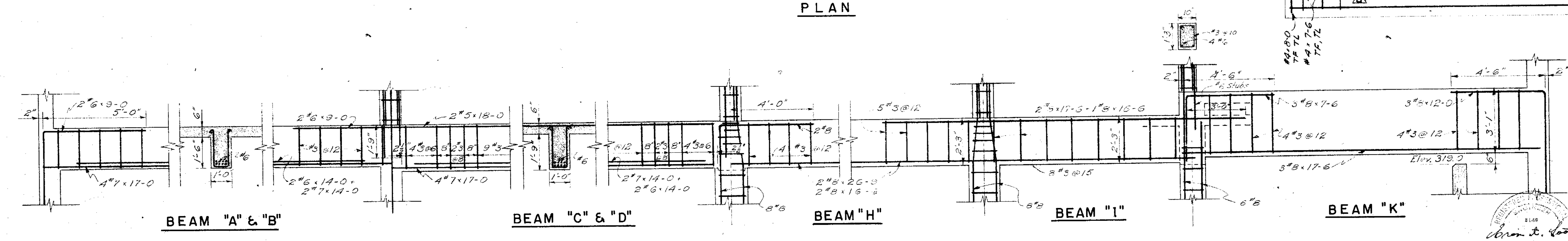
9-29-59	As Built	475
12-11-57	Revised Filter Bed Sec 2-2/S1	476
11-13-57	contraction joint added 4' dim. changed 1' min.	477
DATE	NO.	REVISION
STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON		
OREGON CITY - WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD WATER PURIFICATION WORKS CONCRETE OUTLINE SECTIONS		
DESIGNED EAS	APPROVED BY <i>[Signature]</i>	SHEET 53 OF 77
DRAWN PLR	SCALE 1/4" = 1'-0"	
CHECKED EAS	DATE 6-1-57 FILE 160-3040	



T



PLAN

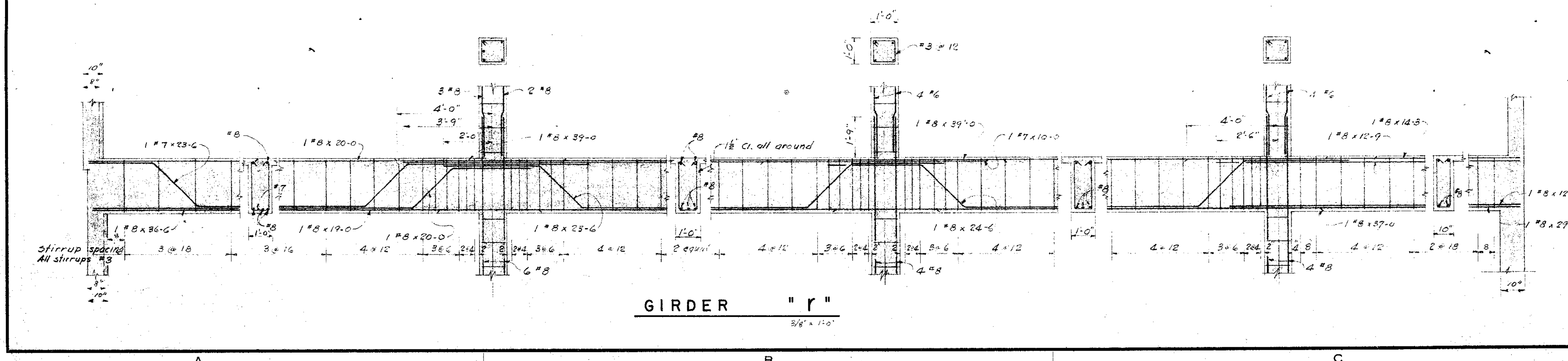
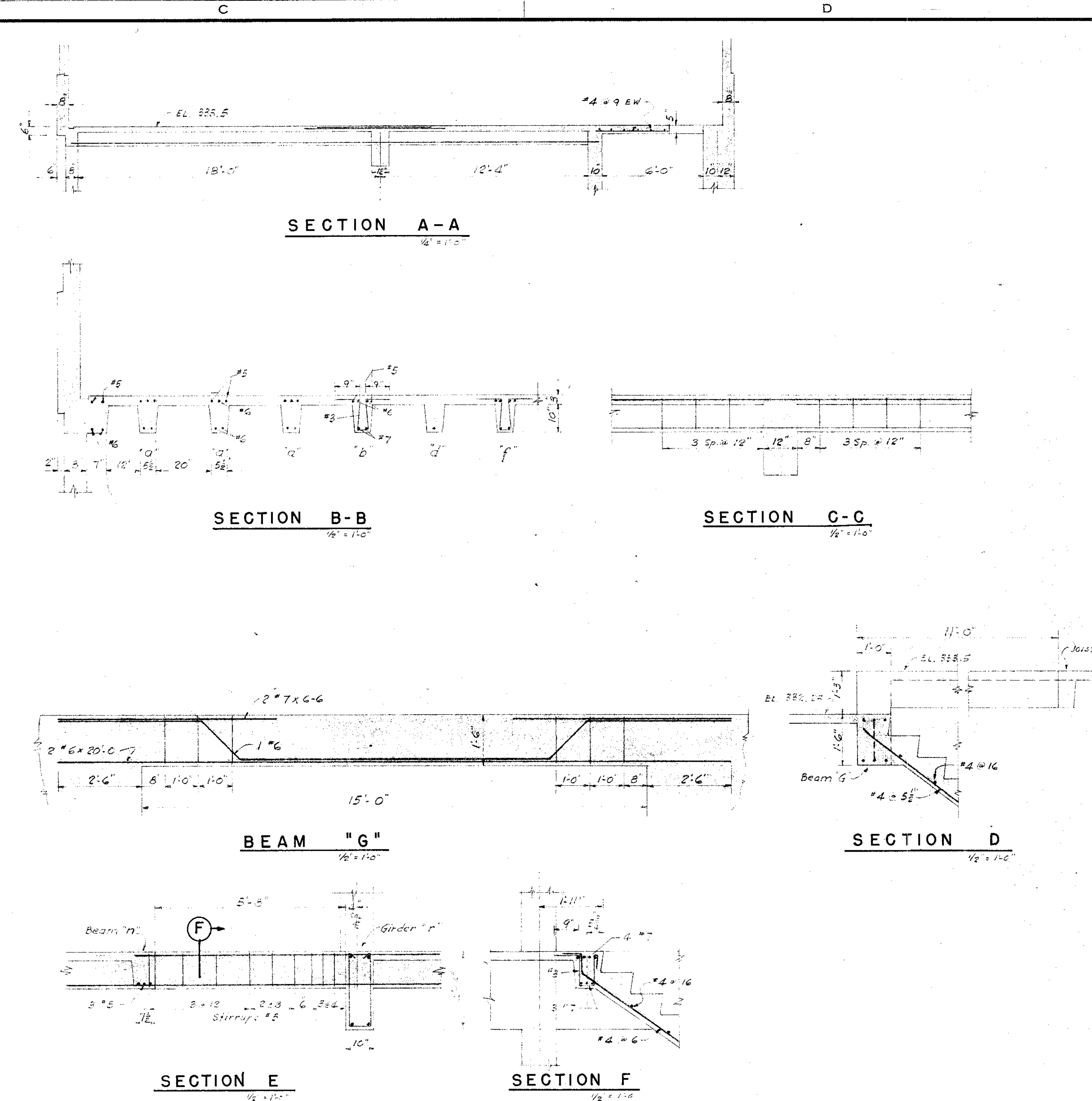
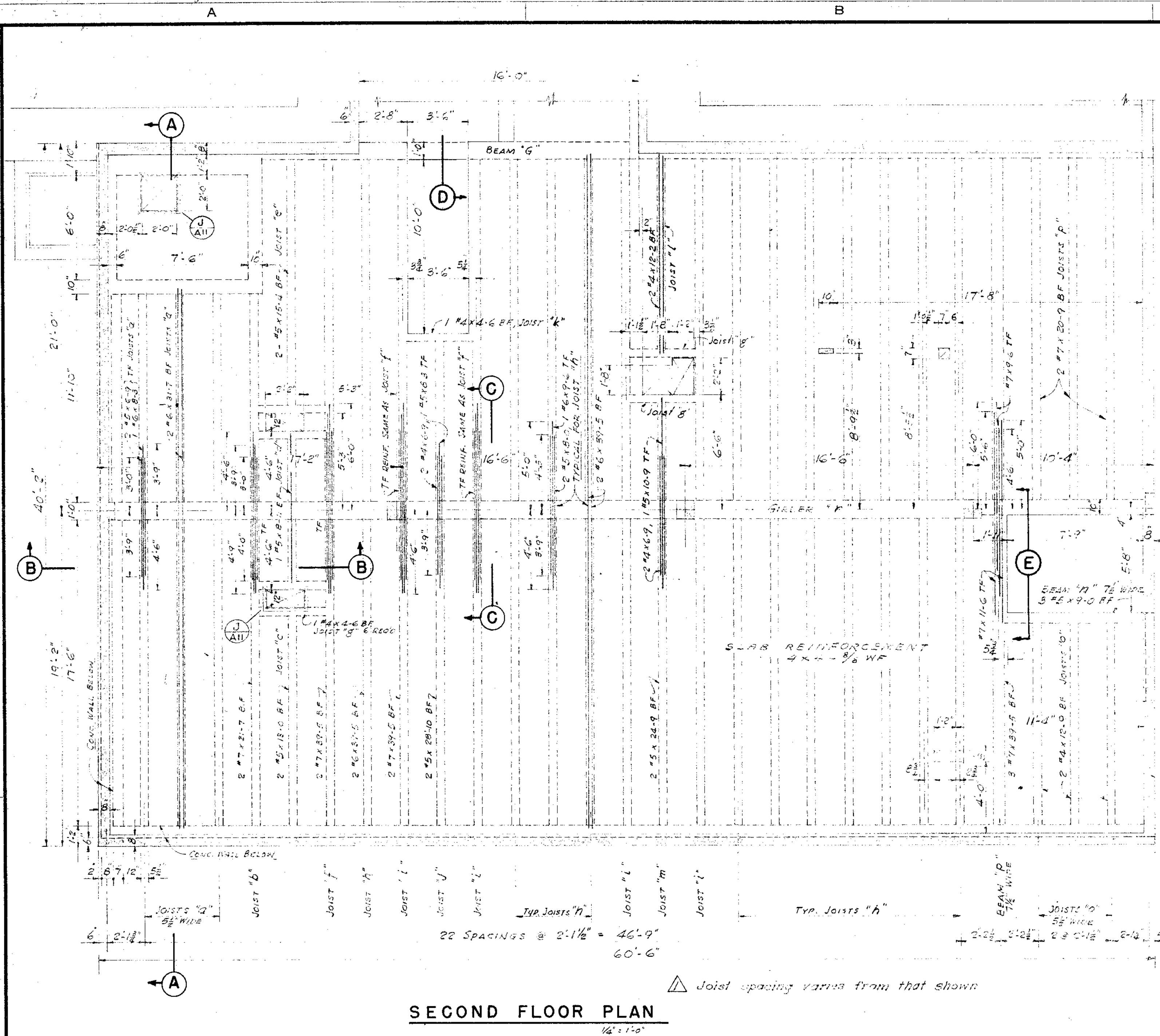


5-29-59	As built	ATS
12-27-57	Pump Rm. Hatch Relocated. Observation Well Added	PK
DATE	NO.	REVISION

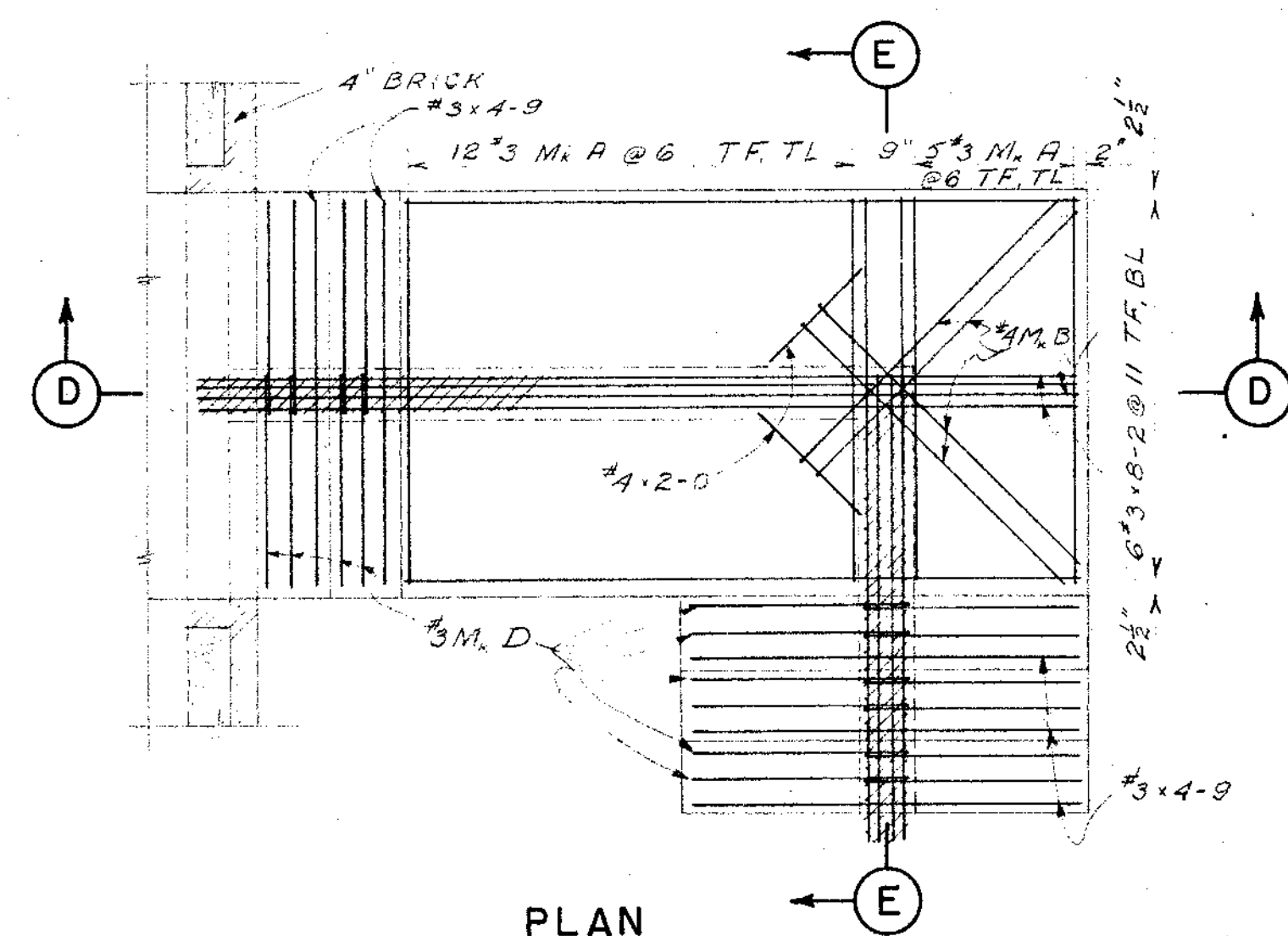
STEVENS & THOMPSON Consulting Engineers
 2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON

OREGON CITY - WEST LINN
WATER SUPPLY PROJECT
 SOUTH FORK WATER BOARD
 WATER PURIFICATION WORKS
 HEADHOUSE
FIRST FLOOR REINFORCEMENT

DESIGNED	HAS	APPROVED BY	<i>[Signature]</i>	SHEET OF
DRAWN	HS	SCALE	3/8" = 1'-0"	S5
CHECKED	EAS	DATE	8-1-57	FILE 1160-3043

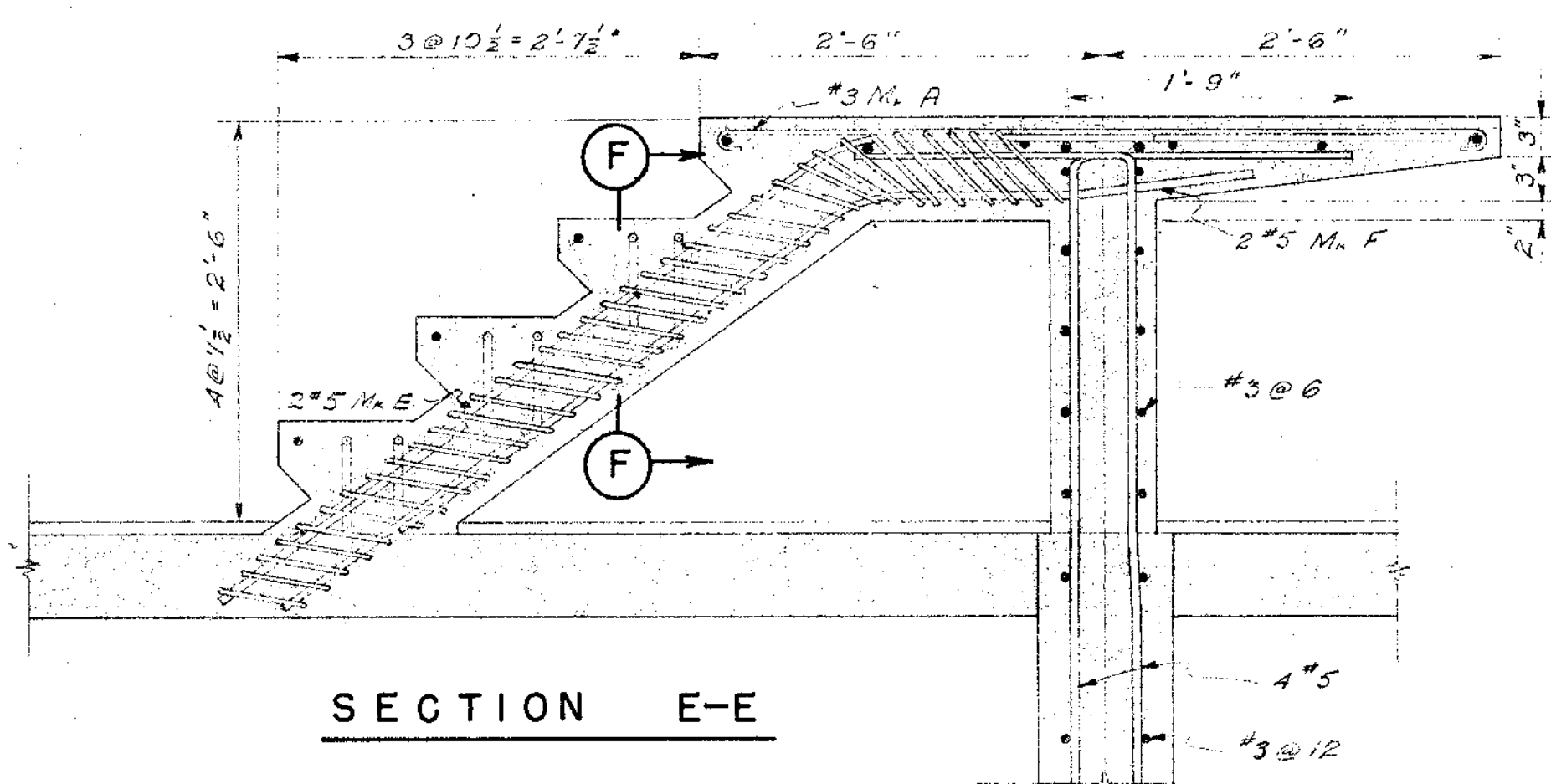


3-29-59	NO. 42	As Built	REVISION	478
DATE	NO.	As Built	REVISION	BY
STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON				
OREGON CITY — WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD WATER PURIFICATION WORKS HEADHOUSE SECOND FLOOR REINFORCEMENT				
DESIGNED H.A.S.	APPROVED BY J. A. Thompson	SHEET	OF	
DRAWN P.K.	SCALE AS NOTED	S6		
CHECKED E.A.S.	DATE 8-1-57 FILE 1160-3044	77		

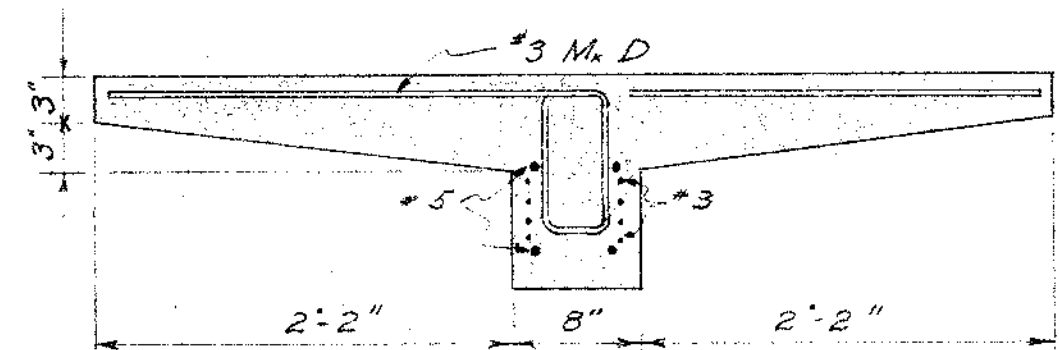


PLAN

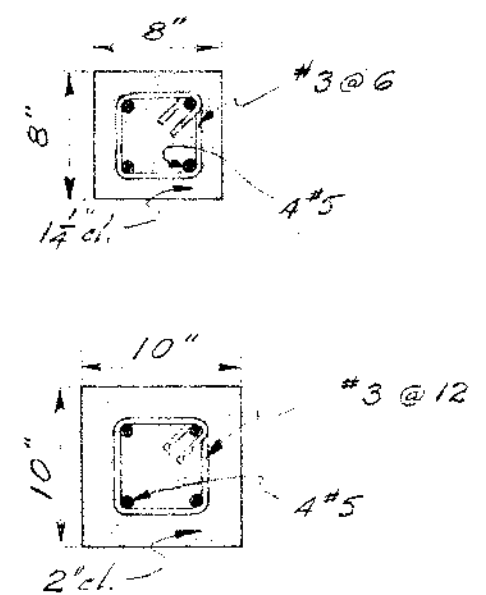
Scale: 1/2" = 1'-0"



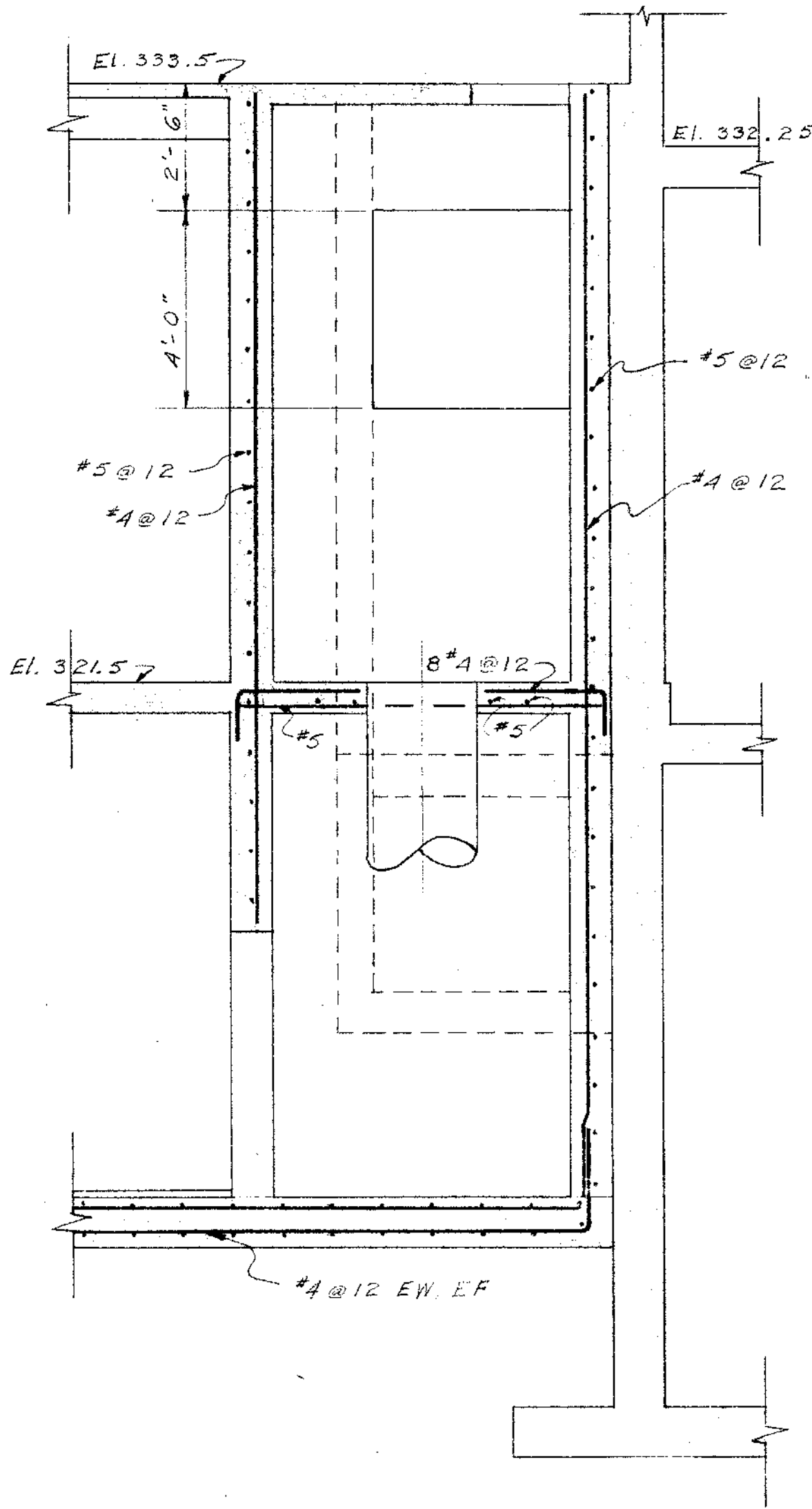
SECTION E-E



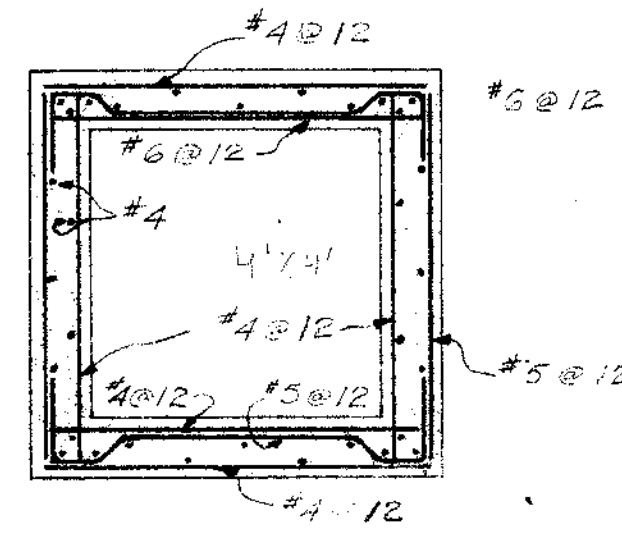
SECTION F-F



SECTION B-B



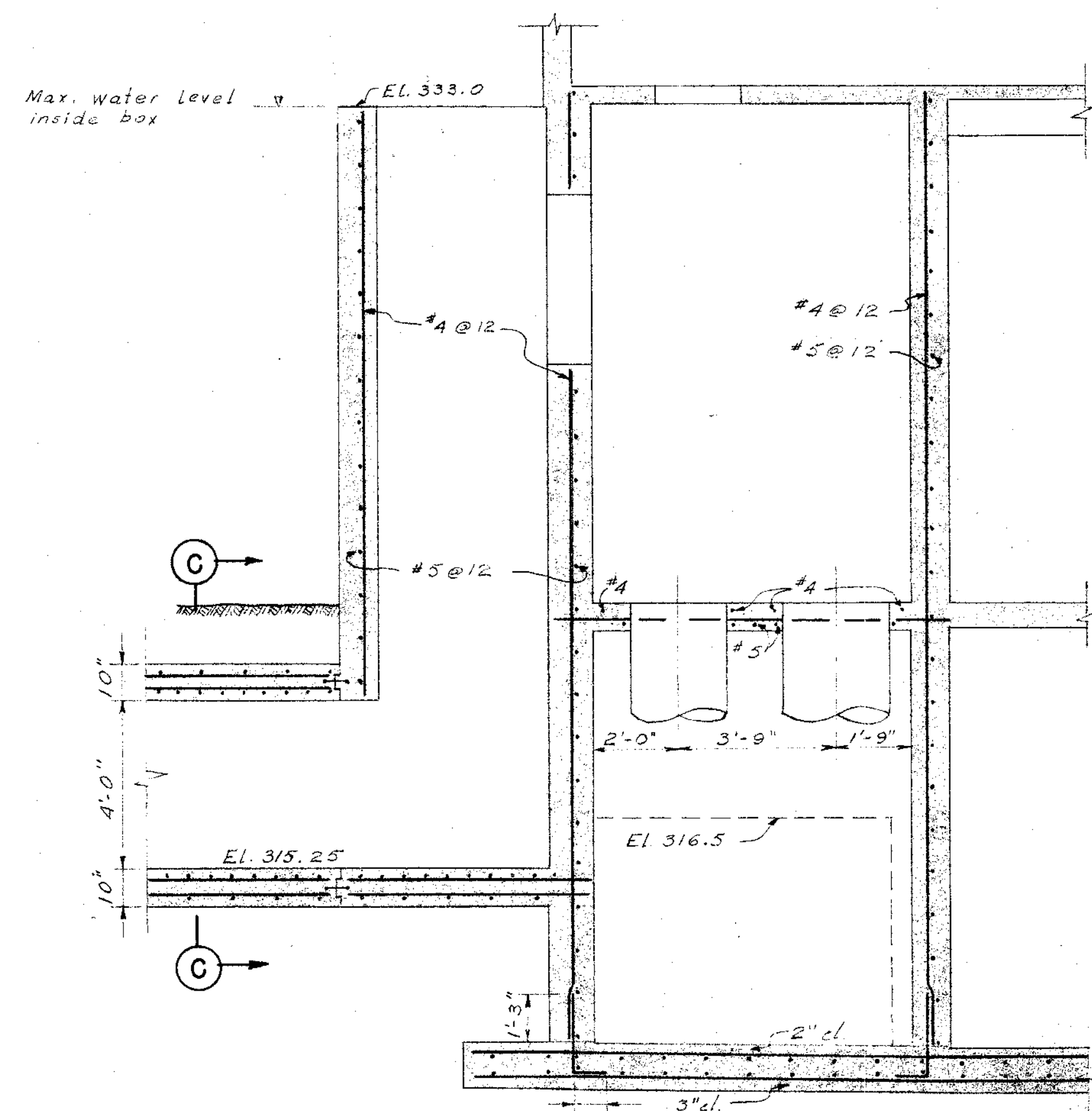
SECTION C-C



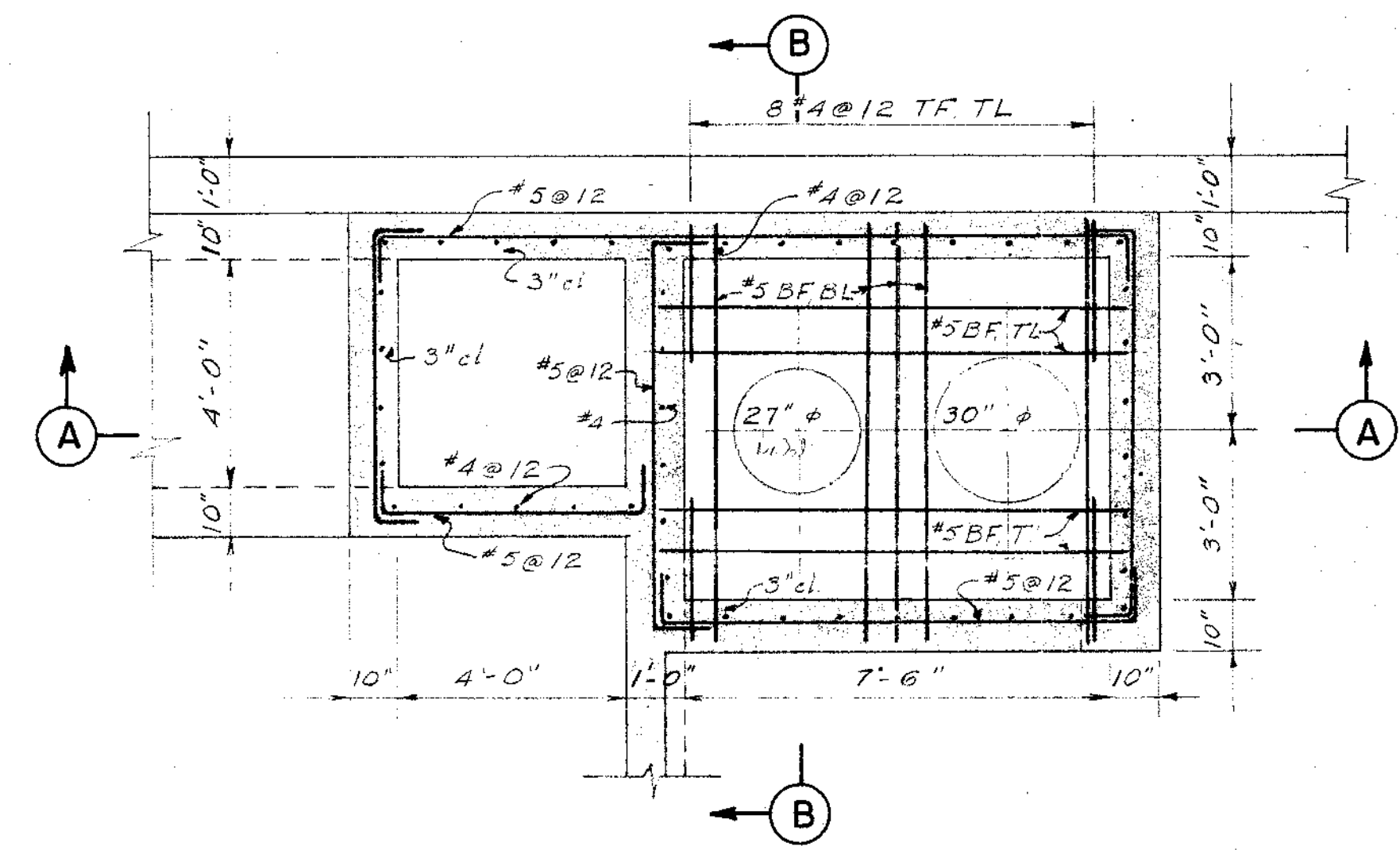
RAW WATER INTAKE

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

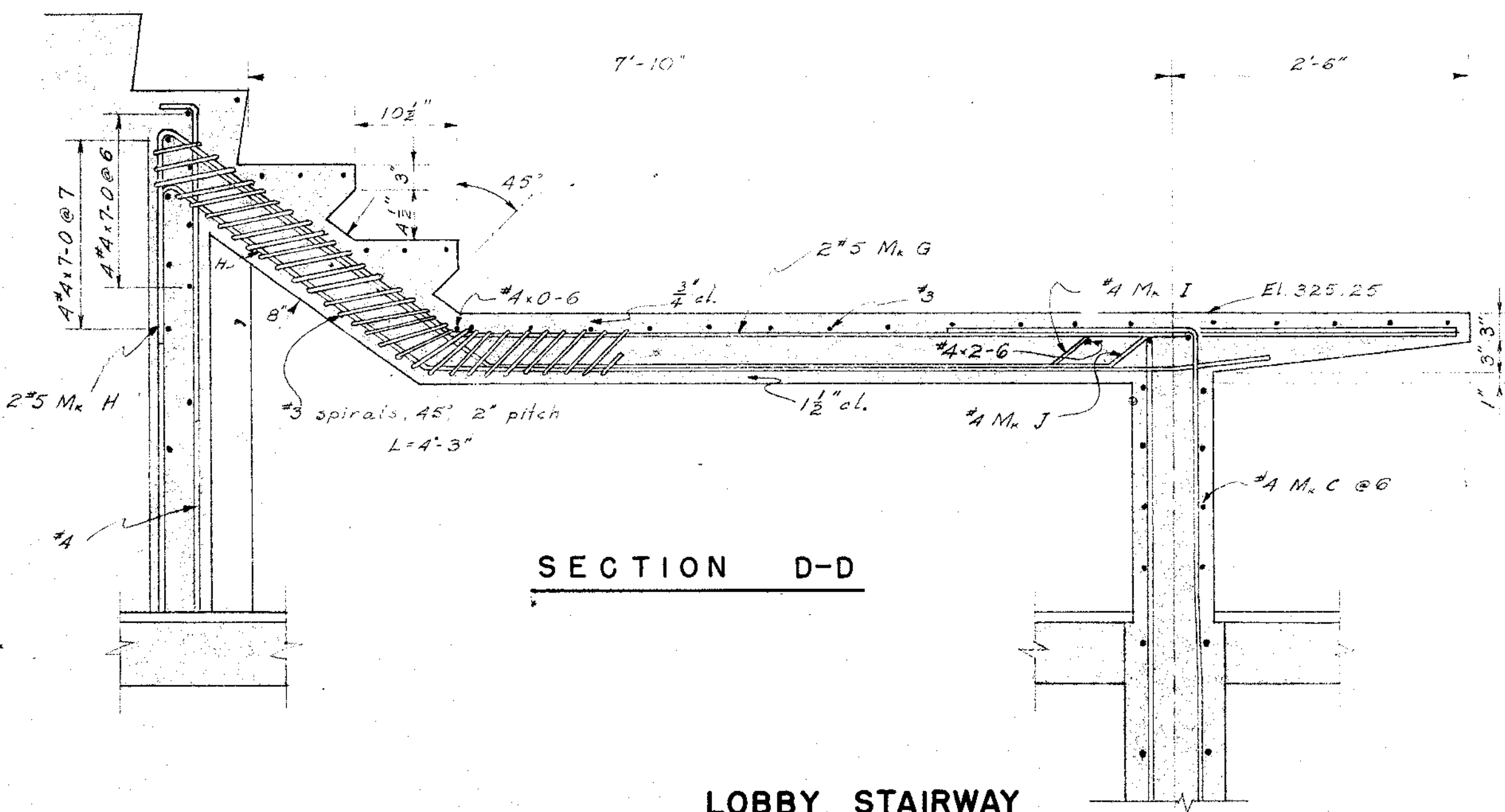
M.	SKETCH	OUT TO CUT DIMENSIONS					
		a	b	c	d	e	f
A		4-9					
B		0-3	4-6				
C		0-5					
D		0-7	2-7				
E		7-3	4-0	2-6	3-1 1/2		
F		3-6	1-1 1/2	1-3	2-0	2-8 1/2	
G		0-6	3-1	8-5	1-3 1/2	2-0	
H		1-1	2-8	2-3 1/2	6-2	0-9	0-1 1/2
I		1-5	2-1	2-11	4-9	0-3 3/4	3-1
J		1-3	2-1	2-11	5-2	0-8 3/4	2-5



SECTION A-A



PLAN SECTION AT ELEV. 322.0



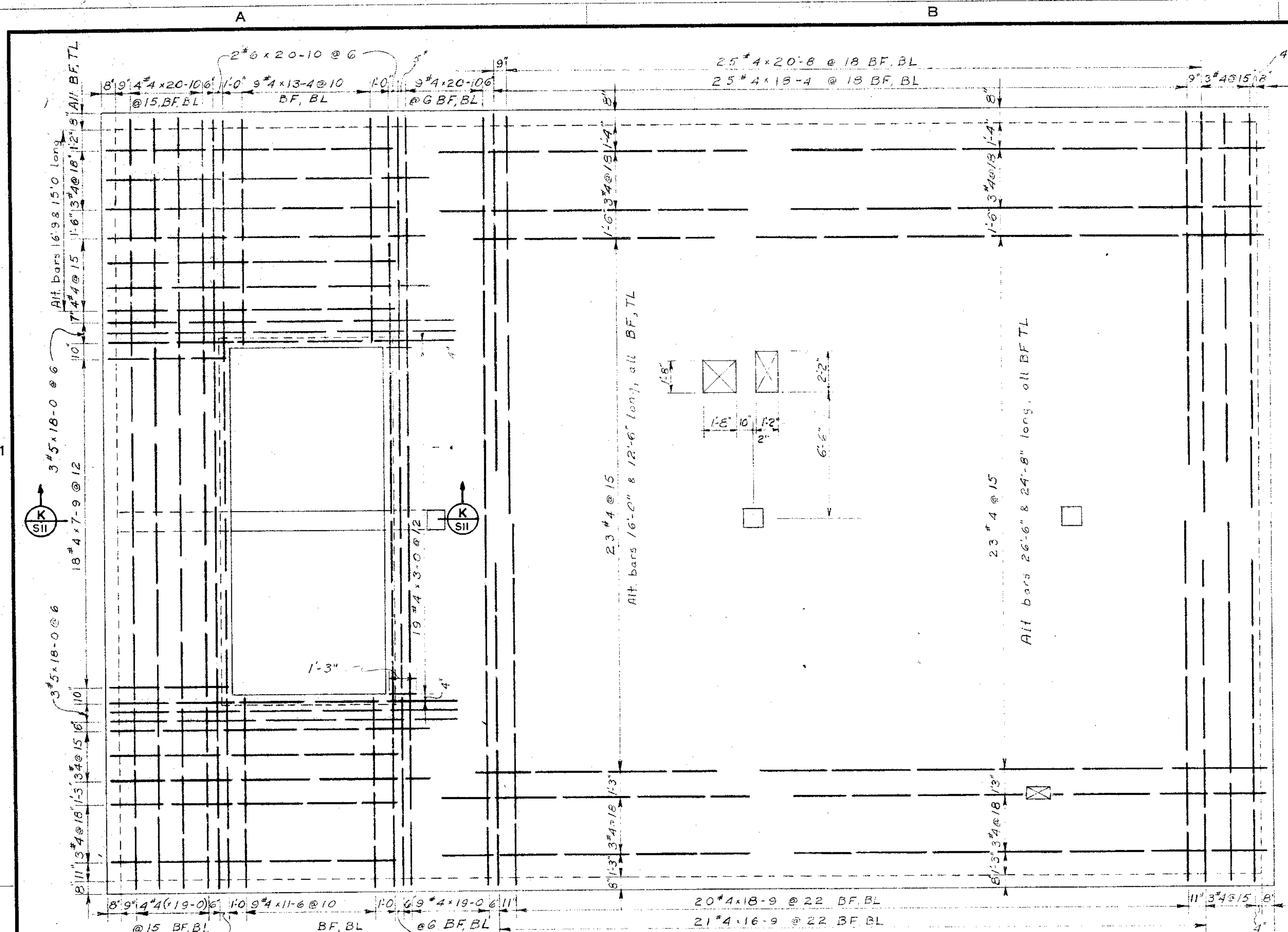
SECTION D-D

LOBBY STAIRWAY

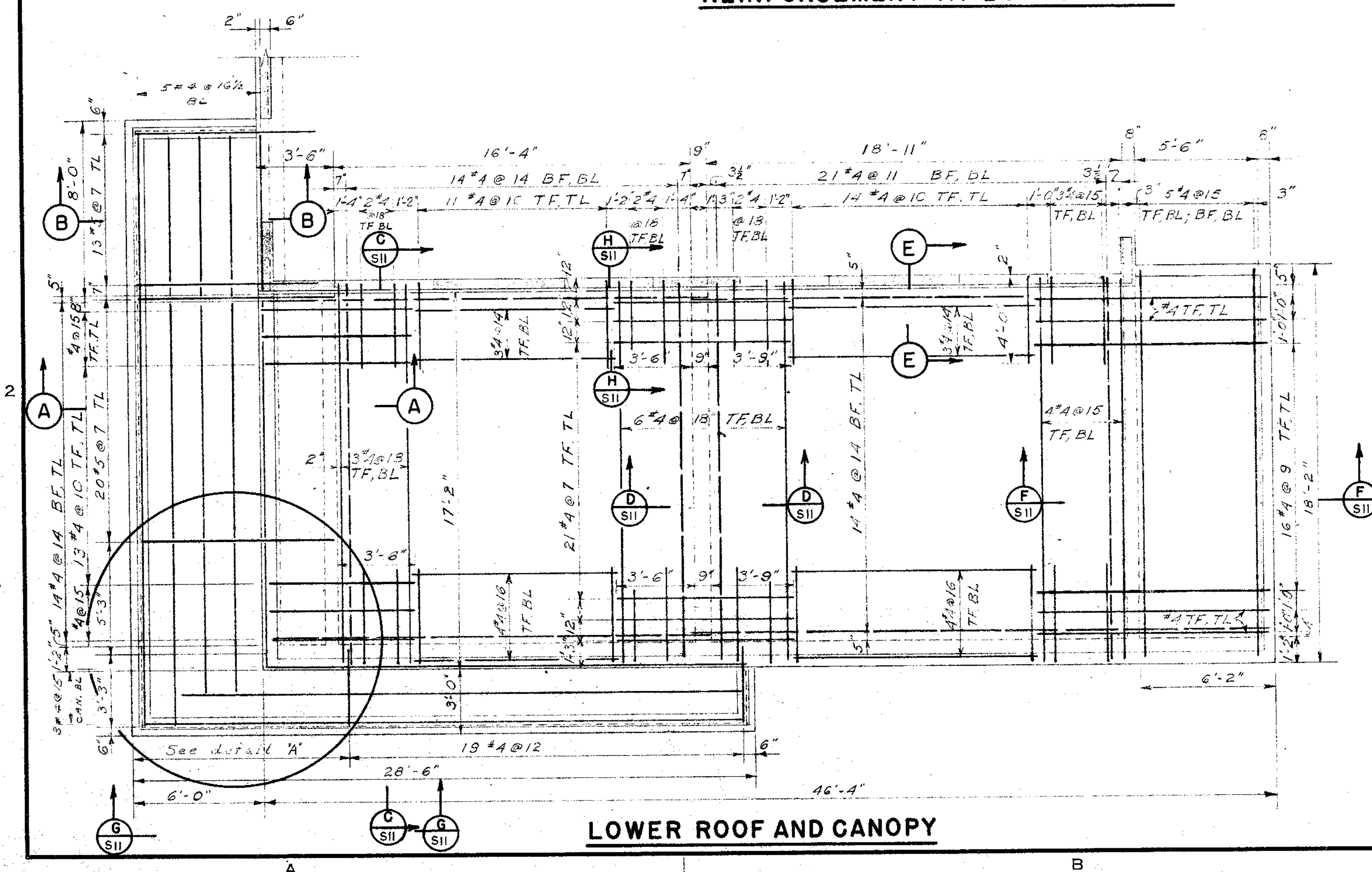
Scale: 1" = 1'-0"

DESIGNED	HAS	APPROVED BY	<i>[Signature]</i>	SHEET	58
DRAWN	HS	SCALE	AS SHOWN	OF	77
CHECKED	EAS	DATE	8-1-57	FILE	1160-3046

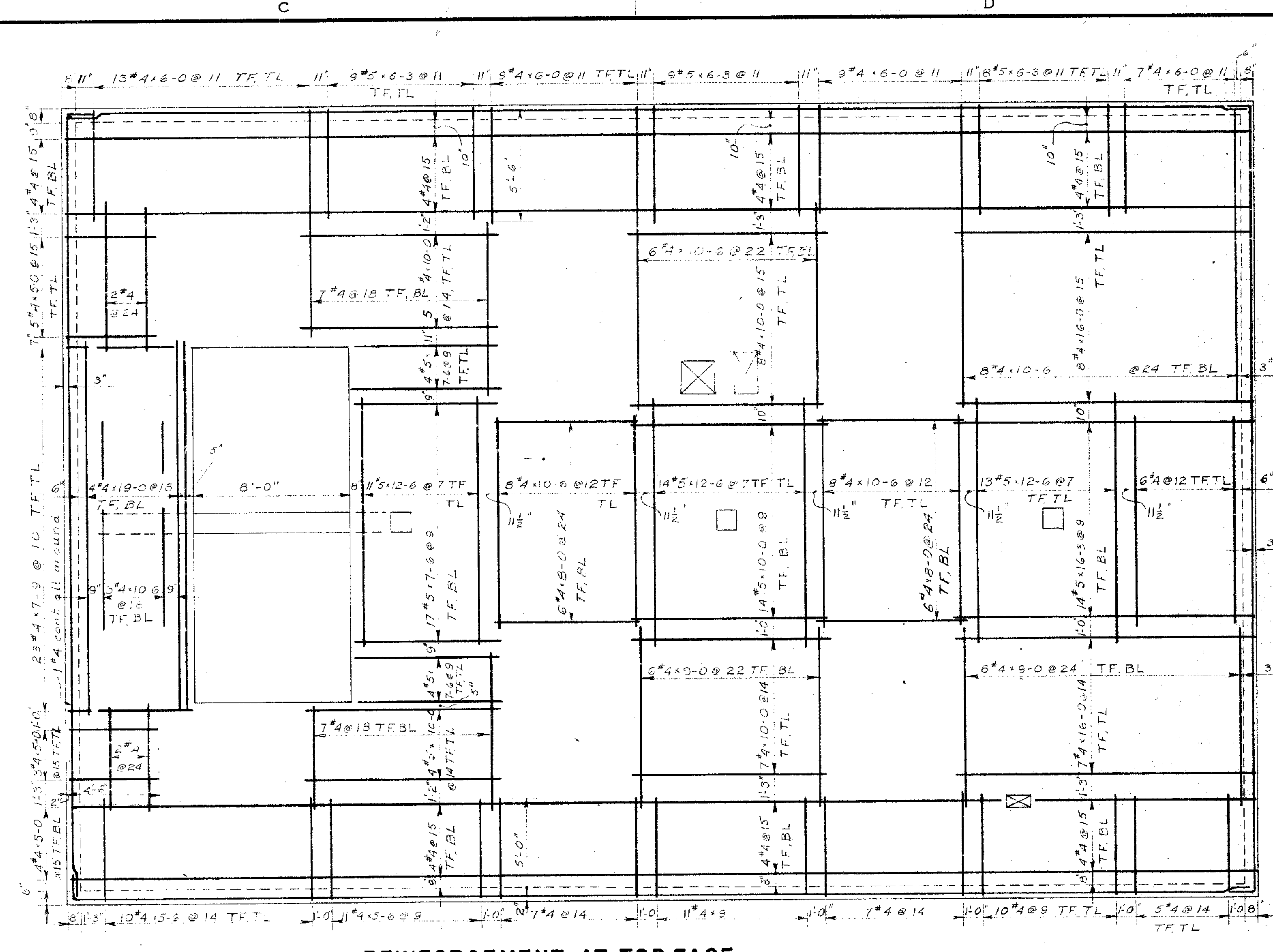
9-23-59
 DATE NO. As Built
 REVISION
 BY
STEVENS & THOMPSON Consulting Engineers
 2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON
 OREGON CITY — WEST LINN
WATER SUPPLY PROJECT
 SOUTH FORK WATER BOARD
 WATER PURIFICATION WORKS
**RAW WATER INTAKE BOX
 & MAIN STAIRS**



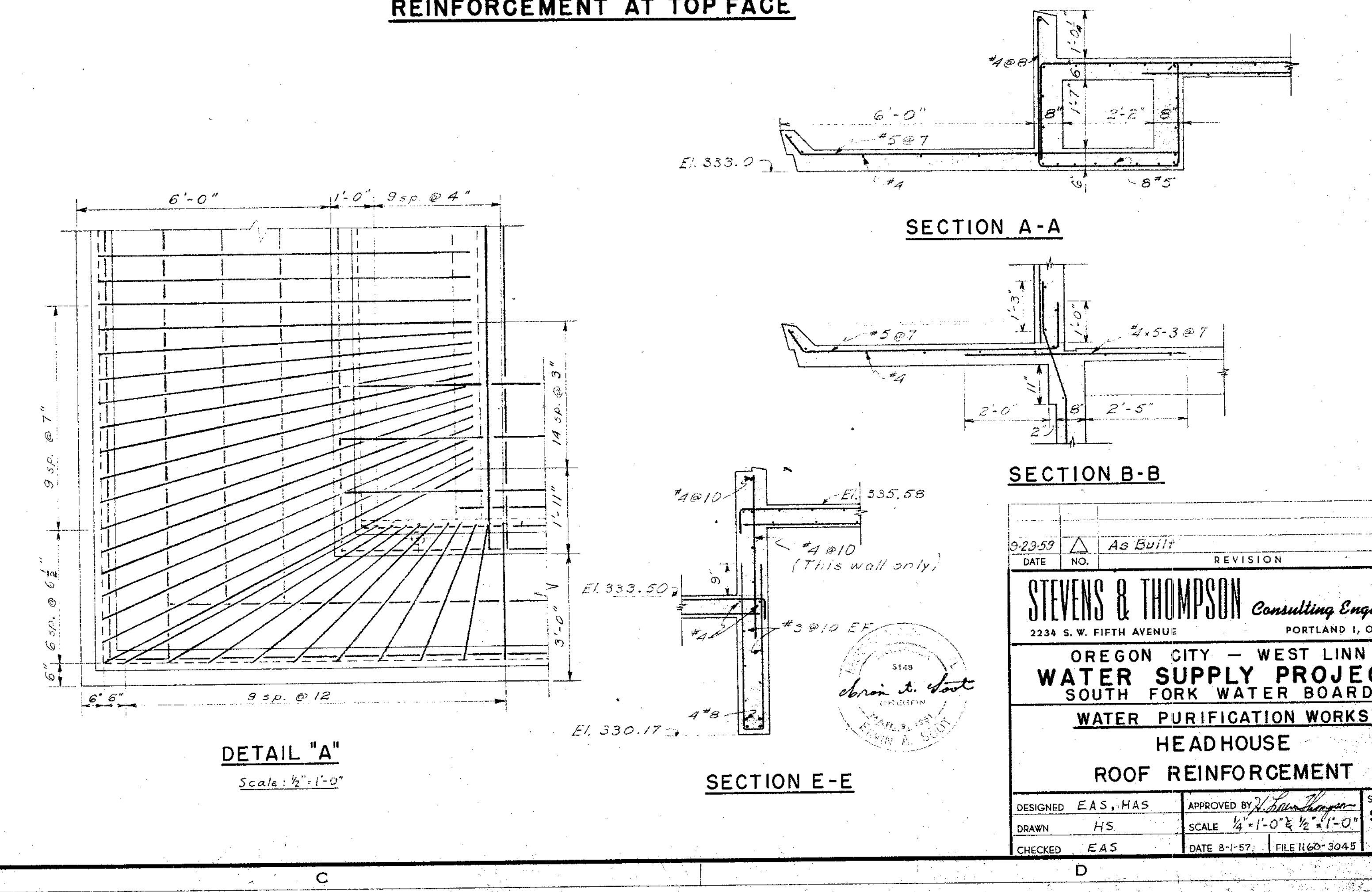
REINFORCEMENT AT BOTTOM FACE



LOWER ROOF AND CANOPY



REINFORCEMENT AT TOP FACE



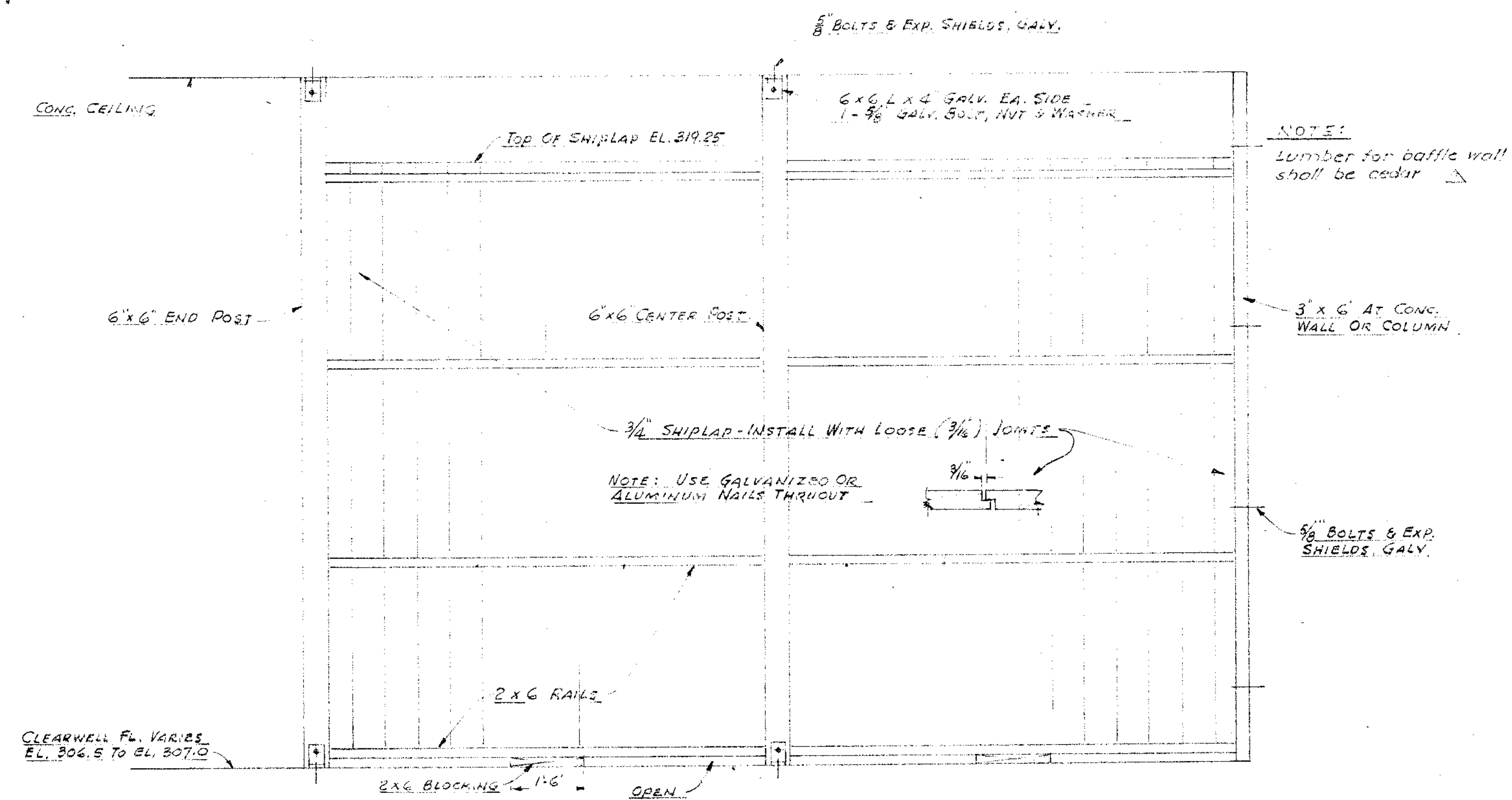
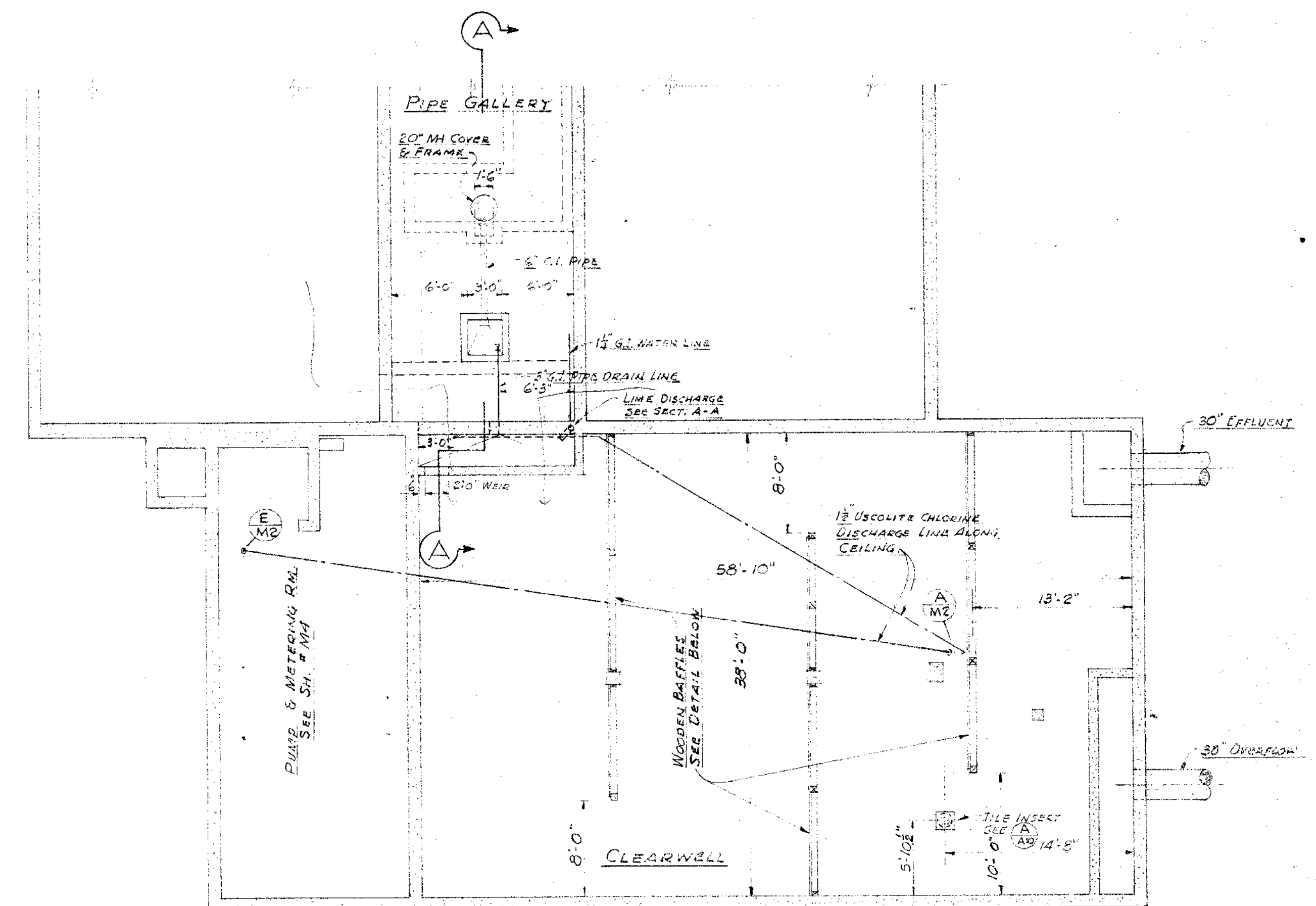
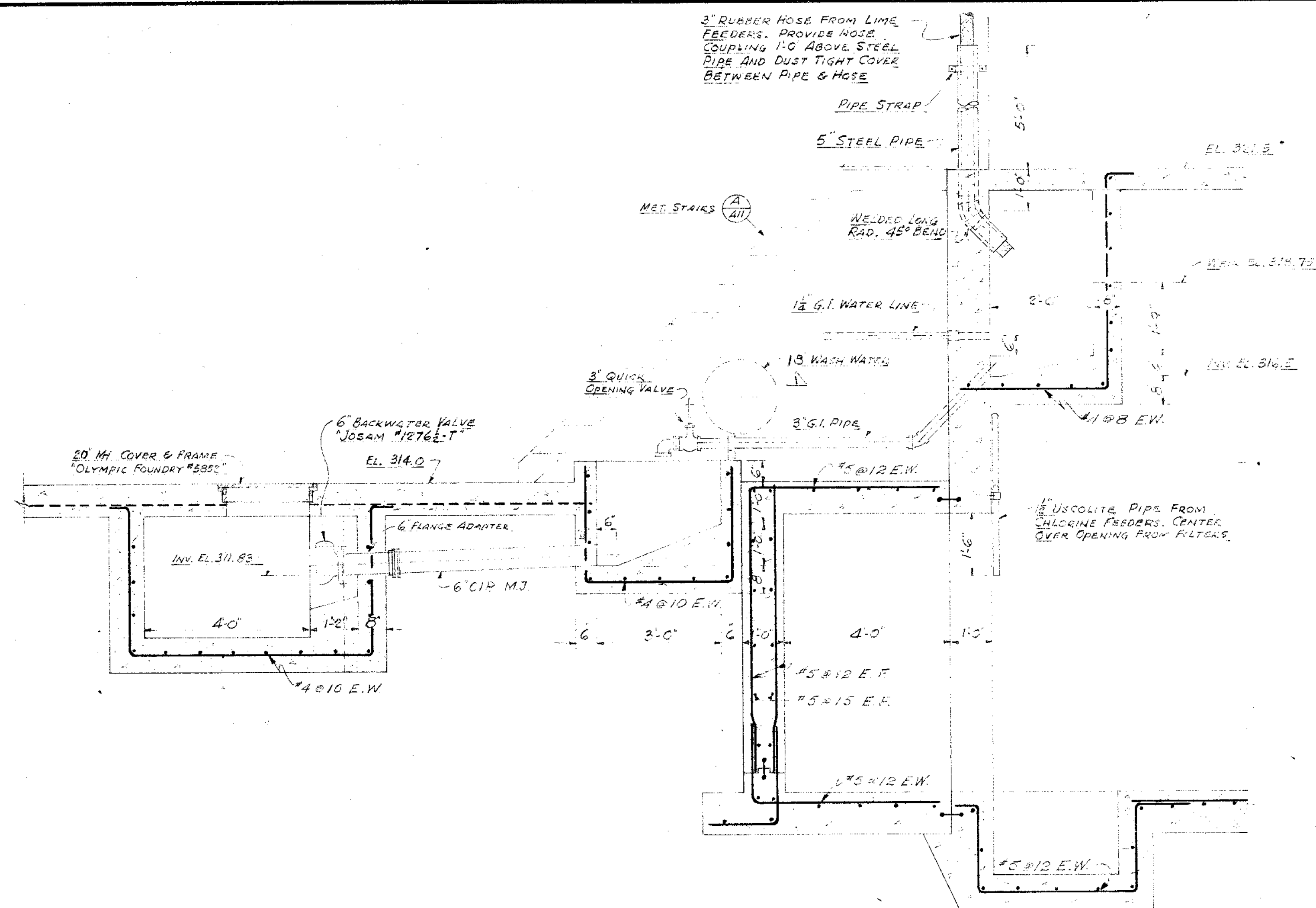
DETAIL "A"
Scale: 1/4"=1'-0"

SECTION A-A

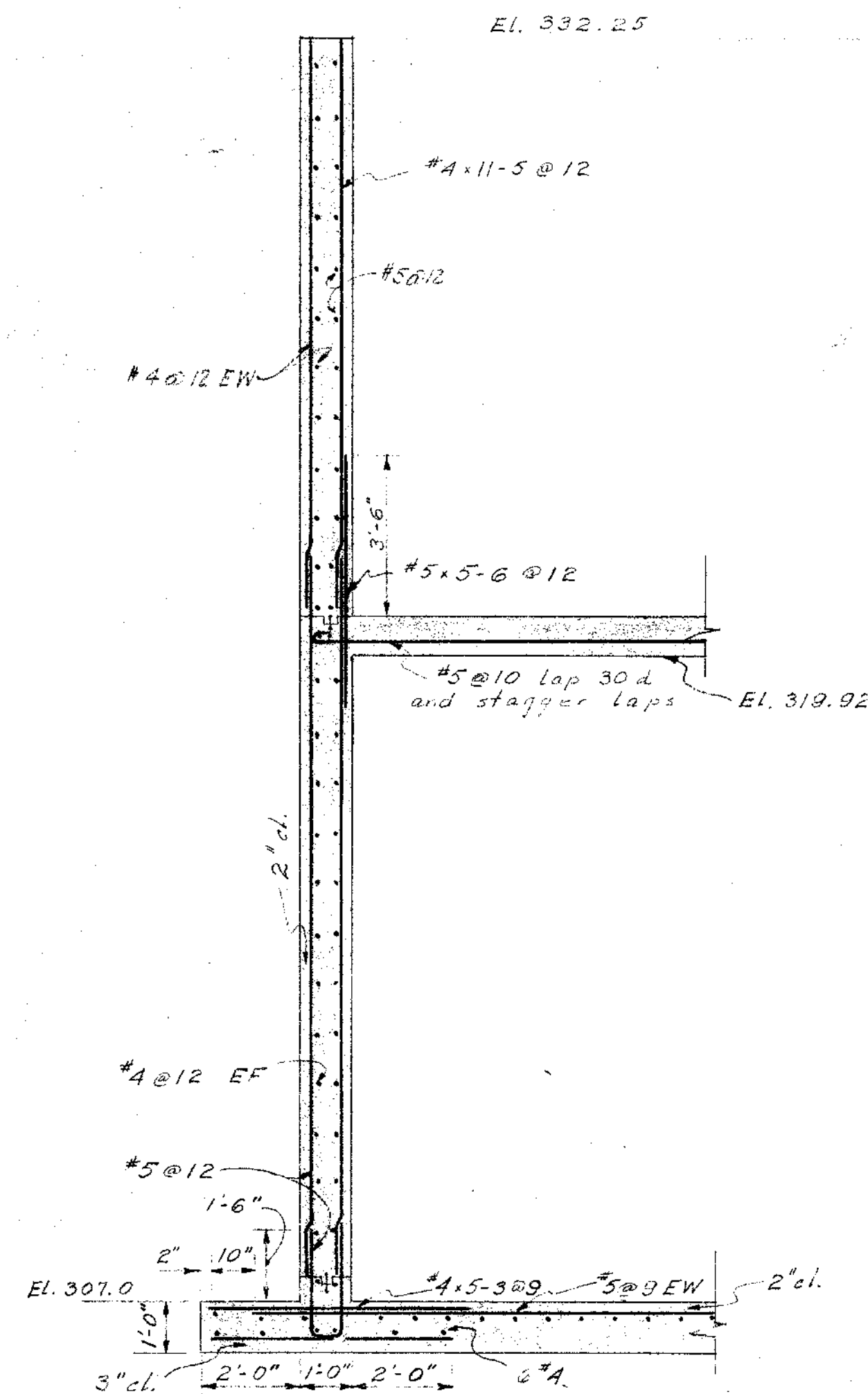
SECTION B-B

SECTION E-E

DATE	NO.	As Built	REVISION	ATC
9-23-59				
STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON				
OREGON CITY - WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD WATER PURIFICATION WORKS HEADHOUSE ROOF REINFORCEMENT				
DESIGNED	EAS, HAS	APPROVED	By <i>[Signature]</i>	SHEET
DRAWN	HS	SCALE	1/4"=1'-0" & 1/2"=1'-0"	77
CHECKED	EAS	DATE	8-1-57	FILE
			1160-3045	

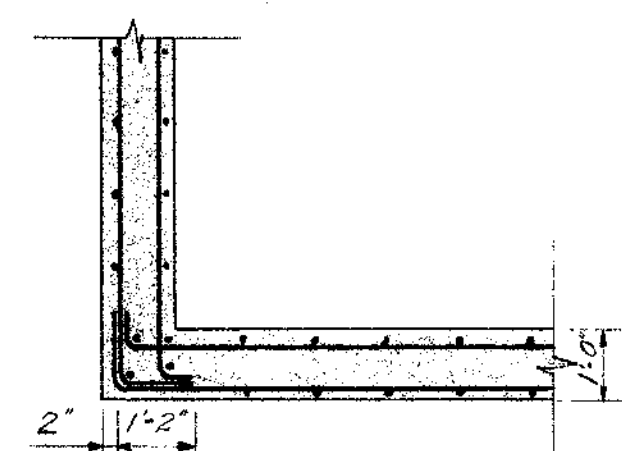


9-29-59		As Built	DATE	NO.	REVISION	BY	AS
STEVENS & THOMPSON <i>Consulting Engineers</i> 2234 S. FIFTH AVENUE PORTLAND 1, OREGON							
OREGON CITY - WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD							
<u>WATER PURIFICATION WORKS</u> CLEARWELL BAFFLE WALLS & LIMB TROUGH DETAILS							
DESIGNED <i>FFH</i>	APPROVED BY <i>VP</i>		SHEET		OF		
DRAWN <i>PLK</i>	SCALE <i>AS SHOWN</i>		59		77		
CHECKED <i>FTX</i>	DATE 8-1-59		FILE 1160-3049				

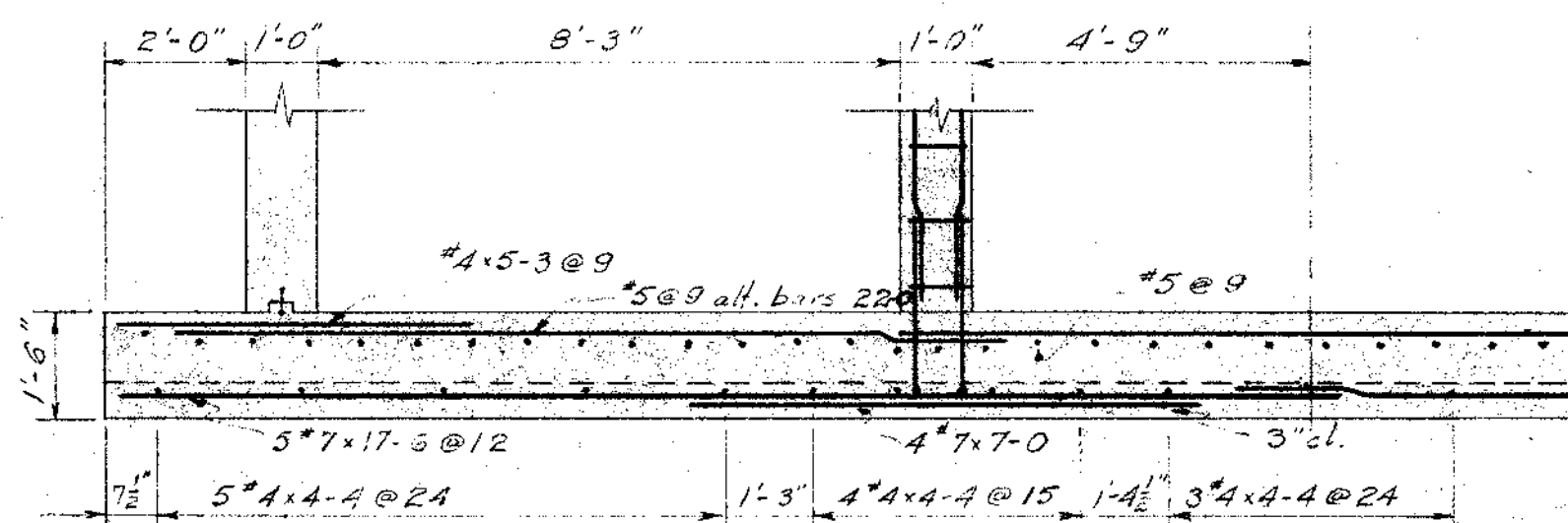
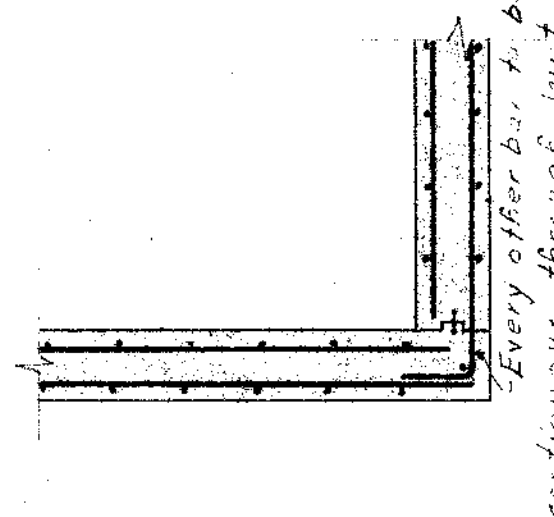


WALL SECTION

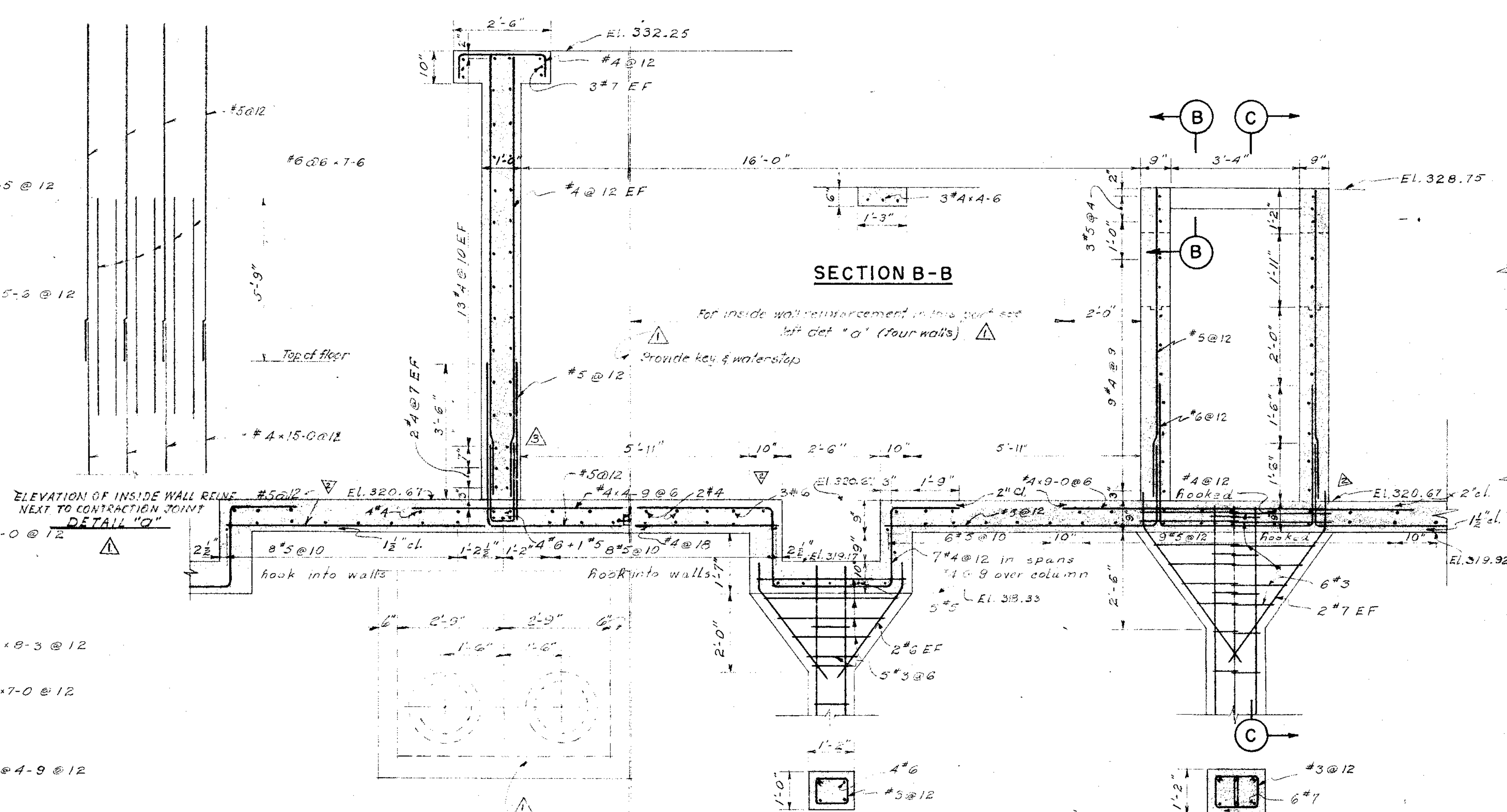
ELEVATION OF INSIDE REINFORCEMENT



WALL CORNERS

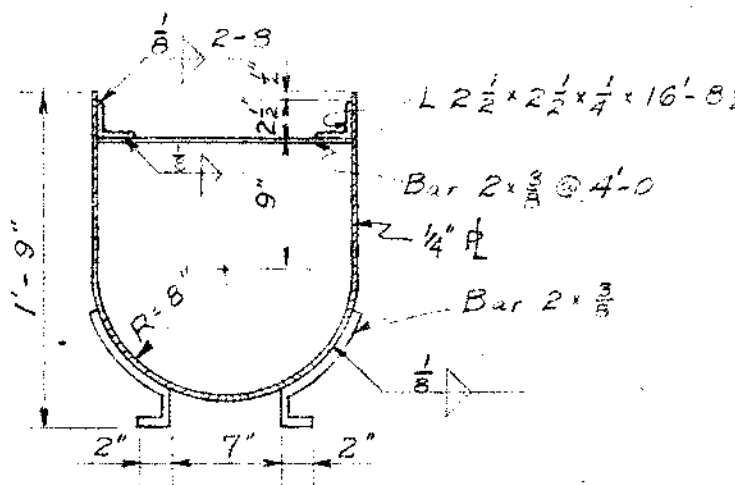


SECTION A-A
Scale: 3/8" = 1'-0"

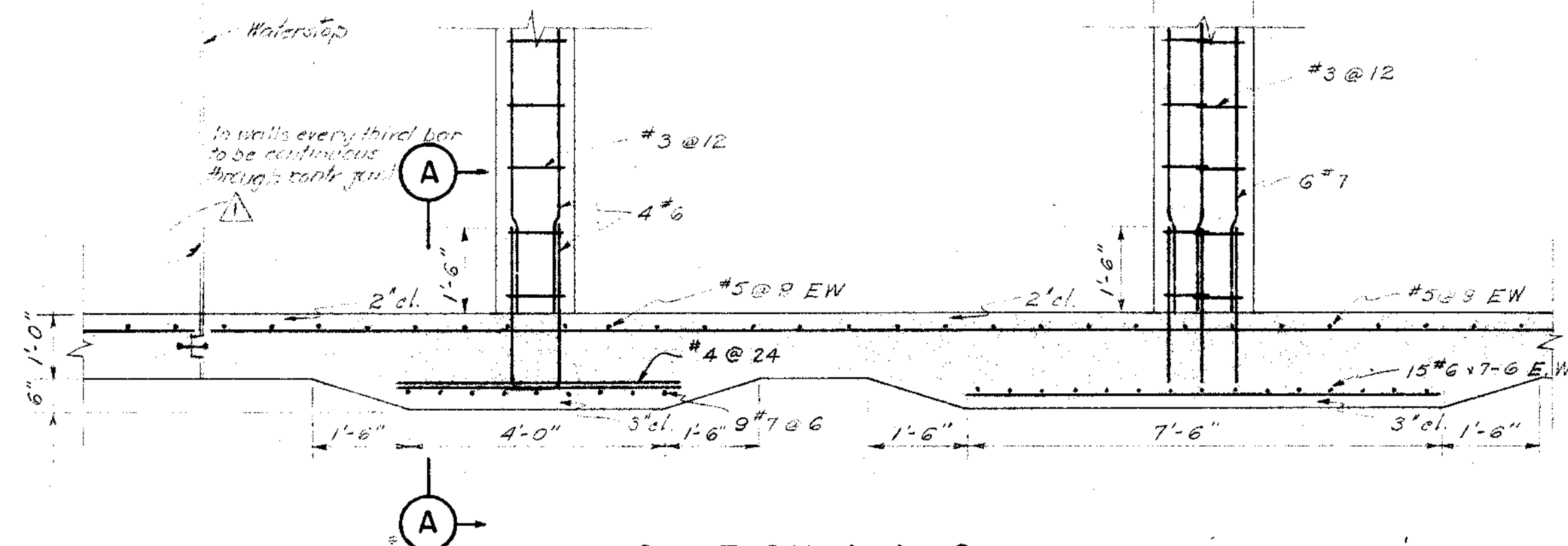


SECTION B-B

SECTION C-C



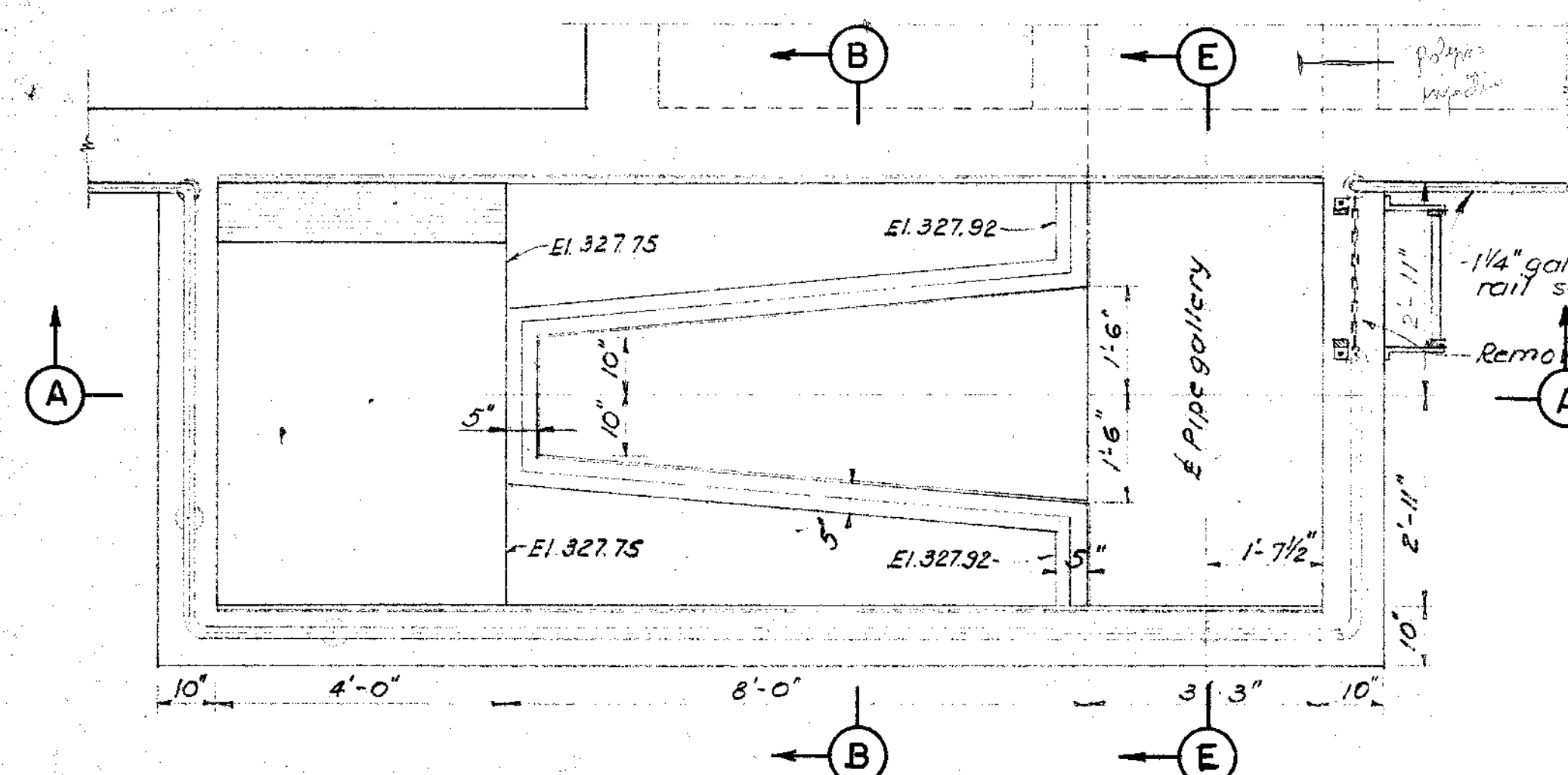
WASH TROUGH
Scale: 1" = 1'-0"



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

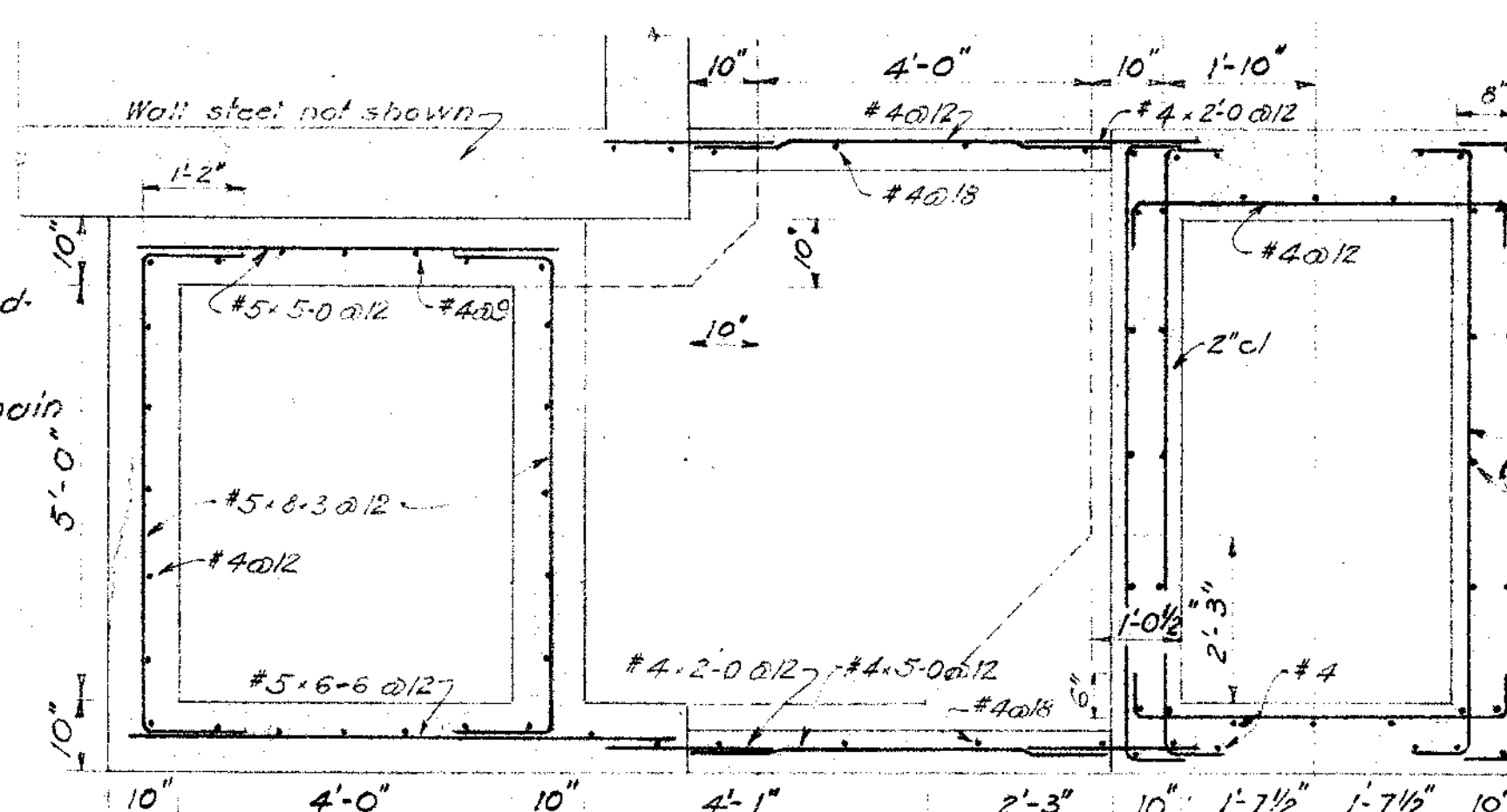
02-29-59	As Built - Removed shoulder	ATS
12-14-57	Revise Filter Bottom, Sec. A-A	L.K.H.
11-13-57	Contraction joint added	J.M.P.
DATE	NO.	REVISION
STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON OREGON CITY - WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD WATER PURIFICATION WORKS FILTER SECTIONS REINFORCEMENT		
DESIGNED	E.A.S.	APPROVED BY <i>[Signature]</i>
DRAWN	H.S.	SCALE <i>As shown</i>
CHECKED	E.A.S.	DATE 8-12-59 FILE 1160-3048
SHEET 10 OF 77		77





PLAN

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



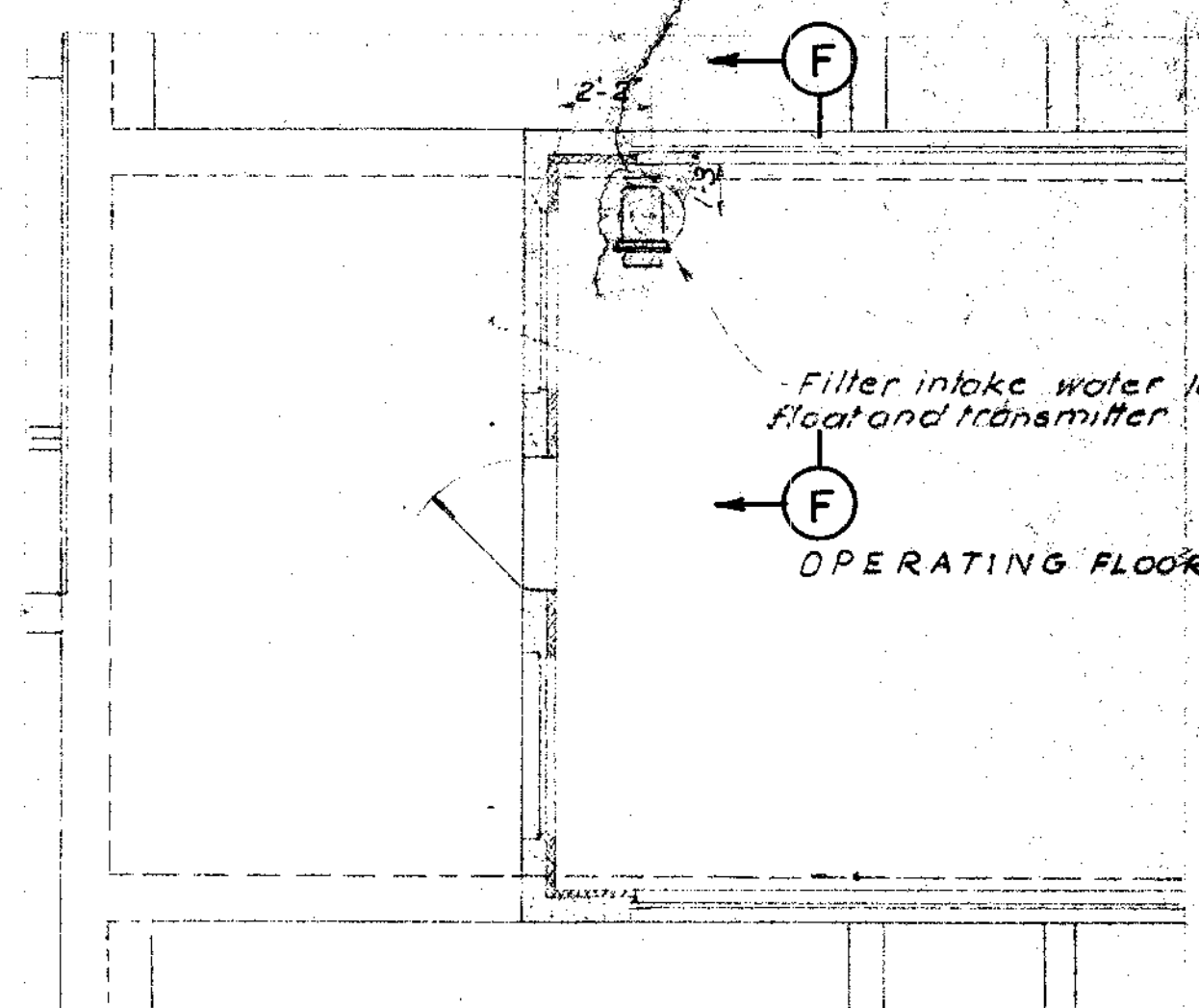
PLAN SECTION C-C

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

OVERFLOW WEIR

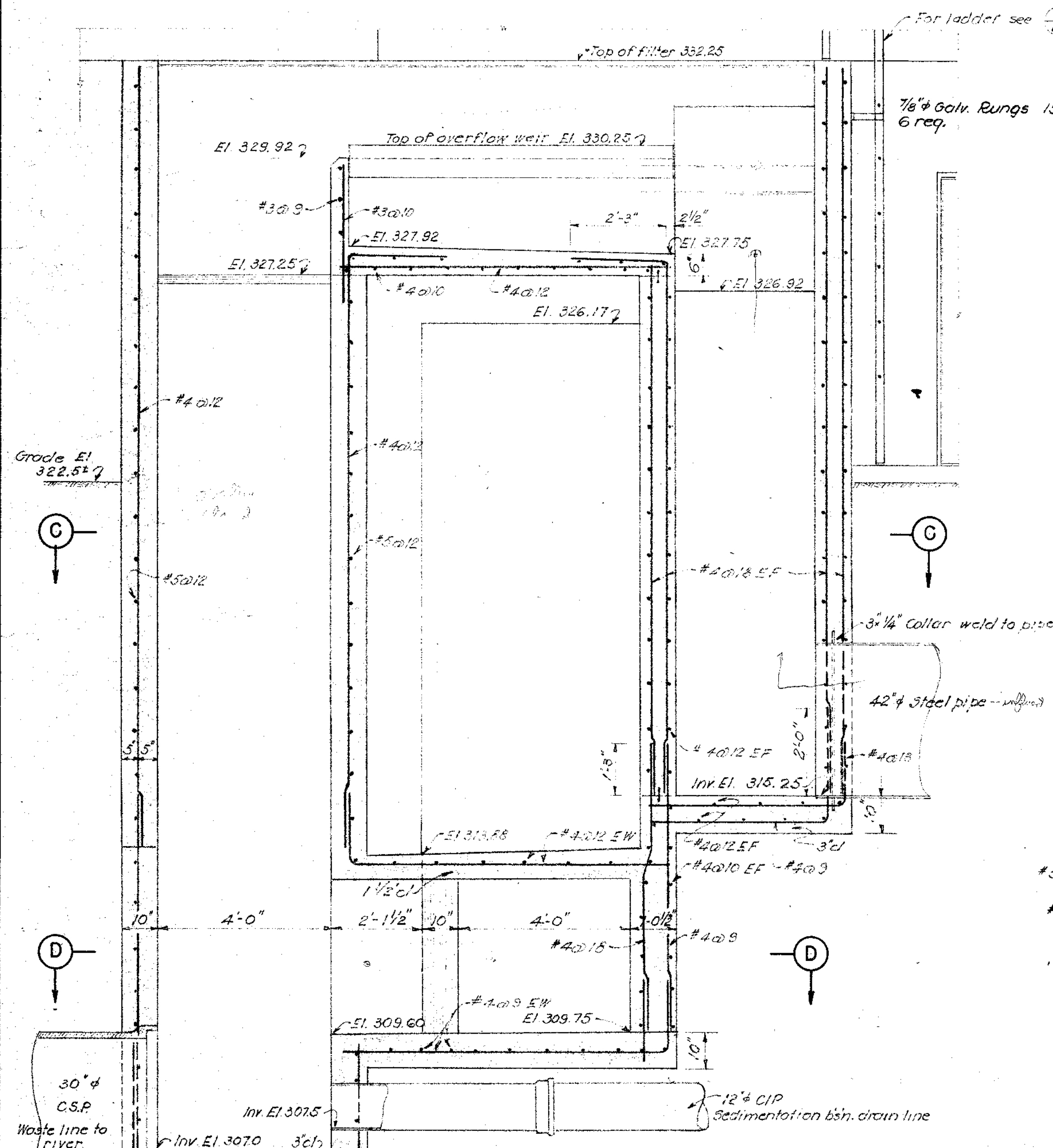
DETAIL

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



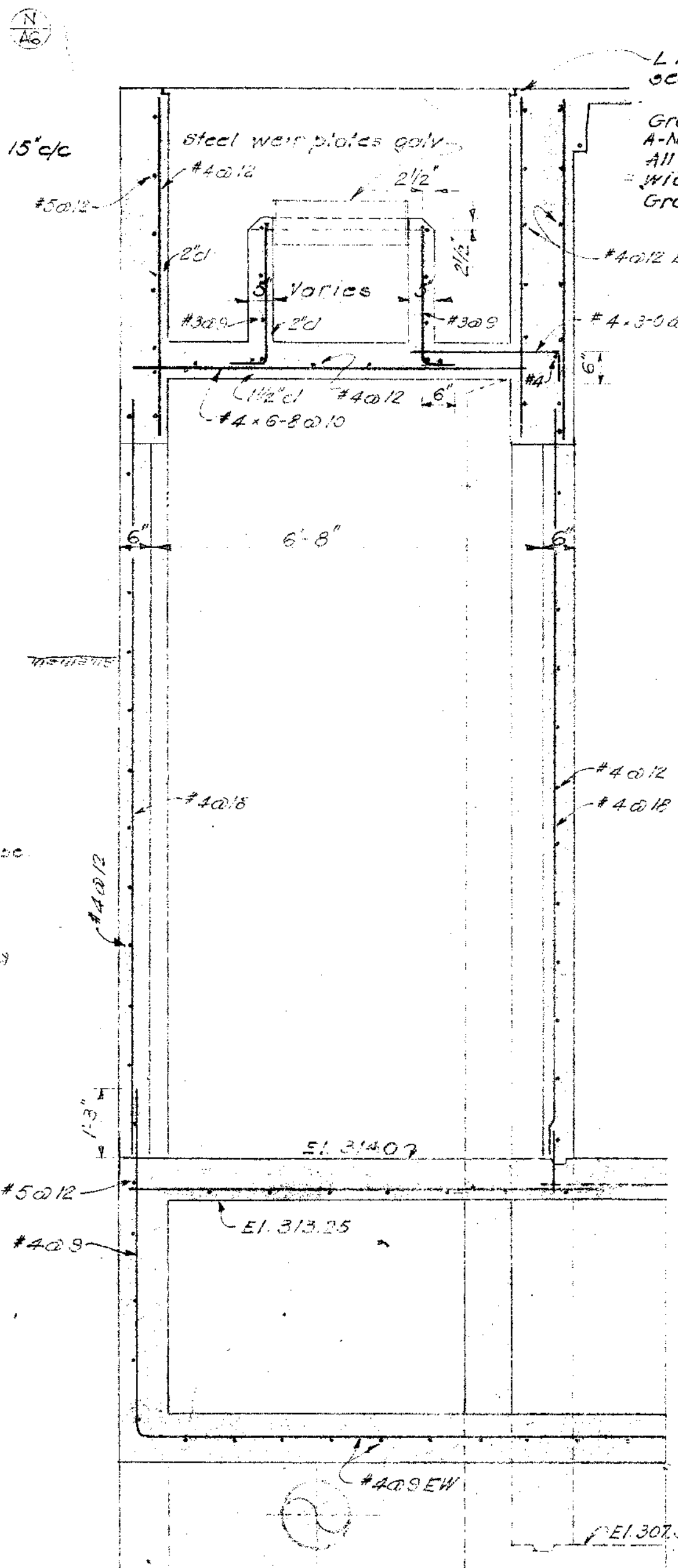
LOCATION PLAN

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



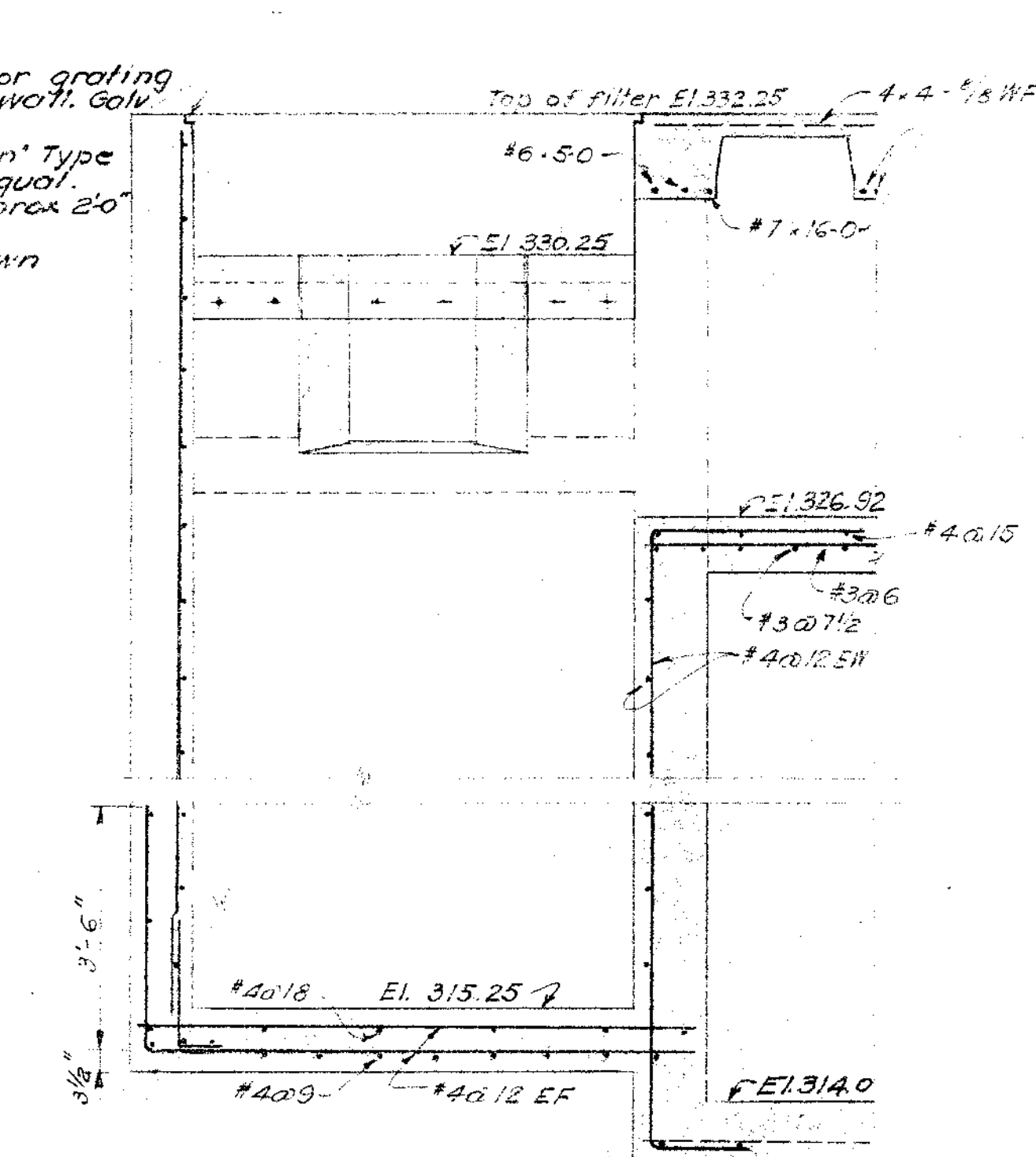
SECTION A-A

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



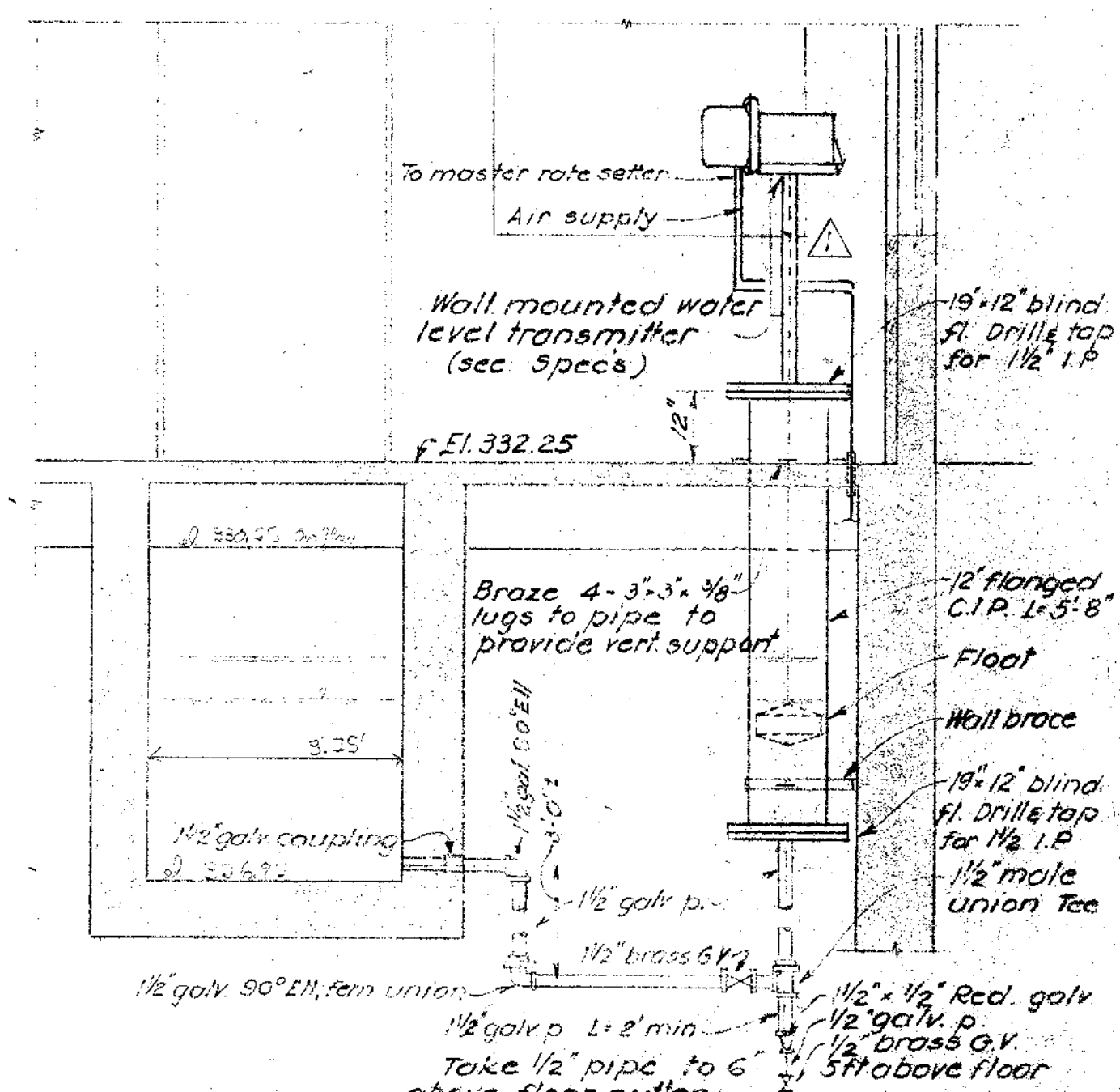
SECTION B-B

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



SECTION E-E

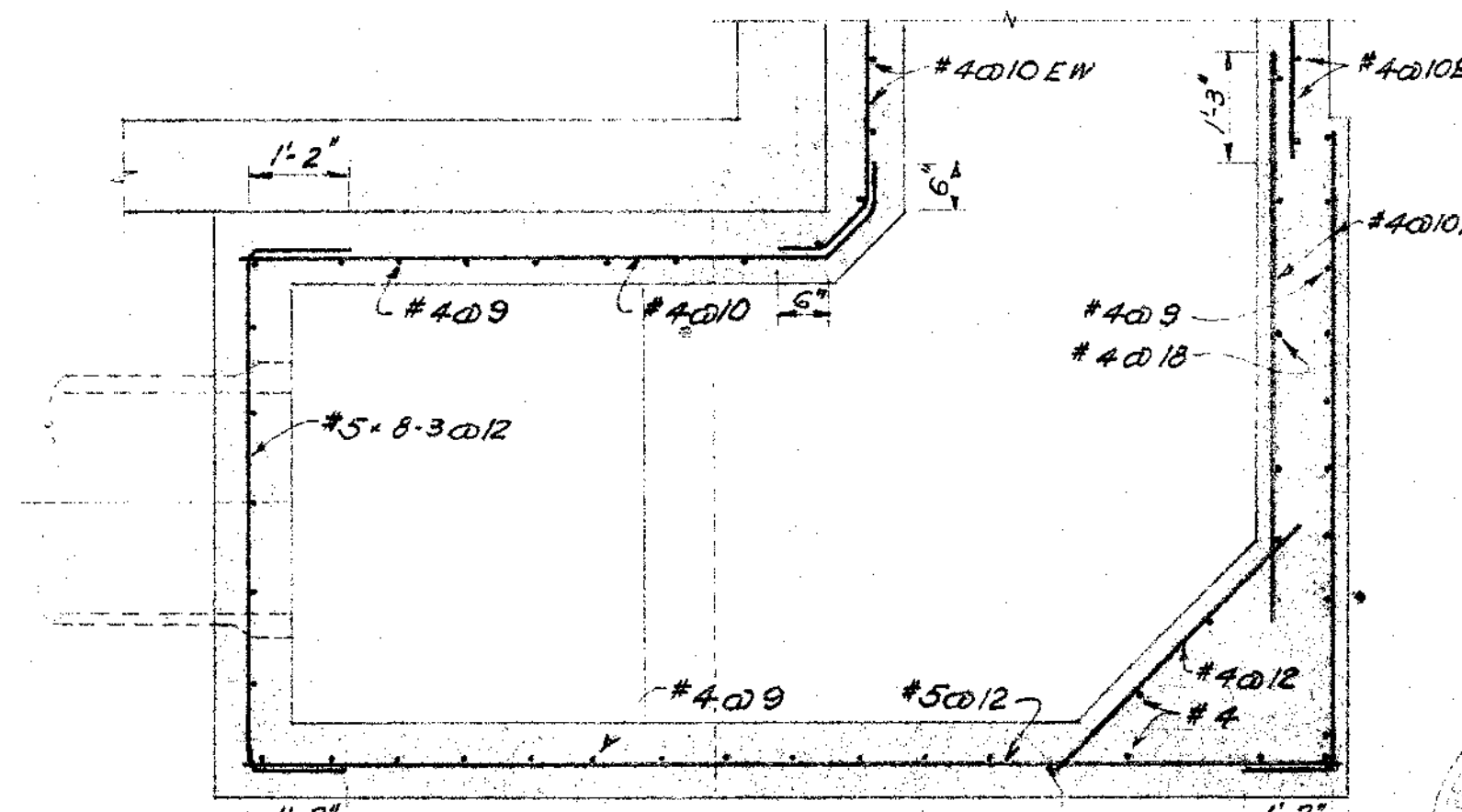
Scale: 1/2" = 1'-0"



SECTION F-F

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

FILTER WATER LEVEL TRANSMITTER

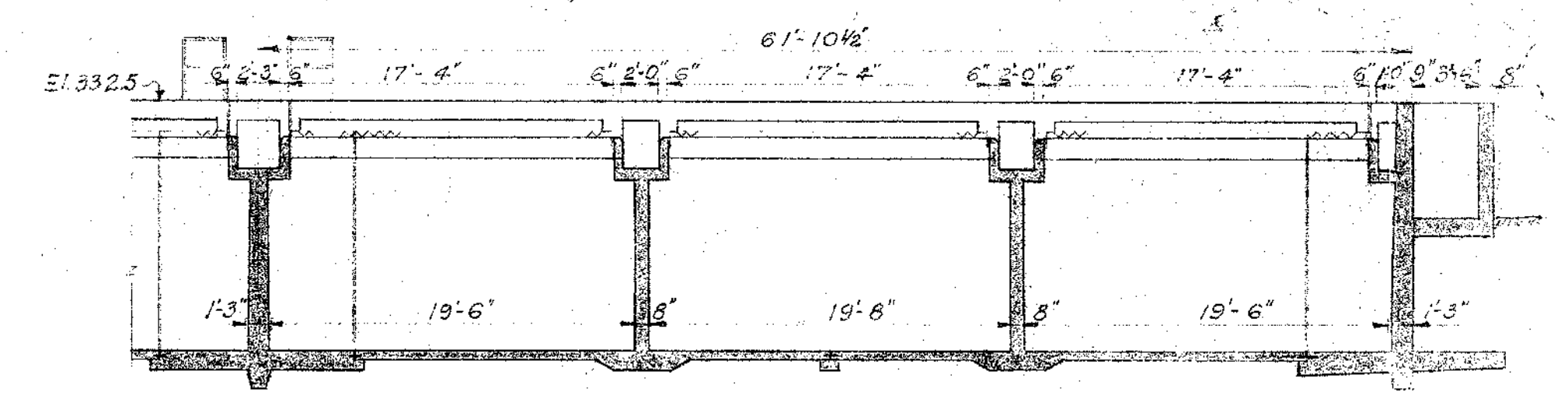
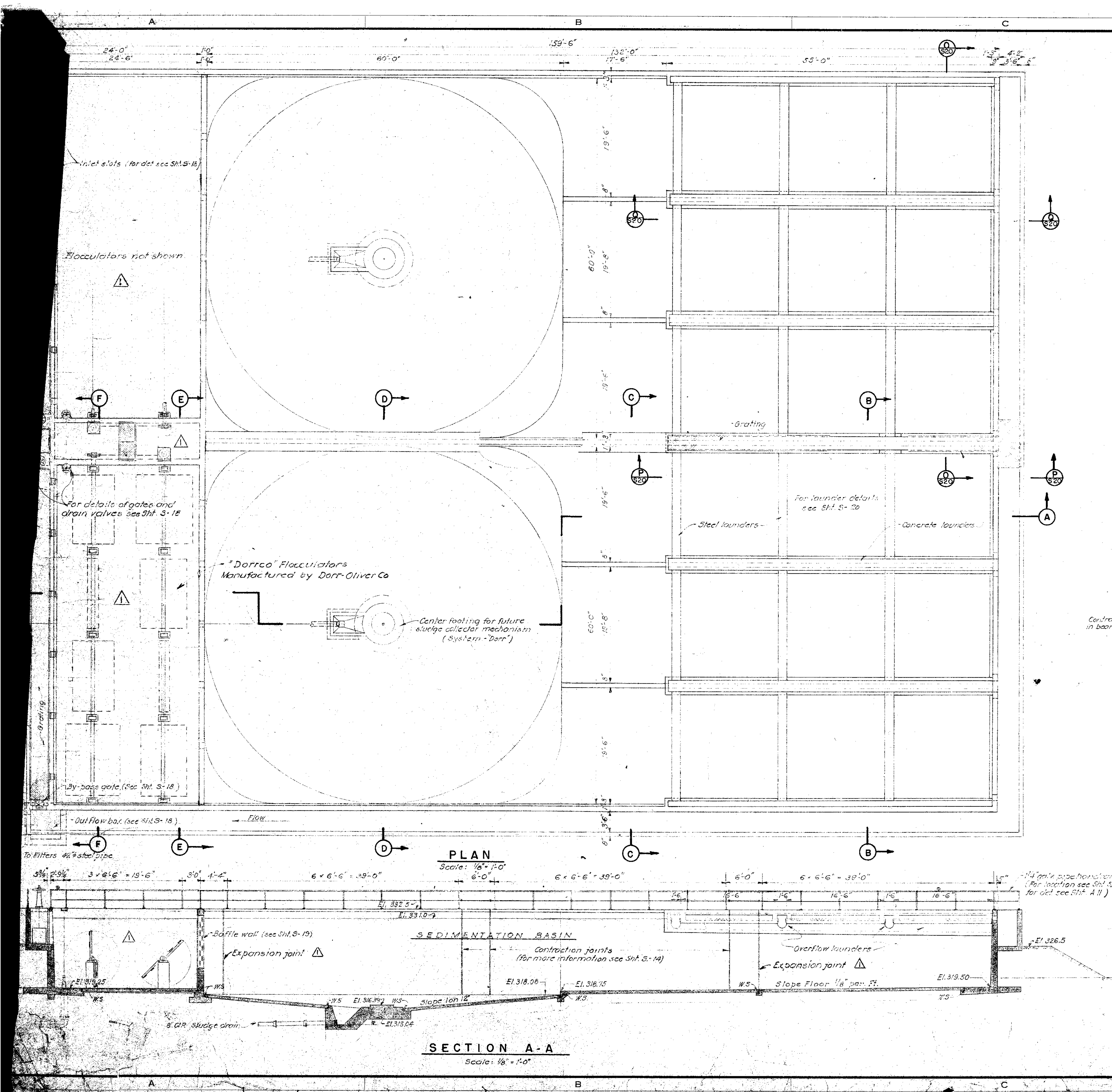


PLAN SECTION D-D

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

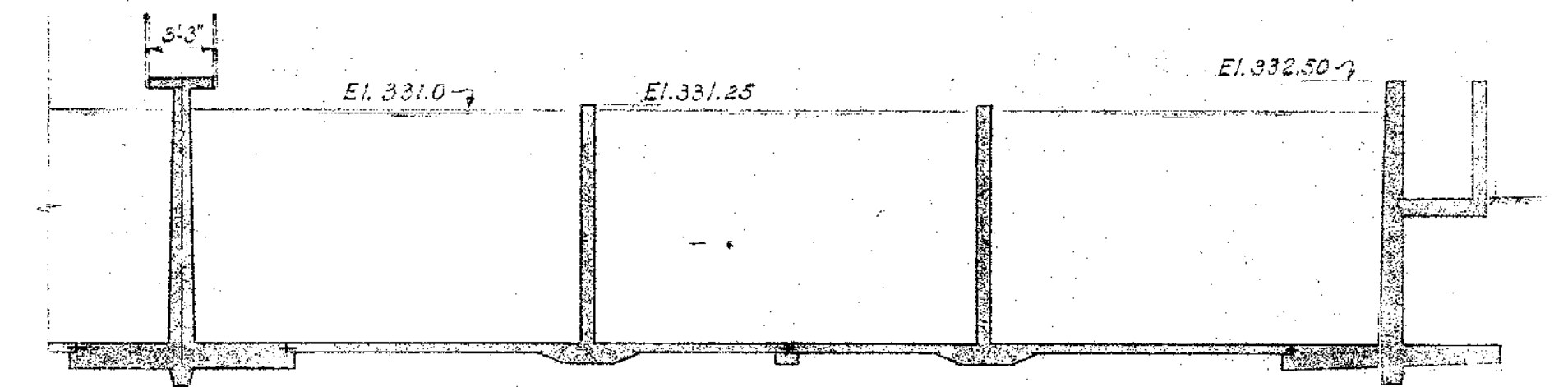
FILTER INFLUENT, OVERFLOW AND WASTE DISCHARGE BOX

3-18-59	As Built	REVISION	ATS
DATE	NO.	BY	
STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON OREGON CITY - WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD WATER PURIFICATION WORKS FILTER INTAKE & OVERFLOW BOX			
DESIGNED F.F.H.	APPROVED BY [Signature]	SHEET 512	OF 77
DRAWN F.F.H.	SCALE As shown		
CHECKED F.F.H.	DATE 8-1-57	FILE 100-3050	



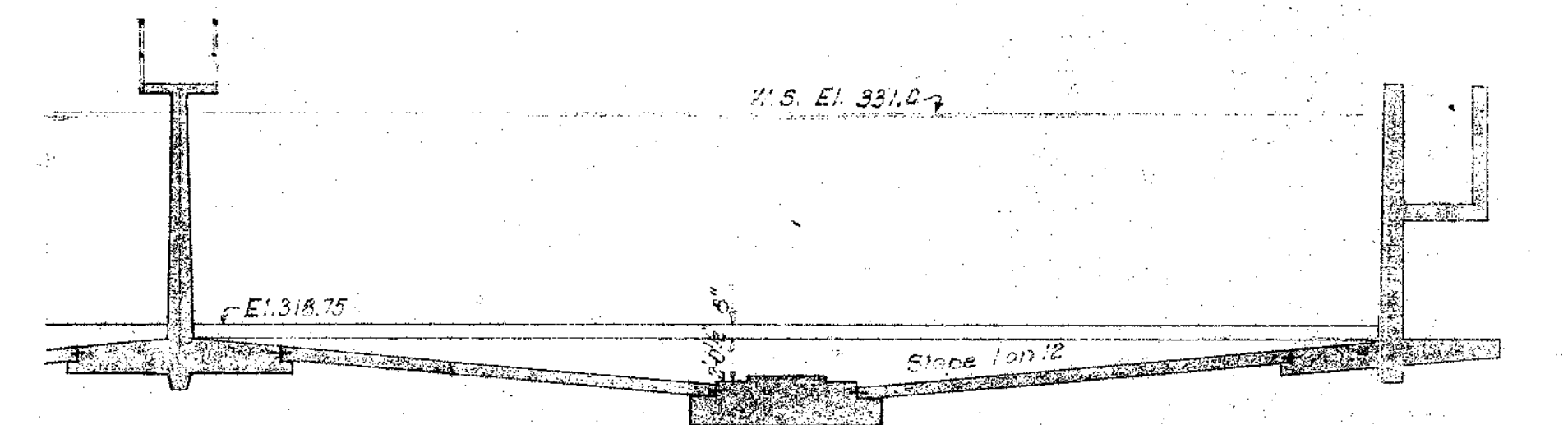
SECTION B-B

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



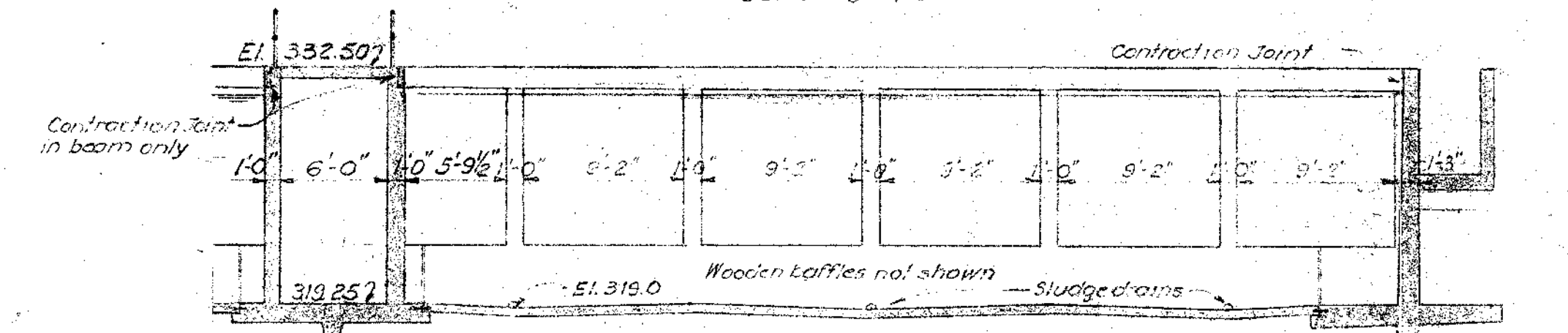
SECTION C-C

Scale: $\frac{1}{8}'' = 1'-0''$



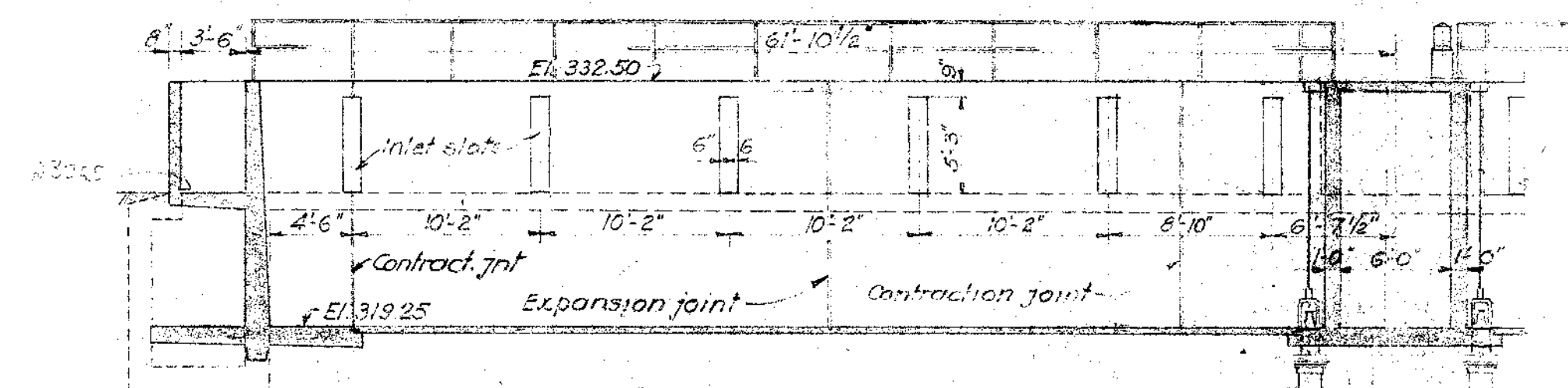
SECTION D-D

Scale: $\frac{1}{8}" = 1'-0"$



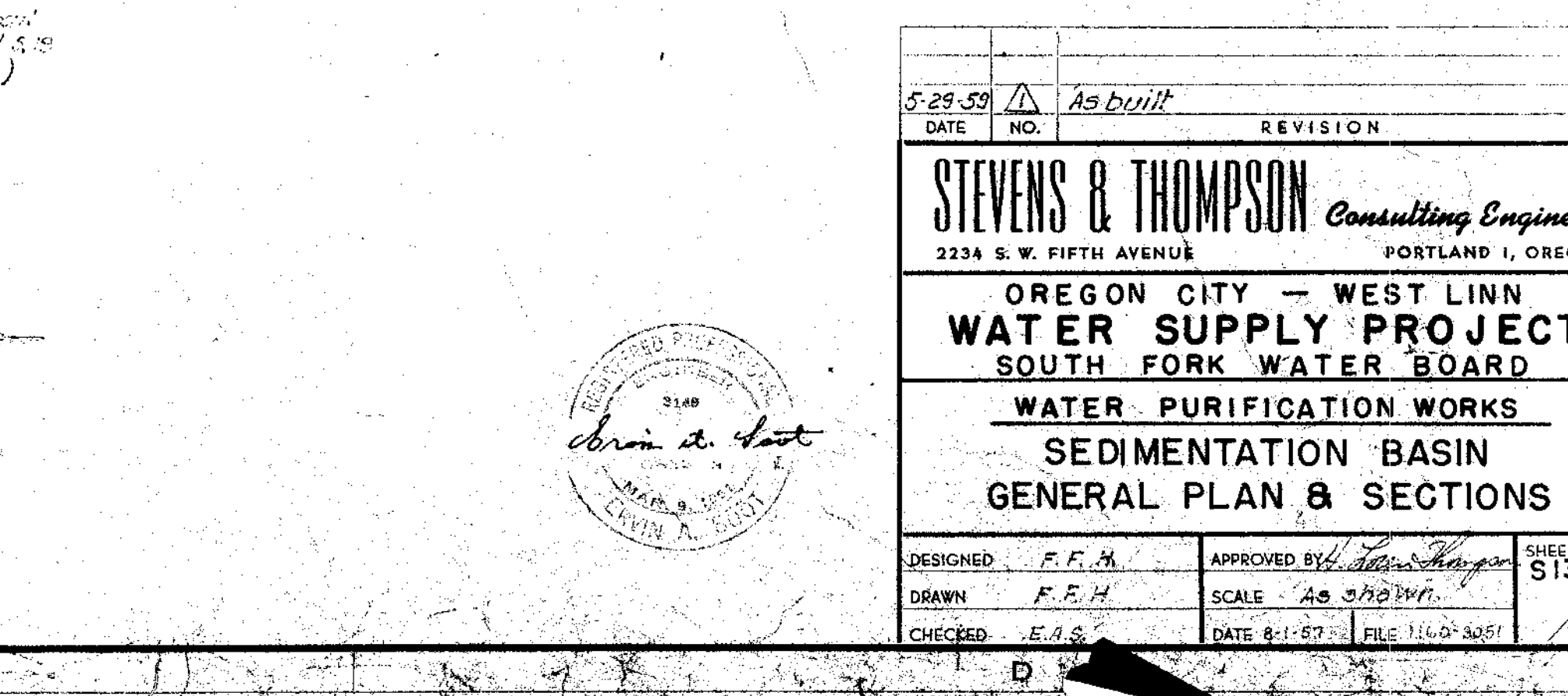
SECTION E-E

Scale: $\frac{1}{8}'' = 1'-0''$

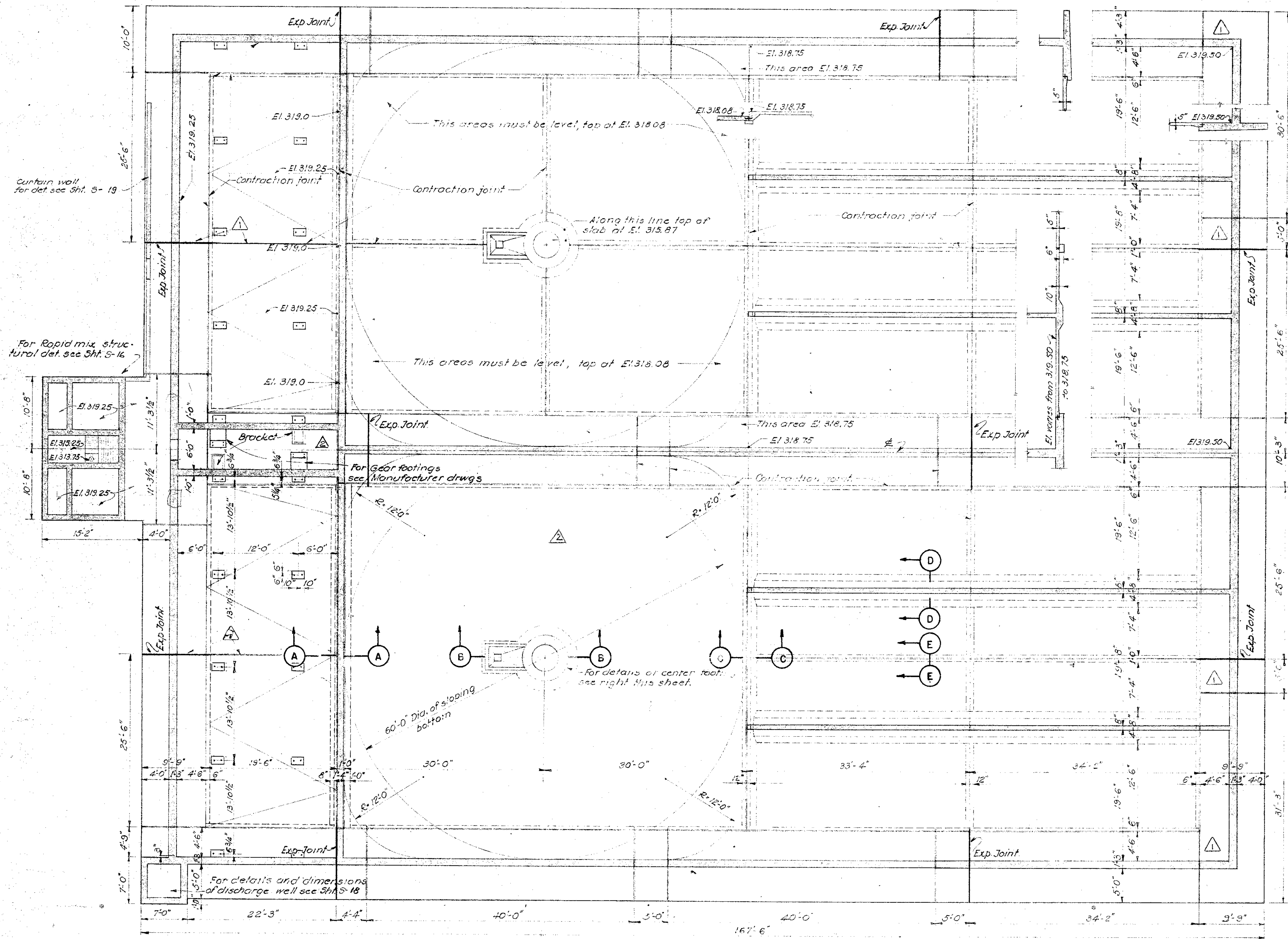


SECTION F-F

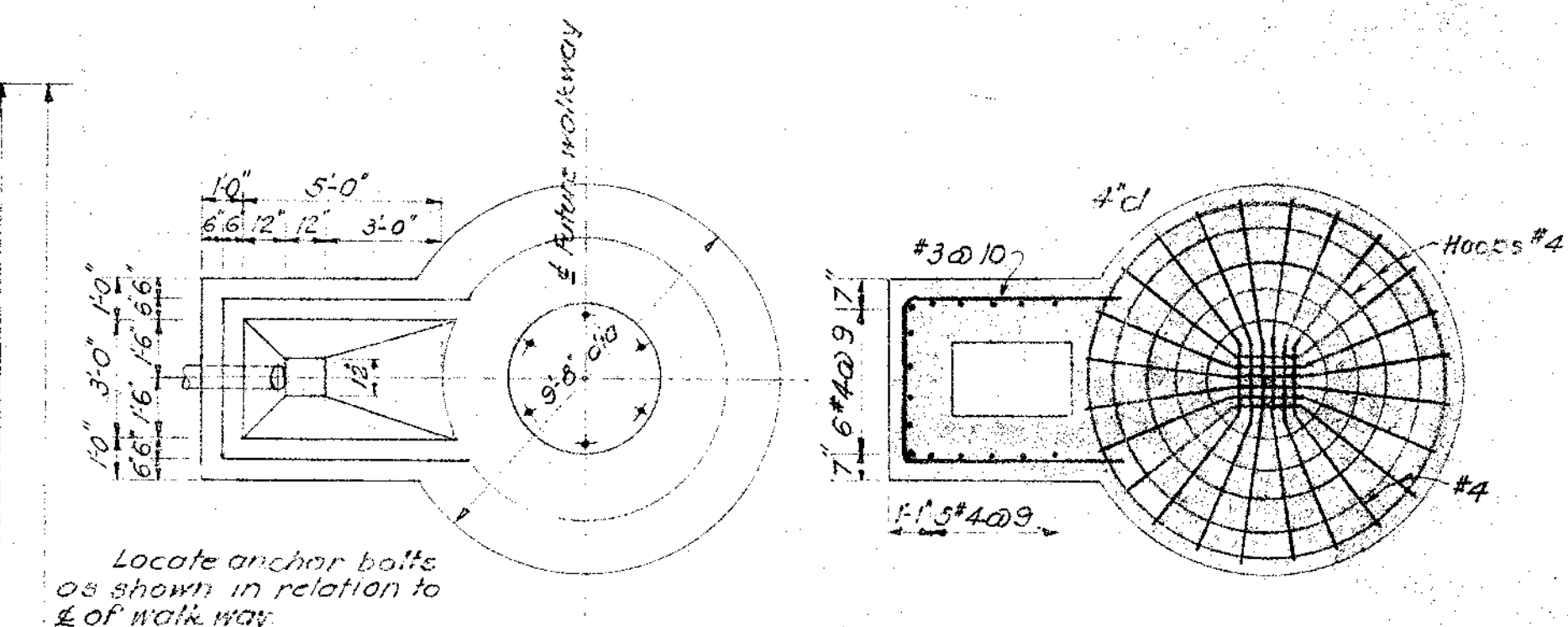
Scale: $\frac{1}{8}" = 1'-0"$



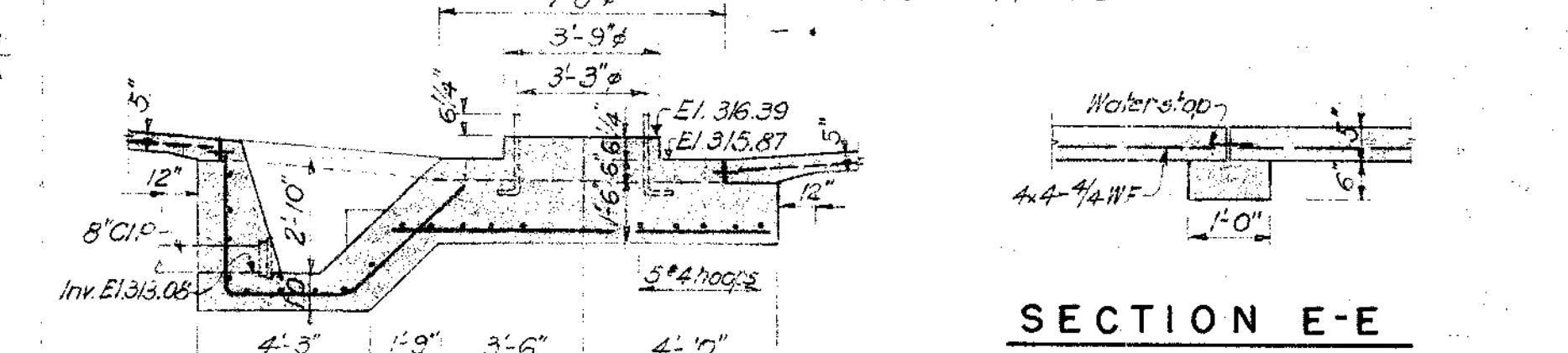
5-29-59		As built		ATS
DATE	NO.		REVISION	BY
STEVENS & THOMPSON			<i>Consulting Engineers</i>	
2234 S. W. FIFTH AVENUE			PORTLAND 1, OREGON	
OREGON CITY — WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD				
WATER PURIFICATION WORKS SEDIMENTATION BASIN GENERAL PLAN & SECTIONS				
DESIGNED	F. F. H.		APPROVED BY	SHEET 13 OF 17
DRAWN	F. F. H.		SCALE	AS SHOWN
CHECKED	E. A. S.		DATE	8-1-57
			FILE	166-0-5051
				77



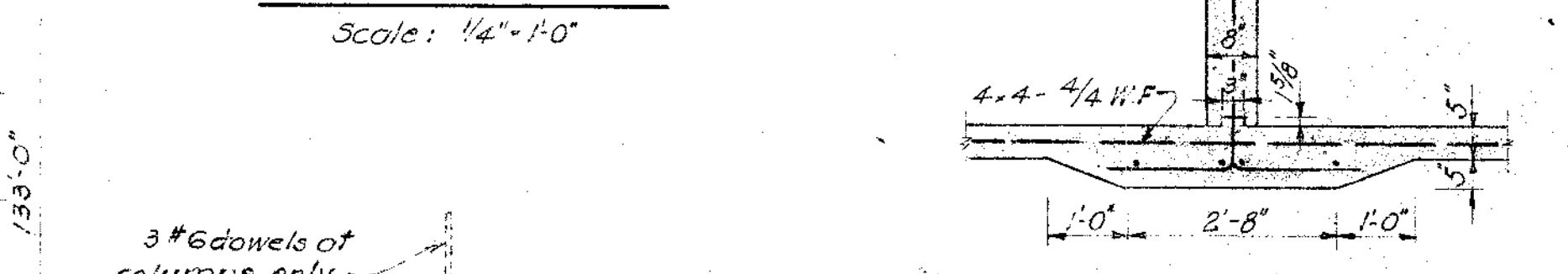
FOUNDATION PLAN
Scale: 1/8" = 1'-0"



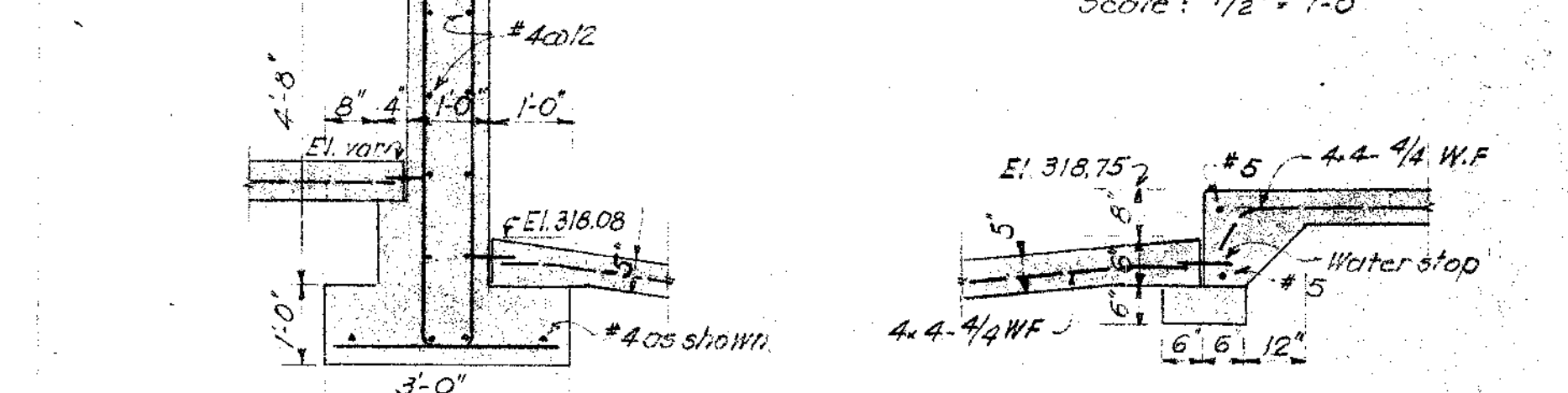
PLAN CENTER FOOTING REINFORCING
Scale: 1/4" = 1'-0"



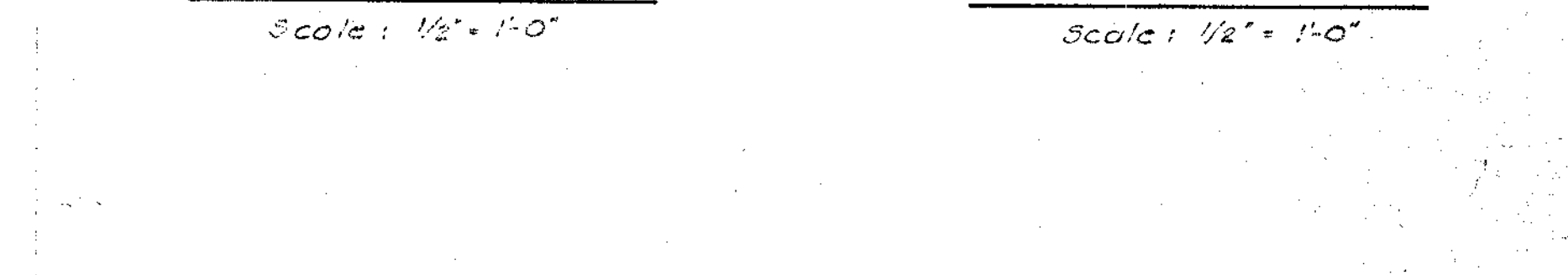
SECTION B-B
Scale: 1/4" = 1'-0"



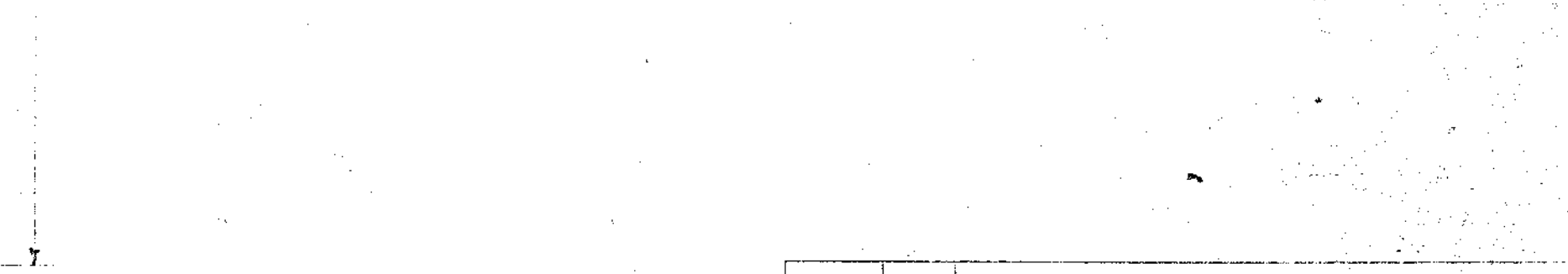
SECTION E-E
Scale: 1/2" = 1'-0"



SECTION D-D
Scale: 1/2" = 1'-0"

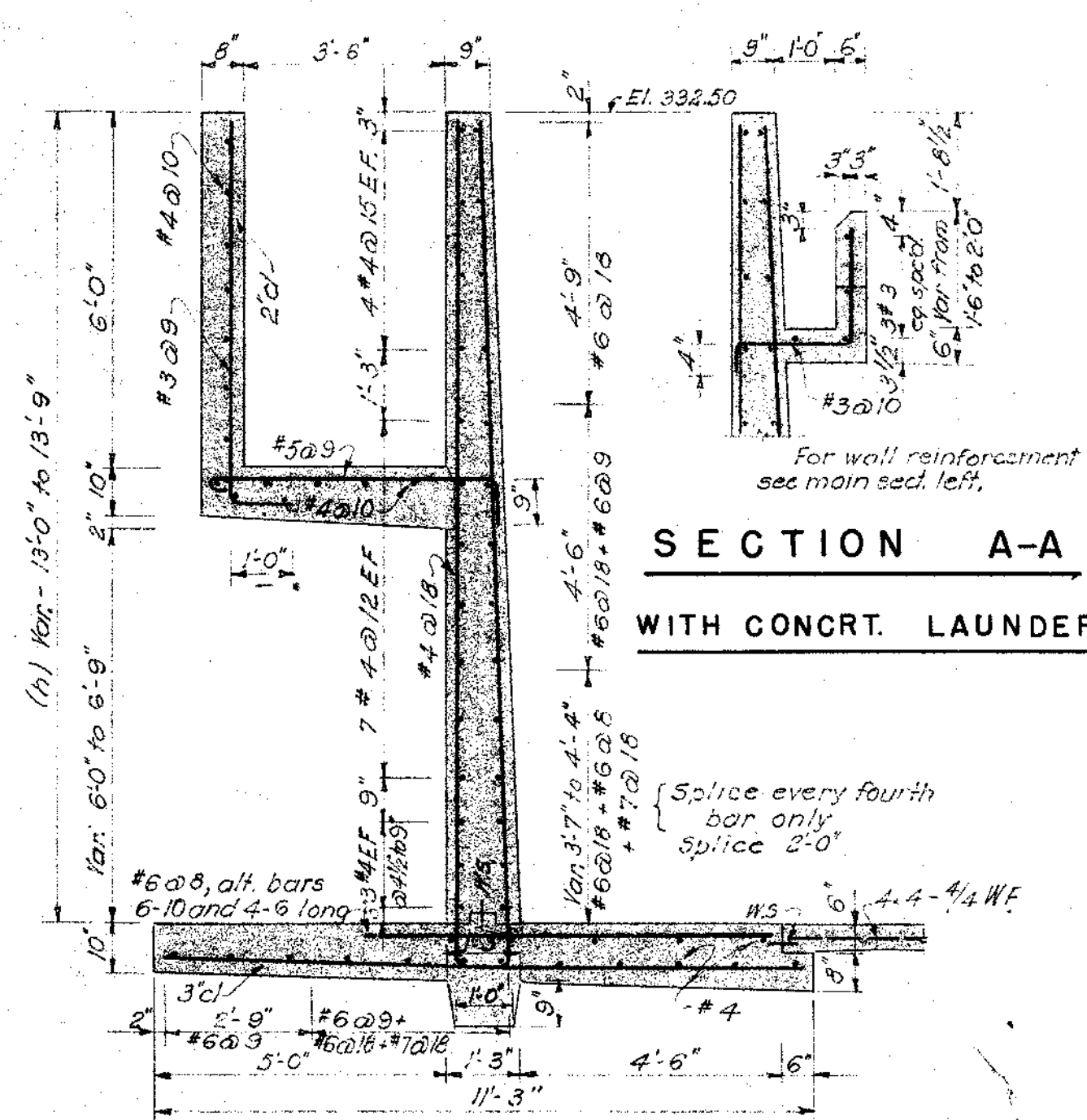


SECTION A-A
Scale: 1/2" = 1'-0"



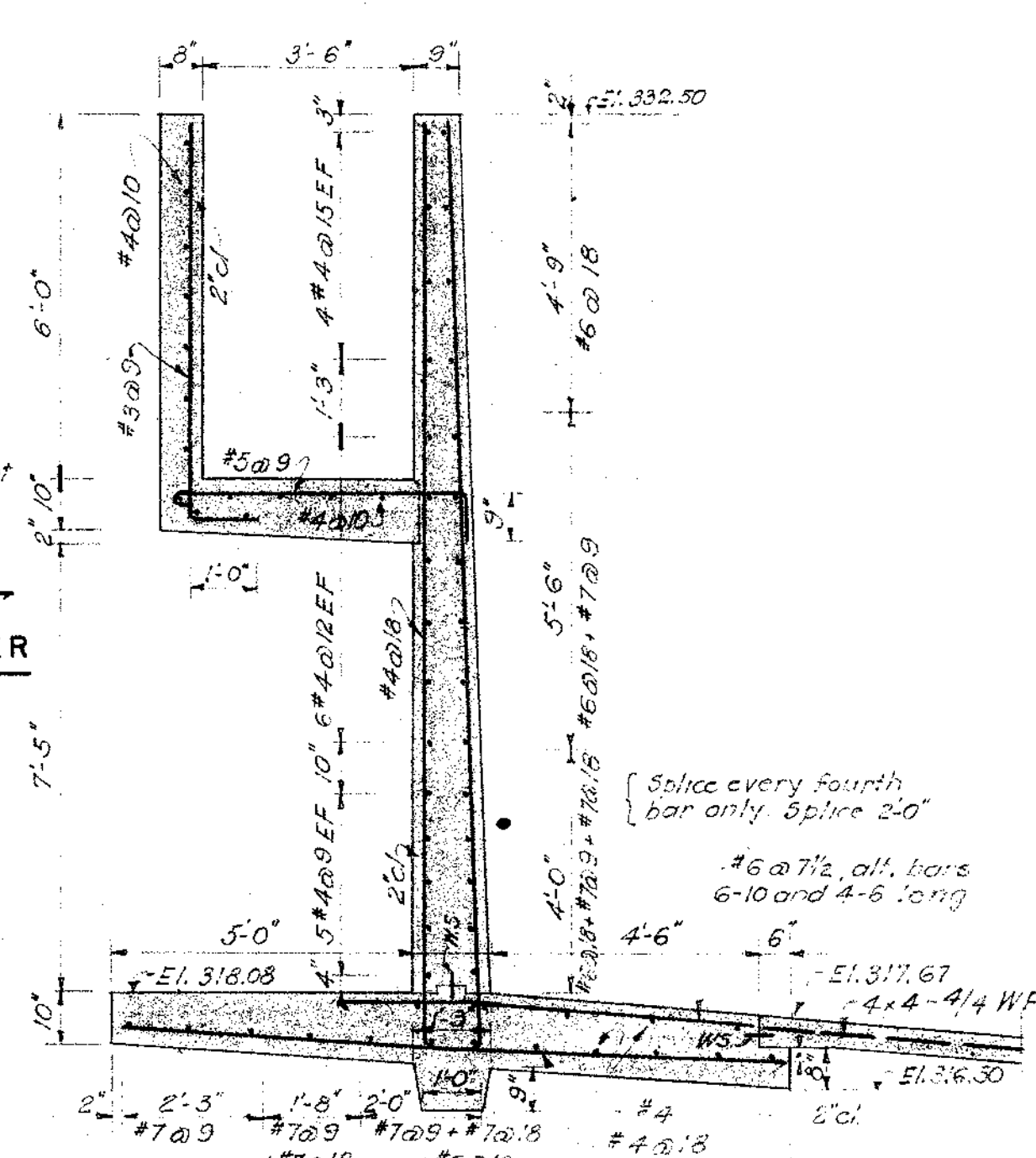
SECTION C-C
Scale: 1/2" = 1'-0"

5-29-57	As built	ATS
10-11-57	Relocated and added contraction joints	EBH
DATE	NO.	REVISION
STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON		
OREGON CITY - WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD		
WATER PURIFICATION WORKS SEDIMENTATION BASIN FOOTINGS		
DESIGNED F.F.H.	APPROVED BY H. P. Thompson	
DRAWN F.F.H.	SCALE As shown	
CHECKED E.A.S.	DATE 8-1-57	FILE 110-3052



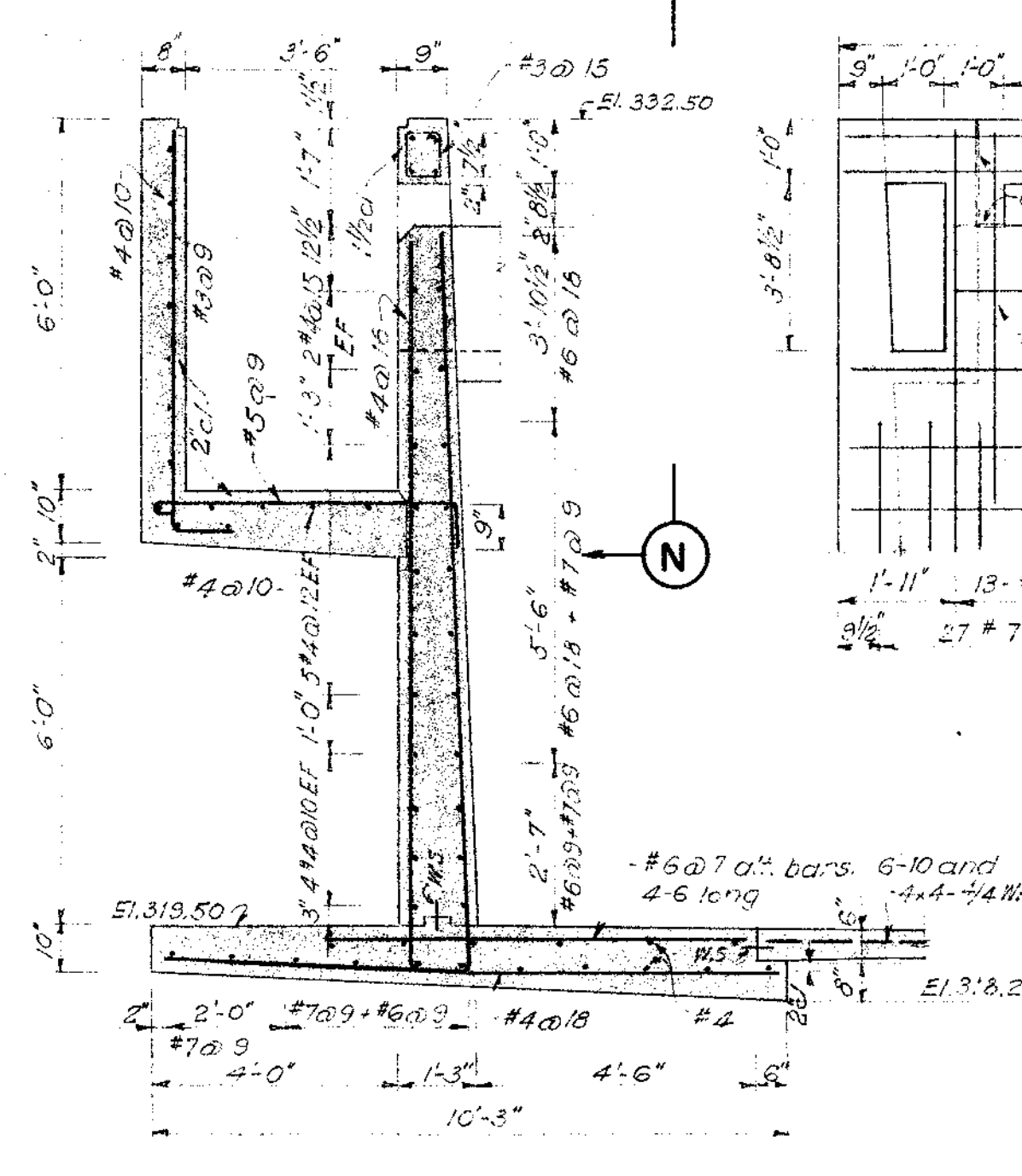
SECTION A-A

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



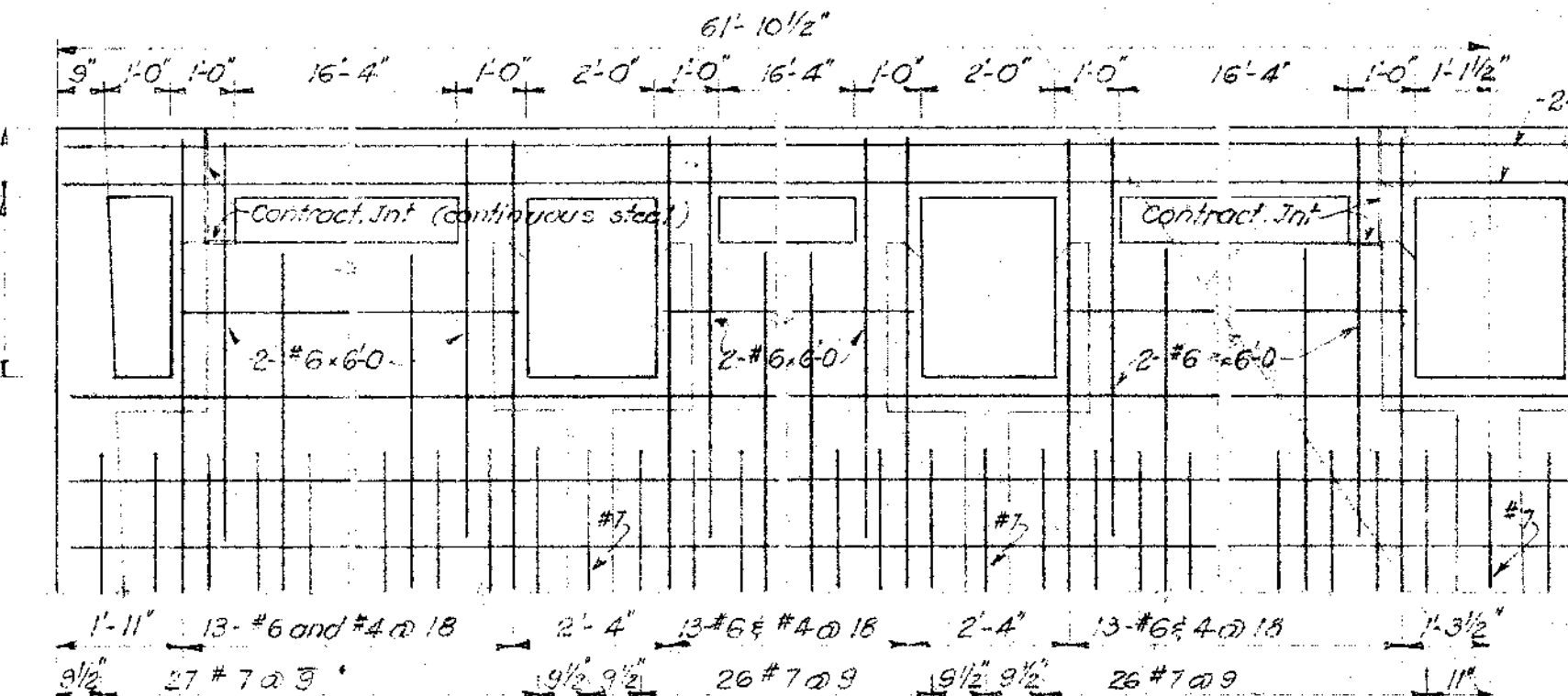
SECTION B-B

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



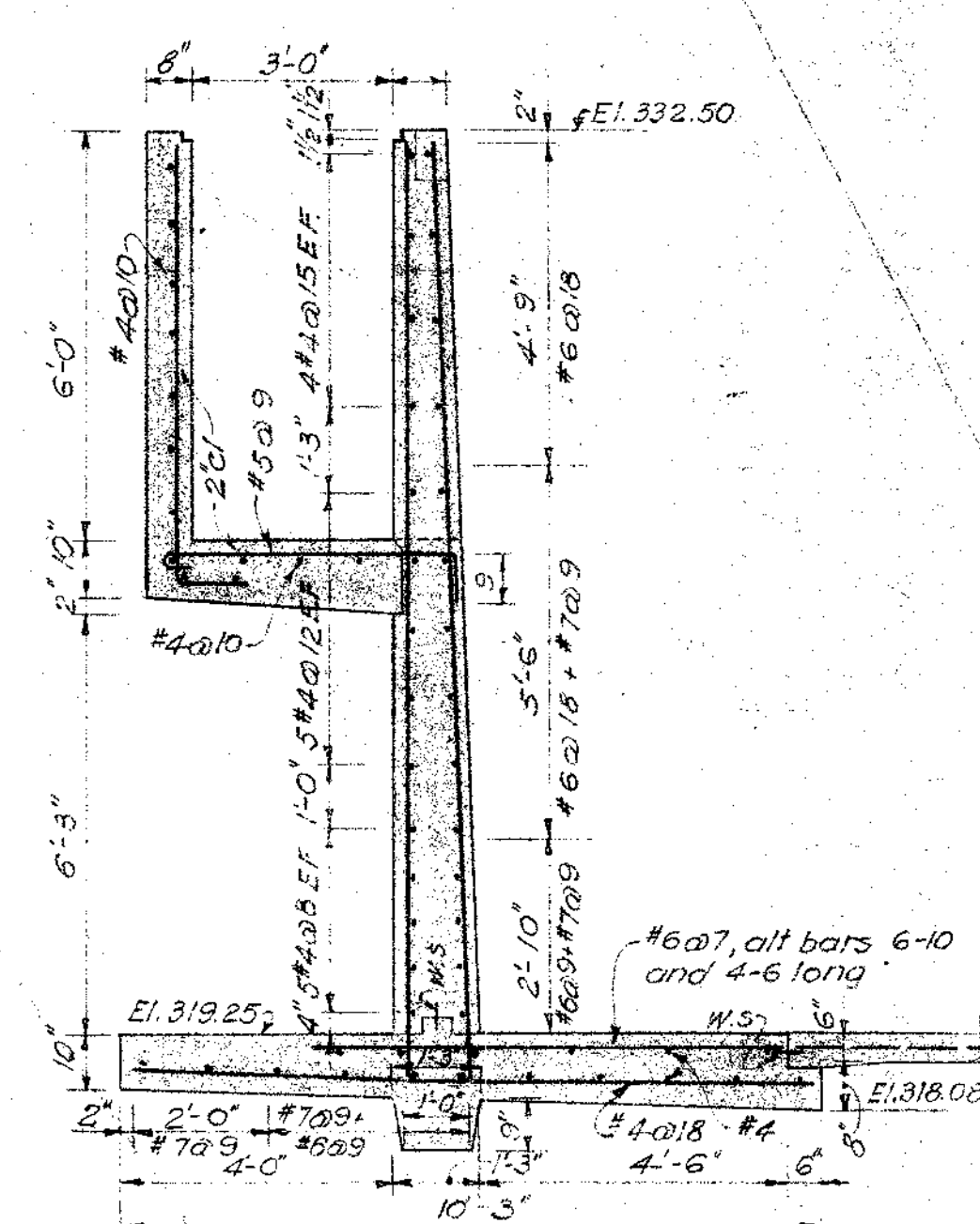
SECTION G-G

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



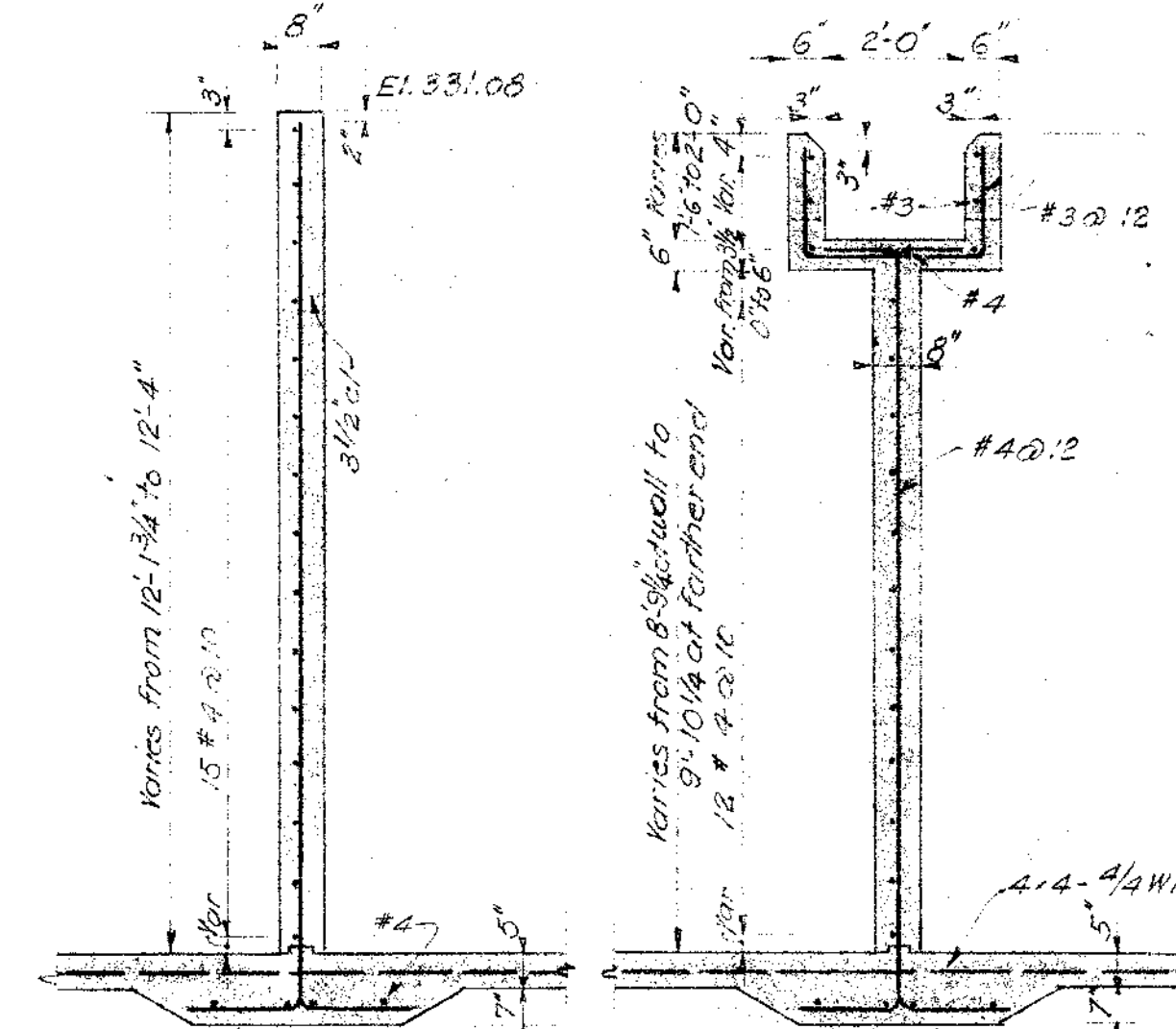
SECTION N-N

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



SECTION H-H

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

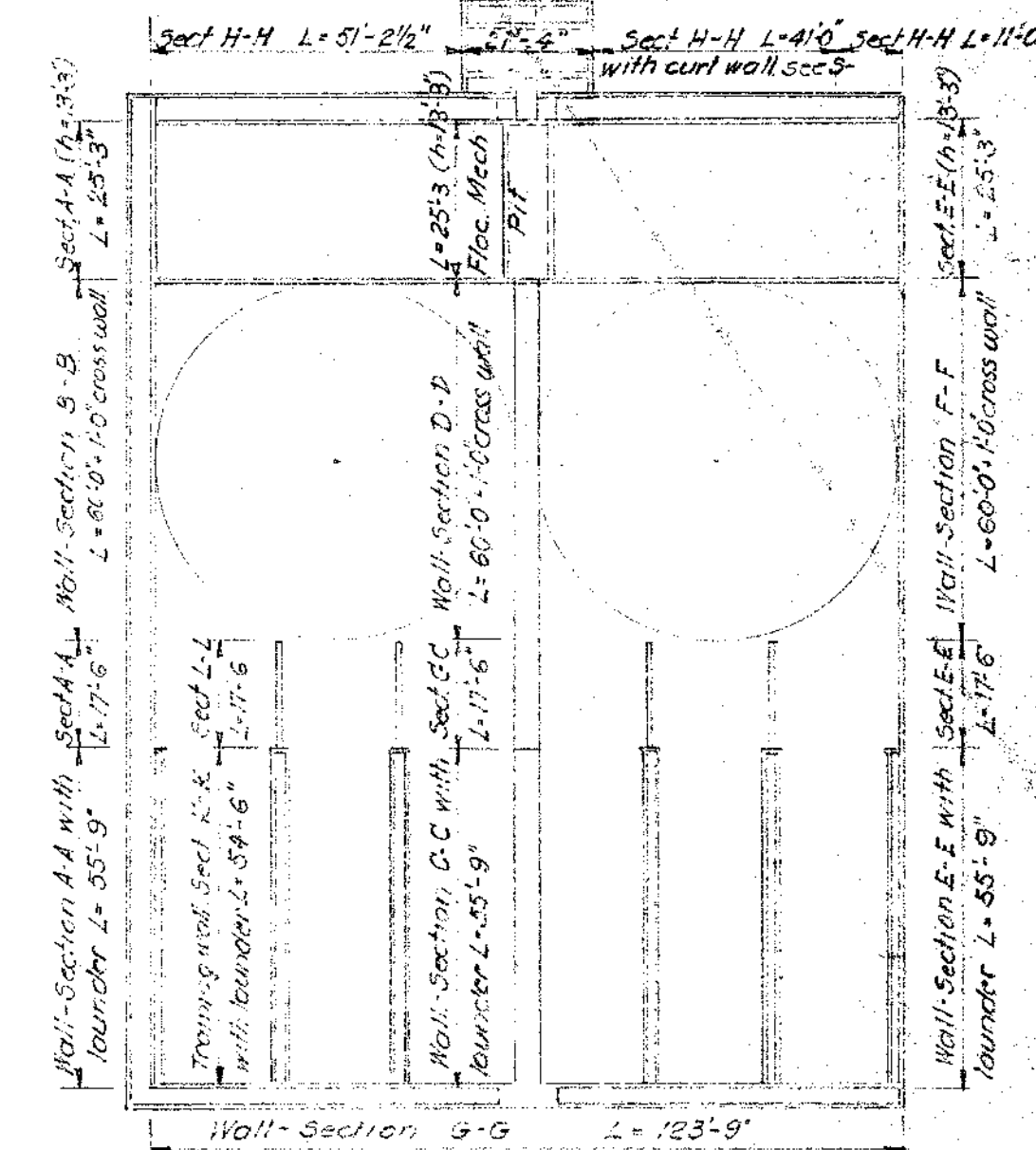


SECTION L-L

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

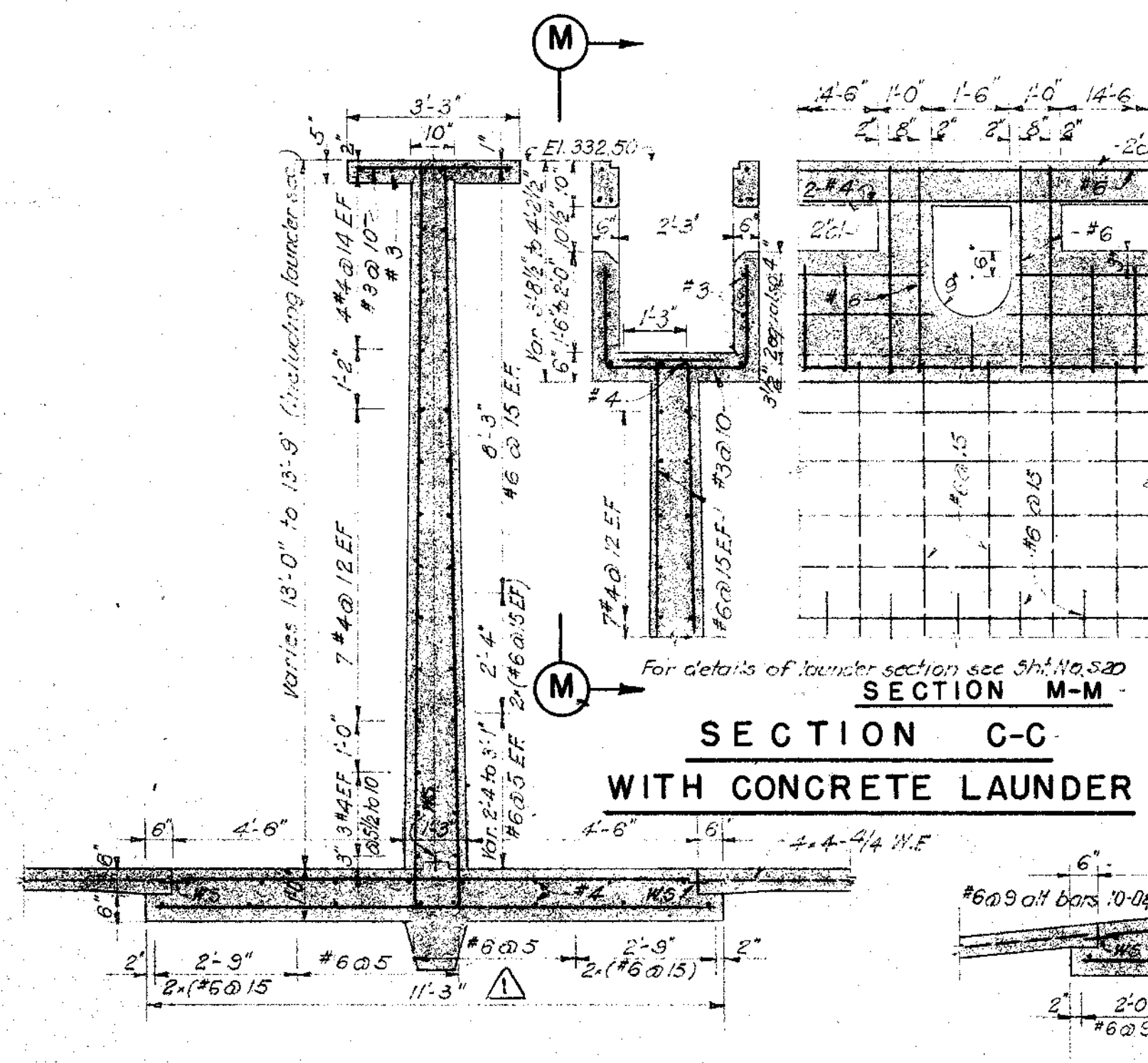
SECTION K-K

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



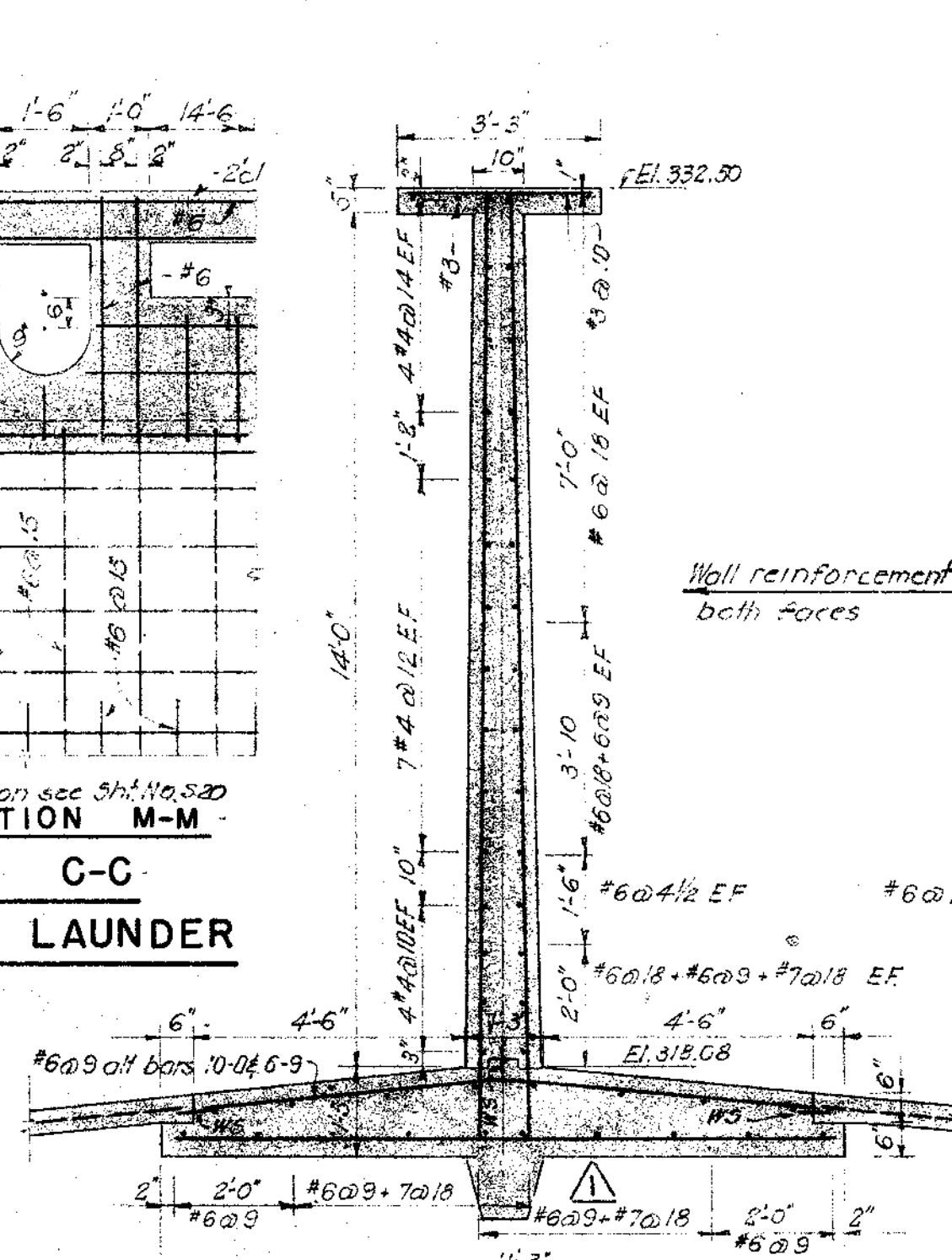
KEY PLAN FOR WALL SECTIONS

Scale: 1" = 30'-0"



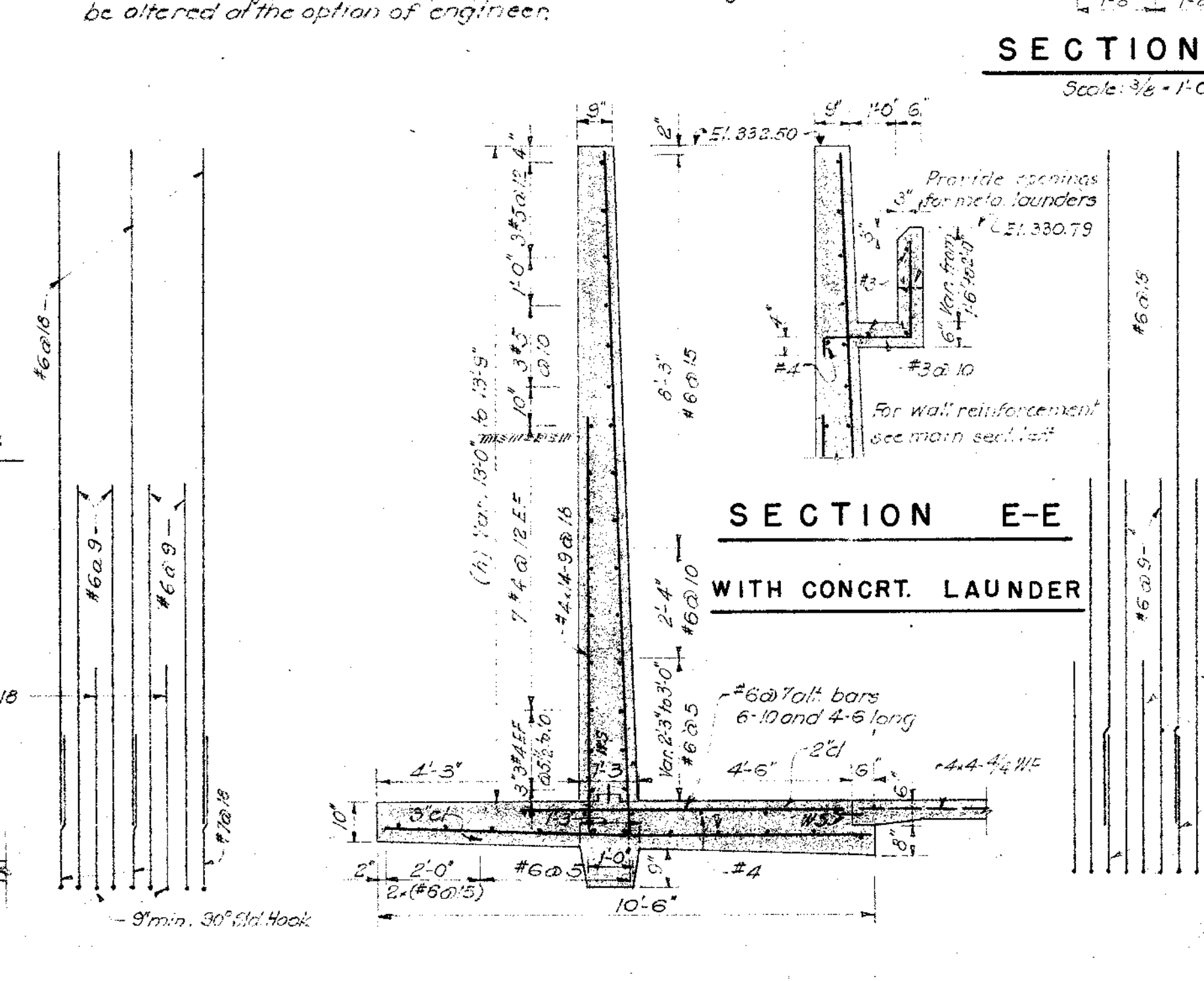
SECTION C-C

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



SECTION D-D

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

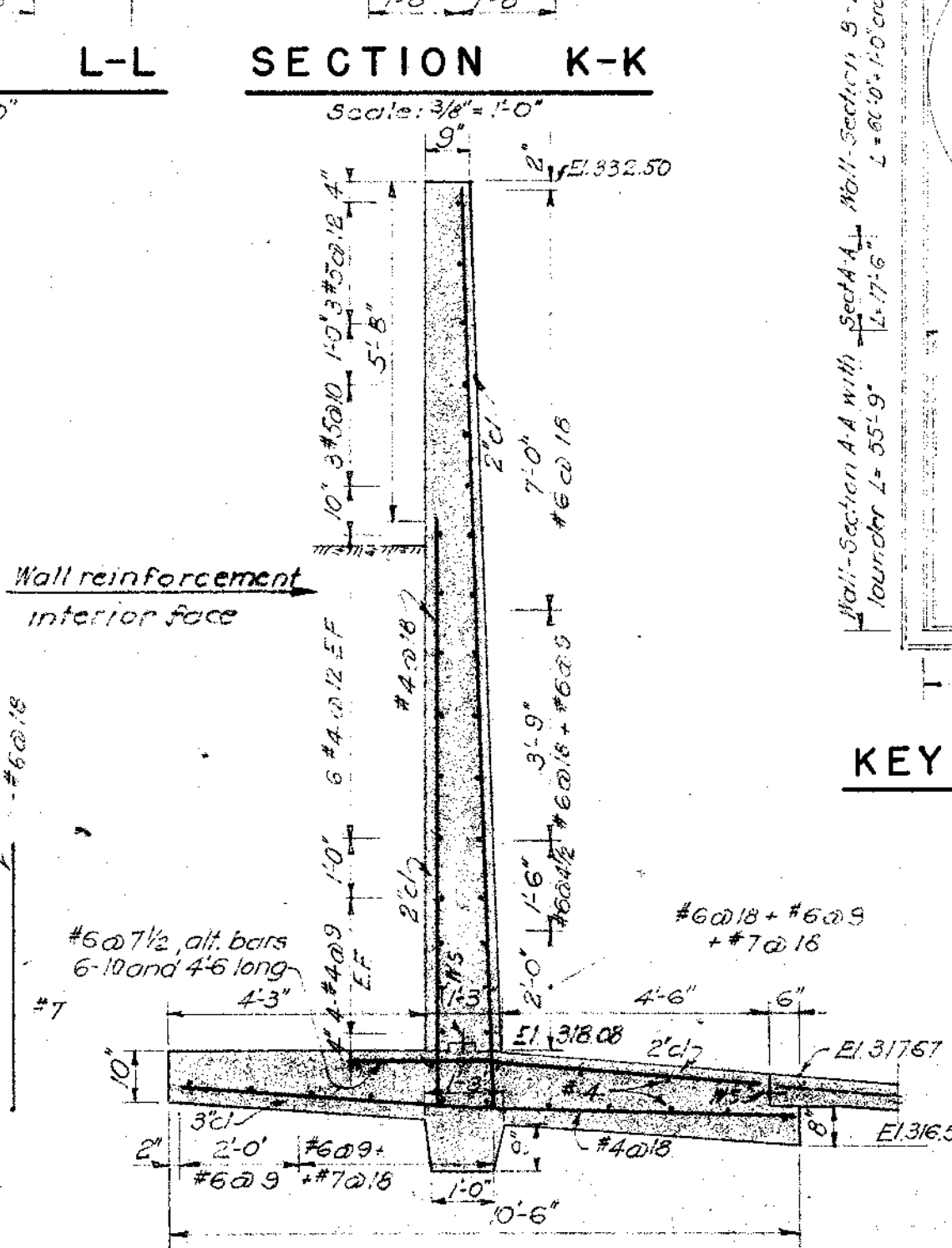


SECTION E-E

WITH CONCR. LAUNDER

SECTION E-E

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



SECTION F-F

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

Notes:
All horizontal contraction joints to be keyed. Keys 3" min. wide and 2" deep. No keying for trough sections. All vertical contraction joints without keys but every second horizontal steel bar carried thru. Horizontal steel at wall corners to be bent 90° and carried 24 bar dia. into other wall.
Construction joints shown between wall and footing may be altered at the option of engineer.

5-25-59	As built	REVISION	ATG
DATE	NO.	BY	
STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON			
OREGON CITY - WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD WATER PURIFICATION WORKS SEDIMENTATION BASIN SECTIONS			
DESIGNED EAS	F.F.H.	APPROVED BY <i>[Signature]</i>	SHEET 15 OF 77
DRAWN F.F.H.	SCALE As shown	DATE 8-1-57	FILE 1160-3033
CHECKED EAS			

3-29-59	△	As Built	17
DATE	NO.	REVISION	
STEVENS & THOMPSON		Consulting Engineers	
2234 S. W. FIFTH AVENUE		PORTLAND 1, OREGON	
OREGON CITY — WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD			
WATER PURIFICATION WORKS			
SEDIMENTATION BASIN RAPID MIX			
DRAWN	F. F. H.	APPROVED BY	SHEET
CHECKED	E. A. S.	SCALE	16
		DATE 8-1-57	FILE 1160-3054

A

B

C

D

TOP SLAB

SECTION A-A

SECTION C-C

SECTION B-B

SECTION F-F

SECTION D-D

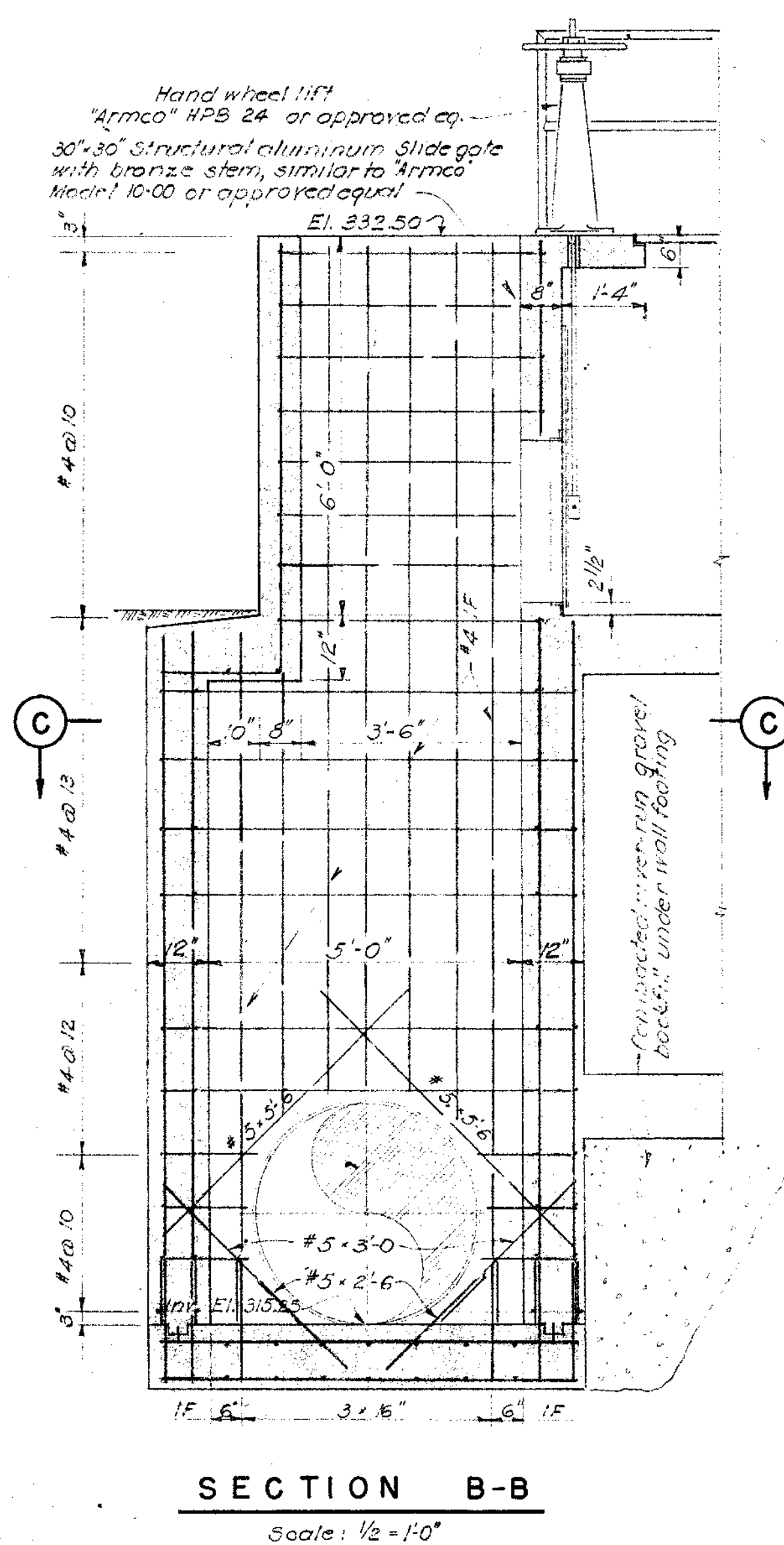
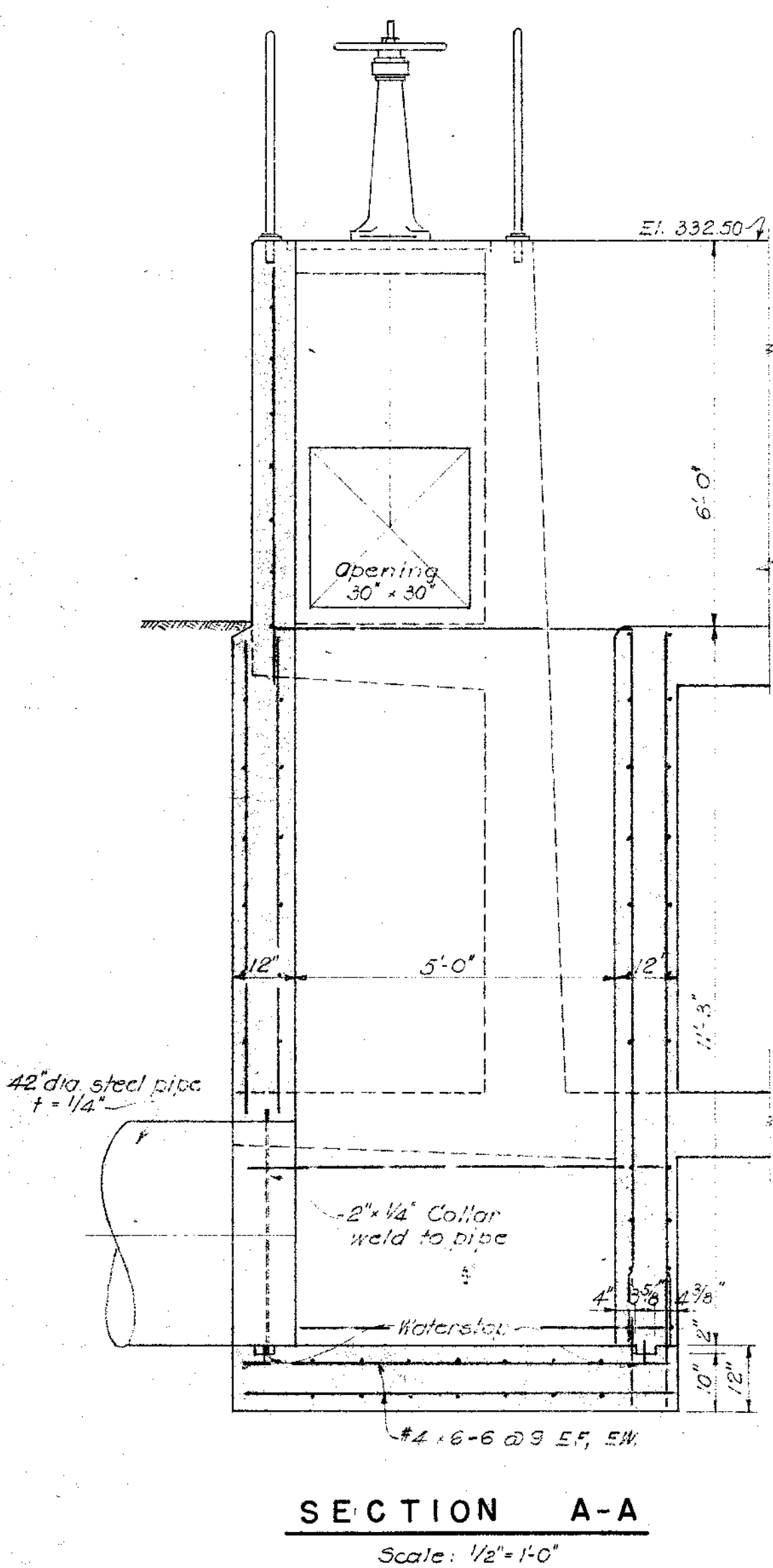
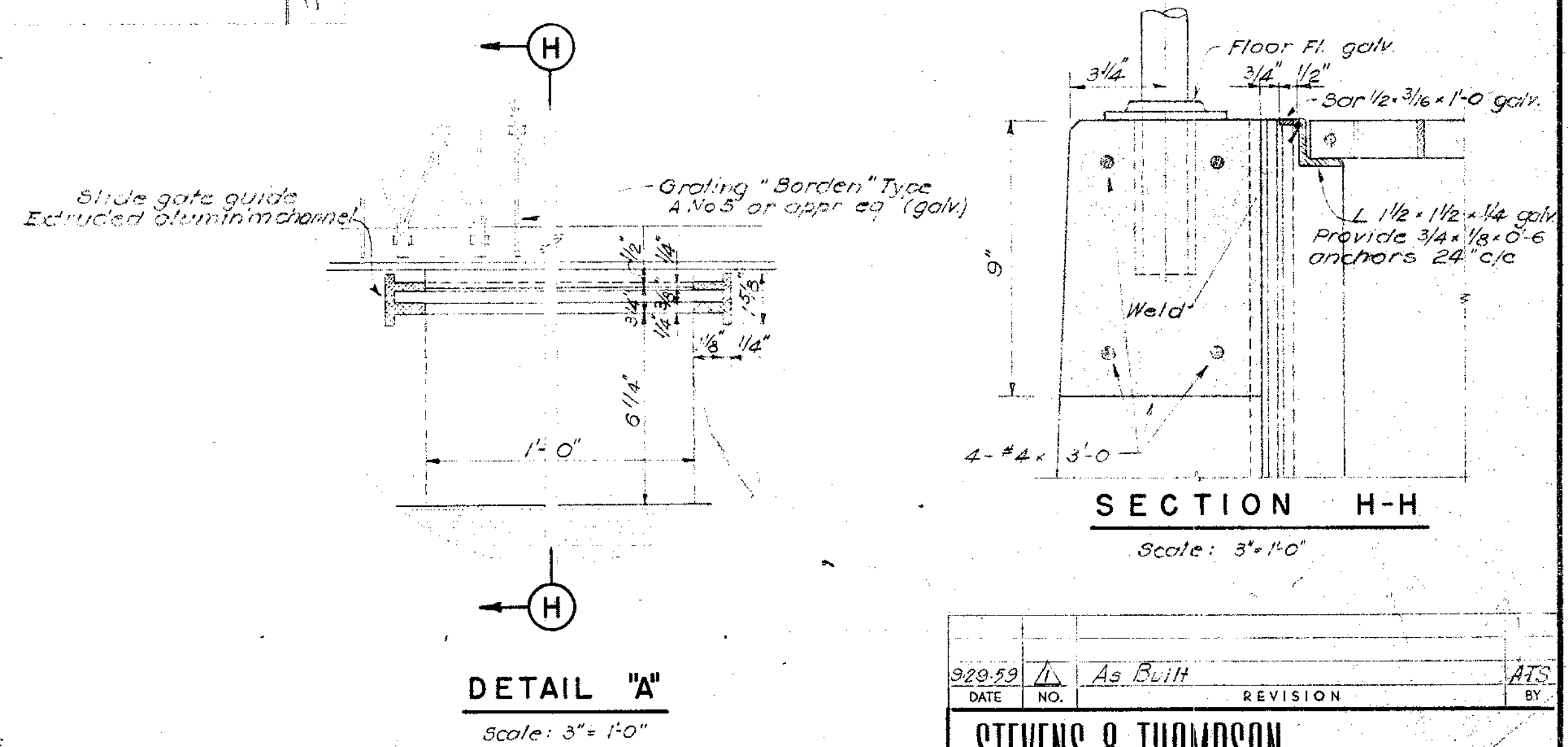
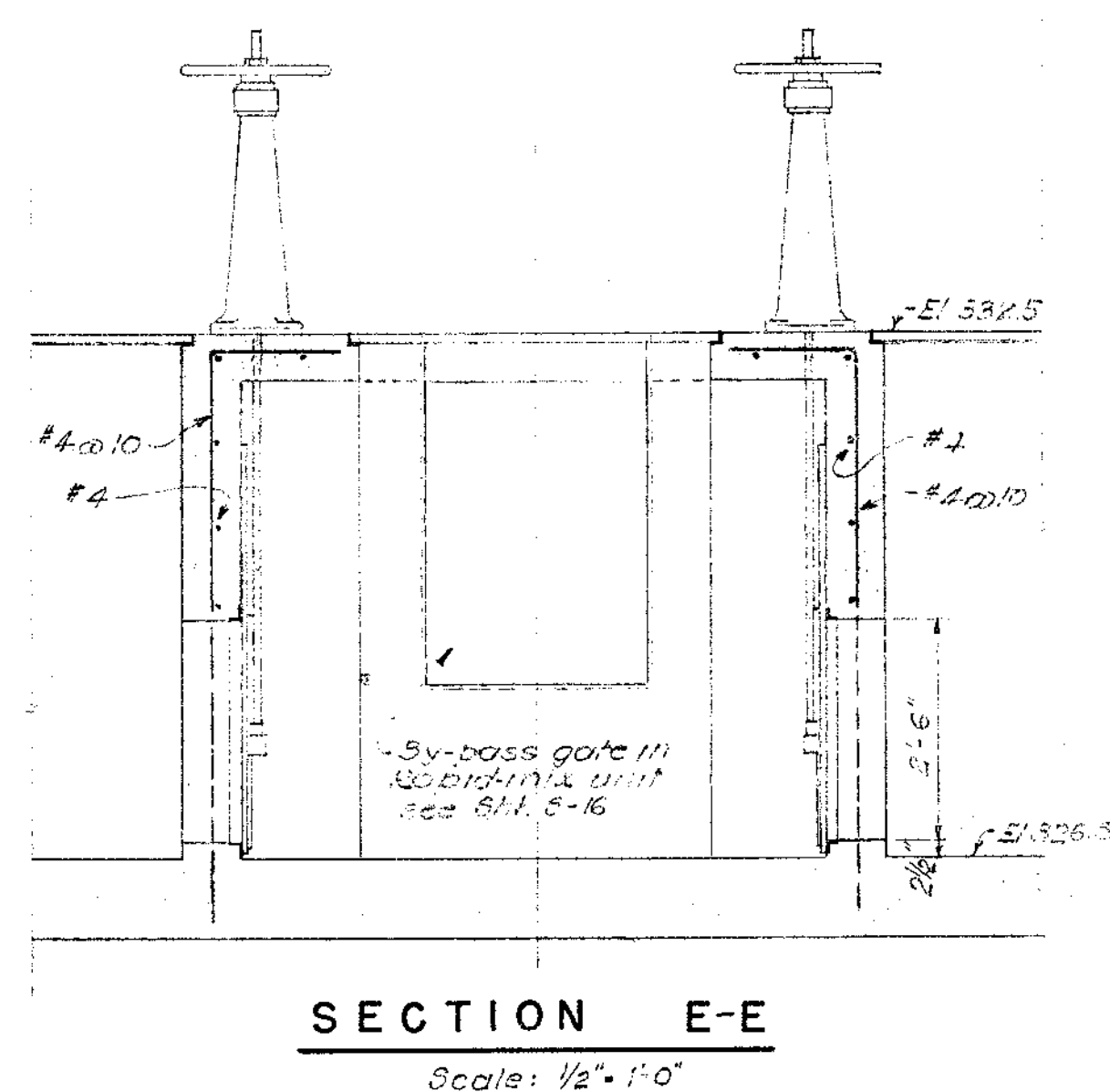
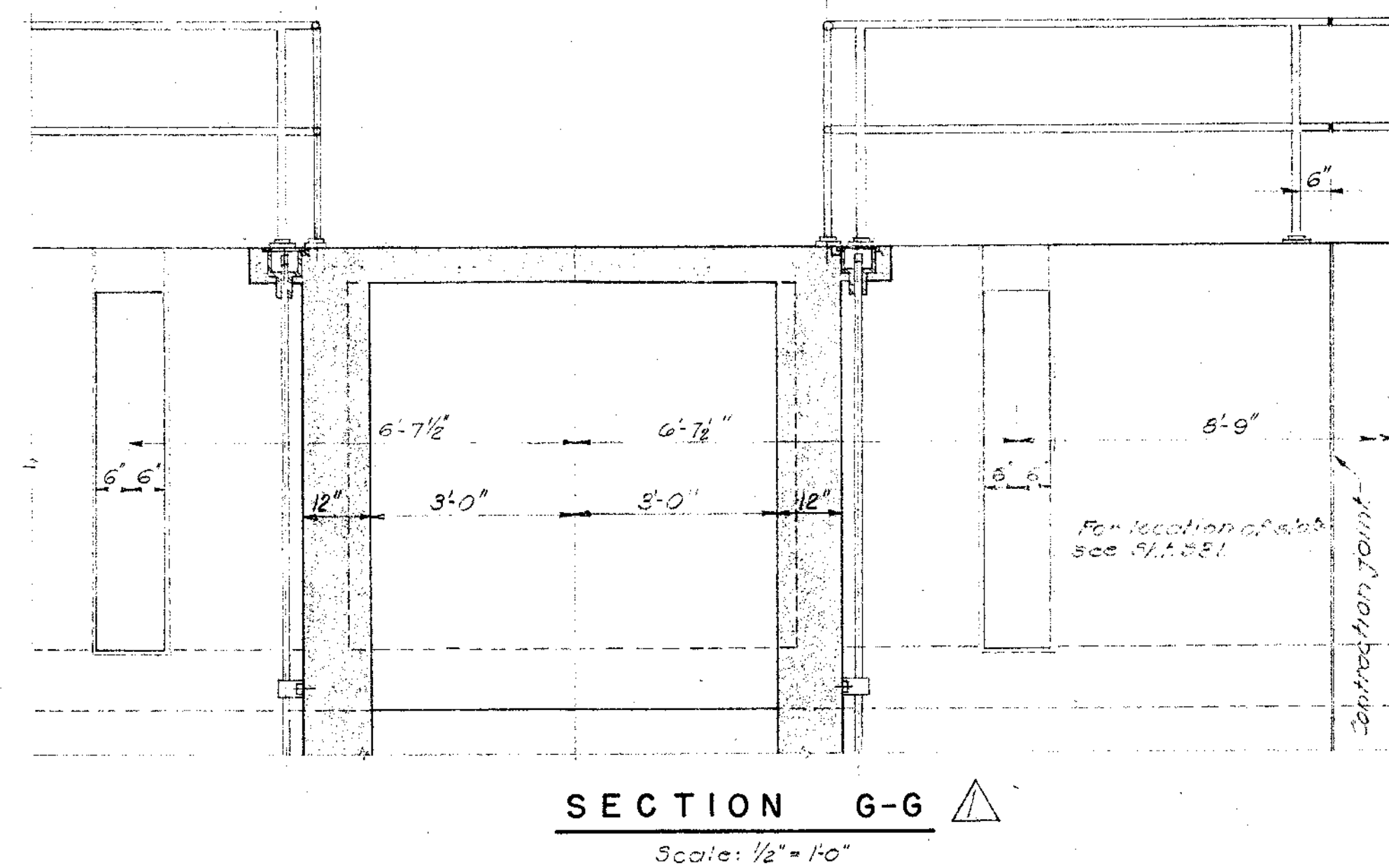
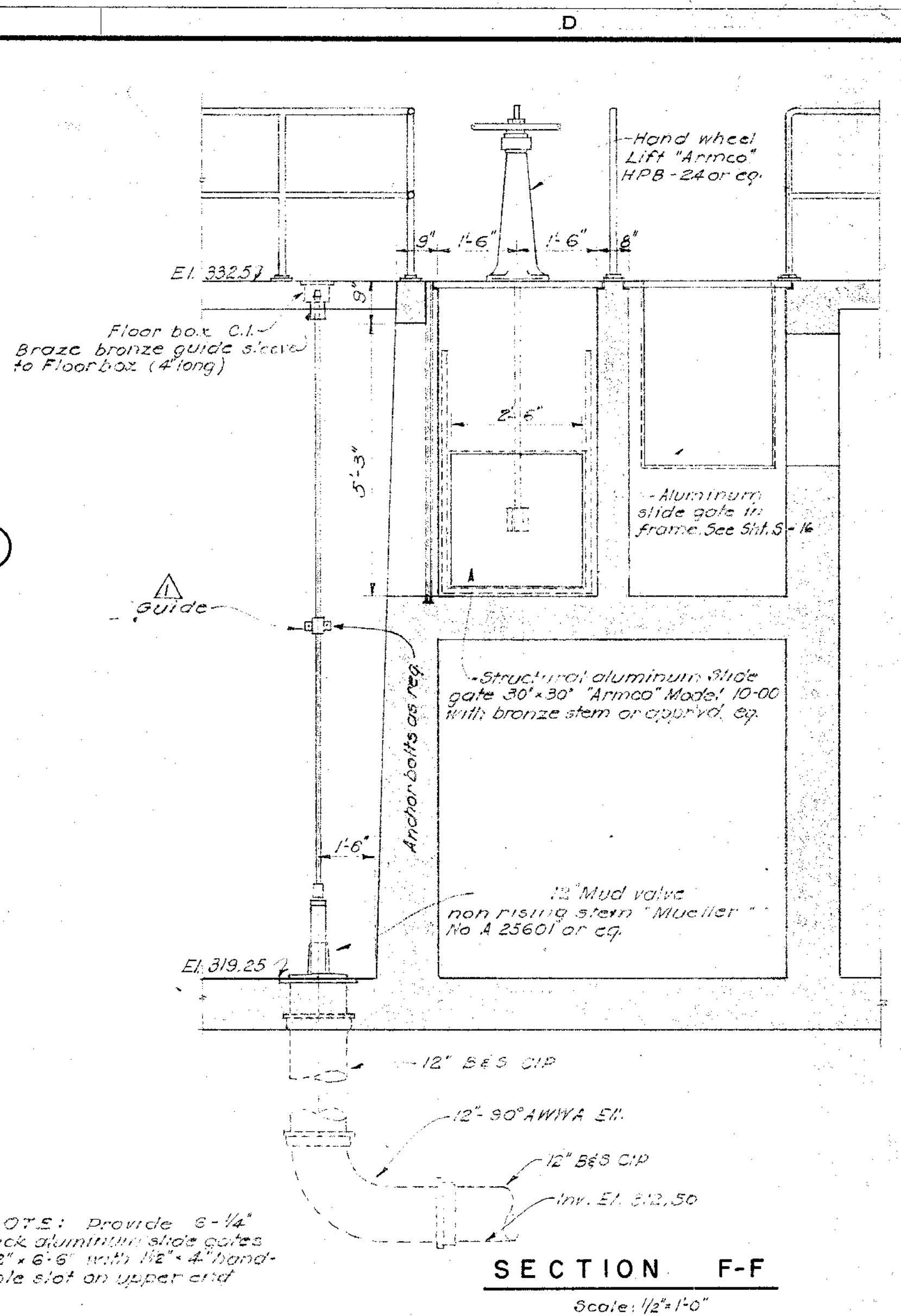
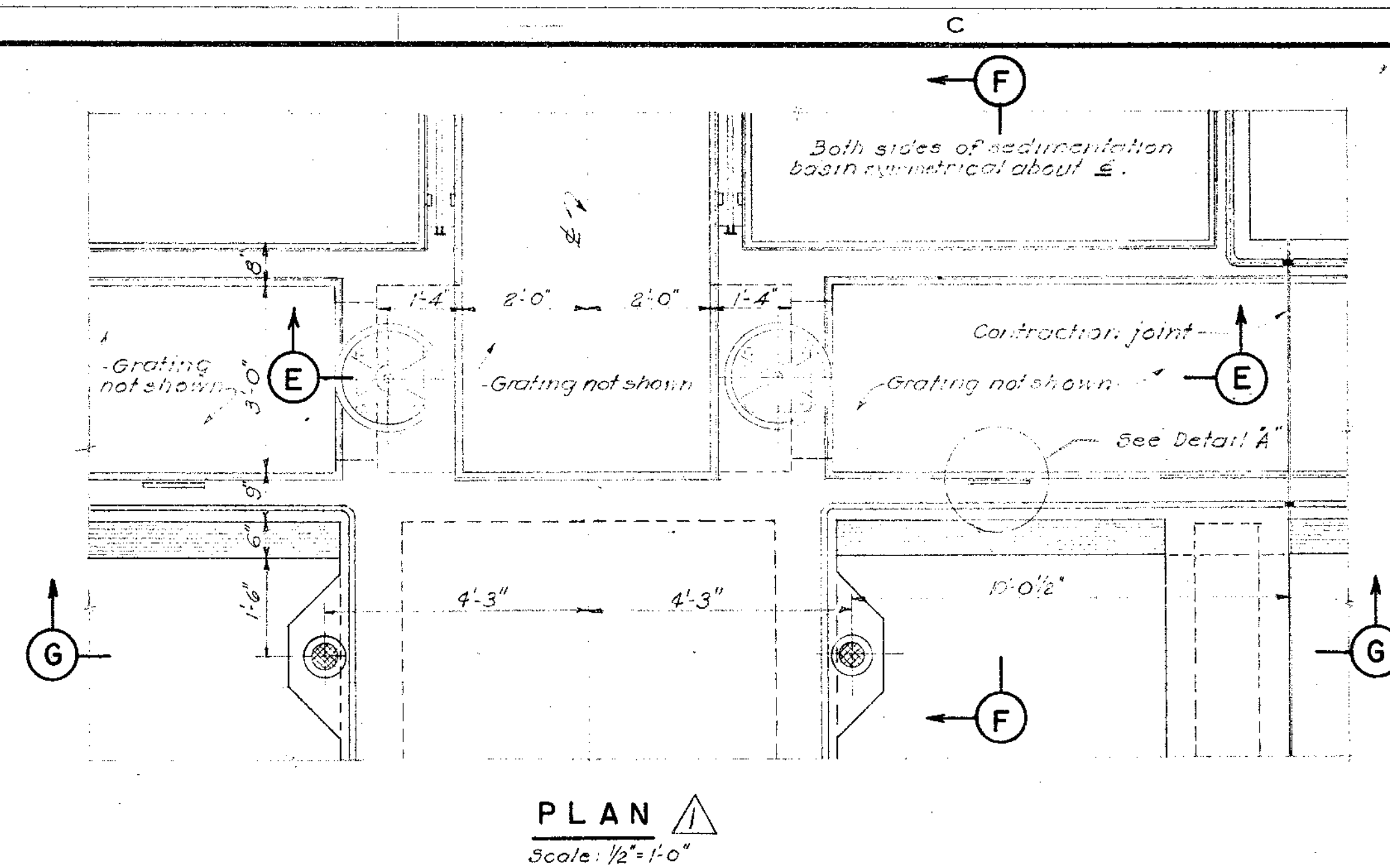
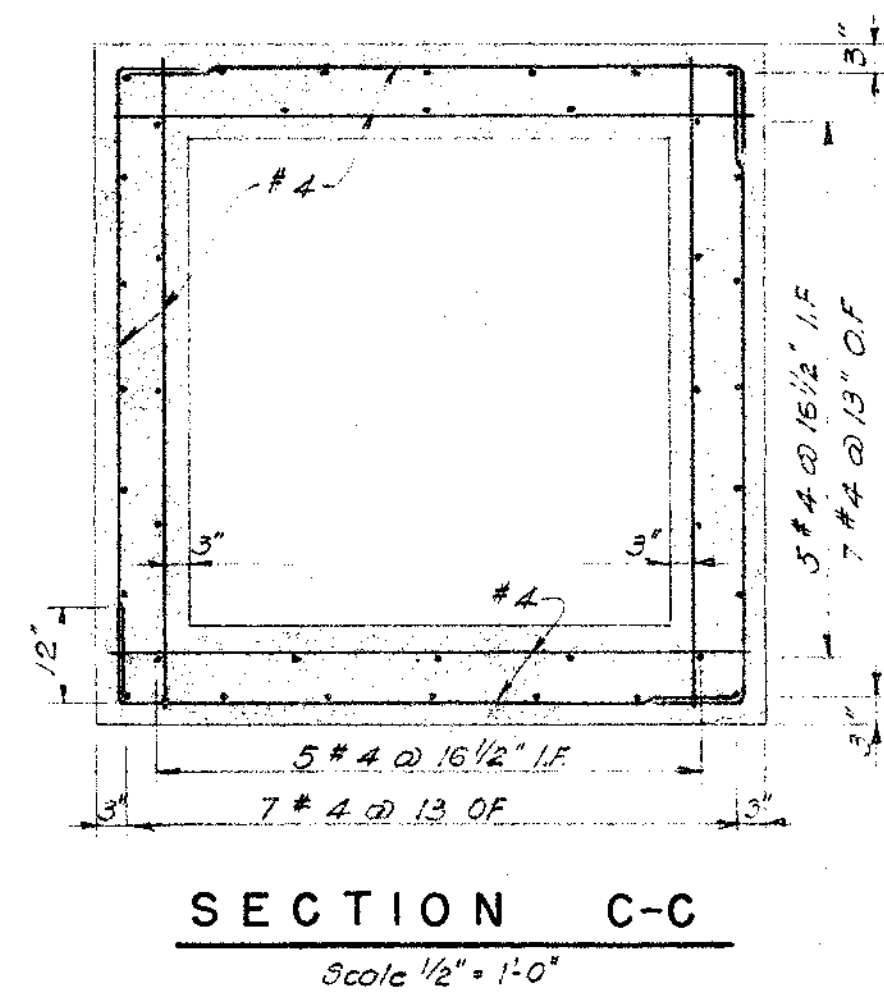
SECTION E-E

PLAN-SECTION
AT ELEV. 327

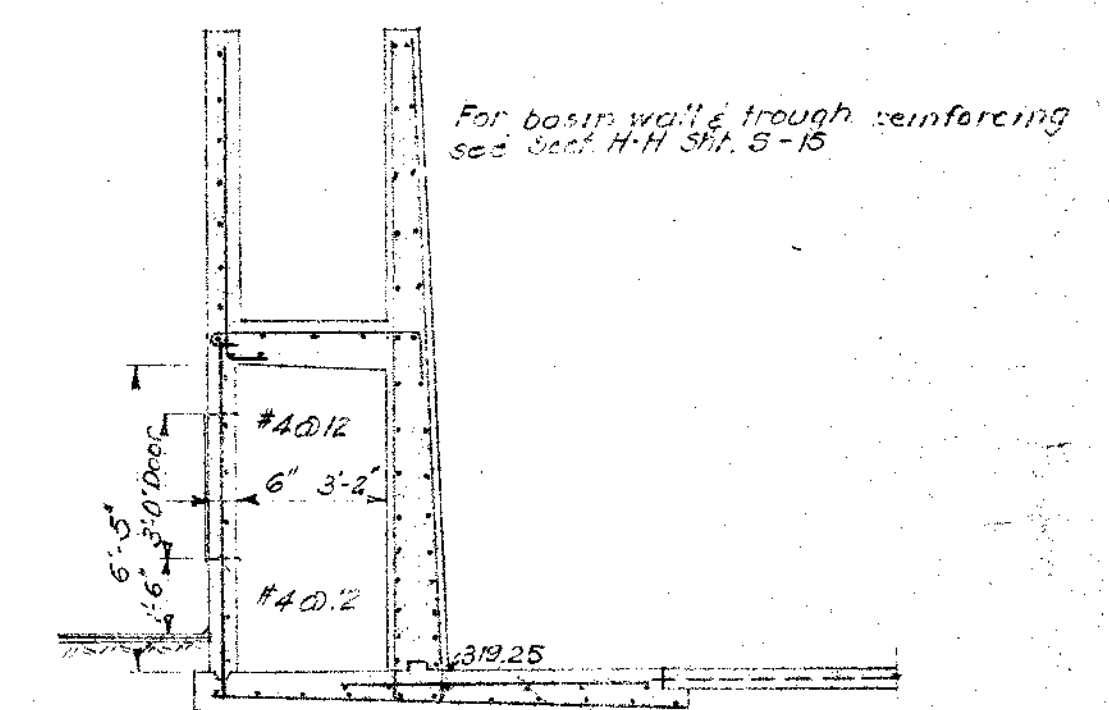
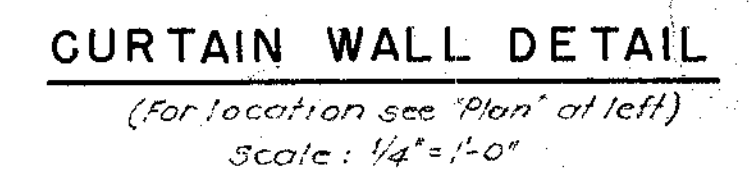
PLAN-SECTION AT ELEV. 320

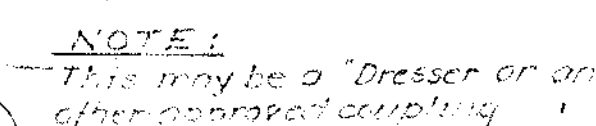
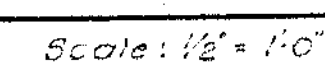
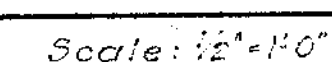
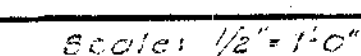
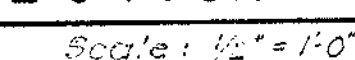
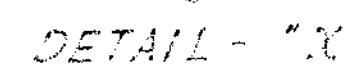
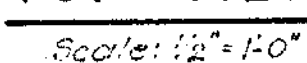
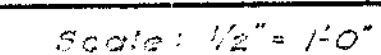
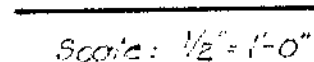
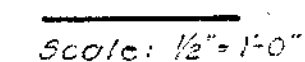
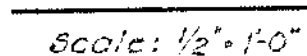
PLAN AT ELEVATION 319.25

329.59	As Built	ATS
DATE	NO.	REVISION
STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON		
OREGON CITY - WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD		
WATER PURIFICATION WORKS SEDIMENTATION BASIN RAPID MIX REINFORCEMENT		
DESIGNED H.A.S.	APPROVED BY H.A.S.	SHEET 517
CHECKED E.A.S.	DATE 8-1-57	FILE 1160-3085



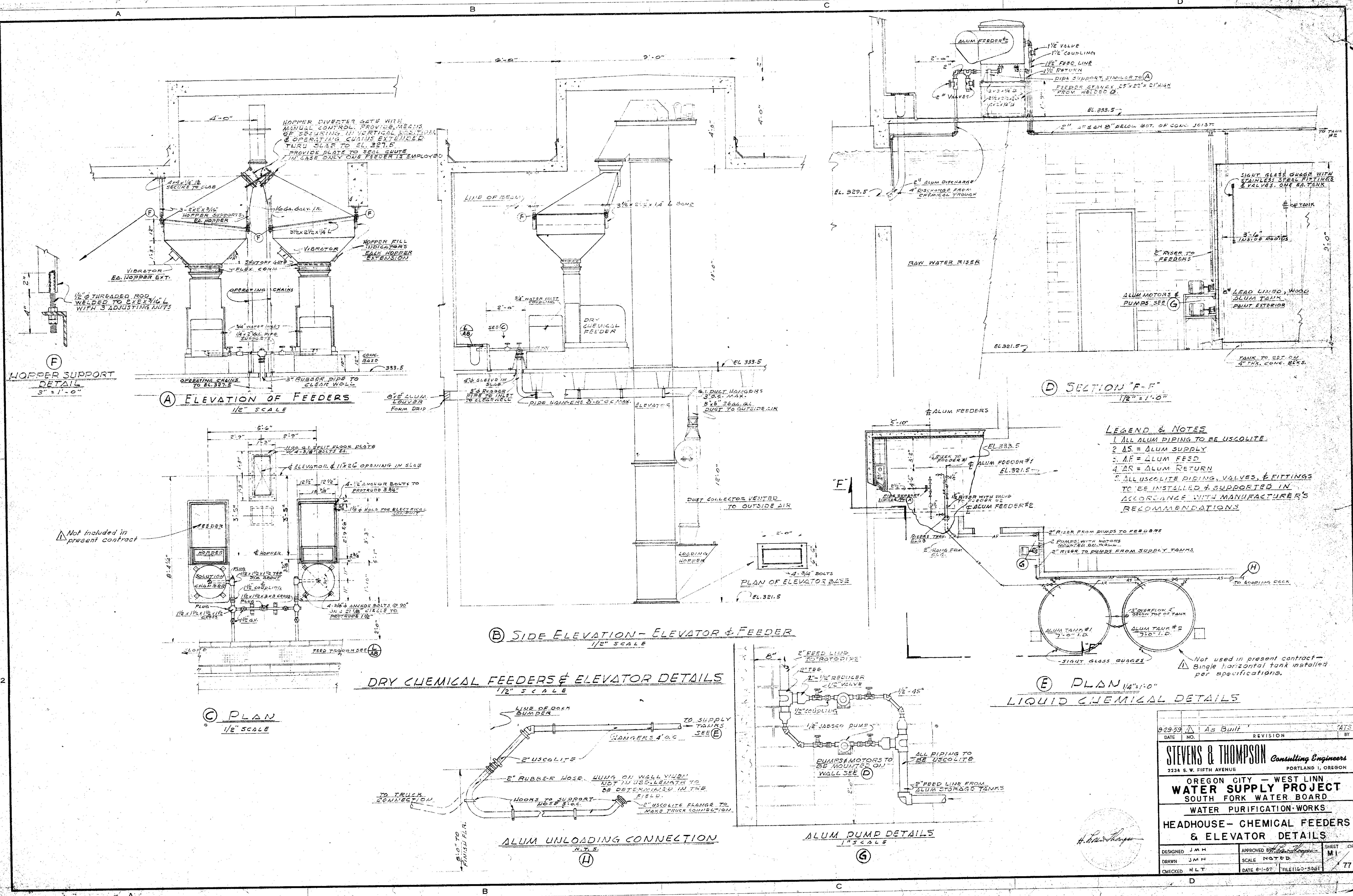
329.59	1	As Built	ATS
DATE	NO.	REVISION	BY
STEVENS & THOMPSON		Consulting Engineers	
2234 S. W. FIFTH AVENUE		PORTLAND 1, OREGON	
OREGON CITY - WEST LINN			
WATER SUPPLY PROJECT			
SOUTH FORK WATER BOARD			
WATER PURIFICATION WORKS			
SEDIMENTATION BASIN			
DETAILS			
DESIGNED	F.F.H.	APPROVED BY <i>Ken Thompson</i>	SHEET 18 OF
DRAWN	F.F.H.	SCALE <i>As shown</i>	77
CHECKED	E.A.S.	DATE 6-1-57	FILE 1240-5046

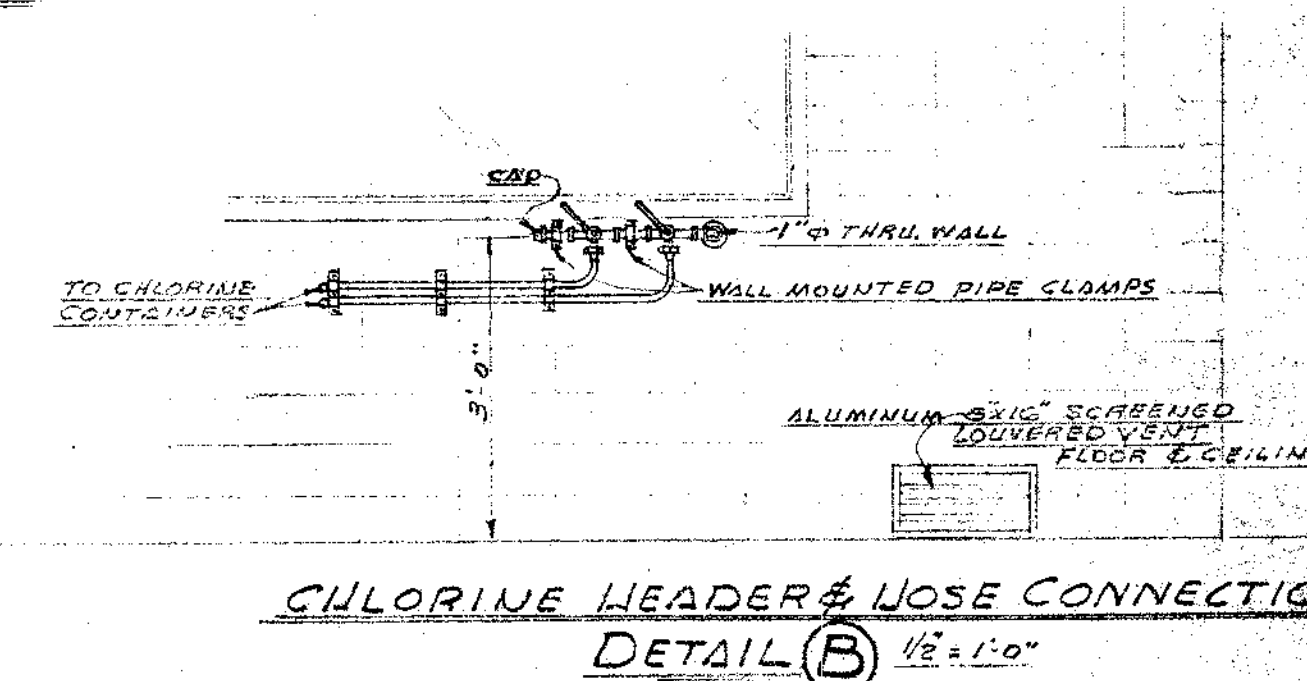
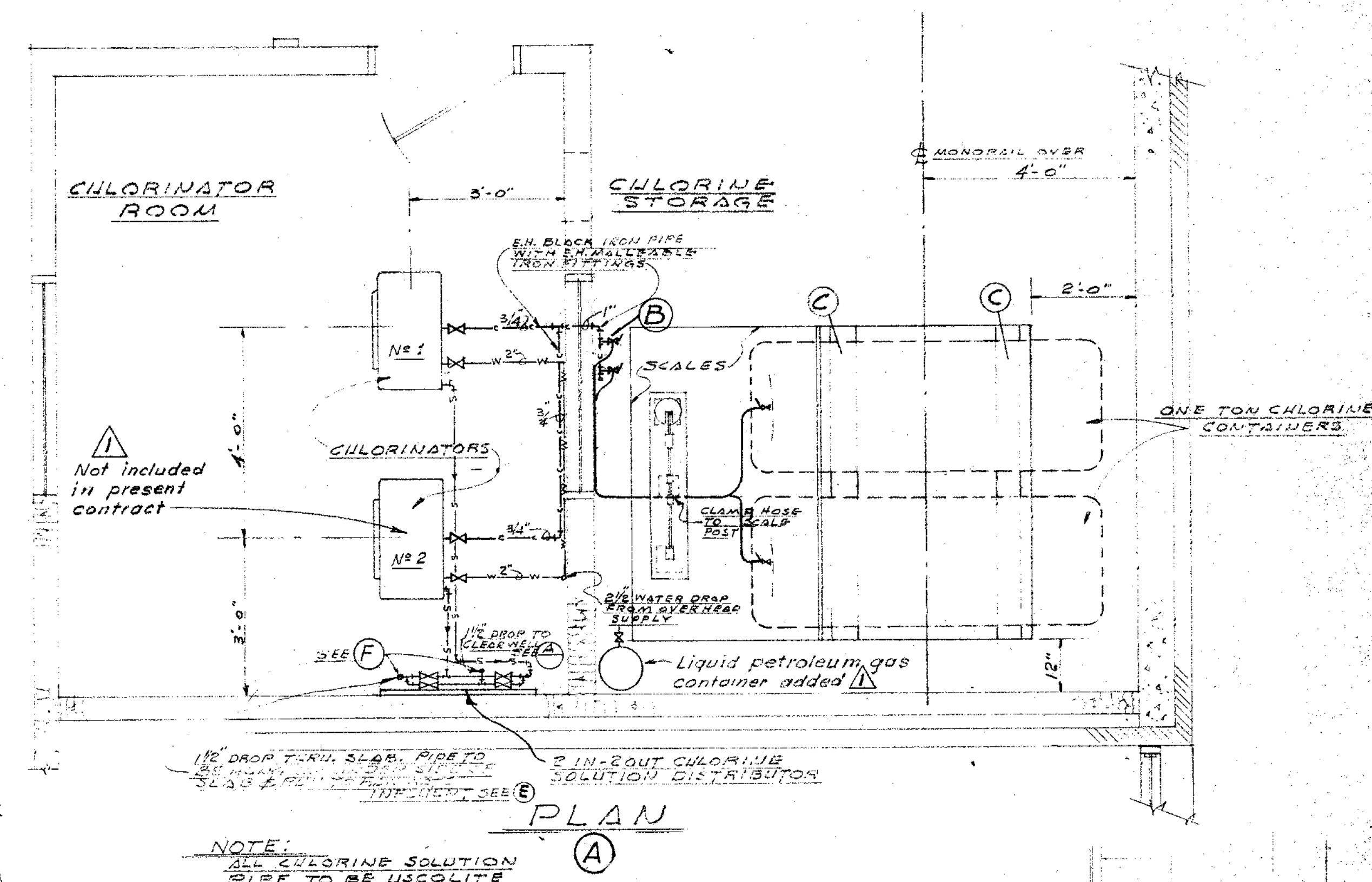
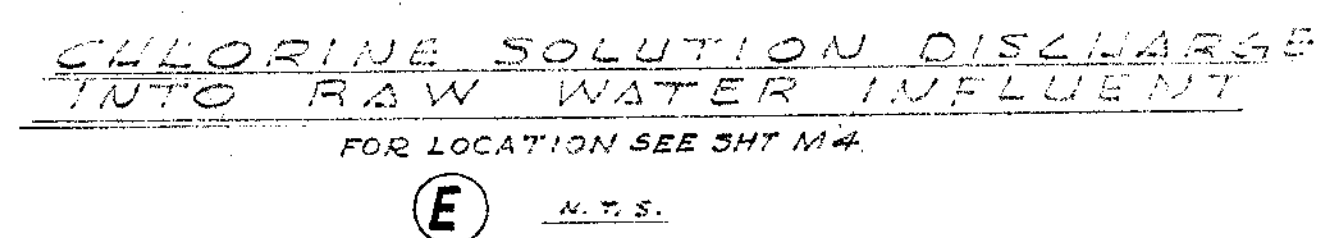
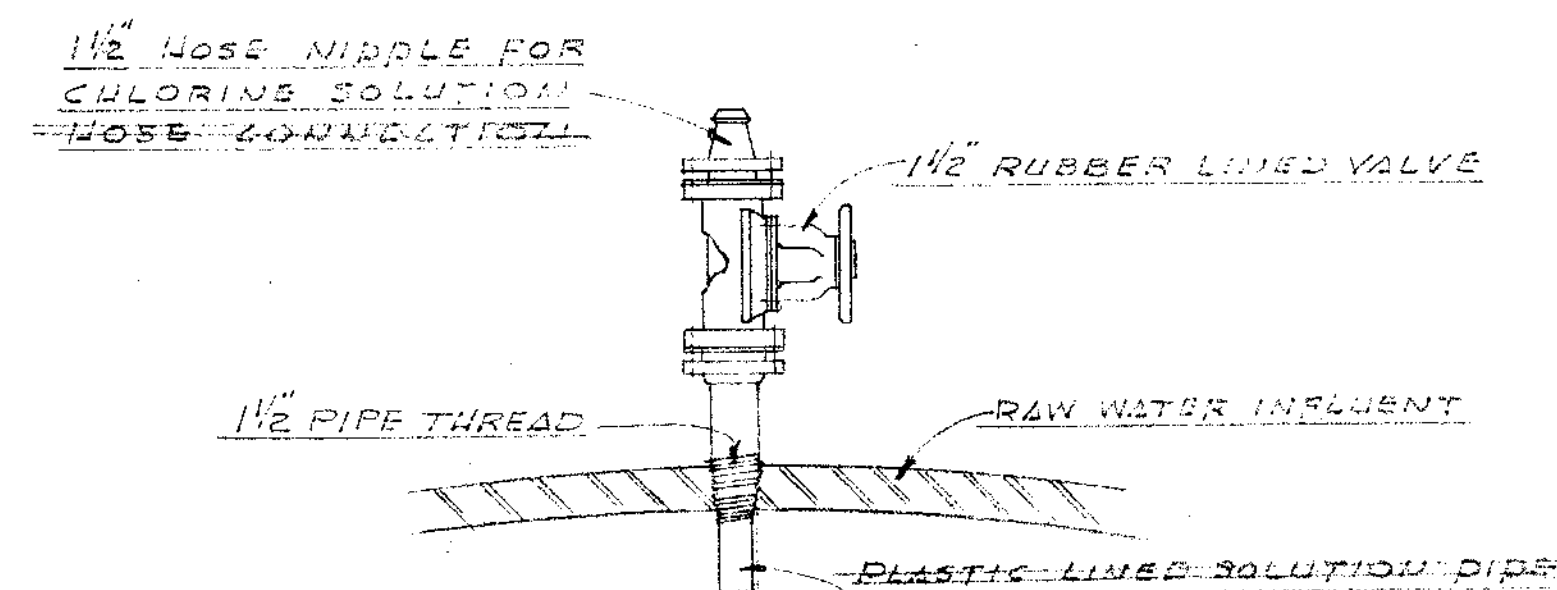
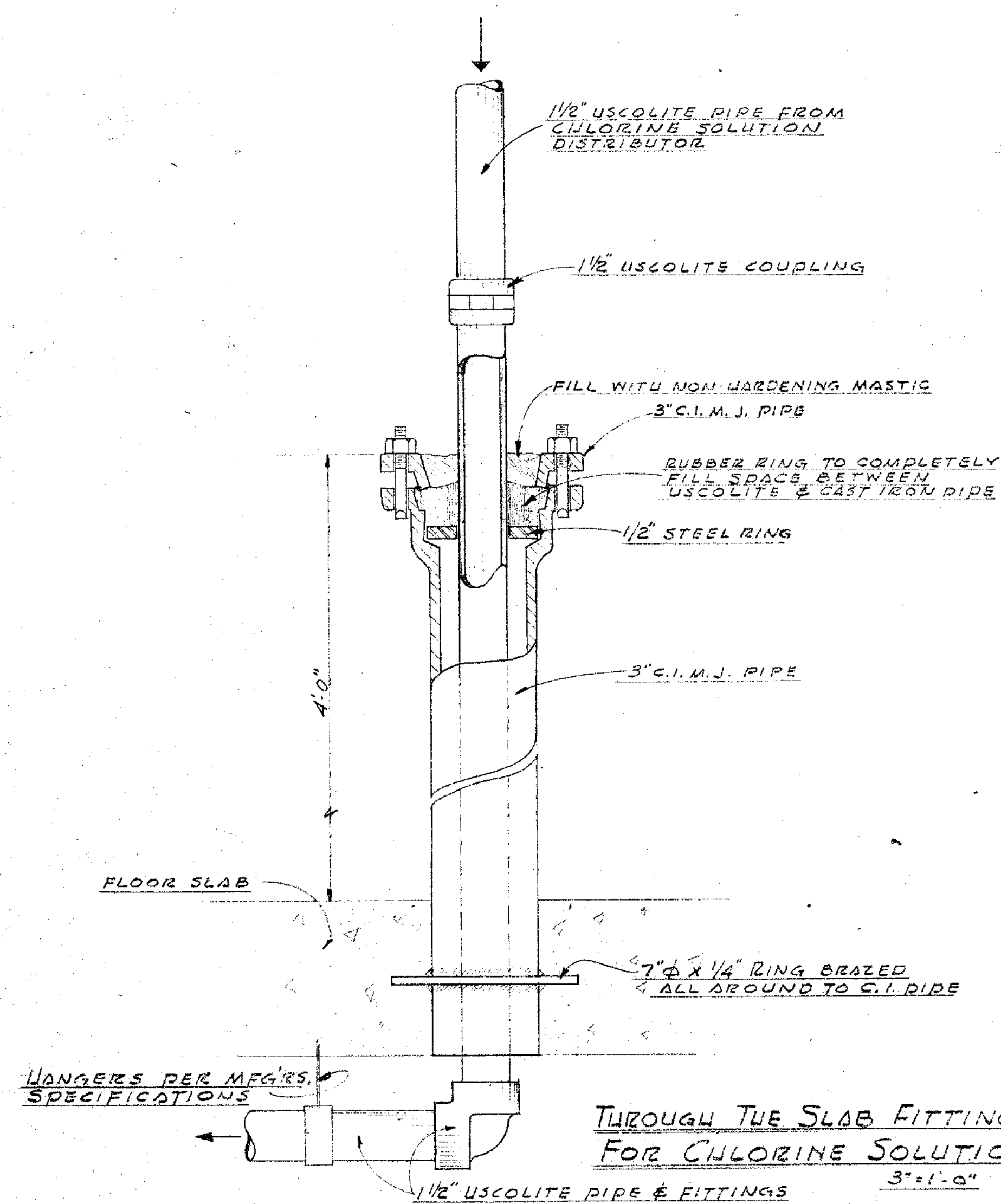
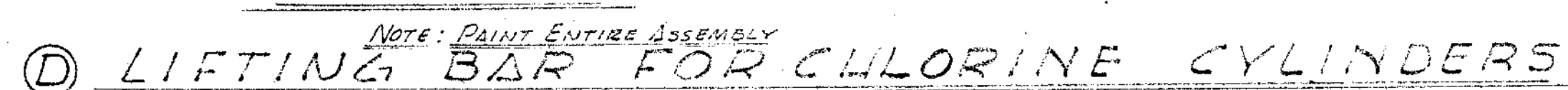
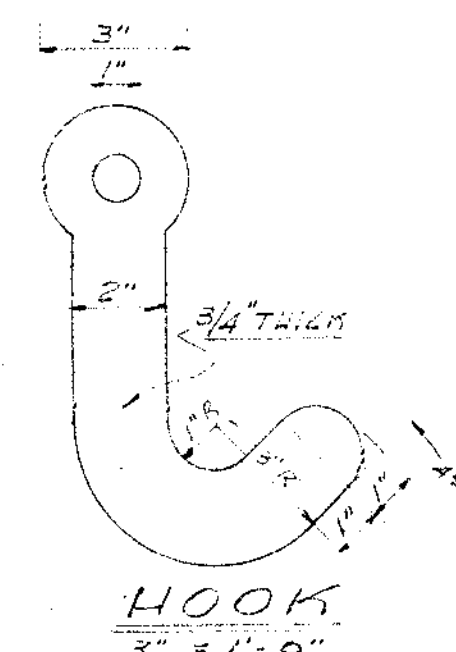
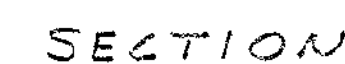
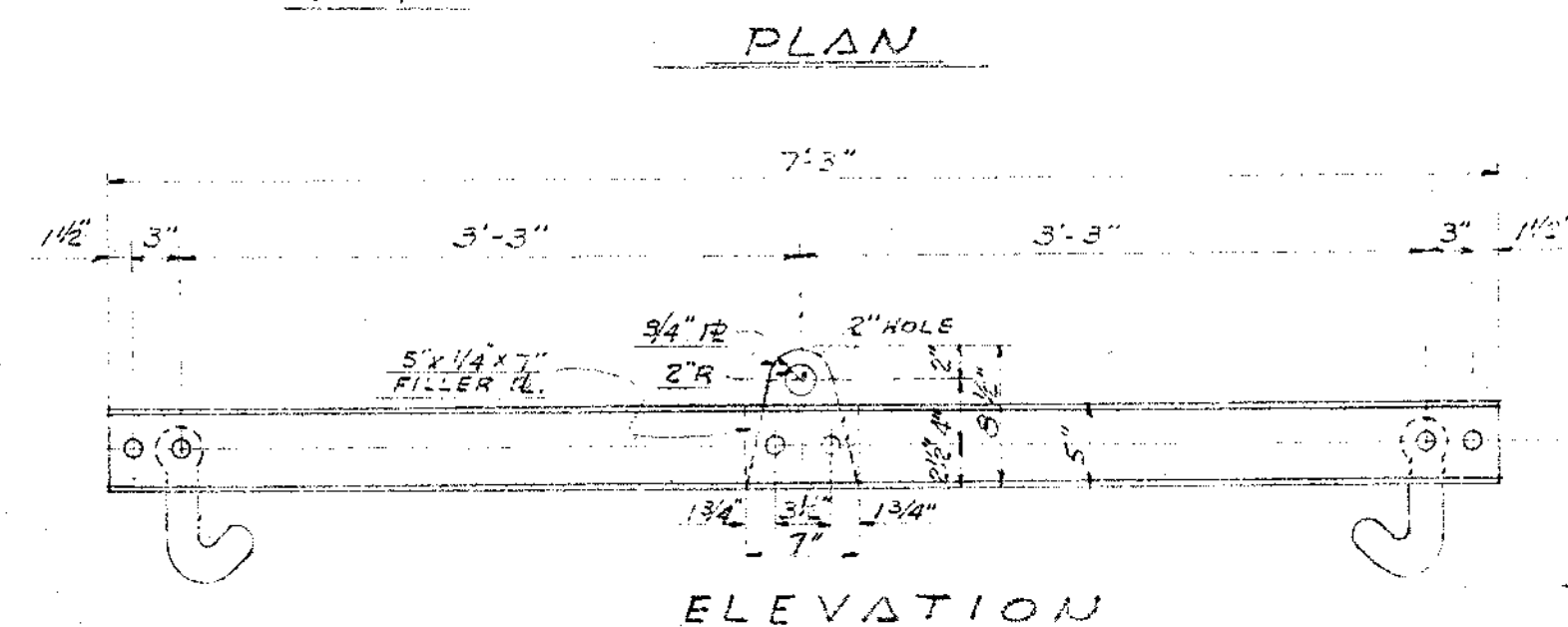
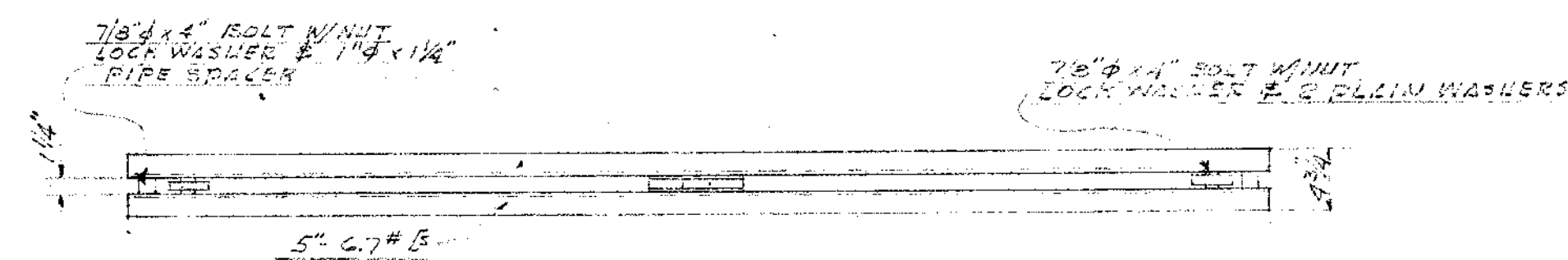
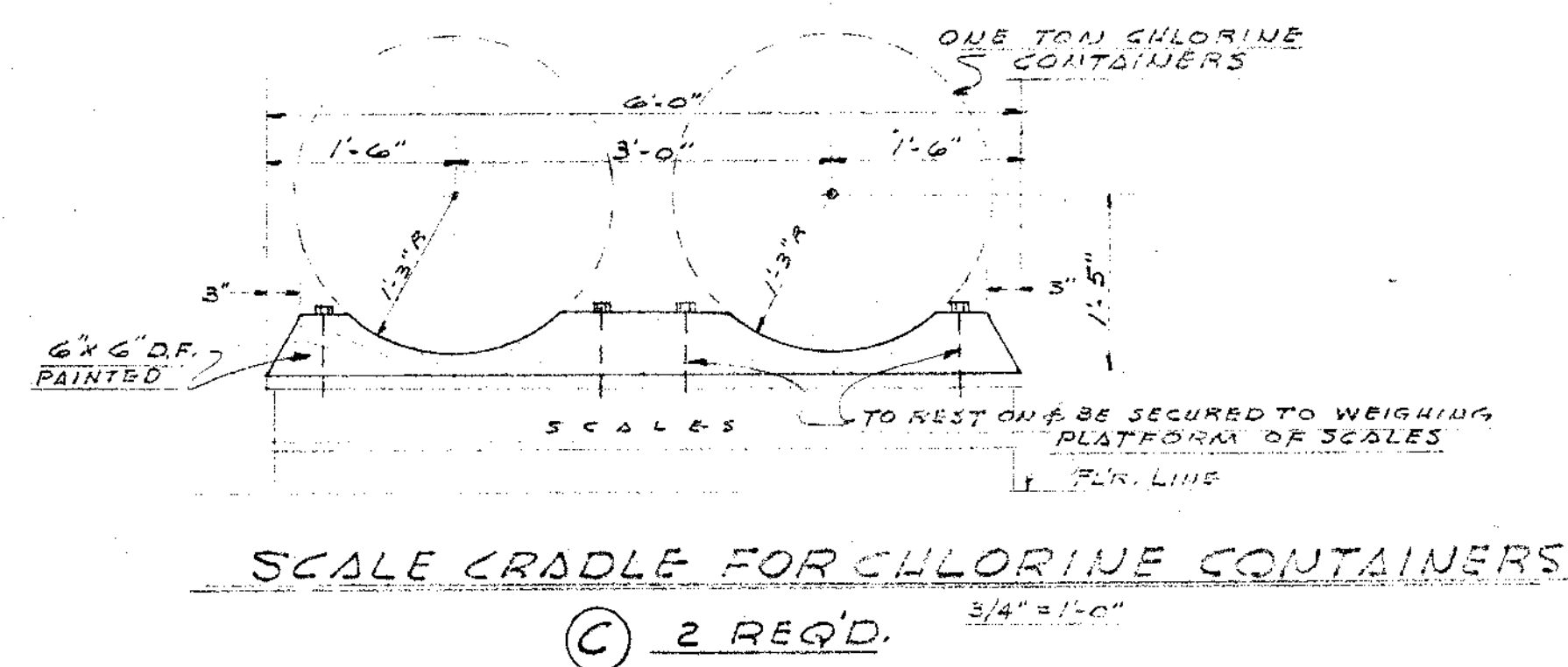
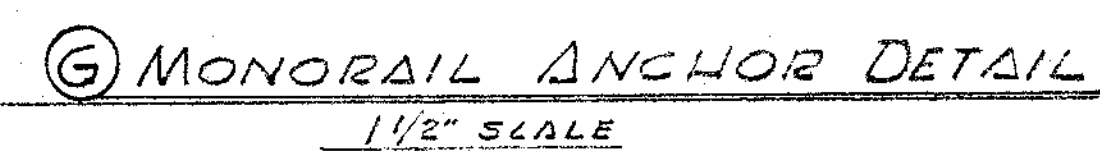
D



METER M. H.

9-29-59		As Built	47
DATE	NO.	REVISION	
STEVENS & THOMPSON		Consulting Engineers	
2234 S. W. FIFTH AVENUE		PORTLAND 1, OREGON	
OREGON CITY — WEST LINN			
WATER SUPPLY PROJECT			
SOUTH FORK WATER BOARD			
<u>WATER PURIFICATION WORKS</u>			
METER M.H. &			
CLEARWELL OVERFLOW			
DESIGNED F.F.H.	APPROVED BY 	SHEET	
DRAWN F.F.H.	SCALE AS SHOWN	S 21	
CHECKED E.A.S.	DATE 8-1-57 FILE#60-8059	7	





—LEGEND—

—FLEXIBLE CONNECTIONS - CHLORINE CONTAINERS TO HDR.

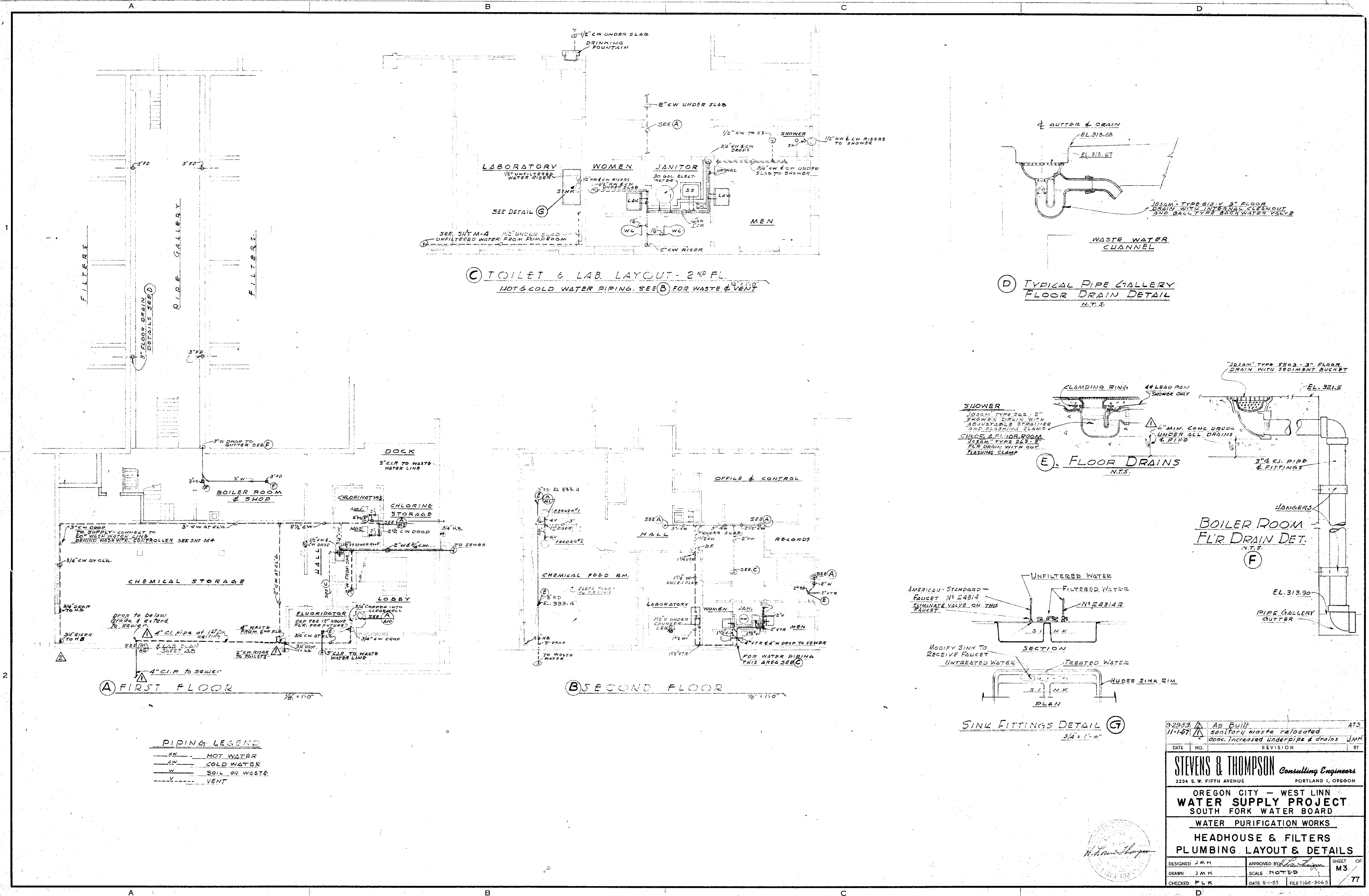
C — 1/2" BLACK PIPE WITH 1/2" MALLEABLE IR. FITTINGS

S — CHLORINE SOLUTION - USCOLITE PIPE, VALVES, FITTINGS.

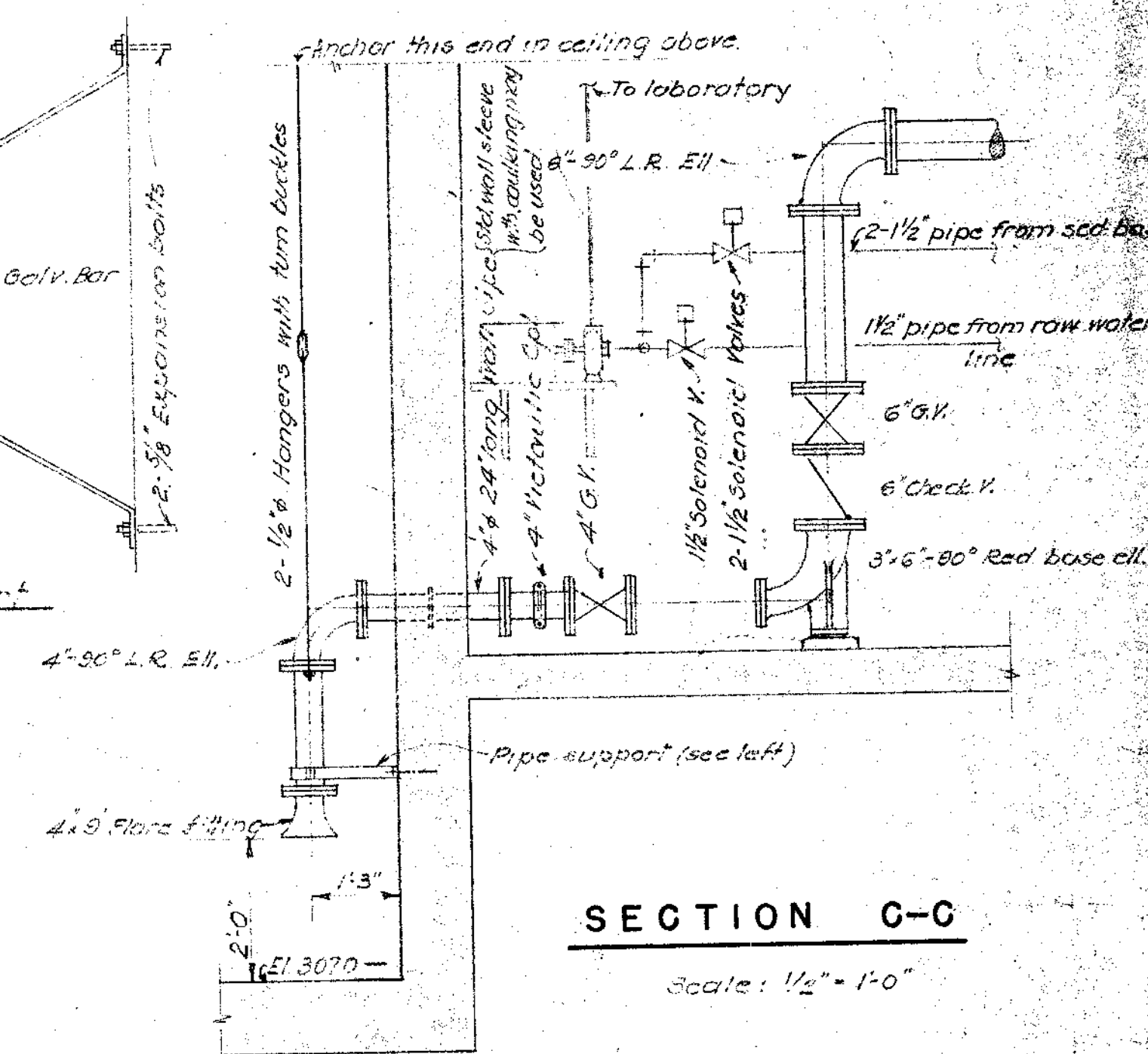
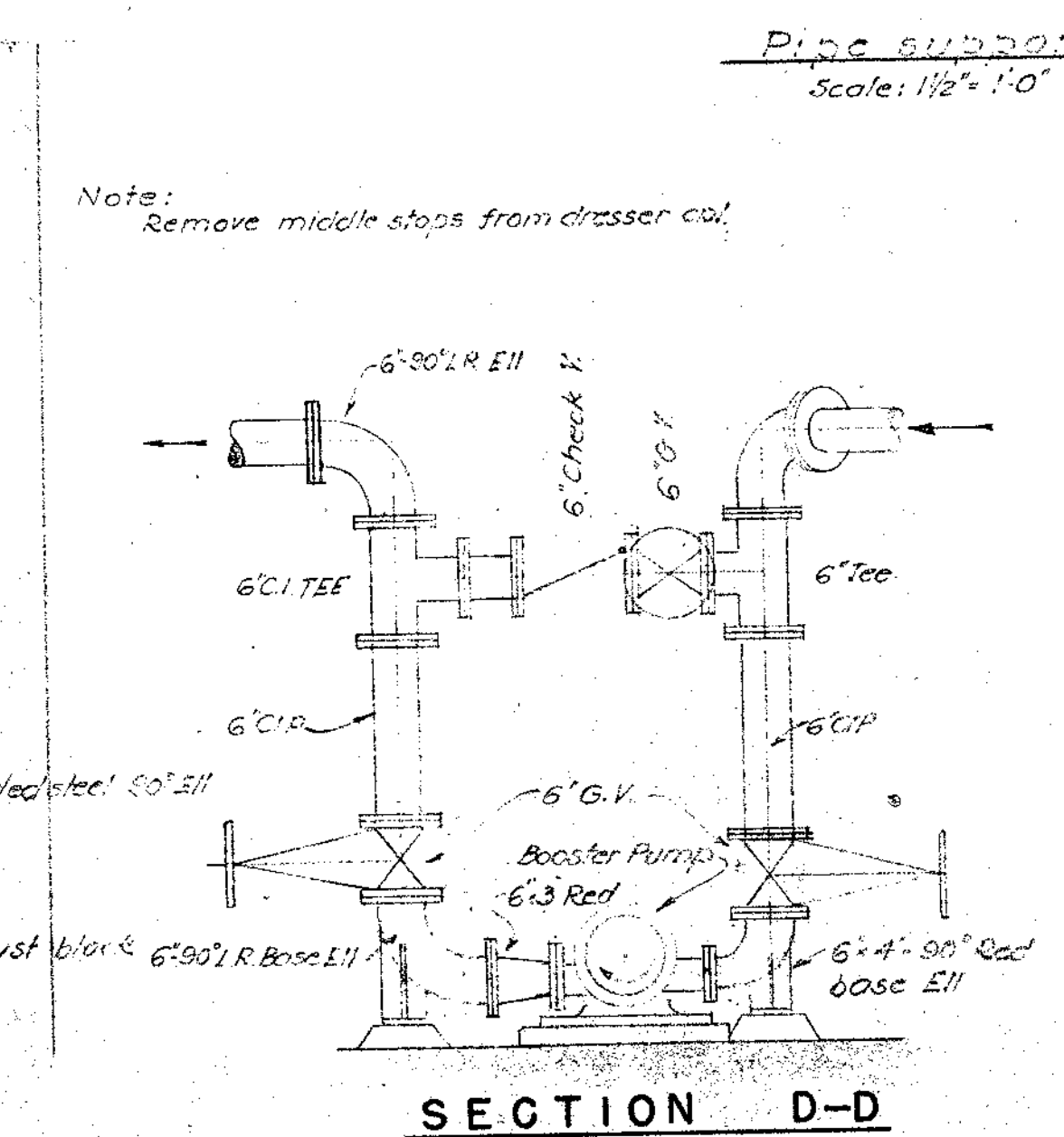
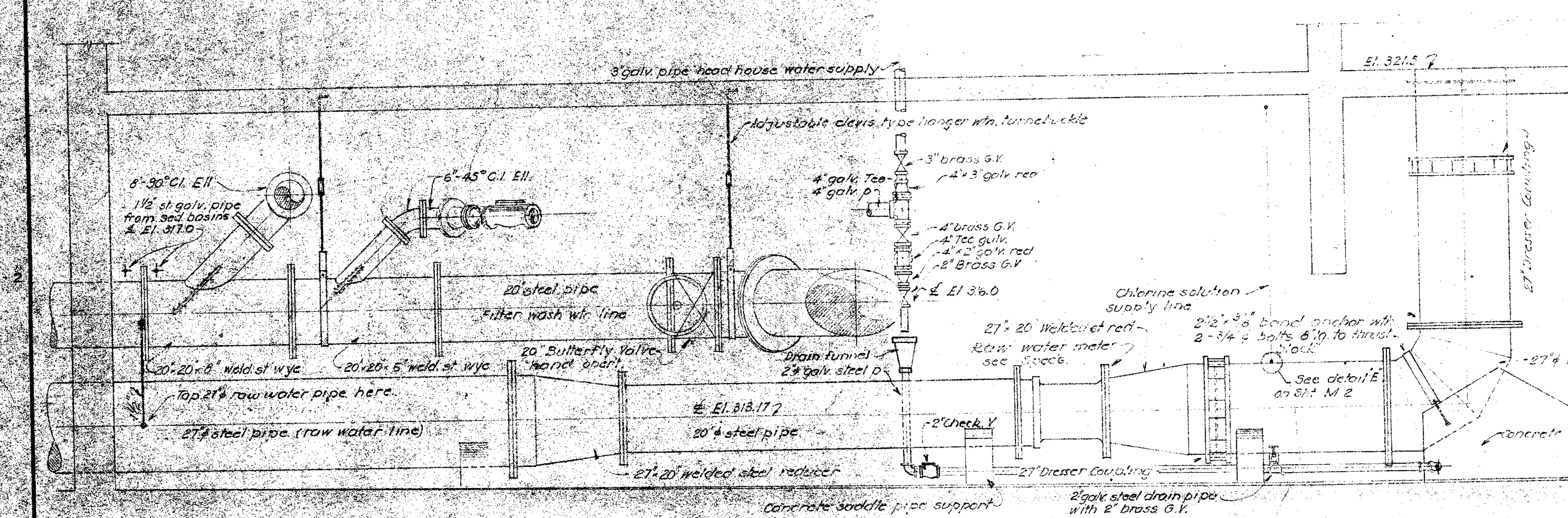
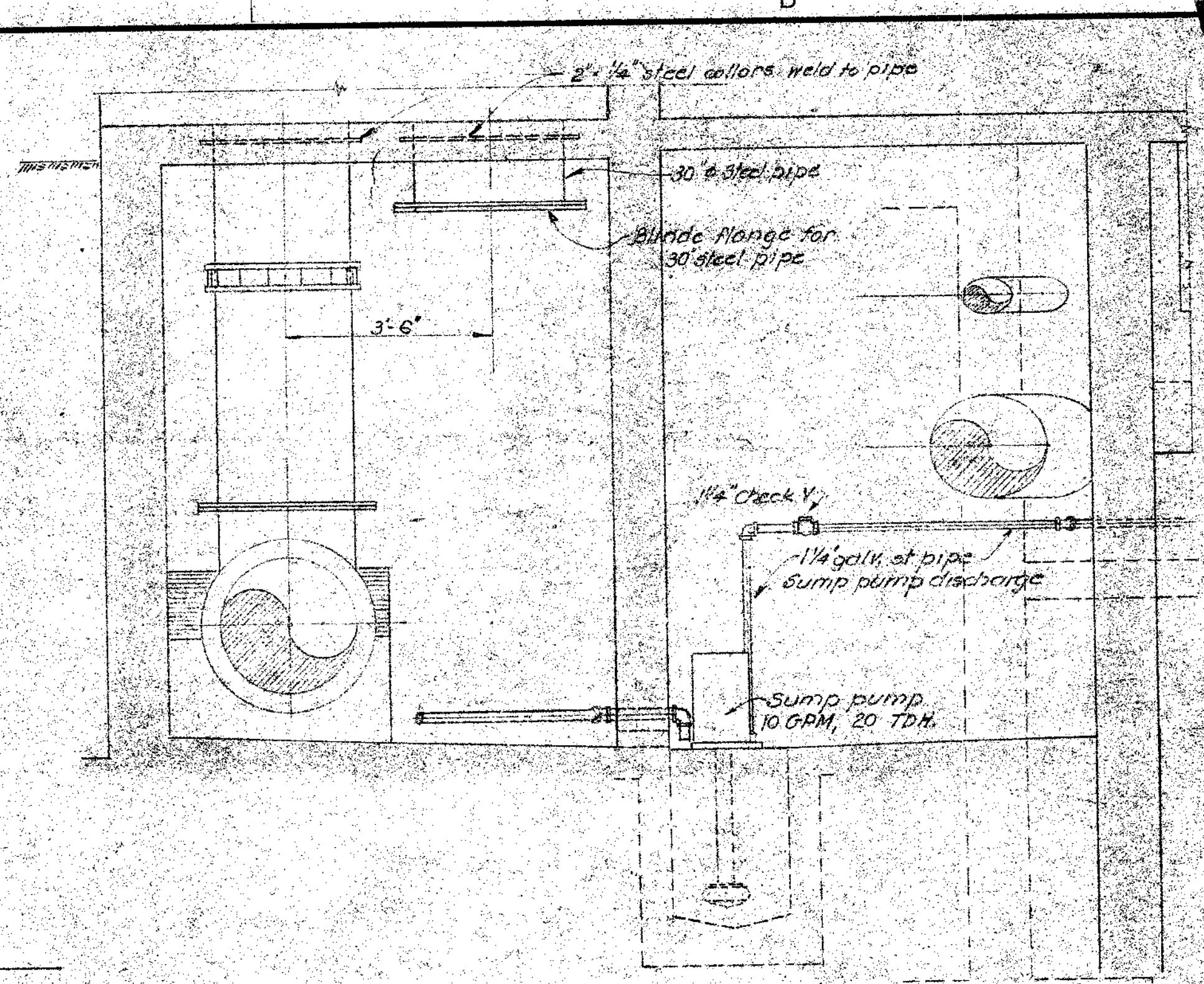
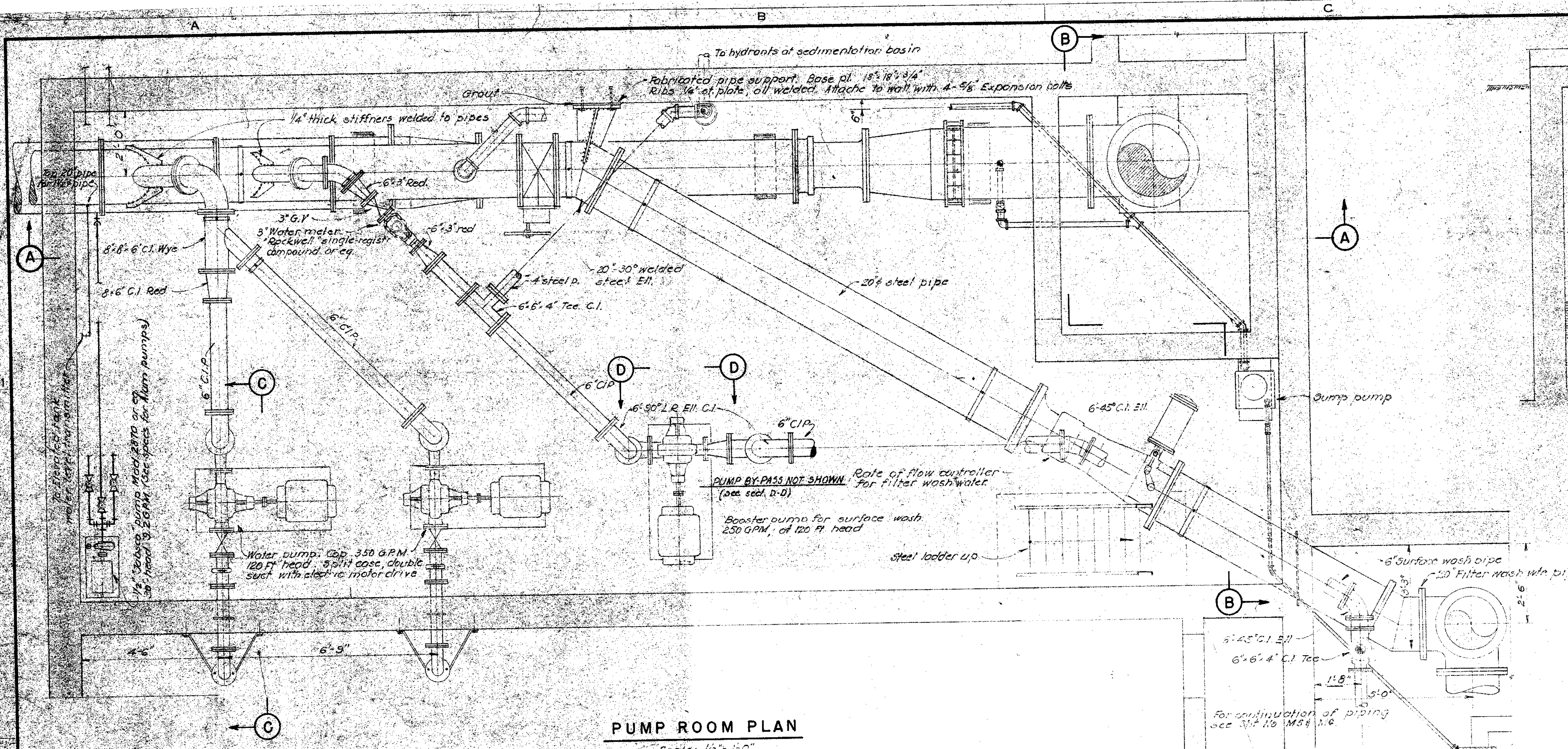
W — WATER

CHLORINE EQUIPMENT & PIPING DETAILS
SCALE 1/2" = 1'-0"

929 99		As Built		ATS
DATE	NO.		REVISION	BY
STEVENS & THOMPSON			Consulting Engineers	
2234 S. W. FIFTH AVENUE			PORTLAND 1, OREGON	
OREGON CITY - WEST LINN				
WATER SUPPLY PROJECT				
SOUTH FORK WATER BOARD				
WATER PURIFICATION WORKS				
HEADHOUSE				
CHLORINATION DETAILS				
DESIGNED	J M H	APPROVED BY		SHEET OF
DRAWN	J M H	SCALE	NOTED	M2
CHECKED	H L T	DATE	8-1-87	FILE
			1140-3062	77

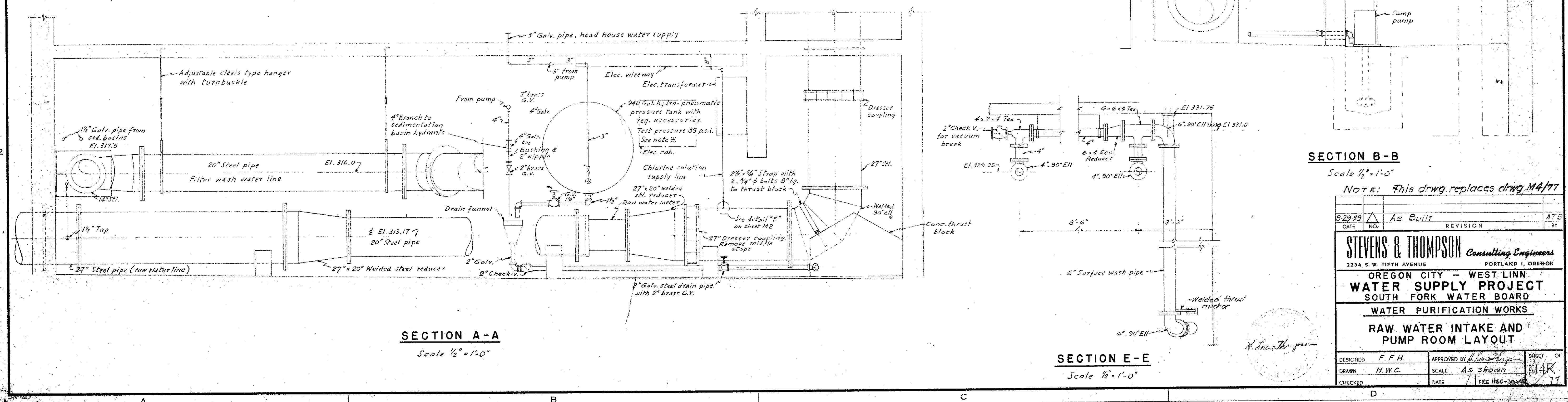
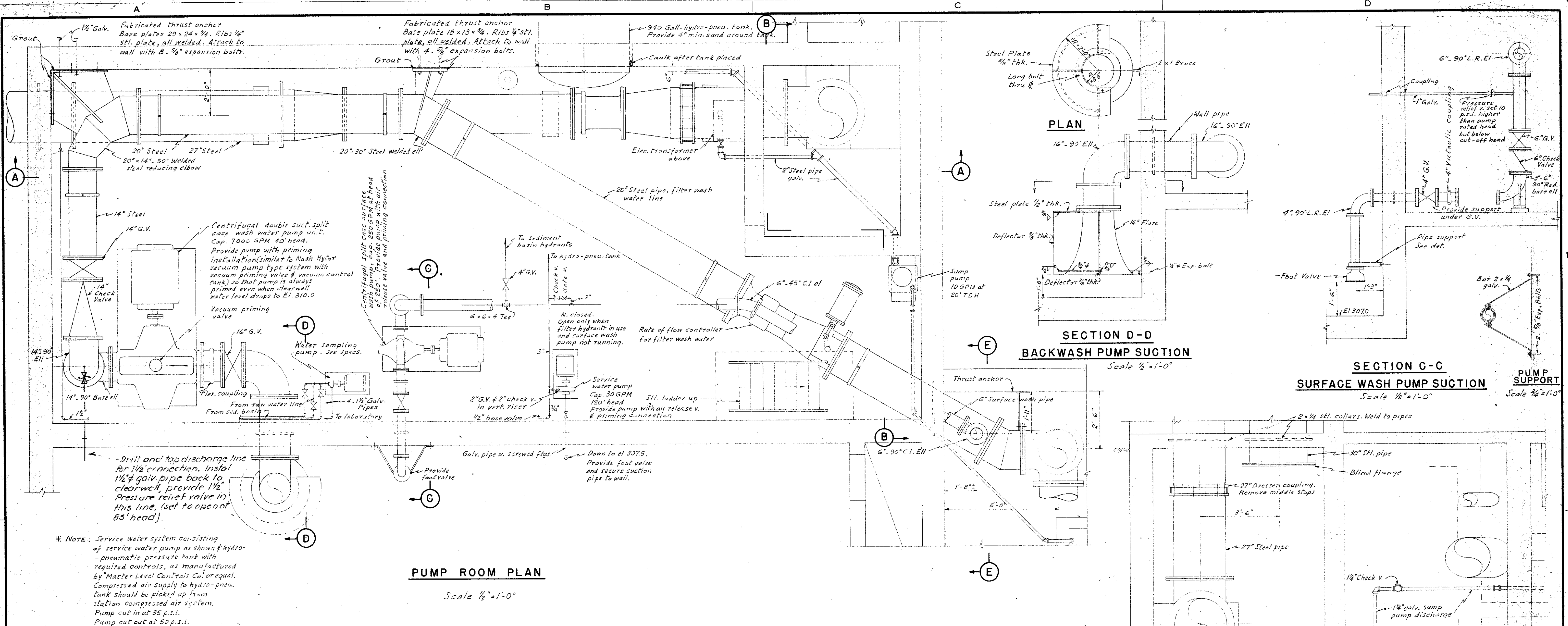


9-29-59	As Built	ATS
11-1-57	Sanitary waste relocated	JMH
	conc. increased under pipe & drains	BY
DATE	NO.	REVISION
STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON		
OREGON CITY - WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD WATER PURIFICATION WORKS HEADHOUSE & FILTERS PLUMBING LAYOUT & DETAILS		
DESIGNED J.M.H.	APPROVED BY J.M.H.	SHEET M3 OF 77
CHECKED P.L.K.	DATE 5-1-57	FILE 1160-3063



DATE	NO.	REVISION	BY
STEVENS & THOMPSON Consulting Engineers 2234 S.W. FIFTH AVENUE PORTLAND 1, OREGON OREGON CITY - WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD WATER PURIFICATION WORKS RAW WATER INTAKE AND PUMP ROOM LAYOUT			
DESIGNED	F.F.H.	APPROVED BY	W.H. Thompson
DRAWN	G.B.H.	SCALE	AS SHOWN
CHECKED	H.L.T.	DATE	8-27-57

06.12.100.23.14.12



SECTION B-B

Scale $\frac{1}{2}'' = 1'-0''$

NOTE: This drwg. replaces drwg. M4/77

9-29-79	△	As Built	AT 5
DATE	NO.	REVISION	BY

STEVENS & THOMPSON Consulting Engineers

2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON

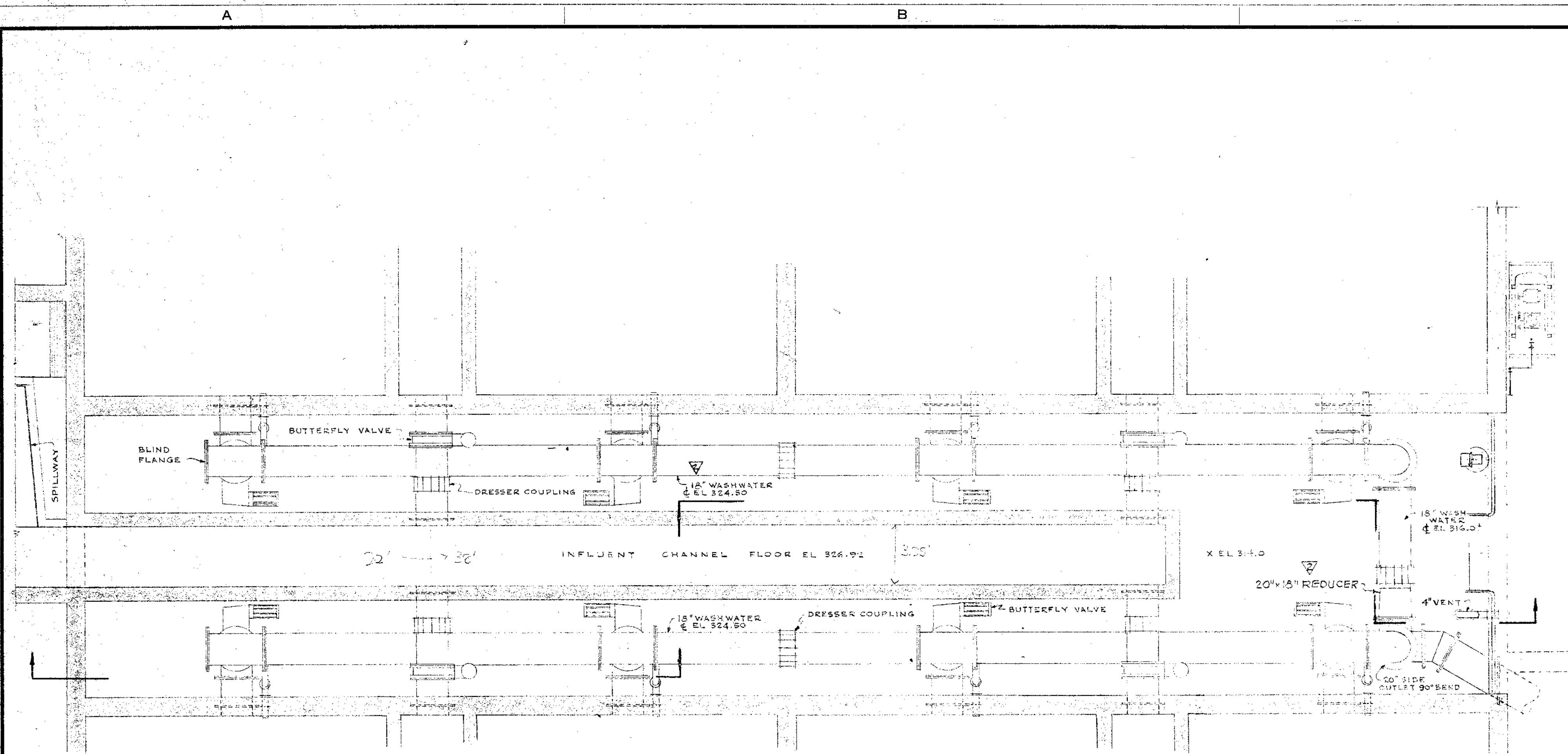
**OREGON CITY - WEST LINN
WATER SUPPLY PROJECT**

SOUTH FORK WATER BOARD

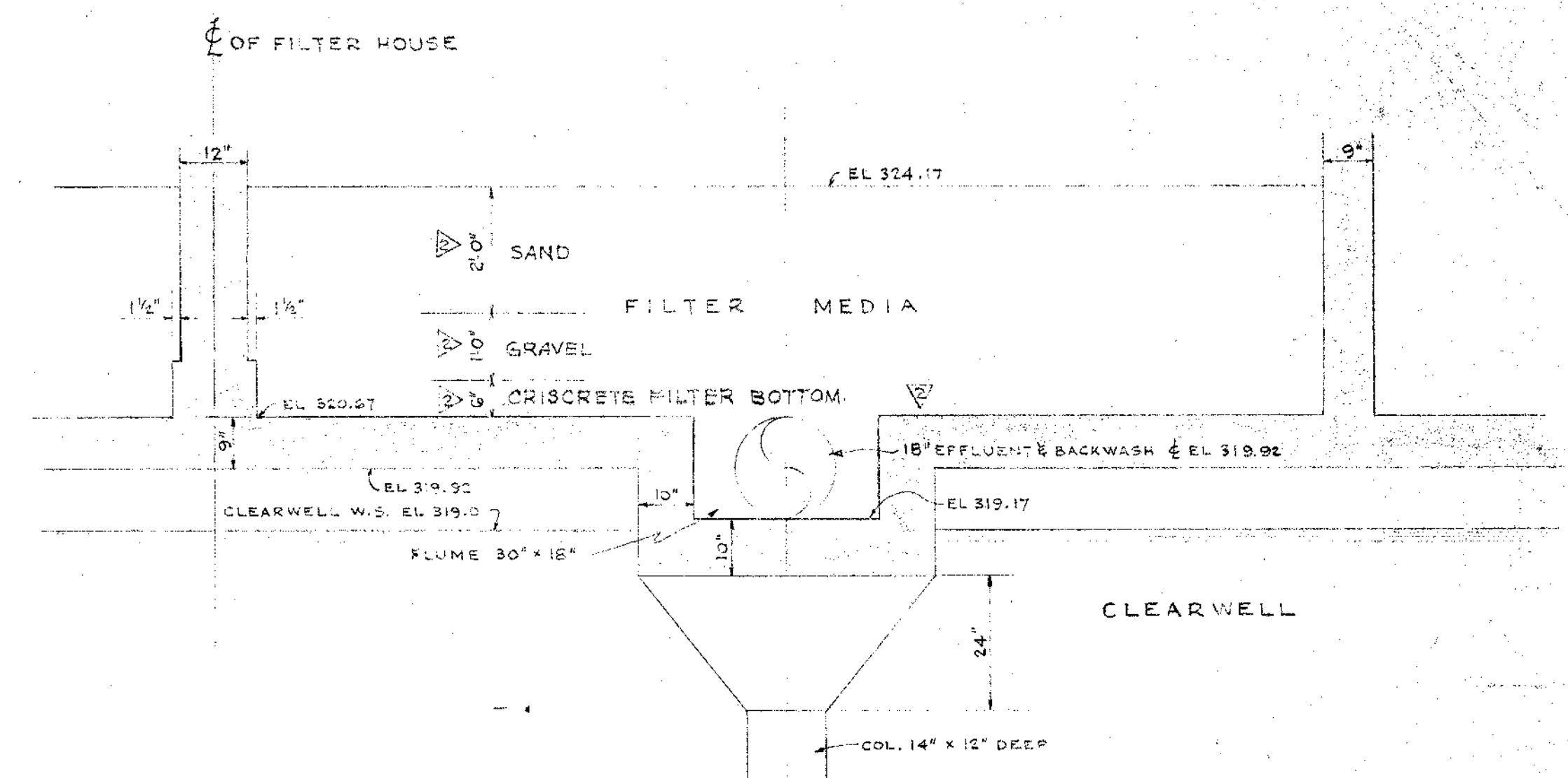
WATER PURIFICATION WORKS

**RAW WATER INTAKE AND
PUMP ROOM LAYOUT**

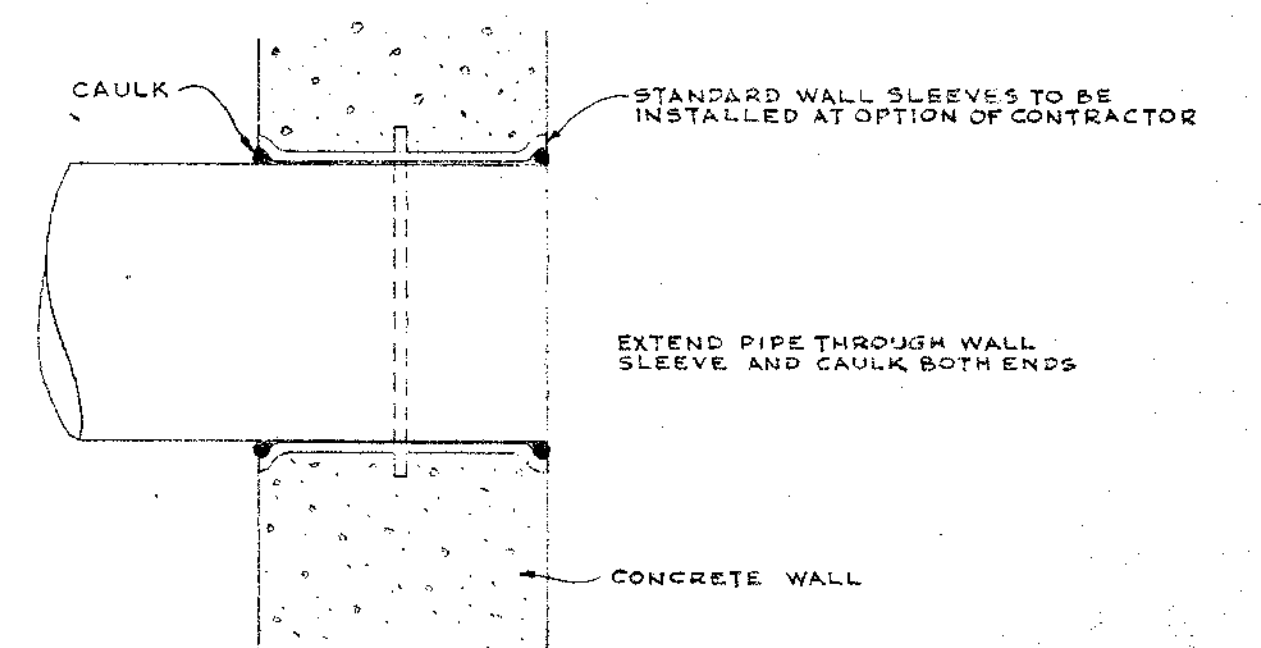
DESIGNED <i>F. F. H.</i>	APPROVED BY <i>H. W. C.</i>	SHEET 0F
DRAWN <i>H. W. C.</i>	SCALE <i>As shown</i>	<i>MAR</i>
CHECKED	DATE	FILE <i>H60-30648</i>



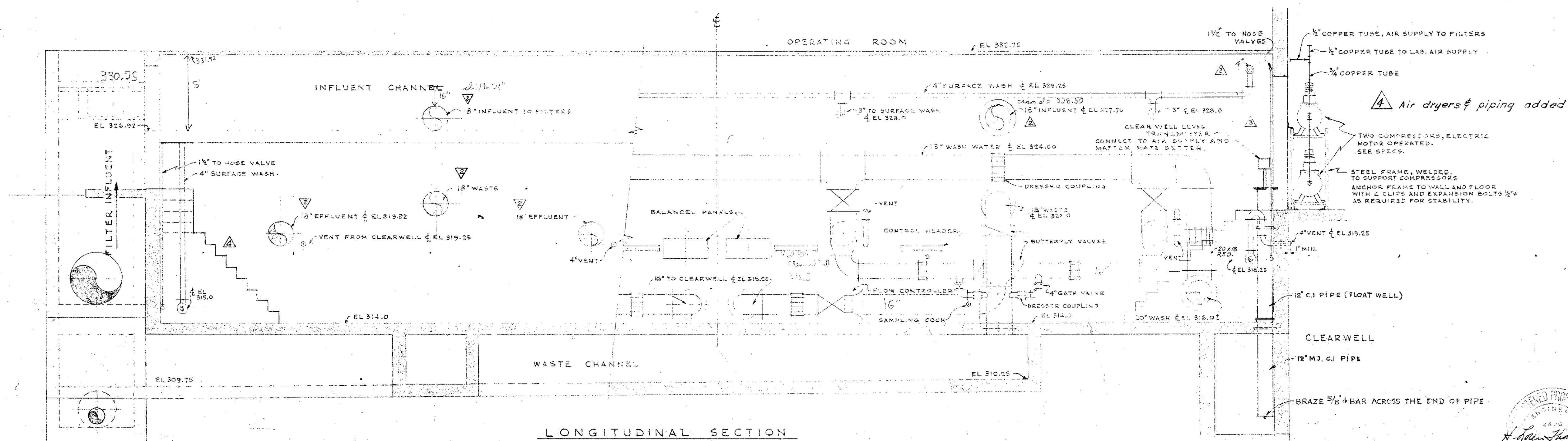
PLAN
ARRANGEMENT IN PIPE GALLERY
(SUPPLY PIPING TO FILTER BED AGITATORS OMITTED)
SCALE: 1/4" = 1'-0"



SECTION THROUGH FILTER
SCALE: 1/4" = 1'-0"

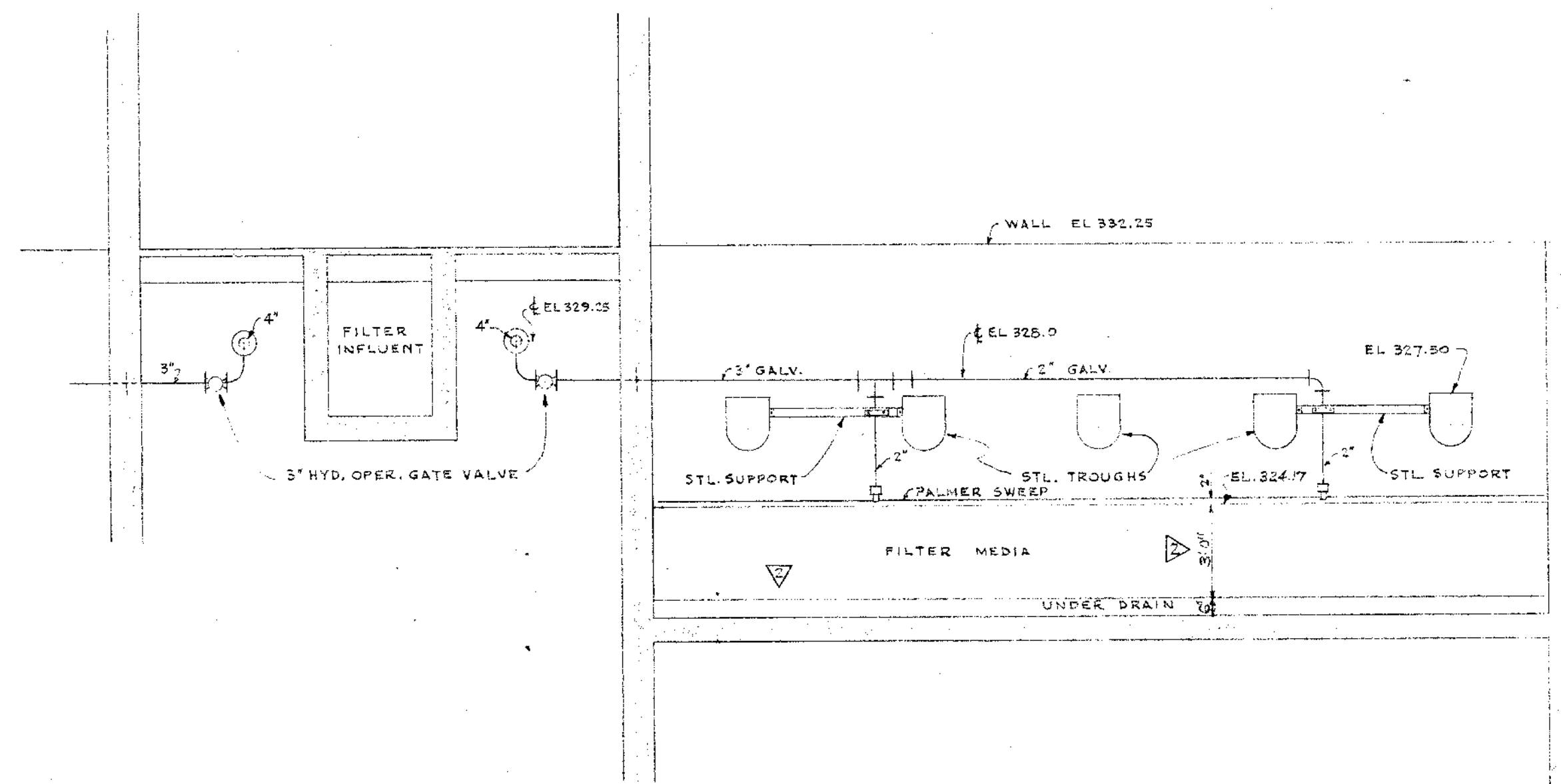


ALTERNATE WALL SLEEVE
NOT TO SCALE

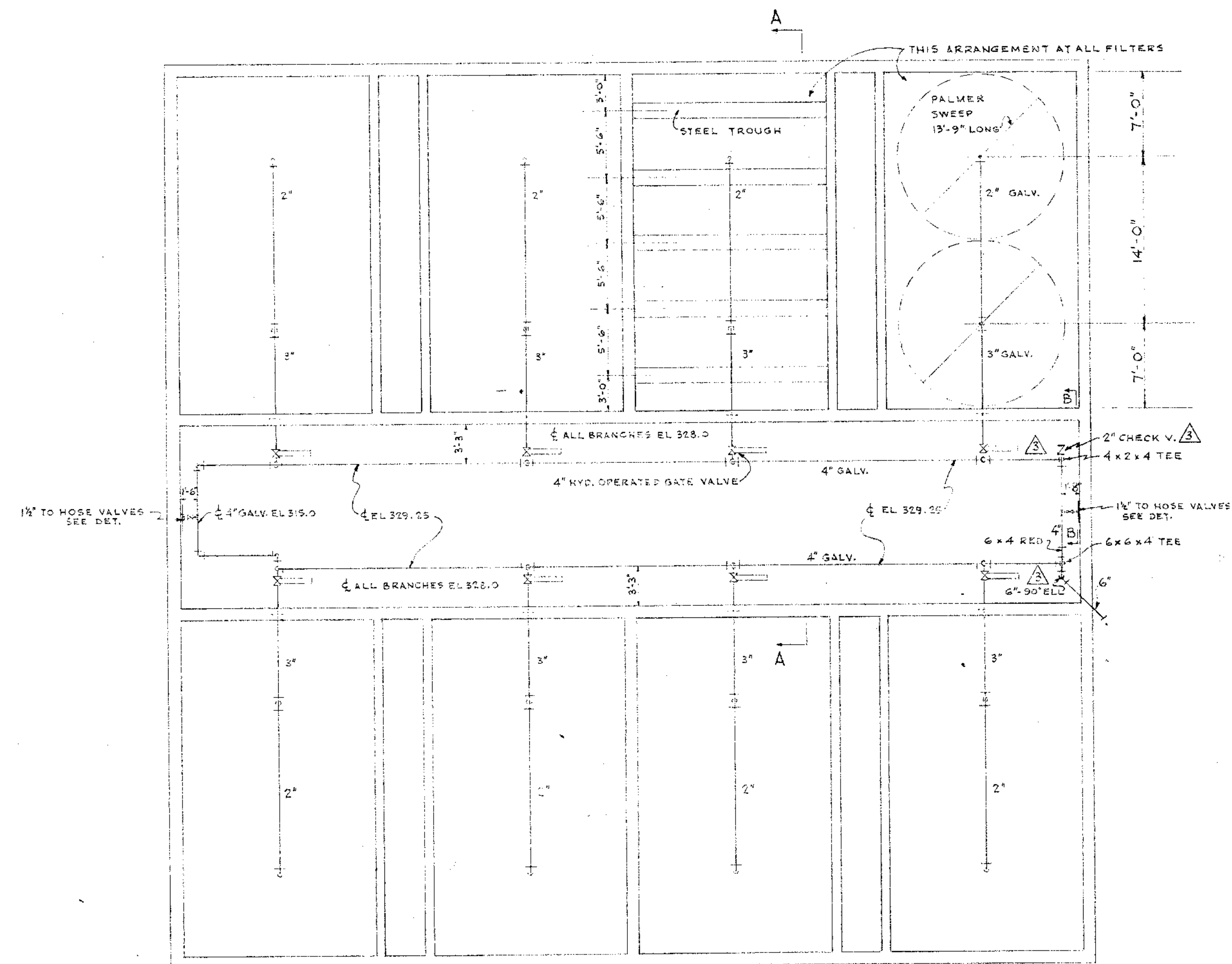


LONGITUDINAL SECTION
GENERAL ARRANGEMENT OF PIPE GALLERY IN FILTER HOUSE, INFLUENT & WASTE
SCALE: 1/4" = 1'-0"

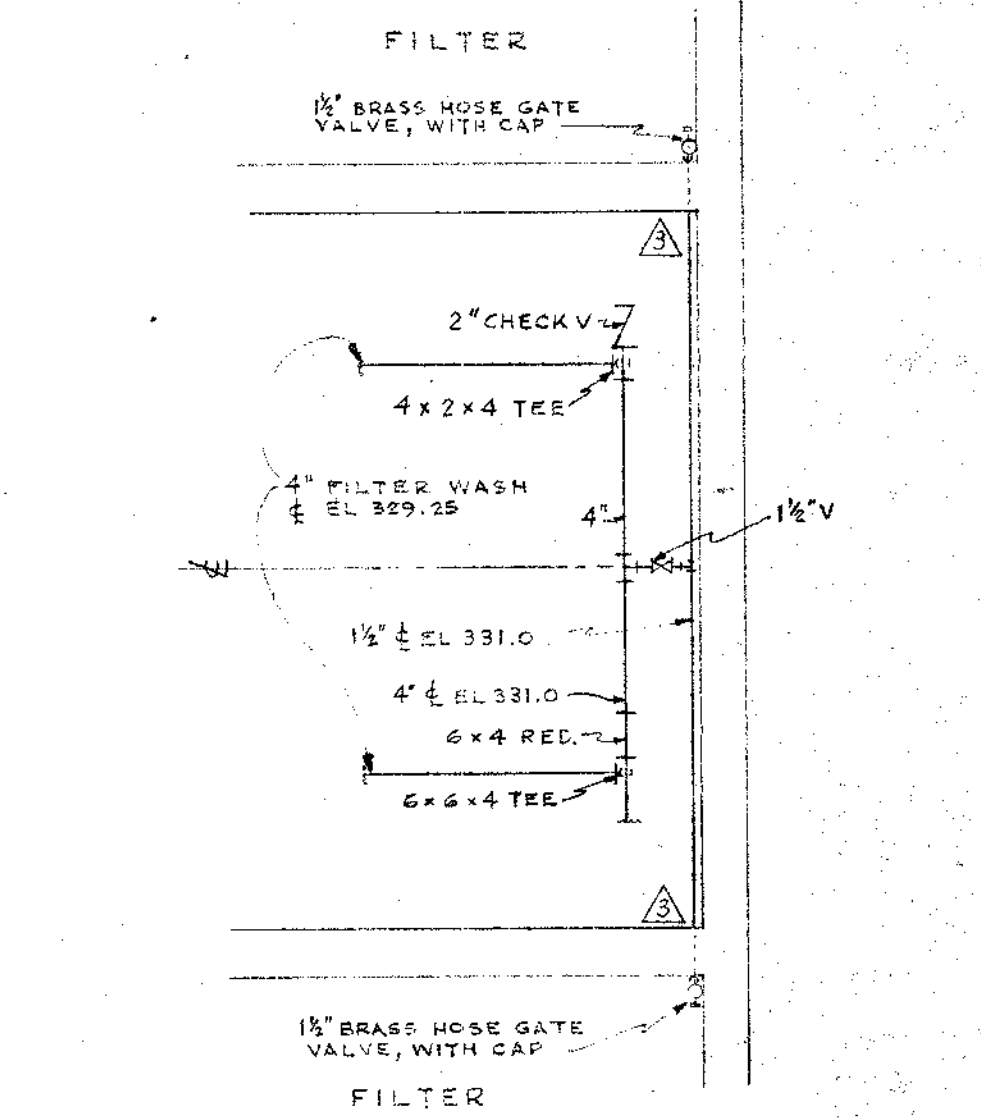
9-23-59	As built	ATS
12-18-57	SIPHON BREAKER REMOVED	HWC
12-11-57	REVISE FILTER BOTTOM CHANGE PIPE SIZE	L.H.H.
11-19-57	SIPHON BREAKER ADDED TO SURFACE WASH	J.M.H.
DATE	NO.	REVISION
STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON OREGON CITY - WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD WATER PURIFICATION WORKS FILTERS-PLAN OF PIPE GALLERY & SECTIONS		
DESIGNED	HLT	APPROVED BY <i>[Signature]</i>
DRAWN	HWC	SCALE
CHECKED	HLT	DATE 8-1-57 FILE 1160-3065
		SHEET M 5 OF 77



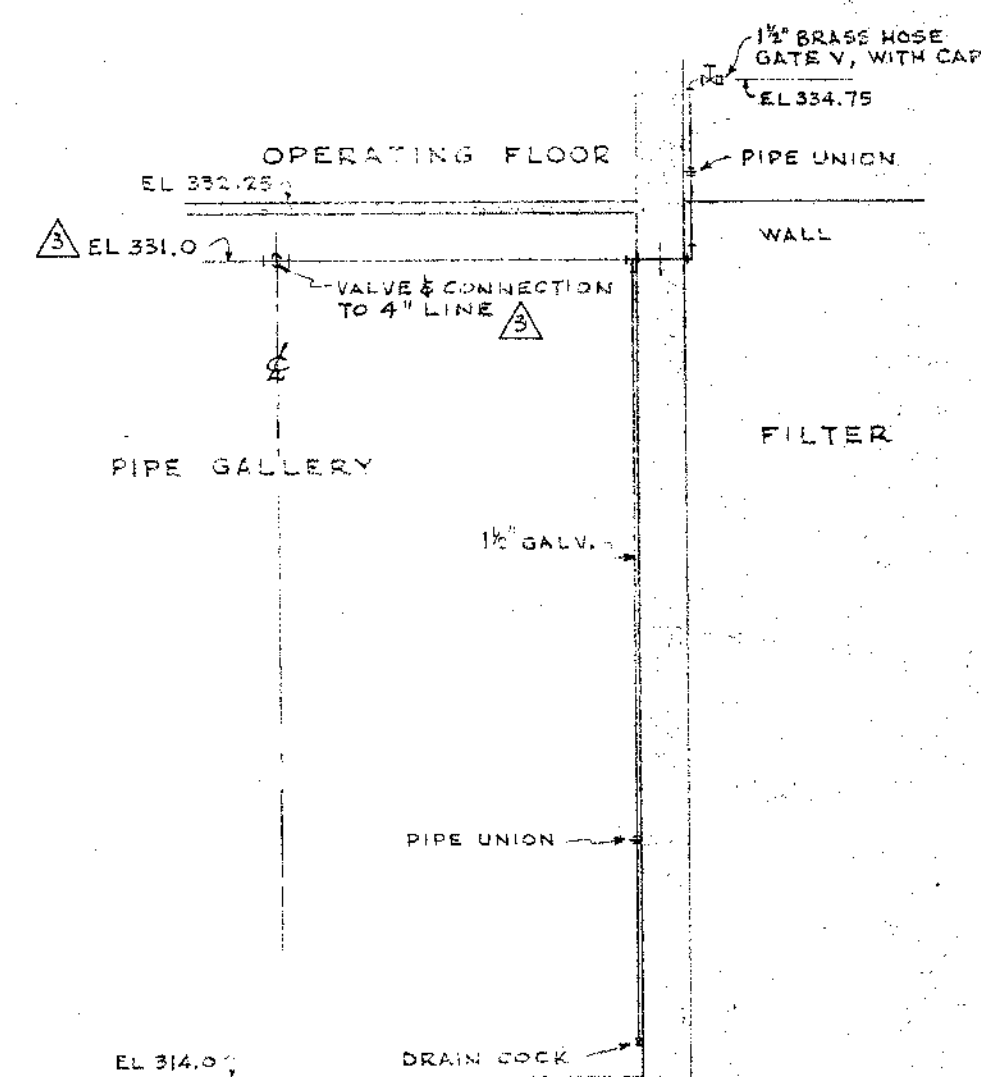
SECTION A-A
SCALE: 1/4" = 1'-0"



PLAN
ARRANGEMENT OF PALMER FILTER BED AGITATORS, PIPING & VALVES
SCALE: 1/8" = 1'-0"

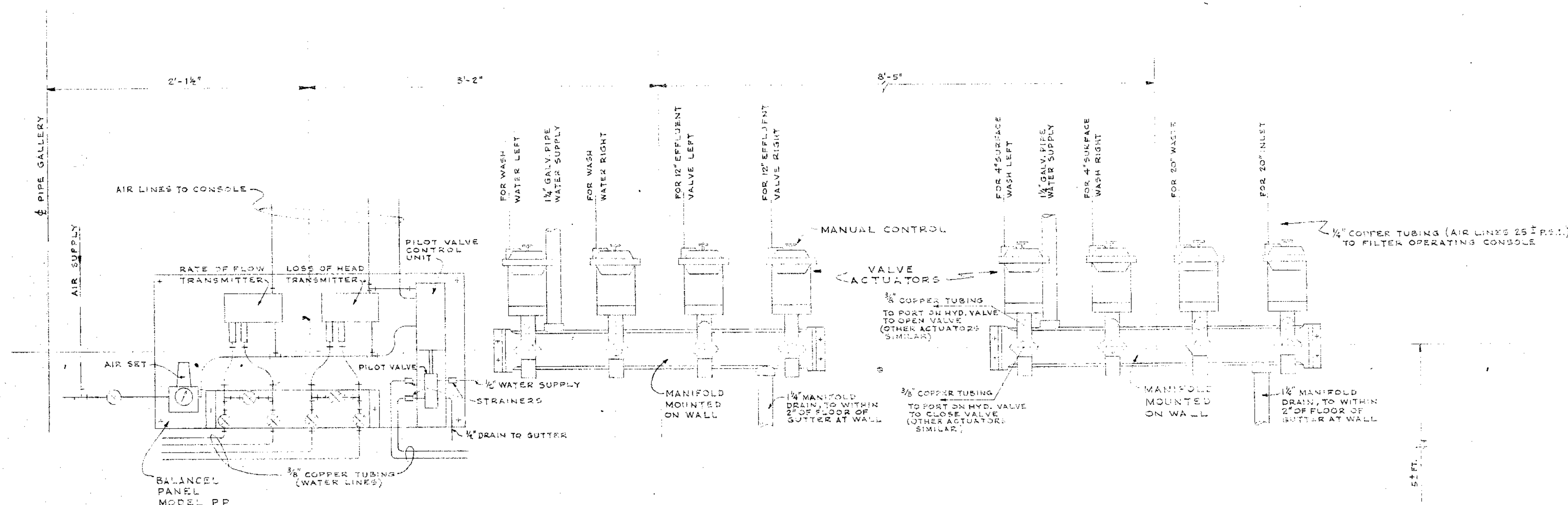


PLAN
SCALE: 1/4" = 1'-0"



SECTION B-B

TYPICAL ARRANGEMENT OF
HOSE VALVE (4 REQ'D)
SCALE: 1/4" = 1'-0"



TYPICAL ARRANGEMENT OF BALANCE PANEL,
WITH AIR OPERATED DIAPHRAGM VALVES & MANIFOLD, TO OPERATE
HYDRAULIC CYLINDERS OF BUTTERFLY VALVES

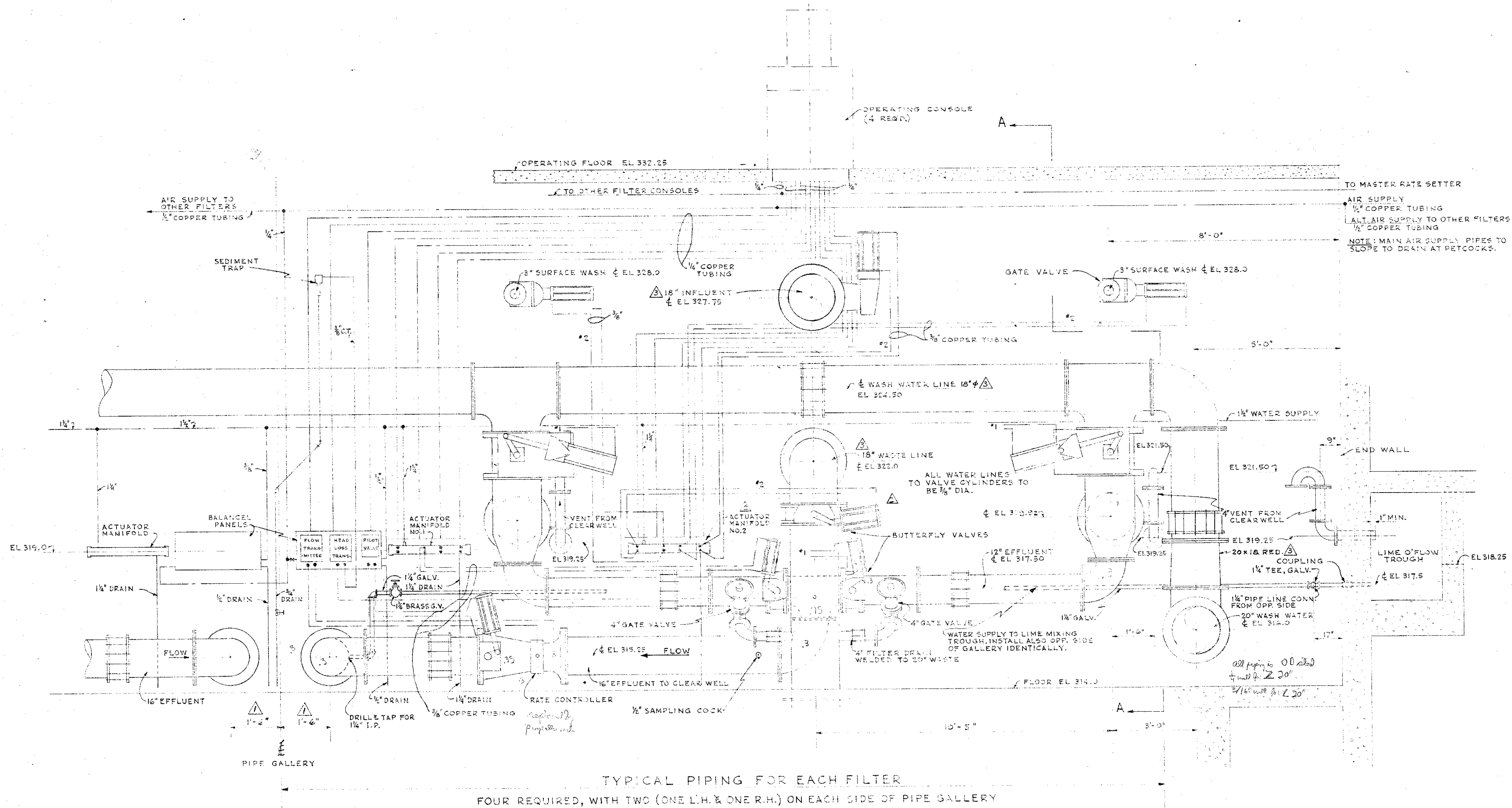
NOT TO SCALE

9-29-59	As Built	475
12-18-57	MOVED 1" S.P.N.B.R., REMOVED 1" S.P.N.B.R., ALTERED PIPING	H.W.C.
12-18-57	REVISE FILTER BOTTOM, SEC. A-A	J.M.H.
11-19-57	SIPHON BREAKER ADDED TO SURFACE WASH	J.M.H.
DATE	REVISION	BY

STEVENS & THOMPSON Consulting Engineers
2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON
OREGON CITY - WEST LINN
WATER SUPPLY PROJECT
SOUTH FORK WATER BOARD

WATER PURIFICATION WORKS
FILTER PLAN & SECTIONS
MISC. PIPING DETAILS

DESIGNED	HLT	APPROVED BY	DATE	8-1-57	FILE	N60-3064	SHEET	OF
DRAWN	HWC	SCALE					M6	77
CHECKED	HLT	DATE	8-1-57					



TYPICAL PIPING FOR EACH FILTER
FOUR REQUIRED, WITH TWO (ONE L.H. & ONE R.H.) ON EACH SIDE OF PIPE GALLERY

PIPING DETAIL

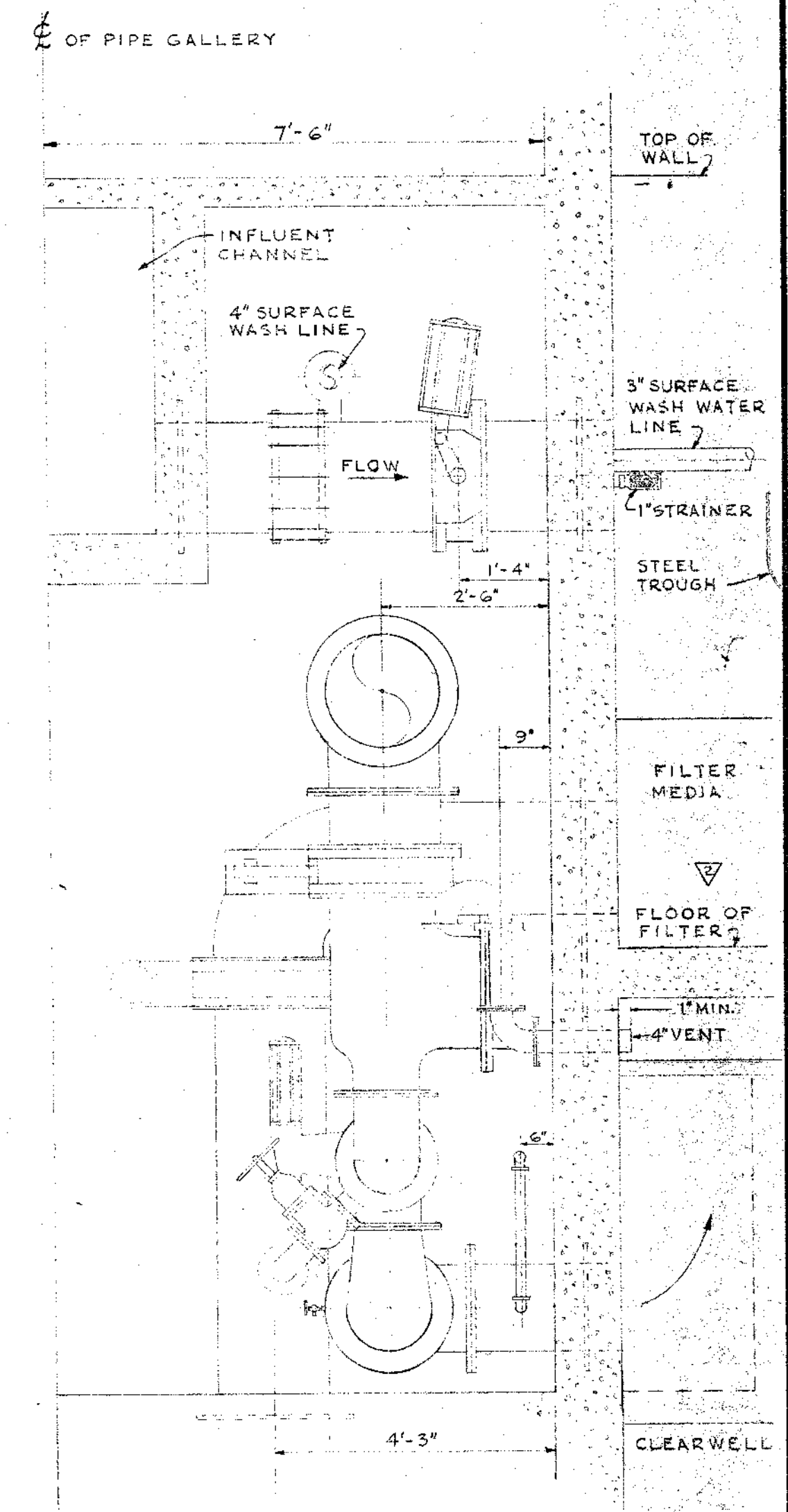
SCALE: 1/8" = 1'-0"

LEGEND

— WATER LINE
— AIR LINE

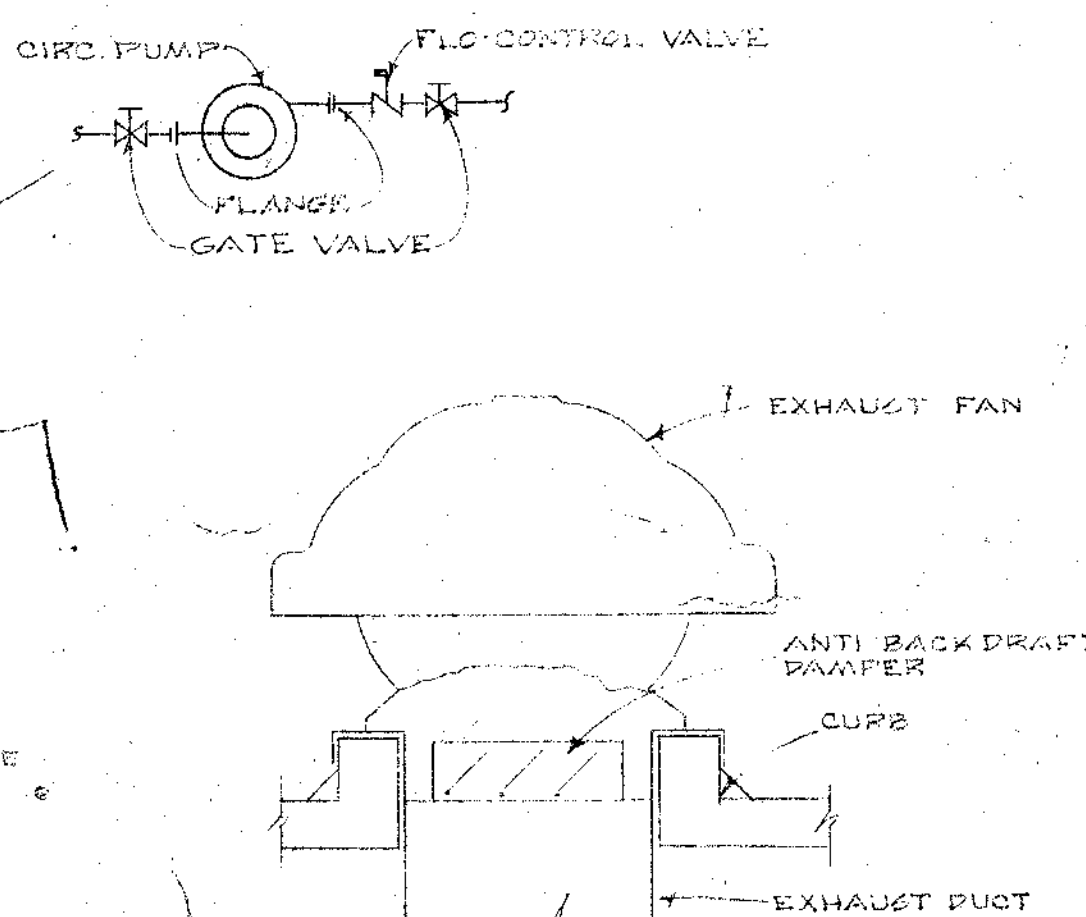
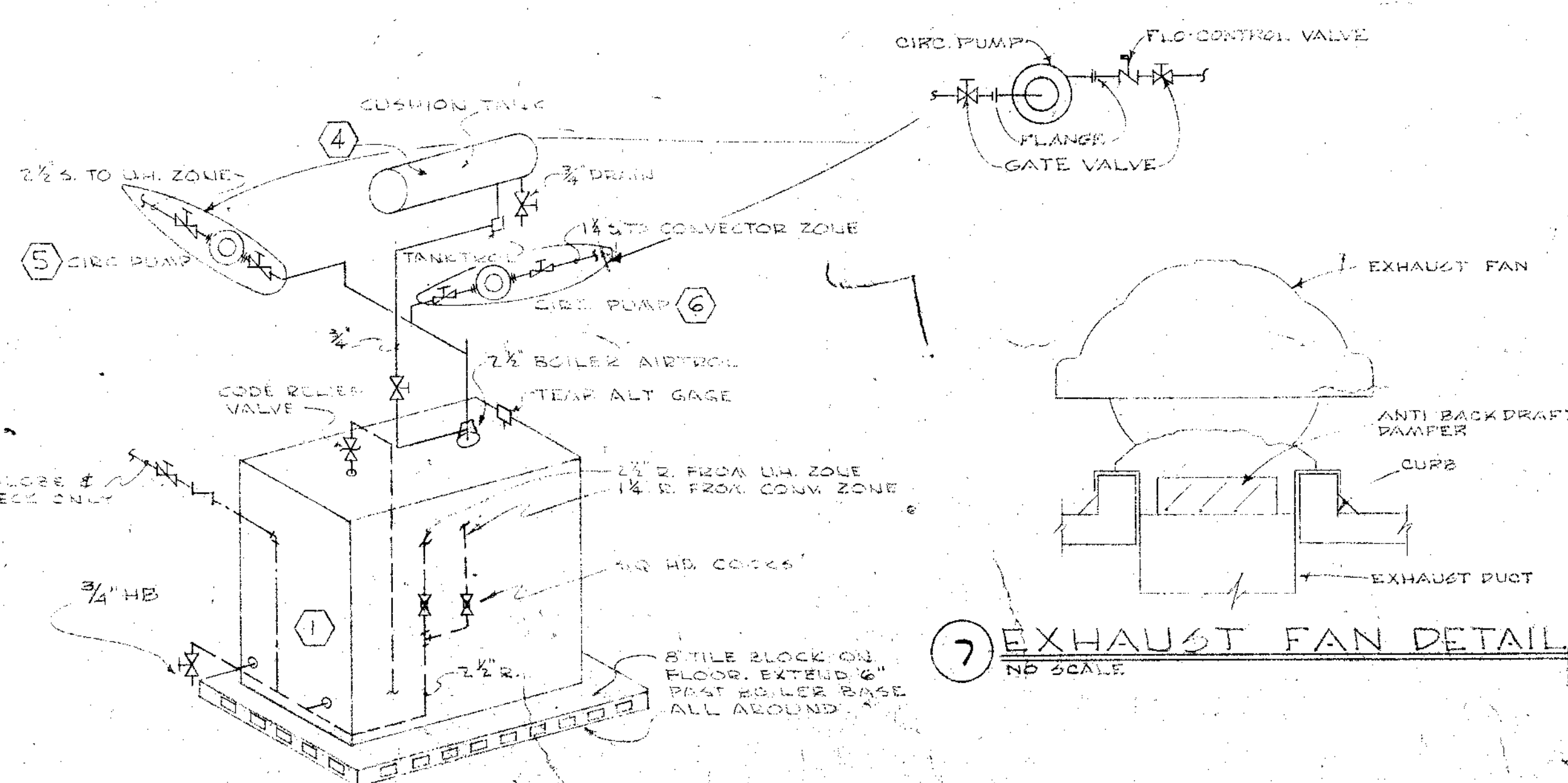
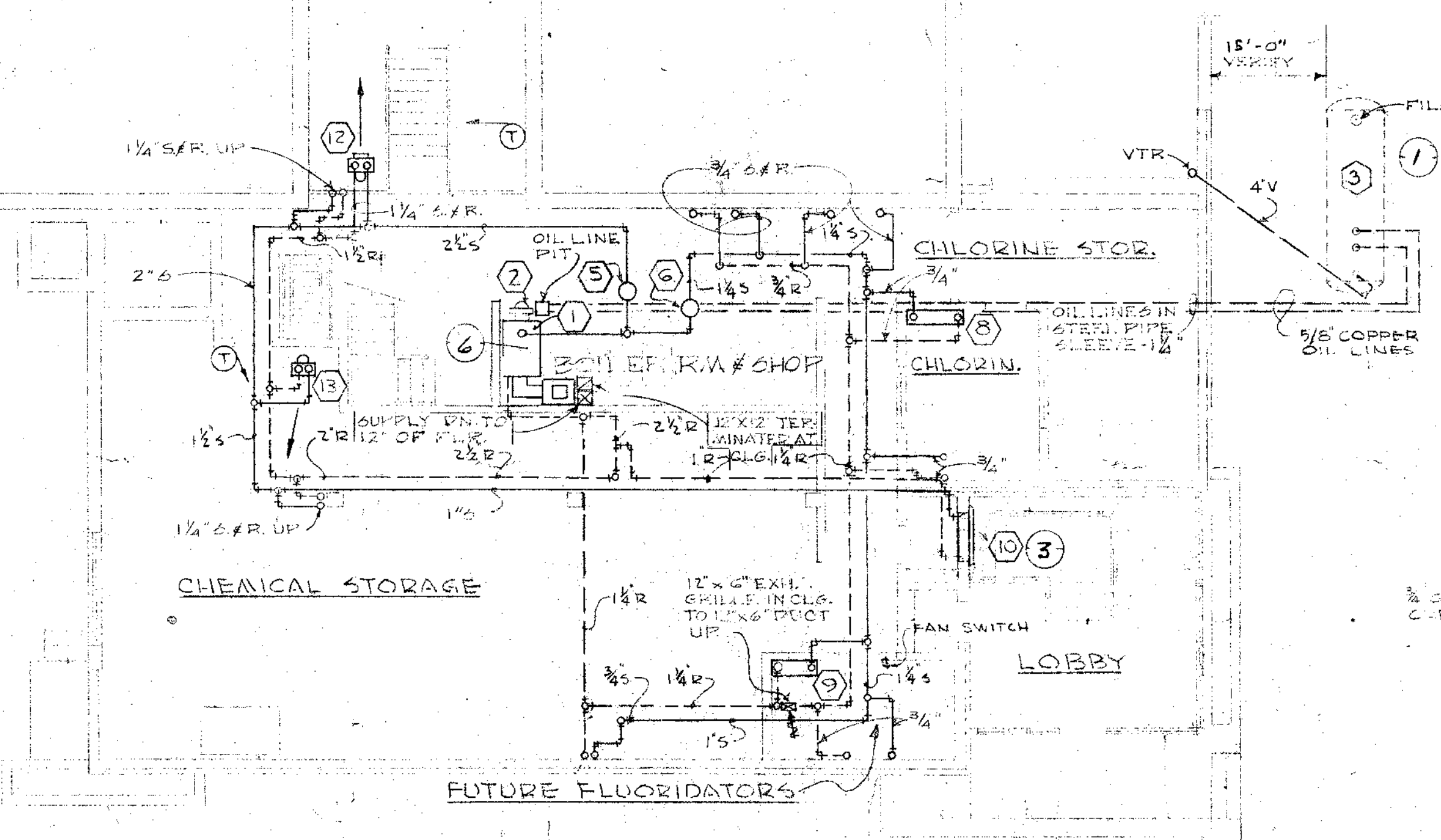
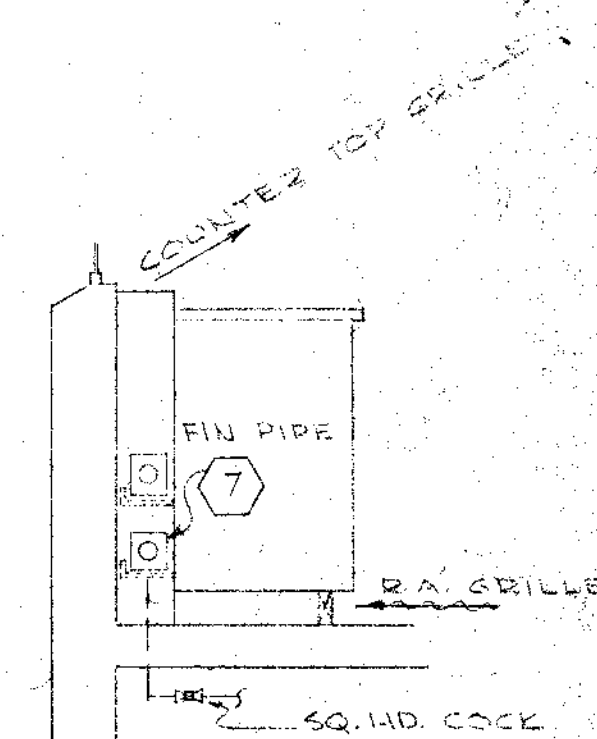
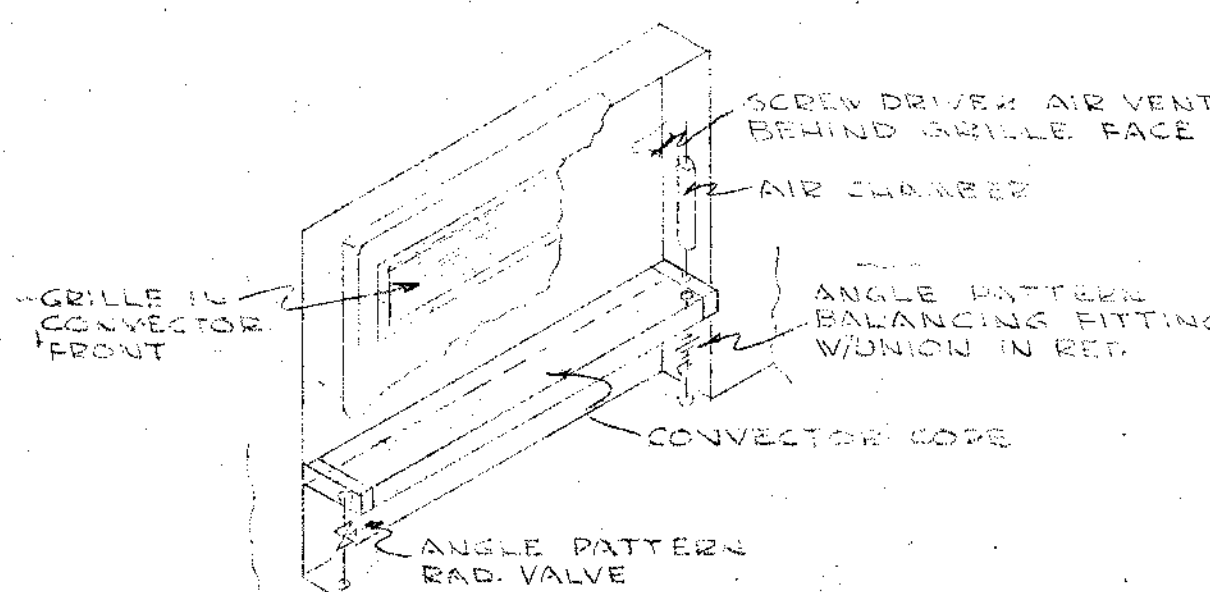
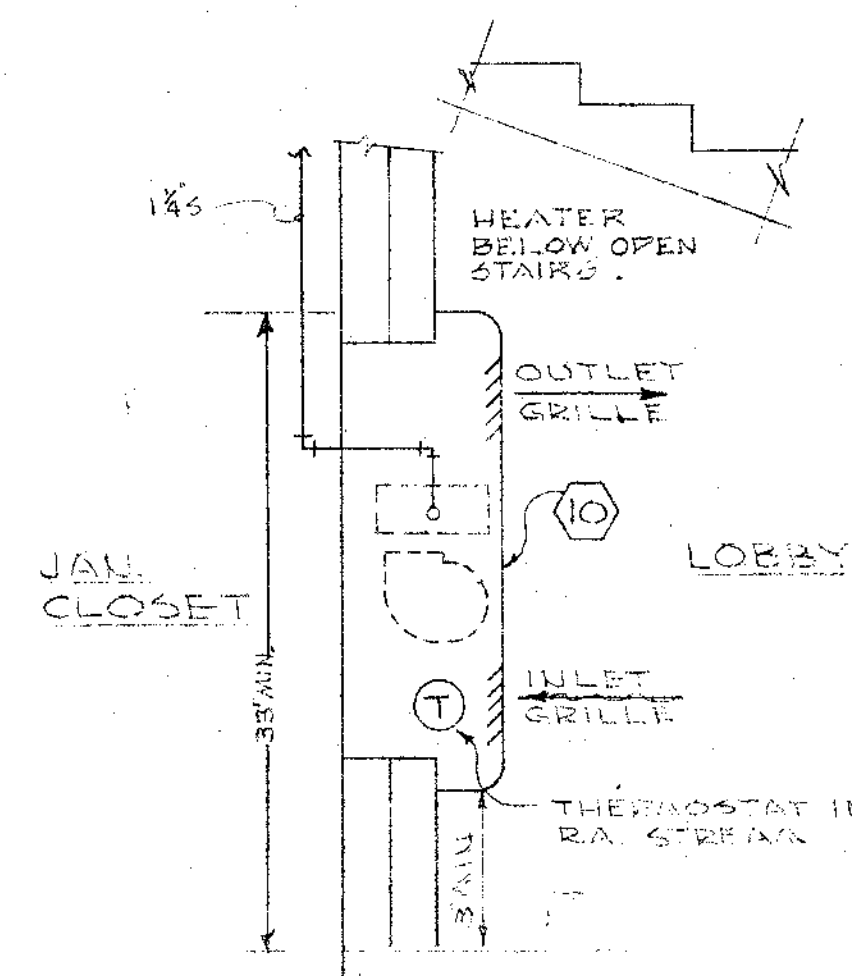
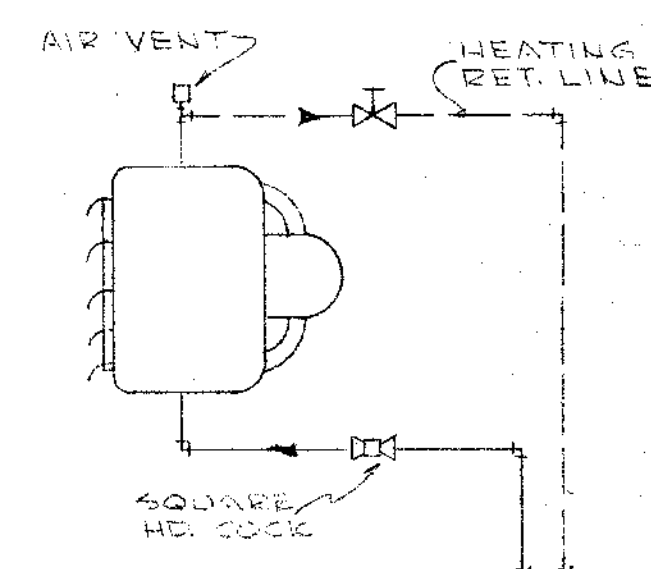
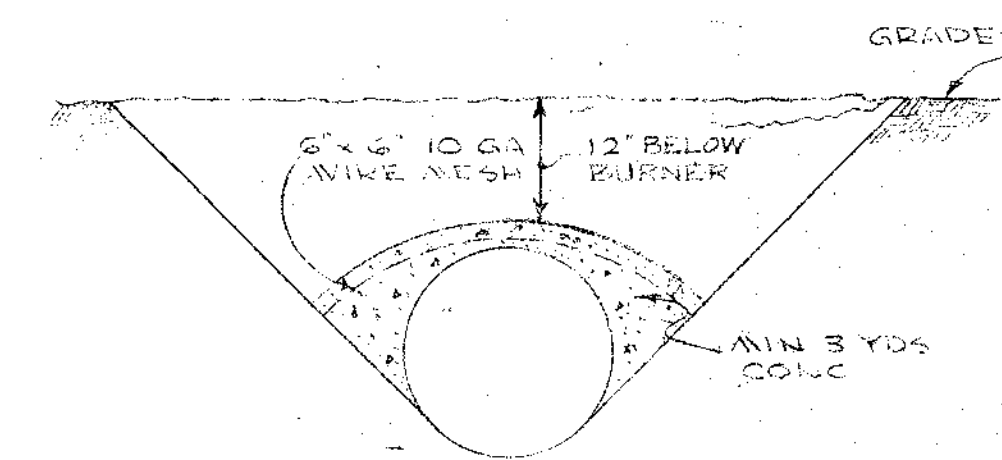
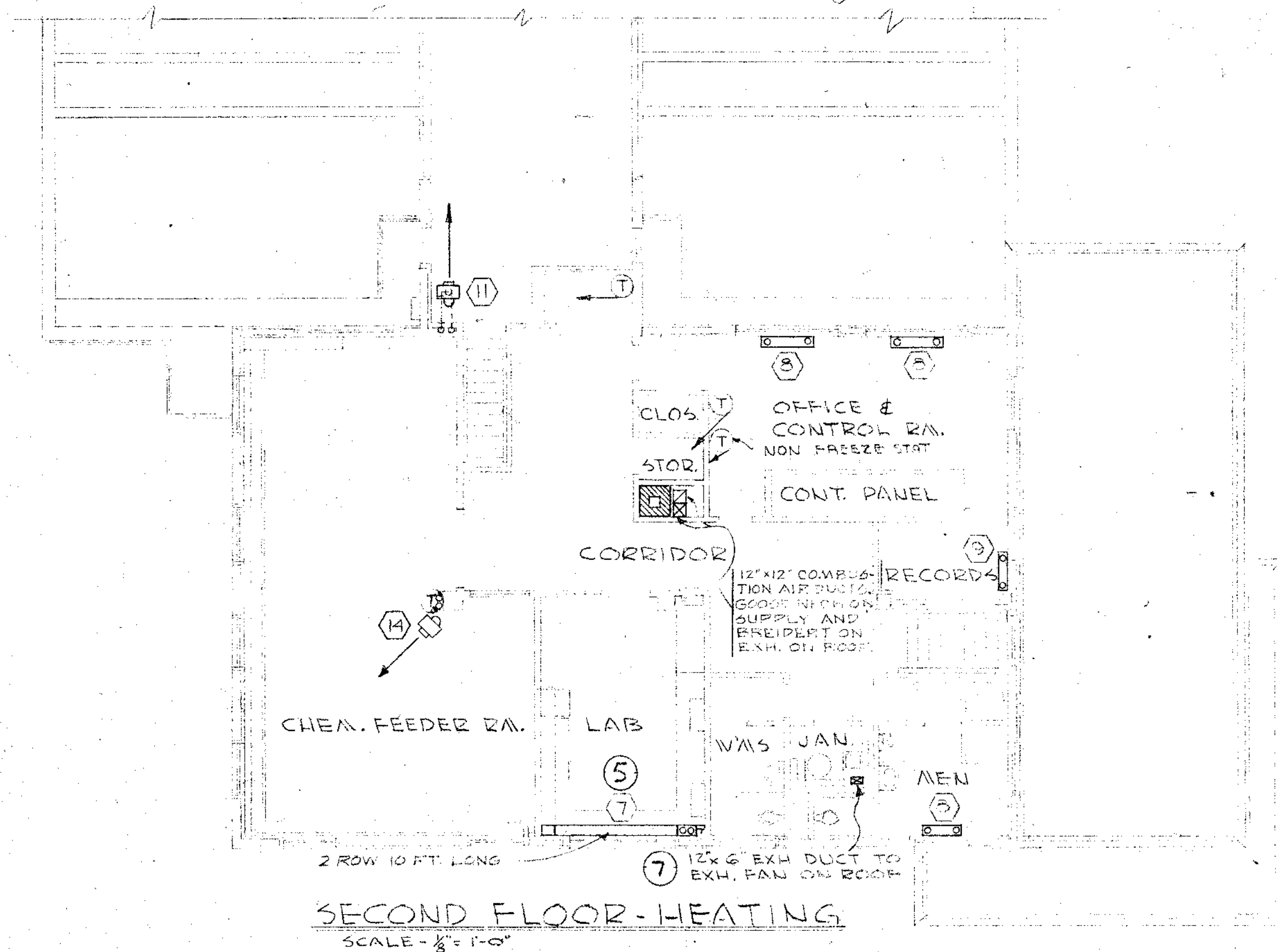
NOTES

1. OPERATING PRESSURES ON WATER OPERATED CYLINDERS 35 P.S.I. CYLINDERS TO BE TESTED TO 150 P.S.I.
2. BUTTERFLY VALVES TO BE A.W.W.C. C 504 (PRATT), CLASS AS BELOW:
EFFLUENT CLASS 25-8
INFLUENT CLASS 25-8
WASTE CLASS 25-8
WASHWATER CLASS 50-16

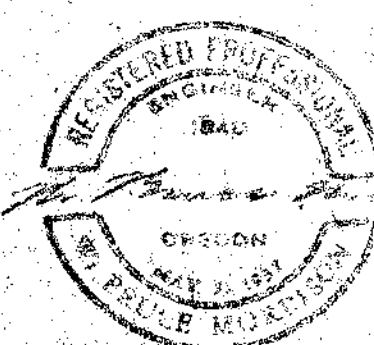


SECTION A-A
TYPICAL ARRANGEMENT OF PIPES ON ONE SIDE OF PIPE GALLERY
(IDENTICAL LAYOUT BOTH SIDES)
SCALE: 1/8" = 1'-0"

9-29-53	As Built	ATS
12-17-57	Reduced wash water & waste lines from 20" to 18"	H.W.C.
12-11-57	Revised filter bottom. Eliminated acid lips	L.K.H.
11-13-57	Dimensions changed	J.M.H.
DATE	NO.	REVISION
STEVENS & THOMPSON Consulting Engineers 2234 S.W. FIFTH AVENUE PORTLAND 1, OREGON		
OREGON CITY — WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD WATER PURIFICATION WORKS TYPICAL PIPING FOR FILTER		
DESIGNED HLT	APPROVED BY <i>[Signature]</i>	SHEET 77 OF 77
DRAWN HWC	SCALE As noted	
CHECKED HLT	DATE 8-1-57 FILE 1160-3087	



EQUIPMENT LIST			
MARX NO.	DESCRIPTION	SIZE AND/OR CAPACITIES	REMARKS
1.	BOILER -(WATER)	33BARH NET IBR 2255 SQ FT. WATER NET IBR	TRIM FOR 30 PSI WATER
2.	OIL BURNER	5 GPH DIESEL SET AT 4.5 GPH	
3.	OIL STORAGE TANK	1000 GAL. CAR DIESEL	UNDERWRITERS APPROVED
4.	CUSHION TANK	40 GAL CAR 13" X 71"	
5.	UNIT HEATER ZONE CIRC. PUMP	35 GPM @ 12' HEAD	
6.	CONVECTOR ZONE CIRC. PUMP	17 GPM @ 9' HEAD	
7.	FIN PIPE RADIATION	1 1/2" IPS 3/4" X 3/4" FIN. MIN. 1300 BTU/Hr. 2200W HIGH 180°F AVE. WATER	
8.	CONVECTOR	32" HIGH (36" FL. TO TOP) 10" WIDE, 48" LONG, 12.7 AWH 180°F AVE. WATER, 10°F DROP	WALL HUNG FRONT OUTLET TYPE
9.	CONVECTOR	32" HIGH (36" FL. TO TOP) 4" WIDE, 36" LONG, 4.1 AWH 180°F AVE. WATER, 10°F DROP	WALL HUNG FRONT OUTLET TYPE
10.	FORCE FLOW CONVECTOR	800 CFM STD. AIR, 35,000 BTU/Hr. 180°F AVE. WATER, 10°F DROP	SEMI-RECEALED WITH SELF CONTAINED THERMOSTAT
11.	OPER. FINE FLOW UNIT HEATER	40,000 BTU/Hr. 180°F AVE. WATER, 60°F EA. 10°F DROP	MAX. RPM - 1500
12.	PIPE CHILLER UNIT HEATER	40,000 BTU/Hr. 180°F AVE. WATER, 60°F EA. 10°F DROP	MAX. RPM - 1500
13.	CHEMICAL STORE UNIT HEATER	35,000 BTU/Hr. 180°F AVE. WATER, 60°F EA. 10°F DROP	MAX. RPM - 1500
14.	CHEM FEEDER RM. UNIT HEATER	50,000 BTU/Hr. 180°F AVE. WATER, 60°F EA. 10°F DROP	MAX. RPM - 1500
15.	FLOOR RE. ROOM ENH. FAN	250 CFM @ 1/2" SP 2800 RPM MAX. TS.	1/2" LP



929 59	△	As Built	AT
DATE	NO.	REVISION	BY
STEVENS & THOMPSON		Engineers - Architects	
PORTLAND		OREGON	
OREGON CITY - WEST LINN			
WATER SUPPLY PROJECT			
SOUTH FORK WATER BOARD			
WATER PURIFICATION WORKS			
HEATING PLAN & DETAILS			
DESIGNED <i>B.M.</i>	APPROVED BY <i>Wm. Thompson</i>		SHEET M8
DRAWN <i>T.</i>	SCALE <i>NOTED</i>		77
CHECKED <i>H.O.</i>	DATE 4-1-57		FILE 140-3065

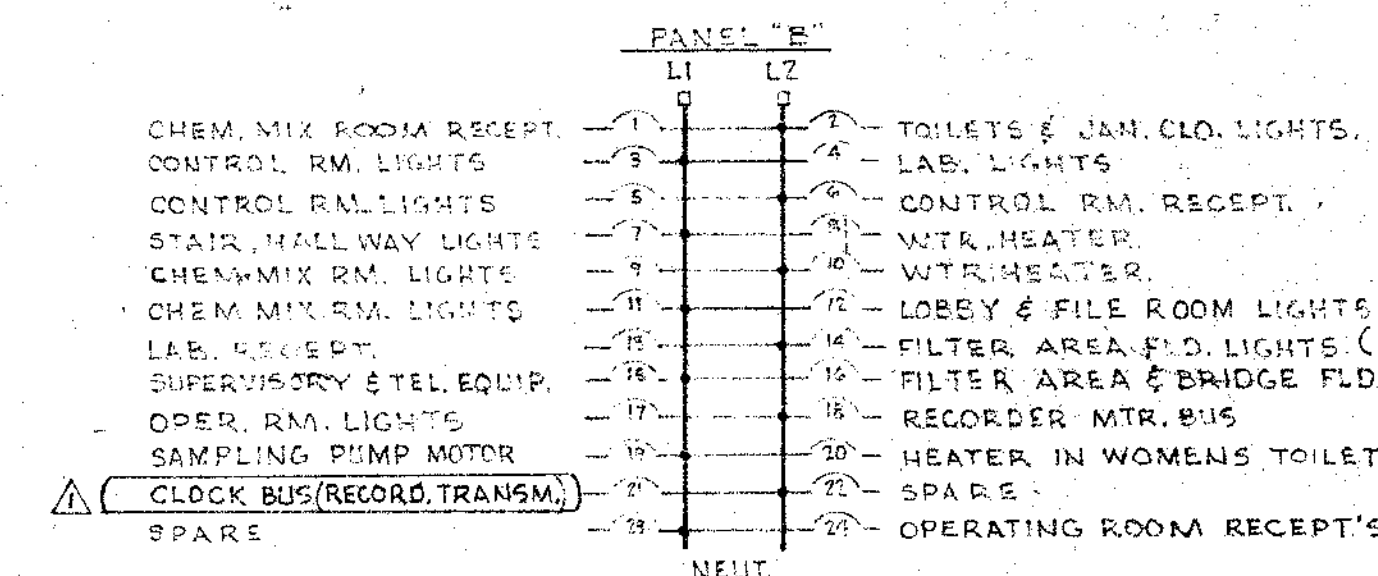
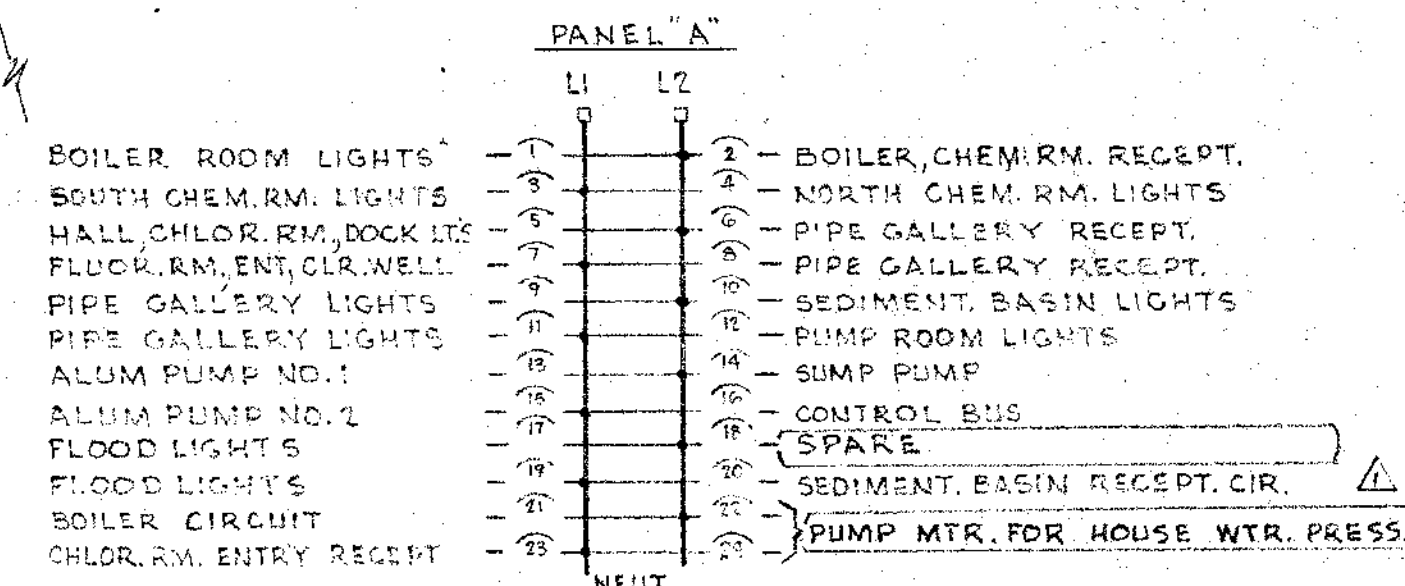
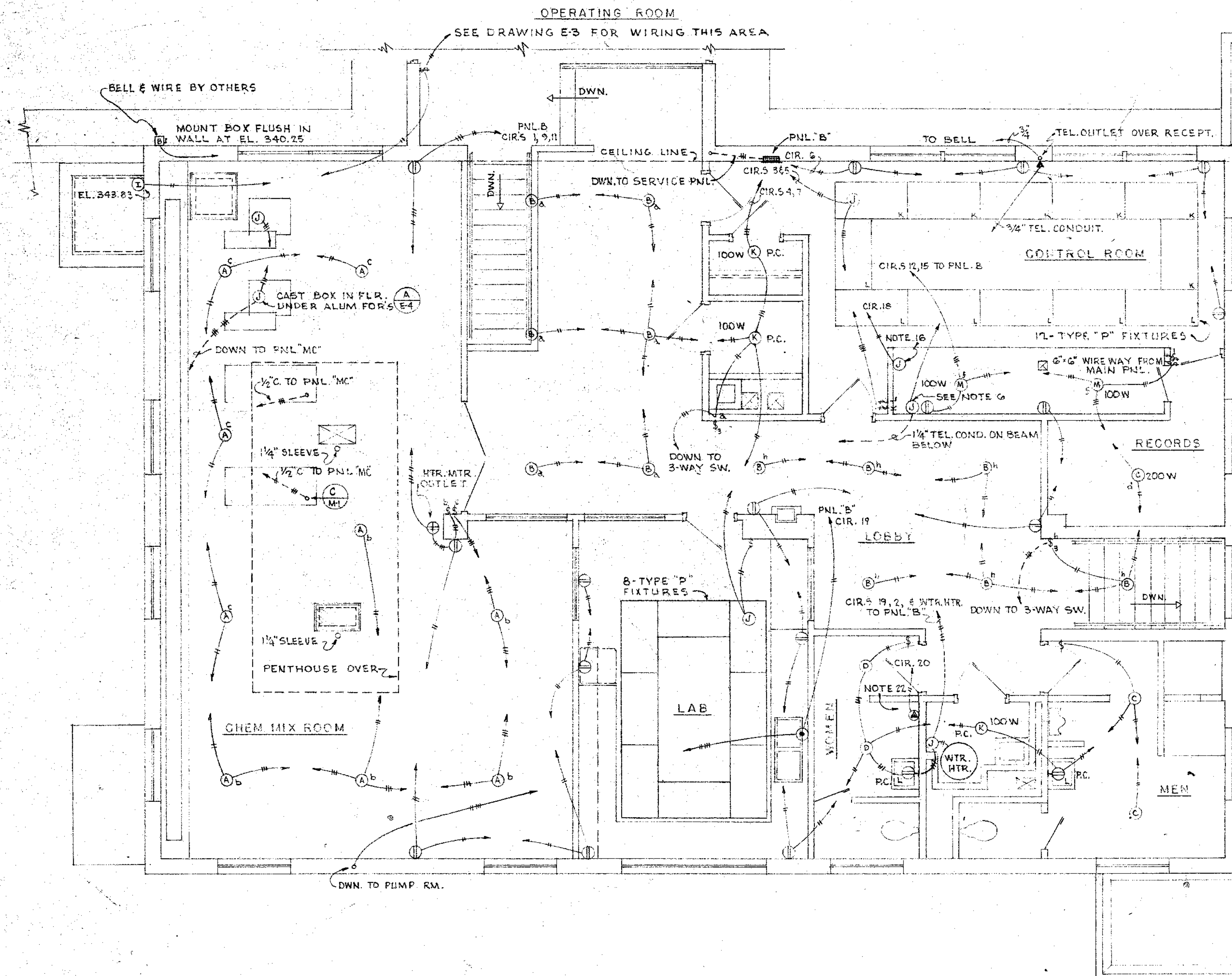
TYPE	FIXTURE SCHEDULE
A	ABOLITE NO. RF-200 AWSN, VENTED RLM TYPE, 200W
B	McPHILBEN NO. 31-88, SATIN ALUMN. FINISH, 200W
C	McPHILBEN, SIMILAR TO NO. 43-45 BUT FOR 200W. SATIN AL.
D	McPHILBEN, NO. 43-45, SATIN ALUMN. FINISH, 100W
E	DAY-BRITE NO. 7501 RECESSED UNIT, 2-60W. ALUMN. TRIM
F	FRESCO LITE, SIMILAR TO NO. AX-54 WITH 3-150W FLD. ALFIN.
G	STEBER LITE NO. 5-5001, 1-150W FLD. LIGHT (PAR 38)
H	STEBER LITE NO. 5-5002, 2-150W FLD. LIGHTS (PAR 38)
I	STEBER LITE NO. 5-5003, 3-150W FLD. LIGHTS (PAR 38)
K	ALABAX NO. AL-859, PORCELAIN, PULL-CHAIN 4 1/2" DIA.
L	ALABAX NO. 2380, PORCELAIN, BRKT. WITH ONE OUTLET
M	ABOLITE NO. RF-100 AWSN, VENTED RLM TYPE, 100W
N	APPLETON NO. VC2050G, SCREW TYPE 200W
O	HOLOPHANE NO. 415 BRKT. ALUMN. FINISH, 100W
P	ALL-BRITE AREA-LITE NO. 10248-R5 & P4012R5 LAMP
Q	GOODRICH NO. G7750, 500W, 2" PIPE COL., HOPE BOX #42200
R	WESTINGHOUSE NO. AH-16NS FLD. LIGHT, STIPPLED, 1000W

NOTE: ALL FIXTURES TO BE FURNISHED COMPLETE WITH LAMPS

- LEGEND**
- ⊕ BRACKET LIGHT WITH OUTLET
 - ⊖ BRACKET LIGHT
 - ⊕ 120V DUPLEX, T-SLOT, 10AMP. RECEPT.
 - (M) MOTOR
 - (B) BELL
 - (A) CEILING LIGHT (TYPE A INDICATED)
 - S S.P.S.T. WALL SW. "T" RATED
 - 3 3-WAY SWITCH, "T" RATED 20AMP, 120V. (CONTROLS OUTLETS MARKED "d")
 - ⊕ MOMENTARY CONTACT, 5AMP, 120V
 - ⊕ MOTOR CONTROL STATION AT MOTOR
 - ⊕ TELEPHONE OUTLET
 - ⊕ JUNCTION BOX
 - CONDUIT IN FLOOR SLAB OR UNDERGROUND
 - CONDUIT IN WALLS OR CEILING OR EXPOSED
 - ⊕ FORCED AIR HEATER OUTLET (SIMILAR TO P&S NO. 52B1)
 - ⊕ SPECIAL CONTROL OUTLET (SEE NOTE 21)
 - ⊕ 1000W. HTR. FLUSH MOUNTED
 - ⊕ 37.5 KVA, 1Ø DRY TYPE TRANSFORMER

NOTES

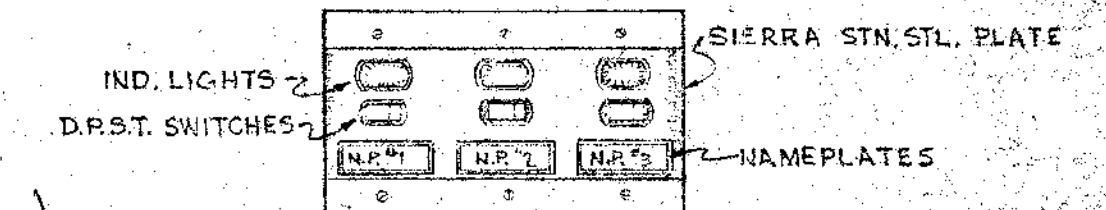
- THESE DRAWINGS ARE DIAGRAMMATIC & ARE INTENDED TO SHOW LOCATION OF ELECTRICAL OUTLETS & COMPONENTS RELATIVE TO DOORS, WINDOWS, WALLS & MACHINERY. DO NOT SCALE DWG'S FOR DIMENSIONS.
- REFER TO ARCHITECTURAL DWG'S FOR ROOM FINISHES & DIMENSIONS.
- ALL WIRING WITHIN HEAD HOUSE TO BE CONCEALED WITH THE FOLLOWING EXCEPTIONS: (a) WIRING IN PIPE GALLERY (b) WIRING IN PUMP RM. (c) 1/4" TEL. SERVICE CONDUIT (d) THAT SHOWN EXPOSED IN DETAILS.
- THE CONNECTED LOAD SERVED BY PNL'S "A" & "B" TO BE BALANCED BETWEEN L1 & L2 AS NEAR AS POSSIBLE.
- INSTALL ONE RECEPT. IN CEILING NEAR UNIT HEATERS & RUN RUBBER CORD TO FAN MOTOR. VERIFY LOCATION OF OUTLETS AT UNIT HEATERS IN FIELD BEFORE ROUGH-IN.
- INSTALL 4 1/2" SQ. BOX ON WALL, RUN 3/4" TEL. CONDUIT ON SURFACE TO CEILING. CONCEAL CONDUIT FOR BALANCE OF RUN.
- MOUNT FIXTURES TYPE "A" & "M" ON STEMS. BOTTOM OF REFLECTORS TO BE 10'0" UP FROM FLOOR.
- MOUNT WALL SWITCHES 48" UP TO CENTER.
- MOUNT CONVENIENCE OUTLETS 12" UP TO CENTER IN VERTICAL POSITION EXCEPT THOSE SHOWN OVER WORK BENCHES & COUNTERS WHICH WILL BE 40" UP TO CENTER.
- TELEPHONE OUTLET TO BE 30" UP TO CENTER IN VERT. POSITION.
- MOUNT BRACKET LIGHTS TYPE "L" 6'0" UP & CENTERED OVER BASIN.
- MOUNT PANEL "B" 48" UP TO BOTTOM.
- MOUNT FIXTURE TYPE "T" ON 1/4" STEM.
- CIRCUIT 21 TO SERVE CIRCULATING PUMPS. MARK 5 & 6 (SEE HEATING DWG. M-8) LOCATION OF OUTLET BOXES FOR THESE ITEMS TO BE DETERMINED IN FIELD.
- FLD. LIGHT S.P.S.T. SW. ON CONSOLE MOUNTED BY MANUFACTURER.
- MOUNT JCT. BOX ON WALL AT EL. 359.5 FOR RECORDER MTR. BUS.
- WIRING FOR ELECTRICAL METERING TRANSMITTERS NOT SHOWN. INSTALLATION TO BE MADE FOR ELECTRICAL OR PNEUMATIC TRANSMITTERS SUPPLIED AS DIRECTED BY THE ENGINEER.
- TIME CLOCK TO HAVE ASTRONOMICAL DIAL, 20A RATING, ONE ON, ONE OFF PERIOD IN 24 HRS. SUITABLE FOR FLOOD LIGHT SERVICE. SANGAMO OR PARAGON.
- MOUNT JCT. BOX IN CEILING. INSTALL BOX EXTENSION ON FLUSH BOX & RUN EXPOSED CONDUIT TO COMPRESS. MOTOR'S & PRESS. SW'S. CONNECTION TO MOTOR TO BE FLEX. RUN TWO 3/4" CONDUITS FROM PNL (MC) TO JCT. BOX IN CEILING.
- PROVIDE SUITABLE BACKING FOR ALL OUTLETS MOUNTED ON SUSPENDED CEILING.
- INSTALL 3-1Ø, 120V D.P.S.T. DESPARED SWITCHES AND 3-SWATT NEON PILOT LIGHTS IN A 3-SANG BOX. MOUNT NAMEPLATE UNDER EACH SWITCH. SEE DETAIL "A" BELOW.
- INSTALL 1000W. FLUSH HTR. WESIX NO. 10 FC IN WALL 6" UP FROM FLR. TO BOTTOM.
- INSTALL 3/4" CONDUIT FROM PNL (MC) TO JCT. BOXES ON WALL NEAR CEILING IN PIPE GALLERY. EXTEND CONTROL CIRCUIT FROM JCT. BOXES TO CONSOLES IN OPERATING ROOM ABOVE WITH FLEXIBLE CONDUIT. SEE SCHEMATIC WIRING DIAGRAMS.
- CONNECTIONS OF CONTROL & POWER CABLES SHALL BE MADE UP ON APPROVED TERMINAL STRIPS OR DEVICES. WIRES BETWEEN TERMINALS SHALL NOT BE SPLICED.



SWITCH & OUTLET SCHEDULE

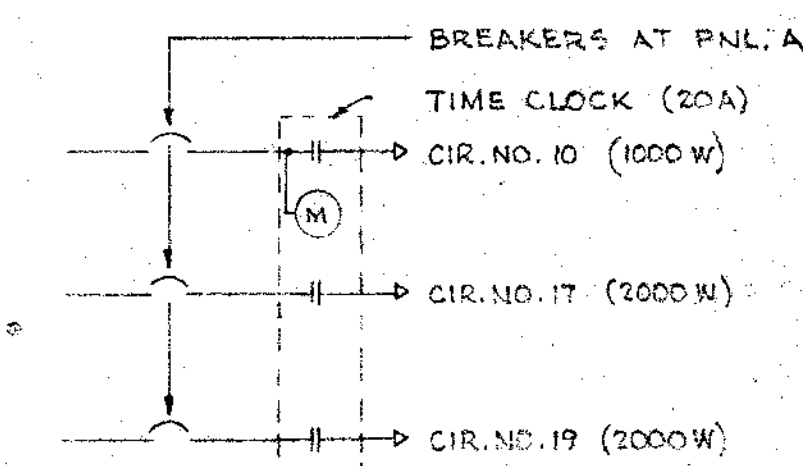
DEVICE	120V. RATE	COLOR	MAKE
OUTLETS	10 AMP	BLACK	BRYANT
SWITCHES	20 AMP	BLACK	BRYANT
PLATES		STN. STL.	SIERRA

WATER SAMPLING CONTROL



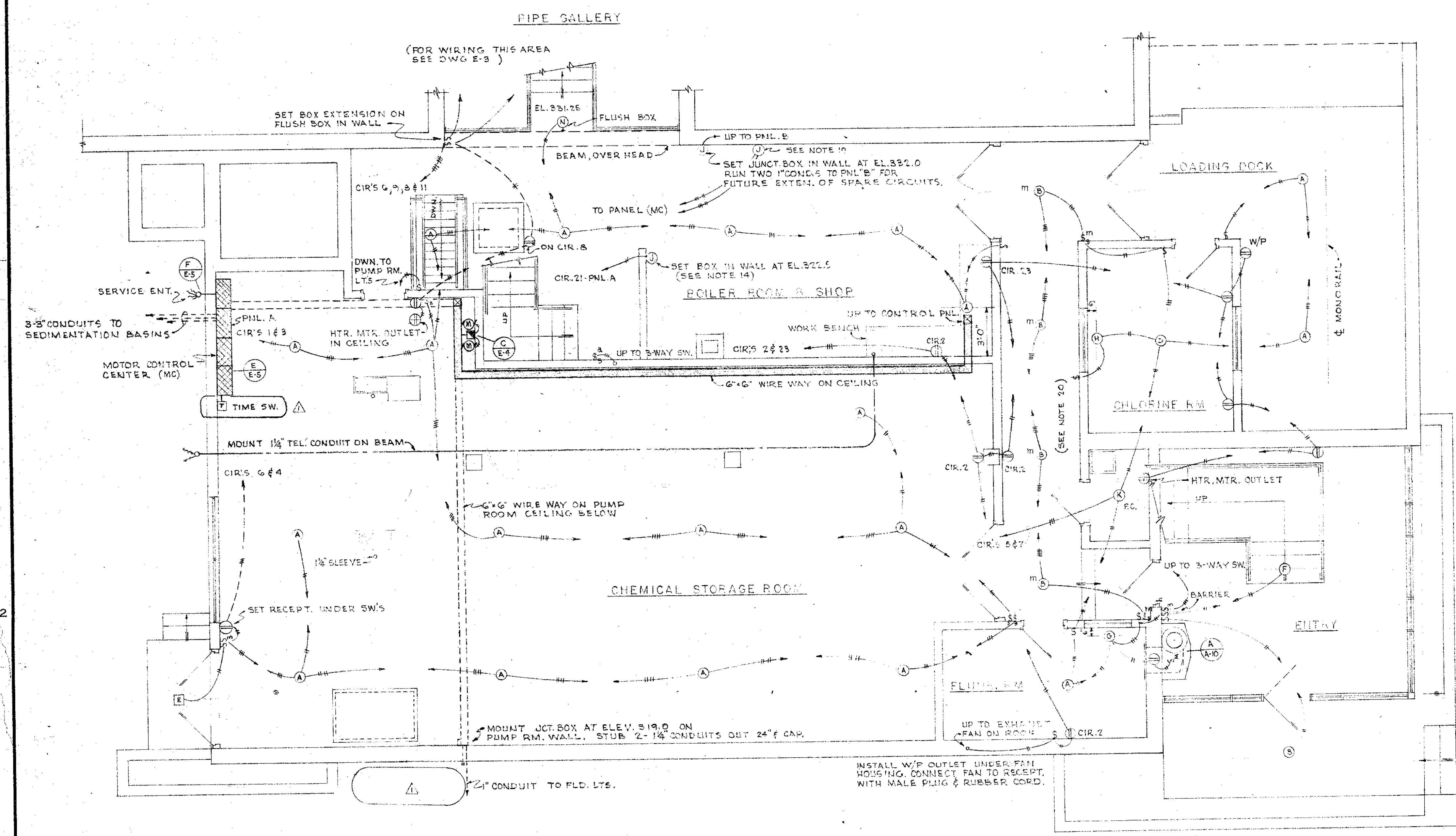
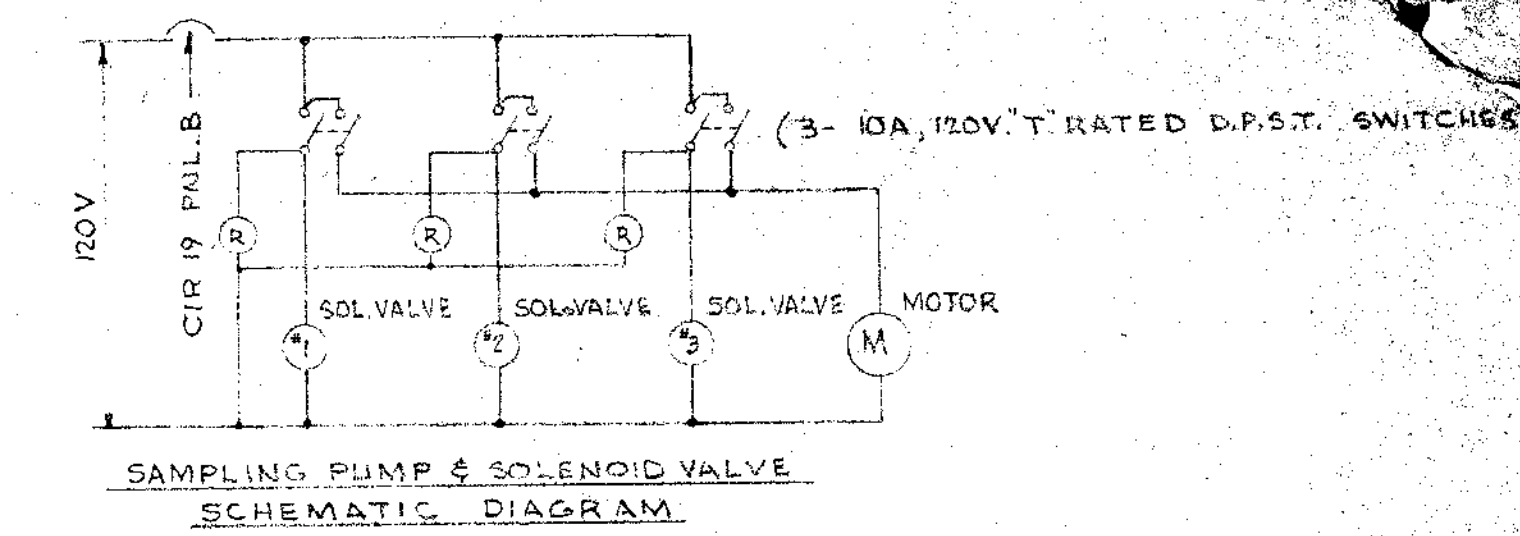
DETAIL A

NAMEPLATE #1 - RAW WATER
NAMEPLATE #2 - FLOCCULATOR #1
NAMEPLATE #3 - FLOCCULATOR #2
(SEE SHT. E2 FOR SCHEMATIC DIA.)



CIRCUITS CONTROLLED BY TIME CLOCK

12-18-57	1	REVISED CIR. SCHEDULE FOR PNL'S	KM
DATE	NO.	"A" & "B" ADD DRY-TYPE TRANS. SYMBOL	BY
		REVISION	
STEVENS & THOMPSON Consulting Engineers			
2234 S. W. FIFTH AVENUE PORTLAND, OREGON			
OREGON CITY - WEST LINN			
WATER SUPPLY PROJECT			
SOUTH FORK WATER BOARD			
WATER PURIFICATION WORKS			
ELECTRICAL PLAN EL. 333.5			
DESIGNED REK	APPROVED BY <i>[Signature]</i>	SHEET	OF
DRAWN KM	SCALE 1/4" = 1'-0"	E1	77
CHECKED REK	DATE 8-1-57	FILED 3062	



(FOR GENERAL NOTES SEE SHT. E1)

12/10/57	1	REMOVED 1" C. TO WTR. TWR. ADD TS. KM
DATE	NO.	REVISION
STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON		
OREGON CITY — WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD WATER PURIFICATION WORKS		
ELECTRICAL PLAN EL 321.5		
DESIGNED RER	APPROVED BY <i>[Signature]</i>	SHEET 2 OF 77
DRAWN KM	SCALE 1/4" = 1'-0"	
CHECKED RER	DATE 8-1-57	FILE 1160-3270

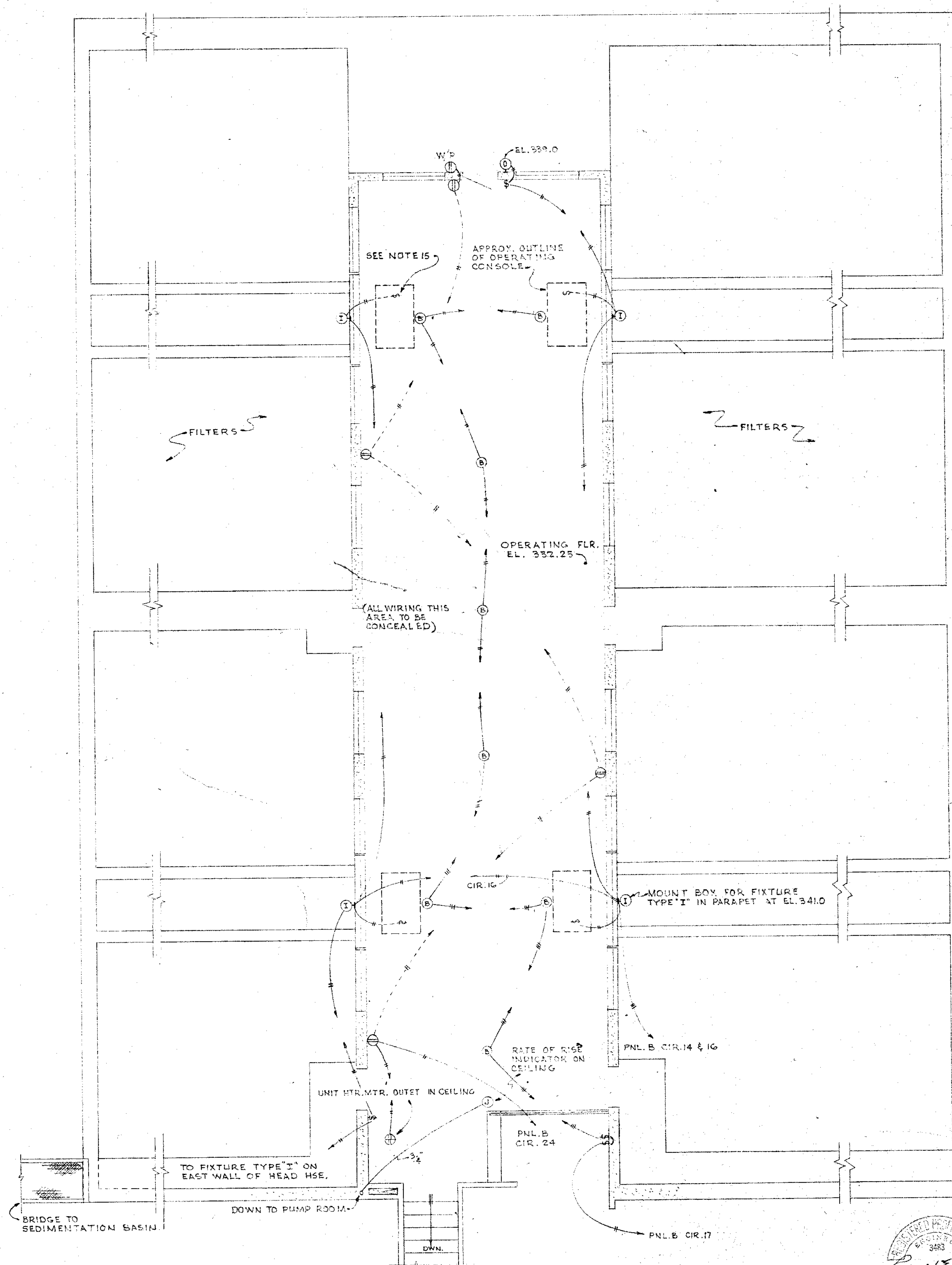
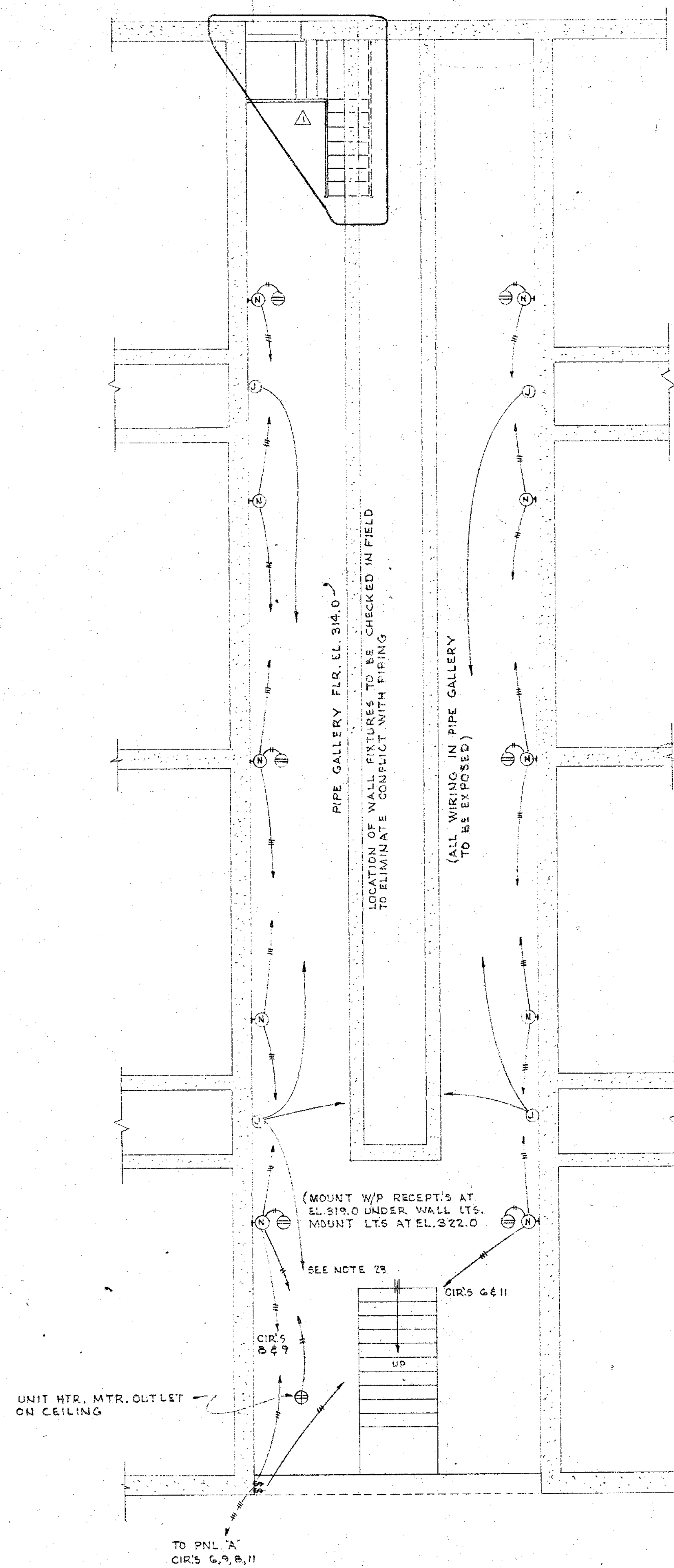
Louis E. Rice

A

B

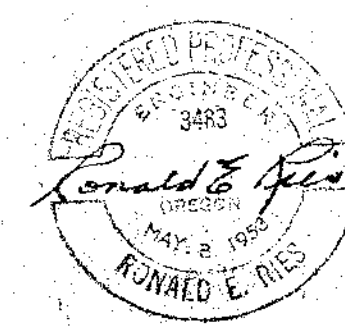
C

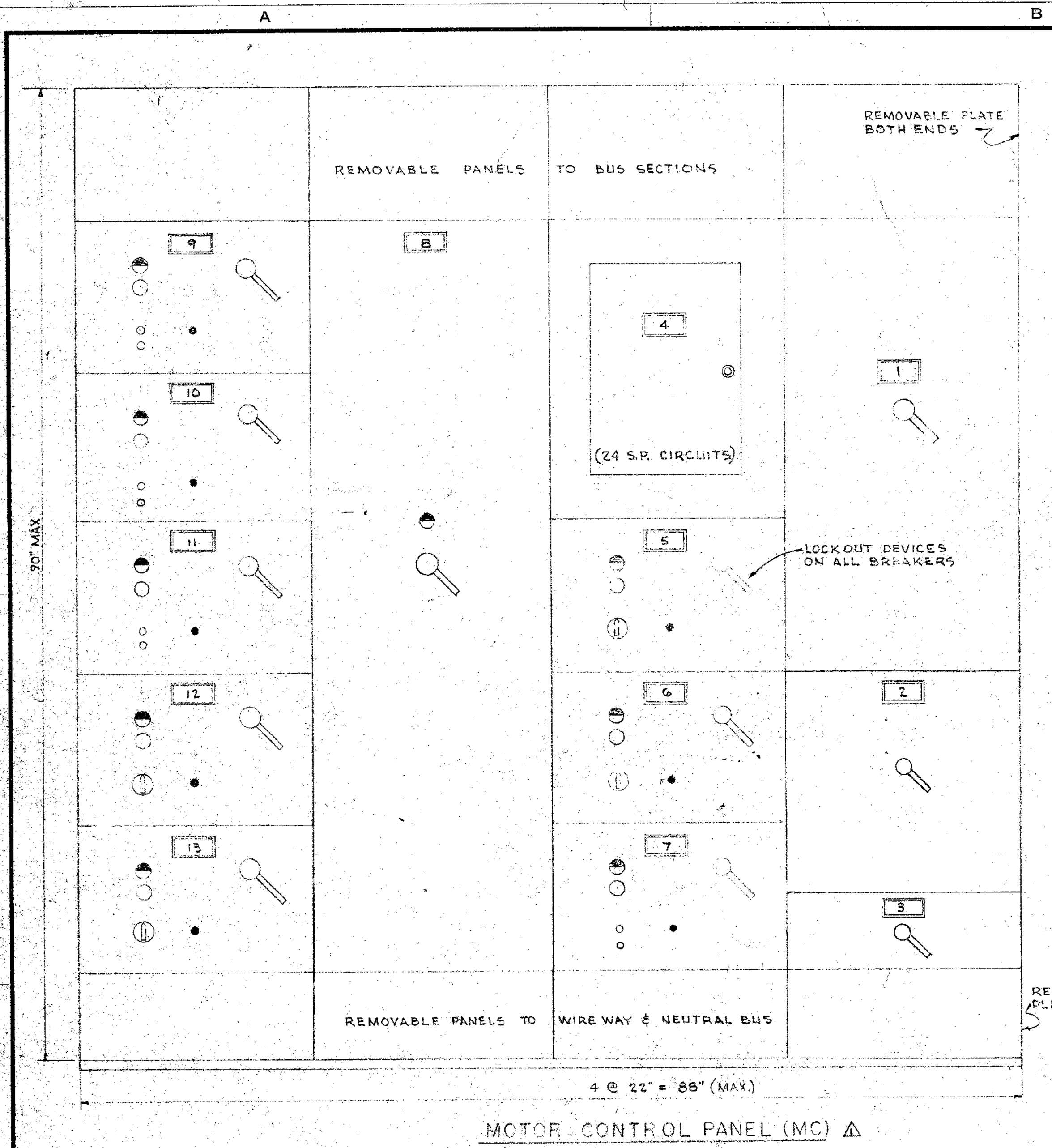
D



(FOR GENERAL NOTES SEE SHT. E1)

10-1-59	1	CHGD STAIRWAY IN PIPE GAL. AS BUILT	FM
DATE	NO.	REVISION	BY
STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND, OREGON			
OREGON CITY - WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD WATER PURIFICATION WORKS ELECTRICAL PLAN EL. 332.25 & EL. 314.0			
DESIGNED	REC	APPROVED BY	BY
DRAWN	KM	SCALE	1/4" = 1'-0"
CHECKED	REC	DATE	8-1-57
		FILE	1160-3074
		SHEET	77



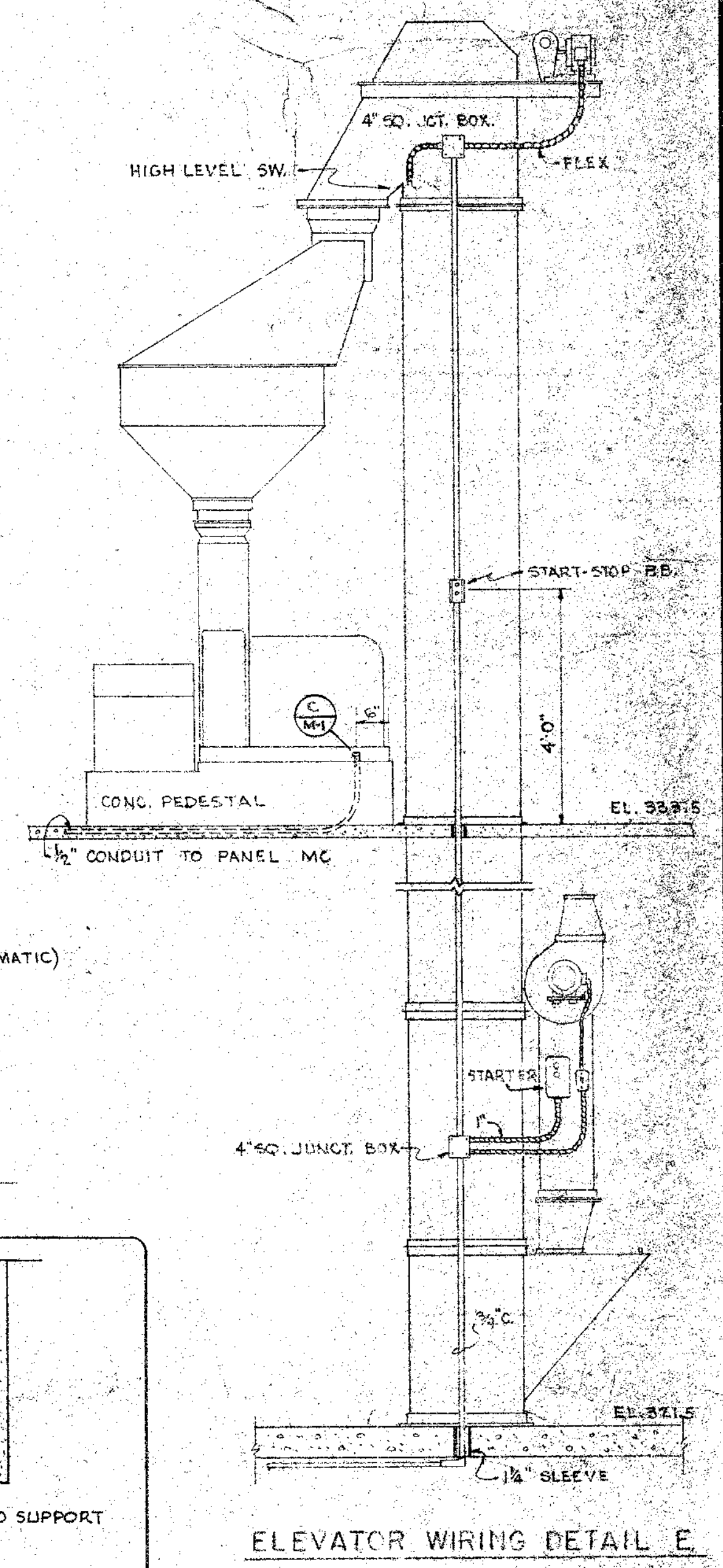
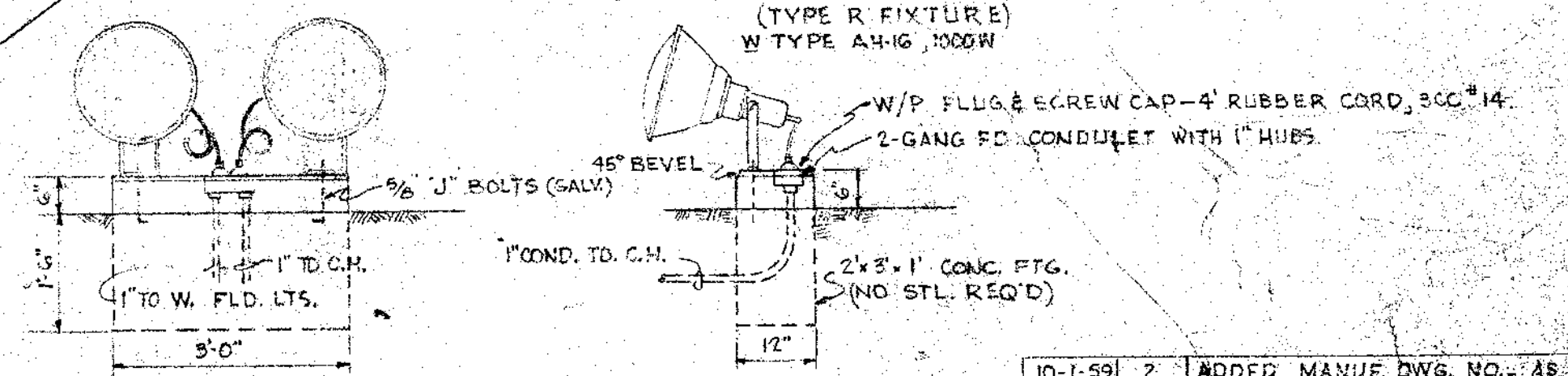
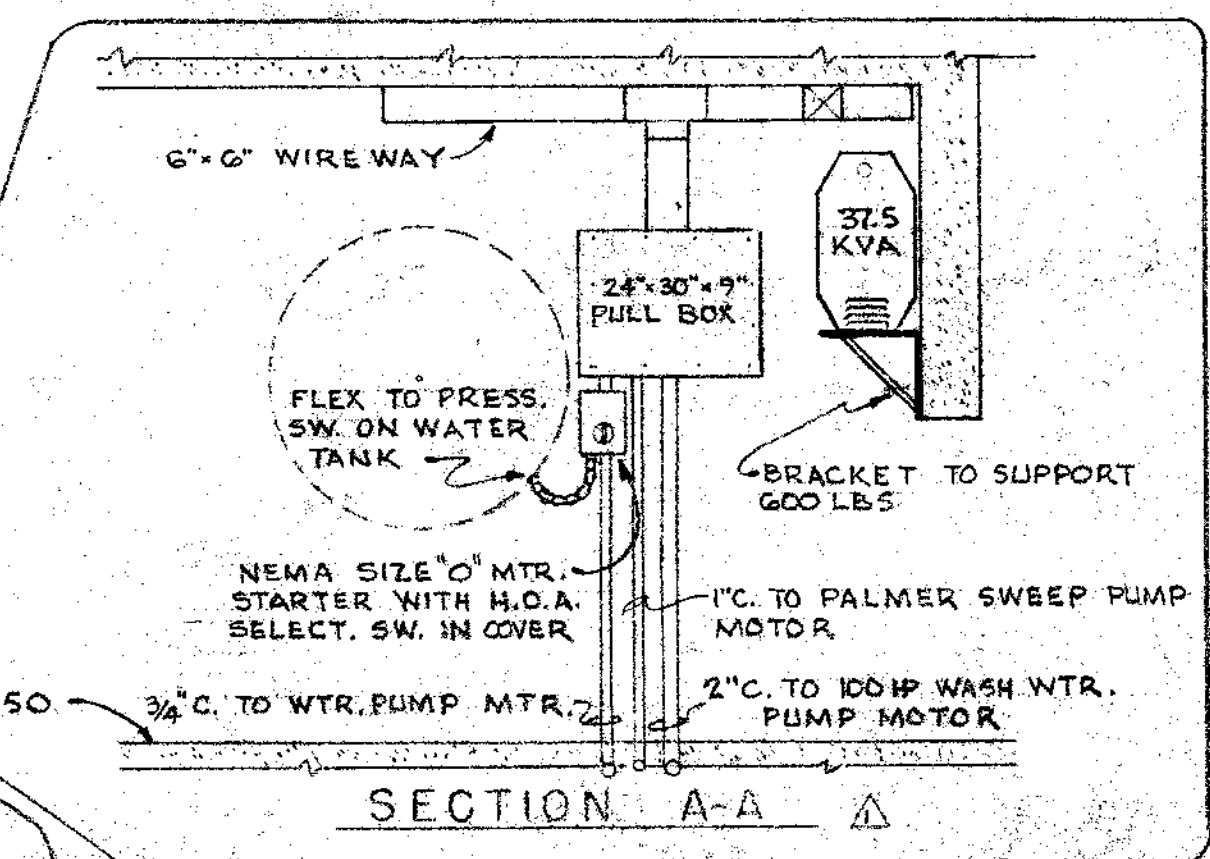
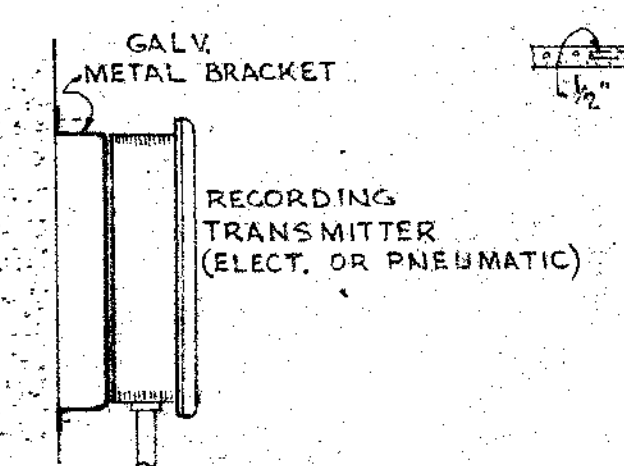
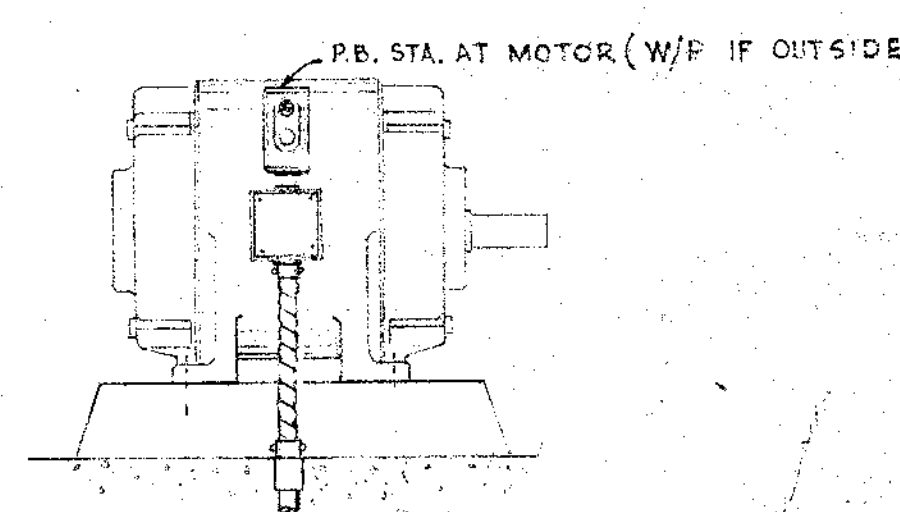
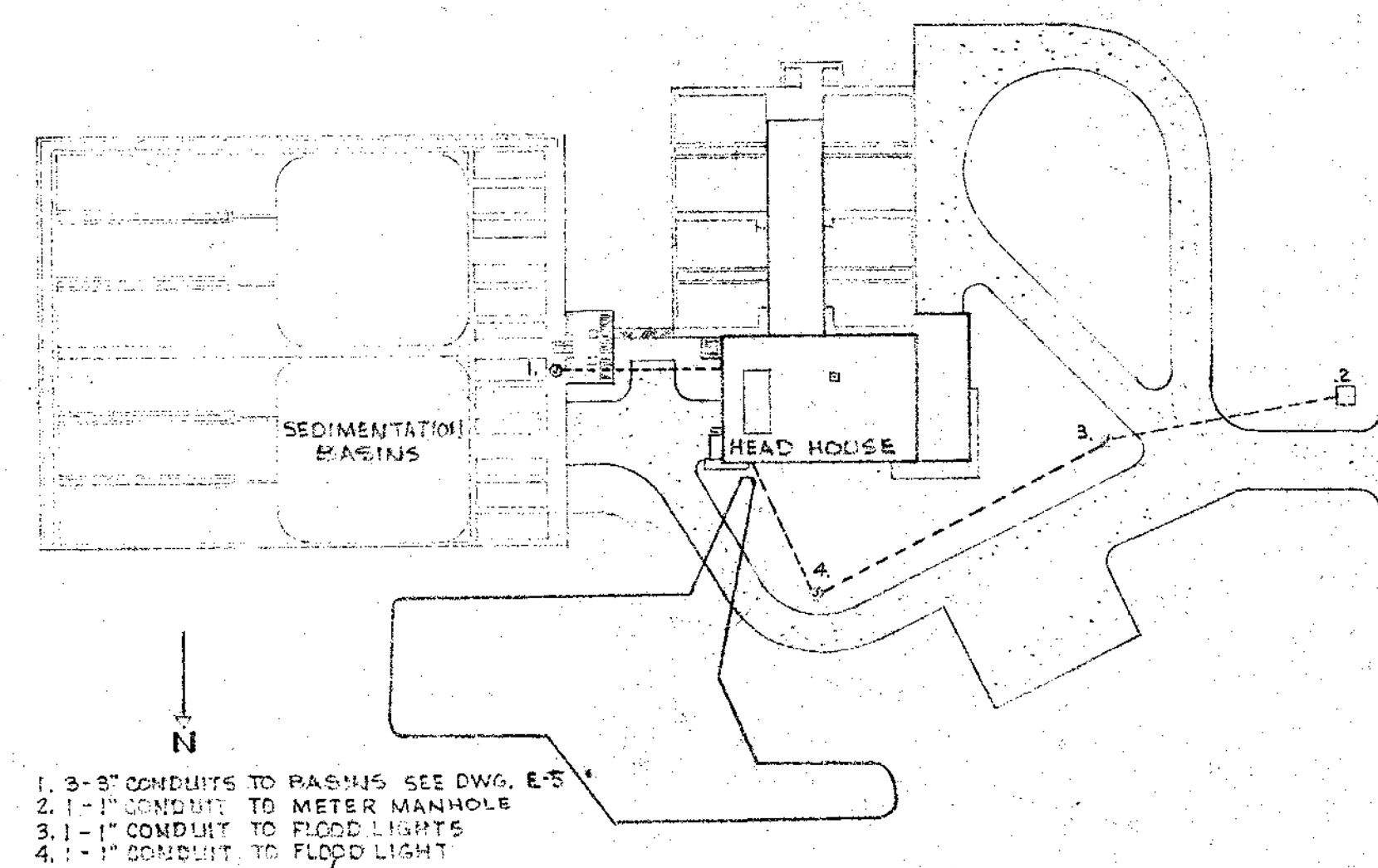
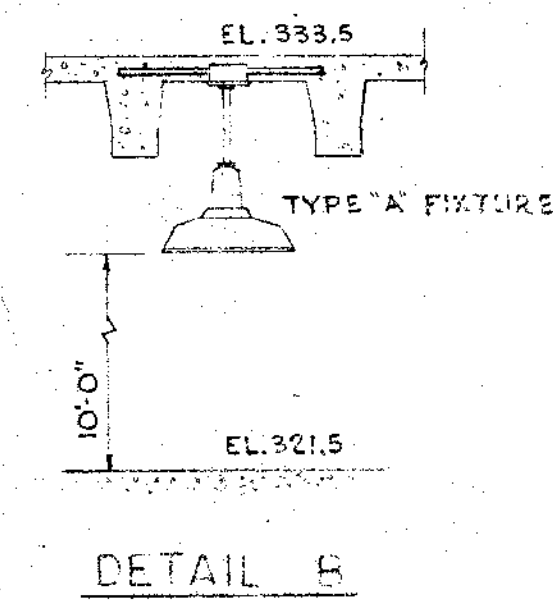
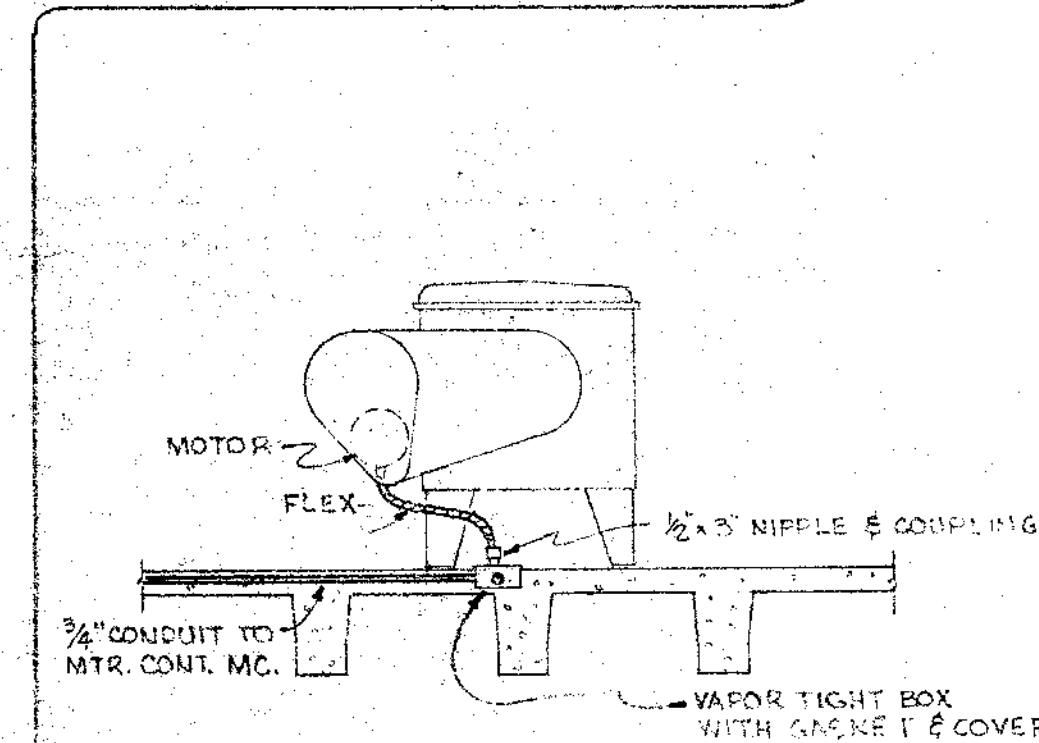


Δ SEE WESTINGHOUSE ELEC. CORR. CONTROL CENTER DWG. NO. SE-5-C-221

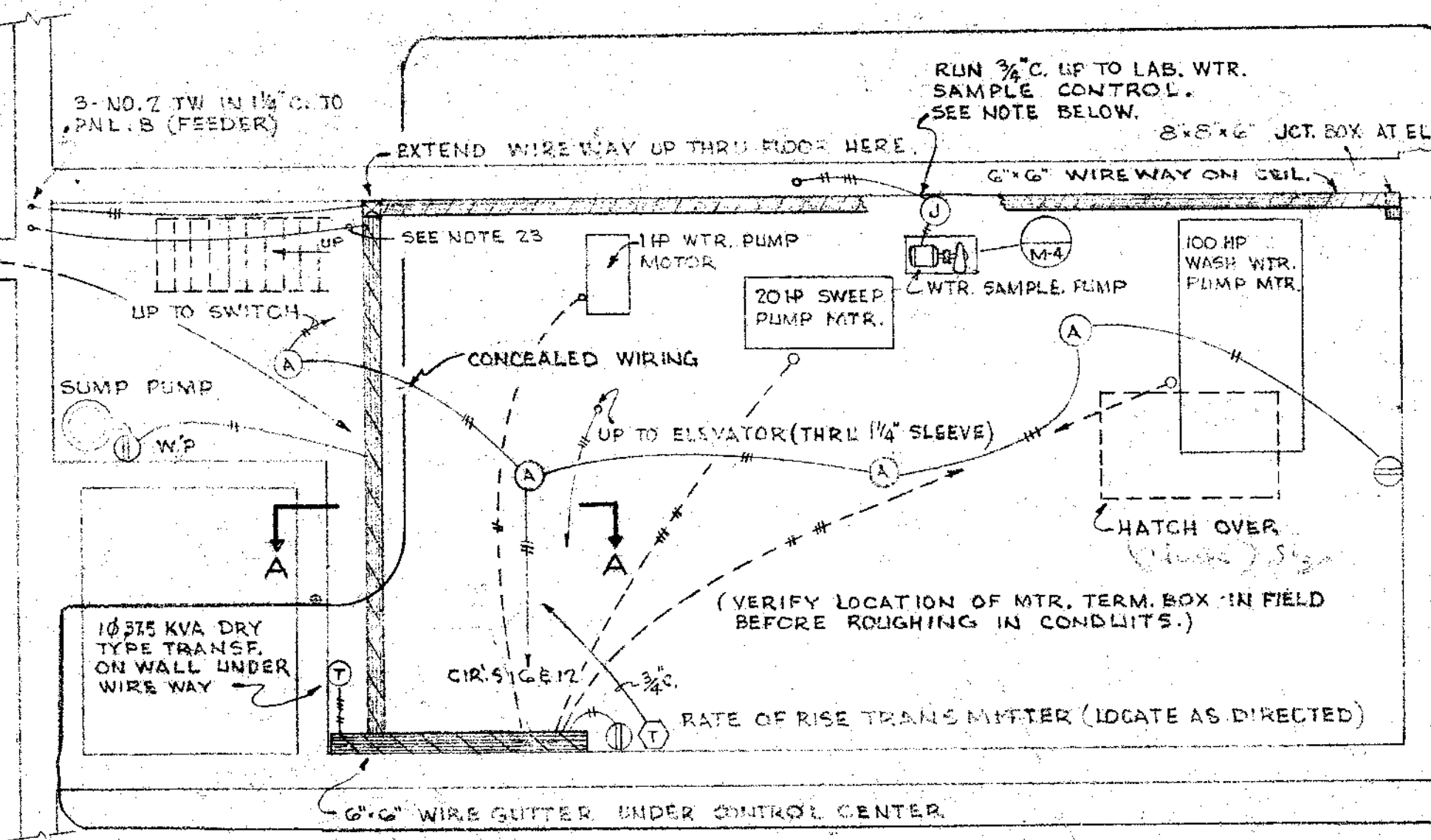
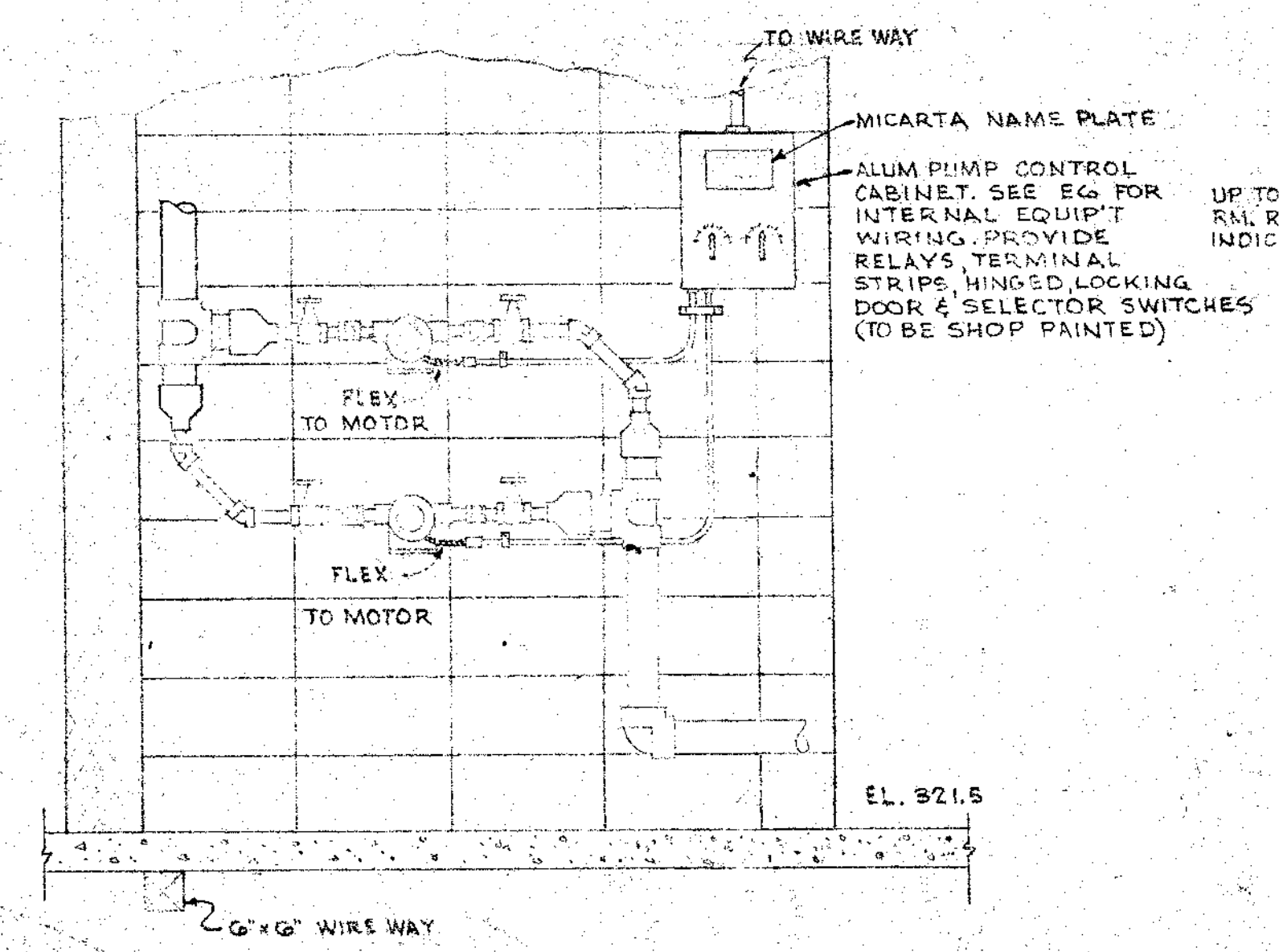
(NAME PLATES)

NO.	DESCRIPTION
1	MAIN SERVICE BRK.
2	37.5 KVA LIGHTING TRANS. BKR.
3	CHEMICAL ELEV. & AIR CLEAN MTR.
4	LIGHTING PNL. A
5	AIR COMPRESSOR NO. 1
6	AIR COMPRESSOR NO. 2
7	PALMER SWEEP PUMP
8	WASH. WATER PUMP
9	FLOCCULATOR MOTOR NO. 1
10	FLOCCULATOR MOTOR NO. 2
11	RAPID MIX NO. 1
12	LIME FEEDER NO. 1
13	ALUM FEEDER NO. 1

- LEGEND**
- RED INDICATING LT.
 - GRN. INDICATING LT.
 - ⊖ H.O.A. SELECTOR SW.
 - RESET BUTTON
 - START-STOP P.B.
 - SWITCH OPER. HANDLE

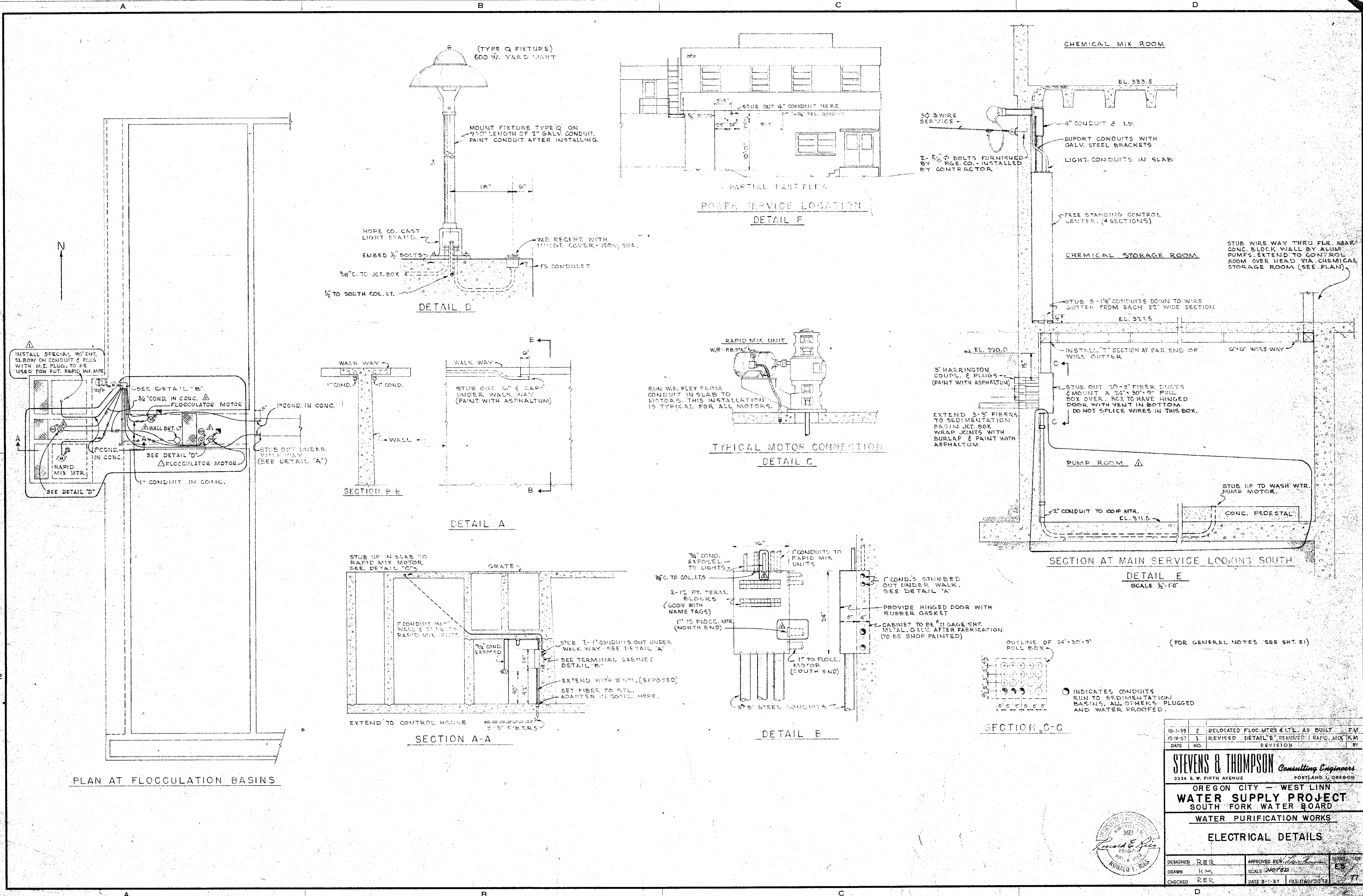


(FOR GENERAL NOTES SEE SHEET E1)



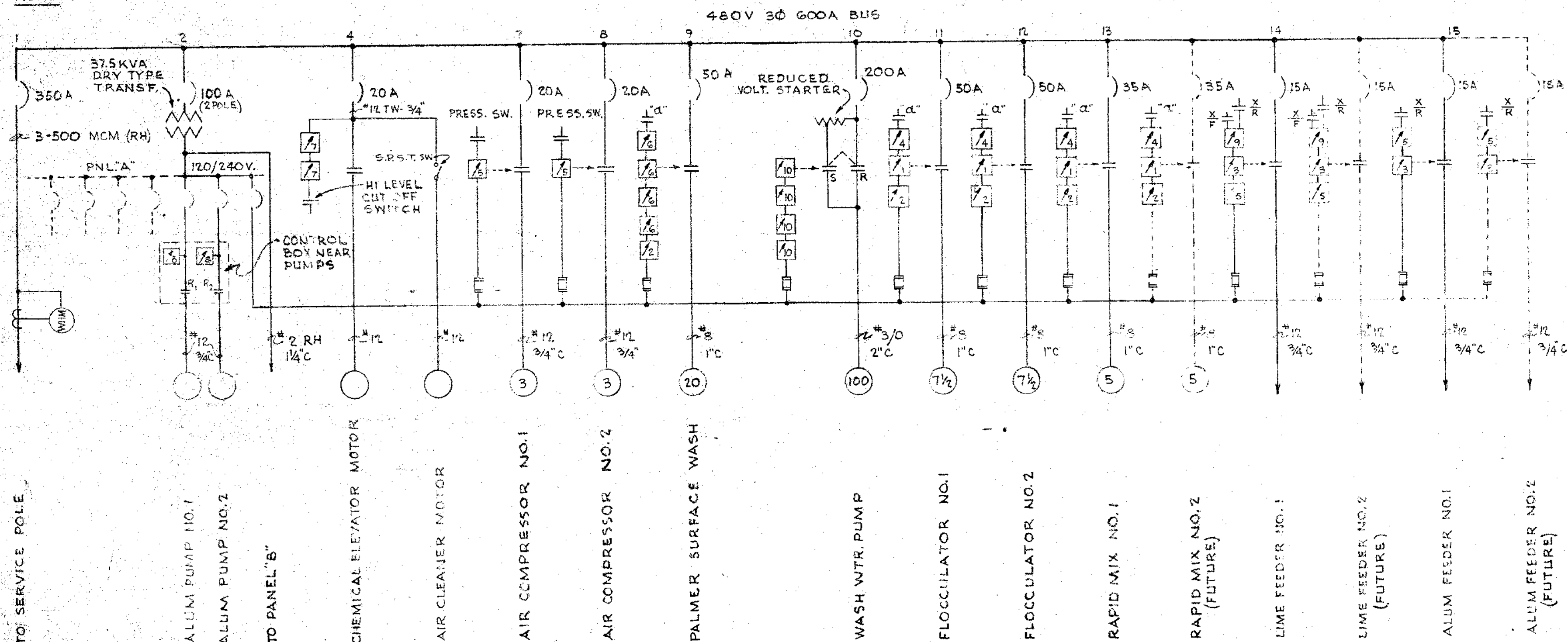
NOTE: INSTALL BOX EXTENSION ON FLUSH BOX IN WALL & RUN FLEX TO MOTOR & SOLENOID VALVES. RUN 3/4" PIPE FROM JCT. BOX TO CONTROL SW'S IN LABORATORY.

10-1-59	2	ADDED MANUF. DWG. NO. 148-BUILT	FM
12-18-57	1	REVISED PNL. MC. REMOVED WTR. PWR. REVISED PUMP ROOM LAYOUT'S EQUIP'T.	KM
DATE	NO.	REVISION	BY
STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND, OREGON OREGON CITY - WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD WATER PURIFICATION WORKS ELECTRICAL DETAILS			
DESIGNED	REB	APPROVED	BY <i>W. H. Thompson</i>
DRAWN	KM	SCALE	NOTED
CHECKED	REB	DATE	12-18-57 FILE 1160-3074
			SHEET 7 OF 7

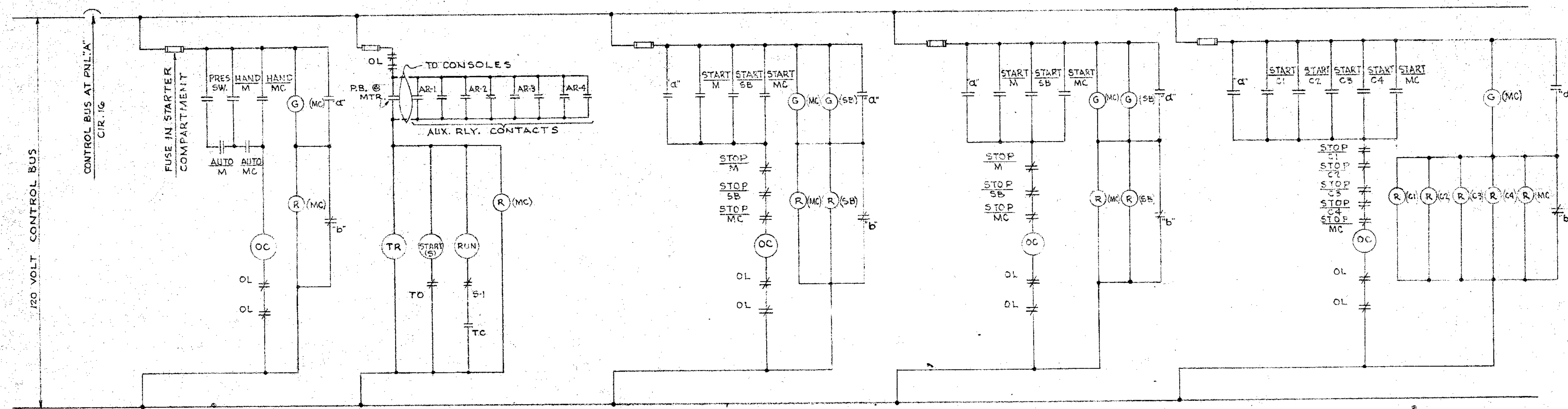


10-1-59	2	RELOCATED FLOC. MTRS & L.T.S. AS BUILT	F.M.
12-18-57	1	REVISED DETAIL "E" REMOVED 1 RAPID MIX MTR	K.M.
DATE	NO.	REVISION	BY
STEVENS & THOMPSON Consulting Engineers			
2234 S. W. FIFTH AVENUE PORTLAND, OREGON			
OREGON CITY - WEST LINN			
WATER SUPPLY PROJECT			
SOUTH FORK WATER BOARD			
WATER PURIFICATION WORKS			
ELECTRICAL DETAILS			
DESIGNED	REB	APPROVED BY	W. J. Thompson
DRAWN	K.M.	SCALE	NOTED
CHECKED	REB	DATE	8-1-57
		FILE NO.	3078
		SHEET OF	11

NOTE: ALL CONTROL WIRE TO BE #12 TW

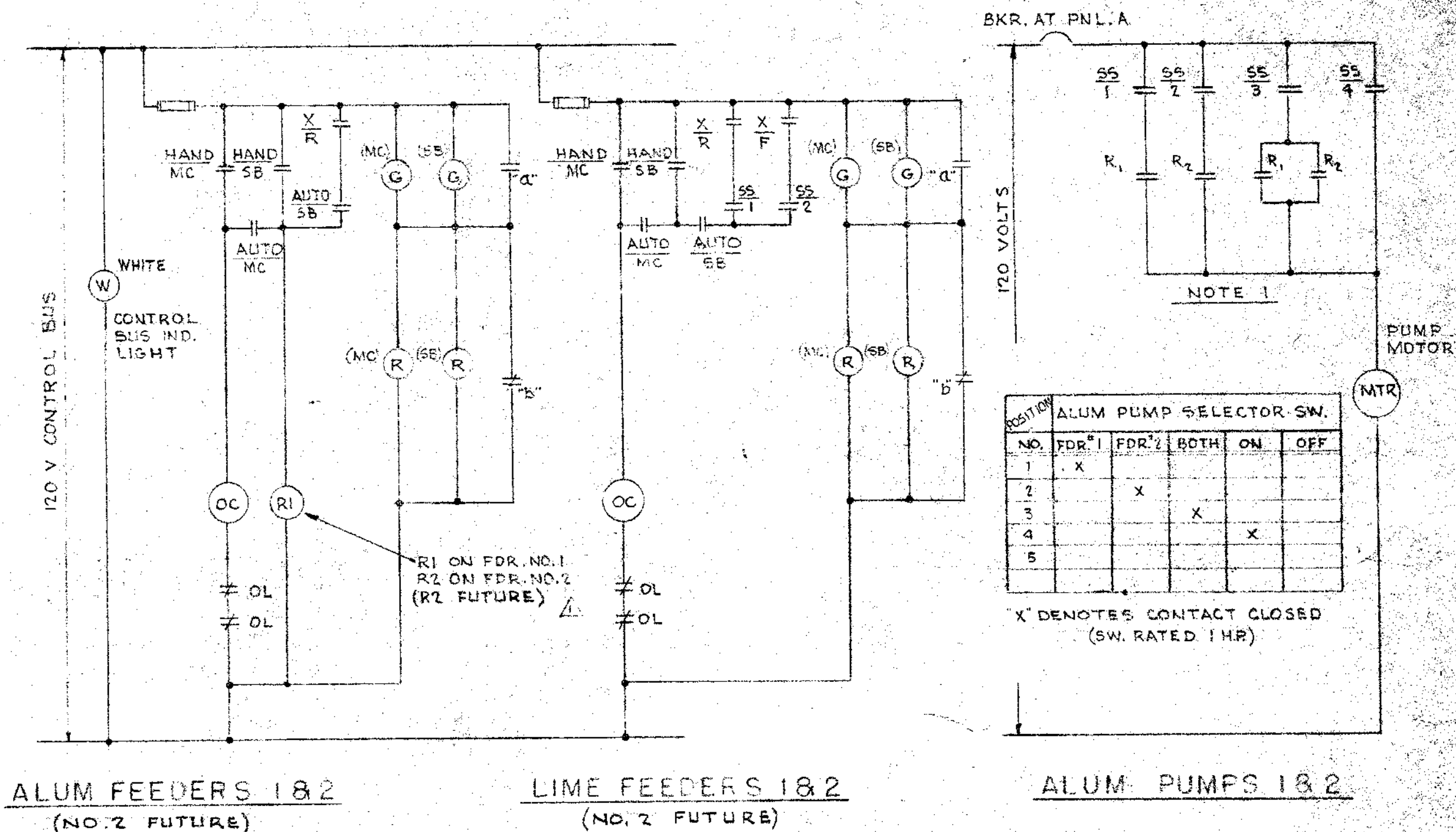


ONE LINE DIAGRAM



MOTOR CONTROL SCHEMATIC DIAGRAMS

SEE WESTERN SWITCHBOARD CO. DWGS. ELEMENTARY DIAG. 4. WIRING DIAG. NO'S 04-1946-109 & 02-1946-109 RESPECTIVELY.



LEGEND

- Ⓜ MOMENTARY START-STOP SW. ON SWBD.
- Ⓜ MOMENTARY START-STOP SW. ON MOTOR PNL.
- Ⓜ H.O.A. SELECT. SW. ON SWBD.
- Ⓜ MOMENTARY START-STOP SW. ON MOTOR
- Ⓜ H.O.A. SELECT. SW. ON MOTOR CONTROL PNL.
- Ⓜ MOMENTARY START-STOP SW. ON CONT. CONSOLE
- Ⓜ MOMENTARY START-STOP SW. ON ELEVATOR
- Ⓜ SELECTOR SW. ON ALUM. PUMP CONTROL BOX
- Ⓜ TRANSFER SW. ON SWBD.
- Ⓜ CONTROL SW. ON CONSOLES
- Ⓜ GREEN INDICATING LIGHT
- Ⓜ OPERATING COIL
- Ⓜ RED INDICATING LIGHT
- Ⓜ SWITCHBOARD
- Ⓜ MOTOR CONTROL CENTER
- Ⓜ MOTOR
- Ⓜ SELECTOR SWITCH (CONTACT NO. 1)
- Ⓜ "A" SWITCH ON STARTER-OPEN IF STARTER OPEN
- Ⓜ "B" SWITCH ON STARTER-CLOSED IF STARTER OPEN
- Ⓜ CONTROL CONSOLE NO. 1
- Ⓜ RECORDER CONTACT FOR RAW WATER
- Ⓜ RECORDER CONTACT FOR FILTERED WATER
- Ⓜ OVER LOAD CONTACT

(FOR GENERAL NOTES SEE SHT. E1)

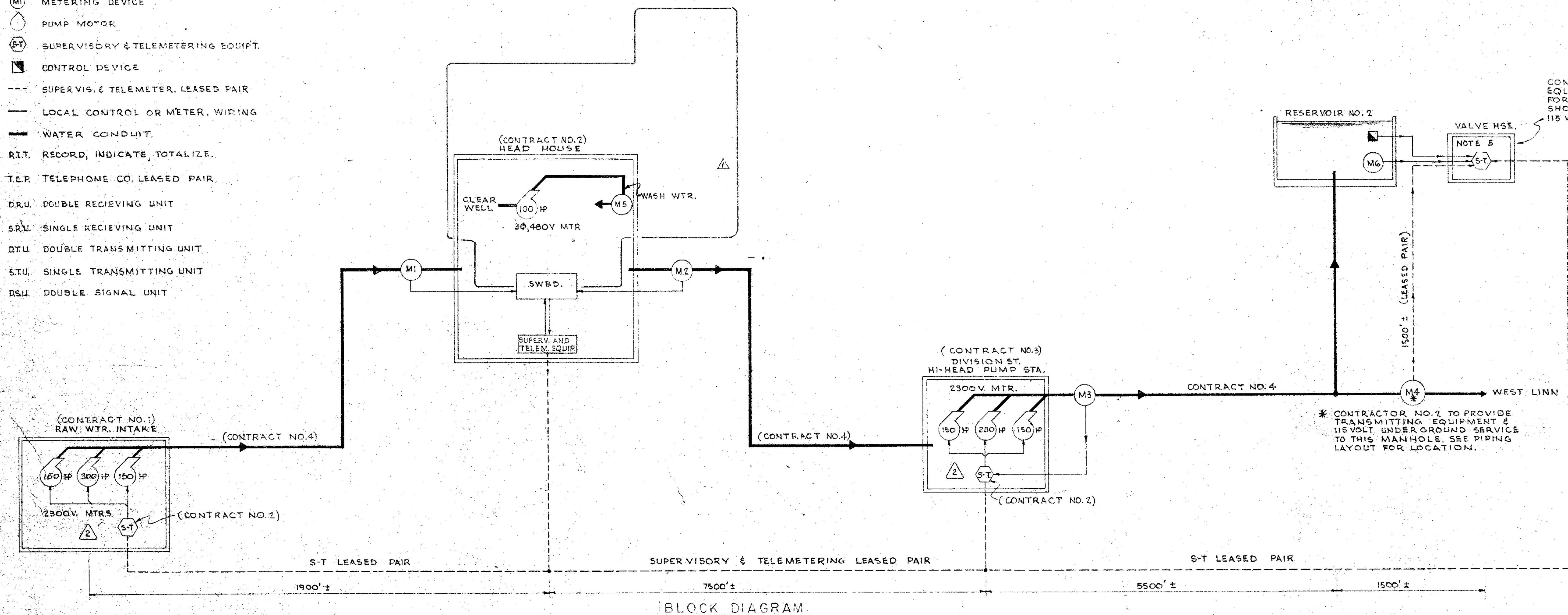
10-1-59	2	ADDED MANUF. DWG. NO. 5. AS BUILT	P.M.
12-15-57	1	REVISED ONE LINE DIA. MAJOR REVISION	K.M.
DATE	NO.	REVISION	BY

STEVENS & THOMPSON Consulting Engineers
2234 S. W. FIFTH AVENUE PORTLAND, OREGON
OREGON CITY - WEST LINN
WATER SUPPLY PROJECT
SOUTH FORK WATER BOARD
WATER PURIFICATION WORKS
ELECTRICAL WIRING DIAGRAMS

DESIGNED	RED	APPROVED BY	DATE	SHEET
DRAWN	K.M.	SCALE	1"=6'	26
CHECKED	RED	DATE	8-1-67	77

LEGEND

- (MI) METERING DEVICE
- (P) PUMP MOTOR
- (ST) SUPERVISORY & TELEMETERING EQUIPT.
- (C) CONTROL DEVICE
- SUPERVIS. & TELEMETER. LEASED PAIR
- LOCAL CONTROL OR METER. WIRING
- WATER CONDUIT
- R.I.T. RECORD, INDICATE, TOTALIZE.
- T.L.P. TELEPHONE CO. LEASED PAIR
- DRU. DOUBLE RECEIVING UNIT
- S.R.U. SINGLE RECEIVING UNIT
- DTU. DOUBLE TRANSMITTING UNIT
- STU. SINGLE TRANSMITTING UNIT
- DSU. DOUBLE SIGNAL UNIT



CONTRACTOR NO. 2 TO FURNISH & INSTALL ALL EQUIPMENT REQUIRED IN EXISTING VALVE HOUSE FOR SUPERVISORY & TELEMETERING FUNCTIONS SHOWN, INCLUDING CONDUIT, CABINETS AND ALL 115 VOLT WIRING AS REQUIRED.

* CONTRACTOR NO. 2 TO PROVIDE TRANSMITTING EQUIPMENT & 115 VOLT UNDERGROUND SERVICE TO THIS MANHOLE. SEE PIPING LAYOUT FOR LOCATION.

TELEMETERING SCHEDULE

METER NO.	METERED QUANTITY	FUNCTION	TRANSMITTER LOCATION	RECORDER LOCATION	TYPE OF RECORDER	TRANSFER OF SIGNAL	TYPE OF TRANSMITTER	RANGE	IND. SCALE DIVISIONS	CHART SPEED
M1	PLANT INFLUENT	R. I. T.	HEAD HSE.	MAIN CONTROL BOARD 'SB' AT HEAD HOUSE	ELECTRICAL OR PNEUM.	LOCAL	ELECTRICAL OR PNEUM.	0-15 MGD	(0-15) 0.25	7 DAY
M2	FILT. WTR. EFFLUENT	R. I. T.	HEAD HSE.	MAIN CONTROL BOARD 'SB' AT HEAD HOUSE	ELECTRICAL	LOCAL	ELECTRICAL	0-15 MGD	(0-15) 0.25	7 DAY
M3	DIVISION ST. EFFLUENT	R. I. T.	PUMP STA.	MAIN CONTROL BOARD 'SB' AT HEAD HOUSE	ELECTRICAL	T.L.P.	ELECTRICAL	0-15 MGD	(0-15) 0.25	7 DAY
M4	WEST LINN WASH. WTR.	R. I. T.	VALVE HSE.	MAIN CONTROL BOARD 'SB' AT HEAD HOUSE	ELECTRICAL	T.L.P.	ELECTRICAL	0-10 MGD	(0-10) 0.25	7 DAY
M5	WASH. WTR.	R. I. T.	HEAD HSE.	MAIN CONTROL BOARD 'SB' AT HEAD HOUSE	ELECTRICAL OR PNEUM.	LOCAL	ELECTRICAL OR PNEUM.	0-10,000 GPM	(0-10) 0.50	7 DAY
M6	RESERVOIR LEVEL	R. I.	VALVE HSE.	MAIN CONTROL BOARD 'SB' AT HEAD HOUSE	ELECTRICAL	T.L.P.	ELECTRICAL	0-25 FT.	(0-25) 1.00	7 DAY

PARTIAL LIST OF TONE EQUIPMENT REQUIRED

LOCATION	TYPE OF SIGNAL	S.R.U.	DTU.	DRU.	DSU.	CABINET	CABINET SIZE	REMARKS
HEAD HSE.	CONTINUOUS TONE	1	3	1	0	OPEN RACK OR NEMA 1	MINIMUM 10 UNITS	NOTE 5 & 8
RAW WTR. STA.	CONTINUOUS TONE	1	0	1	0	W/P WIRE MOUNT HAMMARLUND	MINIMUM 4 UNITS	NOTE 7
DIV. ST. STA.	CONTINUOUS TONE	0	0	1	1	W/P WALL MOUNT HAMMARLUND	MINIMUM 6 UNITS	NOTE 7
RES. VALVE HSE.	CONTINUOUS TONE	0	1	0	0	W/P WALL MOUNT HAMMARLUND	MINIMUM 4 UNITS	NOTE 7

(* TRANSMITTER & RECEIVER)

NOTES:

1. ALL SUPERVISORY & TELEMETERING EQUIPMENT SHOWN & REQUIRED IS TO BE FURNISHED & INSTALLED UNDER CONTRACT NO. 2.
2. CONDUITS, BOXES, WEATHER HEADS ETC. REQUIRED AT PUMPING STATIONS FOR TELEMETERING OR SUPERVISORY EQUIPMENT TO BE INSTALLED BY PUMPING STATION CONTRACTORS. WIRE & WIRING REQUIRED TO BE DONE UNDER CONTRACT NO. 2.
3. DISTANCES SHOWN ARE APPROXIMATE STRAIGHT LINE - POINT TO POINT.
4. SCALE TO BE DETERMINED BY ENGINEER FROM RESERVOIR MANUFACTURERS APPROVED DRAWINGS.
5. RESERVOIR LEVEL TRANSMITTER TO BE CONNECTED TO 20" LINE IN VALVE HSE.
6. THIS DRAWING IS PRESENTED ONLY FOR GENERAL INFORMATION. ACTUAL LOCATION OF EQUIPMENT, PIPING ETC. SHOULD BE DETERMINED FROM LAYOUT DRAWINGS FOR EACH PARTICULAR STRUCTURE.
7. PROVIDE ONE COMPLETE SET OF FUSES, TUBES & ONE RELAY "PL 1626 91" AT EACH LOCATION (I.E. HEAD HSE., RAW WTR. STA., DIV. ST. STA., & RESERVOIR VALVE HSE.) FOR TELEMETER & SUPERVISORY EQUIPMENT.
8. PROVIDE ONE TEST SET AT HEAD HOUSE FOR TEL. & SUPERVISORY EQUIPMENT.

SUPERVISORY CONTROL

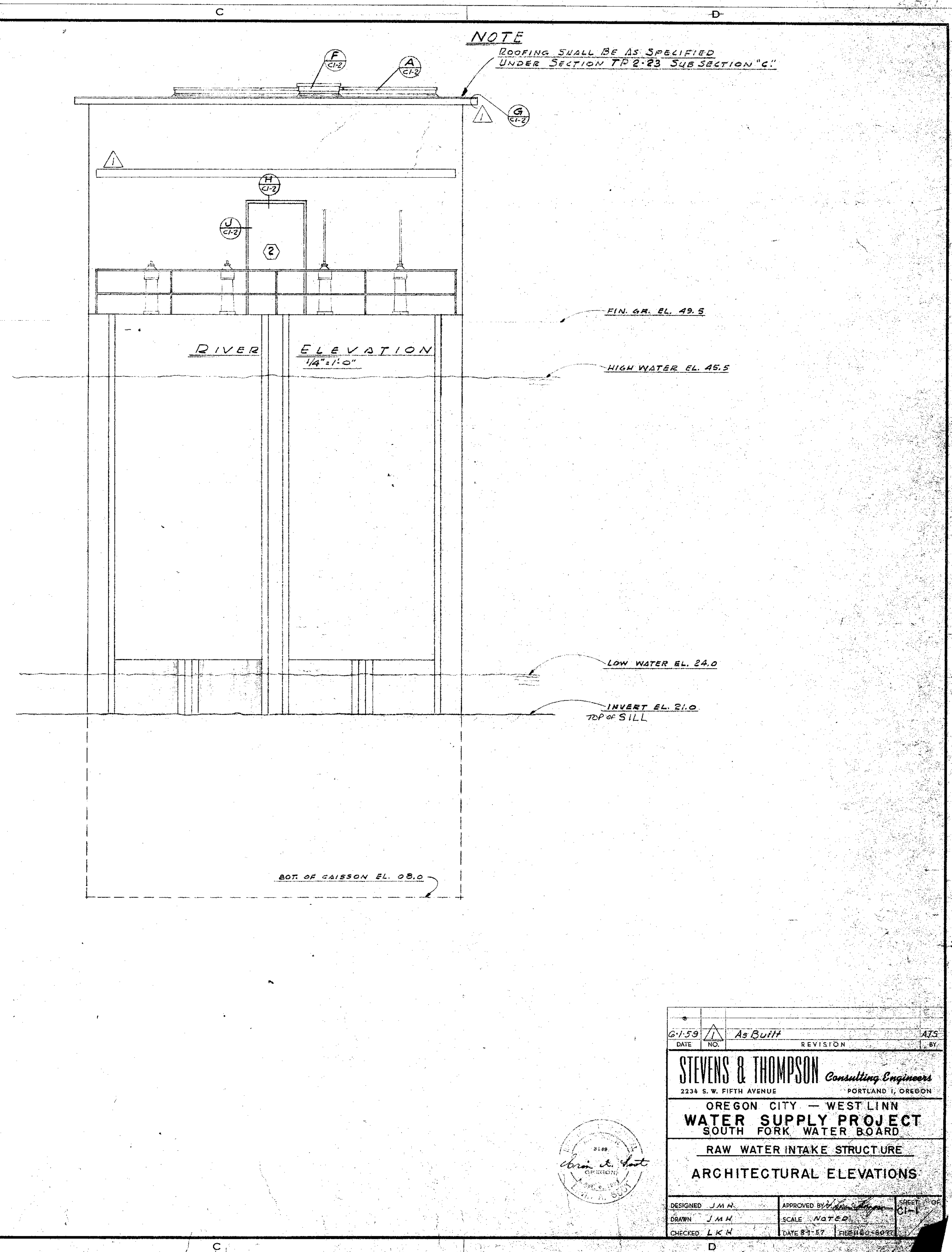
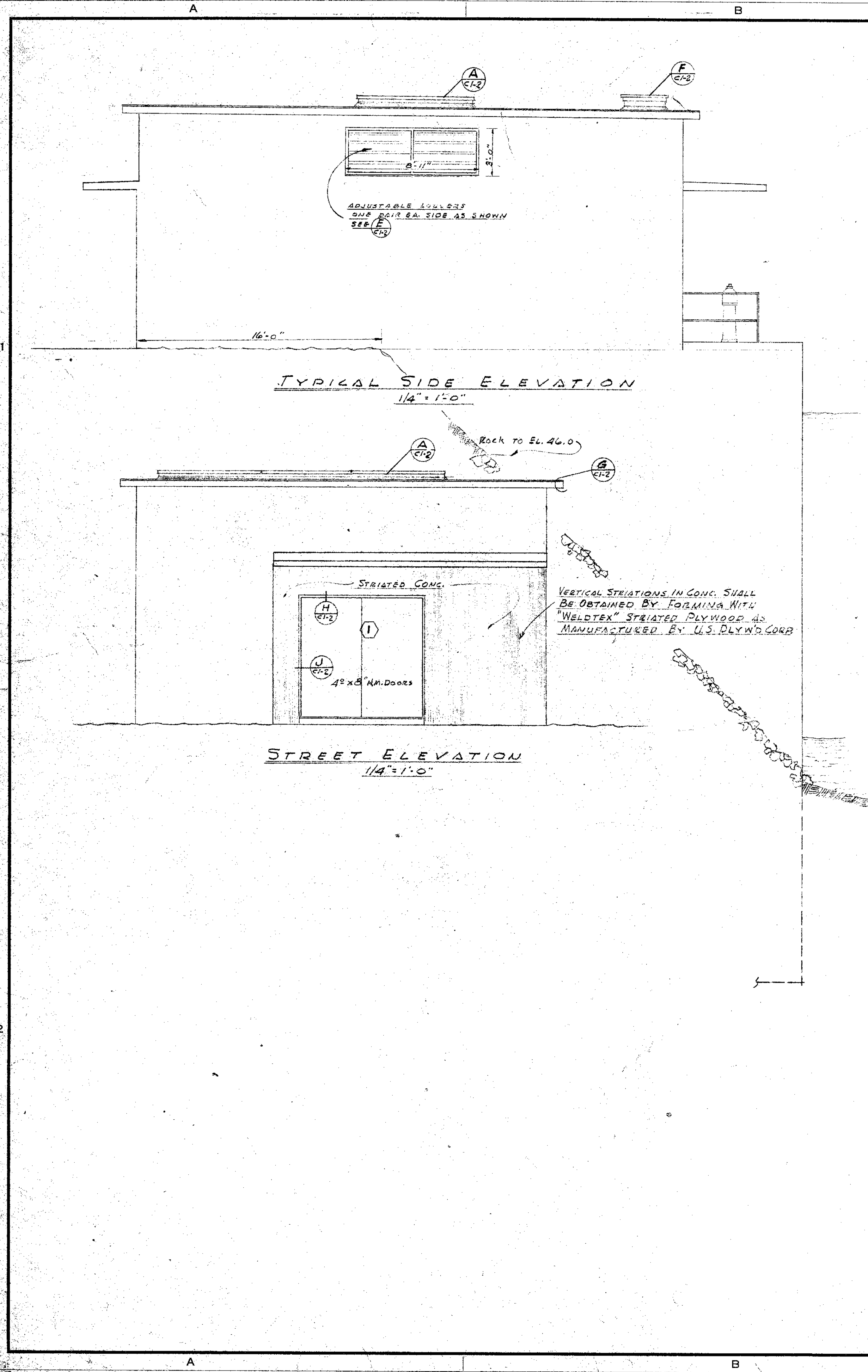
CONT. DEVICE	CONTROLLER	CONTROLLER FUNCTIONS	CONTROL VOLTAGE
RAW WTR. PUMPS	WATER LEVEL	HEAD USE. START/STOP MANUALLY	240 V.
DIVISION ST. PUMPS	RES. NO. 2 LEVEL	VALVE HOUSE START/STOP AUTOMATICALLY	240 V.
		INDICATE/ALARM	

7-3-58	2	RELOCATE LARGER PUMPS IN CENTER BAS.
12-18-57	1	REMOVED EL. TANK & CONTROL
DATE	NO.	REVISION

STEVENS & THOMPSON Consulting Engineers
2234 S.W. FIFTH AVENUE PORTLAND, OREGON
OREGON CITY — WEST LINN
WATER SUPPLY PROJECT
SOUTH FORK WATER BOARD
WATER PURIFICATION WORKS

BLOCK DIAGRAM OF FACILITIES

DESIGNED RER	APPROVED BY [Signature]	DATE 8-1-57
DRAWN KAM	SCALE NONE	
CHECKED RER	DATE 8-1-57	



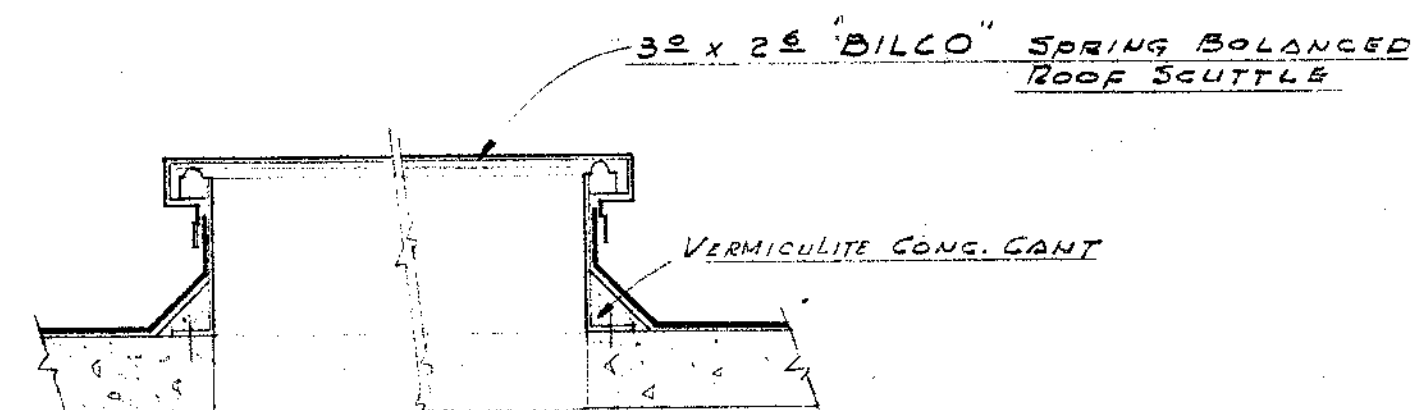
DATE	NO.	As Built	REVISION	BY
6-1-59	1			475

STEVENS & THOMPSON Consulting Engineers
2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON

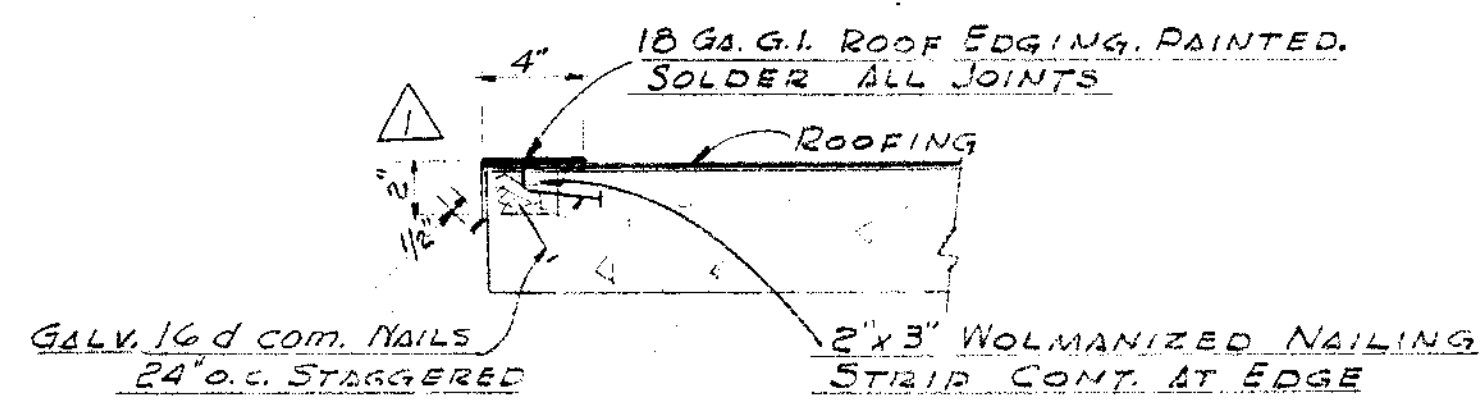
OREGON CITY — WEST LINN
WATER SUPPLY PROJECT
SOUTH FORK WATER BOARD

RAW WATER INTAKE STRUCTURE
ARCHITECTURAL ELEVATIONS

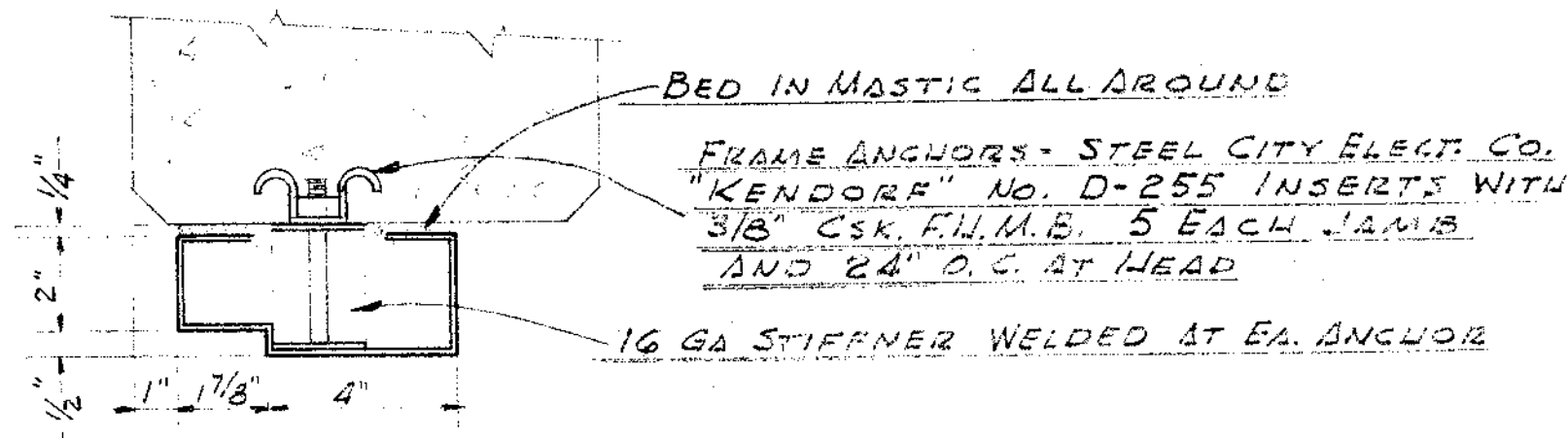
DESIGNED	J.M.H.	APPROVED BY	[Signature]	SHEET	1 OF 1
DRAWN	J.M.H.	SCALE	NOTED		
CHECKED	L.K.H.	DATE	8-1-57	FILE NO.	58072



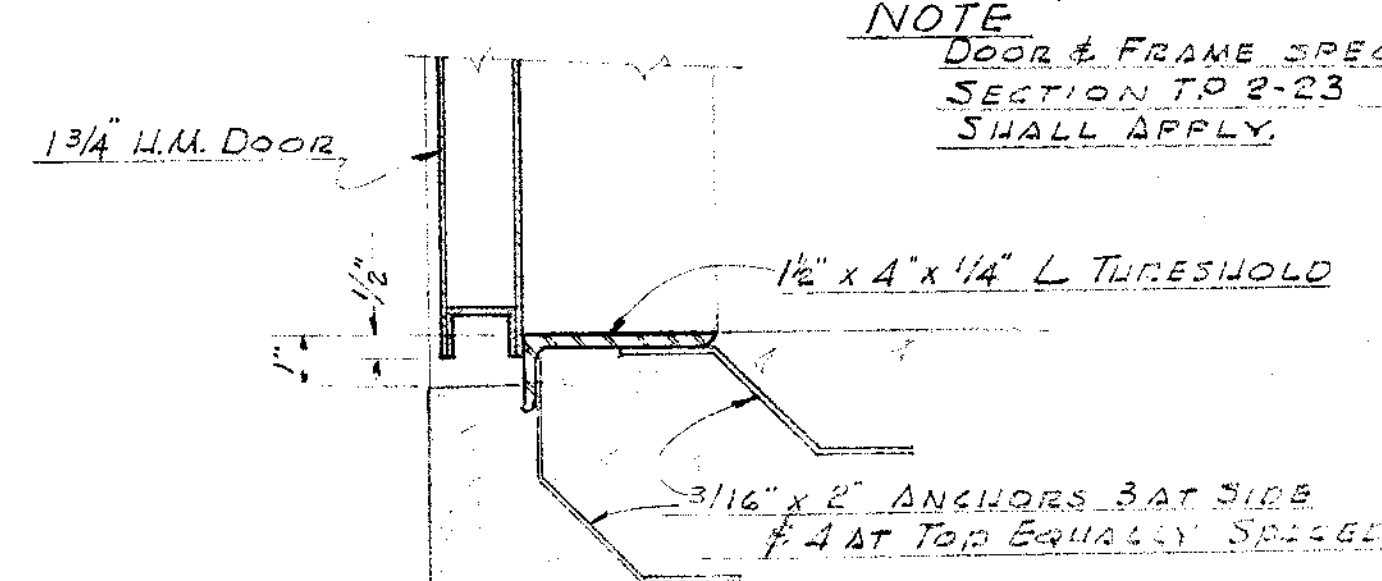
DETAIL F
ROOF ACCESS HATCH



DETAIL G
ROOF EDGING
1 1/2" x 1'-0"



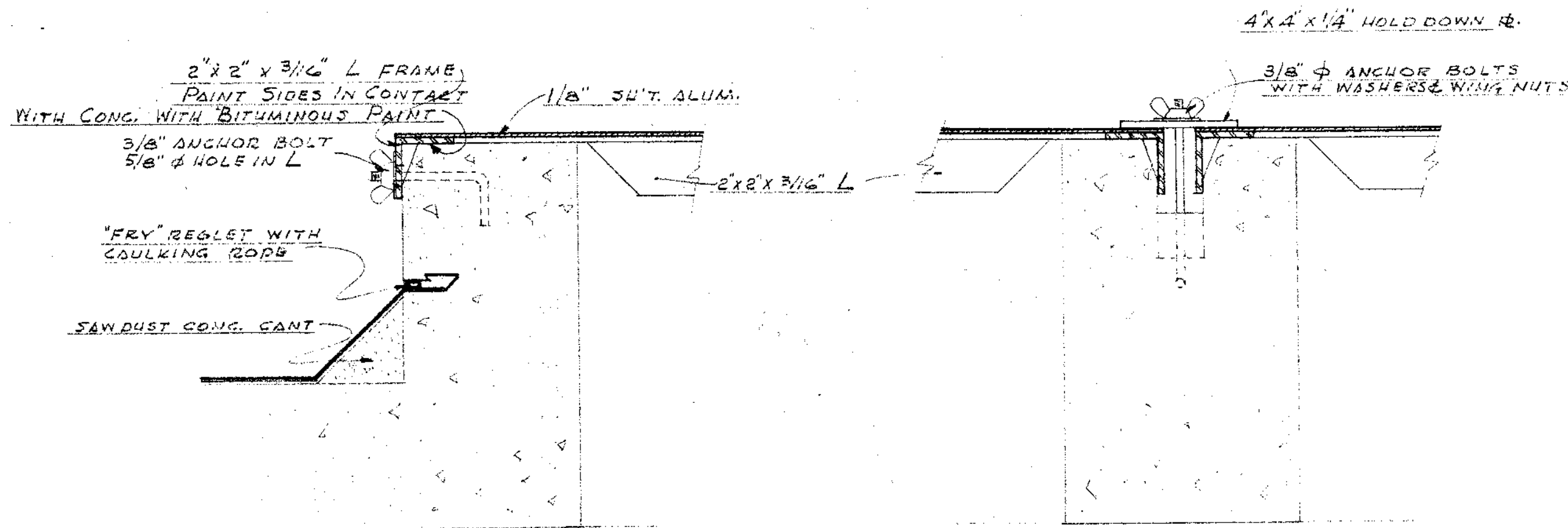
HEAD & JAMB H



SILL J
DOOR DETAILS

NOTE:
HARDWARE SPECIFICATIONS UNDER SECTION
TP2-23 SUBSECTION 'J' SHALL APPLY.

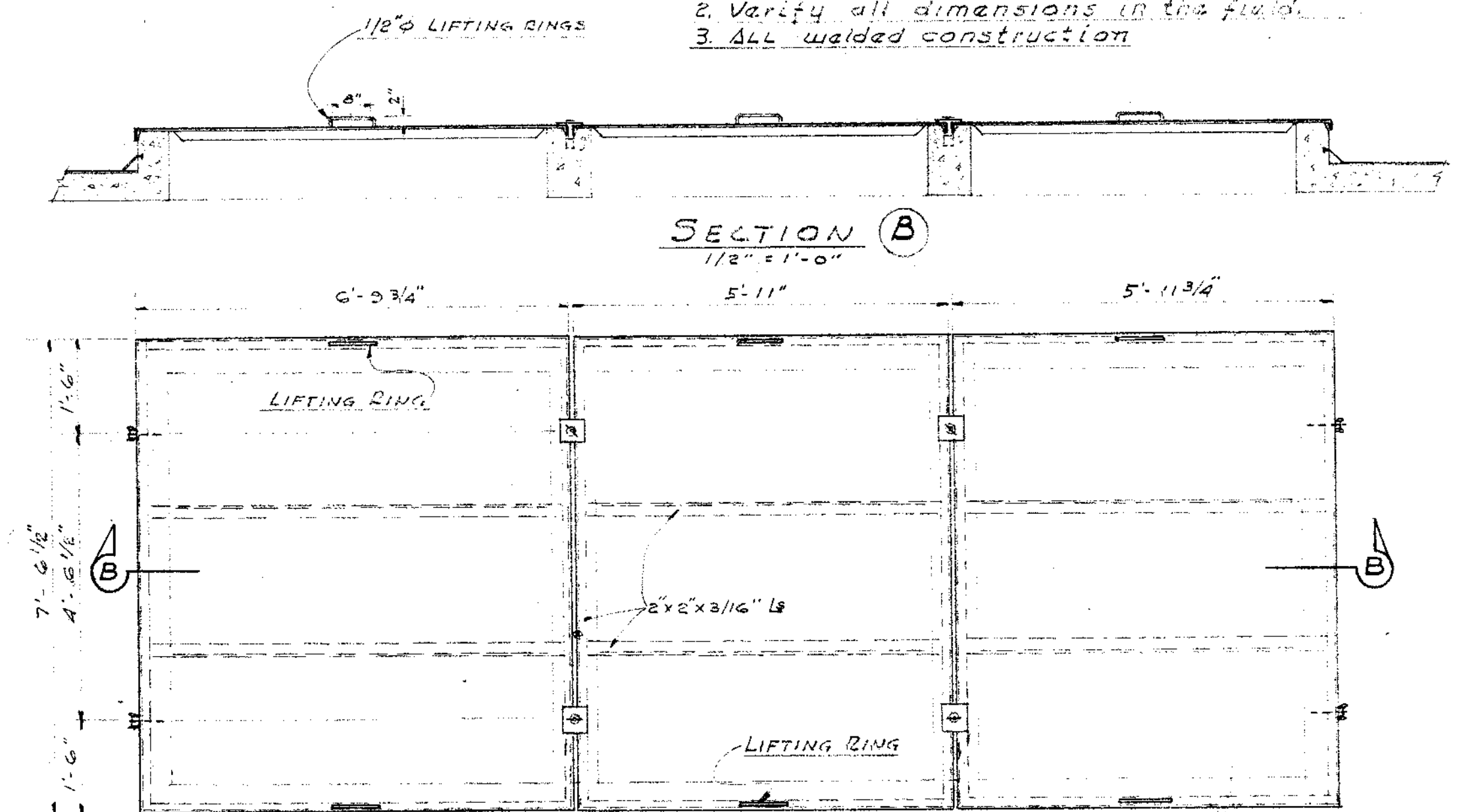
DOOR AND HARDWARE SCHEDULE						
DOOR	No.	SIZE	KIND	LOCK	BUTTS	FLUSH BOLTS
①	2	4' x 8' x 1 3/4"	FLUSH-HOLLOW METAL	C 80 PD	2 pr. 4 1/2" Ea. Door	2-# 1116 - 12"
②	1	4' x 8' x 1 3/4"	F. W. M.	"	"	"
③	2	4' x 8' x 1 3/4"	F. W. M. LOUVERED	"	"	"



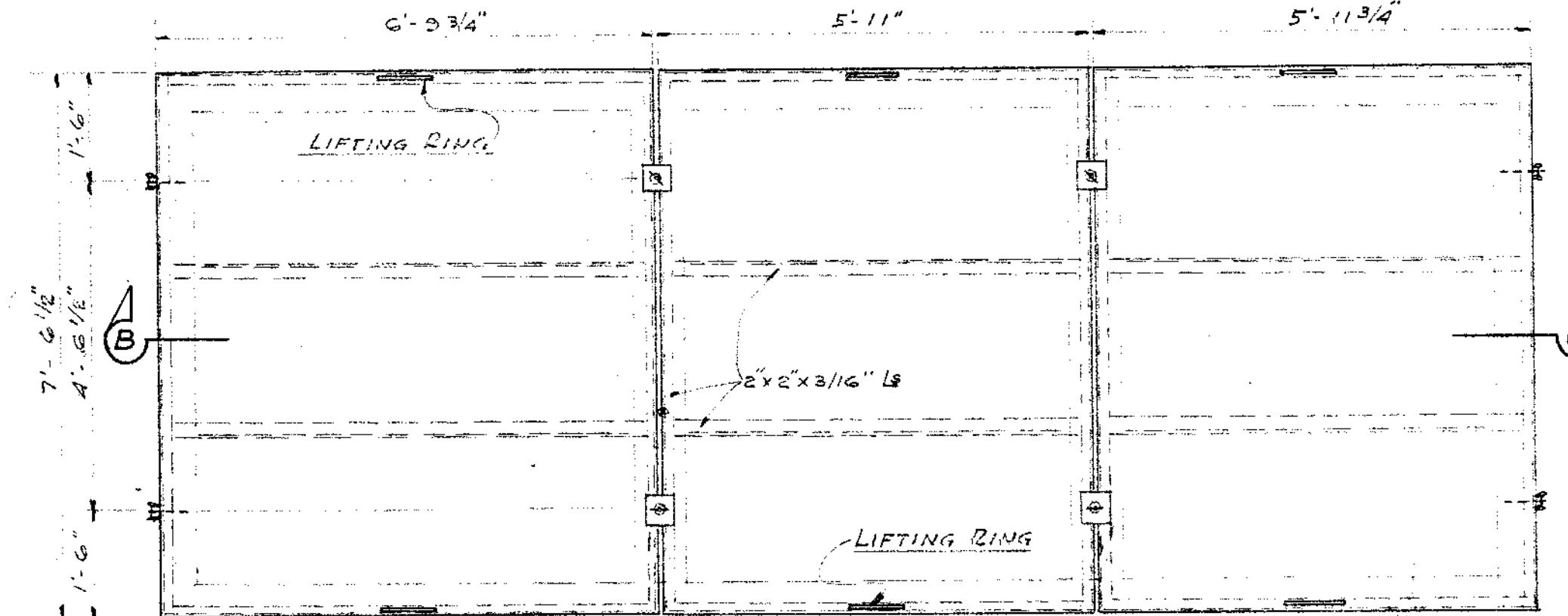
DETAIL C
3\"/>

DETAIL D
3\"/>

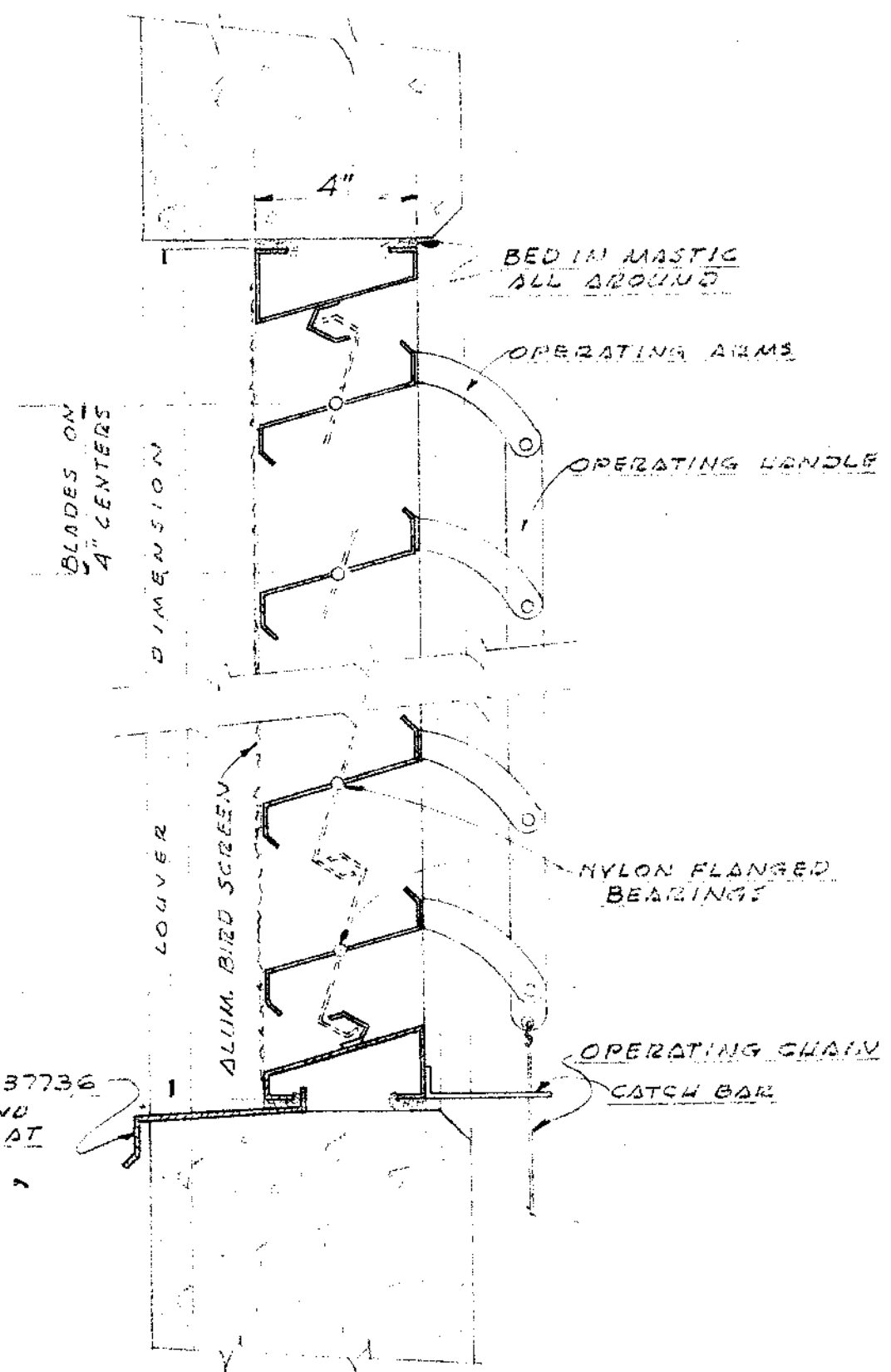
NOTES:
1. All metal to be aluminum alloy no. 6061-T4
2. Verify all dimensions in the field
3. All welded construction



SECTION B
1 1/2\"/>

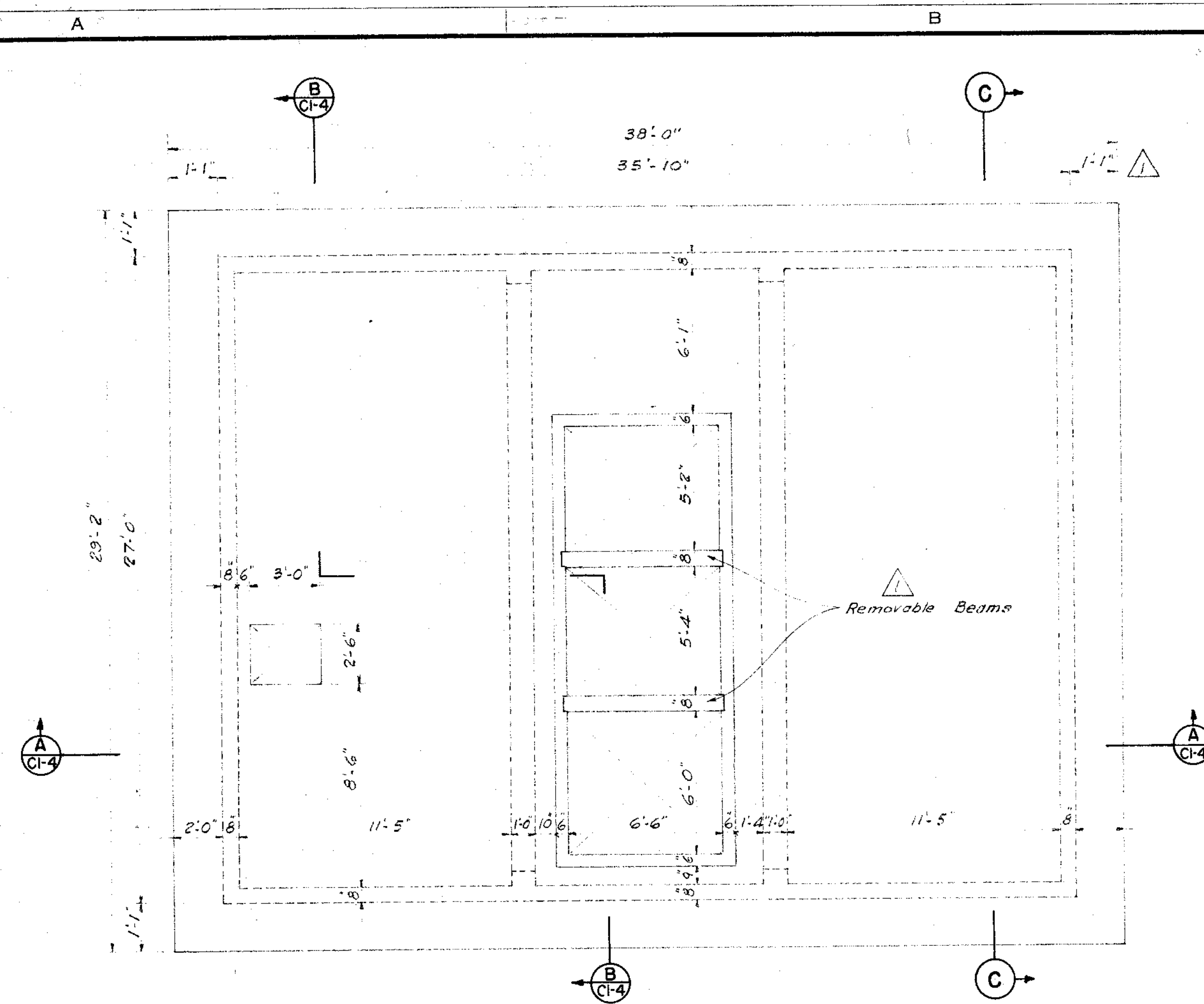


PLAN A
ROOF ACCESS PANELS

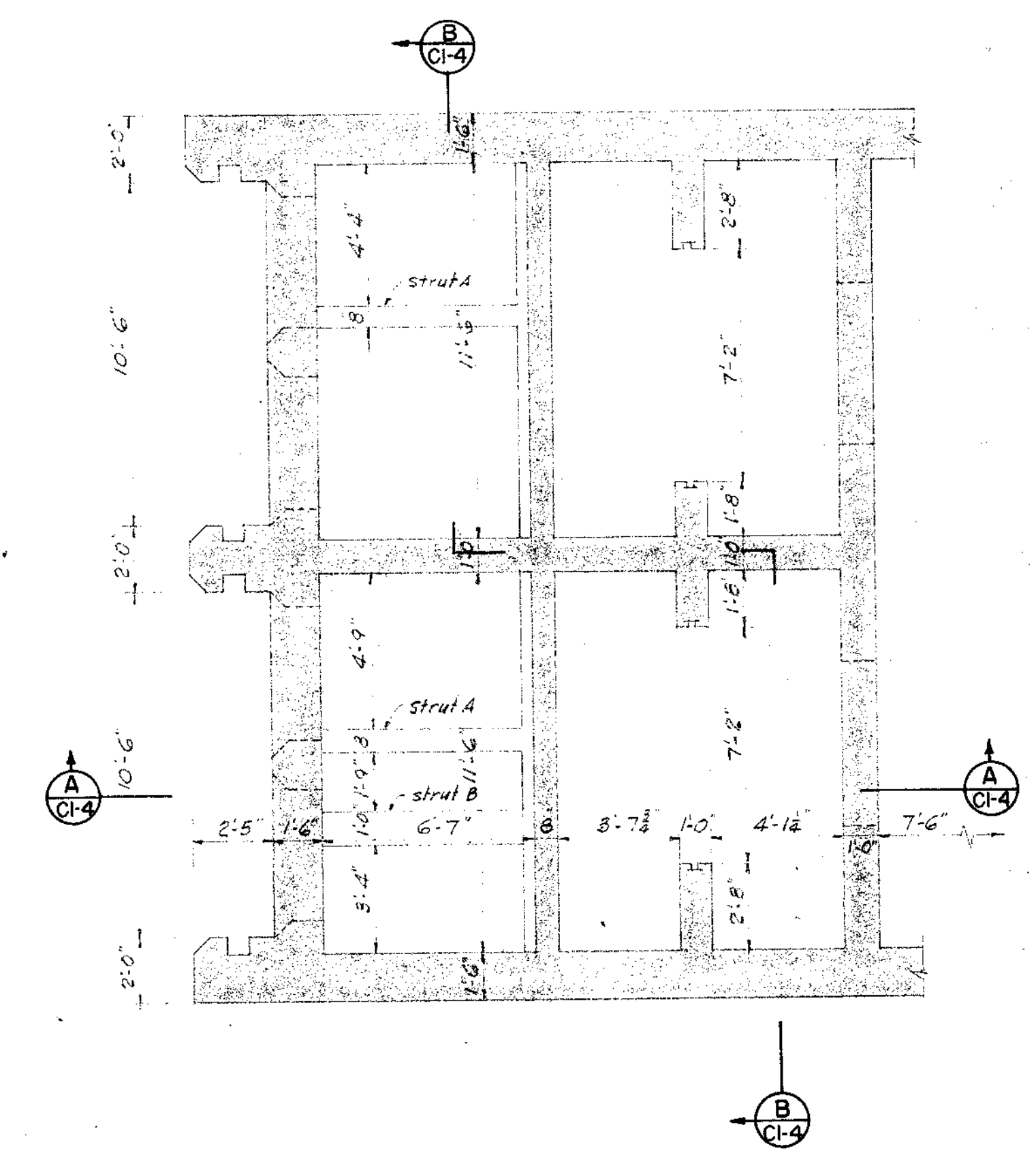


DETAIL E
ADJUSTABLE ALUMINUM
LOUVER
AS MANUFACTURED BY
THE AIRLOITE COMPANY
MARIETTA OHIO

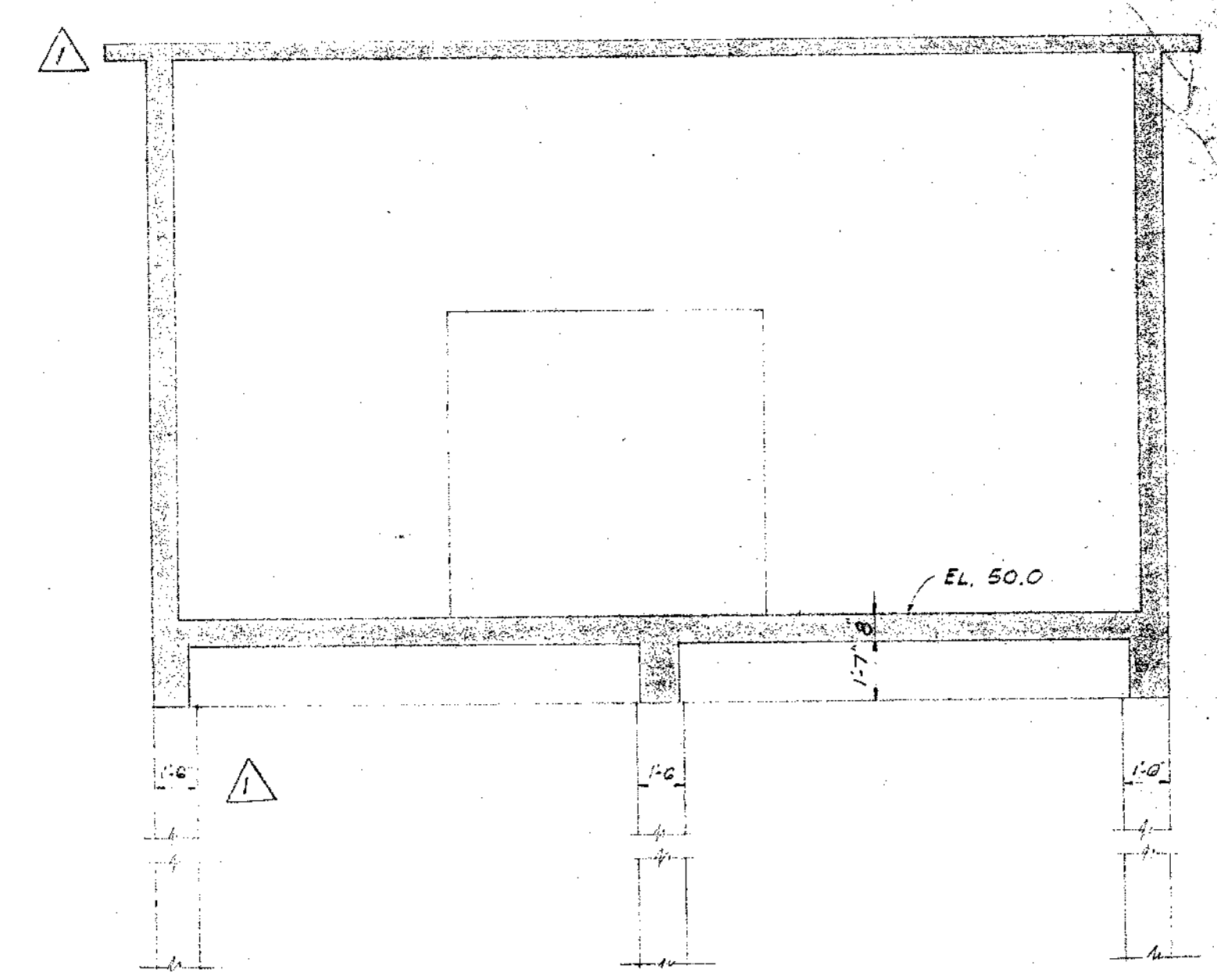
DATE	NO.	As Built	REVISION	BY
6-1-59				ATS
STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON				
OREGON CITY - WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD RAW WATER INTAKE STRUCTURE ARCHITECTURAL DETAILS				
DESIGNED J.M.H.	APPROVED BY <i>[Signature]</i>	SCALE NOTED		SHEET 61-2 OF 77
DRAWN J.M.H.	CHECKED L.K.H.	DATE 8-3-57	FILE 1160-3016	



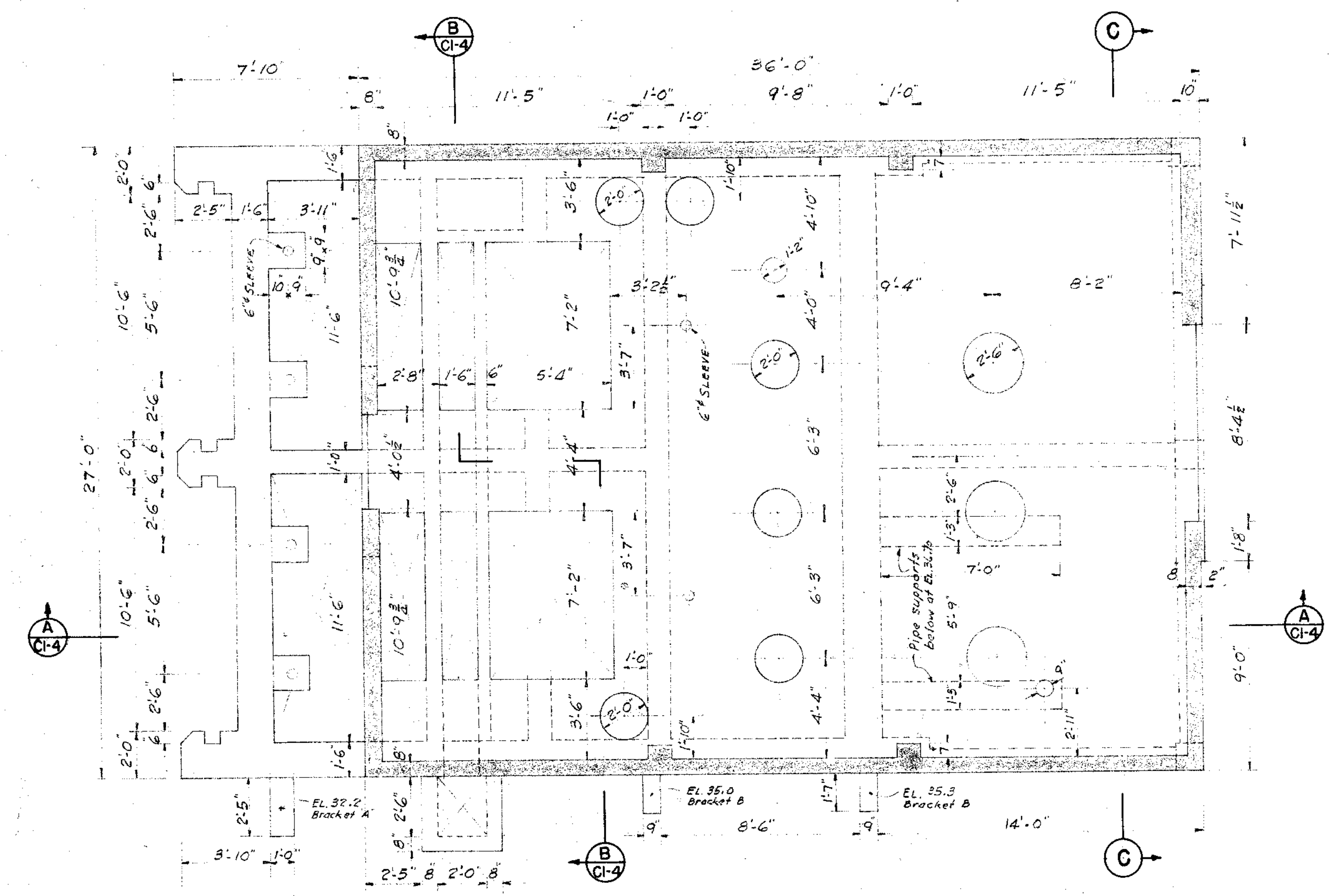
ROOF PLAN



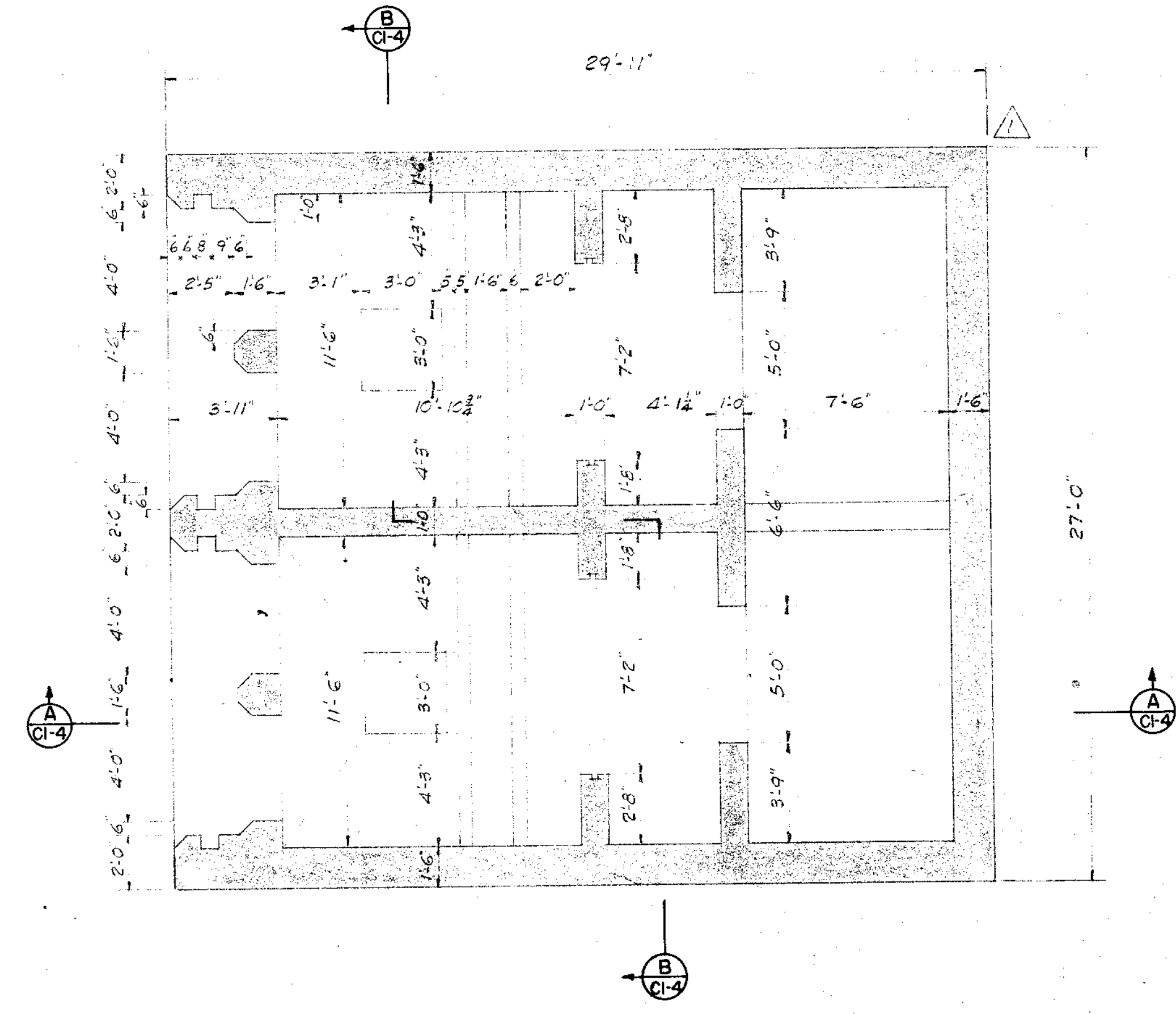
PART PLAN AT ELEV. 32.0



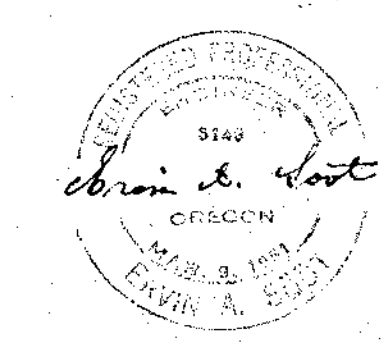
SECTION C-C



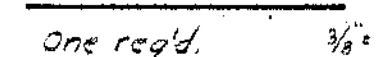
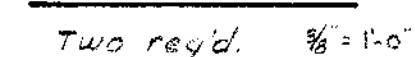
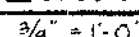
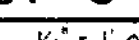
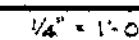
PUMP FLOOR PLAN

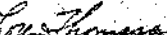


CAISSON FLOOR PLAN



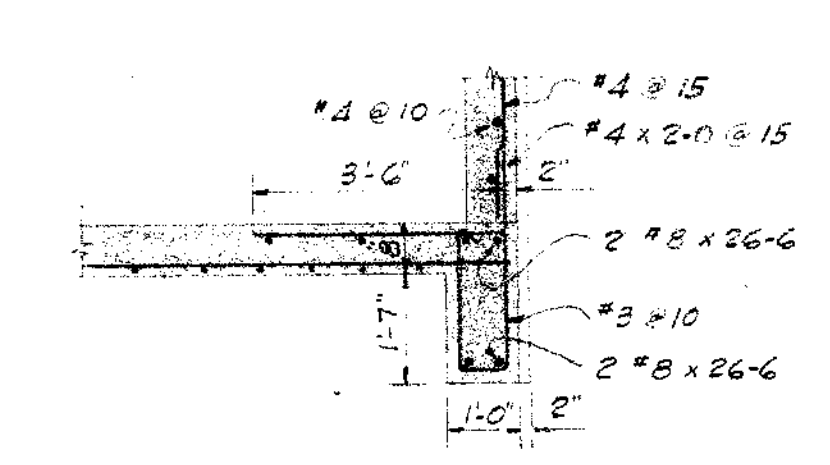
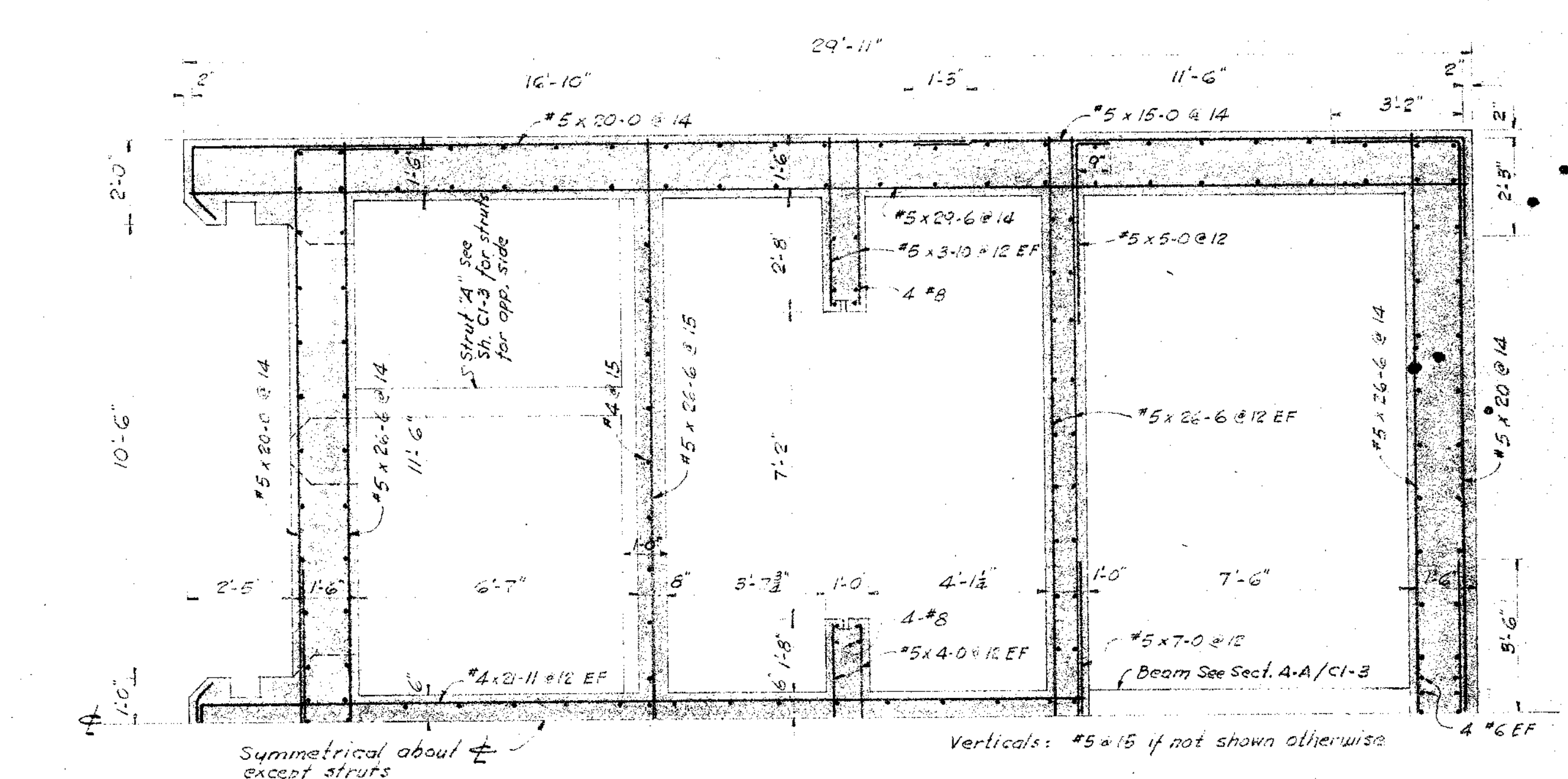
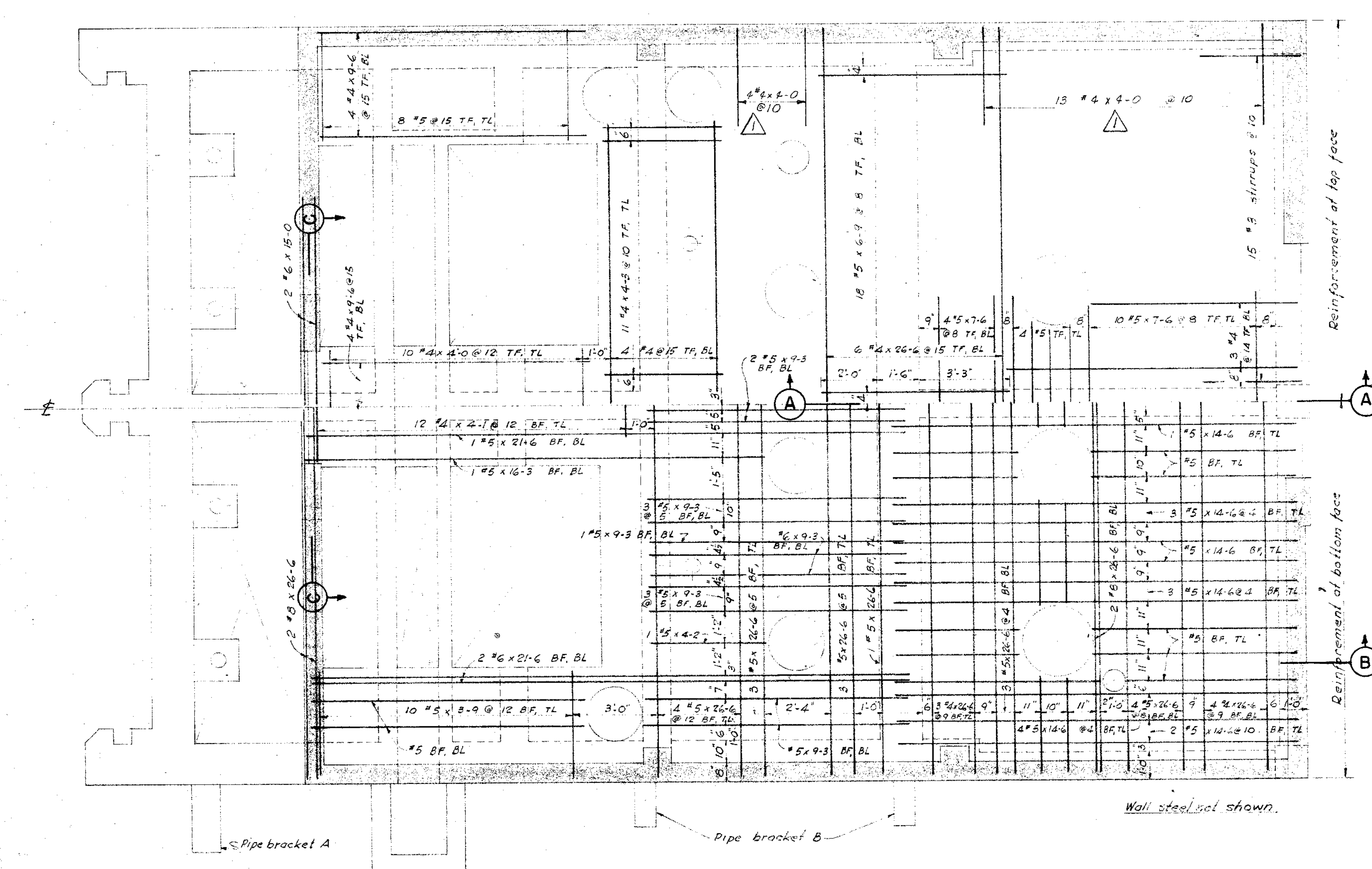
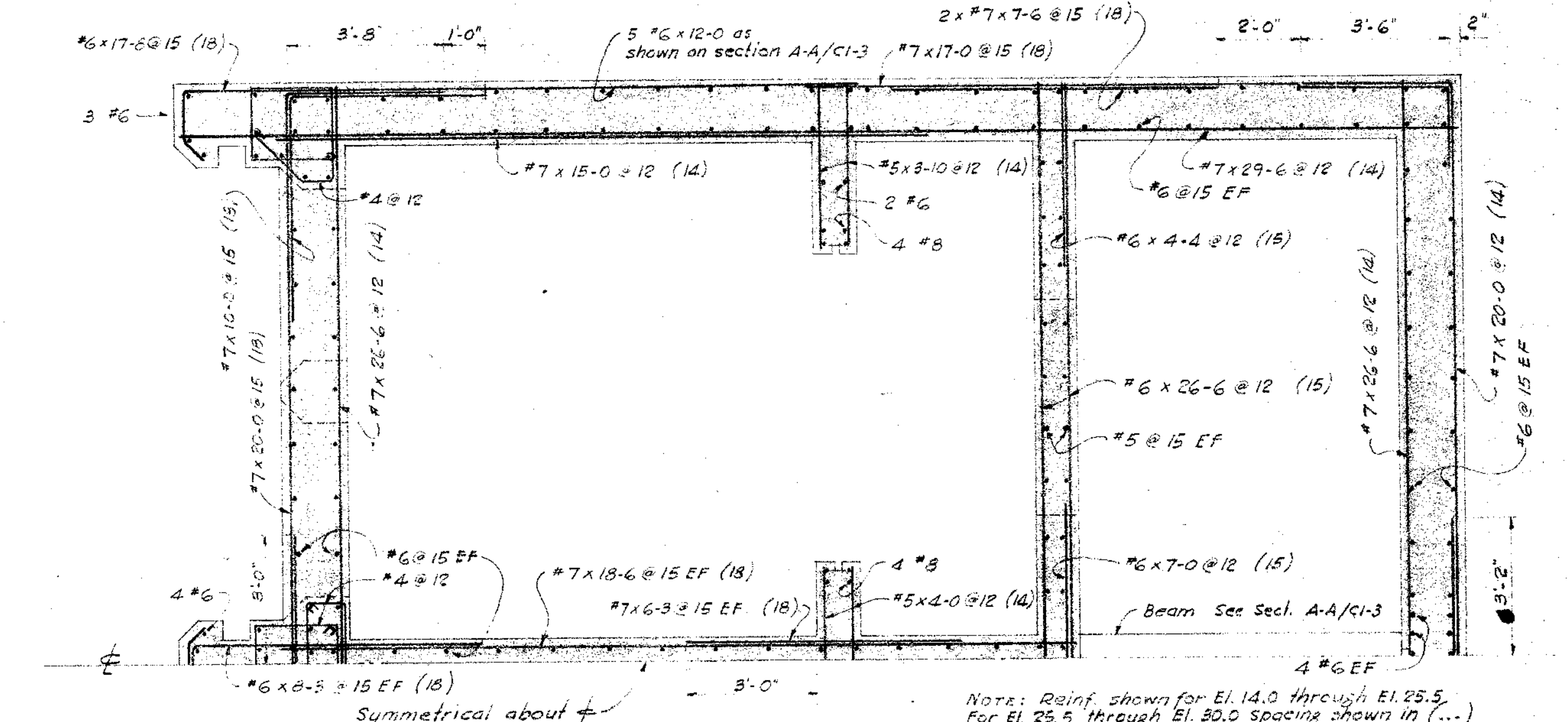
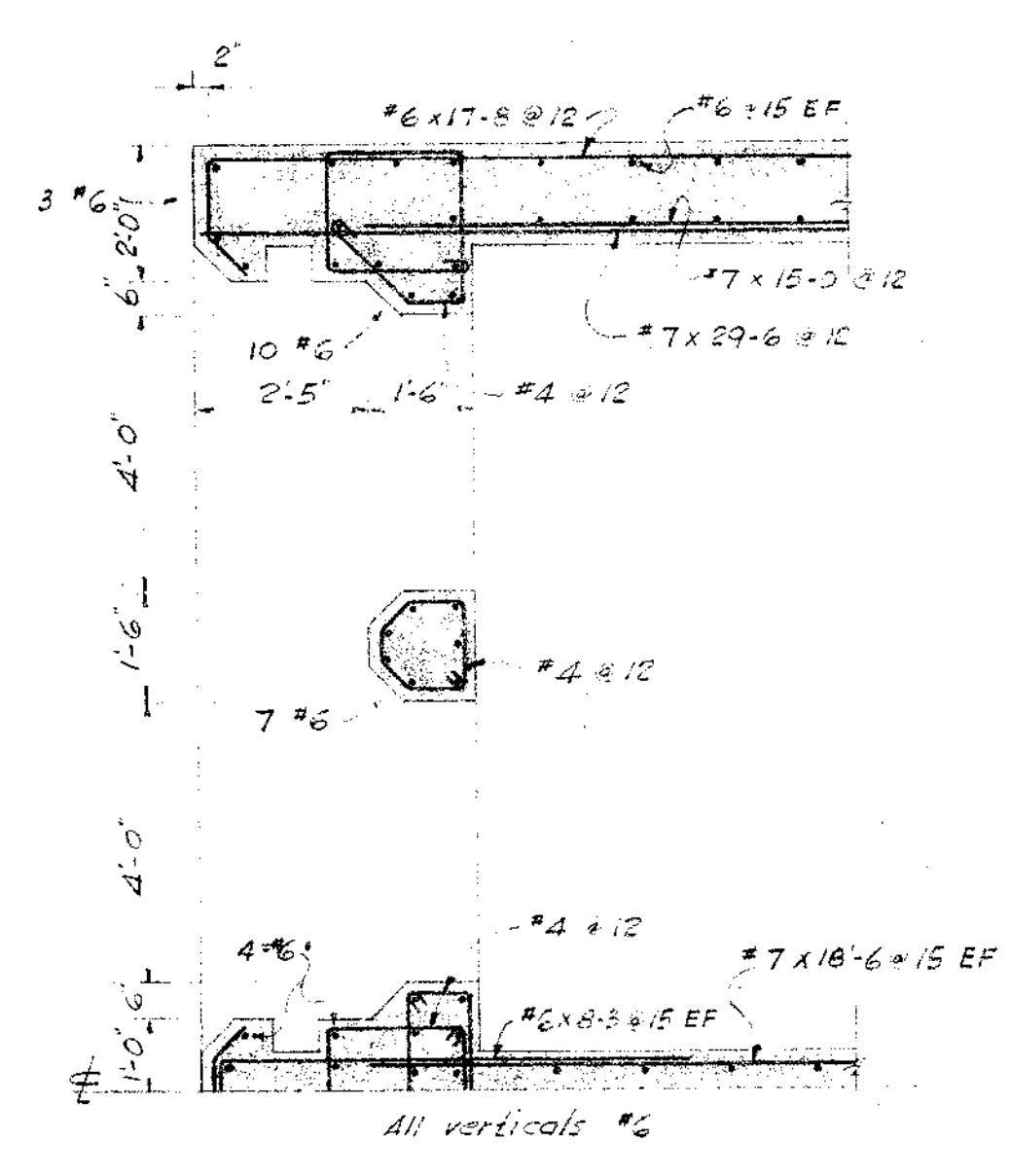
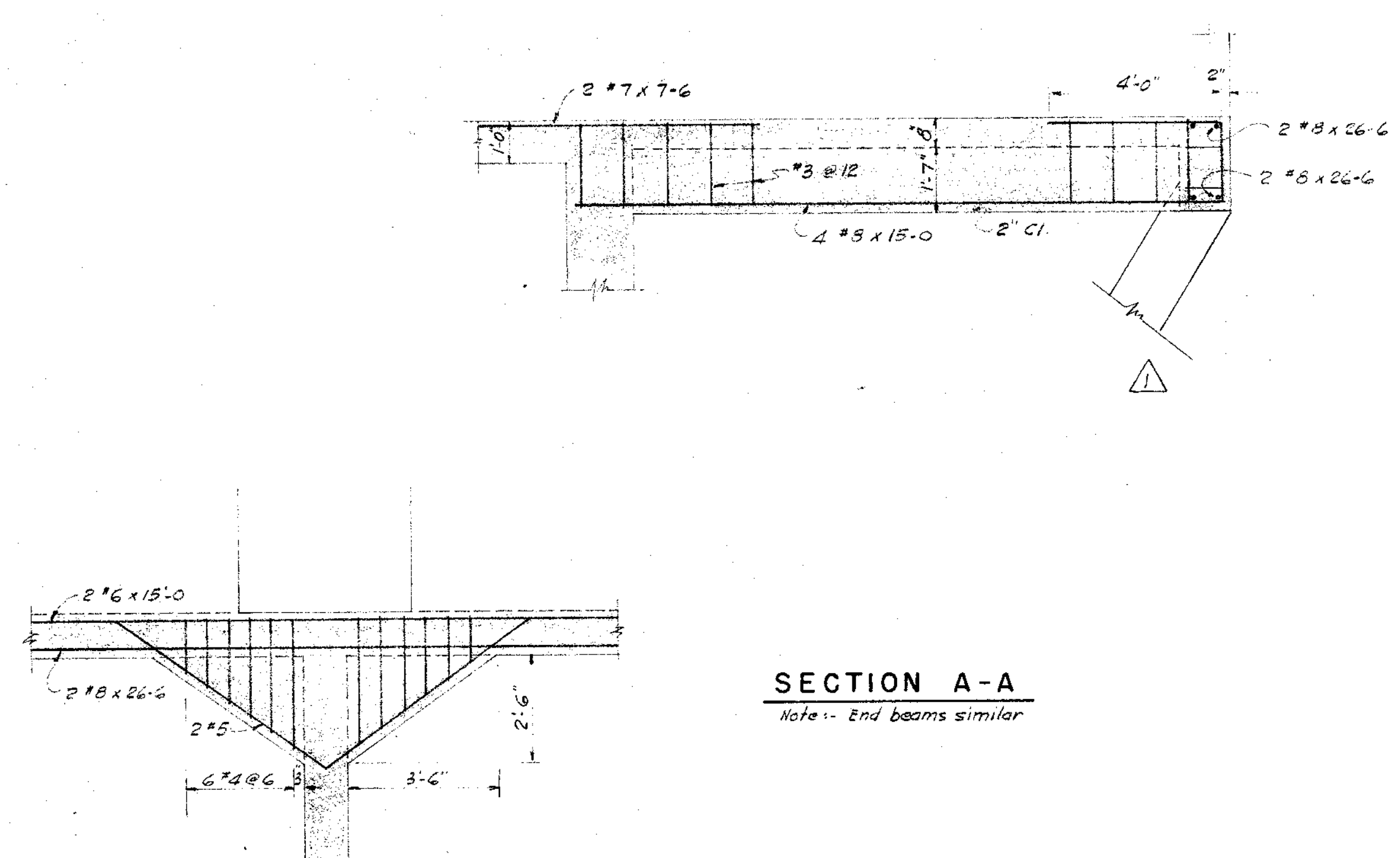
DATE	NO.	As Built	REVISION	BY
6/1/59				A.T.S.
STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON				
OREGON CITY - WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD RAW WATER INTAKE STRUCTURE CONCRETE OUTLINE - PLANS				
DESIGNED	EAS	APPROVED BY	SHEET 3 OF 77	
DRAWN	PLK	SCALE	1/2" = 1'-0"	
CHECKED	EAS	DATE	8-1-57	
		FILE	1160-5078	



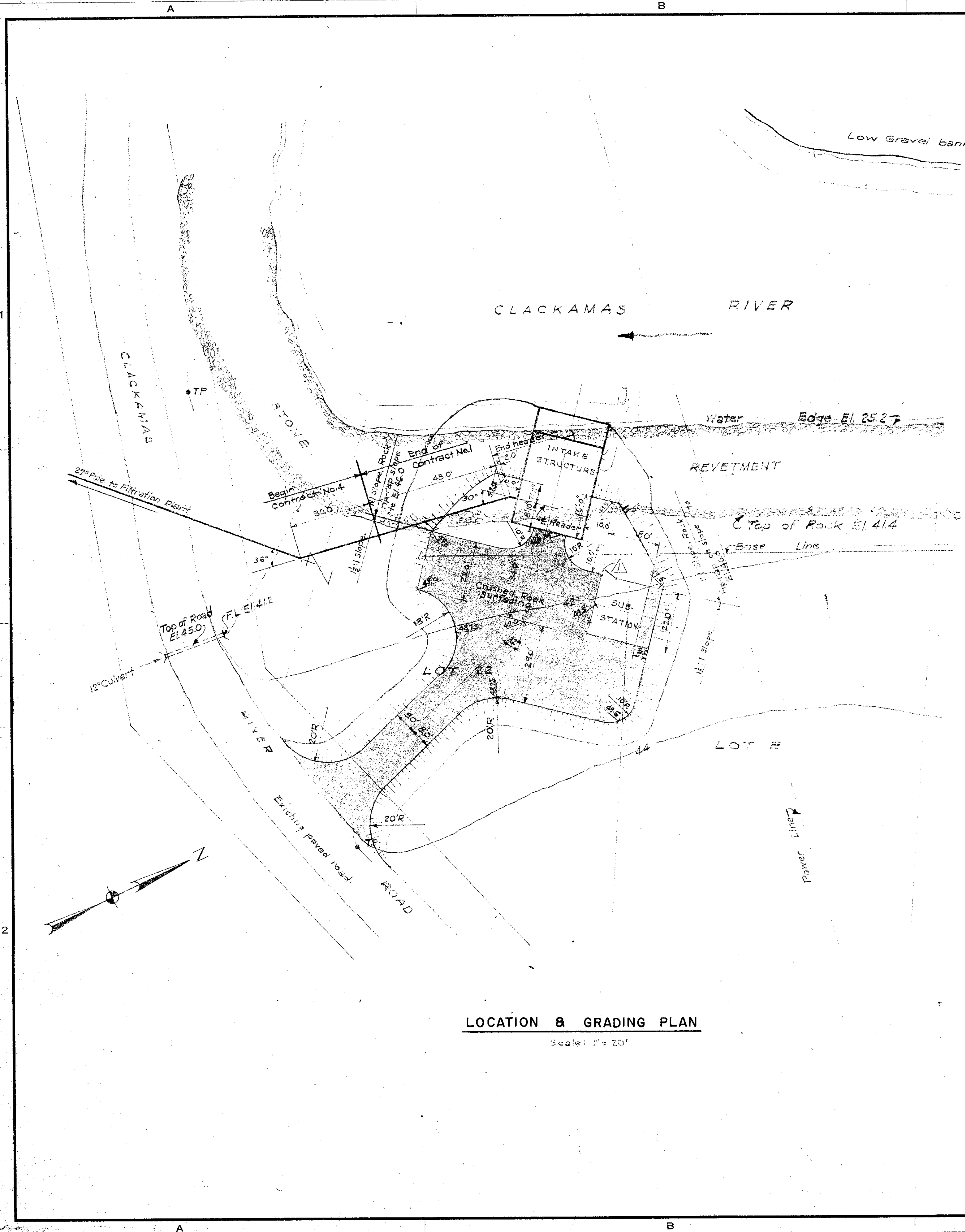
4-28-83		As Built	REVISION	DATE	BY
STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON			OREGON CITY - WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD RAW WATER INTAKE STRUCTURE CONCRETE OUTLINE SECTIONS & REINFORCEMENT DETAILS		
DESIGNED	EAS	APPROVED BY		SHEET	OF
DRAWN	PLK	SCALE	As noted	C1-4	
CHECKED	EAS	DATE	8-1-57	FILE	1180-38-80
				77	



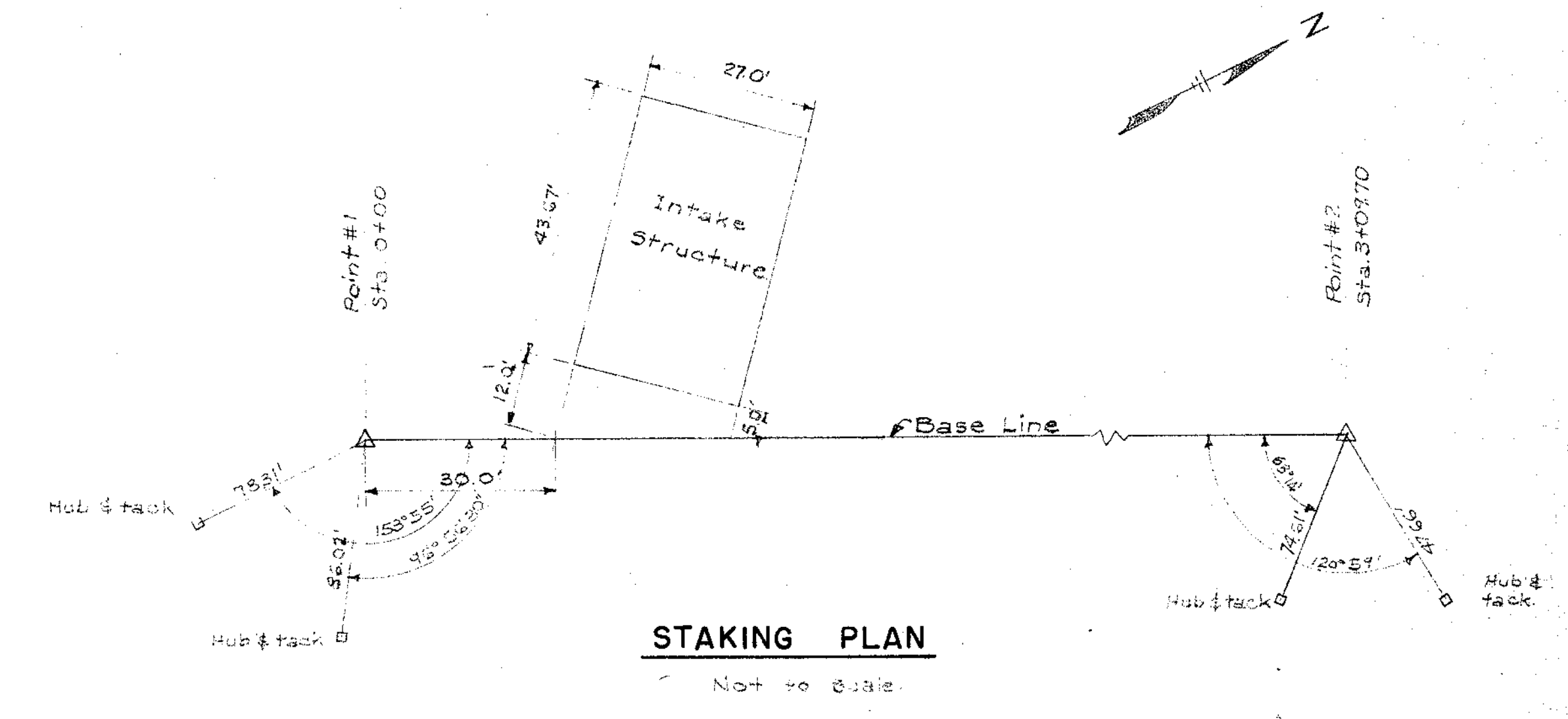
6-1-59		As Built		AT3	
DATE		NO.		BY	
STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON					
OREGON CITY — WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD <u>RAW WATER INTAKE STRUCTURE</u> ROOF REINFORCEMENT					
DESIGNED EAS		APPROVED BY <i>E. L. Thompson</i>		SHEET OF	
DRAWN PLK		SCALE As Noted		C1-5	
CHECKED EAS		DATE 8-1-57		FILE J60-2081	
				77	



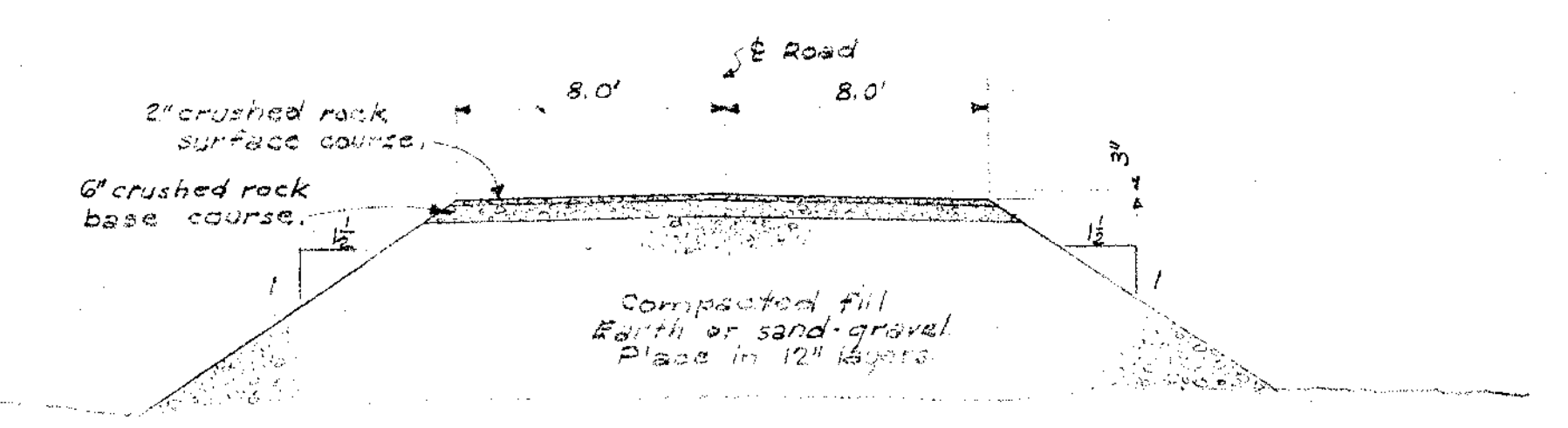
5-2959 As Built		DATE		NO.		REVISION		BY	
STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND, OREGON									
OREGON CITY - WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD RAW WATER INTAKE STRUCTURE REINFORCEMENT DETAILS									
DESIGNED	EAS	APPROVED BY	[Signature]			SHEET	OF		
DRAWN	PLK	SCALE	3/8" = 1'-0"			C1-6	77		
CHECKED	EAS	DATE	8-1-57			FILE	1160-3082		



LOCATION & GRADING PLAN
Scale: 1" = 20'



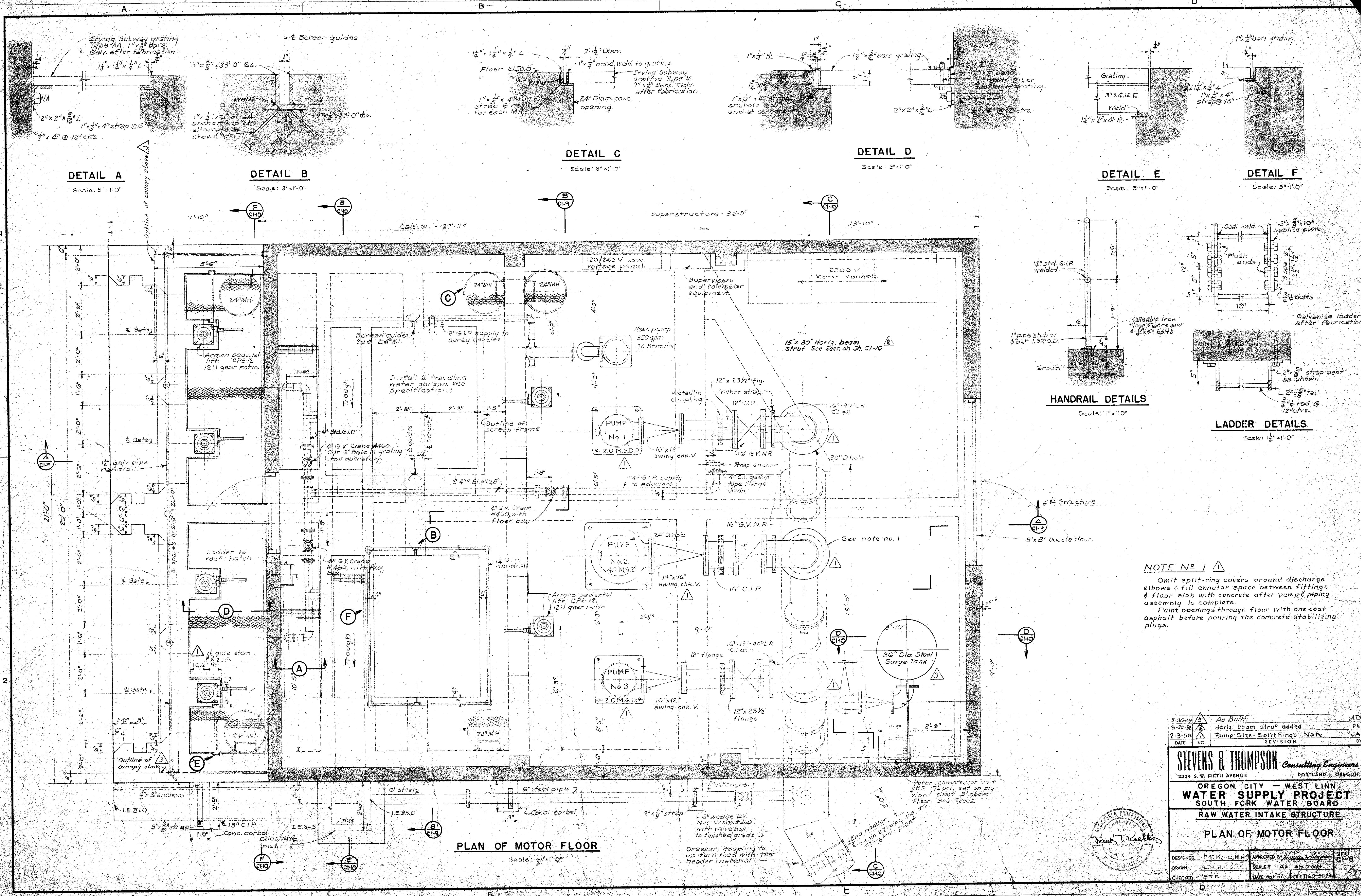
- NOTES:
- 1- Surface course rock is 2" minus.
 - 2- Base rock is 2 1/2" minus.
 - 3- Paved area rock in two layers and roll each layer thoroughly. Surface course must be rolled.
 - 4- The crushed rock surfacing shall be used in all the shaded area shown in Location and Grading Plan.



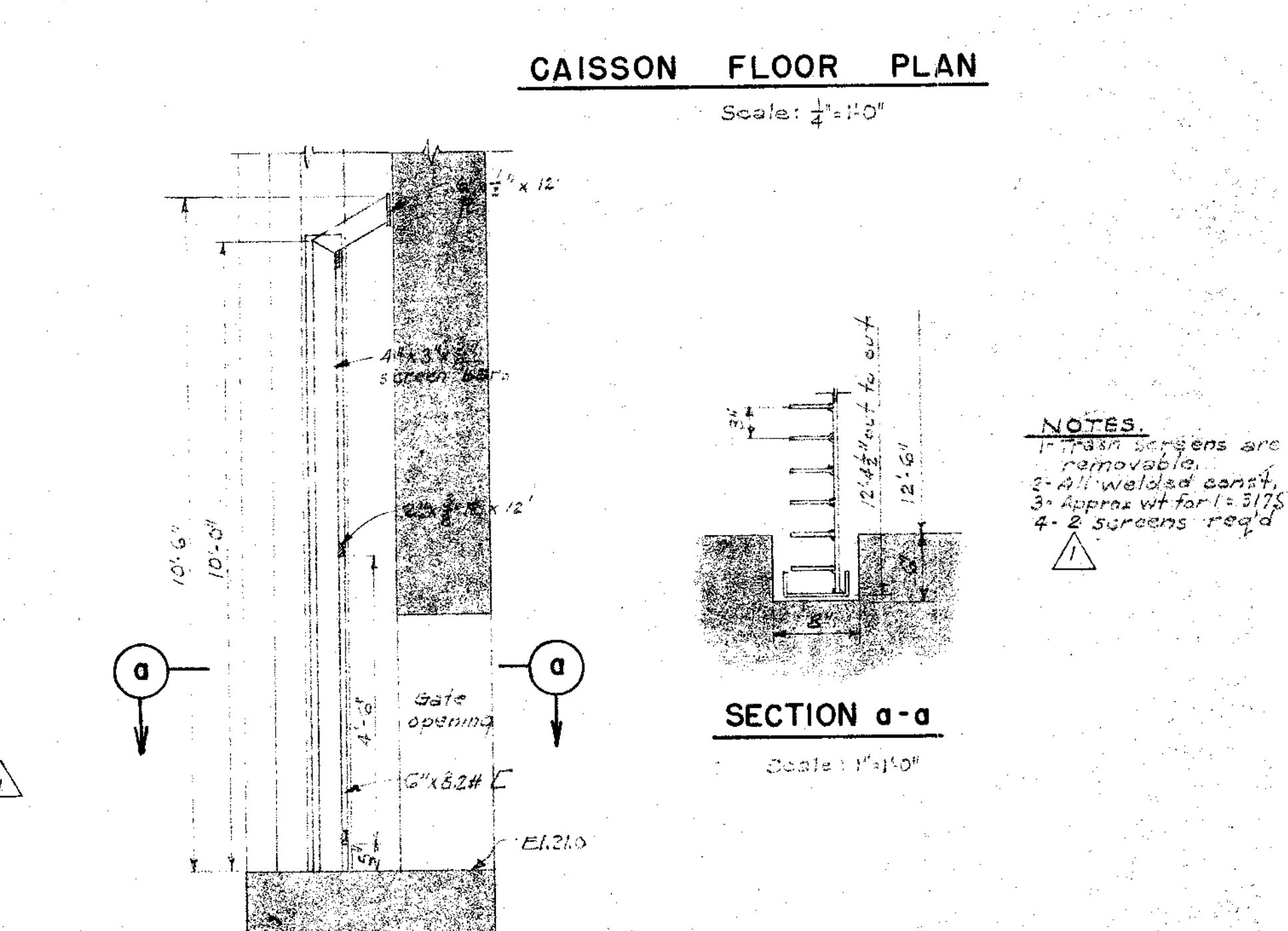
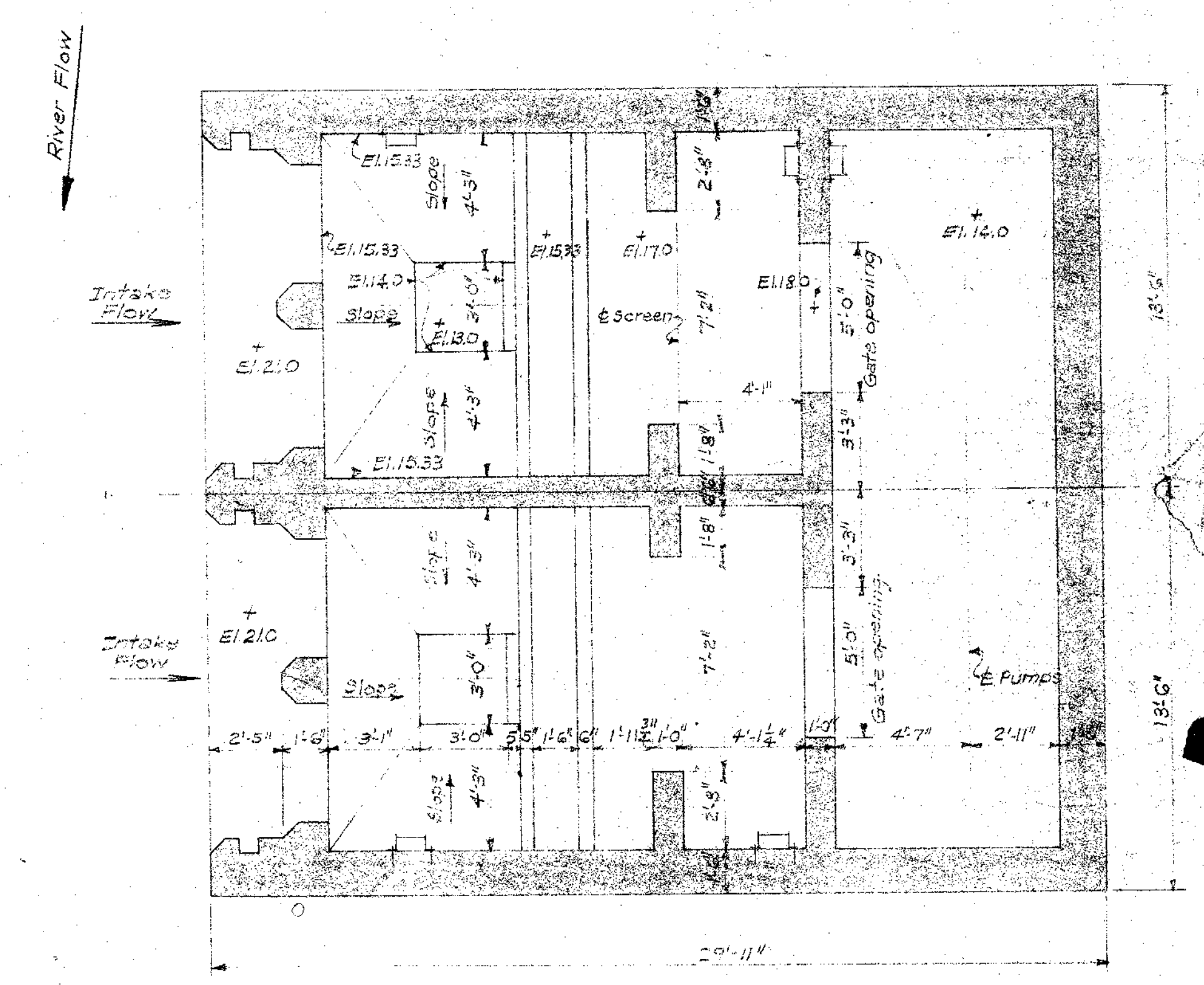
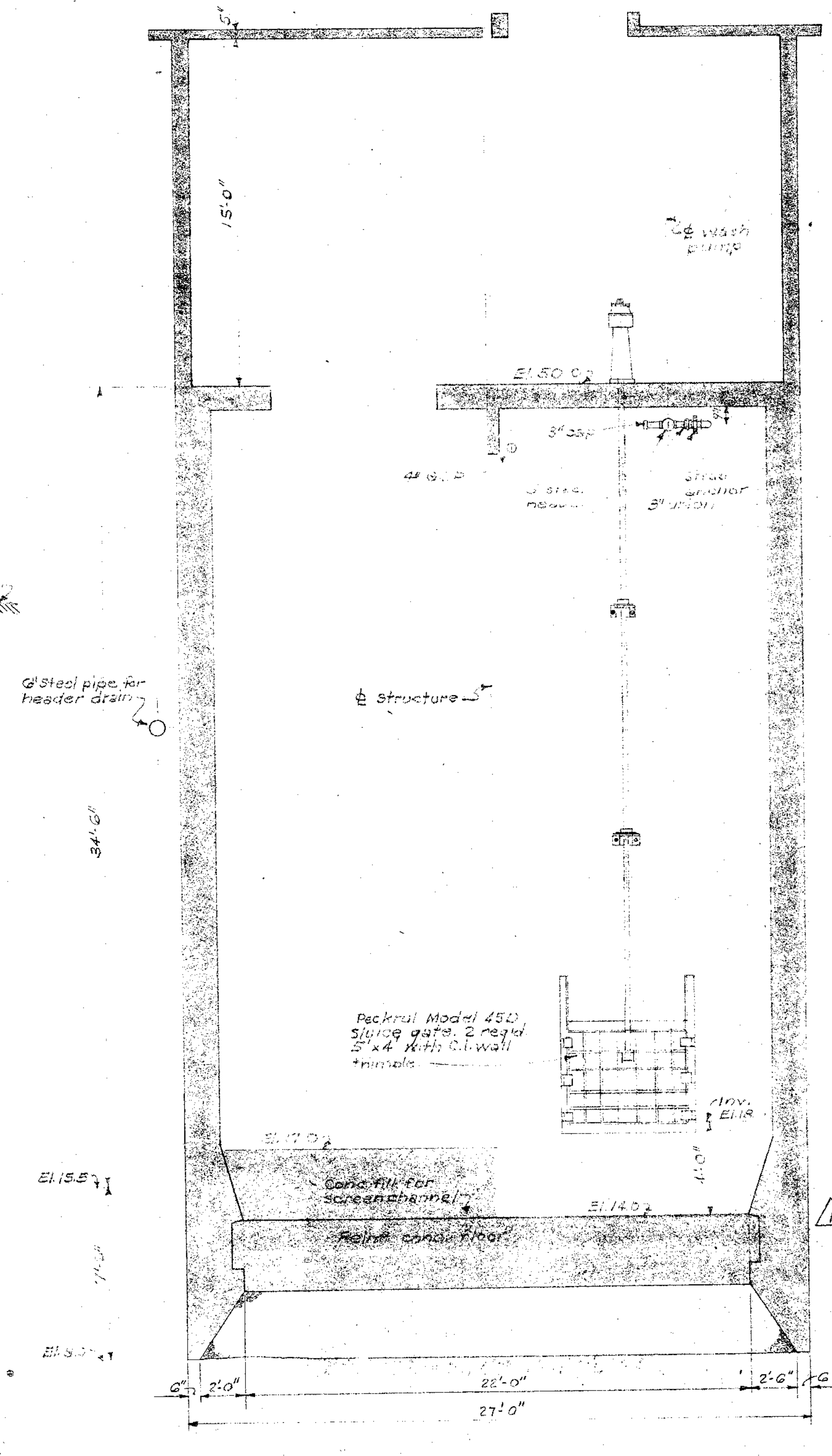
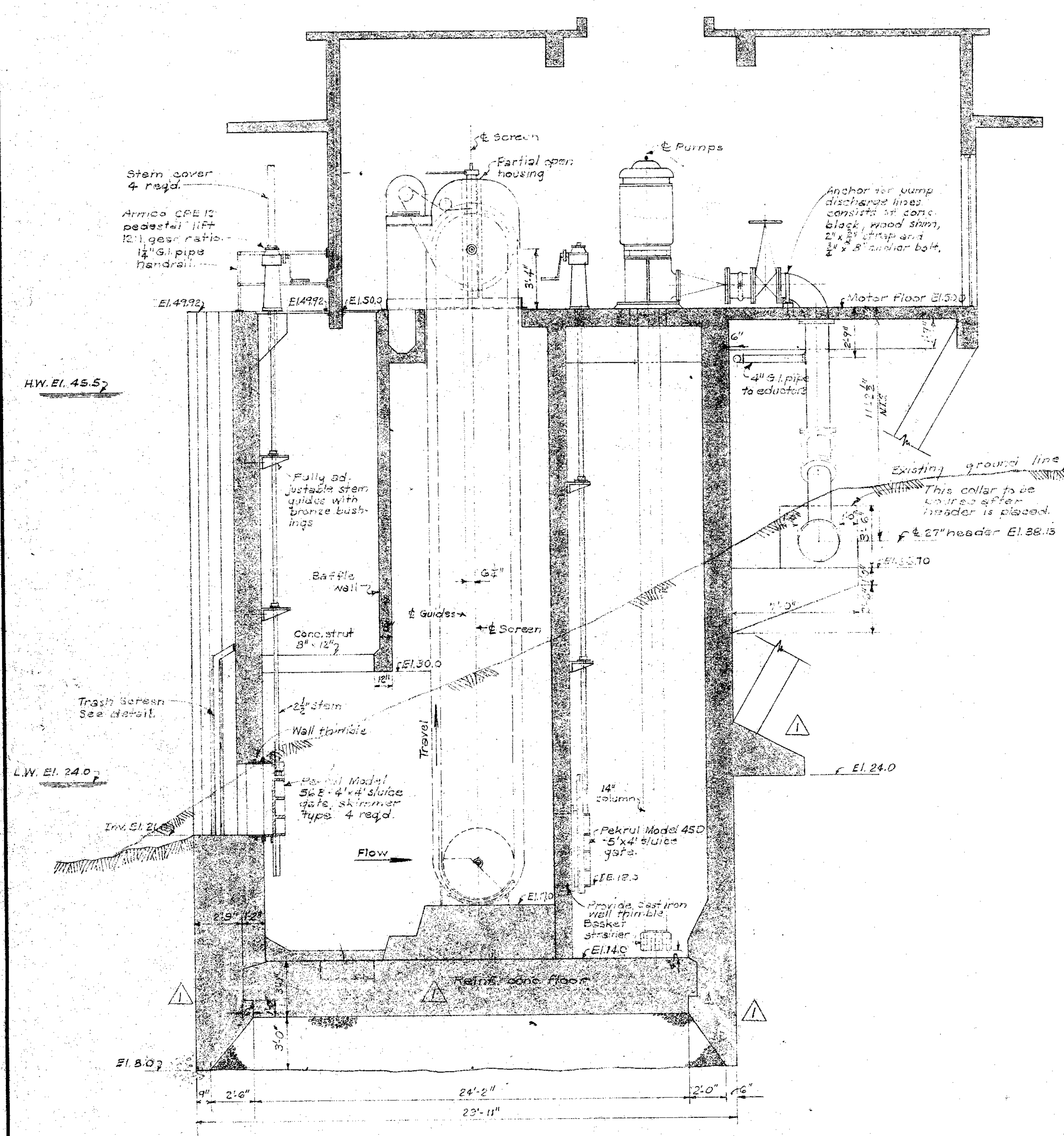
TYPICAL CROSS-SECTION OF ACCESS ROAD
Not to Scale.

DATE	NO.	As Built	REVISION	BY
6-1-59				ATS
STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON				
OREGON CITY — WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD				
RAW WATER INTAKE STRUCTURE				
LOCATION & GRADING PLAN				
DESIGNED	FTK. LKH.	APPROVED BY	SHEET OF	
DRAWN	LKH.	SCALE	AS SHOWN	CI-7
CHECKED	FTK.	DATE	6-1-59	FILE NO. 3085

MEYER



5-30-59	3	As Built	ATZ
6-20-59	4	Horiz. beam strut added	PLK
2-3-59	5	Pump Size Split Rings - Note	JAS
DATE	NO.	REVISION	BY
STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON			
OREGON CITY - WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD RAW WATER INTAKE STRUCTURE PLAN OF MOTOR FLOOR			
DESIGNED	P.T.K. L.R.H.	APPROVED BY	W. H. Thompson
DRAWN	L.R.H.	SCALE	AS SHOWN
CHECKED	E.T.K.	DATE	6-1-57
		PROJECT NO.	3082
		SHEET	OF 77



NOTES

1. Trash screens are removable.
2. All welded joints.
3. Approx. wt for 1: 3175 lbs.
4. 2 screens req'd.

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

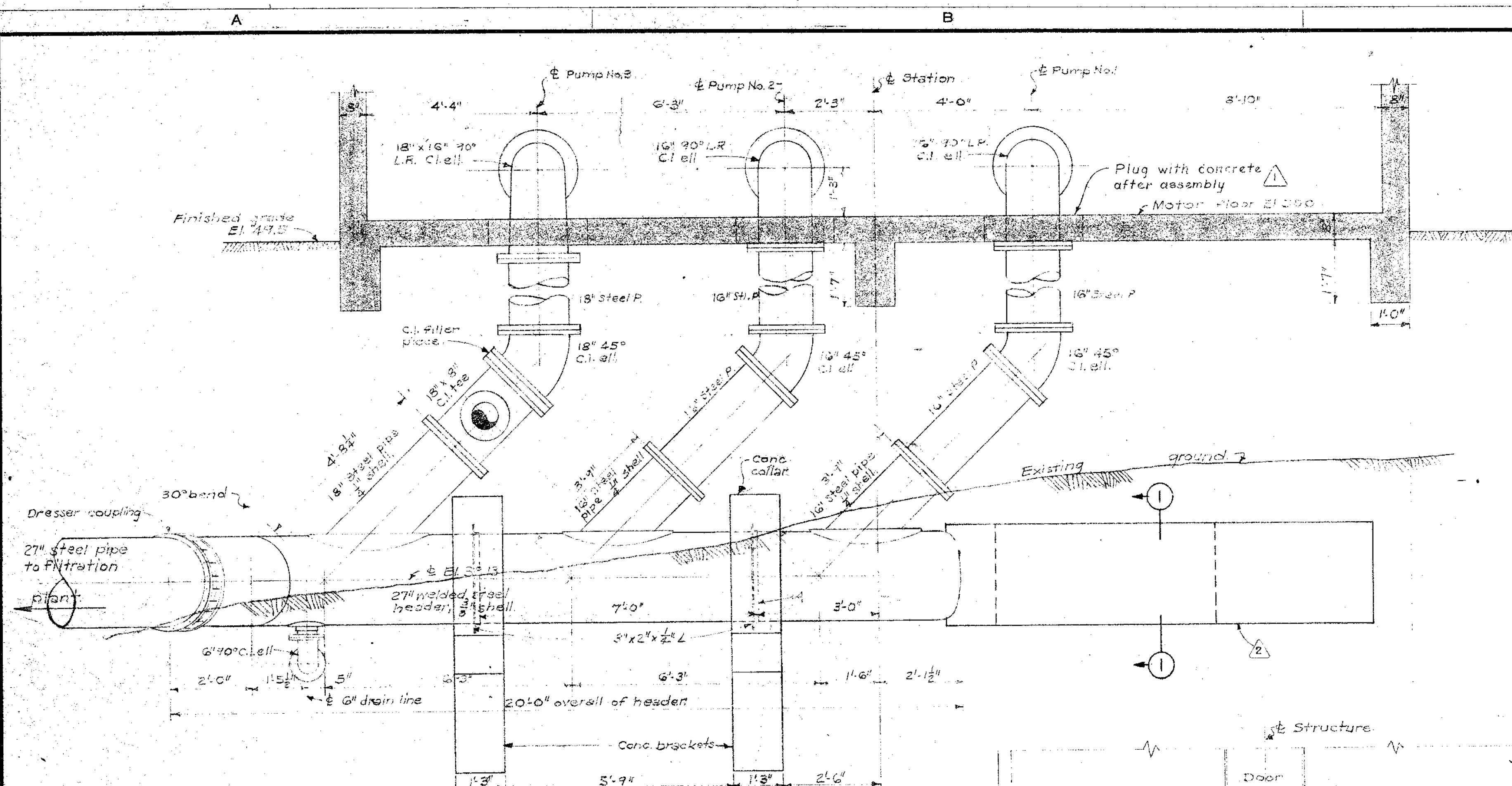
52559	As Built	AT
DATE	NO.	BY
REVISION		

STEVENS & THOMPSON Consulting Engineers
2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON

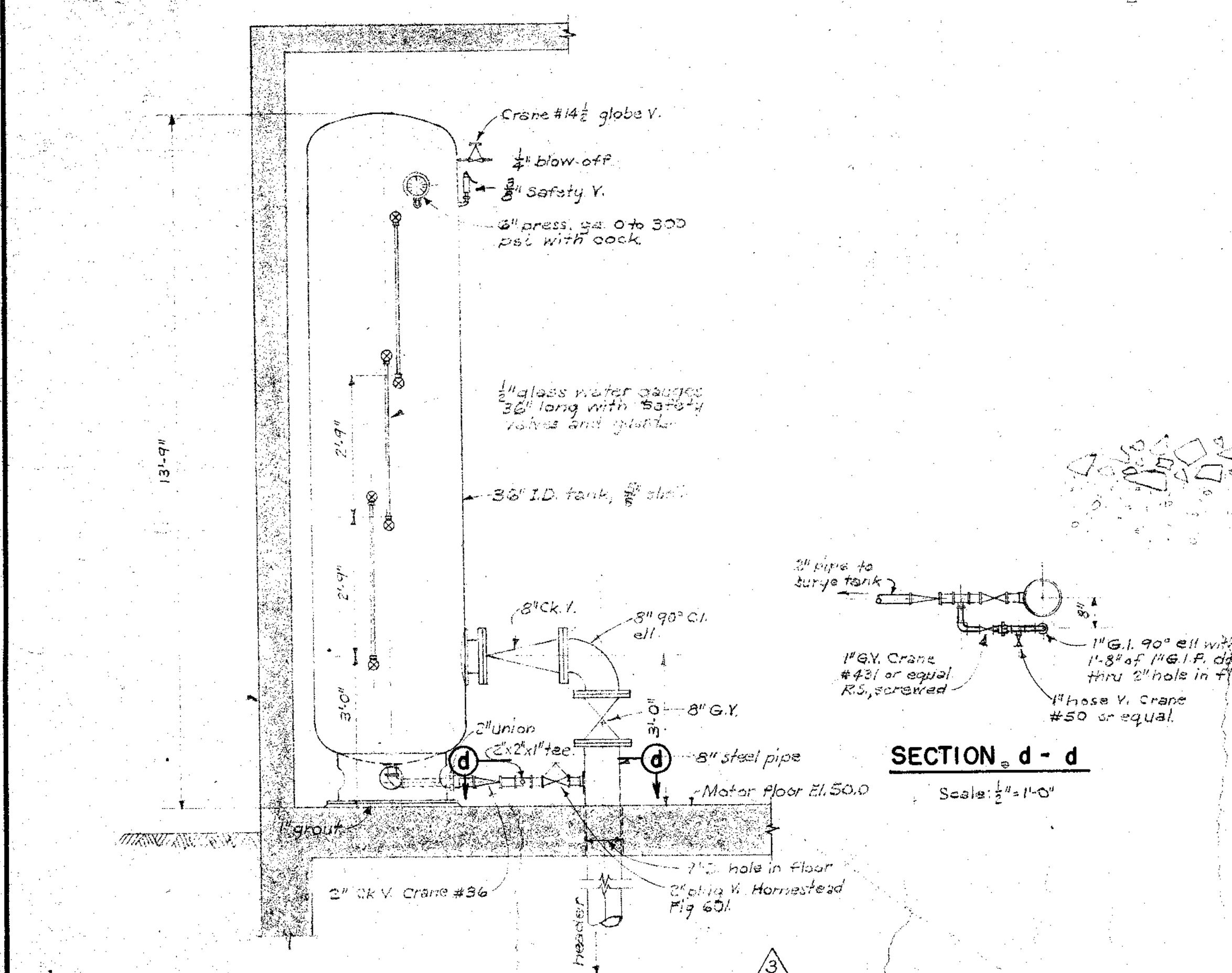
OREGON CITY - WEST LINN
WATER SUPPLY PROJECT
SOUTH FORK WATER BOARD
RAW WATER INTAKE STRUCTURE

CROSS SECTIONS

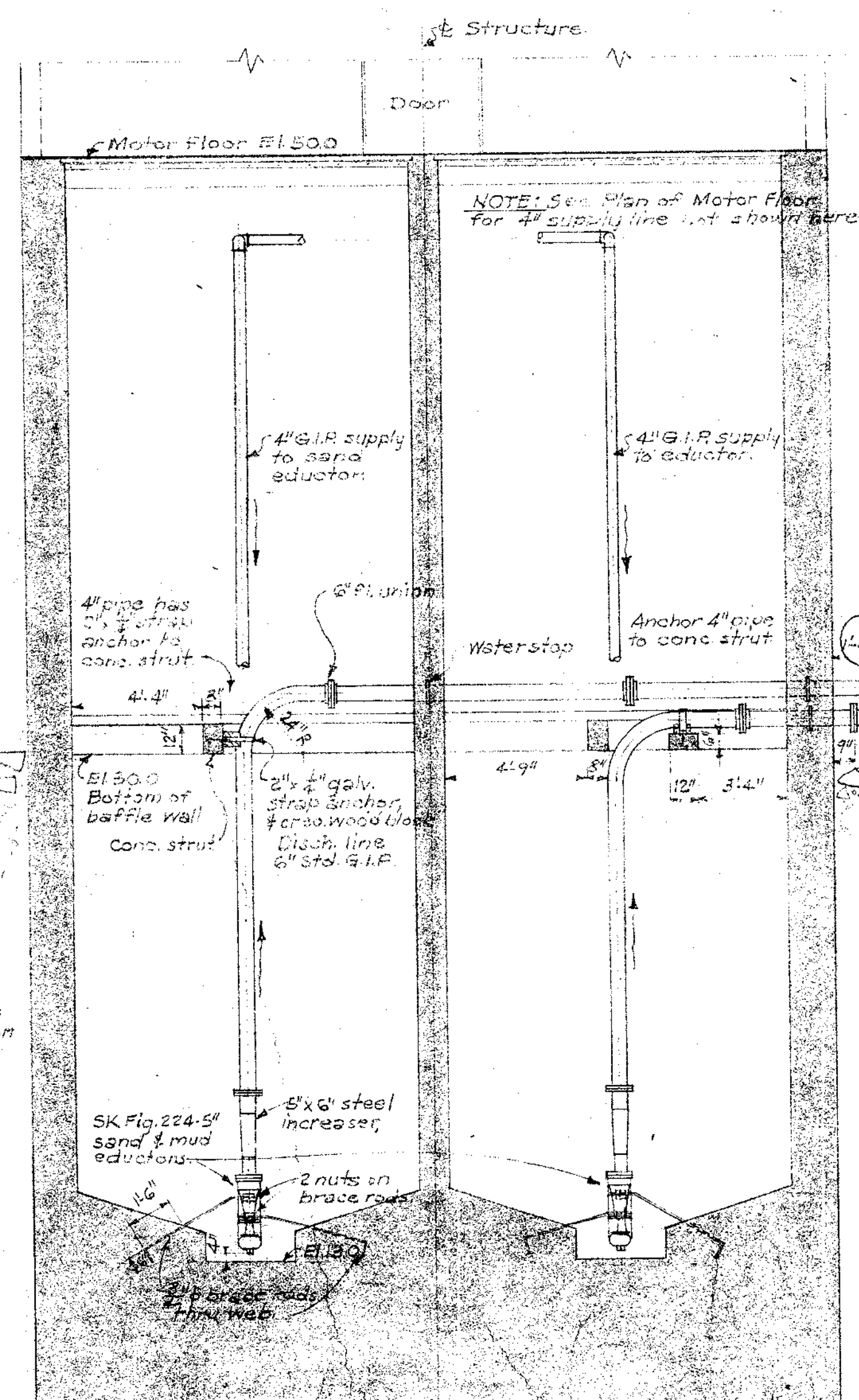
DESIGNED: F.T.K. L.K.H.	APPROVED BY: [Signature]	SHEET OF
DRAWN: L.K.H.	SCALE: AS SHOWN	C1-9
CHECKED: F.T.K.	DATE: 12-1-57	77



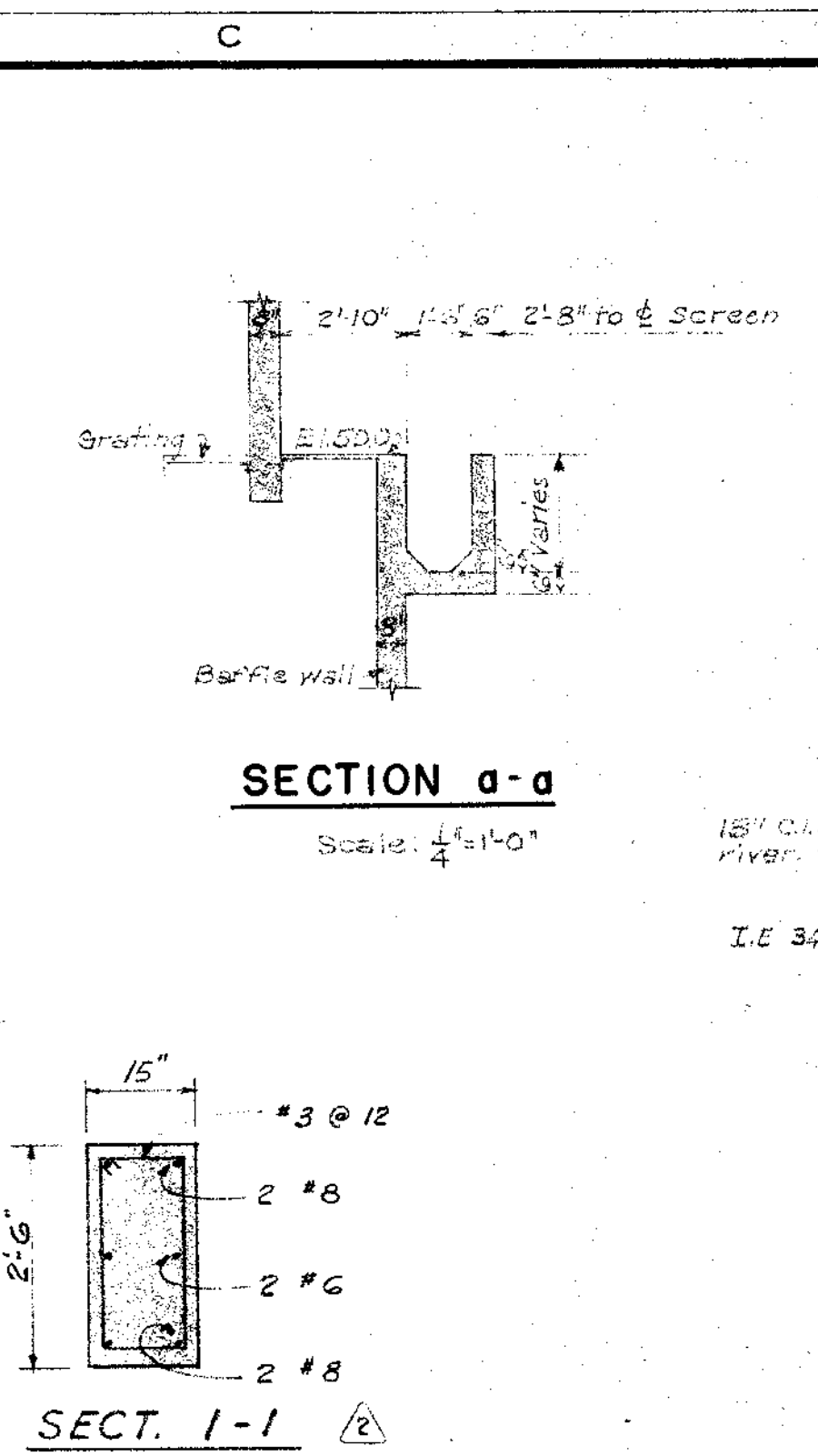
SECTION C-C
Scale: 1/2"=1'-0"



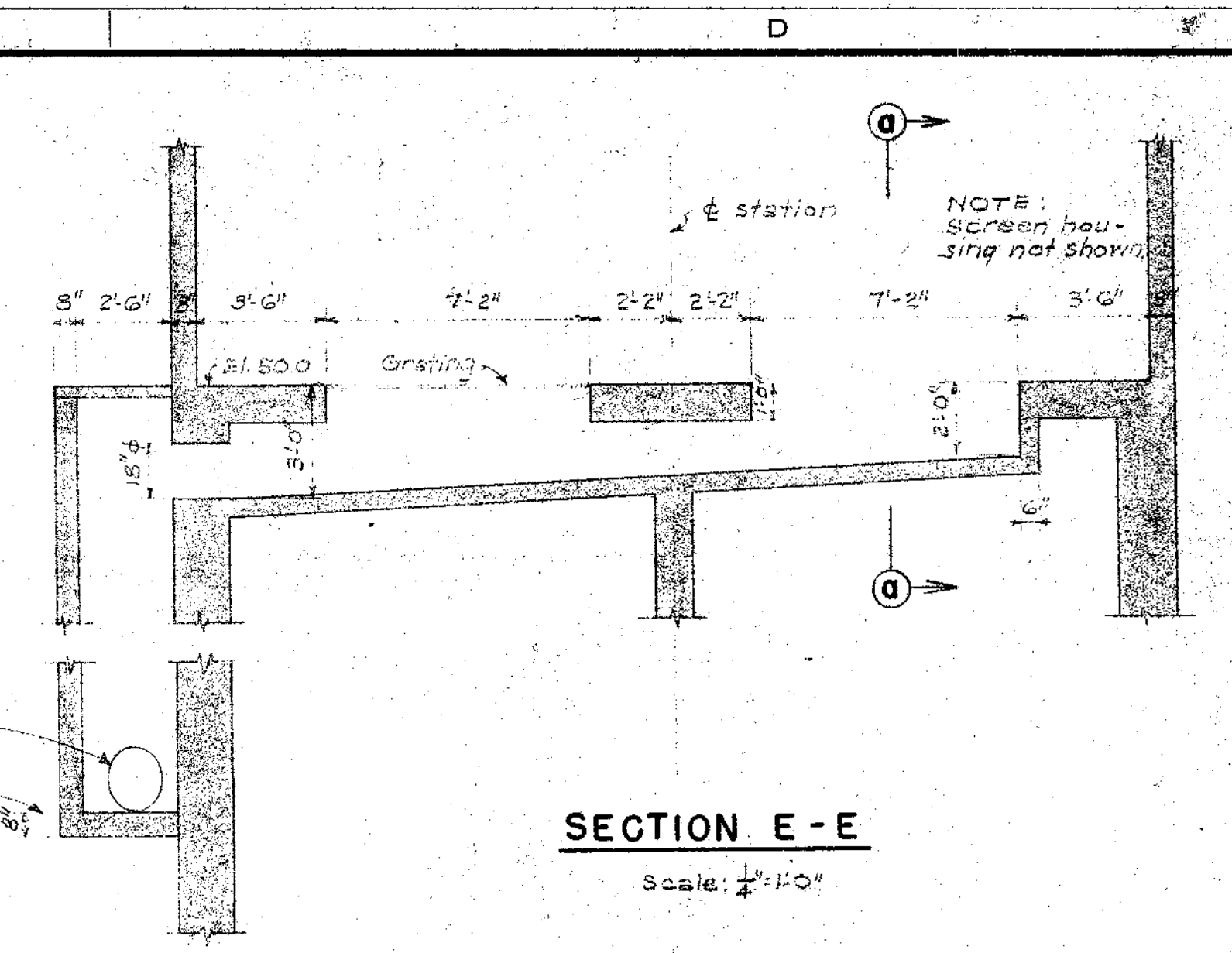
SECTION D-D
Scale: 1/2"=1'-0"



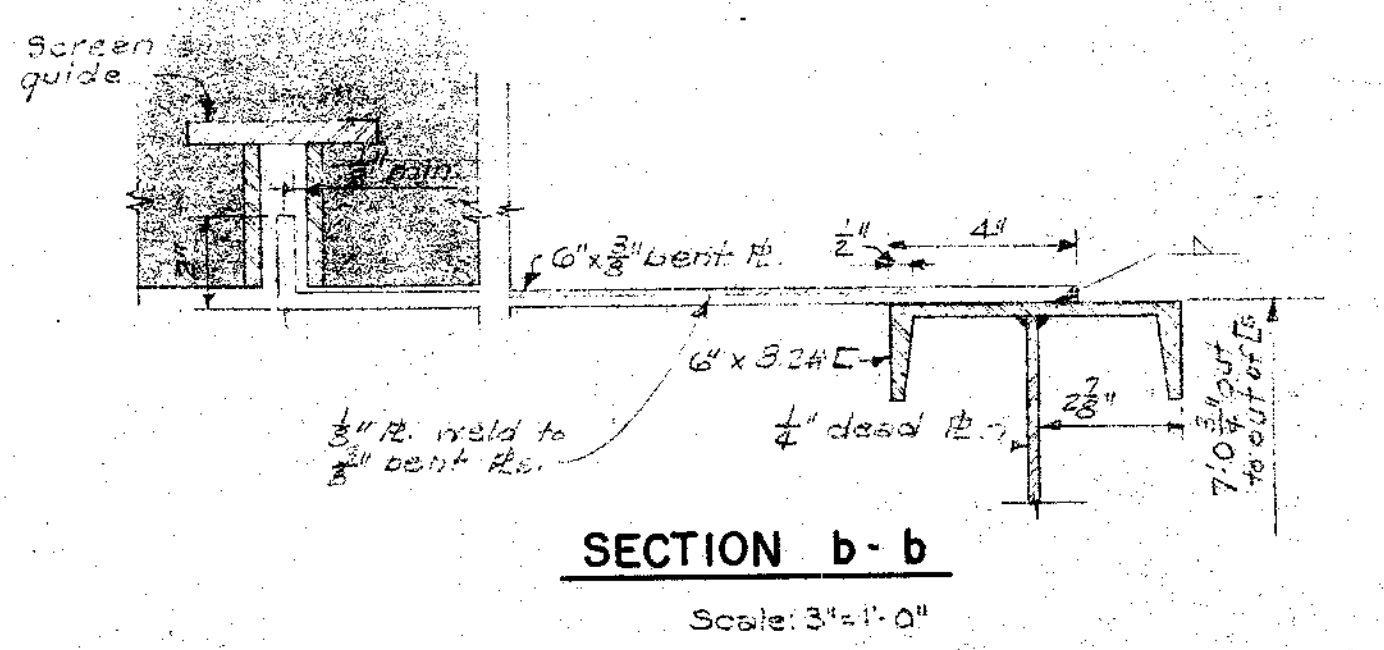
SECTION F-F
Scale: 1/2"=1'-0"



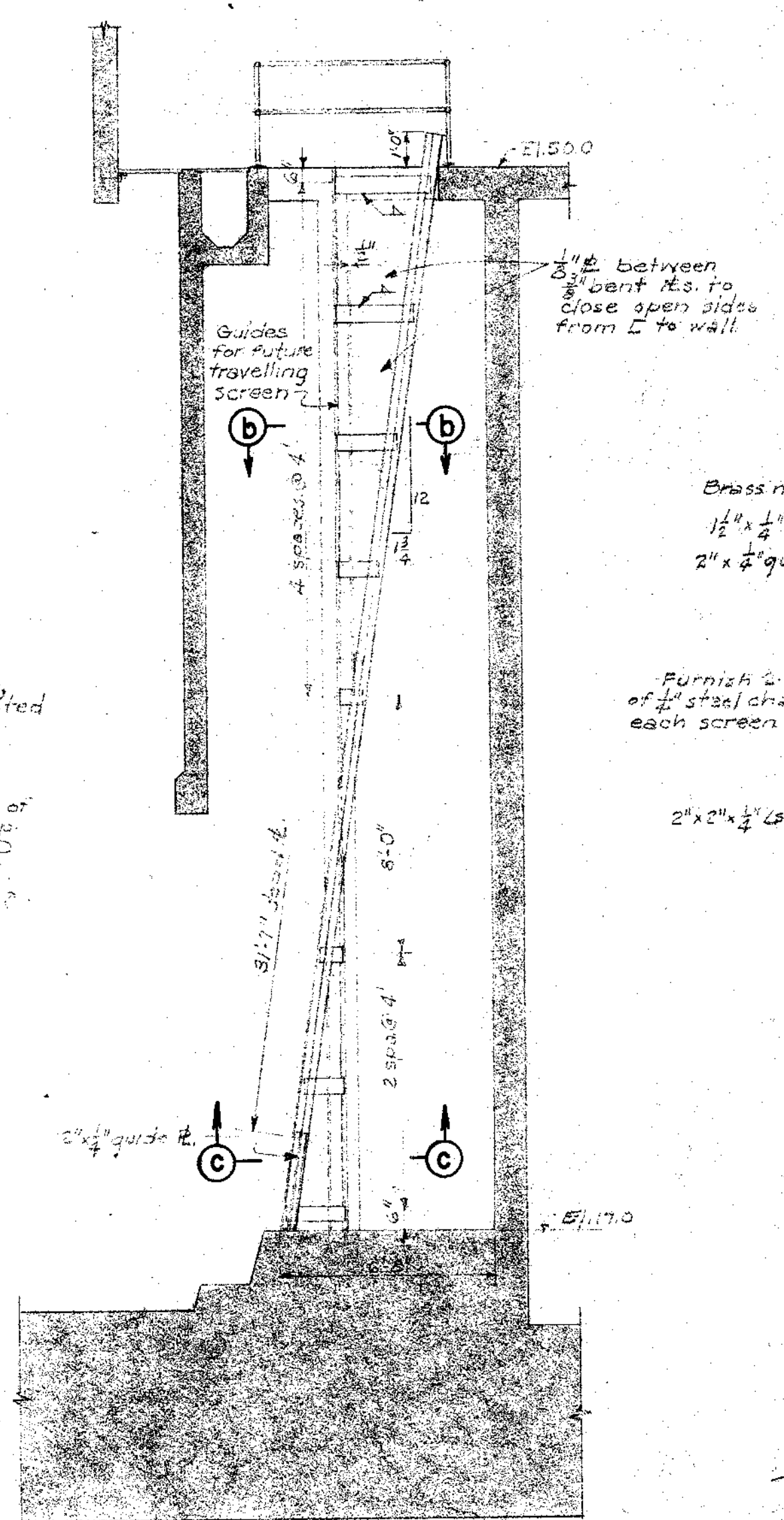
SECTION 1-1



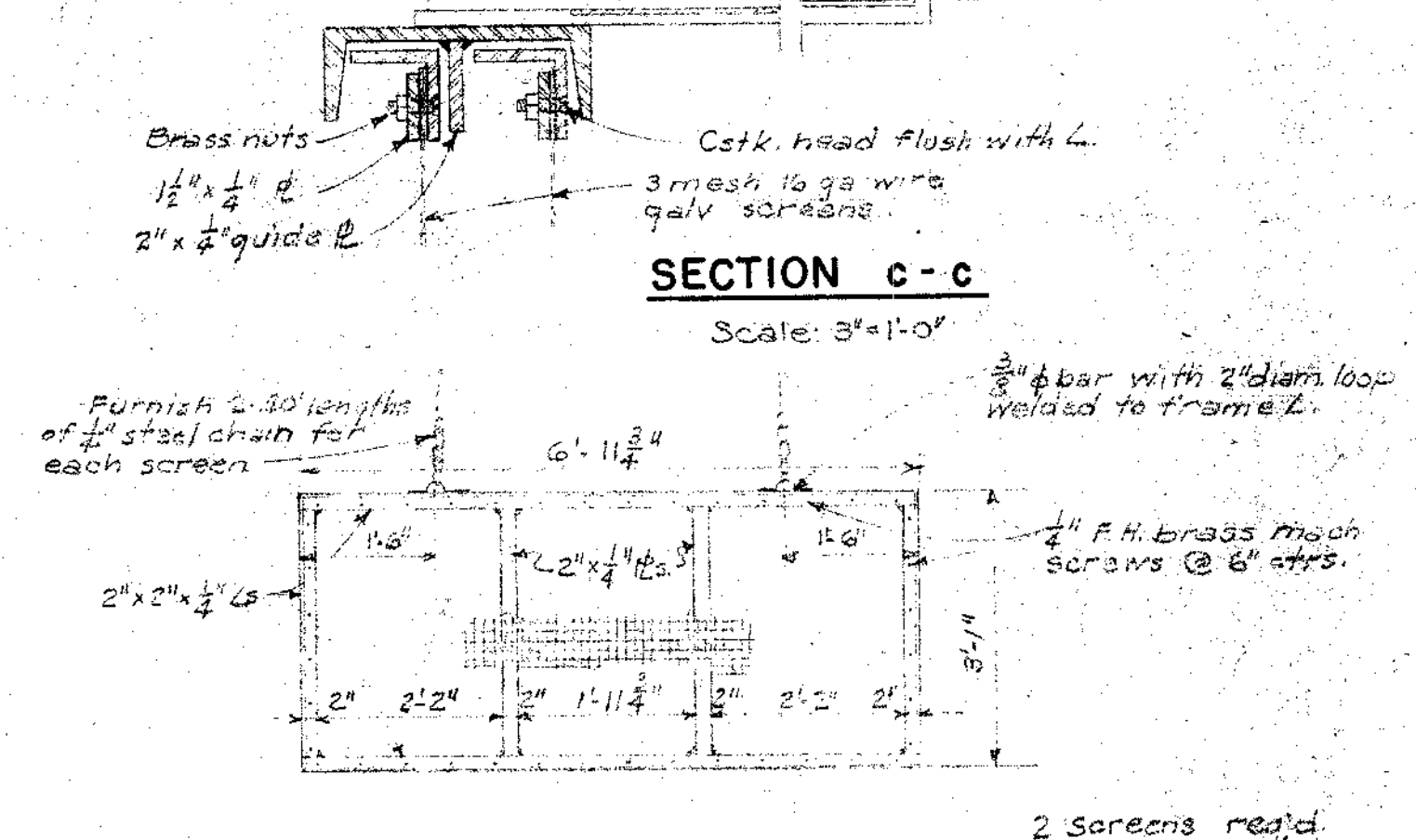
SECTION E-E
Scale: 1/2"=1'-0"



SECTION b-b
Scale: 3/4"=1'-0"



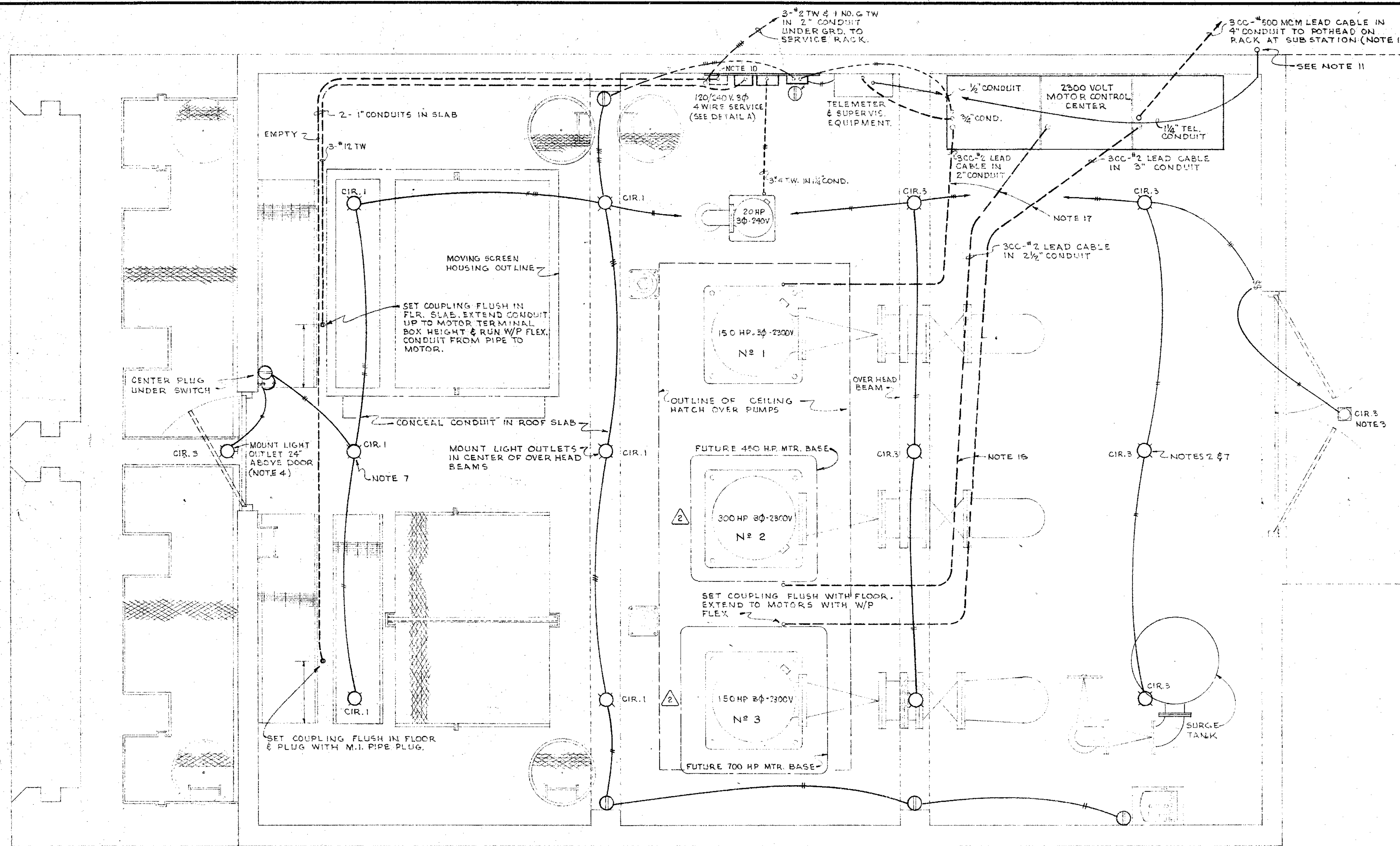
SECTION OF SCREEN PIT
Scale: 1/2"=1'-0"
DETAILS OF EMERGENCY SCREEN



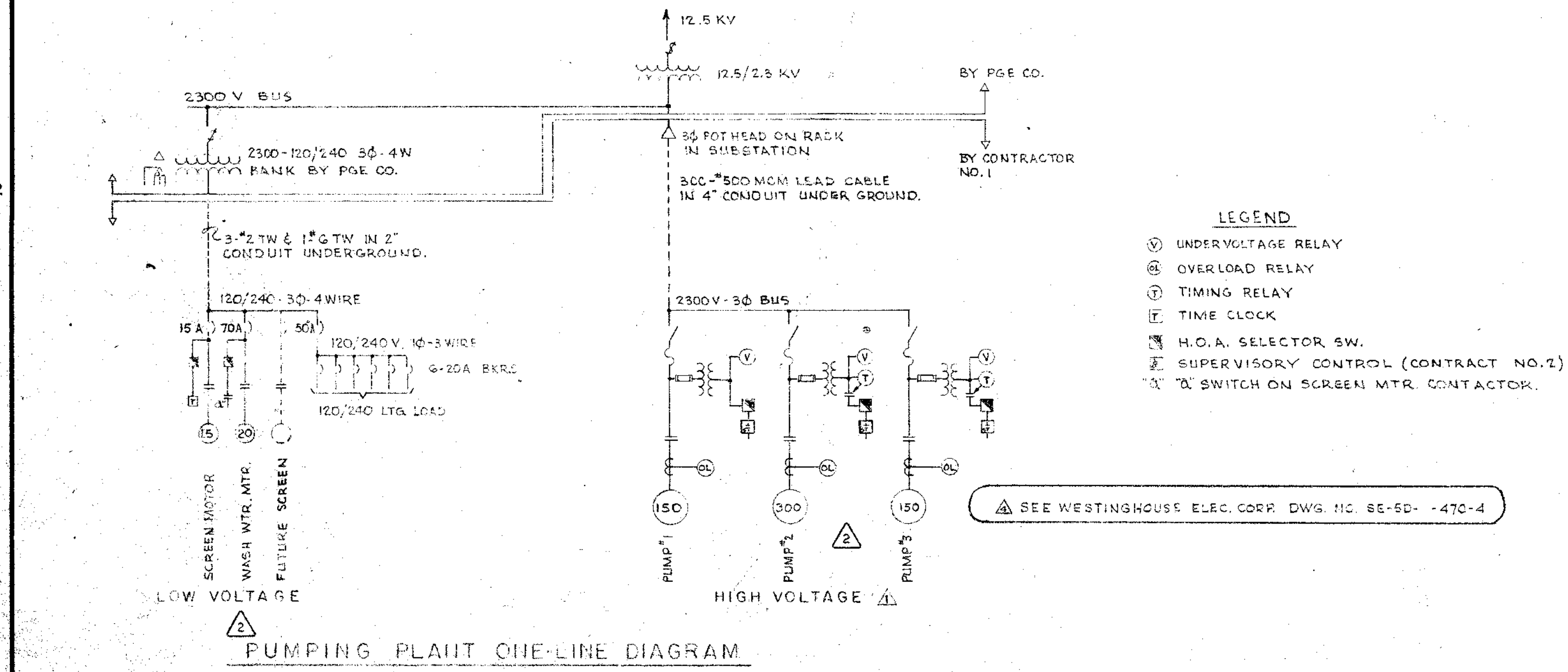
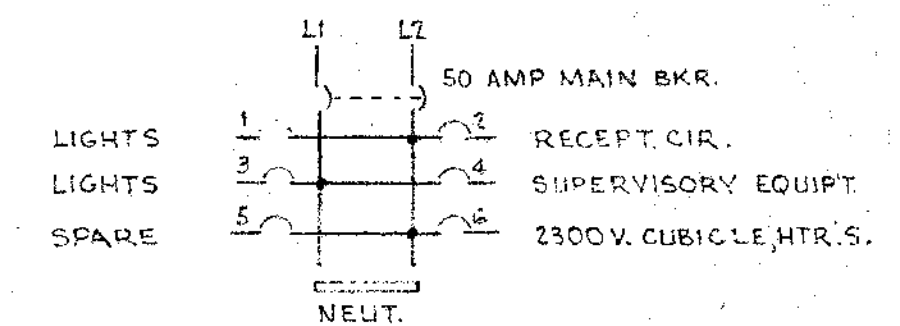
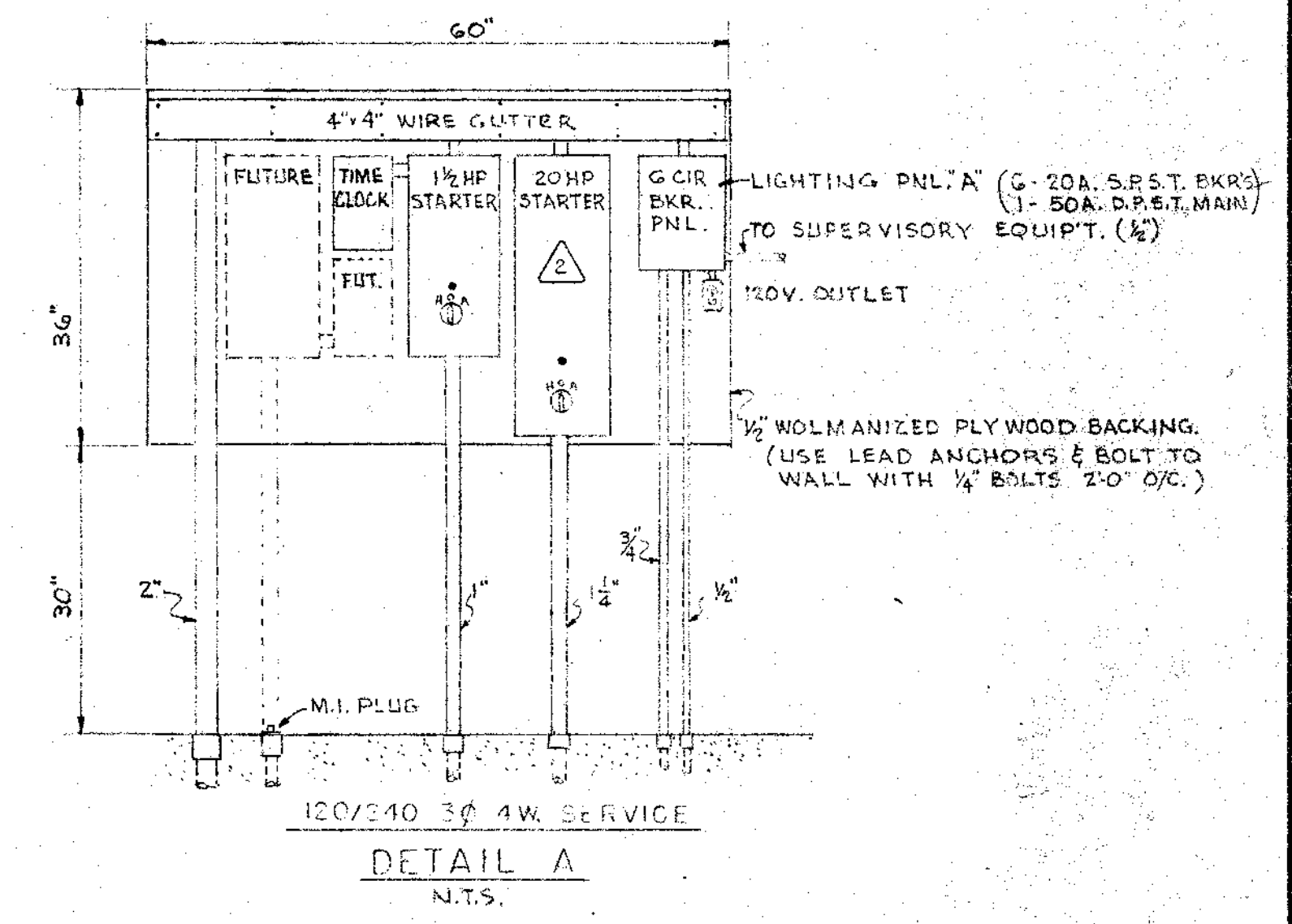
SECTION c-c
Scale: 3/4"=1'-0"

ELEV. OF SCREEN
Scale: 1/2"=1'-0"

8-29-59	3	As Built	ATS
8-20-58	2	Horiz. beam strut added	PLK
2-3-58	1	NOTE IN SEC. C-C	JAS
DATE	NO.	REVISION	BY
STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON OREGON CITY — WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD RAW WATER INTAKE STRUCTURE MISCELLANEOUS DETAILS			
DESIGNED F.T.K. L.K.H.	APPROVED BY <i>[Signature]</i>	SHEET OF	
DRAWN L.K.H.	SCALE: AS SHOWN	CI-10	
CHECKED F.T.K.	DATE 8-1-57	FILE NO. 3286	77

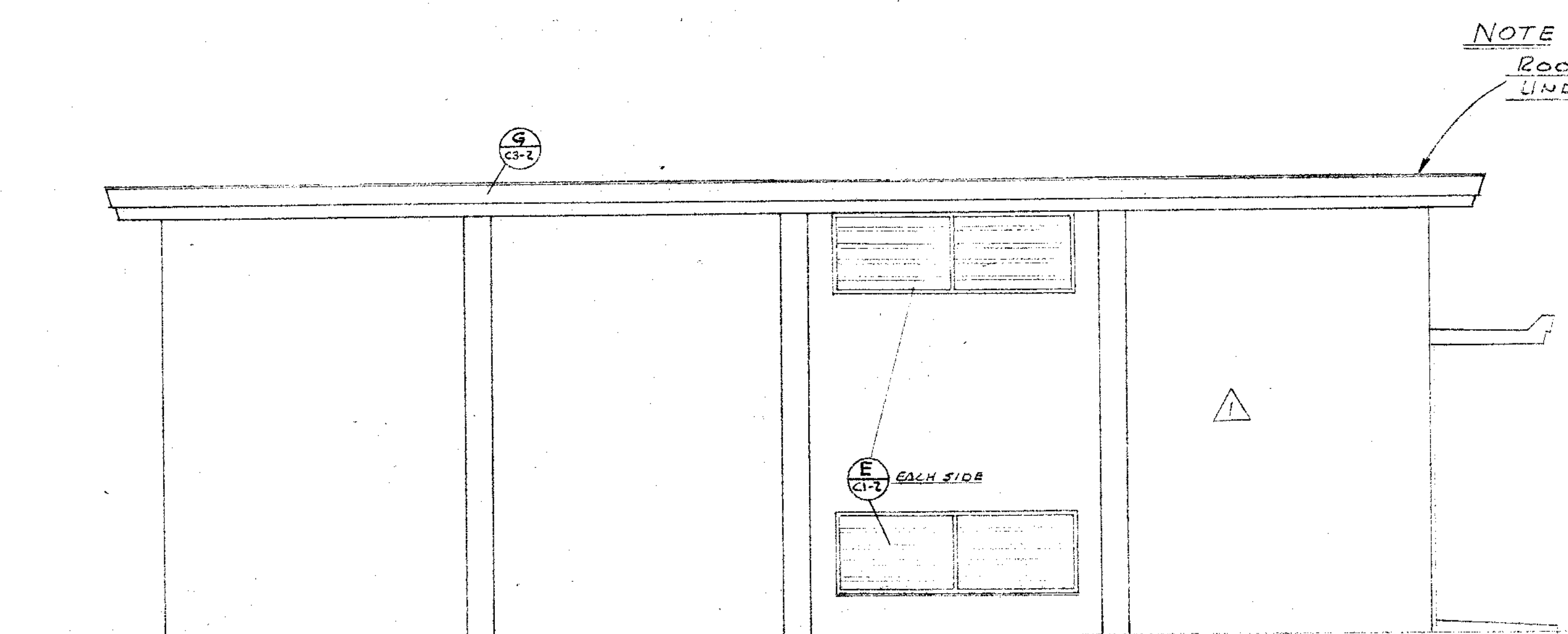


- NOTES**
- THIS DRAWING IS DIAGRAMATIC & IS INTENDED TO SHOW LOCATIONS OF ELECTRICAL OUTLETS & EQUIPMENT RELATIVE TO DOORS, WINDOWS, WALLS & MACHINERY. DO NOT SCALE FOR DIMENSIONS.
 - ALL OVERHEAD LIGHTS TO BE DAYBRITE NO. RF-200 AWSN WITH 200W LAMP.
 - CANOPY LIGHT TO BE DAYBRITE NO. 2501 WITH 2-60W LAMPS.
 - REAR BRACKET LIGHT TO BE GOODRICH NO. G-5781G MOUNTED ON GOOSENECK HANGER. USE 200W LAMP.
 - MOUNT WALL RECEPTACLES 36" TO CENTER FROM FLR.
 - ALL RECEPTACLES TO BE 10AMP, 120V GROUNDING TYPE & WEATHER PROOF.
 - MOUNT OVERHEAD LIGHTS 12' 0" UP FROM FLR. TO BOTTOM OF UNITS.
 - USE BALL HANGERS FOR VERTICAL ALIGNMENT WHERE REQD.
 - MOUNT WALL SWITCHES 48" UP TO CENTER FROM FLR. SW'S TO BE RATED 10A-120V.
 - SWITCH LIGHTS ON CIR. 3 AT DOOR. SWITCH LIGHTS ON CIR. 1 AT PNL. A
 - SET COUPLING FLUSH IN FLR. & PLUG CONDUIT RUN WITH M.I. PIPE PLUG.
 - INSTALL 1/2" TELEPHONE CONDUIT EXPOSED ON WALL. PROVIDE WEATHER HEAD & EXTEND CONDUIT TO TELEMETERING EQUIPMENT. EXACT LOCATION OF CONDUIT ENTRANCE TO BLDG. TO BE DETERMINED BY ENGINEER.
 - ALL CONDUIT TO BE RIGID GALV. STEEL
 - VERIFY LOCATIONS OF CONDUITS STUBBED UP TO EQUIPMENT IN FIELD BEFORE ROUGH-IN.
 - CONDUITS EXPOSED IN PUMP PIT TO BE PAINTED WITH ASPHALTUM. NO CONDUIT TO BE INSTALLED BELOW EL. 47.50
 - MOUNT 500 W. HEATERS IN EACH 2300V. CUBICLE IN SUITABLE LOCATION.
 - NO WIRE SMALLER THAN NO. 12 TW TO BE USED.
 - CONDUIT SIZED FOR 5KV LEAD COVERED 300 CABLE. MAX. CONDUIT FILL TO BE 40%. IF CABLES OF GREATER O.D. ARE USED CONDUIT SIZES MAY ALSO HAVE TO BE INCREASED.
 - CONDUITS TO BE SET FOR FUTURE MOTOR. SITE.
 - REFER TO HEADSHE. DRAWING E1 FOR GENERAL NOTES.
 - PROVIDE PROTECTED CABLE GROUND TO WATER PIPE
 - THIS CONTRACTOR TO PROVIDE CONDUITS, METER BASES, ETC. FOR PRIMARY METERING. LOCATE AS DIRECTED.

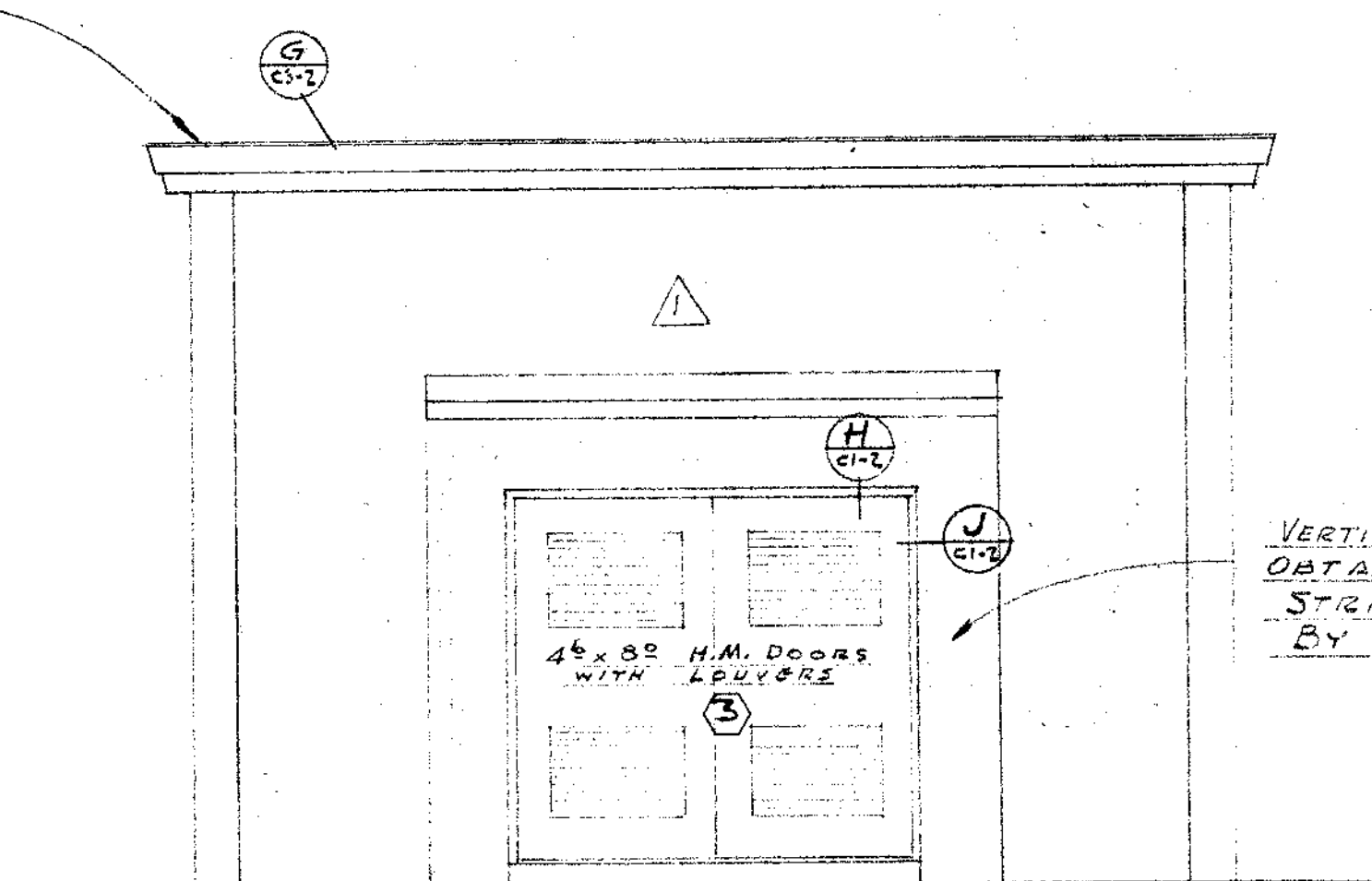


10-1-59	4	ADDED MANUF. DWS. NO. AS BUILT	FM
2-3-58	3	Meters N° 2 & 3 exchange positions	JAS
2-3-58	2	HP Change - Small mtr. - 15 HP to 20 HP	JAS
12-18-77	1	CHANGED MTR. RATE OF PUMPS 1 & 2	KM
DATE	NO.	REVISION	BY

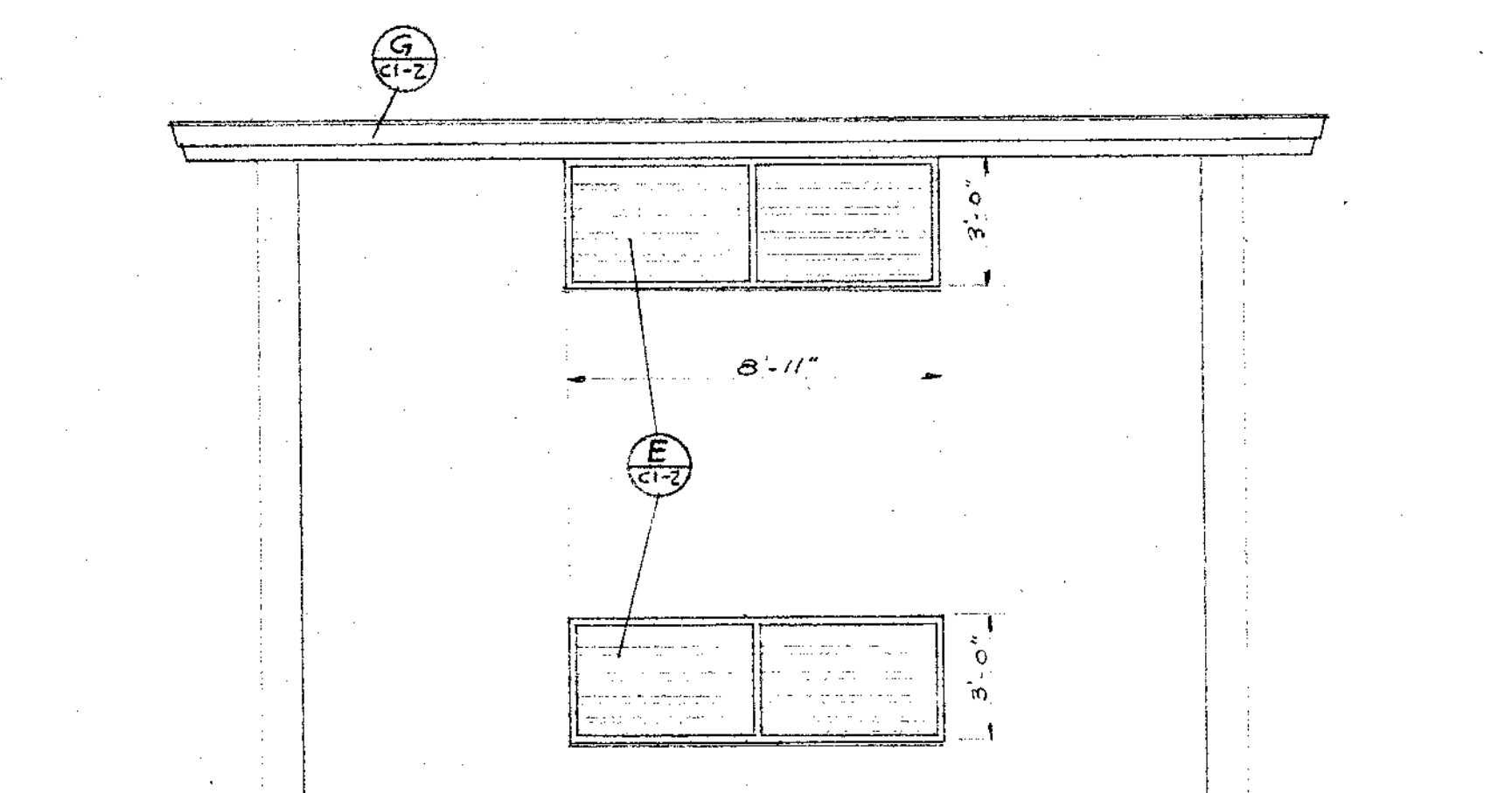
STEVENS & THOMPSON		Consulting Engineers
2234 S. W. FIFTH AVENUE		PORTLAND 1, OREGON
OREGON CITY - WEST LINN		
WATER SUPPLY PROJECT		
SOUTH FORK WATER BOARD		
RAW WATER INTAKE STRUCTURE		
ELECTRICAL PLAN & DETAILS		
DESIGNED RER	APPROVED BY <i>Ronald E. Bishop</i>	SHEET 11 OF 11
DRAWN KM	SCALE 1/2" = 1'-0"	
CHECKED RER	DATE 8-1-57	FILE 1160-5087



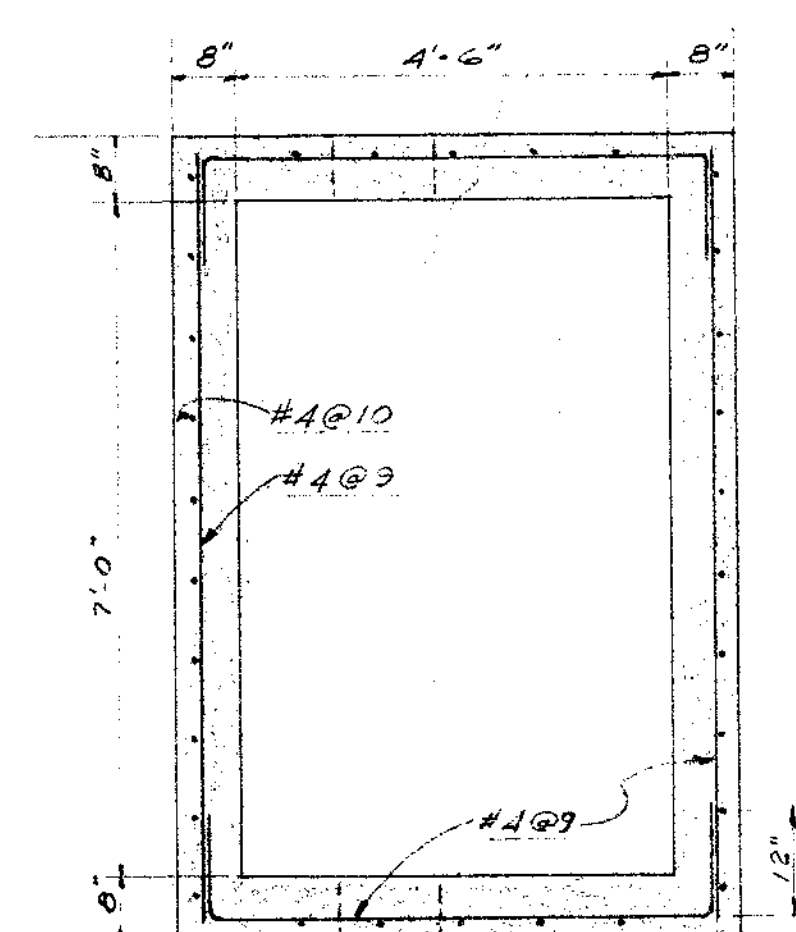
TYPICAL SIDE ELEVATION
1/4" = 1'-0"



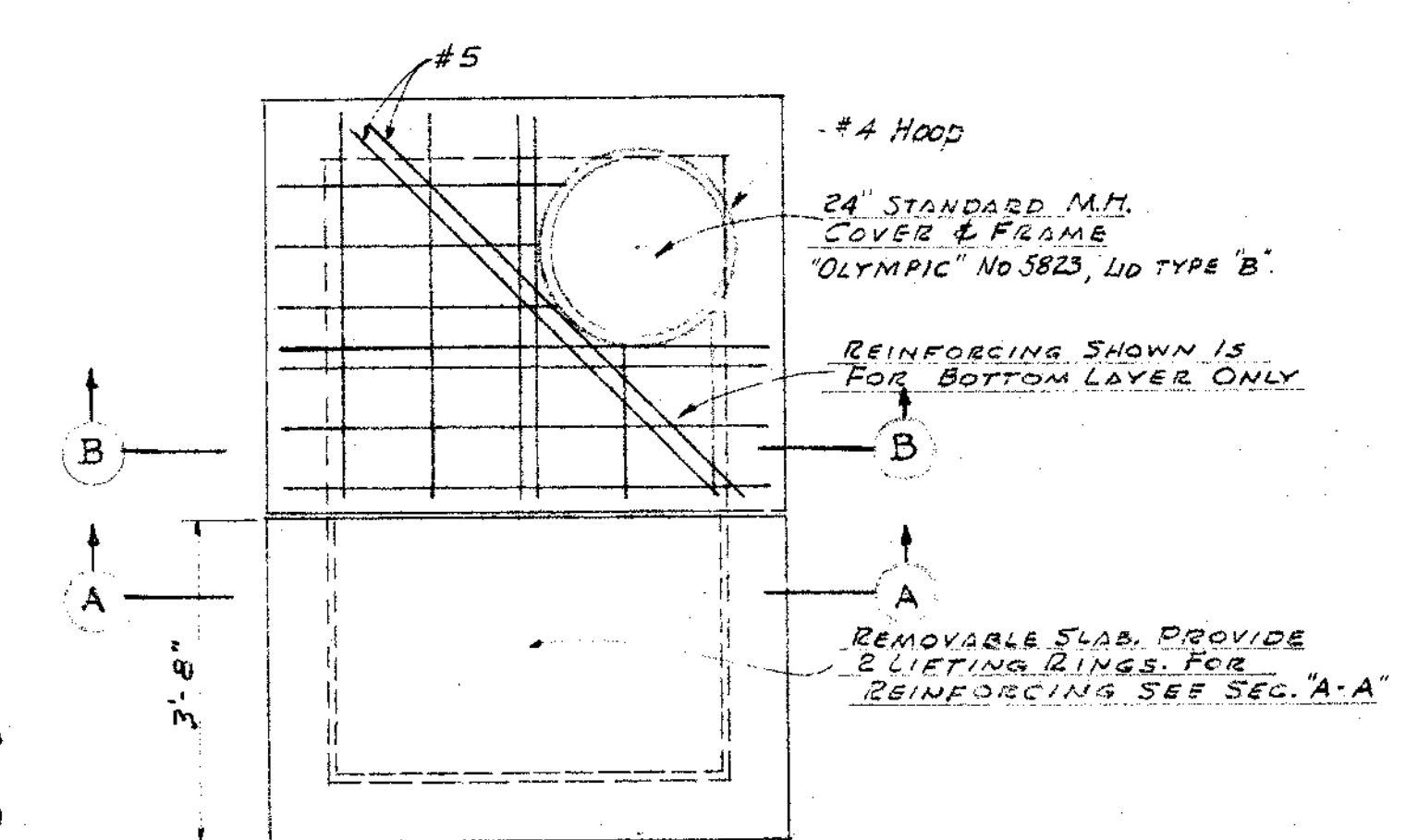
DIVISION STREET ELEVATION
1/4" = 1'-0"



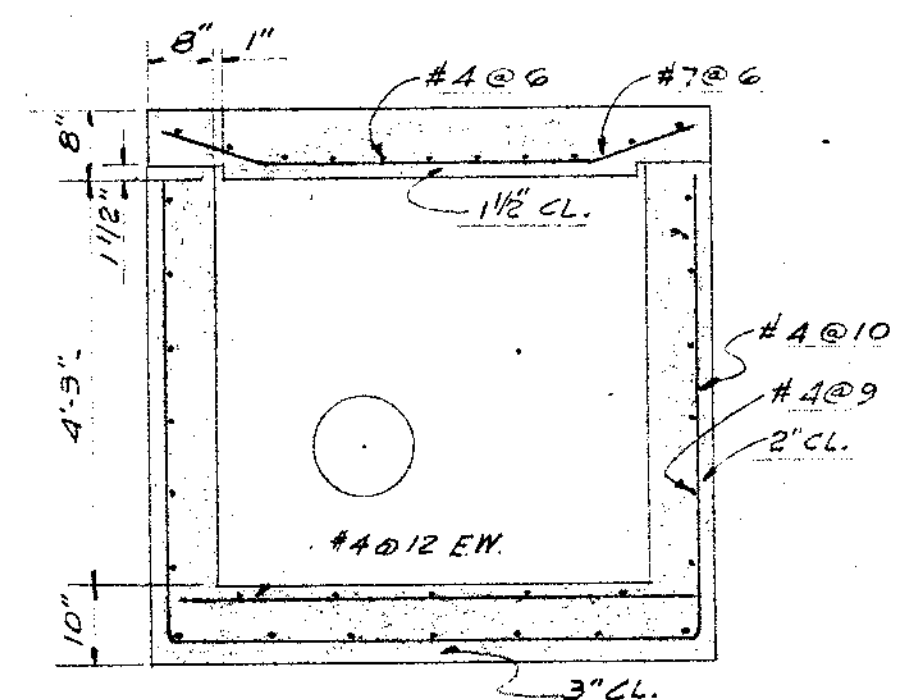
REAR ELEVATION
1/4" = 1'-0"



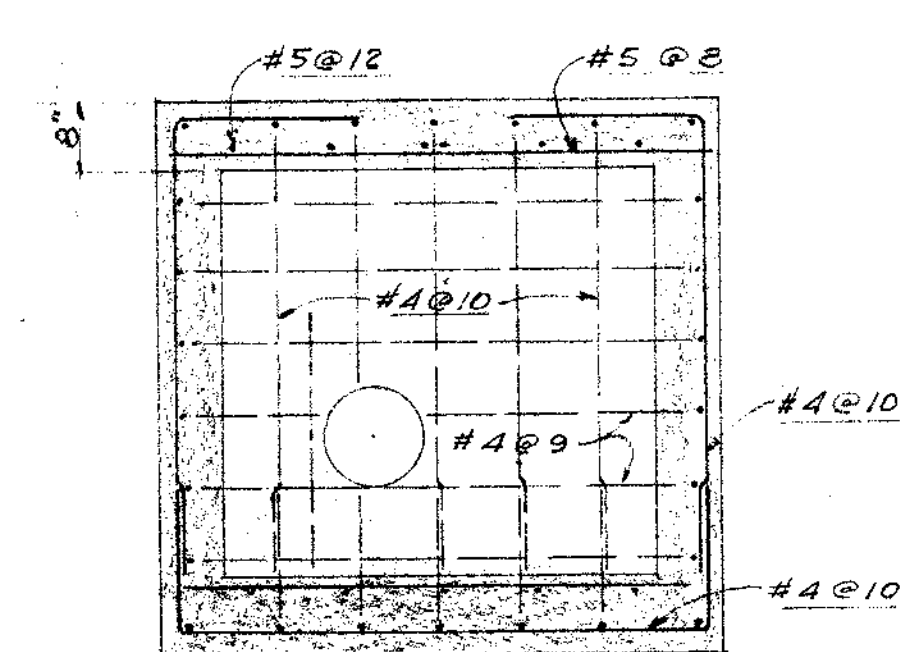
PLAN SECT.



PLAN

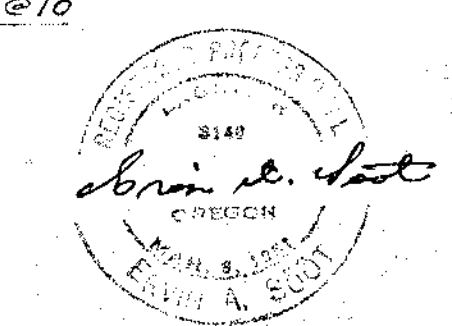


SECT. "A-A"



SECT. "B-B"

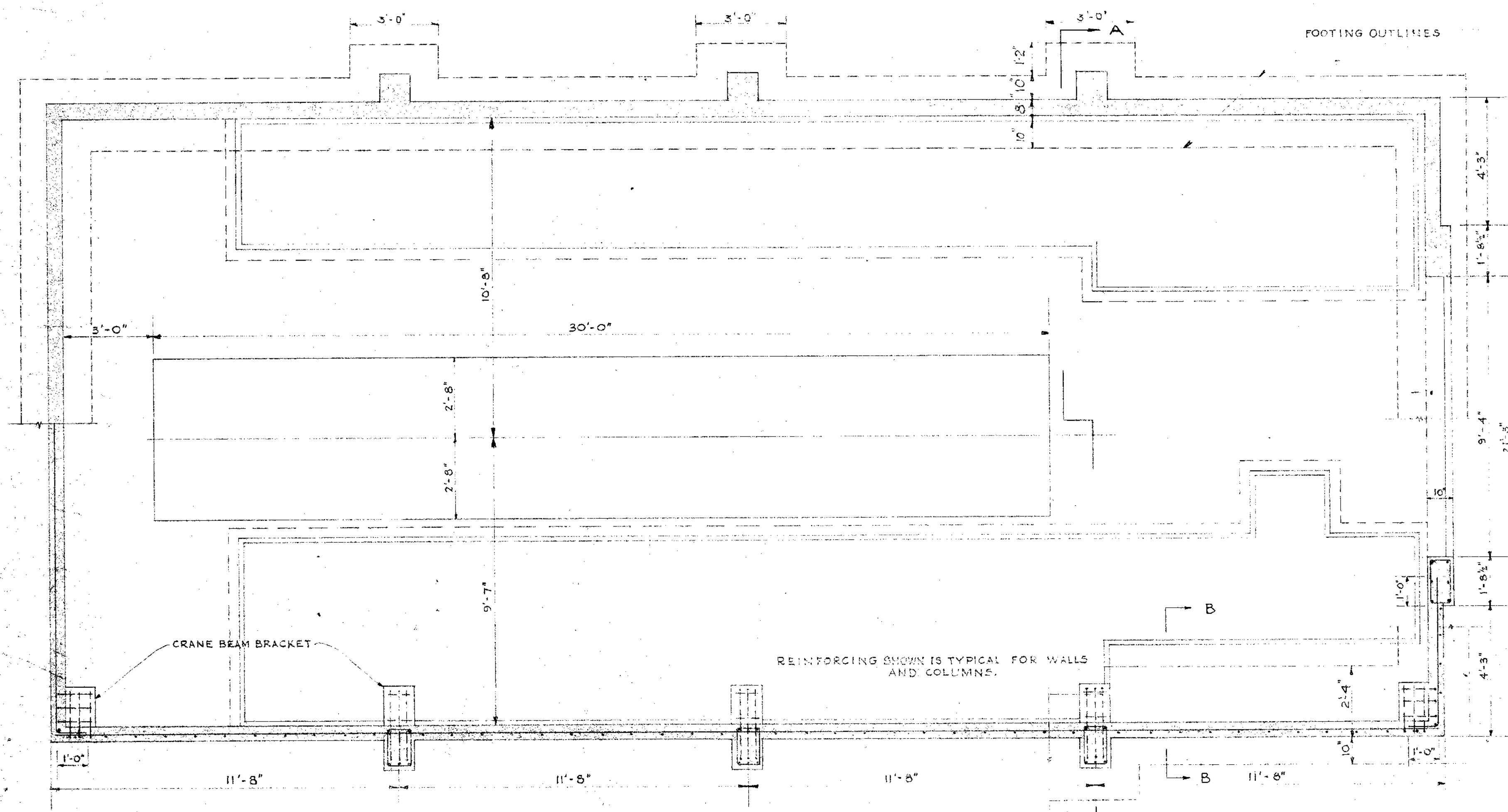
© VALVE BOX DETAILS
1/2" SCALE



DATE	NO.	REVISION	BY
6-25-57	1	As Built	ATS

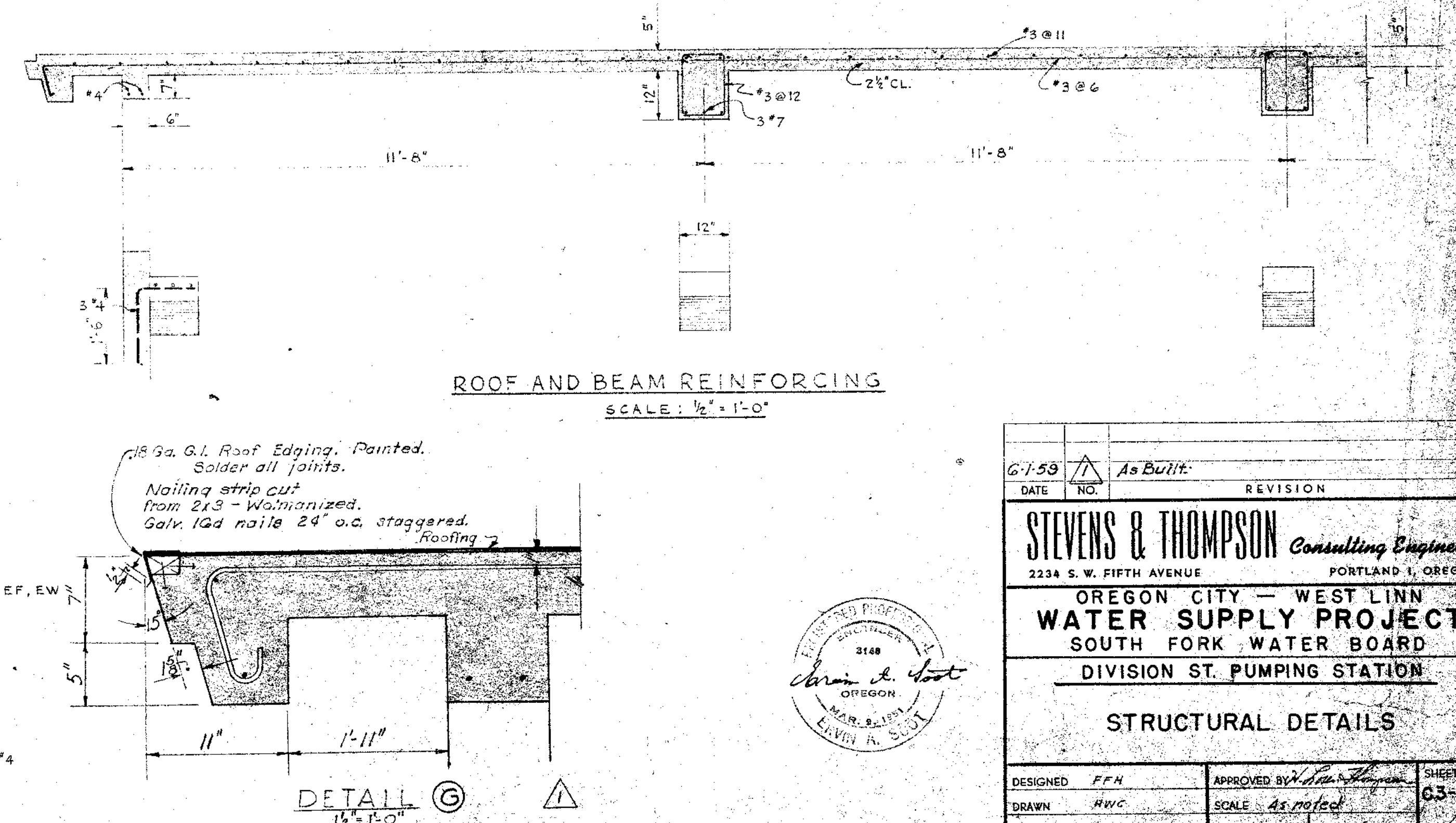
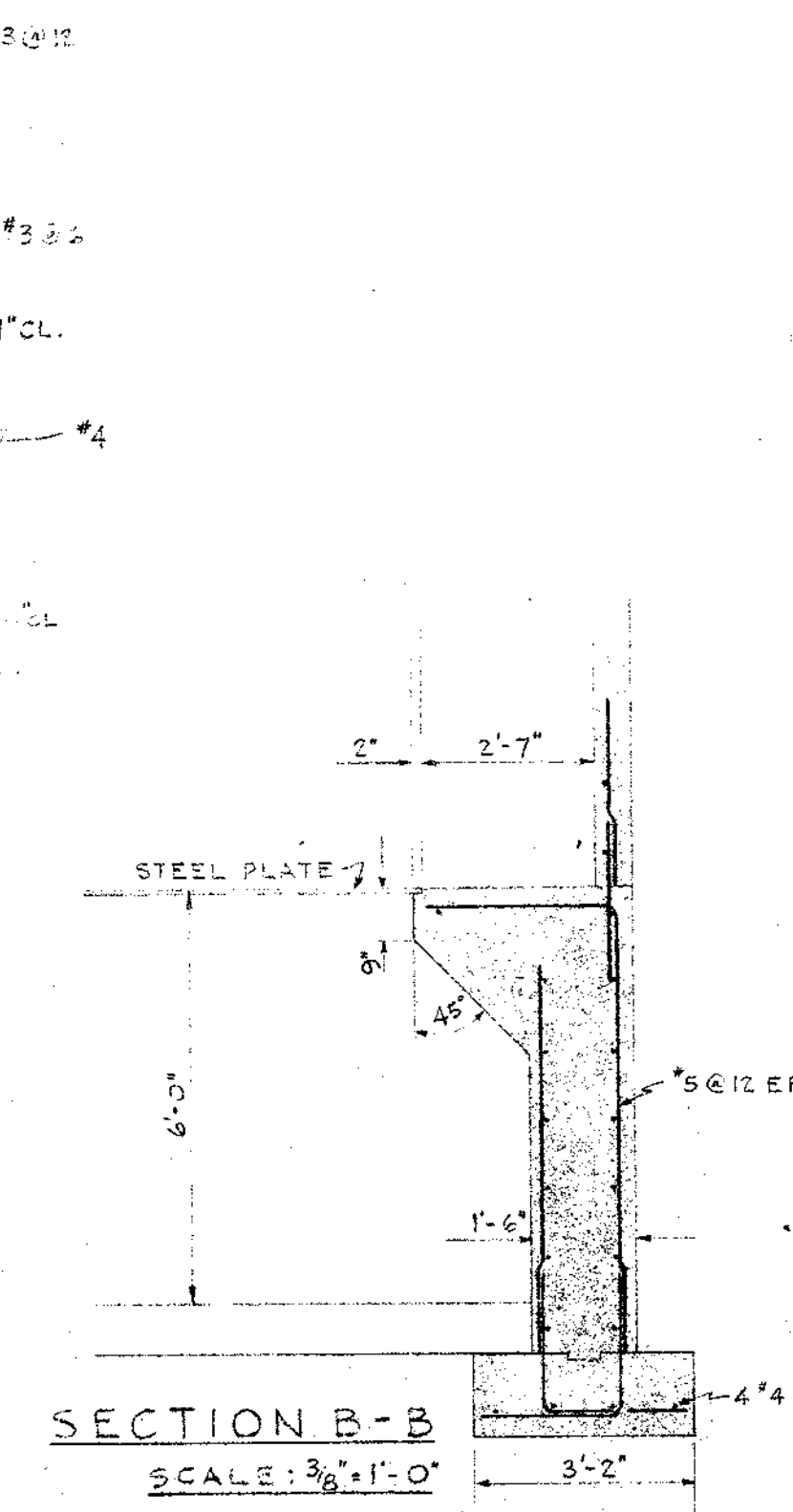
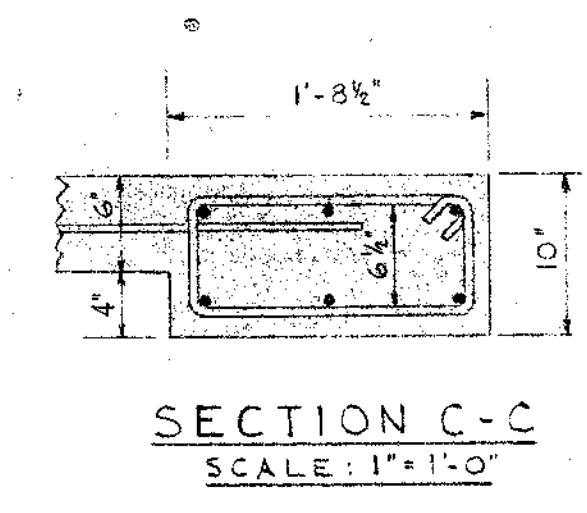
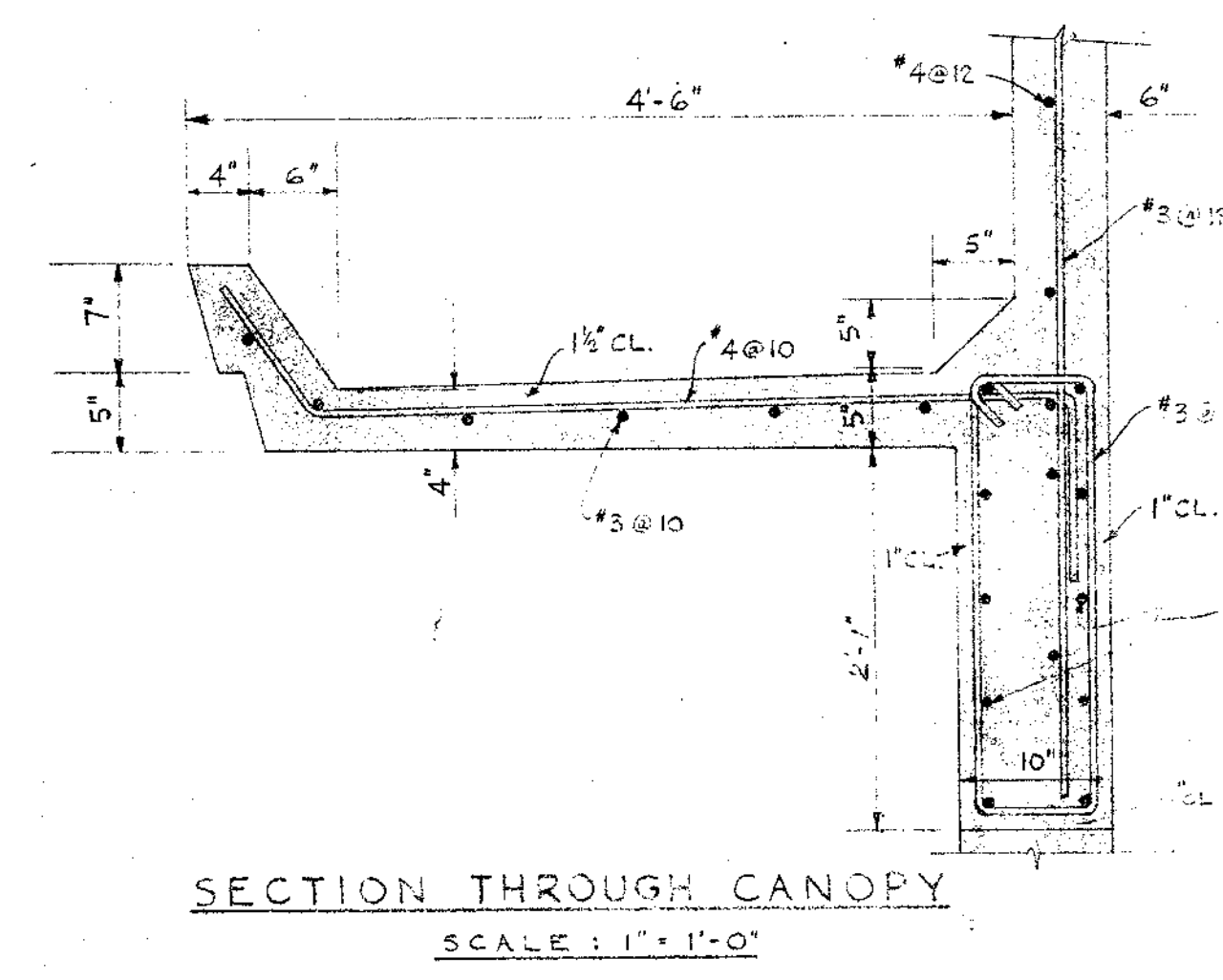
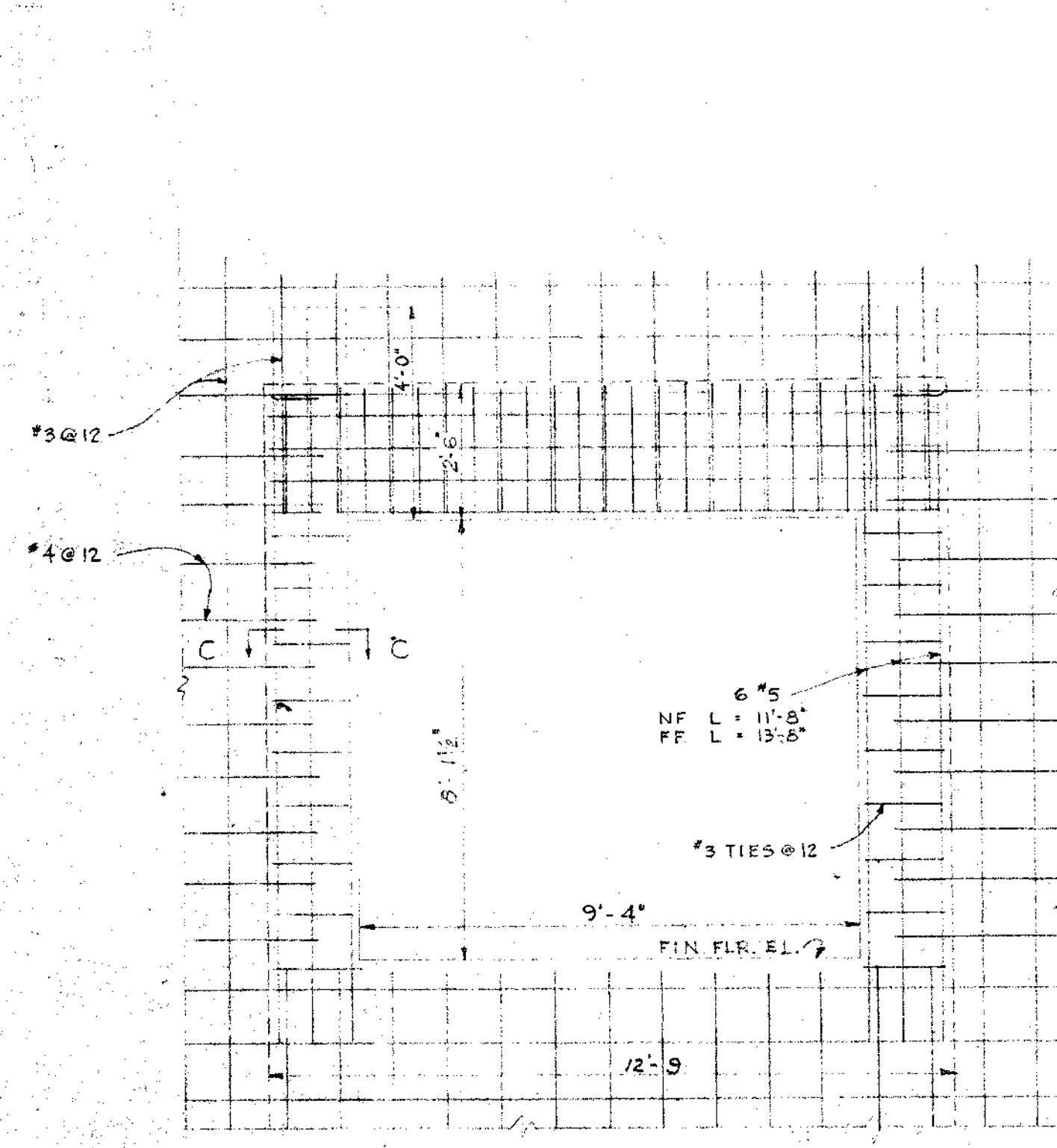
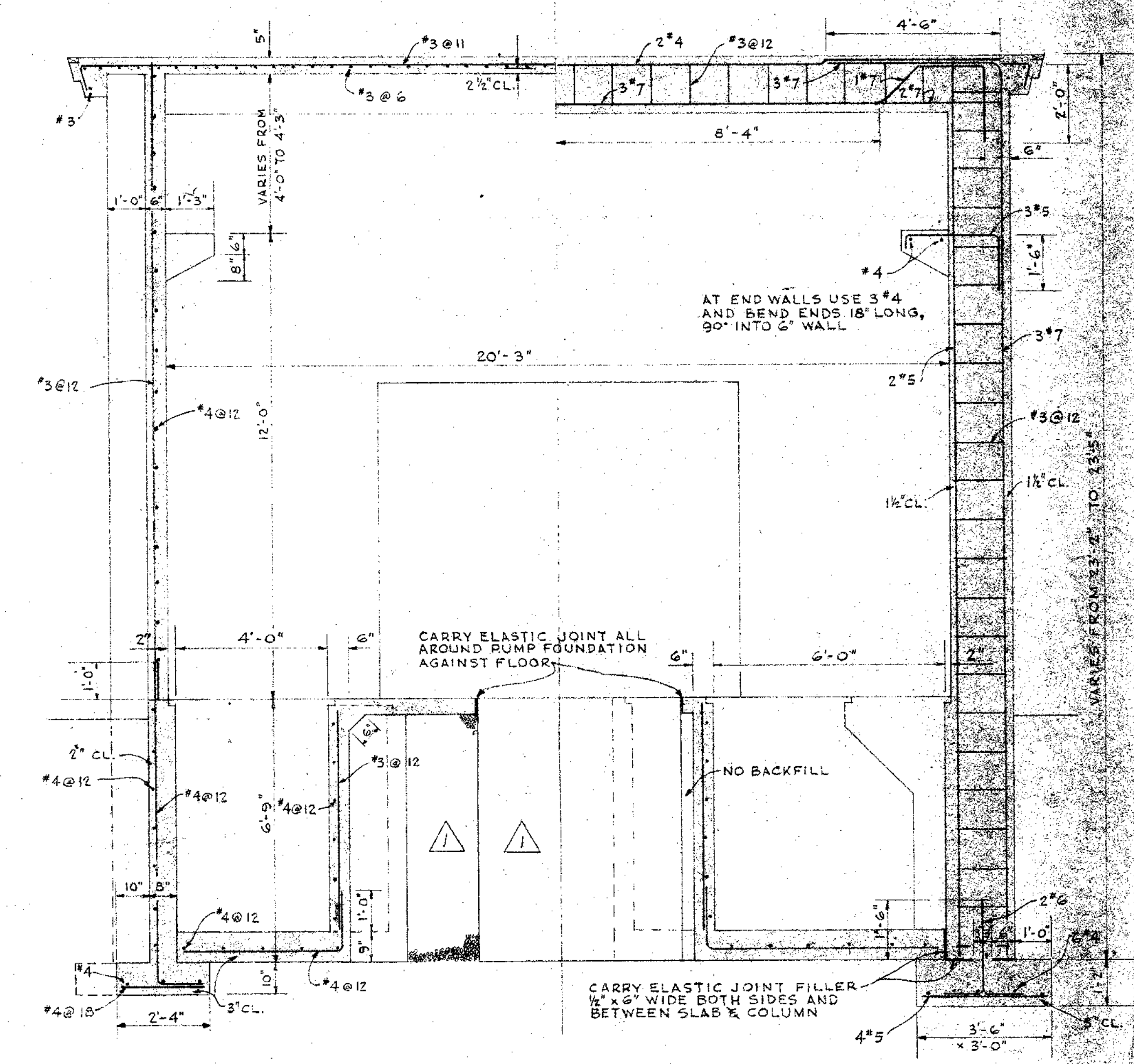
STEVENS & THOMPSON Consulting Engineers	
2234 S. W. FIFTH AVENUE	PORTLAND 1, OREGON
OREGON CITY — WEST LINN	
WATER SUPPLY PROJECT	
SOUTH FORK WATER BOARD	
DIVISION STREET PUMPING STATION	
ARCHITECTURAL ELEVATIONS	
& VALVE BOX	

DESIGNED J.M.H. EAS	APPROVED BY <i>Paul Thompson</i>	SHEET
DRAWN J.M.H.	SCALE NOTED	03-1
CHECKED EAS	DATE 8-1-57	FILED 60-3089

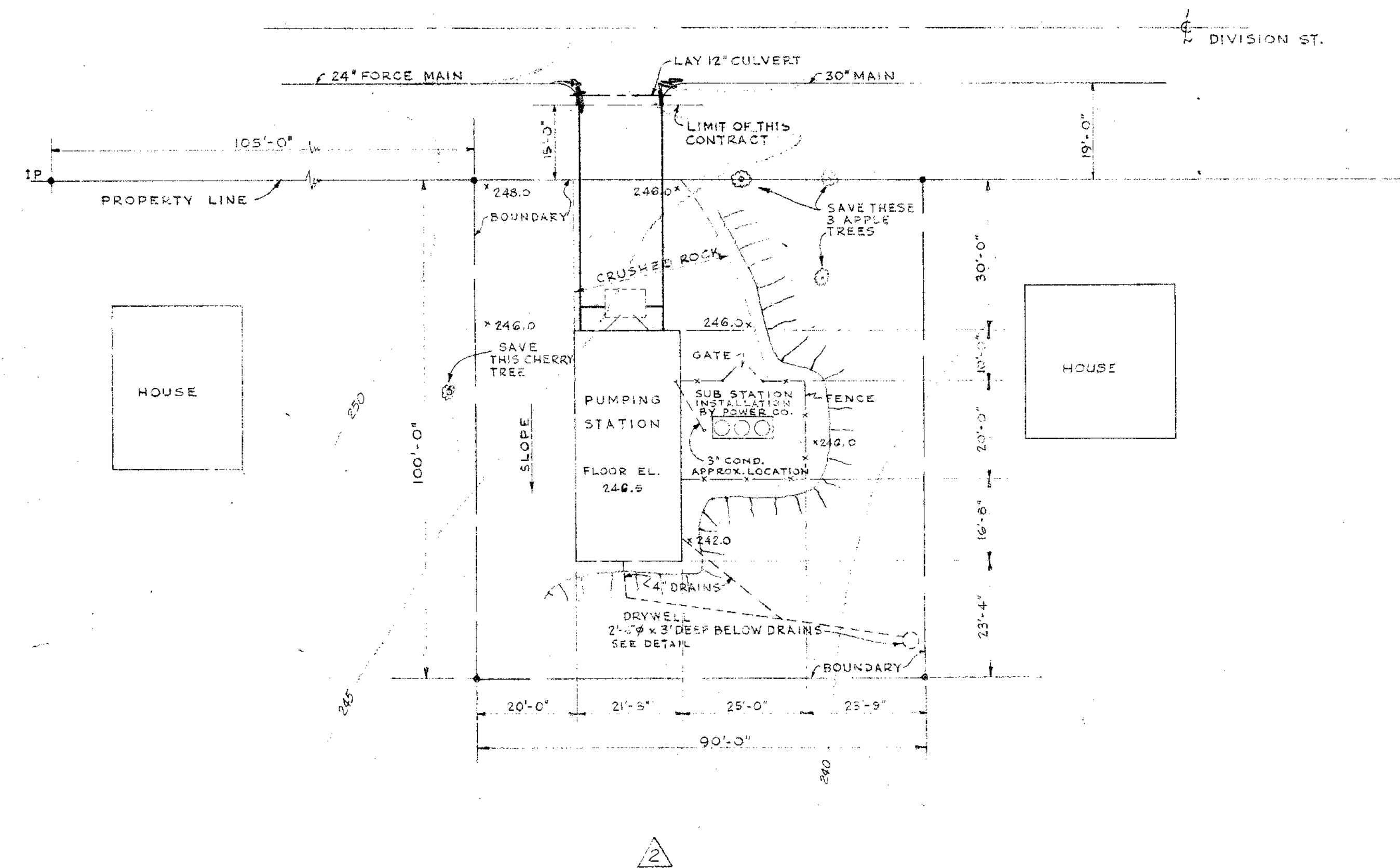


4" CONCRETE FLOOR SLAB, REINFORCE WITH 4x4-9/16 WF ON 6" GRAVEL BASE. TROWEL FINISH.

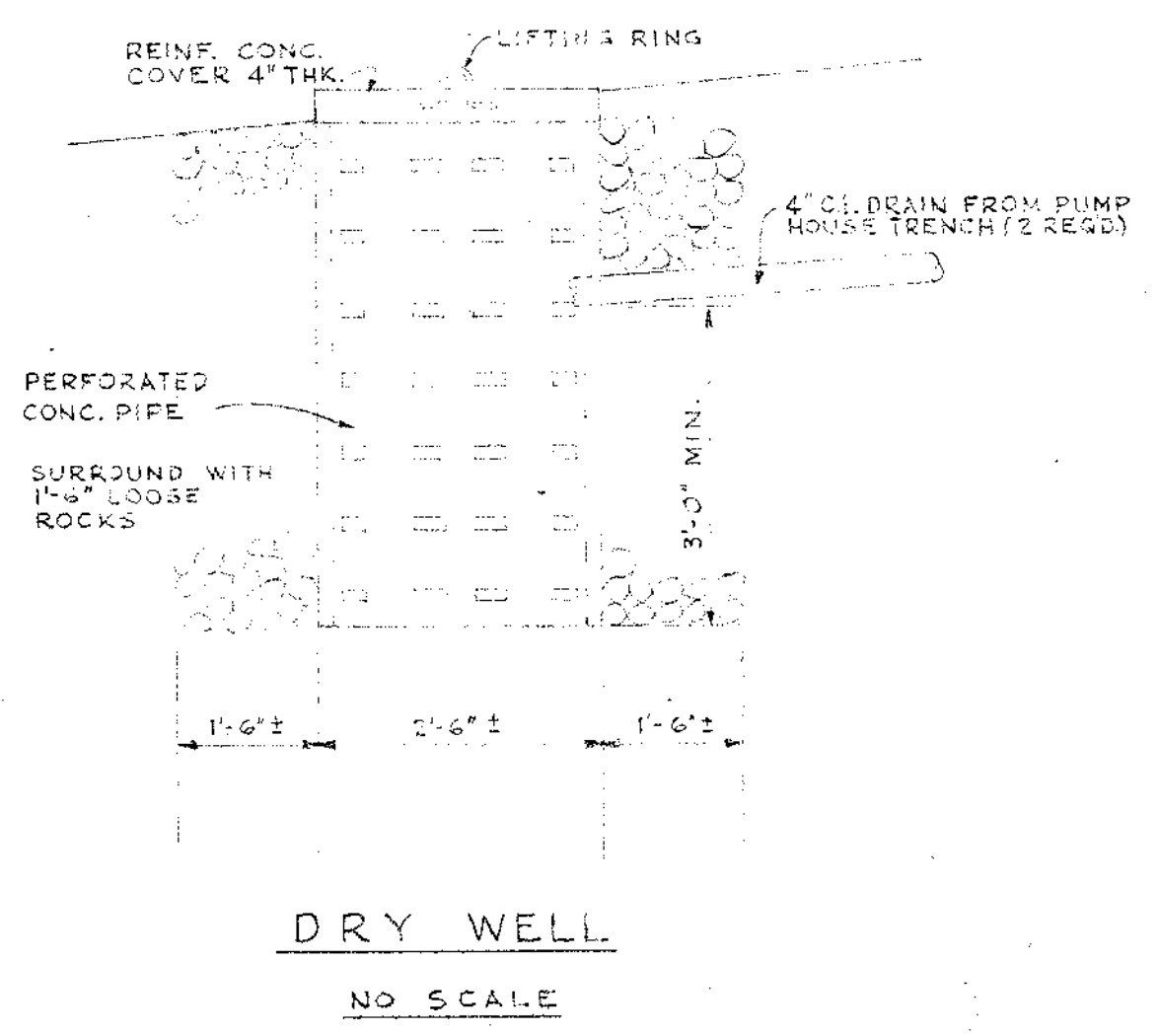
PROVIDE AROUND ALL WALL OPENINGS 2 #5 BARS AND EXTEND 30" BEYOND THE CORNERS



6-1-59	As Built	REVISION	77
DATE	NO.		
STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON OREGON CITY - WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD DIVISION ST. PUMPING STATION			
STRUCTURAL DETAILS			
DESIGNED FFH	APPROVED BY [Signature]	SHEET 63-2	OF 77
DRAWN RWC	SCALE As noted		
CHECKED EAS	DATE 6-1-59	BY 1160-3054	



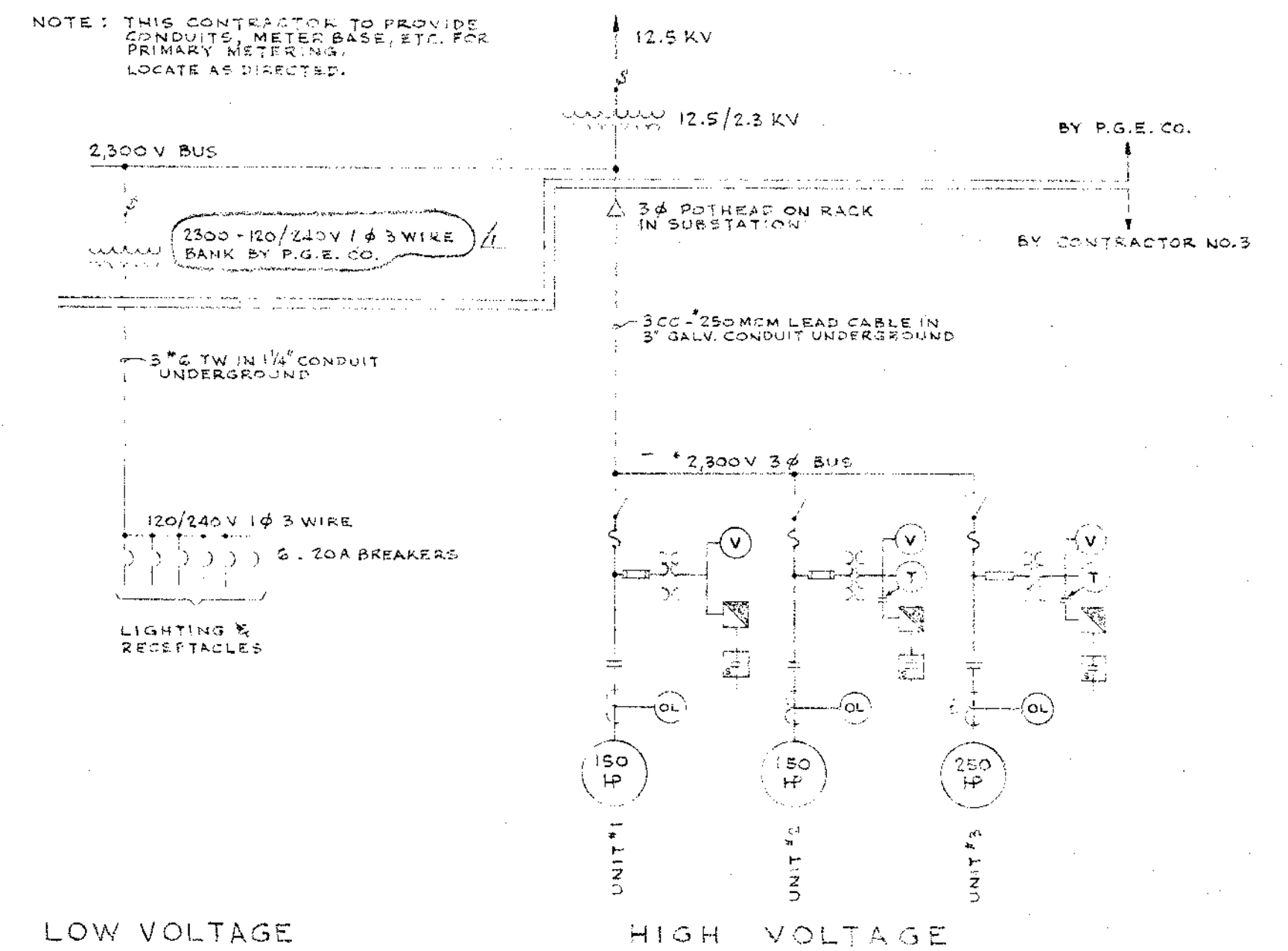
PLOT PLAN
SCALE 1" = 20'



DRY WELL
NO SCALE

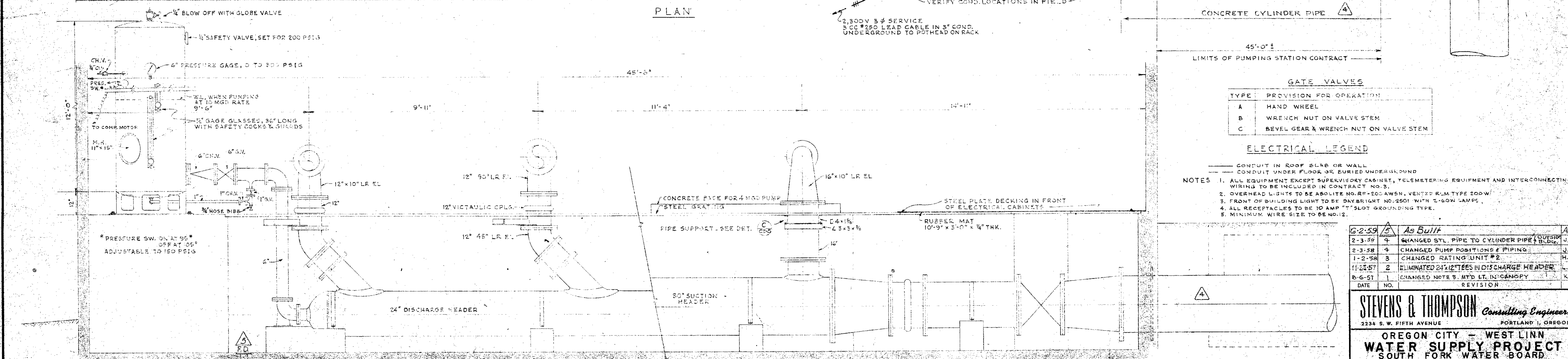
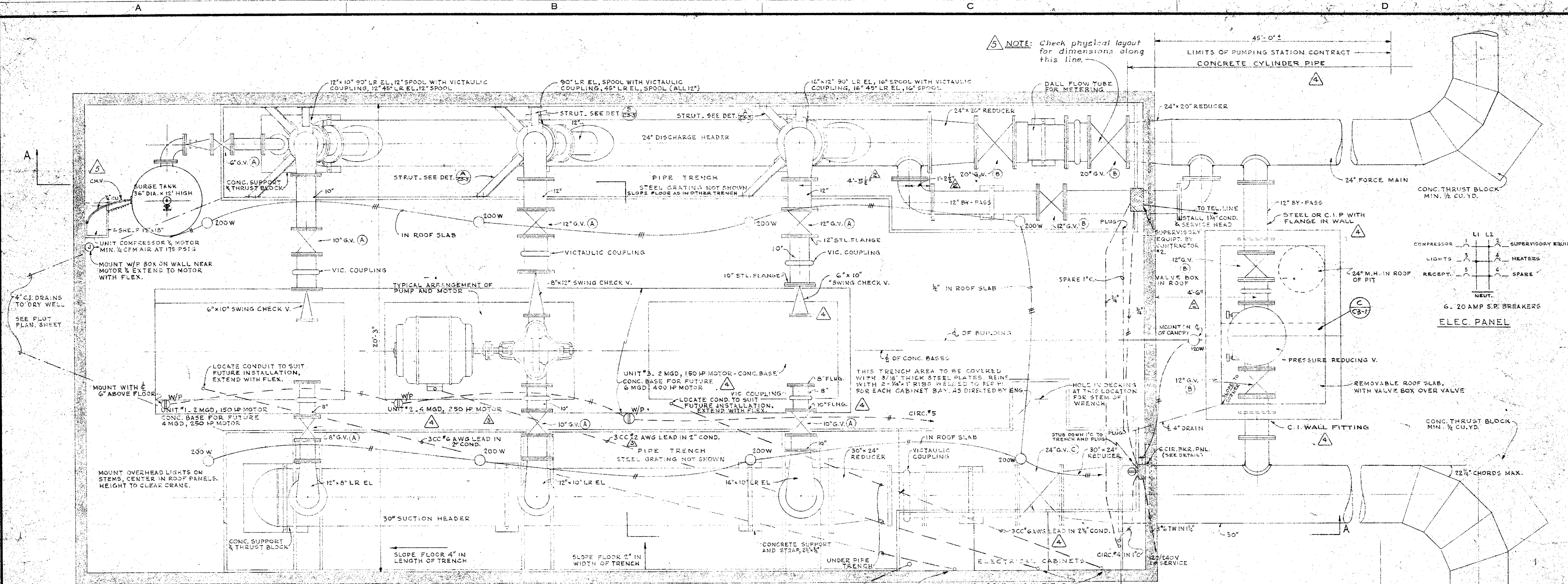
LEGEND

- UNDERVOLTAGE RELAY
- OVERLOAD RELAY
- TIMING RELAY
- H.O.A. SELECTOR SWITCH
- SUPERVISORY CONTROL (CONTRACT NO. 2)



ONE LINE DIAGRAM
ELECTRICAL INSTALLATION

6259	12	As Built	ATC
DATE	NO.	CHANGED MTR NO. 2 & LOW VOLT. TRANS.	BY
REVISION			
STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON			
OREGON CITY — WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD			
DIVISION STREET PUMPING STATION PLOT PLAN, DRYWELL & ELECTRICAL ONE LINE DIAGRAM			
DESIGNED FTK	APPROVED BY	SHEET	OF
DRAWN HWC	SCALE As Noted	C3-3	77
CHECKED ETK	DATE 8-1-57	SHEET 60-3030	



PLAN

SECTION A-A

GATE VALVES	
TYPE	PROVISION FOR OPERATION
A	HAND WHEEL
B	WRENCH NUT ON VALVE STEM
C	BEVEL GEAR & WRENCH NUT ON VALVE STEM

ELECTRICAL LEGEND

- NOTES
1. ALL EQUIPMENT EXCEPT SUPERVISORY CABINET, TELEMETERING EQUIPMENT AND INTERCONNECTING WIRING TO BE INCLUDED IN CONTRACT NO. 3.
 2. OVERHEAD LIGHTS TO BE ABSOLUTE NO. RT-200 A.W.S. VENTED RLM TYPE 200W.
 3. FRONT OF BUILDING LIGHT TO BE DAYBRIGHT NO. 2501 WITH 2-60W LAMPS.
 4. ALL RECEPTACLES TO BE TO AMP T-SLOT GROUNDING TYPE.
 5. MINIMUM WIRE SIZE TO BE NO. 12.

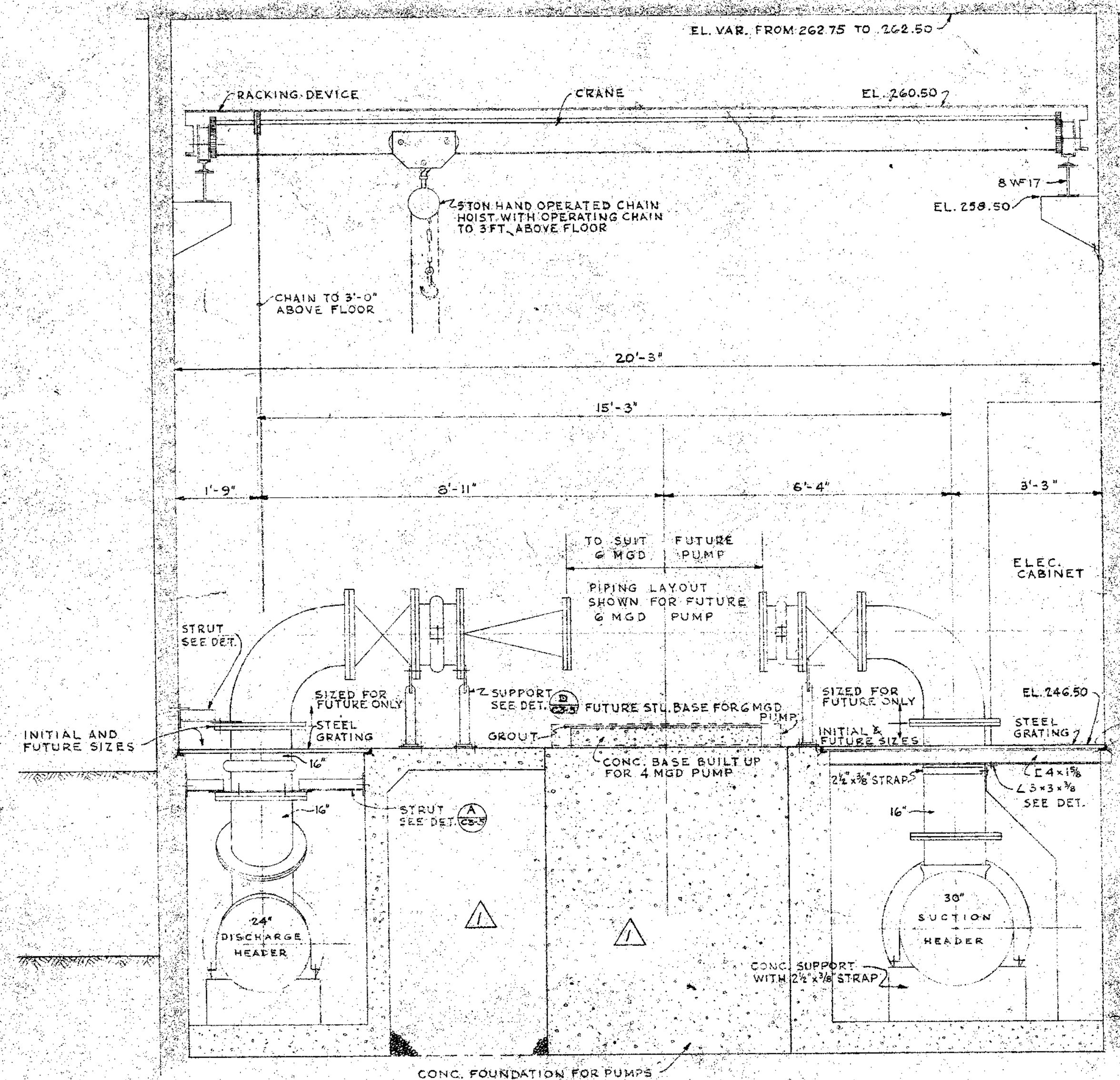
6-2-59	5	As Built	A
2-3-59	4	CHANGED STL. PIPE TO CYLINDER PIPE OUTSIDE B.L.D.G.	J
2-3-58	4	CHANGED PUMP POSITIONS & PIPING	J
1-2-58	3	CHANGED RATING UNIT #2	H
11-25-57	2	ELIMINATED 24" X 12" TEES IN DISCHARGE HEADER	H
8-6-57	1	CHANGED NOTE B. MTD LT. IN CANOPY	K

STEVENS & THOMPSON Consulting Engineers
 2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON

OREGON CITY - WEST LINN
WATER SUPPLY PROJECT
 SOUTH FORK WATER BOARD

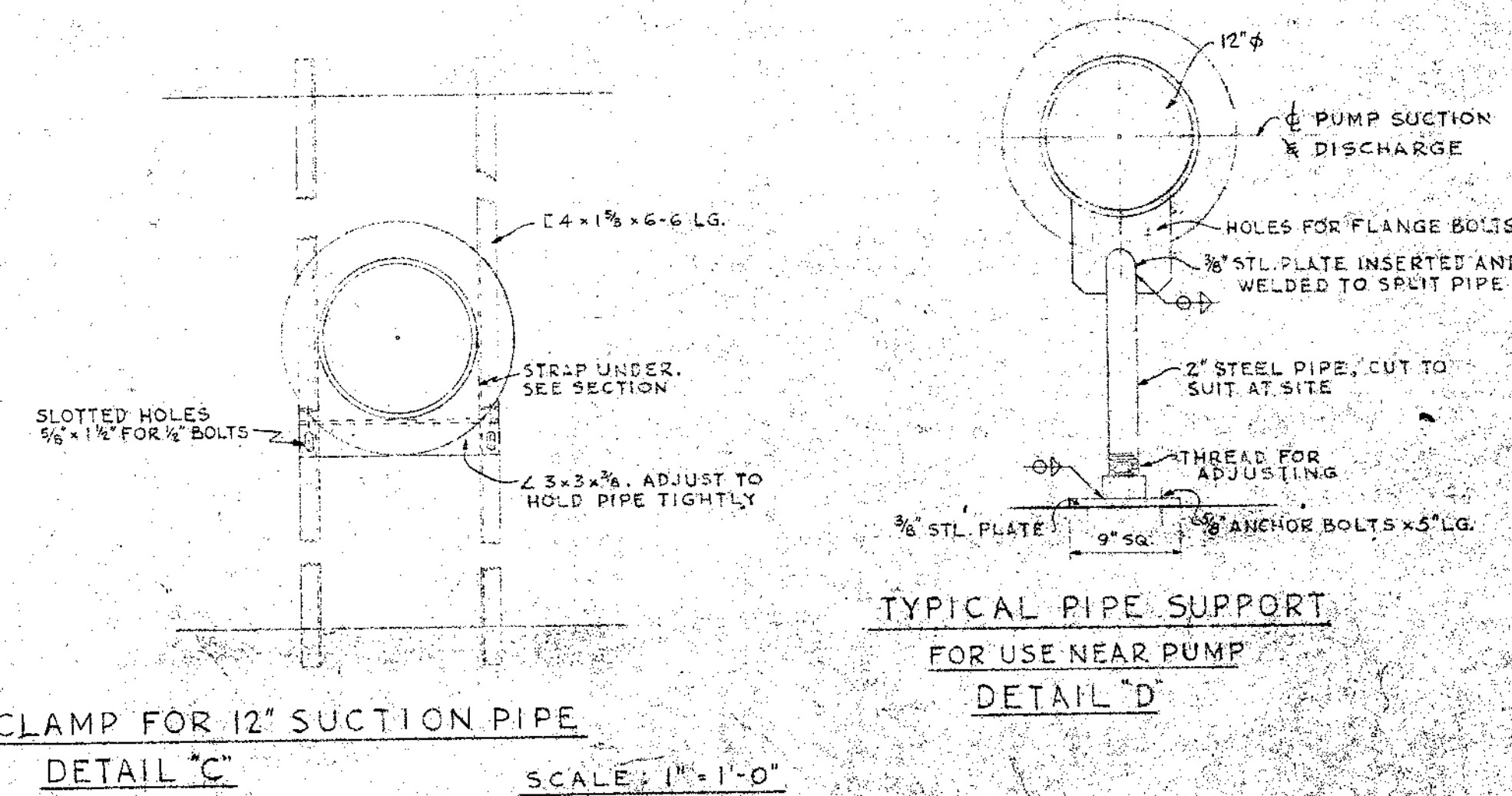
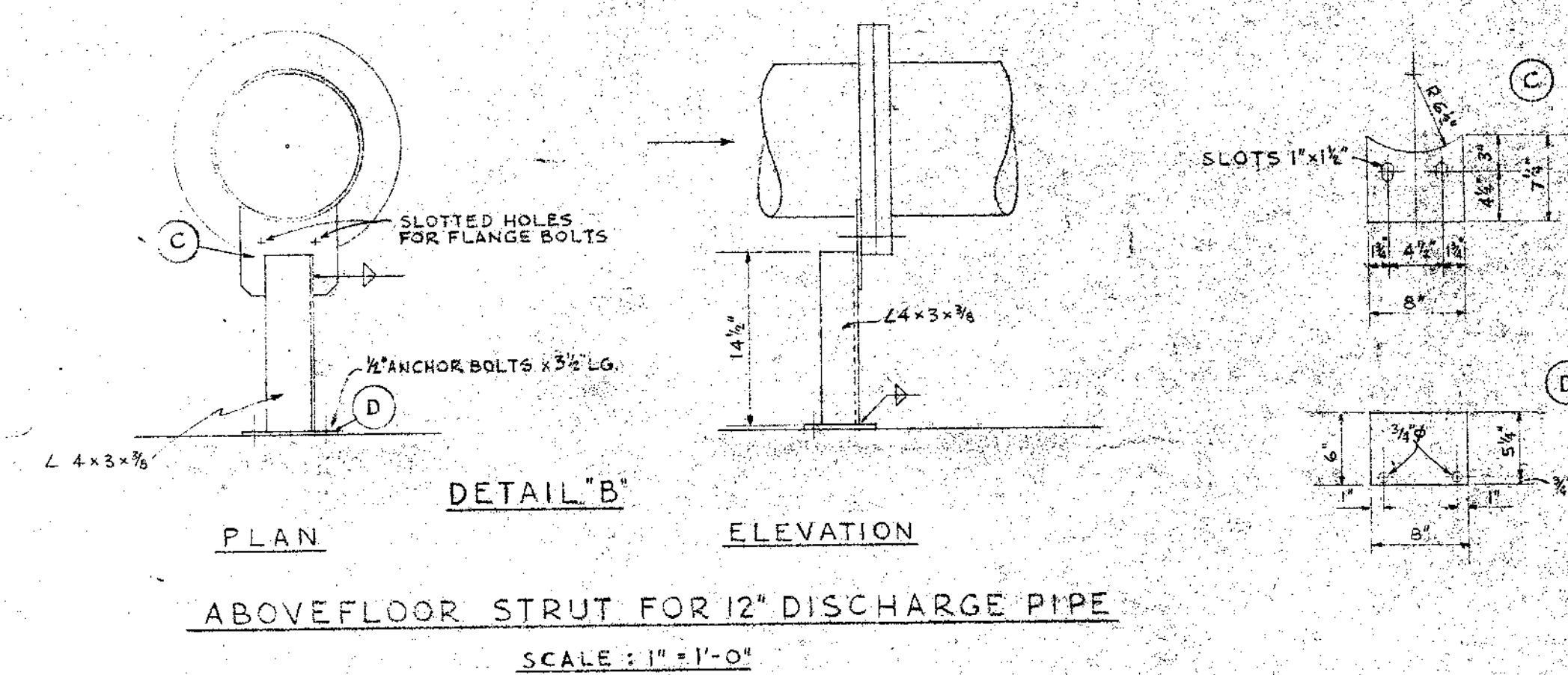
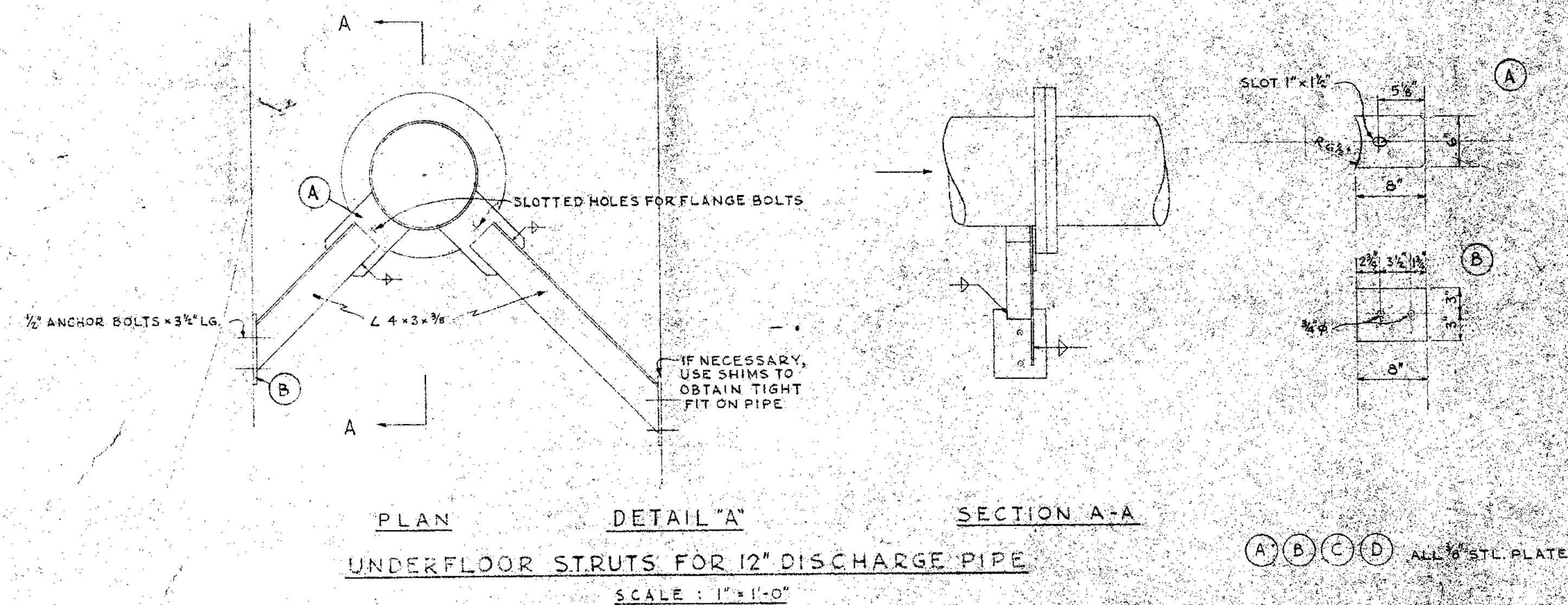
DIVISION STREET PUMPING STATION
PIPING LAYOUT
& ELECTRICAL LAYOUT

DESIGNED FTK	APPROVED BY <i>[Signature]</i>		SHEET C3-4
DRAWN HWC	SCALE 1/8" = 1'-0"		
CHECKED FTK	DATE 8-3-57	FILE 160-3091	



CROSS-SECTION THROUGH PUMP HOUSE

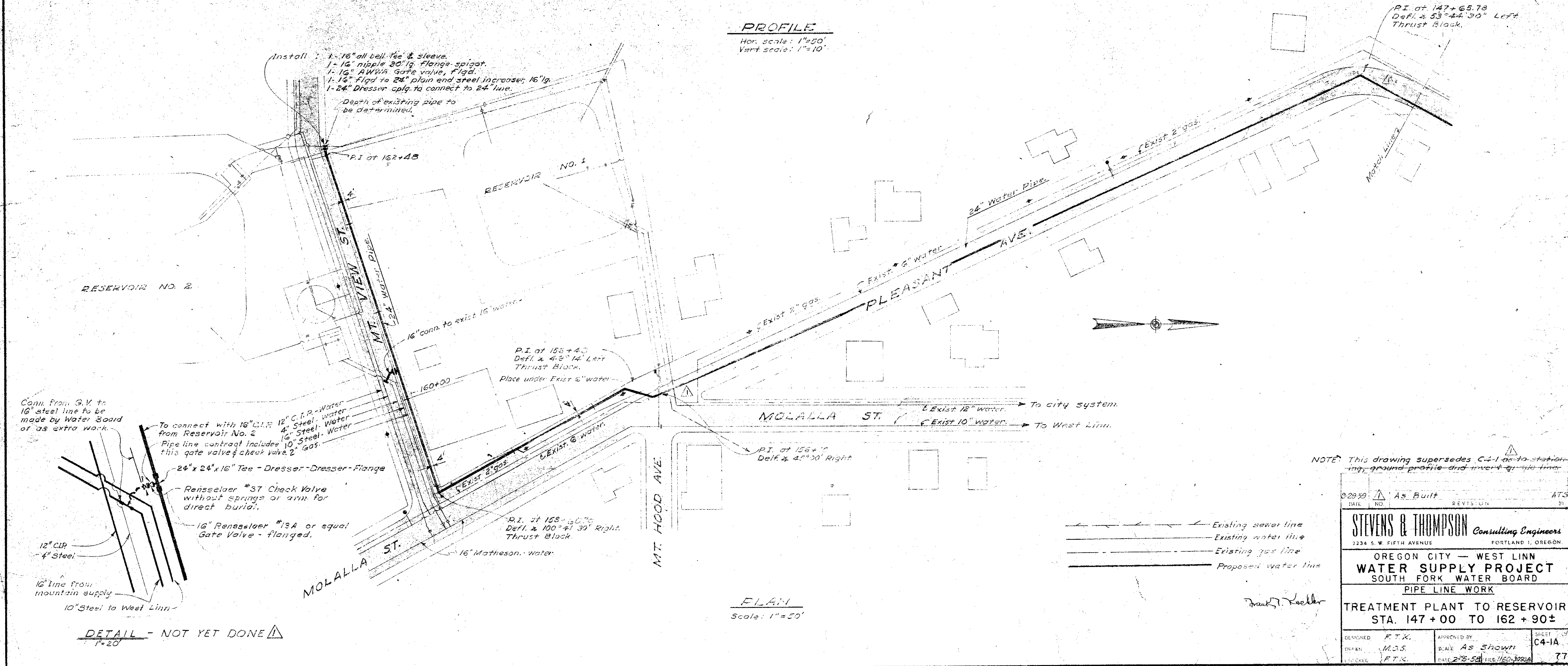
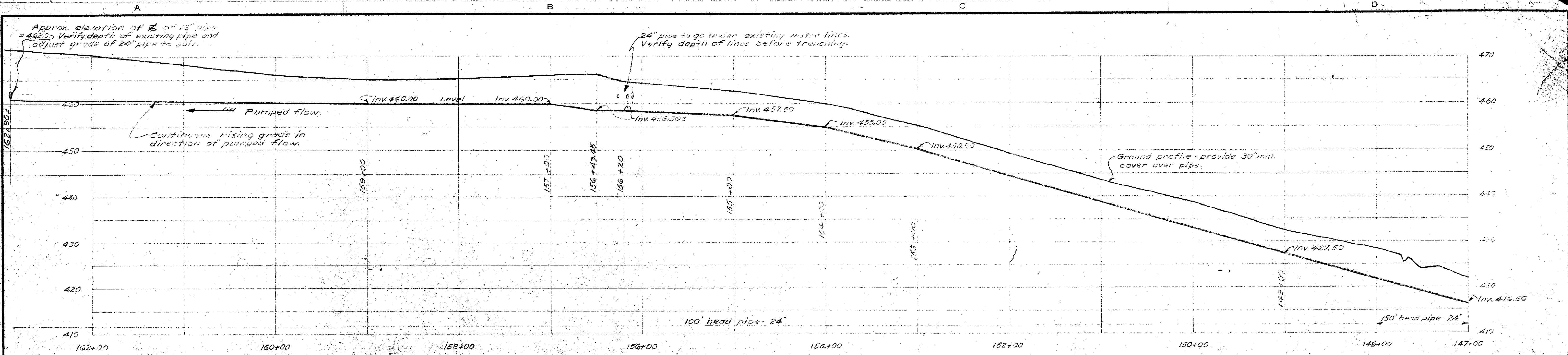
SCALE: 1/2" = 1'-0"

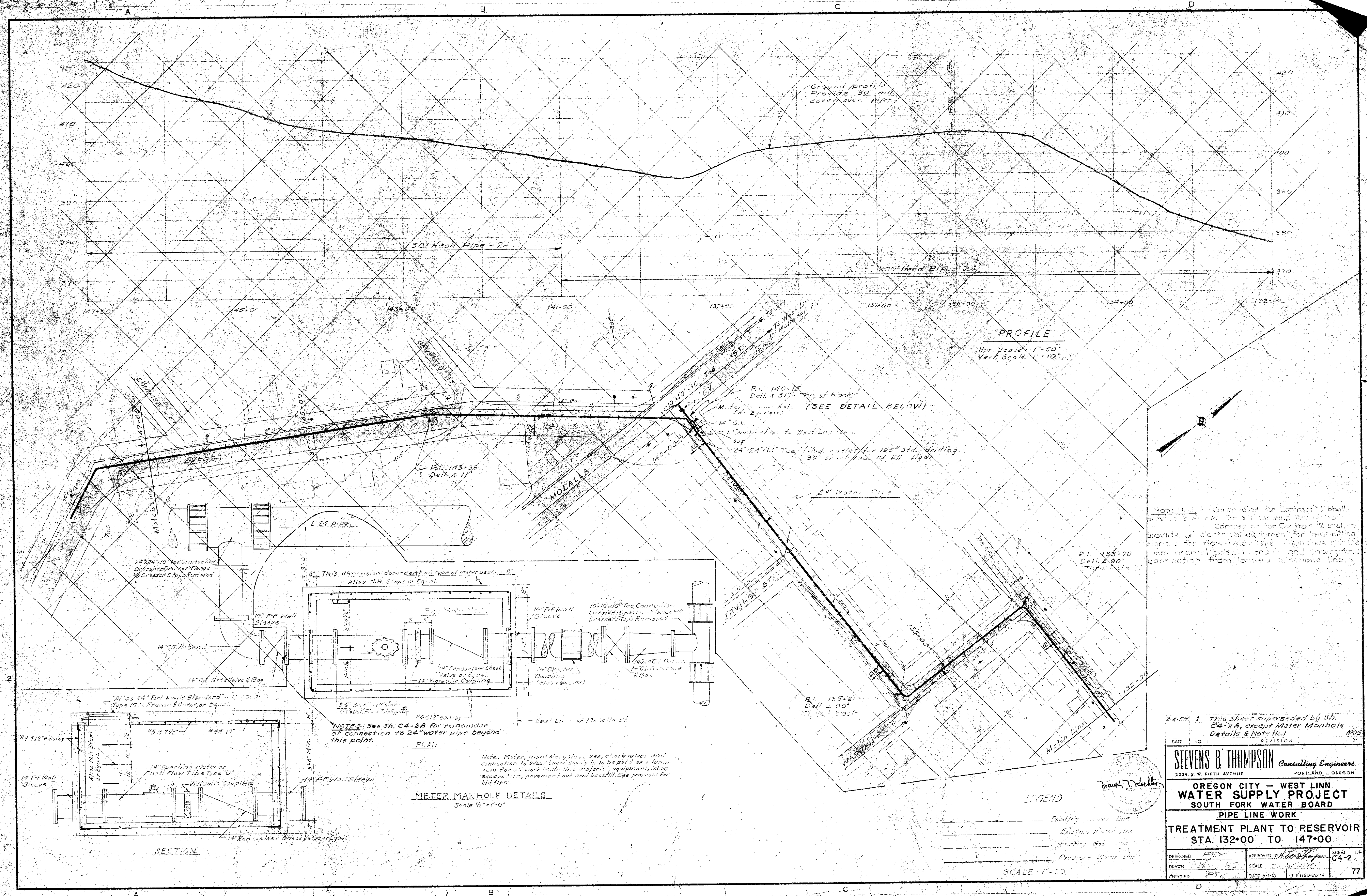


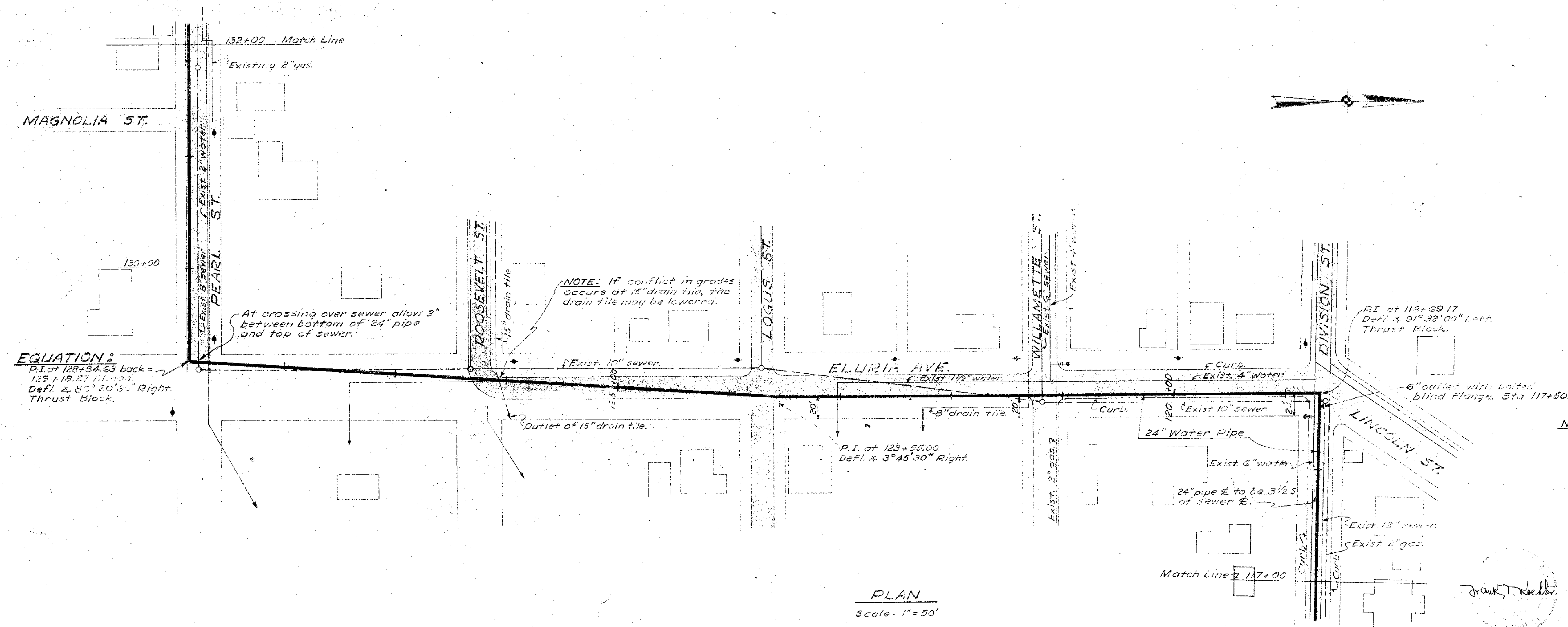
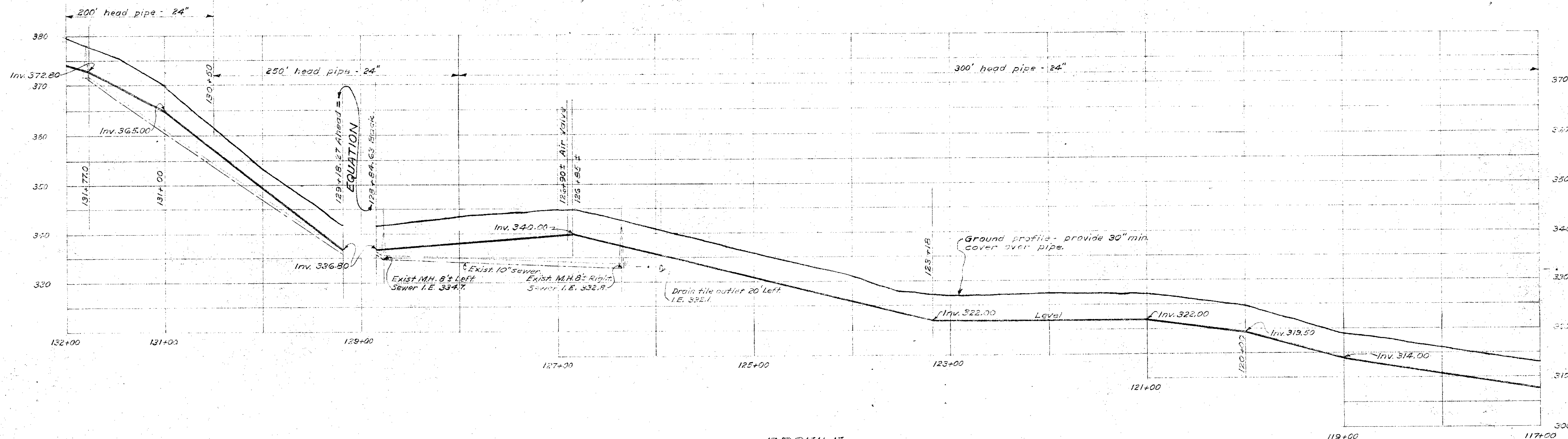
TYPICAL PIPE SUPPORT FOR USE NEAR PUMP

DETAIL "D"

DATE	NO.	REVISION	BY
2-25-59	1		ATJ
As Built			
STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND, OREGON			
OREGON CITY - WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD DIVISION STREET PUMPING STATION			
CROSS SECTION & DETAILS			
DESIGNED FTK	APPROVED BY	SHEET OF	
DRAWN HWG	SCALE NOTED	C3-5	
CHECKED FTK	DATE 8-1-59	FILED 8-1-59	
77		77	







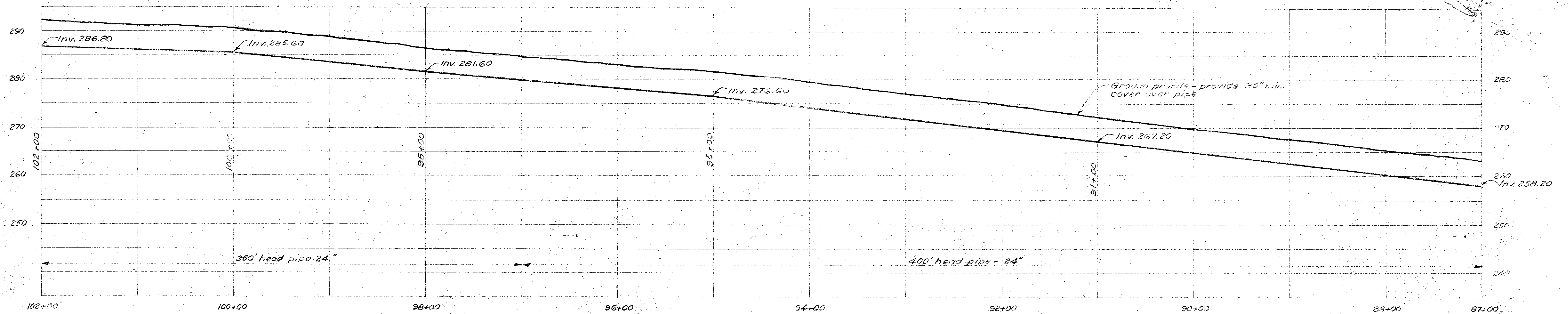
NOTE: This drawing supersedes C4-3 as to stationing, ground profile & invert grade line.

DATE	NO.	REVISION	BY

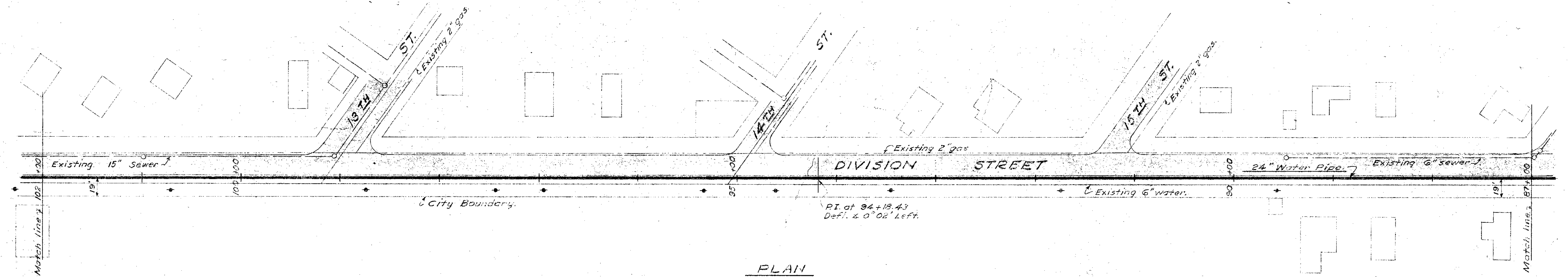
STEVENS & THOMPSON Consulting Engineers	
2334 S. W. FIFTH AVENUE PORTLAND 1, OREGON	
OREGON CITY — WEST LINN	
WATER SUPPLY PROJECT	
SOUTH FORK WATER BOARD	
<u>PIPE LINE WORK</u>	
TREATMENT PLANT TO RESERVOIR	
STA. 117+00 TO 132+00	

DESIGNED: F.T.K.	APPROVED BY: M.O.S.	SHEET: C4-3A
DRAWN: M.O.S.	SCALE: AS SHOWN	
CHECKED: F.T.K.	DATE: 2-5-58	FILE: 160-3095A

77



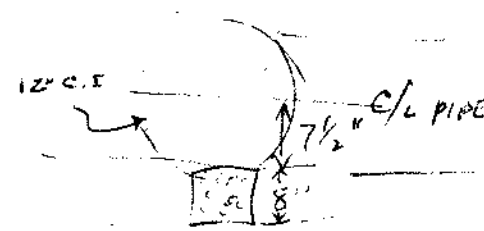
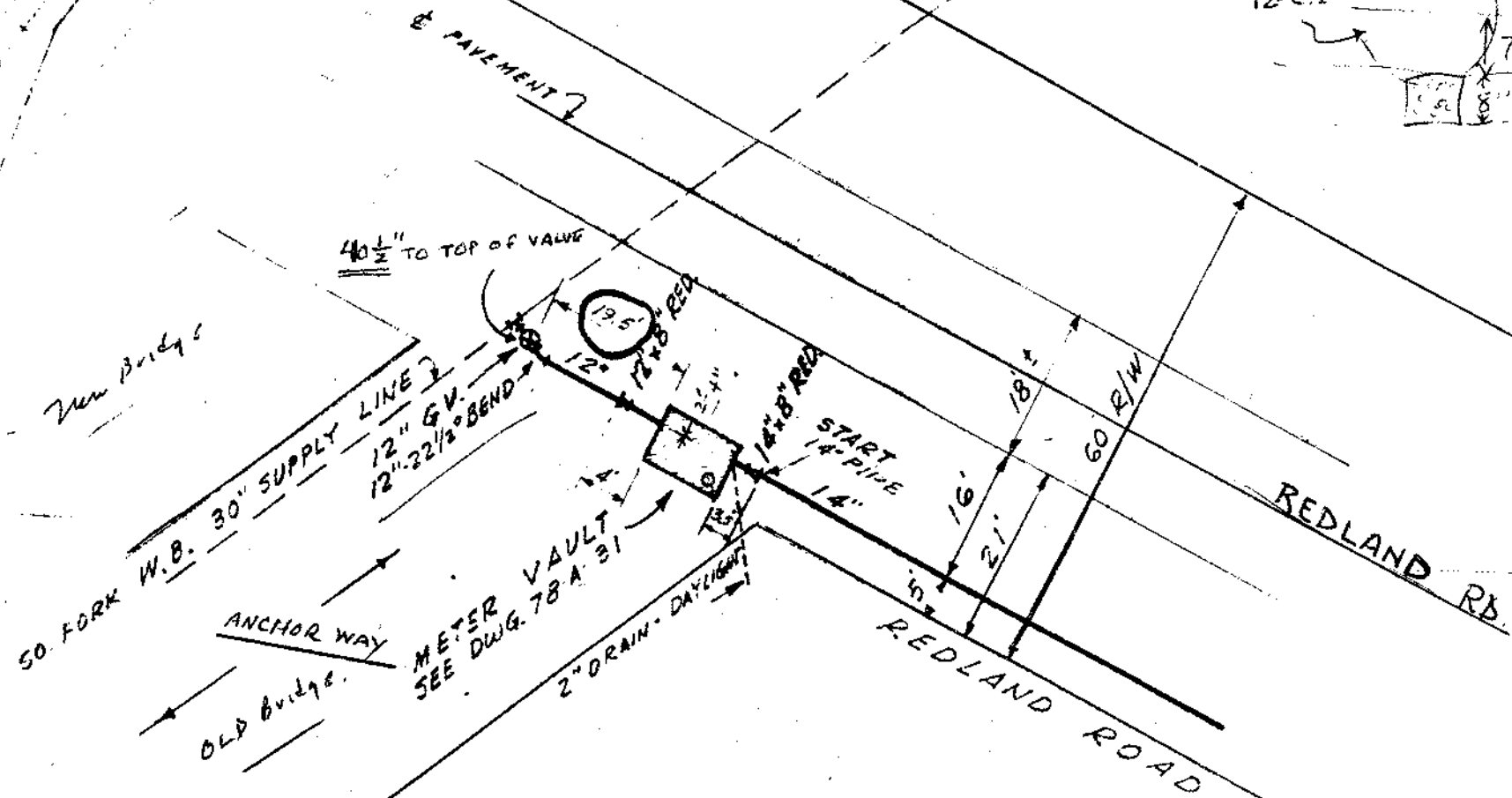
PROFILE
 Hor. Scale: 1"=50'
 Vert. Scale: 1"=10'



PLAN
 Scale: 1"=50'

NOTE: This drawing supersedes C4-5 as to stationing, ground profile & invert grade line.

DATE	NO.	REVISION	BY
STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND, OREGON			
OREGON CITY — WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD PIPE LINE WORK			
TREATMENT PLANT TO RESERVOIR STA. 87+00 TO 102+00			
DESIGNED F.T.K.	DRAWN M.D.S.	CHECKED F.T.K.	APPROVED BY SCALE AS SHOWN DATE 2-5-59 FILE 100-30374
			SHEET OF C4-5A



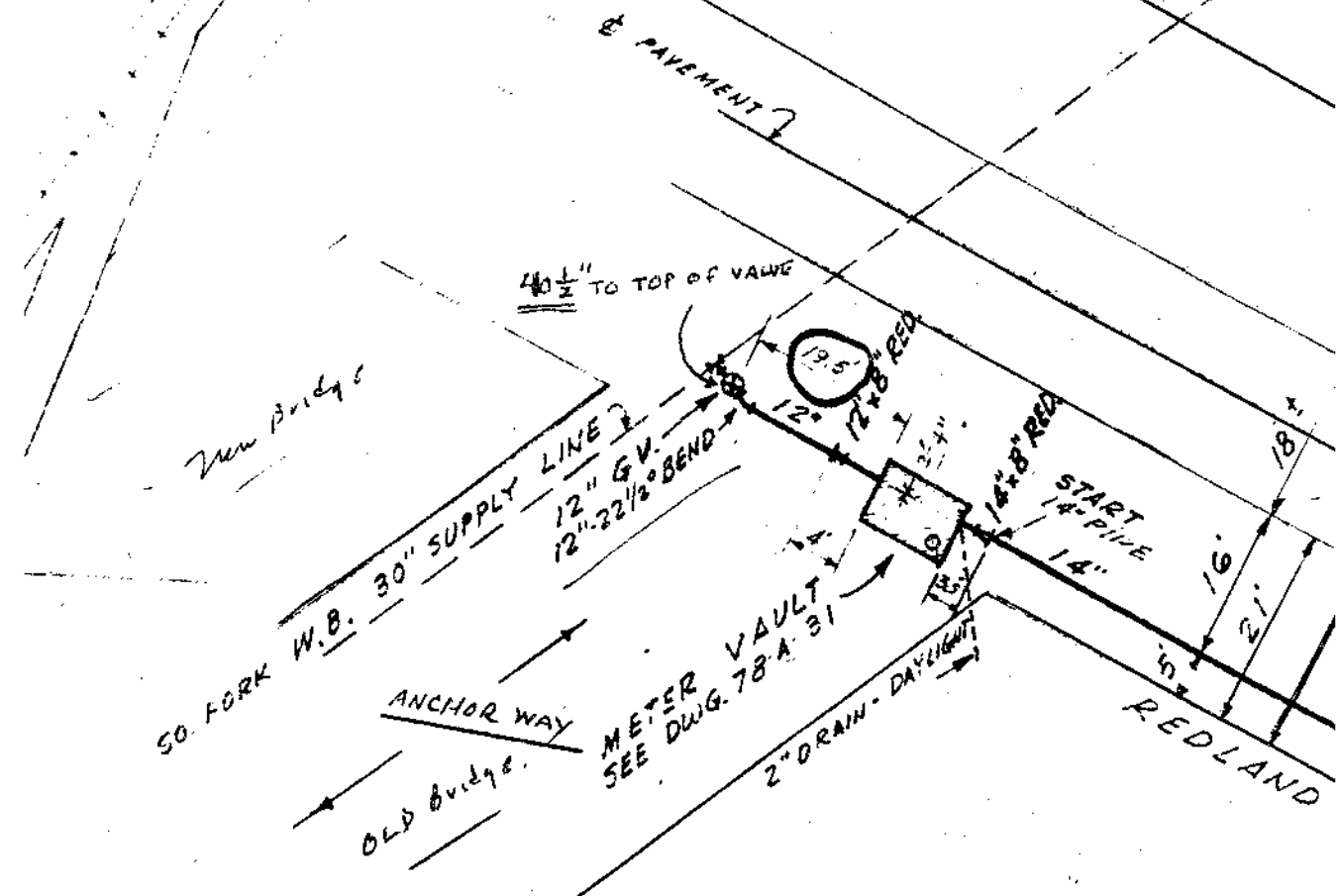
CONNECTION TO 30" SUPPLY LINE (47)

SCALE: 1"=20'

NOTE:

S.F. 30" LINE IS ON ^{SOUTHEAST} EAST SIDE OF BRIDGE.
BRIDGE WAS REPLACED?

57	57
(32)	
32.3	
32.2	
(32)	
32.1	
46.1	



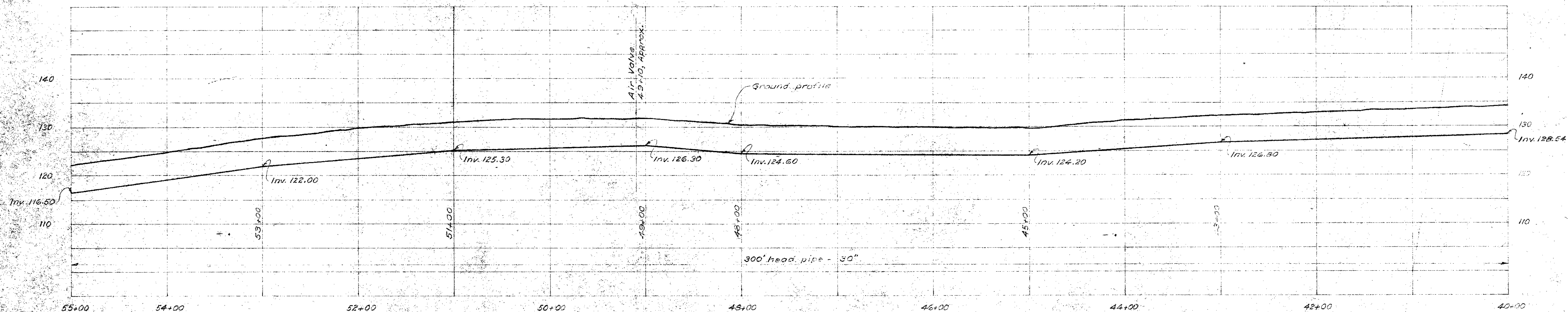
CONNECTION TO 30" SUPPLY

SCALE: 1"=20'

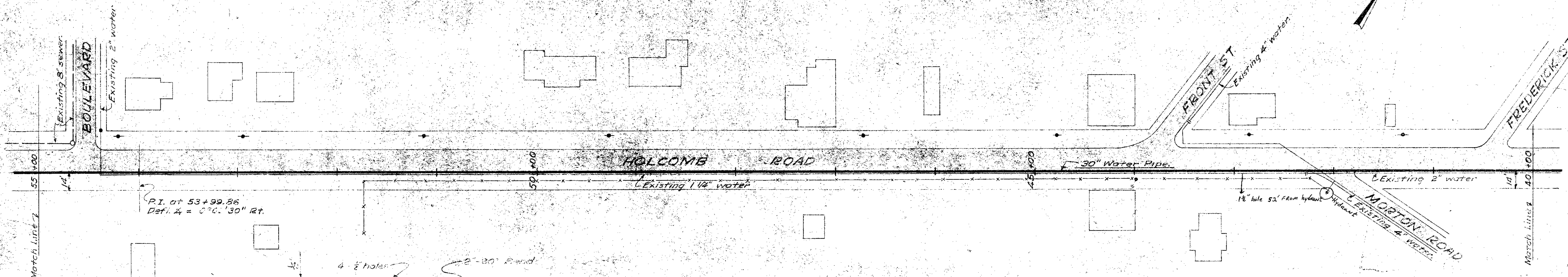
NOTE:

S.F. 30" LINE IS ON ^{SOUTHWEST} WEST SIDE OF BRIDGE.
BRIDGE WAS REPLACED?

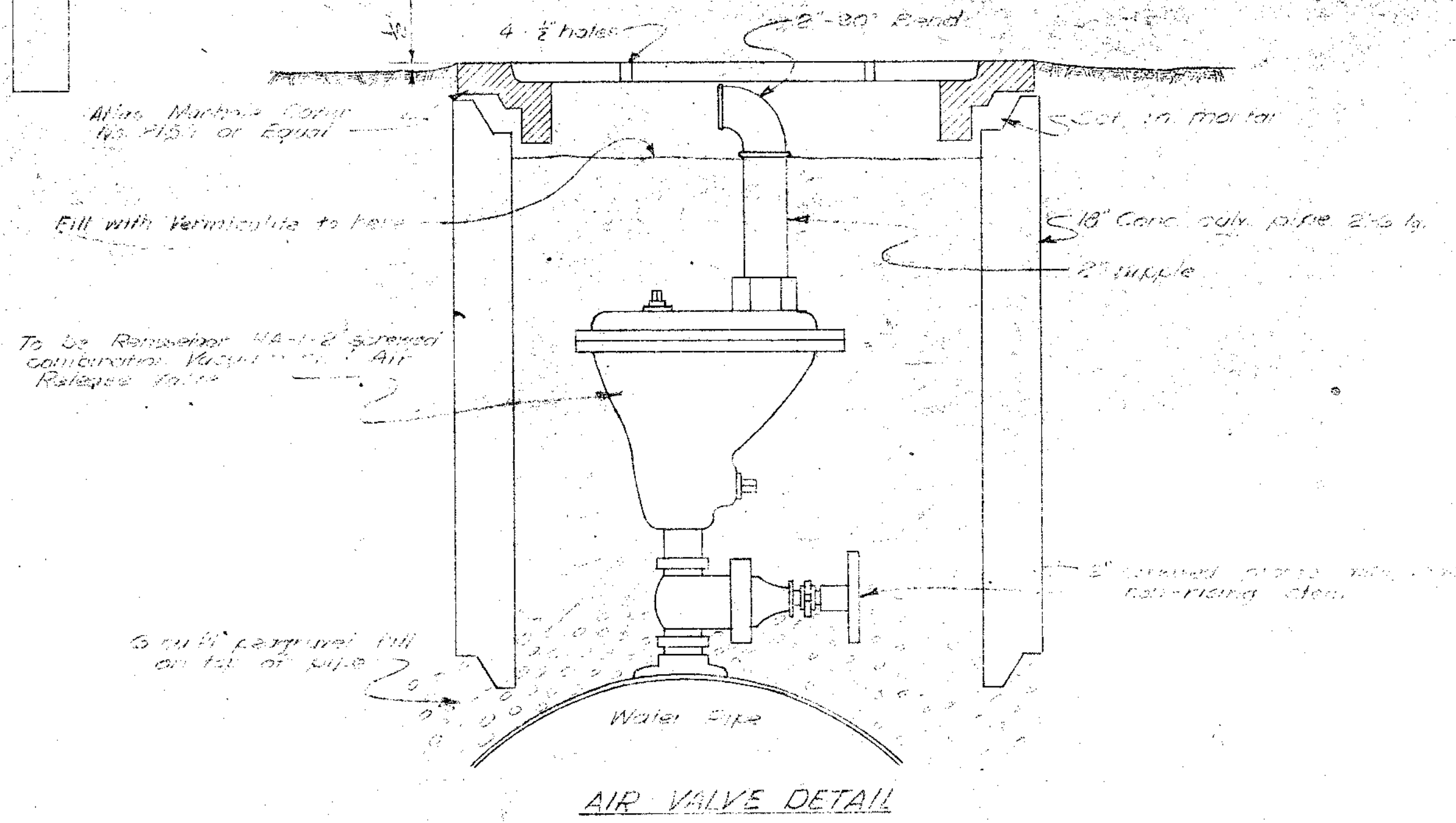
(48)



PROFILE
 Hor. Scale 1"=50'
 Vert. Scale 1"=10'



PLAN
 Scale 1"=50'

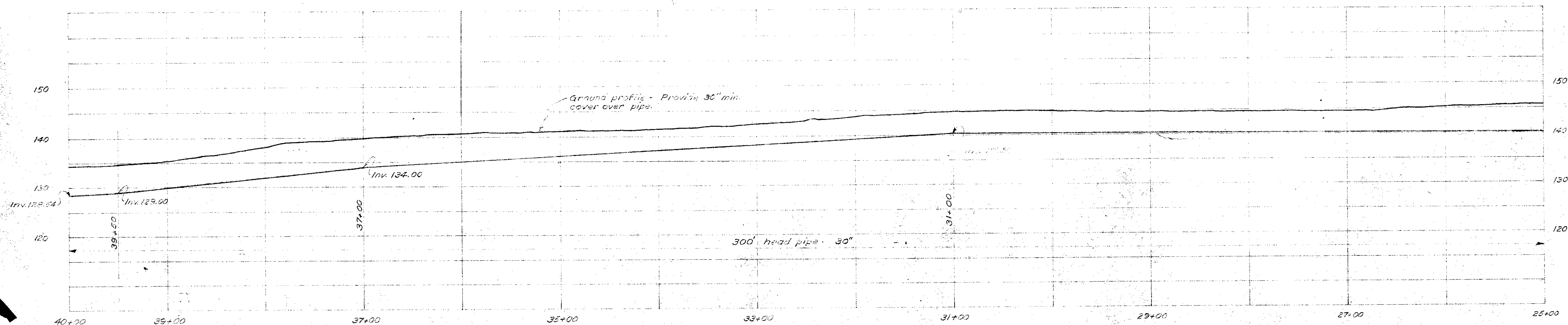


LEGEND

- Existing Sewer Line
- Existing Water Line
- Existing Gas Line
- Proposed Water Line

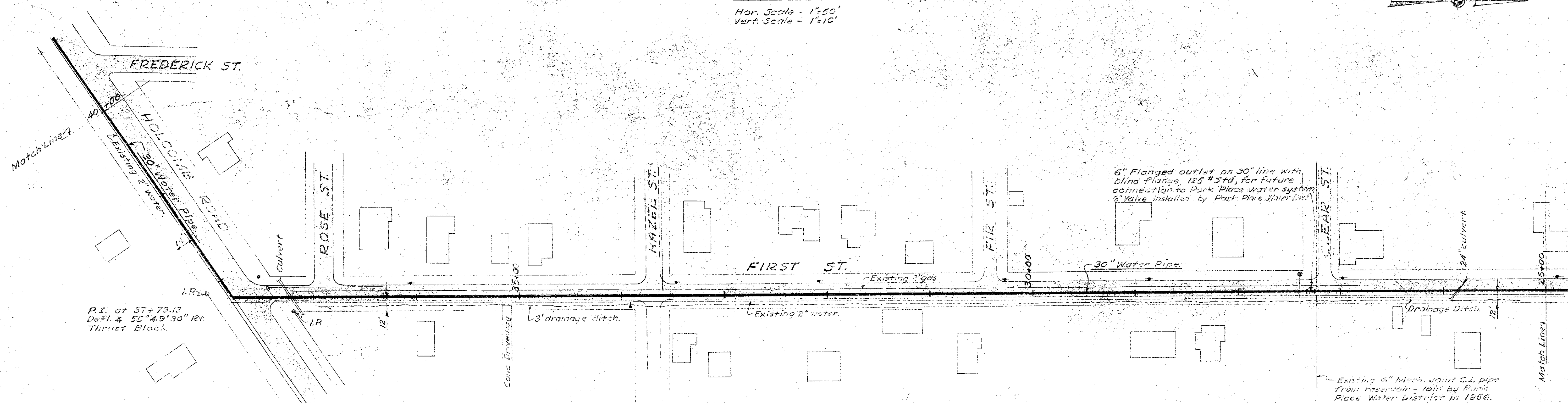
NOTE: This drawing supersedes C4-8 as to stationing, ground profile & invert grade line.

DATE	NO.	REVISION	BY
STEVENS & THOMPSON Consulting Engineers 2234 S.W. FIFTH AVENUE PORTLAND 1, OREGON OREGON CITY — WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD PIPE LINE WORK TREATMENT PLANT TO RESERVOIR STA. 40+00 TO 55+00			
DESIGNED BY	APPROVED BY	SCALE	SHEET
F.T.K. M.C.S. F.T.K.	F.T.K. M.C.S. F.T.K.	As Shown DATE 1-17-55 REG 165-31004	C4-8A



PROFILE

Hor. Scale - 1"=50'
Vert. Scale - 1"=10'

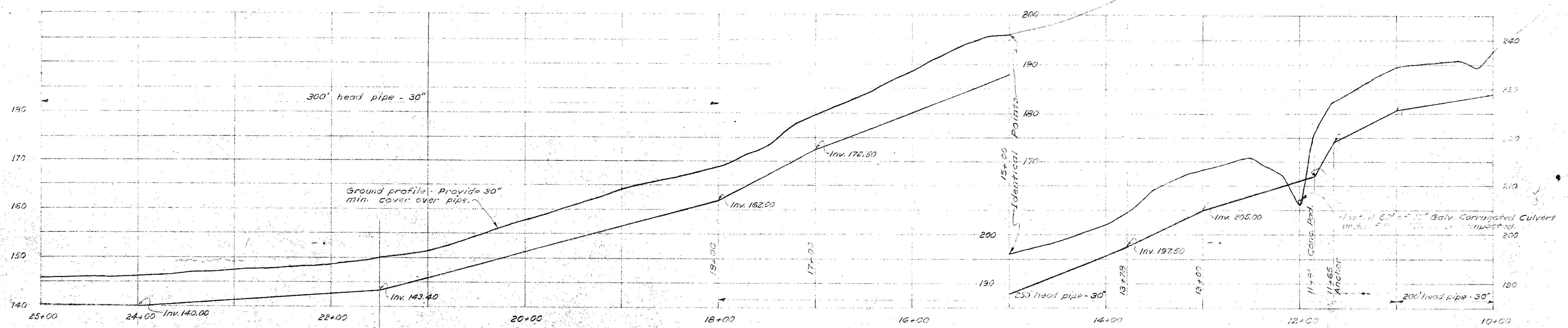


PLAN

Scale 1"=50'

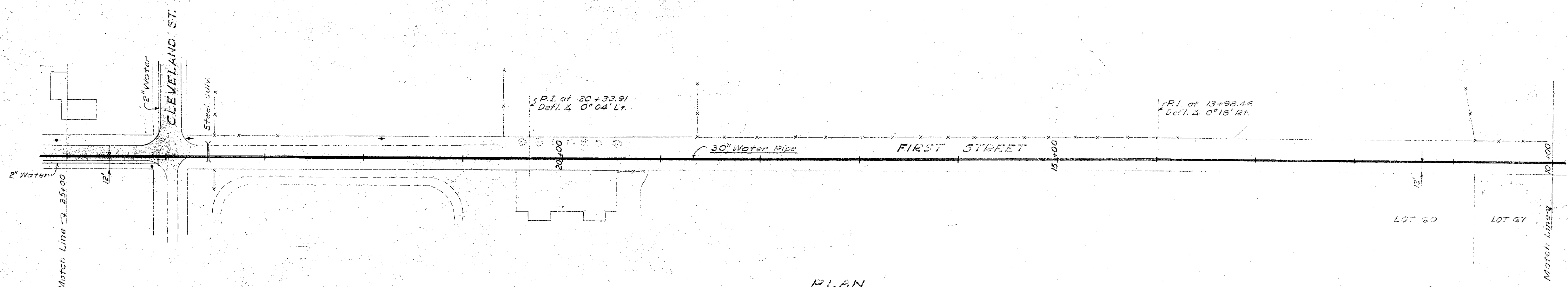
NOTE: This drawing supersedes C4-8 as to stationing, ground profile & invert grade line.

DATE	NO.	REVISION	BY
STEVENS & THOMPSON Consulting Engineers 2234 S.W. FIFTH AVENUE PORTLAND 1, OREGON			
OREGON CITY — WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD PIPE LINE WORK			
TREATMENT PLANT TO RESERVOIR STA. 25+00 TO 40+00			
DESIGNED F.T.K.	APPROVED BY [Signature]	SHEET C4-9A	77
DRAWN M.S.S.	SCALE AS SHOWN		
CHECKED F.T.K.	DATE 1-17-58 FILE 1480-3101A		



PROFILE

Hor. Scale 1"=50'
Vert. Scale 1"=10'

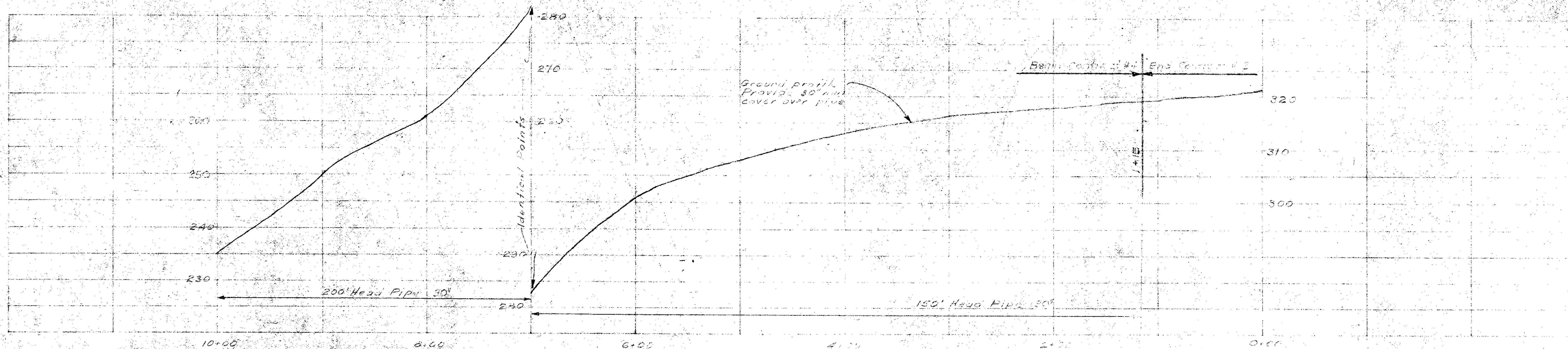


PLAN

Scale: 1"=50'

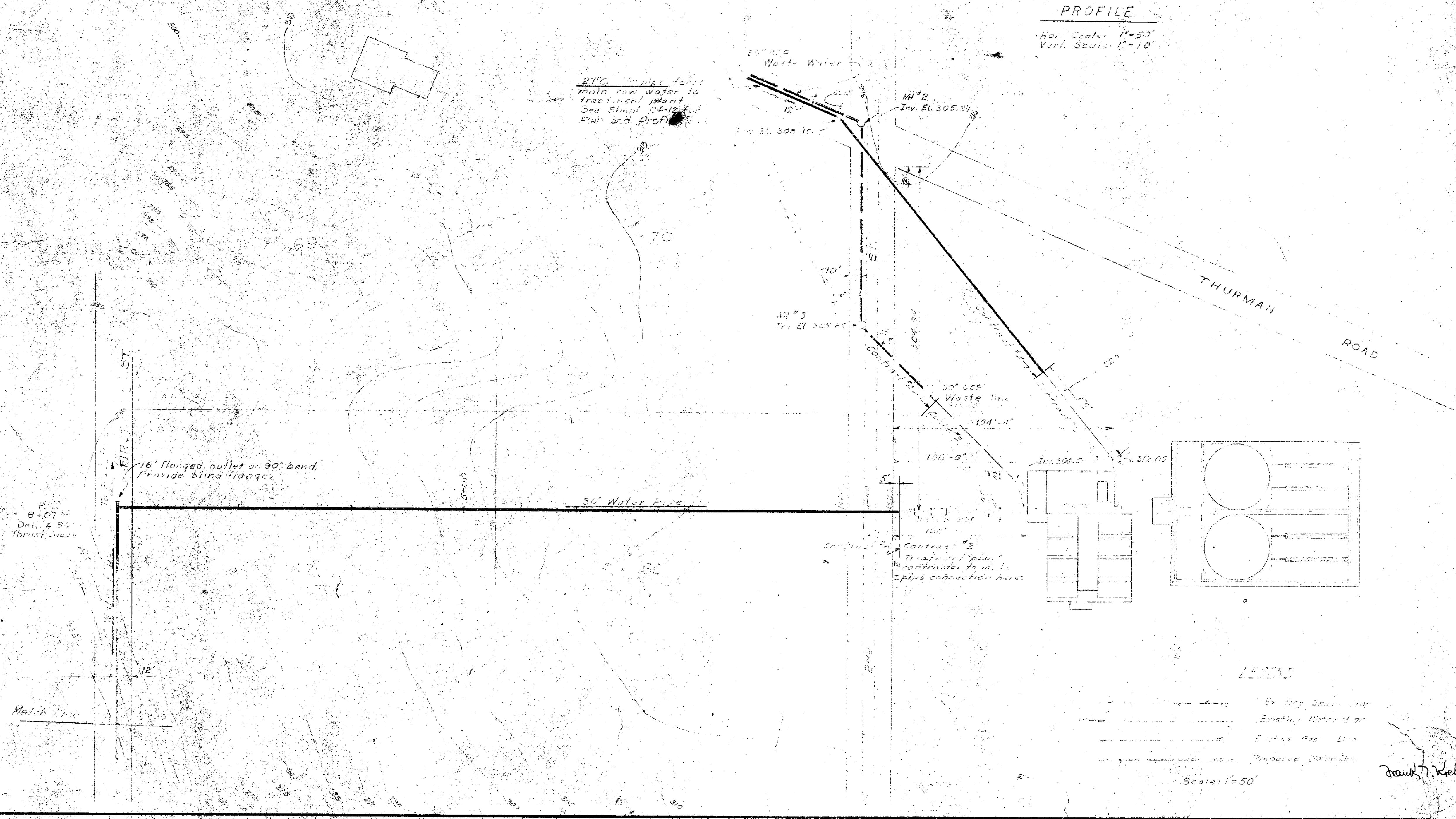
NOTE: This drawing supersedes C4-10 as to stationing, ground profile & invert grade line.

DATE		NO.		REVISION		BY	
STEVENS & THOMPSON Consulting Engineers 2234 S.W. FIFTH AVENUE PORTLAND 1, OREGON							
OREGON CITY — WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD PIPE LINE WORK							
TREATMENT PLANT TO RESERVOIR STA. 10+00 TO 25+00							
DESIGNED	F.T.K.	APPROVED BY	[Signature]	SCALE	AS SHOWN	DATE	1-17-58
DRAWN	M.S.S.	CHECKED	F.T.K.	FILE	1150-302A	77	



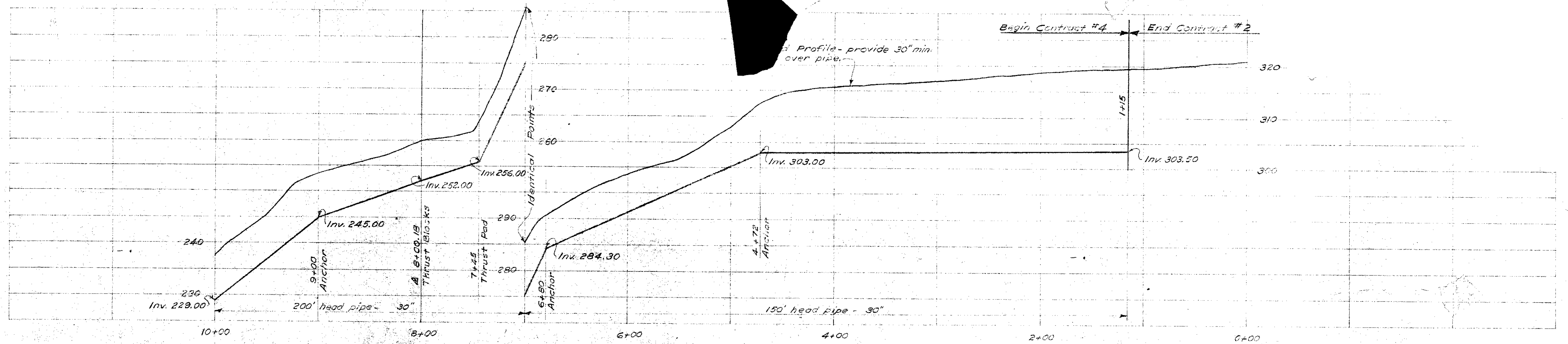
PROFILE

Hor. Scale: 1"=50'
Vert. Scale: 1"=10'

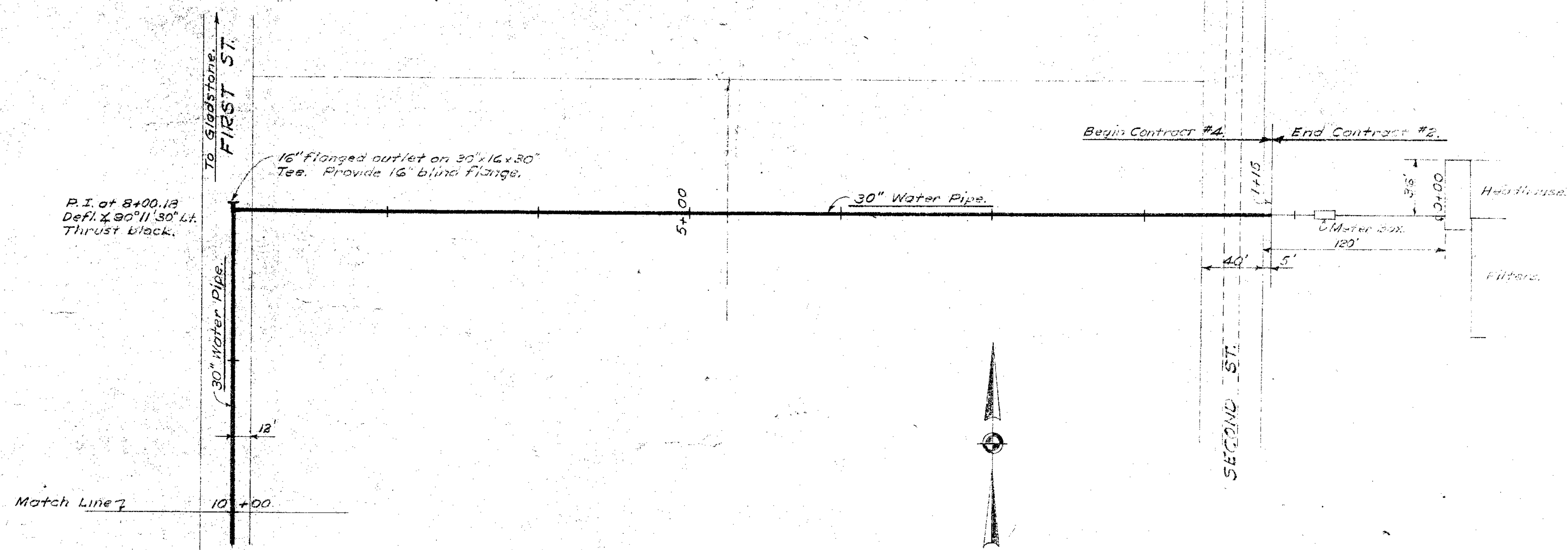


Note:
See Sht. C4-11A

DATE	NO.	REVISION	BY
STEVENS & THOMPSON Consulting Engineers 2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON			
OREGON CITY - WEST LINN WATER SUPPLY PROJECT SOUTH FORK WATER BOARD PIPE LINE WORK			
TREATMENT PLANT TO RESERVOIR STA. 0+00 TO 10+00			
DESIGNED: F.T.K.	APPROVED: [Signature]	SHEET 77 OF 77	
DRAWN: B.M.	H.S.	SCALE AS SHOWN	
CHECKED: F.T.K.	DATE: 8-1-59	FILE: 3183	



PROFILE
 Hor. scale 1" = 50'
 Vert. scale 1" = 10'



PLAN
 Scale 1" = 50'

NOTE: This drawing supersedes C4-11 as to stationing, ground profile & invert grade line.

DATE NO. REVISION BY

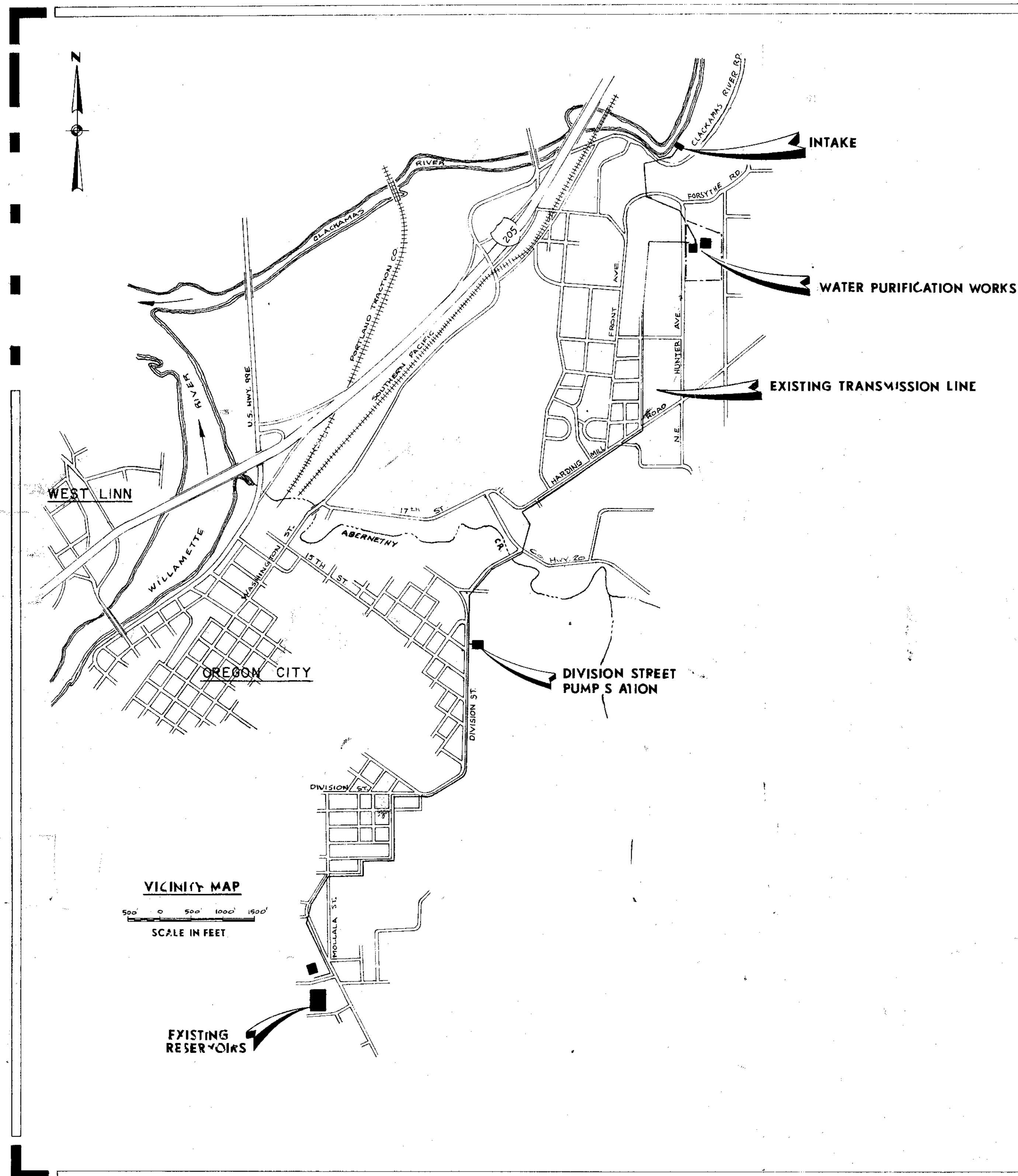
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 2234 S. W. FIFTH AVENUE PORTLAND 1, OREGON

OREGON CITY — WEST LINN
WATER SUPPLY PROJECT
 SOUTH FORK WATER BOARD
 PIPE LINE WORK

TREATMENT PLANT TO RESERVOIR
 STA. 0+00 TO 10+00

DESIGNED BY E.J.K. APPROVED BY K.S.S.
 DRAWN BY K.S.S. SCALE 1"

F.T. Keller

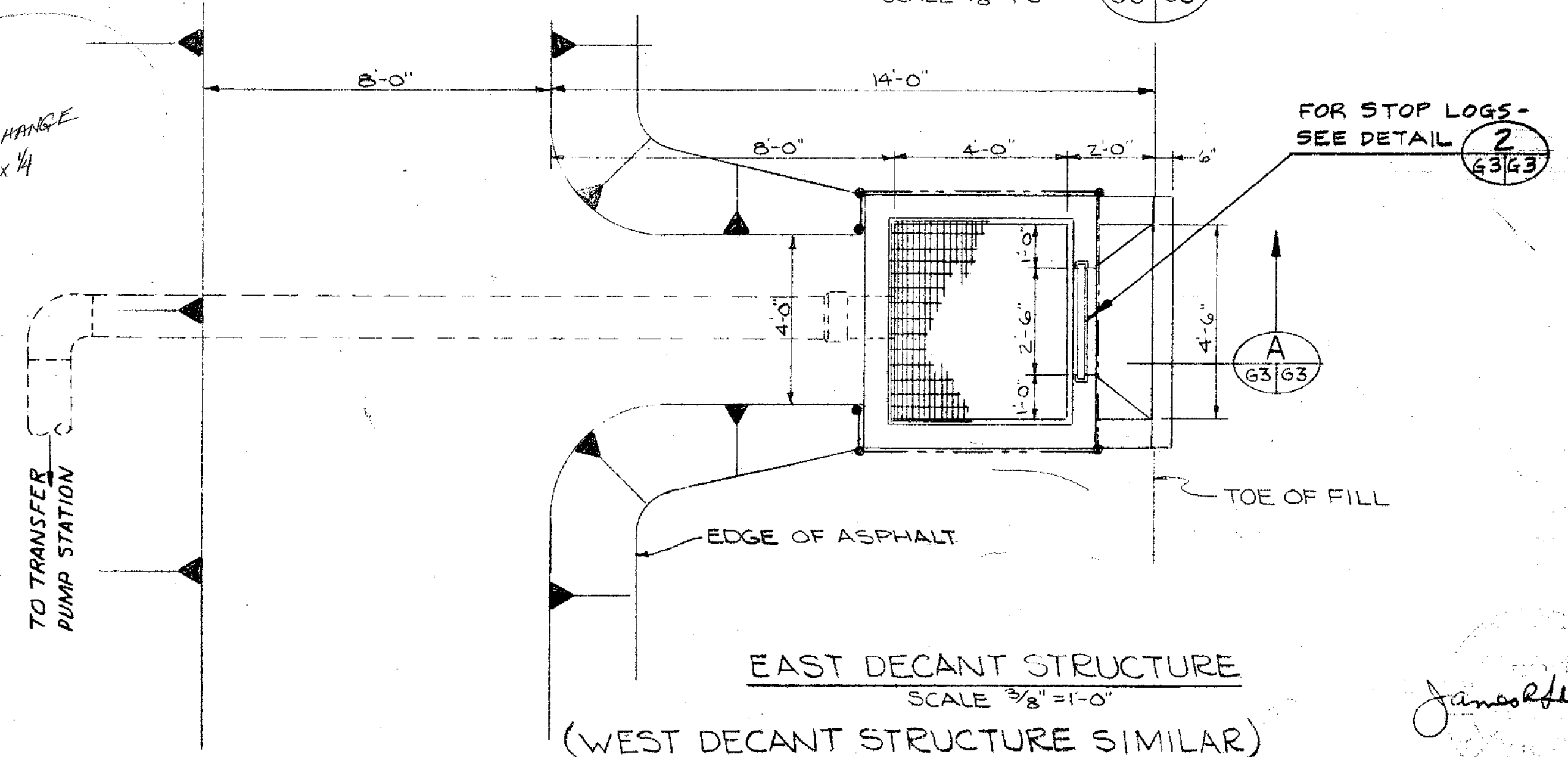
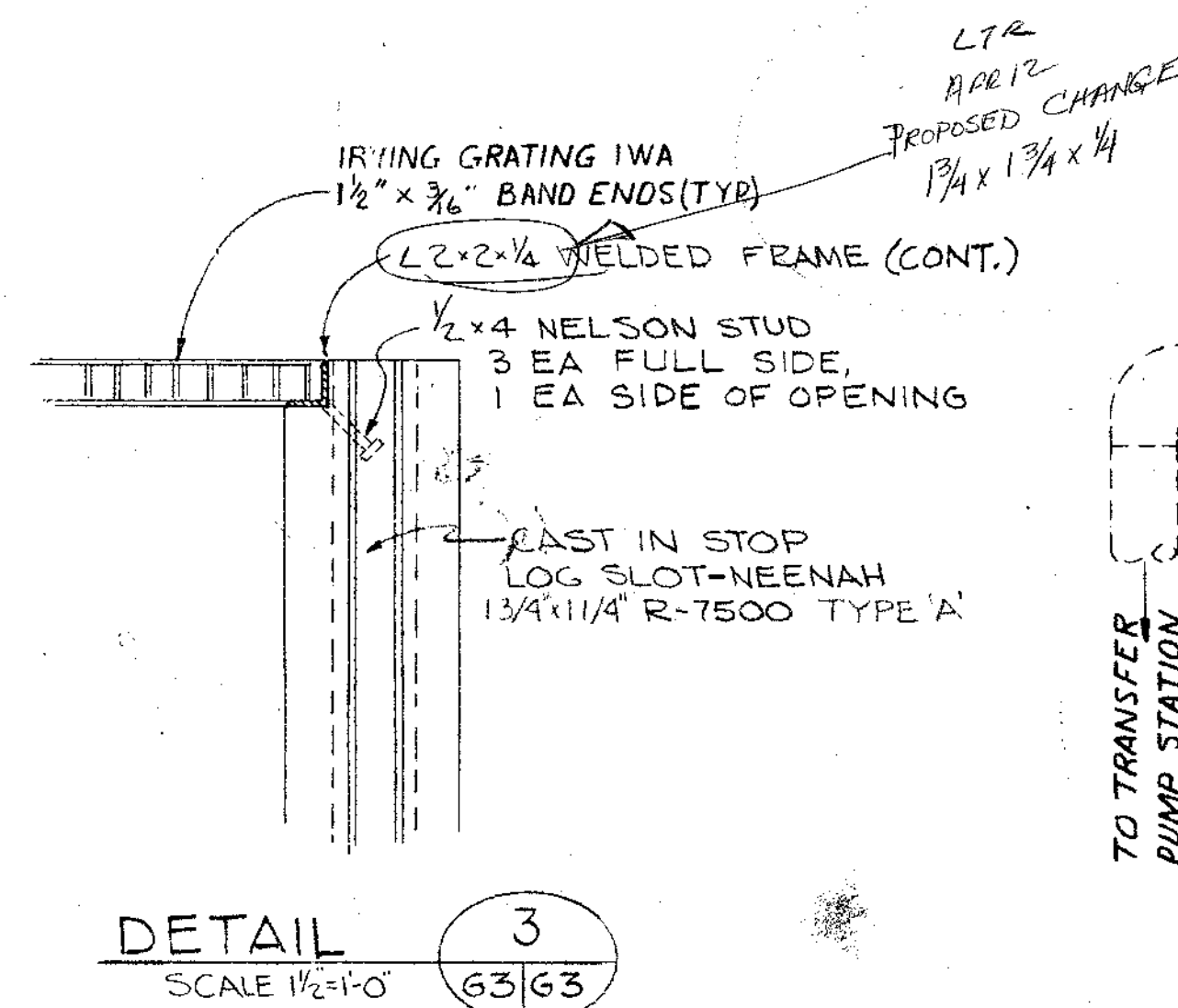
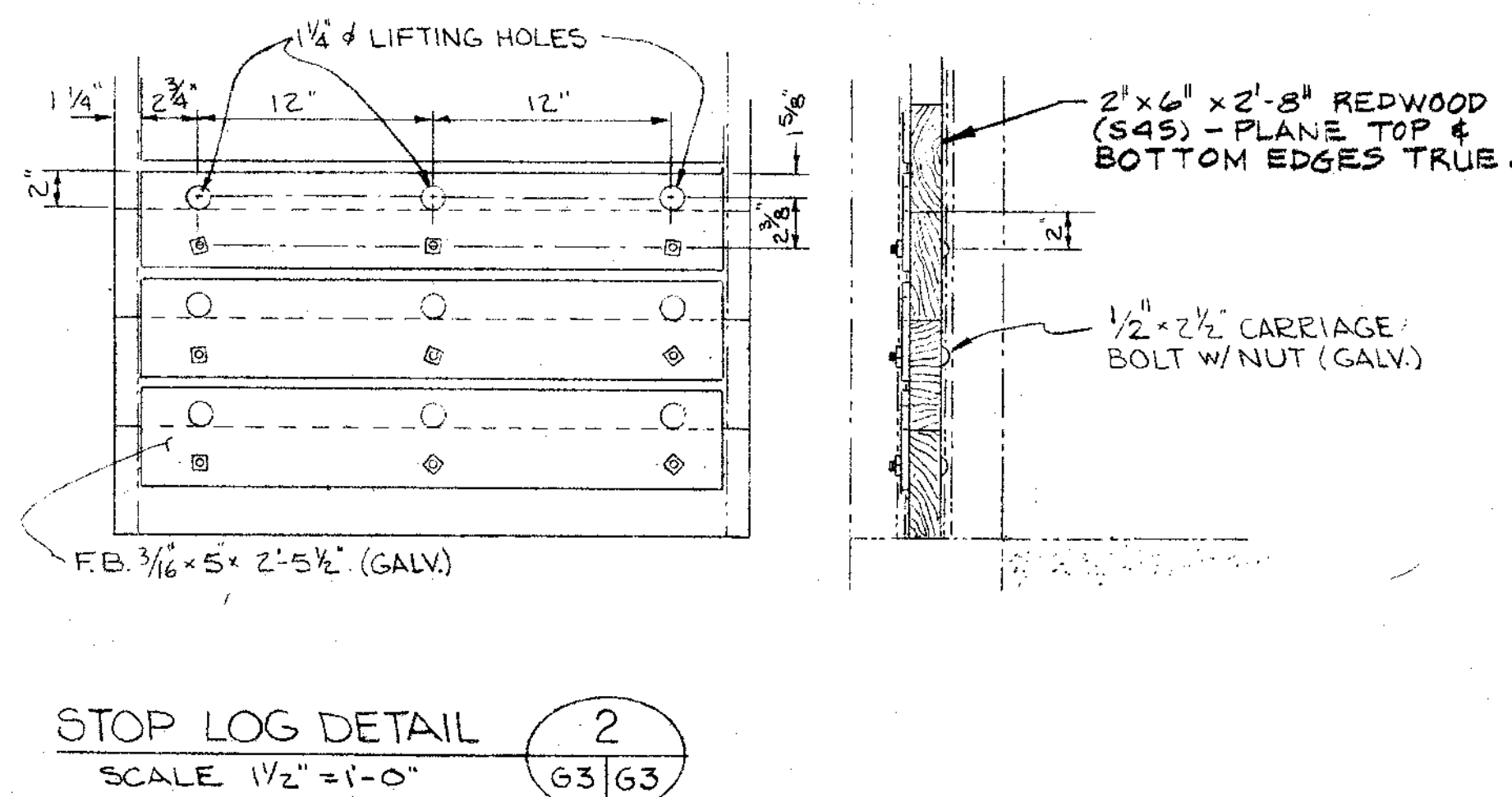
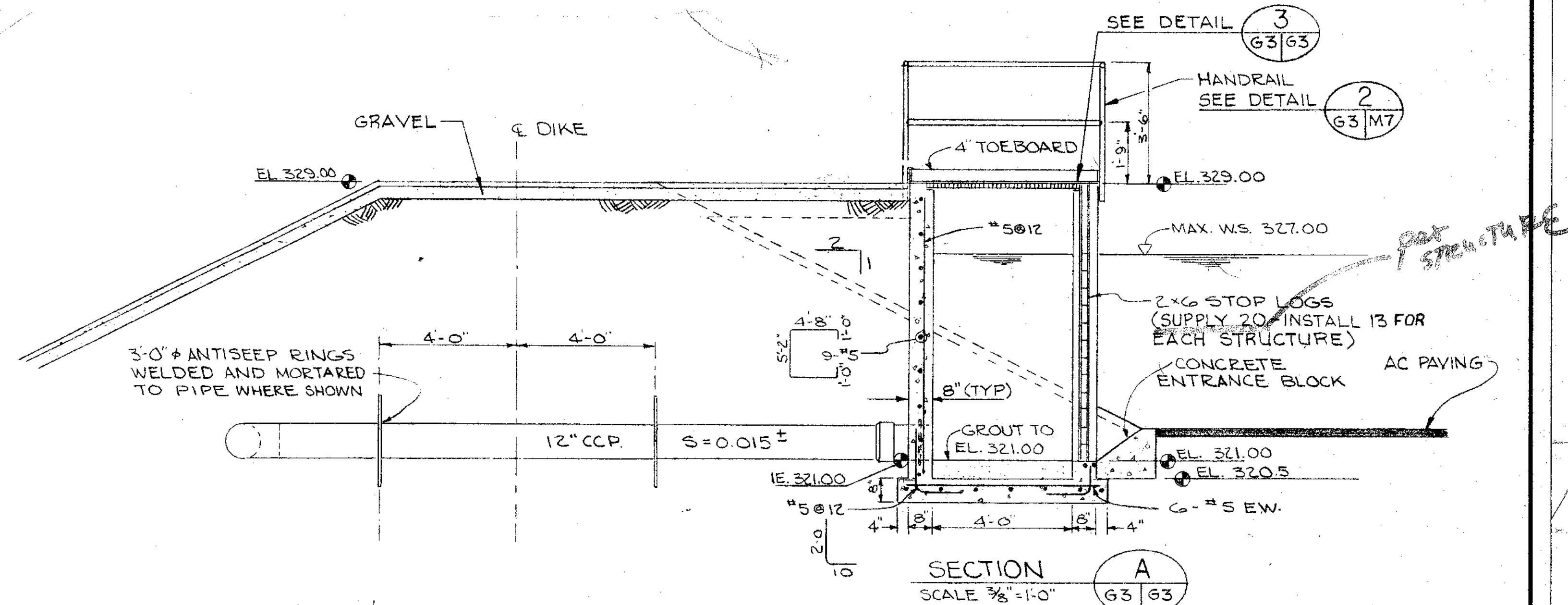
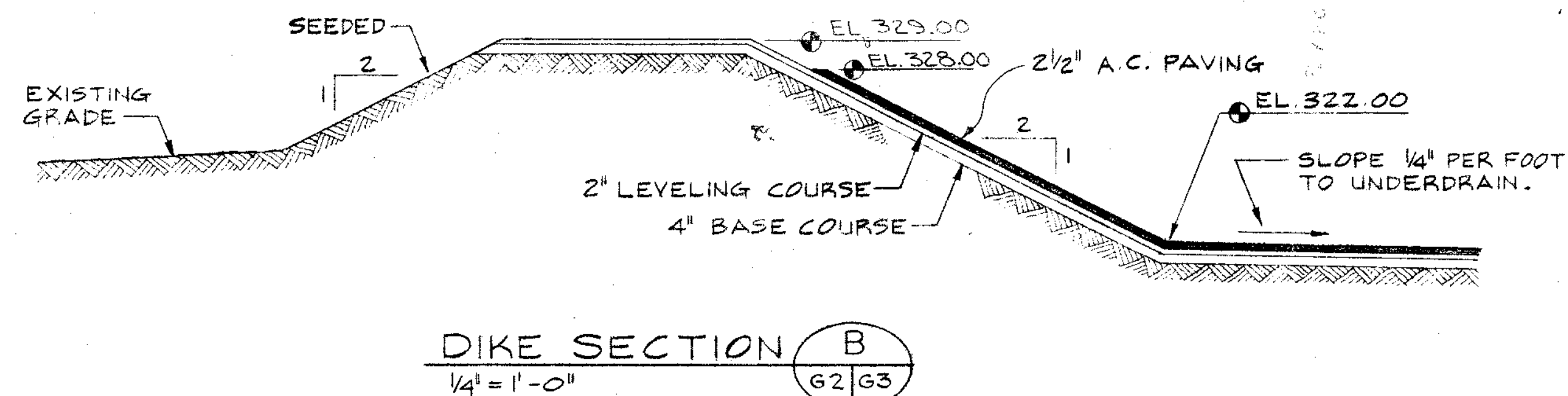
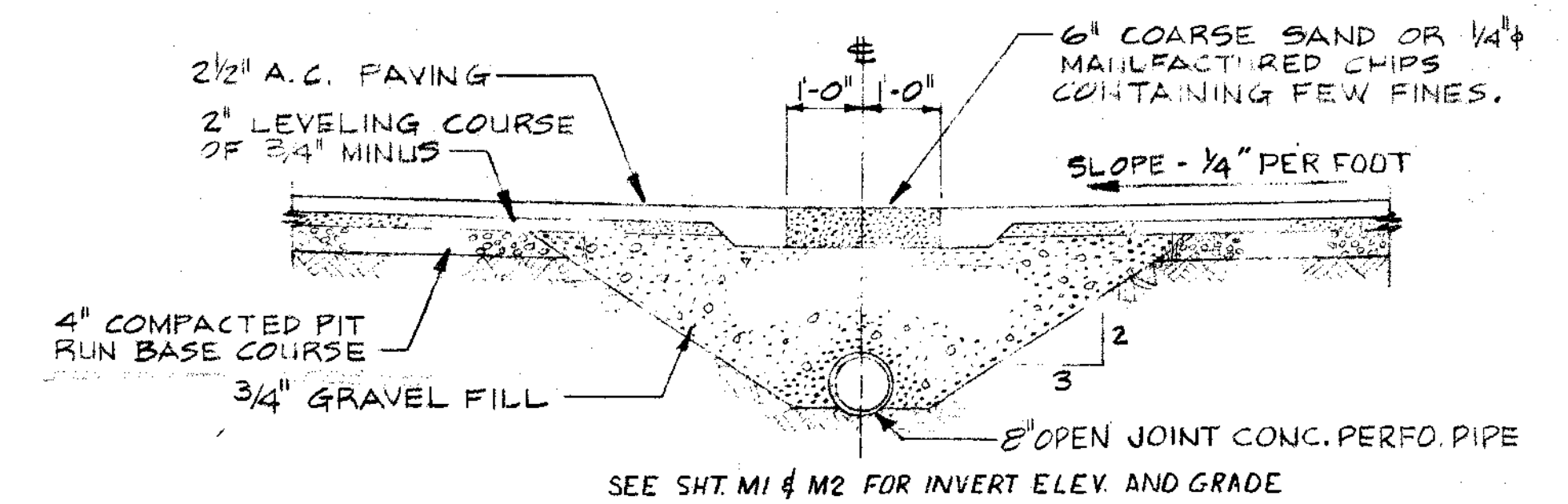
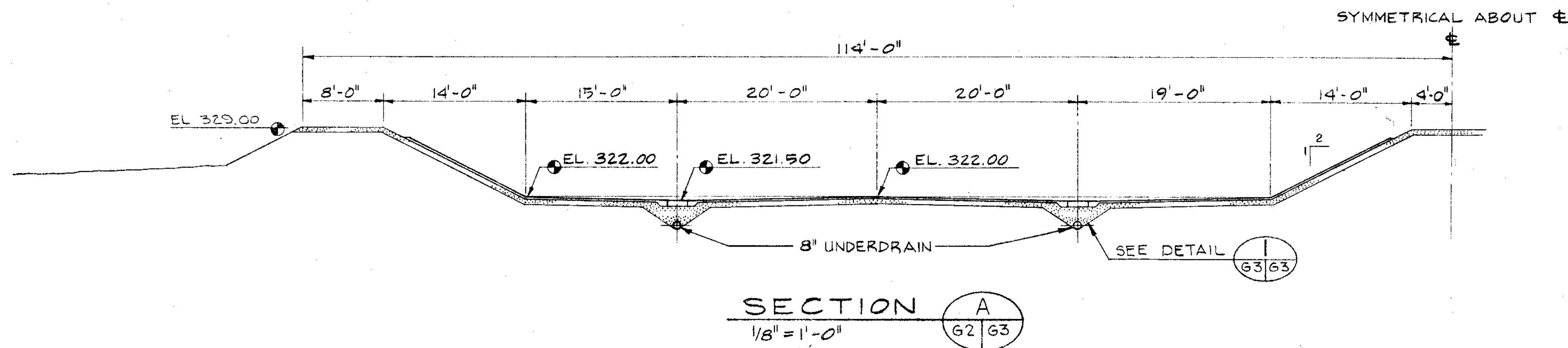


SOUTH FORK WATER BOARD OREGON CITY - WEST LINN

WATER WORKS MODIFICATIONS

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A1	DIVISION STREET PUMP STATION ARCHITECTURAL MODIFICATIONS	73 PT 757.002 - 14851
	STRUCTURAL	
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M4	HEAD HOUSE MODIFICATIONS-FIRST FLOOR PLAN	73 PT 757.002 - 14860
M5	HEAD HOUSE MODIFICATIONS-SECOND FLOOR PLAN	73 PT 757.002 - 14861
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E6	DIVISION STREET PUMP STATION	73 PT 757.002 - 14884



DESIGNED JRS	APPROVED <i>[Signature]</i>
DRAWN DGB	SCALE AS NOTED DATE MAY, 1975
CHECKED HWT	FILE PT. 0757.002-14850

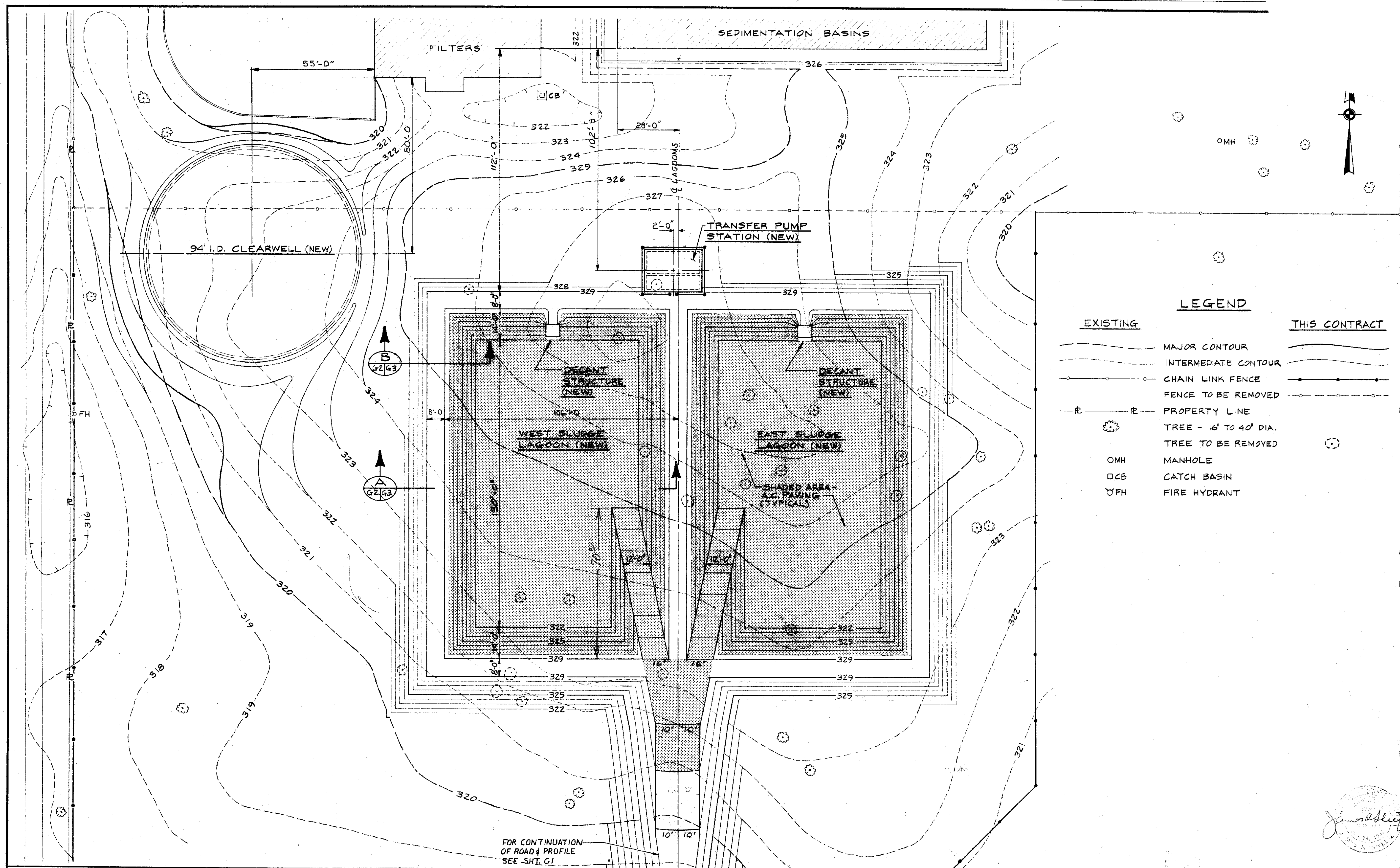


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OREGON CITY-WEST LINN
SOUTH FORK WATER BOARD
WATER WORKS MODIFICATIONS

SLUDGE LAGOON SECTIONS AND DETAILS
DECANT STRUCTURE PLAN AND SECTIONS

G3
3



DESIGNED JRS/HWT	APPROVED <i>[Signature]</i>
DRAWN DGB	SCALE 1" = 20'
CHECKED JRS	DATE MAY, 1975
FILE PT. 0757.002-14849	

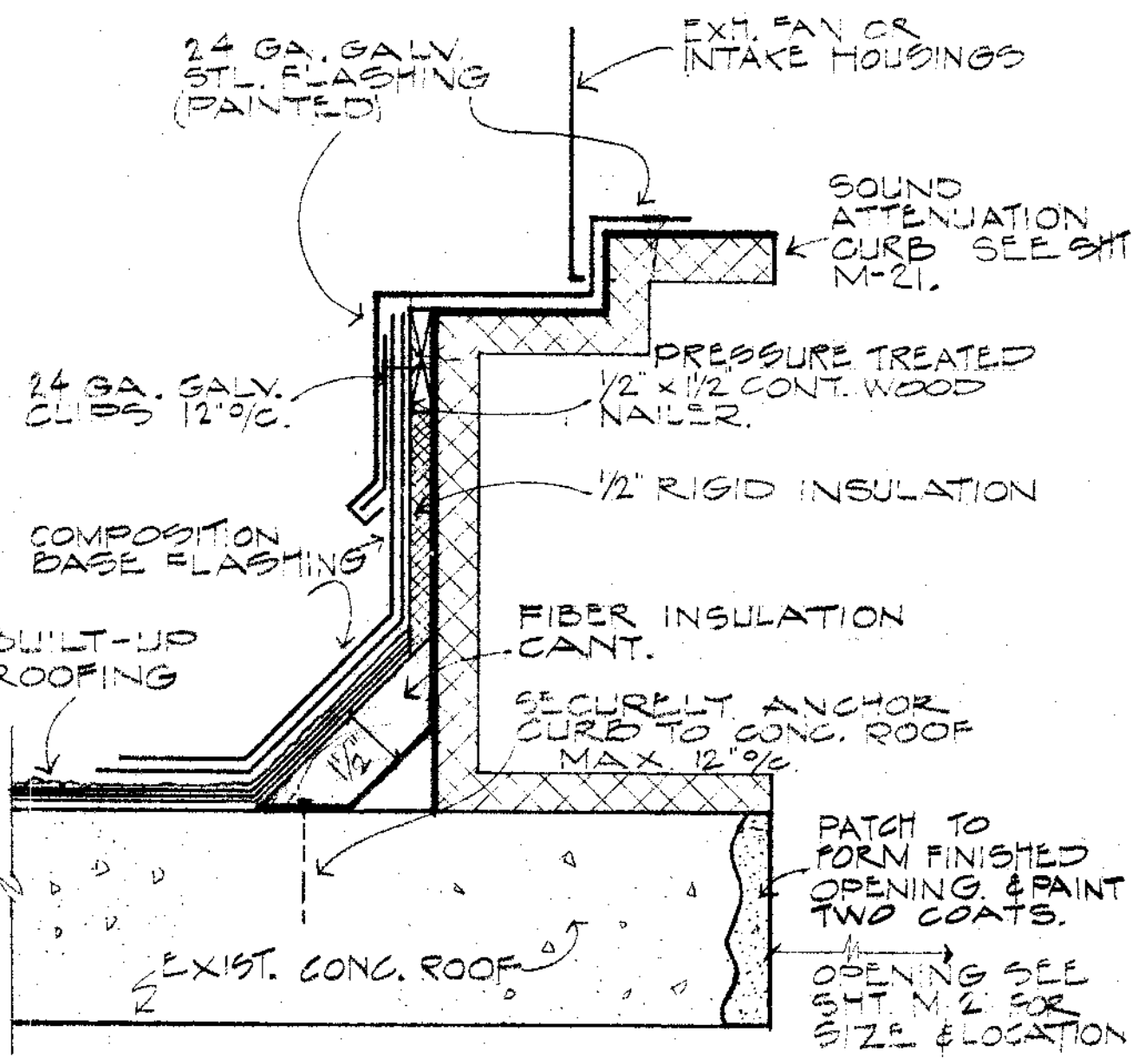
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OREGON CITY - WEST LINN
SOUTH FORK WATER BOARD
WATER WORKS MODIFICATIONS

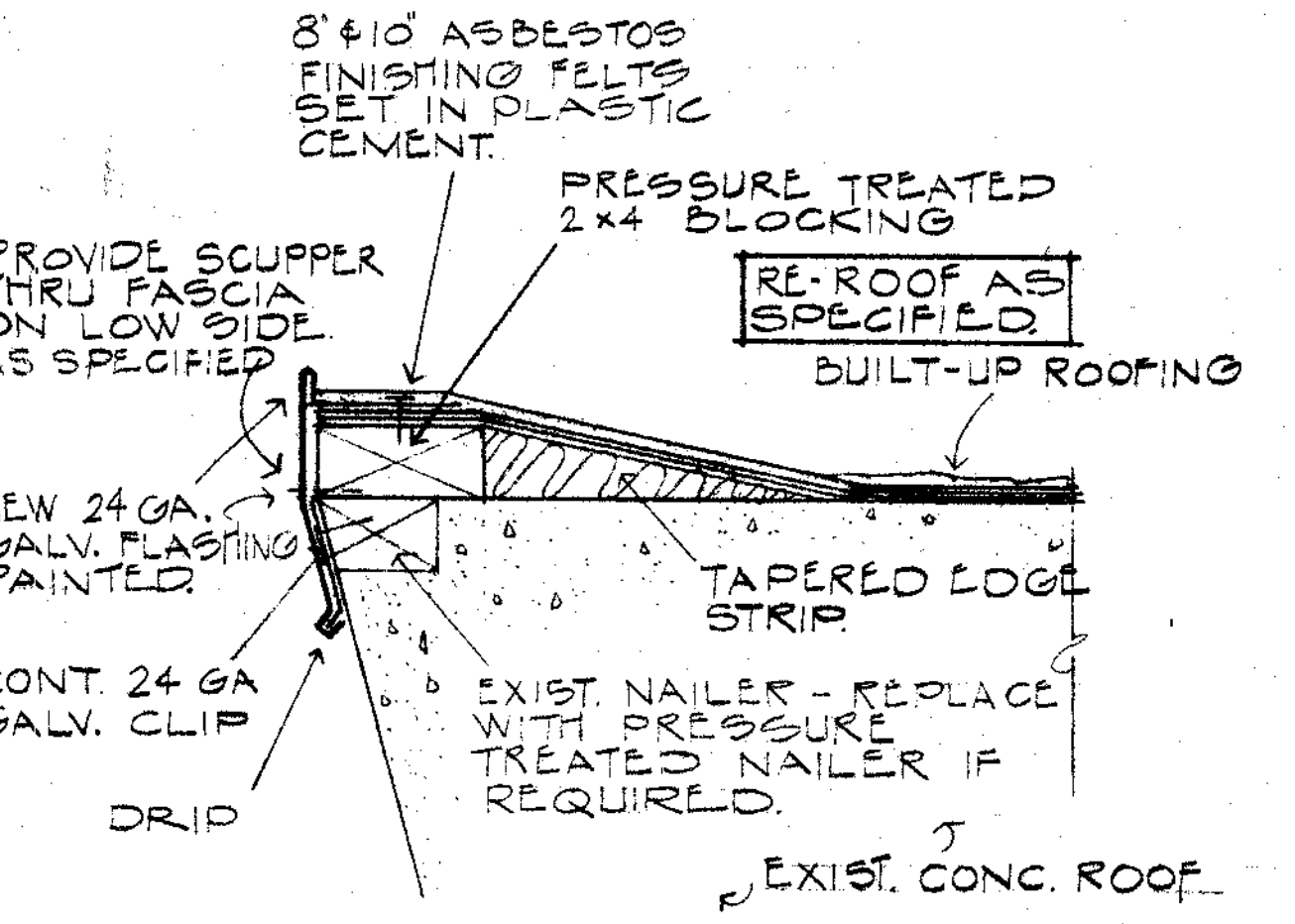
GRADING PLAN

G2
3

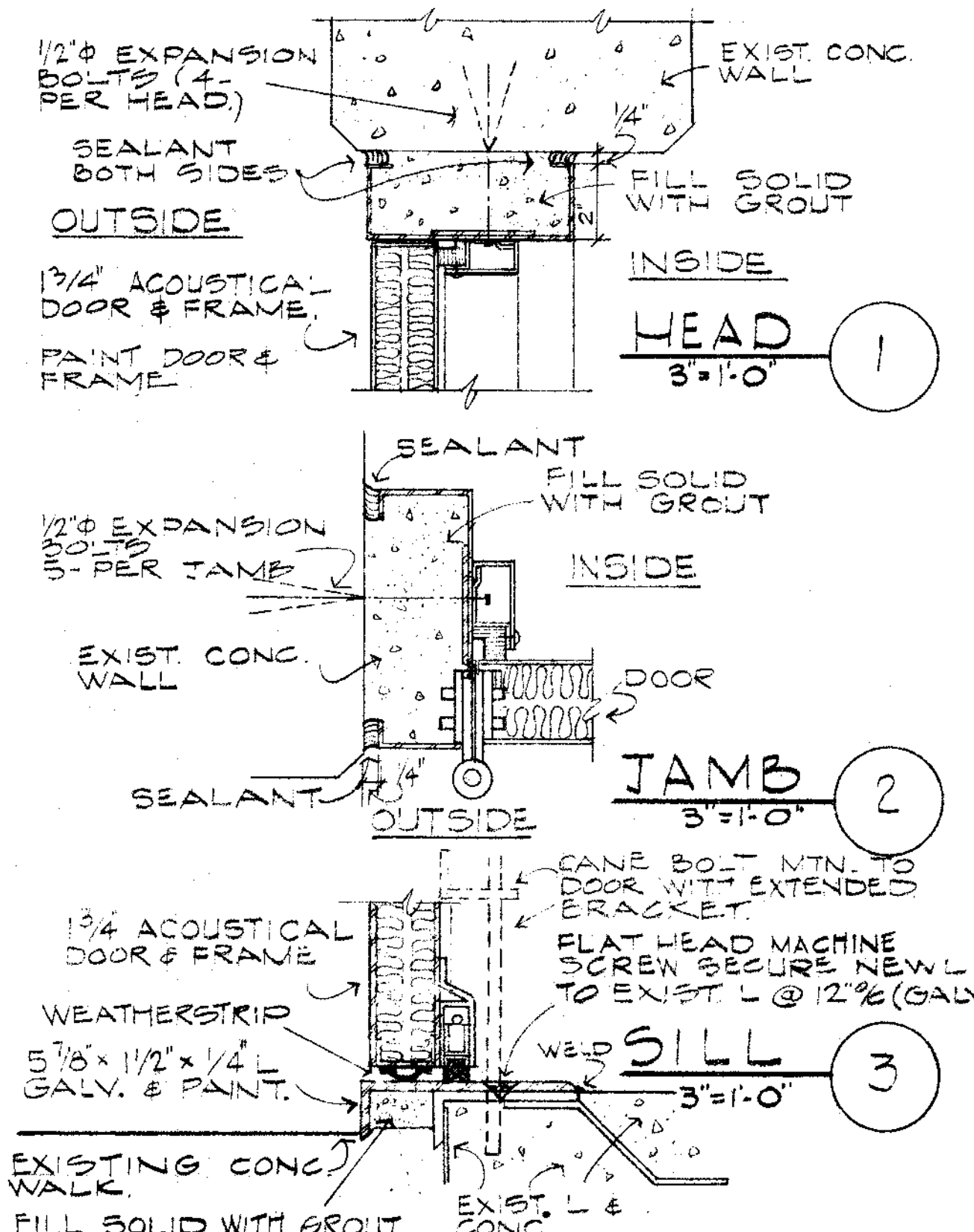
NOTE:
RE-ROOF AS SPECIFIED



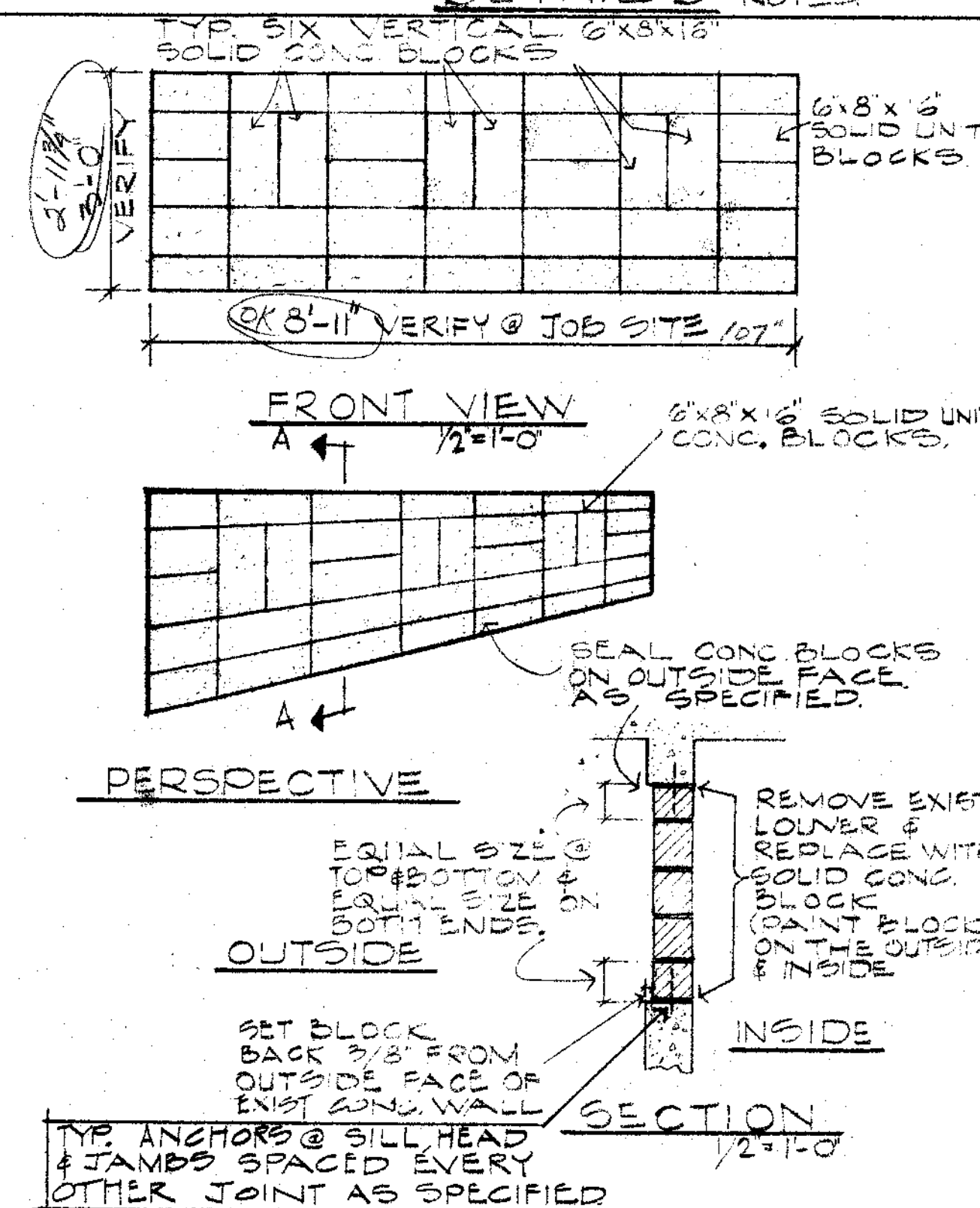
CURB DETAIL 5
3'-10" A-1



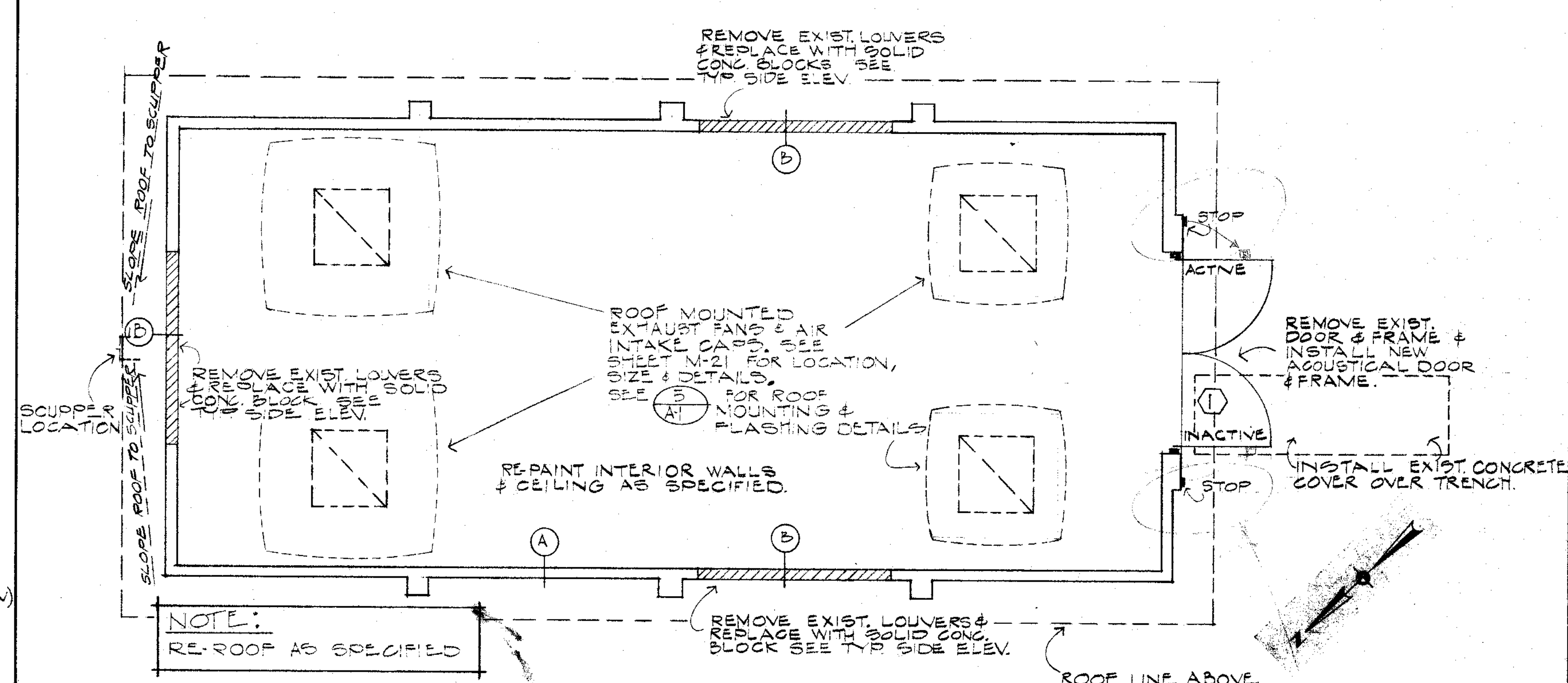
FASCIA DETAIL 6
3'-10" A-1



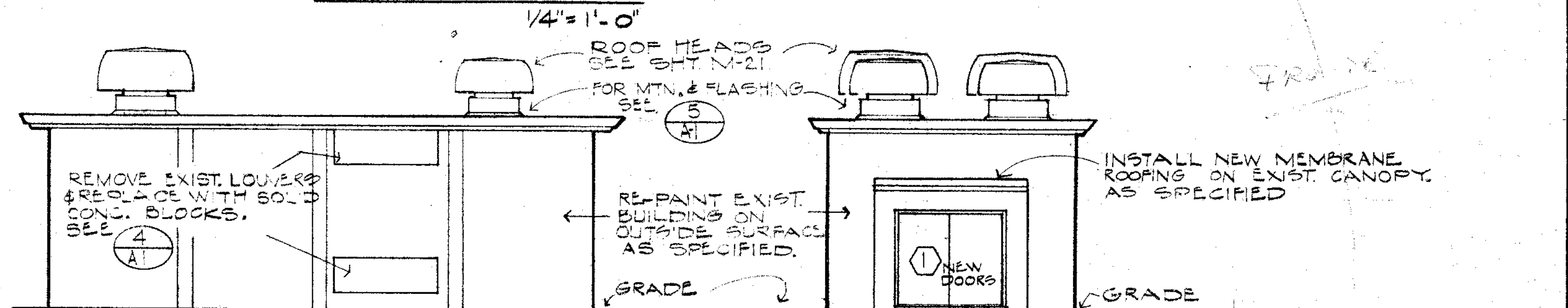
DOOR DETAILS SCALE AS NOTED



TYPICAL CONC. BLOCK DETAILS SCALE AS NOTED



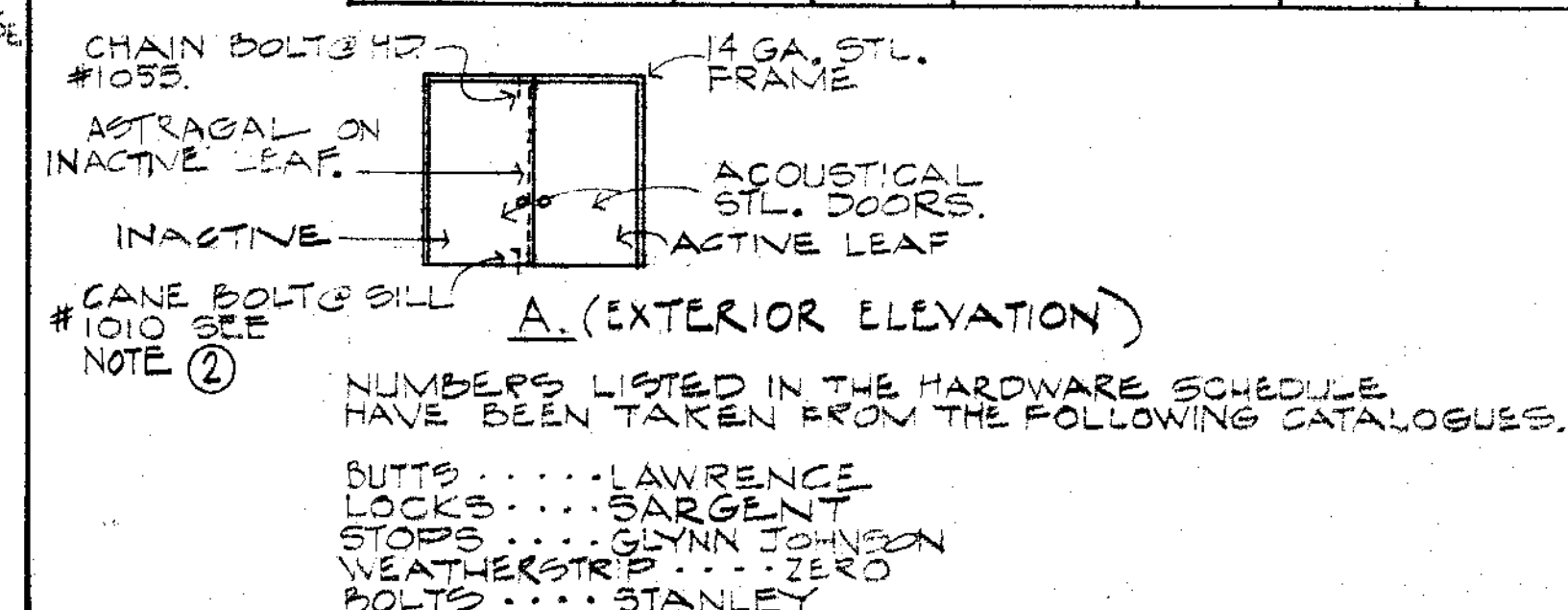
FLOOR PLAN



TYPICAL SIDE ELEVATION

DIVISION ST. ELEVATION

DOOR & HARDWARE SCHEDULE												
NO.	DOOR						HARDWARE					
	SIZE	MAT.	TYPE	FRAME	FINISH	DETAIL	BUTTS	LOCK	CLOSER	THRESHOLD	WEATHERSTRIP	STOP
1.	10'0" x 8'0" (VERIFIED)	STL.	A	STL.	ENAMEL AS SPECIFIED	2 & 3	55-515-312 SPR. 3'x6'	52-8204 UR 3'x6'	-	-	#52 @ SILL	STW3 ONE FOR EACH DOOR WITH V.P. SCREWS



- NOTES:
- ASTRAGAL TO BE MOUNTED ON INACTIVE LEAF, ON THE INSIDE. (ASTRAGAL TO BE FURNISHED BY DOOR MANUFACTURER)
 - CANE BOLT BRACKETS TO PROJECT BEYOND DOOR AUTOMATIC DROP SEAL.

ABBREVIATIONS

- V.P. VANDAL PROOF GA... GAUGE
STL.... STEEL
A-1 EXIST. CONC. WALL
B-1 NEW SOLID CONC. BLOCK

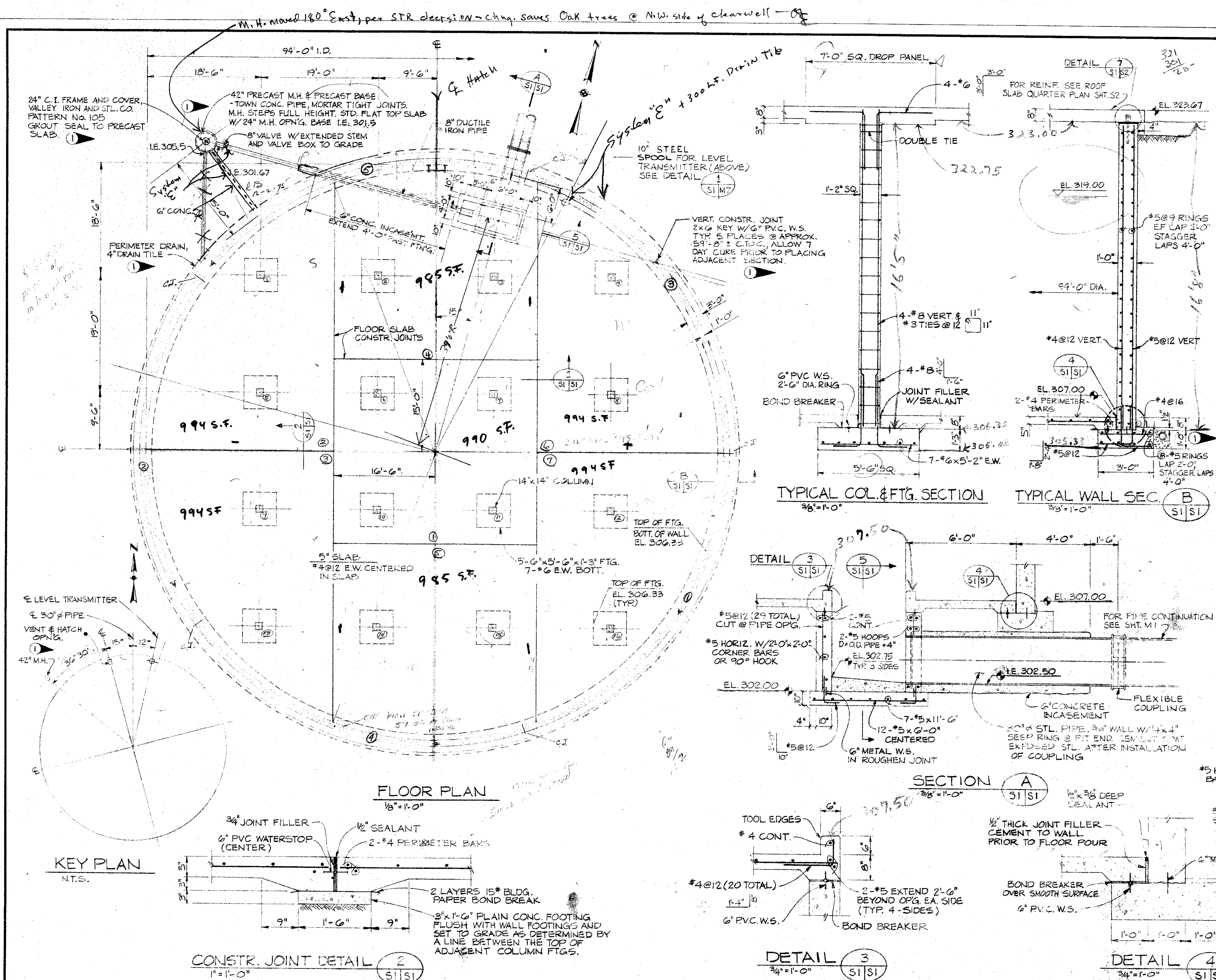


DESIGNED	RSS	APPROVED	Raymond S. Runyan
DRAWN	D.S.	SCALE	AS NOTED
CHECKED	RSS	DATE	MAY 1975
FILE	PT-0757.002-14851		

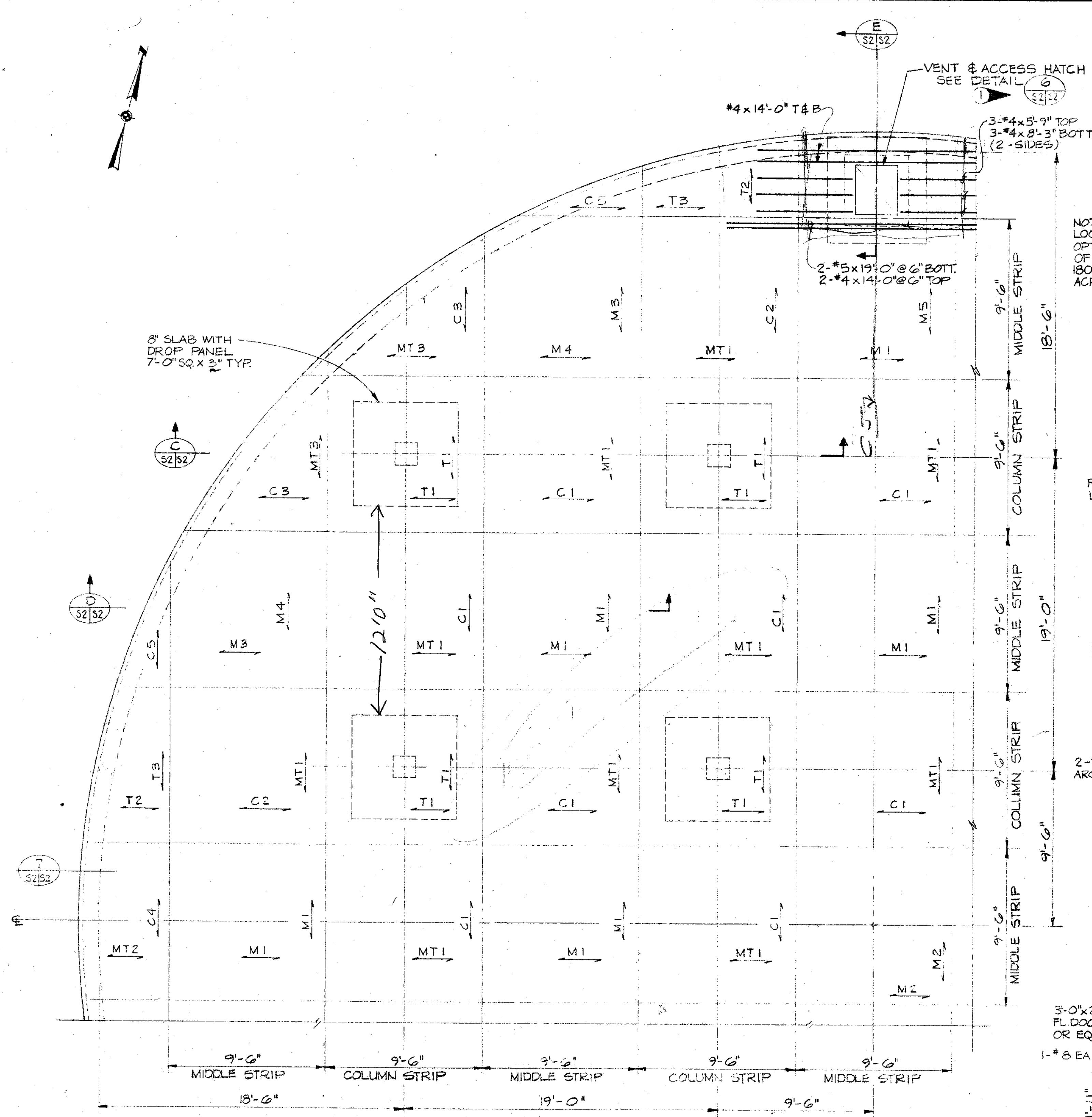
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OREGON CITY - WEST LINN
SOUTH FORK WATER BOARD
WATER WORKS, MODIFICATIONS

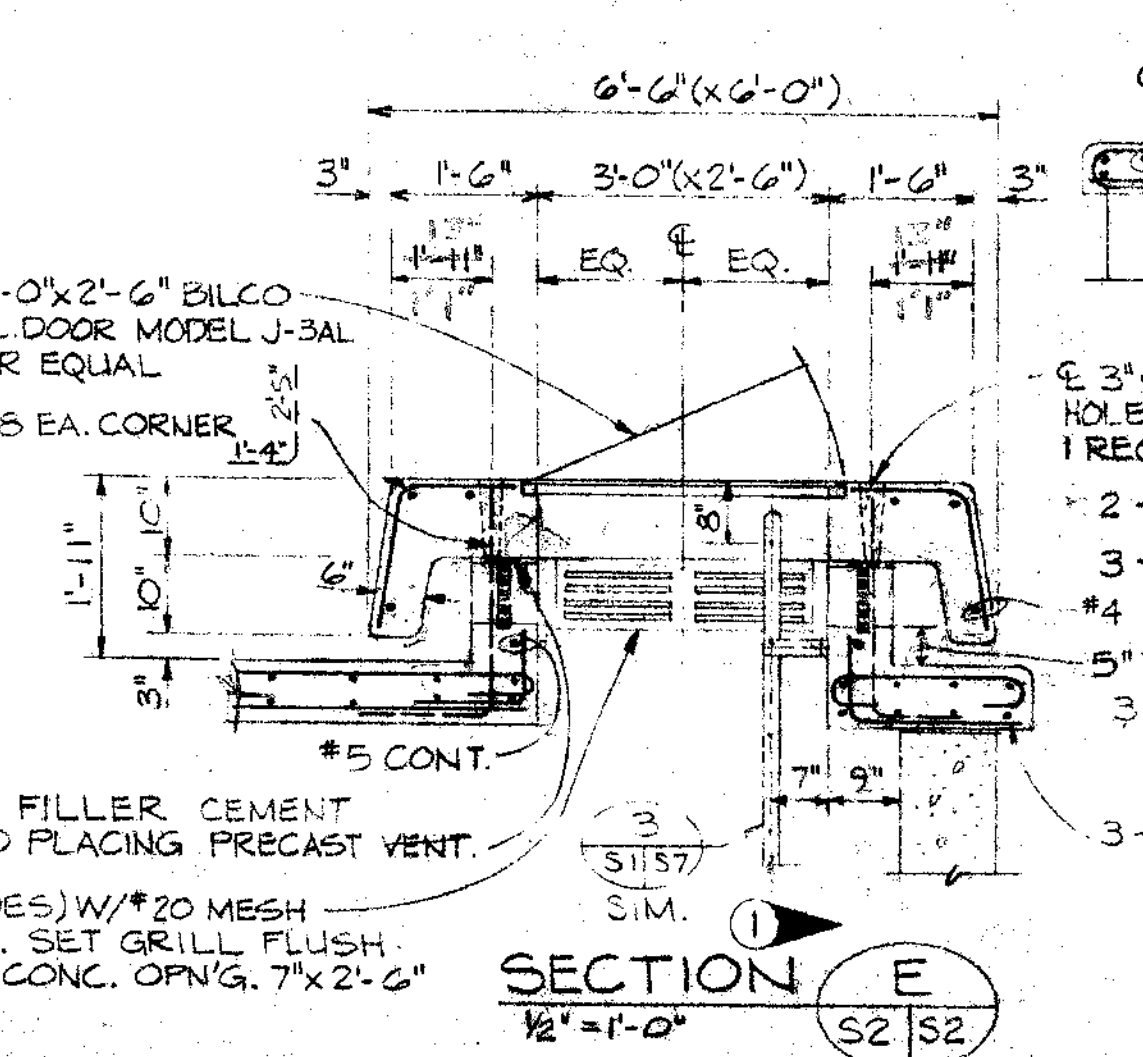
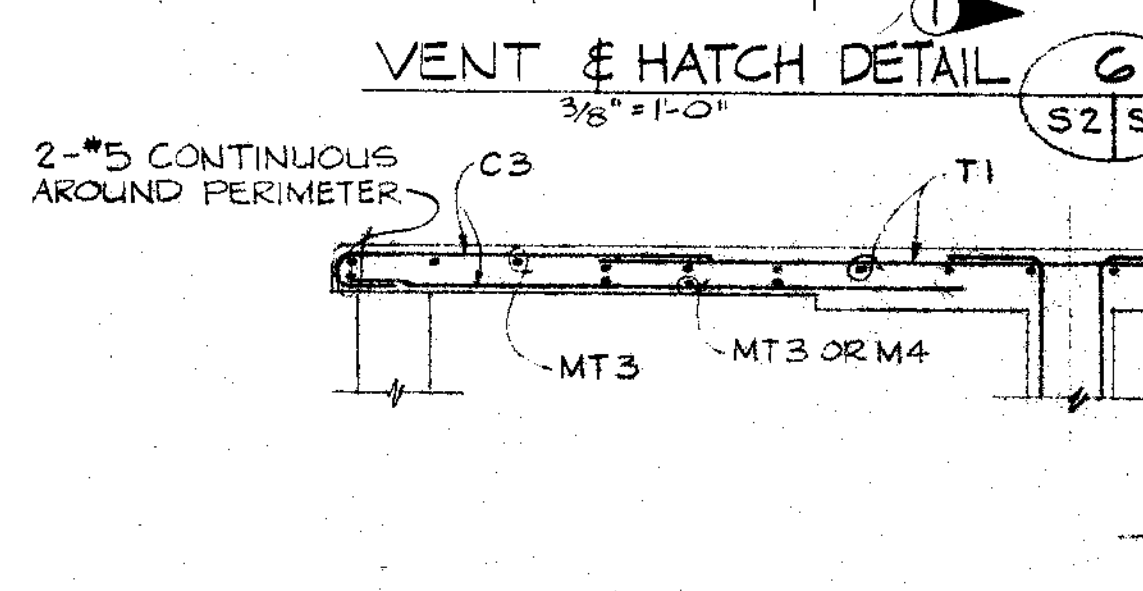
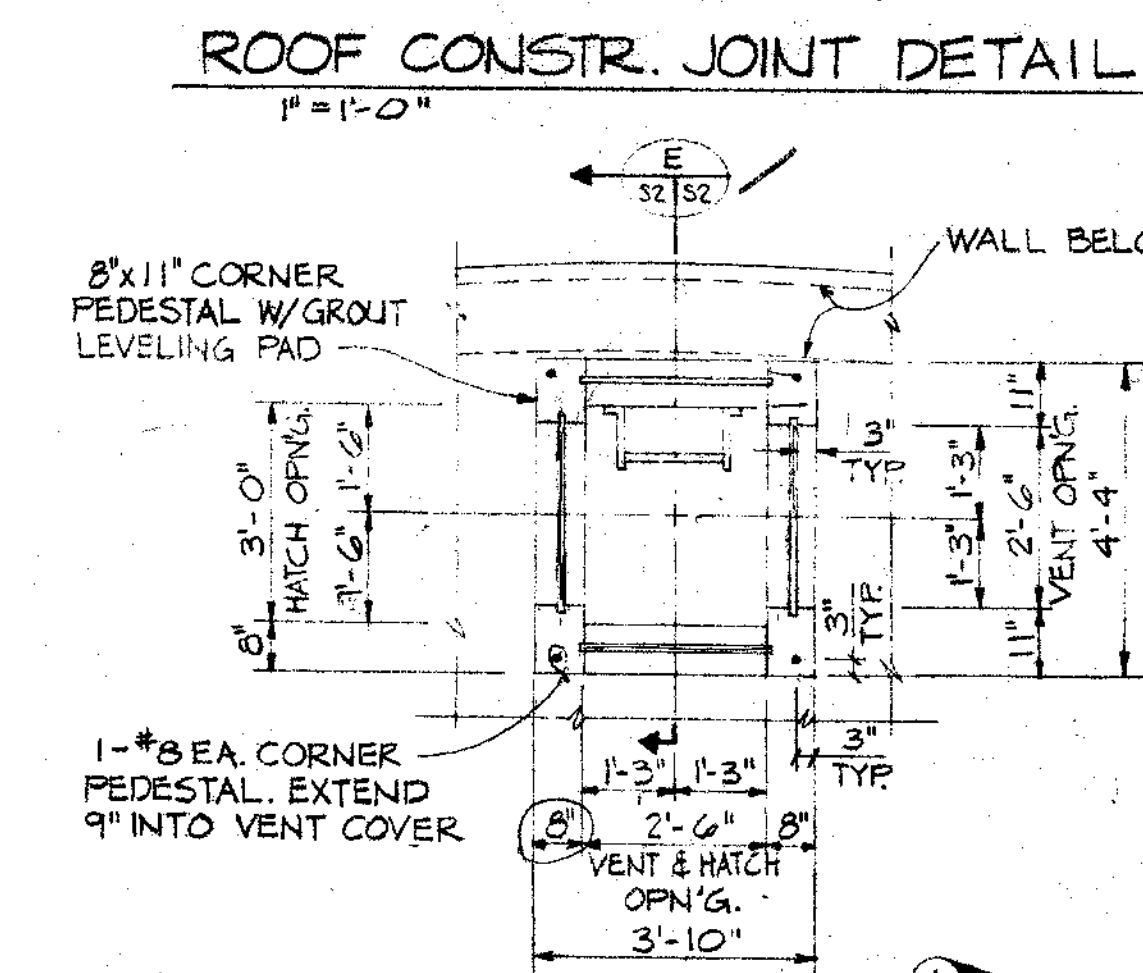
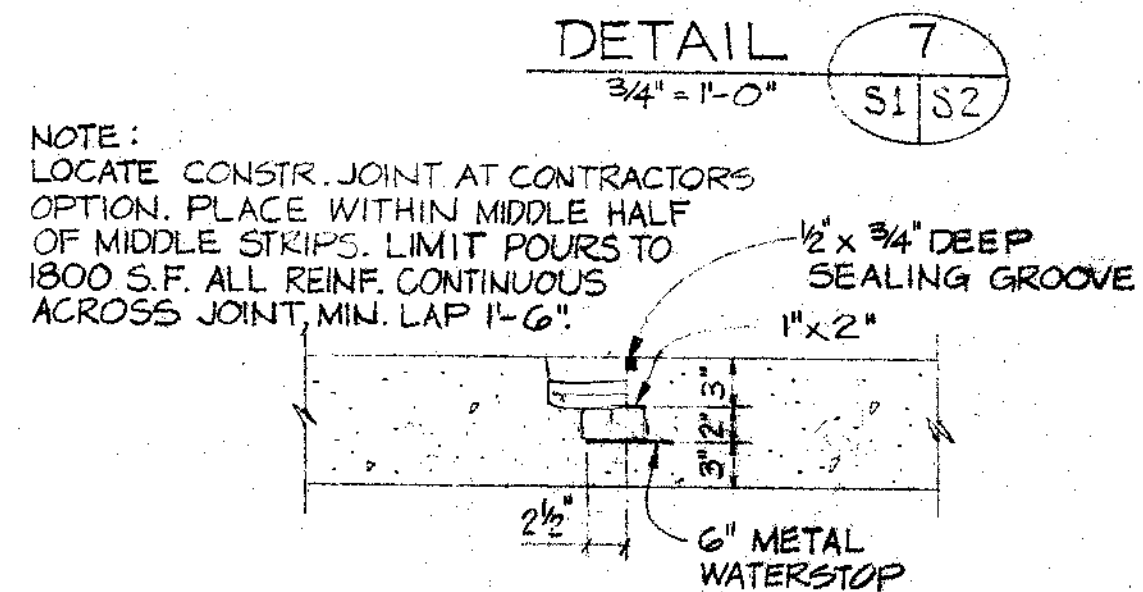
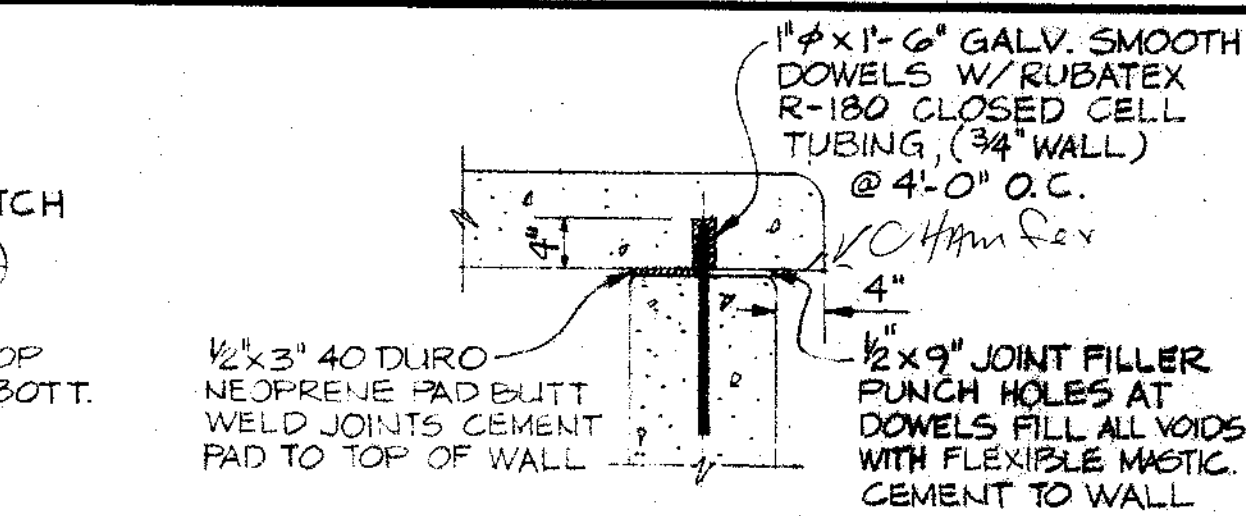
DIVISION ST. PUMP STATION
ARCHITECTURAL MODIFICATIONS



- ### STRUCTURAL NOTES
- GENERAL**
- SEE MECHANICAL, ELECTRICAL AND EQUIPMENT DRAWINGS FOR DETAILS AND DIMENSIONS NOT SHOWN. VERIFY OPENINGS, EQUIPMENT BASES, ANCHOR BOLT SETTING, LOCATION OF ACCESSORIES, ETC.
 - REFER TO SPECIFICATIONS FOR FURTHER REQUIREMENTS AND AMPLIFICATION OF THESE NOTES.
 - DESIGN LOADS.
- | | |
|-------------------|---|
| LL ROOF | 100 PSF MIN. + EQUIPMENT |
| STAIRS & LANDINGS | 100 PSF |
| WALLS-CLEARWELL | 12" H ₂ O INTERNAL PRESSURE W/O BACKFILL |
| WALLS-OTHER | 35 PCF EQUIV. FLUID |
| SEISMIC | ZONE II |
| SOIL BEARING | 3500 PSF REQUIRED |
- ALL FOOTINGS TO SET ON FIRM, UNDISTURBED SOIL OR COMPACTED STRUCTURAL FILL FLOOR SLAB ON 6" BLANKET OF 1/2" MINUS CRUSHED ROCK.
 - BACKFILL ALL PIPE TRENCHES UNDER AND ADJACENT TO FOOTINGS WITH LEAN CONCRETE. WHERE INDICATED ON THE DRAWINGS ENCASE PIPE FITTINGS AND JOINTS WITH LEAN CONCRETE.
- CONCRETE**
- STRUCTURAL CONCRETE SHALL DEVELOP MIN. 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI. NONREINFORCED FILL CONCRETE 2000 PSI. ALL CONCRETE SHALL CONTAIN POSSOLITH 300N @ 3 OZ. PER SACK, 5% AIR ENTRAINMENT FOR CONCRETE EXPOSED TO WEATHER OR LIQUID RETAINING.
 - CONCRETE SHALL BE MIXED AND PLACED IN ACCORDANCE WITH ACI 614; IN CASE OF EXTREME WEATHER CONDITIONS, ACI 605 AND 306 SHALL BE FOLLOWED.
 - HORIZONTAL CONSTRUCTION JOINTS IN RESERVOIR WALLS NOT PERMITTED.
- REINFORCING**
- ALL REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE AS NOTED BELOW. DETAIL AND PLACE PER ACI MANUAL 315 AND CODE 318-71.
CLEARWELL, ROOF & COLUMNS GRADE 60
ALL OTHER GRADE 40
 - UNLESS OTHERWISE SHOWN, REINFORCE ALL WALLS AND SLABS WITH 1/4 OF 1% EACH WAY. PROVIDE 2 #5 ADDITIONAL AT TOP, BOT., AND SIDES OF ALL OPENINGS EXCEEDING 12 INCHES.
 - PROVIDE 3'-0" x 3'-0" OUTSIDE CORNER BARS IN ALL WALLS EQUAL IN SIZE AND SPACING TO HORIZONTAL BARS OR HOOK ALL HORIZONTALS W/STD. 90° HOOK AT CORNERS AND INTERSECTIONS UNLESS OTHERWISE NOTED.
 - CONCRETE COVER FOR MAIN REINFORCING STEEL:
1" #5 AND SMALLER, EXPOSED TO WEATHER, SOIL OR LIQUID
2" #6 AND LARGER, EXPOSED TO WEATHER, SOIL OR LIQUID
1 1/2" BEAMS AND GIRDERS
3" BOT. BARS POURED ON SOIL OR GRAVEL BASE
 - LAPPED SPICE LENGTH (INCLUDING COLUMN & WALL DOWELS) UNLESS INDICATED OTHERWISE:
38 DIA., MINIMUM LAP 1'-6"
BARS SHOWN AS CONTINUOUS MAY BE SPLICED AT POINTS OF MINIMAL STRESS. STAGGER LAPS 48", DO NOT LAP MORE THAN 1/4 OF BARS AT ONE POINT.
 - PROVIDE ADEQUATE SUPPORT AND TIE BARS TO HOLD REINFORCING ACCURATELY AND RIGIDLY IN PLACE.
 - PROVIDE ONE #5 HOOP EACH FACE OF CONCRETE WALLS AT PENETRATIONS FOR ALL 16" DIA. AND LARGER PIPES UNLESS INDICATED OTHERWISE.
 - STIRRUPS AND/OR TIES; PLACE FIRST ONE AT HALF SPACE MAX. FROM TOP/BOTTOM OF COLUMNS OR FACE OF BEAM SUPPORT.
- MISCELLANEOUS STEEL**
- ALL STRUCTURAL AND MISC. STEEL ASTM A 36 DETAIL, FABRICATE AND ERECT TO AISC SPECIFICATIONS.
 - WELDING BY CERTIFIED WELDERS, CONFORM TO AWS AND AISC STOS.
 - CONNECTION BOLTS ASTM A 325, ANCHOR BOLTS AND OTHER FASTENERS ASTM A 307.
 - ALL EXTERIOR STRUCTURAL AND MISC. STEEL, ALL GRATING AND FRAMES, ALL CONNECTING HARDWARE IN ADDITION TO ITEMS SPECIFICALLY INDICATED SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
 - REPAIR DAMAGED OR BURNT GALV. WITH GALV. ALLOY COATING.
- WATERSTOPS, PADS AND JOINT FILLERS**
- JOINT FILLERS: MEDIUM GRADE CLOSED CELL NEOPRENE TYPE SEE 41 PER ASTM D 1056 RUBATEX R-411N
 - NEOPRENE PADS: 2000 PSI, 500% ELONGATION, MAXIMUM 50% COMPRESSIVE SET, 40 DUROMETER
 - SEALANT: ROOF, MEADOWS CM-60 TWO PART WITH PRIMER. FLOOR, SUPERIOR SUPERSEAL 400 HOT POUR.
 - WATERSTOPS: PVC 6" x 3/8" WITH CENTER BULB ASTM D 412 METAL 6" x 16-GA. GALV.

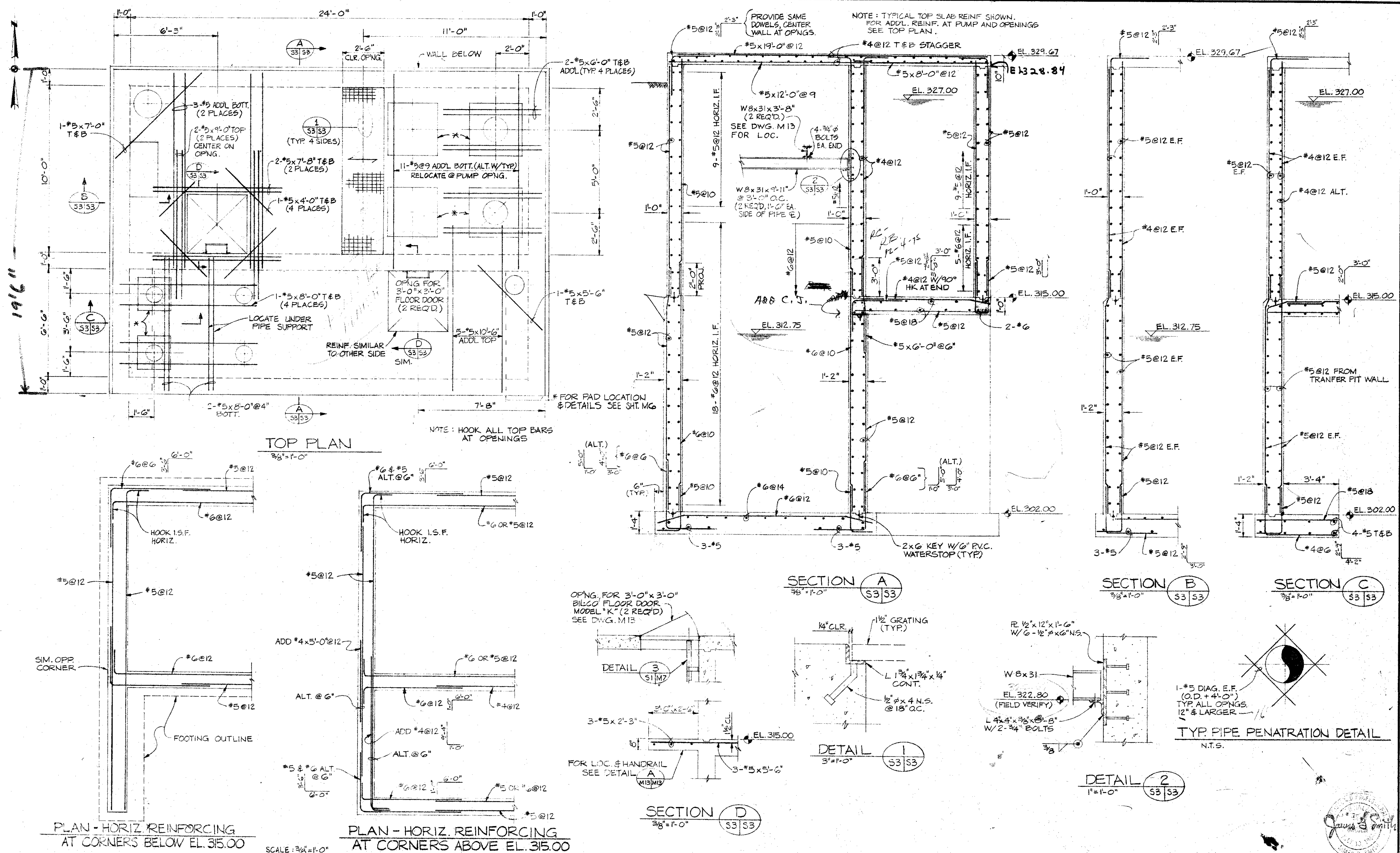


ROOF SLAB - QUARTER PLAN
1/4" = 1'-0"



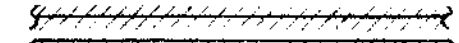
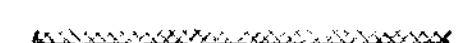
ROOF SLAB REINFORCING SCHEDULE				
TOTAL NO. OF SETS	MARK	BOTTOM BARS	TOP BARS	REMARKS
32	T1	—	8-#5 x 13'-0" 7-#5 x 8'-4"	EDGE OF SLAB TO 1'-0" LAP WITH T1
8	T2	—	8-#4 x VARY	—
8	T3	—	5-#4 x 8'-4"	—
24	C1	12-#4 x 15'-0"	8-#4 x 9'-0"	LAP TOP BARS 1'-6" WITH T1 (TYPICAL)
8	C2	12-#5 x VARY	—	EDGE OF SLAB TO 1'-6" FROM COLUMN E
8	C3	12-#4 x VARY	8-#4 x VARY	BOTTOM - SAME AS C2. TOP - EDGE OF SLAB TO LAP W/ T1
3	C4	6-#4 x 15'-0"	5-#4 x 13'-8"	LAP TOP BARS WITH T3
8	C5	3-#4 x VARY	3-#4 x VARY	BOTTOM - SAME AS C2. TOP - EDGE OF SLAB TO LAP W/ T3
23	M1	7-#4 x 19'-0"	7-#4 x 13'-0"	LAP TOP BARS 1'-6" (TYP) W/ MT1 OR MT2
2	M2	14-#4 x 19'-0" 2-#4 x 8'-6" (AT OPG)	6-#4 x 13'-0" 2-#4 x 5'-6" (AT OPG)	TOP - LAP W/ MT1. PLACE 2-#4 x 19'-0" BOTT. @ 6" EA. SIDE OF OPG.
8	M3	14-#4 x VARIES	7-#4 x VARIES	BOTT. - EDGE OF SLAB TO COLUMN E. TOP - EDGE OF SLAB TO LAP W/ MT1
8	M4	14-#4 x VARIES TO 19'-0"	7-#4 x VARIES TO 13'-0"	BOTT. - EDGE OF SLAB TO COL. E. OR E TO E. TOP - LAP W/ MT1 & MT3
1	M5	4-#4 x 15'-6" (AT OPG) 12-#5 x 19'-0"	1-#4 x 12'-6" (AT OPG) 6-#4 x 16'-0"	PLACE 3-#4 BOTT. @ 6" EA. SIDE OF OPG. LAP TOP BARS W/ MT1
32	MT1	—	12-#4 x 9'-0"	—
3	MT2	—	12-#4 x 5'-0"	—
8	MT3	8-#4 x VARIES	8-#4 x VARY	TOP - FROM EDGE OF SLAB TO WITHIN 3" OF COL. STRIP BOUNDARY BOTT. - FROM EDGE OF SLAB TO COLUMN E

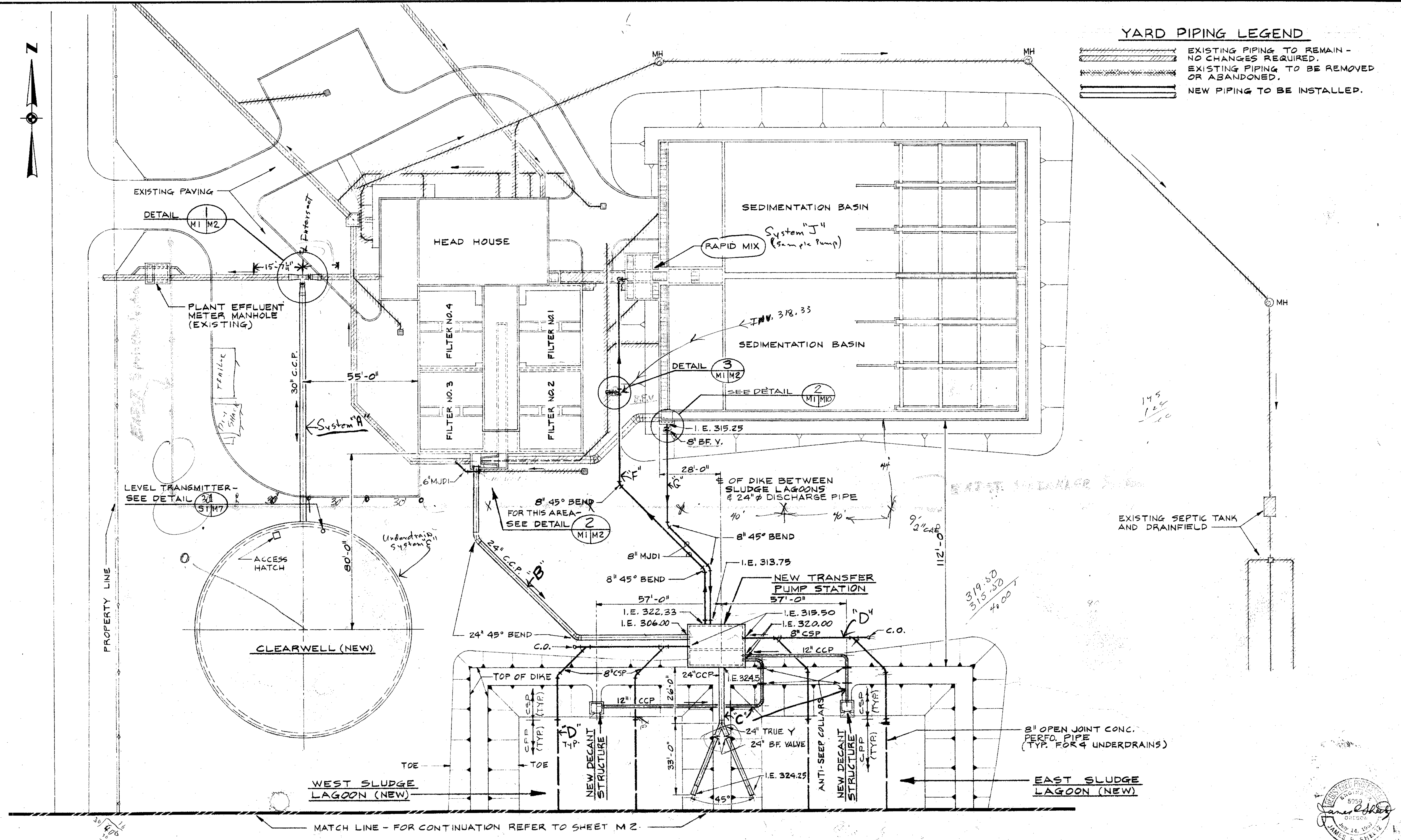
NOTES:
1. LOOK TOP BARS AT EDGE OF SLAB AND AT OPENINGS.
2. DIMENSIONS ARE OUT TO OUT OF BARS. ADD FOR HOOKS.
3. SLAB REINFORCING: $f_y = 60,000$ P.S.I.



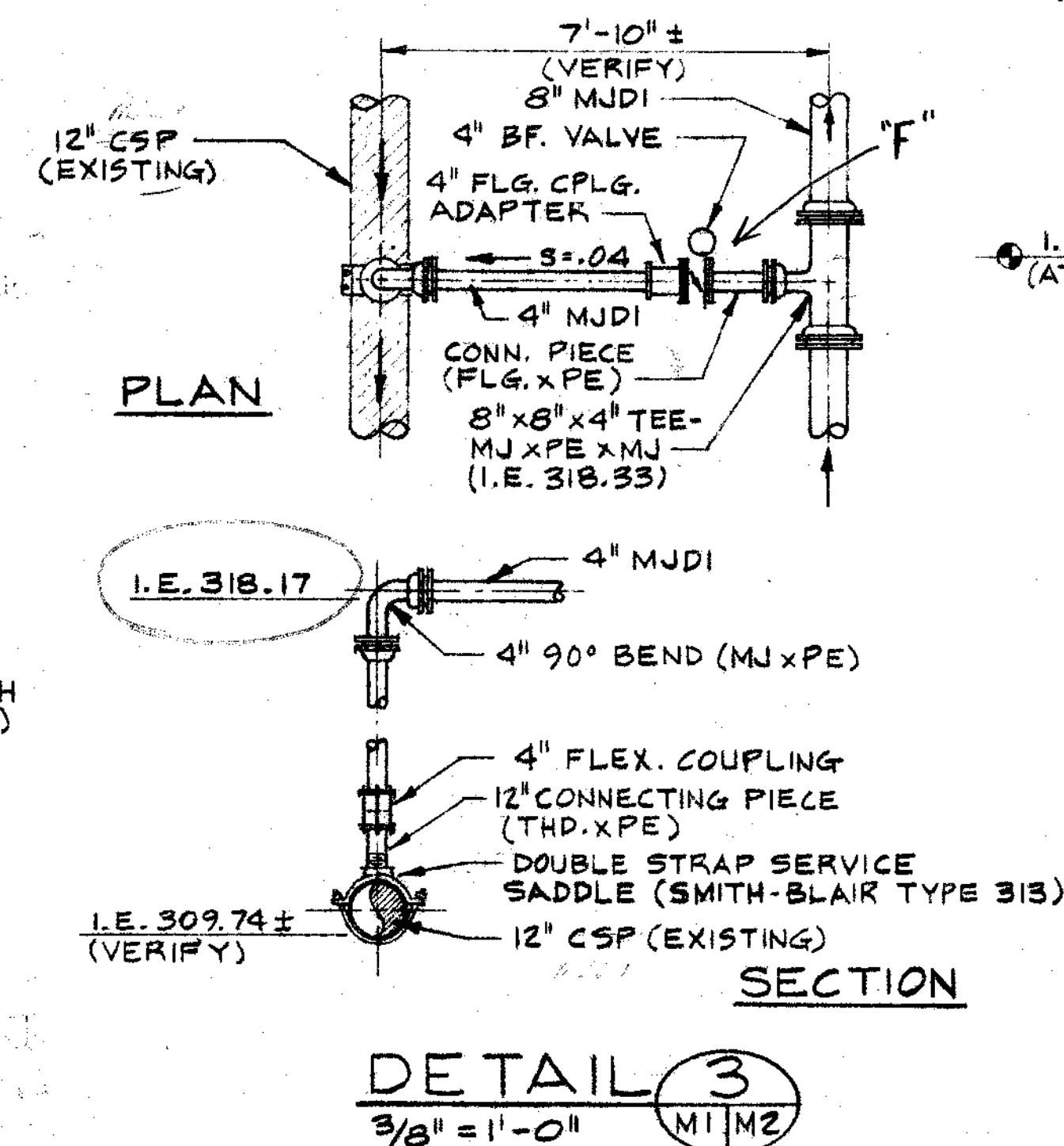
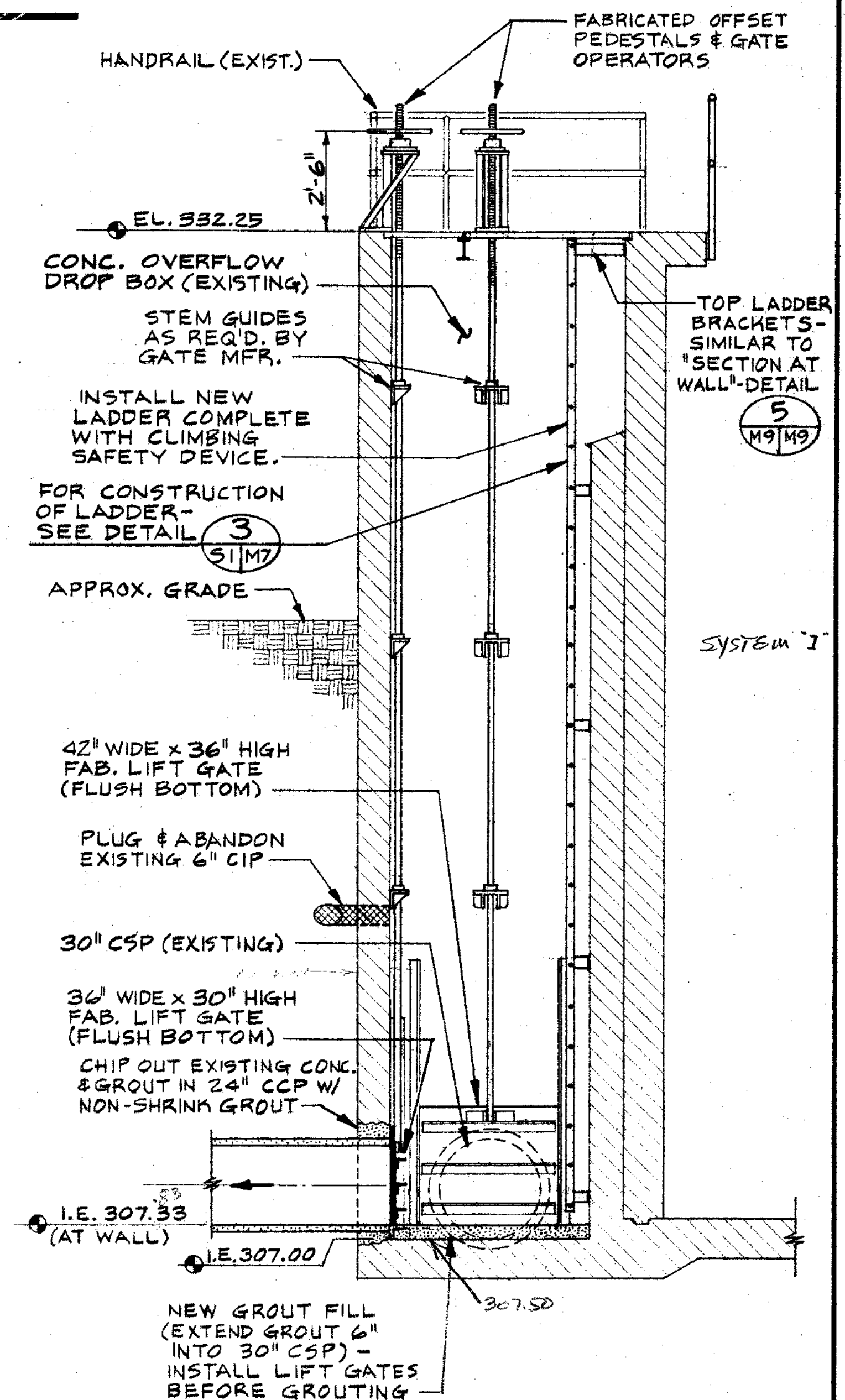


YARD PIPING LEGEND

-  EXISTING PIPING TO REMAIN - NO CHANGES REQUIRED.
-  EXISTING PIPING TO BE REMOVED OR ABANDONED.
-  NEW PIPING TO BE INSTALLED.



MATCH LINE - FOR CONTINUATION REFER TO SHEET M 2



				DESIGNED	JRS/HWT	APPROVED	<i>Harvey W. Taylor</i>		
				DRAWN	DGB	SCALE	AS SHOWN	DATE	MAY, 1975
DATE	NO.	REVISION	BY	CHECKED	JRS	FILE	PT. 0757.00Z - 14858		

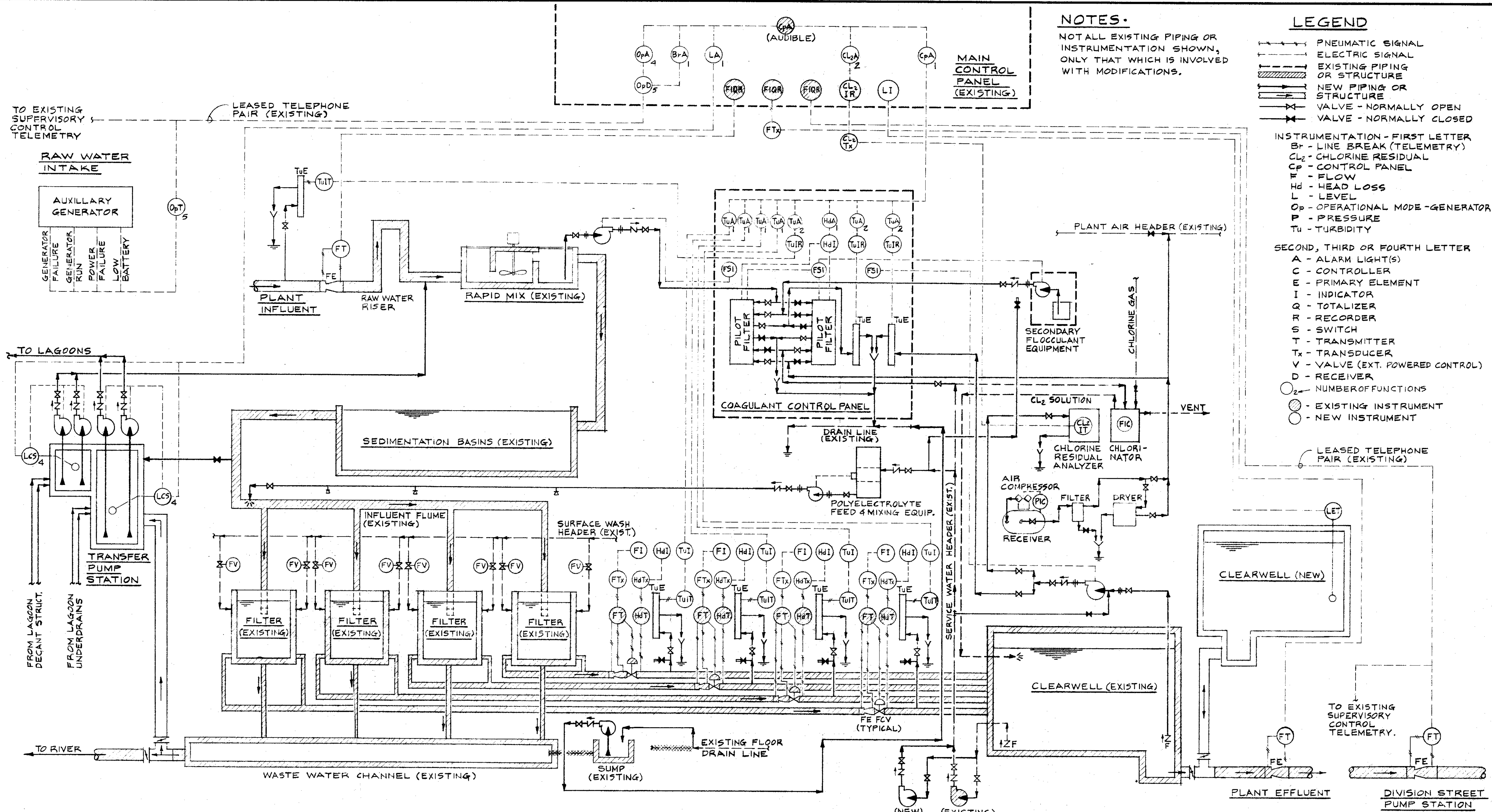


Stevens, Thompson & Runyan, Inc.
Engineers/Planners
PORTLAND SPOKANE

OREGON CITY-WEST LINN
SOUTH FORK WATER BOARD
WATER WORKS MODIFICATIONS

YARD PIPING SHEET II AND DETAILS

M2	21
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NOTES:

NOT ALL EXISTING PIPING OR INSTRUMENTATION SHOWN, ONLY THAT WHICH IS INVOLVED WITH MODIFICATIONS.

LEGEND

- PNEUMATIC SIGNAL
 - ELECTRIC SIGNAL
 - EXISTING PIPING OR STRUCTURE
 - NEW PIPING OR STRUCTURE
 - VALVE - NORMALLY OPEN
 - VALVE - NORMALLY CLOSED
- INSTRUMENTATION - FIRST LETTER**
- Br - LINE BREAK (TELEMETRY)
 - CL₂ - CHLORINE RESIDUAL
 - Cp - CONTROL PANEL
 - F - FLOW
 - Hd - HEAD LOSS
 - L - LEVEL
 - Op - OPERATIONAL MODE - GENERATOR
 - P - PRESSURE
 - Tu - TURBIDITY
- SECOND, THIRD OR FOURTH LETTER**
- A - ALARM LIGHT(S)
 - C - CONTROLLER
 - E - PRIMARY ELEMENT
 - I - INDICATOR
 - Q - TOTALIZER
 - R - RECORDER
 - S - SWITCH
 - T - TRANSMITTER
 - Tx - TRANSDUCER
 - V - VALVE (EXT. POWERED CONTROL)
 - D - RECEIVER
- ₂ - NUMBER OF FUNCTIONS
- - EXISTING INSTRUMENT
- - NEW INSTRUMENT

TO EXISTING SUPERVISORY CONTROL TELEMETRY

RAW WATER INTAKE

AUXILIARY GENERATOR

GENERATOR FAILURE
GENERATOR RUN
POWER FAILURE
LOW BATTERY

LEASED TELEPHONE PAIR (EXISTING)

MAIN CONTROL PANEL (EXISTING)

PLANT AIR HEADER (EXISTING)

SECOND, THIRD OR FOURTH LETTER

LEASED TELEPHONE PAIR (EXISTING)

CLEARWELL (NEW)

CLEARWELL (EXISTING)

TO EXISTING SUPERVISORY CONTROL TELEMETRY.

PLANT EFFLUENT

DIVISION STREET PUMP STATION

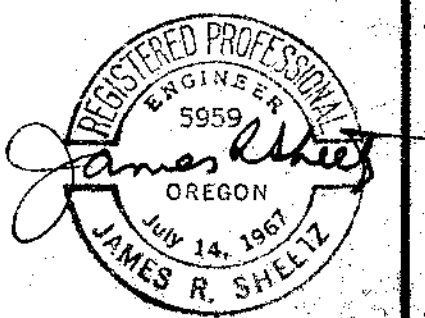
DESIGNED	JRS/HWT	APPROVED	<i>James R. Shell</i>
DRAWN	DGB	SCALE	NONE
DATE		DATE	MAY, 1975
CHECKED	JRS	FILE	PT. 0757.102-14859



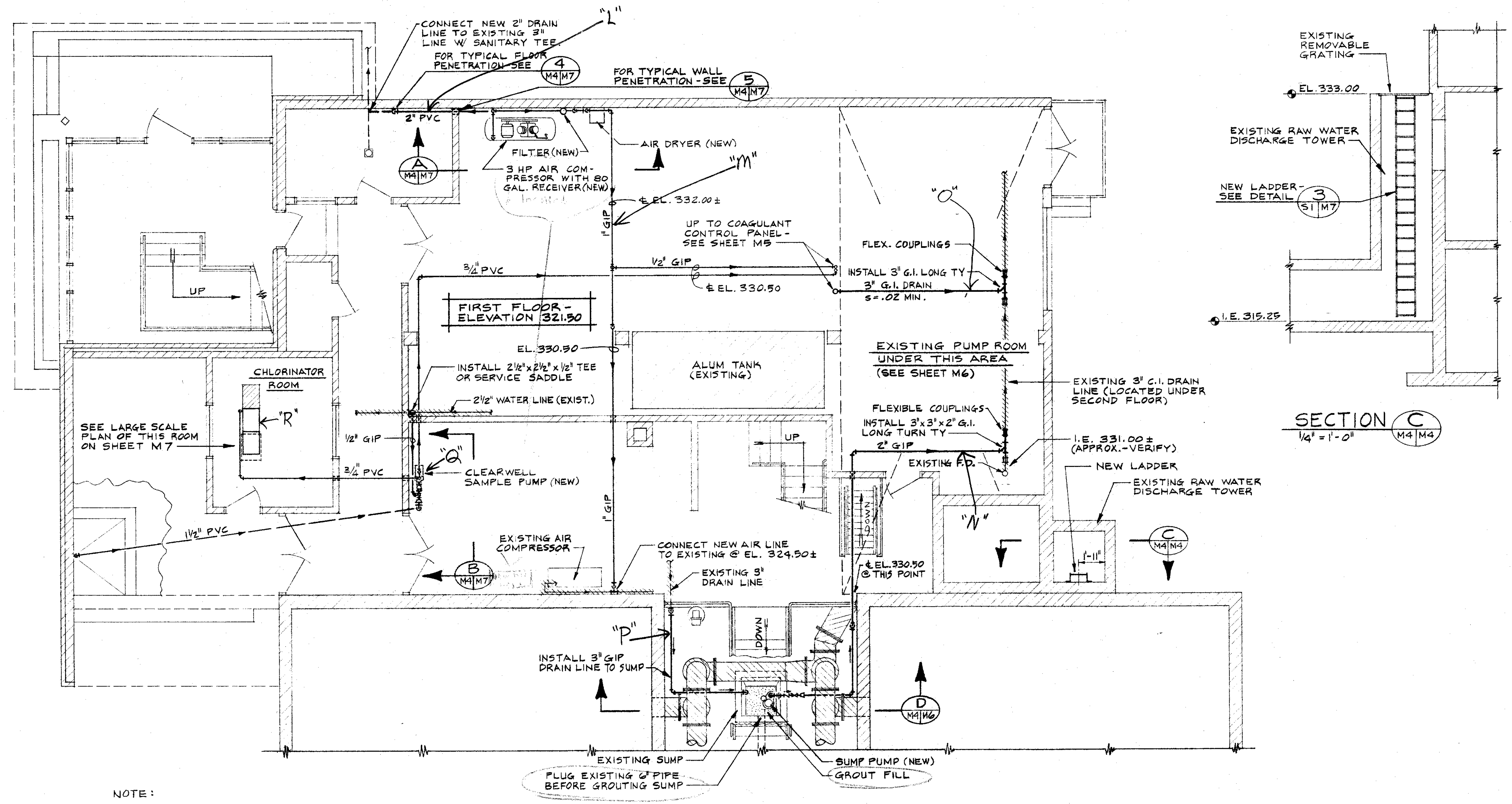
Stevens, Thompson & Runyan, Inc.
Engineers/Planners
PORTLAND SEATTLE SPOKANE BOISE

**OREGON CITY - WEST LINN
SOUTH FORK WATER BOARD
WATER WORKS MODIFICATIONS**

**INSTRUMENTATION, CONTROL & TELEMETRY -
MODIFICATIONS SCHEMATIC**



**M3
21**



NOTE:
NEW PIPING ELEVATIONS ARE APPROXIMATE.
FIELD VERIFY RUNS SO THERE IS NO CONFLICTION
WITH EXISTING PIPING.

FIRST FLOOR PLAN
1/4" = 1'-0"

James R. Shedd

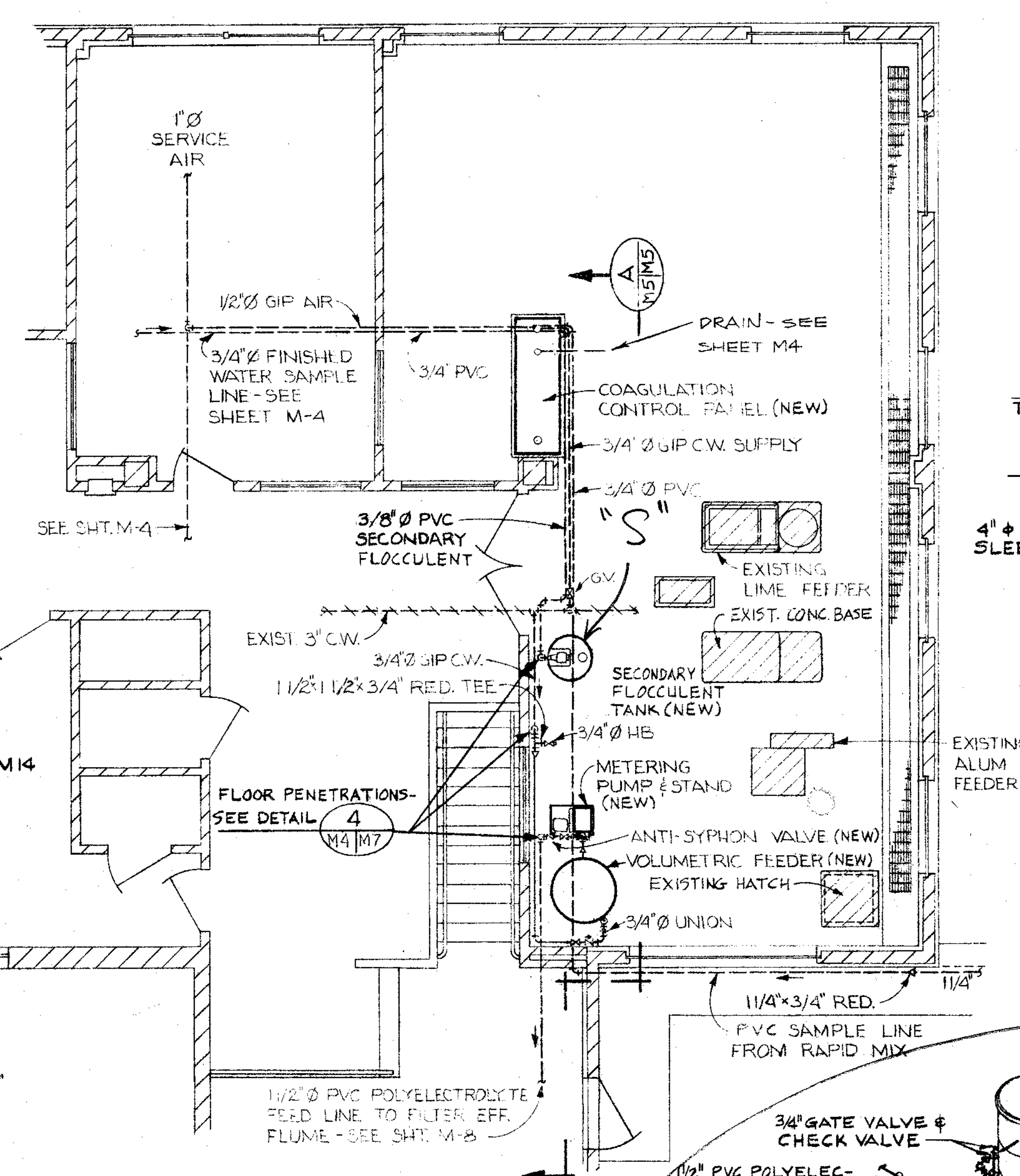
DESIGNED URS/HWT		APPROVED <i>[Signature]</i>	
DRAWN DGB		SCALE AS SHOWN DATE MAY 1975	
CHECKED JRS		FILE PT. 0757.002-14860	
DATE	NO.	REVISION	BY



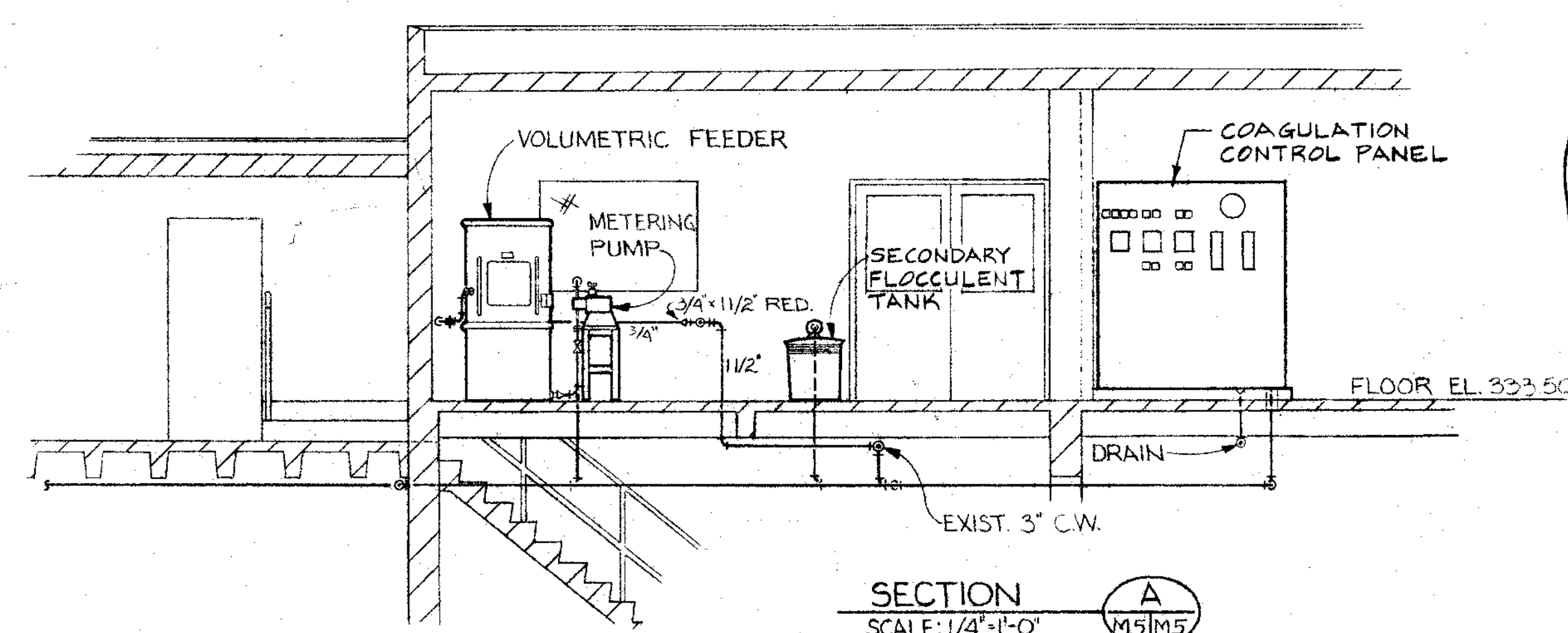
Stevens, Thompson & Runyan, Inc.
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OREGON CITY - WEST LINN
SOUTH FORK WATER BOARD
WATER WORKS MODIFICATIONS

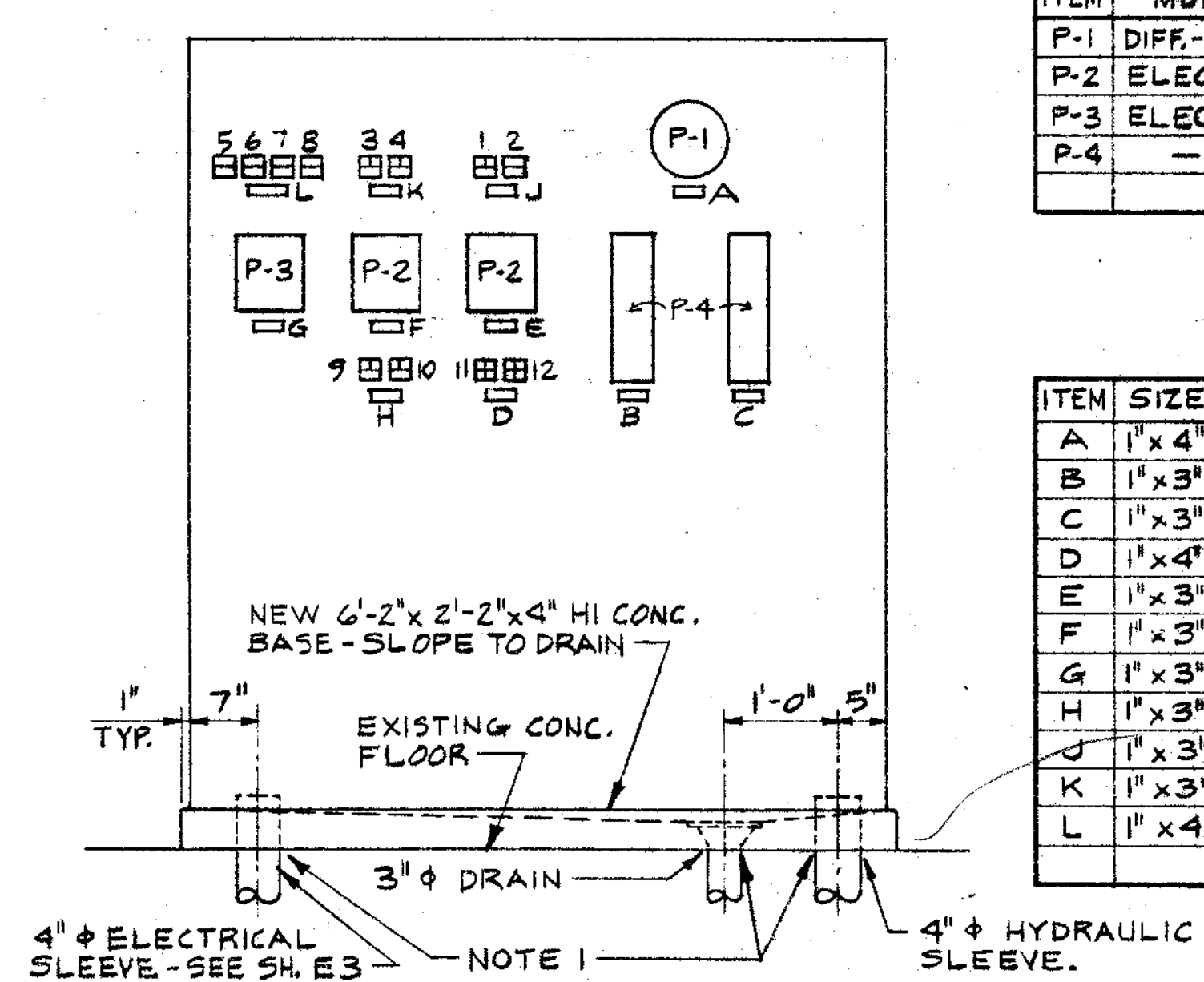
HEAD HOUSE MODIFICATIONS
FIRST FLOOR PLAN



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

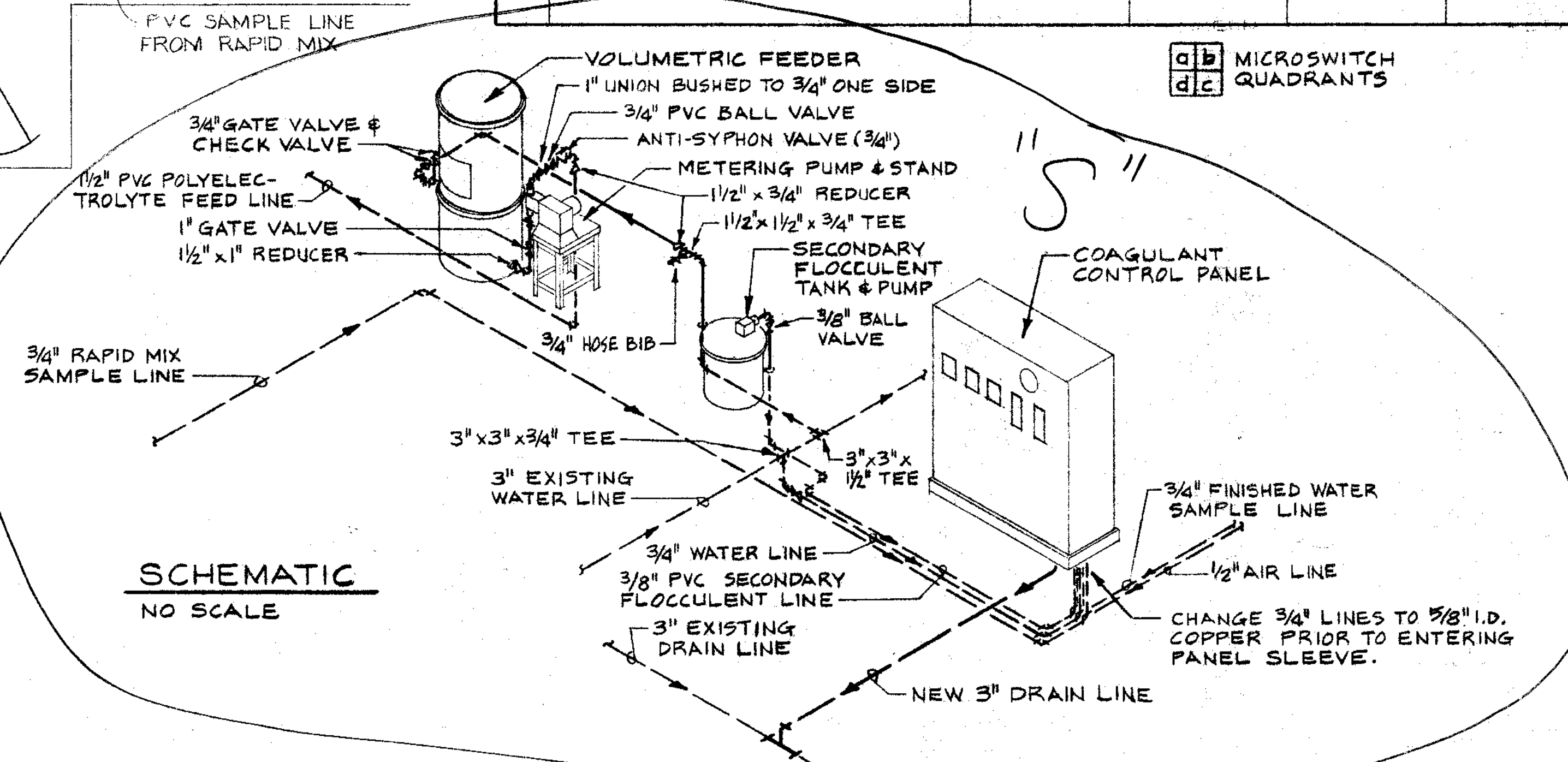


SECTION
SCALE: 1/4"=1'-0"



COAGULANT CONTROL PANEL
3/4"=1'-0"

MICROSWITCHES									
ITEM	TYPE	a QUADRANT	b QUADRANT	d QUADRANT	c QUADRANT	COLOR #	* COLORS		
1	INDICATOR, 3 WAY SPLIT (2 LAMP)	HIGH	LOW		TURBIDITY	a-R, b-Y, c-d-W	A	AMBER	
2	" HORIZONTAL SPLIT (2 LAMP)		HIGH		HEADLOSS	a-b-R, c-d-W	B	BLUE	
3	" 3 WAY SPLIT (2 LAMP)	HIGH	LOW		RAW WATER	a-R, b-Y, c-d-W	G	GREEN	
4	" 3 " " " " "				CLEARWELL	" " " "	R	RED	
5	" HORIZONTAL SPLIT (2 LAMP)		HIGH		FILTER NO. 1	a-b-R, c-d-W	W	WHITE	
6	" " " " " "				" 2	" " " "	Y	YELLOW	
7	" " " " " "				" 3	" " " "			
8	" " " " " "				" 4	" " " "			
9	SELECTOR, 3 WAY SPLIT (2 LAMP)	ON	OFF		RAPID MIX	a-G, b-R, c-d-W			
10	" 3 " " " " "				CLEARWELL	" " " "			
11 & 12	SELECTOR, 4 WAY SPLIT (4 LAMP)	AUTO	ON	BACK-WASH	OFF	a-A, b-G, c-R, d-B			

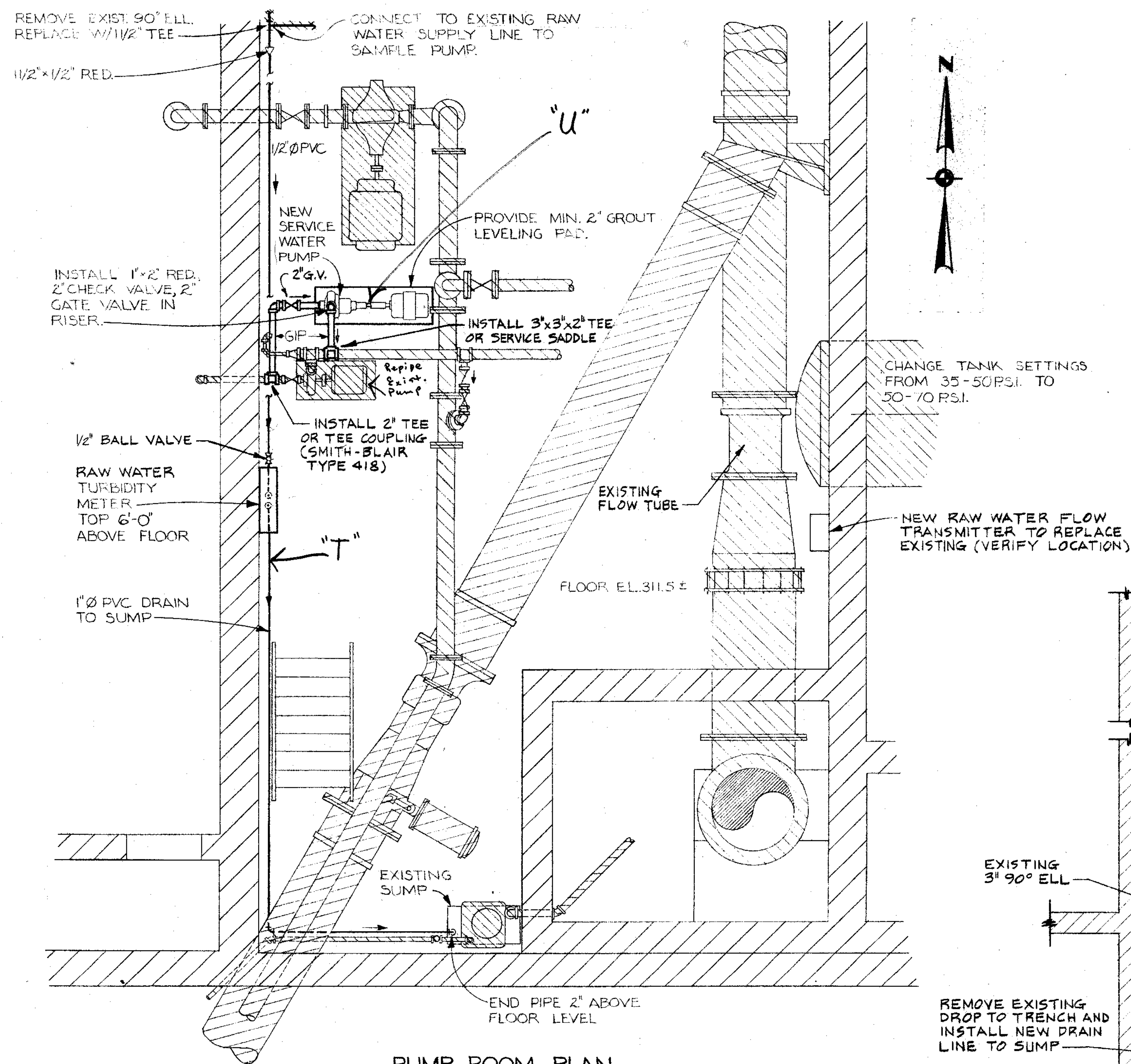


SCHEMATIC
NO SCALE

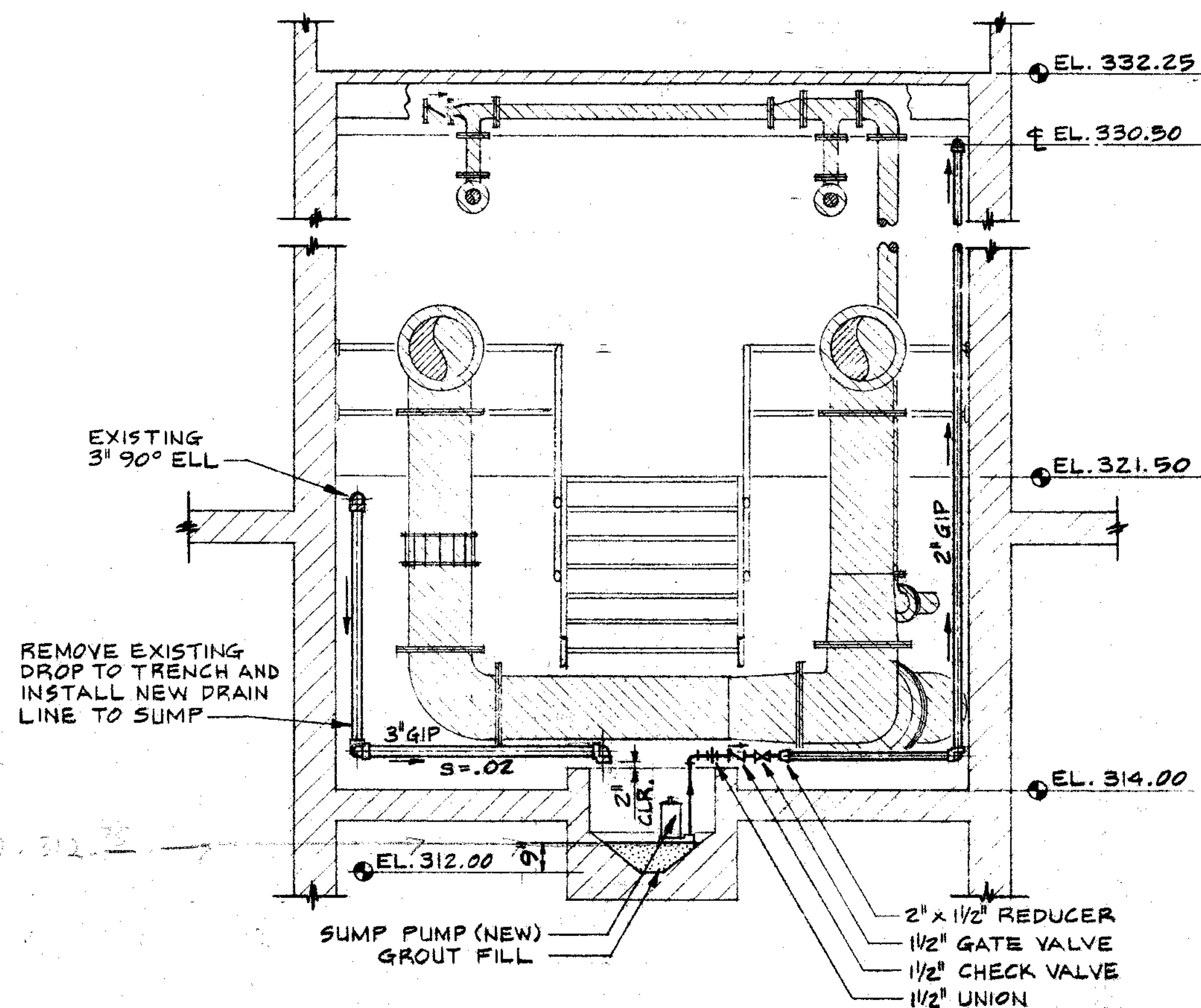
INSTRUMENTS			
ITEM	MODE	FUNCTION	GRADUATION
P-1	DIFF-PRESS.	HEADLOSS INDICATOR	0-25 FEET
P-2	ELECTRIC	TURBIDITY INDICATOR - RECORDER	0-30 FTU
P-3	ELECTRIC	" " " "	0-5000 FTU
P-4	-	PILOT FILTER VIEWPORT	-

NAME PLATES			
ITEM	SIZE	LINE 1	LINE 2
A	1" x 4"	PILOT FILTER HEADLOSS	
B	1" x 3"	PILOT FILTER NO. 1	
C	1" x 3"	PILOT FILTER NO. 2	
D	1" x 4"	NO. 1 - NO. 2	PILOT FILTER OPERATION
E	1" x 3"	PILOT FILTER TURBIDITY	
F	1" x 3"	CLEARWELL TURBIDITY	
G	1" x 3"	RAW WATER TURBIDITY	
H	1" x 3"	SAMPLE PUMPS	
J	1" x 3"	PILOT FILTER ALARM	
K	1" x 3"	TURBIDITY ALARM	
L	1" x 4"	TURBIDITY ALARM	PLANT FILTERS

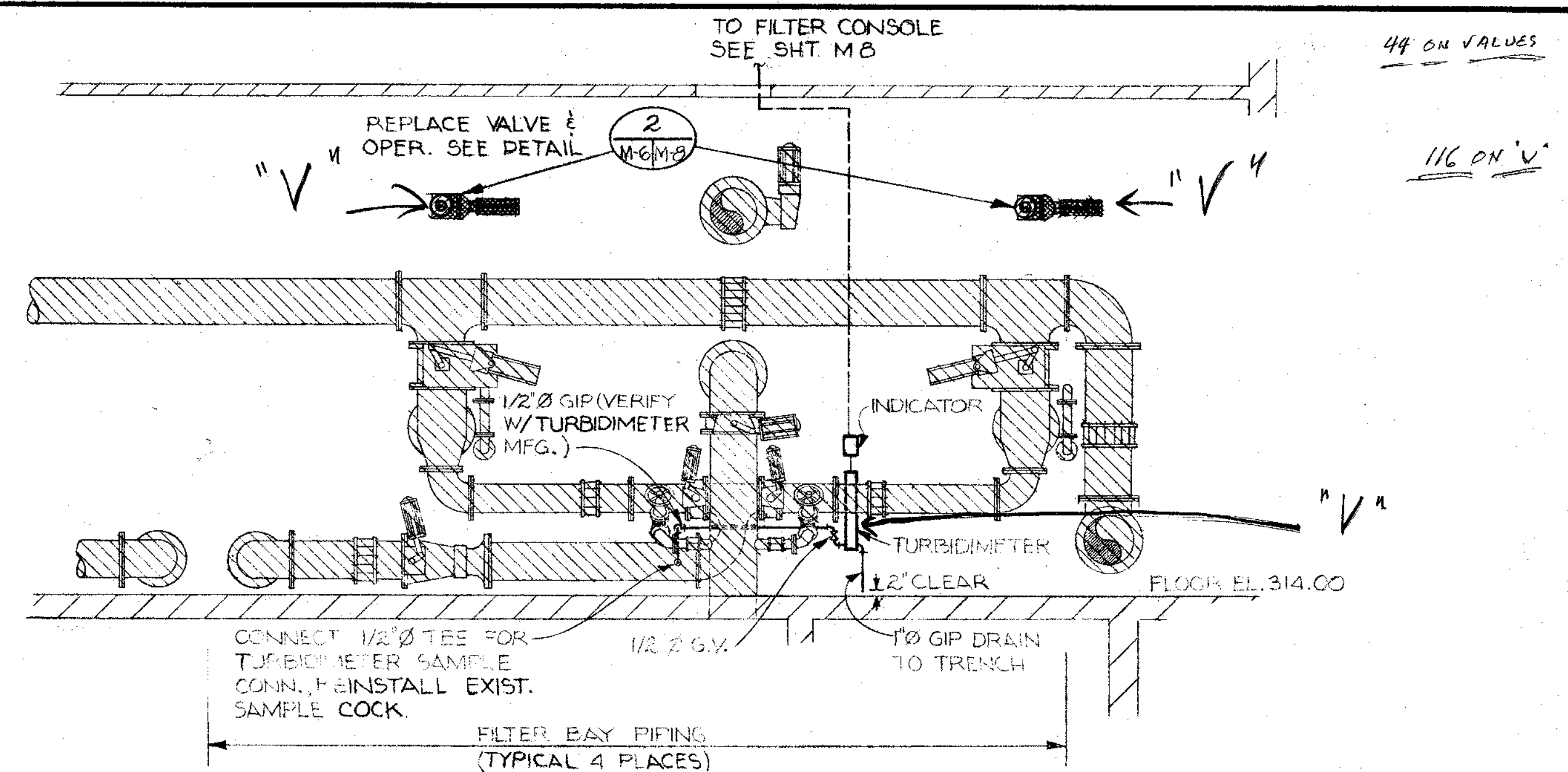
- GENERAL NOTES:
- CUT HOLES IN EXISTING 3" THICK FLOOR FOR NEW PIPE SLEEVES. FORM AND POUR INTEGRAL WITH NEW CONCRETE BASE.
 - PANEL AND NAMEPLATE COLORS TO BE DETERMINED BY THE ENGINEER.
 - SEE SHEET E3 FOR ADDITIONAL DRILLED HOLES FOR ELECTRICAL REQUIREMENTS.



PUMP ROOM PLAN
SCALE: 1/2" = 1'-0"



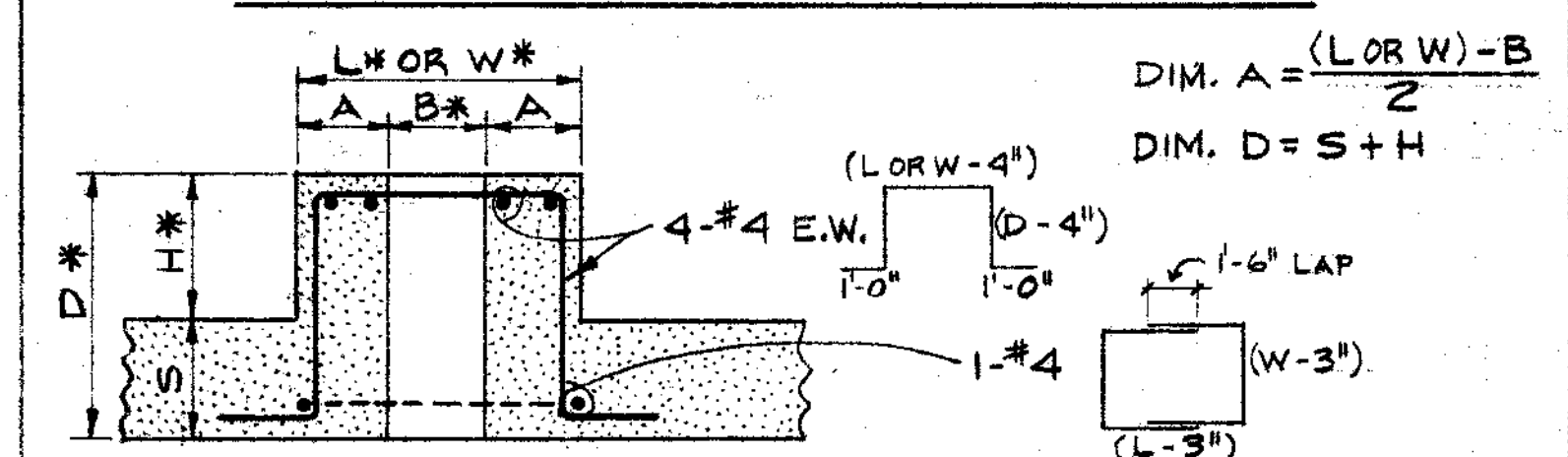
SECTION D
3/8" = 1'-0"



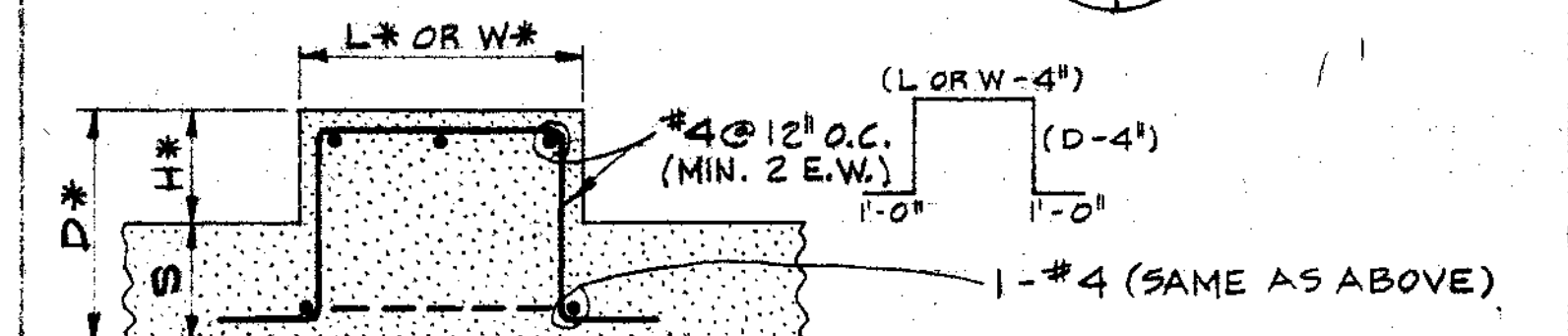
PARTIAL FILTER GALLERY ELEVATION

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

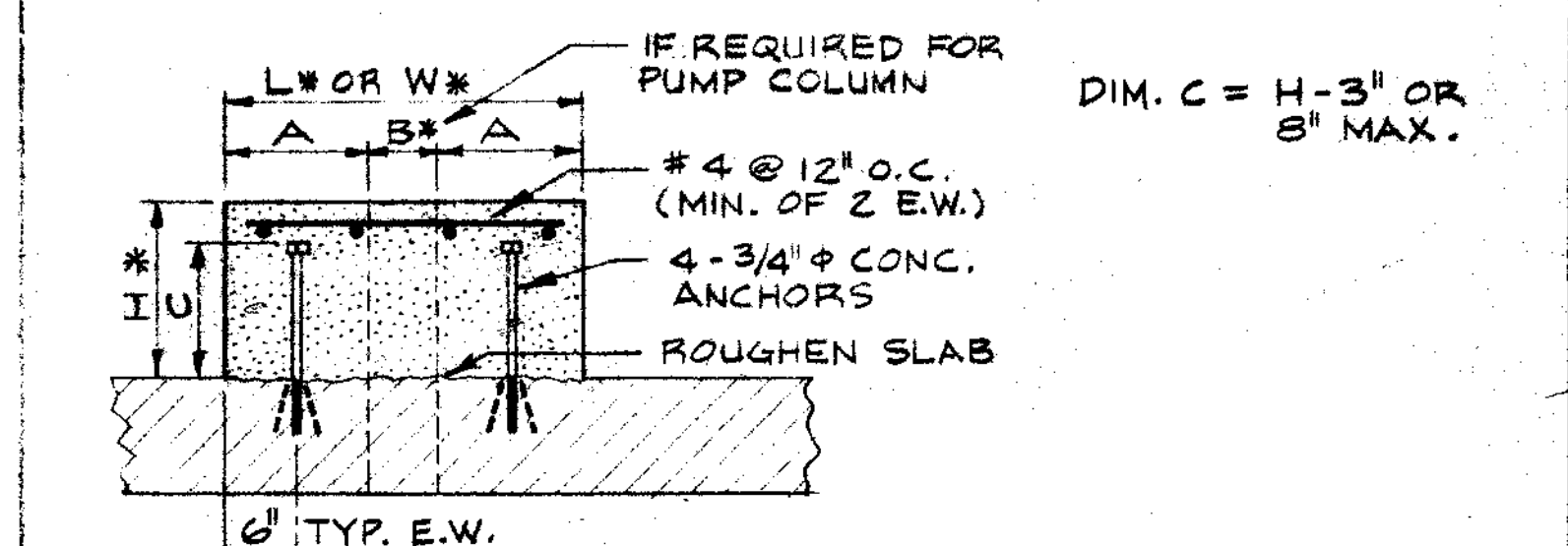
TYPICAL CONCRETE PAD DETAILS



PUMP BASE - NEW SLAB 1

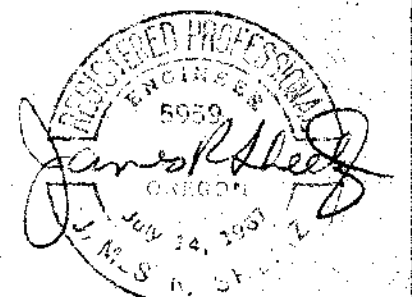


EQUIPMENT BASE - NEW SLAB 2



EQUIP. BASE - EXISTING SLAB 3

NOTE: * DIMENSIONS TO BE SIZED IN ACCORDANCE WITH EQUIP. MANUFACTURER'S DRAWINGS.



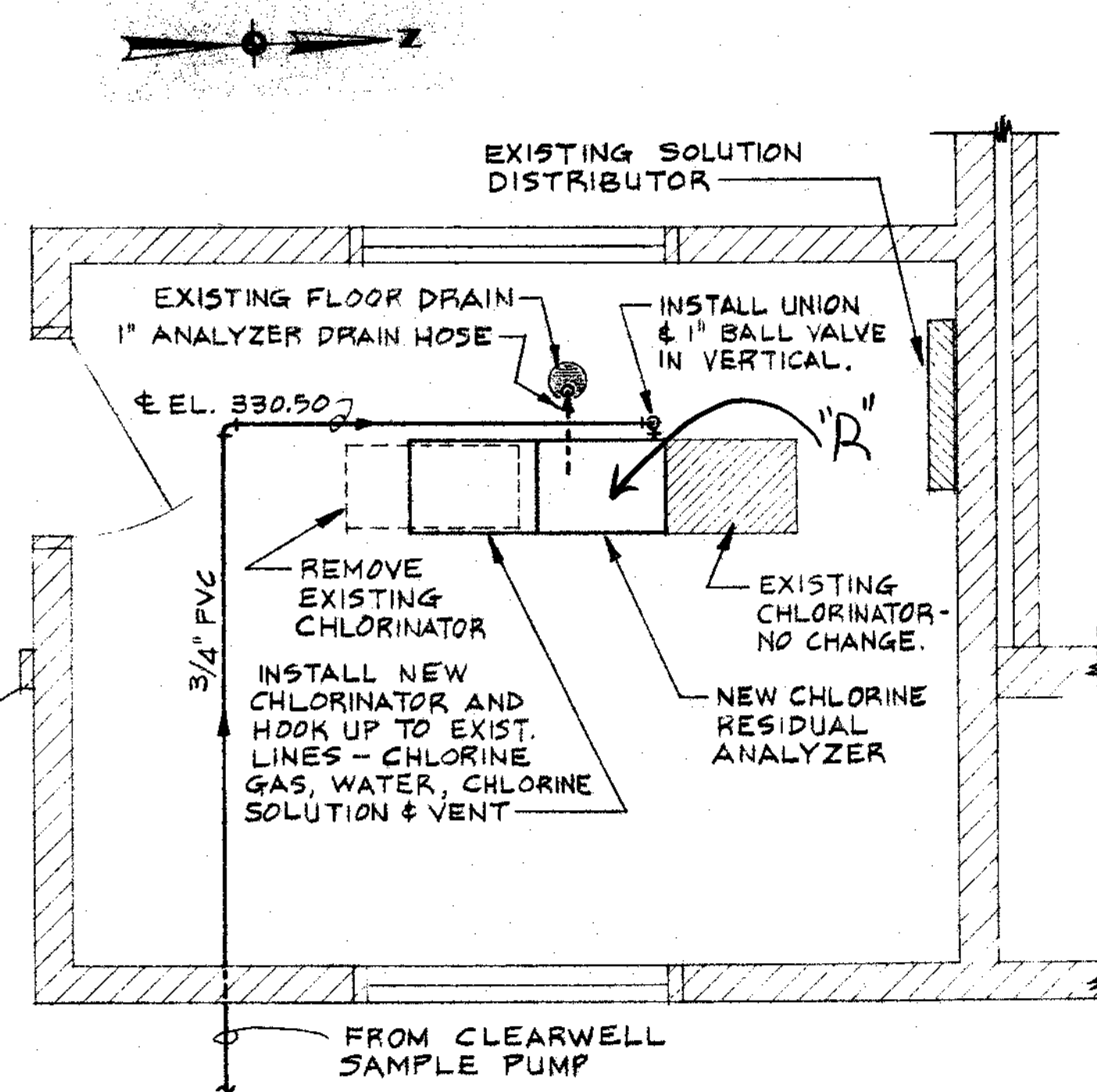
DESIGNED JRS	APPROVED <i>Stevens, Thompson & Runyan, Inc.</i>
DRAWN CGR	SCALE AS SHOWN DATE MAY 1975
CHECKED JRS	FILE PT 0757.002-14522

Stevens, Thompson & Runyan, Inc.
Engineers/Planners
PORTLAND SEATTLE SPOKANE BOISE

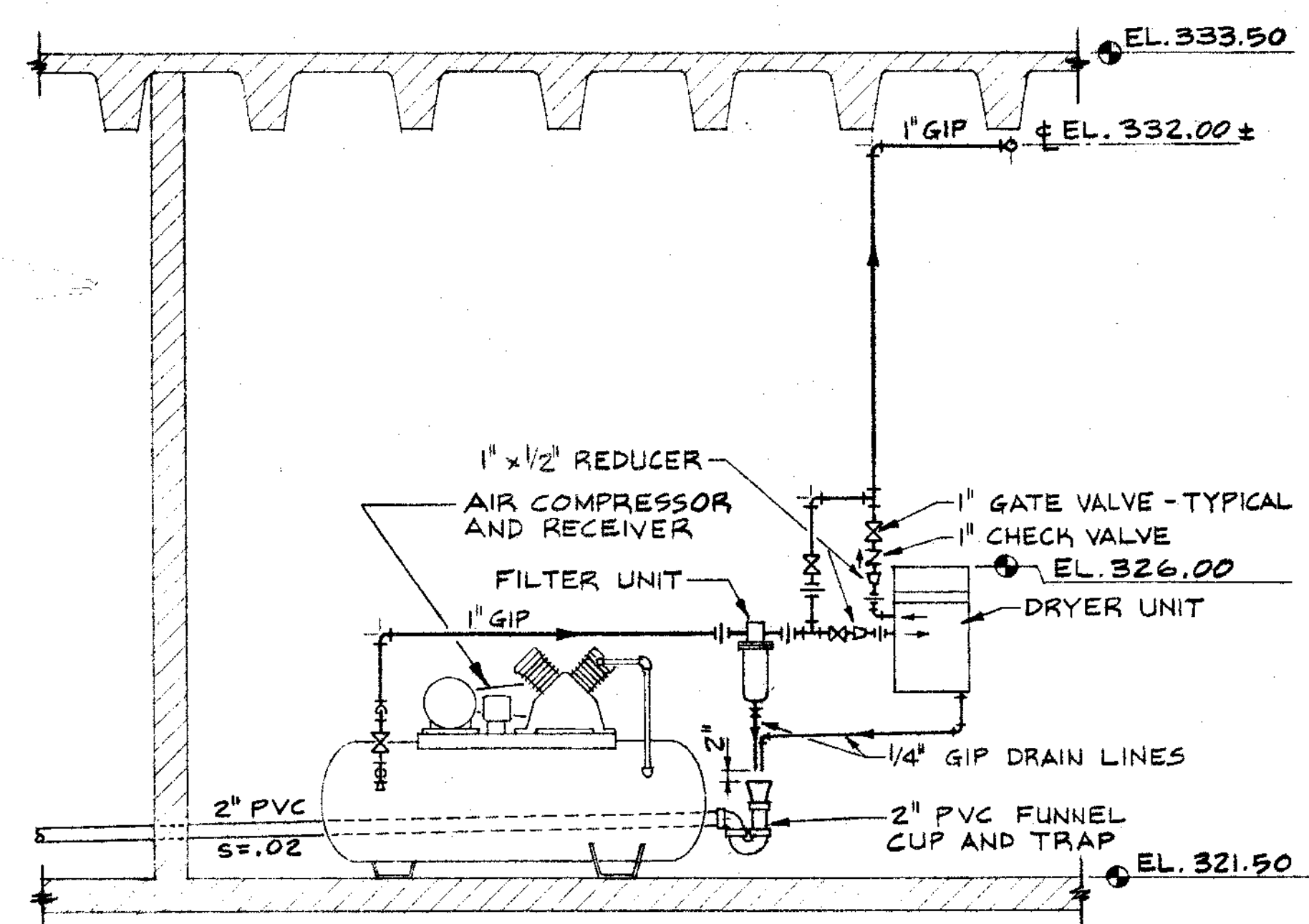
OREGON CITY - WEST LINN
SOUTH FORK WATER BOARD
WATER WORKS MODIFICATIONS

HEAD HOUSE MODIFICATIONS
PUMP ROOM AND FILTER GALLERY

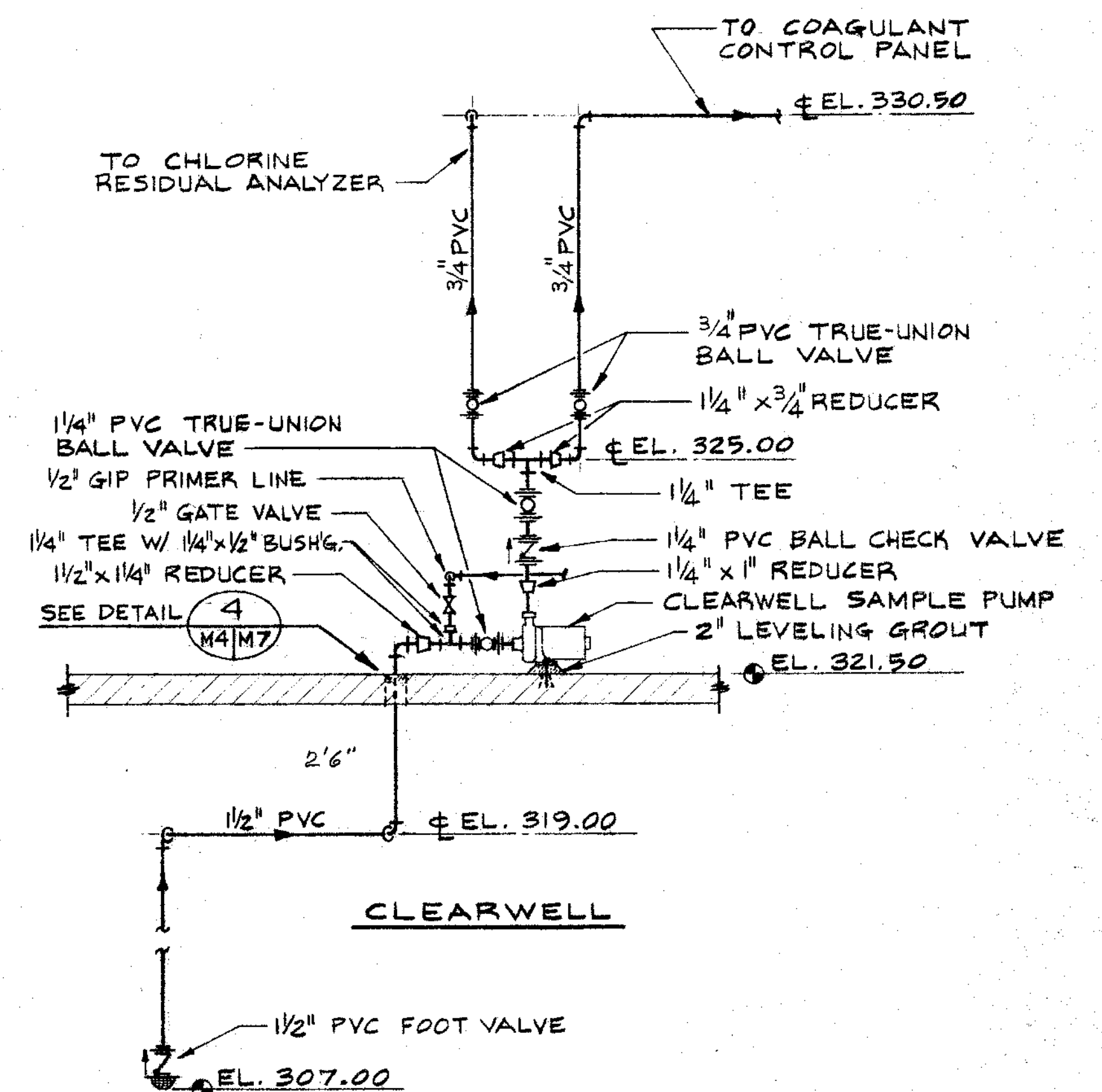
M6
21



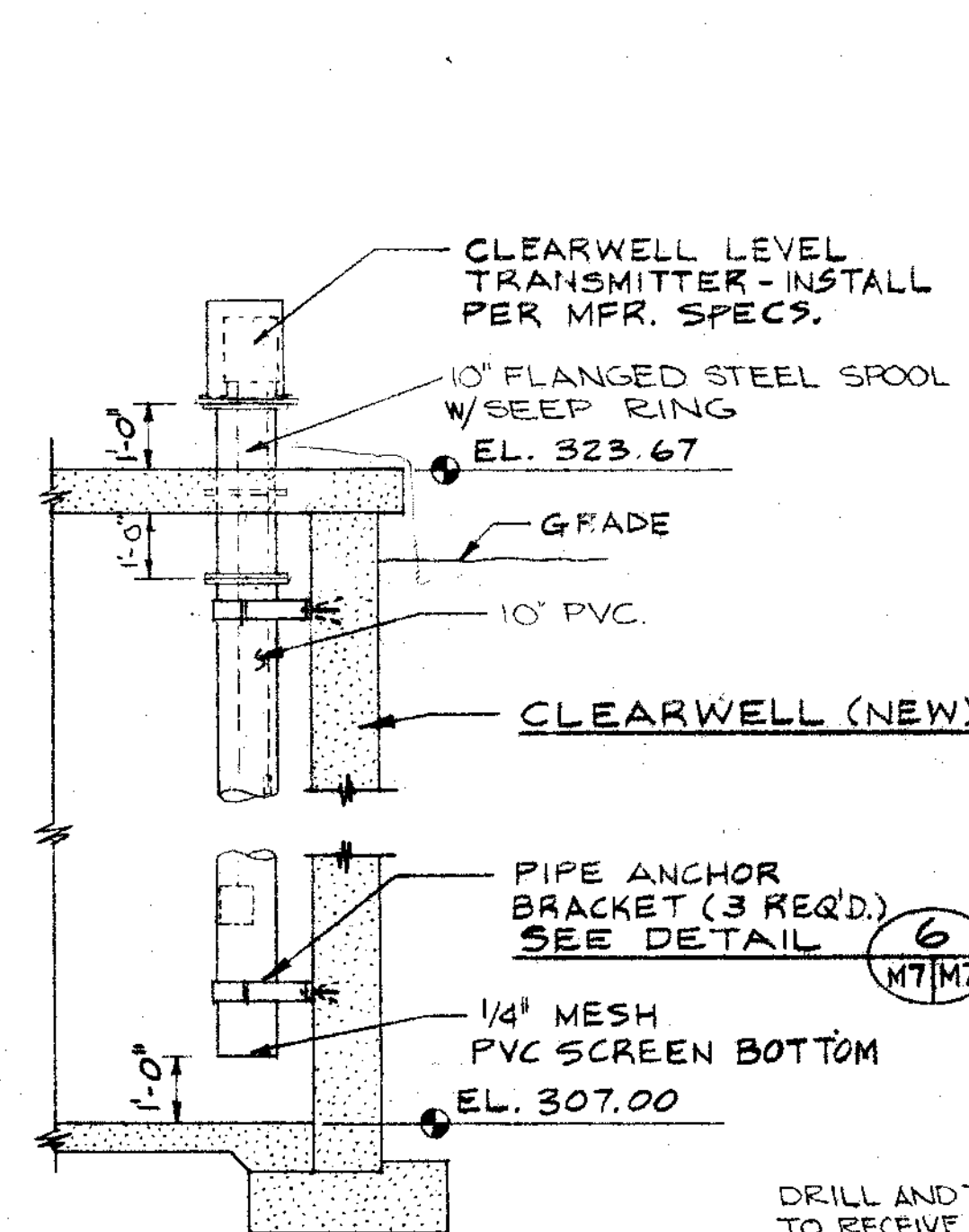
CHLORINATOR ROOM - PLAN
1/2" = 1'-0"



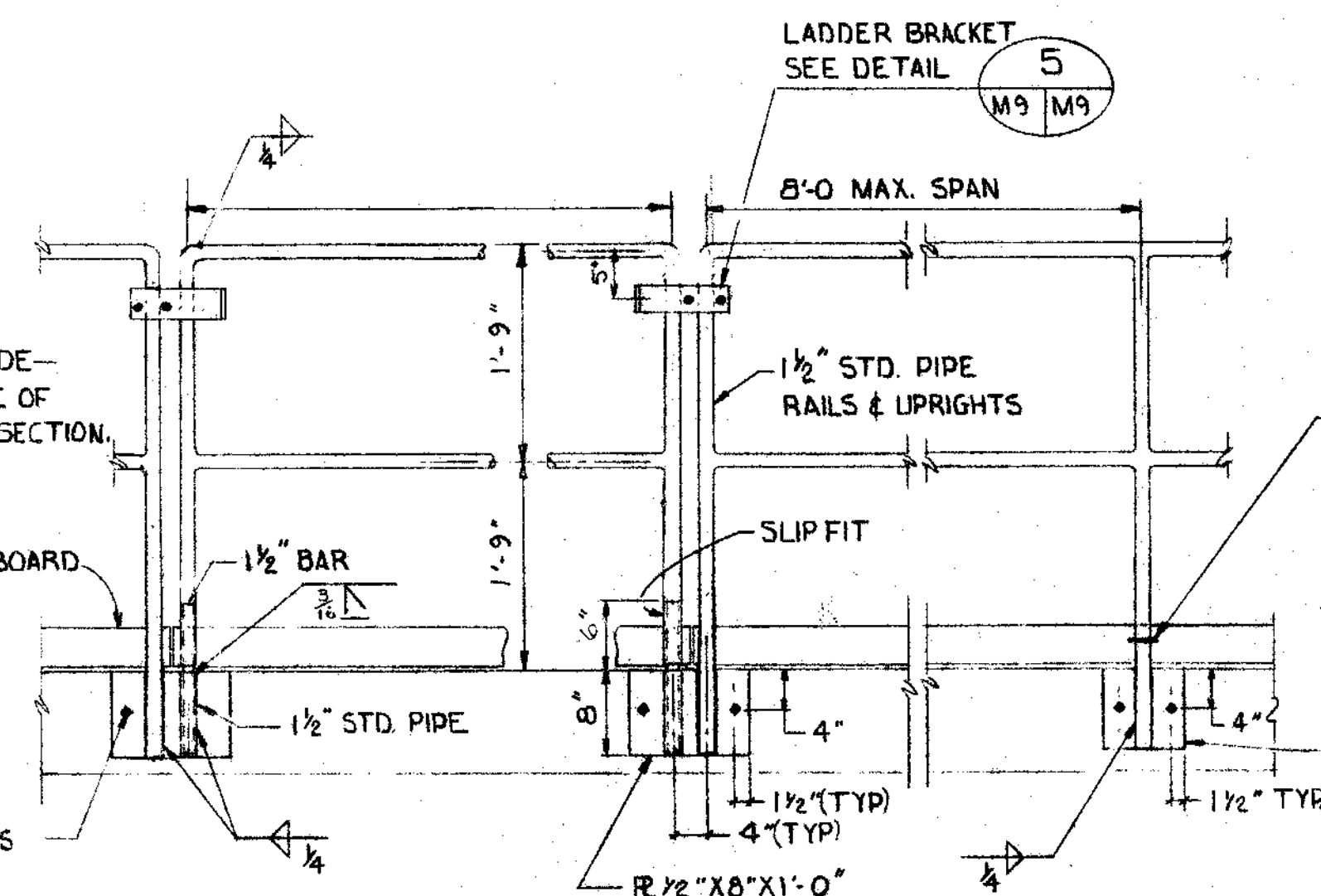
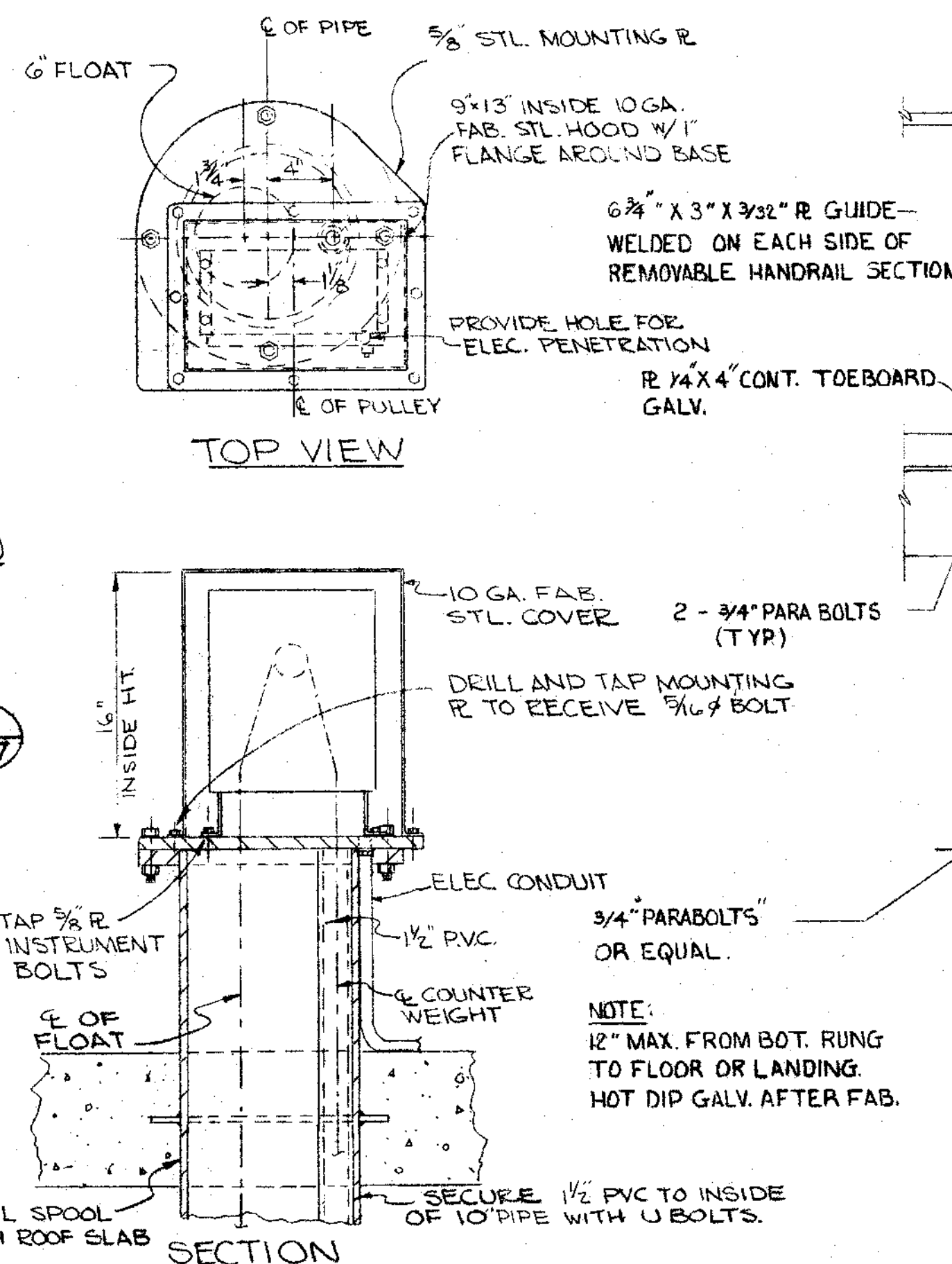
SECTION A
1/2" = 1'-0"



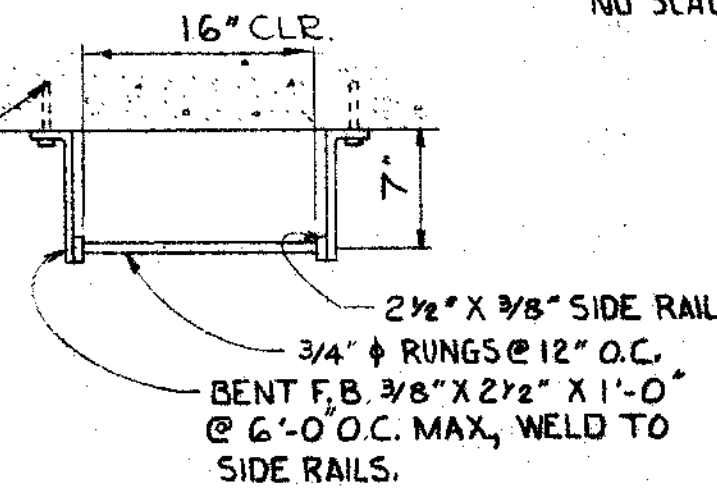
SECTION B
1/2" = 1'-0"



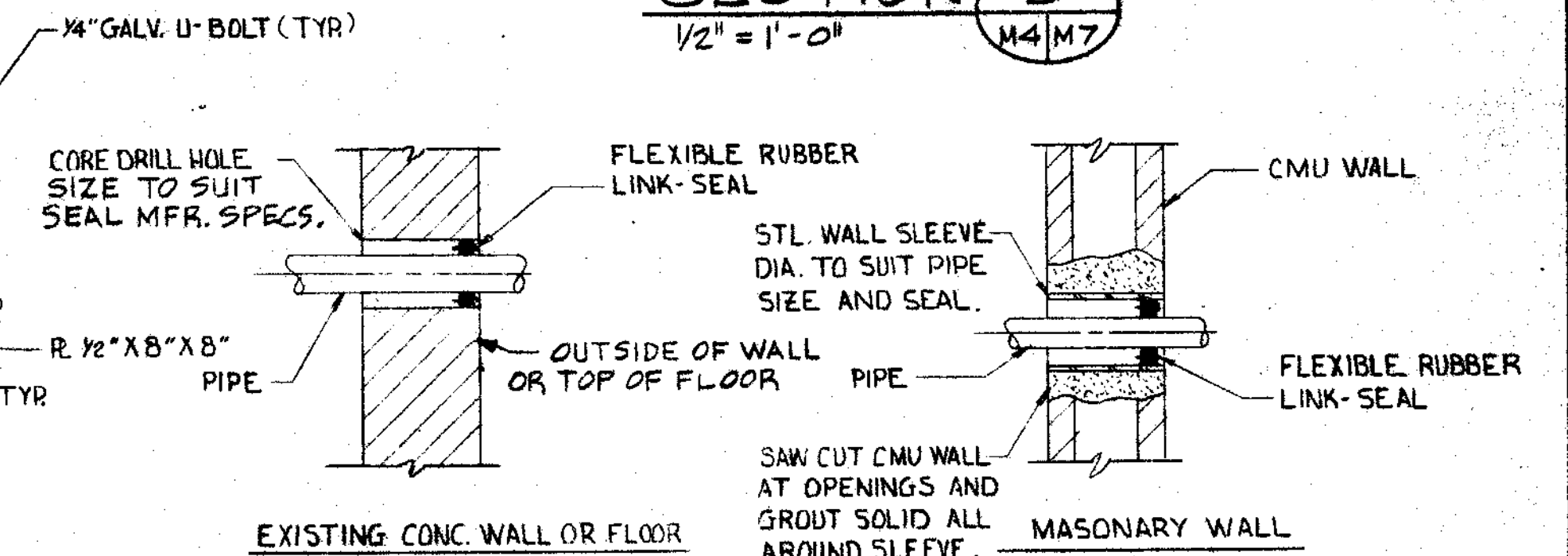
DETAIL 1
3/8" = 1'-0"



HANDRAIL DETAIL 2
NO SCALE

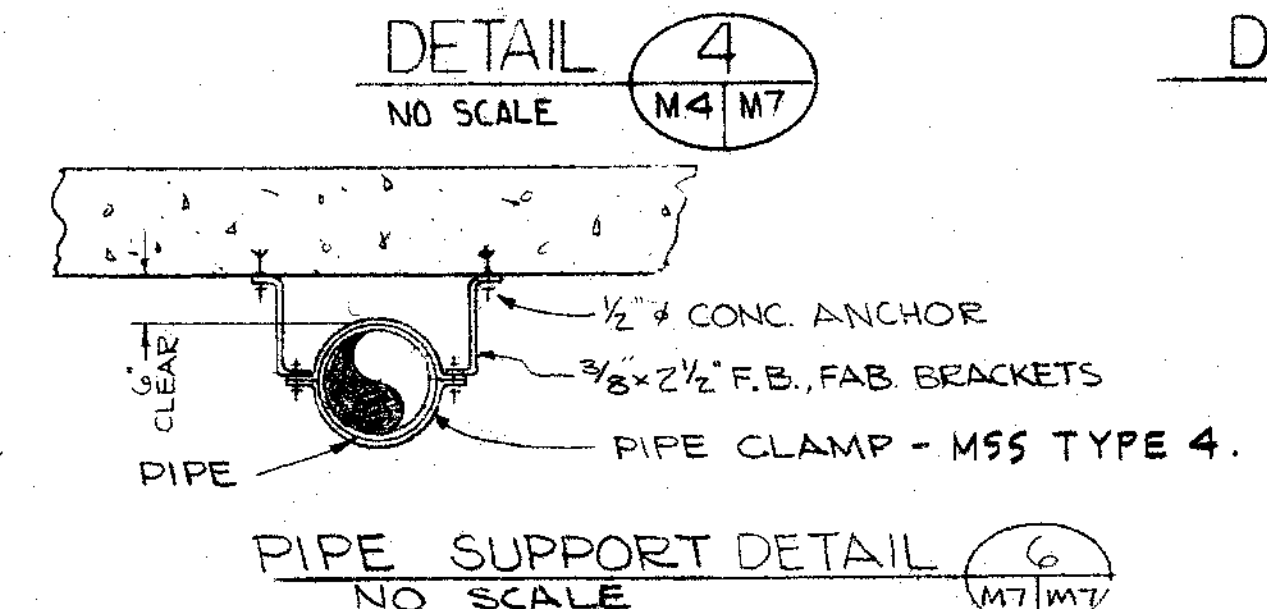


LADDER SECTION 3
1" = 1'-0"



DETAIL 4
NO SCALE

DETAIL 5
NO SCALE



PIPE SUPPORT DETAIL 6
NO SCALE



DESIGNED JRS/HWT	APPROVED <i>Harvey Taylor</i>
DRAWN DGB	SCALE AS SHOWN DATE MAY, 1975
CHECKED JRS	FILE PT. 0757.002-14863

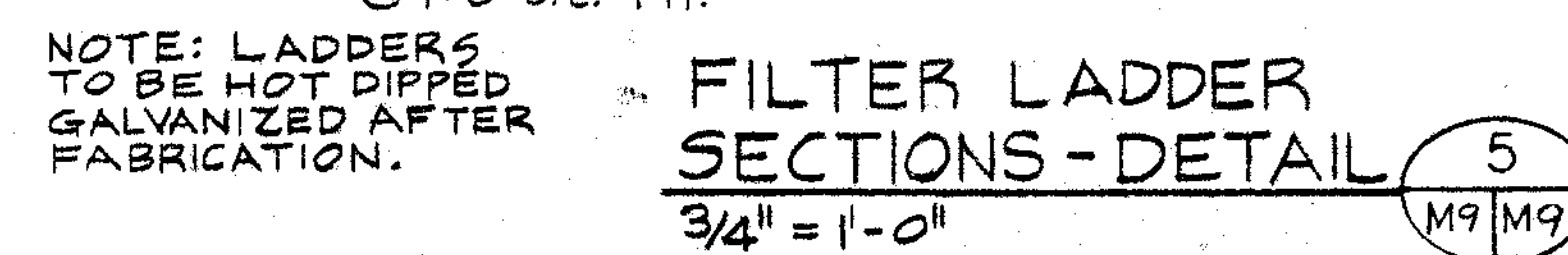
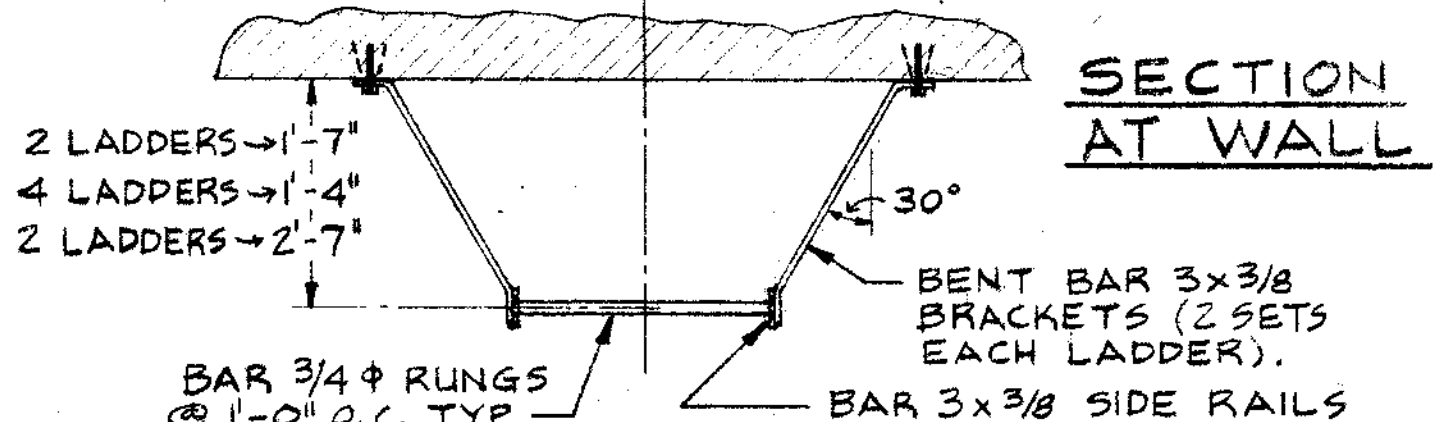
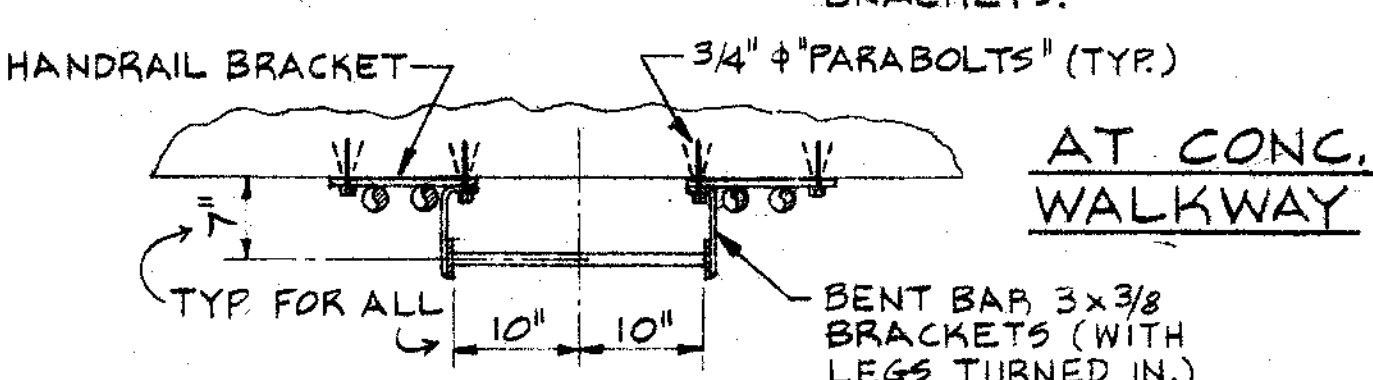
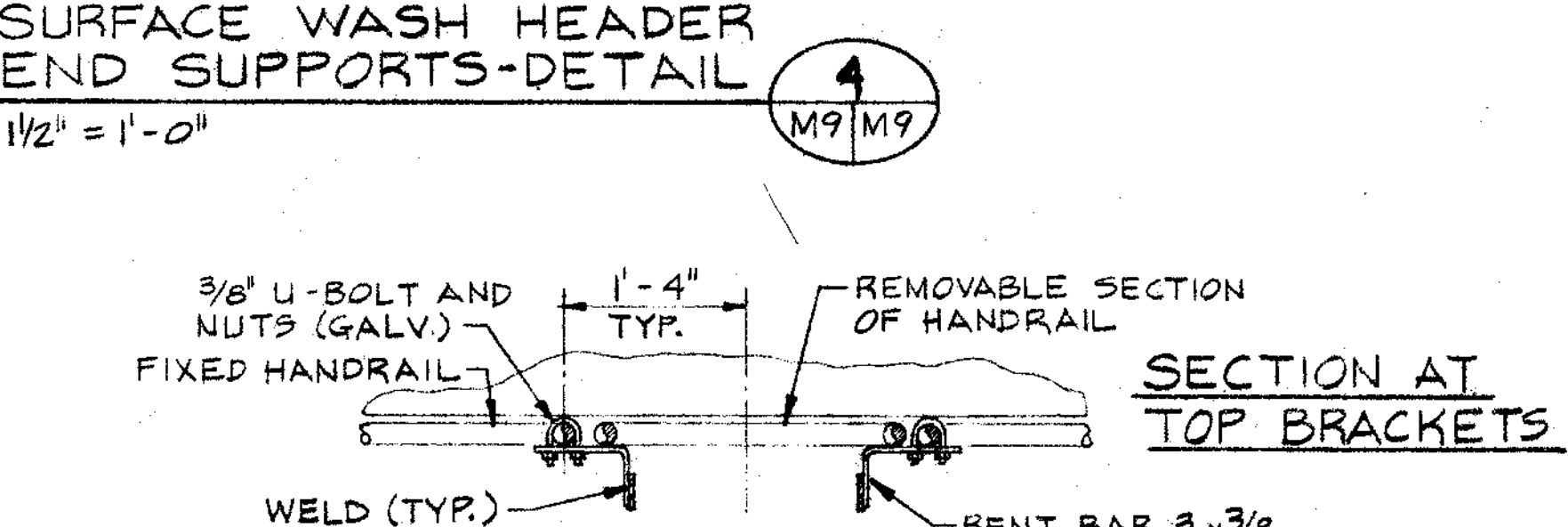
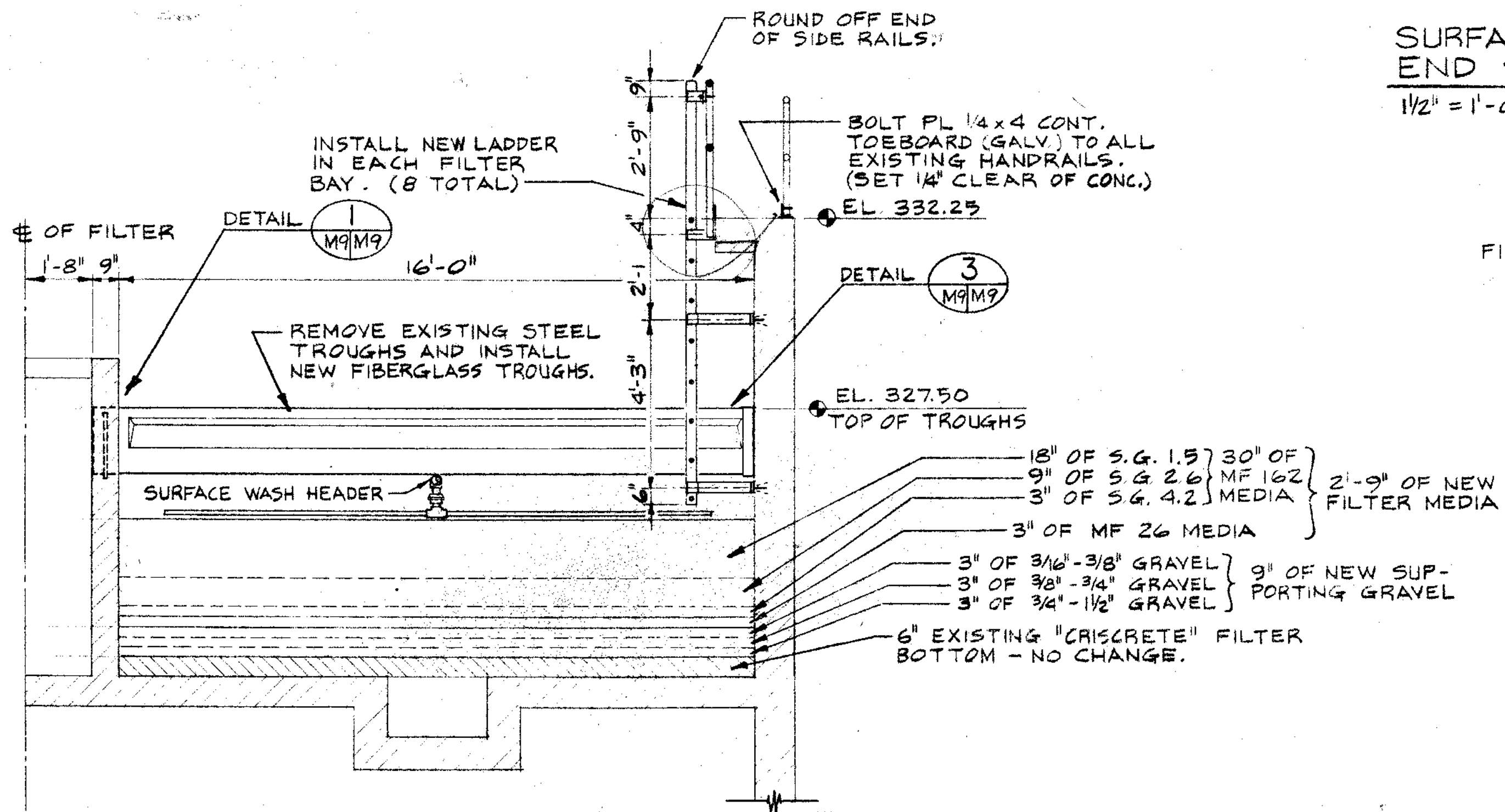
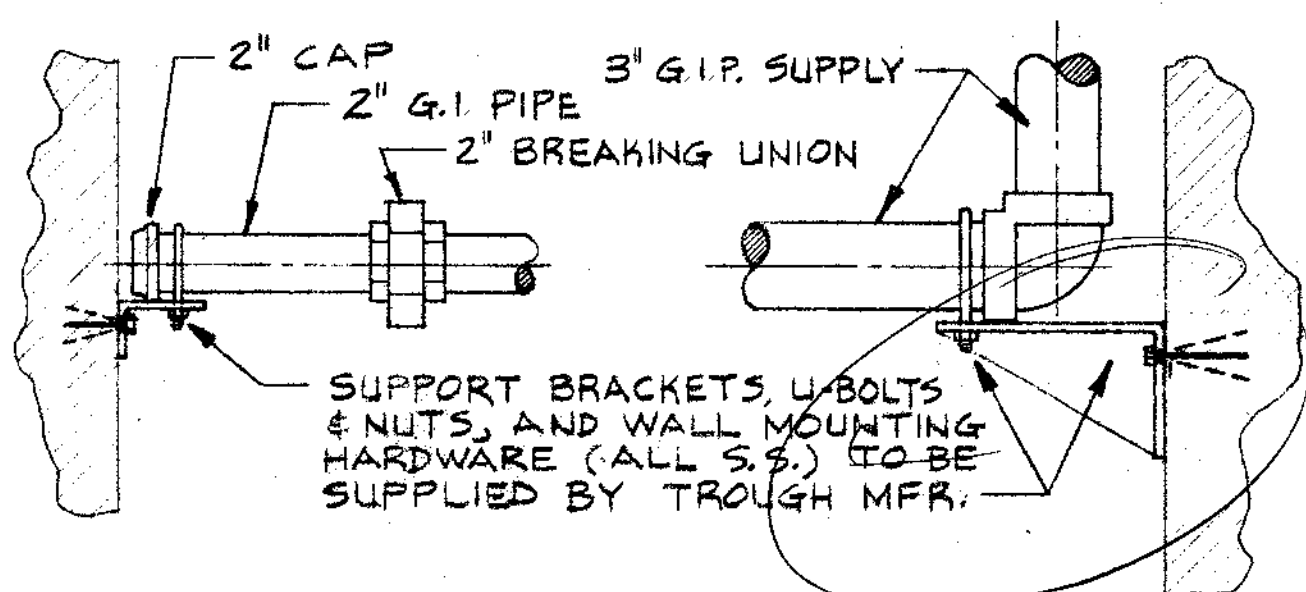
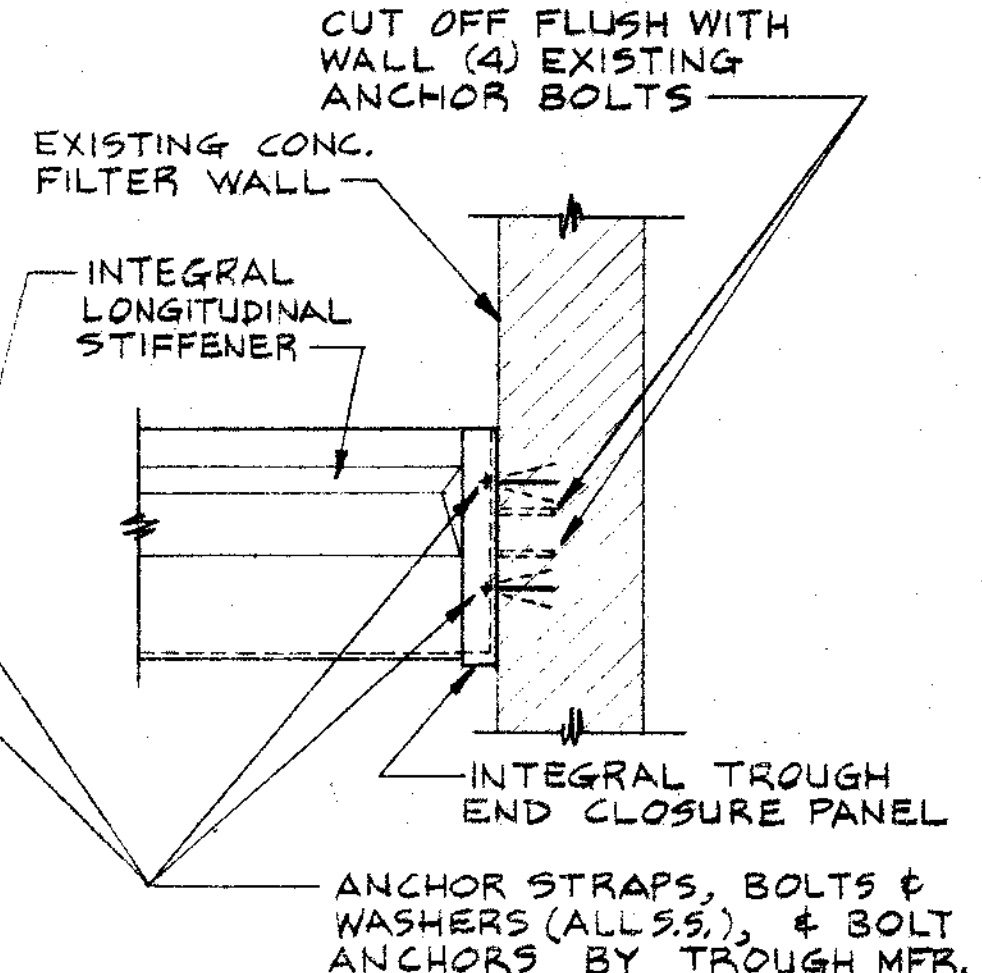
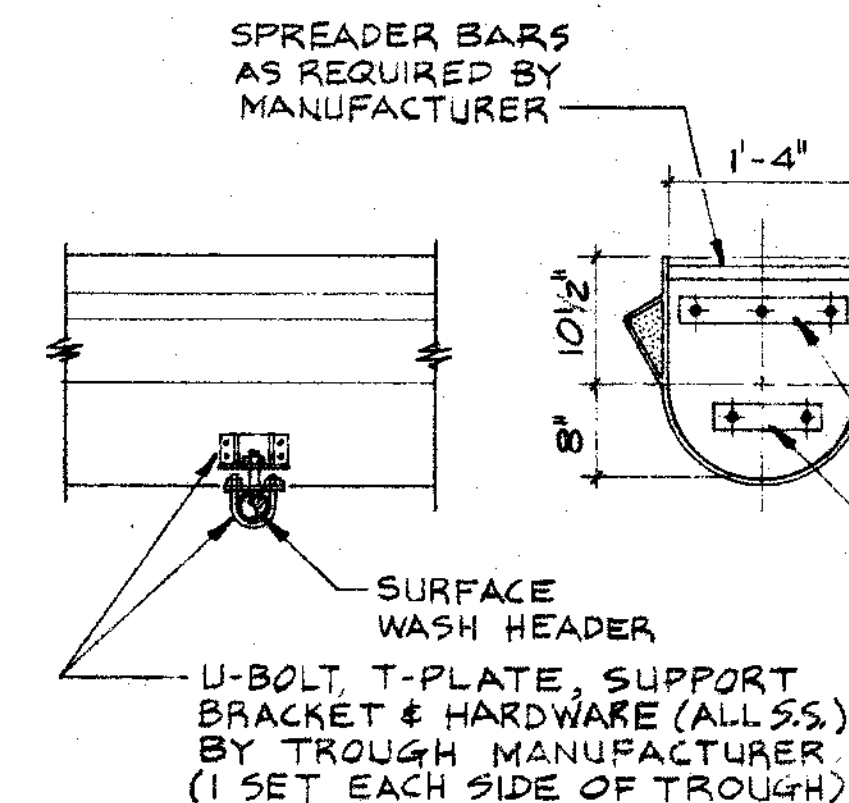
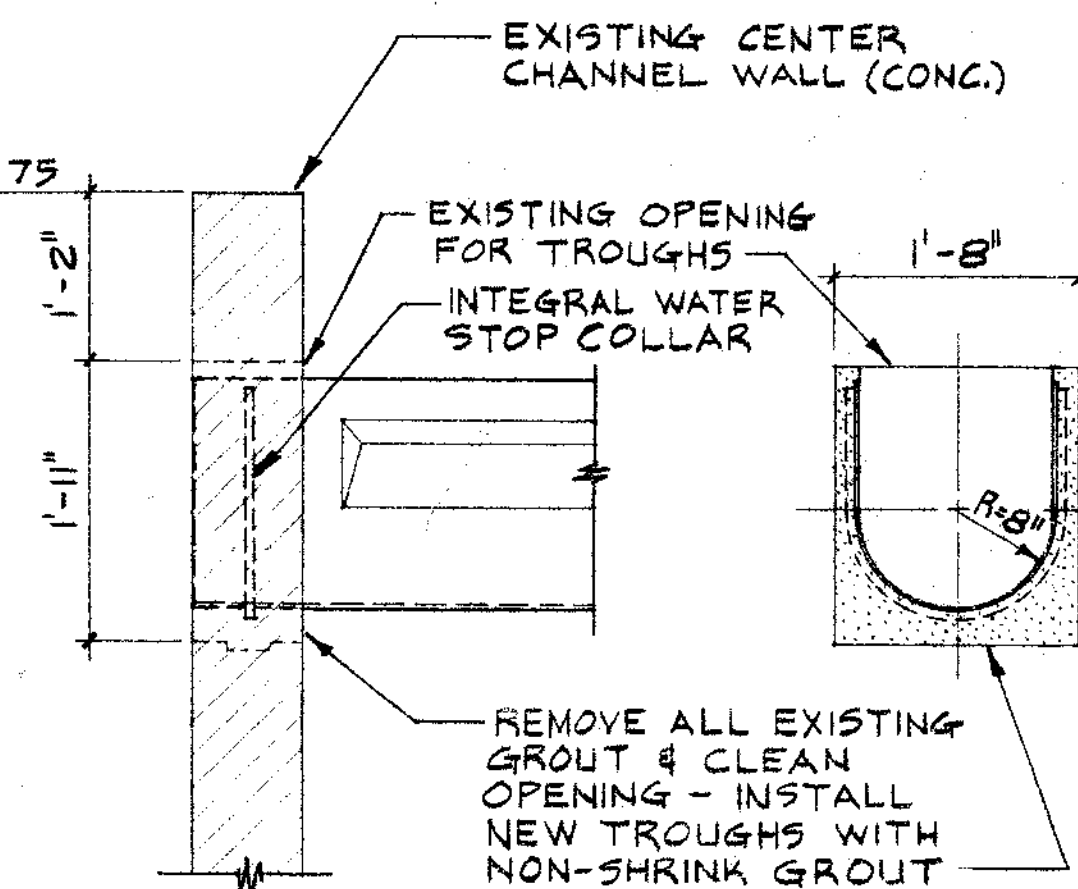
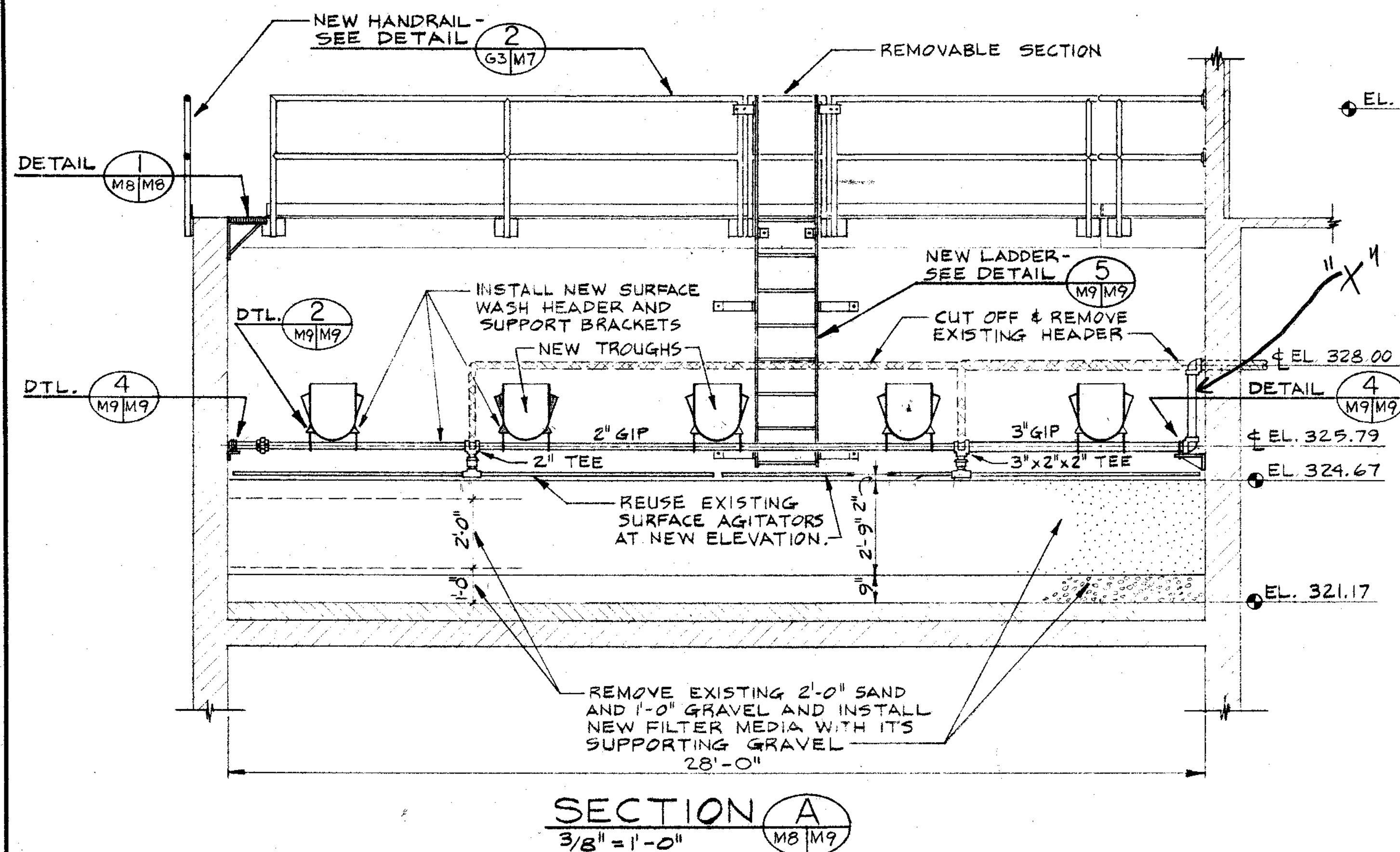


Stevens, Thompson & Runyan, Inc.
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SPOKANE BOISE

OREGON CITY-WEST LINN
SOUTH FORK WATER BOARD
WATER WORKS MODIFICATIONS

HEAD HOUSE DETAILS
MISCELLANEOUS DETAILS

M7
21

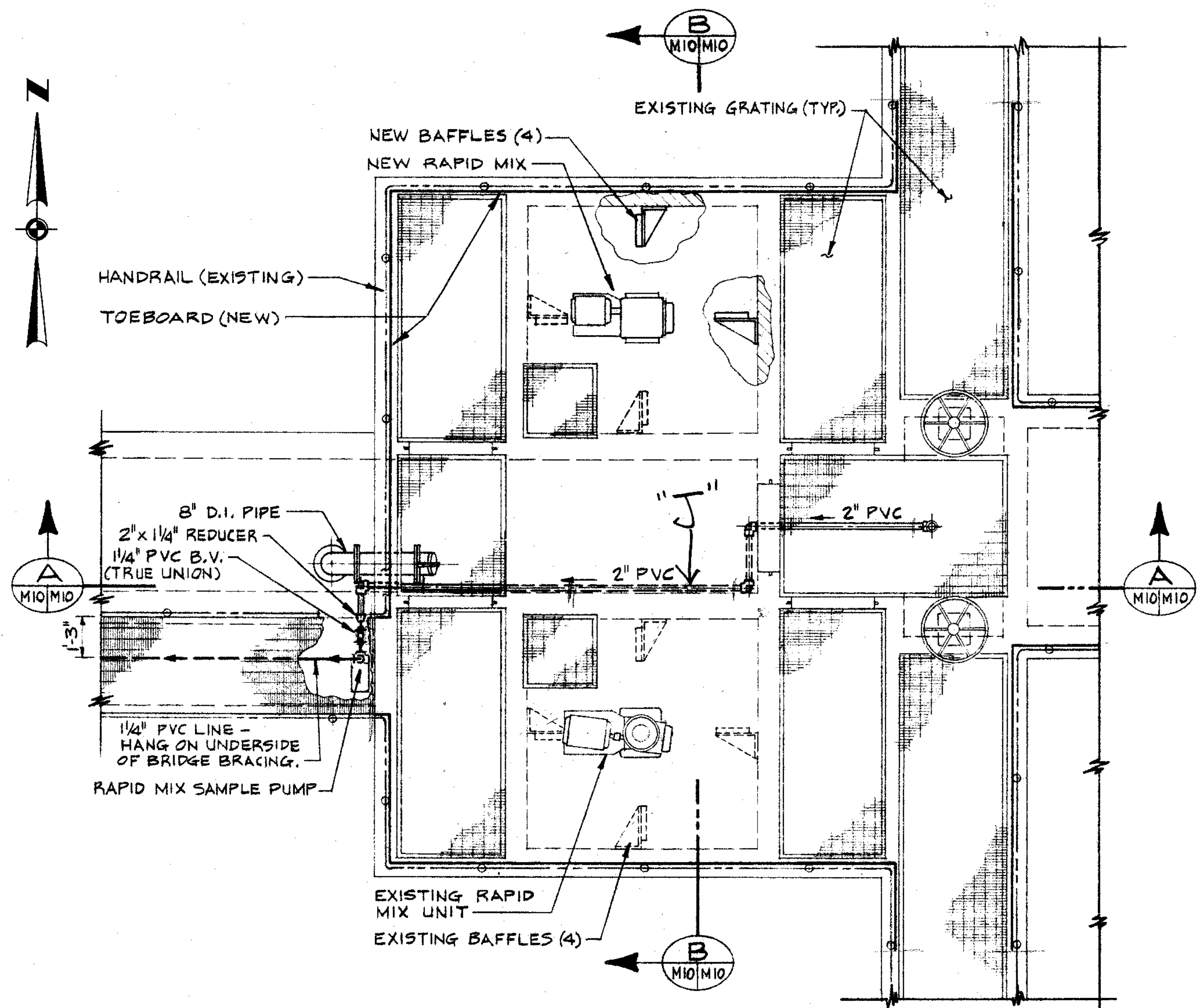


DESIGNED JRS/HWT	APPROVED <i>Thompson & Runyan</i>
DRAWN DGB	SCALE AS SHOWN DATE MAY, 1979
CHECKED JRS	FILE PT. 0757.002-14865

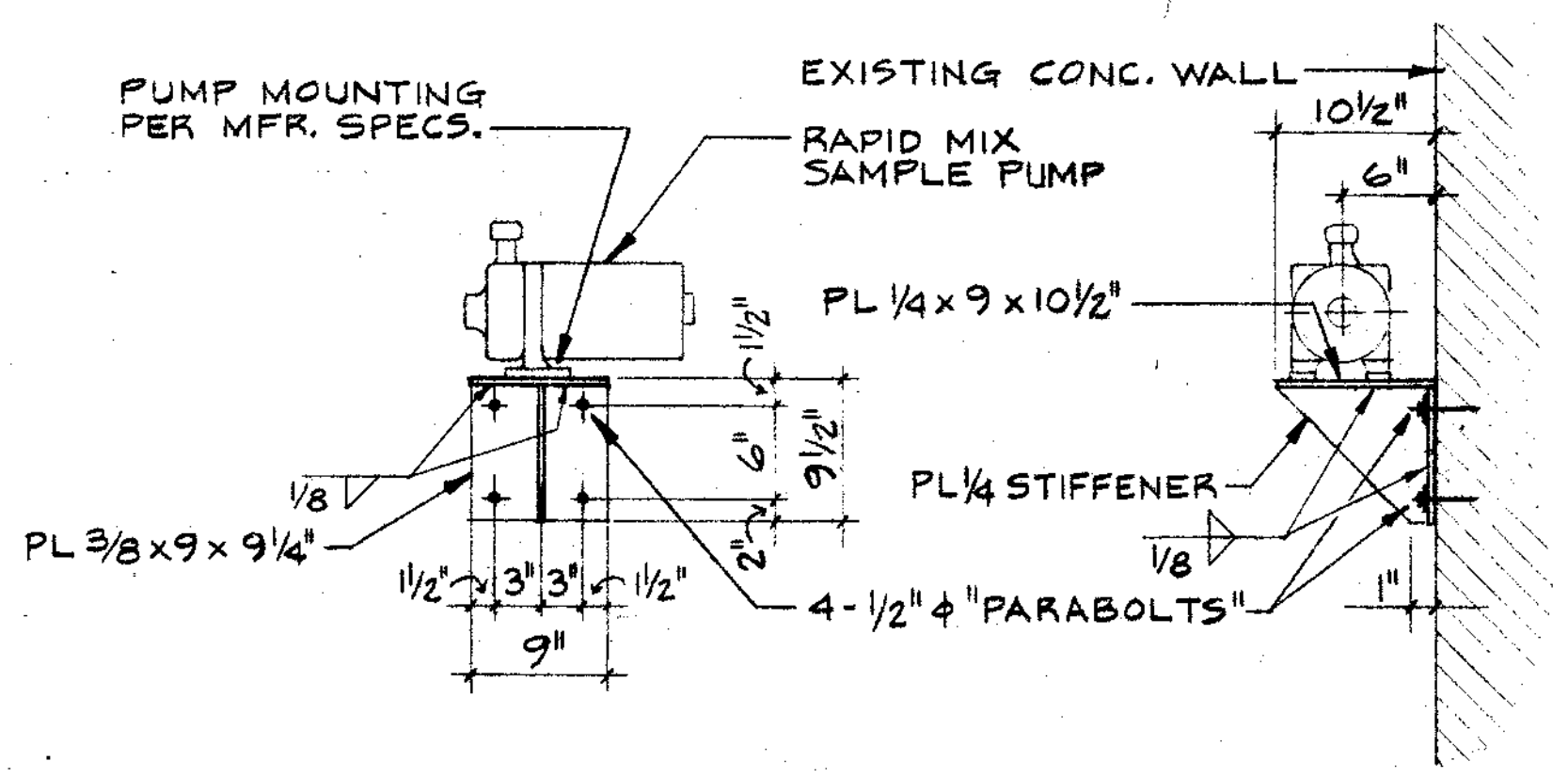
ST **Stevens, Thompson & Runyan, Inc.**
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OREGON CITY - WEST LINN
SOUTH FORK WATER BOARD
WATER WORKS MODIFICATIONS

**FILTER MODIFICATIONS
SECTIONS AND DETAILS**

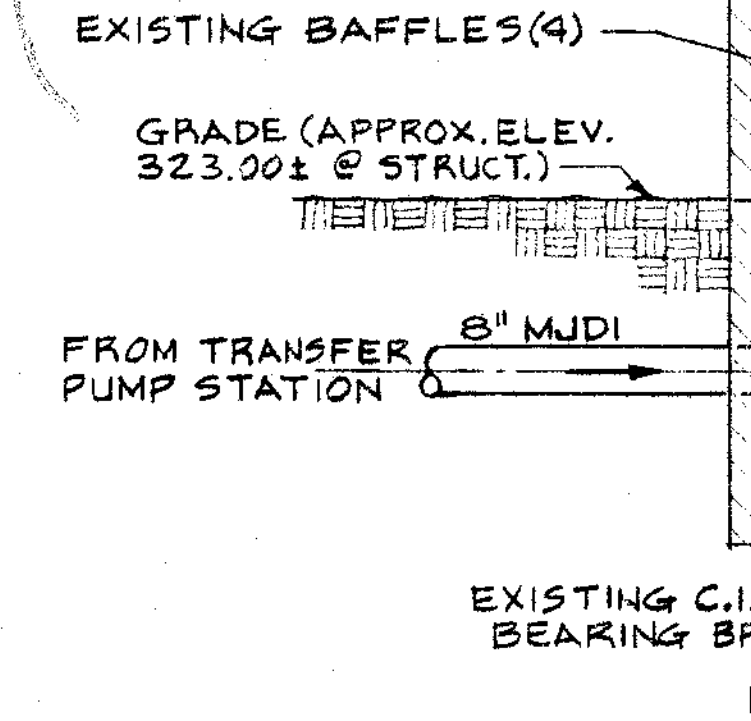


PLAN
3/8" = 1'-0"

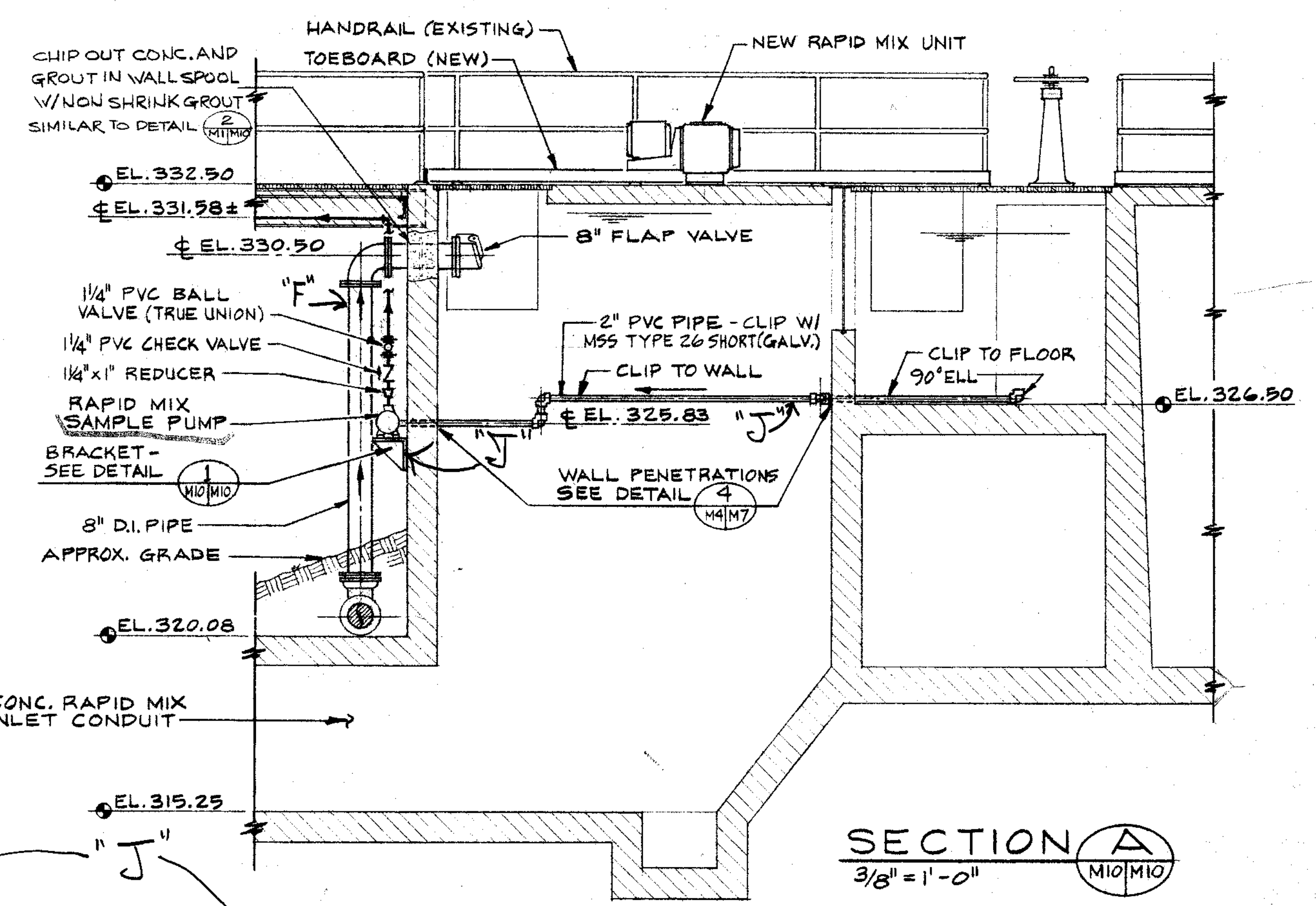


BRACKET DETAIL 1
1" = 1'-0"

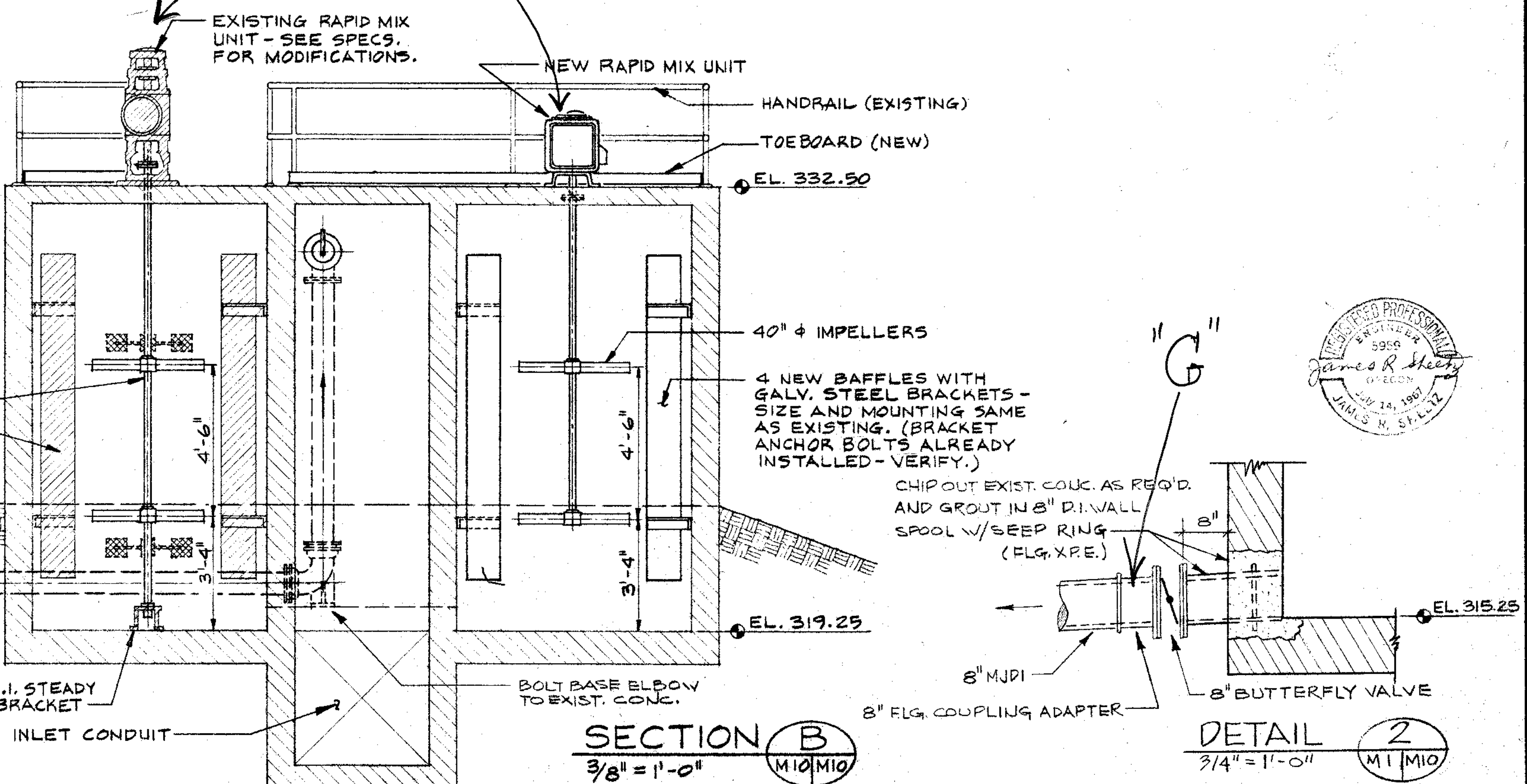
REMOVE EXISTING IMPELLERS, SHAFT AND STEADY BEARING. INSTALL NEW SHAFT WITH 40" Ø IMPELLERS & STEADY BEARING. REUSE BEARING BRACKET.



SECTION B
3/8" = 1'-0"



SECTION A
3/8" = 1'-0"



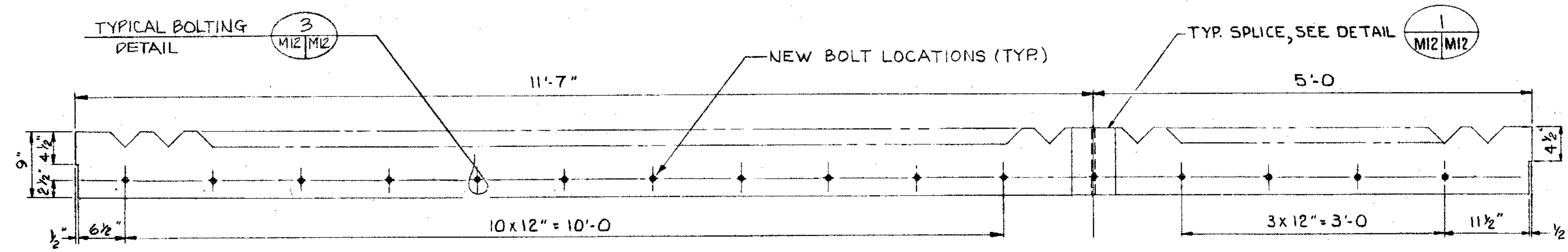
DETAIL 2
3/4" = 1'-0"

DESIGNED JRS/HWT	APPROVED <i>Therese Taylor</i>
DRAWN DGB	SCALE AS SHOWN DATE
CHECKED JRS	FILE PT. 0757.002 - 14866

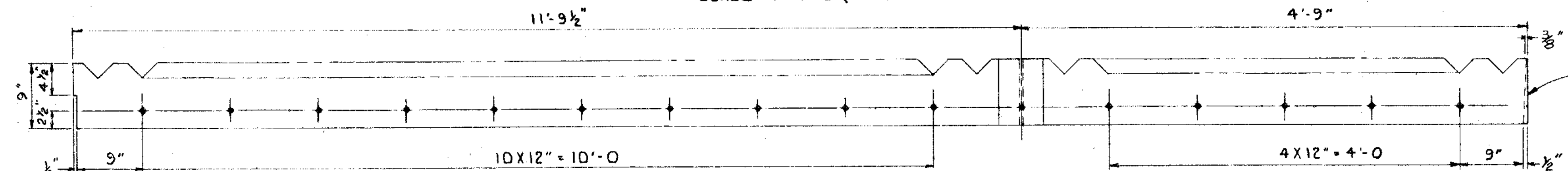
ST **Stevens, Thompson & Runyan, Inc.**
Engineers/Planners
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OREGON CITY - WEST LINN
SOUTH FORK WATER BOARD
WATER WORKS MODIFICATIONS

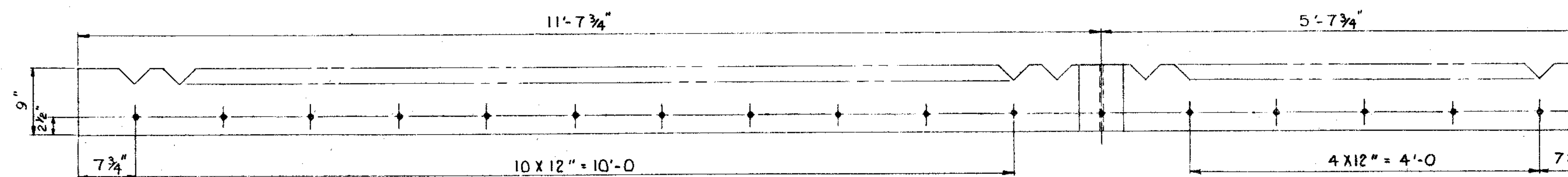
RAPID MIX BASIN MODIFICATIONS
PLAN AND SECTIONS



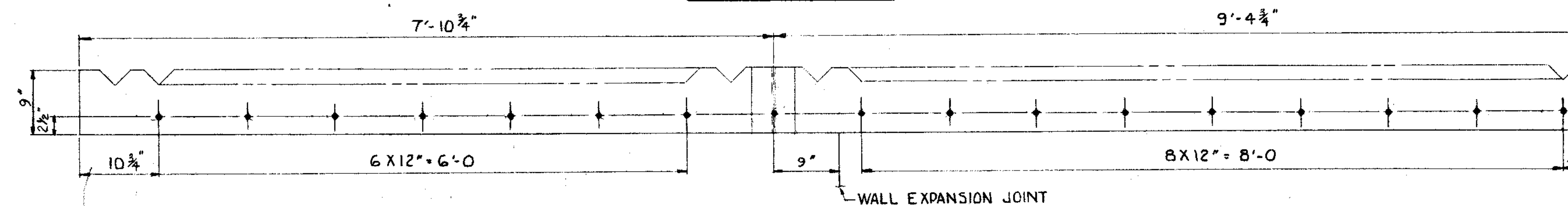
WEIR PLATE NO.1
SCALE: 1"=1'-0" (TYP)



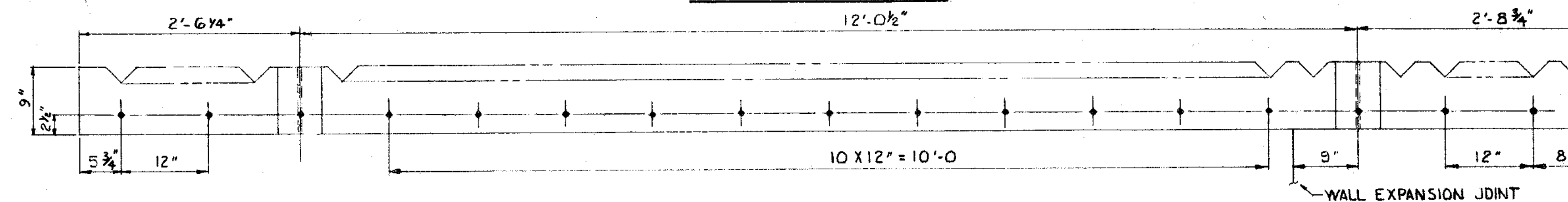
WEIR PLATE NO.2



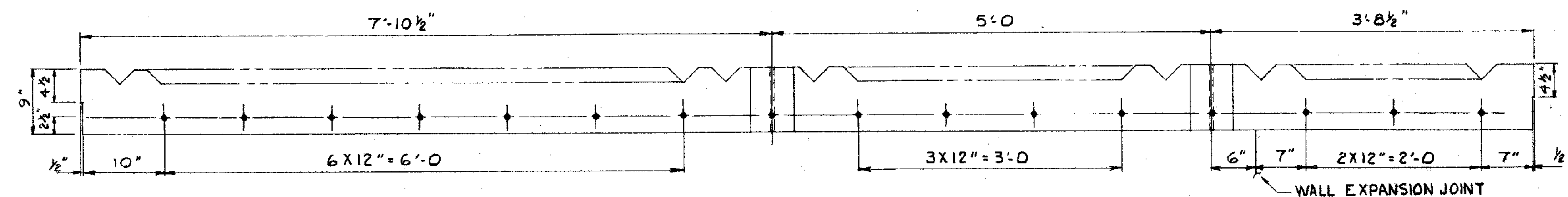
WEIR PLATE NO.3



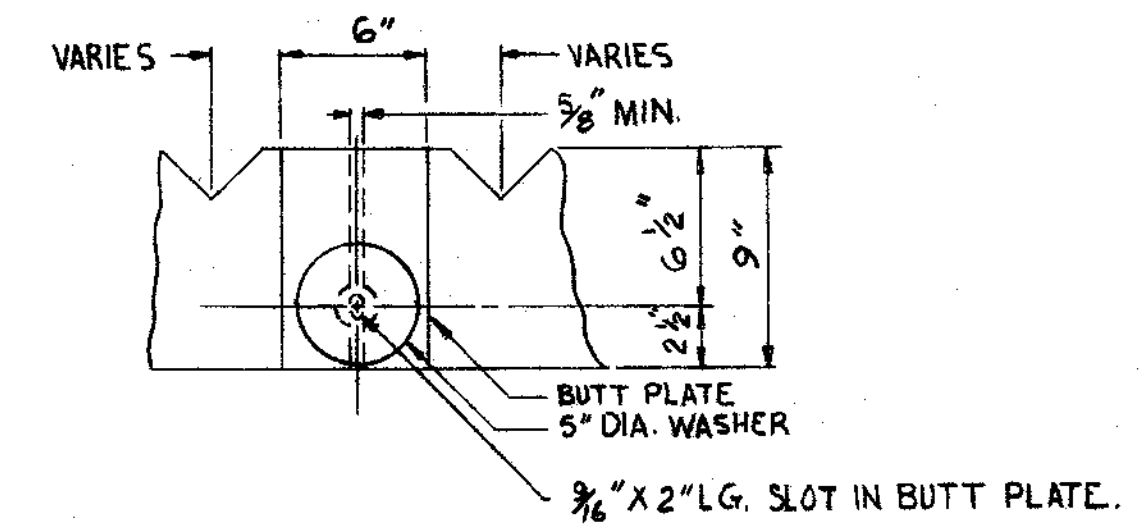
WEIR PLATE NO.4 & 4*



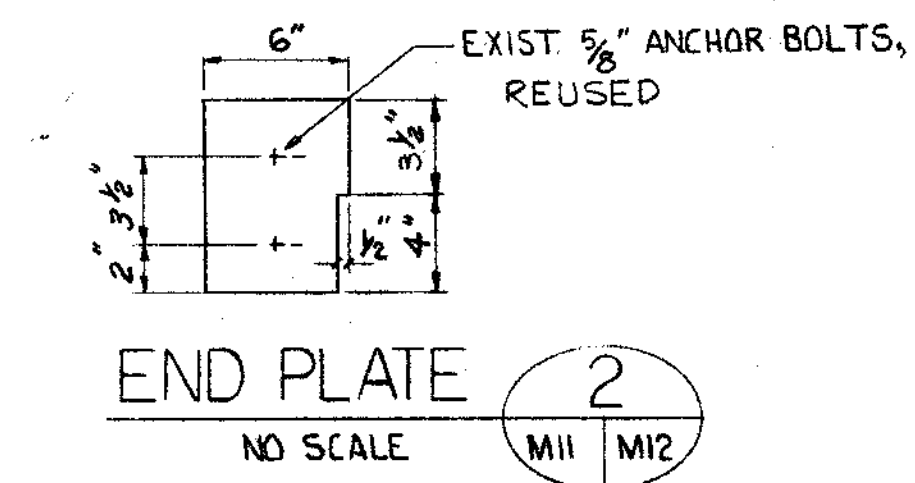
WEIR PLATE NO.5 & 5*



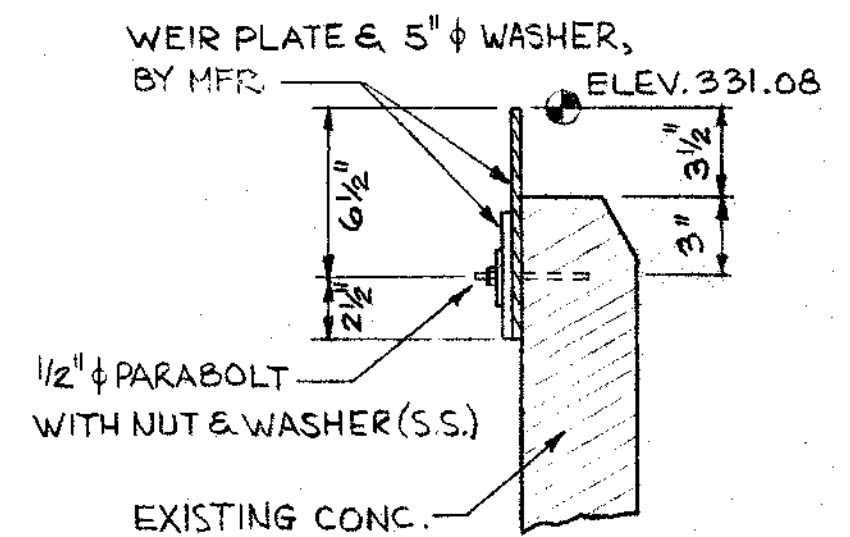
WEIR PLATE NO.6 & 6*



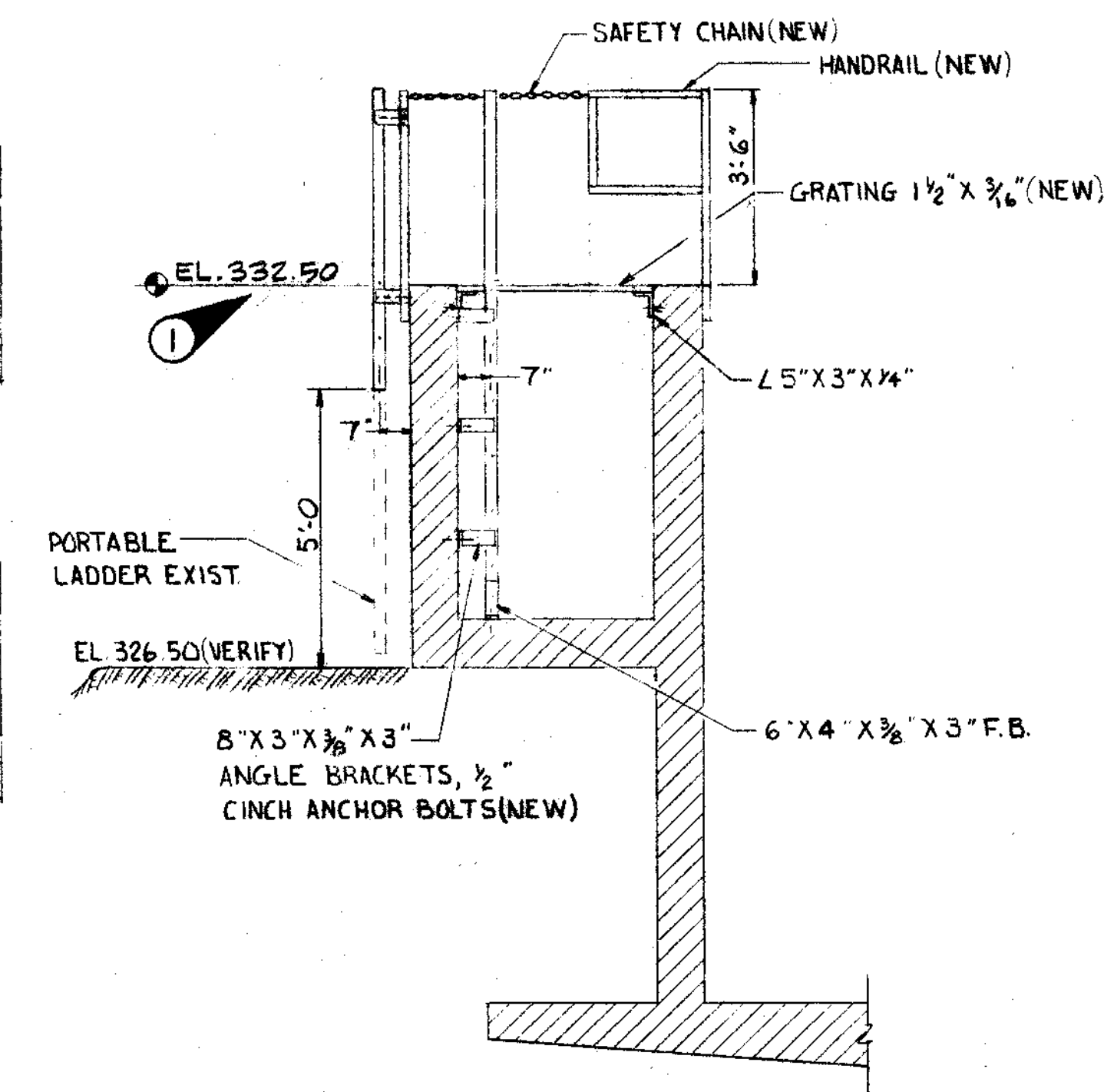
SPLICE DETAIL
NO SCALE



END PLATE
NO SCALE



TYPICAL DETAIL
NO SCALE



SECTION B
SCALE 3/8"=1'-0"

- NOTES:
1. FIELD VERIFY ALL BOLT LOCATIONS.
 2. ALL NOTCHES ARE 2" DEPTH, 90-VEE
 3. CONTRACTOR TO VERIFY ALL WEIR PLATE DIMENSIONS IN THE FIELD PRIOR TO PLATE FABRICATION.
 4. ALL NEW BOLTS ARE 1/2" φ S.S. "PARABOLTS" w/ S.S. NUTS AND WASHERS
 5. * DENOTES WEIR PLATE MIRROR IMAGE OF PLATE SHOWN.

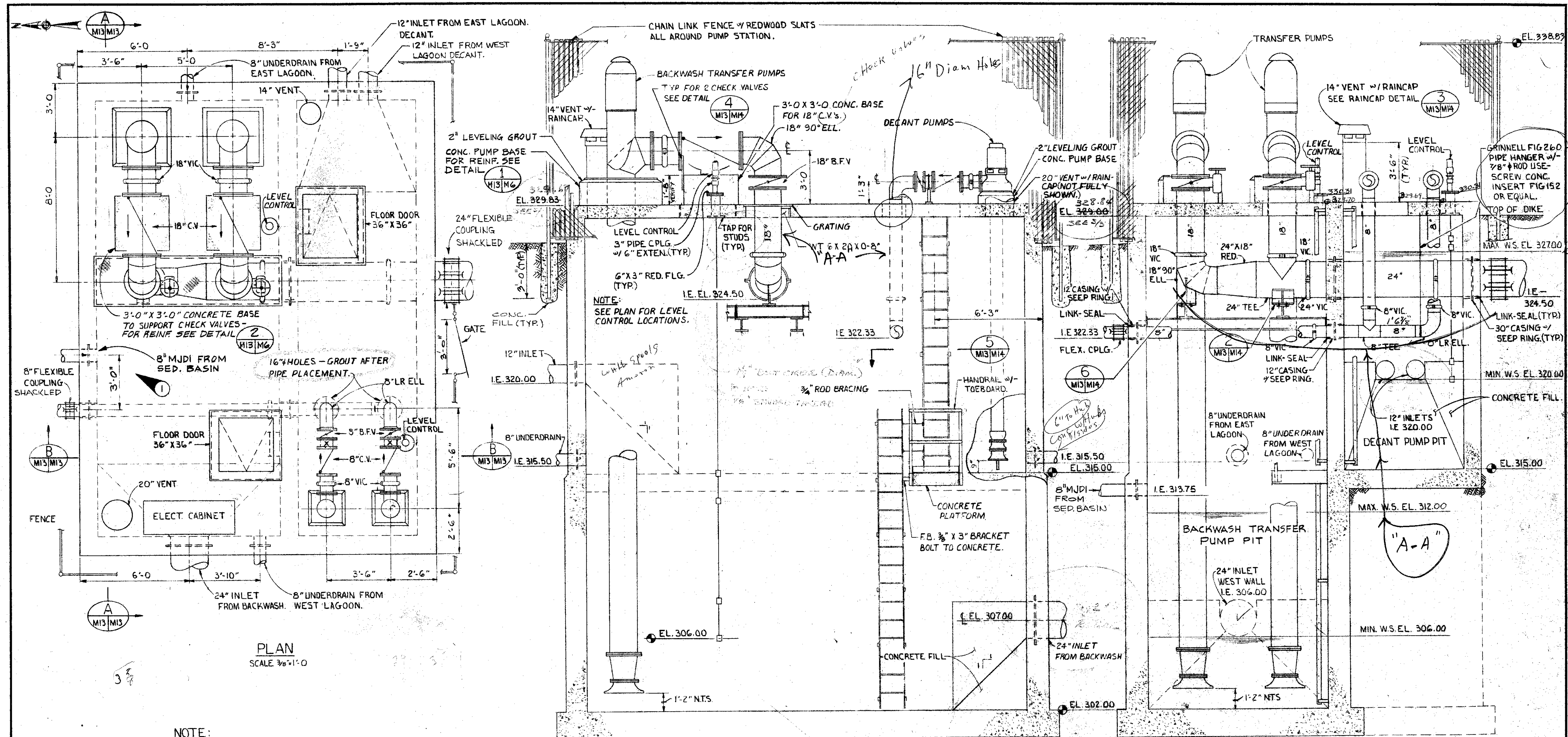
DESIGNED	HWT/JRS	APPROVED	<i>James P. Shetty</i>
DRAWN	JAK	SCALE AS SHOWN	DATE MAY 1975
CHECKED	JRS	FILE	PT.0757.002-14868

ST
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SOUTH FORK WATER BOARD
WATER WORKS MODIFICATIONS

SEDIMENTATION BASIN MODIFICATIONS
WEIR PLATES
M12
21

James P. Shetty
JAMES P. SHETTY
1975 MAY 19
14868



NOTE:

- CONTRACTOR TO VERIFY ALL CONCRETE EQUIPMENT BASE SIZES WITH MFR.
- FOR TYP REINFORCING DETAILS SEE SHT. M6
- LOCATE FENCE 1'-0" FROM SLAB, TYP.
- STEEL PIPING ABOVE TOP SLAB TO BE CONSIDERED INTERIOR FOR PURPOSES OF DIMENSIONING AND DETAILING.
- PROVIDE FLEXIBLE CONNECTIONS 2'-0" OR CLOSER TO WALL ON ALL WALL PENETRATIONS. SEE SPECS.

DESIGNED JRS/HWT	APPROVED <i>[Signature]</i>
DRAWN JAK	SCALE AS SHOWN DATE MAY 1975
BY CHECKED R.S.	PT 0757 002-14863

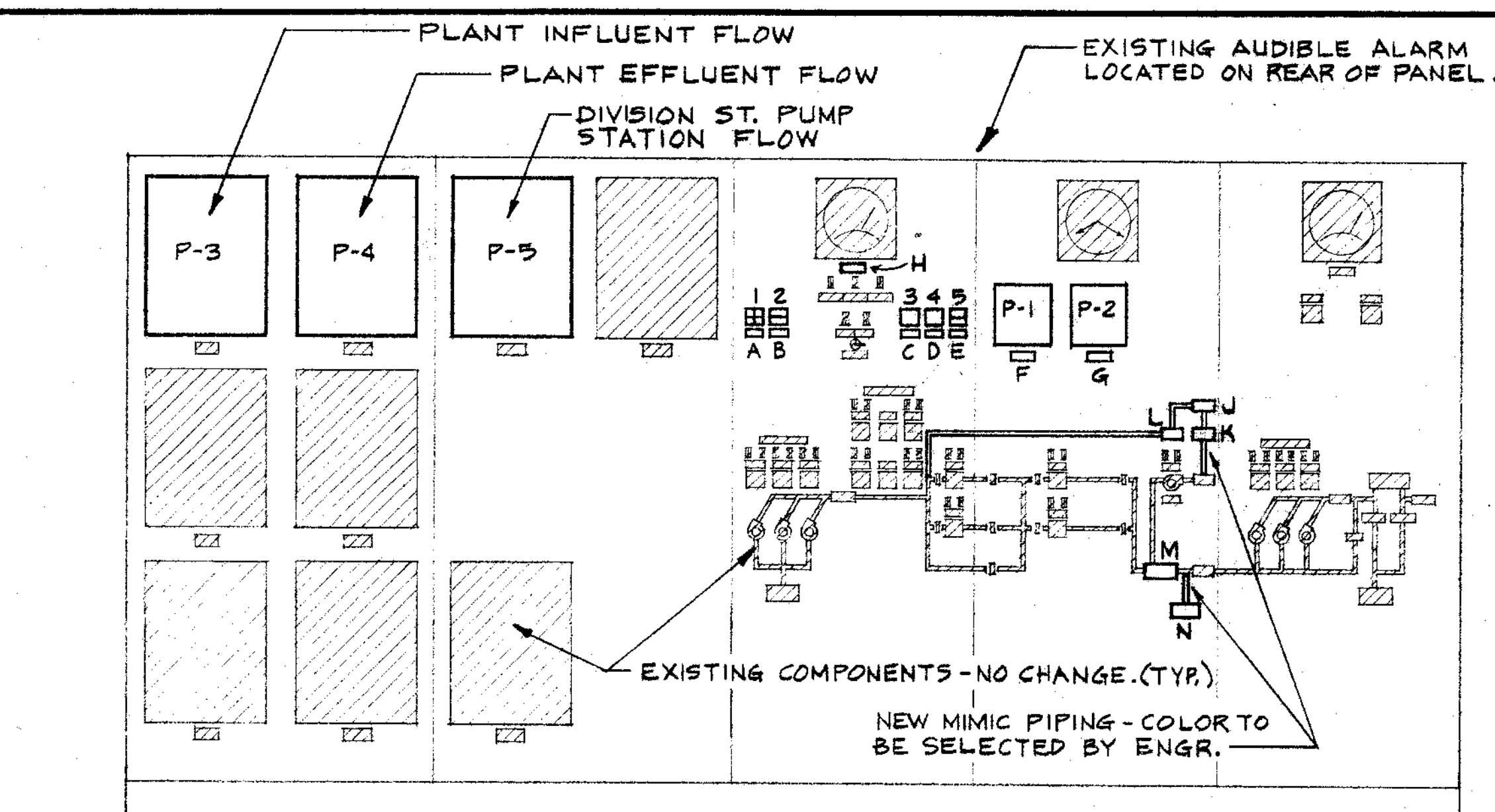
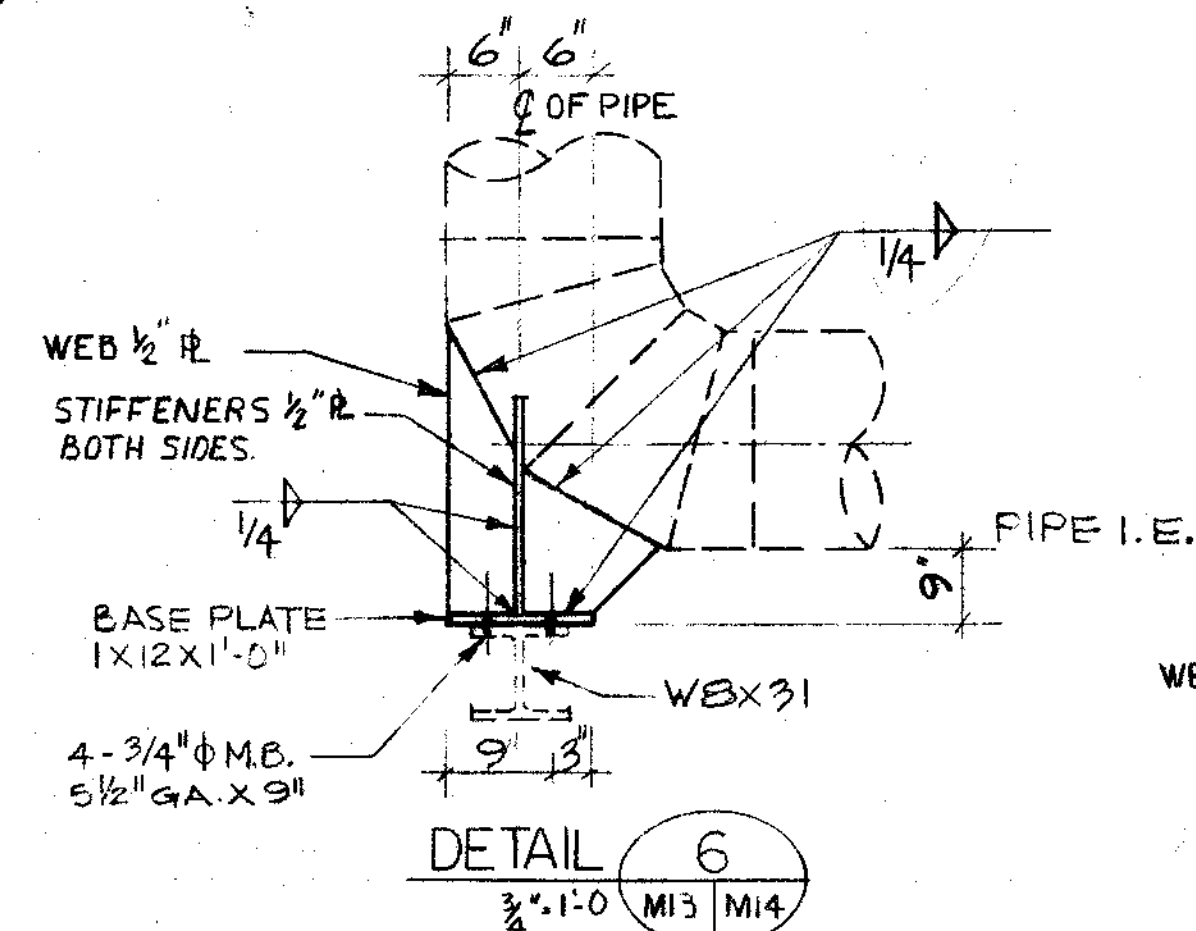
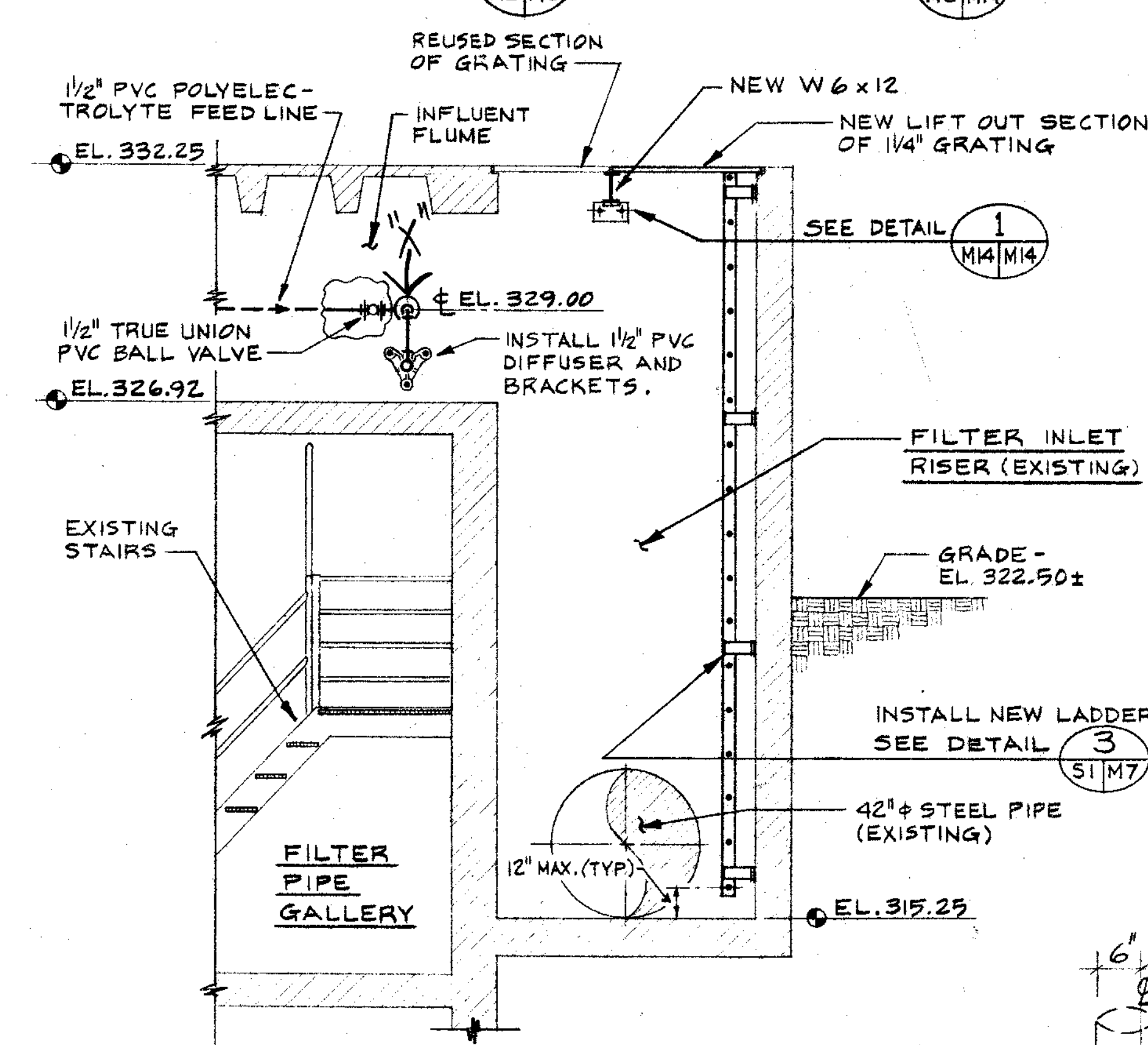
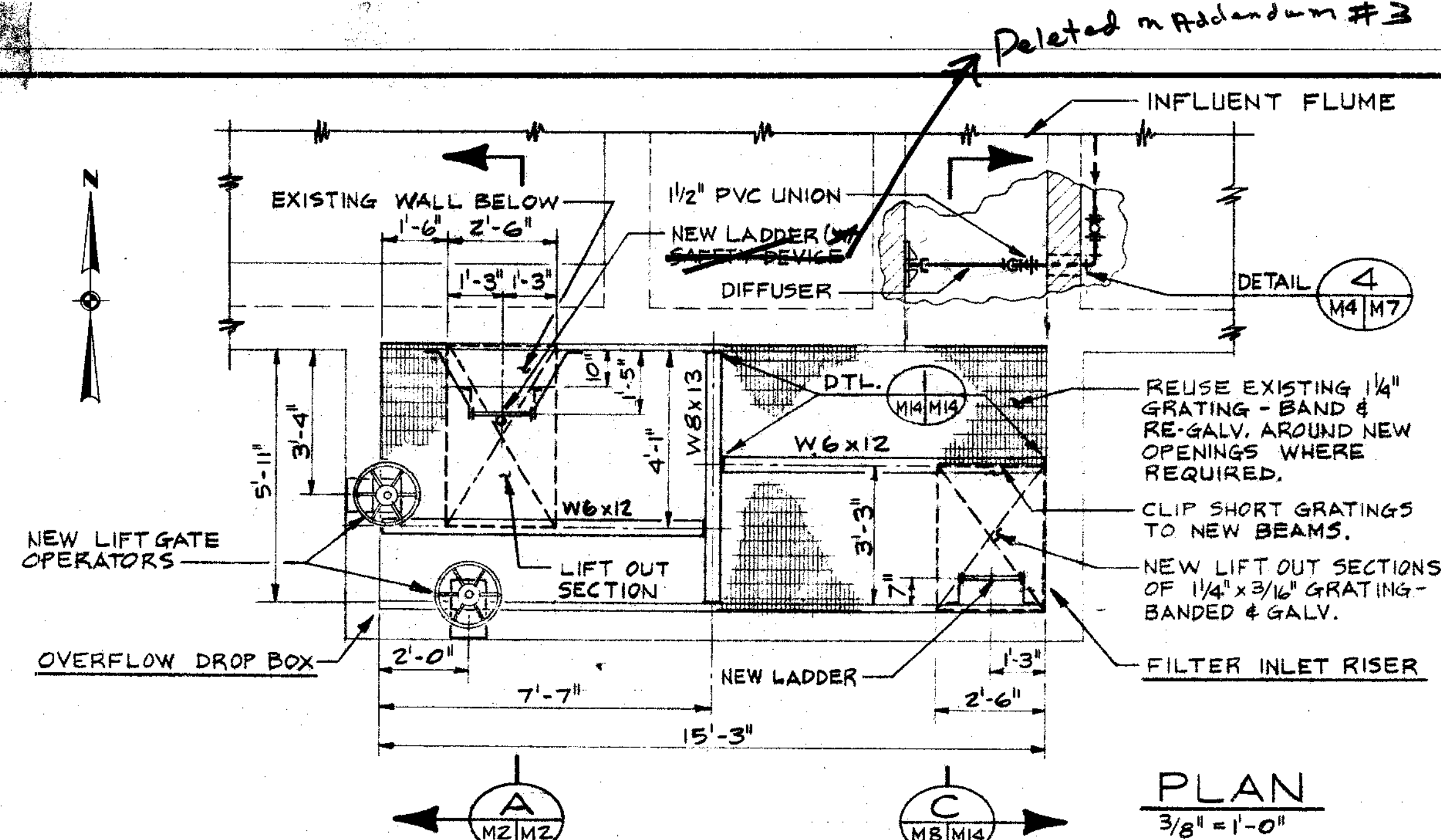


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OREGON CITY-WEST LINN
SOUTH FORK WATER BOARD
WATER WORKS MODIFICATIONS

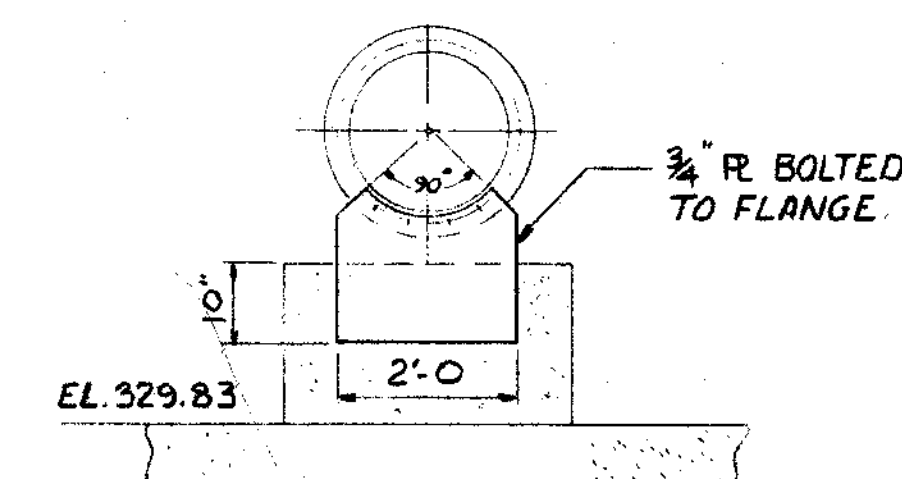
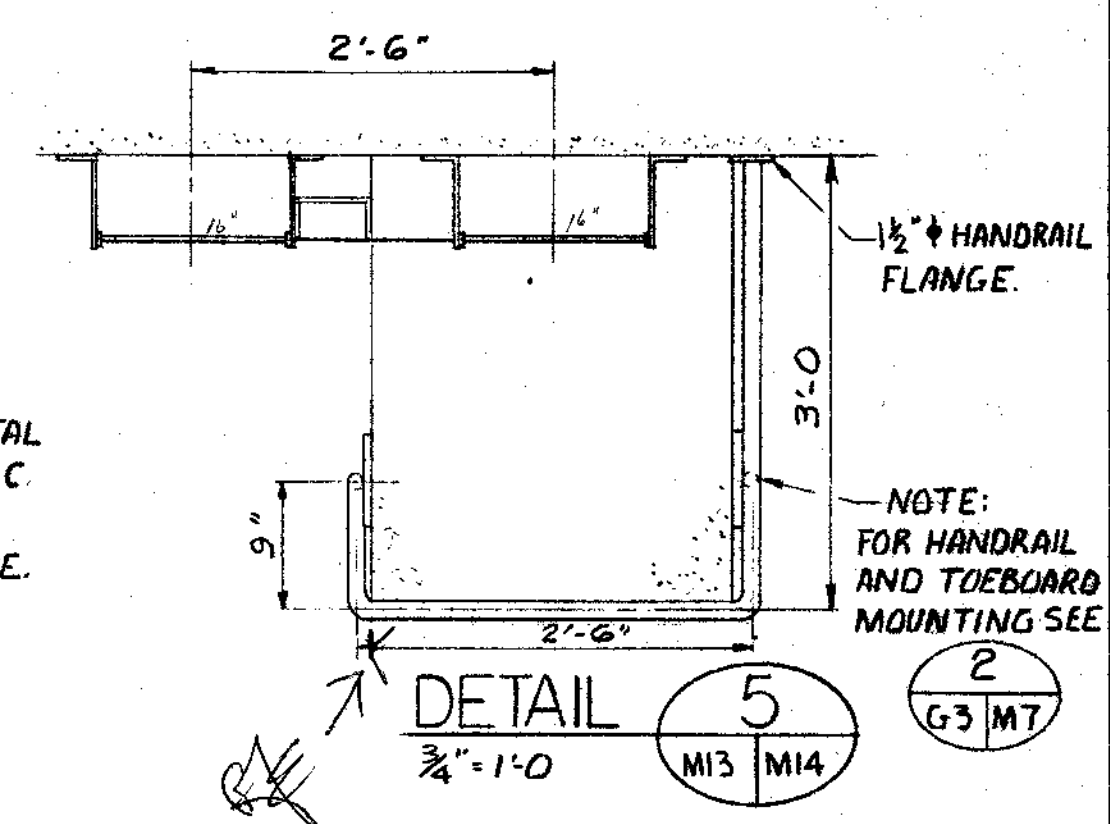
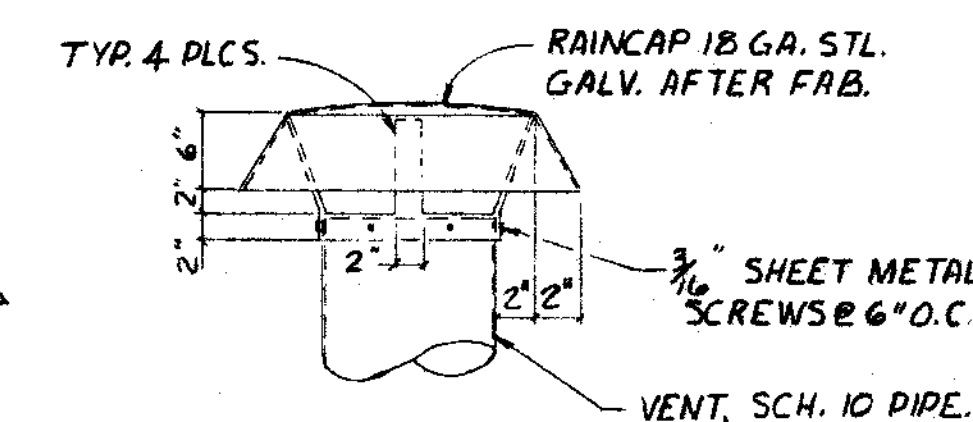
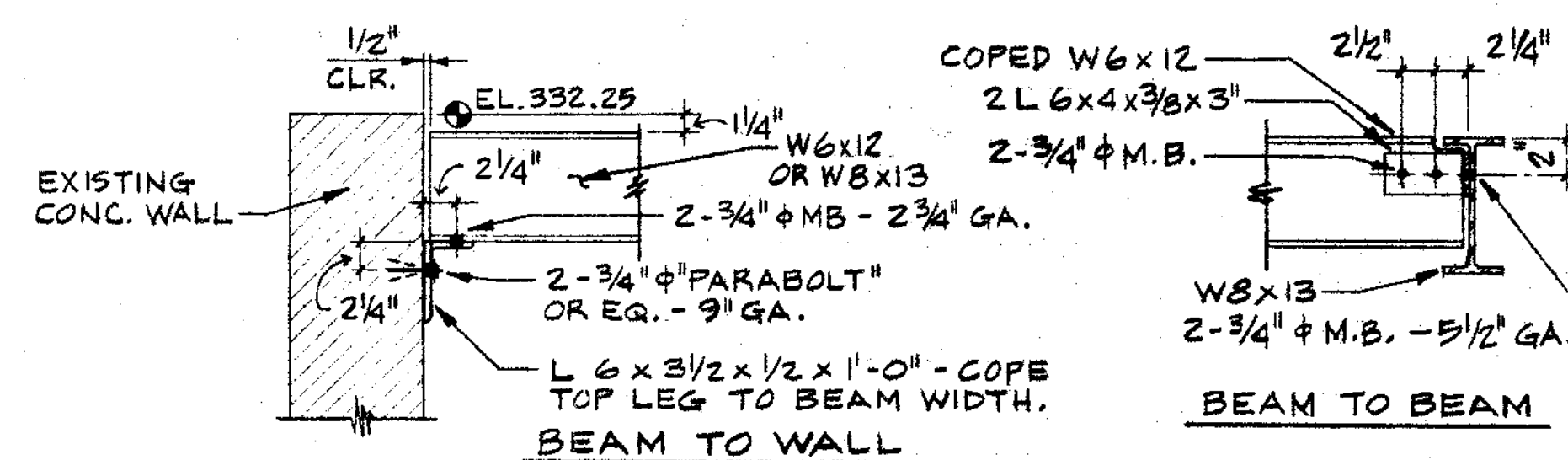
TRANSFER PUMP STATION
PLAN AND SECTIONS

M13
21



MICROSWITCHES						
ITEM	TYPE	a QUADRANT	b QUADRANT	d QUADRANT	c QUADRANT	COLOR
1	INDICATOR, 4 WAY SPLIT (4 LAMP)	POWER FAILURE	GEN. RUN	LOW BATTERY	GEN. FAILURE	a,g,d-r,b-
2	" , HORIZONTAL SPLIT (2 LAMP)	FAILURE		TELEMETRY LINE		a,b-r,c,d-
3	" , FULL DISPLAY (4 LAMP)	HIGH LEVEL		ALARM		a,b,c,d-r
4	" , " " " "	GENERAL		ALARM		a,b,c,d-r
5	" , HORIZONTAL SPLIT (4 LAMP)	HIGH RESIDUAL		LOW RESIDUAL		a,b-r,c,d-

* COLORS ARE: A-AMBER, R-RED, W-WHITE, Y-YELLOW.



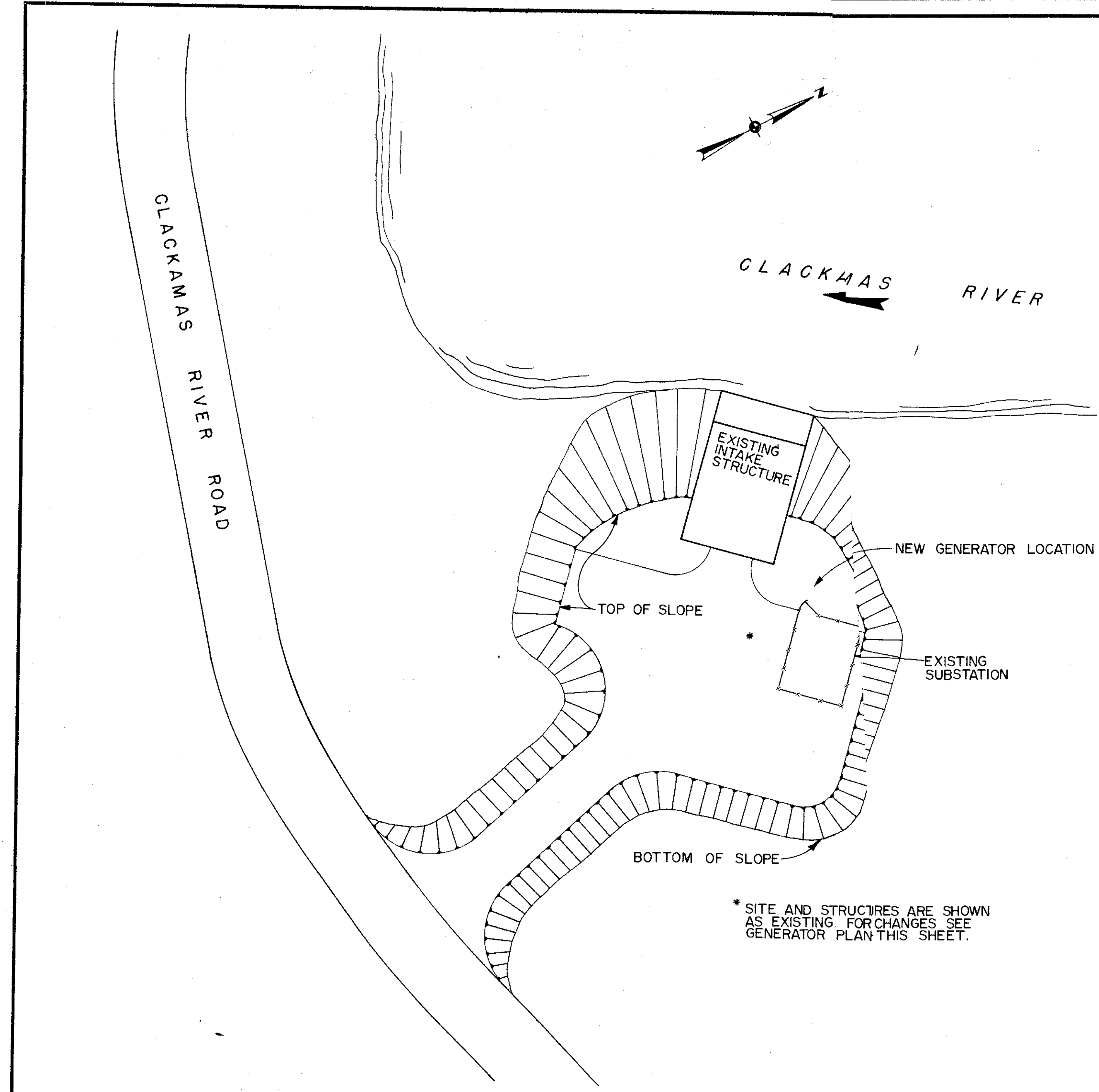
ITEM	MODE	FUNCTION	GRADUATION
P-1	ELECTRIC	LEVEL INDICATOR	0-15 FT/0.5 FT
P-2	ELECTRIC	CL ₂ RESIDUAL INDICATOR-RECORDER	0-2 MG/L
P-3	ELEC.-EXIST.	INDICATOR-RECORDER-TOTALIZER	0-25 MGD
P-4	PNEU.-ELEC.	" " "	0-25 MGD
P-5	ELEC.-EXIST.	" " "	0-25 MGD

EXISTING INSTRUMENTS TO BE MODIFIED PER SPECIFICATIONS,
ARE P-3, P4 & P5.

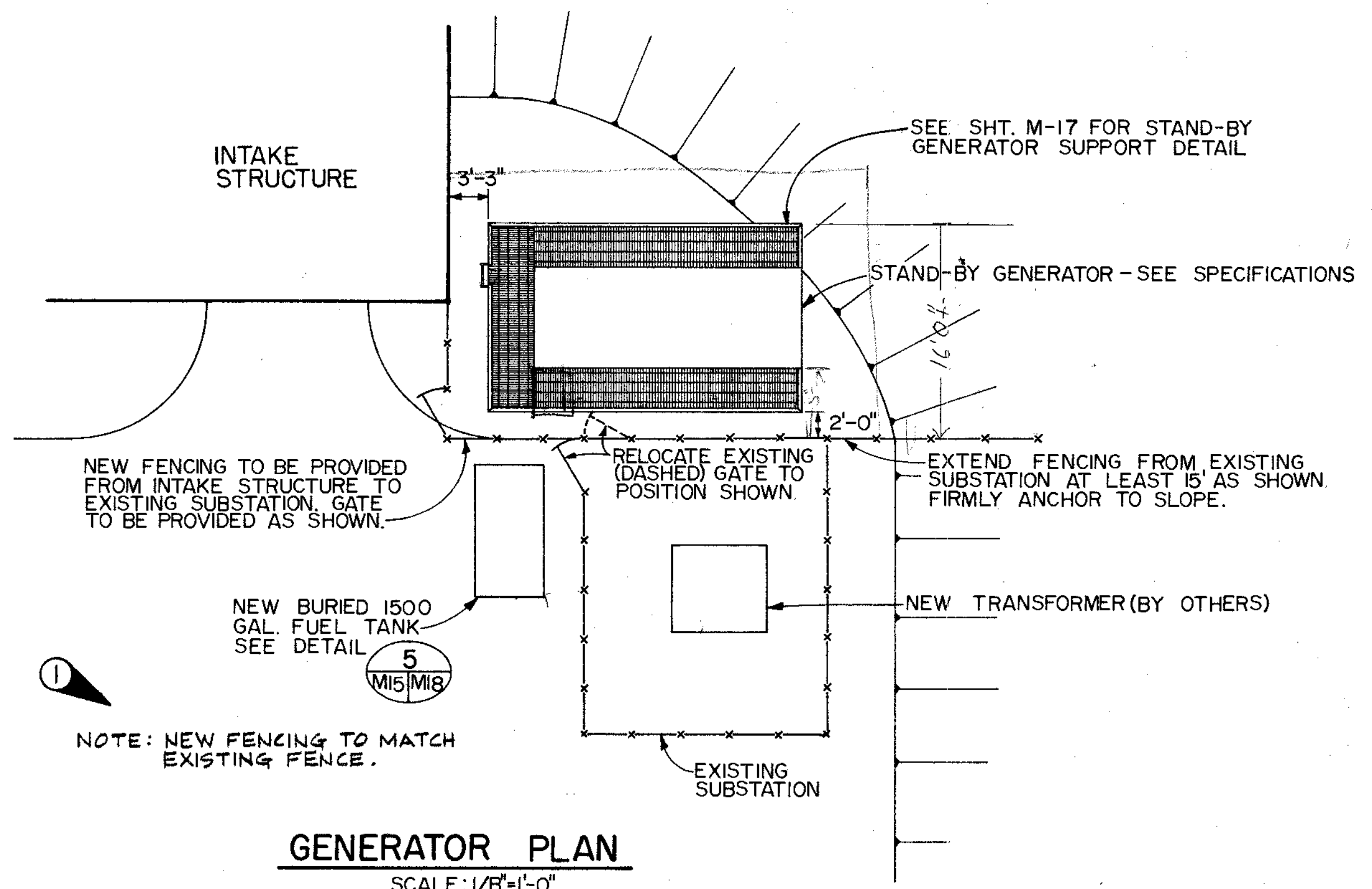
NAME PLATES (NEW)		
ITEM	SIZE	FIRST LINE/SECOND LINE
A	1" x 2 1/2"	WATER INTAKE / STANDBY GENERATOR
B	1" x 2 1/2"	WATER INTAKE
C	1" x 2 1/2"	TRANSFER PUMP STATION
D	1" x 2 1/2"	COAGULANT / CONTROL PANEL
E	1" x 2 1/2"	CHLORINE RESIDUAL / ALARM
F	1" x 3"	CLEARWELL NO.2 LEVEL
G	1" x 3"	CHLORINE RESIDUAL
H	1" x 3"	CLEARWELL NO.1 LEVEL
J	1" x 3"	LAGOONS
K	1" x 3"	TRANSFER PIT / TRANSFER PUMP STATION
L	1" x 3"	DECANT PIT / TRANSFER PUMP STATION
M	1 1/2" x 3 1/2"	FILTER PLANT / CLEARWELL NO.1
N	1 1/2" x 3 1/2"	FILTER PLANT / CLEARWELL NO.2

NOTE: NAME PLATE STYLE, COLOR AND LETTERING
TO MATCH EXISTING PLATES.

System "X"



SITE PLAN
SCALE: 1"=20'



8-20-75	1	ADDED FENCING NOTE.	D4B	DESIGNED JRS/HWT	APPROVED <i>Harvey Taylor</i>
DATE	NO.	REVISION	BY	DRAWN CGR	SCALE AS SHOWN DATE MAY, 1975
			CHECKED JRS	FILE PT 0757.002-14871	



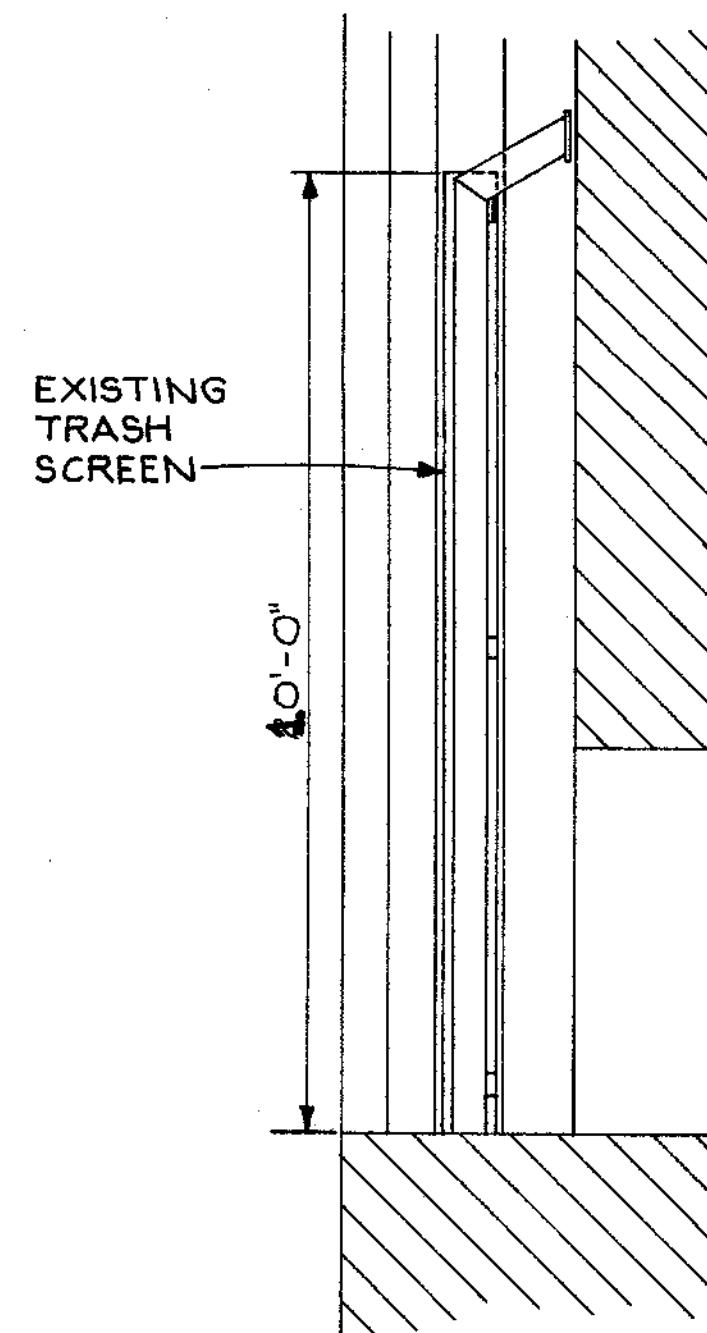
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Engineers / Planners
PORTLAND SEATTLE
SPOKANE BOISE

OREGON CITY - WEST LINN
SOUTH FORK WATER BOARD
WATER WORKS MODIFICATIONS

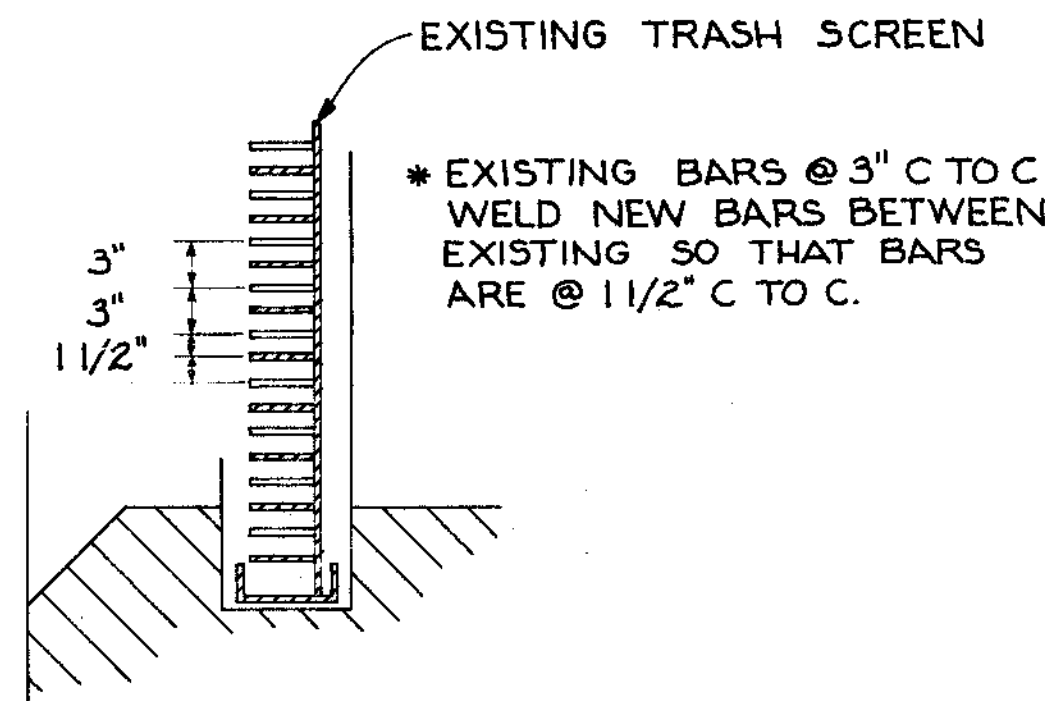
WATER INTAKE STRUCTURE
SITE PLAN & GENERATOR PLAN

M15
21

James R. Shultz
JAMES R. SHULTZ
REGISTERED PROFESSIONAL ENGINEER
NO. 24,290
STATE OF OREGON

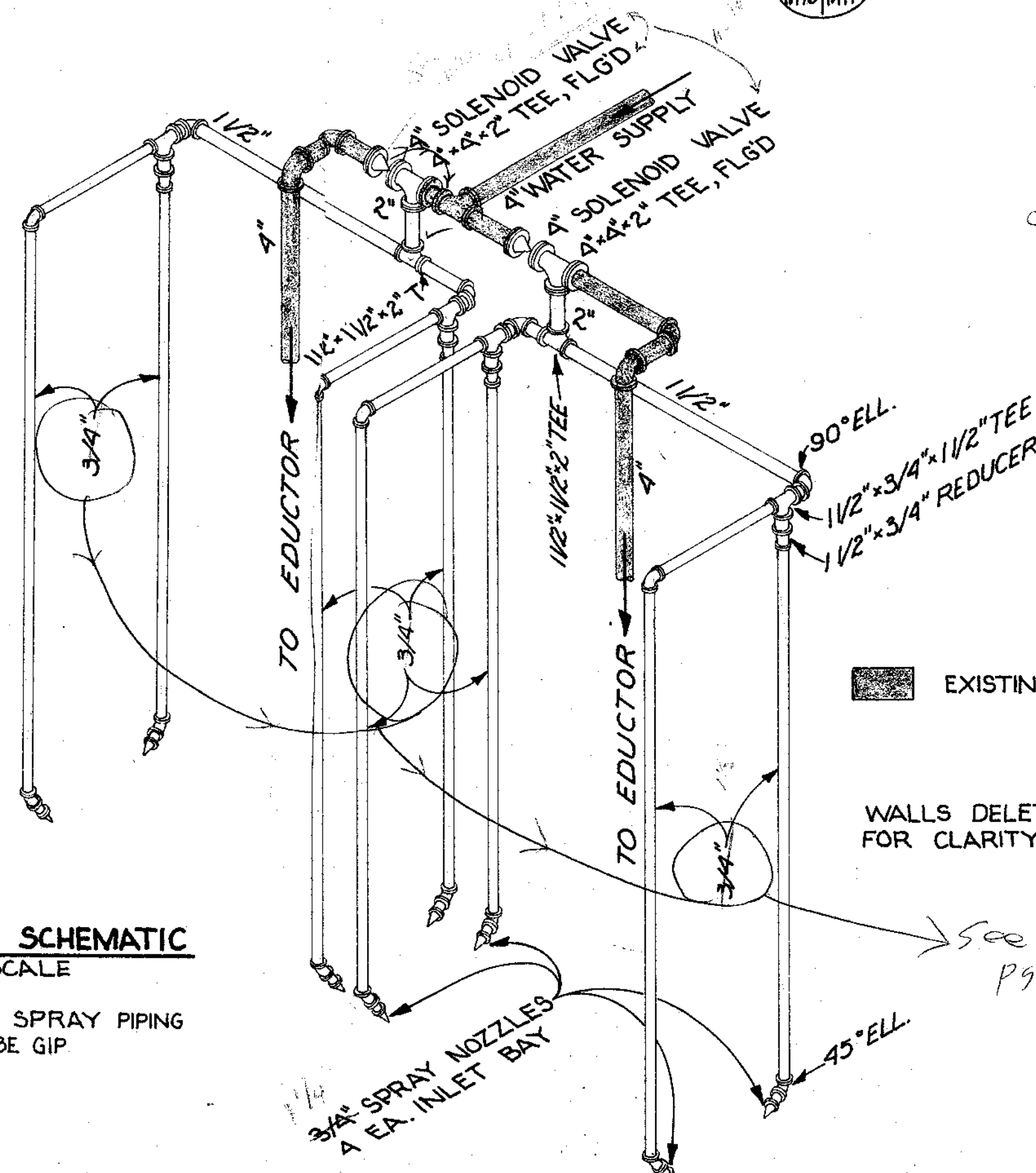


SECTION
SCALE: 1/4"=1'-0"



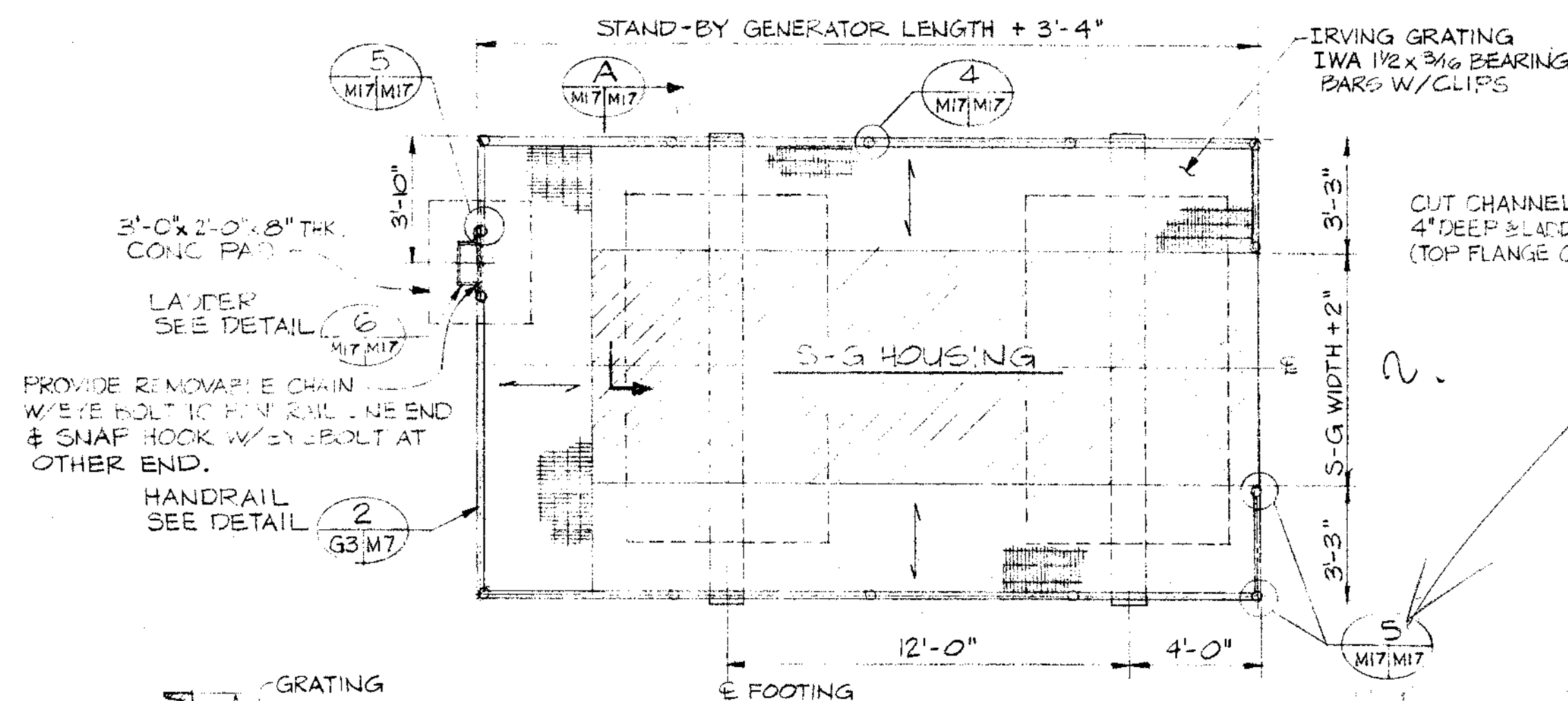
PLAN
SCALE: 1"=1'-0"

TRASH SCREEN DETAIL 1
M16/M17

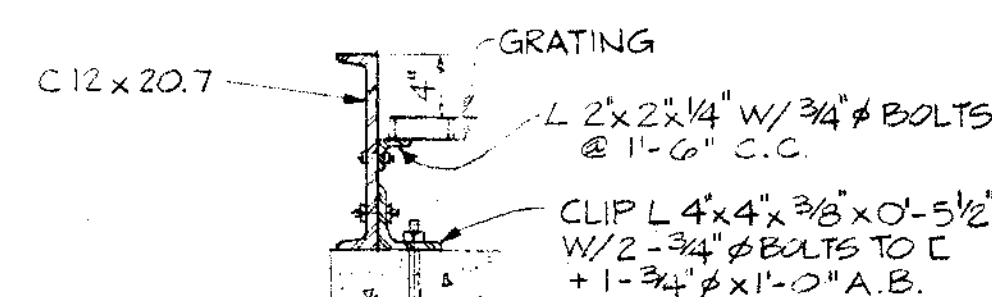


SAND JET SCHEMATIC
NO SCALE

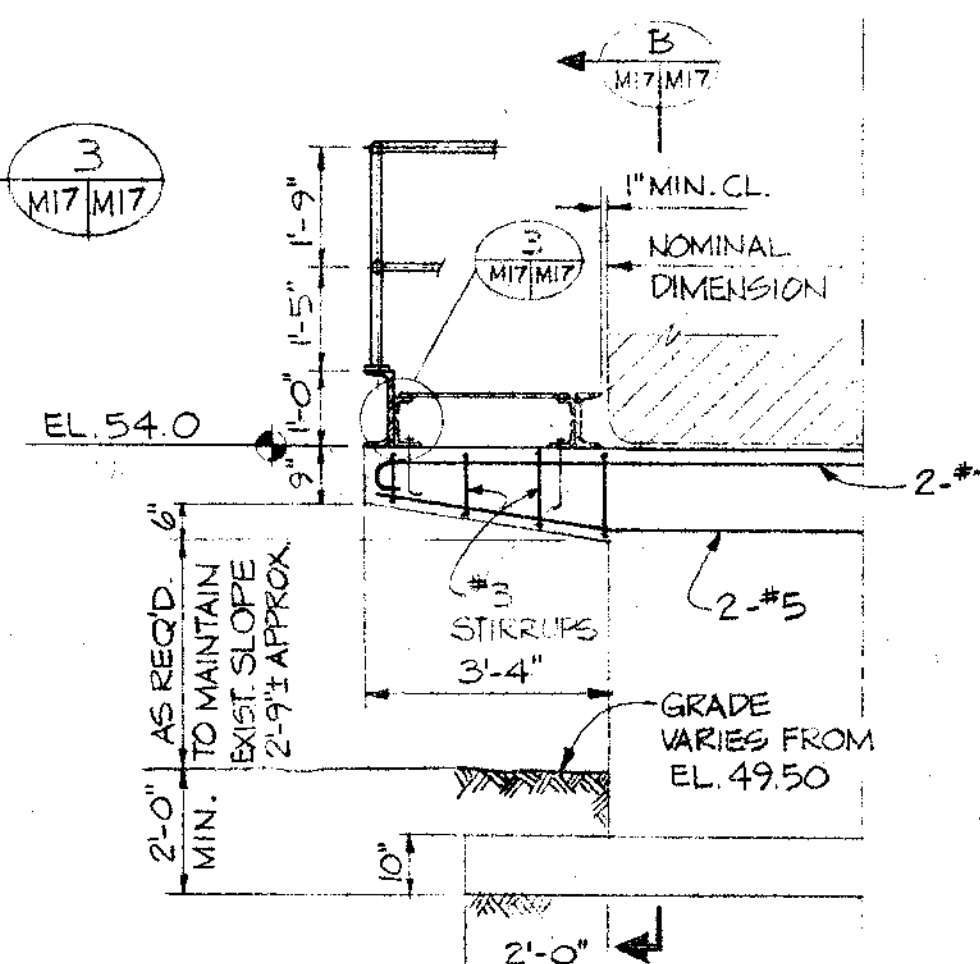
ALL SPRAY PIPING
TO BE GIP



PLAN
1/4"=1'-0"



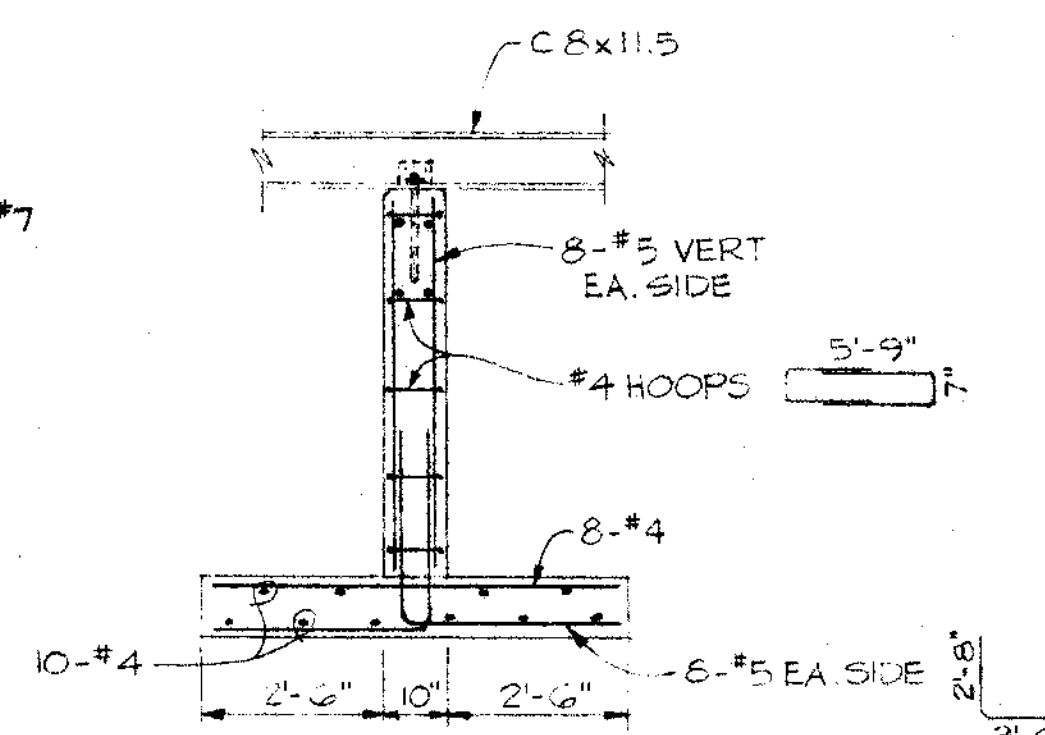
DETAIL 3
1"=1'-0"



SECTION A
3/8"=1'-0"

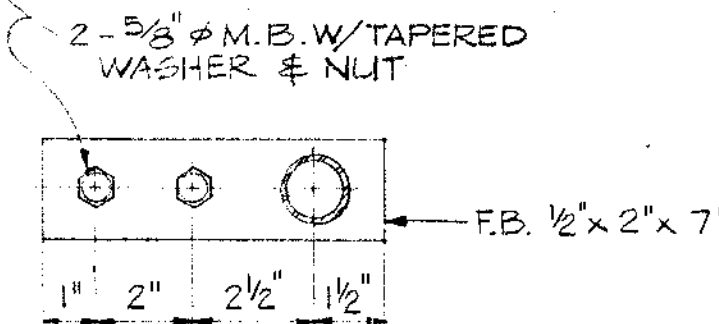
STAND-BY GENERATOR SUPPORT DETAIL

FOR LOCATION OF GENERATOR
SEE DWG. M15

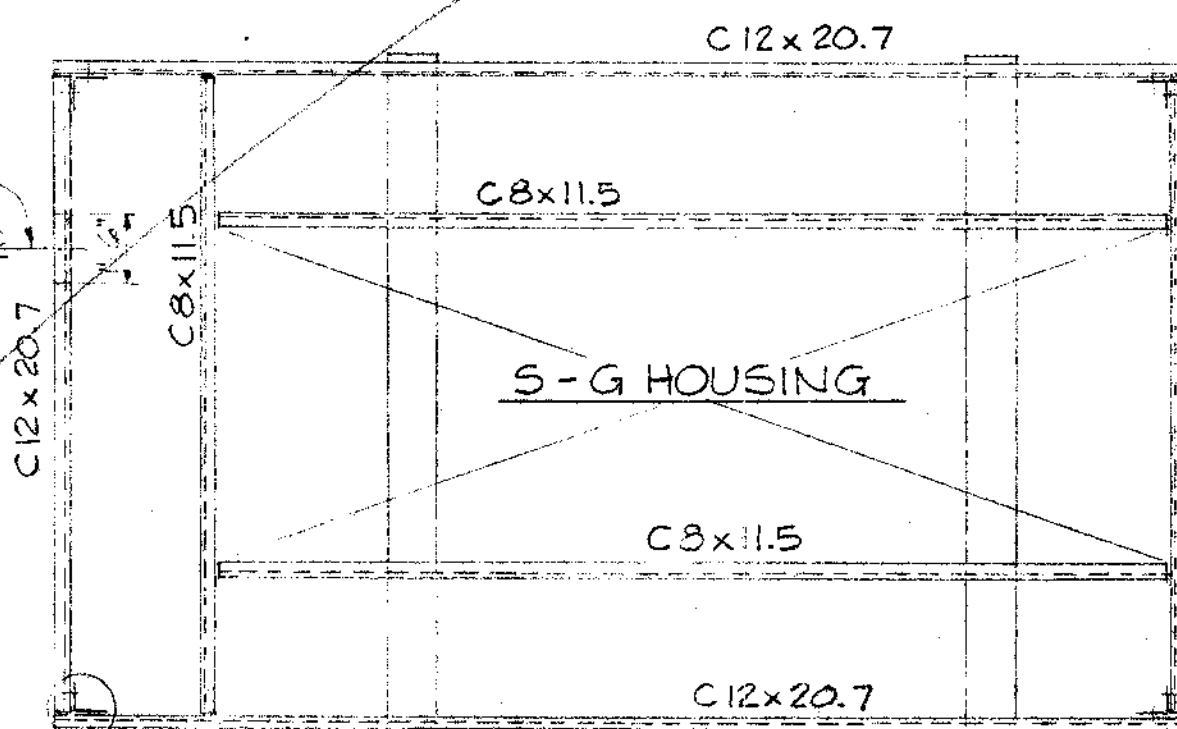


SECTION B
3/8"=1'-0"

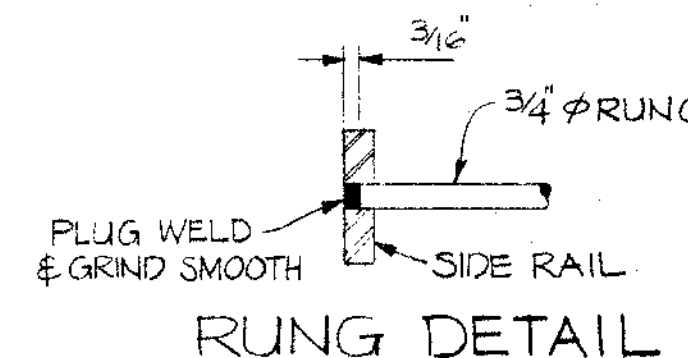
DETAIL 4
3"=1'-0"



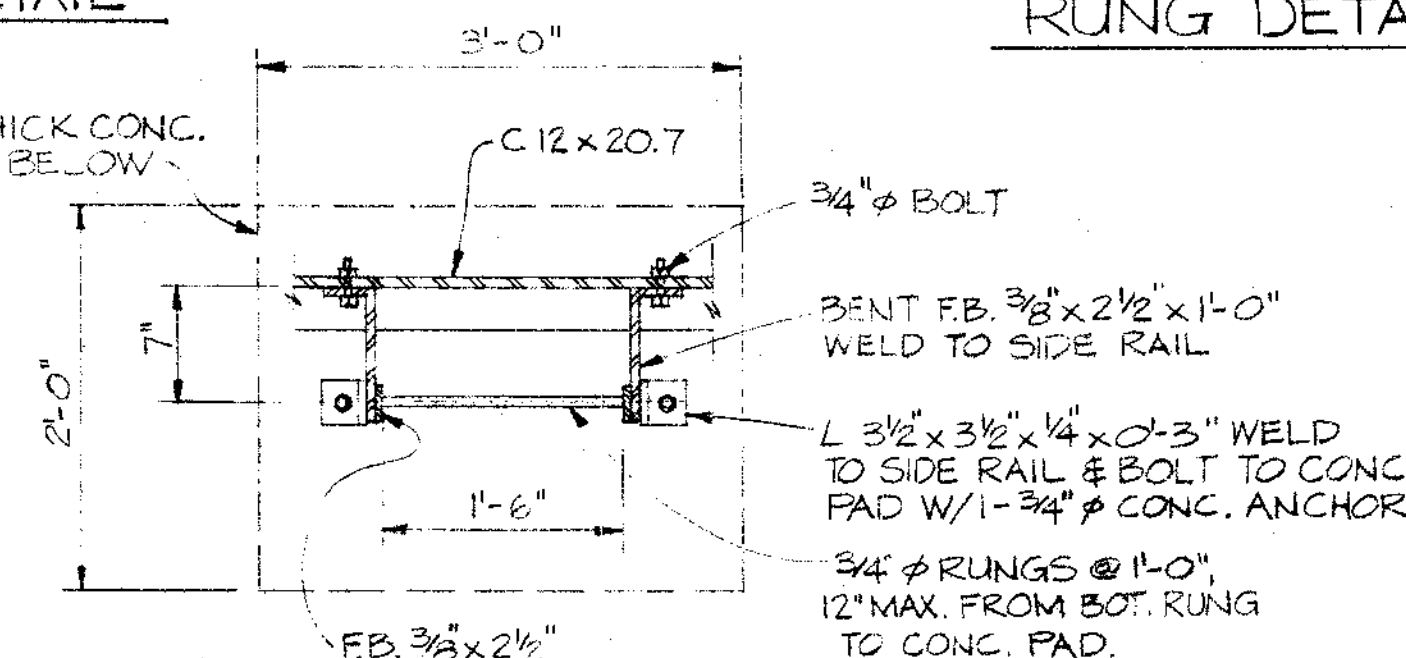
DETAIL 5
3"=1'-0"



FRAMING PLAN
1/4"=1'-0"

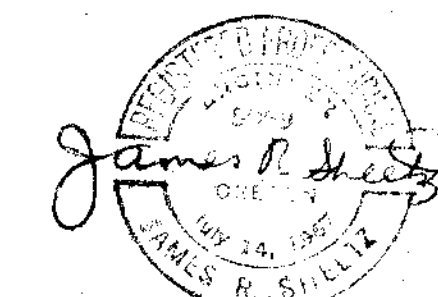


RUNG DETAIL



DETAIL 6
1"=1'-0"

NOTE: FOR LADDER TO HANDRAIL
TOP BRACKET CONNECTION
SEE DETAIL 5



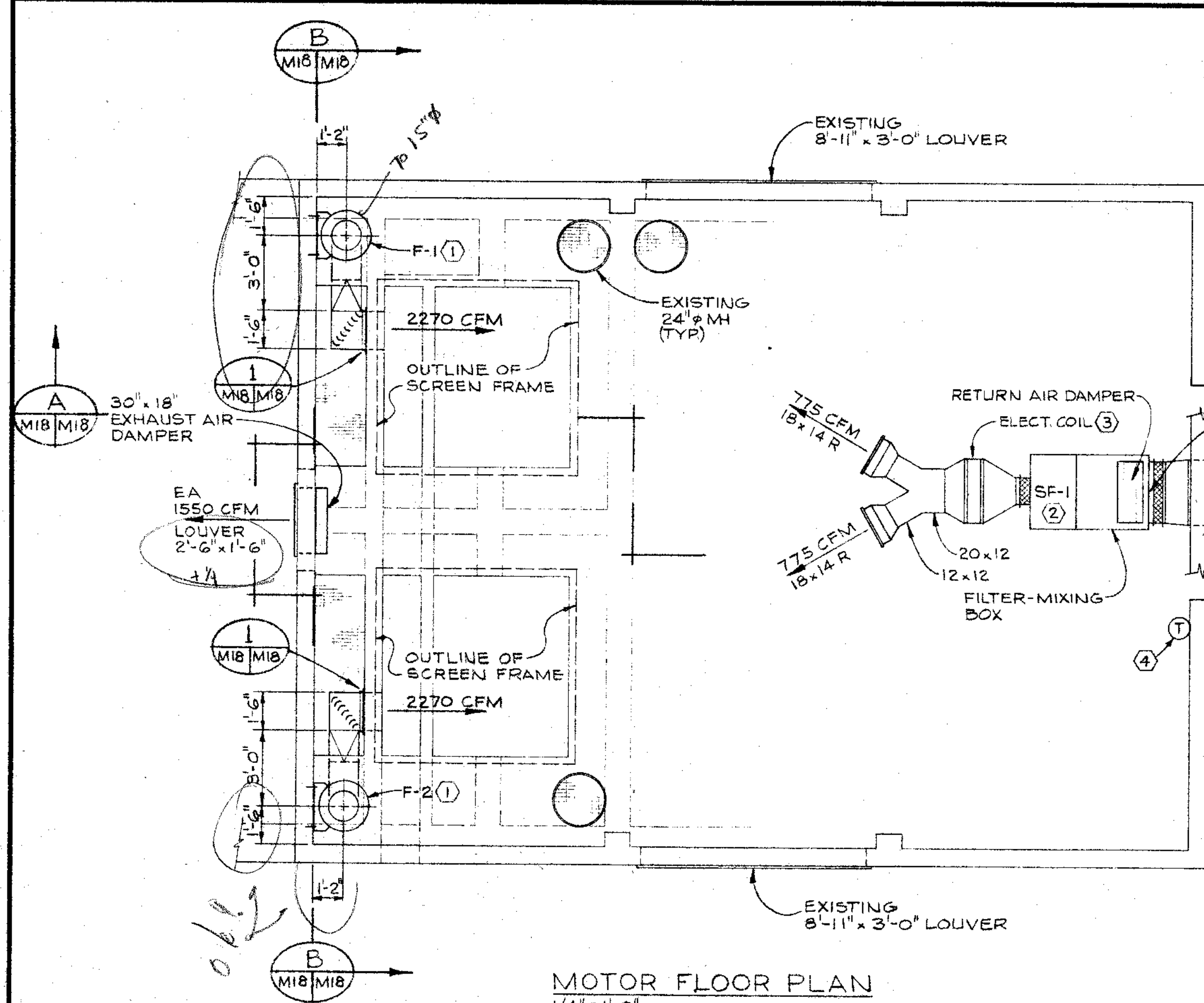
DESIGNED	JRS	APPROVED	<i>James R. Smith</i>
DRAWN	CGR, JEC.	SCALE	AS SHOWN
CHECKED	JAS	DATE	MAY, 1975
FILE	PT 0757.002-14873		

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PORTLAND SEATTLE SPOKANE BOISE

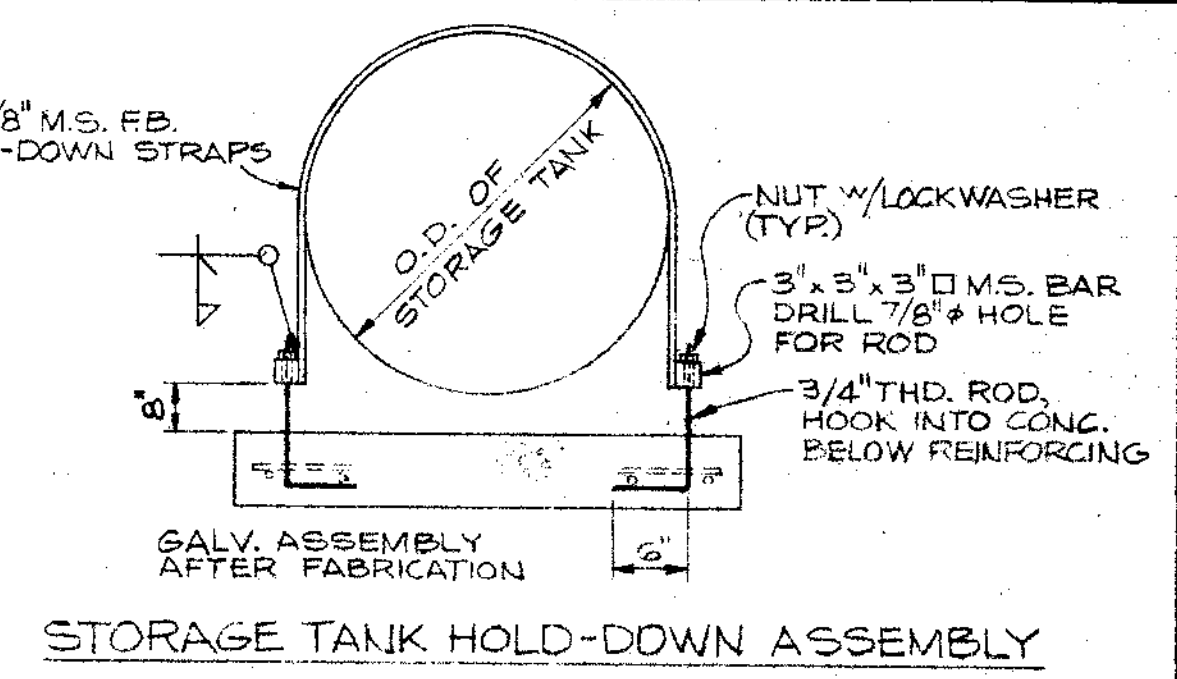
OREGON CITY - WEST LINN
SOUTH FORK WATER BOARD
WATER WORKS MODIFICATIONS

WATER INTAKE STRUCTURE
MISCELLANEOUS DETAILS

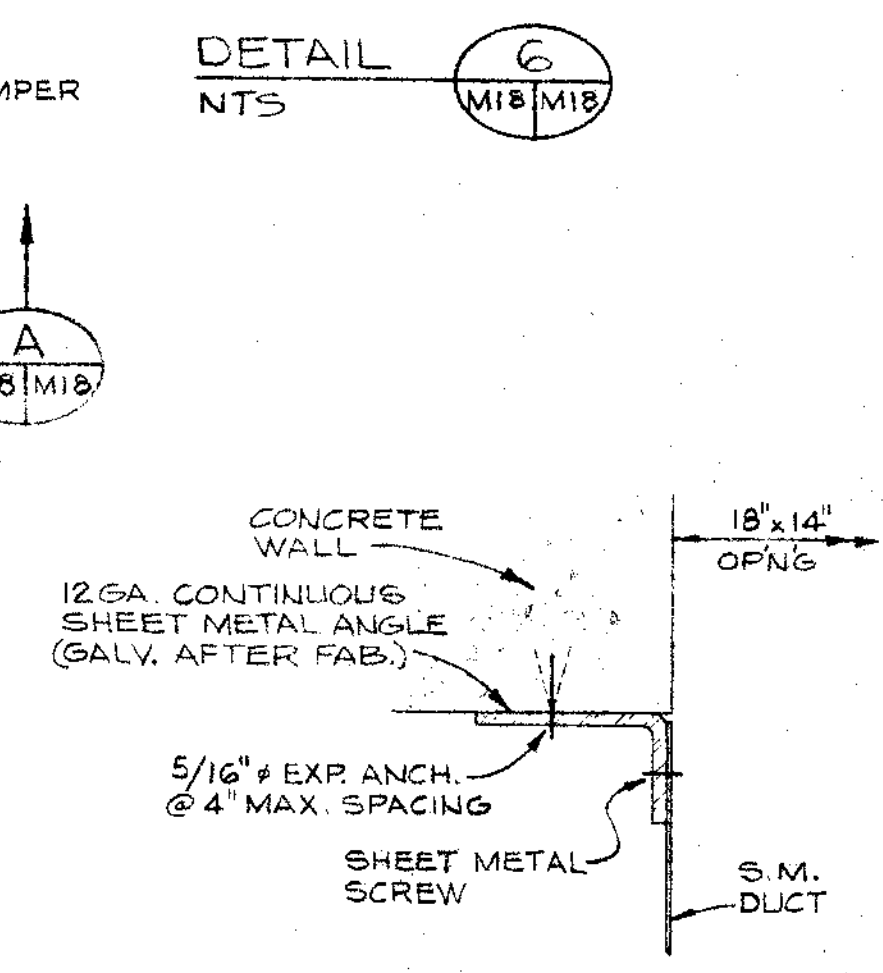
M17
21



MOTOR FLOOR PLAN
1/4" = 1'-0"

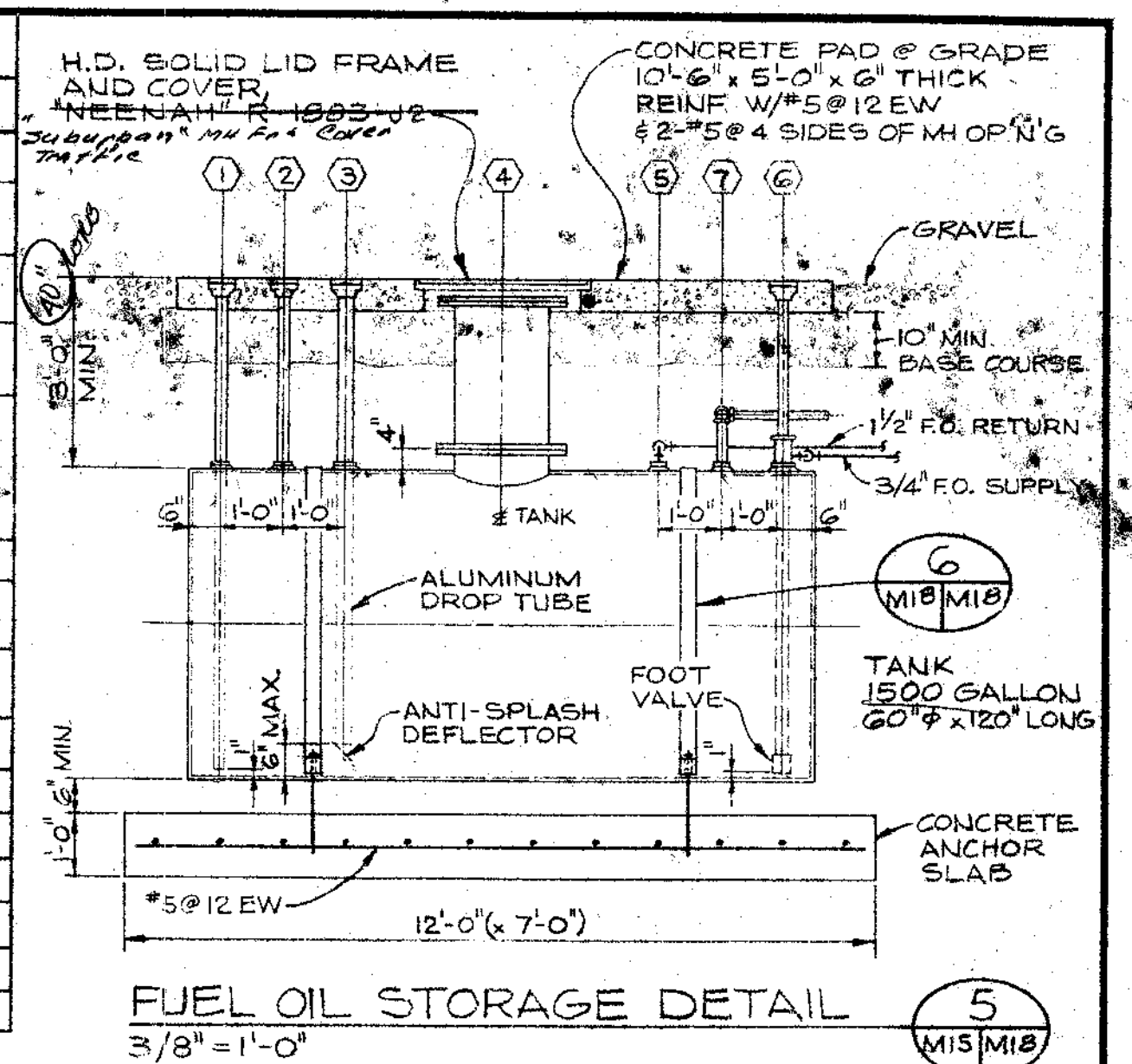


STORAGE TANK HOLD-DOWN ASSEMBLY

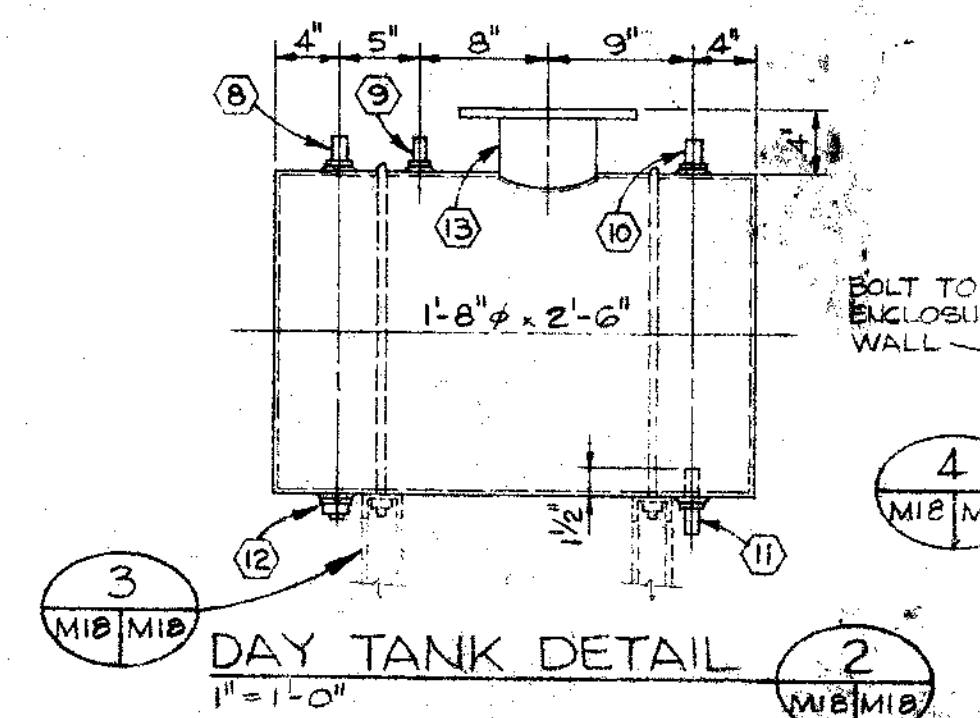


DETAIL 6
NTS

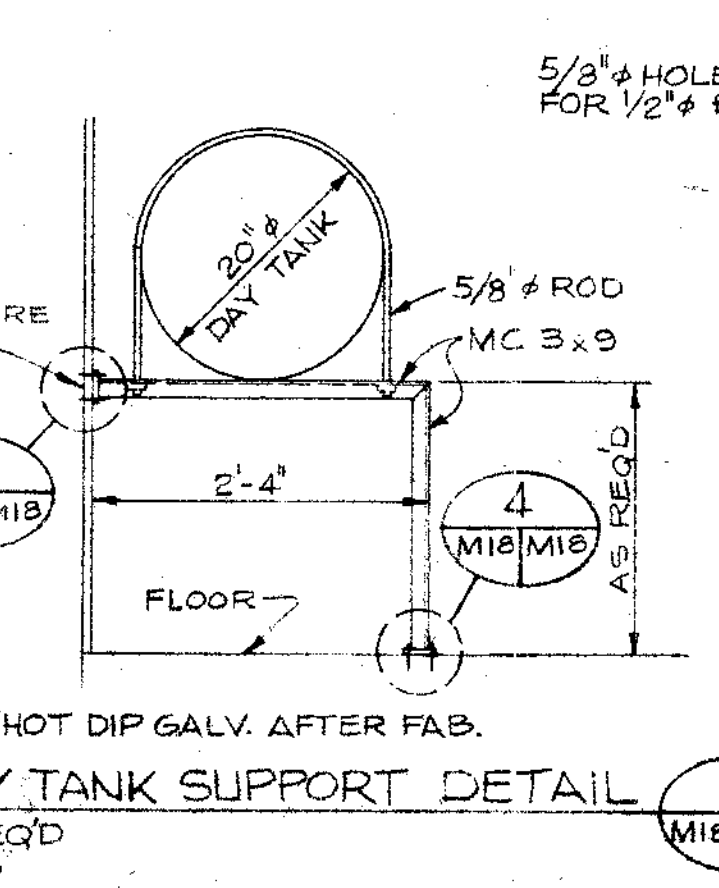
NOZZLE SCHEDULE		
MARK	SIZE	DESCRIPTION
FUEL STORAGE TANK		
1	2"	PUMP OUT W/2" FILL BOX CAP
2	2"	GAUGING WELL W/2" FILL BOX CAP
3	3"	FILL PIPE W/3" FILL BOX CAP
4	18"	NH, 150* FLG'S W/EXT. FABRICATE EXTENSION FROM 18" STD. PIPE, 0.375" WALL, W/150* F.S. SO FLG'S & 150* BLIND FLG.
5	1 1/2"	FUEL OIL RETURN NOZZLE
6	1 1/2"	SUCTION PIPE W/FOOT VALVE 3/4" NOZZLE & EXTRACTOR
7	1 1/2"	VENT PIPE TO PROJECT ABOVE ENCLOSURE ROOF
DAY TANK		
8	1"	FILL, SCREWED CONNECTION
9	3/4"	EXCESS FUEL RETURN, SCRD. CONNECTION
10	1"	PRESSURE, VACUUM VENT, SCRD. CONNECTION
11	3/4"	ENGINE SUPPLY, SCRD. CONNECTION
12	1"	DRAIN, SCREWED CONNECTION W/PLUG
13	6"	LEVEL CONTROL, FLG.O. CONN., 150* F.S. SO. FLG.



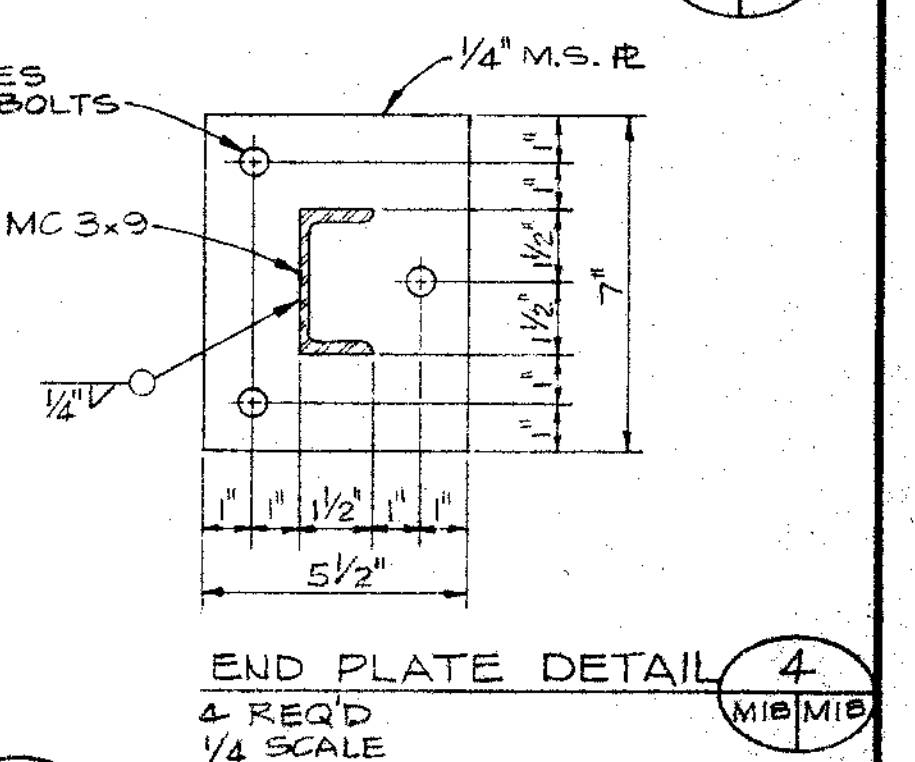
FUEL OIL STORAGE DETAIL
3/8" = 1'-0"



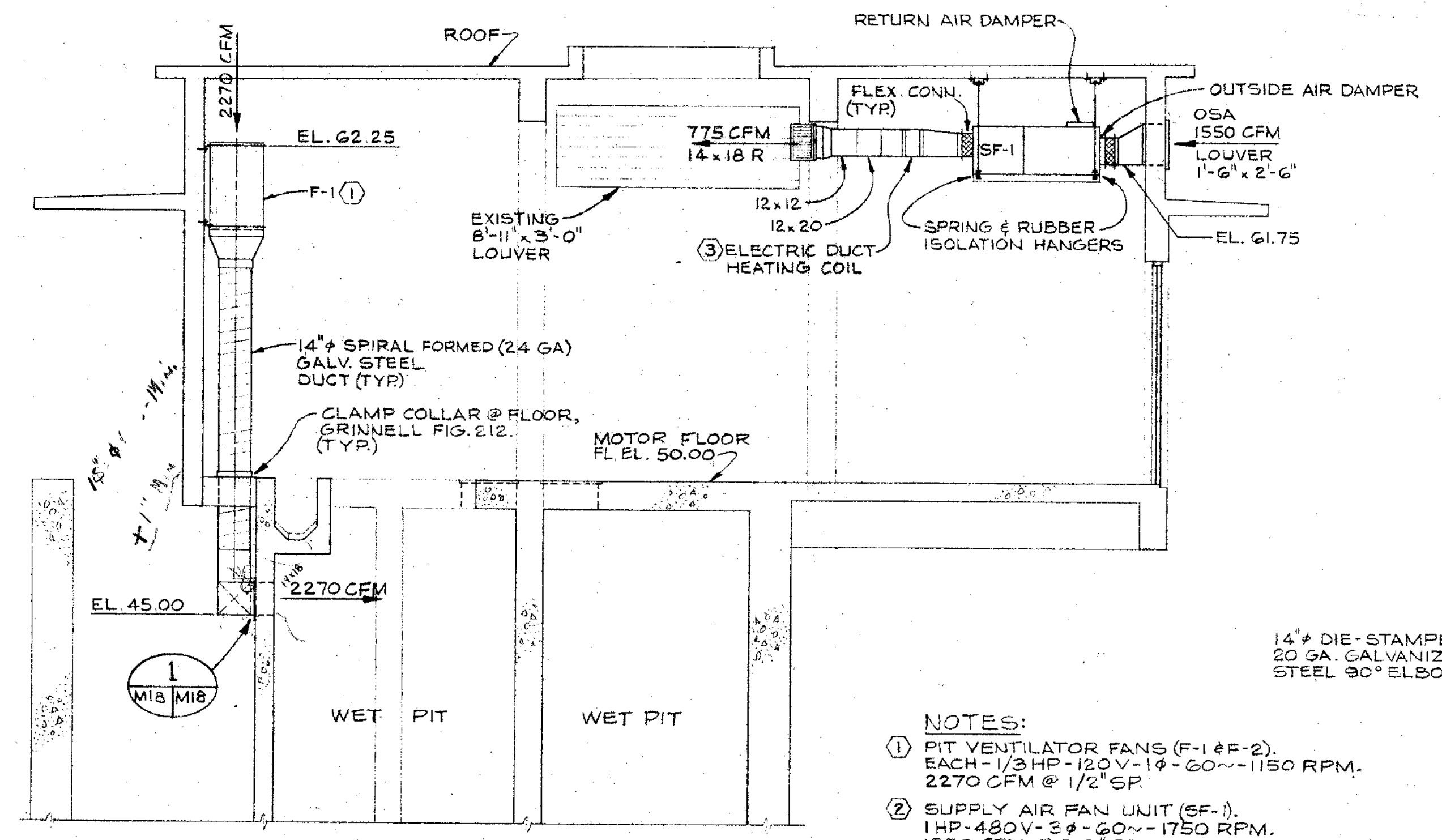
DAY TANK DETAIL
1" = 1'-0"



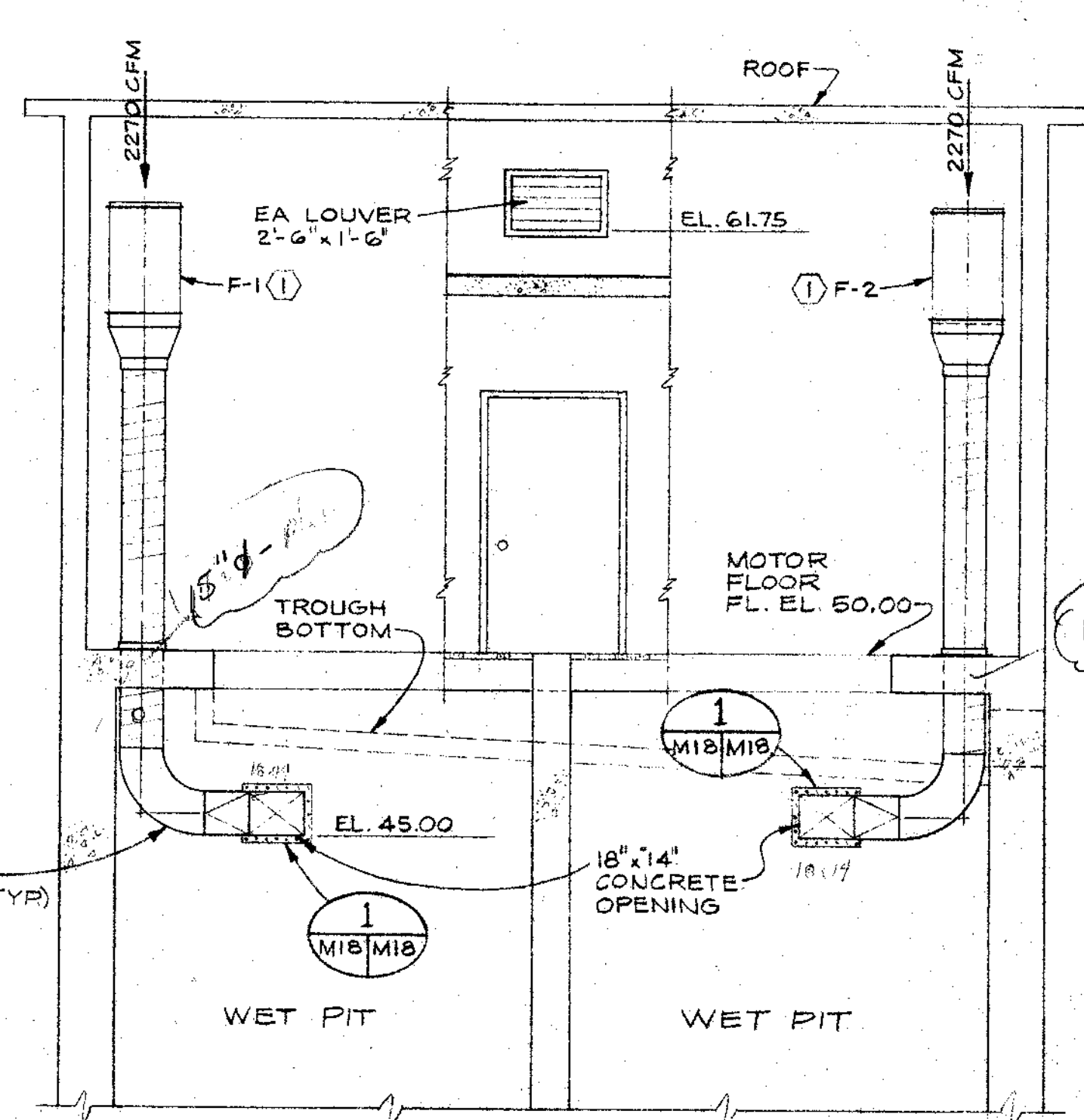
DAY TANK SUPPORT DETAIL
2" REQ'D NTS



END PLATE DETAIL
4" REQ'D 1/4 SCALE

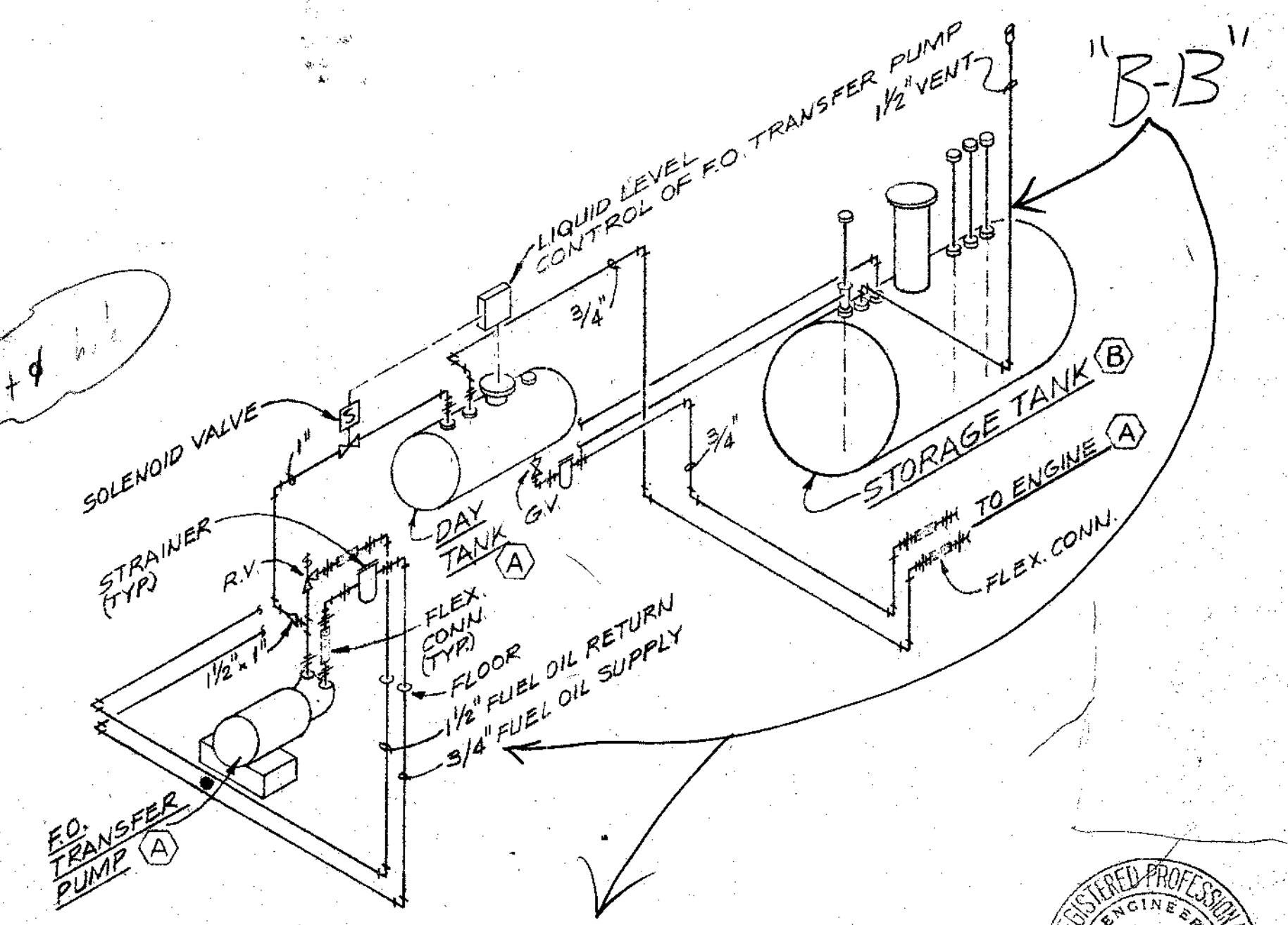


SECTION A
1/4" = 1'-0"



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

- NOTES:
- PIT VENTILATOR FANS (F-1 & F-2). EACH - 1/3 HP - 120V - 14" - 60" - 1150 RPM. 2270 CFM @ 1/2" SP.
 - SUPPLY AIR FAN UNIT (SF-1). 1 HP - 480V - 3" - 60" - 1750 RPM. 1550 CFM @ 2.0" SP.
 - ELECTRIC DUCT HEATING COIL. 33 KW - 240V - 3" - 60" - 6 STEP - 120V CONTROL. 30" W x 12" H SIZE
 - SF-1 THERMOSTAT & CONTROL PANEL.



FUEL OIL PIPING SCHEMATIC

- NOTES:
- WITHIN ENGINE GENERATOR ENCLOSURE.
 - UNDERGROUND.

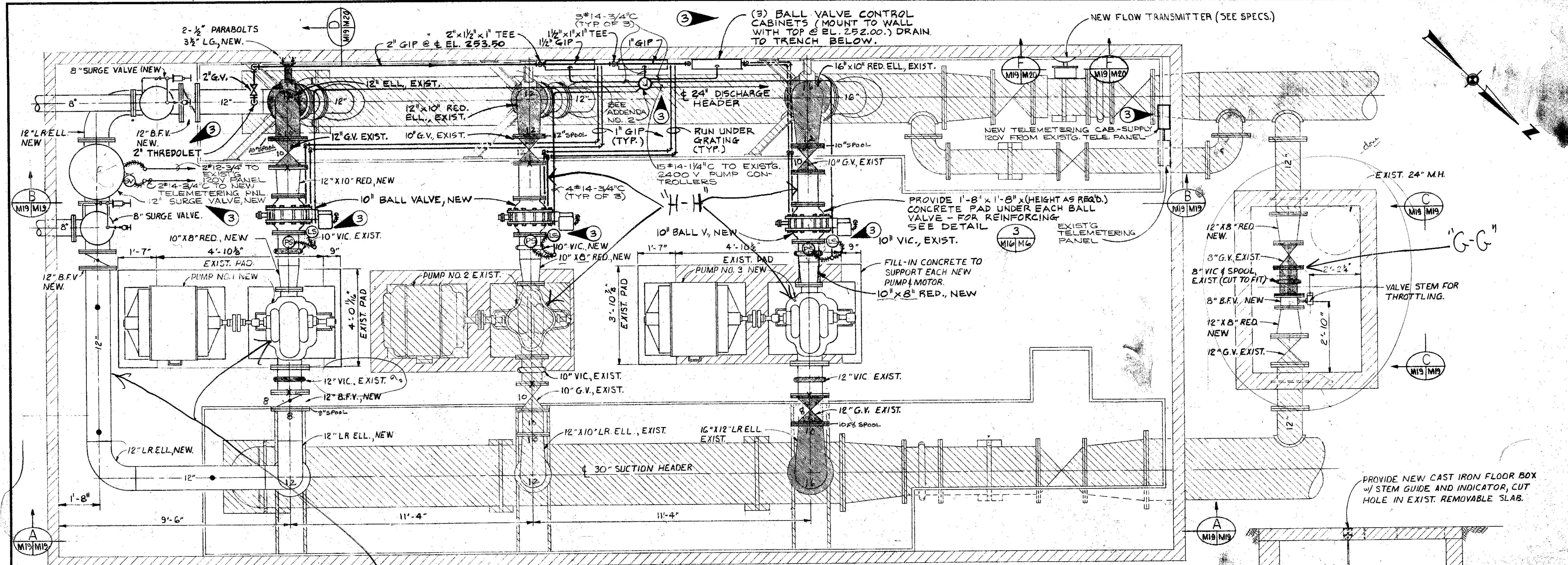
REGISTERED PROFESSIONAL ENGINEER
5143
JOHN C. SPALDING
ORIGON
MARCH 6, 1994
JOHN C. SPALDING

DESIGNED	JCS	APPROVED	J.C. Spalding
DRAWN	PBB	SCALE	AS SHOWN
CHECKED	JCS	DATE	MAY, 1975
FILE	PT-0757.002-14874		

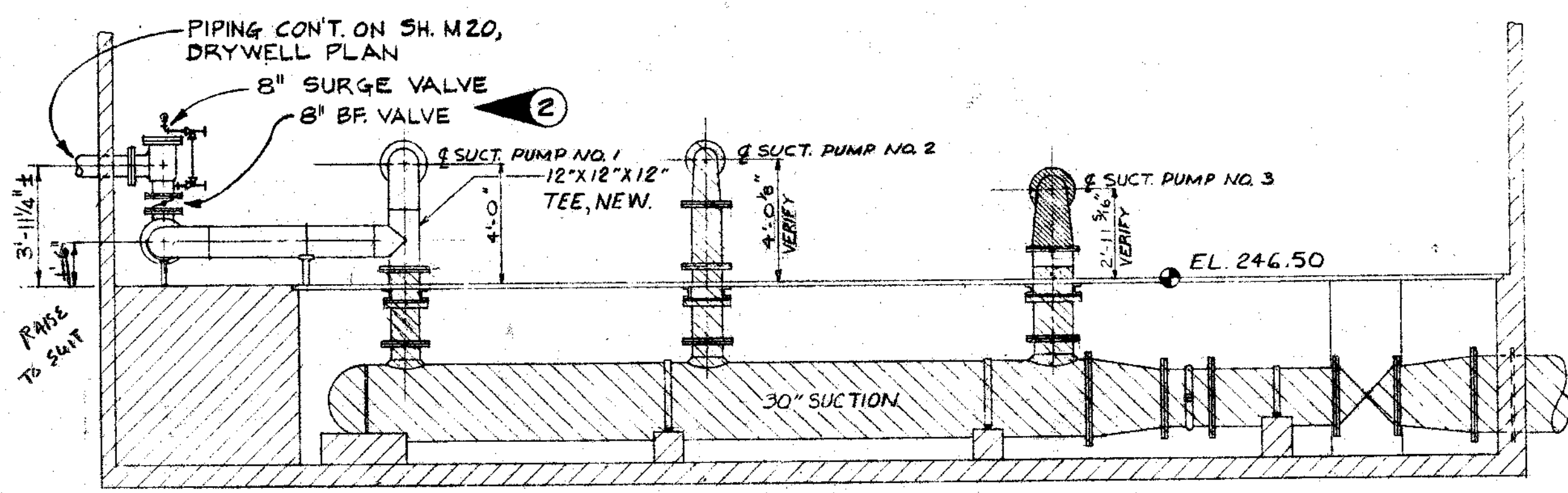
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OREGON CITY - WEST LINN
SOUTH FORK WATER BOARD
WATER WORKS MODIFICATIONS

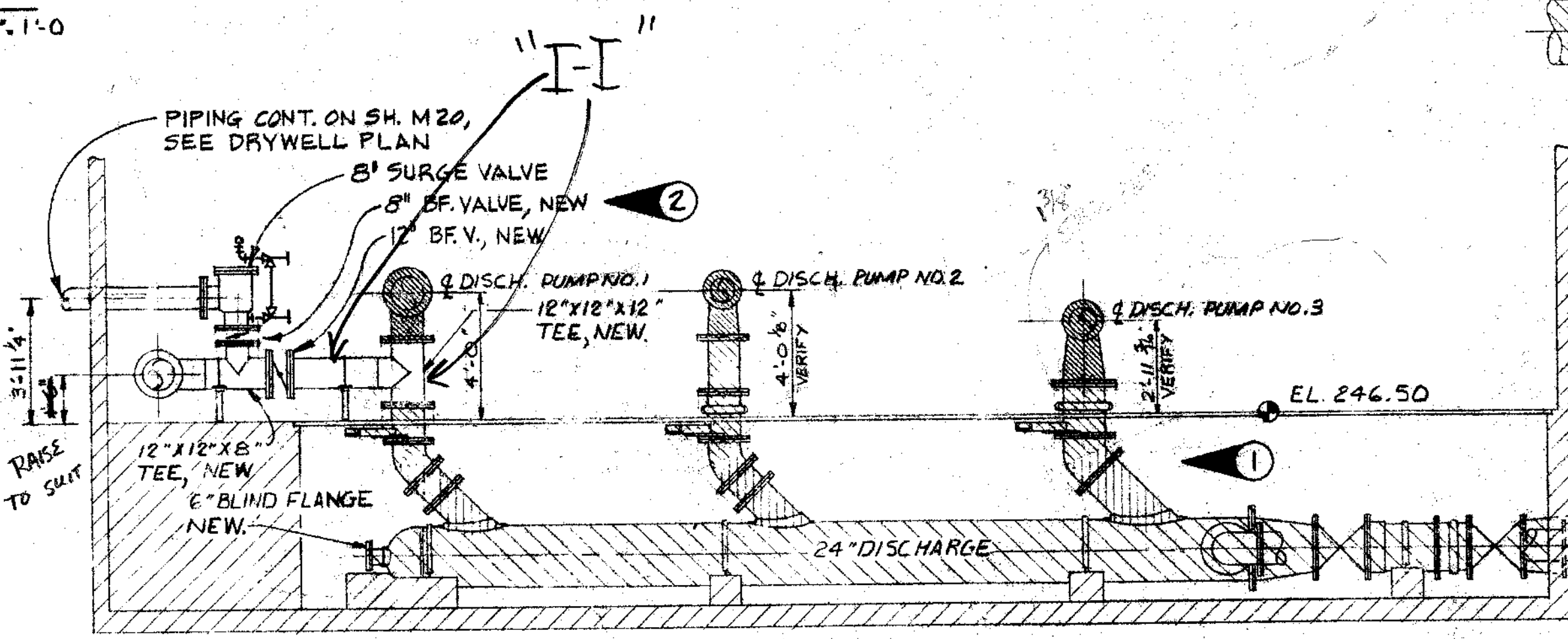
WATER INTAKE STRUCTURE
HEATING & VENTILATING
PLAN, SECTIONS & DETAILS



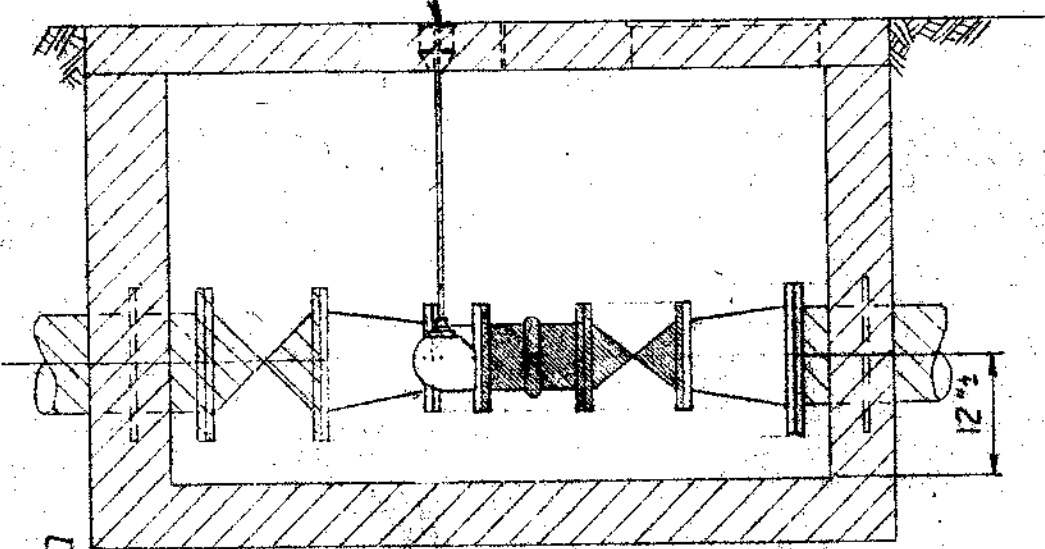
PLAN
SCALE 1/2" = 1'-0"



SECTION A
SCALE 1/4" = 1'-0"



SECTION B
SCALE 1/4" = 1'-0"



SECTION C
SCALE 1/4" = 1'-0"

- LEGEND**
- = NEW.
 - ▨ = EXIST. STRUCTURE.
 - ▤ = EXISTING.
 - ▥ = EXIST. TO BE RELOCATED.
 - = GRINNELL PIPE SUPPORT TYPE 259.
 - X = PIPE SUPPORT SEE 4 M19 M20

NOTE:

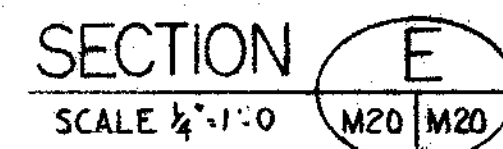
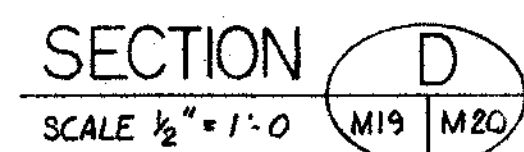
1. ALL EQUIPMENT TO BE RELOCATED IS FROM INSIDE THE DIVISION ST. PUMP STATION.
2. VERIFY ALL DIMENSIONS PRIOR TO FABRICATION.
3. REMOVE EXISTING SURGE TANK AND PIPING, (THAT IS NOT REUSED) AND STORE AT WATER TREATMENT PLANT. SURGE TANK IS 36" x 13'-0"± AND WEIGHS APPROX. 4000 LBS.

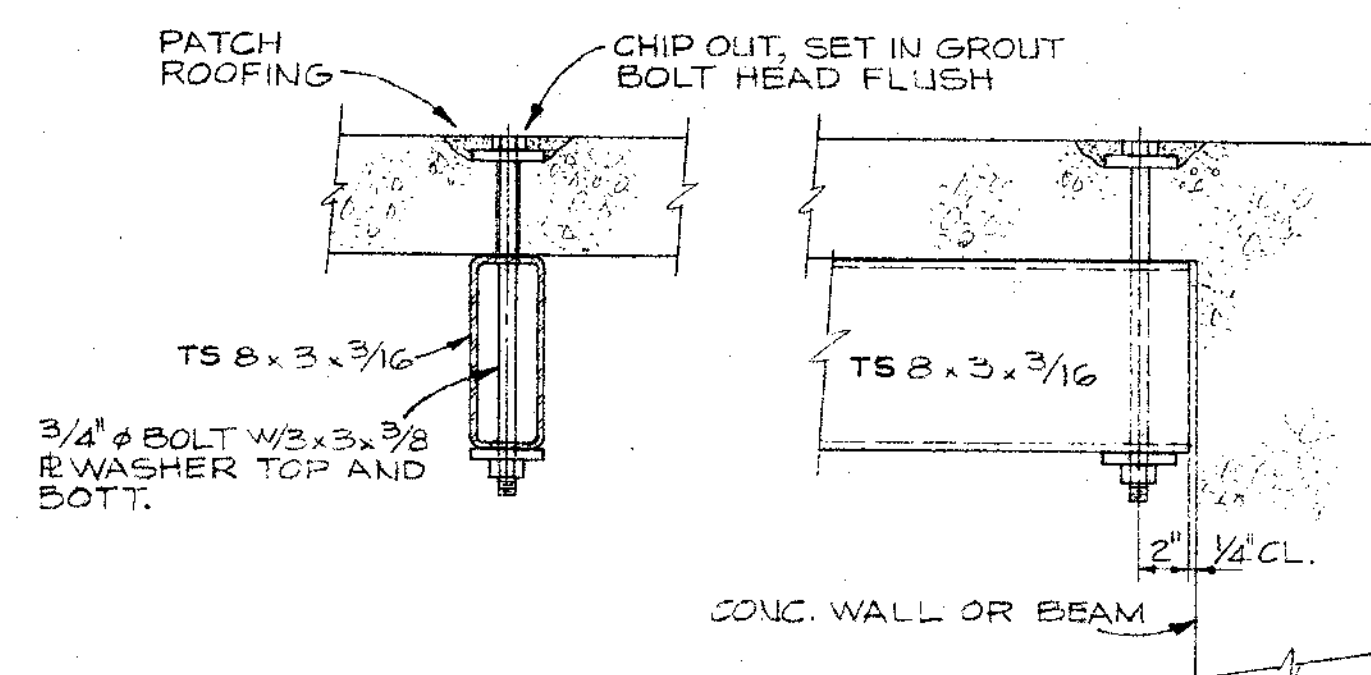
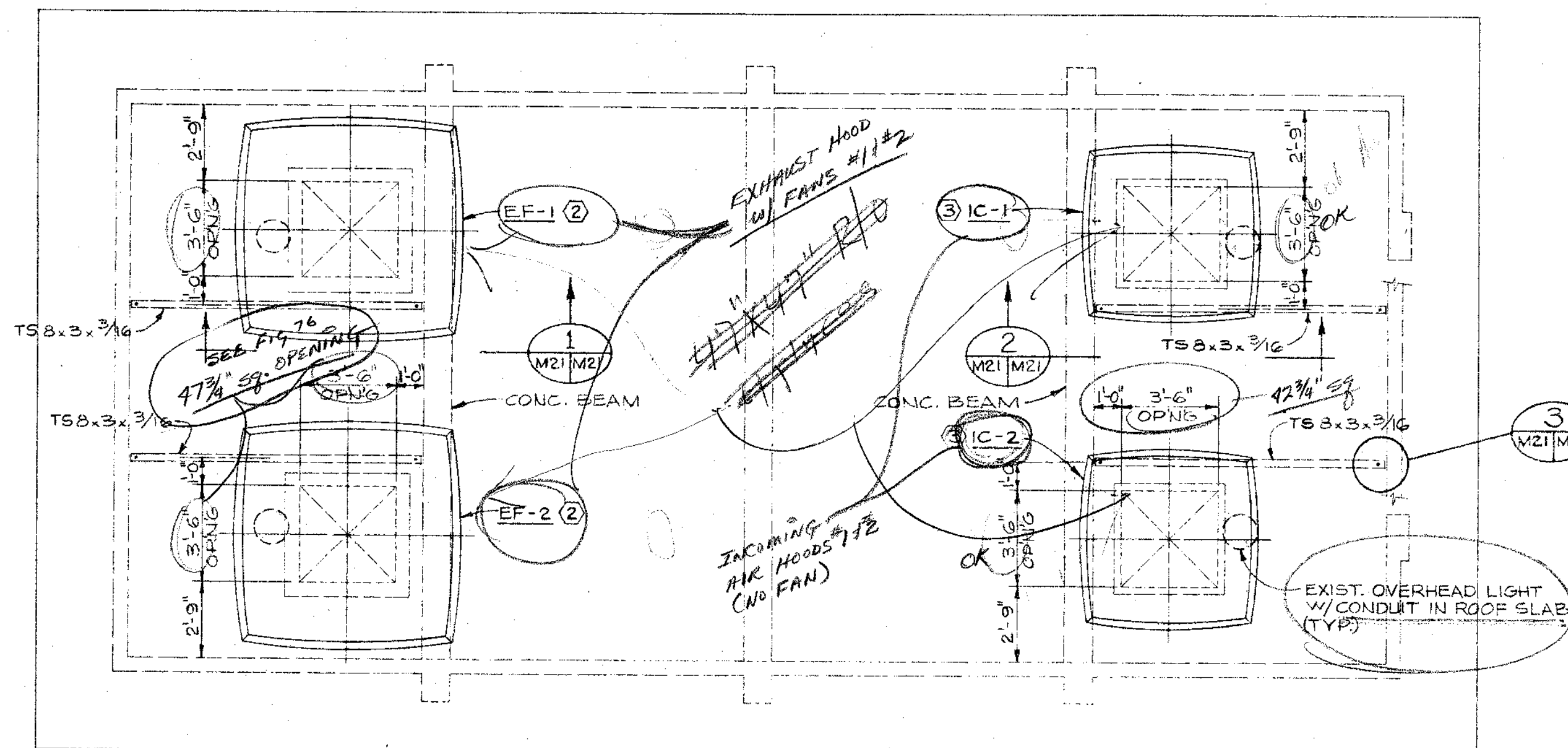
8-27-75	3	ADDED ELEC. FOR B.V. & SUR. VALVE DLF	DGB	DESIGNED H.W.T./J.R.S.	APPROVED	DATE MAY 1975
8-27-75	3	SHOWED B.V. CONTROL & PIPING.	DGB	DRAWN JAK	SCALE AS SHOWN	FILE PT 0757.002-14875
8-20-75	2	ADDED 2-8" B.F. VALVES.	DGB	CHECKED JRS		
8-20-75	1	ADDED HATCHING OF EXIST. PIPING.	DGB			
DATE	NO.	REVISION	BY	CHECKED	FILE	

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Engineers/Planners
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SOUTH FORK WATER BOARD
WATER WORKS MODIFICATIONS

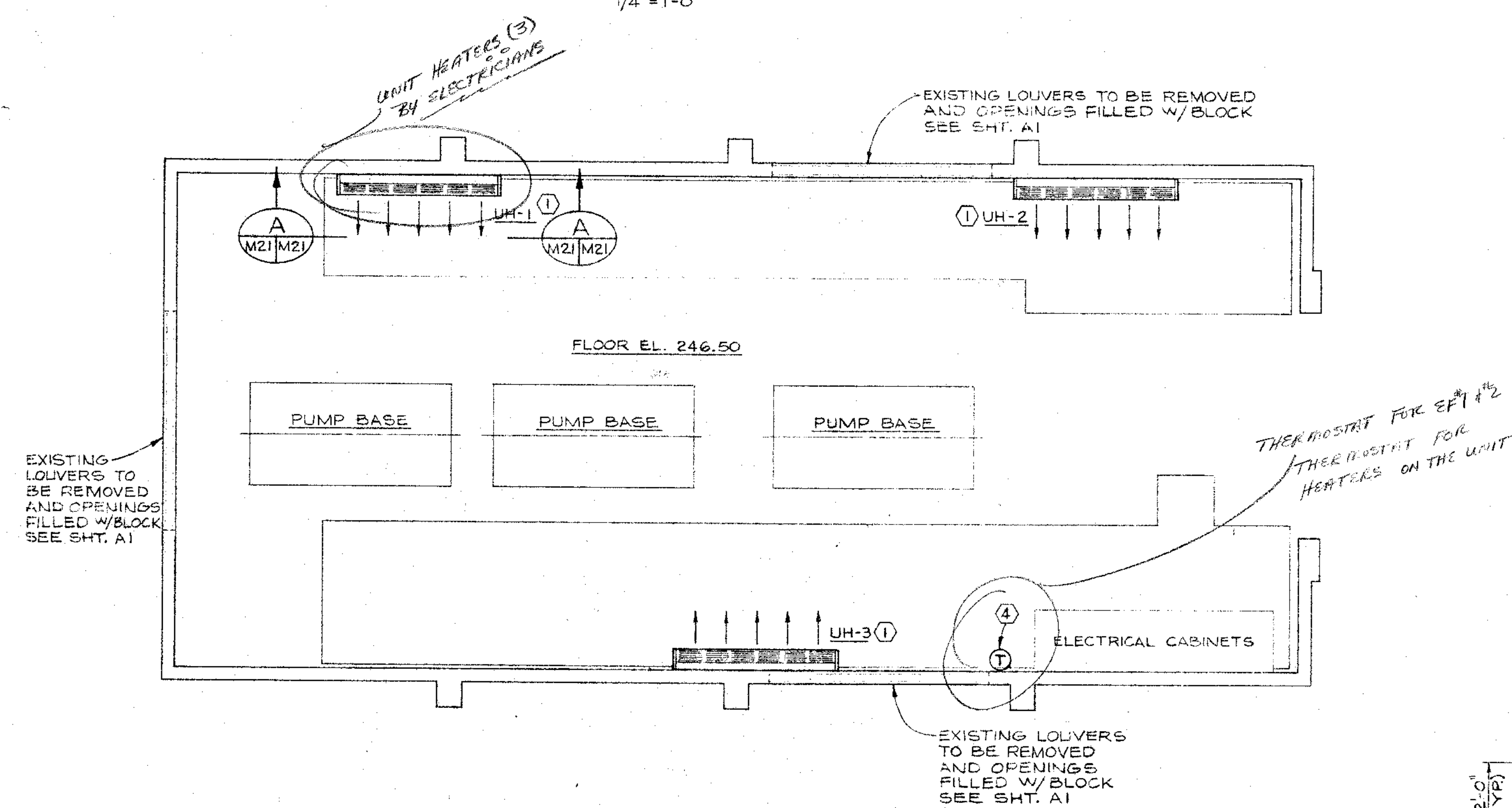
DIVISION ST. PUMP STATION
PLAN AND SECTIONS



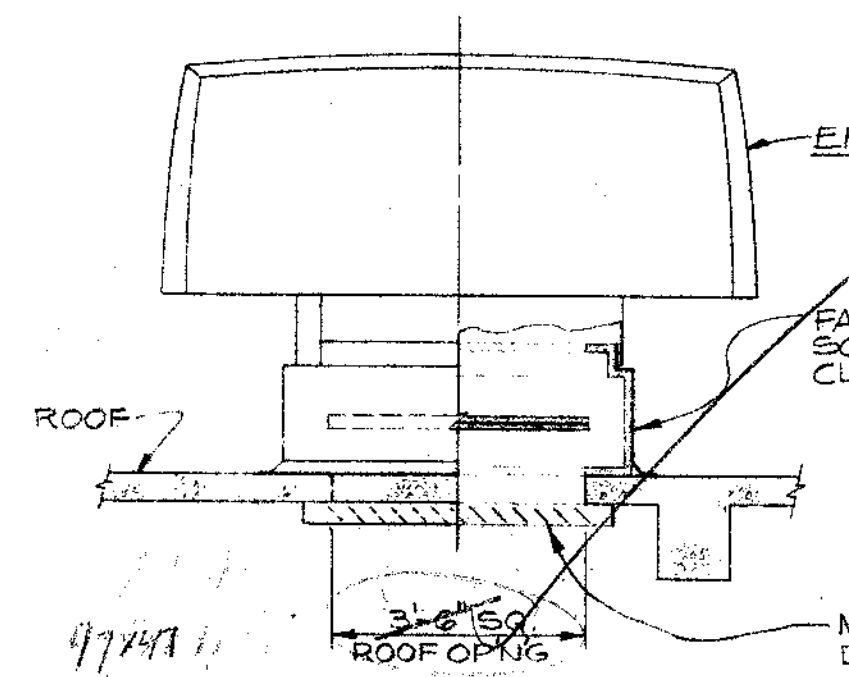


DETAIL 3
1 1/2" = 1'-0"

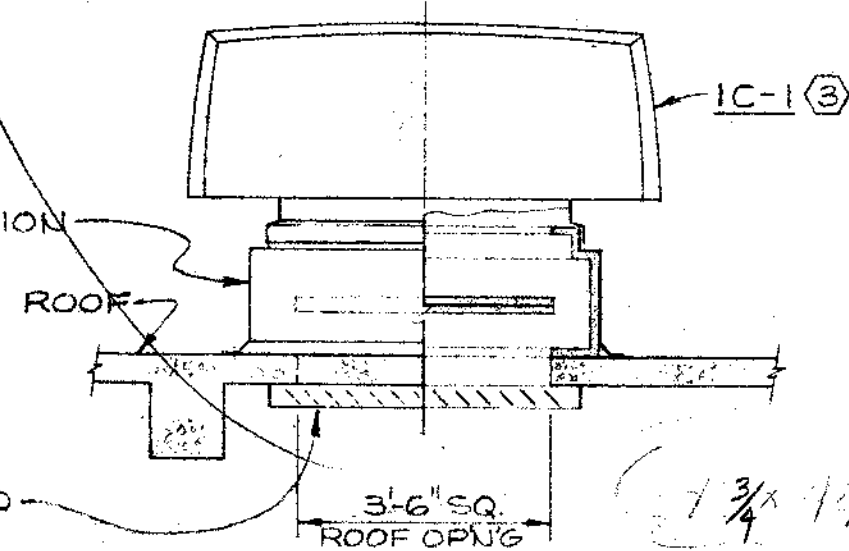
ROOF PLAN
1/4" = 1'-0"



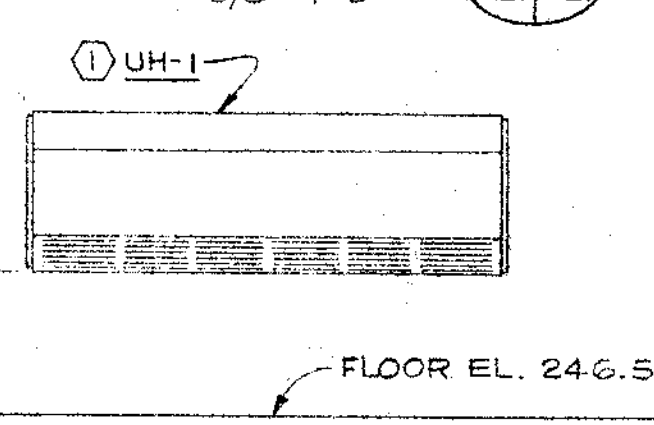
FLOOR PLAN
1/4" = 1'-0"



ROOF MOUNTED EXHAUST AIR FAN
DETAIL 1
3/8" = 1'-0"



ROOF MOUNTED AIR INTAKE CAP
DETAIL 2
3/8" = 1'-0"



SECTION A
3/8" = 1'-0"

- NOTES:
- CABINET UNIT HEATERS (UH-1, UH-2 & UH-3)
8 KW - 240 V - 3 ϕ
BUILT-IN THERMOSTAT
CHROMALOX MODEL CUI-SFT-524.
 - EXHAUST FANS (EF-1 & EF-2)
7 1/2 HP - 240 V - 3 ϕ
13800 CFM @ 1-INCH S.P.
PACE-SKYCAP MODEL CRE-36F
 - INTAKE CAPS (IC-1 & IC-2)
13800 CFM @ 0.25-INCH S.P.
PACE-SKYCAP VENT SIZE 48x48-CAP SIZE 72.
 - EF-1 & EF-2 THERMOSTAT & CONTROL PANEL.

REGISTERED PROFESSIONAL
ENGINEER
JOHN C. SPALDING
OREGON
BRANCH 6-1981

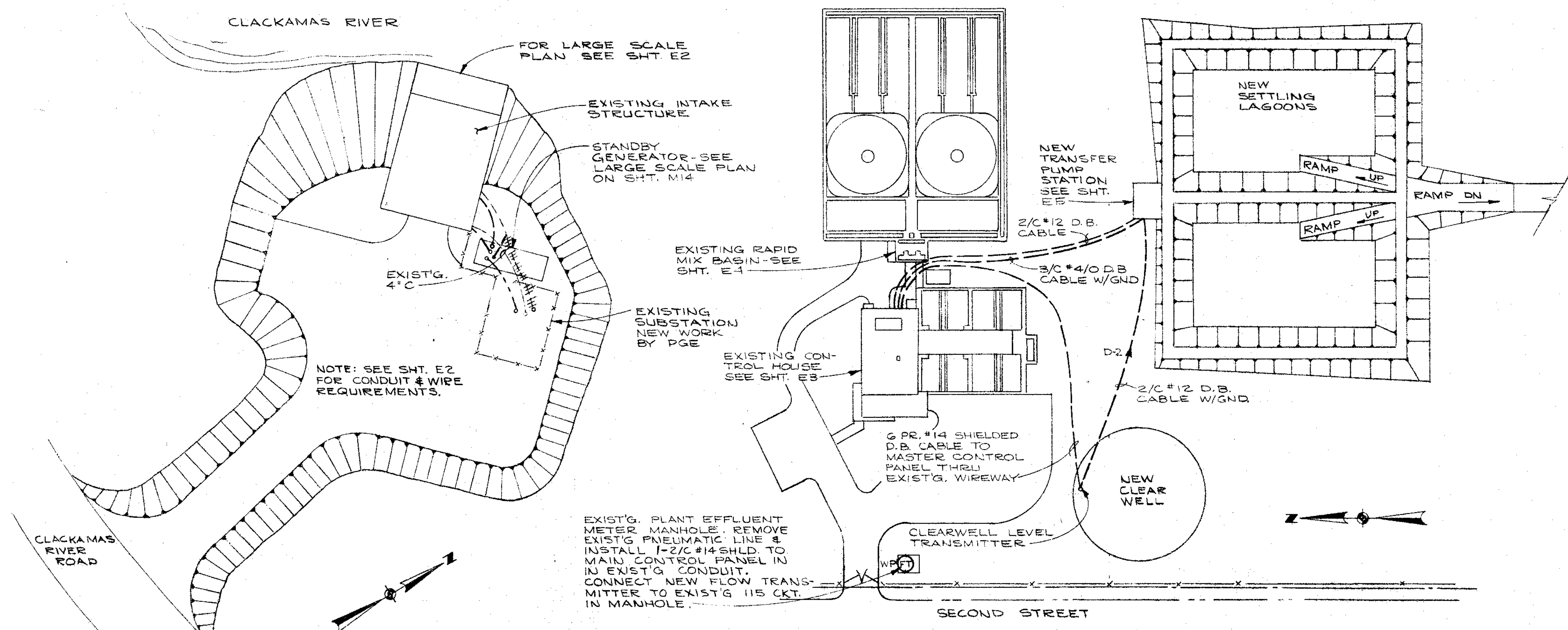
DESIGNED JCS-JGS	APPROVED J.C. Spalding
DRAWN PBB	SCALE AS SHOWN DATE MAY, 1975
CHECKED JCS	FILE PT-0757.002-14877

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SOUTH FORK WATER BOARD
WATER WORKS MODIFICATIONS

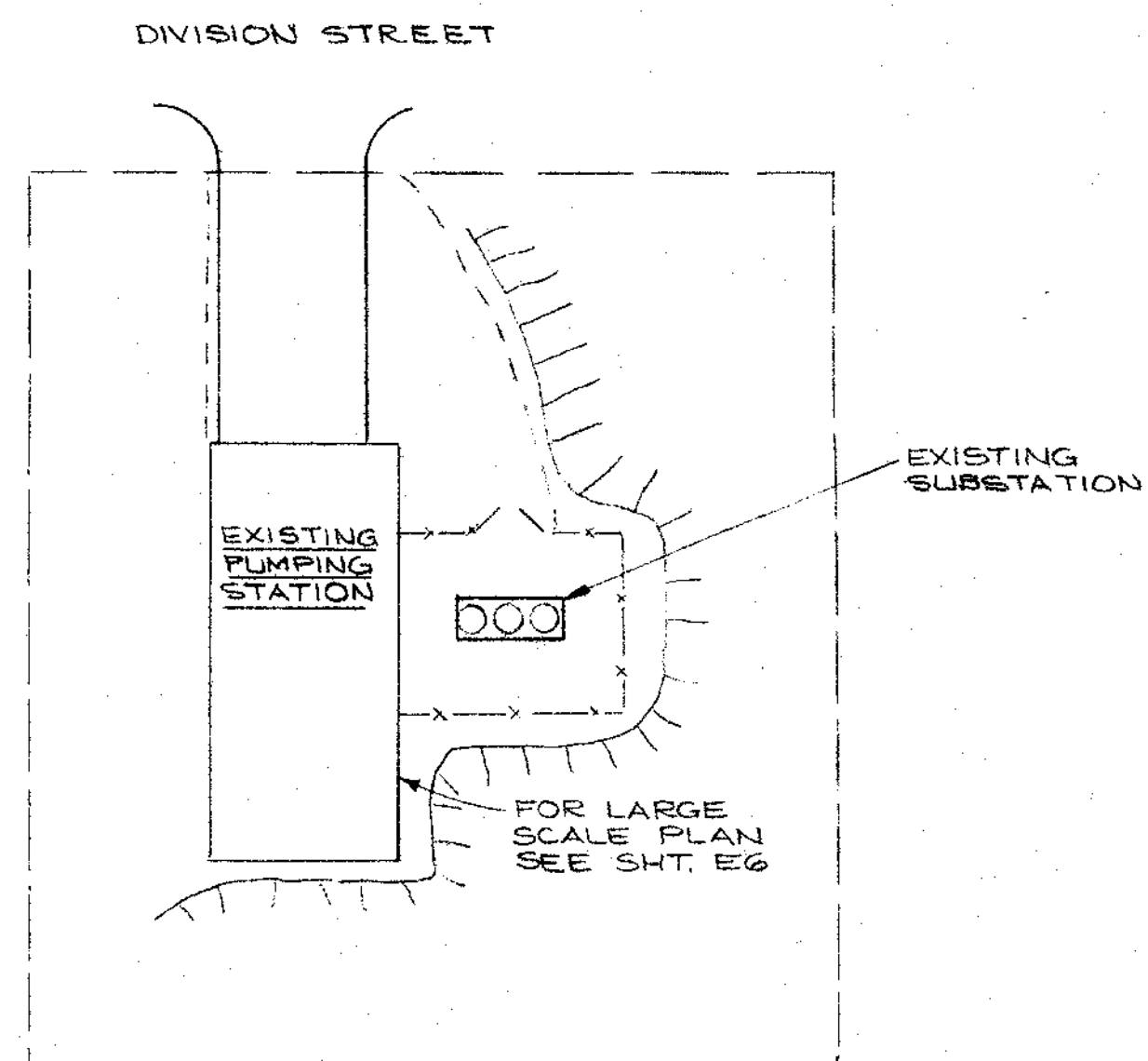
DIVISION ST. PUMP STATION
HEATING & VENTILATING
PLANS, SECTIONS & DETAILS

M21
21

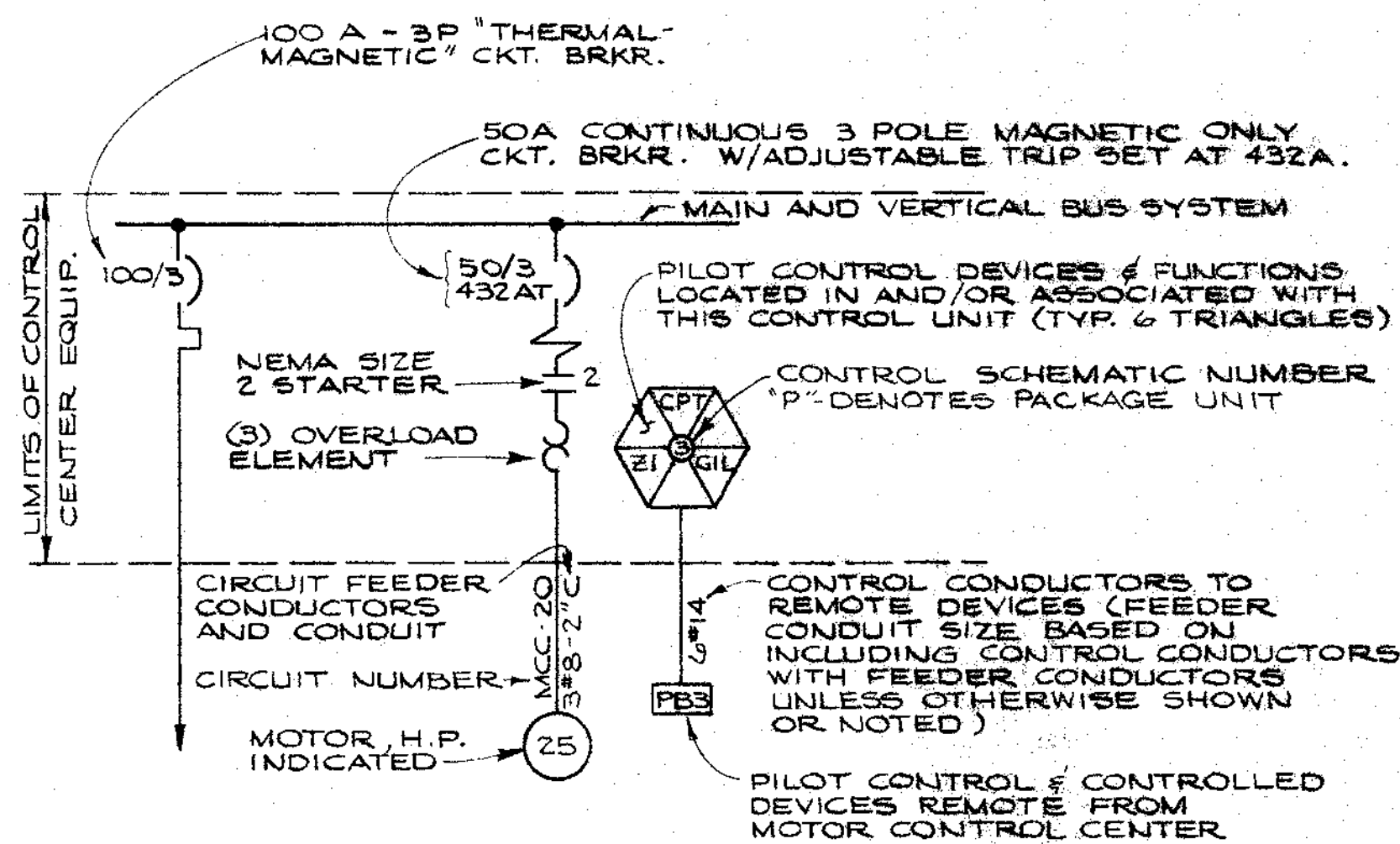


INTAKE PUMP STATION
SCALE: 1" = 20'-0"

WATER TREATMENT PLANT
SCALE: 1" = 50'-0"



DIVISION STREET
PUMP STATION
SCALE: 1" = 20'-0"



TYPICAL ONE LINE DIAGRAM

LEGEND

- (C) - CLG. MOUNTED LUMINAIRE BELOW SLAB
- (O) - POLE MOUNTED LUMINAIRE
- (H) - GFCI DUPLEX RECEPTACLE, 15A FOR 20A CIRCUIT
- (S) - SINGLE POLE SWITCH
- (J) - JUNCTION BOX
- - - - - BRANCH CIRCUIT OR FEEDER EXPOSED WITH GENERAL ROUTE INDICATED.
- - - - - BRANCH CIRCUIT OR FEEDER CONCEALED IN SLAB OR EARTH.
- # — - HOME RUN TO PANEL W/PANEL DESIGNATION & CIRCUIT NUMBER INDICATED. CROSSBARS DENOTE NO. OF CONDUCTORS.
- FLEXIBLE METALLIC CONDUIT
- o — - CIRCUIT UP
- o — - CIRCUIT DOWN
- (M)₆₀ - MOTOR, HP INDICATED
- (FC) - FLOAT CONTROL
- (FT) - FLOW TRANSMITTER
- (PS) - PRESSURE SWITCH
- (SV) - SOLENOID VALVE
- (T) - THERMOSTAT
- D.B. - DIRECT BURIAL
- SH - HATCH SWITCH - CLOSSES WHEN HATCH OPENS
- (A) - AMBER INDICATING LIGHT - "G" DENOTES GREEN - "R" DENOTES RED - "B" DENOTES BLUE

SUBSCRIPT ADDED TO ANY SYMBOL DENOTES:

- WP - WEATHERPROOF, NEMA 4 OR EQUIV.
- +8'-0" - MOUNTING HEIGHT ABOVE FLOOR.

CONTROL KEY

- AIL - AMBER INDICATING LIGHT
- PBI - START-STOP PUSHBUTTON STATION
- SLI - HAND-OFF-AUTO SELECTOR SWITCH
- PS - PRESSURE SWITCH
- RTM - RUNNING TIME METER
- YPE - PERMISSIVE ELEMENT
- CR - CONTROL RELAY
- TR - TIMING RELAY
- HR - HEATING RELAY
- WH - WINDING HEATING (INCLUDES RELATED COMPONENTS)
- SH - STRIP HEATER
- ALT - ALTERNATOR
- GFI - GROUND FAULT INTERRUPTER
- TSR - TRANSFER SWITCH RELAY
- XS - REMOTE STATUS
- XCN - REMOTE CONTROL STATION

DESIGNED JFM	APPROVED <i>Erin C. Kauder</i>
DRAWN ECS	SCALE AS SHOWN DATE JULY 75
CHECKED ANE	FILE P.T. 757.002-14873

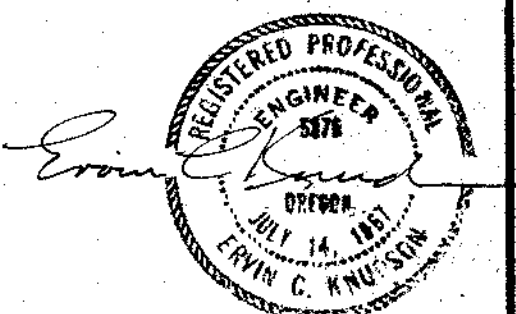


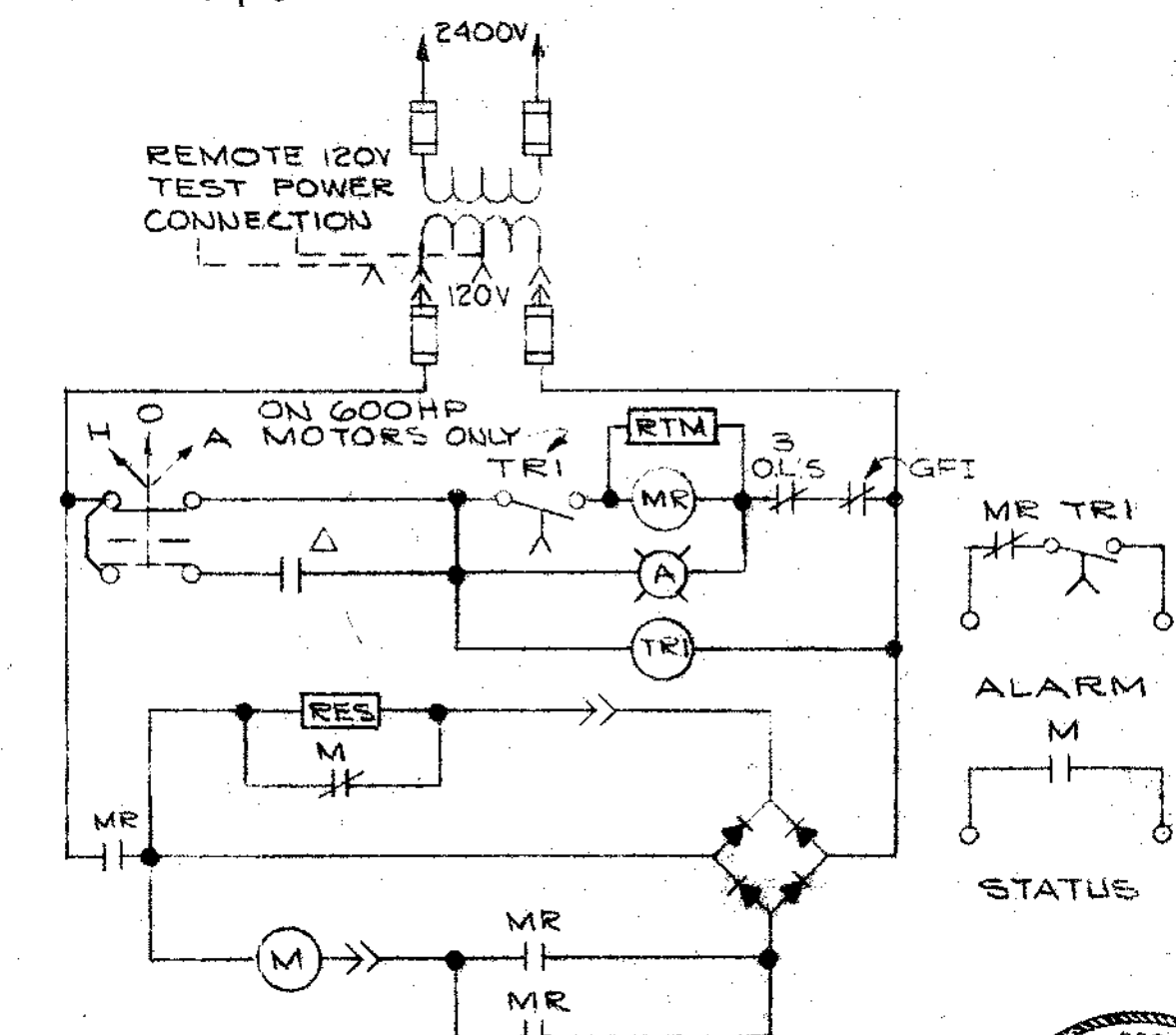
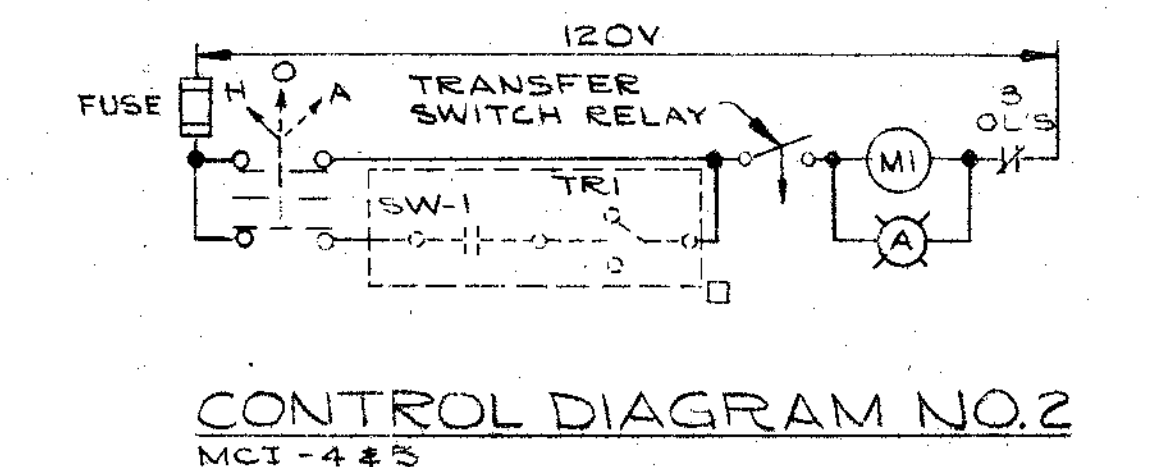
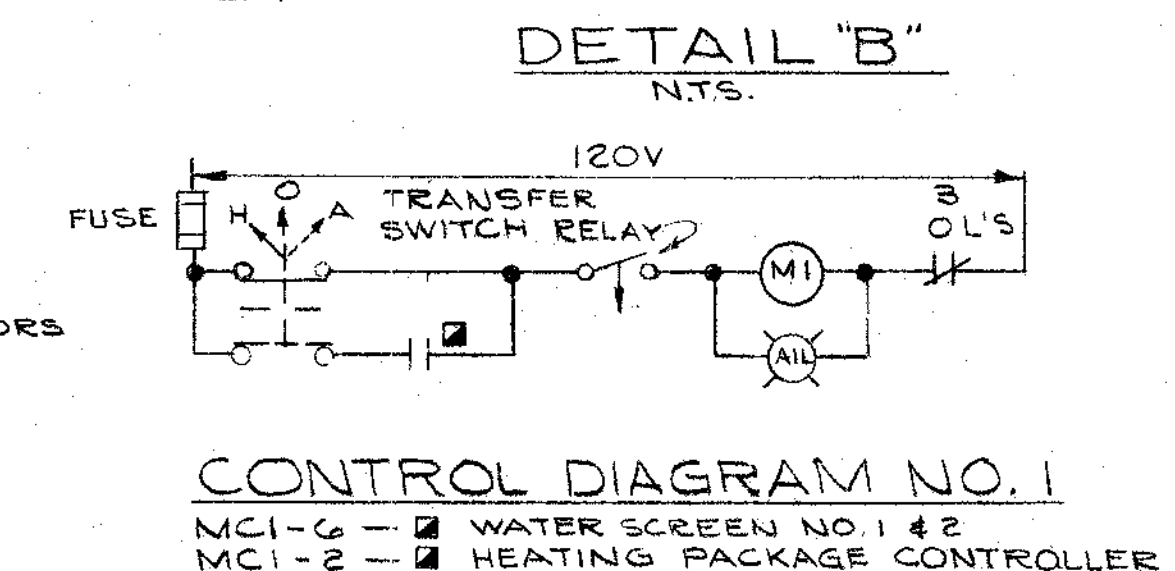
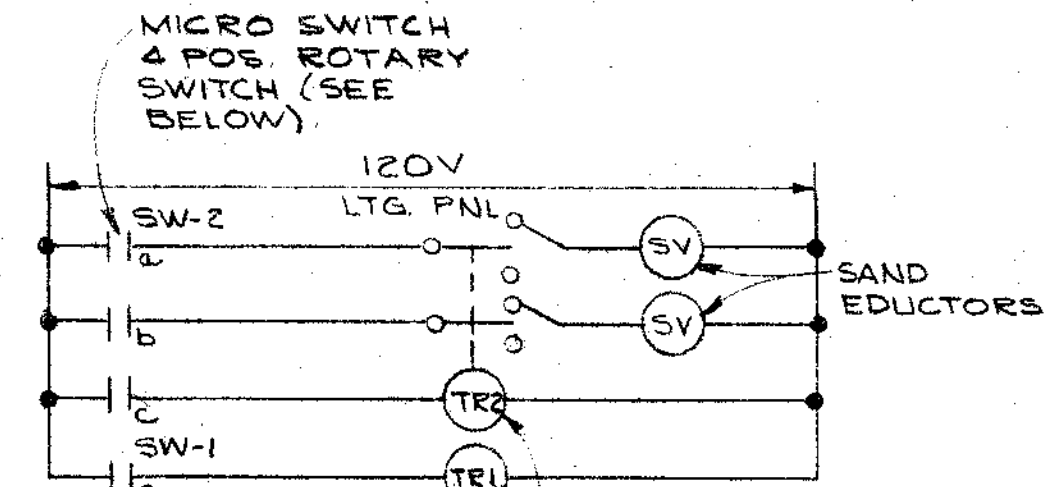
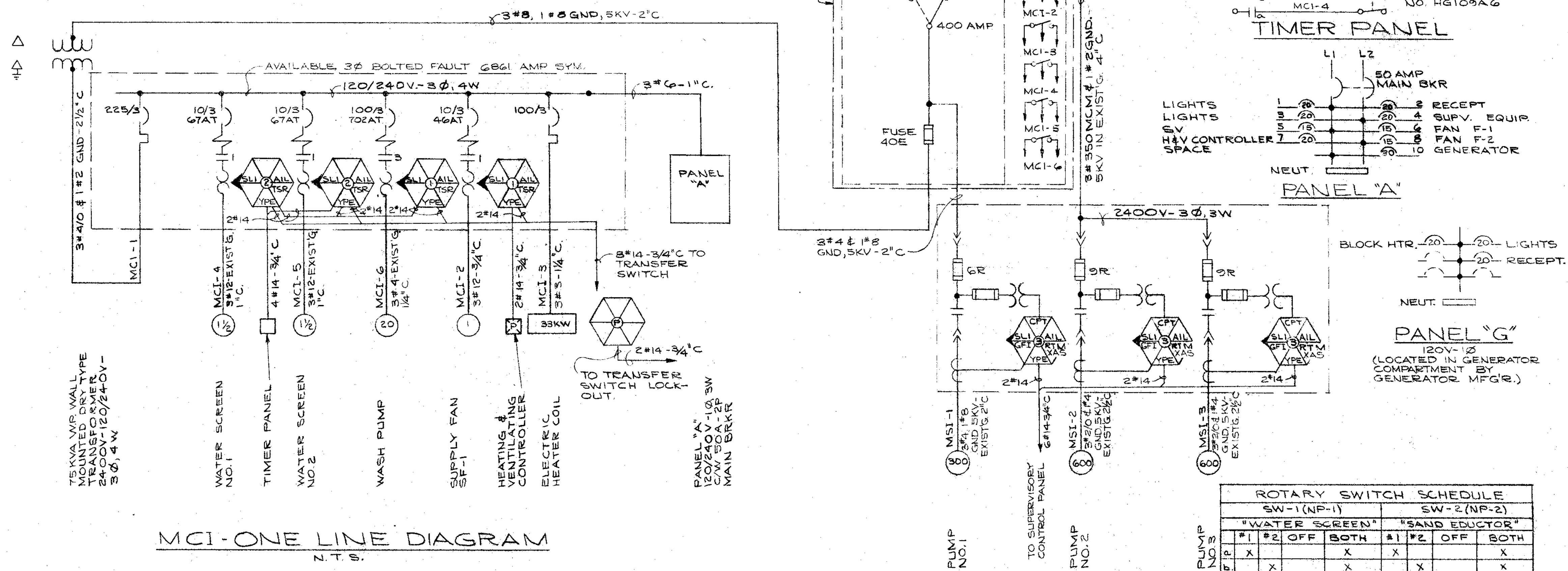
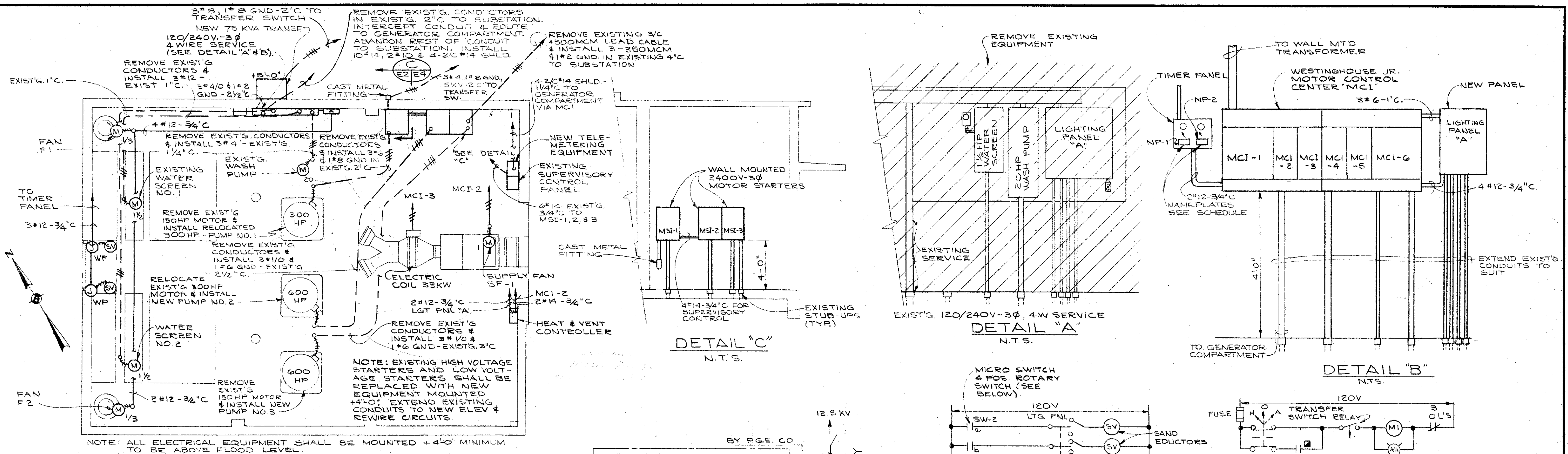
Stevens, Thompson & Runyan, Inc.
Engineers / Planners
PORTLAND • SEATTLE • BOISE • SPOKANE • HOUSTON

OREGON CITY WEST LINN
SOUTH FORK WATER BOARD
WATER WORKS MODIFICATIONS

SITE PLANS

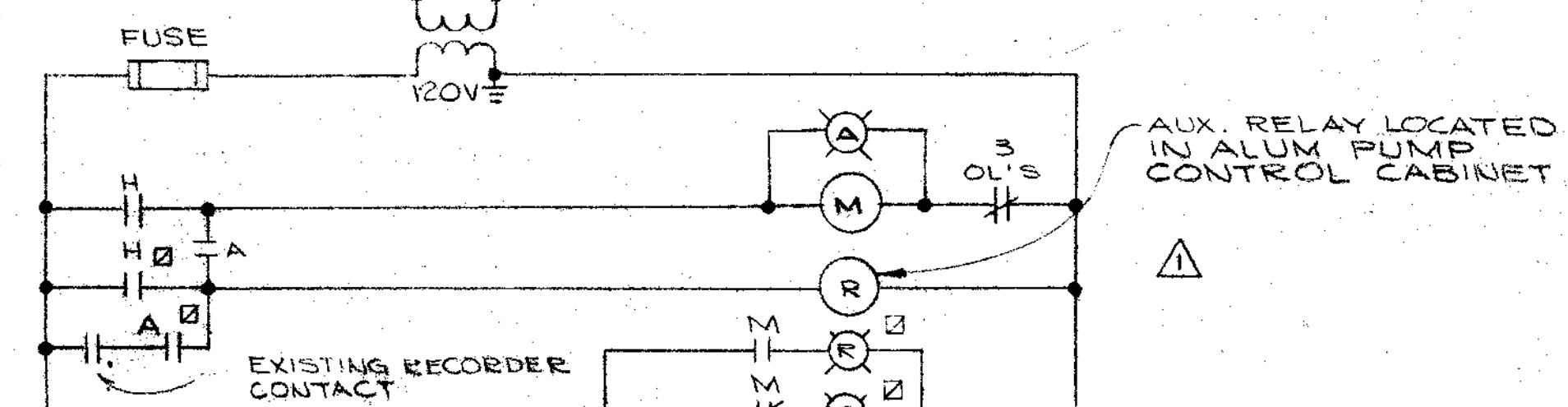
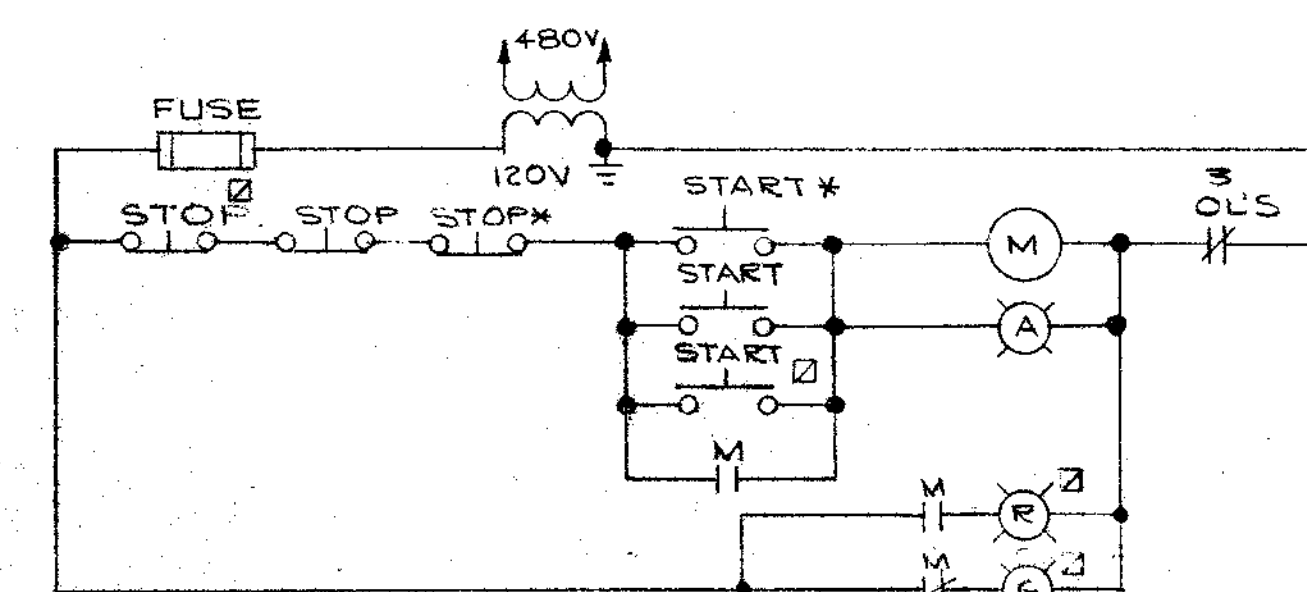
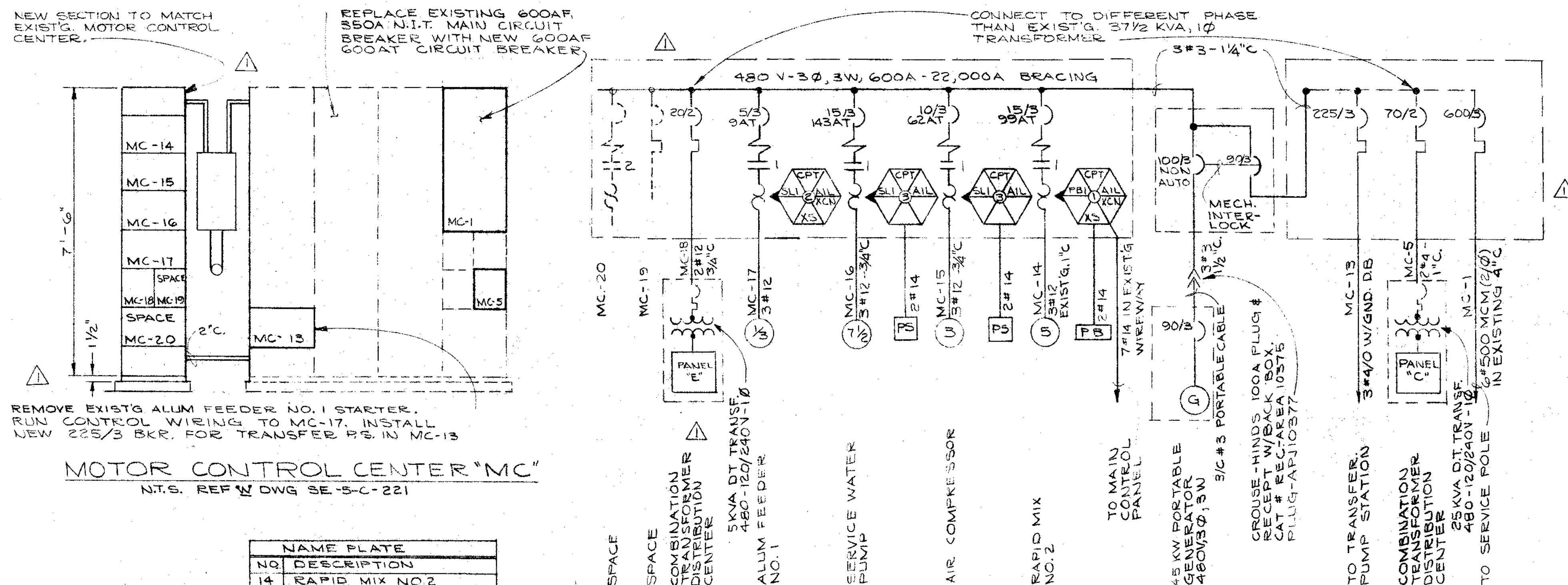
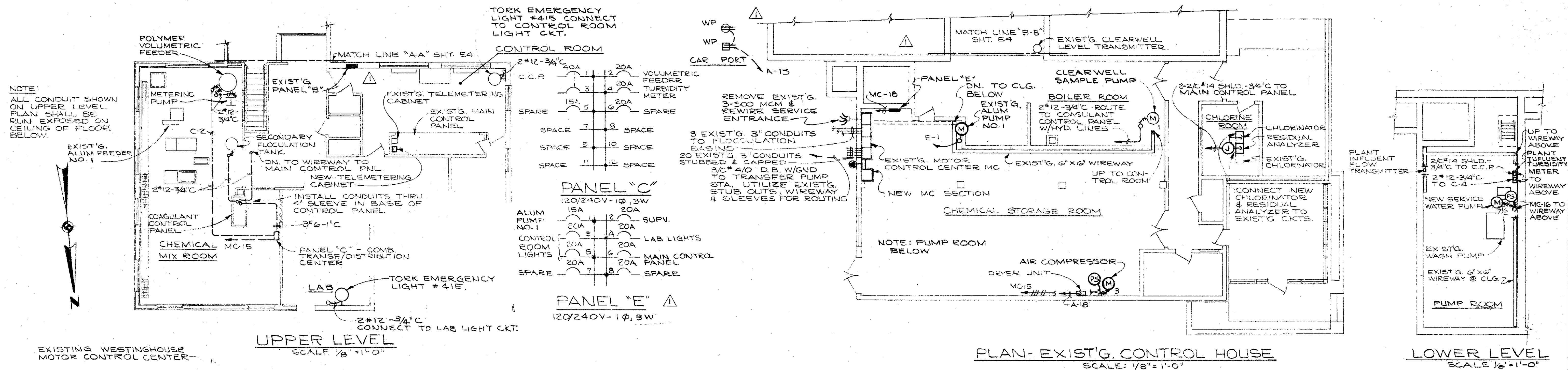
EI
6





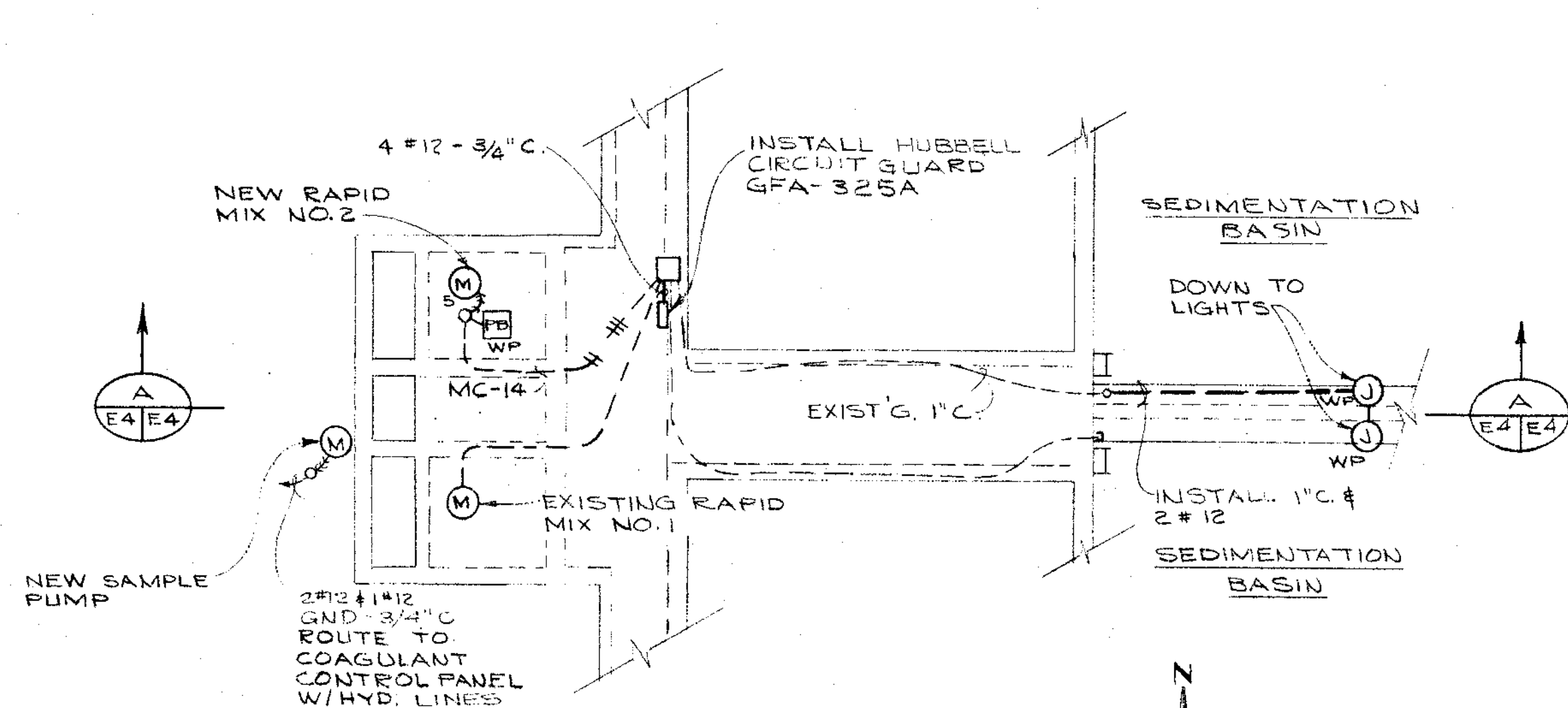
ROTARY SWITCH SCHEDULE								
SW-1 (NP-1)					SW-2 (NP-2)			
"WATER SCREEN"					"SAND EDUCTOR"			
PUMP M	#1	#2	OFF	BOTH	#1	#2	OFF	BOTH
	a	X		X	X			X
	b		X	X		X		X
	c	X	X	X	X	X		X
	X	X		X	X	X		X

X = CLOSED

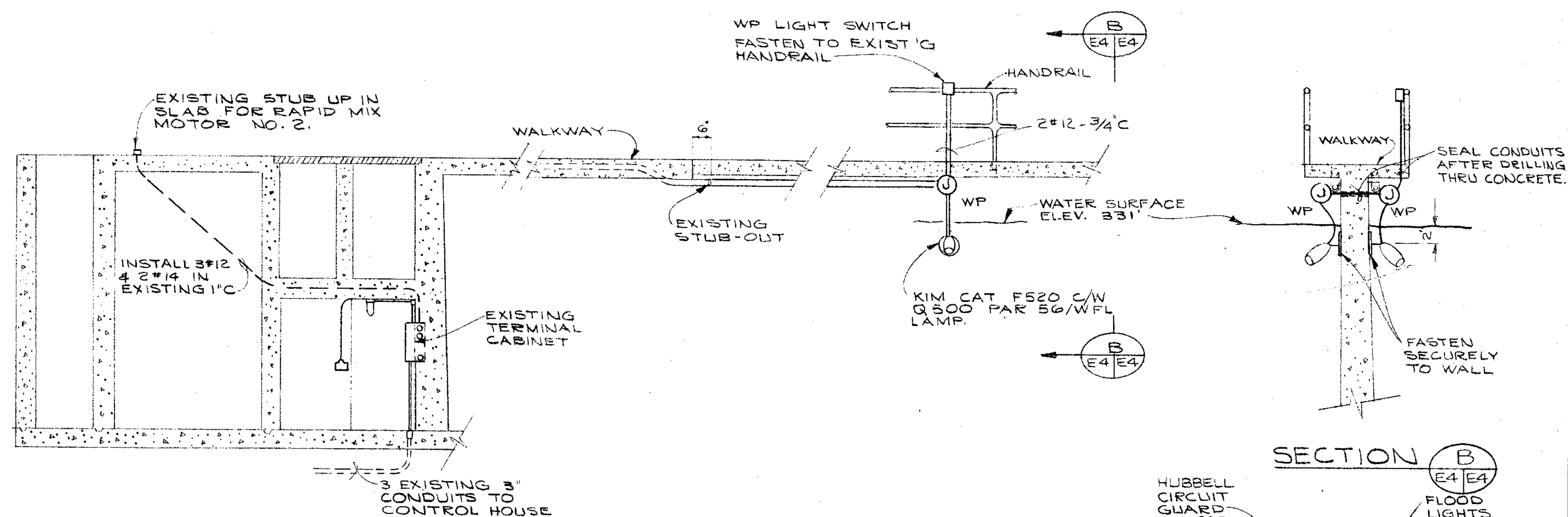


NAME PLATE	
NQ.	DESCRIPTION
14	RAPID MIX NO2
15	AIR COMPRESSOR
16	SERVICE WATER PUMP
17	ALUM FEEDER PUMP NO.1
18	PANEL "E" FEEDER
19	SPACE
20	SPACE
1	MAIN BREAKER
5	PANEL "C" FEEDER
13	TRANSFER PUMP STATION

△ NOTE: RECIRCUIT ALUM. PUMP NO. 1 FEEDER FROM PNL. A-13;
CONTROL ROOM LIGHTS, PNL. B-3,5; LAB LIGHTS, PNL. B-4;
SUPERVISORY & TEL. EQUIP. B-13; AND MAIN CONTROL
PANEL, PNL. B-18, TO NEW PANEL "E".



**PARTIAL PLAN
RAPID MIX BASINS**
SCALE 1/8" = 1'-0"

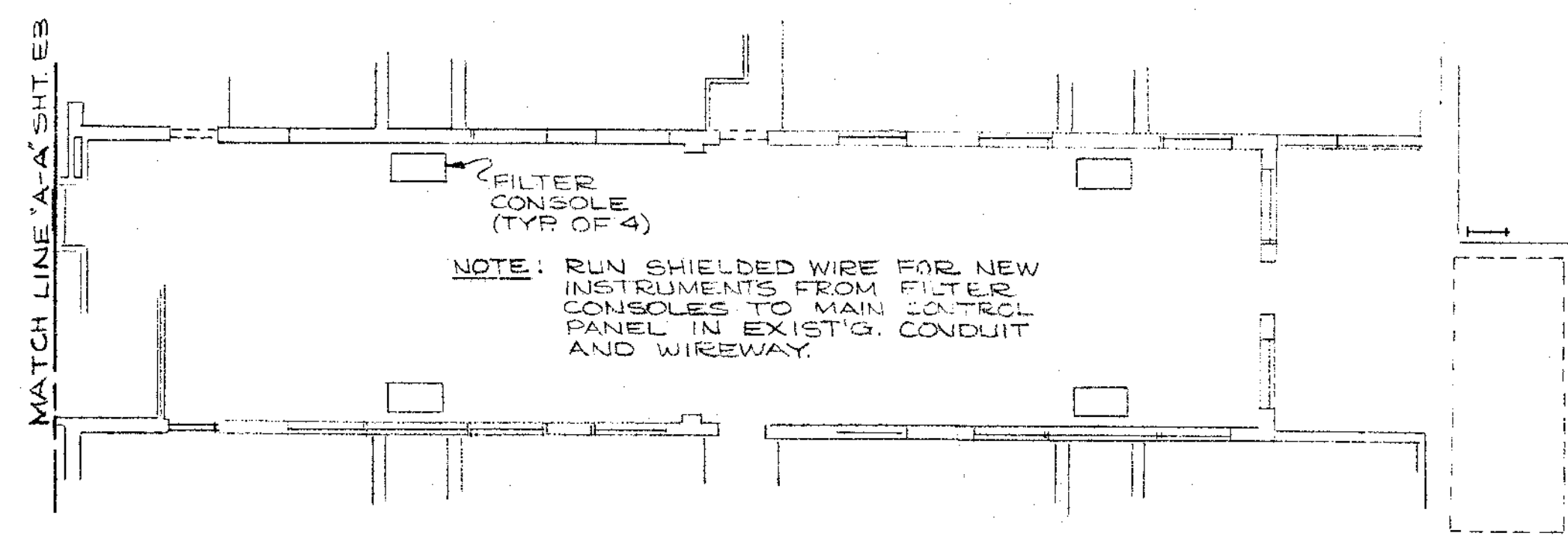


SECTION A
SCALE 1/4" = 1'-0"

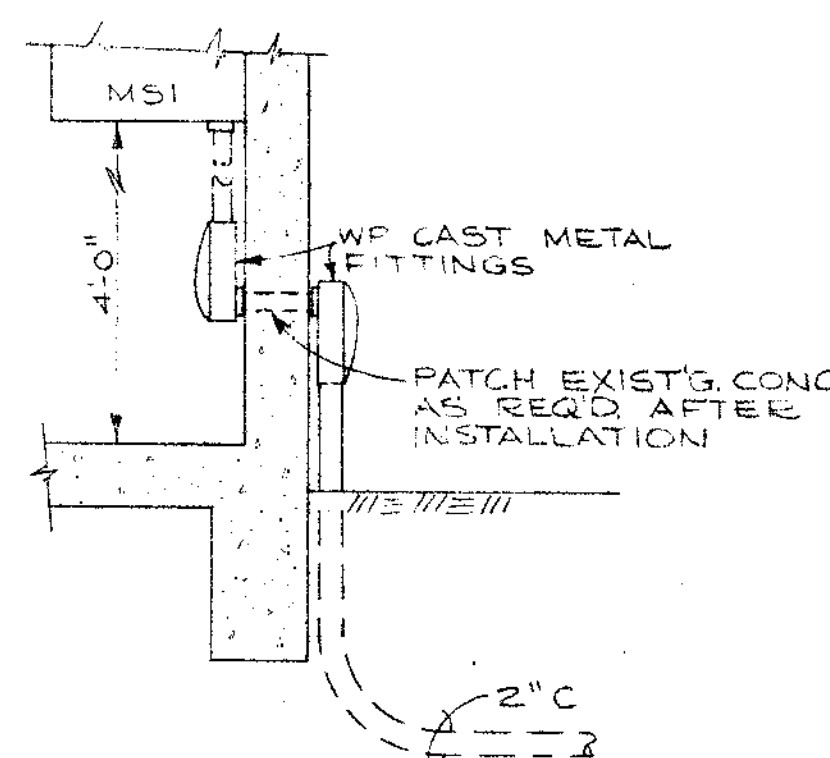
SECTION B
SCALE 1/4" = 1'-0"

EXISTING 120V
SEDIMENTATION
LIGHTING CIRCUIT.
CONNECT AT
EXISTING TERMINAL
CABINET.

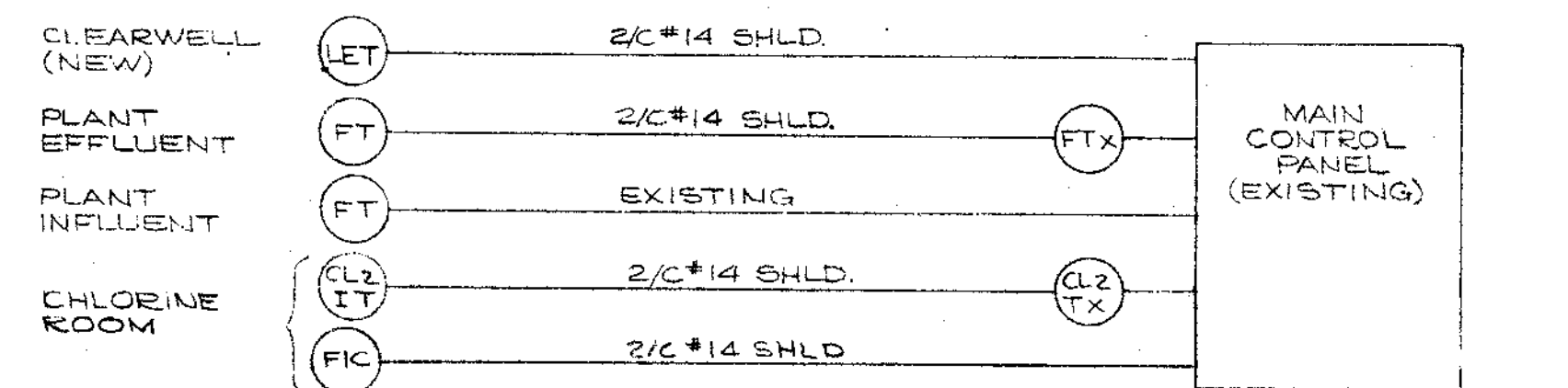
FLOODLIGHT WIRING DIAGRAM



OPERATING FLOOR
SCALE 1/8" = 1'-0"

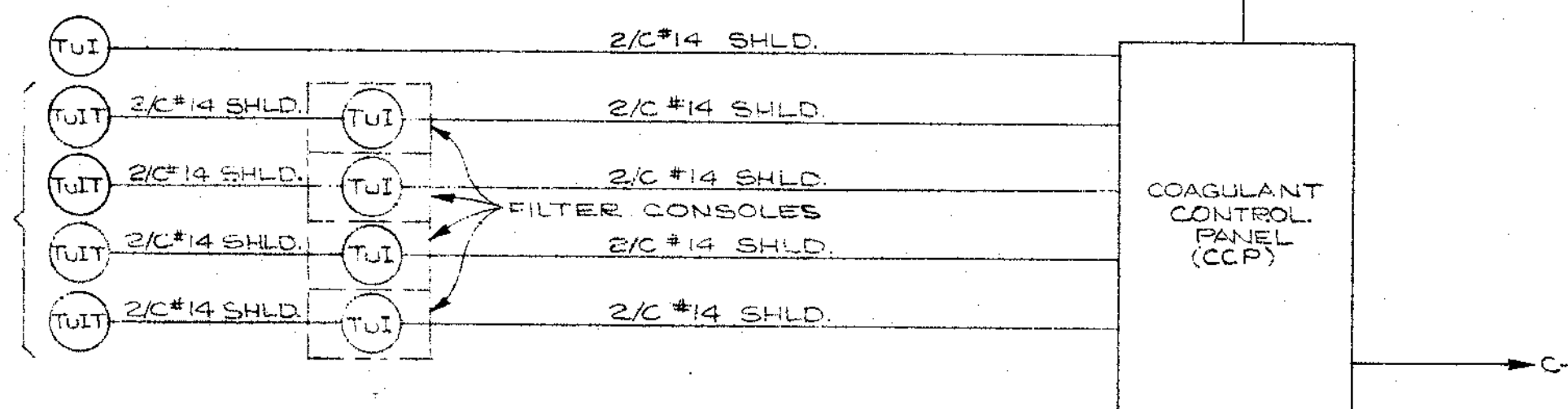


SECTION C
SCALE 1/2" = 1'-0"

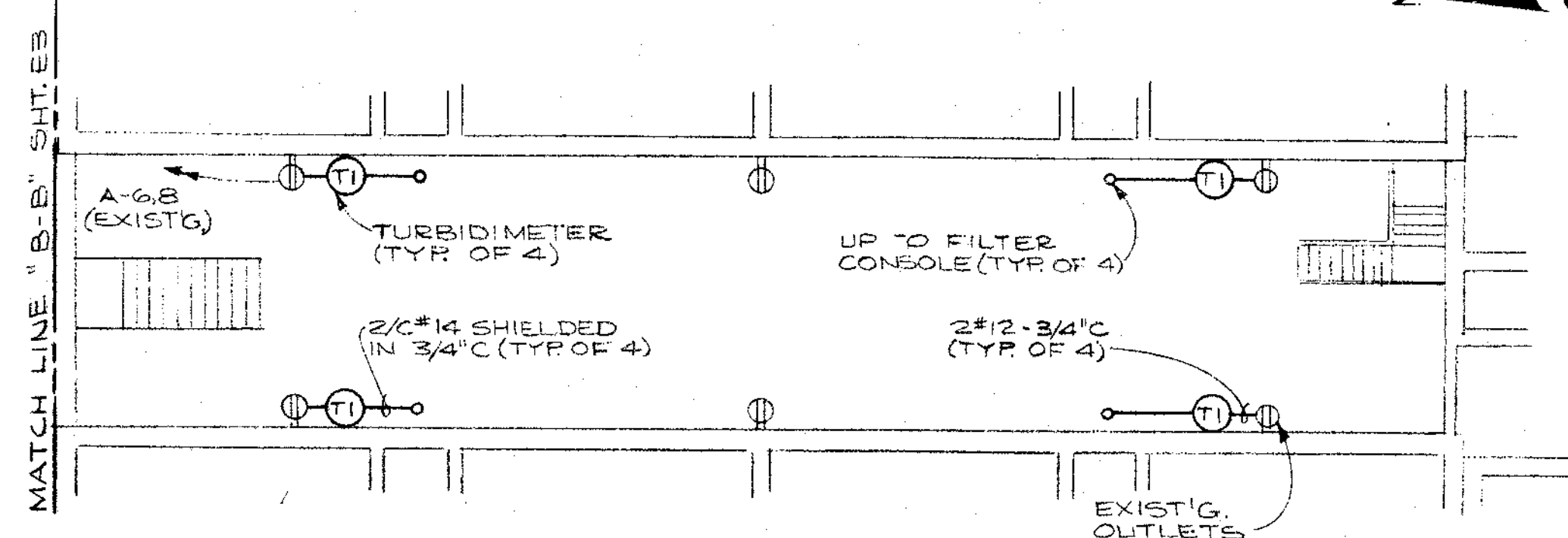


PLANT INFLUENT

PIPE GALLERY



PARTIAL INSTRUMENTATION DIAGRAM
NOTE: FOR LEGEND AND COMPLETE PROCESS DWG.-SEE SHEET M3



PIPE GALLERY
SCALE 1/8" = 1'-0"

NOTE:
CONNECT ALL EXIST'G. OUTLETS
IN PIPE GALLERY ON EXIST'G.
CKT. A-6. WIRE THE TURBIDI-
METERS TO EXIST'G. CKT. A-8.

				DESIGNED J.F.M.	APPROVED <i>Ervin C. Runyan</i>
				DRAWN ECS	SCALE AS SHOWN DATE JULY '75
DATE	NO.	REVISION	BY	CHECKED ANE	FILE P.T. 757.002-14883

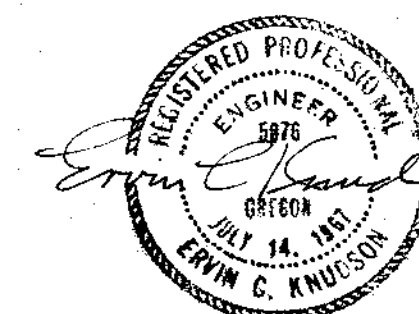
ST
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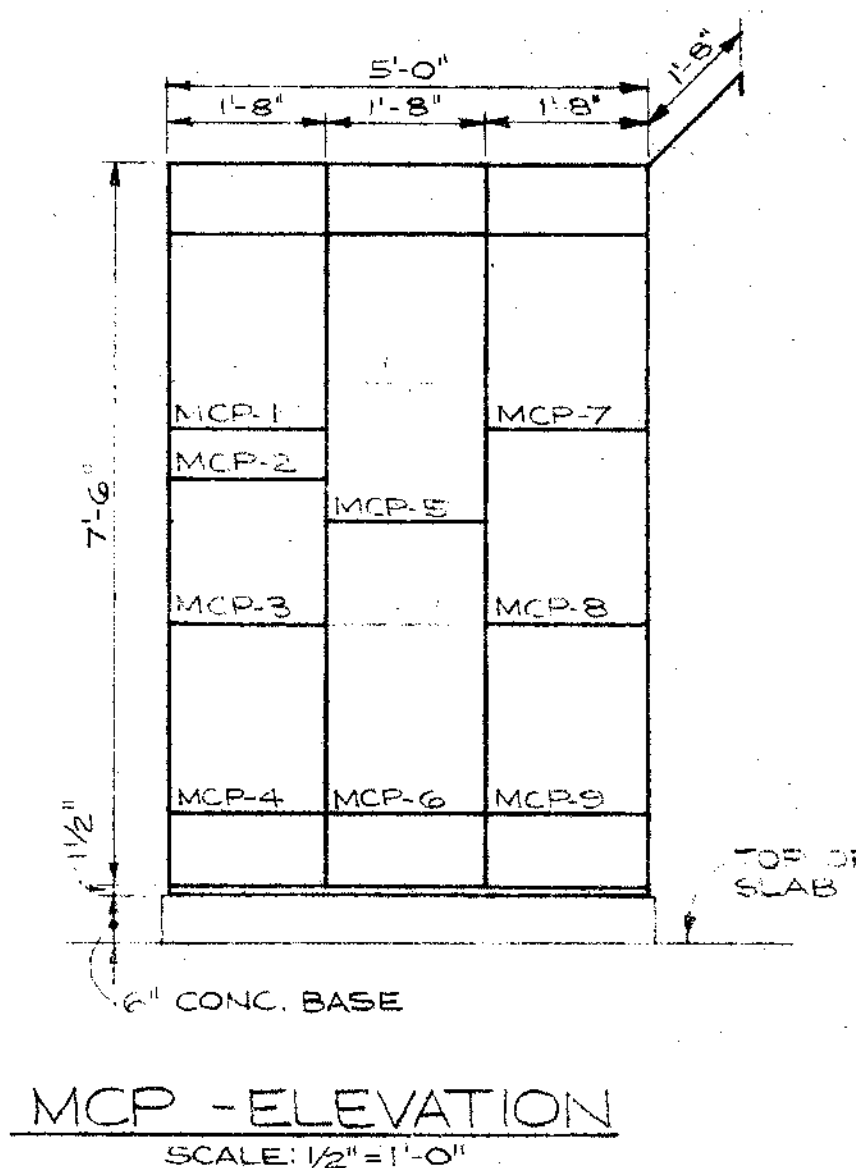
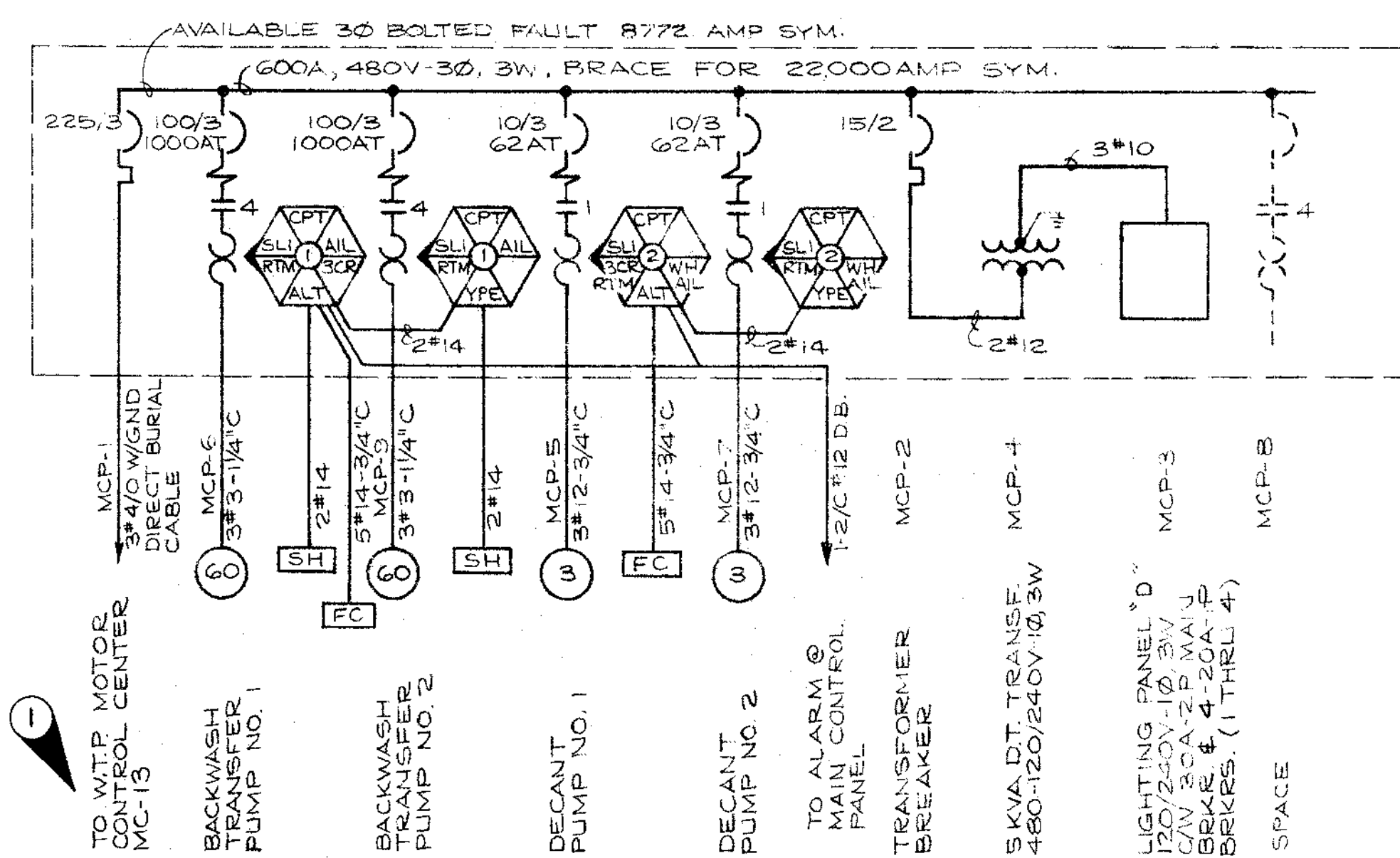
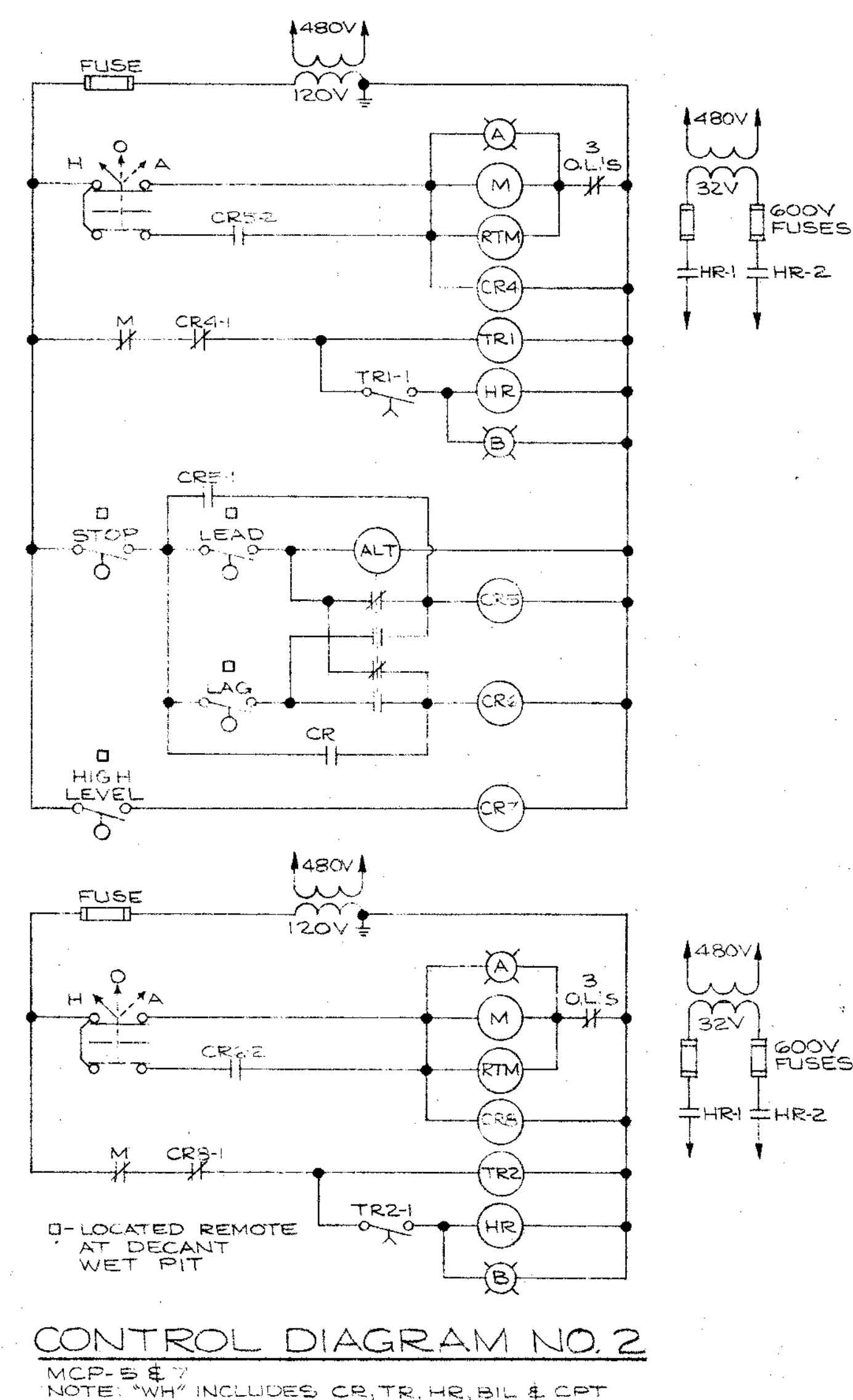
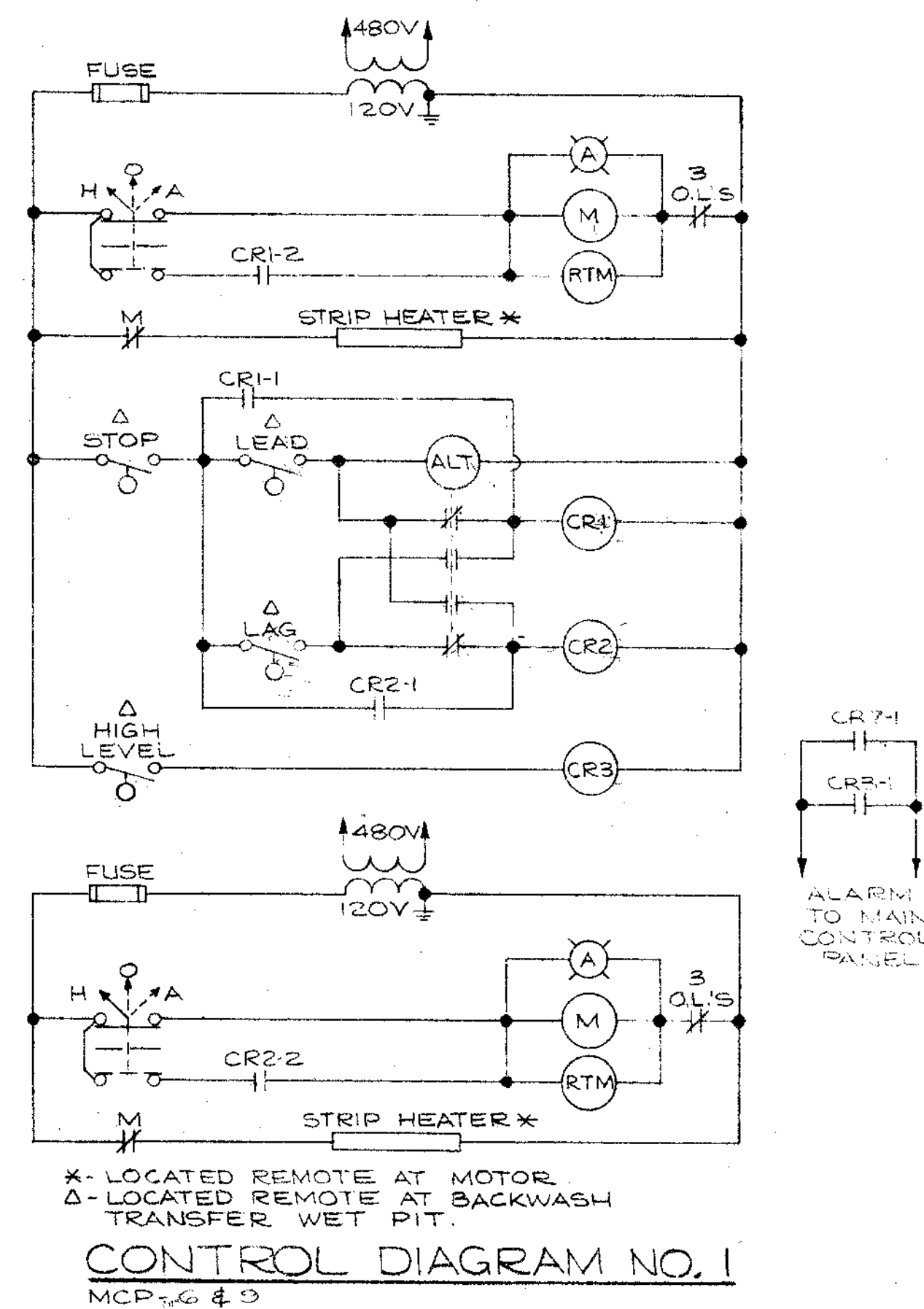
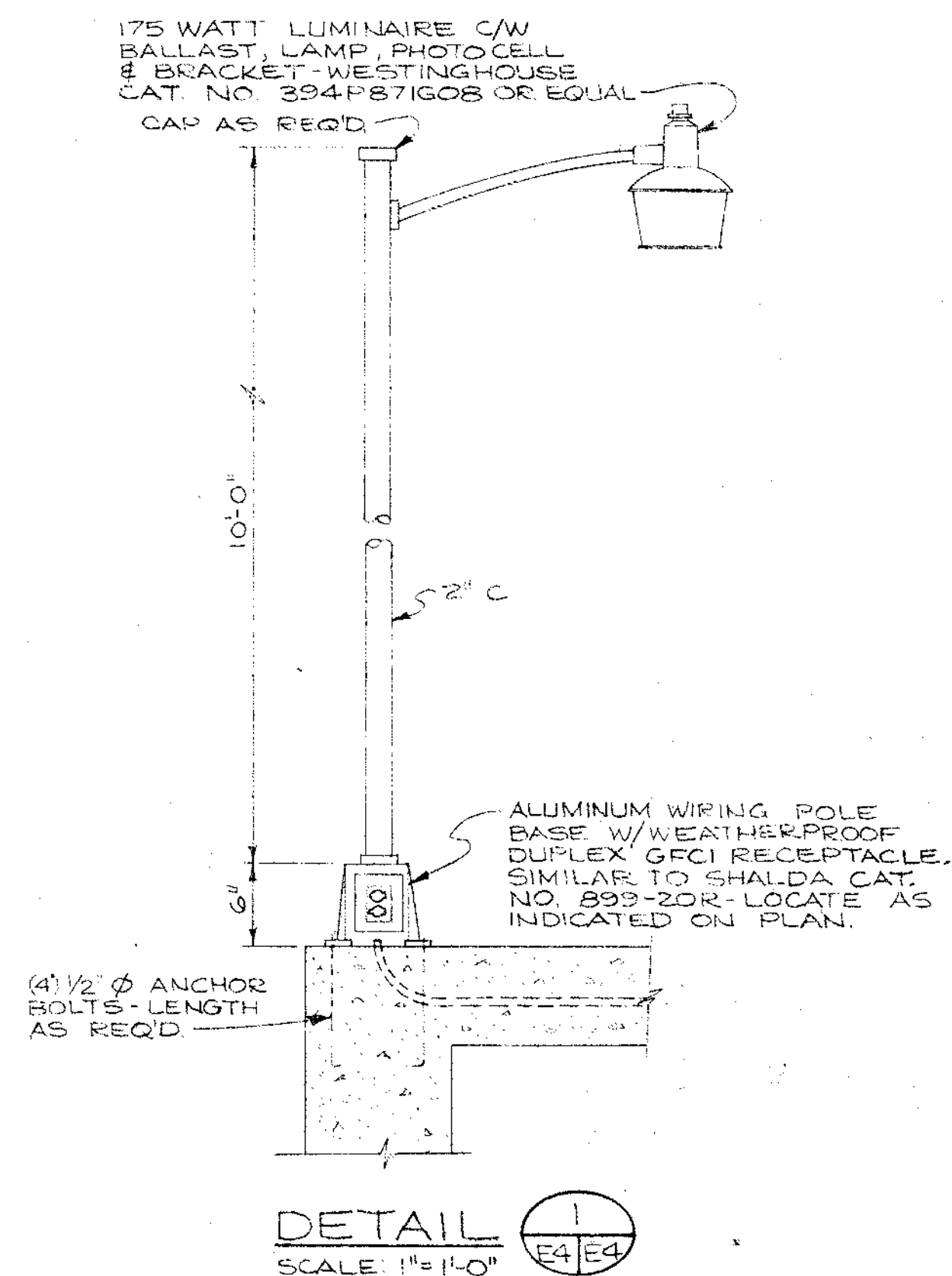
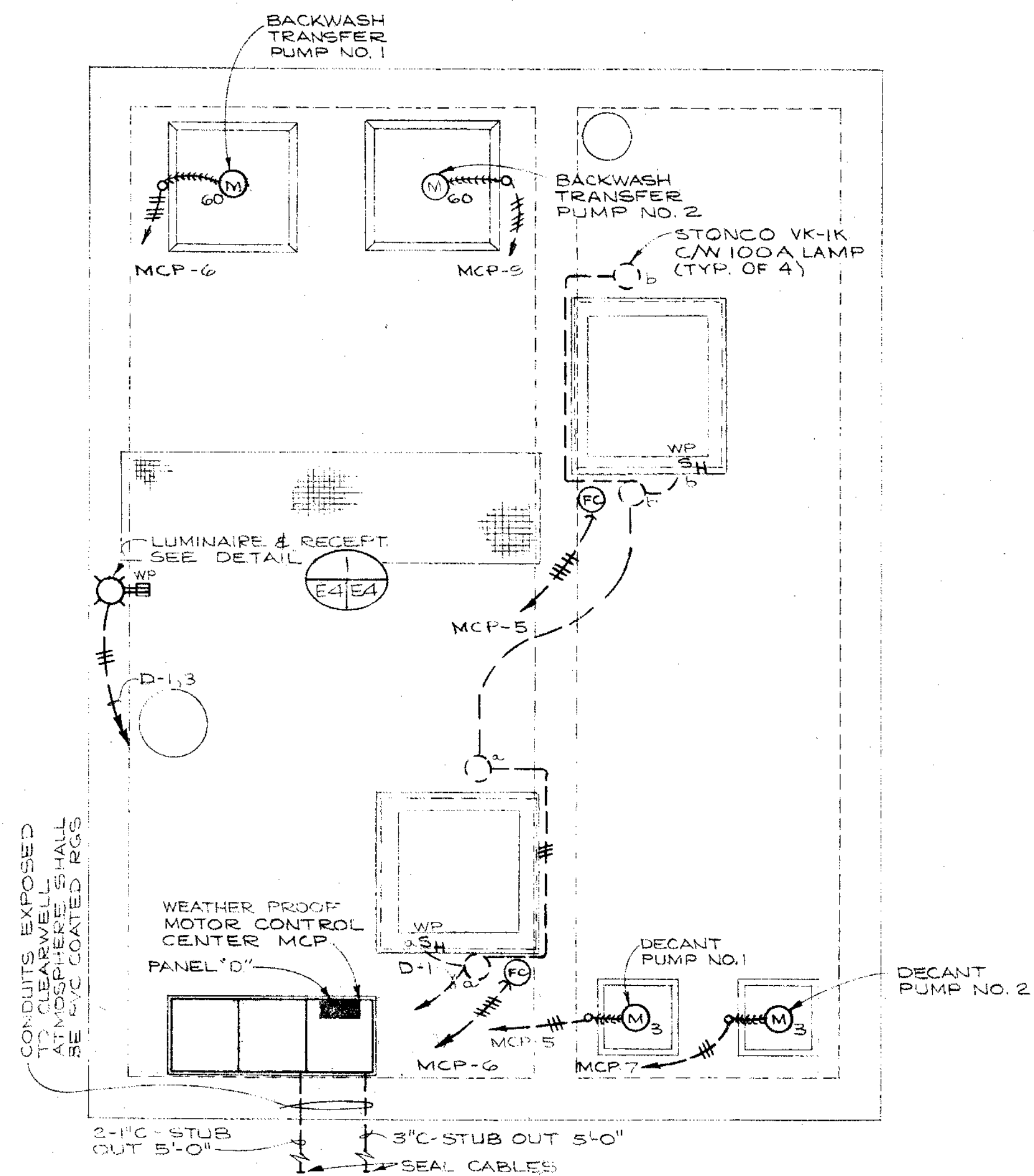
**OREGON CITY-WEST LINN
SOUTH FORK WATER BOARD
WATER WORKS MODIFICATIONS**

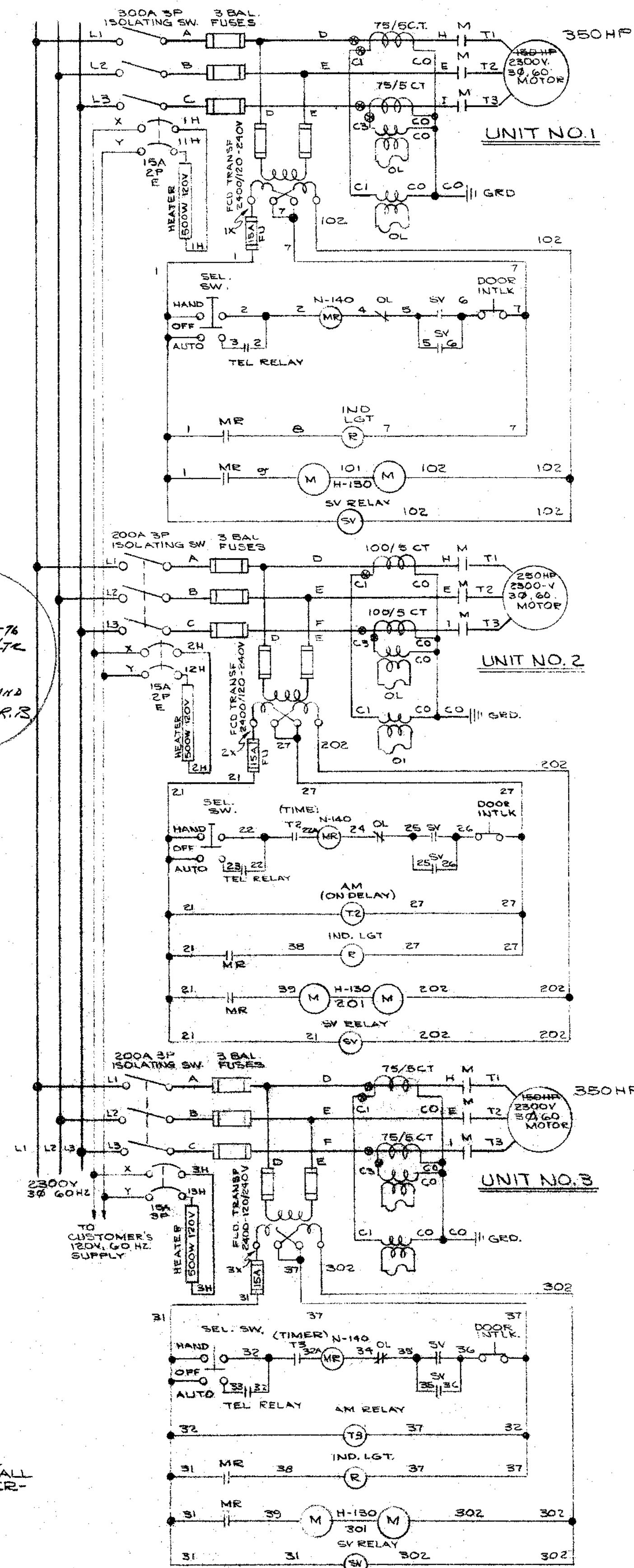
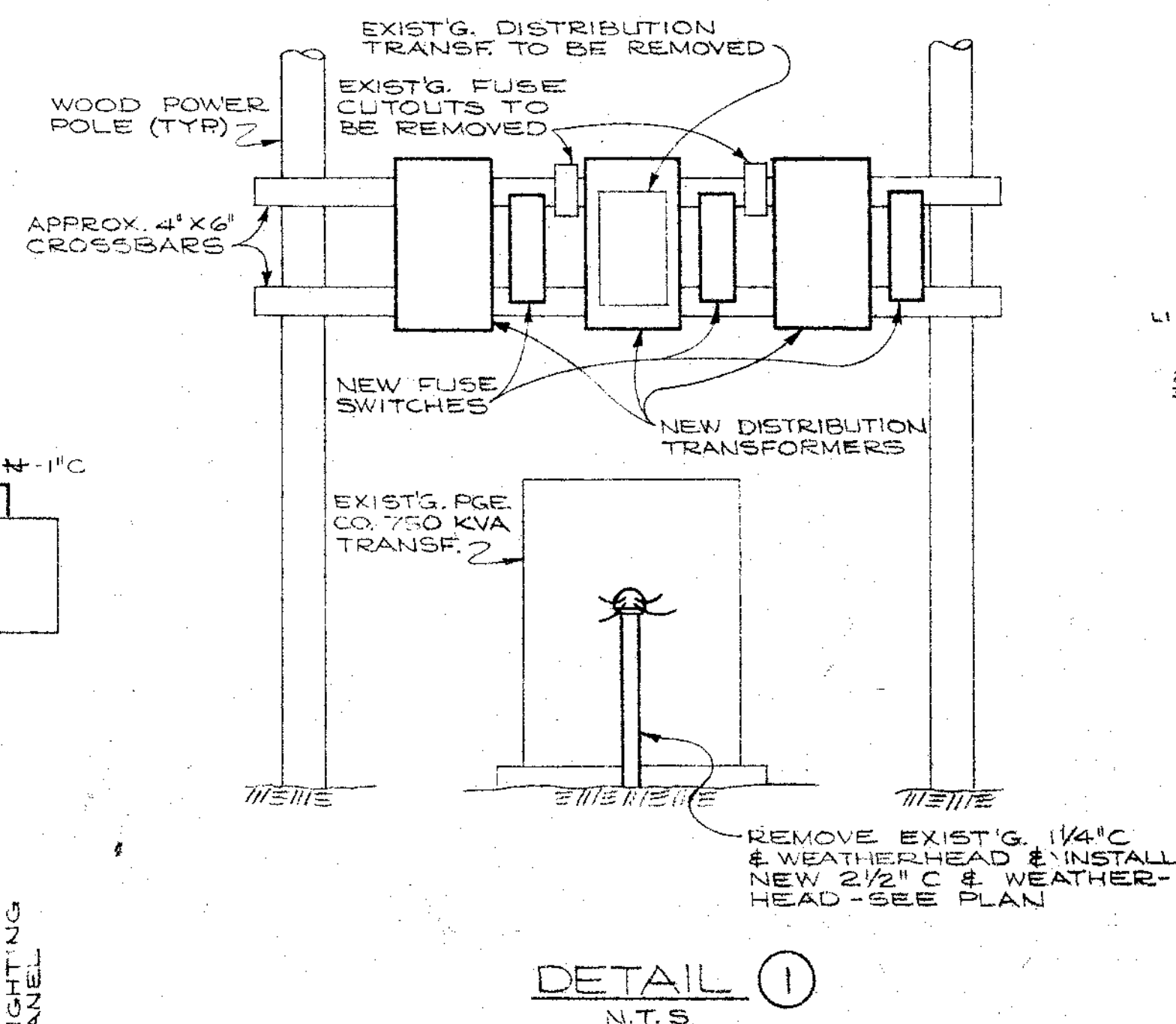
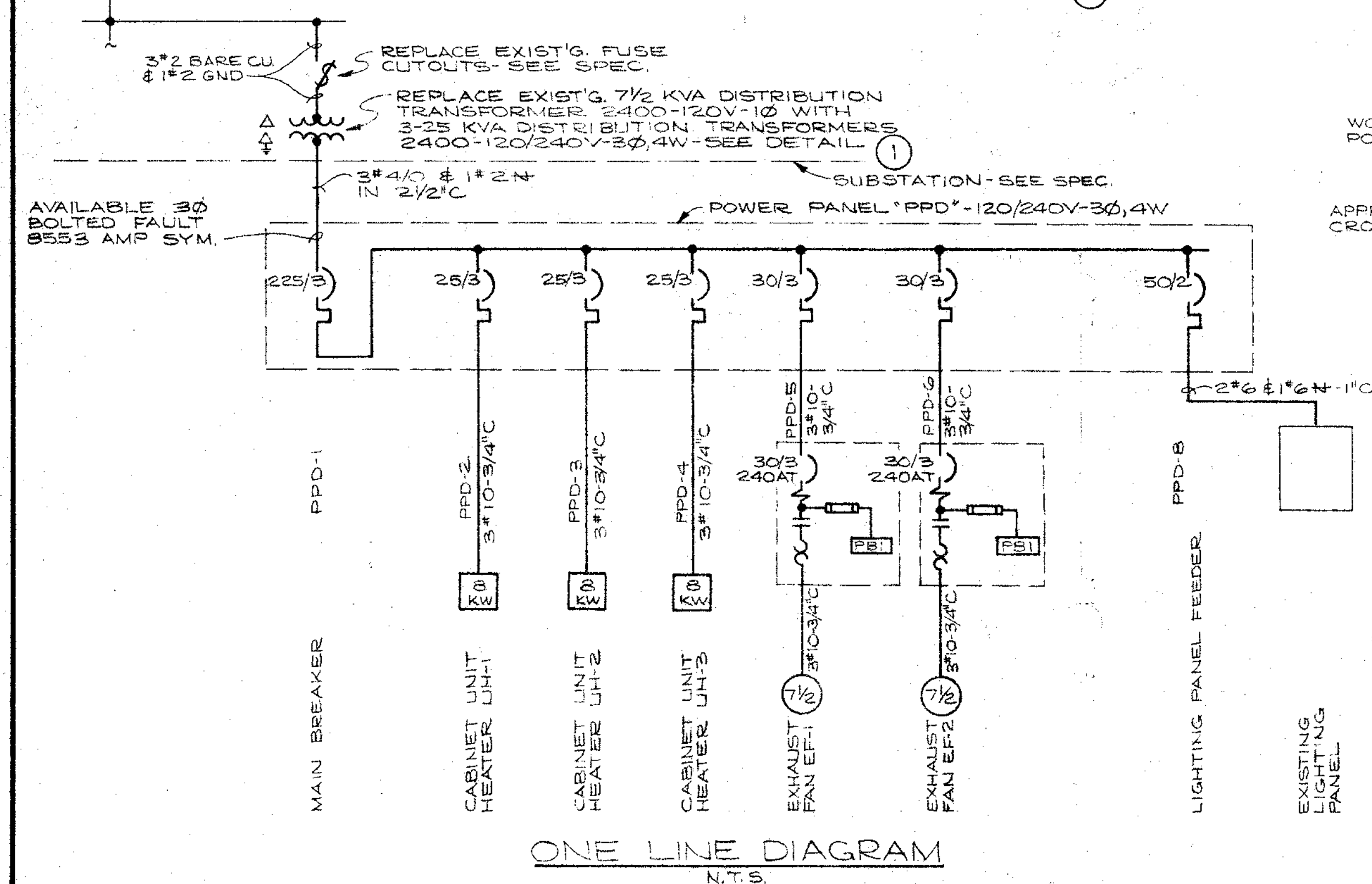
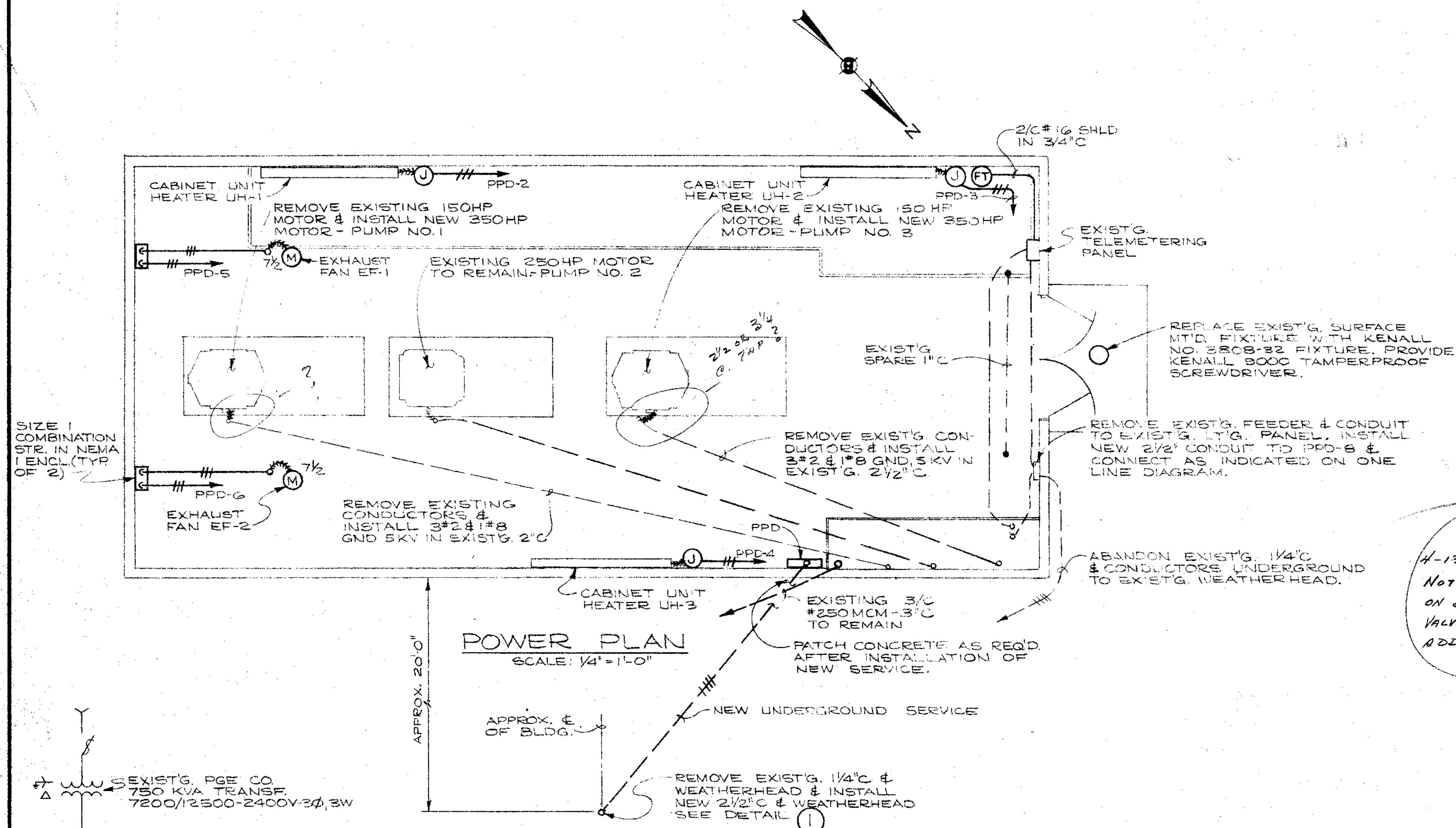
**RAPID MIX BASIN AND
FILTER GALLERY**

E4

6



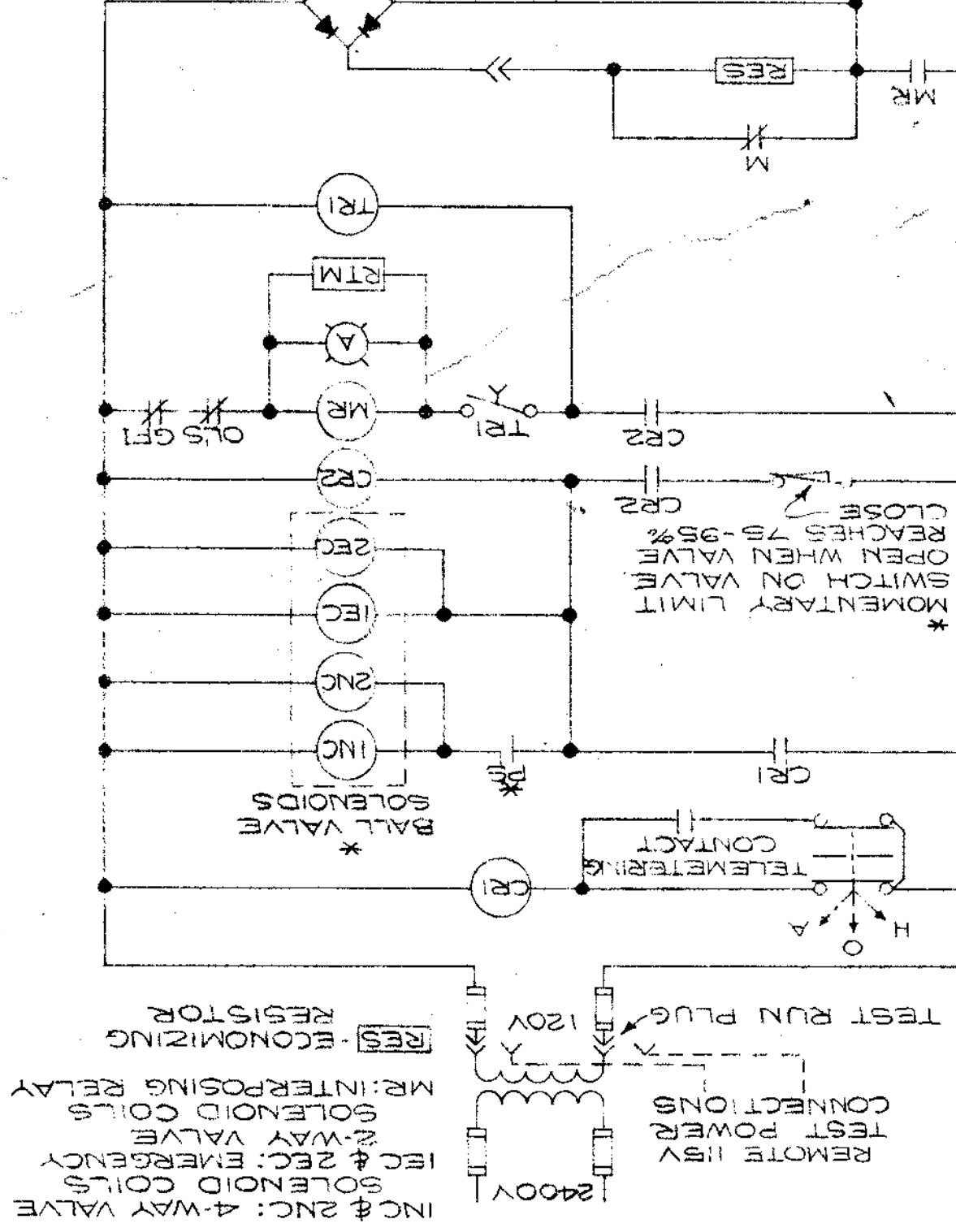
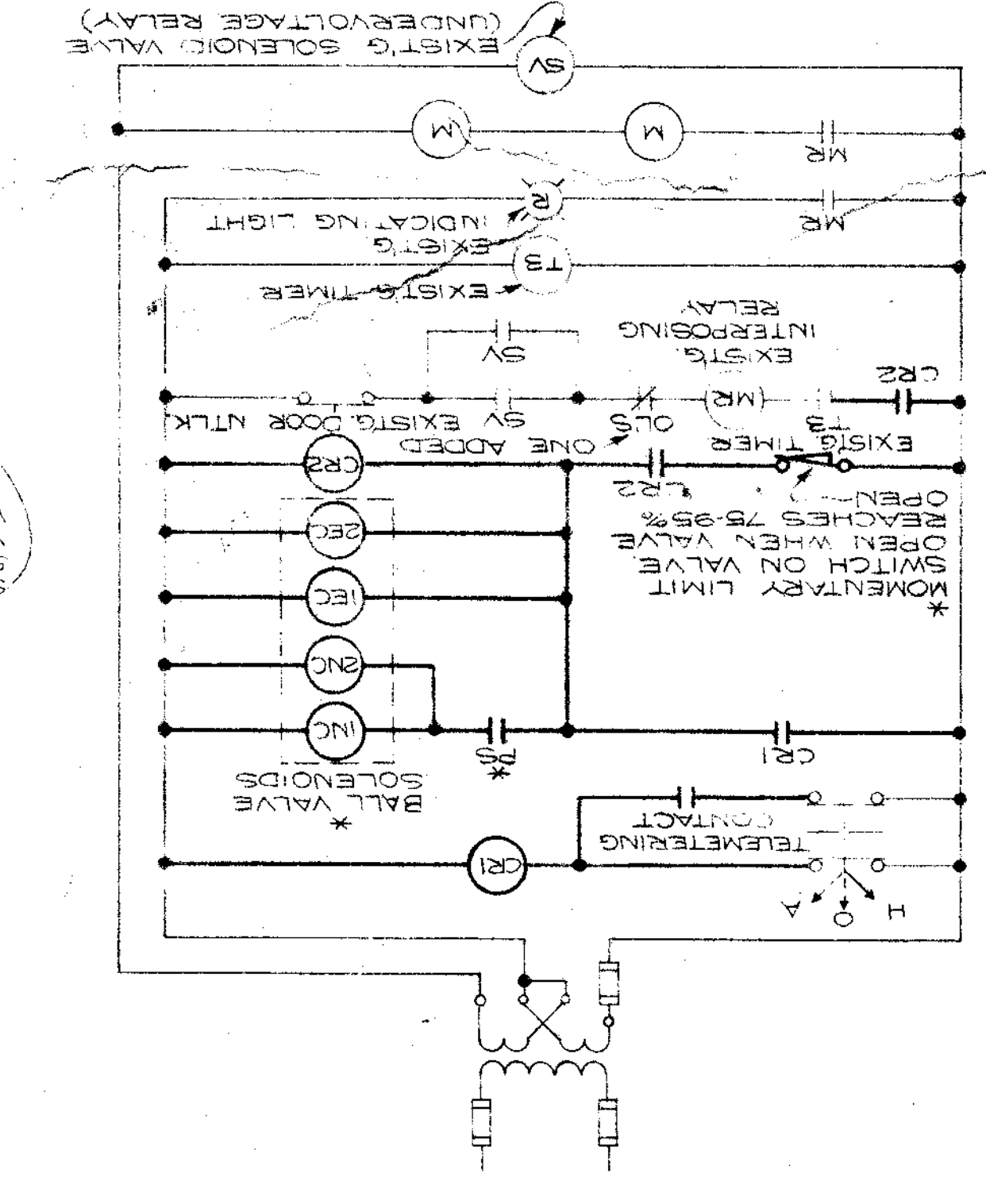


[illegible]

NOTE:
*CONNECT 3RD OVERLOAD
INTO CONTROL CIRCUIT. SIZE
ALL NEW MATERIALS PER
WESTINGHOUSE RECOMMENDATION.



HEAVY LINES INDICATE EQUIPMENT & WIRES
ADDED TO EXISTING CONTROL WIRE EDGES



RECORD DRAWING

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--

South Fork Water Board

Cities of Oregon City and West Linn, Oregon

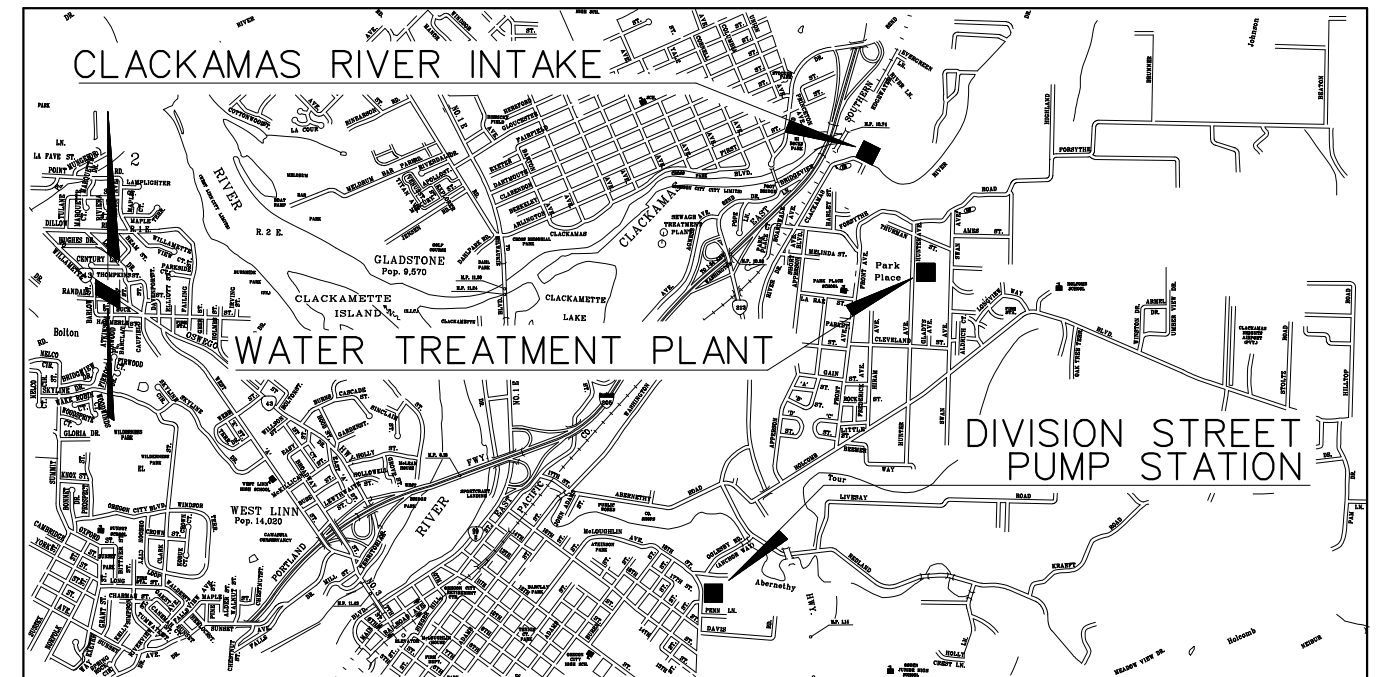
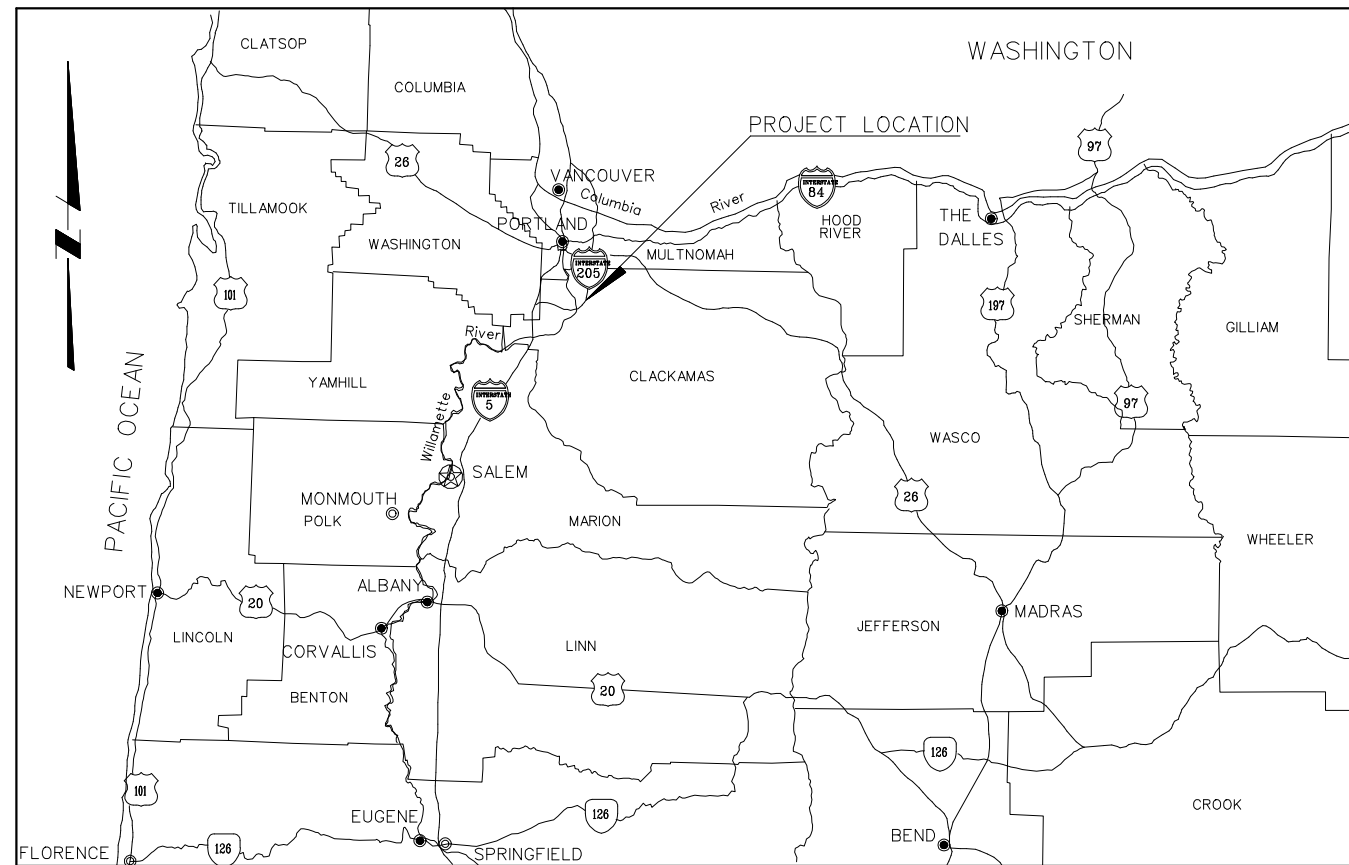
2004 System Capacity Improvements

Volume: 2 of 2 – Contract Drawings

January 2007



Portland
Oregon



LIST OF DRAWINGS

GENERAL

- | | |
|------|--|
| G-01 | COVER SHEET |
| G-02 | VICINITY AND LOCATION MAPS, AND LIST OF DRAWINGS |
| G-03 | ABBREVIATIONS |
| G-04 | SYMBOLS |

CIVIL

- | | |
|-------|---|
| GC-01 | CIVIL DETAILS |
| C-01 | WTP SITE PLAN AND NOTES |
| C-02 | CLACKAMAS RIVER INTAKE/PUMP STATION SITE PLAN AND NOTES |
| C-03 | DIVISION STREET PUMP STATION SITE PLAN AND NOTES |
| C-04 | DSPS VALVE VAULT AND DETAILS (DELETED FROM CONTRACT) |

MECHANICAL

- | | |
|-------|--|
| GM-01 | MECHANICAL DETAILS |
| GM-02 | MECHANICAL/STRUCTURAL DETAILS |
| M-01 | PIPE AND EQUIPMENT SCHEDULES AND DESIGN CRITERIA |
| M-02 | WTP RAW WATER METER ROOM PLAN AND SECTION |
| M-03 | WTP FILTER INFLUENT PIPE PLAN AND SECTION |
| M-04 | WTP FILTER INFLUENT PIPE SECTIONS AND DETAILS |
| M-05 | PIPE GALLERY STAIRS DETAILS |
| M-06 | INTAKE/PUMP STATION PLAN AND SECTION |
| M-07 | DSPS PLAN AND DETAILS |

ELECTRICAL

- | | |
|-------|---|
| GE-01 | ELECTRICAL SYMBOLS-1 |
| GE-02 | ELECTRICAL SYMBOLS-2 |
| GE-03 | ELECTRICAL NOTES AND ABBREVIATIONS |
| E-01 | WTP ELECTRICAL PLAN, NOTES AND DETAILS |
| E-02 | INTAKE/PUMP STATION DEMOLITION/RELOCATION NOTES AND DETAILS |
| E-03 | INTAKE/PUMP STATION ELECTRICAL PLAN, NOTES AND DETAILS |
| E-04 | DSPS DEMOLITION/RELOCATION NOTES AND DETAILS |
| E-05 | DSPS ELECTRICAL PLAN, NOTES AND DETAILS |
| E-06 | INTAKE/PUMP STATION SINGLE LINE DIAGRAM |
| E-07 | DSPS SINGLE LINE DIAGRAM |
| E-08 | INTAKE PS CONTROL DIAGRAMS |
| E-09 | DIVISION ST. P.S. CONTROL DIAGRAMS |
| E-10 | WTP FILTER VALVES CONTROL DIAGRAMS |
| E-11 | DIVISION ST. BURIED VALVE CONTROL DIAGRAM |

INSTRUMENTATION

- | | |
|-------|---|
| GI-01 | INSTRUMENTATION NOTES, SYMBOLS AND ABBREVIATIONS |
| GI-02 | INSTRUMENTATION SYMBOLS |
| I-01 | NOT USED |
| I-02 | PROCESS AND INSTRUMENTATION DIAGRAM - WTP FILTER GALLERY PIPING |
| I-03 | PROCESS AND INSTRUMENTATION DIAGRAM - INTAKE/PUMP STATION |
| I-04 | PROCESS AND INSTRUMENTATION DIAGRAM - DSPS |

R	1/26/07	RAW	RECORD DRAWINGS	SCALE		DESIGNED <u>R.WARNER</u>
				NONE	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE	DRAWN <u>C.KITTS</u>
REV	DATE	BY	DESCRIPTION			CHECKED <u>P.KREFT</u>

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South Fork Water Board
15962 S. Hunter Ave. Oregon City, OR 97045
"Pure Water Since 1915"

2004 SYSTEM CAPACITY IMPROVEMENTS VICINITY AND LOCATION MAPS AND LIST OF DRAWINGS

SHEET
-02

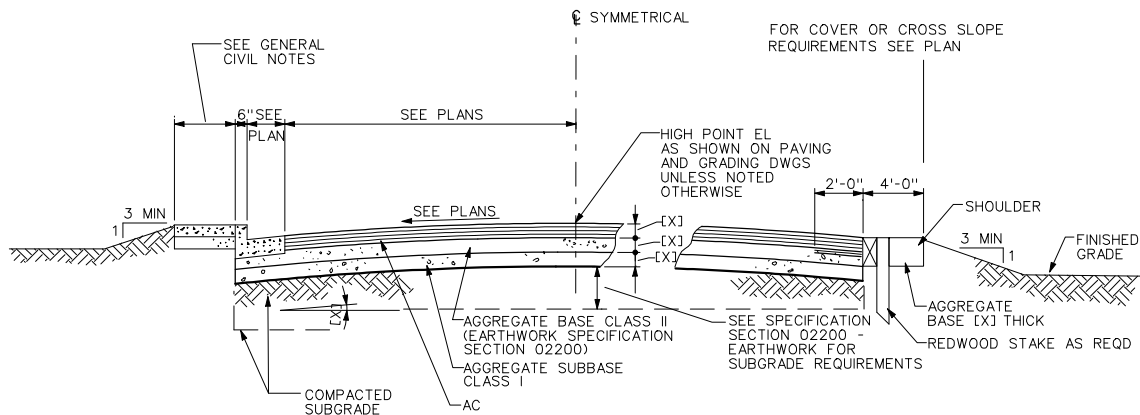


	ROOM THERMOSTAT
	PRESSURE GAUGE
	PRESSURE GAUGE WITH DIAPHRAGM SEAL
	PRESSURE SWITCH
	PRESSURE SWITCH WITH DIAPHRAGM SEAL
	FLANGED FITTING
	WELDED FITTING
	MECHANICAL-TYPE FITTING (GROOVED)
	SCREWED, SOCKET-WELD, BELL AND SPIGOT OR HUBLESS FITTING
	SLEEVE-TYPE COUPLING
	FLANGED ADAPTER COUPLING
	FLANGED ADAPTER - SET SCREW TYPE
	EXPANSION JOINT
	MECHANICAL TYPE COUPLING
	FLEXIBLE COUPLING
	UNION
	QUICK DISCONNECT COUPLER
	CAPPED END OR PLUGGED END
	BLIND FLANGE
	REDUCER OR INCREASER
	CUT PIPE
	STRAINER
	DRAIN
	FLOW TUBE
	MAGNETIC METER
	DENSITY METER
	PROPELLER METER
	ORIFICE PLATE AND FLANGES
	ROTAMETER
	CONDENSATE TRAP
	PIPE SUPPORT (IN PLAN ONLY)
	CATCH BASIN
	PULSATION DAMPENERS
	EXPANSION CHAMBER WITH RUPTURE DISC
	RUPTURE DISC
	FLOW SIGHT GLASS

Plot Date: 15-FEB-2024 15:05:09

File: \\s0509\project\2024\15-FEB-2024\15-FEB-2024.dwg

Job No: 150509



NOTES:

1. DETAILS SHOWN ARE TYPICAL ROAD SECTIONS UNLESS NOTED OTHERWISE
2. SEE GENERAL NOTES FOR DIMENSION REQUIREMENTS
3. PROVIDE PAVING PER OREGON CITY REQUIREMENTS

AC ROAD SECTION

REV 040302



A. FLEXIBLE PIPE REFERS TO ALL STEEL, DUCTILE-IRON AND PLASTIC PIPES.

B. TYPICAL TRENCH SECTIONS (I, II AND III) ARE TO BE USED ONLY WHERE STABLE, COMPACT SOIL CONDITIONS EXIST. IF BOULDER OR LARGE OBSTRUCTIONS WOULD BE ENCOUNTERED, TRENCH SECTIONS MAY BE DEEPER OR WIDER THAN SHOWN. THE ENGINEER SHOULD BE ADVISED SHOULD THIS OCCUR.

C. THE NEED FOR PROTECTIVE SYSTEMS, AND EXCAVATION SLOPES SHALL BE DETERMINED CONSIDERING APPLICABLE LOCAL, STATE AND FEDERAL (OSHA) SAFETY STANDARDS AND REGULATIONS AND GEOTECHNICAL CONSULTANTS' RECOMMENDATIONS.

D. PROTECTIVE SYSTEMS SHALL BE DESIGNED AND BUILT IN ACCORDANCE WITH THE APPLICABLE LOCAL, STATE AND FEDERAL (OSHA) SAFETY STANDARDS AND REGULATIONS.

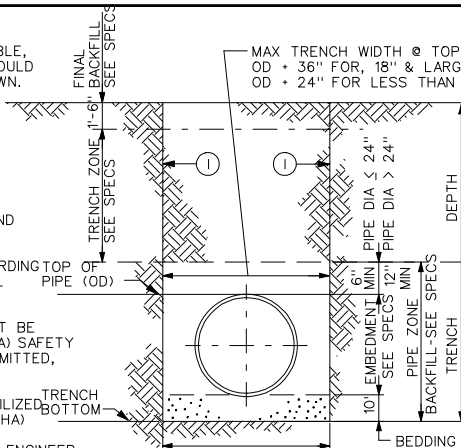
E. SUPPORTING DOCUMENTATION SHALL BE SUBMITTED TO THE ENGINEER REGARDING TOP OF PIPE DESIGN AND COMPLIANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL (OSHA) SAFETY STANDARDS.

F. UNSUPPORTED VERTICAL AND/OR SLOPING TRENCH WALL SLOPES SHALL NOT BE STEEPER THAN ALLOWED BY APPLICABLE LOCAL, STATE AND FEDERAL (OSHA) SAFETY STANDARDS AND REGULATIONS, UNLESS SUPPORTING DOCUMENTATION IS SUBMITTED, ACCORDING TO AFOREMENTIONED SAFETY STANDARDS.

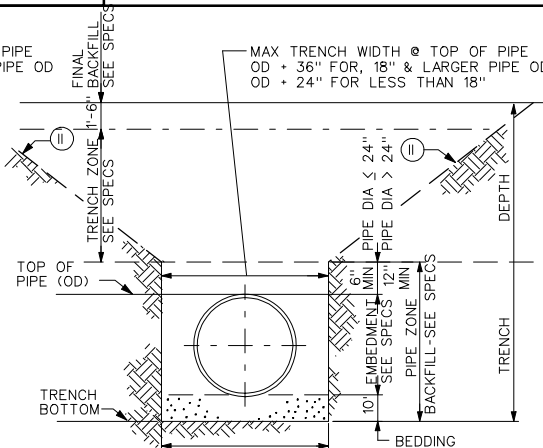
G. TRENCH SECTIONS OTHER THAN THE TYPICAL SECTIONS SHOWN MAY BE UTILIZED PROVIDED THEY COMPLY WITH APPLICABLE LOCAL, STATE AND FEDERAL (OSHA) SAFETY STANDARDS AND REGULATIONS. DOCUMENTATION SUPPORTING THIS COMPLIANCE AND PIPE DESIGN CALCULATIONS SHALL BE SUBMITTED TO THE ENGINEER.

H. IF OVER-EXCAVATION DUE TO POOR FOUNDATION MATERIAL IS ORDERED BY THE ENGINEER, THE BACKFILL MATERIAL SHALL BE ACCORDING TO THE EARTHWORK SECTION OF THE SPECIFICATIONS ARTICLE ENTITLED, "USE OF FILL, BACKFILL AND EMBANKMENT MATERIAL TYPES."

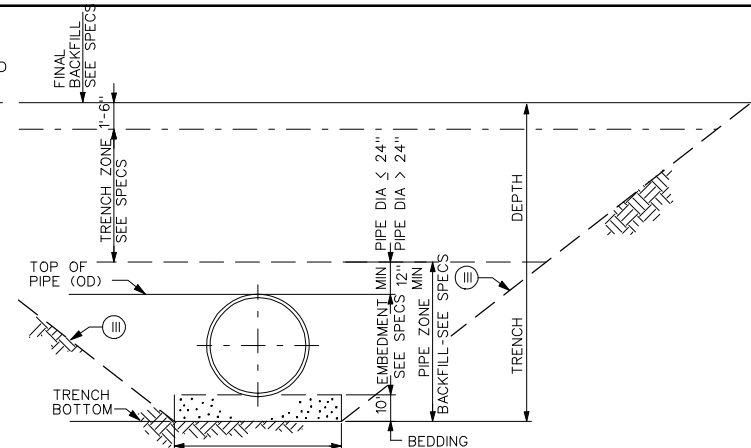
I. IF DURING CONSTRUCTION, THE WATER TABLE WILL BE DISCOVERED TO BE ABOVE THE TRENCH BOTTOM, THE ENGINEER SHALL BE NOTIFIED, AND APPROPRIATE DEWATERING SHALL BE IMPLEMENTED TO LOWER THE WATER LEVEL BELOW THE TRENCH BOTTOM. THE BACKFILL MATERIAL SHALL BE ACCORDING TO THE EARTHWORK SECTIONS OF THE SPECIFICATIONS, OR AS ORDERED BY THE ENGINEER.



TRENCH SECTION - TYPE I



TRENCH SECTION - TYPE II



TRENCH SECTION - TYPE III

TRENCH SECTION
FLEXIBLE PIPE

REV 010301



REV	DATE	BY	DESCRIPTION
R	1/26/07	RAW	RECORD DRAWINGS

SCALE

NONE

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED MWH STANDARD
DRAWN MWH STANDARD
CHECKED P.KREFT

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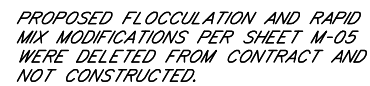
South Fork Water Board
15962 S. Hunter Ave. Oregon City, OR 97045
"Pure Water Since 1915"

2004 SYSTEM CAPACITY IMPROVEMENTS
CIVIL
DETAILS

SHEET

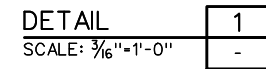
GC-01

1. PROTECT BURIED PIPE AND OTHER SUBGRADE UTILITIES FROM DAMAGE DURING CONSTRUCTION. SEE AS-BUILT PLANT DRAWINGS FOR LOCATION OF BURIED PIPING. PAY PARTICULAR ATTENTION TO SHALLOW IRRIGATION PIPING AND PIPING IN AREA BETWEEN FILTERS AND FLOCCULATION BASIN.
2. REPAIR DAMAGED STORAGE, STAGING, PARKING, AND OTHER AREAS IMPACTED BY CONSTRUCTION TO THEIR ORIGINAL CONDITION.
3. WTP HEADHOUSE AND RESTROOM FACILITIES ARE UNAVAILABLE FOR CONTRACTOR USE.
4. WTP SHALL REMAIN IN SERVICE DURING CONSTRUCTION. CONTRACTOR TO PROTECT EXISTING SYSTEMS AND PROTECT THE WORKING ENVIRONMENT FROM NOISE, DUST, FUMES, ETC.
5. FILTERS SHALL BE TAKEN OUT OF SERVICE ONE AT A TIME FOR NEW PIPING AND CONTRACT WORK. ONCE A FILTER HAS BEEN SATISFACTORILY TESTED AND STARTED, APPROVAL WILL BE GIVEN TO TAKE ANOTHER FILTER OUT OF SERVICE.
6. PLANT WILL REQUIRE AN EXTENDED SHUTDOWN TO INSTALL NEW RAW WATER METER AND PIPING. AN EXTENDED SHUTDOWN WILL ALSO BE REQUIRED FOR CONNECTION OF THE INFLUENT PIPING, AND WORK IN SEDIMENTATION BASIN EFFLUENT CHANNEL. CONTRACTOR WILL CAREFULLY COORDINATE AND PLAN THESE SHUTDOWNS IN ASSOCIATION WITH OWNER AND ENGINEER.
7. FLOCCULATION AND RAPID MIX BASIN MODIFICATION WORK WILL BE COMPLETED IN APRIL 2005 IN CONJUNCTION WITH OWNER'S ANNUAL BASIN CLEANINGS. ONLY ONE BASIN WILL BE TAKEN OUT OF SERVICE AT A TIME.


$$1'' = 50'$$

R	1/26/07	RAW	RECORD DRAWINGS	SCALE	WARNING 	DESIGNED <u>R.WARNER</u>
				AS SHOWN	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE	DRAWN <u>C.KITTS</u>
REV	DATE	BY	DESCRIPTION			CHECKED <u>P.KREFT</u>

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South Fork Water Board
15962 S. Hunter Ave. Oregon City, OR 97045
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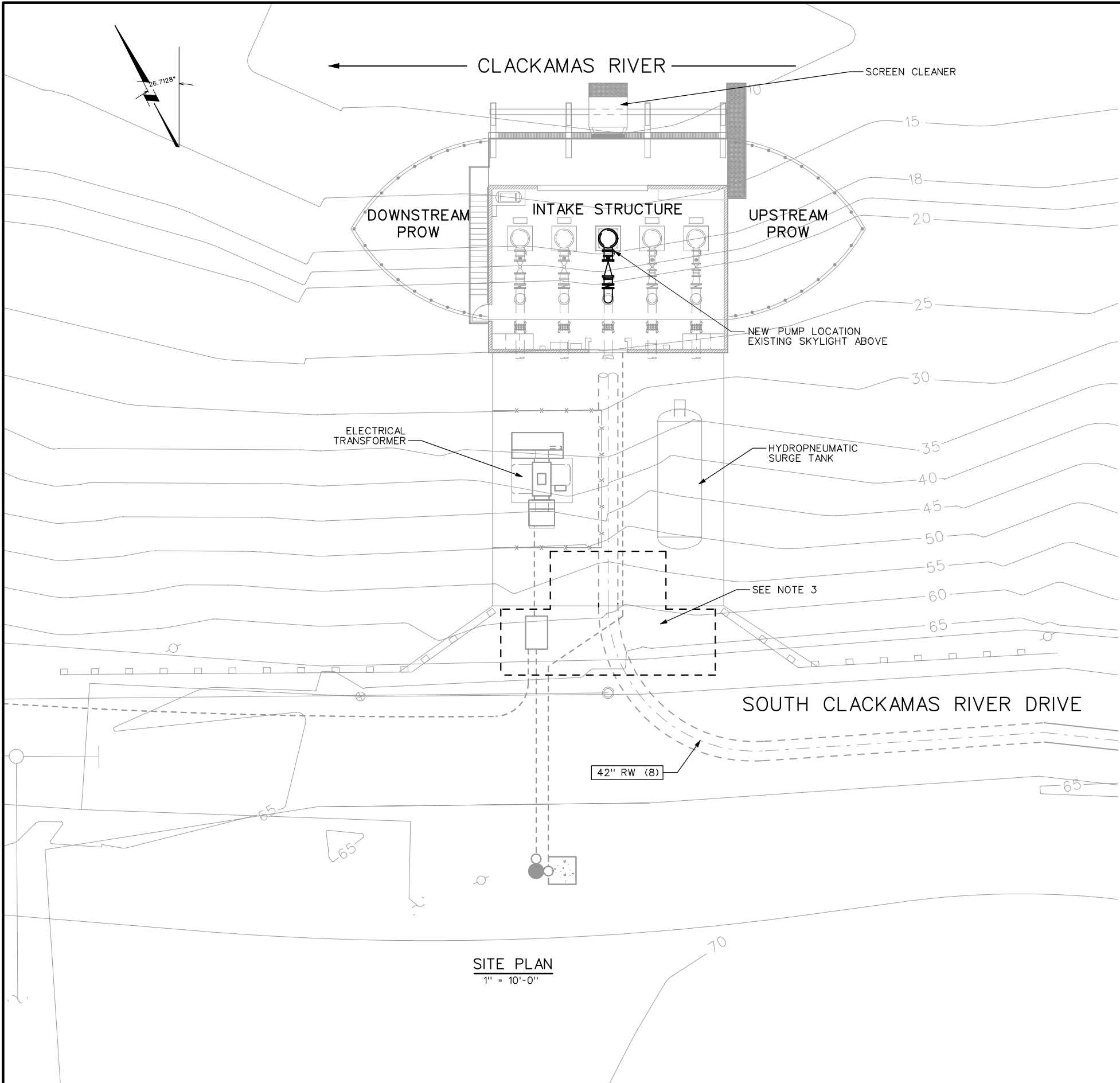
WTP SITE PLAN AND NOTES

C-01

Plot Date: Plot Date: 15-FEB-2023

File: \$\$\$\$\$\$directory/filename\$

Job No: 150509



- NOTES:
1. NO PARKING BY EMPLOYEES ALLOWED AT INTAKE GATE. OFF SITE PARKING AND TRANSPORTATION IS THE RESPONSIBILITY OF THE CONTRACTOR. WORKER PARKING MAY BE AT THE OLD SFWB INTAKE APPROXIMATELY 1/4 MILE EAST. COORDINATE WITH OWNER.
 2. LIMITED SHUTDOWNS ARE ALLOWED TO COMPLETE WORK AS REQUIRED. RAW WATER PIPELINE WILL REQUIRE PARTIAL DRAINING TO INSTALL NEW PIPING AND VALVES. CAREFULLY COORDINATE SHUTDOWNS WITH OWNER AND ENGINEER.
 3. LIMITED CRANE & EQUIPMENT SETUP AREA, SEE SPECIFICATION 01313 FOR ADDITIONAL SCHEDULING AND CONSTRUCTION CONSTRAINTS.
 4. INSTALLATION OF NEW PUMP AND MOTOR WILL LIKELY REQUIRE A COMPLETE SHUTDOWN OF CLACKAMAS RIVER DRIVE. CONTRACTOR TO PROVIDE AT LEAST 14 DAYS NOTICE PRIOR TO PUMP INSTALLATION TO ALLOW COORDINATION OF ROAD CLOSURE W/ CLACKAMAS COUNTY. CONTRACTOR TO ACQUIRE ROAD CLOSURE PERMIT FROM COUNTY AND PROVIDE NOTIFICATIONS AS REQUIRED.
 5. FOLLOW SPECIFIC ROAD CLOSURE PERMIT CONDITIONS FOR CLACKAMAS COUNTY.
 6. REMOVE AND REPLACE SKYLIGHT ROOF HATCH FOR INSTALLATION OF NEW PUMP AND MOTOR. HATCH ACCESS MAY ALSO BE REQUIRED FOR NEW VFD INSTALLATION. HATCH SHALL BE PROPERLY RE-INSTALLED AND VERIFIED LEAK-TIGHT.
 7. SEE SHEET M-06 FOR INTAKE IMPROVEMENTS.

R	1/26/07	RAW	RECORD DRAWINGS
REV	DATE	BY	DESCRIPTION

SCALE
AS SHOWN

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED R.WARNER
DRAWN C.KITTS
CHECKED P.KREFT

RECORD DRAWING

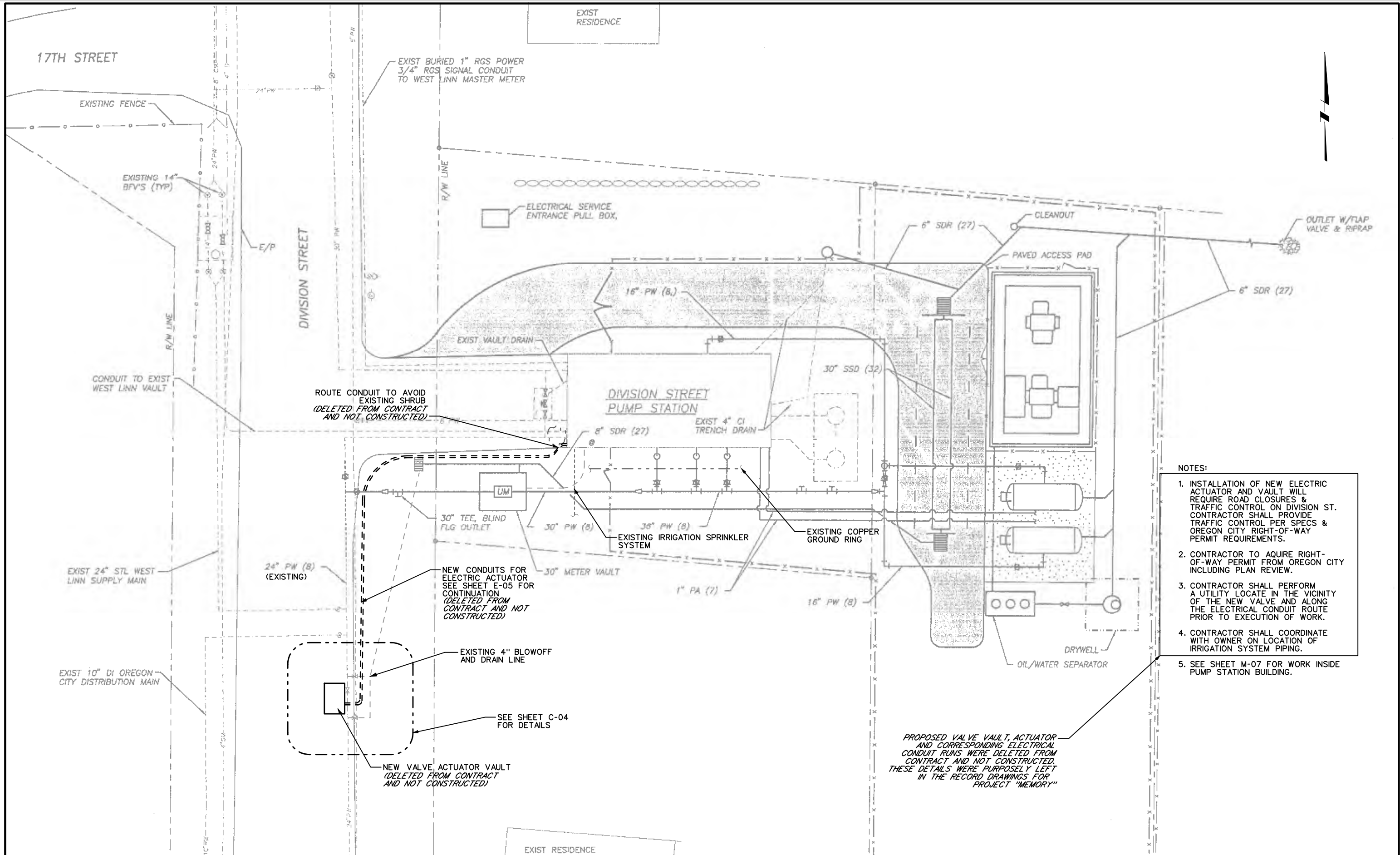
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15962 S. Hunter Ave. Oregon City, OR 97045
"Pure Water Since 1915"

2004 SYSTEM CAPACITY IMPROVEMENTS
CLACKAMAS RIVER INTAKE/
PUMP STATION
SITE PLAN AND NOTES

SHEET
C-02



REV	DATE	BY	DESCRIPTION
R	1/26/07	RAW	RECORD DRAWINGS

SCALE	WARNING
1" = 10'-0"	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED R. WARNER	DRAWN C. KITTS	CHECKED P. KREFT
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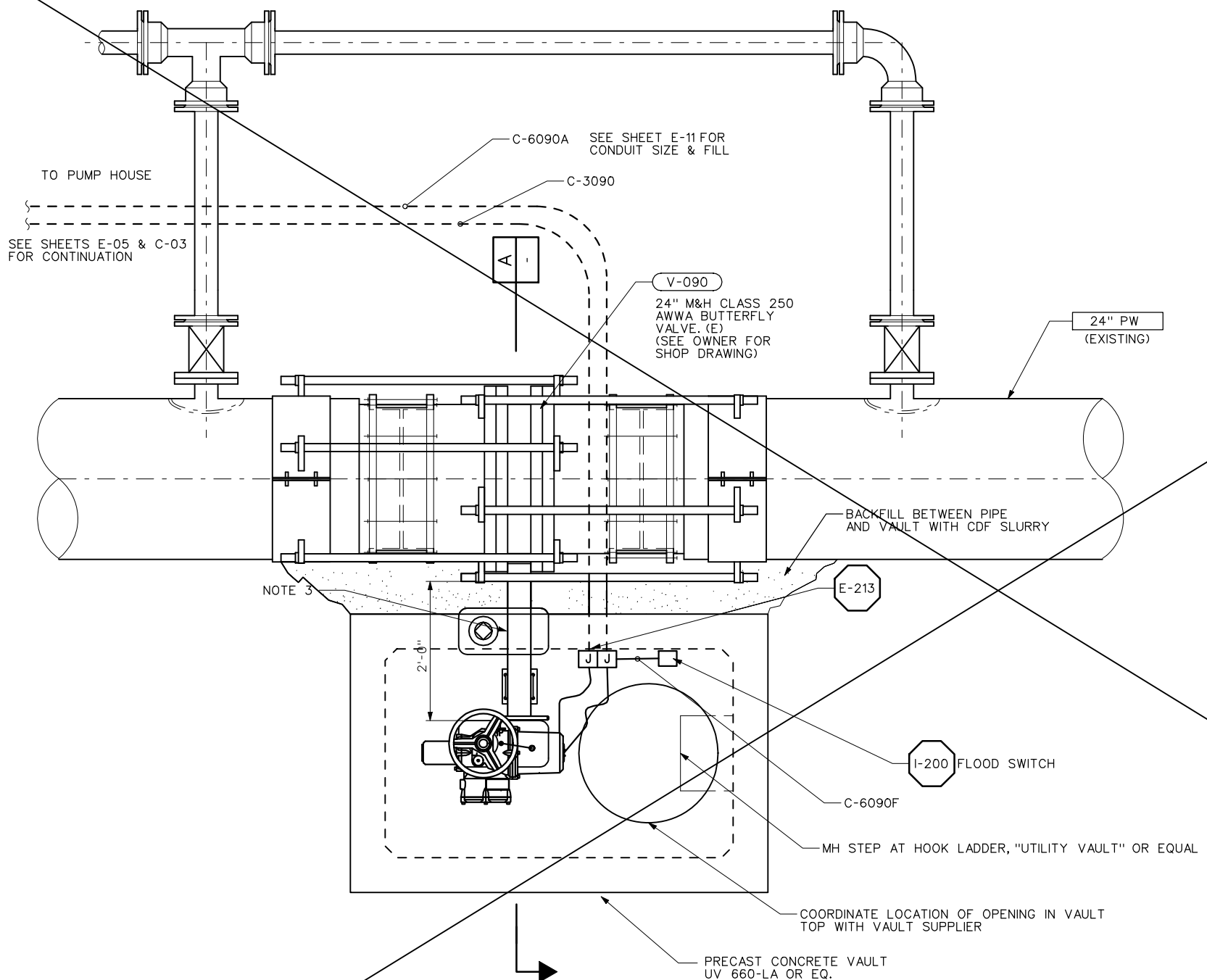
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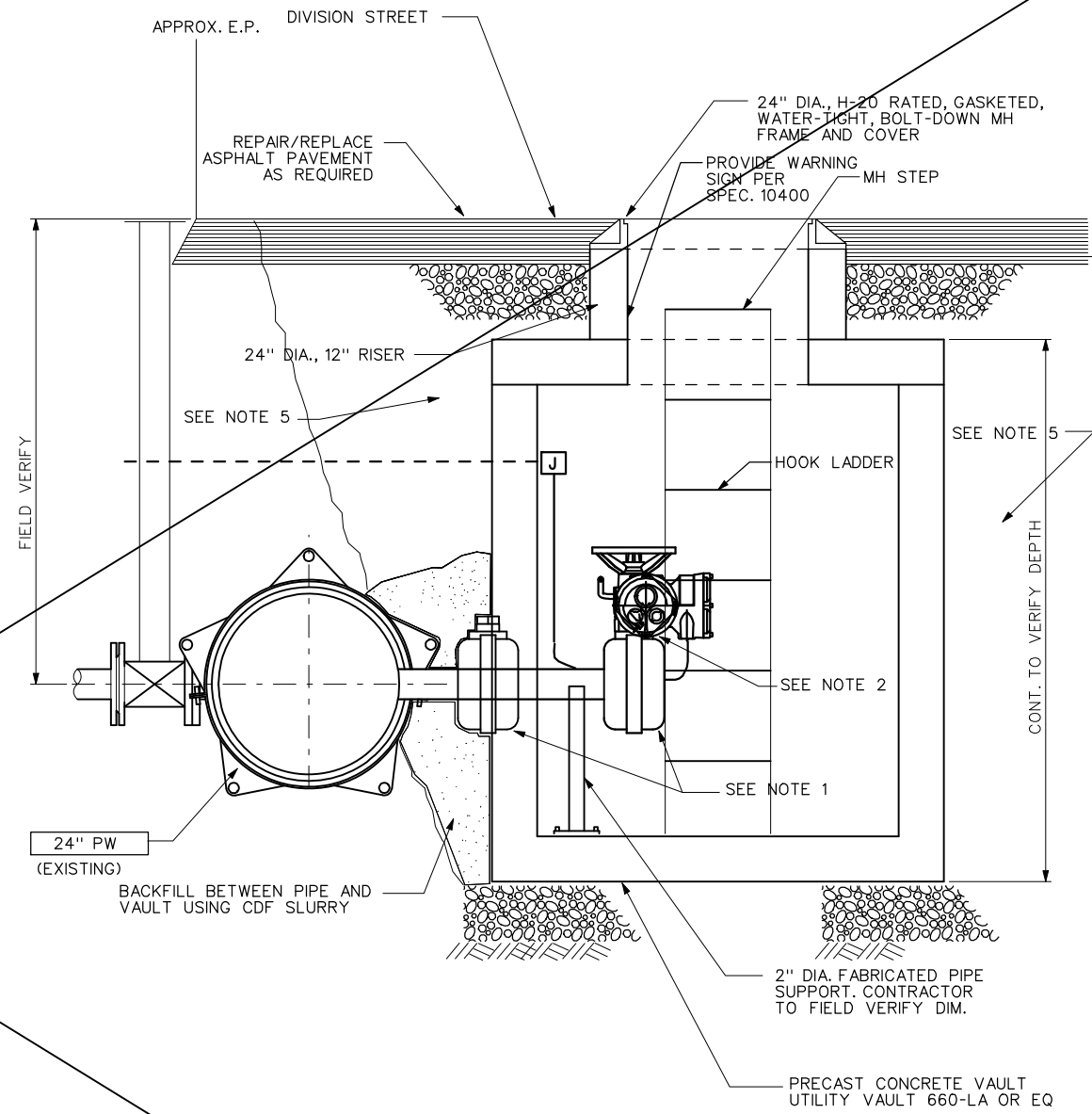
South Fork Water Board
15962 S. Hunter Ave. Oregon City, OR 97045
"Pure Water Since 1915"

2004 SYSTEM CAPACITY IMPROVEMENTS
DIVISION STREET PUMP STATION
SITE PLAN AND NOTES

SHEET
C-03

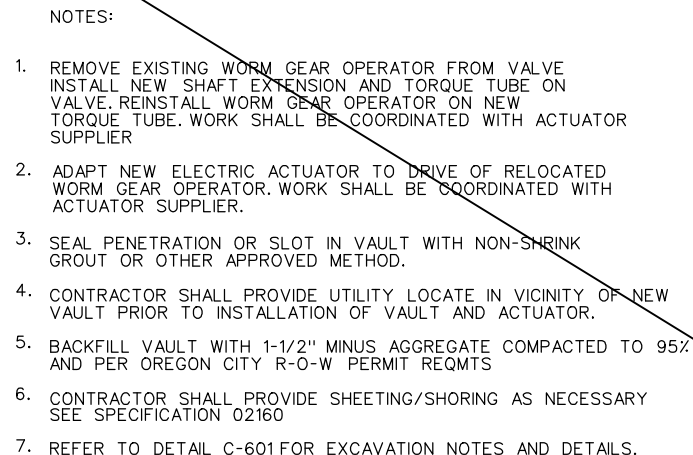


VALVE VAULT PLAN
SCALE: 1"=1'-0"



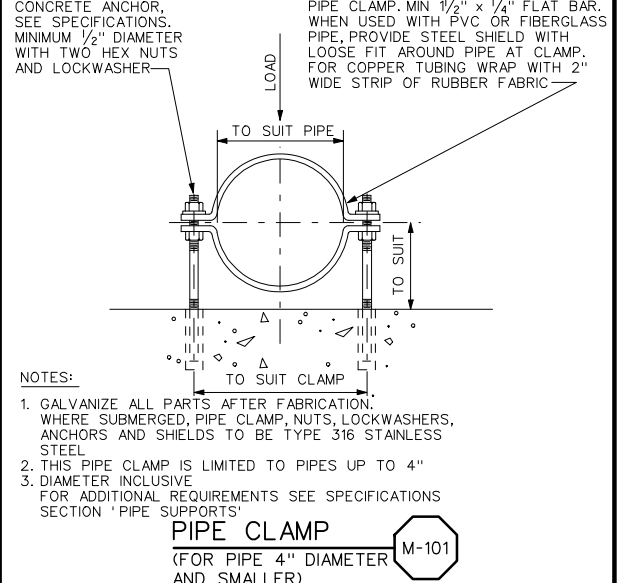
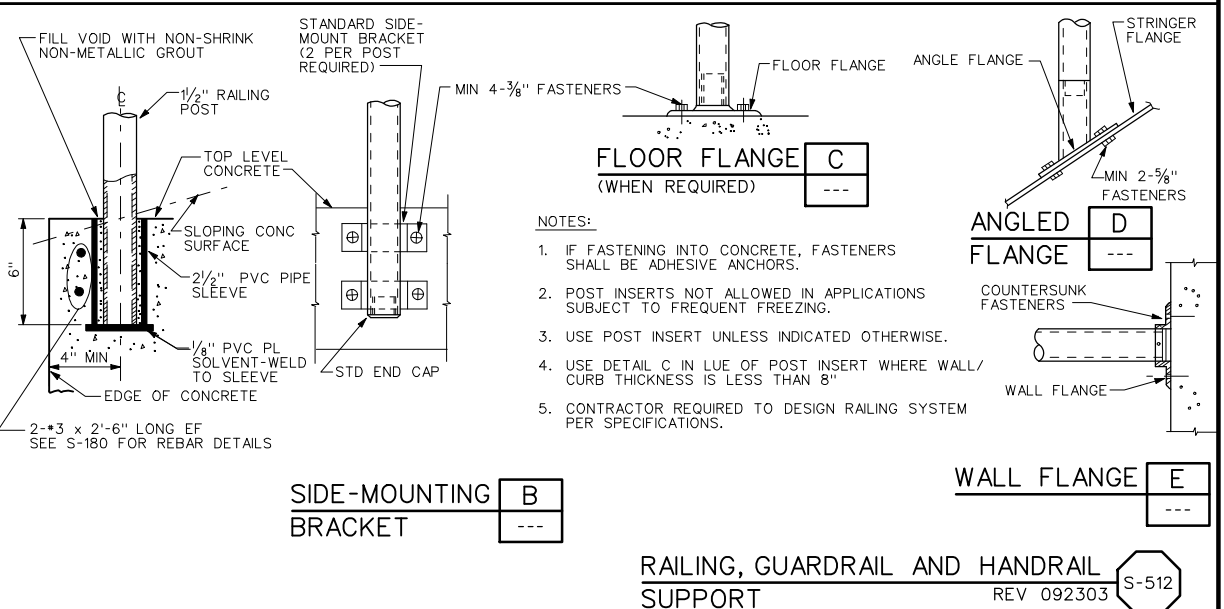
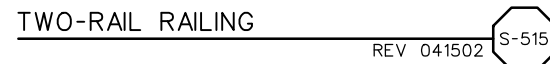
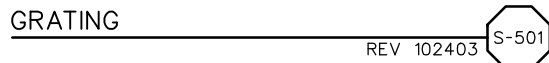
SECTION A-A
1"=1'-0"

- NOTES:
1. REMOVE EXISTING WORM GEAR OPERATOR FROM VALVE. INSTALL NEW SHAFT EXTENSION AND TORQUE TUBE ON VALVE. REINSTALL WORM GEAR OPERATOR ON NEW TORQUE TUBE. WORK SHALL BE COORDINATED WITH ACTUATOR SUPPLIER.
 2. ADAPT NEW ELECTRIC ACTUATOR TO DRIVE OF RELOCATED WORM GEAR OPERATOR. WORK SHALL BE COORDINATED WITH ACTUATOR SUPPLIER.
 3. SEAL PENETRATION OR SLOT IN VAULT WITH NON-SHRINK GROUT OR OTHER APPROVED METHOD.
 4. CONTRACTOR SHALL PROVIDE UTILITY LOCATE IN VICINITY OF NEW VAULT PRIOR TO INSTALLATION OF VAULT AND ACTUATOR.
 5. BACKFILL VAULT WITH 1-1/2" MINUS AGGREGATE COMPACTED TO 95% AND PER OREGON CITY R-O-W PERMIT REQMTS.
 6. CONTRACTOR SHALL PROVIDE SHEETING/SHORING AS NECESSARY SEE SPECIFICATION 02160.
 7. REFER TO DETAIL C-601 FOR EXCAVATION NOTES AND DETAILS.



VALVE VAULT PLAN
SCALE: 1"=1'-0"

PROPOSED VALVE VAULT, ACTUATOR AND
CORRESPONDING ELECTRICAL CONDUIT
RUNS WERE DELETED FROM CONTRACT
AND NOT CONSTRUCTED. THESE DETAILS
WERE PURPOSELY LEFT IN THE RECORD
DRAWINGS FOR PROJECT "MEMORY".



SHEET

GM-02

EQUIPMENT SCHEDULES

TYPICAL PIPE DESIGNATION:

MATERIAL GROUP NUMBER
(SEE NOTE 12)

2" UW (24)

PIPE DIAMETER

FLUID ABBREVIATION

VALVE SCHEDULE							
VALVE	LOCATION	SERVICE	TYPE	SIZE	VALVE CLASS	ACTUATOR	REMARKS
V-11B	WTP-FILTER#1 INLET	FILTER INFLUENT	BUTTERFLY-WAFER	18"	ANSI 125	ELEC O/C-480V 3P	With Remote Valve Control Station
V-21B	WTP-FILTER#2 INLET	FILTER INFLUENT	BUTTERFLY-WAFER	18"	ANSI 125	ELEC O/C-480V 3P	With Remote Valve Control Station
V-31B	WTP-FILTER#3 INLET	FILTER INFLUENT	BUTTERFLY-WAFER	18"	ANSI 125	ELEC O/C-480V 3P	With Remote Valve Control Station
V-41B	WTP-FILTER#4 INLET	FILTER INFLUENT	BUTTERFLY-WAFER	18"	ANSI 125	ELEC O/C-480V 3P	With Remote Valve Control Station
V-06	WTP-F.I. ISOLATION	FILTER INFLUENT	BUTTERFLY-WAFER	24"	ANSI 125	MANUAL HW	
V-07	WTP-F.I. ISOLATION	FILTER INFLUENT	BUTTERFLY-WAFER	24"	ANSI 125	MANUAL HW	
V-5A	RW INTAKE-PUMP CHECK	RAW WATER	SWING CHECK	16"	CLASS 250	W/ LIMIT SWITCH	Oil Controlled Bottom Buffer
V-5B	RW INTAKE-PUMP ISO.	RAW WATER	BUTTERFLY-FLANGED	16"	CLASS 250	MANUAL HW	
V-090	DIV ST-MTN VIEW RES ISO.	POTABLE WATER	EXISTING B.V. BURIED	24"	EXISTING	ELEC O/C - 240V 3P	With Remote Valve Control Station
						DELETED FROM CONTRACT	AND NOT CONSTRUCTED

PUMP	LOCATION	SERVICE	TYPE	GPM	TDH (ft)	HP	REMARKS
P-5	RAW INTAKE PUMP	RAW WATER	VERTICAL TURBINE	7400	350	800	WITH 4160V VFD
P-2	DIVISION ST. P.S.	POTABLE WATER	VERTICAL TURBINE	7000	215	500	WITH 4160V VFD (REMOVE EXIST. PUMP)

EQUIPMENT NO.	LOCATION	SERVICE	TYPE	SIZE	COMMENTS
FE-010	WTP-RAW WATER LINE	RAW WATER	MAGNETIC FLOWMETER (W/REMOTE XMTR)	24"	REMOVE EXISTING 20"

WATER TREATMENT PLANT

MAXIMUM FLOW DURING WINTER = 15 MGD
FLOCCULATION TIME @ 15 MGD = 23.0 MINUTES
SEDIMENTATION TIME @ 15 MGD = 117.0 MINUTES
FILTRATION RATE (WITH ALL 4 FILTERS) = 2.9 gpm/sf

ULTIMATE FLOW = 30 MGD

MINIMUM FILTER INFLUENT CHLORINE RESIDUAL = 0.2 mg/L

CLACKAMAS RIVER INTAKE/PUMP STATION

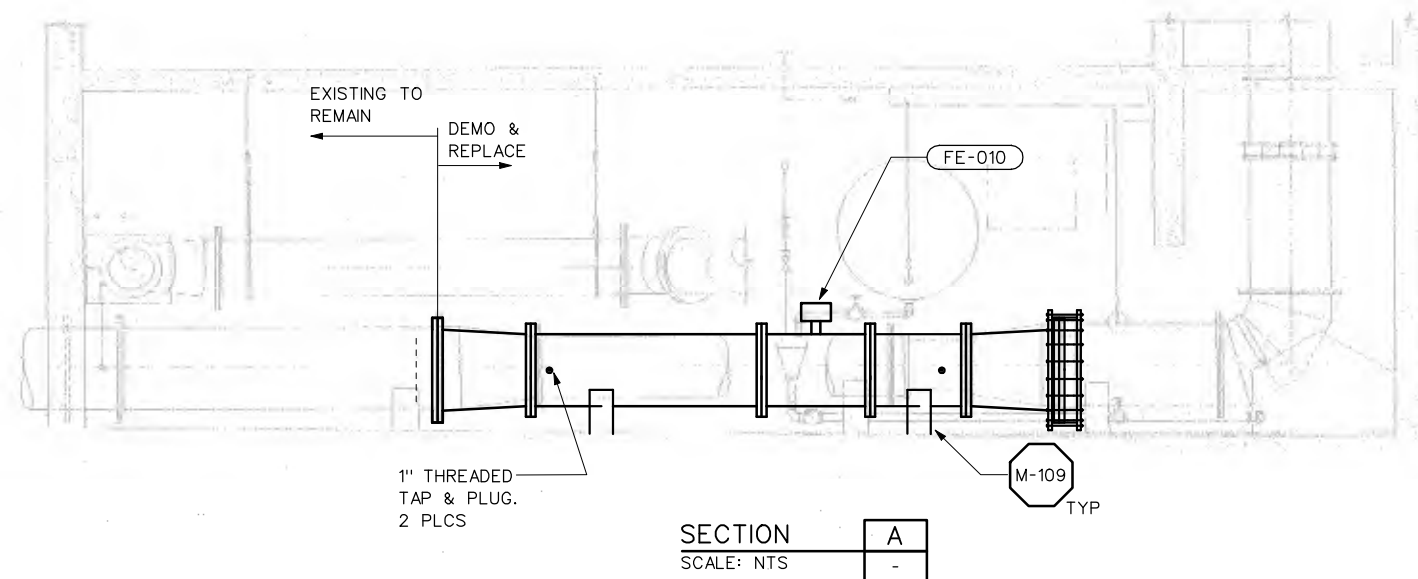
CURRENT MAXIMUM FLOW = 25 MGD (38.6 CFS) WITH EXISTING 27-INCH RAW WATER PIPELINE
FIRM FLOW = 30 MGD (46.4 CFS) WITH ONE 800 HP PUMP OUT OF SERVICE, WITH NEW RAW WATER PIPELINE
ULTIMATE FIRM FLOW = 42.6 MGD (65.9 CFS) WITH FIVE 800 HP PUMPS, WITH NEW RAW WATER PIPELINE

DIVISION STREET PUMP STATION

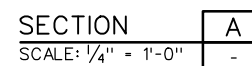
CURRENT DESIGN FLOW = 16.0 MGD (25 CFS) WITH TWO 600 HP PUMPS OPERATING
ULTIMATE DESIGN FLOW = 32.0 MGD (50 CFS) WITH FIVE 600 HP PUMPS TOTAL

NOTES

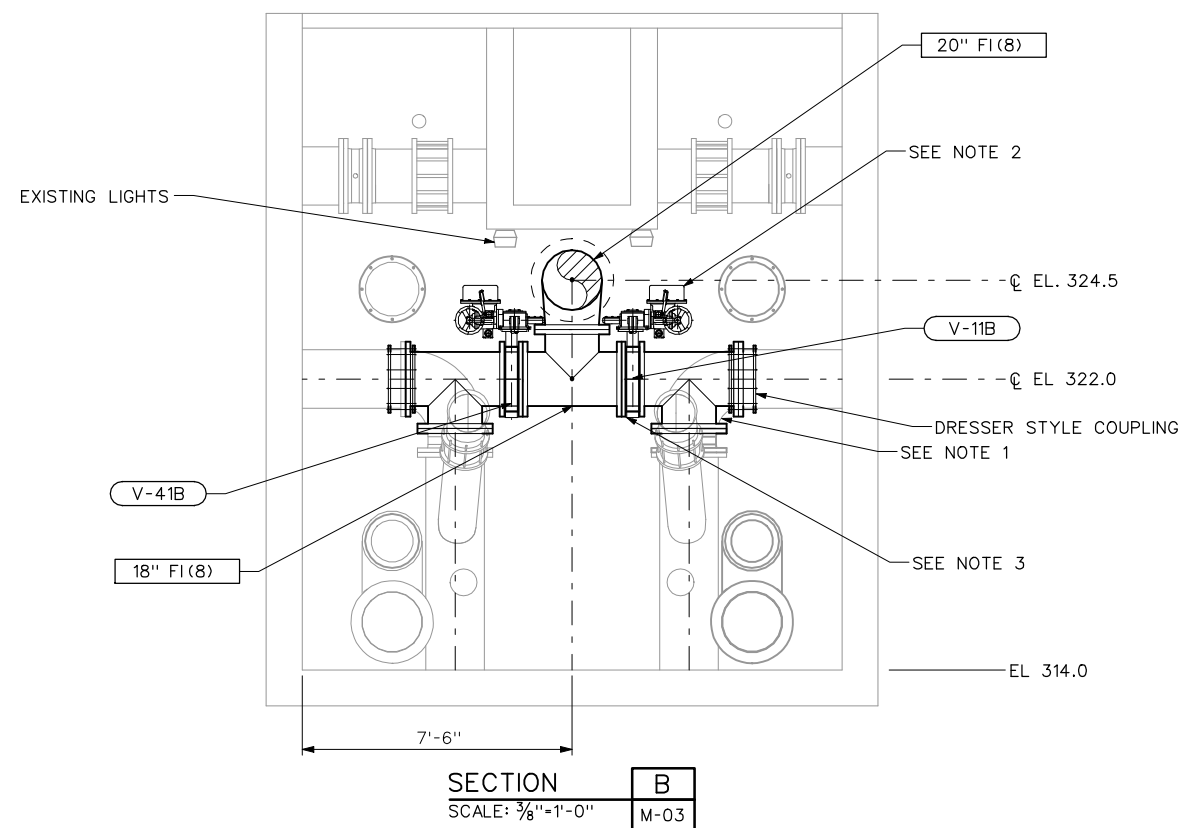
R	1/26/07	RAW	RECORD DRAWINGS	SCALE	WARNING  IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE	DESIGNED <u>R.WARNER</u> DRAWN <u>R.WARNER</u> CHECKED <u>P.KREFT</u>	RECORD DRAWING This record drawing has been prepared, entirely or in part on the basis of unverified information compiled and furnished by others to the preparer who is not responsible for any inaccuracies, errors or omissions which may have been incorporated into the document as a result	 MWH Portland Oregon	South Fork Water Board 15962 S. Hunter Ave. Oregon City, OR 97045 "Pure Water Since 1915"	2004 SYSTEM CAPACITY IMPROVEMENTS PIPE AND EQUIPMENT SCHEDULES AND DESIGN CRITERIA	SHEET M-01
REV	DATE	BY	DESCRIPTION	NONE							



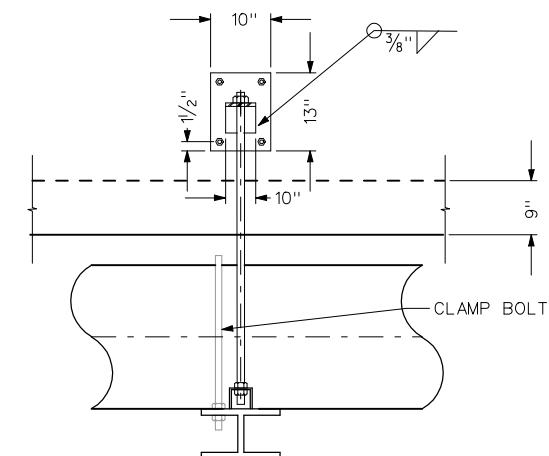
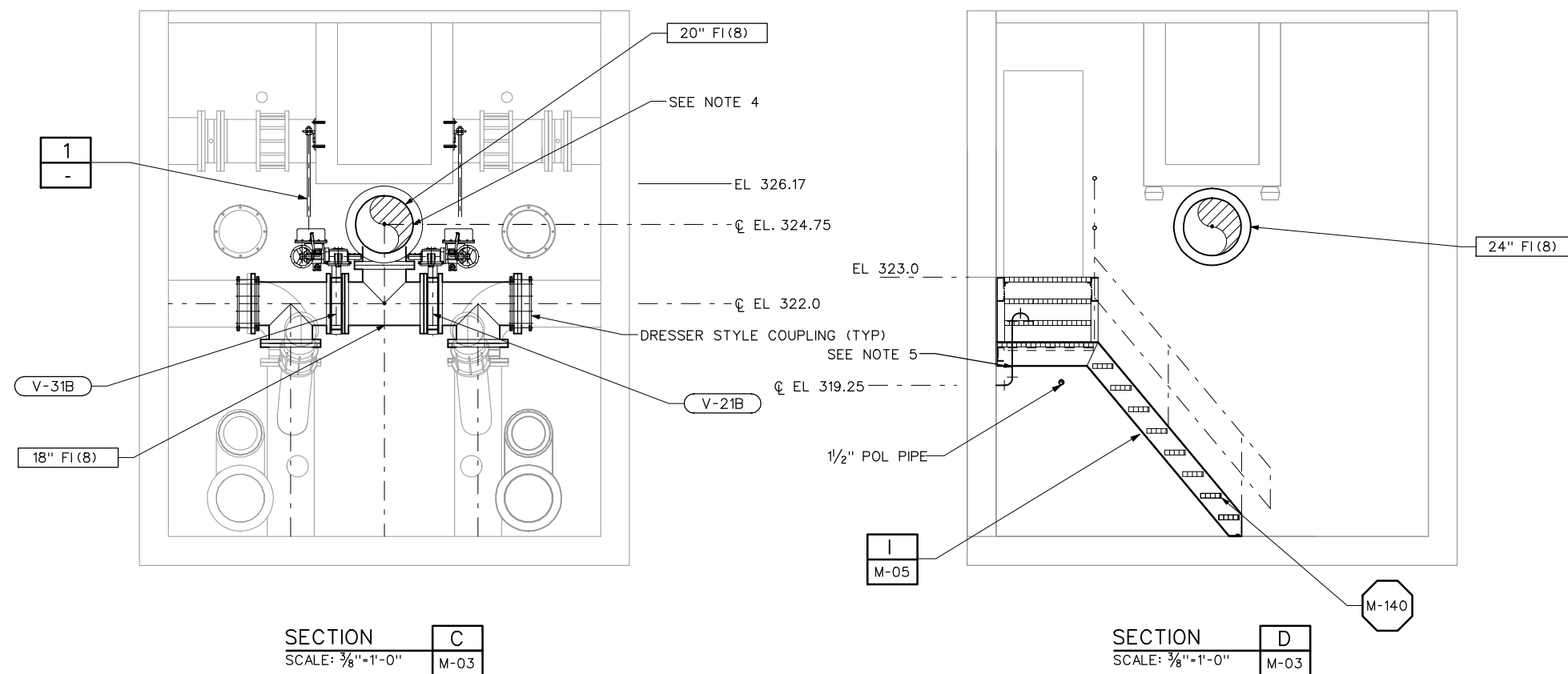
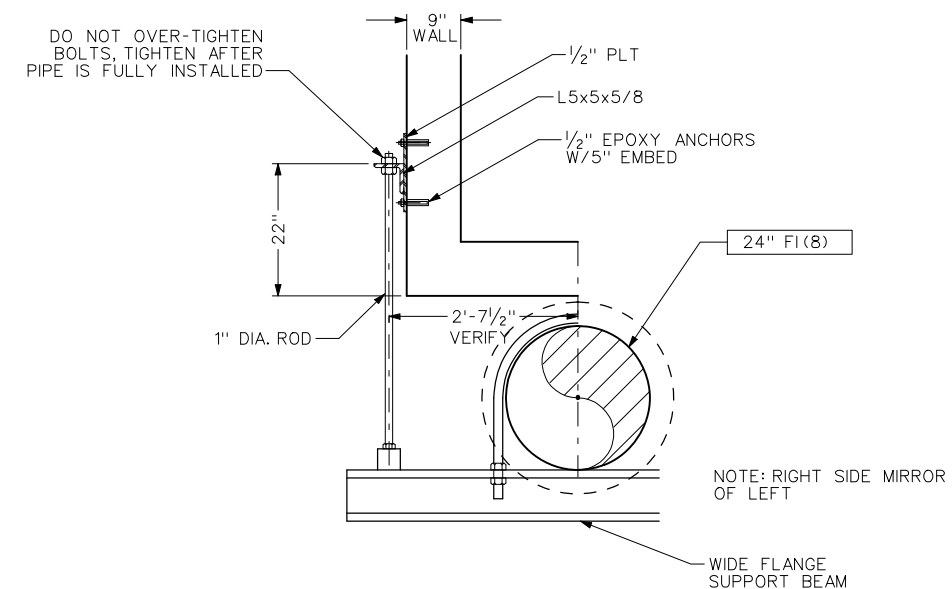
1. DEMO EXISITNG SOUTH GALLERY STAIRS



R	1/26/07	RAW	RECORD DRAWINGS	SCALE	WARNING 0 1/2 1 DESIGNED <u>R.WARNER</u>	RECORD DRAWING	 MWH Portland Oregon	South Fork Water Board 15962 S. Hunter Ave. Oregon City, OR 97045 "Pure Water Since 1915"	2004 SYSTEM CAPACITY IMPROVEMENTS WTP FILTER INFLUENT PIPE PLAN AND SECTION	SHEET M-03
			AS SHOWN	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE DRAWN <u>J.SCHULZ</u> This record drawing has been prepared, entirely or in part on the basis of unverified information compiled and furnished by others to the preparer who is not responsible for any inaccuracies, errors or omissions which may have been incorporated into the document as a result.						
					CHECKED <u>P.KREFT</u>					
REV	DATE	BY	DESCRIPTION							



- NOTES:
- 1.CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING 18" DI90'S AT WASHWATER OUTLETS AND REPLACE WITH NEW FABRICATED STEEL TEES. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS ON EXISTING PIPES PRIOR TO PIPE SUBMITTALS AND FABRICATION.
 - 2.CONTRACTOR SHALL COORDINATE ORIENTATION OF ACTUATORS TO AVOID INTERFERENCES.
 - 3.PROVIDE CUSTOM FABRICATED SPACER FLANGES BETWEEN TEES AND VALVES, THICKNESS AS NECESSARY. TYP.
 - 4.CUSTOM-FABRICATED 24" X 24" X 18" WSP TEE. MAX 17" @ TO FLANGE OF 18" OUTLET TO MAINTAIN PIPE CENTERLINE ELEVATION OF 324.75.
 - 5.REPIPE EXISTING 4" CLEARWELL VENT AND 4" SURFACE WASH PIPING AS NECESSARY TO AVOID CONFLICT WITH NEW STAIRS AND LANDING.
 - 6.PAINT NEW PIPING & SUPPORTS WITH SHERWIN-WILLIAMS COROTHANE II MOISTURE CURED POLYURETHANE, TO MATCH EXISTING.



PIPE SUPPORT HANGERS	1
	-

R	1/26/07	RAW	RECORD DRAWINGS
REV	DATE	BY	DESCRIPTION

SCALE	WARNING
AS SHOWN	 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

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CHECKED P.KREFT K.MARTIN

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2004 SYSTEM CAPACITY IMPROVEMENTS

WTP FILTER INFLUENT PIPE
SECTIONS AND DETAILS

SHEET

M-04

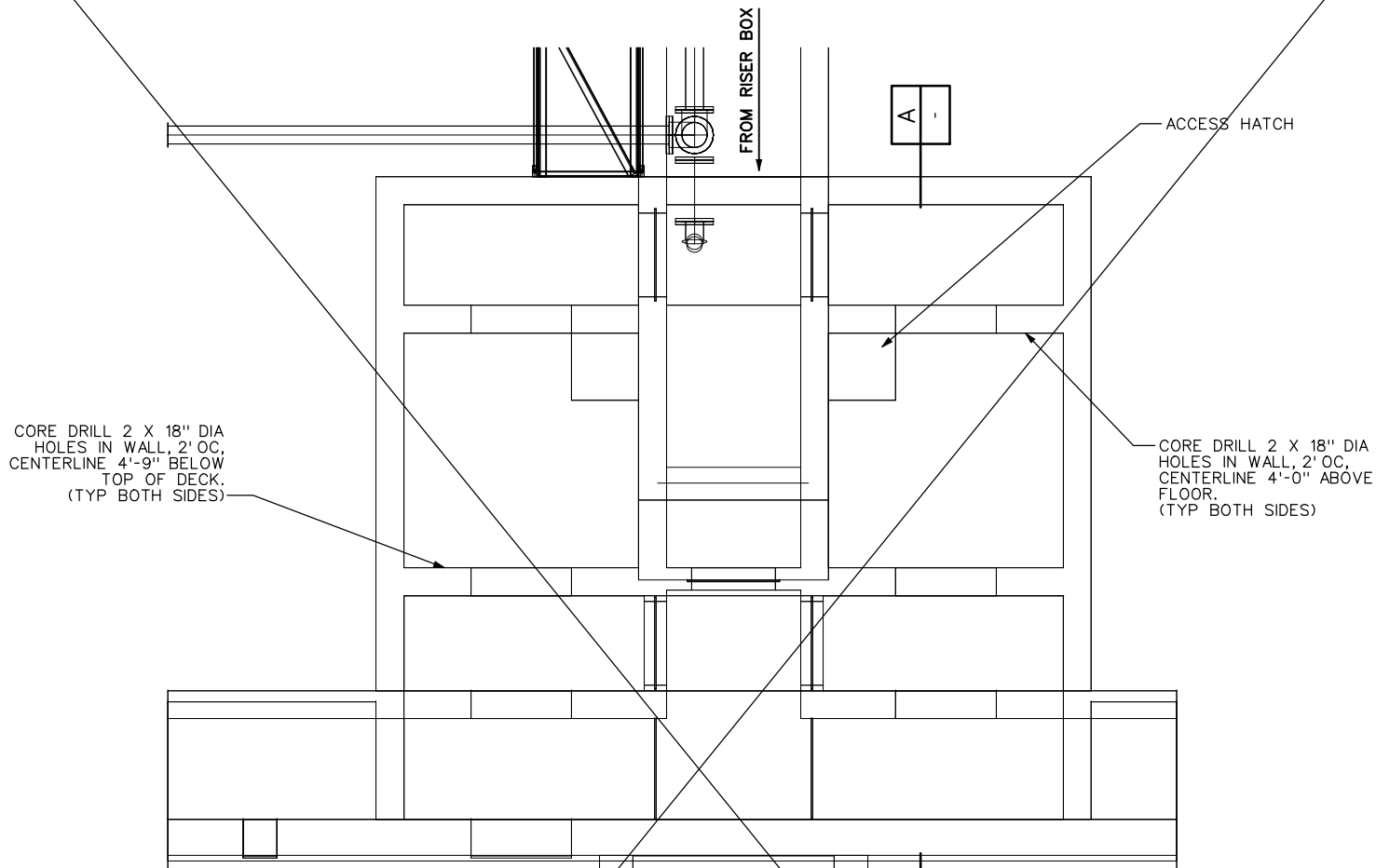
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Job No: 1530509

FLOCCULATION AND RAPID MIX BASIN MODIFICATIONS

ALTERNATIVE BID ITEM



FLOCCULATION AND RAPID MIX BASIN PLAN

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

CORE DRILL 2 X 18" DIA HOLES IN WALL, 2' OC, CENTERLINE 4'-9" BELOW TOP OF DECK. (TYP BOTH SIDES)

CORE DRILL 2 X 18" DIA HOLES IN WALL, 2' OC, CENTERLINE 4'-0" ABOVE FLOOR. (TYP BOTH SIDES)

NOTES

1. SHUTDOWN TO PERFORM THIS WORK IN APRIL 2005; ONE SIDE OF BASIN AT A TIME.
2. SEE SPEC 01313 FOR ADDITIONAL CONSTRAINTS.

SECTION

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

A
-

PROPOSED FLOCCULATION AND RAPID MIX MODIFICATIONS WERE DELETED FROM CONTRACT AND NOT CONSTRUCTED. THESE DETAILS WERE PURPOSELY LEFT IN THE RECORD DRAWINGS FOR PROJECT "MEMORY".

REV	DATE	BY	DESCRIPTION
R	1/26/07	RAW	RECORD DRAWINGS

SCALE

AS SHOWN

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED R.WARNER
DRAWN R.WARNER
CHECKED P.KREFT K.MARTIN

RECORD DRAWING

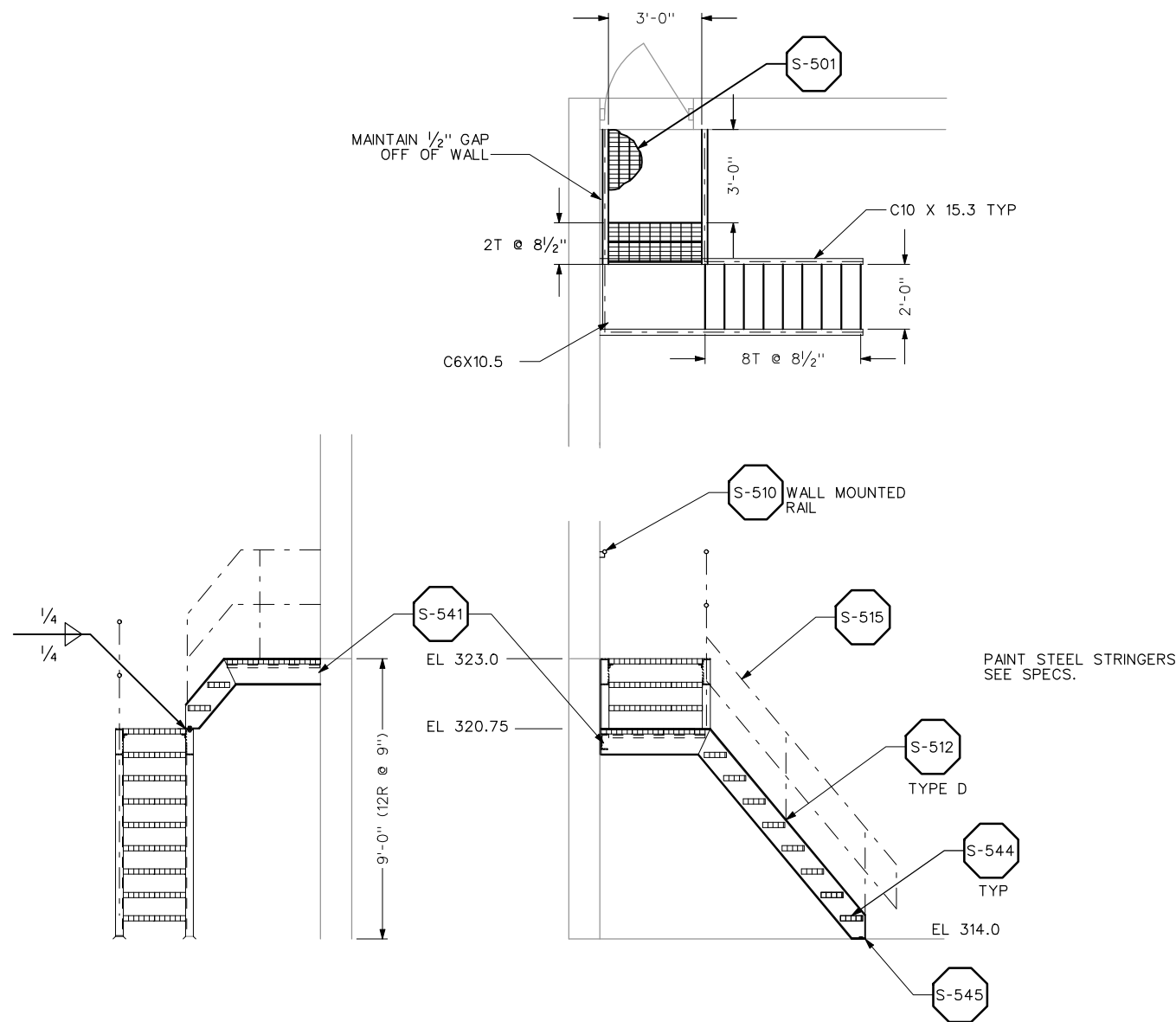
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"Pure Water Since 1915"

2004 SYSTEM CAPACITY IMPROVEMENTS
WTP FLOCCULATION AND
RAPID MIX BASIN MODIFICATIONS
AND DETAILS

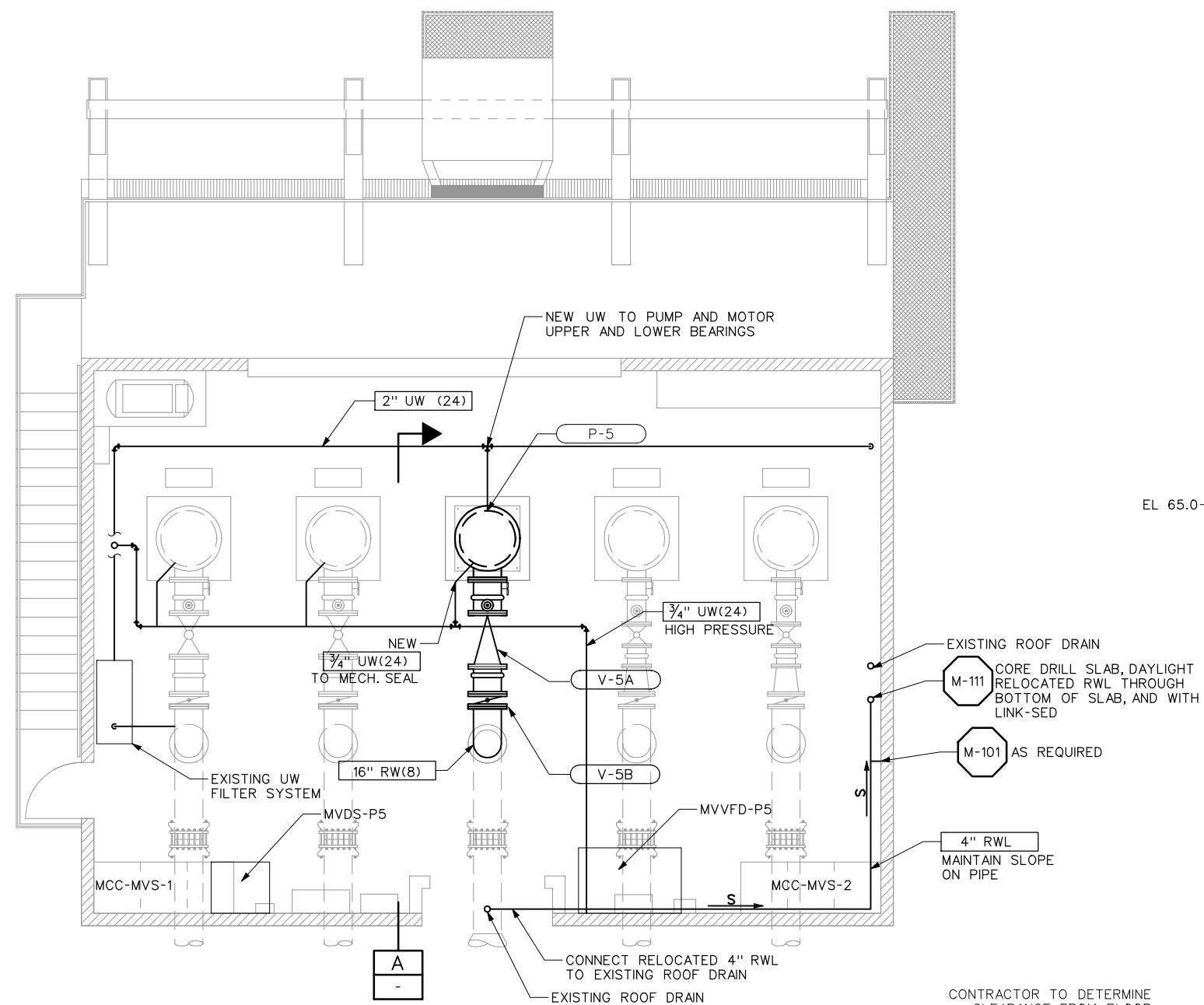
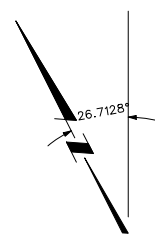
SHEET
M-05



PIPE GALLERY SOUTH STAIRS

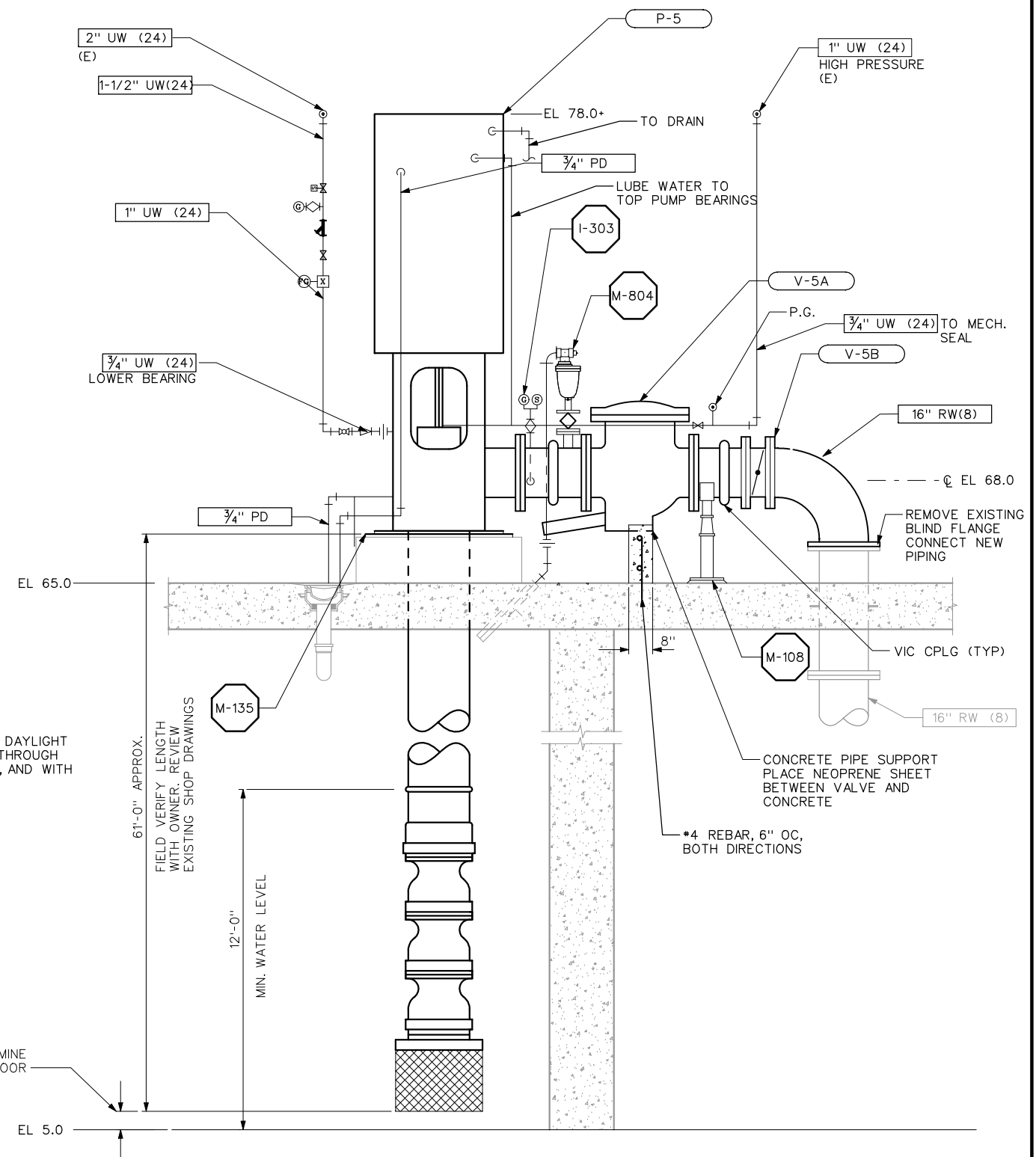
SCALE: 3/8" = 1'-0"

I
M-04



1. TIE IN NEW PUMP TO EXISTING DISCHARGE HEADER WILL REQUIRE COMPLETE STATION SHUTDOWN AND DEWATERING OF A PORTION OF THE RW LINE. COORDINATE SHUTDOWN WITH OWNER AND ENGINEER.
2. CONTRACTOR SHALL COORDINATE VFD ANCHORAGE REQUIREMENTS WITH VFD MANUFACTURER.
3. SEE SHEET C-02 FOR ADDITIONAL CONSTRAINTS.
4. MIMIC UTILITY WATER PIPING AND CONNECTIONS FOR LUBRICATION & SEAL WATER AS PER P-1 & P-2. CONFIRM CONFIGURATION WITH PUMP SUPPLIER.

PUMP ROOM PLAN
SCALE: 1/4"=1'-0"



PUMP SECTION	A
SCALE: 1/2"=1'-0"	-

R	1/26/07	RAW	RECORD DRAWINGS
REV	DATE	BY	DESCRIPTION

SCALE	WARNING
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DESIGNED R.WARNER
DRAWN C.KITTS
CHECKED P.KREFT

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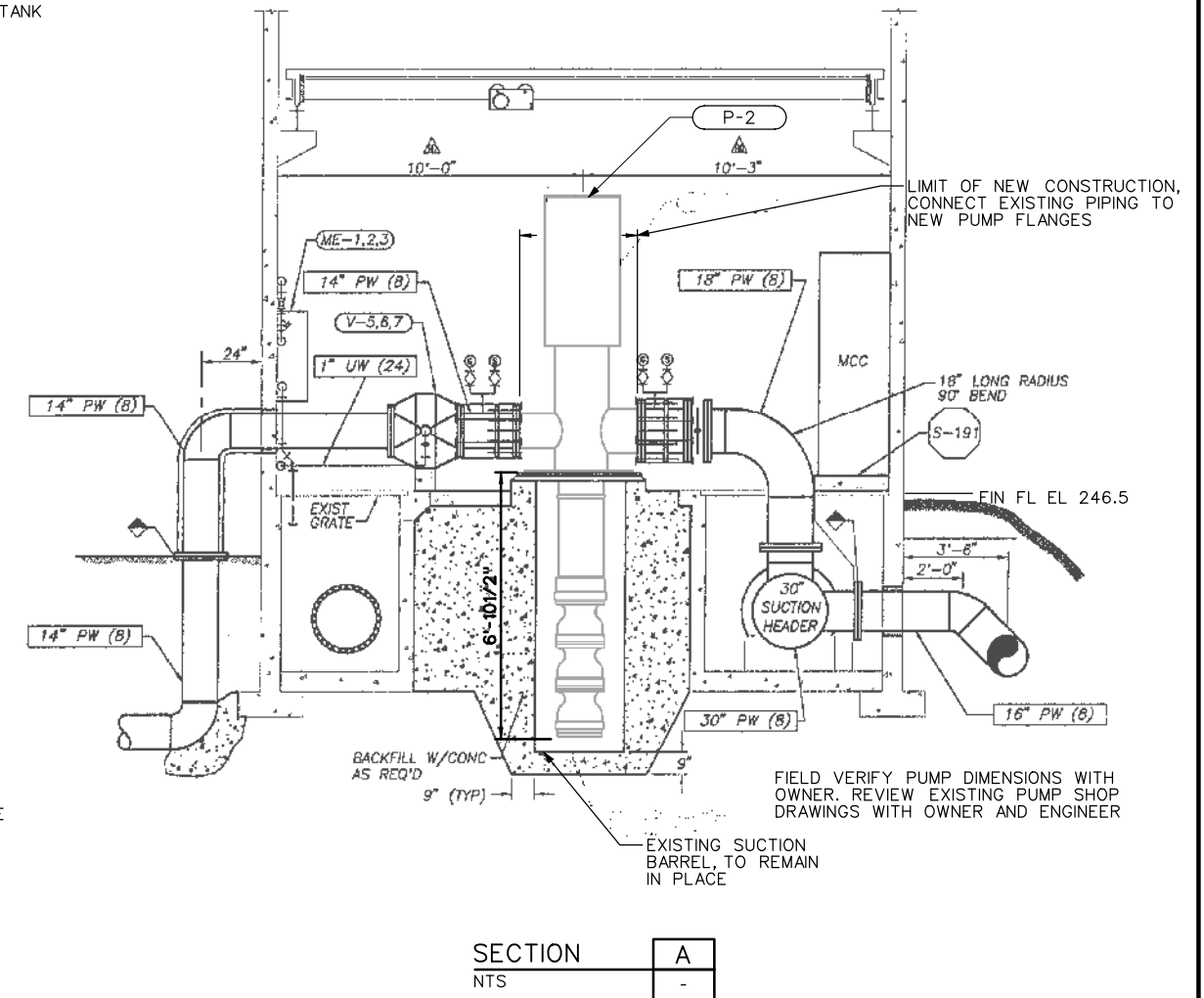
South Fork Water Board
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"Pure Water Since 1915"

2004 SYSTEM CAPACITY IMPROVEMENTS

INTAKE/PUMP STATION
PLAN AND SECTION

SHEET
-06

1. CONTRACTOR SHALL DISCONNECT PIPING AND APPURTANCES ON PUMP P-2 TO ALLOW REMOVAL OF EXISTING PUMP AND MOTOR.
2. CONTRACTOR SHALL REMOVE EXISTING PUMP P-2 AND TRANSPORT TO THE OLD SFWB INTAKE FOR STORAGE. PUMP AND MOTOR SHALL BE DISCONNECTED AND MOTOR STORED UPRIGHT.
3. CONTRACTOR SHALL INSTALL NEW PUMP AND MOTOR P-2. IT IS INTENDED THAT ALL PIPE, FITTINGS, AND APPURTANCES BE RECONNECTED AND REUSED. CONTRACTOR SHALL COORDINATE PUMP DIMENSIONS TO MATCH EXISTING.
4. CONTRACTOR SHALL COORDINATE ANCHORAGE OF VFD TO SUPPORT BEAMS WITH VFD MANUFACTURER.
5. PAINT PUMP, PIPING, AS REQUIRED TO MATCH EXISTING.
6. SEE SHEET E-05 FOR ADDITIONAL INFO.



R	1/26/07	RAW	RECORD DRAWINGS	SCALE	WARNING 	DESIGNED <u>R.WARNER</u>
				AS SHOWN	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE	DRAWN <u>C.KITTS</u>
REV	DATE	BY	DESCRIPTION			CHECKED <u>P.KREFT</u>

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"Pure Water Since 1915"

2004 SYSTEM CAPACITY IMPROVEMENTS

DSPS PLAN AND DETAILS

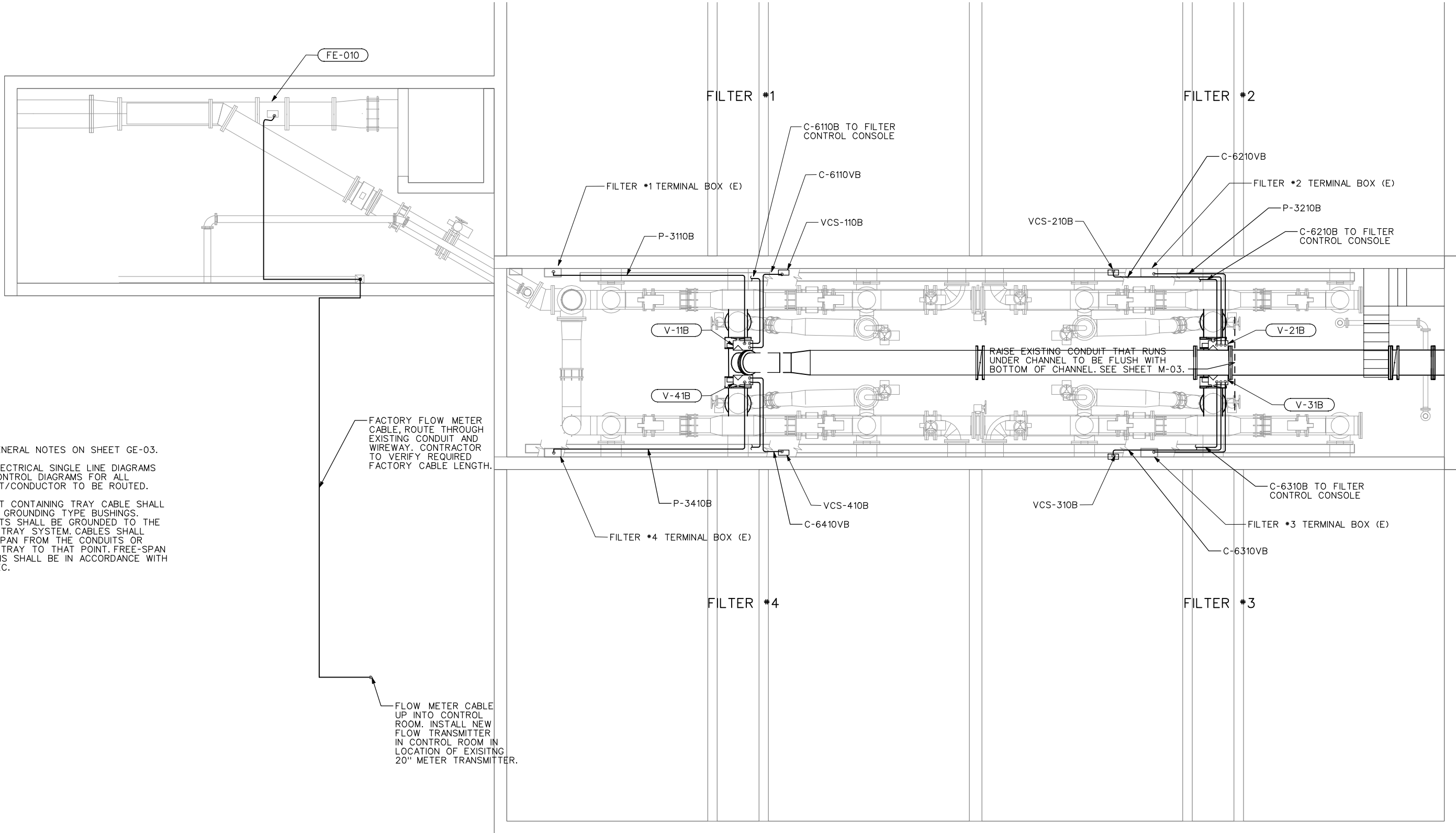
SHEET
-07

NOTES:

1. SEE GENERAL NOTES ON SHEET GE-03.
2. SEE ELECTRICAL SINGLE LINE DIAGRAMS AND CONTROL DIAGRAMS FOR ALL CONDUIT/CONDUCTOR TO BE ROUTED.
3. CONDUIT CONTAINING TRAY CABLE SHALL END IN GROUNDING TYPE BUSHINGS. CONDUITS SHALL BE GROUNDED TO THE CABLE TRAY SYSTEM. CABLES SHALL FREE-SPAN FROM THE CONDUITS OR CABLE TRAY TO THAT POINT. FREE-SPAN LENGTHS SHALL BE IN ACCORDANCE WITH THE NEC.

FACTORY FLOW METER CABLE, ROUTE THROUGH EXISTING CONDUIT AND WIREWAY. CONTRACTOR TO VERIFY REQUIRED FACTORY CABLE LENGTH.

FLOW METER CABLE UP INTO CONTROL ROOM. INSTALL NEW FLOW TRANSMITTER IN CONTROL ROOM IN LOCATION OF EXISTING 20" METER TRANSMITTER.



REV	DATE	BY	DESCRIPTION
R	1/26/07	RAW	RECORD DRAWINGS

SCALE
1/4" = 1'-0"

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED R. WARNER
DRAWN R. WARNER
CHECKED R. SCHUBACH

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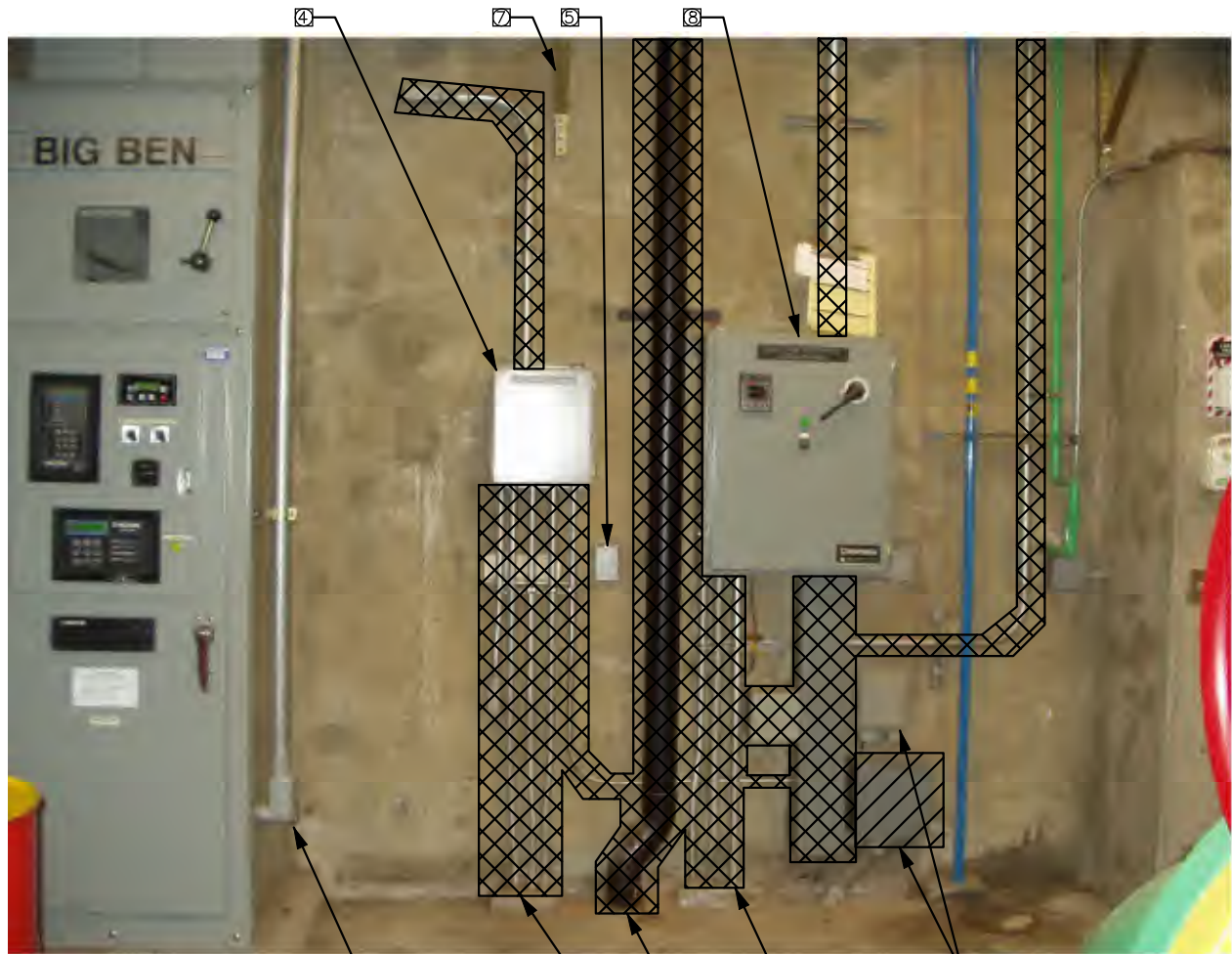
2004 SYSTEM CAPACITY IMPROVEMENTS
WTP ELECTRICAL PLAN,
NOTES AND DETAILS

SHEET
E-01

Plot Date: Plot Date: 15-FEB-2024 11:00

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Job No: 15050509



**SOUTH EAST WALL
ELECTRICAL DEMOLITION**

- NOTES:
1. ALL EQUIPMENT MOVED/DISTURBED/MODIFIED SHALL BE THOROUGHLY DOCUMENTED BEFORE ANY WIRES ARE DISCONNECTED OR DISTURBED. DOCUMENTATION SHALL INCLUDE ALL WIRING AND TERMINATIONS TO BE MOVED/DISTURBED/MODIFIED AND WIRE TYPE, WIRE COLOR, AND TERMINAL NUMBERS AT EACH END.
 2. DISCONNECT CONTROL WIRING IN BENSCHAW UNITS AND PULL BACK TO CONDUIT. REPLACE EXISTING LB CONDUIT WITH NEW LL TO ALLOW CONDUIT COVER TO FACE TOWARDS THE ROOM. RETERMINATE WIRES.
 3. DEMO EXISTING RAINWATER LEADER. CUT FLUSH WITH SLAB. FILL PENETRATION WITH GROUT. SEE MECHANICAL FOR PIPE RELOCATION.
 4. RELOCATE HEAT TRACE CONTACTOR PANEL, PROVIDE NEW CONDUIT, WIRE, ETC. SEE SHEET E-03 FOR NEW LOCATION. SEE NOTE 1 ON THIS SHEET.
 5. REMOVE EXISTING RECEPT. AND COVER. SAFETY-OFF EXISTING POWER CONDUCTORS AND INSTALL BLANK COVER.
 6. DEMO EXISTING CONDUITS THROUGH SLAB AFTER DEVICES RELOCATED. PLUG ABANDONED CONDUITS.
 7. RELOCATE EXISTING UNISTRUT CONDUIT SUPPORT TO ALLOW VERTICAL CLEARANCE OF NEW VFD.
 8. RELOCATE SURGE TANK CONTROL PANEL. PROVIDE NEW CONDUIT, WIRE, ETC. SEE SHEET E-03 FOR NEW LOCATION. SEE NOTE 1 ON THIS SHEET.
 9. DEMO EXISTING METAL J-BOX FROM AROUND EXISTING TELEPHONE LINE. LEAVE EXISTING FLOOR PENETRATION, RELOCATE TELEPHONE TERMINAL BOX, AND EXISTING CABLE TO CLEAR VFD.



**SOUTH WEST WALL
ELECTRICAL DEMOLITION**

REMOVE EXISTING CONDUIT AND WIRING BETWEEN MCC MVS-1 AND PLC TO ALLOW INSTALLATION OF NEW MVDS-P5. INSTALL NEW CONDUIT MVS1-PLCC5 TO REPLACE EXISTING AND CONTAIN NEW WIRES FROM MVDS-P5. SEE NOTE 1, SHEET E-04.

R	1/26/07	RAW	RECORD DRAWINGS
REV	DATE	BY	DESCRIPTION

SCALE
NTS

WARNING 0 1/2 1 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE
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DRAWN <u>C. KITTS</u>
CHECKED <u>R. SCHUBACH</u>

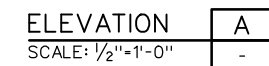
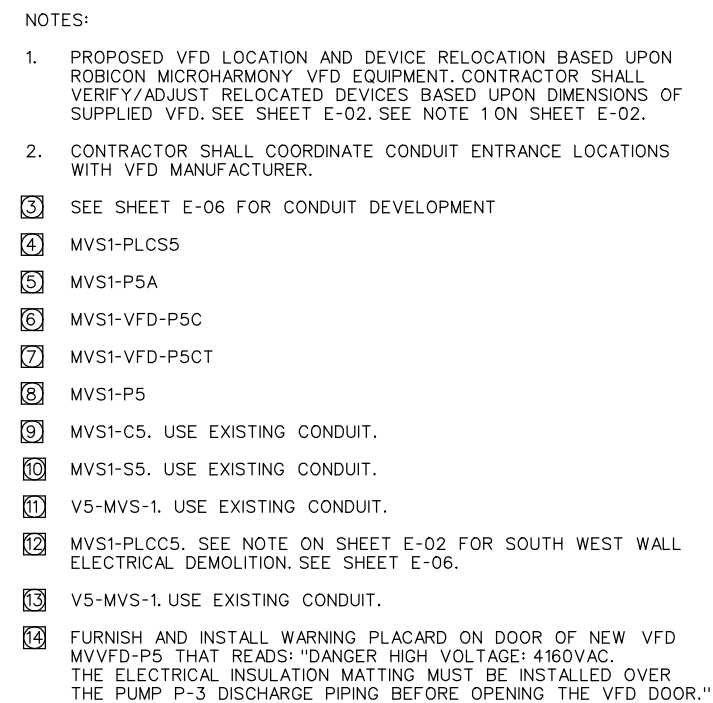
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2004 SYSTEM CAPACITY IMPROVEMENTS
INTAKE PUMP STATION
DEMOLITION/RELOCATION
NOTES AND DETAILS

SHEET
E-02



A schematic diagram of a surge tank. On the left, a rectangular box is labeled "SURGE TANK". Four horizontal lines extend from the right side of the tank to four small square outlets. Each outlet is labeled to its right: "S.T. DS*1", "S.T. DS*2", "S.T. DS*3", and "S.T. DS*4". Arrows point from each line towards its respective outlet.

SCALE	WARNING
AS SHOWN	 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

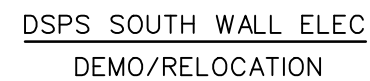
RECORD DRAWING This record drawing has been prepared, entirely or in part on the basis of unverified information compiled and furnished by others to the preparer who is not responsible for any inaccuracies, errors or omissions which may have been incorporated into the document as a result	
---	--



SHEET
-03

1. EQUIPMENT MOVED/DISTURBED/MODIFIED SHALL BE THOROUGHLY DOCUMENTED BEFORE ANY WIRES ARE DISCONNECTED OR DISTURBED. DOCUMENTATION SHALL INCLUDE ALL WIRING AND TERMINATIONS TO BE MOVED/DISTURBED/MODIFIED, AND SHALL INCLUDE WIRE SIZE, WIRE TYPE, WIRE COLOR, & TERMINAL NUMBERS AT EACH END. DOCUMENTATION SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO RELOCATION/MODIFICATIONS.
2. DEMO AND DISPOSE OF EXISTING HEATER. REMOVE EXISTING POWER CONDUCTORS FROM HEATER TO L.P. DEMO CONDUIT TO HEATER.
3. EXISTING LB THROUGH WALL FOR FLOW METER FIELD CABLE TO REMAIN.
4. RELOCATE AND REWIRE EXISTING FLOW METER PANEL. REUSE EXISTING WIRING TO FIELD DEVICE.
5. RELOCATE AND REWIRE EXISTING FLOW DISPLAY. DEMO EXISTING POWER AND CONTROL WIRING AND CONDUITS.
6. RELOCATE AND REWIRE EXISTING VALVE CONTROL BOXES. DEMO EXISTING POWER AND CONTROL WIRING AND CONDUITS.
7. DEMO UNUSED CONDUITS.
8. PLUG ALL HOLES IN PLC CABINET.

9. CONTRACTOR SHALL VERIFY/ ADJUST RELOCATED DEVICE LOCATIONS BASED UPON DIMENSIONS OF SUPPLIED VFD.
10. PROVIDE NEW POWER AT CONTROL CONDUIT AND WIRING FOR RELOCATED DEVICES.
11. COORDINATE TIMING OF ALL DEVICE RELOCATIONS WITH OWNER.
12. CONTRACTOR SHALL COORDINATE CONDUIT ENTRANCE LOCATION WITH VFD MANUFACTURER.
13. SEE C-03 FOR ADDITIONAL CONSTRAINTS.



R	1/26/07	RAW	RECORD DRAWINGS	
REV	DATE	BY	1'-1'-0"	DESCRIPTION
				C. KITTS

SCALE	WARNING
$\frac{3}{4}" = 1'-0"$	 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED R. WARNER
DRAWN C. KITTS
CHECKED R. SCHUBACH

RECORD DRAWING

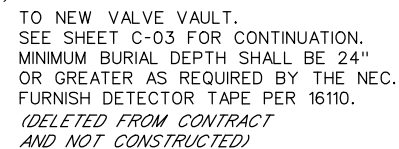
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South Fork Water Board
15962 S. Hunter Ave. Oregon City, OR 97045
"Pure Water Since 1915"

2004 SYSTEM CAPACITY IMPROVEMENTS DPS DEMOLITION/RELOCATION NOTES AND DETAILS

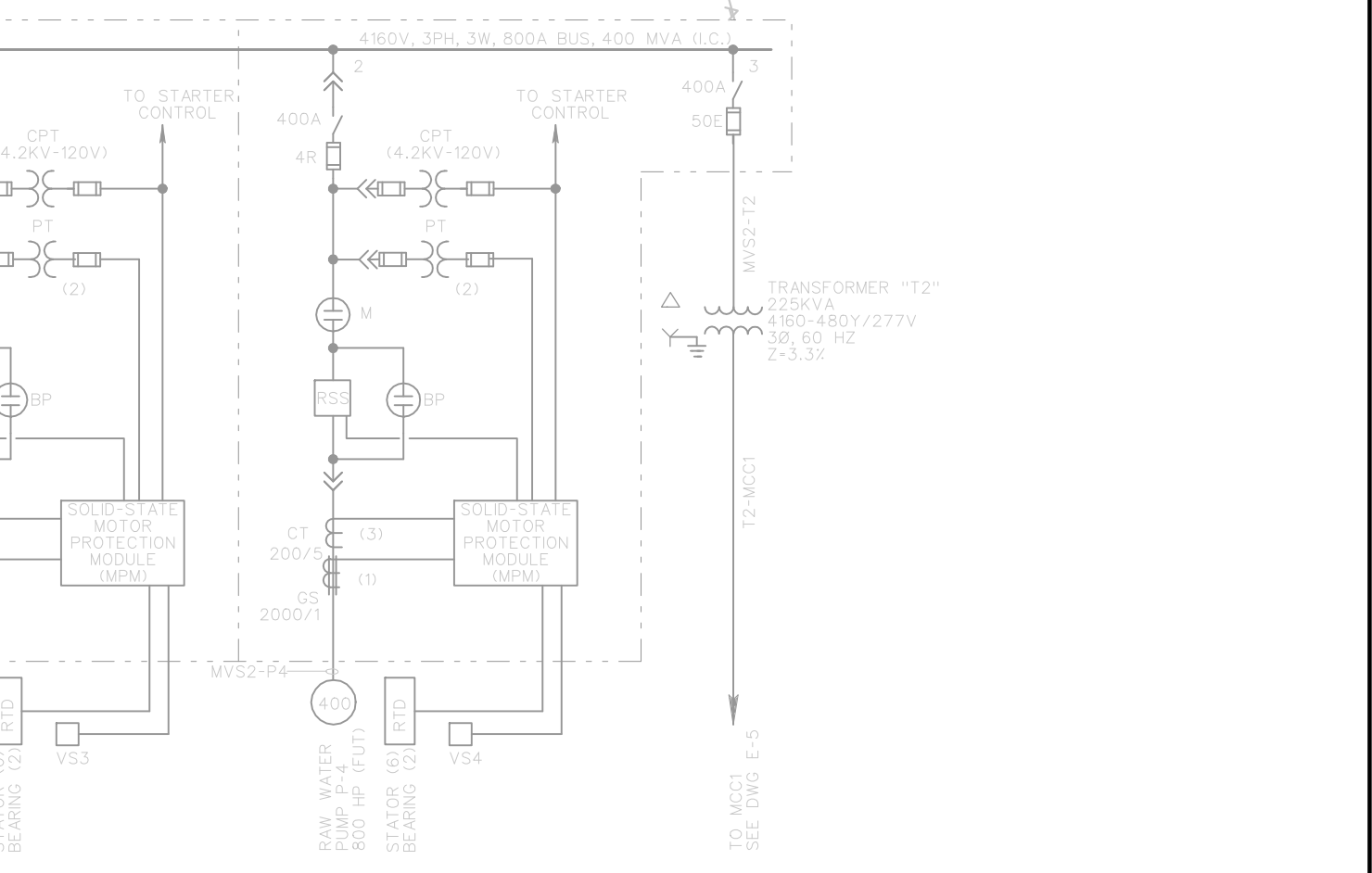
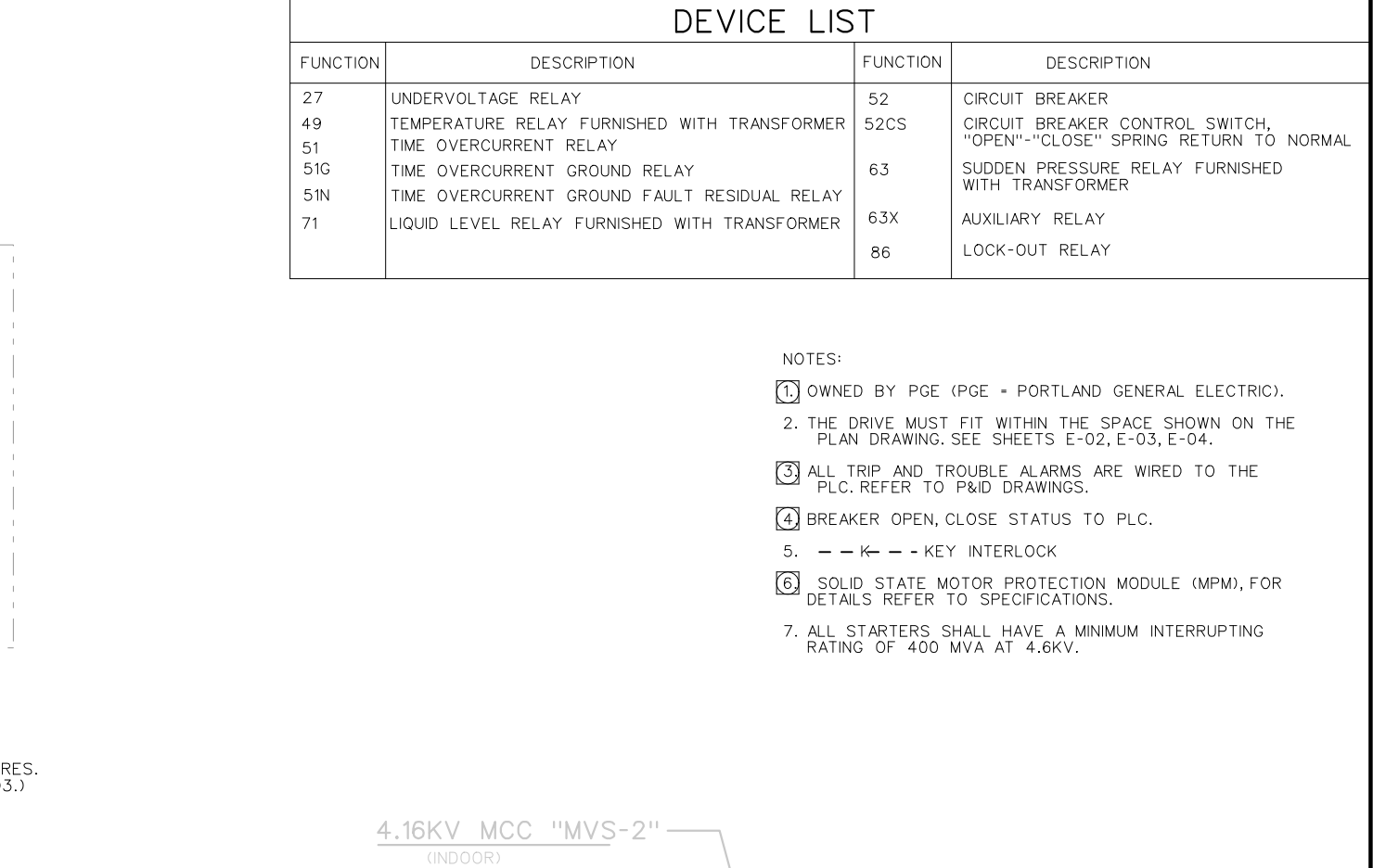
SHEET
-04



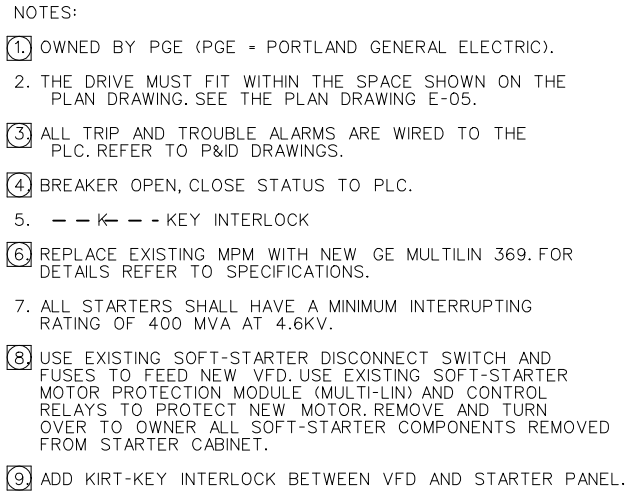
PROPOSED VALVE VAULT, ACTUATOR
AND CORRESPONDING ELECTRICAL
CONDUIT RUNS WERE DELETED FROM
CONTRACT AND NOT CONSTRUCTED.
THESE DETAILS WERE PURPOSELY
LEFT IN THE RECORD DRAWINGS FOR
PROJECT "MEMORY".

-
- REGISTERED PROFESSIONAL
ENGINEER
54440PE
OREGON
JAN. 12, 1999
JOHN C. DEERPOK
EXPIRES: 12/31/05

R	1/26/07	RAW	RECORD DRAWINGS	SCALE	WARNING	DESIGNED <u>R. WARNER</u>	RECORD DRAWING	 MWH Portland Oregon	South Fork Water Board 15962 S. Hunter Ave. Oregon City, OR 97045 "Pure Water Since 1915"	2004 SYSTEM CAPACITY IMPROVEMENTS DSPS ELECTRICAL PLAN, NOTES AND DETAILS	SHEET E-05
				3/8" = 1'-0"	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE	DRAWN <u>R. WARNER</u>	This record drawing has been prepared, entirely or in part on the basis of unverified information compiled and furnished by others to the preparer who is not responsible for any inaccuracies, errors or omissions which may have been incorporated into the document as a result.				
						CHECKED <u>R. SCHUBACH</u>					
REV	DATE	BY	DESCRIPTION								

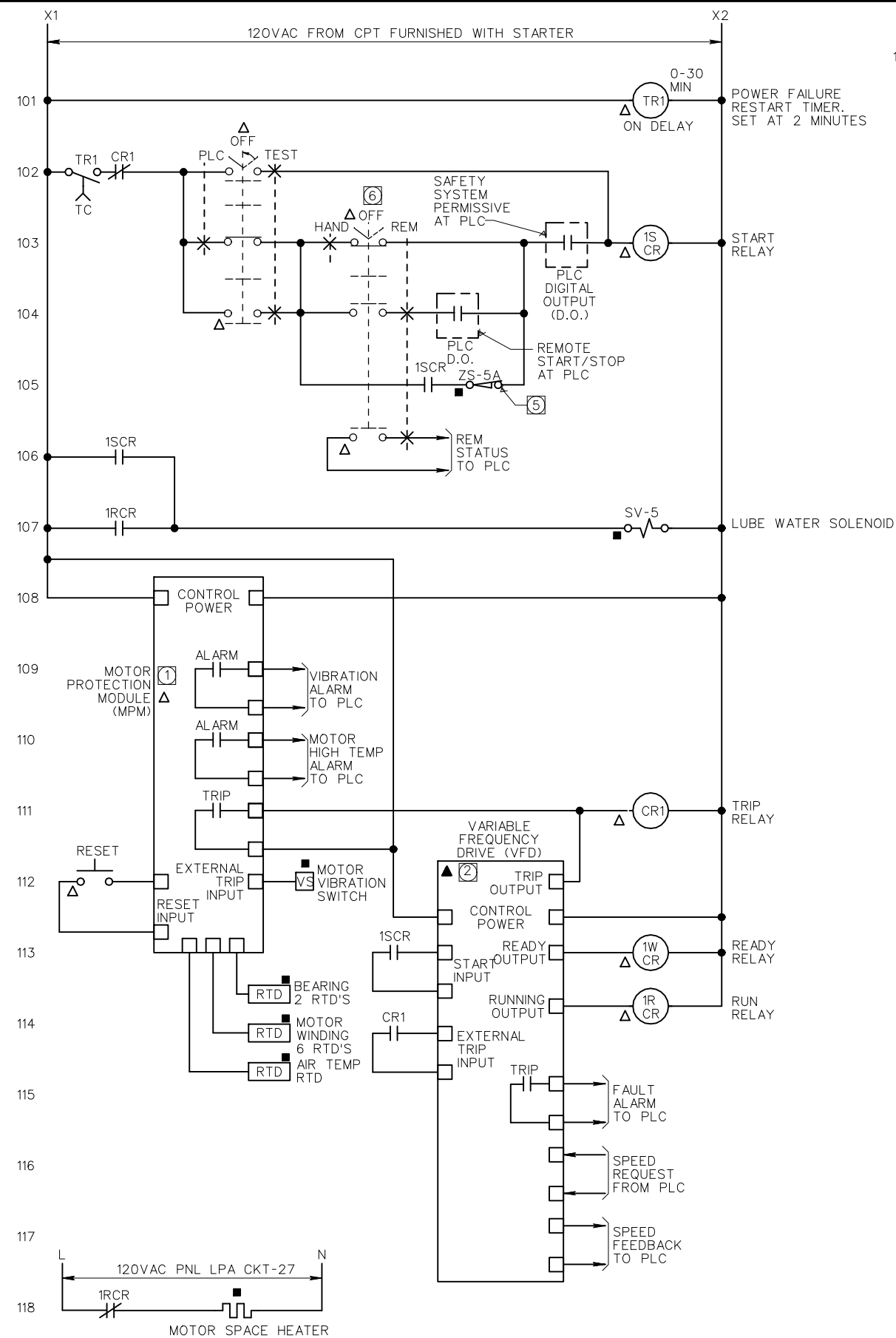


 Portland Oregon	South Fork Water Board 15962 S. Hunter Ave. Oregon City, OR 97045 "Pure Water Since 1915"	2004 SYSTEM CAPACITY IMPROVEMENTS INTAKE/PUMP STATION SINGLE LINE DIAGRAM	SHEET E-06
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3 CONTROL DIAGRAM



CONTINUED ABOVE RIGHT

R	1/26/07	RAW	RECORD DRAWINGS	SCALE	WARNING 	DESIGNED <u>J DEERKOP</u>
				NONE	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.	DRAWN <u>J DEERKOP</u>
REV	DATE	BY	DESCRIPTION			CHECKED <u>R SCHUBACH</u>

RECORD DRAWING

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"Pure Water Since 1915"

2004 SYSTEM CAPACITY IMPROVEMENTS

INTAKE/PUMP STATION
CONTROL DIAGRAM

SHEET
-08

- ### NOTES:
- ① SOLID STATE MOTOR PROTECTION MODULE, REFER TO SPECIFICATIONS.
 - ② MEDIUM VOLTAGE SOLID STATE, REDUCED VOLTAGE STARTER, REFER TO SPECIFICATIONS.
 - ③ ALL DEVICES ARE LOCATED IN THE FEEDER DISCONNECT CABINET MVDS-5 UNLESS OTHERWISE NOTED.
 - ④ NOTE NOT USED.
 - ⑤ VALVE LIMIT SWITCH CLOSES WHEN CONTROL VALVE BEGINS TO OPEN AND OPENS WHEN THE CONTROL VALVE IS COMPLETELY CLOSED.
 - ⑥ FOR TESTING OF THE PUMP CHECK VALVE AND THE MOTOR, THE HAND-OFF-REMOTE SELECTOR SWITCH HAS TO BE IN THE "HAND" POSITION. FOR TESTING OF THE MOTOR ONLY, THE SELECTOR SWITCH CAN BE IN THE "OFF" OR "REMOTE" POSITION.

LEGEND:

- ▲ LOCATED IN 5kV DISCONNECT CABINET, MVDS-P5.
- LOCATED IN THE FIELD (AT MOTOR OR VALVE).
- ▲ LOCATED IN VARIABLE FREQUENCY DRIVE (VFD) CABINET, MVVFD-P5.



③ CONTROL DIAGRAM 1

- △ LOCATED IN 5kV DISCONNECT CABINET, MVDS-P2.
- LOCATED IN THE FIELD (AT MOTOR OR VALVE).
- ▲ LOCATED IN VARIABLE FREQUENCY DRIVE (VFD) CABINET, MVVFD-P2.

R	1/26/07	RAW	RECORD DRAWINGS	SCALE	WARNING 01/2 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE	DESIGNED J DEERKOP	
						NONE	DRAWN J DEERKOP
REV	DATE	BY	DESCRIPTION			CHECKED R SCHUBACH	

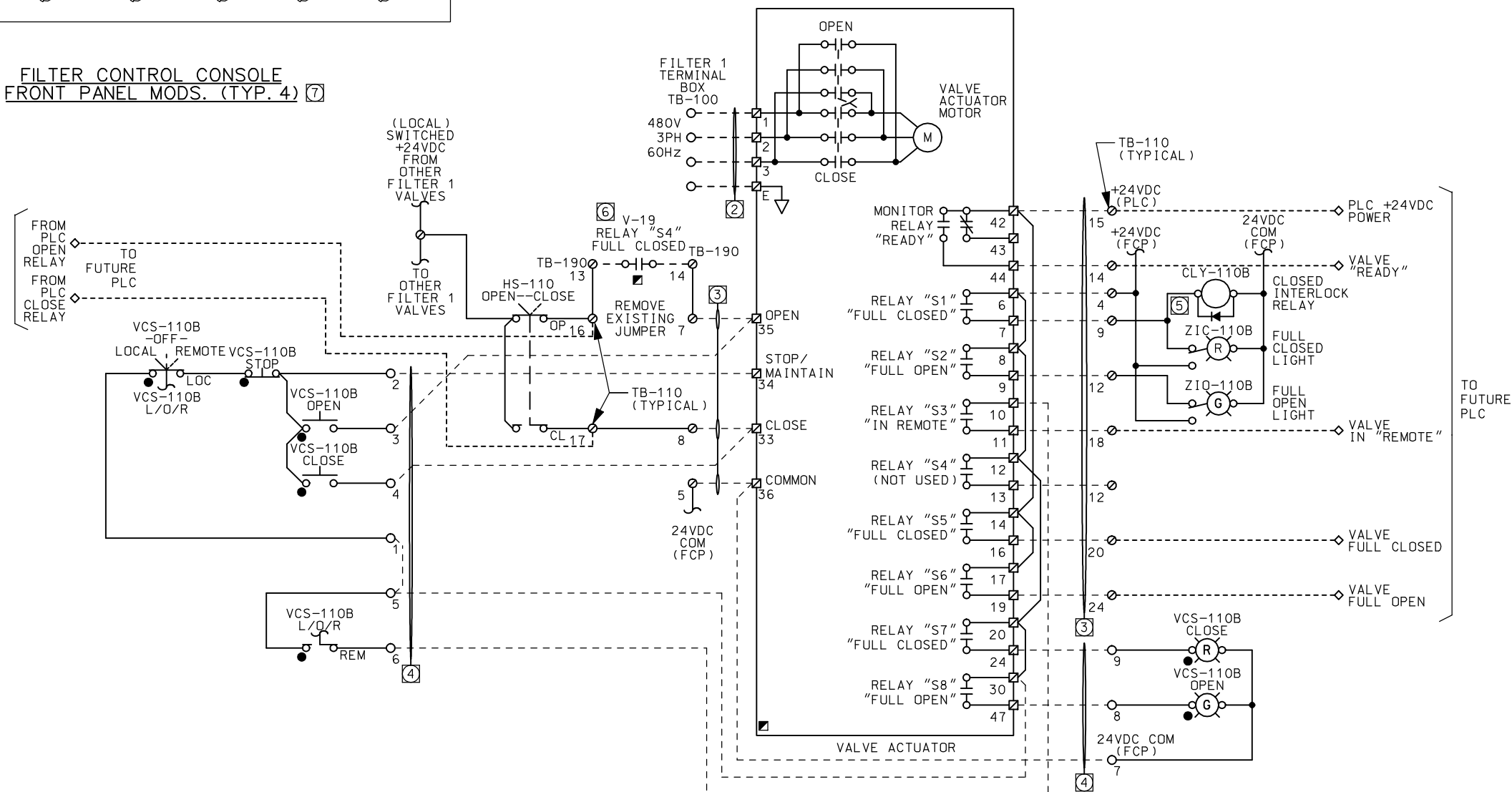
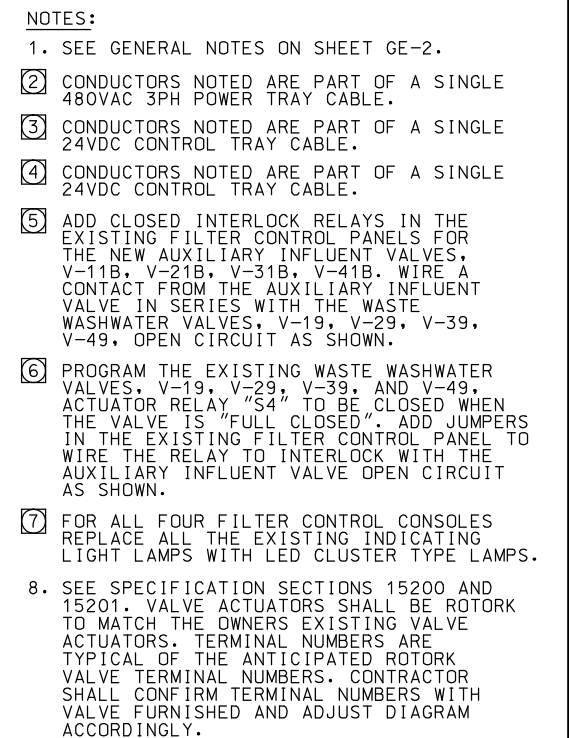
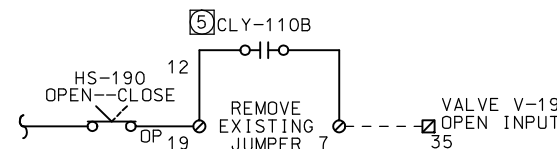
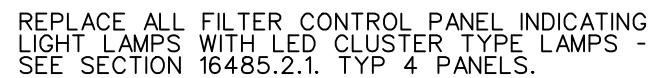
RECORD DRAWING

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"Pure Water Since 1915"

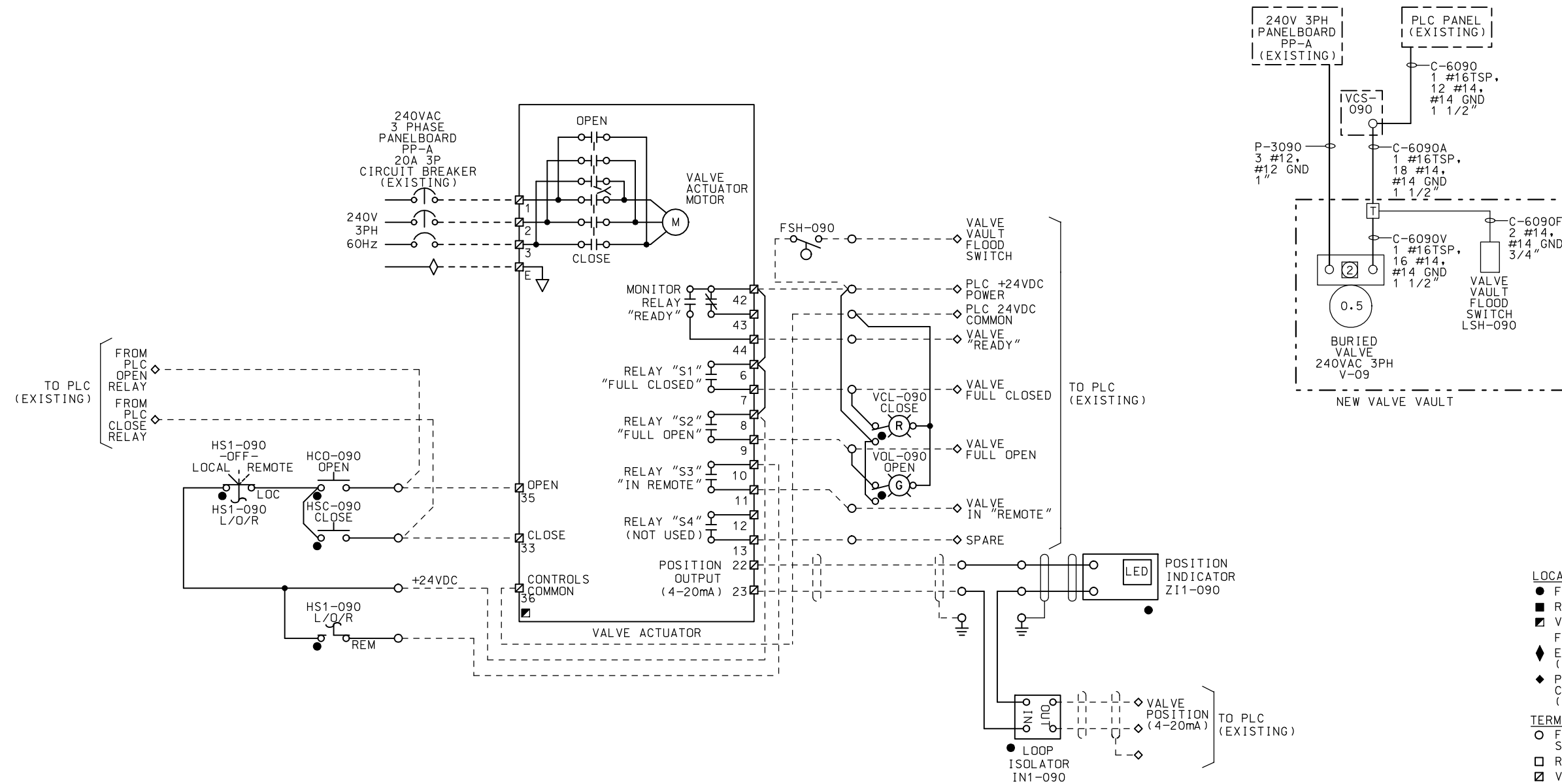
三-09



CONTROL DIAGRAM - OPEN/CLOSE VALVE WITH VCS, V-11B - AUXILIARY INFLUENT VALVE
(TYPICAL FOR VALVES
V-11B, V-21B, V-31B, V-41B)

R	1/26/07	RAW	RECORD DRAWINGS	SCALE	WARNING 0 1/2 1 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE	DESIGNED <u>J DEERKOP</u>	RECORD DRAWING This record drawing has been prepared, entirely or in part on the basis of unverified information compiled and furnished by others to the preparer who is not responsible for any inaccuracies, errors or omissions which may have been incorporated into the document as a result.	 MWH Portland Oregon	South Fork Water Board 15962 S. Hunter Ave. Oregon City, OR 97045 "Pure Water Since 1915"	2004 SYSTEM CAPACITY IMPROVEMENTS WATER TREATMENT PLANT FILTER VALVES CONTROL DIAGRAM	SHEET E-10
			NONE	DRAWN <u>J DEERKOP</u>							
REV	DATE	BY	DESCRIPTION	CHECKED <u>R SCHUBACH</u>							

3. SEE SPECIFICATION SECTIONS 15200 AND 15201. VALVE ACTUATORS SHALL BE ROTORK TO MATCH THE OWNERS EXISTING VALVE ACTUATORS. TERMINAL NUMBERS ARE TYPICAL OF THE ANTICIPATED ROTORK VALVE TERMINAL NUMBERS. CONTRACTOR SHALL CONFIRM TERMINAL NUMBERS WITH VALVE FURNISHED AND ADJUST DIAGRAM ACCORDINGLY.



CONTROL DIAGRAM - OPEN/CLOSE VALVE WITH VCS, V-090

- FIELD, VALVE CONTROL STATION (VCS)
- RELAY PANEL
- ▣ VALVE ACTUATOR
- ◇ FILTER CONTROL PANEL (FCP)
- ◆ EXISTING EQUIPMENT
(LOCATION VARIES)
- ◆ PROGRAMMABLE LOGIC
CONTROLLER (PLC)
(EXISTING)

- ☐ FIELD TERMINAL, VALVE CONTROL
STATION (VCS), OR DEVICE PIN
- ☐ RELAY PANEL TERMINAL
- ☒ VALVE ACTUATOR TERMINAL
- ☒ FILTER CONTROL PANEL (FCP) TERMINAL
- ☒ EXISTING EQUIPMENT
(TYPE VARIES)
- ☒ PROGRAMMABLE LOGIC
CONTROLLER (PLC)
(EXISTING)

R	1/26/07	RAW	RECORD DRAWINGS
REV	DATE	BY	DESCRIPTION

NONE

WARNING

0 $\frac{1}{2}$ 1

IF THIS BAR DOES NOT MEASURE THEN DRAWING NOT TO SCALE

DESIGNED J DEERKOP
DRAWN J DEERKOP
CHECKED R SCHUBACH

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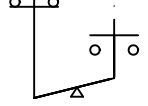
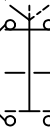
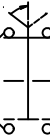
South Fork Water Board
15962 S. Hunter Ave. Oregon City, OR 97045
"Pure Water Since 1915"

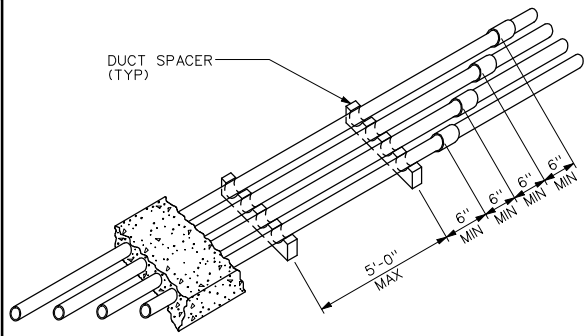
2004 SYSTEM CAPACITY IMPROVEMENTS DIVISION STREET PUMP STATION BURIED VALVE CONTROL DIAGRAM

-11

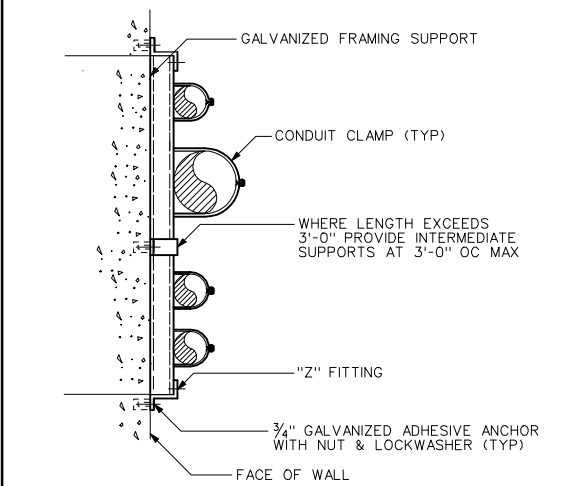
ELECTRICAL SYMBOLS

SCHEMATIC DIAGRAM

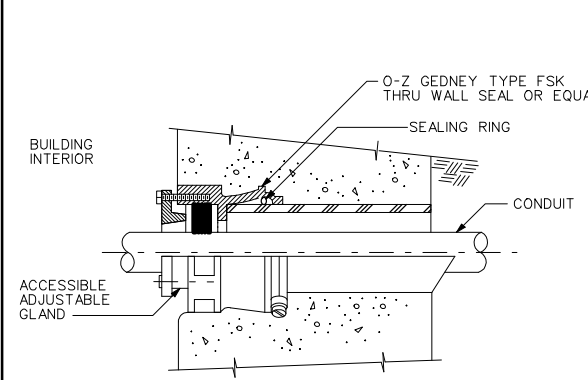
 CONTROL RELAY OR COIL * INDICATES DEVICE CR ---- CONTROL RELAY TD ---- TIME DELAY RELAY (TIMING RANGE AS INDICATED) M ---- MOTOR STARTER PC ---- PHOTOCLELL	 NORMALLY OPEN CONTACT	 NORMALLY CLOSED CONTACT
TIMED CONTACTS - CONTACT ACTION DELAYED AFTER COIL IS:		
ENERGIZED		
	NORMALLY OPEN WITH TIME DELAY CLOSING	
	NORMALLY CLOSED WITH TIME DELAY OPENING	
DE-ENERGIZED		
	NORMALLY OPEN WITH INSTANT CLOSING AND TIME DELAY OPENING	
	NORMALLY CLOSED WITH INSTANT OPENING AND TIME DELAY CLOSING	
	NORMALLY OPEN PUSHBUTTON	
	NORMALLY CLOSED PUSHBUTTON,	
	NO/NC MAINTAINED PUSHBUTTON	
	THREE-POSITION SELECTOR SWITCH. H ---- HAND M ---- MANUAL R ---- REMOTE L ---- LOCAL A ---- AUTOMATIC O ---- OFF	
	TWO-POSITION SELECTOR SWITCH:	
	THREE POSITION SPRING RETURN-TO-CENTER MOMENTARY CONTACT SWITCH	
	SINGLE POLE TOGGLE SWITCH	
	VACUUM OR PRESSURE SWITCH, CLOSE ON RISING PRESSURE	
	VACUUM OR PRESSURE SWITCH, OPEN ON RISING PRESSURE	
	FLOAT LEVEL SWITCH, CLOSE ON RISING LEVEL	
	FLOAT LEVEL SWITCH, OPEN ON RISING LEVEL	
	NORMALLY OPEN	
	NORMALLY CLOSED	
	NORMALLY OPEN HELD CLOSED	
	NORMALLY CLOSED HELD OPEN	
	MAINTAINED POSITION	
	TEMPERATURE SWITCH, CLOSE ON RISING TEMPERATURE	
	TEMPERATURE SWITCH, OPEN ON RISING TEMPERATURE	
	FLOW SWITCH, CLOSE ON INCREASING FLOW	
	FLOW SWITCH, OPEN ON INCREASING FLOW	
	TORQUE SWITCH OPENS ON INCREASING TORQUE	
	DIGITAL INPUT TO PLC/RTU/DCS	
	DIGITAL OUTPUT FROM PLC/RTU/DCS NORMALLY OPEN	
	DIGITAL OUTPUT FROM PLC/RTU/DCS NORMALLY CLOSED	
	ANALOG INPUT TO PLC/RTU/DCS 4-20 mA UNLESS OTHER OTHERWISE NOTED	
	ANALOG OUTPUT FROM PLC/RTU/DCS 4-20 mA UNLESS OTHER OTHERWISE NOTED	
	SOLENOID VALVE	
	PILOT LIGHT * INDICATES LENS COLOR R ---- RED G ---- GREEN A ---- AMBER W ---- WHITE	
	PILOT LIGHT PUSH-TO-TEST SEE ABOVE FOR LENS COLORS	
	HORN	
	ELAPSED TIME METER	
	HEATER	
	GROUND CONNECTION	
	CROSSING OF CONDUCTORS-NOT CONNECTED	
	CONDUCTORS CONNECTED	
	FUSE	
	VOLTAGE SURGE SUPPRESSOR	



TYPICAL DUCTBANK
JOINT/SUPPORT SPACING
REV 042999 E-108



CONDUIT SUPPORT
FLUSH MOUNT
REV 042599 E-212



NOTE:
USE WATERTIGHT CONDUIT SEAL WHERE
CONDUIT PENETRATIONS OF EXTERIOR
WALLS ARE BELOW GRADE.

WATERTIGHT CONDUIT SEAL
BELOW GRADE EXTERIOR WALLS
REV 042599 E-213

Plot Date: Plot Date: 15-FEB-2007 17:00:03

File: c:\p050509\p050509.dwg

Job No: 1530509

R	1/26/07	RAW	RECORD DRAWINGS	SCALE	WARNING	DESIGNED	MWH STANDARD
				NONE	0 1/2 1	DRAWN	MWH STANDARD
REV	DATE	BY	DESCRIPTION		IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE	CHECKED	R SCHUBACH

RECORD DRAWING

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MWH

Portland Oregon

South Fork Water Board

15962 S. Hunter Ave. Oregon City, OR 97045

"Pure Water Since 1915"

2004 SYSTEM CAPACITY IMPROVEMENTS

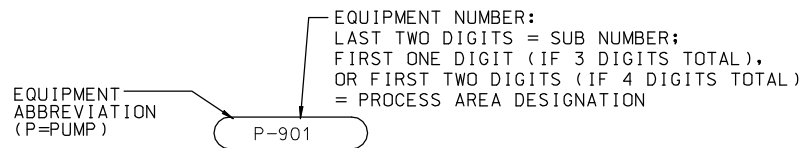
ELECTRICAL SYMBOLS - 2

SHEET

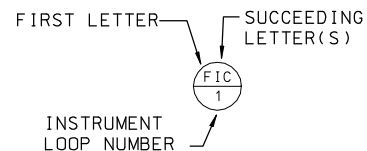
GE-02

INSTRUMENTATION SYMBOLS

	INSTRUMENT OR OTHER COMPONENT TO BE MOUNTED IN THE FIELD			HIGH/LOW SELECTOR	
	INSTRUMENT OR OTHER COMPONENT TO BE MOUNTED INSIDE LOCATION AS MARKED			RELATED DEVICE PERFORMS LINEARIZING OR SQUARE ROOT FUNCTION	
	INSTRUMENT OR OTHER COMPONENT TO BE MOUNTED ON FRONT OF LOCATION AS MARKED				RELATED DEVICE PERFORMS MULTIPLYING, SUMMATION, OR DIVISION FUNCTION
	SINGLE INSTRUMENT OR OTHER COMPONENT HAVING MULTIPLE FUNCTIONS				GENERALIZED FOR COMPLEX INTERLOCK LOGIC - SEE SCHEMATICS OR SPECIFICATIONS
	INSTRUMENT OR OTHER COMPONENT TO BE FURNISHED AND INSTALLED BY OTHERS IN THE FUTURE				PNEUMATIC PRESSURE (P) SIGNAL
	INSTRUMENT OR OTHER COMPONENT TO BE MOUNTED ON FRONT OF LOCATION AS MARKED	(3)			INDICATES QUANTITY OF SIGNALS (THREE)
	INSTRUMENT OR OTHER COMPONENT TO BE MOUNTED INSIDE LOCATION AS MARKED				ELECTRIC SIGNAL
	INDICATING LIGHT MOUNTED IN THE FIELD; MAY BE MOUNTED ON A CONTROL STATION				ELECTRIC POWER
	INDICATING LIGHT MOUNTED ON THE FRONT OF LOCATION AS MARKED				HYDRAULIC LINE
	PROGRAMMABLE LOGIC CONTROLLER INPUT / OUTPUT				MAIN PROCESS PIPING
	POWER DEVICE COMPONENT TO BE MOUNTED INSIDE LOCATION AS MARKED				SONIC SIGNAL
	SHARED DISPLAY/CONTROL MOUNTED ON FRONT OF LOCATION AS MARKED				CAPILLARY TUBING (FILLED SYSTEM)
			24VDC		POWER SUPPLY AS NOTED (24VDC; ETC)
					EXISTING POWER SUPPLY
			A.S.		AIR SUPPLY (20 PSIG TO INSTRUMENTS, 60 PSIG TO VALVES)
					INDICATES VENDOR PACKAGE
					CABLE (MULTICONDUCTOR OR COAXIAL) FURNISHED WITH EQUIPMENT
		(E)			EXISTING ITEM (SEE NOTE 8)
		(F)			FUTURE ITEM
		(FO)			FURNISHED BY OWNER
		(R)			EXISTING ITEM TO BE RELOCATED



MECHANICAL EQUIPMENT CALLOUT



INSTRUMENT TAG NUMBER

SUPERVISORY CONTROL, ALARM, & DATA
ACQUISITION (SCADA) SYMBOLS


 INDICATOR/CONTROLLER/RECORDER OR ALARM NORMALLY ACCESSIBLE TO OPERATOR FROM MMI.


 INTERNAL FUNCTION NOT NORMALLY ACCESSIBLE TO OPERATOR

— — — — — DATA LINK


 GENERALIZED FOR COMPLEX INTERLOCK LOGIC PERFORMED IN SOFTWARE. SEE SCHEMATICS OR SPECIFICATIONS FOR DETAILS.


 = DISCRETE (DIGITAL) INPUT

 
 = DISCRETE (DIGITAL) OUTPUT


 = ANALOG INPUT

 
 = ANALOG OUTPUT

MISCELLANEOUS ABBREVIATIONS

(SEE THE GENERAL ELECTRICAL SHEETS FOR ADDITIONAL ABBREVIATIONS)

AM	AUTO/MANUAL	N.C.	NORMALLY CLOSED
ATM	ATMOSPHERE	N.O.	NORMALLY OPEN
CB	CIRCUIT BREAKER	O/C	OPEN/CLOSE
DEV	DEVIATION	O/C/A	OPEN/CLOSE/AUTO
EQPT	EQUIPMENT	OL	OVERLOAD
F.C.	FAIL CLOSED	O/L/H	OFF/LOW/HIGH
F.O.	FAIL OPEN	O/O	ON/OFF
F/O/S	FAST/OFF/SLOW	O/S/C	OPEN/STOP/CLOSE
F/R	FORWARD/REVERSE	PCT	PERCENT
H/A	HAND/AUTOMATIC	PLC	PROGRAMMABLE LOGIC CONTROLLER
H/L	HIGH/LOW	P/O/T	PLC/OFF/TEST
HMI	HUMAN-MACHINE INTERFACE	POT.	POTENTIOMETER
H/A/O	HAND/AUTOMATIC/OFF	RDY	READY
H/L	HIGH/LOW	REM	REMOTE
H/O/L	HIGH/OFF/LOW	R/S	RUN/STOP
H/O/A	HAND/OFF/AUTOMATIC	R/S/L	RAISE/STOP/LOWER
H/O/R	HAND/OFF/REMOTE	RTU	REMOTE TERMINAL UNIT
HYD	HYDRAULIC	SD	SHUTDOWN
I/D	INCREASE/DECREASE	SEL	SELECT
I/I	CURRENT AMPLIFIER	S/M	STROKES/MINUTE
I/O	INPUT/OUTPUT	S/O/F	SLOW/OFF/FAST
I/O/E	INTERNAL/OFF/EXTERNAL	SP	SET POINT
K/O	TIMER/OFF	S/S	START/STOP
I/P	CURRENT TO PNEUMATIC	T/O/P	TEST/OFF/PLC
LCP	LOCAL CONTROL PANEL (BY CONTRACTOR)	T/O/R	TEST/OFF/RTU
L/O/A	LOCAL/OFF/AUTO	TSP	TWISTED SHIELD PAIR
L/O/R	LOCAL/OFF/REMOTE	TST	TWISTED SHIELD TRIAD
LOS	LOCK-OUT-STOP	VCP	VENDOR CONTROL PANEL (BY VENDOR/EQPT. MFR.)
L/R	LOCAL/REMOTE	USF	US FILTER (FURNISHED BY (INSTALLED AND CONNECTED BY CONTRACTOR))
M/A	MANUAL/AUTO	VFD	VARIABLE FREQUENCY DRIVE
MCC	MOTOR CONTROL CENTER	WTP	WATER TREATMENT PLANT
MFR	MANUFACTURER	WWTP	WASTE WATER TREATMENT PLANT
NOR/BU	NORMAL/BACKUP		

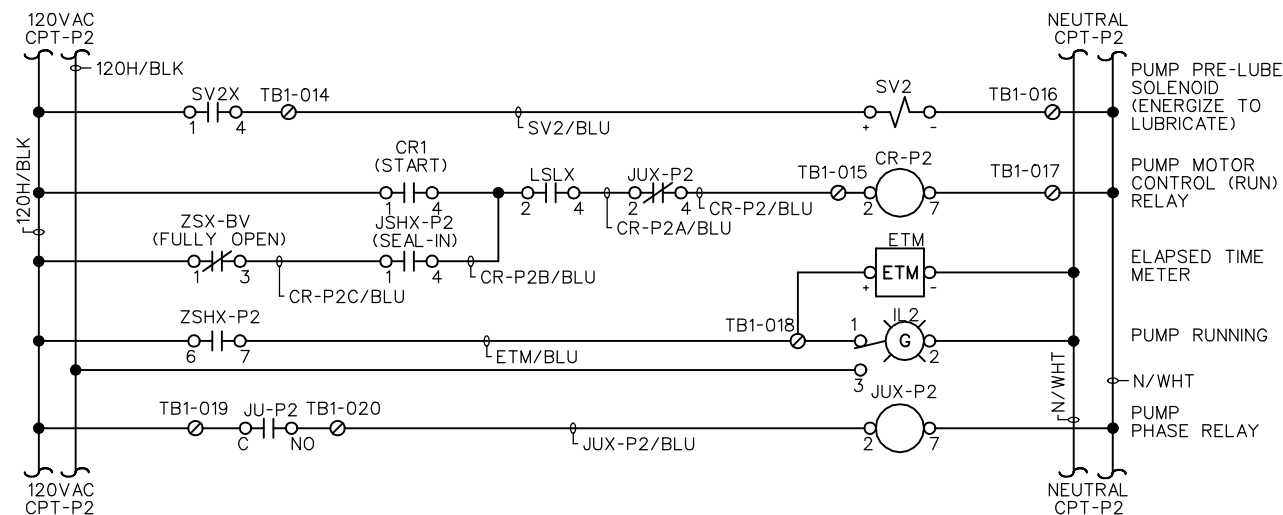
INSTRUMENT IDENTIFICATION TAG LETTERS

LETTER	FIRST LETTER		SUCCEEDING LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER FLAME		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	CONDUCTIVITY (ELECTRICAL)			CONTROLLER	
D	DENSITY	DIFFERENTIAL			
E	VOLTAGE (EMF)		PRIMARY ELEMENT		
F	FLOW/FUEL	RATIO			
G	GAGING (DIMENSIONAL)		GLASS		
H	HAND (MANUALLY INITIATED)				HIGH
I	CURRENT (ELEC)		INDICATE		
J	POWER	SCAN			
K	TIME OR TIME SCHEDULE			CONTROL STA.	
L	LEVEL		LIGHT(PILOT)		LOW
M	MOISTURE OR HUMIDITY				MIDDLE OR INTERMEDIATE
N	TORQUE		ISOLATOR		
O	USER'S CHOICE		ORIFICE		
P	PRESSURE OR PNEUMATIC		POINT		
Q	QUANTITY	INTEGRATE TOTALIZE			
R	RADIOACTIVITY		RECORD OR PRINT		
S	SPEED / FREQUENCY			SWITCH	
T	TEMPERATURE			TRANSMITTER	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VISCOSITY / VIBRATION			VALVE DAMPER OR LOUVER	
W	WEIGHT OR FORCE		WELL		
X	UNCLASSIFIED		UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE			RELAY OR COMPUTE	
Z	POSITION				

CL2	CHLORINE RESIDUAL	SCD	STREAMING CURRENT DETECTOR
D.O.	DISSOLVED OXYGEN	SCU	STREAMING CURRENT UNIT
H2S	HYDROGEN SULFIDE	SS	SUSPENDED SOLIDS
LEL	LOWER EXPLOSIVE LIMIT	Tu	TURBIDITY
O2	OXYGEN CONCENTRATION	UPS	UNINTERRUPTIBLE POWER SUPPLY
O3	OZONE	UV	ULTRAVIOLET (RADIATION)
PART	PARTICLES (COUNTER)		
pH	HYDROGEN ION CONCENTRATION		

NOTES

1. ADDITIONAL INSTRUMENTATION AND CONTROL SYMBOLS MAY BE USED AS REQUIRED. SYMBOLS AND NOMENCLATURE ARE BASED ON ISA STANDARD S 5.1.
2. SEE ASSOCIATED ELECTRICAL AND MECHANICAL SYMBOL SHEETS FOR ADDITIONAL SYMBOLS AND ABBREVIATIONS.
3. FOR DETAILS OF METER COUPLING AND OTHER MECHANICAL EQUIPMENT (e.g. VALVES, PUMPS, ETC.) SEE MECHANICAL DRAWINGS AND SPECIFICATIONS.
4. CONTRACTOR TO MEET THE PARTICULAR CHARACTERISTICS (e.g. VOLTAGE AND CURRENT REQUIREMENTS) OF COMPONENTS IN EACH LOOP OR SYSTEM.
5. ALL FIELD SWITCHES FOR ELECTRIC MOTOR OPERATION SHALL BE SUPPLIED UNDER THE ELECTRICAL SPECIFICATIONS. EXCEPTIONS ARE WHEN SWITCHES ARE MOUNTED ON PANELS SUPPLIED BY THE SYSTEM INTEGRATOR, OR PART OF VENDOR PACKAGES SUCH AS VALVE ACTUATORS, FIRE PUMPS, ETC.
6. CONTRACTOR IS RESPONSIBLE FOR ALL COORDINATION BETWEEN ALL DIVISIONS OF WORK AND ALL TRADES.
7. CONTRACTOR SUBMITTAL DRAWINGS SHALL INCLUDE DEVICE TAGNAMES, DEVICE PIN NUMBERS, WIRE NUMBER, WIRE COLOR, EXPLANATORY COMMENTS TO CLARIFY DEVICE OPERATION AND INTERLOCKING STATES.
8. ALL EQUIPMENT, DEVICES, ETC. SHOWN ARE NEW TO BE FURNISHED, INSTALLED AND CONNECTED BY THE CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE.



SAMPLE CONTROL DIAGRAM - MINIMUM REQUIRED

R	1/26/07	RAW	RECORD DRAWINGS	SCALE	WARNING	DESIGNED <u> </u> MWH STANDARD
						
				NONE	IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE	DRAWN <u> </u> MWH STANDARD
REV	DATE	BY	DESCRIPTION			CHECKED <u> </u> R SCHUBACH

RECORD DRAWING
This record drawing has been prepared, entirely or in part on the basis of unverified information compiled and furnished by others to the preparer who is not responsible for any inaccuracies, errors or omissions which may have been incorporated into the document as a result.



South Fork Water Board
15962 S. Hunter Ave. Oregon City, OR 97045
"Pure Water Since 1915"

2004 SYSTEM CAPACITY IMPROVEMENTS
INSTRUMENTATION
NOTES, SYMBOLS AND ABBREVIATIONS

SHEET

SI-01

SHEET
-02

Plot Date: 15-FEB-2007 17:08:31

File: c:\pwworkspace\2004 System Capacity Improvements\2004 System Capacity Improvements.dwg

Job No: 1530509

FUTURE PLC/SCADA

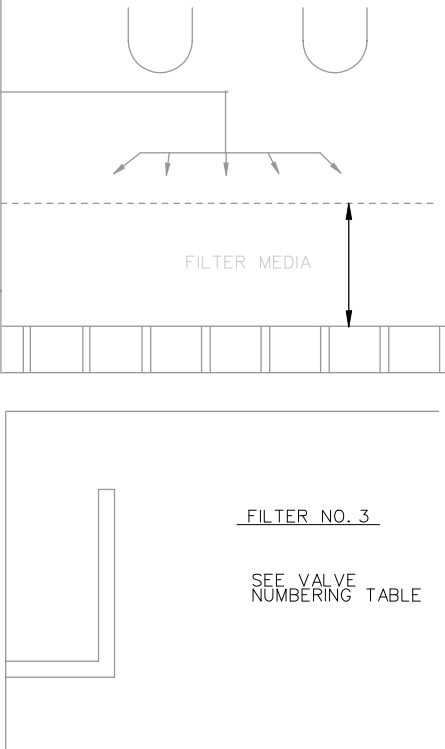
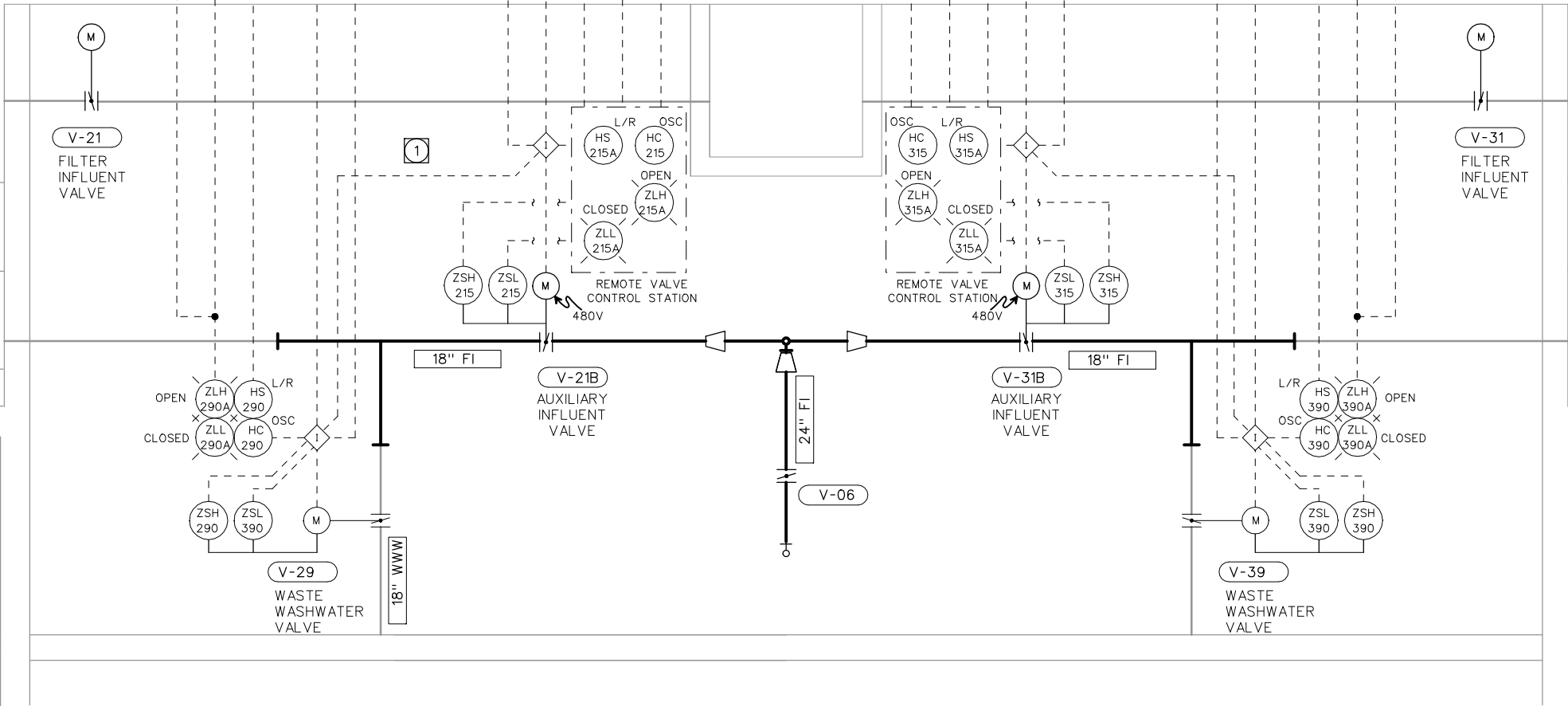
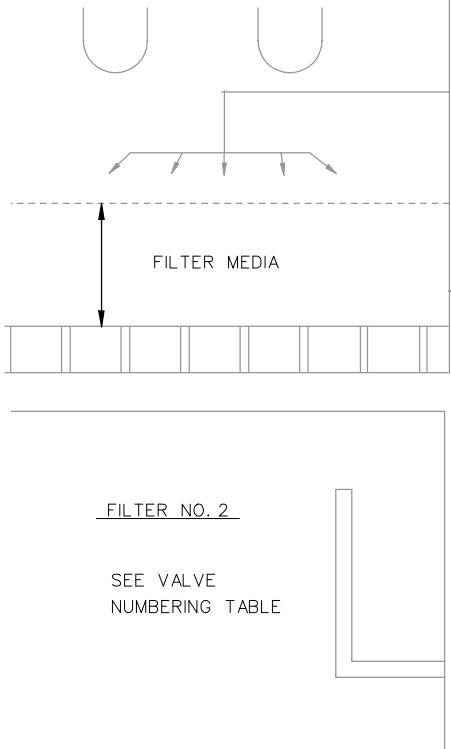
FILTER CONSOLE

FIELD

- 1 PROVIDE INTERLOCK BETWEEN AUX. INFLUENT VALVE AND WASTE WASH WATER VALVE TO PREVENT EITHER FROM BEING OPEN AT THE SAME TIME. TYP. 4 PLCS.
- 2 SCHEMATIC TYPICAL FOR FILTERS NO. 1 AND 4
- 3 SEE ALSO NOTES ON E-10

FILTER VALVE NUMBERING TABLE

FILTER	FILTER INFLUENT VALVE	FI VALVE LOOP
NO. 1	V-11B	115
NO. 2	V-21B	215
NO. 3	V-31B	315
NO. 4	V-41B	415



REV	DATE	BY	DESCRIPTION
R	1/26/07	RAW	RECORD DRAWINGS

SCALE
NONE

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED R WARNER
DRAWN R WARNER
CHECKED R SCHUBACH

RECORD DRAWING

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2004 SYSTEM CAPACITY IMPROVEMENTS
PROCESS AND INSTRUMENTATION DIAGRAM
WTP FILTER GALLERY PIPING

SHEET
I-02



1. MPM IS EXISTING. NEW MOTOR HAS 6 WINDING RTDS, TWO BEARING RTDS, AND AN AMBIENT AIR TEMP RTD. WIRE THE AMBIENT AIR RTD TO MPM RTD INPUT 10.

