

MANATEE COUNTY, FLA.

WATER TREATMENT PLANT IMPROVEMENTS

RUSSELL & AXON

ENGINEERS - PLANNERS - ARCHITECTS

DAYTONA BEACH, FLA.

RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.

DATE..... BY.....

CHECKED BY:

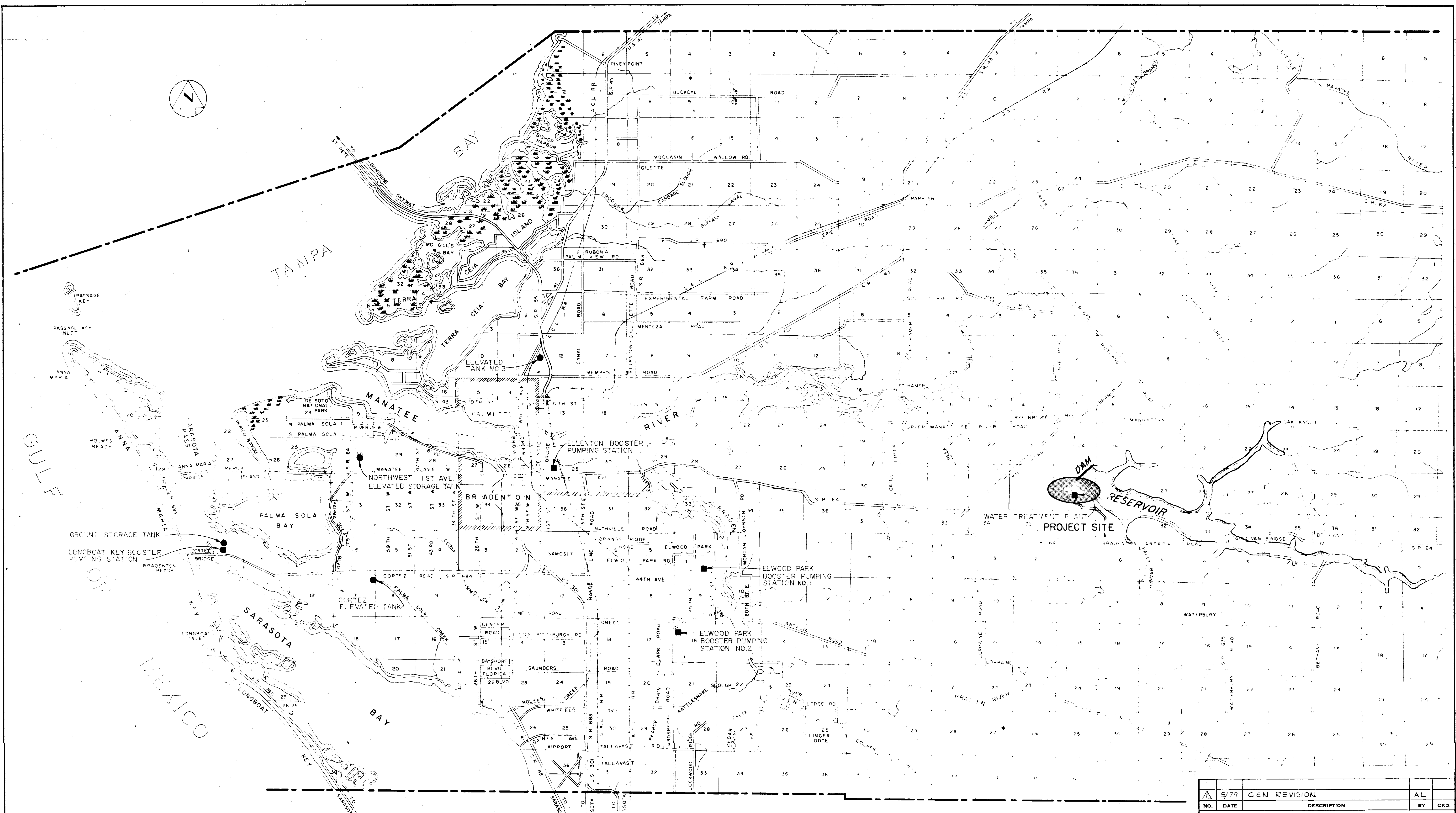
R & A.....

M.C.U.S.....

GENERAL		
SHT NO.	DWG NO.	DESCRIPTION
G1	1	COVER SHEET
G2	2	INDEX
G3	3	SITE LOCATION
G4	4	CHEMICAL FEED SCHEMATIC
CIVIL		
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C2	6	SITE PLAN
C3	7	DEMOLITION PLAN
C4	8	YARD PIPING PLAN
C5	9	NORTH SLUDGE DRYING BEDS PLAN & SECTIONS
C6	10A	SOUTH SLUDGE DRYING BEDS PLAN,SECTIONS,& DETAILS
C7	11	BACKWASH POND PLAN & SECTIONS
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C9	13	CHEMICAL FEED PIPING & SAMPLE PIPING LAYOUT
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A2	24	OPERATORS FLOOR PLAN
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A7	29	SECTION
A8	30	ROOF & ALUMINUM SCREENING DETAILS
A9	31	ROOF PLAN
A10	32	FINISH SCHEDULES, ELEVATIONS & DETAILS
A11	33	H.V.A.C. PLAN, SECTIONS, & SCHEDULES
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S2	35	FIRST FLOOR PLAN AT ELEVATION 61.75
S3	36	SECOND FLOOR PLAN AT ELEVATION 71.00
S4	37	ROOF FRAMING PLAN
S5	38	ROOF PLAN OVER FILTER OPERATING ROOM , SECTIONS & DETAILS
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S8	41	SECTIONS & DETAILS
S9	42	SECTIONS & DETAILS
S10	43	TYPICAL DETAILS
M1	44	PLAN AT ELEVATION 71.50
M2	45	PLAN AT ELEVATION 69.00
M3	46	SECTIONS & DETAILS
M4	47	SECTION
M5	48	FILTER BOTTOM & TROUGH SECTIONS & DETAILS

MAINTENANCE BUILDING		
SHT NO.	DWG NO.	DESCRIPTION
A1	49	FIRST FLOOR PLAN
A2	50	SECOND FLOOR PLAN
A3	51	ELEVATIONS
A4	52	SECTIONS
A5	53	ROOF PLAN, SECTIONS, & DETAILS
A6	54	DELETED
A7	55	FIN. SCHED., DOOR & HDW. SCHED., DETS., *& TOILET ELEV.
A8	56	LABORATORY LAYOUT & ELEVATIONS
A9	57	HVAC PLAN
A10	58	HVAC PLAN & SECTIONS
S1	59	PLAN AT ELEVATION 67.50, SECTIONS & DETAILS
S2	60	PLAN AT ELEVATION 71.00, ROOF FRAMING PLAN AT ELEV 81.67, SECT & DETS.
S3	61	SECTIONS & DETAILS
M1	62	PLUMBING LAYOUT, FIRST FLOOR
M2	63	PLUMBING LAYOUT, SECOND FLOOR, PLUMBING ISOMETRIC, & DETAILS
CHEMICAL FEED BUILDING		
A1	64	DEMOLITION PLAN
A2	65	FLOOR PLAN
A3	66	ELEVATION
A4	67	SECTIONS & DETAILS
A5	68	ROOF FRAMING PLAN & DETAILS
A6	69	ROOF PLAN
A7	70	FIN. SCHED., DOOR & HDW. SCHED. & DETAILS
A8	71	HVAC PLAN & SECTIONS
S1	72	FOUNDATION PLANS, SECTIONS, & DETAILS
S2	73	PLAN AT ELEV. 72.00, SECTIONS & DETAILS
M1	74	CHEMICAL FEED PLAN & SECTIONS
M2	75	PLAN & SECTIONS
M3	76	SECTIONS
M4	77	ISOMETRIC & SCHEDULES
M5	78	PIPE HANGER DETAILS
STANDBY GENERATOR ROOM EXPANSION		
A1	79	FLOOR PLAN, ELEVATIONS & SECTIONS
A2	80	ROOF PLAN,SECTIONS & DETAILS
M1	81	PLAN, SECTIONS, & DETAILS
CHEMICAL STORAGE		
S1	82	FOUNDATION PLAN & SECTIONS
M1	83	PLAN & SECTION
M2	84	ENLARGED PLANS, SECTIONS, & DETAILS
CARBON CONDITIONING SYSTEM		
S1	85	PLAN, SECTIONS, & DETAILS
M1	86	PLAN & SECTIONS
M2	87	CARBON FEED PIPING & ISOMETRIC

ELWOOD PARK BOOSTER PUMPING STATION I		
SHT NO.	DWG NO.	DESCRIPTION
M1	88	MODIFICATIONS TO CHLORINATION SYSTEM
ELECTRICAL		
E1	89	ELECTRICAL SITE PLAN
E2	90	STANDBY POWER GENERATION & SECONDARY BUS ARR. FLAN & SECTIONS
E3	91	MOTOR CONTROL CENTER & STANDEY FOWER SUFLY - SINGLE LINE DIAG.
E4	92	MOTOR CONTROL CENTER MCC-3 SCHEDULE -LEGEND
E5	93	MOTOR CONTROL CENTERS LAYOUT CHEMICAL STORAGE DETAILS
E6	94	NEW FILTER BLDG - FIRST FLOOR PLAN POWER, CONT. & LTG. DISTRIBUTION
E7	95	NEW FILTER BLDG - SEC. FLOOR PLAN POWER,CONT. & LTG. DISTRIBUTION
E8	96	DELETED
E9	97	DELETED
E10	98	CHEMICAL EQUIPMENT & STOR. POWER,CONTROLS & LTG. DISTRIBUTION
E11	99	FILTER CONSOLE -CONTROLS SCHEMATIC
E12	100	CHEMICAL EQUIPMENT CONTROL SCHEMATIC
E13	101	PLANT OPERATOR CONTROL CONSOLE ARRANGEMENT & DETAILS
E14	102	COMMUNICATION SYSTEM INSTALLATION DETAILS I
E15	103	COMMUNICATION SYSTEM INSTALLATION DETAILS II ELWOOD STA. NO.I
E16	104	COMM. SYSTEM INSTALLATION - DETAILS III, RW PUMP STA.,NO.I - DETAILS
E17	105	PROCESS SCHEMATIC DIAGRAM I
E18	106	PROCESS SCHEMATIC DIAGRAM II
E19	107	TURBIDITY MONITORING SYSTEM SCHEMATIC DIAGRAM
E20	108	MISCELLANEOUS SCHEDULE
E21	109	MCC-1 & MCC-3 SCHED. EXIST. PUMP ROOM TRANS. PUMP P-3 POWER & CONT.
E22	110	CARBON FEED SYSTEM - DETAILS
E23	111	COMMUNICATION SYSTEM INSTALLATION -DETAIL II
INSTRUMENTATION		
I1	112	PLANT OPERATOR CONTROL CONSOLE LAYOUT



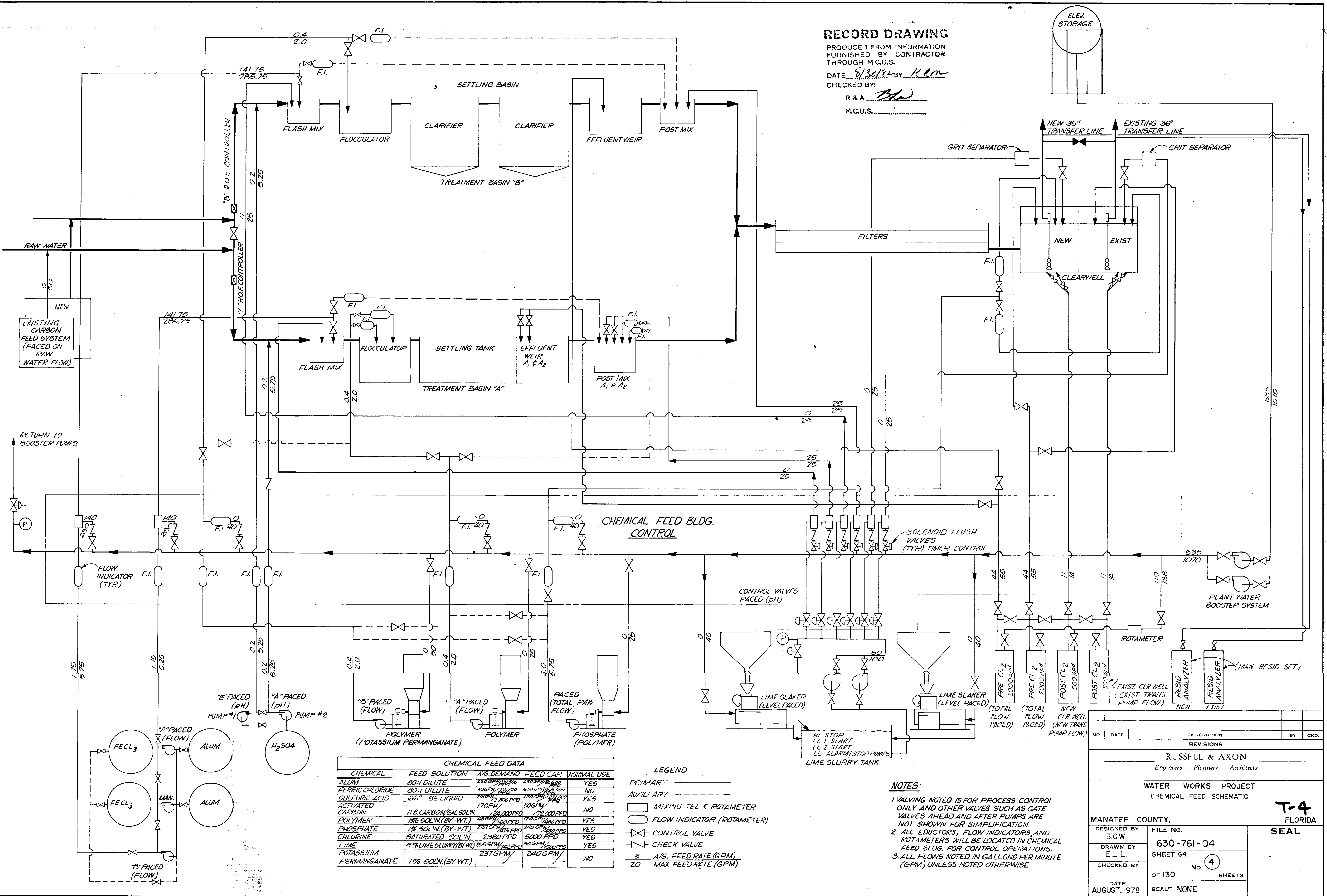
5/79		GEN REVISION		AL	
NO.	DATE	DESCRIPTION		BY	CKD.
REVISIONS					
RUSSELL & AXON Engineers — Planners — Architects					
WATER WORKS PROJECT SITE LOCATION					
MANATEE COUNTY DESIGNED BY B.C.W. DRAWN BY I.C.S. CHECKED BY				FILE NO. 630-761-04 SHEET G3 NO. 3 OF 130 SHEETS	
DATE 8/30/82 BY K.R.M. CHECKED BY R & A M.C.U.S.				DATE AUGUST, 1978 SCALE: 1" = 1 MILE	

RECORD DRAWING
 PRODUCED FROM INFORMATION
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 THROUGH M.C.U.S.
 DATE 8/30/82 BY K.R.M.
 CHECKED BY R & A
 M.C.U.S.

T-3
 FLORIDA
 SEAL

RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE 8/30/82 BY KRM
CHECKED BY: R & A
M.C.U.S.



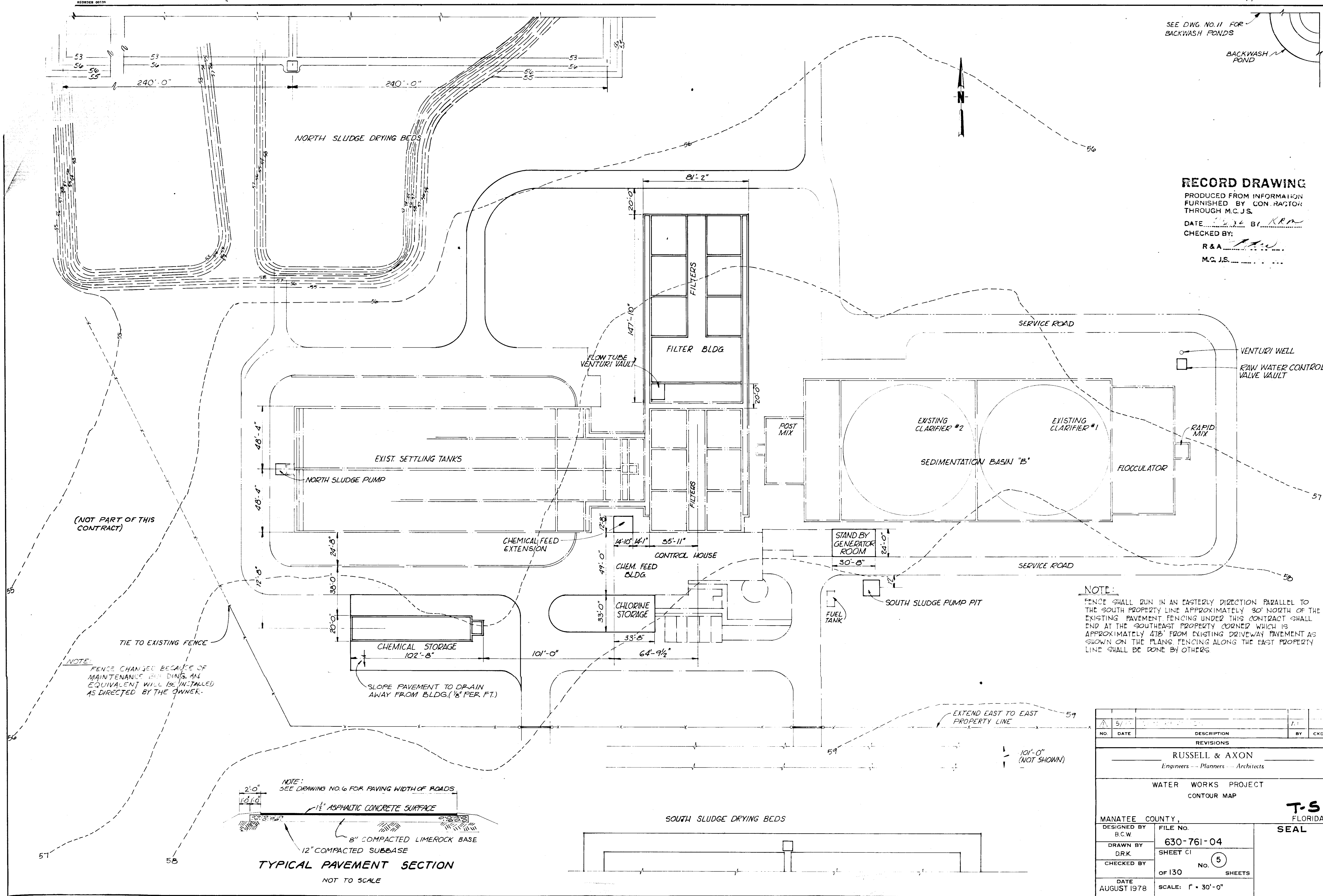
CHEMICAL FEED DATA				
CHEMICAL	FEED SOLUTION	AVG. DEMAND	FEED CAP.	NORMAL USE
ALUM	80:1 DILUTE	220 GPM / 18,000 PPD	630 GPM / 50,000 PPD	YES
FERRIC CHLORIDE	80:1 DILUTE	400 GPM / 18,000 PPD	630 GPM / 50,000 PPD	NO
SULFURIC ACID	66% BE LIQUID	200 GPM / 3,800 PPD	630 GPM / 50,000 PPD	YES
ACTIVATED CARBON	1 LB. CARBON / GAL SOL'N	176 GPM / 24,000 PPD	506 GPM / 72,000 PPD	NO
POLYMER	1% SOL'N (BY WT.)	48 GPM / 160 PPD	720 GPM / 240 PPD	YES
PHOSPHATE	1% SOL'N (BY WT.)	237 GPM / 475 PPD	240 GPM / 480 PPD	YES
CHLORINE	SATURATED SOL'N	2380 PPD	5000 PPD	YES
LIME	5% LIME SLURRY (BY WT.)	8.56 GPM / 142 PPD	20 GPM / 300 PPD	YES
POTASSIUM PERMANGANATE	1% SOL'N (BY WT.)	237 GPM / -	240 GPM / -	NO

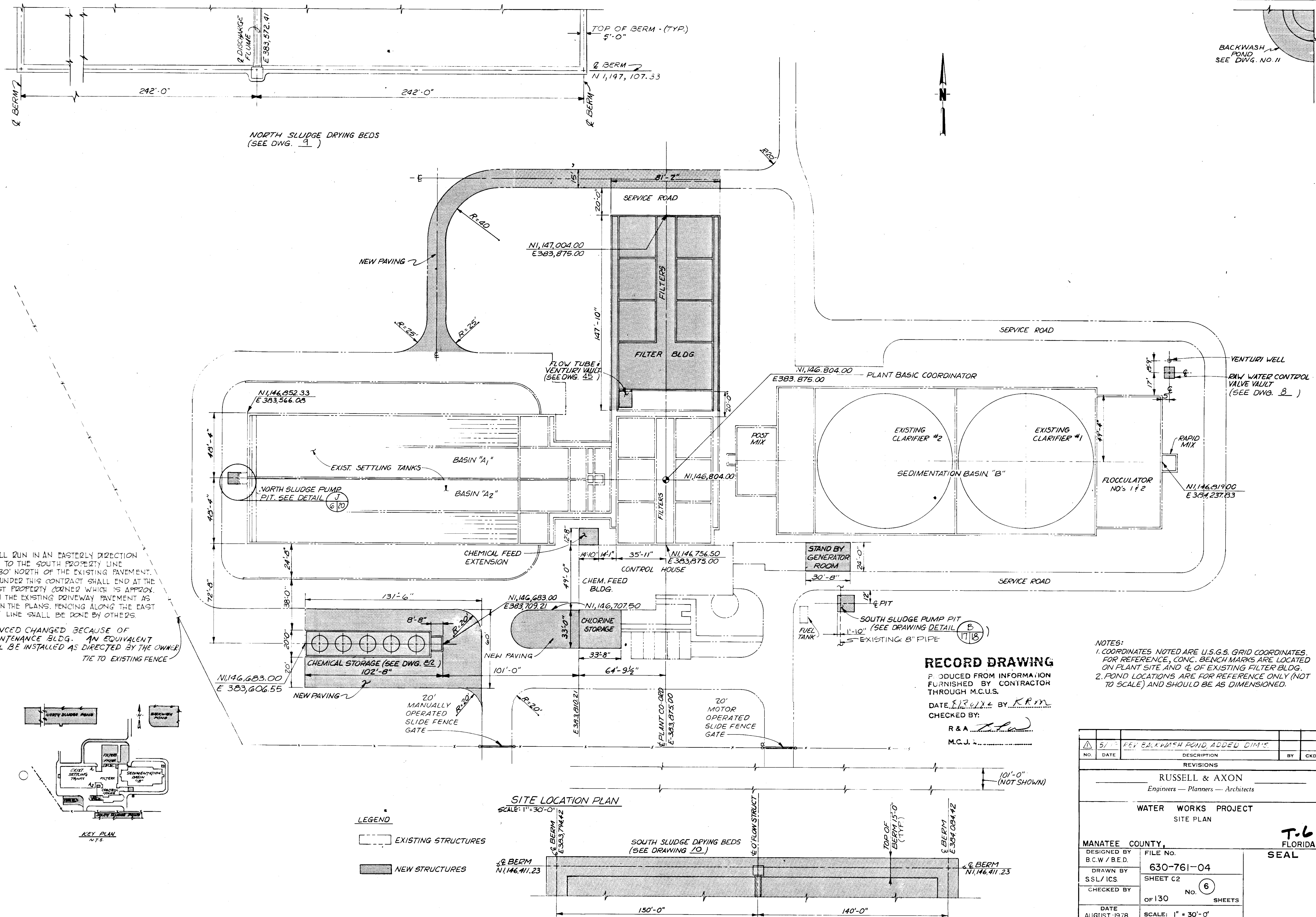
LEGEND
 PRIMARY ———
 AUXILIARY - - - - -
 MIXING TEE & ROTAMETER
 FLOW INDICATOR (ROTAMETER)
 CONTROL VALVE
 CHECK VALVE
 5 / 20 AVG. FEED RATE (GPM)
 MAX. FEED RATE (GPM)

NOTES:
 1. VALVING NOTED IS FOR PROCESS CONTROL ONLY AND OTHER VALVES SUCH AS GATE VALVES AHEAD AND AFTER PUMPS ARE NOT SHOWN FOR SIMPLIFICATION.
 2. ALL EDUCTORS, FLOW INDICATORS, AND ROTAMETERS WILL BE LOCATED IN CHEMICAL FEED BLDG. FOR CONTROL OPERATIONS.
 3. ALL FLOWS NOTED IN GALLONS PER MINUTE (GPM) UNLESS NOTED OTHERWISE.

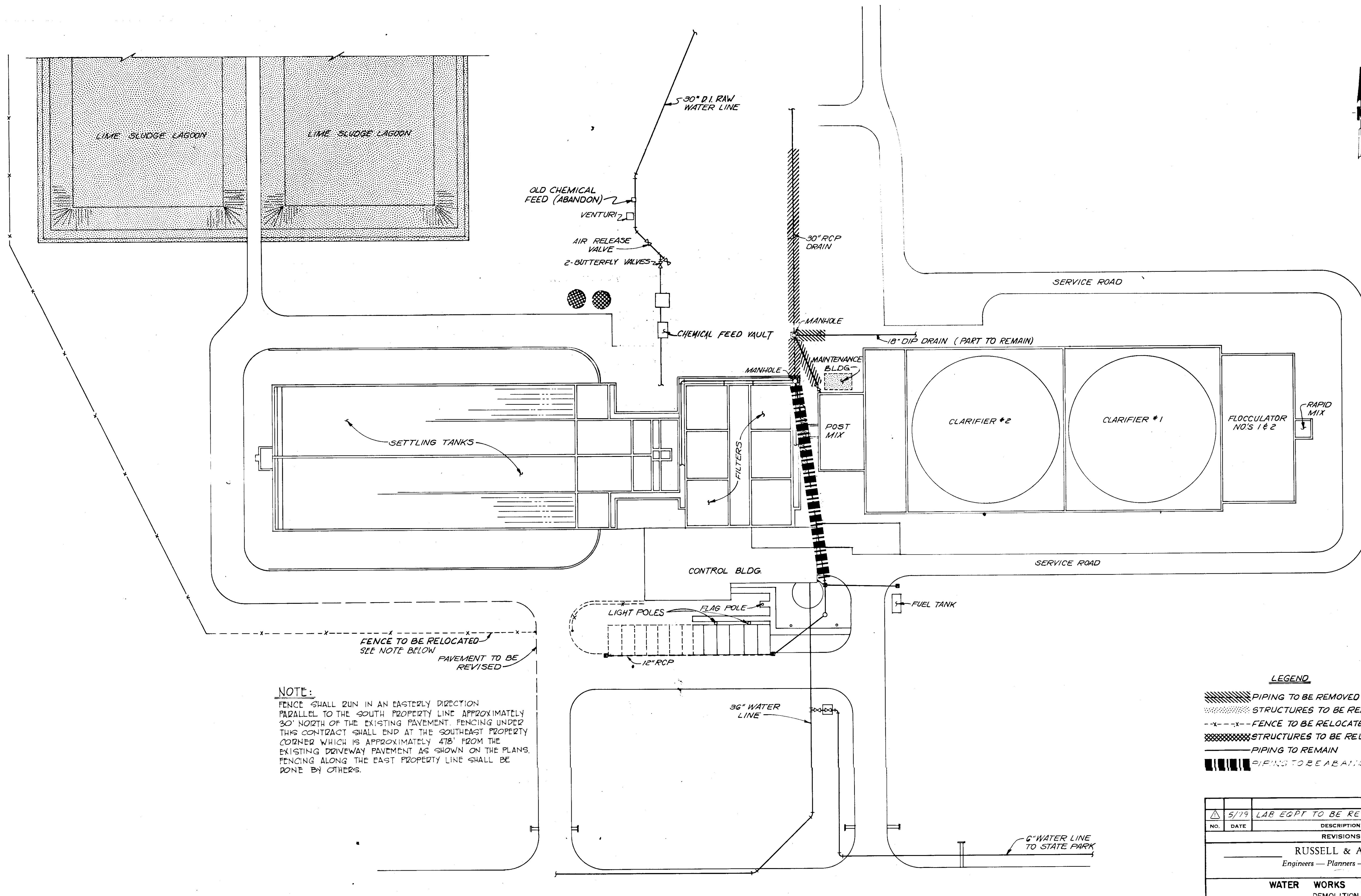
NO.		DATE	DESCRIPTION	BY	CKD.
REVISIONS					
RUSSELL & AXON Engineers — Planners — Architects					
WATER WORKS PROJECT CHEMICAL FEED SCHEMATIC					
MANATEE COUNTY, FLORIDA					
DESIGNED BY B.C.W.	FILE NO. 630-761-04	SEAL			
DRAWN BY E.L.L.	SHEET 64				
CHECKED BY	OF 130 SHEETS				
DATE AUGUST, 1978	SCALE: NONE				

14-01





NO.	DATE	DESCRIPTION	BY	CHKD.
5/1		KEY BACKWASH POND, ADDED DIM'S.		
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT SITE PLAN				
MANATEE COUNTY, FLORIDA				
DESIGNED BY B.C.W./B.E.D.	FILE NO. 630-761-04	T.6 FLORIDA SEAL		
DRAWN BY SSL/ICS	SHEET C2			
CHECKED BY	OF 130 SHEETS			
DATE AUGUST, 1978	SCALE: 1" = 30'-0"			



NOTE:

FENCE SHALL RUN IN AN EASTERLY DIRECTION PARALLEL TO THE SOUTH PROPERTY LINE APPROXIMATELY 30' NORTH OF THE EXISTING PAVEMENT. FENCING UNDER THIS CONTRACT SHALL END AT THE SOUTHEAST PROPERTY CORNER WHICH IS APPROXIMATELY 478' FROM THE EXISTING DRIVEWAY PAVEMENT AS SHOWN ON THE PLANS. FENCING ALONG THE EAST PROPERTY LINE SHALL BE DONE BY OTHERS.

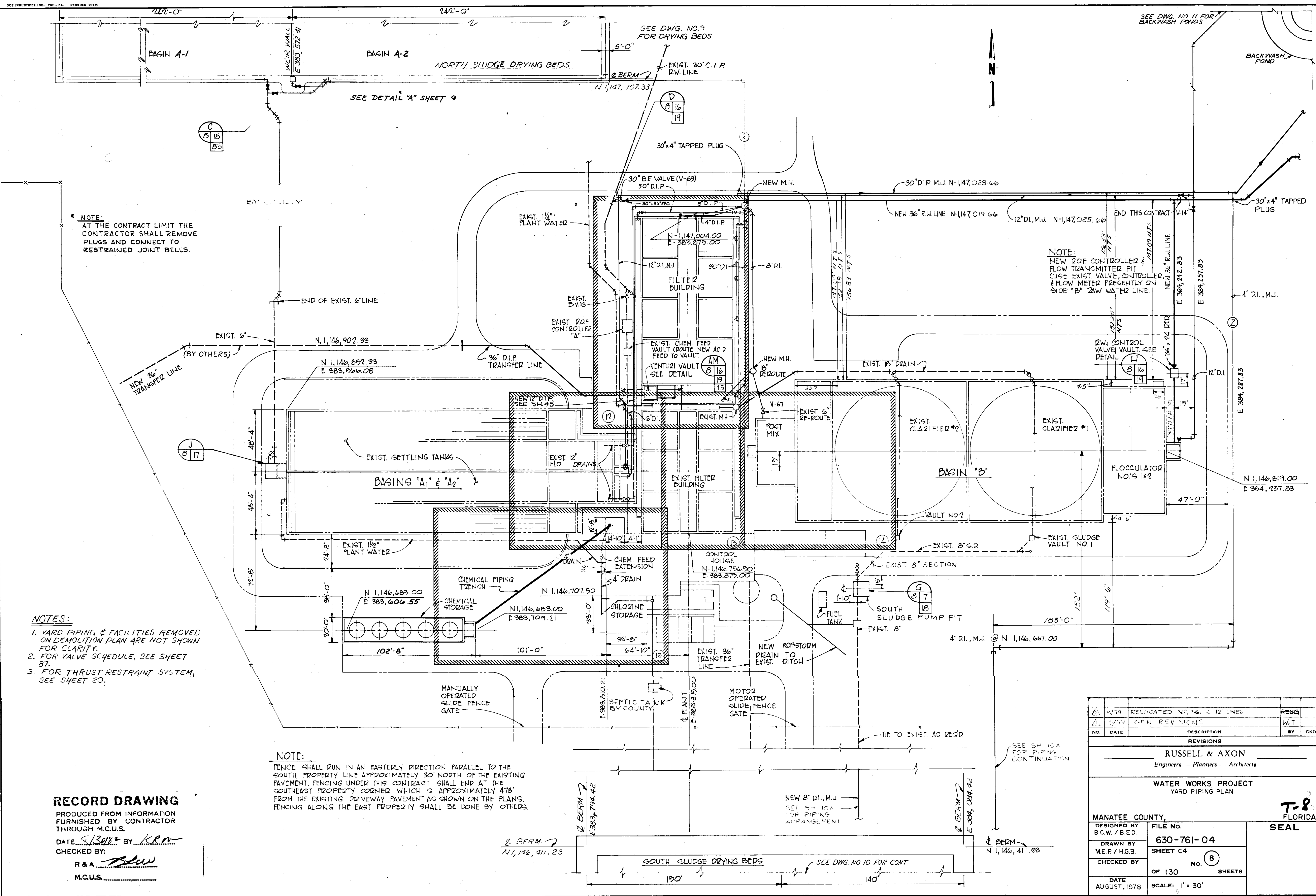
LEGEND

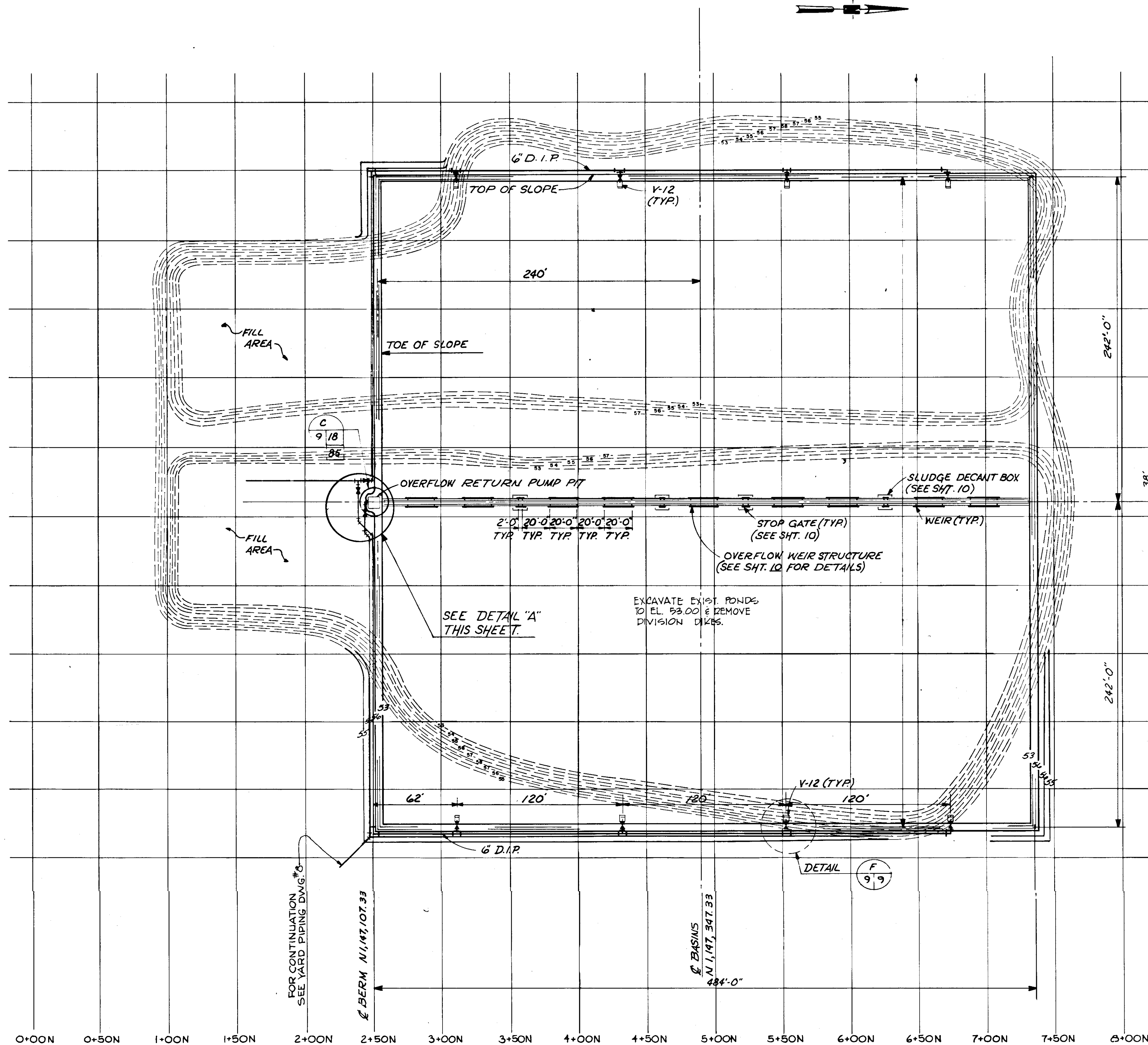
- PIPING TO BE REMOVED
- STRUCTURES TO BE REMOVED
- FENCE TO BE RELOCATED
- STRUCTURES TO BE RELOCATED
- PIPING TO REMAIN
- PIPING TO BE ABANDONED

RECORD DRAWING

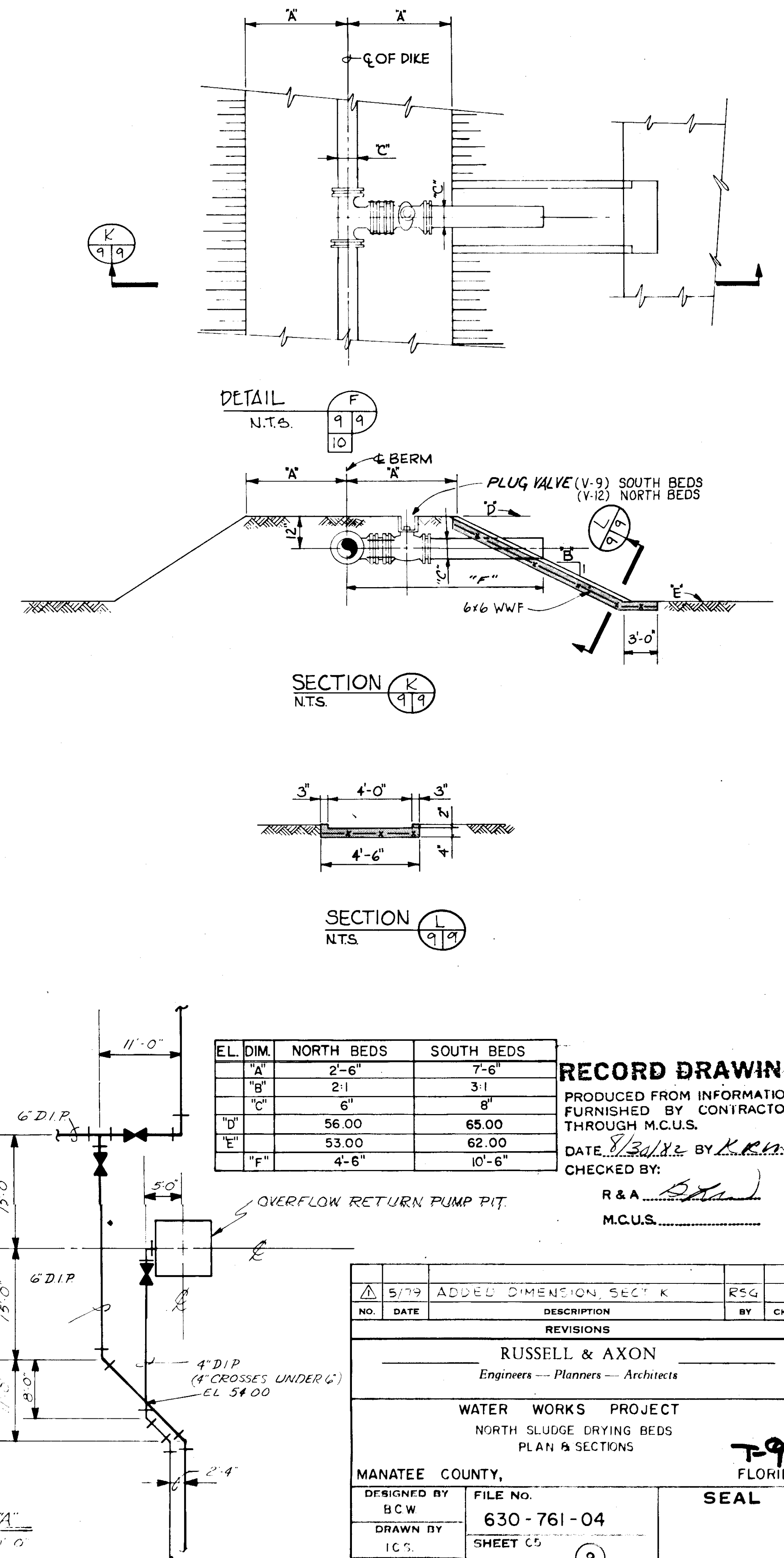
PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE 8/30/82 BY K.R.R.
CHECKED BY:
R & A [Signature]
M.C.U.S. _____

NO.	DATE	DESCRIPTION	BY	CKD.
5/79		LAB EQPT TO BE REMOVED		
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT DEMOLITION PLAN				
MANATEE COUNTY,		FILE NO.	T-7 FLORIDA SEAL	
DESIGNED BY B.E.D.	630-761-04			
DRAWN BY R.E.K.	SHEET C3			
CHECKED BY	OF 130 NO. 7 SHEETS			
DATE AUGUST, 1978	SCALE: 1" = 30'			

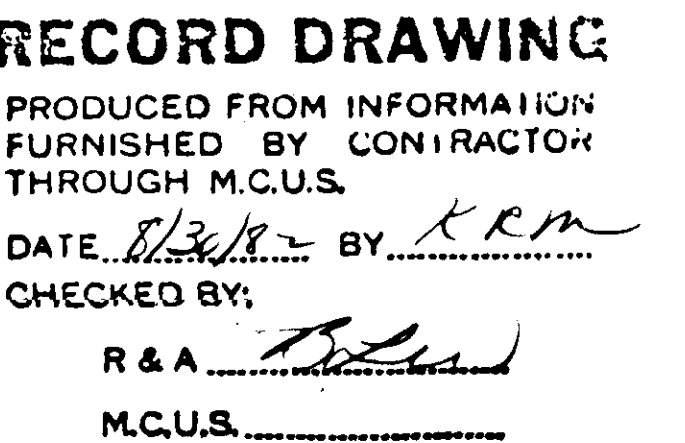




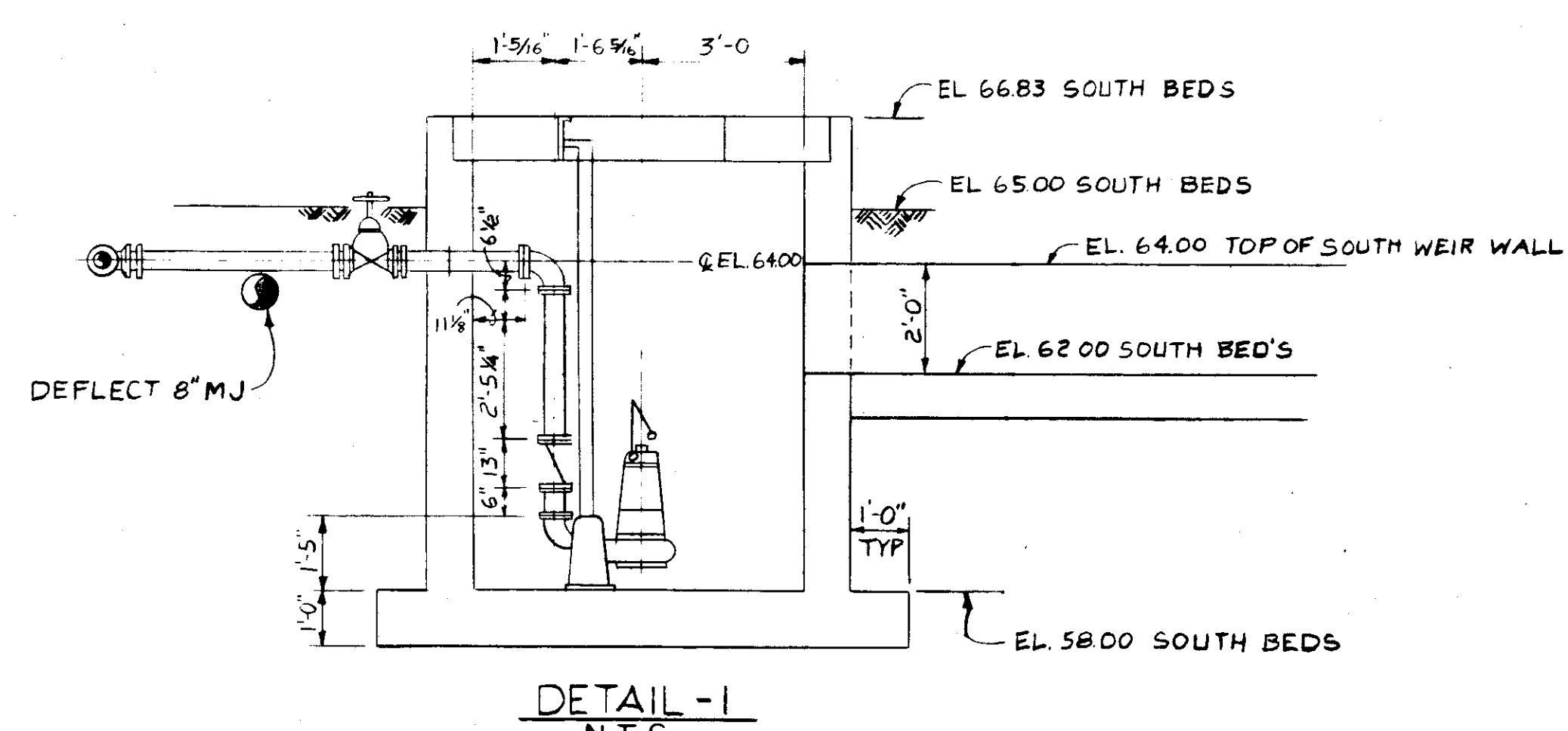
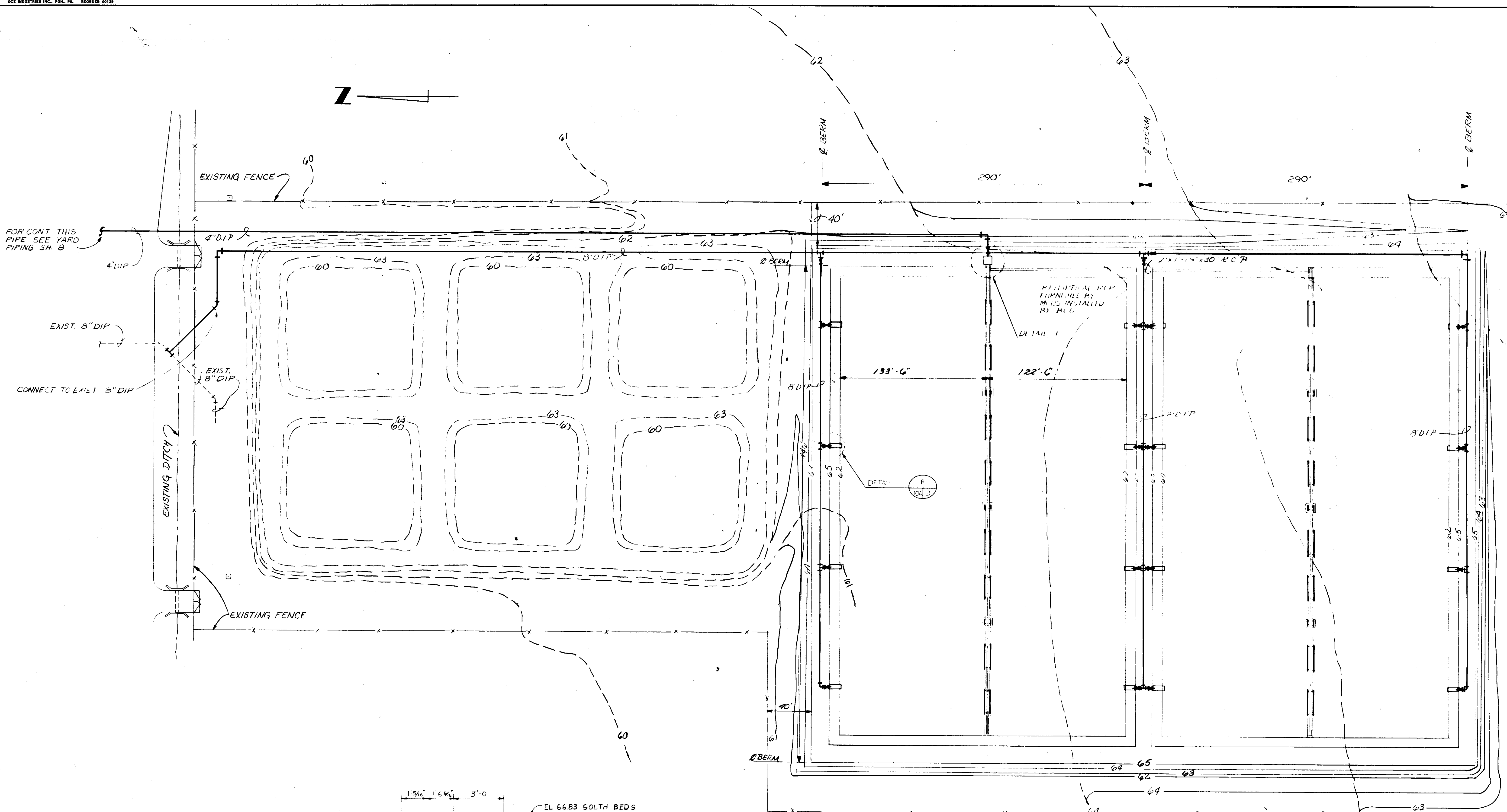
NORTH SLUDGE DRYING BEDS
SCALE 1"=40'-0"



DETAIL "A"
SCALE 1"=40'-0"



NO.	DATE	DESCRIPTION	BY CKD
REVISIONS			
RUSSELL & AXON <i>Engineers -- Planners -- Architects</i>			
WATER WORKS PROJECT SOUTH SLUDGE DRYING BEDS PLAN, SECTIONS & DETAILS			
MANATEE COUNTY,			
DESIGNED BY B.C.W.	FILE NO. 630-761-04	SEAL	
DRAWN BY <i>EL</i>	SHEET C6 		
CHECKED BY	OF 130 		
DATE AUGUST, 1978	SCALE: AS NOTED		

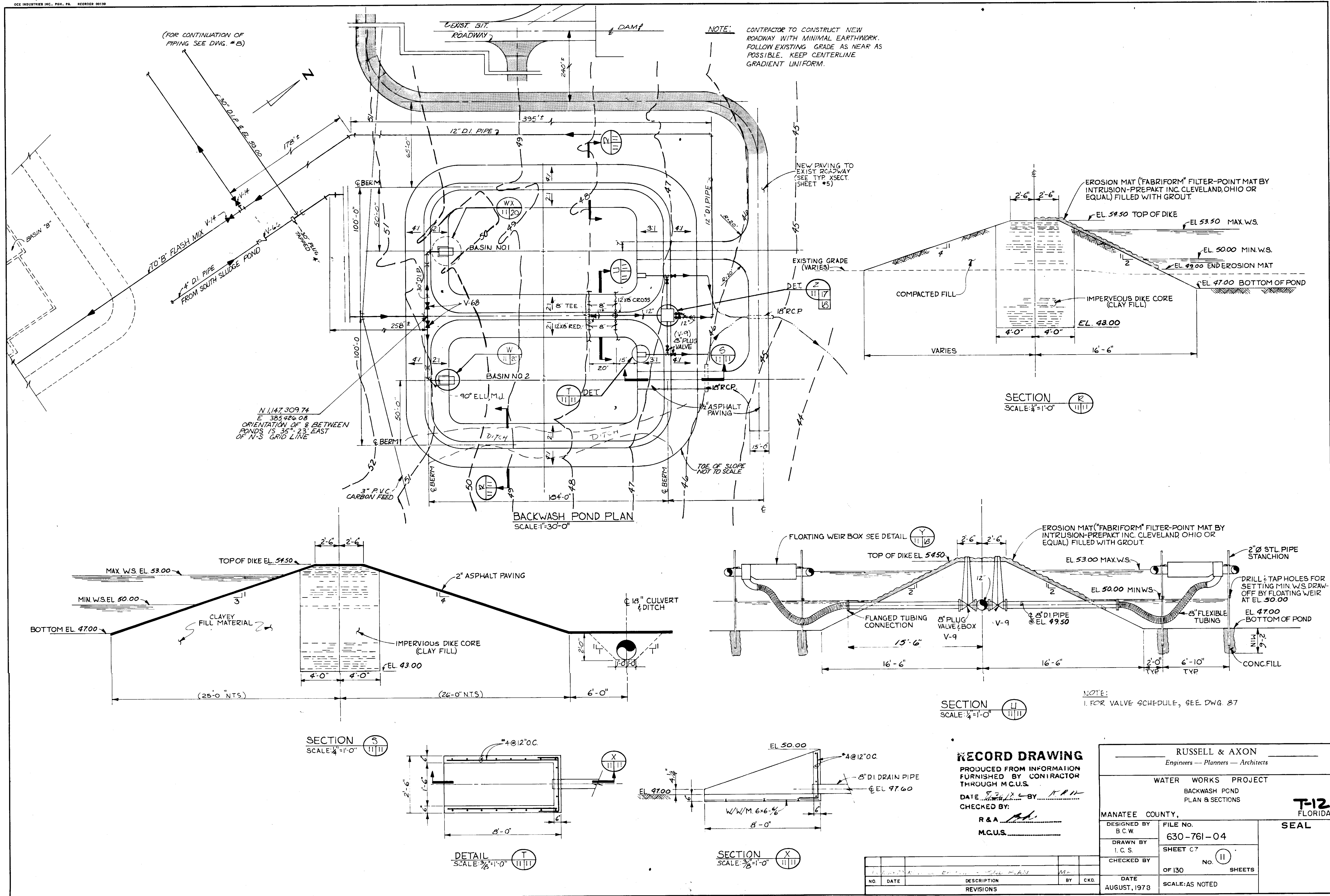


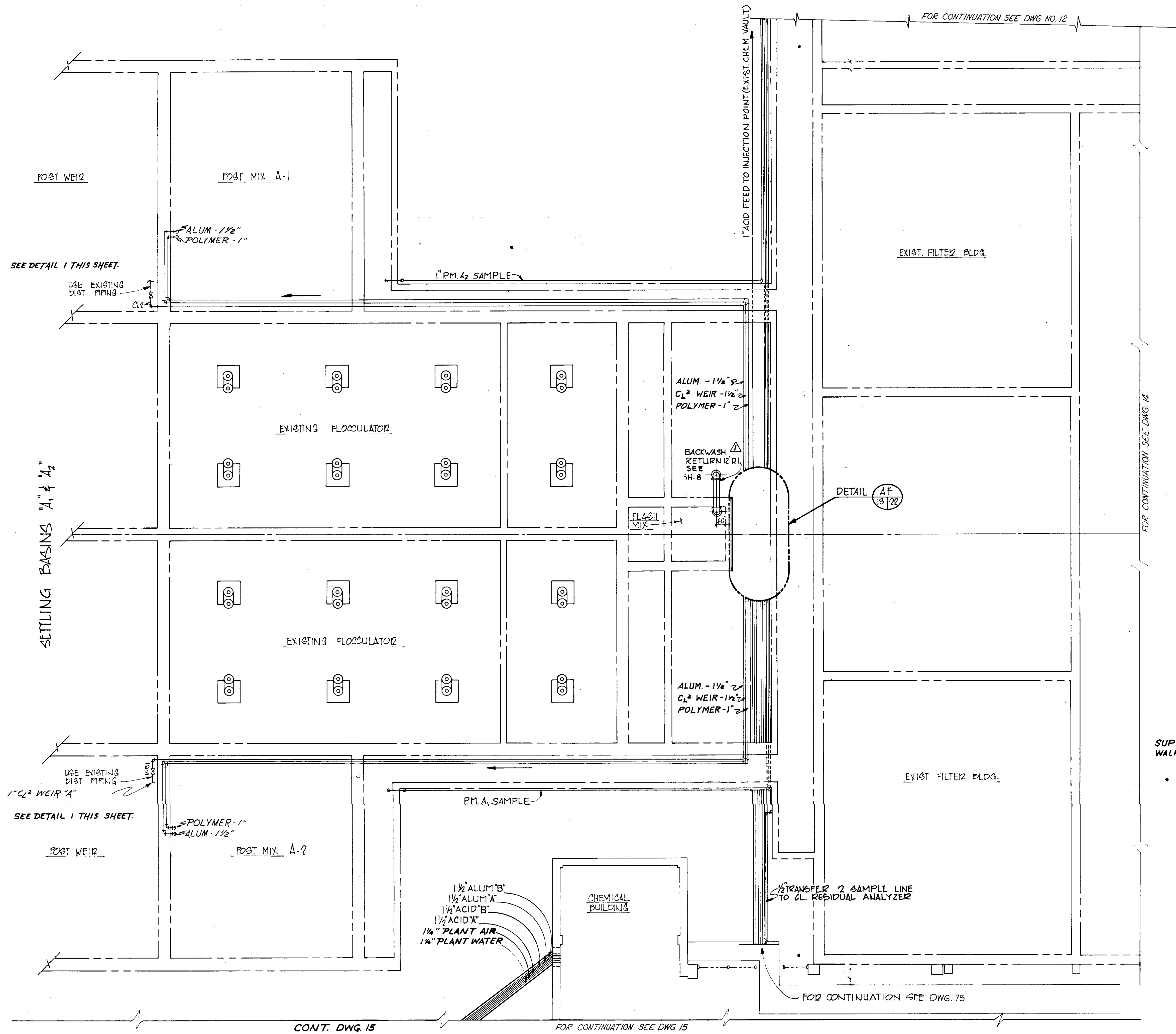
INVERT ELEVATION 63.67
TYPICAL ALL 8" D.I.P.

NOTE: ALL WORK REQUIRED AS SHOWN
ON SHEET 10A SHALL BE DONE AT NO
ADDITIONAL COST TO THE OWNER. THIS
SHEET SHALL BE COORDINATED WITH SHEET
10 FOR ALL DETAILS AND OTHER
PERTINENT INFORMATION.

RECORD DRAWING
PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE 8/21/80 BY K.R.M.
CHECKED BY:
R.A. [Signature]
M.C.U.S.

NO.	DATE	DESCRIPTION	BY	CKD.
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT SOUTH SLUDGE DRYING BEDS PLAN				
MANATEE COUNTY, FLORIDA T-11 SEAL				
DESIGNED BY C.A.B.	FILE NO. 630-761-04	SHEET NO. 10A OF 130 SHEETS		
DRAWN BY J.L.D.	SHEET			
CHECKED BY C.A.B.	OF 130			
DATE JANUARY 1980	SCALE: 1" = 40'			





RECORD DRAWING

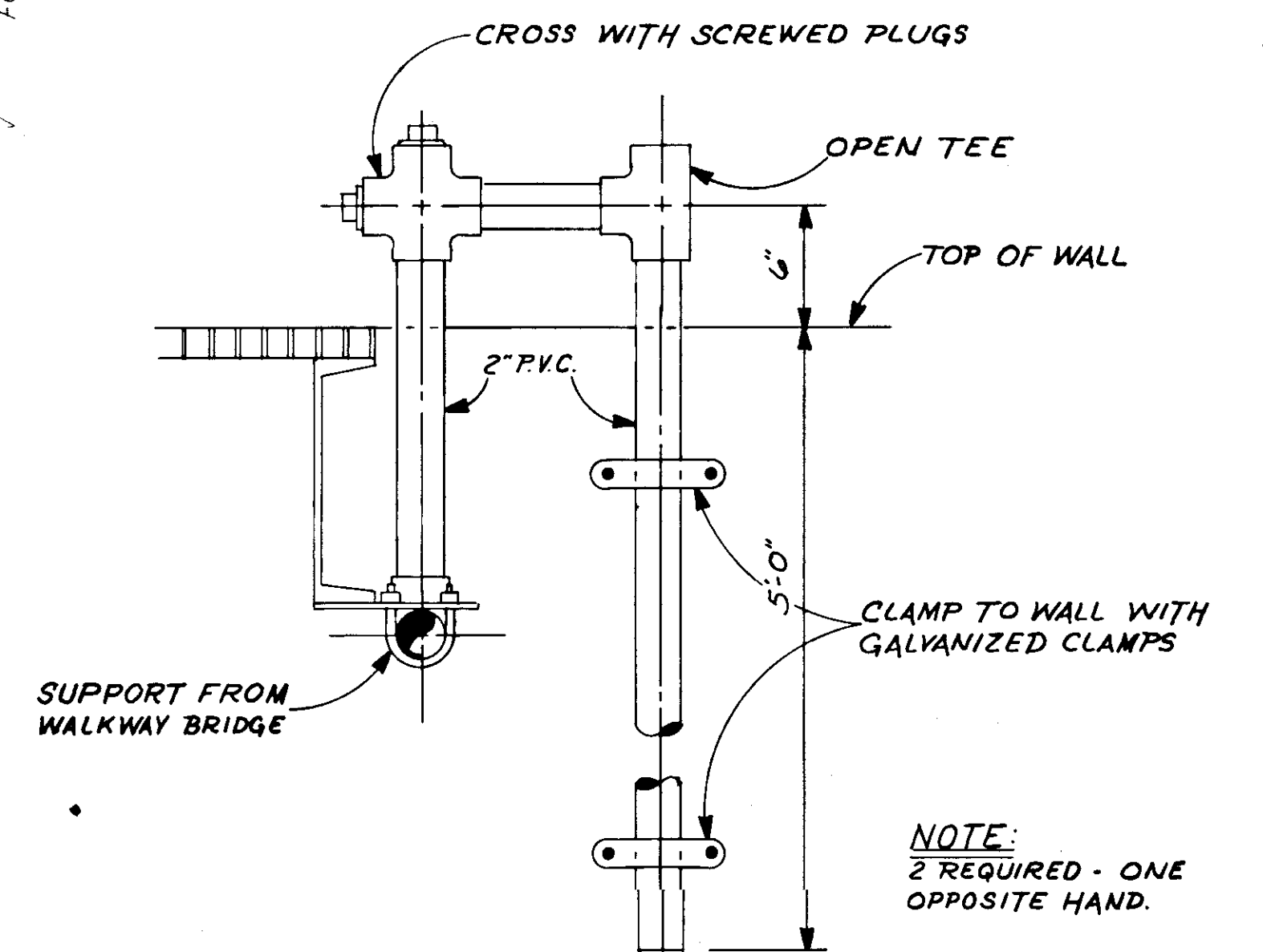
PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.

DATE 7/3/82 BY RPM

CHECKED BY:

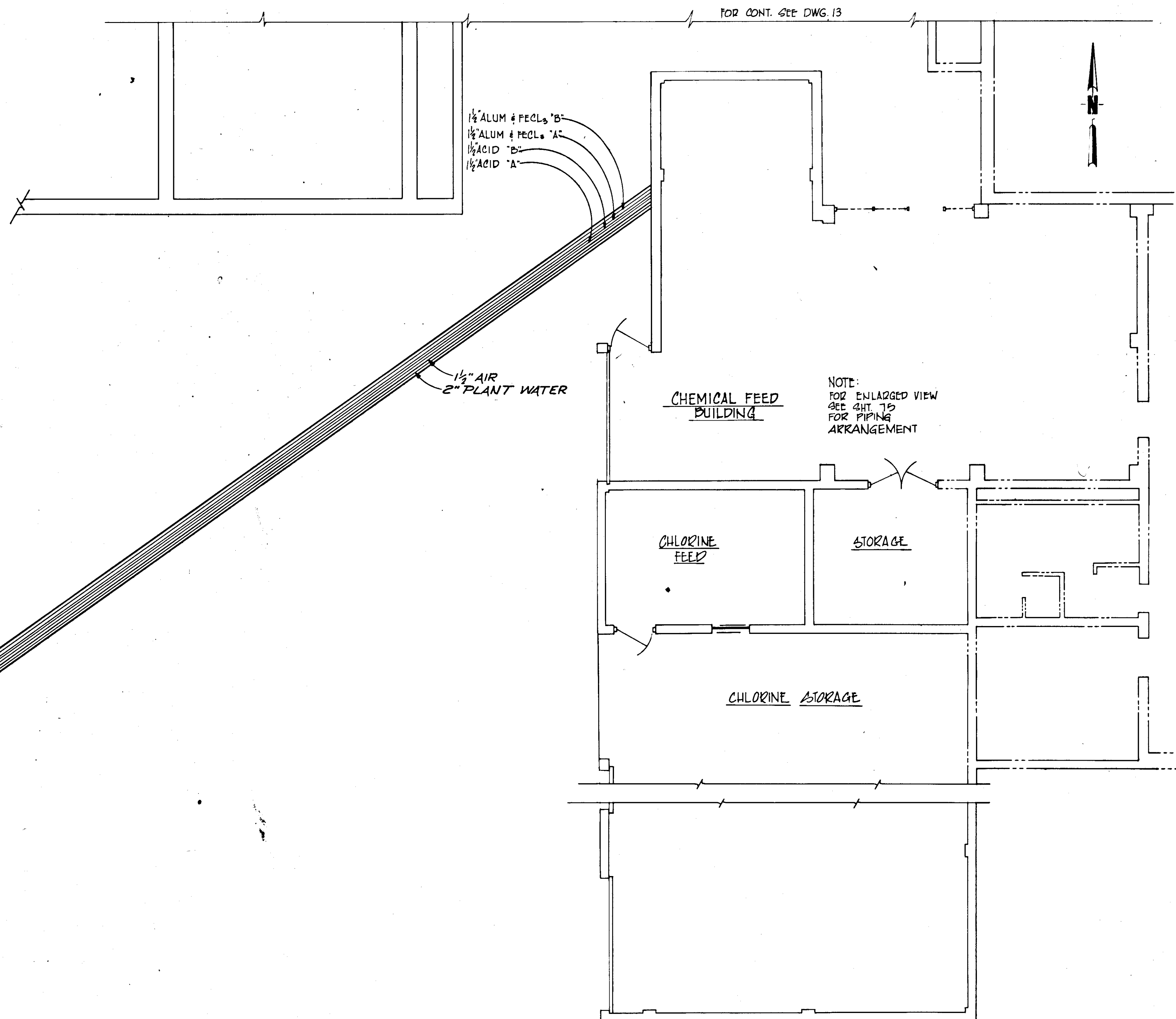
R & A [Signature]

M.C.U.S. _____

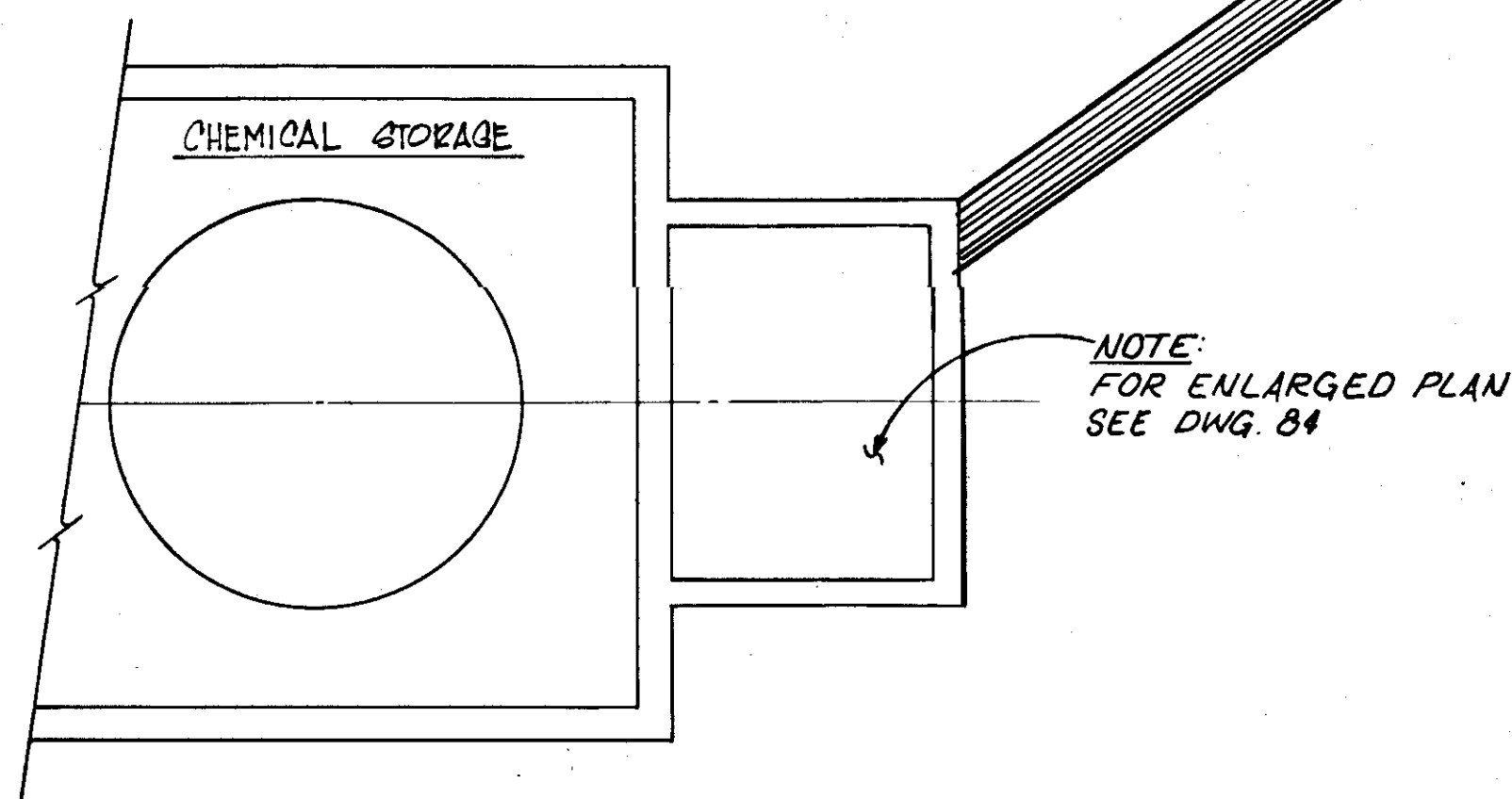


NO.		DATE	DESCRIPTION	BY	CKD.
REVISIONS					
RUSSELL & AXON Engineers — Planners — Architects					
WATER WORKS PROJECT CHEMICAL FEED PIPING & SAMPLE PIPING LAYOUT					
MANATEE COUNTY,			FILE NO.	T-14 FLORIDA SEAL	
DESIGNED BY	B.E.D.		630-761-04		
DRAWN BY	E.L.L./H.G.B.		SHEET C9		
CHECKED BY			OF 130 SHEETS		
DATE	AUGUST, 1978		SCALE: 3/16" = 1'-0"		





SEE NOTE "A" SHEET 12.



RECORD DRAWING

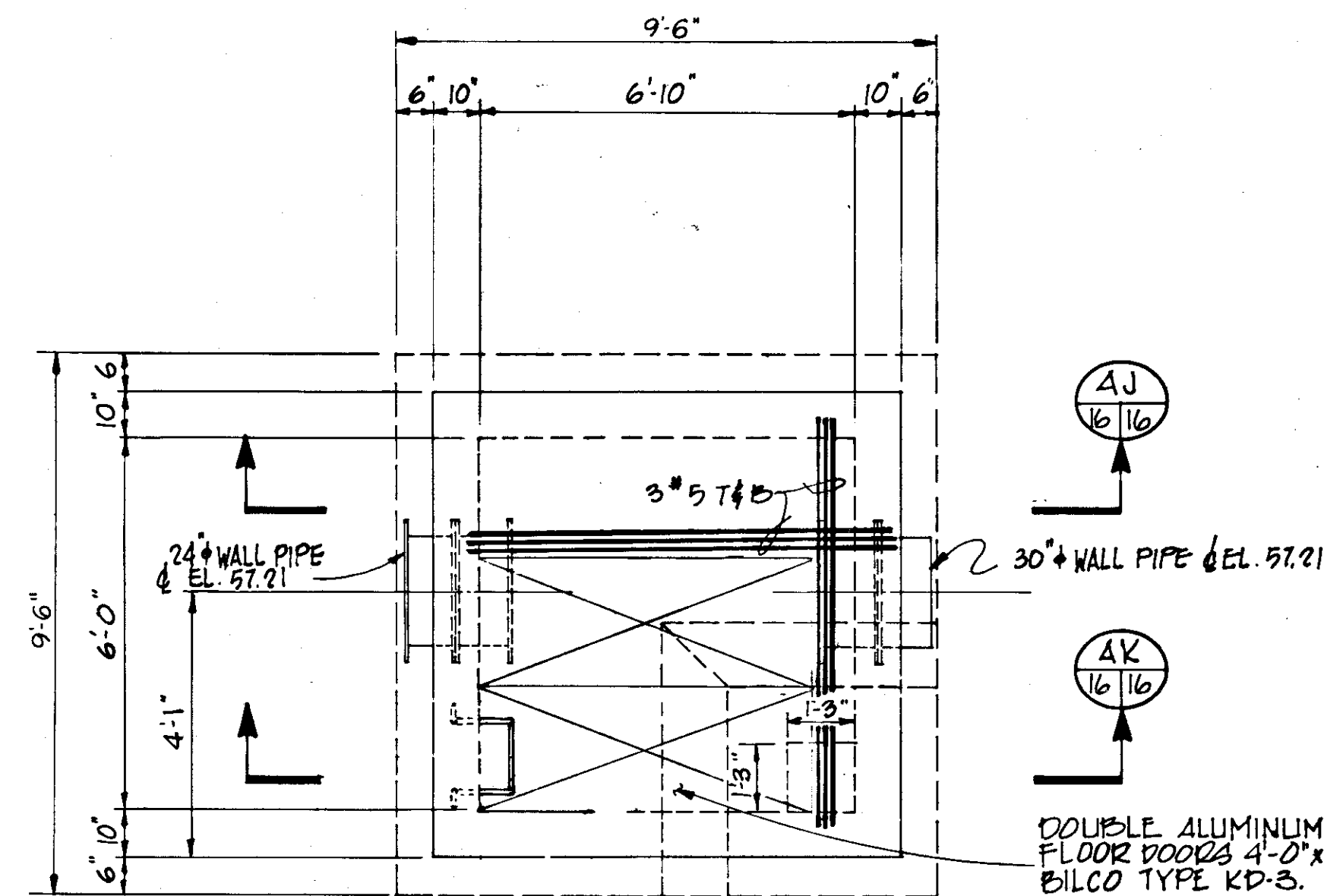
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FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.

DATE 8/20/78 BY R.R.
CHECKED BY:

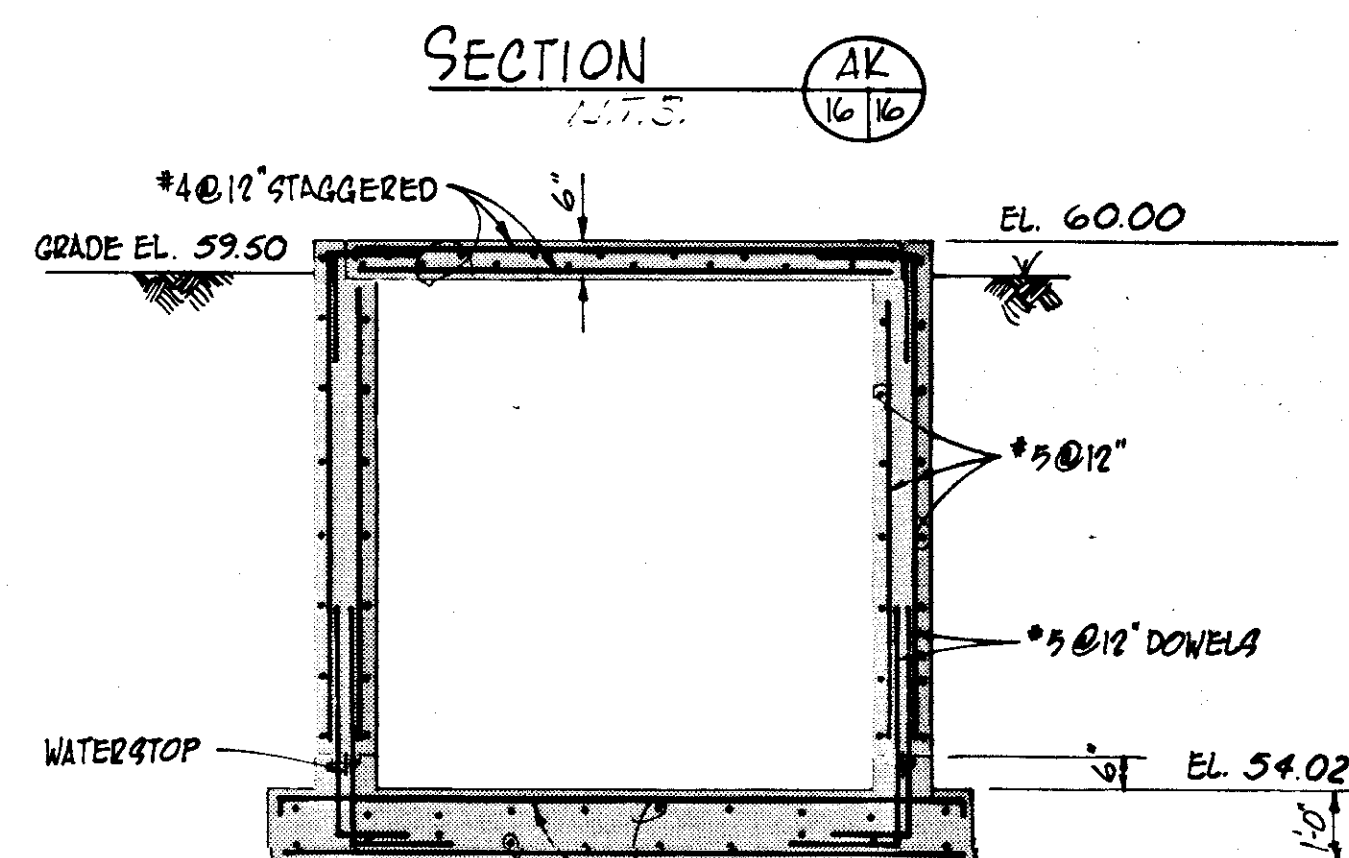
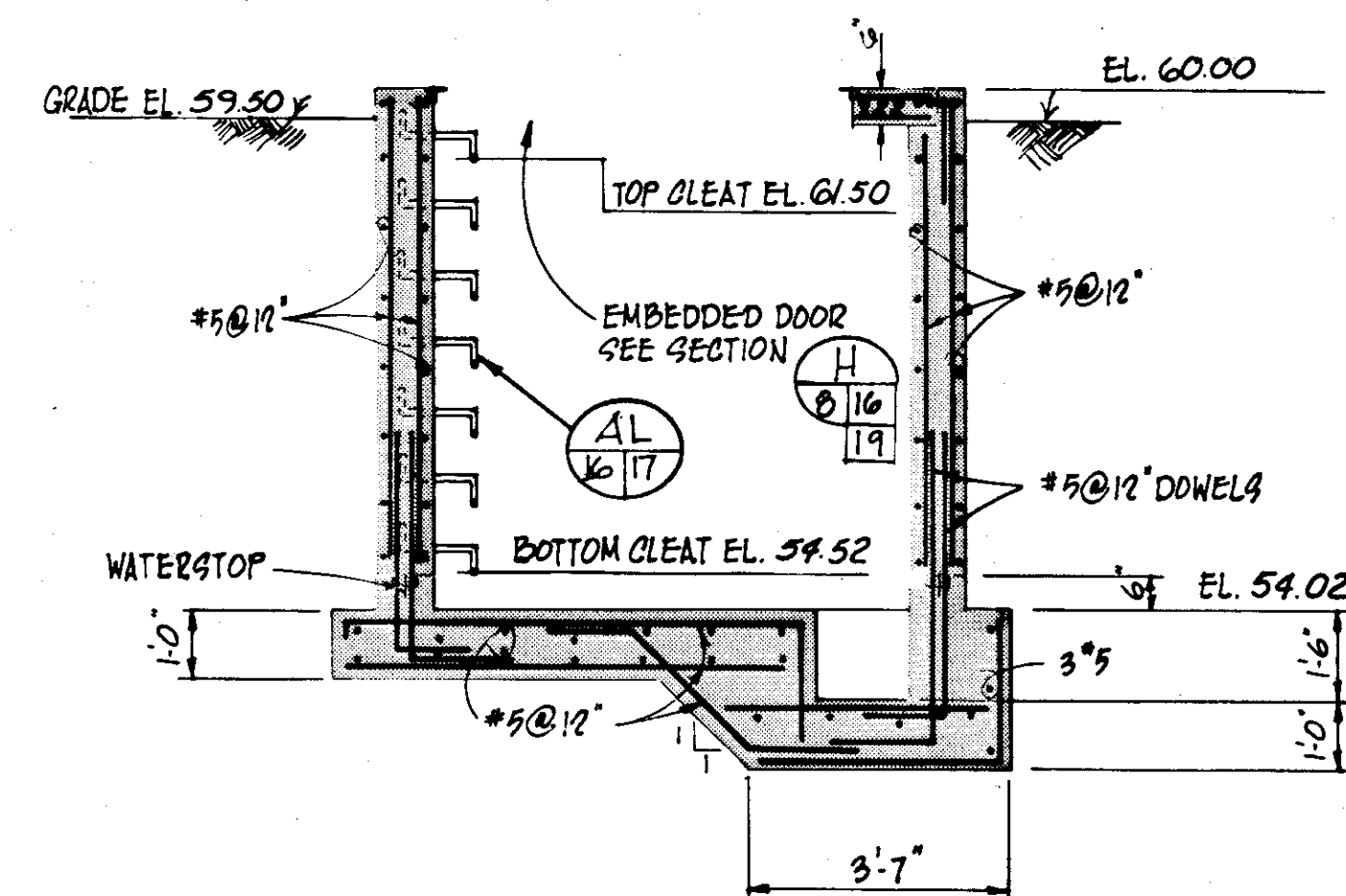
R & A Blm
M.C.U.S. _____

NO.	DATE	DESCRIPTION	BY	CKD.
REVISIONS				
RUSSELL & AXON				
Engineers — Planners — Architects				
WATER WORKS PROJECT				
CHEMICAL FEED PIPING & SAMPLE PIPING LAYOUT				
MANATEE COUNTY, FLORIDA				
DESIGNED BY B.E.D.	FILE NO. 630-761-04	T-16 FLORIDA SEAL		
DRAWN BY E.L.L. & H.G.B.	SHEET CII			
CHECKED BY	NO. 15			
DATE AUGUST, 1978	OF 130 SHEETS	SCALE: 3/16" = 1'-0"		

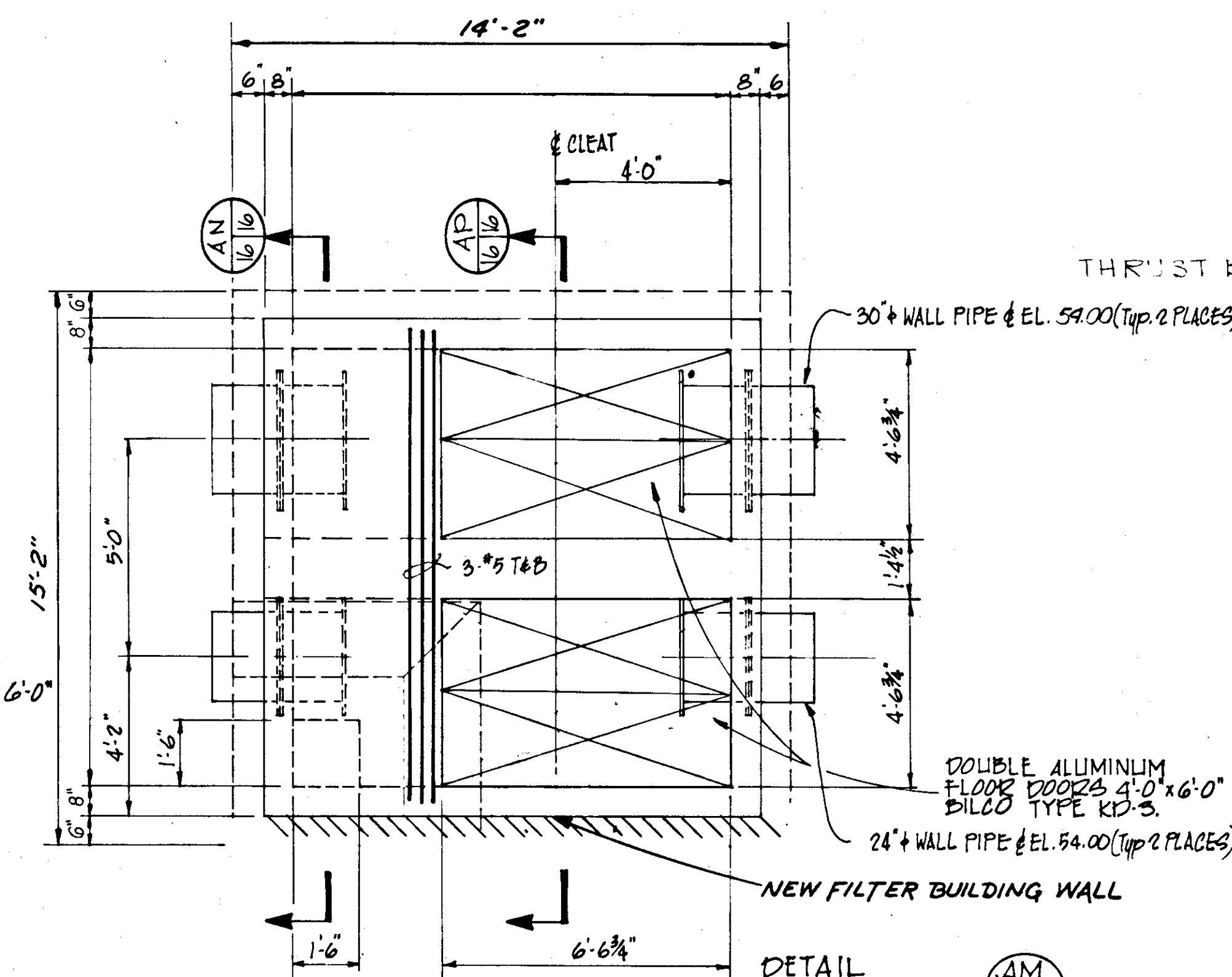
14-01



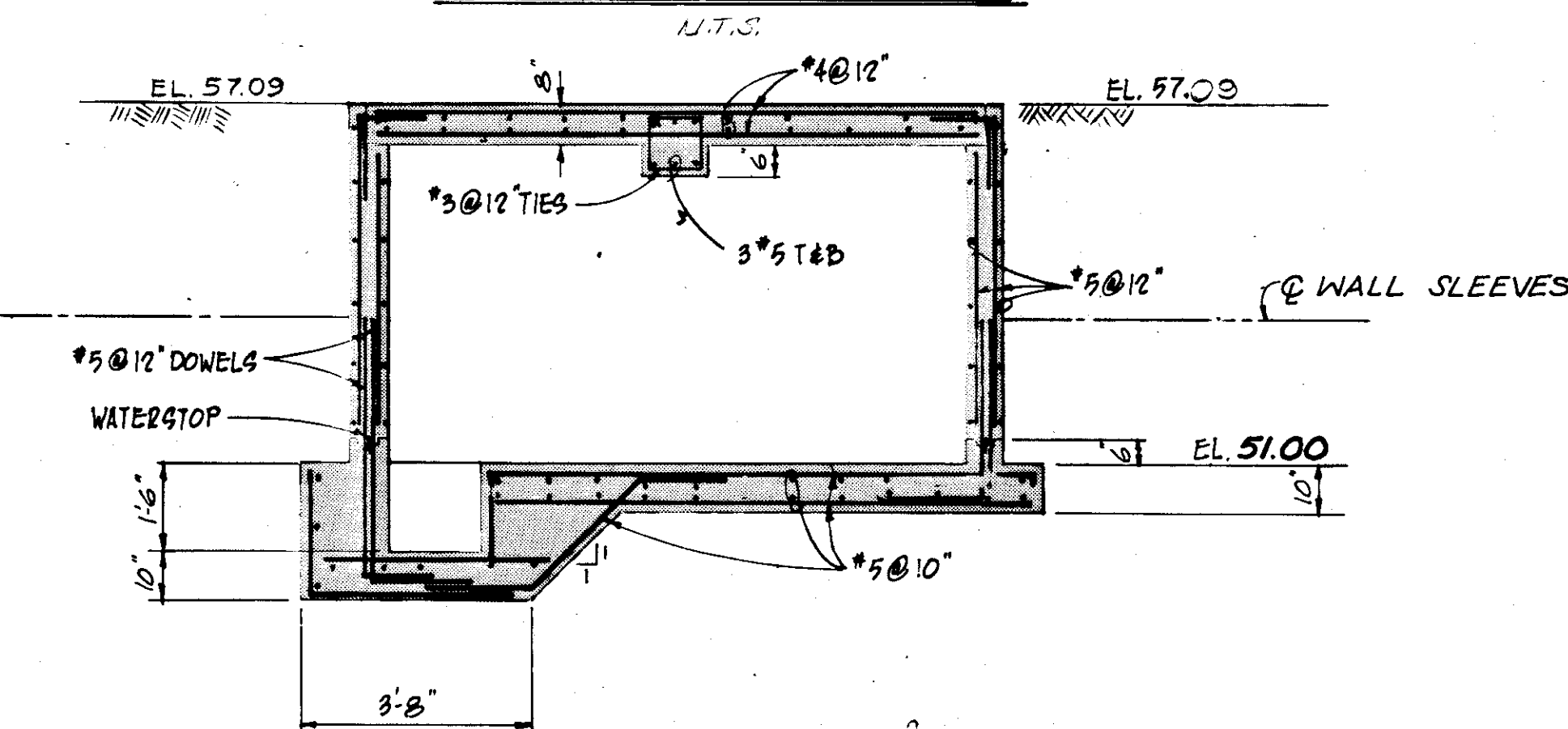
DETAIL
RAW WATER CONTROL VALVE VAULT
N.T.S.



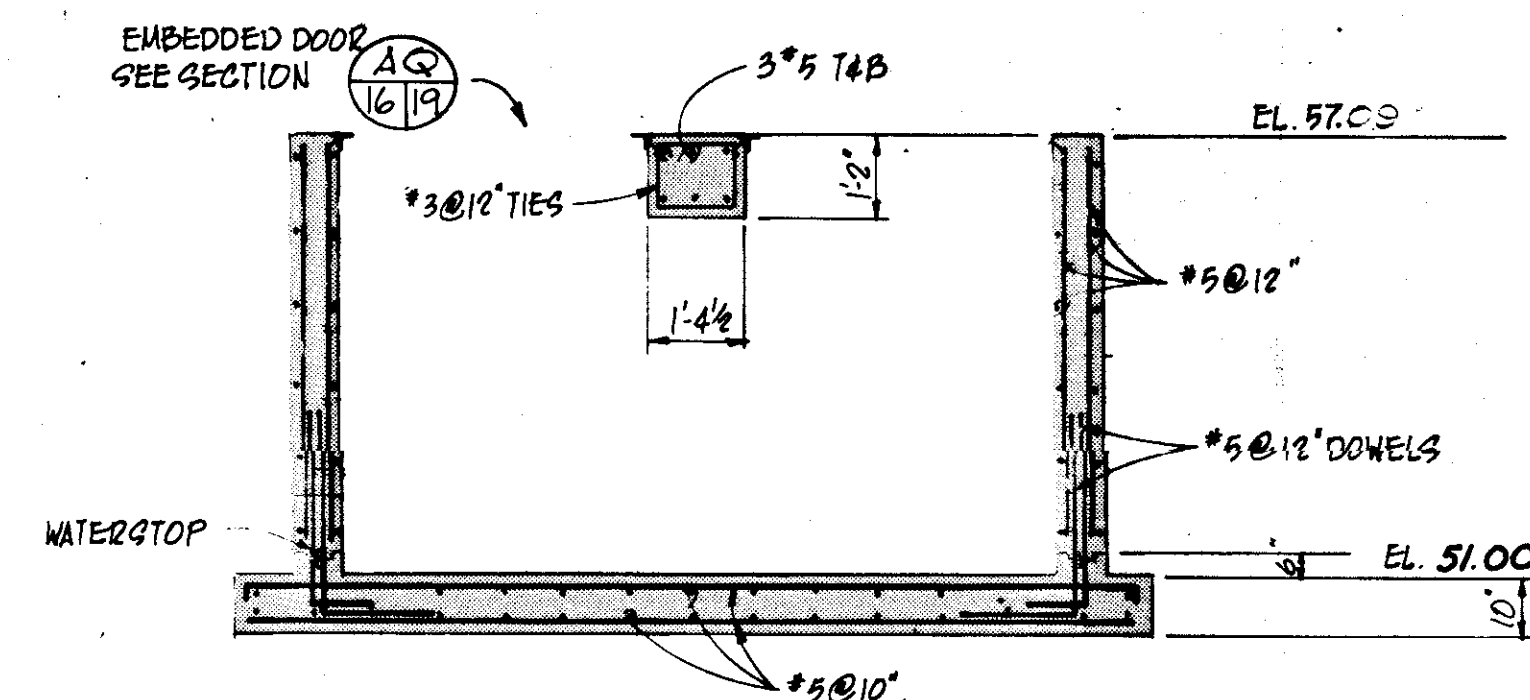
SECTION
N.T.S.



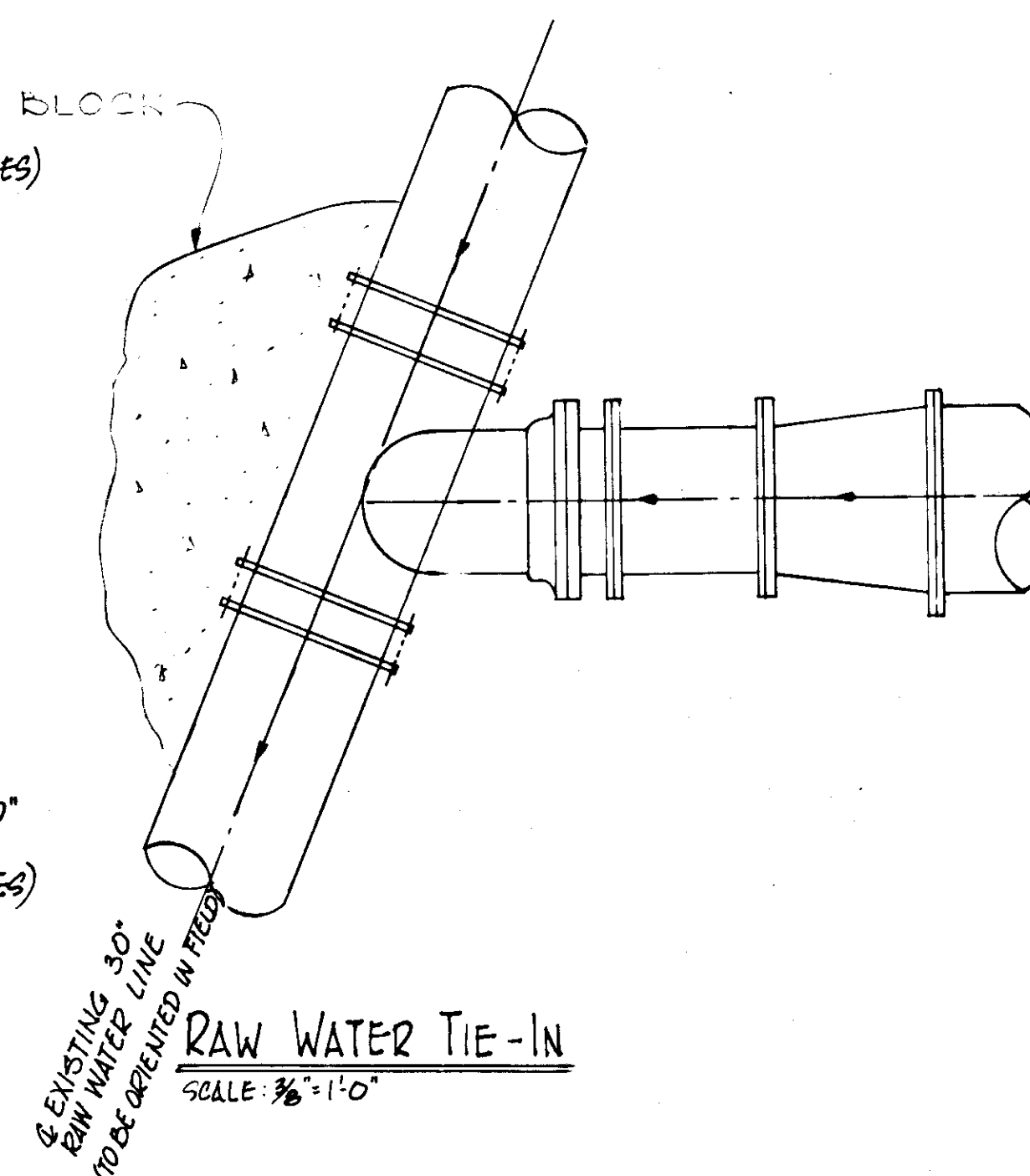
DETAIL
FLOW TUBE VENTURI VAULT
N.T.S.



SECTION
N.T.S.



SECTION
N.T.S.



RAW WATER TIE-IN
SCALE: 3/8" = 1'-0"

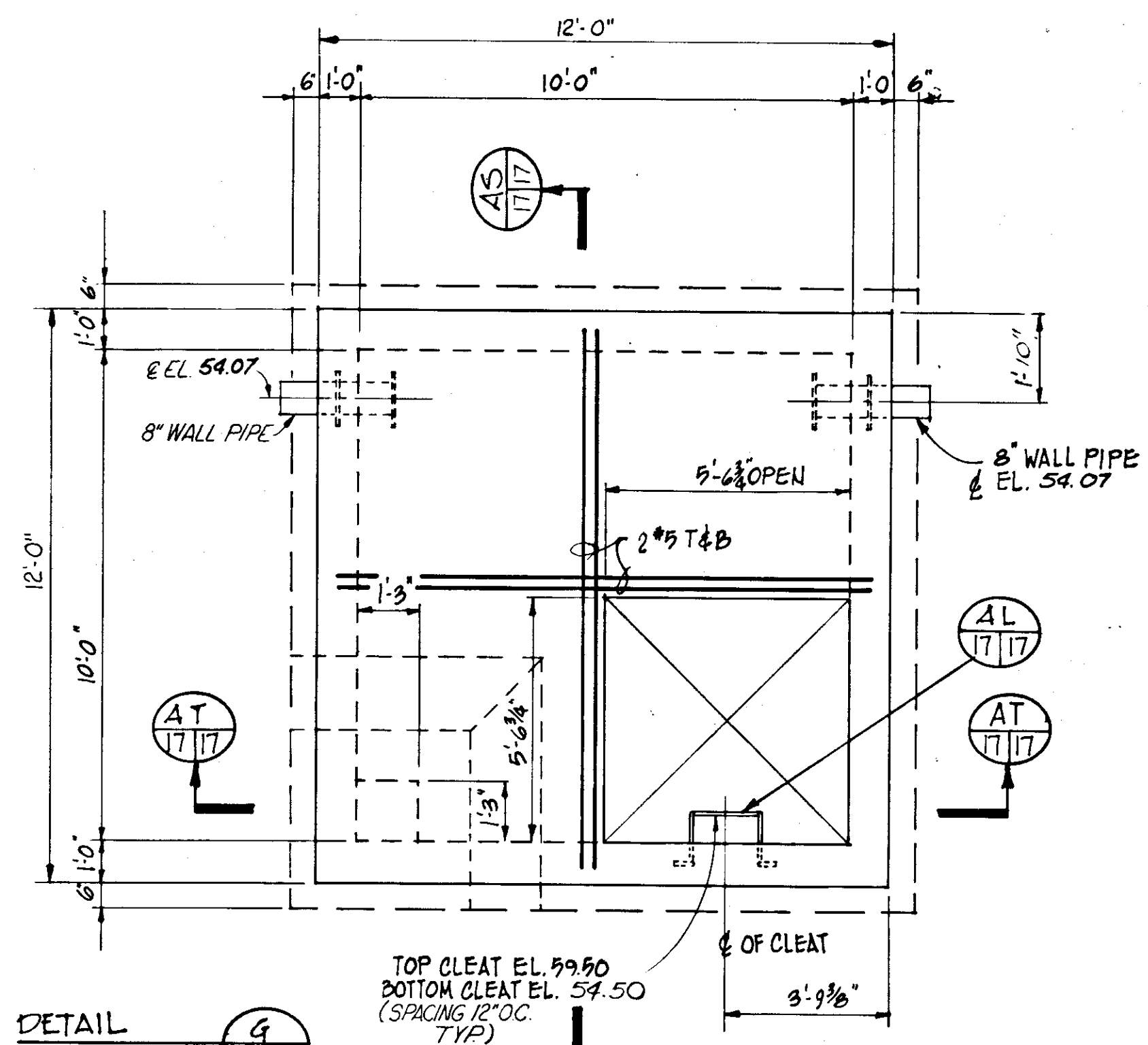
RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.

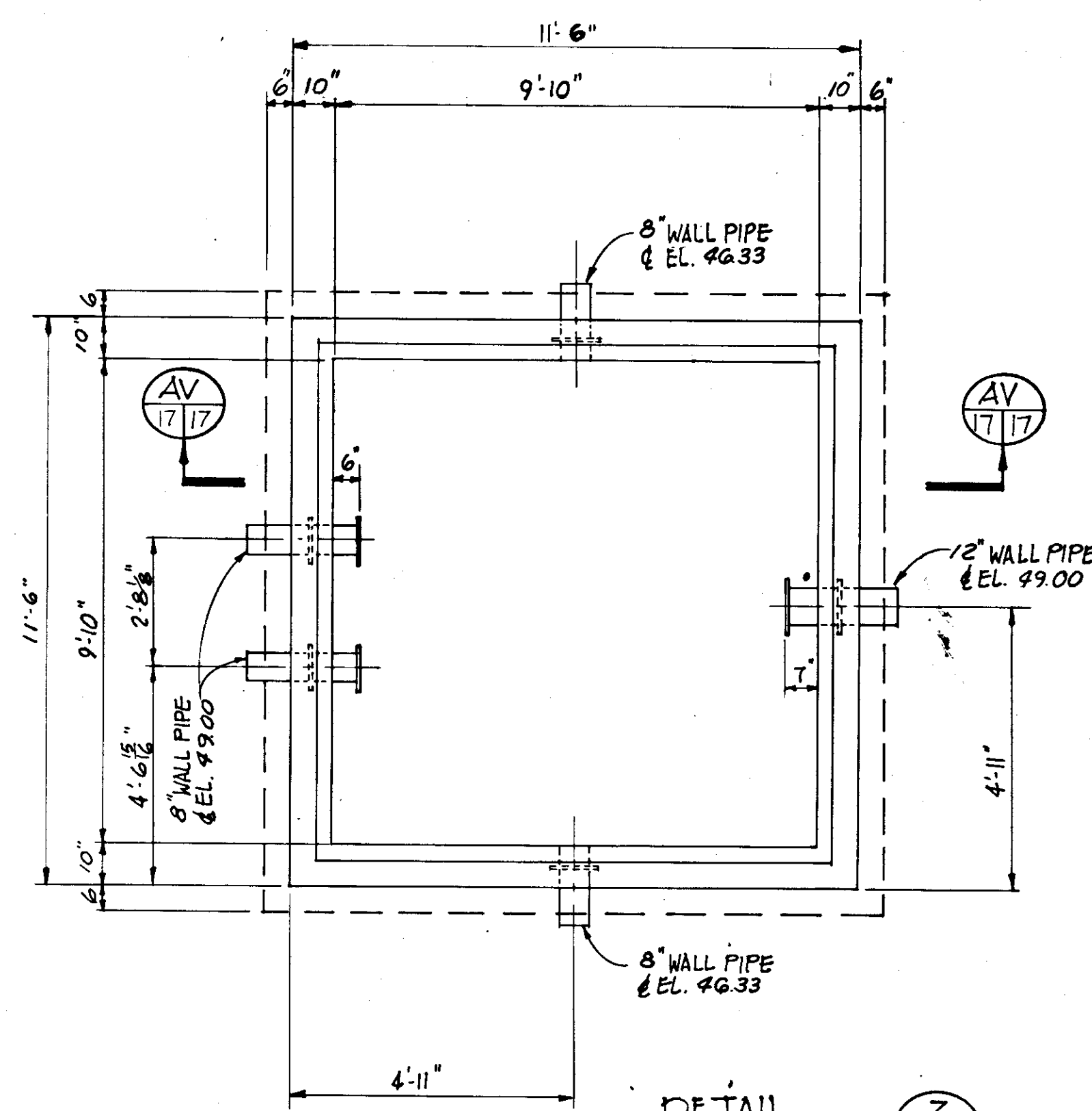
DATE: 8/31/82 BY: R.A.A.
CHECKED BY: R.A.A.

R.A.A.
M.C.U.S.

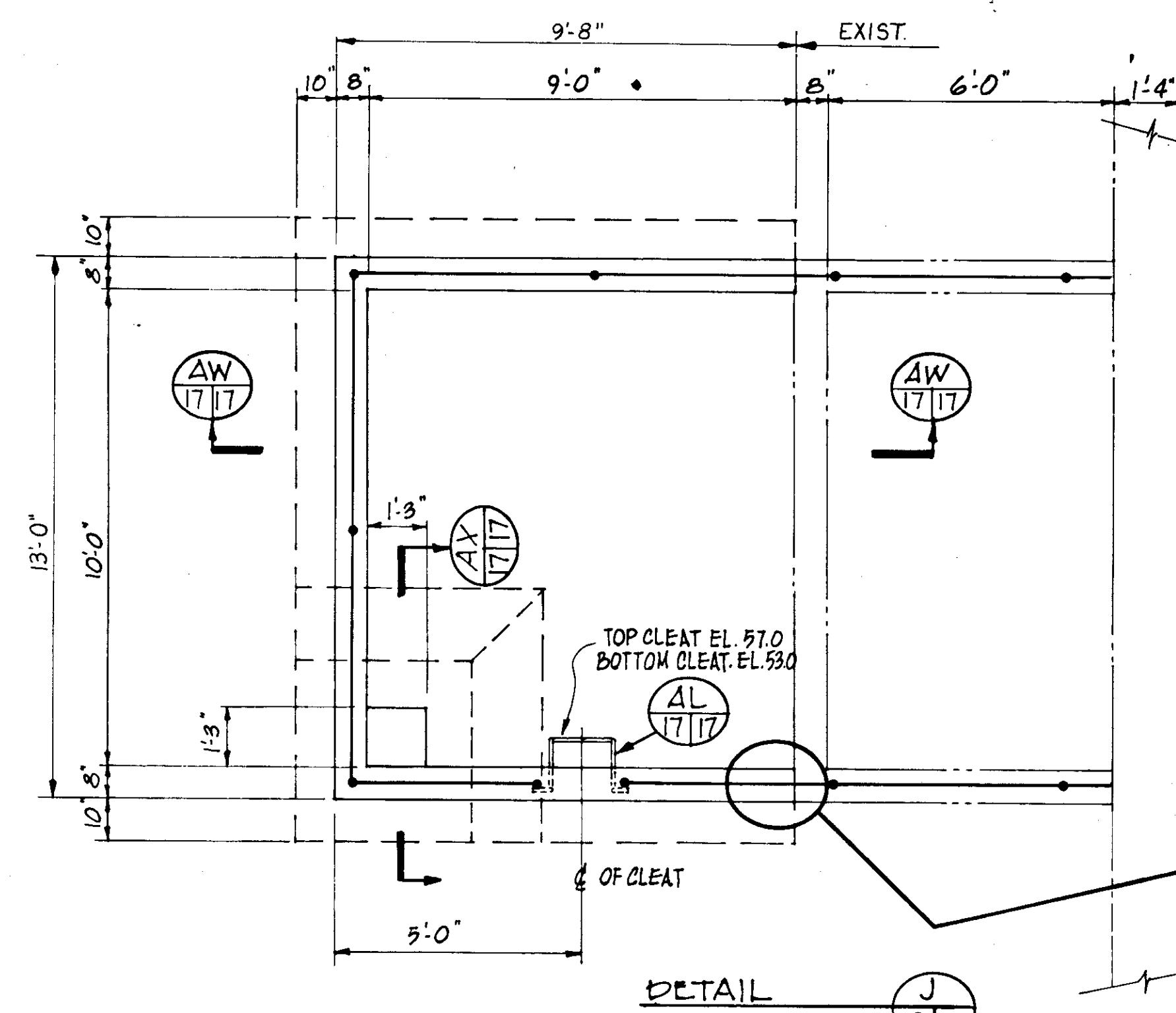
NO.	DATE	DESCRIPTION	BY	CHKD.
5/79		REV FLOW TUBE VENTURI VAULT	CC	
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT YARD PIPING SECTIONS & DETAILS				
MANATEE COUNTY, FLORIDA				
DESIGNED BY M.B.	FILE NO. 630-761-04	T-13 FLORIDA SEAL		
DRAWN BY EK	SHEET C12			
CHECKED BY	OF 130 SHEETS			
DATE AUGUST, 1978	SCALE A3 SHOWN			



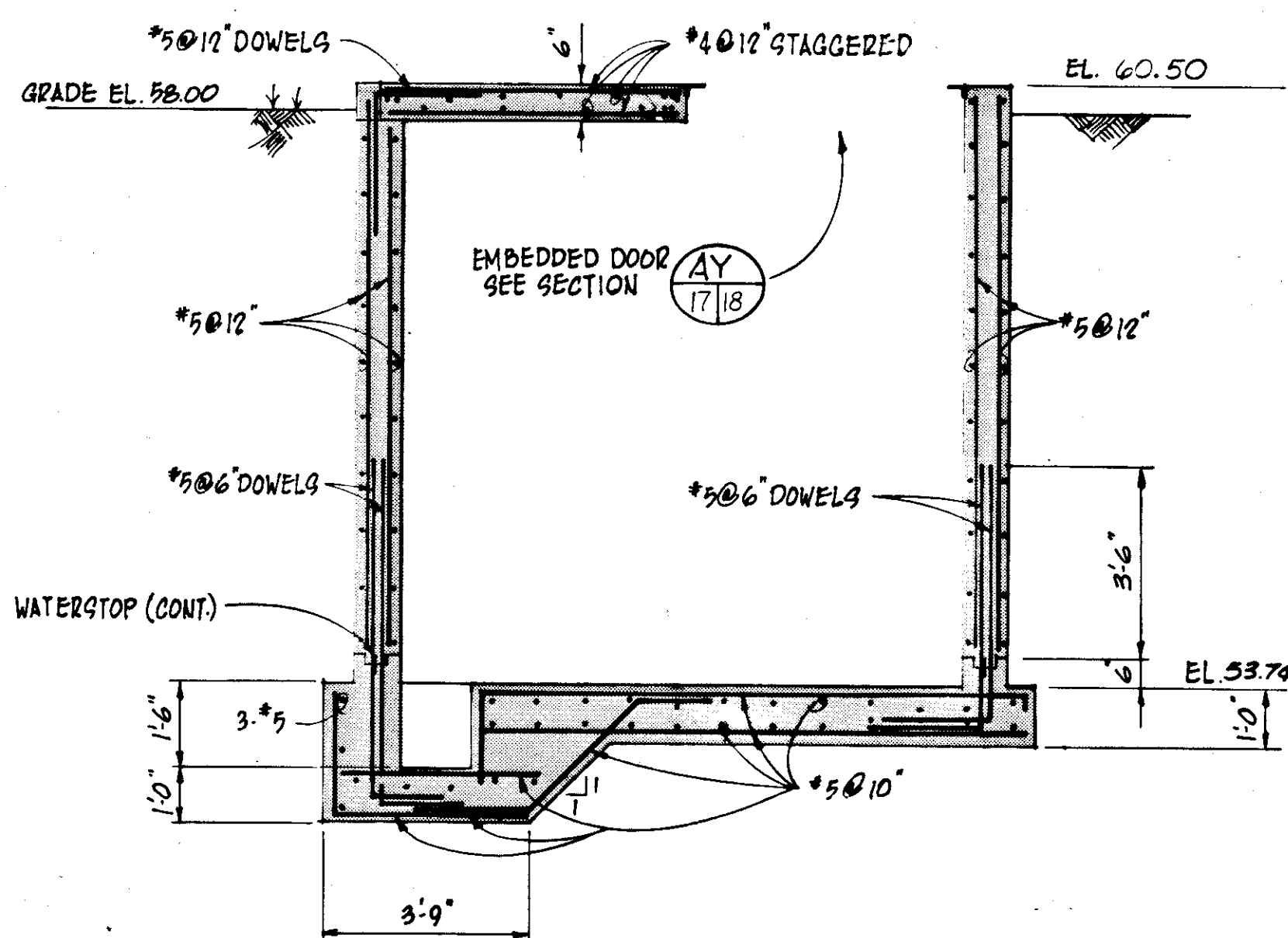
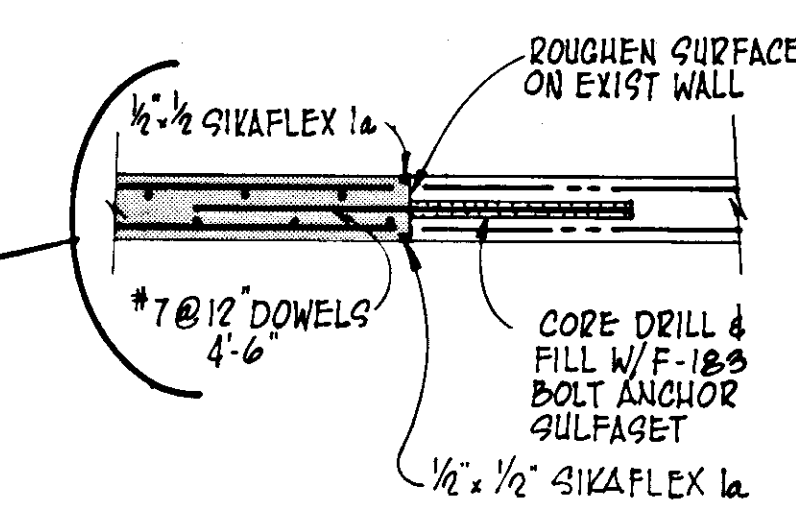
SOUTH SLUDGE BED PUMP PIT
SCALE: 3/8"=1'-0"



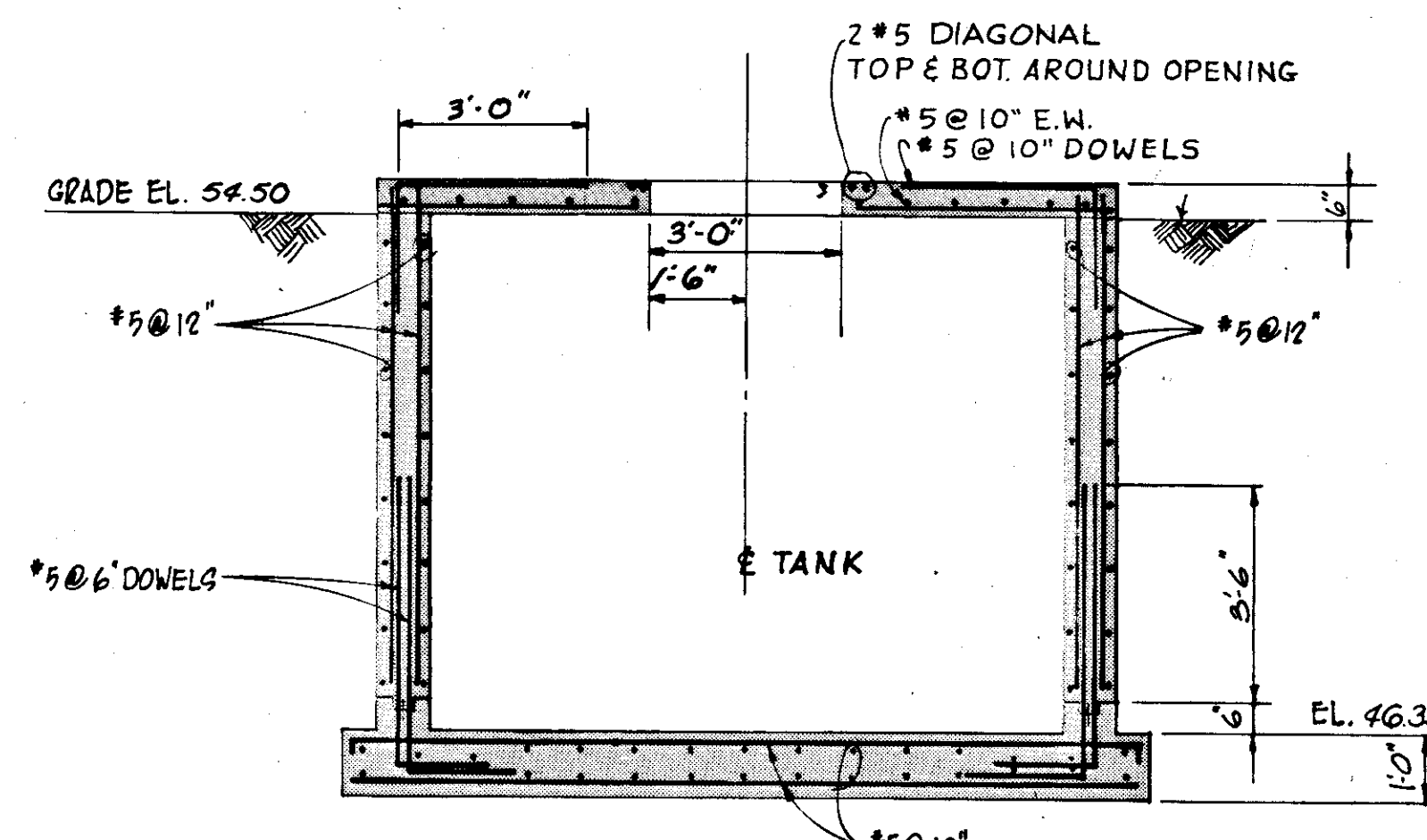
BACKWASH PONDS RETURN PUMPS
NOT TO SCALE



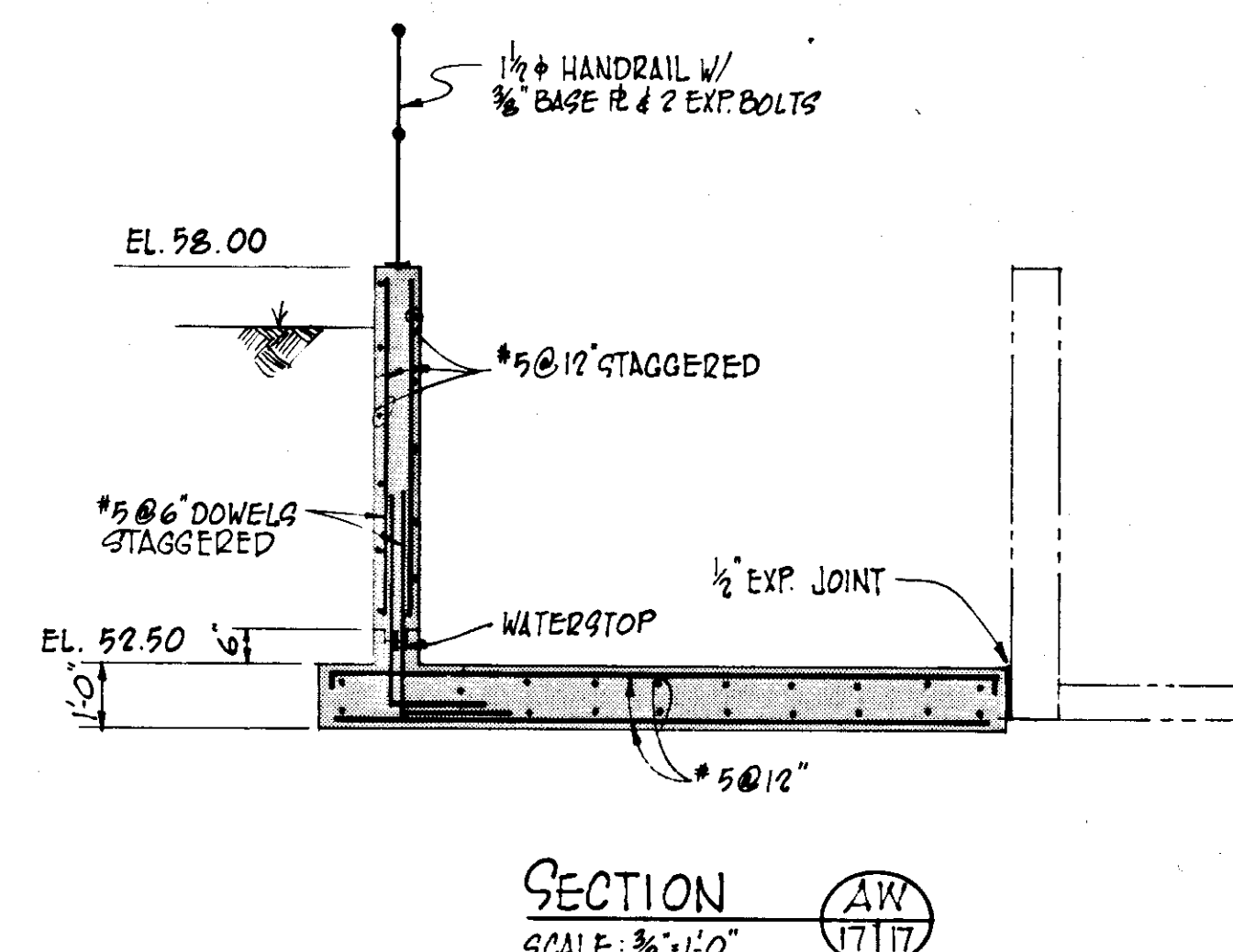
NORTH SLUDGE PUMP PIT
SCALE: 3/8"=1'-0"



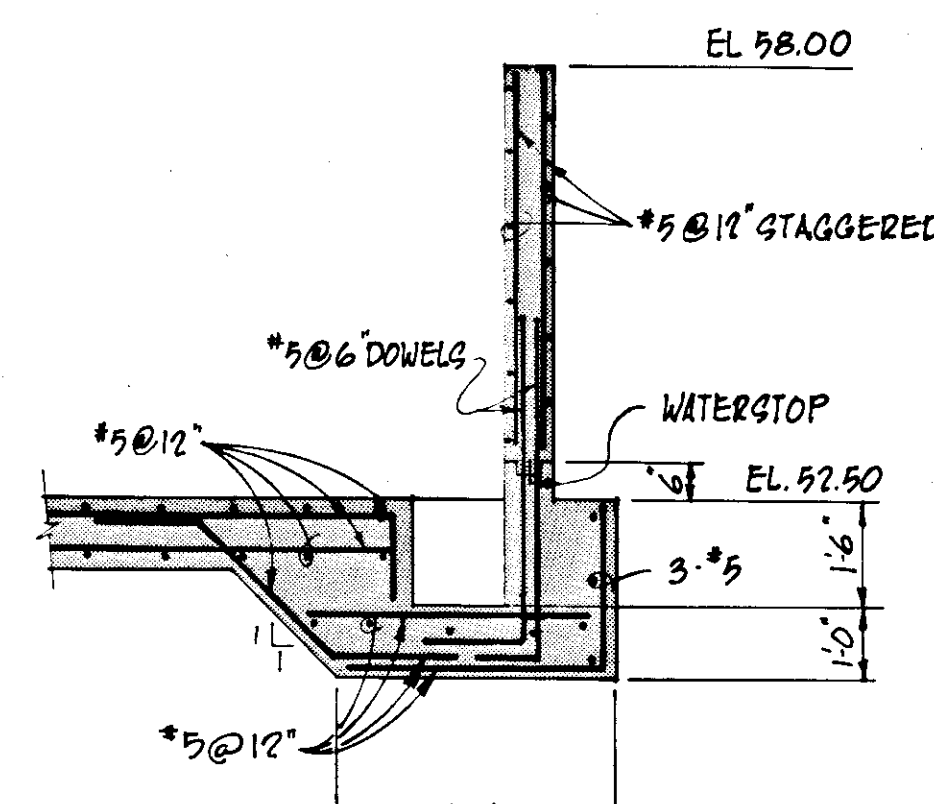
SECTION AT 17/17
SCALE: 3/8"=1'-0"



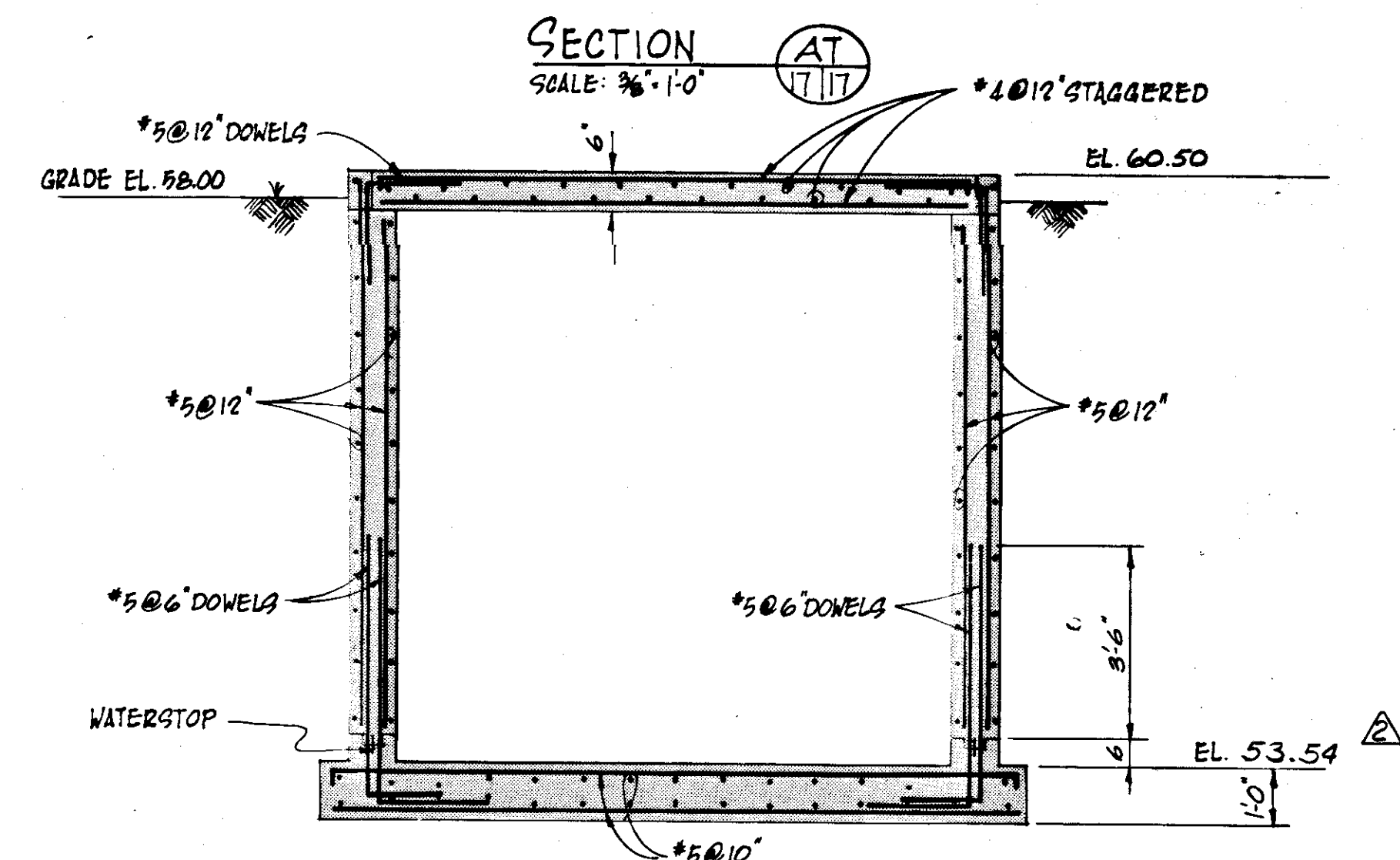
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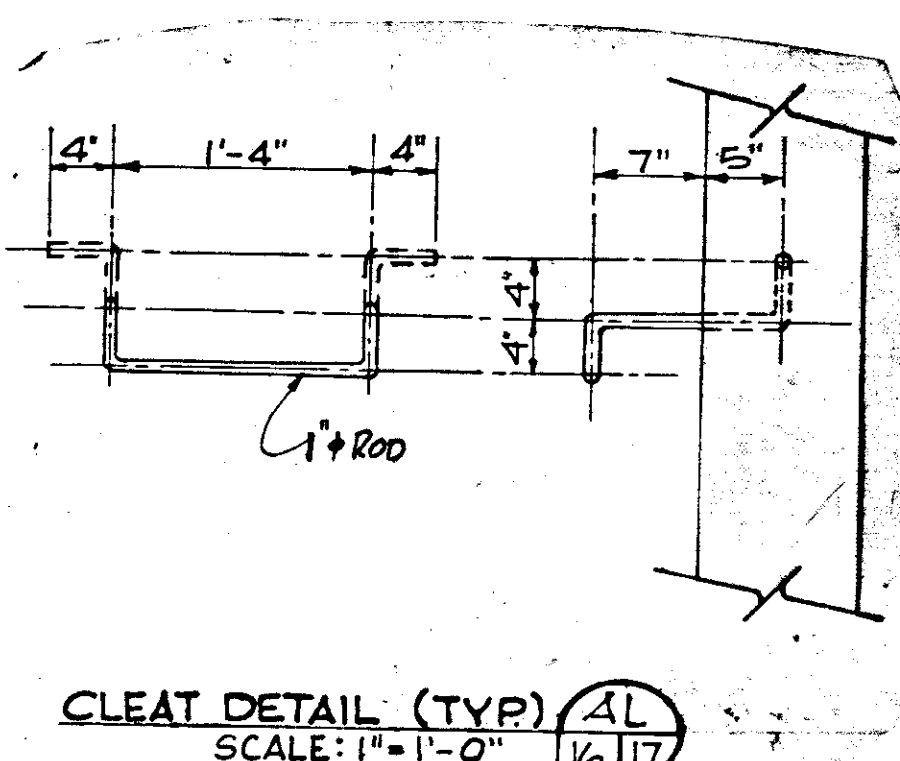
SECTION AW 17/17
SCALE: 3/8"=1'-0"



SECTION AX 17/17
SCALE: 3/8"=1'-0"



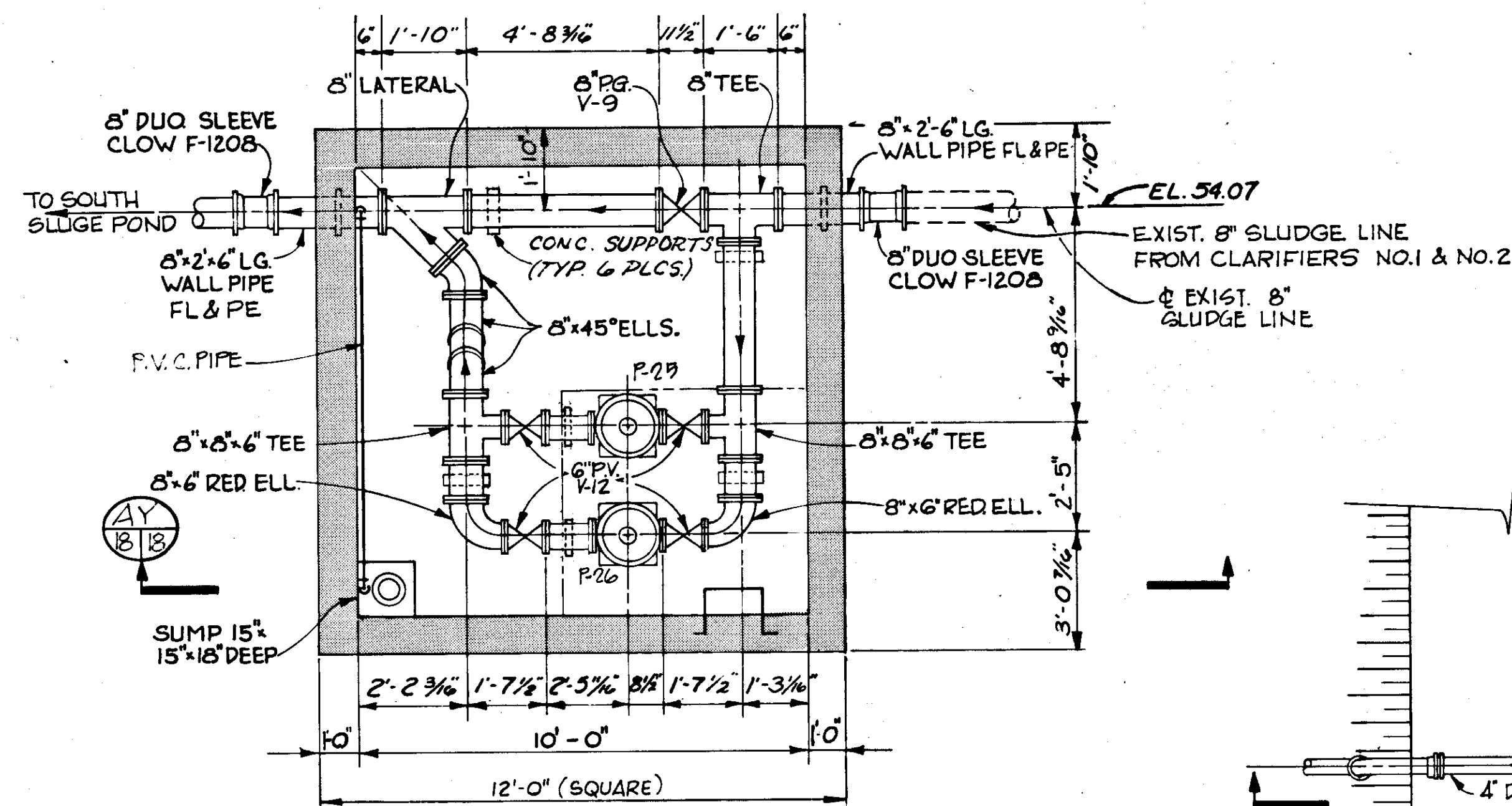
SECTION AS 17/17
SCALE: 3/8"=1'-0"



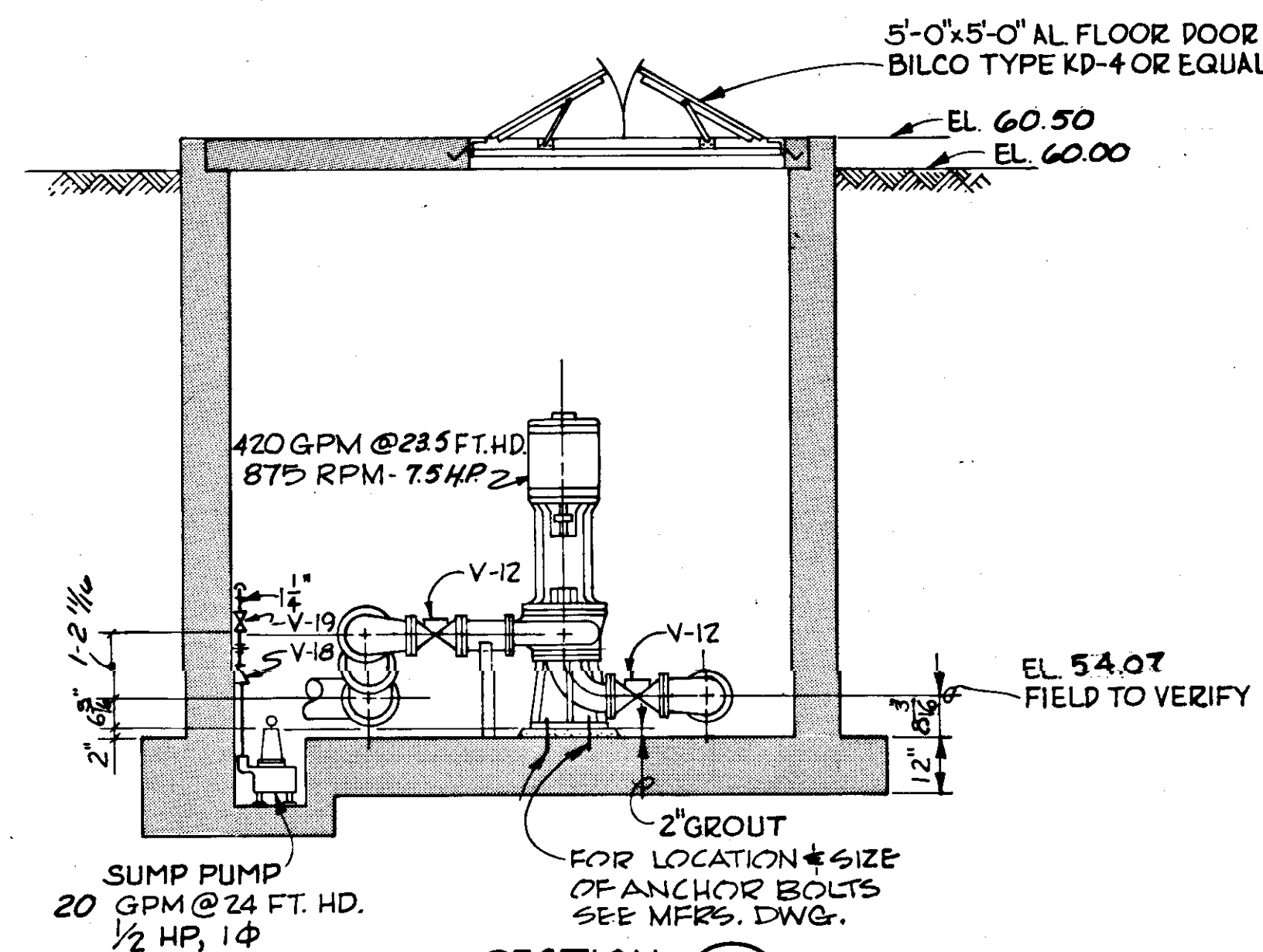
CLEAT DETAIL (TYP)
SCALE: 1"=1'-0"

RECORD DRAWING
PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE 8/2/82 BY *HEP*
CHECKED BY: *R & A*
M.C.U.S.

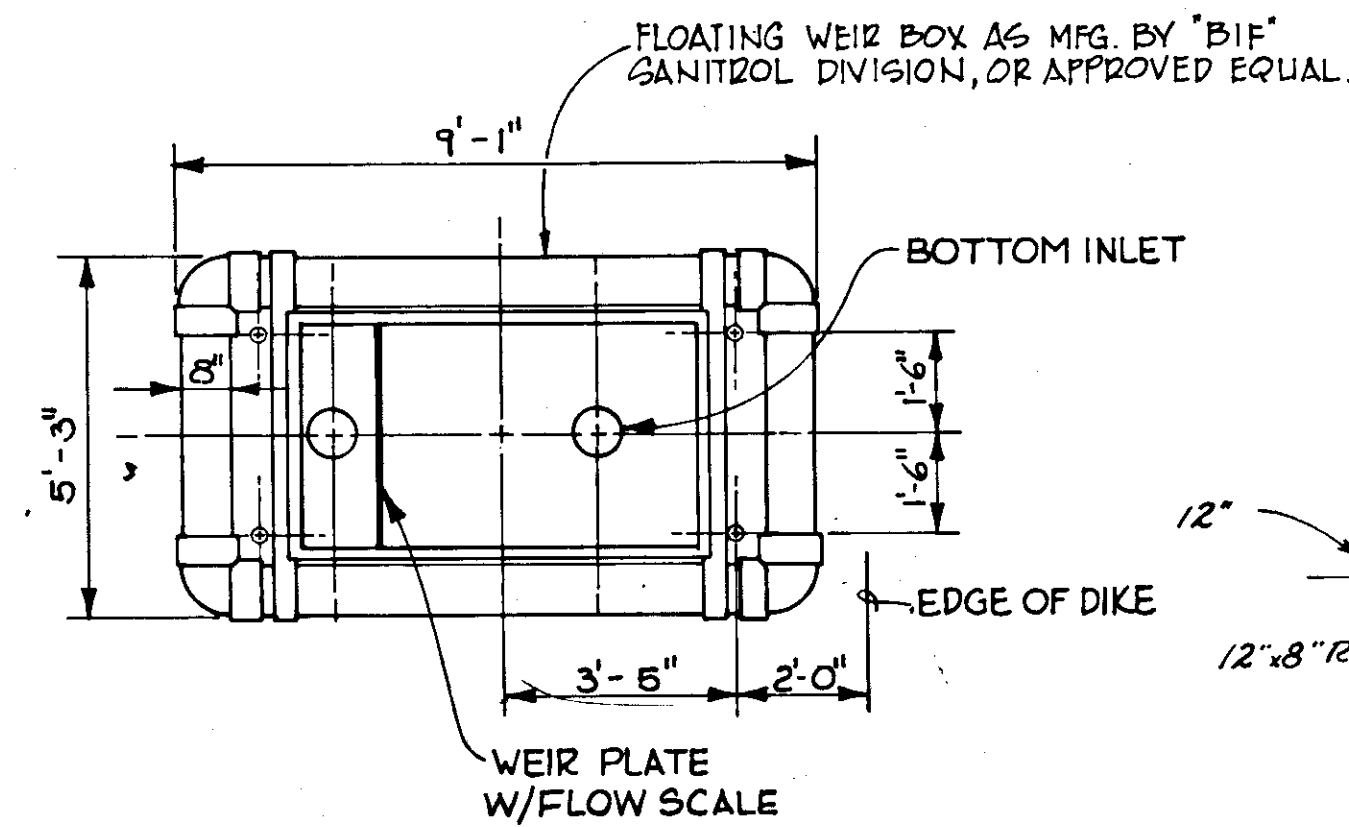
1	5/79	REV DETAIL Z & SECT. AV	AL	
NO.	DATE	DESCRIPTION	BY	CKD.
REVISIONS				
RUSSELL & AXON				
Engineers — Planners — Architects				
WATER WORKS PROJECT				
YARD PIPING SECTIONS & DETAILS				
MANATEE COUNTY, FLORIDA				
DESIGNED BY	FILE NO.	T-18 SEAL		
M.B.	630-761-04			
DRAWN BY	SHEET C13			
EL	17			
CHECKED BY	OF 130	SHEETS		
DATE	SCALE: AS NOTED			
AUGUST, 1978				



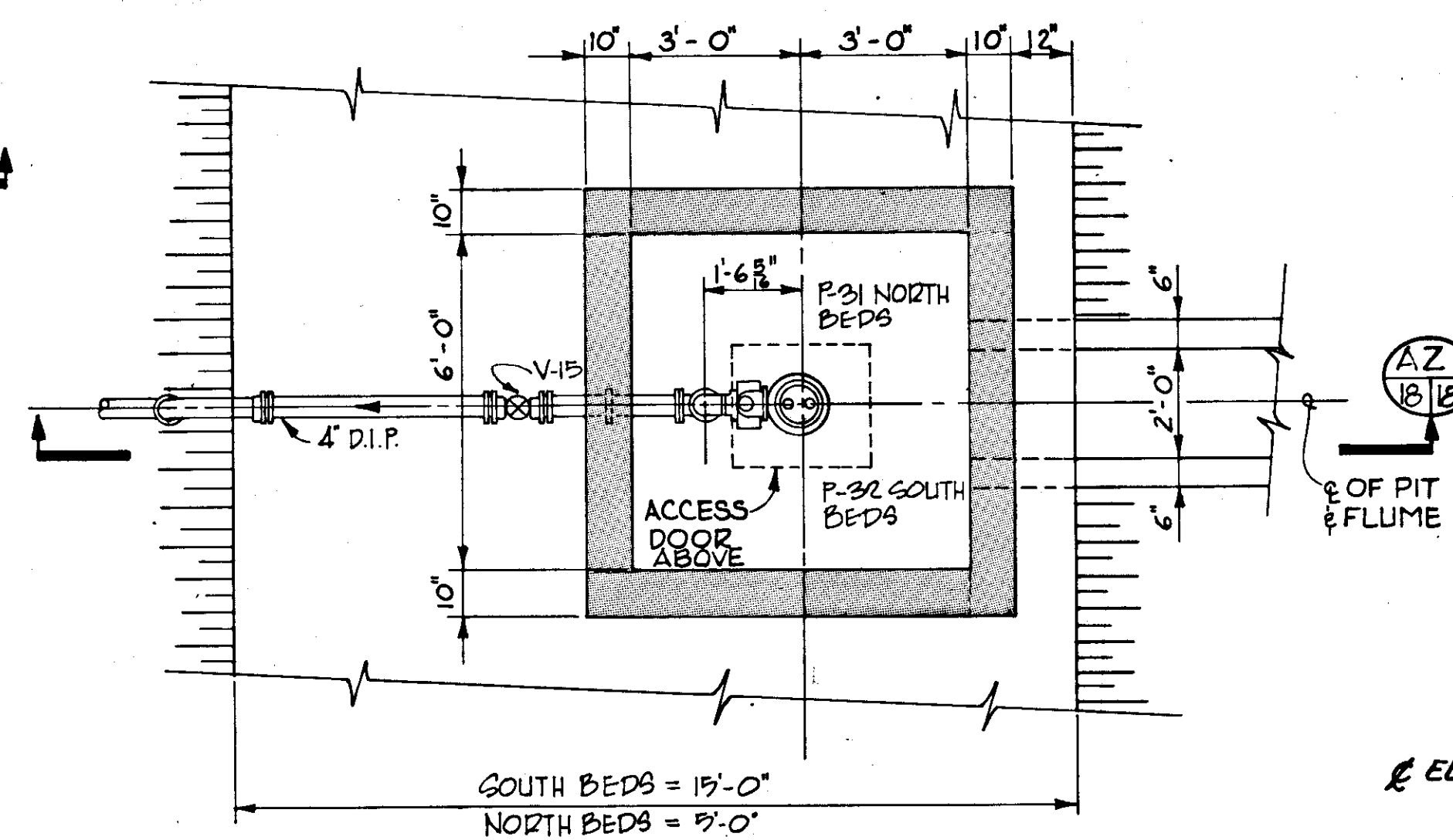
DETAIL G
8 | 8
N.T.S.



SECTION AY
N.T.S. 17 B



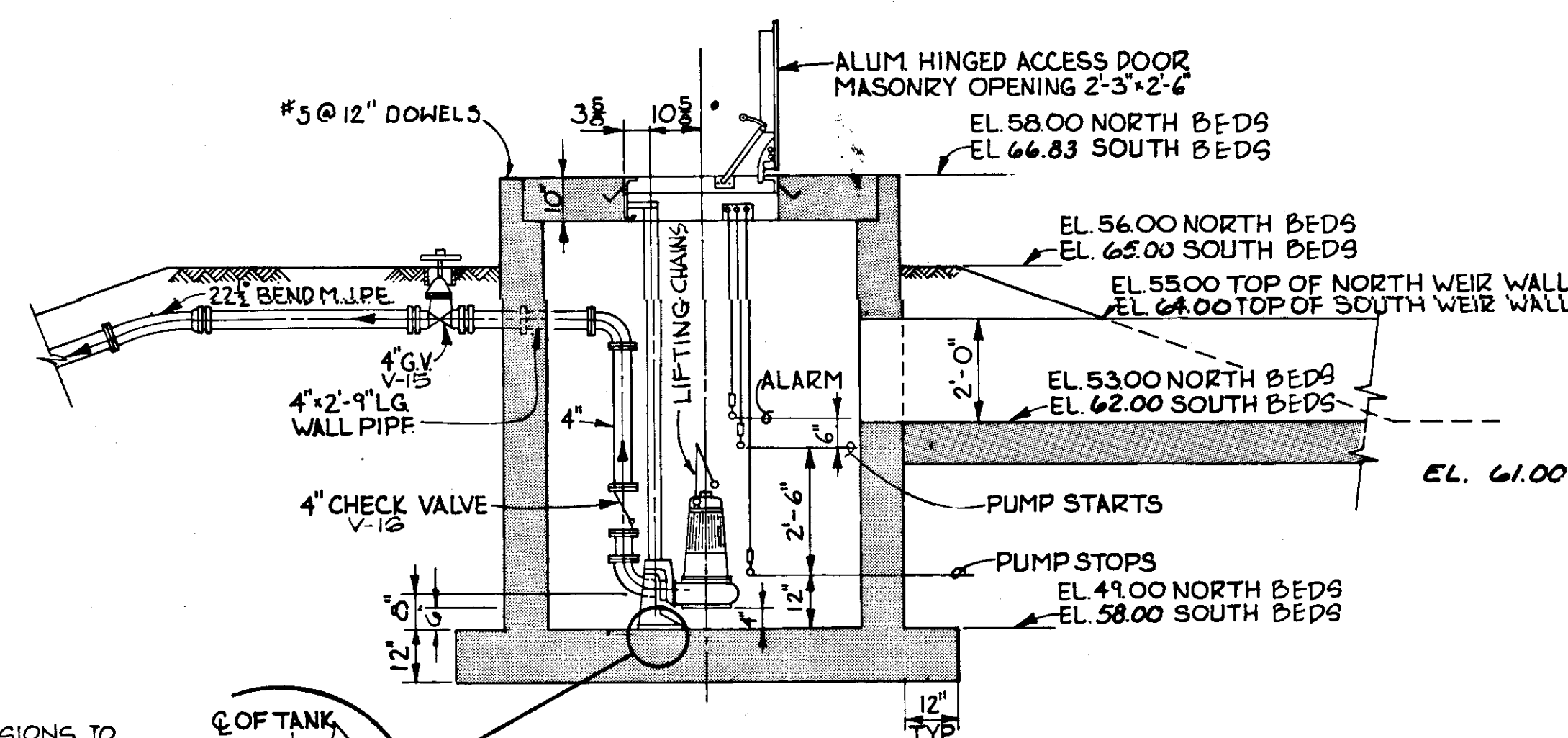
DETAIL
N.T.S.



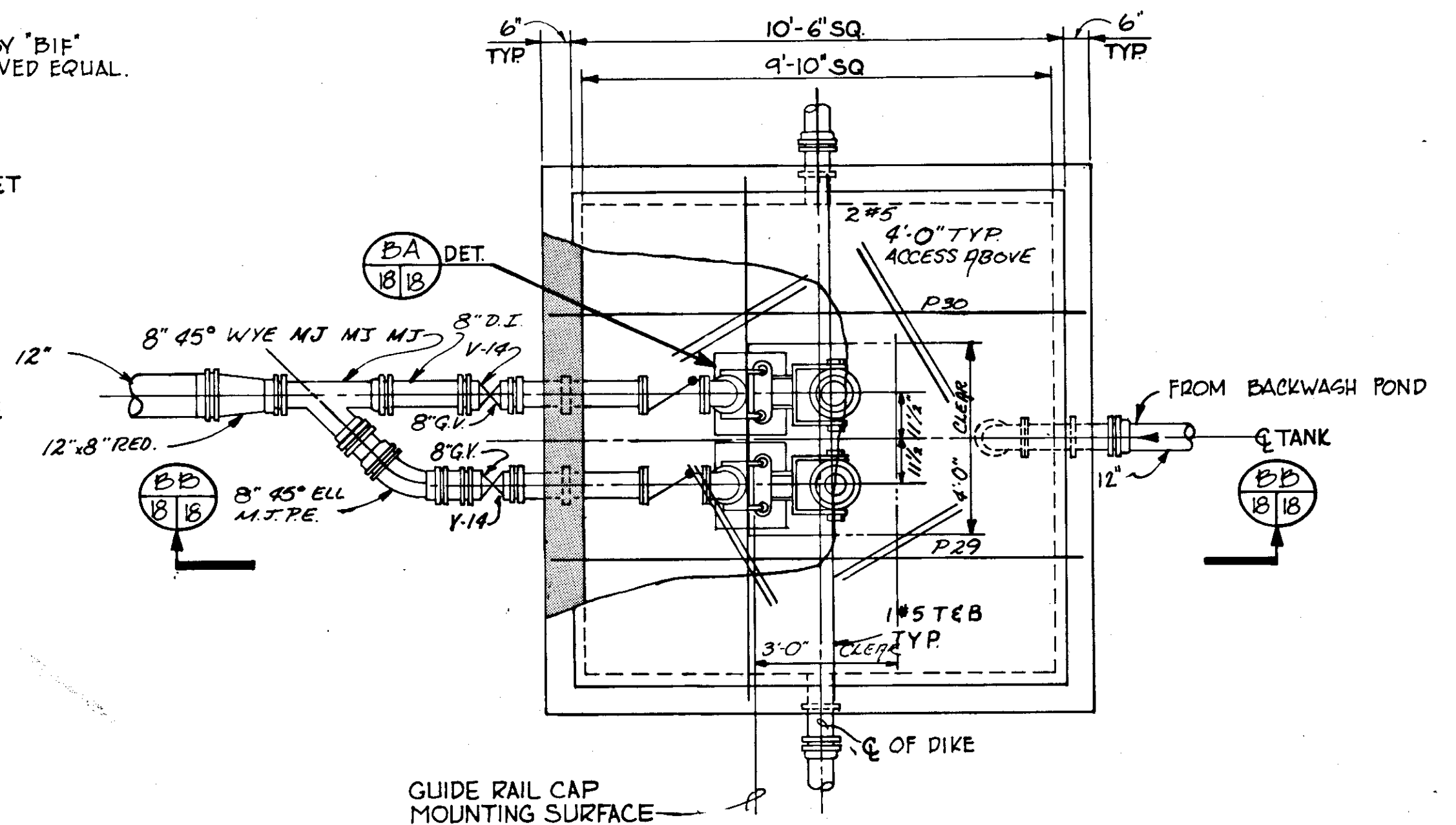
DETAIL

SCALE: $\frac{3}{8}" = 1'-0"$

C
8
9
10



SECTION AZ
SCALE: $\frac{3}{8}'' = 1'-0''$ 18 | 18

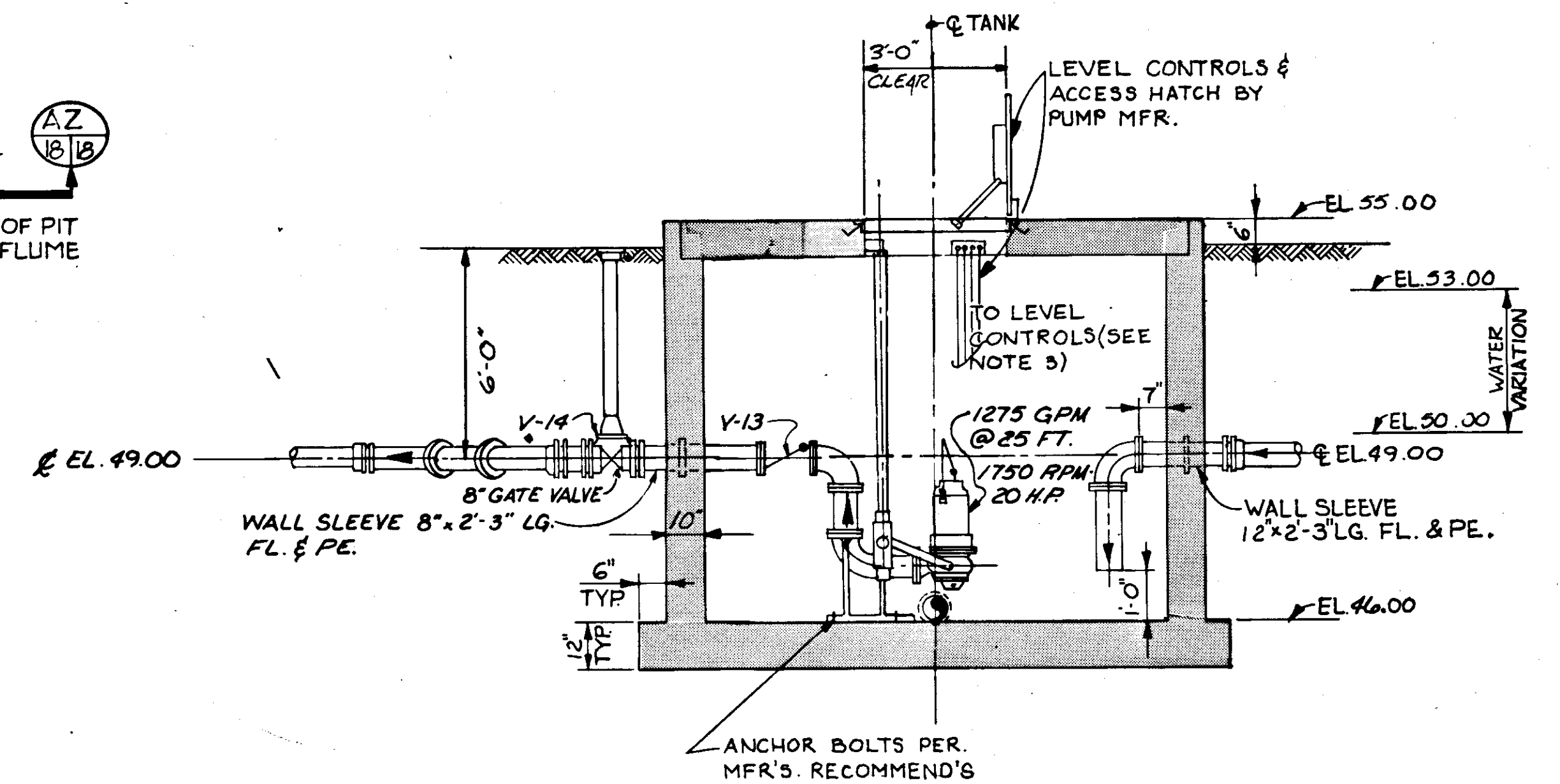


DETAIL

SCALE: $\frac{3}{8}" = 1'-0"$

2

11 18



SECTION BB
SCALE: $\frac{3}{8}'' = 1'-0''$

NOTE:

1. FOR PUMP SCHEDULE SEE DWG. NO. 77

2. FOR VALVE SCHEDULE SEE DWG. NO. 87

3. LEVEL CONTROL FUNCTIONS

EL. 53.5	ALARM
EL. 51.5	LAG PUMP ON
EL. 50.5	LEAD PUMP ON
EL. 50.0	PUMPS STOP

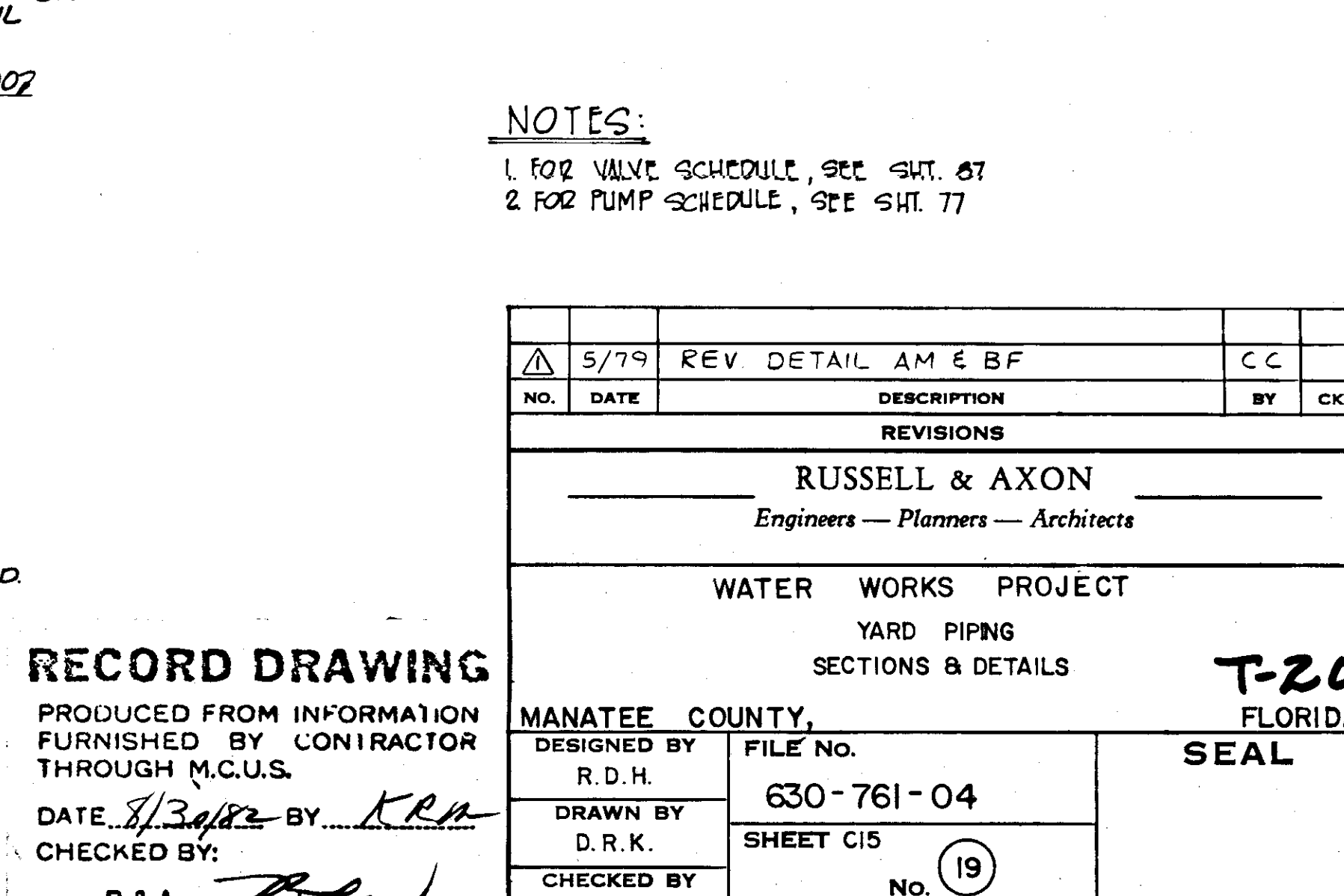
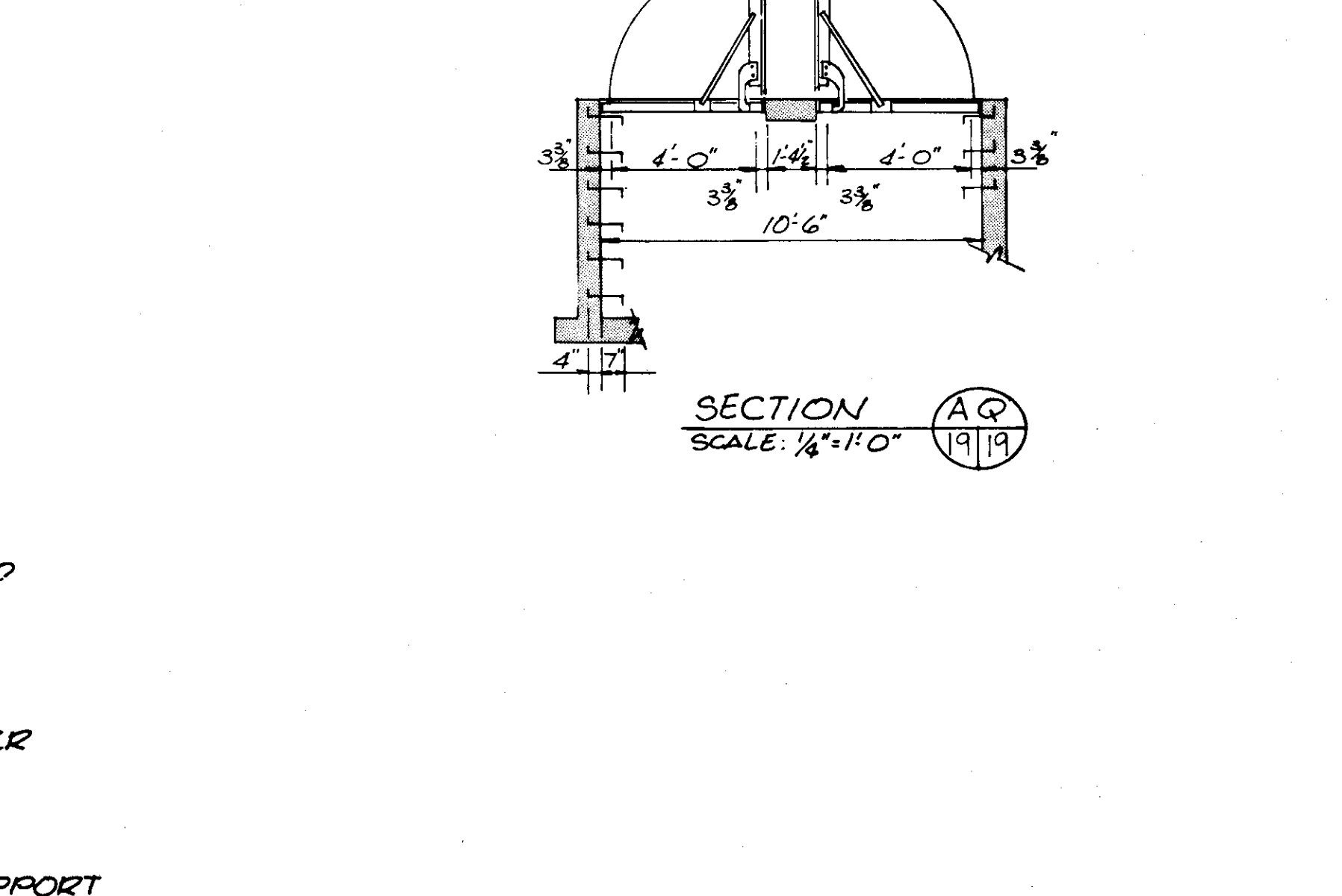
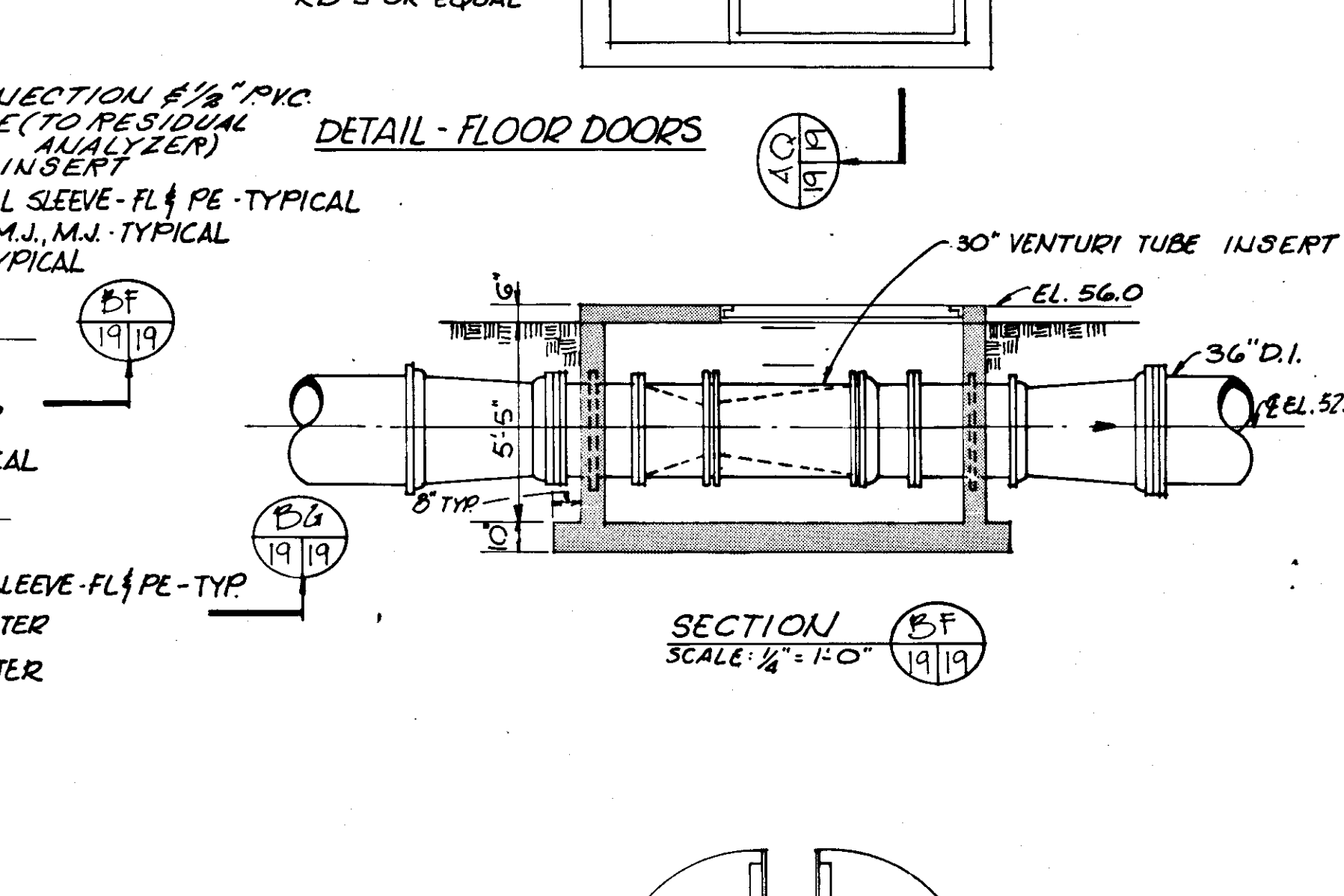
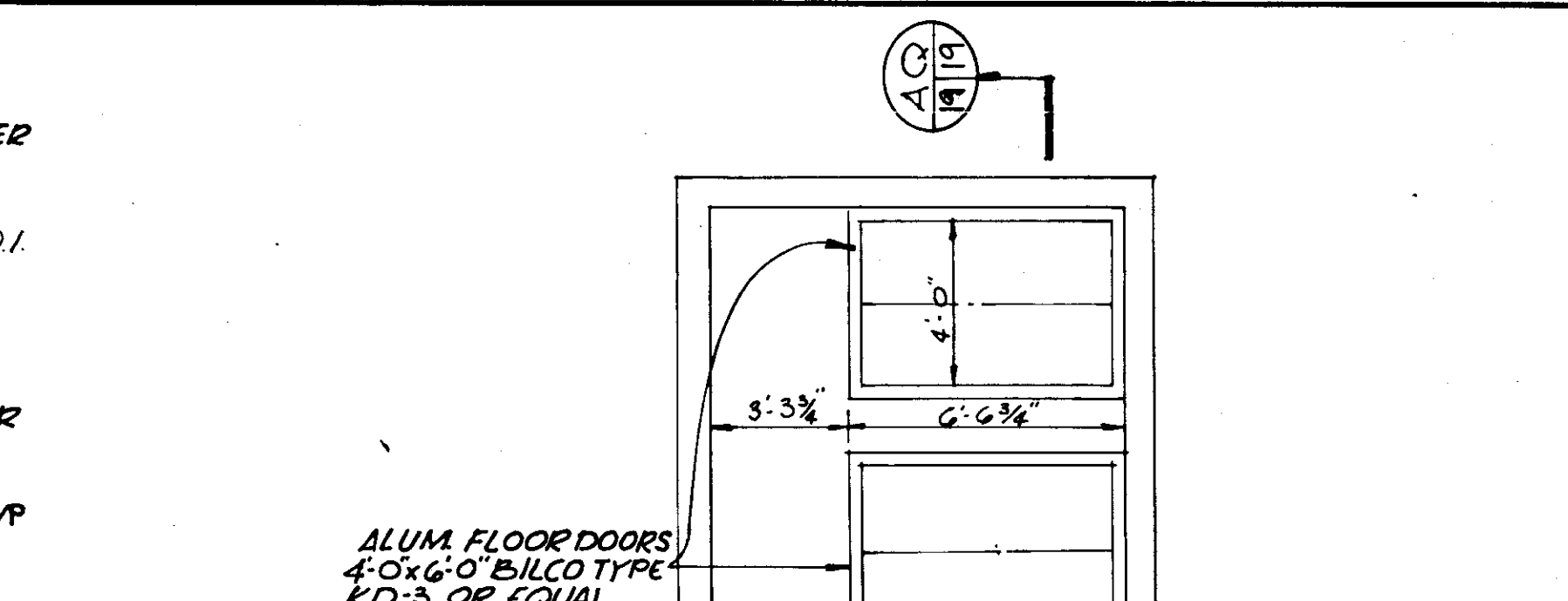
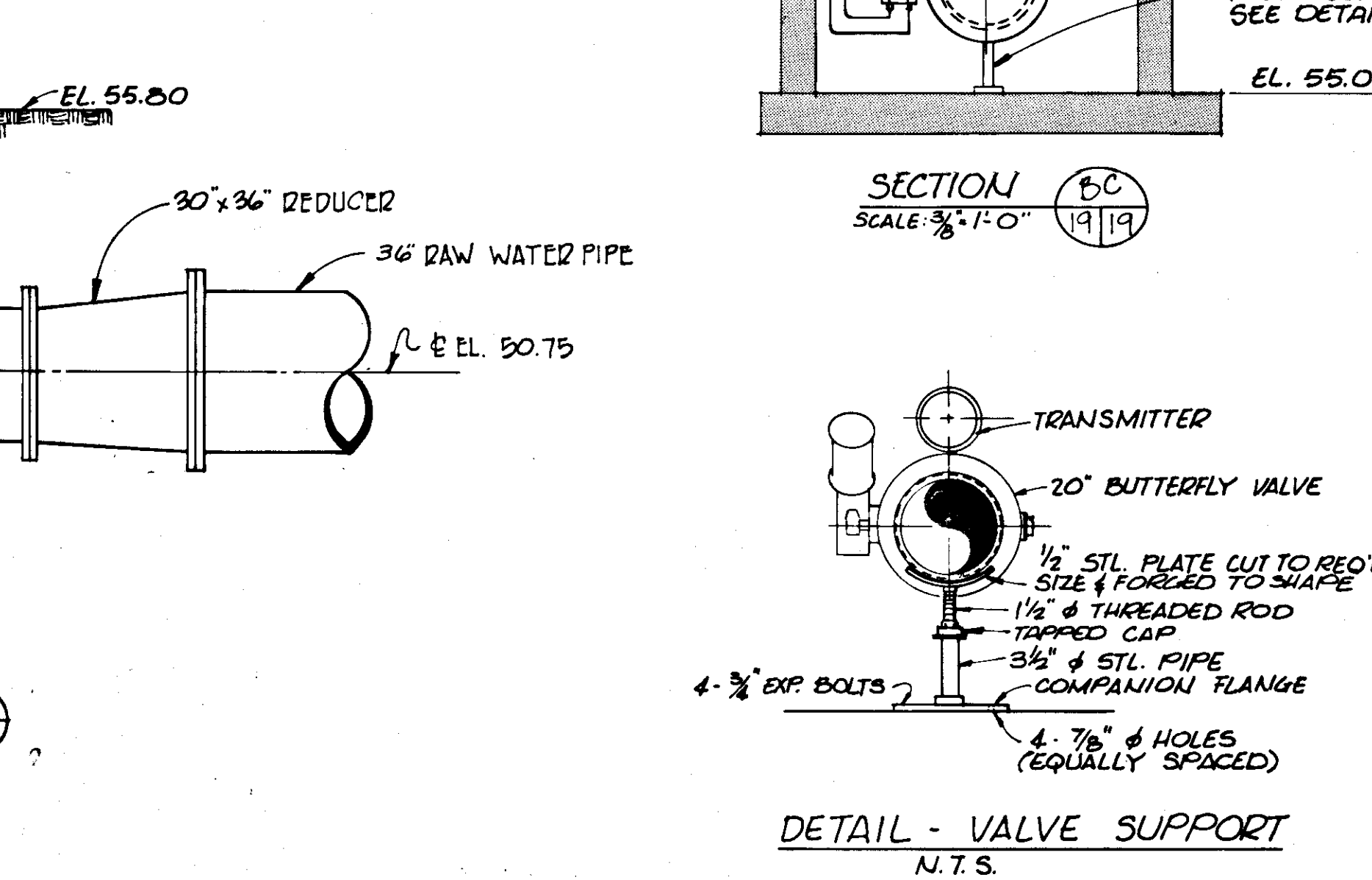
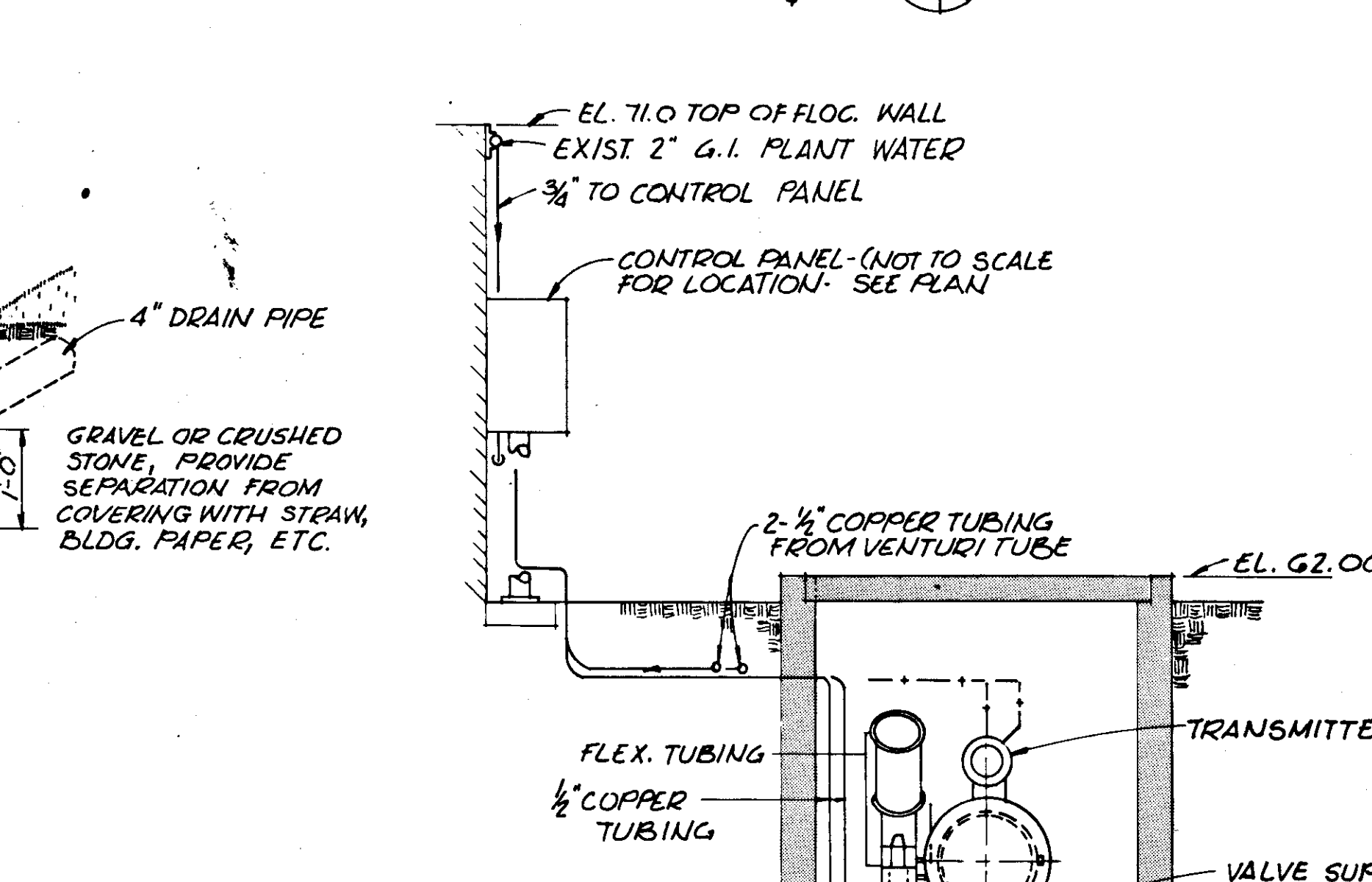
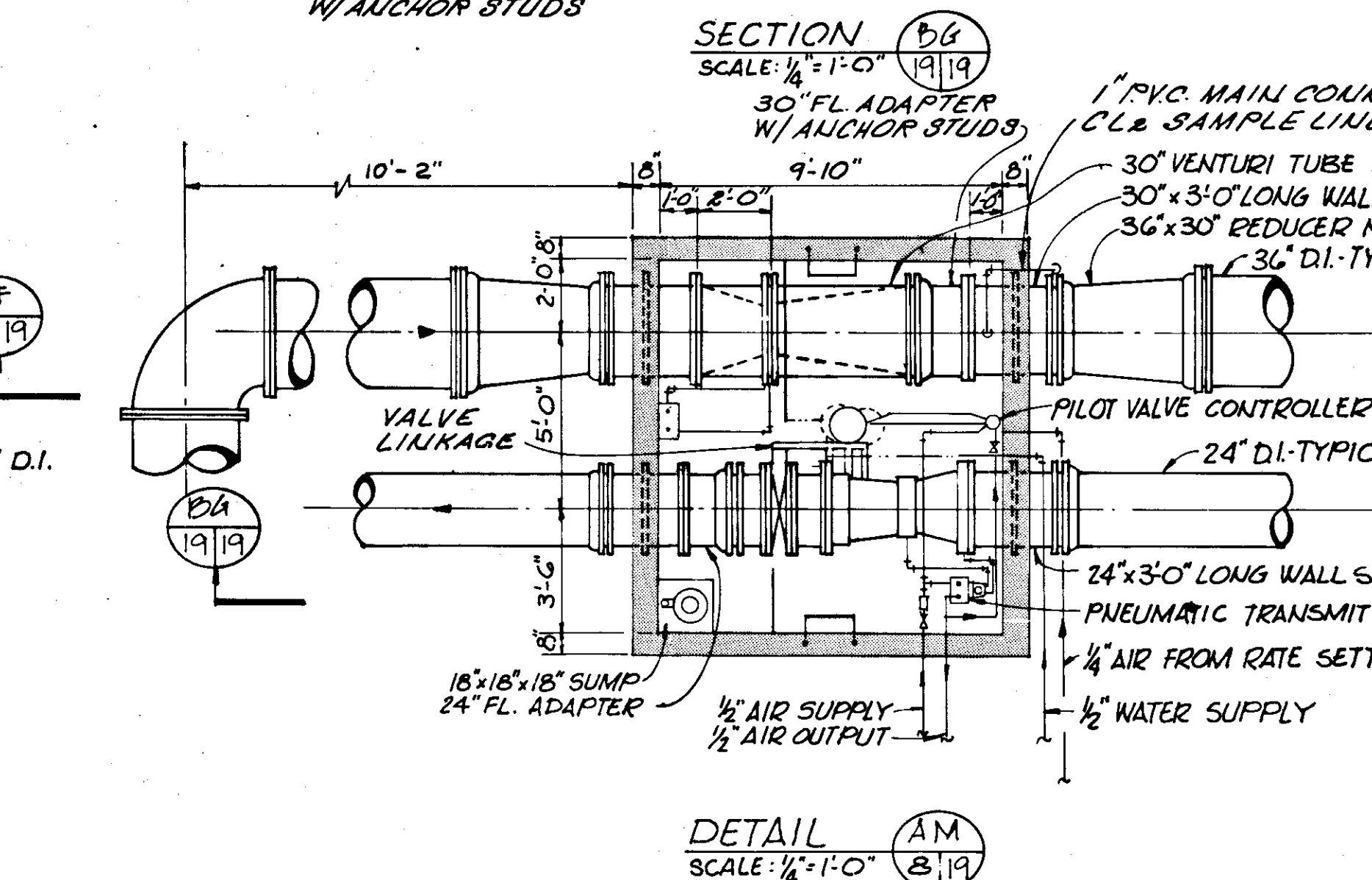
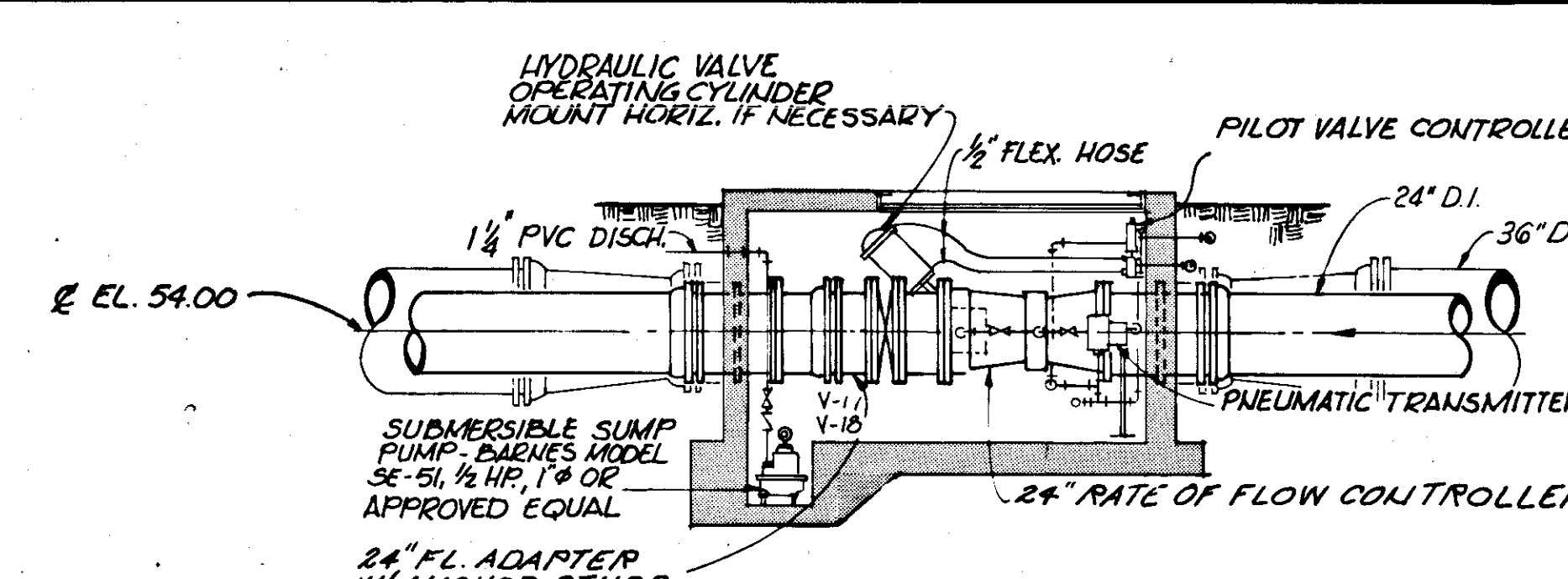
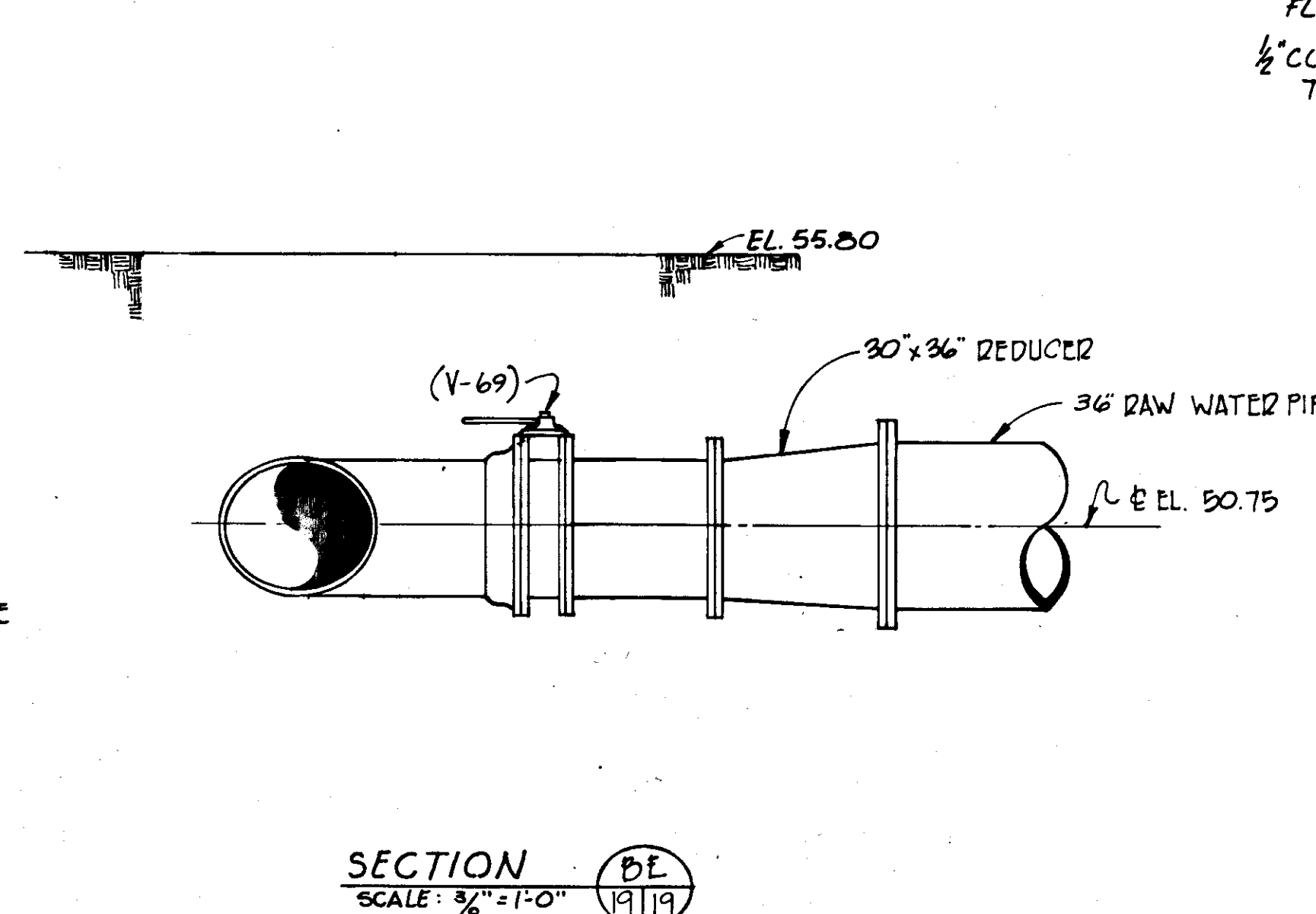
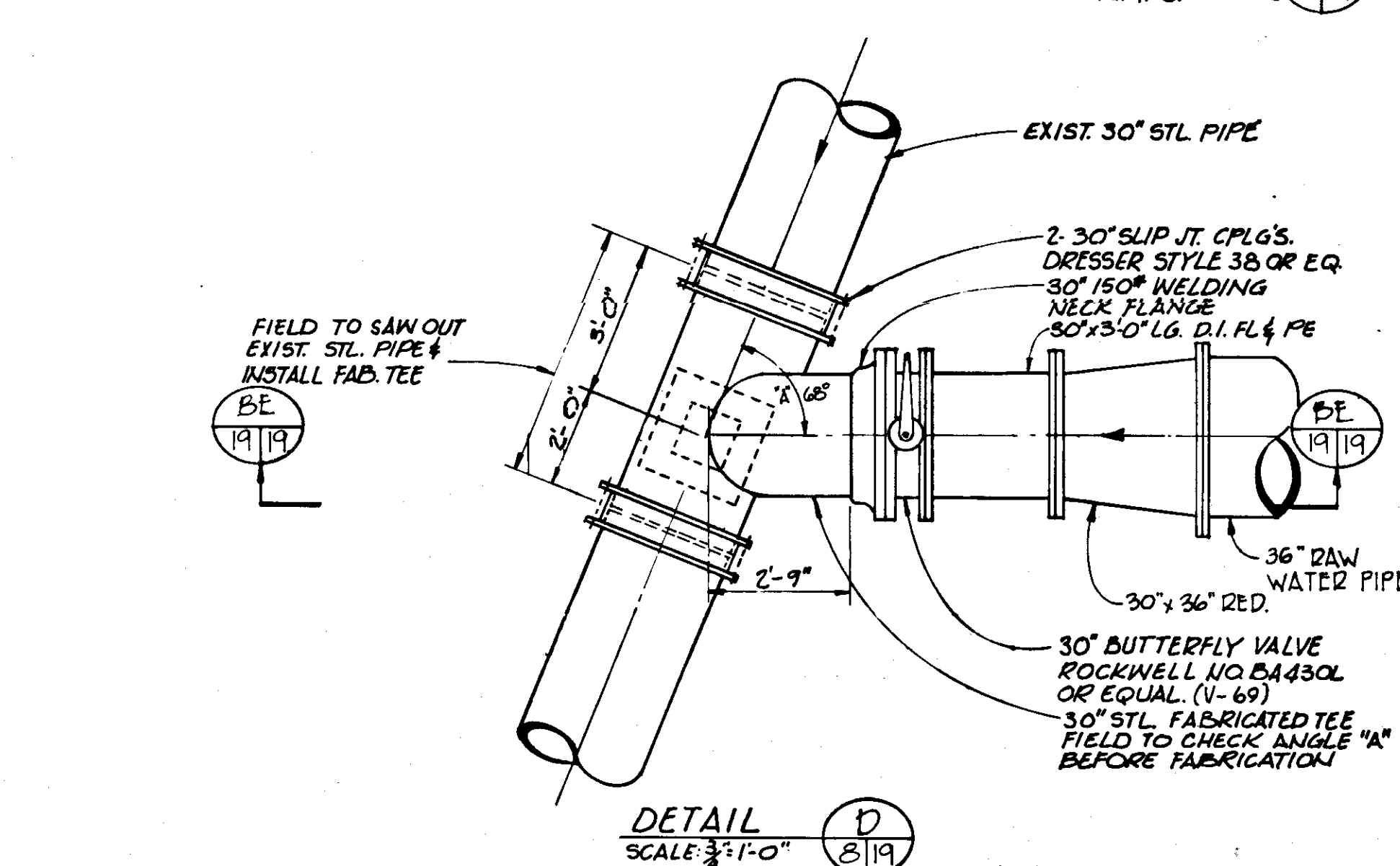
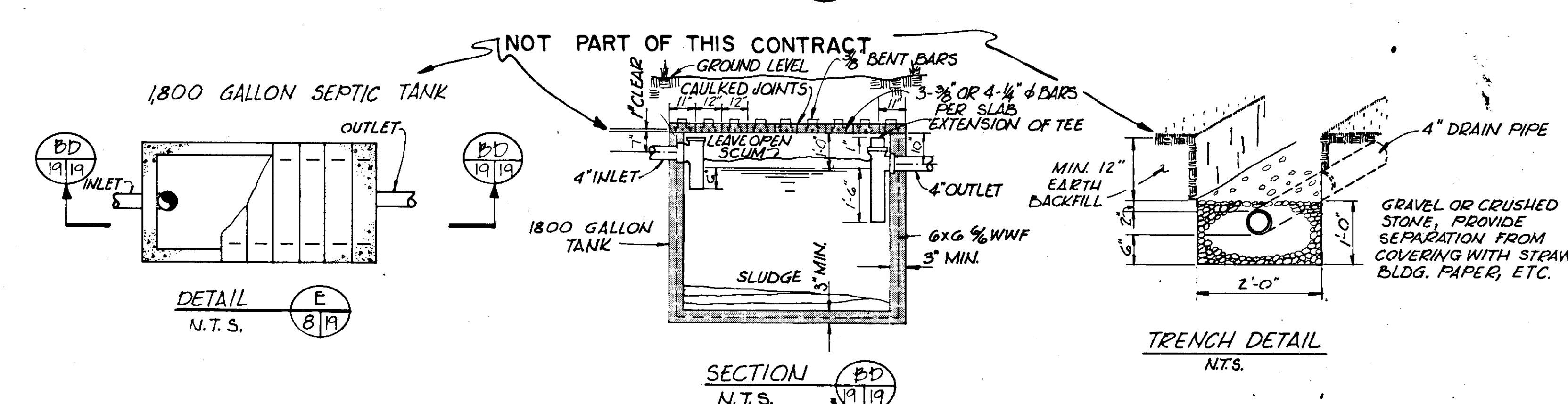
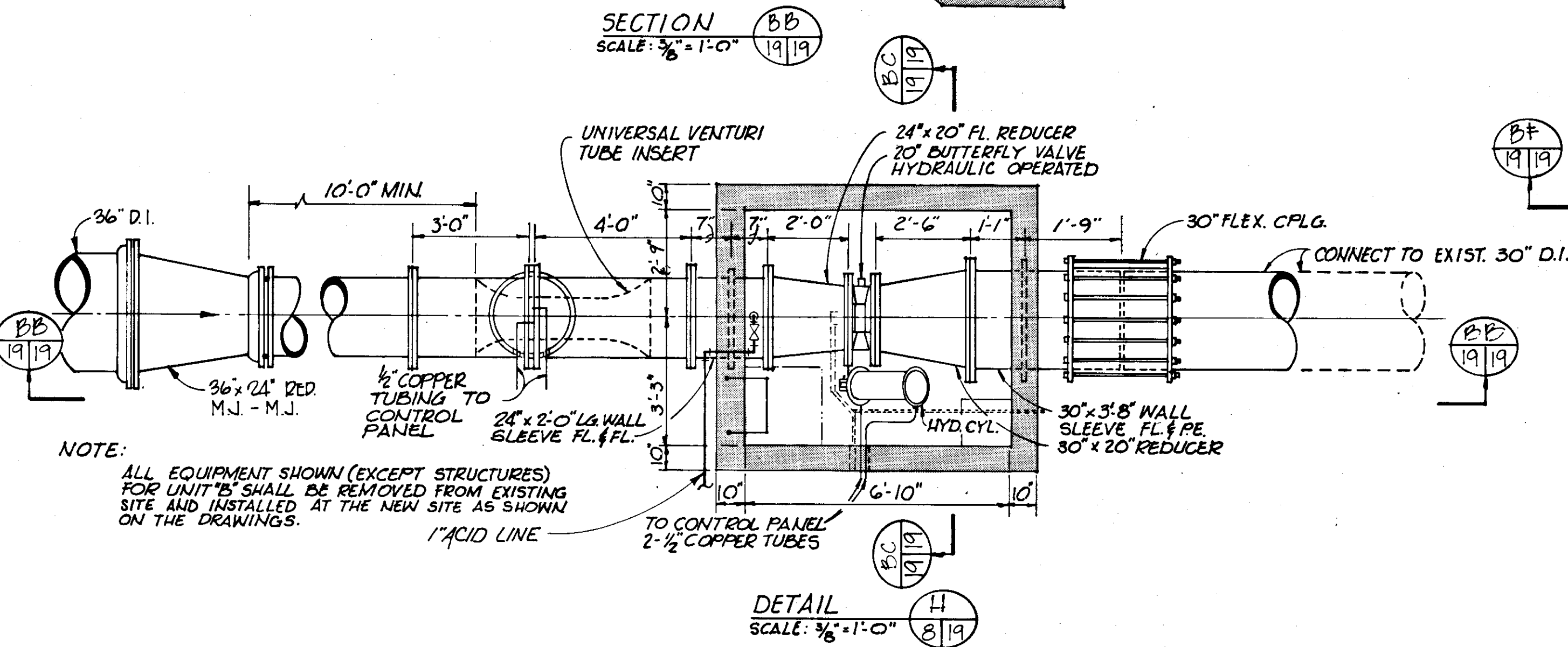
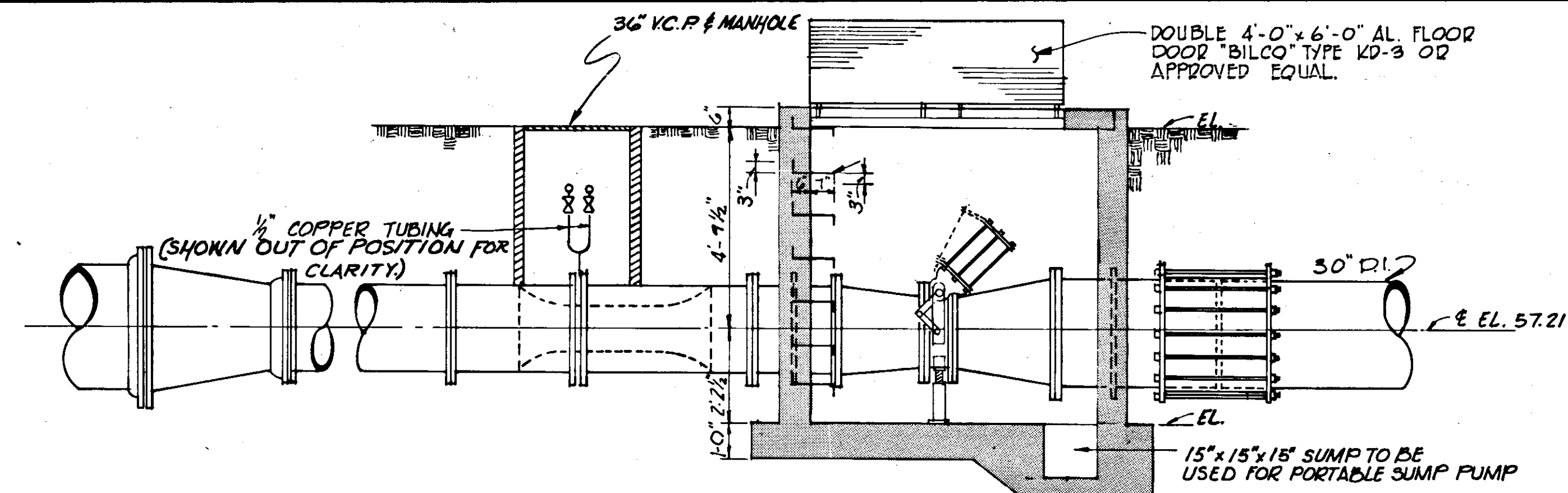
		3/79		GEN REVISIONS		A L	
NO.		DATE		DESCRIPTION		BY	
REVISIONS							
<u> </u> RUSSELL & AXON <u> </u> <i>Engineers — Planners — Architects</i>							
WATER WORKS PROJECT YARD PIPING SECTIONS & DETAILS							
MANATEE COUNTY,				T-19 FLORIDA			
DESIGNED BY		FILE NO.		SEAL			
R.D.H.		630-761-04					
DRAWN BY		SHEET C14					
I.C.S.		No. 18					
CHECKED BY		OF 130		SHEETS			
DATE		SCALE: AS NOTED					
AUGUST, 1978							

RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH MCUS

THROUGH M.C.U.S.
DATE 8/30/82 BY KRM
CHECKED BY:

R & A B. H. W.
M.C.U.S. _____



NOTES:
1. FOR VALVE SCHEDULE, SEE SHT. 67
2. FOR PUMP SCHEDULE, SEE SHT. 77

NO.	DATE	DESCRIPTION	BY	CHK.
1	5/79	REV. DETAIL AM & BF	CC	
REVISIONS				
RUSSELL & AXON				
Engineers - Planners - Architects				
WATER WORKS PROJECT				
YARD PIPING				
SECTIONS & DETAILS				
MANATEE COUNTY, FLORIDA				
DESIGNED BY	R.D.H.	FILE NO.	630-761-04	
DRAWN BY	D.R.K.	SHEET C15		
CHECKED BY		NO. 19		
DATE	AUGUST, 1978	SCALE: AS NOTED		

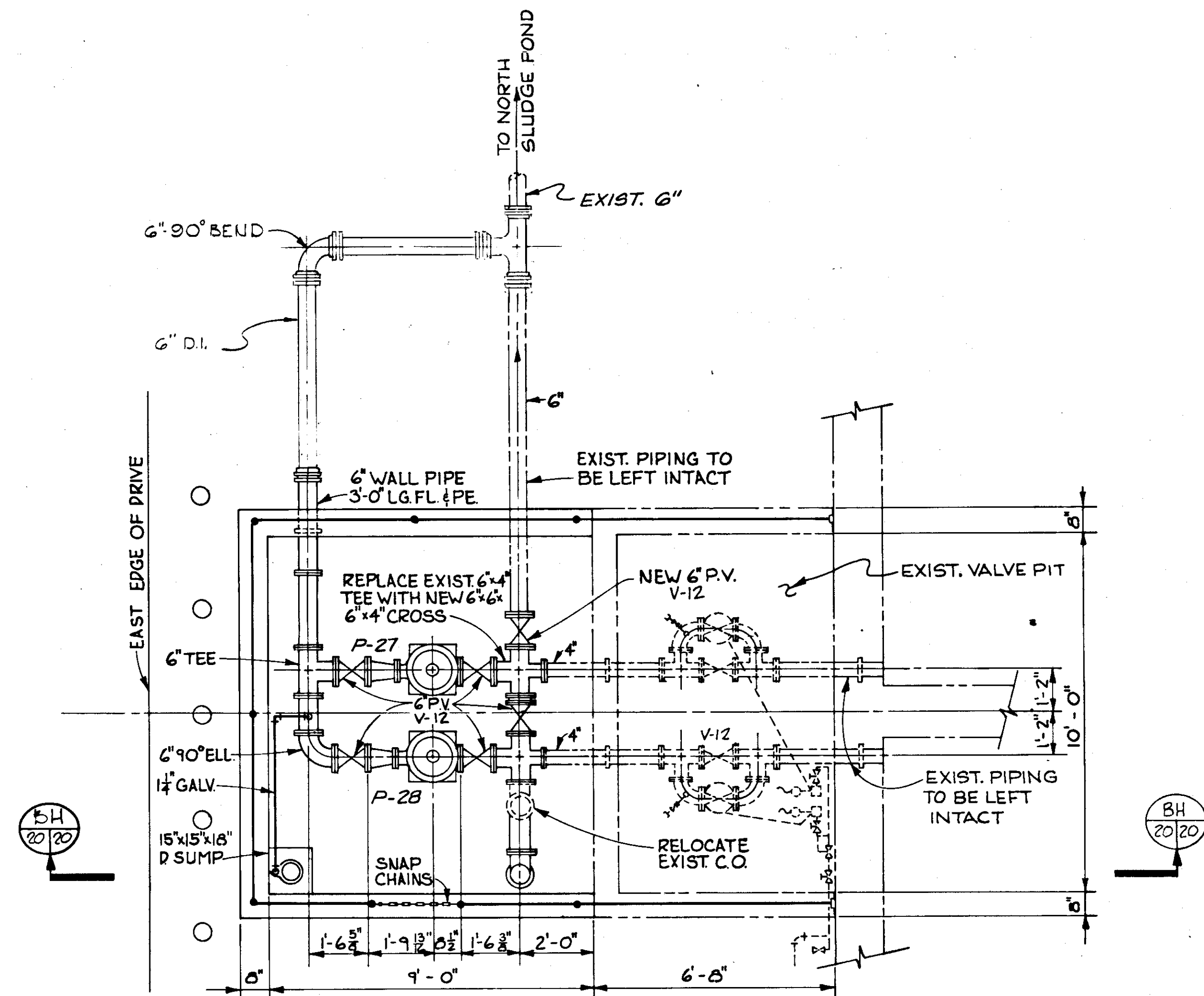
RECORD DRAWING
PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE 8/30/82 BY KRA
CHECKED BY:
R & A
M.C.U.S.

THRUST RESTRAINT SYSTEM FOR BURIED MECHANICAL OR PUSH-ON JOINT PIPE

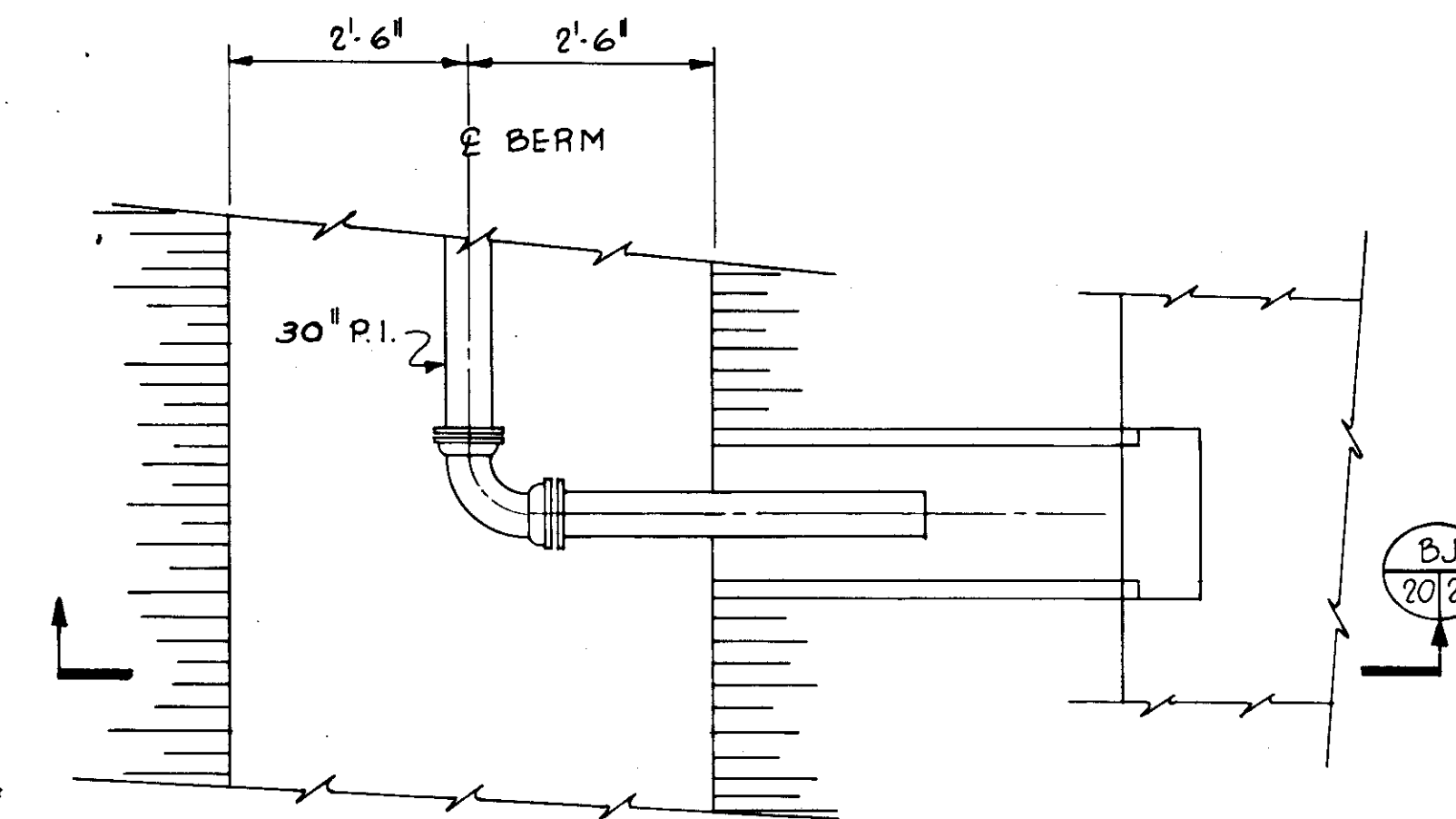
PIPE SIZE (IN.)	RESTRAINED JOINTS - MINIMUM DISTANCE FROM FITTINGS - FEET				
	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND	BRANCH OF TEE OR WYE
6	23	14	8	5	40
8	30	18	10	6	49
10	36	21	12	7	60
12	42	25	14	8	71
14	48	28	16	9	77
16	54	32	18	10	88
18	60	35	20	11	98
20	66	38	21	12	110
24	77	44	24	13	132
30	92	52	29	15	165
36	107	59	33	17	197

NOTES:

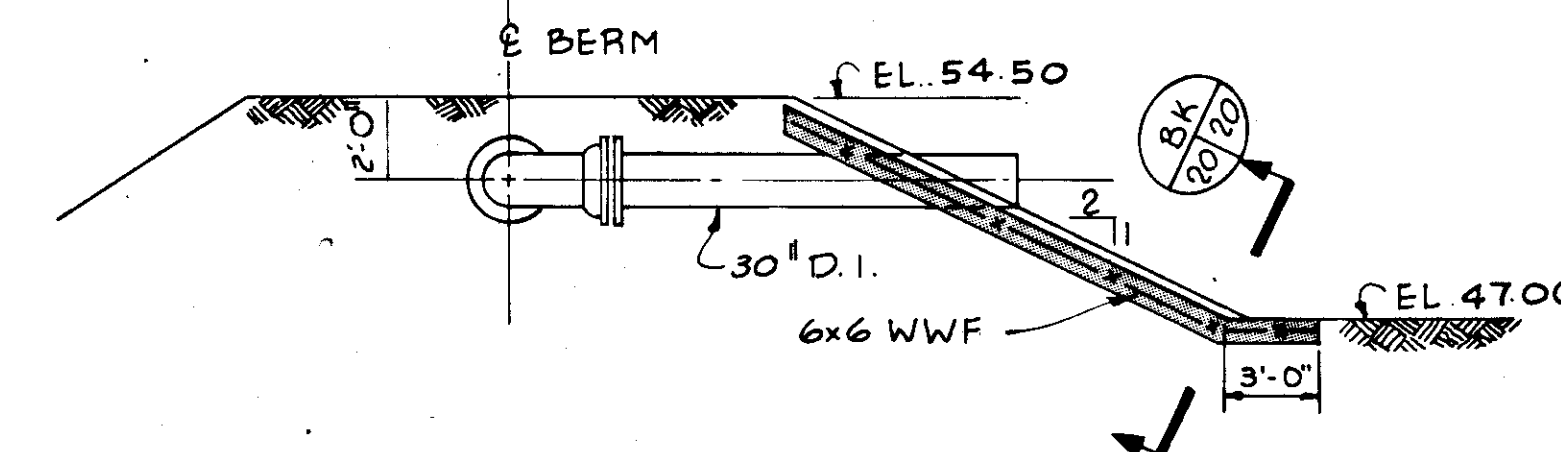
1. CONTRACTOR TO BE RESPONSIBLE FOR PROPER APPLICATION OF THRUST RESTRAINT TO PREVENT MOVEMENT OF PIPE AND FITTINGS.
2. SYSTEM IS DESIGNED FOR COMPACTED SANDY SOIL WITH MINIMUM BEARING CAPACITY OF 2500 PSF AND 3' COVER. WHEN THIS SYSTEM IS INAPPROPRIATE BECAUSE OF BAD SOIL OR OTHER CONDITIONS, SUBMIT DETAILS OF ALTERNATE SYSTEM TO ENGINEER FOR APPROVAL.
3. FITTINGS SHALL ALSO HAVE JOINT RESTRAINT.
4. FOR RAW WATER LINES, SLUDGE DRAINS, BASIN DRAINS, BACKWASH DRAINS, SLUDGE PUMP DISCHARGE LINES, SLUDGE SUPERNATANT LINES, WASH WATER RETURN LINES AND FILTER-TO-WASTE PIPING, USE 0.2 x VALUES SHOWN.



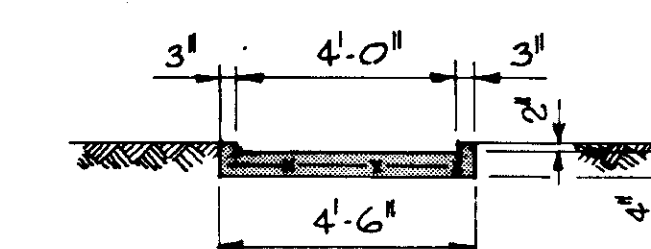
DETAIL SCALE: $\frac{3}{8}'' = 1'-0''$ 



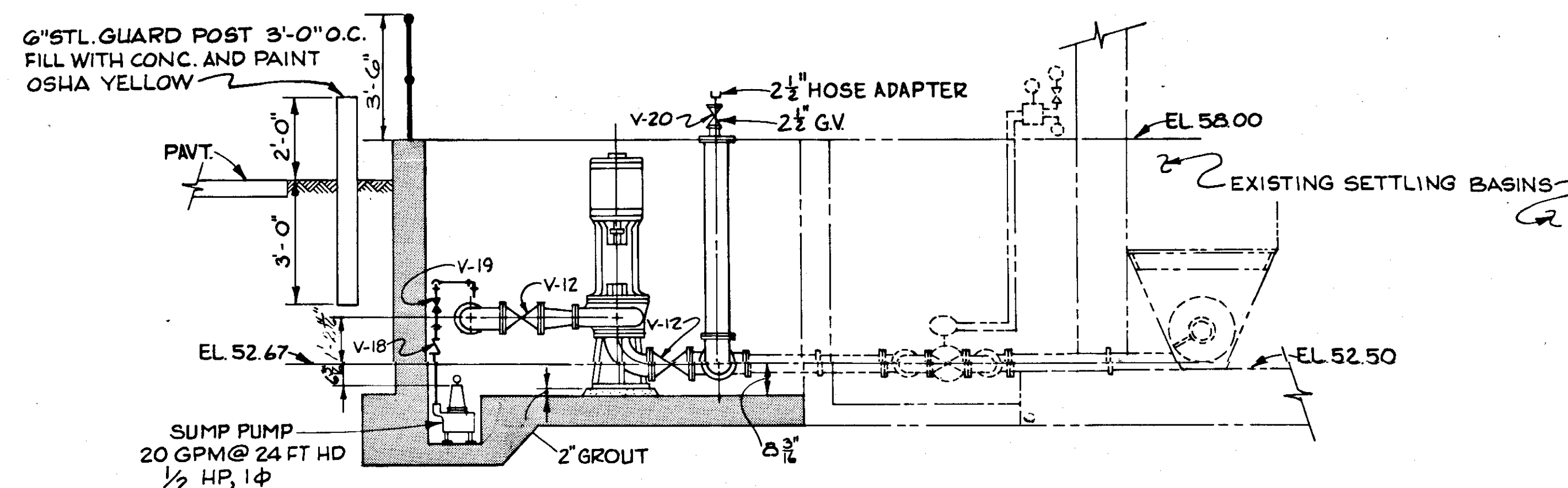
DETAIL	W
N.T.S.	11 20
OPP. HAND	WX
	11 20



SECTION BJ
N.T.S. 20/20



SECTION BK
N.T.S. 20/20



SECTION BH
SCALE: $\frac{3}{8}'' = 1'-0''$

NOTE:

1. FOR VALVE SCHEDULE, SEE SHT. 87.
2. FOR PUMP SCHEDULE, SEE SHT. 77.

5/79		REV SECT B J		AL	
NO.	DATE	DESCRIPTION		BY	CHKD.
REVISIONS					
<u> </u> RUSSELL & AXON <u> </u> <i>Engineers — Planners — Architects</i>					
WATER WORKS PROJECT YARD PIPING SECTIONS & DETAILS					
MANATEE COUNTY,				T-21 FLORIDA	
DESIGNED BY R.D.H.		FILE NO. 630-761-04		SEAL	
DRAWN BY I.C.S./E.L.L.		SHEET C16			
CHECKED BY		NO. 20			
		OF 130 SHEETS			
DATE AUGUST, 1978		SCALE: $\frac{3}{8}'' = 1' - 0''$			

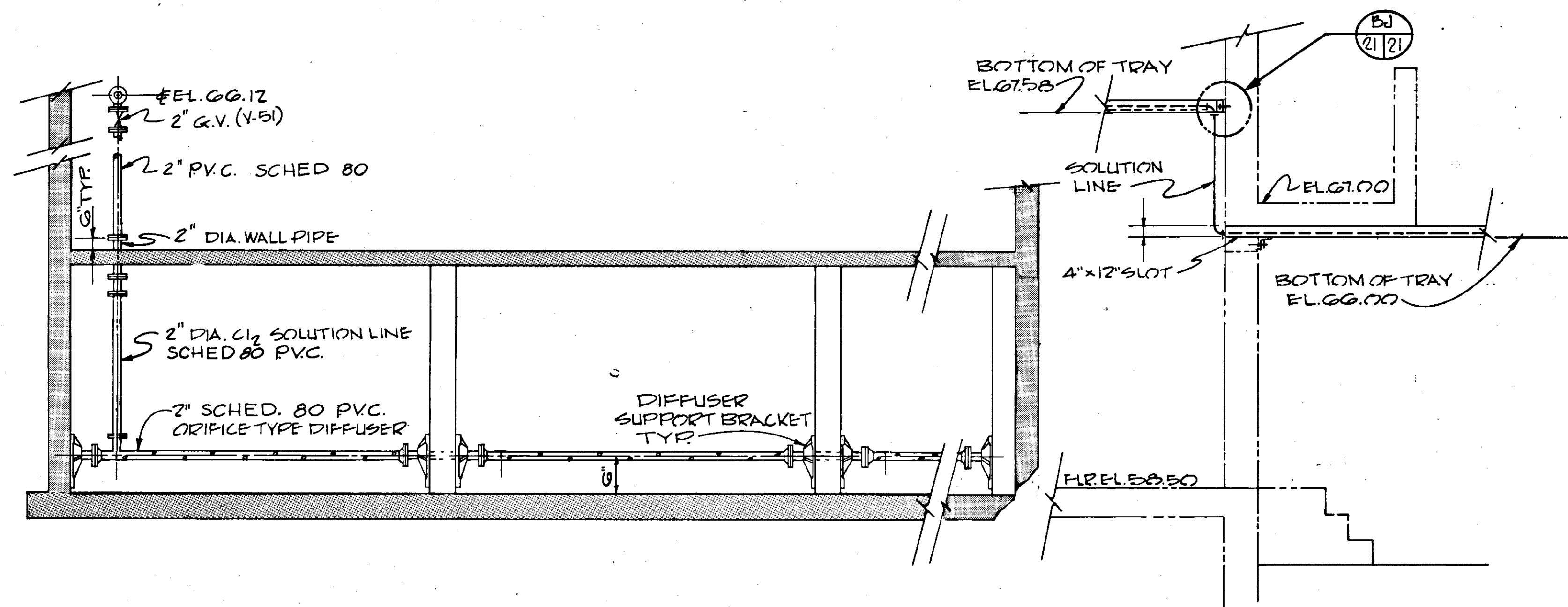
RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.

DATE 8/30/82 BY KRM
CHECKED BY:

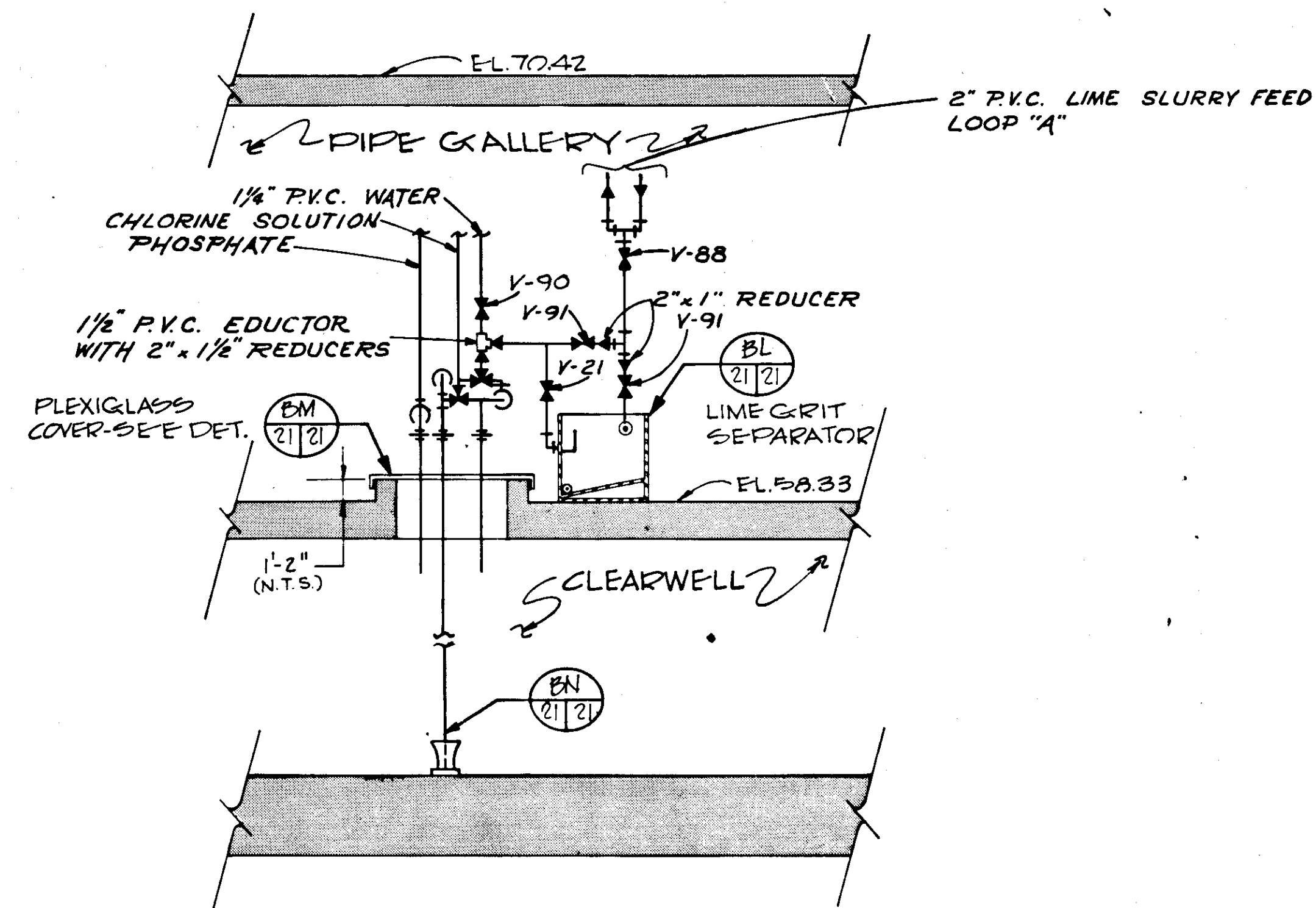
R & A 732
M.C.U.S. _____

T-21
FLORIDA
EAL

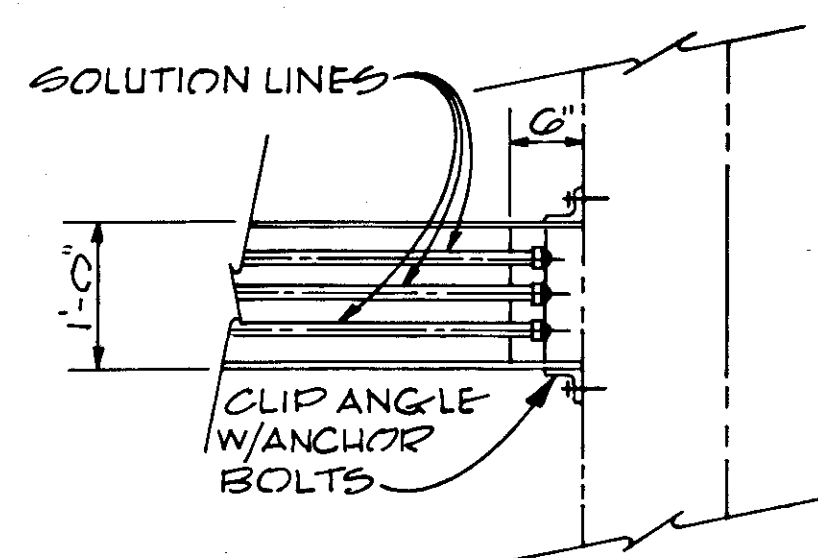


SECTION 4A
N.T.S.

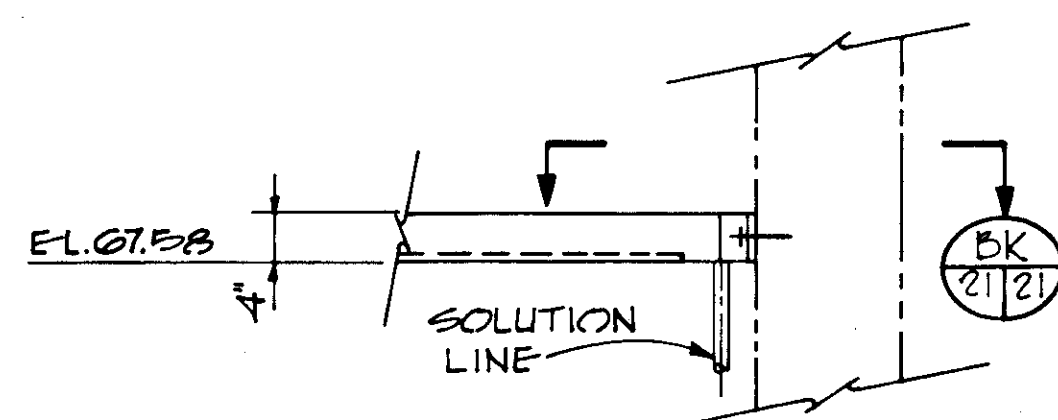
SECTION 4C
SCALE: 3/8" = 1'-0"



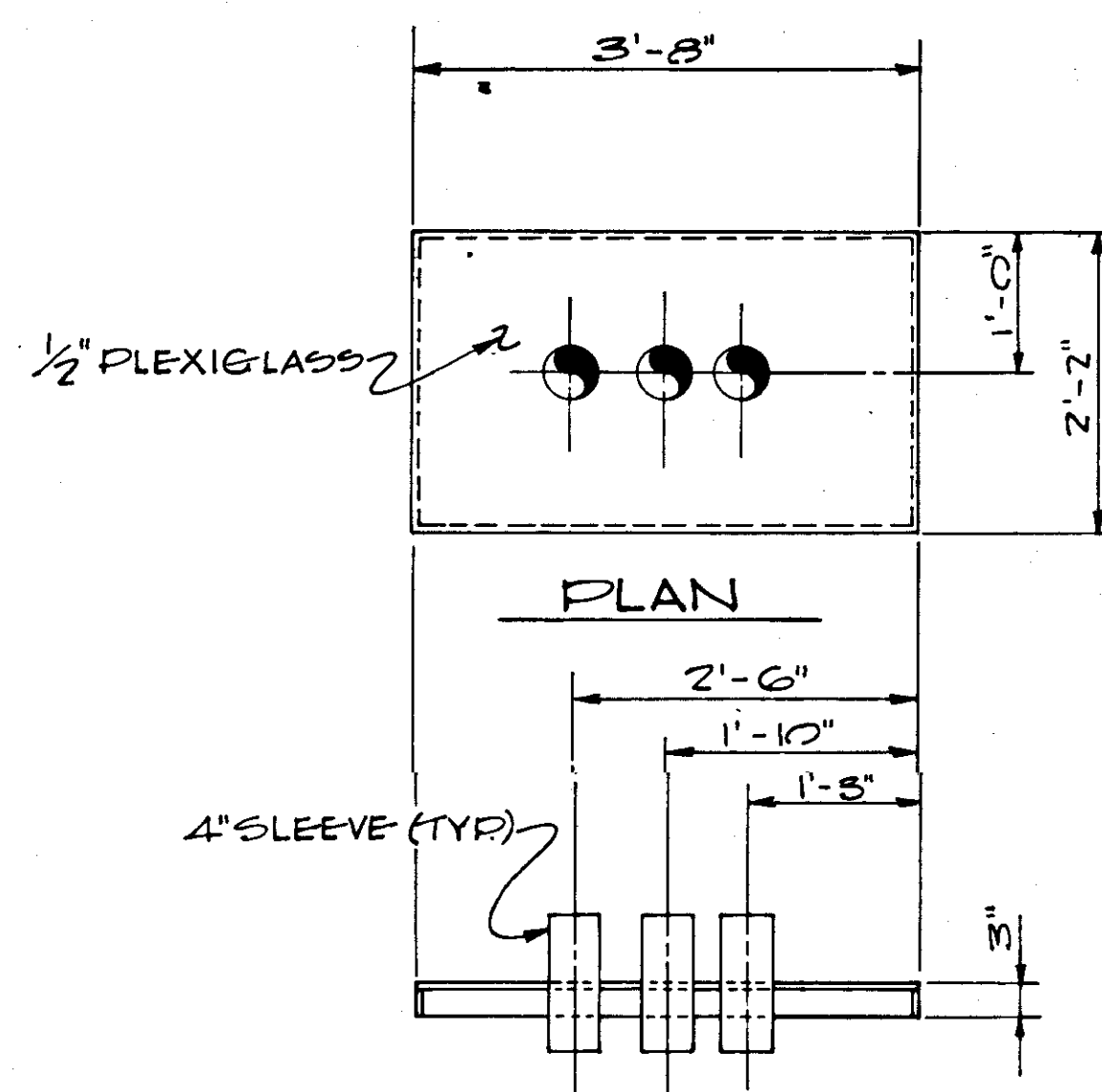
SECTION AD
SCALE: 3/8" = 1'-0"



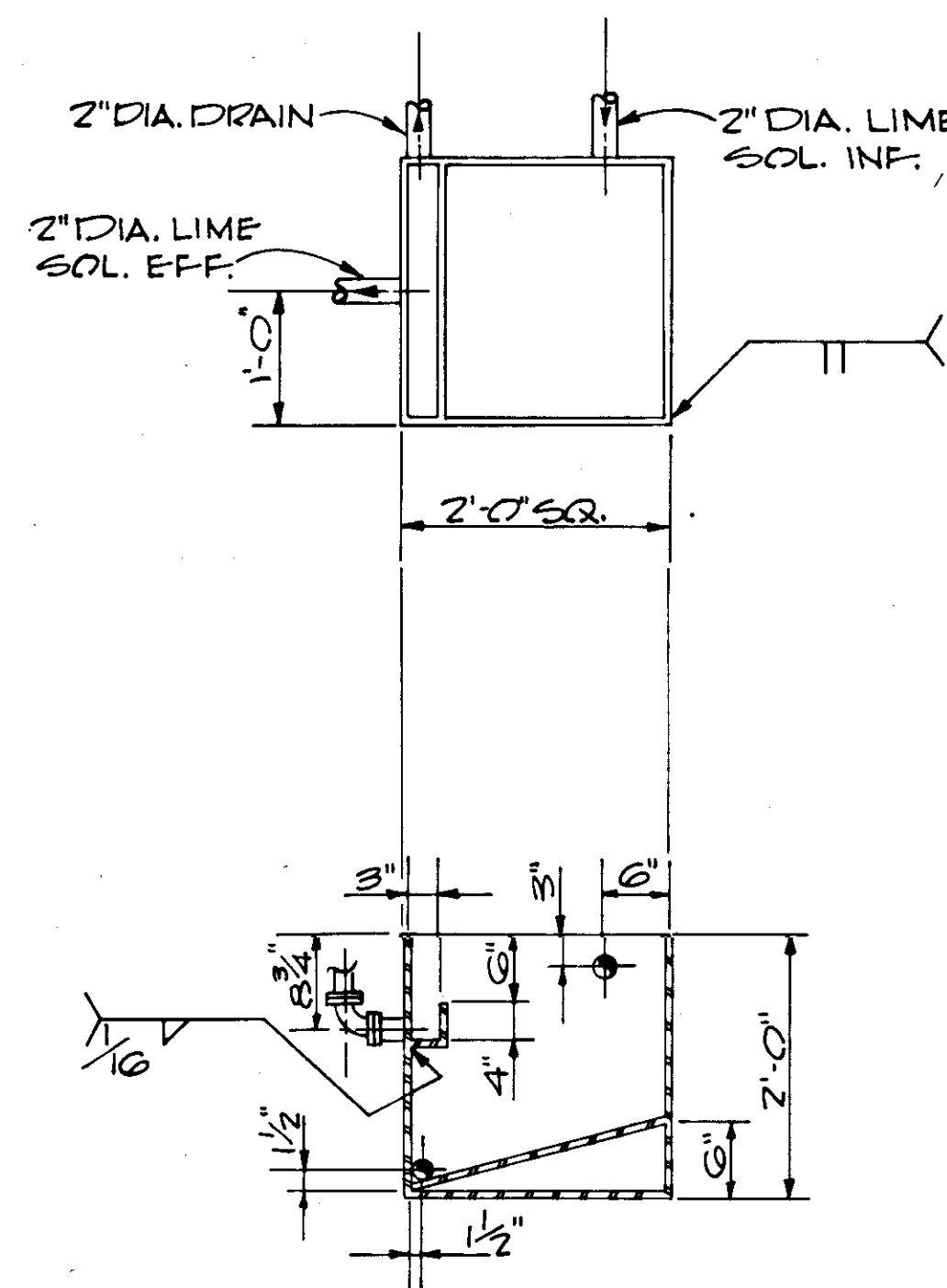
SECTION BK
SCALE: 3/4" = 1'-0"



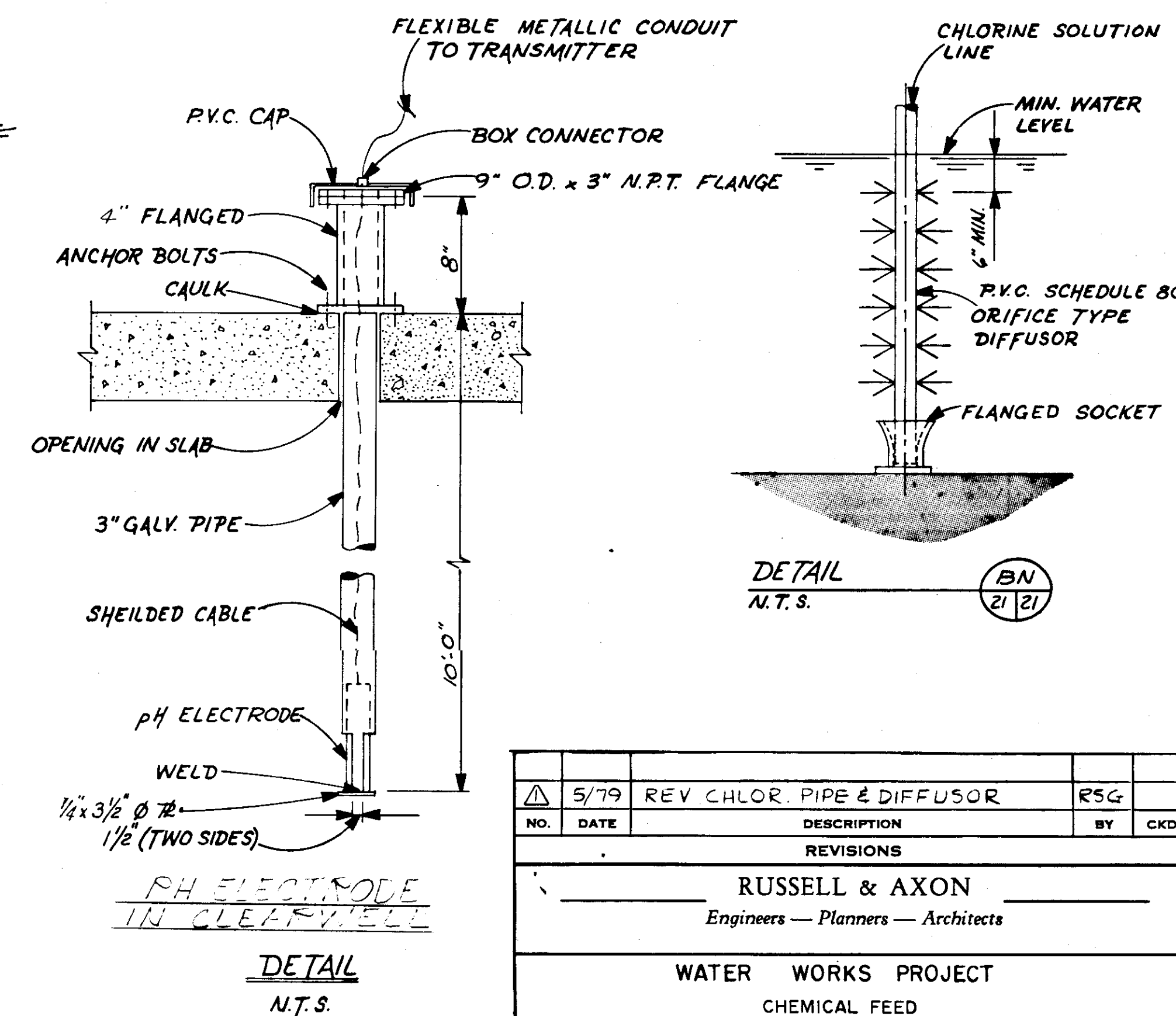
DETAIL BJ
SCALE: 3/4" = 1'-0"



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



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

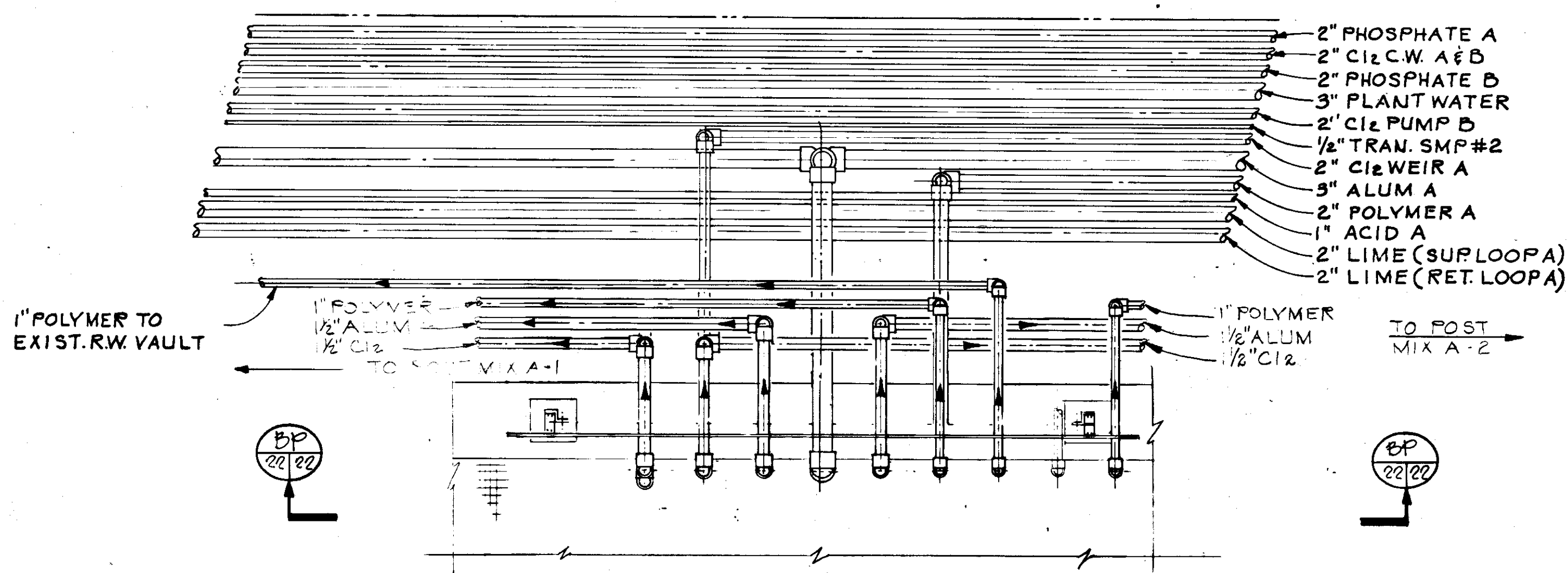


DETAIL BN
N.T.S.

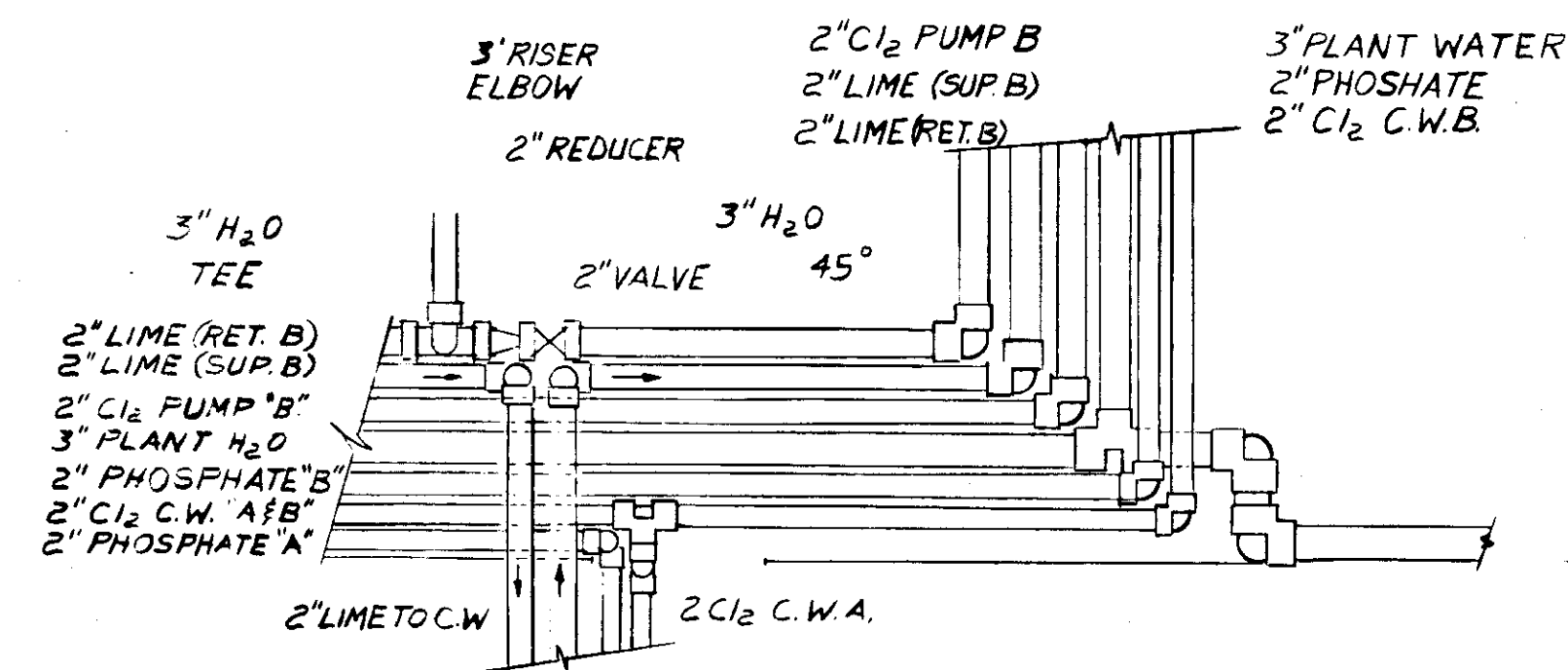
RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE 8/30/85 BY R.R.A.
CHECKED BY:
R & A
M.C.U.S.

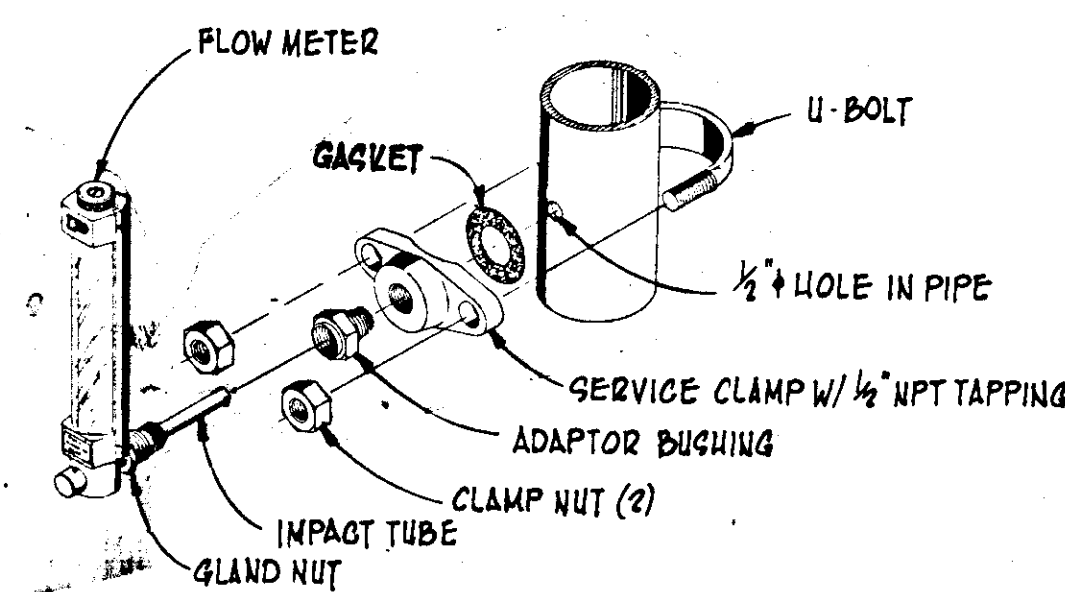
NO.	DATE	DESCRIPTION	BY	CHKD.
5/79	REV	CHLOR. PIPE & DIFFUSOR	RSG	
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT CHEMICAL FEED PLAN, SECTIONS, & DETAIL				
MANATEE COUNTY, FLORIDA				
DESIGNED BY W.D.G.	FILE NO. 630-761-04	T-22 FLORIDA SEAL		
DRAWN BY E.L.L.	SHEET C17			
CHECKED BY	NO. 21			
DATE AUGUST, 1978	SCALE: AS NOTED			



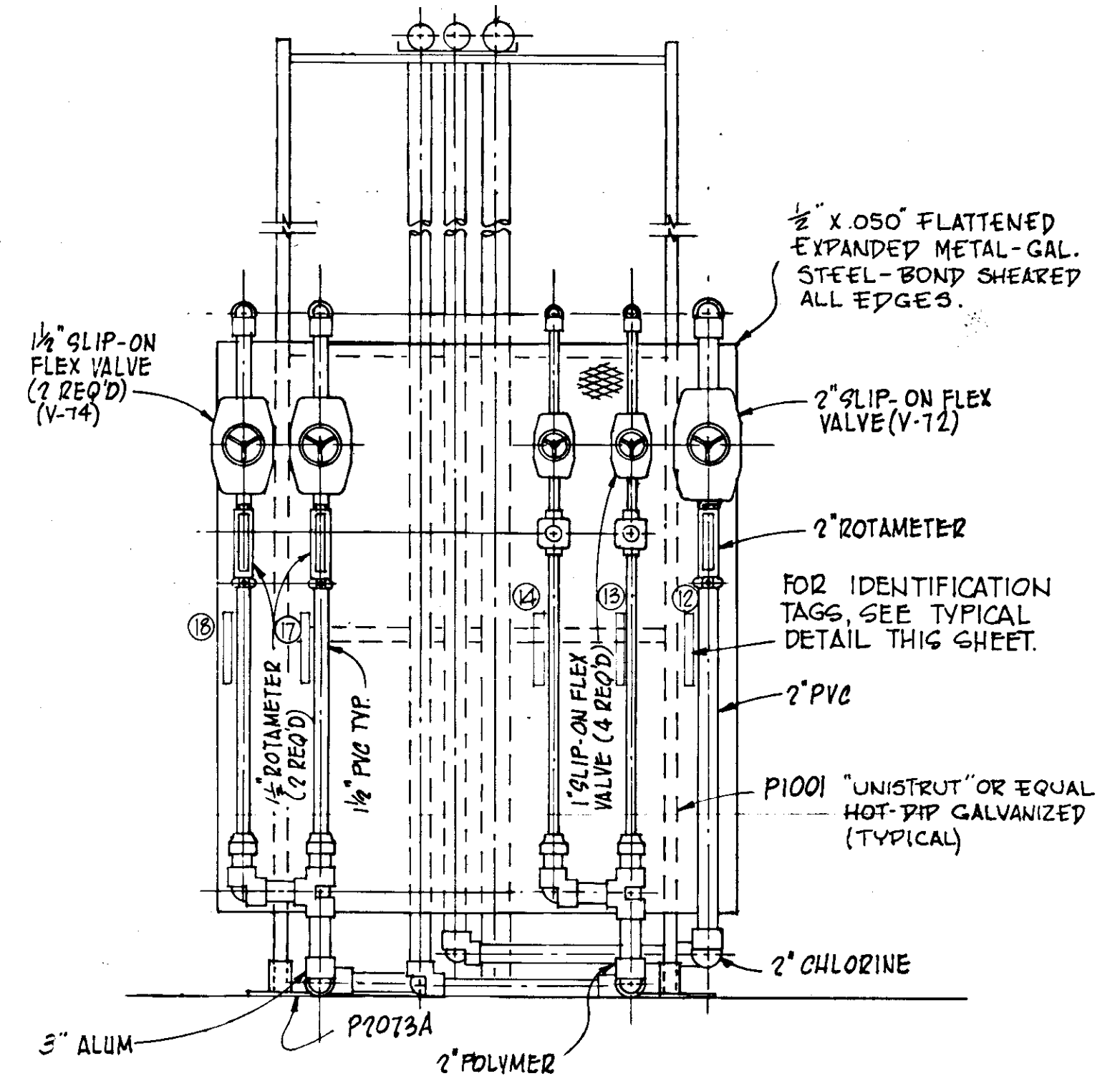
DETAIL
N.T.S. (AF 13/22)



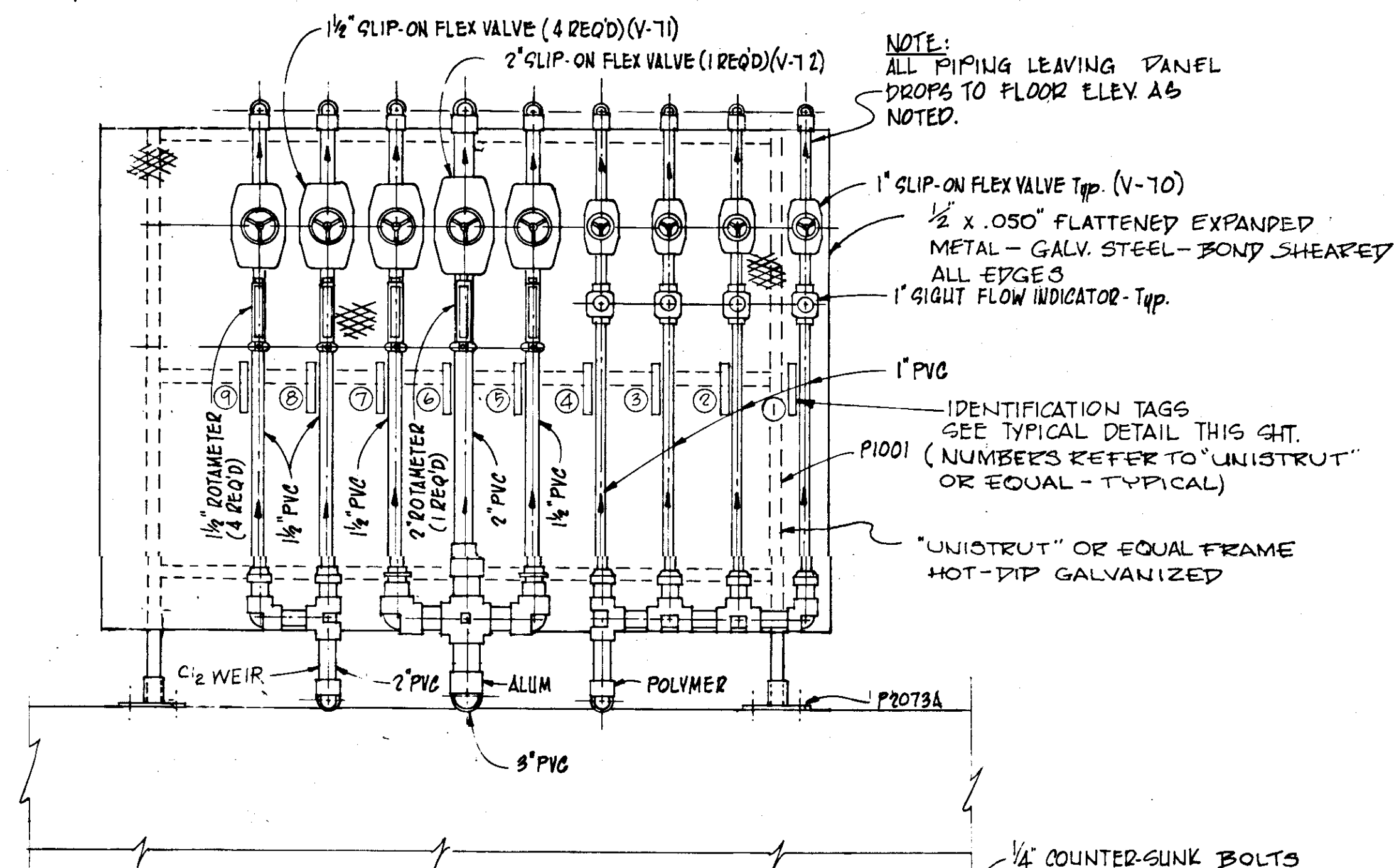
DETAIL
N.T.S. (AE 12/22)



TYPICAL ROTAMETER INSTALLATION



SECTION
SCALE: 3/4\"/>

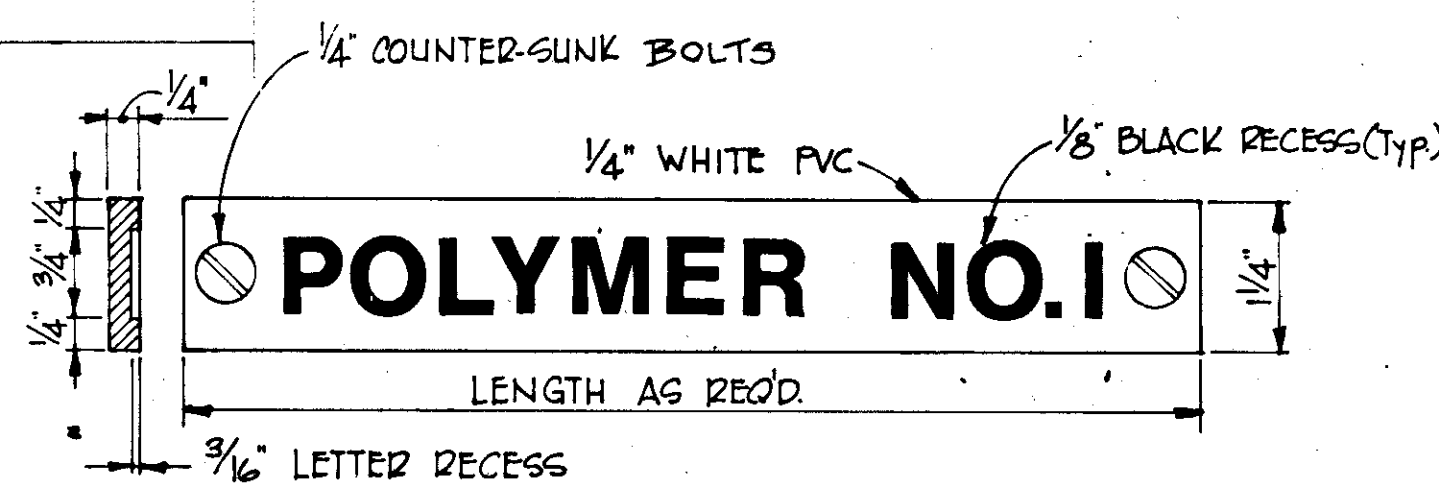


SECTION
N.T.S. (BP 22/22)

ROTAMETERS TO BE:

1/2\"/>

1/2\"/>



TYPICAL IDENTIFICATION TAG
N.T.S.

RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.

DATE: 8/30/78 BY: K.R.N.
CHECKED BY:

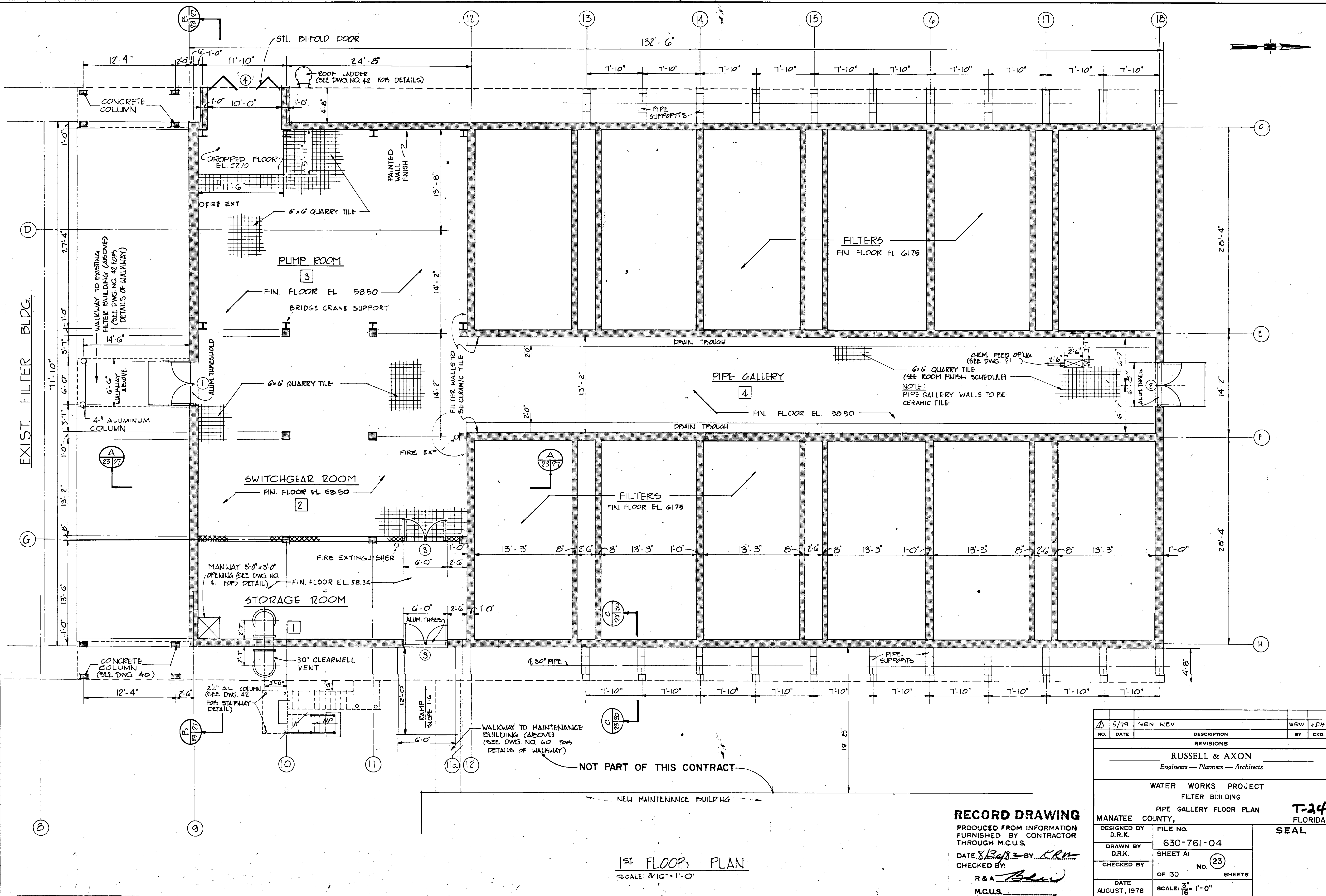
R & A: [Signature]
M.C.U.S.:

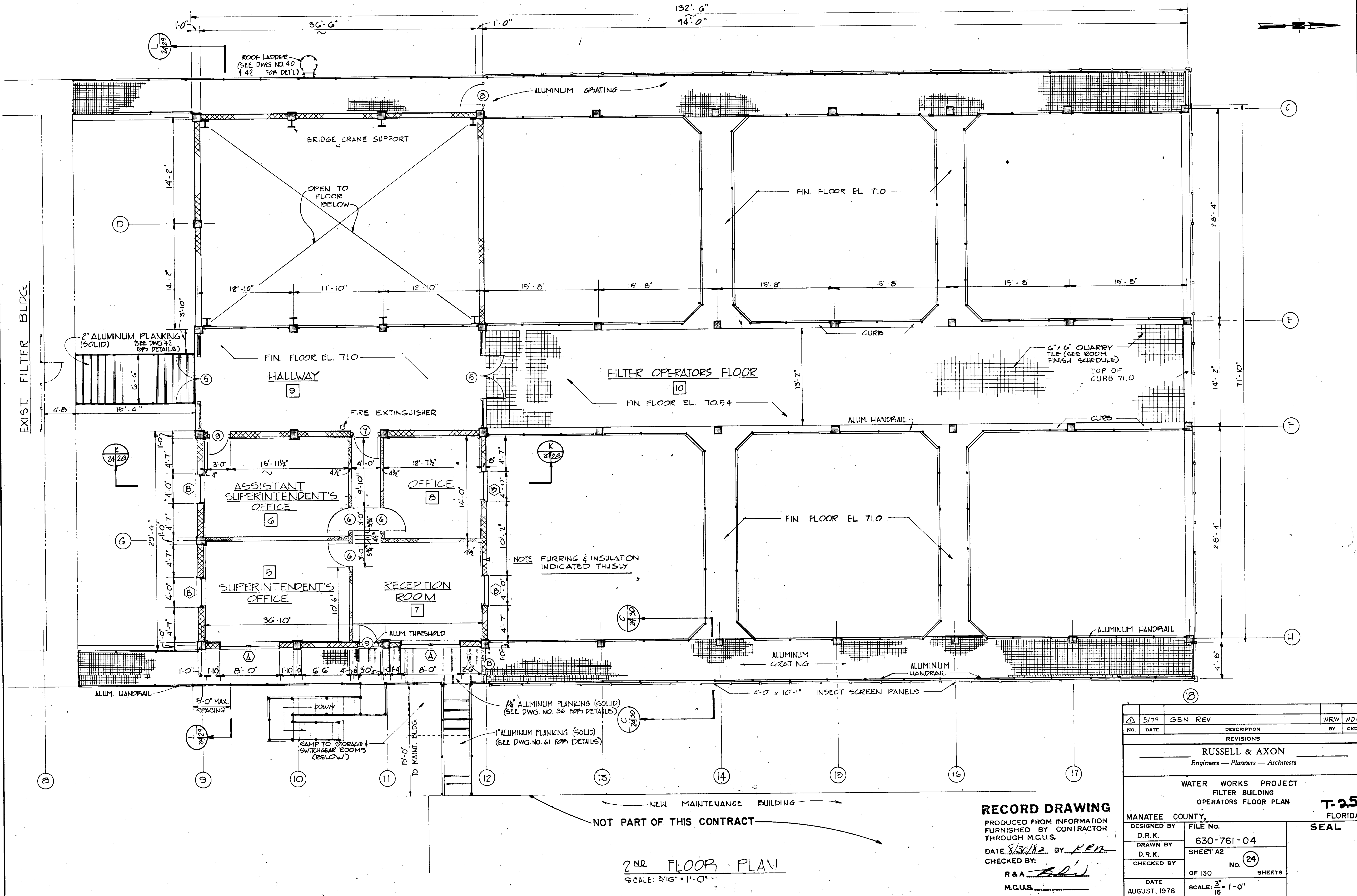
IDENTIFICATION TAG SCHEDULE

- POLYMER NO. 1
- POLYMER NO. 2
- POLYMER NO. 3
- POLYMER NO. 4
- ALUM NO. 1
- ALUM NO. 2
- ALUM NO. 3
- CHLORINE NO. 1
- CHLORINE NO. 2
- LIME NO. 1
- LIME NO. 2
- CHLORINE
- POLYMER NO. 1
- POLYMER NO. 2
- LIME NO. 1
- LIME NO. 2
- ALUM NO. 1
- ALUM NO. 2

NOTE: ALL PIPING TO BE SECURELY ANCHORED
TO ROTAMETER PANELS WITH
GALV. FITTINGS.

5/79		GEN REVISIONS	RSG
NO.	DATE	DESCRIPTION	BY
REVISIONS			
RUSSELL & AXON			
Engineers — Planners — Architects			
WATER WORKS PROJECT			
CHEMICAL FEED			
DETAILS & SECTIONS			
MANATEE COUNTY,		T-23	FLORIDA
DESIGNED BY W.D.G.	FILE NO. 630-761-04	SEAL	
DRAWN BY E.L.W.	SHEET C18	NO. 22 SHEETS	
CHECKED BY	OF 130		
DATE AUGUST, 1978	SCALE: AS NOTED		

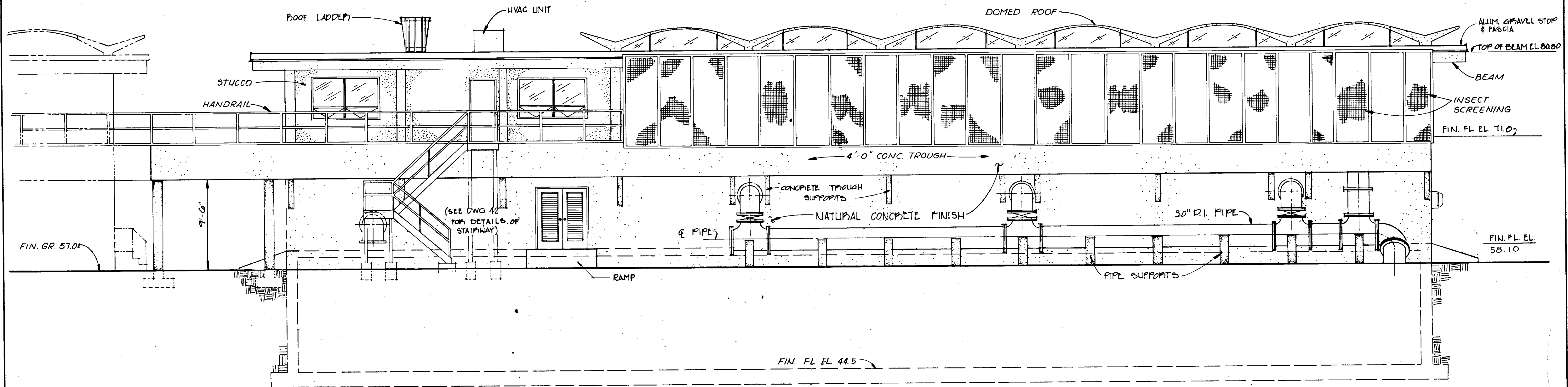




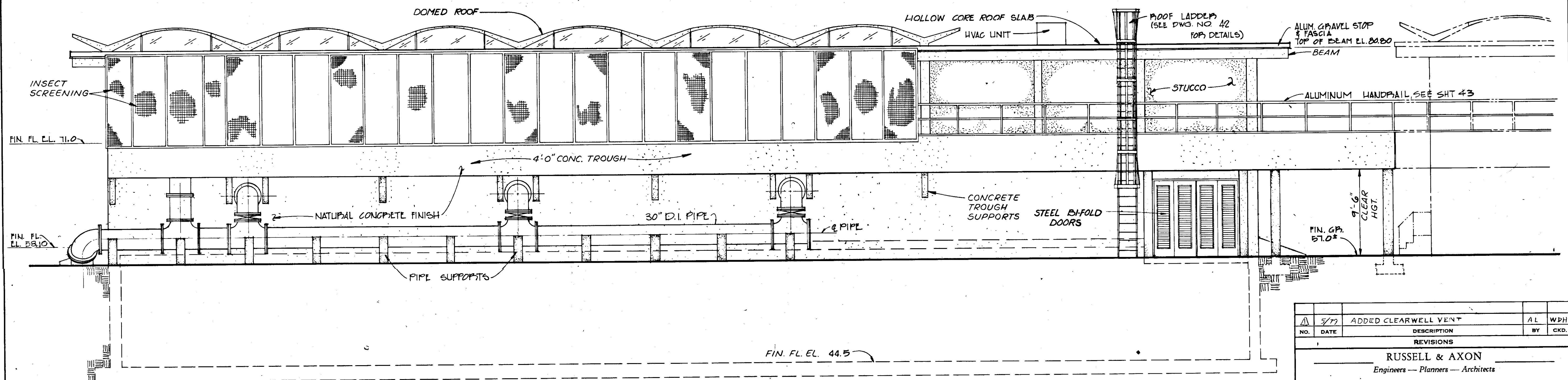
2ND FLOOR PLAN
SCALE: 3/16" = 1'-0"

RECORD DRAWING
PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE 8/30/82 BY RPA
CHECKED BY:
R & A
M.C.U.S.

NO.	DATE	GEN REV	DESCRIPTION	WRW	WDH
			REVISIONS	BY	CHKD.
RUSSELL & AXON Engineers — Planners — Architects					
WATER WORKS PROJECT FILTER BUILDING OPERATORS FLOOR PLAN					
MANATEE COUNTY, FLORIDA					
DESIGNED BY D.R.K.	FILE NO. 630-761-04	T-25 FLORIDA SEAL			
DRAWN BY D.R.K.	SHEET A2				
CHECKED BY	NO. 24				
DATE AUGUST, 1978	OF 130 SHEETS	SCALE: 3/16" = 1'-0"			



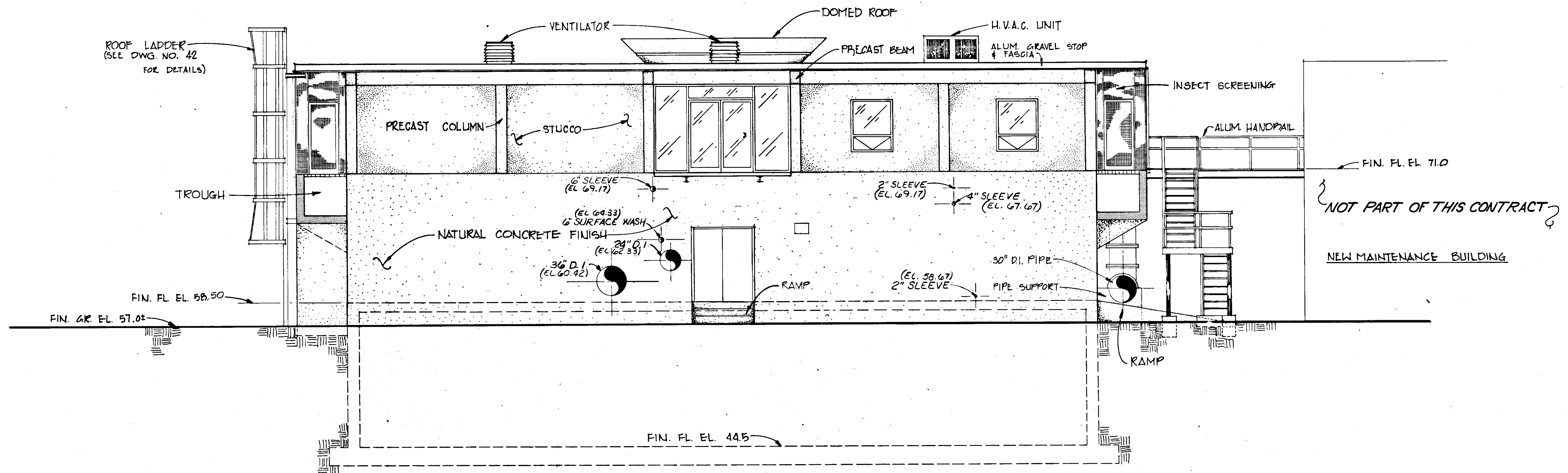
EAST ELEVATION
SCALE: $\frac{3}{16}'' = 1'-0''$



WEST ELEVATION
SCALE: $\frac{3}{16}'' = 1'-0''$

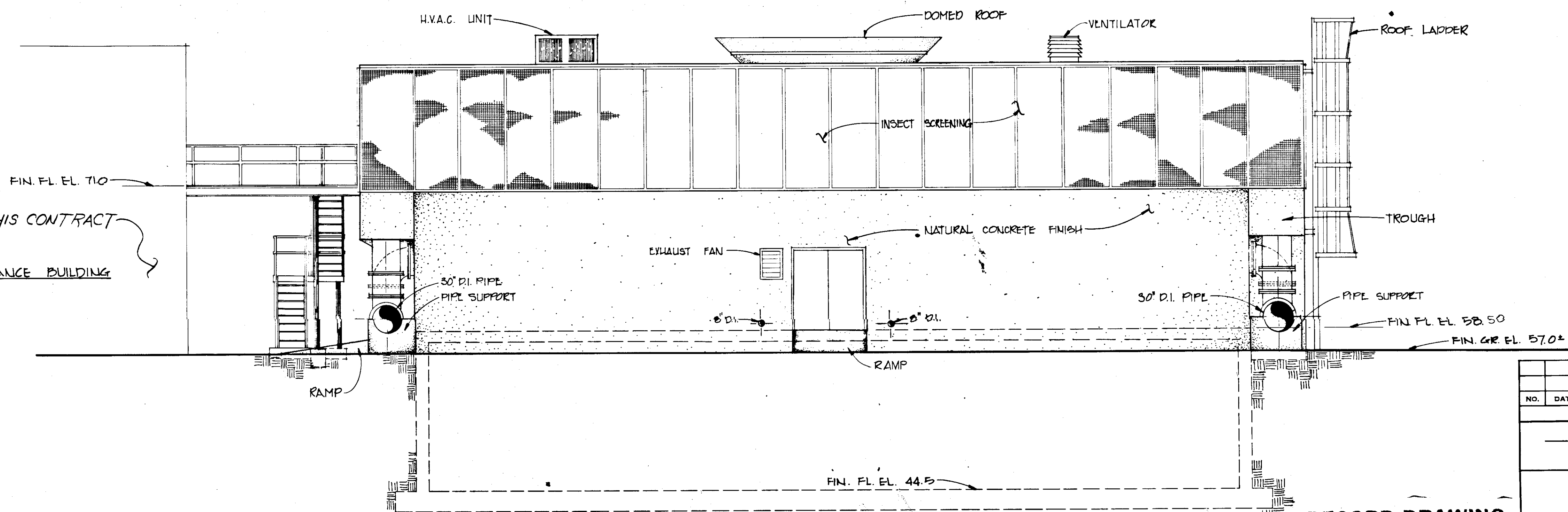
RECORD DRAWING
PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE 8/30/78 BY K.R.M.
CHECKED BY:
R & A B.A.W.
M.C.U.S. _____

NO.	DATE	DESCRIPTION	BY	CHKD.
1	5/77	ADDED CLEARWELL VENT	AL	WPH
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT FILTER BUILDING ELEVATIONS				
MANATEE COUNTY, DESIGNED BY D.R.K. DRAWN BY M.E.P. CHECKED BY _____ DATE AUGUST, 1978				
FILE NO. 630-761-04 SHEET A3 OF 130 SHEETS SCALE: $\frac{3}{16}'' = 1'-0''$				
				T-26 FLORIDA SEAL



SOUTH ELEVATION

SCALE: 3/16" = 1'-0"



NORTH ELEVATION

SCALE: 3/16" = 1'-0"

RECORD DRAWING

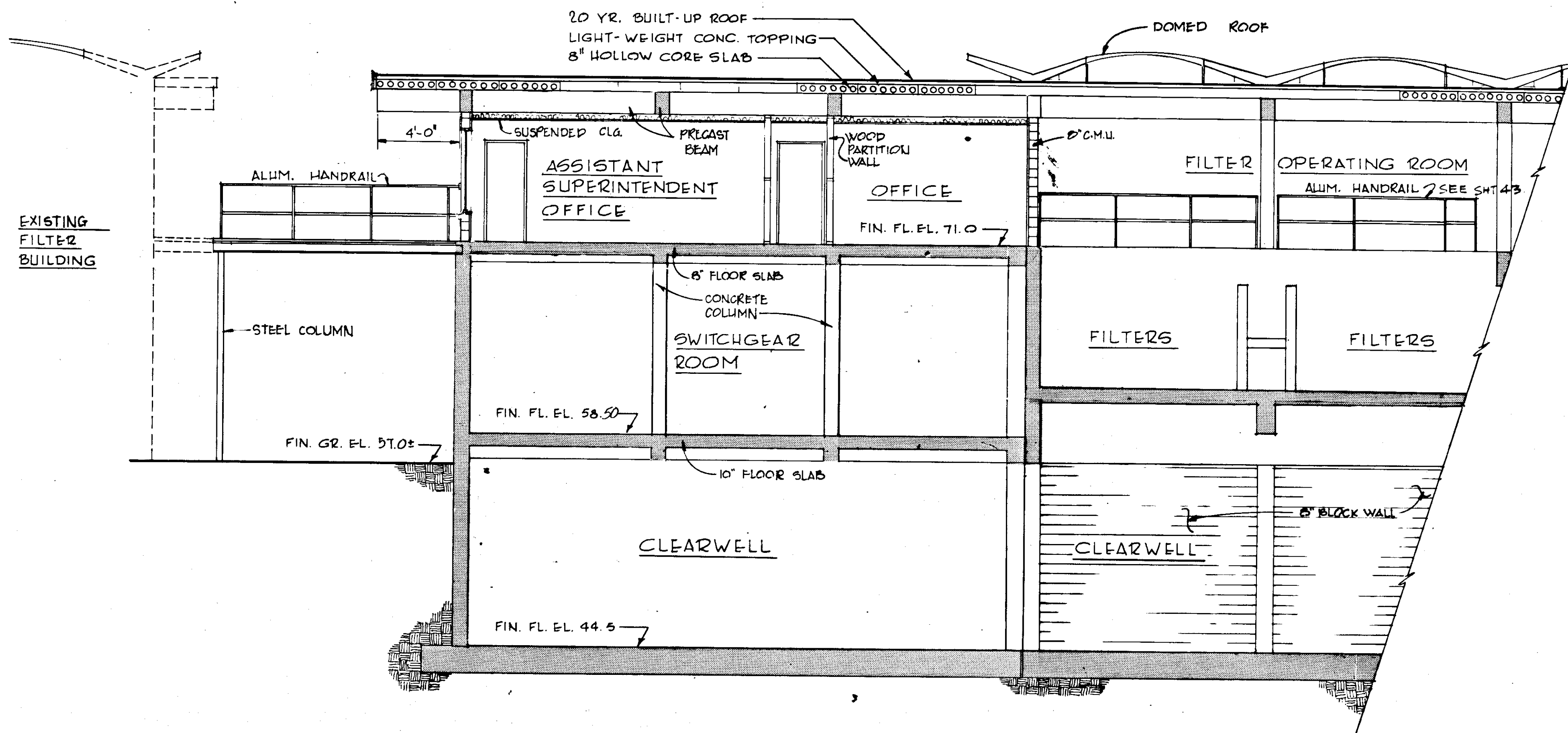
PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.

DATE 8/13/78 BY R.A.
CHECKED BY:

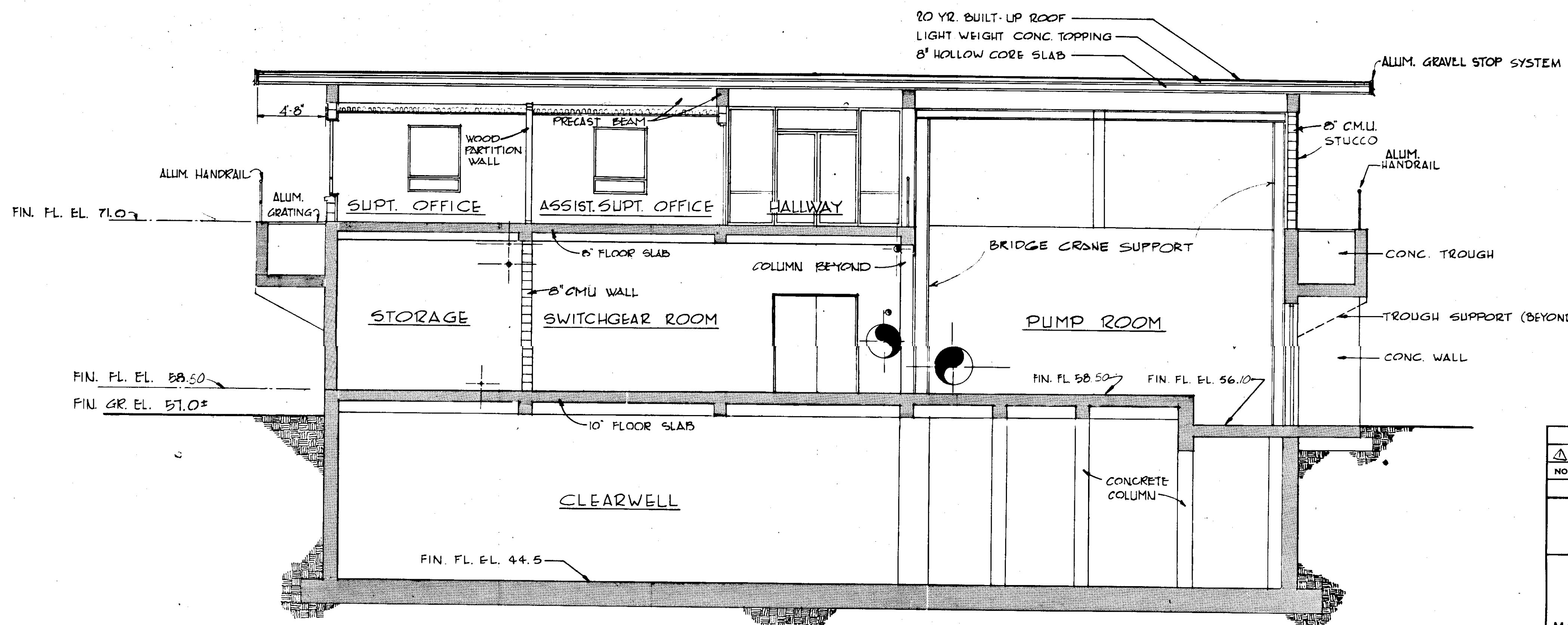
R & A
M.C.U.S.

NO.	DATE	DESCRIPTION	BY	CKD.
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT FILTER BUILDING ELEVATIONS				
MANATEE COUNTY, FLORIDA				
DESIGNED BY D.R.K.	FILE NO. 630-761-04	T-27 FLORIDA SEAL		
DRAWN BY K.G.	SHEET A4			
CHECKED BY	NO. 26	OF 130 SHEETS		
DATE AUGUST, 1978	SCALE: 3/16" = 1'-0"			

14-01



SECTION A
SCALE: 3/16" = 1'-0" (23/27)

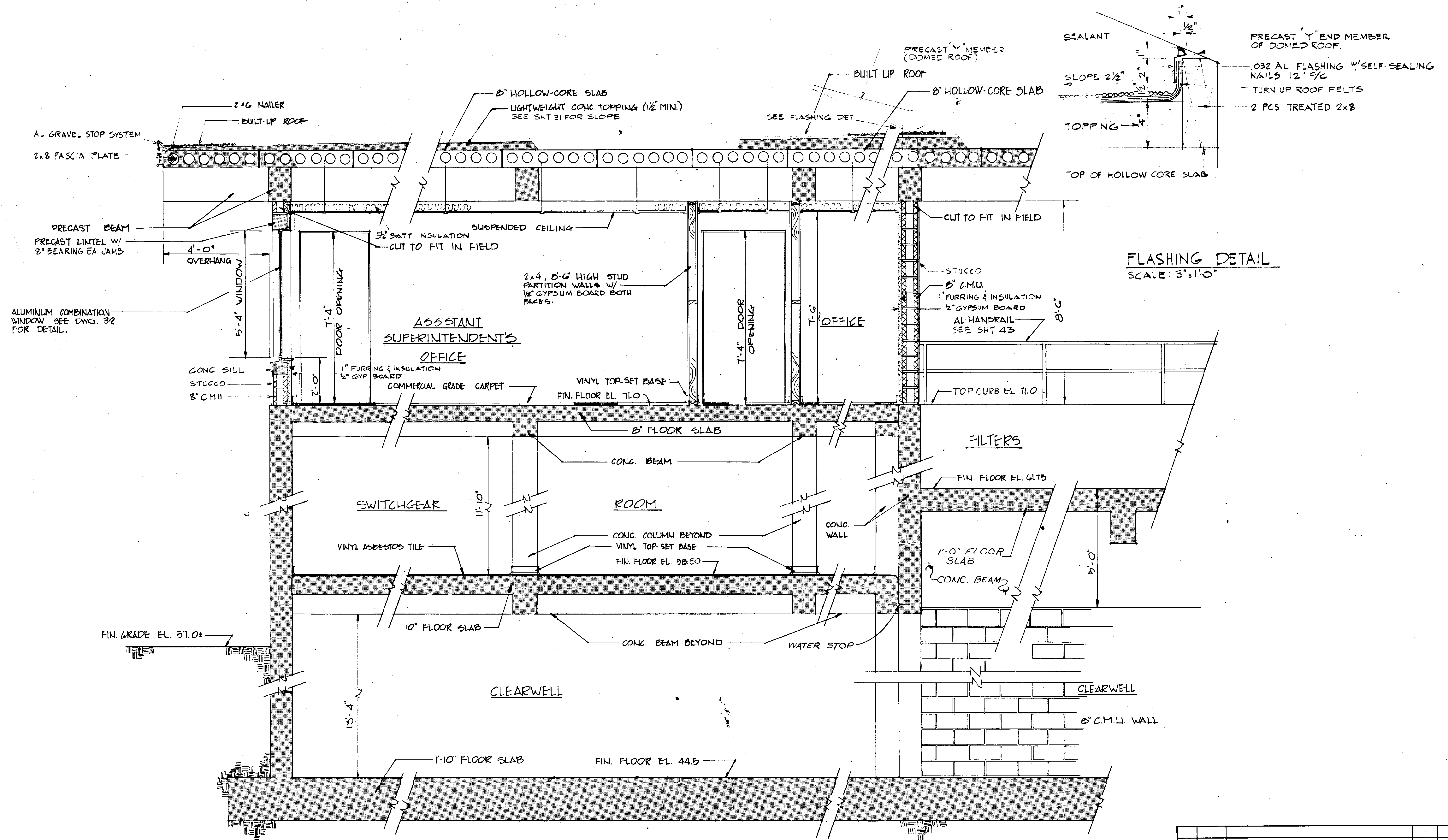


SECTION B
SCALE: 3/16" = 1'-0" (23/27)

RECORD DRAWING
PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE 8/20/78 BY K.R.M.
CHECKED BY:
R & A [Signature]
M.C.U.S.

NO.	DATE	DESCRIPTION	BY	CHKD.
Δ 5/79		GEN. REV		
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT FILTER BUILDING				
SECTIONS				
MANATEE COUNTY, FLORIDA				
DESIGNED BY D.R.K.	FILE NO. 630-761-04	SEAL		
DRAWN BY J.R.A.	SHEET A5			
CHECKED BY	NO. 27			
DATE AUGUST, 1978	OF 130 SHEETS			
		SCALE: 3/16" = 1'-0"		

15-01



BUILDING SECTION

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

24/83

RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.

DATE 7/30/82 BY K.R.A.

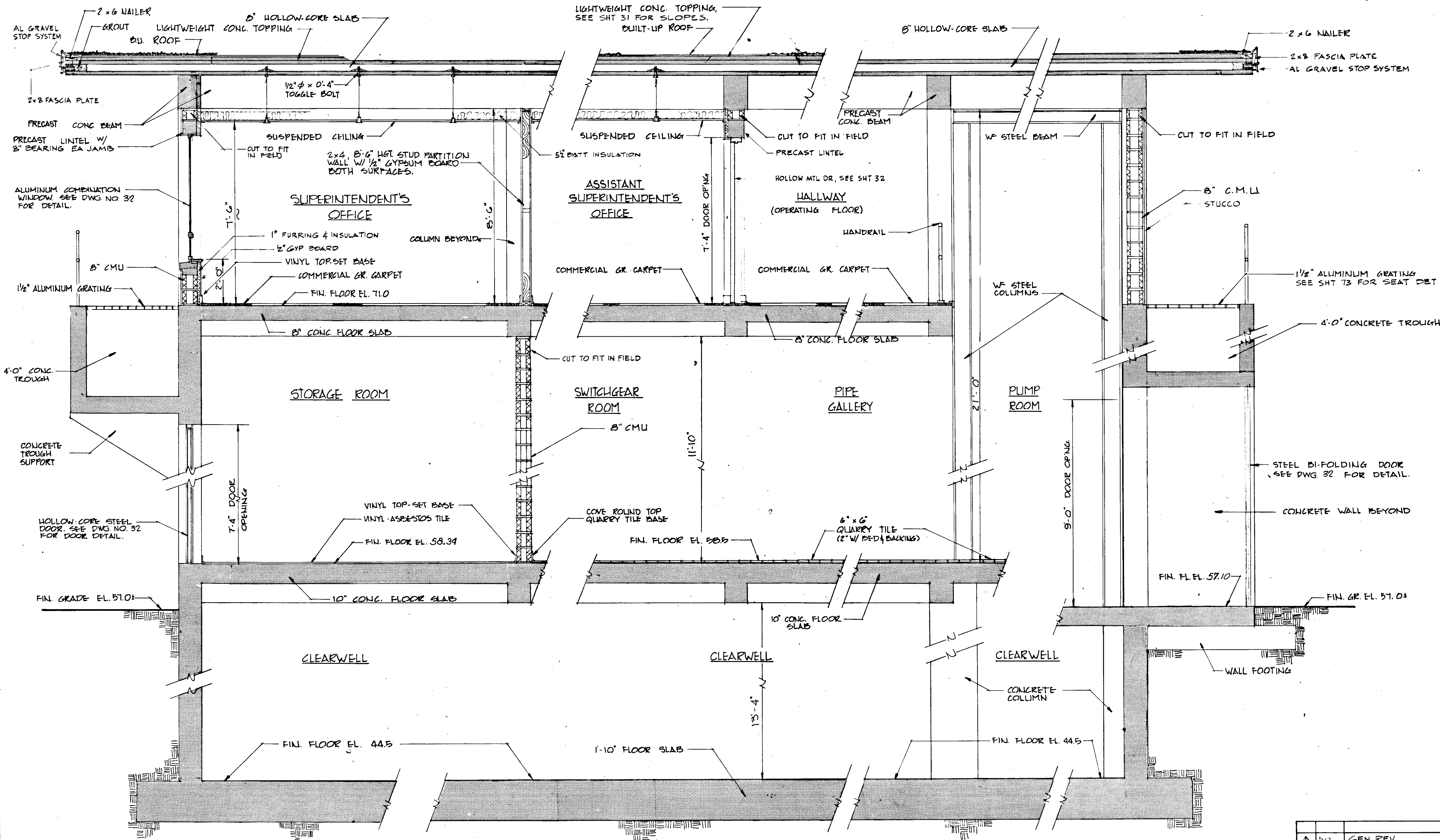
CHECKED BY:

R.A. [Signature]

M.C.U.S.

NO.	5/79	GEN REV	WKW	WDH
DATE		DESCRIPTION	BY	CKD.
REVISIONS				
RUSSELL & AXON				
Engineers — Planners — Architects				
WATER WORKS PROJECT				
FILTER BUILDING				
SECTION				
MANATEE COUNTY,			T-29	
DESIGNED BY			FLORIDA	
D.R.K.			SEAL	
DRAWN BY			FILE NO.	
D.R.K.			630-761-04	
CHECKED BY			SHEET A6	
			OF 130	No. 28 SHEETS
DATE			SCALE: 1/2" = 1'-0"	
AUGUST, 1978				

1401



BUILDING SECTION

SCALE: $\frac{1}{2}" = 1'-0"$

RECORD DRAWING

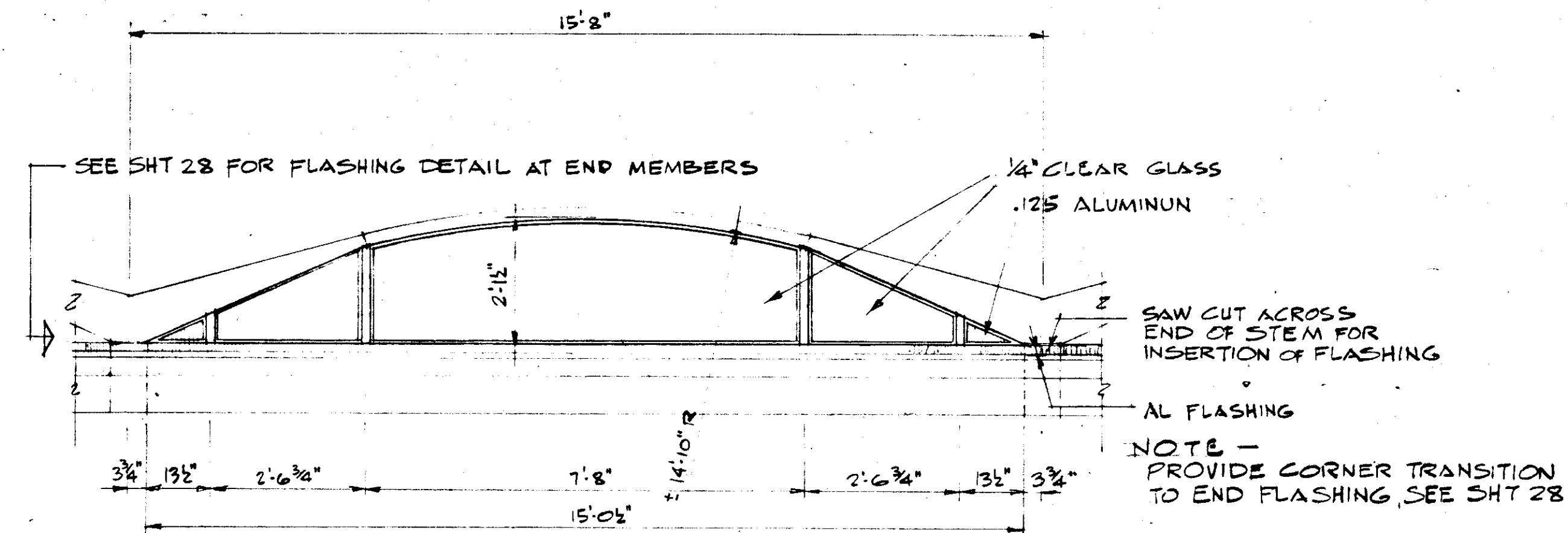
PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.

DATE 8/30/82 BY KRM
CHECKED BY:

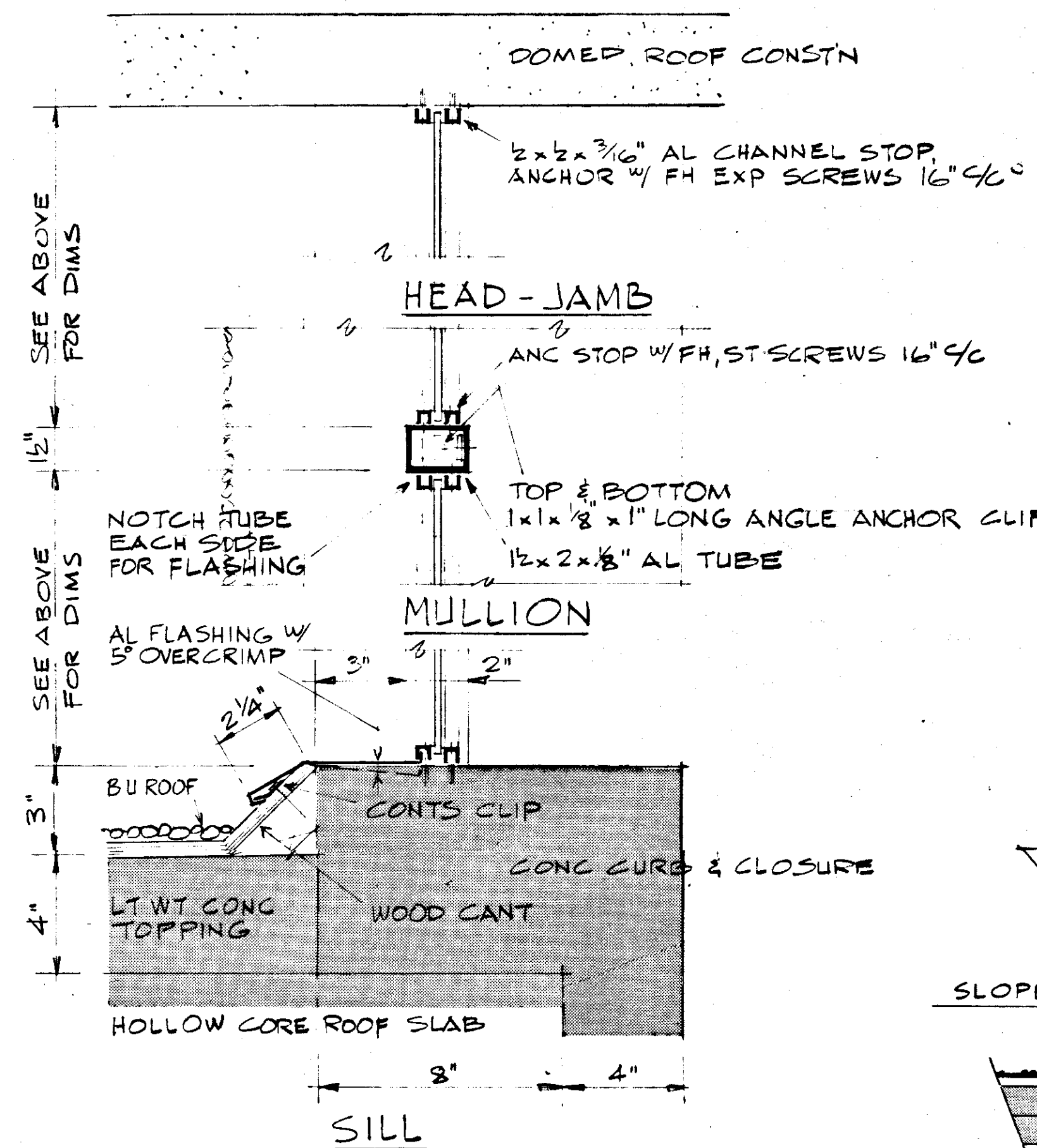
R & A 75-100
M.C.U.S. _____

⚠ 5/1 GEN REV		WRW WFH	
NO.	DATE	DESCRIPTION	BY CKD.
REVISIONS			
_____ RUSSELL & AXON _____ <i>Engineers — Planners — Architects</i>			
MANATEE COUNTY, WATER WORKS PROJECT FILTER BUILDING SECTION T-30 FLORIDA			
DESIGNED BY D.R.K.	FILE NO. 630-761-04		SEAL
DRAWN BY D.R.K.	SHEET A7		
CHECKED BY	NO. 29		
DATE AUGUST, 1978	OF 130 SHEETS SCALE: $\frac{1}{2}'' = 1' - 0''$		

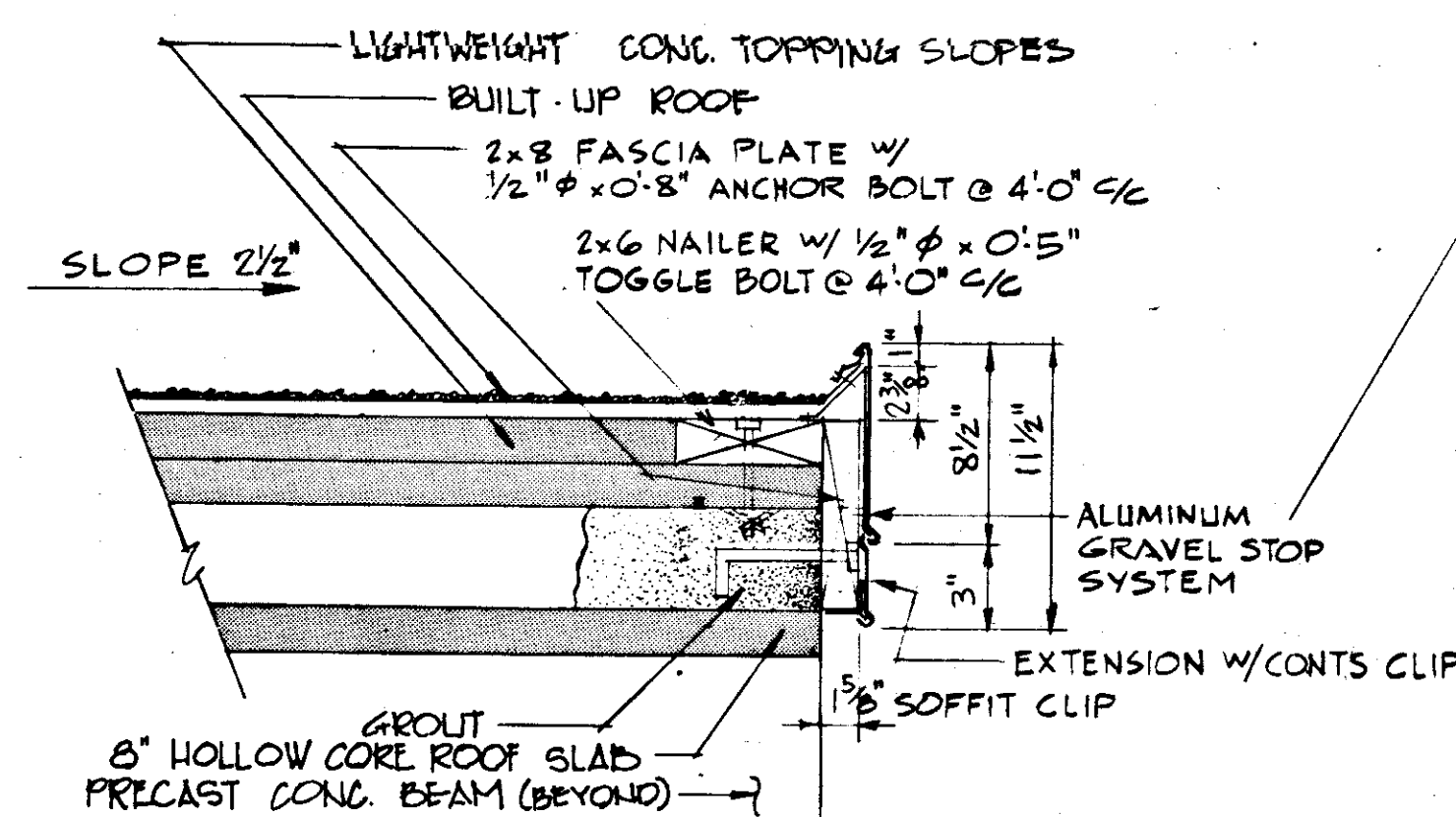
14-01



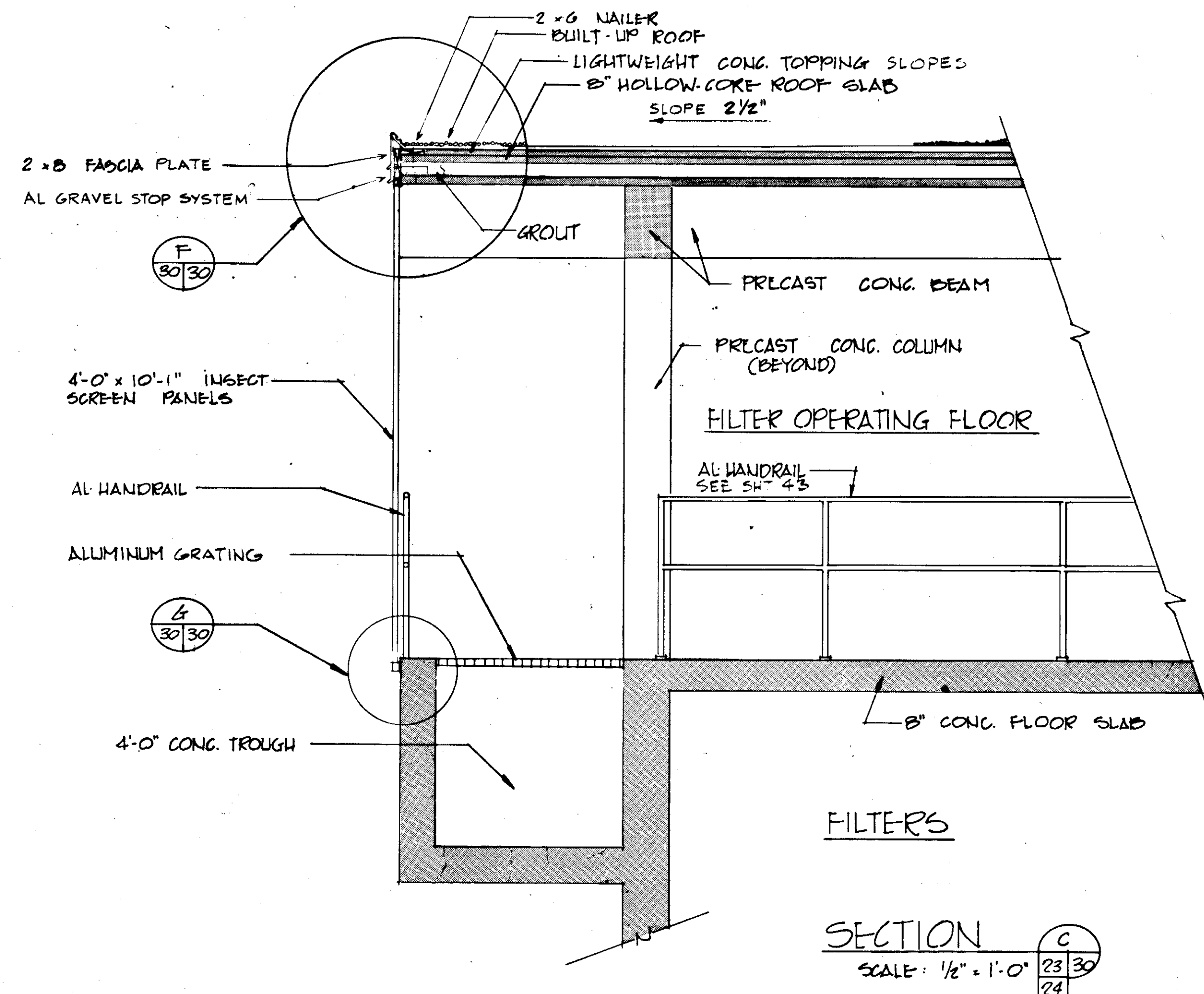
CLERESTORY WINDOWS AT DOMED ROOF SCALE: 1/2" = 1'-0"



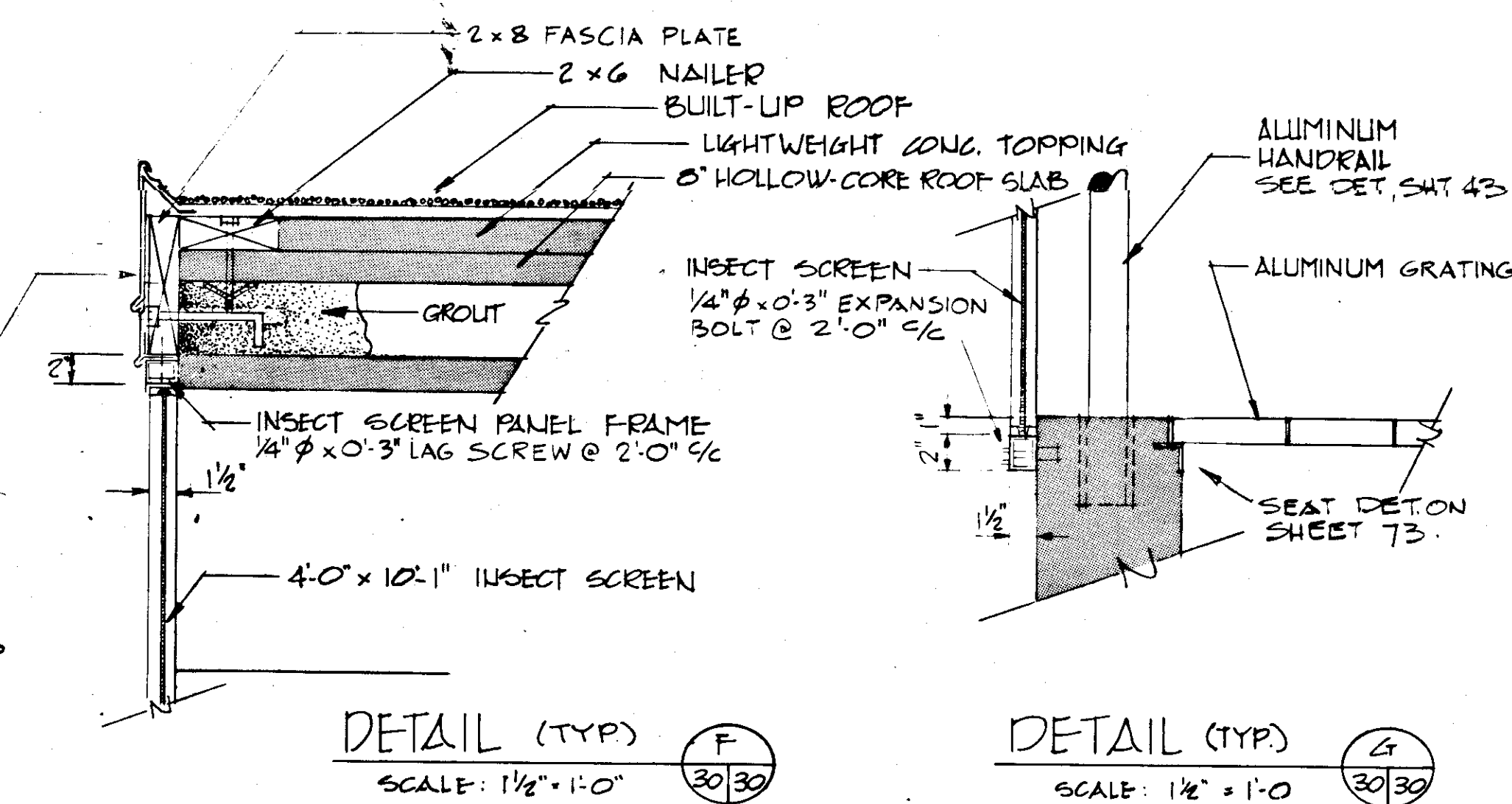
CLERESTORY WDW DETAILS SCALE: 3/8" = 1'-0"



TYPICAL GRAVEL STOP & FASCIA DETAIL SCALE: 1/2" = 1'-0"

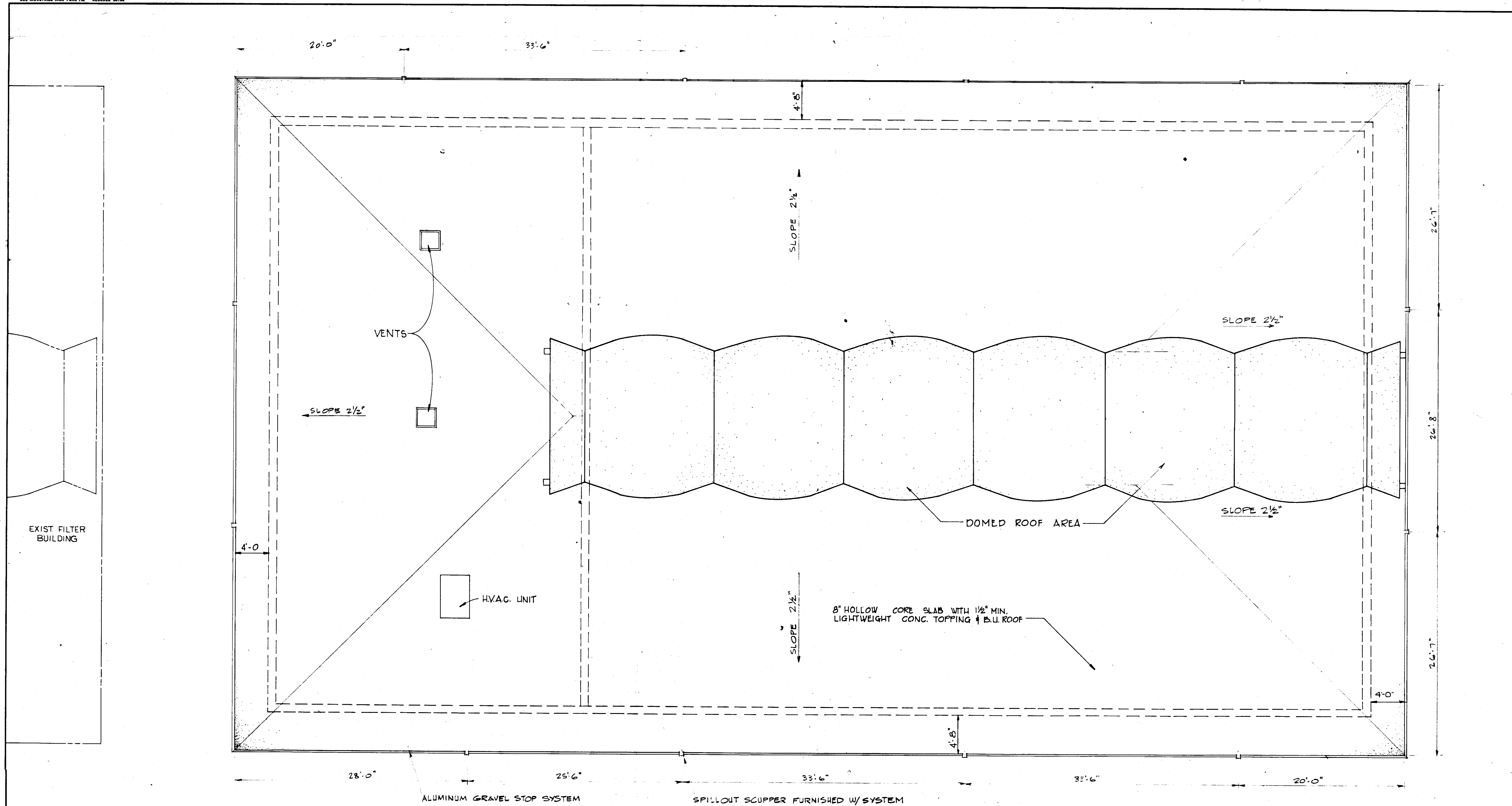


SECTION C SCALE: 1/2" = 1'-0"



RECORD DRAWING
PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE 8/31/78 BY KRM
CHECKED BY: [Signature]
R & A [Signature]
M.C.U.S. [Signature]

NO.	DATE	GEN REV	DESCRIPTION	WRW	WPH
23	5/79	1	RUSSELL & AXON Engineers - Planners - Architects	BY	CKD.
REVISIONS					
WATER WORKS PROJECT FILTER BUILDING ROOF & ALUMINUM SCREENING DETAILS					
MANATEE COUNTY, FLORIDA					
DESIGNED BY	FILE NO.	SEAL			
D.R.K.	630-761-04				
DRAWN BY	SHEET A8				
D.R.K.	No. 30				
CHECKED BY	OF 130 SHEETS				
DATE	SCALE: AS NOTED				
AUGUST, 1978					



ROOF PLAN
SCALE: 3/16" = 1'-0"

RECORD DRAWING
PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE 8/31/82 BY K.R.H.
CHECKED BY: [Signature]
R & A [Signature]
M.C.U.S. _____

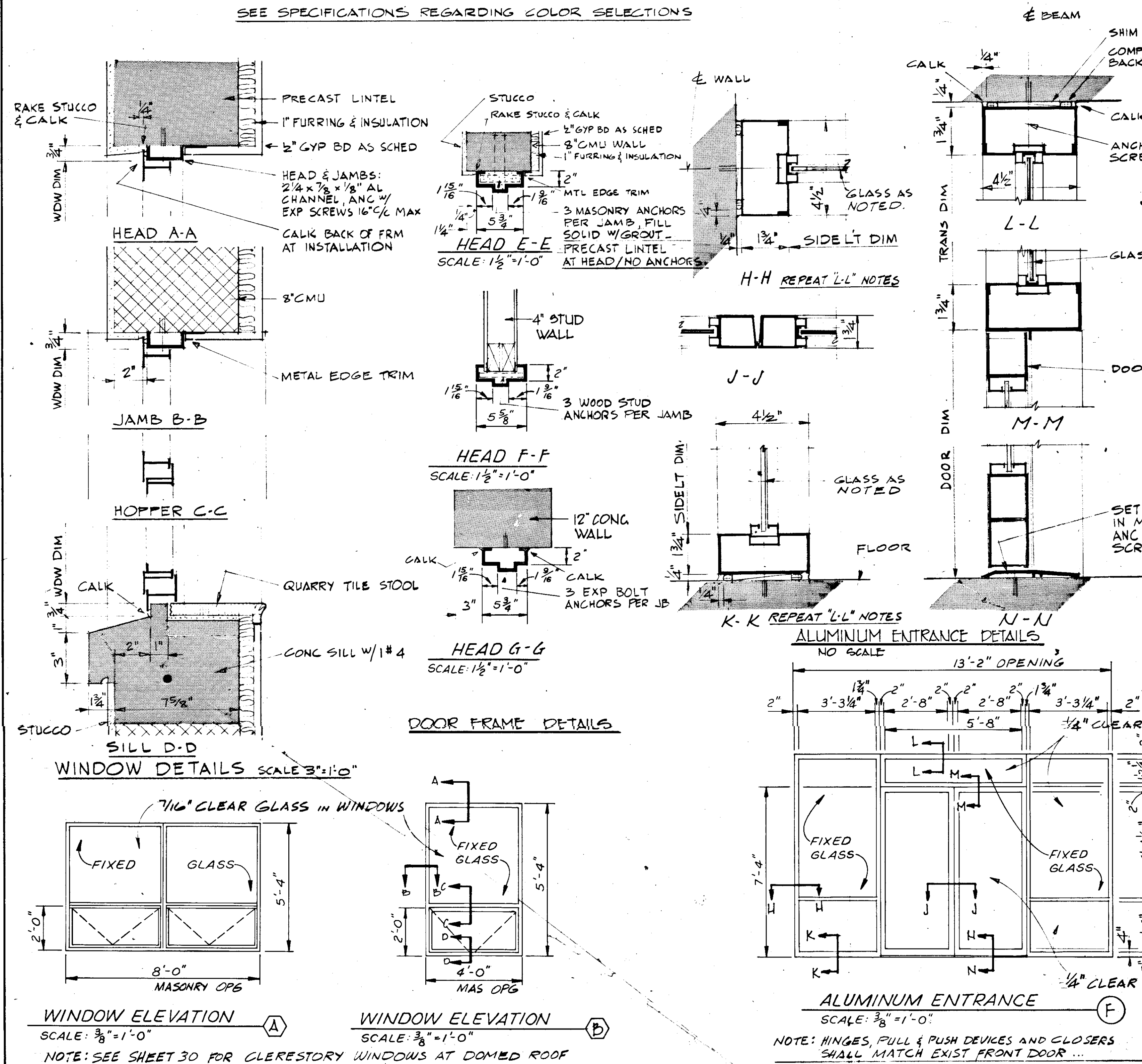
NO.	DATE	DESCRIPTION	BY	CHKD.
5/79		GEN REV	WRW	WDH
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT FILTER BUILDING ROOF PLAN				
MANATEE COUNTY, FLORIDA				
DESIGNED BY D.R.K.	FILE NO. 630-761-04	SEAL		
DRAWN BY S.S.L.	SHEET A9			
CHECKED BY	No. 31 OF 130 SHEETS			
DATE AUGUST, 1978		SCALE: 3/16" = 1'-0"		

FINISH SCHEDULE

ROOM DESCRIPTION	FLOOR		BASE		WAINSCOT		WALLS		CEILING		REMARKS:
	CARPET	VINYL ASH TILE	QUARRY TILE	COLOR CODE OR NAME	COLOR CODE OR NAME	COLOR CODE OR NAME	PAINTED GYPSUM	PAINTED CONC.	PAINTED BLOCK CERAMIC TILE #	COLOR CODE OR NAME	HEIGHT
1 STORAGE	•						•	•	•		11'-10"
2 SWITCHGEAR ROOM	•	•					•	•	•		11'-10"
3 PUMP ROOM	•	•					•	•	•		21'-0"
4 PIPE GALLERY	•	•					•	•	•		11'-10"
5 SUPERINTENDENT'S OFFICE	•						•	•	•		8'-0"
6 ASST. SUPT'S. OFFICE	•						•	•	•		8'-0"
7 RECEPTION ROOM	•						•	•	•		8'-0"
8 OFFICE	•						•	•	•		8'-0"
9 HALLWAY	•						•	•	•		8'-6"
10 FILTER OPERATING FLOOR	•	•					•	•	•		8'-6"

* FILTER WALLS ONLY

SEE SPECIFICATIONS REGARDING COLOR SELECTIONS



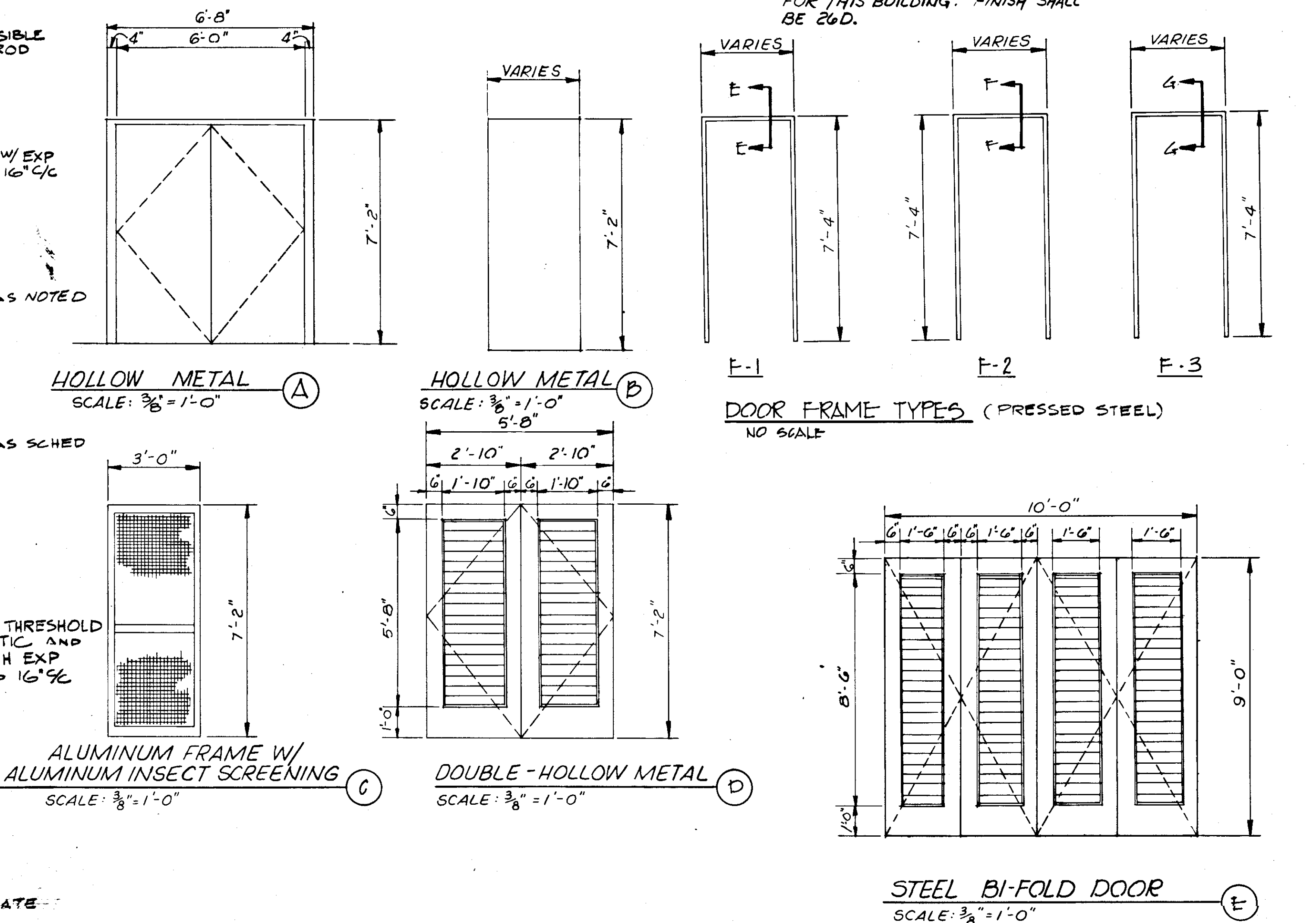
DOOR AND HARDWARE SCHEDULE

MARK	TYPE	SIZE			MATERIAL	LOUVER	GLAZING		TRANS.	THLD	ALUM.	LOCK	CLOSER SERIES	FINISH	REMARKS:	FINISH COLOR	FRAME TYPE
		WIDTH	HEIGHT	TH'K													
1	A	2'-3.0"	7'-0"	1 1/2"	HOLLOW MET.							93.60	50	26D	1.		F-3
2	A	2'-3.0"	7'-0"	1 1/2"	HOLLOW MET.							93.60	50	26D	1.		F-3
3	D	2'-2.10"	7'-2"	1 1/2"	HOLLOW MET.	1'-10" x 8'-8"						84.04	50	OB 26D	1.		F-1 & F-3
4	E	10'-0"	9'-0"		STEEL	1'-6" x 8'-6"									LOCK & CLOSER BY MFR.		F-3
5	F	2'-3.0"	7'-4"	1 1/2"	ALUMINUM							93.63	50	26D	1.		F-3
6	B	2'-8"	7'-2"	1 1/2"	HOLLOW MET.							84.05			1.		F-1 & F-2
7	B	3'-8"	7'-2"	1 1/2"	HOLLOW MET.	2'-0" x 1'-6"						84.05	50		1.		F-3
8	C	3'-0"	7'-2"	1 1/2"	ALUMINUM	SCREEN									LOCK & CLOSER BY MFR.		F-1
9	B	2'-8"	7'-2"	1 1/2"	HOLLOW MET.							84.05	50		1.		F-1

SCHEDULE REMARKS:

1. LOCKS & CLOSERS BY SARGENT AND COMPANY OR APPROVED EQUAL.

NOTE: DOORS 1-2 PROVIDE ASTRAGAL AT ACTIVE LEAF (RIGHT HAND DOOR) AND DEAD BOLT AT TOP AND BOTTOM AT INACTIVE LEAF CLOSURES SIMILAR TO OTHERS SCHEDULED FOR THIS BUILDING. FINISH SHALL BE 26D.



STEEL BI-FOLD DOOR SCALE: 3/8" = 1'-0"

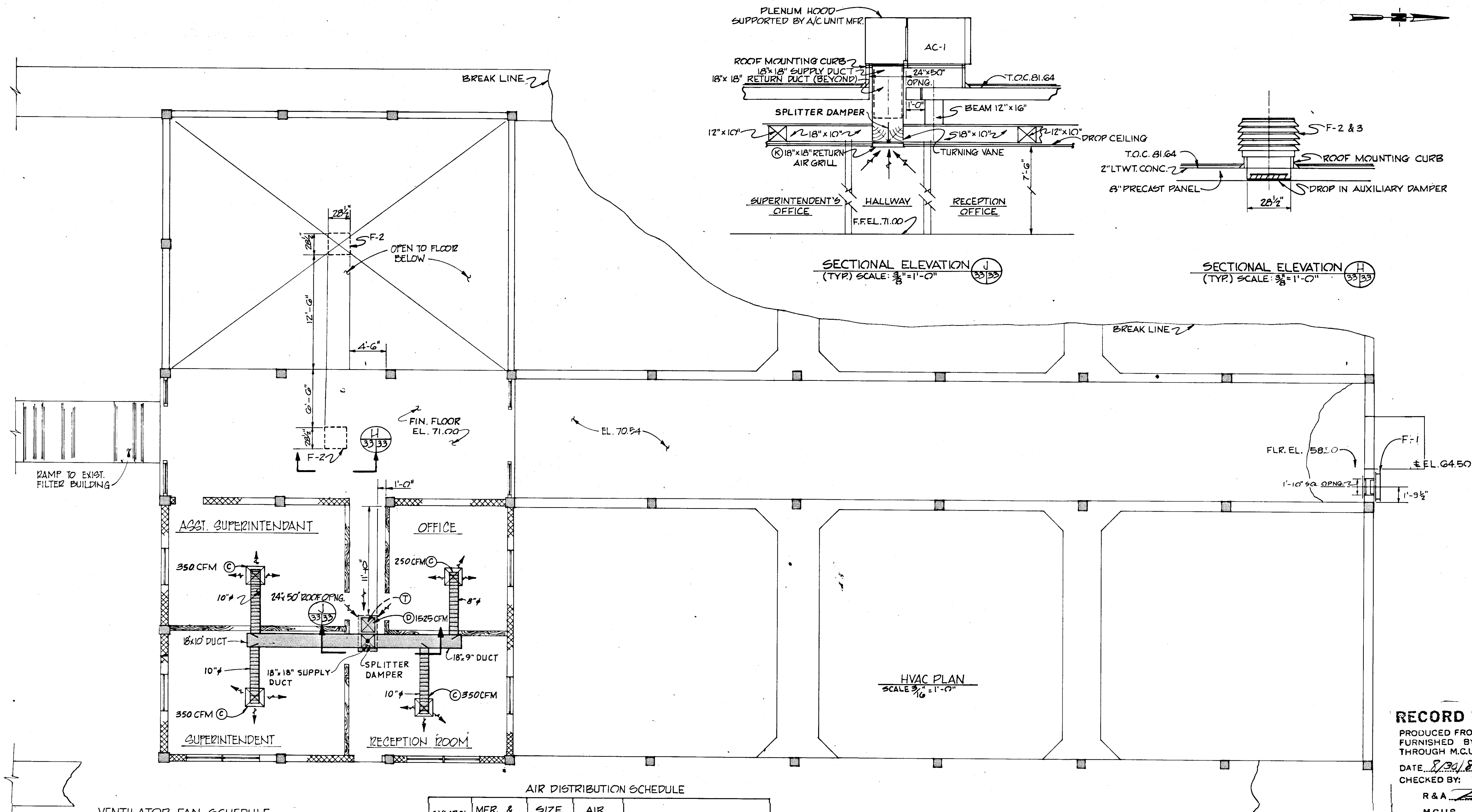
5.19	GEN REV	WRW	WPH
NO.	DATE	DESCRIPTION	BY
REVISIONS			
RUSSELL & AXON			
Engineers — Planners — Architects			
WATER WORKS PROJECT			
FILTER BUILDING			
FINISH SCHEDULES, ELEV. & DETAILS			
MANATEE COUNTY, FLORIDA			
DESIGNED BY	FILE NO.	SEAL	
D.R.K.	630-761-04		
DRAWN BY	SHEET A10	32	
M.E.P.			
CHECKED BY	OF 130 SHEETS	SCALE: AS NOTED	
DATE	SCALE: AS NOTED		
AUGUST, 1978			

RECORD DRAWING

PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.

DATE: 8/31/82 BY: R.A. M.C.U.S.

CHECKED BY: R.A. M.C.U.S.



VENTILATOR FAN SCHEDULE

SYMBOL	LOCATION	CFM	STAT. PRES.	H.P.	INSTALLATION COMMENTS
F-1	FILTER BLDG. PIPE GALLERY	2590 AT 860 RPM	1/8"	1/3	WALL MTR. W/BACK DRAFT DMPR. AND BIRD SCREEN
F-2	FILTER BLDG. OPER. FLR.	4360 AT 713 RPM	1/8"	1/2	ROOF MTR. W/CURB & BACK DRAFT DAMPER
F-3	FILTER BLDG. PUMP RM.	4360 AT 713 RPM	1/8"	1/2	ROOF MTR. W/CURB & BACK DRAFT DAMPER
F-4	CHLORINE ROOM	2161 AT 1725 RPM	1/8"	1/2	SEE PLAN VIEW SHEET T1
F-5	GENERATOR ROOM	820 AT 1290 RPM	0	1/27	ROOF MTR. W/CURB & BACK DRAFT DMPR. & BIRD SCREEN

AIR DISTRIBUTION SCHEDULE

SYMBOL	MFR. & MODEL NO.	SIZE (INCHES)	AIR PATTERN	COMMENTS
(A)	TITUS TMS	12"x12"	4-WAY	OBJ AG-75
(B)	TITUS TMS	12"x12"	3-WAY	OBJ AG-75, SECTORIZING BAFFLE SB
(C)	TITUS TMS	24"x24"	4-WAY	OBJ AG-75
(D)	TITUS 4-FLOG	20"x20"	-	HINGED RETURN GRILLE W/FILTER
(E)	TITUS 200 FS	8"x6"	1-WAY	ADJUST TABLE BLADES AND DAMPER
(F)	TITUS 4-FLOG	40"x20"	3-WAY	HINGED RETURN GRILLE W/FILTER
(G)	TITUS 4-FLOG	25"x20"	-	HINGED RETURN GRILLE W/FILTER

HEAT PUMPS UNIT SCHEDULE

SYMBOL	MFR. & MODEL NO.	COOLING CAPACITY	HEATING CAPACITY	BLOWER CFM	ELECTRICAL DATA UNIT	ACCESSORIES MODEL NO.
AC-1 FILTER BLDG.	WEATHER-KING DFH 44-B	44.0 MBH TOTAL	47.0 MBH	3/4 H.P. DIRECT DRIVE 1300 @ 1/2" S.P.	208/3/60	FACTORY BUILT CURB 503-A, LOW AMBIENT CONT. 5 MIN. ANTI-RECYCLE CONT. UPFLOW DISCHARGE
AC-2 1ST. FLR.	WEATHER-KING RH-74 COND. SECT. HH-74 EVAP. SECT. (SPLIT SYS.)	74.0 MBH TOTAL	90.0 MBH	3/4 H.P. BELT DRIVE 260 @ 1/2" S.P.	460/3/60	LOW AMBIENT CONTROL 5 MIN. ANTI-RECYCLE CONTROL
AC-3 2ND. FLR.	WEATHER-KING RH-74 COND. SECT. HH-74 EVAP. SECT.	44.0 MBH TOTAL	46.0 MBH	1/2 H.P. BELT DRIVE 1950 CFM AT 0.10" S.P.	460/3/60	LOW AMBIENT CONTROL 5 MINUTE ANTI-RECYCLE CONTROL
AC-4 ELECTRICAL SHOP	BARD 24 WH1	23.0 MBH	24.0 MBH	860 CFM AT 0.10" S.P.	208/1/60	

RECORD DRAWING

PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.

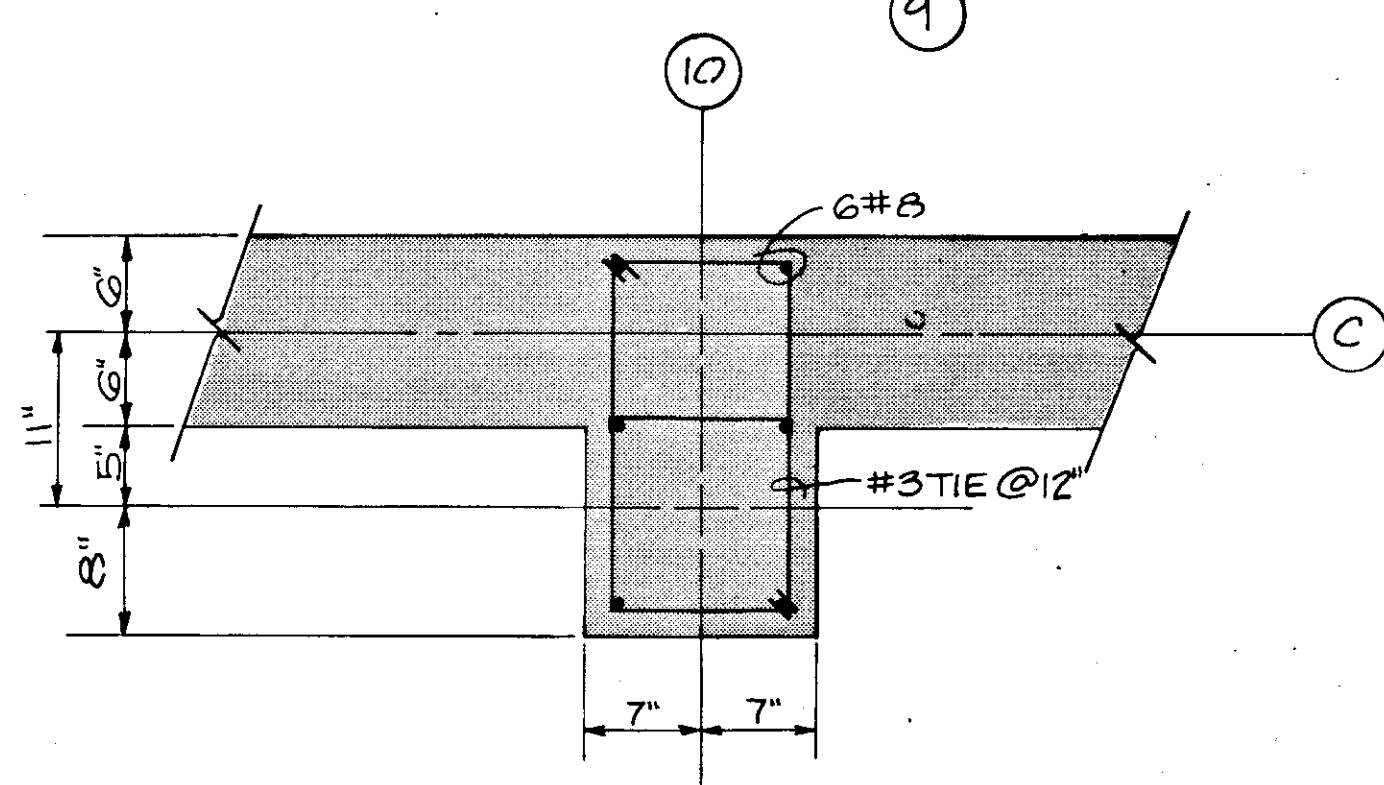
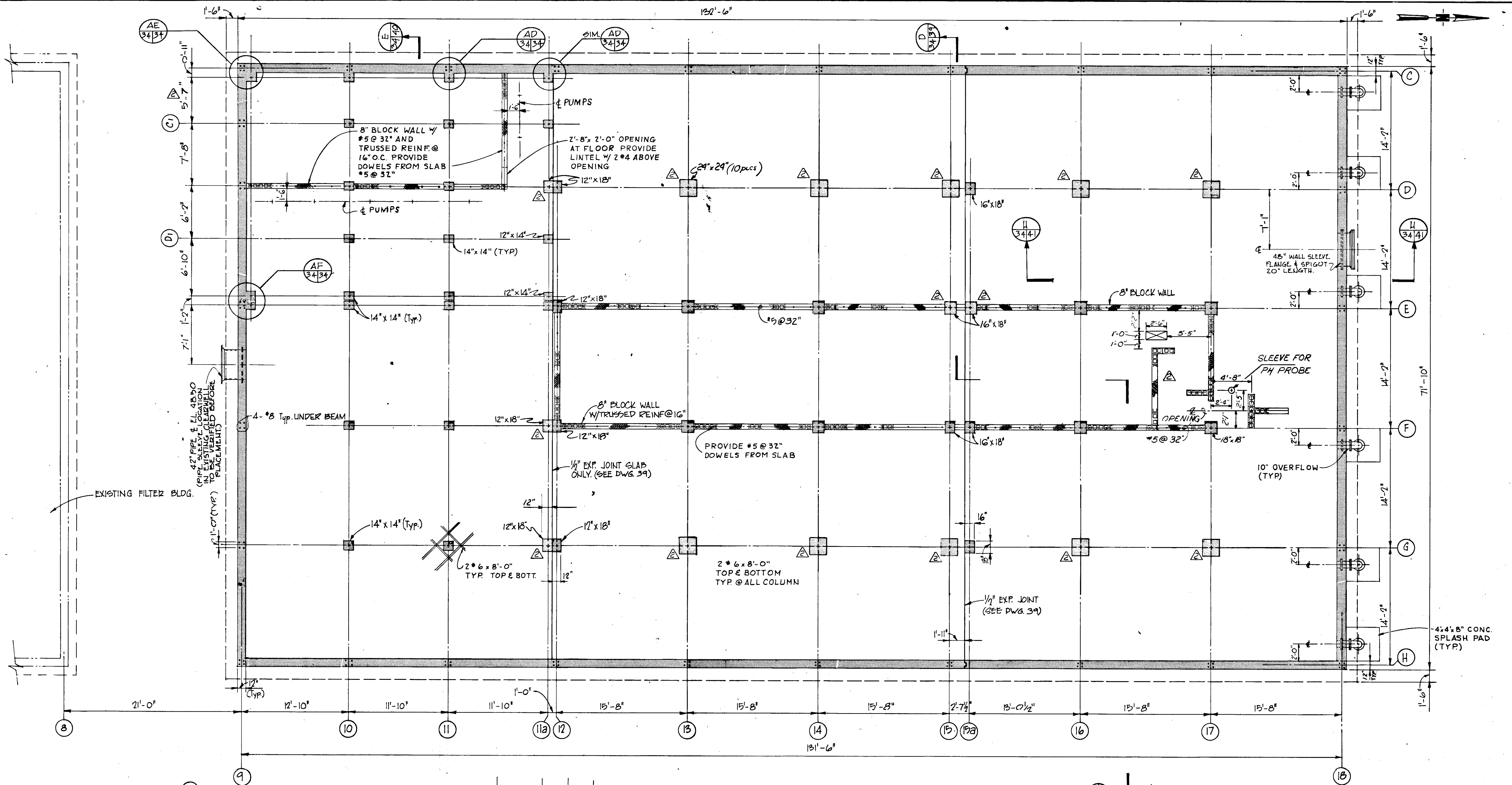
DATE 8/30/83 BY K.R.N.

CHECKED BY: R & A

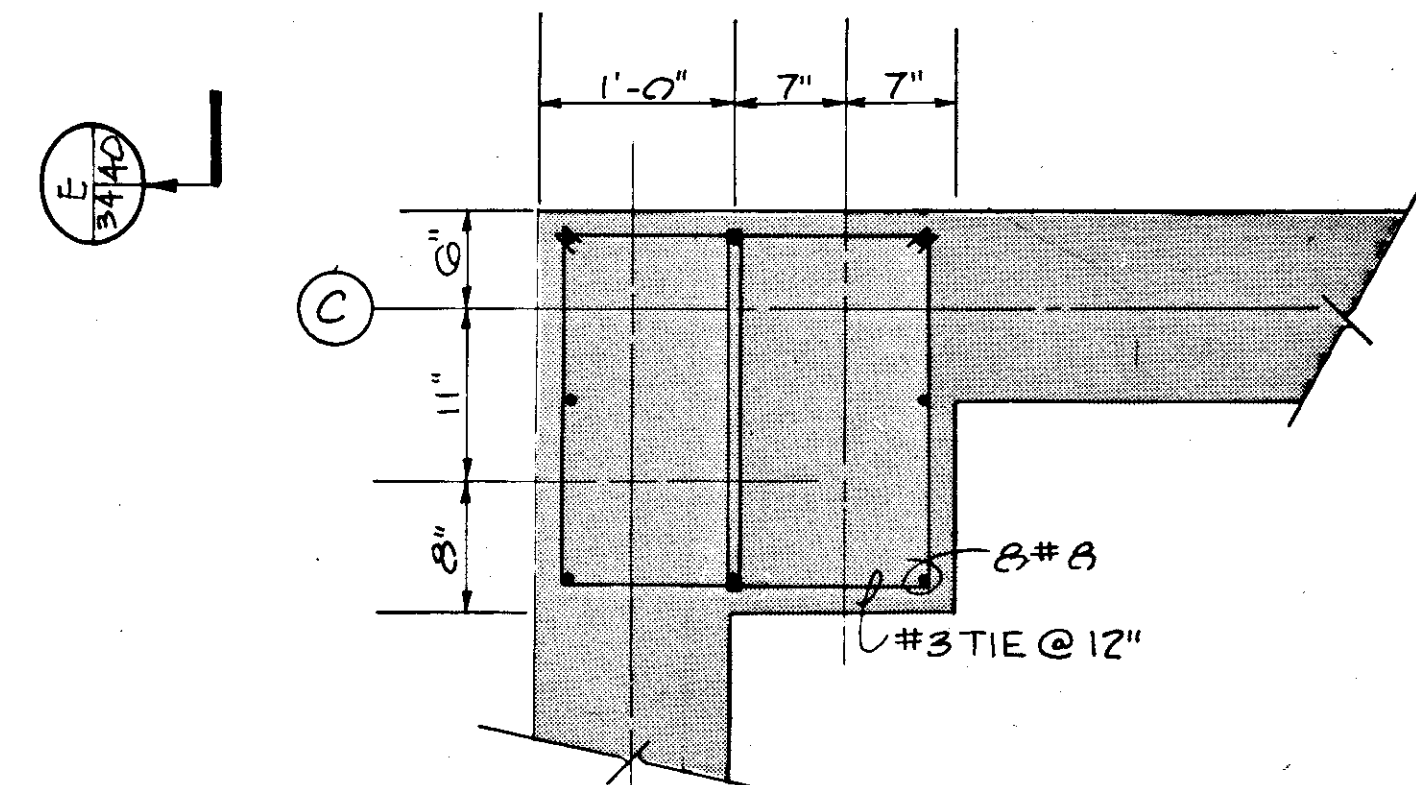
M.C.U.S.

5/77	GEN. REV.	AL
NO.	DATE	DESCRIPTION
REVISIONS		
RUSSELL & AXON Engineers — Planners — Architects		
WATER WORKS PROJECT FILTER BUILDING H.V.A.C. PLAN, SECTS. & SCHEDULES		
MANATEE COUNTY, FLORIDA		
DESIGNED BY B.E.D.	FILE NO. 630-761-04	SEAL
DRAWN BY H.G.B./E.L.L.	SHEET ALL	
CHECKED BY	NO. 33	
DATE AUGUST, 1978	SCALE: 3/16" = 1'-0"	OF 130 SHEETS

1401



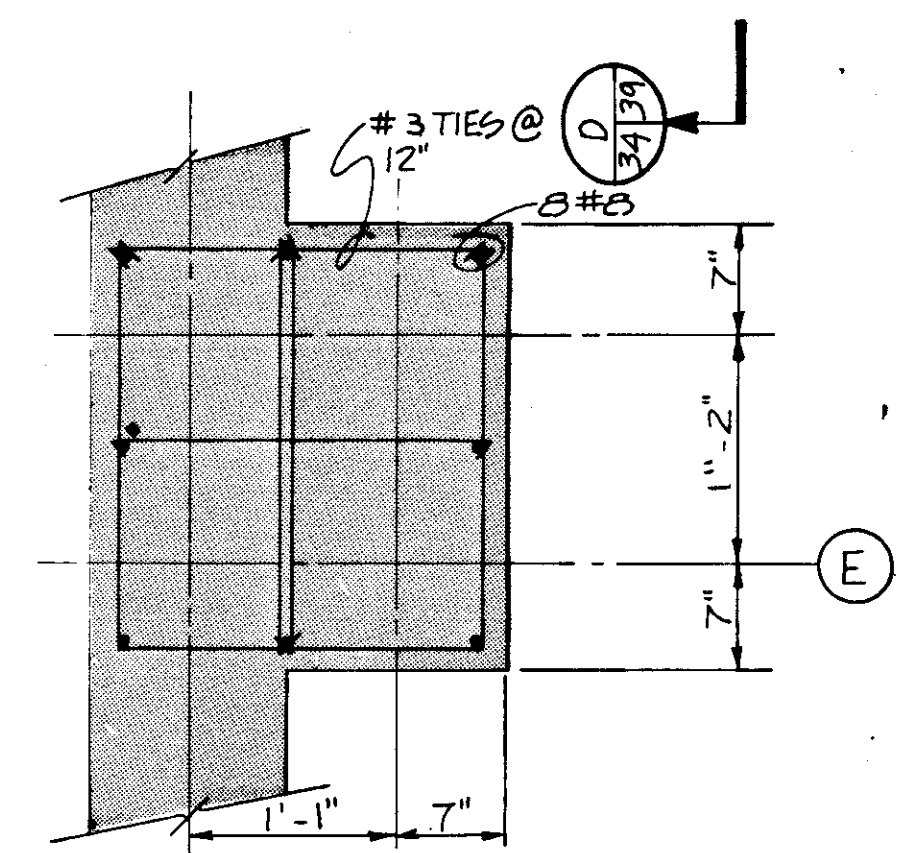
DETAIL
SCALE: 1" = 1'-0"



DETAIL
SCALE: 1" = 1'-0"

FOUNDATION PLAN @ EL. 44.50
SCALE: 3/16" = 1'-0"

RECORD DRAWING
PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE 8/30/14 BY *ELM*
CHECKED BY: *R&A*
M.C.U.S.

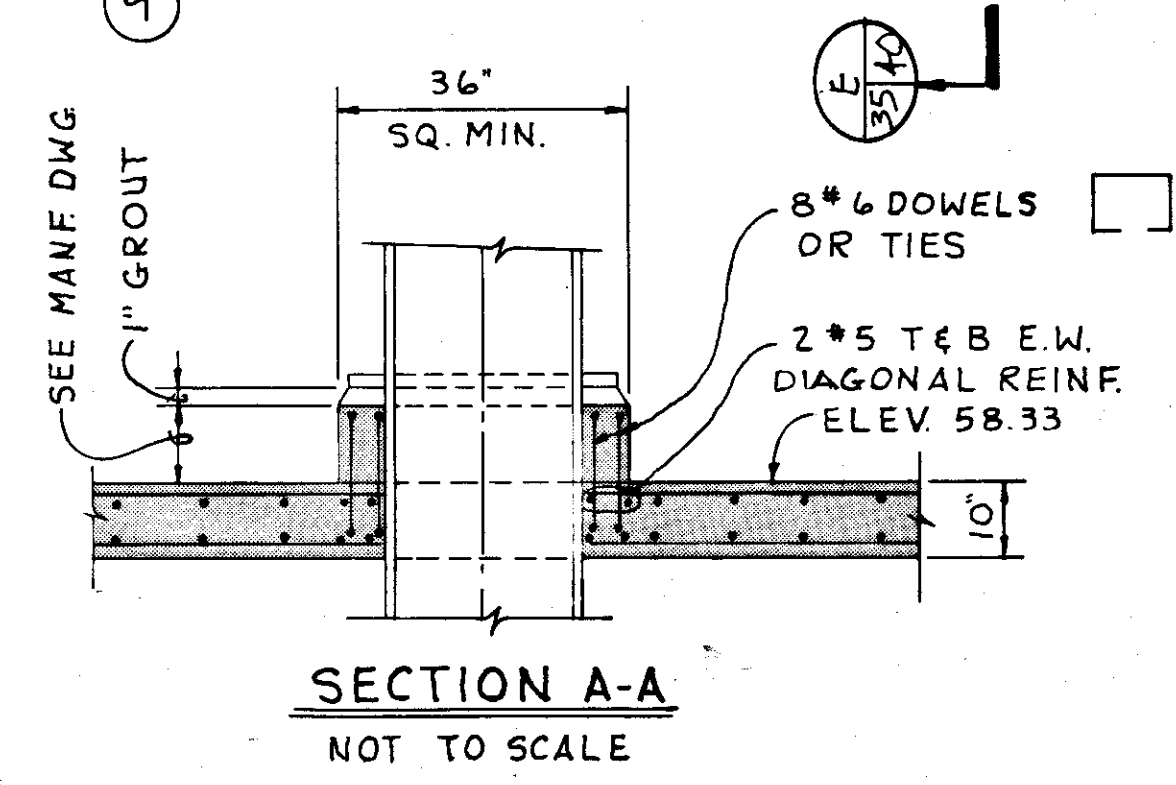
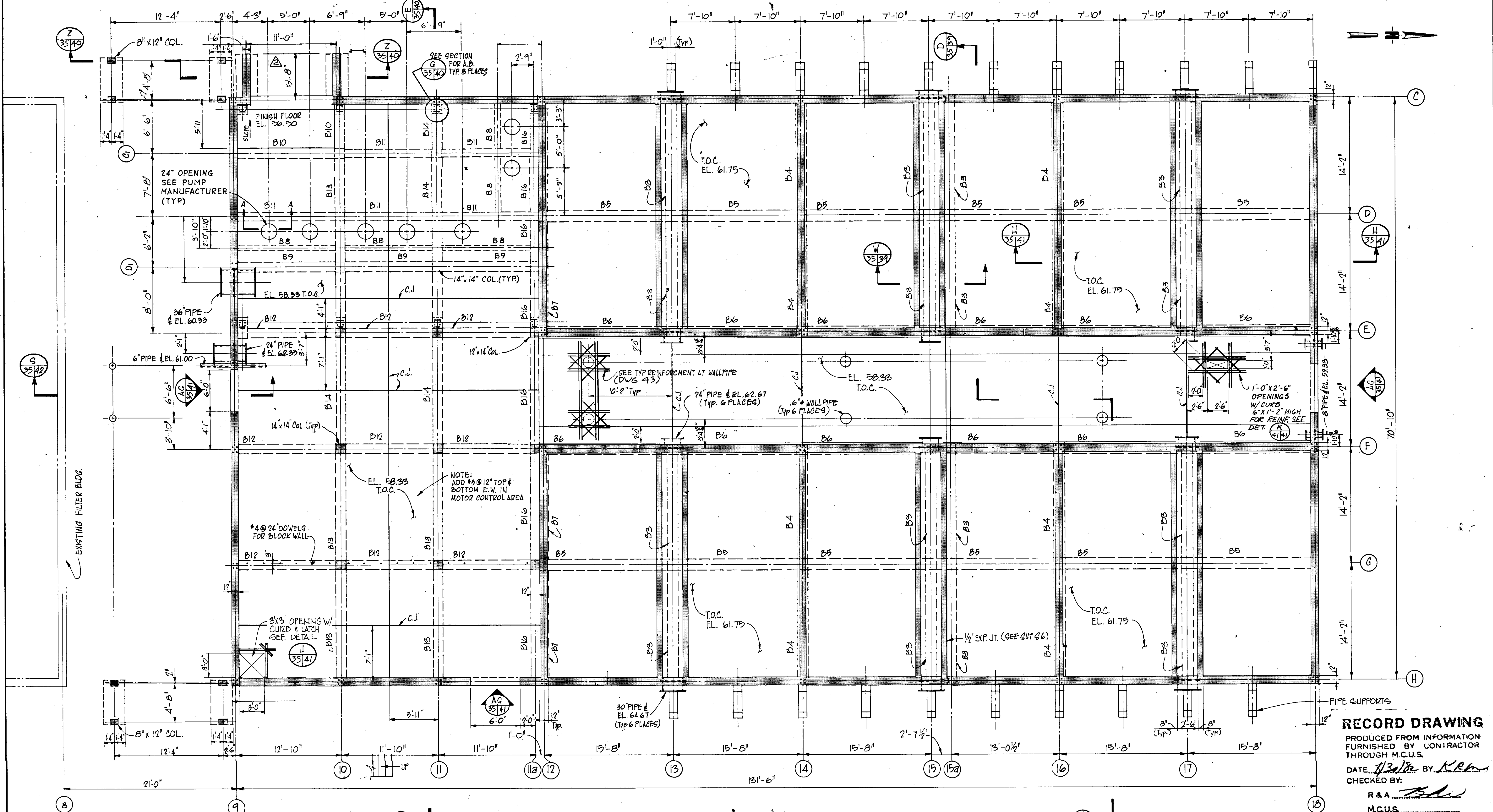


DETAIL
SCALE: 1" = 1'-0"

NOTE:
SEE DWG No. 43 FOR TYP. DETAILS

	5/79	ADD O'FLOWS & PUMP BAFFLE WALL	AL	
NO.	DATE	DESCRIPTION	BY	CKD.
REVISIONS				
RUSSELL & AXON				
Engineers — Planners — Architects				
WATER WORKS PROJECT				
FILTER BUILDING				
FOUNDATION PLAN AT EL. 44.50				
MANATEE COUNTY,			T-35 FLORIDA	
DESIGNED BY M.B.	FILE NO. 630-761-04		SEAL	
DRAWN BY HGB	SHEET 31			
CHECKED BY	NO. 34			
DATE AUGUST, 1978	OF 130 SHEETS			
		SCALE: $\frac{3}{16} = 1'-0"$		

14-01



FIRST FLOOR PLAN @ EL. 61.75
SCALE 3/16" = 1'-0"

NOTE:
2" HOLES (2 PER SPAN)
TO BE FORMED IN TOP OF
ALL BEAMS IN CLEARWELL CEILING
SEE SHEETS 39, 40 & 41

NOTE:
SEE DWG No. 43 FOR TYP. DETAILS

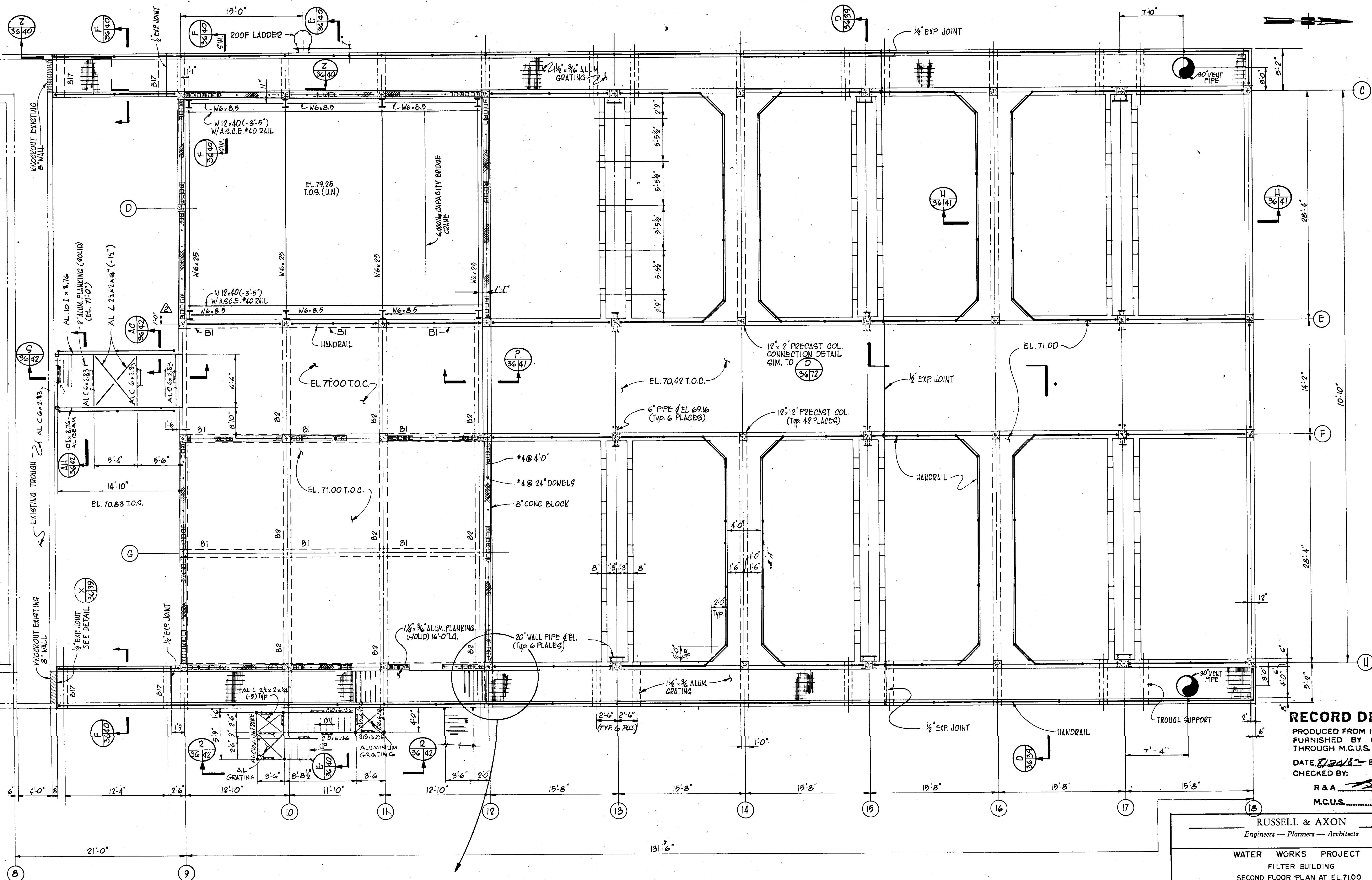
NO.	DATE	DESCRIPTION	BY	CHKD.
5/79		REV PUMP ROOM	AL	
REVISIONS				

RECORD DRAWING
PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE 8/30/78 BY KRM
CHECKED BY:
R & A
M.C.U.S.

RUSSELL & AXON Engineers — Planners — Architects	
WATER WORKS PROJECT FILTER BUILDING FIRST FLOOR PLAN AT EL. 61.75	
MANATEE COUNTY, FLORIDA	
DESIGNED BY M.B.	FILE NO. 630-761-04
DRAWN BY ALB	SHEET S2
CHECKED BY	No. 35
DATE AUGUST, 1978	OF 130 SHEETS
SCALE: 3/16" = 1'-0"	

T-36
FLORIDA

SEAL



SECOND FLOOR PLAN @ EL. 71.00
SCALE: 3/16" = 1'-0"

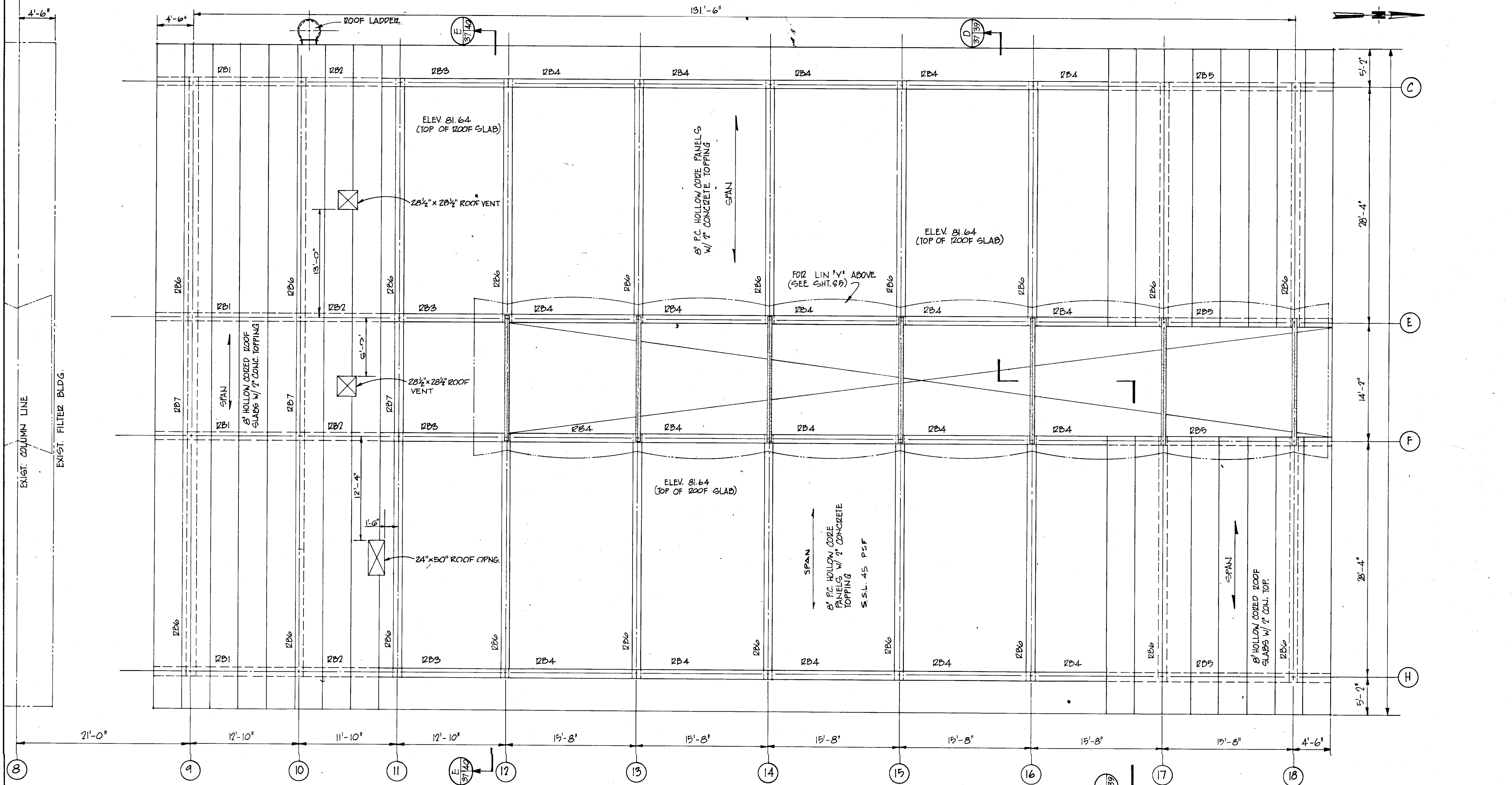
RECORD DRAWING
PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE 8/20/81 BY *[Signature]*
CHECKED BY: *[Signature]*

R & A *[Signature]*
M.C.U.S.

RUSSELL & AXON Engineers — Planners — Architects	
WATER WORKS PROJECT FILTER BUILDING SECOND FLOOR PLAN AT EL. 71.00	
MANATEE COUNTY, FLORIDA	
DESIGNED BY M.B.	FILE NO. 630-761-04
DRAWN BY EL	SHEET 53 No. 36
CHECKED BY	OF 130 SHEETS
DATE AUGUST, 1978	SCALE: 3/16" = 1'-0"

NOTE:
SEE DWG. NO. 510 FOR TYP. DETAILS

No.	DATE	DESCRIPTION	BY	CHKD.
1	5/79	GEN REV	WRW	WCH
REVISIONS				



PRECAST BEAM SCHEDULE					
MARK	SIZE		LOADS (psf)		REMARKS
	W	D	D.L.	L.L.	
RB1	12	16	90	45	SPAN - 17'-4" ±
RB2	12	16	90	45	" - 11'-10" ±
RB3	12	16	90	45	" - 12'-10" ±
RB4	12	16	90	45	" - 15'-8" ±
RB5	12	16	90	45	" - 20'-2" ±
RB6	12	16	*	45	" - 28'-4" ±
RB7	12	16	*	45	" - 14'-2" ±

* D.L. OF BEAM ONLY

NOTE:

ALL COLUMNS 12x12 WITH 1/2" CHAMFER (SEE TYP SECTIONS SHT. 12)

SEE SHT 40 FOR 8x12 COLUMNS (POURED CONCRETE)

ROOF FRAMING PLAN EL. 81.64

SCALE 3/16" = 1'-0"

RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.

DATE 7/20/82 BY K.R.N.

CHECKED BY:

R & A *[Signature]*

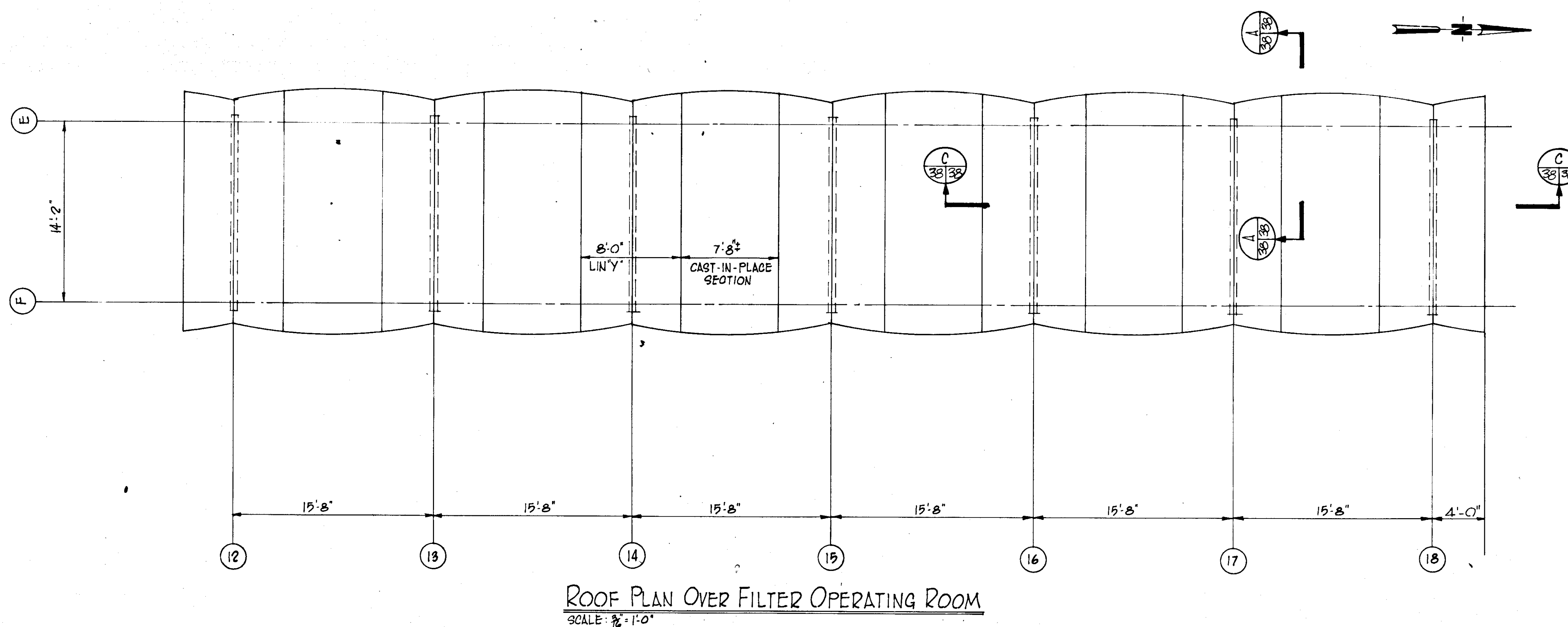
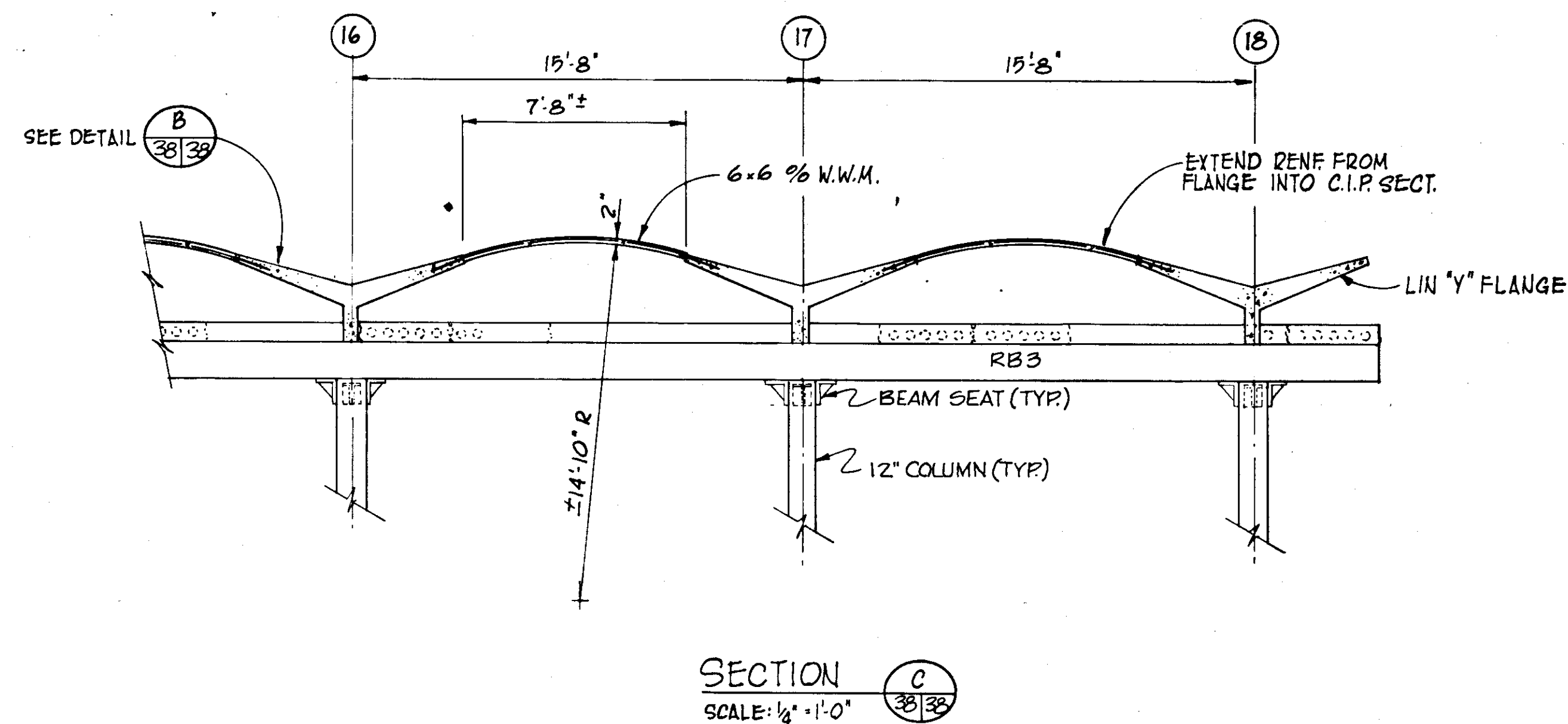
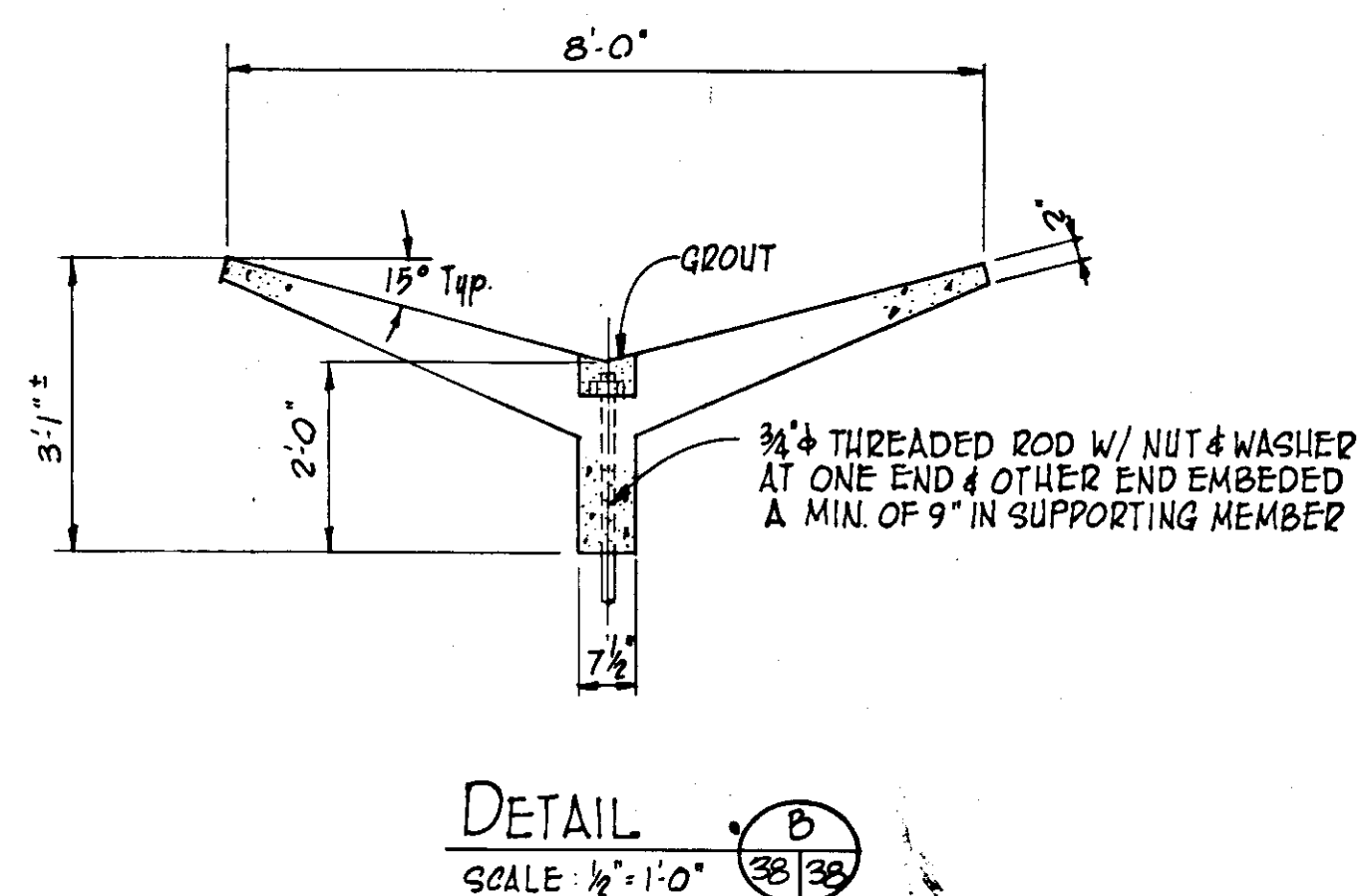
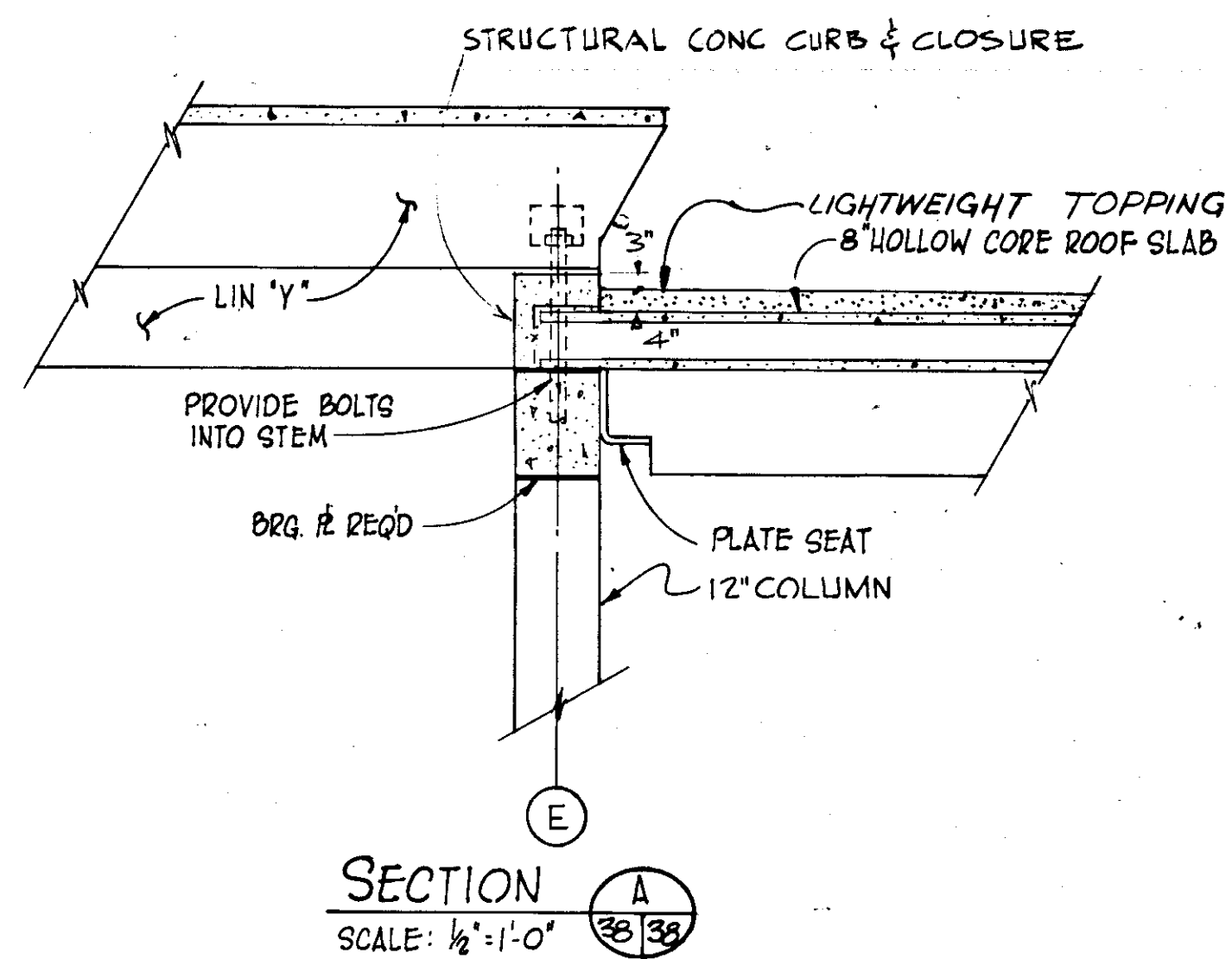
M.C.U.S.

NOTE:

SEE DWG No. 43 FOR TYP. DETAILS

NO.	DATE	DESCRIPTION	BY	CHKD.
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT FILTER BUILDING ROOF FRAMING PLAN				
MANATEE COUNTY, FLORIDA				
DESIGNED BY	FILE NO.	SEAL		
M.B.	630-761-04			
DRAWN BY	SHEET 54			
103				
CHECKED BY	NO. 37			
	OF 130 SHEETS			
DATE	SCALE: 3/16" = 1'-0"			
AUGUST, 1978				

14-01



RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.

DATE 8/31/80 BY KPA

CHECKED BY:

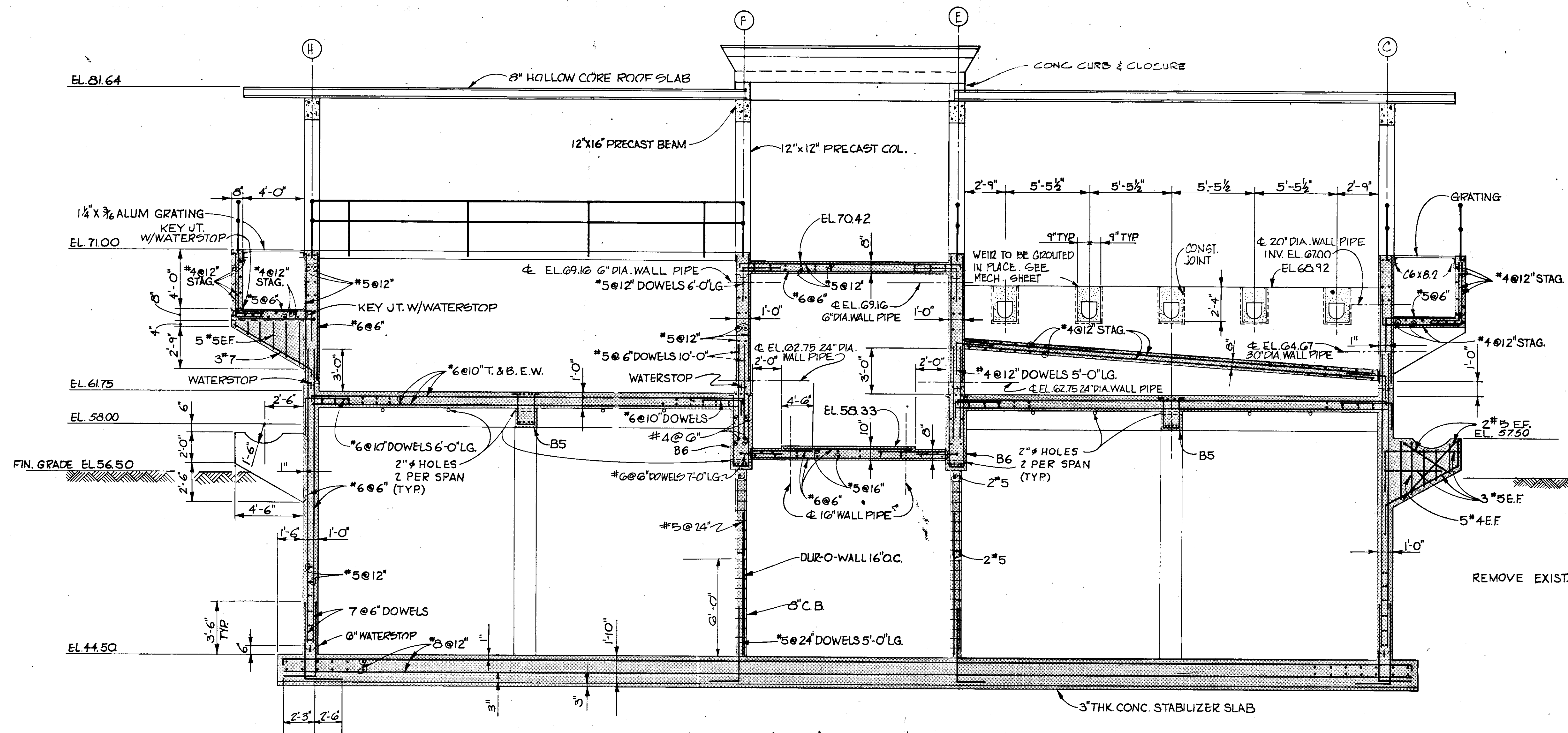
R & A

M.C.U.S.

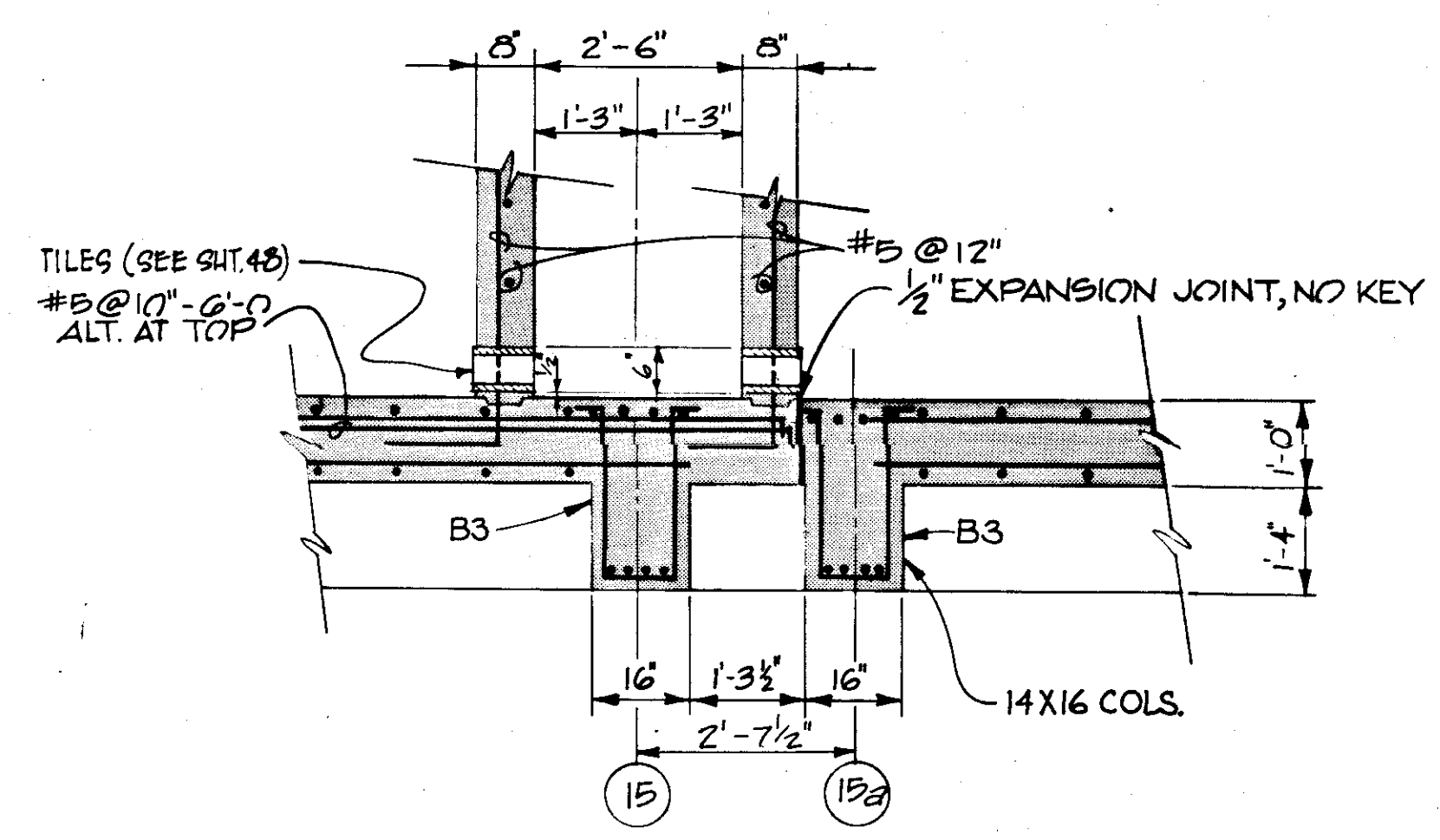
NOTE:

SEE DWG No. 43 FOR TYP. DETAILS

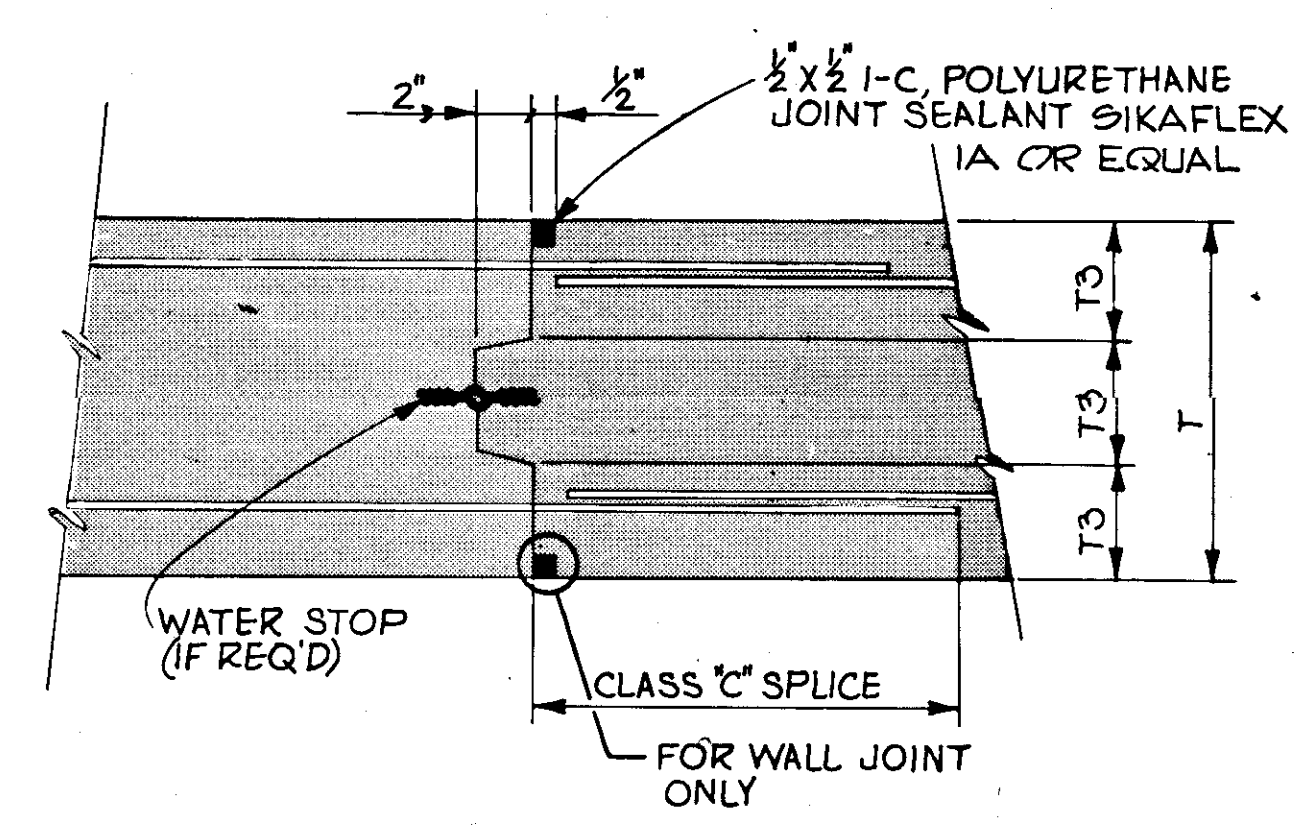
NO.	DATE	DESCRIPTION	BY	CKD.
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT FILTER BUILDING ROOF PLAN OVER FILTER OPERATING ROOM SECTIONS & DETAILS				
MANATEE COUNTY, FLORIDA				
DESIGNED BY	FILE NO.	SEAL		
M.B.	630-761-04			
DRAWN BY	SHEET S5			
NO. 38				
CHECKED BY	OF 130 SHEETS			
DATE	SCALE: 3/16" = 1'-0"			
AUGUST, 1978				



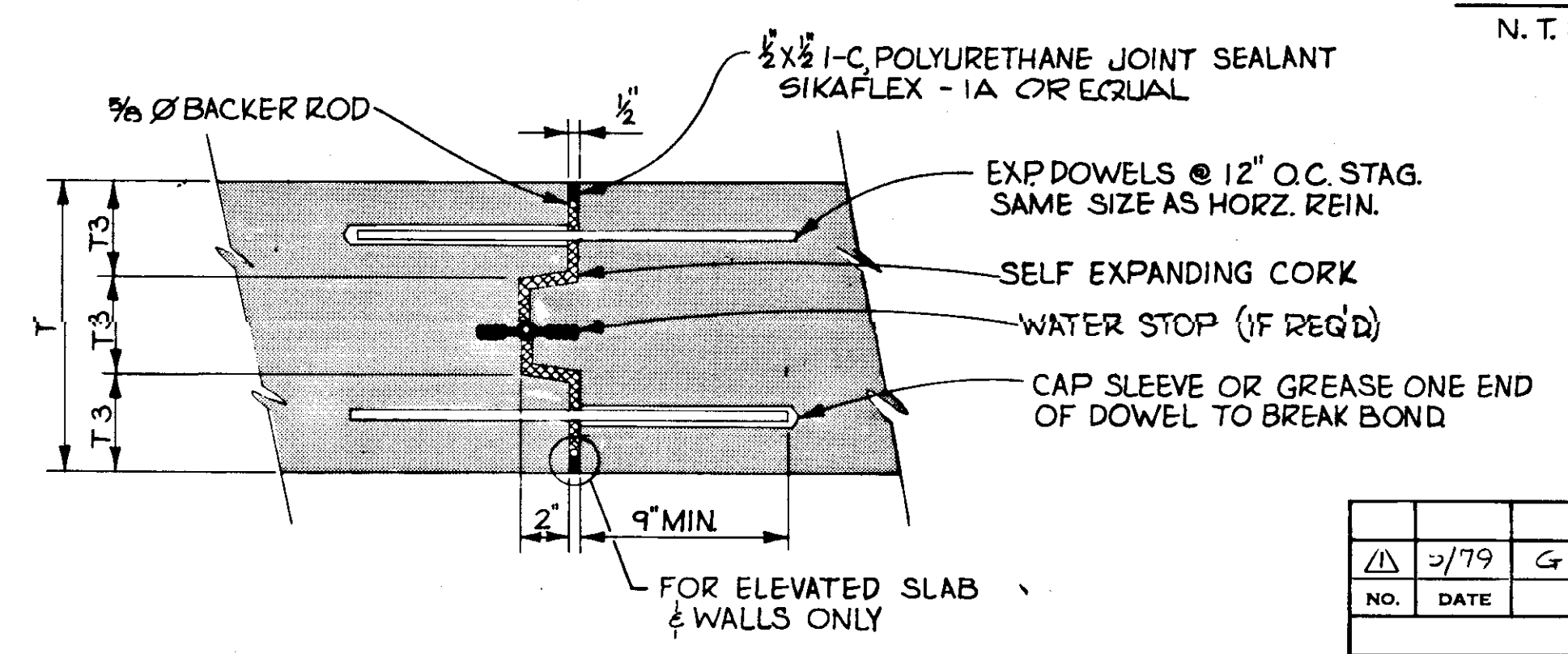
SECTION
SCALE: 1/4\"/>



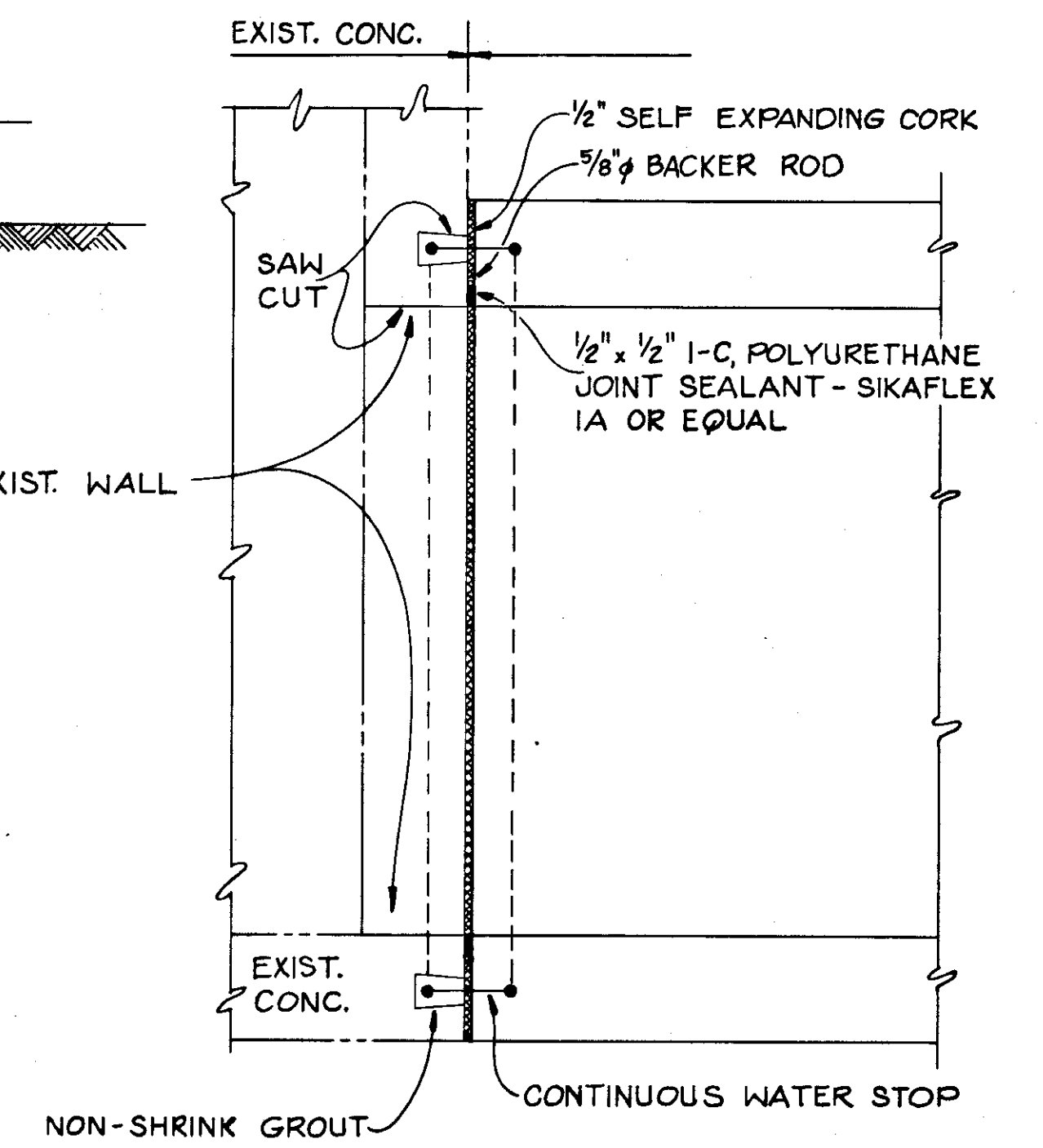
SECTION
SCALE: 1/2\"/>



TYP. CONSTRUCTION JOINT DETAIL
N.T.S.



TYP. EXP JOINT DETAIL
N.T.S.



DETAIL
N.T.S.

RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE: 8/31/82 BY: K.P.A.
CHECKED BY:
R & A
M.C.U.S.

NOTE:
SEE DWG No. 43 FOR TYP DETAILS

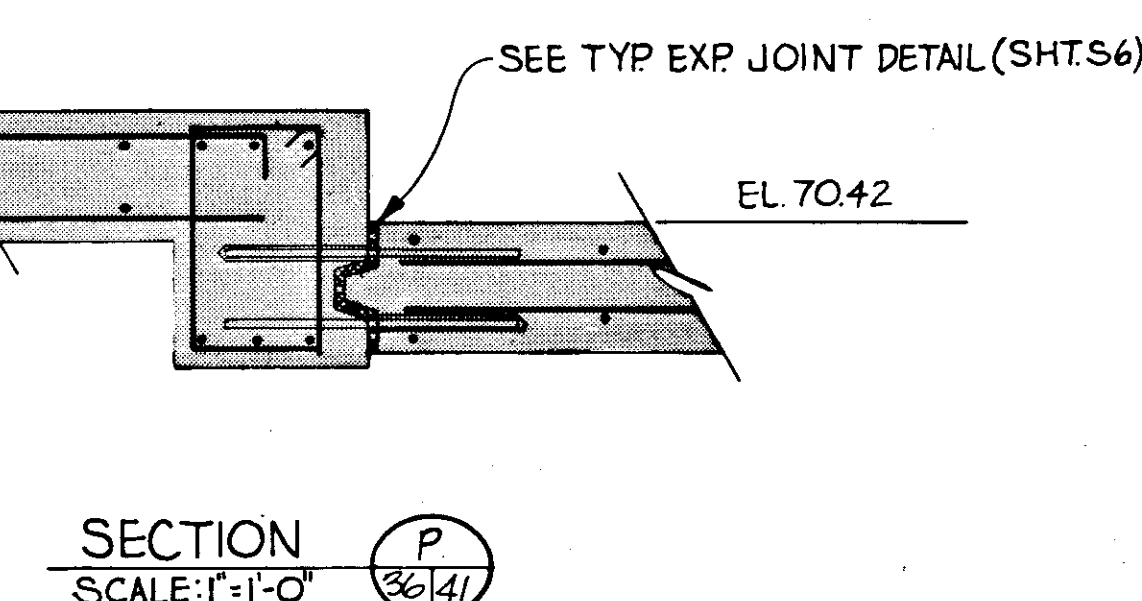
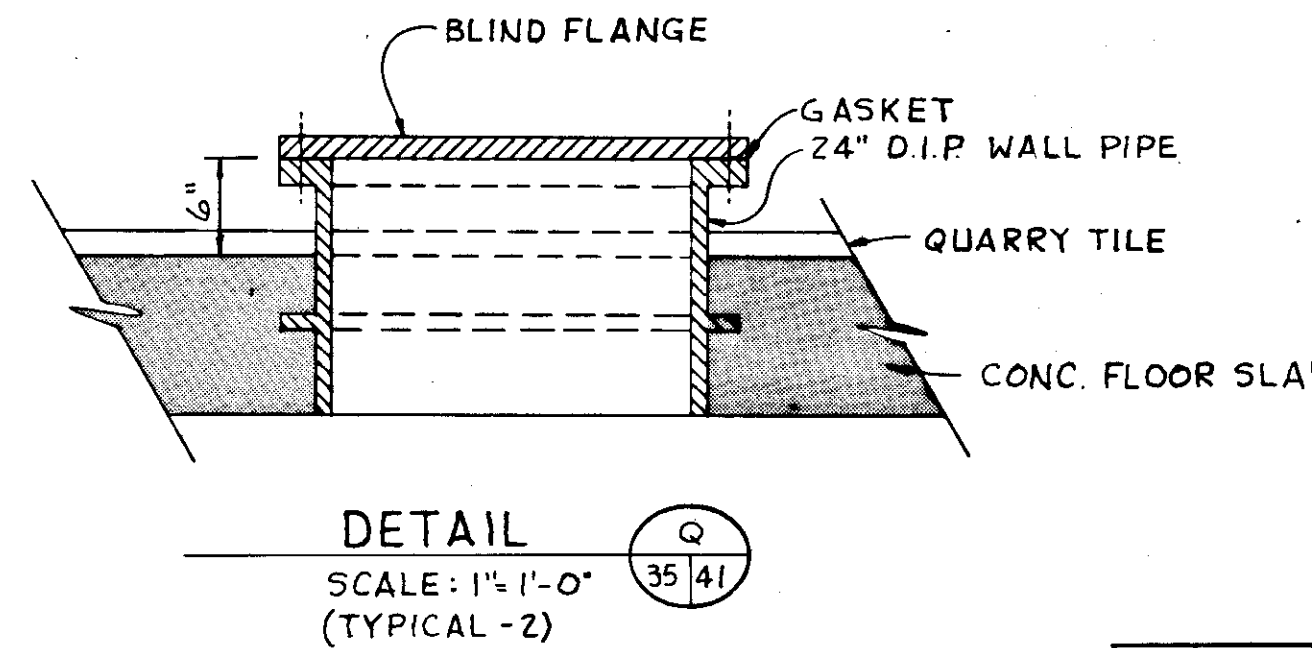
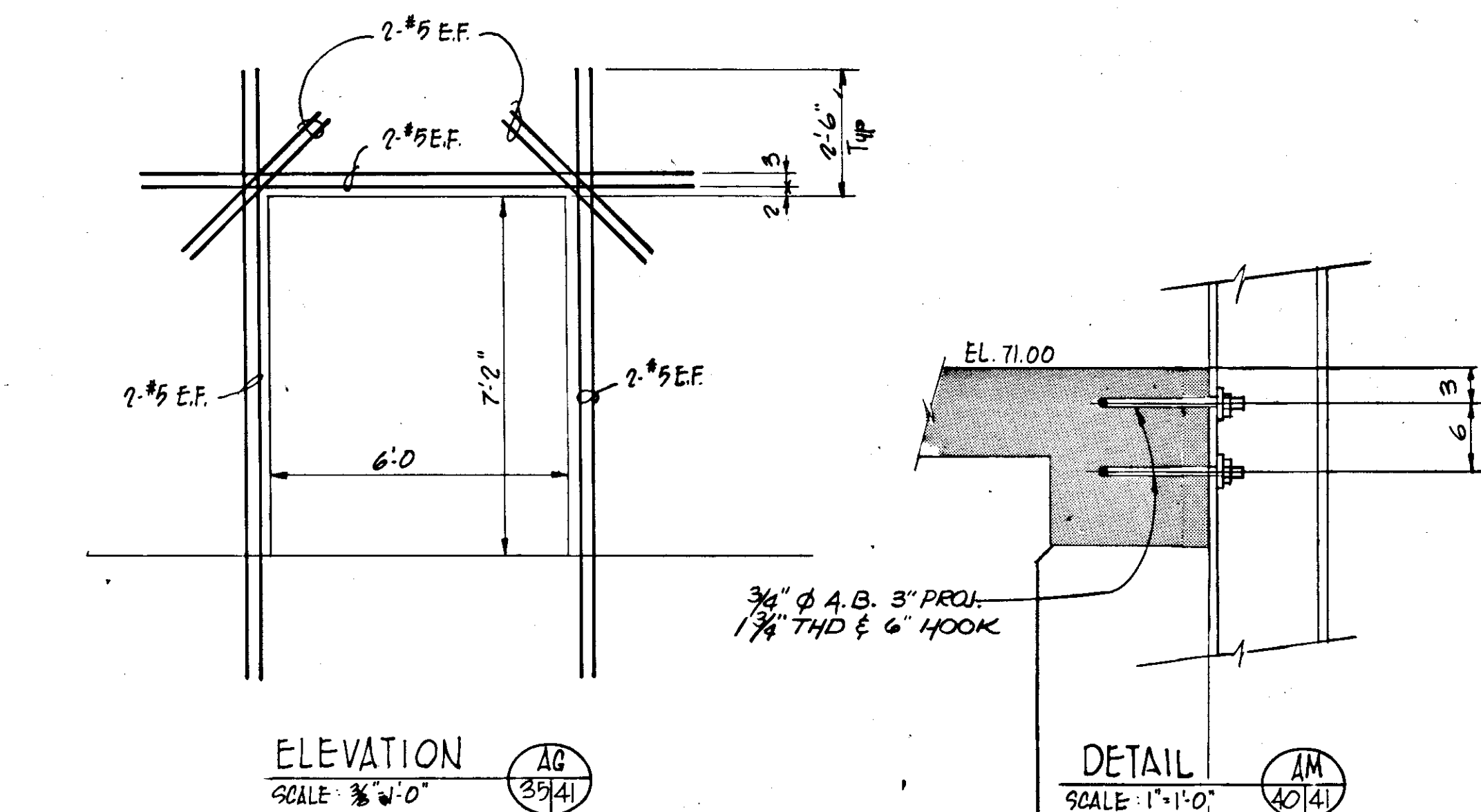
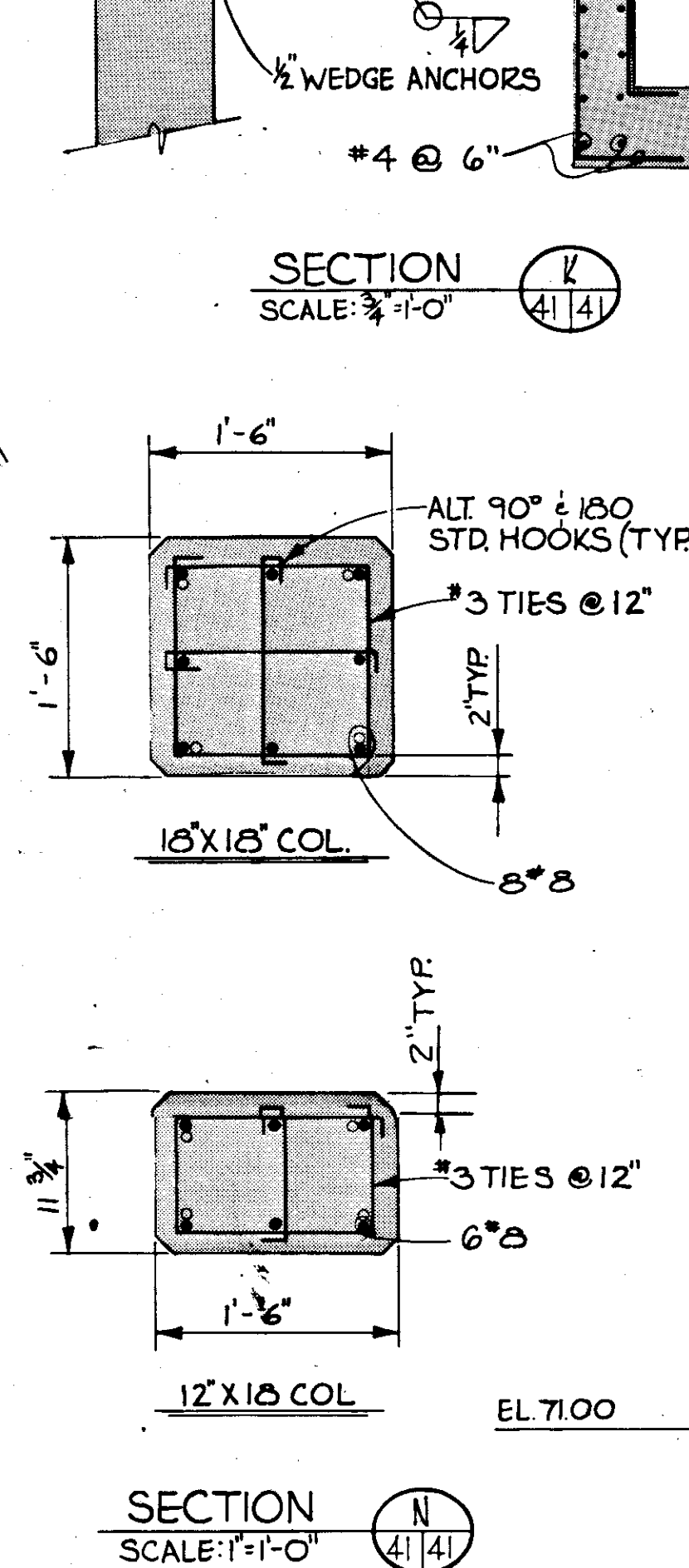
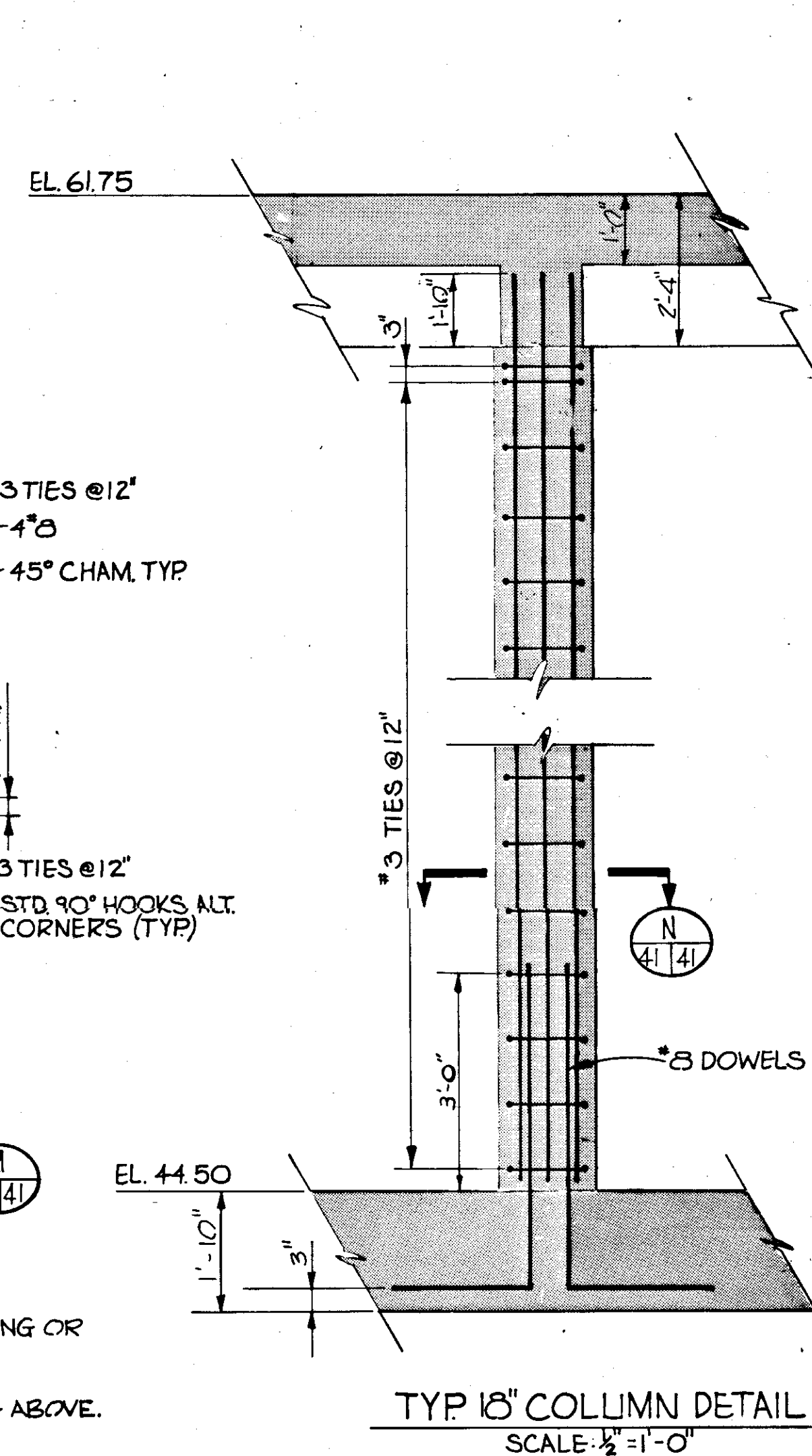
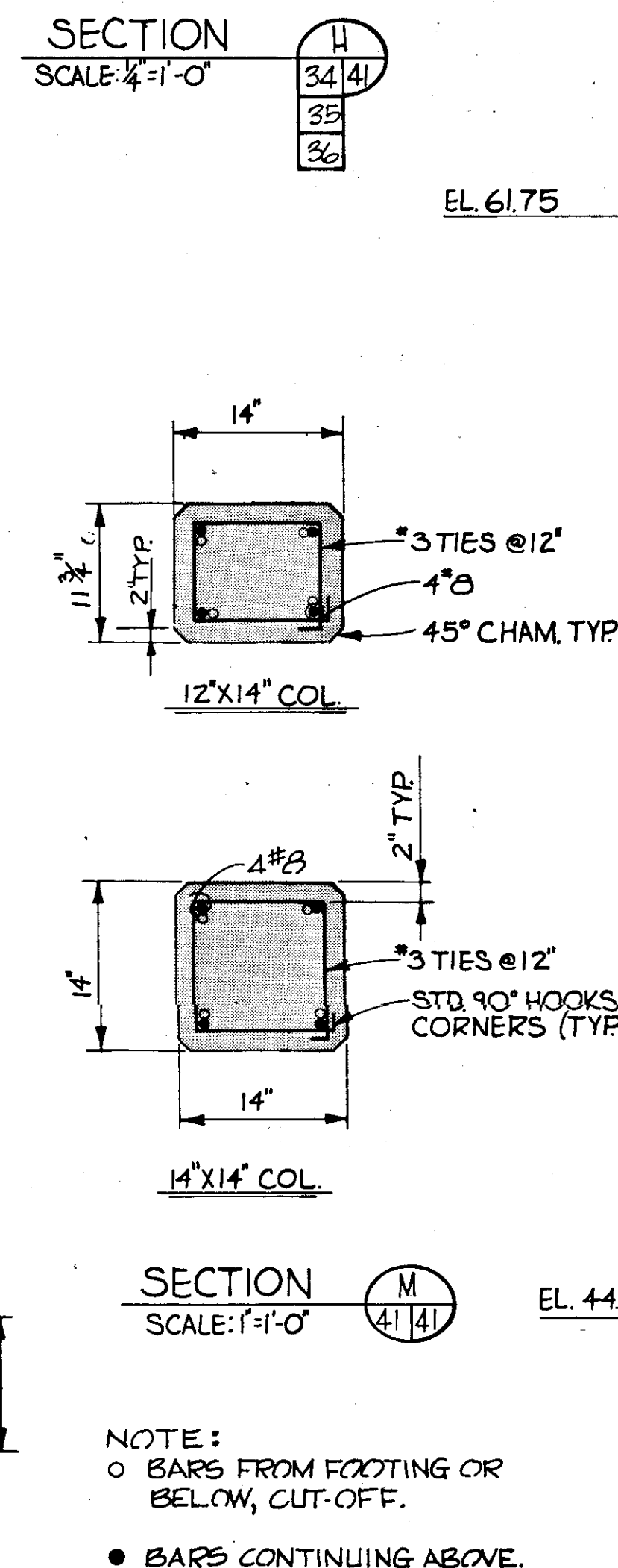
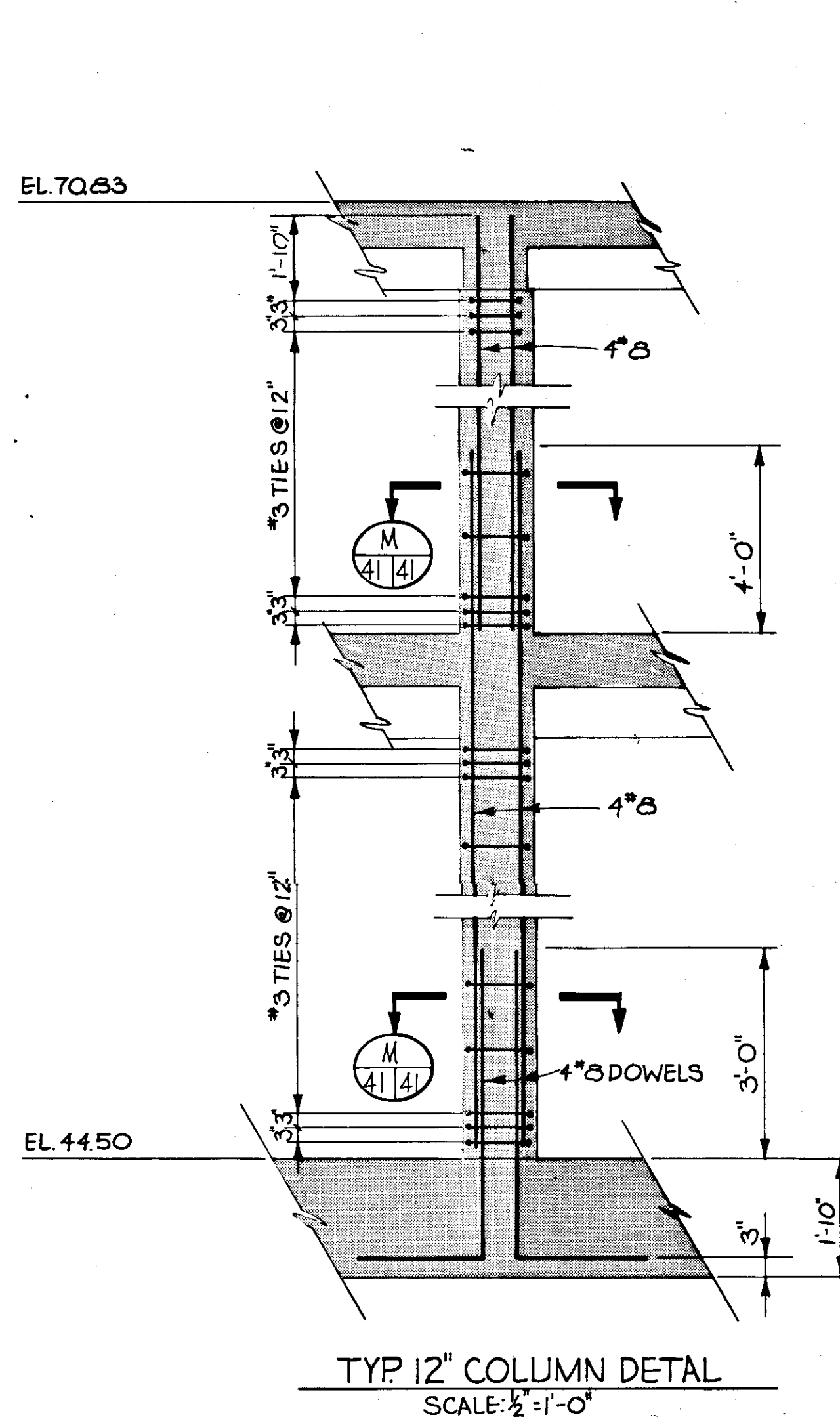
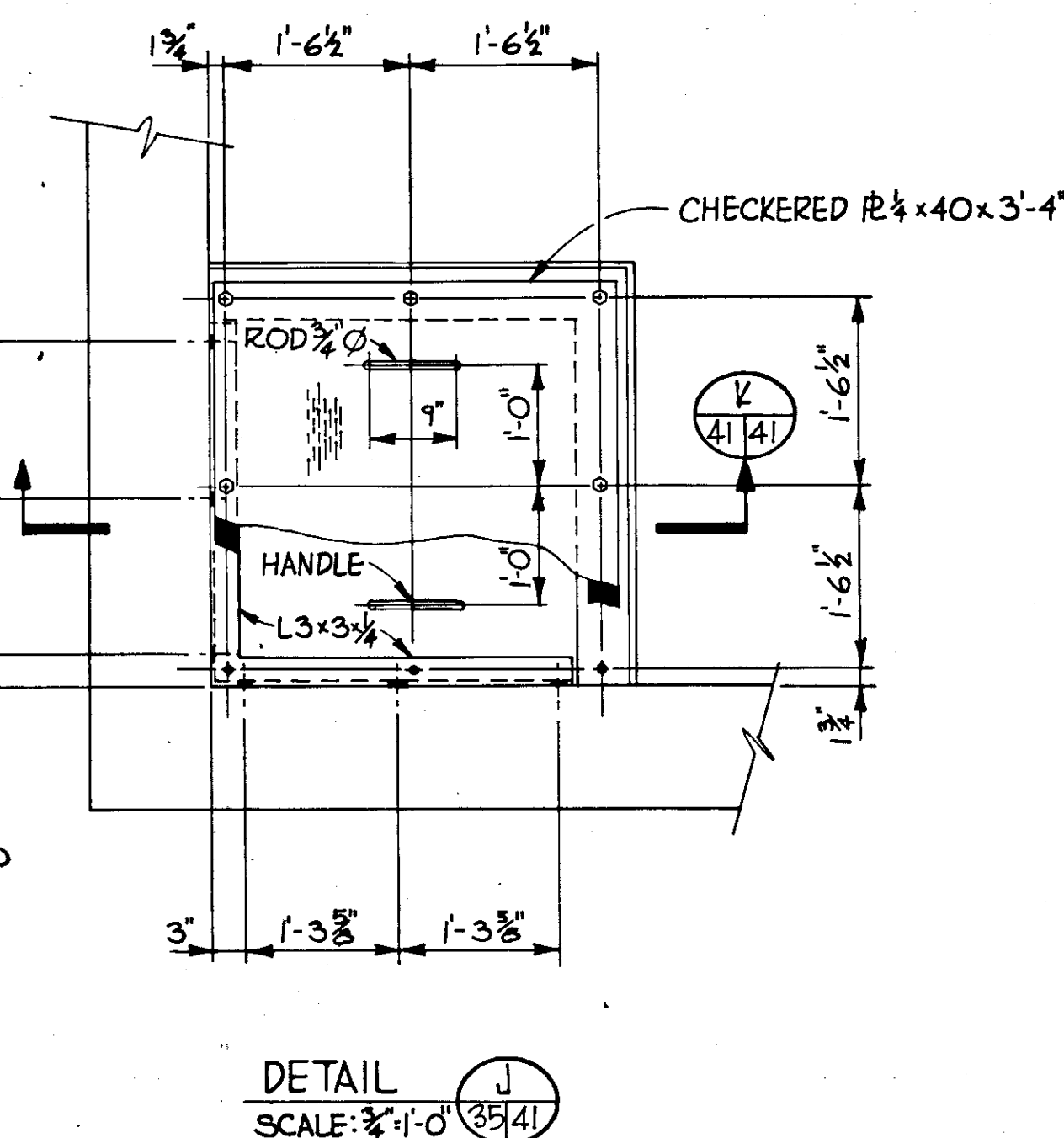
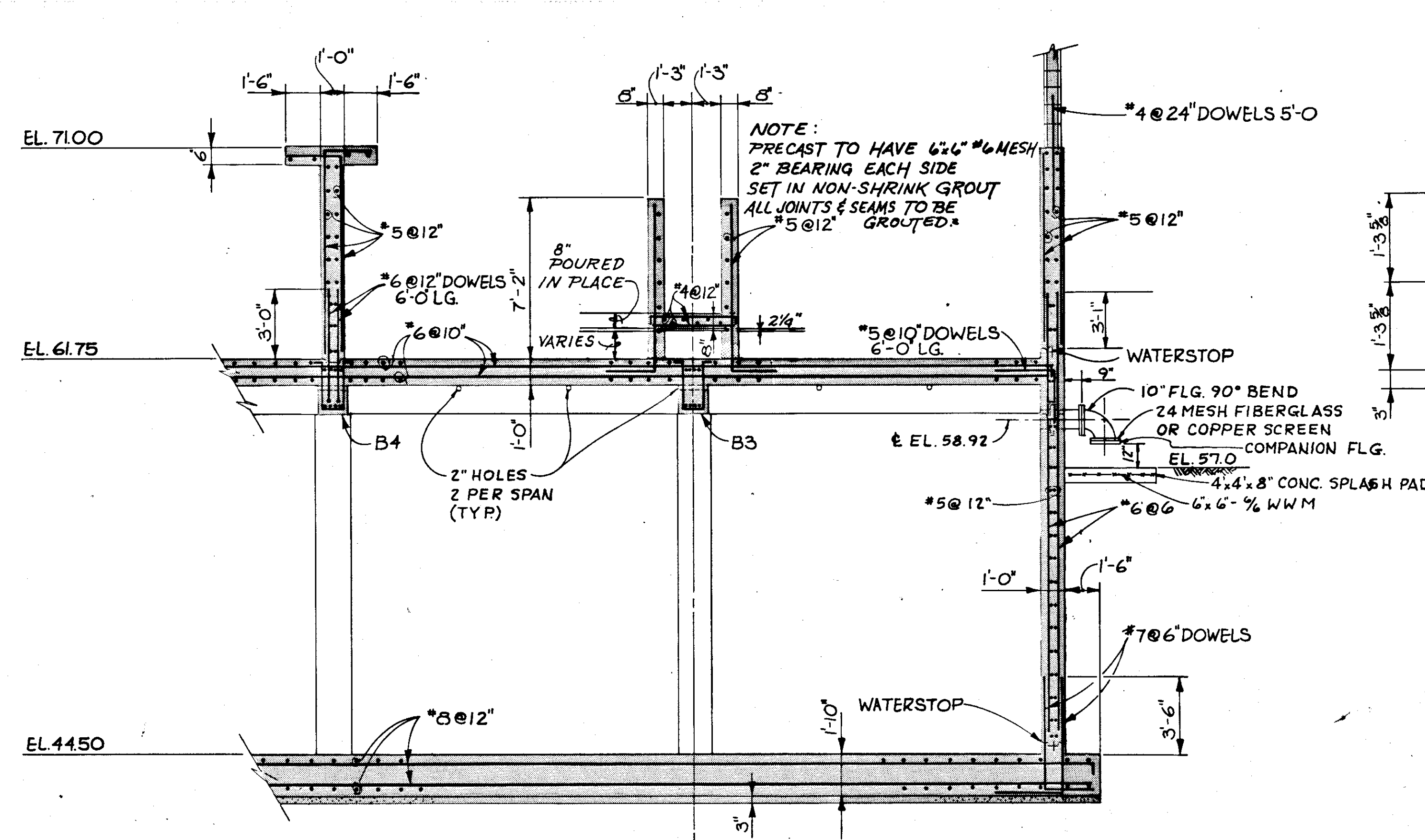
NO.	DATE	DESCRIPTION	BY	CHKD.
1	5/79	GEN. REVISIONS	AL	
REVISIONS				
RUSSELL & AXON				
Engineers — Planners — Architects				
WATER WORKS PROJECT				
FILTER BUILDING				
SECTIONS & DETAILS				
MANATEE COUNTY, FLORIDA				
DESIGNED BY M.B.	FILE NO. 630-761-04	SEAL		
DRAWN BY I.C.S.	SHEET 56			
CHECKED BY	NO. 39	SHEETS		
DATE AUGUST, 1978	SCALE: AS NOTED			

T-40

14-01

BEAM SCHEDULE

MARK	LOCATION	TOP EL.	W"	D"	REINFORCING	STIRRUPS	REMARKS
					TOP CONT. BOTTOM	SIZE TYPE SPACING EACH END	
B1	OPERATING AREA	71.0	12"	16"	3*6 3*6	#3 1@2" 4@4" REMAINING @ 6"	
B2	OPERATING AREA	71.0	12"	16"	3*7 3*7	#3 1@2" 4@4" REMAINING @ 6"	
B3	FILTER	61.75	16"	28"	4*8 4*8	#4 1@2" 4@4" 8@6" REMAINING @ 12"	
B4	FILTER	61.75	16"	28"	4*9 4*8	#4 1@2" 6@4" 8@6" REMAINING @ 12"	
B5	FILTER	61.75	16"	28"	4*9 4*8	#4 1@2" 8@3" 6@8" REMAINING @ 12"	
B6	FILTER	61.75	16"	20"	4*8 4*8	#4 1@2" 4@6" REMAINING @ 12"	ADD 2*7 ADDITIONAL ON EACH FACE, EQUAL SPACE
B7	FILTER	61.75	12"	28"	3*9 3*8	#4 1@2" 4@4" 6@6" REMAINING @ 12"	
B8	PUMP ROOM	58.33	10"	18"	3*8 2*8	#3 1@2" 10@4" REMAINING @ 6"	
B9	PUMP ROOM	58.33	14"	20"	4*7 3*7	#3 1@2" 6@6" REMAINING @ 8"	ADD 2*7 ADDITIONAL ON EACH SIDE
B10	PUMP ROOM	58.33	14"	42"	3*7 3*7	#3 1@2" REMAINING @ 12"	
B11	PUMP ROOM	58.33	12"	20"	3*8 3*8	#3 1@2" 6@4" REMAINING @ 8"	
B12	GENERATOR ROOM	58.33	14"	20"	3*8 3*8	#3 1@2" 6@5" REMAINING @ 8"	
B13	GENERATOR ROOM	58.33	14"	20"	4*7 3*7	#3 1@2" 6@5" REMAINING @ 8"	
B14	GENERATOR ROOM	58.33	14"	20"	3*7 3*7	#3 1@2" 6@6" REMAINING @ 8"	
B15	GENERATOR ROOM	58.33	14"	20"	3*7 3*7	#4 1@2" REMAINING @ 6"	
B16	GENERATOR ROOM	58.33	12"	20"	2*8 2*8	#3 1@2" 6@6" REMAINING @ 8"	
B17	TROUGH	67.00	12"	14"	2*7 2*8	#3 1@2" REMAINING @ 12"	

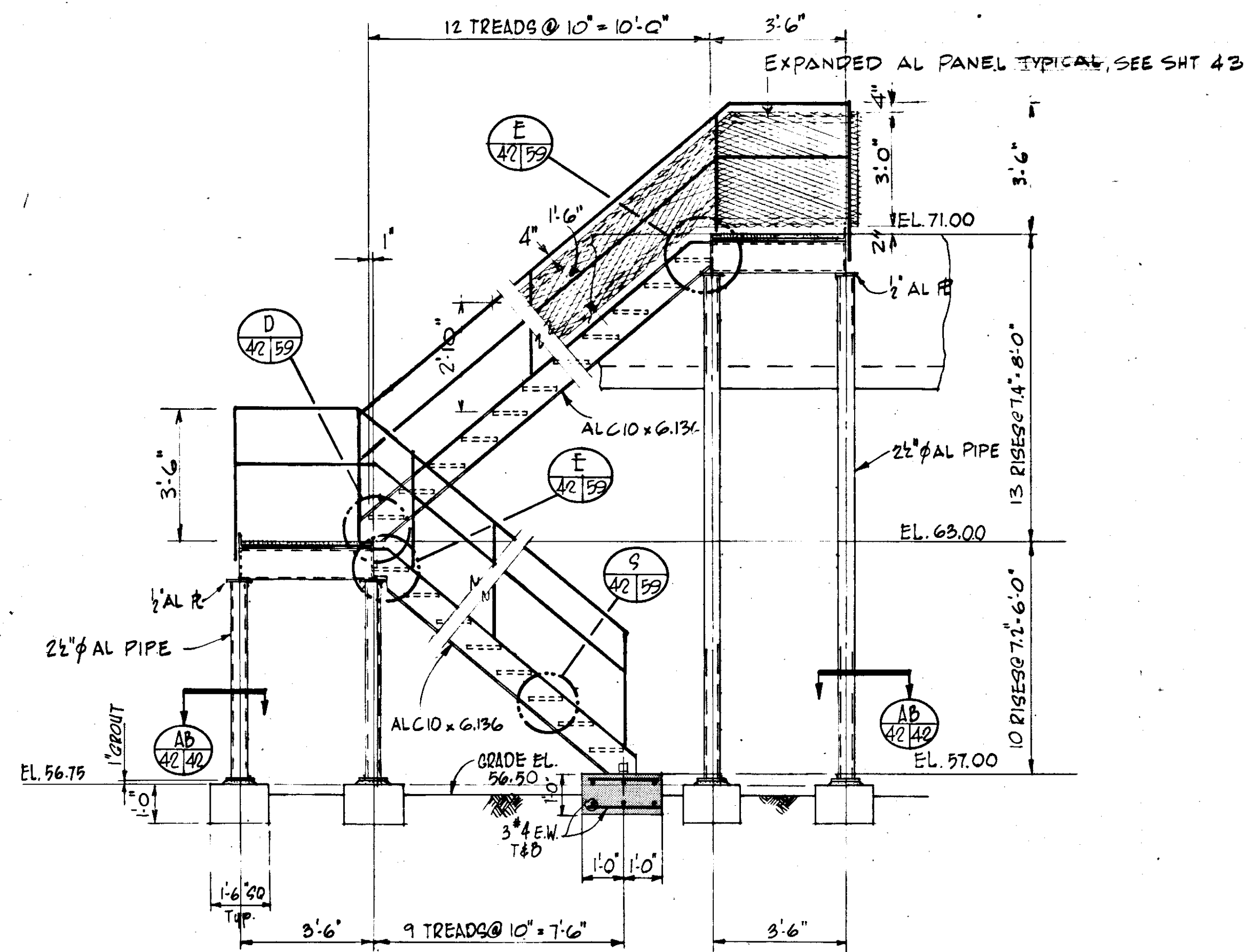


RECORD DRAWING
PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE: 5/79 BY: K.R.
CHECKED BY: R.A.
M.C.U.S.

NO.	DATE	DESCRIPTION	BY	CHKD.
5/79	GEN. REVISIONS		AL	
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT FILTER BUILDING SECTIONS & DETAILS				
MANATEE COUNTY, FLORIDA				
DESIGNED BY M.B.	FILE NO. 630-761-04	T-42 FLORIDA SEAL		
DRAWN BY I.C.S.	SHEET S 8			
CHECKED BY	OF 130 SHEETS			
DATE AUGUST, 1978	SCALE: AS NOTED			

NOTE:
SEE DWG No. 43 FOR TYP. DETAILS

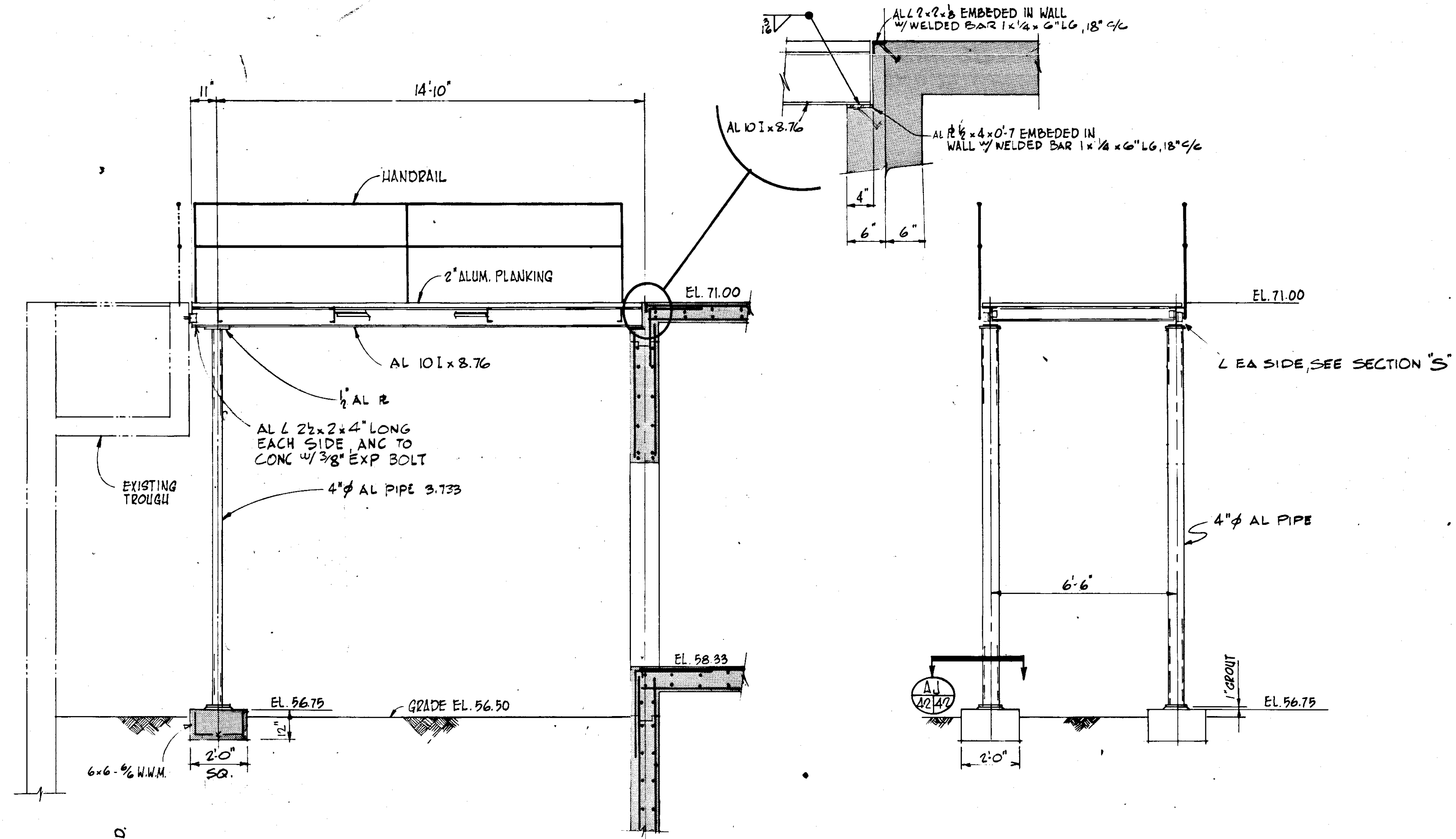
14-01



ELEVATION

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

NOTE: ALL RAIL PANELS NOT SHOWN, SEE SHEET 43...

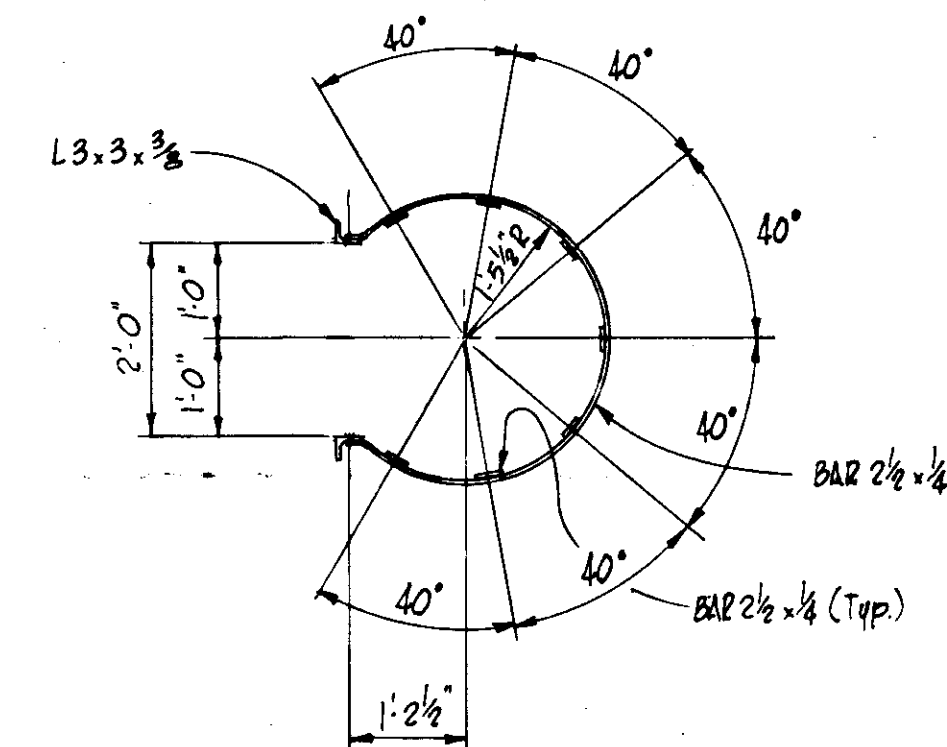


SECTION

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

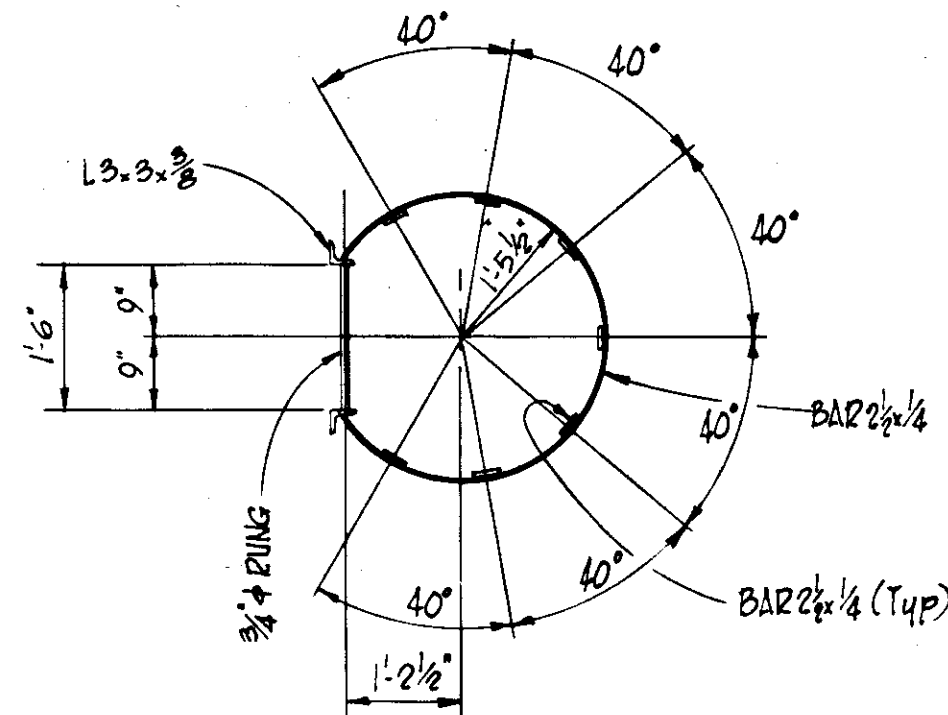
SECTION

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



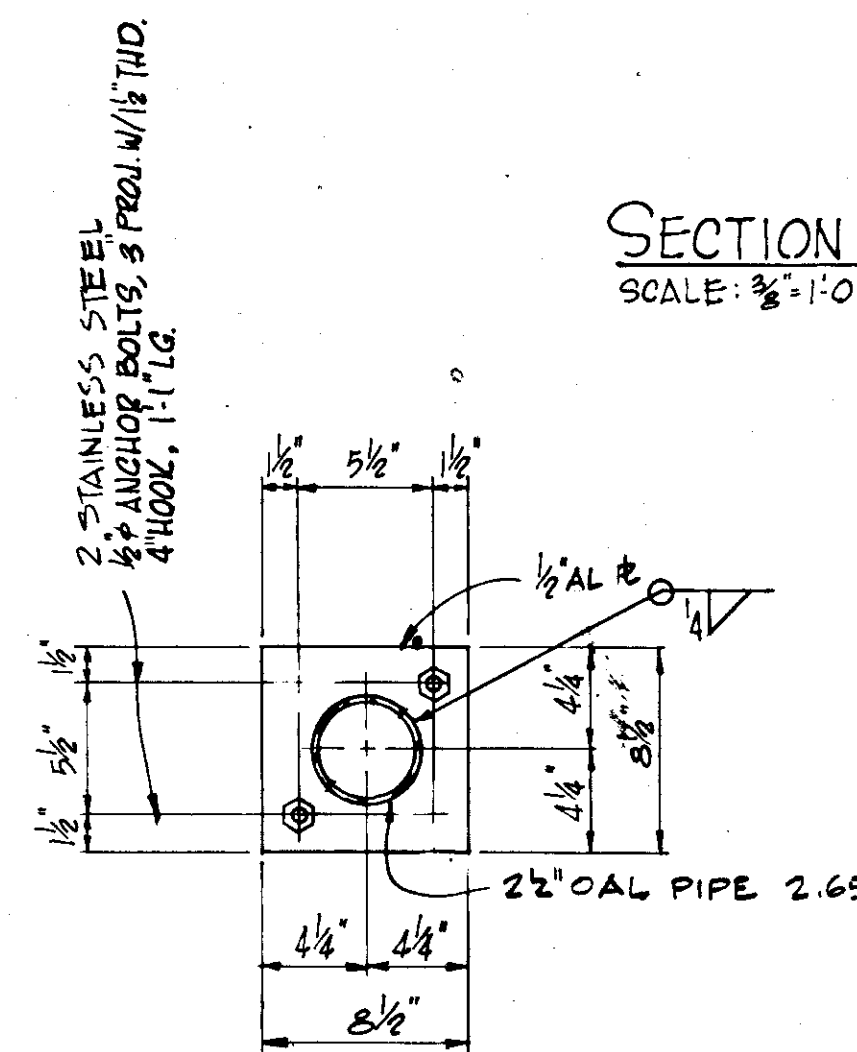
SECTION

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



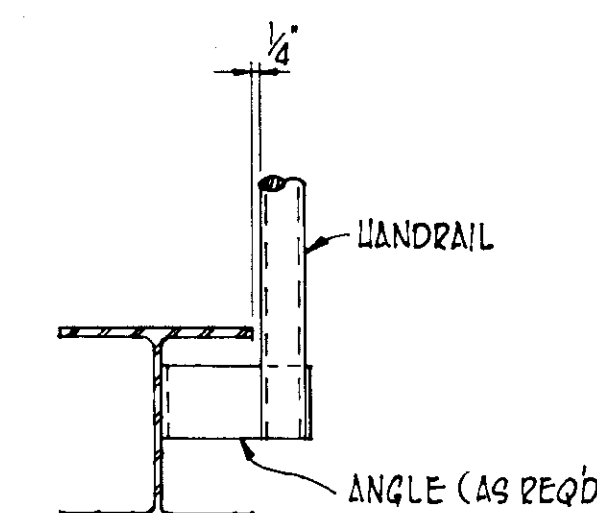
SECTION

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



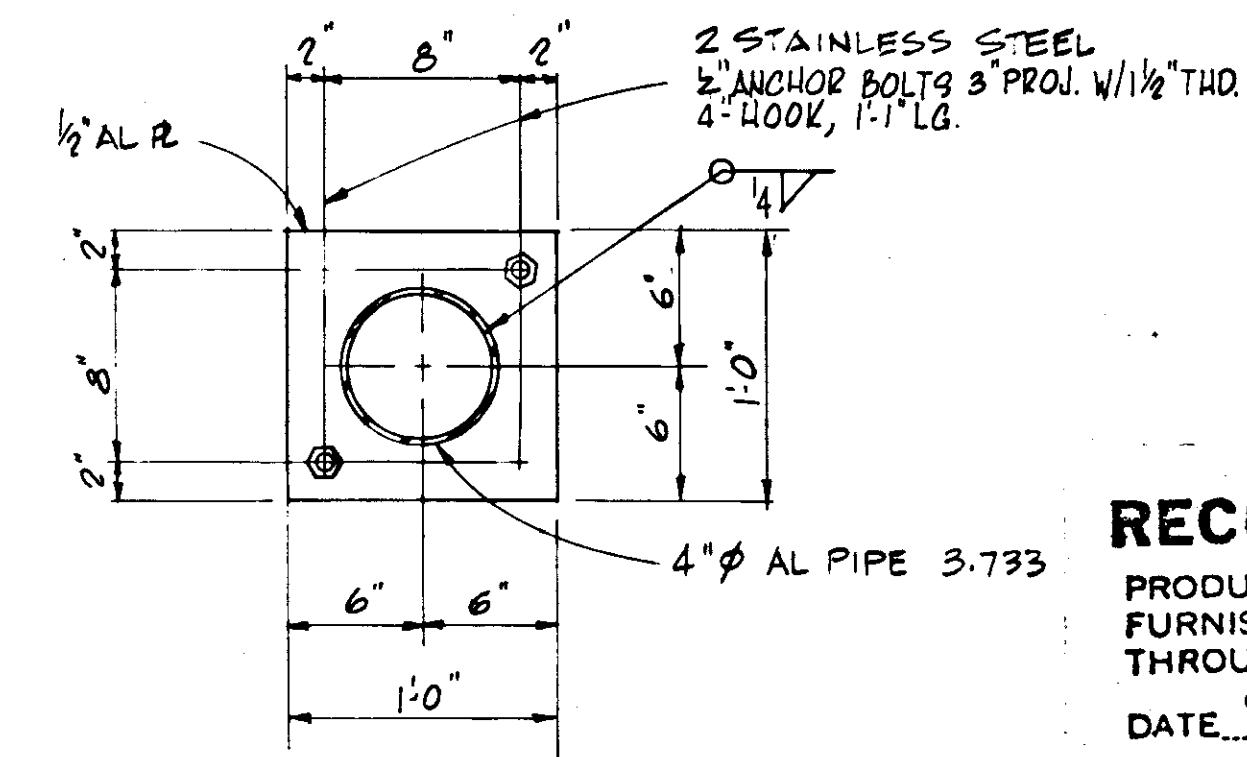
SECTION

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



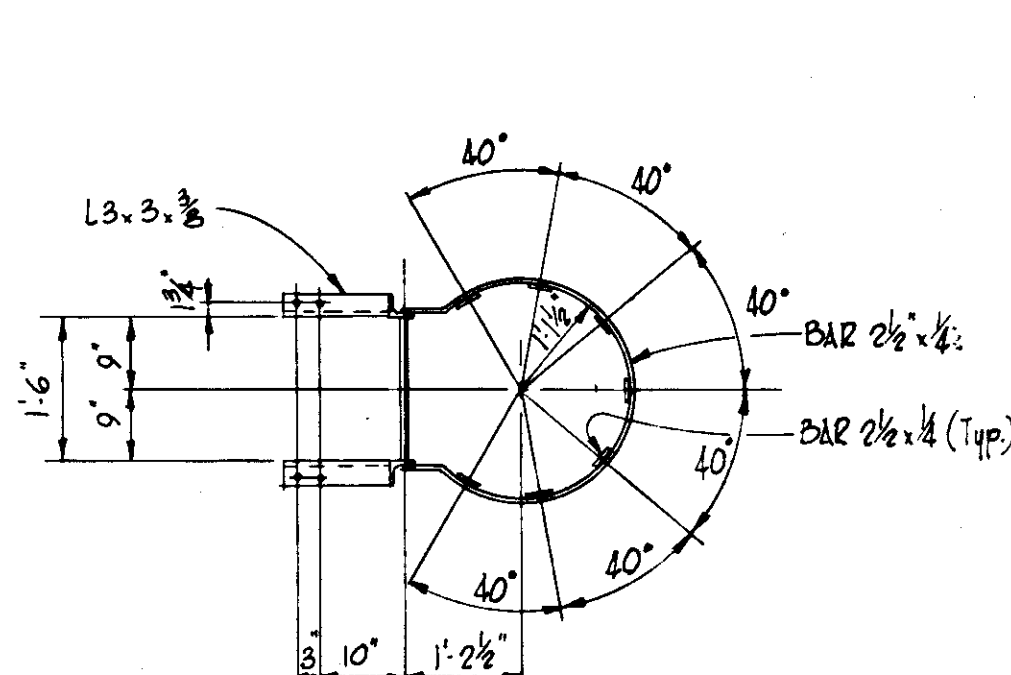
SECTION

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



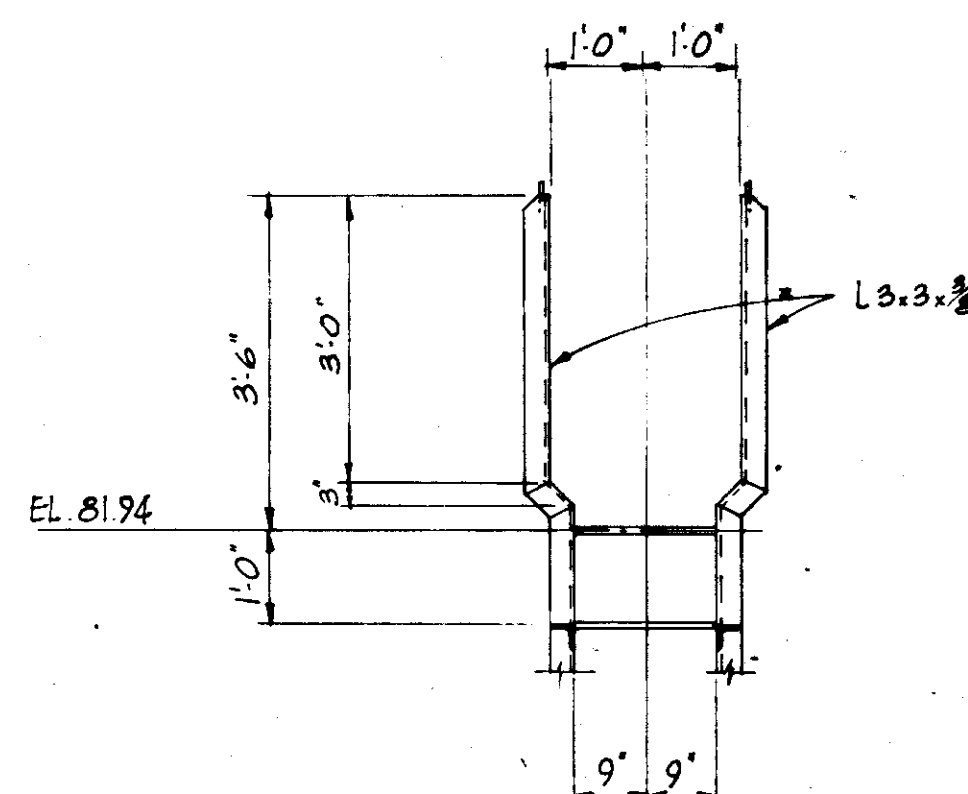
SECTION

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



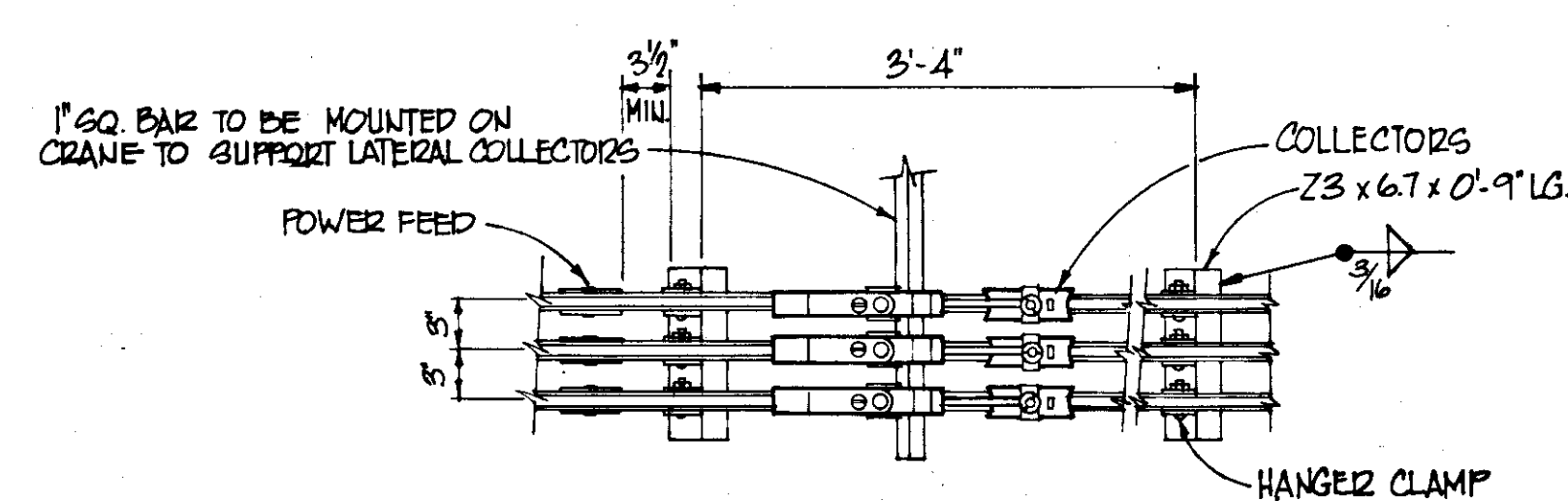
SECTION

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



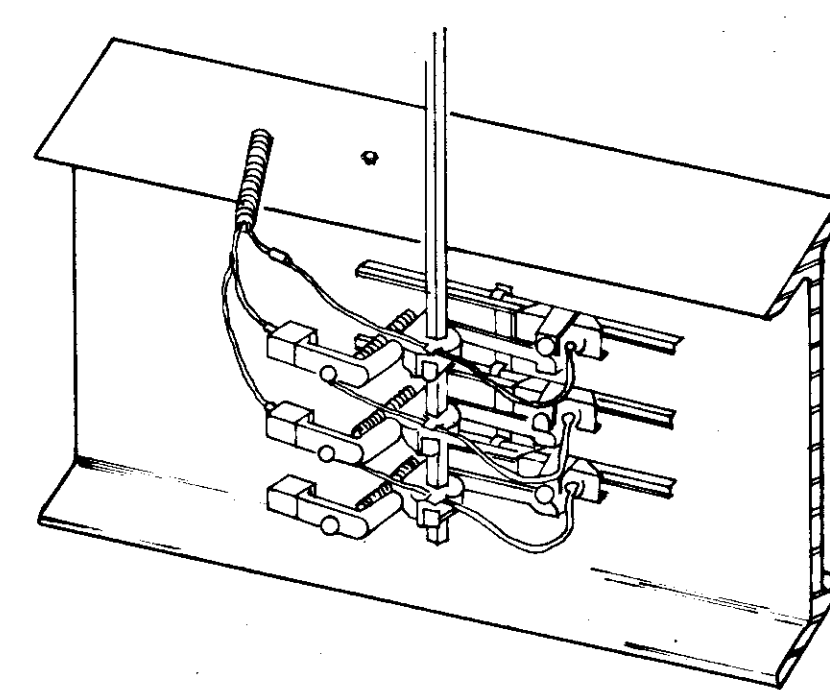
SECTION

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



CRANE POWER DISTRIBUTION SYSTEM

N.T.S.



CRANE POWER COLLECTOR SYSTEM

N.T.S.

NOTE:
SEE DWG No. 43 FOR TYP. DETAILS

RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.

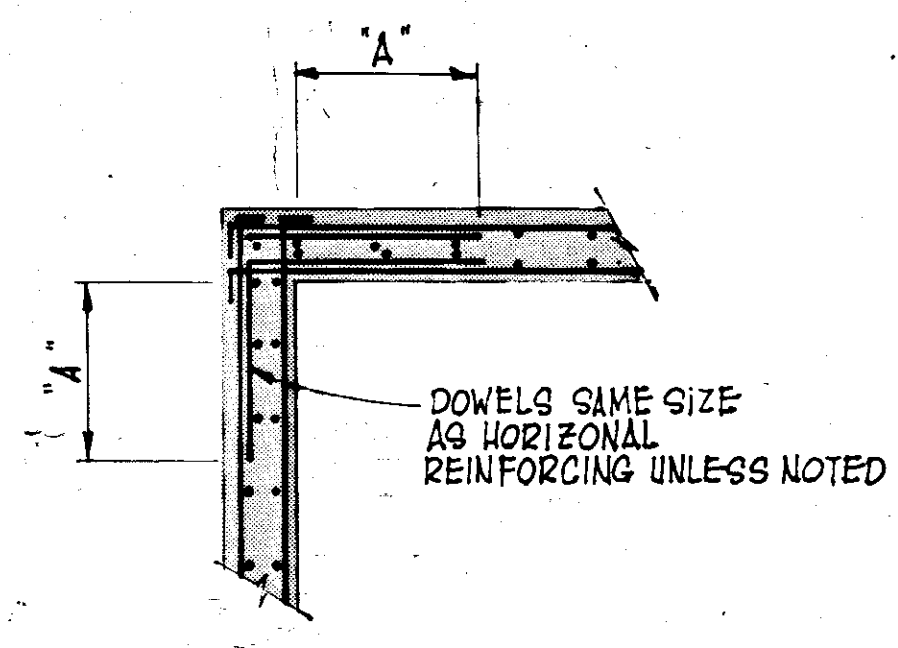
DATE 9/13/78 BY K.R.M.

CHECKED BY:

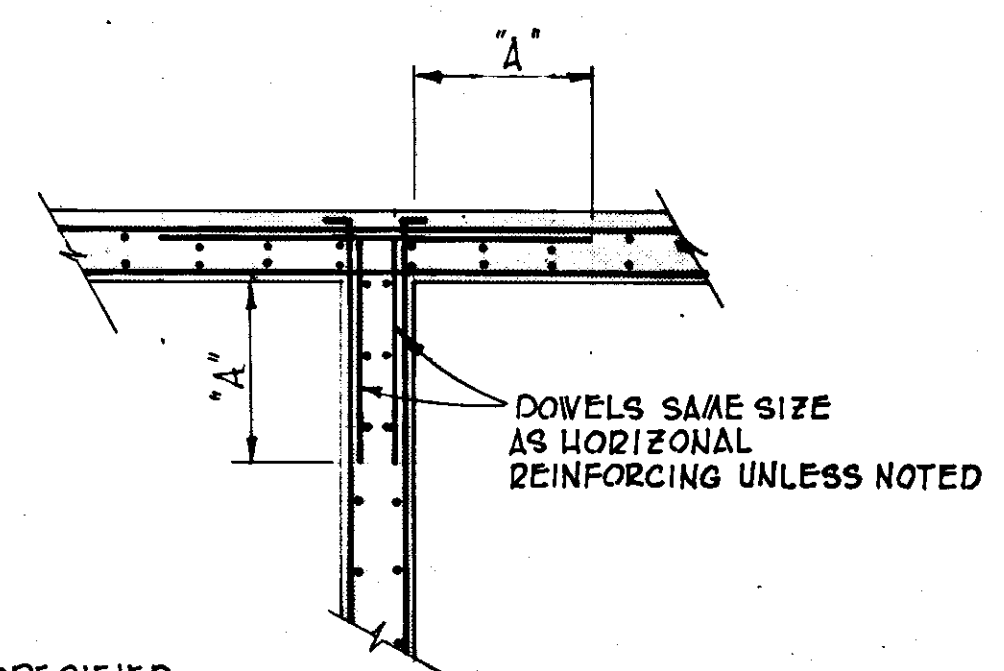
R & A

M.C.U.S.

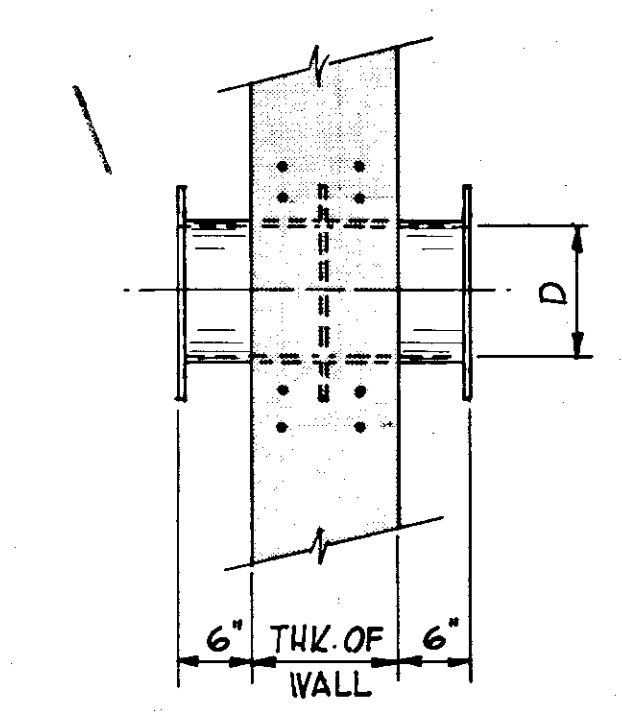
NO.	DATE	GEN REV	DESCRIPTION	WRW	WDH
1	5/79	GEN REV			
REVISIONS					
RUSSELL & AXON					
Engineers — Planners — Architects					
WATER WORKS PROJECT					
FILTER BUILDING					
SECTIONS & DETAILS					
MANATEE COUNTY, FLORIDA					
DESIGNED BY	FILE NO.	T-43 FLORIDA SEAL			
M.B.	630-761-04				
DRAWN BY	SHEET S9				
EL	42				
CHECKED BY	OF 130 SHEETS				
DATE	SCALE: AS NOTED				
AUGUST, 1978					



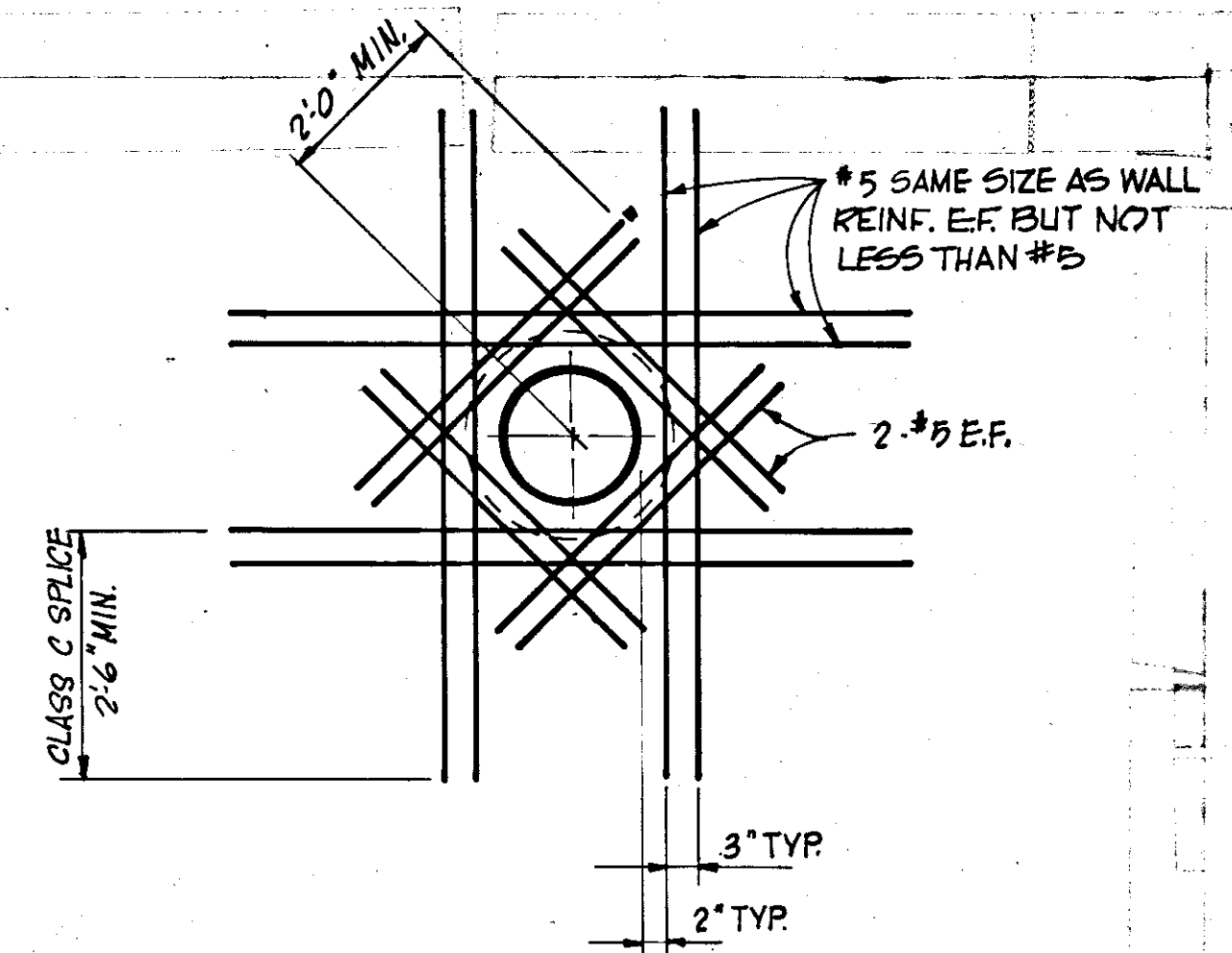
TYP. DETAIL AT CORNER OF WALL
SCALE: $\frac{3}{8}$ " = 1'-0"



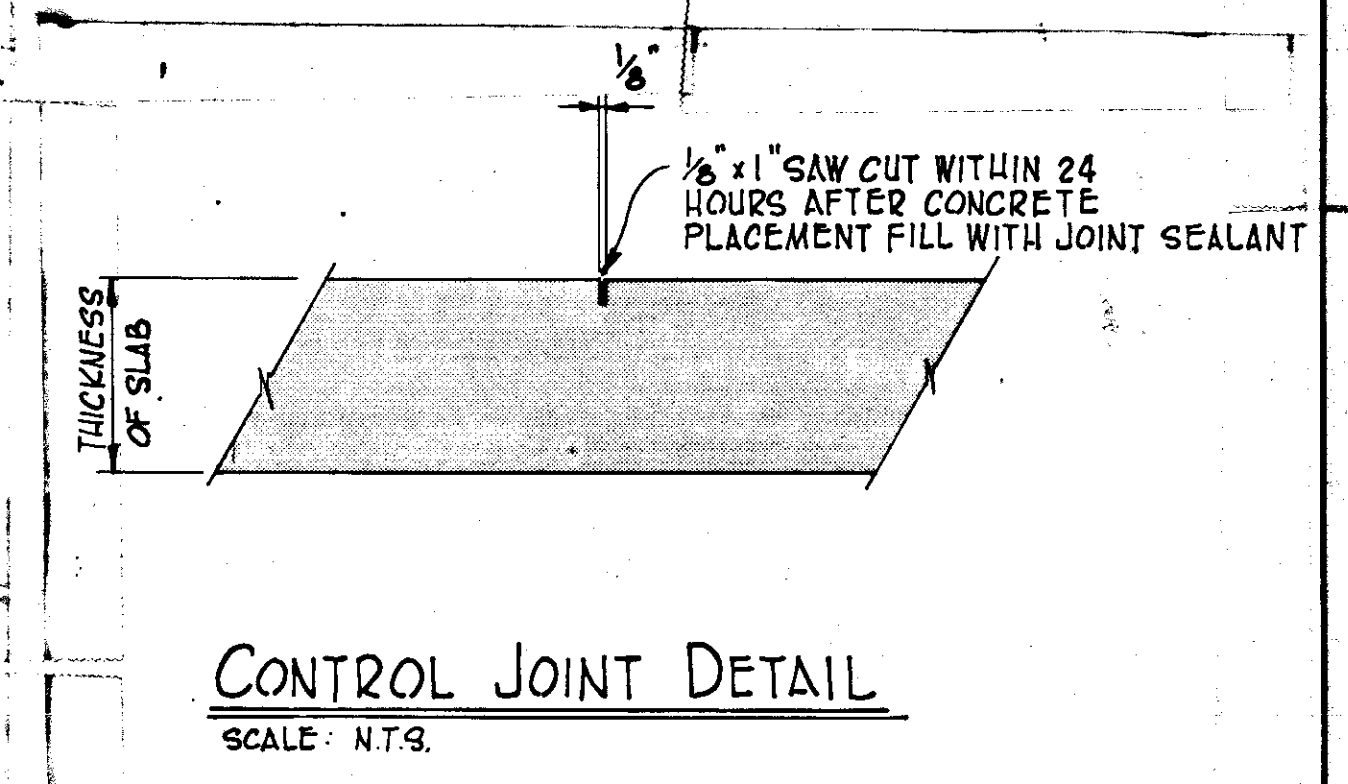
TYP. DETAIL AT WALL INTERSECTION
SCALE: $\frac{3}{8}$ " = 1'-0"



TYP. WALL PIPE DETAIL
SCALE: N.T.S.

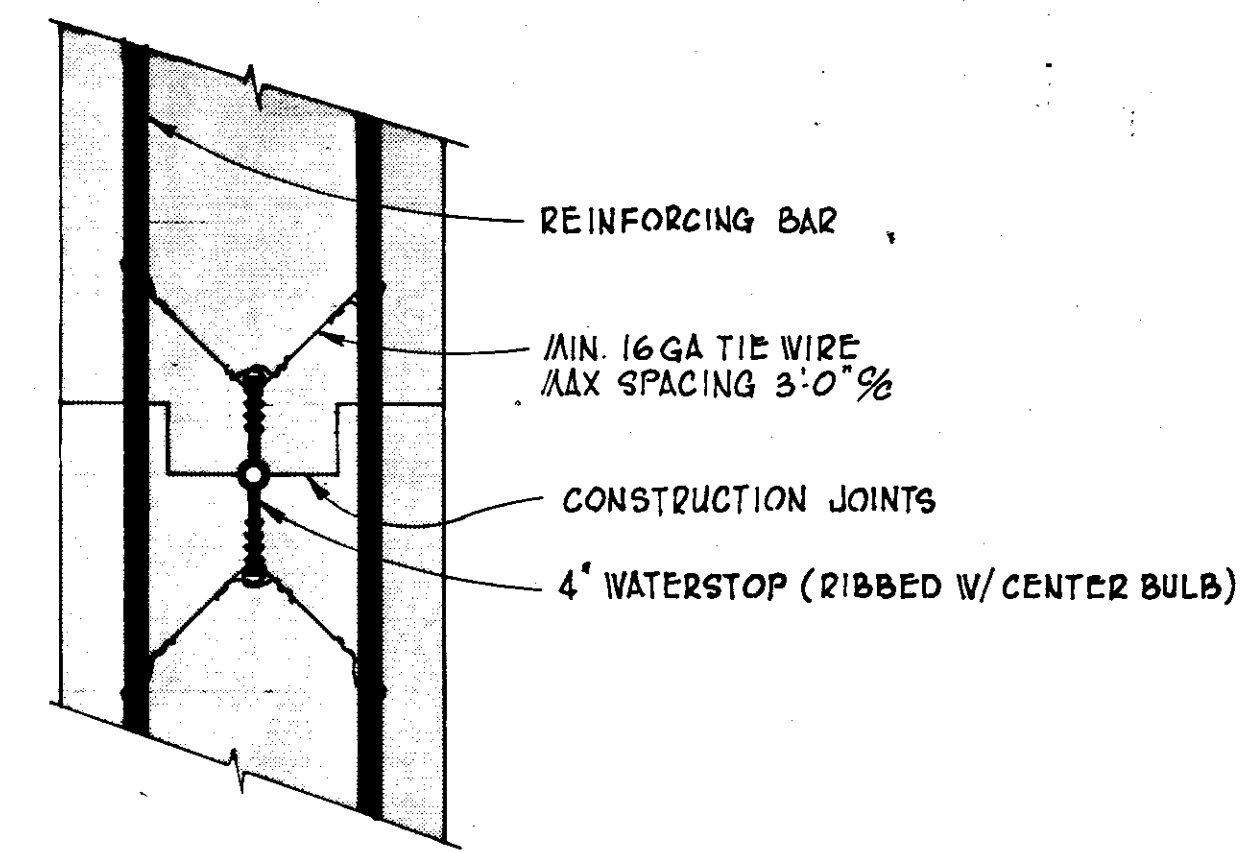


TYP. REINFORCEMENT AT OPENING
SCALE: N.T.S.

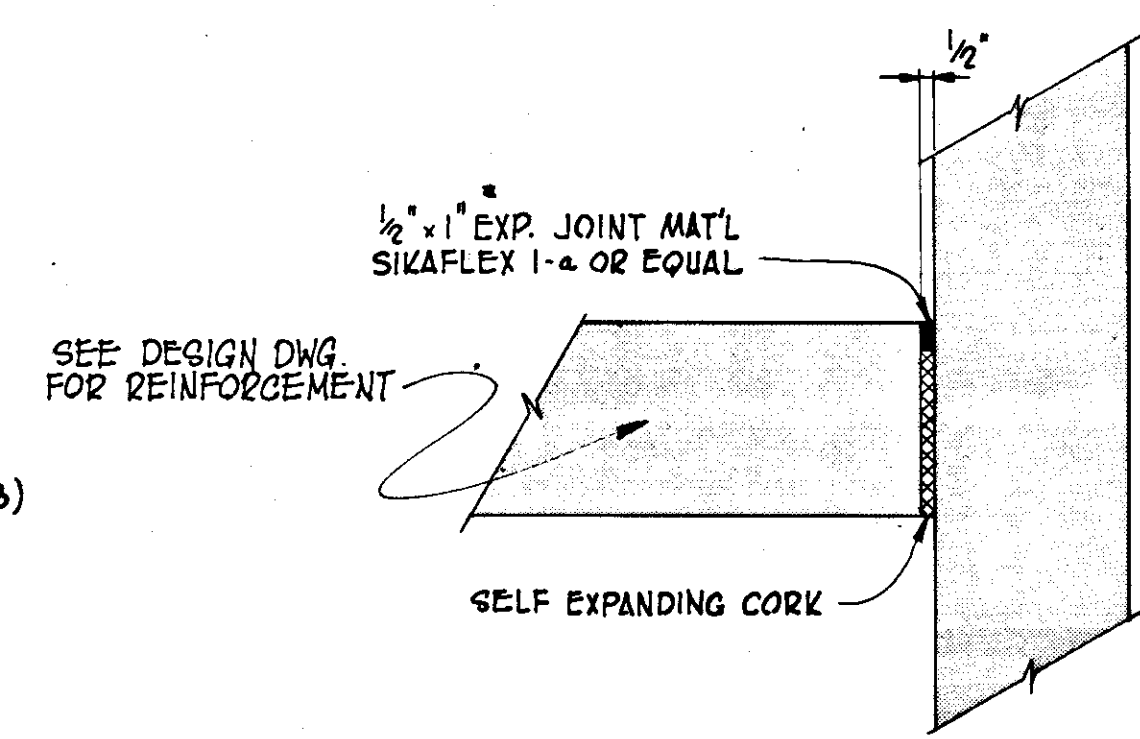


CONTROL JOINT DETAIL
SCALE: N.T.S.

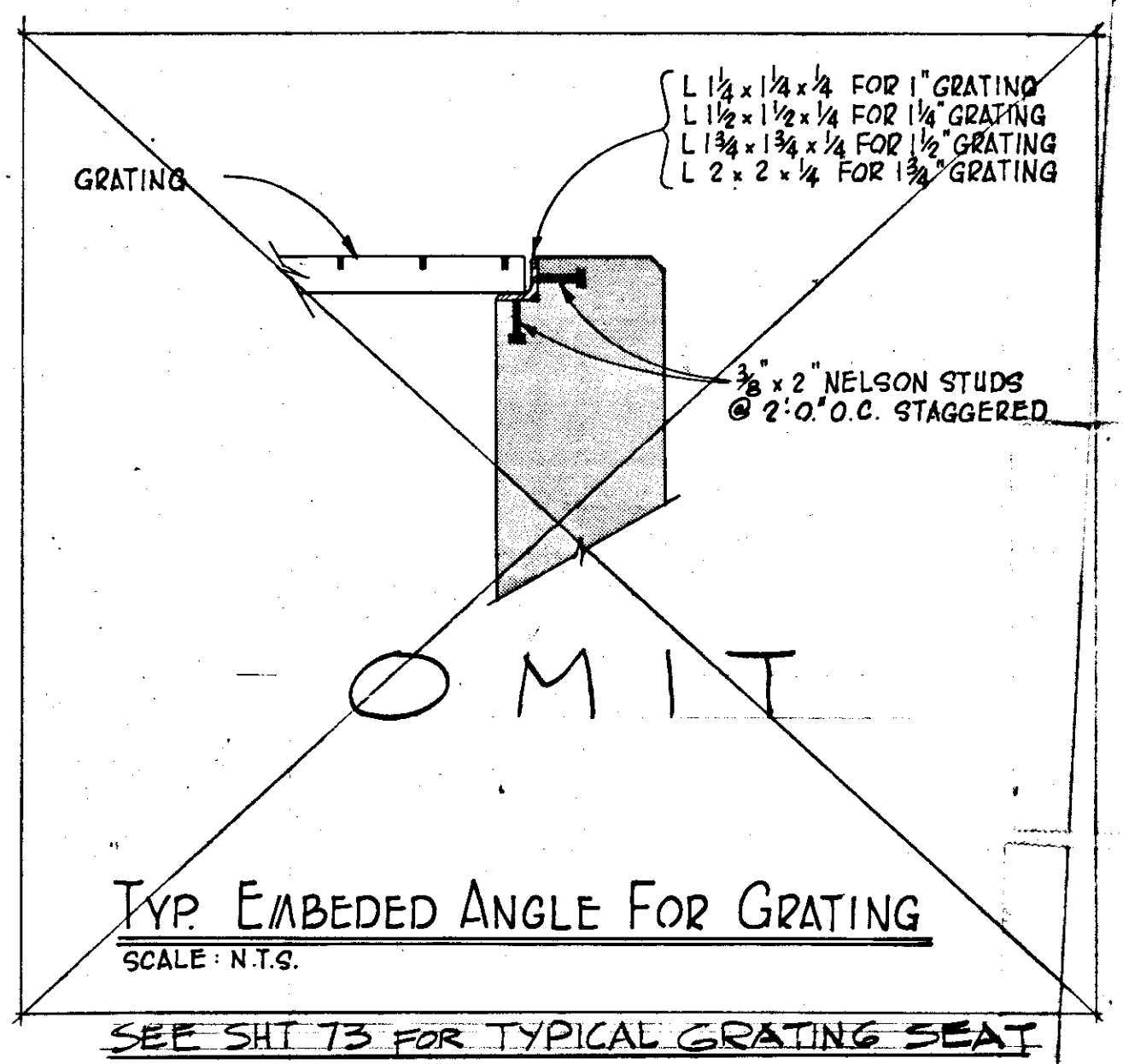
- NOTES:
1. EXTRA REINFORCEMENT SHALL BE PROVIDED IN EACH PENETRATED REINFORCED FACE, FOR ALL OPENINGS 1'-6" AND LARGER, AS SHOWN. PLACED INSIDE OF, AND TIES TO THE PRINCIPAL BARS SPACED AS CLOSE AS CODE SPACING FOR THE SELECTED SIZE WILL PERMIT, U.N..
 2. FOR SMALLER OPENINGS, PROVIDE TWO #4 BARS 4'-10" LONGER THAN OPENING ON EACH SIDE OF OPENING, U.N..



TYP. WATERSTOP DETAIL
SCALE: 3" = 1'-0"



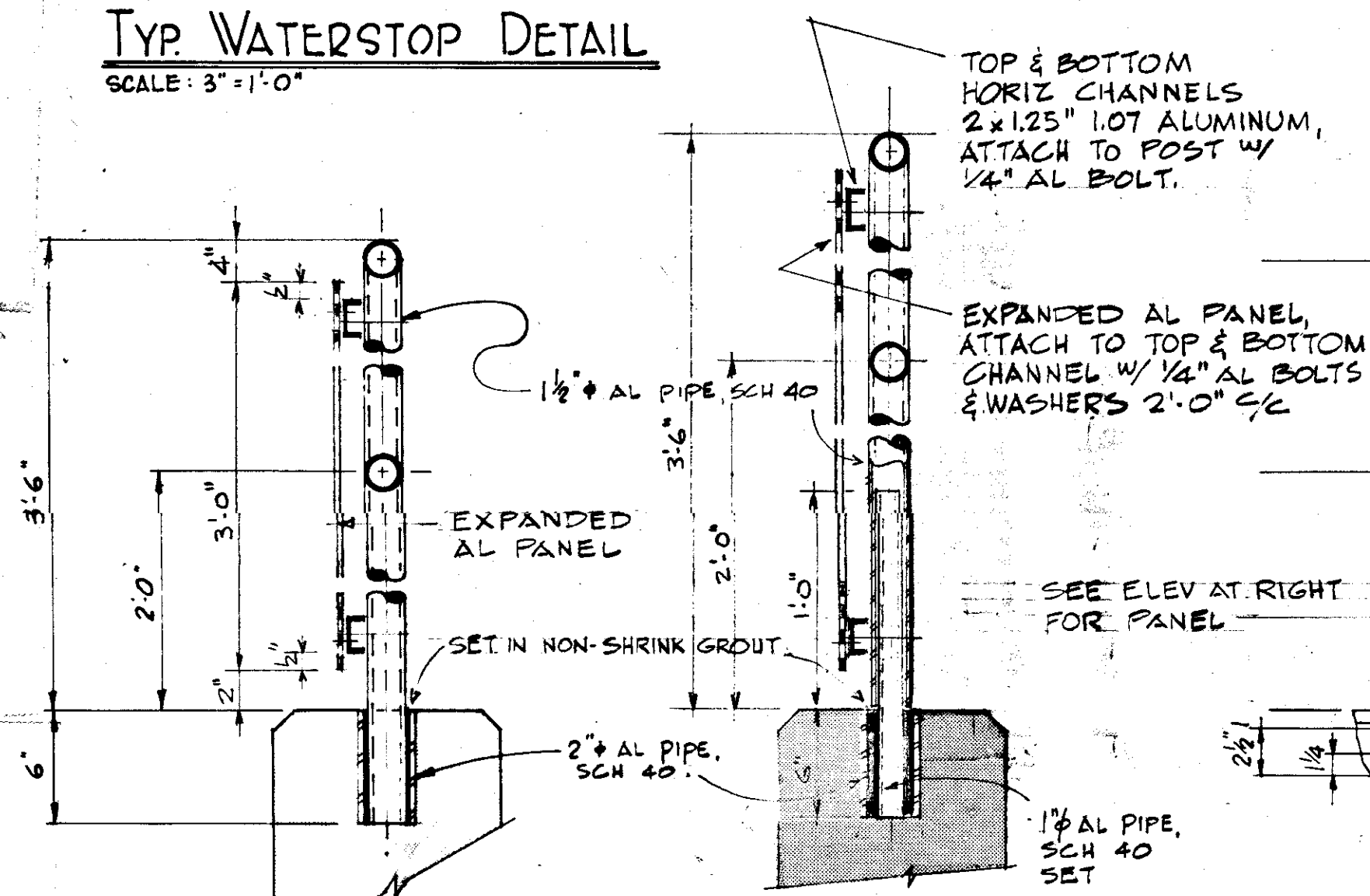
TYP. EXPANSION JOINT DETAIL
SCALE: 1 1/2" = 1'-0"



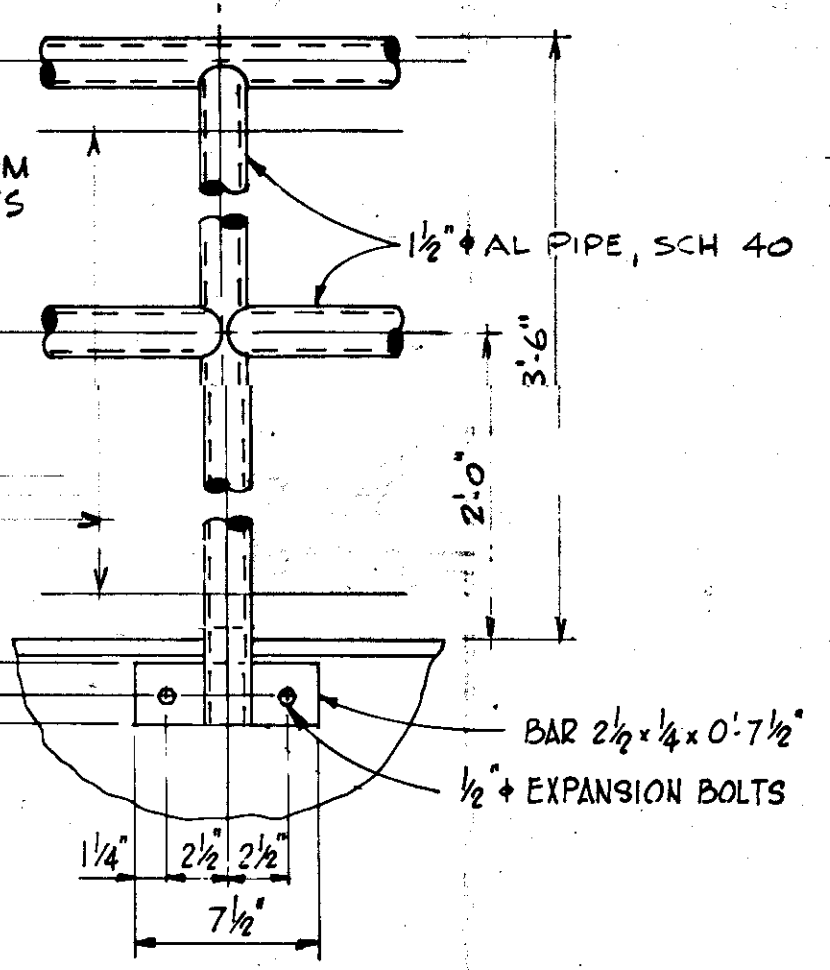
TYP. EMBEDDED ANGLE FOR GRATING
SCALE: N.T.S.

GENERAL CONCRETE NOTES:

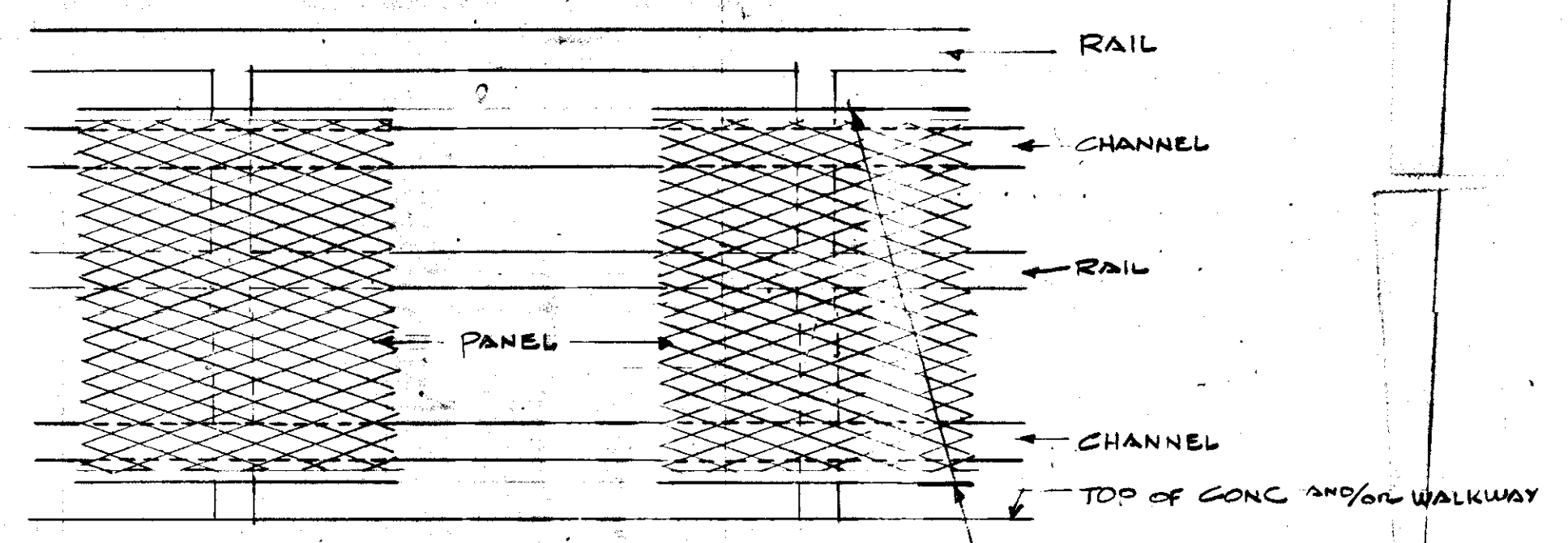
1. STRUCTURAL DRAWINGS SHALL BE WORKED WITH ARCHITECTURAL, MECHANICAL, & ELECTRICAL DRAWINGS TO LOCATE THICK'D SLABS, SLOPES, DRAINS, REGLETS, BOLT SETTINGS, PIPES, ETC. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF ENGINEER BEFORE PROCEEDING WITH THE WORK.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD.
3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS UNLESS OTHERWISE NOTED.
4. ALL REINFORCING STEEL SHALL BE DEFORMED BARS, NEW BILLET STOCK, A.S.T.M. A-615-76, GRADE 60 UNLESS OTHERWISE NOTED.
5. ALL SPLICES SHALL BE ACI 318-77 CLASS C UNLESS OTHERWISE NOTED.
6. PROVIDE DOWELS IN BEAMS AND WALL OF THE SAME SIZE AS VERTICAL WALL REINFORCEMENT, BOTTOM OF DOWELS SHALL HAVE A STANDARD 90 DEGREE ACI HOOK, UNLESS NOTED.
7. BEAM BARS ARE CONTINUOUS UNLESS OTHERWISE NOTED. WHERE NECESSARY, TOP BEAM BARS SHALL BE SPLICED AT CENTER OF SPAN & BOTTOM BARS SHALL BE SPLICED 12" OVER CENTER LINE OF SUPPORT.
8. AT DISCONTINUOUS ENDS OF BEAMS & SLABS, TOP BAR SHALL TERMINATE IN STANDARD 90 DEGREE ACI HOOK, UNLESS OTHERWISE NOTED.
9. CONTRACTOR SHALL VERIFY ALL PIPE SIZES & LOCATIONS.
10. PROVIDE TWO #5 BARS 4'-0" LONGER THAN OPENINGS ON EACH SIDE OF OPENINGS IN CONCRETE. WALLS & SLABS NOT FRAMED BY BEAMS UNLESS OTHERWISE NOTED.
11. CONTRACTOR SHALL LOCATE ALL THE CONSTRUCTION JOINTS IN SLABS & WALLS & SHALL BE APPROVED BY ENGINEER BEFORE PROCEEDING WITH THE WORK.
12. WATERSTOP SHALL BE INSTALLED AT ALL CONSTRUCTION JOINTS UNLESS OTHERWISE SPECIFIED.
13. ALL ANCHOR BOLTS SHALL CONFORM TO A.S.T.M. A307 OR A.S.T.M. A36.
14. THE MINIMUM COVER FOR PLACING REINFORCEMENT FROM ANY CONCRETE SURFACE SHALL BE IN ACCORDANCE WITH SECTION 7-14 OF ACI 318-71, UNLESS NOTED.
15. ALL EXPOSED CONCRETE SHALL HAVE 3/4" CHAMFER.
16. BACKFILL SHALL NOT BE PLACED AGAINST ANY SUBSTRUCTURE WALL UNTIL FORMS HAVE BEEN STRIPPED FROM ADJACENT SLAB OR UNLESS WALLS HAVE BEEN PROPERLY BRACED.
17. DEVELOPMENT OF REINFORCEMENT SHALL BE IN ACCORDANCE WITH CHAPTER 12 OF THE ACI 318-71 STANDARDS OR AS NOTED ON THE DRAWINGS.
18. WHERE COLUMNS ARE AN INTEGRAL PART OF CONC WALLS, HORIZONTAL WALL REINFORCEMENT SHALL BE CONTINUOUS THROUGH COLUMNS.
19. SLAB ON GRADE SHALL HAVE A MINIMUM OF 4" CRUSHED STONE UNLESS OTHERWISE NOTED.
20. AT ALL CONSTRUCTION JOINTS, THE SURFACE OF THE CONCRETE SHALL BE ROUGHENED FOR BOND.



TYP. REMOVABLE HANDRAIL DETAIL
SCALE: 1 1/2" = 1'-0"



TYP. SIDE-MOUNTED HANDRAIL DETAIL
SCALE: 1 1/2" = 1'-0"



TYP. ELEVATION OF RAIL PANEL
ALSO SEE SHEET 42 & 59.

3/4" 125 F. FLATTENED EXPANDED ALUMINUM RAIL PANEL 3'-0" WIDE x 8'-0" LONG, BOND SHEARED.
AT STAIR RAILS PANEL SHALL HAVE CUT EDGE DOWN (1/8" WIDE)

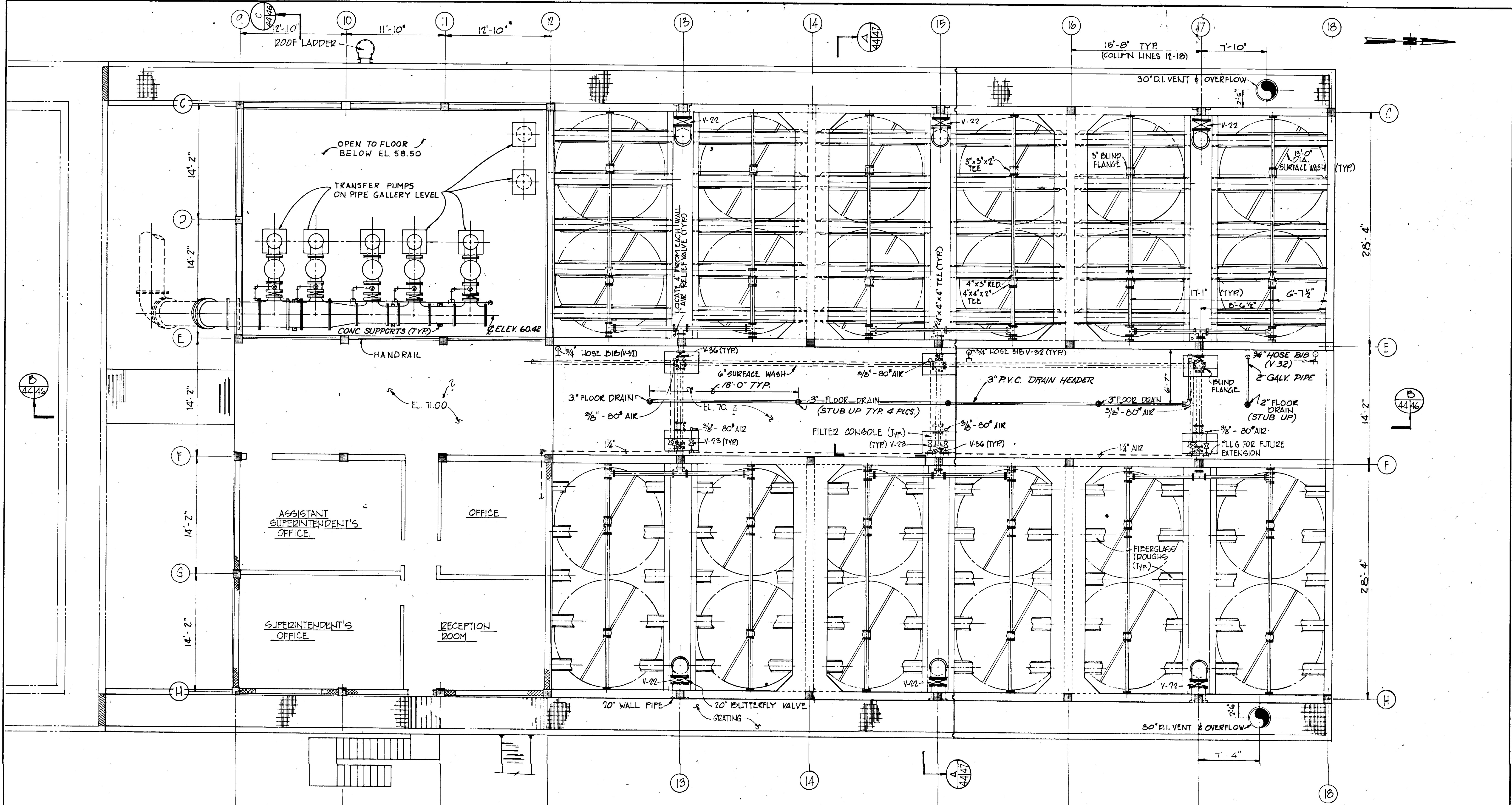
TYP. HANDRAIL DETAIL
SCALE: 1 1/2" = 1'-0"

NOTES
OMIT RAIL PANEL ADJACENT TO INSECT SCREENS AT FILTER BLDG.
RAIL PANELS ARE NOT TO APPLY TO EXISTING RAILINGS.

RECORD DRAWING

PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.
DATE: 8/3/78 BY: R&A
CHECKED BY: M.C.U.S.

5/79	GEN REV	WRW	WPH
NO.	DATE	DESCRIPTION	BY
REVISIONS			
RUSSELL & AXON			
Engineers — Planners — Architects			
WATER WORKS PROJECT			
FILTER BUILDING			
TYPICAL DETAILS			
MANATEE COUNTY, FLORIDA			
DESIGNED BY	FILE NO.	T-44 FLORIDA SEAL	
DRAWN BY	630-761-04		
CHECKED BY	SHEET S10	No. 43 SHEETS	
DATE	OF 130		
AUGUST, 1978	SCALE: AS NOTED		

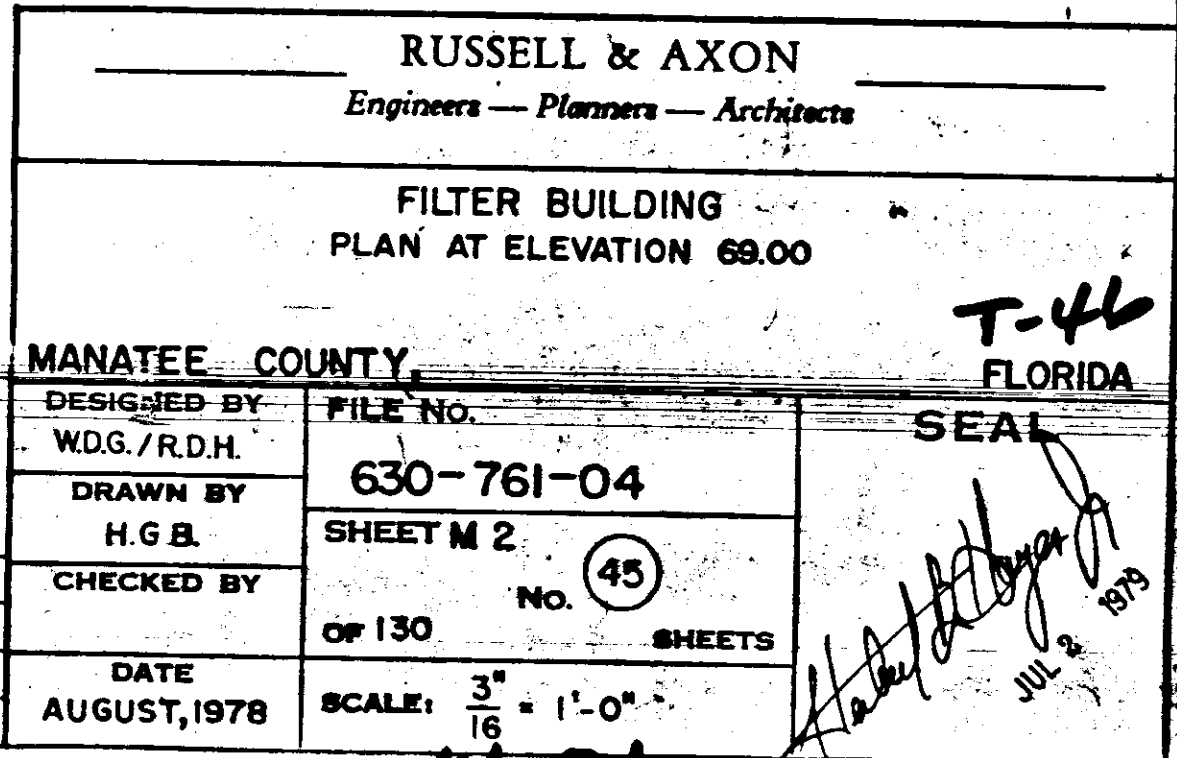


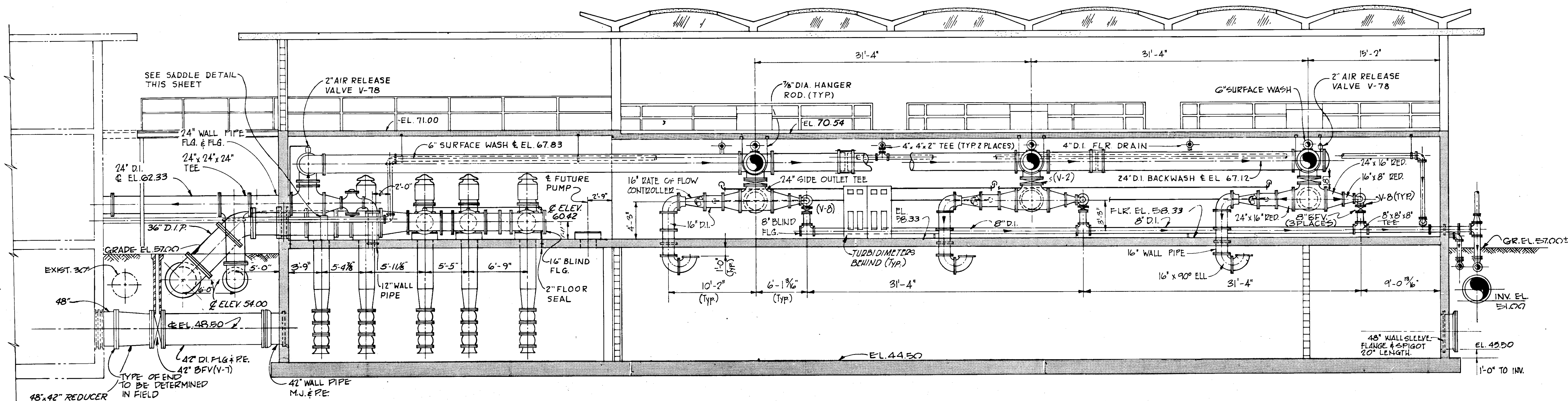
PLAN @ EL. 71.50
SCALE 3/16" = 1'-0"

RECORD DRAWING
PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE 8/31/82 BY *[Signature]*
CHECKED BY *[Signature]*
R & A
M.C.U.S.

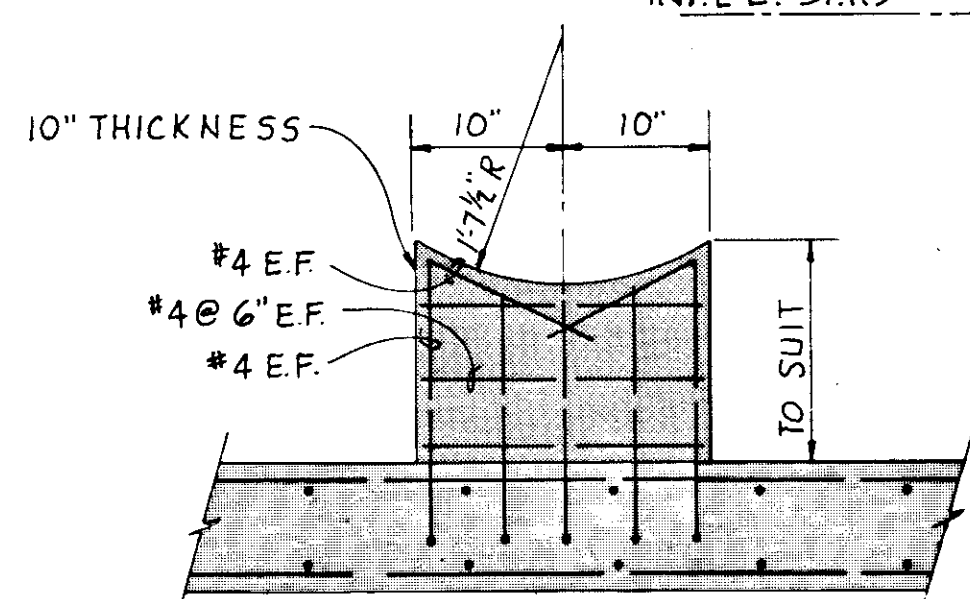
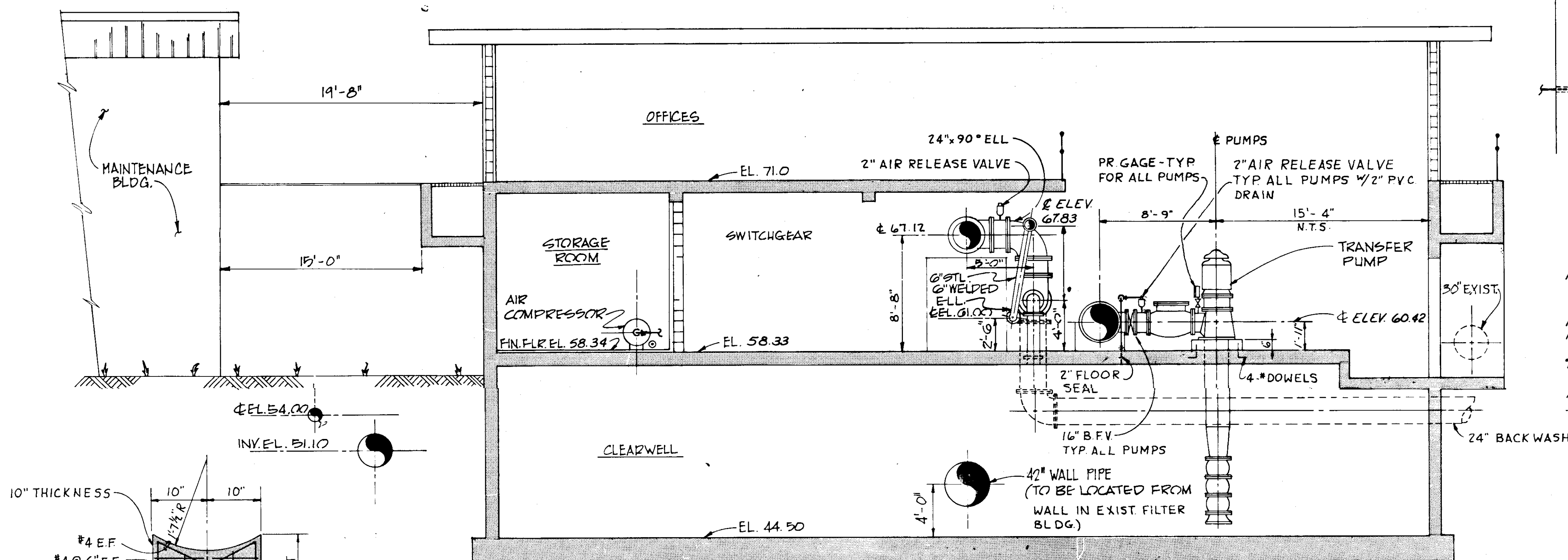
NOTE:
1. ALL DIMENSIONS ± 1/8" UNLESS
OTHERWISE SPECIFIED.
2. FOR VALVE SCHEDULE, SEE SHT. 07
3. FOR PUMP SCHEDULE, SEE SHT. 17

5/79	REV PUMP LOC'NS	AL	
NO.	DATE	DESCRIPTION	BY
REVISIONS			
RUSSELL & AXON			
Engineers — Planners — Architects			
WATER WORKS PROJECT			
FITER BUILDING			
PLAN AT ELEVATION 71.50			
MANATEE COUNTY, FLORIDA			
DESIGNED BY B.E.D.	FILE NO. 630-761-04	SEAL	
DRAWN BY H.G.B.	SHEET M-1		
CHECKED BY	No. 44	SHEETS	
DATE AUGUST, 1978	SCALE: 3/16" = 1'-0"		





SECTION
SCALE 3/16" = 1'-0"

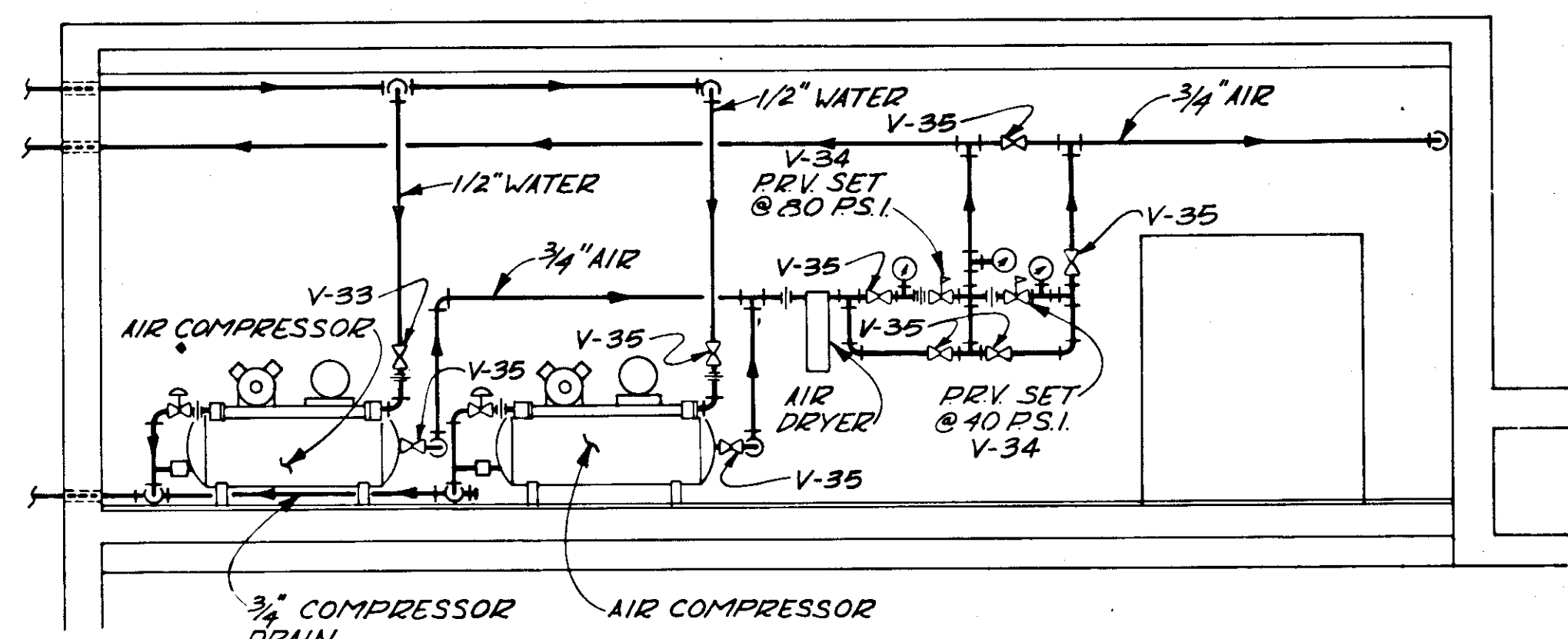


CONCRETE SADDLE DETAIL
NOT TO SCALE

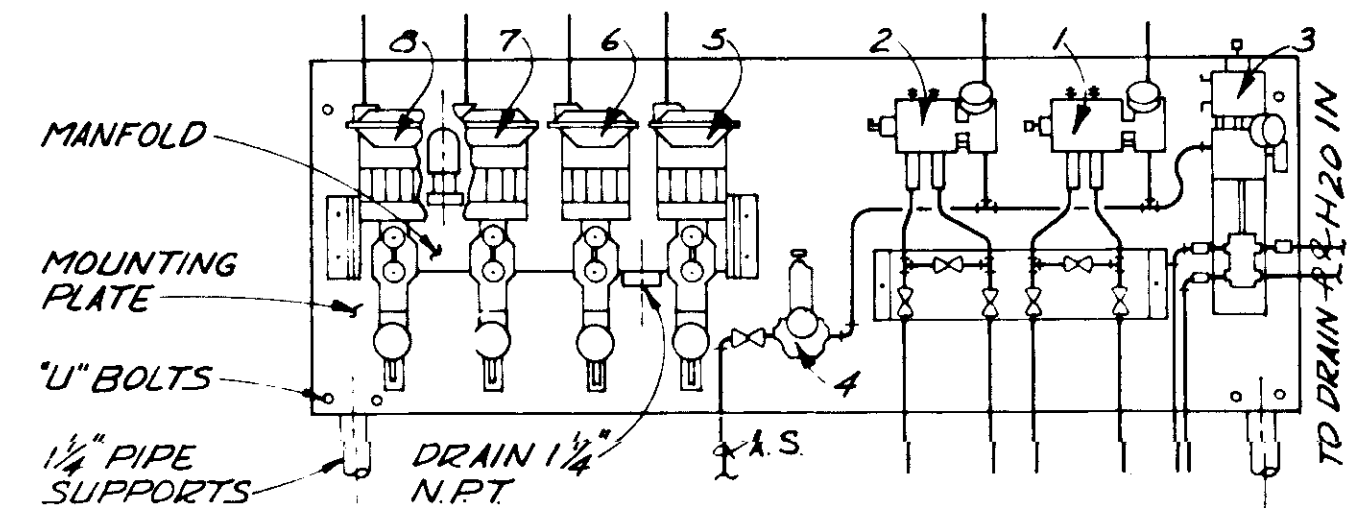
NOTE:
ALL DIMENSIONS ± 1/8" UNLESS
OTHERWISE SPECIFIED.

SECTION
SCALE 3/16" = 1'-0"

RECORD DRAWING
PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE 1/20/82 BY [Signature]
CHECKED BY:
R & A [Signature]
M.C.U.S.

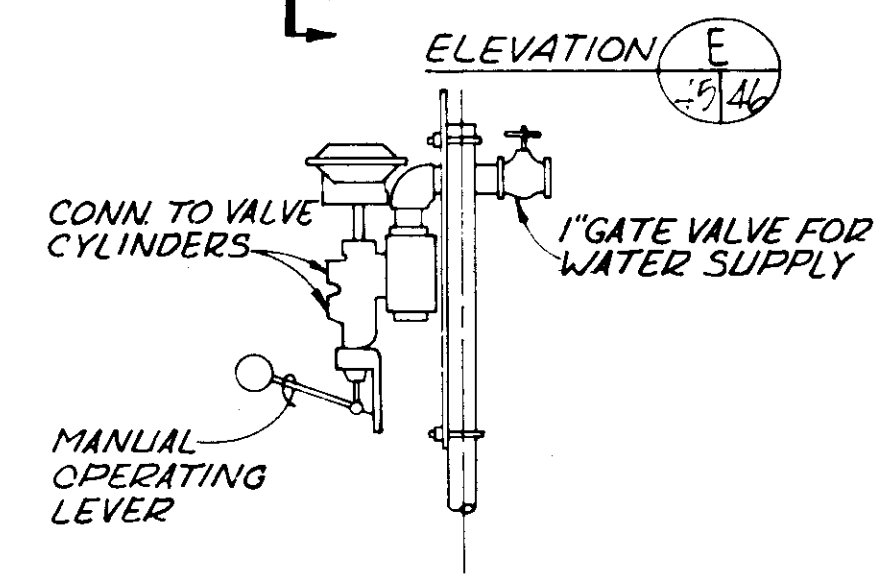


SECTION
SCALE 1/4" = 1'-0"



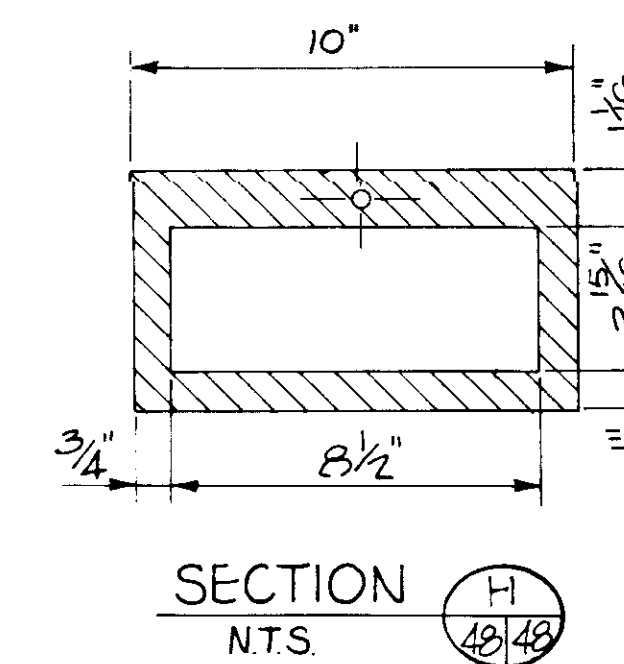
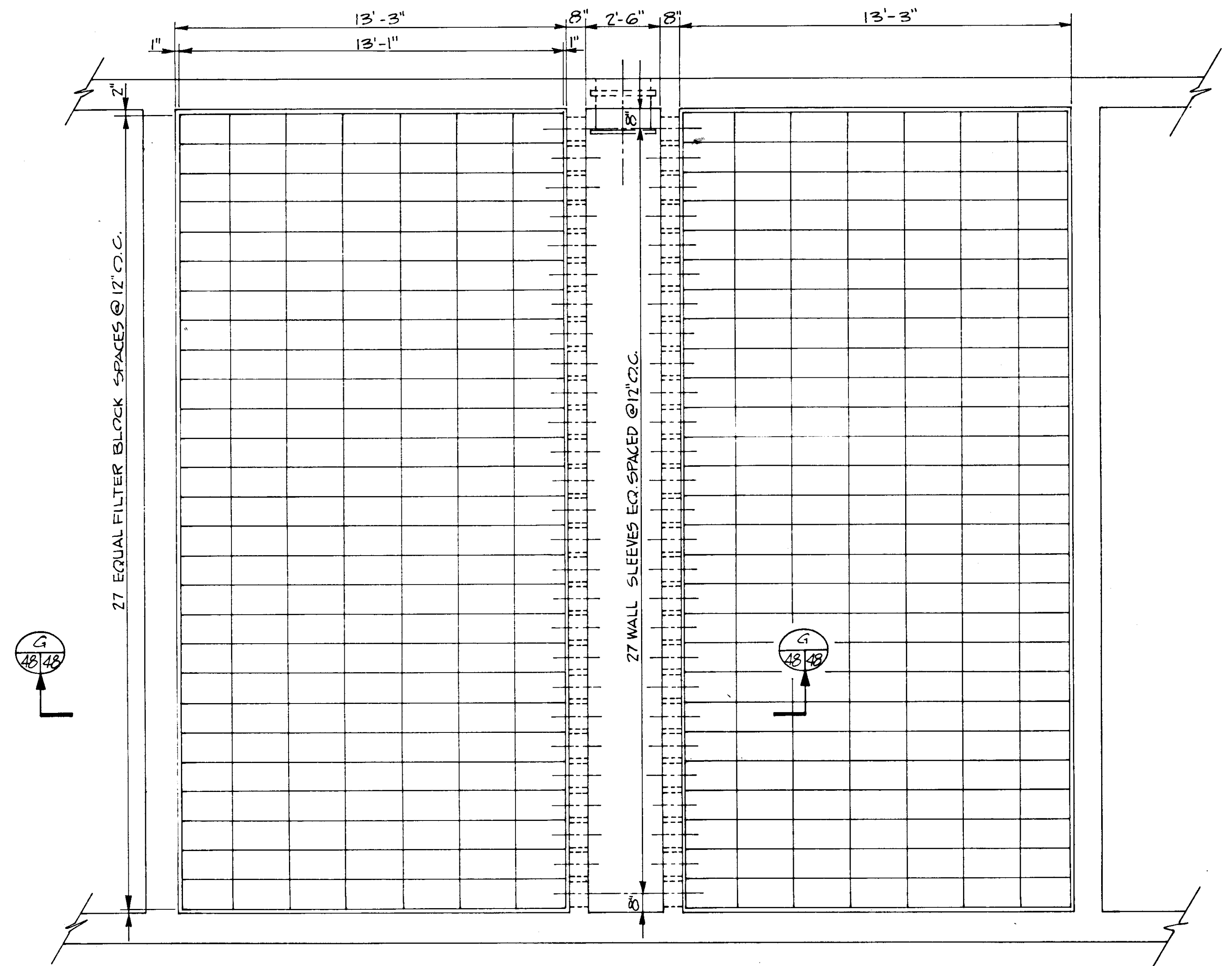
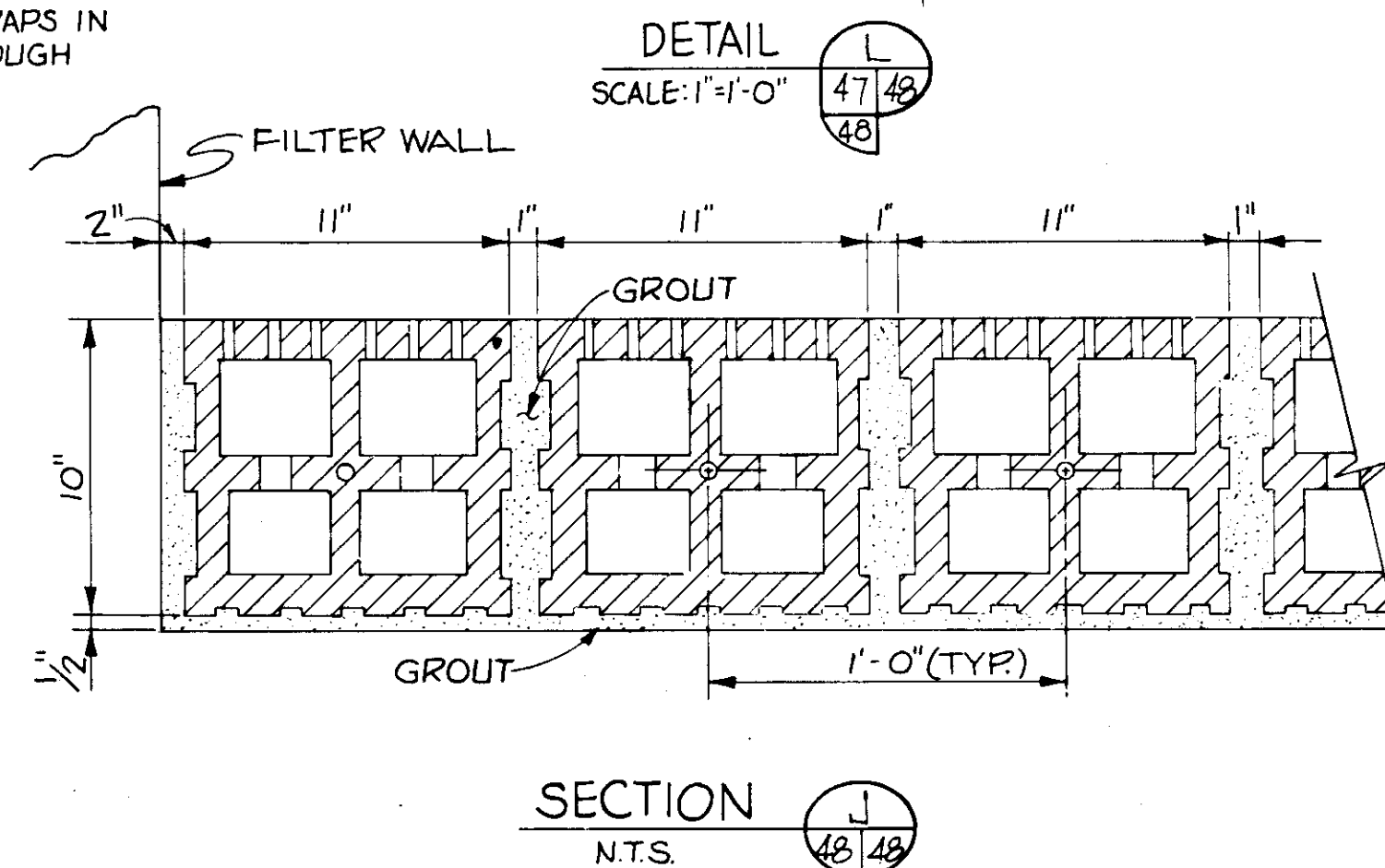
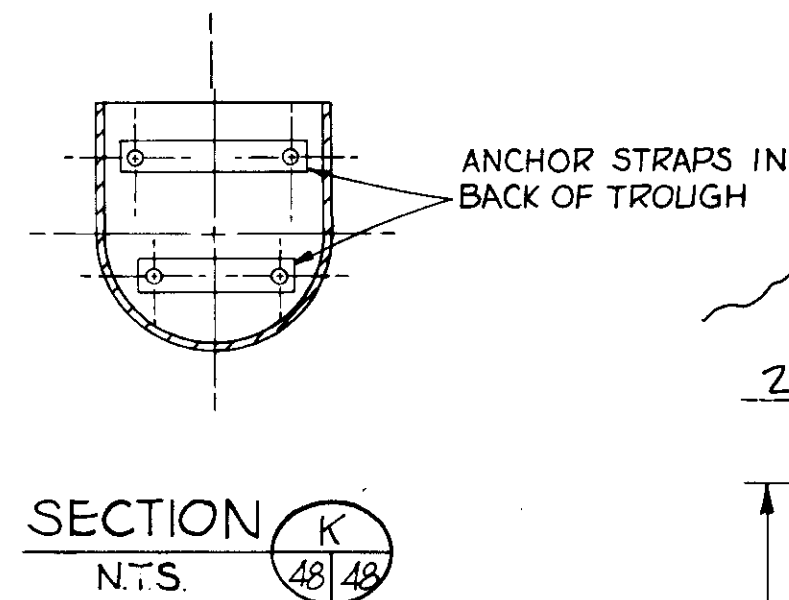
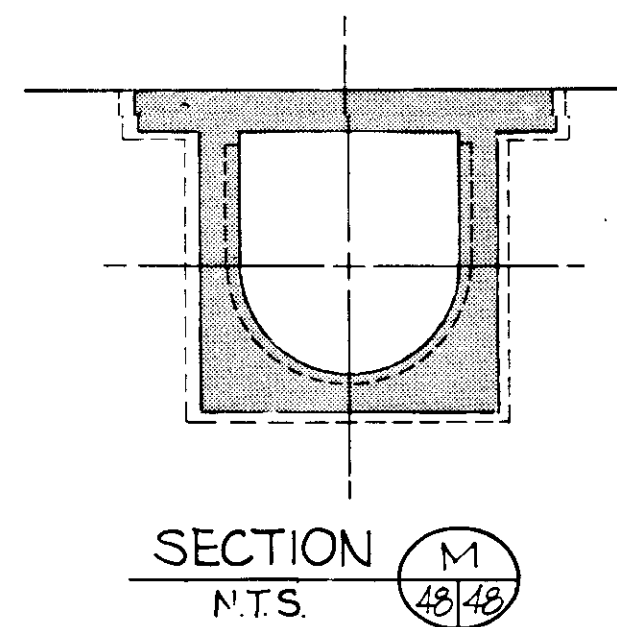
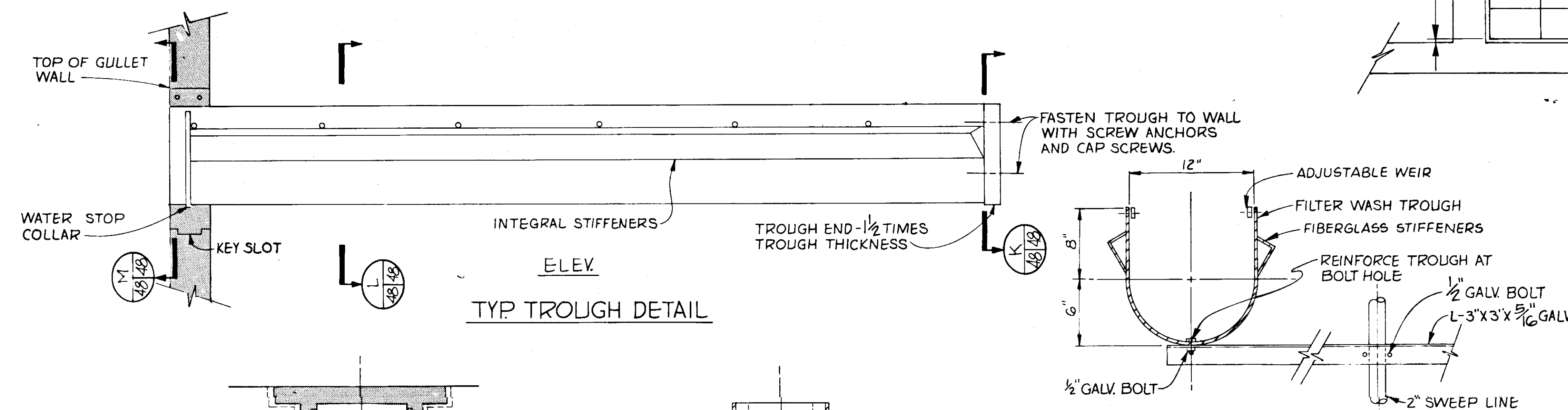
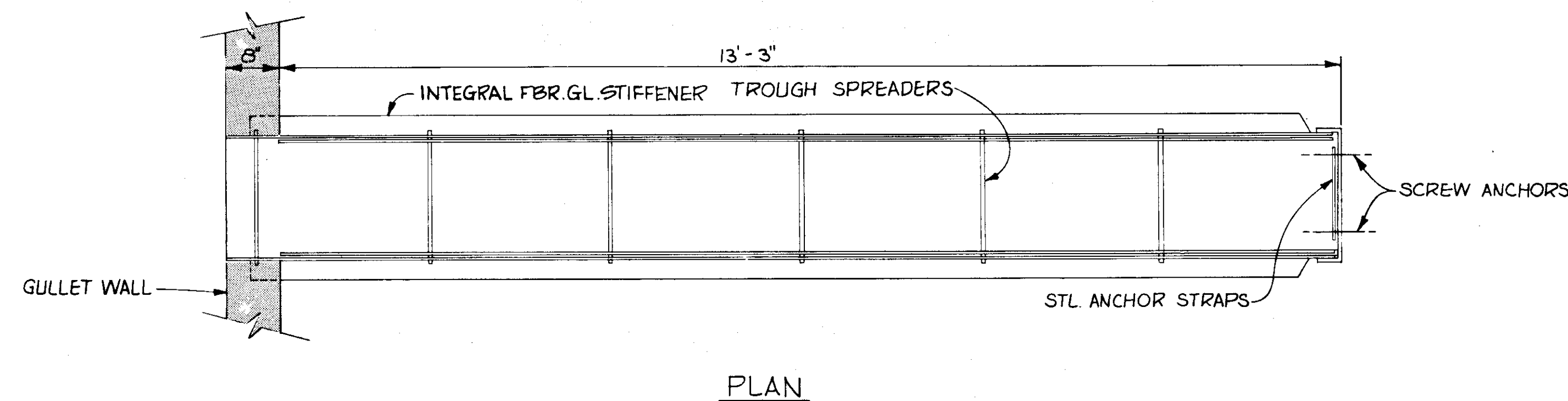
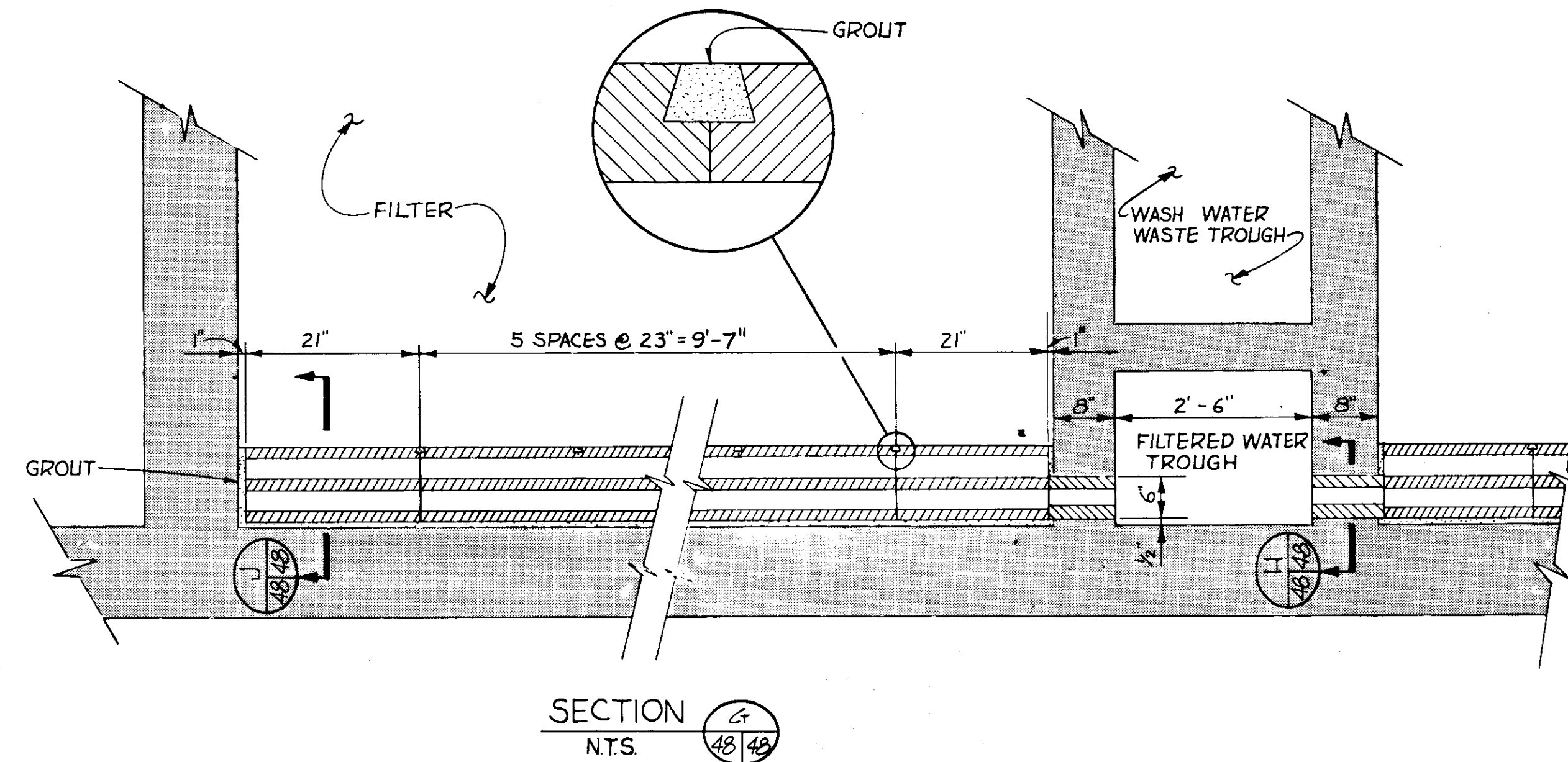
TYPICAL VALVE CONTROL PANEL

1. LOSS OF HEAD TRANSMITTER
 2. RATE OF FLOW TRANSMITTER
 3. PILOT VALVE FOR RATE OF FLOW CONTROLLER
 4. AIR SET-PRESS. REGULATOR
 5. HYDRO-PNEUMATIC 4-WAY VALVE FOR SURFACE WASH
 6. HYDRO-PNEUMATIC 4-WAY VALVE FOR DRAIN VALVE
 7. HYDRO-PNEUMATIC 4-WAY VALVE FOR FILTER INFLUENT VALVE
 8. HYDRO-PNEUMATIC 4-WAY VALVE FOR FILTER BACKWASH VALVE
- NOTE:
INSTRUMENT MFG. SHALL BE RESPONSIBLE FOR ALL PRESSURE RED AND/OR PRESSURE REGULATING FOR PNEUMATIC CONTROL SYSTEM.



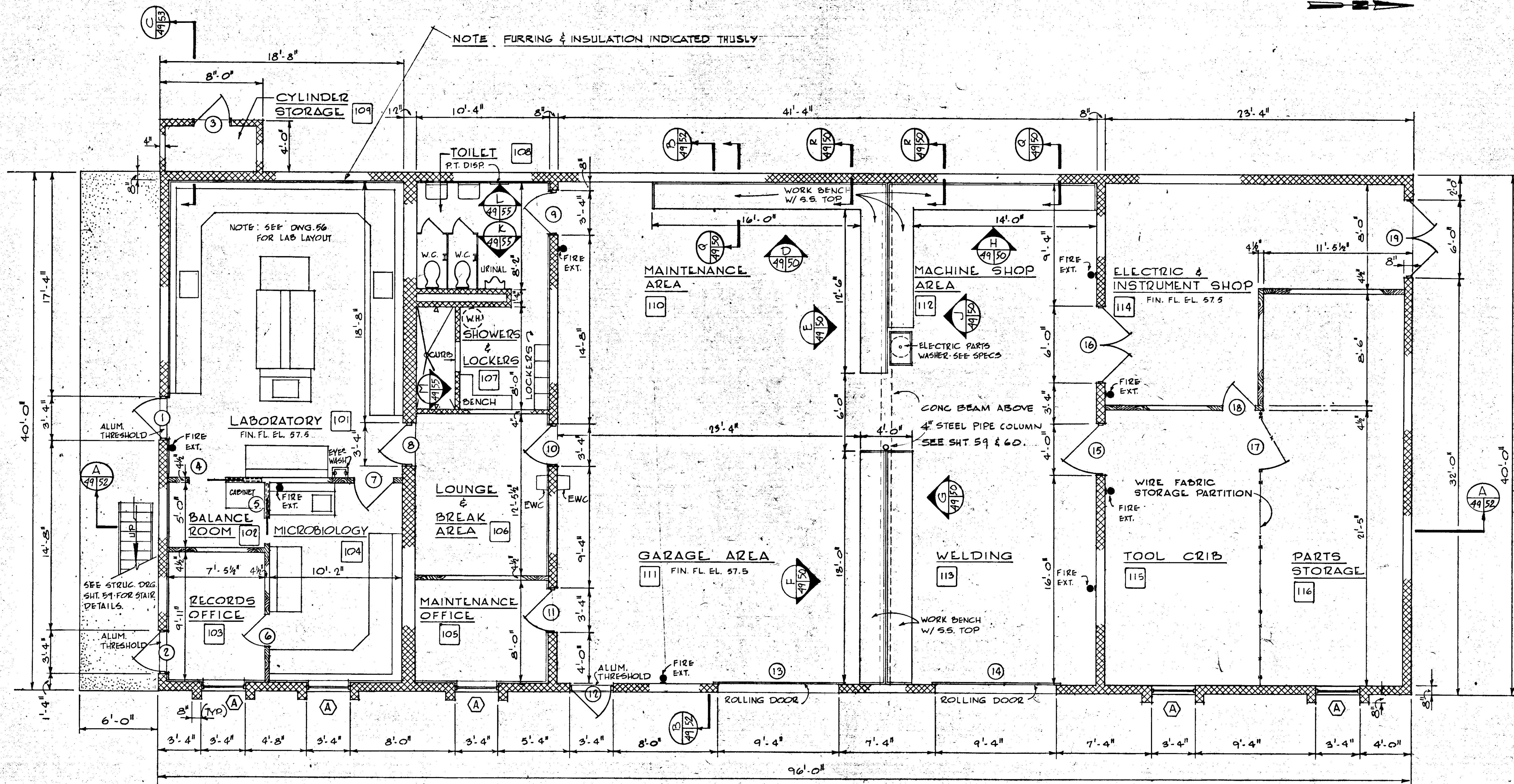
SECTION
N.T.S.

REVISIONS			
NO.	DATE	DESCRIPTION	BY
REVISIONS			
RUSSELL & AXON Engineers — Planners — Architects			
WATER WORKS PROJECT FILTER BUILDING SECTIONS & DETAILS			
MANATEE COUNTY,		T-47 FLORIDA	
DESIGNED BY W.D.G./R.D.H.	FILE NO. 630-761-04	SEAL 46	
DRAWN BY H.G.B.	SHEET M-3		
CHECKED BY	NO. 46	SHEETS	
DATE AUGUST, 1978	SCALE: 3/16" = 1'-0"		



RECORD DRAWING
PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE: 8/23/78 BY: K.P.M.
CHECKED BY:
R & A
M.C.U.S.

NO.	DATE	DESCRIPTION	BY	CKD.
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT FILTER BUILDING FILTER BOTTOM & TROUGH SECTIONS & DETAILS				
MANATEE COUNTY, FLORIDA				
DESIGNED BY B.E.D.	FILE NO. 630-761-04	SEAL T-49 FLORIDA		
DRAWN BY I.C.S.	SHEET M-5			
CHECKED BY	OF 130 SHEETS			
DATE AUGUST, 1978	SCALE: AS NOTED			



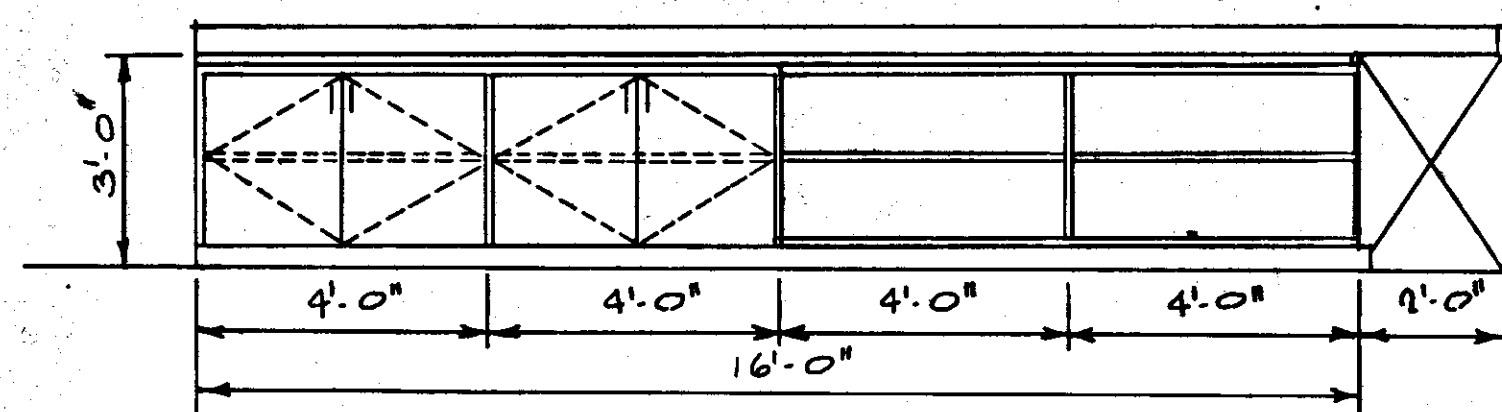
NOTE: DIMENSIONS FOR WOOD STUD WALLS GIVEN TO FACE OF GYPSUM BOARD

FIRST FLOOR PLAN

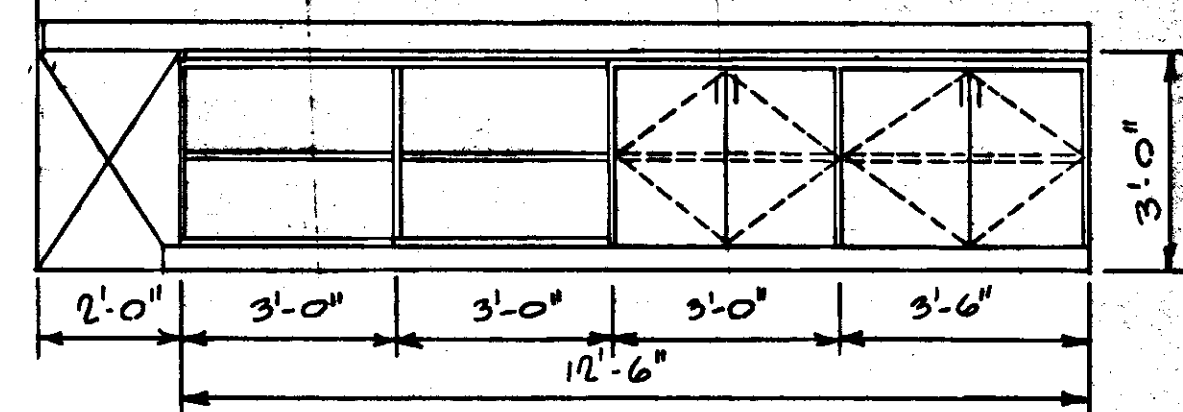
SCALE: 1/4" = 1'-0"

NO.	DATE	DESCRIPTION	BY	CHKD.
5/79		GEN REV	WRW	WDH
REVISIONS				
RUSSELL & AXON				
Engineers — Planners — Architects				
WATER WORKS PROJECT				
MAINTENANCE BUILDING				
FIRST FLOOR PLAN				
MANATEE COUNTY, FLORIDA				
DESIGNED BY	J.R.A.	FILE NO.	630-761-04	SEAL
DRAWN BY	J.R.A.	SHEET NO.	49	
CHECKED BY		OF 130 SHEETS		
DATE	AUGUST, 1978	SCALE: 1/4" = 1'-0"		

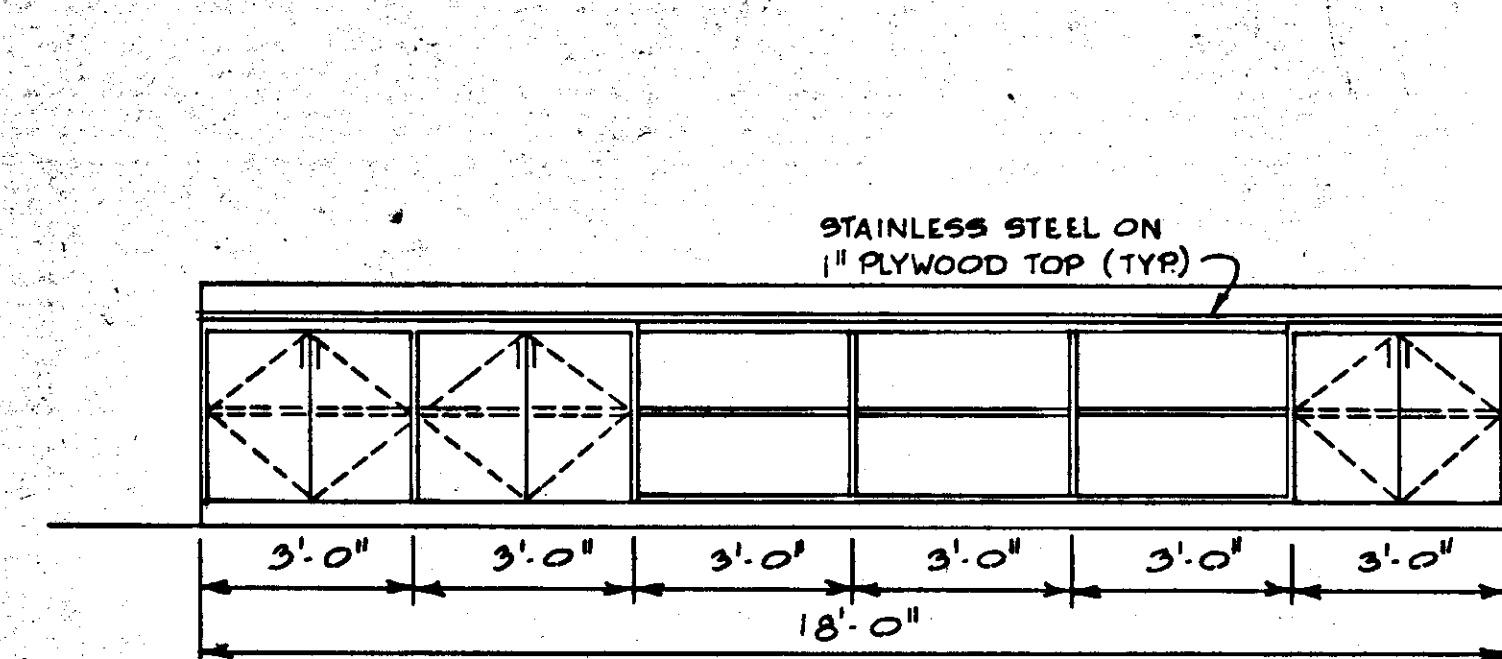
14-01



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

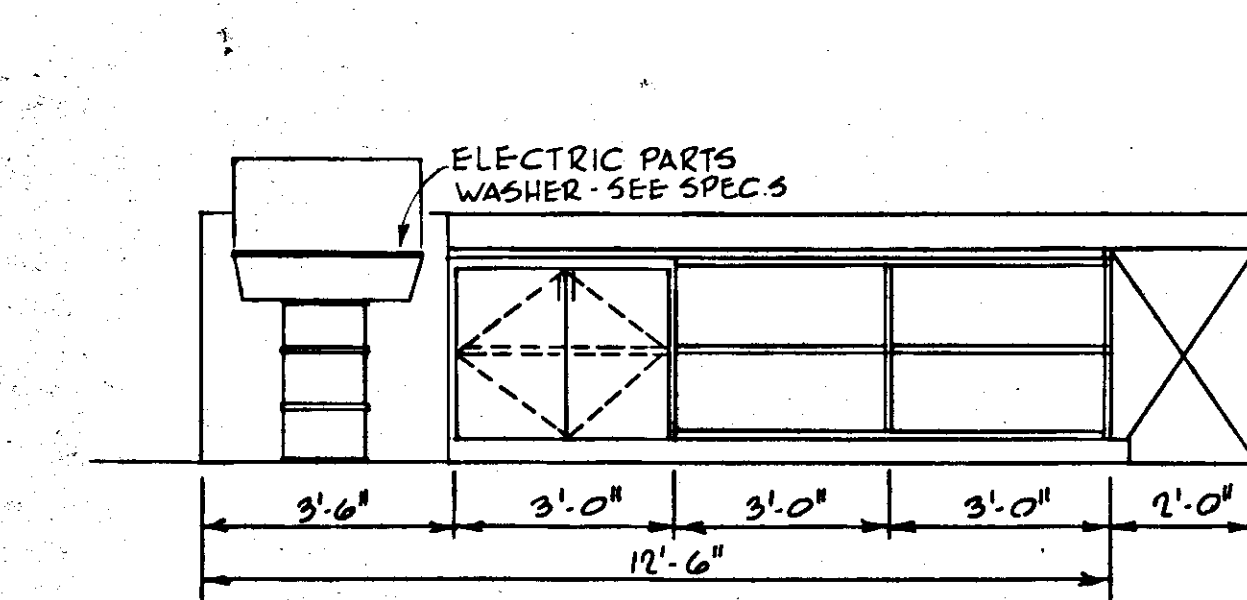


ELEVATION E
SCALE: 3/8" = 1'-0"

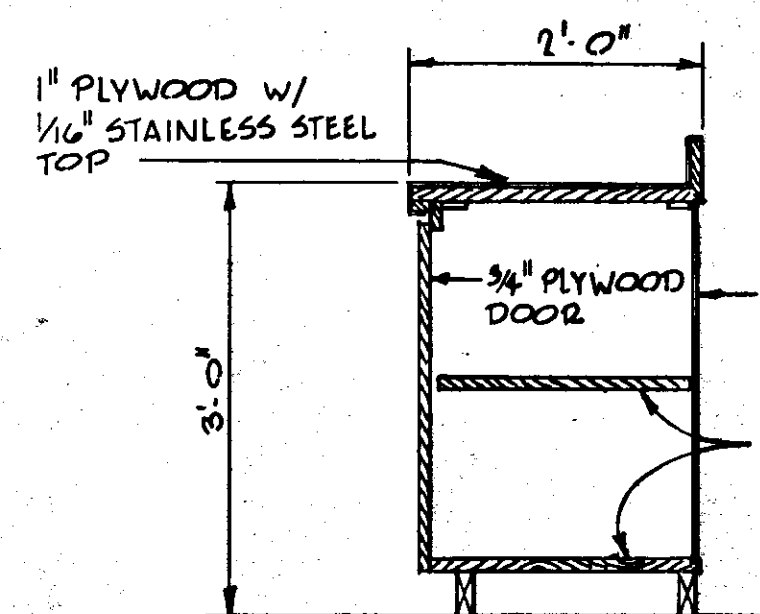


ELEVATION F
SCALE: 3/8" = 1'-0"

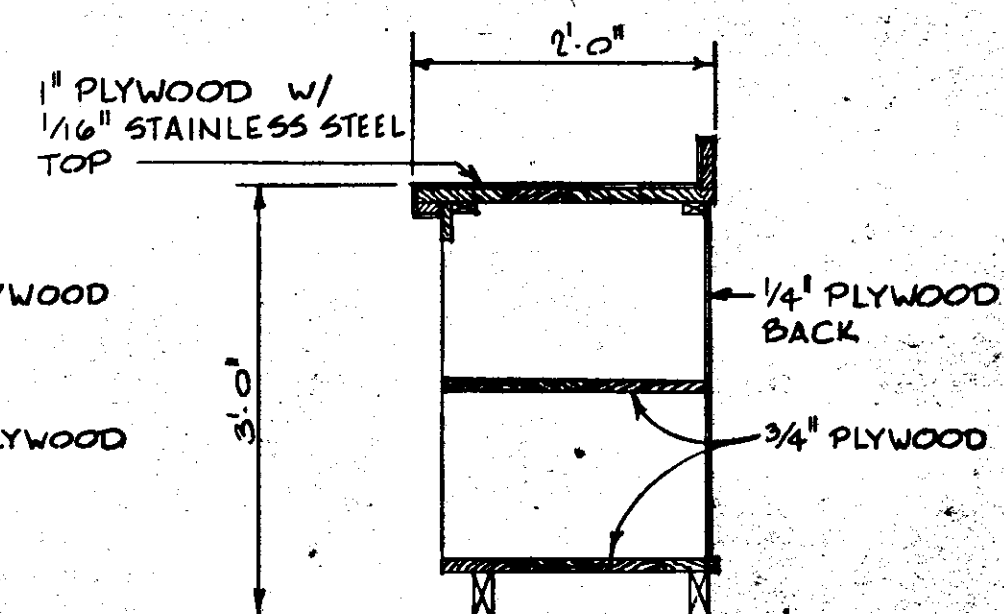
ELEVATION G SIMILAR



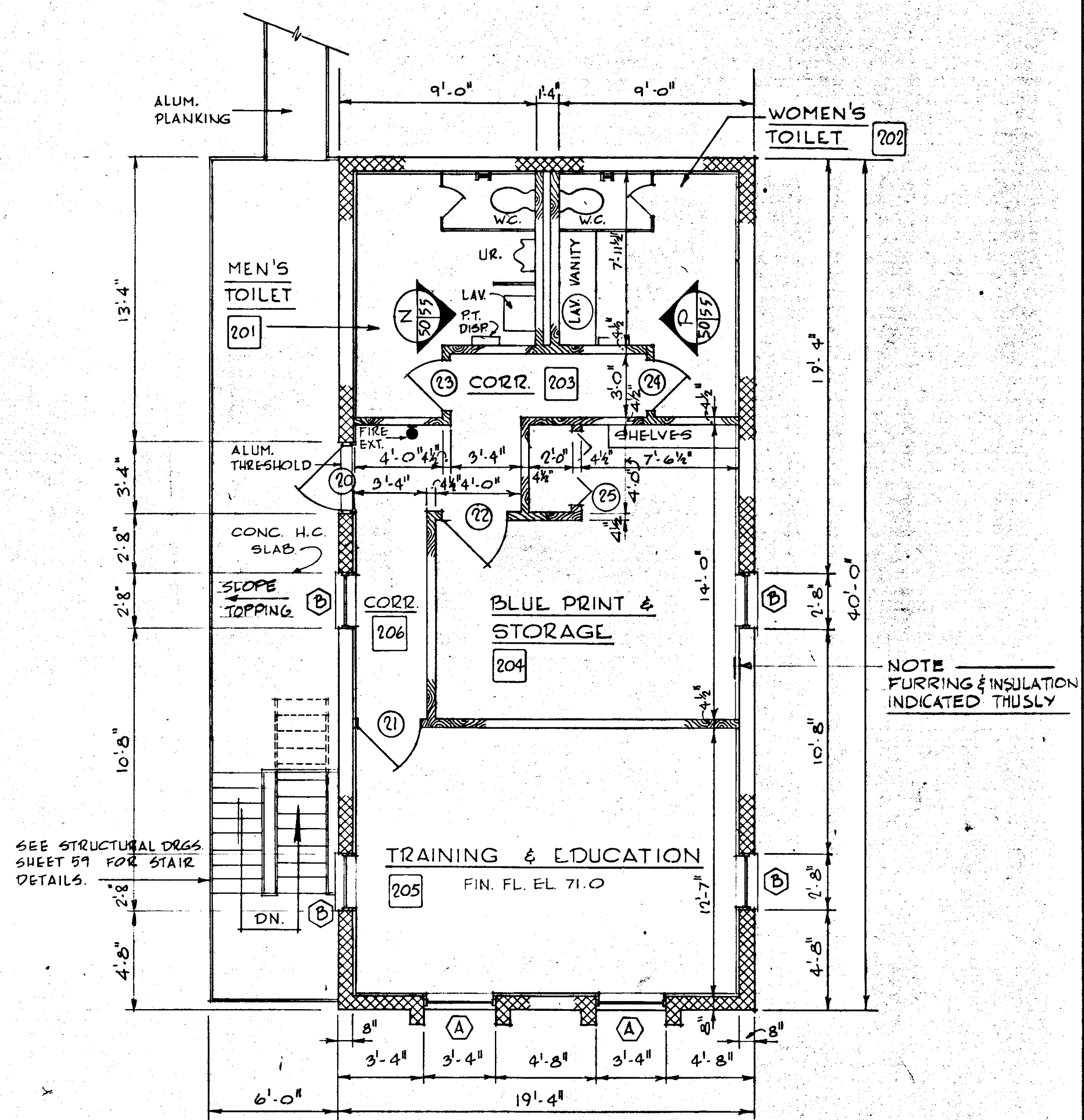
ELEVATION H
SCALE: 3/8" = 1'-0"



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

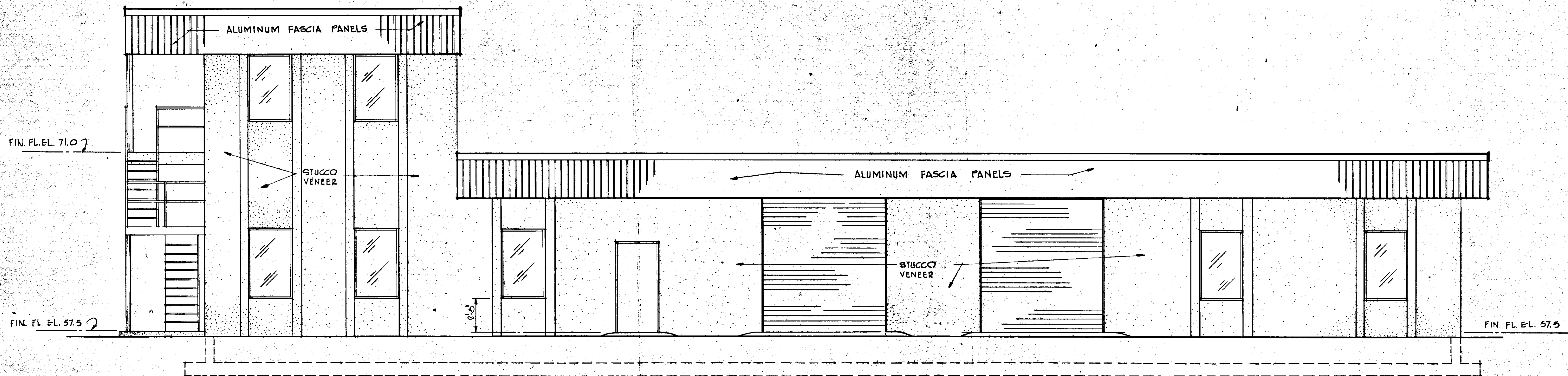


SECTION R
SCALE: 3/4" = 1'-0"



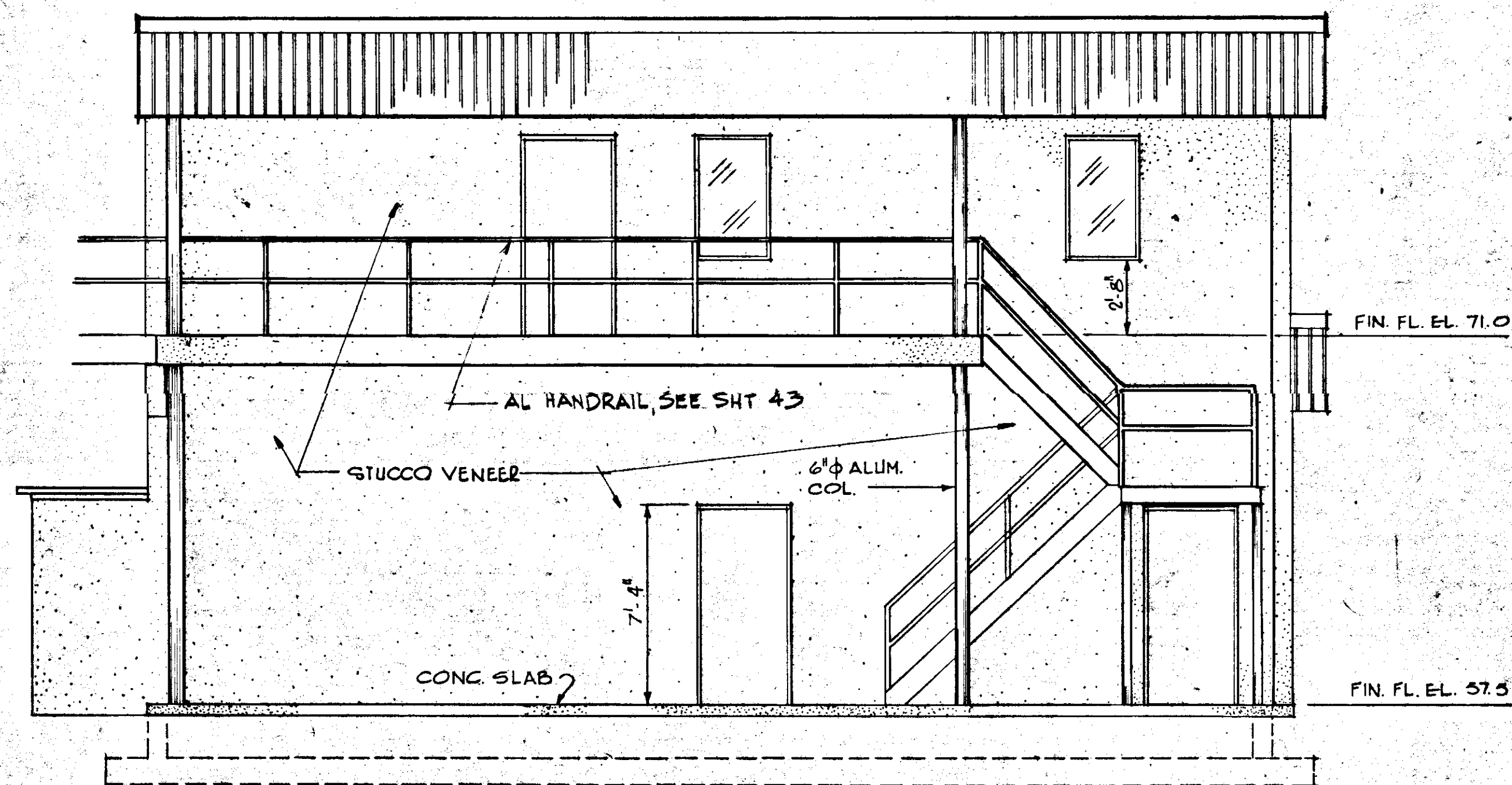
SECOND FLOOR PLAN
SCALE: 1/4" = 1'-0"

NO.	DATE	DESCRIPTION	BY	CKD.
1	5/79	GEN REV	WRW	WJH
REVISIONS				
RUSSELL & AXON				
Engineers — Planners — Architects				
WATER WORKS PROJECT				
MAINTENANCE BUILDING				
SECOND FLOOR PLAN				
MANATEE COUNTY, FLORIDA				
DESIGNED BY	FILE NO.	SEAL		
J.R.A.	630-761-04			
DRAWN BY	SHEET A2			
J.R.A.	OF 130 SHEETS			
CHECKED BY	SCALE: AS NOTED			
DATE				
AUGUST, 1978				



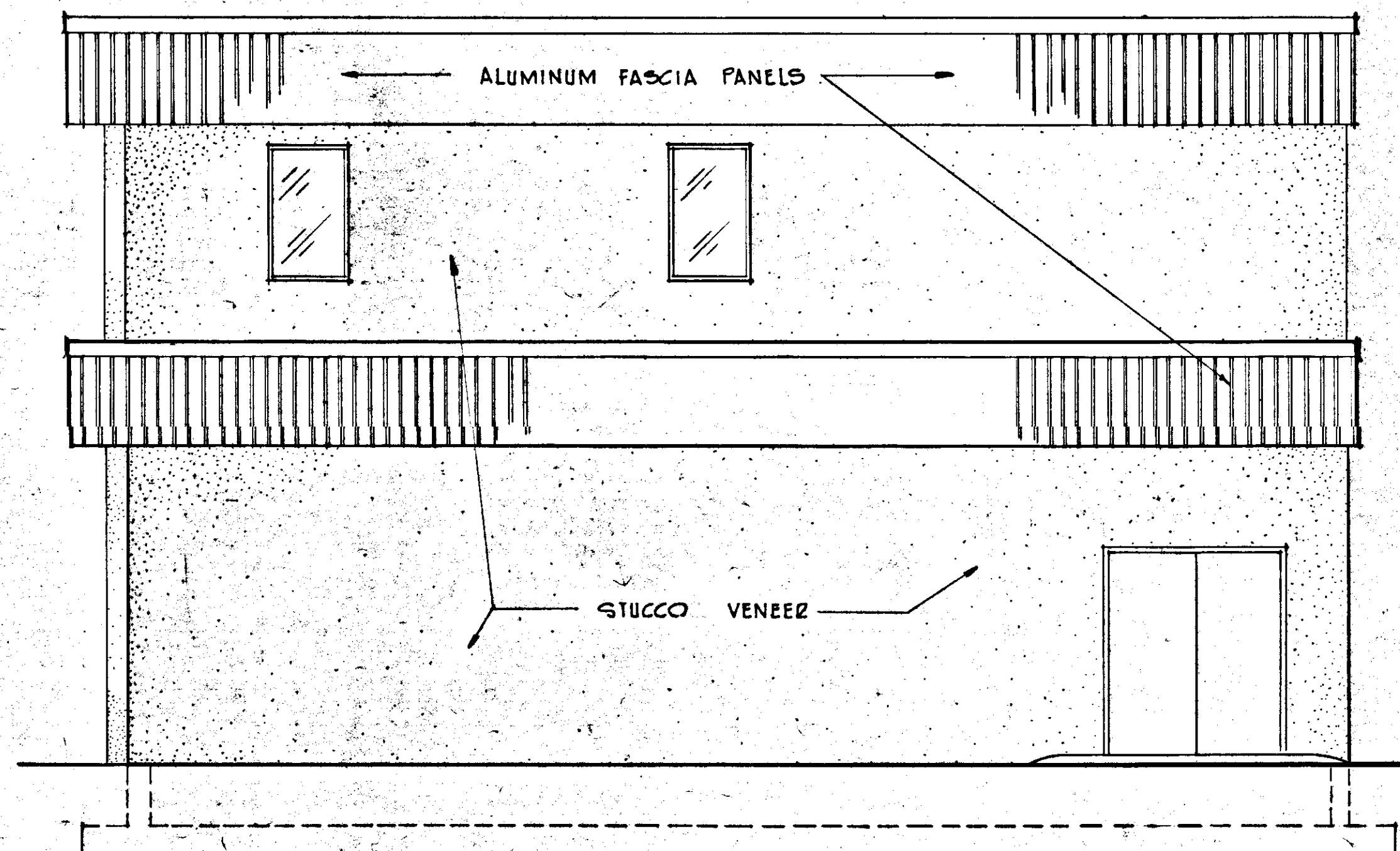
EAST ELEVATION

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



SOUTH ELEVATION

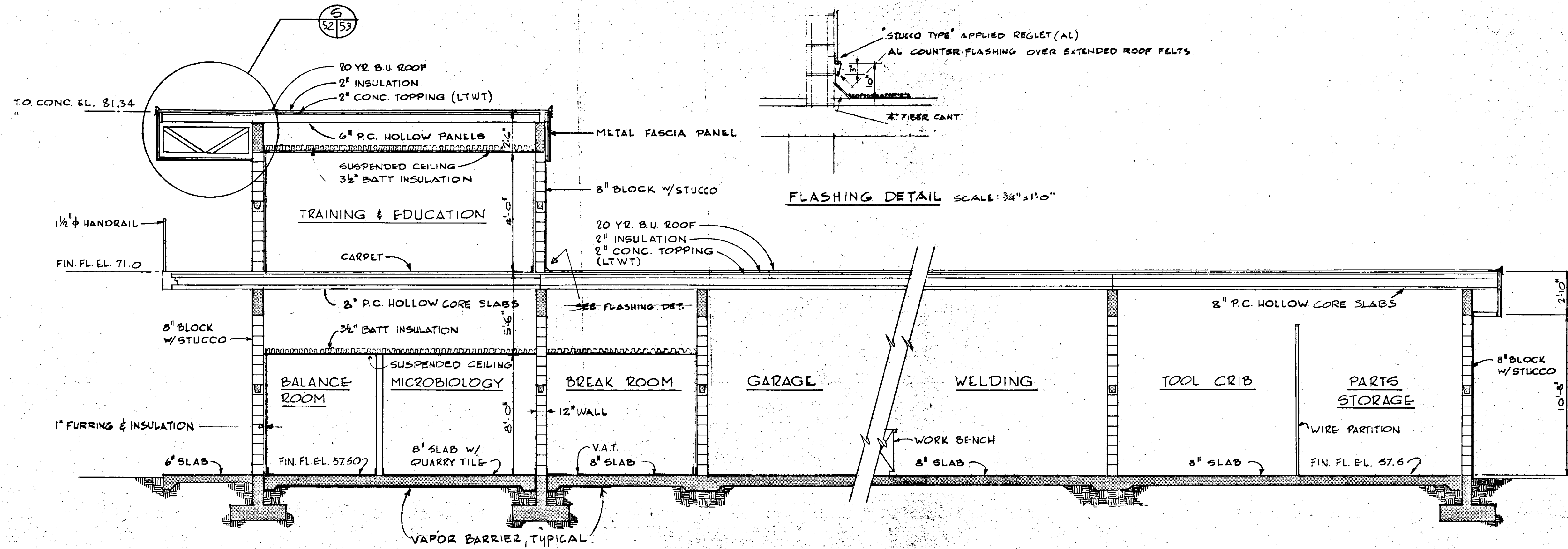
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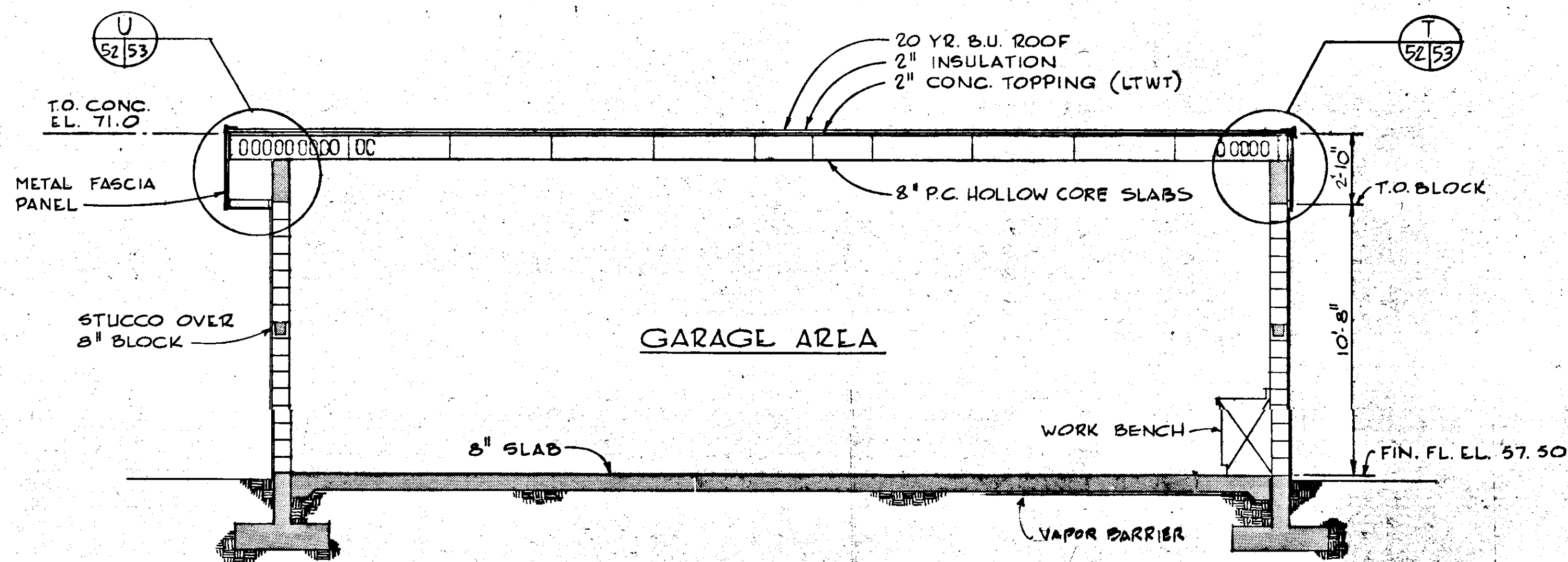
NORTH ELEVATION

DESIGNED BY	FILE NO.	DESIGNER	DATE
B.E.A.	630-761-04	WRW	5/79
DRAWN BY	SHEET A3	BY	DATE
B.E.A.	No. 51	CHKD.	
CHECKED BY	OF 130 SHEETS		
DATE	SCALE: 1/4" = 1'-0"		
AUGUST, 1978			

REVISIONS	
RUSSELL & AXON	
Engineers — Planners — Architects	
WATER WORKS PROJECT	
MAINTENANCE BUILDING	
ELEVATIONS	
MANATEE COUNTY, FLORIDA	T-52
DESIGNED BY	FILE NO.
B.E.A.	630-761-04
DRAWN BY	SHEET A3
B.E.A.	No. 51
CHECKED BY	OF 130 SHEETS
DATE	SCALE: 1/4" = 1'-0"
AUGUST, 1978	

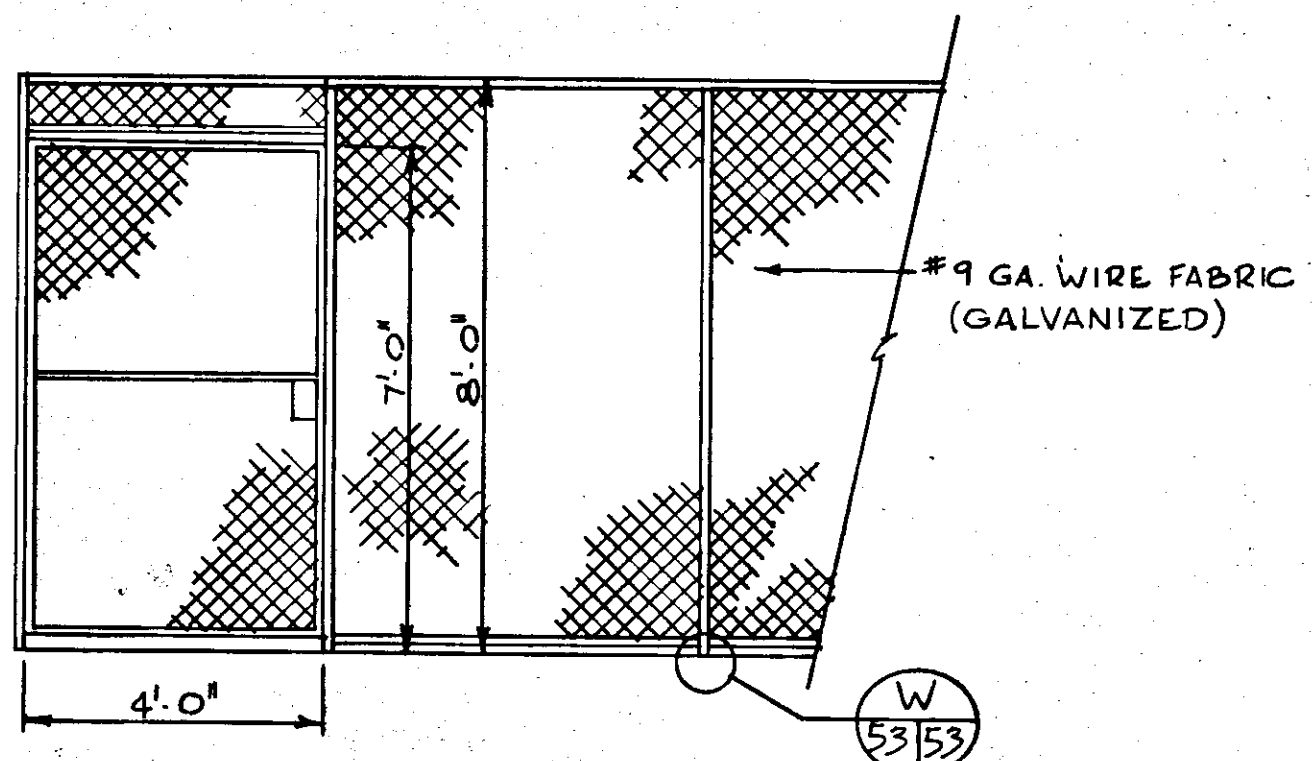
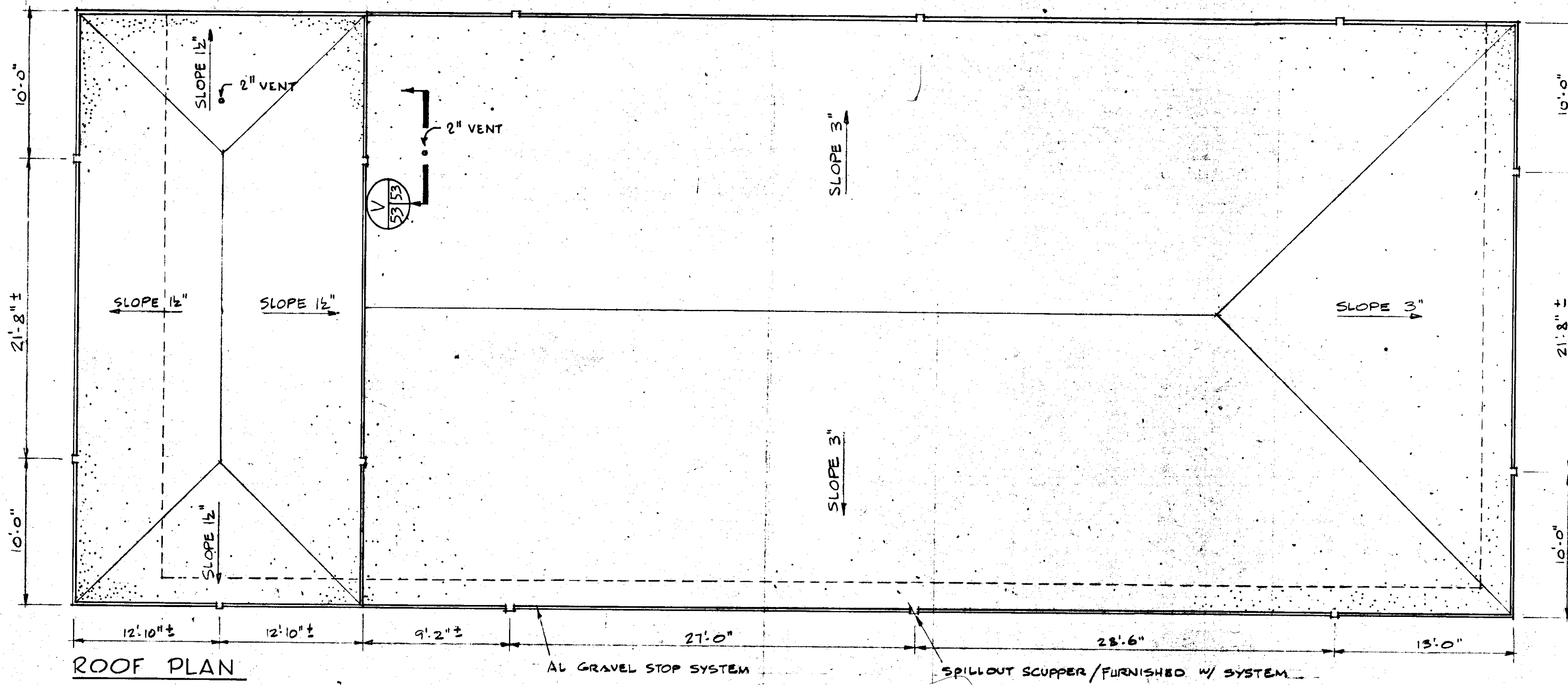


SECTION A
SCALE: 1/4" = 1'-0"

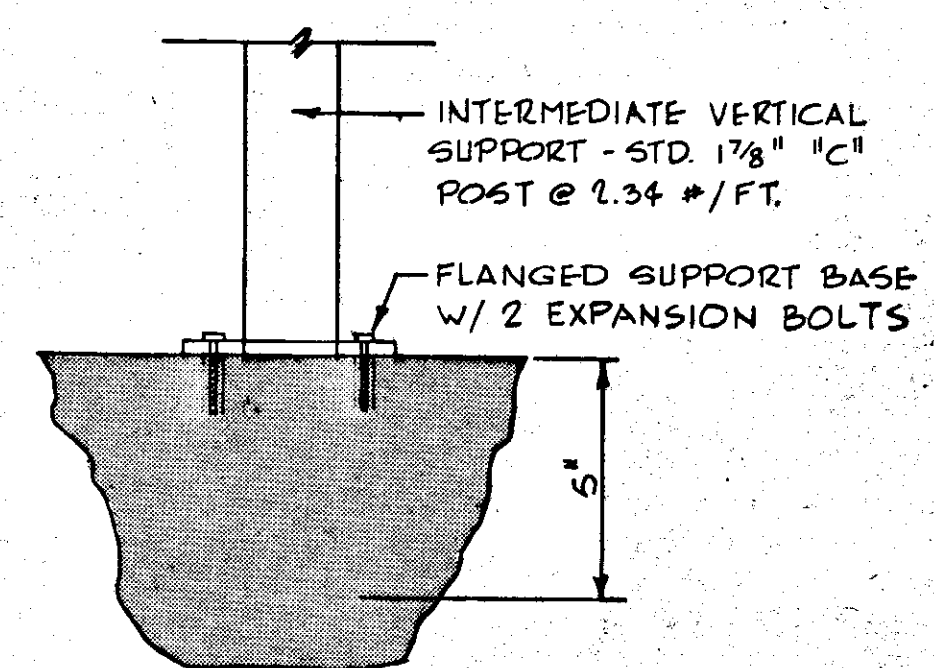


SECTION B
SCALE: 1/4" = 1'-0"

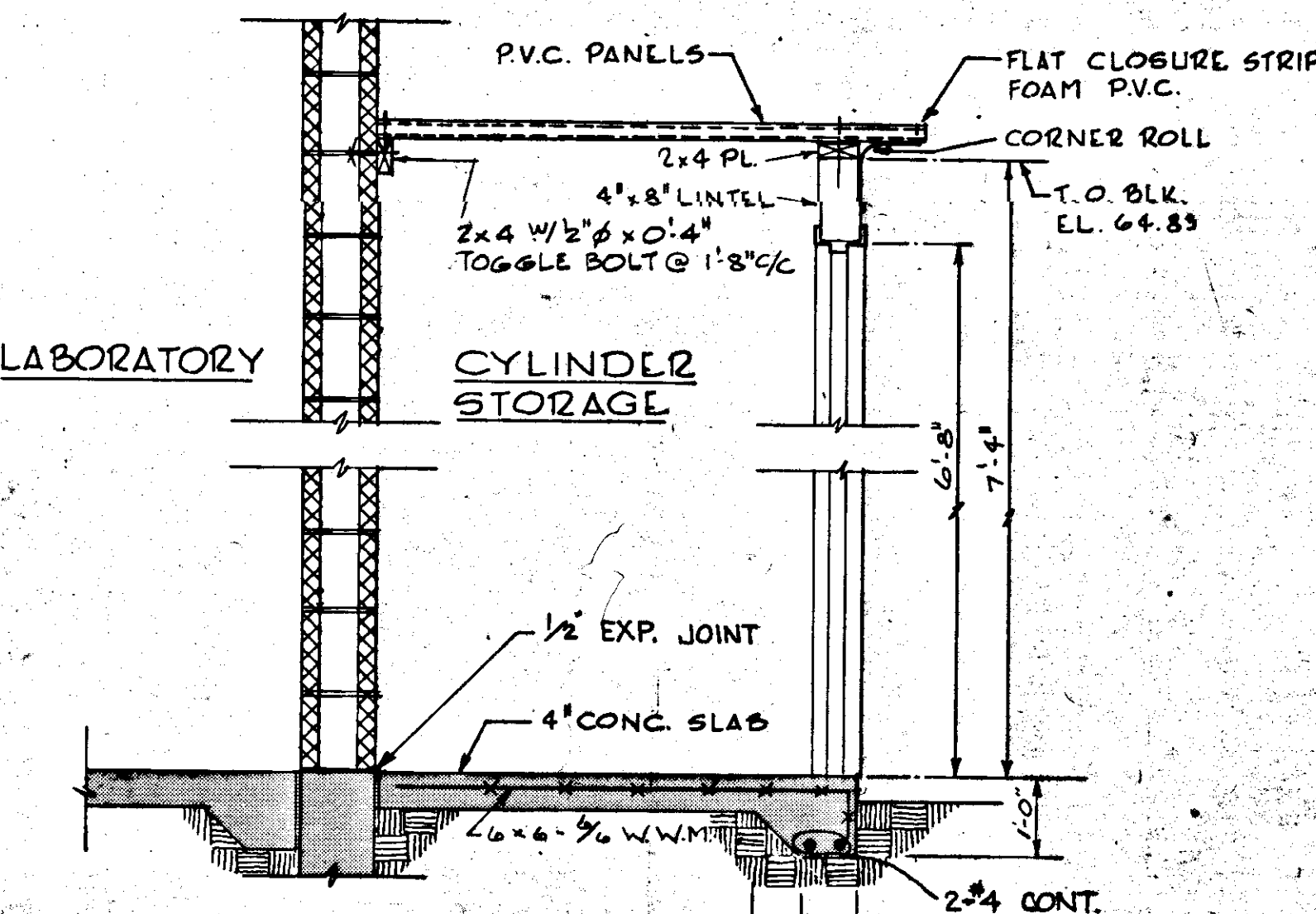
NO.	DATE	DESCRIPTION	BY	CHKD.
5/79	GEN REV		WRW	WDH
REVISIONS				
RUSSELL & AXON				
Engineers — Planners — Architects				
WATER WORKS PROJECT				
MAINTENANCE BUILDING				
SECTIONS				
MANATEE COUNTY, FLORIDA				
DESIGNED BY	J.R.A.	FILE NO.	630-761-04	SEAL
DRAWN BY	J.R.A.	SHEET A4		
CHECKED BY		NO. 52		
DATE	AUGUST, 1978	OF 130	SHEETS	
SCALE: AS NOTED				



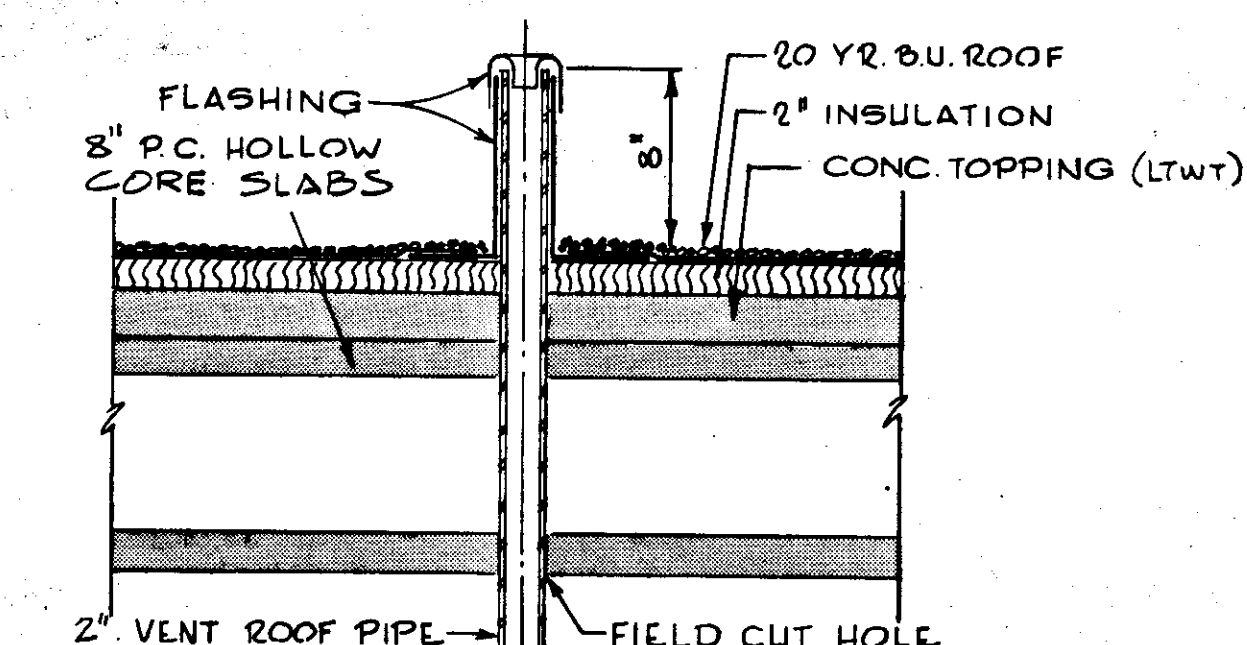
SCALE: 3/8" = 1'-0"



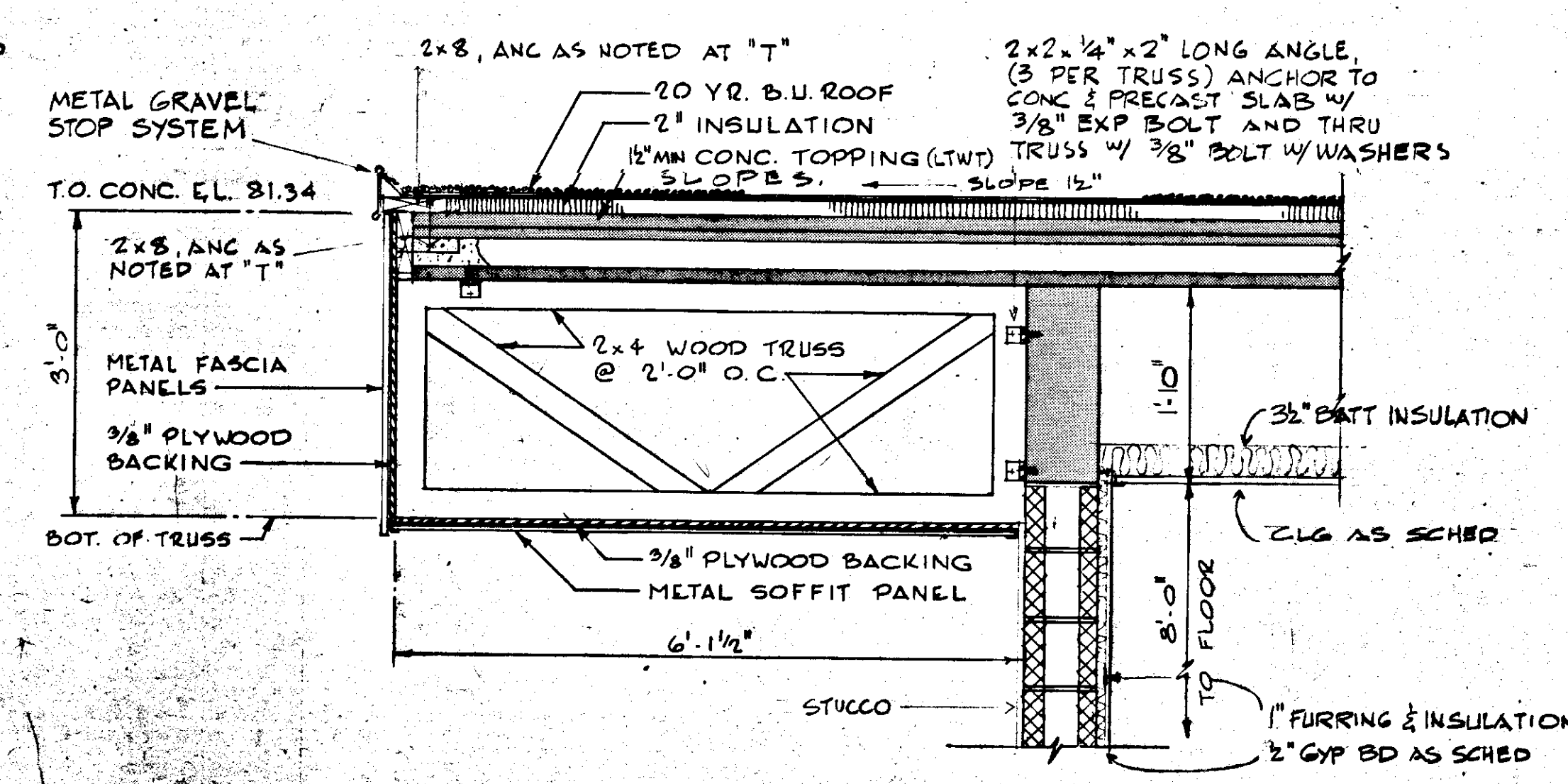
SCALE: 3/4" = 1'-0"



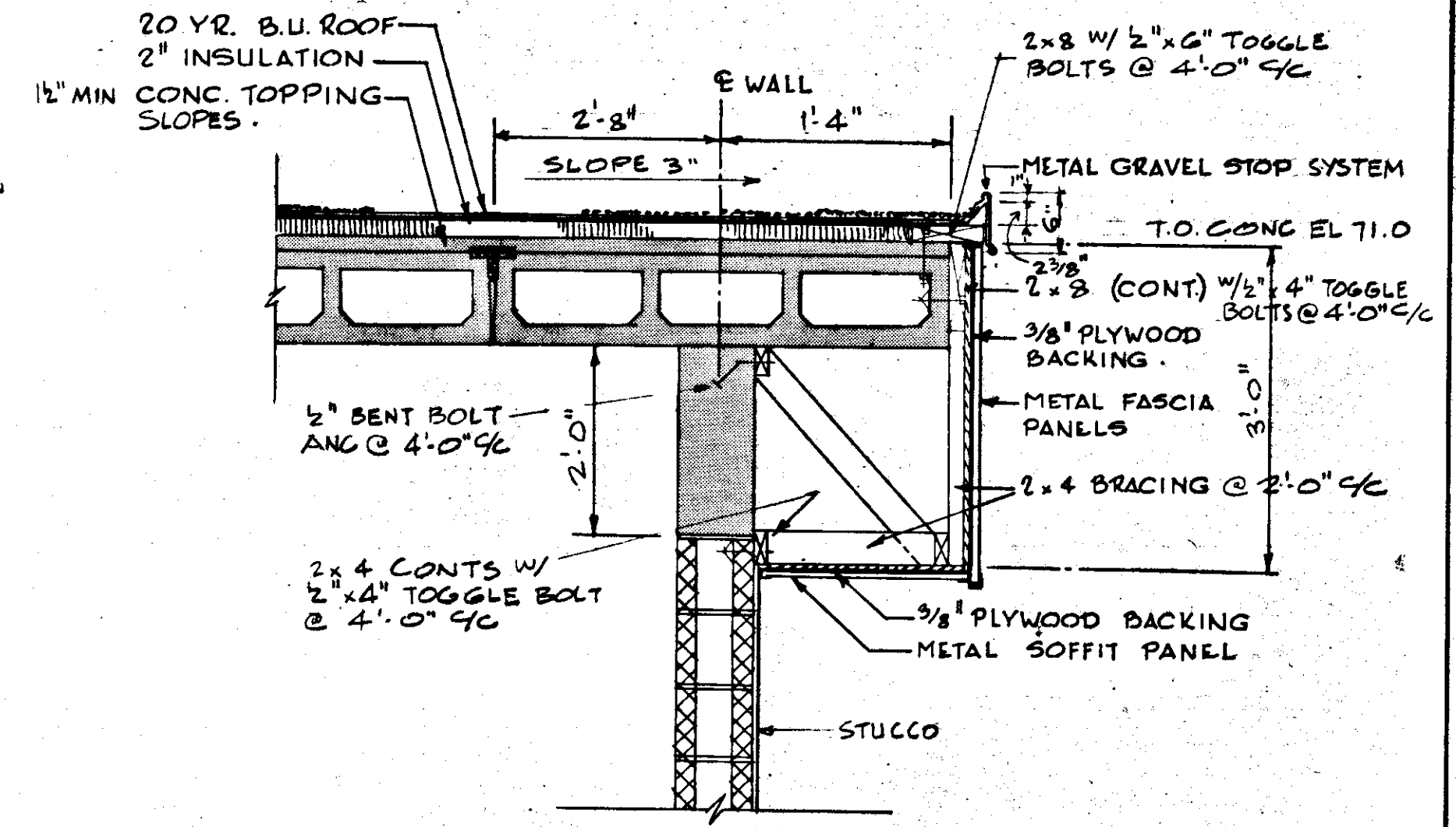
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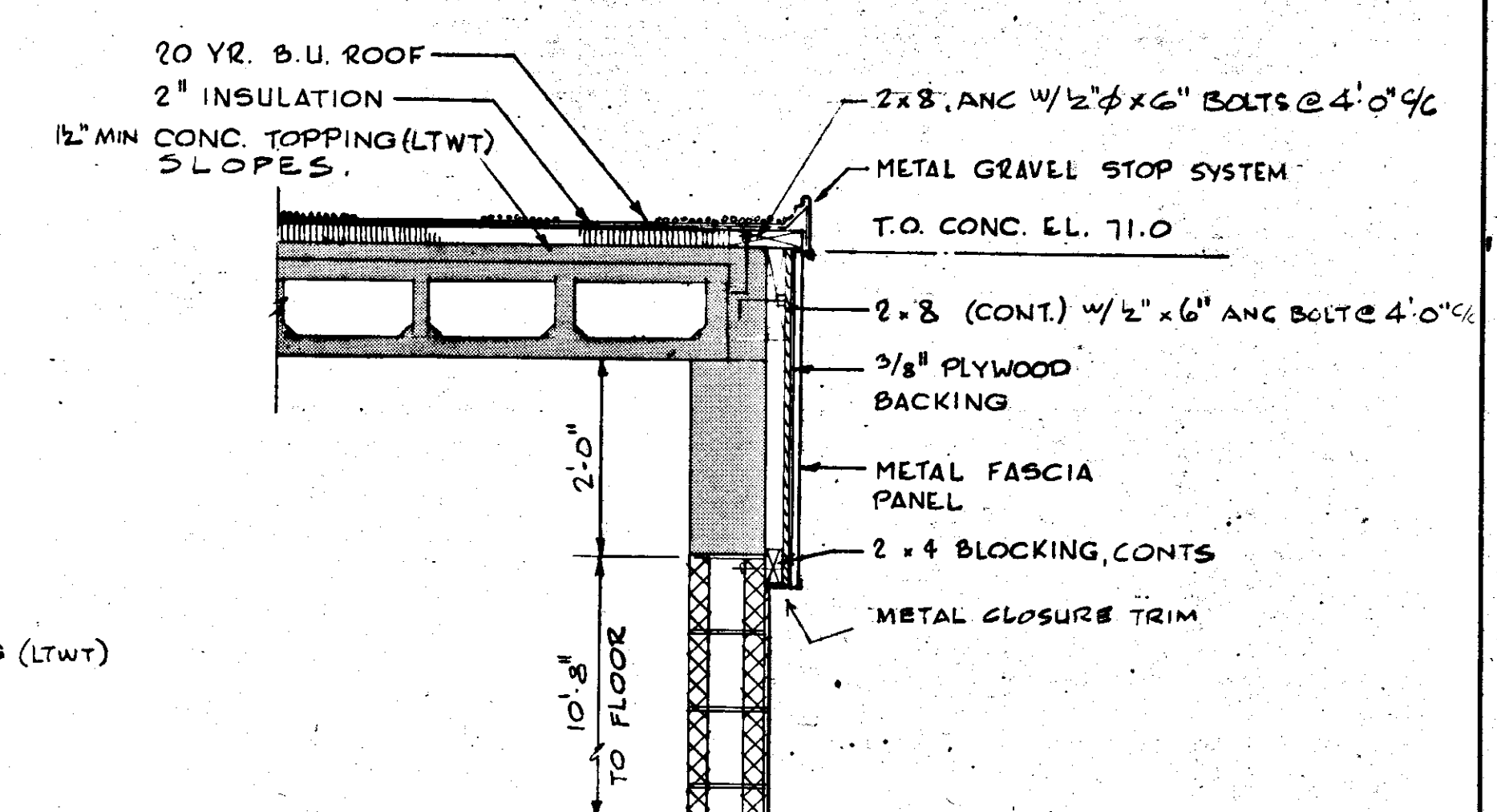
SCALE: 1/2" = 1'-0"



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



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



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

DESIGNED BY	J.R.A.	FILE NO.	630-761-04	SEAL
DRAWN BY	J.R.A.	SHEET AS	53	
CHECKED BY		OF 130	SHEETS	
DATE	AUGUST, 1978	SCALE:	AS NOTED	

REVISIONS

RUSSELL & AXON
Engineers - Planners - Architects

WATER WORKS PROJECT
MAINTENANCE BUILDING
ROOF PLAN, SECTIONS & DETAILS

MANATEE COUNTY, FLORIDA

T-54

14-054 DELETED

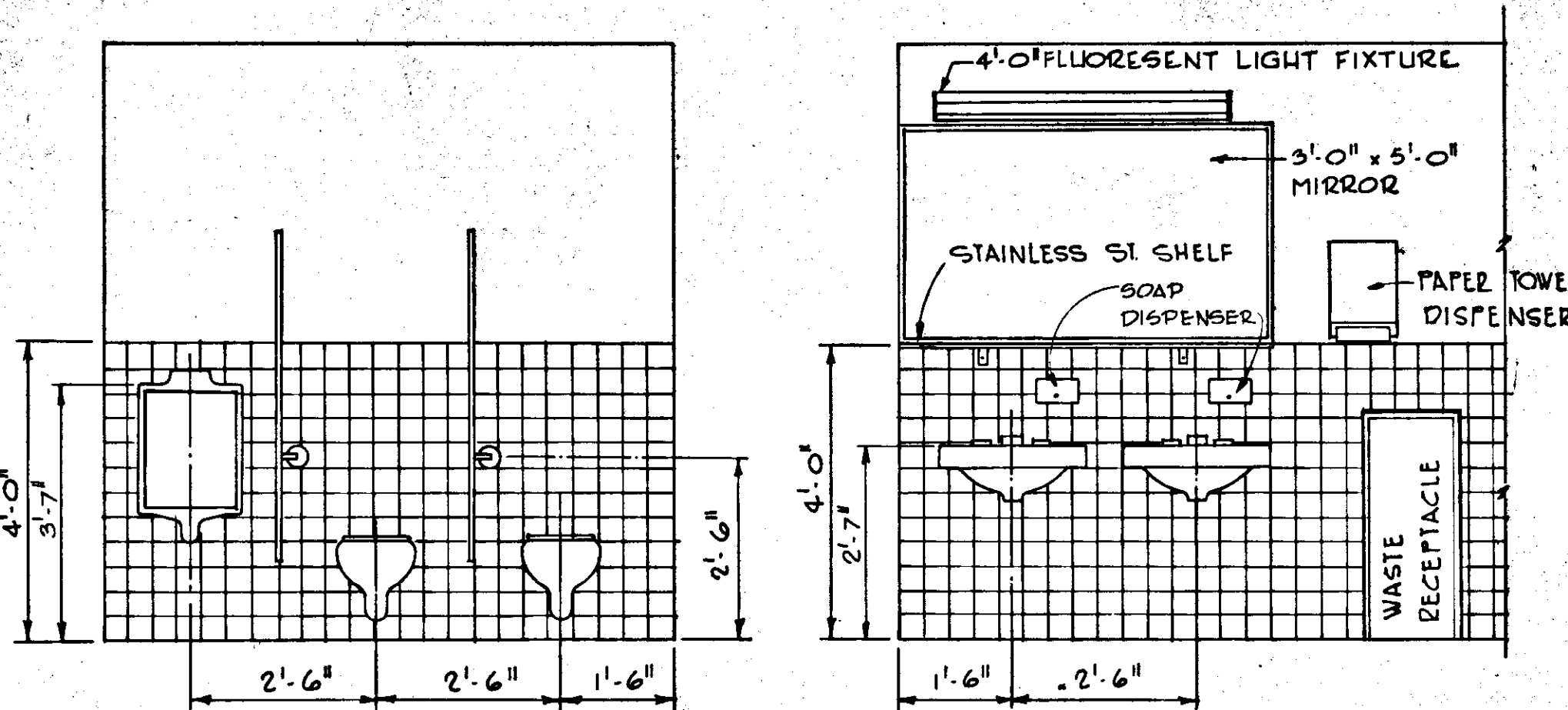
FINISH SCHEDULE

ROOM DESCRIPTION	FLOOR				BASE				WAINSCOT				WALLS				CEILING				REMARKS
	CONCRETE	VINYL ASS. TILE	QUARRY TILE	CERAMIC TILE	COLOR CODE	VINYL (4")	QUARRY TILE	CERAMIC TILE	COLOR CODE	CERAMIC TILE	COLOR CODE	PAINTED CONC. BLD.	PAINTED GYP. B.D.	CERAMIC TILE	COLOR CODE	SUSPENDED	EXPOSED	COLOR CODE	HEIGHT		
101 LABORATORY			●				●					●	●			●			8'-0"		
102 BALANCE ROOM			●				●					●	●			●			8'-0"		
103 RECORDS OFFICE			●				●					●	●			●			8'-0"		
104 MICROBIOLOGY			●				●					●	●			●			8'-0"		
105 MAINTENANCE OFFICE		●				●						●	●			●			8'-0"		
106 LOUNGE & BREAK AREA		●				●						●	●			●			8'-0"		
107 SHOWERS & LOCKERS				●				●		●		●	●			●			8'-0"	USE CERAMAGUARD CEILING	
108 TOILET				●			●			●		●	●			●			8'-0"		
109 CYLINDER STORAGE	●											●					●		7'-6 1/2"		
110 MAINTENANCE AREA	●											●					●		12'-4 1/2"		
111 GARAGE AREA	●											●					●		12'-4 1/2"		
112 MACHINE SHOP AREA	●											●					●		12'-4 1/2"		
113 WELDING	●											●					●		12'-4 1/2"		
114 ELECT. & INSTRUMENT SHOP	●											●	●						12'-4 1/2"		
115 TOOL CRIB	●											●					●		12'-4 1/2"		
116 PARTS STORAGE	●											●	●				●		12'-4 1/2"		
201 MEN'S TOILET		●				●				●		●				●			8'-0"		
202 WOMEN'S TOILET		●								●						●			8'-0"		
203 CORRIDOR		●				●						●	●			●			8'-0"		
204 BLUE PRINT & STORAGE		●				●						●	●			●			8'-0"		
205 TRAINING & EDUCATION		●				●						●	●			●			8'-0"		
206 CORRIDOR		●				●						●	●			●			8'-0"		

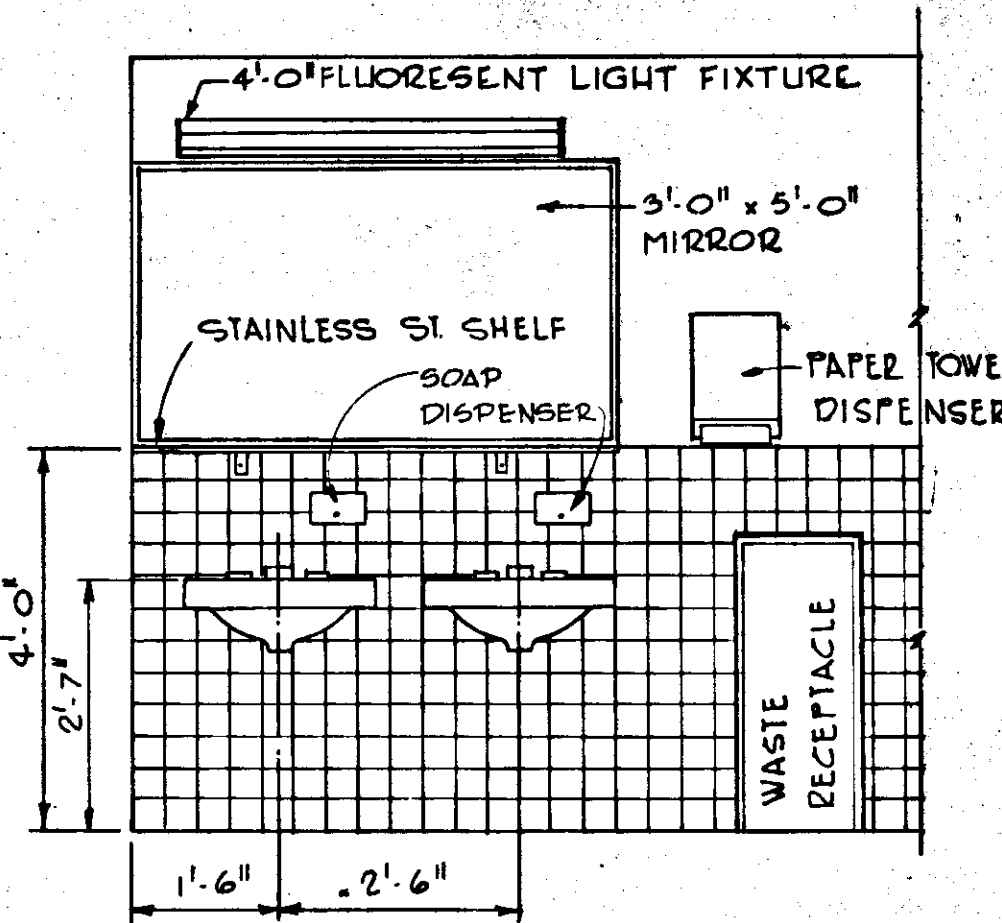
DOOR AND HARDWARE SCHEDULE

MARK	TYPE	SIZE			MATERIAL	LOUVER	GLAZING				TRANS.	TH'LD	LOCK	CLOSER (SERIES)	FINISH	REMARKS	FINISH COLOR	FRAME TYPE
		WIDTH	HEIGHT	TH'K														
1	C	3'-0"	7'-2"	1 3/4"	HOLLOW MET.								8G05	1240	OL26D			F-1
2	C	3'-0"	7'-2"	1 3/4"	HOLLOW MET.								8G05	1240	OL26D			F-1
3	B	2'-8"	6'-8"	1 3/4"	HOLLOW MET.								8G04		OL26D			F-3
4	F	2'-8"	7'-2"	1 3/4"														
5	F	2'-0"	6'-8"	1 3/8"														
6	B	2'-6"	7'-2"	1 3/4"	HOLLOW MET.								8G37		OL26D			F-2
7	C	3'-0"	7'-2"	1 3/4"	HOLLOW MET.								8G37		OL26D			F-2
8	C	3'-0"	7'-2"	1 3/4"	HOLLOW MET.								8G05	1240	OL26D			F-1
9	C	3'-0"	7'-2"	1 3/4"	HOLLOW MET.								8U15	1240	OL26D			F-1
10	C	3'-0"	7'-2"	1 3/4"	HOLLOW MET.								8U15	1240	OL26D			F-1
11	C	3'-0"	7'-2"	1 3/4"	HOLLOW MET.								8G05		OL26D			F-1
12	C	3'-0"	7'-2"	1 3/4"	HOLLOW MET.								8G05	1240	OL26D			F-1
13	H	9'-4"	10'-0"													LOCK BY DOOR MANUF.		
14	H	9'-4"	10'-0"													LOCK BY DOOR MANUF.		
15	D	3'-8"	7'-2"	1 3/4"	HOLLOW MET.								8G37		OL26D			F-1
16	E	2'-2'-10"	7'-2"	1 3/4"	HOLLOW MET.											LOCK BY DOOR MANUF.		F-1
17		4'-0"	7'-2"		WIRE FABRIC													
18	B	2'-8"	7'-2"	1 3/8"	HOLLOW MET.								8G37		OL26D			F-2
19	E	2'-2'-10"	7'-2"	1 3/4"	HOLLOW MET.													F-1
20	C	3'-0"	7'-2"	1 3/4"	HOLLOW MET.								8G05	1240	OL26D			F-1
21	B	2'-8"	7'-2"	1 3/4"	HOLLOW MET.								8G05		OL26D			F-2
22	B	2'-8"	7'-2"	1 3/4"	HOLLOW MET.								8G05		OL26D			F-2
23	A	2'-6"	7'-2"	1 3/4"	HOLLOW MET.								8U15	1240	OL26D			F-2
24	A	2'-6"	7'-2"	1 3/4"	HOLLOW MET.								8U15	1240	OL26D			F-2
25	G	3'-6"	6'-8"	1 1/8"	WOOD BI-FOLD	FULL										HARDWARE BY MANUF.		

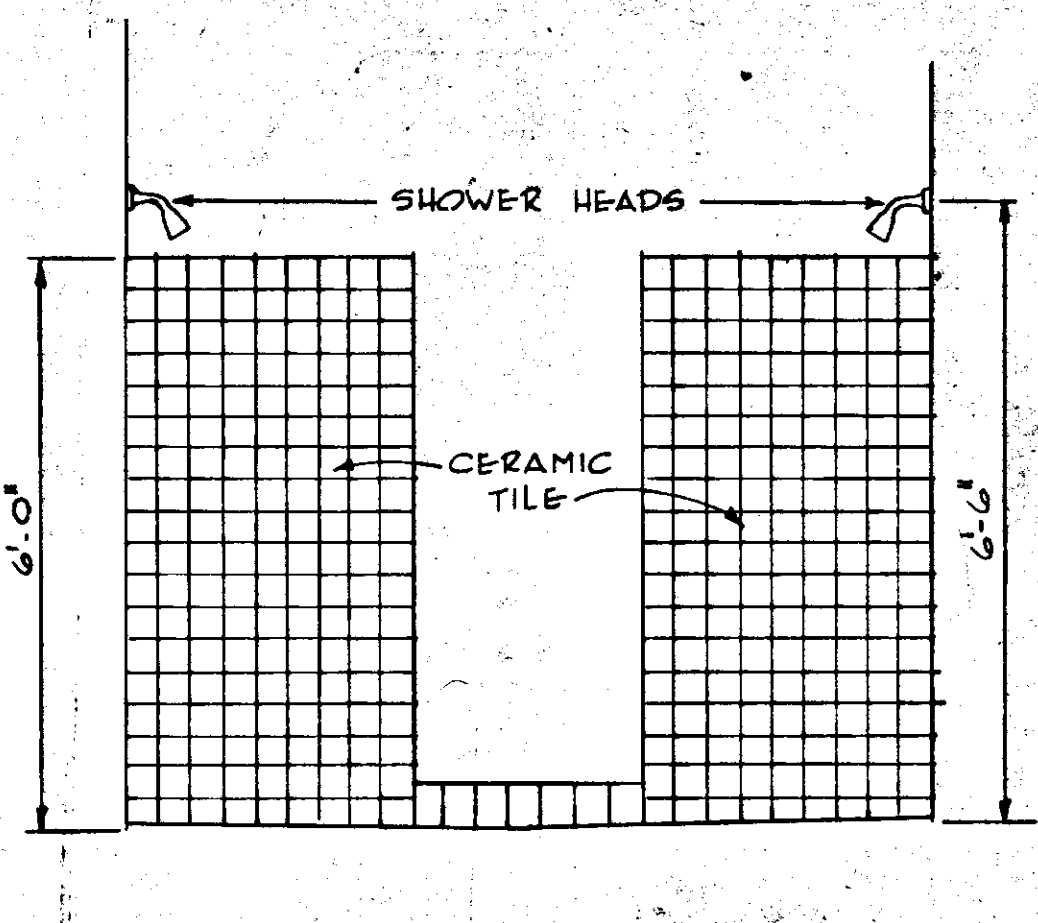
SEE SPECIFICATIONS REGARDING COLOR SELECTIONS.



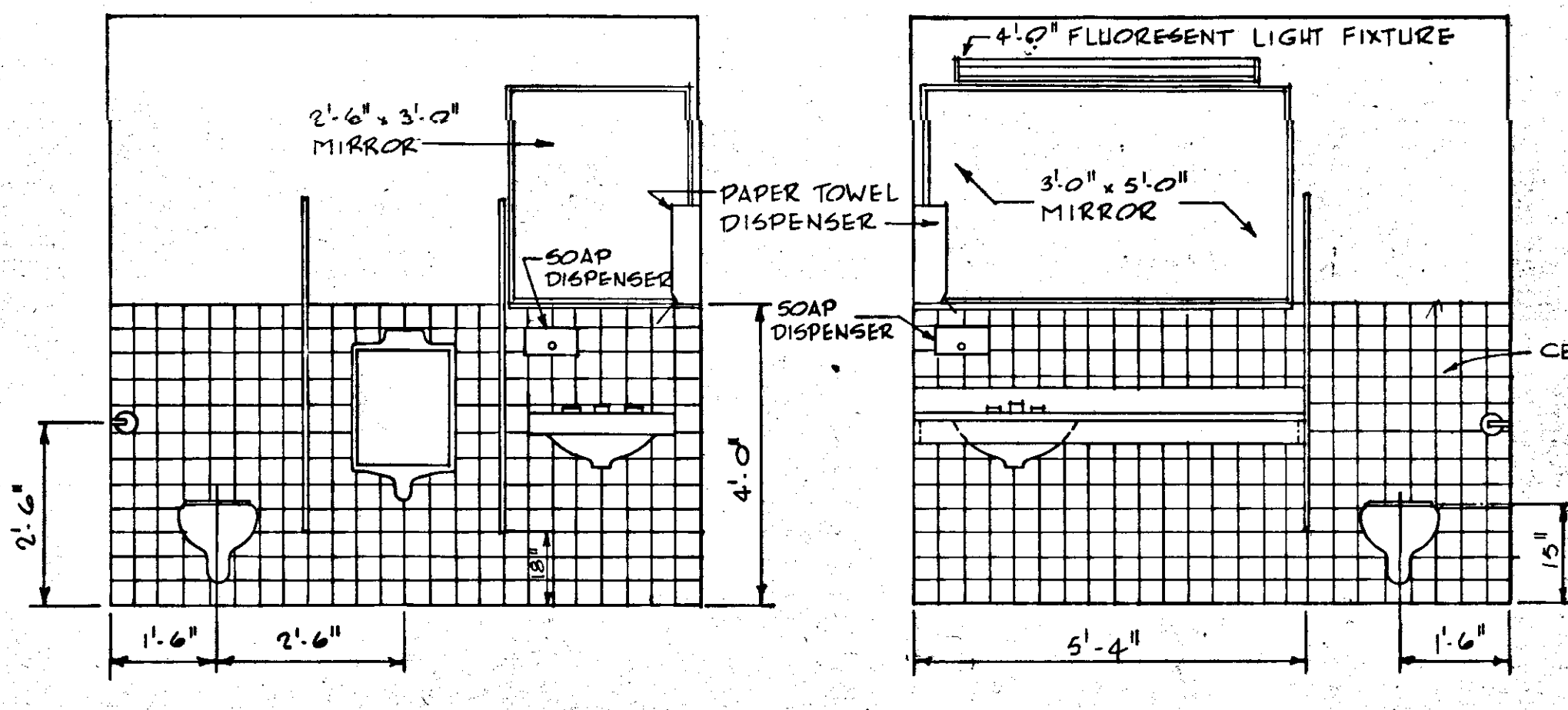
ELEVATION K
SCALE: 1/2" = 1'-0"



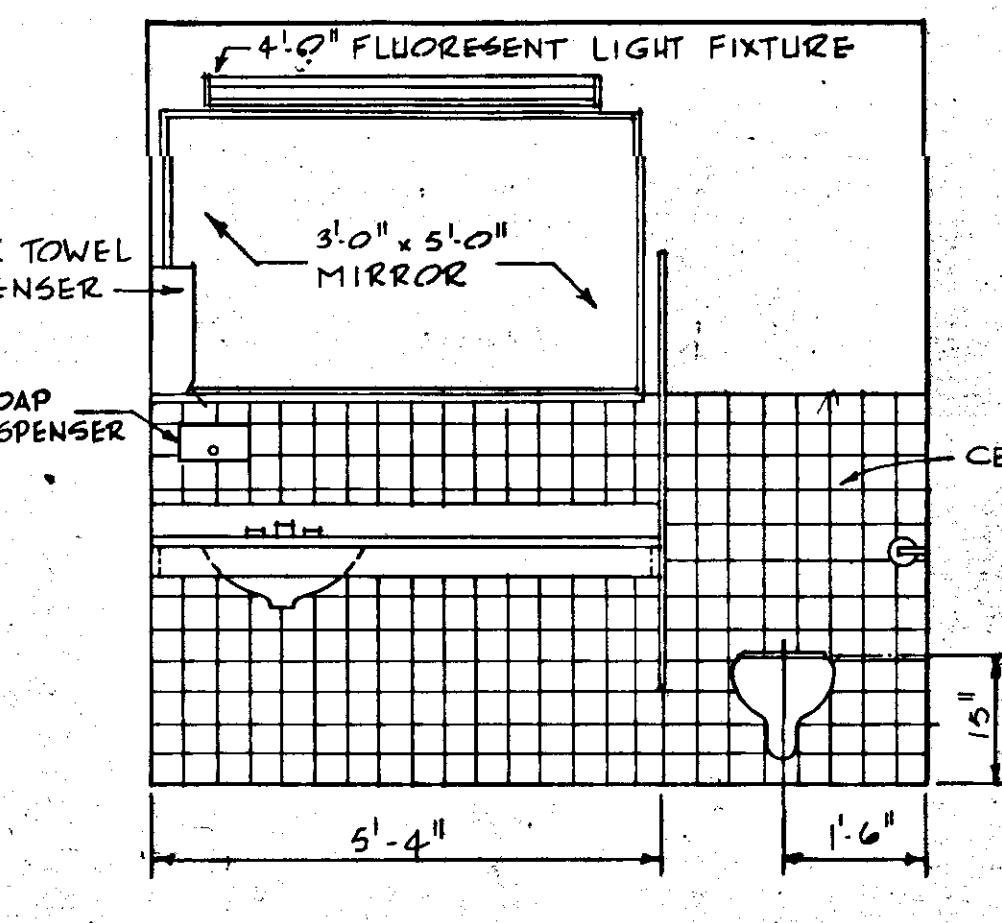
ELEVATION L
SCALE: 1/2" = 1'-0"



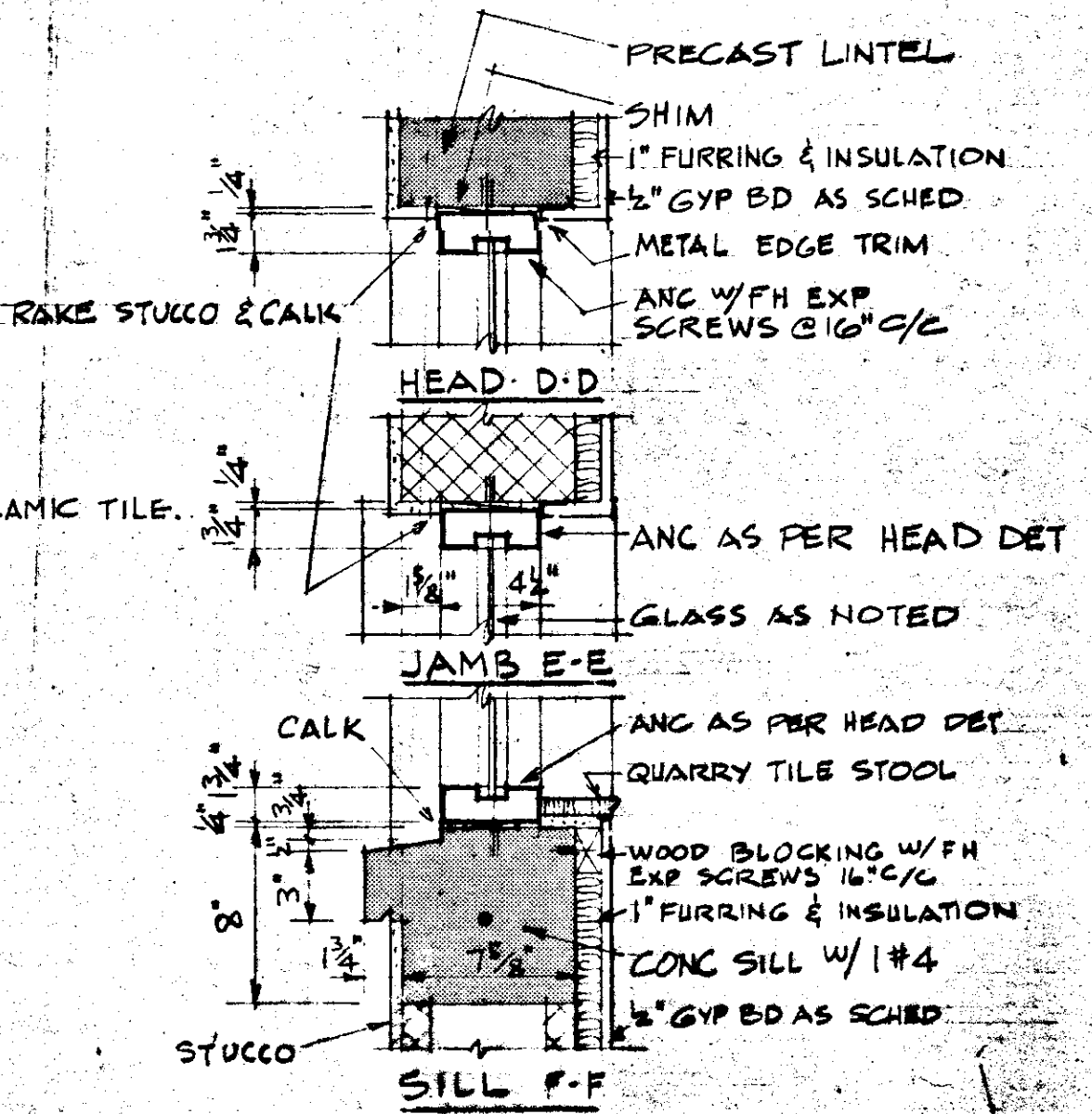
ELEVATION M
SCALE: 1/2" = 1'-0"



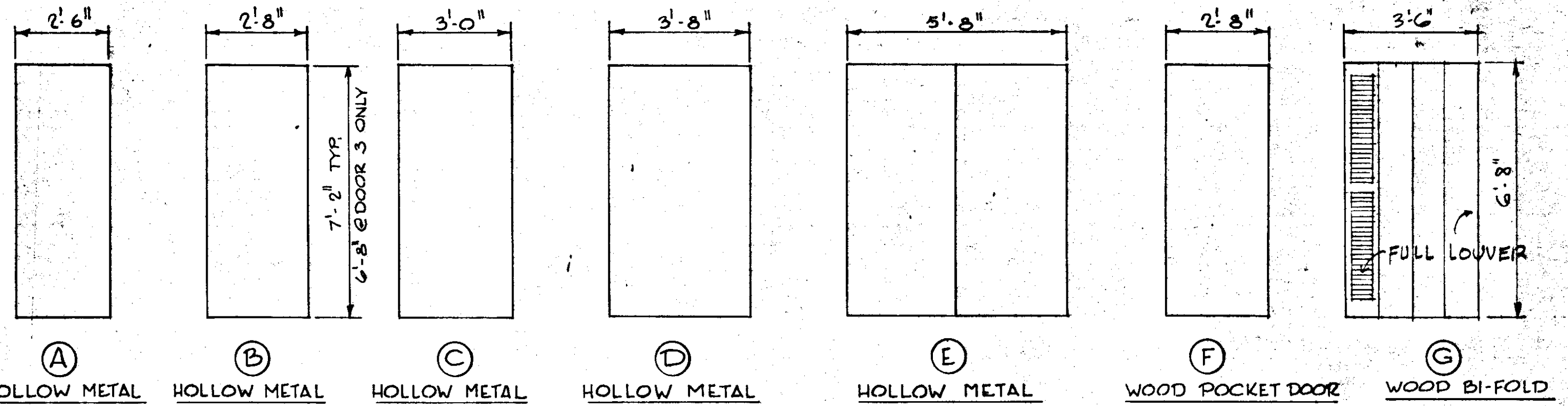
ELEVATION N
SCALE: 1/2" = 1'-0"



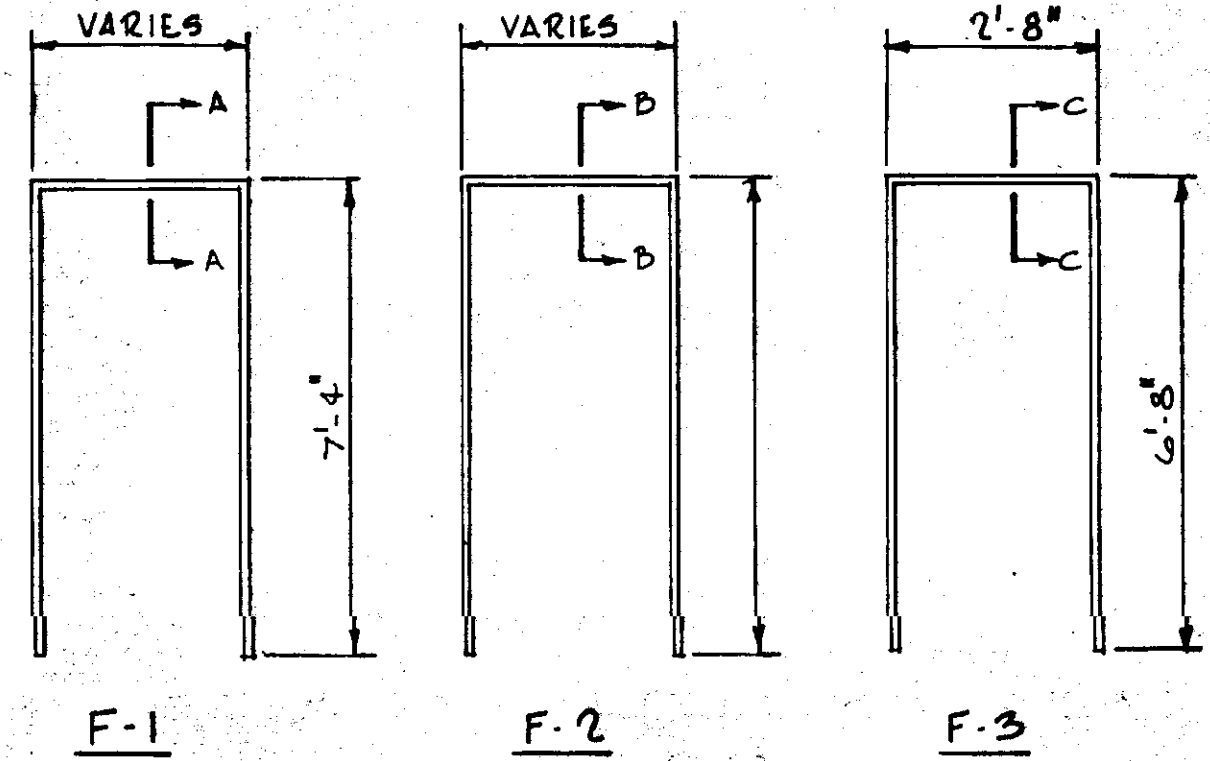
ELEVATION P
SCALE: 1/2" = 1'-0"



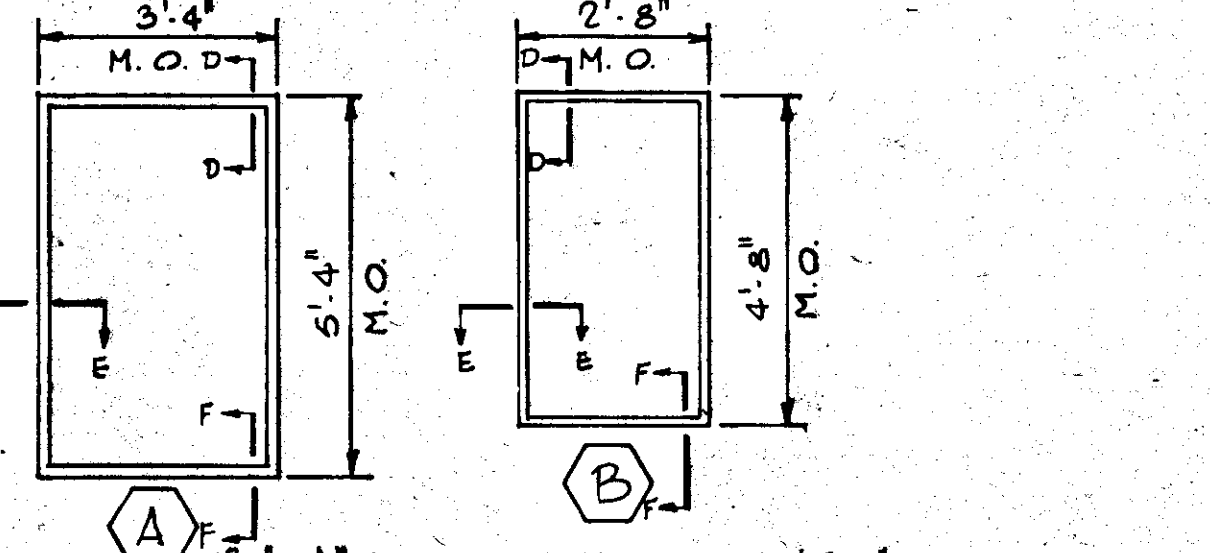
WINDOW DETAILS
SCALE: 1/8" = 1'-0"



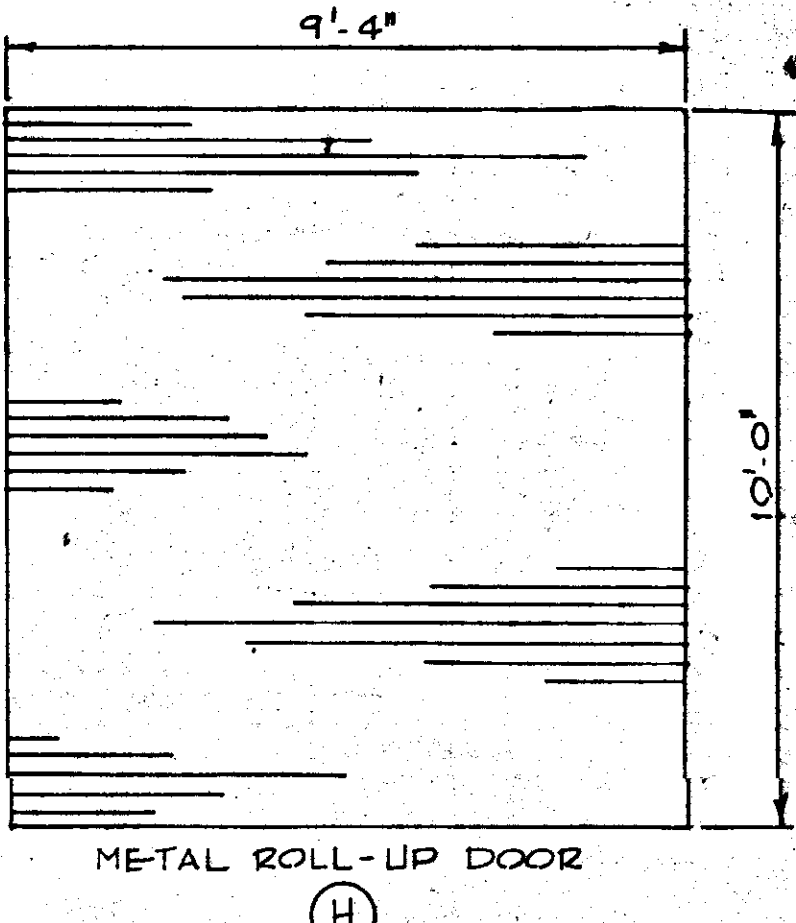
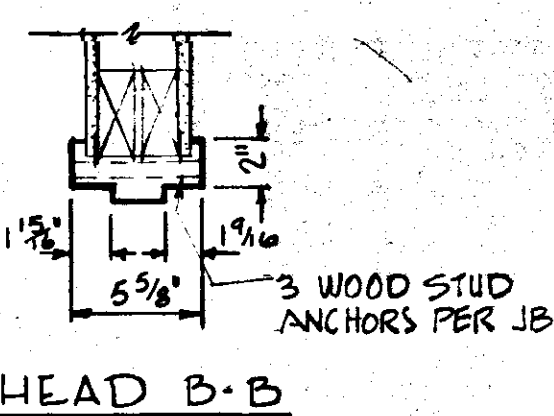
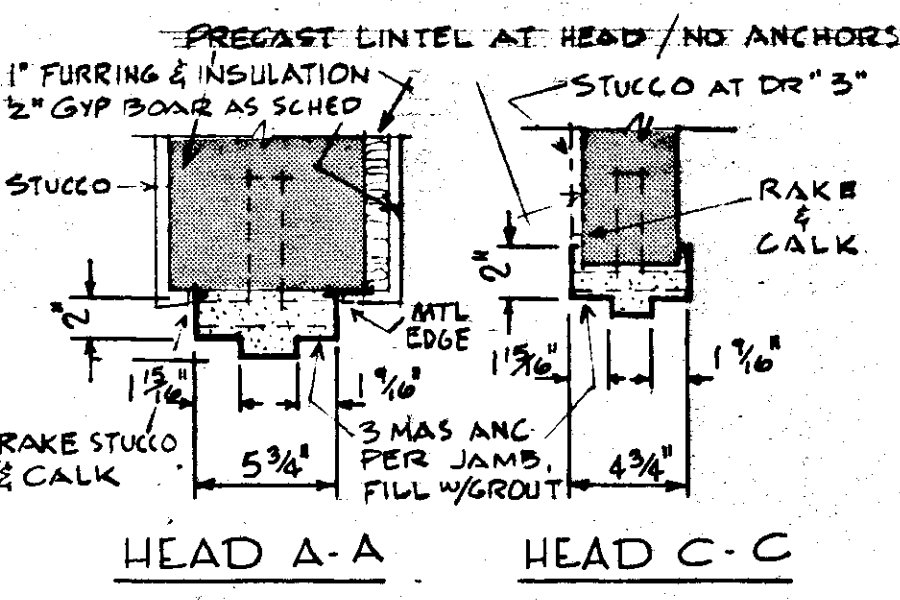
DOOR ELEVATIONS
SCALE: 3/8" = 1'-0"



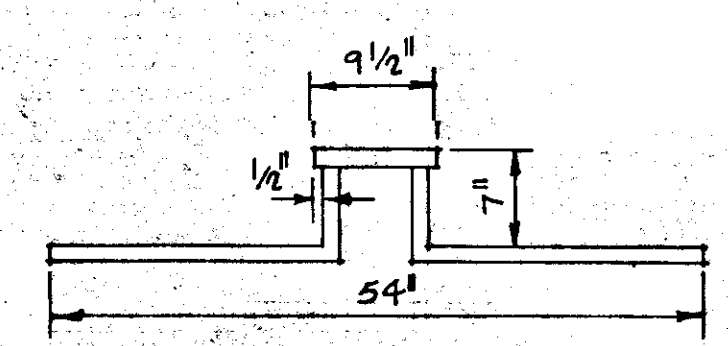
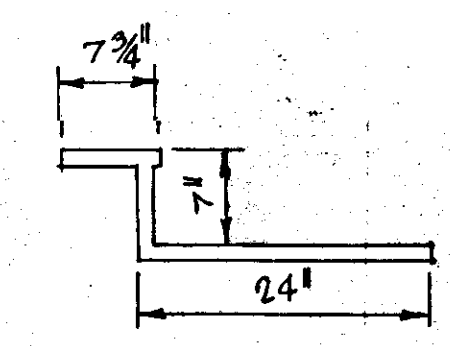
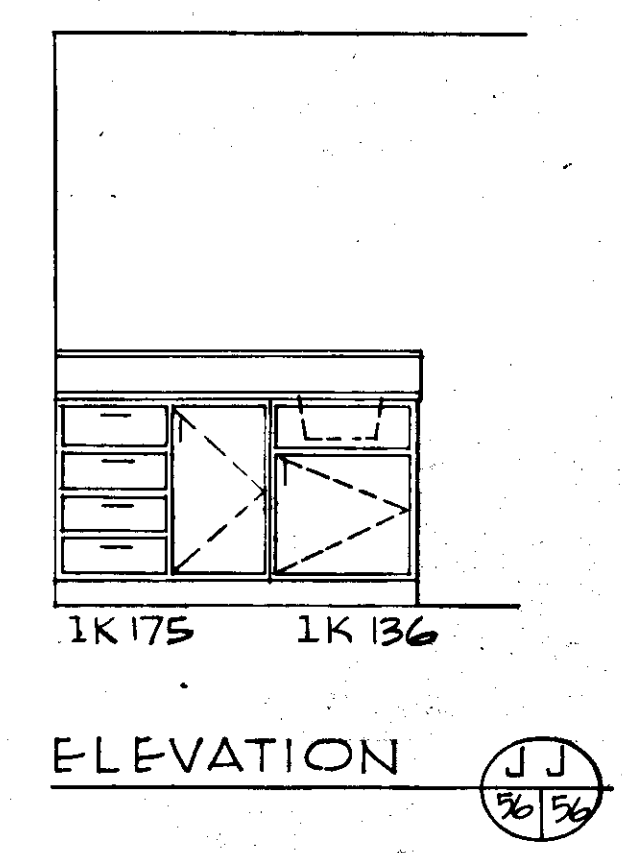
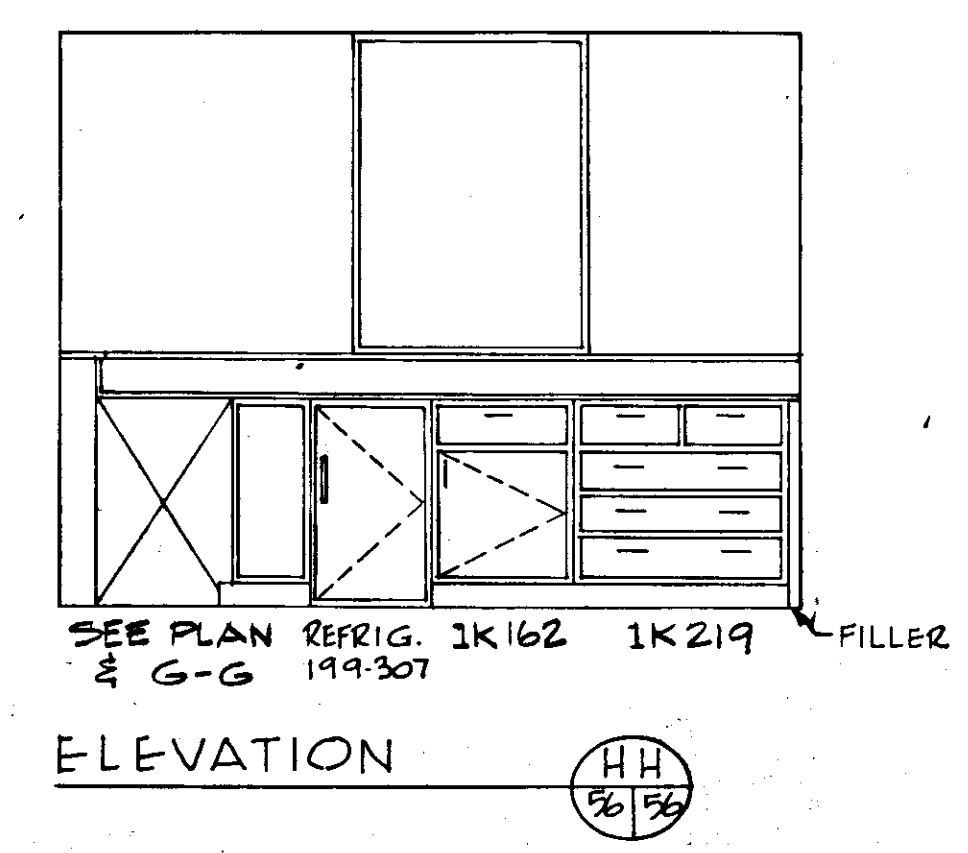
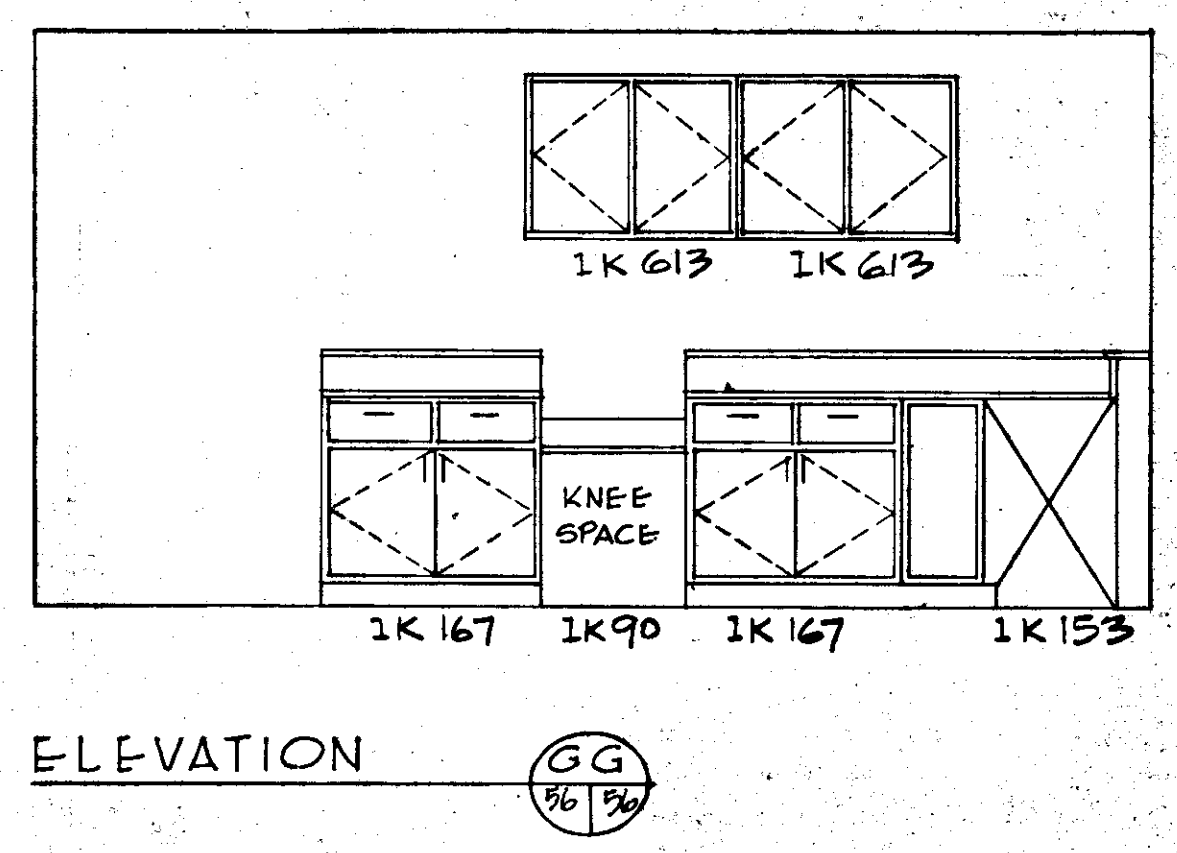
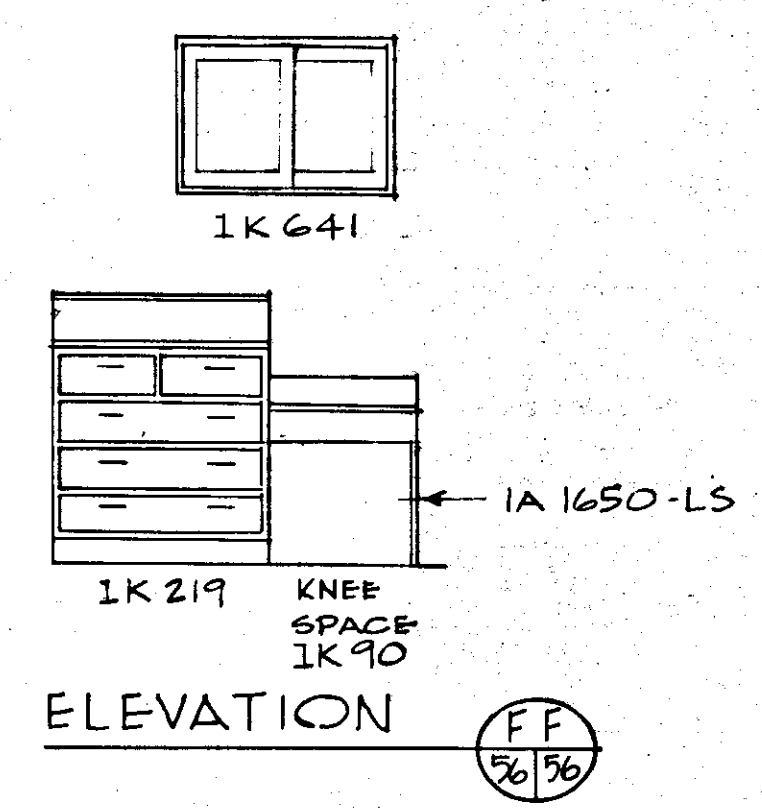
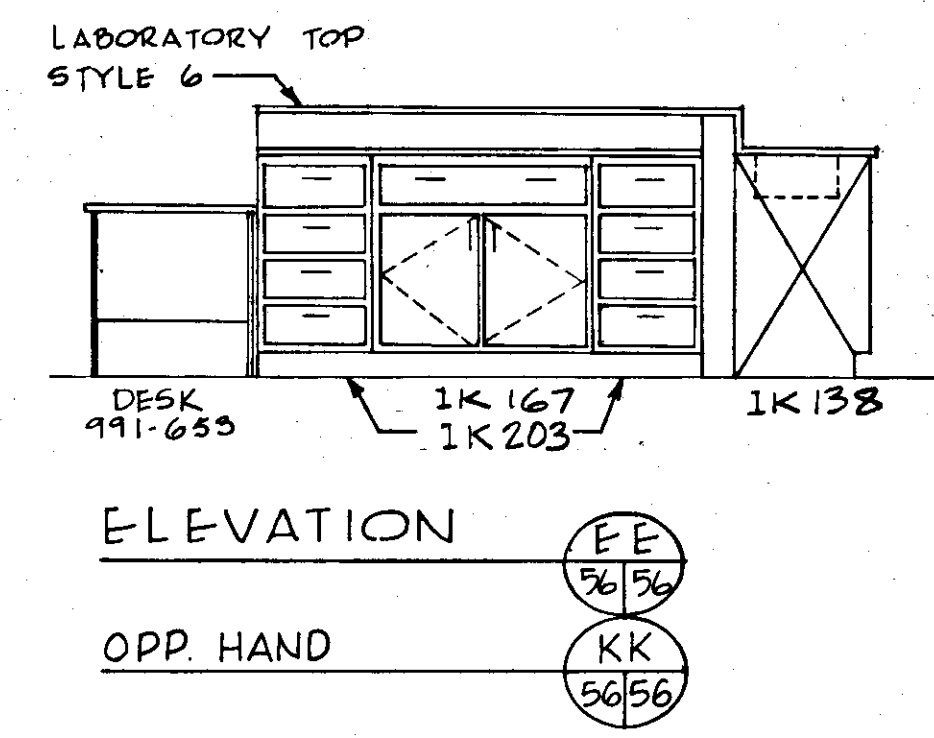
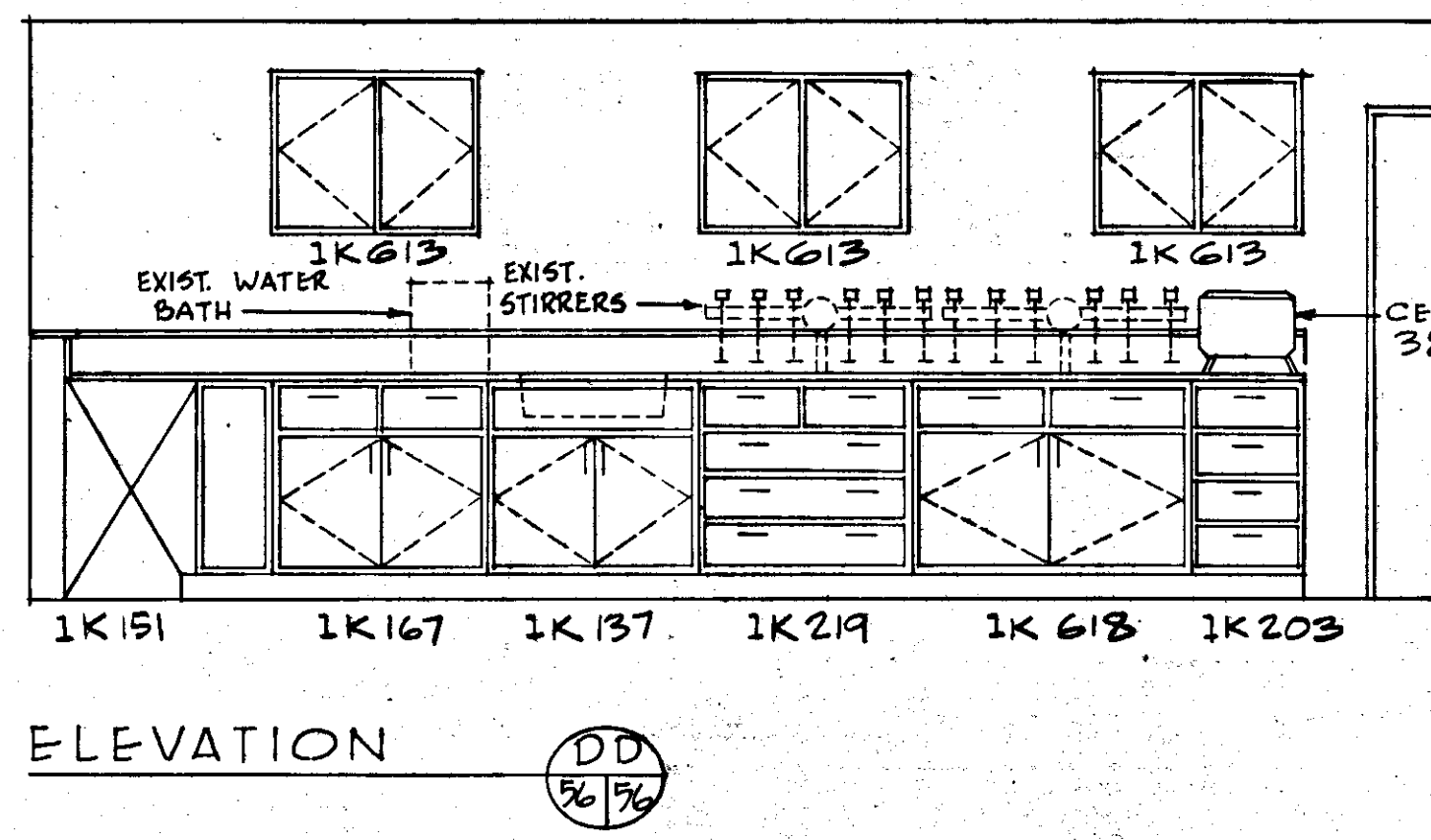
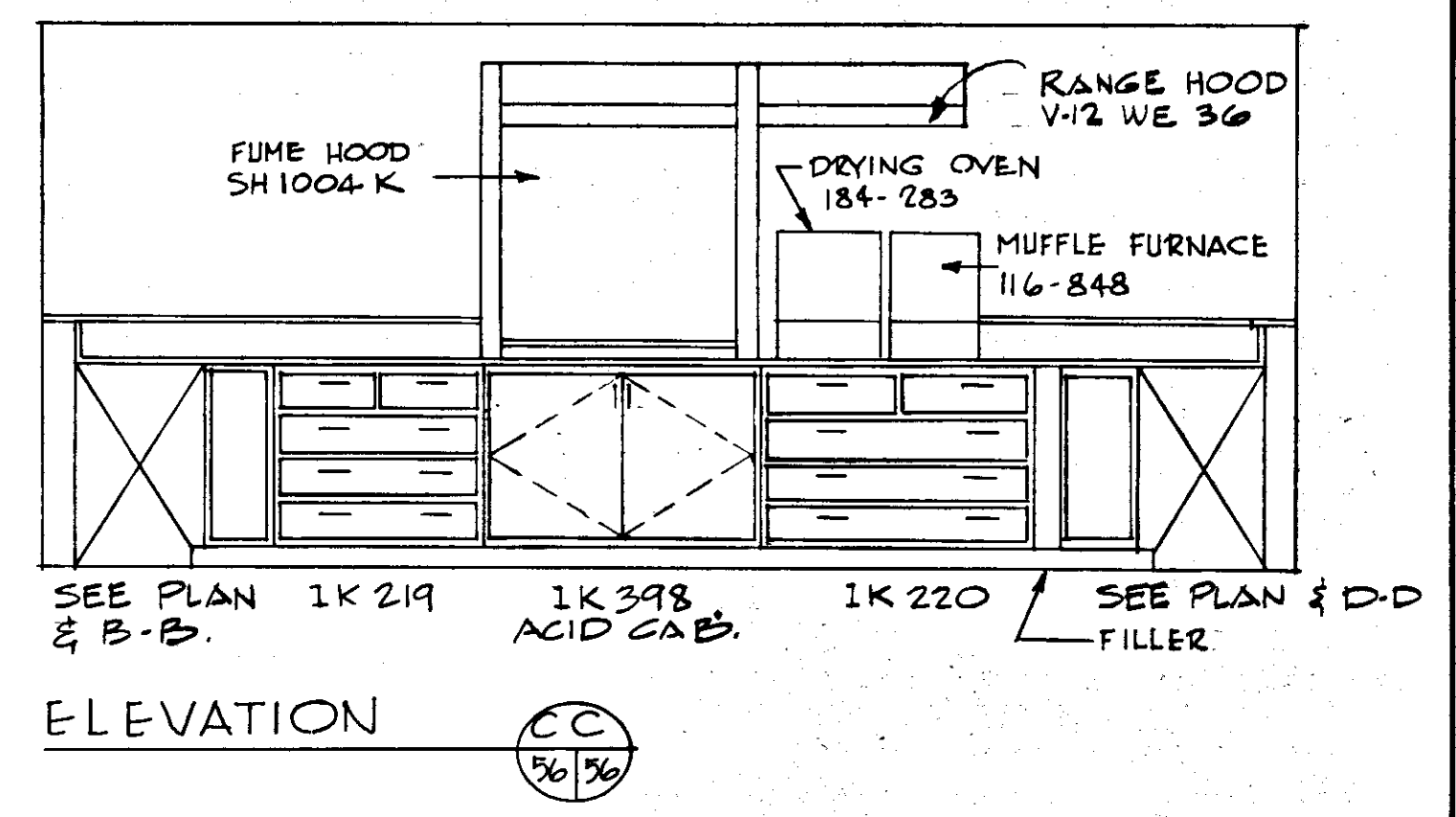
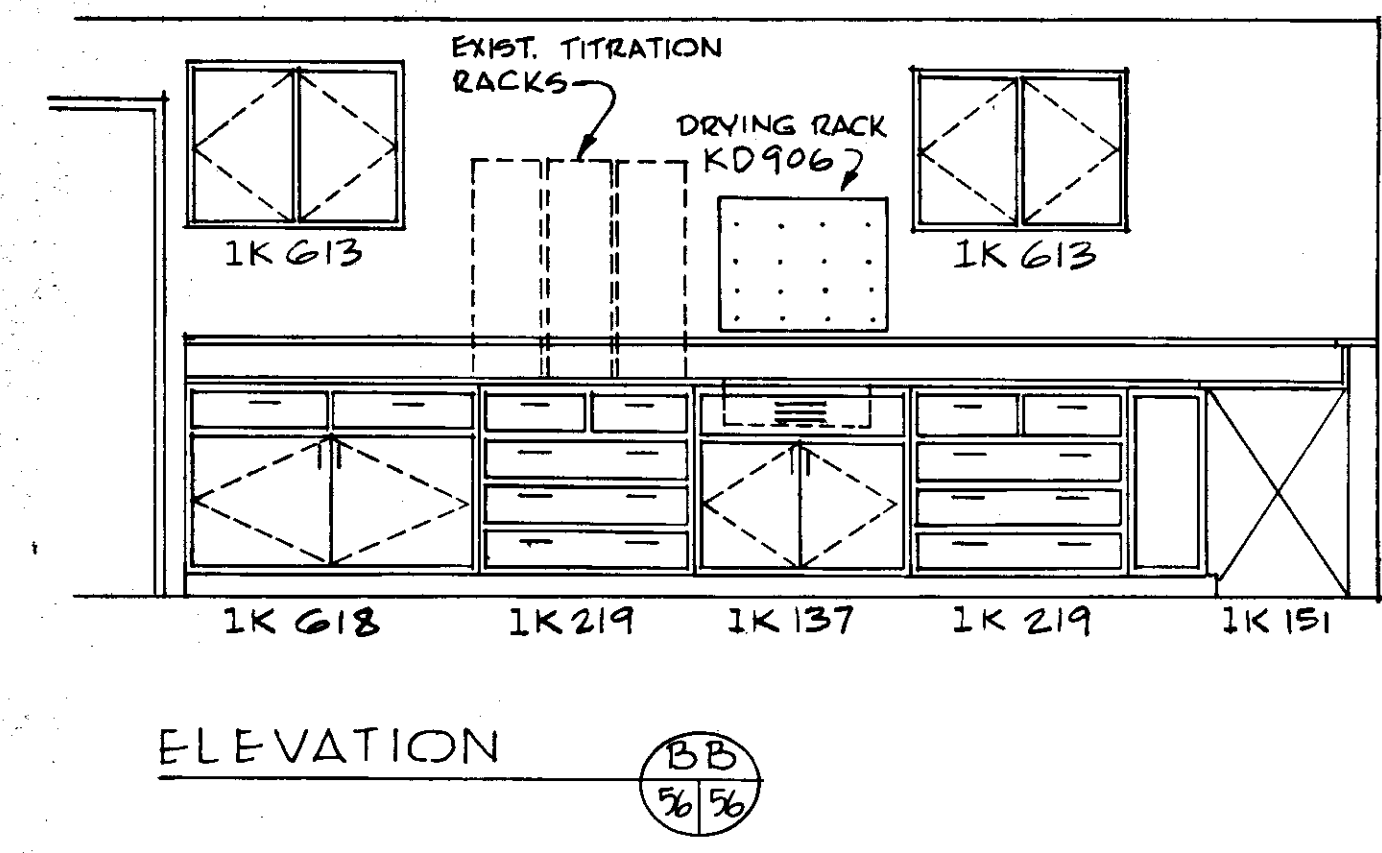
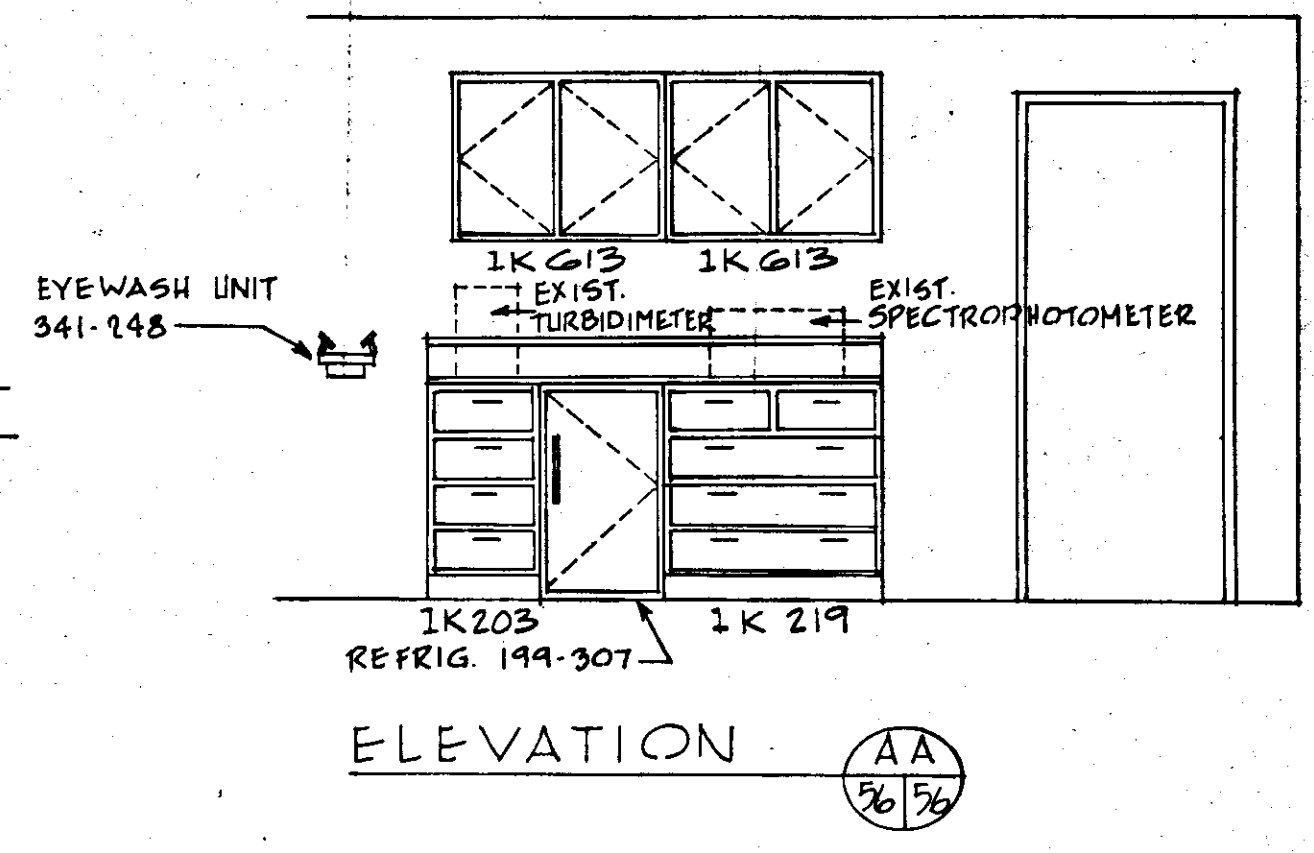
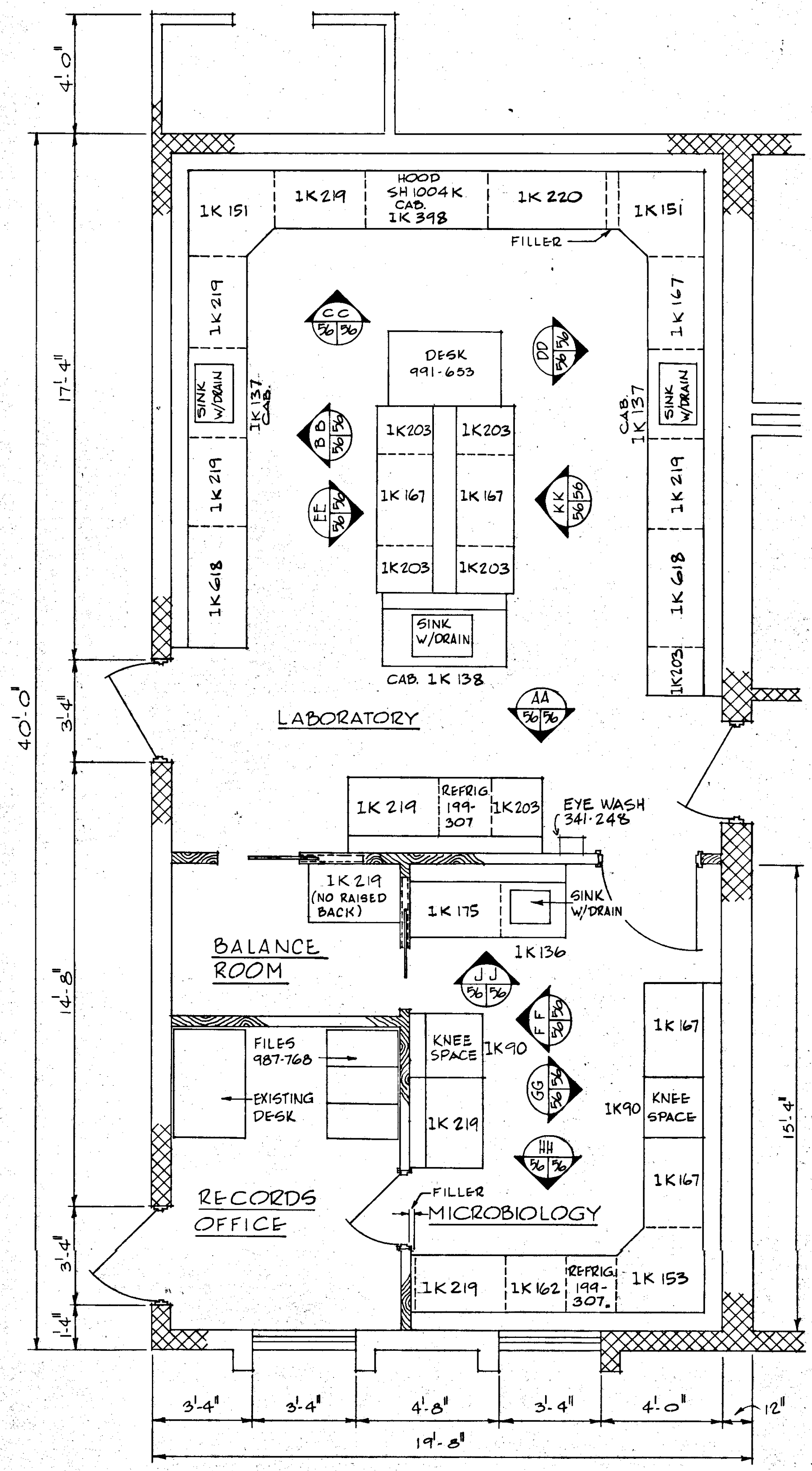
FRAME TYPES
N.T.S.



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



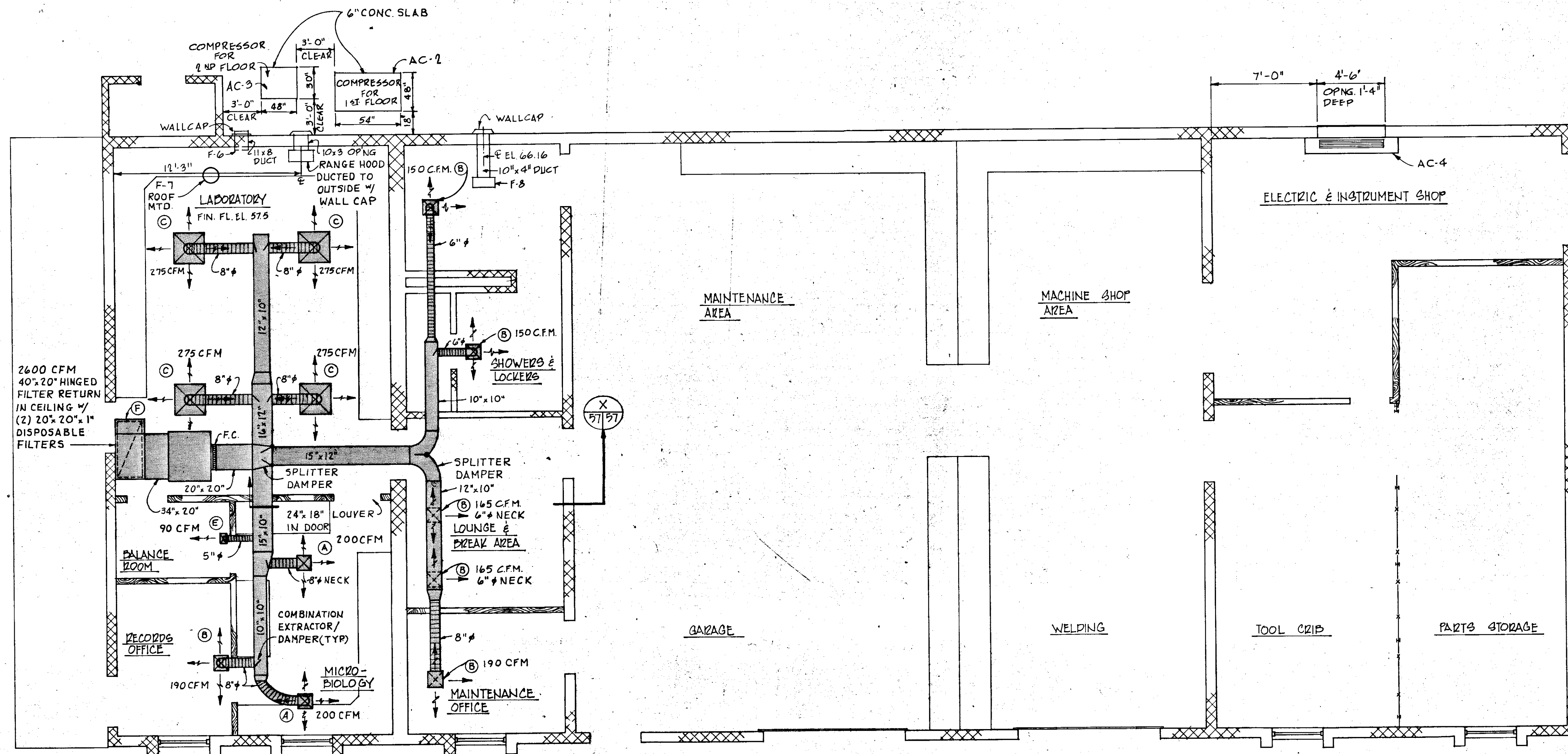
DESIGNED BY	J.R.A.	FILE NO.	630-761-04	SEAL
DRAWN BY	J.R.A.	SHEET A7		
CHECKED BY		OF 130	No. 55	
DATE	AUGUST, 1978	SCALE: AS NOTED		



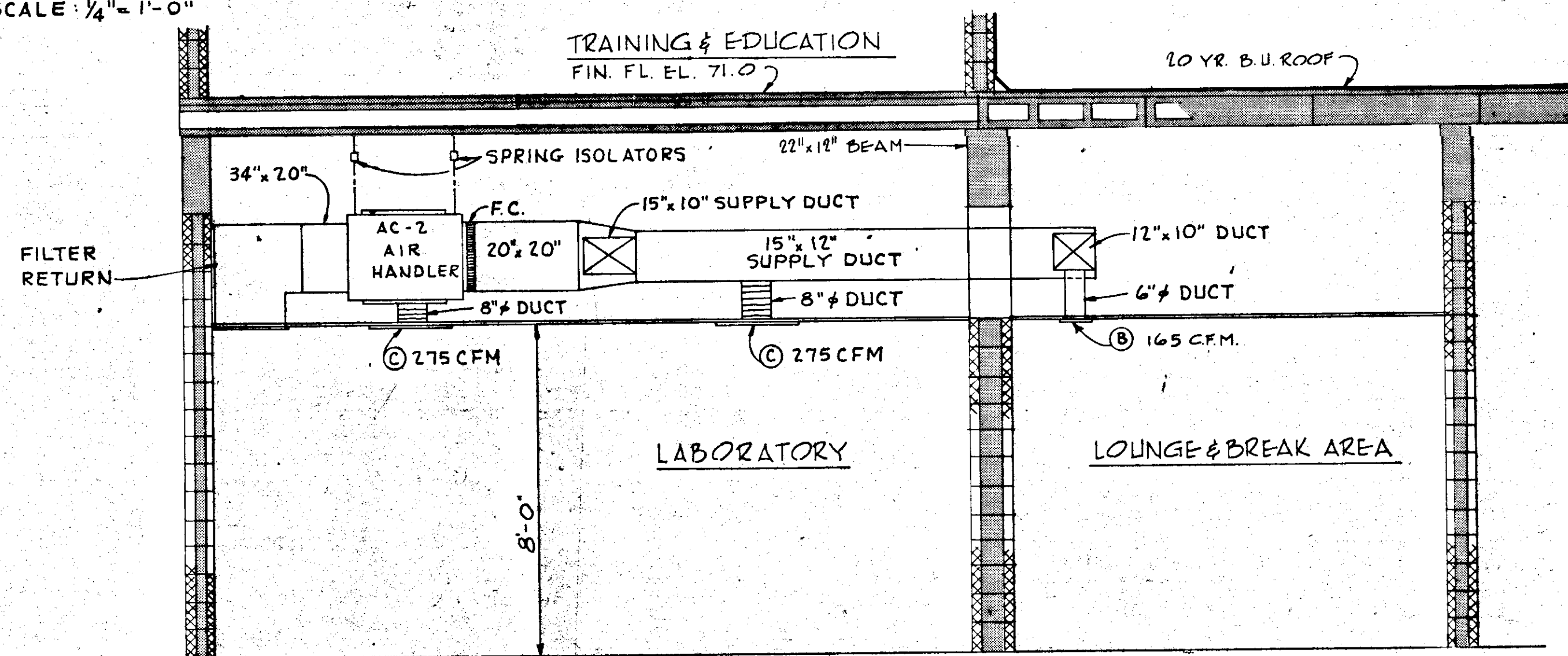
COUNTER TOP DETAILS
SCALE: 3/4" = 1'-0"

- NOTES:**
- SINK IN CENTER ISLAND TO BE SAMPLE SINK WITH FOLLOWING SAMPLES PIPED IN (SIPHON FLOW):
RAW WATER (PRIOR TO CHEMICAL FEED)
RAPID MIX A
RAPID MIX B
POST MIX B
POST MIX A1 & A2
TRANSFER LINE 1
TRANSFER LINE 2
 - AFTER ALL CHEMICALS MIXED
DESIRE TO USE SAME LINES AS SAMPLING FOR CL₂ ANALYZER, PH RECORDER, TURBIDITY MONITORS.
- ALL LINES SHALL BE LABELED AS NOTED AT SINK BY NAMEPLATES
2. CABINET NUMBERS SHALL INCLUDE ALL COUNTER TOPS, SINKS, SINK ASSEMBLIES, AND ALL OTHER APPURTENANCES AS SHOWN ON PLANS.

NO.	DATE	DESCRIPTION	BY	CHKD.
Δ 5/79	GEN REV		WRW	WDH
REVISIONS				
RUSSELL & AXON				
Engineers — Planners — Architects				
WATER WORKS PROJECT				
MAINTENANCE BUILDING				
LABORATORY LAYOUT & ELEVATIONS				
MANATEE COUNTY, FLORIDA				
DESIGNED BY	FILE NO.	SEAL		
J.R.A.	630-761-04			
DRAWN BY	SHEET A8			
J.R.A.				
CHECKED BY	NO. 56	SHEETS		
	OF 130			
DATE	SCALE: AS NOTED	JUL 2, 1979		
AUGUST, 1978				

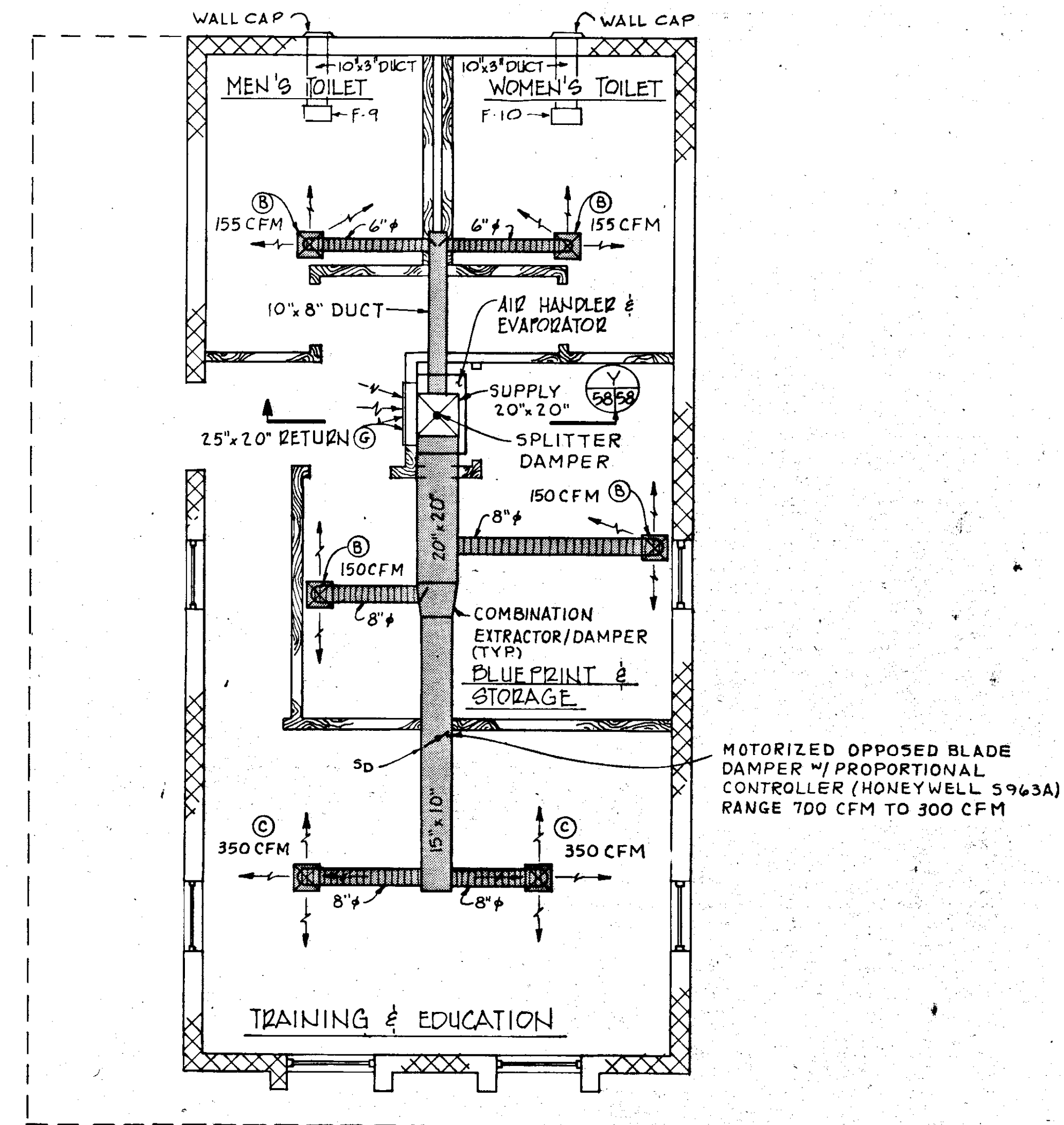


H.V.A.C. PLAN
SCALE: 1/4" = 1'-0"

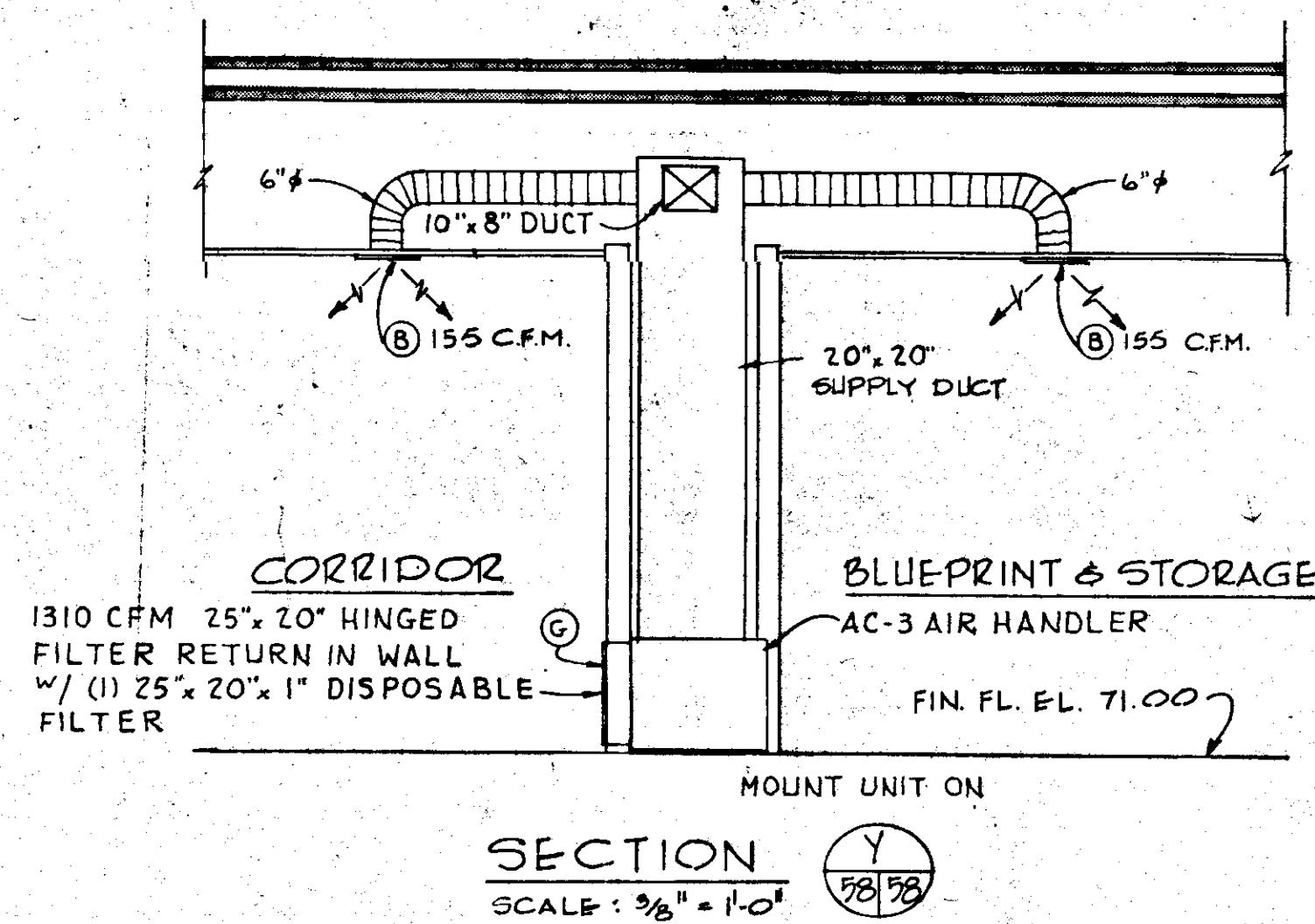


SECTION X-57/97
SCALE: 3/8" = 1'-0"

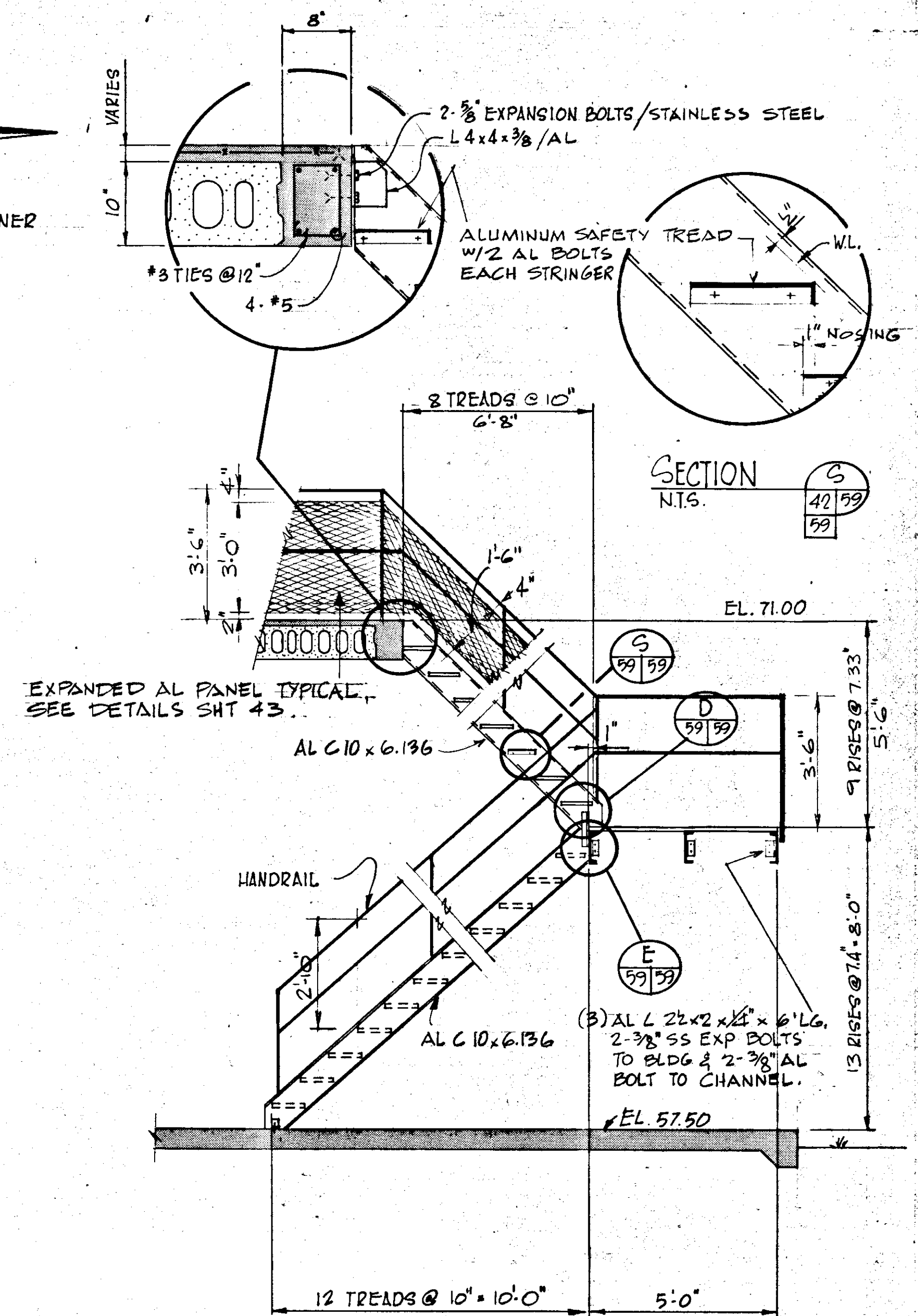
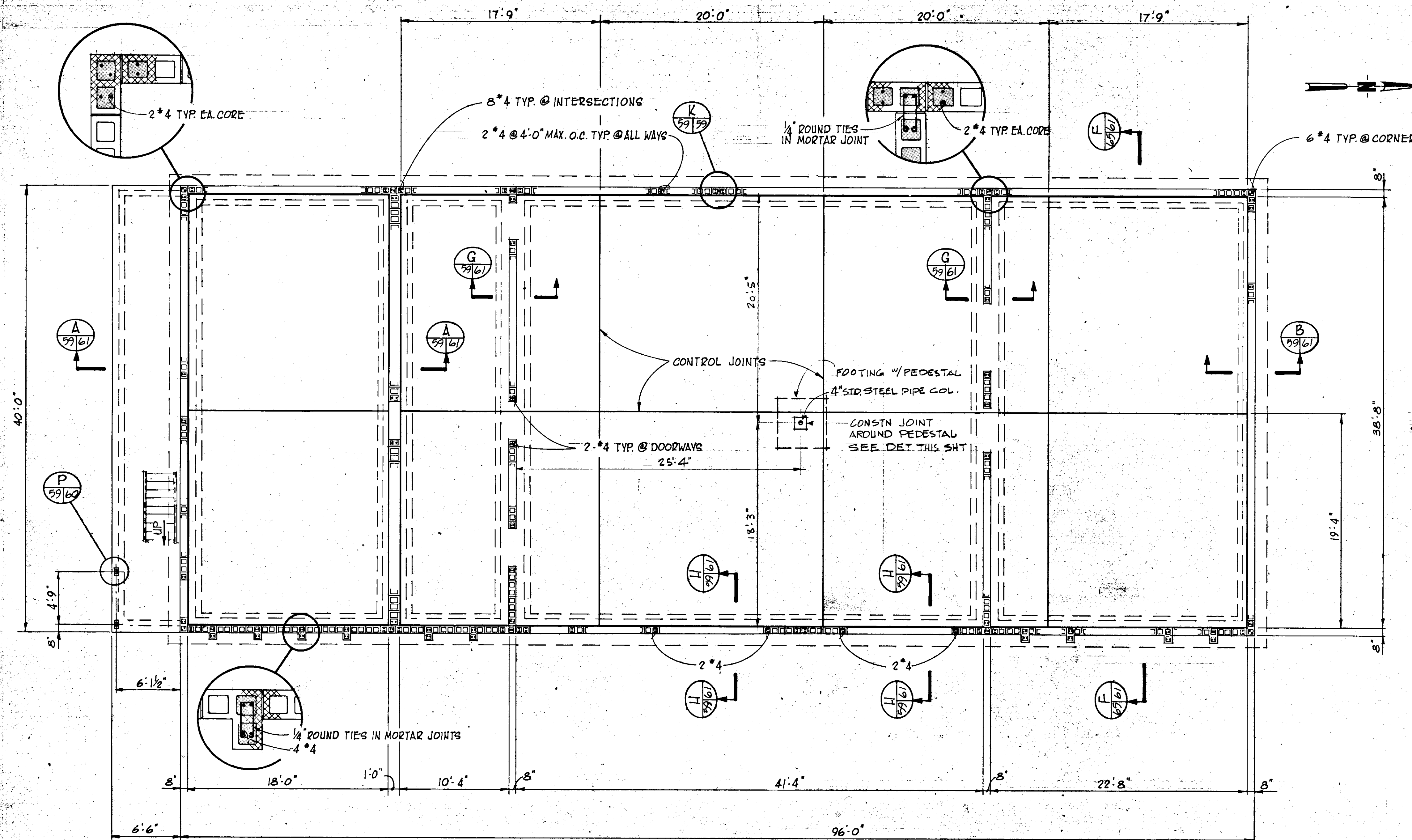
NO.	5/79	GEN. REV.	AL	CKD.
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT MAINTENANCE BUILDING H.V.A.C. PLAN				
MANATEE COUNTY, FLORIDA				
DESIGNED BY B.E.D.	FILE NO. 630-761-04	T-57 FLORIDA SEAL		
DRAWN BY H.G.B.	SHEET 9			
CHECKED BY	NO. 57			
DATE AUGUST, 1978	OF 130 SHEETS	SCALE: 1/4" = 1'-0"	JUL 2 1979	



H.V.A.C. FLOOR PLAN
SCALE 1/4" = 1'-0"

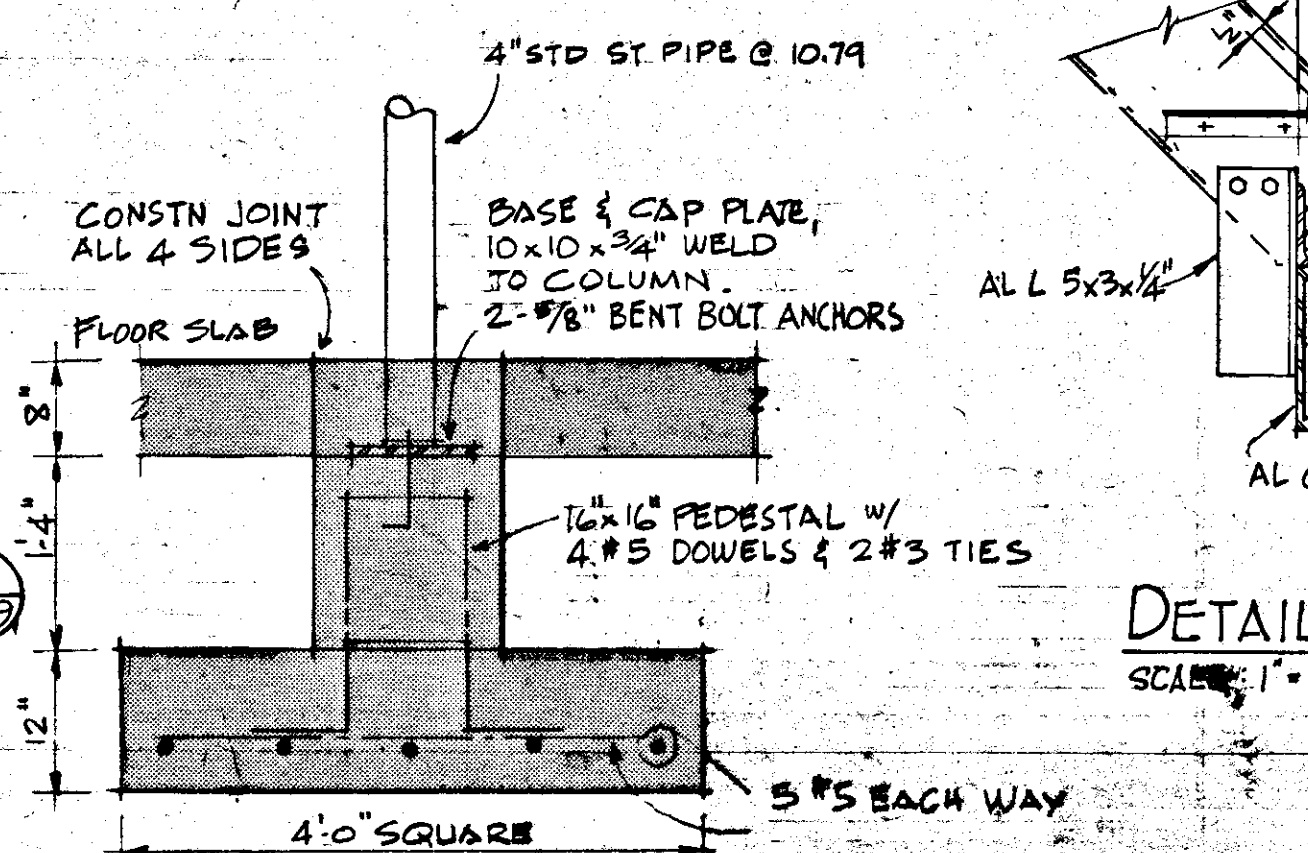
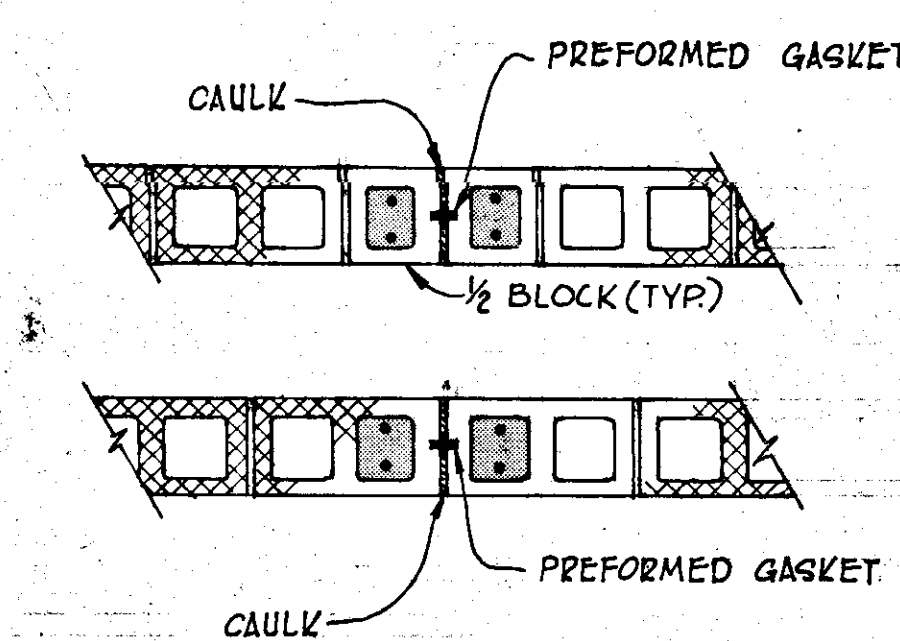


NO.	DATE	DESCRIPTION	BY	CHKD.
5/79		GEN. REV.	AL	
REVISIONS				
RUSSELL & AXON				
Engineers — Planners — Architects				
WATER WORKS PROJECT				
MAINTENANCE BUILDING				
H.V.A.C. PLAN & SECTIONS.				
MANATEE COUNTY, FLORIDA				
DESIGNED BY B.E.D.	FILE NO. 630-761-04	SEAL JUL 2 1979		
DRAWN BY H.G.B.	SHEET A 10			
CHECKED BY	OF 130 SHEETS			
DATE AUGUST, 1978	SCALE: 1/4" = 1'-0"			

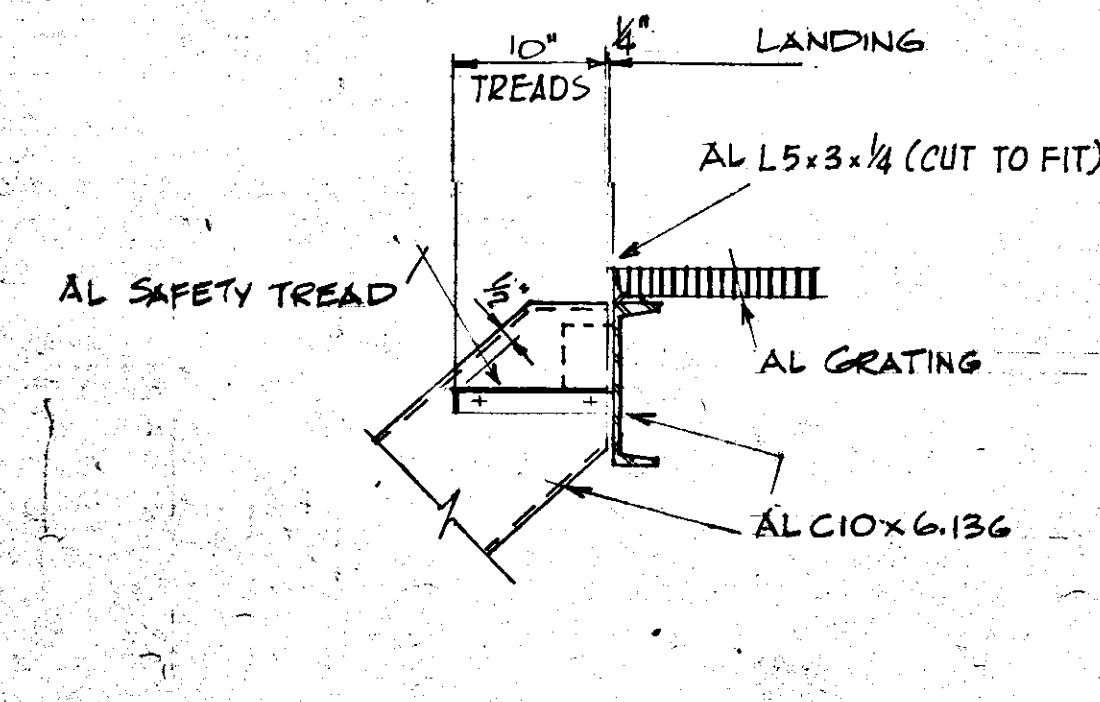
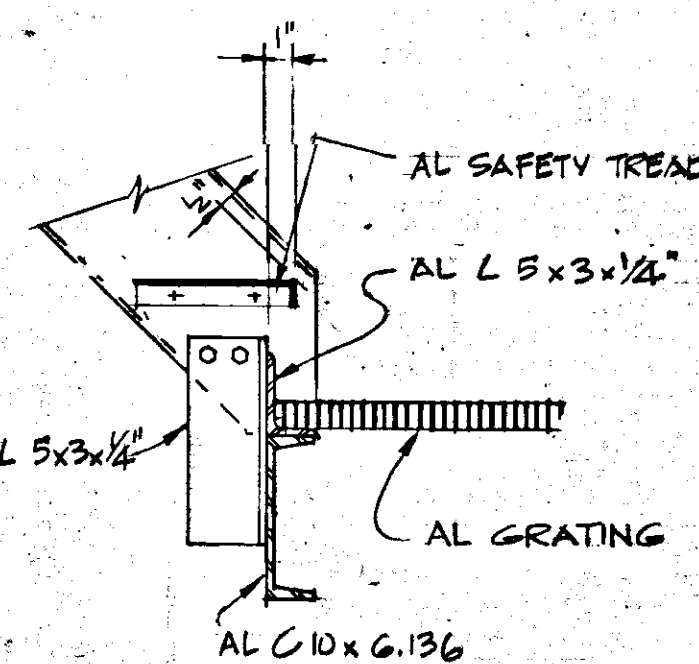


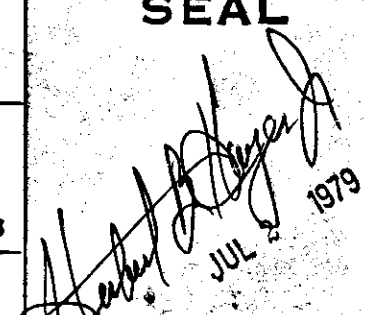
SECTION 
SCALE: $\frac{3}{8}" = 1'-0"$

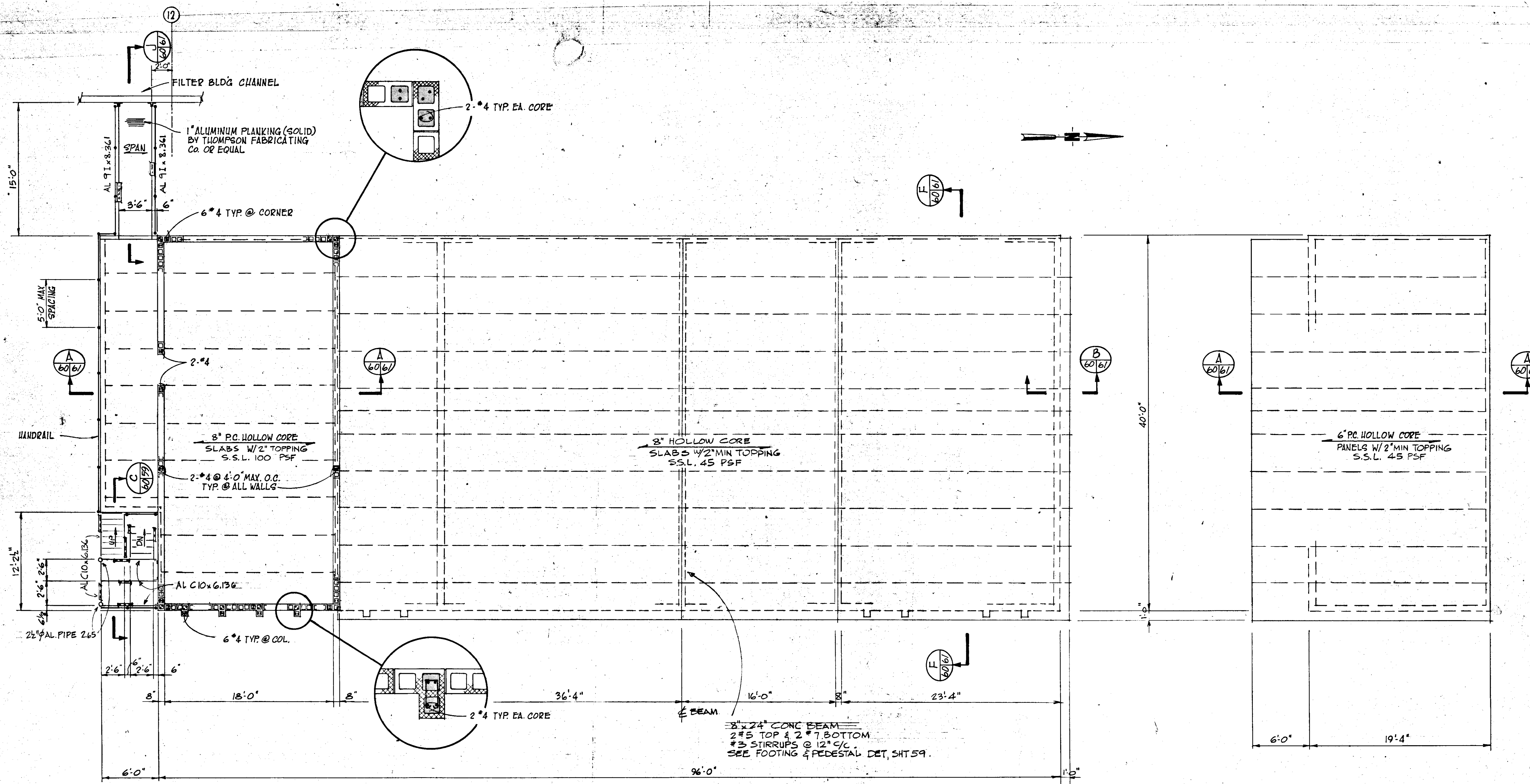
NOTE: ALL RAIL PANELS NOT SHOWN.
SEE SHEET 43.



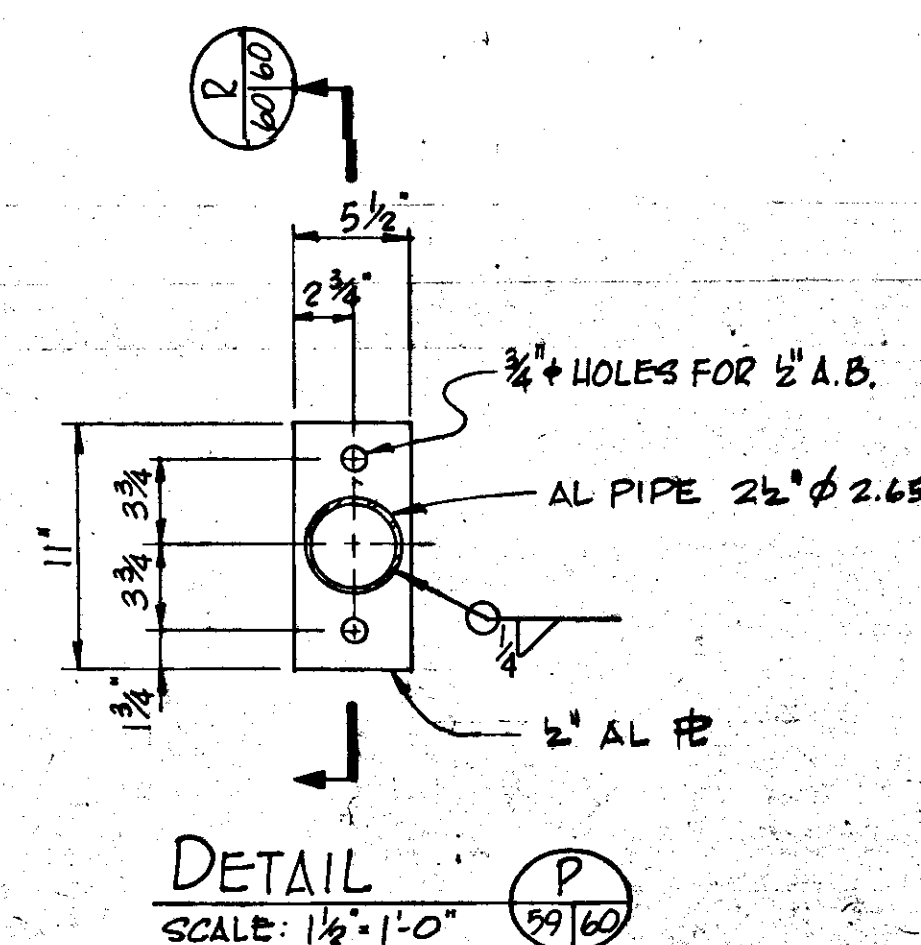
COLUMN FOOTING & PEDESTAL DETAIL
SCALE: $\frac{3}{4}" = 1'-0"$



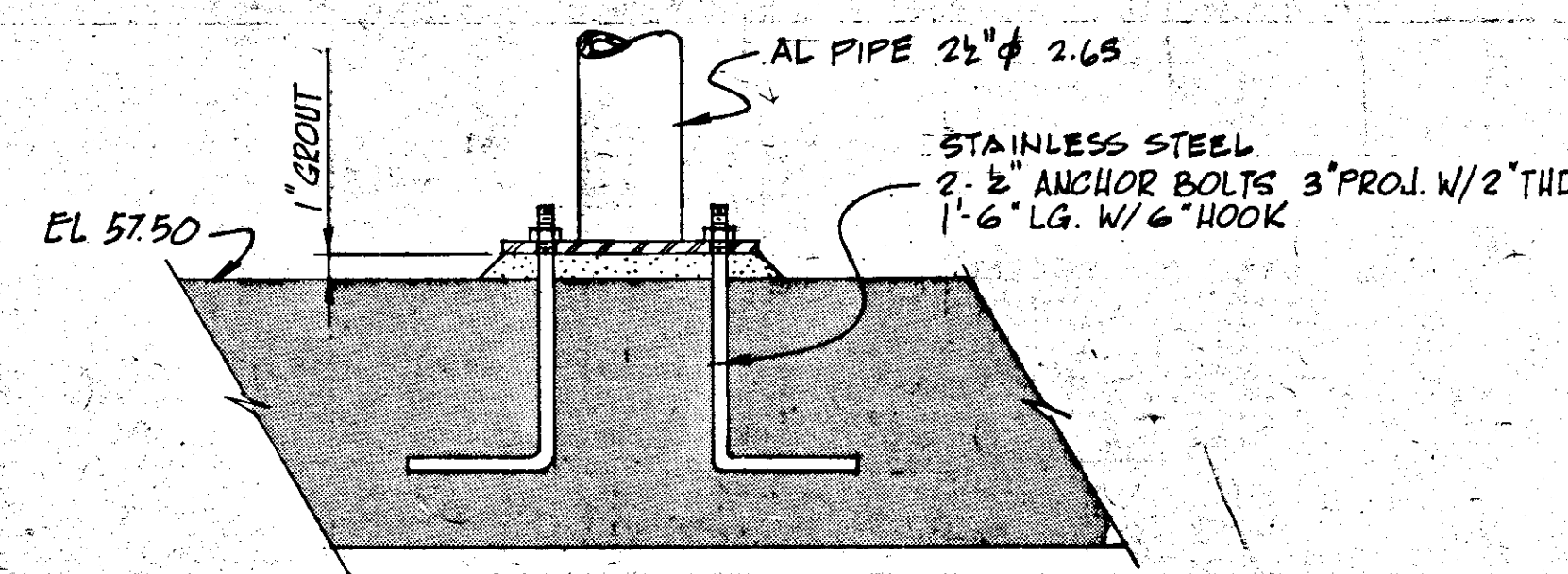
<u>A</u>	<u>5/19</u>	<u>GEN REV</u>		<u>WRW</u>	<u>WDH</u>
NO.	DATE	DESCRIPTION		BY	CHKD.
REVISIONS					
RUSSELL & AXON <i>Engineers — Planners — Architects</i>					
WATER WORKS PROJECT MAINTENANCE BUILDING PLAN AT EL. 75.50, SECTIONS & DETAILS					
MANATEE COUNTY,			FLORIDA		
DESIGNED BY M.B.	FILE NO.		SEAL  JUL 2 1979		
DRAWN BY <i>EL</i>	630-761-04				
CHECKED BY	SHEET 51				
	OF 130	NO. (59)	SHEETS		
DATE AUGUST, 1978	SCALE: AS NOTED				



ROOF FRAMING PLAN @ EL. 81.34
SCALE: 3/16" = 1'-0"



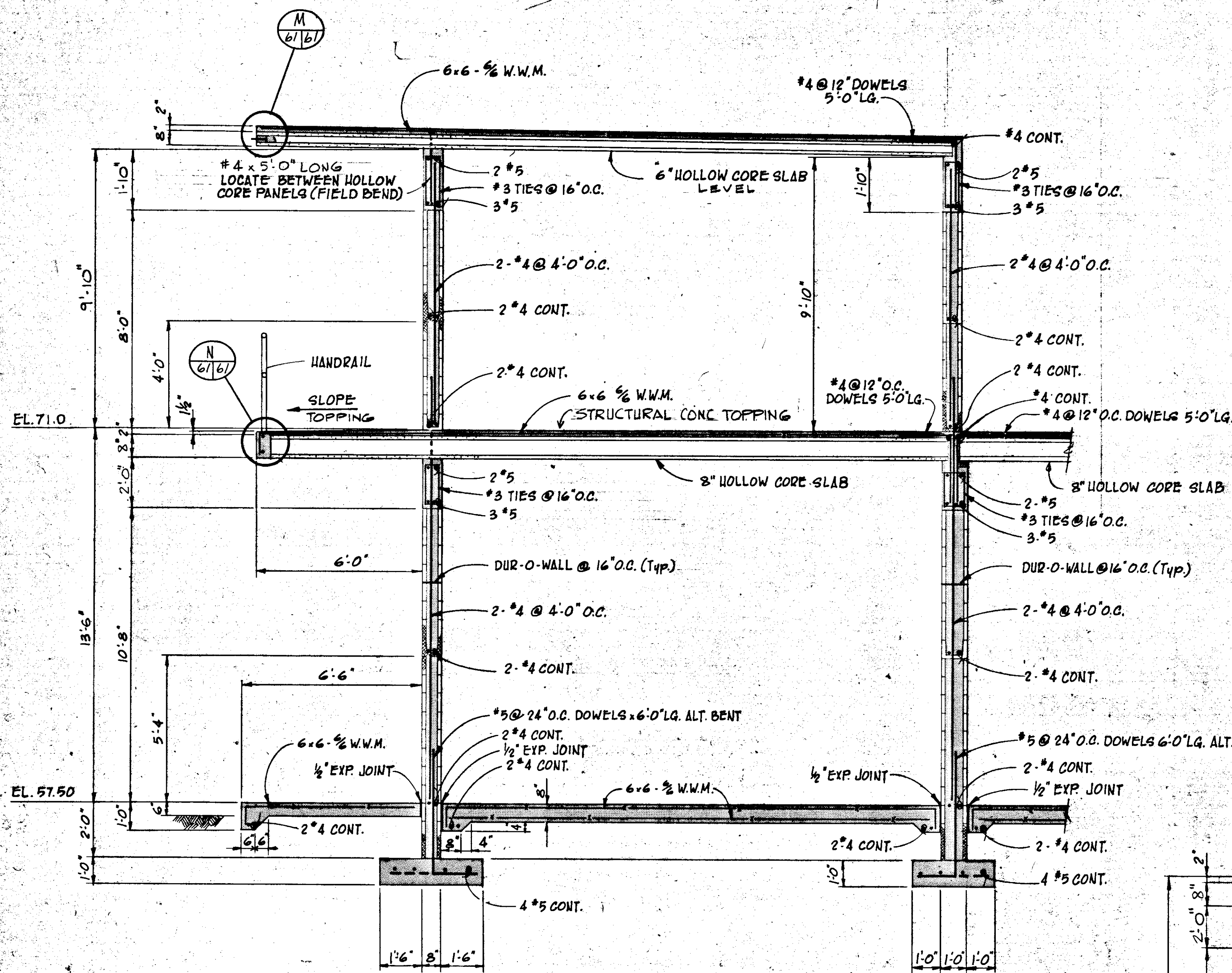
PLAN @ EL. 71.00
SCALE: 3/16" = 1'-0"



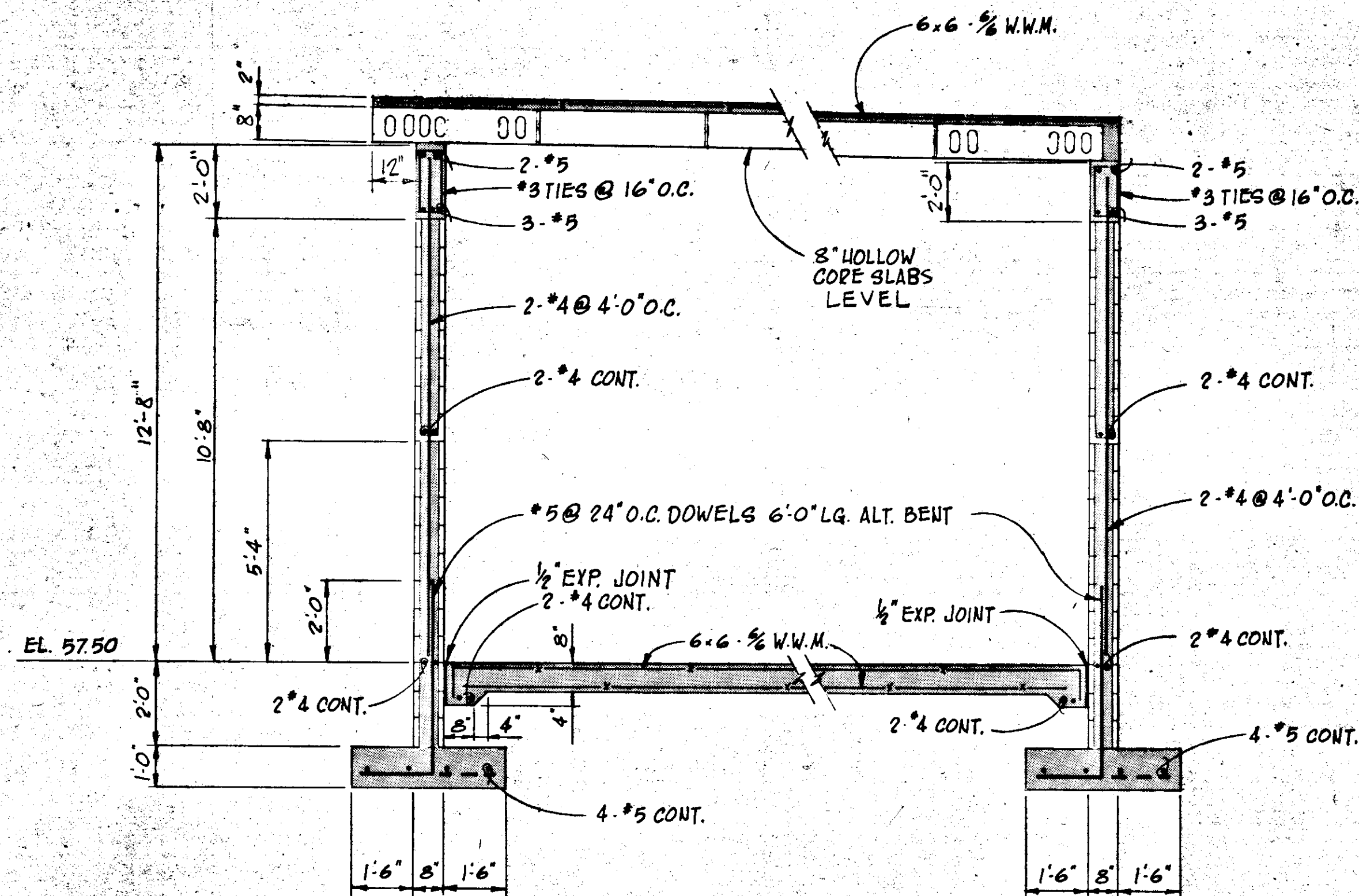
SECTION
SCALE: 1 1/2" = 1'-0"

NOTE:
SEE DWG No. 43 FOR TYP. DETAILS

NO.	DATE	DESCRIPTION	BY	CHKD.
Δ 5/79	GEN REV			
REVISIONS				
RUSSELL & AXON				
Engineers — Planners — Architects				
WATER WORKS PROJECT				
MAINTENANCE BUILDING				
PLAN AT EL. 71.00				
ROOF FRAMING PLAN AT EL. 81.67 SECT. & DET. T-60				
MANATEE COUNTY, FLORIDA				
DESIGNED BY M.B. 1	FILE NO. 630-761-04	SEAL		
DRAWN BY EL	SHEET S2			
CHECKED BY	OF 130 SHEETS			
DATE AUGUST, 1978	SCALE: AS NOTED			

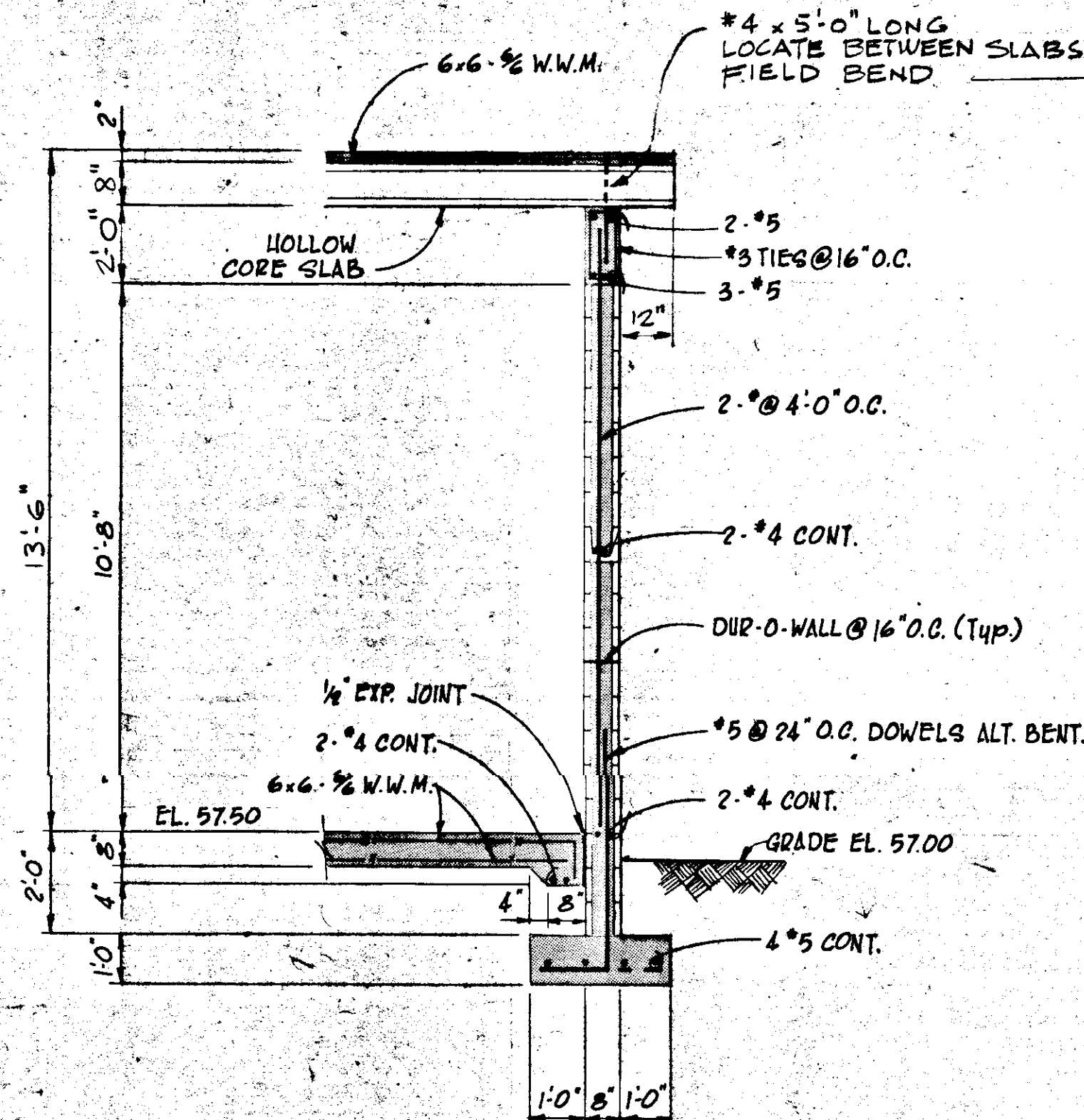


SECTION A
SCALE: 3/8" = 1'-0"

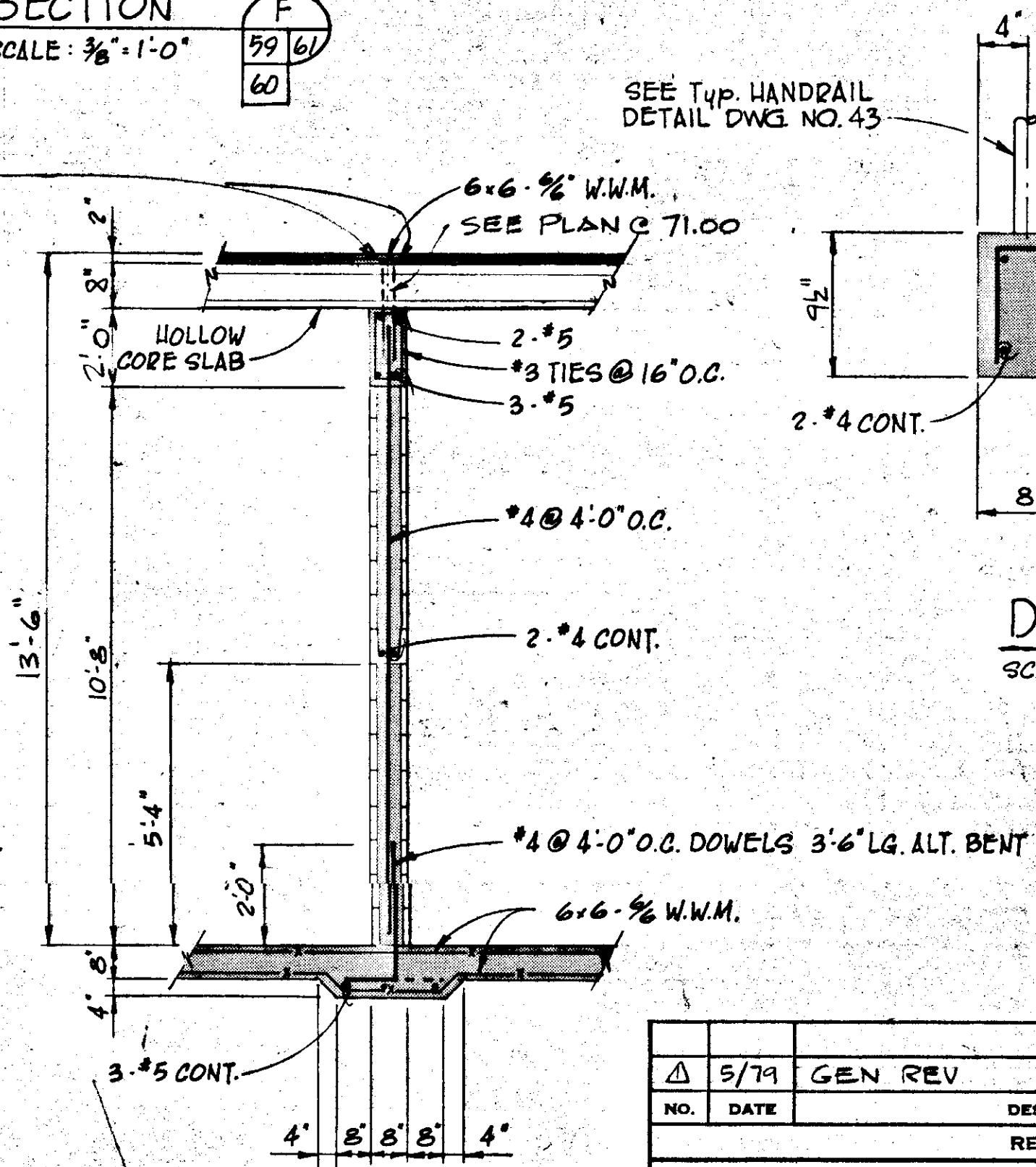


SECTION F
SCALE: 3/8" = 1'-0"

DETAIL M
SCALE: 1" = 1'-0"

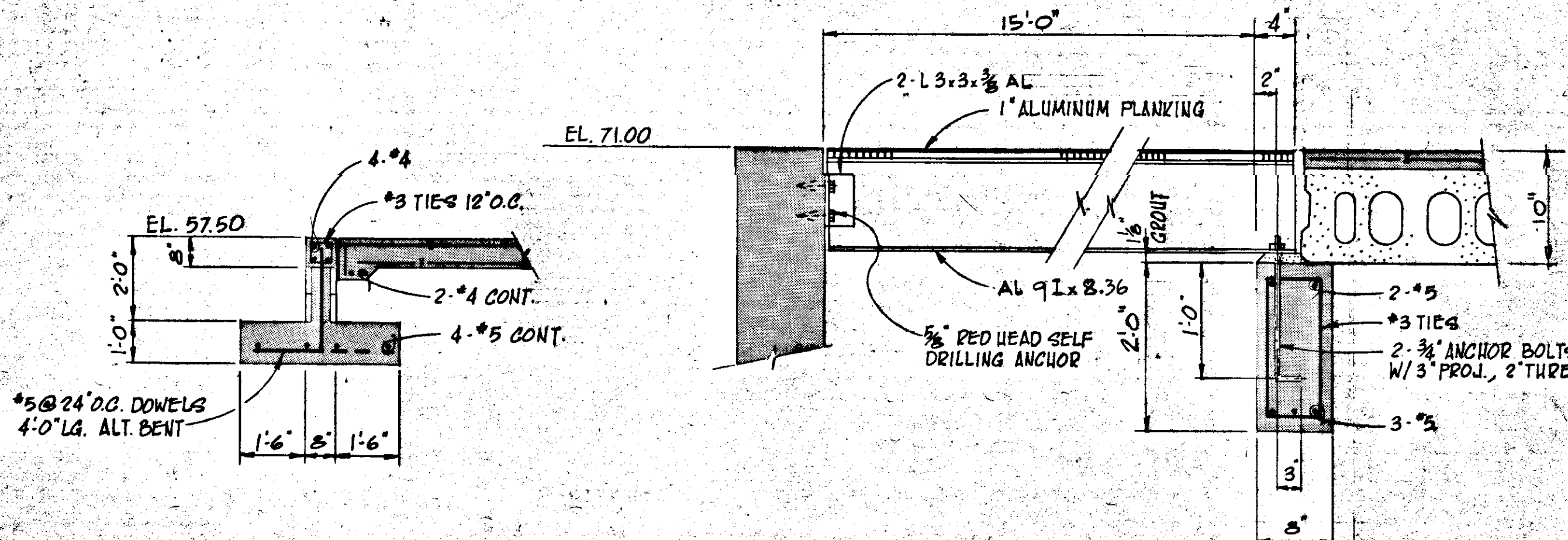


SECTION B
SCALE: 3/8" = 1'-0"



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

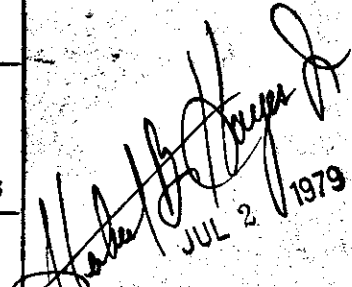
DETAIL N
SCALE: 1" = 1'-0"

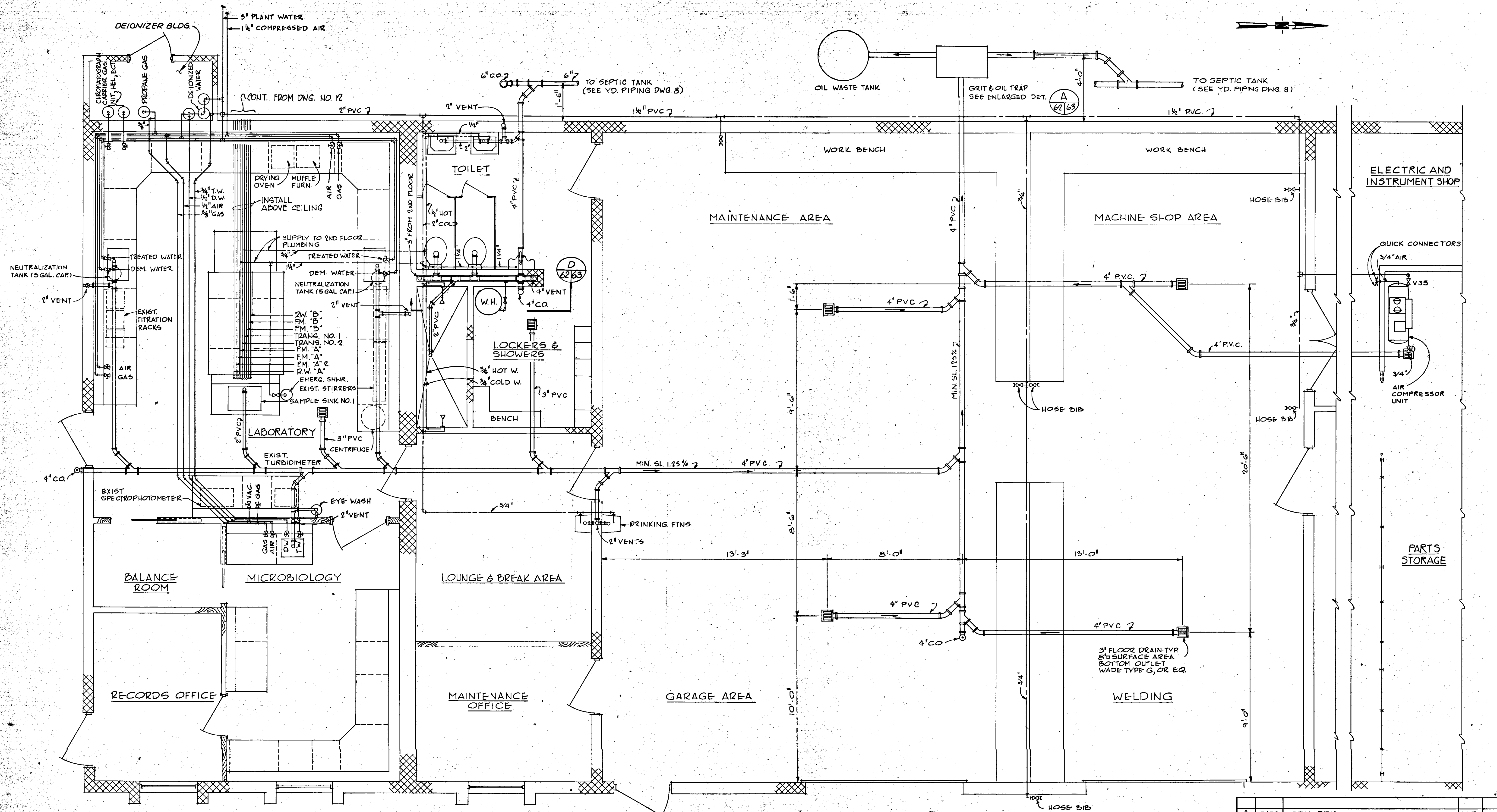


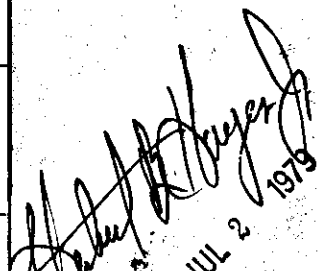
SECTION H
SCALE: 3/8" = 1'-0"

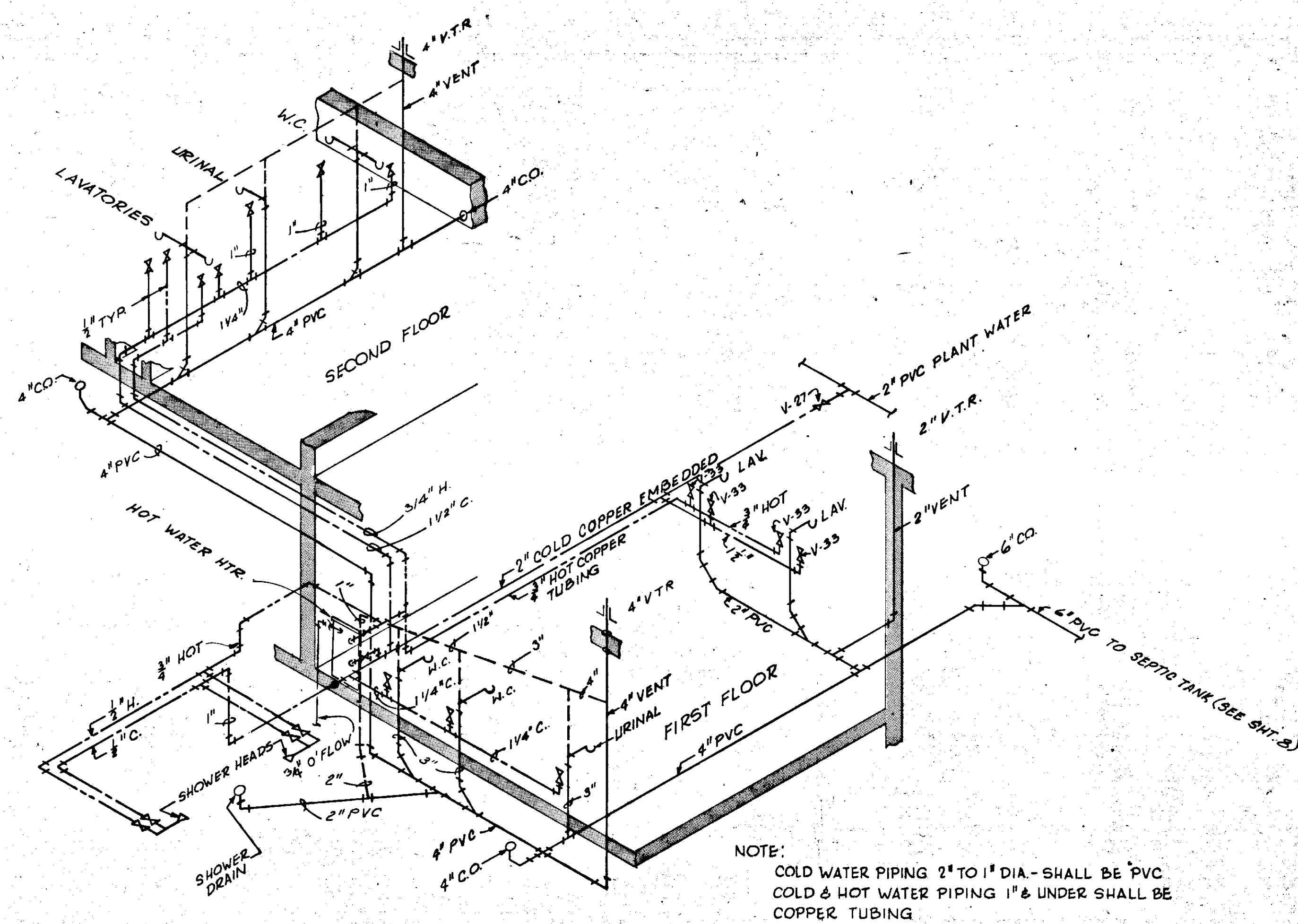
SECTION J
SCALE: 1" = 1'-0"

NOTE:
SEE DWG NO. 43 FOR TYP. DETAILS

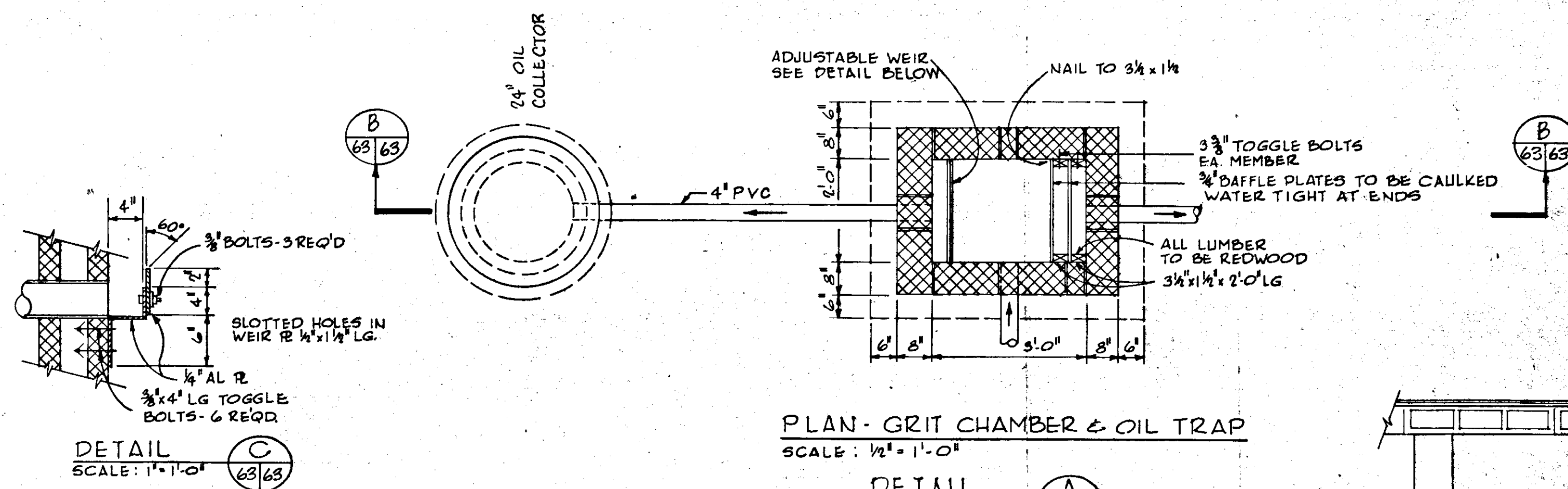
Δ	5/79	GEN REV	WRW	WPH
NO.	DATE	DESCRIPTION	BY	CHKD.
REVISIONS				
RUSSELL & AXON				
Engineers — Planners — Architects				
WATER WORKS PROJECT				
MAINTENANCE BUILDING				
SECTIONS & DETAILS				
MANATEE COUNTY,			T-61 FLORIDA	
DESIGNED BY M. B.	FILE NO. 630-761-04	SEAL 		
DRAWN BY EK	SHEET S3			
CHECKED BY	OF 130	NO. (61)	SHEETS	
DATE AUGUST, 1978	SCALE: AS NOTED		JUL 2 1979	



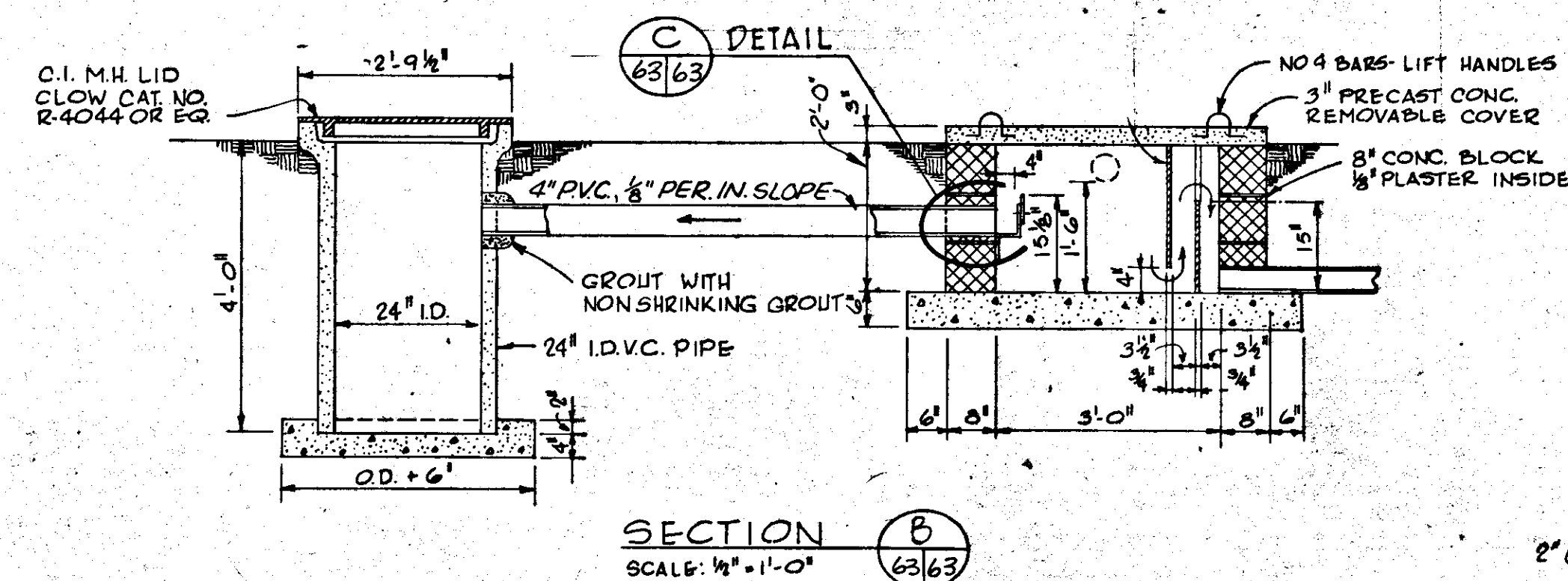
		5/79	GEN. REV.	W.T.	
NO.	DATE	DESCRIPTION		BY	CHK
REVISIONS					
RUSSELL & AXON <i>Engineers — Planners — Architects</i>					
WATER WORKS PROJECT MAINTENANCE BUILDING PLUMBING LAYOUT - FIRST FLOOR					
MANATEE COUNTY,					
DESIGNED BY		FILE NO.		SEAL	
B.E.D.		630-761-04			
DRAWN BY		SHEET M I			
J.R.A.		NO. 62			
CHECKED BY		OF 130		SHEETS	
DATE		SCALE: AS NOTED			
AUGUST, 1978					



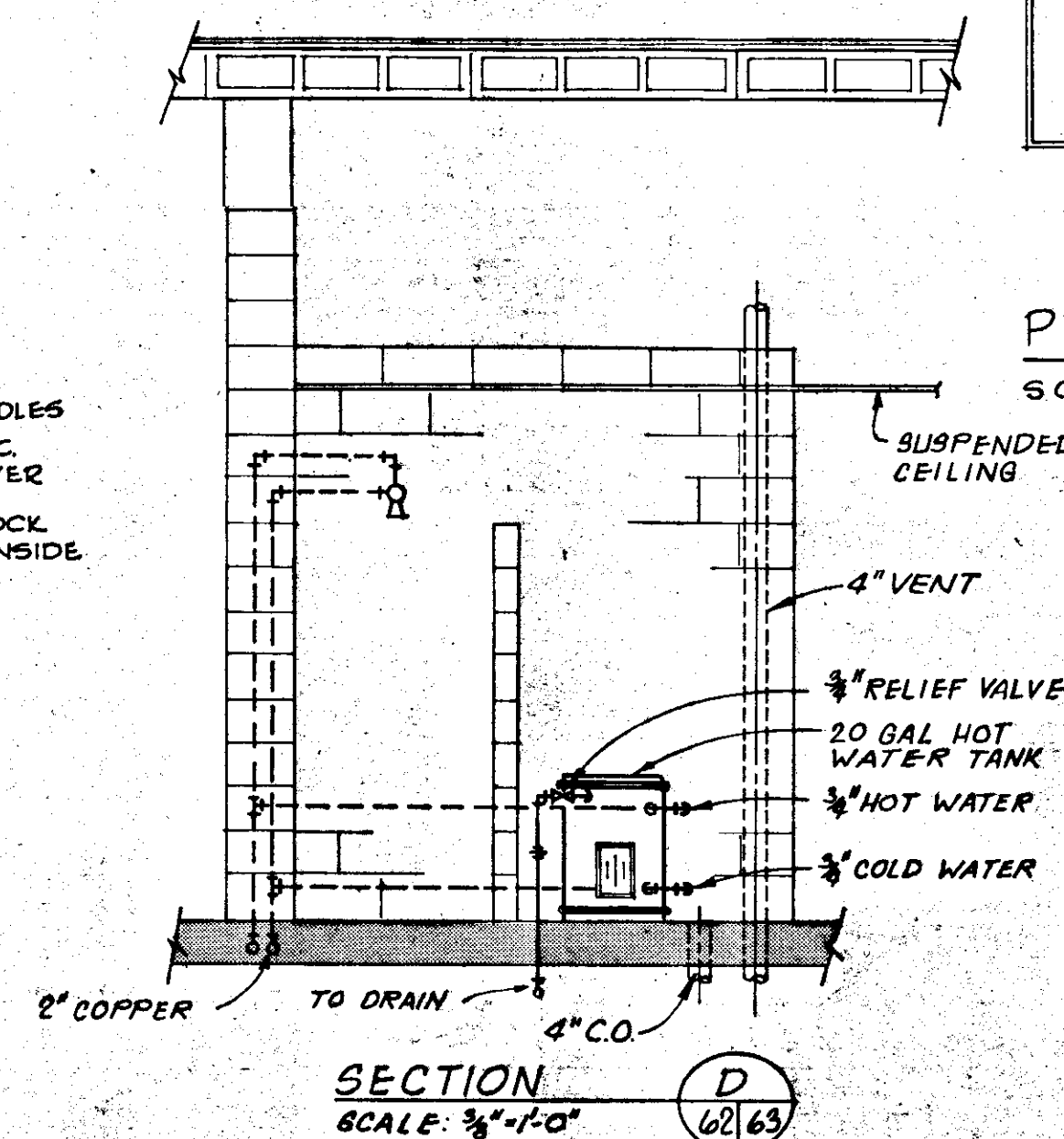
PLUMBING ISOMETRIC
NO SCALE



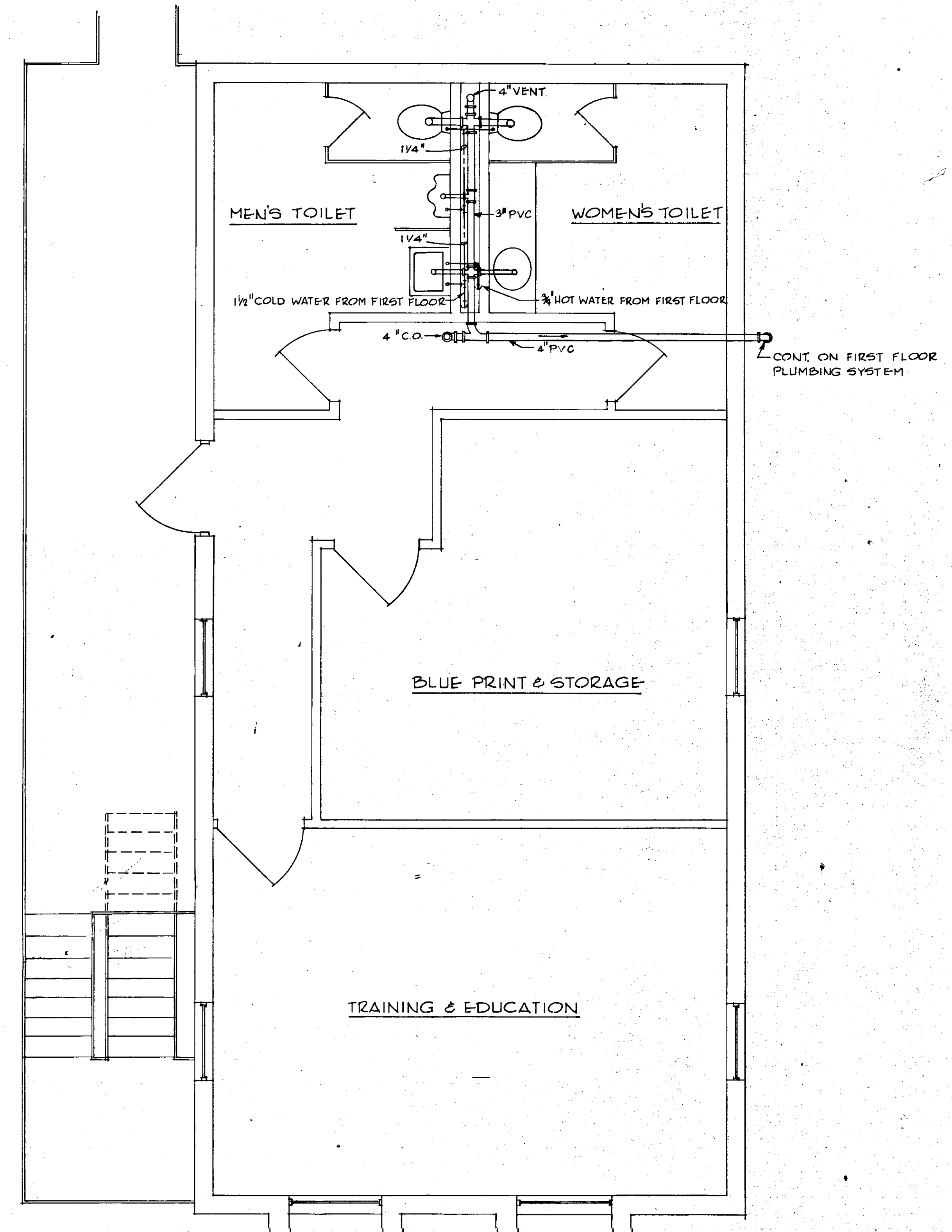
PLAN - GRIT CHAMBER & OIL TRAP
SCALE: 1/2\"/>



SECTION B
SCALE: 1/4\"/>

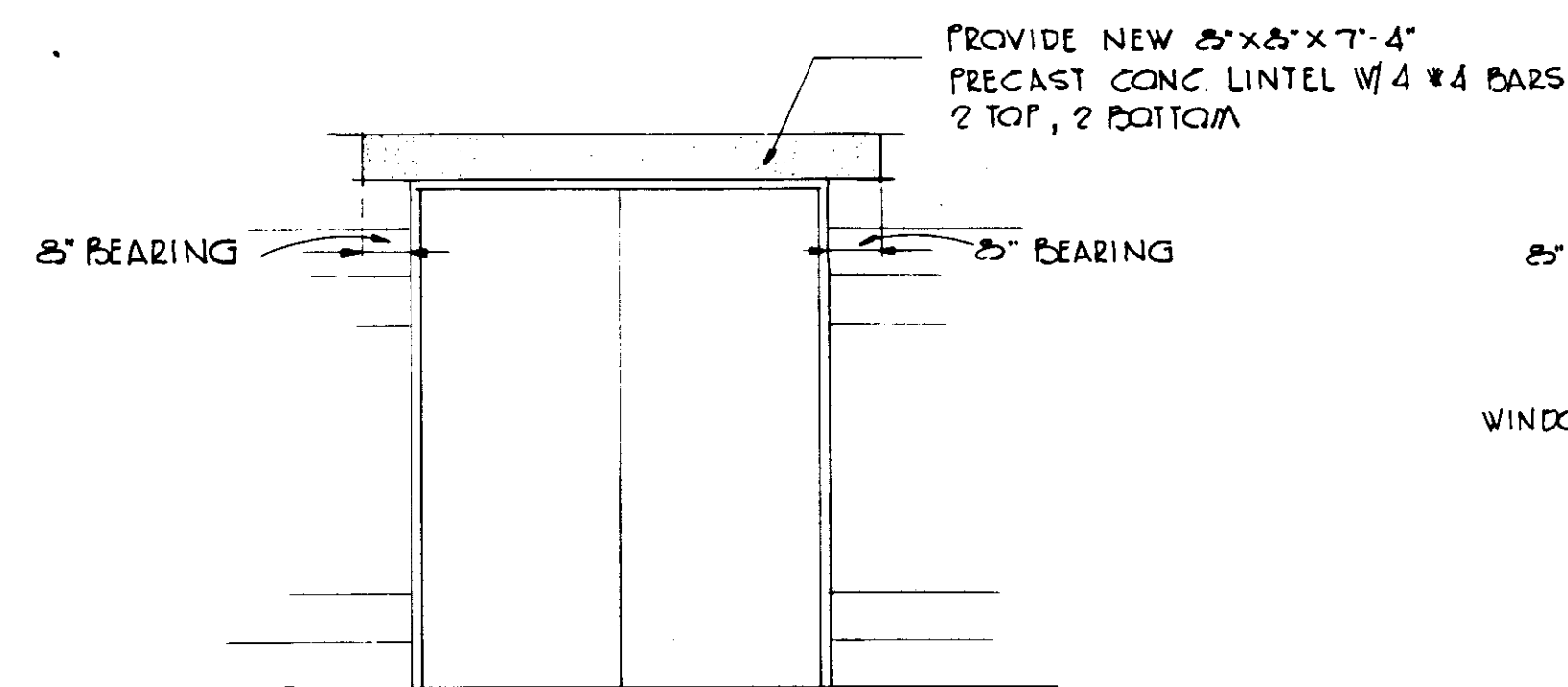


SECTION D
SCALE: 3/8\"/>

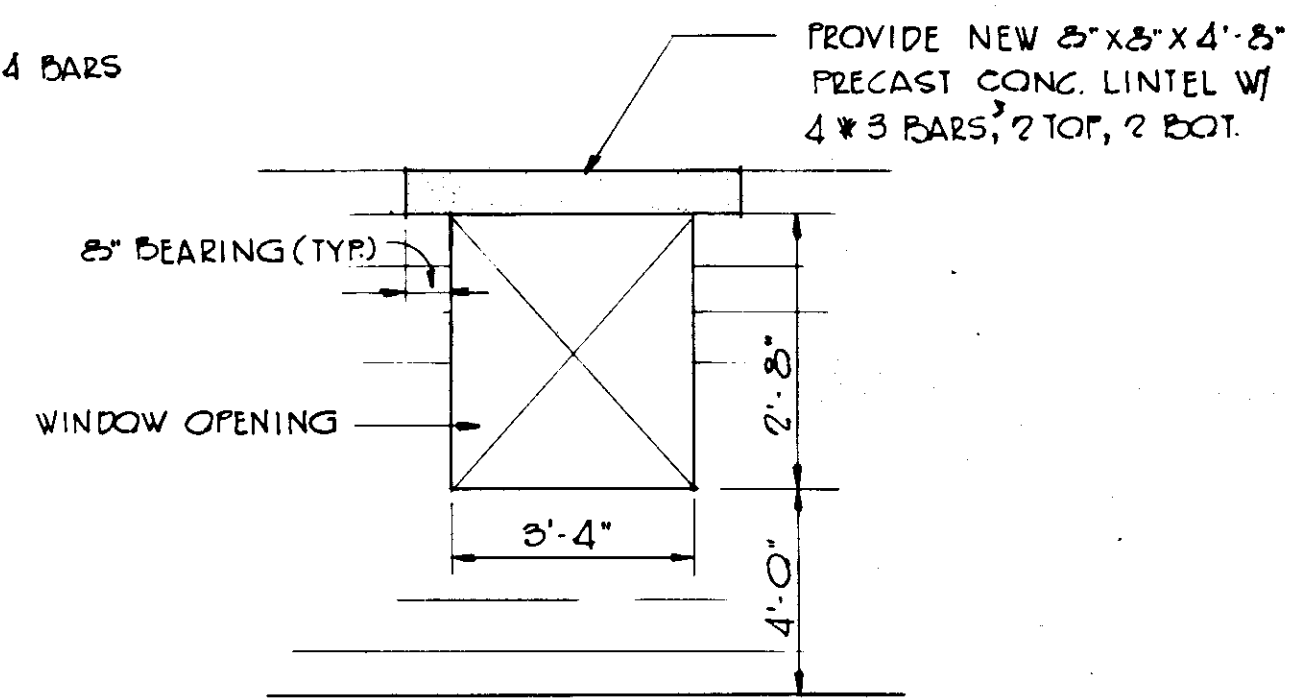


PLAN - PLUMBING LAYOUT SECOND FLOOR
SCALE: 3/8\"/>

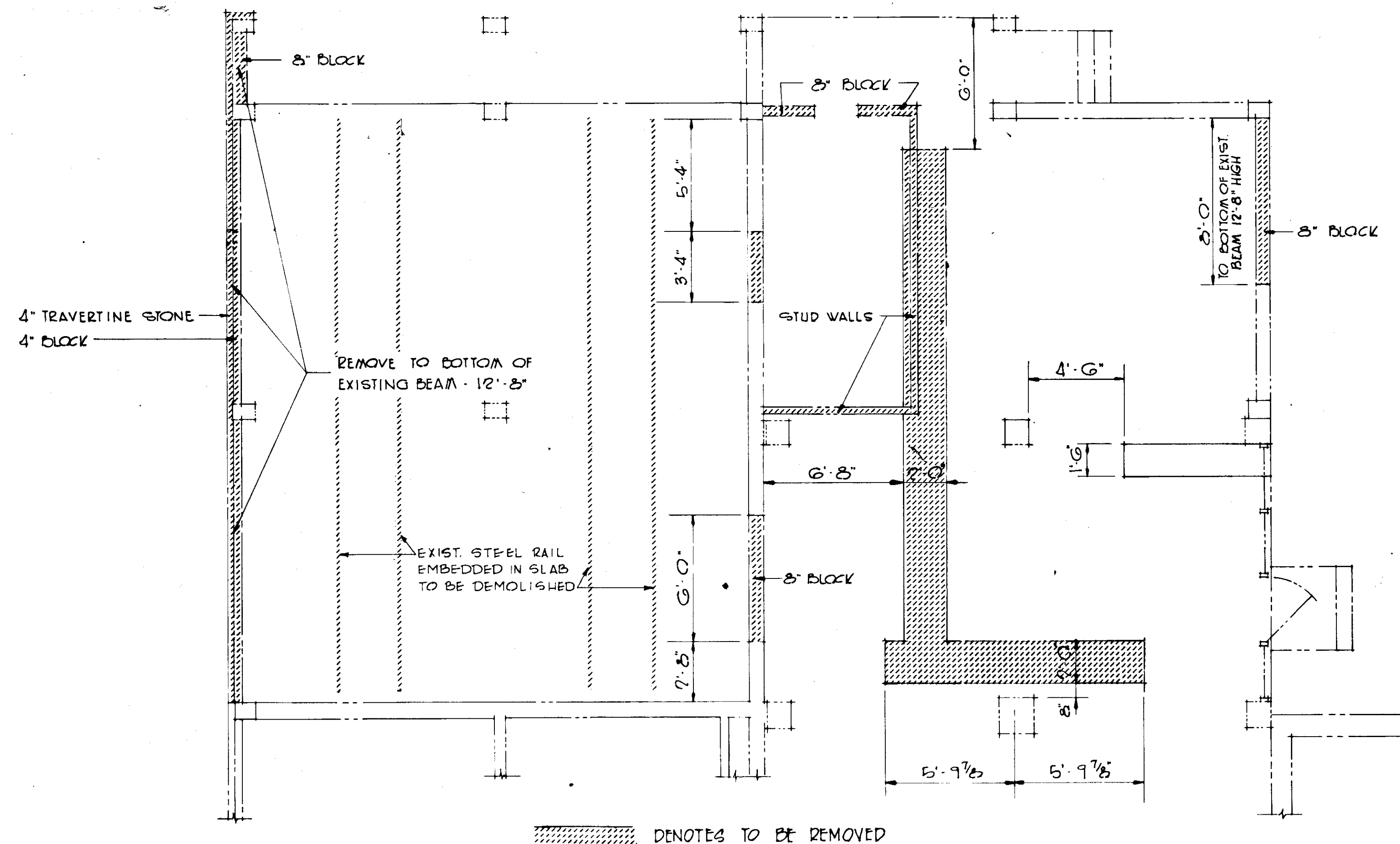
NO.	5/79	GEN. REV.	W.T.
DATE			
REVISIONS			
RUSSELL & AXON			
Engineers — Planners — Architects			
WATER WORKS PROJECT			
MAINTENANCE BUILDING			
PLUMBING LAYOUT-SECOND FLOOR			
PLUMBING ISOMETRIC, DETAILS			
MANATEE COUNTY, FLORIDA			
DESIGNED BY	R.D.H.	FILE NO.	630-761-04
DRAWN BY	J.R.A.	SHEET M 2	63
CHECKED BY		OF 130	SHEETS
DATE	AUGUST, 1978	SCALE: AS NOTED	



TYPICAL DEMOLITION
FOR DOORWAY
NO SCALE



TYPICAL DEMOLITION
FOR WINDOW OPENING
NO SCALE



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

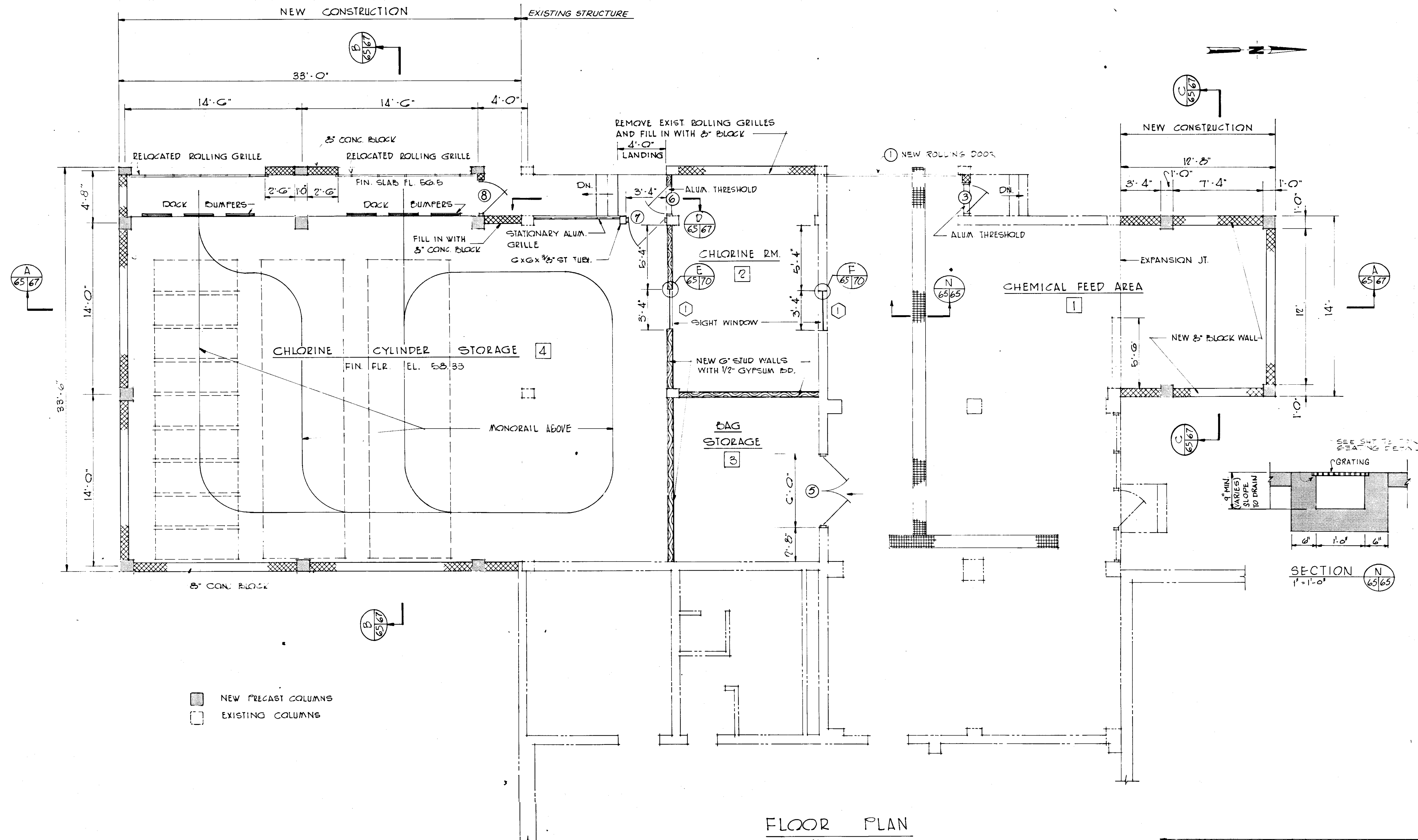
RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.

DATE 8/24/78 BY R.R.
CHECKED BY:

R & A *[Signature]*
M.C.U.S. _____

NO.	DATE	DESCRIPTION	BY	CKD.
REVISIONS				
RUSSELL & AXON <i>Engineers — Planners — Architects</i>				
WATER WORKS PROJECT CHEMICAL FEED BUILDING DEMOLITION PLAN				
MANATEE COUNTY,				
DESIGNED BY BEA	FILE NO. 630-761-04	SEAL T-64 FLORIDA		
DRAWN BY BEA	SHEET A1			
CHECKED BY	NO. 64			
DATE AUGUST, 1978		OF 130 SHEETS		SCALE: AS SHOWN

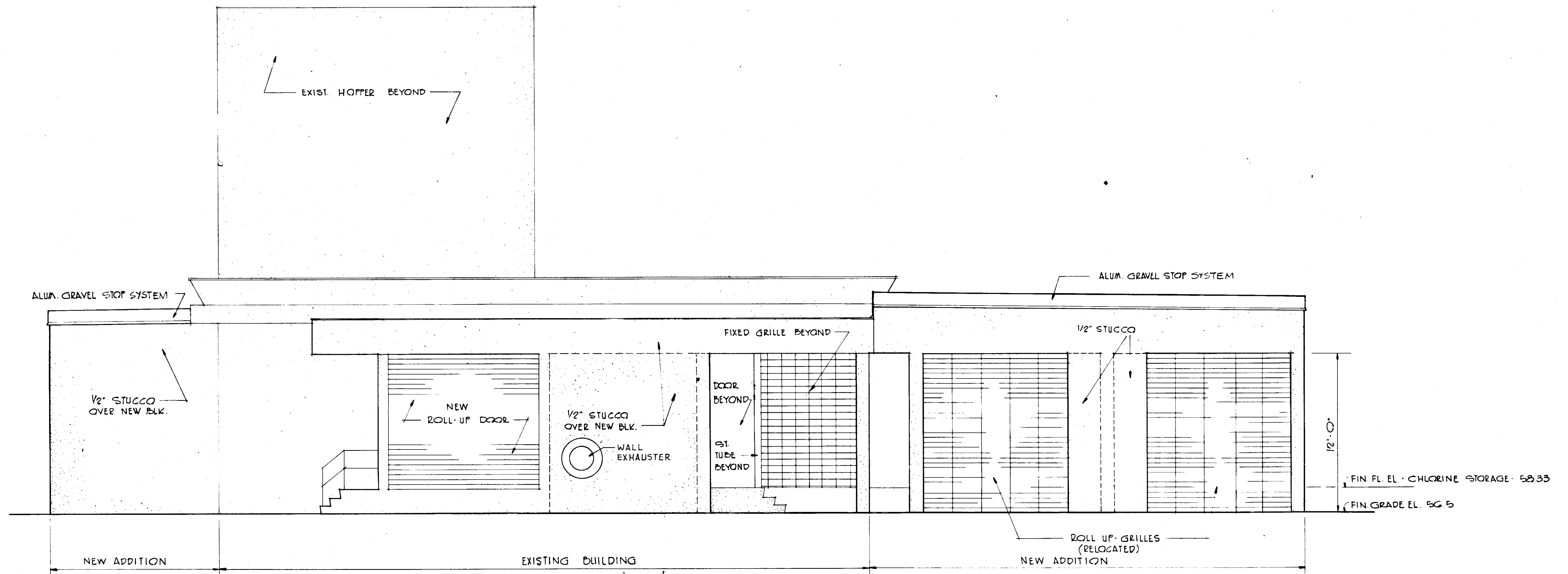


FLOOR PLAN
SCALE: 1/4" = 1'-0"

RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE 8/30/82 BY K.P.L.
CHECKED BY:
R & A
M.C.U.S.

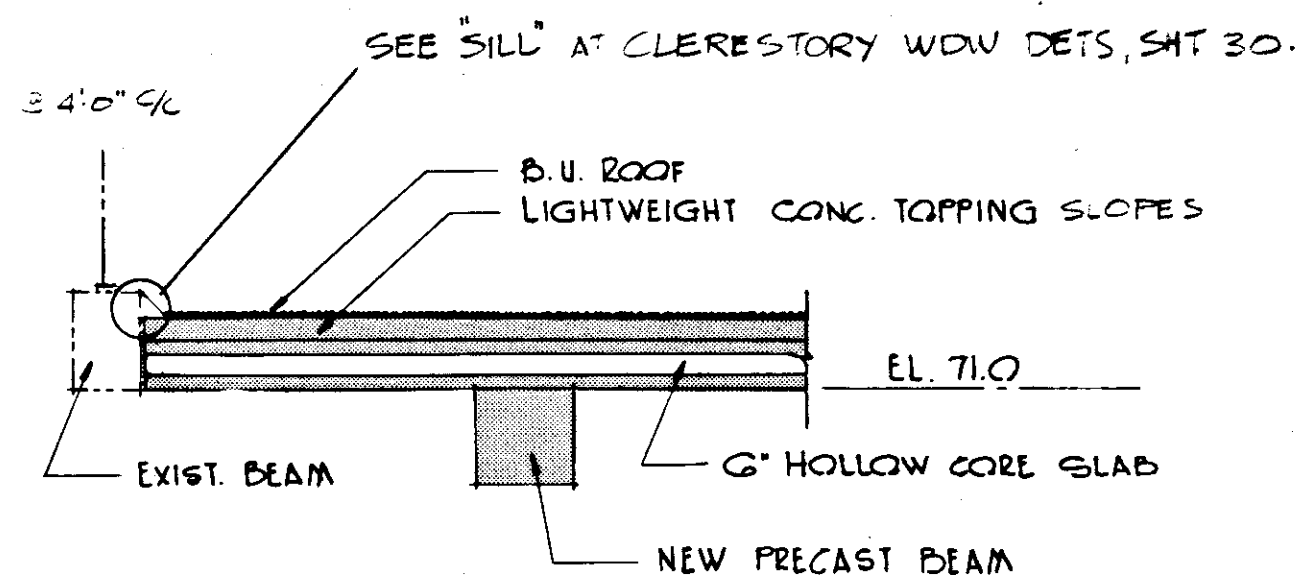
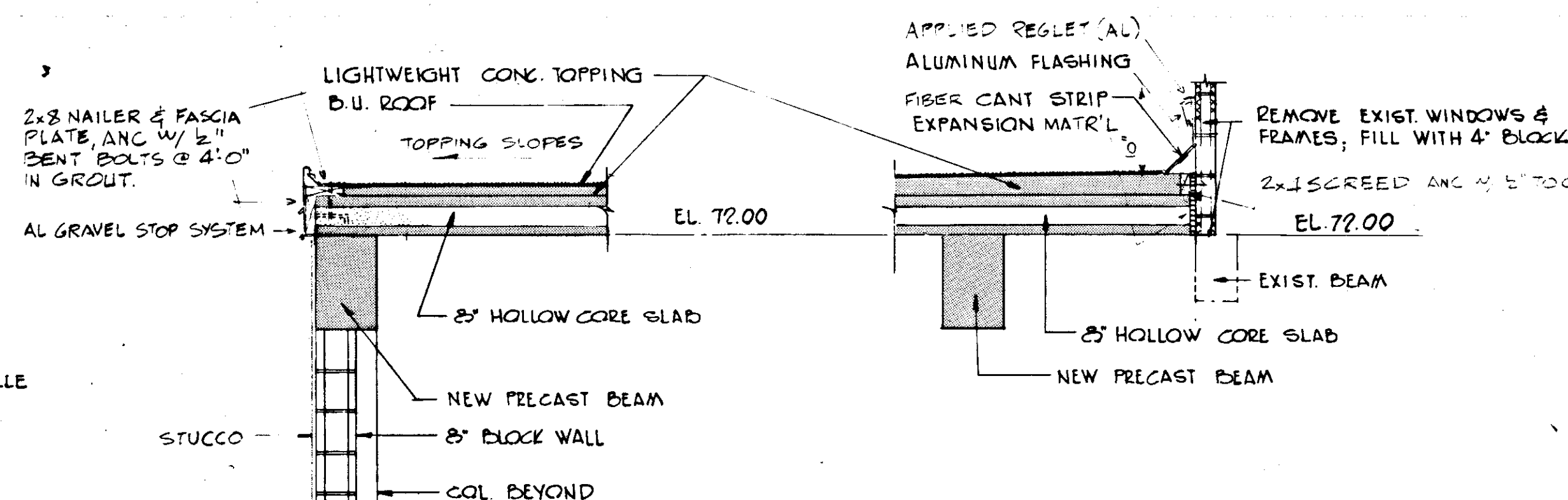
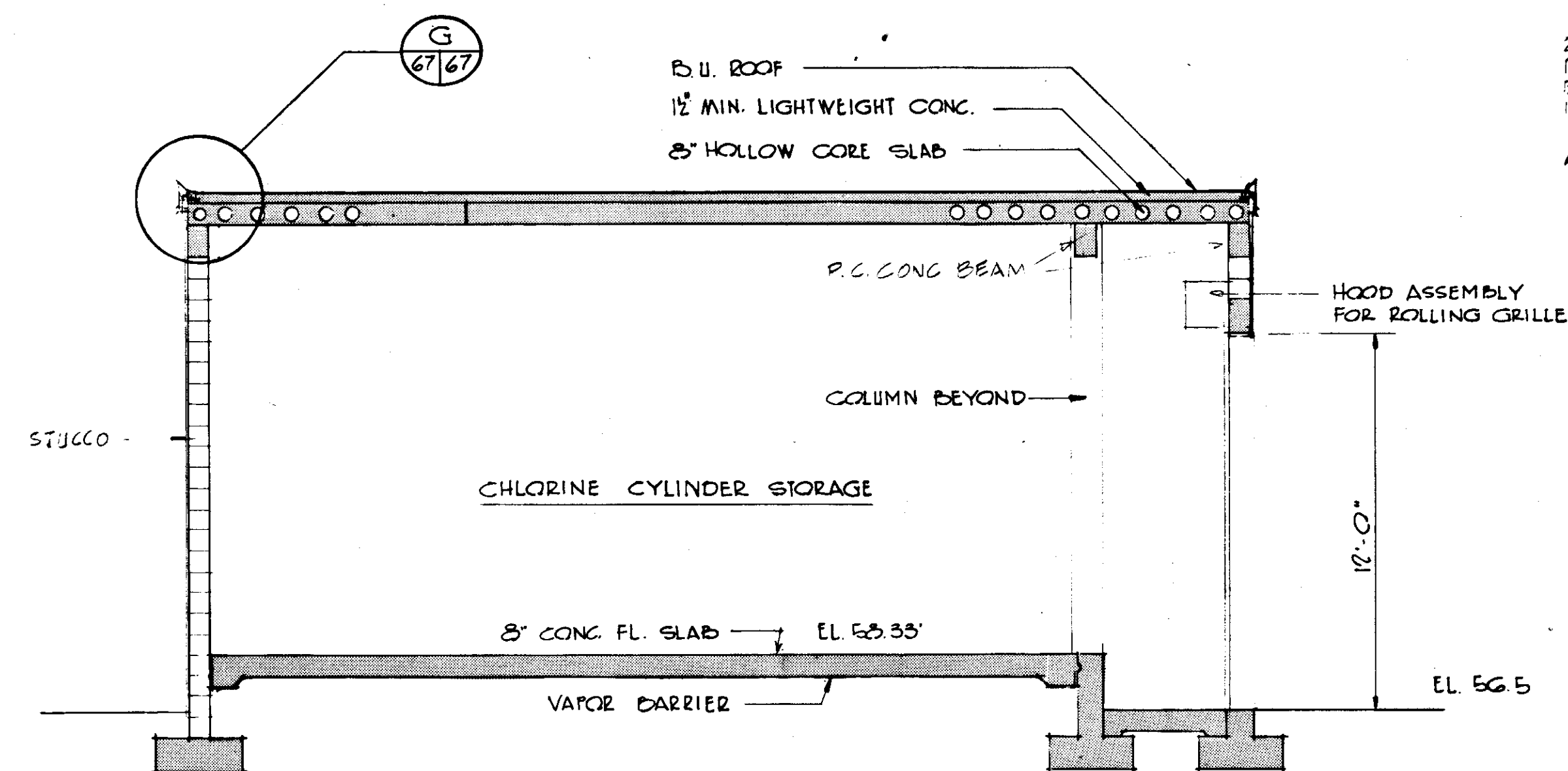
NO.	DATE	DESCRIPTION	BY	CHKD.
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT CHEMICAL FEED BUILDING FLOOR PLAN				
MANATEE COUNTY,		FILE NO.	T.65 FLORIDA	
DESIGNED BY	B.E.A.	630-761-04	SEAL	
DRAWN BY	BEA	SHEET A2		
CHECKED BY		NO. 65		
DATE	AUGUST, 1978	OF 130 SHEETS	SCALE: 1/4" = 1'-0"	



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

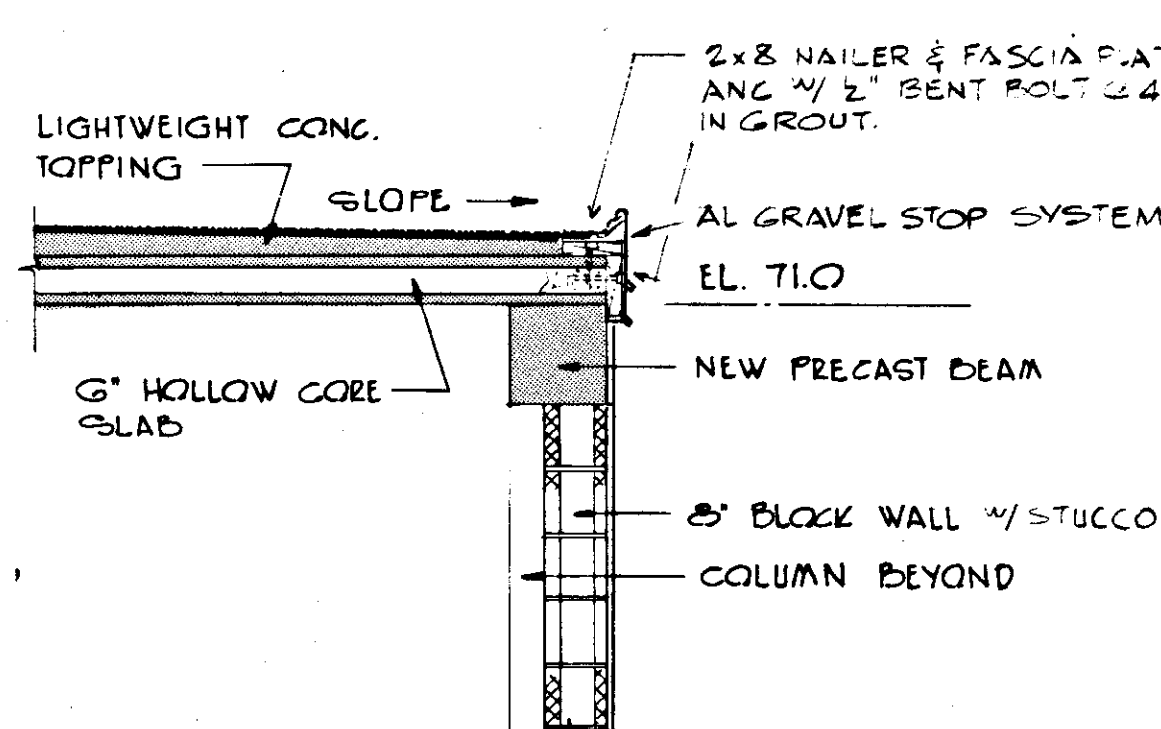
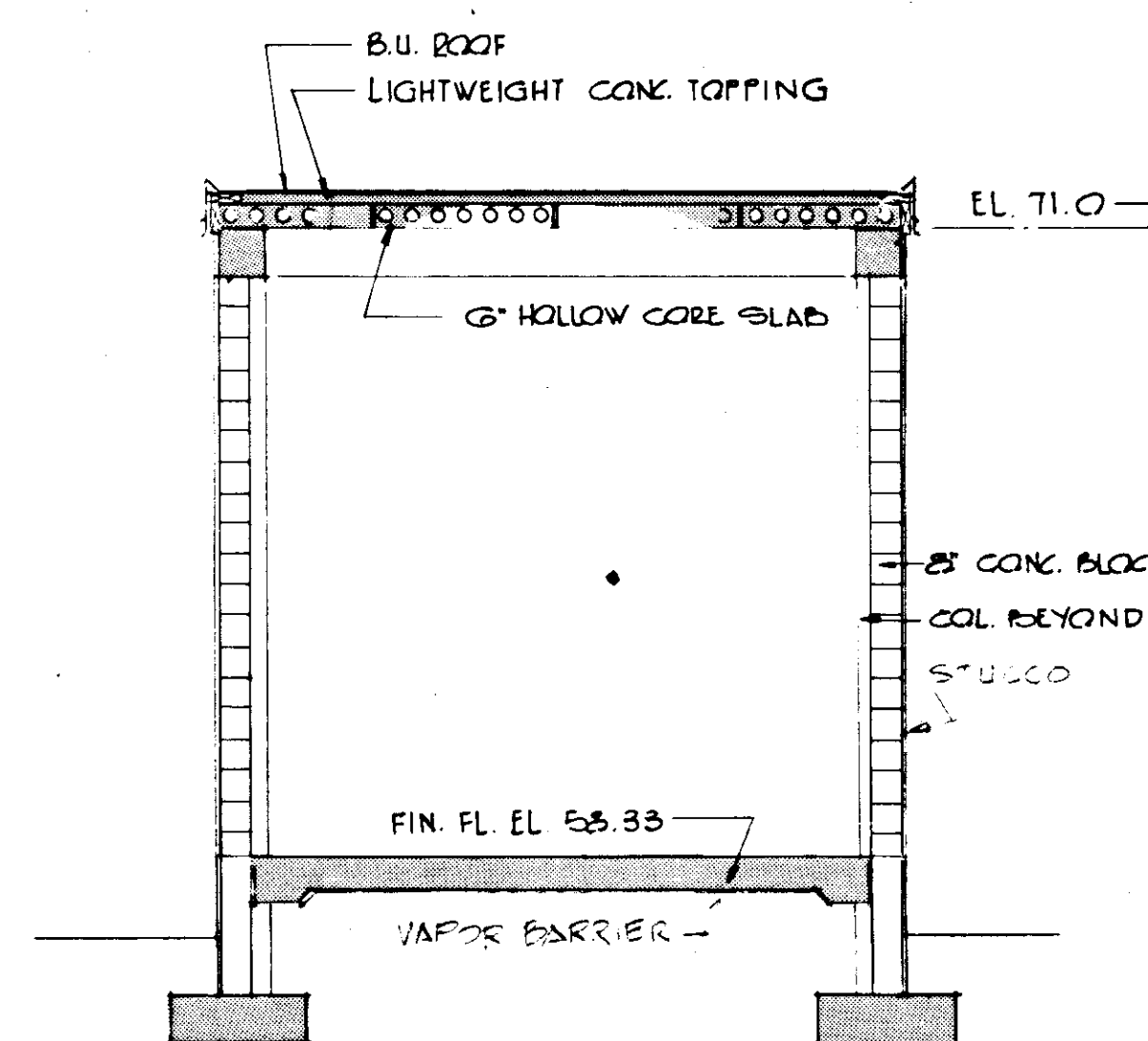
RECORD DRAWING
PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE 8/30/82 BY R.A.
CHECKED BY: R.A.
M.C.U.S.

NO.	DATE	DESCRIPTION	BY	CHKD.
A	5/79	GEN REV	WRW	WCH
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT CHEMICAL FEED BUILDING ELEVATION				
MANATEE COUNTY, FLORIDA				
DESIGNED BY B.E.A.	FILE NO. 630-761-04	SEAL T-66		
DRAWN BY B.E.A.	SHEET A3			
CHECKED BY	No. 66 OF 130 SHEETS			
DATE AUGUST, 1978	SCALE: 1/4" = 1'-0"			



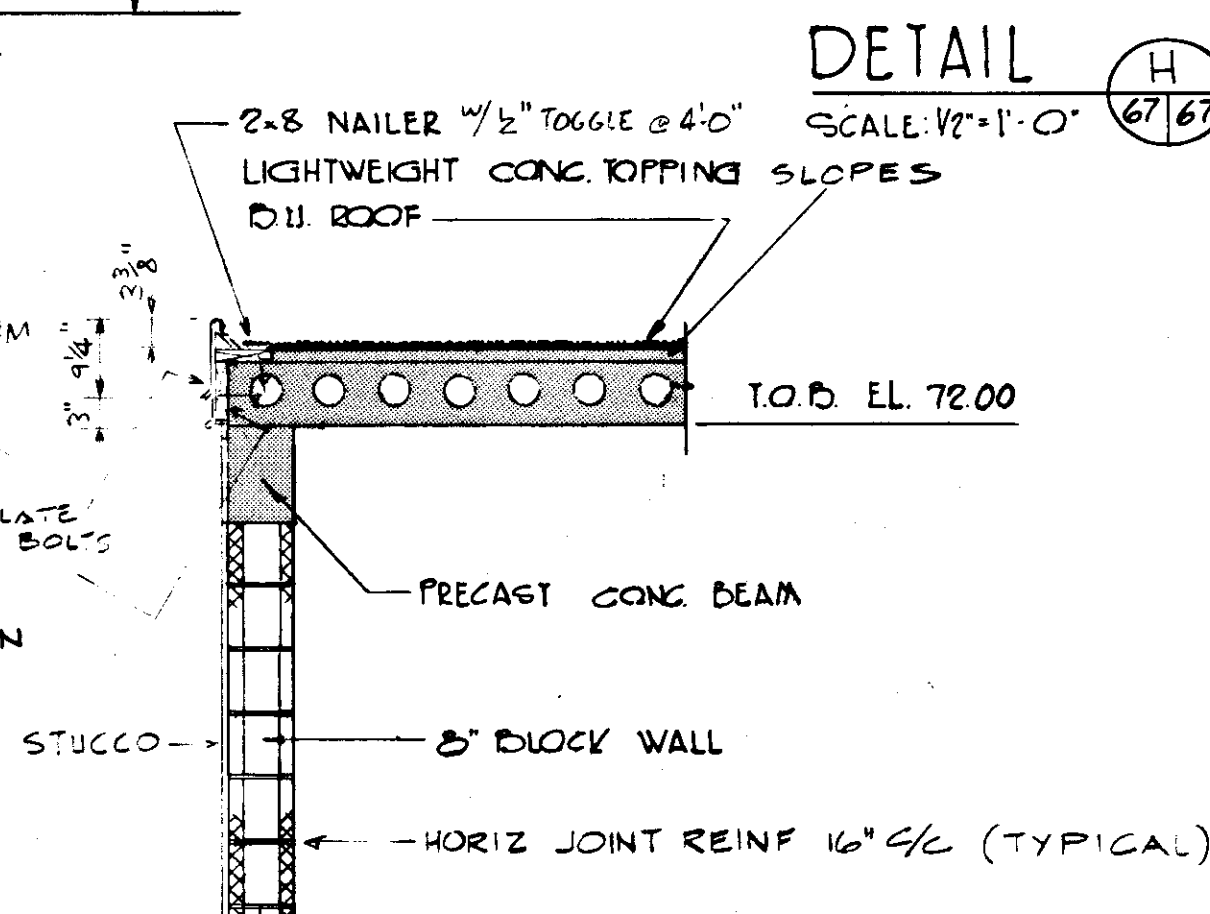
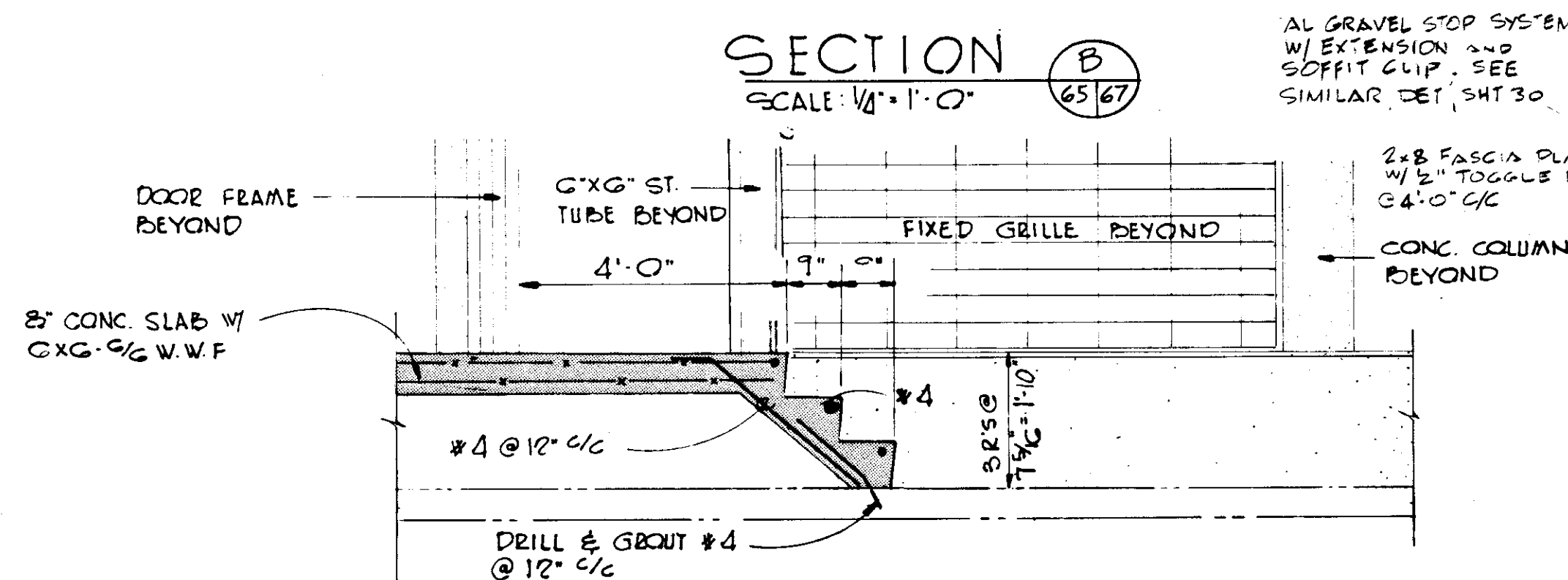
DETAIL J
SCALE: 1/2\"/>

DETAIL K
SCALE: 1/2\"/>



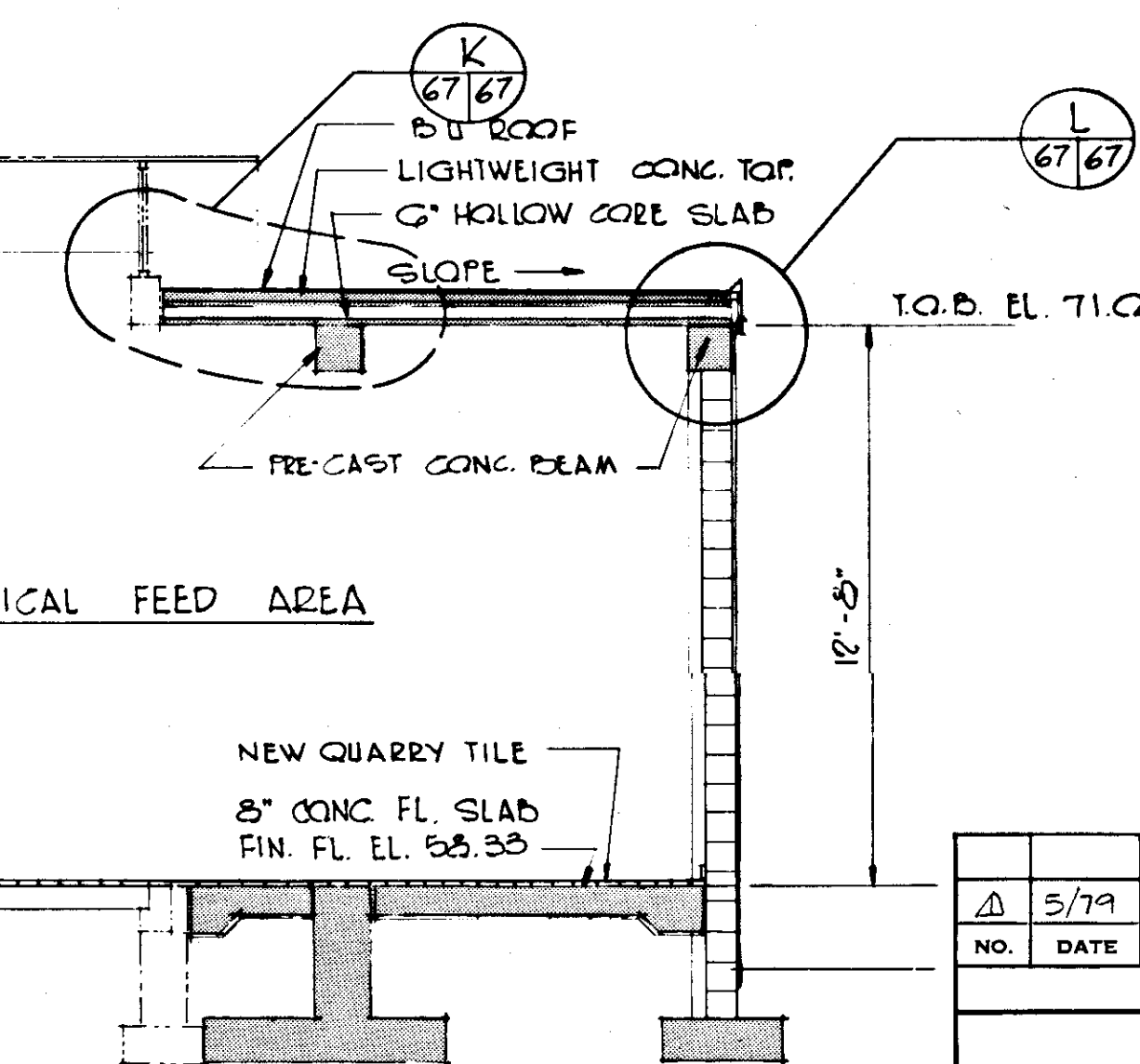
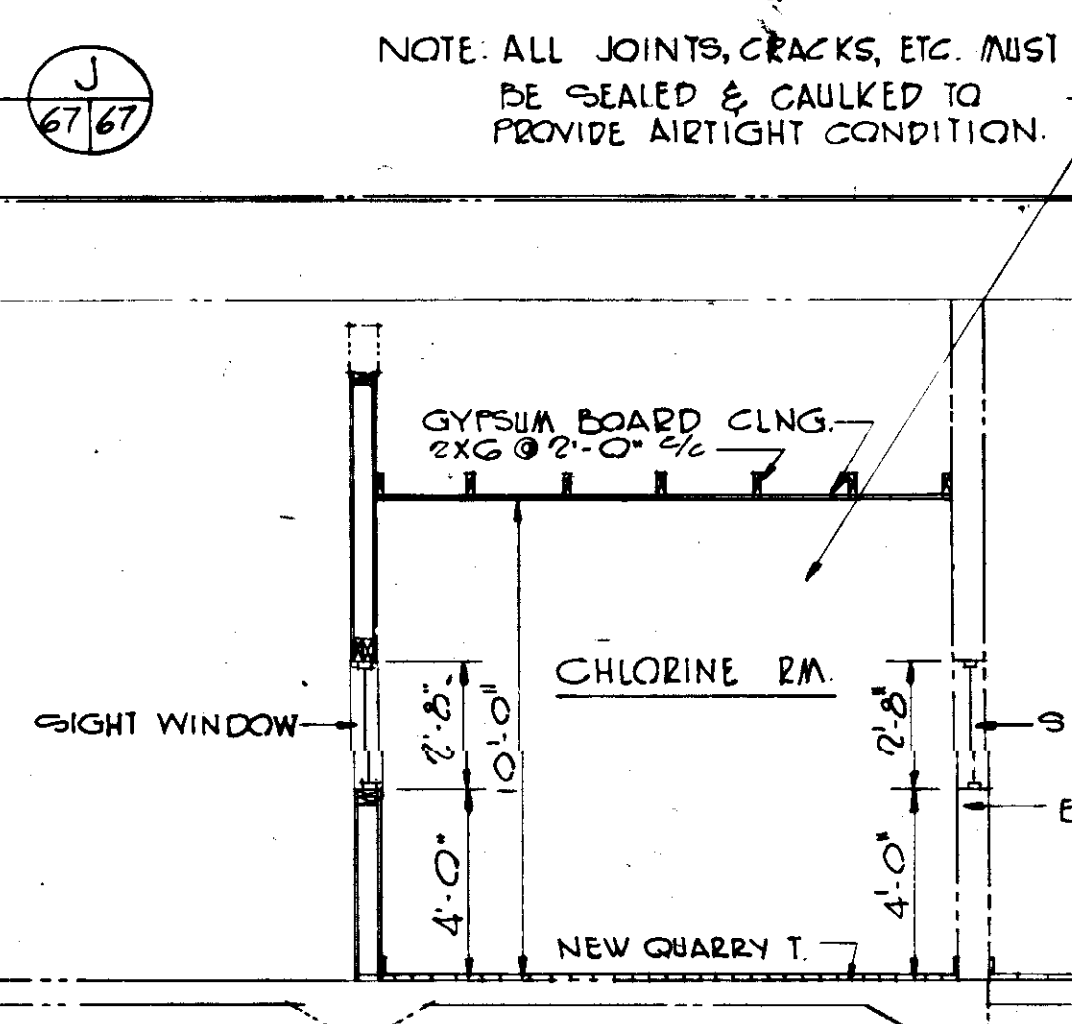
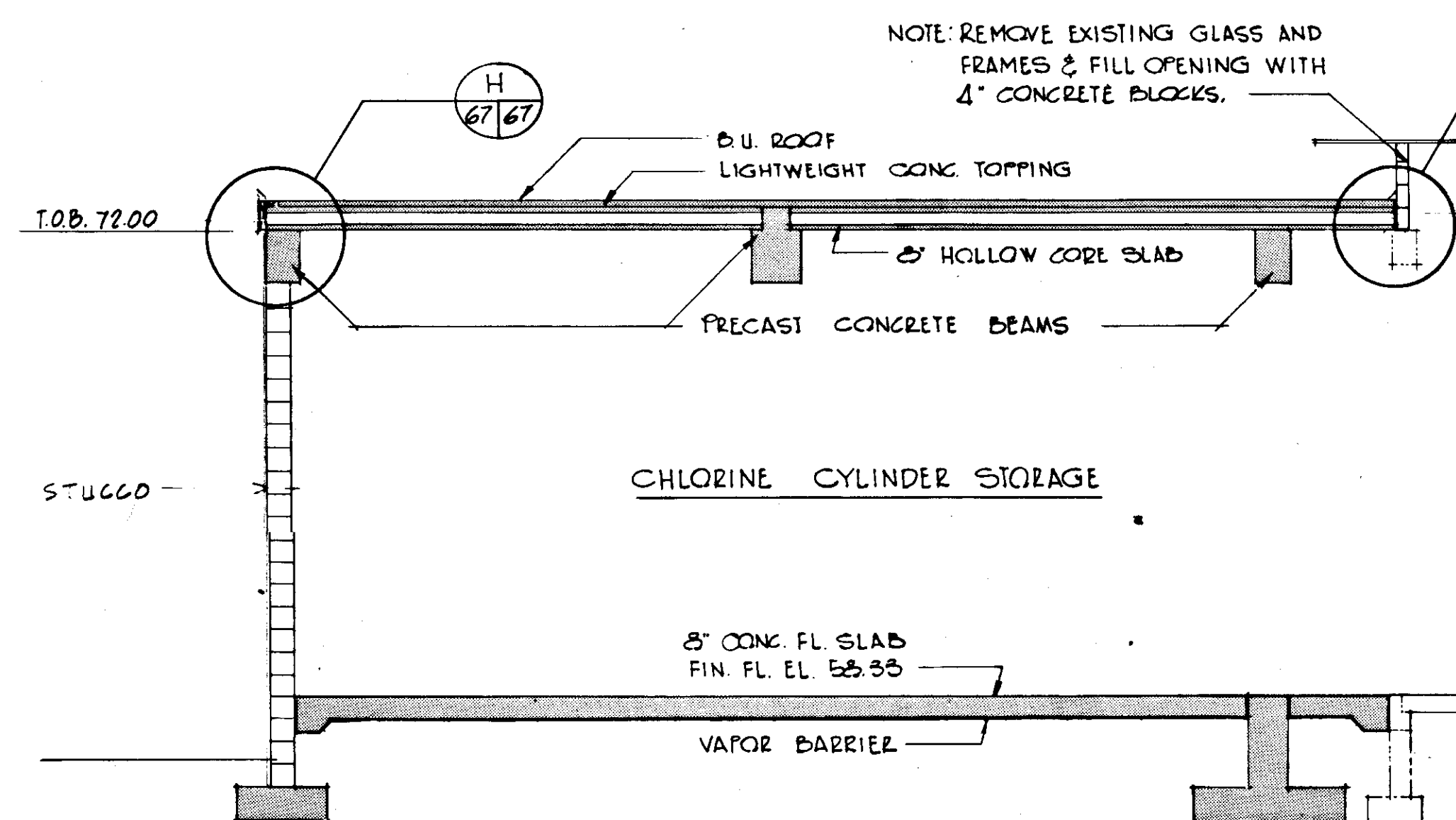
DETAIL L
SCALE: 1/2\"/>

SECTION C
SCALE: 1/4\"/>



DETAIL G
SCALE: 1/2\"/>

SECTION D
SCALE: 1/2\"/>



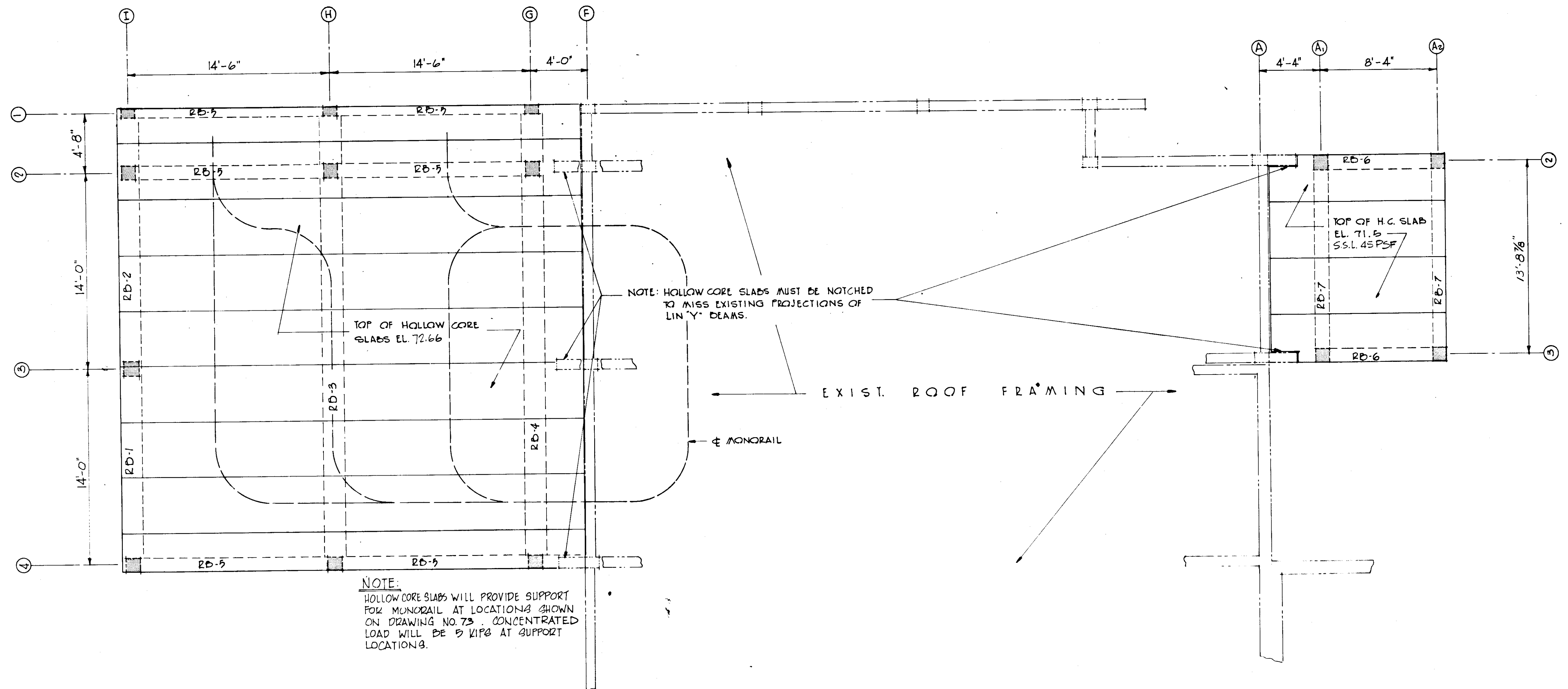
SECTION A
SCALE: 1/4\"/>

NOTE: ALL JOINTS, CRACKS, ETC. MUST BE SEALED & CAULKED TO PROVIDE AIRTIGHT CONDITION.

NOTE: REMOVE EXISTING GLASS AND FRAMES & FILL OPENING WITH 4\"/>

RECORD DRAWING
PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE 8/30/82 BY K.R.L.
CHECKED BY:
R & A
M.C.U.S.

NO.	DATE	GEN REV	DESCRIPTION	BY	CHKD.
1	5/79				
REVISIONS					
RUSSELL & AXON					
Engineers — Planners — Architects					
WATER WORKS PROJECT					
CHEMICAL FEED BUILDING					
SECTIONS & DETAILS					
MANATEE COUNTY, FLORIDA					
DESIGNED BY	FILE NO.	SEAL			
B.E.A.	630-761-04				
DRAWN BY	SHEET A4				
BEA	No. 67				
CHECKED BY	OF 130 SHEETS				
DATE	SCALE: AS SHOWN				
AUGUST, 1978					



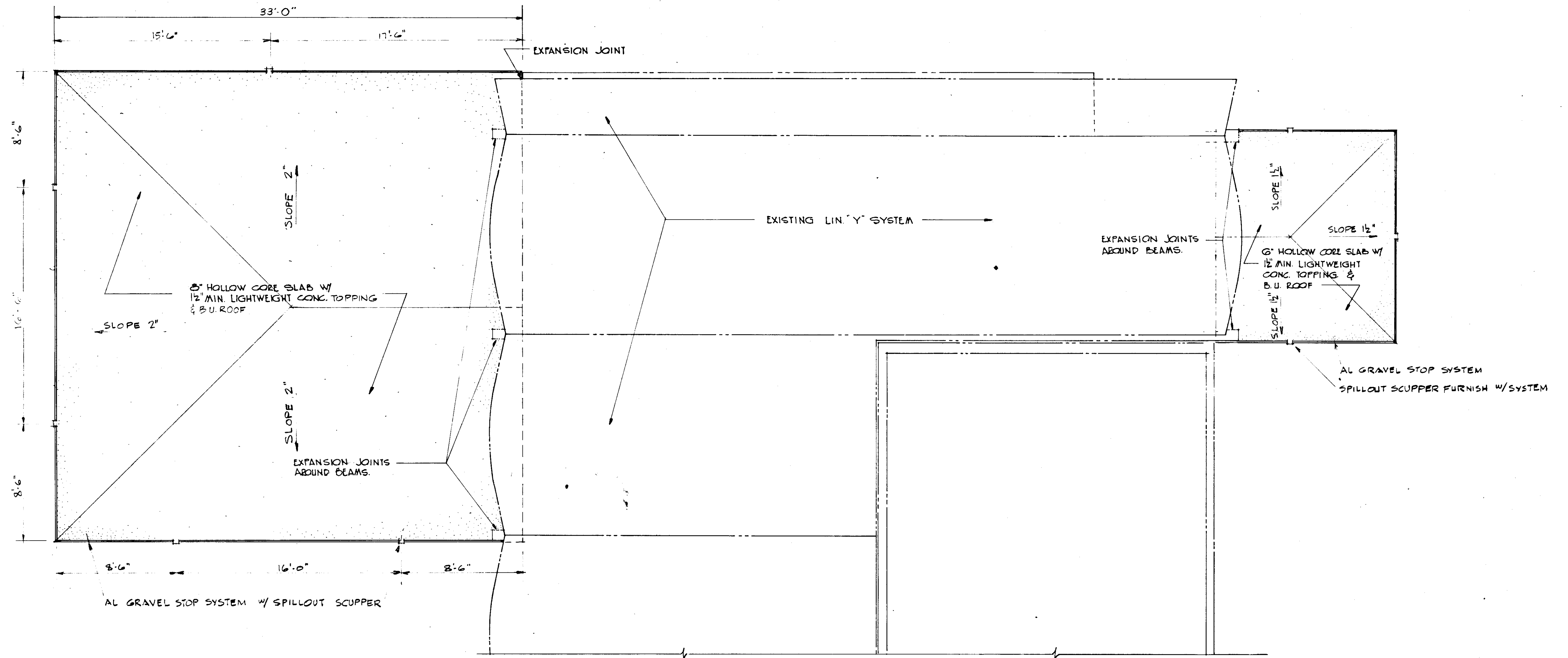
ROOF FRAMING PLAN SCALE: 1/4" = 1'-0"

NOTE - ANCHOR HOLLOW CORE SLABS TO PRECAST BEAMS AS PER MANUFACTURERS DIRECTIONS.

RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE 8/24/82 BY KRM
CHECKED BY:
R & A [Signature]
M.C.U.S. [Signature]

NO.	DATE	DESCRIPTION	BY	CHKD.
Δ 5/79		GEN REV	WRV	WPH
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT CHEMICAL FEED BUILDING ROOF FRAMING PLAN & DETAILS				
MANATEE COUNTY, FLORIDA				
DESIGNED BY J.C.P.	FILE NO. 630-761-04	SEAL		
DRAWN BY BEA	SHEET A5			
CHECKED BY	OF 130 SHEETS			
DATE AUGUST, 1978	SCALE: AS SHOWN			



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

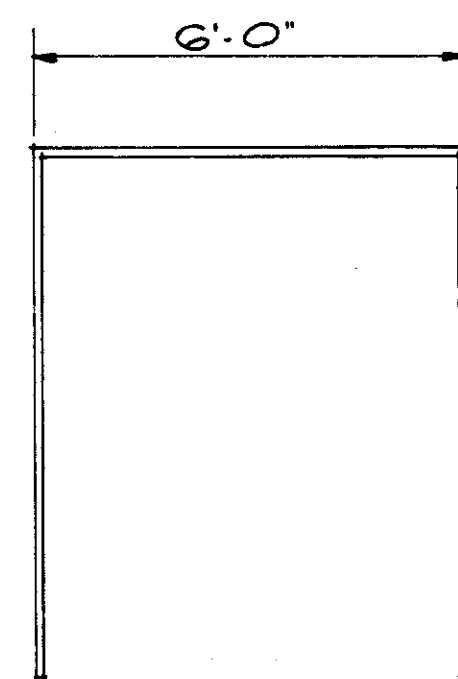
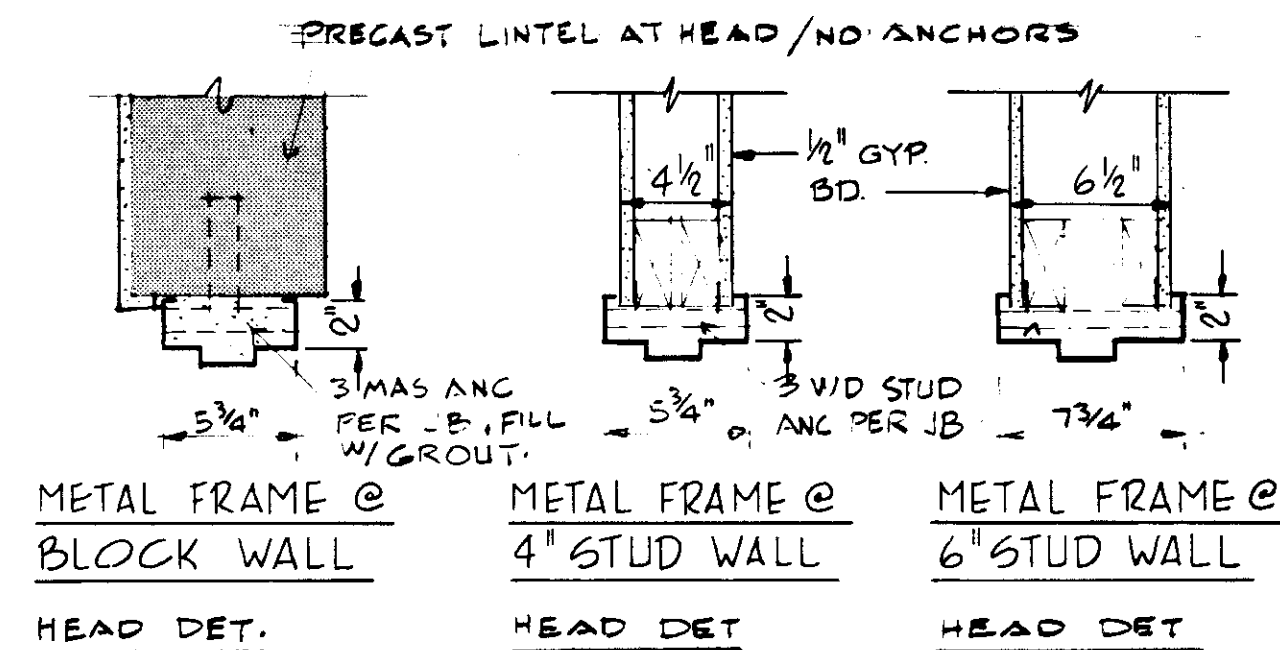
RECORD DRAWING
PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE 11/30/82 BY *KR*
CHECKED BY:
R & A *[Signature]*
M.C.U.S.

NO.	DATE	DESCRIPTION	BY	CKD.
Δ	5/79	GEN REV	WRW	WDH
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT CHEMICAL FEED BUILDING ROOF PLAN				
MANATEE COUNTY, FLORIDA				
DESIGNED BY BEA	FILE NO. 630-761-04	SEAL T-69 FLORIDA		
DRAWN BY BEA	SHEET A6			
CHECKED BY	OF 130 SHEETS			
DATE AUGUST, 1978	SCALE: AS SHOWN			

FINISH SCHEDULE

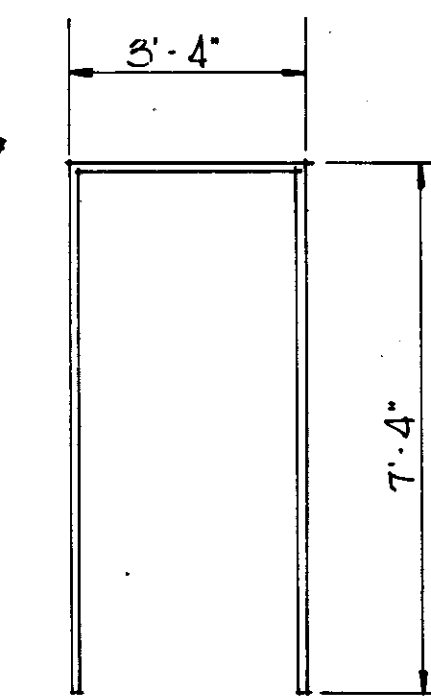
ROOM DESCRIPTION	FLOOR		BASE		WAINSCOT		WALLS		CEILING		HEIGHT	REMARKS
	CONC. NAT'L FIN.	QUARRY TILE	QUARRY TILE	VINYL ASB. TILE			PAINTED BLOCK	GYP. BOARD	CONC. NAT'L FIN.	GYP. BOARD		
1. CHEMICAL FEED AREA		●		●					●		12'-8"	COAT WALLS W/WATER PROOF EPOXY SEALER
2. CHLORINE RM.		●		●					●		10'-0"	COAT WALLS W/WATER PROOF EPOXY SEALER
3. BAG STORAGE		●		●					●			COAT WALLS W/WATER PROOF EPOXY SEALER
4. CHLORINE CYLINDER STOR.	●						●		●		13'-8"	

SEE SPECIFICATIONS REGARDING COLOR SELECTION

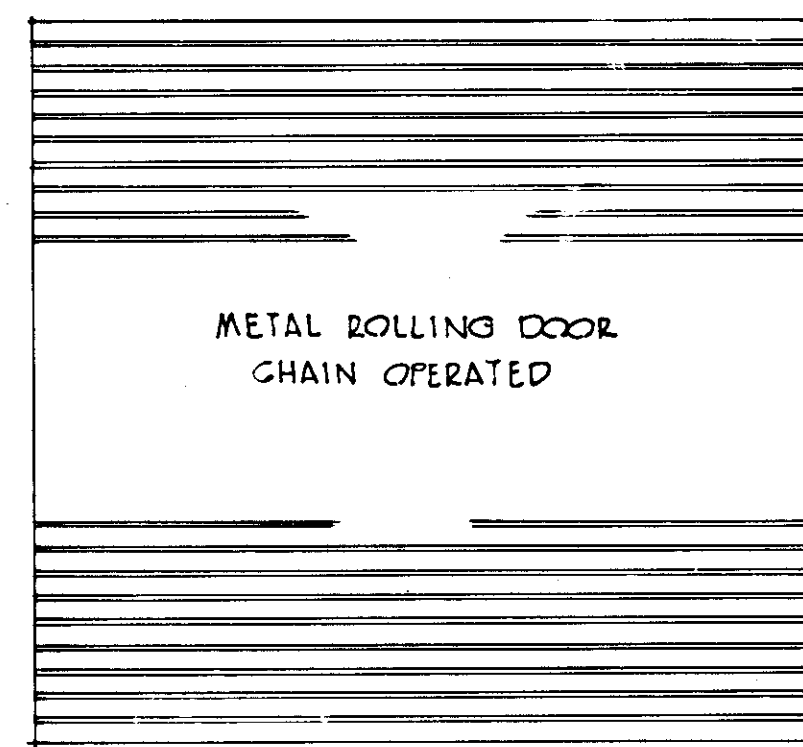


2" x 5 3/4" METAL FRAME
F-1

DOOR FRAME TYPES

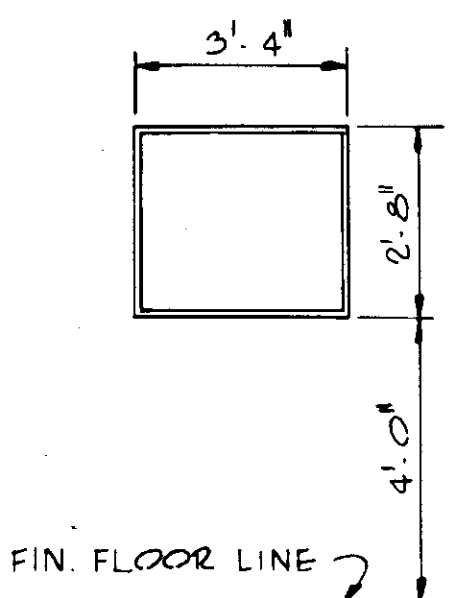


2" x 7 3/4" AT DOOR C
2" x 5 3/4" METAL FRAME
F-3

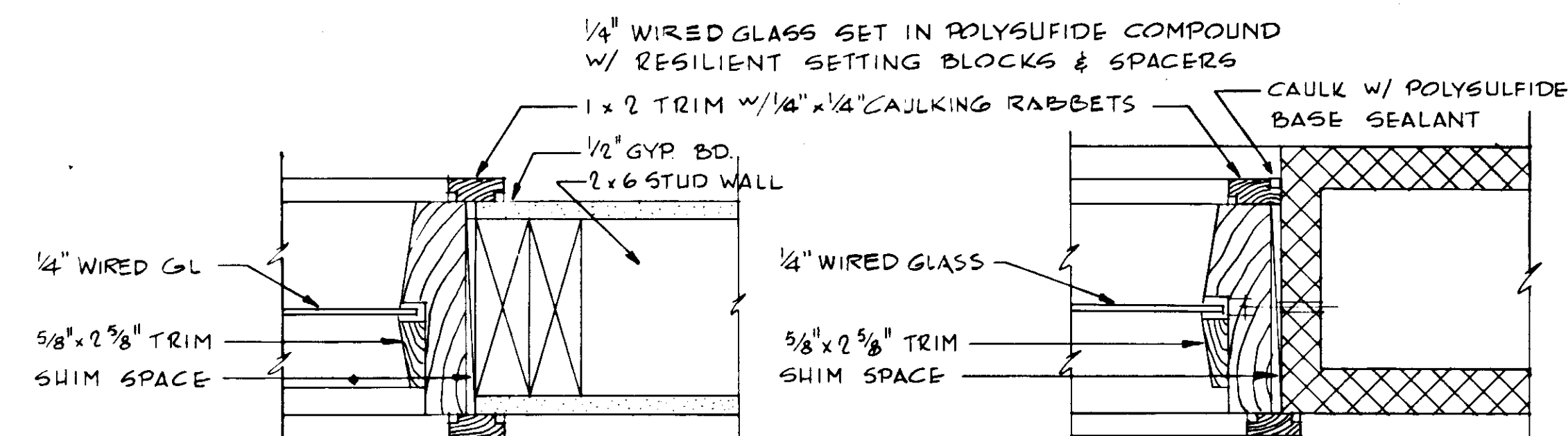


TYPE ———— (A) ———— (C) ———— (D)

DOOR TYPES



ELEVATION - SIGHT WINDOWS
@ CHLORINE ROOM (I)
SCALE: 3/8" = 1'-0"



DETAIL (E)
6570

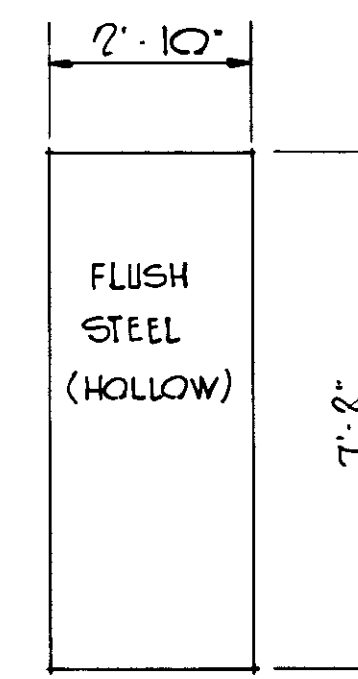
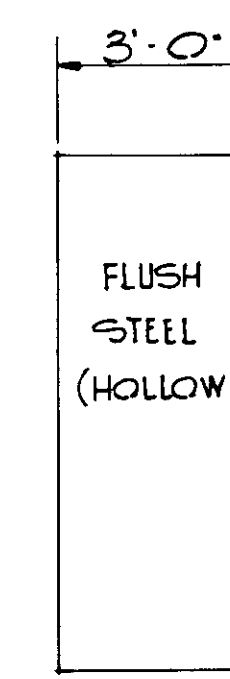
DETAIL (F)
6570

SIGHT WINDOW DETAILS SCALE: 3/8" = 1'-0"

DOOR AND HARDWARE SCHEDULE

MARK	TYPE	SIZE			MATERIAL	LOUVER	GLAZING		TRANS.	TH'LD	ALUM.	LOCK	CLOSER (SERIES)	FINISH	REMARKS	FINISH	FRAME TYPE
		WIDTH	HEIGHT	TH'K													
1.	A	11'-0"	10'-0"		METAL							*			LOCK BY DOOR MANUF. *		
3.	C	3'-0"	7'-2"	1 3/4"	H. METAL							8505	1240	OL 26 D			F-3
5.	D	2'-10"	7'-2"	1 3/4"	H. METAL							8504		OL 26 D	DOUBLE DOOR		F-1
6.	C	3'-0"	7'-2"	1 3/4"	H. METAL							8504	1240	OL 26 D			F-3
7.	C	3'-0"	7'-2"	1 3/4"	H. METAL							8505		OL 26 D			F-3
8.	C	3'-0"	7'-2"	1 3/4"	H. METAL							8504		OL 26 D			F-3
9.																	

NOTE: DOOR HARDWARE BY SARGENT & COMPANY



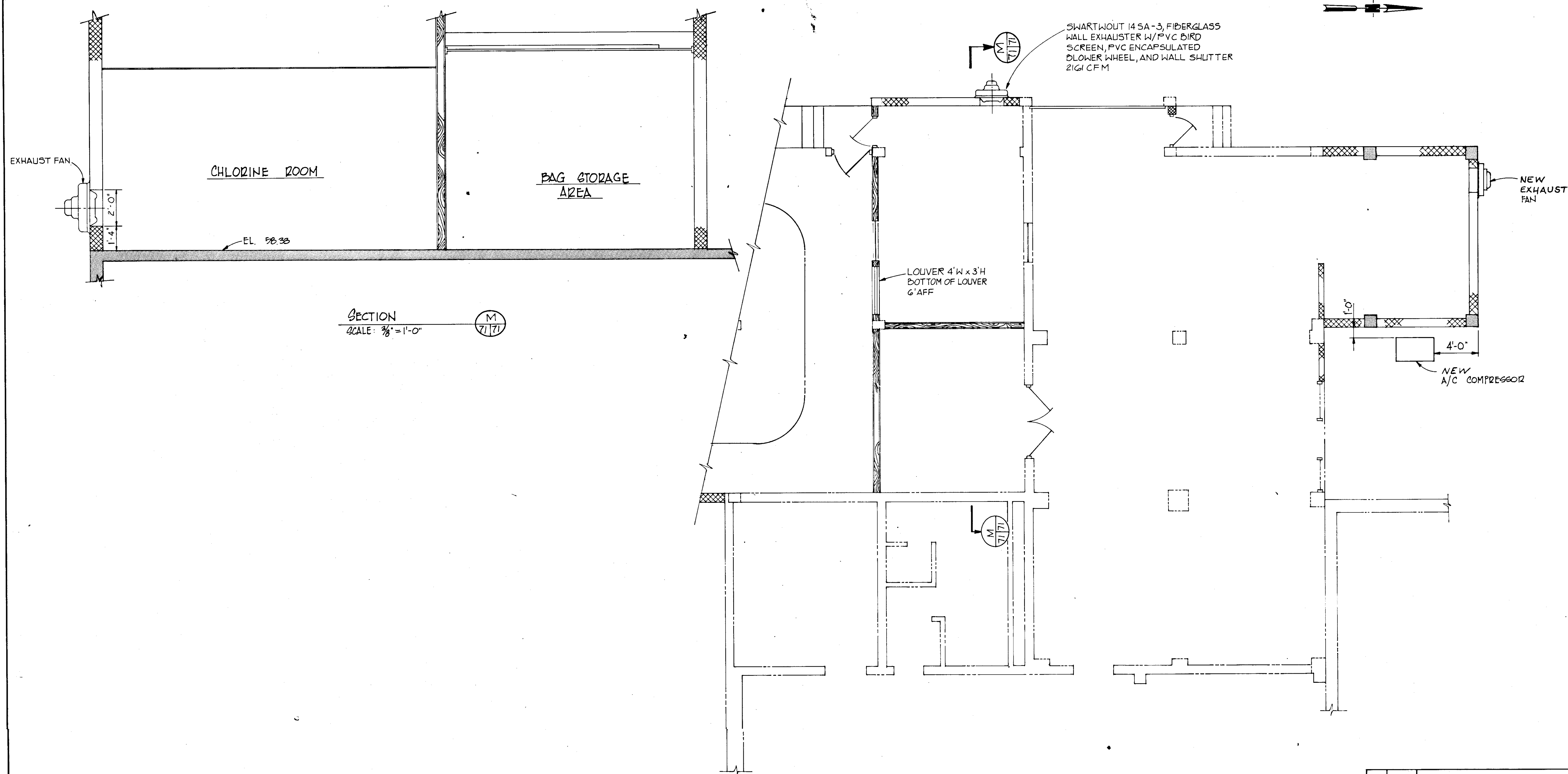
RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.

DATE 8/31/78 BY R.A.
CHECKED BY:

R.A. [Signature]
M.C.U.S.

Δ	5/79	GEN REV		WRW	WPH
NO.	DATE	DESCRIPTION	BY	CKD.	
REVISIONS					
RUSSELL & AXON Engineers — Planners — Architects					
WATER WORKS PROJECT CHEMICAL FEED BLDG.					
FINISH SCHEDULE, DOOR AND HARDWARE SCHEDULE & DETAILS					
MANATEE COUNTY, FLORIDA					
DESIGNED BY B.E.A.	FILE NO. 630-761-04	SEAL			
DRAWN BY B.E.A. & J.R.A.	SHEET A7				
CHECKED BY	No. 70				
DATE AUGUST, 1978	OF 130 SHEETS				
		SCALE: AS NOTED			



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

RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.

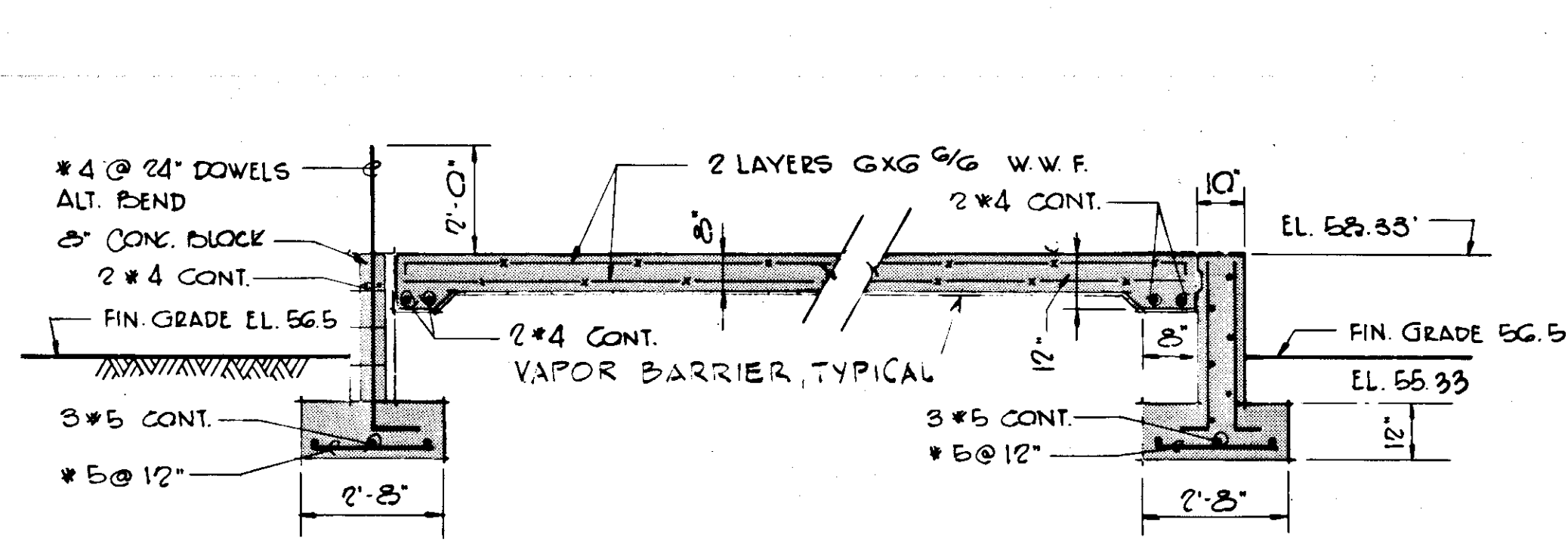
DATE 8/1/78 BY R.P.L.

CHECKED BY:

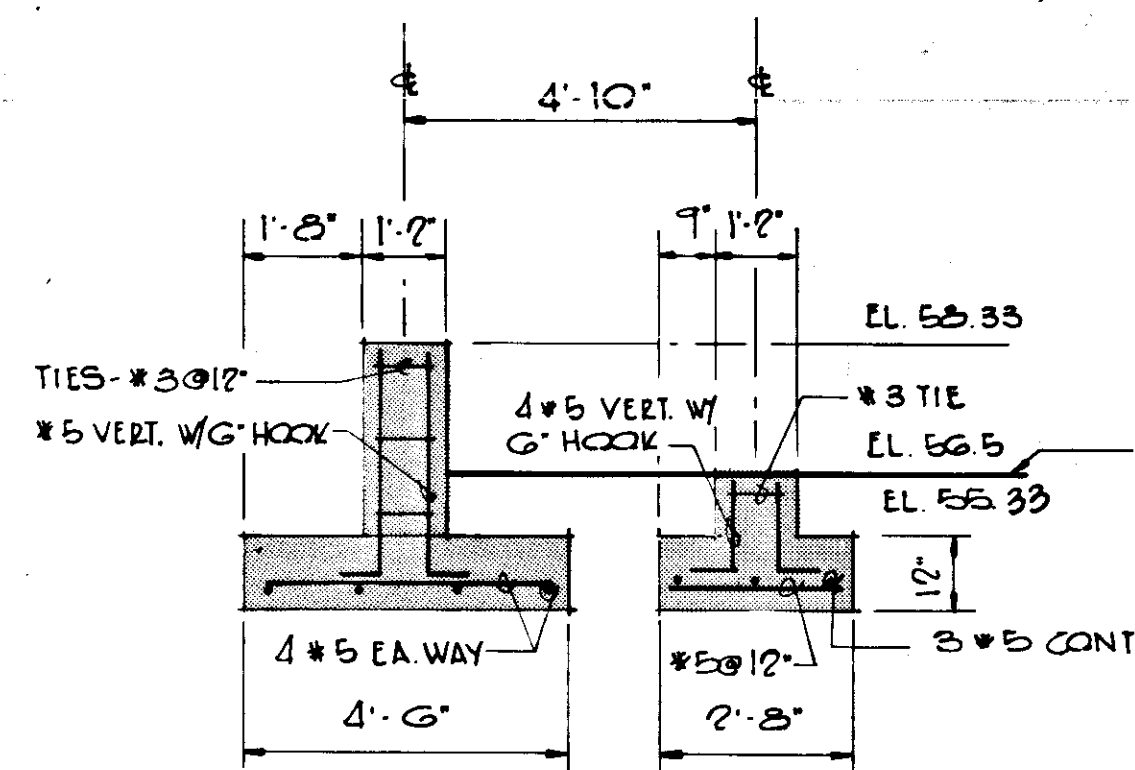
R & A

M.C.U.S.

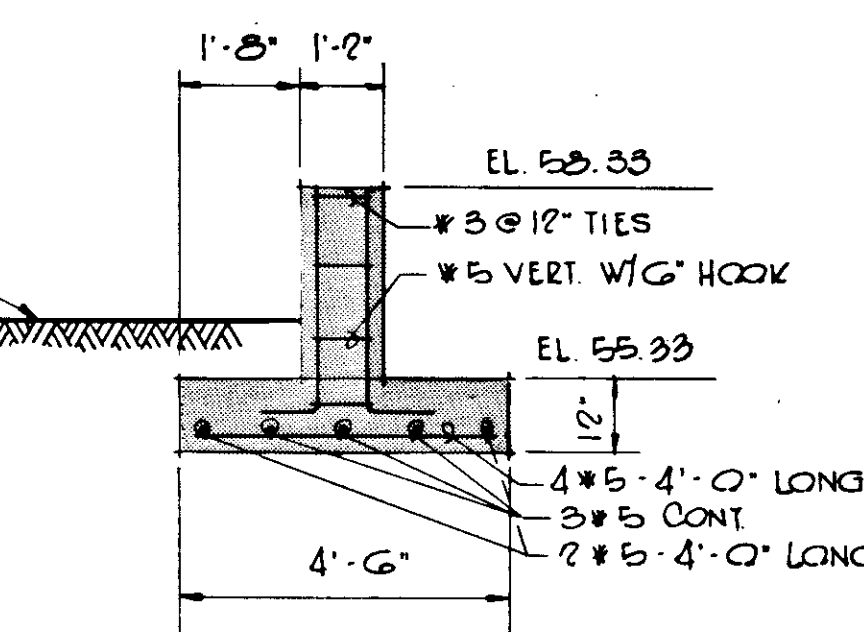
	5/79	GEN. REV.		
NO.	DATE	DESCRIPTION	BY	CKD
REVISIONS				
RUSSELL & AXON				
Engineers — Planners — Architects				
WATER WORKS PROJECT				
CHEMICAL FEED BUILDING				
H.V.A.C. PLAN & SECTIONS				
MANATEE COUNTY,			T-71 FLORIDA SEAL	
DESIGNED BY B.E.D.	FILE NO. 630-761-04			
DRAWN BY H.G.B.	SHEET A 8			
CHECKED BY	No. 71 OF 130 SHEETS			
DATE AUGUST, 1978	SCALE: AS NOTED			



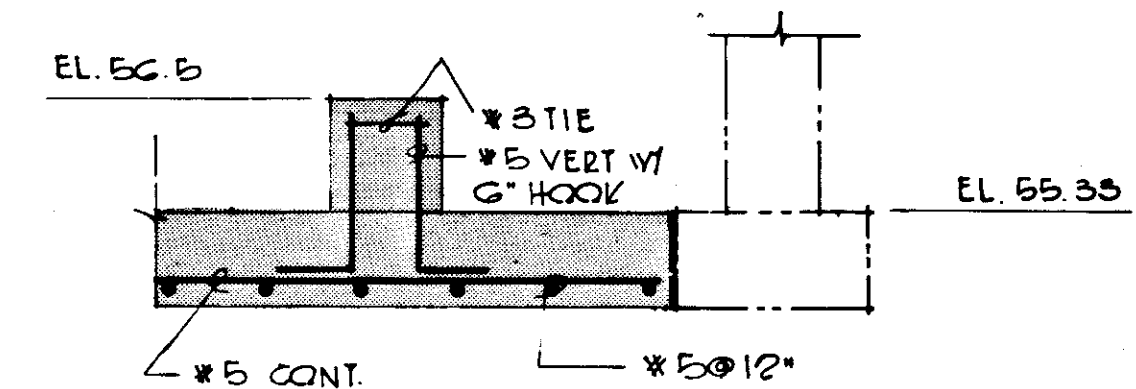
SECTION A
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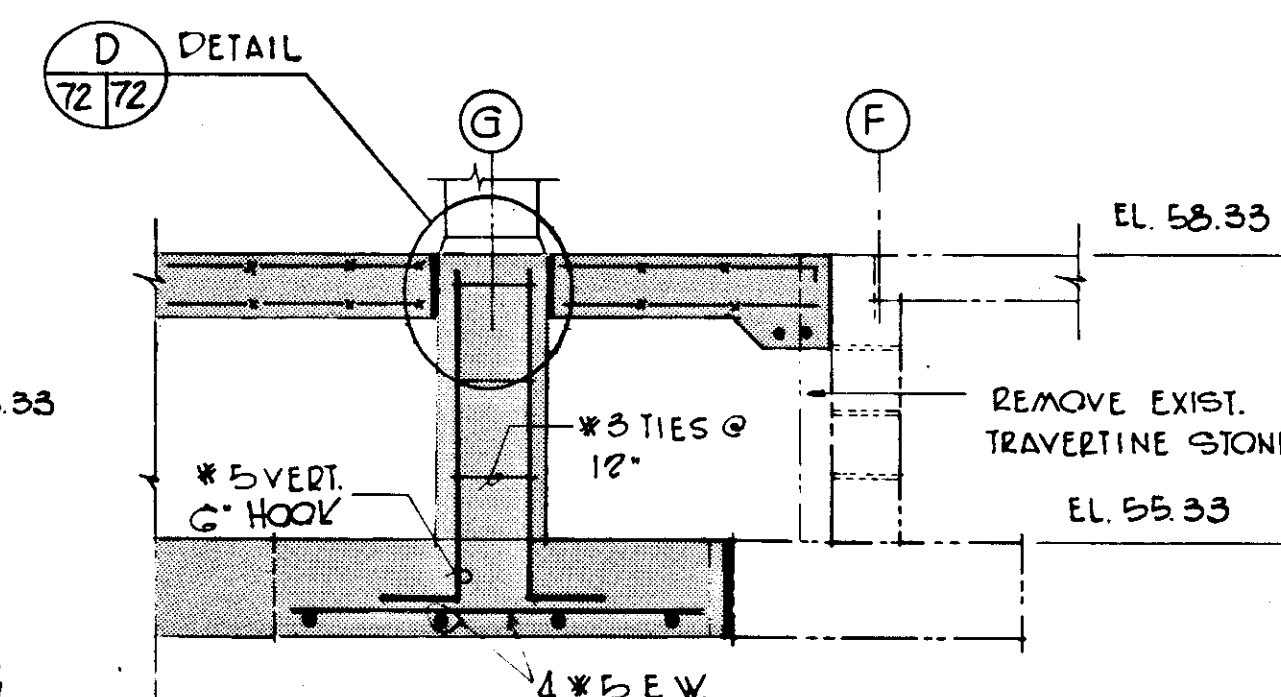
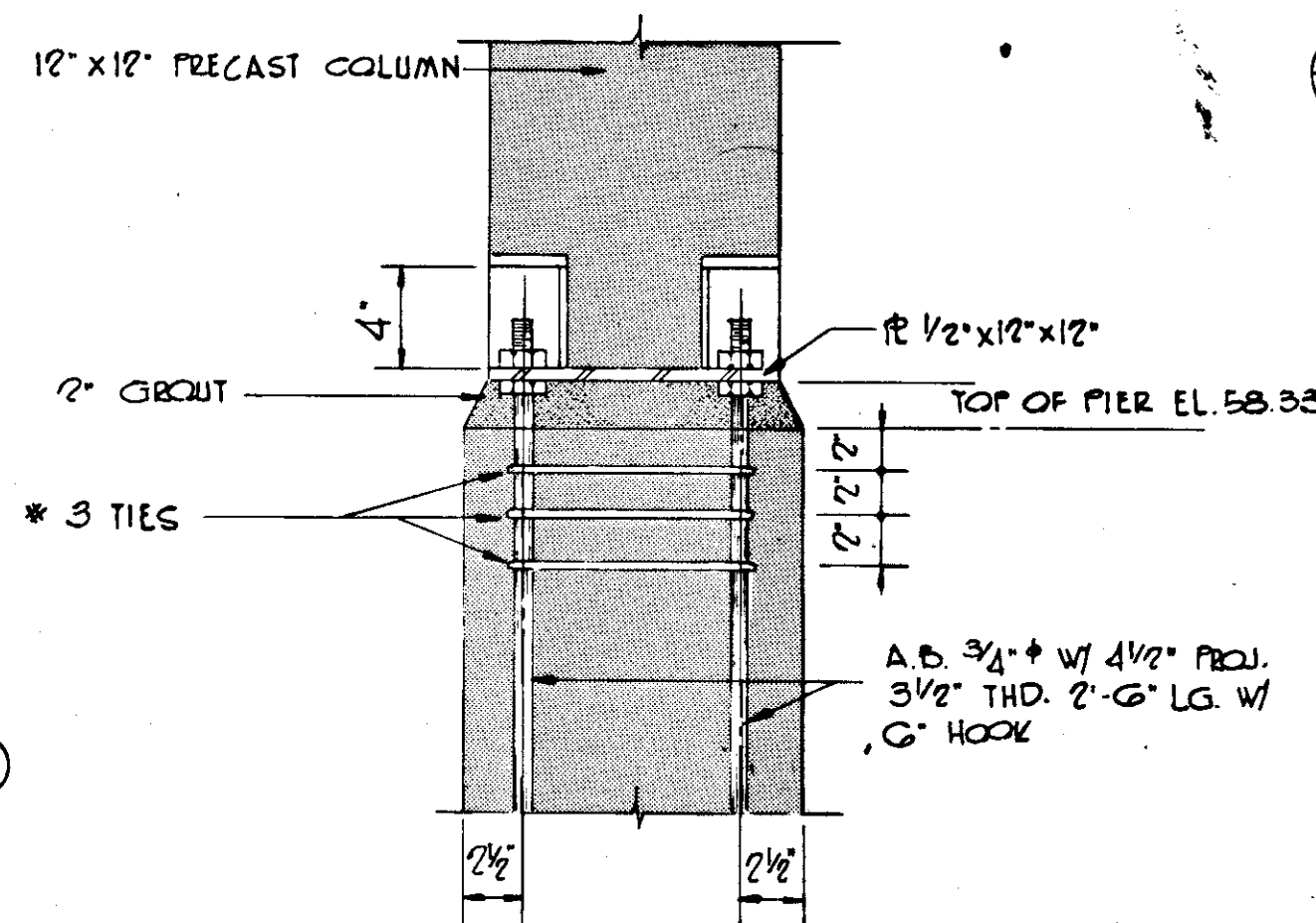
SECTION B
SCALE: 3/8" = 1'-0"



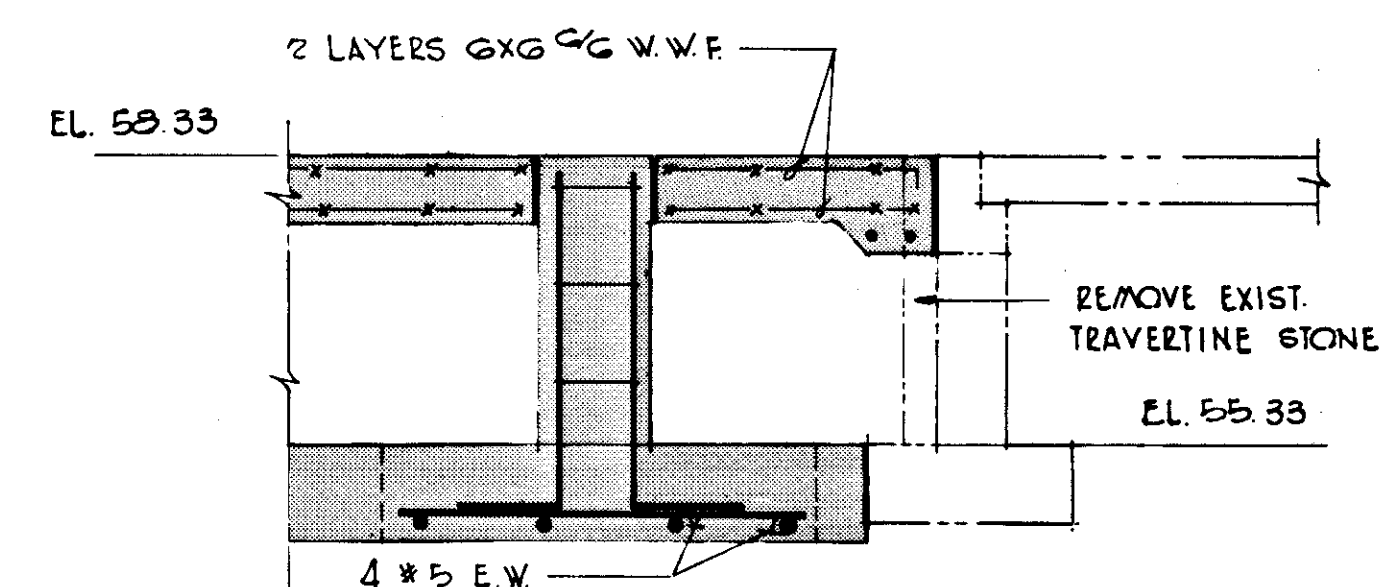
SECTION C
SCALE: 3/8" = 1'-0"



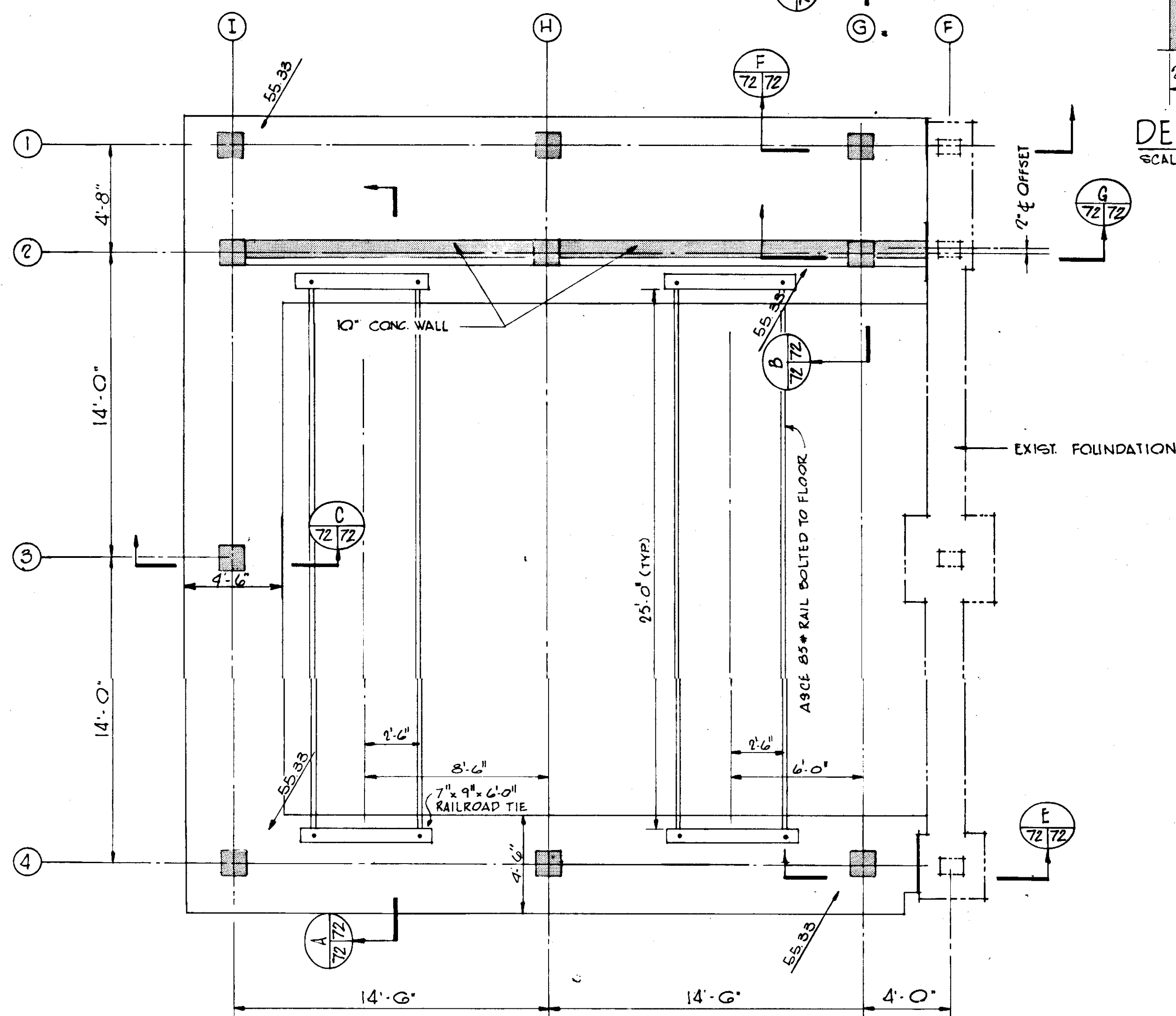
SECTION D
SCALE: 3/8" = 1'-0"



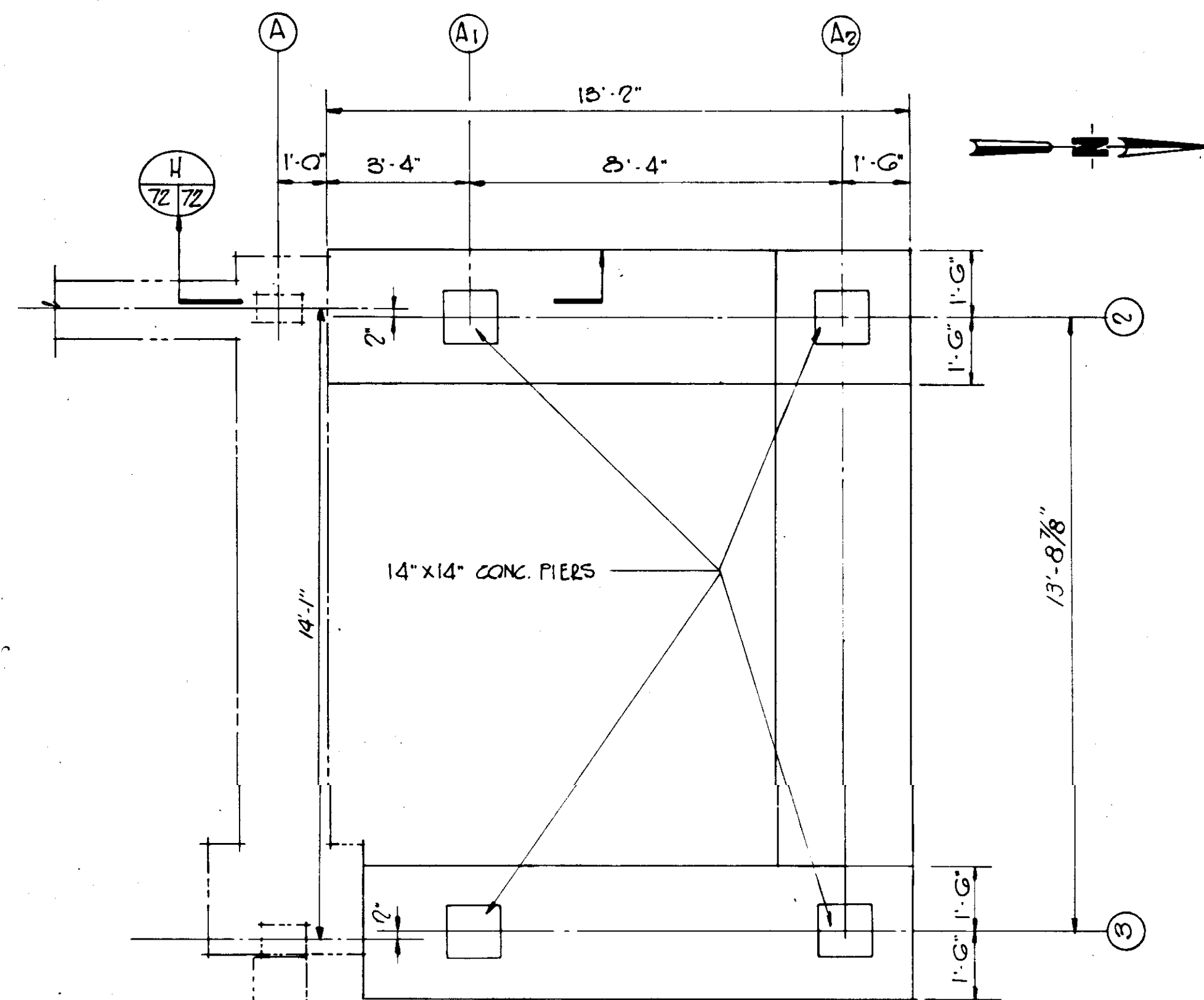
SECTION F
SCALE: 3/8" = 1'-0"



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



FOUNDATION PLAN-CL₂ CYLINDER STOR.
SCALE: 1/4" = 1'-0"



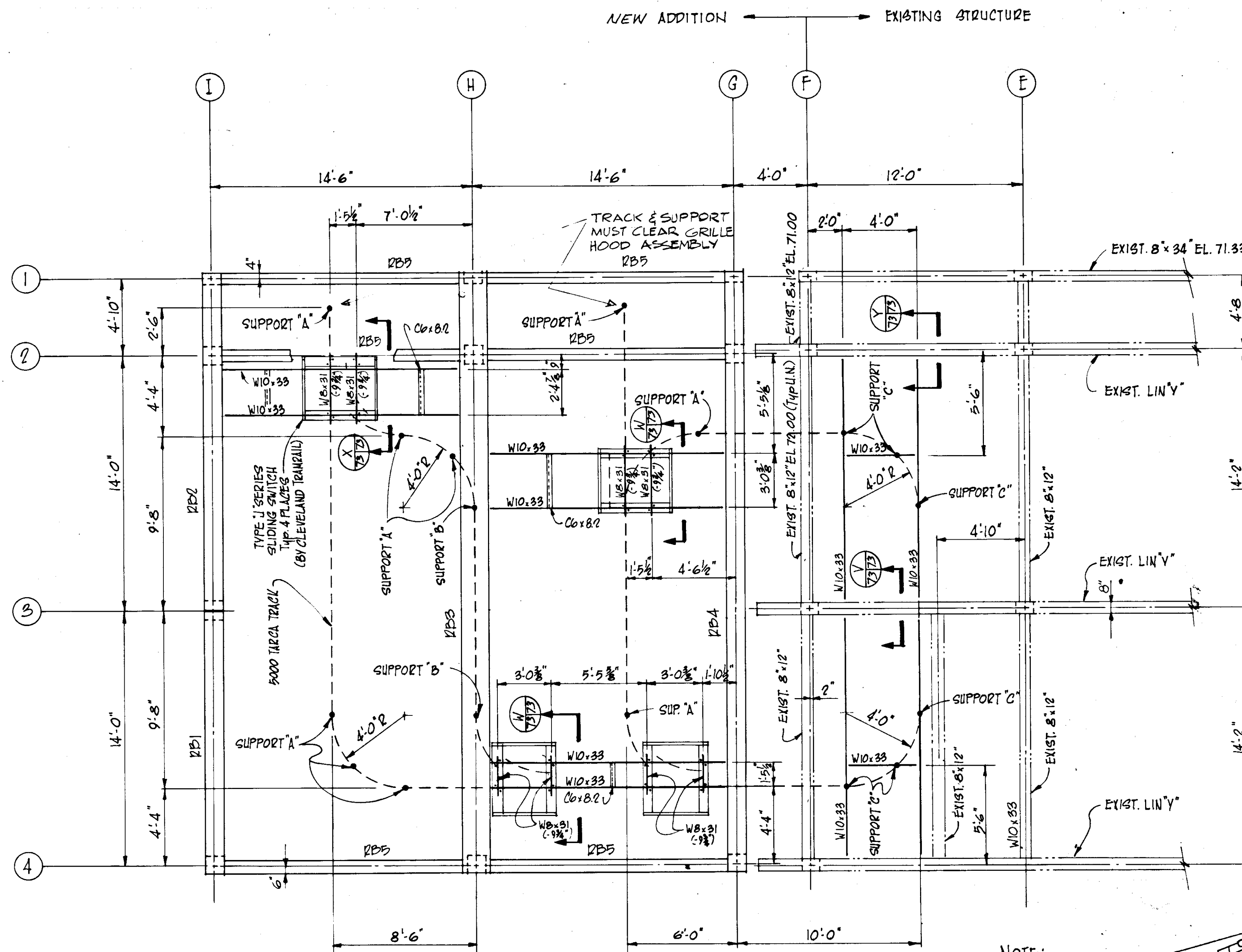
FOUNDATION PLAN-CHEMICAL FEED ROOM
SCALE: 3/8" = 1'-0"

RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE 8/30/78 BY K.R.N.
CHECKED BY:

R & A
M.C.U.S.

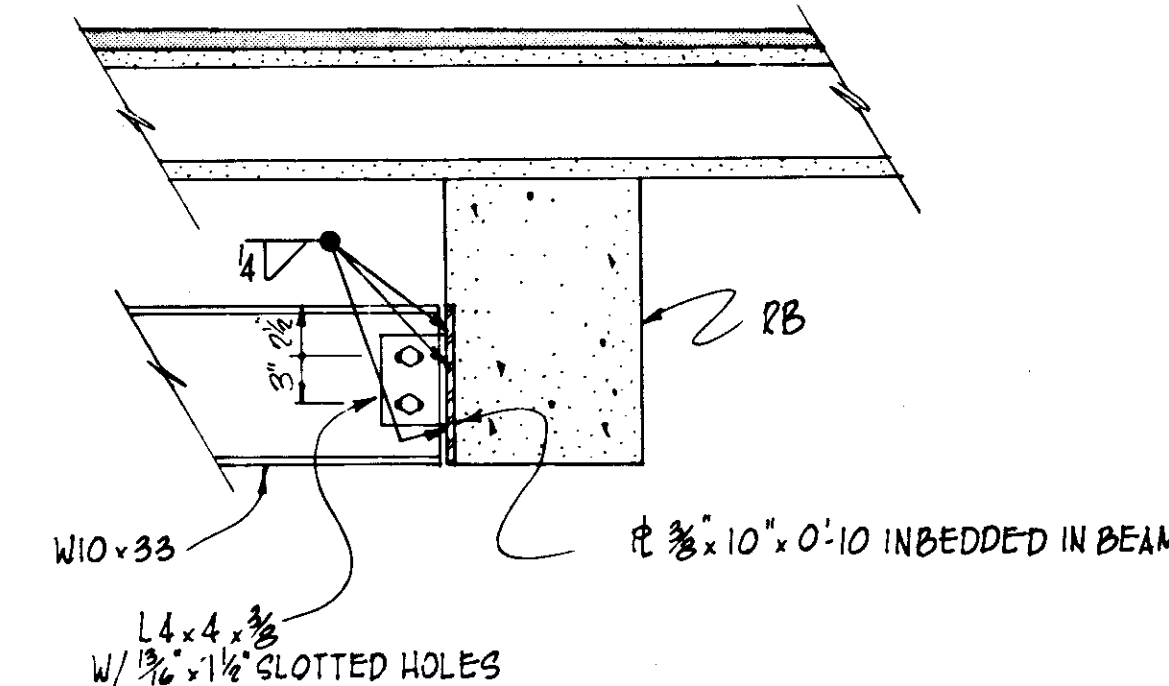
5/79	GEN REV	WRW	WCH
NO.	DATE	DESCRIPTION	BY
REVISIONS			
RUSSELL & AXON			
Engineers — Planners — Architects			
WATER WORKS PROJECT			
CHEMICAL FEED BUILDING			
FOUNDATION PLANS, SECTIONS & DETAILS			
MANATEE COUNTY, FLORIDA			
DESIGNED BY M. B.	FILE NO. 630-761-04	SEAL	
DRAWN BY B. E. A.	SHEET 51		
CHECKED BY	OF 130 SHEETS		
DATE AUGUST, 1978	SCALE: AS NOTED		



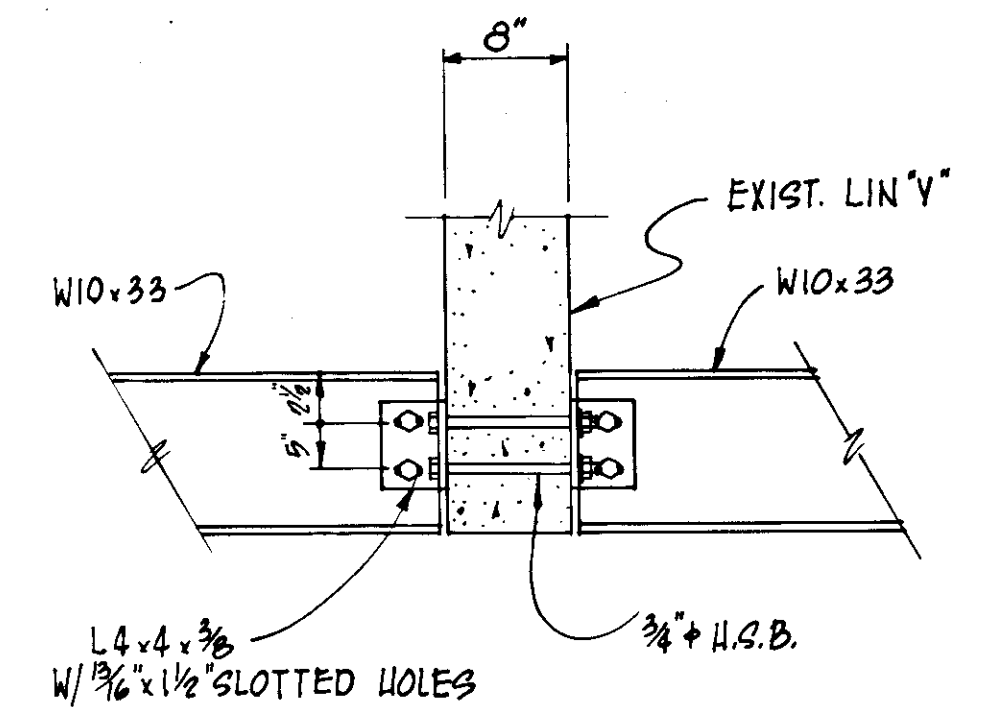
PLAN @ EL. 72.00
SCALE: 1/4" = 1'-0"

MARK	SIZE		LOADS (ps.f.)		REMARKS	ELEV. TOP OF BEAM
	W	D	D.L.	L.L.		
RB1	12	18	75	45	SPAN - 14'-6" ±	72.0
RB2	12	18	75	45	" - 19'-0" ±	72.0
RB3	18	26	75	45	" - 33'-8" ±	72.67
RB4	12	18	75	45	" - 33'-8" ±	72.00
RB5	8	12	—	—	" - 13'-8" ±	72.00
RB6	—	—	75	45	" - 7'-4" ±	71.00
RB7	—	—	75	45	" - 14'-0" ±	71.00

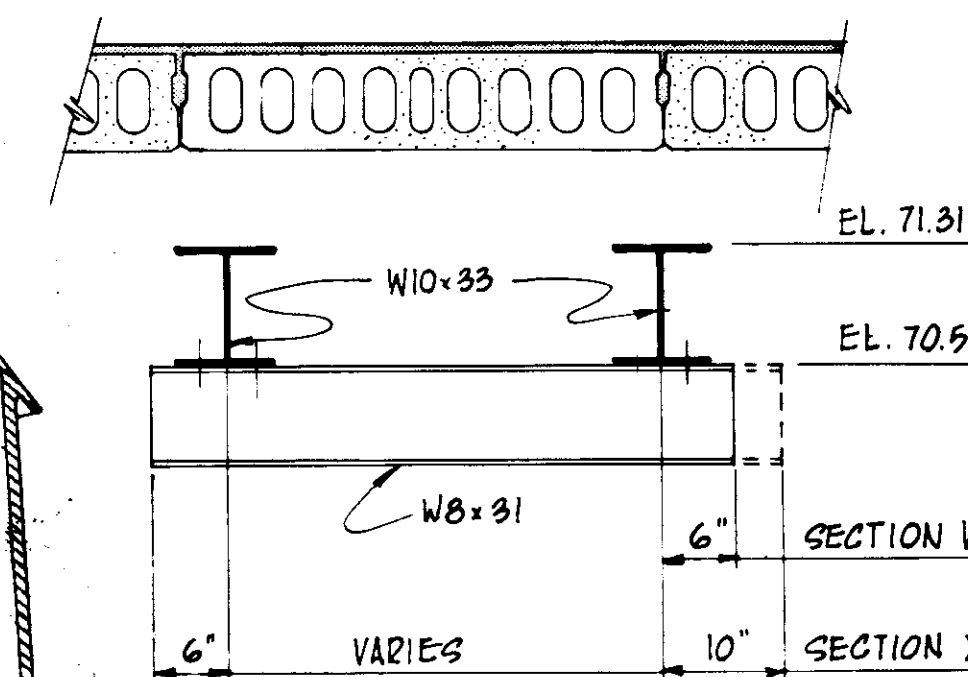
NOTE:
ALL COLUMNS 12x12,



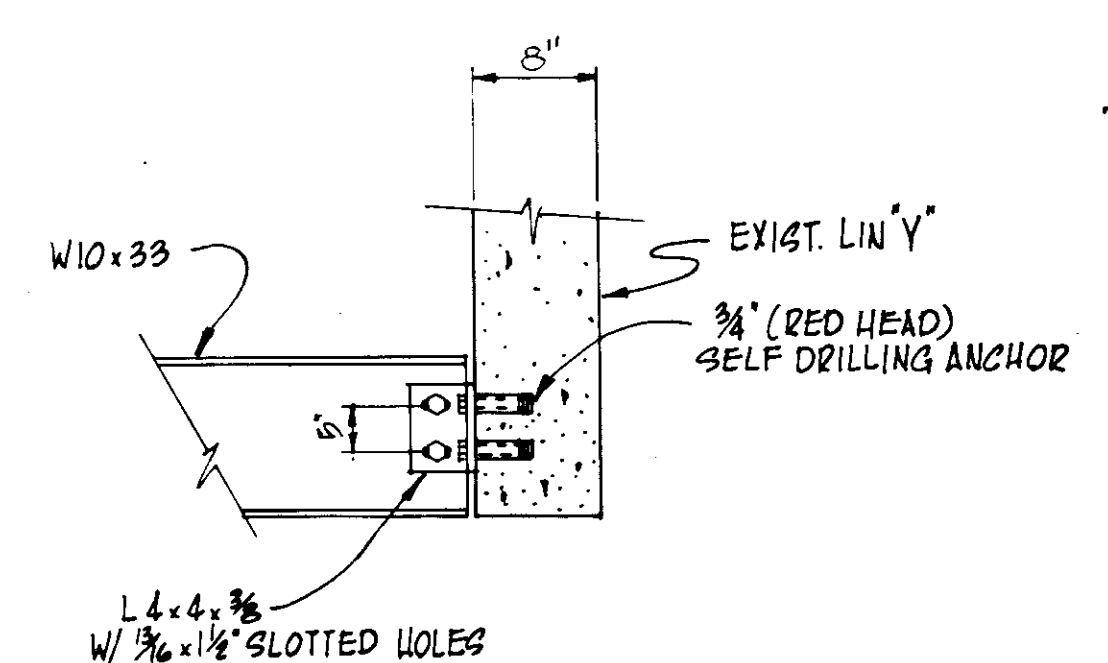
TYP. STEEL BEAM TO PRECAST BEAM CONN.
SCALE: 1" = 1'-0"



SECTION V
SCALE: 1" = 1'-0"

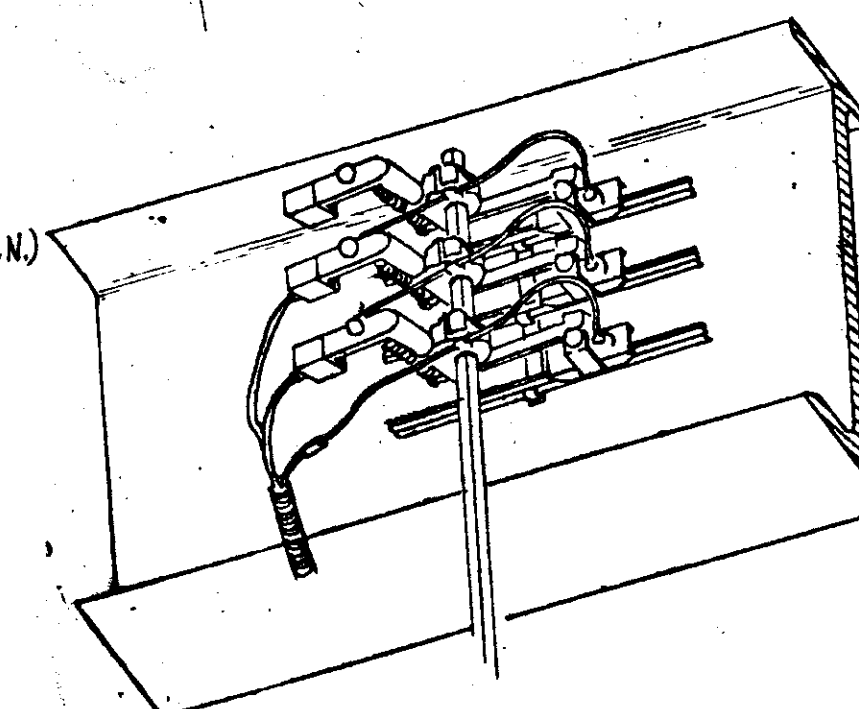


SECTION W
SCALE: 3/4" = 1'-0"

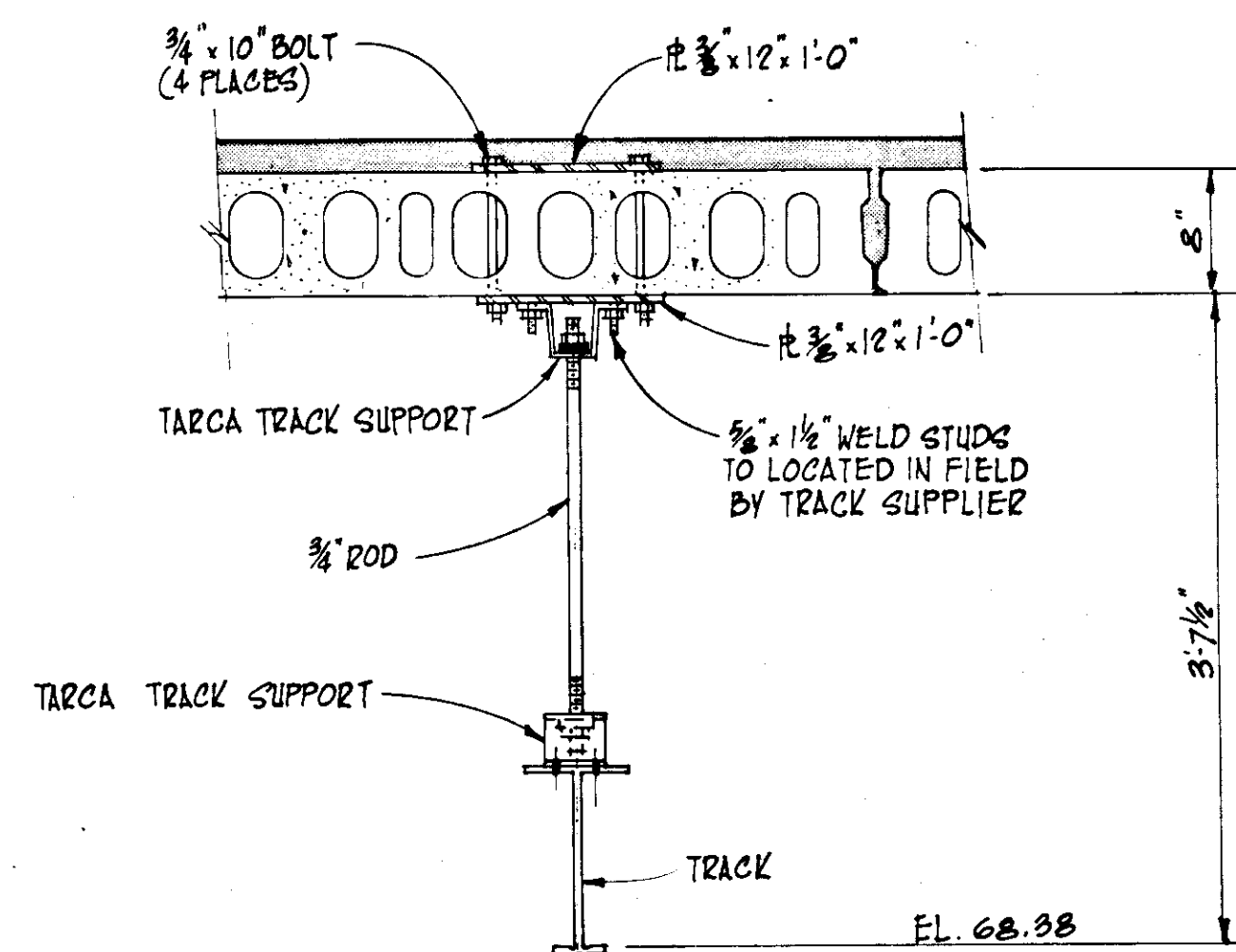


SECTION Y
SCALE: 1" = 1'-0"

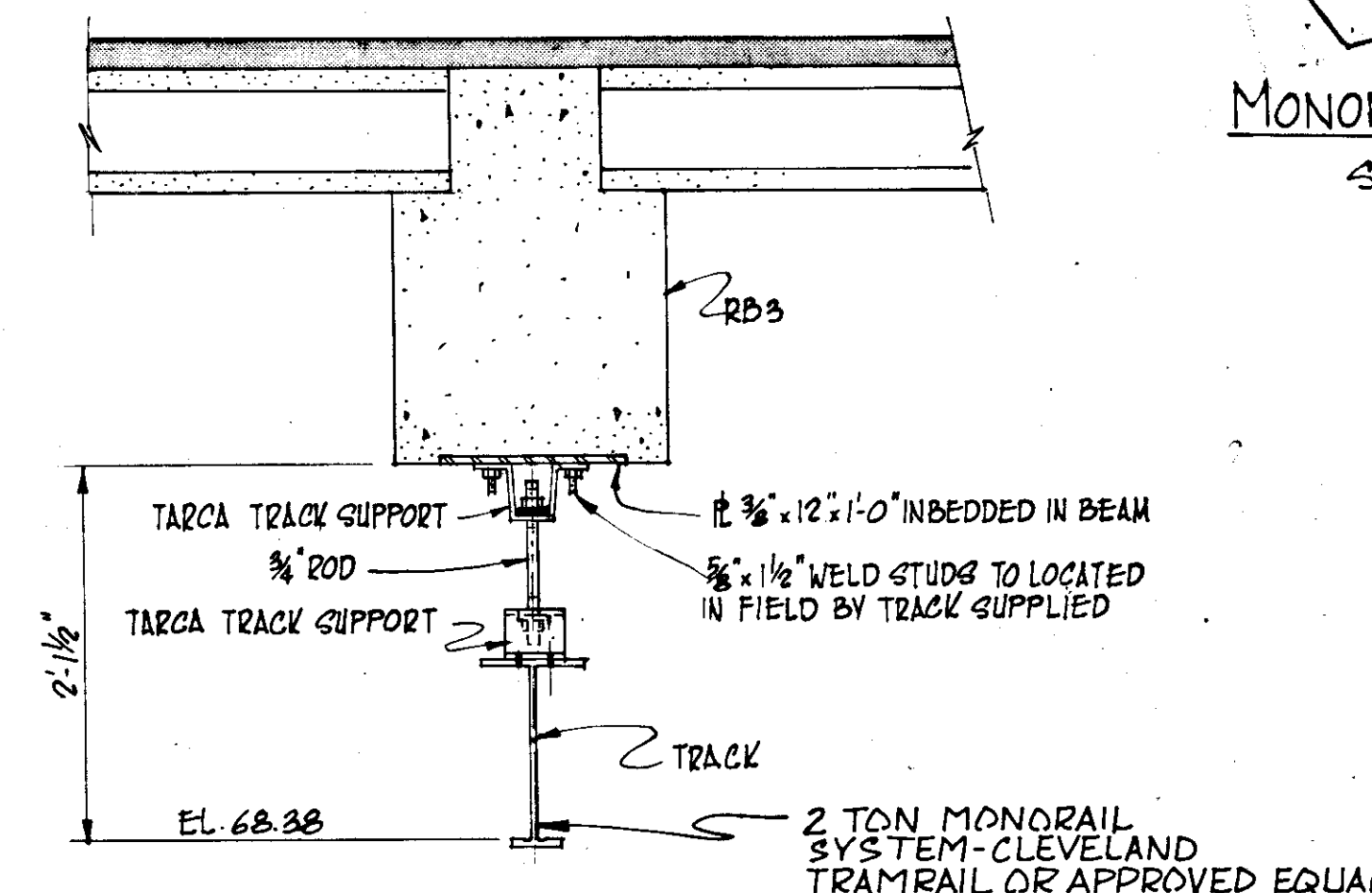
NOTE:
EL. 71.91 T.O.S. (U.N.)



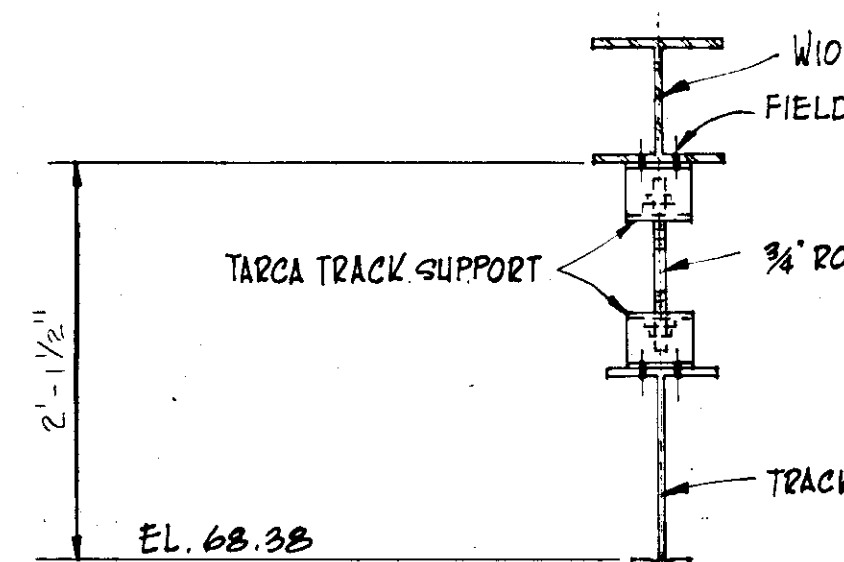
MONORAIL POWER COLLECTOR SYSTEM
SCALE: N.T.S.



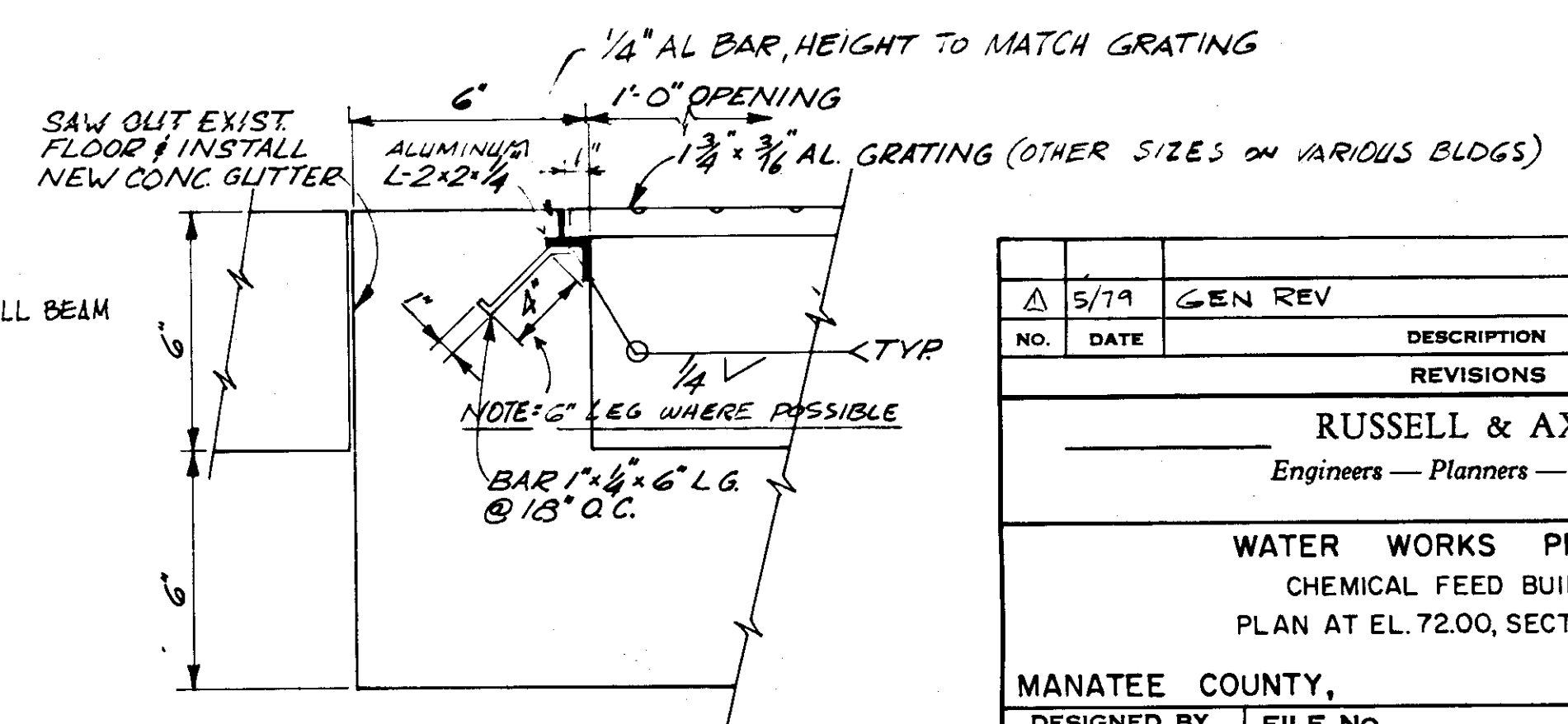
SUPPORT A
SCALE: 1" = 1'-0"



SUPPORT B
SCALE: 1" = 1'-0"



SUPPORT C
SCALE: 1" = 1'-0"



DETAIL U
SCALE: N.T.S.

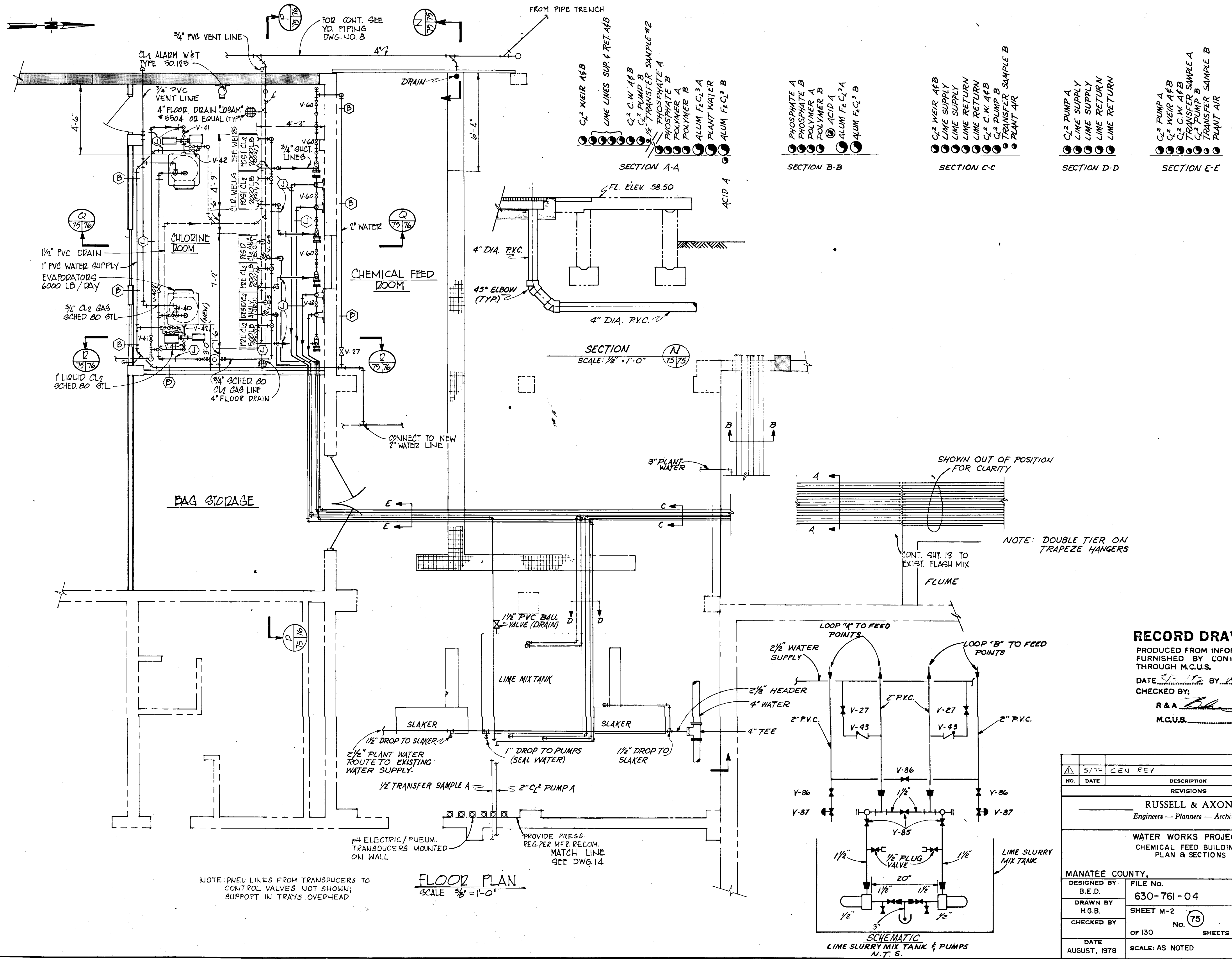
TYPICAL GRATING SEAT

RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE: 8/1/82 BY: KRN
CHECKED BY:

R & A
M.C.U.S.

NO.	DATE	GEN REV	DESCRIPTION	BY	CHKD.
1	5/79			WRW	WFF
REVISIONS					
RUSSELL & AXON					
Engineers — Planners — Architects					
WATER WORKS PROJECT					
CHEMICAL FEED BUILDING					
PLAN AT EL. 72.00, SECTIONS & DETAILS					
MANATEE COUNTY, FLORIDA					
DESIGNED BY	J.P.	FILE NO.	630-761-04	SEAL	
DRAWN BY	E.L.W.	SHEET	52		
CHECKED BY		OF 130	No. 73 SHEETS		
DATE	AUGUST, 1978	SCALE:	AS NOTED		



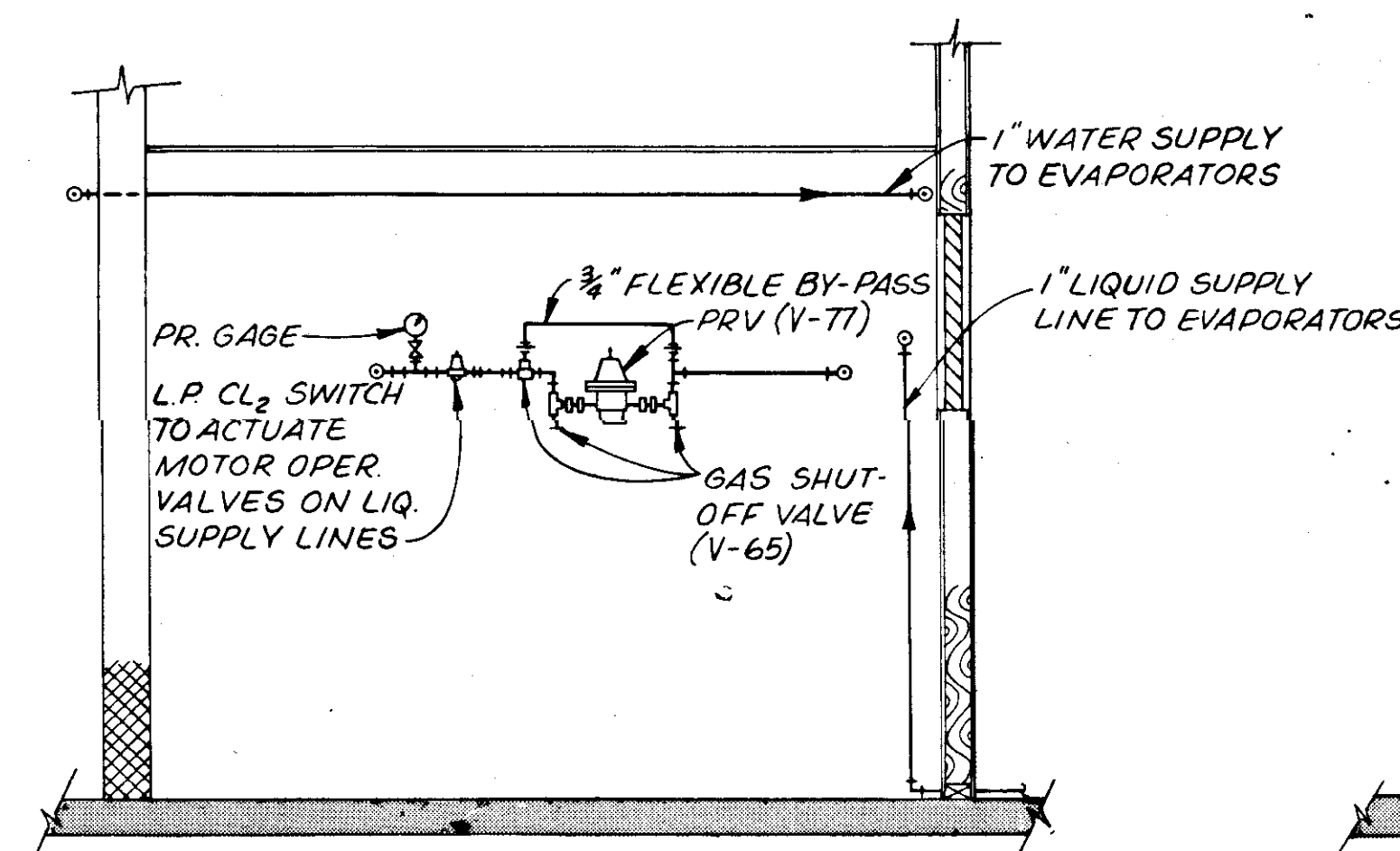
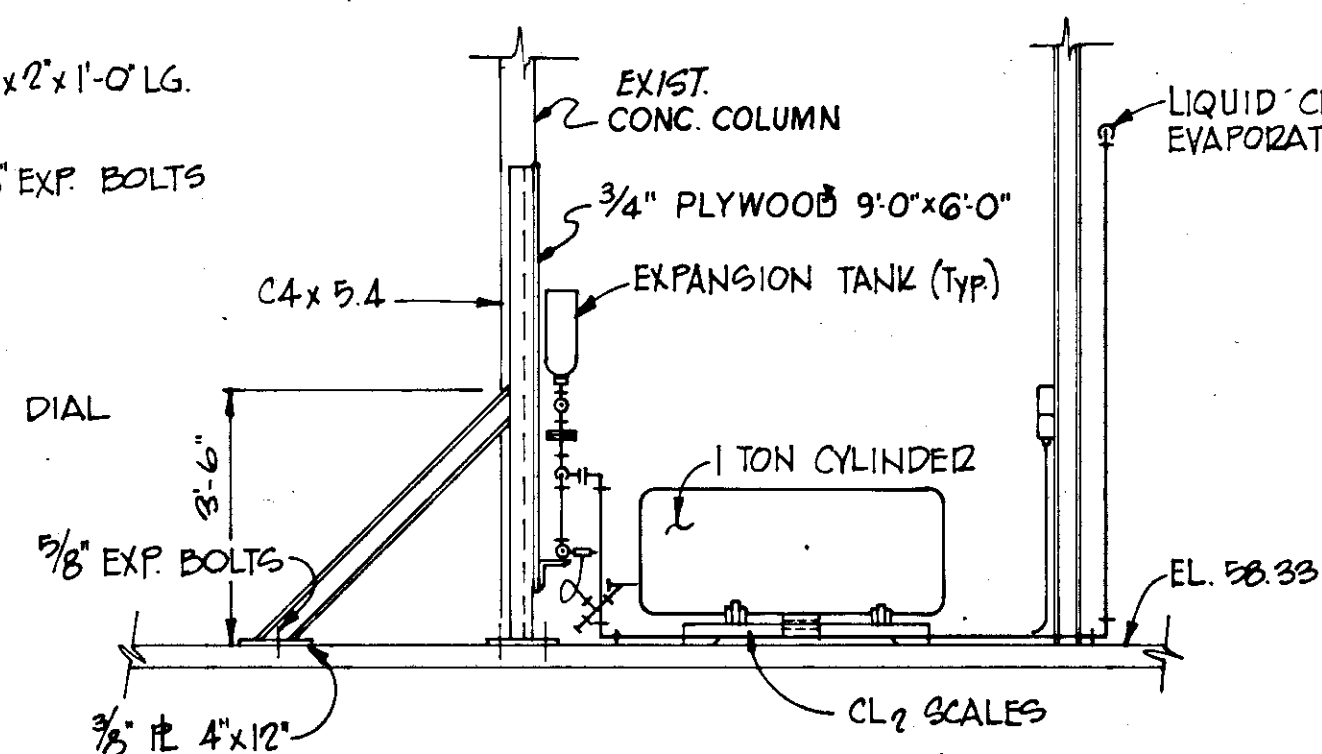
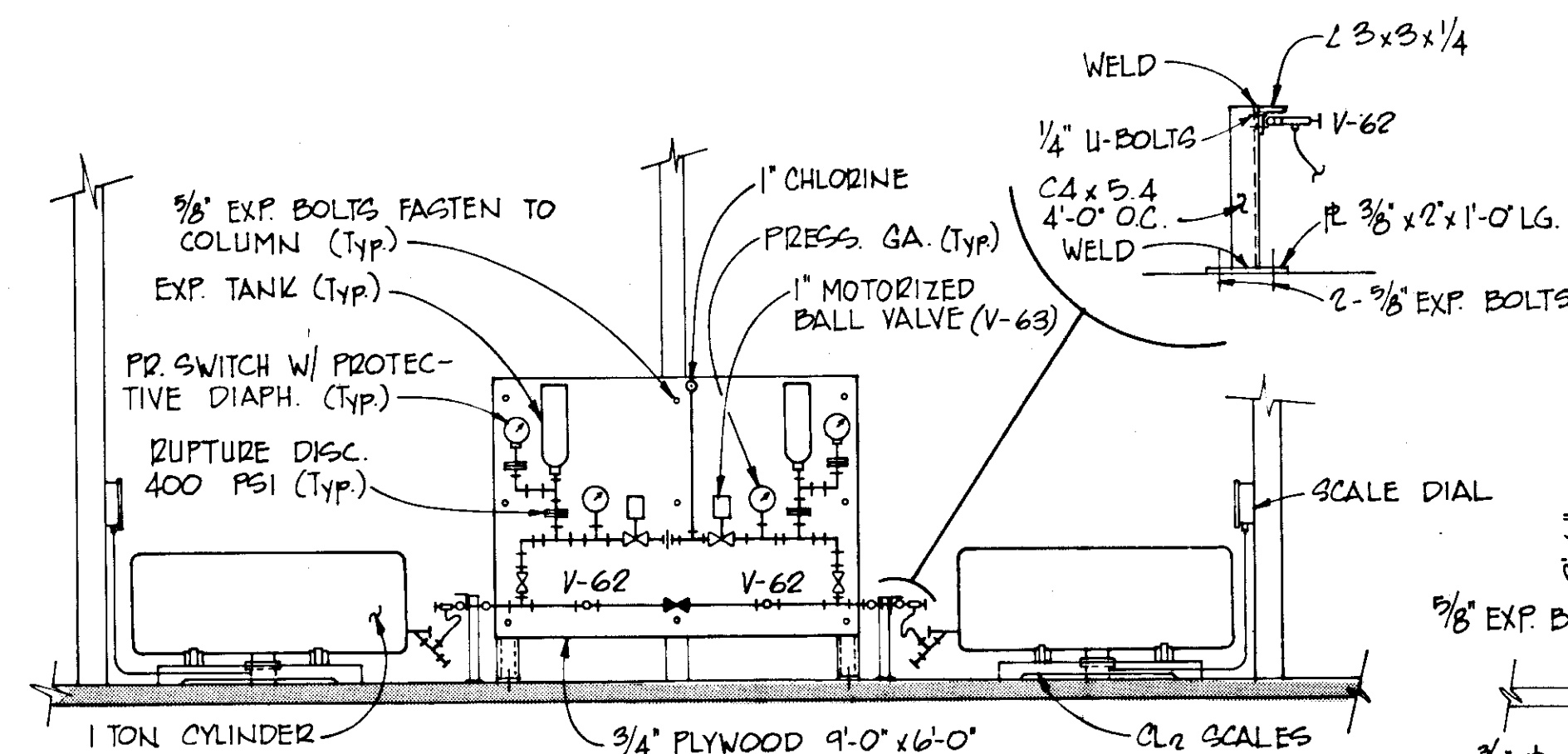
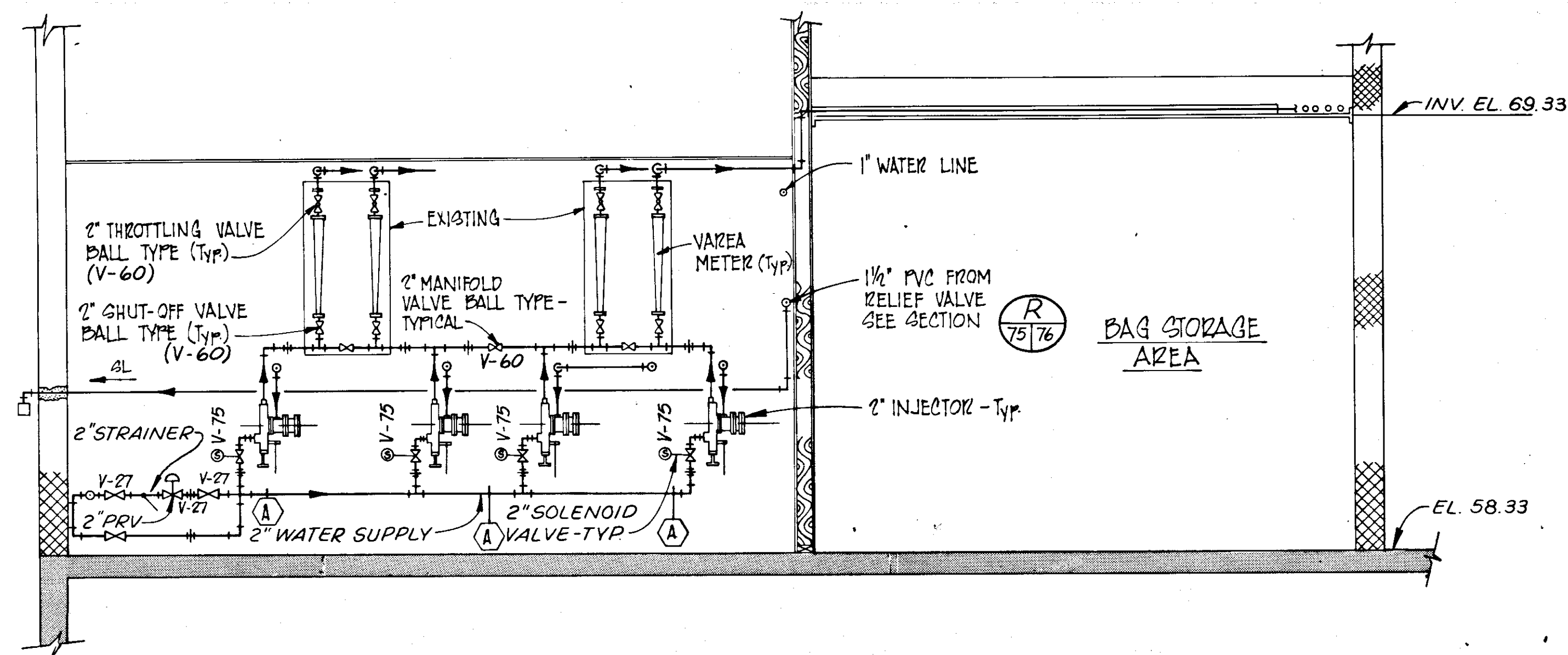
RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.

DATE 3/2/78 BY KRN
CHECKED BY:

R & A
M.C.U.S.

NO.	5/78	GEN REV	W.T.
DATE		DESCRIPTION	BY
REVISIONS			
RUSSELL & AXON			
Engineers — Planners — Architects			
WATER WORKS PROJECT			
CHEMICAL FEED BUILDING			
PLAN & SECTIONS			
MANATEE COUNTY, FLORIDA			
DESIGNED BY	FILE NO.	T-75 SEAL	
B.E.D.	630-761-04		
DRAWN BY	SHEET M-2		
H.G.B.	No. 75		
CHECKED BY	OF 130 SHEETS	SCALE: AS NOTED	
DATE			
AUGUST, 1978			

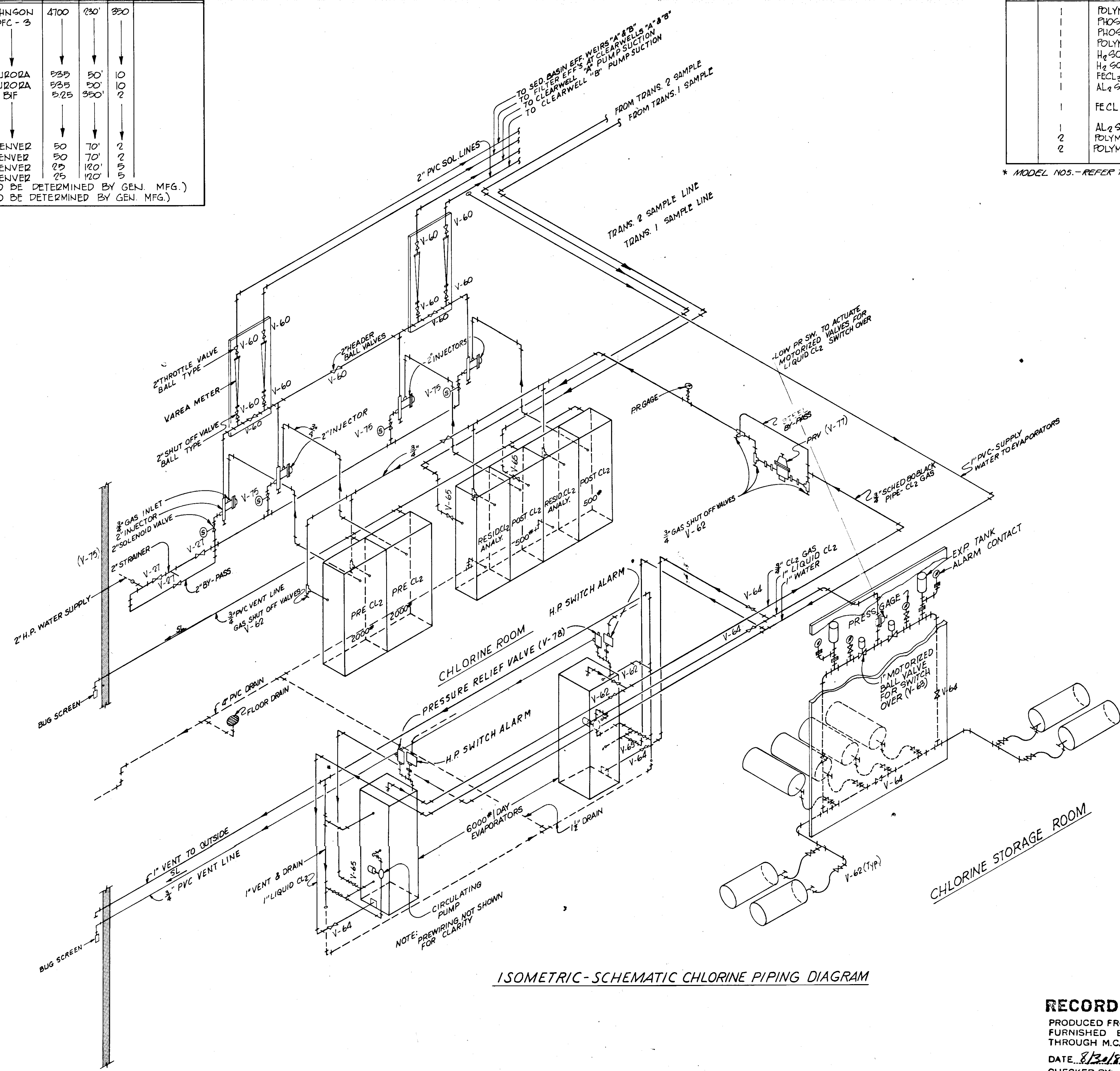


PUMP SCHEDULE						
PUMP	SERVICE	TYPE	MFG. & MODEL NO.	FLOW GPM	T.D.H.	HP
P-1	TRANSFER	VERT. TURBINE	JOHNSON 20FC-3	4700	230'	350
P-2	PLT. WATER	CENTRIF. POS. DISP.	AURORA BIF	535	50'	10
P-3						
P-4						
P-5						
P-6						
P-7						
P-8						
P-9						
P-10						
P-11						
P-12						
P-13						
P-14						
P-15						
P-16						
P-17						
P-18						

ROTAMETER SCHEDULE										
PART NO.	NO. REQUIRED	SERVICE	RANGE	SIZE	TUBE SIZE	MATL.	MOD. NO.	SP. GR.	REMARKS	
	1	POLYMER FEED "A"	0.3-7.6GPM	3/4" NPT	1"	316SS	10A1755	1.0		
	1	PHOSPHATE "A"	0.8-7.6GPM	3/4" NPT	1"	316SS	10A1755	1.0		
	1	PHOSPHATE "B"	0.8-7.6GPM	3/4" NPT	1"	316SS	10A1755	1.0		
	1	POLYMER FEED "B"	0.3-7.6GPM	3/4" NPT	1"	316SS	10A1755	1.0		
	1	H ₂ SO ₄ FEED "A"	0.0-4.6GPM	3/4" NPT	3/4"	316SS	1755	1.84	HASTELOY FLOAT	
	1	H ₂ SO ₄ FEED "B"	0.0-4.6GPM	3/4" NPT	3/4"	316SS	1755	1.84	HASTELOY FLOAT	
	1	FECL ₃ FEED "A" & "B"	0.25-2.6GPM	1/2" NPT	1/2"	HASTELOY	1755A	1.34	HASTELOY FLOAT	
	1	AL ₂ SO ₄ FEED "A" & "B"	0.3-7.6GPM	3/4" NPT	3/4"	HASTELOY	10A1755	0.65	GLASS TUBE	
	1	FECL ₃ SOL. WATER	20-200GPM	2" NPT	3"	AL BODY	71K1021A	1.0	GLASS IMPACT	
	1	AL ₂ SO ₄ SOL. WATER	20-200GPM	2" NPT	3"	AL BODY	71K1021A	1.0	GLASS IMPACT	
	2	POLYMER SOL. WATER	5-50GPM	2" NPT	2"	BRONZE	10A1755	1.0	GLASS TUBE	
	2	POLYMER SOL. WATER	5-50GPM	2" NPT	2"	BRONZE	10A1755	1.0	GLASS TUBE	

* MODEL NOS. - REFER TO FISHER AND PORTER CO.

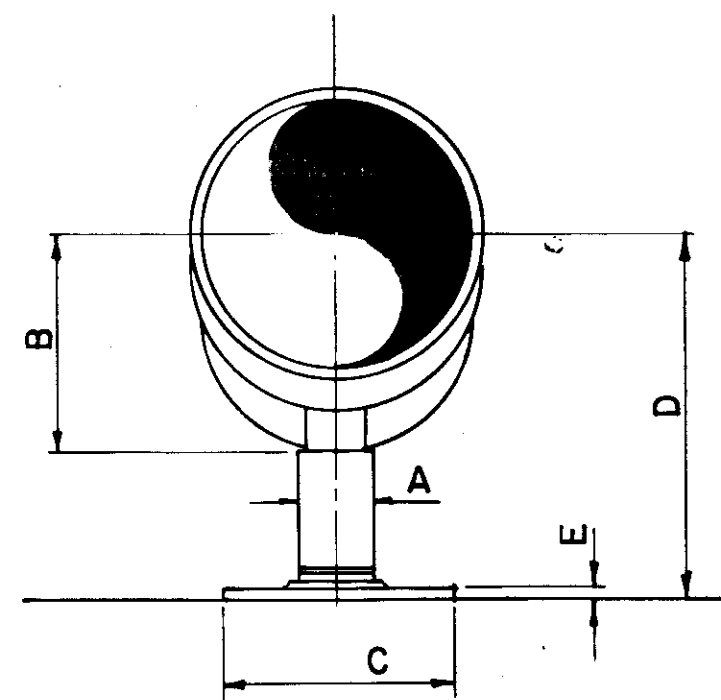
PUMP SCHEDULE							
PUMP	SERVICE	TYPE	MFG. & MODEL NO.	FLOW GPM	T.D.H.	HP	REMARKS
P-19	POLYMER "A" FEED	POS. DISP.	BIF	2.0	350	2	
P-20	POLYMER "A" TRANSFER	POS. DISP.	BIF	5.0		3/4	
P-21	POLYMER "B" FEED	POS. DISP.	BIF	5.0		2	
P-22	POLYMER "B" TRANSFER	POS. DISP.	BIF	5.0		3/4	
P-23	PHOSPHATE FEED	POS. DISP.	BIF	4.0		2	
P-24	PHOSPHATE TRANSFER	POS. DISP.	BIF	20.0		3	
P-25	SLUDGE TRANSFER "B"	HORIZ. CUTTER	ENPO - CORNELL	420	23.5	7.5	
P-26	SLUDGE TRANSFER "B"				23.5	7.5	
P-27	SLUDGE TRANSFER "A"				20	5	
P-28	SLUDGE TRANSFER "A"				20	5	
P-29	BACKWASH POND RETURN	SUBMERSIBLE	FLYGT	1275	25	10	
P-30	BACKWASH POND RETURN			1275	25	10	
P-31	SLUDGE POND EFFLUENT "A"	SUBMERSIBLE CUTTER	MIDLAND	150	30	5	
P-32	SLUDGE POND EFFLUENT "B"		MIDLAND	150	30	5	
P-33	DRY PIT SUMP PUMP		BARNES	50	20	3/4	
P-34	CARBON SLURRY RECIRC.	CENTRIF.		40	50	2	
P-35							
P-36							
P-37							
P-38	CARBON SLURRY RECIRC.	CENTRIF.		40	50	2	



ISOMETRIC-SCHEMATIC CHLORINE PIPING DIAGRAM

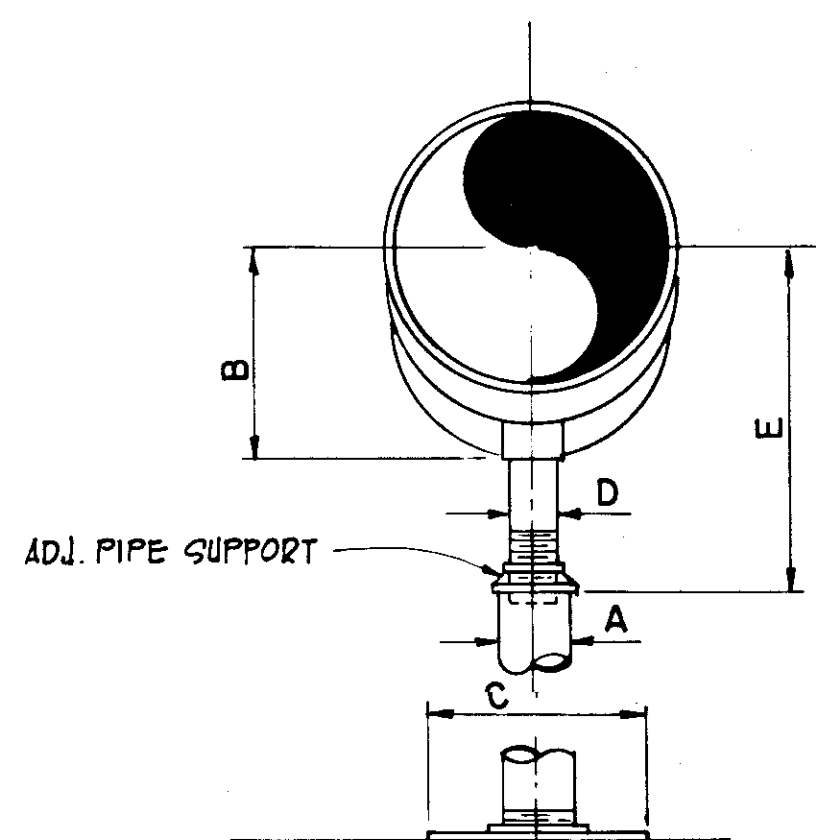
RECORD DRAWING
 PRODUCED FROM INFORMATION
 FURNISHED BY CONTRACTOR
 THROUGH M.C.U.S.
 DATE 8/13/78 BY K.P.A.
 CHECKED BY:
 R & A *[Signature]*
 M.C.U.S. *[Signature]*

5/79		GEN. REVISIONS		AL	
NO.	DATE	DESCRIPTION		BY	CKD.
REVISIONS					
RUSSELL & AXON Engineers — Planners — Architects					
WATER WORKS PROJECT CHEMICAL FEED BUILDING ISOMETRIC & SCHEDULES					
MANATEE COUNTY,		FILE NO.		SEAL	
DESIGNED BY R.D.H.		630-761-04			
DRAWN BY E.L.L.		SHEET M 4			
CHECKED BY		No. 77			
DATE AUGUST, 1978		OF 130 SHEETS			
		SCALE: N.T.S.			



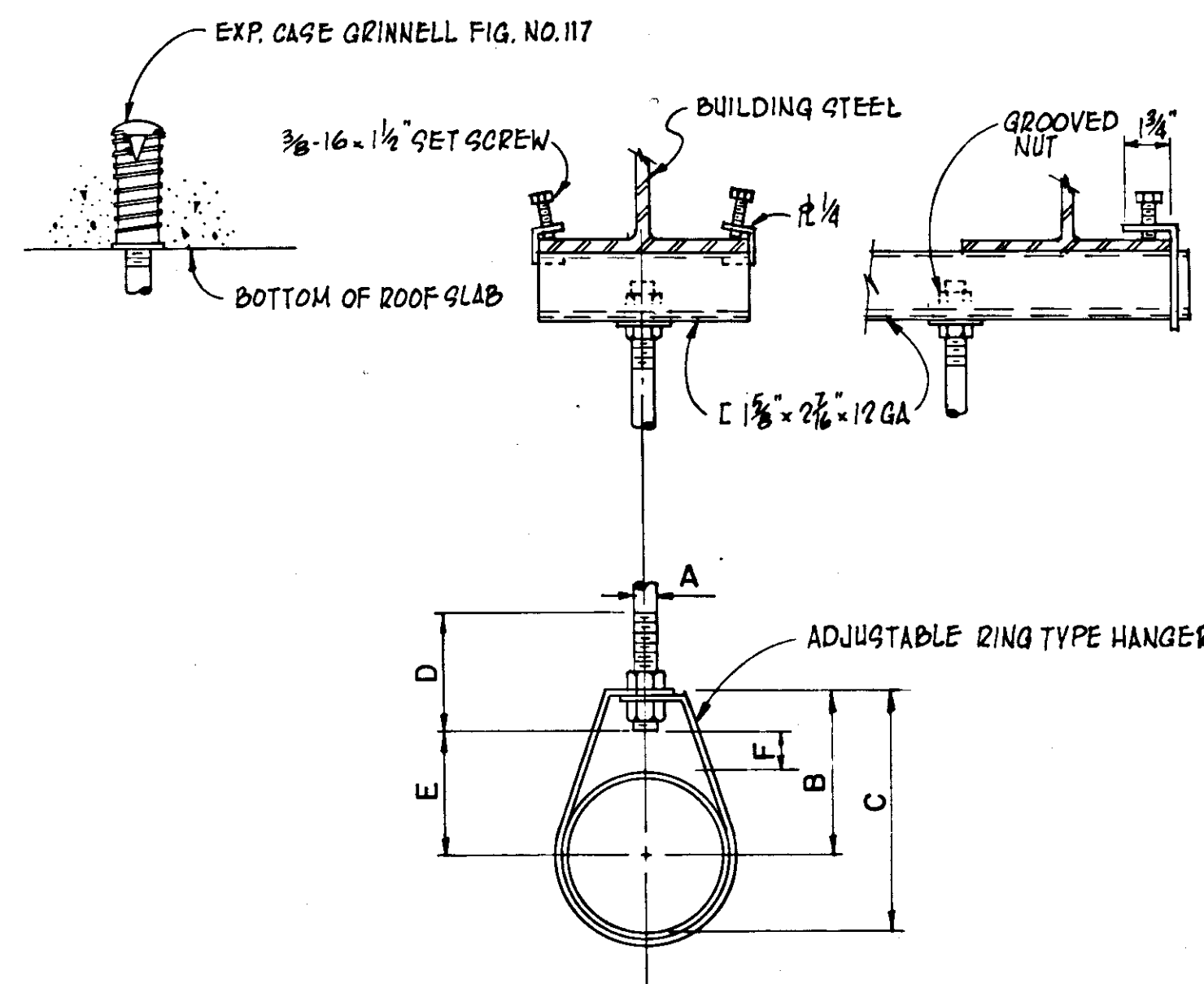
PIPE SIZE	A	B	C	D	E
2"	1 1/2"	3 1/2"	9"	12"	3/8"
4"	2 1/2"	4 1/2"	9"	12"	1/2"
6"	2 1/2"	5 1/2"	9"	12"	1"
8"	2 1/2"	6 1/2"	9"	12"	1 1/8"

PIPE SUPPORT - TYPE "E"



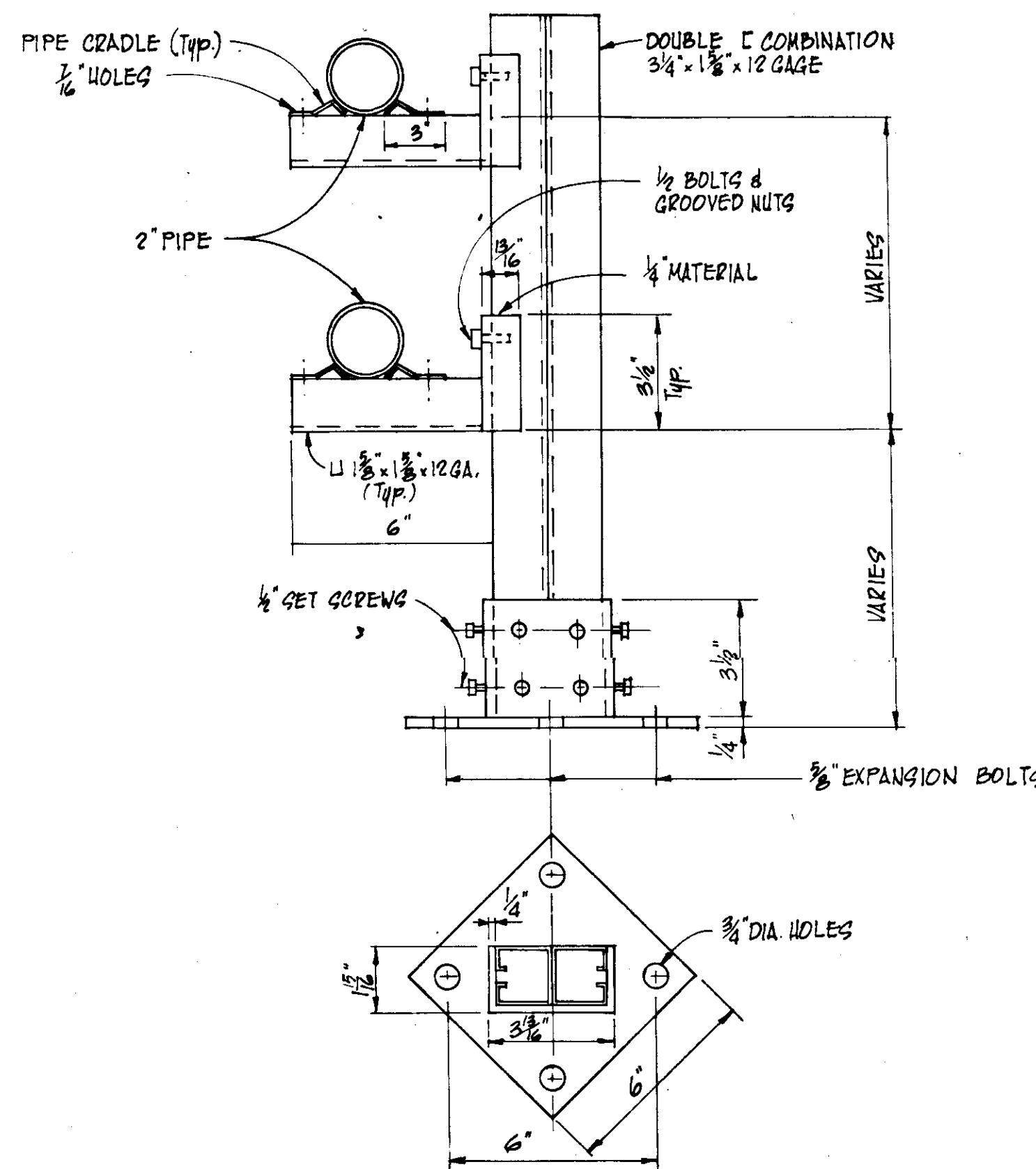
PIPE SIZE	A	B	C	D	E	
					MIN.	MAX.
4"	3"	4 1/2"	9"	2 1/2"	9 1/4"	14"
6"	3"	5 1/2"	9"	2 1/2"	10 1/2"	15 1/4"
8"	3"	6 1/2"	9"	2 1/2"	11 1/4"	16 1/2"

ADJUSTABLE PIPE SUPPORT

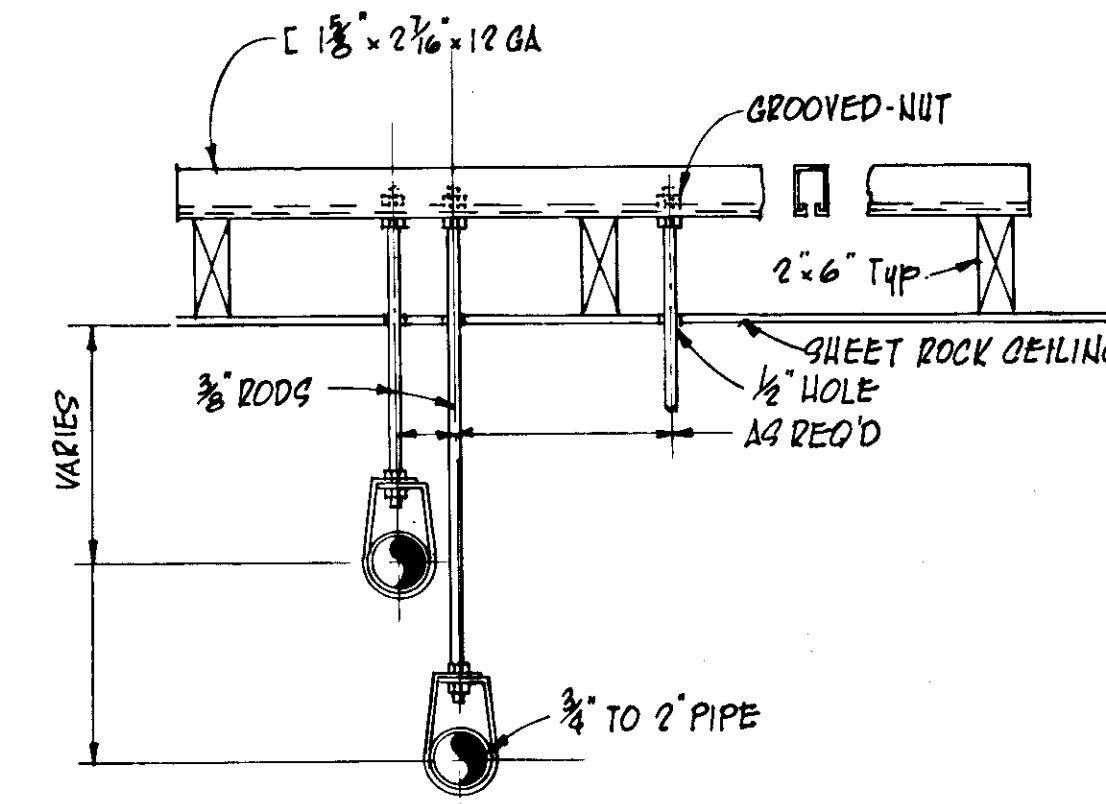
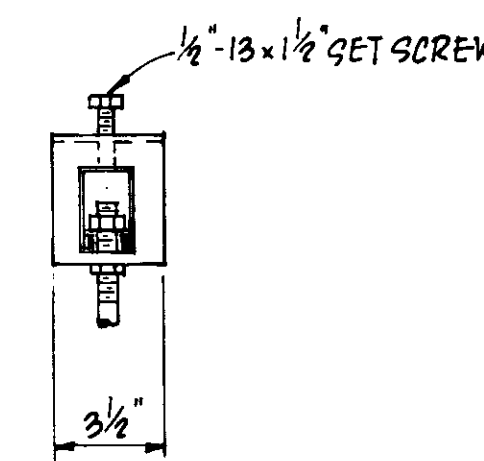


PIPE SIZE	A	B	C	D	E	F	MAX. SPACING
1"	3/8"	2 3/8"	2 1/2"	2 1/2"	1 1/8"	1"	10'-0"
1 1/2"	3/8"	2 3/8"	3 1/4"	2 1/2"	1 1/8"	1 1/4"	10'-0"
2"	3/8"	3"	4 3/8"	2 1/2"	2 3/8"	1 1/2"	10'-0"
2 1/2"	1/2"	3 3/8"	5 3/8"	3 1/2"	3"	1 3/4"	10'-0"
3"	1/2"	4 1/4"	6"	3 1/2"	3 3/8"	1 3/4"	12'-0"
4"	5/8"	4 1/2"	7 1/8"	3 1/2"	3 3/8"	1 3/4"	15'-0"
6"	5/8"	6 3/8"	9 1/8"	4 1/2"	5 3/8"	2"	15'-0"

PIPE HANGER - TYPE "F"

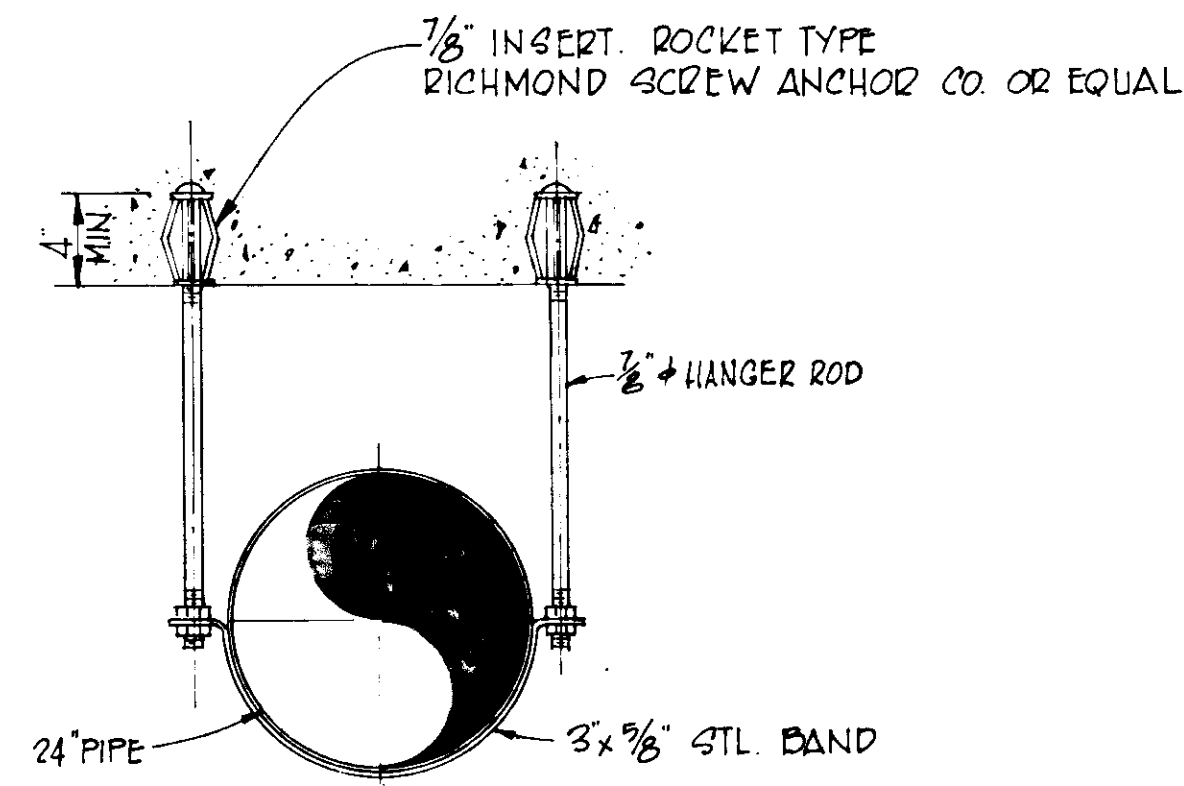


PIPE SUPPORT - TYPE "G"

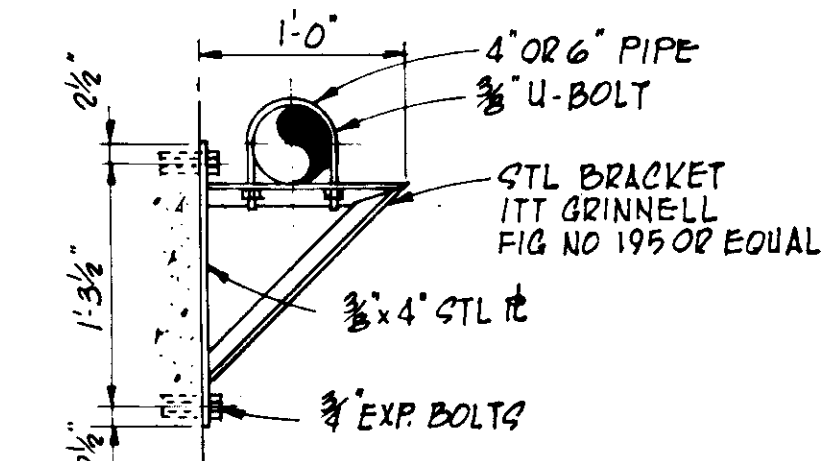


PIPE HANGER - TYPE "J"

THIS SHEET HAS BEEN DELETED



PIPE HANGER - TYPE "H"



PIPE HANGER - TYPE "R"

NOTE: PIPE HANGERS TYPE & LOCATIONS THAT ARE NOT SHOWN ON THE DRAWINGS FOR MANUFACTURED EQUIPMENT & ALL OTHER PIPING, SHALL BE FURNISHED & INSTALLED IN ACCORDANCE WITH THE BEST ETHICS SUITABLE TO THE ENGINEER.

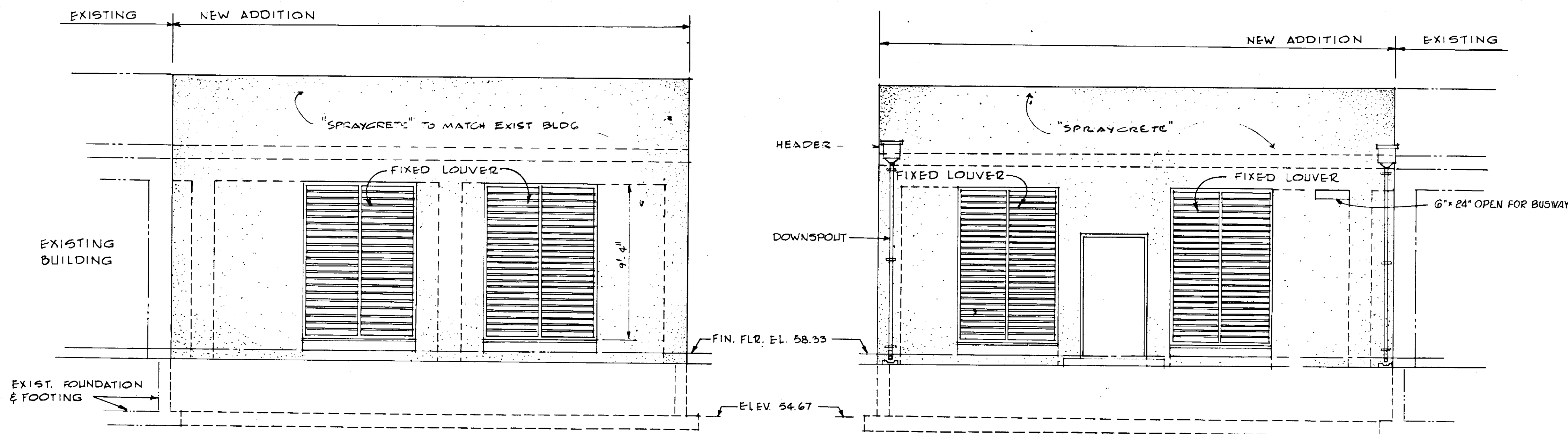
RECORD DRAWING

PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.

DATE 8/30/12 BY R.R. CHECKED BY:

R & A M.C.U.S.

NO.	DATE	DESCRIPTION	BY	CHKD.
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT				
PIPE HANGER DETAILS				
MANATEE COUNTY, FLORIDA				
DESIGNED BY R.D.H.	FILE No. 630-761-04	SEAL		
DRAWN BY E.L.	SHEET M 5			
CHECKED BY	No. 78	SHEETS		
DATE AUGUST, 1978	SCALE: NOT TO SCALE			

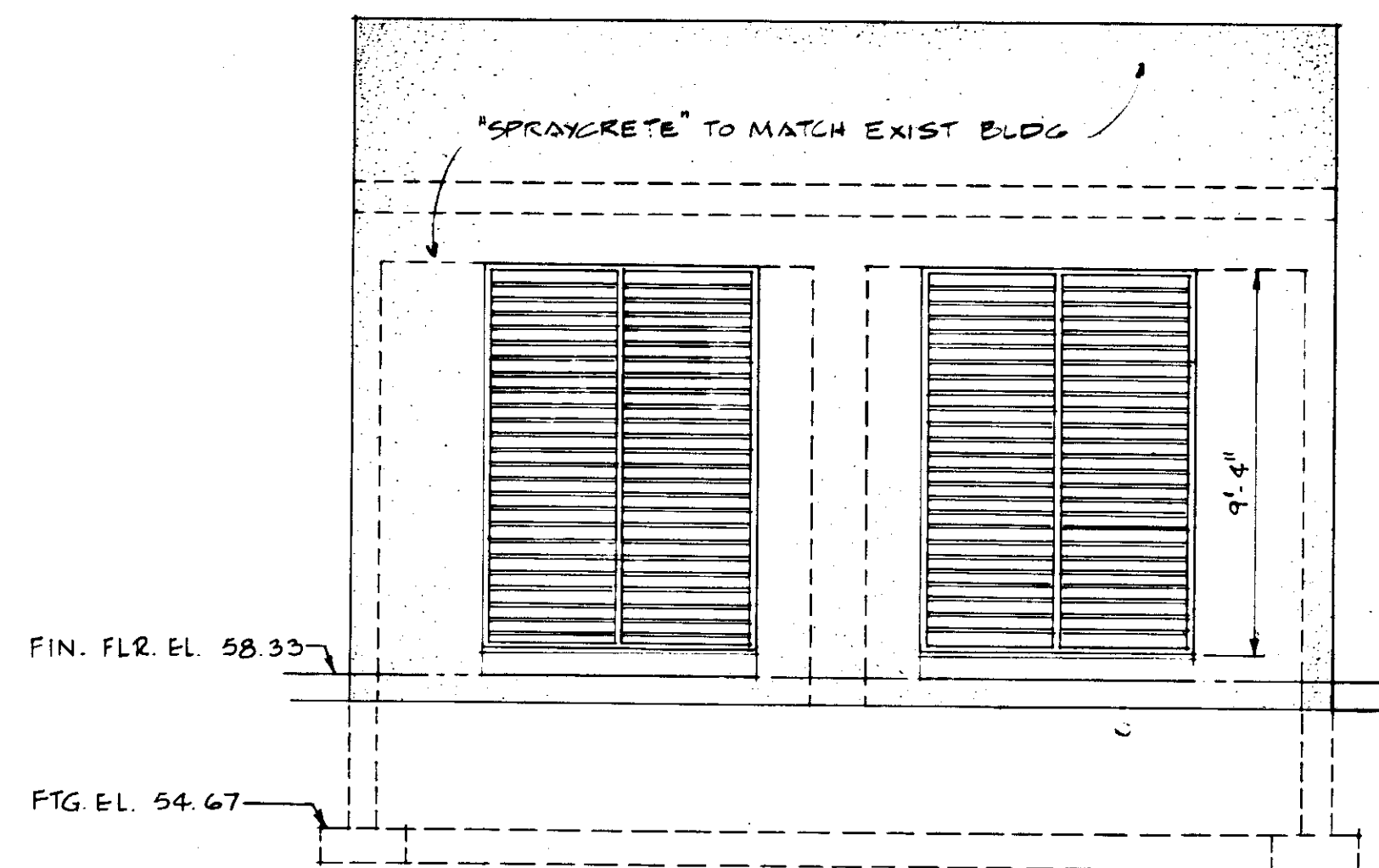


SOUTH ELEVATION

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

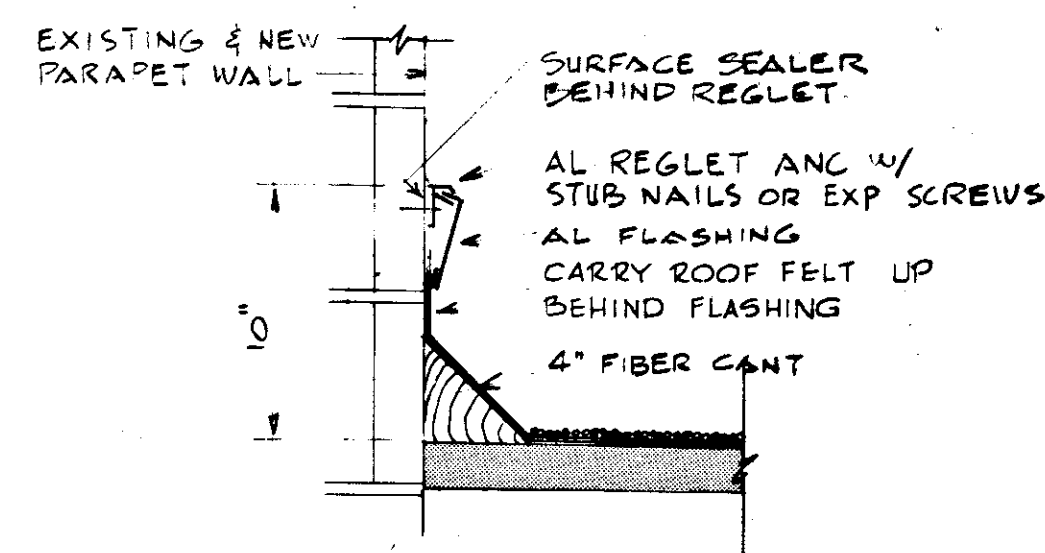
NORTH ELEVATION

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



EAST ELEVATION

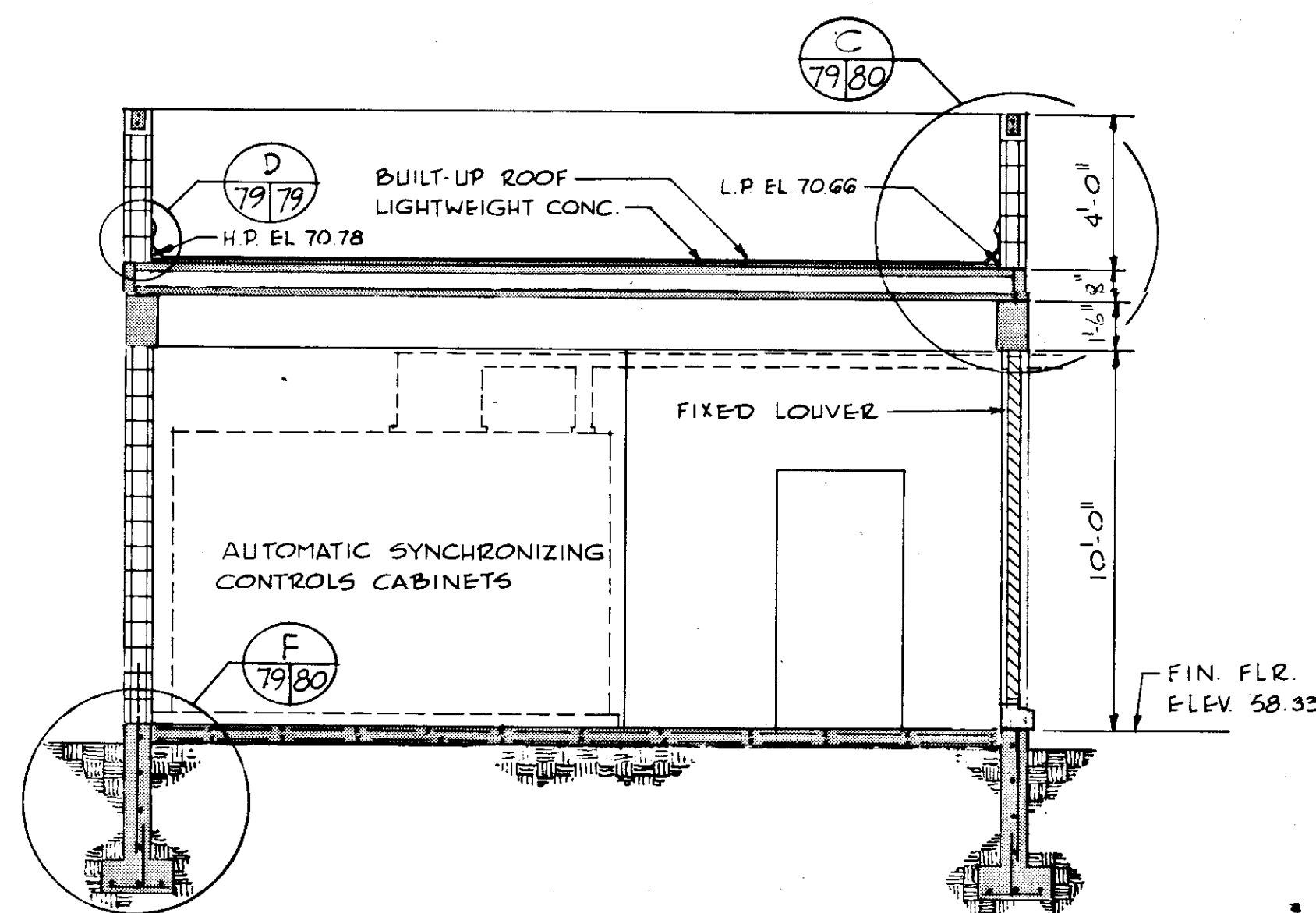
SCALE: 1/4" = 1'-0"



FLASHING DETAIL

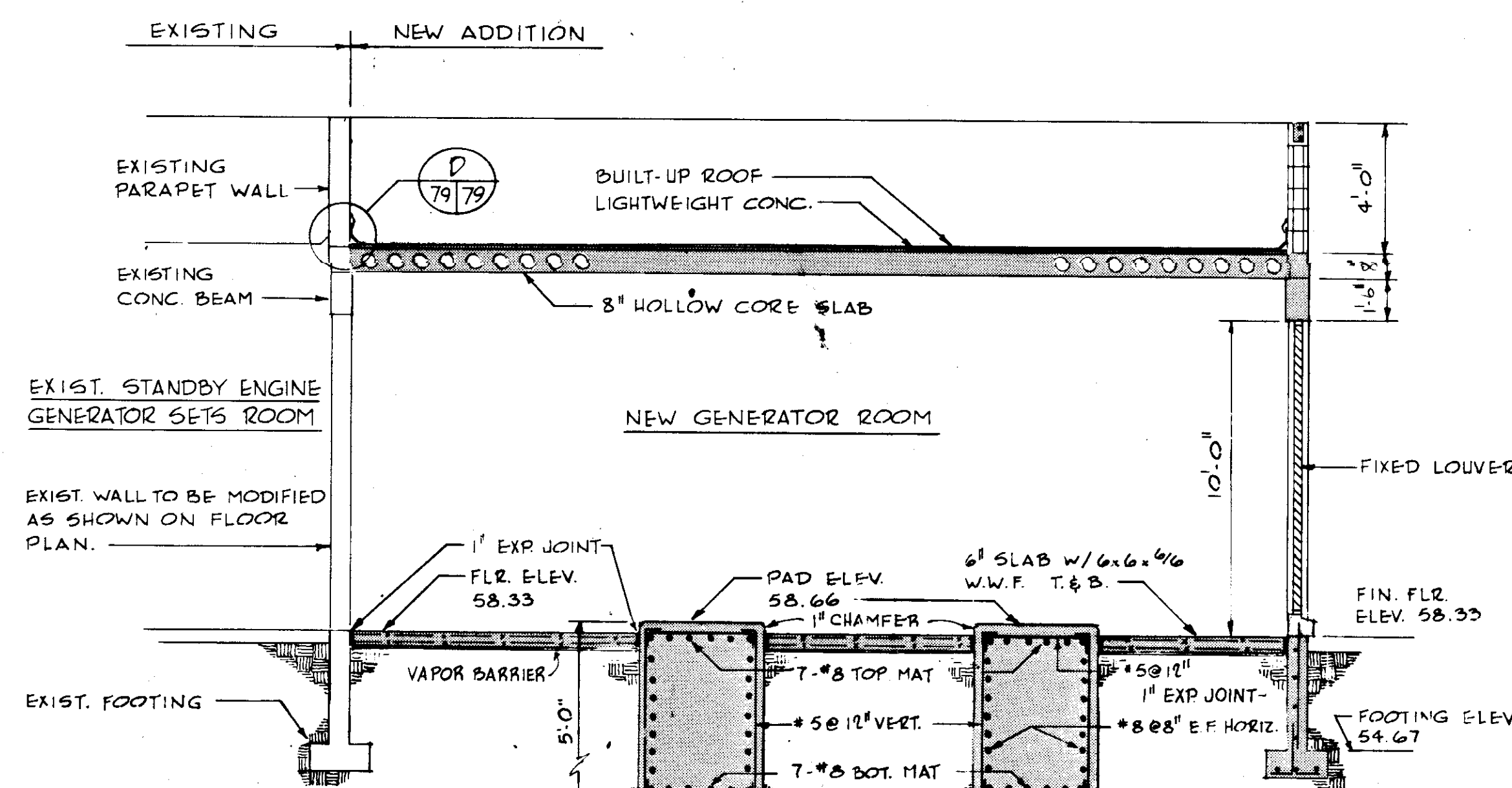
SCALE: 1 1/2" = 1'-0"

DETAIL E NOT USED



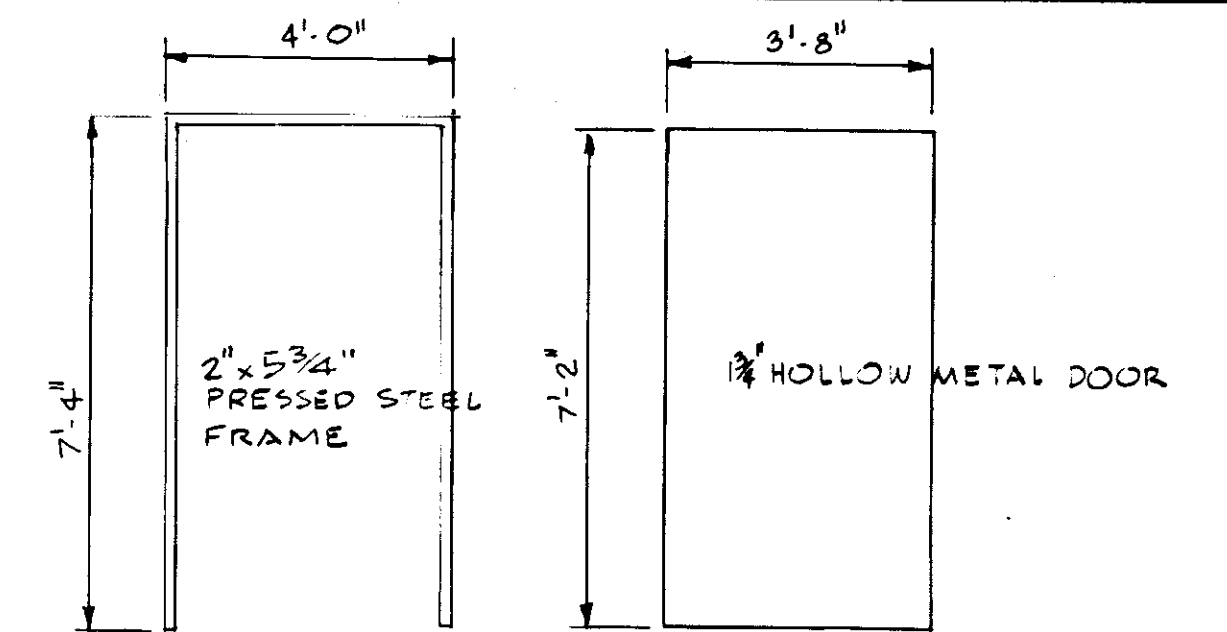
SECTION

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



SECTION

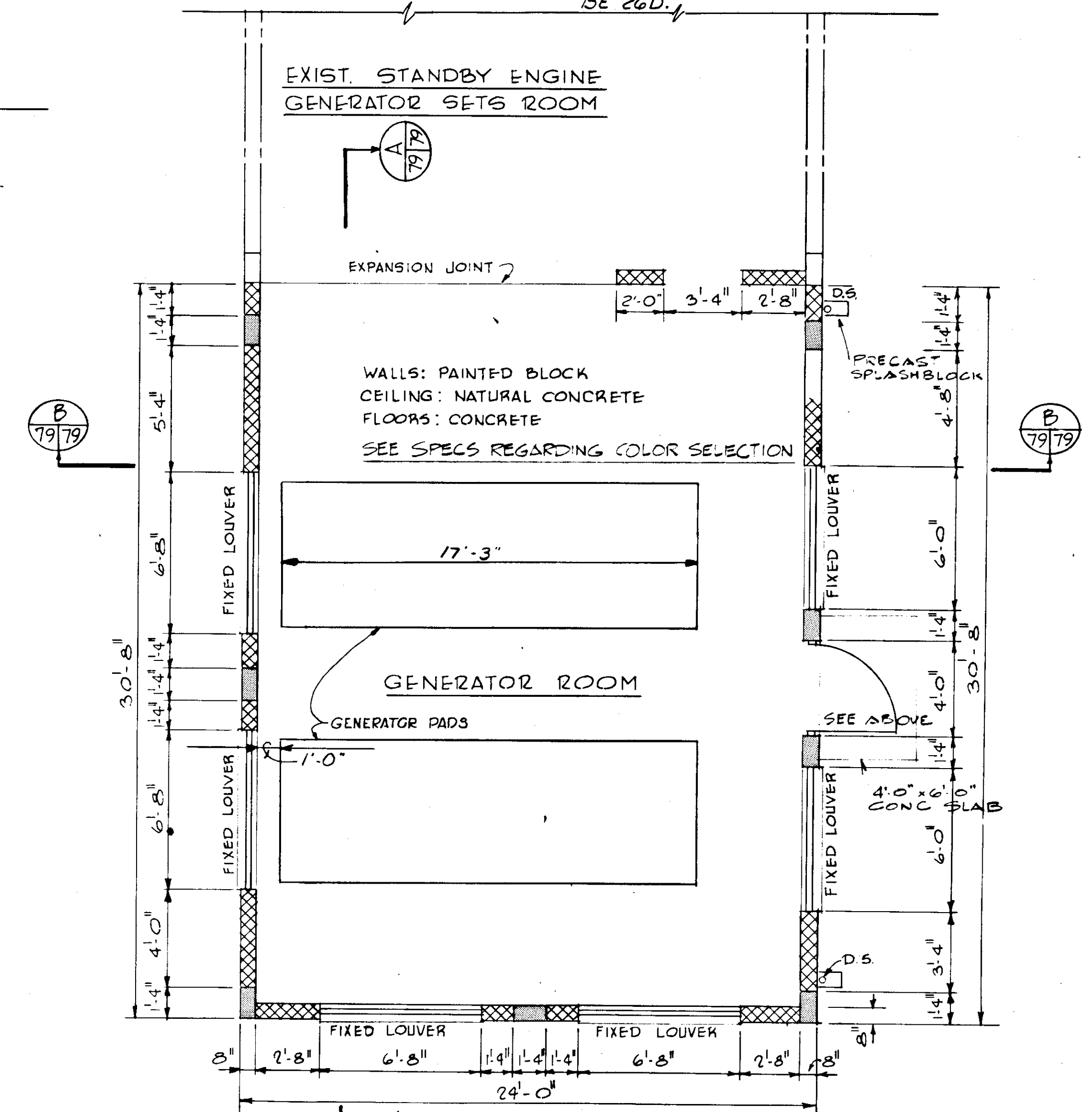
N.T.S.



DOOR & FRAME ELEVATIONS

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

NOTE: FOR HARDWARE FOR 3'-8" x 7'-2" HOLLOW METAL DOOR IN METAL FRAME PROVIDE LOCK 8 GOS, CLOSURE SERIES 50, FINISH SHALL BE 26D.



FLOOR PLAN

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

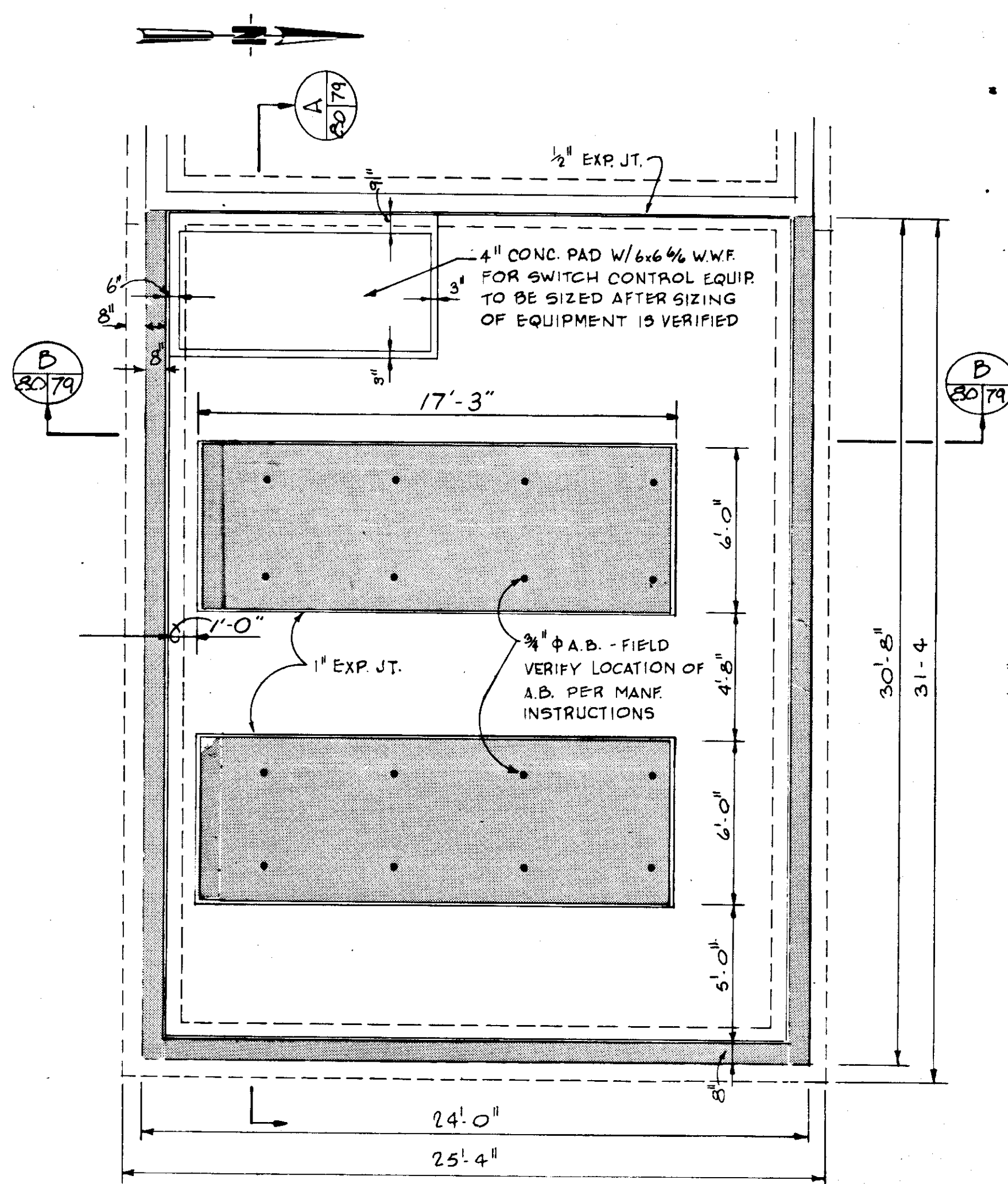
RECORD DRAWING

PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.

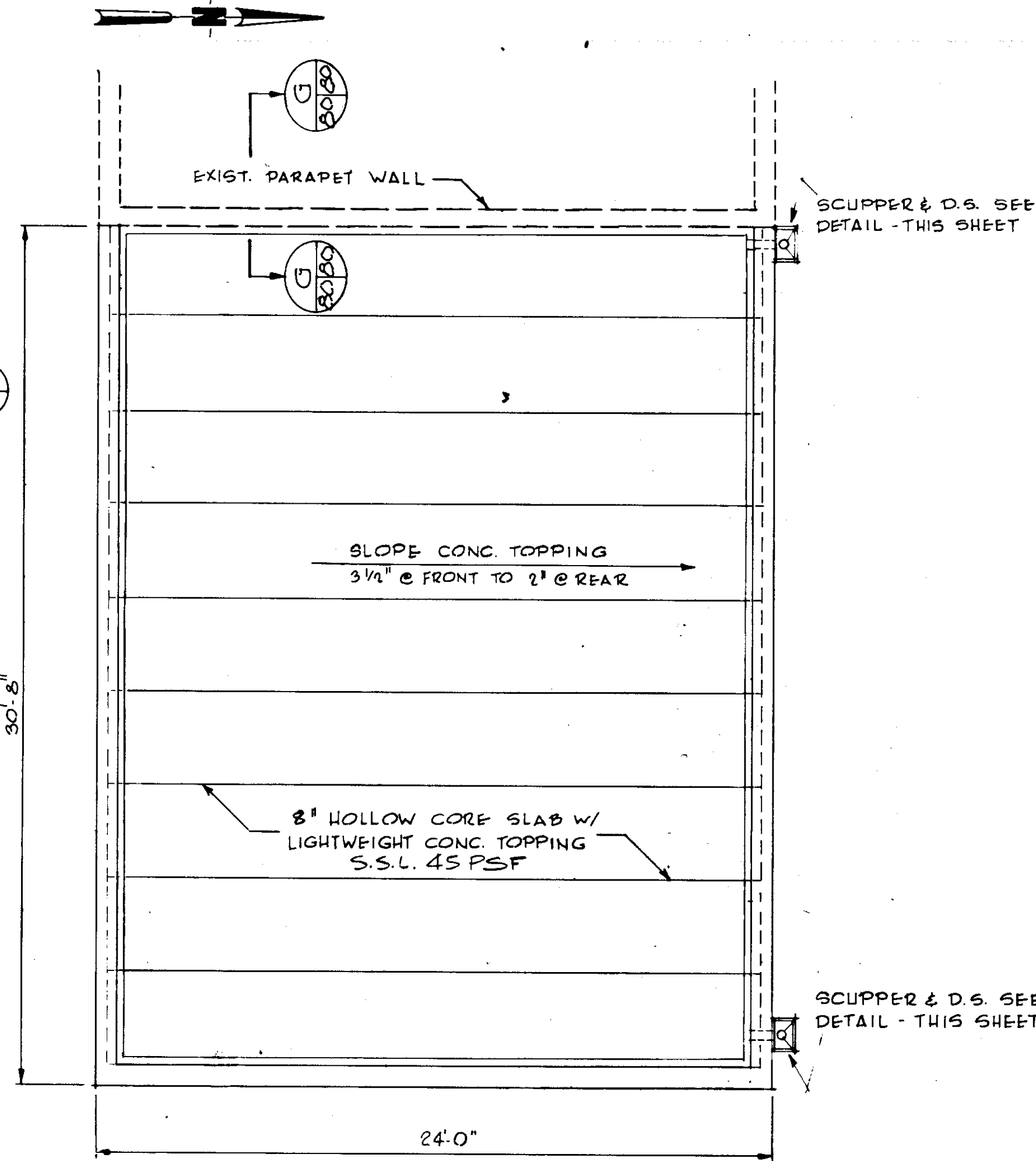
DATE 8/30/78 BY K.P.R. CHECKED BY:

R & A M.C.U.S.

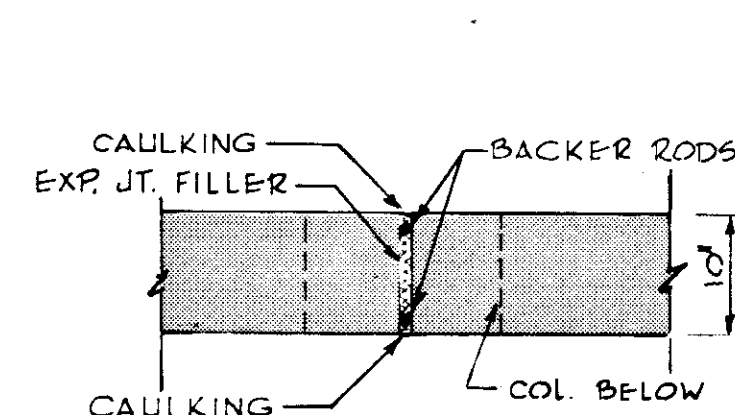
NO.	DATE	DESCRIPTION	BY	CKD.
5/79		GEN REV	WRW	WPH
REVISIONS				
RUSSELL & AXON				
Engineers — Planners — Architects				
WATER WORKS PROJECT				
STANDBY GENERATOR ROOM EXPANSION				
FLOOR PLAN, ELEVATIONS, SECTIONS				
MANATEE COUNTY, FLORIDA				
DESIGNED BY	FILE NO.	SEAL		
J.R.A.	630-761-04			
DRAWN BY	SHEET A1			
J.R.A.	No. 79			
CHECKED BY	OF 130 SHEETS			
DATE	SCALE: AS NOTED			
AUGUST, 1978				



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

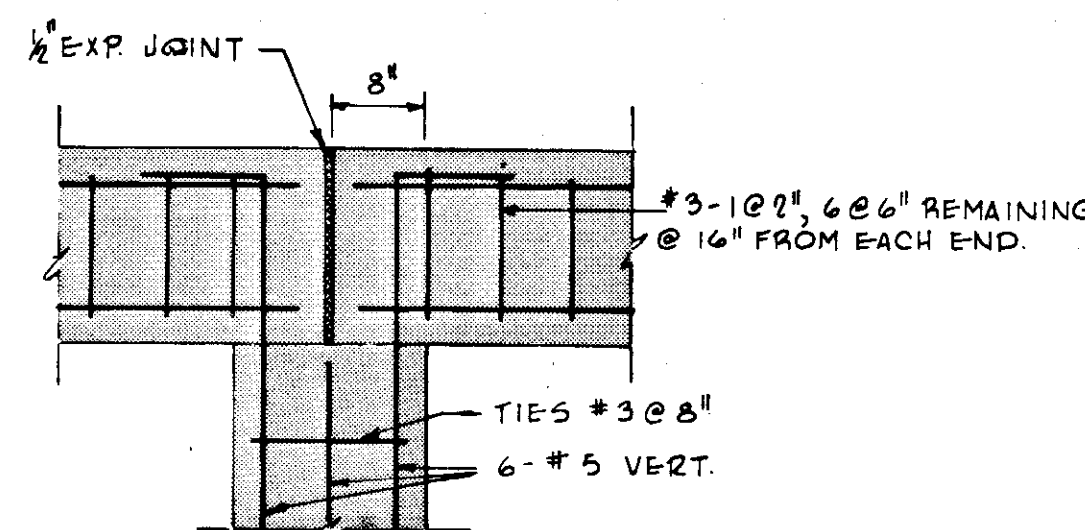


ROOF PLAN
SCALE: 1/4" = 1'-0"

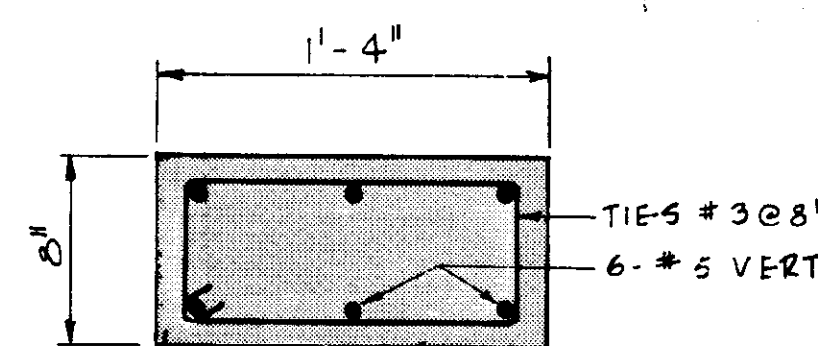


PLAN OF BEAM @ COLUMN

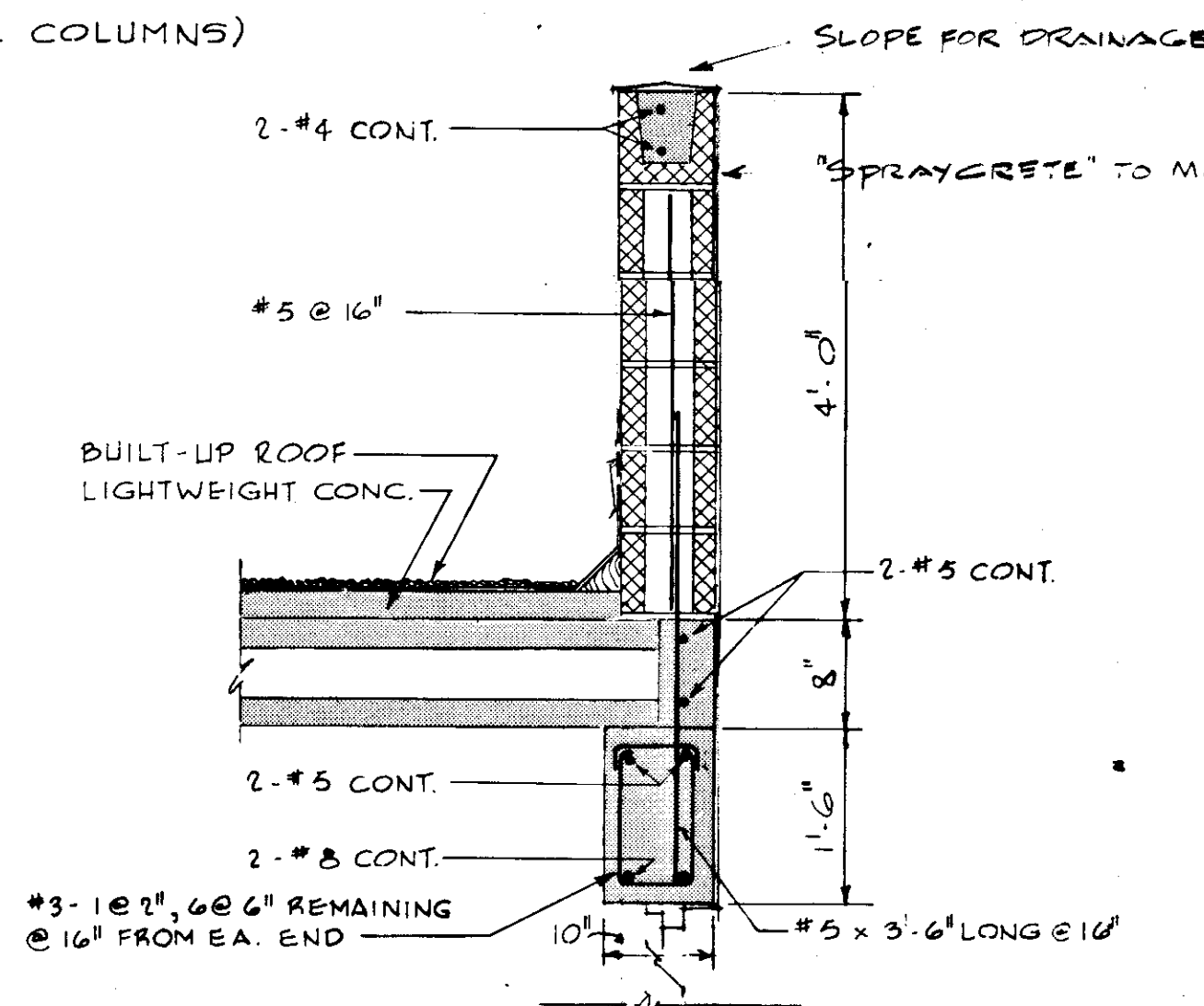
COLUMN & BEAM DETAILS
SCALE: 3/4" = 1'-0"
(TYPICAL @ ALL COLUMNS)



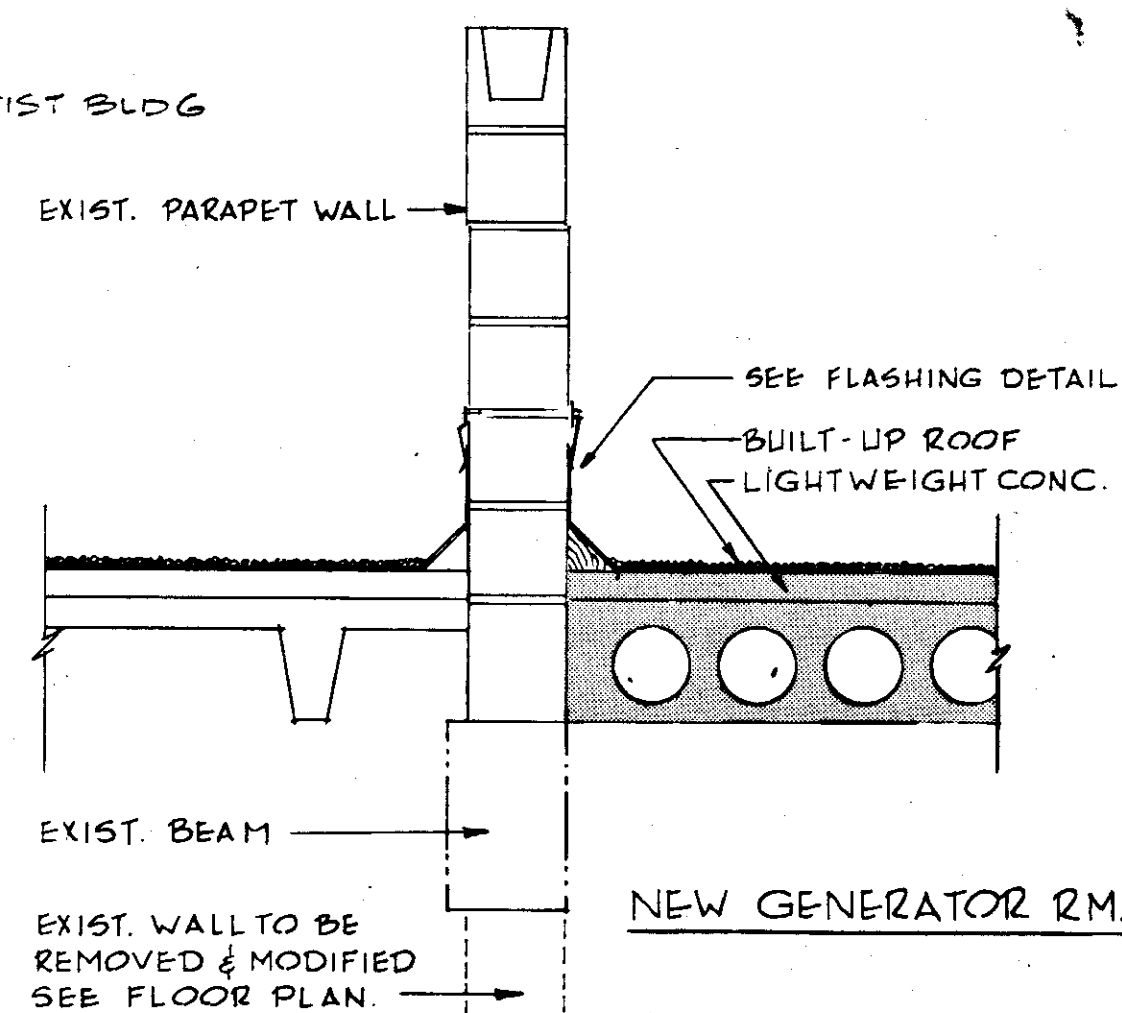
SECTION @ COLUMN



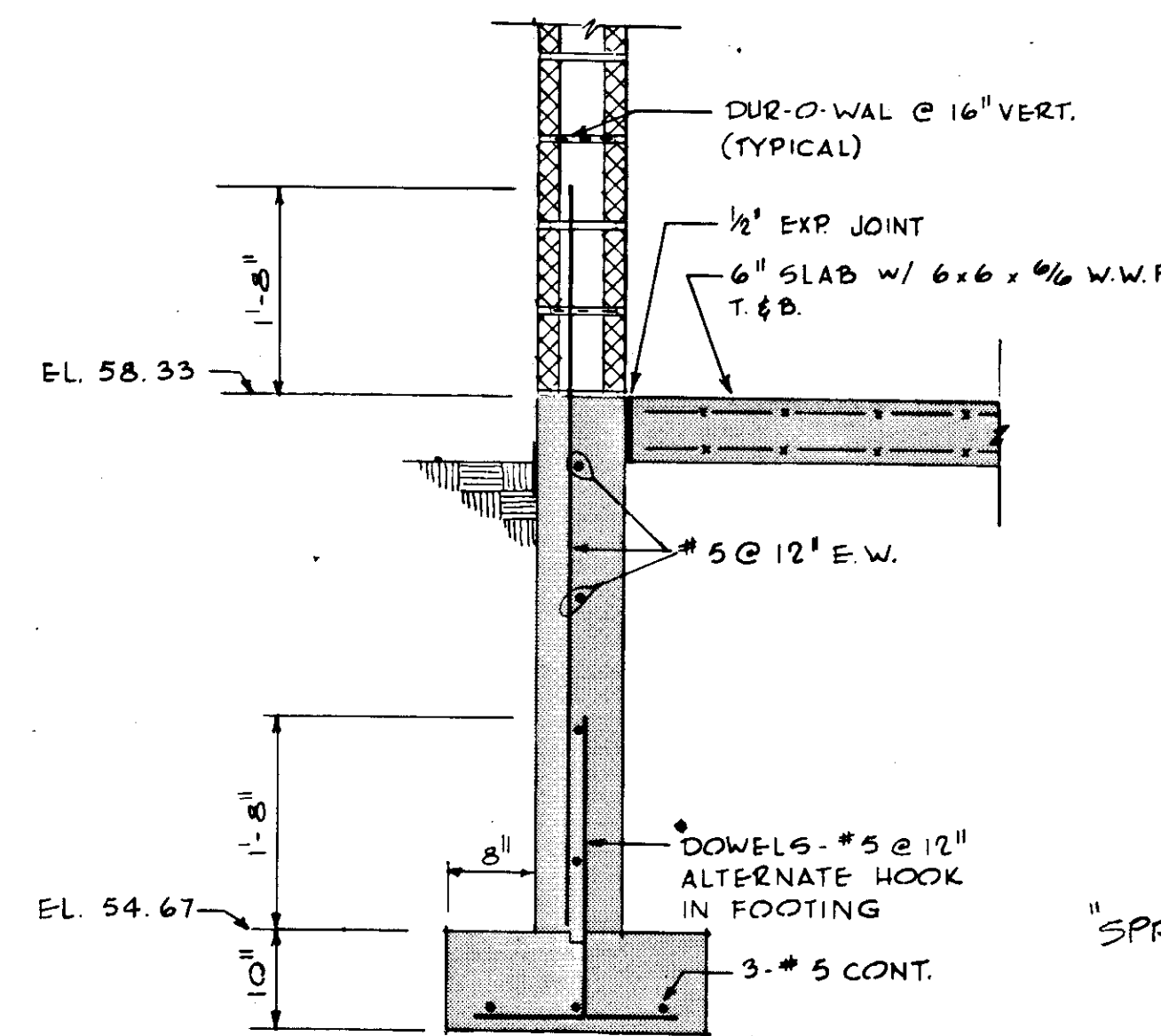
TYPICAL COLUMN DETAIL
SCALE: 1 1/2" = 1'-0"



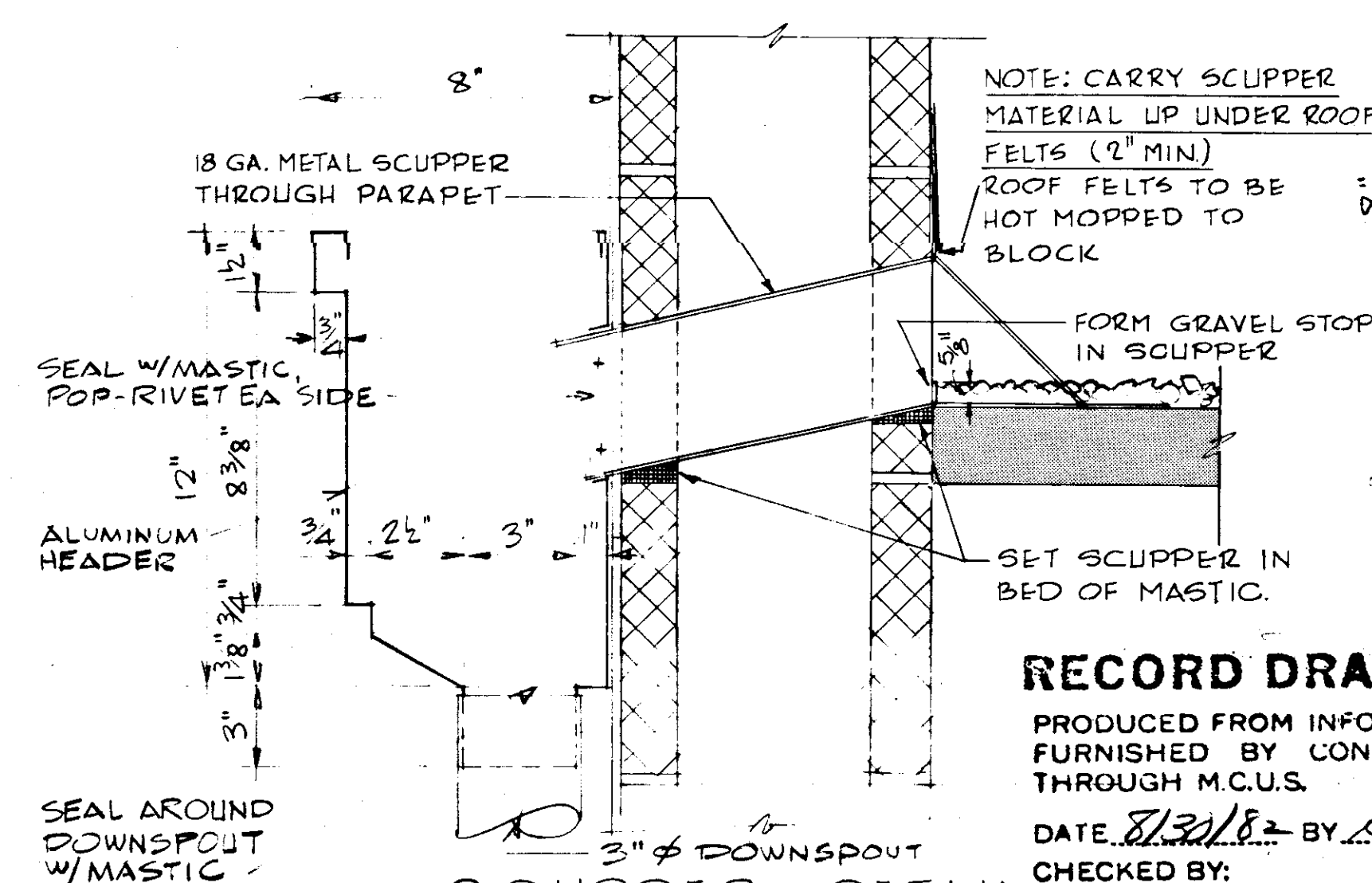
DETAIL C
SCALE: 3/4" = 1'-0"



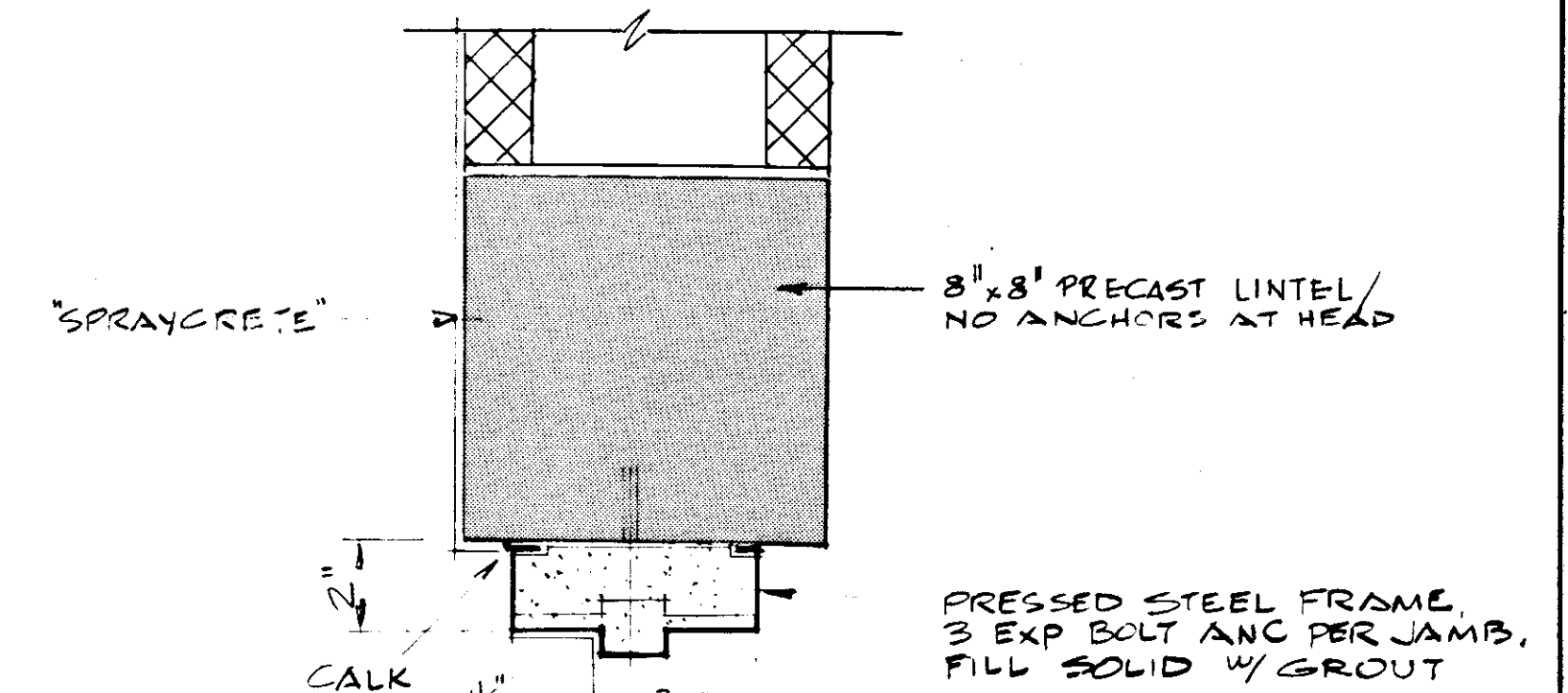
SECTION G
SCALE: 3/4" = 1'-0"



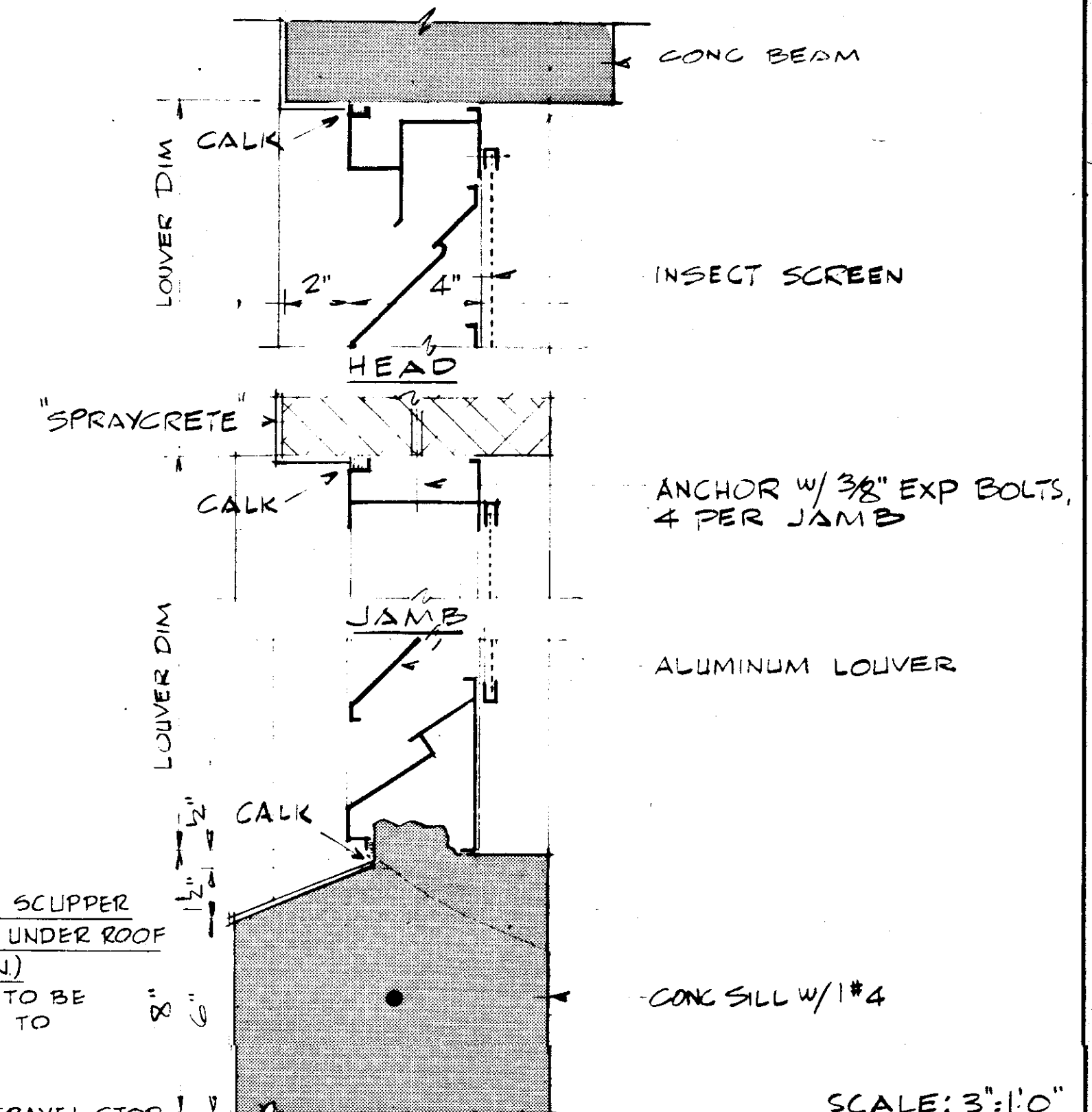
DETAIL F
SCALE: 3/4" = 1'-0"
NOTE: TYPICAL AT ALL THREE SIDES



SCUPPER DETAIL
SCALE: 3" = 1'-0"



DOOR DETAIL
SCALE: 3" = 1'-0"



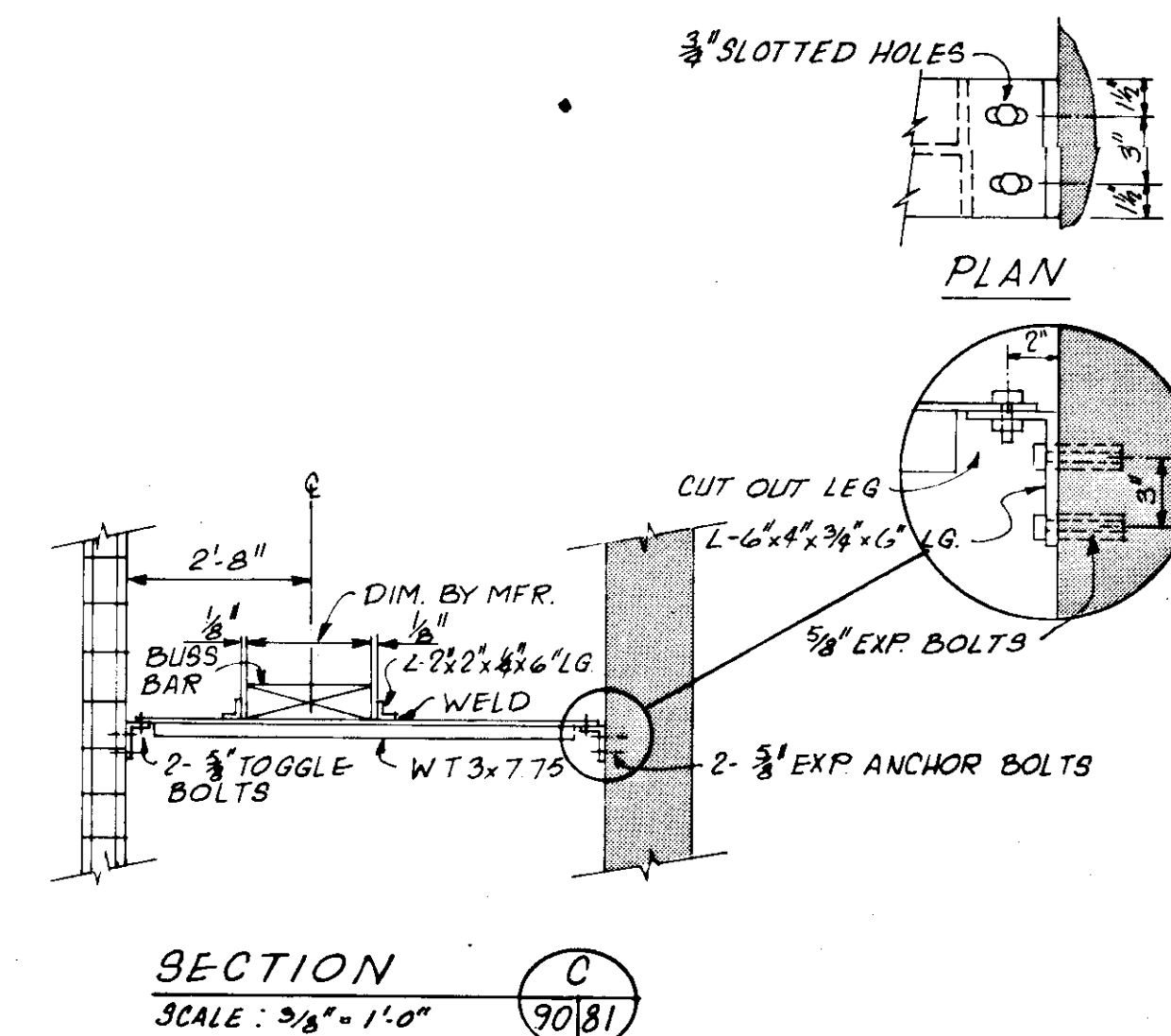
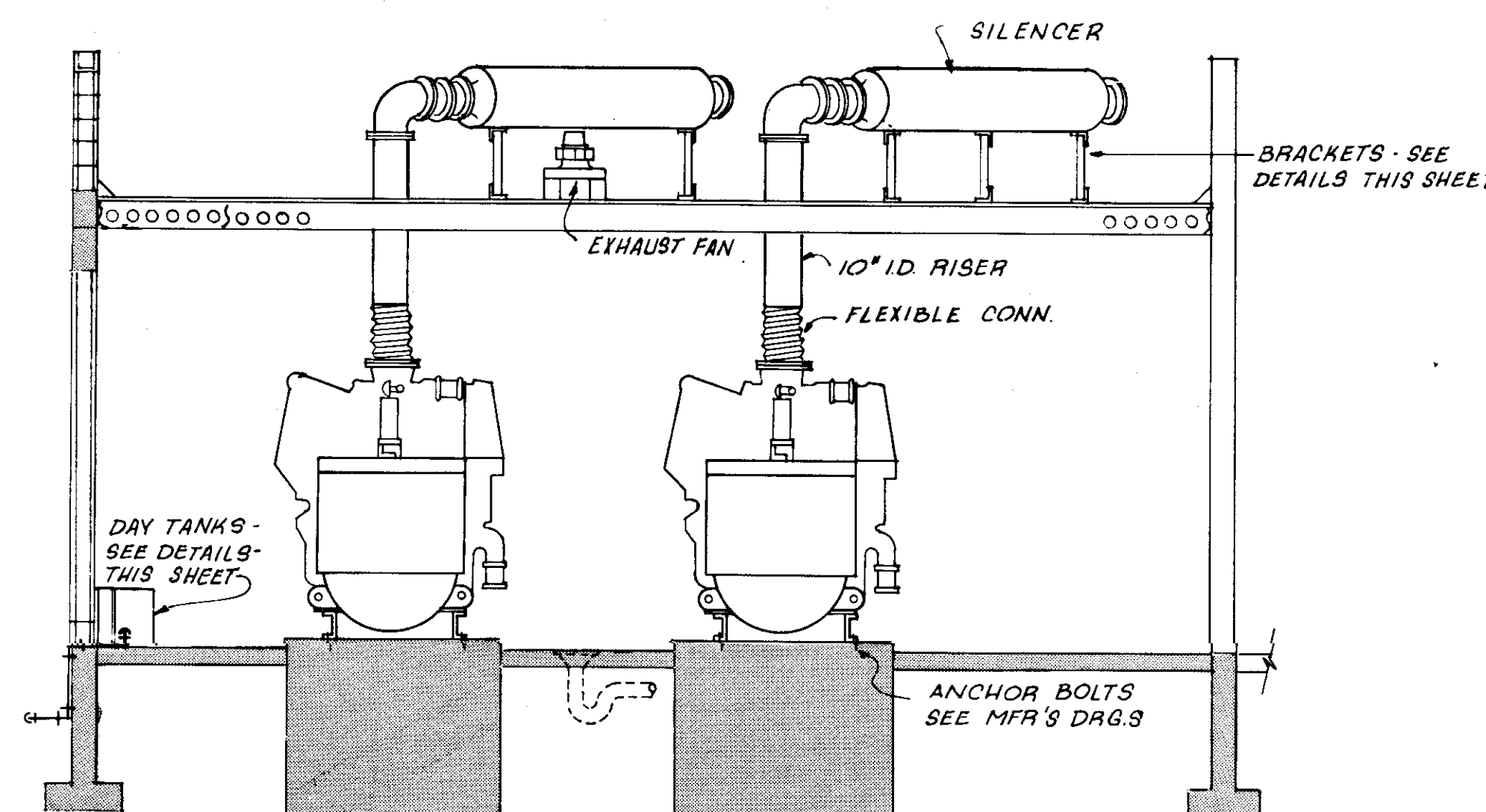
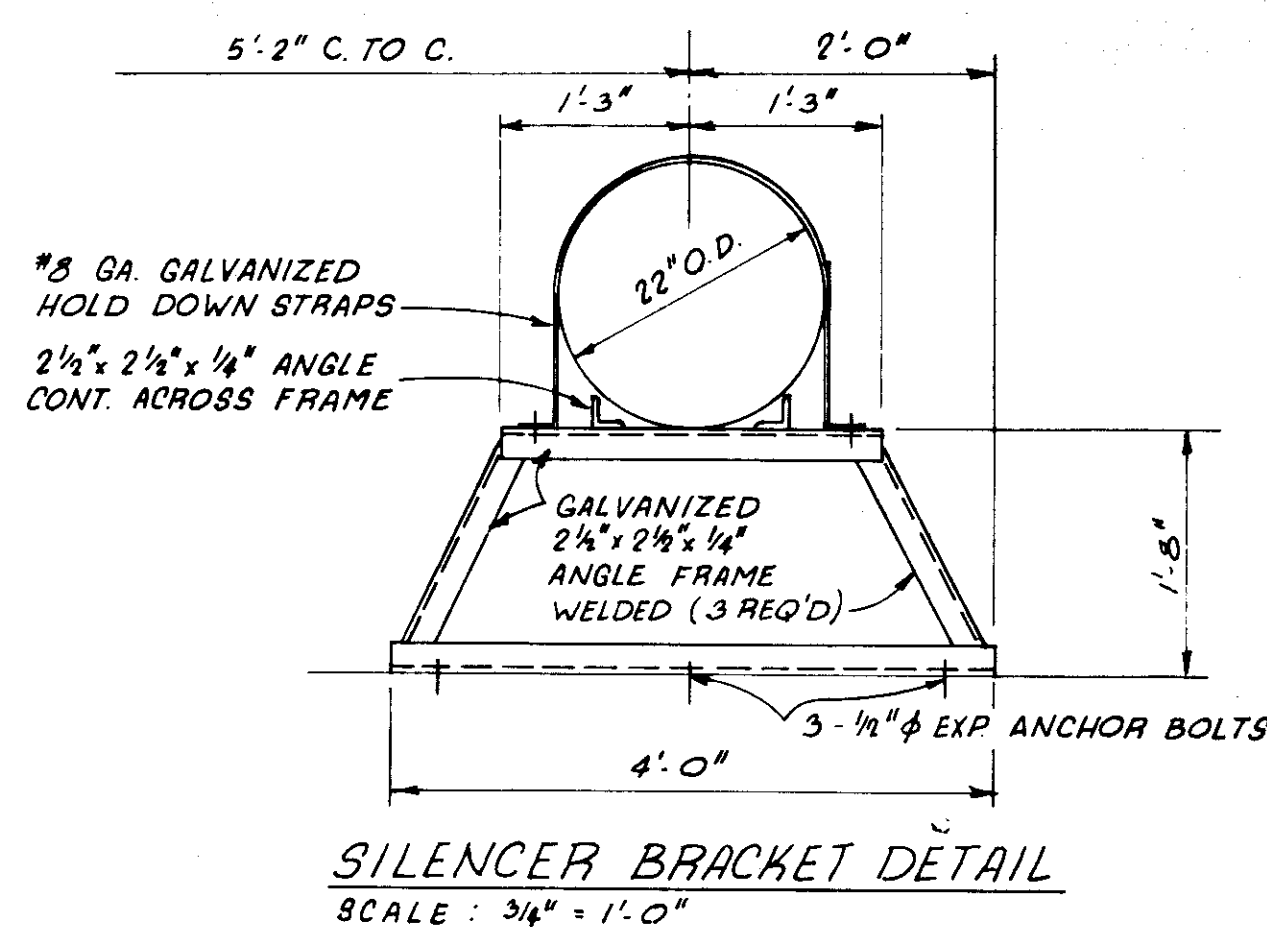
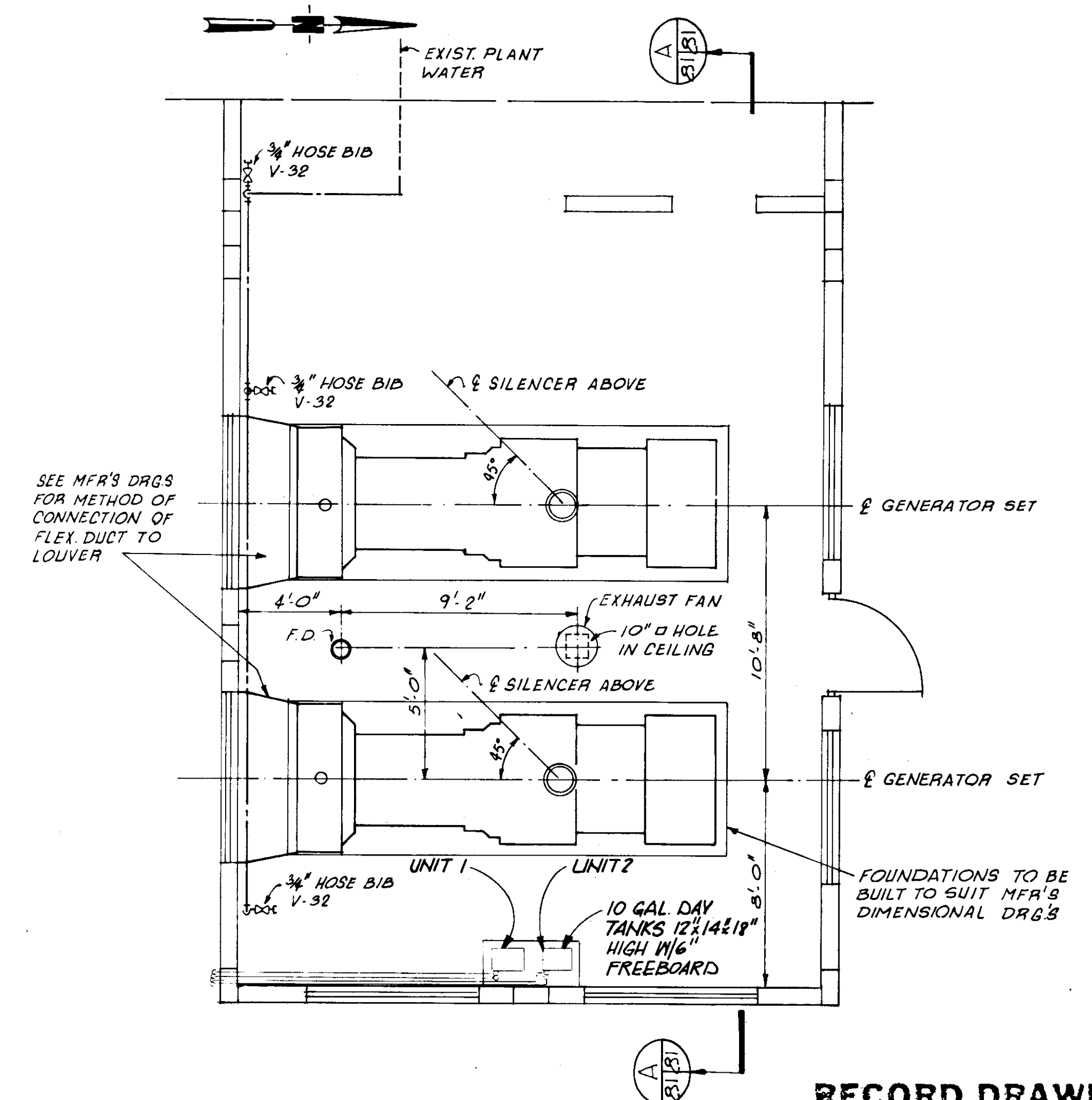
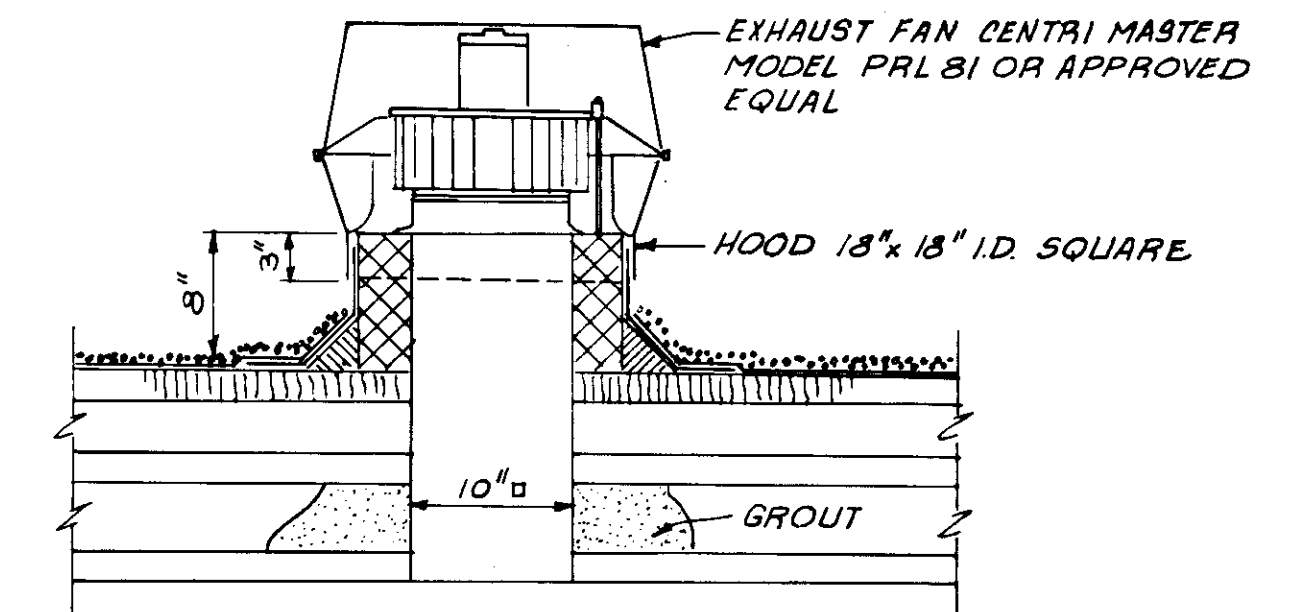
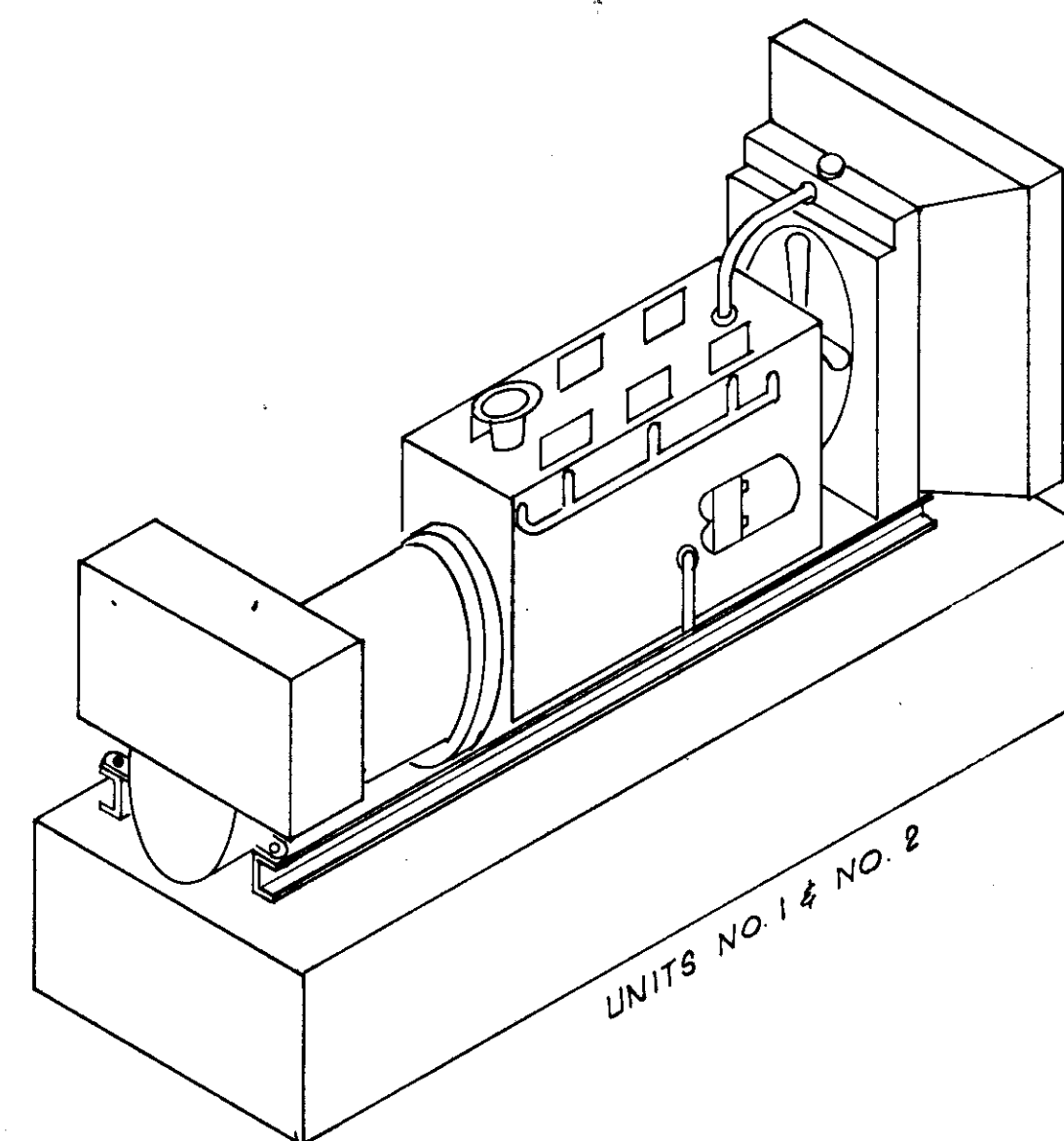
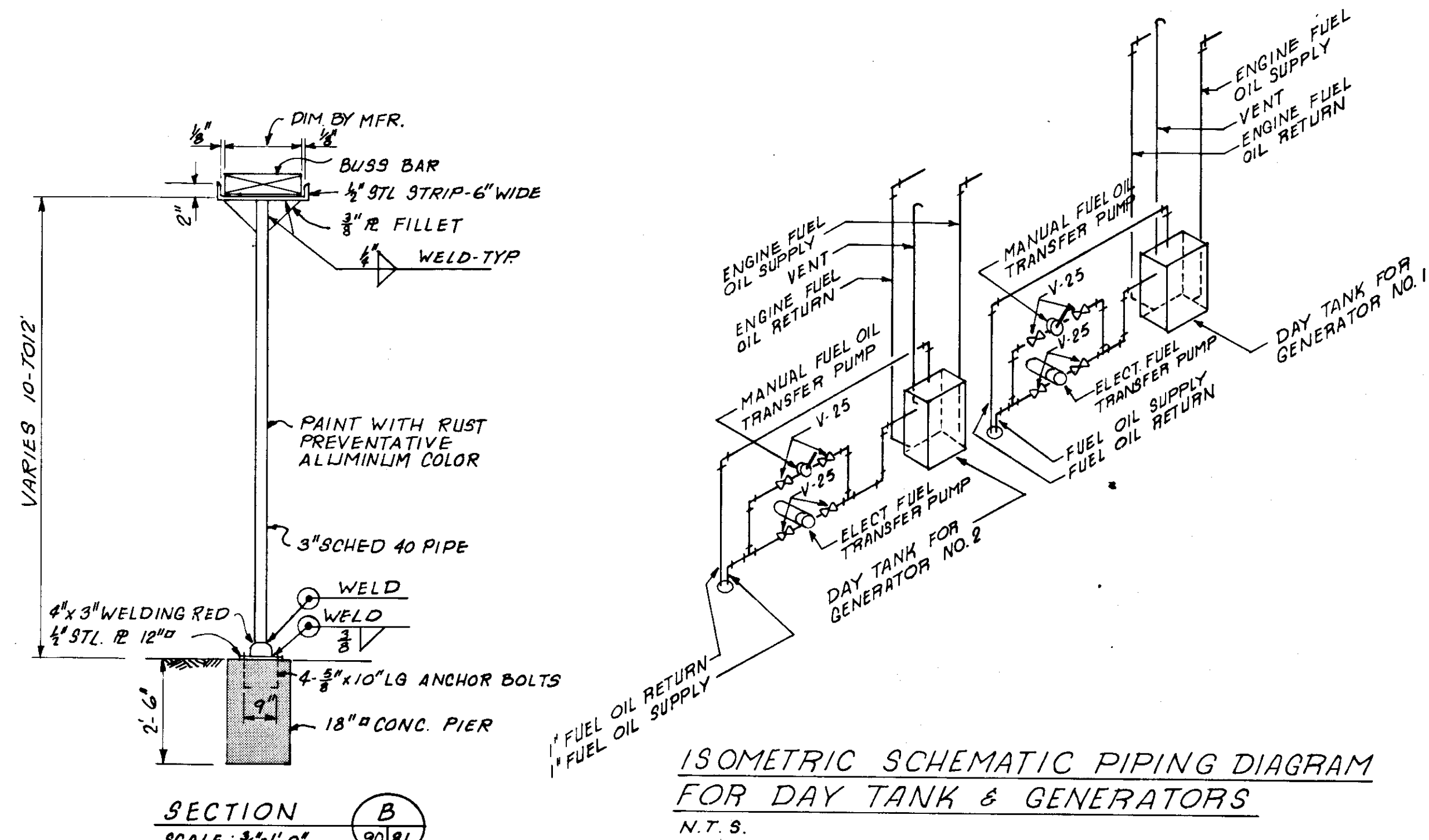
SILL FIXED LOUVER DETAILS
SCALE: 3" = 1'-0"

RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE: 8/21/82 BY: KRM
CHECKED BY:

R & A
M.C.U.S.

1		5 79		GEN REV		WRW		W.M.			
NO.		DATE		DESCRIPTION				BY		CHKD.	
REVISIONS											
RUSSELL & AXON											
Engineers — Planners — Architects											
WATER WORKS PROJECT											
STANDBY GENERATOR ROOM EXPANSION											
ROOF PLAN, SECTIONS, DETAILS											
T-80											
MANATEE COUNTY, FLORIDA											
DESIGNED BY			FILE NO.			SEAL					
J.R.A.			630-761-04								
DRAWN BY			SHEET A2			No. 80					
J.R.A.											
CHECKED BY			OF 130			SHEETS					
DATE			SCALE: AS NOTED								
AUGUST, 1978											



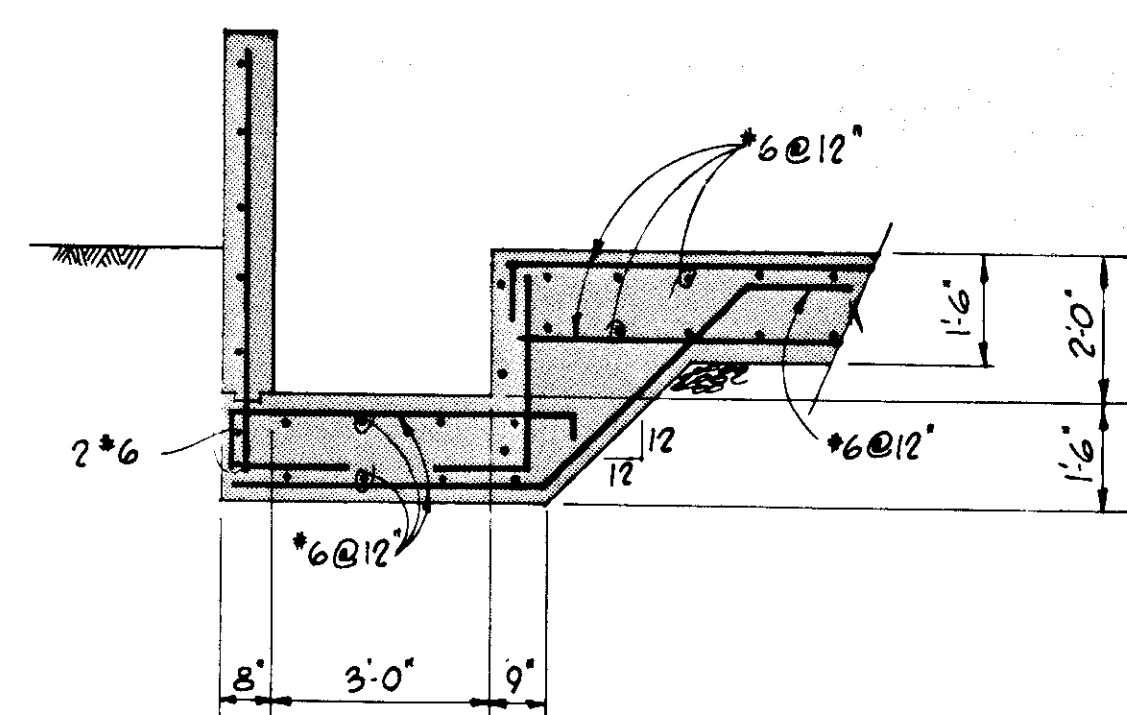
RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.

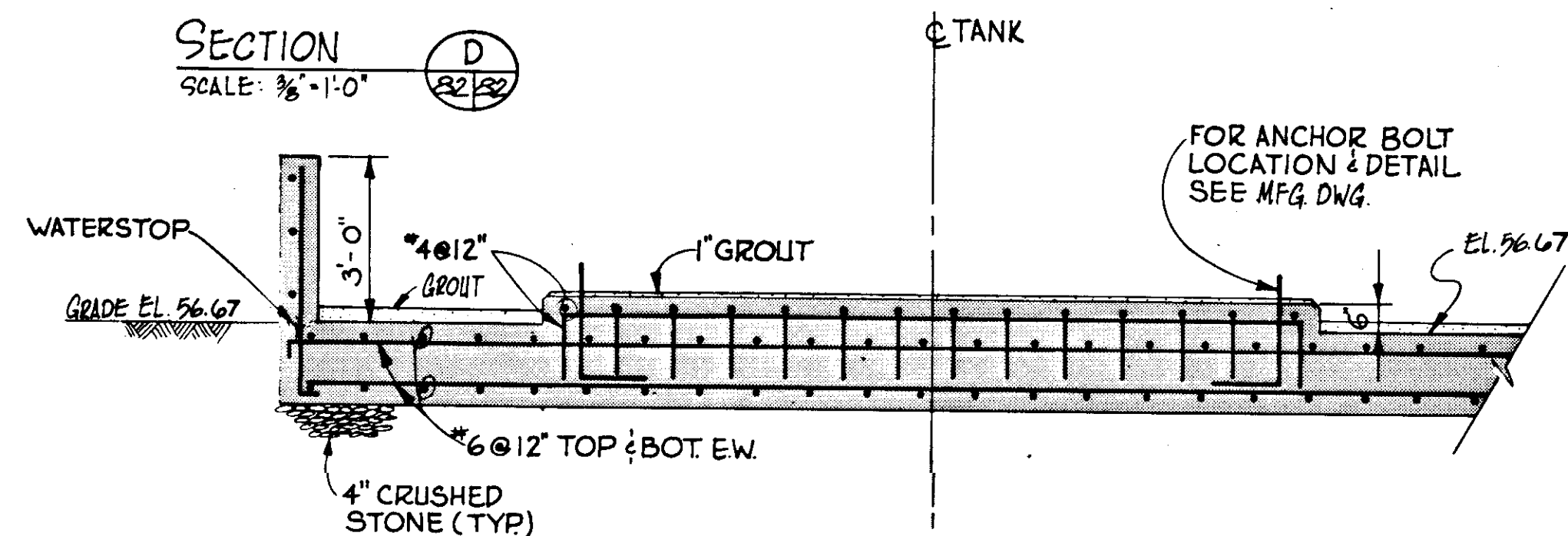
DATE: 8/24/82 BY: R.R.H.
CHECKED BY:

R & A: R.R.H.
M.C.U.S.

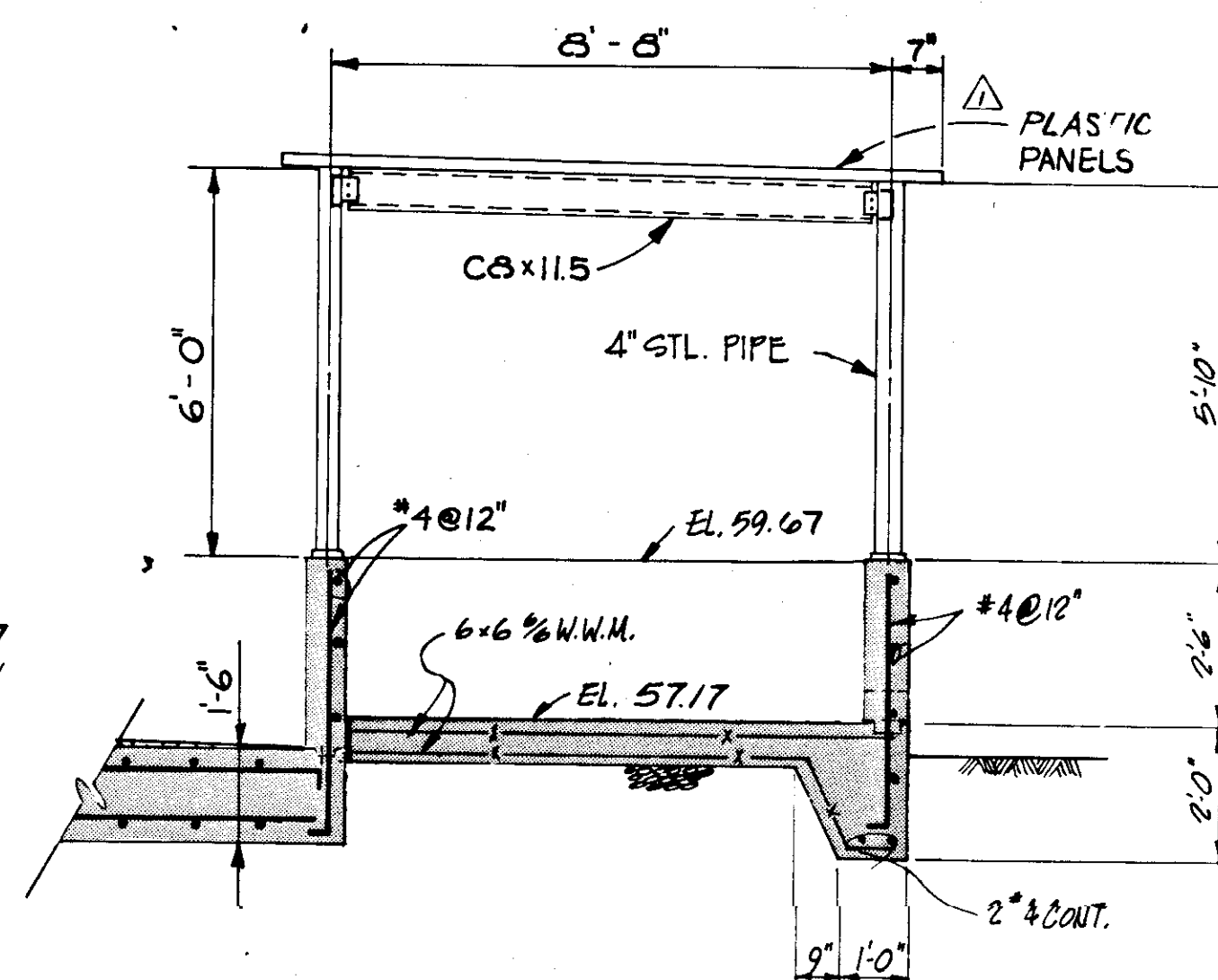
NO.	DATE	DESCRIPTION	BY	CKD.
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT STANDBY GENERATOR ROOM EXPANSION PLANS, SECTIONS & DETAILS				
MANATEE COUNTY, FLORIDA				
DESIGNED BY R.D.H.	FILE NO. 630-761-04	T-81 SEAL		
DRAWN BY J.R.A.	SHEET M1			
CHECKED BY	OF 130 SHEETS	No. 81		
DATE AUGUST, 1978	SCALE: AS NOTED			



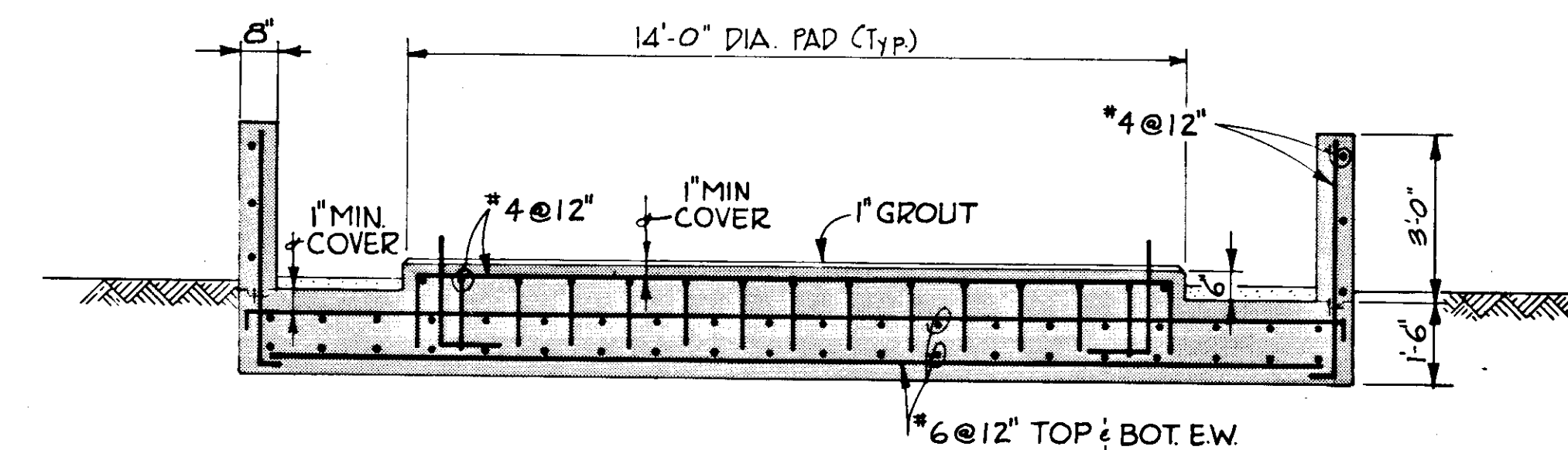
SECTION D
SCALE: $\frac{3}{8}" = 1'-0"$



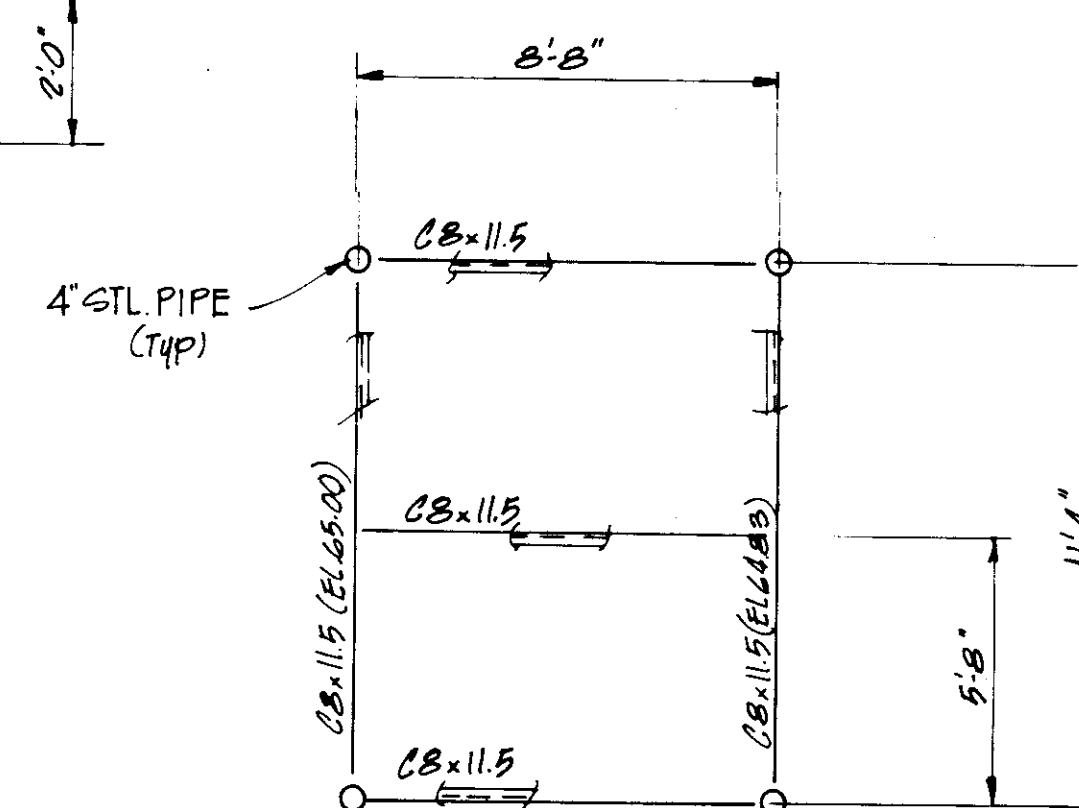
SECTION A
SCALE: $\frac{3}{8}'' = 1'-0''$



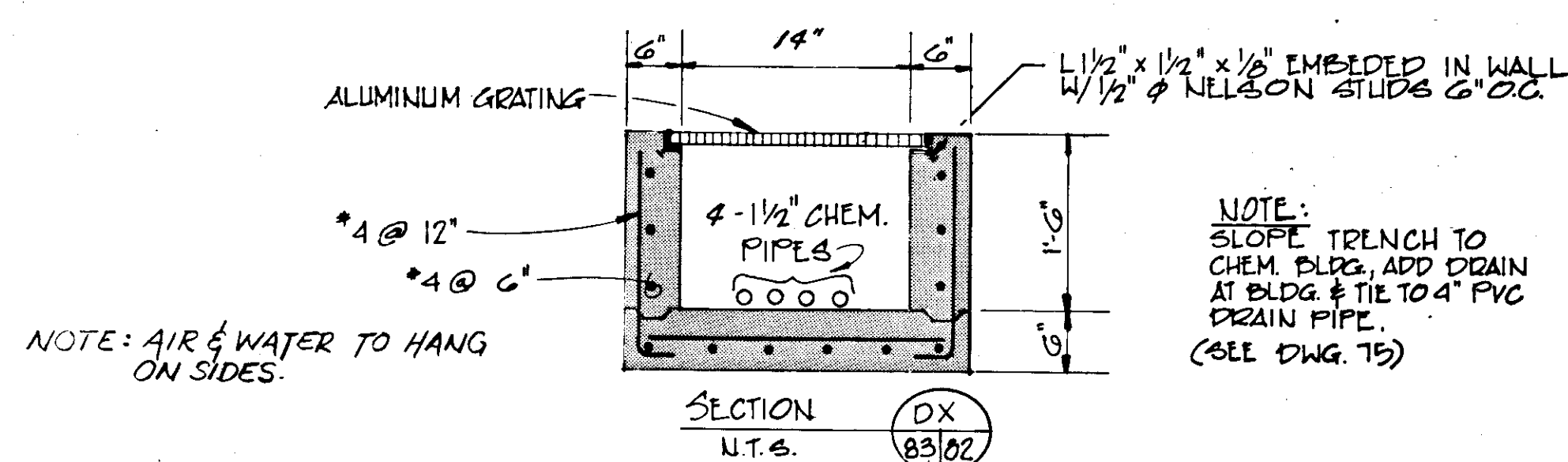
SECTION B
SCALE: $\frac{3}{8}'' = 1'-0''$ 82 | 82



SECTION C
SCALE: $\frac{3}{8}'' = 1' - 0''$



ROOF FRAMING PLAN
SCALE: $\frac{1}{4}" = 1'-0"$



NOTE:
SEE DWG No. 43 FOR TYP. DETAILS

RECORD DRAWING

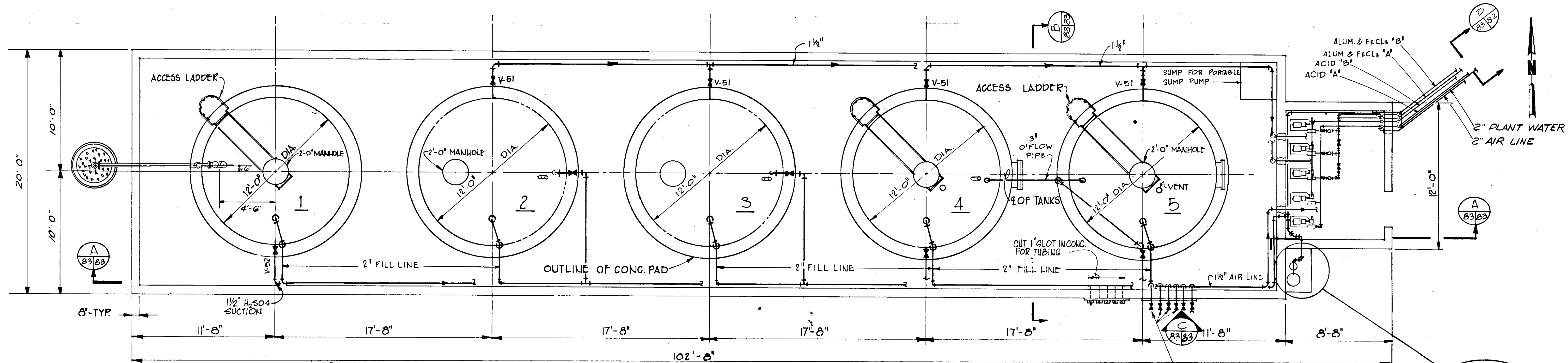
PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.

DATE 8/30/82 BY KRM
CHECKED BY:

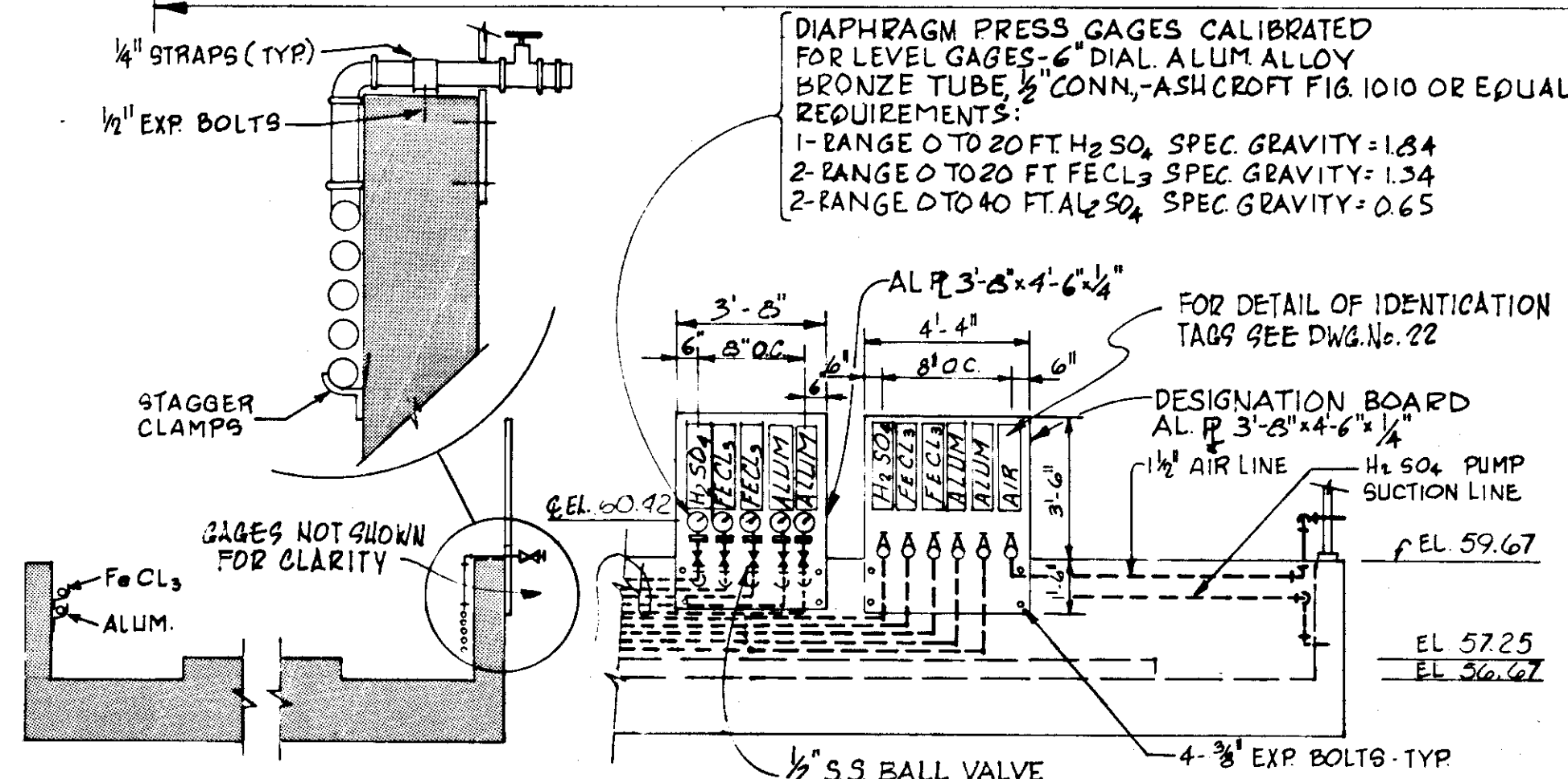
R & A *[Signature]*
M.C.U.S.

	DAY 73	CHANGED PHASE II PVC TO PLASTIC	MA'S.	WJH
NO.	DATE	DESCRIPTION	BY	CHKD.
REVISIONS				
RUSSELL & AXON <i>Engineers — Planners — Architects</i>				
WATER WORKS PROJECT CHEMICAL STORAGE FOUNDATION PLAN & SECTIONS				
MANATEE COUNTY, DESIGNED BY M.B. DRAWN BY I.C.S. CHECKED BY			T-82 FLORIDA SEAL	
DATE AUGUST, 1978		FILE NO. 630-761-04 SHEET(S) No. (82) OF 130 SHEETS SCALE: AS NOTED		

14-01

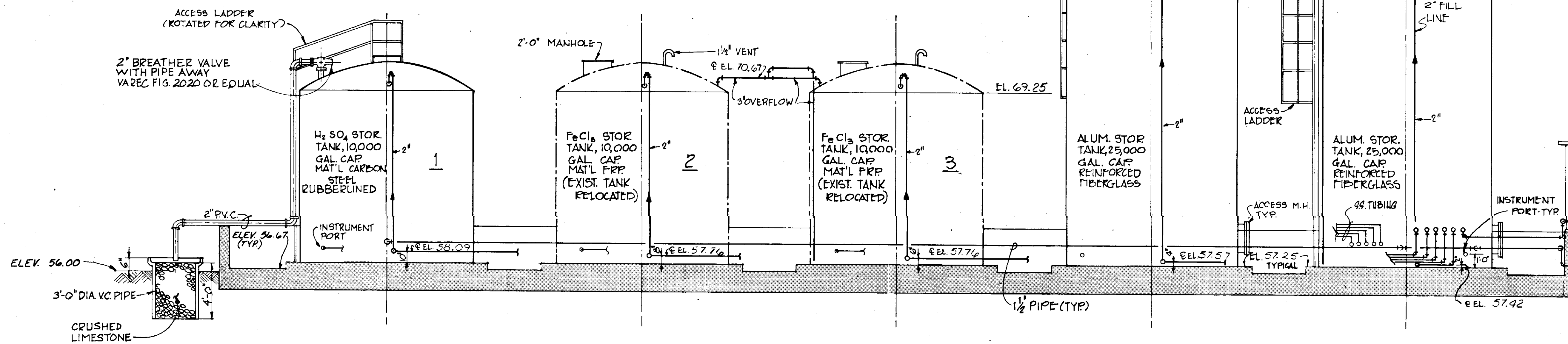


CHEMICAL STORAGE PLAN
SCALE: 1/4" = 1'-0"



SECTION B
N.T.S. 83/83

ELEVATION C
N.T.S. 83/83



SECTION A
SCALE: 1/4" = 1'-0" 83/83

RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.

DATE: 8/31/78 BY: R.R.
CHECKED BY:

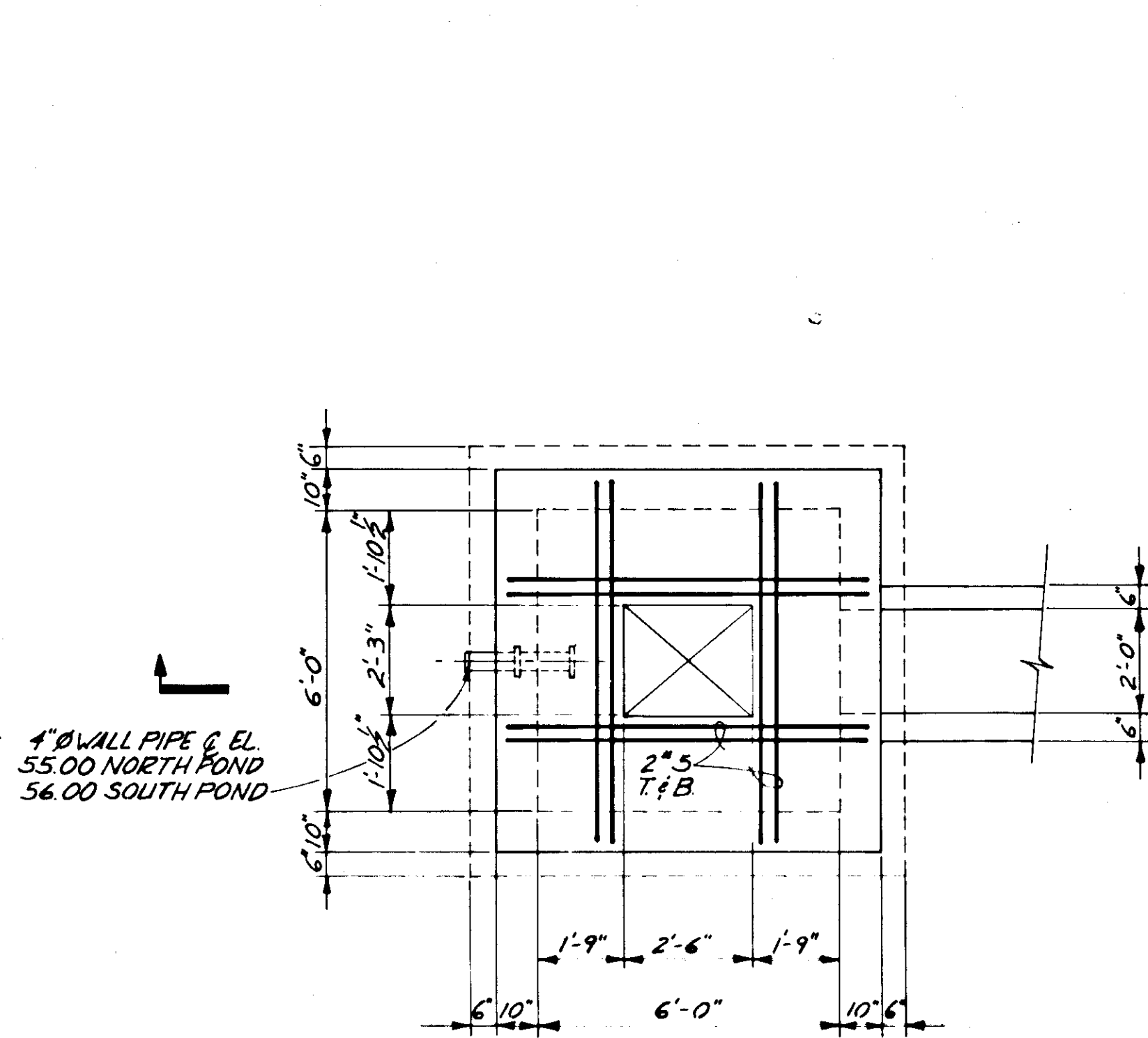
R & A
M.C.U.S.

- NOTES:**
1. ALL CHEMICAL PIPING SCH 80 PVC UNLESS OTHERWISE NOTED. (REFER TO SPECS)
 2. ACID PIPING TO BE PLASTIC LINED STEEL (REFER TO SPECS)
 3. FOR VALVE SCHEDULE, SEE SHT. 87
 4. FOR PUMP SCHEDULE, SEE SHT. 71

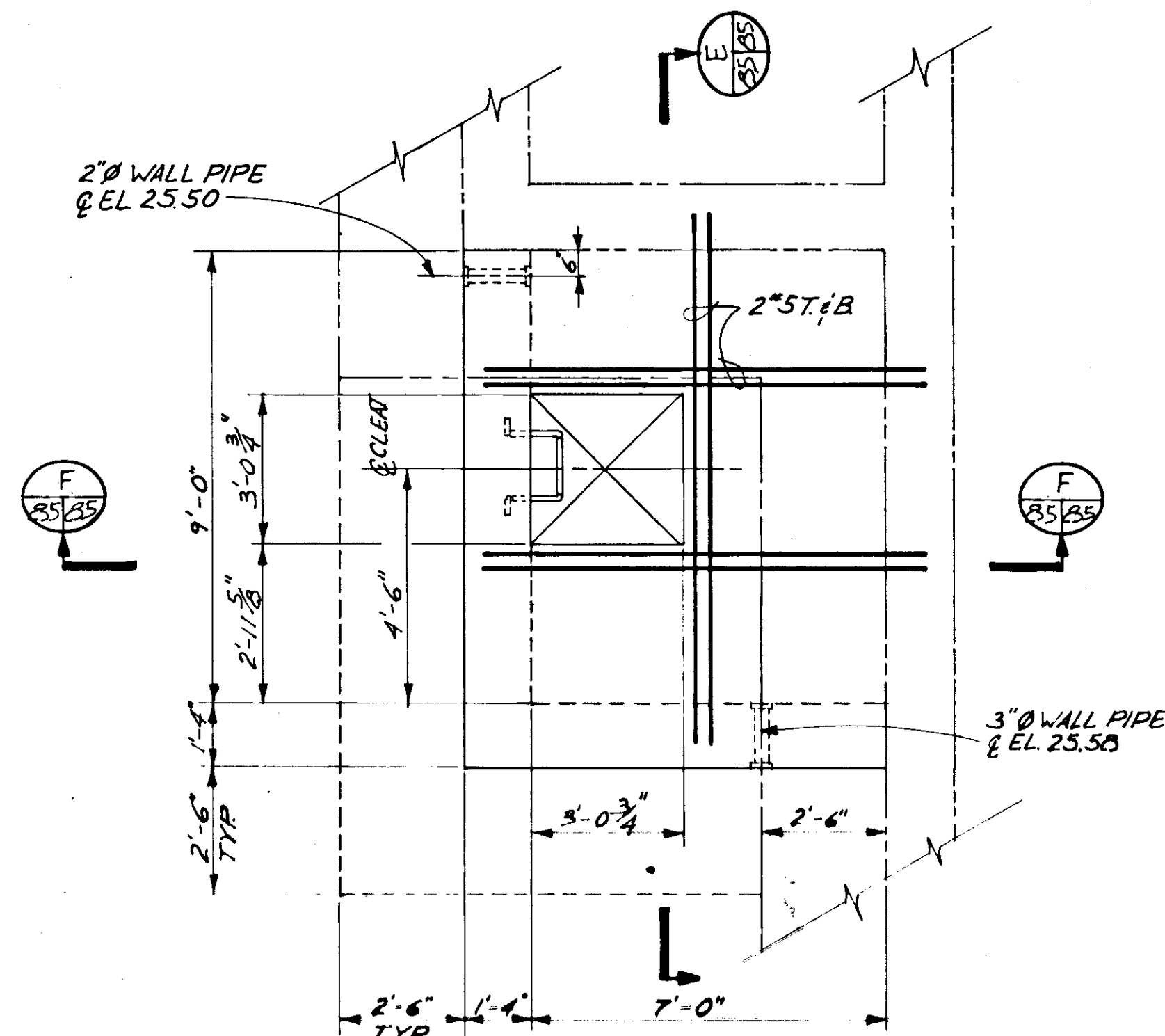
RUSSELL & AXON
Engineers — Planners — Architects

WATER WORKS PROJECT
CHEMICAL STORAGE
PLAN & SECTION

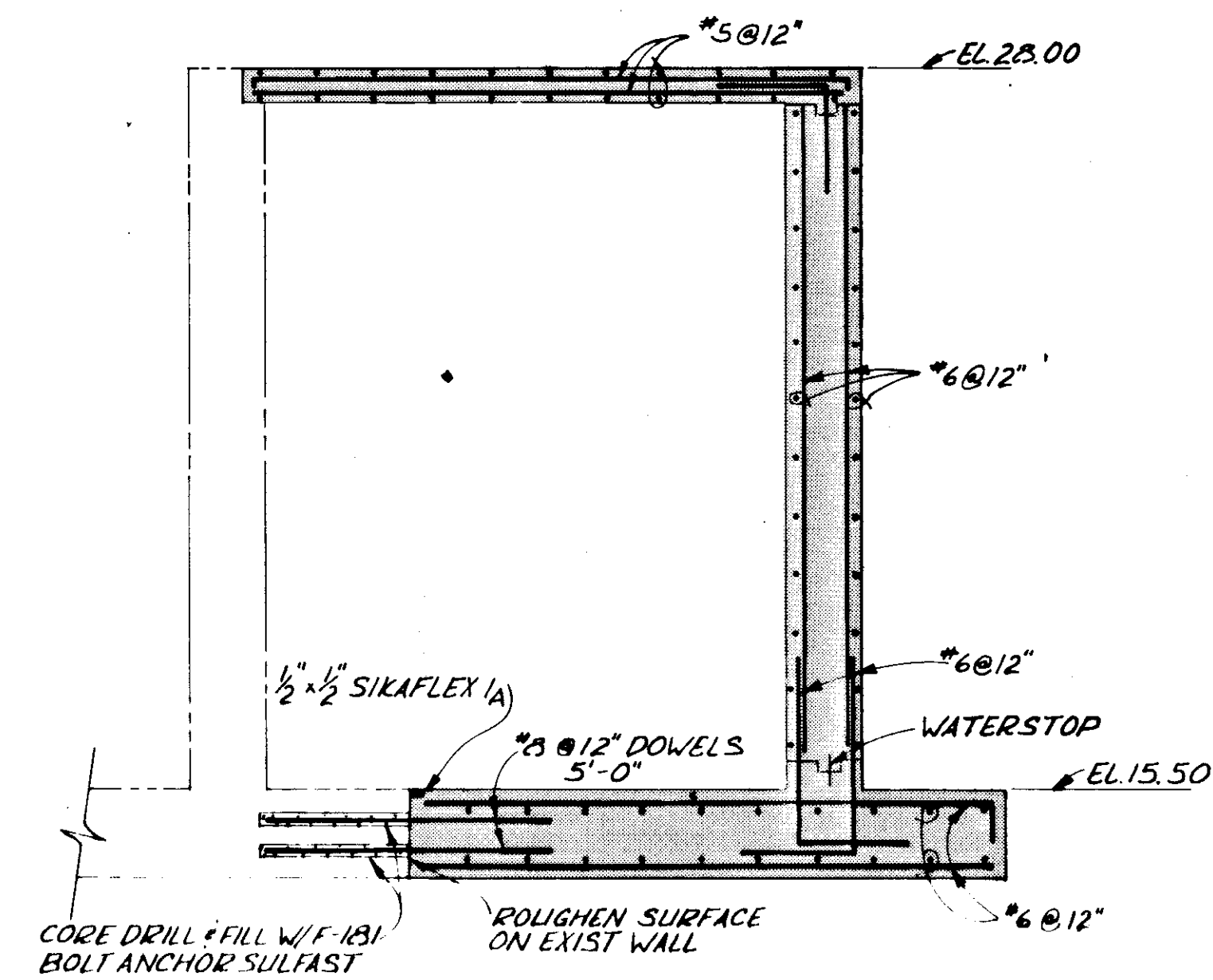
MANATEE COUNTY,		T-83 FLORIDA SEAL
DESIGNED BY R.D.H.	FILE NO. 630-761-04	
DRAWN BY D.R.K./J.R.A.	SHEET M1	
CHECKED BY	NO. 83	
DATE AUGUST, 1978	OF 130 SHEETS	SCALE: AS NOTED



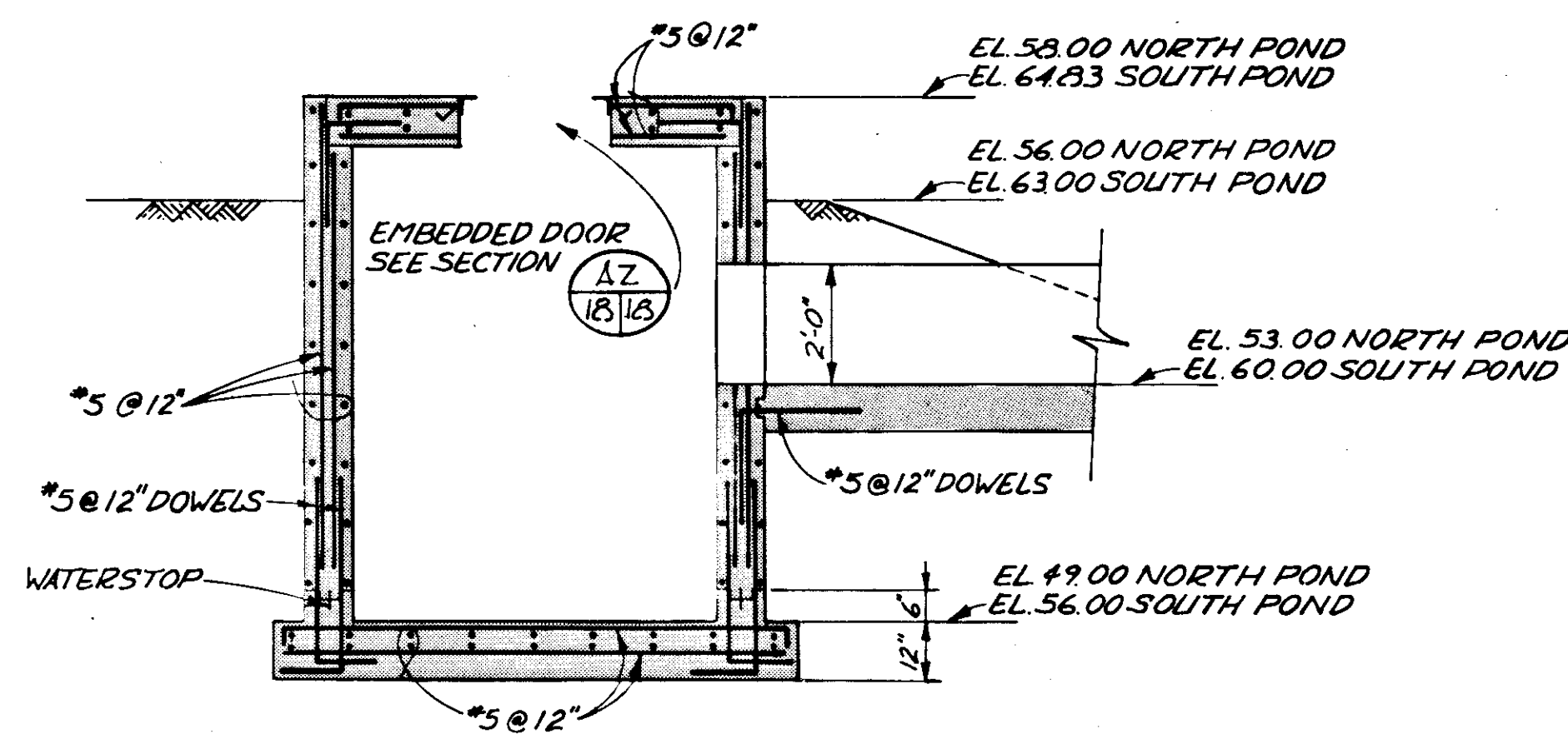
DETAIL
SCALE $\frac{3}{8}'' = 1'-0''$
C
85/85
9
10



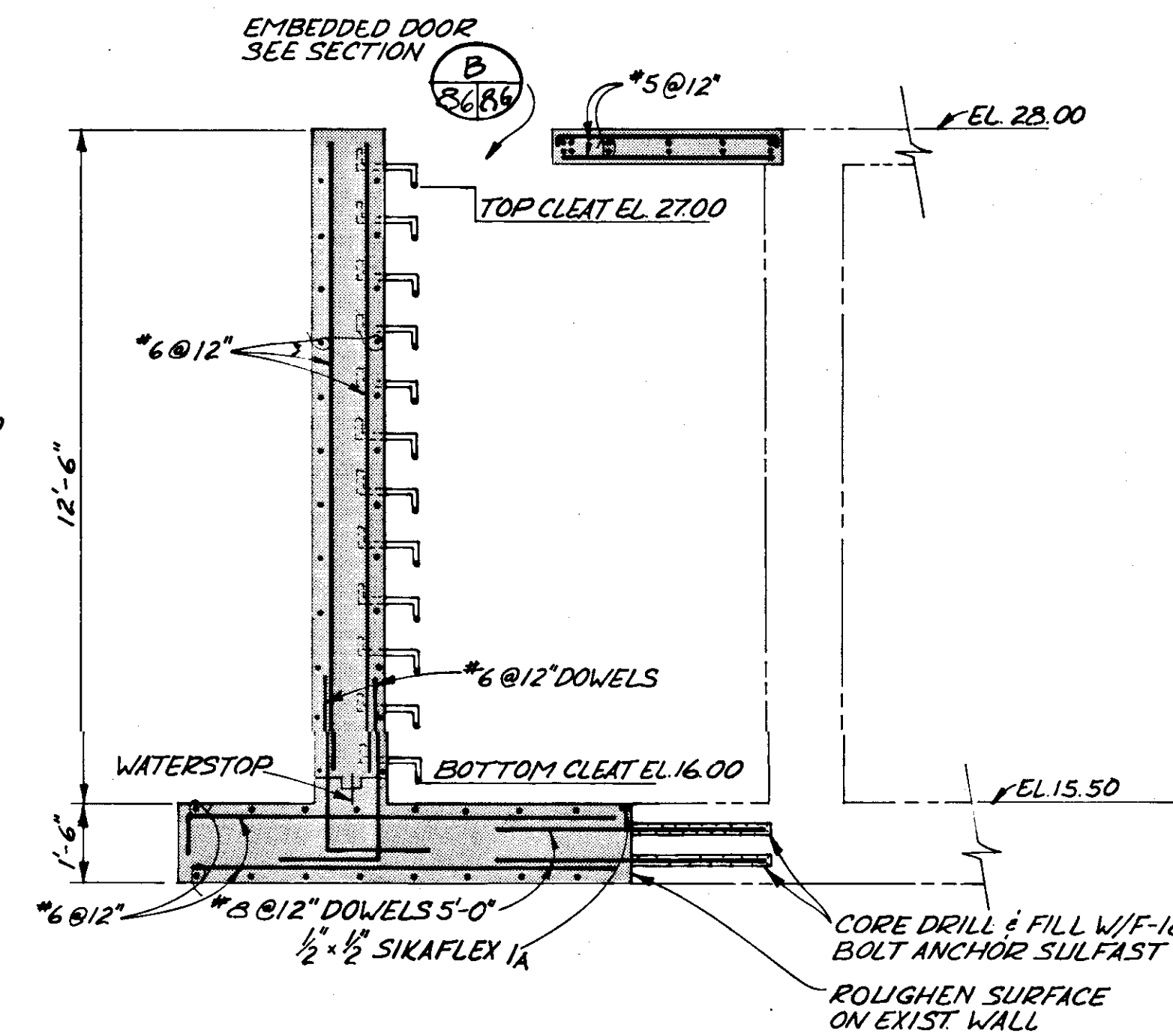
DETAIL
SCALE $\frac{3}{8}'' = 1'-0''$
D
85/85



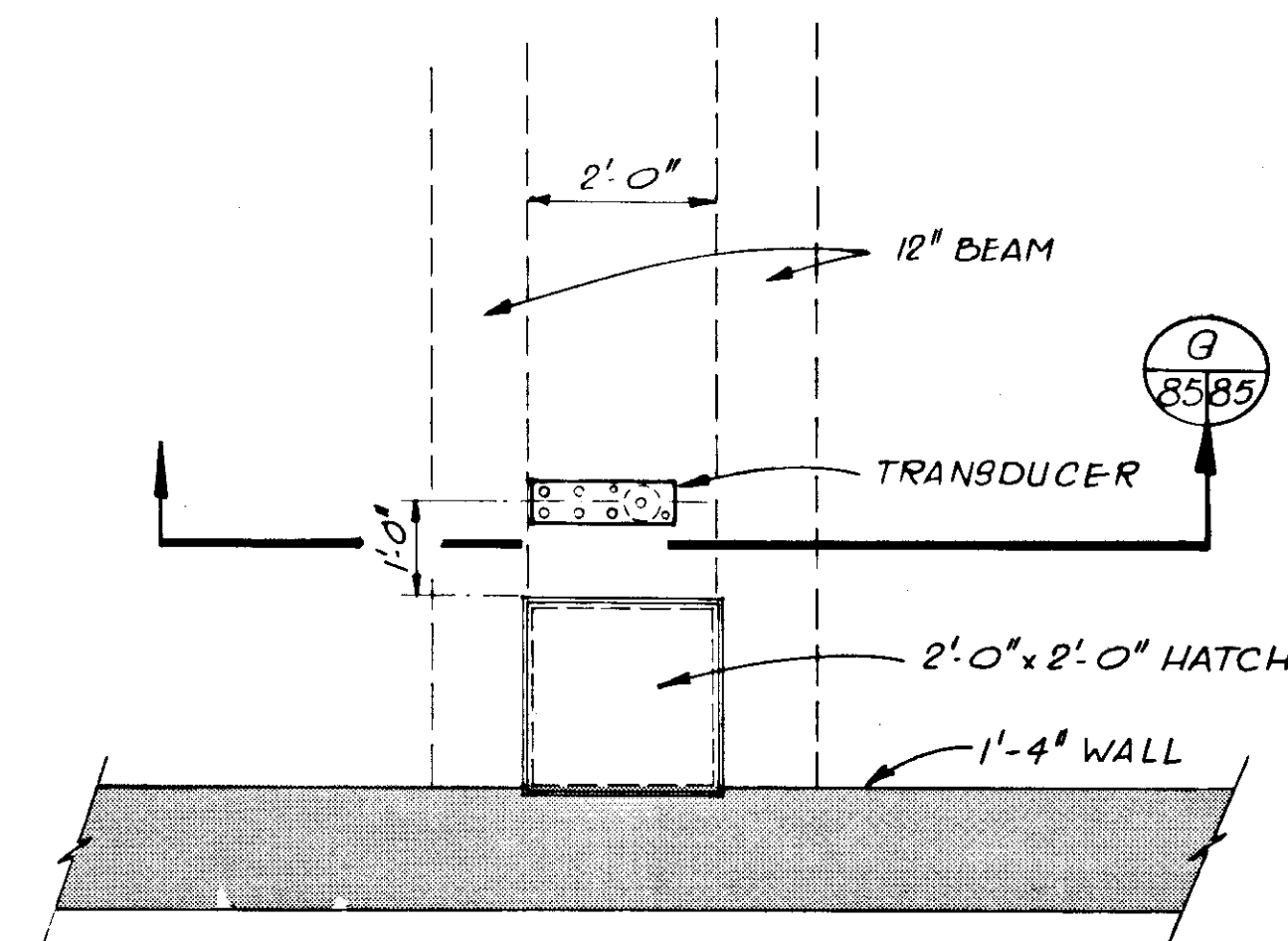
SECTION
SCALE $\frac{1}{2}'' = 1'-0''$
E
85/85



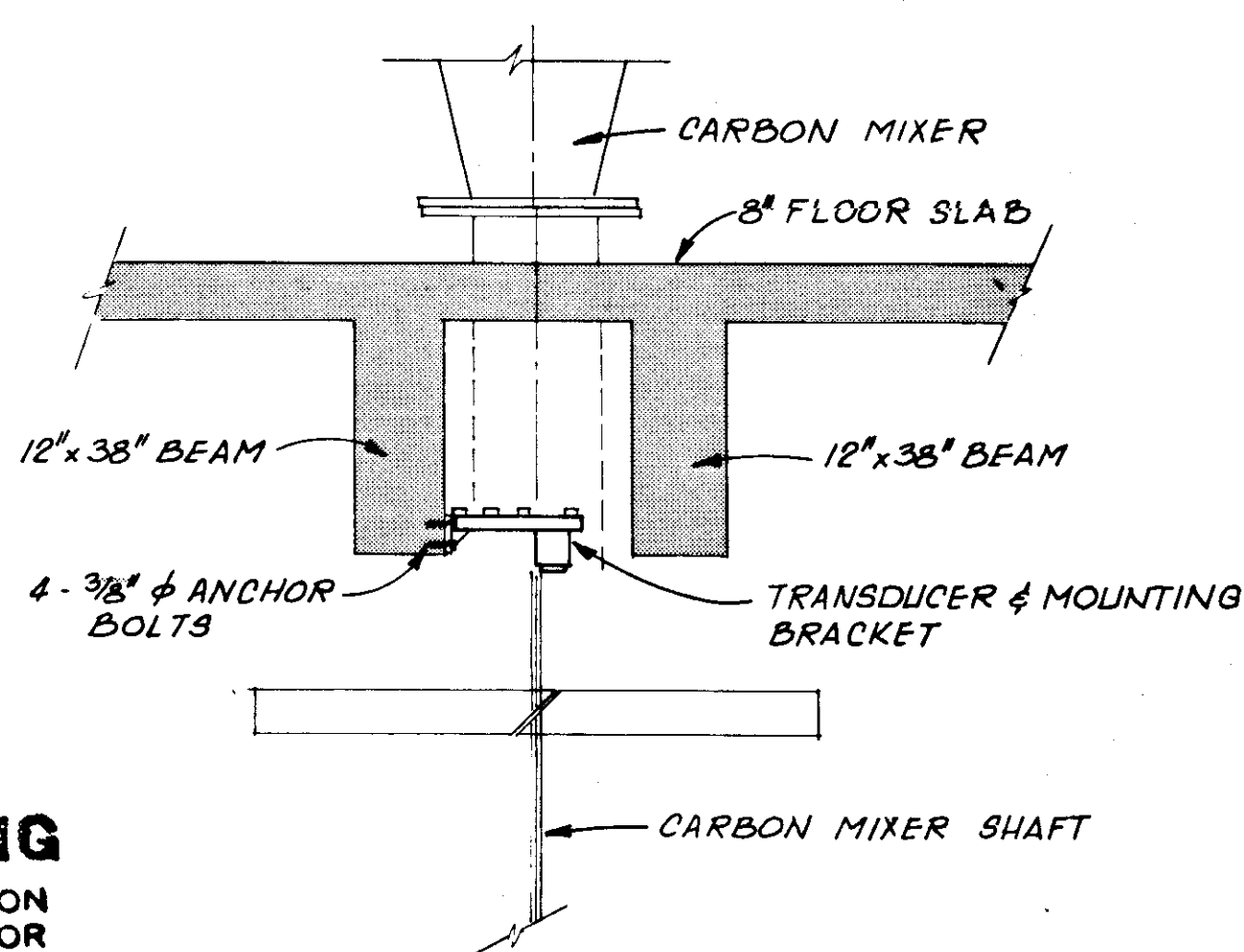
SECTION
SCALE $\frac{3}{8}'' = 1'-0''$
A
85/85



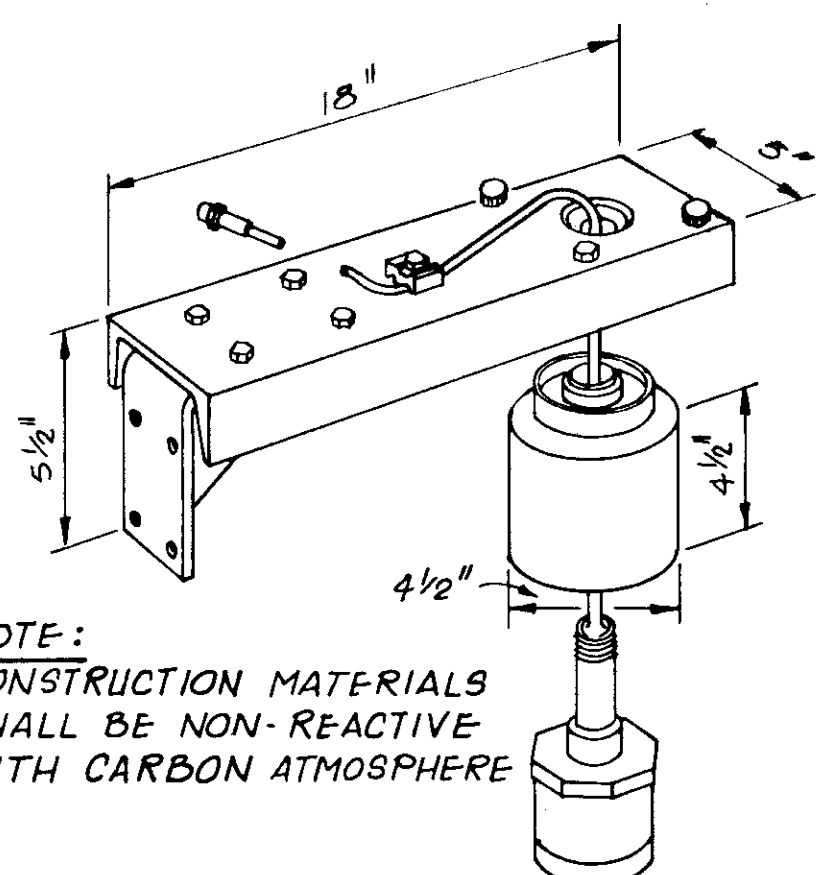
SECTION
SCALE $\frac{3}{8}'' = 1'-0''$
F
85/85



PLAN - TRANSDUCER @ CARBON TANK
SCALE: $\frac{1}{8}'' = 1'-0''$



SECTION
SCALE: $\frac{1}{2}'' = 1'-0''$
G
85/85

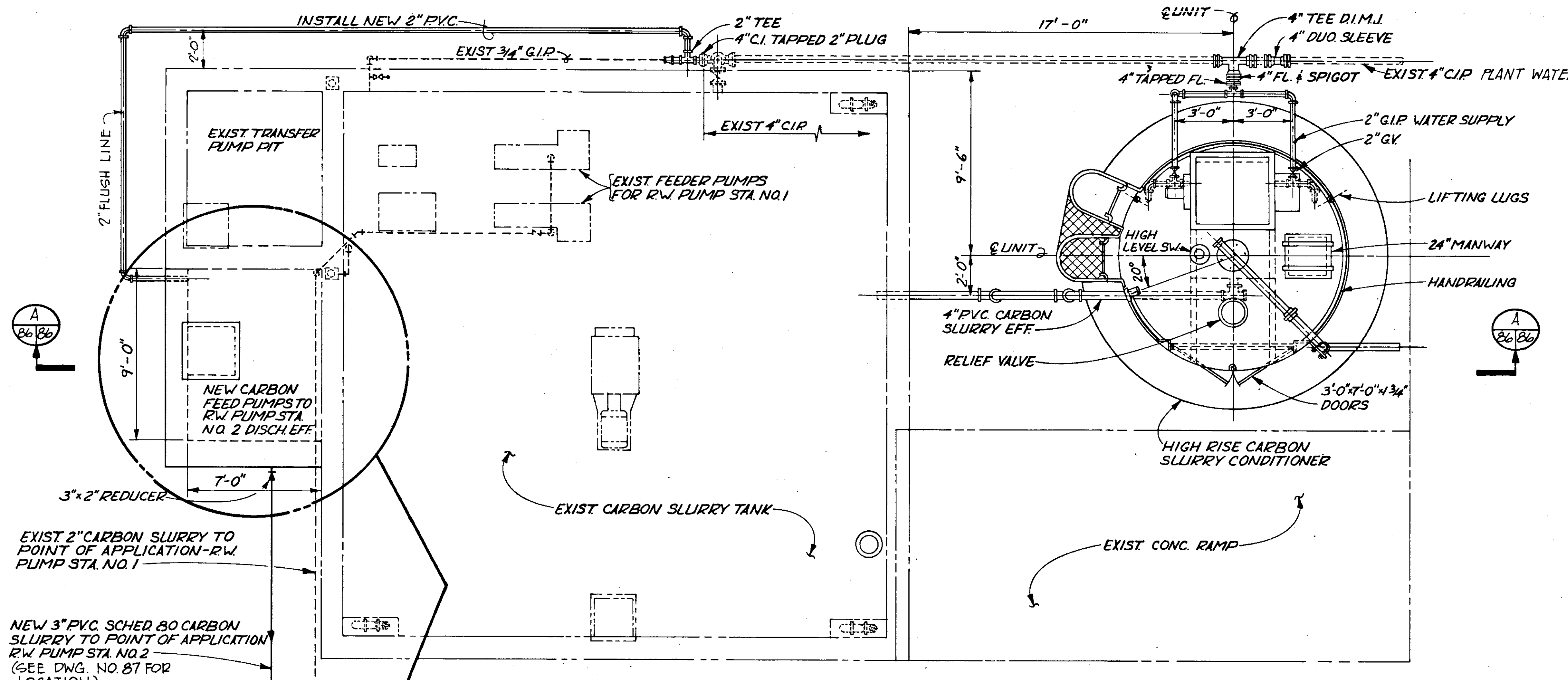


NOTE:
CONSTRUCTION MATERIALS
SHALL BE NON-REACTIVE
WITH CARBON ATMOSPHERE

ISOMETRIC - TRANSDUCER &
MOUNTING BRACKET
N.T.S.

RECORD DRAWING
PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE 8/31/82 BY KR
CHECKED BY:
R & A
M.C.U.S.

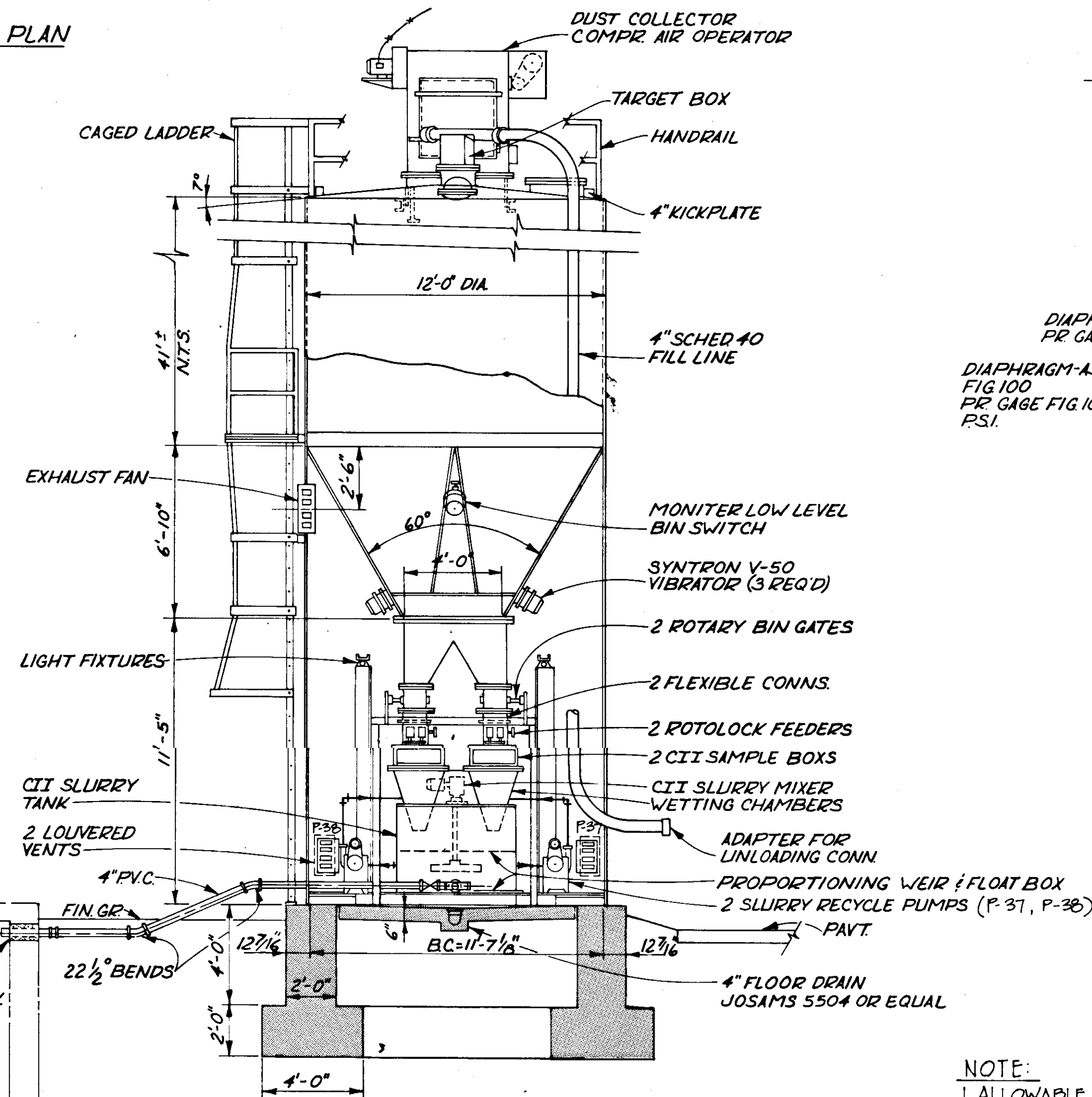
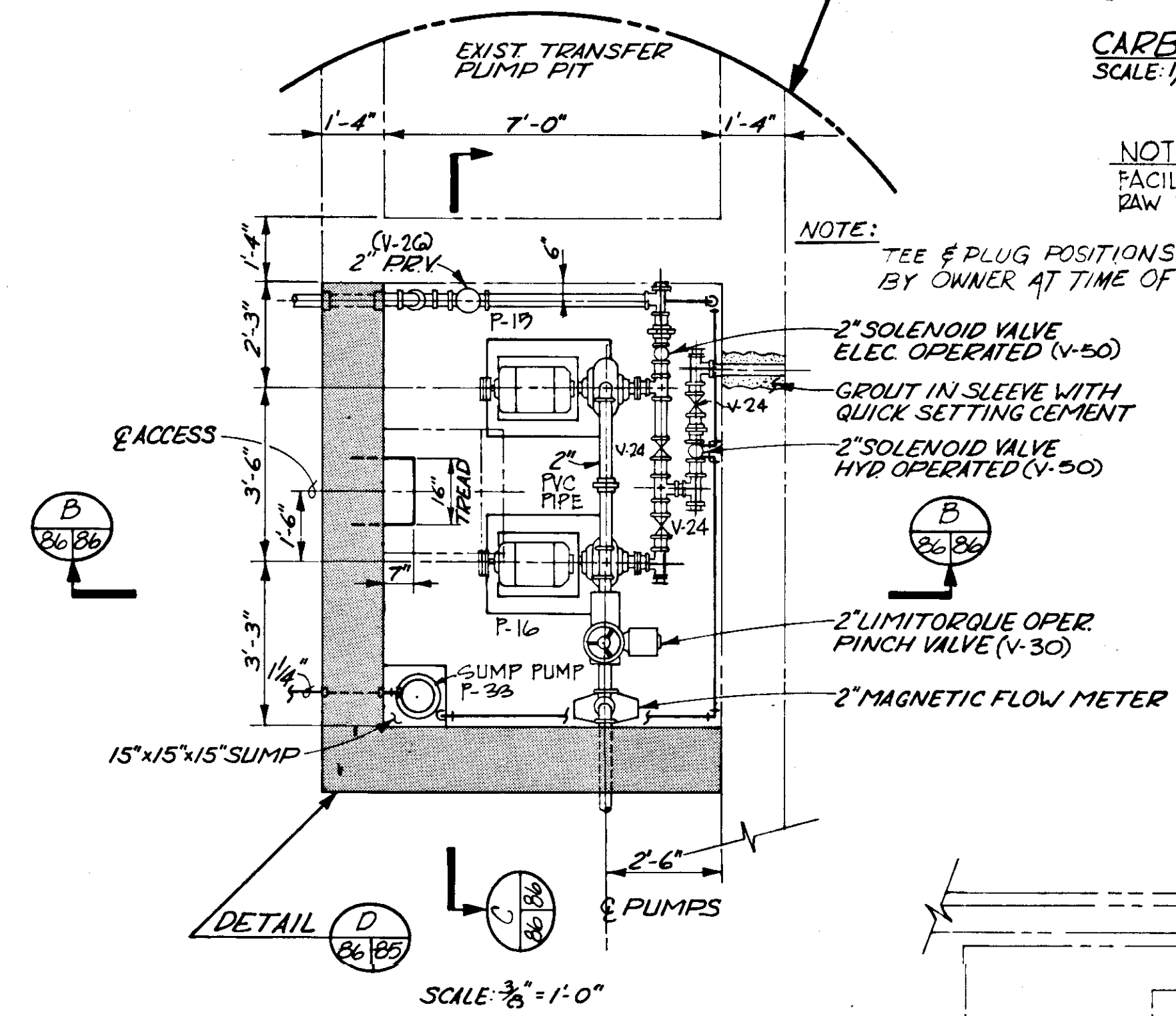
NO.	DATE	DESCRIPTION	BY	CKD.
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT CARBON CONDITIONING SYSTEM PLAN, SECTIONS & DETAILS				
MANATEE COUNTY, FLORIDA				
DESIGNED BY M.B.	FILE NO. 630-761-04	SEAL T-85 85/85		
DRAWN BY I.C.S. & J.R.A.	SHEETS NO. 85			
CHECKED BY	OF 130 SHEETS			
DATE AUGUST, 1978	SCALE: $\frac{3}{8}'' = 1'-0''$			



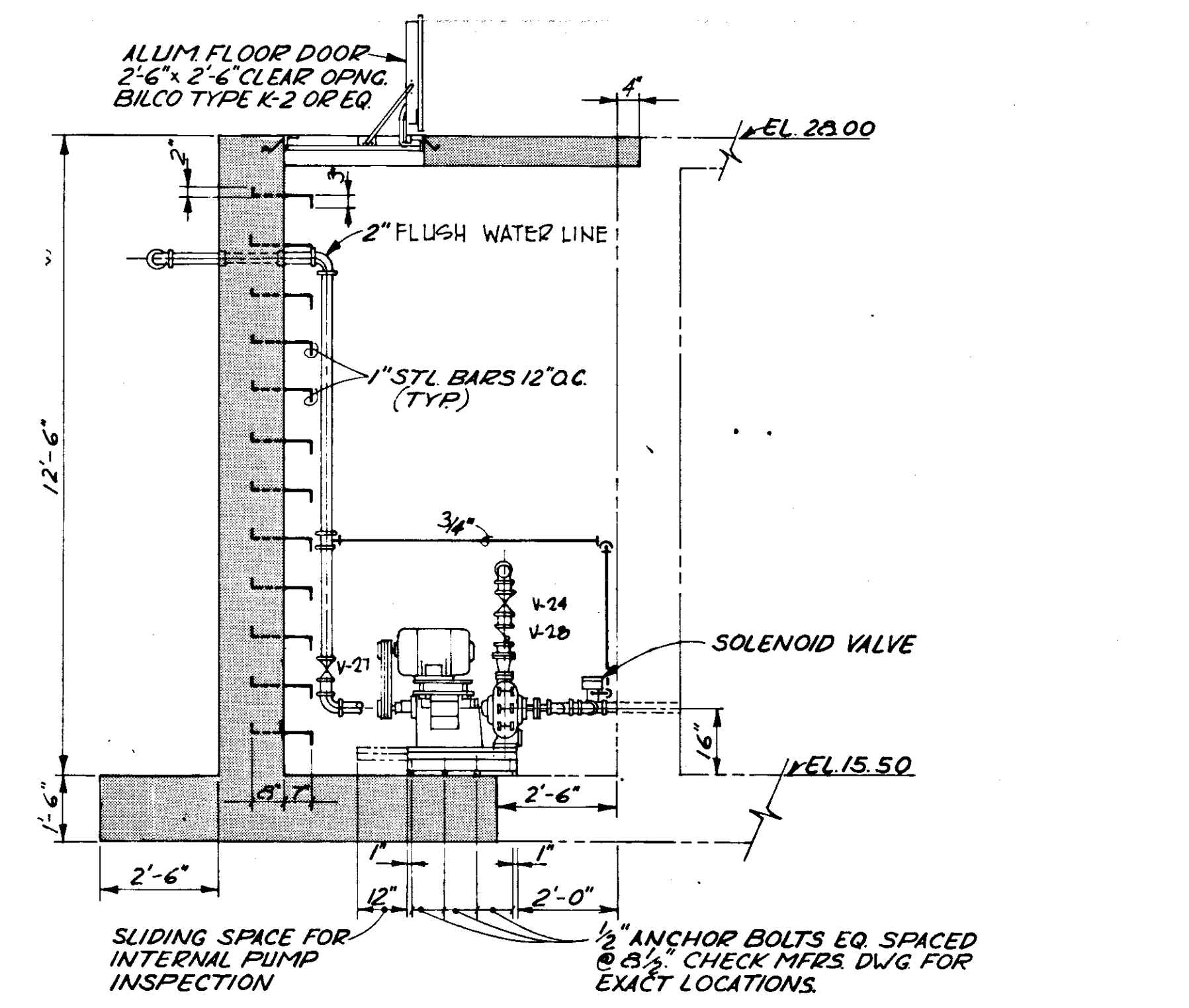
CARBON CONDITIONING SYSTEM PLAN
SCALE: 1/4" = 1'-0"

NOTE:
FACILITY LOCATION AT EXISTING
RAW WATER PUMP STATION.

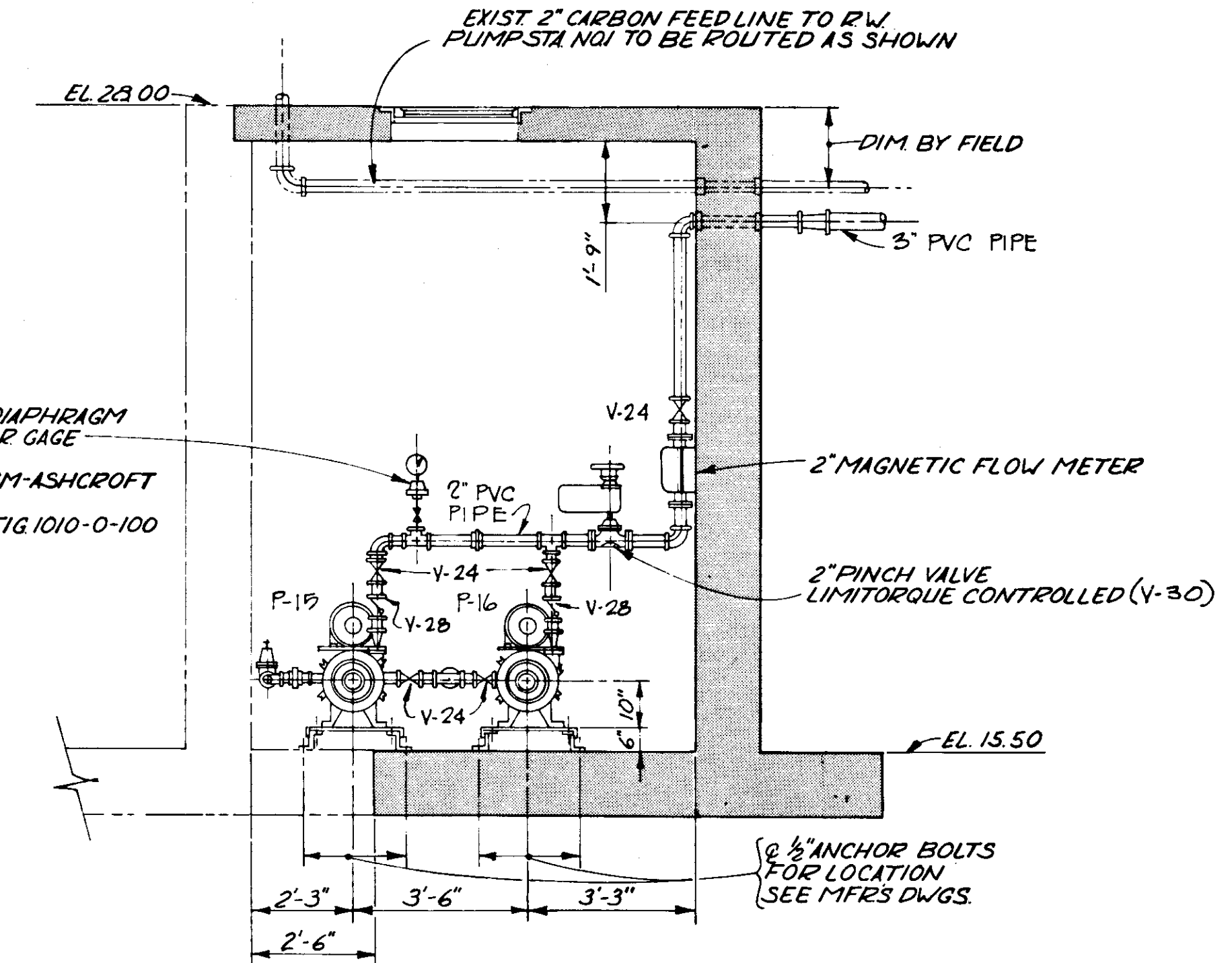
NOTE:
TEE & PLUG POSITIONS TO BE VERIFIED
BY OWNER AT TIME OF INSTALLATION.



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



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



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

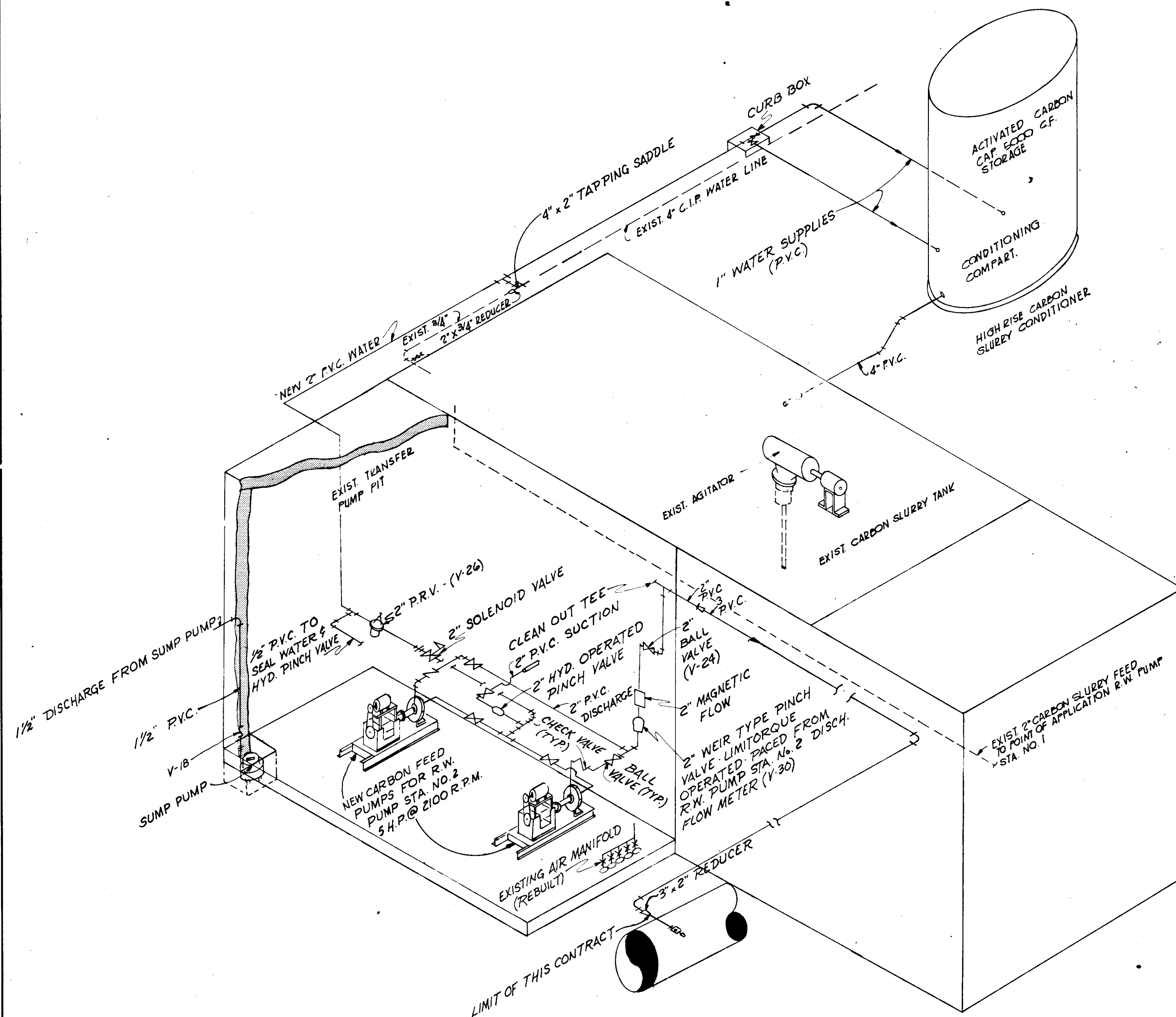
RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.

DATE: 8/30/82 BY: R&A
CHECKED BY: M.C.U.S.

NOTE:
1. ALLOWABLE SOIL CONTACT PRESSURE 2000 P.S.F.
2. CLEAN FINE SAND BELOW FOUNDATION
3. WATER TABLE APPROX. 3'-0" BELOW FINISH GRADE
4. WIND LOAD = 39 P.S.F.
5. FOUNDATION FOR CARBON SILO SHALL BE DESIGN-
ED BY SILO MFG. AND SUBMITTED TO THE
ENGINEER FOR APPROVAL.

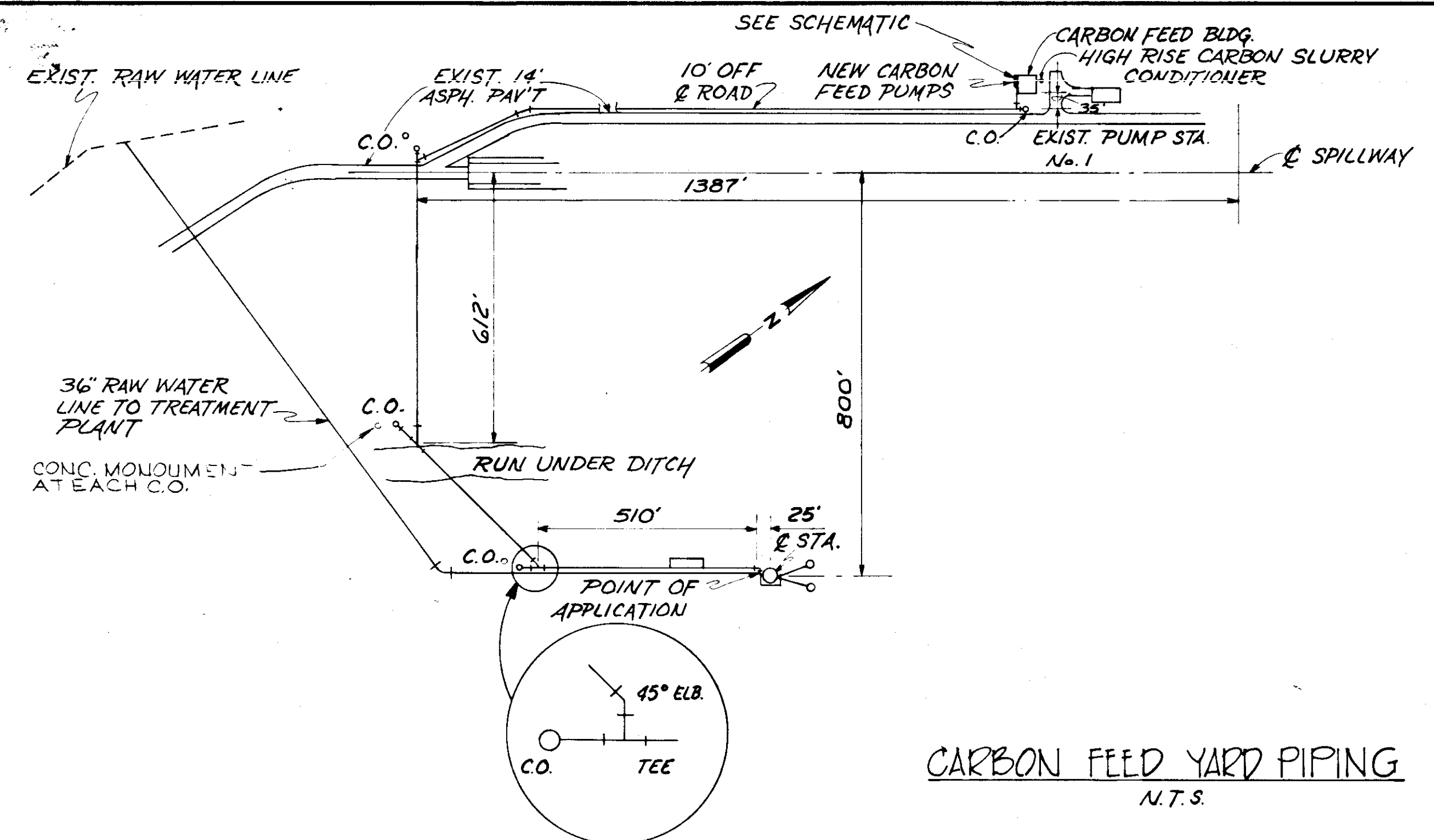
NO.	DATE	DESCRIPTION	BY	CHK.
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT CARBON CONDITIONING SYSTEM PLAN & SECTIONS				
MANATEE COUNTY, FLORIDA				
DESIGNED BY	FILE NO.	SEAL		
R.D.H.	630-761-04			
DRAWN BY	SHEET MI			
I.C.S.	No. 86			
CHECKED BY	OF 130 SHEETS			
DATE	SCALE: AS NOTED			
AUGUST, 1978				



ISOMETRIC SCHEMATIC CARBON SLURRY PIPING
SCALE: NONE

VALVE SCHEDULE (CONT.)

Symbol	Size	Type	Use	Referenced Drawing	Ends	Operator	Remarks
V-79	1"	Air Rls. Vlv.	Plant Water Pumps	74			"Universal"
V-80	6"	Back Flo. Prev.	Surface Wash	74			Reduced Press.
V-81	12"	Press. Relief Vlv.	Backwash	46	Flanged		Set 15 P.s.i.



CARBON FEED YARD PIPING
N.T.S.

VALVE SCHEDULE

Symbol	Size	Type	Use	Referenced Drawing	Ends	Operator	Remarks
V-1							(Deleted)
V-2	24"	B.F.	Filter Backwash	46,47			(Deleted)
V-3	30"	B.F.	Filter Waste	47			(Deleted)
V-4							
V-5	16"	B.F.	Trans.	45,46	Flanged	Manual	
V-6	16"	Pump Control	Trans.	45,46	Flanged	Automatic	
V-7	42"	B.F.	Clean Well Connec.	45,46	Flanged	Manual	
V-8	8"	B.F.	Filter Drain	46			
V-9	8"	Plug	Sludge Transfer	18,10,8,9,11			
V-10	6"	Gate	Plant Water	74			
V-11	6"	Duo-Check	Plant Water	74			
V-12	6"	Plug	Sludge Transfer	8,9,20,18			
V-13	8"	Check	Backwash Overflow Trans.	18			
V-14	8"	Gate	Backwash Overflow Trans.	8,18			
V-15	4"	Gate	Bed Overflow Trans.	18,10			
V-16	4"	Check	Bed Overflow Trans.	18,10			
V-17	1 1/2"	Gate	Sludge Transfer	19			
V-18	1 1/2"	Check	Sump Drain	19,18,20			
V-19	1 1/2"	Gate	Sump Drain	18,20			
V-20	2 1/2"	Gate	Cleanout	20			
V-21	2"	Pinch	Chemical Feed	12,21,14			
V-22	20"	B.F.	Filter Inf.	44			W/Extension
V-23	3/8"	Globe	Air Pipe	44			
V-24	2"	Ball	Carbon Feed	86,87			
V-25	1"	Ball	Fuel System	81			
V-26	2"	PRV	Plant Water	77,86,87			
V-27	2"	Gate	Plant Water	74,75,77,86			
V-28	2"	Check	Carbon Feed	86,87			
V-29	2"	Solenoid Valve	Flush Water	75	Threaded	Elect. Normally Closed	
V-30	2"	Pinch	Carbon Feed	86,87	Flanged Elec.	Pos. Paied RPM R.W.	(Deleted)
V-31							
V-32	3/4"	Hosebib	Water	74,44	Threaded	Manual	
V-33	1/2"	Globe	Water	74,46			
V-34	3/4"	PRV	Air	46,74			
V-35	3/4"	Globe	Air	74,46			
V-36	6"	B.F.	Surface Wash	47,44			
V-37	4"	Gate	Plant Water	74			
V-38	2"	Pinch	Lime Feed	75	Flange	Pneumatic	
V-39	3"	Pinch	Lime Recir.	75	Flange	Pneumatic	
V-40	3/4"	Ball	CL ₂ (Gas)	75			Bk. Press. Reg
V-41	1"	Ball	CL ₂ (Liquid)	75			PVC
V-42	1"	Globe	Plant Water	75			Brass
V-43	2"	Check	Flush Water	75			
V-44	3"	Plug	Lime Feed	75			
V-45	2 1/2"	Pinch	Mix Water	76			
V-46	1 1/2"	Pinch	Mix Water	76			
V-47	2 1/2"	Check	Mix Water	76			
V-48	1 1/2"	Check	Mix Water	76			
V-49	1"	Plug	Chemical Feed	76			
V-50	2"	Ball	Carbon Feed	87,66,86	Solenoid	PVC	
V-51	2"	Ball	Chemical Feed	83,84,21,13			PVC
V-52	1 1/2"	Plug	Acid Feed	83,84			TFE Lined Steel
V-53	1 1/2"	Back Press.	Acid Feed	83,84			TFE Lined Steel
V-54	1 1/2"	Back Press.	Chemical Feed	83,84			PVC
V-55	1 1/2"	Gate	Air	83,84			
V-56	1"	Gate	Air	83,84			
V-57	2"	Gate	Air	83,84			
V-58	2"	PRV	Air	83			
V-59	1 1/2"	Ball	Pressure	83			S.S.
V-60	2"	Ball	Chemical Feed	83,12,14,77			PVC
V-61	2"	Plug	Acid Fill	83			TFE Lined Steel
V-62	3/4"	Shut off Vlv.	CL ₂ Liquid	77			
V-63	1"	Ball	CL ₂ Liquid	77	Motor	Press. Switch Actuated	
V-64	1"	Ball	CL ₂ Liquid	77			
V-65	1"	Ball	Water	77,75,76			PVC
V-66	4"	Check	Supermantant	8,11			D.I., M.J.
V-67	8"	Gate	Drain	8			D.I., M.J.
V-68	30"	Butterfly	Backwash	8,11			D.I., M.J.
V-69	30"	Butterfly	Raw Water	19,8			
V-70	1"	Pinch	Chemical	22			Flex-Slip on
V-71	1 1/2"	Pinch	Chemical	22			Flex-Slip on
V-72	2"	Pinch	Chemical	22			Flex-Slip on
V-73	2"	Air Rls. Vlv.	Trans. Pump Dischrg.	46			Deep Well Type
V-74	1"	Air Rls. Vlv.	Filter Channel	47			"Universal"
V-75	2"	Solenoid	Chem. Water Supply	77,76			PVC
V-76	1 1/2"	Solenoid	Chem. Water Supply	76			
V-77	3/4"	Pres. Relief	CL ₂ Liquid	77,76			
V-78	2"	Air Rls. Vlv.	Backwash Header	45,46			"Universal"

RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.

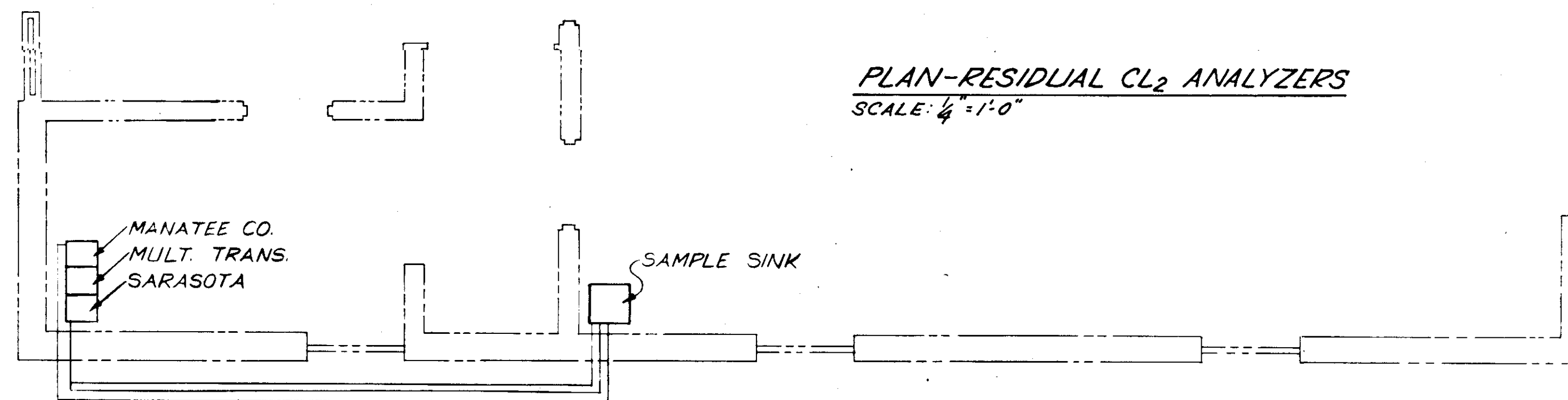
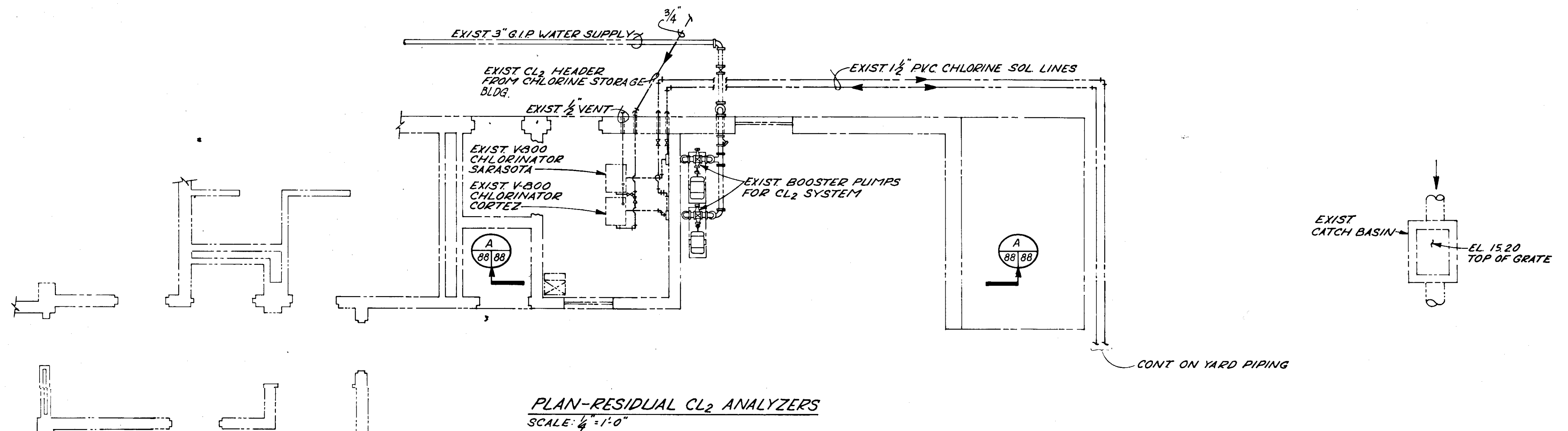
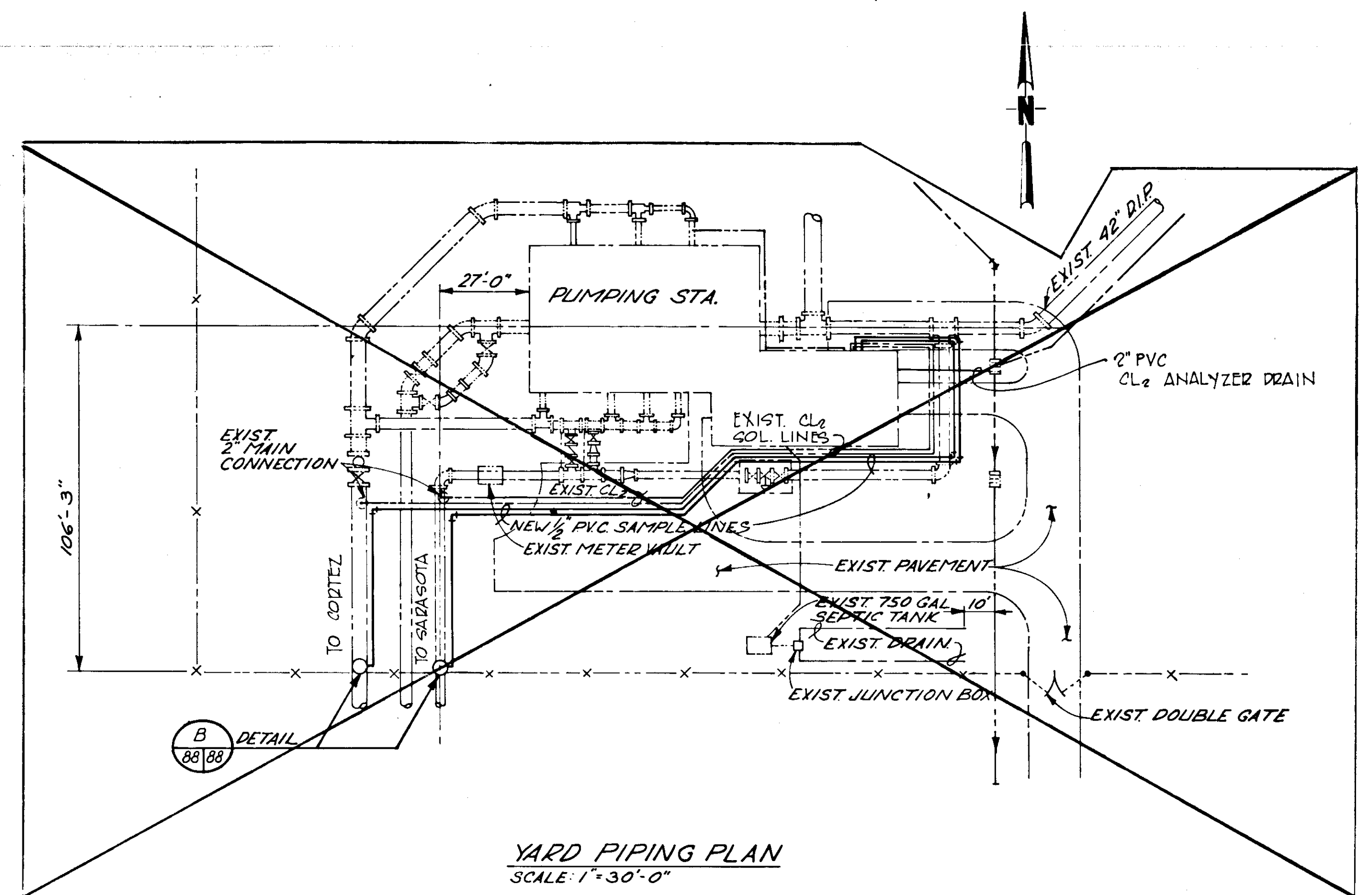
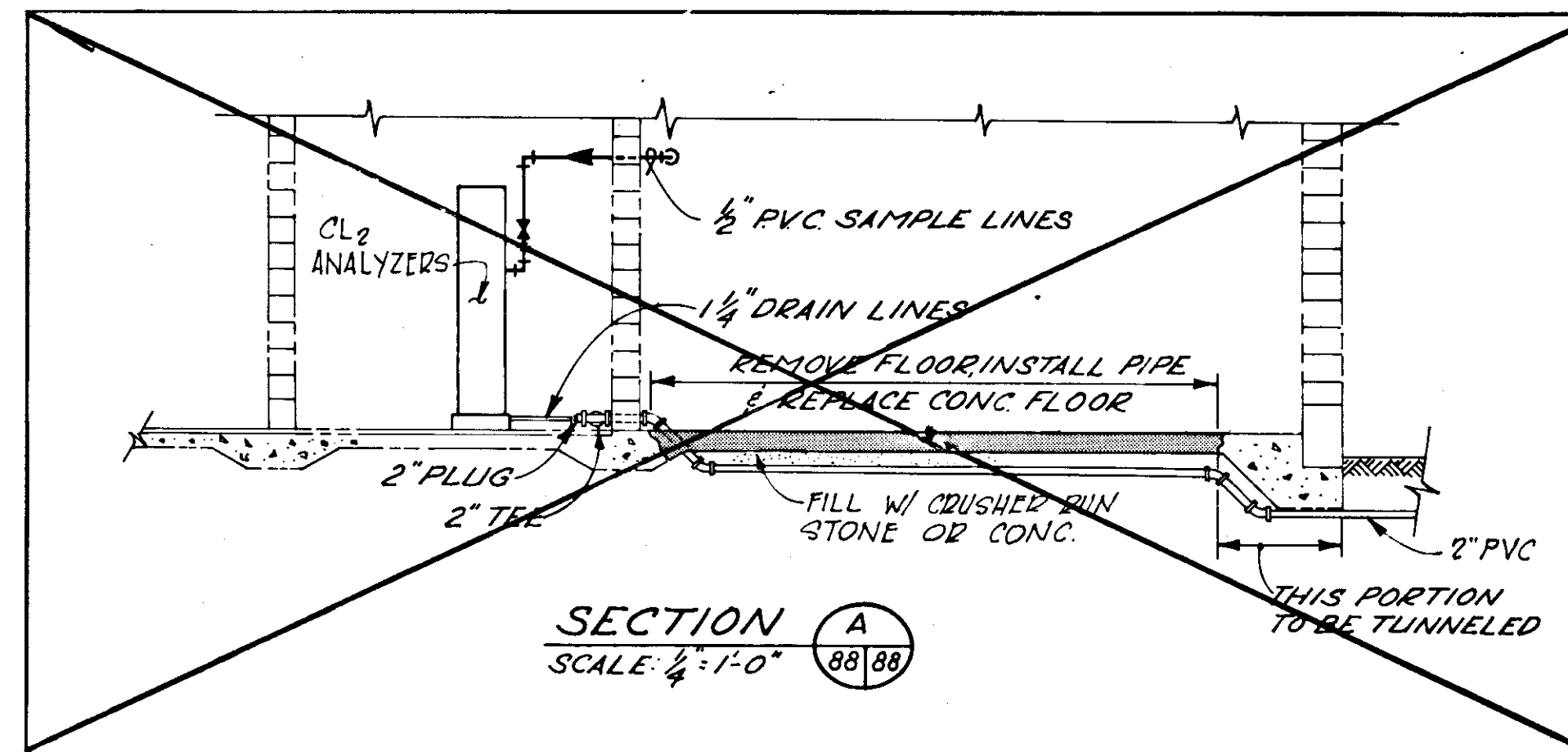
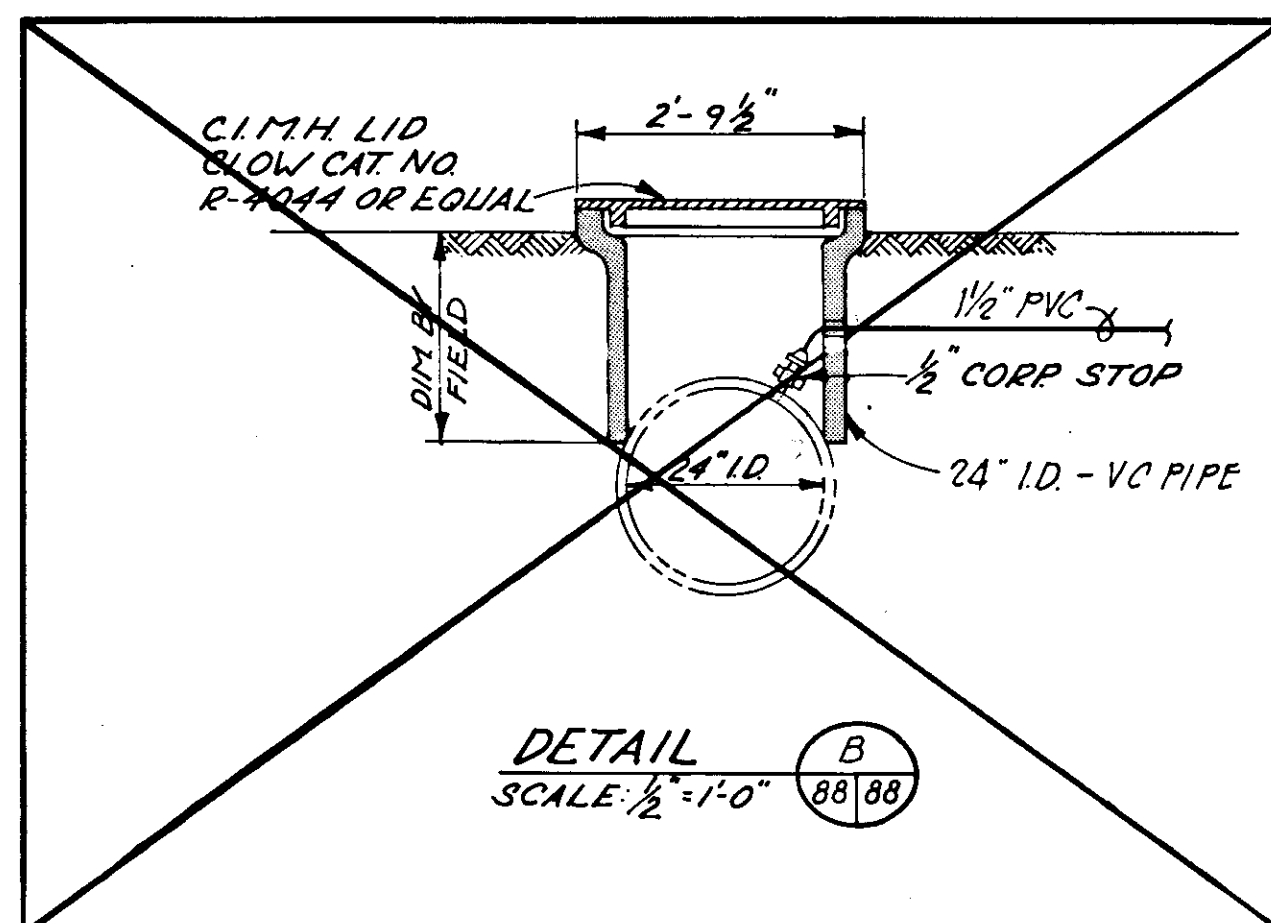
DATE 8/15/18 BY K.R.M.

CHECKED BY:

R & A *[Signature]*

M.C.U.S.

NO.	DATE	DESCRIPTION	BY	CHKD.
5/79		REV. VALVE SCHED & CARBON YARD PIPING	A.L.	
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT CARBON SLURRY PIPING & CARBON FEED PIPING & ISOMETRIC				
MANATEE COUNTY, FLORIDA				
DESIGNED BY	FILE NO.	SEAL		
RDH	630-761-04			
DRAWN BY	SHEET M 2			
BEA	No. (87)			
CHECKED BY	OF 130 SHEETS			
DATE	SCALE: AS NOTED			
AUGUST, 1978				



RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.

DATE 8/30/82 BY K.R.N.

CHECKED BY:

R & A. *[Signature]*

M.C.U.S. _____

NO.	DATE	DESCRIPTION	BY	CKD.
5/79		REV CL2 SAMPLE LINES	W.T.	
REVISIONS				
RUSSELL & AXON				
Engineers — Planners — Architects				
ELWOOD PARK BOOSTER PUMPING STATION I				
MODIFICATIONS TO CHLORINATION SYSTEM				
MANATEE COUNTY.				
DESIGNED BY	FILE NO.	T-88 FLORIDA SEAL		
R.D.H.	630-761-04			
DRAWN BY	SHEET M1			
I.C.S.	No. 88			
CHECKED BY	OF 130 SHEETS			
DATE	SCALE: AS NOTED			
AUGUST, 1978				

SEE NOTE: 1
NO. SLUDGE DRYING BED
EFFLUENT RETURN
PUMP

3" DIA. x 20 FT.
GRD. ROD

NORTH SLUDGE DRYING BED

TO MCC-3, CRR-5
ALT. OPER.
CONTROL
CONSOLE

2-1" CONDUITS
1 CONTROL
1 POWER 480V

APPROX. 238'

UNDERGROUND
JUNCTION BOX

CONDUITS FOR:
A- SLUDGE PUMPS 1 & 2
B- POWER FOR RETURN PUMP
C- SUMP PUMP POWER
D- CONTROLS FOR SLUDGE PUMPS

SERVICE ROAD

JUNCTION BOX

EXIST. FLOW TO BASIN 'B'
CONTROLLER & KNITTERS
TO BE RELOCATED

JUNCTION BOX

TO MCC-3, UNITS
DRR-1 & DRR-2

LP-21.24

EXIST. SETTLING TANKS

BASIN 'A'

SUMP PUMP

CONTROLS FOR
SLUDGE PUMPS 1 & 2

SLUDGE
PUMPS
NO. 1 & NO. 2

PH MODULE FOR PROBES 1 & 2
PH MODULE FOR PROBE NO. 1
PROBE

SEA. SHLD. CBL. 3/4" C.

PROBE
AUTO
ANZ

3-1/4" CONDUITS FOR
ACID FEED:
A- POWER 120/208V
B- CONTROLS
C- PACING

CHEMICAL STORAGE

SEE DETAIL, SHT. E5

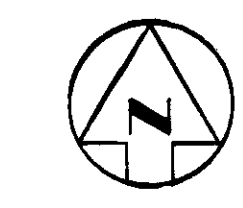
OPEN-CLOSE GATE
CONTROL STATION IN NEMA
4 ENCLOSURE @ GATE
240V. 3PST. 30A. SAFETY SWITCH
IN NEMA 4 ENCLOSURE @
GATE ELECTRIC OPERATOR

LOCAL WEATHERPROOF
PROJECTOR TYPE HORN
W/ PUSH BUTTON FOR HORN
IN PLANT OPER. CONTROL
ROOM. MOUNT ON 5 FT. STAN-
CHION W/ CONCRETE FOOTING.
(SEE SCHEM. DIAG. ON SHT. E-18)

SOUTH SLUDGE

DRYING BED

JUNCTION BOX



2-1/4" C- POWER 480V.
1-3/4" C- CONTROLS

TO JUNCTION BOX AT PLANT
2-1/4" C- POWER
1-3/4" C- CONTROLS

SEE NOTE: 1
3" DIA. x 20 FT.
GRD. ROD

NOTE: BACKWASH PONDS SHOWN
FOR SCHEMATIC PURPOSES ONLY.
SEE SHEET II FOR ACTUAL
LOCATION.

3" DIA. x 20 FT.
GRD. ROD

SEE NOTE: 1

SERVICE ROAD

RELOCATED RAW
WATER FLOWMETER
W/ R.O.F. CONTROLLER

TRIBITROL
FLOWMETER

1-3/4" CONDUIT
1-1" CONDUIT

PH MODULE FOR
PROBE NO. 6

JUNCTION BOX

NOTES:

1. PROVIDE GALV. STEEL CHANNEL FRAMING TO
SUPPORT ELECTRICAL CONTROLS APPROX. 48" AFF.

RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.

DATE: 8/31/85 BY: R.R.M.

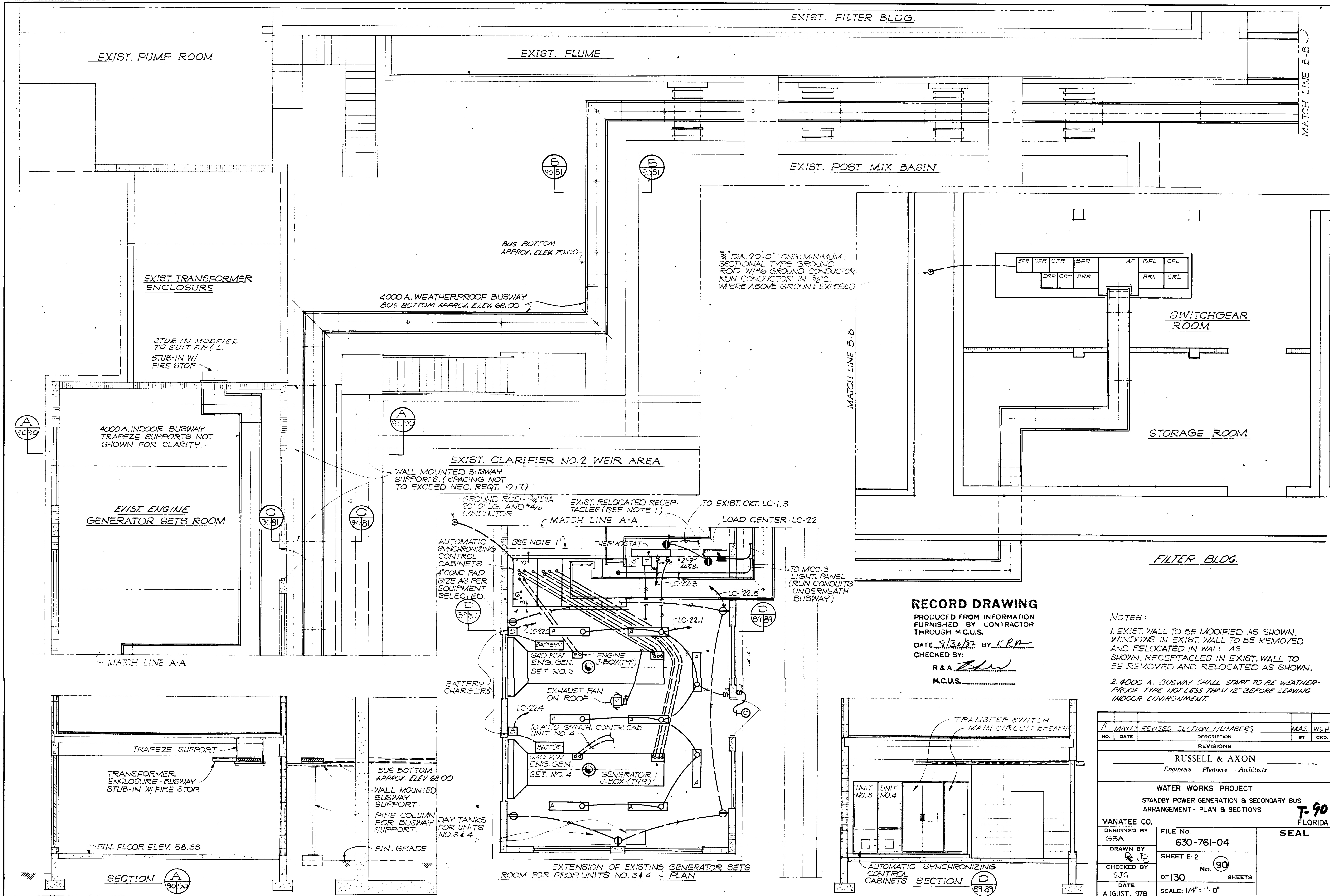
CHECKED BY:
R.A. *Bel*
M.C.U.S.

TO EFFLUENT
RETURN PUMPS

NO.	DATE	DESCRIPTION	BY	CKD.
5/79	GEN	REVISIONS		
REVISIONS				
RUSSELL & AXON				
Engineers — Planners — Architects				
WATER WORKS PROJECT				
ELECTRICAL SITE PLAN				
MANATEE CO.				
DESIGNED BY	FILE NO.			
GBA	630-761-04			
DRAWN BY	SHEET E-I			
R.E.	No. 89			
CHECKED BY	OF 130			
SJG	89			
DATE	SCALE: 1" = 30' - 0"			
AUGUST, 1978				

14-01

GBH 6/87

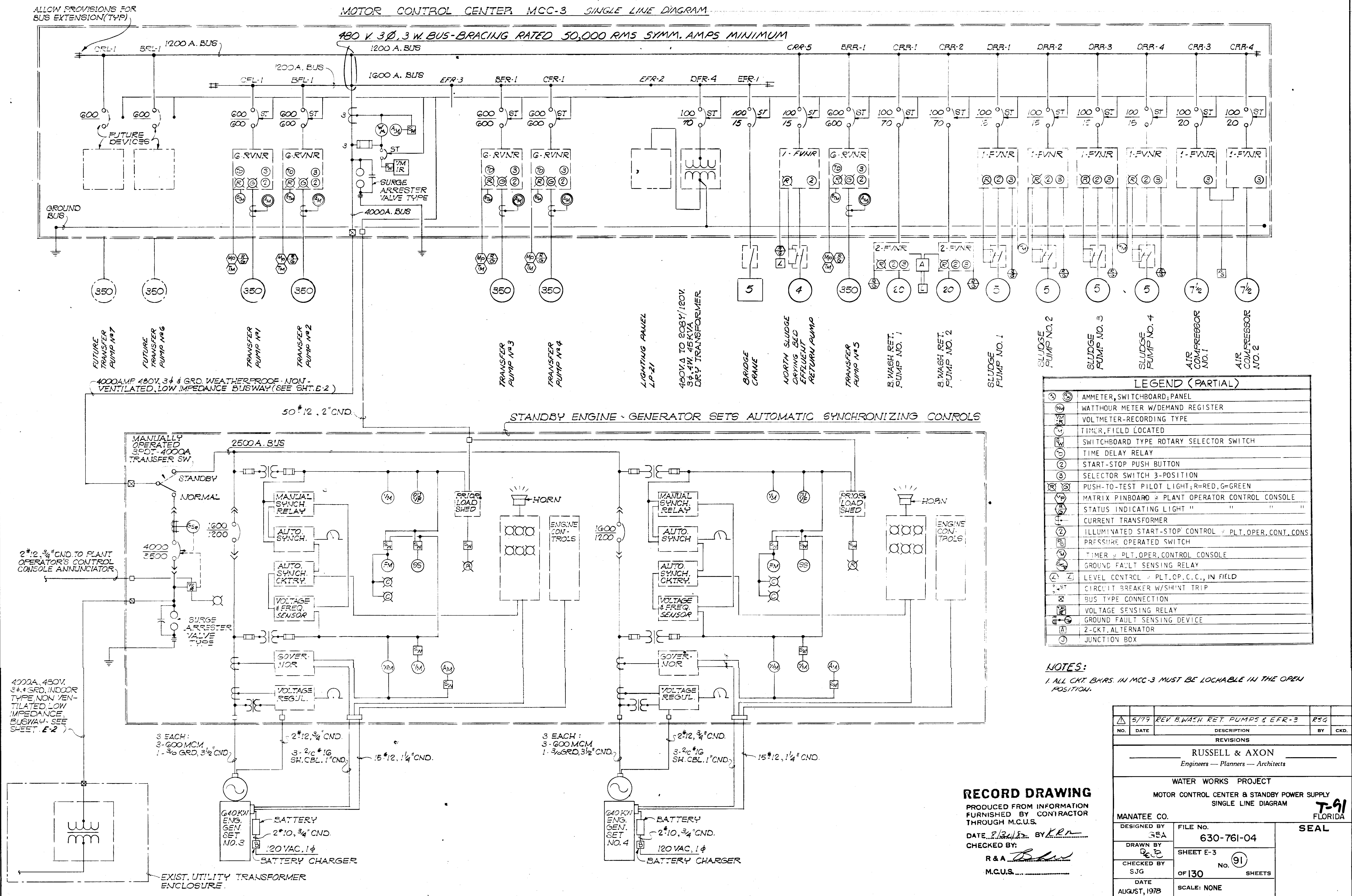


RECORD DRAWING
PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE 8/31/82 BY K.R.N.
CHECKED BY:
R & A [Signature]
M.C.U.S. [Signature]

- NOTES:
1. EXIST. WALL TO BE MODIFIED AS SHOWN. WINDOWS IN EXIST. WALL TO BE REMOVED AND RELOCATED IN WALL AS SHOWN. RECEPTACLES IN EXIST. WALL TO BE REMOVED AND RELOCATED AS SHOWN.
 2. 4000 A. BUSWAY SHALL START TO BE WEATHER-PROOF TYPE NOT LESS THAN 12' BEFORE LEAVING INDOOR ENVIRONMENT.

		MAY 12		REVISED SECTION NUMBERS		M.A.S.		W.D.H.			
NO.		DATE		DESCRIPTION				BY		CHKD.	
REVISIONS											
RUSSELL & AXON											
Engineers — Planners — Architects											
WATER WORKS PROJECT											
STANDBY POWER GENERATION & SECONDARY BUS											
ARRANGEMENT - PLAN & SECTIONS											
MANATEE CO.											
DESIGNED BY		FILE NO.				SEAL					
GBA		630-761-04									
DRAWN BY		SHEET E-2				No. 90					
		OF 130									
CHECKED BY		DATE				SCALE: 1/4" = 1'-0"					
SJG		AUGUST, 1978									

MOTOR CONTROL CENTER MCC-3 SINGLE LINE DIAGRAM



NOTES....

1. MCC-3 SECTIONS SHALL BE PROVIDED WITH SPACE HEATERS AND THERMOSTATIC CONTROL AS PER MCC-3 MFR. RECOMMENDATIONS. POWER SUPPLY TO ORIGINATE IN LIGHTING PANEL LP-21, UNIT EFR.2...

MOTOR CONTROL CENTER MCC-3 ~ SCHEDULE																																			
SECTION	UNIT	LOAD HP OR KVA	FULL LOAD AMPS	CIRCUIT BREAKER		STARTER		UNIT MODIFICATIONS										FIELD CONTROLS				PLANT OPERATOR CONTROL CONSOLE				WIRING					REMARKS	SERVICE			
				POLE	FRAME SIZE AMP	TRIP SIZE AMP	SHUNT TRIP	NEMA SIZE	TYPE	COIL VOLT	PILOT LIGHT	PUSH BUTT. STA.	SEL. SW.	AUX. CONTACTS	CNT. XFMR. DELAY	TIME RELAY	ELPS. TIME MET.	AMMETER	ANN. SW.	PUSH BUTT. STA.	SEL. SW.	SAF. SW.	OTHER	STAT. LIGHT	MATRIX PIN-BOARD	'ON' CONTR	'OFF' CONTR	OTHER	POWER	NEUT.			GRND.	CON-TROL	CON-DUIT
METERING SECTION TO INCLUDE: AMMETER, SWITCHBOARD TYPE W/TRANSFER SWITCH AND 3-C.T.'S; TWO ELEMENT, STATIONARY TYPE WATTHOUR METER W/DEMAND REGISTER; RECORDING TYPE VOLTMETER (STRIP CHART) W/TRANSFER SWITCH... MAIN SECONDARY BUS ENTRANCE SECTION SHALL BE PROVIDED W/VALVE TYPE SURGE ARRESTER.																																			
A	1																																		
BFL	1	350	406	3	600	600	ST	6	RVNR	—	R&G		HOA	3	2	ONE	ONE	ONE	ONE	—	—	—	VALVE	R&G	YES	YES	LEVEL	G-250 MCM	—	1=1		2-2 1/2"		TRANSFER PUMP NO. 2	
CFL	1	350	406	3	600	600	ST	6	RVNR	—	R&G		HOA	3	2	ONE	ONE	ONE	ONE	—	—	—	VALVE	R&G	YES	YES	LEVEL	G-250 MCM	—	1=1		2-2 1/2"		TRANSFER PUMP NO. 1	
BFR	1	350	406	3	600	600	ST	6	RVNR	—	R&G		HOA	3	2	ONE	ONE	ONE	ONE	—	—	—	VALVE	R&G	YES	YES	LEVEL	G-250 MCM	—	1=1		2-2 1/2"		TRANSFER PUMP NO. 3	
CFR	1	350	406	3	600	600	ST	6	RVNR	—	R&G		HOA	3	2	ONE	ONE	ONE	ONE	—	—	—	VALVE	R&G	YES	YES	LEVEL	G-250 MCM	—	1=1		2-2 1/2"		TRANSFER PUMP NO. 4	
DFR	2																																		
	3																																		
	4	45	54	3	100	70	ST	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	DRY TRANSFORMER	
EFR	1	5	8	3	100	15	ST	—	—	—	—	—	—	—	—	—	—	—	—	—	S. SW	—	—	—	—	—	—	3=12	—	1=12	—	3/4"		BRIDGE CRANE	
	2																																	LIGHTING PANEL LP-21	
BRL	1	350	406	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	FUTURE XFER. PUMP NO. 6	
CRL	1	350	406	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	FUTURE XFER. PUMP NO. 7	
BRR	1	350	406	3	600	600	ST	6	RVNR	—	R&G		HOA	3	2	ONE	ONE	ONE	ONE	—	—	—	VALVE	R&G	YES	YES	LEVEL	G-250 MCM	—	1=1		2-2 1/2"		TRANSFER PUMP NO. 5	
CRR	1	20	27	3	100	70	ST	2	FVNR	120	R	—	—	3	2	ONE	—	—	—	—	—	MOT. STR.	LEVEL	R&G	—	—	—	3=4	—	1=10	3=12	1-1 1/4"	MOT. STR. & MOTOR	R. WASH RETURN PUMP NO. 1	
	2	20	27	3	100	70	ST	2	FVNR	120	R	—	—	3	2	ONE	—	—	—	—	—	MOT. STR.	LEVEL	R&G	—	—	—	3=4	—	1=10	3=12	1-1 1/4"	MOT. STR. & MOTOR	B. WASH RETURN PUMP NO. 2	
	3	7.5	11	3	100	20	ST	1	FVNR	120	—	—	HOA	3	2	ONE	—	—	—	—	—	—	PRESS	—	—	—	—	3=12	—	1=12	2=12	1-3/4"	—	AIR COMPRESSOR NO. 1	
	4	7.5	11	3	100	20	ST	1	FVNR	120	—	—	HOA	3	2	ONE	—	—	—	—	—	—	PRESS	—	—	—	—	3=12	—	1=12	—	1-3/4"	—	AIR COMPRESSOR NO. 2	
	5	4.0	7.4	3	100	15	ST	1	FVNR	120	R&G	—	—	3	2	ONE	—	—	—	—	—	S. SW	—	R&G	—	—	—	3=6	—	1=12	4=12	2-1"	DELETED NOW A MAIN BREAKER	NORTH SLUDGE DRYING BED EFFLUENT RETURN PUMP	
DRR	1	5	7.6	3	100	15	ST	1	FVNR	120	R&G	ST-SF	HOA	3	2	ONE	—	—	—	—	—	S. SW	TIMER	R&G	—	—	—	3=8	—	1=10	2=12	1-1"	SAFETY SWITCH	SLUDGE PUMP NO. 1	
	2	5	7.6	3	100	15	ST	1	FVNR	120	R&G	ST-SF	HOA	3	2	ONE	—	—	—	—	—	S. SW	↓	R&G	—	—	—	3=8	—	1=10	2=12	1-1"	AT MOTOR	SLUDGE PUMP NO. 2	
	3	5	7.6	3	100	15	ST	1	FVNR	120	R&G	ST-SF	HOA	3	2	ONE	—	—	—	—	—	S. SW	TIMER	R&G	—	—	—	3=8	—	1=10	2=12	1-1"	LOCATION	SLUDGE PUMP NO. 3	
	4	5	7.6	3	100	15	ST	1	FVNR	120	R&G	ST-SF	HOA	3	2	ONE	—	—	—	—	—	S. SW	↓	R&G	—	—	—	3=8	—	1=10	2=12	1-1"		SLUDGE PUMP NO. 4	
	5																																		

ELECTRICAL LEGEND

	CIRCUIT BREAKER
	COMBINATION CIRCUIT BREAKER & MOTOR STARTER
	RELAY OR CONTACTOR COIL, LETTER DESCRIBES FUNCTION
	SPECIAL PURPOSE RECEPTACLE
	TOGGLE SWITCH SPST-SUFFIXES: M=MOT. STR. W/OL, P=PILOT LIGHT
	OVERLOAD PROTECTION (FUSE OR B I - METAL)
	FUSE IN CONTROL CIRCUITS
	NORMALLY OPEN, NORMALLY CLOSED CONTACTS
	SWITCH, PRESSURE OPERATED
	FLUORESCENT FIXTURE-CEILING MOUNT, LETTER DESCRIBES TYPE
	INCANDESCENT FIXTURE-WALL MOUNT., CEILING MOUNT
	DUPLEX RECEPTACLE -- W/GROUND 120 V. 20 A., W=WEATHERPROOF
	LIGHTING PANEL
	MOTOR
	INDICATES CONDUIT RUN GOING UP OR DOWN
	CROSS MARKS INDICATES NUMBER OF CONDUCTORS-UNMARKED ARE TWO
	CONDUIT RUN CONCEALED IN WALL, UNDER SLAB OR ABOVE CEILING
	FULL VOLTAGE NONREVERSING STARTER
	TIMER DEVICE, THERMOSTATIC CONTROL, TORQUE SWITCH, TRANSMITTER
	DISCONNECT SWITCH
	REDUCED VOLTAGE NON REVERSING STARTER
	GROUNDING CONDUCTOR W/GROUND ROD
	TELEPHONE OUTLET
	SOLENOID VALVE
	SWITCH, FLOW OPERATED
	SWITCH, LEVEL OPERATED
	VALVE ELECT. OPERATED
	FIELD MOTOR CONTROLLER MAGNETIC TYPE
	ALTERNATOR
	JUNCTION BOX
	SPEED OR STROKE CONTROL
	EUG

RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.

DATE 8/30/78 BY ELC

CHECKED BY:

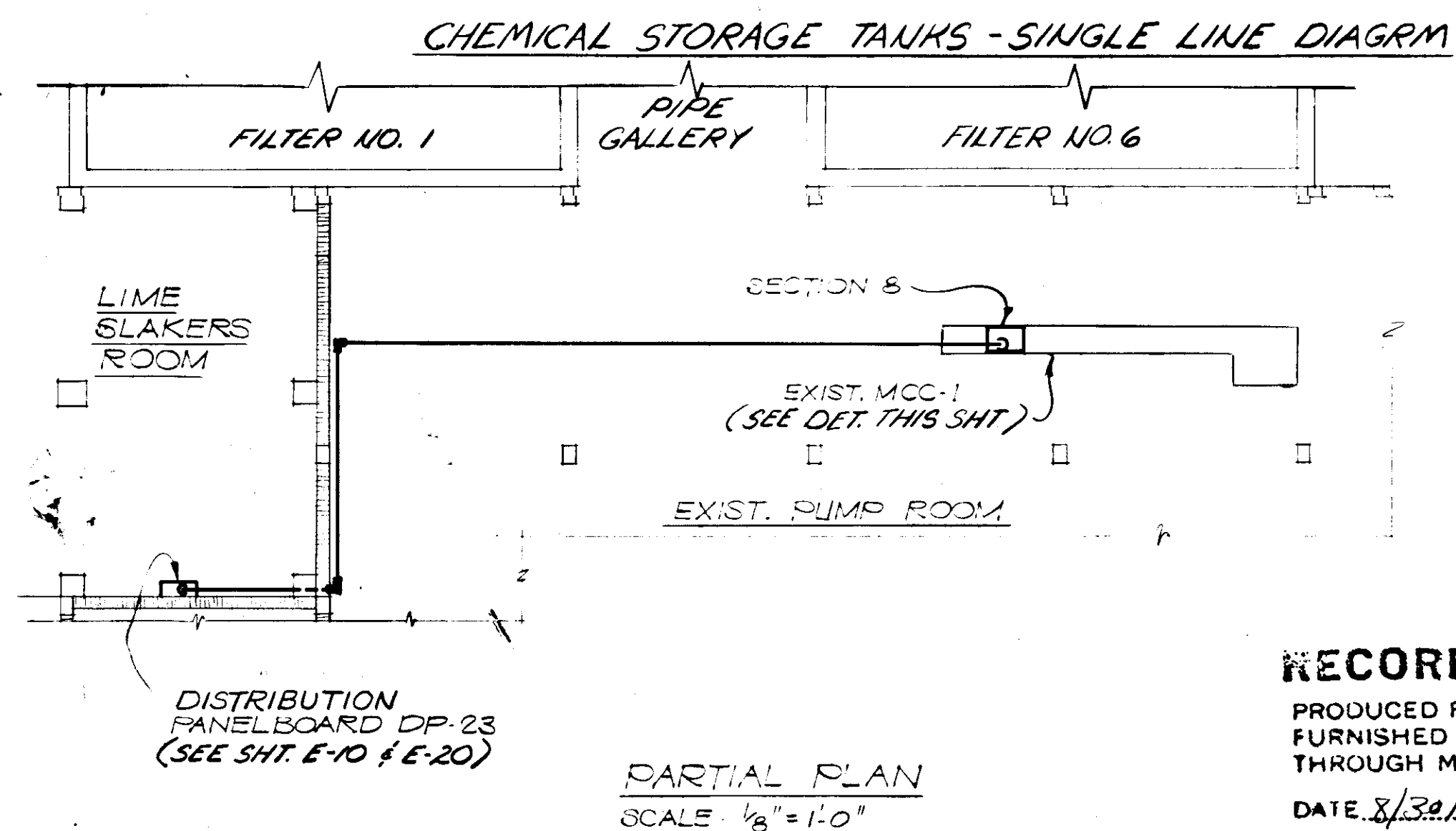
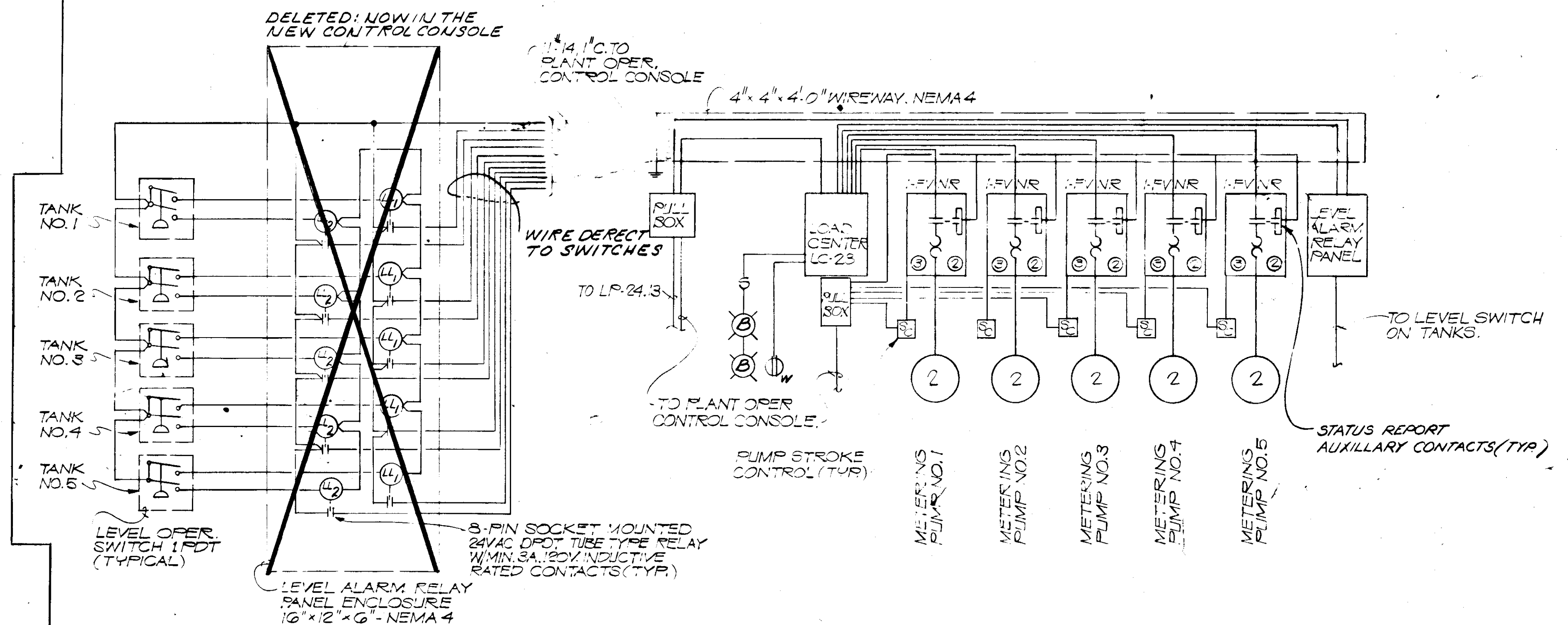
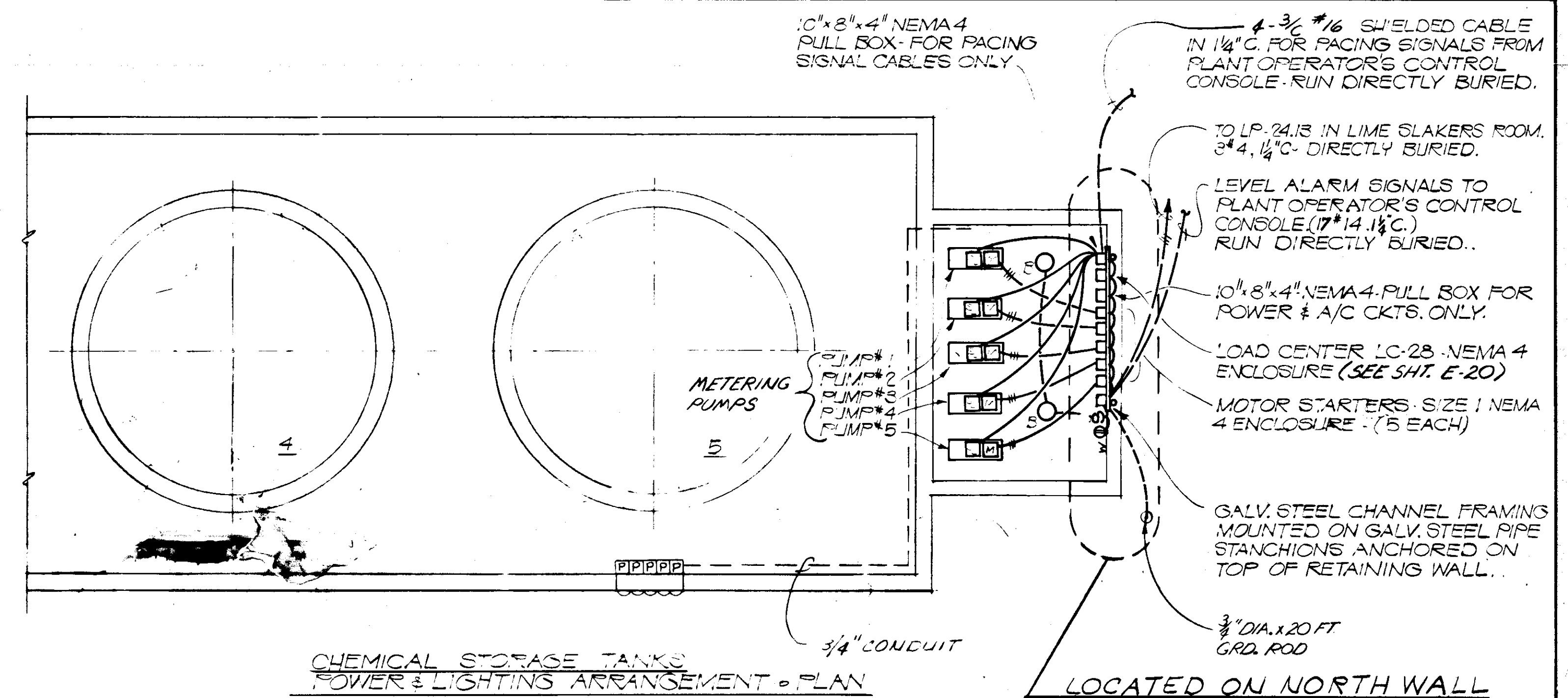
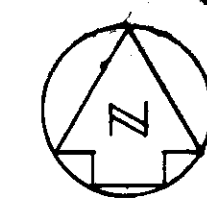
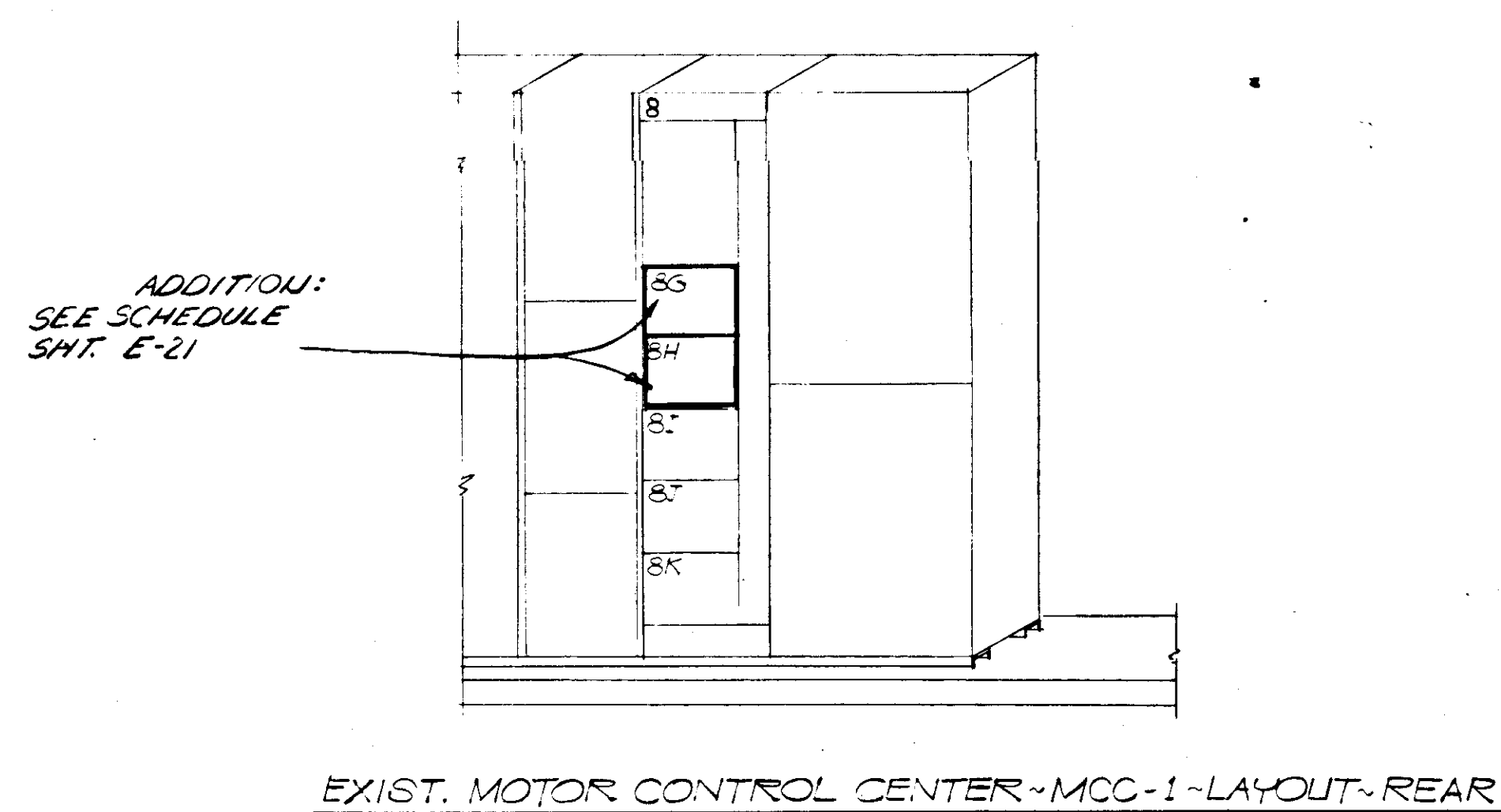
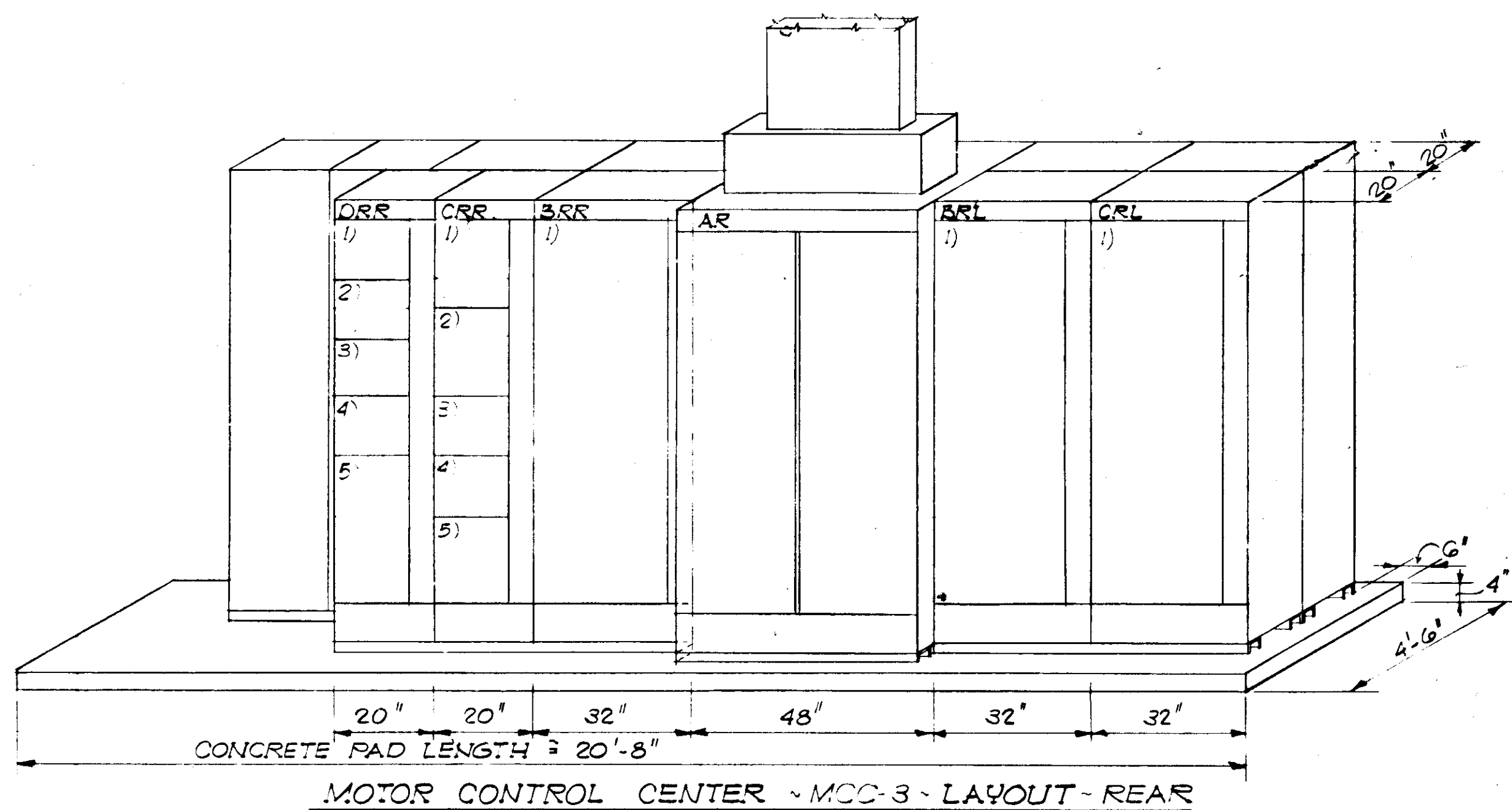
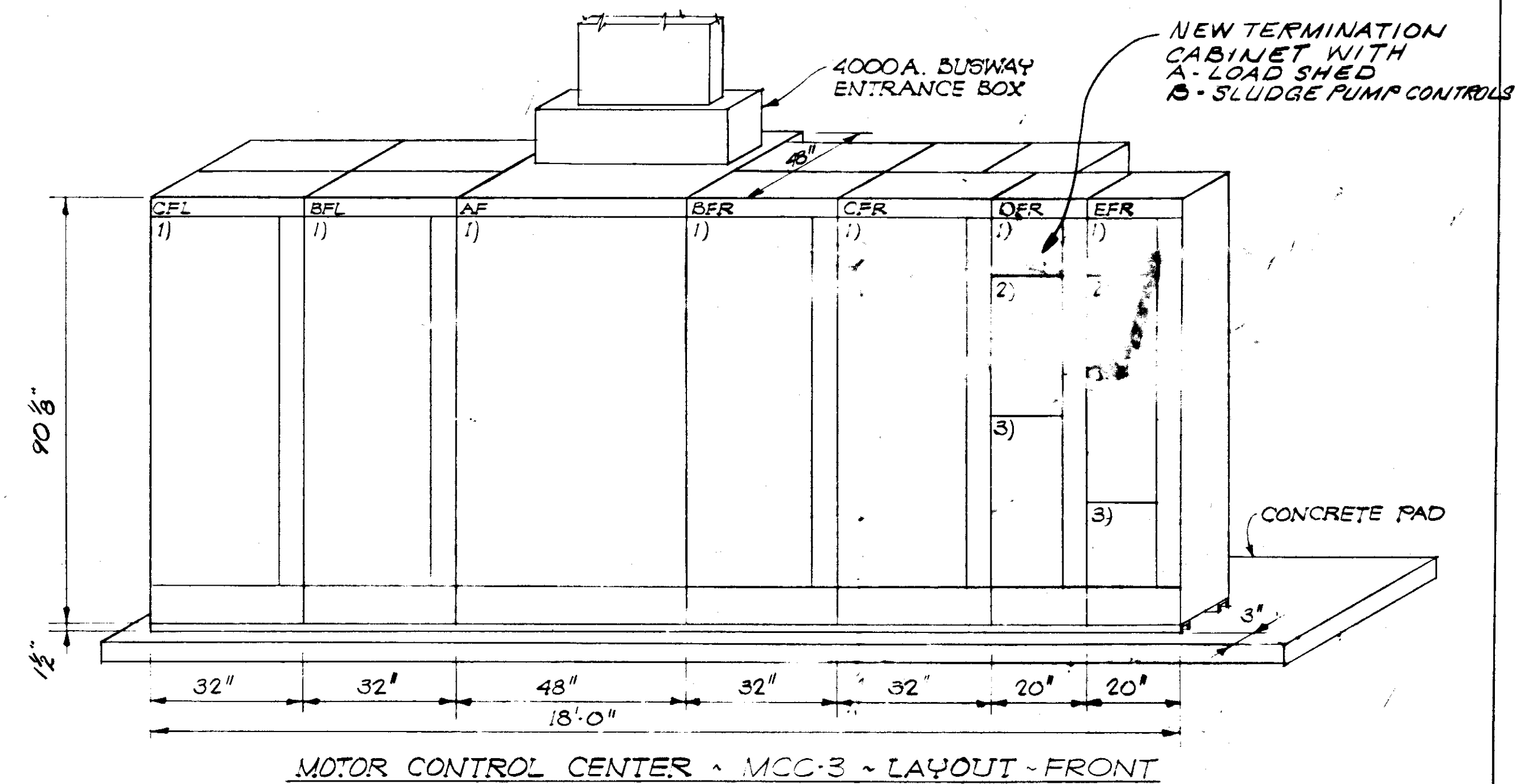
R & A B. H. H.

M.C.U.S.

NO.	5/79	REV CRR 1, 2, 5 & EFR 3	W.T.	
DATE		DESCRIPTION	BY	CKD.
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT MOTOR CONTROL CENTER MCC-3 SCHEDULE-LEGEND				
MANATEE CO.		FILE NO.		
DESIGNED BY	GBA	630-761-04		
DRAWN BY	QJP	SHEET E-4		
CHECKED BY	SJG	No. 92 SHEETS		
DATE	AUGUST, 1978	SCALE: NONE		

1401

GBA 2/21/78



RECORD DRAWING

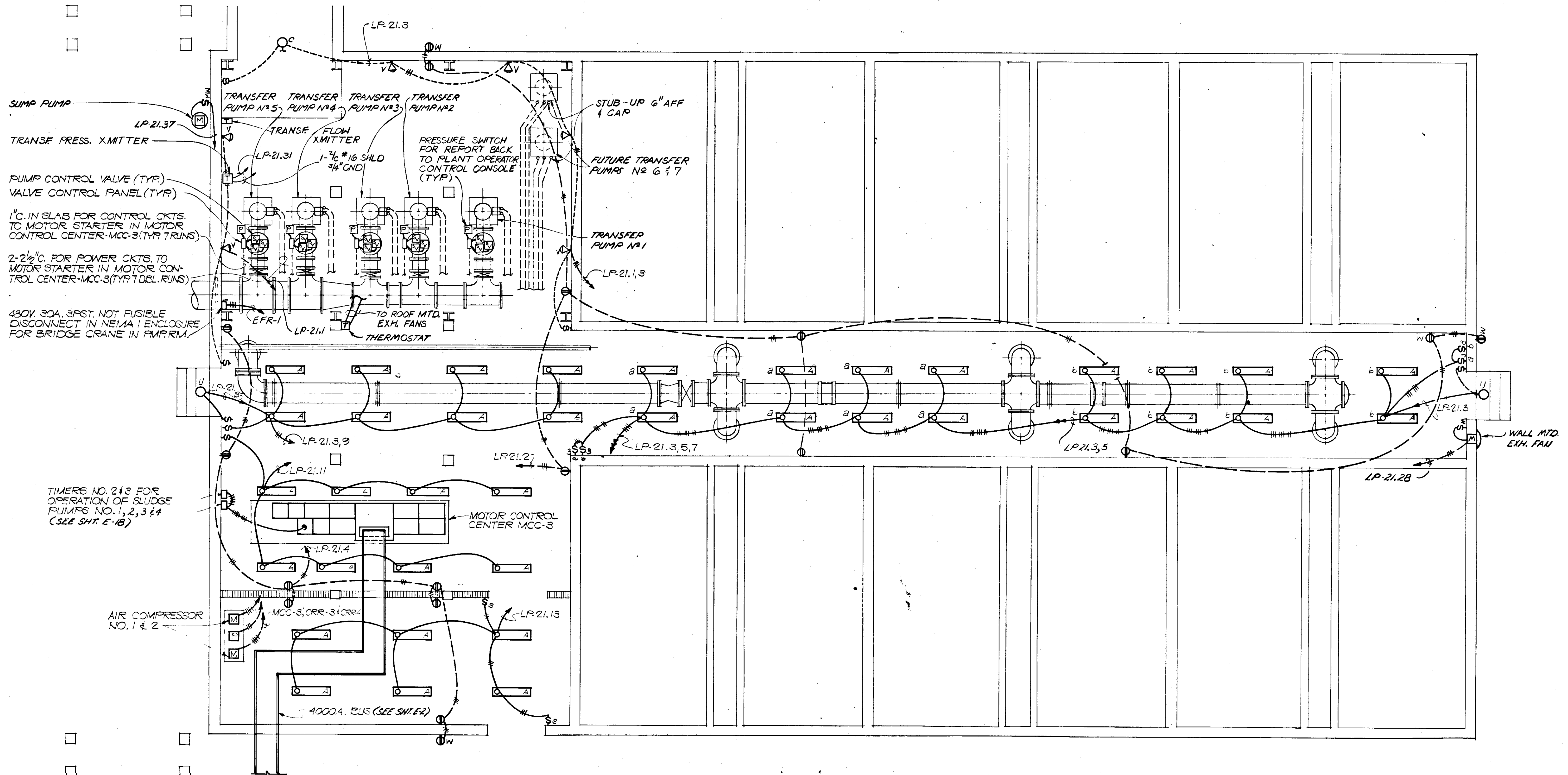
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DATE 8/30/81 BY K.R.

CHECKED BY: R & A - BLW

M.C.U.S.

NO.	DATE	DESCRIPTION	BY	CKD.
REVISIONS				
RUSSELL & AXON				
Engineers — Planners — Architects				
WATER WORKS PROJECT				
MOTOR CONTROL CENTERS LAYOUT				
CHEMICAL STORAGE DETAILS				
MANATEE CO.				
DESIGNED BY	FILE NO.	SEAL		
DRAWN BY	630-761-04			
CHECKED BY	SHEET E-5	No. 93		
DATE	OF 130 SHEETS			
AUGUST, 1978	SCALE: AS SHOWN			



FILTER BUILDING - FIRST FLOOR PLAN
POWER & LIGHTING DISTRIBUTION

LEGEND:

- PRESSURE SWITCH
- SOLENOID VALVE
- LIMIT SWITCH
- ELECTRIC MOTOR

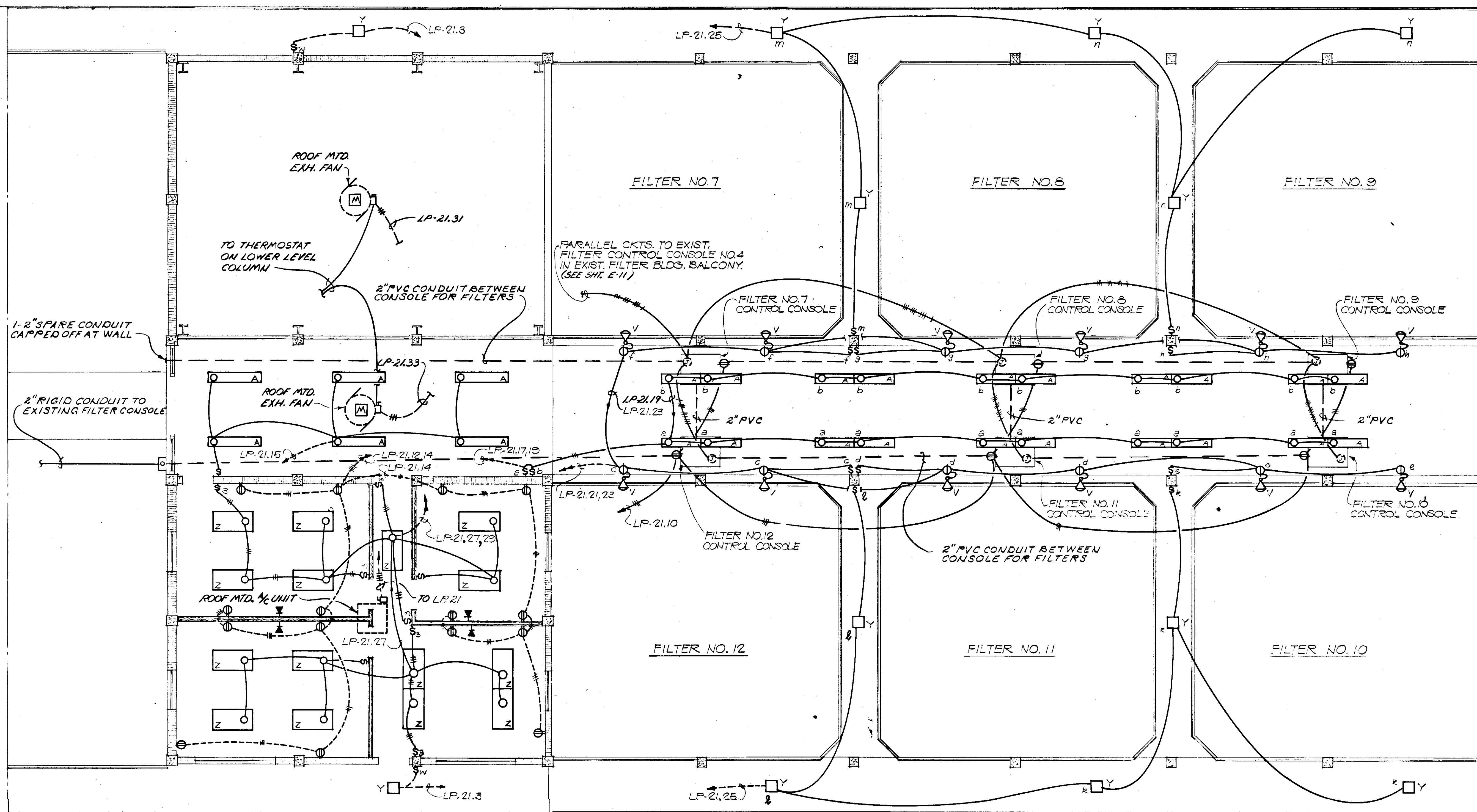
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PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.

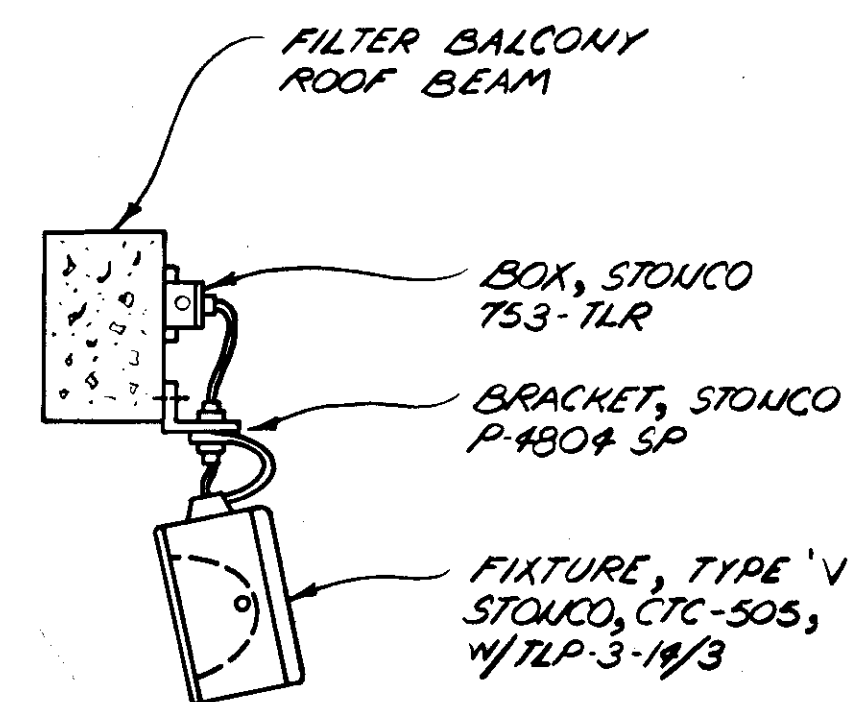
DATE 8/30/78 BY KRN
CHECKED BY:

R & A
M.C.U.S. _____

NO.	DATE	DESCRIPTION	BY	CKD.
5/79		REV PUMP ROOM		RSG
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
WATER WORKS PROJECT NEW FILTER BLDG. - FIRST FLOOR PLAN POWER & CONTROLS AND LIGHTING DISTRIBUTION				
MANATEE CO. DESIGNED BY GBA		FILE NO. 630-761-04	SEAL	
DRAWN BY J. R.		SHEET E-6	NO. 94	
CHECKED BY SJK		OF 130	SHEETS	
DATE AUGUST, 1978		SCALE: 3/16" = 1'-0"		



FILTER BUILDING SECOND FLOOR - PLAN
POWER & LIGHTING DISTRIBUTION.
 SCALE $\frac{3}{16}'' = 1'-0''$



FIXTURE TYPE 'V' MOUNTING
DETAIL
 N.T.S.

RECORD DRAWING

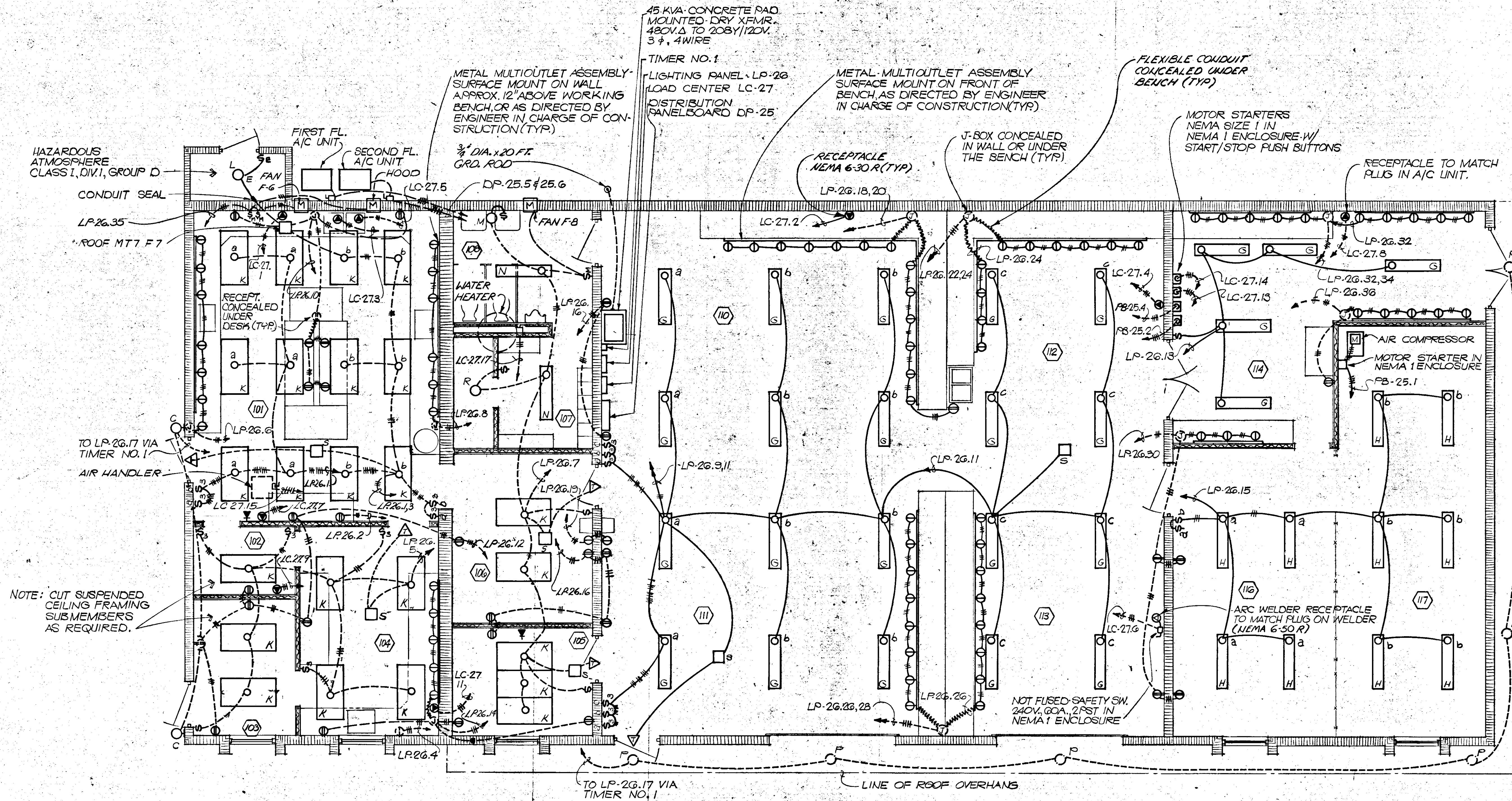
PRODUCED FROM INFORMATION
 FURNISHED BY CONTRACTOR
 THROUGH M.C.U.S.

DATE 8/31/82 BY KRN
 CHECKED BY:

R & A Blw
 M.C.U.S. _____

5/79	REV. A/C UNIT	W.T.
NO.	DATE	BY
REVISIONS		
RUSSELL & AXON		
Engineers — Planners — Architects		
WATER WORKS PROJECT		
NEW FILTER BLDG.-SECOND FLOOR PLAN		
POWER & CONTROLS AND LIGHTING DISTRIBUTION		
MANATEE CO.		
DESIGNED BY	FILE NO.	T-95 FLORIDA SEAL
GBA	630-761-04	
DRAWN BY	SHEET E-7	
JB	NO. 95	
CHECKED BY	OF 130 SHEETS	SCALE: AS SHOWN
SJG		
DATE		
AUGUST, 1978		

14-01



MAINTENANCE BUILDING - FIRST FLOOR
POWER & LIGHTING DISTRIBUTION

JUN 22 1979

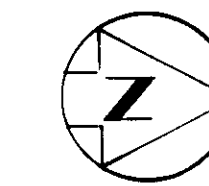
NO.	DATE	DESCRIPTION	BY	CKD.
5/79		GEN. REV.		
REVISIONS				
RUSSELL & AXON				
Engineers - Planners - Architects				
WATER WORKS PROJECT				
MAINTENANCE BLDG - FIRST FLOOR PLAN				
POWER AND LIGHTING DISTRIBUTION				
MANATEE CO.				
DESIGNED BY	FILE NO.	SEAL		
SJG - GBA	630-761-04			
DRAWN BY	SHEET E-8			
DC	No. 96			
CHECKED BY	OF 130 SHEETS	14-01		
SJG	DATE			
AUGUST, 1978	SCALE: 1/4" = 1'-0"			

RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.

DATE 8/30/82 BY KRM
CHECKED BY:

R & A
M.C.U.S.



CHEMICAL EQUIPMENT & STORAGE

SCALE 1/4" = 1'-0"

SEE MECHANICAL DETAILS FOR
POWER CONNECTION TO MONORAIL
HOIST TAKE-OFF.

NOT FUSIBLE SAFETY SWITCH
480V 3Ø, 30A. IN NEMA 12
ENCLOSURE.

POST CHLORINATORS
(EXIST. RELOCATED)

EXH. FAN

POLYMER UNITS ROOM

EXIST. RELOCATED WALL
MTO. EXH. FAN & S. SWITCH

SWITCH ON WALL
TO LP-24 1Ø FAN

EXIST. RELOCATED
A/C COMPRESSOR &
DISCONNECT SWITCHES

1-5/C CABLE TO
THERMOSTAT IN
OFFICE.

PLANT WATER BOOSTER
PUMPS NO. 1 & 2

NEW A.C. LOCATION

EXIST. PHL. LC-2

EXIST. RELAY CABINET (SEE SHT. E-12)

EXIST. PBD'S #6 & #1

OFFICE

THERMOSTAT TO
CONTROL OPERATION
OF RELOCATED
A/C COMPRESSOR

9" x 14" C. TO PLT.
OPER. CONTROL
CONSOLE.

EXIST. CHEM.
FEED RELAY
PULL.

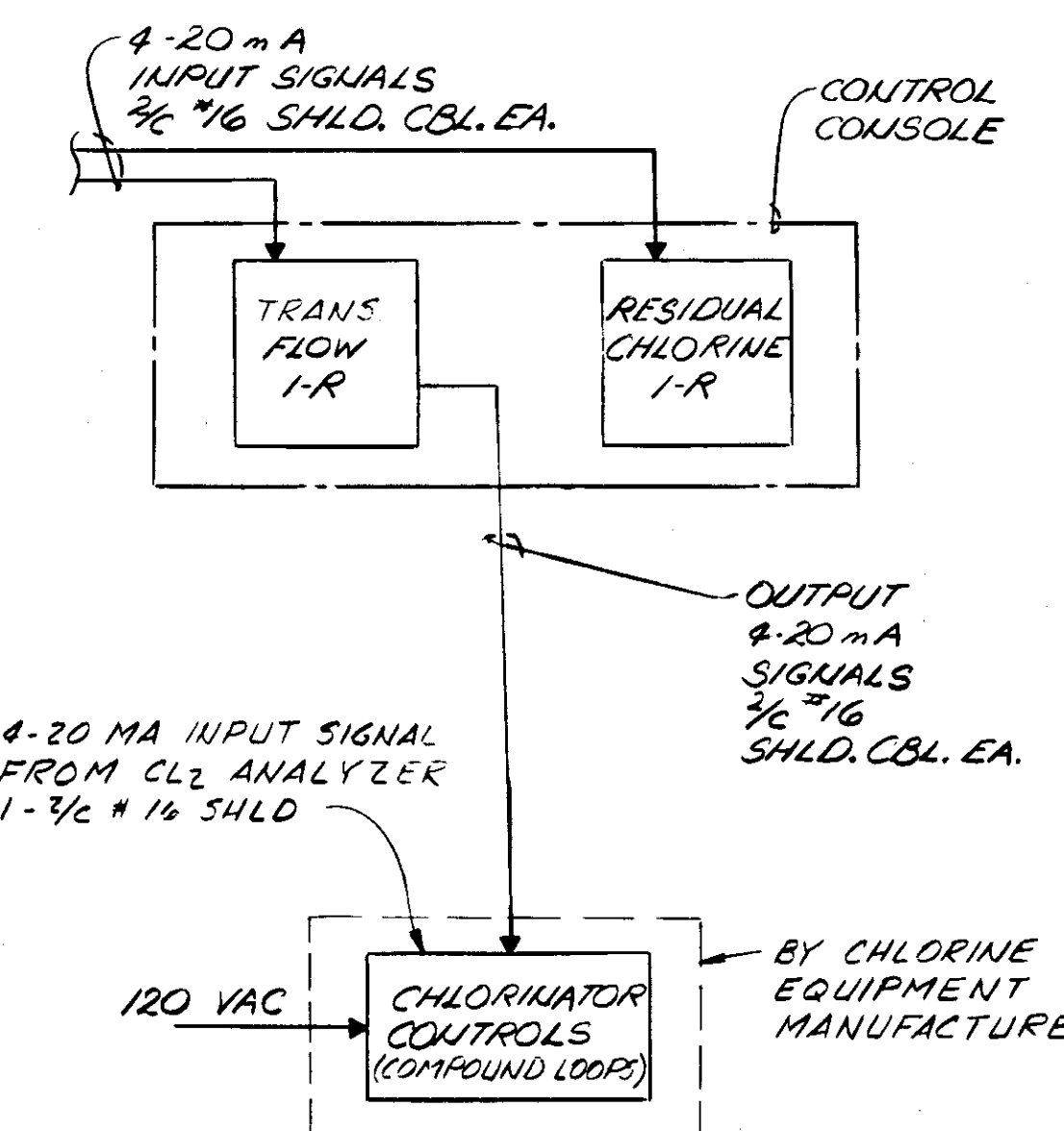
3Ø KVA
DRY
XFMR

FIN. FLOOR

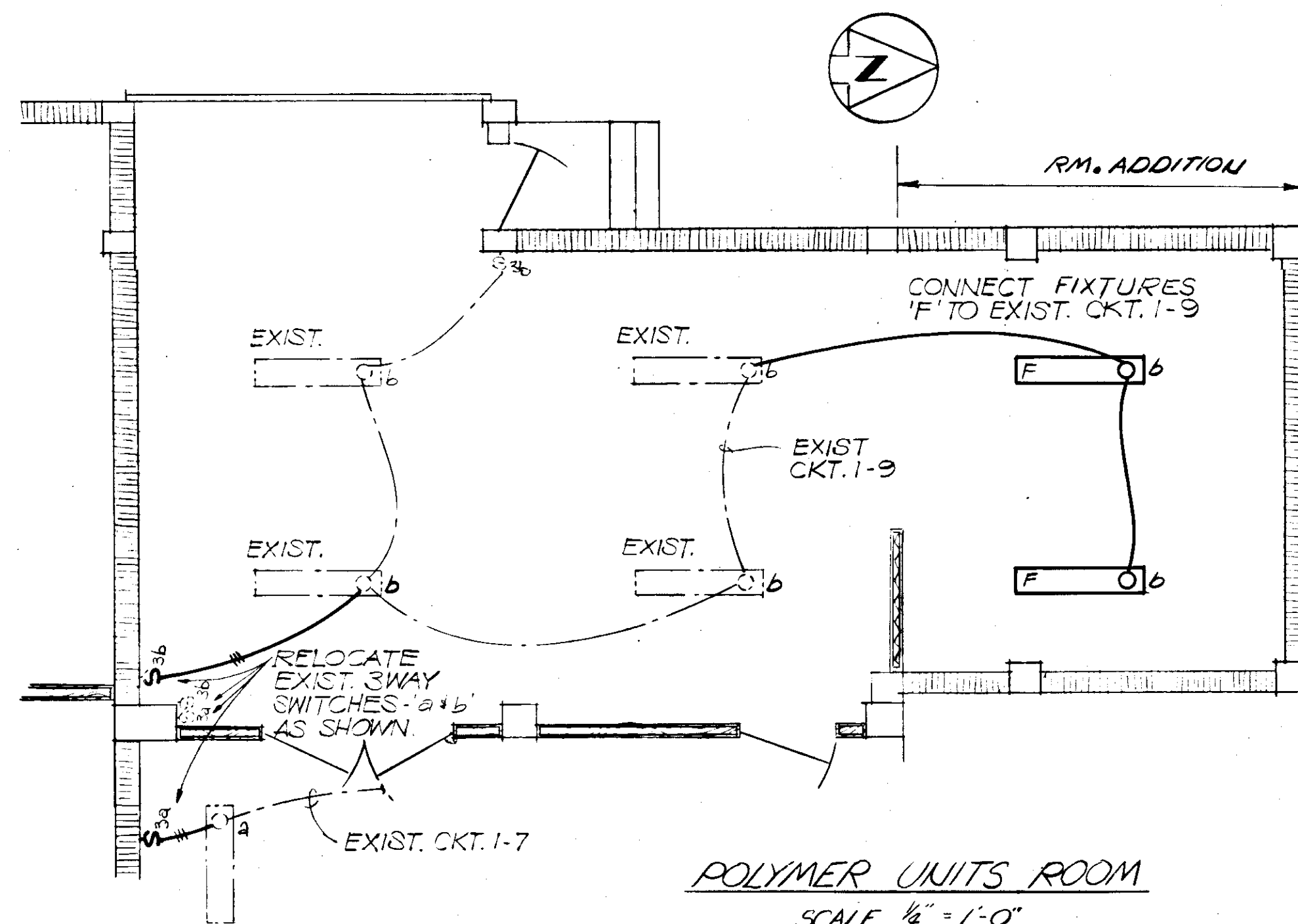
ELECTRICAL EQUIPMENT ARRS. - NORTH ELEV.

N.T.S.

CHLORINE STORAGE

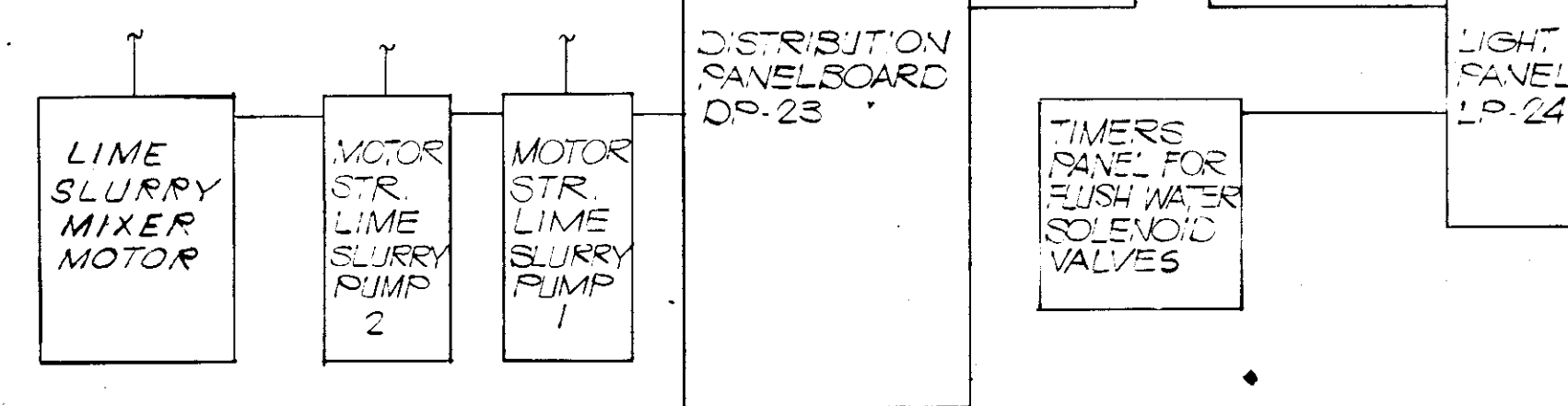


CHLORINE ADDITION CONTROL LOOP (TYPICAL)



POLYMER UNITS ROOM

SCALE 1/4" = 1'-0"

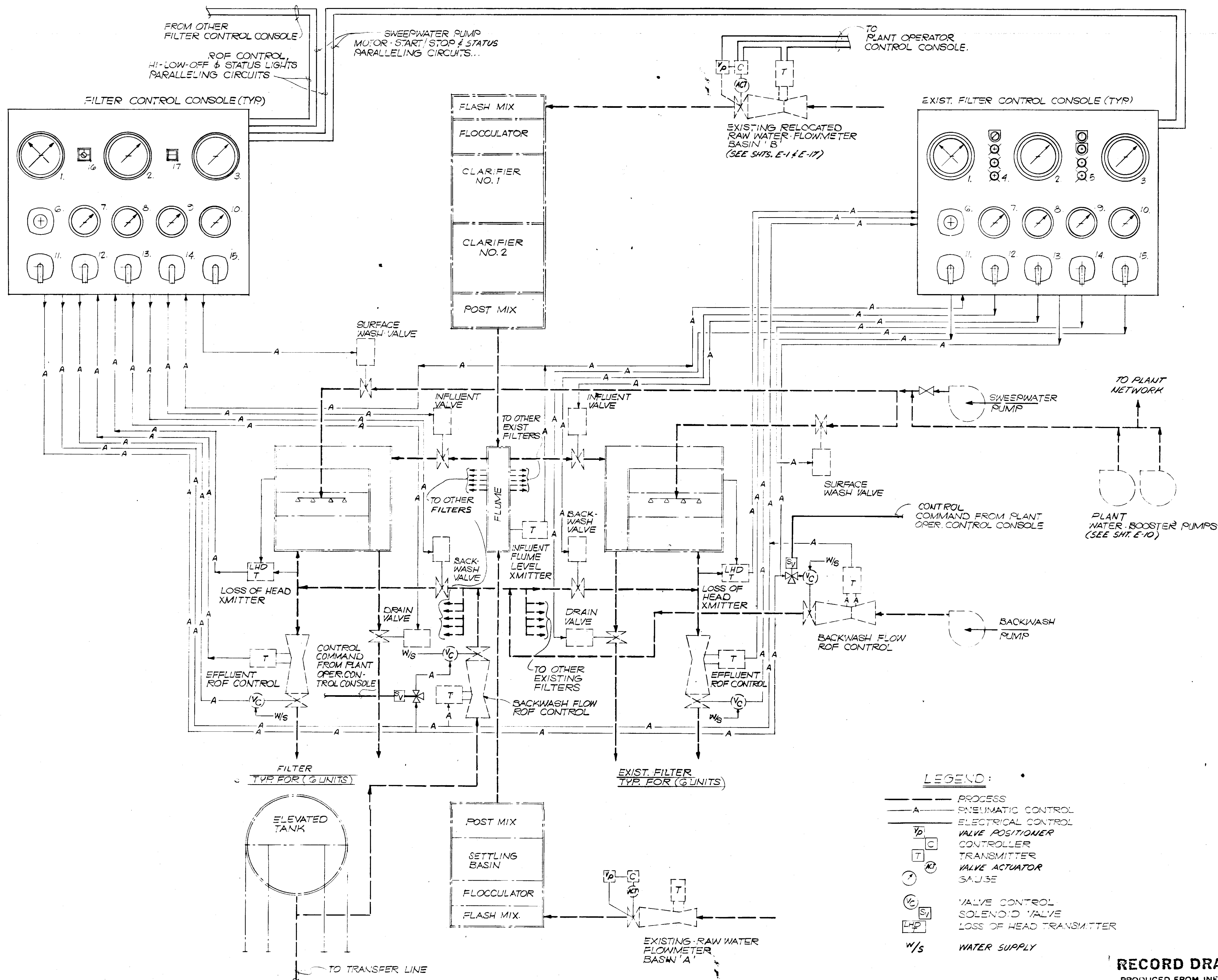


5/79 REV CL2 CONTROL, ADD CL2 LEAK DETEC.	AL
REVISIONS	BY CKD.

RUSSELL & AXON
ELECTRICAL ENGINEERS
MANATEE, FLORIDA

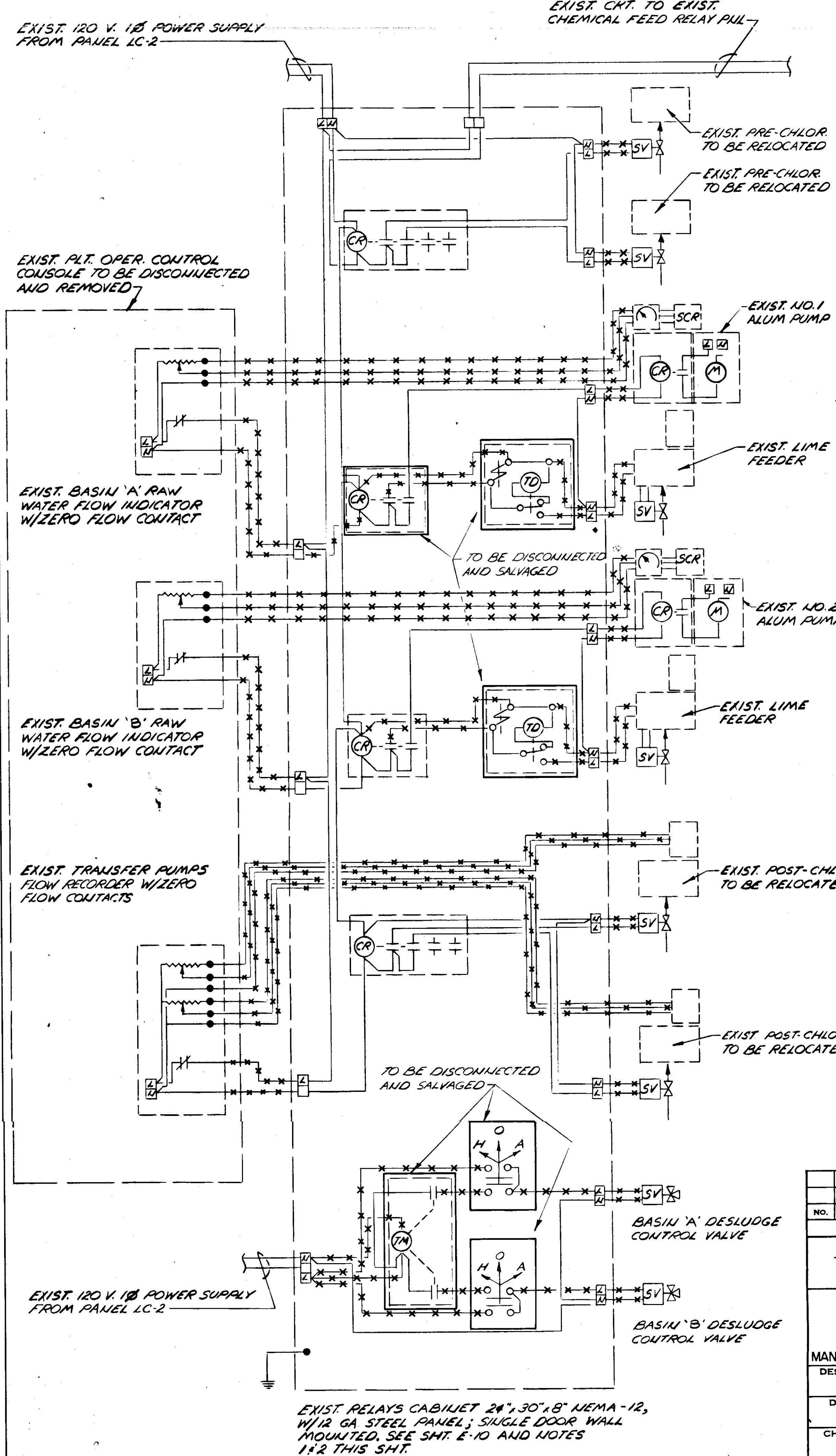
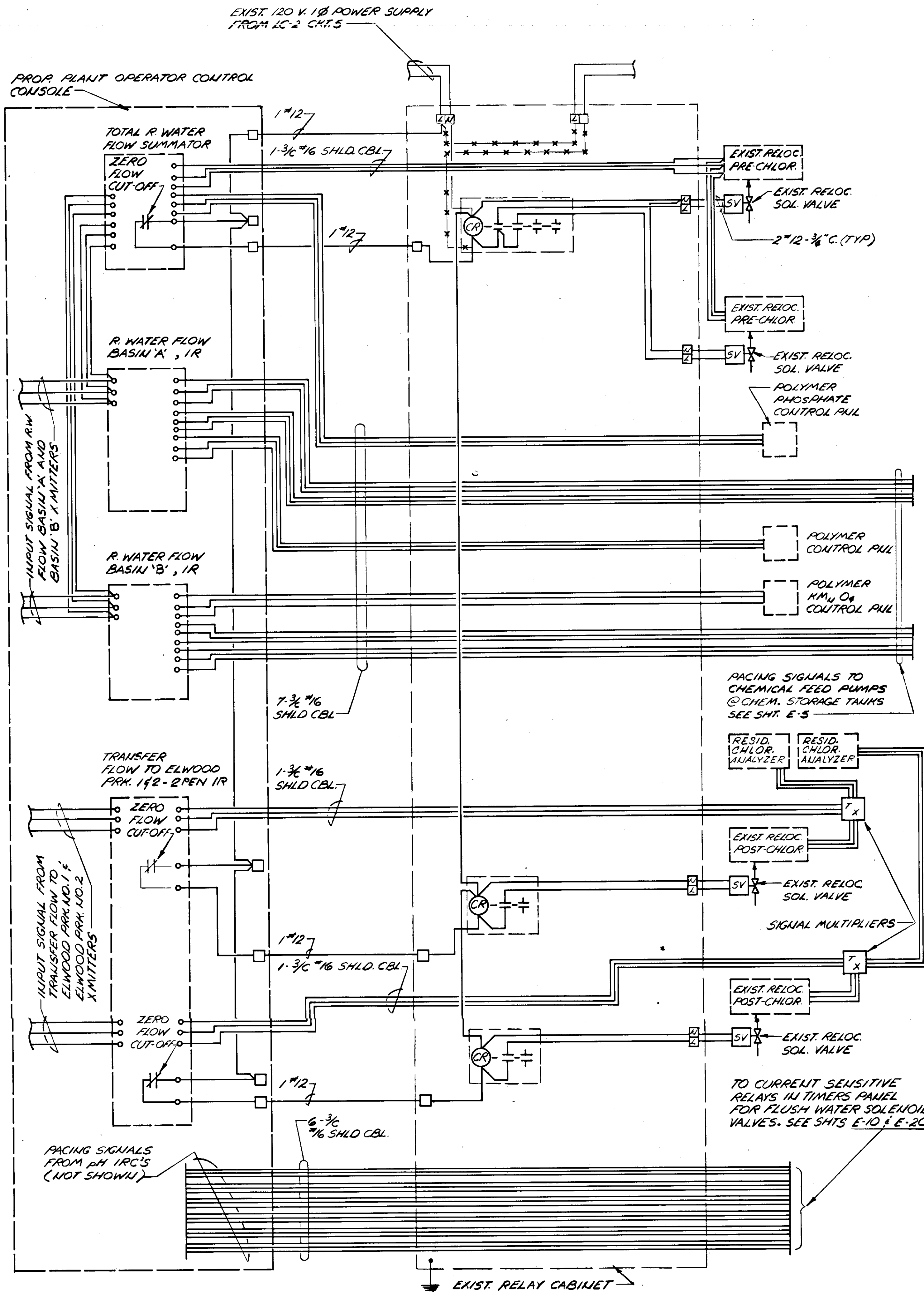
WATER WORKS PROJECT
CHEMICAL EQUIPMENT AND STORAGE
POWER & CONTROLS AND LIGHTING DISTRIBUTION
MANATEE CO.
GBA 630-761-04
E-10 98
SJC. 130
AUGUST, 1978 AS SHOWN

14-01



INSTRUMENT SCHEDULE	
MARK	DESCRIPTION
1	EFFLUENT: RED: RATE-OF-FLOW, BLACK: SET RATE
2	BACKWASH: RATE-OF-FLOW INDICATOR
3	LOSS OF HEAD INDICATOR
4	BWASH ROF: HI-LO-OFF SEL. SW. & STATUS LIGHTS
5	SURFACE WASH PUMP: START/STOP & STATUS LTS.
6	EFFLUENT RATE SETTER
7	BACKWASH VALVE POSITION INDICATOR
8	INFLUENT VALVE POSITION INDICATOR
9	SURFACE WASH VALVE POSITION INDICATOR
10	DRAIN VALVE POSITION INDICATOR
11	EFFLUENT VALVE: AUTO-CLOSE MAN. SEL. SW.
12	BWASH VALVE: OPEN-CLOSE, SELECTOR SW.
13	INFLUENT VALVE: OPEN-CLOSE, SELECTOR SW.
14	SURFACE WASH VALVE: OPEN-CLOSE, SEL. SW.
15	DRAIN VALVE: OPEN-CLOSE, SELECTOR SW.
16	BWASH PUMP: HI-LO-OFF ILLUM. SEL. SW.
17	SURFACE WASH PUMP: ILLUM. START/STOP P.B.

NO.	DATE	DESCRIPTION			BY CKD.
REVISIONS					
RUSSELL & AXON					
Engineers — Planners — Architects					
WATER WORKS PROJECT					
FILTER CONSOLE - CONTROLS SCHEMATIC					
MANATEE CO.					
DESIGNED BY GSA		FILE NO. 630-761-04		T-99 FLORIDA SEAL	
DRAWN BY EUE		SHEET E-11			
CHECKED BY SJG		NO. 99			
DATE AUGUST, 1978		OF 130 SHEETS			
		SCALE: NONE			



NOTES:

- EXIST. RELAYS CABINET DESCRIBED ON RIGHT SIDE OF THIS SHT. SHALL BE MODIFIED AS SHOWN ON LEFT SIDE. DEVICES BLOCKED BY HEAVY LIME SHALL BE DISCONNECTED AND SALVAGED
- EXIST. TWO (2) PRE-CHLORINATORS AND TWO (2) POST CHLORINATORS ARE TO BE RELOCATED AND ALL ELECTRICAL CHTS AT THEIR PRESENT LOCATION ARE TO BE DISCONNECTED AND WIRING REMOVED UP TO THE SOURCE. NEW WIRING SHALL BE RUN FROM NEW SOURCE TO PRE & POST CHLORINATORS AT THEIR NEW LOCATION. ALL CHTS PRESENTLY CONNECTING SOURCE TO FOLLOWING EQUIPMENT SHALL BE DISCONNECTED AND WIRING REMOVED:
 - TWO (2) ALUM. PUMPS,
 - TWO (2) LIME FEEDERS,
 - ONE (1) BASIN 'A' DESLUDGE CONTROL VALVE,
 - ONE (1) BASIN 'B' DESLUDGE CONTROL VALVE
- EXIST. PRE & POST CHLORINATORS ARE PRESENTLY LOCATED ON OTHER SIDE OF NORTH WALL OF PROP. CHLORINATORS ROOM.

----- DISCONNECT

RECORD DRAWING

PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.

DATE 8/31/78 BY R.R.

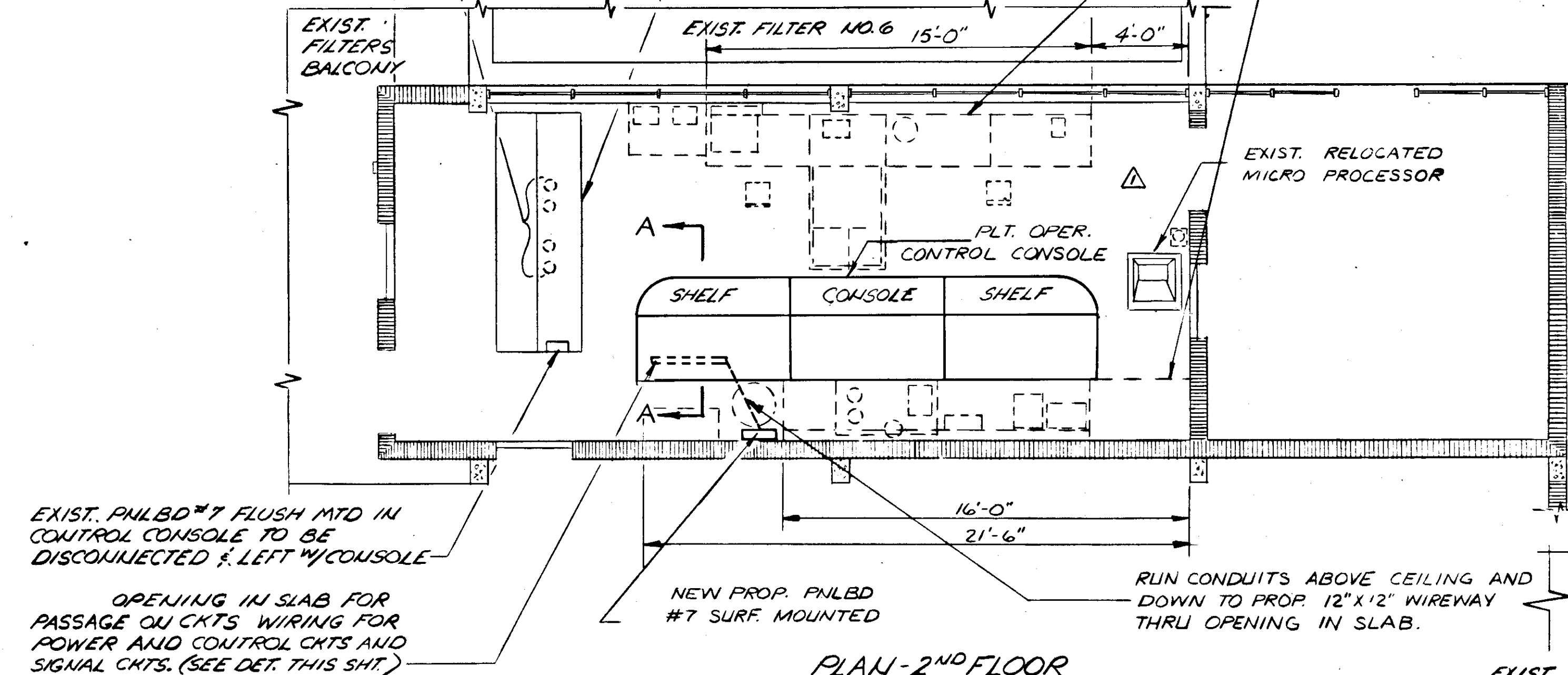
CHECKED BY: R & A
M.C.U.S.

NO.	DATE	DESCRIPTION	BY	CHK.
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT CHEMICAL EQUIPMENT CONTROL SCHEMATIC				
MANATEE CO.		T100 FLORIDA		
DESIGNED BY GBA	FILE NO. 630-761-04	SEAL		
DRAWN BY R	SHEET E-12			
CHECKED BY S.J.G.	OF 130 SHEETS			
DATE AUGUST, 1978	SCALE: NONE			

EXIST. PIPE SLEEVES IN PRE-CAST 2ND FLOOR SLABS FOR PASSAGE OF EXIST. 4" C'S HANDLING POWER & CONTROL CKTS AND SIGNAL CKTS (SEE NOTE: 1)

EXIST. PLT. OPER. CONTROL CONSOLE TO BE DISCONNECTED, REMOVED AND SALVAGED

AFTER NEW LABORATORY IS IN OPERATION REMOVE EXISTING EQUIPMENT AND CASEWORK. REMOVE PIPING THAT WOULD BE VISIBLE AFTER CASEWORK IS REMOVED AND CAP ALL PIPES THAT ARE TO BE ABANDONED TO PREVENT LEAKS, ODORS AND/OR VERMIN FROM ENTERING BUILDING. IF FLOOR OR WALL FINISH IS DAMAGED WHEN CASEWORK IS REMOVED PATCH TO MATCH EXISTING AND CLEAN AS REQUIRED.



PLAN-2ND FLOOR
PLANT OPERATOR CONTROL ROOM
SCALE: 1/8" = 1'-0"

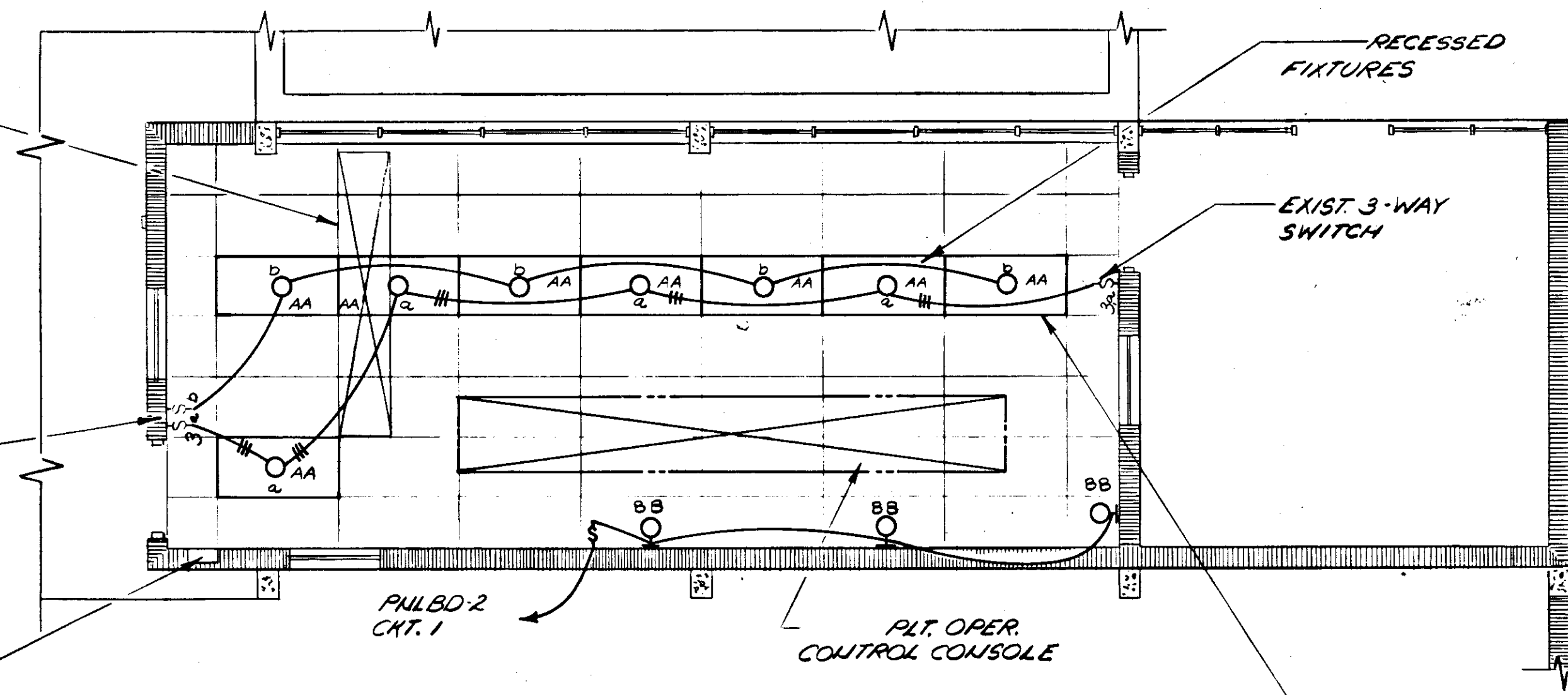
EXIST. PNLBD #7 FLUSH MTD IN CONTROL CONSOLE TO BE DISCONNECTED & LEFT W/ CONSOLE

OPENING IN SLAB FOR PASSAGE OF CKTS. WIRING FOR POWER AND CONTROL CKTS AND SIGNAL CKTS. (SEE DET. THIS SHT.)

EXIST. PLT. OPER. CONTROL CONSOLE TO BE REMOVED

EXIST. SWITCHES WIRED TO PNLBD-2 CKTS. 1 & 3

EXIST. PNLBD-NO. 2



PLAN-2ND FLOOR
LIGHTING ARRANGEMENT
PLANT OPERATOR CONTROL ROOM
SCALE: 1/8" = 1'-0"

REMOVE EXISTING LUMINOUS CEILING AND INSTALL NEW SUSPENDED 24'X48" ACUSTICAL PANEL CEILING WITH RECESSED LIGHT FIXTURES AS SHOWN.

NOTES:

- EXISTING PLANT OPERATOR CONTROL CONSOLE SHALL HAVE ALL EXISTING CONNECTED POWER & CONTROL AND SIGNAL CKTS. DISCONNECTED AND PULLED THRU EXISTING 4" CONDUITS CROSSING THE 2ND FLOOR SLAB, DOWN IN EXISTING 12"X12" WIREWAY. POWER & CONTROL AND SIGNAL CKTS DESIGNATED (SEE INSTRUMENTATION SHEETS & SHT. E-12) TO BE RECONNECTED TO PLANT OPERATOR CONTROL CONSOLE WILL BE SPliced IN WIREWAY AND ROUTED THRU 4" CONDUITS IN 2ND FLOOR PRE-STRESSED SLAB. MULTI-CONDUCTOR SHIELDED CABLES SHALL RUN FROM SOURCE TO APPLICATION POINT W/ NO SPLICES IN THE WHOLE RUN. EXISTING 4" C'S SHALL THEN BE REMOVED FROM THEIR PRESENT LOCATION, THE 4" KNOCK-OUT HOLES IN EXISTING 12"X12" WIREWAY SHALL BE CLOSED W/ BLANK COVER. CONTRACTOR SHALL VERIFY DIMENSIONS OF WIREWAY AND BOX SHALL MODIFY WHERE NECESSARY THE METHOD OF INSTALLATION IN ORDER TO ACHIEVE THE SPECIFIED RESULTS. CONTRACTOR PRIOR TO SUBMITTING HIS BID SHALL VERIFY THE ACTUAL CONDITIONS AT THE PROJECT SITE.

EXIST. BACKWASH PUMP P-6

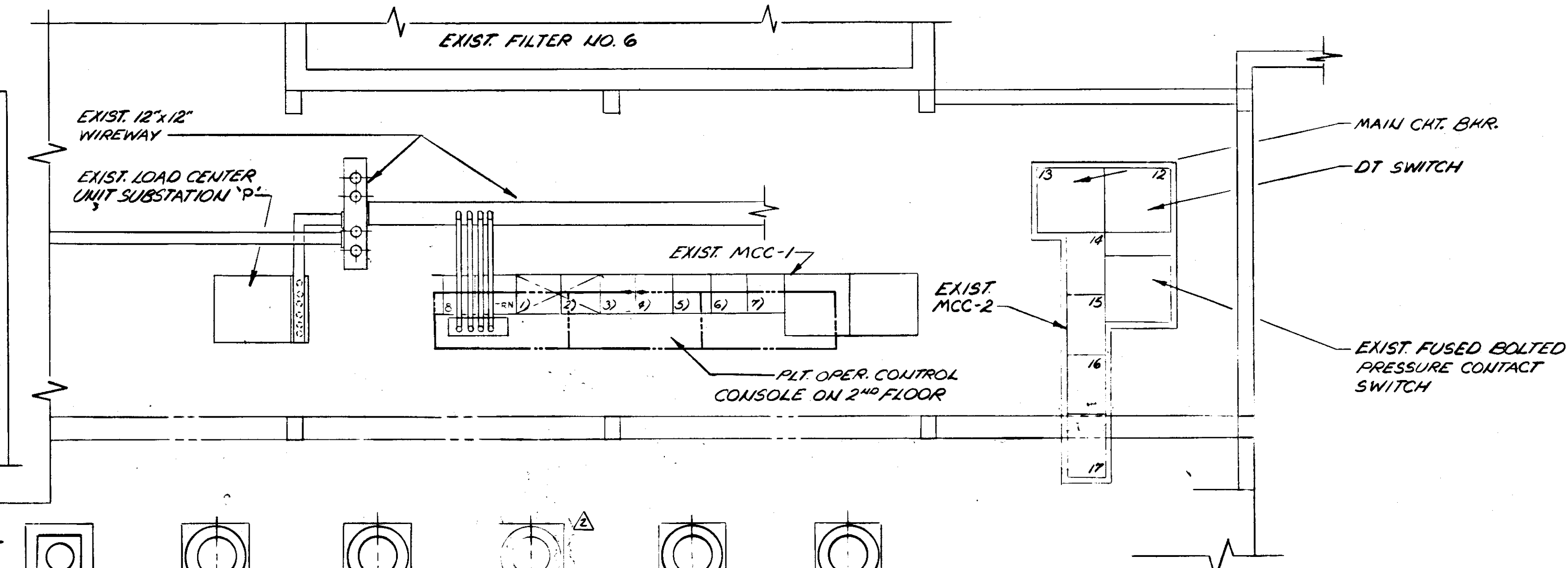
EXIST. TRANSFER PUMP P-5

EXIST. TRANSFER PUMP P-4

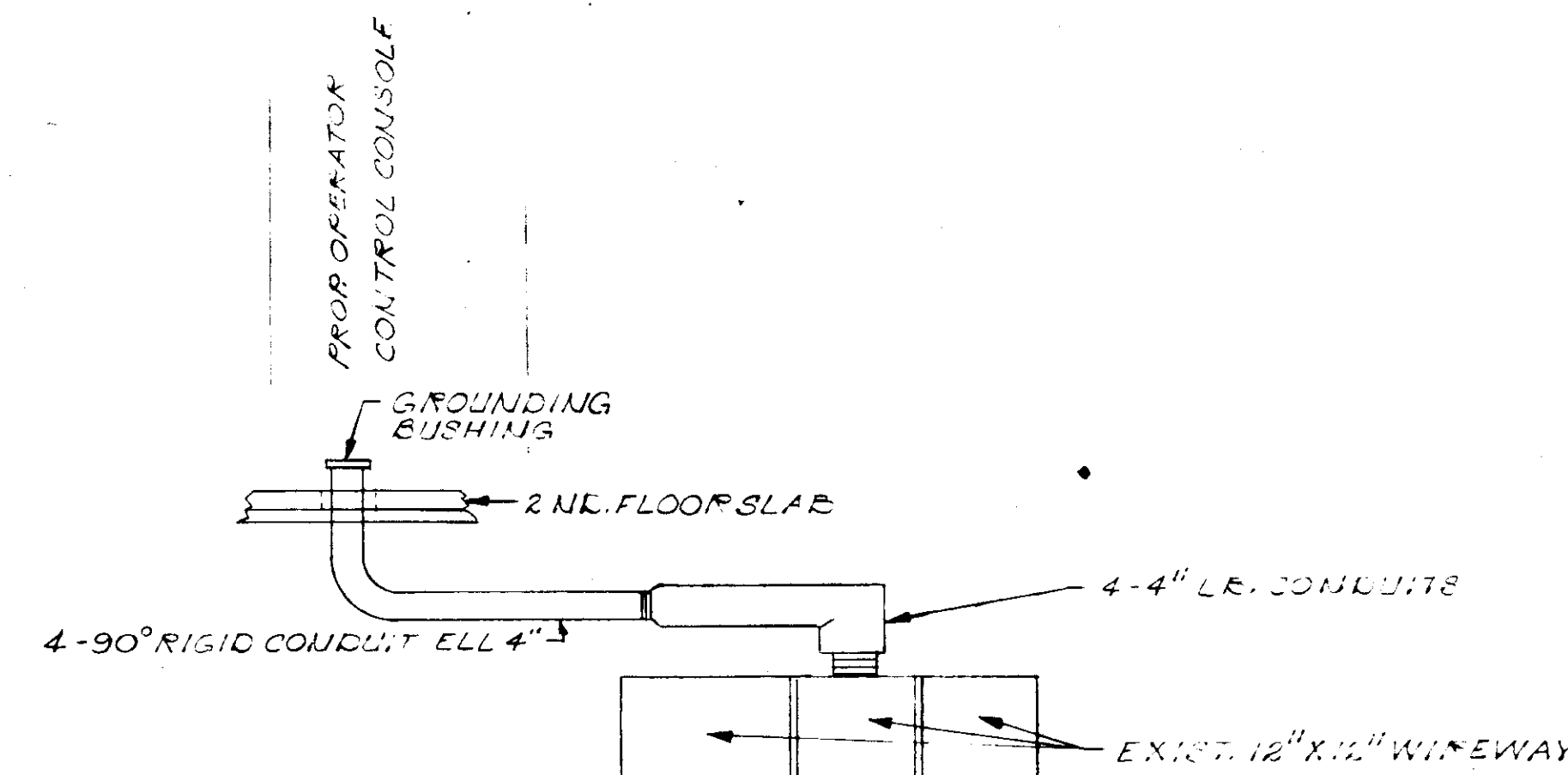
EXIST. TRANSFER PUMP P-3

EXIST. TRANSFER PUMP P-2

EXIST. TRANSFER PUMP P-1



PLAN-1ST FLOOR
EXIST. MCC'S IN EXIST. PUMP ROOM
SCALE: 1/8" = 1'-0"

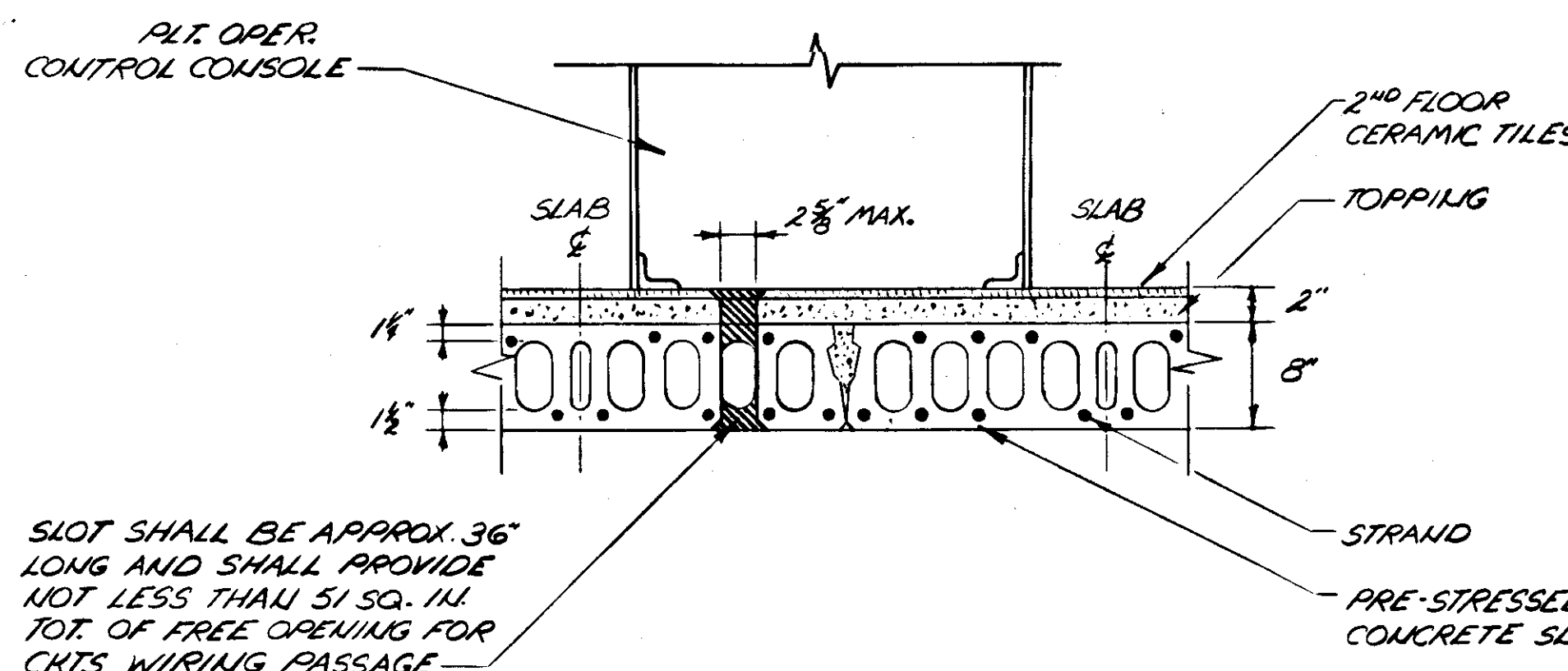


RECORD DRAWING

PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.

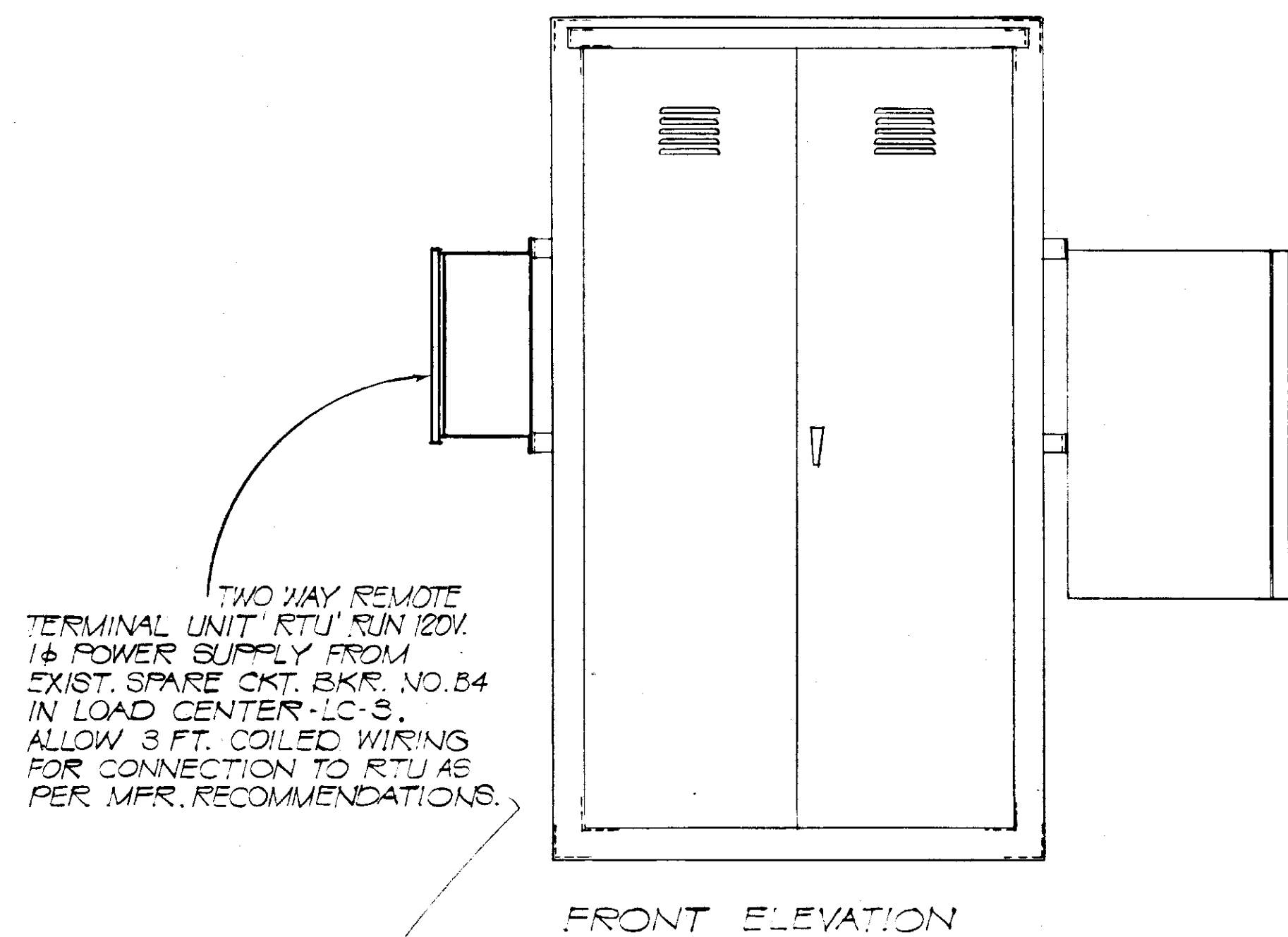
DATE: 8/22/82 BY: KRN
CHECKED BY:

R & A
M.C.U.S.

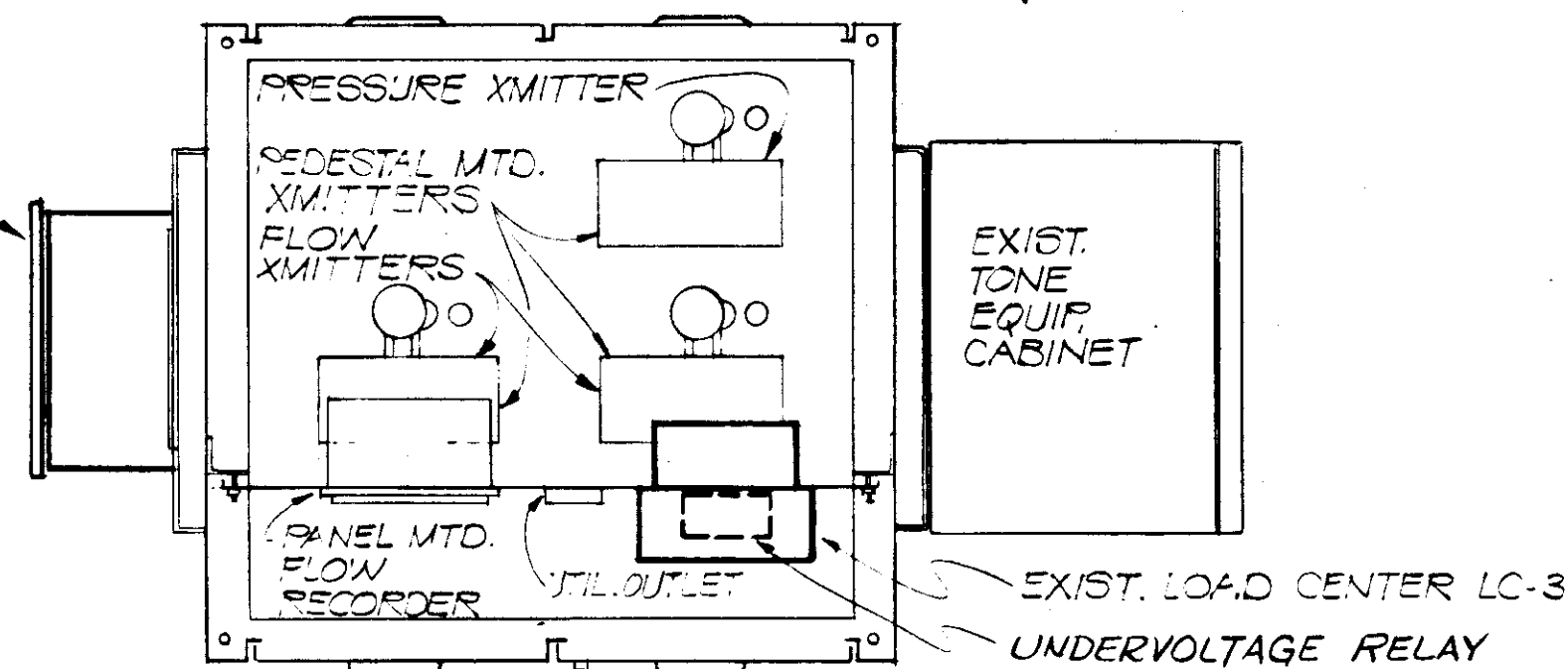


SECTION-A-A
N.T.S.

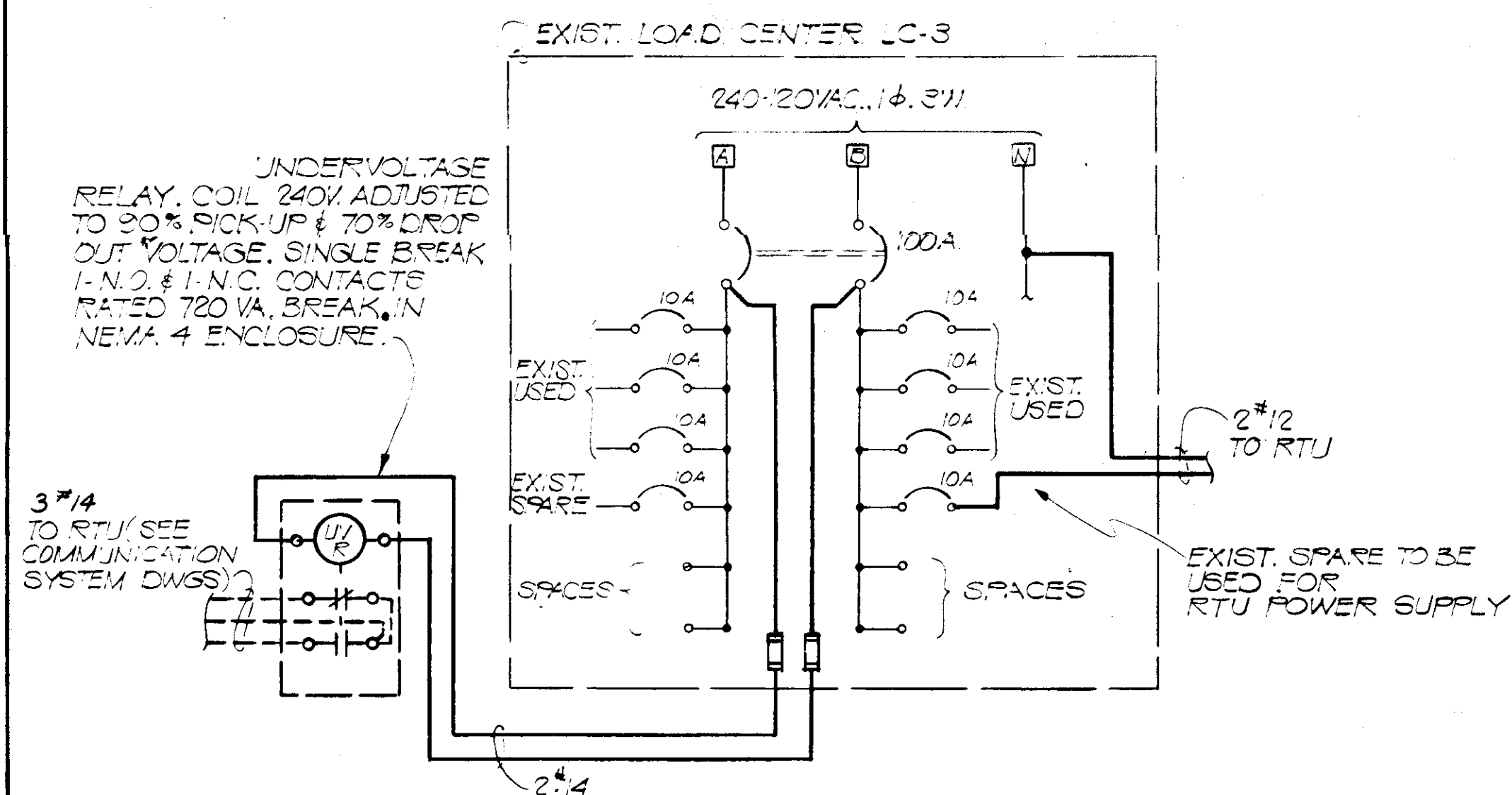
NO.	DATE	DESCRIPTION	BY	CHKD.
1	MAY 79	REV. PROP. TRANSFER PUMP P-3 TO EXIST. M.C.U.S.	M.A.S.	WDH
2	MAY 79	REV. PLANT OPERATOR CONTROL ROOM	M.A.S.	WDH
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT PLANT OPERATOR CONTROL CONSOLE ARRANGEMENT & DETAILS				
MANATEE CO. T-101 FLORIDA				
DESIGNED BY GBA	FILE NO. 630-761-04	SEAL		
DRAWN BY DCE	SHEET E-13			
CHECKED BY SJG	OF 130	No. 101 SHEETS		
DATE AUGUST, 1978	SCALE: AS SHOWN			



FRONT ELEVATION

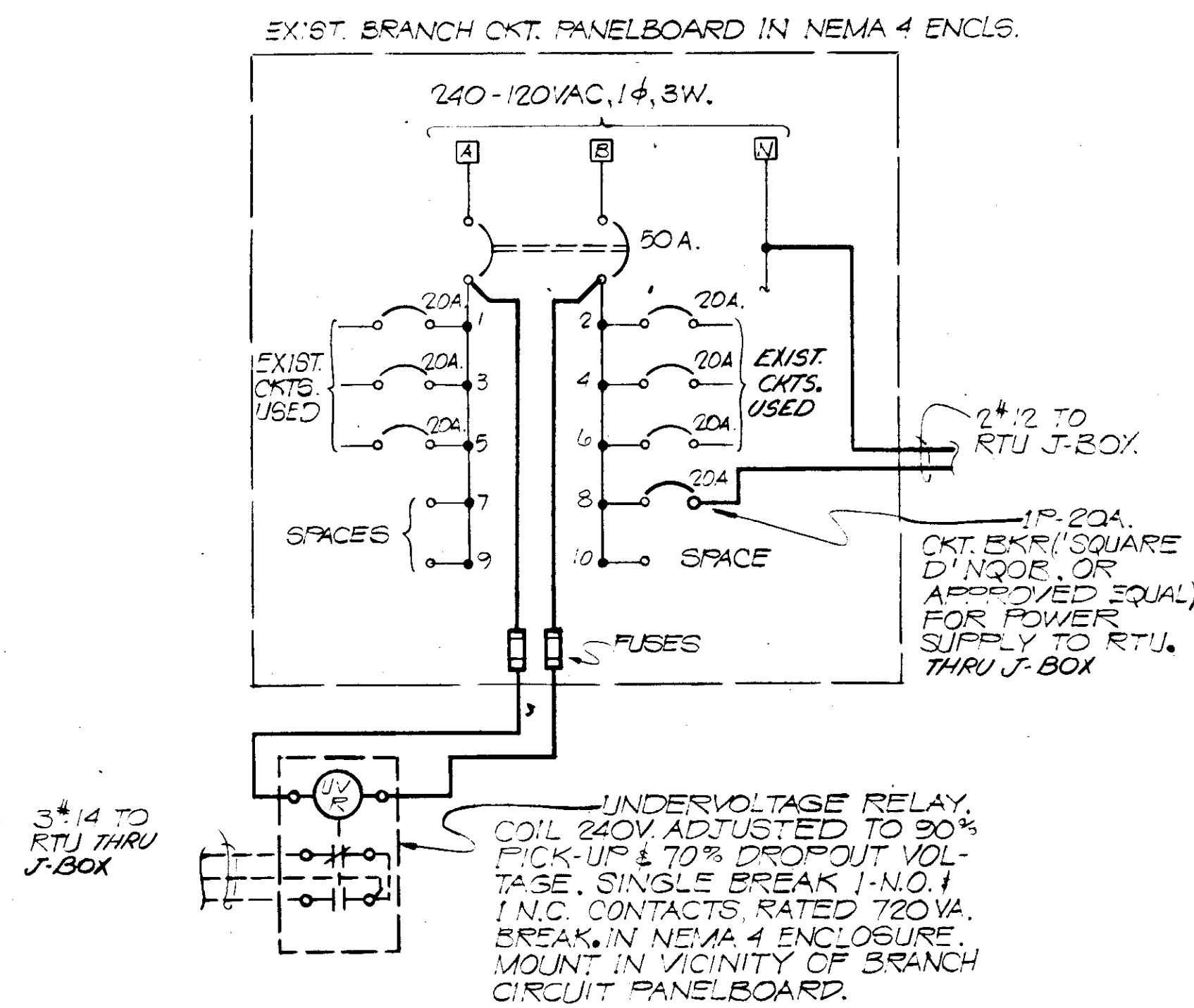


SECTION A-A

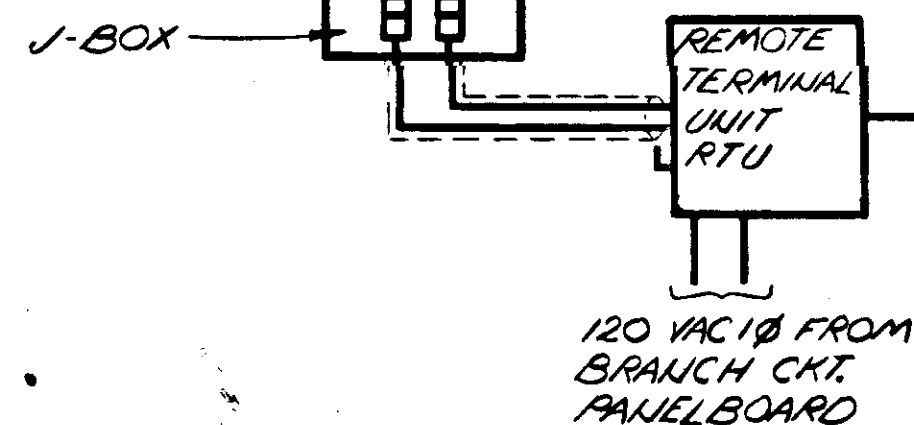
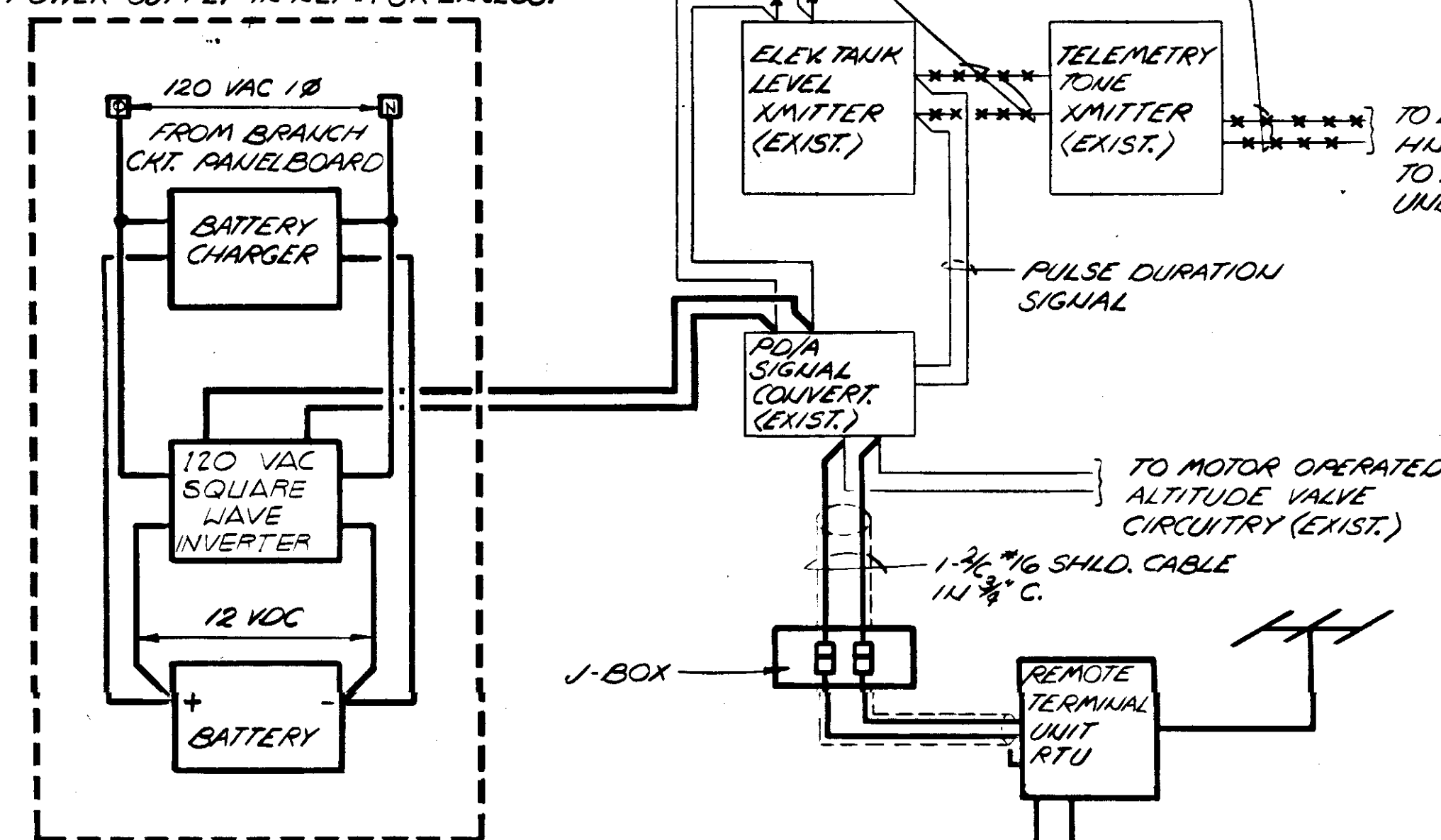


EXISTING METERING STATION @ SARASOTA COUNTY LINE

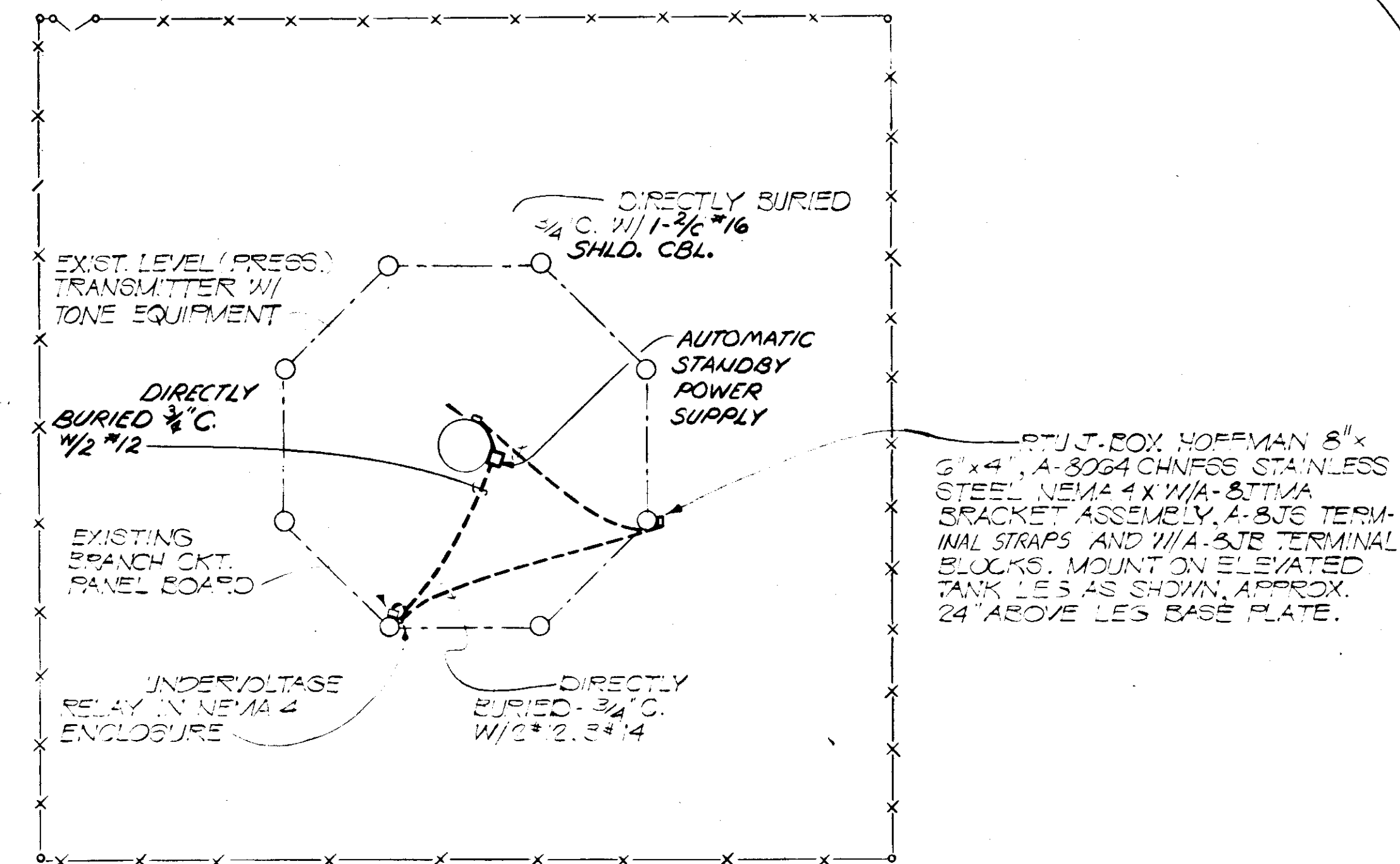
NOTE: SEE DWG. I-14 FOR CONNECTION OF XMITTERS TO TWO WAY REMOTE TERMINAL UNIT RTU.



AUTOMATIC STANDBY POWER SUPPLY IN NEMA 3R ENCLOS.



GOTH STREET WEST



CORTEZ ROAD - ELEVATED TANK - SITE PLAN

SCALE: 1" = 20'-0"

RECORD DRAWING

PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.

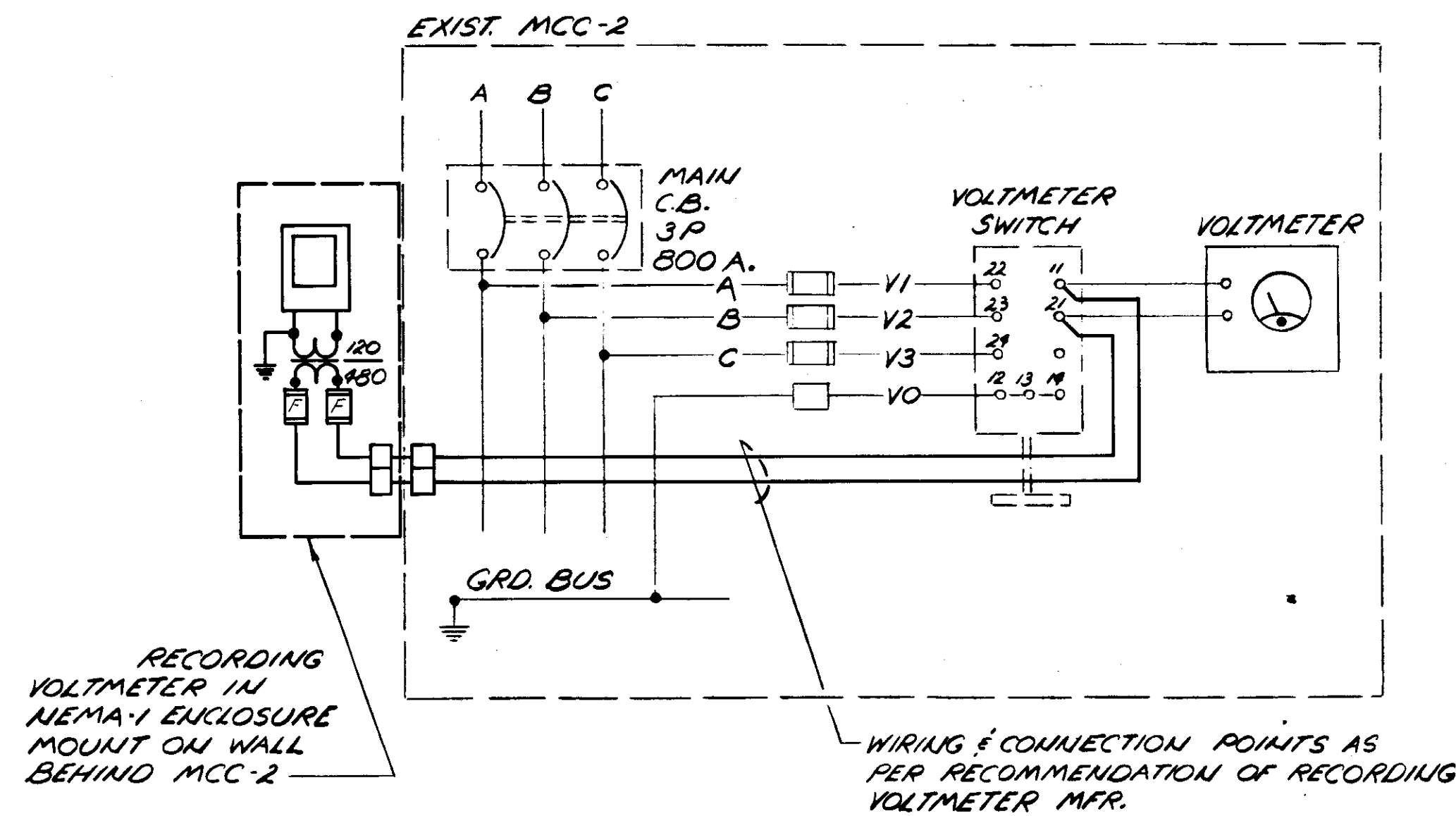
DATE 8/31/82 BY K.R.D.

CHECKED BY:

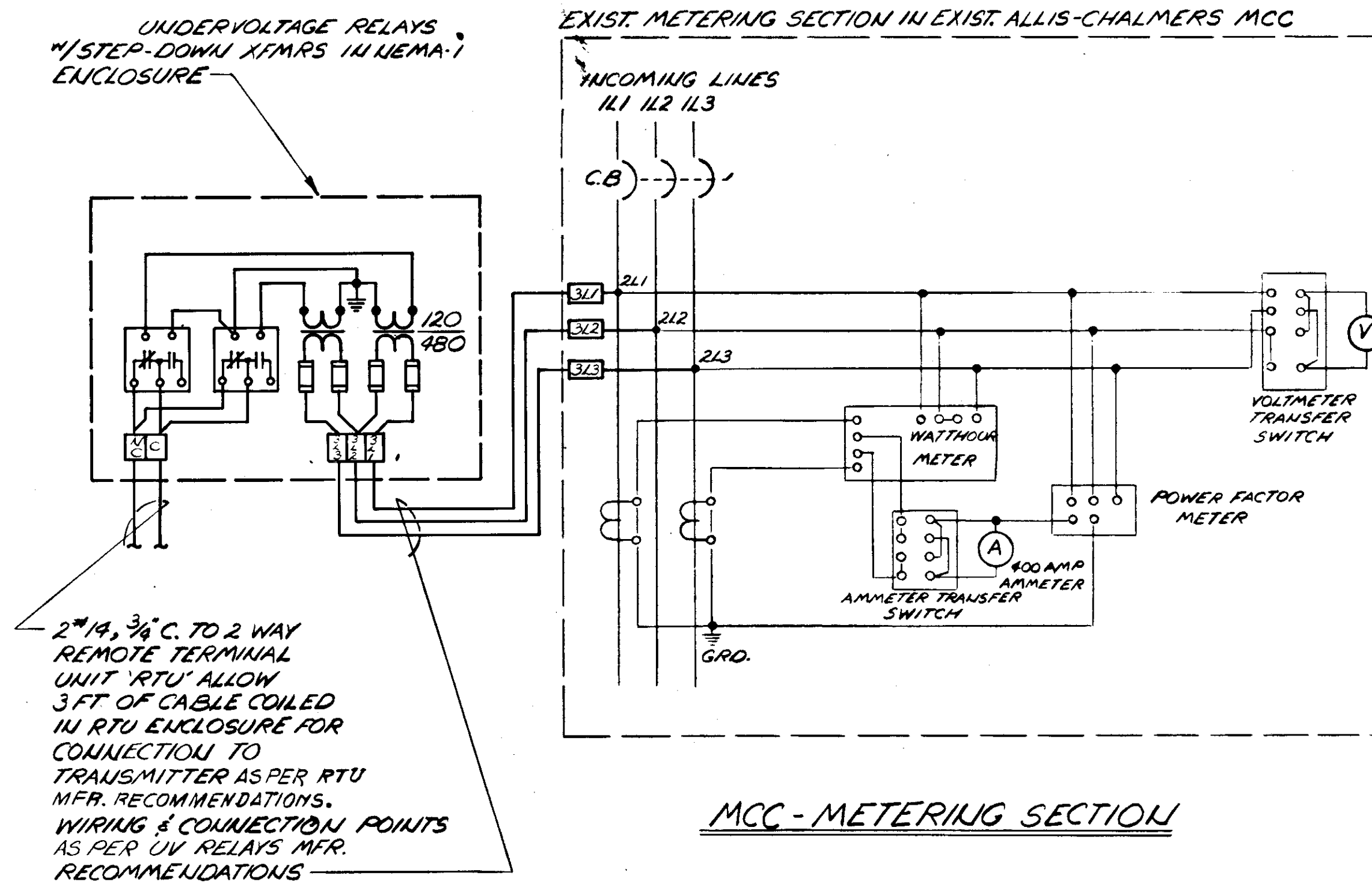
R & A

M.C.U.S.

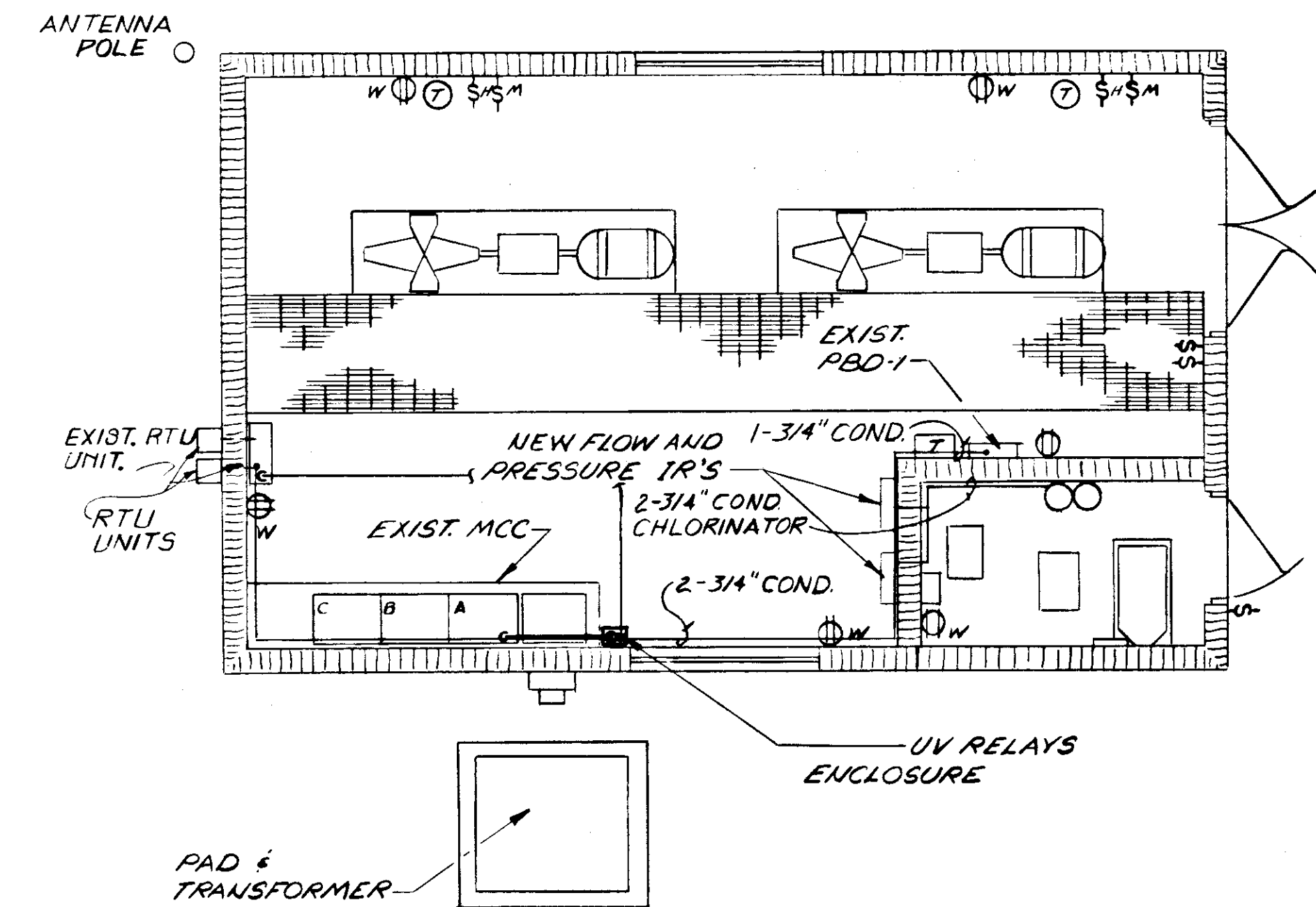
NO.	DATE	DESCRIPTION	BY	CHK
REVISIONS				
RUSSELL & AXON				
Engineers — Planners — Architects				
WATER WORKS PROJECT				
COMMUNICATION SYSTEM INSTALLATION				
DETAILS I				
MANATEE CO.				
DESIGNED BY GBA	FILE NO. 630-761-04	T-102 FLORIDA SEAL		
DRAWN BY P E	SHEET E-14			
CHECKED BY SJG	No. 102			
DATE AUGUST, 1978	OF 130 SHEETS SCALE: AS SHOWN			



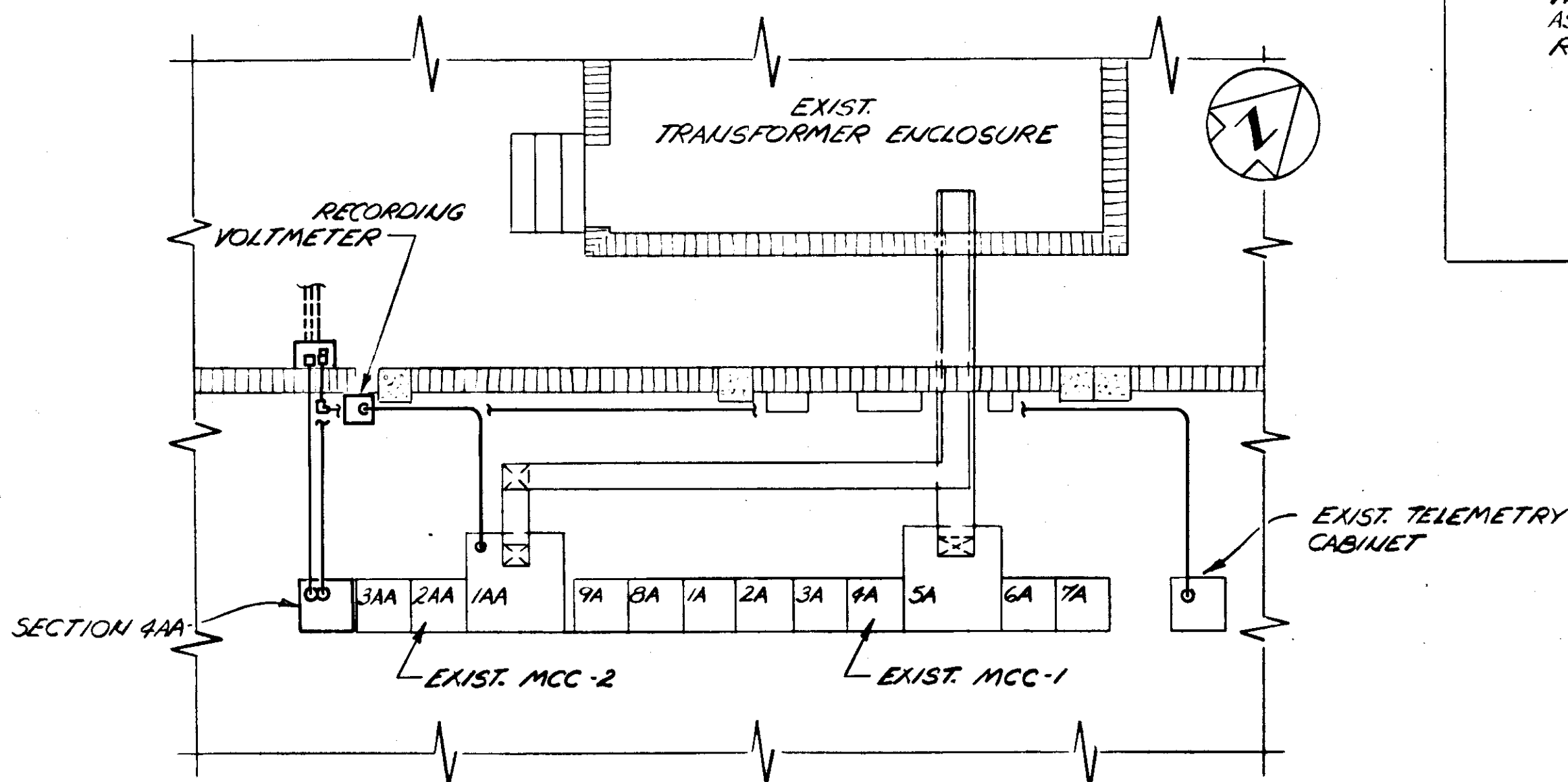
SCHEMATIC DIAGRAM RAW WATER PUMPING STATION NO. 1



ELLENTON BOOSTER STATION

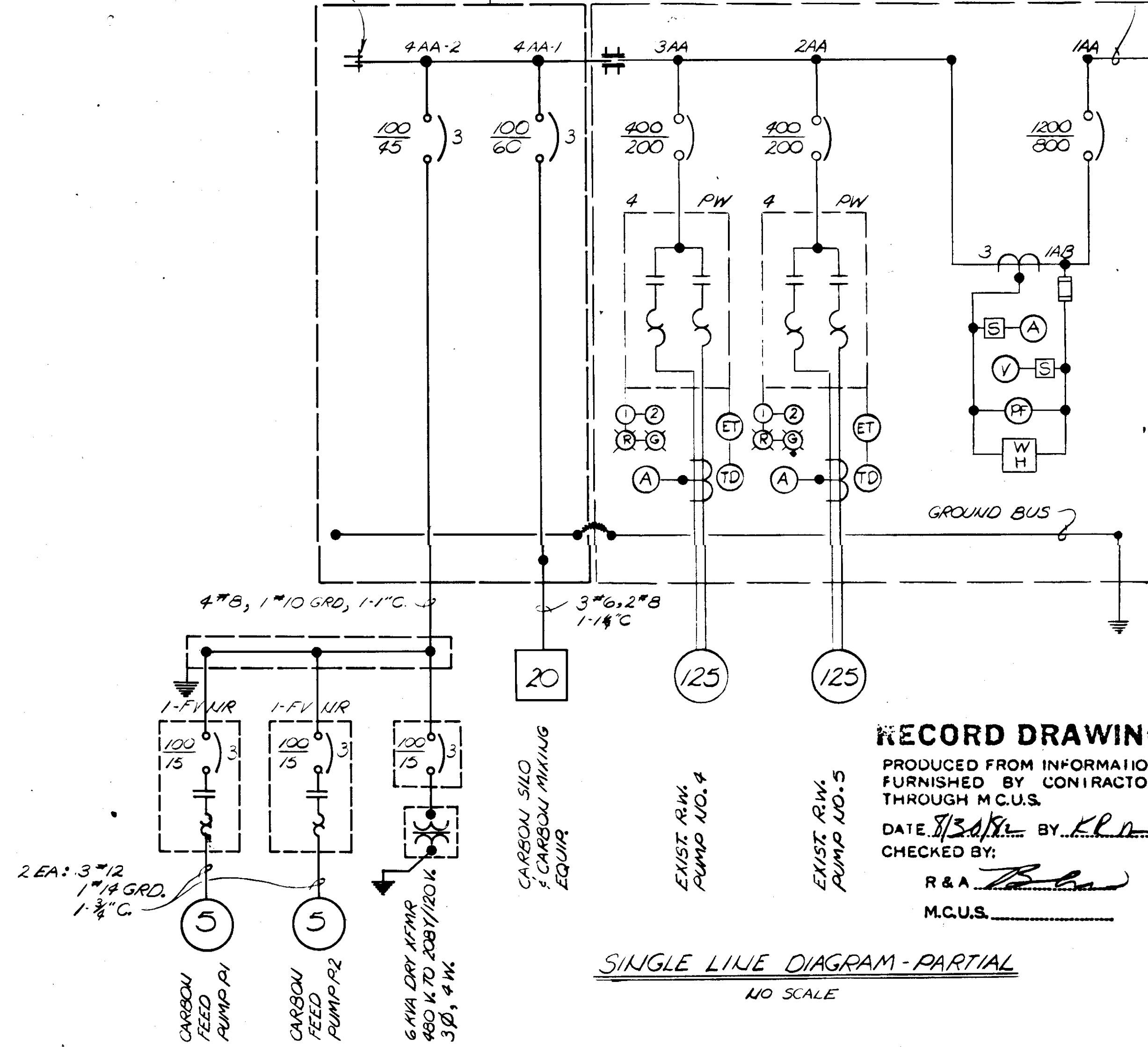


PLAN
NO SCALE

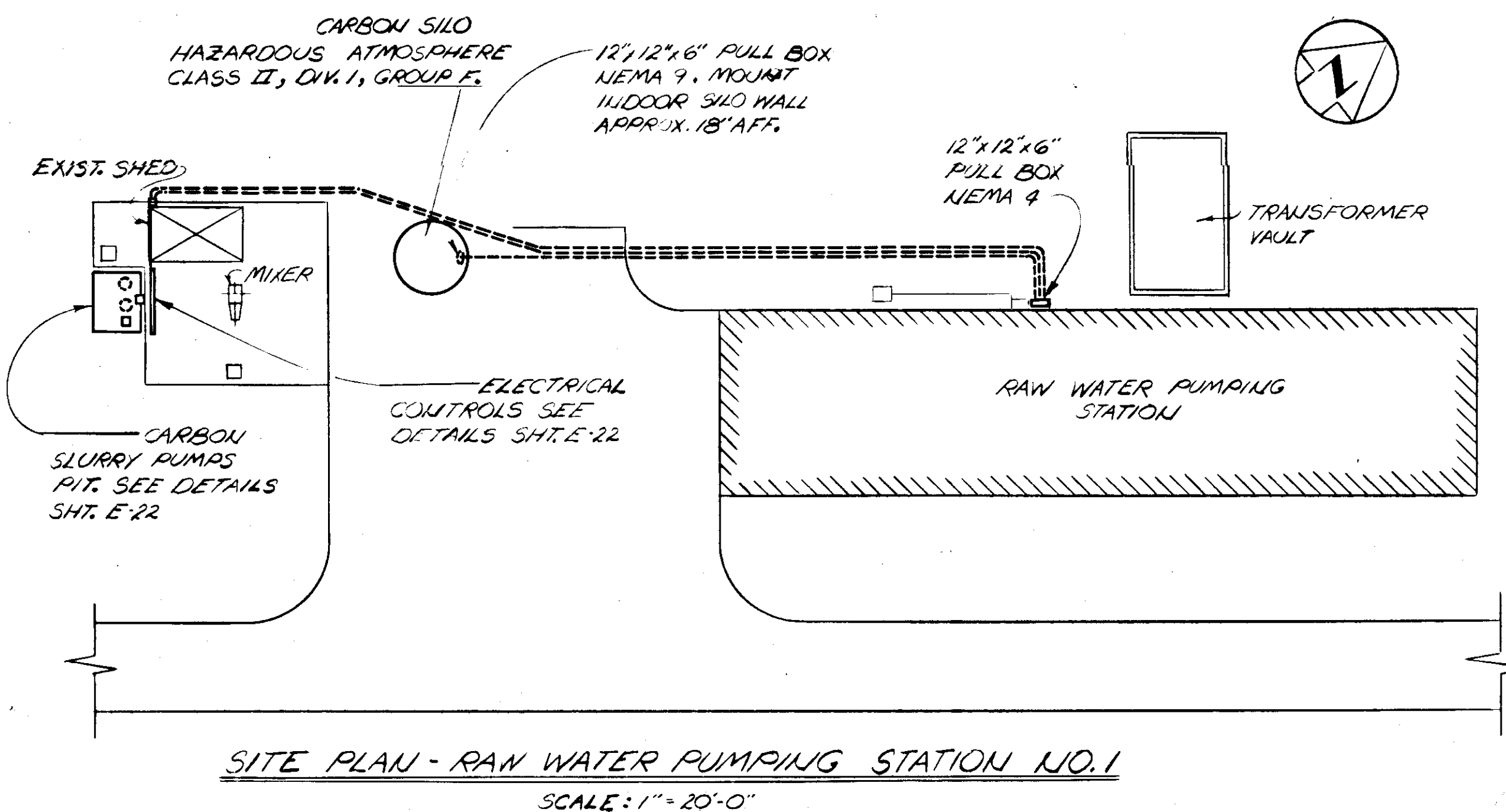


PARTIAL PLAN RAW WATER PUMPING STATION NO. 1
SCALE: 1/8" = 1'-0"

ADDITION TO MOTOR CONTROL CENTER MCC-2
ALLOW PROVISIONS FOR BUS EXTENSION
#80/277 V 1200 AMP, 3 P, 4 W BUS
1/50% NEUTRAL-BRACING #2,000 RMS SYM A.

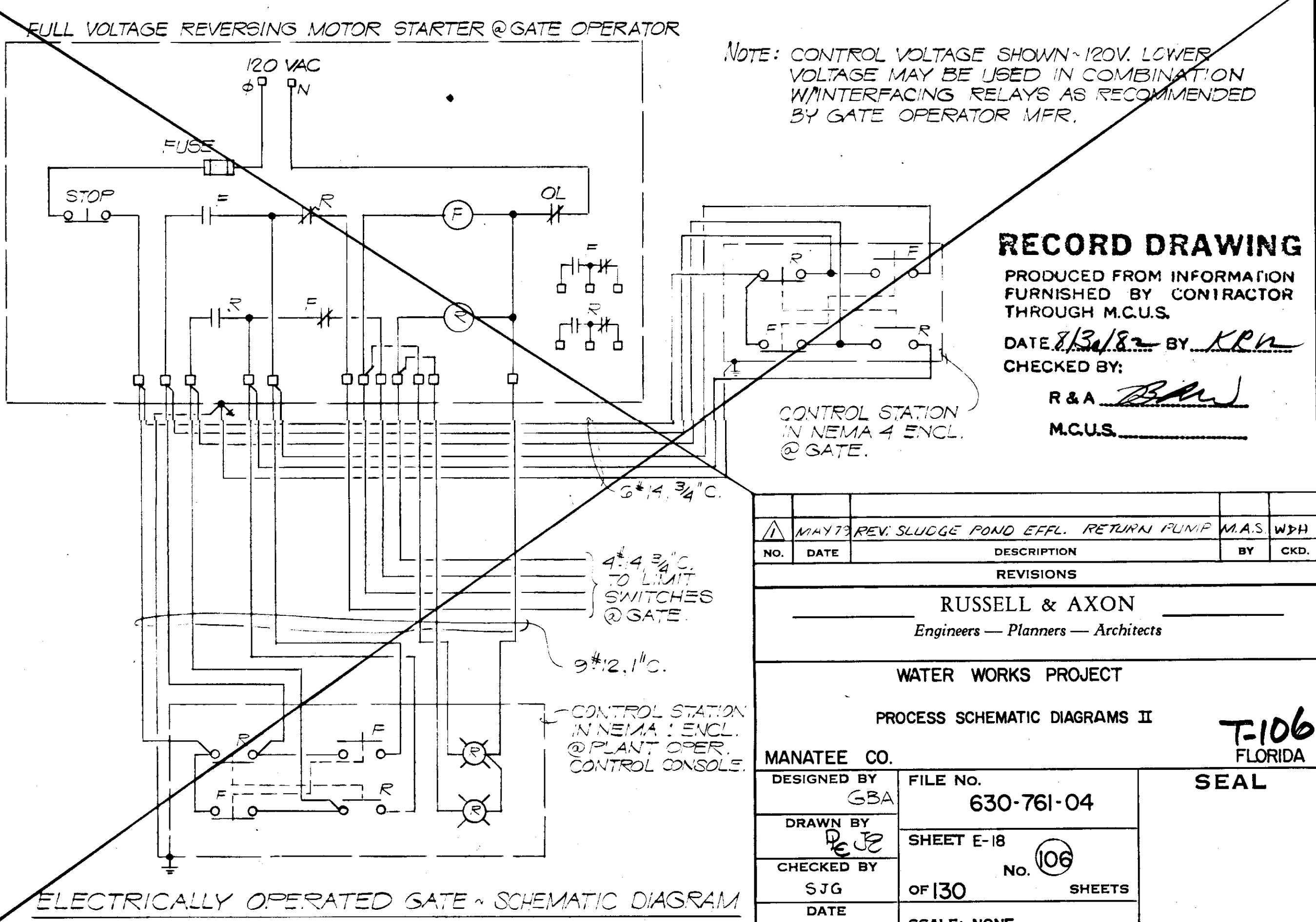
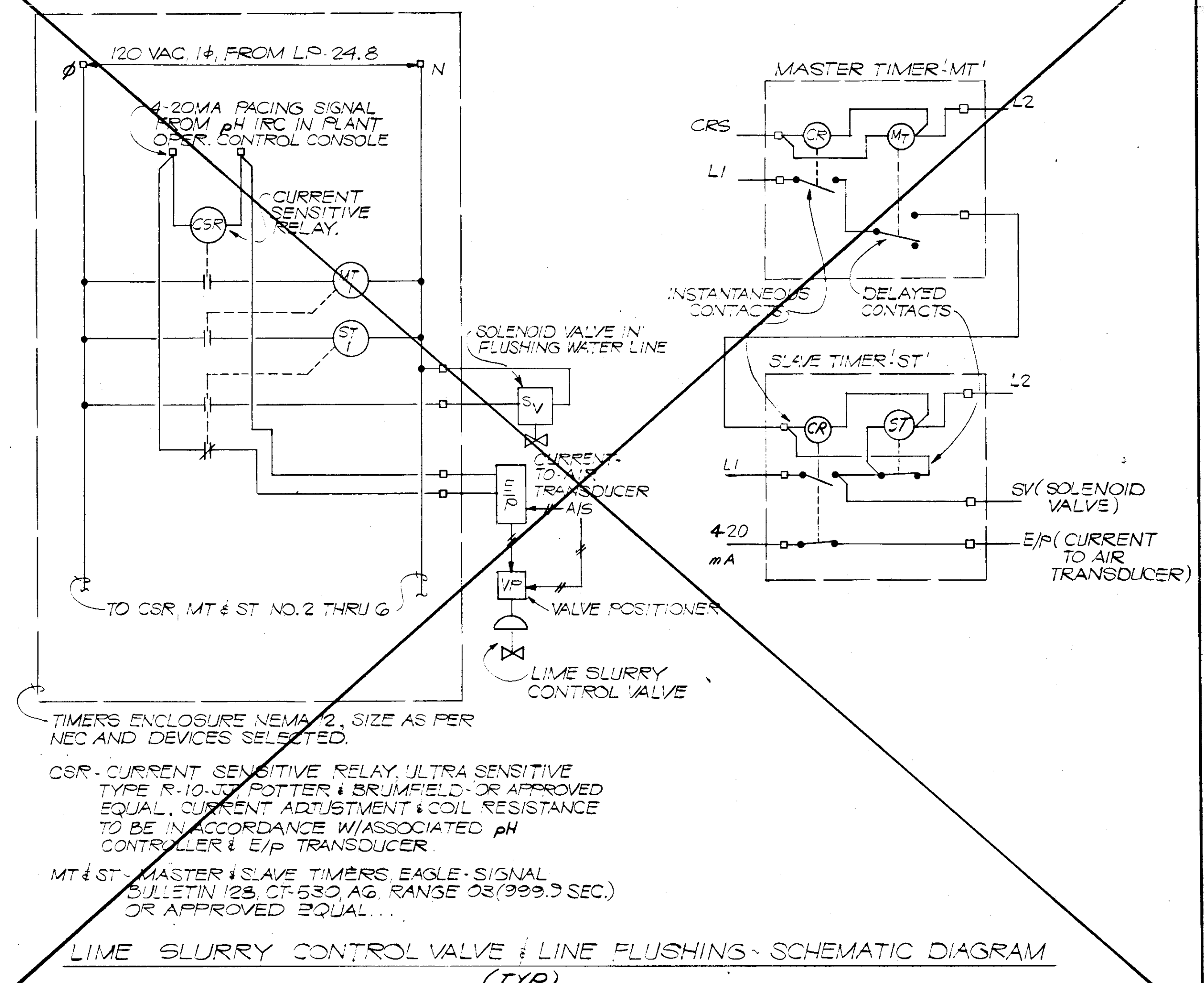
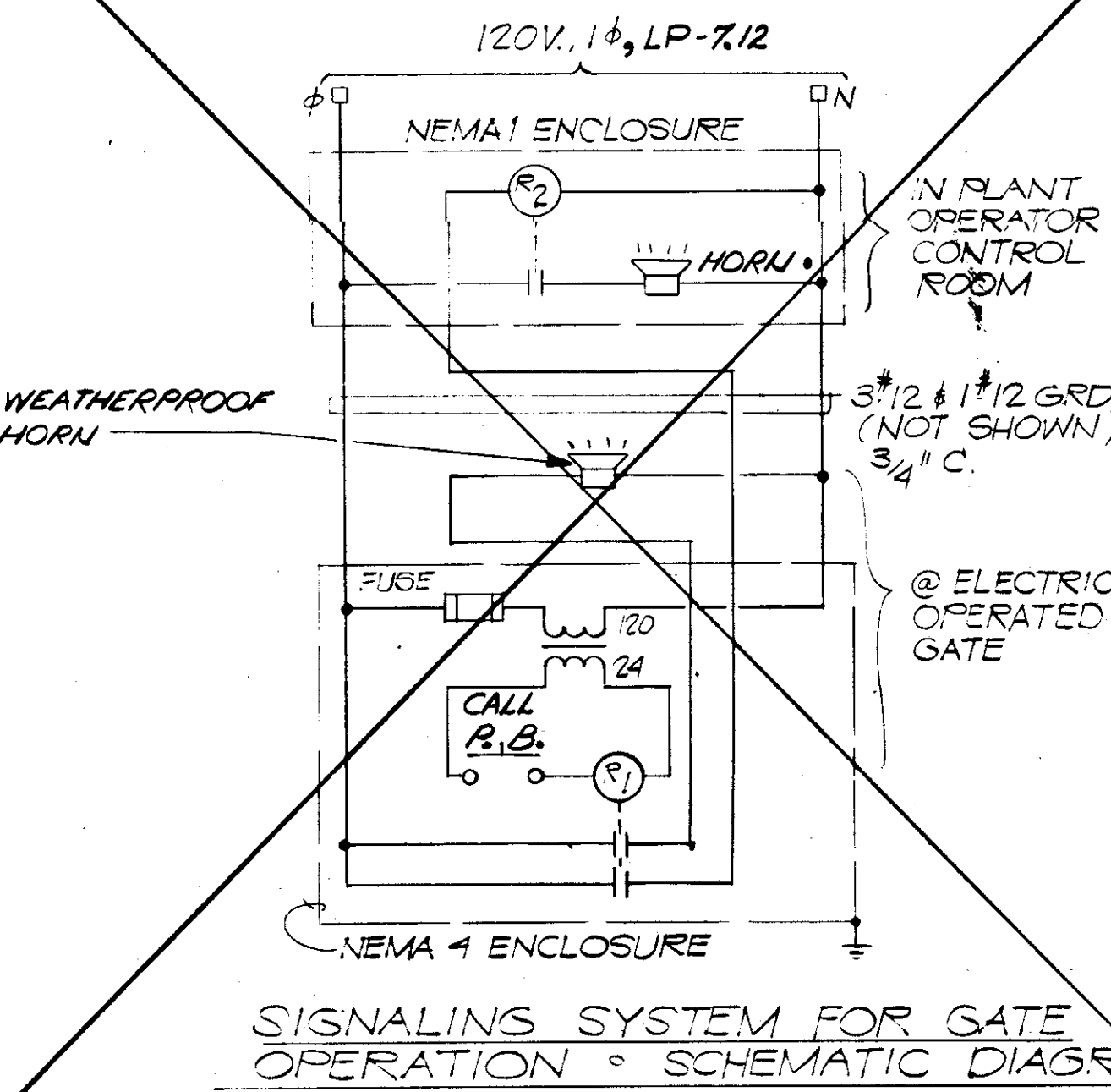
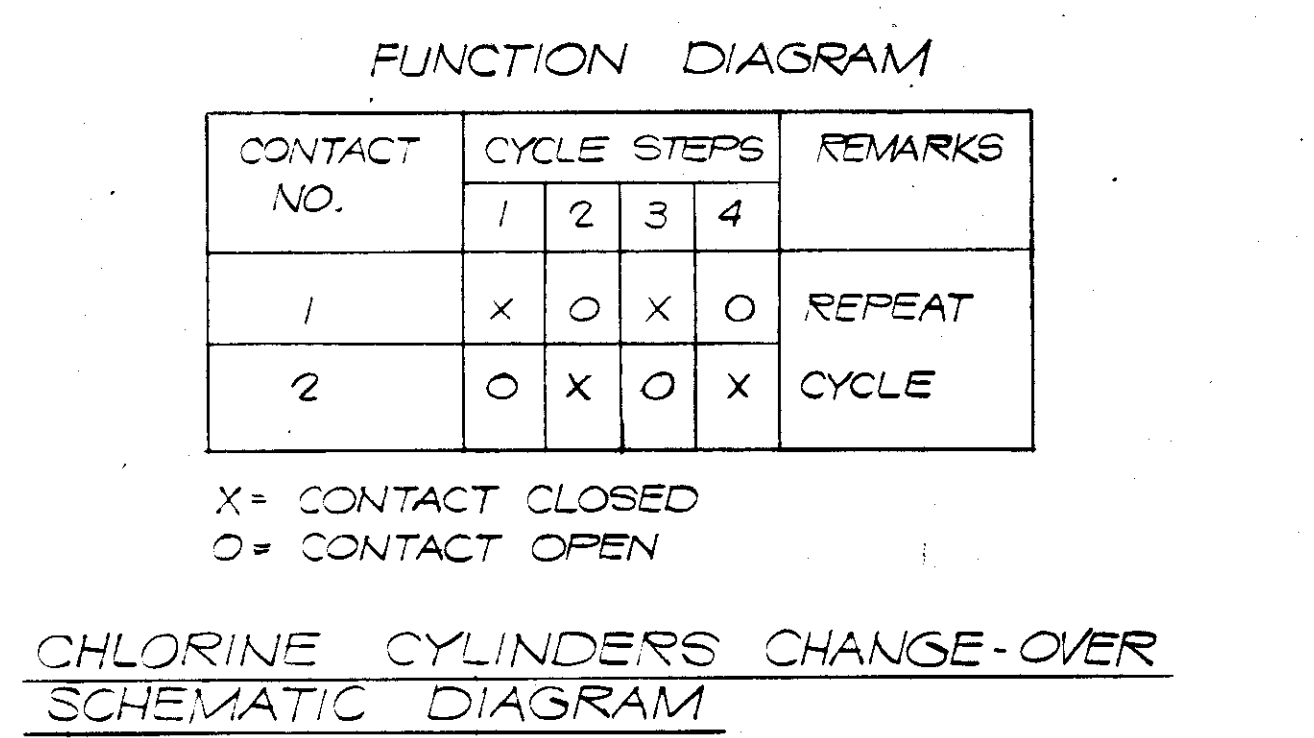
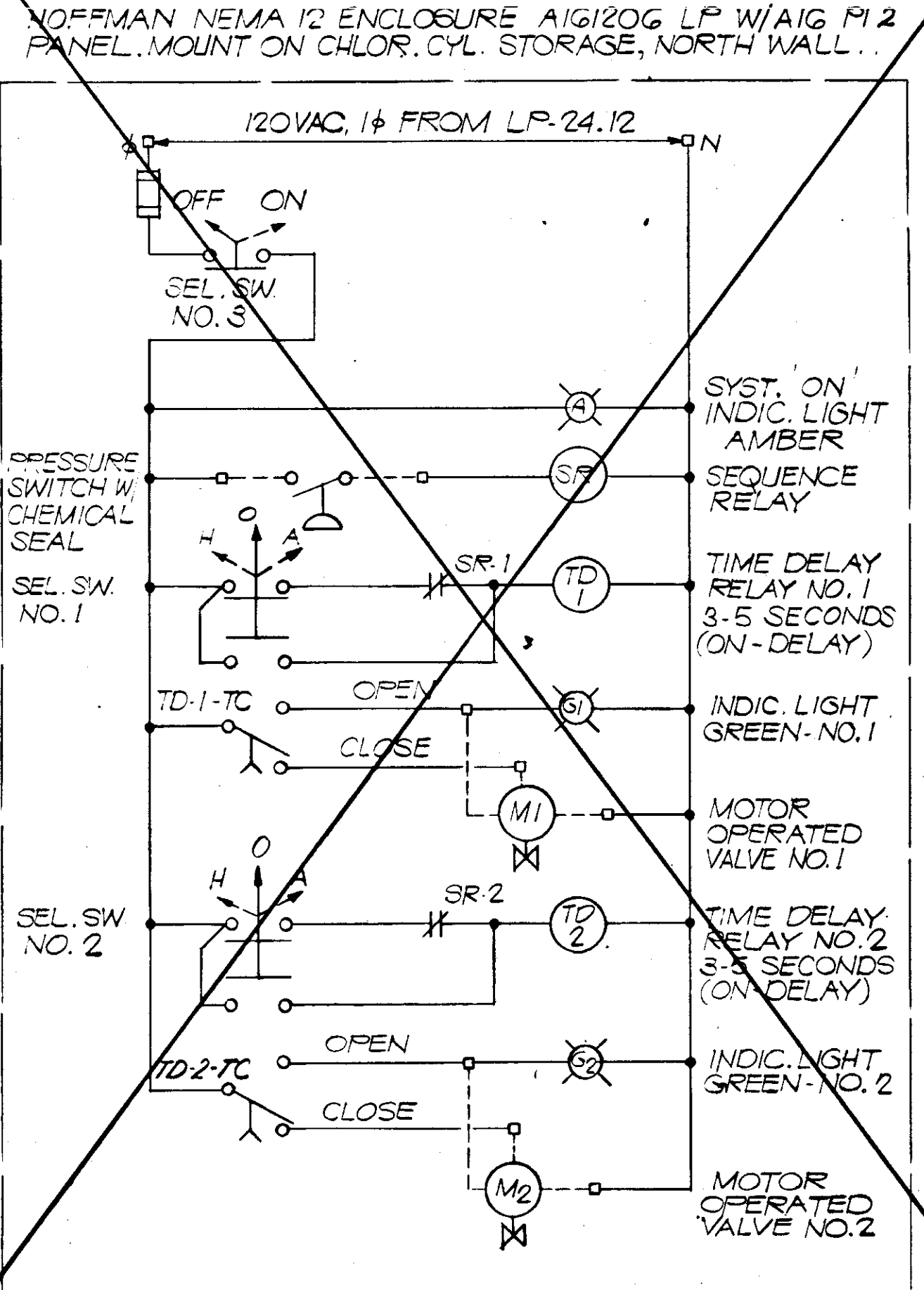
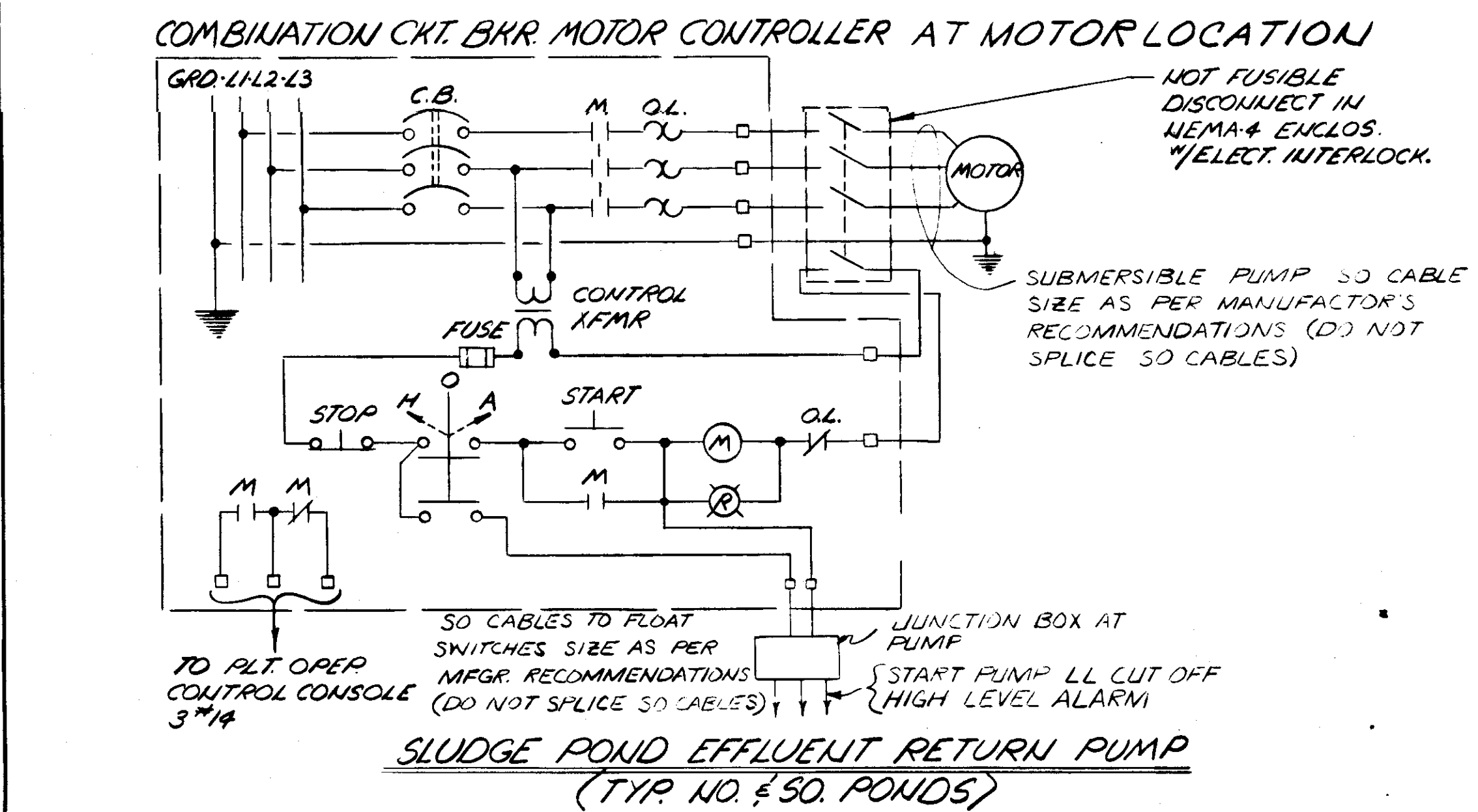
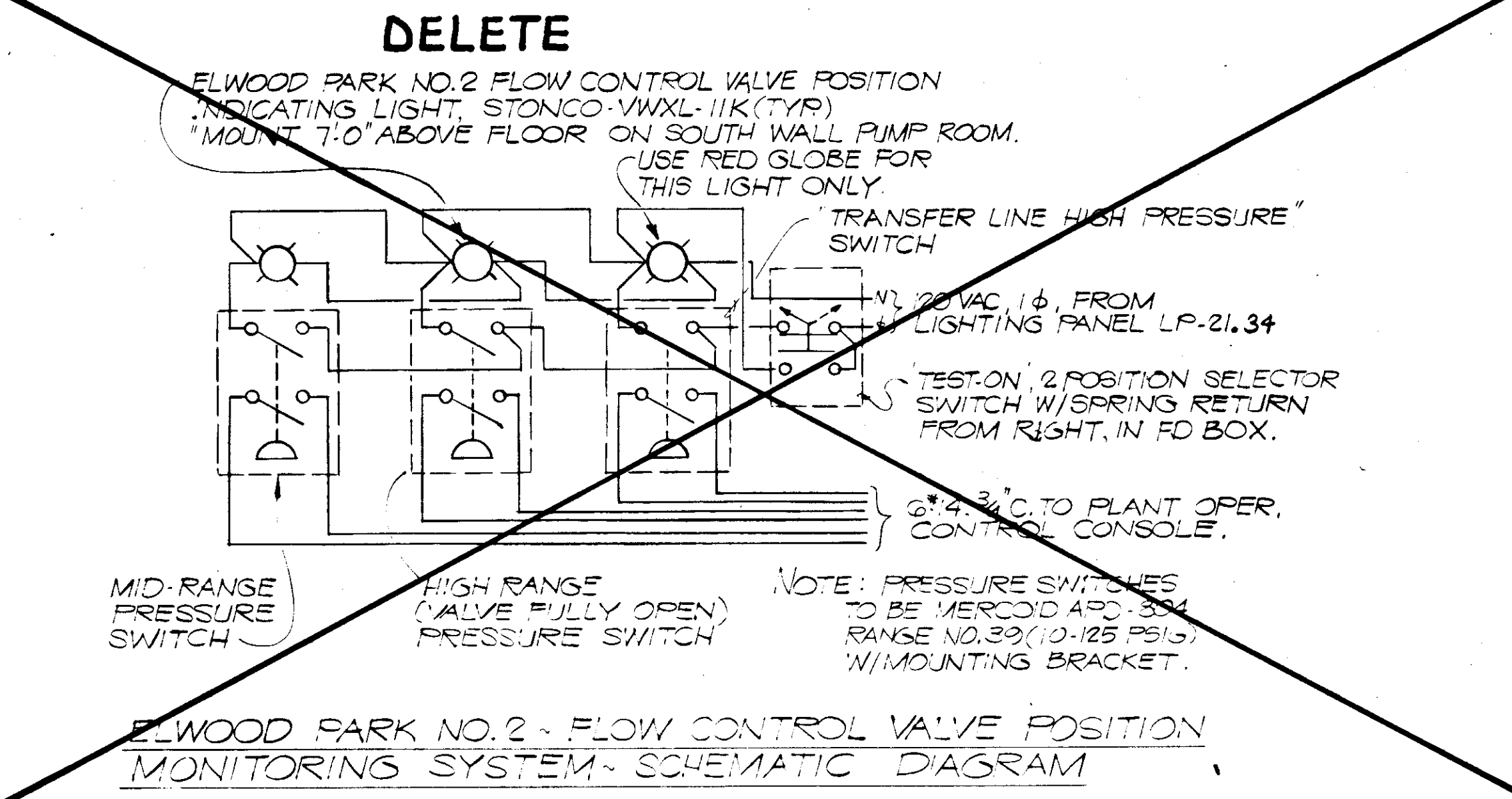
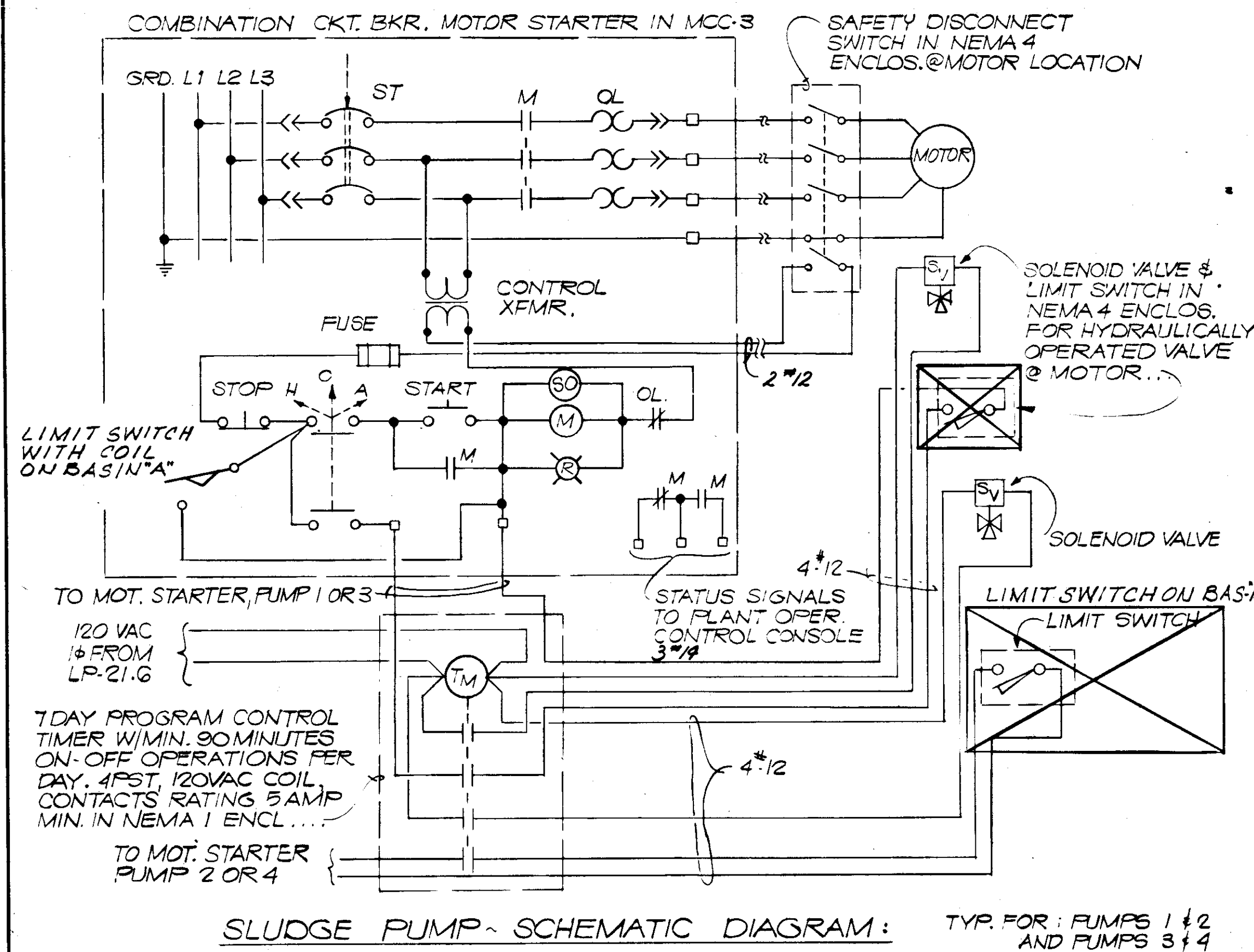


NOTE :
1. SEE SH. NO. E-22 FOR ADDITIONAL DETAILS OF R.W. PUMPING STA. NO. 1



RECORD DRAWING
PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.
DATE 8/31/78 BY K.R.
CHECKED BY: R.A. M.C.U.S.

NO.	DATE	DESCRIPTION	BY	CHKD.
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
WATER WORKS PROJECT COMMUNICATION SYSTEM INSTALLATION - DETAILS III R.W. PUMPING STATION NO. 1 - DETAILS				
MANATEE CO.				
DESIGNED BY GBA	FILE NO. 630-761-04	SEAL		
DRAWN BY R	SHEET E-16 104			
CHECKED BY SJG	OF 130 SHEETS			
DATE AUGUST, 1978	SCALE: AS SHOWN			



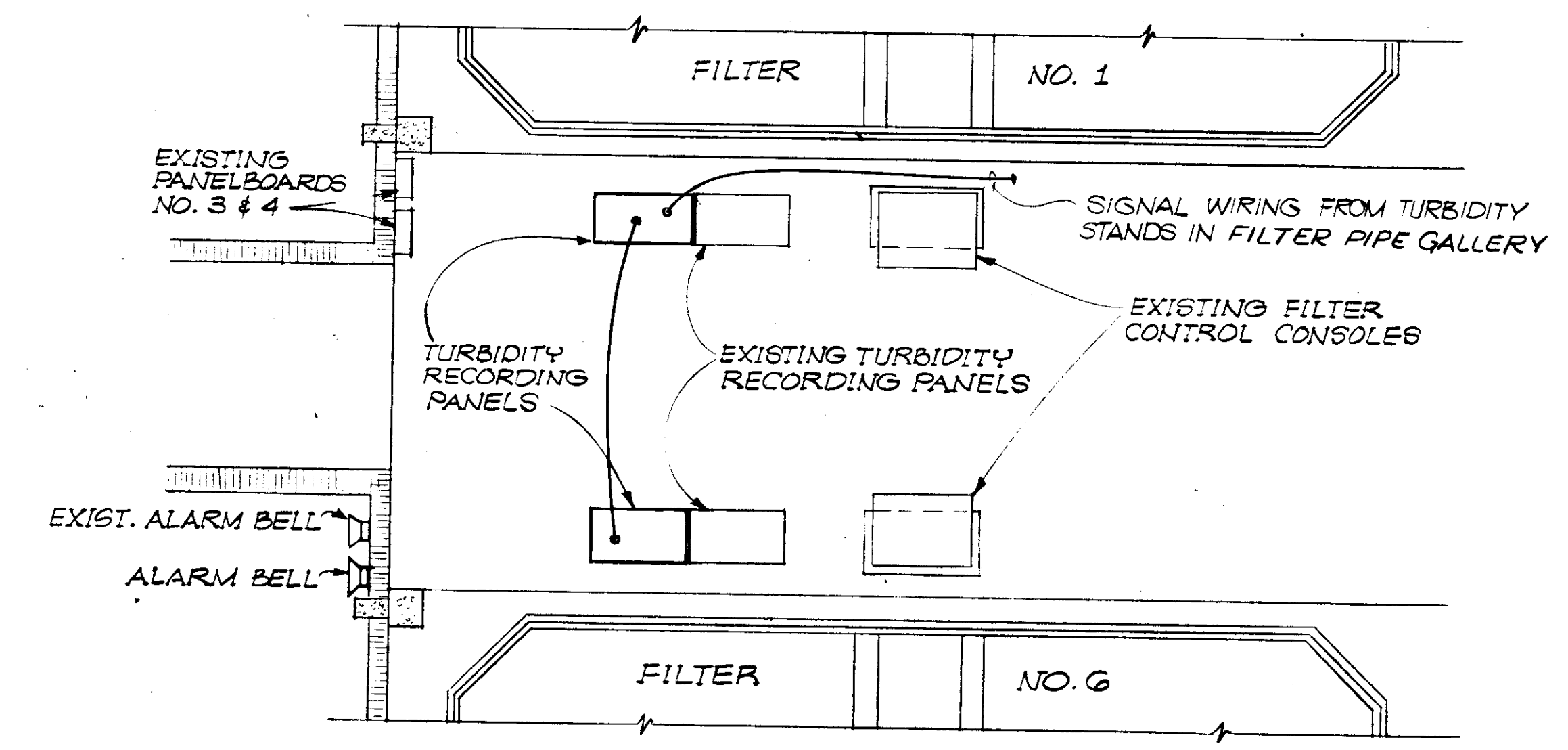
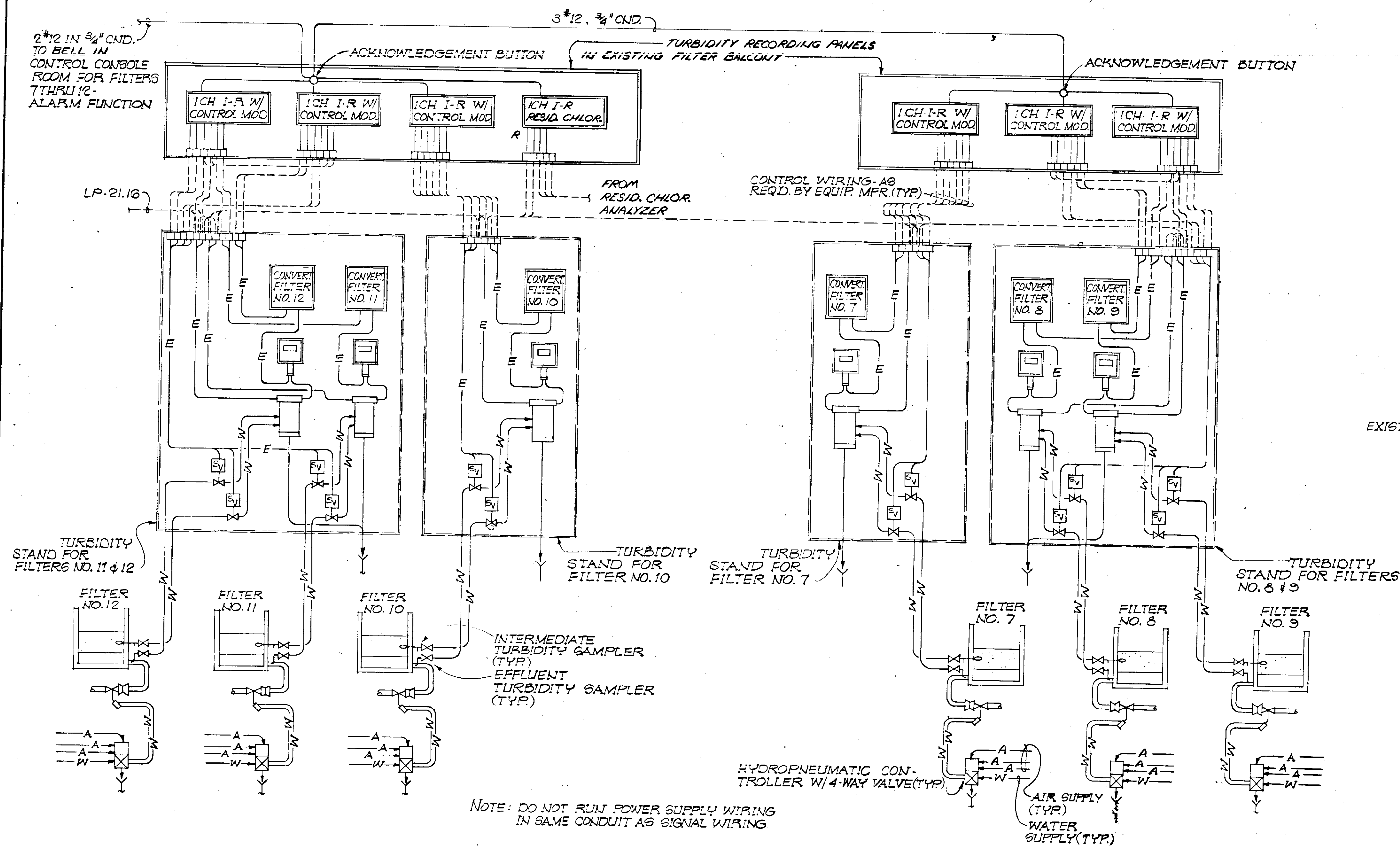
RECORD DRAWING

PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.

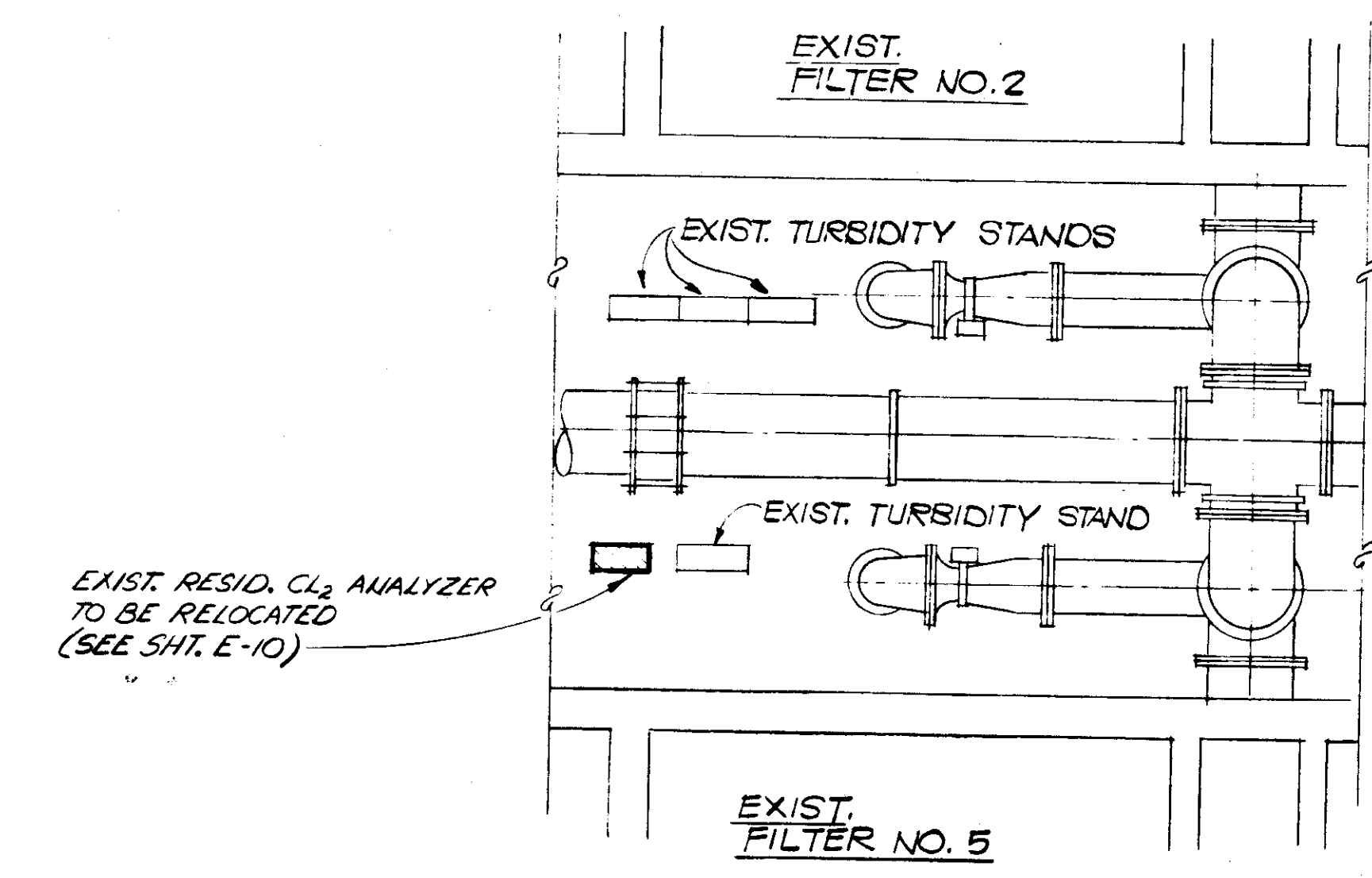
DATE 7/31/82 BY KRN

CHECKED BY: R.A. M.C.U.S.

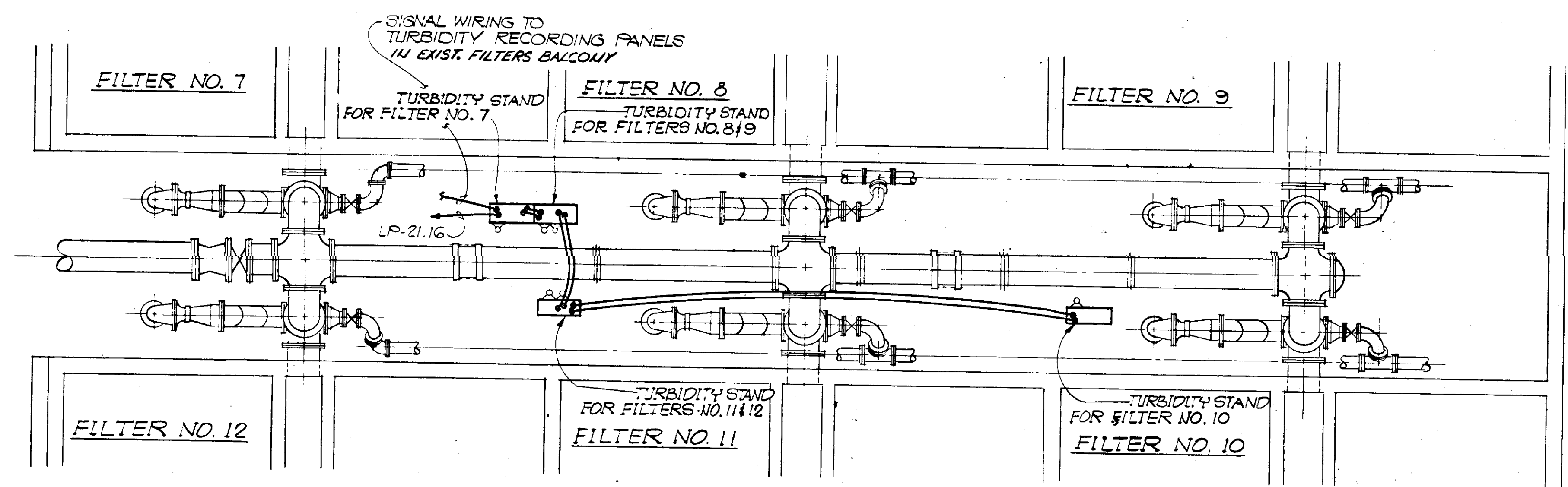
NO.	DATE	DESCRIPTION	BY	CHKD.
1	7/31/82	REV. SLUDGE POND EFFL. RETURN PUMP	M.A.S.	W.D.H.
REVISIONS				
RUSSELL & AXON				
Engineers - Planners - Architects				
WATER WORKS PROJECT				
PROCESS SCHEMATIC DIAGRAMS II				
MANATEE CO.		FILE NO.	T-106	
DESIGNED BY GBA		630-761-04	FLORIDA	
DRAWN BY R.E.		SHEET E-18	SEAL	
CHECKED BY SJG		OF 130	No. 106	
DATE AUGUST, 1978		SCALE: NONE	SHEETS	



EXIST. FILTER CONTROL BALCONY - PLAN (PARTIAL)
SCALE 1/8" = 1'-0"



EXIST. FILTER PIPE GALLERY - PLAN (PARTIAL)
SCALE 3/8" = 1'-0"



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

RECORD DRAWING
PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.
DATE 8/30/82 BY K.A.M.
CHECKED BY:
R & A *[Signature]*
M.C.U.S.

NO.	DATE	DESCRIPTION	BY	CKD.
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT				
TURBIDITY MONITORING SYSTEM SCHEMATIC DIAGRAM				
MANATEE CO.		FILE NO.	SEAL	
DESIGNED BY GBA	630-761-04			
DRAWN BY J2	SHEET E-19			
CHECKED BY SJG	No. 107			
DATE AUGUST, 1978	OF 130 SHEETS			
SCALE: AS SHOWN				

LIGHTING		FIXTURE		SCHEDULE	
TYPE	MANUFACTURER	CATALOG NO.	LAMP	MOUNTING	REMARKS
A	BENJAMIN	FL-1024-4U	2-40W T12-CW-RS	STEM PENDANT	
B	BENJAMIN	6503	300W	STEM PENDANT	MOUNT W/DOME RIM APPROX. 1'-6" A.F.F.
C	PRESCOLITE	WB-24 + WG-G GUARD	100W	WALL BRACKET	
D	BENJAMIN	FA-2324-4	2-40W T12-CW-RS	STEM PENDANT	MOUNT APPROX. 9'-0" A.F.F.
E	BENJAMIN	FV-1224-4	2-40W T12-CW-RS	STEM PENDANT	MOUNT APPROX. 9'-0" A.F.F.
F	BENJAMIN	FD-2134-4	3-40W T12-CW-RS	STEM PENDANT	MOUNT @ SAME HT. AS EXIST. UNITS
G	BENJAMIN	FLB-1134-4U	3-40W T12-CW-RS	STEM PENDANT	MOUNT APPROX. 0'-0" A.F.F.
H	BENJAMIN	FLB-1124-4U	2-40W T12-CW-RS	STEM PENDANT	MOUNT APPROX. 0'-0" A.F.F.
K	BENJAMIN	AG-7234-4	3-40W T12-CW-RS	RECESSED	
L	CROUSE-HINDS	EVX 210	30W-A21	CEILING	EXPLOSION PROOF
M	MILLER	PI-3021-D	3-60W	WALL	
N	MORRIS-KURTZON	SUV-7872-40	2-40W T12-CW-RS	CEILING	
P	MORRIS-KURTZON	WLN-8152-FL	150W	RECESSED	
R	PERFECLITE	FLS-75	100W	RECESSED	
S	DUAL-LITE	SRG	3W QUARTZ HALOGEN	CEILING	EVERGENCY LIGHT SQUARE
T	DUAL-LITE	SRWW-EL	2-15TG 2-5W-DC	CEILING	EXIT SIGN
U	DUAL-LITE	WRWW-EL	2-15TG 2-5W-DC	WALL	EXIT SIGN
V	STONCO	CTC-505 TLP-3-14/3	300W TUNGSTEN HALOGEN	BRACKET	SEE DETAIL SHEET
Y	PRESCOLITE	7112-DL	2-75W	CEILING	DAMP LOCATION
Z	MILLER	GT 4141-04	4-40W T12-CW-RS	CEILING	
AA	BENJAMIN	AG-7244-4	4-40W T12-CW-RS	RECESSED	
BB	PRESCOLITE	WB-24	100W	WALL BRACKET	MOUNT APPROX. 7'-0" AFF
CC	CROUSE-HINDS	VXH BF 25 GP	150W	WALL BRACKET	MOUNT APPROX. 7'-0" AFF

LIGHTING PANEL LP-21 SCHEDULE													MOTOR CONTROL CENTER - MCC-3												
208Y/120 VAC. 3 ϕ . 4W. 225 A. MAINS, 150 A. MAIN C.B., 42-1P CKTS.																									
EQUIPMENT SERVED	SIZE		CKT. BKR			VA/PHASE			CKT.		VA/PHASE			CKT. BKR.			SIZE		EQUIPMENT SERVED						
	W	C	CLASS	TRIP	POLE	A	B	C	NO.	NO.	A	B	C	POLE	TRIP	CLASS	C	W							
PUMP ROOM LIGHTS	10	3/4"	10,000 A.I.C.	20	1	1800	—	—	1	21	1440	—	—	1	20	10,000 A.I.C.	3/4"	12	RECEPT. PIPE GAL. & PMP RM.						
OUTDOOR LIGHTS	12	3/4"		20	1	—	600	—	3	41	—	1440	—	1	20		3/4"	12	RECEPT. SWITCH GEAR RM & STRG.						
PIPE GALLERY LIGHTS	12	3/4"		20	1	—	—	800	5	6	—	—	200	1	20		3/4"	12	DESLUDGE PMP TIMERS						
PIPE GALLERY LIGHTS	12	3/4"		20	1	800	—	—	7	8	—	—	—	—	—		—	—							
PIPE GALLERY LIGHTS	12	3/4"		20	1	—	800	—	9	9	—	1470	—	1	20		1	12	FLOW TRANS #8						
SWITCHGEAR ROOM LIGHTS	12	3/4"		20	1	—	—	800	11	10	—	—	1080	1	20		3/4"	12	FILTER CONSOLE RECEPTACLES						
FILTER BALCONY LIGHTS	12	3/4"		20	1	600	—	—	13	12	440	—	—	1	20		3/4"	12	FILTER BLDG OFFICE RECEPT.						
OFFICE AIR COND	3	1/4"		30	3	—	—	—	15	14	—	1260	—	1	20		3/4"	12	↓						
	8	1/4"		30	3	—	—	—	17	16	—	—	600	1	20		3/4"	12	FILTER TURBIDITY & NO. POWER SUPPLY						
↓	3	1/4"		30	3	—	—	—	19	18	300	—	—	1	20		3/4"	12	B.W. RET. PUMPS ALTERNATOR						
WEST FILTERS FLOODLIGHTS	10	3/4"		25	1	—	1800	—	21	20	—	1250	—	1	20		3/4"	12	PH MODULES 1 THRU 4						
EAST FILTERS FLOODLIGHTS	10	3/4"		25	1	—	—	1800	23	22	—	—	1000	1	20		—	12	MCC-3 SPACE HEATERS						
FILTER WALK-WAY LIGHTS	12	3/4"		20	1	1500	—	—	25	24	1130	—	—	1	20		3/4"	10	SUMP PUMP SLUDGE PUMPS 14.3 PIT						
FILTER BLDG. OFFICE LIGHTS	12	3/4"		20	1	—	1600	—	27	26	—	1130	—	1	20		3/4"	10	SUMP PUMP SLUDGE PUMPS 34.4 PIT						
↓	12	3/4"		20	1	—	—	1400	29	28	—	—	830	1	20		3/4"	12	PIPE GALLERY EXH. FAN						
PUMP RM. EXH. FAN	12	3/4"		20	1	1130	—	—	31	30	7000	—	—	3	80		1/4"	2	LOAD CENTER AC-22						
PUMP RM. BALCONY EXH. FAN	12	3/4"		20	1	—	1130	—	33	32	—	6560	—	—	—		↓	2	↓						
SPARE	—	—	—	20	1	—	—	—	35	35	—	7840	—	1	↓		↓	2	↓						
OUTDOOR SUMP PUMP	12	3/4"		20	1	1130	—	—	37	31	100	—	—	1	20		↓	—	↓						
TOTALS: PHASE 'A' = 21,330 PHASE 'B' = 18,660 PHASE 'C' = 17,350																									
REAR PRESS TRANSMITTER																									

LOAD CENTER LC-22 SCHEDULE										ENGINE GENERATOR SETS ROOM									
208Y/120 VAC, 3 ϕ , 4W, 100A. M.L.O. 24-IP CKTS. NEMA 1, SURFACE MOUNTED...										ALL BREAKERS 10,000 A.I.C.									
EQUIPMENT	SIZE	CKT. BKR.		VA/PHASE			CKT.	CKT.	VA/PHASE			CKT. BKR.		SIZE	EQUIPMENT				
SERVED	W	C	CLASS	TRIP	POLE	A	B	C	NO.	NO.	A	B	C	POLE	TRIP	CLASS	C	W	SERVED
INDOOR LIGHTING	12	3/4"	10,000 A.I.C.	20	1	800	—	—	1	2	720	—	—	1	20	10,000 A.I.C.	3/4"	12	BATTERY CHARGER UNIT 3
RECEPT. (5)	12	3/4"		20	1	—	900	—	3	4	—	1130	—	1	20		3/4"	12	DAY TANK PUMP UNIT 3 (1/2 HP)
ROOF EXHAUST FAN 1/4 HP	12	3/4"		20	1	—	—	670	5	6	—	—	720	1	20		3/4"	12	BATTERY CHARGER UNIT 4
SPACE HEATER UNIT 3	12	3/4"		20	1	—	900	—	7	8	1130	—	—	1	20		3/4"	12	DAY TANK PUMP UNIT 4 (1/2 HP)
SPACE HEATER UNIT 4	12	3/4"		20	1	—	900	—	9	10	—	3000	—	2	40		3/4"	8	HEATER UNIT 3
HEATER UNIT 4	8	3/4"		40	2	—	—	3000	11	↓	—	—	3000	↓	↓		↓	8	↓
↓	8	↓		↓	↓	3000	—	—	↓	12	—	—	—	↓	20		↓	12	RECEPT. & FAN IN 2 ND ROOM
SLIDING GATE ELECT. OPER.	10	1"		20	3	—	450	—	13	14	—	200	—	↓	20	↓	3/4"	12	4 MODULES 3 AT R.W.F.W. XMT. SPACE
↓	10	↓		↓	↓	—	—	450	↓										
↓	10	↓		↓	↓	450	—	—	↓										↓
						A		B		C									
						7000		6580		7840									

DISTRIBUTION PANEL BOARD ~ DP.23 SCHEDULE ~ LIME SLAKERS ROOM																						
480Y/277 VAC. 3 ϕ , 4W. 225A. M.L.O. 14-3P CKTS. - NEMA 12 SURFACE MOUNTED																						
EQUIPMENT SERVED		SIZE		CKT. BKR.			A/PHASE			CKT.		A/PHASE			CKT. BKR.			SIZE		EQUIPMENT SERVED		
				W	C	CLASS	TRIP	POLE	A	B	C	NO.	NO.	A	B	C	POLE					TRIP
LIME SLAKER	:	12	3/4"	14.000	15	3	7.6	—	—	2	7.6	—	—	3	15	14.000	3/4"	12	LIME SLAKER 2			
↓	↓	12	↓	↓	↓	↓	—	7.6	—	↓	↓	—	7.6	—	↓	↓	↓	↓	↓	↓		
POLYMER (PHOSPHATE)		12	3/4"	↓	↓	↓	—	7.6	—	3	4	7.6	—	—	3	15	↓	3/4"	12	POLYMER (PERMANGAN.)		
↓	↓	12	↓	↓	↓	↓	—	7.6	—	↓	↓	—	7.6	—	↓	↓	↓	↓	↓	↓		
POLYMER		12	3/4"	↓	↓	↓	—	7.6	—	5	6	13.6	—	—	3	15	↓	3/4"	12	DRY XFMR. (30 KVA)		
↓	↓	12	↓	↓	↓	↓	—	7.6	—	↓	↓	—	13	—	↓	↓	↓	↓	↓	↓		
PLANT WATER BOOSTER PMP. 1		10	3/4"	↓	↓	↓	—	—	7.6	↓	↓	—	—	12.8	↓	↓	↓	10	PLANT WATER BOOSTER PMP. 2			
↓	↓	10	↓	↓	↓	↓	—	14	—	↓	↓	—	14	—	↓	↓	↓	10	↓			
CHLORINE EVAPORATOR	:	12	3/4"	↓	↓	↓	—	7.2	—	9	10	7.2	—	—	3	15	↓	3/4"	12	CHLORINE EVAPORATOR 2		
↓	↓	12	↓	↓	↓	↓	—	7.2	—	↓	↓	—	7.2	—	↓	↓	↓	12	↓			
LIME SLURRY PUMP NO. 1		12	3/4"	↓	↓	↓	—	3.4	—	11	12	3.4	—	—	3	15	↓	3/4"	12	LIME SLURRY PUMP NO. 2		
↓	↓	12	↓	↓	↓	↓	—	3.4	—	↓	↓	—	3.4	—	↓	↓	↓	12	↓			
AIR COMPRESSOR UNIT		12	3/4"	↓	↓	↓	—	—	13	14	5.6	—	—	3	15	↓	3/4"	12	CHLOR. STORAGE MONORAIL			
↓	↓	12	↓	↓	↓	↓	—	11	—	↓	↓	—	5.6	—	↓	↓	↓	12	↓			
		12	↓	↓	↓	↓	—	—	11	↓	↓	—	5.6	—	↓	↓	↓	12	↓	↓		
							A			B			C									
							117.4			116.8			116.6									

[illegible]

NOTES IN "CHT. NO." COLUMN:

- 1) CMT. TO BE PROVIDED W/GROUND FAULT CMT.
INTERRUPTER. (TYR)
- 2) CMT. BAR TO BE PROVIDED W/HANDLE PADLOCK
ATTACHMENT. (TYR)

RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.

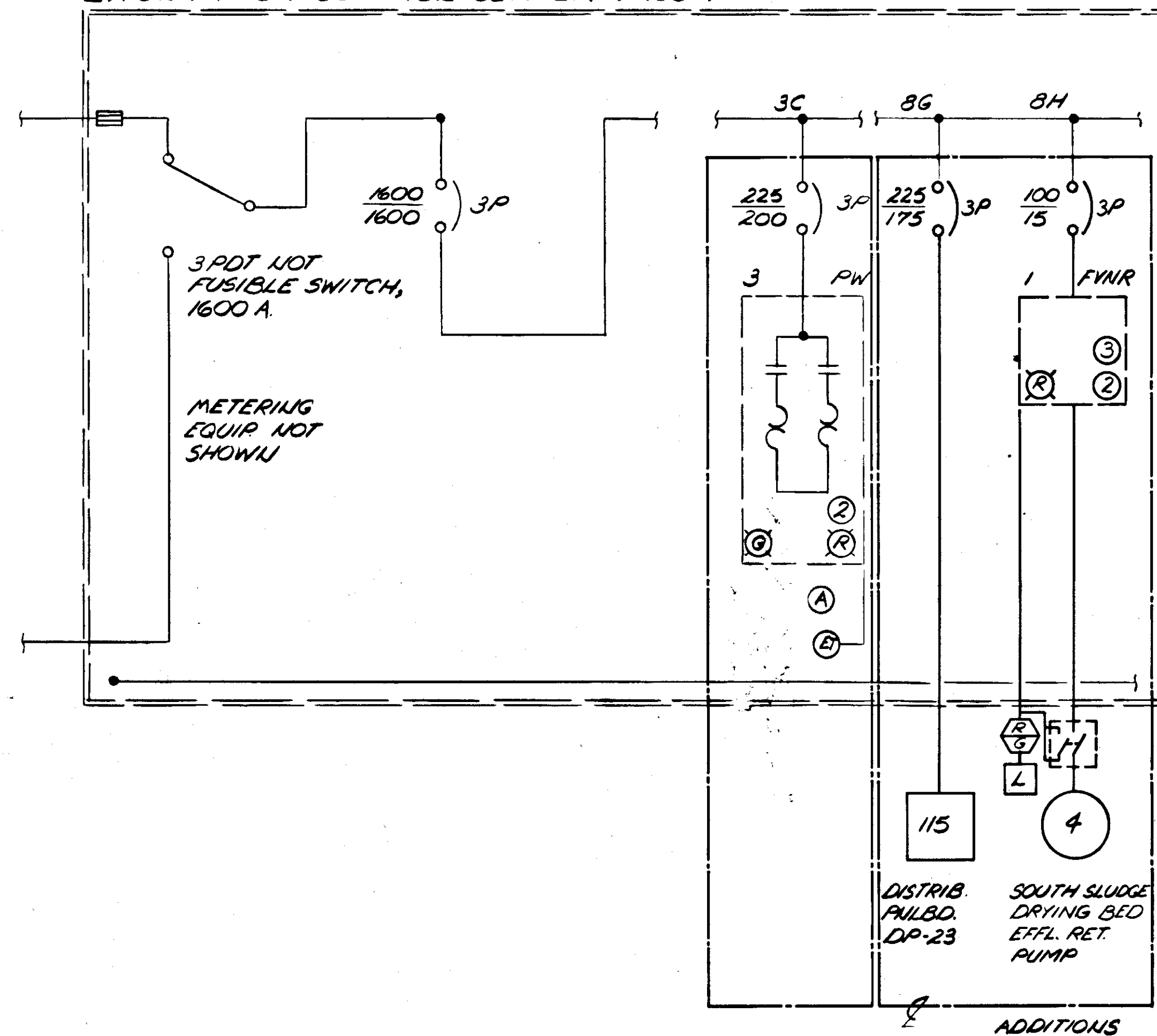
NOTE: DATE 8/31/86 BY KRM
ALL CKT. BARS IN DISTRIBUTION PANELBOARD
DP-23 SHALL BE LOCKABLE IN THE 'OPEN'
POSITION.
CHECKED BY: 2

824

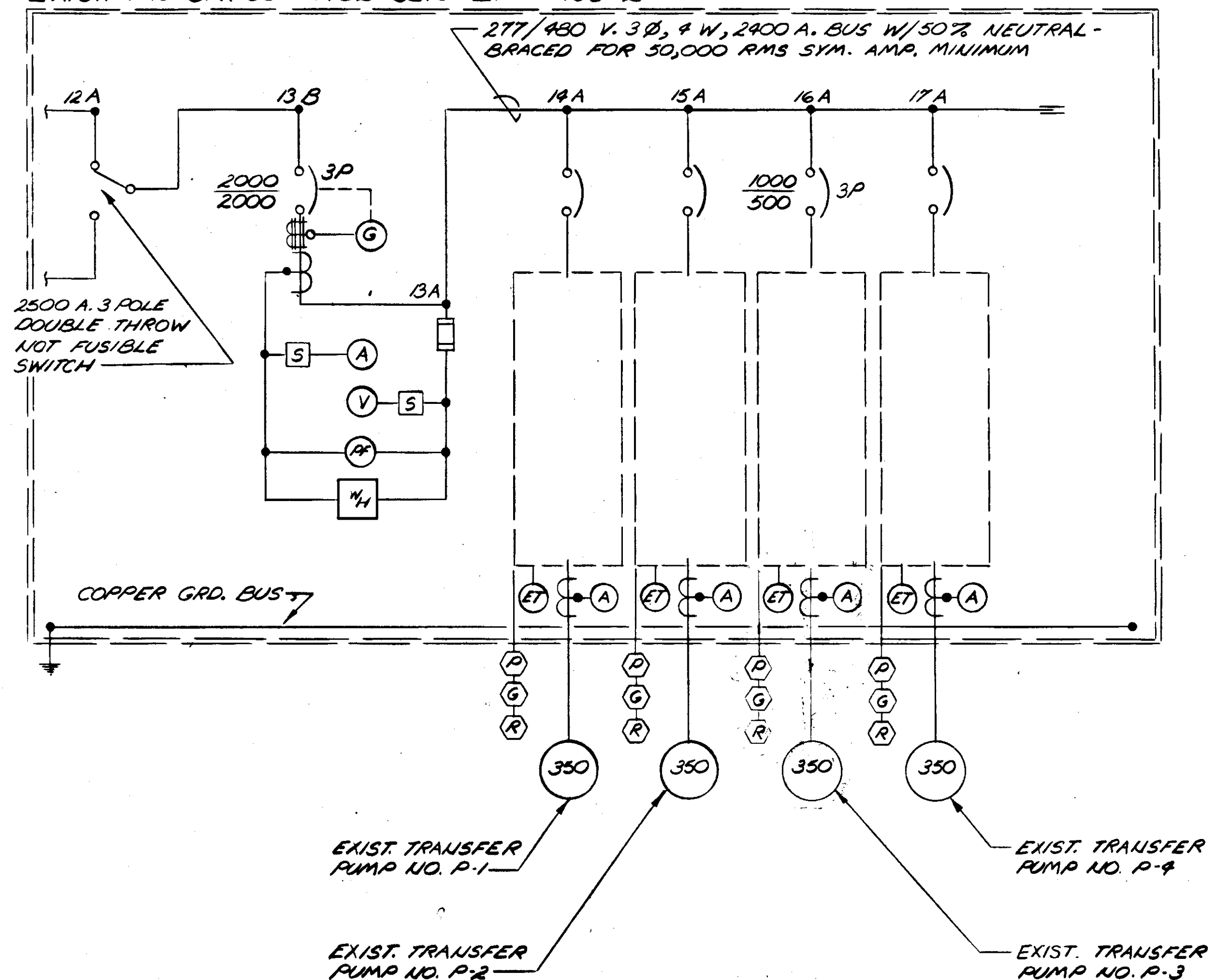
MCUS

△	5/79	REV. LP-2, CKT. 31635	AL	
NO.	DATE	DESCRIPTION	BY	CHKD.
REVISIONS				
_____ RUSSELL & AXON _____ <i>Engineers — Planners — Architects</i>				
WATER WORKS PROJECT				
MISCELLANEOUS SCHEDULES				
MANATEE CO.		T-108 FLORIDA		
DESIGNED BY GBA	FILE NO. 630-761-04		SEAL	
DRAWN BY R. E.	SHEET E-20			
CHECKED BY S.J.G.	NO. 108 OF 130 SHEETS			
DATE AUGUST, 1978	SCALE: NONE			

EXIST. MOTOR CONTROL CENTER MCC-1



EXIST. MOTOR. CONTROL CENTER MCC-2



LEGEND

- (P) PRESSURE OPERATED SWITCH @ PUMP DISCHARGE
- (R) RED PILOT LIGHT @ PLT. OPER. CONTROL CONSOLE
- (G) GREEN PILOT LIGHT @ PLT. OPER. CONTROL CONSOLE
- (T) ELAPSED TIME METER
- (TD) TIME DELAY RELAY
- (3) THREE POSITION SELECTOR SWITCH
- (G) GREEN PUSH-TO-TEST LIGHT
- (R) RED PUSH-TO-TEST LIGHT
- (2) START/STOP PUSH BUTTON
- (PF) POWER FACTOR METER
- (G) GROUND FAULT PROTECTION RELAY
- (A) AMMETER
- (V) VOLTMETER
- (5) FOUR & SEVEN POSITION SWITCH
- (W) WATTHOUR METER
- (C) CURRENT TRANSFORMER
- (V) CONTROL VALVE @ PUMP DISCHARGE

EXIST. MOTOR CONTROL CENTER MCC-2 SCHEDULE

[illegible]

EXIST. MOTOR CONTROL CENTER MCC-1 - IN EXIST. PUMP ROOM - SCHEDULE

[illegible]

ADDITION

RECORD DRAWING

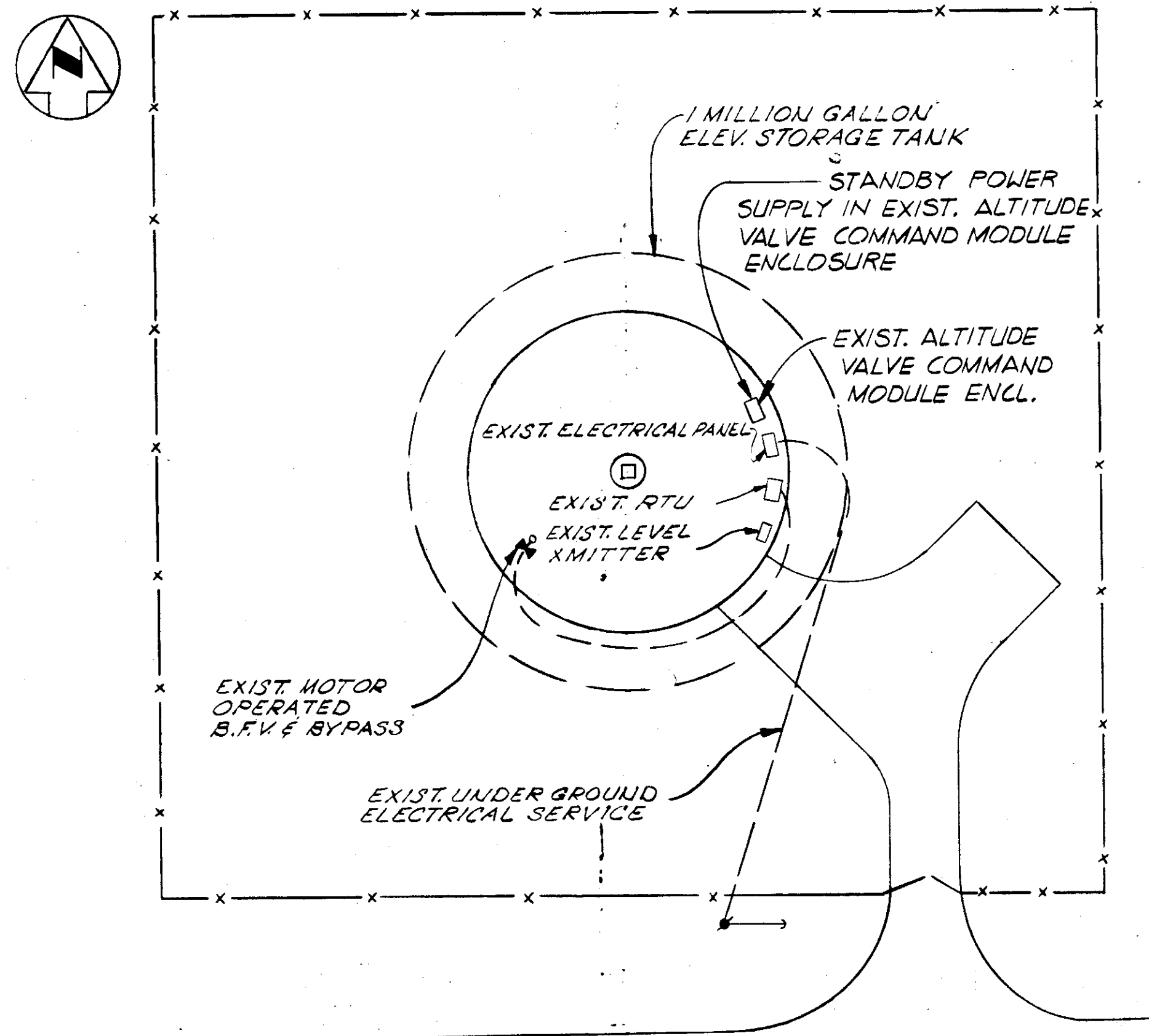
PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.

DATE 8/31/82 BY Ken
CHECKED BY:

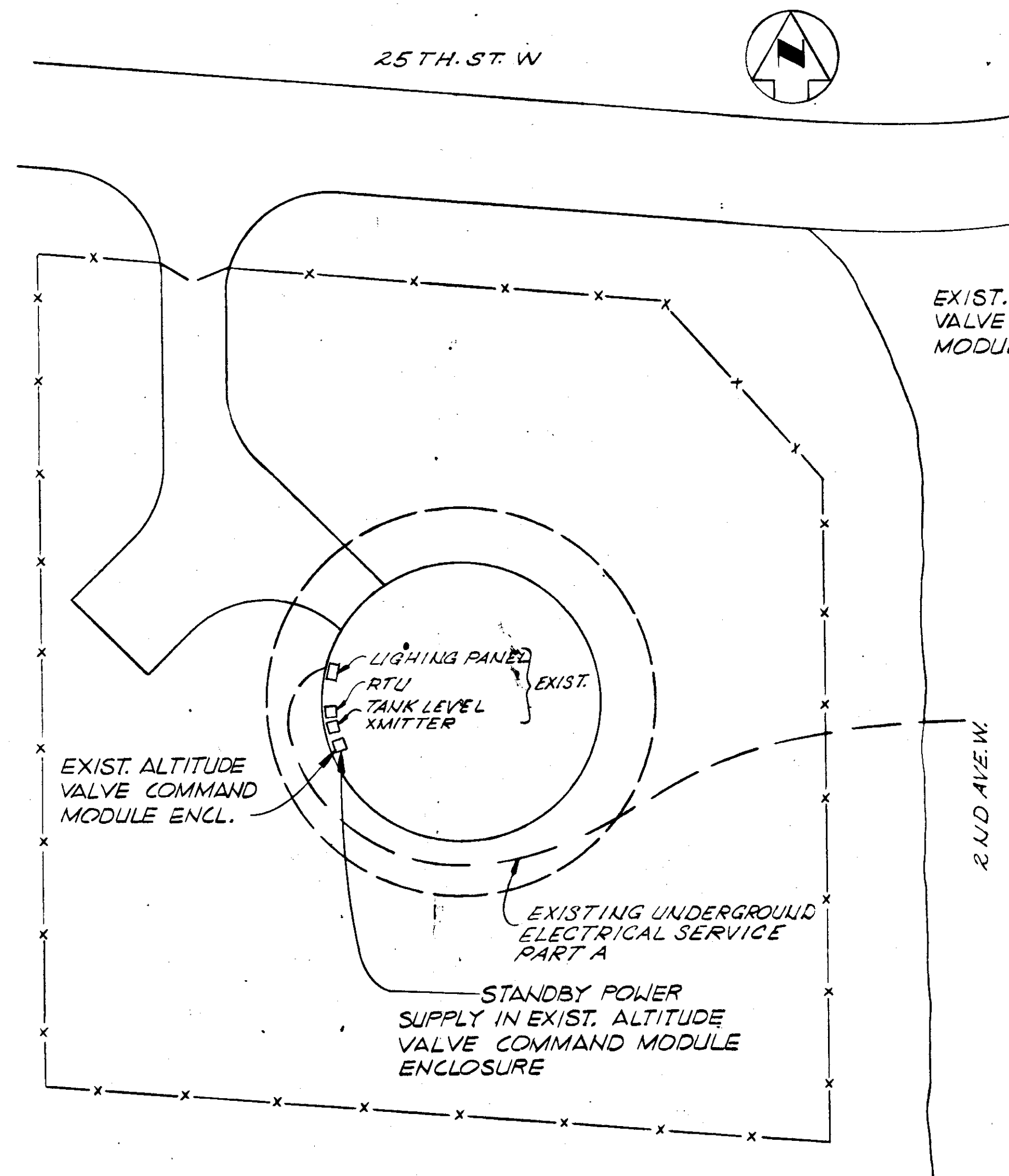
R & A *[Signature]*

M.C.U.S. _____

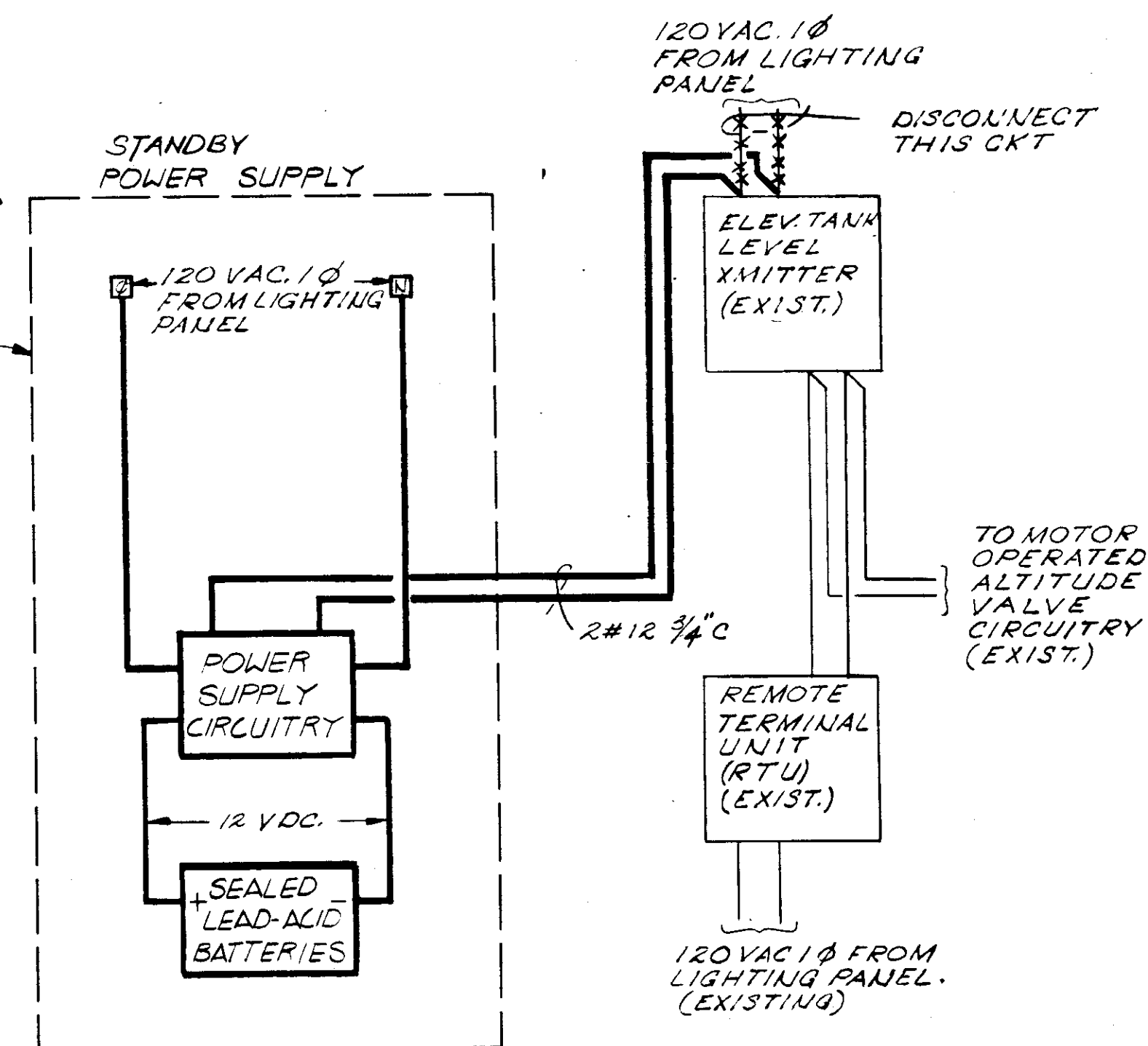
△	MAY 79	REV. PROP. PUMP - P-3 TO EXISTING	M.A.S.	W.D.
NO.	DATE	DESCRIPTION	BY	CHK
REVISED				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT				
MOTOR CONTROL CENTERS MCC-1 & MCC-3 SCHEDULES EXISTING PUMP ROOM TRANSFER PUMP P-3 POWER & CONTROL				
MANATEE CO.		T-109 FLORIDA		
DESIGNED BY GBA	FILE NO. 630-761-04		SEAL	
DRAWN BY D	SHEET E-21			
CHECKED BY SJT	No. 109			
DATE AUGUST, 1978	OF 130 SHEETS SCALE: NONE			



1ST. AVE. N.W. ELEVATED TANK NO. 2 - SITE PLAN
SCALE: 1" = 20'-0"



SITE PLAN PALMETTO ELEVATED STORAGE TANK NO. 3
SCALE: 1" = 20'-0"



SCHEMATIC DIAGRAM TYPICAL
FOR 1ST. AVE. N.W. AND PALMETTO ELEVATED TANK

RECORD DRAWING

PRODUCED FROM INFORMATION
FURNISHED BY CONTRACTOR
THROUGH M.C.U.S.

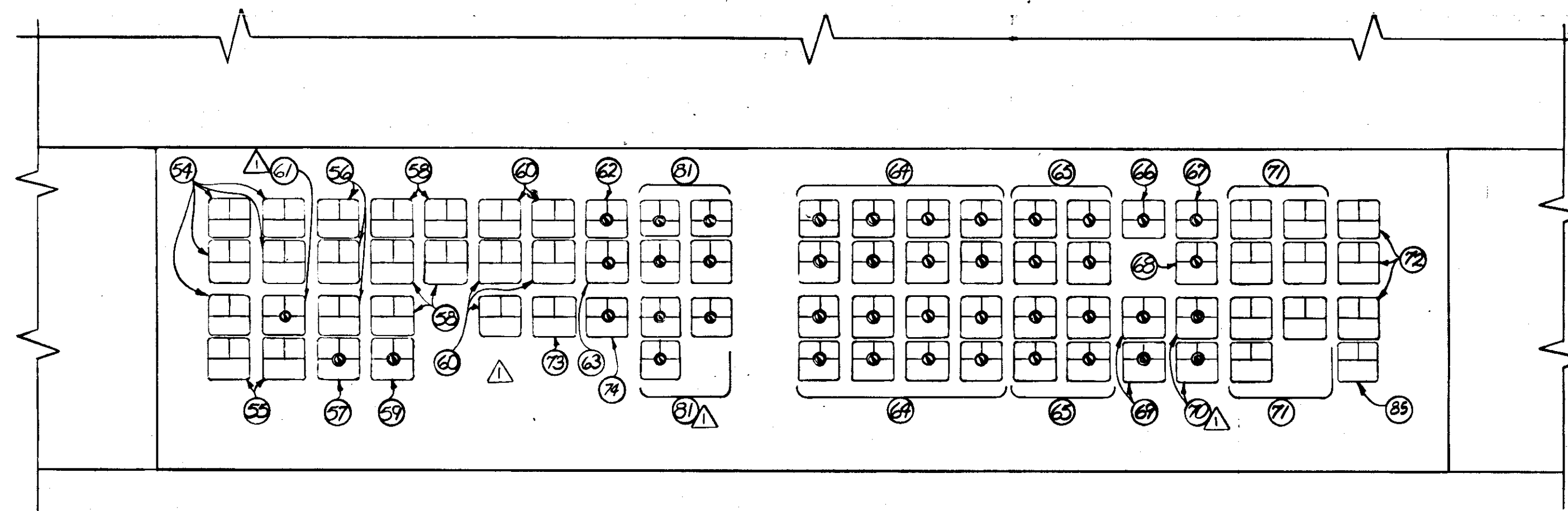
DATE 8/31/82 BY KRM

CHECKED BY:

R & A B. A. W.

M.C.U.S. _____

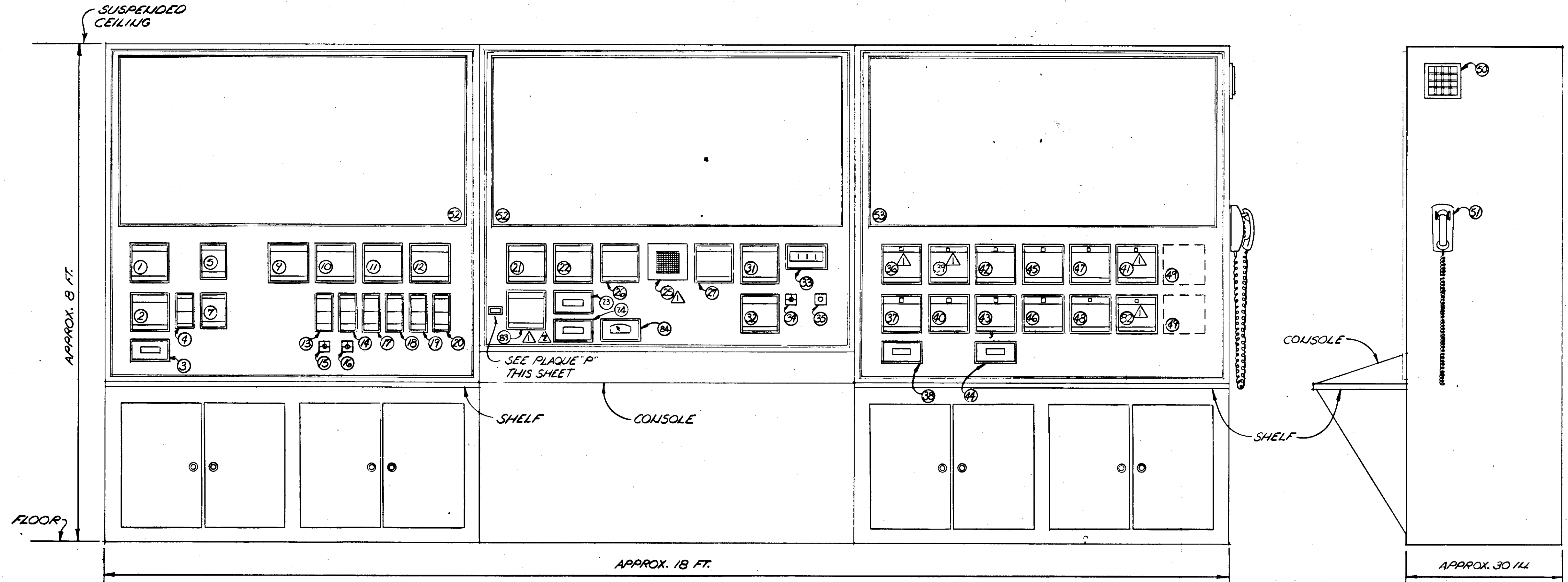
NO.	DATE	DESCRIPTION	BY	CKD.
REVISIONS				
RUSSELL & AXON				
Engineers — Planners — Architects				
WATER WORKS PROJECT				
COMMUNICATION SYSTEM INSTALLATION				
DETAIL II				
MANATEE CO.		FILE NO.	SEAL	
DESIGNED BY	GBA	630-761-04		
DRAWN BY	KRM	SHEET E-23		
CHECKED BY	SJG	OF 130 SHEETS		
DATE	AUGUST, 1978	SCALE: NONE		



- CAUTION -
DO NOT OPERATE
TRANSFER PUMPS
BELOW 65 PSI

PLAQUE "P"

MARK	DEVICE	SERVICE	FUNCTION
54	LIGHTS	RAW WATER PUMPS - STA. N#1	STATUS
55		INDUSTRIAL AREA PUMPS	STATUS
56		RAW WATER PUMPS - STA. N#2	STATUS
57	SEL. SW.	CARBON SLURRY	PAGING SIGNAL
58	LIGHTS	ELWOOD PARK N#1 - TRANSFER PUMPS	STATUS
59	SEL. SW.	FLOW CONTROL VALVE ELW. PARK NO. 1	MANUAL OVERRIDE
60	LIGHTS	ELWOOD PARK N#2 - TRANSFER PUMPS	STATUS
61	POTENTIAL METER	DIVERSION B/FV ELWOOD PARK N#1	OPEN/CLOSE
62	SEL. SW.	BASIN "A" - LIME OR ACID	pH CONTROL
63	SEL. SW.	BASIN "B" - LIME OR ACID	pH CONTROL
64	PUSH BUTTON	BASIN "A" FLOCCULATORS	START/STOP
65		BASIN "A" POST MIXERS	START/STOP
66		BASIN "A" RAPID MIX	START/STOP
67		BASIN "B" RAPID MIX	START/STOP
68		BASIN "B" CLARIFIER SLUDGE SCRAPER	START/STOP
69		BASIN "B" FLOCCULATORS N#1 & 2	START/STOP
70		BASIN "B" POST MIXERS N#1 & 2	START/STOP
71	LIGHTS	ELWOOD PARK N#1 BOOSTER PUMPS	STATUS
72		ELWOOD PARK N#2 BOOSTER PUMPS	STATUS
73		BACKWASH PUMP	STATUS
74	SEL. SW.	C.W./ELEV. T.NK. BACKWASH WATER SUPPLY	SOURCE SELECTION
75	LIGHTS	PLANT WATER BOOSTER PUMPS	STATUS



MARK	DEVICE	SERVICE	FUNCTION	MARK	DEVICE	SERVICE	FUNCTION	MARK	DEVICE	SERVICE	FUNCTION	MARK	DEVICE	SERVICE	FUNCTION
1	INDIC.REC.	RAW WATER RESERVOIR	LEVEL	19	CONTROL STA.	SET POINT-CLEARWELL NO.	pH	37	2P.IND.REC.	MANATEE COUNTY SYST. 36" x 30"	FLOW	76	LIGHTS	SLUDGE BLOW-OFF PUMP	STATUS
2	2P-INDIC.	RAW W. TO BAS. "A" & "B"	FLOW	20	CONTROL STA.	SET POINT-CLEARWELL SO	pH	38	TOTAL.	MANATEE COUNTY SYST. 36" x 30"	FLOW	77			
3	TOTAL.	RAW W. TO BAS. "A" & "B"	FLOW	21	INDIC.REC.	W.T.R. ELEVATED TANK	LEVEL	39				78			
4	MASTER STA.	RAW W. TO BAS. "A" & "B"	FLOW PROP.	22	2P-IND.REC.	TRANSFER FLOW #1 & #2	FLOW	40	INDIC. REC.	ELWOOD PRK. #2 EFFLUENT	FLOW	79			
5	RATIO STA.	RAW W. TO BAS. "A"	FLOW PROP.	23	TOTAL.	TRANSFER FLOW #1	FLOW	41				80	LIGHTS	ELLENTON BOOSTER PUMPS	STATUS
				24	TOTAL.	TRANSFER FLOW #2	FLOW	42	INDIC.REC.	SARASOTA COUNTY LINE	PRESSURE	81	PUSH BUTTONS	ELWOOD PARK N#1 BOOSTER PUMPS	START/STOP
7	RATIO STA.	RAW W. TO BAS. "B"	FLOW PROP.	25	MATRIX PBO	RAW W. PUMPING STA. #1 & #2 PUMPS	START/STOP	43	INDIC.REC.	SARASOTA COUNTY LINE	FLOW	82	INDIC. REC.	ELWOOD PARK N#2 CL ₂ RESIDUAL	
				26	2P-IND-REC	ELLENTON SUCTION & DISCHARGE	PRESSURE	44	TOTAL.	SARASOTA COUNTY LINE	FLOW	83	INDIC. REC.	TRANSFER LINE	PRESSURE
9	INDIC.REC.	CLEARWELL	LEVEL	27	IND-REC	BORDEN ELEVATED TANK	LEVEL	45	INDIC.REC.	ELLEUTON BOOSTER STA. CL ₂ RESIDUAL		84	INDIC.	DIVERSION B.F.V. ELWOOD PARK N#1	VALV. POS.
10	2P-IND.REC.	RAPID MIX BASIN "A" & BASIN "B"	pH	28				46	INDIC.REC.	ELEVATED TANK CORTEZ RD.	LEVEL	85	LIGHT	BORDEN ELEV. TANK SIGNAL FAILURE	
11	2P-IND.REC.	BASIN "A" & BASIN "B" POST MIX	pH	29				47	INDIC.REC.	ELEVATED TANK U.W-1 ST. ST.	LEVEL				
12	2P-IND.REC.	CLEARWELL NORTH & SOUTH	pH	30				48	INDIC.REC.	ELEVATED TANK PALMETTO	LEVEL				
13	CONTROL STA.	SET POINT BASIN "A" RAPID MIX	pH	31	INDIC.REC.	ELWOOD PRK. #1-GROUND STORAGE	LEVEL	49		FUTURE					
14	CONTROL STA.	SET POINT BASIN "B" RAPID MIX	pH	32	INDIC.REC.	ELLENTON BOOSTER PUMP STA.	FLOW	50	CHIME		ALARM				
15	SEL. SW.	LIME SLURRY-SULFURIC ACID-BAS. "A"	pH	33	INDIC.	DIGITAL CLOCK	TIME	51	PHONE	RAW W. PUMPING STA. #1					
16	SEL. SW.	LIME SLURRY-SULFURIC ACID-BAS. "B"	pH	34	PUSH BUTT.	SEMI/GRAPHIC TRICOLOR LIGHTS	TEST	52	SEMI-GRAPHIC	WATER TREATMENT PLANT	STATUS & ALARM				
17	CONTROL STA.	SET POINT-BAS. "A" POST MIX	pH	35	PUSH BUTT.	ALARM ACKNOWLEDGEMENT		53	SEMI-GRAPHIC	DISTRIBUTION SYSTEM	STATUS & ALARM				
18	CONTROL STA.	SET POINT-BAS. "B" POST MIX	pH	36	2P.IND-REC	ELWOOD PRK #1-CHLORINE RESIDUAL									

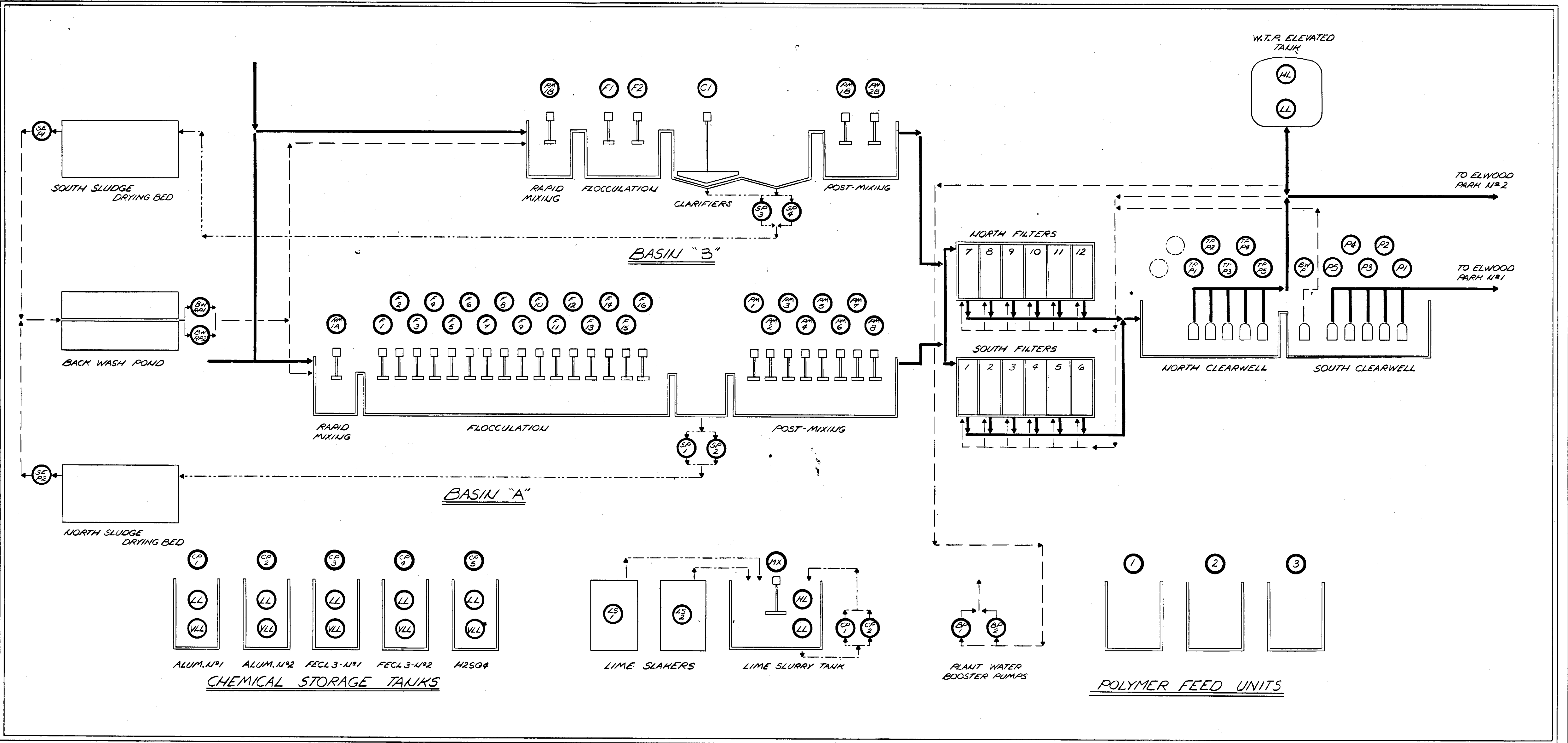
DESIGNED BY	FILE NO.	SEAL
DRAWN BY	630-761-04	
CHECKED BY	SHEET 1-1	
DATE	NO. 112	SHEETS
AUGUST, 1978	OF 130	
SCALE: NONE		

RUSSELL & AXON
Engineers — Planners — Architects

WATER WORKS PROJECT
WATER TREATMENT PLANT
PLANT OPERATOR CONTROL CONSOLE LAYOUT

MANATEE CO. FLORIDA

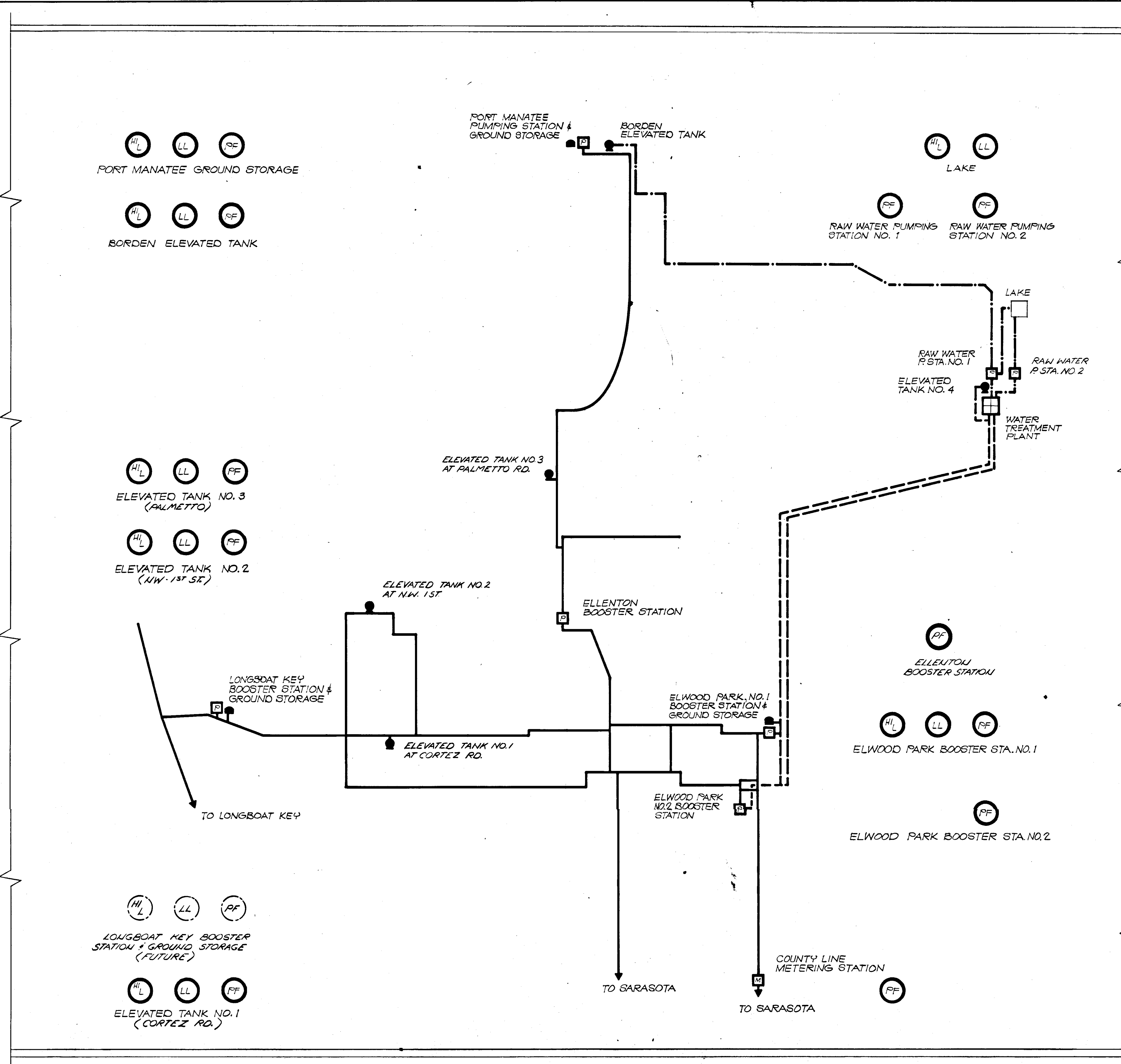
14-01



LEGEND:

- TRI-COLOR (RED-GREEN-AMBER) LIGHT ALPHA-NUMERALS IDENTIFY EQUIPMENT OR PARAMETER.
- MAIN FLOW
- PROCESS FLOWS
- SLUDGE FLOWS
- CHEMICALS

NO.	DATE	DESCRIPTION	BY	CKD.
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT WATER TREATMENT PLANT PLANT OPERATOR CONTROL CONSOLE PLANT SEMI-GRAPHIC				
MANATEE CO.		T-113 FLORIDA		
DESIGNED BY	FILE NO.	SEAL		
GBA	630-761-04			
DRAWN BY	SHEET I-2			
RE	No. 113			
CHECKED BY	OF 130 SHEETS			
SJG				
DATE	SCALE:			
AUGUST, 1978				

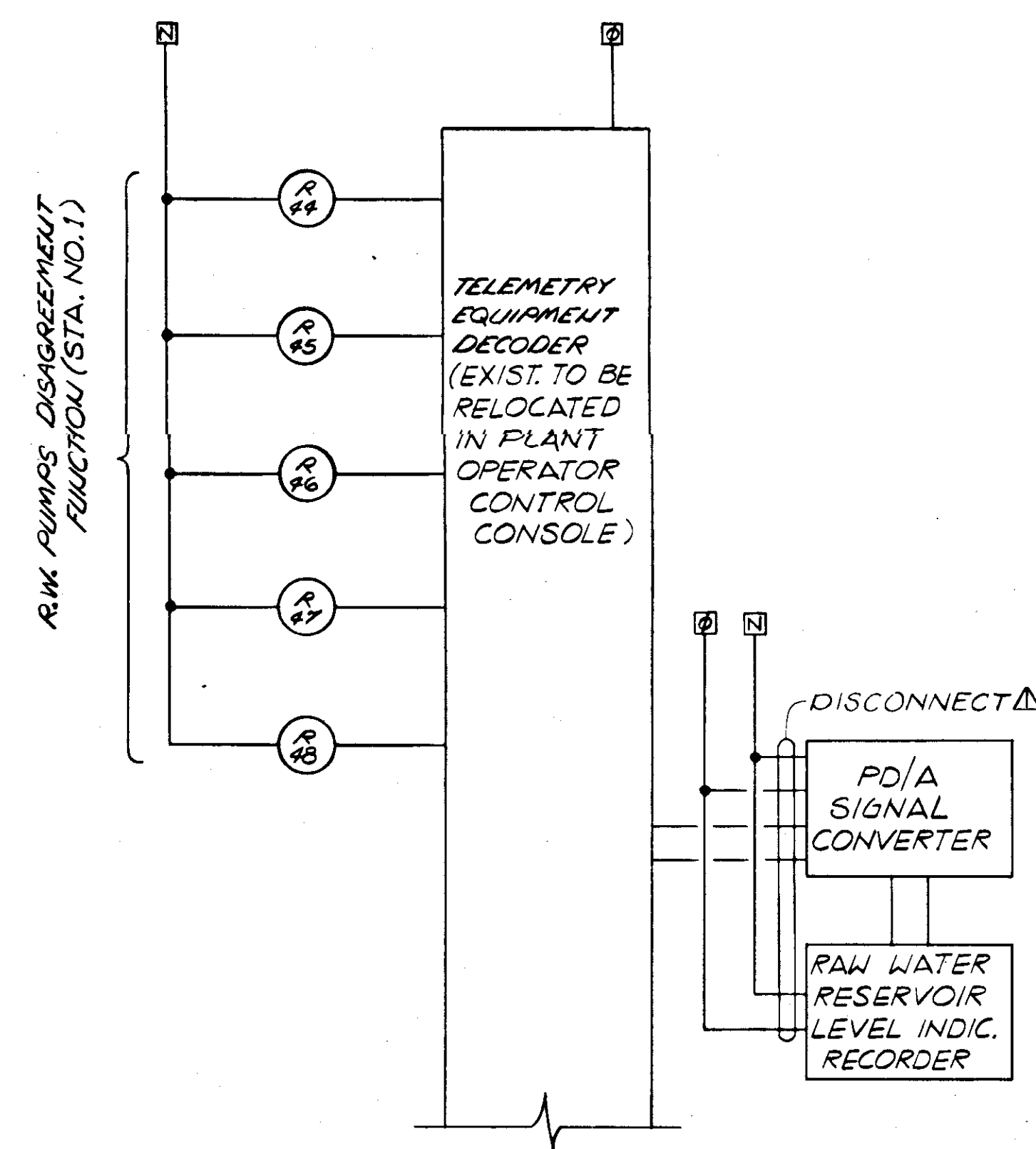
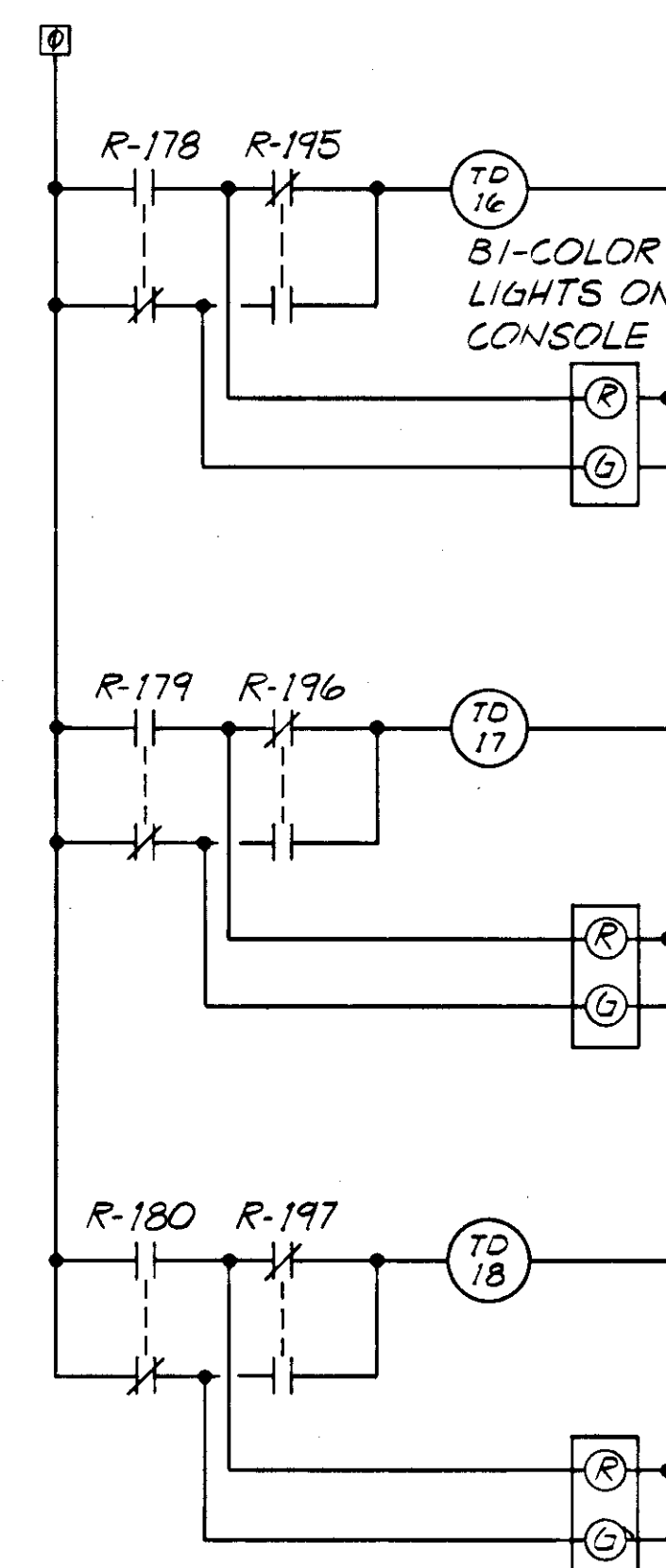
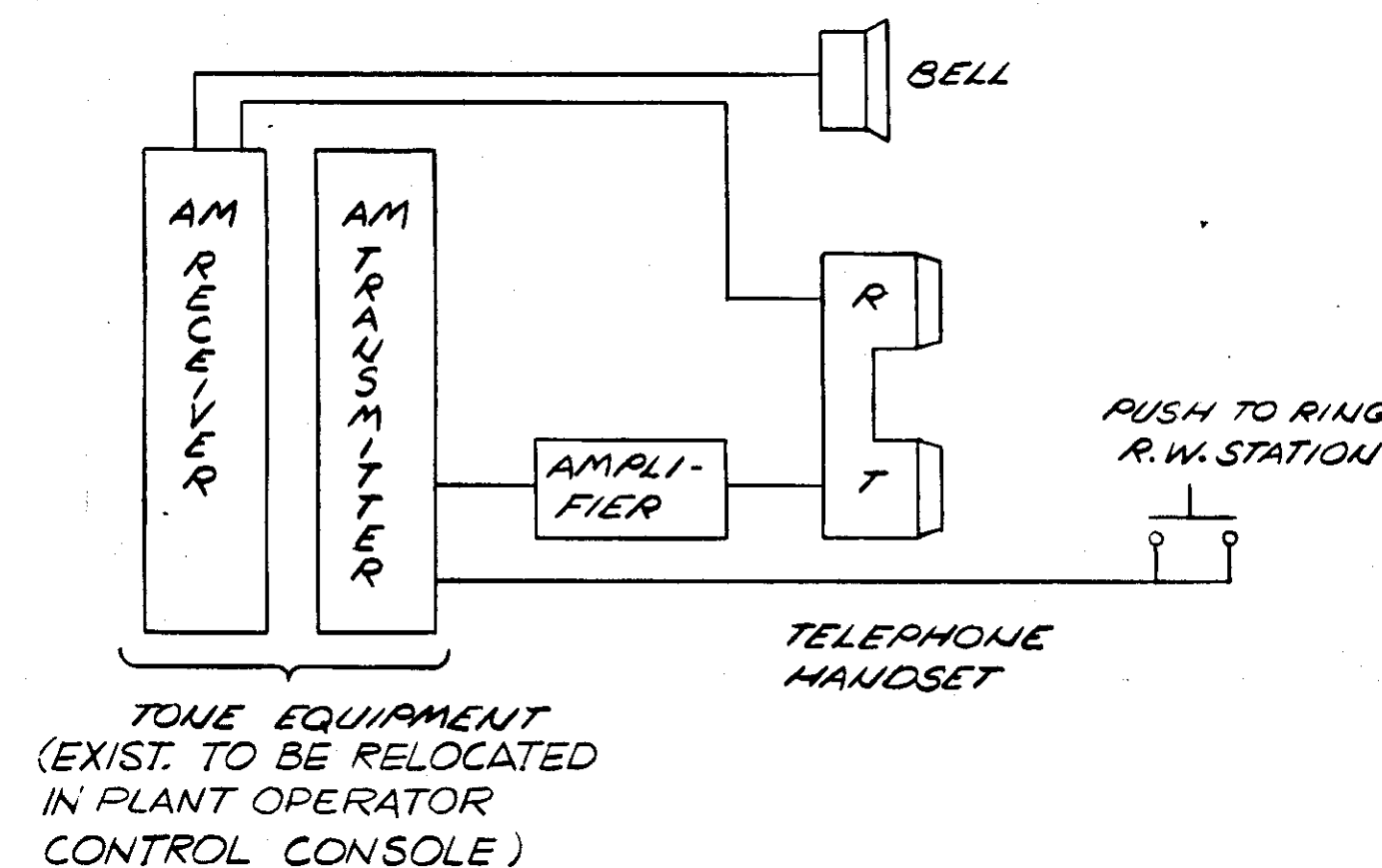
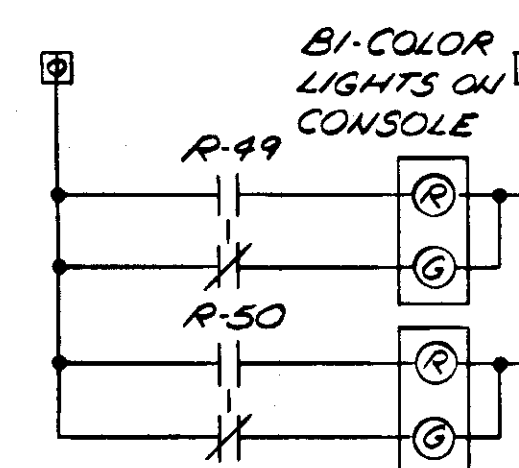
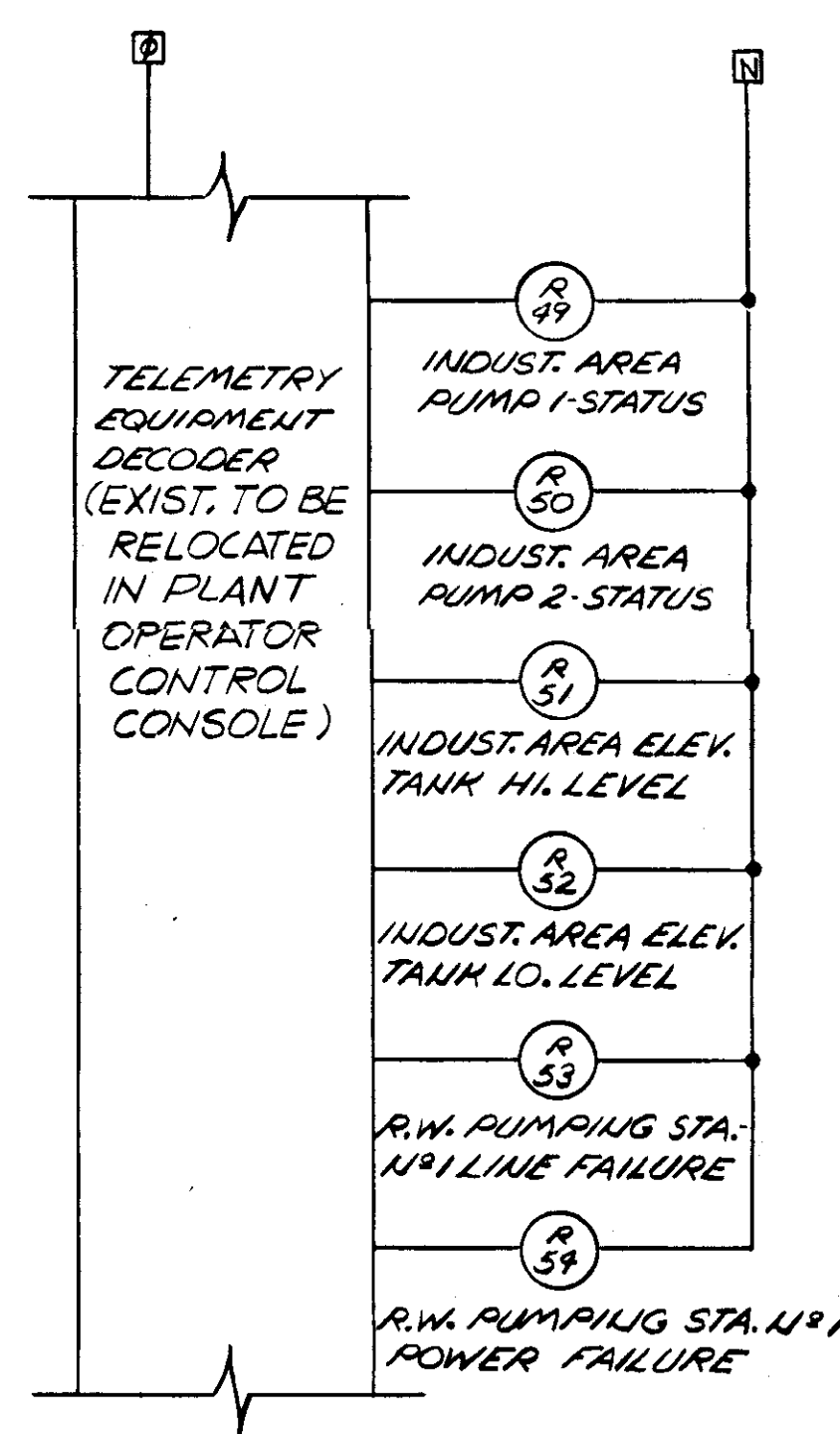
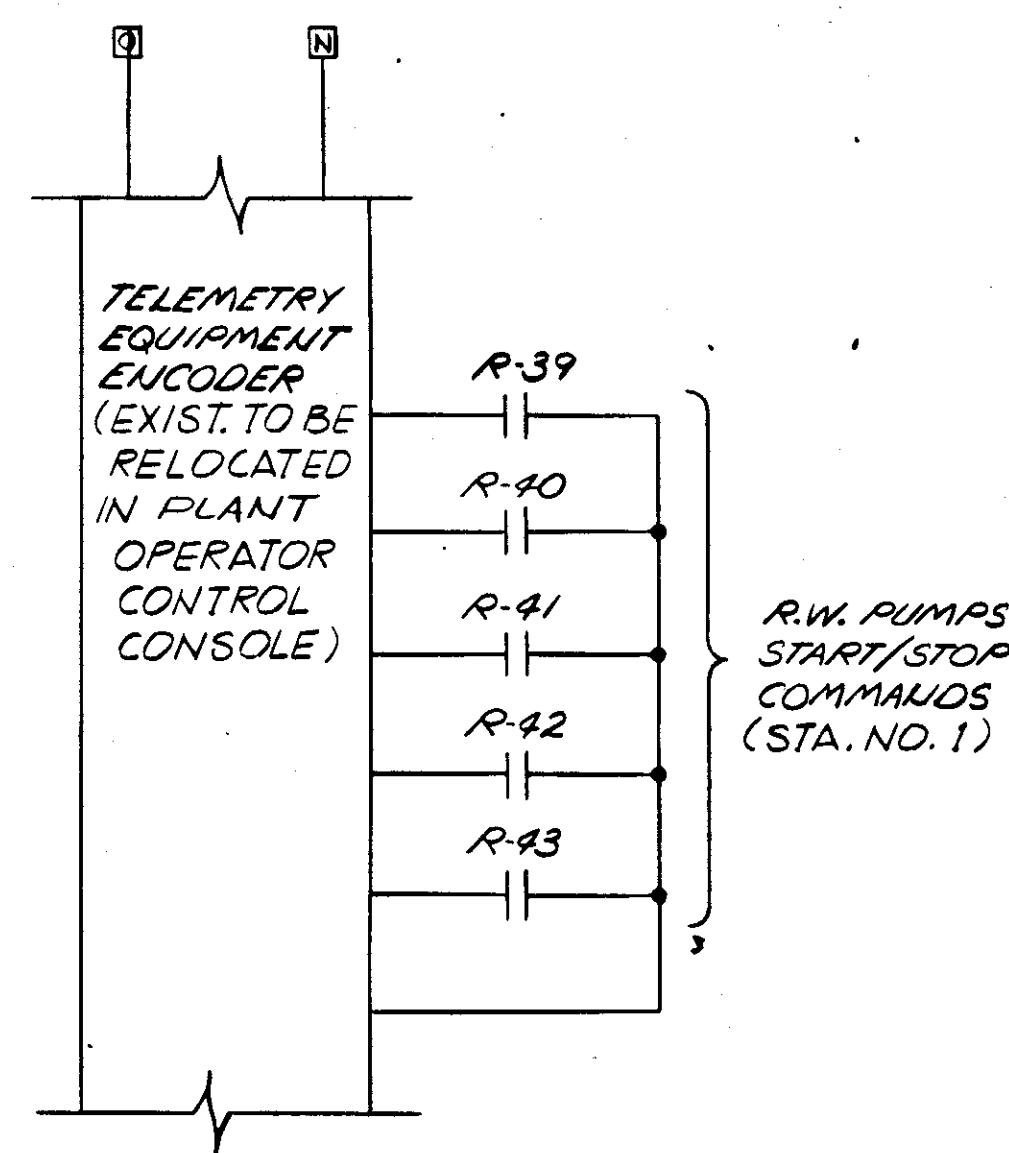
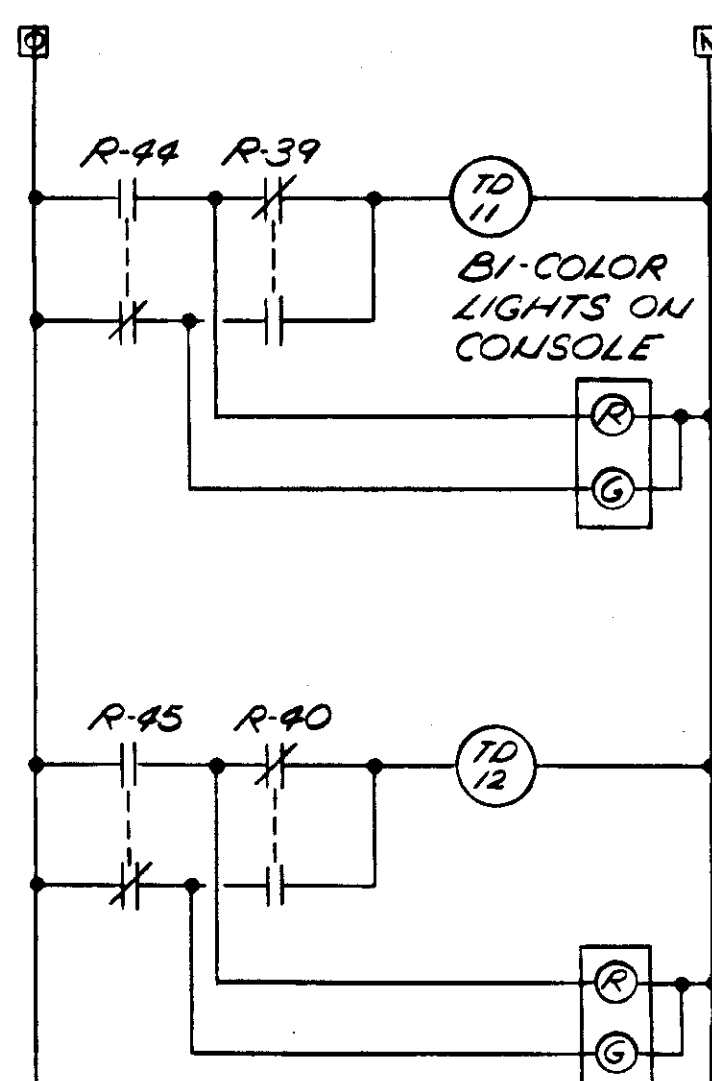
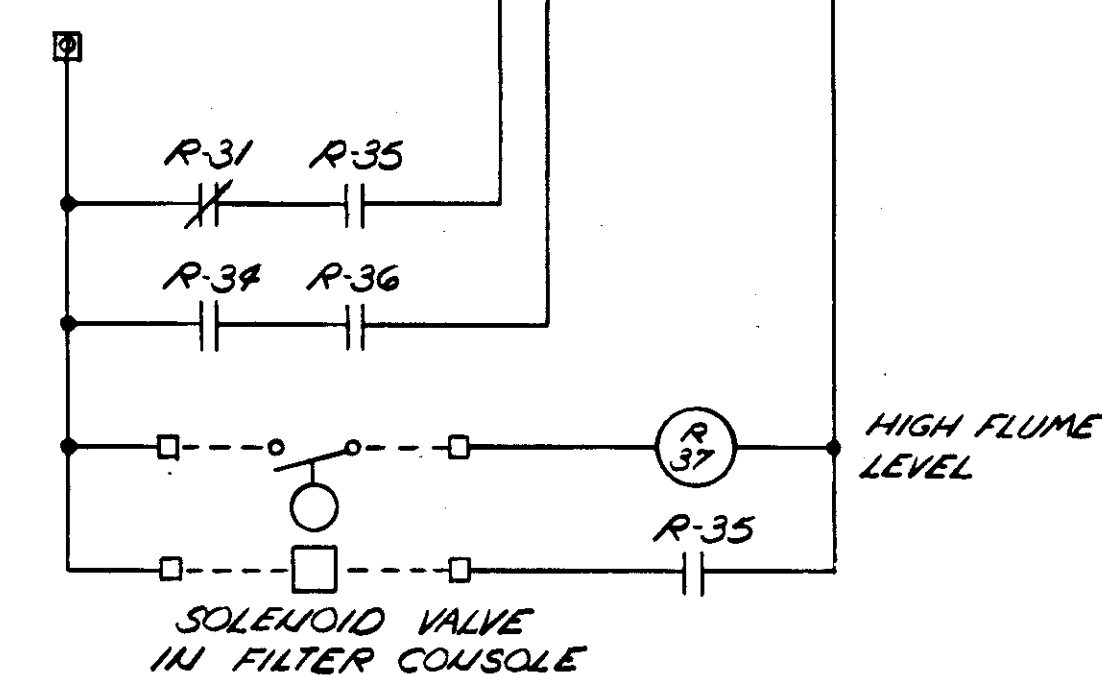
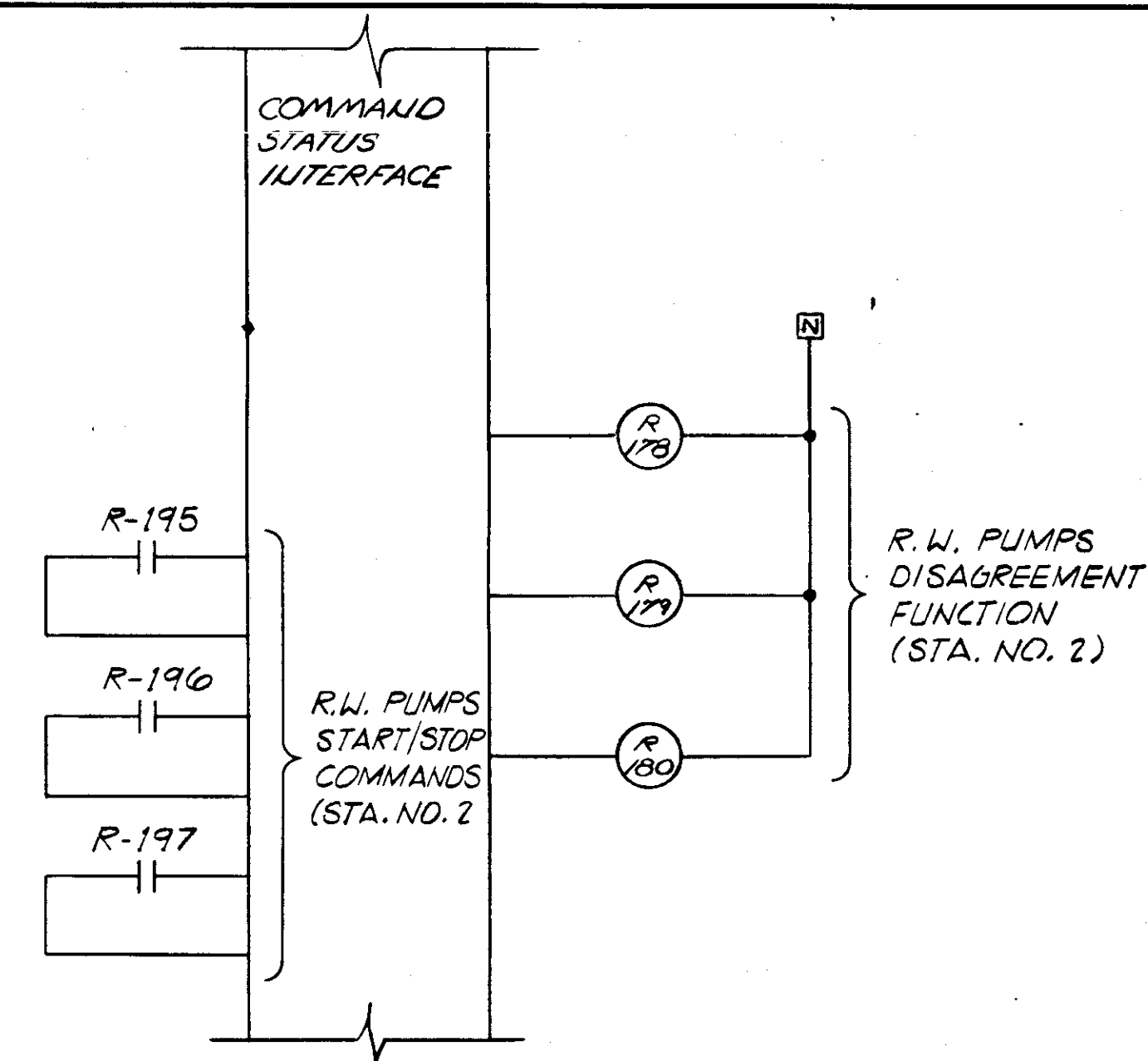
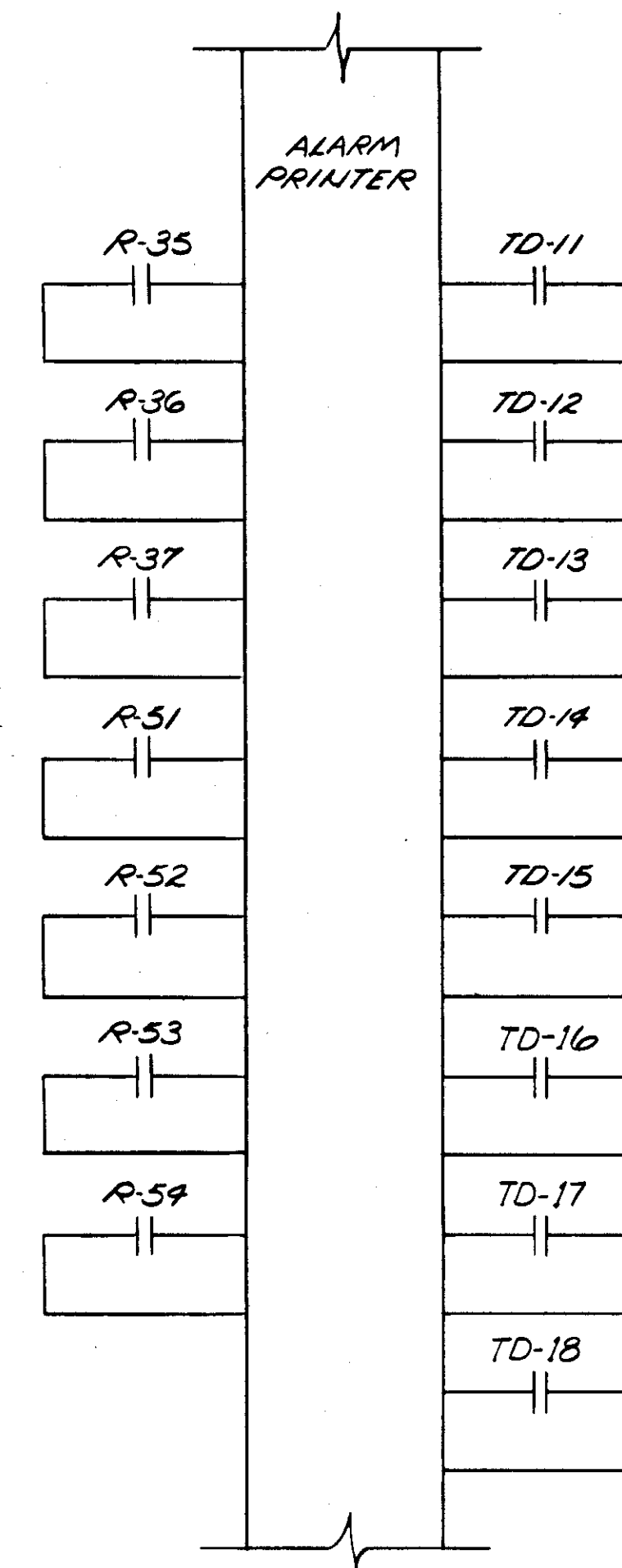
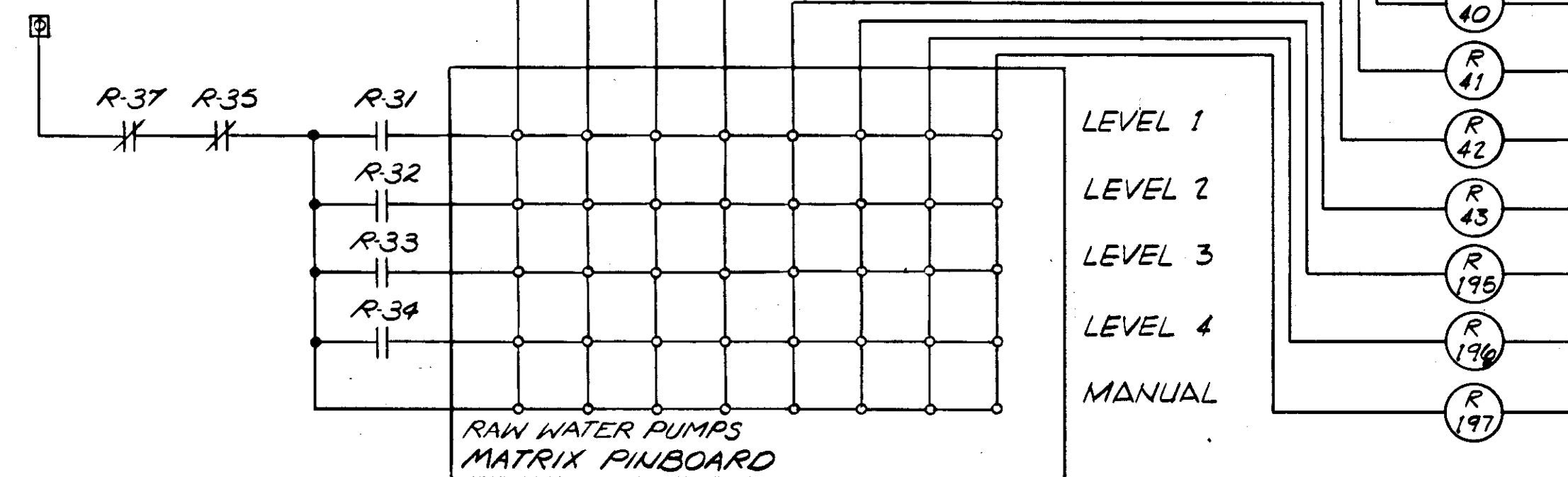
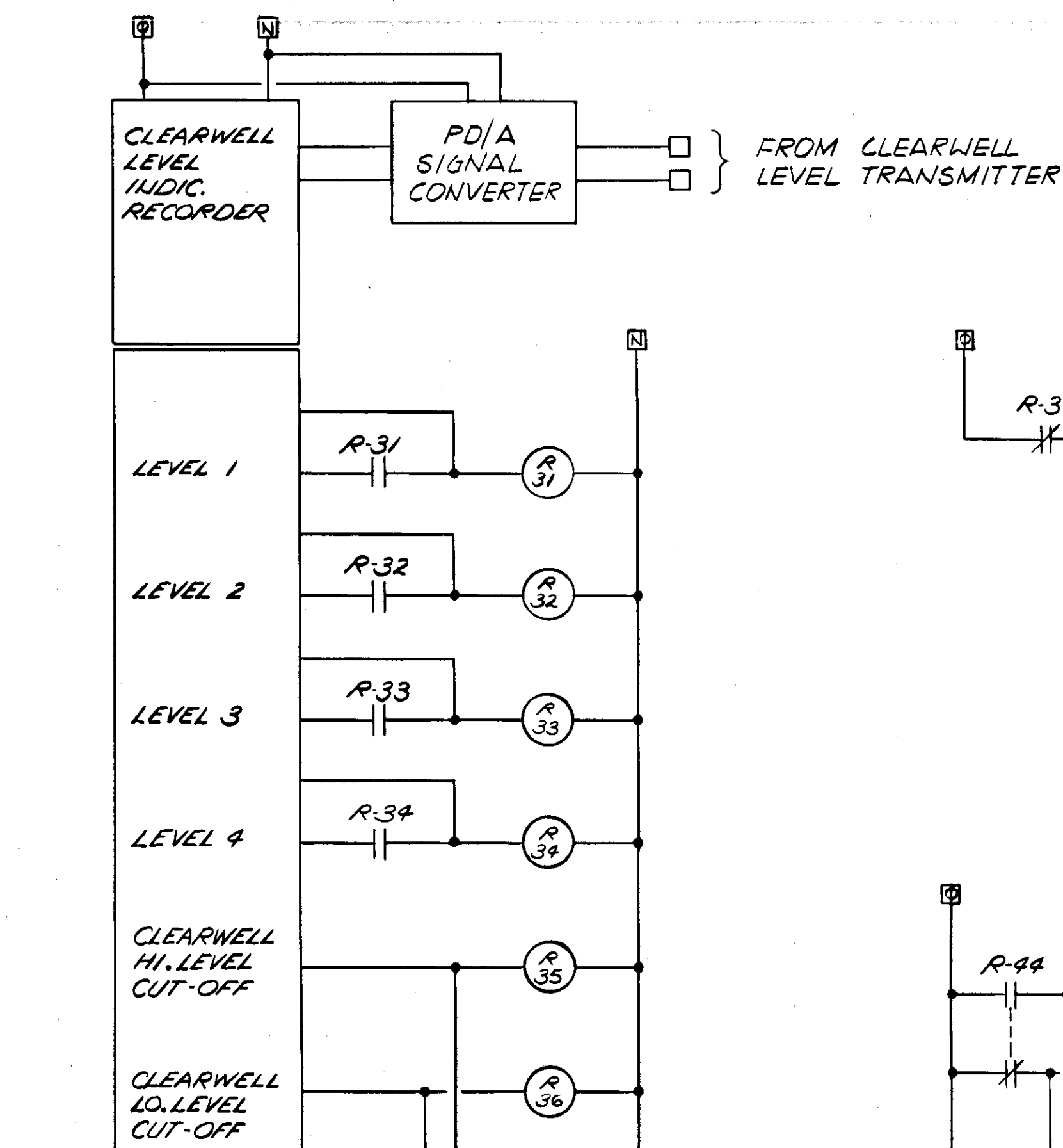


- LEGEND:**
- WATER TREATMENT PLANT
 - PUMPING STATION
 - ELEVATED TANK
 - GROUND STORAGE TANK
 - METERING STATION
 - TREATED WATER DISTRIBUTION LINE
 - RAW WATER TRANSFER LINE
 - TREATED WATER TRANSFER LINE
 - HL HIGH LEVEL
 - LL LOW LEVEL
 - PF POWER FAILURE

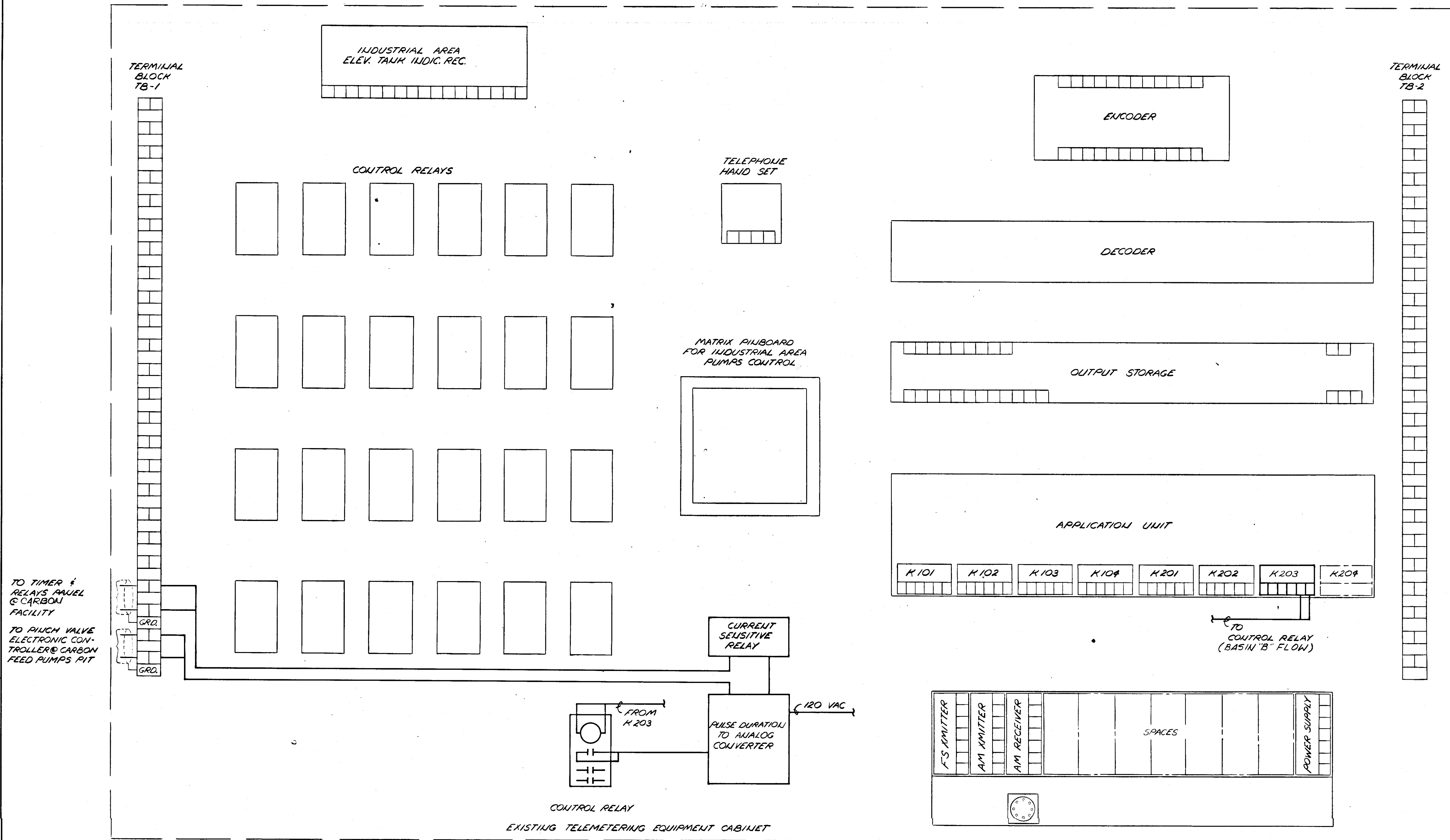
	5/79	DELETE ELWOOD 2 STORAGE	RS4	
NO.	DATE	DESCRIPTION	BY	CKD.
REVISIONS				
RUSSELL & AXON				
Engineers — Planners — Architects				
WATER WORKS PROJECT				
WATER TREATMENT PLANT				
PLANT OPERATOR CONTROL CONSOLE				
DISTRIBUTION SYST. SEMI-GRAPHIC				
MANATEE CO.		T-114 FLORIDA		
DESIGNED BY GBA		FILE NO. 630-761-04	SEAL	
DRAWN BY JC		SHEET I-3		
CHECKED BY SJB		OF 130		
DATE AUGUST , 1978		NO. 114 SHEETS		
		SCALE: NONE		

EXIST. PUMPS @ RAW
WATER PUMPING STA. NO. 1

PUMPS AT FUTURE
RAW WATER PUMPING
STATION NO. 2

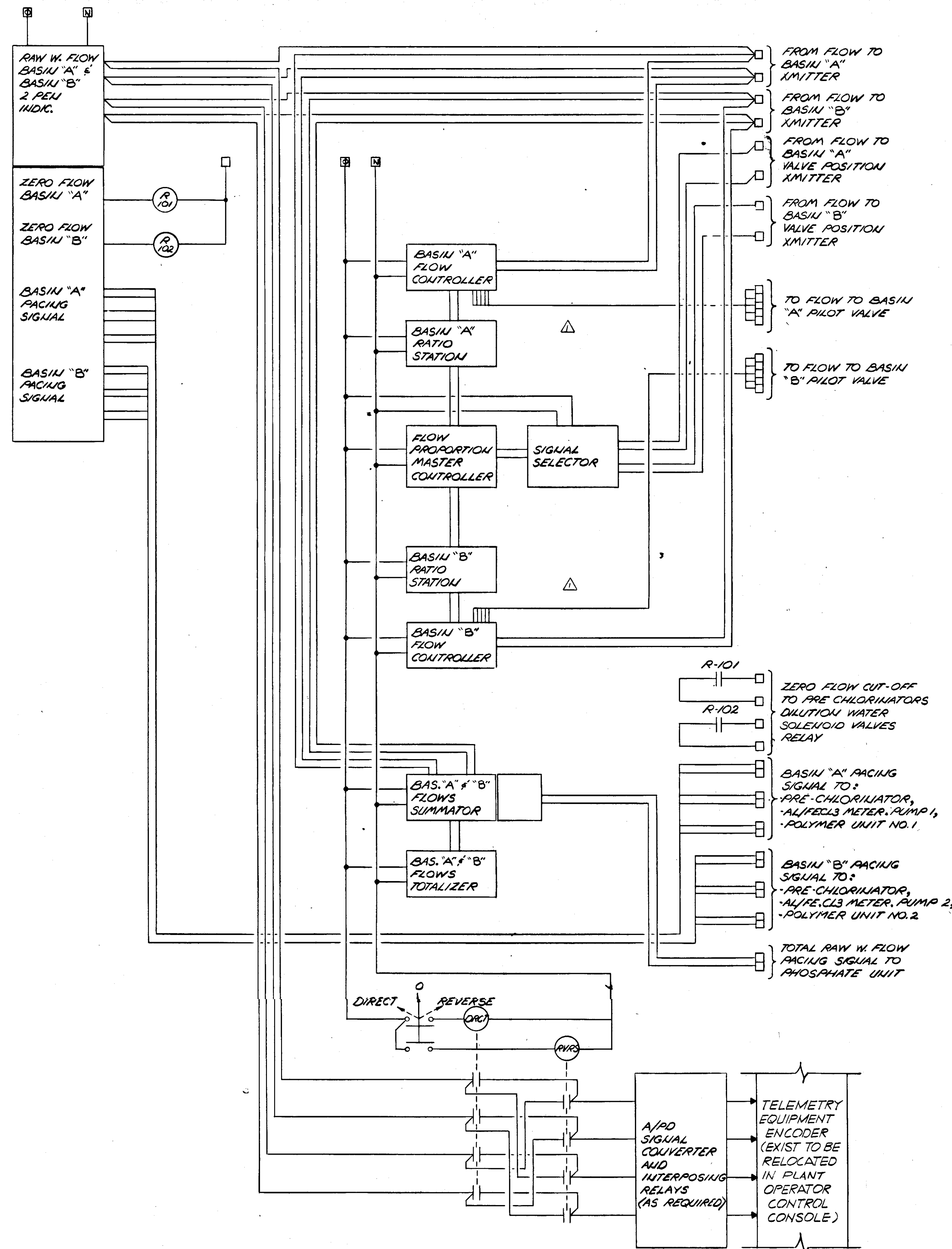


	1179	AS PER REVISION #1	RWF	SJG	SJG
NO.	DATE	DESCRIPTION		BY	CHKD
REVISONS					
RUSSELL & AXON <i>Engineers — Planners — Architects</i>					
WATER WORKS PROJECT WATER TREATMENT PLANT PLANT OPERATOR CONTROL CONSOLE RAW WATER PUMPS CONTROL					
MANATEE CO.		FILE NO.		T-115 FLORIDA SEAL	
DESIGNED BY GBA		630-761-04			
DRAWN BY DRC		SHEET I-4			
CHECKED BY SJG		No. (115)			
DATE AUGUST, 1978		OF 130		SHEETS	
		SCALE: NONE			

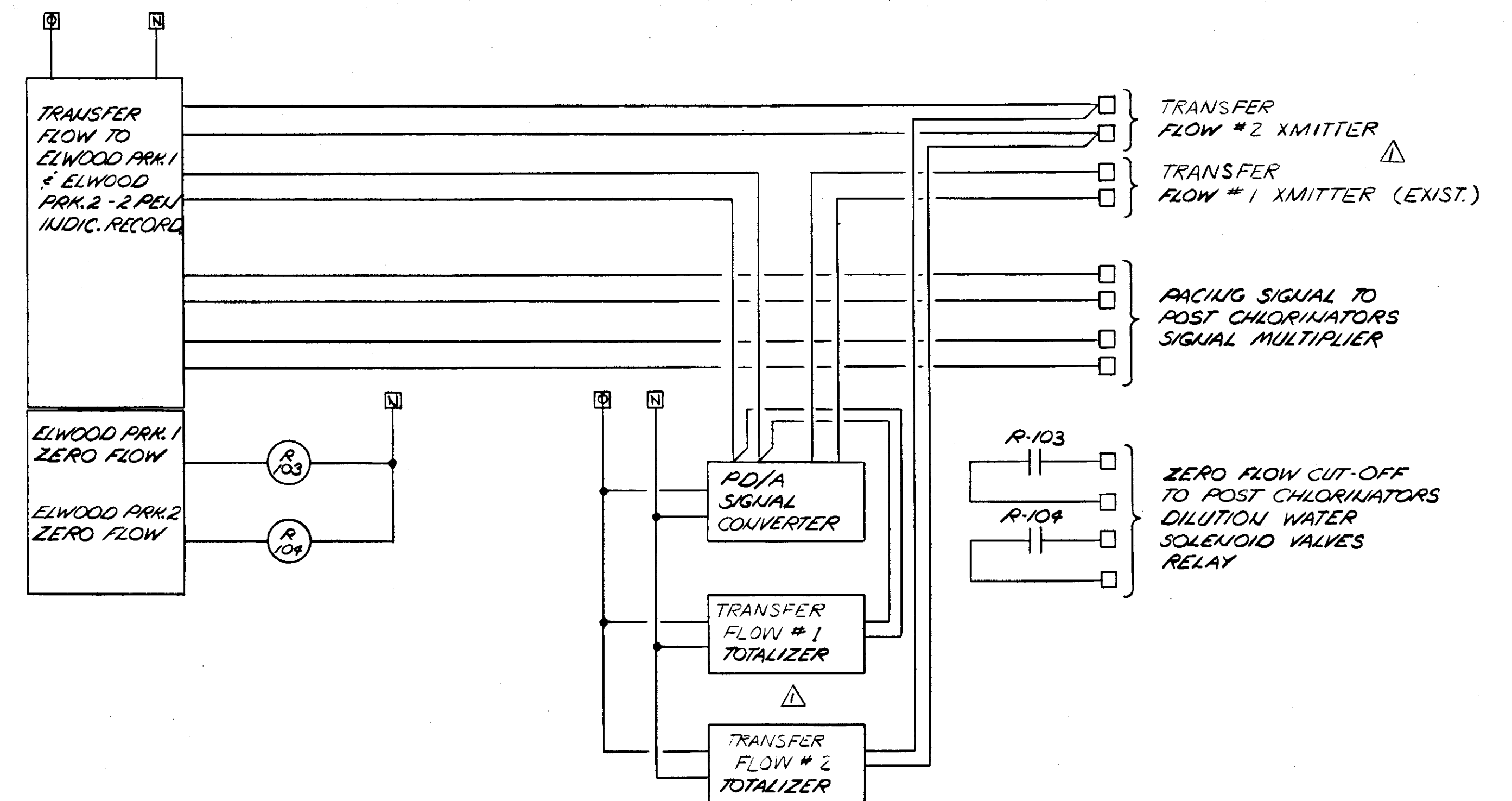


NOTE: HEAVY LINES ARE NEW COMPONENTS
 LIGHT LINES ARE EXISTING COMPONENTS
 DASH-DOT LINES ARE FUTURE COMPONENTS

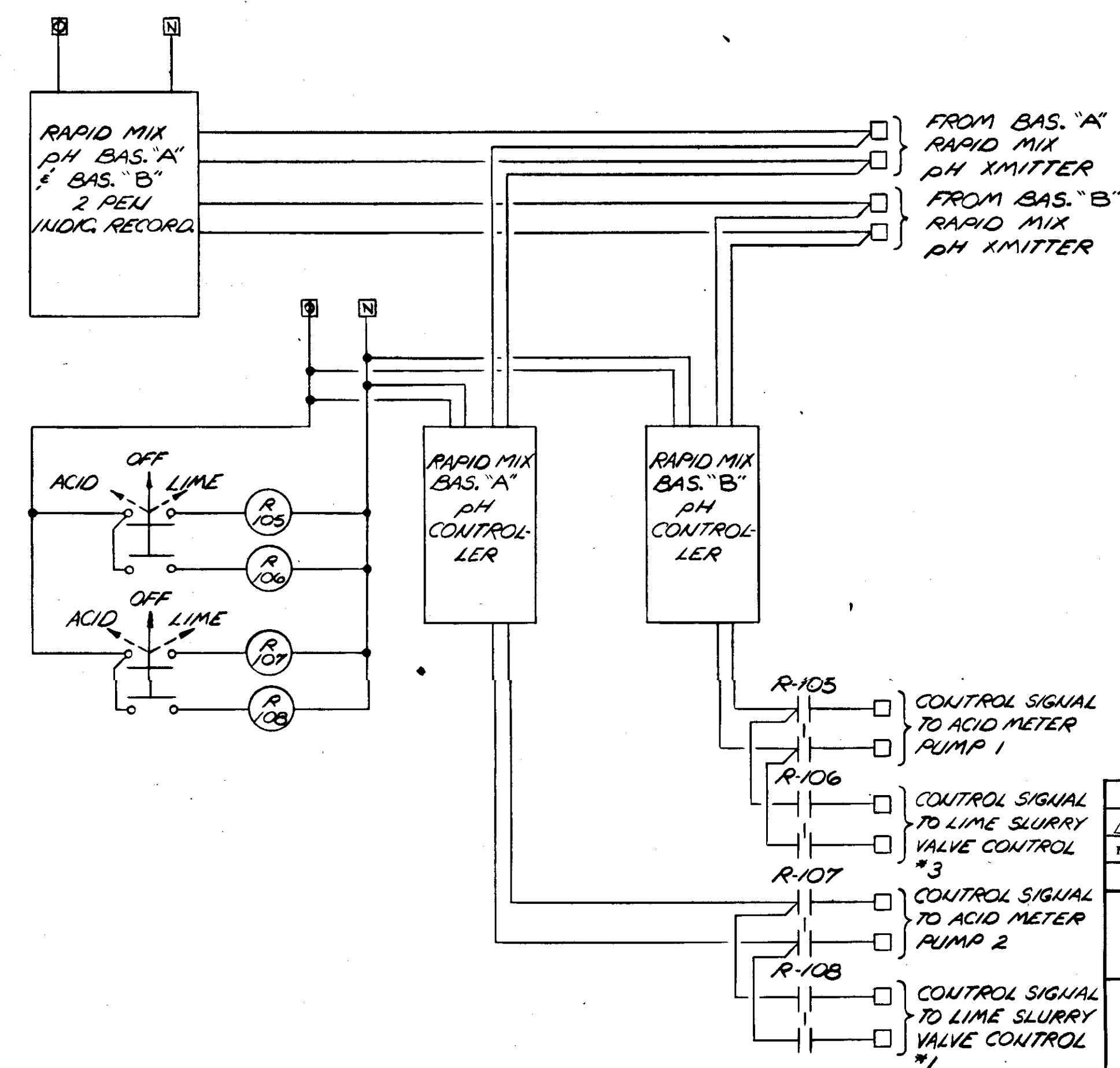
NO.	DATE	DESCRIPTION	BY	CHKD.
REVISIONS				
RUSSELL & AXON				
Engineers — Planners — Architects				
WATER WORKS PROJECT				
RAW WATER PUMPING STATION NO. 1				
TELEMETERING EQUIP. ADDITIONS				
MANATEE CO.				
DESIGNED BY	GBA	FILE NO.	630-761-04	SEAL
DRAWN BY	DC	SHEET I-5	No. 116	
CHECKED BY	SJG	OF 130	SHEETS	
DATE	AUGUST, 1978	SCALE: NONE		



RAW WATER PROPORTIONING & CONTROLS

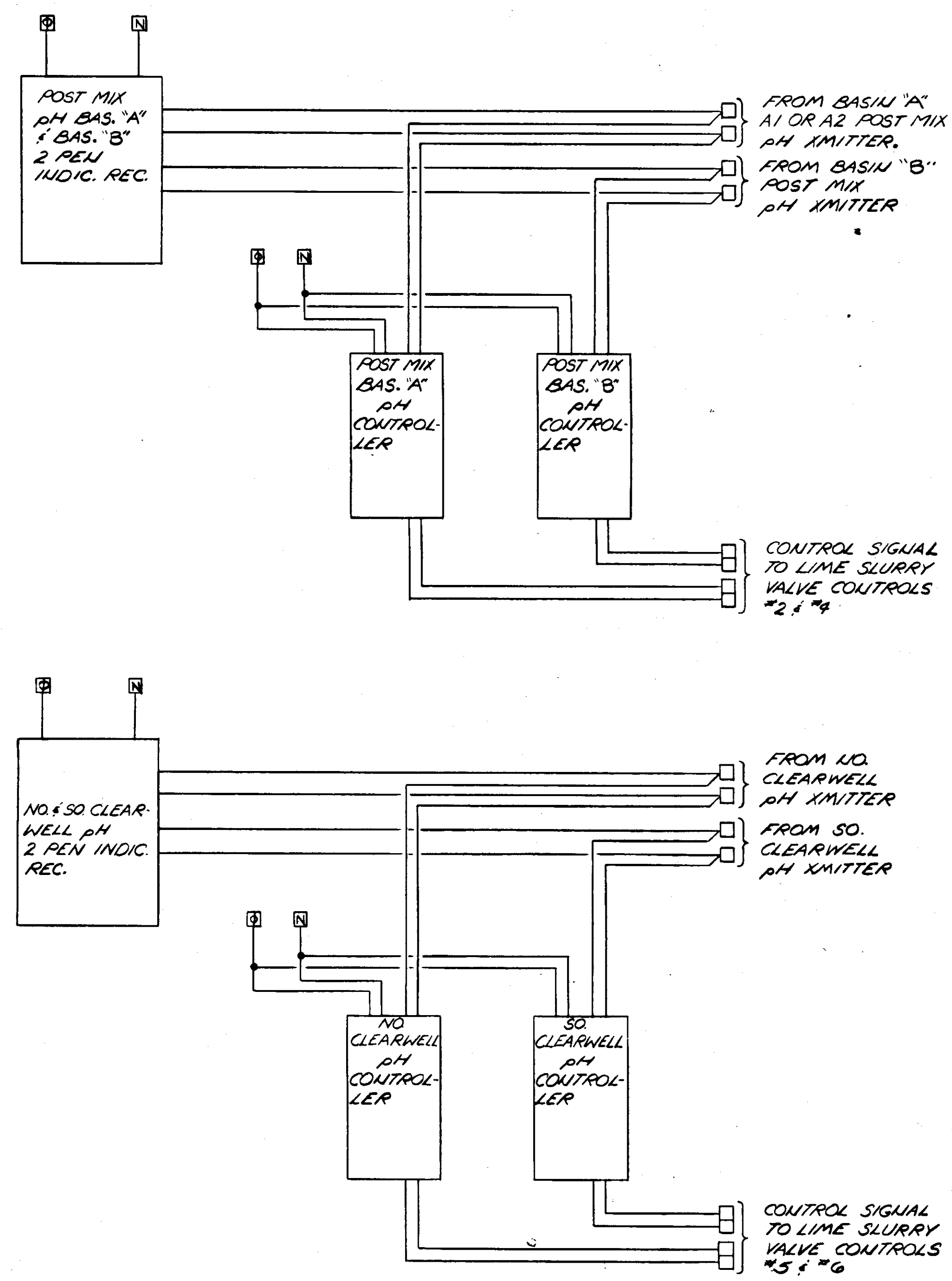


TRANSFER FLOW - INSTRUMENTS & CONTROLS

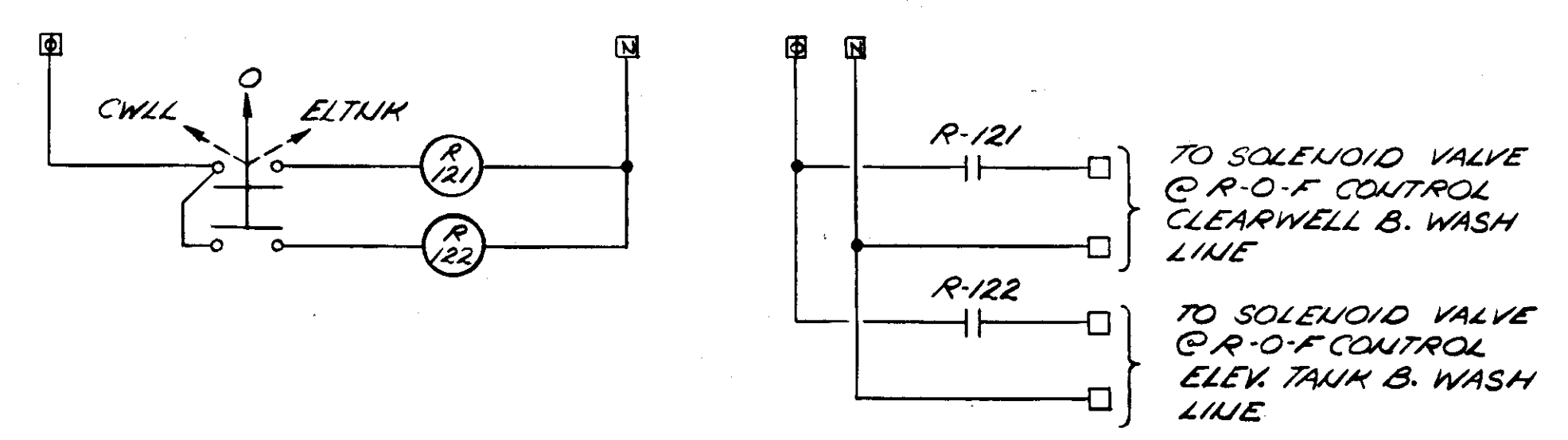


pH - INSTRUMENTS & CONTROLS (ARRANG. #1)

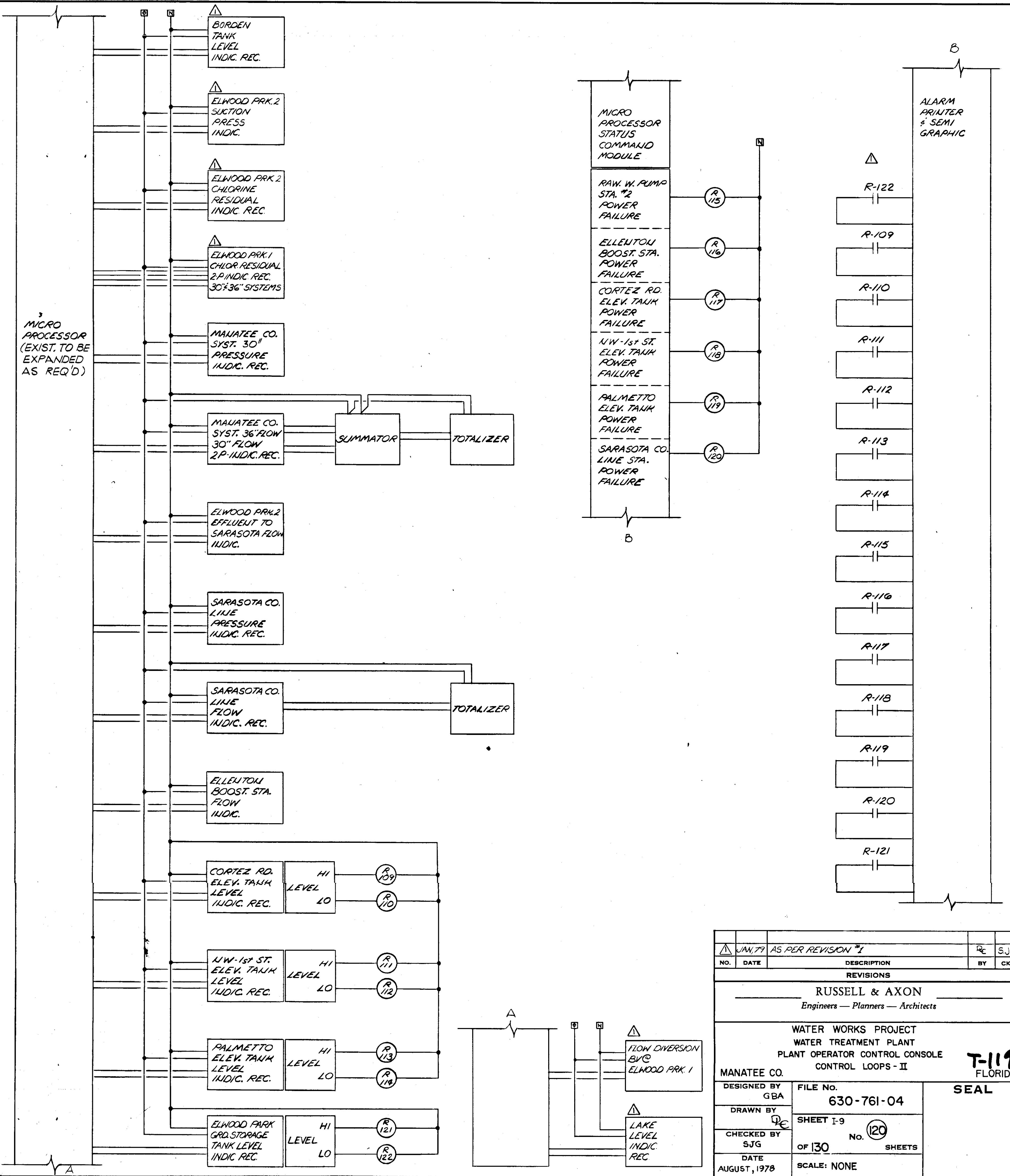
NO.	DATE	DESCRIPTION	BY	CHKD.
1	MAY 79	DEL. BASIN A & B FLOW VALVE POSIT. IND.	MAS	
REVISIONS				
RUSSELL & AXON				
Engineers — Planners — Architects				
WATER WORKS PROJECT				
WATER TREATMENT PLANT				
PLANT OPERATOR CONTROL CONSOLE				
CONTROL LOOPS - I				
MANATEE CO.				
DESIGNED BY	FILE NO.	SEAL		
GBA	630-761-04			
DRAWN BY	SHEET I-8	T-118		
SJG	119			
CHECKED BY	OF 130 SHEETS	FLORIDA		
SJG	119			
DATE	SCALE: NONE	14-01		
AUGUST, 1978				



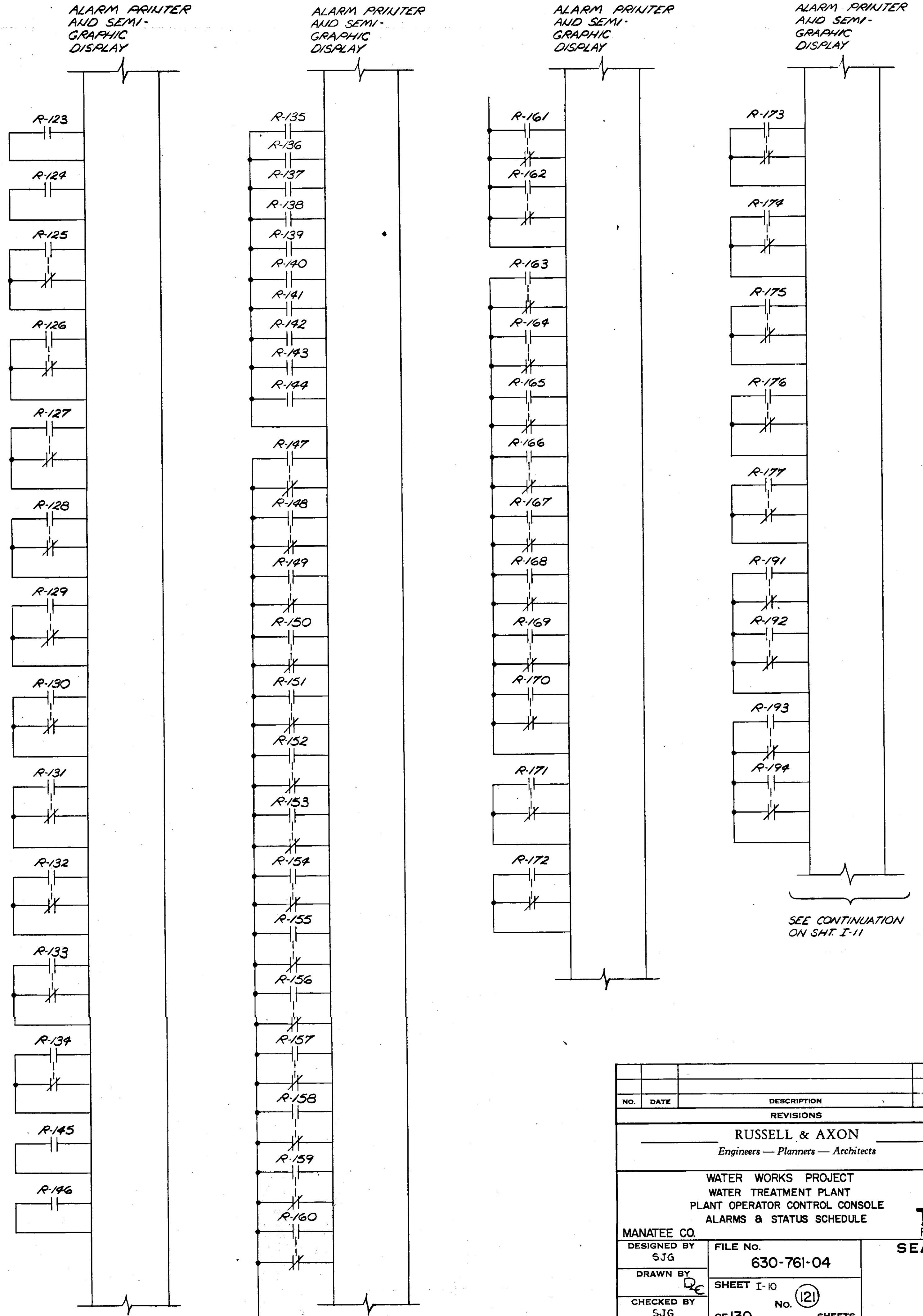
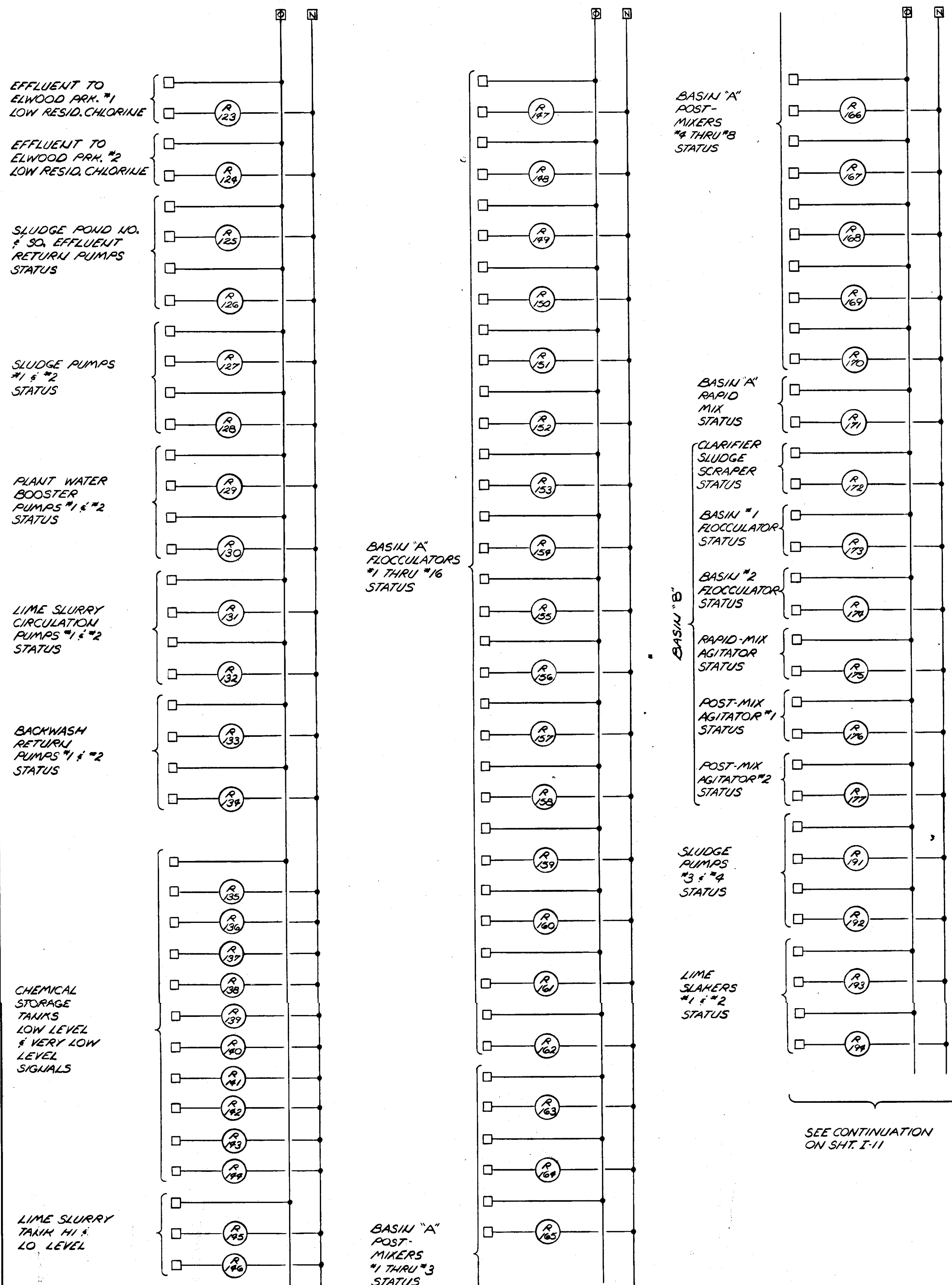
pH-INSTRUMENTS & CONTROLS (ARRG. #2)



BACK WASH WATER SUPPLY SELECTION

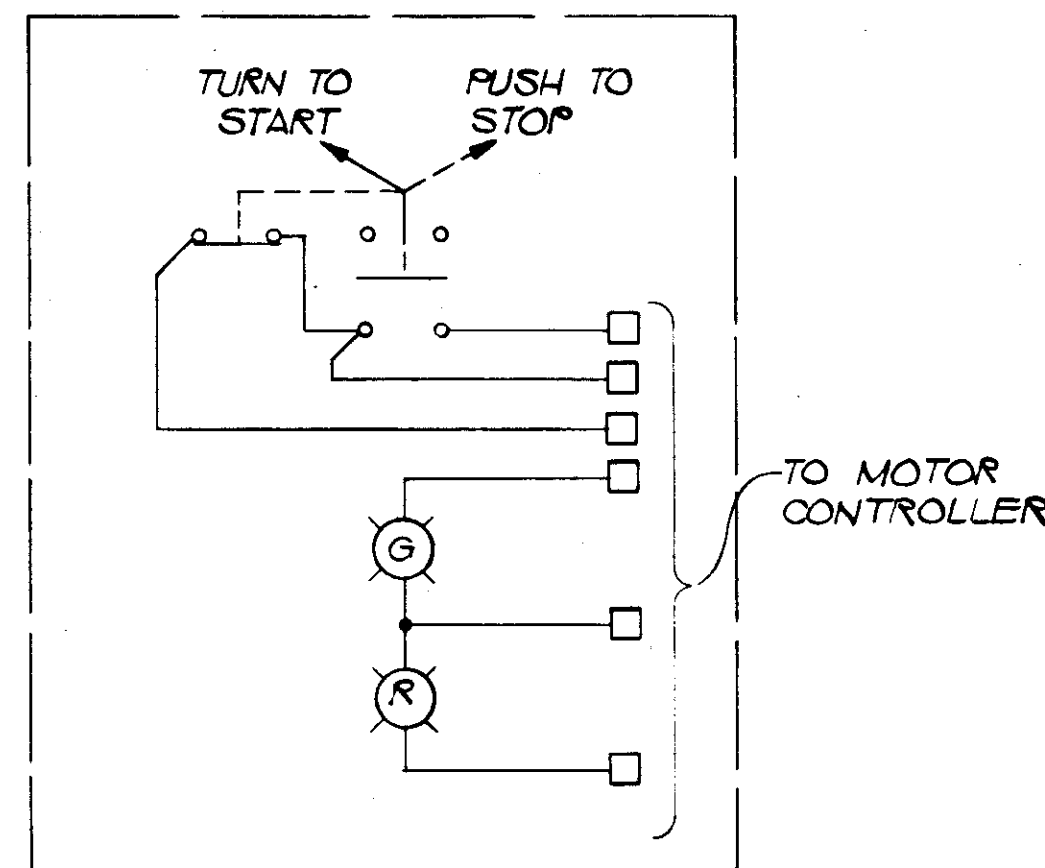


NO.	DATE	AS PER REVISION #1	BY	CKD.
			RE	SJG
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
WATER WORKS PROJECT WATER TREATMENT PLANT PLANT OPERATOR CONTROL CONSOLE CONTROL LOOPS - II				
MANATEE CO.		FILE NO. 630-761-04		SEAL T-119 FLORIDA
DESIGNED BY GBA	DRAWN BY SJC	SHEET 1-9 No. 120		
CHECKED BY SJC	DATE AUGUST, 1978	OF 130 SHEETS		
SCALE: NONE				

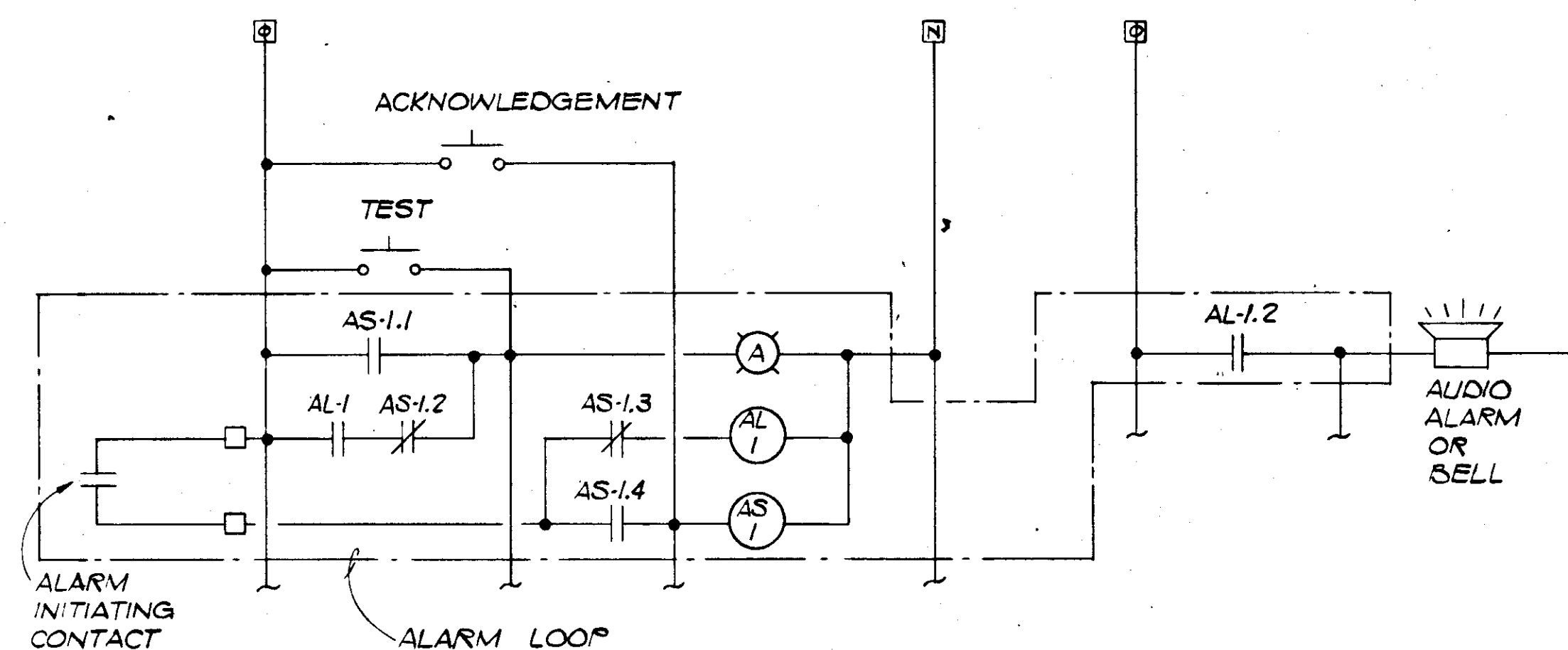


SEE CONTINUATION ON SHT. I-11

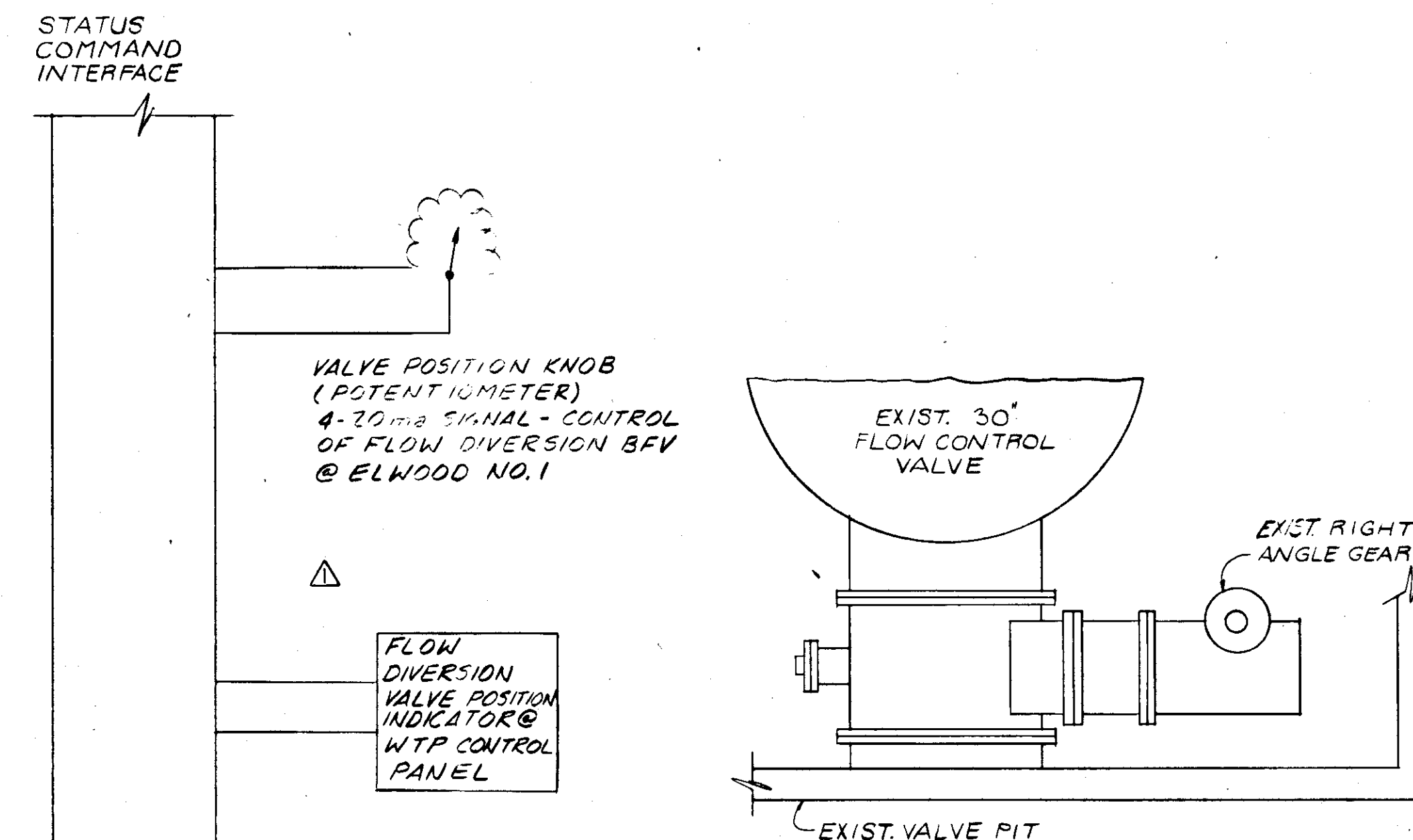
NO.	DATE	DESCRIPTION	BY	CHKD.
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT WATER TREATMENT PLANT PLANT OPERATOR CONTROL CONSOLE ALARMS & STATUS SCHEDULE				
MANATEE CO.		FILE NO. 630-761-04		SEAL T-120 FLORIDA
DESIGNED BY SJC	DRAWN BY SJC	SHEET I-10 No. 121		
CHECKED BY SJC	DATE AUGUST, 1978	OF 130 SHEETS		
SCALE: NONE				



ILLUMINATED START-STOP PUSH
BUTTON (TYP.) ON CONSOLE
NOTE: SEE PLANT OPER. CONTROL
CONSOLE SCHEDULE

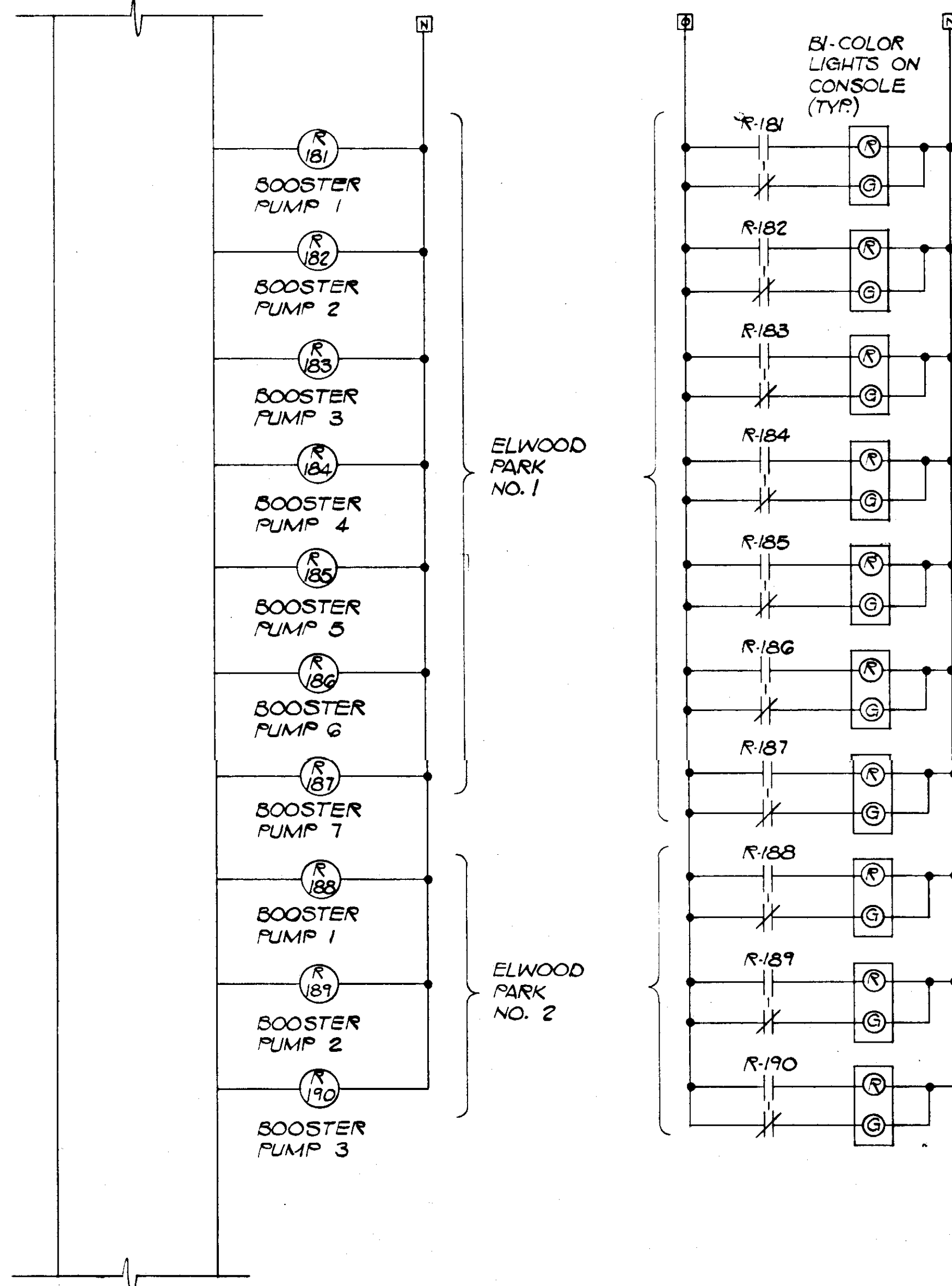


AUDIO-VISUAL ALARM LOOP-TYPICAL



DETAIL OF ELECTRIC
MOTOR OPERATOR FOR EXISTING
B.F.V. (FLOW DEVERSION) PLAN Δ
N.T.S.

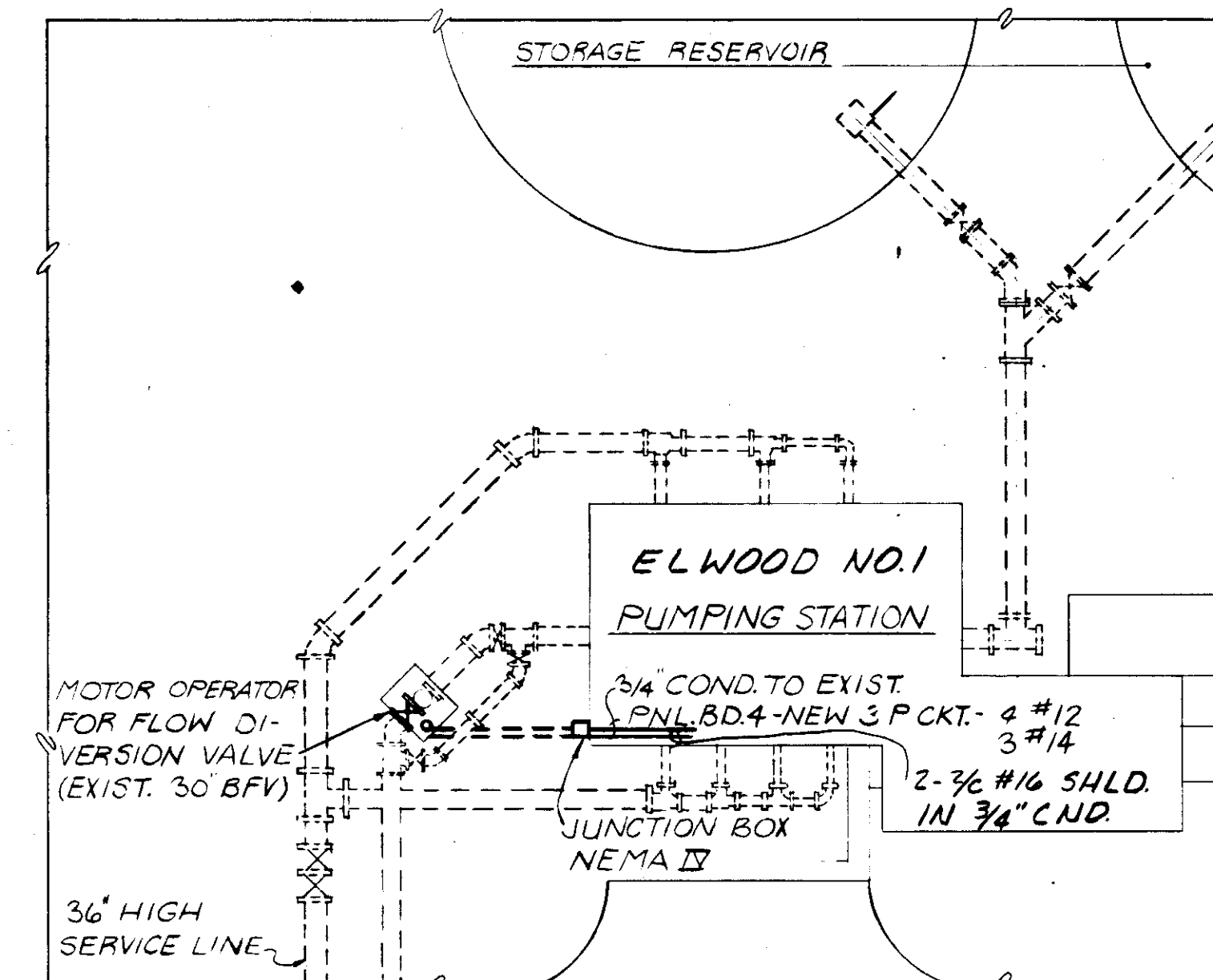
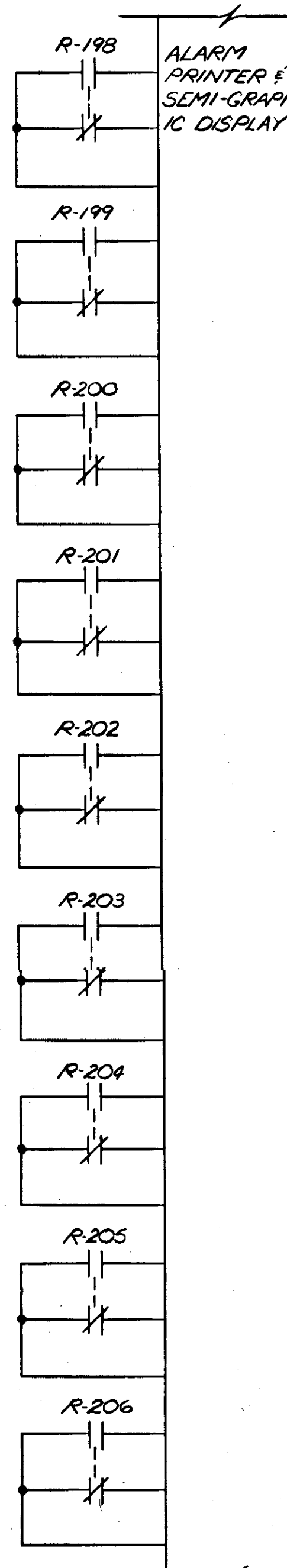
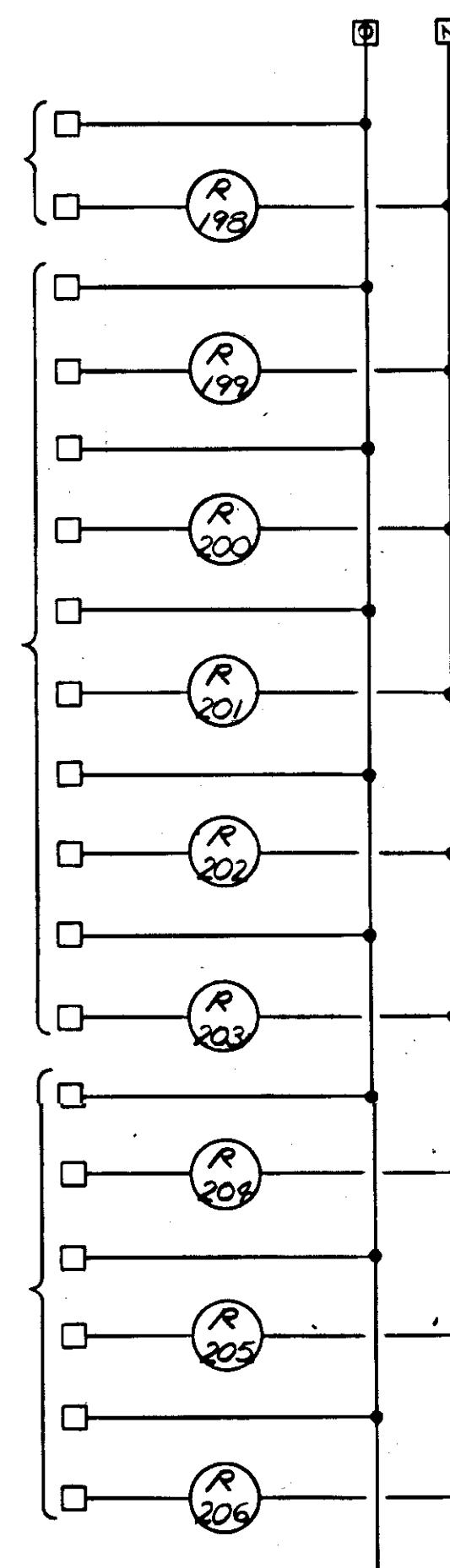
COMMAND
STATUS
INTERFACE



LIME SLURRY
TANK MIXER

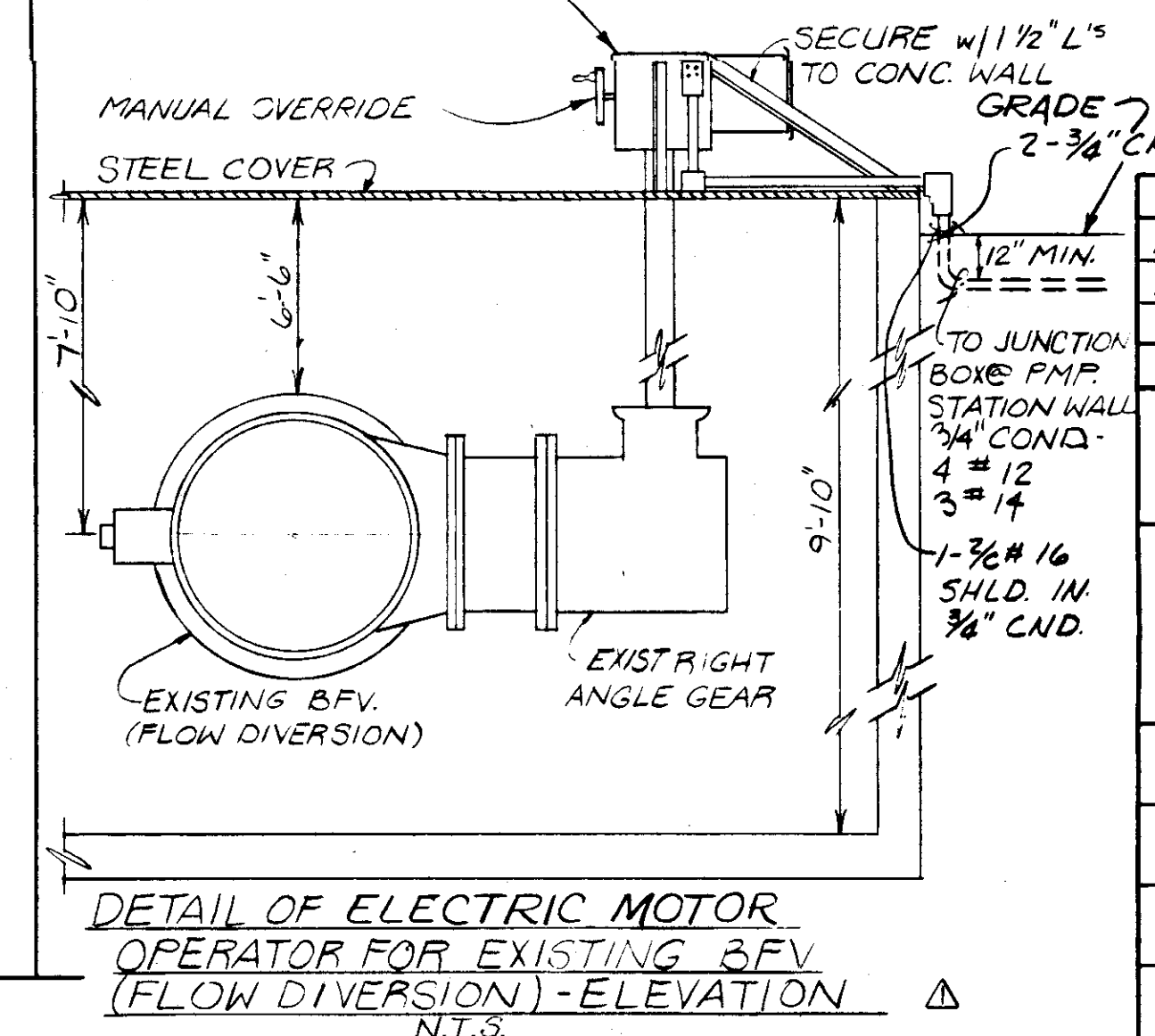
CHEMICAL
FEED
PUMPS
1 THRU 5

POLYMER FEED
UNITS PUMP-
1 THRU 3



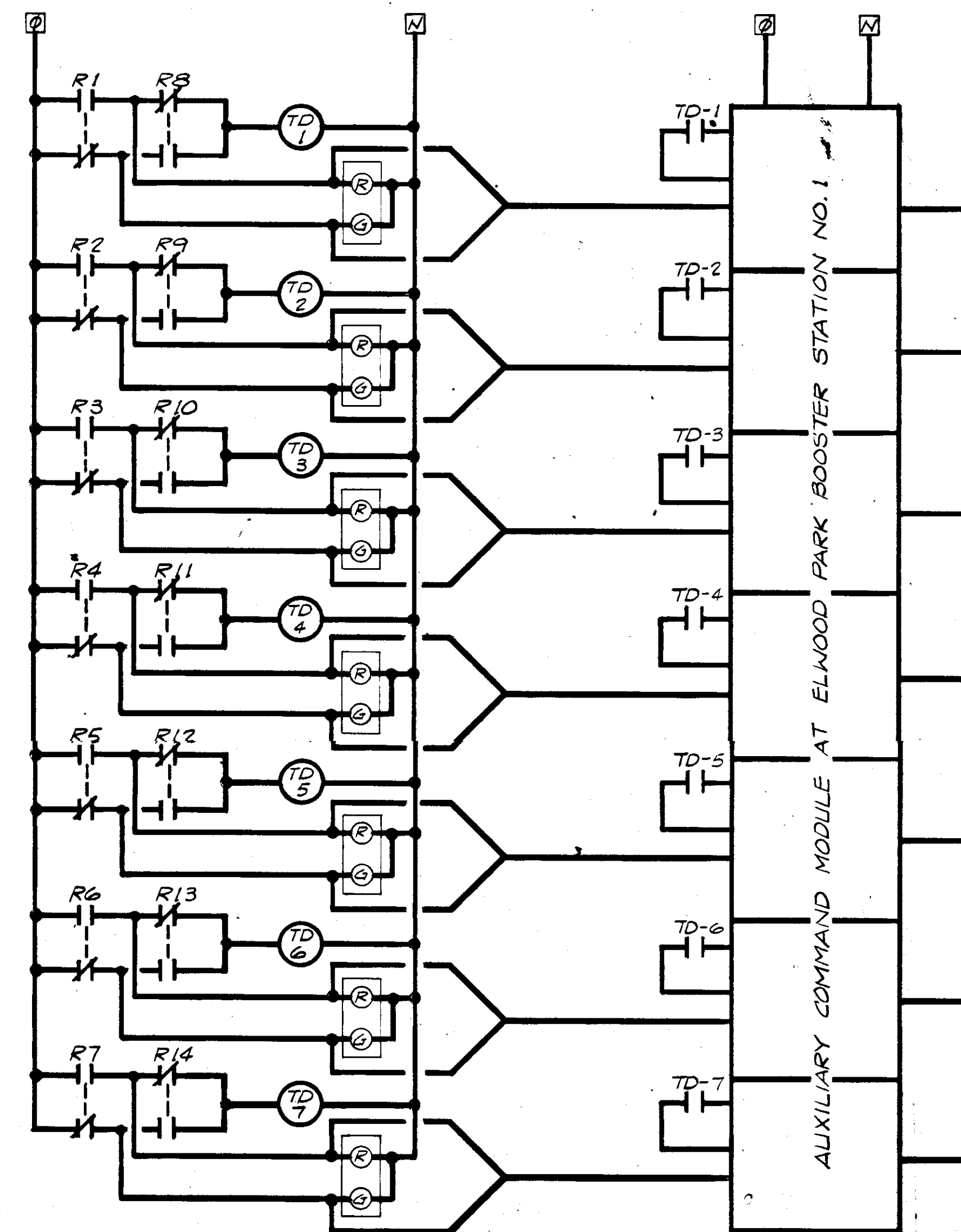
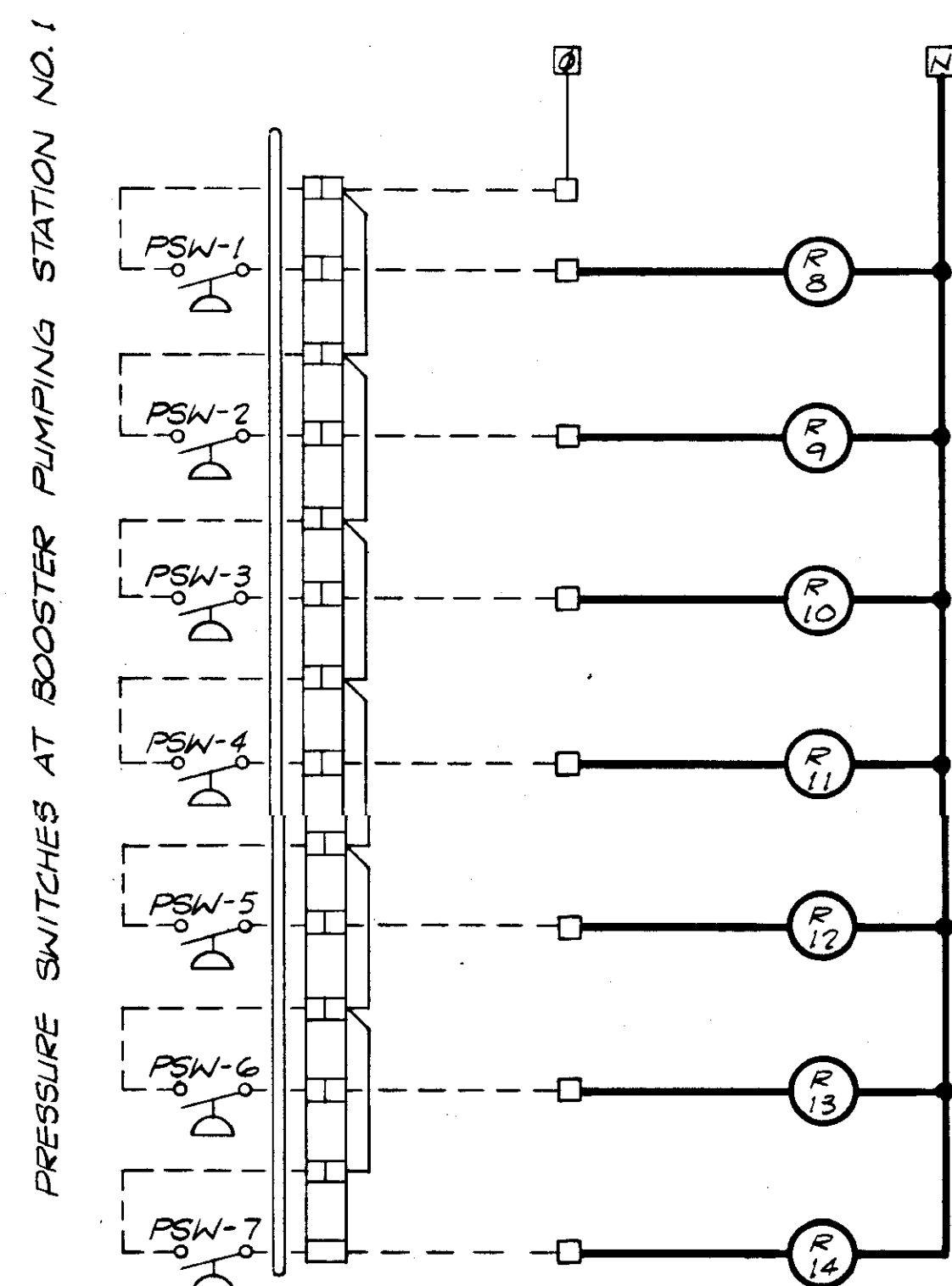
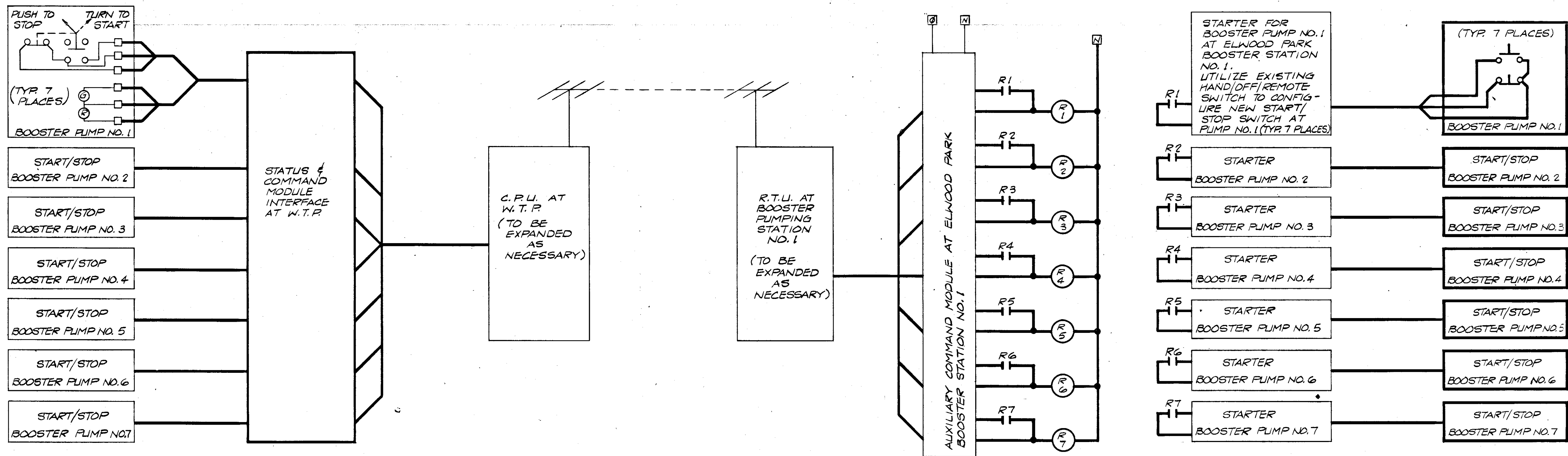
NEW ELECTRIC MOTOR OPERATOR-
ROTOR FOR 30' B.F.V. WITH SMB-D
MOTOR OR APPROVED EQUAL.
MOTOR SHALL BE 208 VOLTS,
3P, 60 HZ.

PLAN-PUMPING STATION
CONDUIT RUN FOR
MOTOR OPERATED B.F.V. Δ
N.T.S.



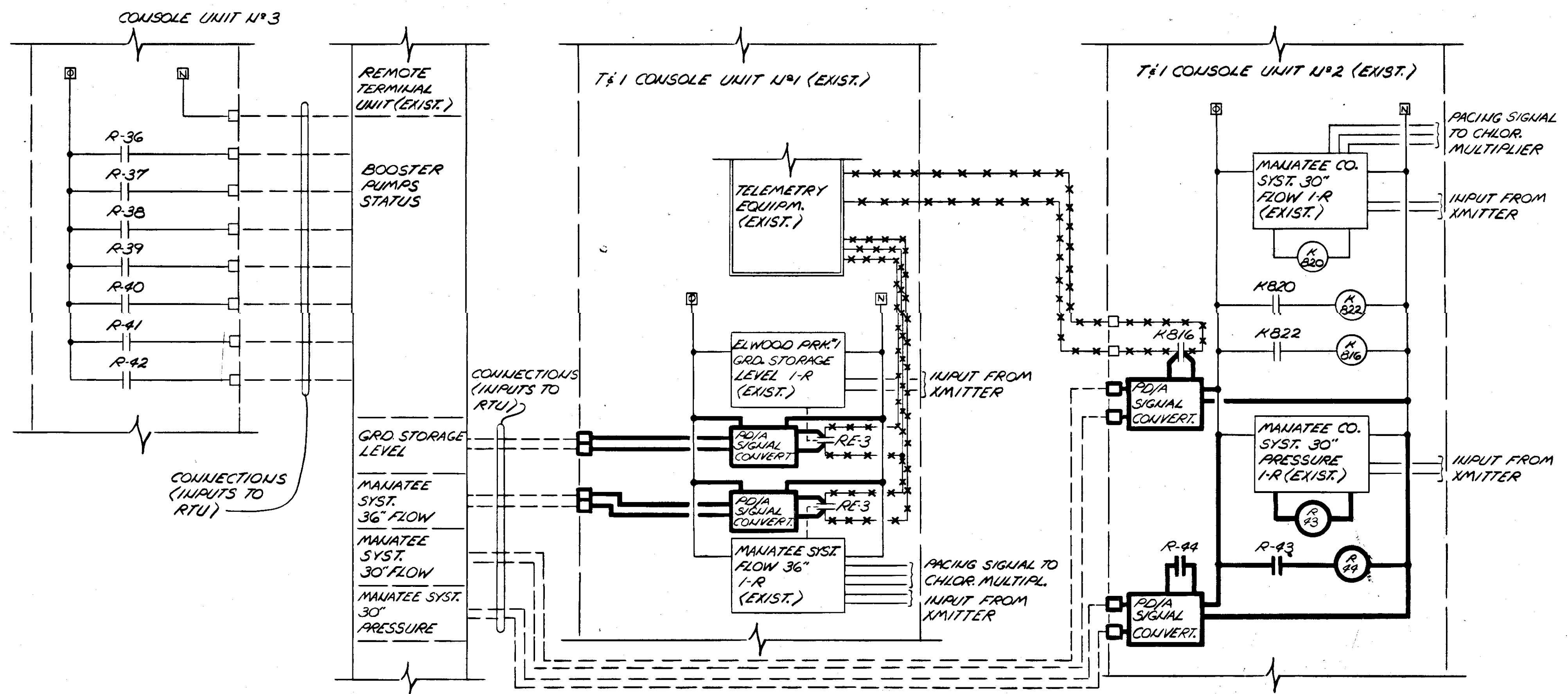
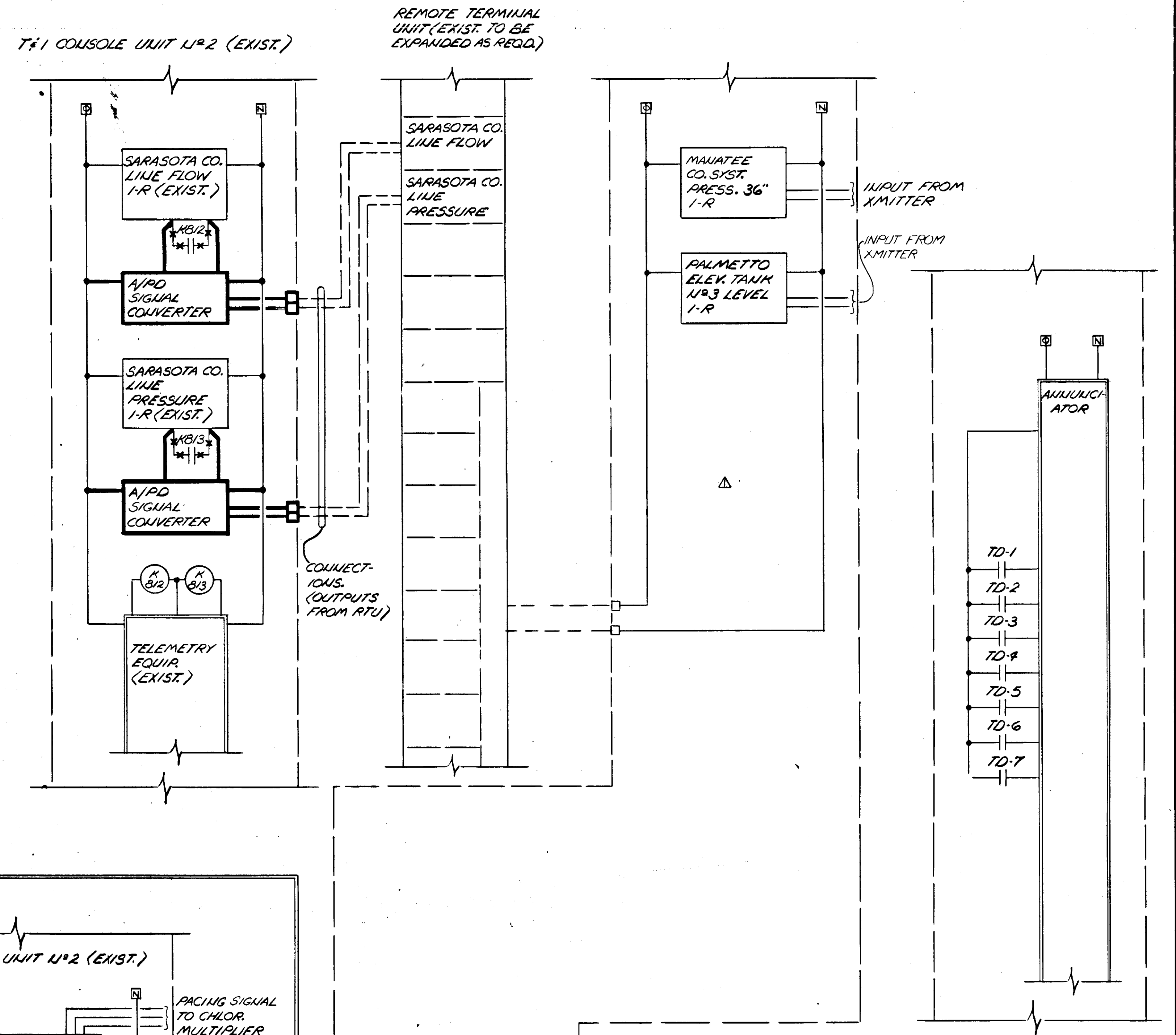
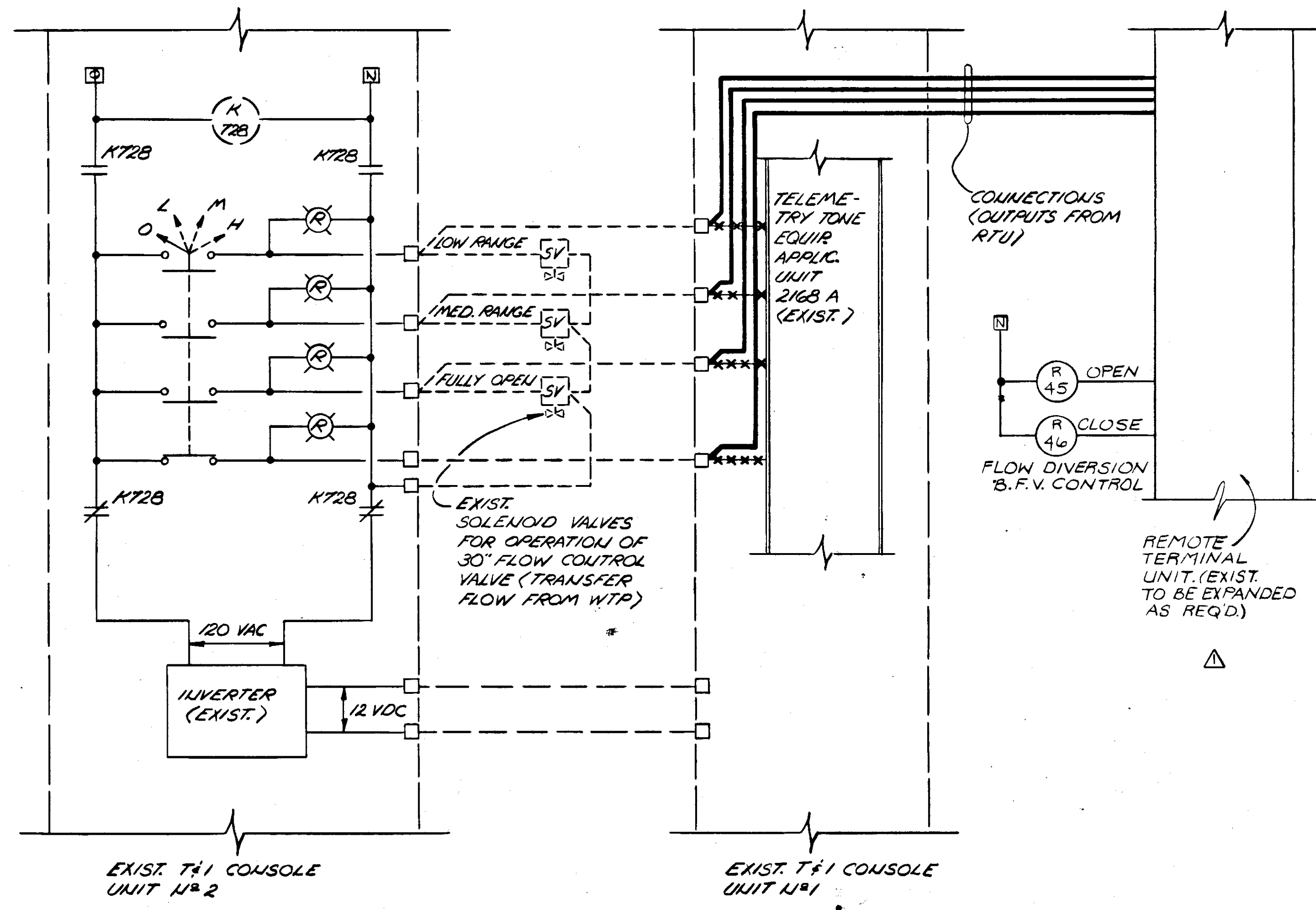
DETAIL OF ELECTRIC MOTOR
OPERATOR FOR EXISTING B.F.V.
(FLOW DIVERSION)-ELEVATION Δ
N.T.S.

NO.	DATE	DESCRIPTION	BY	CHKD.
Δ 5/79		GEN. REVISIONS	AL	
Δ 1/79		AS PER REVISION #1	RWF	SJG
REVISIONS				
RUSSELL & AXON				
Engineers — Planners — Architects				
WATER WORKS PROJECT				
WATER TREATMENT PLANT				
PLANT OPERATOR CONTROL CONSOLE				
MISCELLANEOUS - SCHEMATICS				
MANATEE CO. FLORIDA				
DESIGNED BY	FILE NO.	T-121 SEAL		
GBA	630-761-04			
DRAWN BY	SHEET			
RLO	I-11			
CHECKED BY	NO.	122		
SJG	130			
DATE	SHEETS	14-01		
AUGUST, 1978	SCALE: NONE			

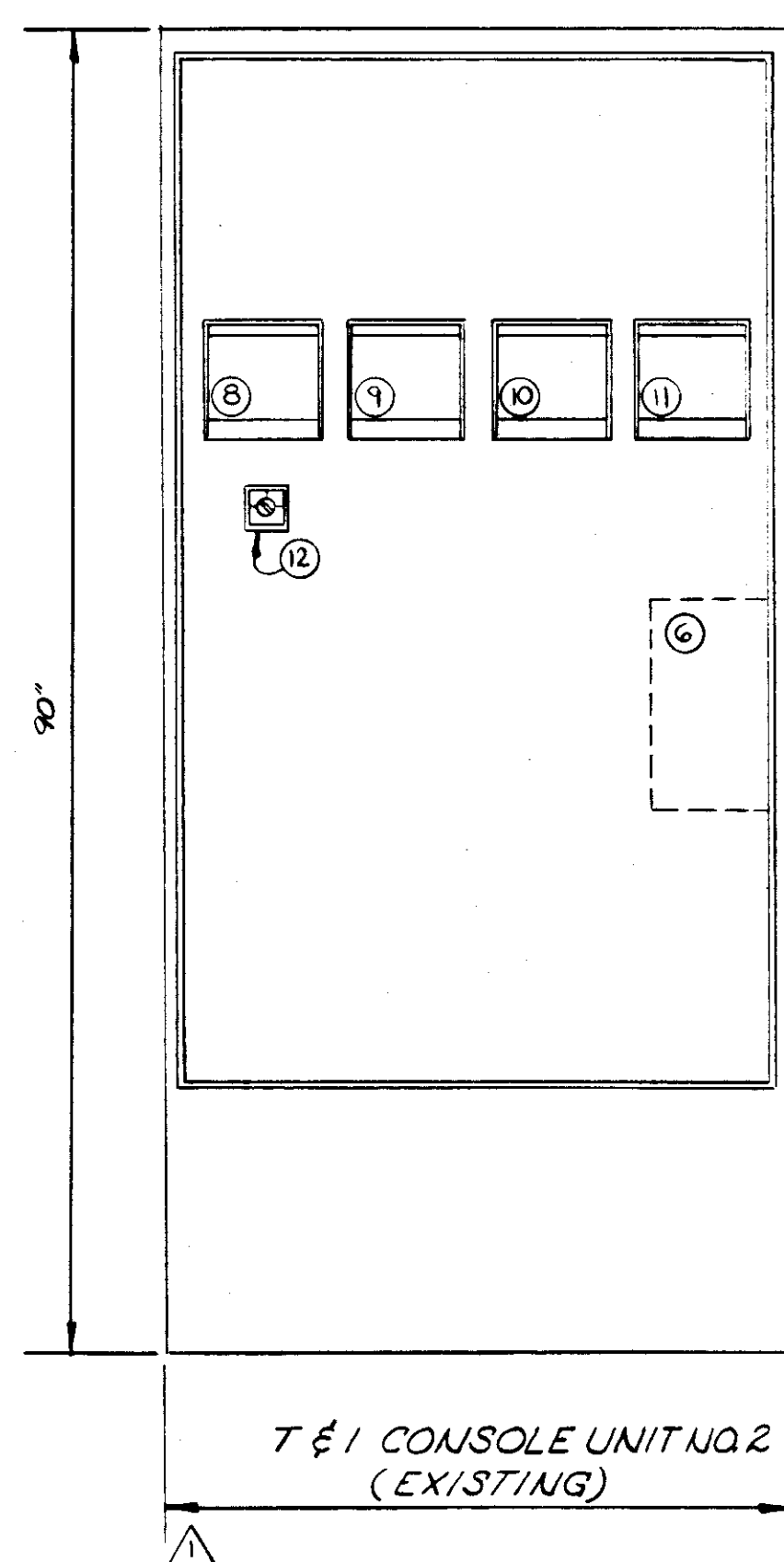


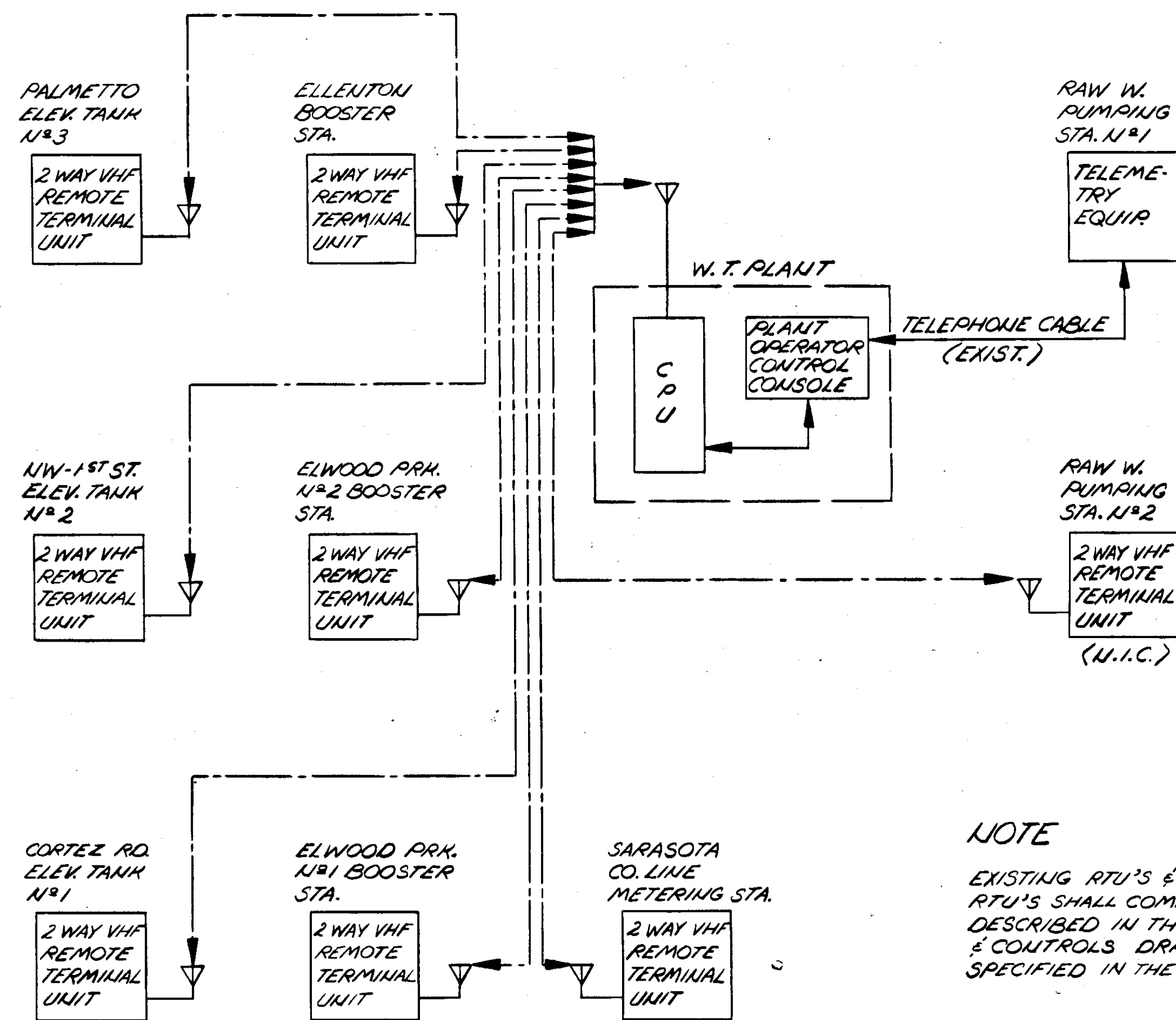
DISAGREEMENT CIRCUITRY

NO.	DATE	DESCRIPTION	EDS	SJG	SJG
REVISIONS					
RUSSELL & AXON Engineers — Planners — Architects					
WATER WORKS PROJECT WATER TREATMENT PLANT ELWOOD BOOSTER STA. NO. 1 PUMP CONTROL					
MANATEE COUNTY, FLORIDA					
DESIGNED BY SJG	FILE NO. 630-761-04	SEAL			
DRAWN BY EDS	SHEET I-12				
CHECKED BY SJG	NO. 123				
DATE JANUARY, 1979	OF 130 SHEETS	SCALE: NOT TO SCALE			



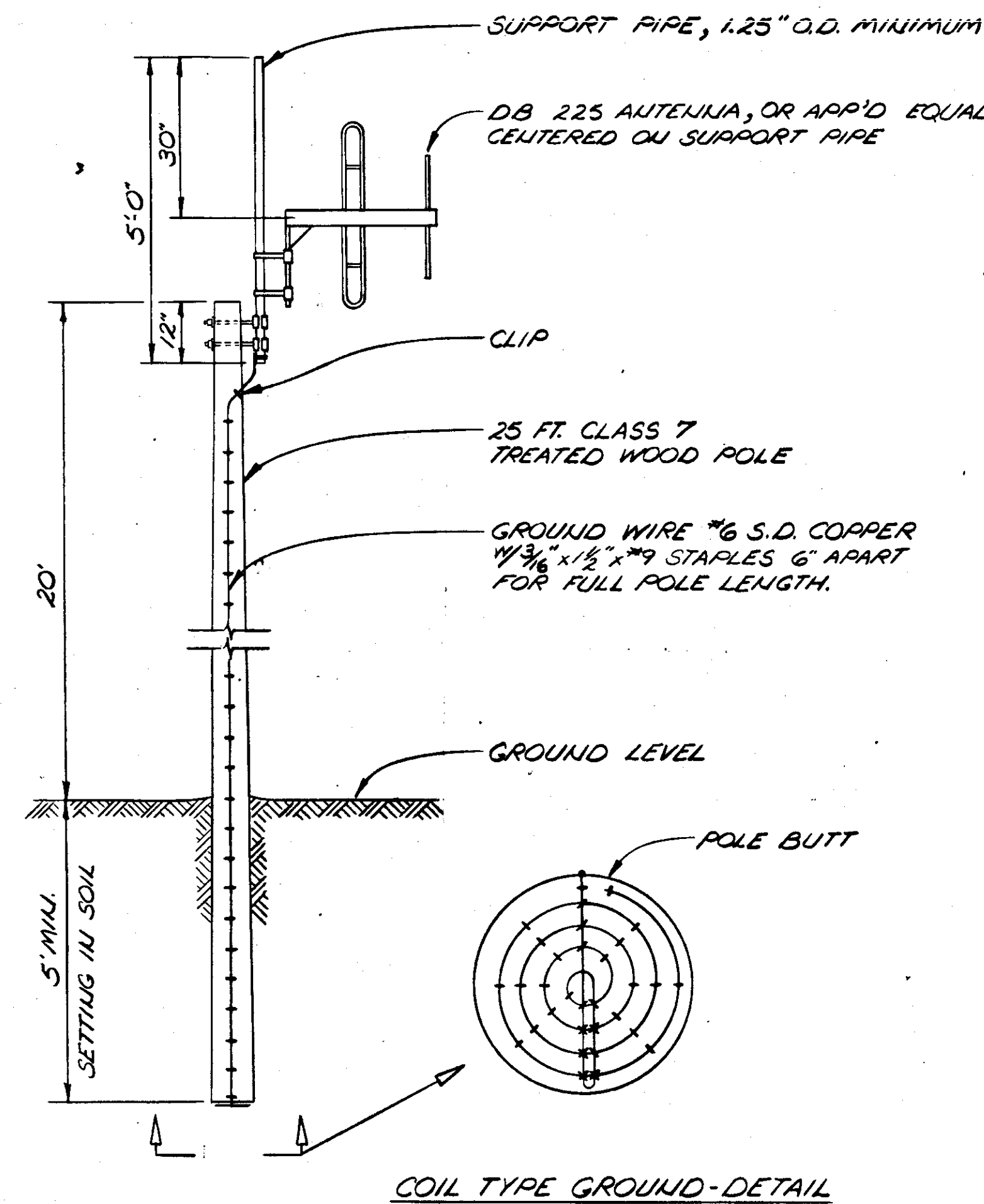
	1179	AS PER REVISION #1	RWF	SJG	SJG
NO.	DATE	DESCRIPTION	BY		CKD.
REVISIONS					
RUSSELL & AXON					
Engineers — Planners — Architects					
WATER WORKS PROJECT					
ELWOOD PARK BOOSTER STATION NO. 1					
MODIFICATIONS & ADDITIONS TO PLANT					
OPERATOR CONTROL CONSOLE					
MANATEE CO.		FILE NO.		T-123 FLORIDA	
DESIGNED BY GBA		630-761-04		SEAL	
DRAWN BY Dc		SHEET 1-13			
CHECKED BY SJG		NO. 124			
DATE JANUARY, 1979		OF 130 SHEETS			
		SCALE: NONE			





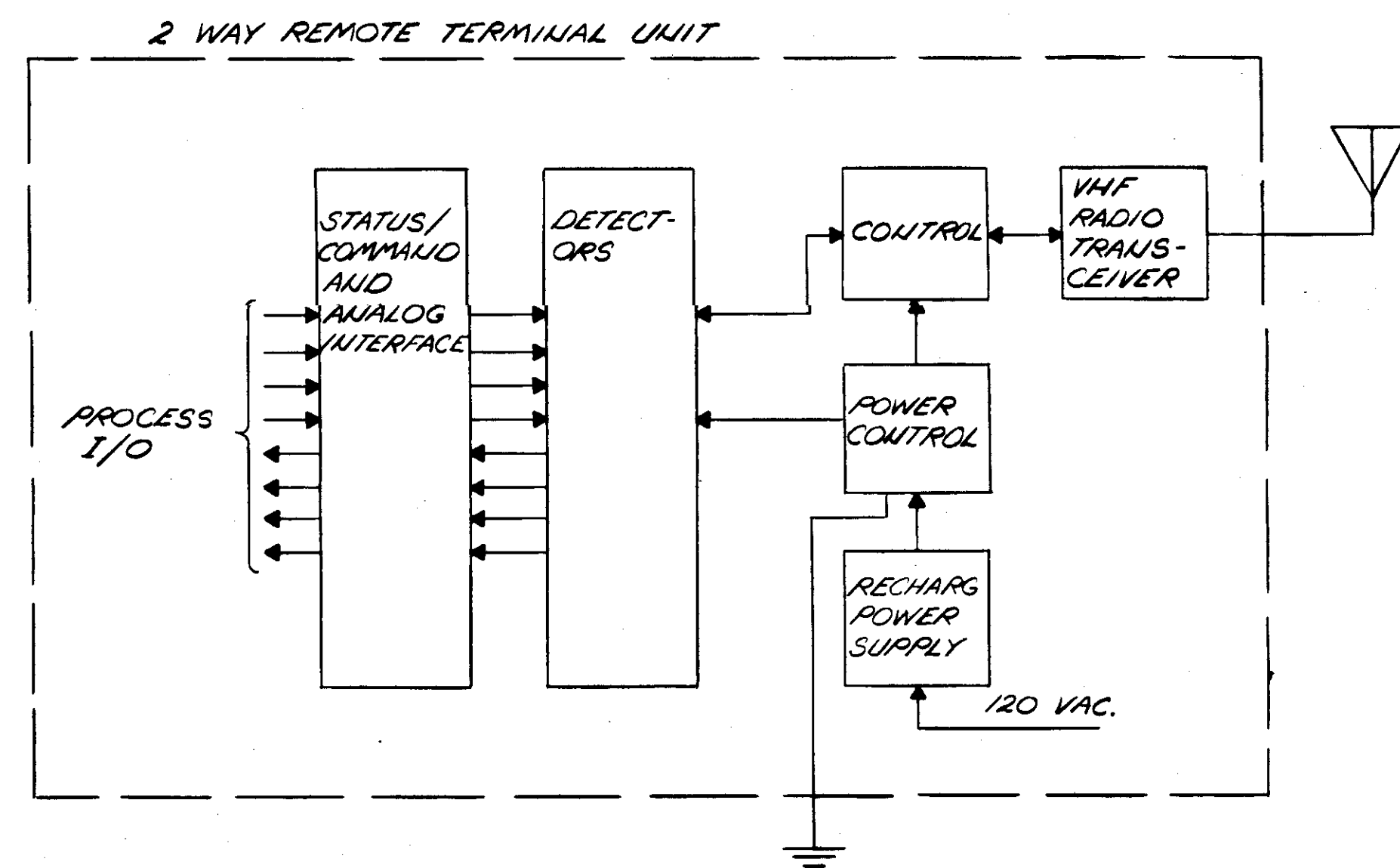
NOTE
EXISTING RTU'S & CPU, & NEW RTU'S SHALL COMPLY WITH REQUIREMENTS DESCRIBED IN THE INSTRUMENTATION & CONTROLS DRAWINGS AND AS SPECIFIED IN THE CONTRACT DOCUMENTS.

COMMUNICATION SYSTEM - BLOCK DIAGRAM

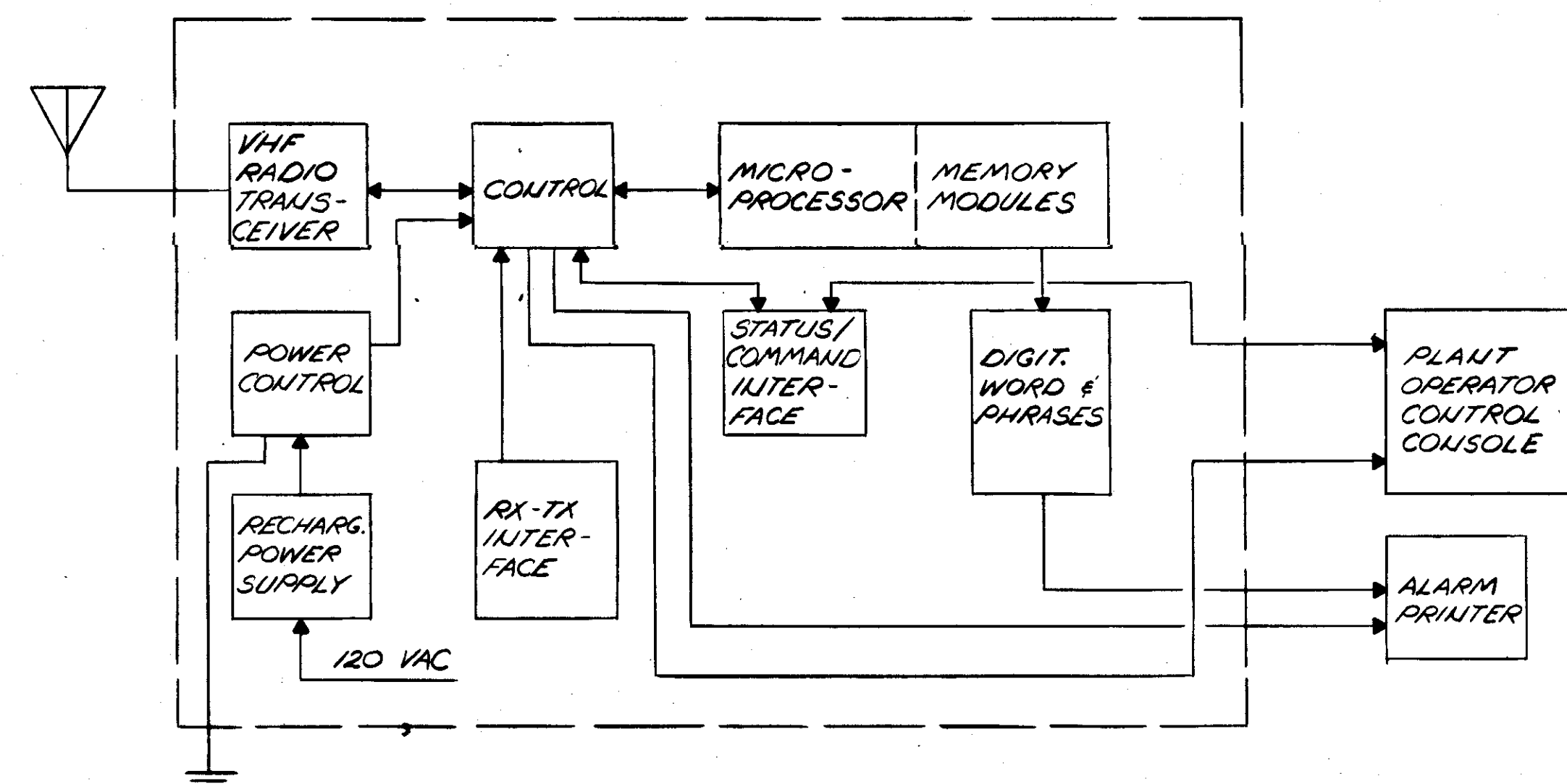


ANTENNA FOR REMOTE TERMINAL UNIT (TYR) MOUNTING ARRANGEMENT

NOTE:
CONTRACTOR SHALL VERIFY ALL MATERIALS AND COMPONENTS WITH RTU MFR. RECOMMENDATIONS. ANTENNA CABLE NOT SHOWN, REFER TO RTU MFR. RECOMMENDATIONS.



REMOTE TERMINAL UNIT (RTU) - BLOCK DIAGRAM (TYR)



CENTRAL PROCESSING UNIT (CPU) - BLOCK DIAGRAM

NO.	DATE	DESCRIPTION	BY	CHKD.
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT COMMUNICATION SYSTEM - SCHEMATIC & DETAILS				
MANATEE CO.				
DESIGNED BY	FILE NO.	T-125 FLORIDA SEAL		
G.B.A.	630-761-04			
DRAWN BY	SHEET I-15			
D.E.	No. 126			
CHECKED BY	OF 130 SHEETS	SCALE: NONE		
S.J.G.				
DATE				
AUGUST, 1978				

CORTEZ RD. ELEVATED TANK N°1 - RTU N°1		
	SIGNALS XMITTED	SIGNALS RECEIVED
DIGITAL	POWER FAILURE	COMMAND-OPEN MOTOR OP VALVE
	3 ADDITIONAL SIGNALS FOR FUTURE USE	COMMAND-CLOSE MOTOR OP VALVE
		2 ADD. COMMANDS FUTURE USE
	ELEV. TANK - LEVEL	
ANALOG		

N.W. 1 ST ST. ELEVATED TANK N°2 - RTU N°2		
	SIGNALS XMITTED	SIGNALS RECEIVED
DIGITAL	POWER FAILURE	COMMAND-OPEN MOTOR OP VALVE
	3 ADDITIONAL SIGNALS FOR FUTURE USE	COMMAND-CLOSE MOTOR OP VALVE
		2 ADD. COMMANDS FUTURE USE
	ELEV. TANK - LEVEL	
ANALOG		

PALMETTO ELEVATED TANK N°3 - RTU N°3		
	SIGNALS XMITTED	SIGNALS RECEIVED
DIGITAL	POWER FAILURE	COMMAND-OPEN MOTOR OP VALVE
	3 ADDITIONAL SIGNALS FOR FUTURE USE	COMMAND-CLOSE MOTOR OP VALVE
		2 ADD. COMMANDS FUTURE USE
	ELEV. TANK - LEVEL	
ANALOG		

SARASOTA CO. LINE METERING STA. - RTU N°4		
	SIGNALS XMITTED	SIGNALS RECEIVED
DIGITAL	POWER FAILURE	4 COMMAND SIGNALS
	3 ADDITIONAL SIGNALS FOR FUTURE USE	FOR FUTURE USE
	COUNTY LINE - FLOW	
ANALOG	COUNTY LINE - PRESSURE	

ELLENTON BOOSTER STATION - RTU N°5		
	SIGNALS XMITTED	SIGNALS RECEIVED
DIGITAL	POWER FAILURE	4 COMMAND SIGNALS
	PUMP N°1 - STATUS	FOR FUTURE USE
	PUMP N°2 - STATUS	
	1 ADD. COMMAND FUTURE USE	
ANALOG	BOOSTER STATION - FLOW	BOOSTER PUMPS SPEED CONT.
	CHLORINE RESIDUAL	

ELWOOD PRK. BOOSTER STA. N°1 - RTU N°6		
	SIGNALS XMITTED	SIGNALS RECEIVED
DIGITAL	POWER FAILURE	FLOW VALVE - LOW RANGE
	PUMP N°1 - STATUS	MEDIUM RANGE
	N°2 -	HIGH RANGE
	N°3 -	
ANALOG	N°4 -	
	N°5 -	PUMP NO.1 START/STOP
	N°6 -	NO.2
	N°7 -	NO.3
DIGITAL	LOW LEVEL ALARM GRD STG.	NO.4
	HIGH LEVEL ALARM GRD STG.	NO.5
		NO.6
		NO.7
ANALOG		10 ADDITIONAL COMMAND SIGNALS - FUTURE USE

ELWOOD PRK. BOOSTER STA. N°2 - RTU N°7		
	SIGNALS XMITTED	SIGNALS RECEIVED
DIGITAL	POWER FAILURE	4 COMMAND SIGNALS
	PUMP N°1 - STATUS	FOR FUTURE USE
	N°2 -	
	N°3 -	
ANALOG	1 ADDITIONAL SIGNAL FOR FUTURE USE	
		SARASOTA CO. LINE - FLOW
	STATION EFFLUENT FLOW	PRESSURE
	RESIDUAL CHLORINE	
DIGITAL		
	SUCTION PRESSURE	

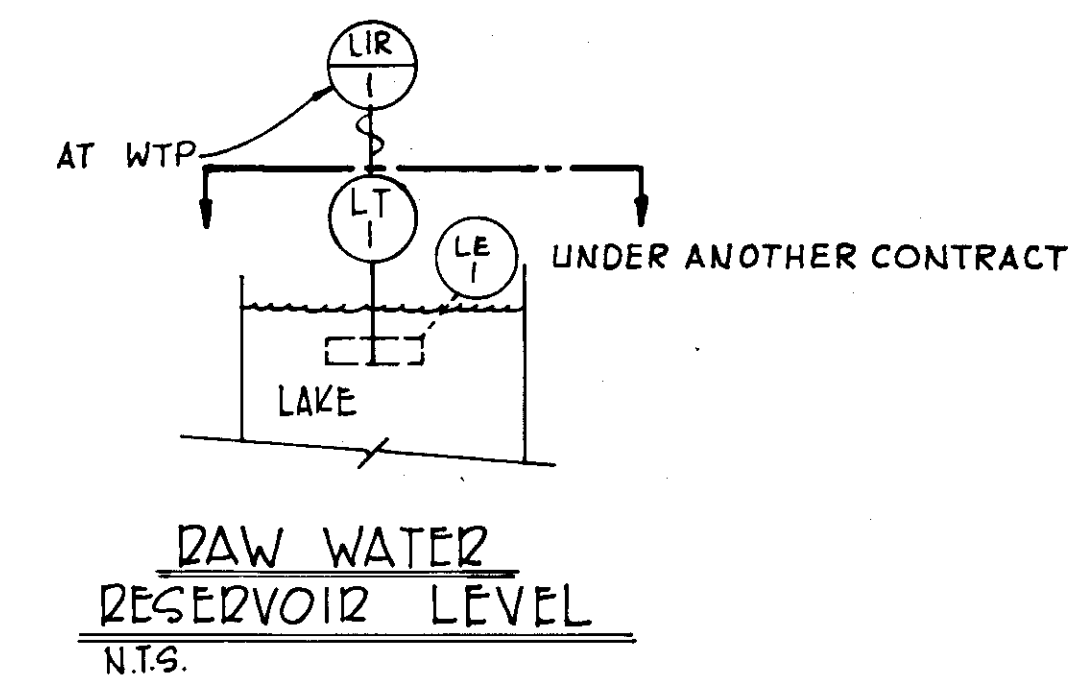
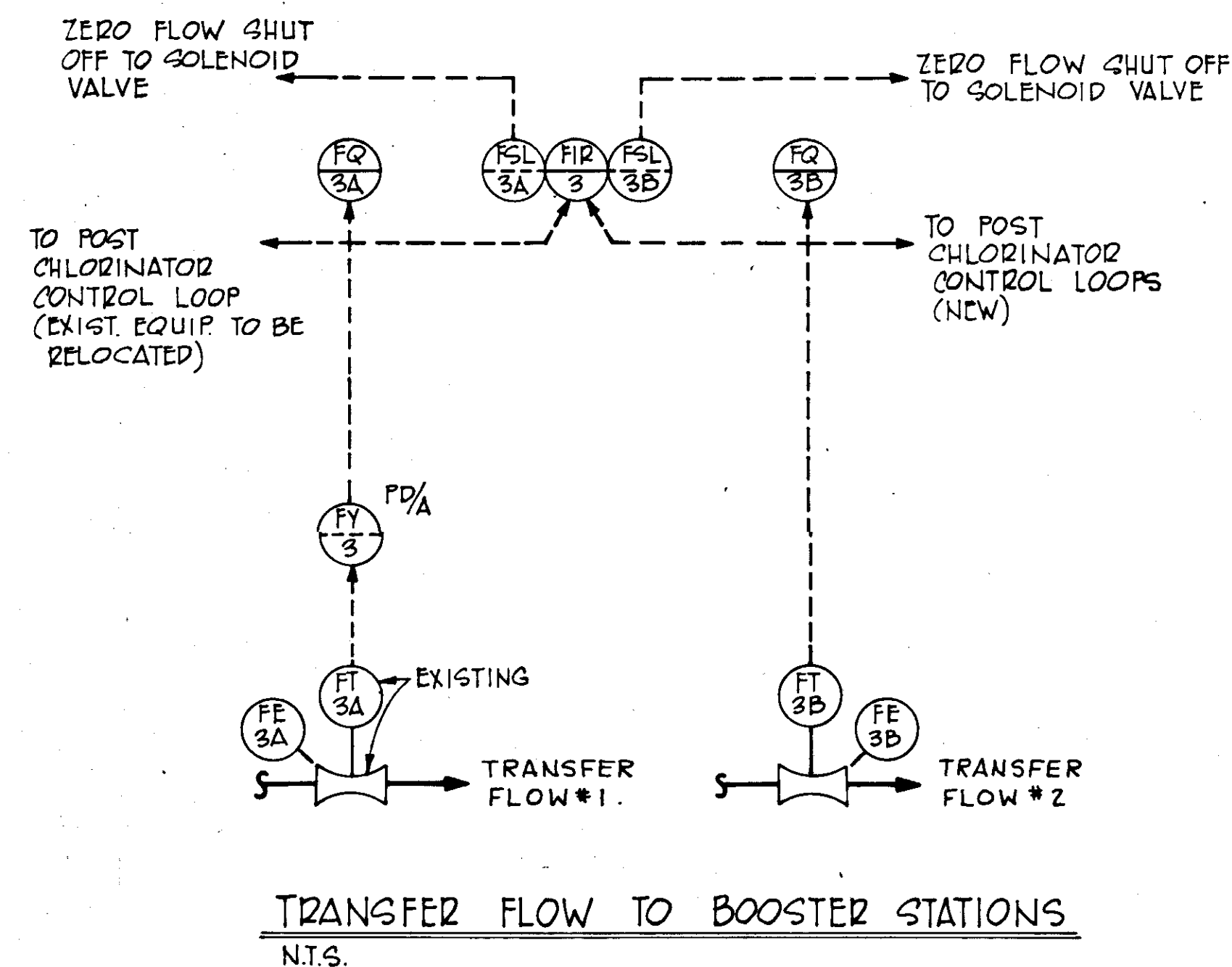
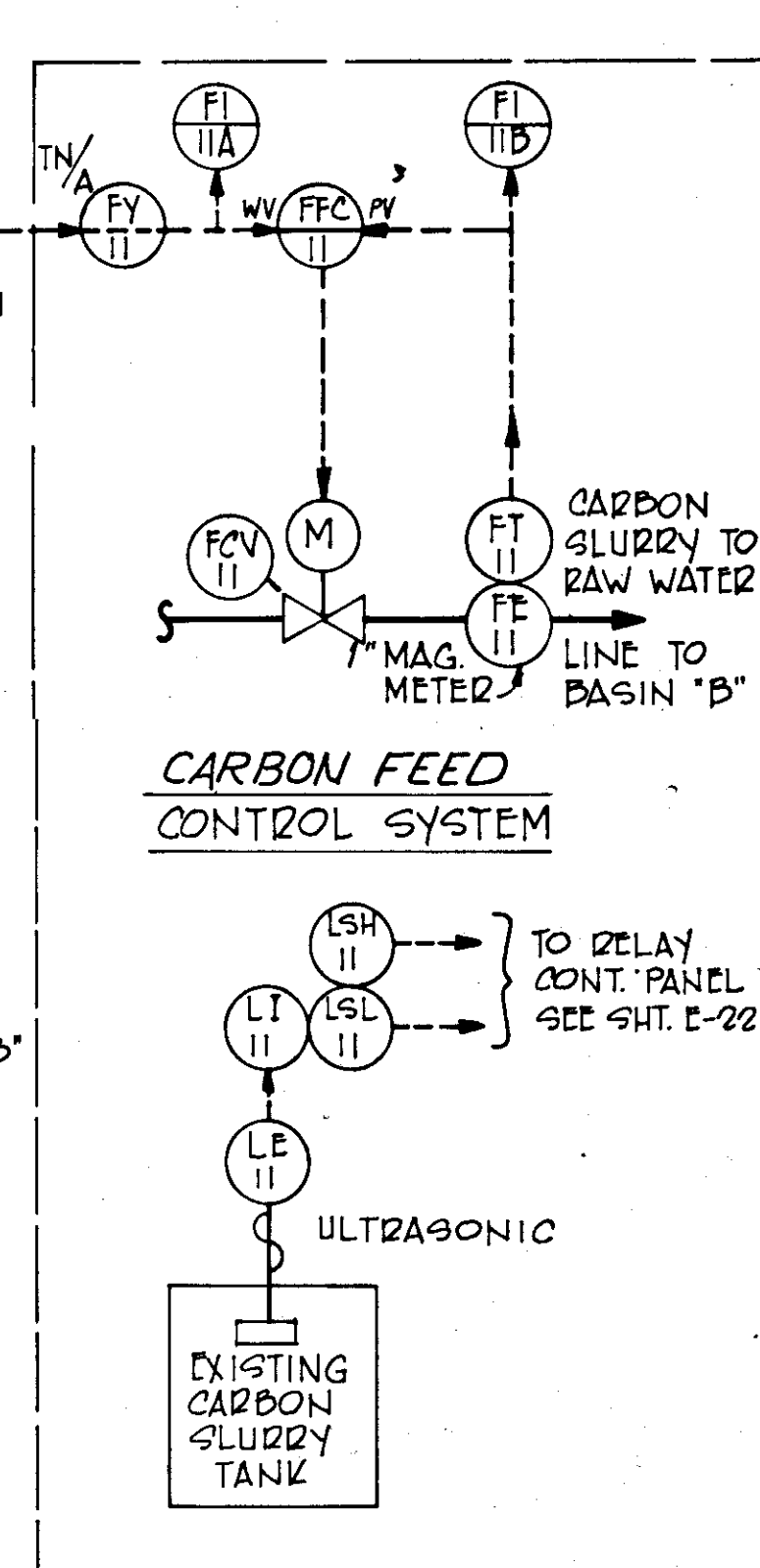
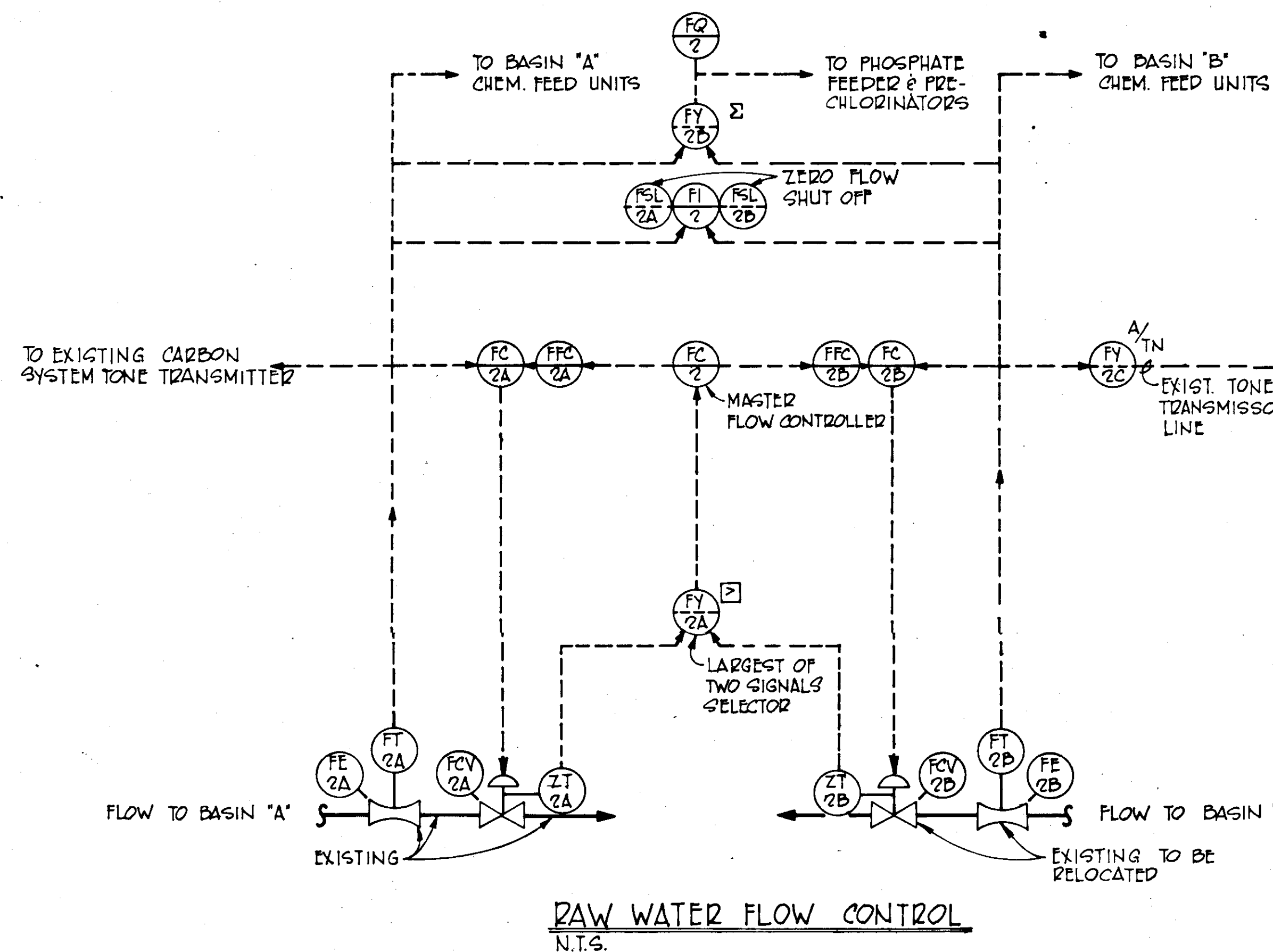
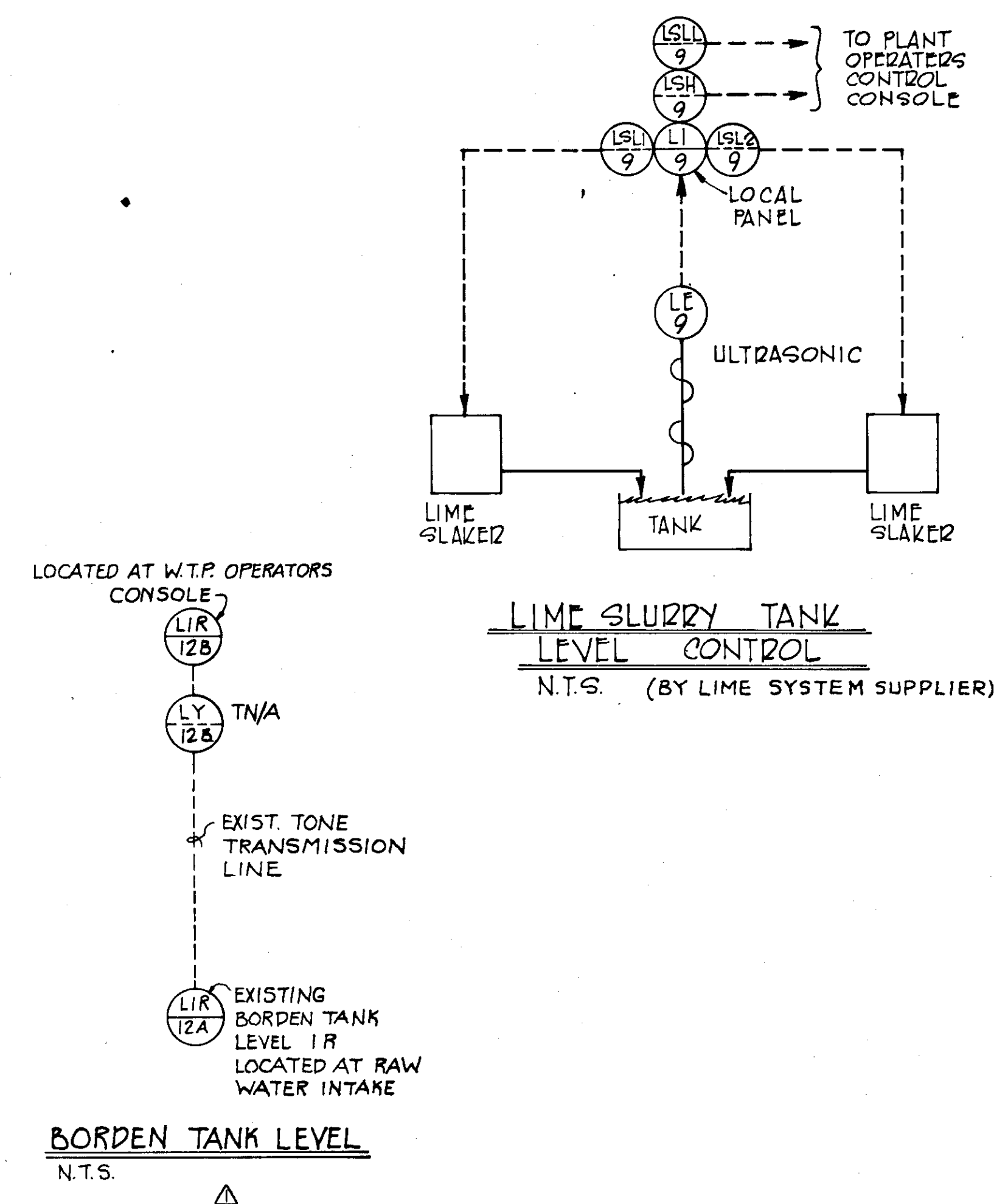
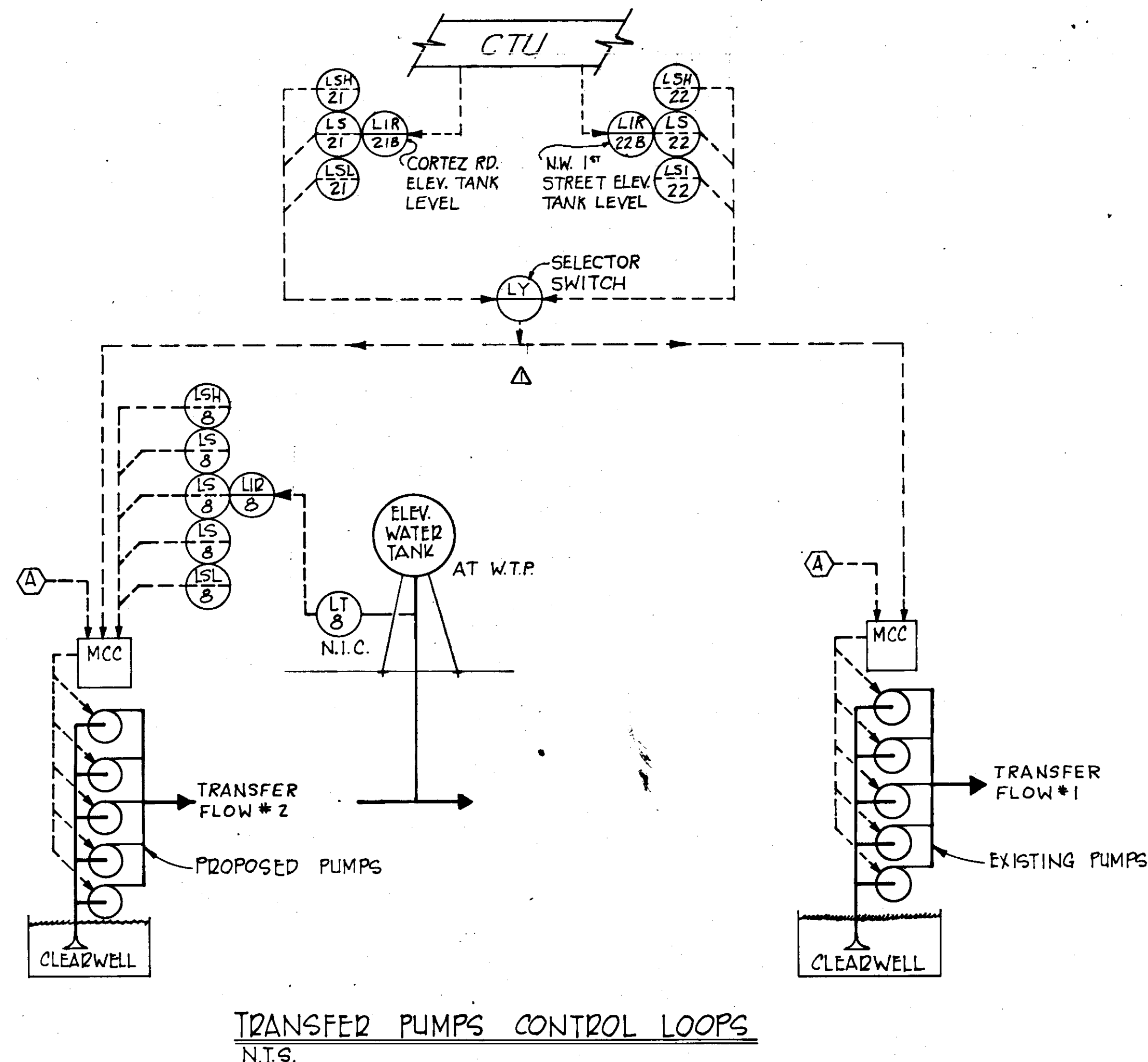
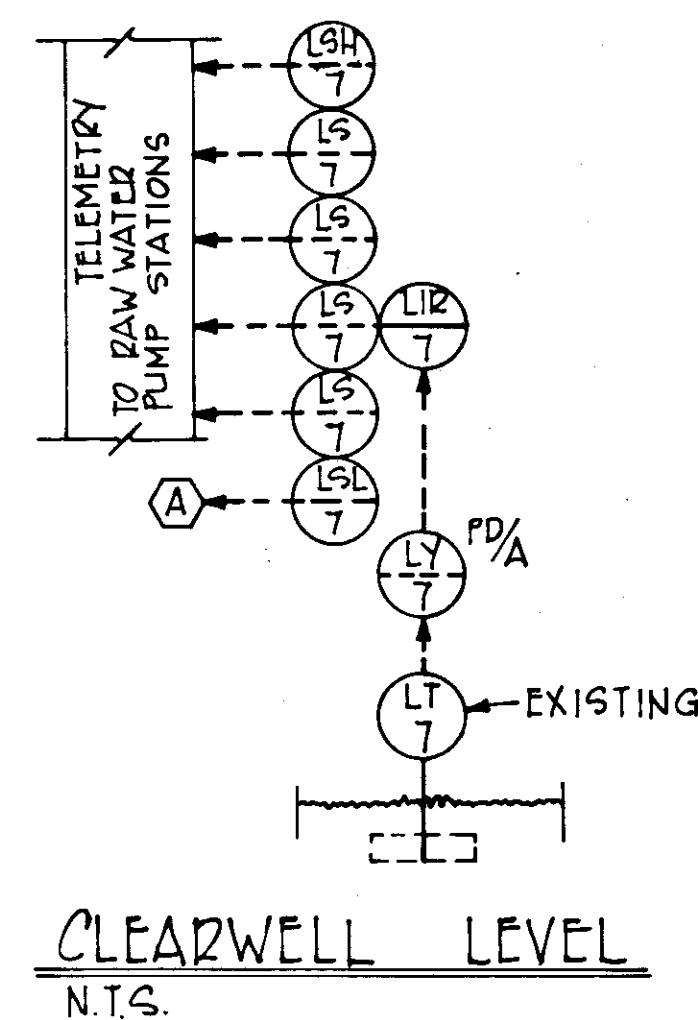
WATER TREATMENT PLANT - CPU		
	SIGNALS XMITTED	SIGNALS RECEIVED
DIGITAL	ELWD. PRK. N°1 FLOW VALVE LOW	RAW W. P. STA. N°2 - PWR. FAIL.
	MED	PUMPS 1-3 STATUS
	HIGH	ELWD. PRK. N°1 - PWR. FAIL.
		PUMPS 1-7 STATUS
ANALOG		ELWD. PRK. N°2 - PWR. FAIL.
		PUMPS 1-3 STATUS
		ELLENTON B. STA. - PWR. FAIL.
		PUMPS 1,2 - STATUS
DIGITAL	RAW W. P. STA. NO.2 PUMPS 1-3 ST/SP	CORTEZ RD. ELEV. TANK -
		N.W. 1 ST ST. ELEV. TANK -
		PALMETTO ELEV. TANK -
		ELWD. PRK. N°1 - GRD. STOR. L. ALARM
ANALOG		ELWD. PRK. N°1 - GRD. STOR. L. ALARM
DIGITAL	CORTEZ RD. EL. TANK - LEVEL	ELWD. PRK. N°1 GRD. STRG. - LEVEL
	N.W. 1 ST ST. EL. TANK - LEVEL	
	PALMETTO EL. TANK - LEVEL	MANATEE CO. 36" - FLOW
	ELLENTON B. STA. - PUMP SPEED	30" - FLOW
ANALOG		30" - PRESSURE
	SARASOTA CO. LINE - FLOW	ELWD. PRK. N°2 EFFLUENT FLOW
	- PRESSURE	- RESID. CHLOR.
	FLOW DIV. B.F.V. POSITION	SARASOTA CO. LINE - FLOW
DIGITAL		- PRESSURE
		ELLENTON B. STA. - FLOW
		CORTEZ RD. EL. TANK - LEVEL
		N.W. 1 ST ST. EL. TANK - LEVEL
ANALOG		PALMETTO EL. TANK - LEVEL
		FLOW DIVERSION B.F.V. POSITION
		ELWD. PRK. N°1 CL ₂ RESIDUAL (2)
DIGITAL		ELLENTON SUCTION PRESS.
		ELLENTON DISCH. PRESS.
		ELLENTON BOOSTER STA. CL ₂ RESIDUAL
		LAKE LEVEL

W.T. PLANT - INPUTS TO ALARM PRINTER		
	FROM CPU	FROM RO. CONTR. CONS.
DIGITAL	CORTEZ RD. ELEV. TANK - PWR. FAIL.	CORTEZ RD. ELEV. TANK - HI & LO LEVELS
	N.W. 1 ST ST. ELEV. TANK -	N.W. 1 ST ST. ELEV. TANK -
	PALMETTO ELEV. TANK -	PALMETTO ELEV. TANK -
	ELLENTON B. STA. -	ELLENTON B. STA. -
ANALOG	ELWD. PRK. B. STA. N°1 -	W.T. R. CLEARWELL -
	ELWD. PRK. B. STA. N°2 -	INDUSTR. AREA ELEV. TANK -
	SARASOTA CO. LINE -	W.T.P. ELEV. TANK -
	RAW W. PUMP STA. N°2 -	LIME SLURRY TANK -
DIGITAL		FILTERS FLUME - HI LEVEL
		ALUM. TANK. N°1 - LO & HI LEVEL
		N°2 -
		FECL ₃ TANK. N°1 -
ANALOG		N°2 -
		H2SO ₄ TANK -
		TRANS. LINE N°1 - RES. CHLOR. LOW
		TRANS. LINE N°2 -
DIGITAL		RAW W. PUMP STA. N°1 PWR. FAIL.
		- LINE FAIL.
		RAW W. P. STA. N°1 - PUMPS 1-5 DISAGR.
		TRANSFER PUMPS 1-10
ANALOG		R.W.P. STA. NO. 2 PUMPS 1-3
		ELWOOD NO.1 DISAGREEMENT
		PUMPS NO. 1 THRU 7
		ELLENTON DISCH. PRESS.
DIGITAL		ELLENTON SUCTION PRESS.
		ELWOOD #2 DISAG. PUMPS 1,2,3

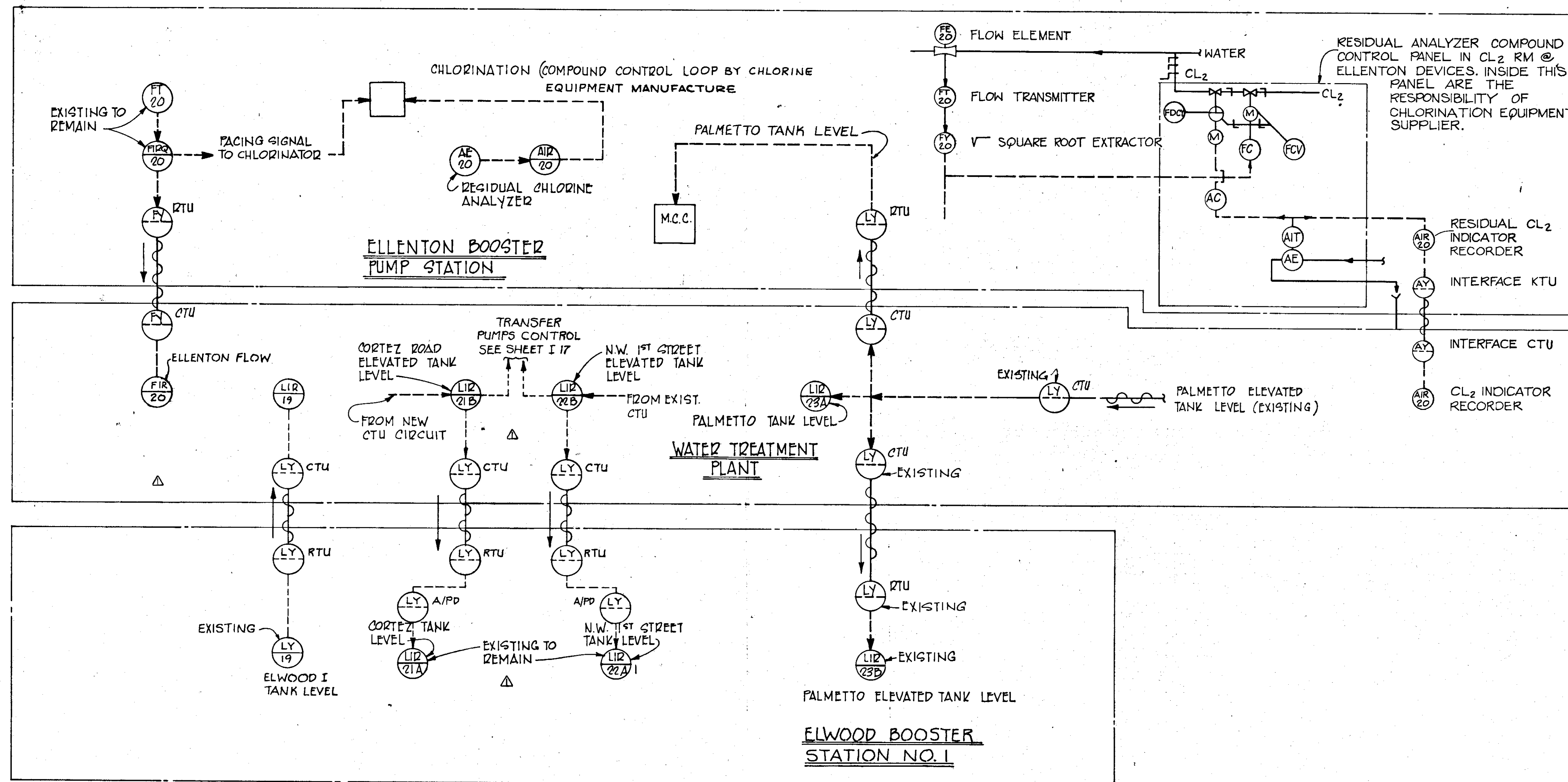
NOTE:
ALL INPUTS TO ALARM PRINTER FROM CPU SHALL ALSO BE AVAILABLE TO SEMI GRAPHIC DISPLAY. ALARM PRINTER SHALL ALSO RECIEVE ALL ALARMS LISTED ON SHEETS NO. 5, 115, 120, 121 & 122 AND SPECIFICATIONS

RAW WATER PUMPING STATION NO.2 RTU NO. 8		
	SIGNALS XMITTED	SIGNALS RECIEVED
DIGITAL	POWER FAILURE	4 COMMAND SIGNALS
	PUMP NO. 1 - STATUS	FOR FUTURE USE
	PUMP NO. 2 - STATUS	
	1 ADD. COMMAND FUT. USE	
ANALOG		

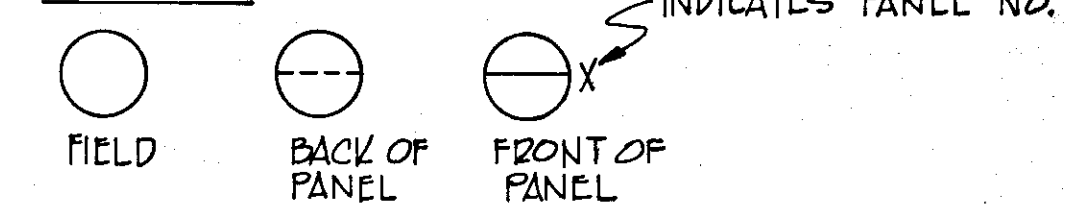
Δ	5/79	GEN. REVISIONS	AL
NO.	DATE	DESCRIPTION	BY CKD.
REVISIONS			
RUSSELL & AXON			
Engineers — Planners — Architects			
WATER WORKS PROJECT			
COMMUNICATION SYSTEM - SCHEDULES			
MANATEE CO.			
DESIGNED BY	FILE NO.	SEAL	
GBA	630-761-04		
DRAWN BY	SHEET 1-16		
PC	NO. (127)		
CHECKED BY	OF 130	SHEETS	
SJG	SCALE: NONE		
DATE			
JANUARY, 1979			



	5/79	GEN REVISIONS		RSG	
	11/79	AS PER REVISION #1		RWF	SJG
NO.	DATE	DESCRIPTION		BY	CHKD.
REVISIONS					
RUSSELL & AXON					
Engineers — Planners — Architects					
WATER WORKS PROJECT					
WATER TREATMENT PLANT					
INSTRUMENTATION LOOPS					
MANATEE COUNTY, FLORIDA					
DESIGNED BY J.M.H.		FILE NO. 630-761-04		SEAL	
DRAWN BY E.L.L. / H.G.B.		SHEET I-17			
CHECKED BY SJG		No. 			
DATE AUGUST, 1978		OF 130 SHEETS			
		SCALE: NOT TO SCALE			



LEGEND

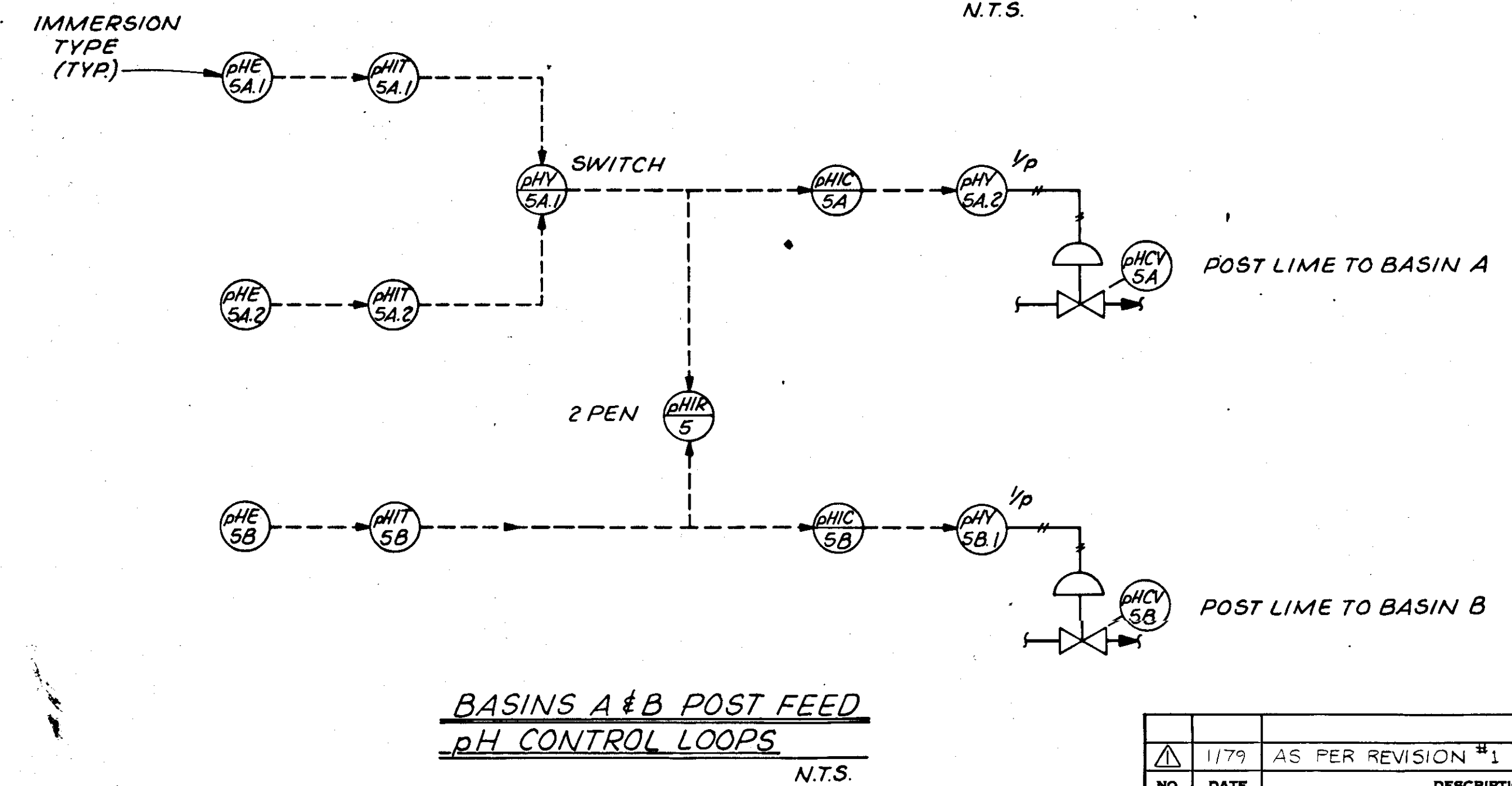
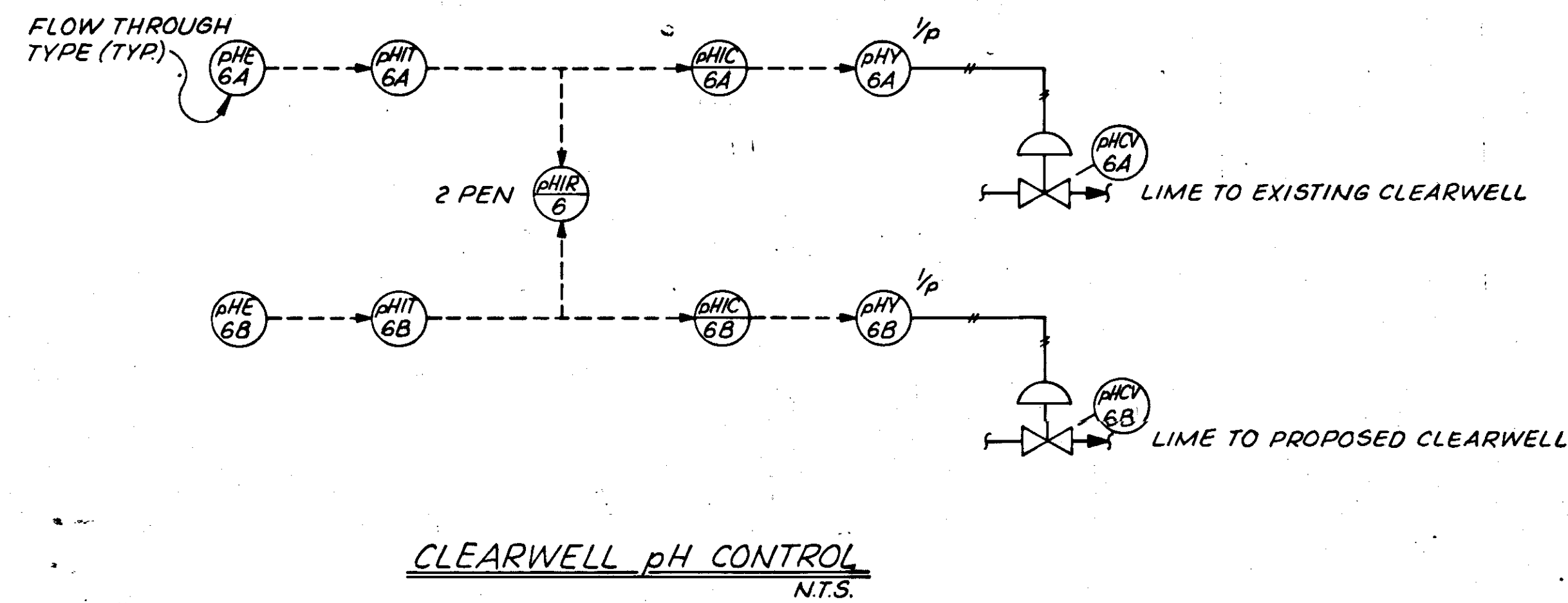
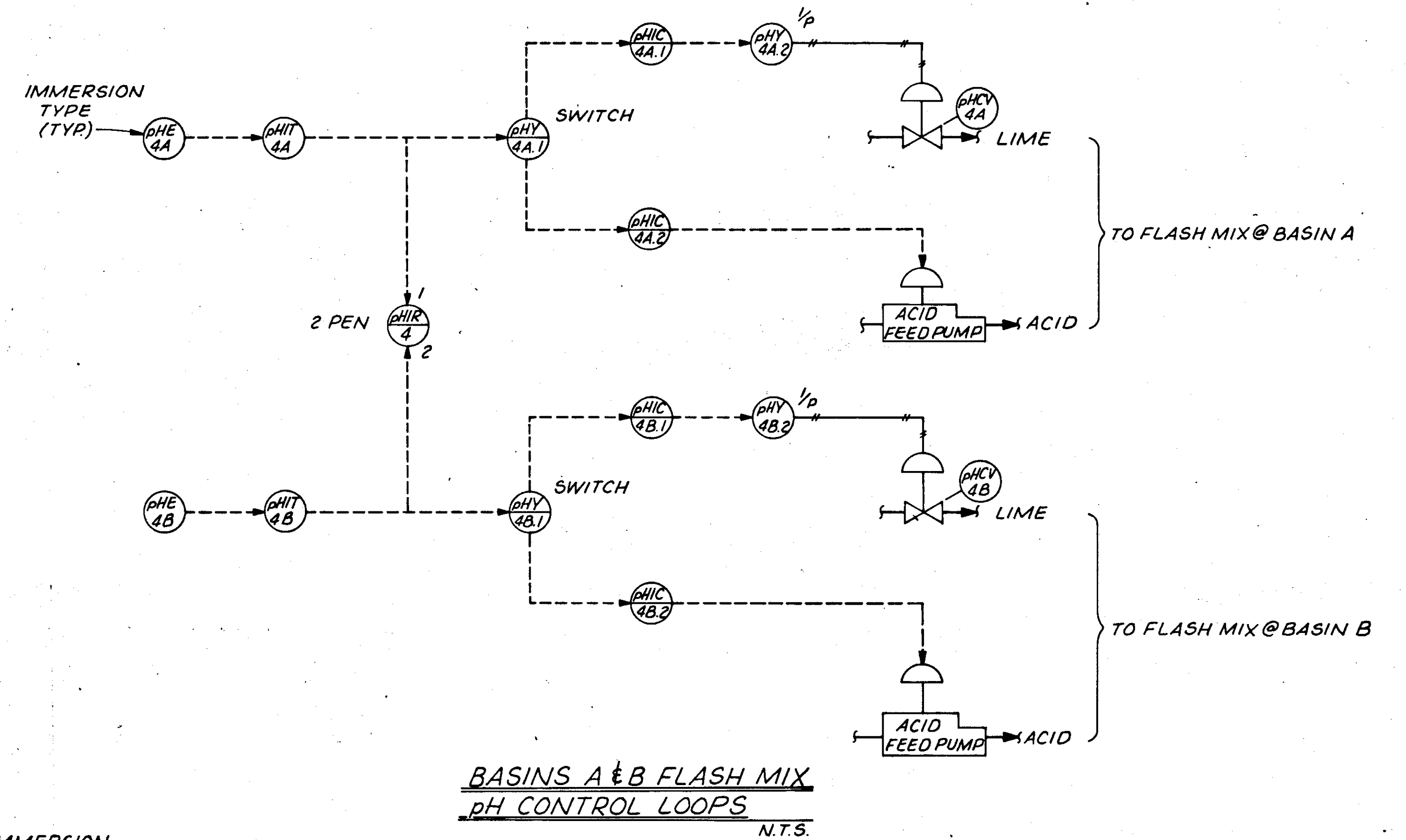
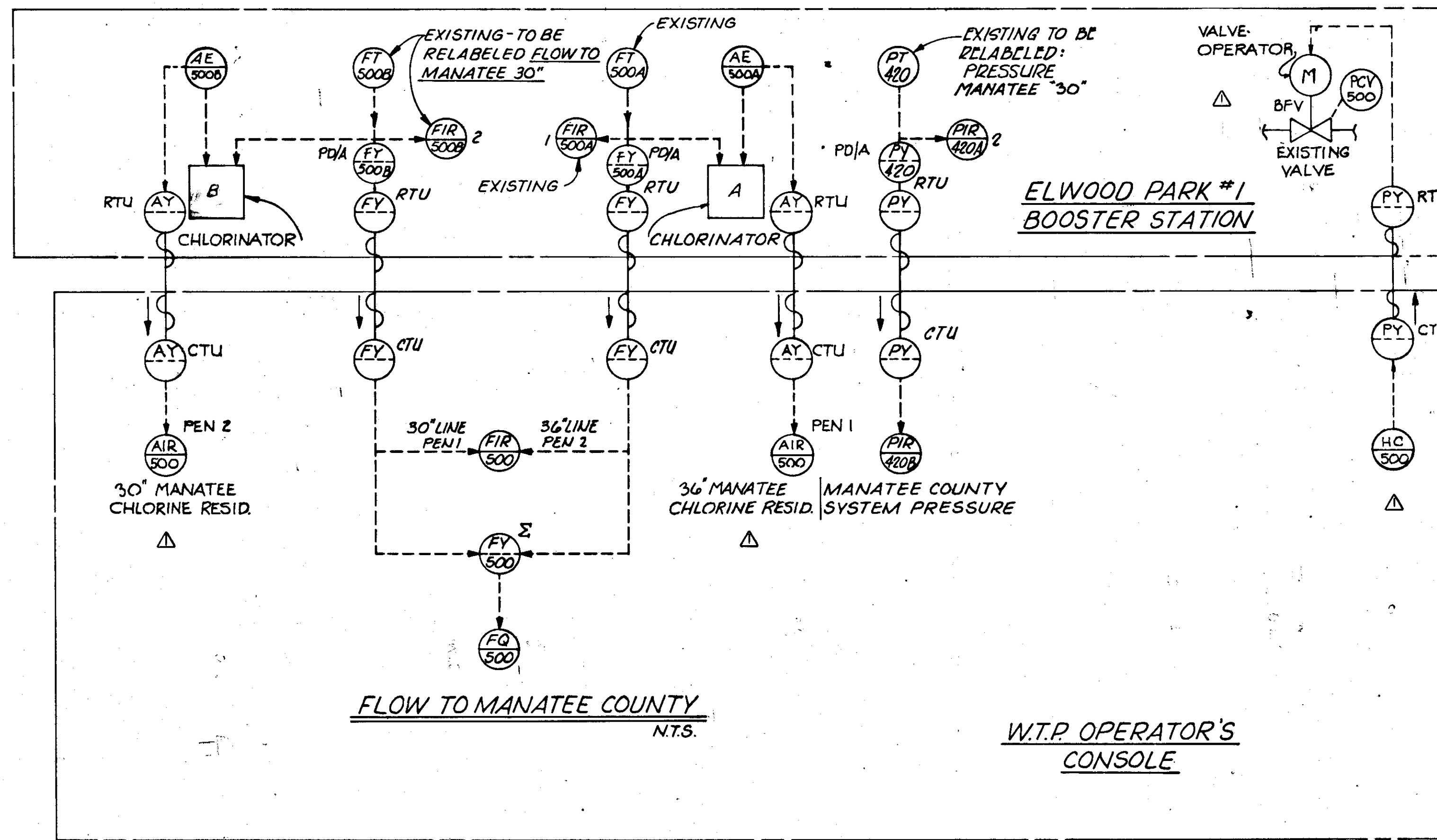


----- ELECTRICAL SIGNAL

~~~~~ RADIO SIGNAL

**NOTE:** INSTRUMENTATION AT ALL LOCATIONS SHOWN SHALL BE THE RESPONSIBILITY OF THE WATER TREATMENT PLANT CONTRACTOR.

| 5/79                                                                         | GEN. REVISION          | AL                             |     |
|------------------------------------------------------------------------------|------------------------|--------------------------------|-----|
| 1/79                                                                         | AS PER REVISION #1     | RWF                            | SJG |
| NO.                                                                          | DATE                   | DESCRIPTION                    | BY  |
| REVISIONS                                                                    |                        |                                |     |
| <b>RUSSELL &amp; AXON</b><br>Engineers — Planners — Architects               |                        |                                |     |
| <b>WATER WORKS PROJECT</b><br>WATER TREATMENT PLANT<br>INSTRUMENTATION LOOPS |                        |                                |     |
| <b>MANATEE COUNTY, FLORIDA</b>                                               |                        |                                |     |
| DESIGNED BY<br>J.M.H.                                                        | FILE NO.<br>630-761-04 | <b>T-128</b><br><b>FLORIDA</b> |     |
| DRAWN BY<br>H.G.B.                                                           | SHEET I-18             | <b>SEAL</b>                    |     |
| CHECKED BY<br>S.J.G.                                                         | OF 130 SHEETS          | JUN 22 1979                    |     |
| DATE<br>AUGUST, 1978                                                         | SCALE: NOT TO SCALE    | 14-01                          |     |



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| NO.                               | DATE                | DESCRIPTION | BY  | CHKD. |
| 1/179                             | AS PER REVISION #1  | RWF         | SJG | SJG   |
| REVISIONS                         |                     |             |     |       |
| RUSSELL & AXON                    |                     |             |     |       |
| Engineers — Planners — Architects |                     |             |     |       |
| WATER WORKS PROJECT               |                     |             |     |       |
| WATER TREATMENT PLANT             |                     |             |     |       |
| INSTRUMENTATION LOOPS             |                     |             |     |       |
| MANATEE COUNTY, FLORIDA           |                     |             |     |       |
| DESIGNED BY                       | FILE NO.            | SEAL        |     |       |
| J.M.H.                            | 630-761-04          |             |     |       |
| DRAWN BY                          | SHEET I-19          |             |     |       |
| M.E.P.                            | No. (130)           |             |     |       |
| CHECKED BY                        | OF 130 SHEETS       |             |     |       |
| SJG                               | SCALE: NOT TO SCALE |             |     |       |
| DATE                              |                     |             |     |       |
| AUGUST, 1978                      |                     |             |     |       |