

# 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.

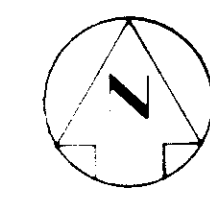
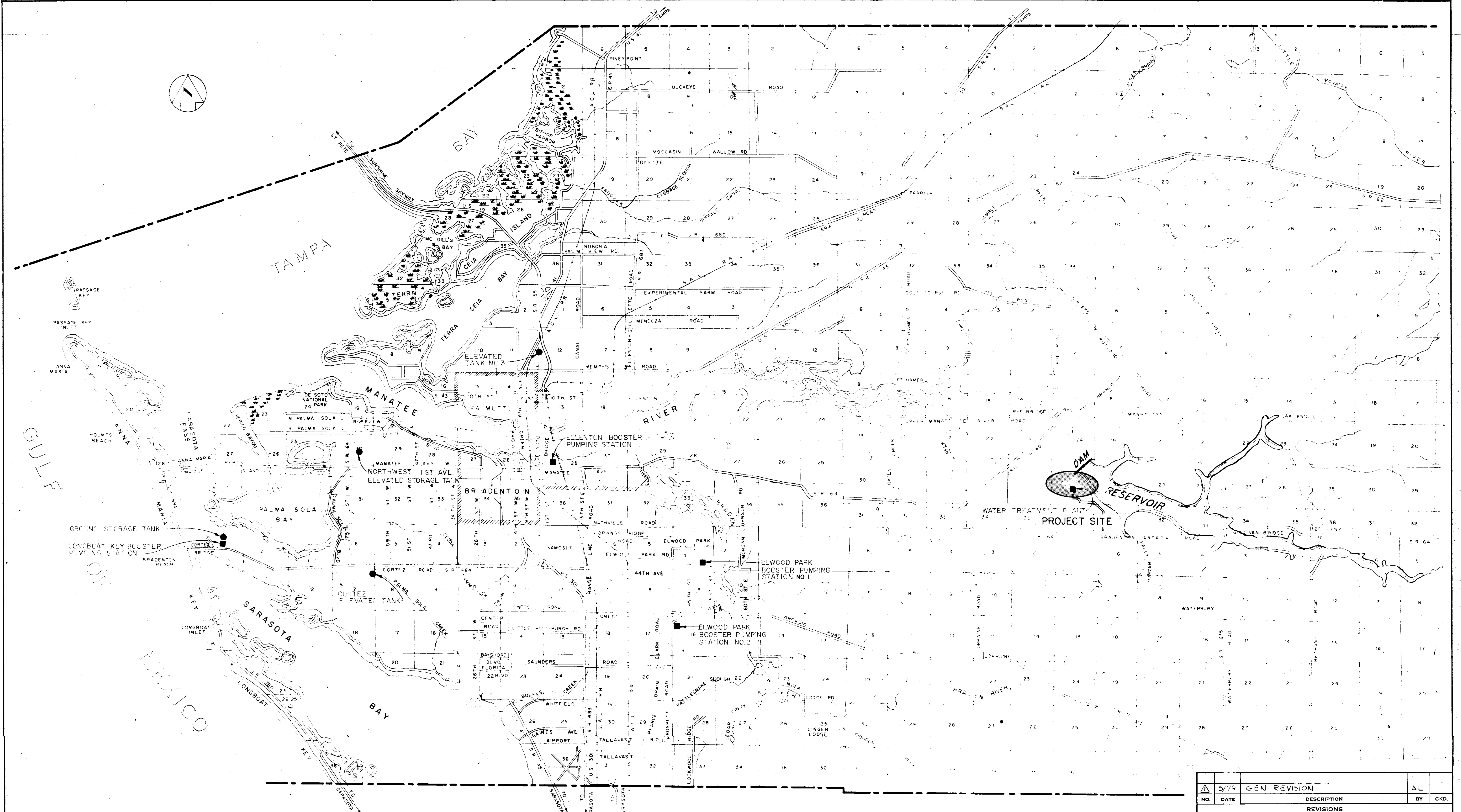
DATE..... BY.....

CHECKED BY:

R & A.....

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



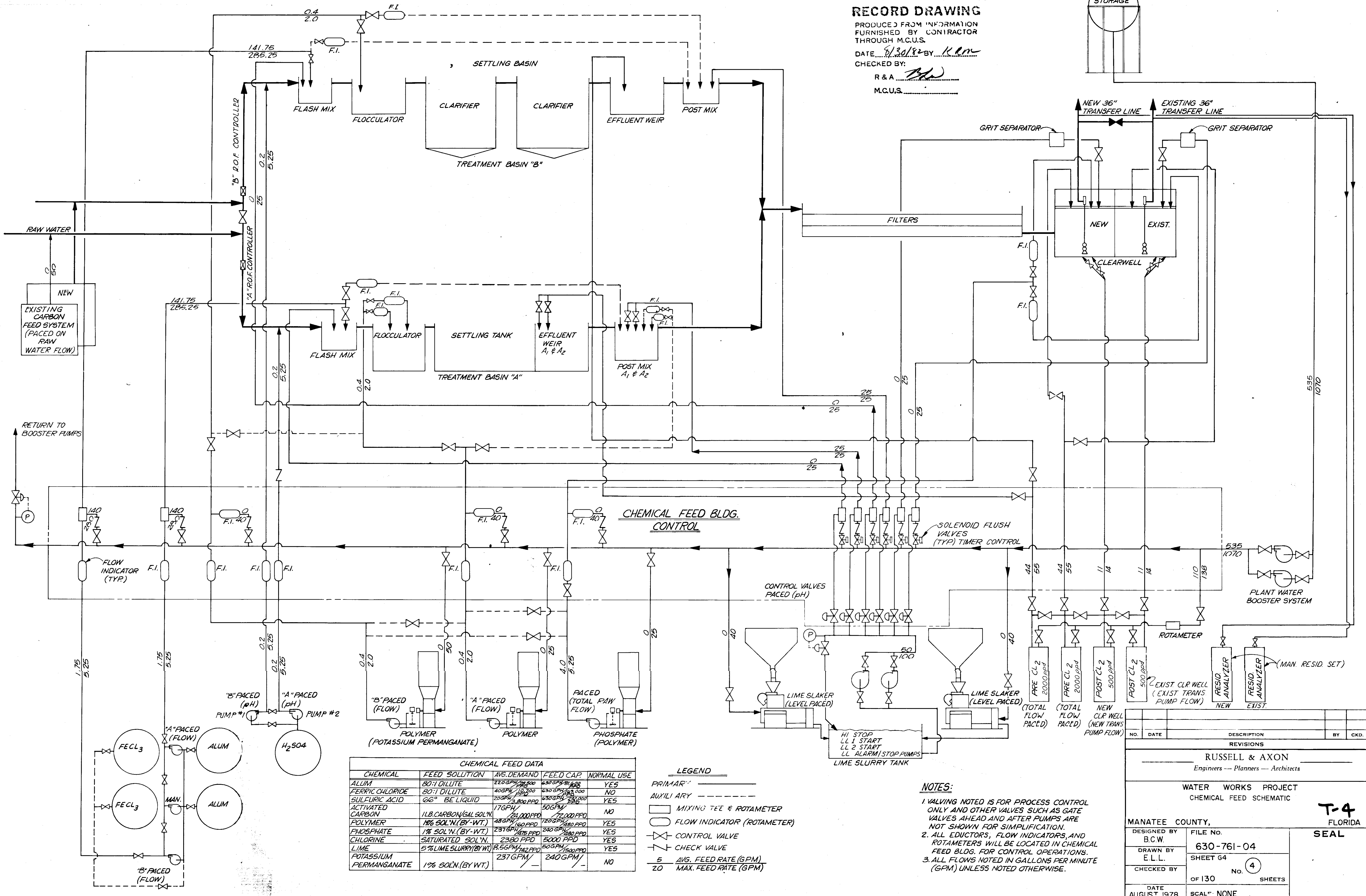
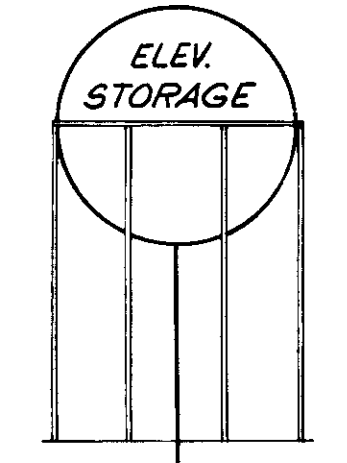


NO.	DATE	DESCRIPTION	BY	CKD.
5/79		GEN REVISION	AL	
REVISIONS				
<b>RUSSELL &amp; AXON</b> Engineers — Planners — Architects				
<b>WATER WORKS PROJECT</b> SITE LOCATION				
<b>MANATEE COUNTY</b>				<b>T-3</b> FLORIDA <b>SEAL</b>
DESIGNED BY	B.C.W.	FILE NO.	630-761-04	
DRAWN BY	I.C.S.	SHEET	G3	
CHECKED BY		NO.	(3)	
		OF 130	SHEETS	
DATE	AUGUST, 1978		SCALE: 1" = 1 MILE	

**RECORD DRAWING**  
 PRODUCED FROM INFORMATION  
 FURNISHED BY CONTRACTOR  
 THROUGH M.C.U.S.  
 DATE 8/23/82 BY K.R.M.  
 CHECKED BY:  
 R & A *[Signature]*  
 M.C.U.S. \_\_\_\_\_

**RECORD DRAWING**

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



CHEMICAL FEED DATA				
CHEMICAL	FEED SOLUTION	AVG. DEMAND	FEED CAP.	NORMAL USE
ALUM	80:1 DILUTE	220 GPM / 100,000	430 GPM / 100,000	YES
FERRIC CHLORIDE	80:1 DILUTE	400 GPM / 18,000	430 GPM / 100,000	NO
SULFURIC ACID	66% BE LIQUID	200 GPM / 3,800 PPD	430 GPM / 100,000	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 / 180 PPD	YES
PHOSPHATE	1% SOL'N. (BY-WT.)	237 GPM / 476 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	80 GPM / 1500 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				
<b>T-4</b> FLORIDA				
<b>SEAL</b>				
MANATEE COUNTY,		FILE NO.		
DESIGNED BY B.C.W.	630-761-04			
DRAWN BY E.L.L.	SHEET 64			
CHECKED BY	OF 130		No. 4 SHEETS	
DATE AUGUST, 1978	SCALE: NONE			

14-01

SEE DWG. NO. 11 FOR BACKWASH PONDS

BACKWASH POND

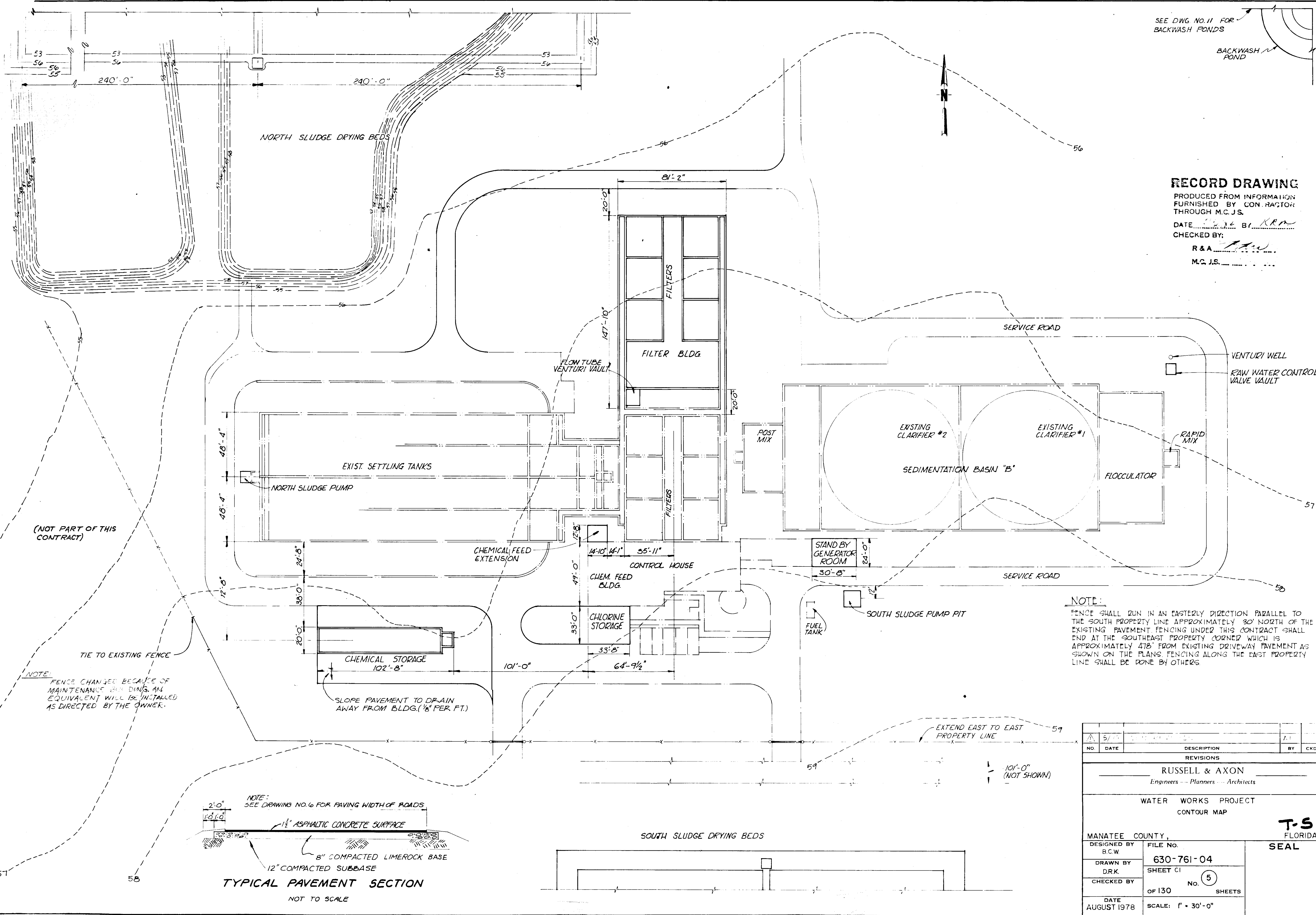
**RECORD DRAWING**

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

DATE: 5/15/78 BY: R.R.

CHECKED BY: R & A

M.C.J.S.

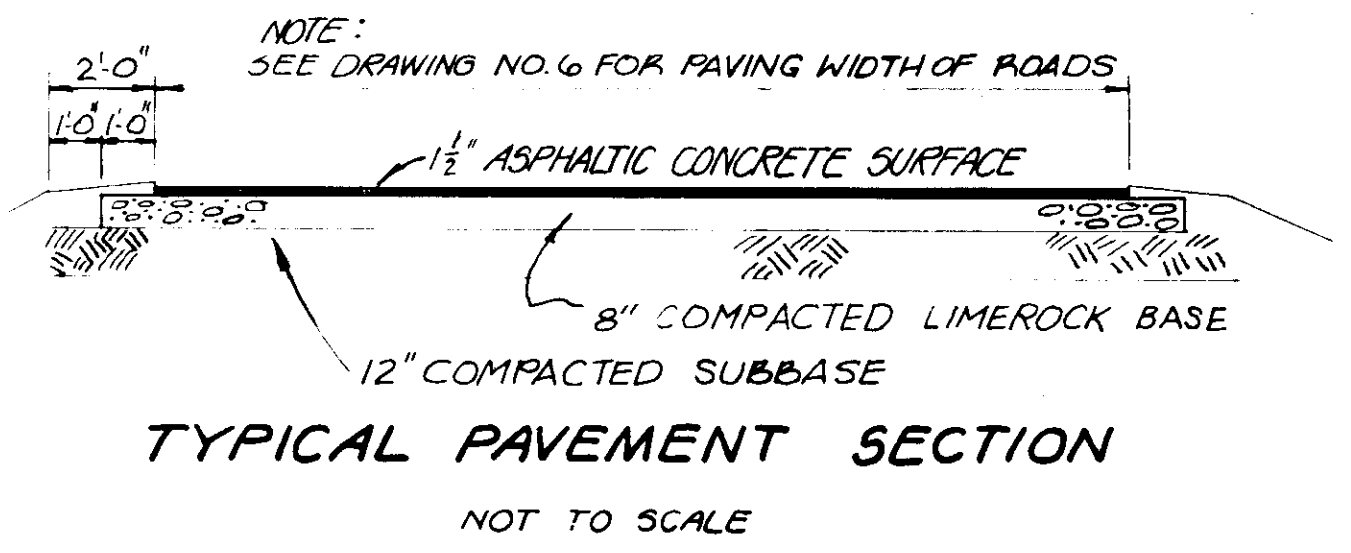


(NOT PART OF THIS CONTRACT)

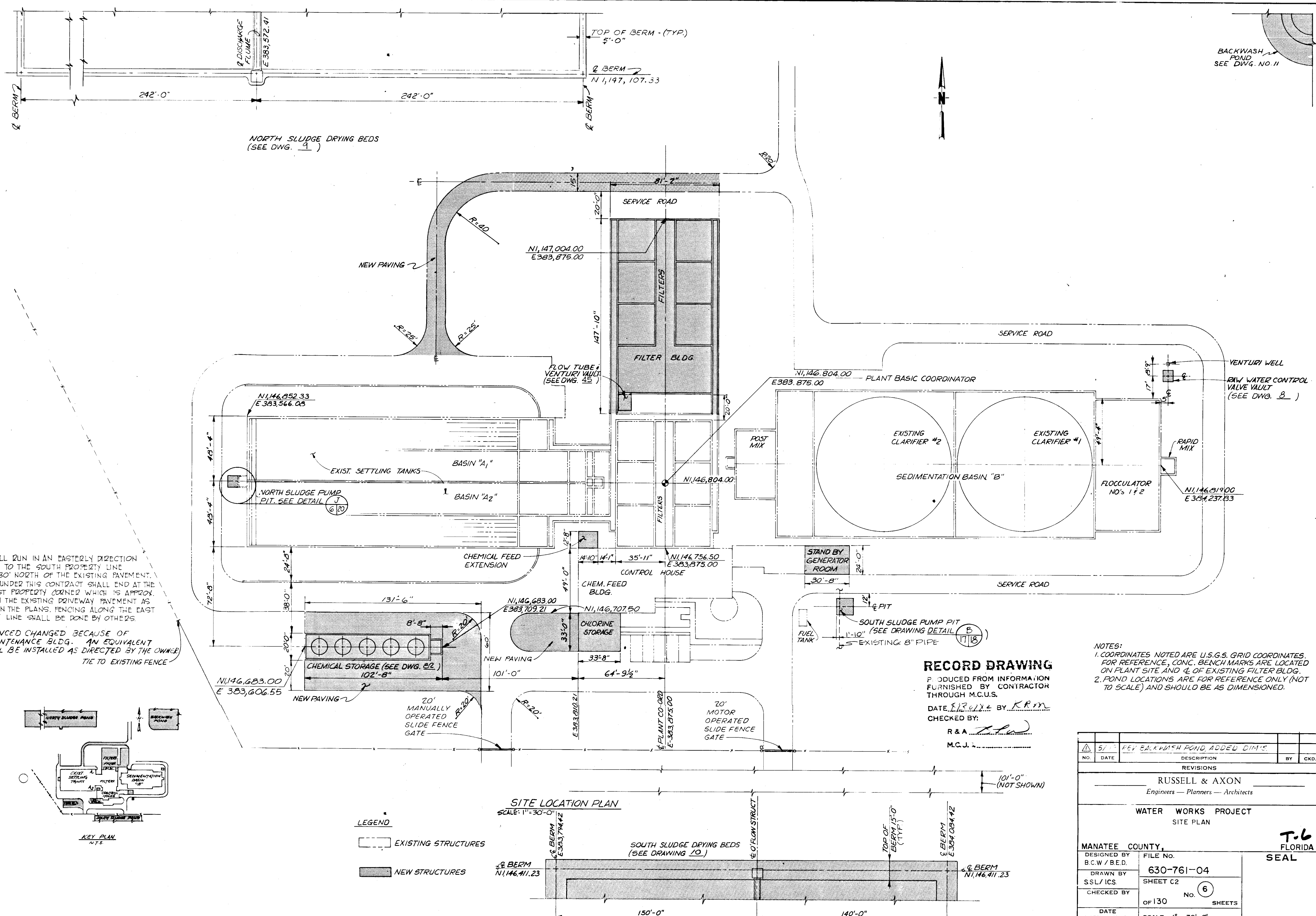
NOTE: FENCE CHANGED BECAUSE OF MAINTENANCE BUILDING. AN EQUIVALENT WILL BE INSTALLED AS DIRECTED BY THE OWNER.

TIE TO EXISTING FENCE

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 EXISTING DRIVEWAY PAVEMENT AS SHOWN ON THE PLANS. FENCING ALONG THE EAST PROPERTY LINE SHALL BE DONE BY OTHERS.



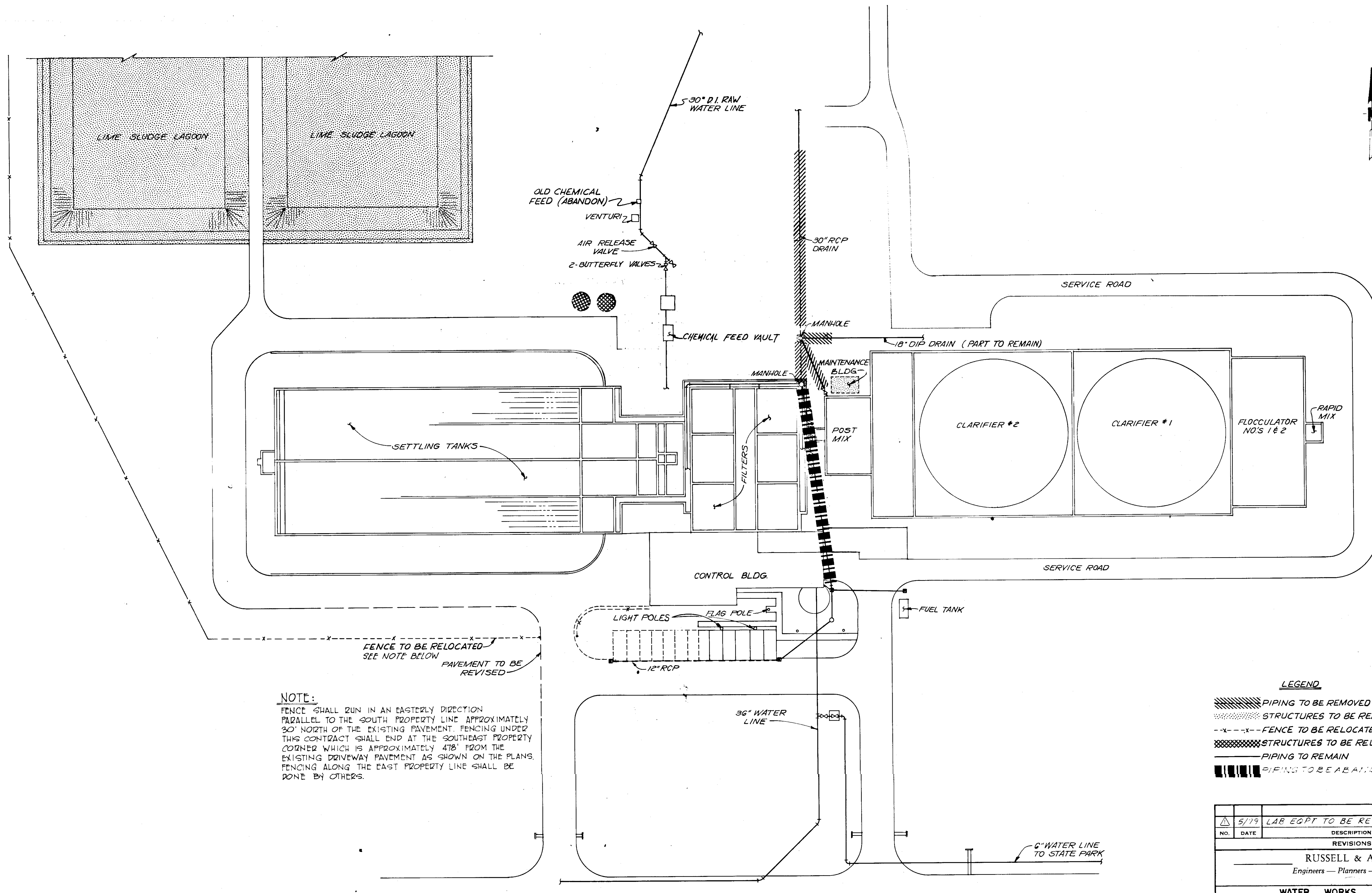
NO.	DATE	DESCRIPTION	BY	CHKD.
1	5/15/78	REVISIONS		
<b>RUSSELL &amp; AXON</b> Engineers - Planners - Architects				
<b>WATER WORKS PROJECT</b> CONTOUR MAP				
MANATEE COUNTY, FLORIDA				
DESIGNED BY	FILE NO.	<b>T.S.</b> <b>SEAL</b>		
B.C.W.	630-761-04			
DRAWN BY	SHEET CI			
D.R.K.		NO. 5 OF 130 SHEETS		
CHECKED BY				
DATE	SCALE: 1" = 30'-0"			
AUGUST 1978				



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

**NOTE:** FENCED CHANGED BECAUSE OF MAINTENANCE BLDG. AN EQUIVALENT WILL BE INSTALLED AS DIRECTED BY THE OWNER TIE TO EXISTING FENCE

NO.	DATE	DESCRIPTION	BY	CHKD.
5/1		REV BACKWASH POND, ADDED DIM'S.		
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT SITE PLAN				
MANATEE COUNTY,		FILE NO.	<b>T.6</b> FLORIDA SEAL	
DESIGNED BY B.C.W / B.E.D.	630-761-04			
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.

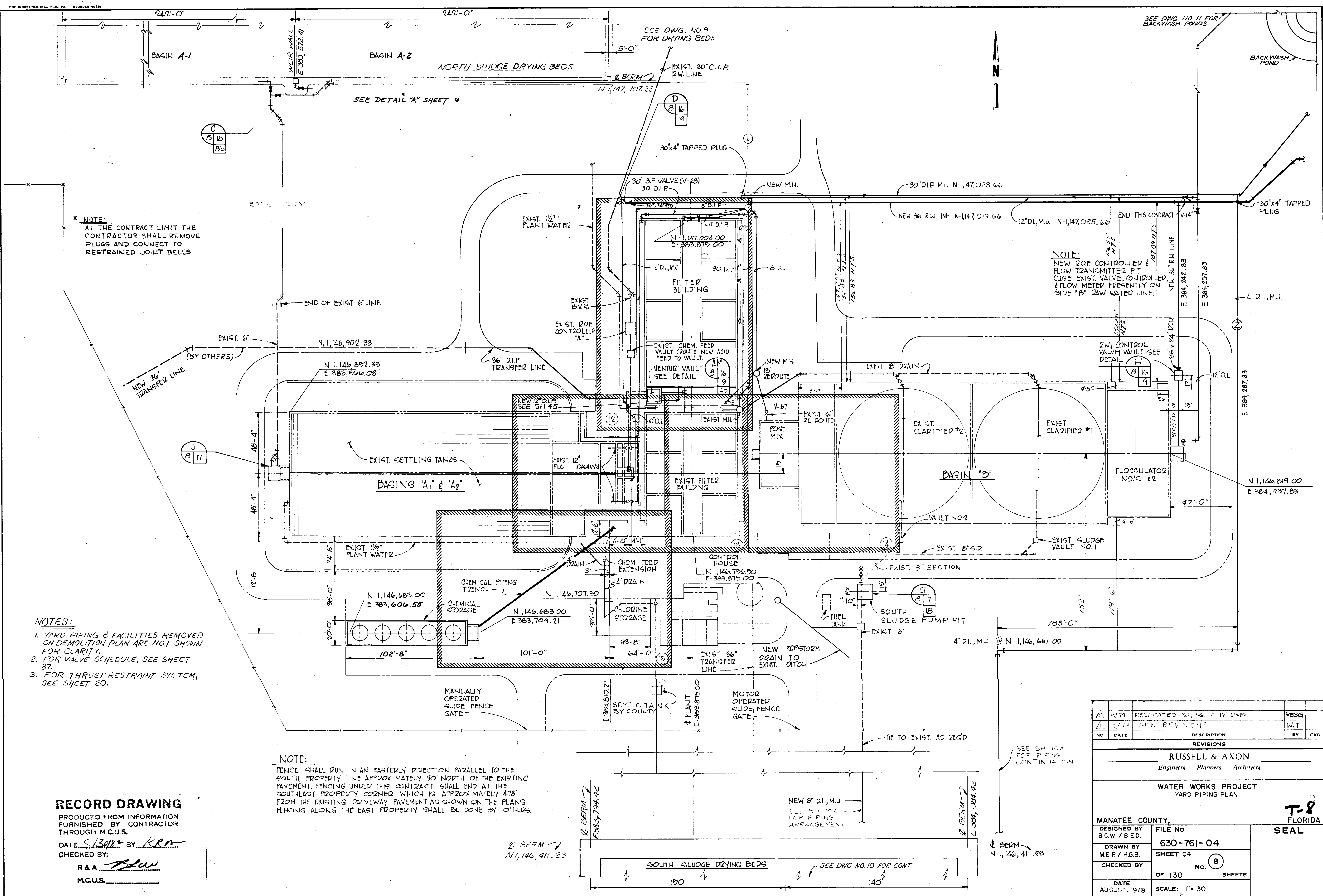
FENCE TO BE RELOCATED - SEE NOTE BELOW  
 PAVEMENT TO BE REVISED

**LEGEND**

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

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

**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. \_\_\_\_\_



**\* NOTE:**  
 AT THE CONTRACT LIMIT THE CONTRACTOR SHALL REMOVE PLUGS AND CONNECT TO RESTRAINED JOINT BELLS.

**NOTE:**  
 NEW D.O.F. CONTROLLER & FLOW TRANSMITTER PIT. (USE EXIST. VALVE, CONTROLLER & FLOW METER PRESENTLY ON SIDE 'B' RAW WATER LINE.)

- NOTES:**
1. YARD PIPING & FACILITIES REMOVED ON DEMOLITION PLAN ARE NOT SHOWN FOR CLARITY.
  2. FOR VALVE SCHEDULE, SEE SHEET 87.
  3. FOR THRUST RESTRAINT SYSTEM, SEE SHEET 20.

**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 SHALL BE DONE BY OTHERS.

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

NO.	DATE	DESCRIPTION	BY	CKD.
1	2/79	RELOCATED 30" 36" & 12" LINES	WBSG	
2	5/79	GEN REV SIGNS	W.T	

**REVISIONS**

**RUSSELL & AXON**  
 Engineers — Planners — Architects

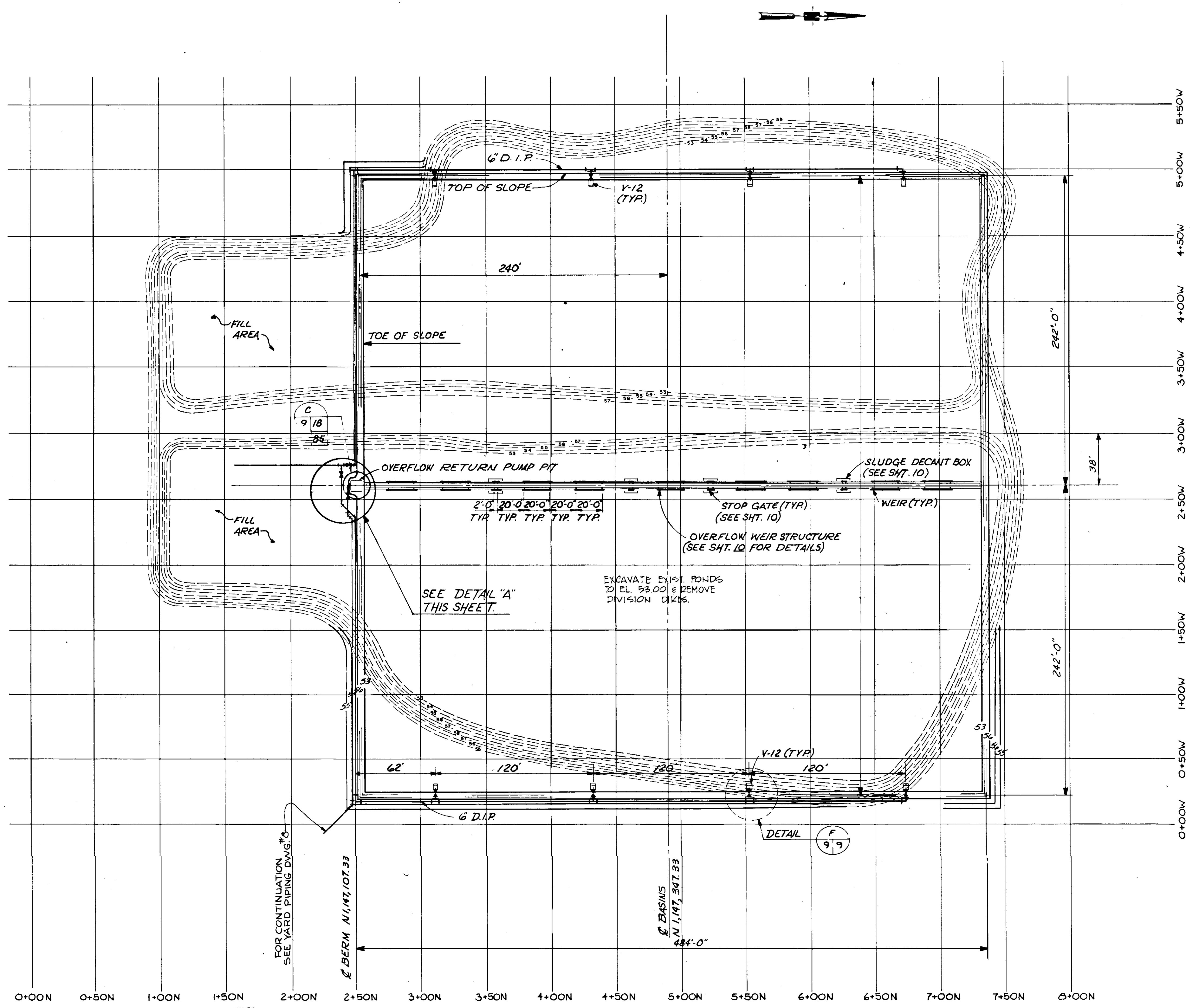
**WATER WORKS PROJECT**  
 YARD PIPING PLAN

**T-8**  
 FLORIDA  
**SEAL**

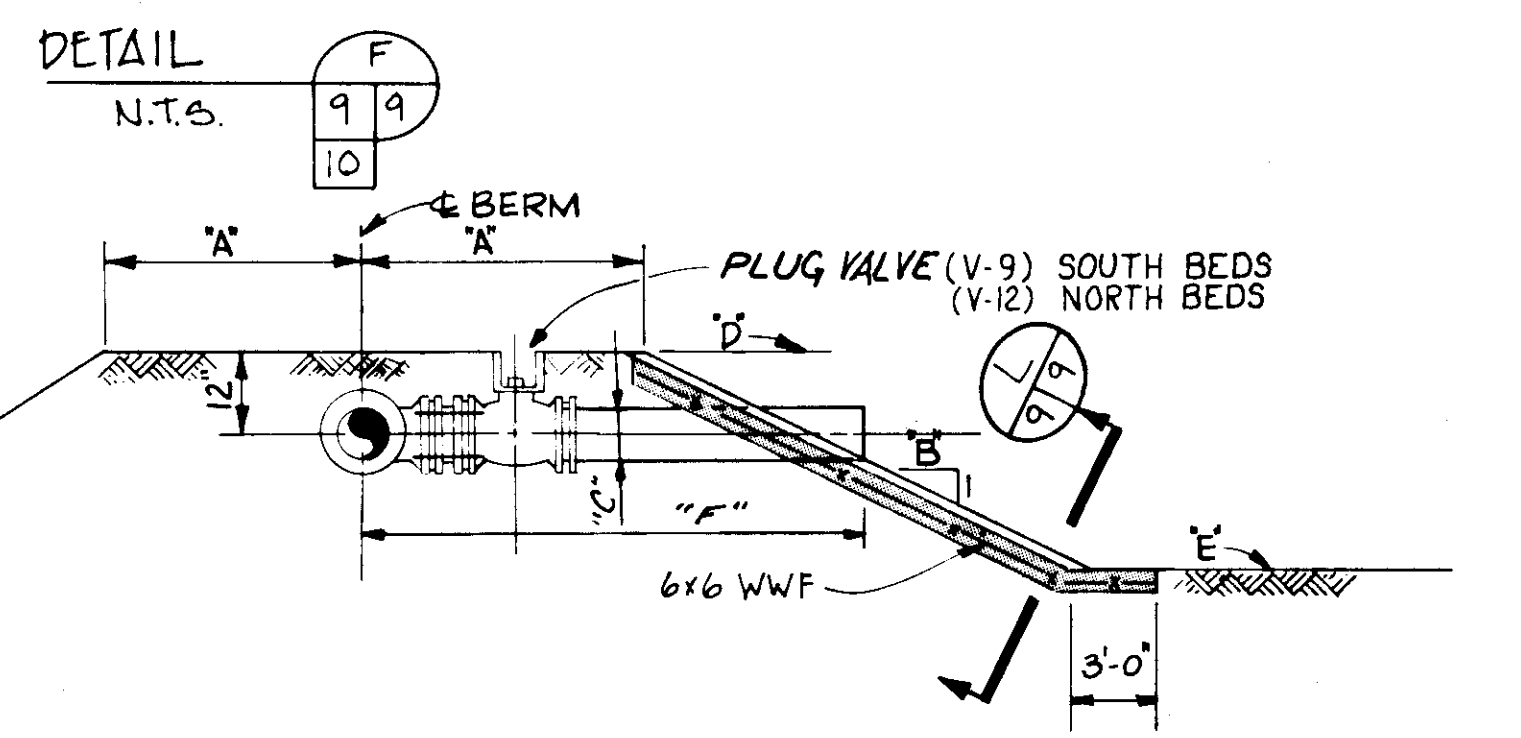
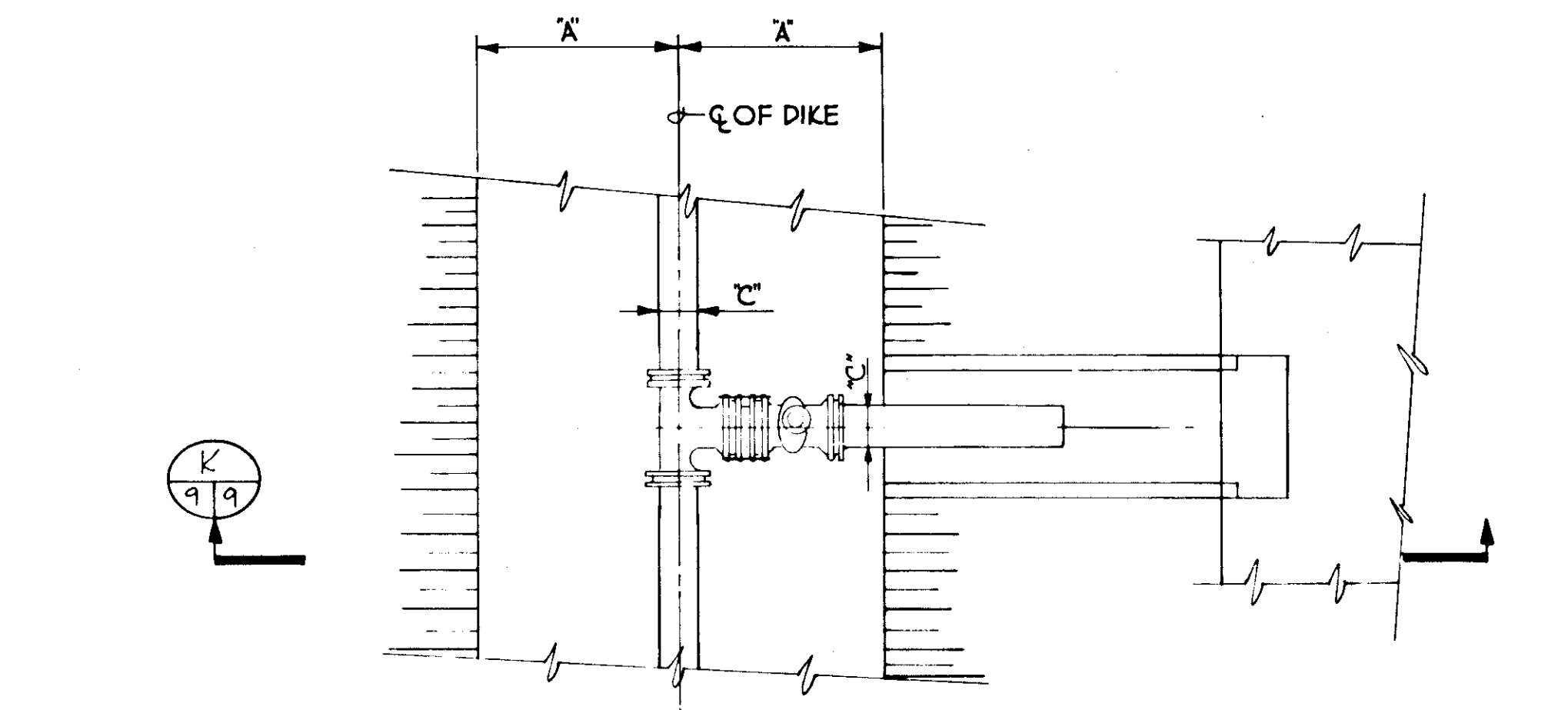
MANATEE COUNTY,	
DESIGNED BY B.C.W./B.E.D.	FILE NO. 630-761-04
DRAWN BY M.E.P./H.G.B.	SHEET C4
CHECKED BY	OF 130 SHEETS
DATE AUGUST, 1978	SCALE: 1" = 30'

14-01

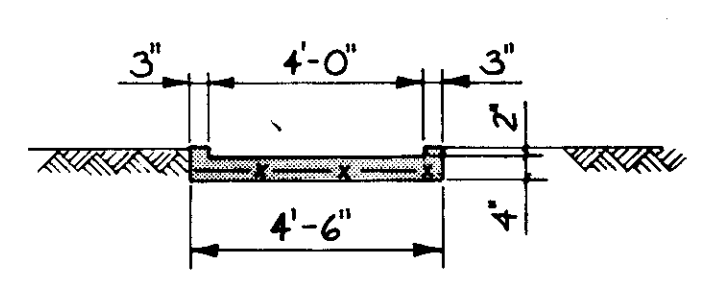




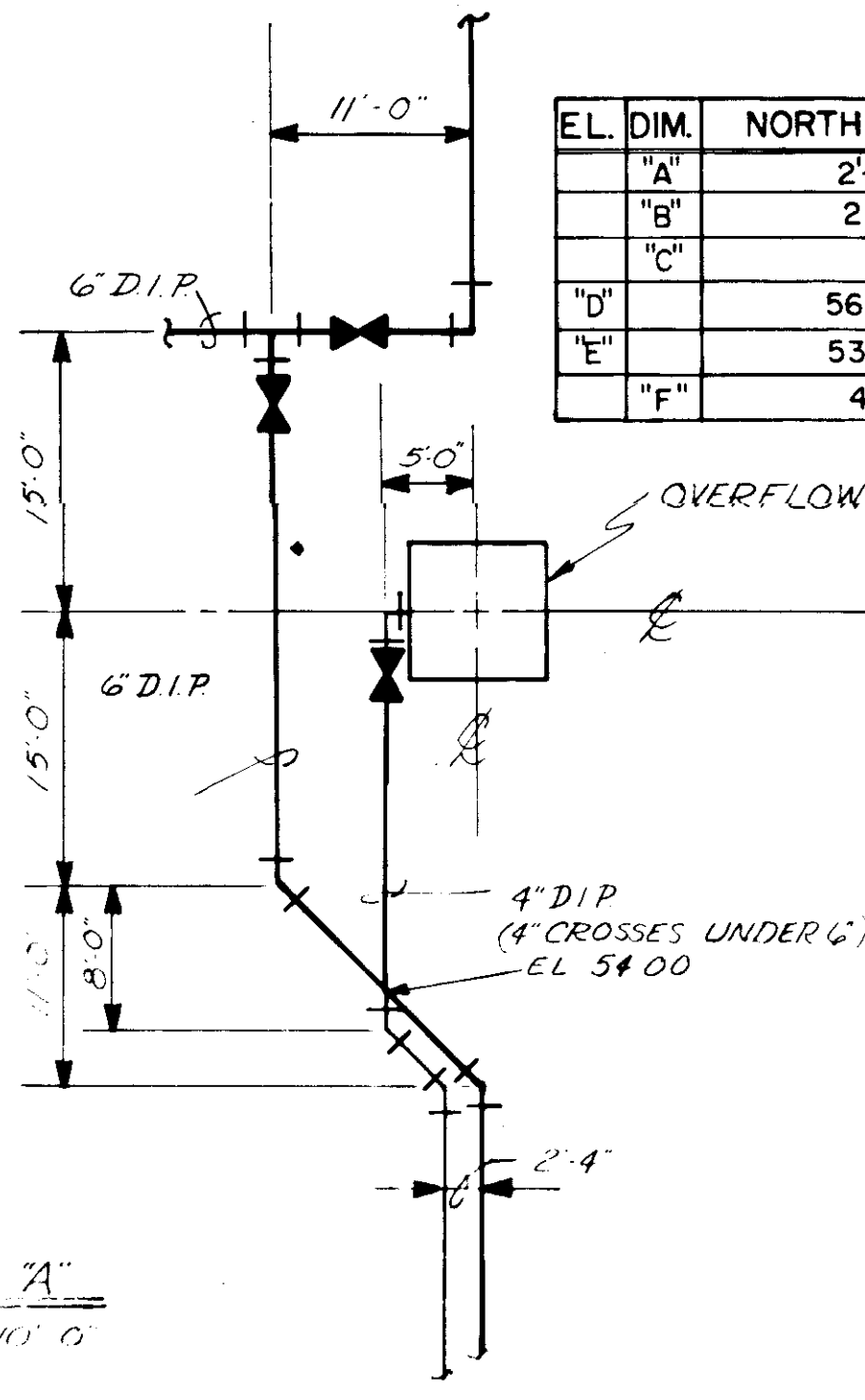
NORTH SLUDGE DRYING BEDS  
SCALE: 1"=40'-0"



SECTION K  
N.T.S.



SECTION L  
N.T.S.



DETAIL A'  
SCALE: 1"=10'-0"

EL. DIM.	NORTH BEDS	SOUTH BEDS
"A"	2'-6"	7'-6"
"B"	2'-1"	3'-1"
"C"	6"	8"
"D"	56.00	65.00
"E"	53.00	62.00
"F"	4'-6"	10'-6"

**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. [Signature]

NO.	DATE	DESCRIPTION	BY	CKD.
5/79		ADDED DIMENSION, SECT K	RSQ	

REVISIONS

**RUSSELL & AXON**  
Engineers — Planners — Architects

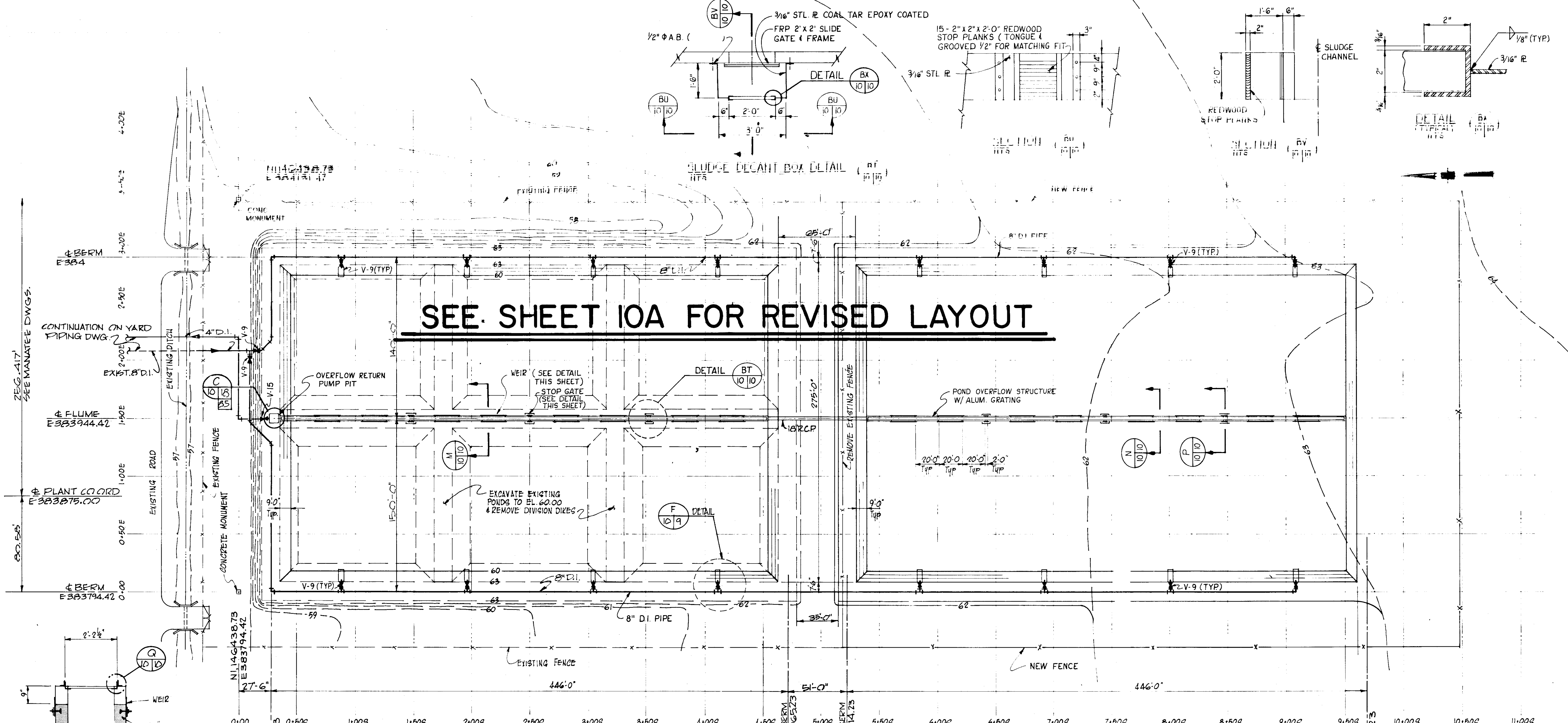
**WATER WORKS PROJECT**  
NORTH SLUDGE DRYING BEDS  
PLAN & SECTIONS

MANATEE COUNTY, FLORIDA

DESIGNED BY BCW	FILE NO. 630-761-04	<b>SEAL</b>
DRAWN BY ICS	SHEET 65	
CHECKED BY	OF 130 SHEETS	

DATE  
AUGUST, 1978

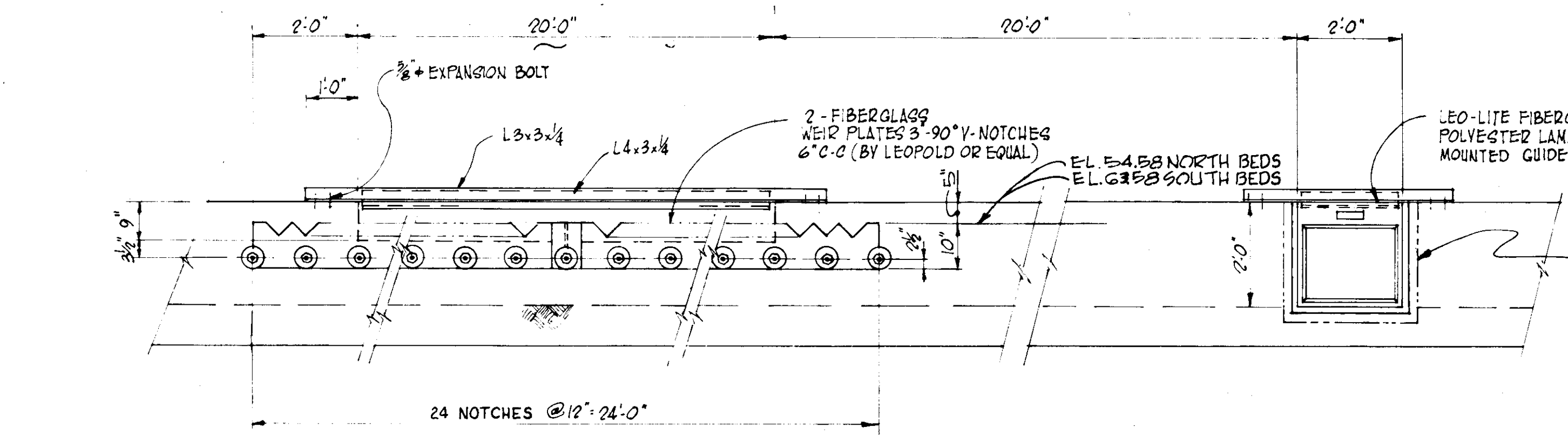
SCALE: AS NOTED



**SEE SHEET IOA FOR REVISED LAYOUT**

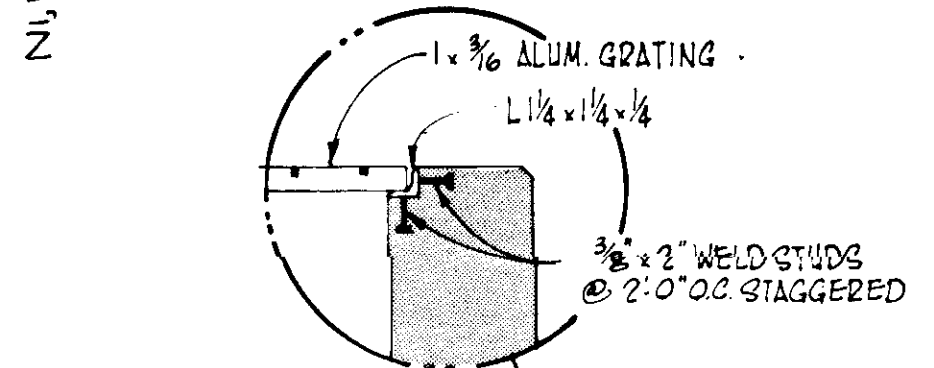
**SOUTH SLUDGE DRYING BEDS**  
SCALE: 1" = 40'-0"

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

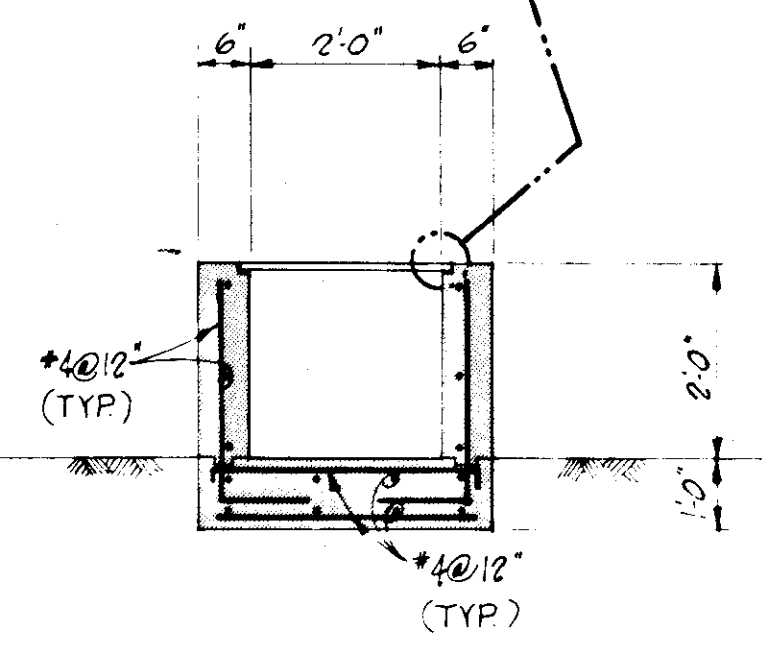


**TYP. WEIR STRUCTURE DETAIL** (REQD 32 PLACES) SOUTH SLUDGE BEDS  
SCALE: 1/2" = 1'-0"

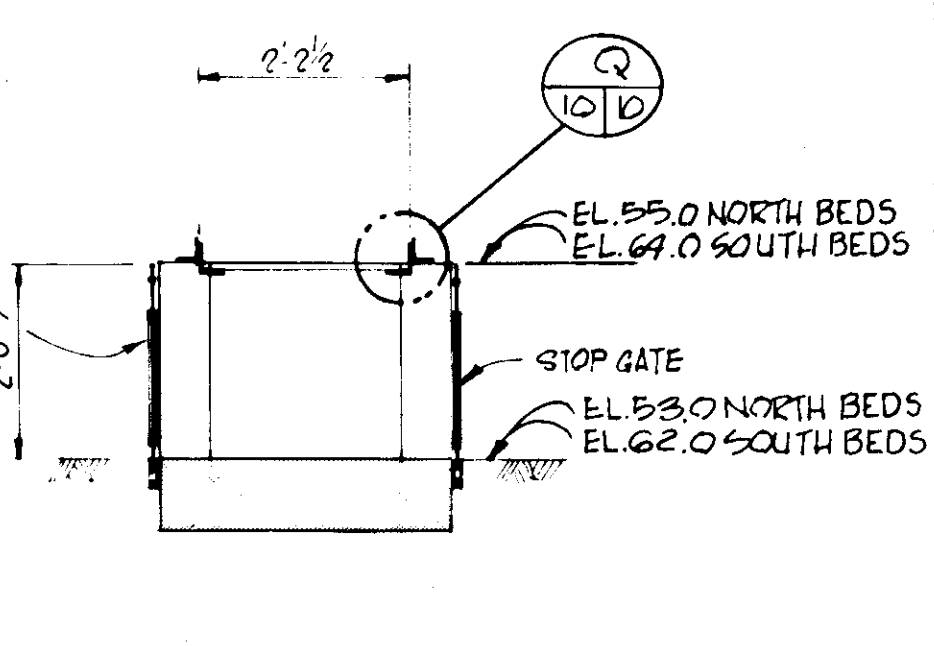
**TYP. STOP GATE DETAIL** (REQD 12 PLACES) SOUTH SLUDGE BEDS  
SCALE: 1/2" = 1'-0"



**DETAIL Q**  
SCALE: 1/2" = 1'-0"



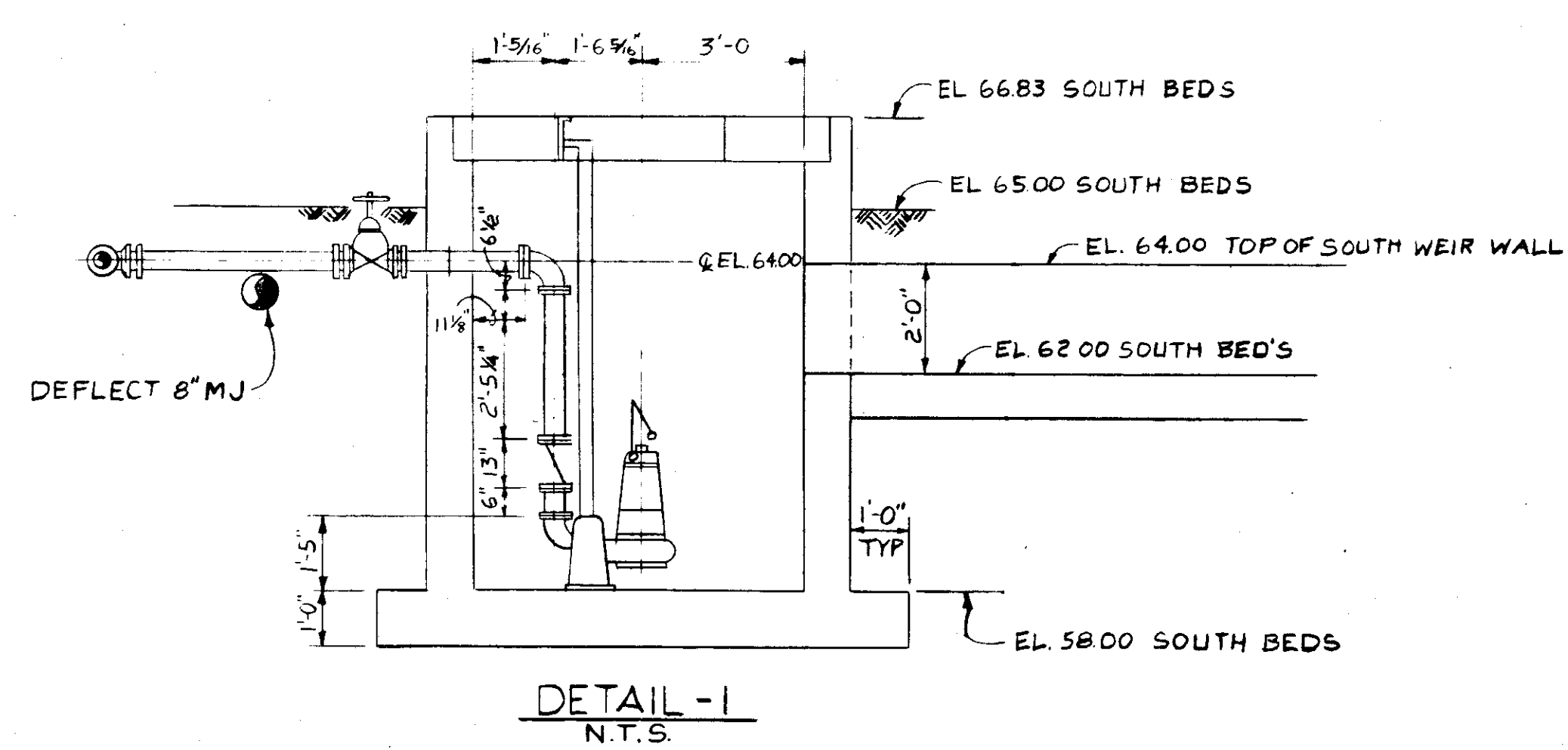
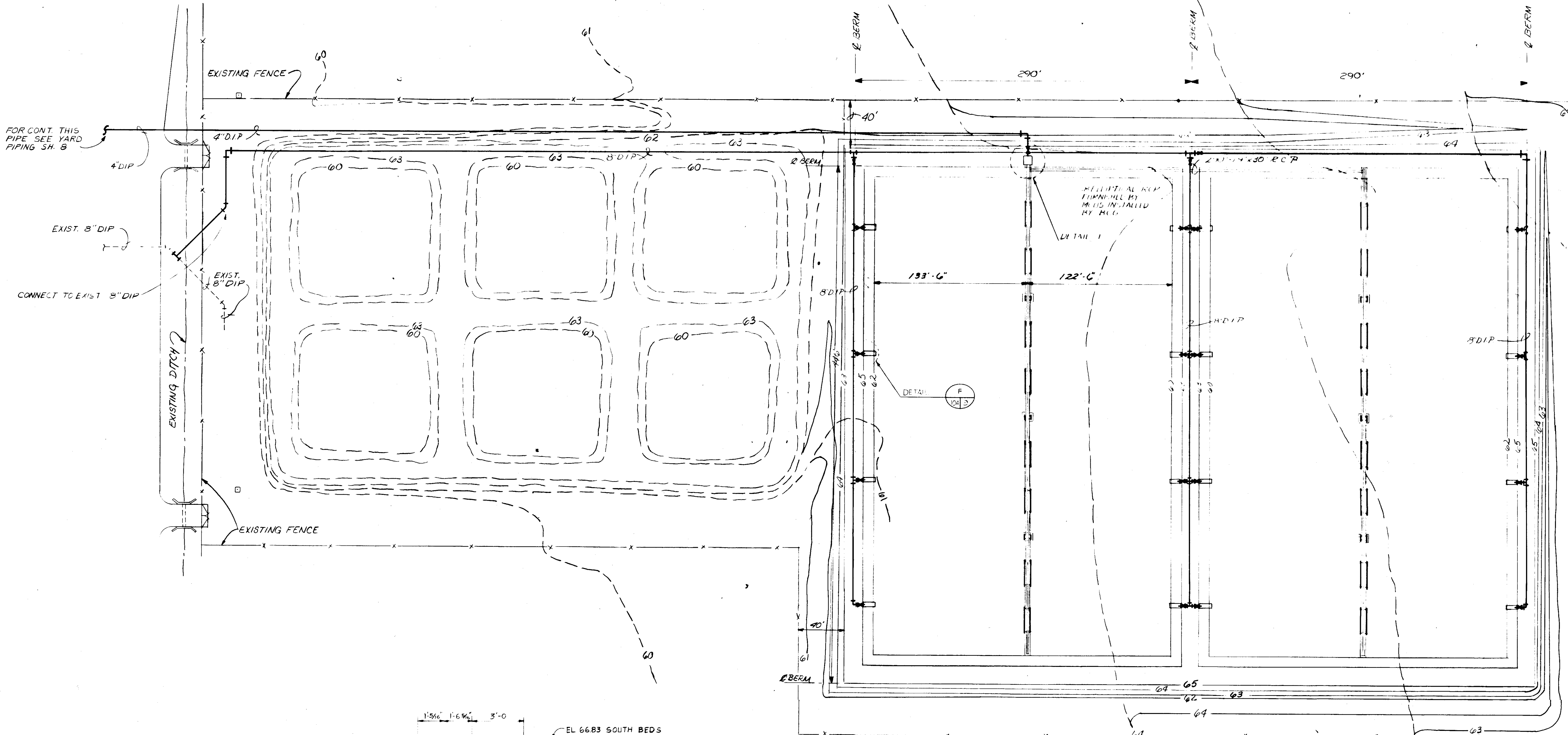
**SECTION N**  
SCALE: 1/2" = 1'-0"



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

**RECORD DRAWING**  
PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.  
DATE: 8/24/78 BY: KRM  
CHECKED BY:  
R & A: [Signature]  
M.C.U.S.: [Signature]

NO.	DATE	DESCRIPTION	BY	CKD.
REVISIONS				
<b>RUSSELL &amp; AXON</b> Engineers - Planners - Architects				
WATER WORKS PROJECT SOUTH SLUDGE DRYING BEDS PLAN, SECTIONS & DETAILS				
<b>T-10</b> FLORIDA				
MANATEE COUNTY,				
DESIGNED BY B.C.W.	FILE NO. 630-761-04	<b>SEAL</b>		
DRAWN BY EK	SHEET C6			
CHECKED BY	OF 130 SHEETS	No. 10		
DATE AUGUST, 1978	SCALE: AS NOTED			

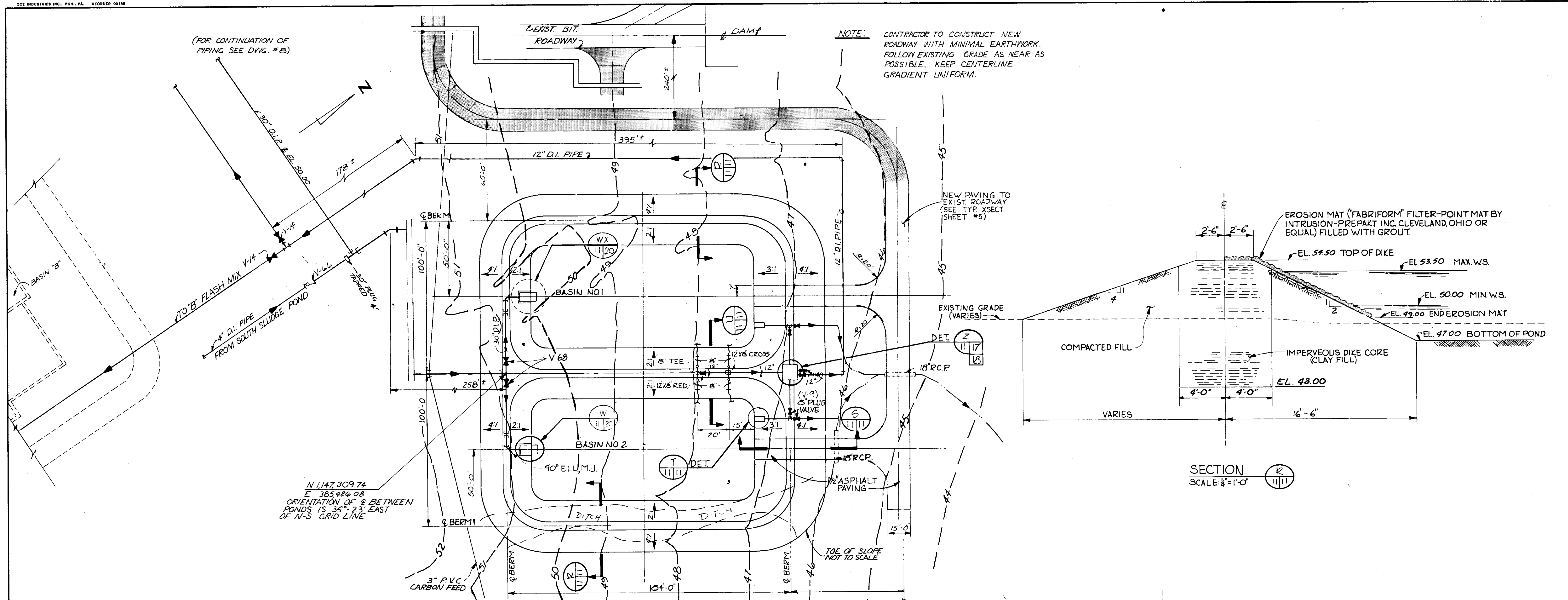


INVERT ELEVATION 63.67  
TYPICAL ALL 8\"/>

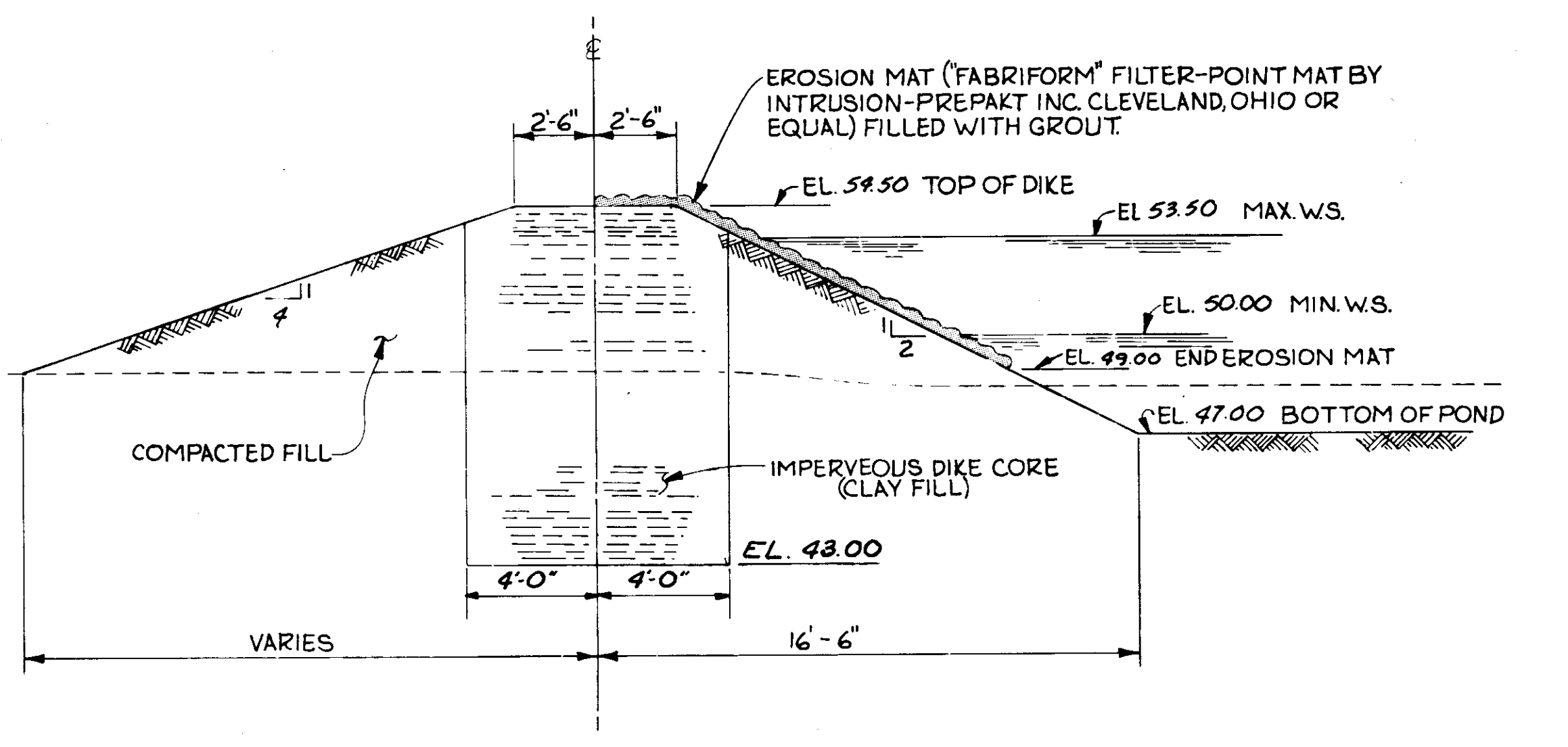
NOTE: ALL WORK REQUIRED AS SHOWN ON SHEET 10A SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER. THIS SHEET SHALL BE COORDINATED WITH SHEET 10 FOR ALL DETAILS AND OTHER PERTINENT INFORMATION.

**RECORD DRAWING**  
 PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.  
 DATE 2/20/80 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				
<b>T-11</b> FLORIDA SEAL				
MANATEE COUNTY,				
DESIGNED BY	FILE NO.			
C.A.B.	630-761-04			
DRAWN BY	SHEET			
J.L.D.	No. 10A			
CHECKED BY	OF 130 SHEETS			
C.A.B.				
DATE	SCALE: 1" = 40'			
JANUARY 1980				

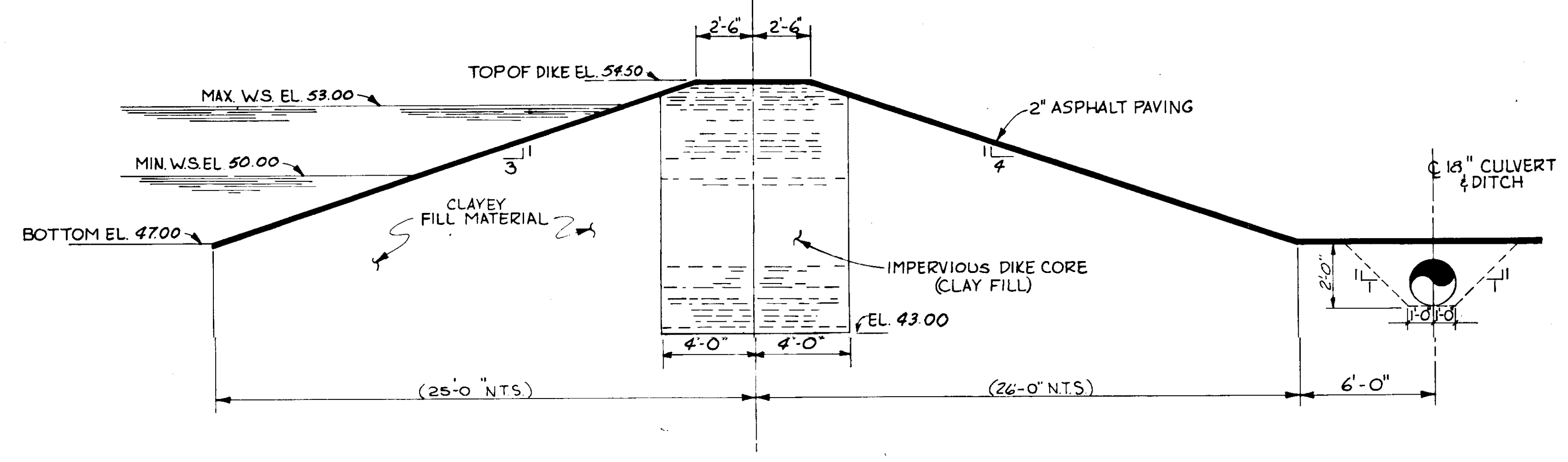


NOTE: CONTRACTOR TO CONSTRUCT NEW ROADWAY WITH MINIMAL EARTHWORK. FOLLOW EXISTING GRADE AS NEAR AS POSSIBLE. KEEP CENTERLINE GRADIENT UNIFORM.

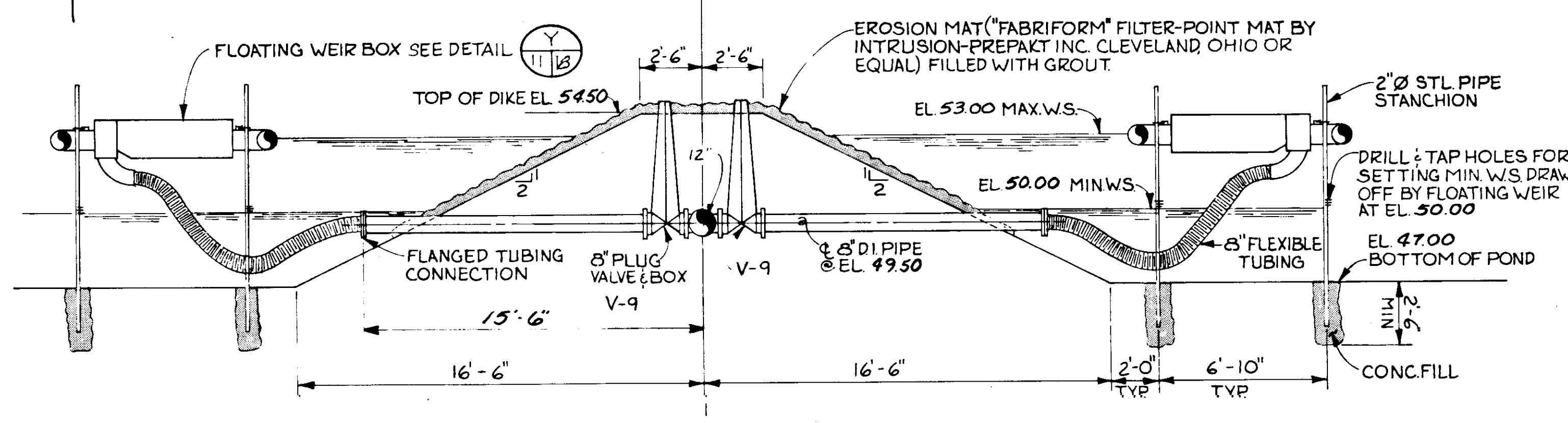


SECTION R  
SCALE: 1/4" = 1'-0"

BACKWASH POND PLAN  
SCALE: 1" = 30'-0"

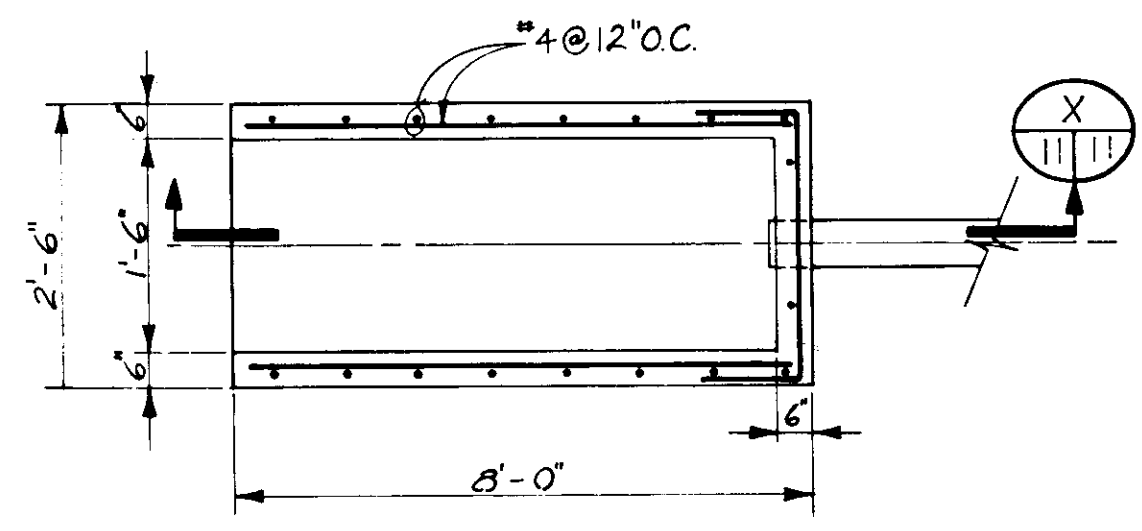


SECTION S  
SCALE: 1/4" = 1'-0"

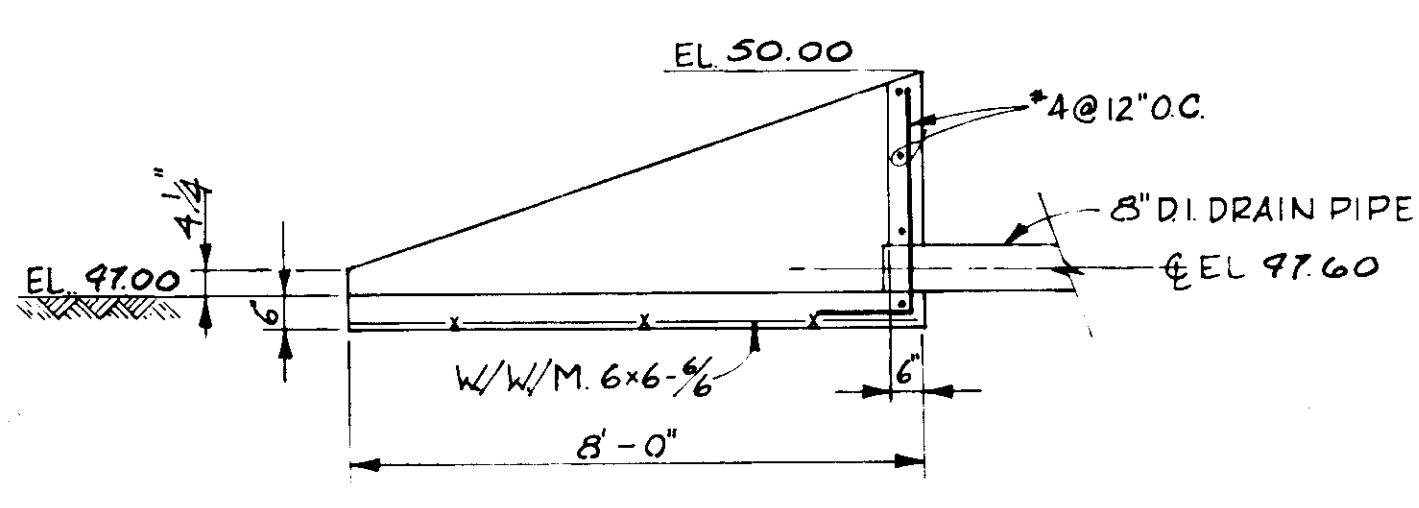


SECTION U  
SCALE: 1/4" = 1'-0"

NOTE: 1. FOR VALVE SCHEDULE, SEE DWG. 87



DETAIL T  
SCALE: 3/8" = 1'-0"



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

**RECORD DRAWING**

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

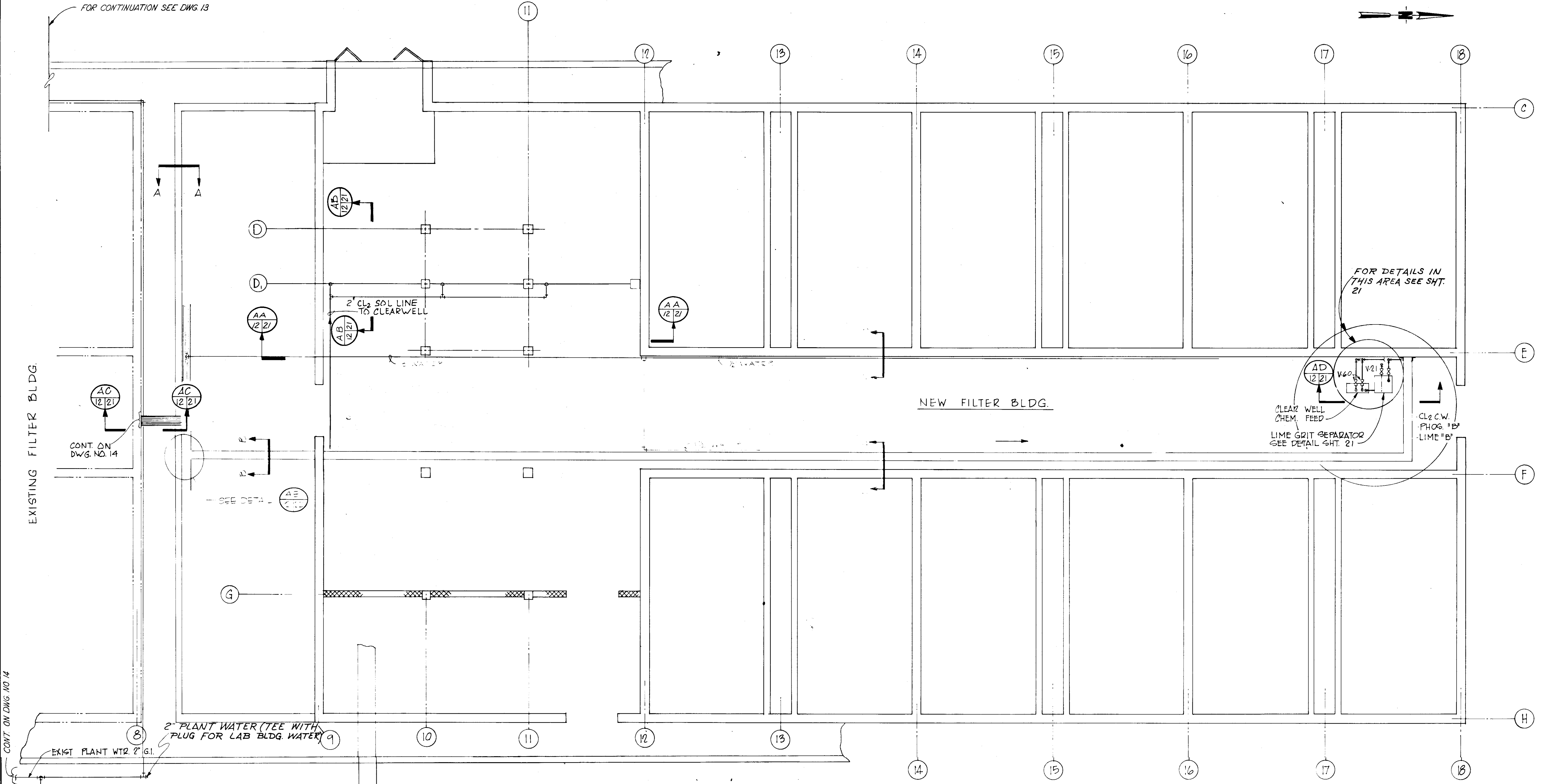
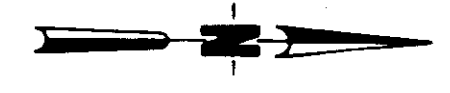
DATE: 8/22/78 BY: R.A. MCUS.

CHECKED BY: R.A. MCUS.

RUSSELL & AXON Engineers — Planners — Architects		T-12 FLORIDA SEAL
WATER WORKS PROJECT BACKWASH POND PLAN & SECTIONS		
MANATEE COUNTY, FLORIDA		
DESIGNED BY BCW	FILE No. 630-761-04	SHEET C7 No. 11 SHEETS
DRAWN BY I.C.S.	SHEET C7	
CHECKED BY	OF 130	SCALE: AS NOTED
DATE AUGUST, 1978	DATE	DATE

NO.	DATE	DESCRIPTION	BY	CHKD.
1	8/22/78	BACKWASH POND PLAN	MCUS.	

FOR CONTINUATION SEE DWG. 13



EXISTING FILTER BLDG.

NEW FILTER BLDG.

FOR DETAILS IN THIS AREA SEE SH. 21

CLEAR WELL CHEM. FEED  
LIME GRIT SEPARATOR SEE DETAIL SH. 21  
CL<sub>2</sub> C.W. PHOS. "B" LIME "B"

2" PLANT WATER (TEE WITH PLUG FOR LAB BLDG. WATER)

ELEC. BUS DUCT

EL. 69.92

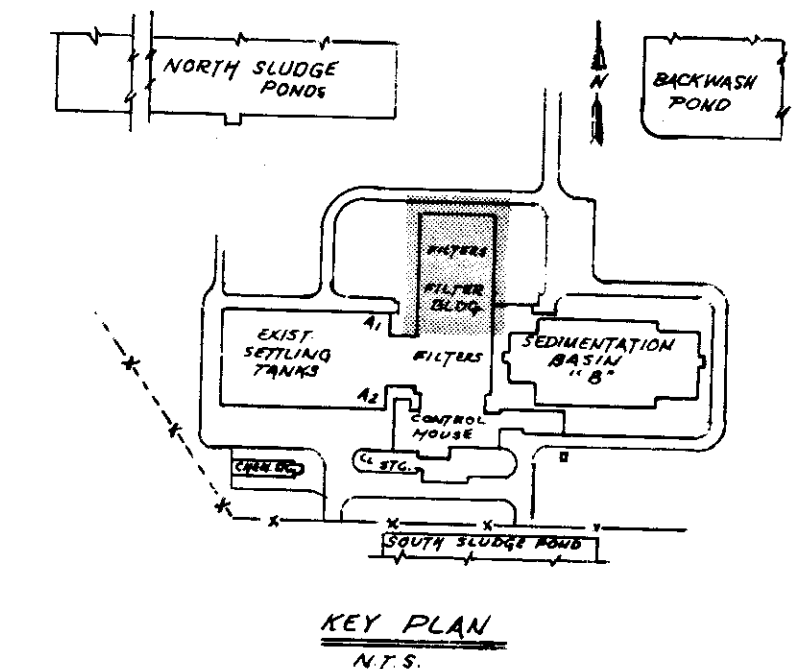
EXIST. 2" PLANT WATER

PLANT WATER  
5" TRANS. COMP.  
PHOSPHATE B  
CL<sub>2</sub> PUMP B  
CL<sub>2</sub> C.W. B  
PHOSPHATE A  
LIME LINES B

ELEC. CONDUIT  
PHOSPHATE B  
CL<sub>2</sub> PUMP B  
CL<sub>2</sub> C.W. B  
LIME  
LIME  
METERING CONDUIT

1/4" AIR  
1/2" WATER

1/2" AIR  
1/2" WATER  
LIME LINES B  
CL<sub>2</sub> C.W. B  
PHOSPHATE B



CONT. ON DWG. NO. 14  
**RECORD DRAWING**  
PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.  
DATE: 8/30/78 BY: R.R.M.  
CHECKED BY: [Signature]  
R & A  
M.C.U.S.

**NOTE:** ALL CHEMICAL PIPING TO BE SCH. 80 P.V.C. SOCKET JOINT, EXCEPT R.P.L. LINED IRON PIPE FOR ACID LINES & EXTERIOR 3" PLANT WATER (G.I.P.). PIPE IS ROUTED IN CHEMICAL TRAYS ABOVE FILTERS. CHANNEL FRAMING SUPPORT @ 3'-0" O.C. ELSEWHERE. ACID LINES ROUTE SEPARATE FROM OTHER PIPE IN CLEVIS SUPPORT.

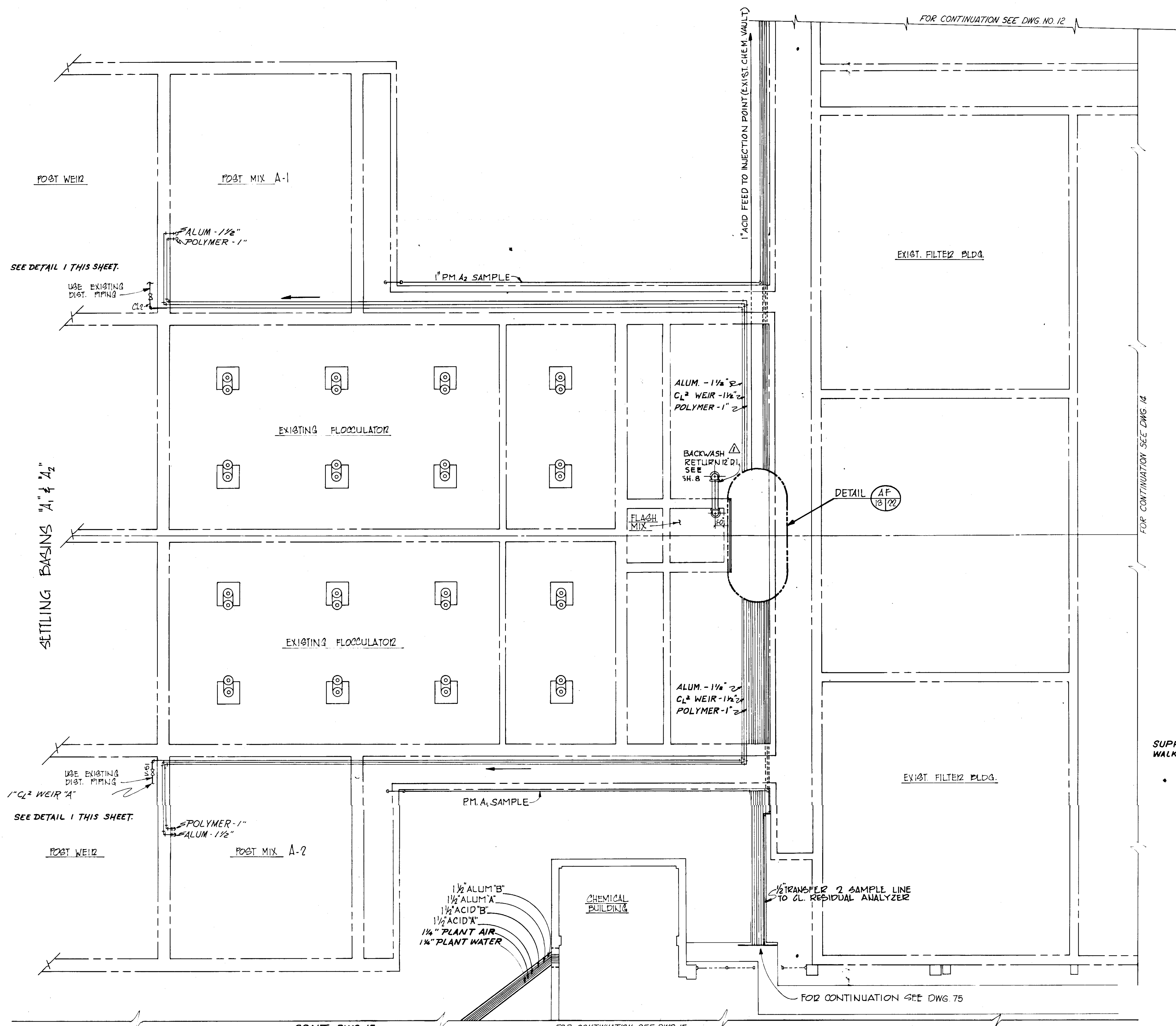
**SECTION A-A**  
NOTE: ALL "A" LINES ROUTE TO EXISTING FILTER BLDG. ALL "B" LINES TO NEW FILTER BLDG. SEE DETAIL [AE 12/21]

**SECTION B-B**

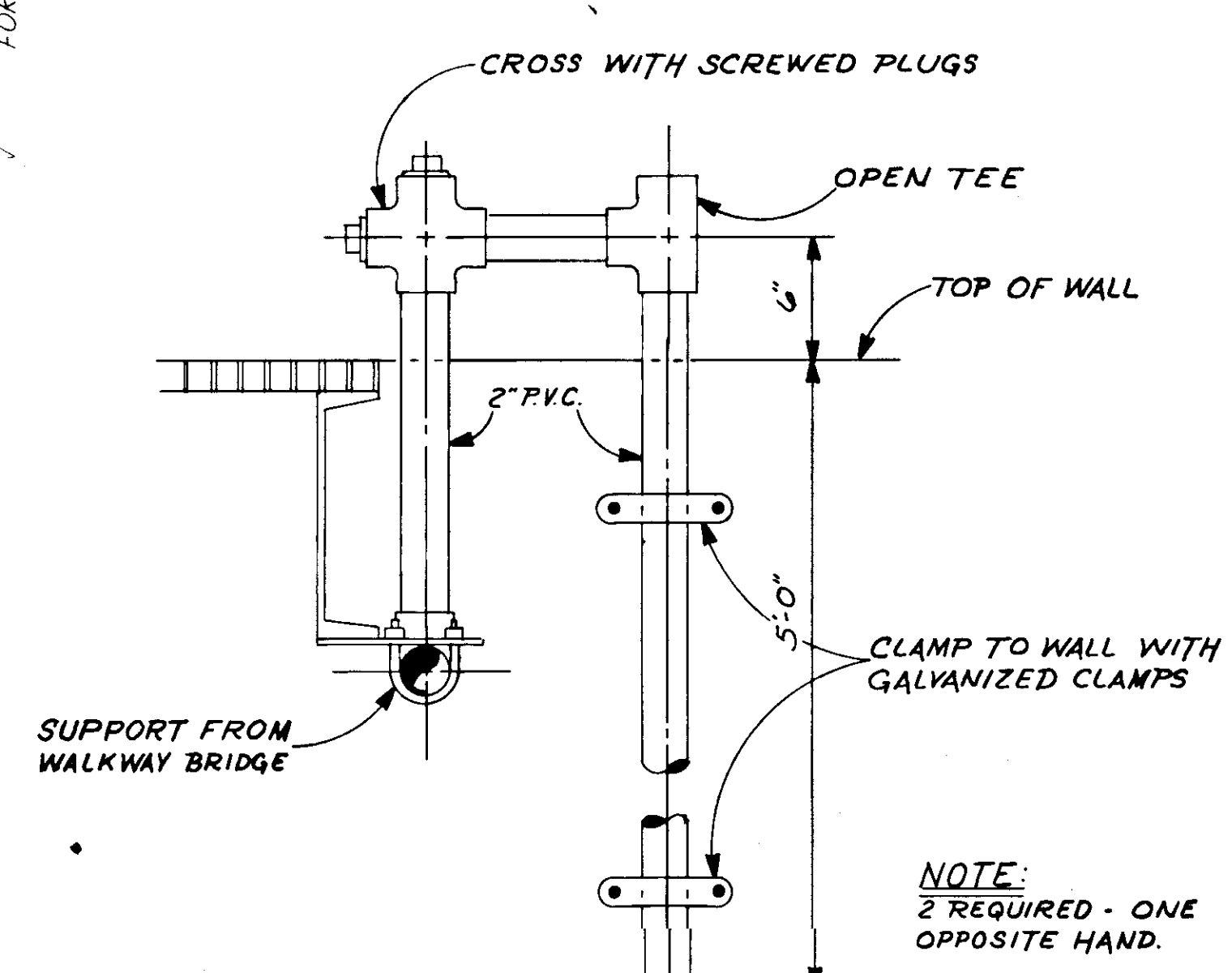
**SECTION C-C**

**SECTION D-D**

NO.	DATE	DESCRIPTION	BY	CKD.
5/79		GEN REVISIONS	AL	
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT CHEMICAL FEED PIPING AND SAMPLE PIPING LAYOUT				
MANATEE COUNTY, FLORIDA				
DESIGNED BY	FILE NO.	SEAL		
B.E.D.	630-761-04			
DRAWN BY	SHEET C8			
H.G.B.	No. 12			
CHECKED BY	OF 130 SHEETS			
DATE	SCALE: 3/16" = 1'-0"			
AUGUST, 1978				



**RECORD DRAWING**  
 PRODUCED FROM INFORMATION  
 FURNISHED BY CONTRACTOR  
 THROUGH M.C.U.S.  
 DATE 7/31/78 BY RPA  
 CHECKED BY:  
 R & A [Signature]  
 M.C.U.S. \_\_\_\_\_



DETAIL 1  
N.T.S.

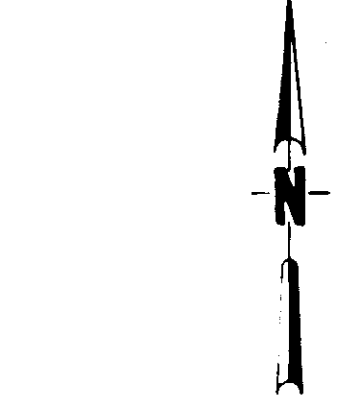
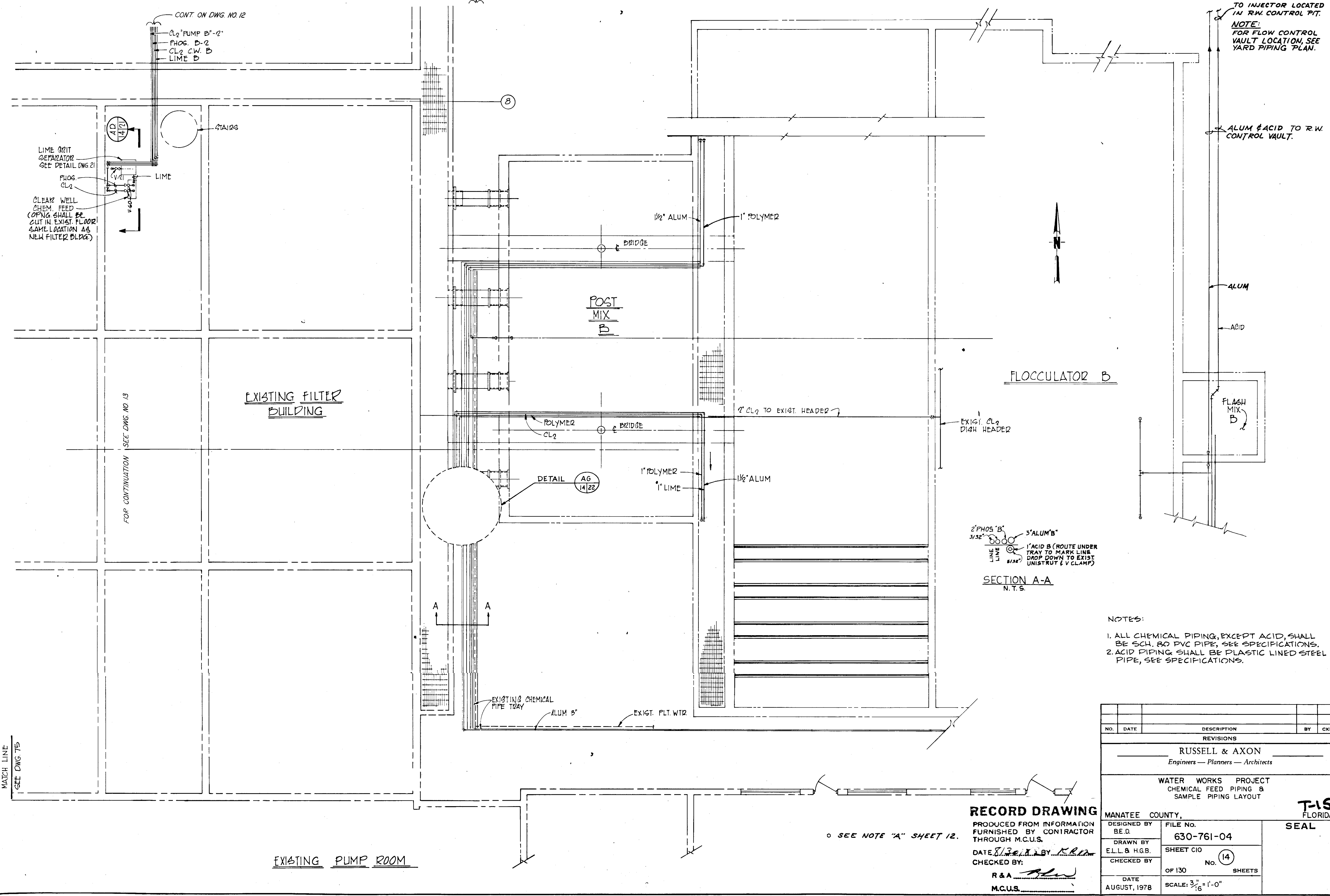
NO.	DATE	DESCRIPTION	MADE BY	CKD.
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT CHEMICAL FEED PIPING & SAMPLE PIPING LAYOUT				
MANATEE COUNTY, FLORIDA				
DESIGNED BY B.E.D.	FILE NO. 630-761-04	<b>SEAL</b>		
DRAWN BY E.L.L./H.G.B.	SHEET C9			
CHECKED BY	OF 130 SHEETS			
DATE AUGUST, 1978	SCALE: 3/16" = 1'-0"			

14-01

CONT ON DWG. NO. 12

CONT ON DWG. NO. 12

TO INJECTOR LOCATED IN R.W. CONTROL PIT.  
NOTE: FOR FLOW CONTROL VAULT LOCATION, SEE YARD PIPING PLAN.



FLOCCULATOR B

SECTION A-A  
N.T.S.

- NOTES:
1. ALL CHEMICAL PIPING, EXCEPT ACID, SHALL BE SCH. 80 PVC PIPE, SEE SPECIFICATIONS.
  2. ACID PIPING SHALL BE PLASTIC LINED STEEL PIPE, SEE SPECIFICATIONS.

MATCH LINE  
SEE DWG. 75

FOR CONTINUATION  
SEE DWG. NO. 13

SEE NOTE "A" SHEET 12.

**RECORD DRAWING**  
PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.  
DATE 8/31/78 BY R.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 CHEMICAL FEED PIPING & SAMPLE PIPING LAYOUT				
MANATEE COUNTY, FLORIDA				
DESIGNED BY B.E.D.	FILE NO. 630-761-04	<b>T-15</b> FLORIDA <b>SEAL</b>		
DRAWN BY E.L.L. & H.G.B.	SHEET C/O No. 14			
CHECKED BY	OF 130 SHEETS			
DATE AUGUST, 1978	SCALE: 3/16" = 1'-0"			

14-01

FOR CONT. SEE DWG. 13

1/2" ALUM & FECL<sub>3</sub> "B"  
 1/2" ALUM & FECL<sub>3</sub> "A"  
 1/2" ACID "B"  
 1/2" ACID "A"

1 1/2" AIR  
 2" PLANT WATER

CHEMICAL FEED BUILDING

NOTE:  
 FOR ENLARGED VIEW  
 SEE QNT. TP  
 FOR PIPING  
 ARRANGEMENT

CHLORINE FEED

STORAGE

CHLORINE STORAGE

SEE NOTE "A" SHEET 12.

CHEMICAL STORAGE

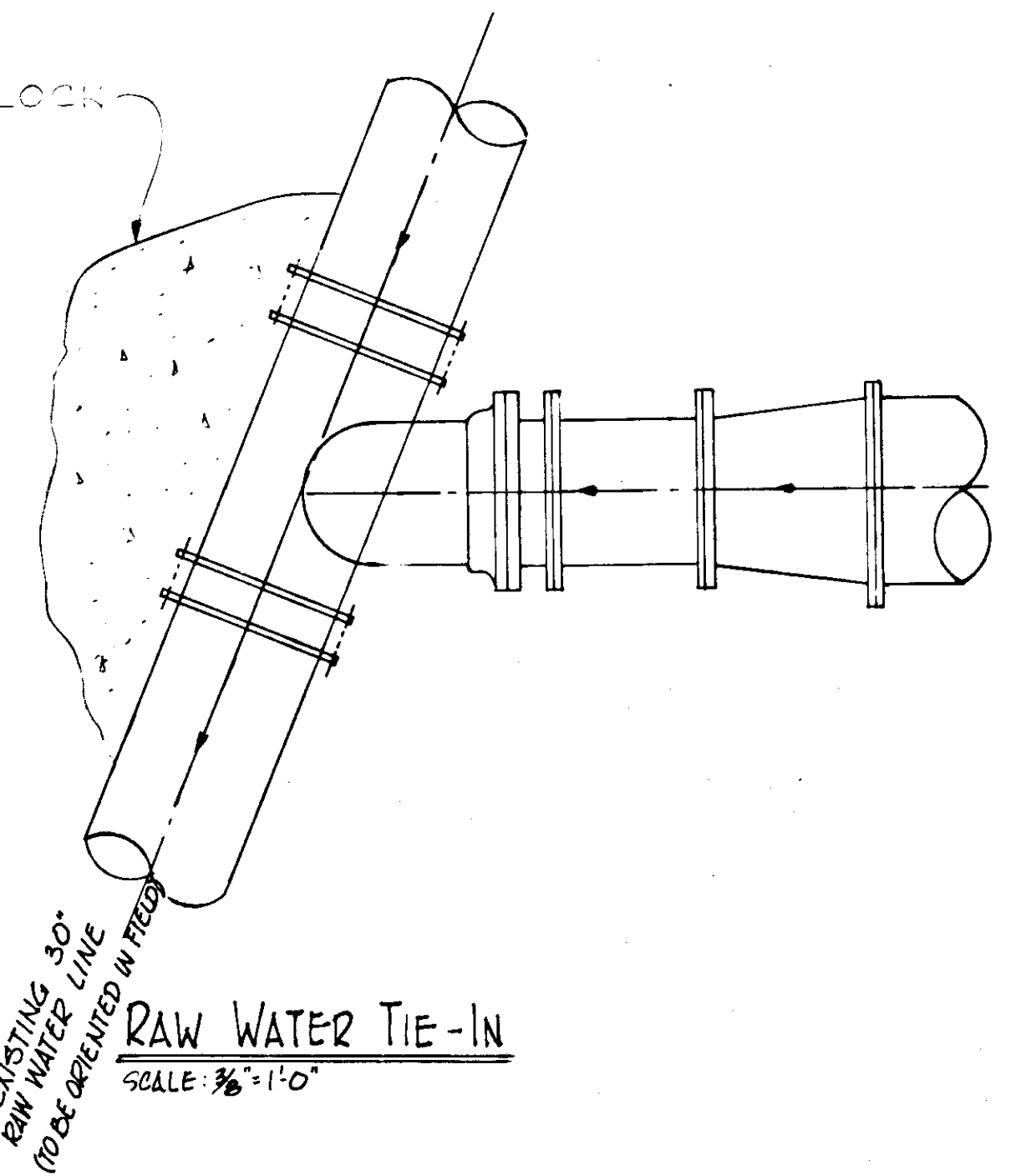
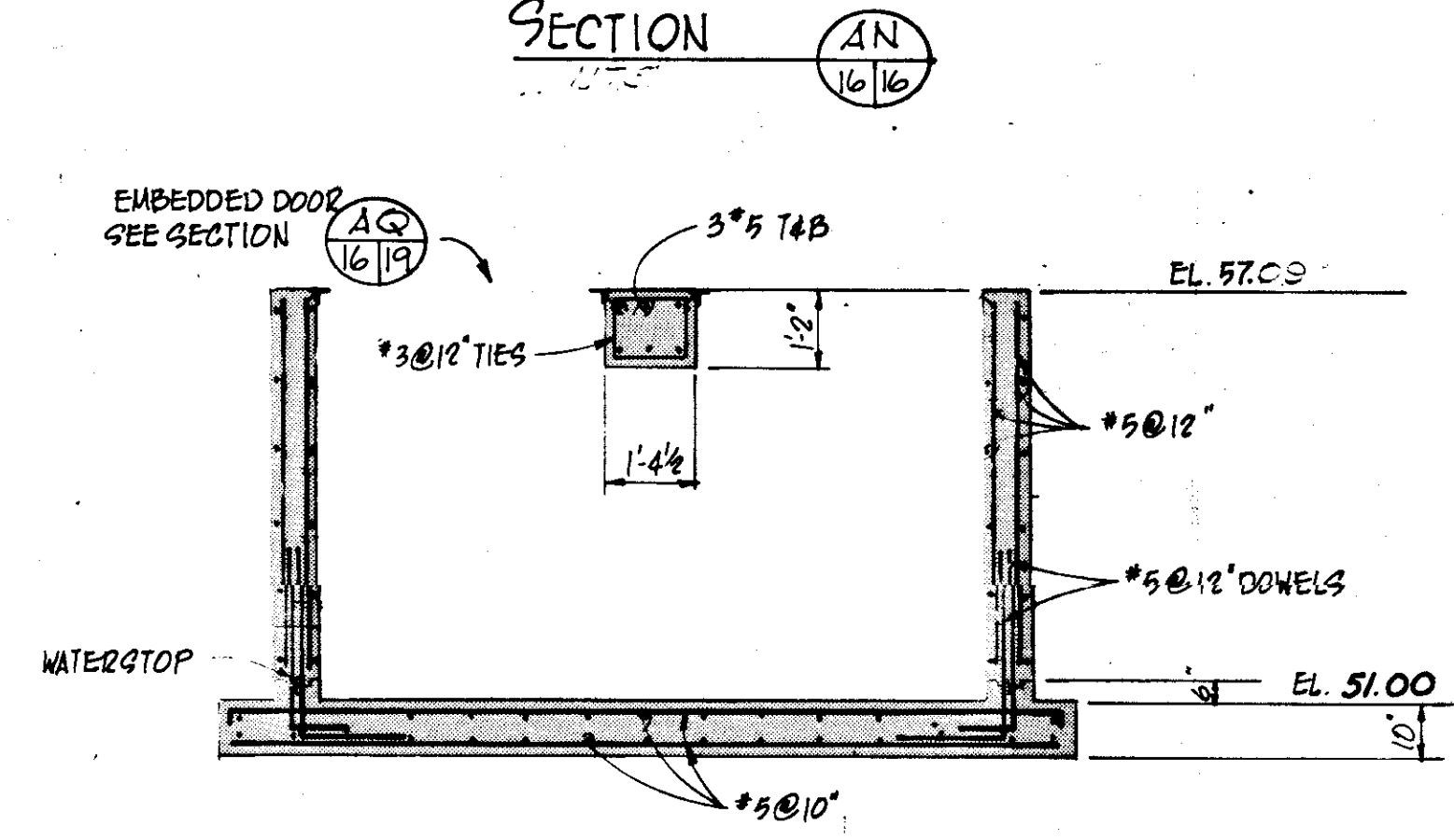
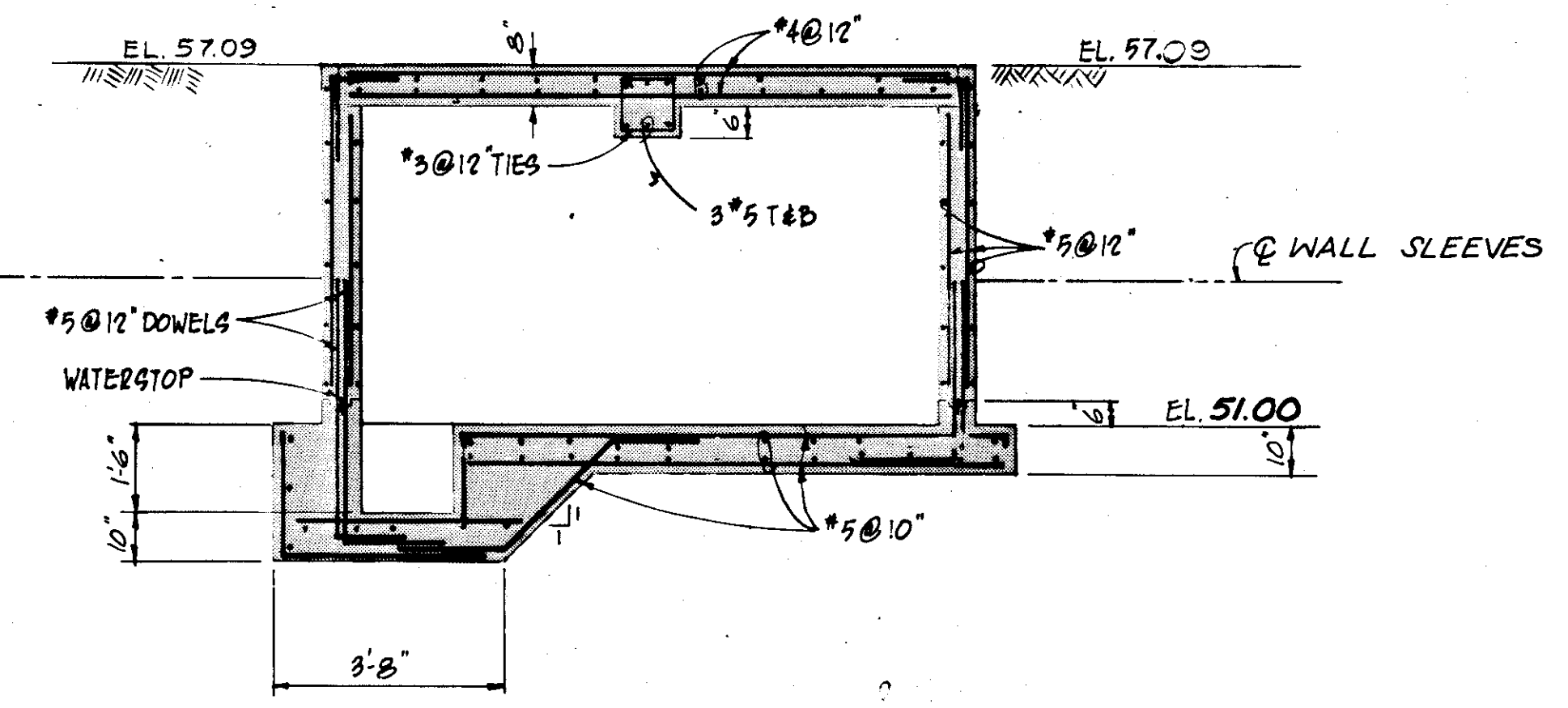
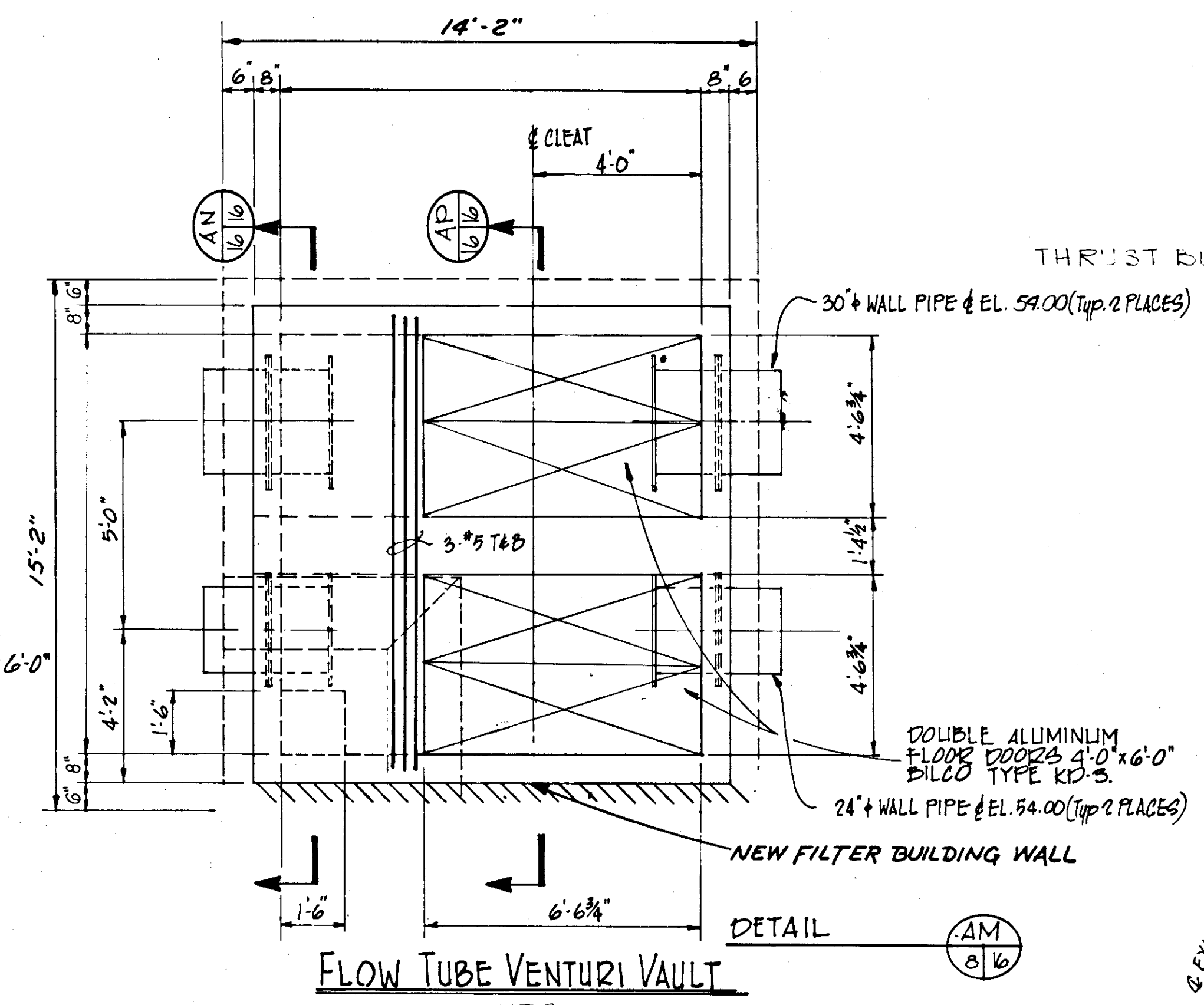
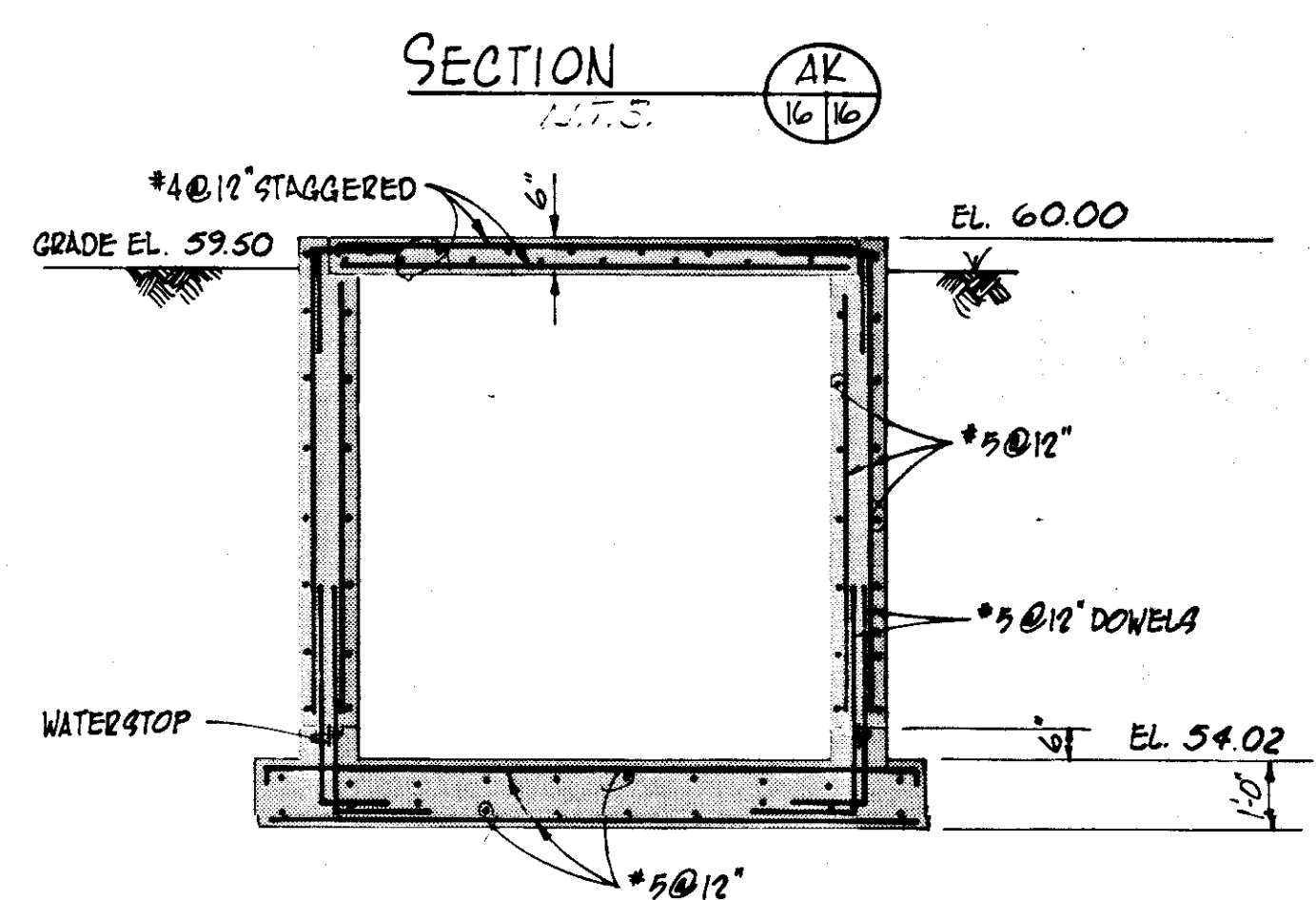
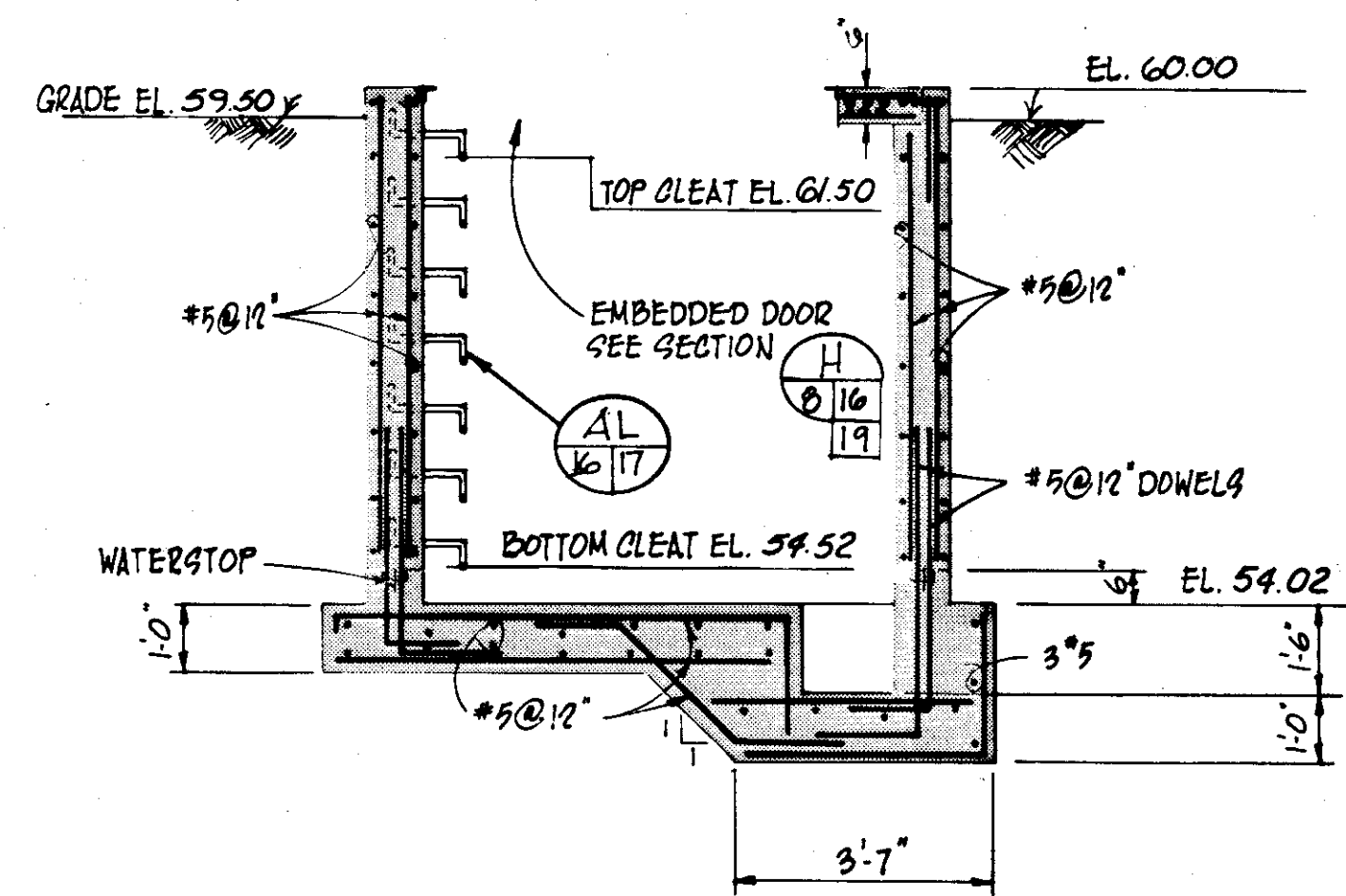
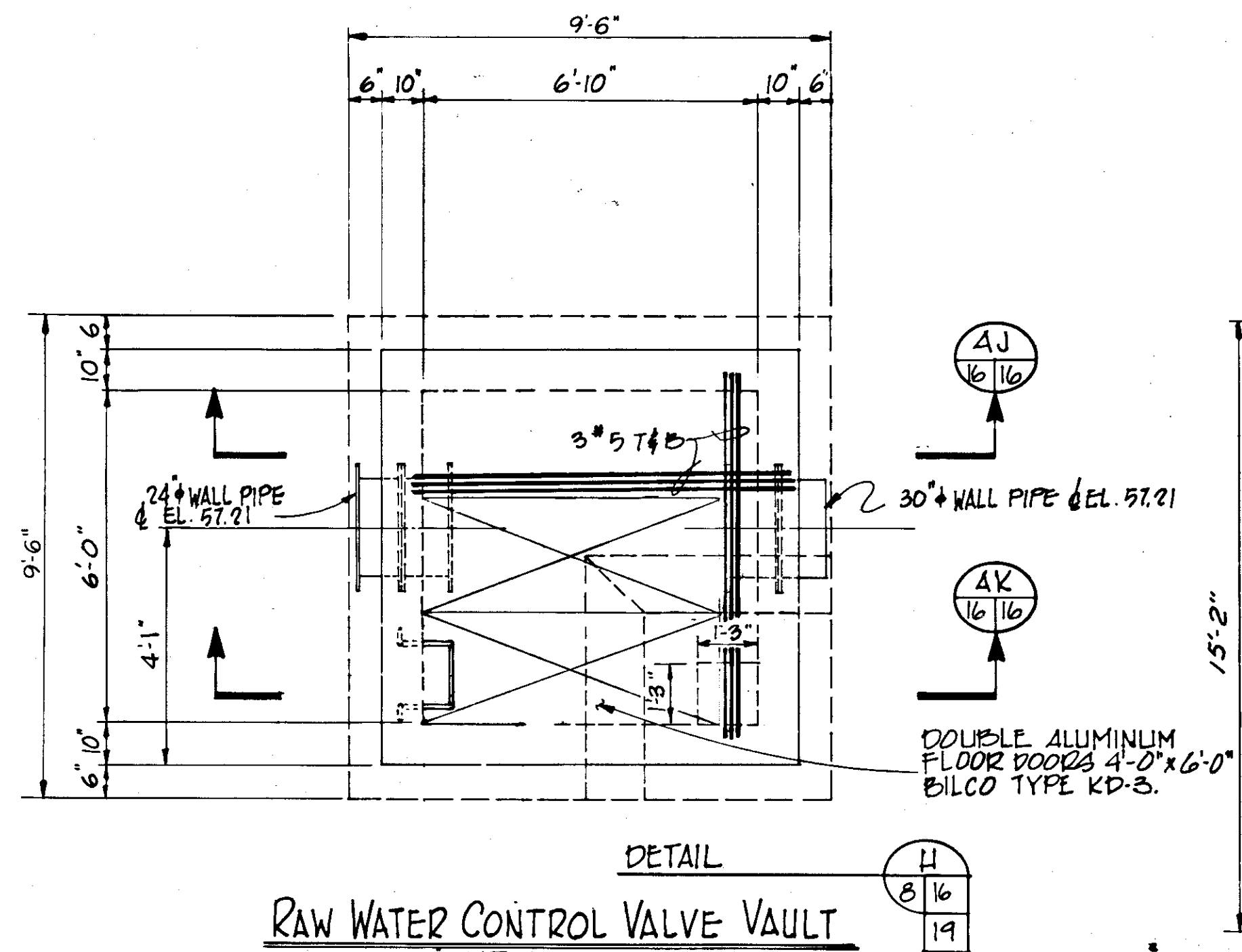
NOTE:  
 FOR ENLARGED PLAN  
 SEE DWG. 84

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

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

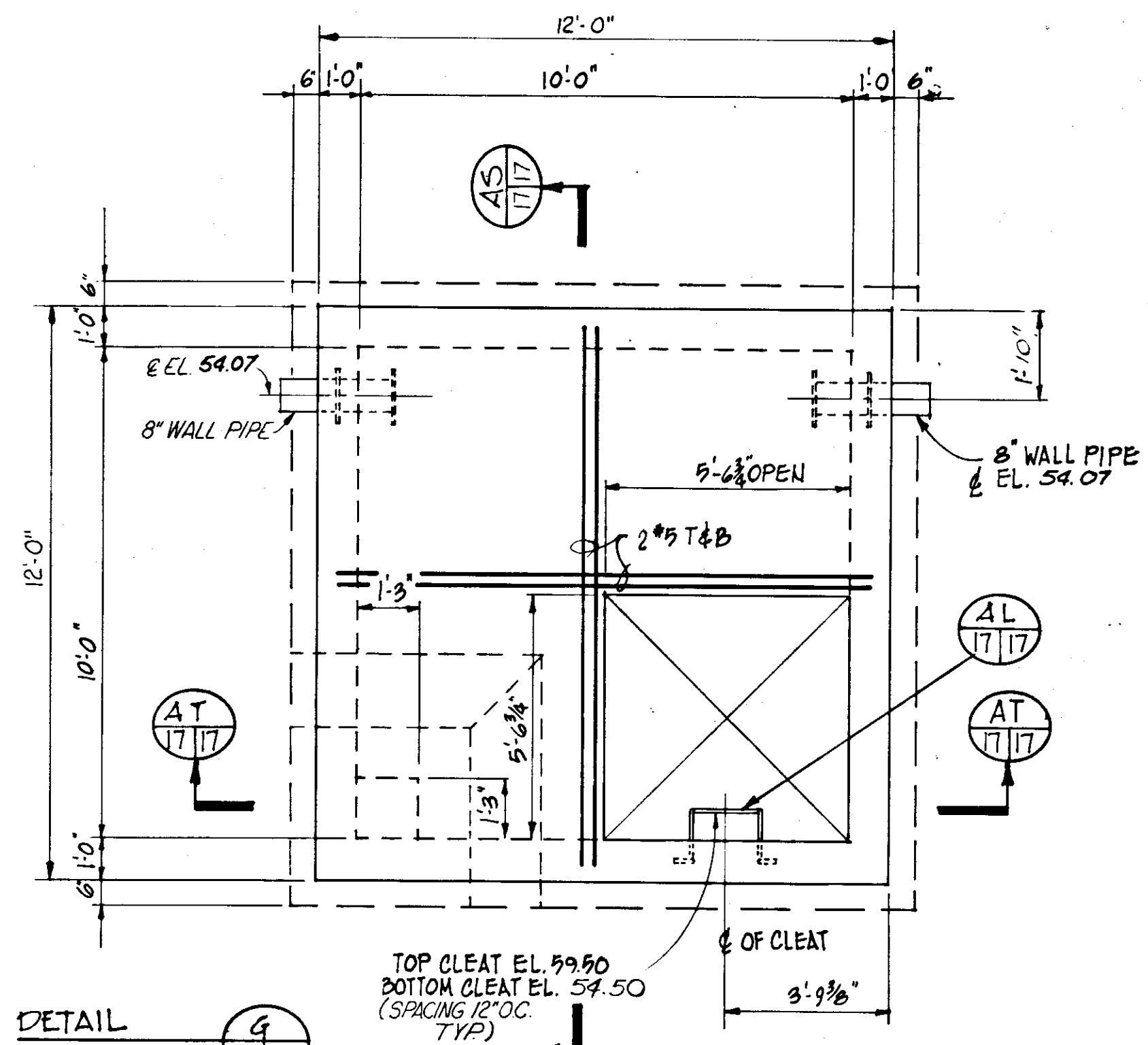
14-01



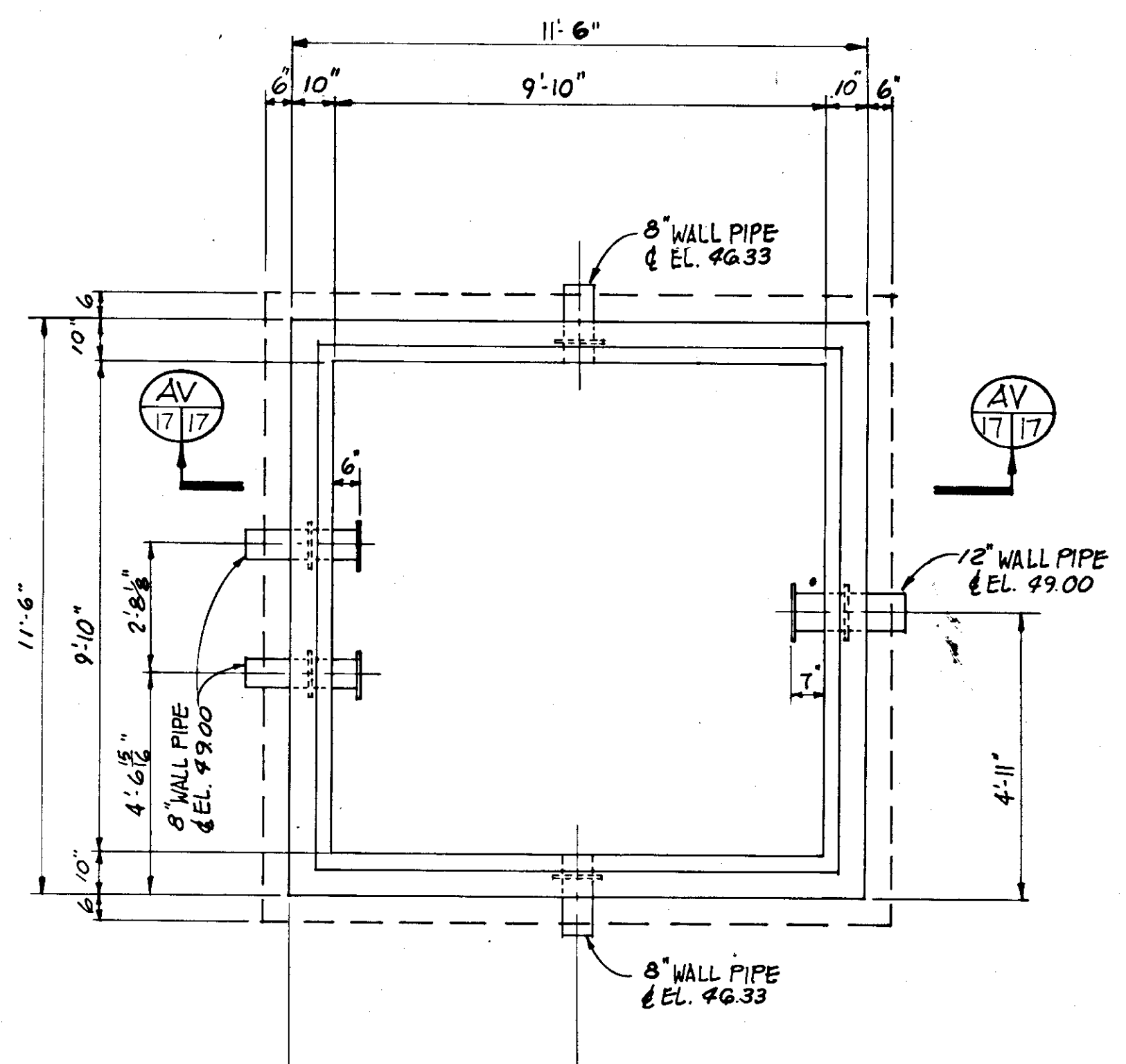


**RECORD DRAWING**  
 PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.  
 DATE: 8/21/82 BY: R.A.  
 CHECKED BY: R.A.  
 M.C.U.S.

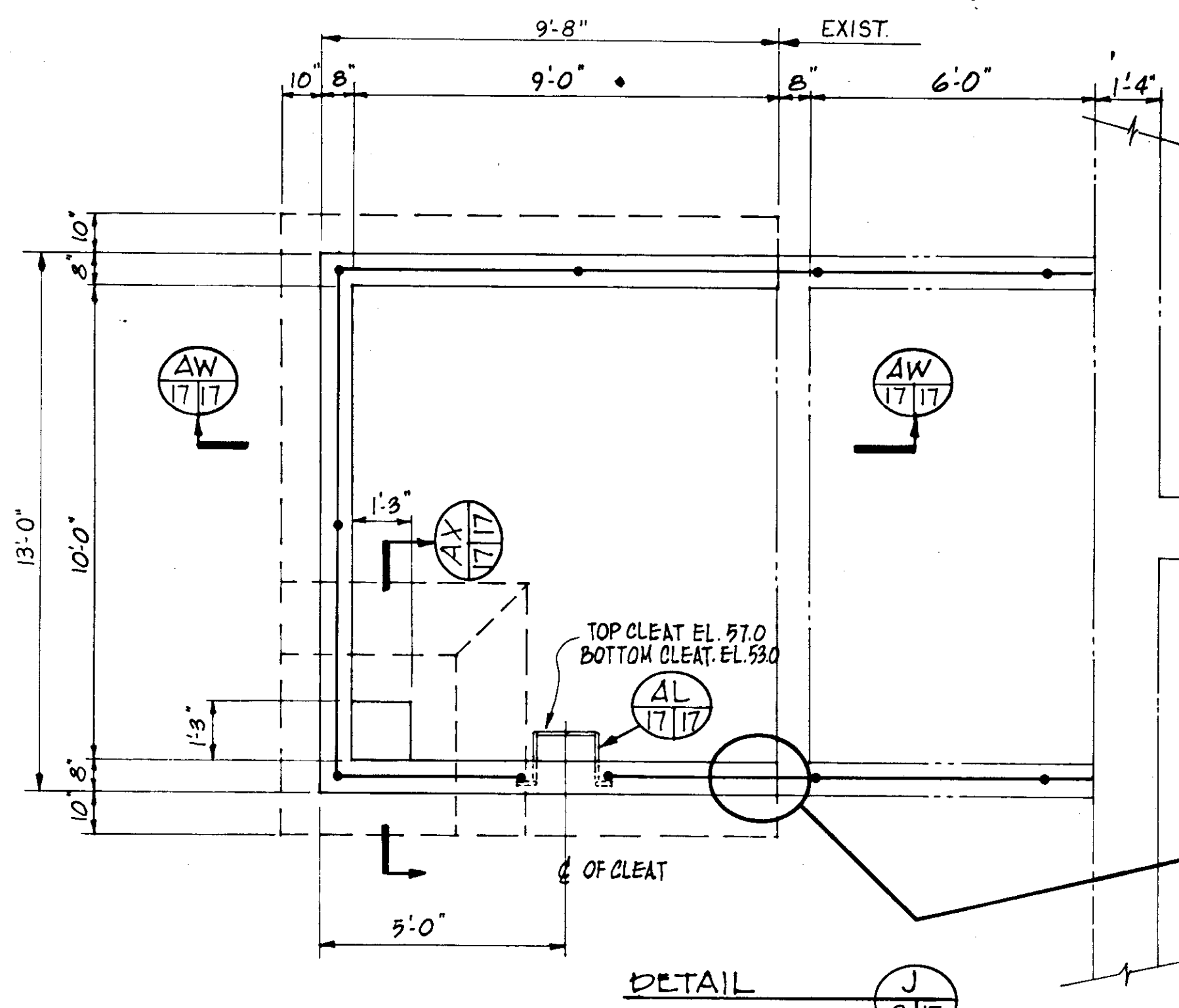
NO.	DATE	DESCRIPTION	BY	CKD.
5/79		REV. FLOW TUBE VENTURI VAULT	CC	
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT YARD PIPING SECTIONS & DETAILS				
T-13 FLORIDA SEAL				
MANATEE COUNTY,				
DESIGNED BY	FILE NO.			
M.B.	630-761-04			
DRAWN BY	SHEET C12			
EK	No. 16			
CHECKED BY	OF 130 SHEETS			
DATE	SCALE A3 SHOWN			
AUGUST, 1978				



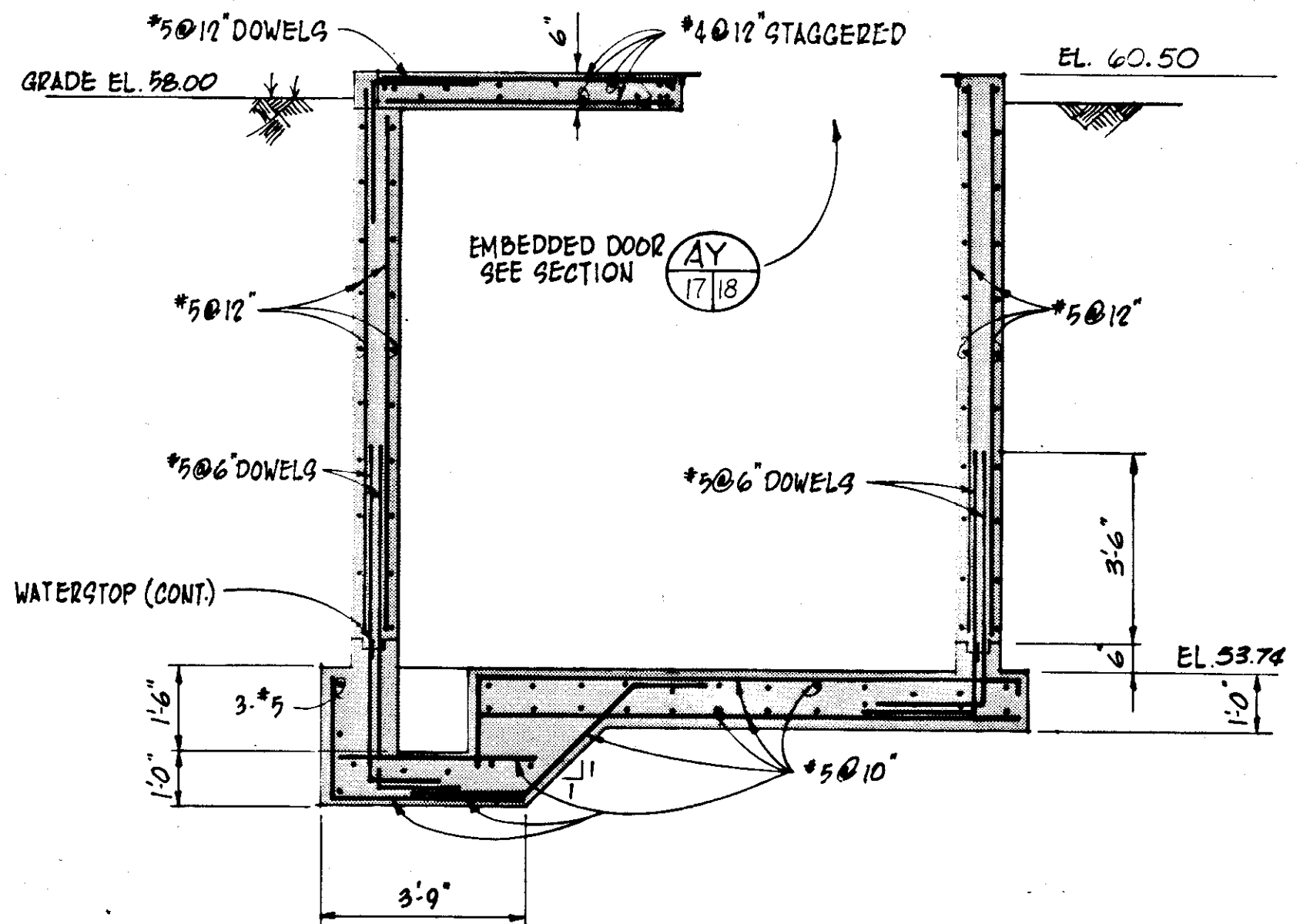
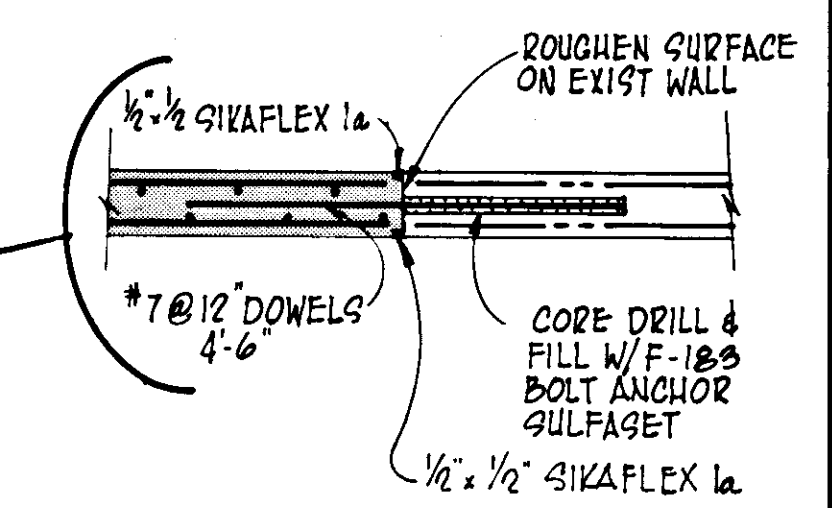
**SOUTH SLUDGE BED PUMP PIT**  
SCALE: 3/8"=1'-0"



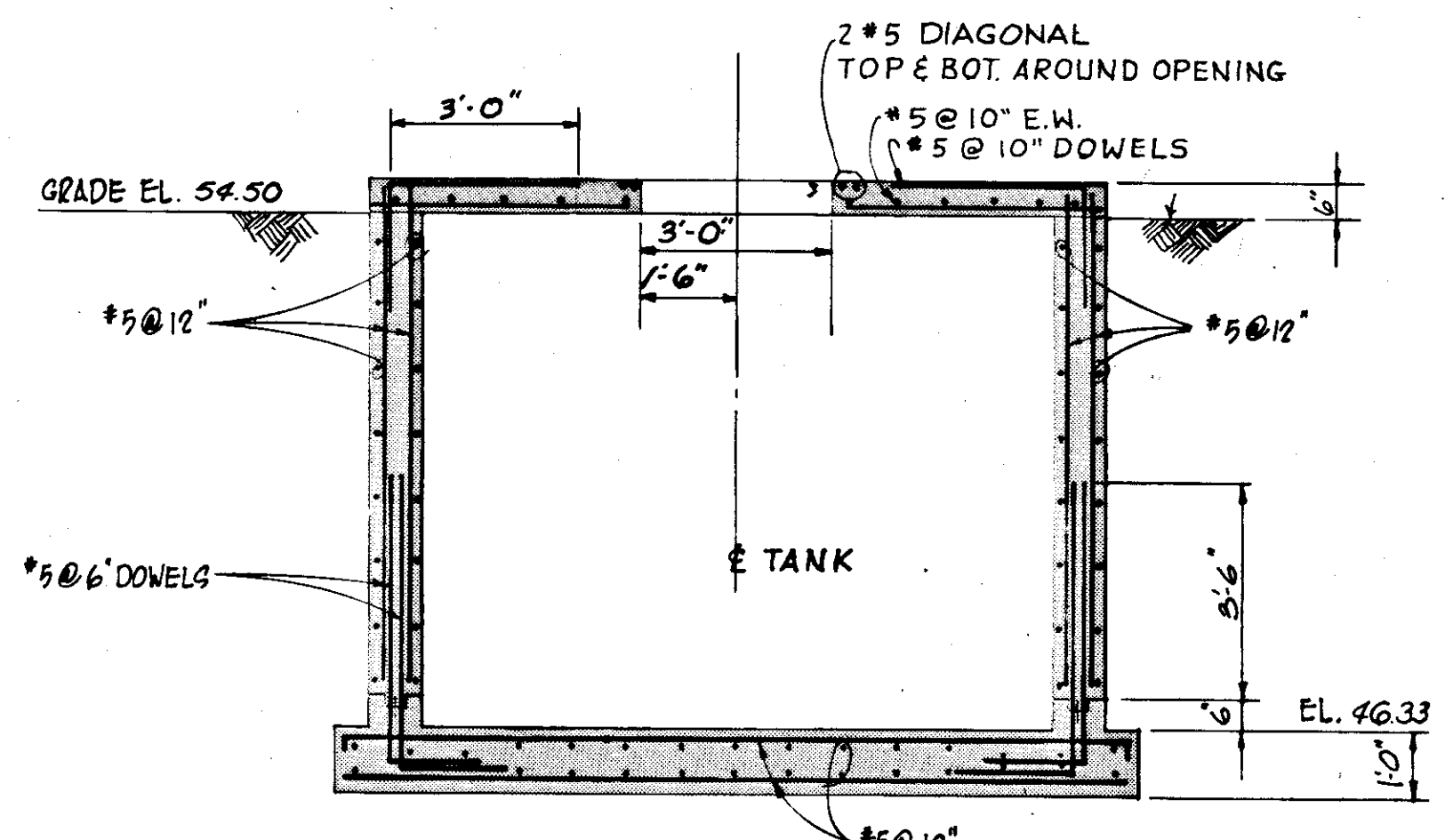
**BACKWASH PONDS RETURN PUMPS**  
NOT TO SCALE



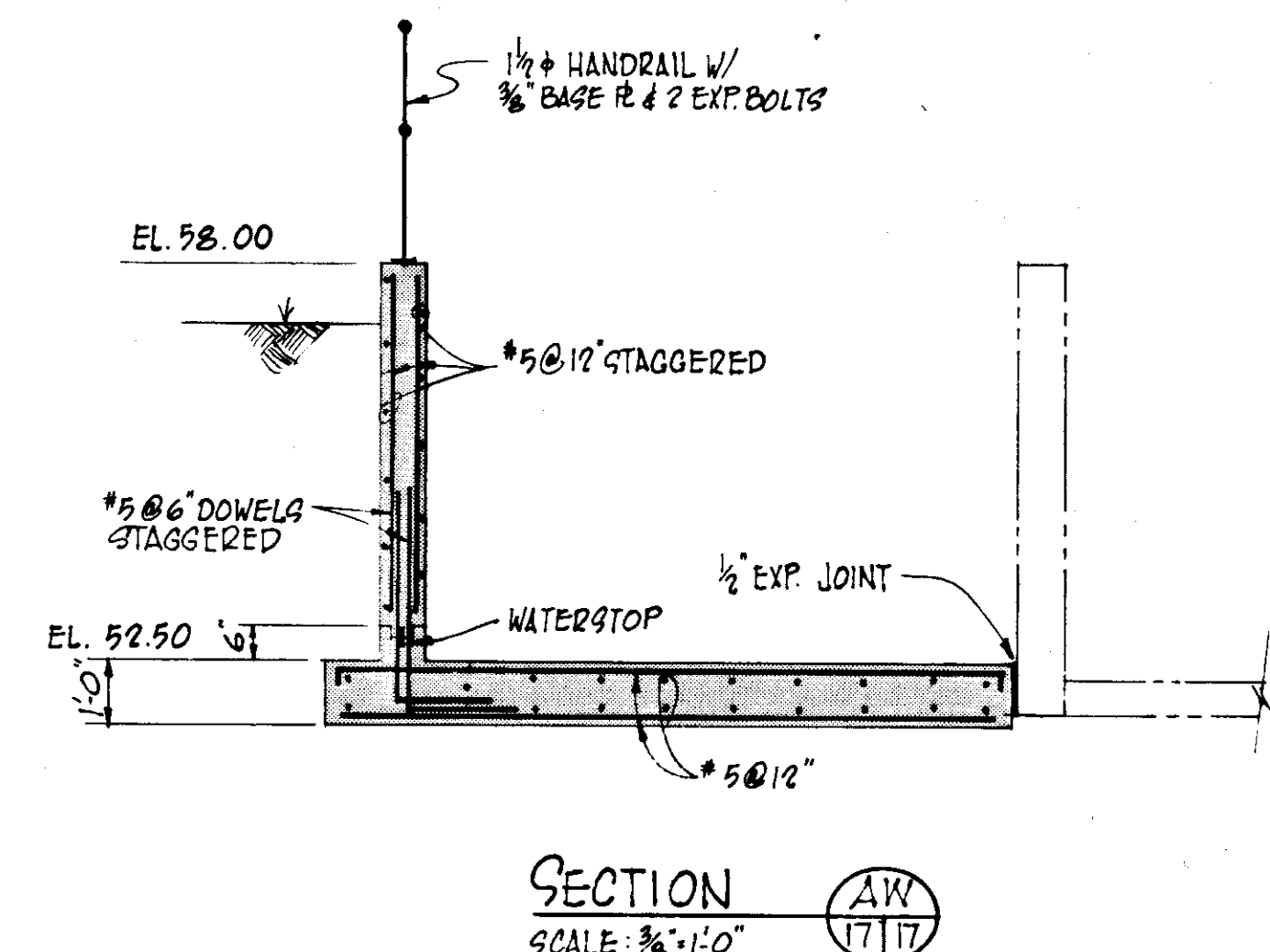
**NORTH SLUDGE PUMP PIT**  
SCALE: 3/8"=1'-0"



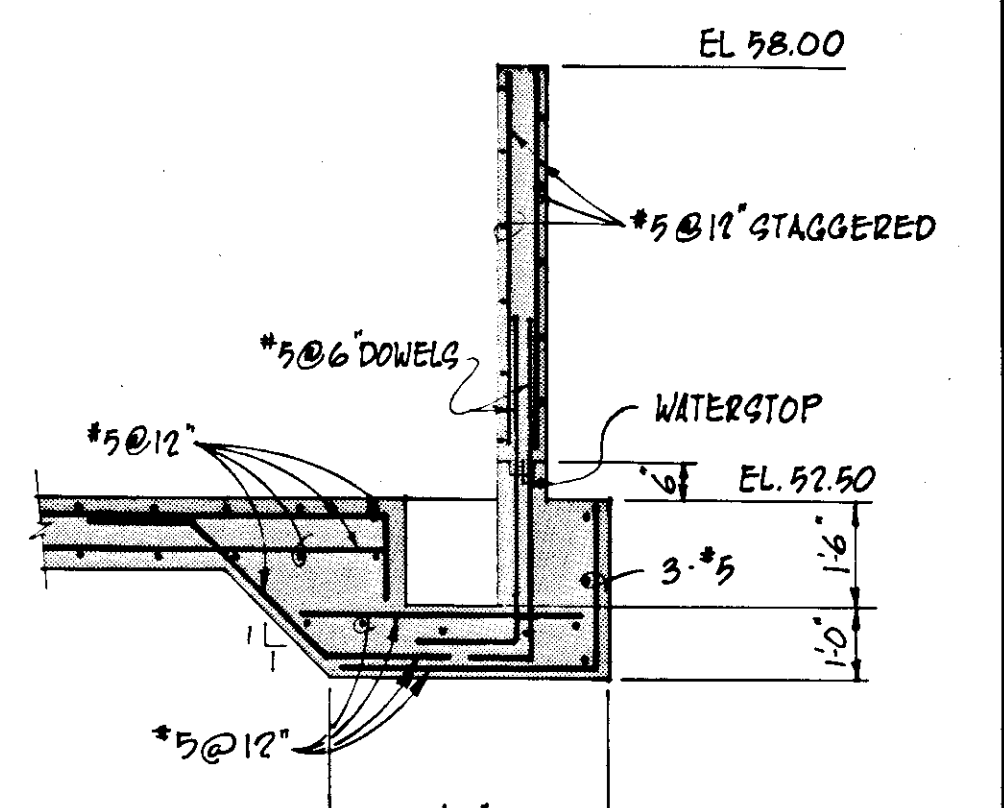
**SECTION AT**  
SCALE: 3/8"=1'-0"



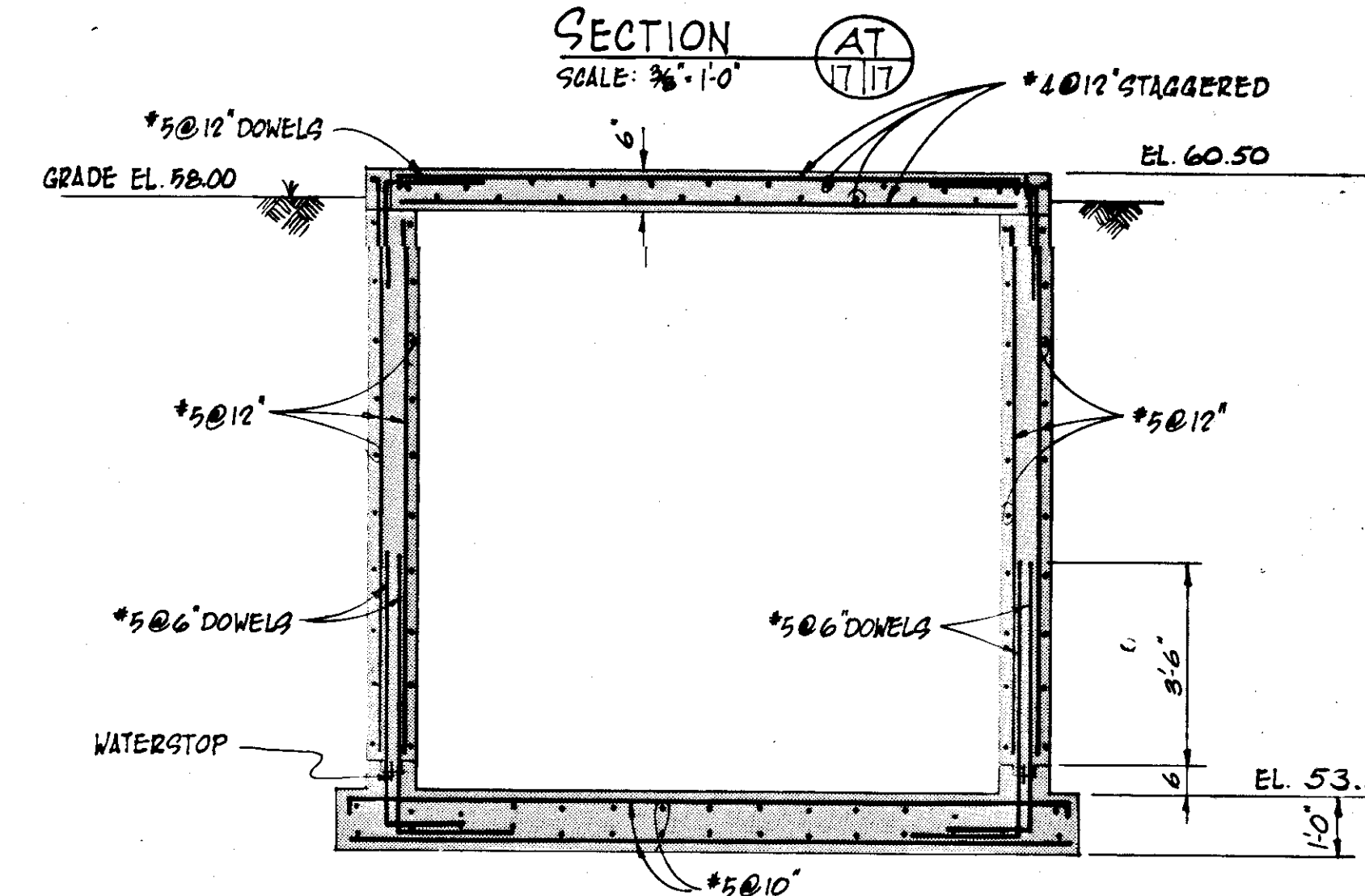
**SECTION AV**  
SCALE: 3/8"=1'-0"



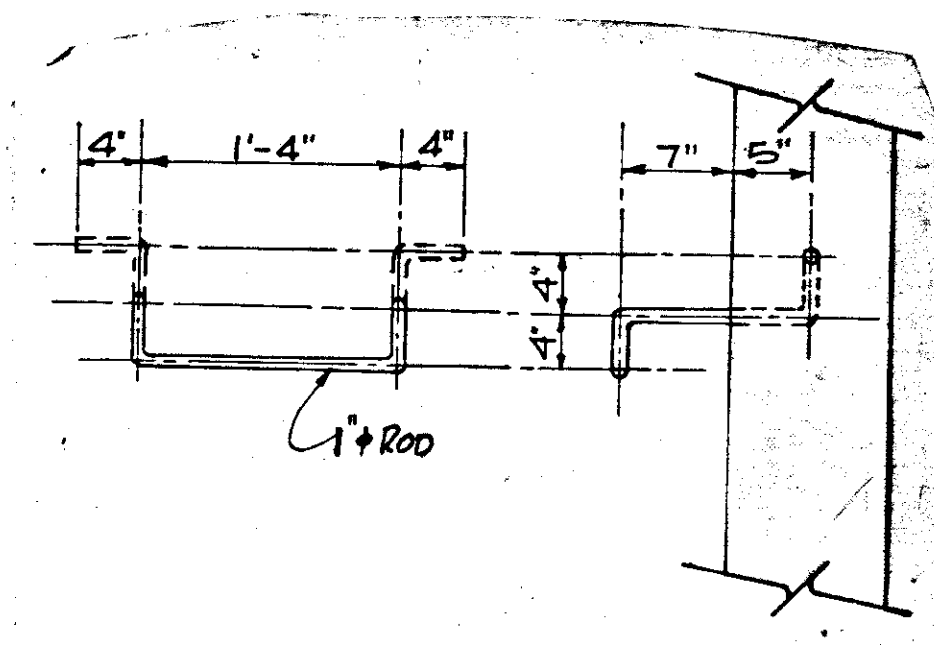
**SECTION AW**  
SCALE: 3/8"=1'-0"



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



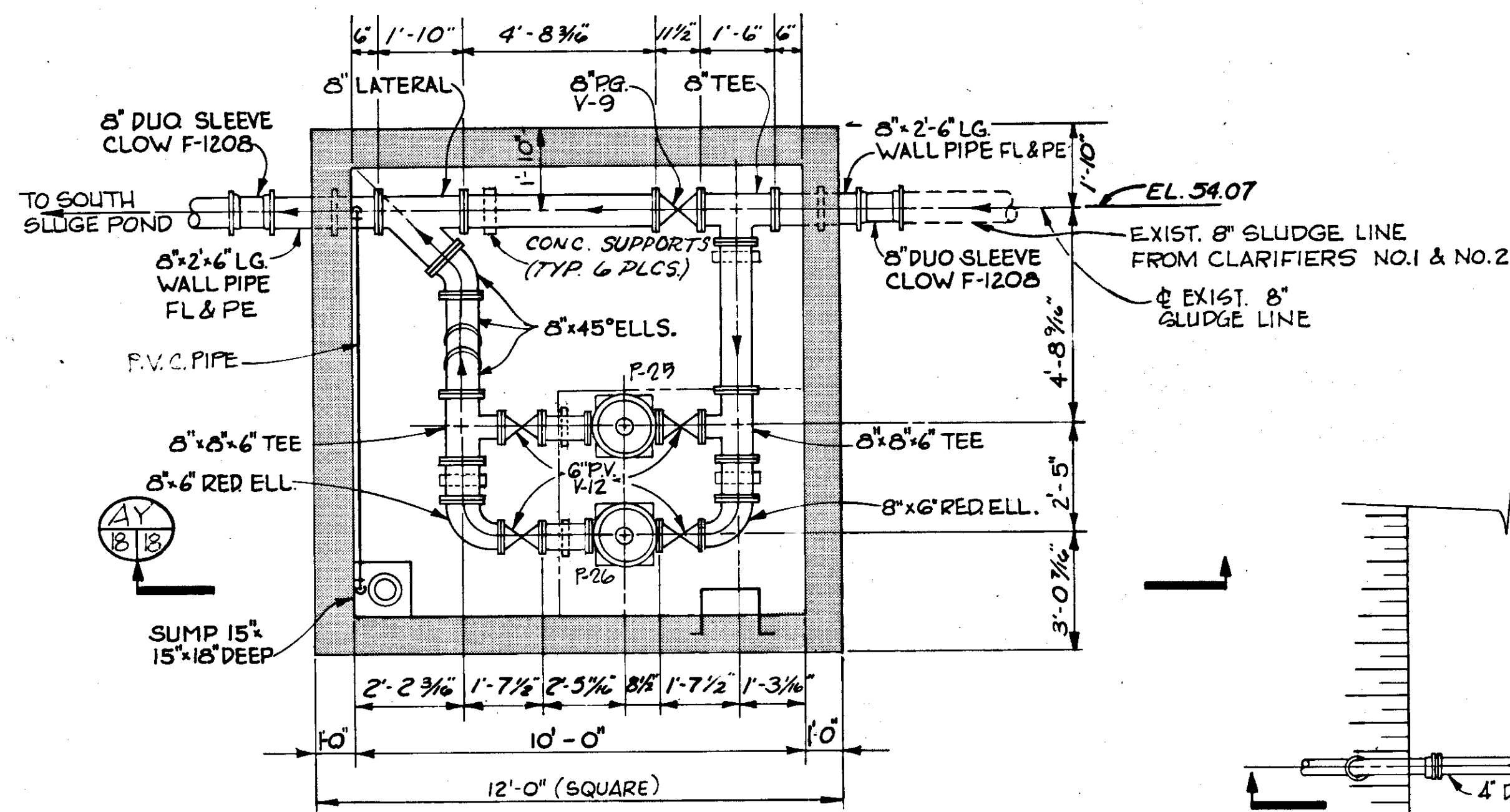
**SECTION AS**  
SCALE: 3/8"=1'-0"



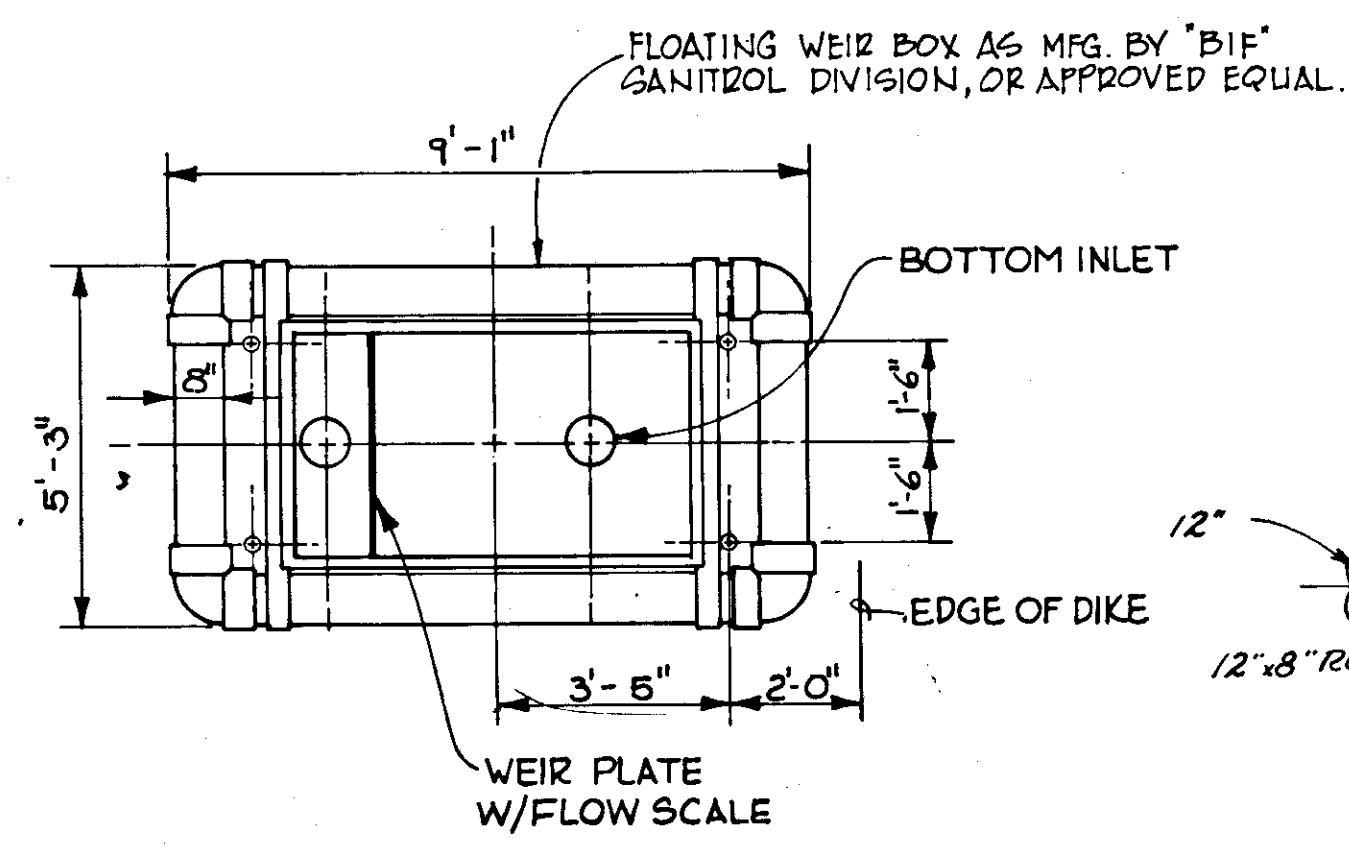
**CLEFT DETAIL (TYP)**  
SCALE: 1"=1'-0"

**RECORD DRAWING**  
PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.  
DATE: 8/2/78 BY: H.E.L.  
CHECKED BY: R & A  
M.C.U.S.

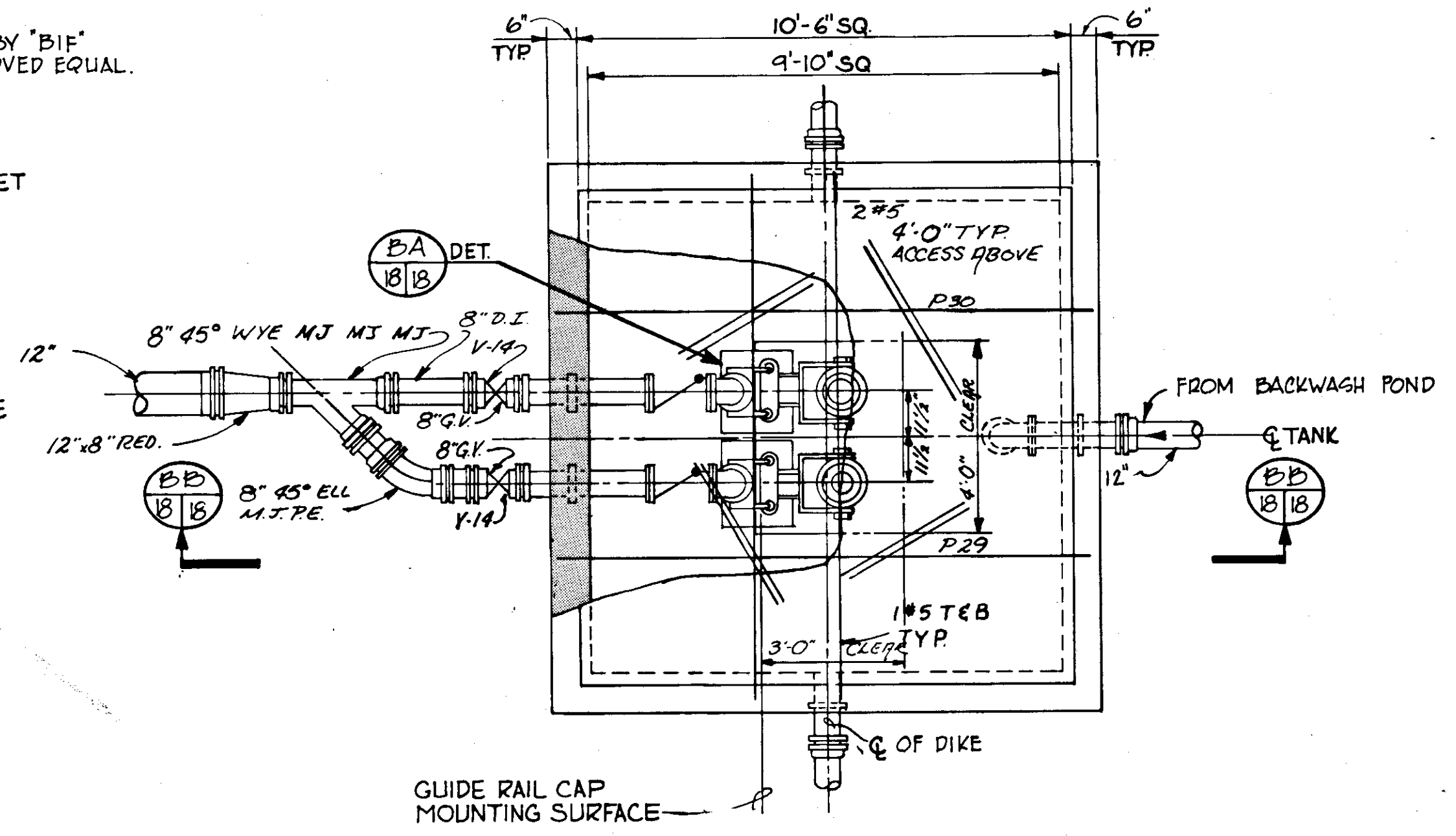
NO.	DATE	DESCRIPTION	BY	CKD.
1	5/79	REV DETAIL Z & SECT. AV	AL	
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT YARD PIPING SECTIONS & DETAILS				
MANATEE COUNTY, FLORIDA		FILE NO. 630-761-04	<b>T-18</b> SEAL	
DESIGNED BY M.B.	DRAWN BY E.L.	SHEET C13		
CHECKED BY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



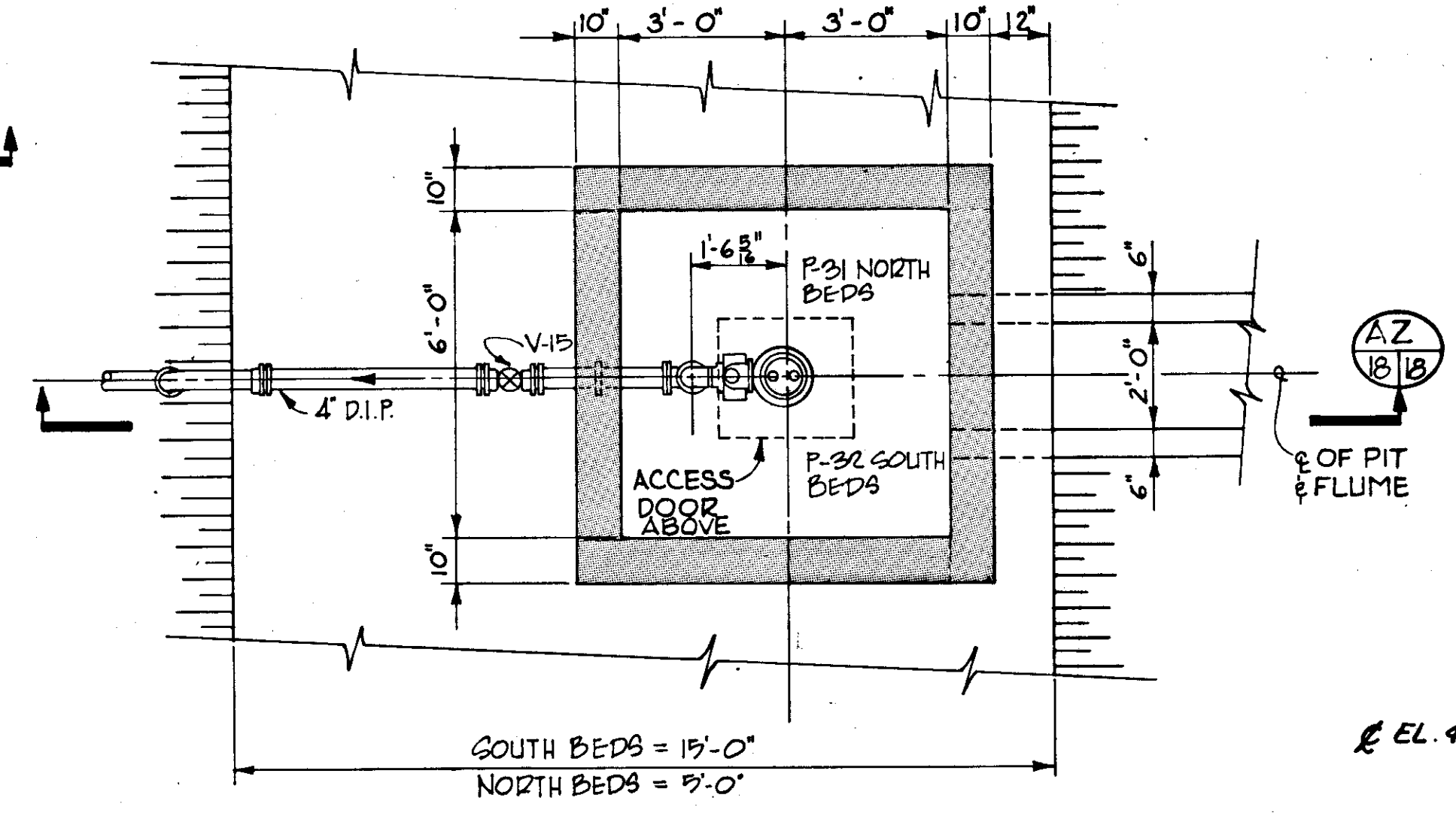
DETAIL 4  
N.T.S. 8/18



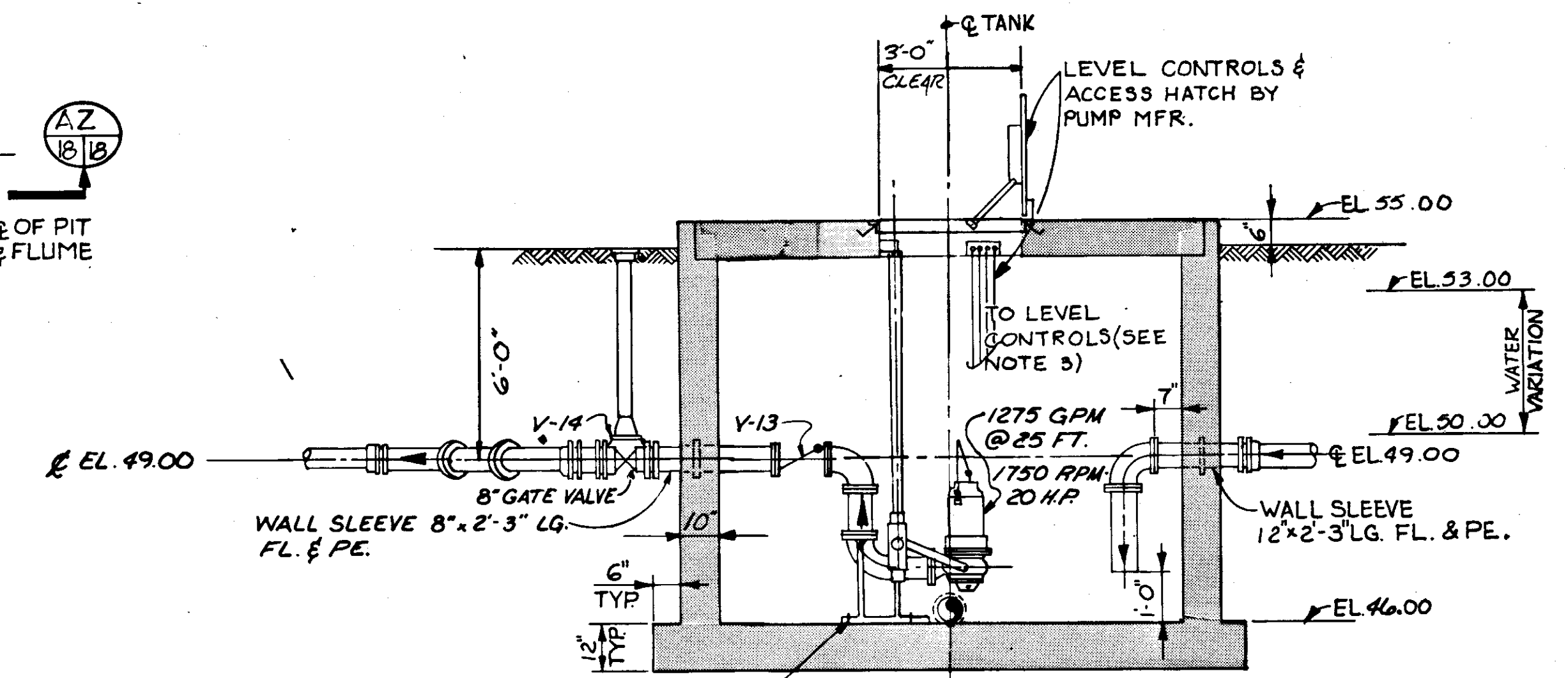
DETAIL 11  
N.T.S. 8/18



DETAIL 2  
SCALE: 3/8" = 1'-0" 8/18

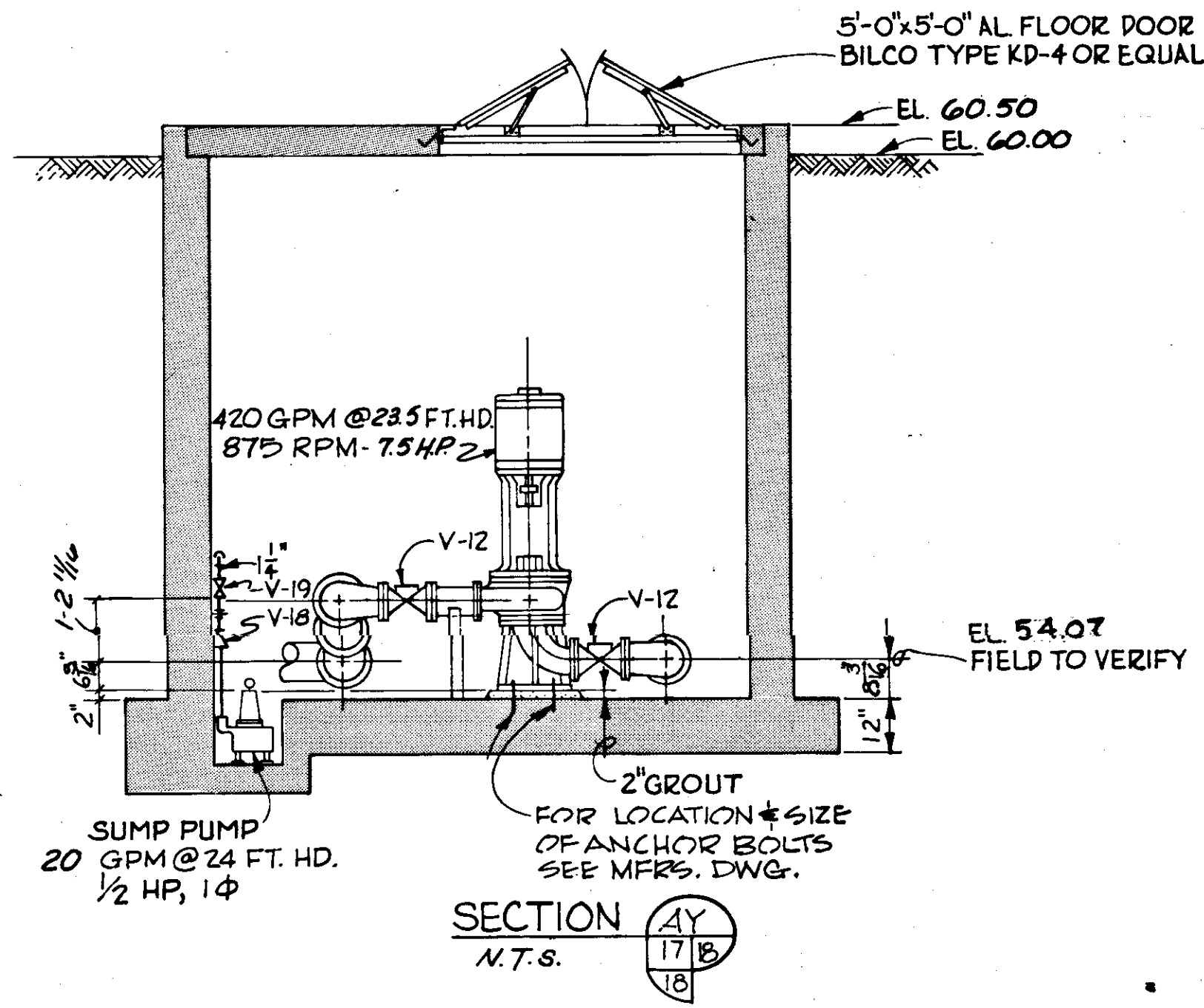


DETAIL 3  
SCALE: 3/8" = 1'-0" 8/18

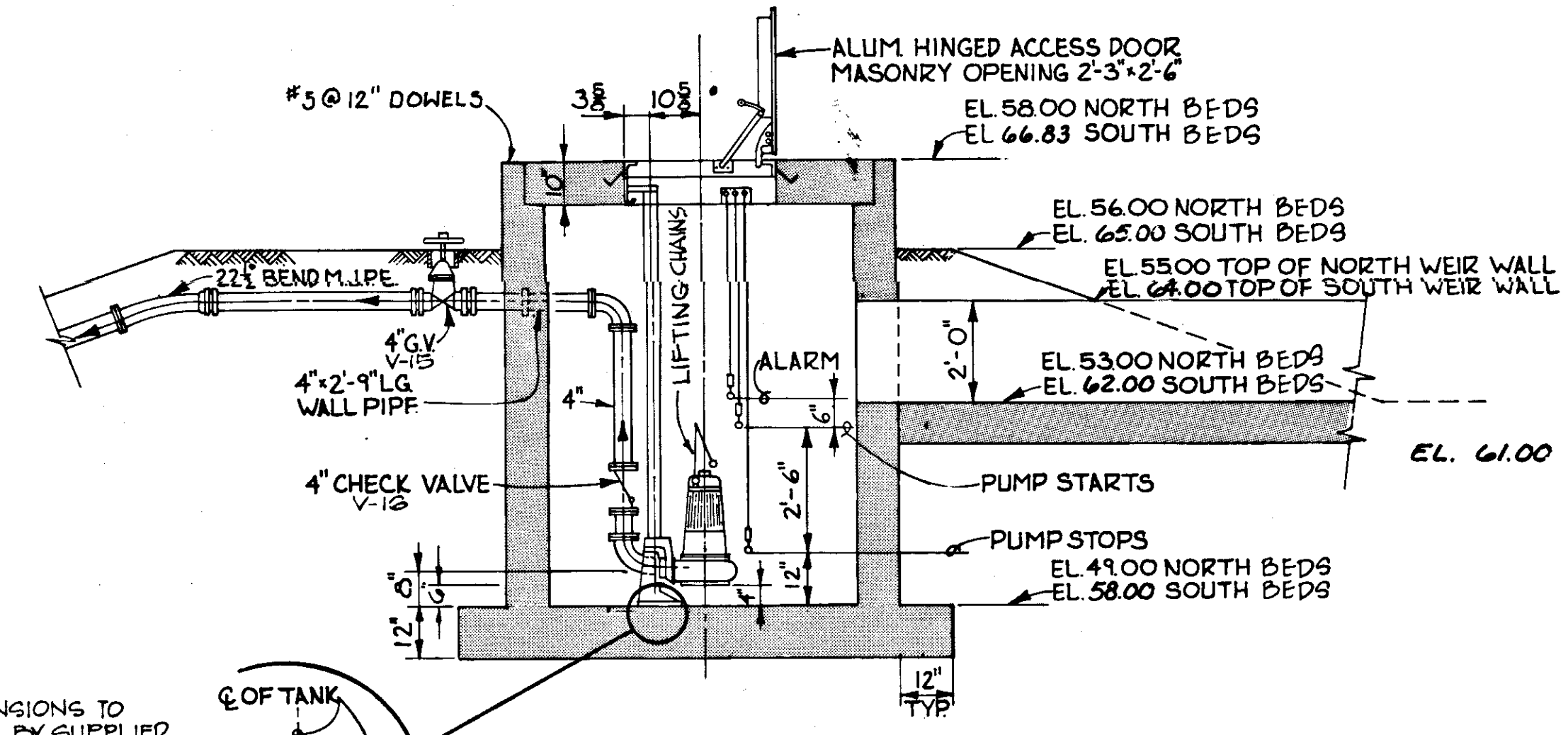


SECTION 12/18  
SCALE: 3/8" = 1'-0"

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



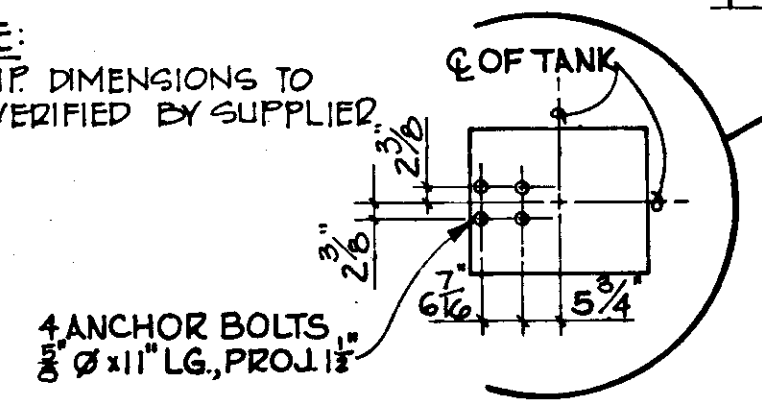
SECTION 17/18  
N.T.S.



SECTION 18/18  
SCALE: 3/8" = 1'-0"

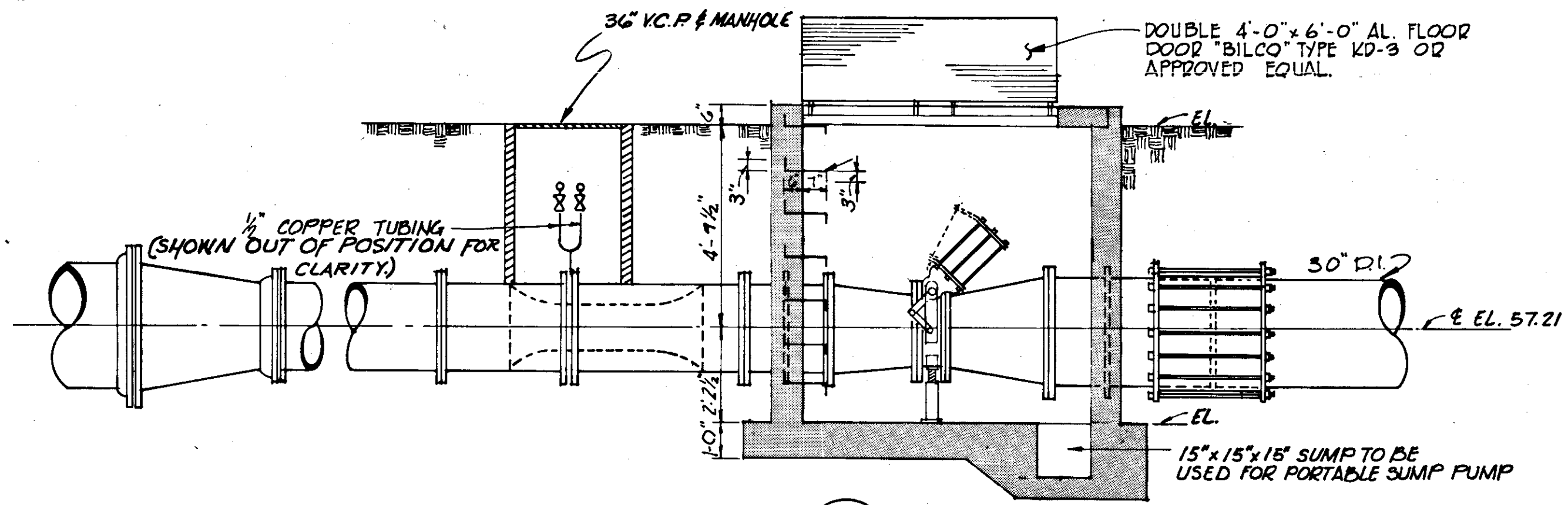
NOTE: EQUIP. DIMENSIONS TO BE VERIFIED BY SUPPLIER

NOTE: FOR REINF. SEE SH. 85

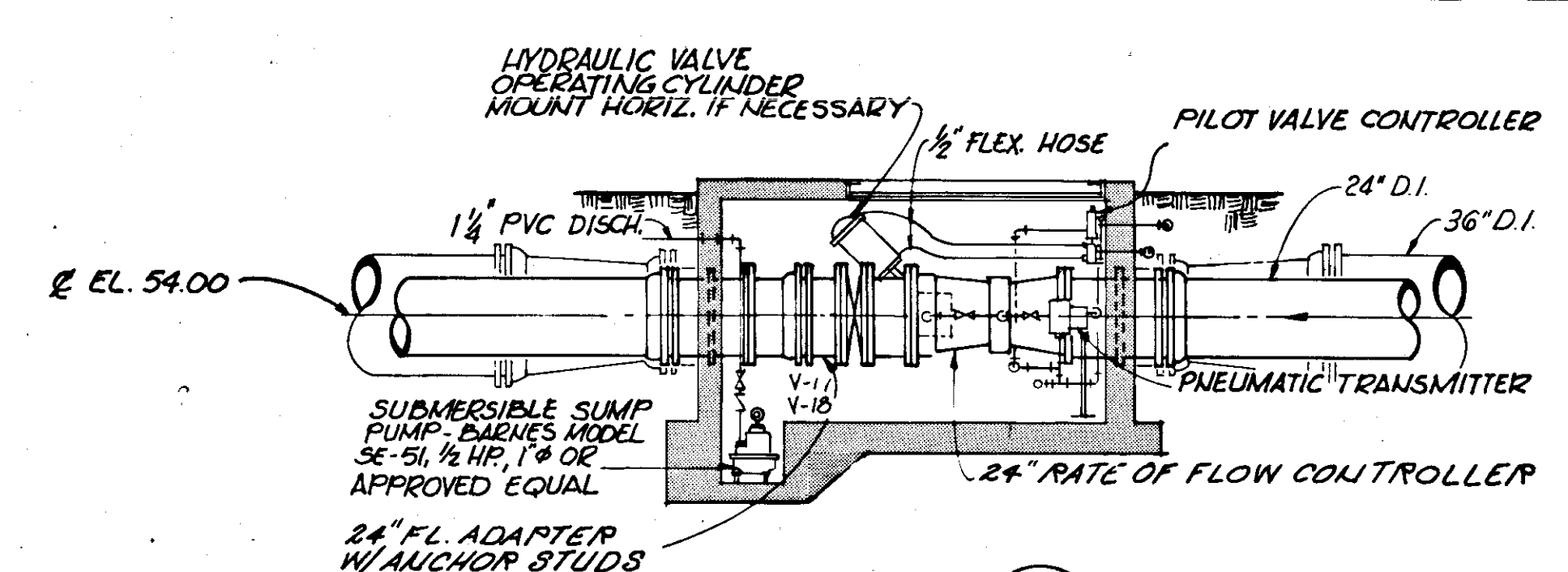


**RECORD DRAWING**  
PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.  
DATE: 8/13/78 BY: *lra*  
CHECKED BY: *R & A*  
M.C.U.S.

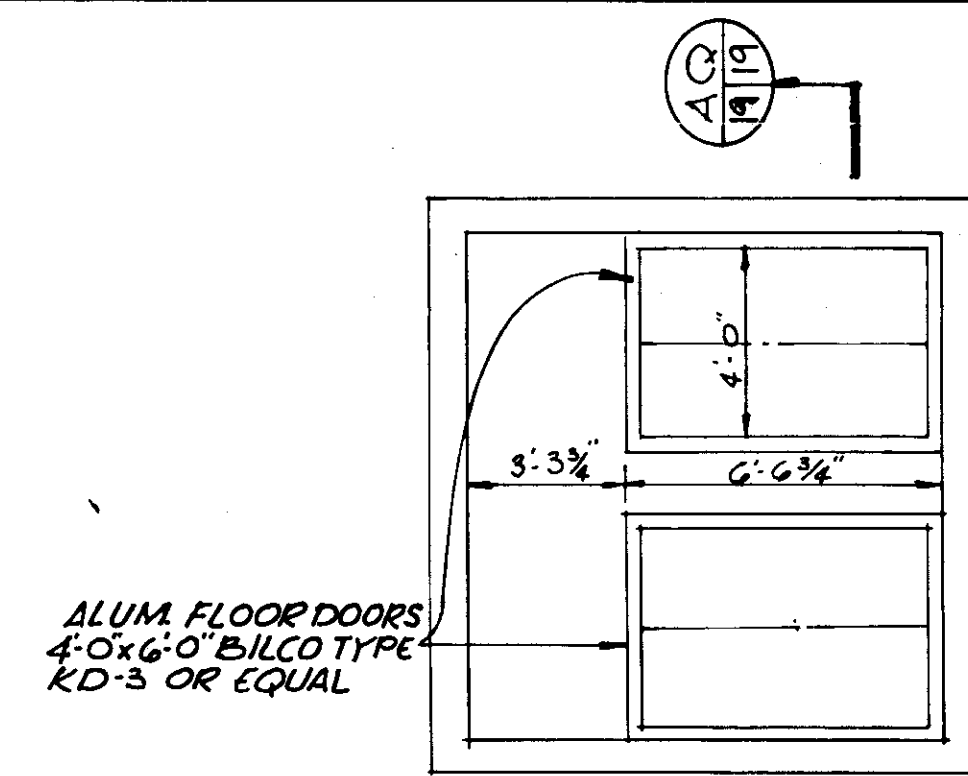
NO.	DATE	DESCRIPTION	BY	CKD.
5/79		GEN REVISIONS		AL
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
WATER WORKS PROJECT YARD PIPING SECTIONS & DETAILS				
T-19 FLORIDA				
MANATEE COUNTY, FLORIDA				
DESIGNED BY	FILE NO.			
R.D.H.	630-761-04			
DRAWN BY	SHEET C14			
I.C.S.	No. 18			
CHECKED BY	OF 130 SHEETS			
DATE	SCALE: AS NOTED			
AUGUST, 1978				



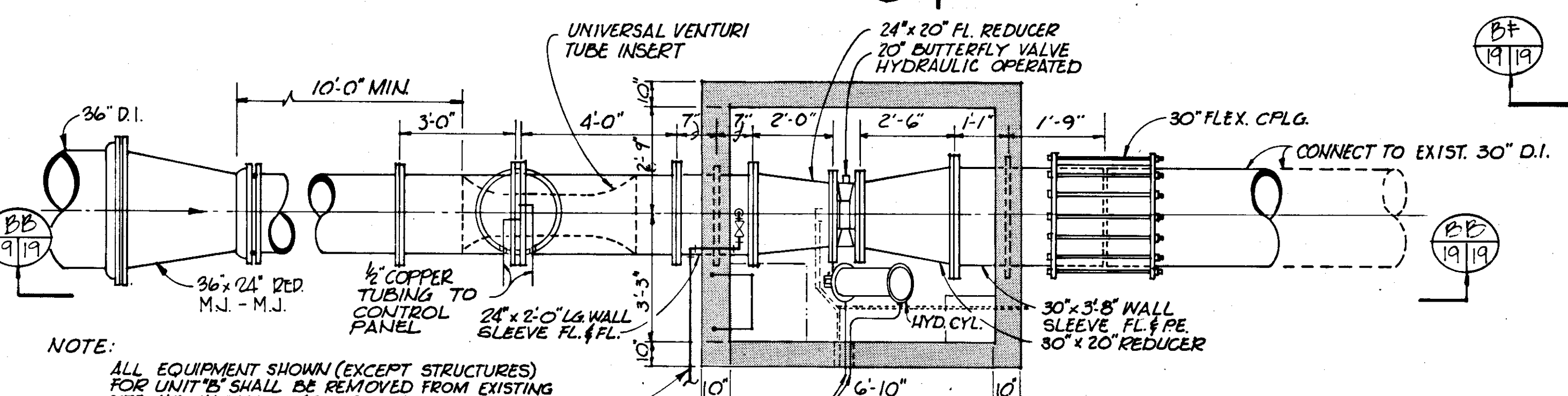
SECTION BB  
SCALE: 3/8" = 1'-0"



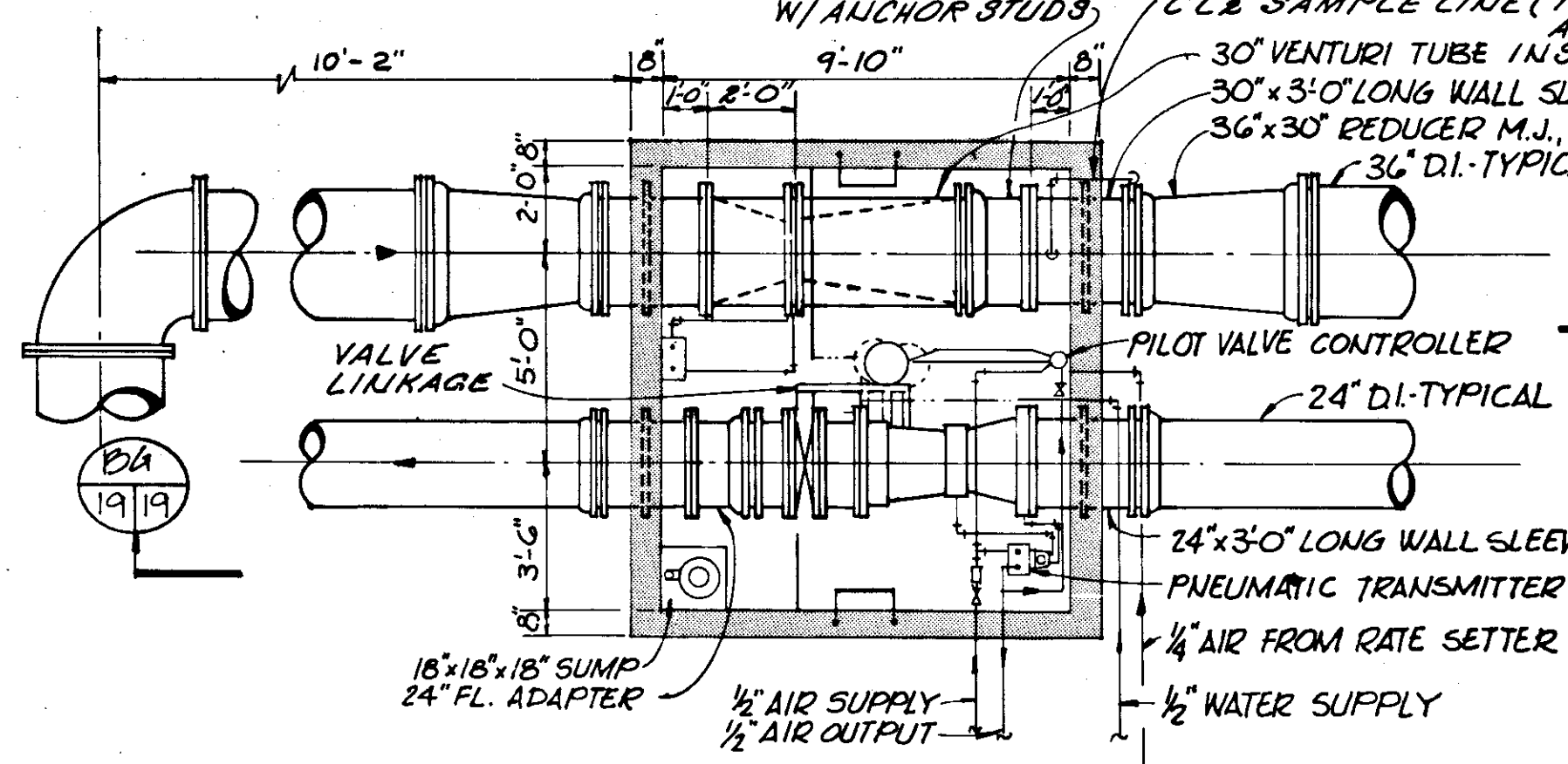
SECTION BG  
SCALE: 1/4" = 1'-0"



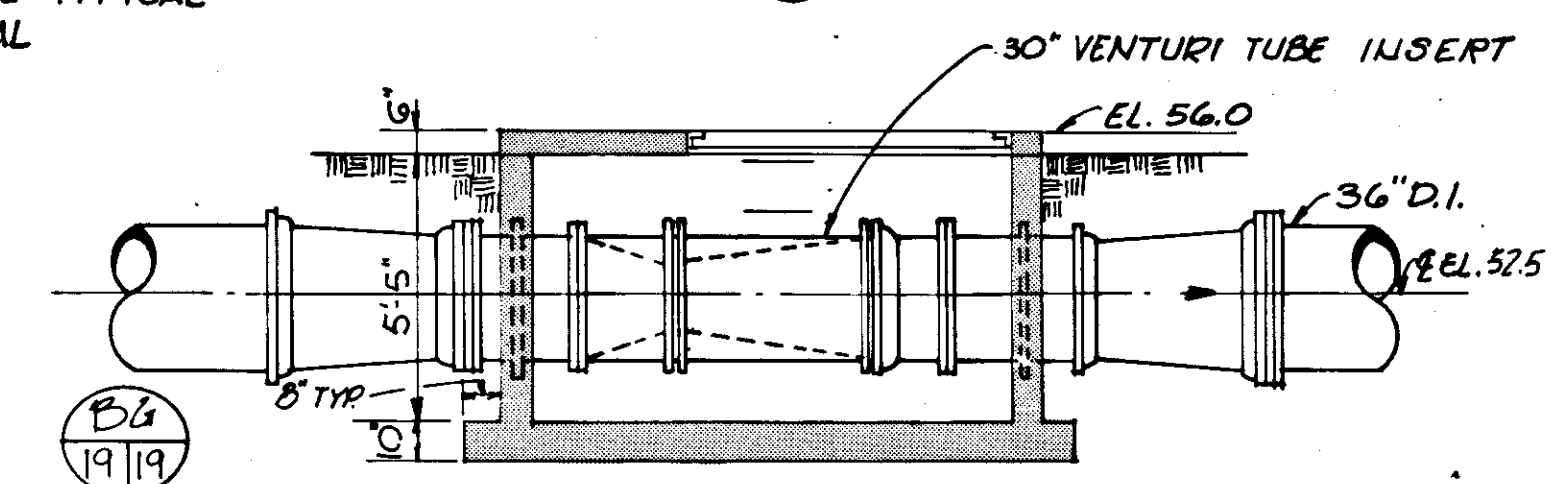
DETAIL - FLOOR DOORS



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

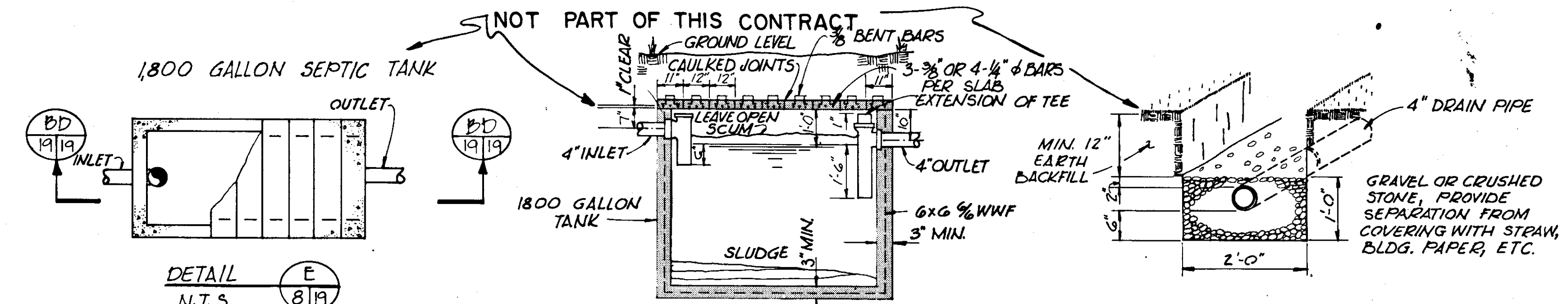


SECTION BF  
SCALE: 1/4" = 1'-0"

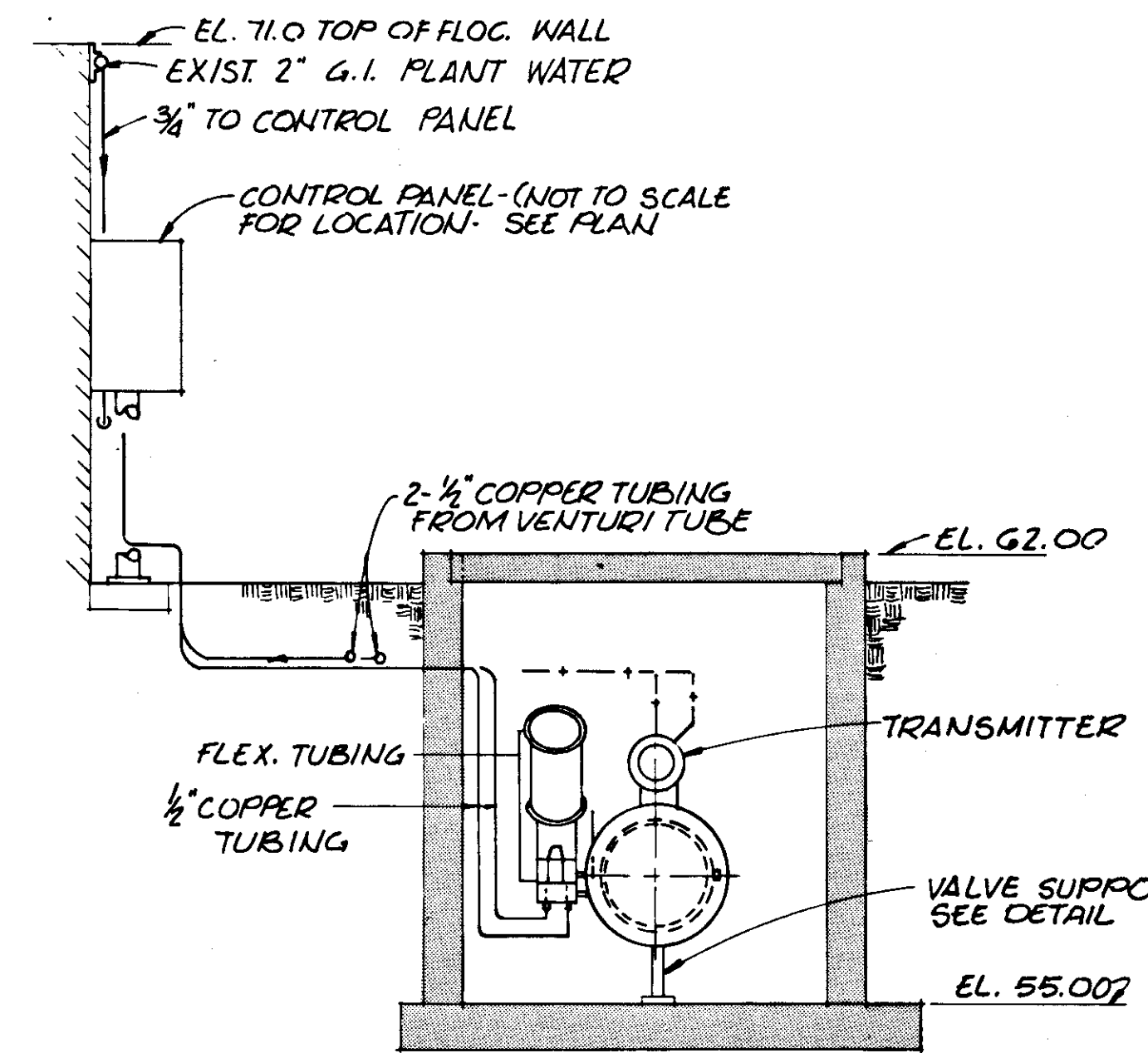


SECTION BH  
SCALE: 1/4" = 1'-0"

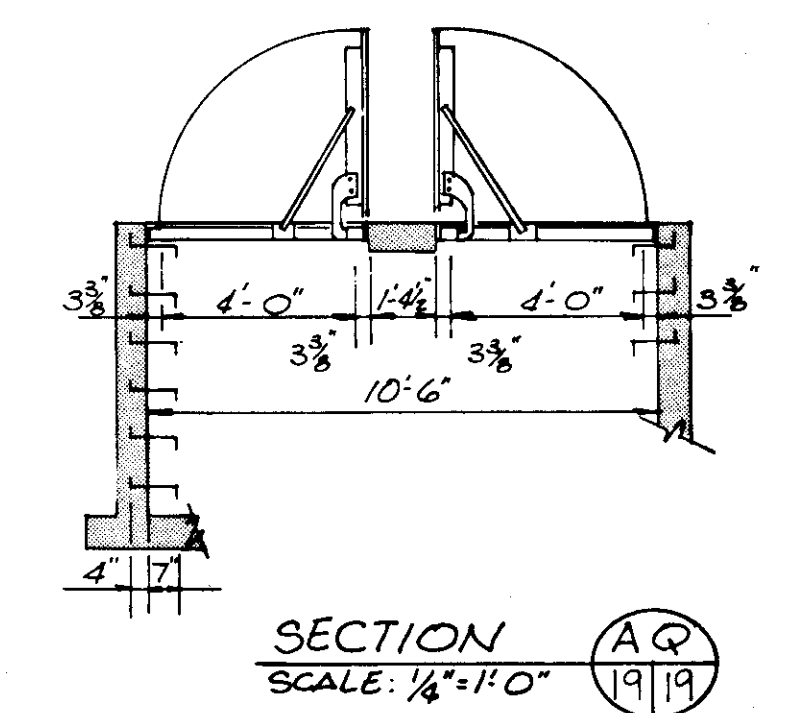
NOTE:  
ALL EQUIPMENT SHOWN (EXCEPT STRUCTURES) FOR UNIT 'B' SHALL BE REMOVED FROM EXISTING SITE AND INSTALLED AT THE NEW SITE AS SHOWN ON THE DRAWINGS.



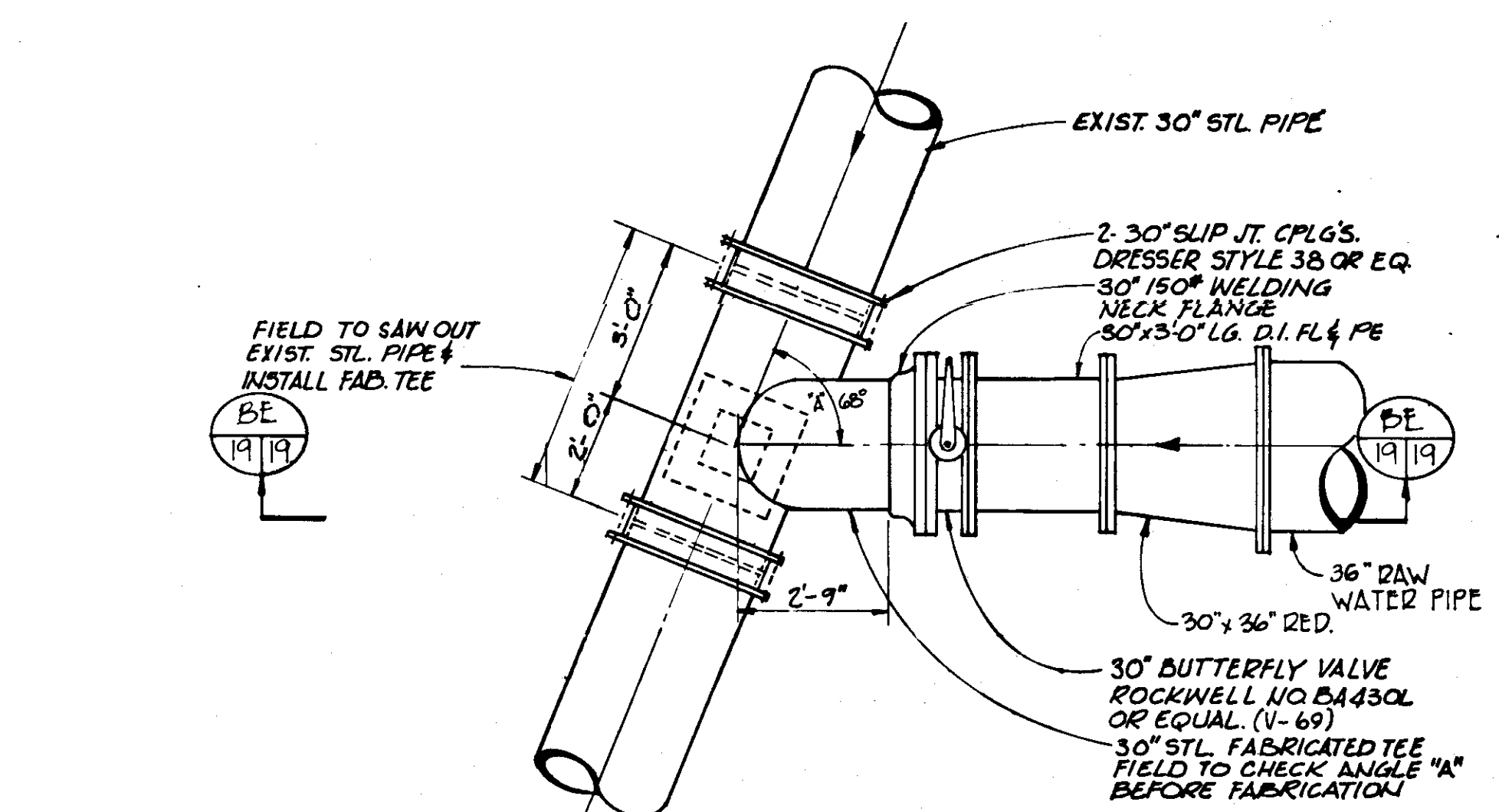
TRENCH DETAIL  
N.T.S.



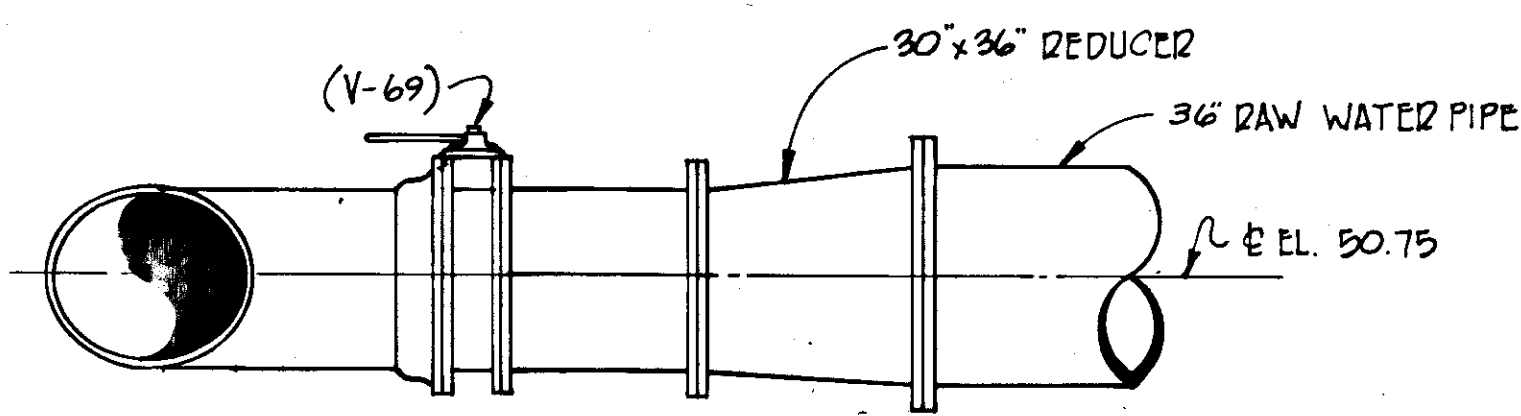
SECTION BC  
SCALE: 3/8" = 1'-0"



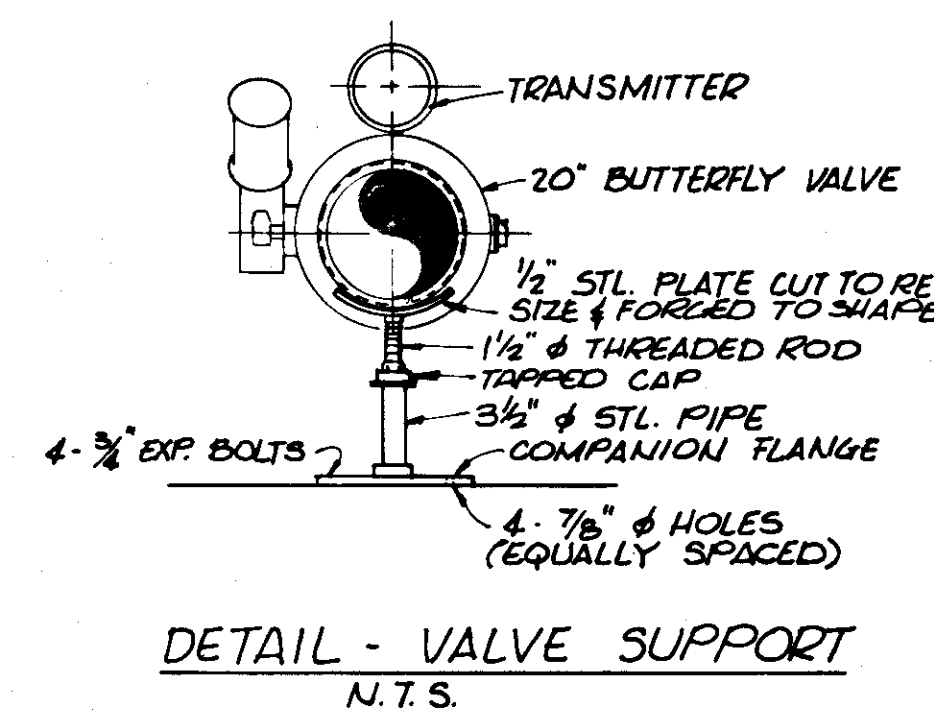
SECTION AC  
SCALE: 1/4" = 1'-0"



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



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



DETAIL - VALVE SUPPORT  
N.T.S.

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

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

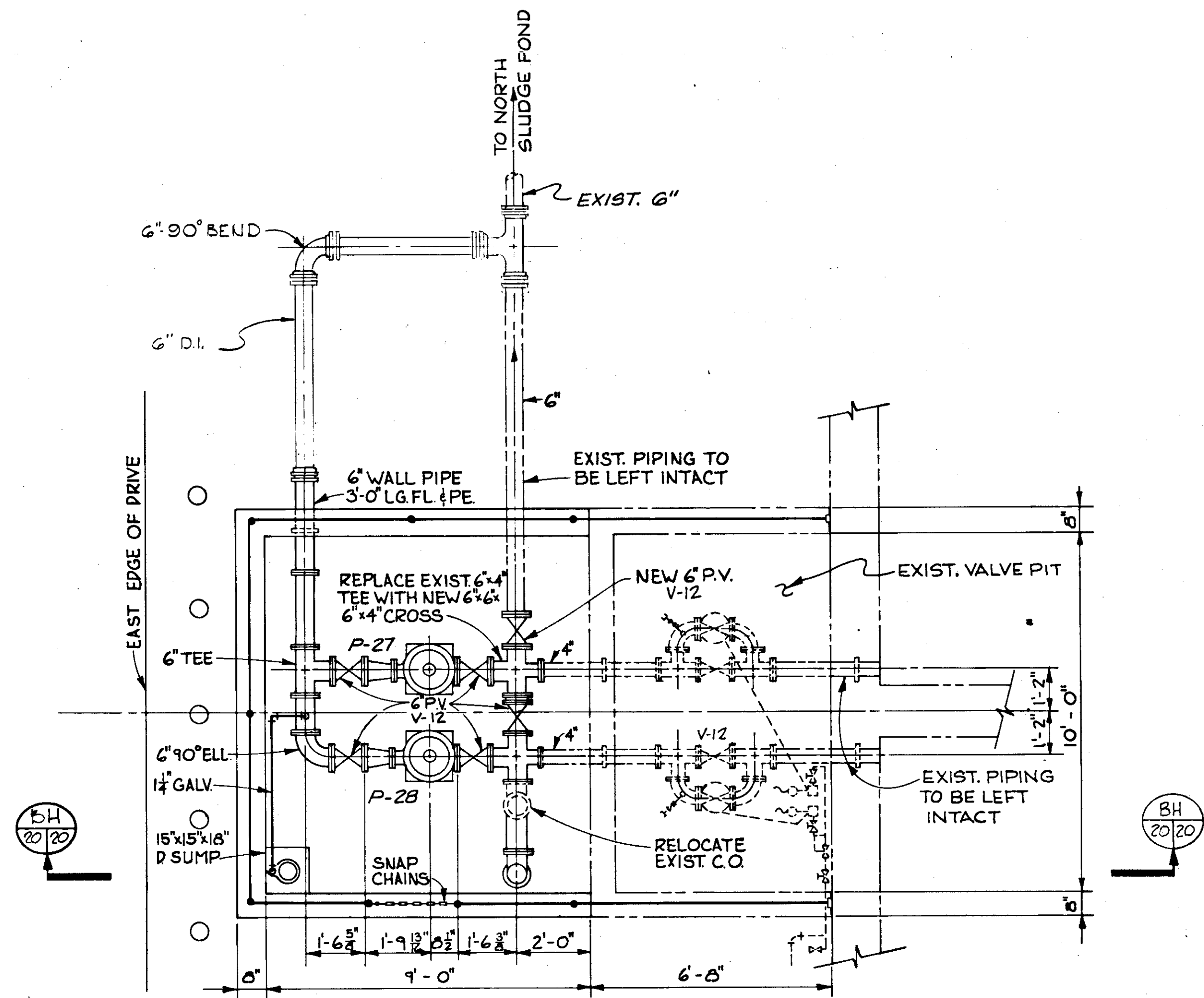
NO.	DATE	DESCRIPTION	BY	CKD.
5/79		REV DETAIL AM & BF		CC
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
WATER WORKS PROJECT YARD PIPING SECTIONS & DETAILS				
MANATEE COUNTY,		FILE NO.	<b>T-20</b> FLORIDA SEAL	
DESIGNED BY R. D. H.	630-761-04			
DRAWN BY D. R. K.	SHEET C15	No. 19 SHEETS		
CHECKED BY	OF 130			
DATE AUGUST, 1978	SCALE: AS NOTED			

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

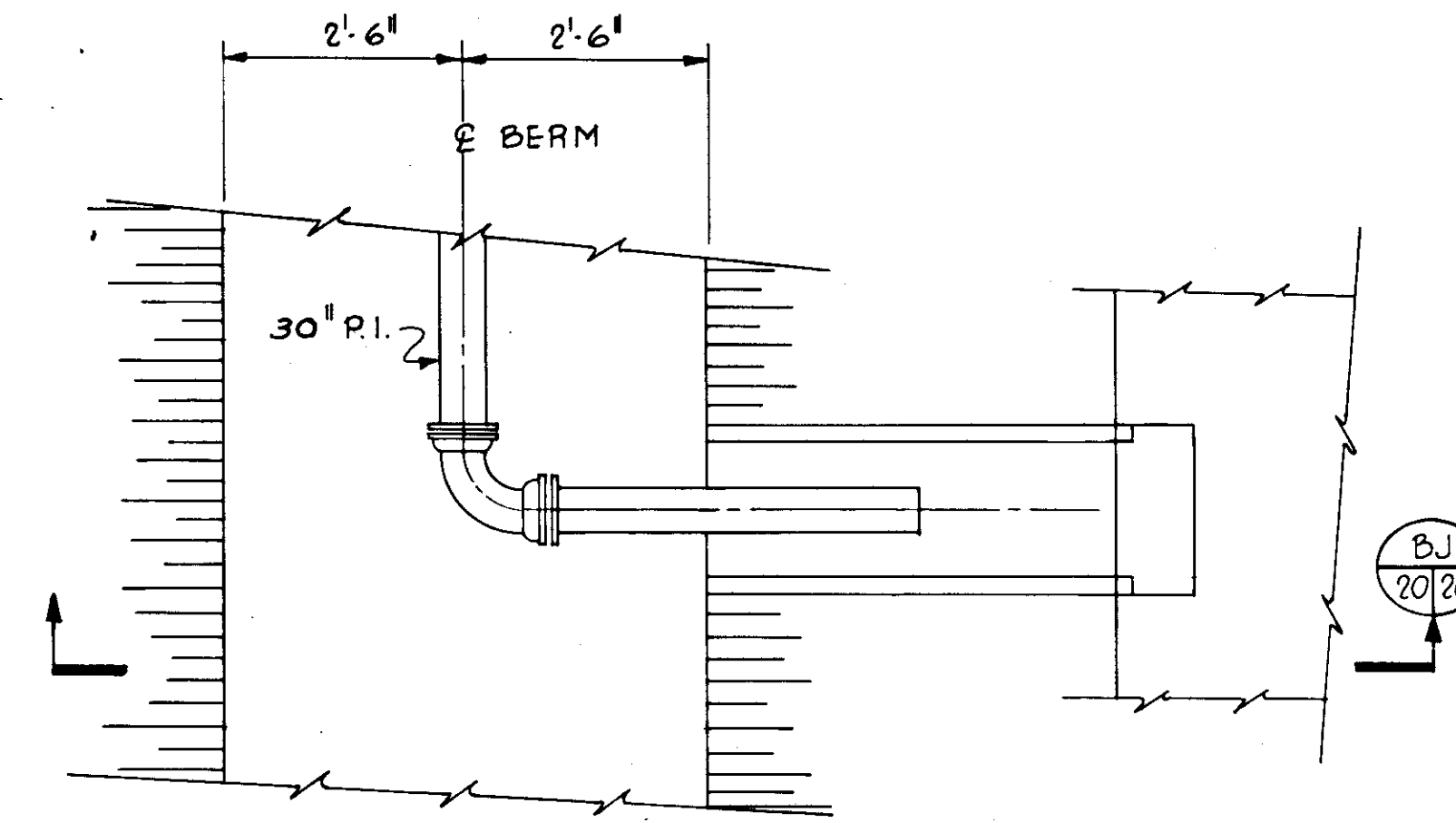
PIPE SIZE (IN)	RESTRAINED JOINTS - MINIMUM DISTANCE FROM FITTINGS - FEET				
	90° BEND	45° BEND	22 1/2° BEND	1/4° BEND	BRANCH OF TEE OR WYE
6	23	14	8	5	40
8	30	18	10	6	49
10	36	21	12	7	60
12	42	25	14	8	71
14	48	28	16	9	77
16	54	32	18	10	88
18	60	35	20	11	98
20	66	38	21	12	110
24	77	44	24	13	132
30	92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

**NOTES:**

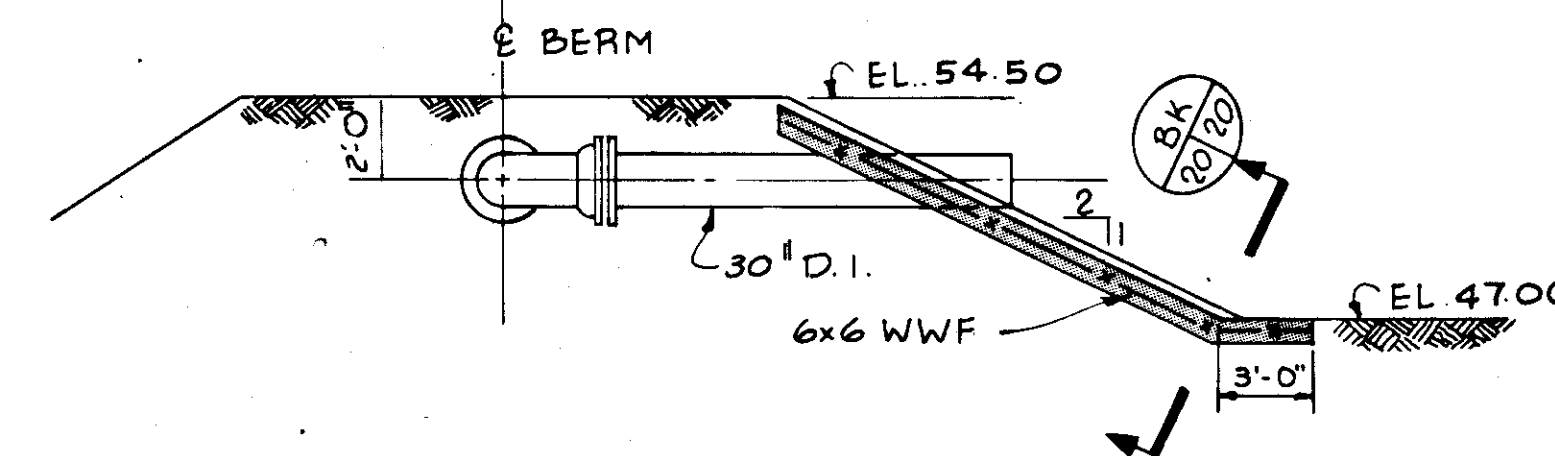
- CONTRACTOR TO BE RESPONSIBLE FOR PROPER APPLICATION OF THRUST RESTRAINT TO PREVENT MOVEMENT OF PIPE AND FITTINGS.
- SYSTEM IS DESIGNED FOR COMPACTED SANDY SOIL WITH MINIMUM BEARING CAPACITY OF 2500 P.S.F. AND 3' COVER WHEN THIS SYSTEM IS INAPPROPRIATE BECAUSE OF BAD SOIL OR OTHER CONDITIONS, SUBMIT DETAILS OF ALTERNATE SYSTEM TO ENGINEER FOR APPROVAL.
- FITTINGS SHALL ALSO HAVE JOINT RESTRAINT.
- 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.



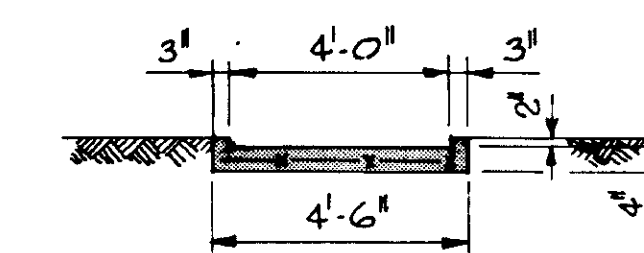
DETAIL J  
SCALE: 3/8" = 1'-0" 6/20



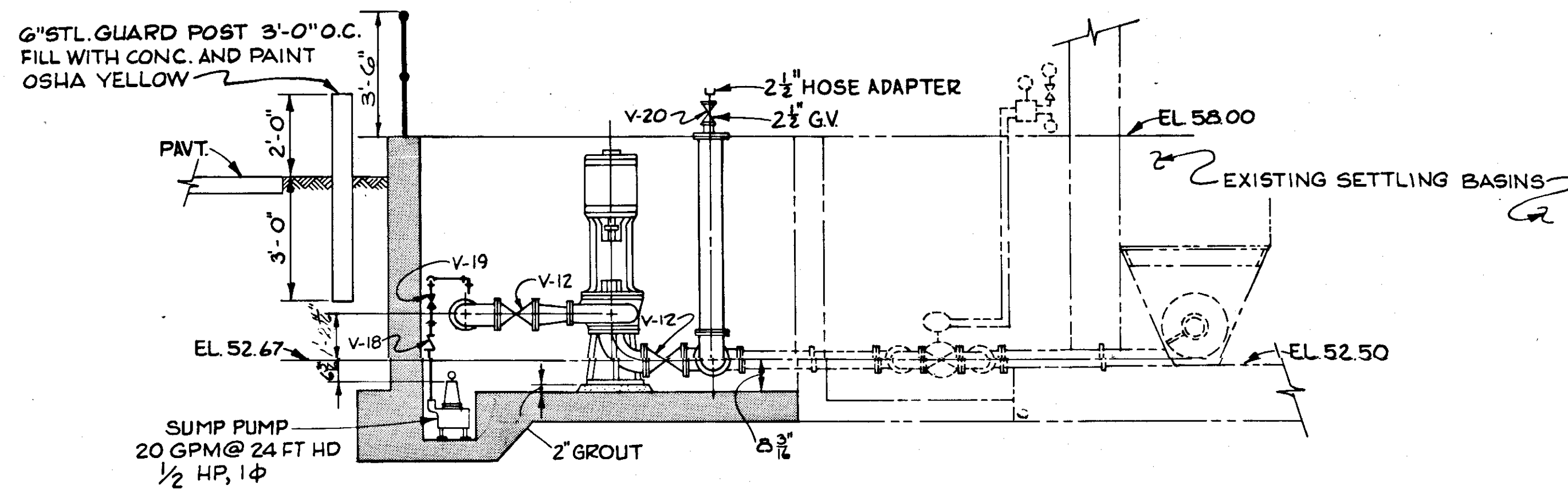
DETAIL W  
N.T.S. 11/20  
OPP. HAND WX 11/20



SECTION BJ  
N.T.S. 20/20



SECTION BK  
N.T.S. 20/20



SECTION BH  
SCALE: 3/8" = 1'-0" 6/20

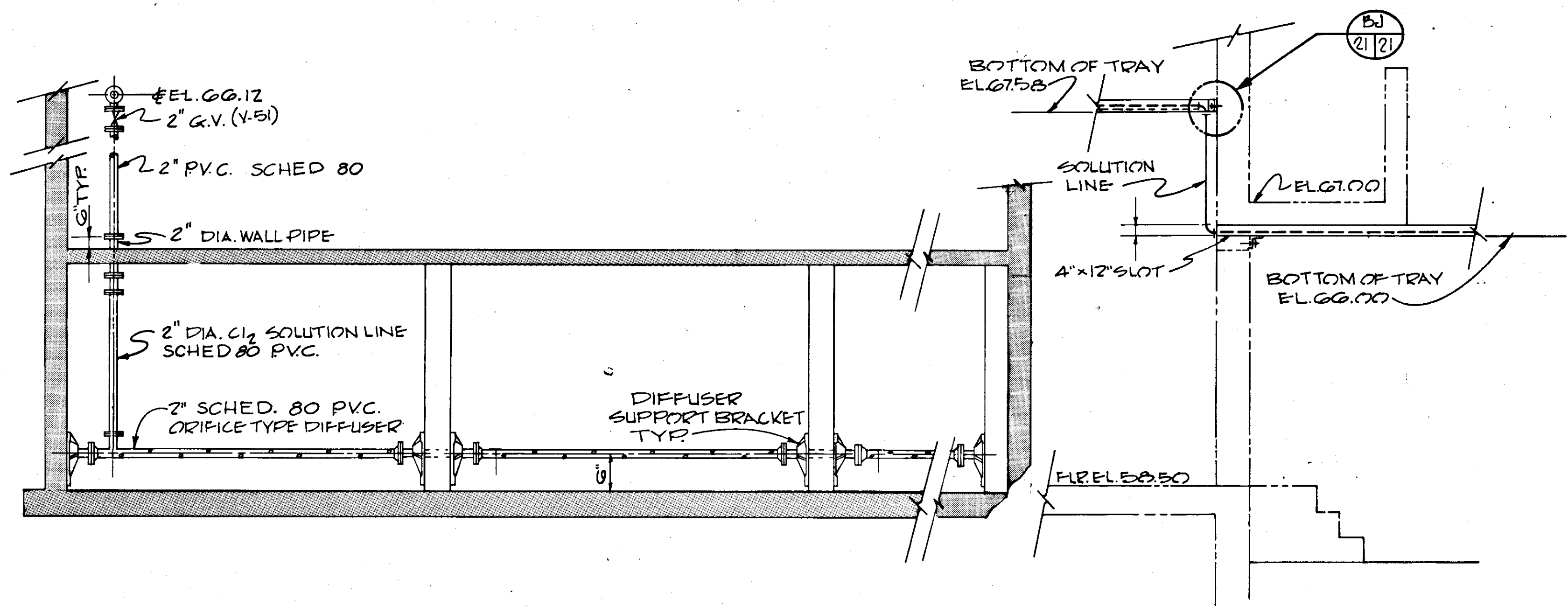
**NOTE:**

- FOR VALVE SCHEDULE, SEE SH. 81.
- FOR PUMP SCHEDULE, SEE SH. 77.

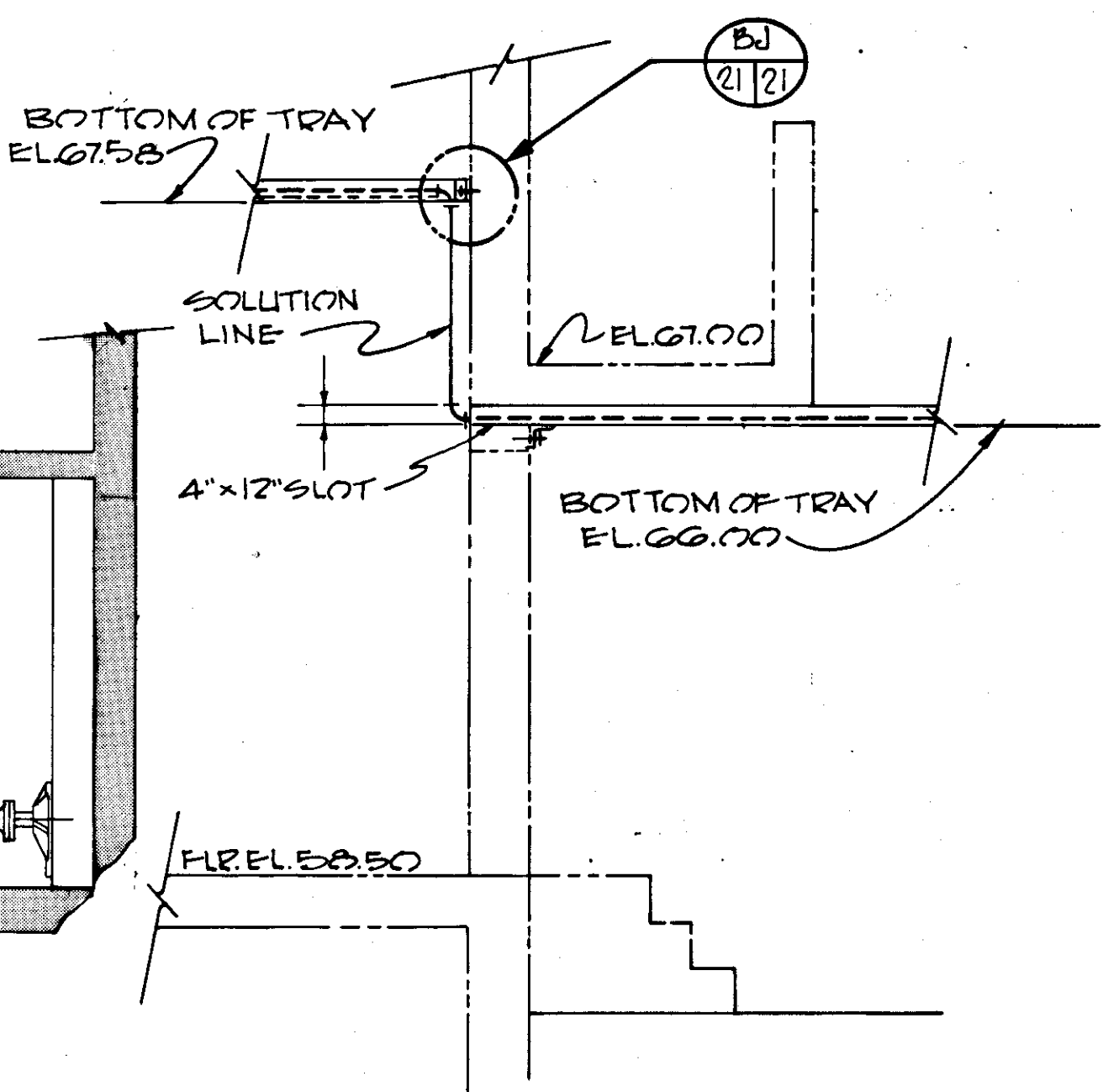
**RECORD DRAWING**

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

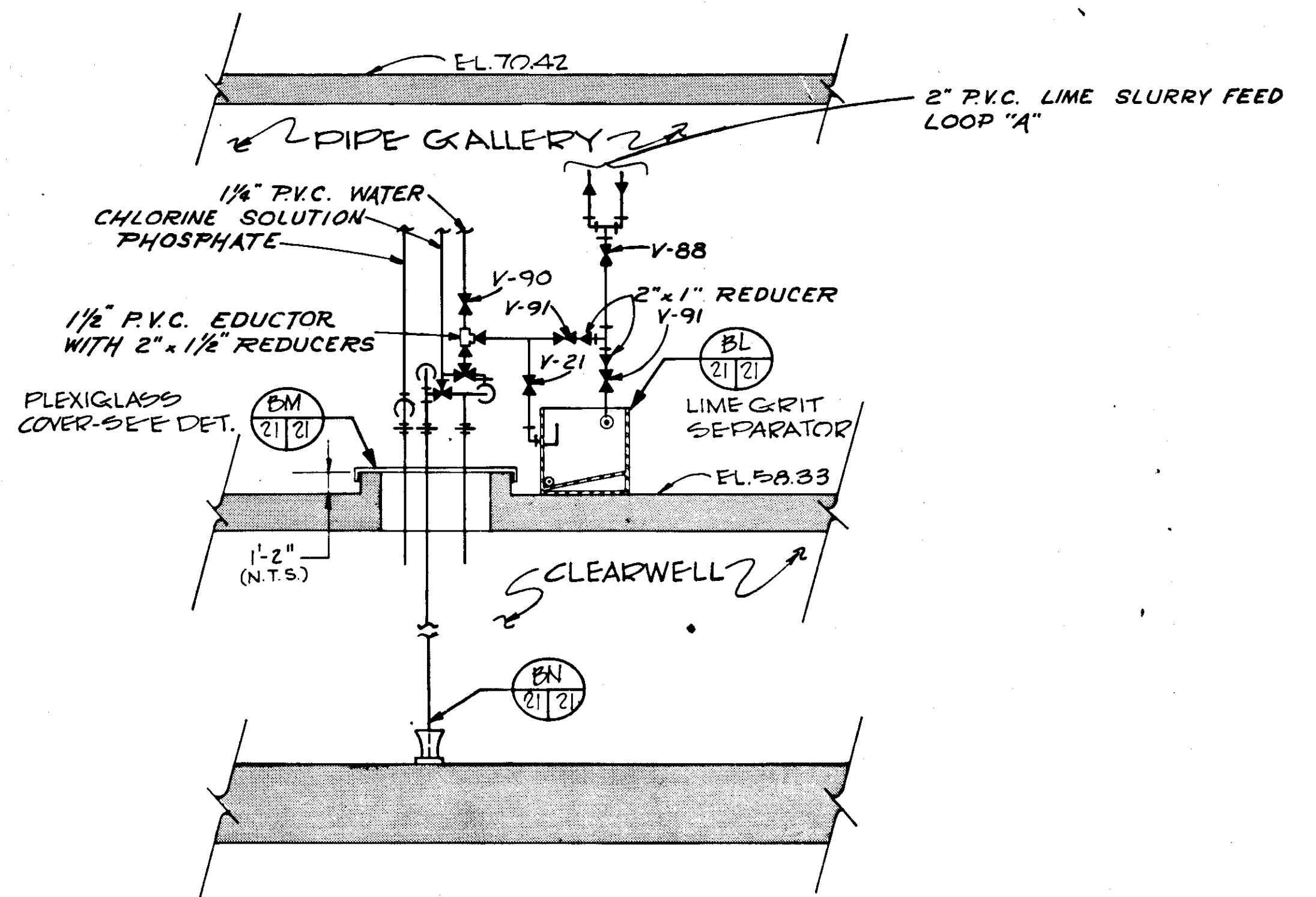
NO.	DATE	DESCRIPTION	BY	CHKD.
5/79		REV SECT BJ	AL	
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
WATER WORKS PROJECT YARD PIPING SECTIONS & DETAILS				
T-21 FLORIDA				
MANATEE COUNTY, FLORIDA				
DESIGNED BY	FILE NO.	SEAL		
R.D.H.	630-761-04			
DRAWN BY	SHEET C16			
I.C.S./E.L.L.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



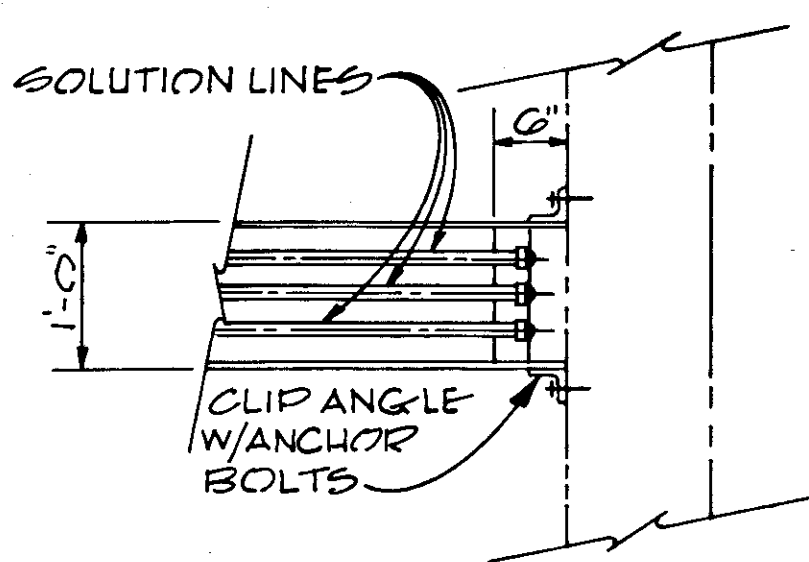
SECTION 4A  
N.T.S.



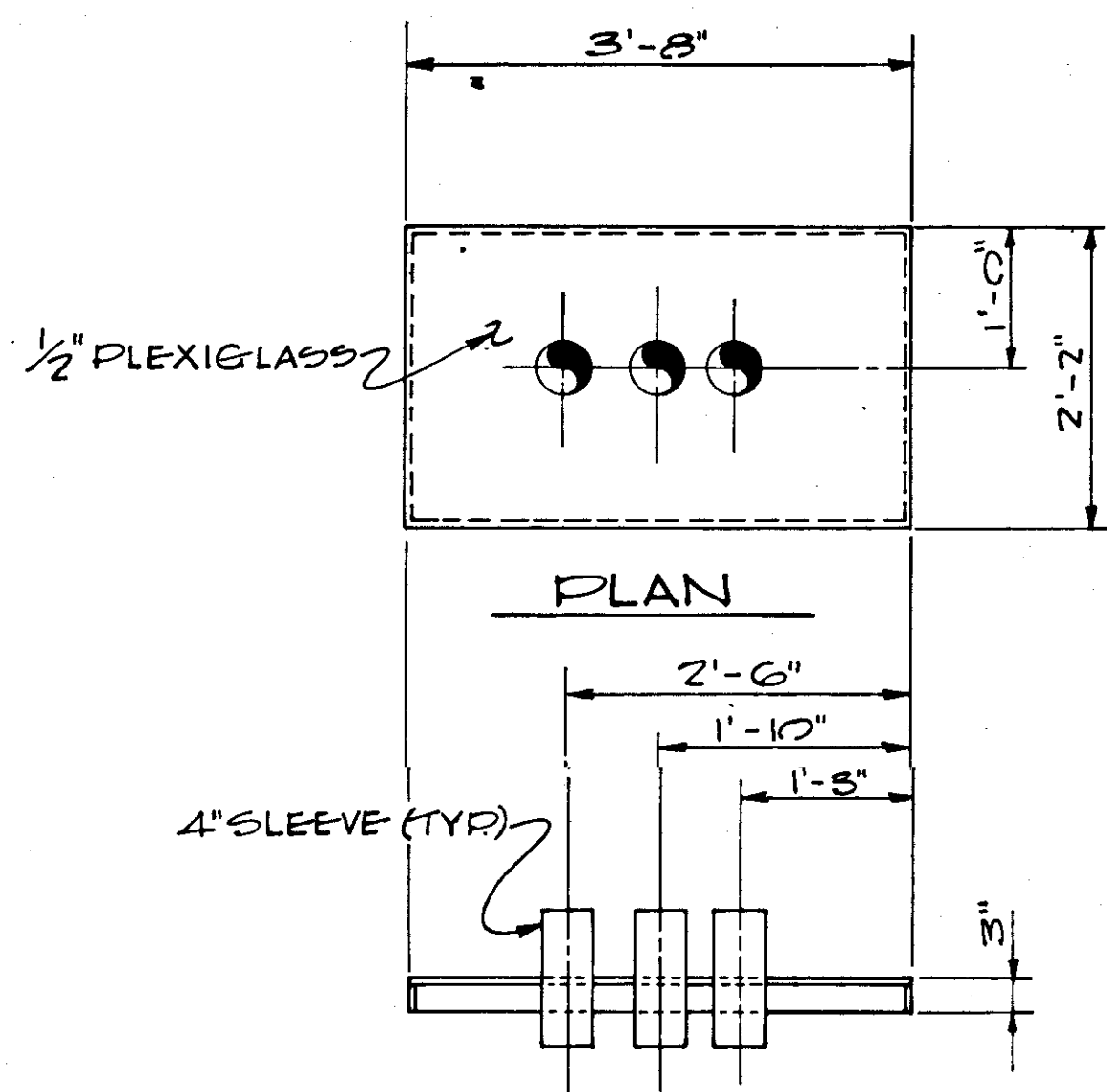
SECTION 4C  
SCALE: 3/8" = 1'-0"



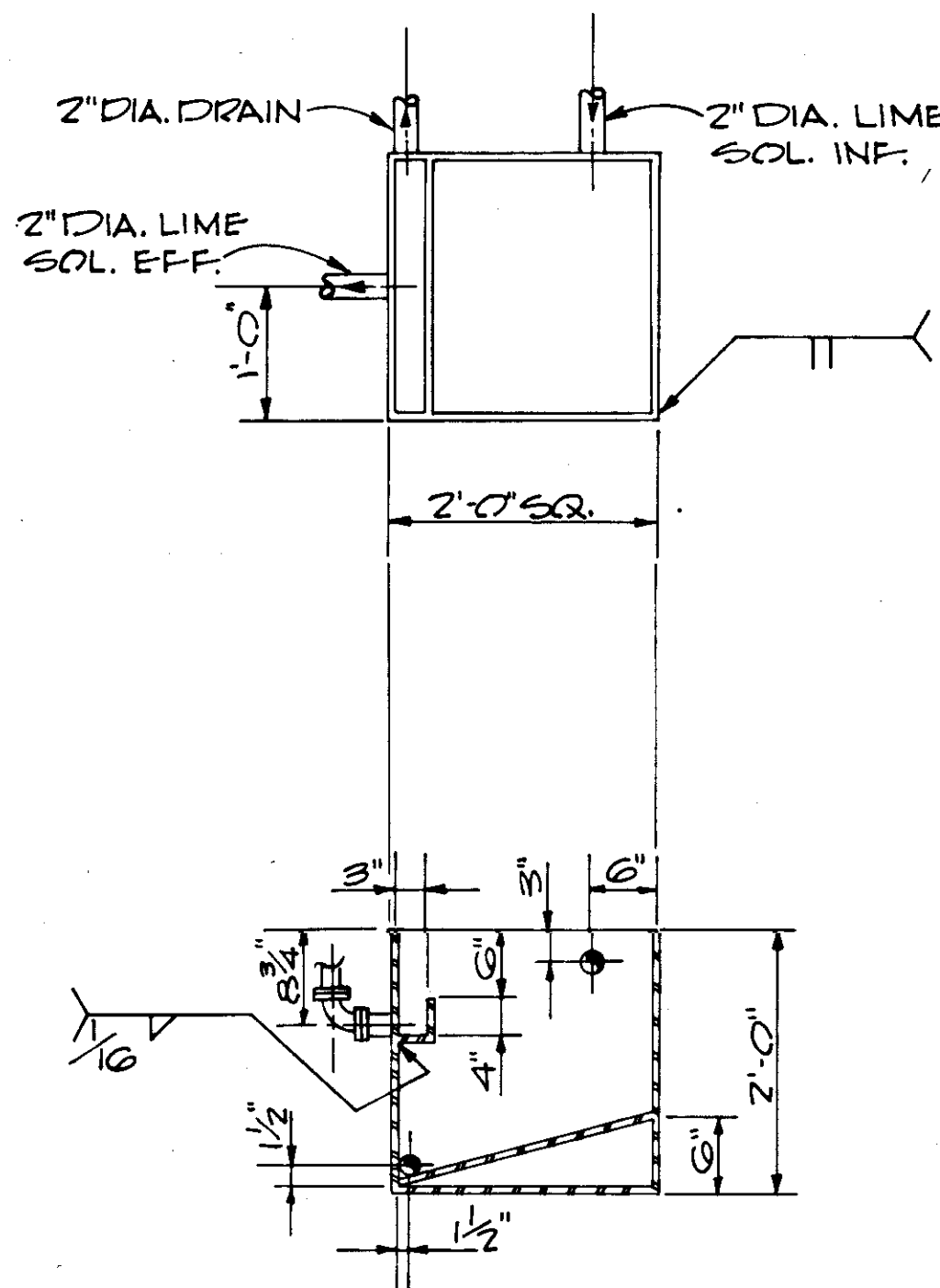
SECTION 4D  
SCALE: 3/8" = 1'-0"



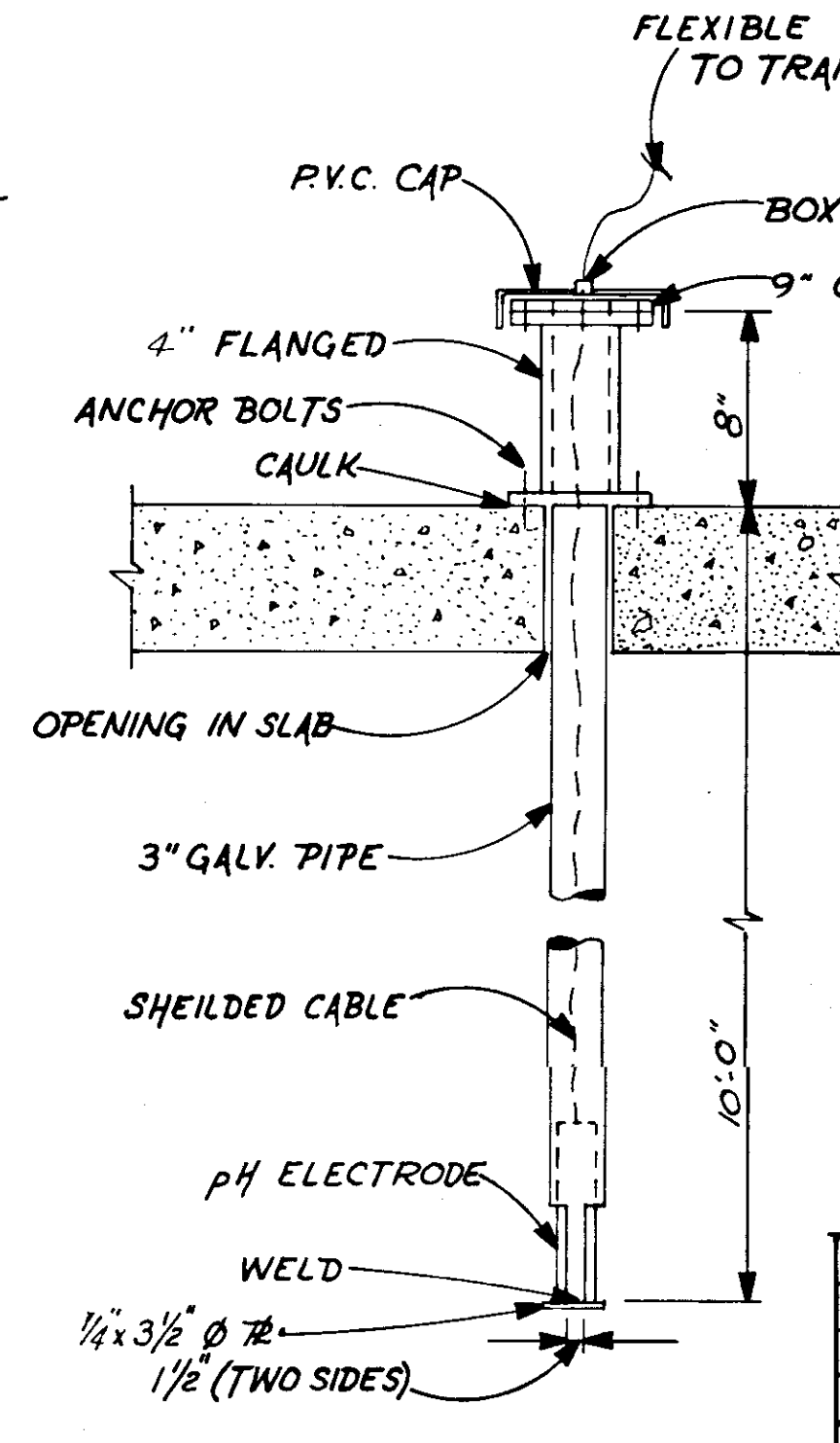
SECTION 4B  
SCALE: 3/4" = 1'-0"



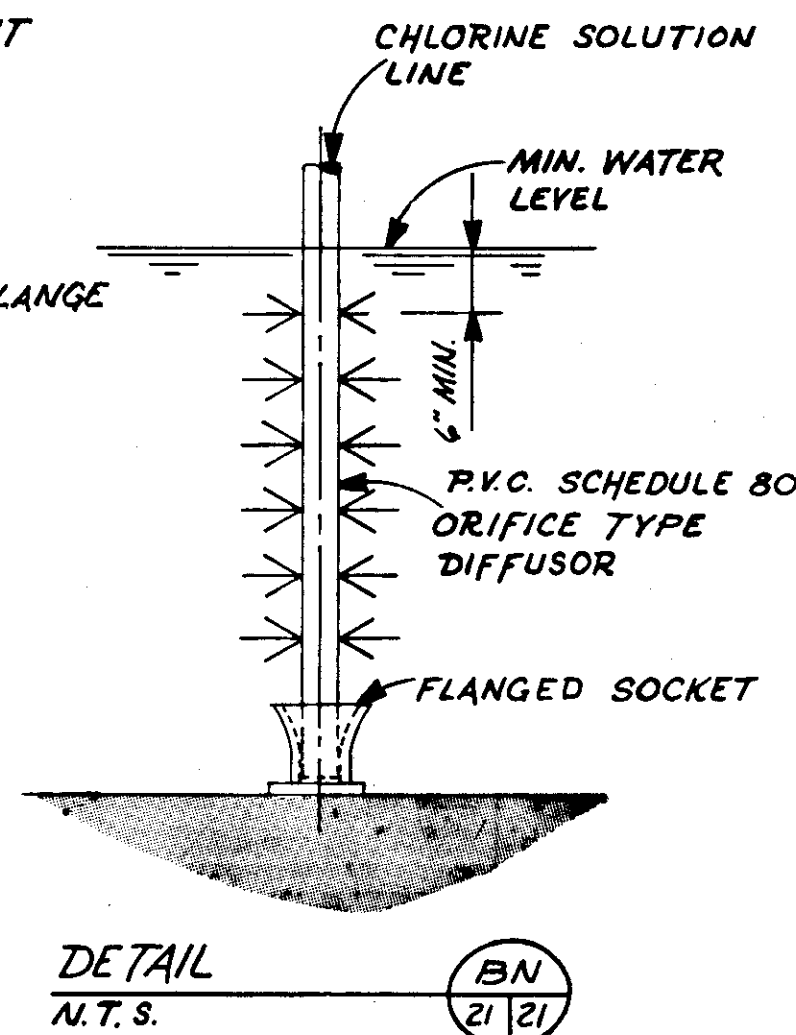
PLAN  
DETAIL SCALE: 3/4" = 1'-0"



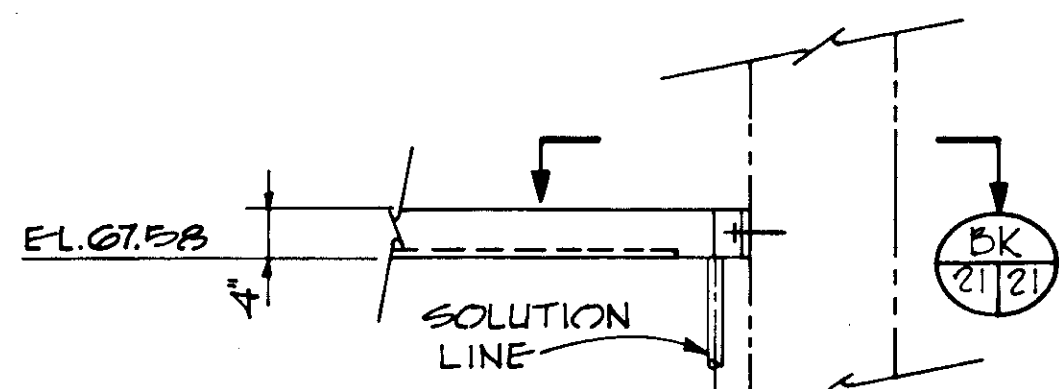
DETAIL 4E  
SCALE: 3/4" = 1'-0"



PH ELECTRODE IN CLEARWELL  
DETAIL N.T.S.



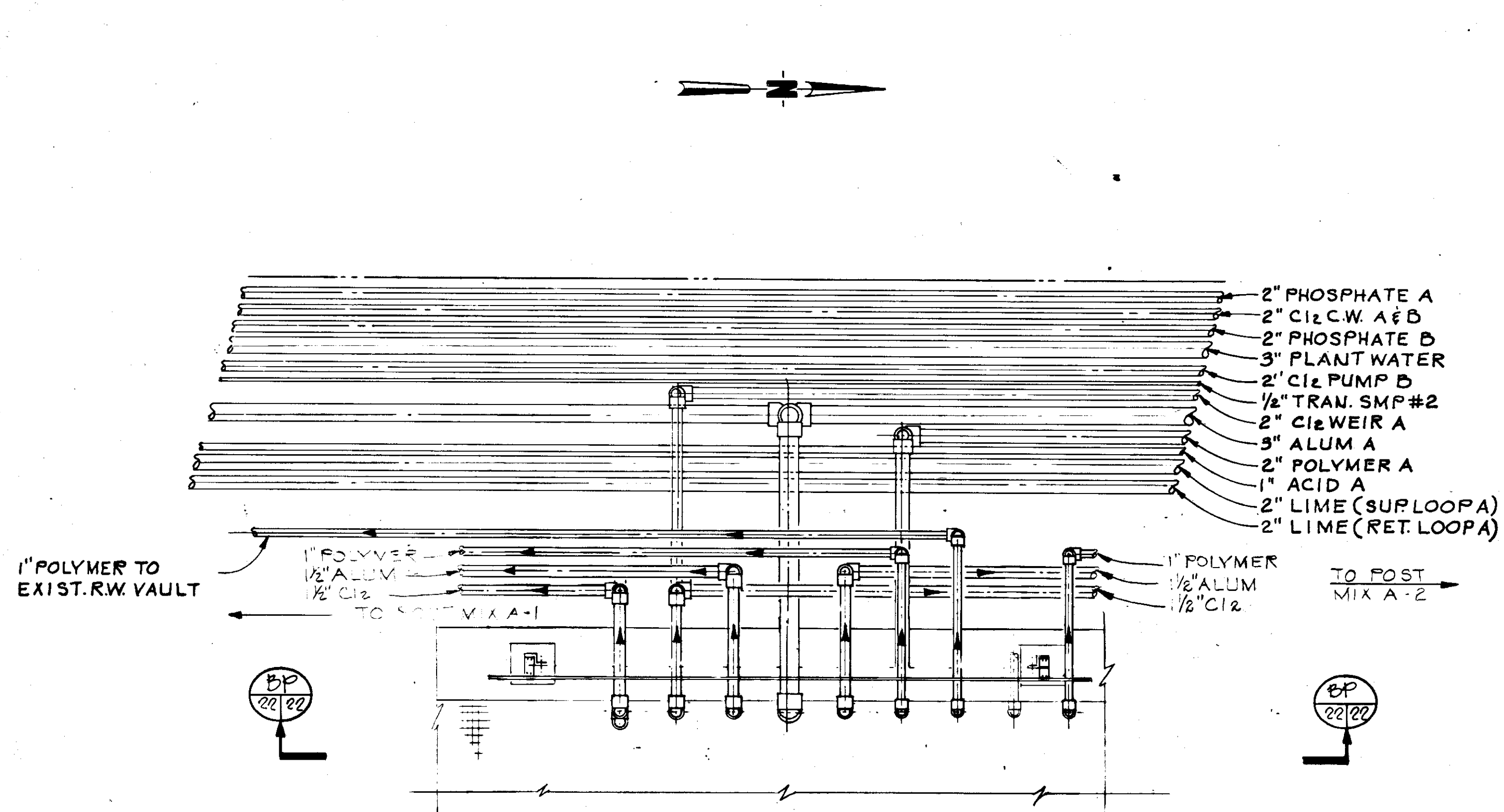
DETAIL 4G  
N.T.S.



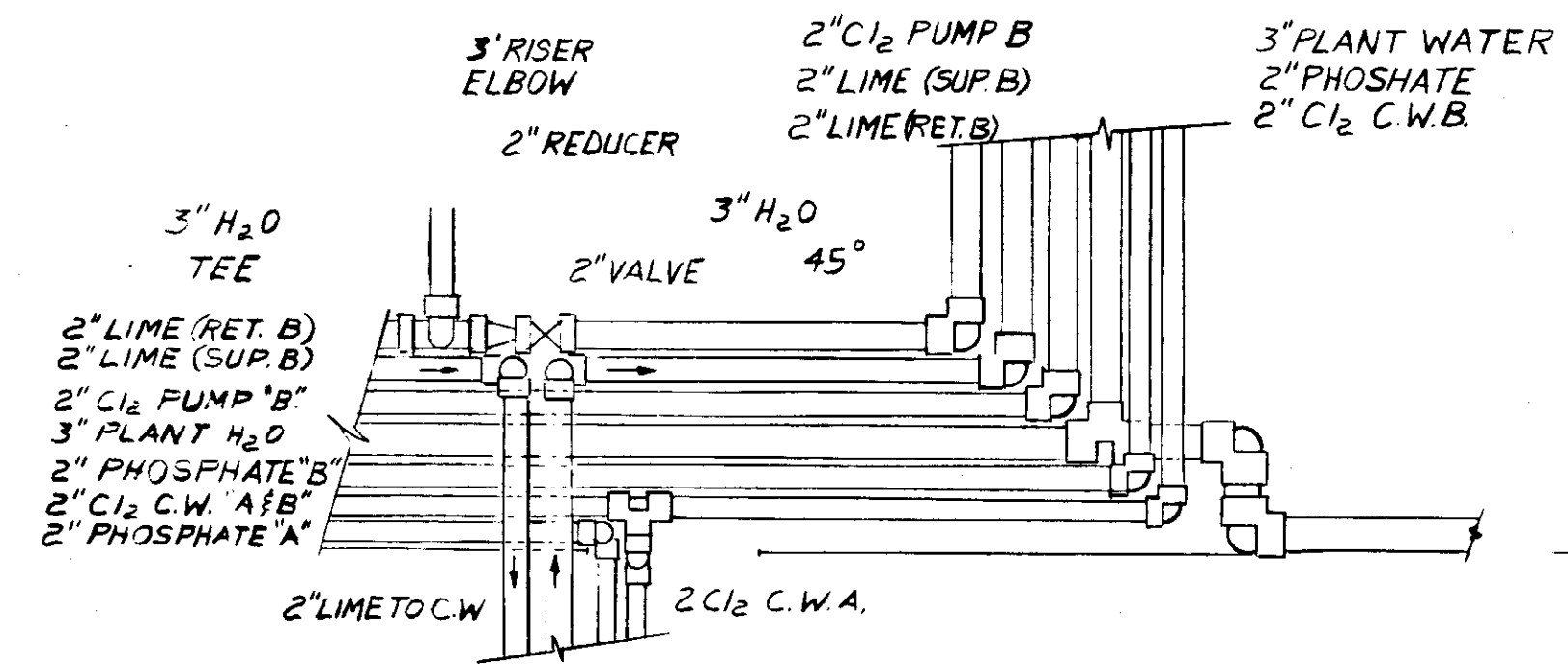
DETAIL 4H  
SCALE: 3/4" = 1'-0"

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		FILE NO.	T-22	
DESIGNED BY W.D.G.	630-761-04	SEAL		
DRAWN BY E.L.L.	SHEET C17			
CHECKED BY	OF 130 SHEETS			
DATE	SCALE: AS NOTED			
AUGUST, 1978				

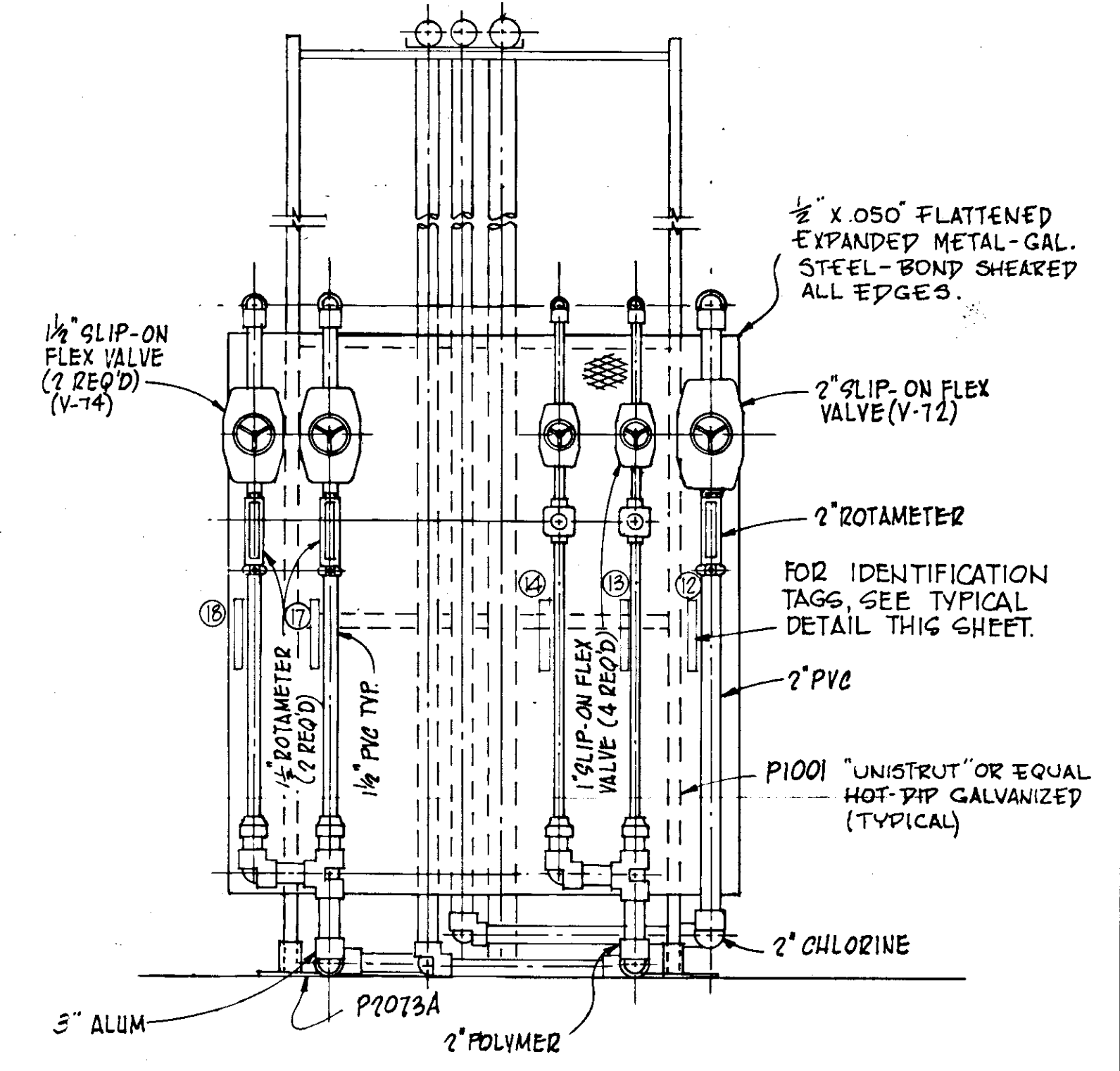
**RECORD DRAWING**  
 PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.  
 DATE: 8/30/78 BY: R.R.A.  
 CHECKED BY:  
 R & A  
 M.C.U.S.



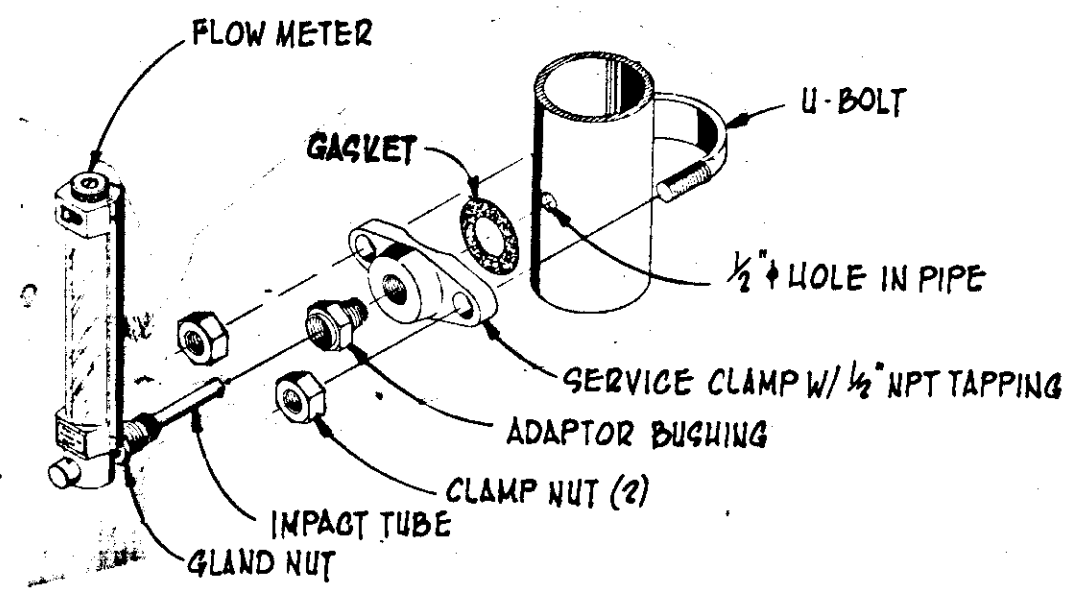
DETAIL A-F  
N.T.S.



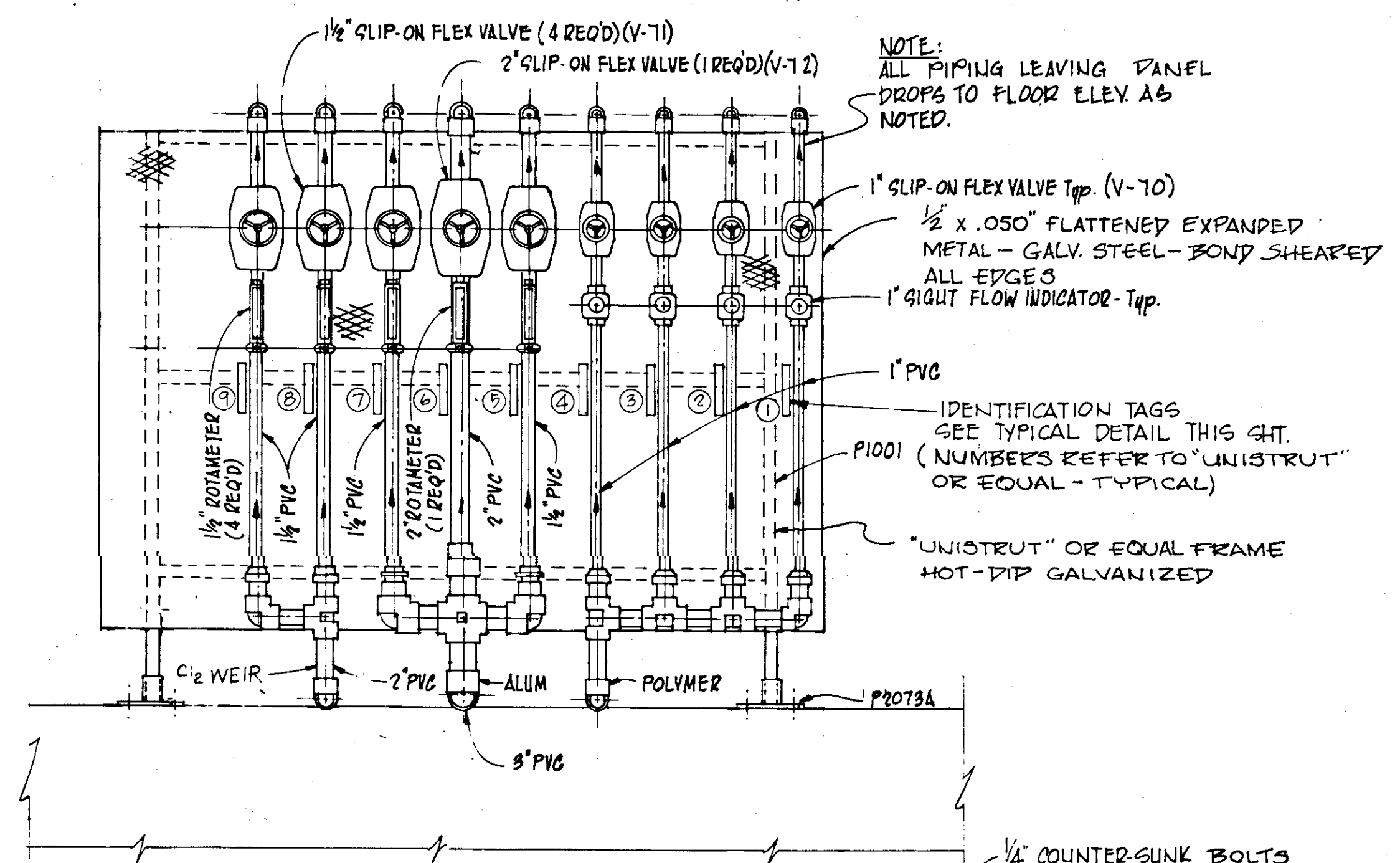
DETAIL A-E  
N.T.S.



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



TYPICAL ROTAMETER INSTALLATION



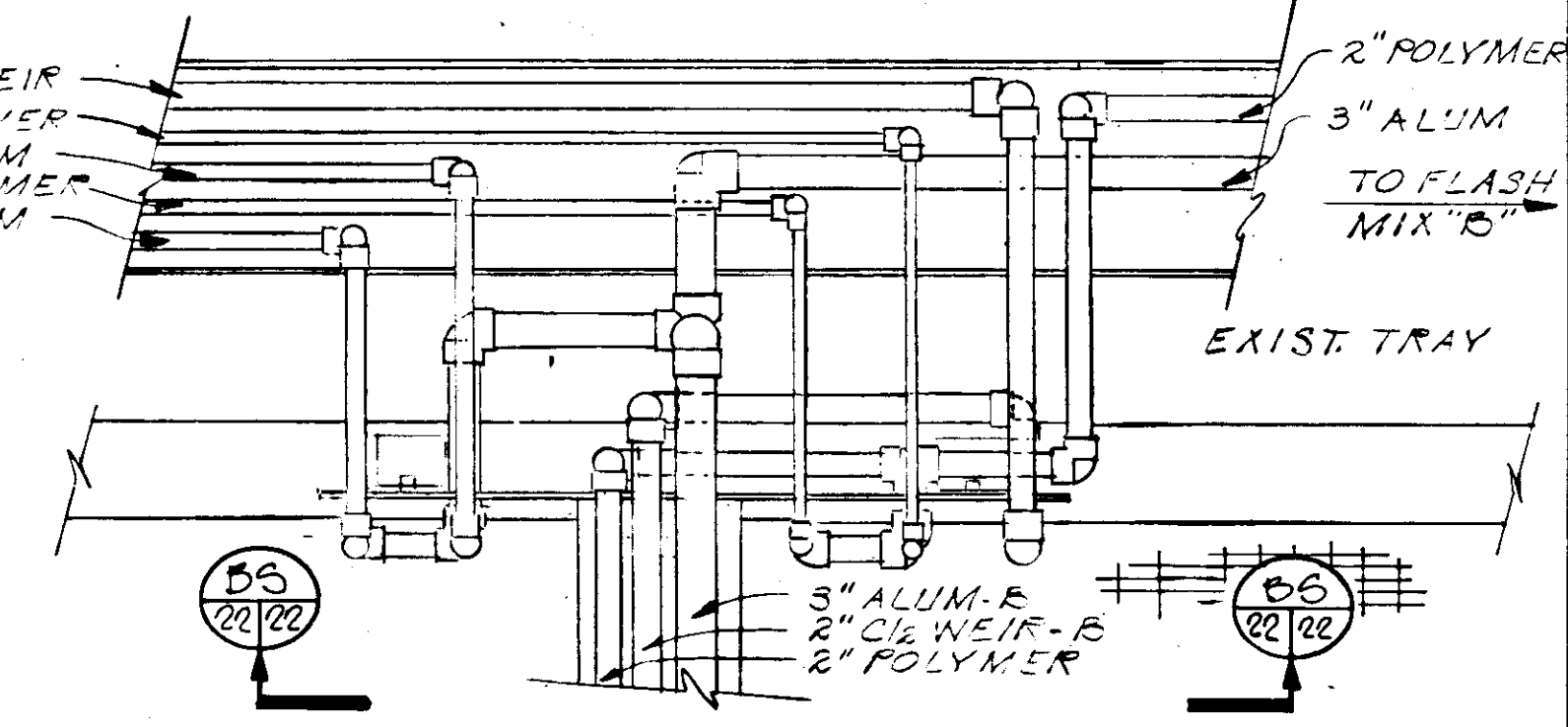
NOTE: ALL PIPING LEAVING PANEL DROPS TO FLOOR ELEV AS NOTED.

1/2" x .050" FLATTENED EXPANDED METAL - GALV. STEEL - BOND SHEARED ALL EDGES

IDENTIFICATION TAGS SEE TYPICAL DETAIL THIS SHEET. (NUMBERS REFER TO "UNISTRUT" OR EQUAL - TYPICAL)

"UNISTRUT" OR EQUAL FRAME HOT-DIP GALVANIZED

SECTION B-P  
N.T.S.

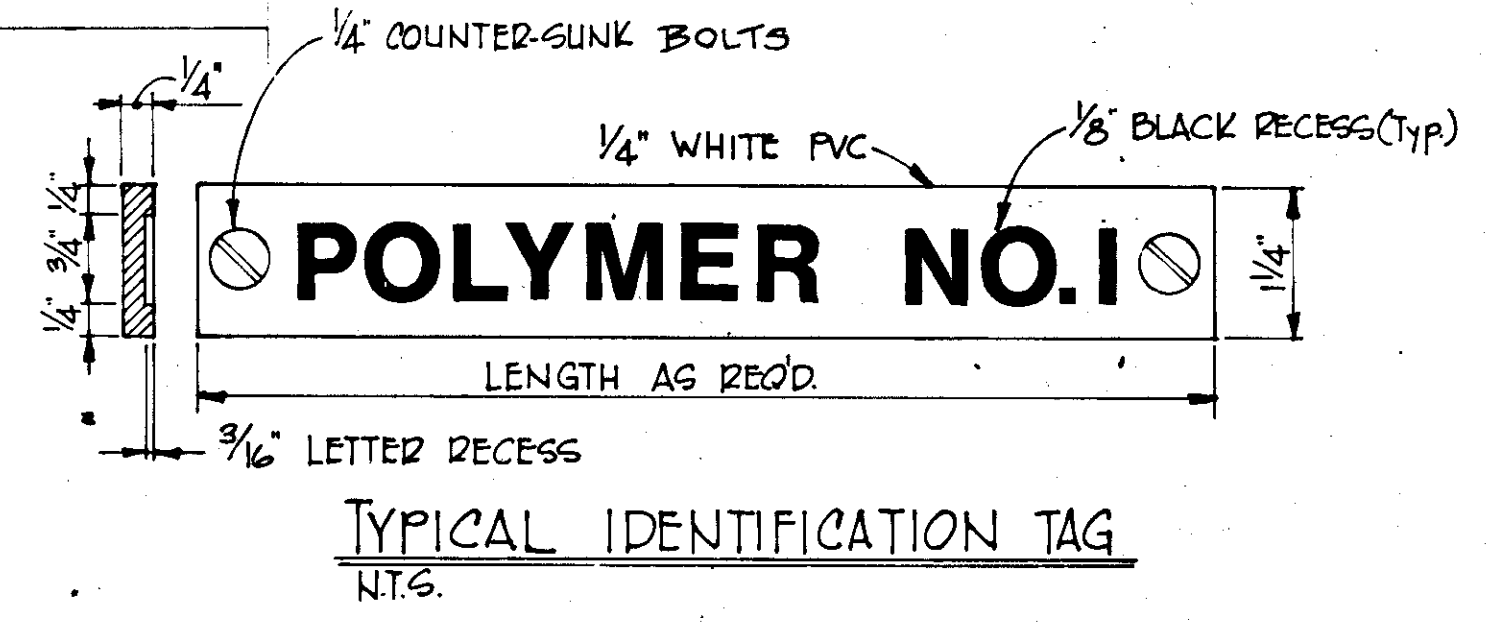


DETAIL A-G  
N.T.S.

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

ROTAMETERS TO BE:  
1/2" - FISCHER & PORTER CAT. #10F1025B OR EQUAL  
2" - " " " #10F1025A " "  
SIGHT FLOW INDICATORS TO BE FISCHER & PORTER SERIES 10E1200, STAINLESS STEEL, OR EQUAL.

1/2" - 75 G.P.M. MAX } WET DIRECT FLOW METERS  
2" - 130 G.P.M. MAX } 3/4" SS AND FITTINGS - BUNYAN  
1" - 24 G.P.M. MAX } "O" RINGS.



TYPICAL IDENTIFICATION TAG  
N.T.S.

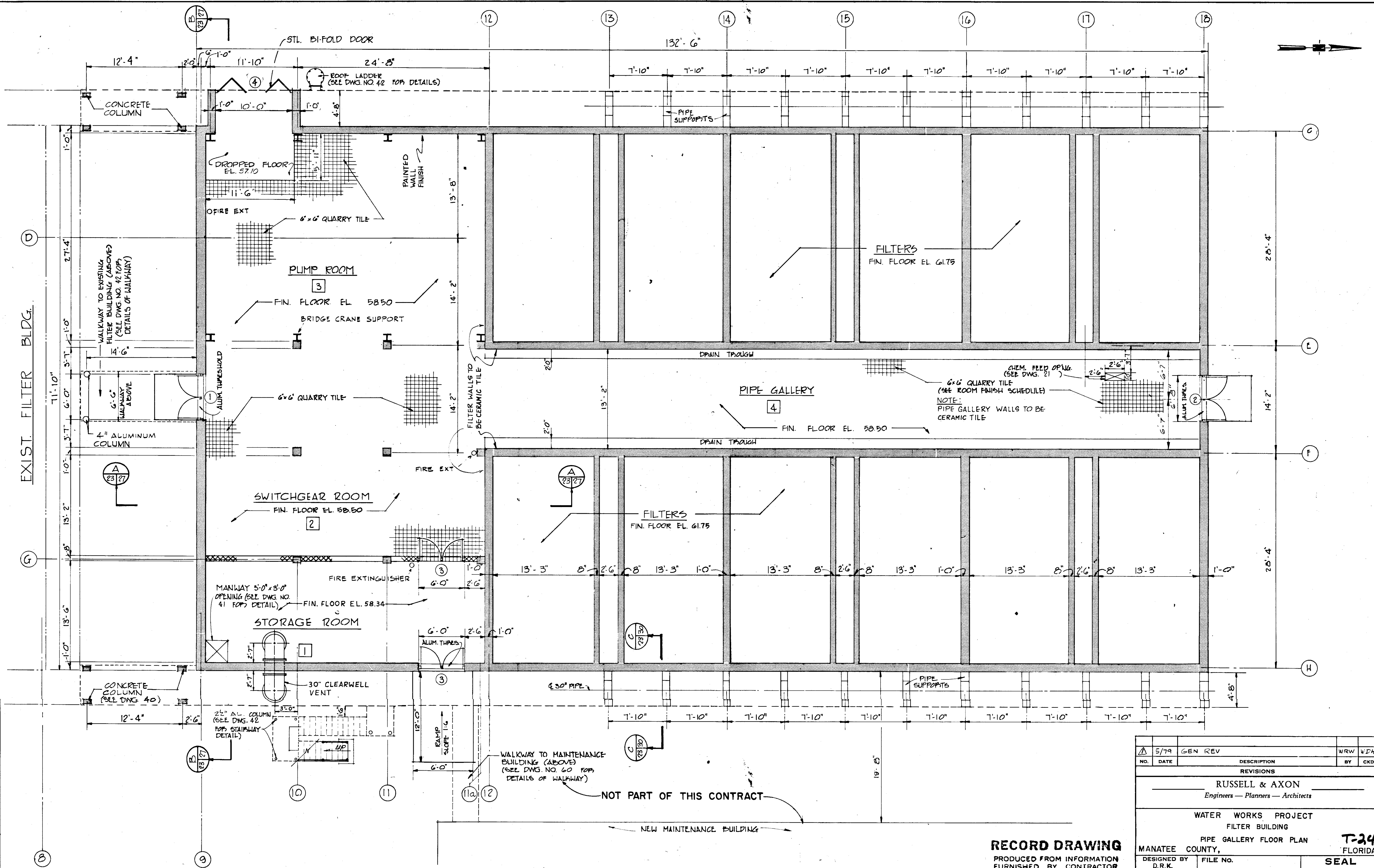
IDENTIFICATION TAG SCHEDULE

1. POLYMER NO. 1
2. POLYMER NO. 2
3. POLYMER NO. 3
4. POLYMER NO. 4
5. ALUM NO. 1
6. ALUM NO. 2
7. ALUM NO. 3
8. CHLORINE NO. 1
9. CHLORINE NO. 2
10. LIME NO. 1
11. LIME NO. 2
12. CHLORINE
13. POLYMER NO. 1
14. POLYMER NO. 2
15. LIME NO. 1
16. LIME NO. 2
17. ALUM NO. 1
18. ALUM NO. 2

RECORD DRAWING

PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.  
DATE: 8/30/78 BY: *KRM*  
CHECKED BY:  
R & A: *[Signature]*  
M.C.U.S.:

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

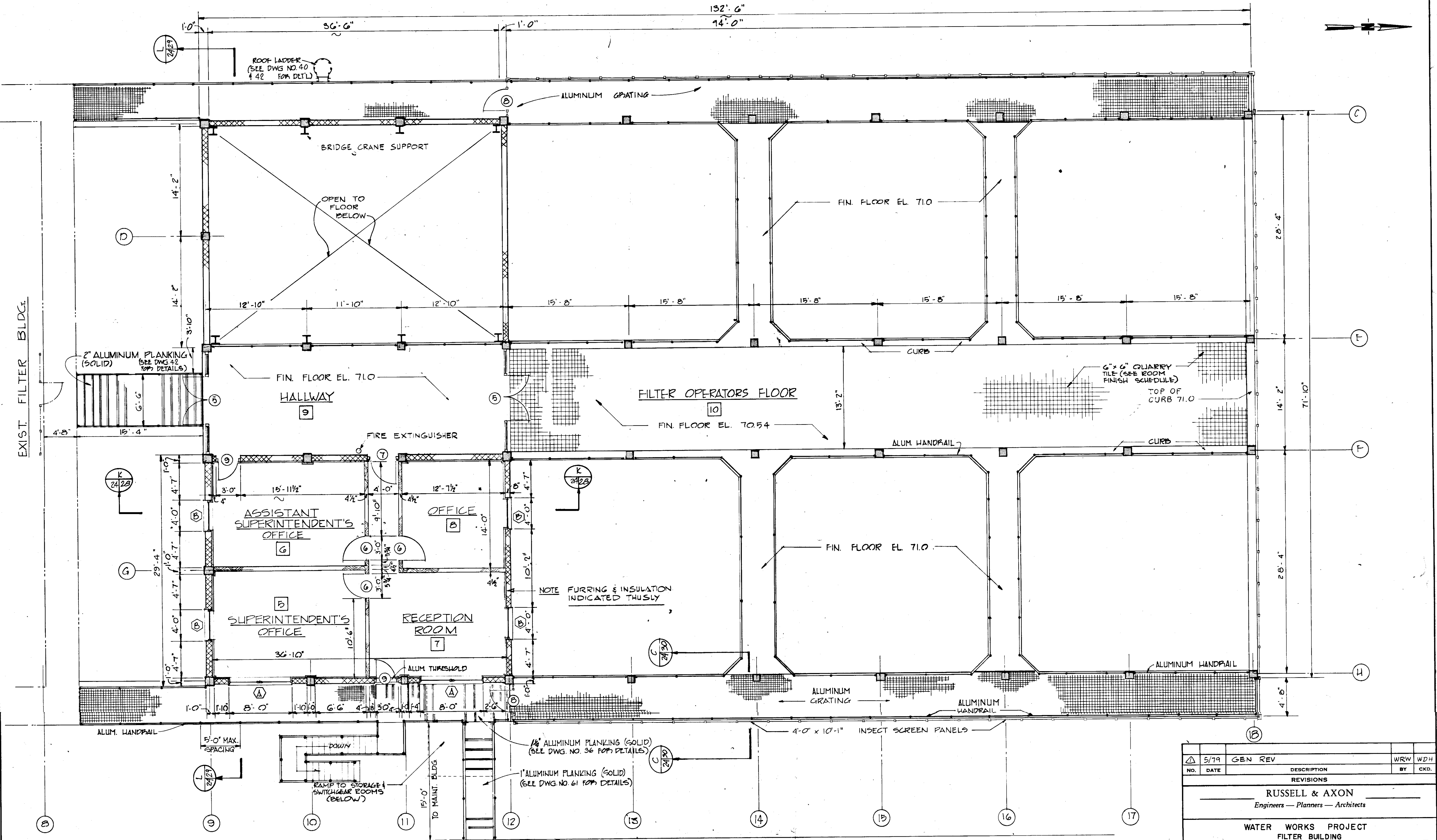


1st FLOOR PLAN  
SCALE: 3/16" = 1'-0"

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

NO.	DATE	GEN REV	DESCRIPTION	BY	CHKD.
Δ	5/79		GEN REV	WRW	WDH
REVISIONS					
<b>RUSSELL &amp; AXON</b> Engineers — Planners — Architects					
WATER WORKS PROJECT FILTER BUILDING PIPE GALLERY FLOOR PLAN					
MANATEE COUNTY, FLORIDA					
DESIGNED BY	D.R.K.	FILE NO.	630-761-04	<b>T-24</b> <b>FLORIDA</b> <b>SEAL</b>	
DRAWN BY	D.R.K.	SHEET AI			
CHECKED BY		NO. (23)			
		OF 130 SHEETS			
DATE	AUGUST, 1978	SCALE:	3/16" = 1'-0"		



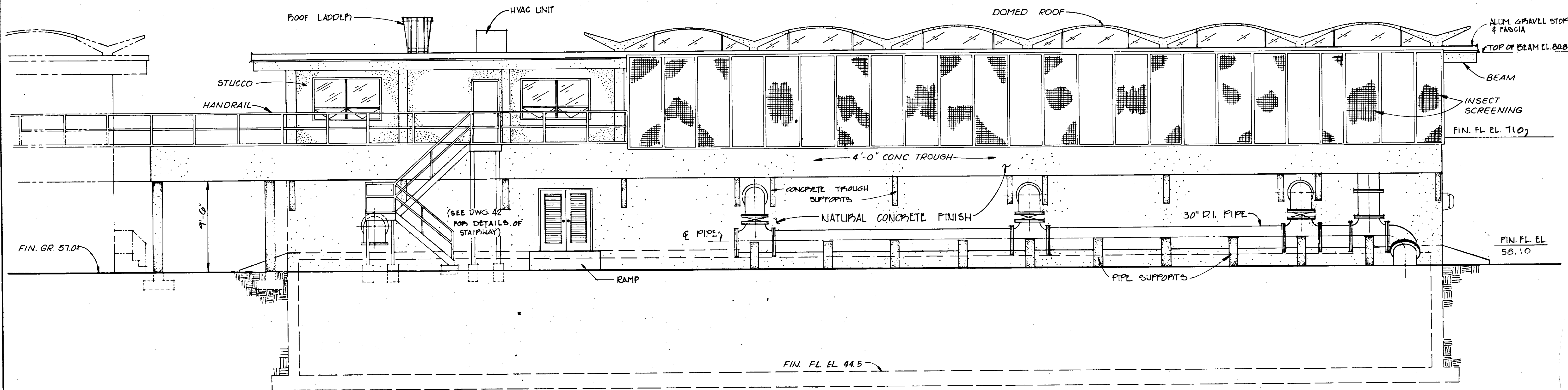


NEW MAINTENANCE BUILDING  
 NOT PART OF THIS CONTRACT

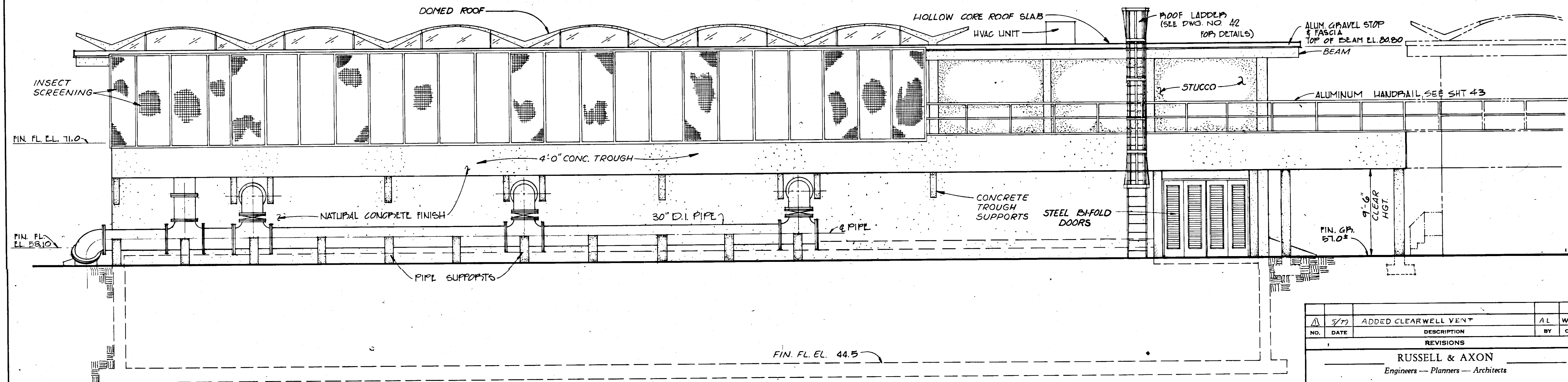
2ND FLOOR PLAN  
 SCALE: 3/16" = 1'-0"

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

NO.	DATE	DESCRIPTION	WRW	WDH
5/79		GEN REV		
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT FILTER BUILDING OPERATORS FLOOR PLAN				
<b>T-25</b> FLORIDA <b>SEAL</b>				
DESIGNED BY	FILE NO.			
D.R.K.	630-761-04			
DRAWN BY	SHEET A2			
D.R.K.	No. (24)			
CHECKED BY	OF 130 SHEETS			
DATE	SCALE: 3/16" = 1'-0"			
AUGUST, 1978				



**EAST ELEVATION**  
SCALE: 3/16" = 1'-0"

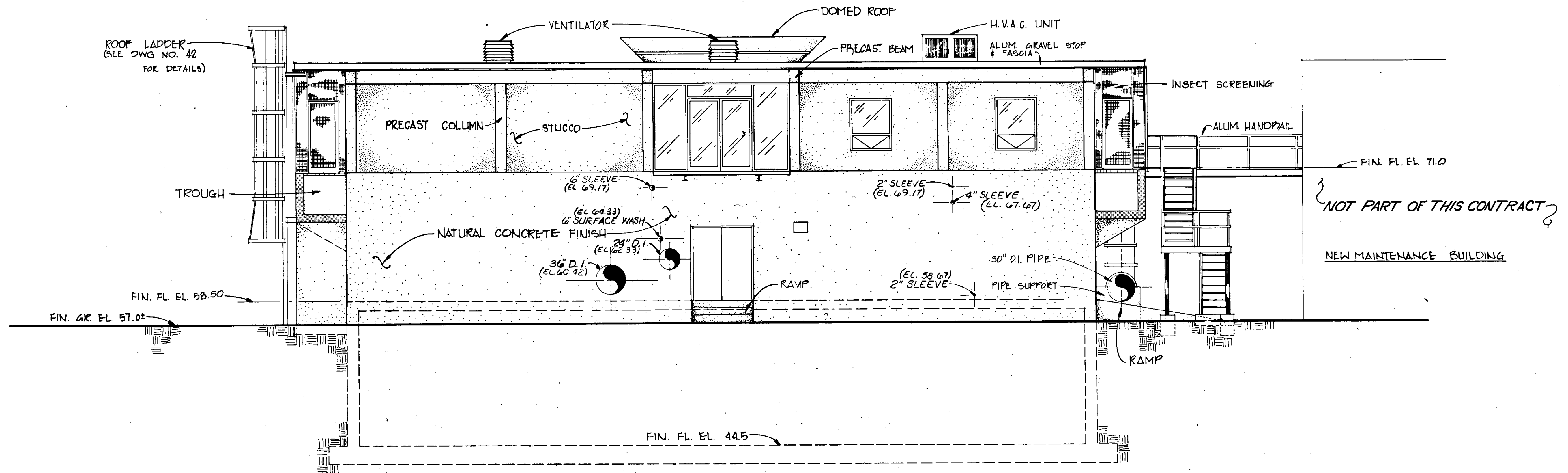


**WEST ELEVATION**  
SCALE: 3/16" = 1'-0"

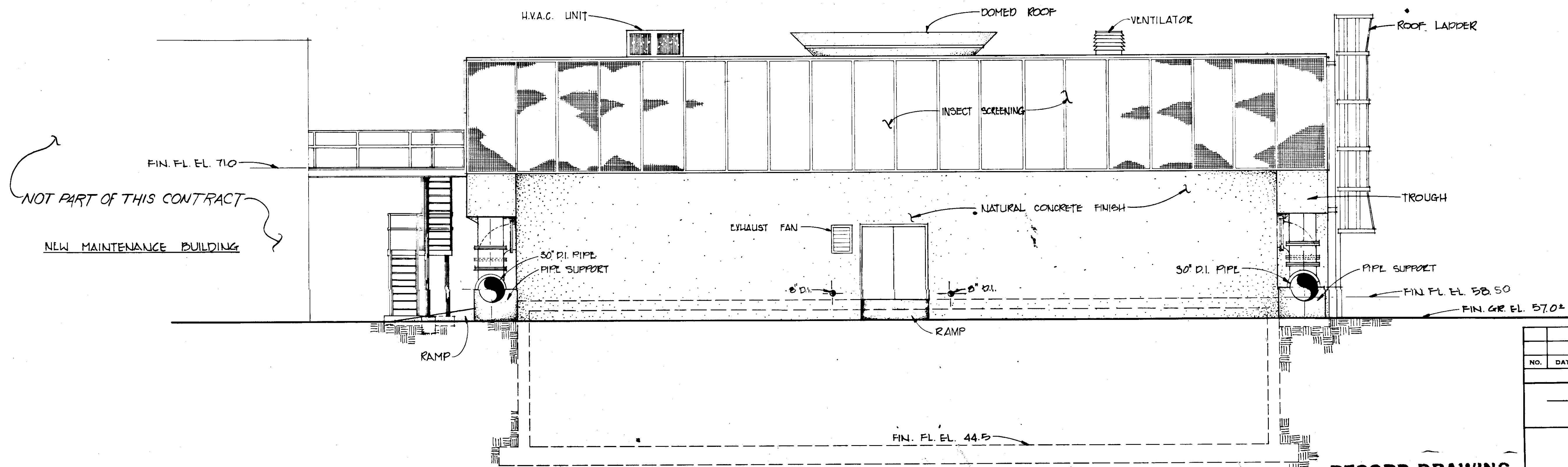
**RECORD DRAWING**

PRODUCED FROM INFORMATION  
FURNISHED BY CONTRACTOR  
THROUGH M.C.U.S.  
DATE 8/20/78 BY *K.R.M.*  
CHECKED BY: *B.W.*  
R & A *B.W.*  
M.C.U.S.

NO.	DATE	DESCRIPTION	BY	CHKD.
1	5/77	ADDED CLEARWELL VENT	AL	WPH
REVISIONS				
<b>RUSSELL &amp; AXON</b> Engineers — Planners — Architects				
<b>WATER WORKS PROJECT</b> FILTER BUILDING ELEVATIONS				
<b>T-26</b>				
FLORIDA				
<b>SEAL</b>				
MANATEE COUNTY,		FILE NO.		
DESIGNED BY	D.R.K.	630-761-04		
DRAWN BY	M.E.P.	SHEET A3		
CHECKED BY		No. <b>(25)</b>		
		OF 130 SHEETS		
DATE	AUGUST, 1978	SCALE: 3/16" = 1'-0"		



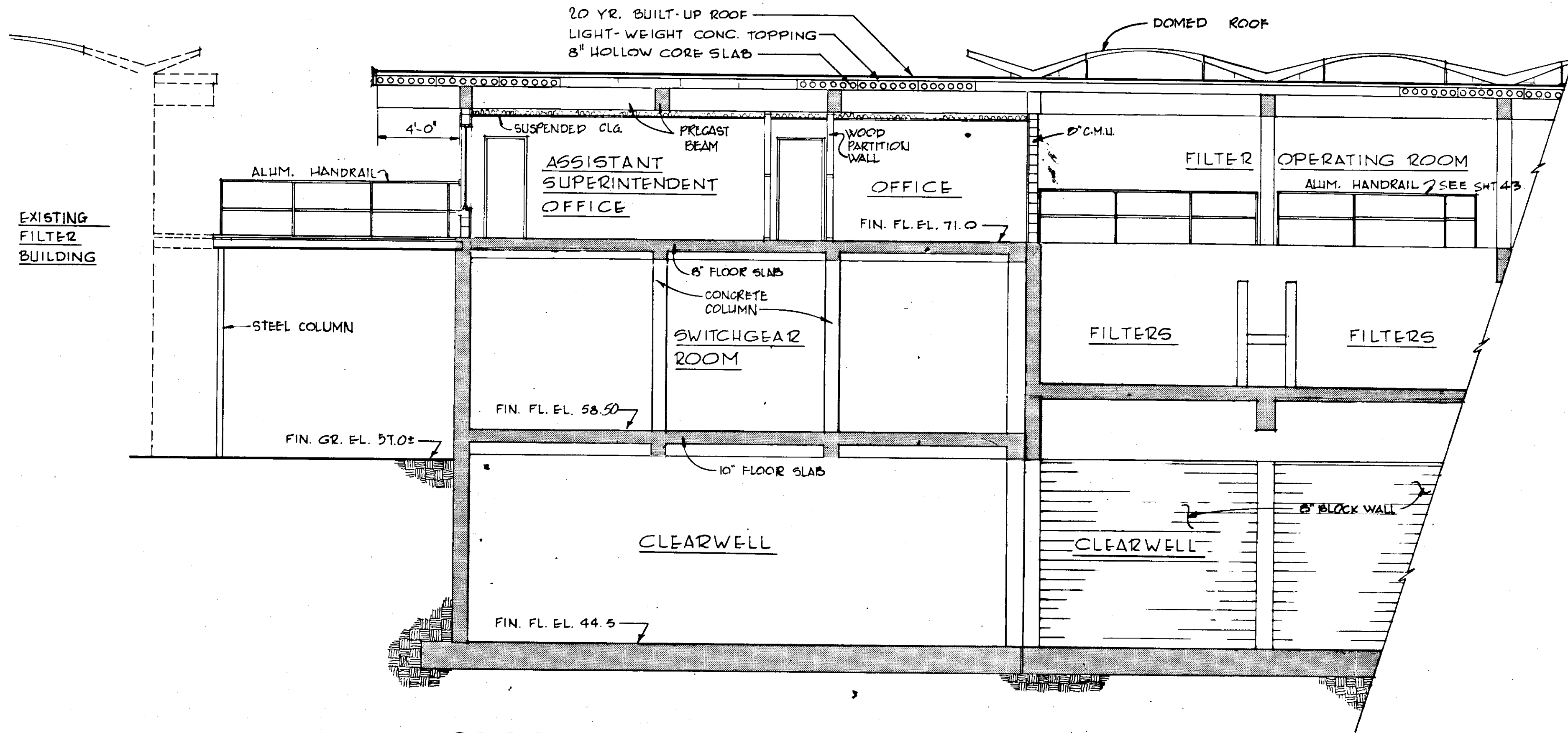
**SOUTH ELEVATION**  
SCALE: 3/16" = 1'-0"



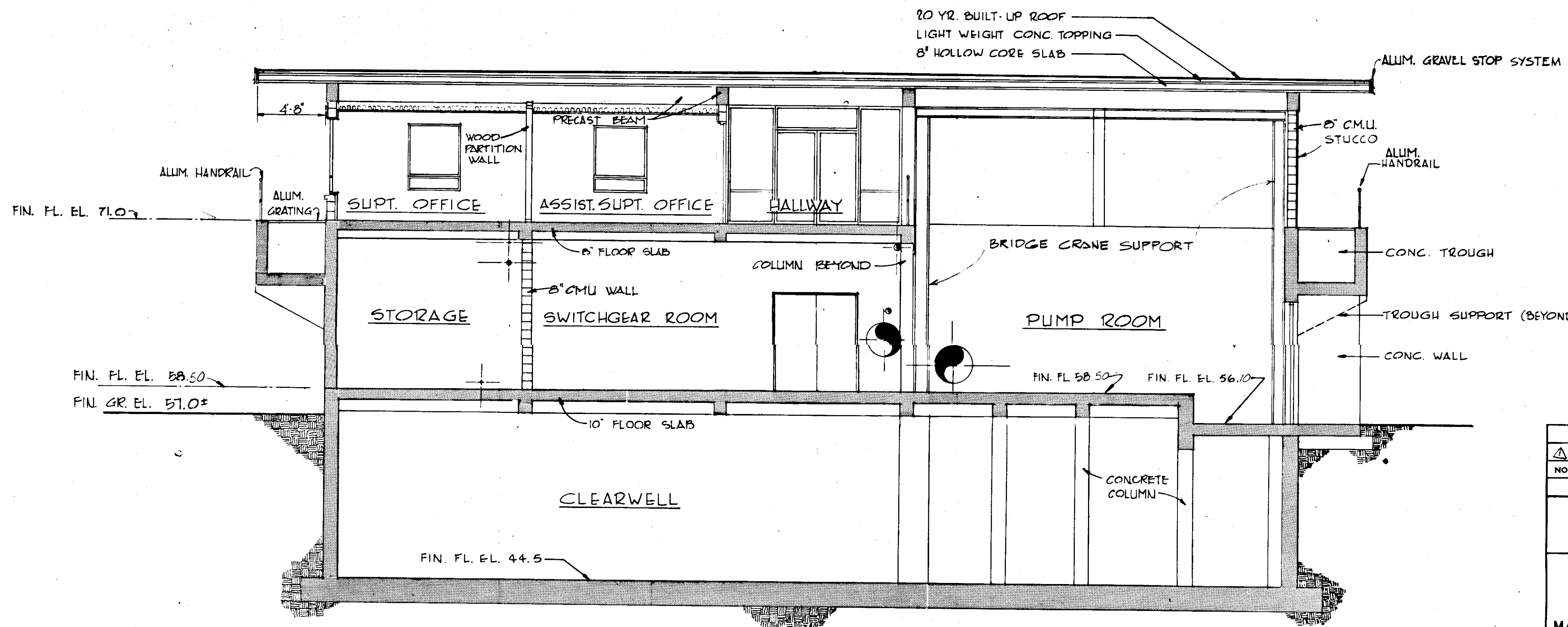
**NORTH ELEVATION**  
SCALE: 3/16" = 1'-0"

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

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



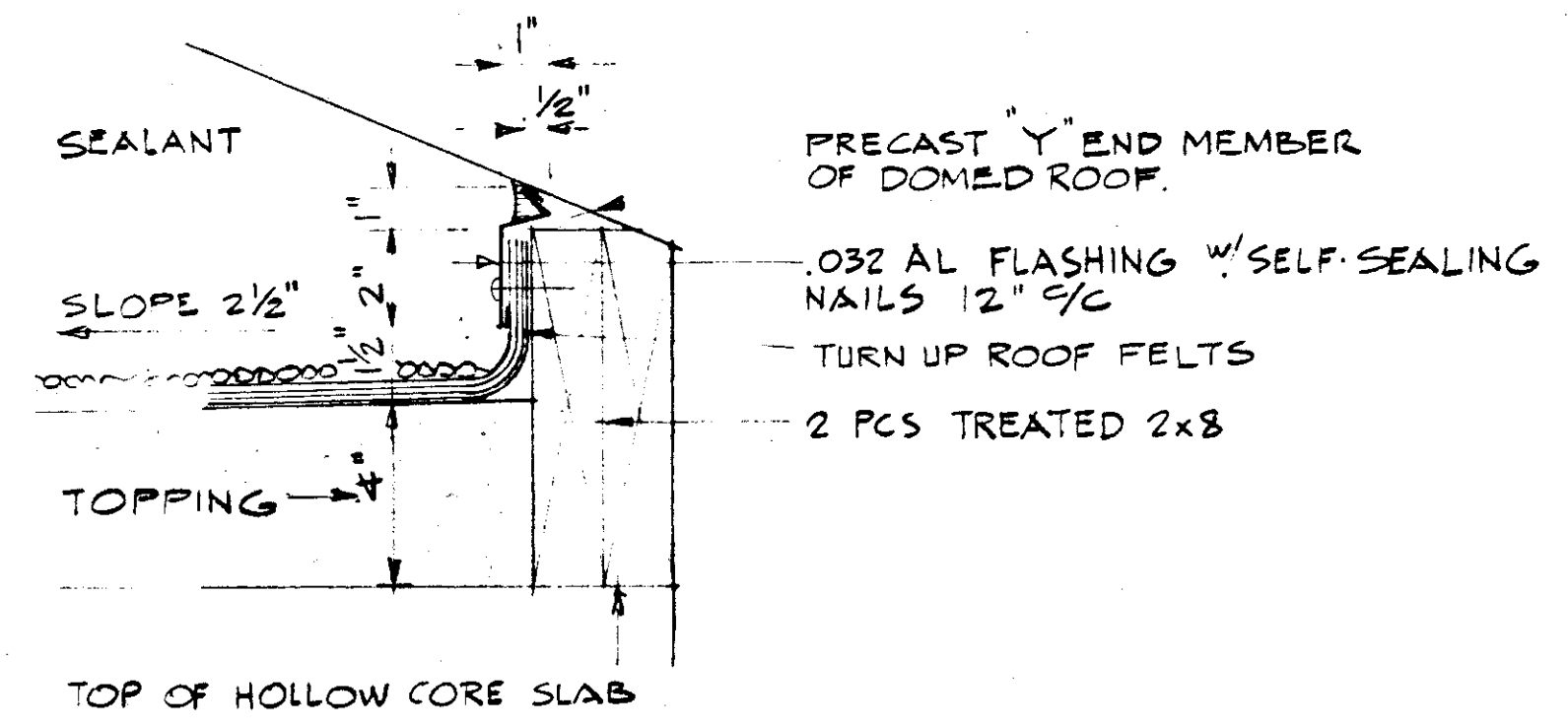
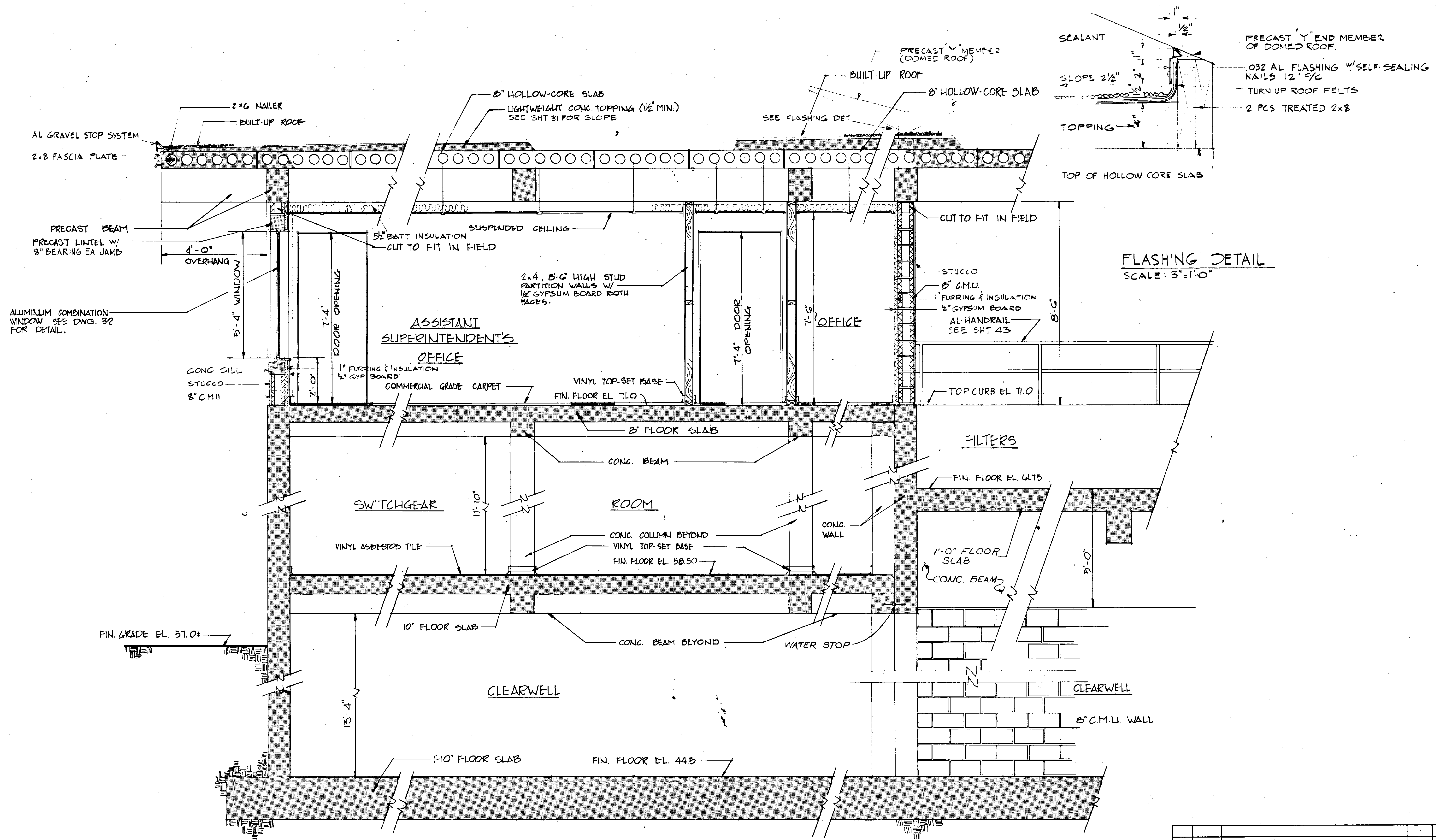
SECTION **A**  
SCALE: 3/16" = 1'-0" (23/27)



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: *KRM*  
CHECKED BY:  
R & A *[Signature]*  
M.C.U.S.

NO.	DATE	DESCRIPTION	WRW	WDH
Δ 5/79	GEN' REV			
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT FILTER BUILDING				
SECTIONS				
MANATEE COUNTY, FLORIDA				<b>T-28</b>
DESIGNED BY D.R.K.	FILE NO. 630-761-04	<b>SEAL</b>		
DRAWN BY J.R.A.	SHEET A5			
CHECKED BY	No. <b>(27)</b>			
DATE AUGUST, 1978	OF 130 SHEETS	SCALE: 3/16" = 1'-0"		

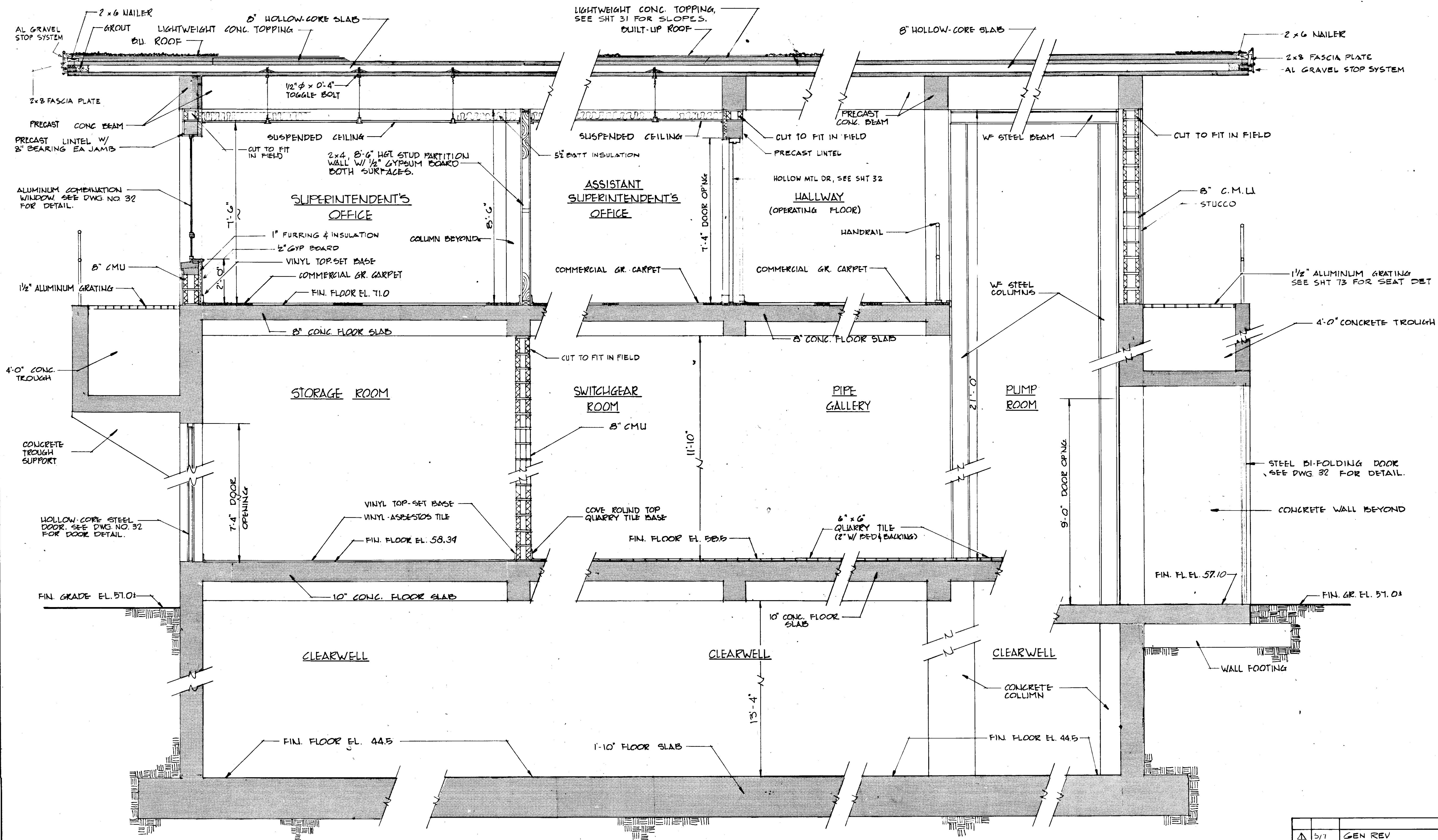


FLASHING DETAIL  
SCALE: 3" = 1'-0"

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

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

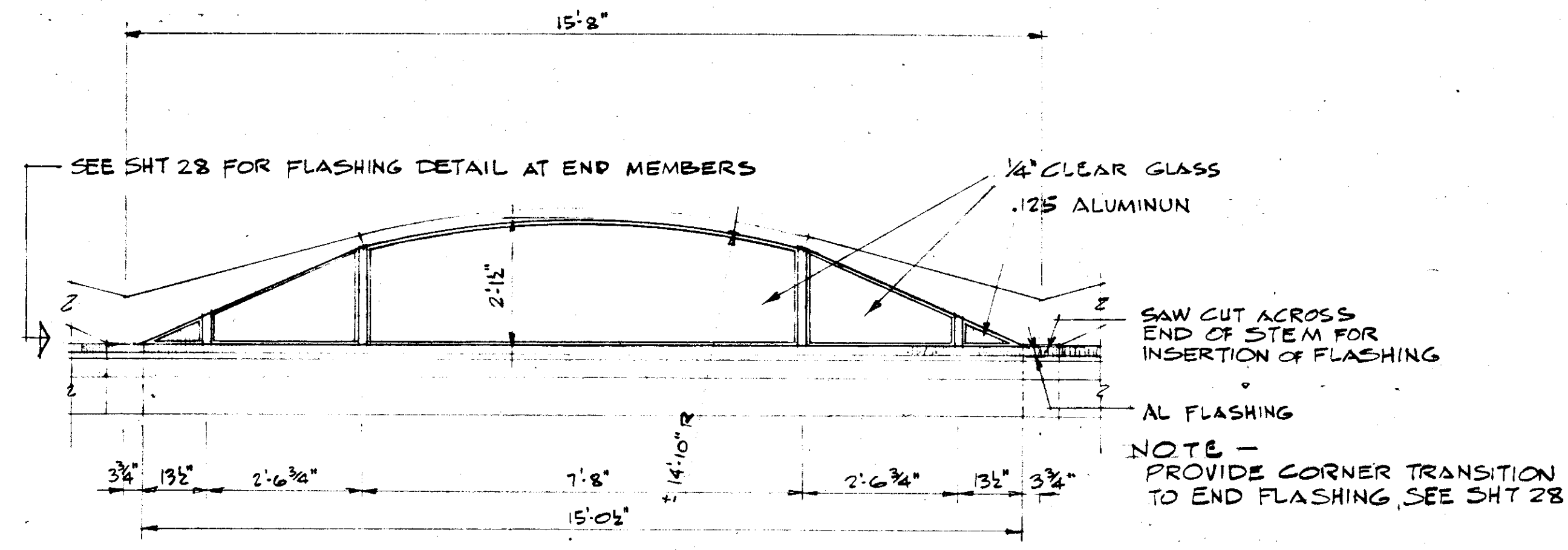
**RECORD DRAWING**  
 PRODUCED FROM INFORMATION  
 FURNISHED BY CONTRACTOR  
 THROUGH M.C.U.S.  
 DATE 7/30/78 BY K.S.A.  
 CHECKED BY:  
 R & A  
 M.C.U.S.



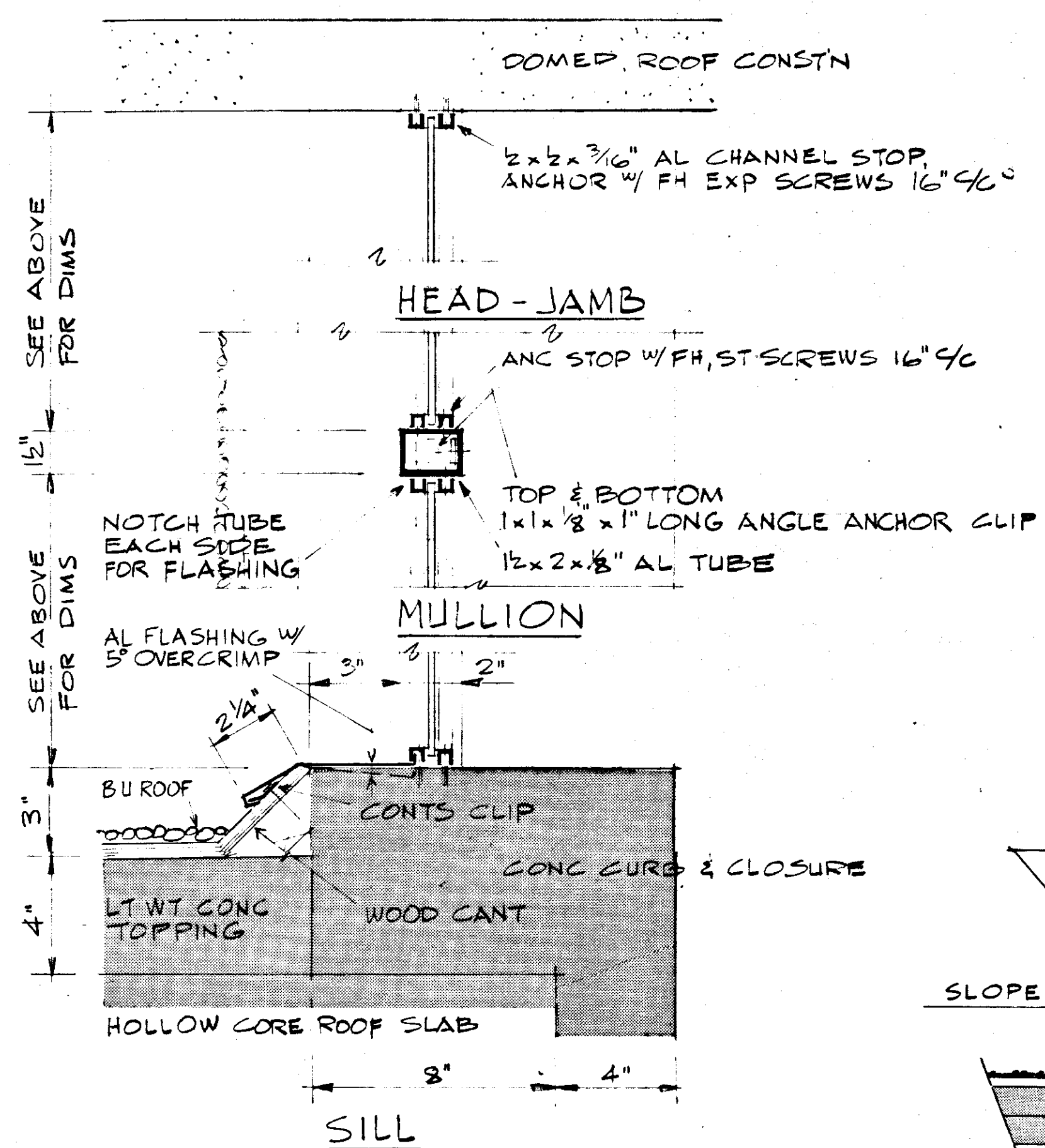
**BUILDING SECTION** (L)  
SCALE: 1/2" = 1'-0"

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

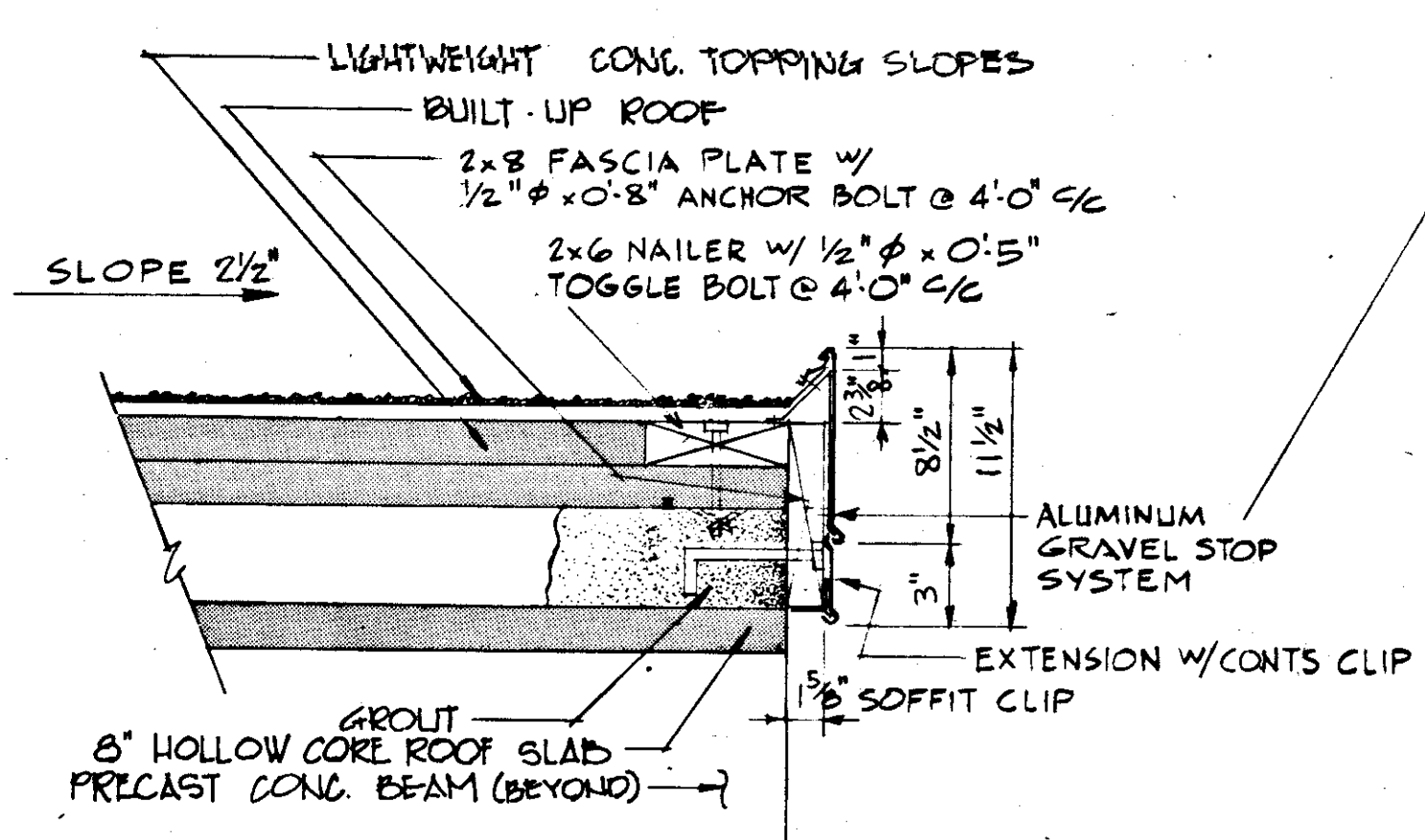
NO.	DATE	DESCRIPTION	BY	CHKD.
5/7		GEN REV	WRW	WEN
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT FILTER BUILDING SECTION				
MANATEE COUNTY,			<b>T-30</b> FLORIDA	
DESIGNED BY	FILE NO.	<b>SEAL</b>		
D.R.K.	630-761-04			
DRAWN BY	SHEET A7			
D.R.K.	No. 29			
CHECKED BY	OF 130 SHEETS			
DATE	SCALE: 1/2" = 1'-0"			
AUGUST, 1978				



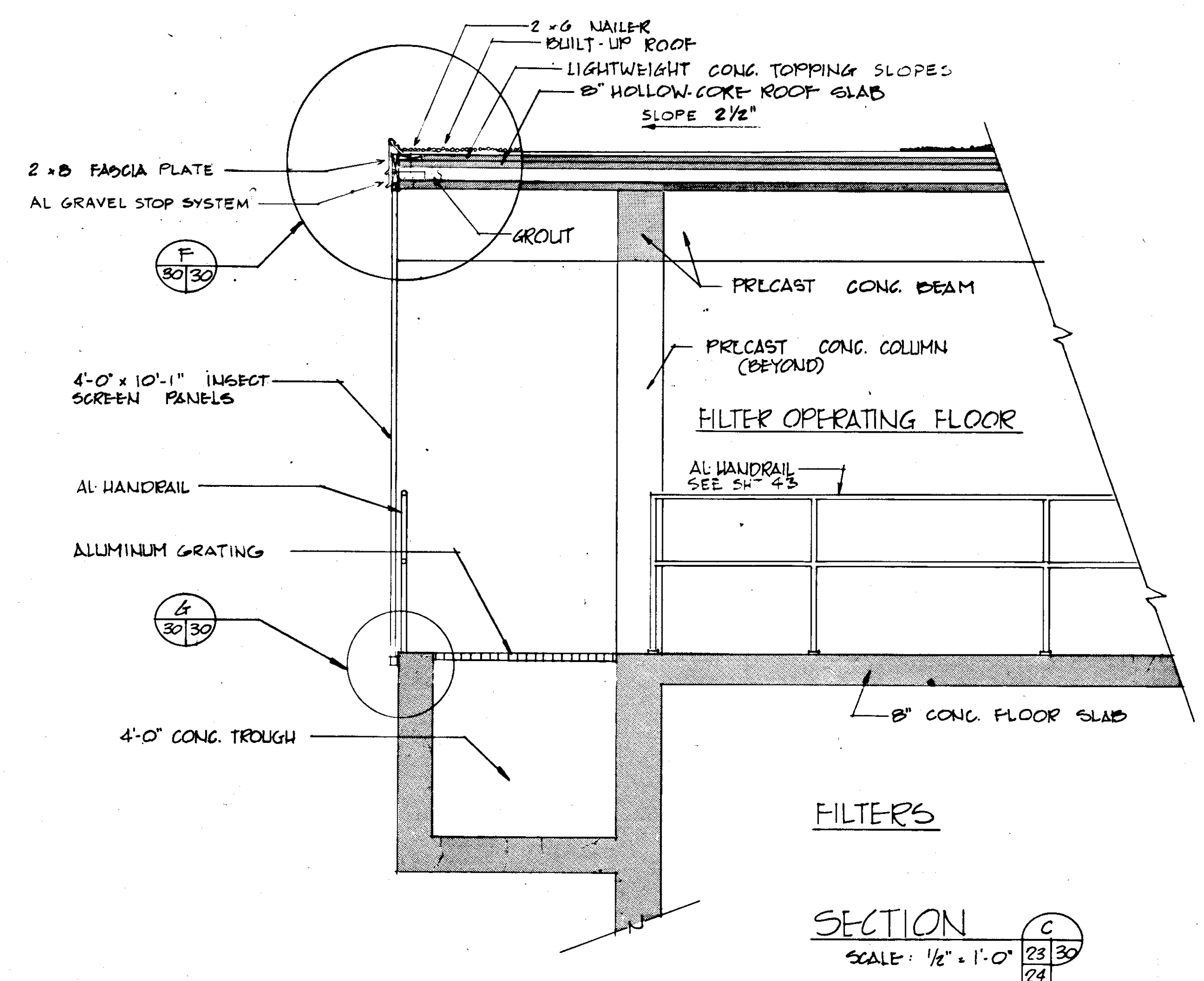
CLERESTORY WINDOWS AT DOMED ROOF SCALE: 1/2" = 1'-0"



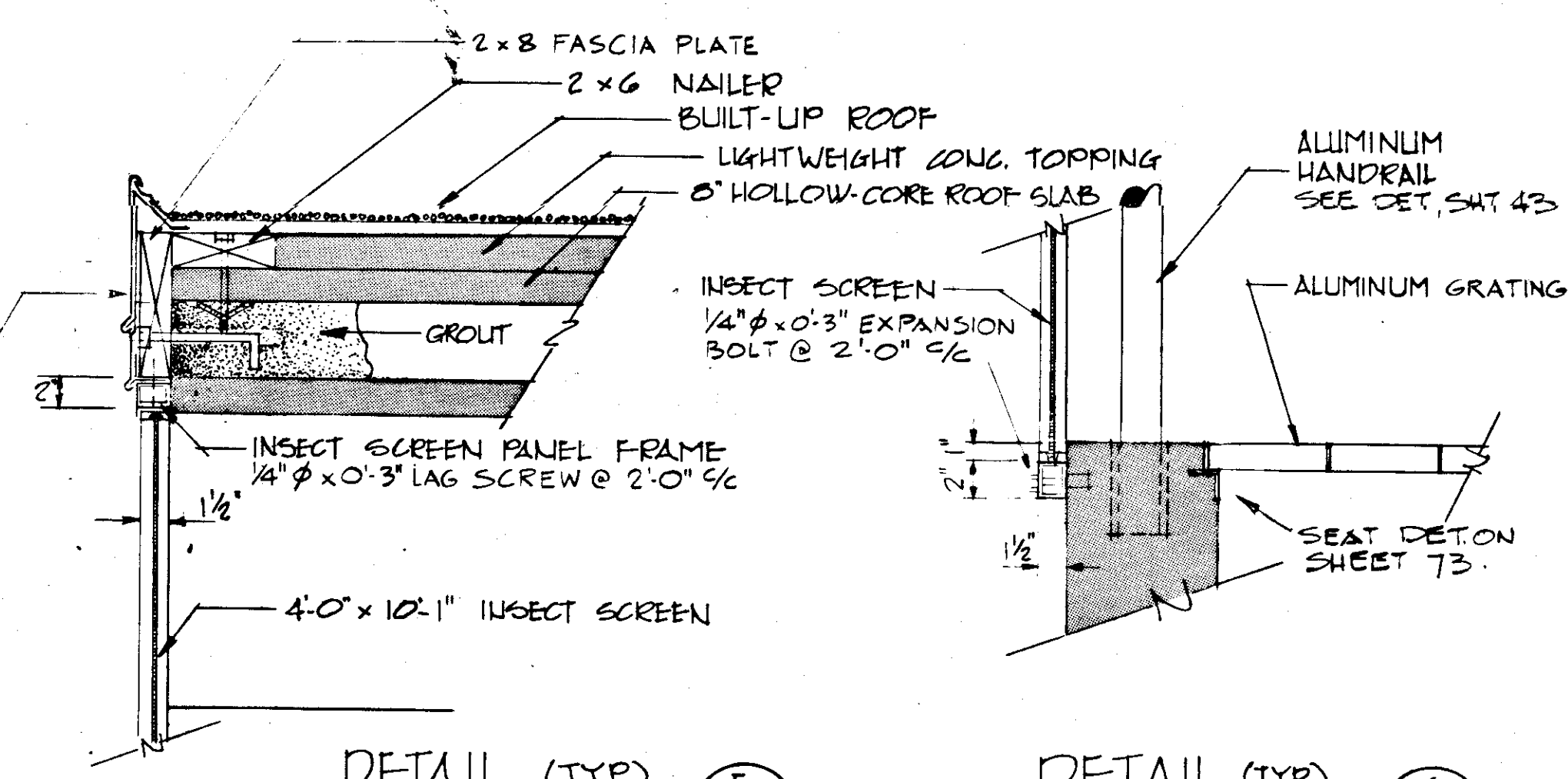
CLERESTORY WDW DETAILS SCALE: 3" = 1'-0"



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



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

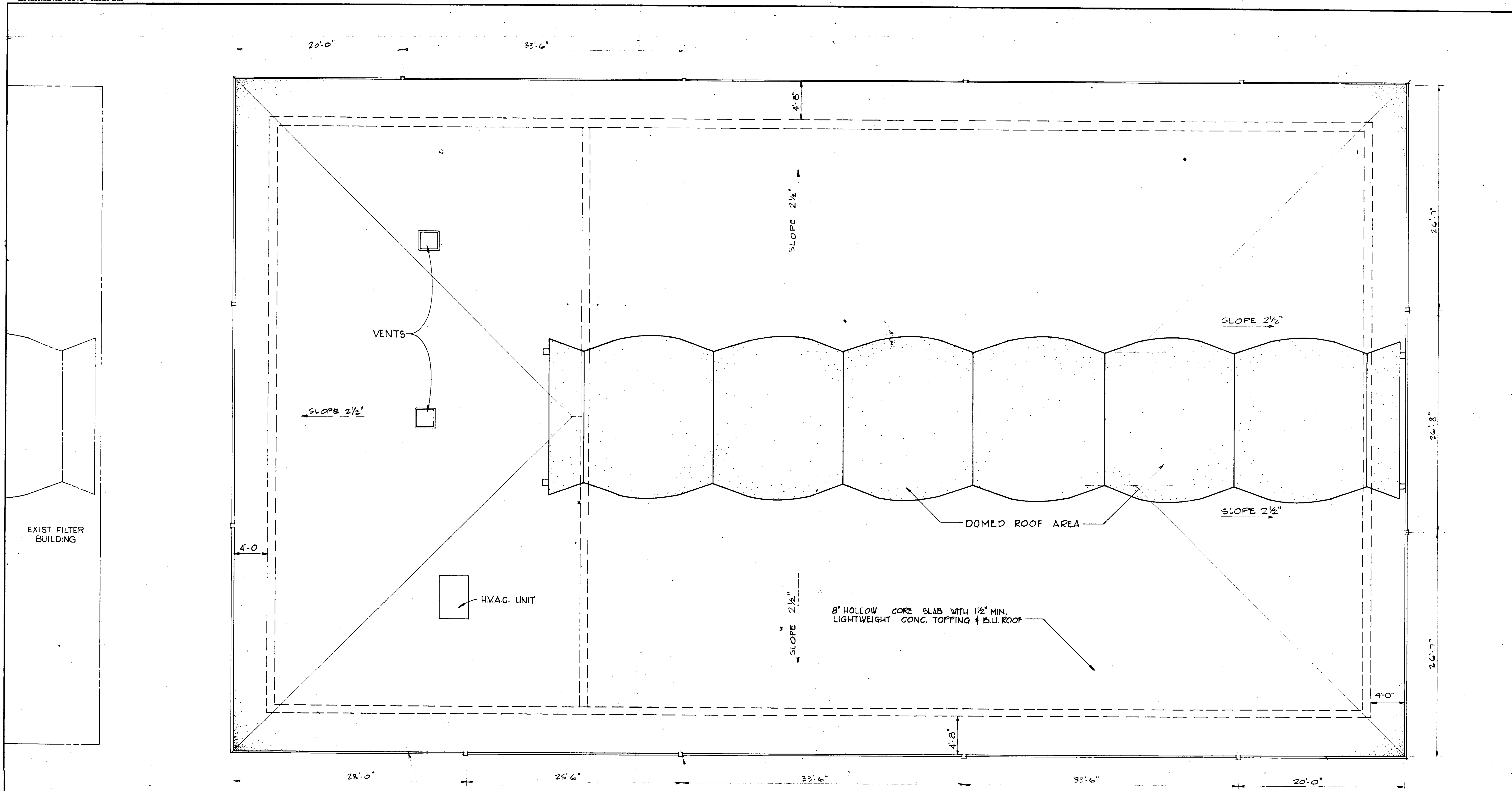


DETAIL (TYP) F SCALE: 1/2" = 1'-0"

DETAIL (TYP) G SCALE: 1/2" = 1'-0"

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

NO.	DATE	DESCRIPTION	BY	CHKD.
5/79	GEN REV			
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
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 88			
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:  
R & A [Signature]  
M.C.U.S. \_\_\_\_\_

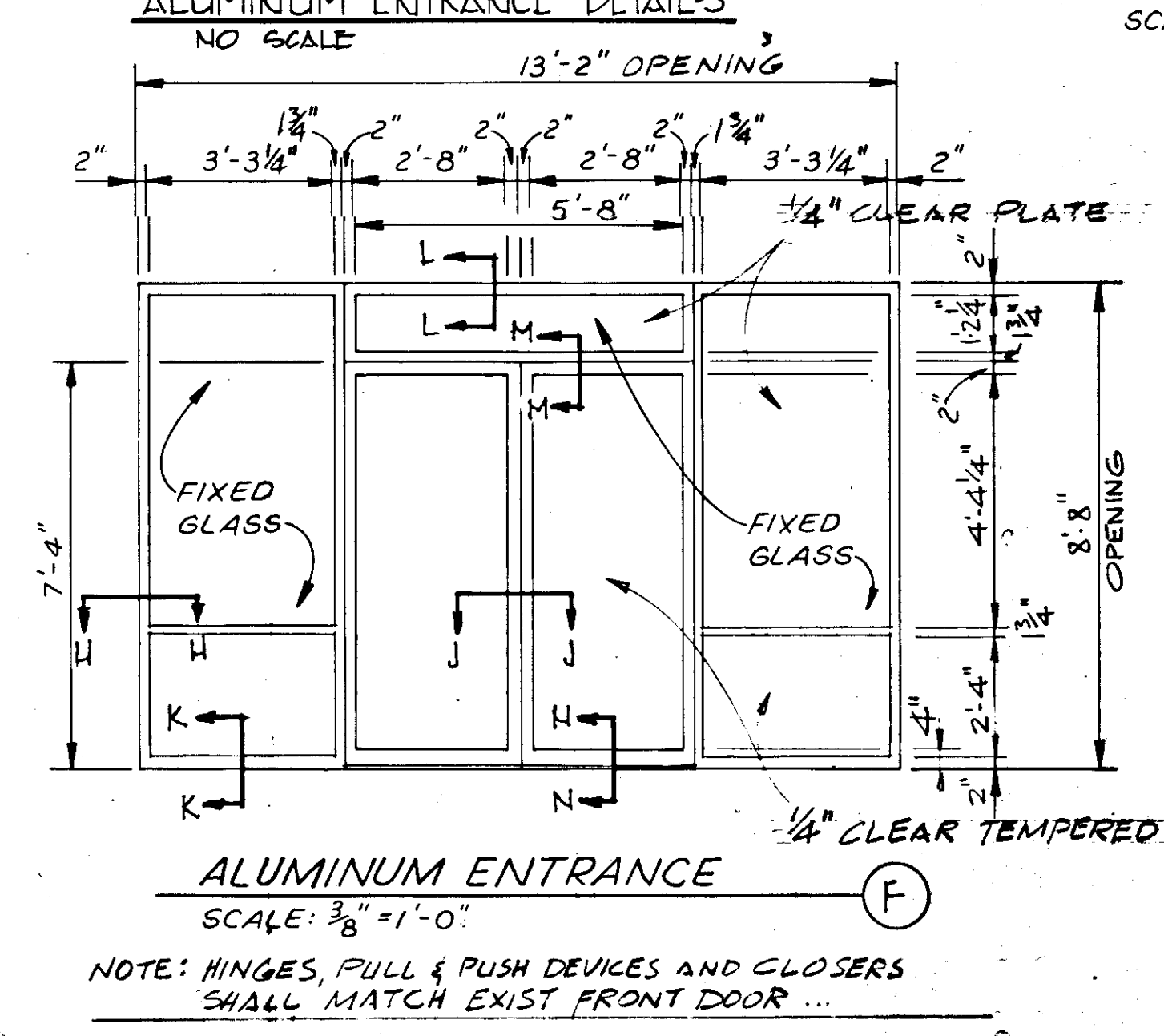
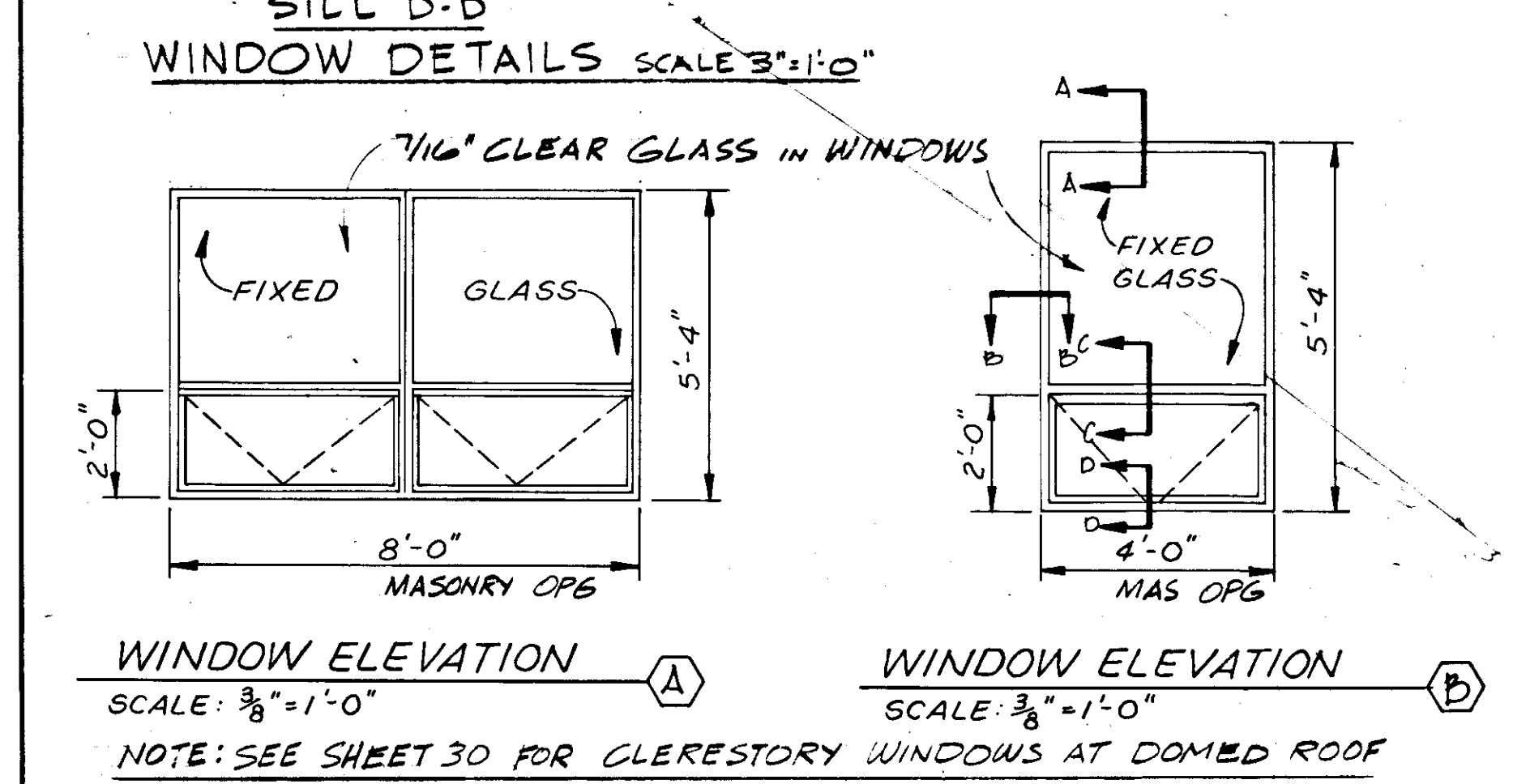
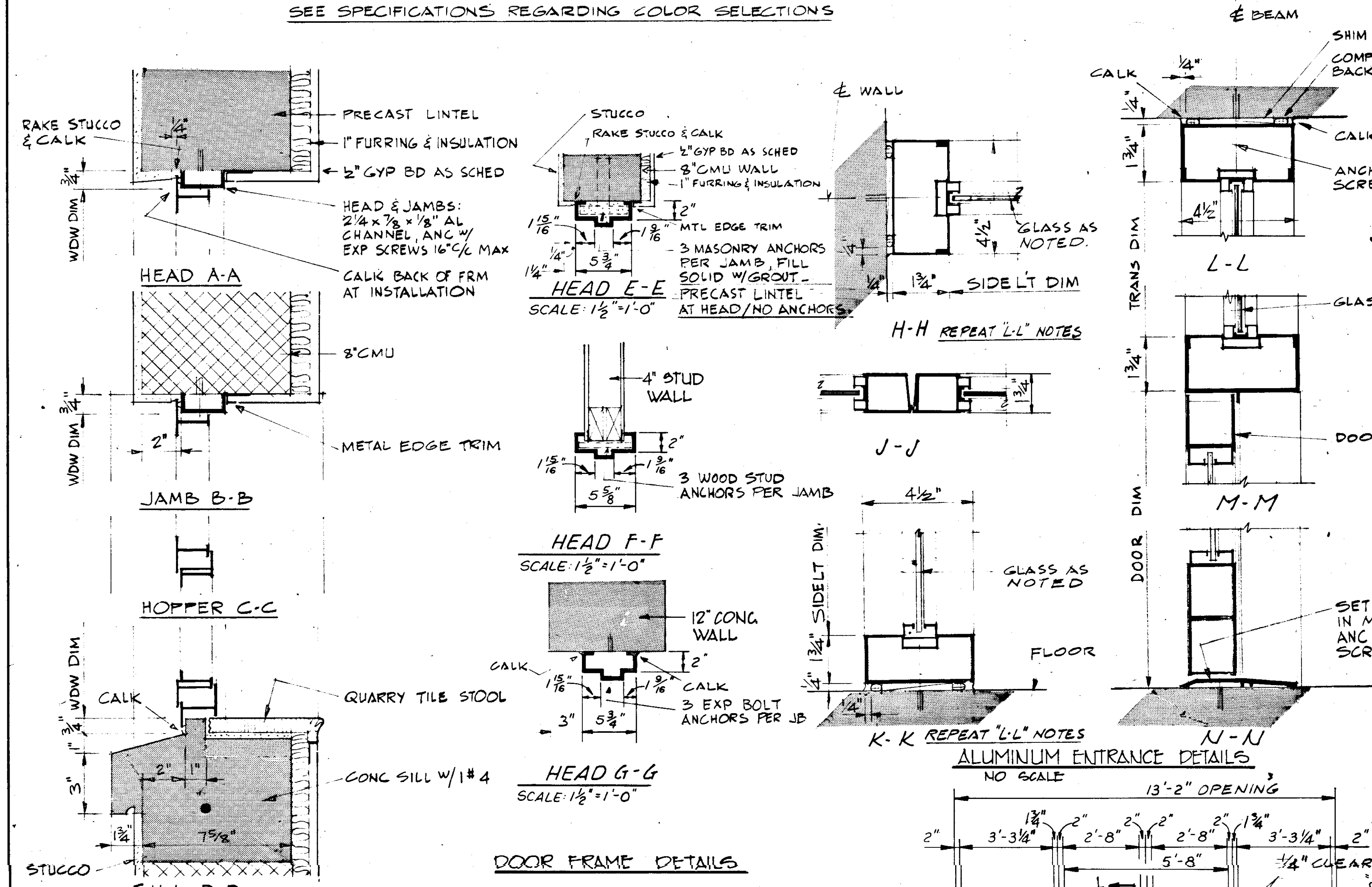
NO.	DATE	DESCRIPTION	WRW	WDH
5/79		GEN REV		
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT FILTER BUILDING ROOF PLAN				
MANATEE COUNTY, FLORIDA				
DESIGNED BY D.R.K.	FILE No.		<b>T-32</b> FLORIDA SEAL	
DRAWN BY S.S.L.	630-761-04	SHEET A9		
CHECKED BY	No. 31	OF 130 SHEETS		
DATE AUGUST, 1978	SCALE: 3/16" = 1'-0"			



**FINISH SCHEDULE**

ROOM DESCRIPTION	FLOOR			BASE	WAINSCOT	WALLS			CEILING			REMARKS		
	CARPET	VINYL ASB TILE	QUARRY TILE	COLOR CODE OR NAME	COLOR CODE OR NAME	PAINTED GYPSUM	PAINTED CONC.	CERAMIC TILE #	COLOR CODE OR NAME	SUSPENDED ALCOUS NATURAL CONC.	PAINTED CONC.		COLOR CODE OR NAME	HEIGHT
1 STORAGE	●												11'-10"	* FILTER WALLS ONLY
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"	

SEE SPECIFICATIONS REGARDING COLOR SELECTIONS



**DOOR AND HARDWARE SCHEDULE**

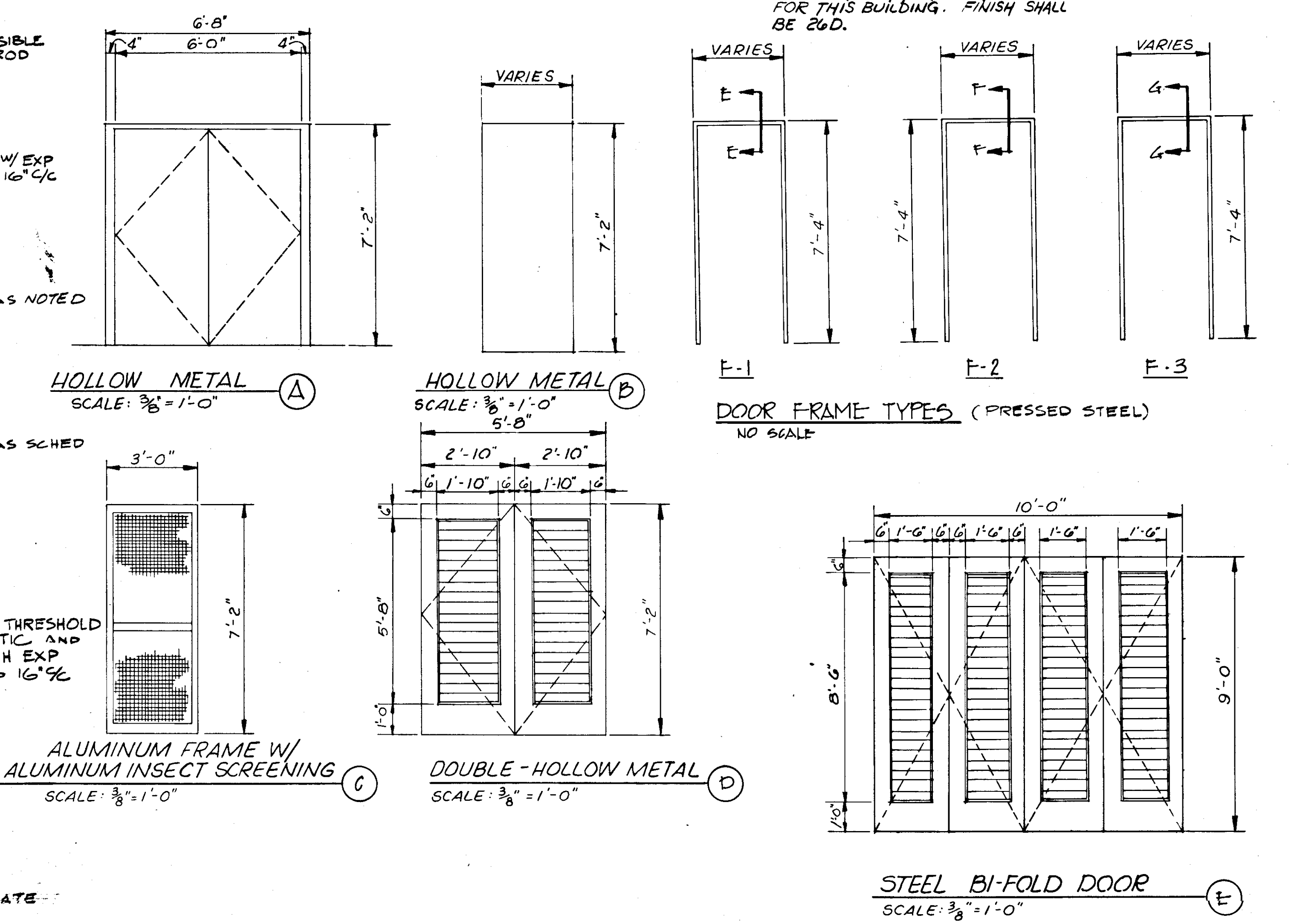
MARK	TYPE	SIZE			MATERIAL	LOUVER	GLAZING		THLD	ALUM.	LOCK	CLOSER SERIES	FINISH	REMARKS	FINISH COLOR	FRAME TYPE
		WIDTH	HEIGHT	TH'K												
1	A	2'-3.0"	7'-0"	1 3/4"	HOLLOW MET.						9360	50	26D	1.		F-3
2	A	2'-3.0"	7'-0"	1 3/4"	HOLLOW MET.						9360	50	26D	1.		F-3
3	D	2'-2.10"	7'-2"	1 3/4"	HOLLOW MET.	1'-10" x 5'-8"					8604	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 3/4"	ALUMINUM						9363	50	26D	1.		F-3
6	B	2'-8"	7'-2"	1 3/4"	HOLLOW MET.						8605			1.		F-1 & F-2
7	B	3'-8"	7'-2"	1 3/4"	HOLLOW MET.	2'-0" x 1'-6"					8605	50		1.		F-3
8	C	3'-0"	7'-2"	1 3/4"	ALUMINUM	SCREEN								LOCK & CLOSER BY MFR.		F-3
9	B	2'-8"	7'-2"	1 3/4"	HOLLOW MET.						8605	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.



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

NO.	DATE	GEN REV	DESCRIPTION	WRW	WDH
5	79				

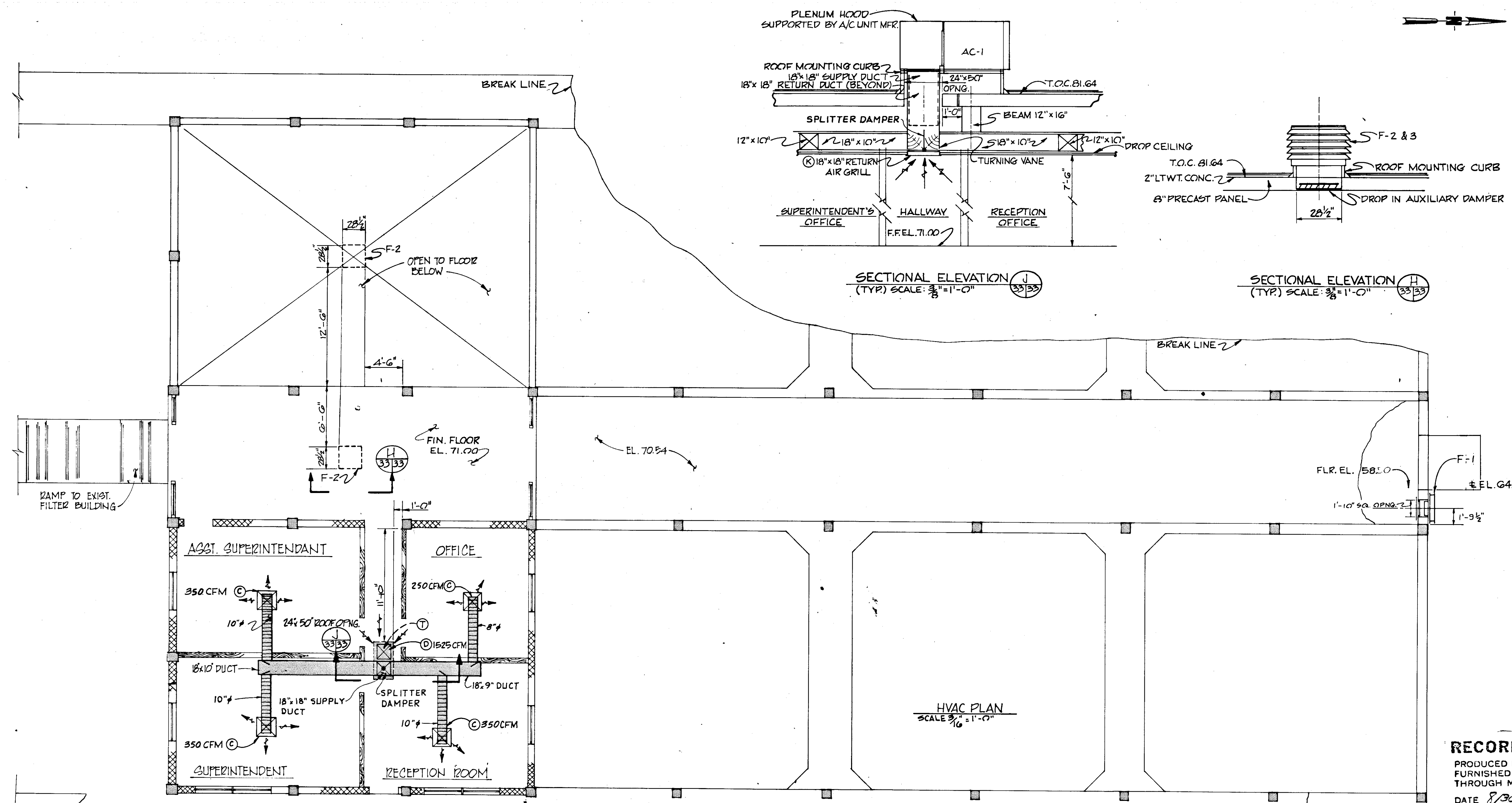
**RUSSELL & AXON**  
 Engineers — Planners — Architects

**WATER WORKS PROJECT**  
 FILTER BUILDING  
 FINISH SCHEDULES, ELEVATIONS & DETAILS

**MANATEE COUNTY**  
 DESIGNED BY: D.R.K.  
 DRAWN BY: M.E.P.  
 CHECKED BY:  
 DATE: AUGUST, 1978

FILE NO. 630-761-04  
 SHEET A10  
 No. 32  
 OF 130 SHEETS  
 SCALE: AS NOTED

**T-33 FLORIDA SEAL**



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 71
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	OBD AG-75
(B)	TITUS TMS	12"x12"	3-WAY	OBD AG-75, SECTORIZING BAFFLE SB
(C)	TITUS TMS	24"x24"	4-WAY	OBD AG-75
(D)	TITUS 4-FLOG	20"x20"	-	HINGED RETURN GRILLE W/FILTER
(E)	TITUS 200 F5	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

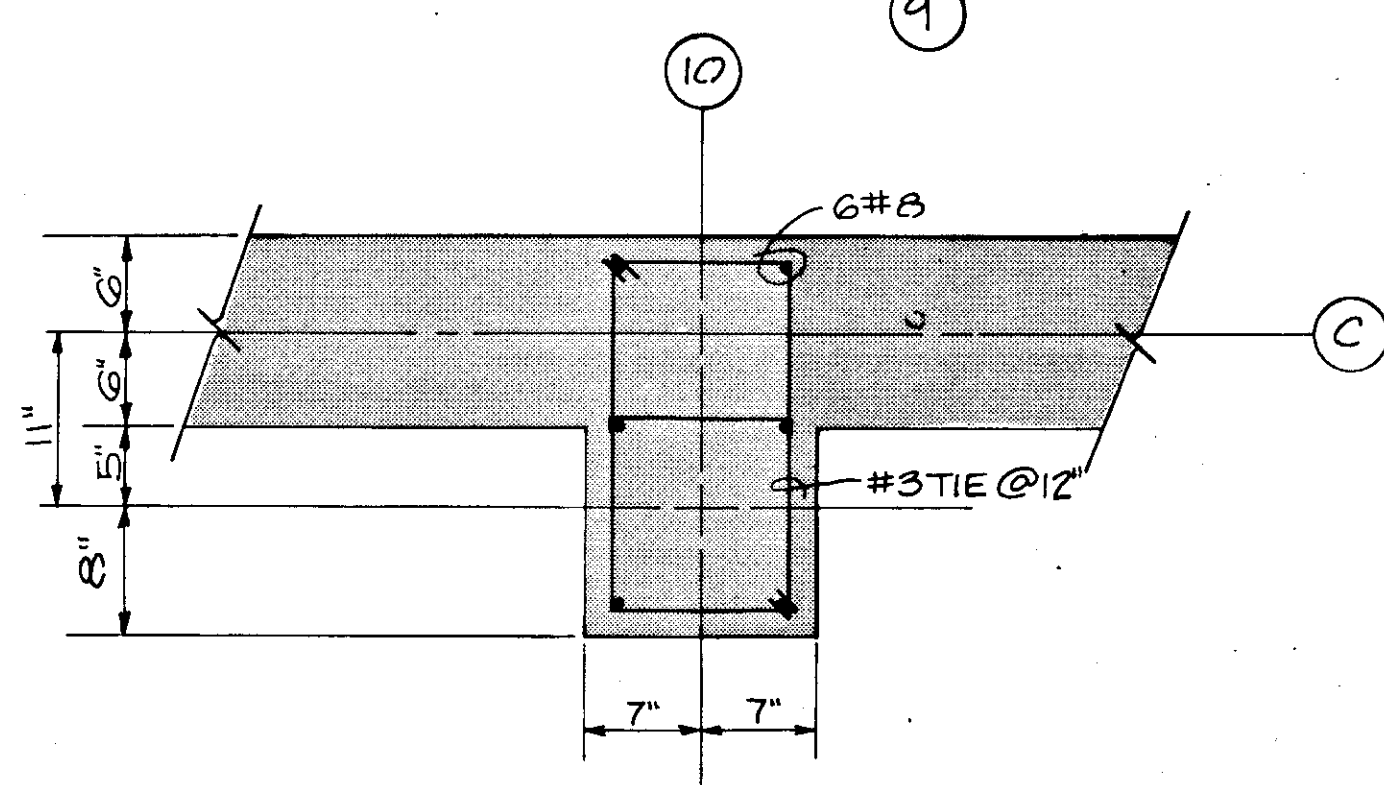
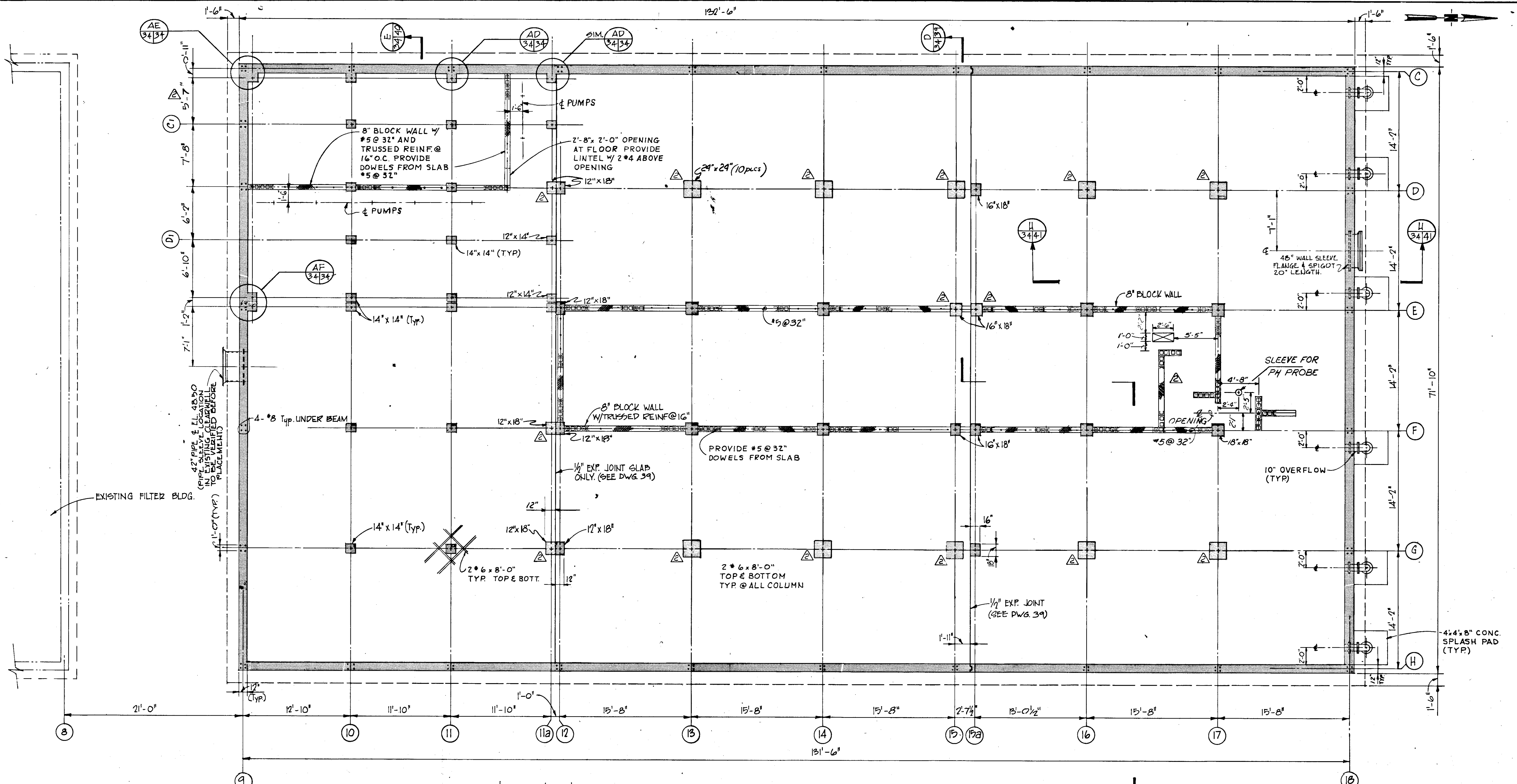
SYMBOL	MFR. & MODEL NO.	COOLING CAPACITY	HEATING CAPACITY	BLOWER CFM	ELECTRICAL DATA UNIT	ACCESSORIES MODEL NO.
AC-1	WEATHER-KING DFH 44-B	44.0 MBH TOTAL	47.0 MBH	3/4 H.P. DIRECT DRIVE 1300 @ 1/2" S.P.	208/3/60	FACTORY BUILT CURB 503-A, LOW AMBIENT CONT 5 MIN. ANTI-RECYCLE CONT. UPFLOW DISCHARGE
AC-2	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	WEATHER-KING RH44-B COND. SECT. HH 44-B EVAP. SECT.	44.0 MBH TOTAL	46.0 MBH	1/2 H.P. BELT DRIVE 1950 CFM	460/3/60	LOW AMBIENT CONTROL 5 MINUTE ANTI-RECYCLE CONTROL
AC-4	BAR D 24 WH1	23.0 MBH	24.0 MBH	860 CFM AT 0.10" S.P.	208/1/60	

**RECORD DRAWING**

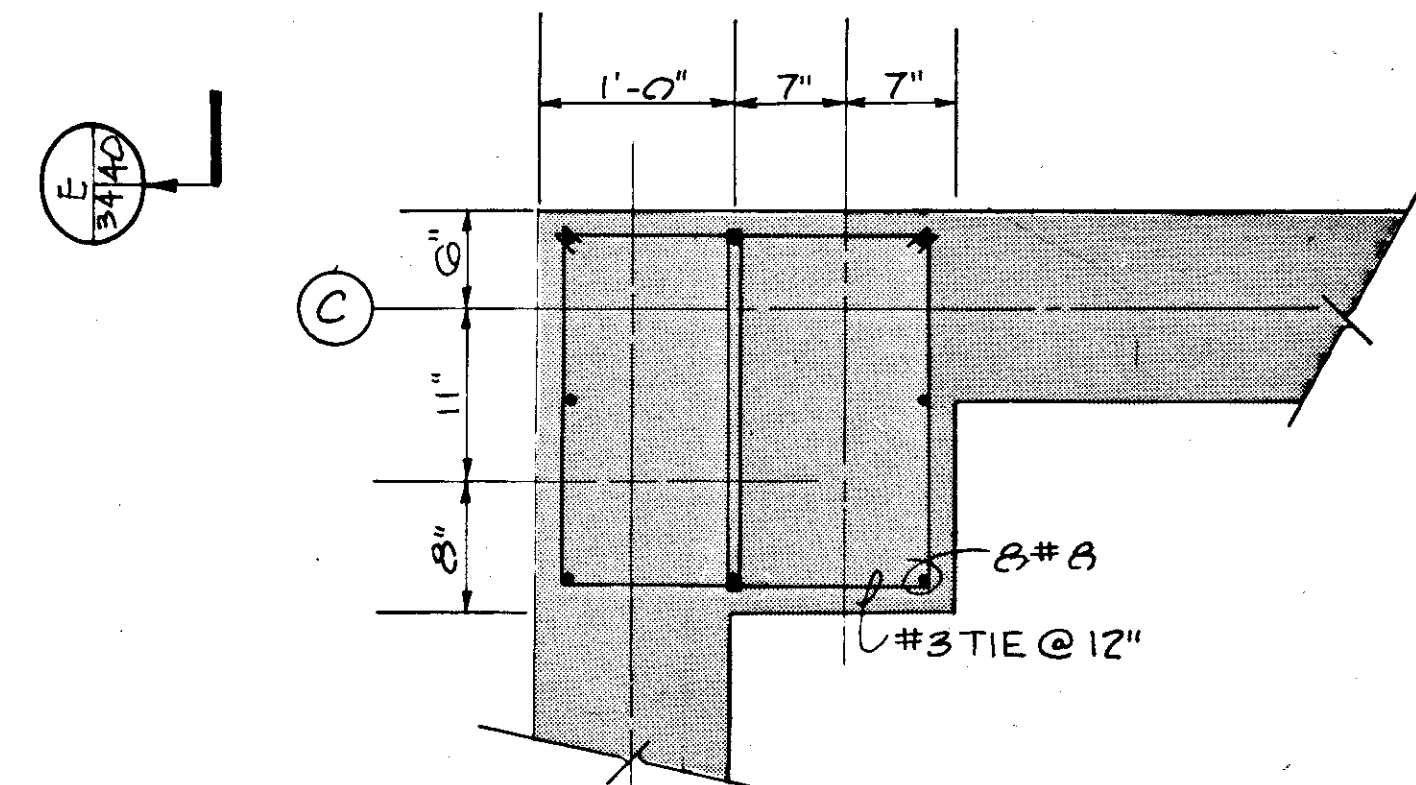
PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.  
 DATE 8/31/83 BY K.R.N.  
 CHECKED BY: \_\_\_\_\_  
 R & A \_\_\_\_\_  
 M.C.U.S. \_\_\_\_\_

5/77	GEN REV.	AL
NO.	DATE	DESCRIPTION
<b>RUSSELL &amp; AXON</b> Engineers — Planners — Architects		
WATER WORKS PROJECT FILTER BUILDING H.V.A.C. PLAN, SECTS, & SCHEDULES		
MANATEE COUNTY, DESIGNED BY B.E.D. DRAWN BY H.G.B./E.L.L. CHECKED BY _____ DATE AUGUST, 1978		FILE NO. <b>630-761-04</b> SHEET ALL No. <b>(33)</b> OF 130 SHEETS SCALE: $\frac{3}{16} = 1'-0"$
		<b>SEAL</b> T-34 FLORIDA

M-01



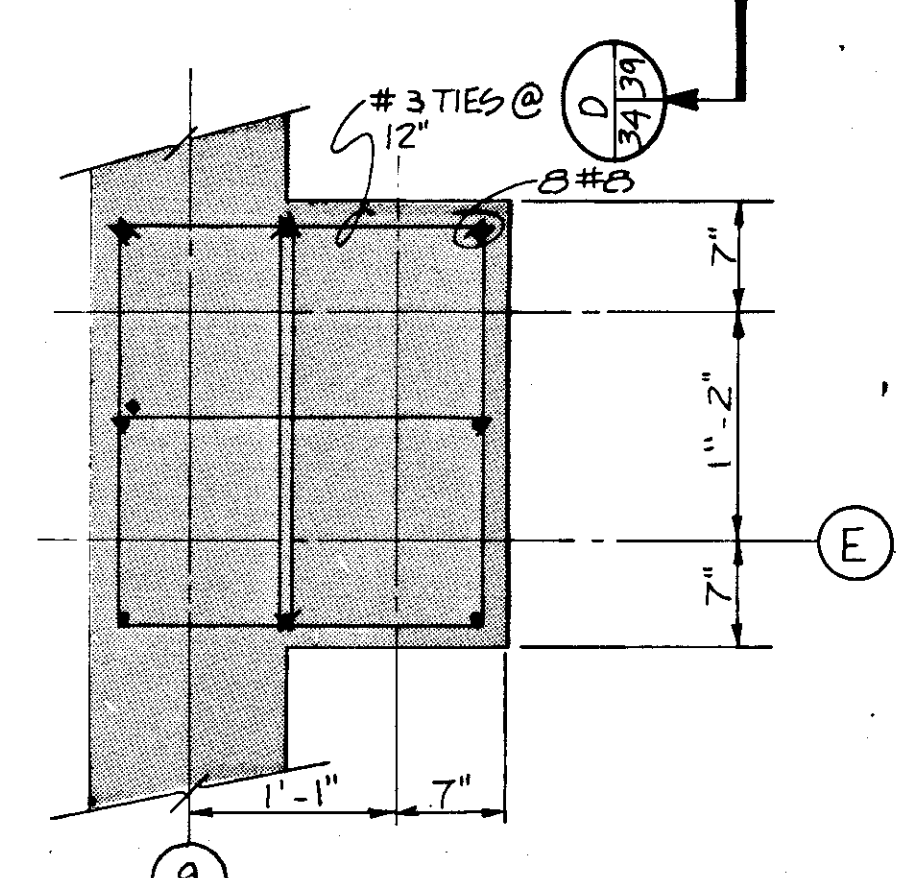
DETAIL AD 34/34  
SCALE: 1" = 1'-0"



DETAIL AE 34/34  
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 8/30/74 BY *ELM*  
 CHECKED BY: *R & A*  
 M.C.U.S.



DETAIL AF 34/34  
SCALE: 1" = 1'-0"

NOTE: SEE DWG No. 43 FOR TYP. DETAILS

NO.	DATE	DESCRIPTION	BY	CKD.
5/79		ADD O'FLOWS & PUMP BAFFLE WALL	AL	

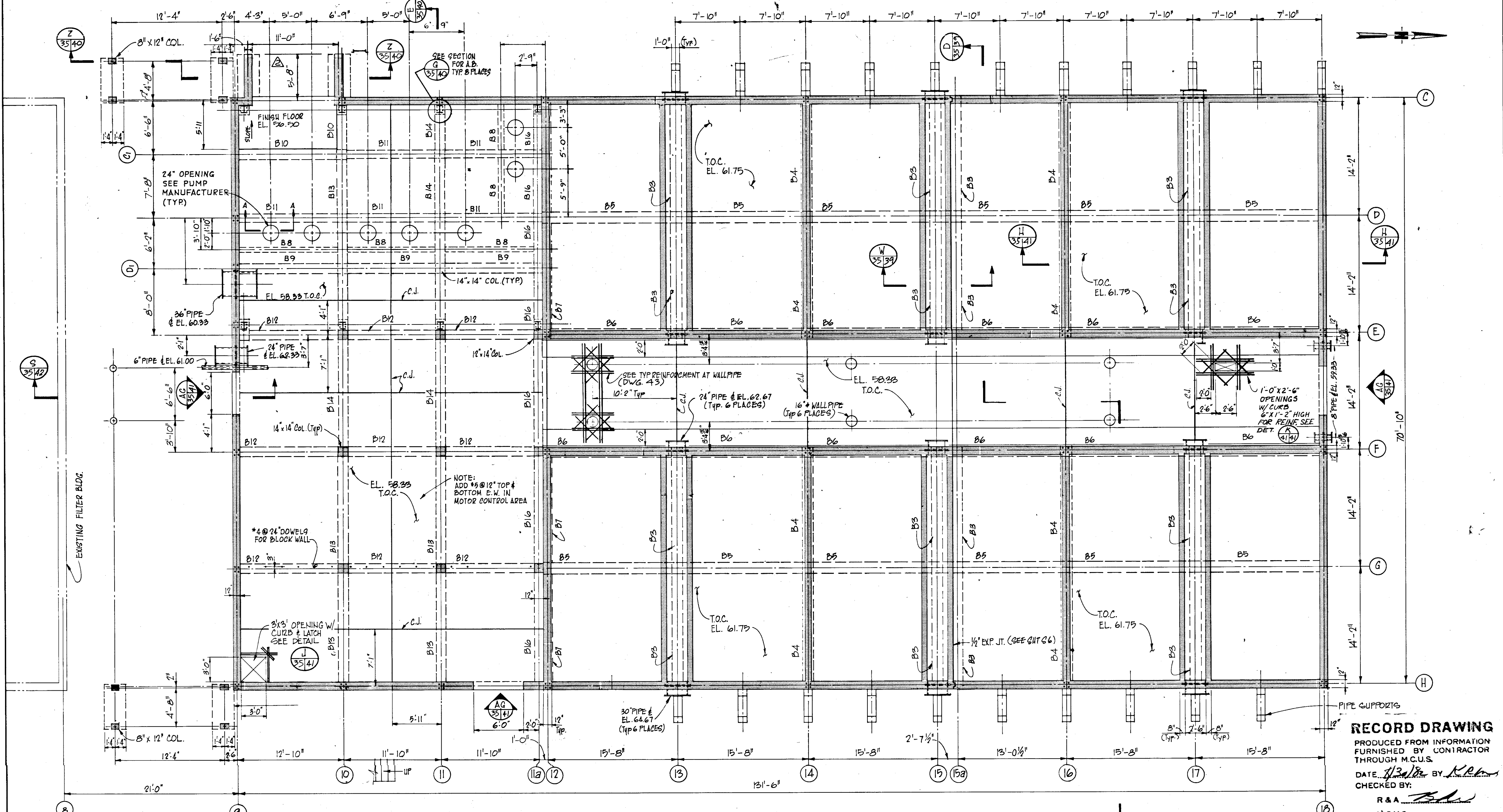
**REVISIONS**

**RUSSELL & AXON**  
 Engineers — Planners — Architects

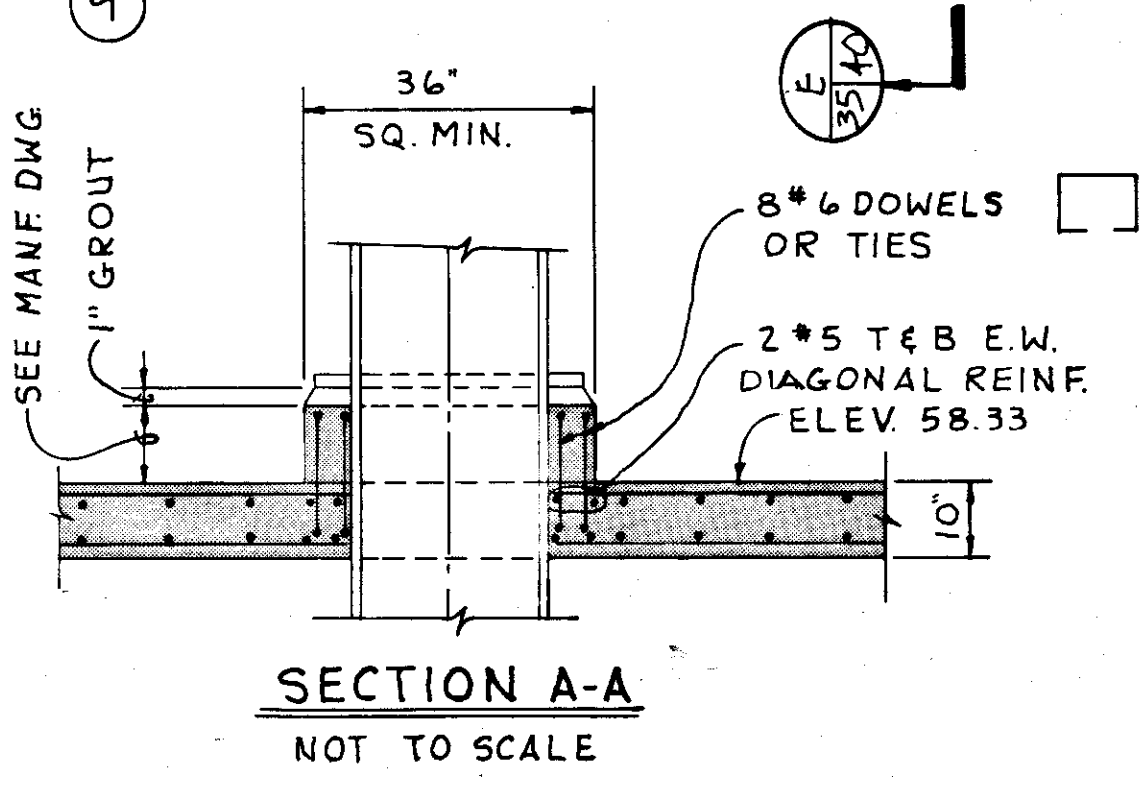
**WATER WORKS PROJECT**  
 FILTER BUILDING  
 FOUNDATION PLAN AT EL. 44.50

MANATEE COUNTY, FLORIDA

DESIGNED BY M.B.	FILE NO. 630-761-04	<b>SEAL</b>
DRAWN BY HGB	SHEET 31	
CHECKED BY	NO. 34	
DATE AUGUST, 1978	OF 130 SHEETS	
	SCALE: 3/16" = 1'-0"	



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



**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				

**RUSSELL & AXON**  
 Engineers — Planners — Architects

**WATER WORKS PROJECT**  
 FILTER BUILDING  
 FIRST FLOOR PLAN AT EL. 61.75

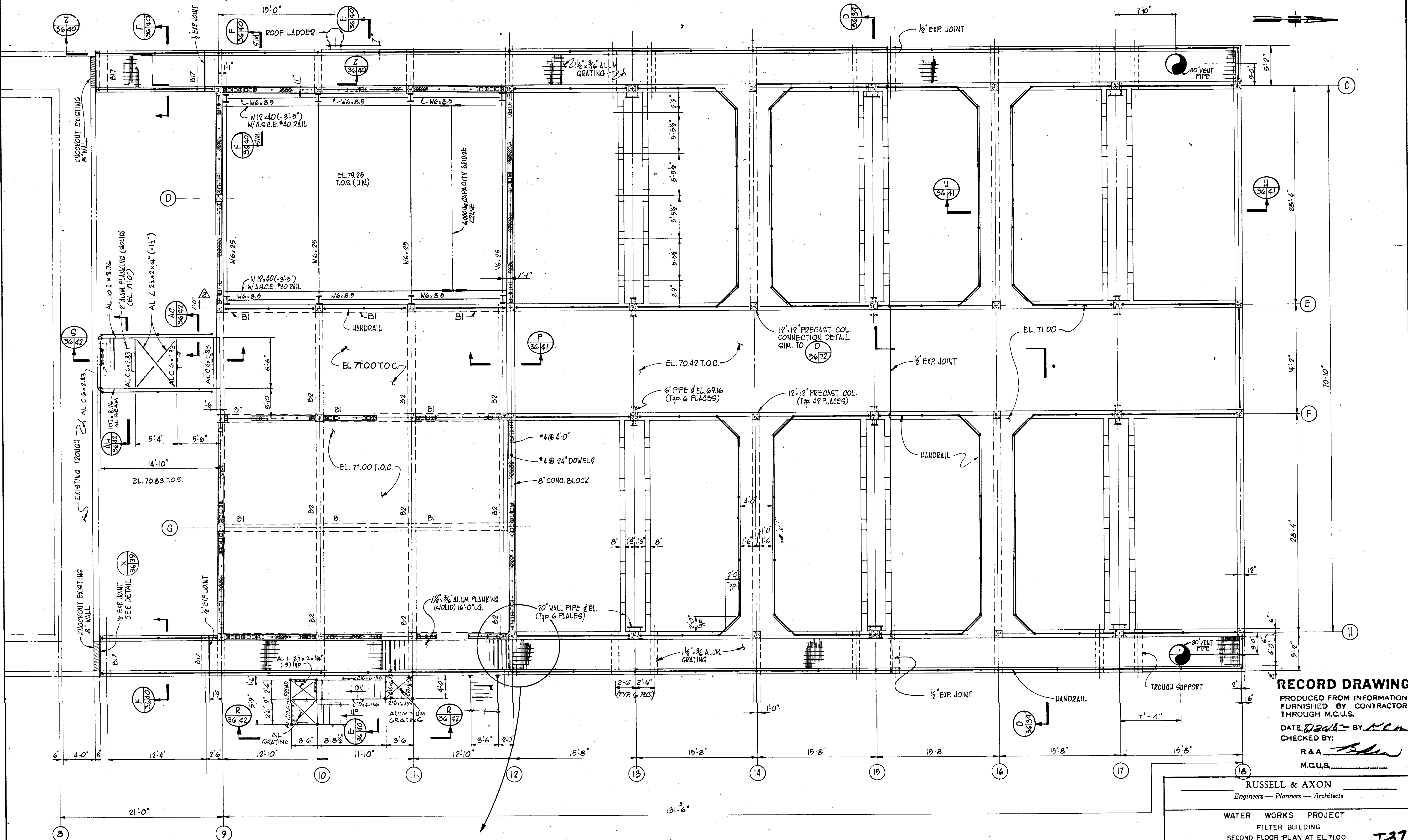
MANATEE COUNTY, FLORIDA

DESIGNED BY: M.B.  
 DRAWN BY: *AKB*  
 CHECKED BY: *AKB*

FILE NO. 630-761-04  
 SHEET S2  
 No. 35 SHEETS

DATE: AUGUST, 1978  
 SCALE: 3/16" = 1'-0"

**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 8/24/78 BY MLM  
 CHECKED BY: [Signature]  
 R & A  
 M.C.U.S.

**RUSSELL & AXON**  
 Engineers — Planners — Architects

WATER WORKS PROJECT  
 FILTER BUILDING  
 SECOND FLOOR PLAN AT EL. 71.00

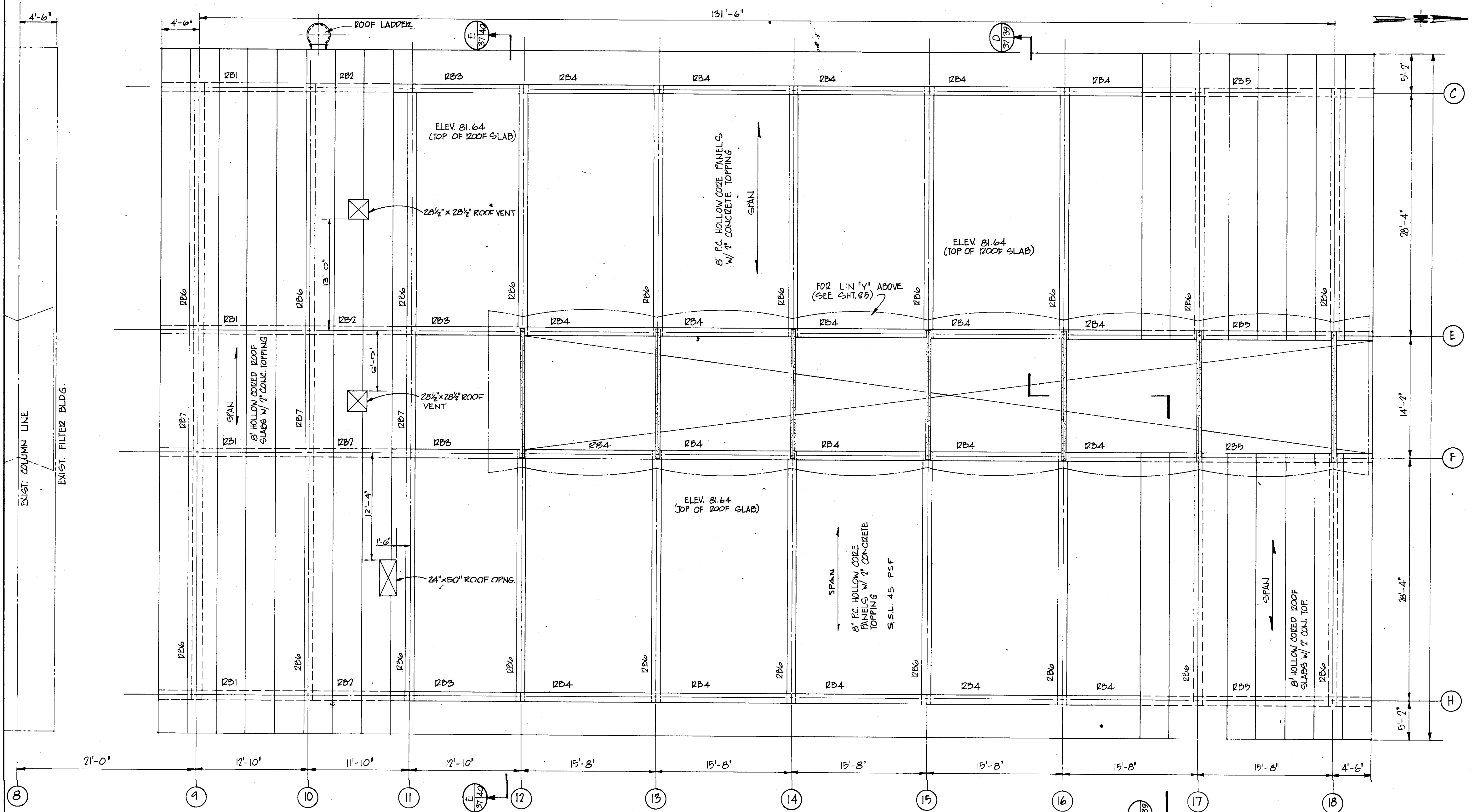
MANATEE COUNTY, FLORIDA

DESIGNED BY M.B.	FILE NO. 630-761-04	SEAL
DRAWN BY EL	SHEET 53	
CHECKED BY	OF 130 SHEETS	No. 36
DATE AUGUST, 1978	SCALE: 3/16" = 1'-0"	

NOTE:  
SEE DWG No. 510 FOR TYP. DETAILS

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

BOND BREAKER  
 6" RECESS  
 W/ BOND BREAKER  
 N.T.S.



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" ±

\* DL. OF BEAM ONLY

NOTE:  
ALL COLUMNS 12x12 WITH 1/2" CHAMFER. (SEE TYP SECTIONS SHT. 12)  
SEE SHT 40 FOR 8x12 COLUMNS (POURED CONCRETE)

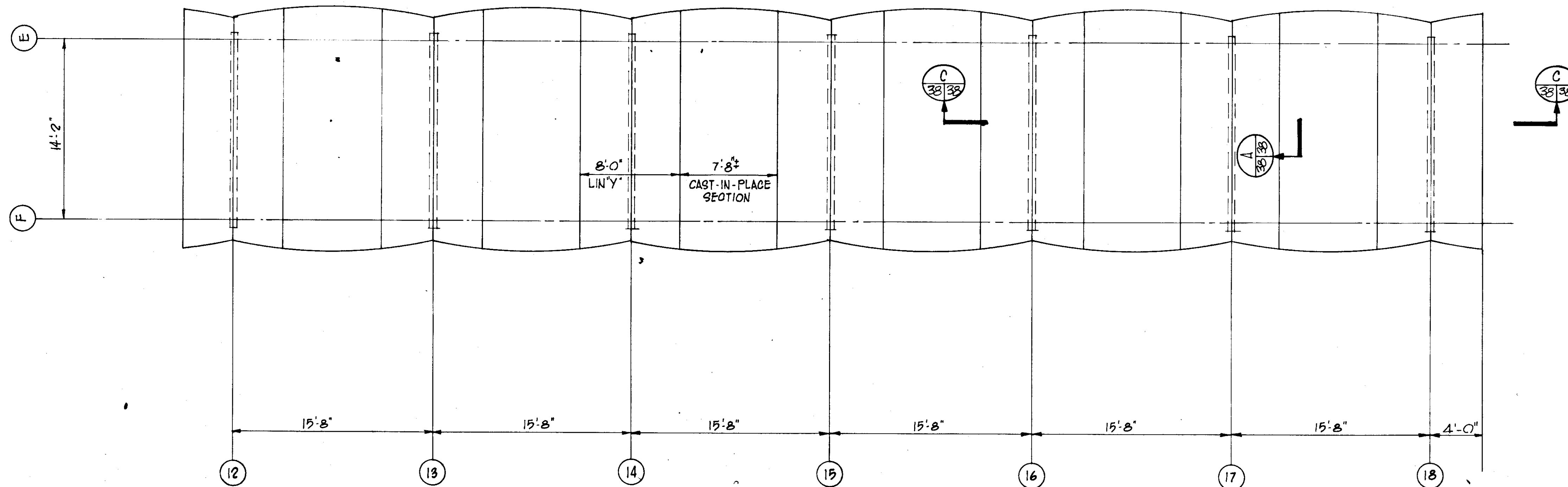
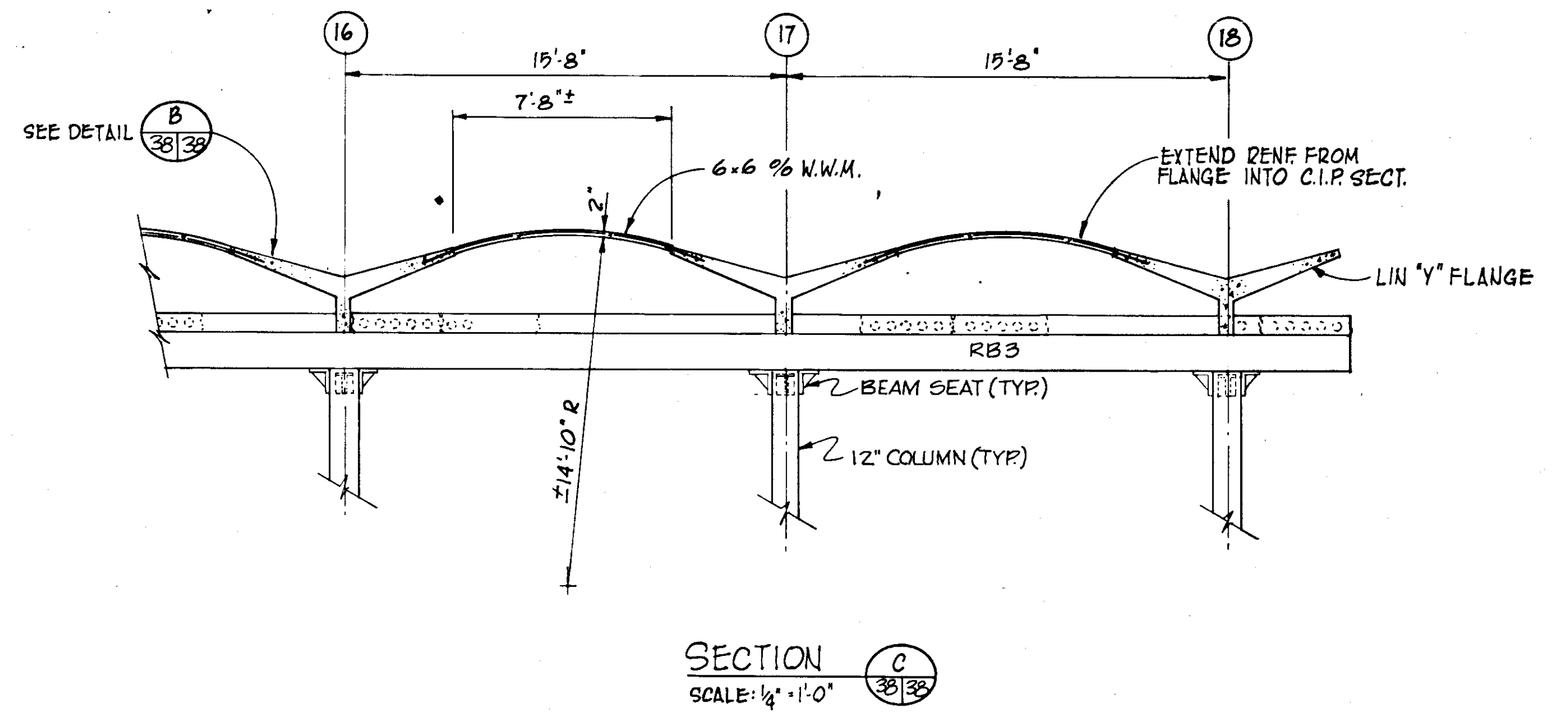
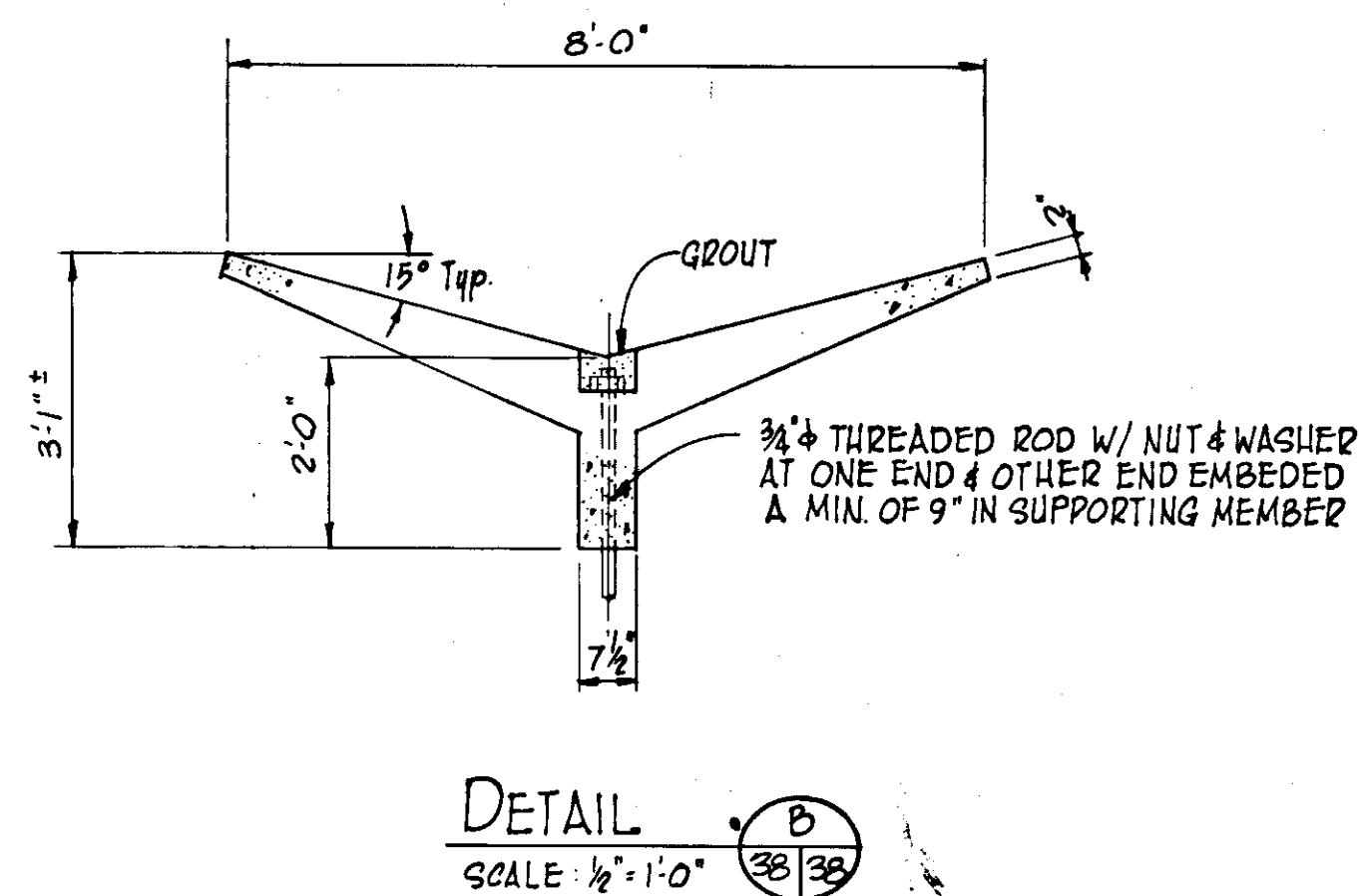
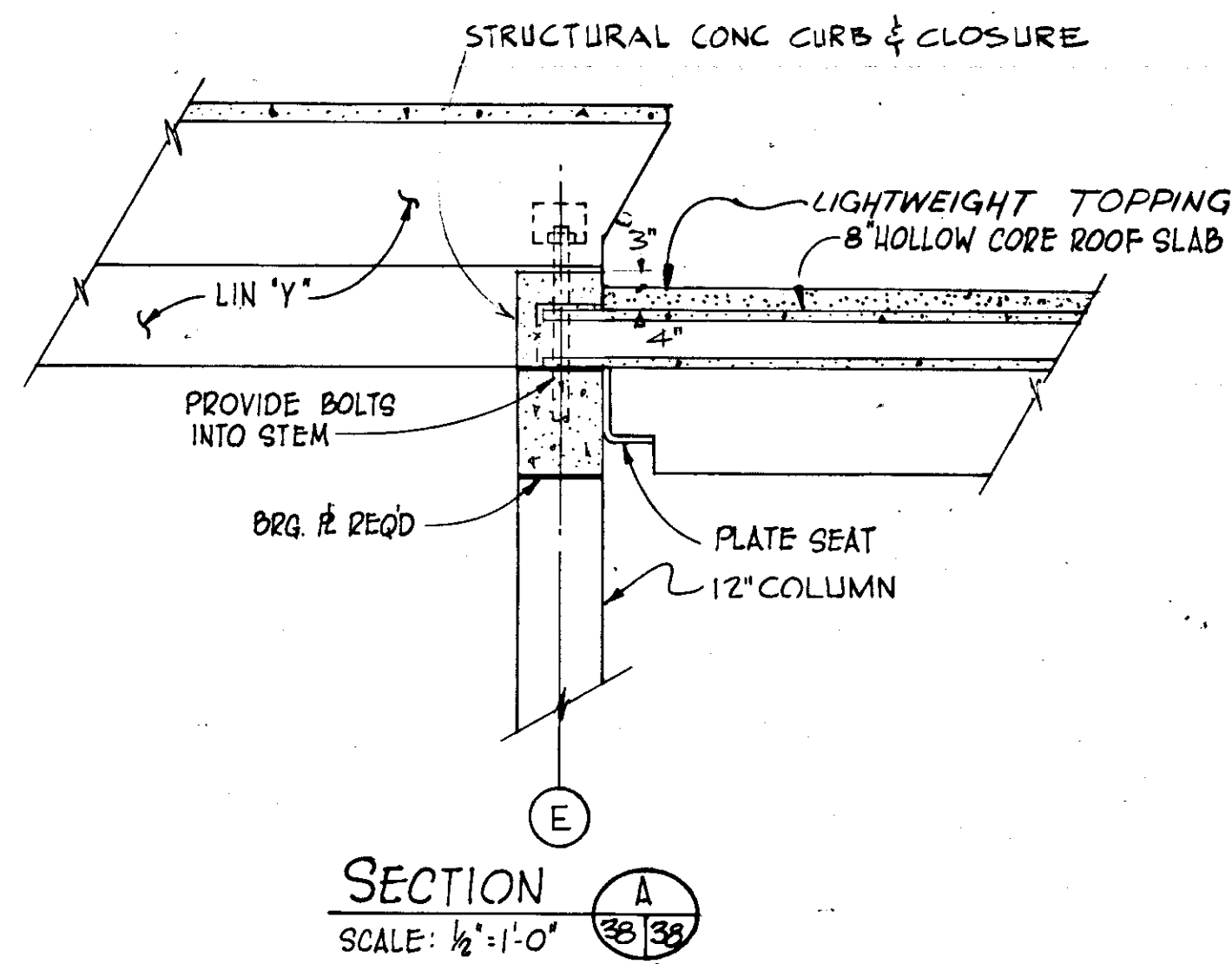
**ROOF FRAMING PLAN EL. 81.64**  
SCALE 3/16" = 1'-0"

**RECORD DRAWING**  
PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.  
DATE 7/20/78 BY *KLN*  
CHECKED BY: *[Signature]*  
R & A *[Signature]*  
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 FRAMING PLAN				
MANATEE COUNTY, FLORIDA		DESIGNED BY M.B.	FILE NO. 630-761-04	<b>SEAL</b>
		DRAWN BY <i>[Signature]</i>	SHEET 54	
		CHECKED BY	OF 130 SHEETS	
		DATE AUGUST, 1978	No. 37	
			SCALE: 3/16" = 1'-0"	

14-01



**ROOF PLAN OVER FILTER OPERATING ROOM**  
SCALE: 3/8" = 1'-0"

**RECORD DRAWING**

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

DATE 8/31/80 BY K.P.H.

CHECKED BY: [Signature]

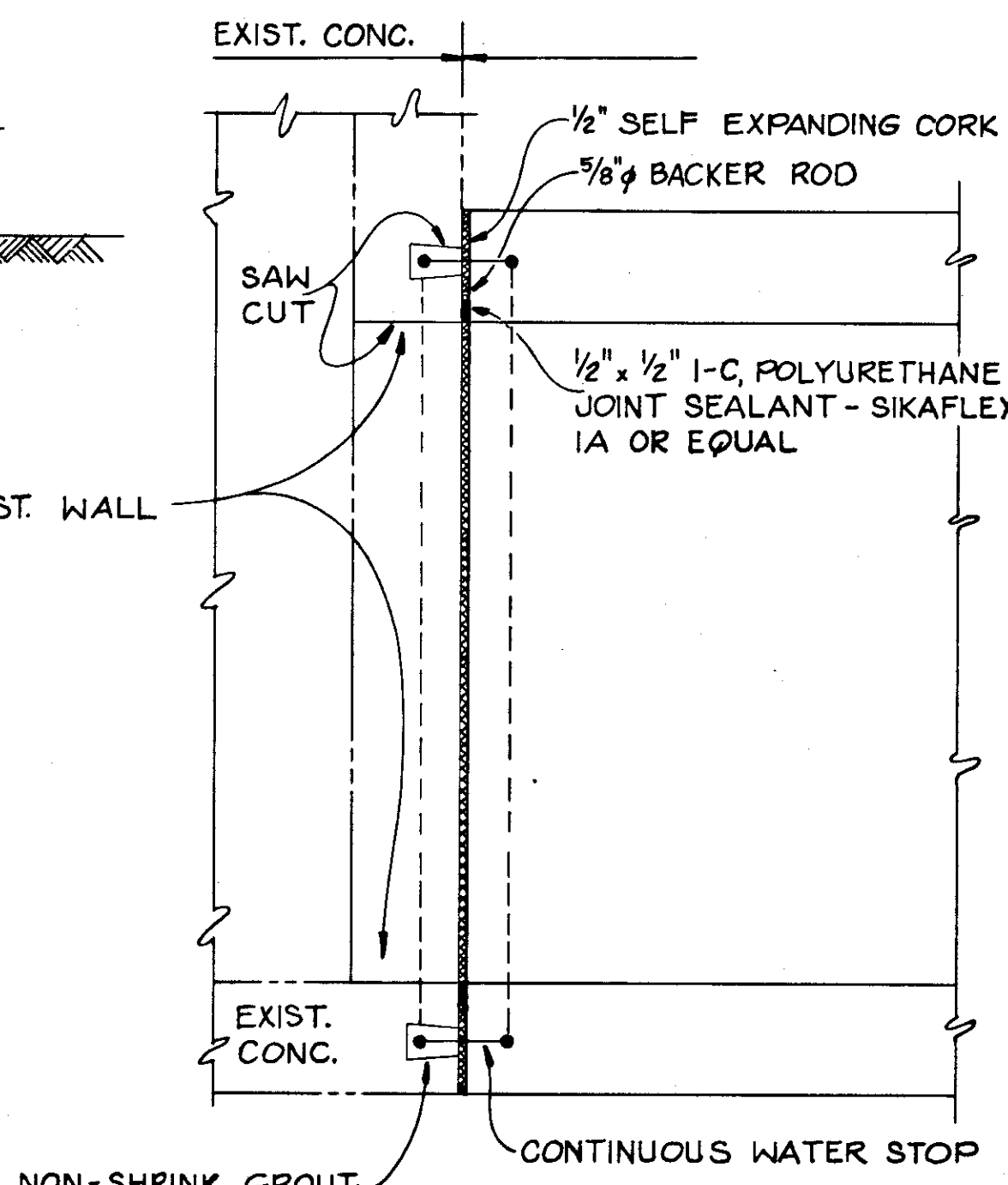
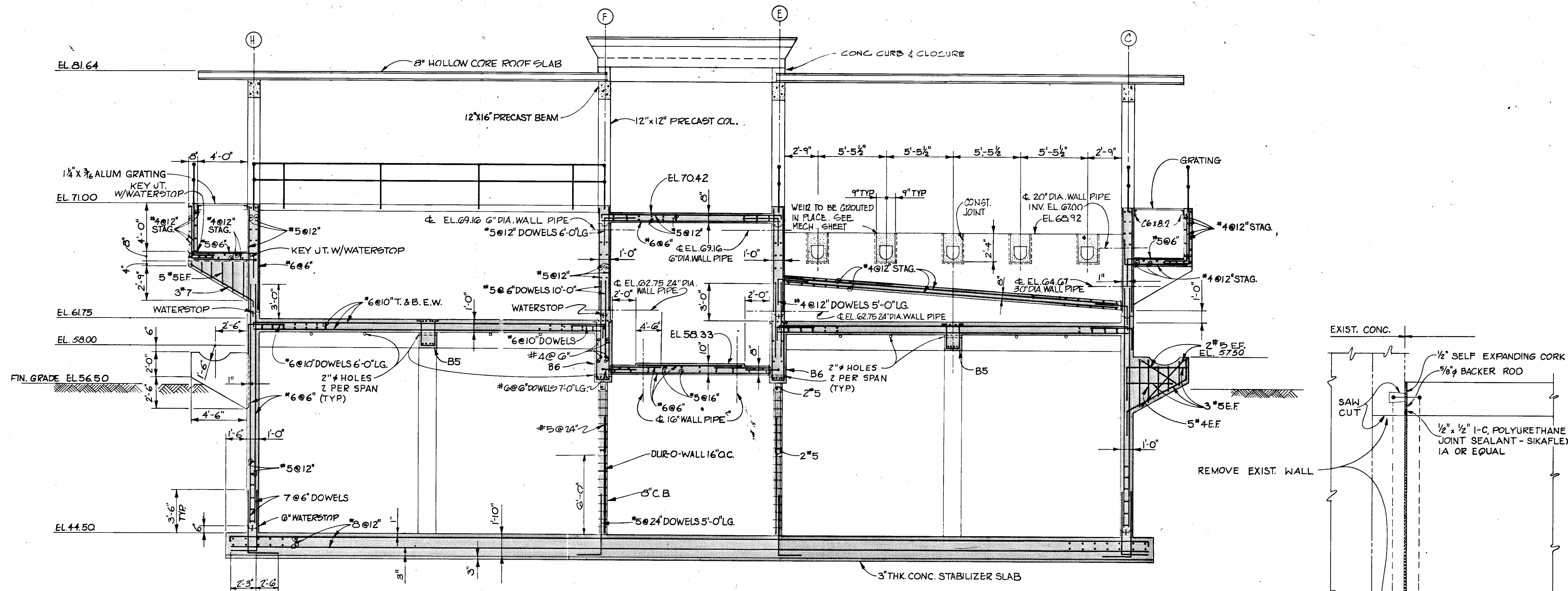
R & A

M.C.U.S.

NOTE:

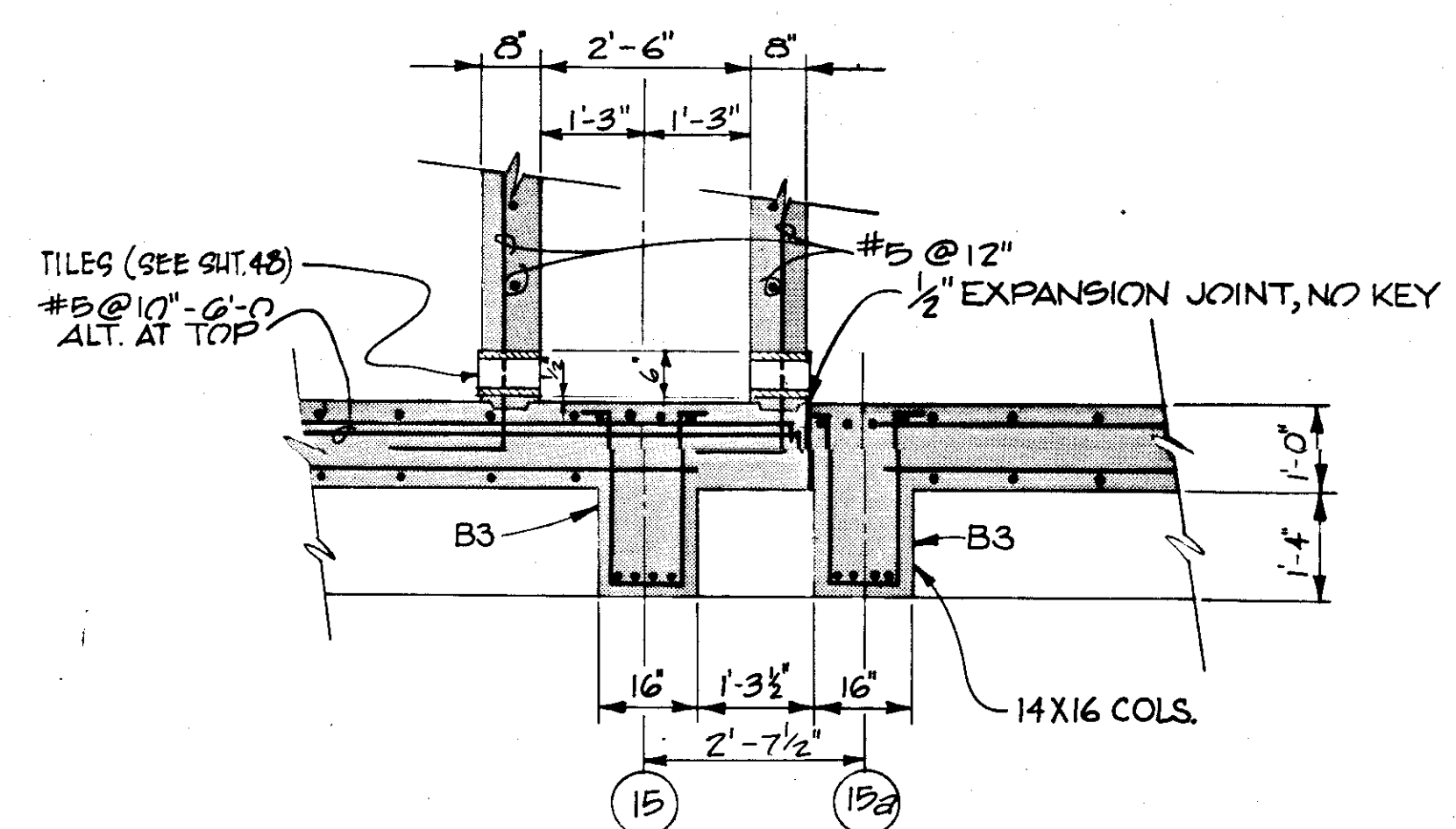
SEE DWG No. 43 FOR TYP. DETAILS

NO.	DATE	DESCRIPTION	BY	CKD.
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT FILTER BUILDING ROOF PLAN OVER FILTER OPERATING ROOM SECTIONS & DETAILS				
T-39 FLORIDA				
MANATEE COUNTY,		FILE NO.	<b>SEAL</b>	
DESIGNED BY M.B.	630-761-04			
DRAWN BY EK	SHEET 55			
CHECKED BY	No. 38 SHEETS			
DATE AUGUST, 1978	SCALE: 3/16" = 1'-0"	OF 130		

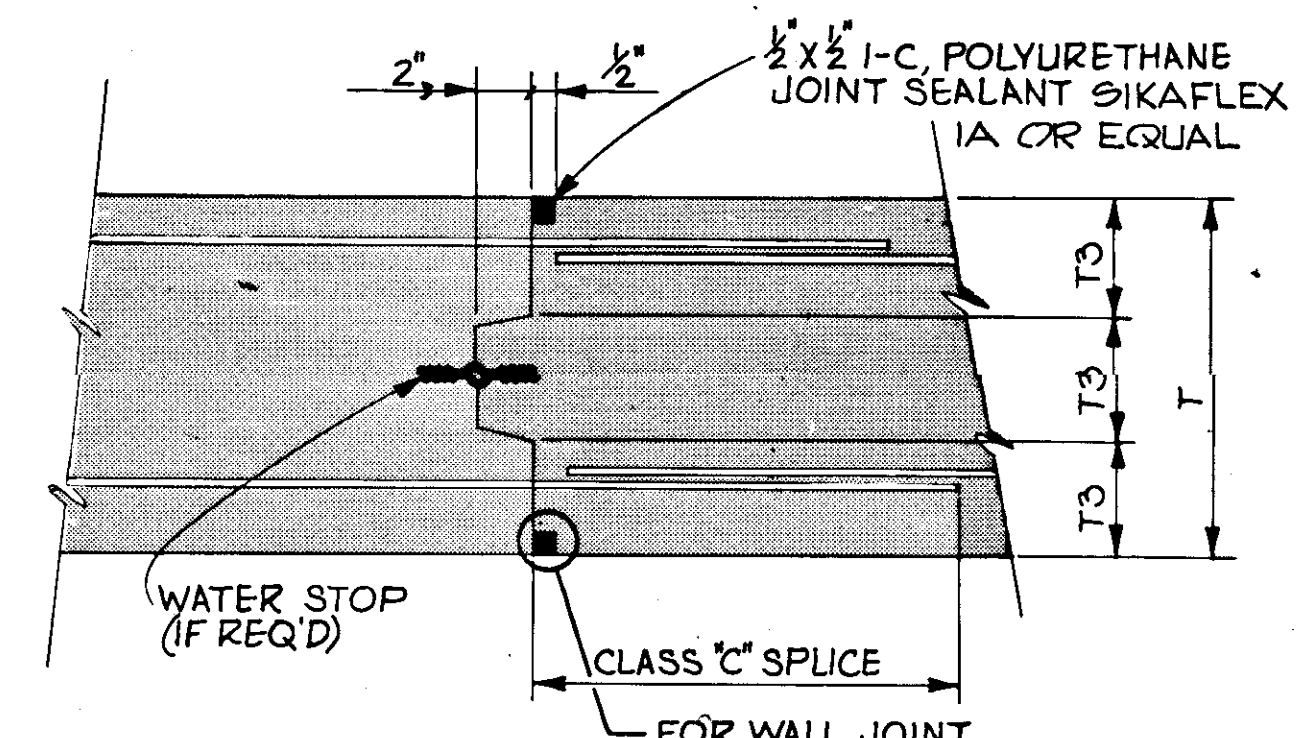


SECTION  
SCALE: 1/4" = 1'-0"  
34/39  
35  
36  
37

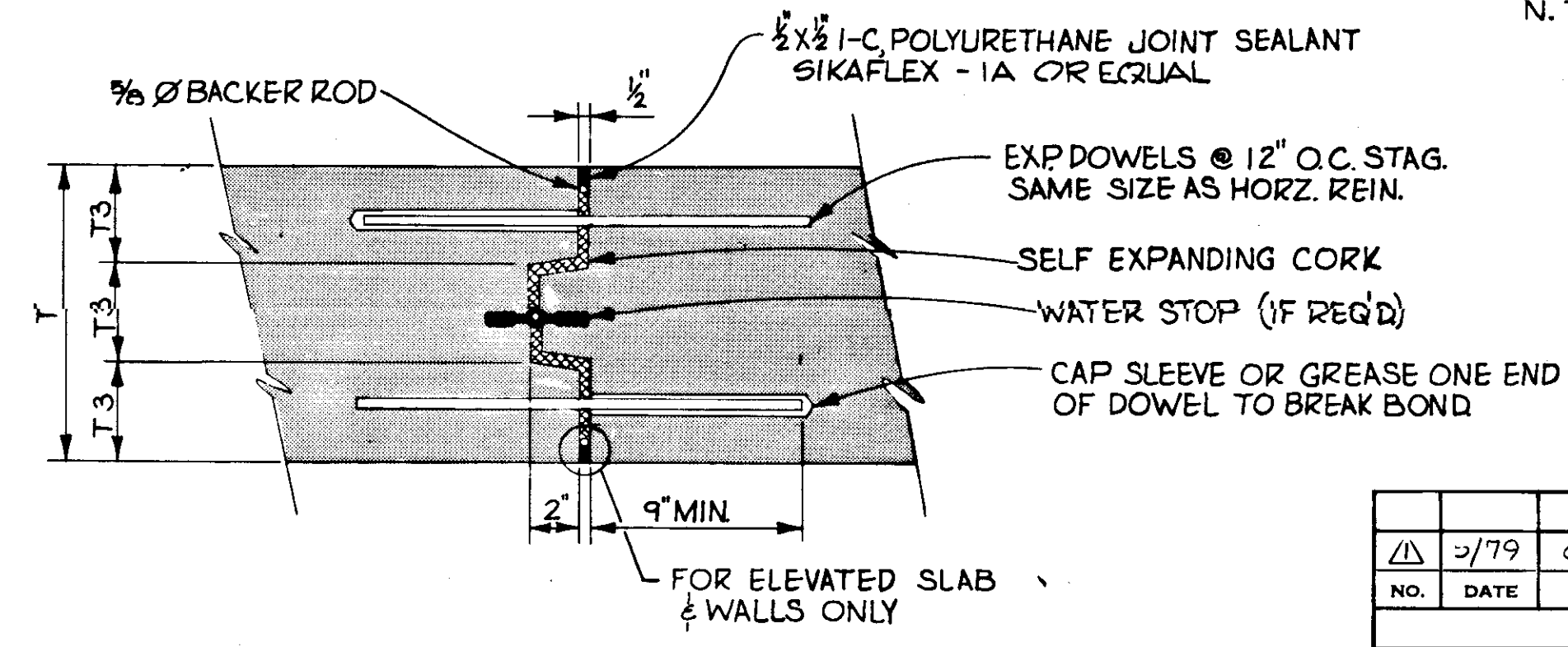
DETAIL  
N.T.S. X  
36/39



SECTION  
SCALE: 1/2" = 1'-0"  
W  
35/39



TYP. CONSTRUCTION JOINT DETAIL  
N.T.S.



TYP. EXP JOINT DETAIL  
N.T.S.

**RECORD DRAWING**

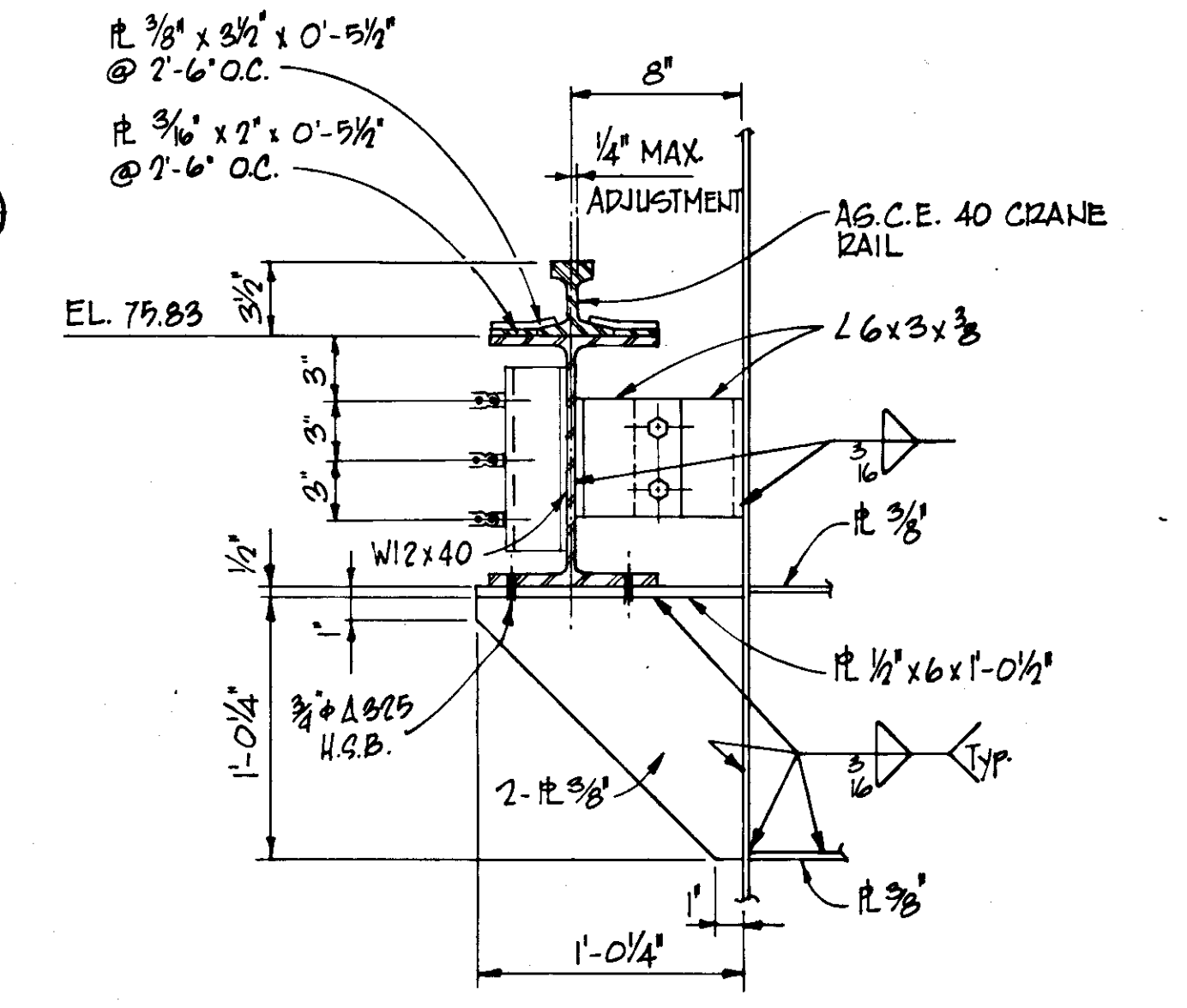
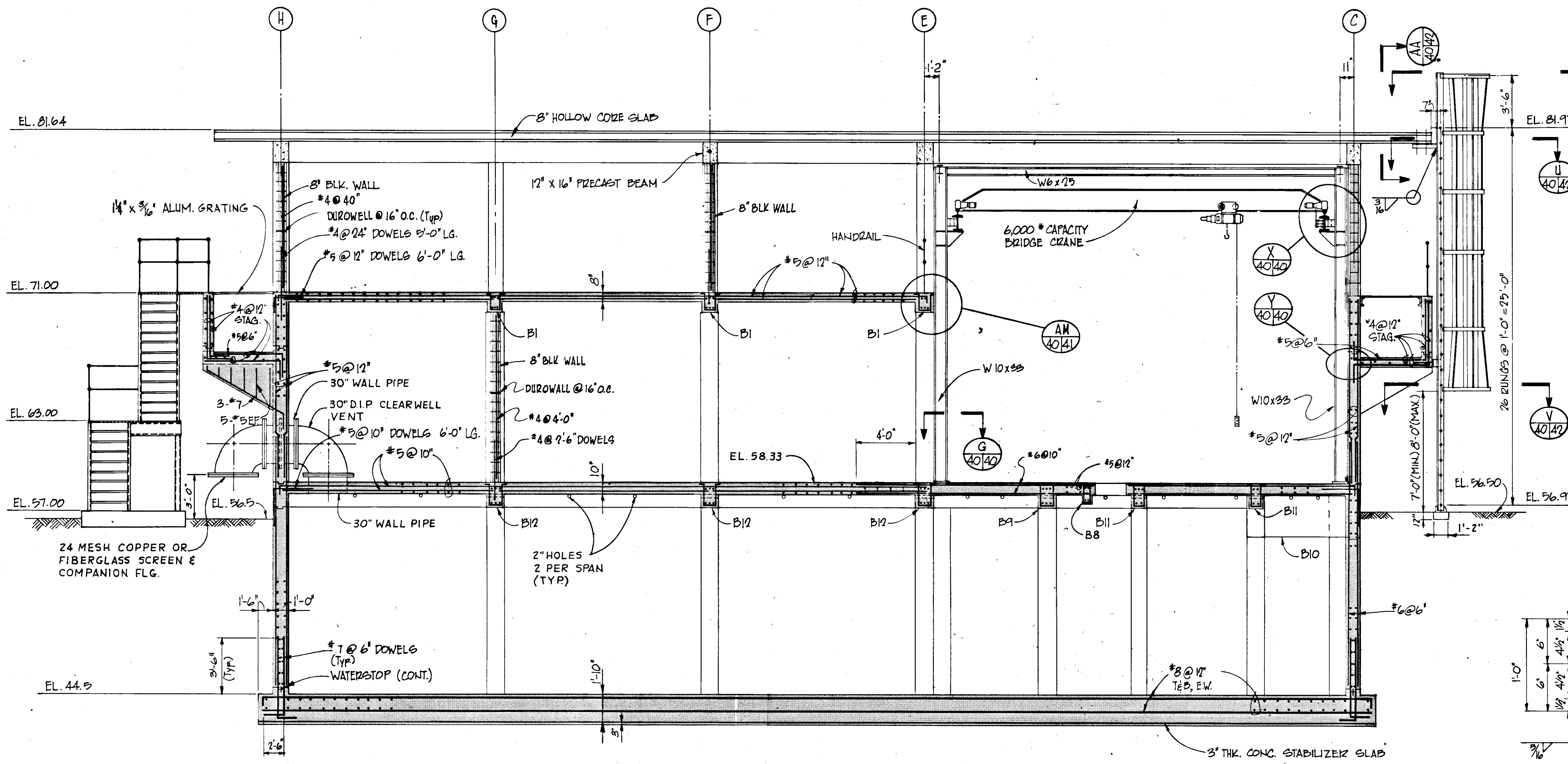
PRODUCED FROM INFORMATION  
FURNISHED BY CONTRACTOR  
THROUGH M.C.U.S.  
DATE: 8/31/82 BY: K.R.A.  
CHECKED BY:  
R & A  
M.C.U.S.

NOTE:  
SEE DWG No. 43 FOR TYP DETAILS

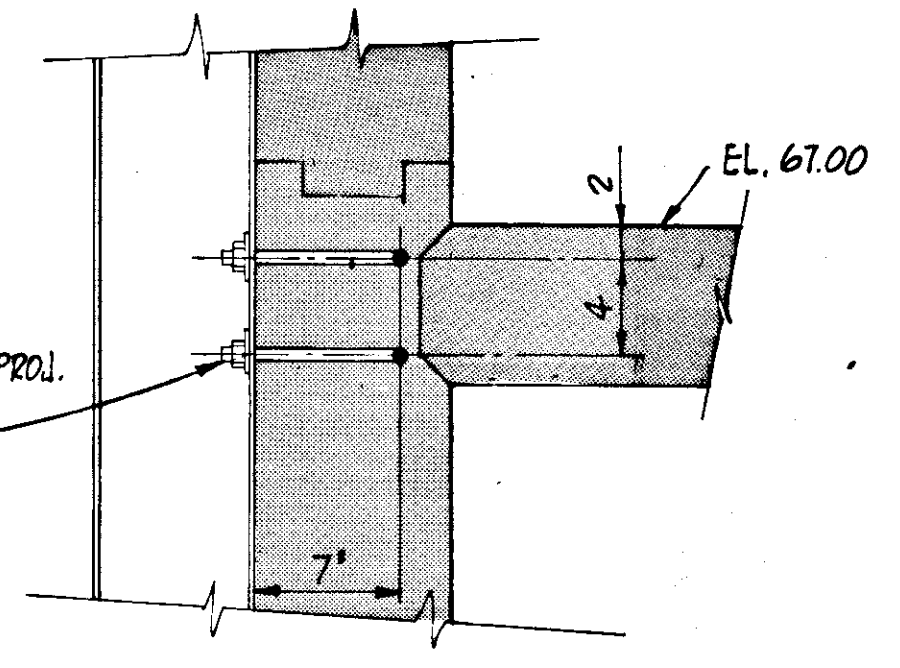
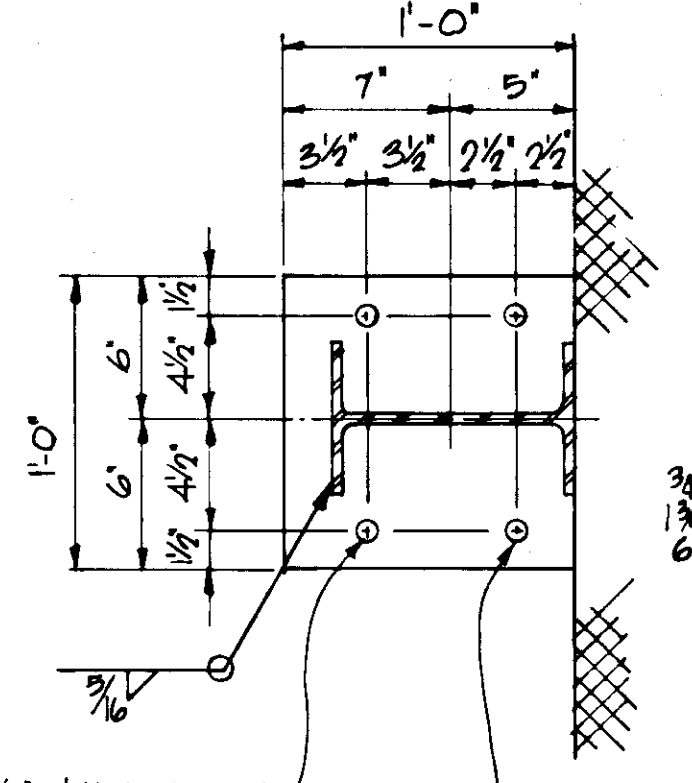
NO.	DATE	DESCRIPTION	BY	CHKD.
1	5/79	GEN. REVISIONS	AL	
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
WATER WORKS PROJECT FILTER BUILDING SECTIONS & DETAILS				
T-40 FLORIDA				
MANATEE COUNTY, FLORIDA				
DESIGNED BY M.B.	FILE NO. 630-761-04	SEAL		
DRAWN BY I.C.S.	SHEET 56			
CHECKED BY	NO. 39	SHEETS		
DATE AUGUST, 1978	SCALE: AS NOTED			

14-01





DETAIL X 40/40  
N.T.S.

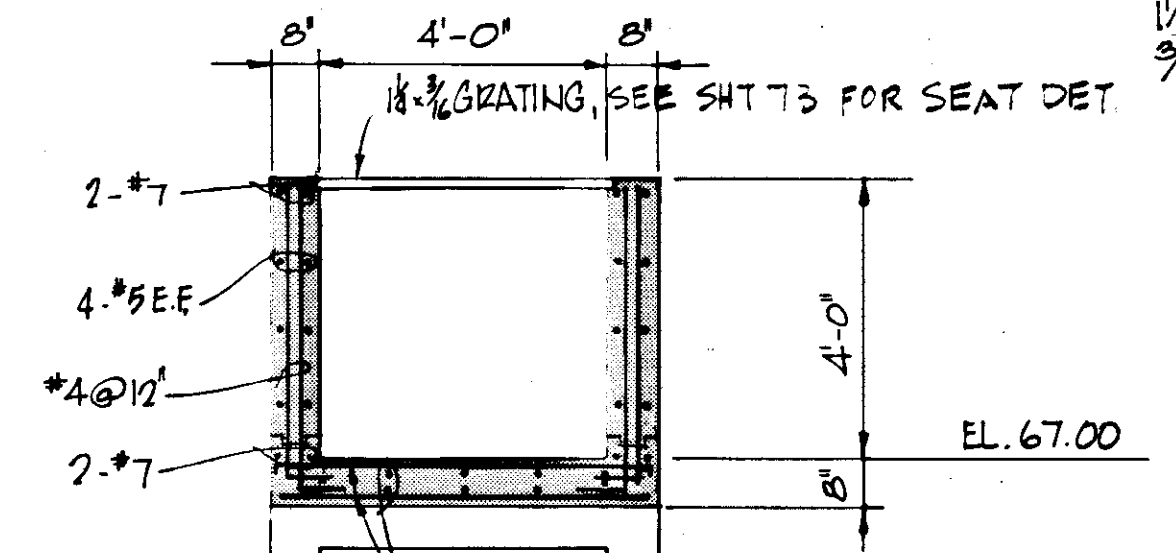


DETAIL Y 40/40  
N.T.S.

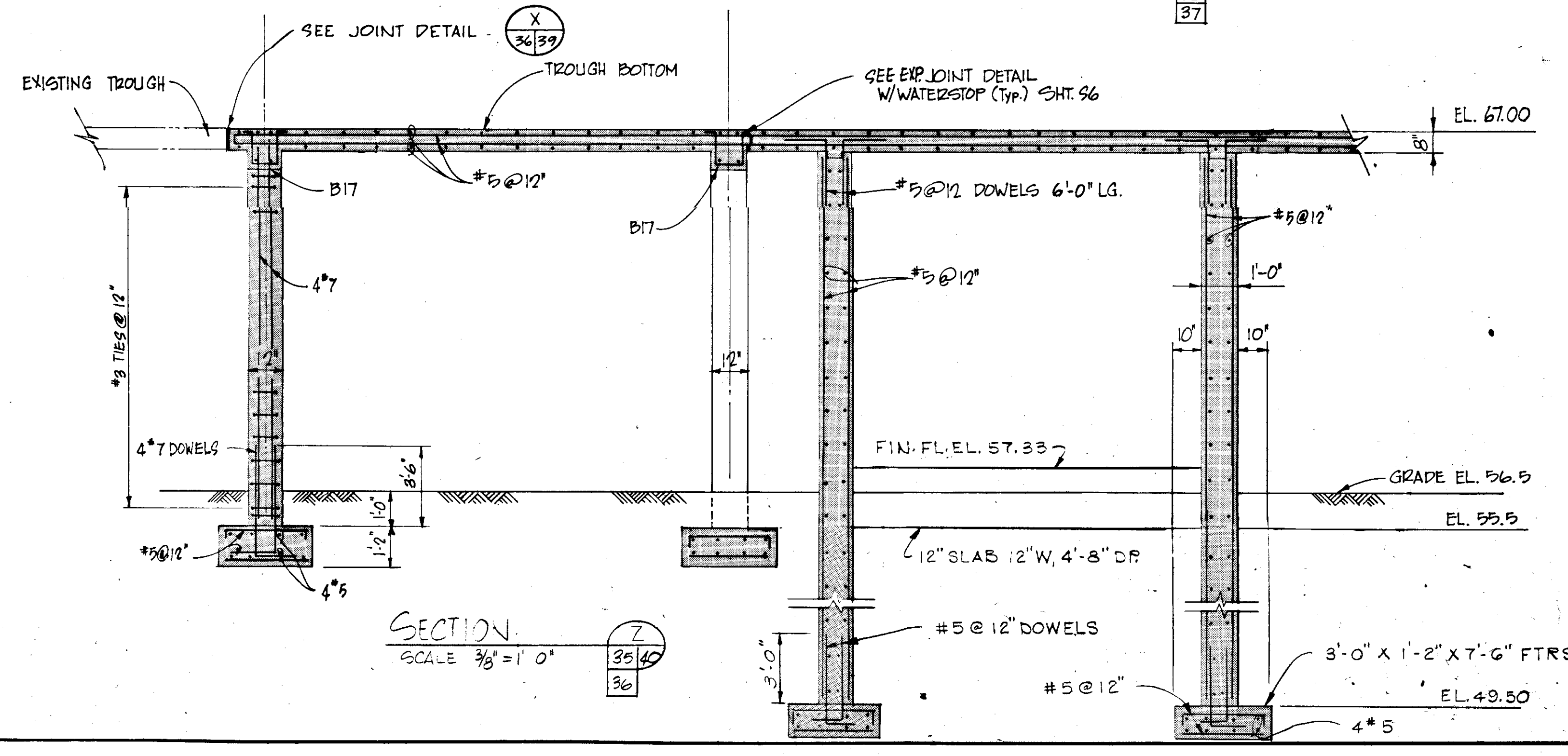
**RECORD DRAWING**  
 PRODUCED FROM INFORMATION  
 FURNISHED BY CONTRACTOR  
 THROUGH M.C.U.S.  
 DATE 8/31/78 BY *KRM*  
 CHECKED BY: *BLW*  
 R & A  
 M.C.U.S.

SECTION E  
 SCALE 1/4" = 1'-0"  
 34/40  
 35  
 36  
 37

SECTION G  
 SCALE 1/4" = 1'-0"  
 35/40  
 40



SECTION F  
 SCALE: 3/8" = 1'-0"  
 36/40



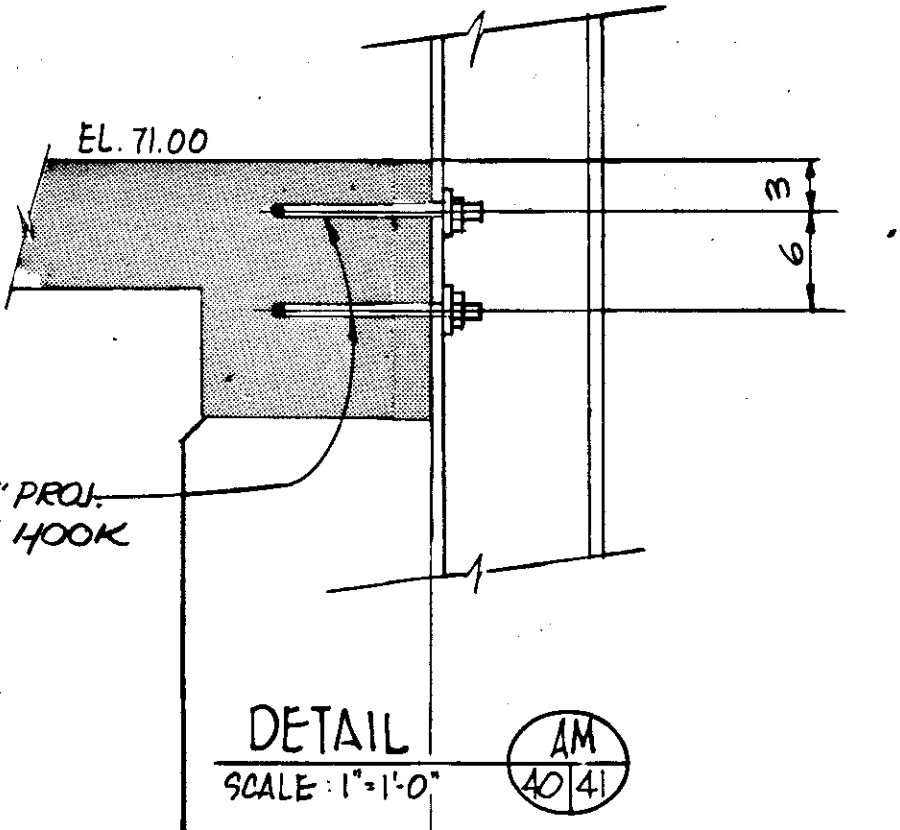
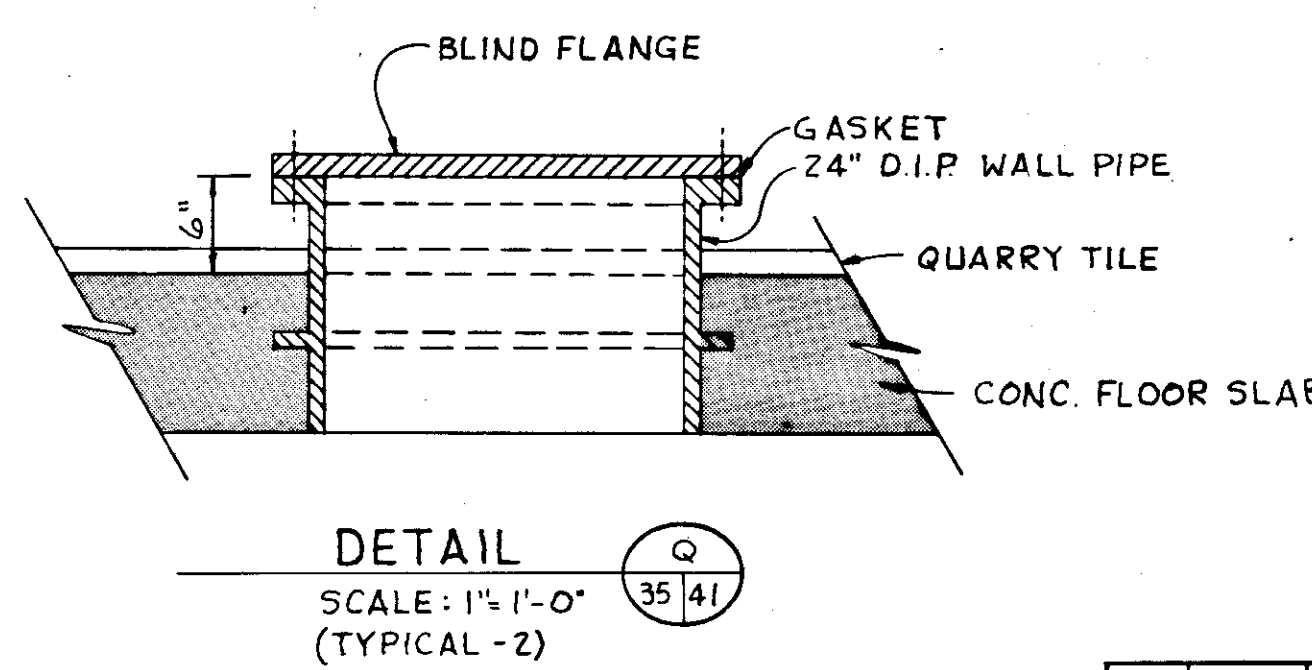
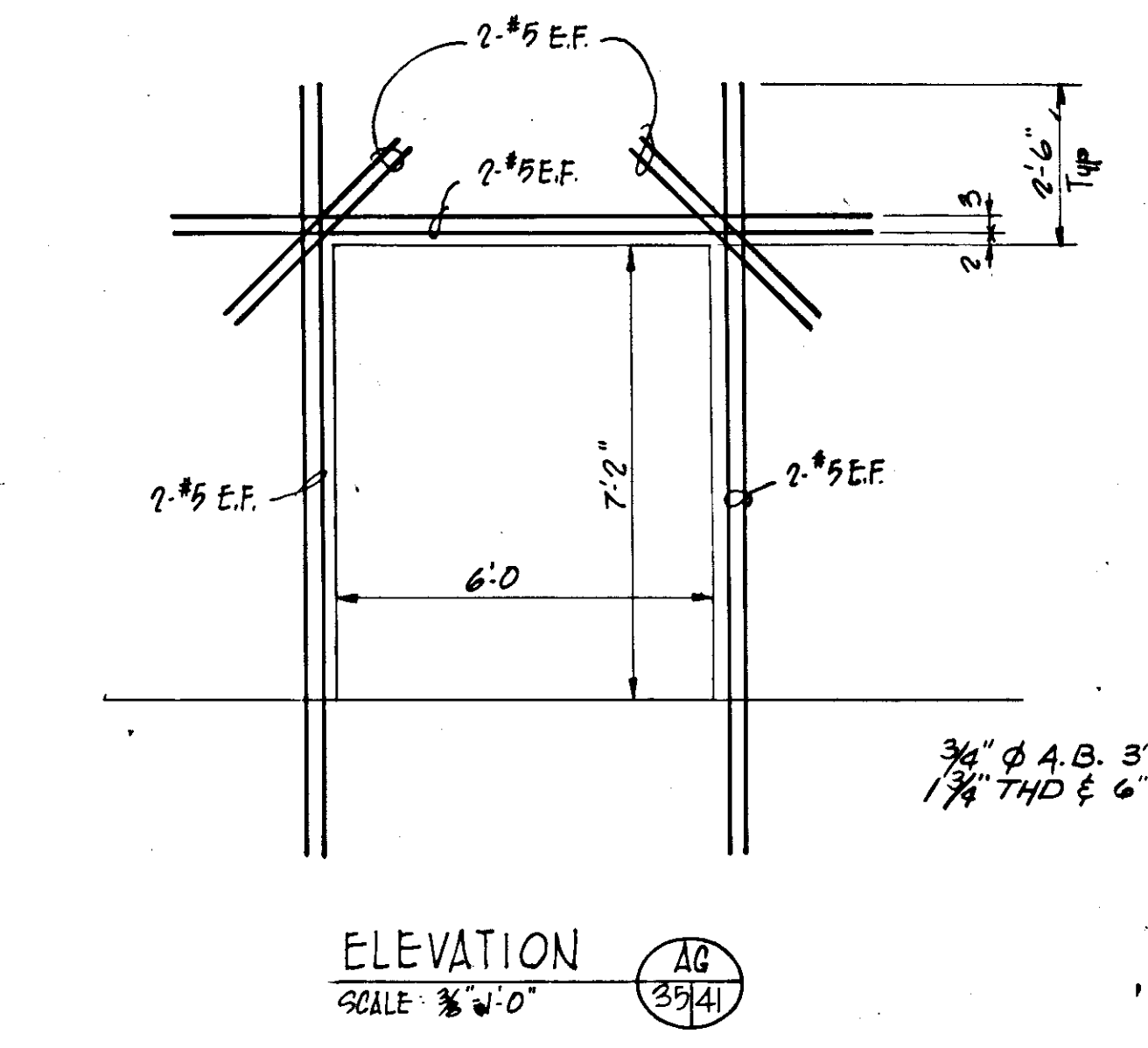
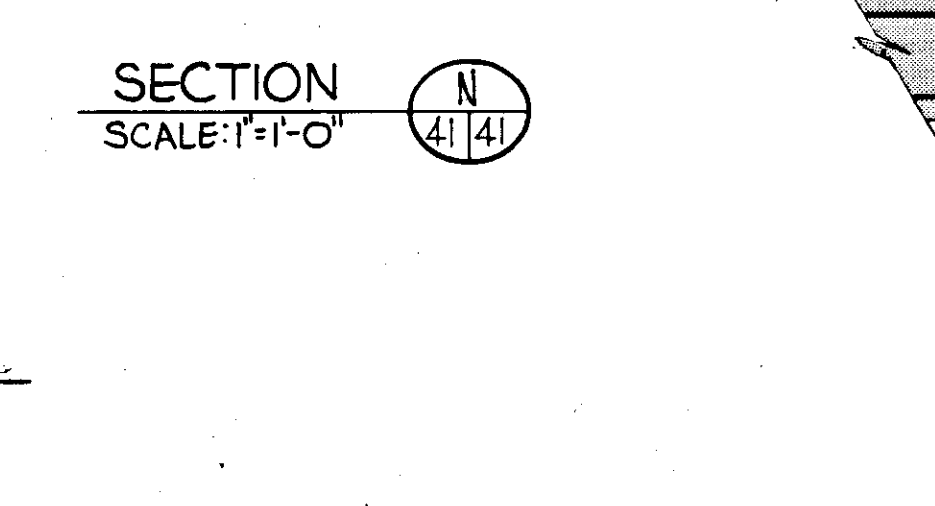
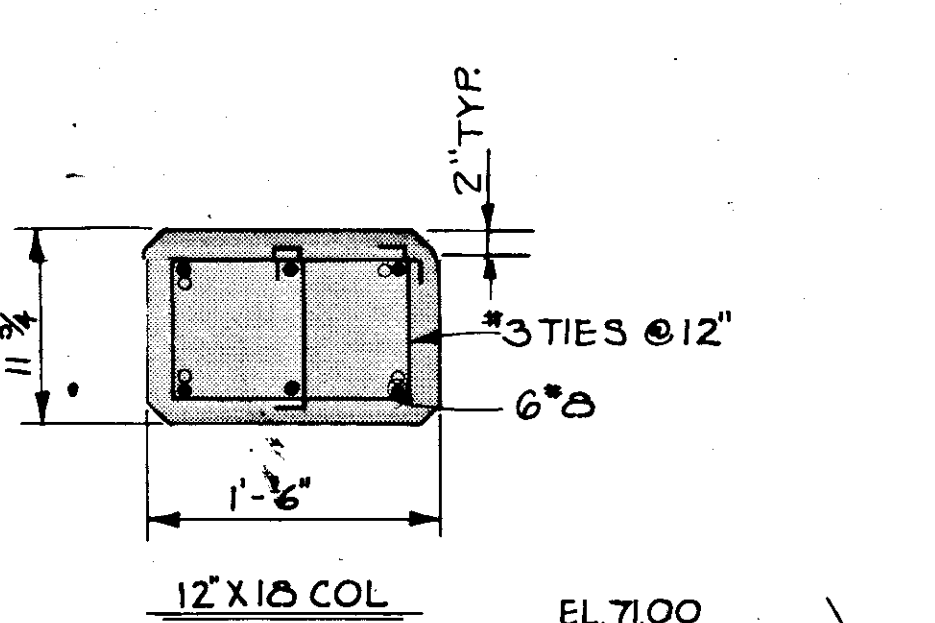
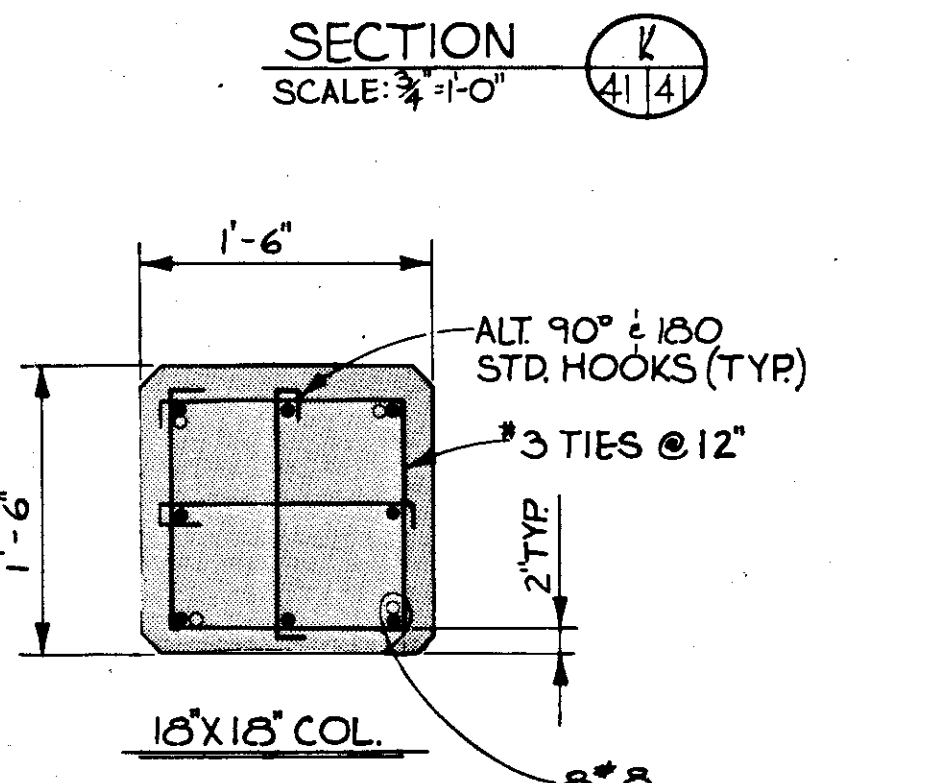
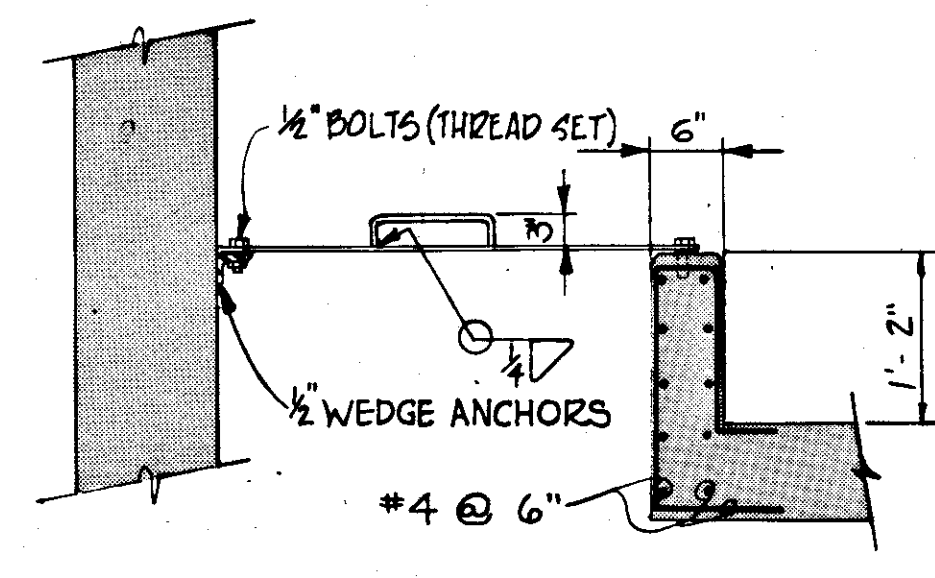
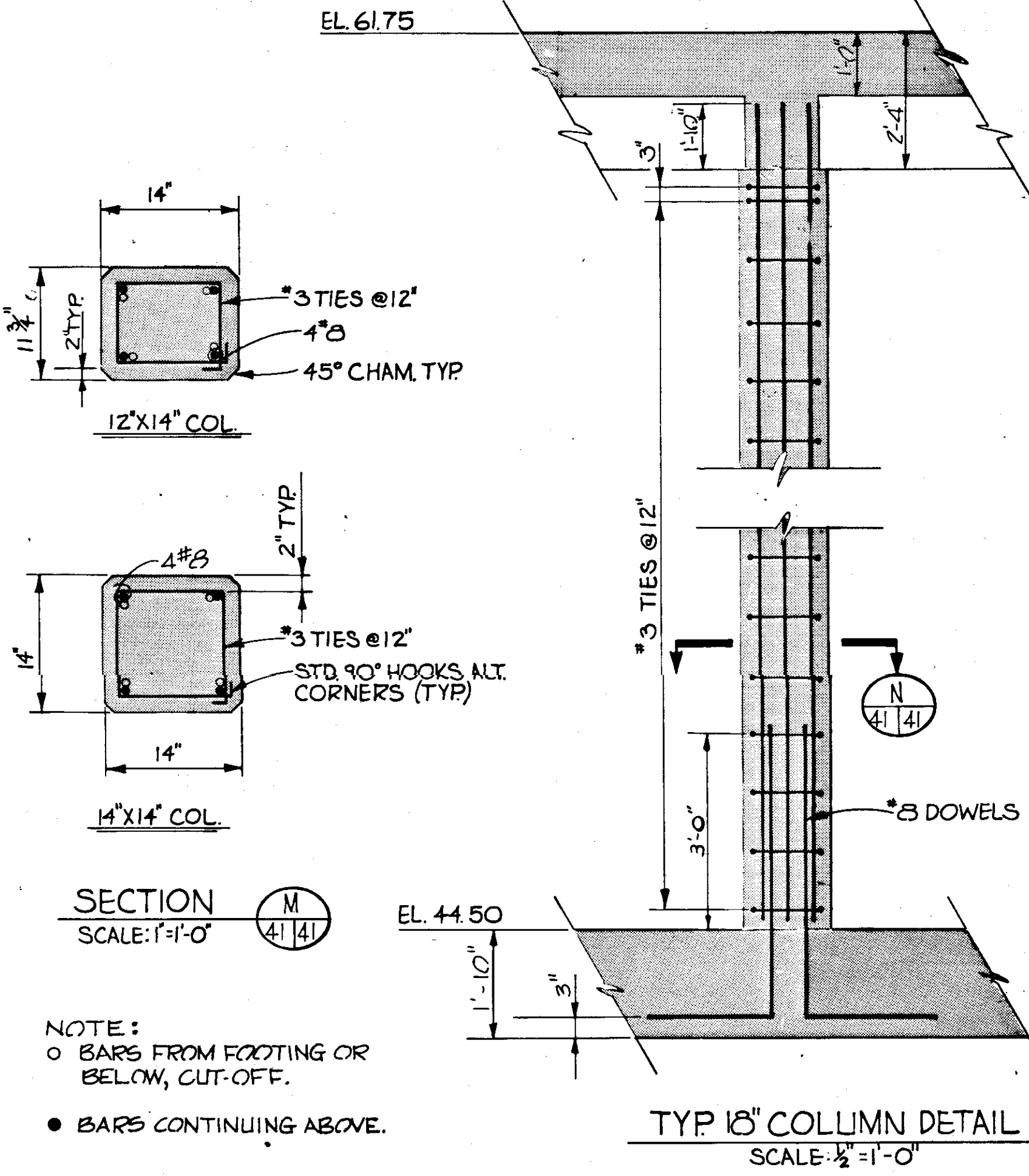
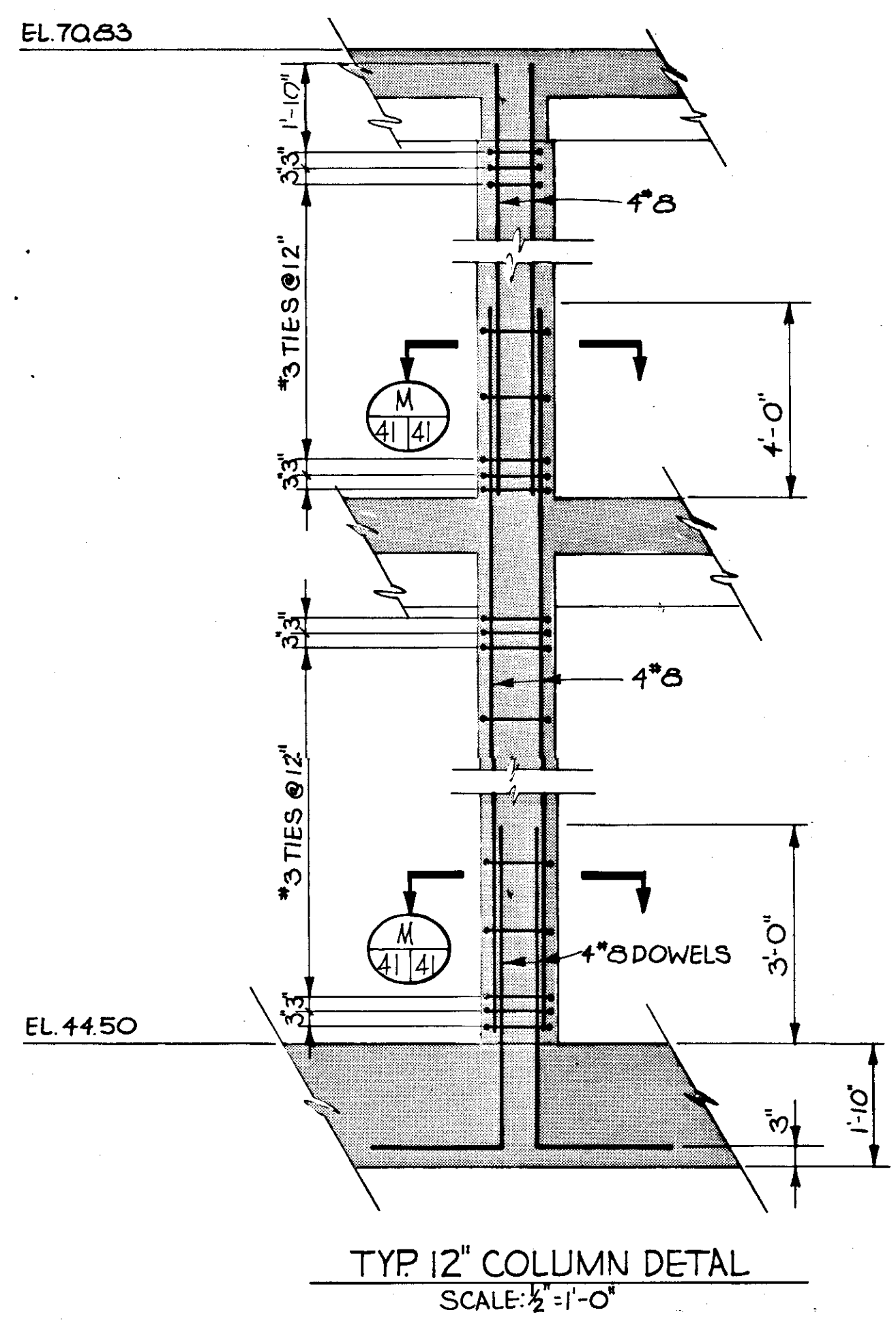
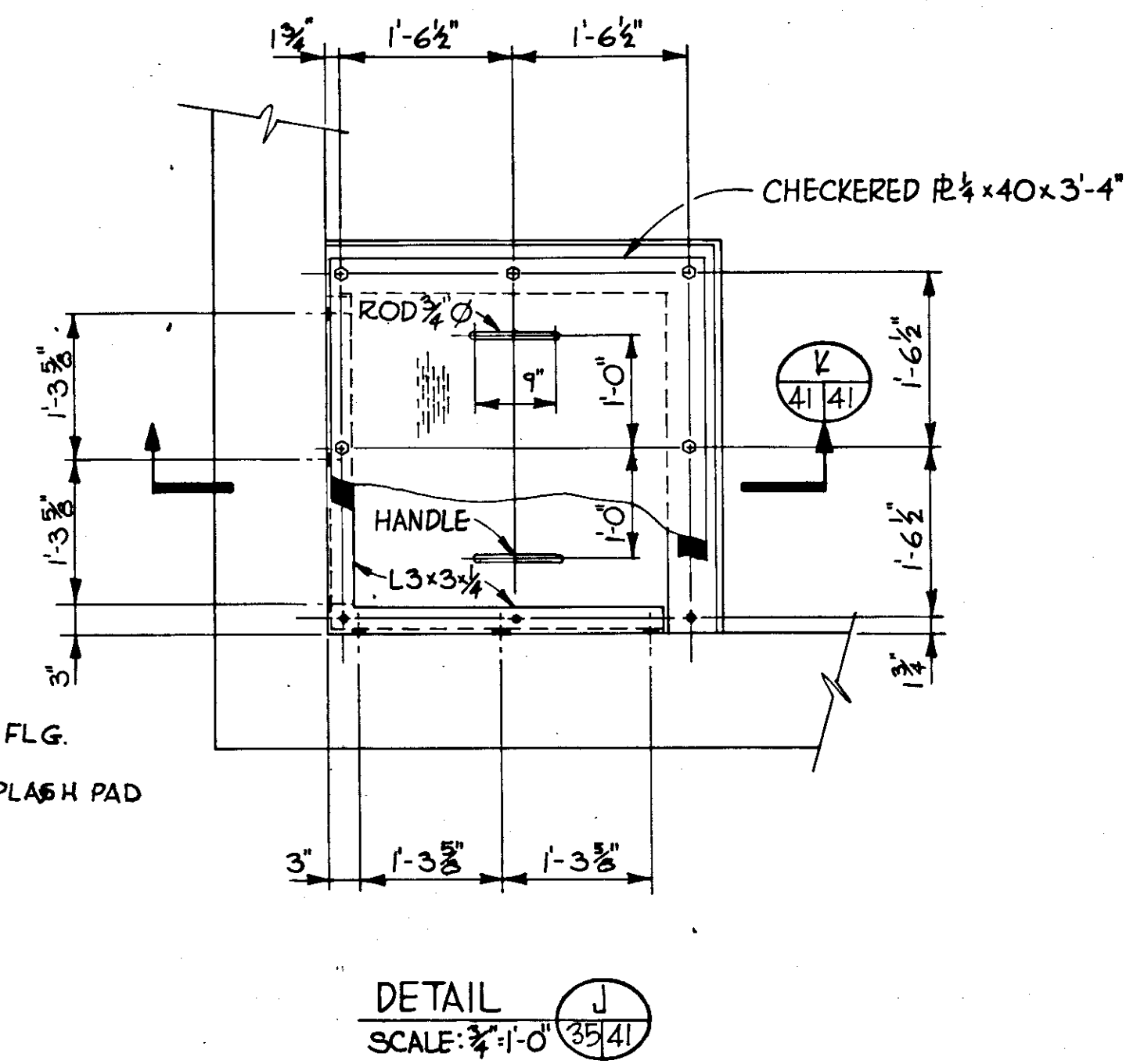
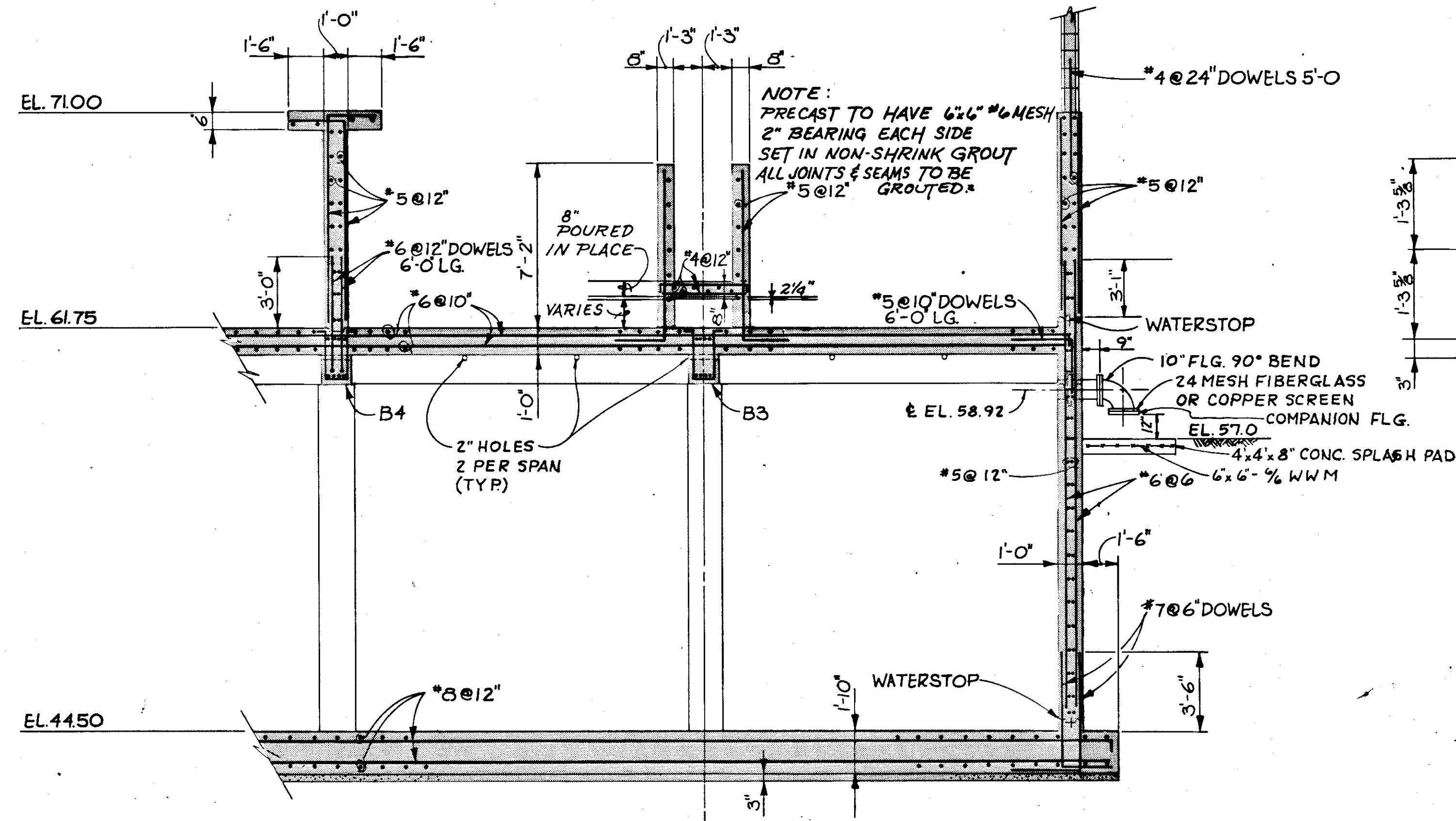
SECTION Z  
 SCALE 3/8" = 1'-0"  
 35/40  
 36

NOTE:  
 SEE DWG No 45 FOR TYP. DETAILS

NO.	DATE	DESCRIPTION	BY	CHKD.
5/79		ADDED VENT, REV. PUMP OPNG.	AL	
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT FILTER BUILDING SECTIONS & DETAILS				
MANATEE COUNTY,		FILE NO.		<b>T-41</b> FLORIDA <b>SEAL</b>
DESIGNED BY M.B.	630-761-04			
DRAWN BY HGP	SHEET 57			
CHECKED BY	No. 40			
DATE AUGUST, 1978	OF 130 SHEETS		SCALE: AS NOTED	

**BEAM SCHEDULE**

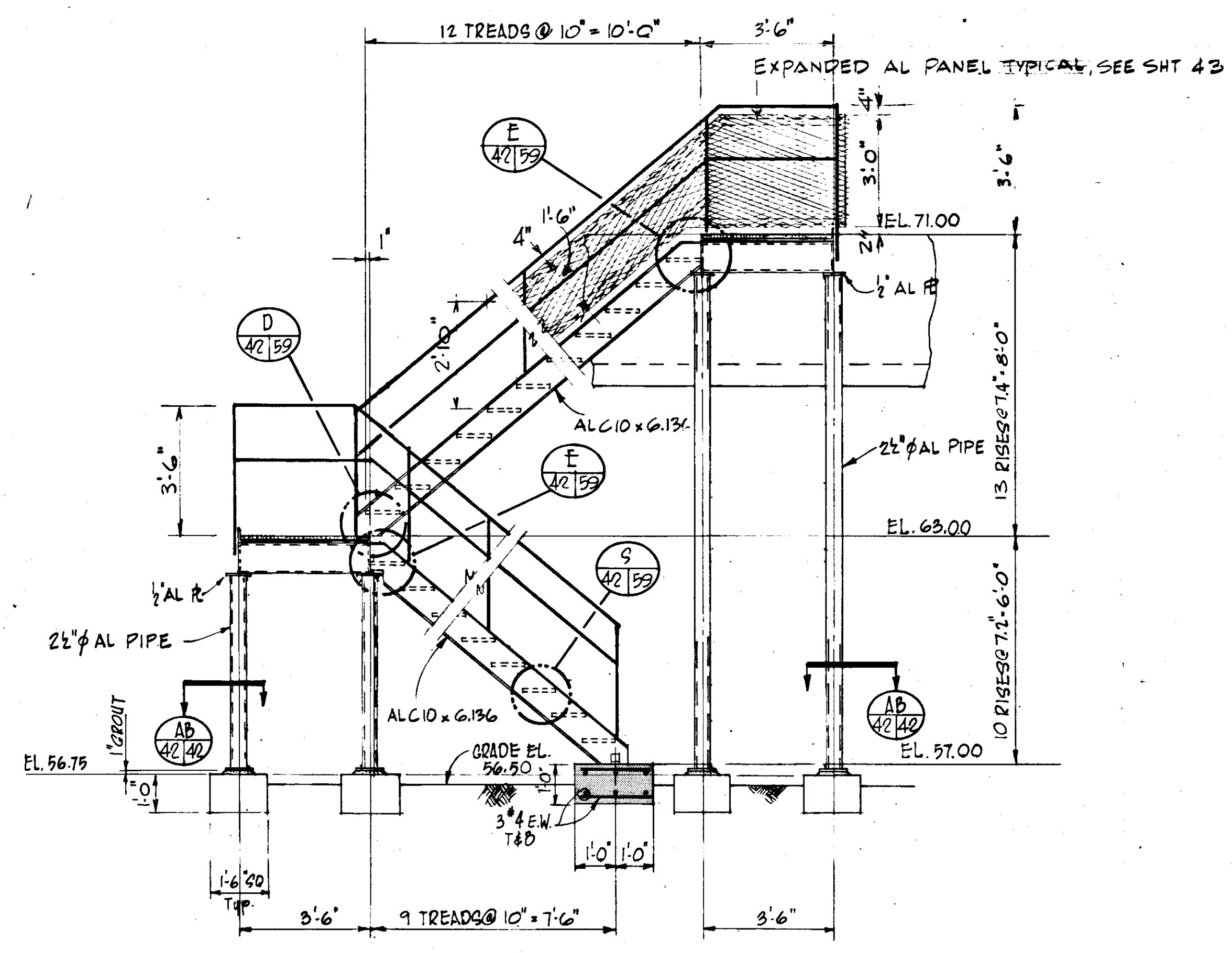
MARK	LOCATION	TOP EL.	SIZE		REINFORCING		STIRRUPS		REMARKS
			W"	D"	TOP CONT.	BOTTOM	SIZE	TYPE	
B1	OPERATING AREA	71.0	12"	16"	3*6	3*6	#3	1@2", 4@4" REMAINING @ 6"	
B2	OPERATING AREA	71.0	12"	16"	3*7	3*7	#3	1@2", 4@4" REMAINING @ 6"	
B3	FILTER	61.75	16"	28"	4*8	4*8	#4	1@2", 4@4", 8@6" REMAINING @ 12"	
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"	60"	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"	
B10	PUMP ROOM	58.33	14"	42"	3*7	3*7	#3	1@2" REMAINING @ 12"	ADD 2*7 ADDITIONAL ON EACH SIDE
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.P.A.  
CHECKED BY: R.A. [Signature]  
M.C.U.S.

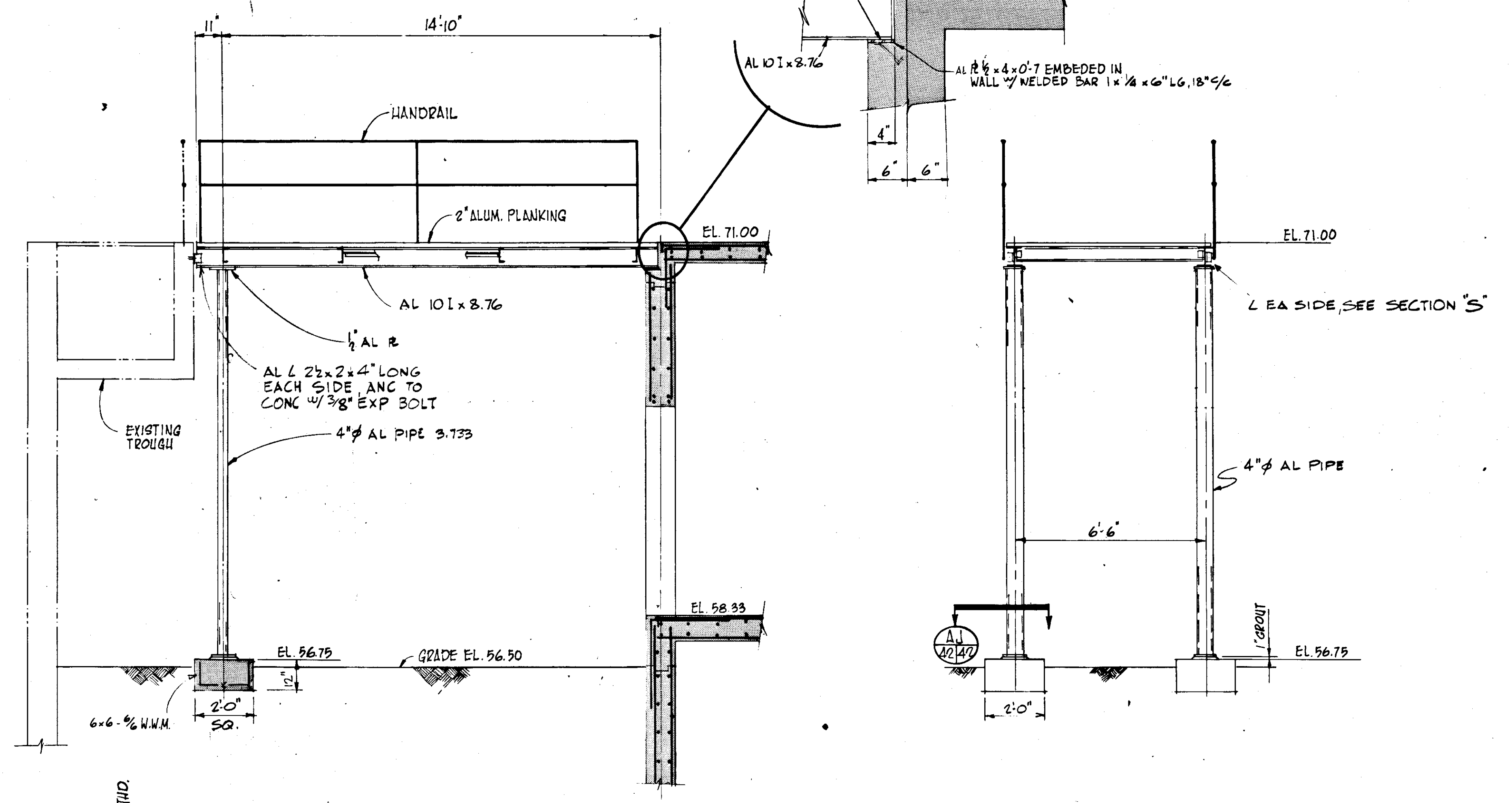
NO.	DATE	DESCRIPTION	BY	CHKD.
5/79		GEN. REVISIONS		AL
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
WATER WORKS PROJECT FILTER BUILDING SECTIONS & DETAILS				
MANATEE COUNTY, FLORIDA				
DESIGNED BY	M.B.	FILE NO.	630-761-04	<b>SEAL</b>
DRAWN BY	I.C.S.	SHEET	S 8	
CHECKED BY		No.	41	
DATE	AUGUST, 1978	SCALE:	AS NOTED	

Note: SEE DWG No. 43 FOR TYP. DETAILS



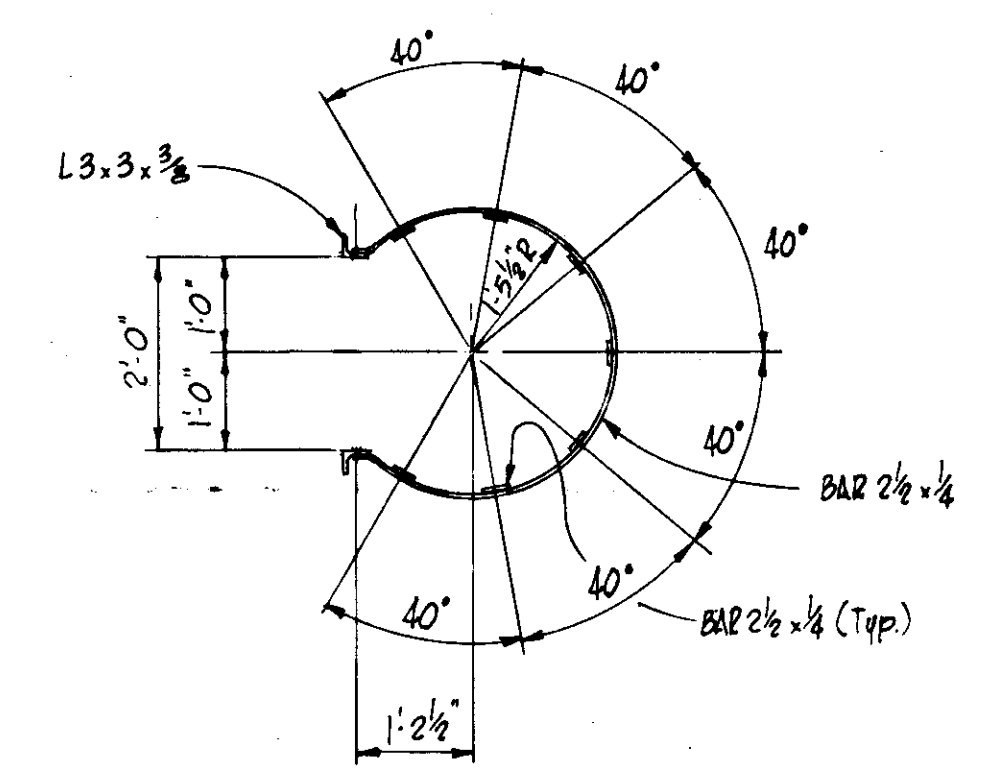
**ELEVATION**  
SCALE: 3/8" = 1'-0"

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

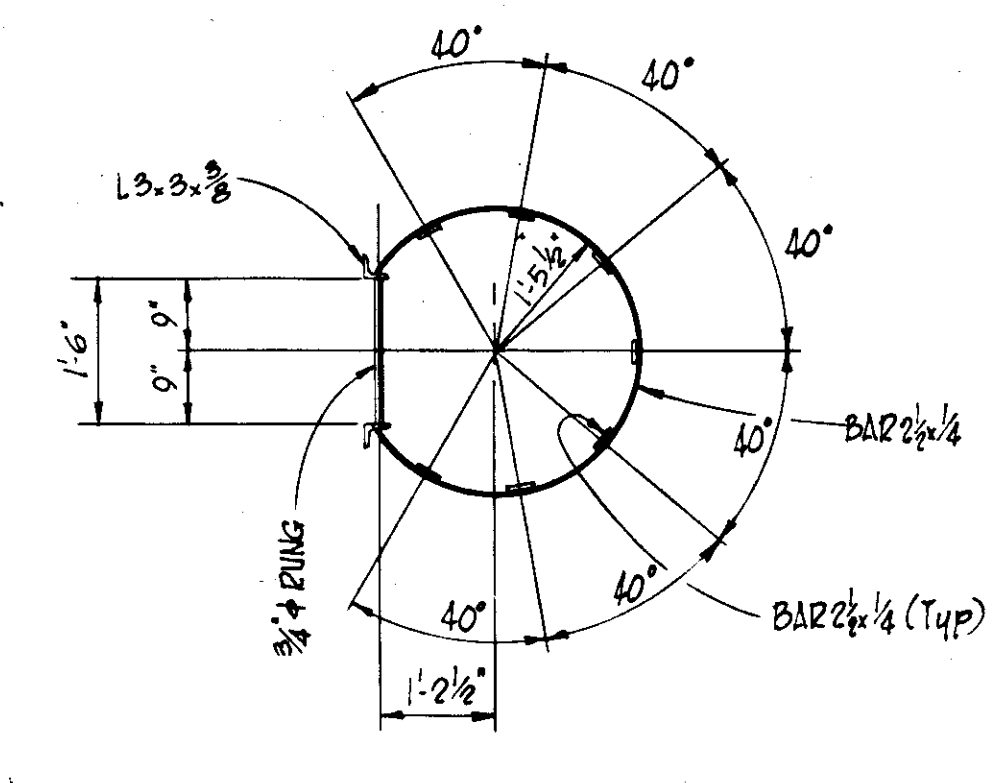


**SECTION S**  
SCALE: 3/8" = 1'-0"

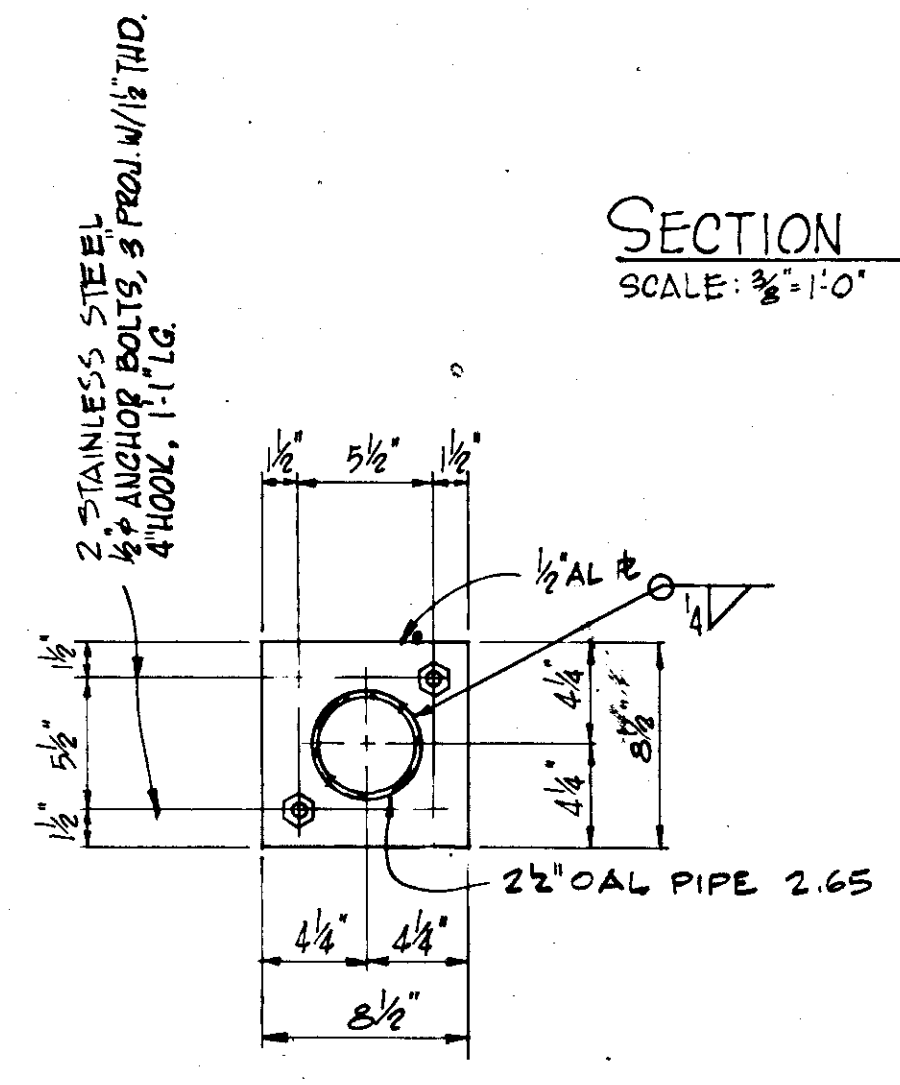
**SECTION AH**  
SCALE: 3/8" = 1'-0"



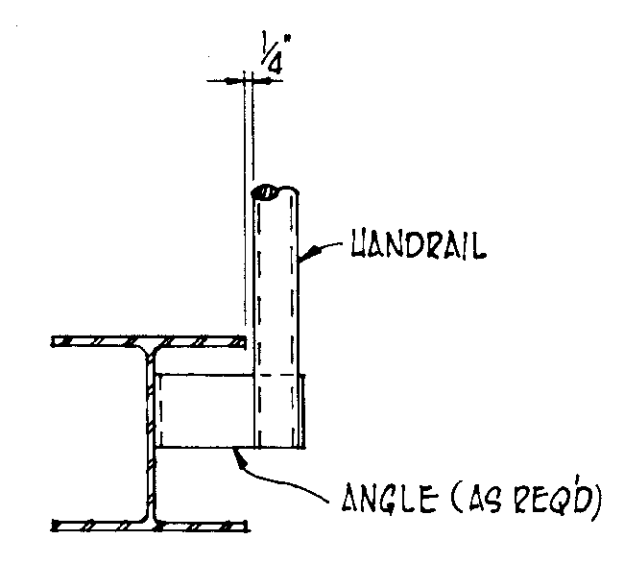
**SECTION T**  
SCALE: 1/2" = 1'-0"



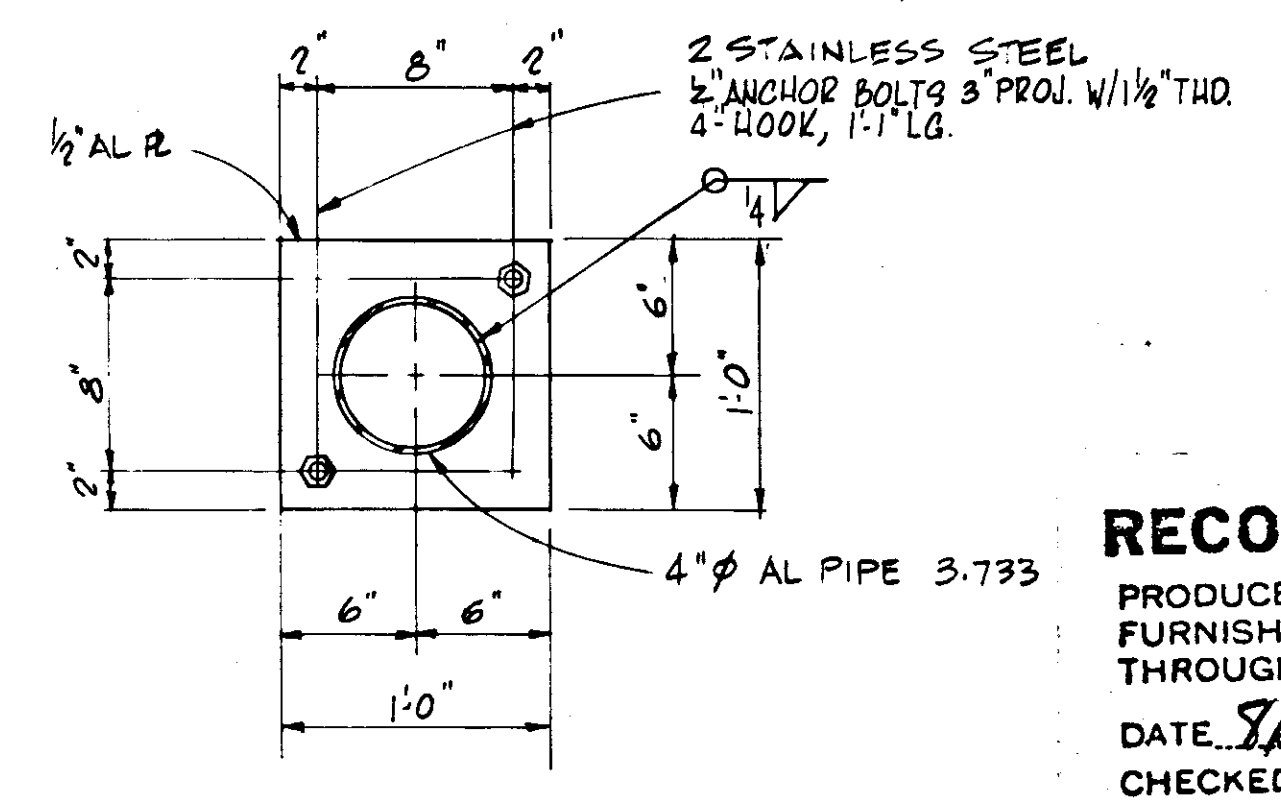
**SECTION V**  
SCALE: 1/2" = 1'-0"



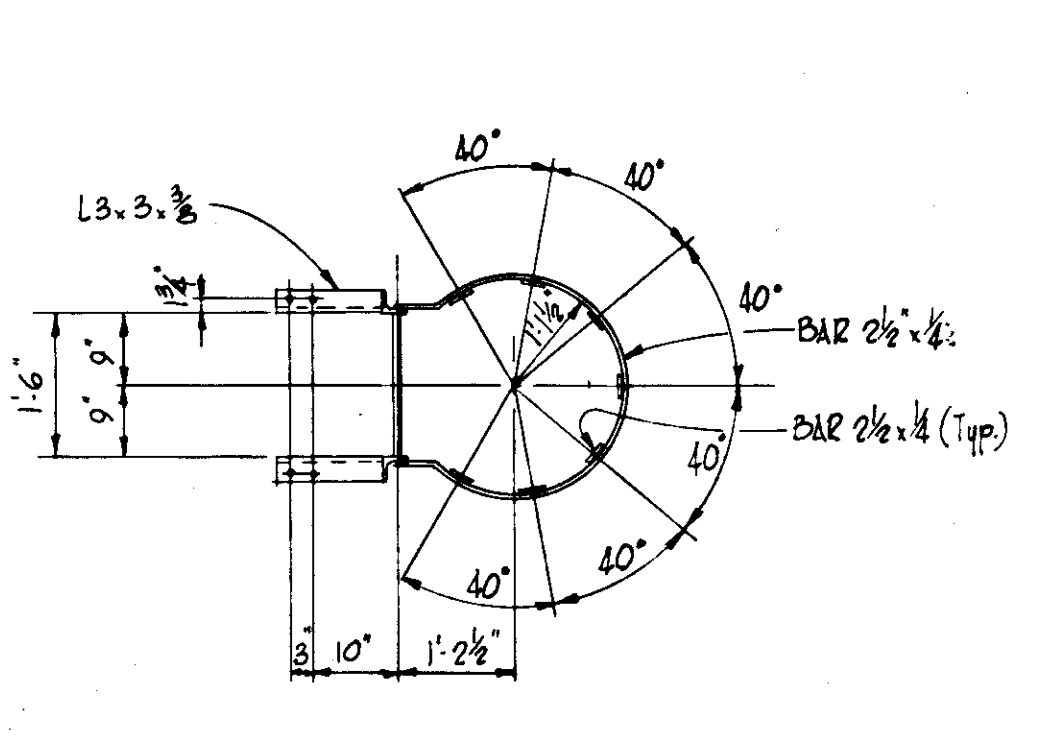
**SECTION AB**  
SCALE: 1/2" = 1'-0"



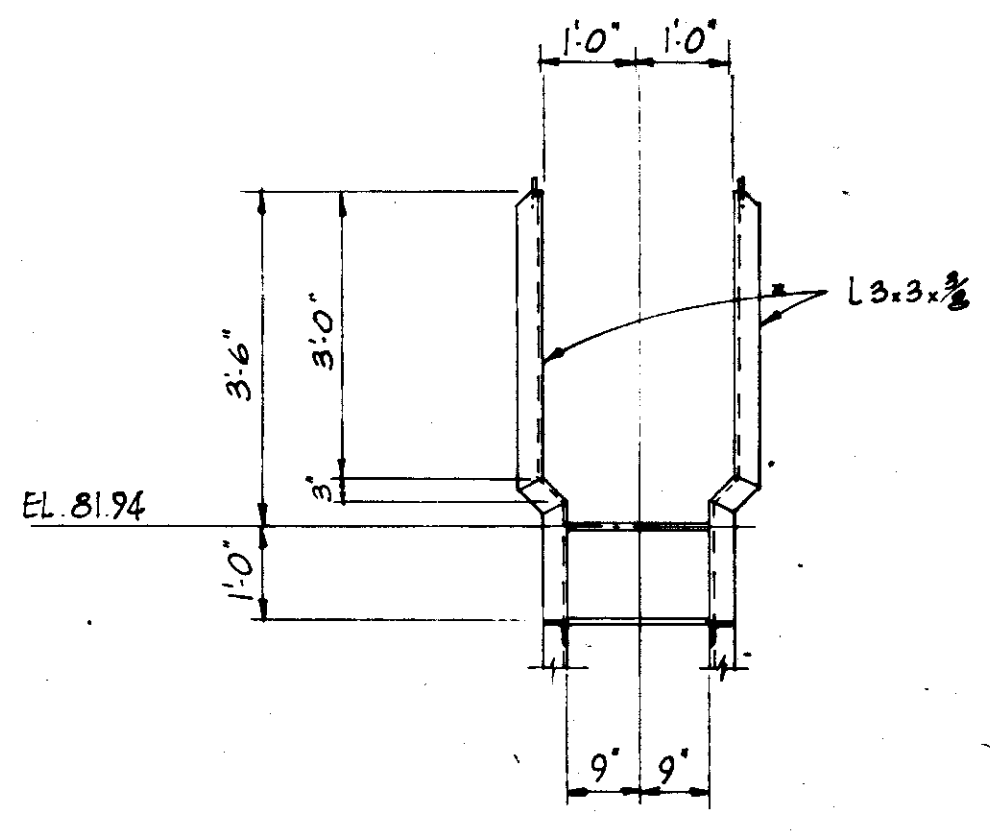
**SECTION AC**  
SCALE: 1/2" = 1'-0"



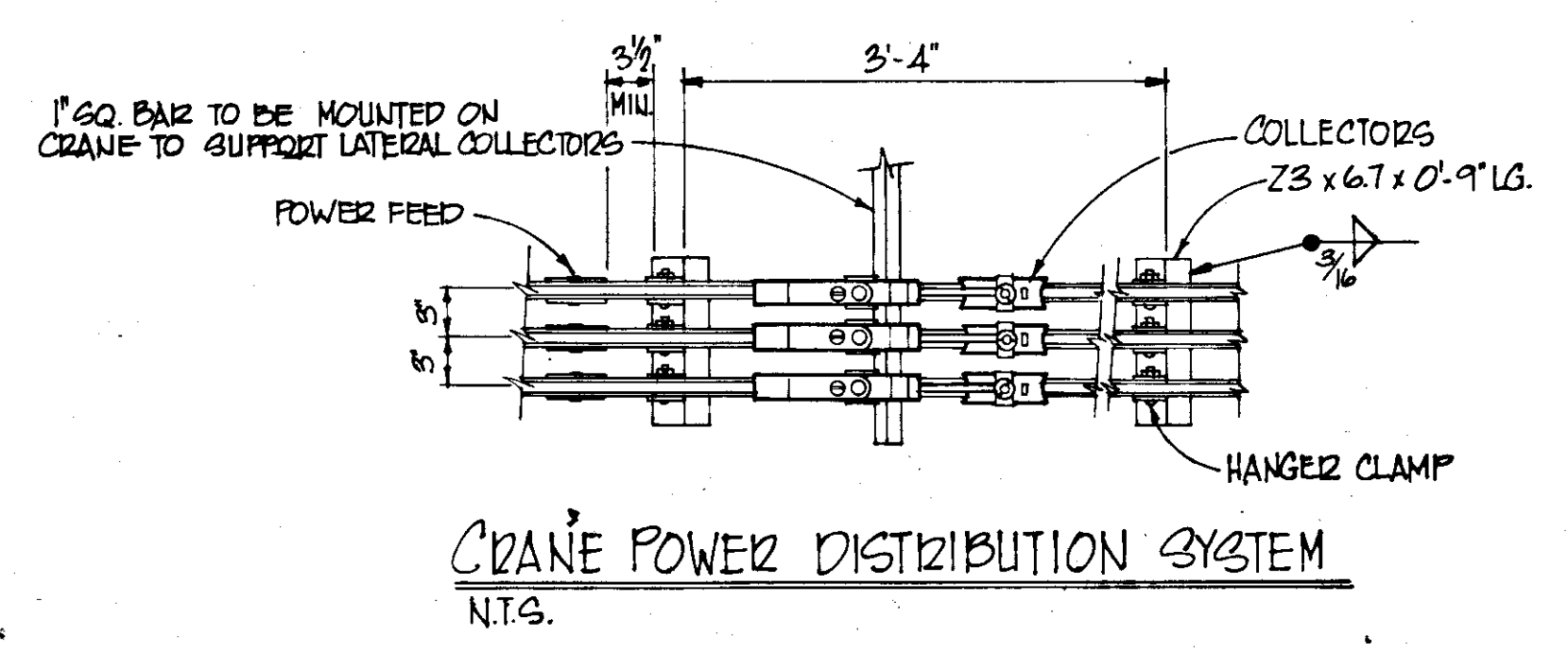
**SECTION AJ**  
SCALE: 1/2" = 1'-0"



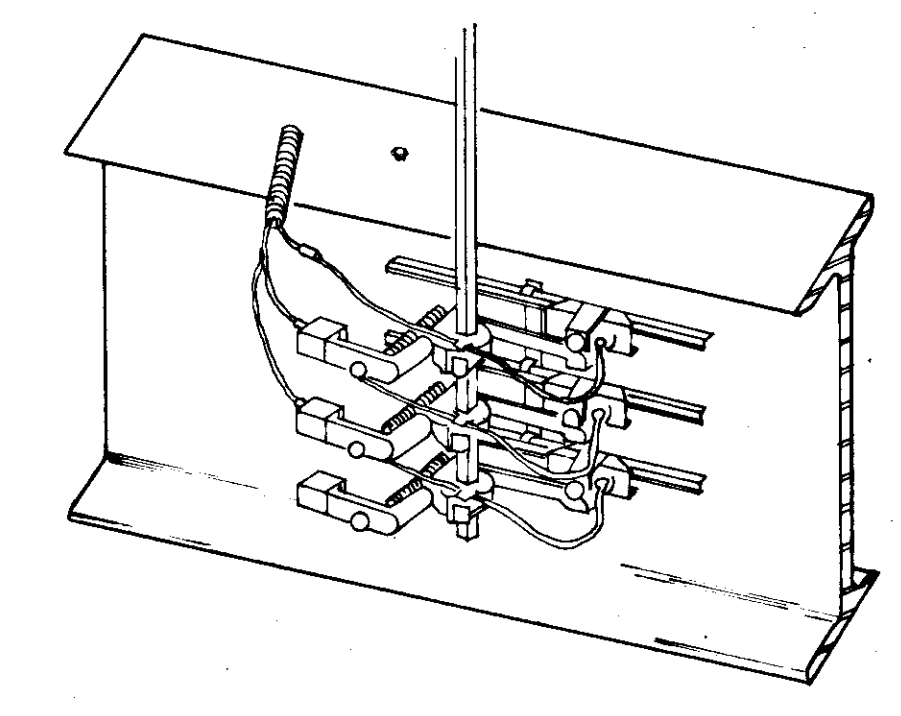
**SECTION U**  
SCALE: 1/2" = 1'-0"



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



**CRANE POWER DISTRIBUTION SYSTEM**  
N.T.S.

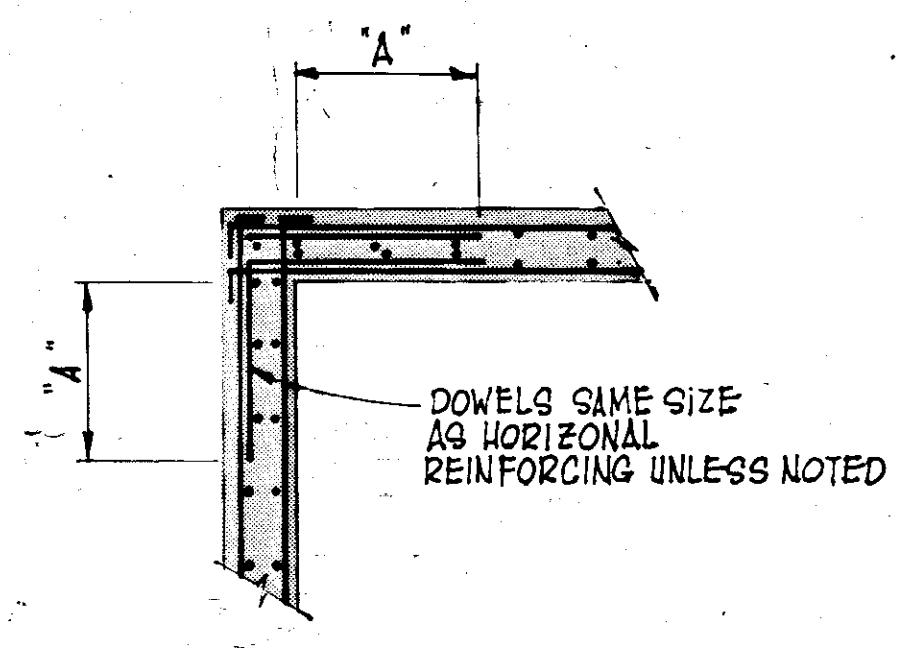


**CRANE POWER COLLECTOR SYSTEM**  
N.T.S.

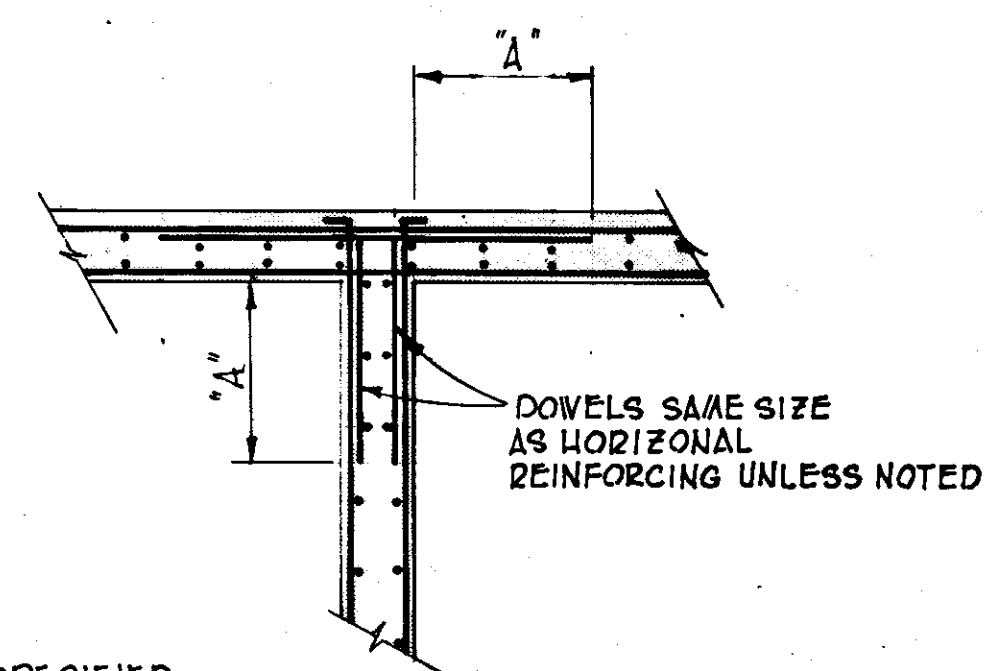
NOTE:  
SEE DWG No. 43 FOR TYP. DETAILS

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

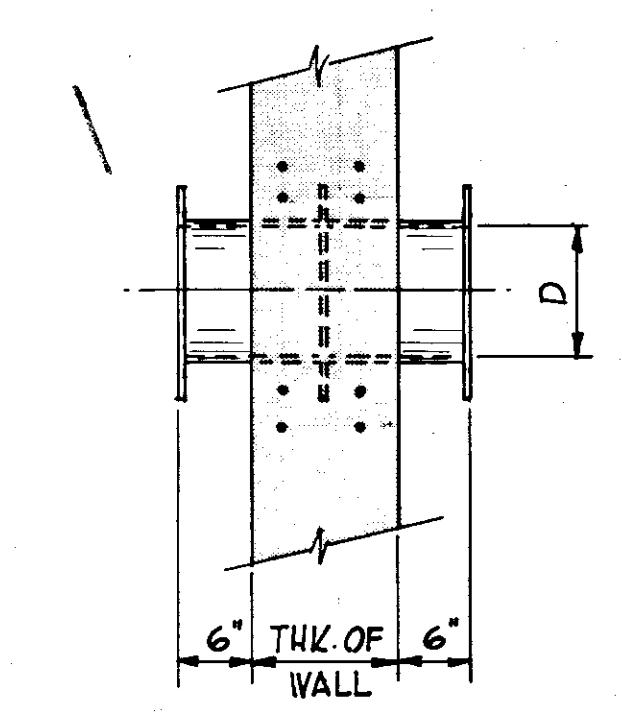


**TYP. DETAIL AT CORNER OF WALL**  
SCALE: 3/8" = 1'-0"

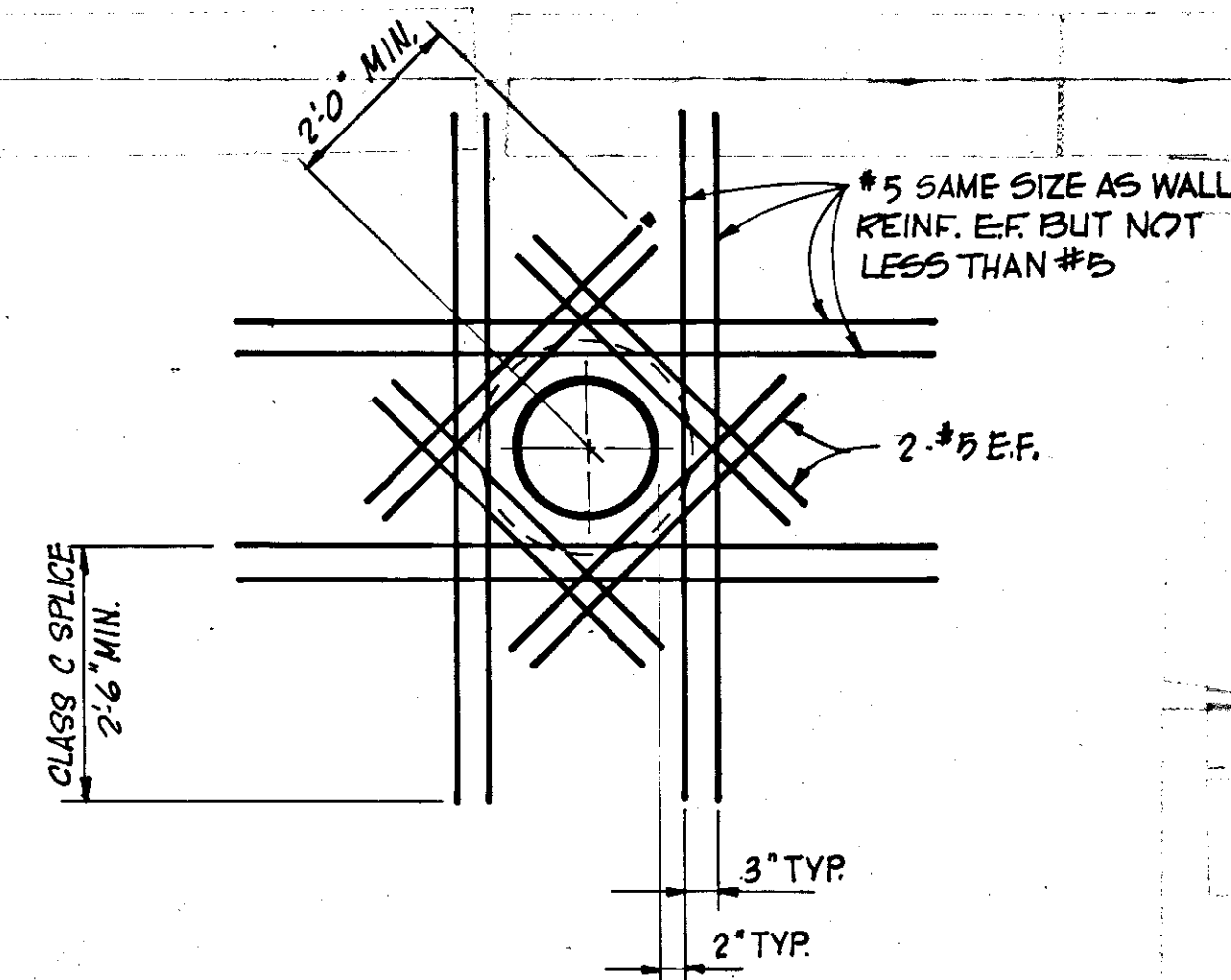


**TYP. DETAIL AT WALL INTERSECTION**  
SCALE: 3/8" = 1'-0"

A = 36 BAR DIAMETER OR SPECIFIED LAP, WHICHEVER IS GREATER BUT NOT LESS THAN 2'-6"

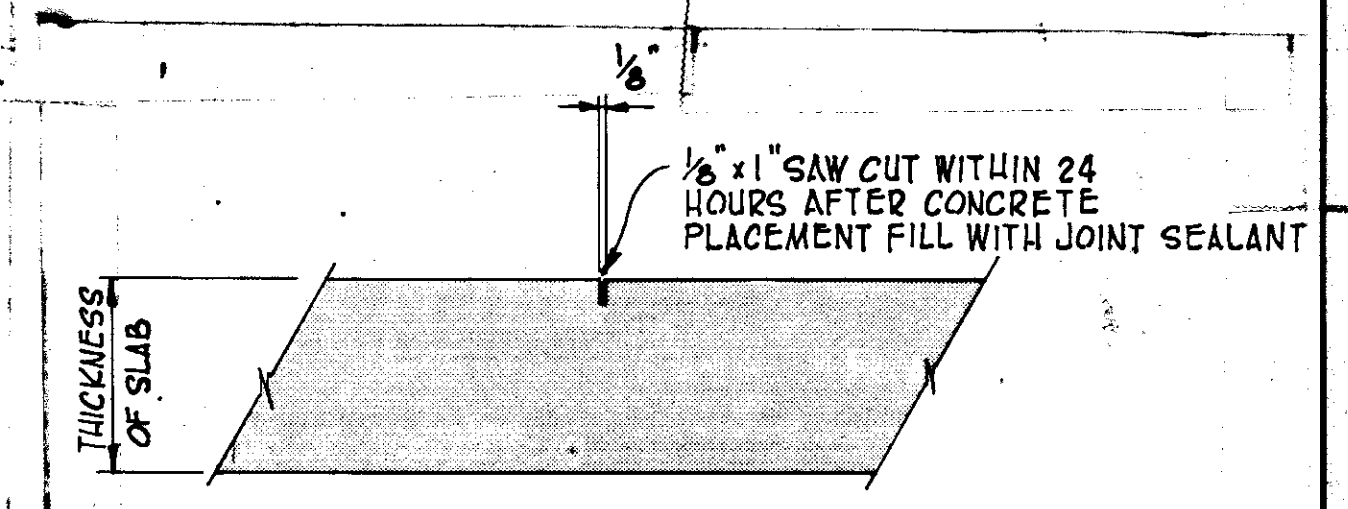


**TYP. WALL PIPE DETAIL**  
SCALE: N.T.S.

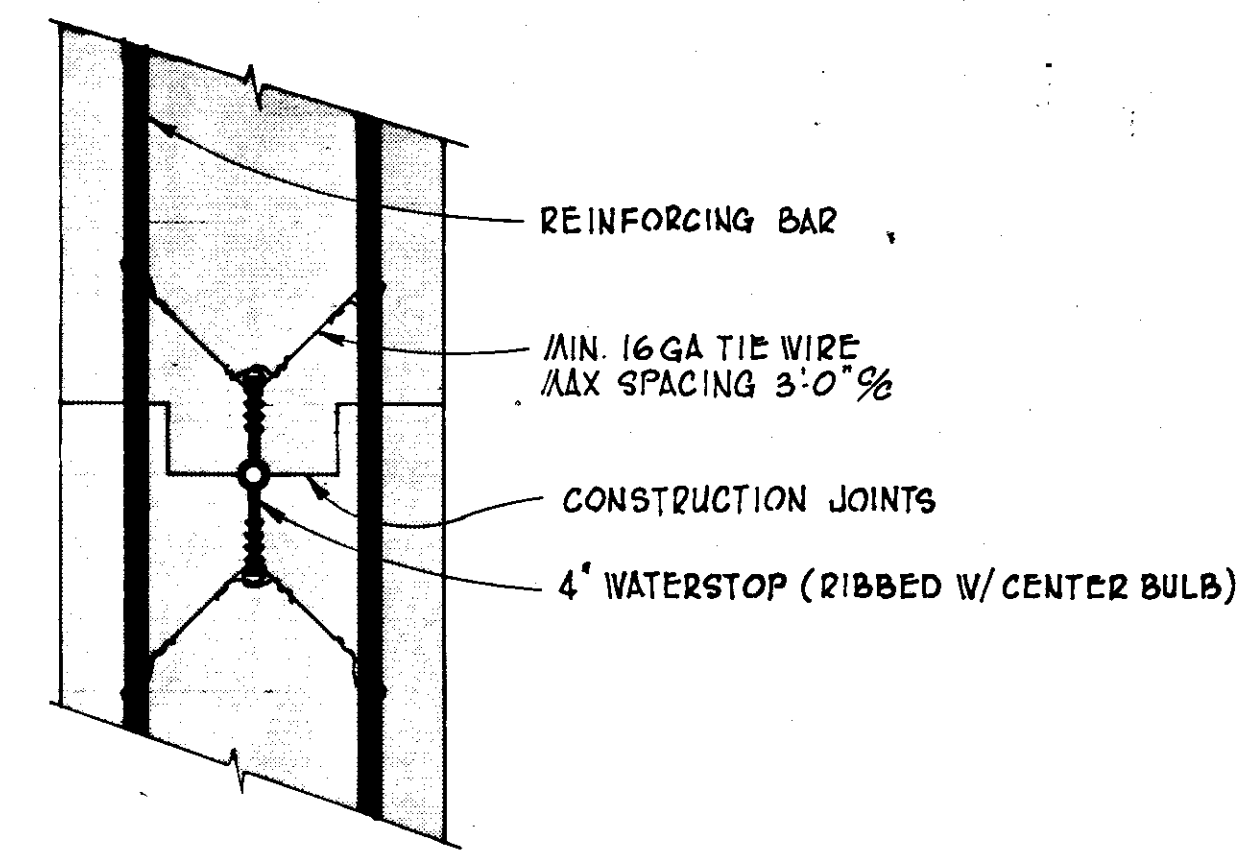


**TYP. REINFORCEMENT AT OPENING**  
SCALE: N.T.S.

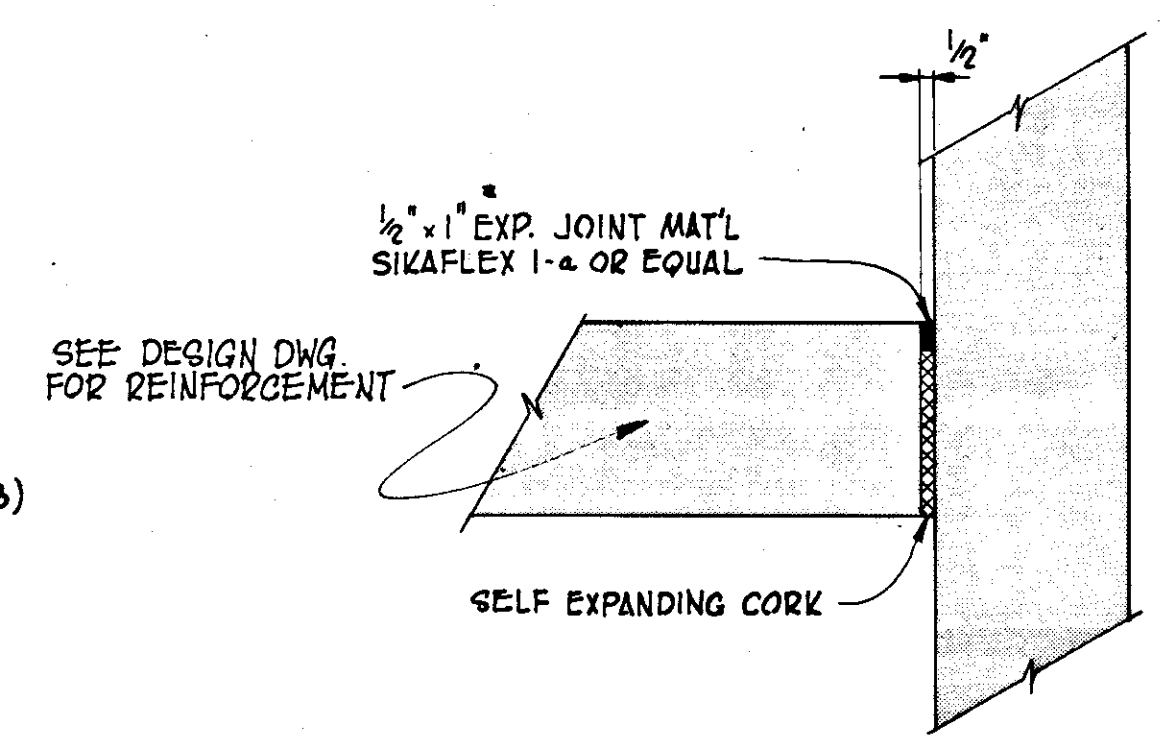
NOTES:  
1. EXTRA REINFORCEMENT SHALL BE PROVIDED IN EACH PENETRATED REINFORCED FACE, FOR ALL OPENINGS 1'-6" AND LARGER, AS SHOWN, PLACED INSIDE OF, AND TIES TO THE PRINCIPAL BARS SPACED AS CLOSE AS CODE SPACING FOR THE SELECTED SIZE WILL PERMIT, U.N.  
2. FOR SMALLER OPENINGS, PROVIDE TWO #4 BARS 4'-10"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



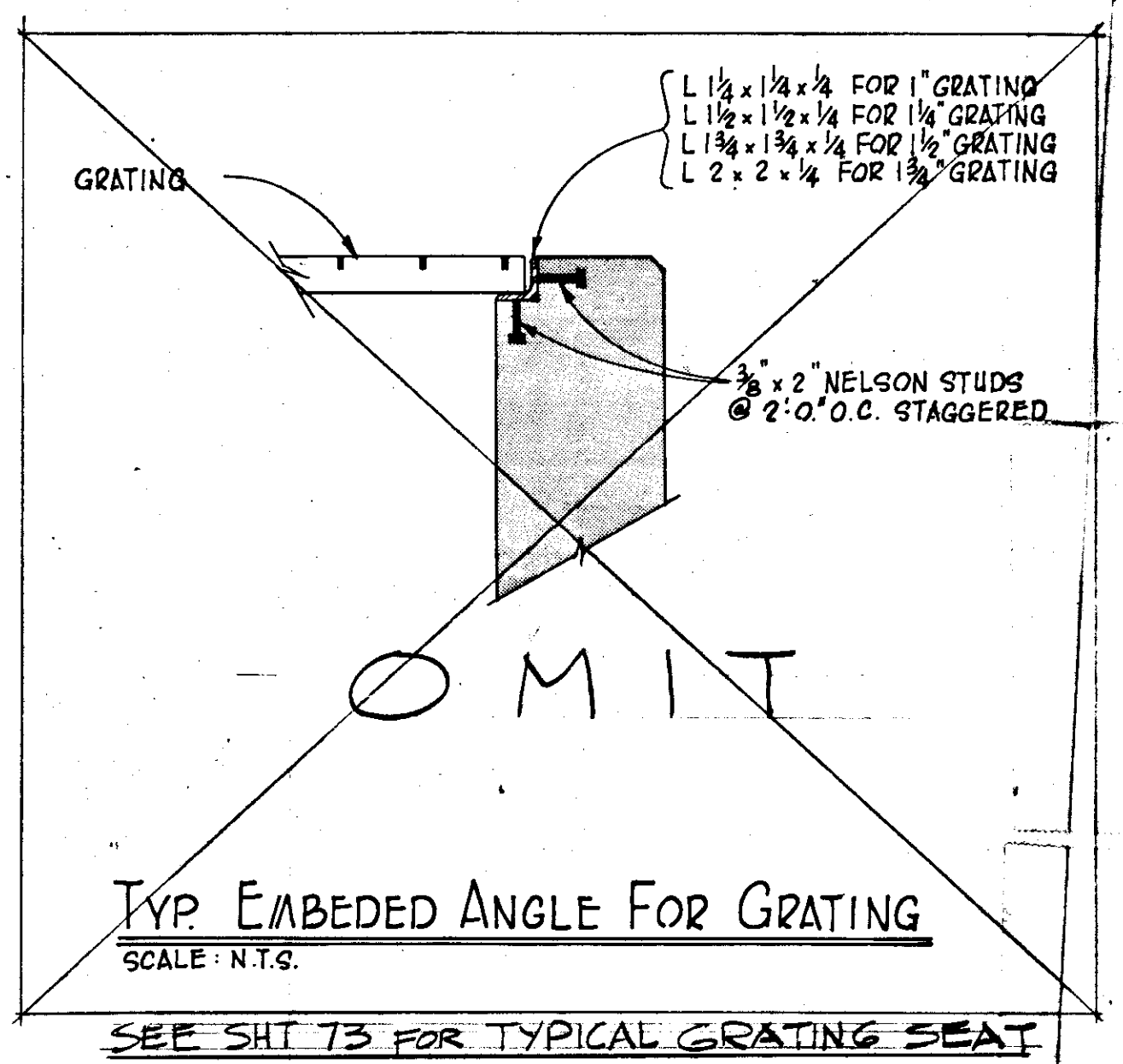
**CONTROL JOINT DETAIL**  
SCALE: N.T.S.



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



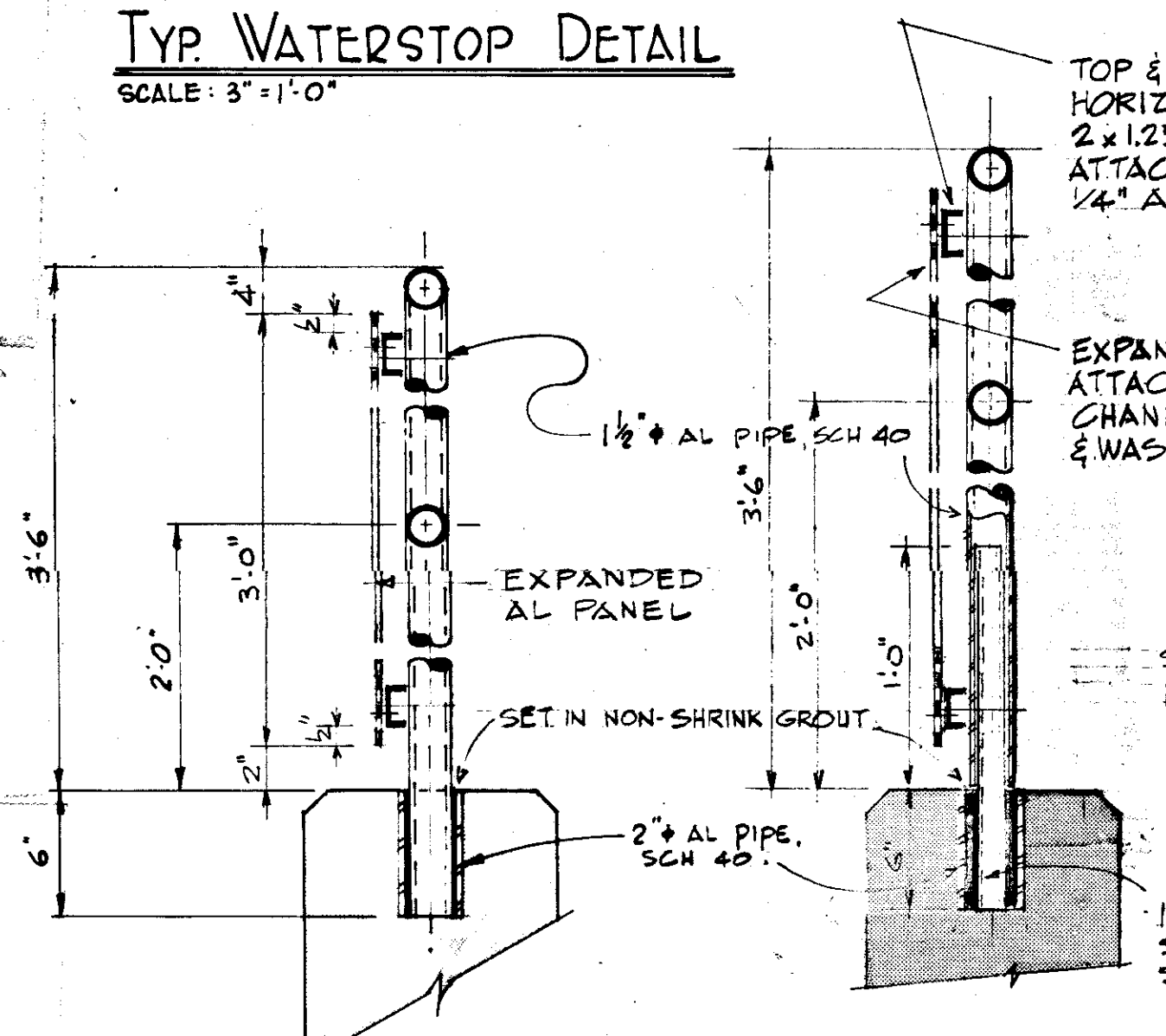
**TYP. EXPANSION JOINT DETAIL**  
SCALE: 1/2" = 1'-0"



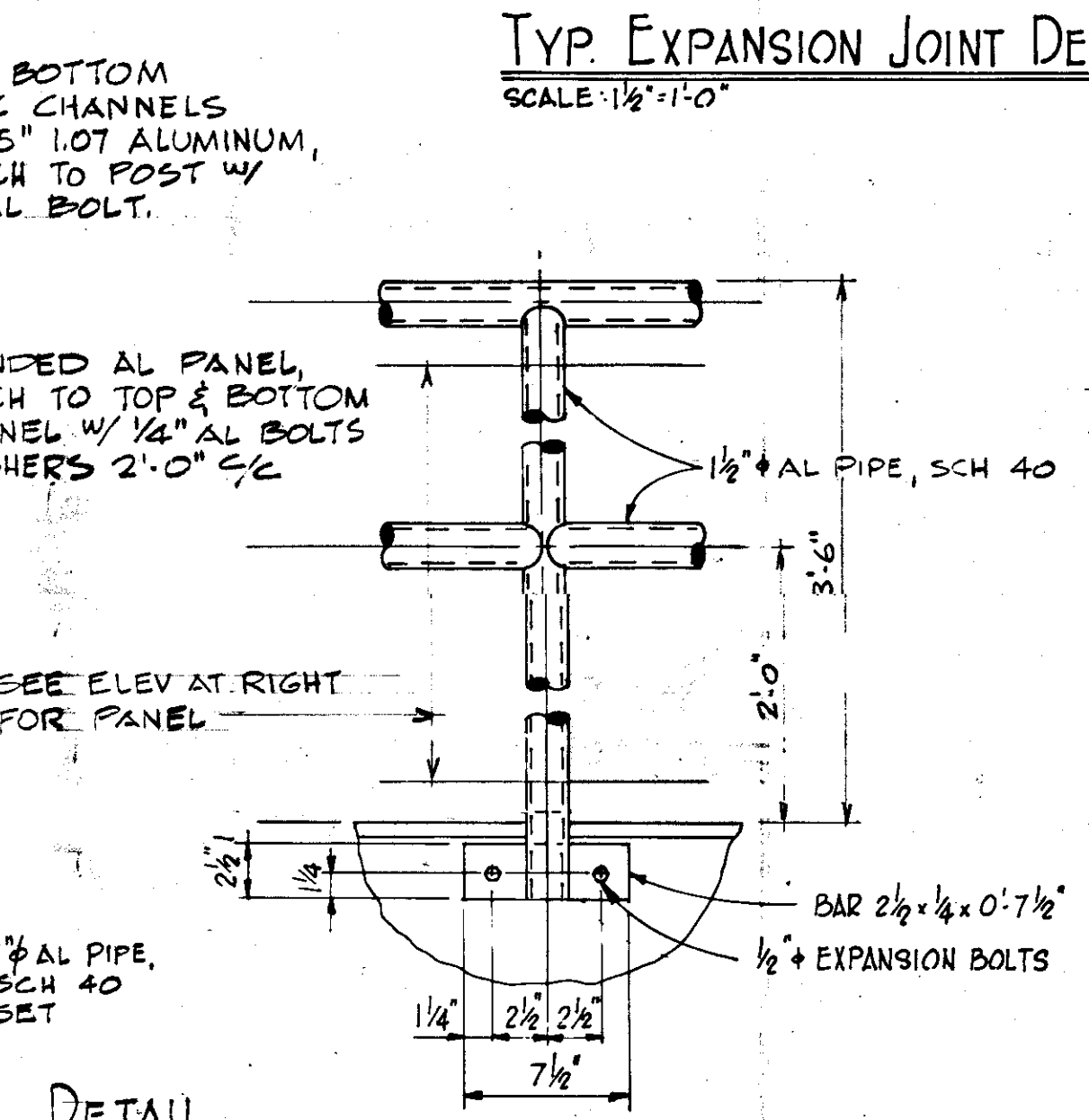
**TYP. EMBEDDED ANGLE FOR GRATING**  
SCALE: N.T.S.

**GENERAL CONCRETE NOTES:**

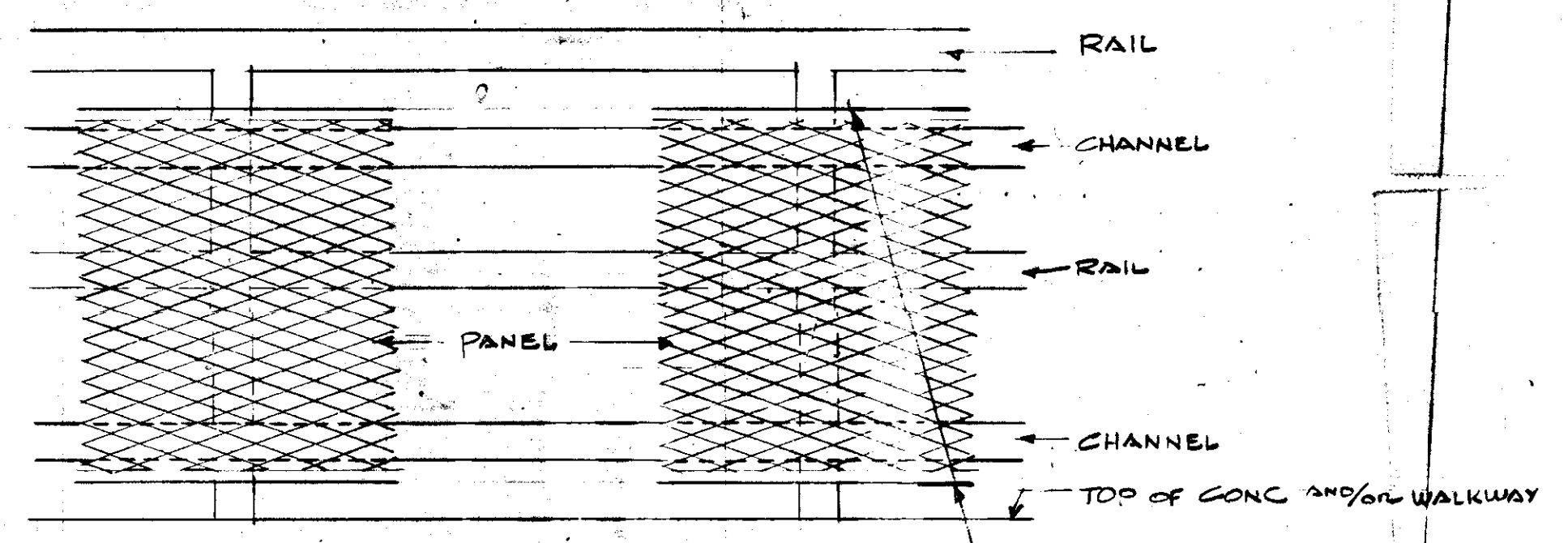
- STRUCTURAL DRAWINGS SHALL BE WORKED WITH ARCHITECTURAL, MECHANICAL, & ELECTRICAL DRAWINGS TO LOCATE THICK'D SLABS, SLOPES, DRAINS, REGLETS, BOLT SETTINGS, PIPES, ETC. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF ENGINEER BEFORE PROCEEDING WITH THE WORK.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS UNLESS OTHERWISE NOTED.
- ALL REINFORCING STEEL SHALL BE DEFORMED BARS, NEW BILLET STOCK, A.S.T.M. A-615-76, GRADE 60 UNLESS OTHERWISE NOTED.
- ALL SPLICES SHALL BE ACI 318-77 CLASS C UNLESS OTHERWISE NOTED.
- 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.
- 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.
- AT DISCONTINUOUS ENDS OF BEAMS & SLABS, TOP BAR SHALL TERMINATE IN STANDARD 90 DEGREE ACI HOOK, UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL VERIFY ALL PIPE SIZES & LOCATIONS.
- 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.
- CONTRACTOR SHALL LOCATE ALL THE CONSTRUCTION JOINTS IN SLABS & WALLS & SHALL BE APPROVED BY ENGINEER BEFORE PROCEEDING WITH THE WORK.
- WATERSTOP SHALL BE INSTALLED AT ALL CONSTRUCTION JOINTS UNLESS OTHERWISE SPECIFIED.
- ALL ANCHOR BOLTS SHALL CONFORM TO A.S.T.M. A307 OR A.S.T.M. A36.
- THE MINIMUM COVER FOR PLACING REINFORCEMENT FROM ANY CONCRETE SURFACE SHALL BE IN ACCORDANCE WITH SECTION 7-14 OF ACI 318-71, UNLESS NOTED.
- ALL EXPOSED CONCRETE SHALL HAVE 3/4" CHAMFER.
- BACKFILL SHALL NOT BE PLACED AGAINST ANY SUBSTRUCTURE WALL UNTIL FORMS HAVE BEEN STRIPPED FROM ADJACENT SLAB OR UNLESS WALLS HAVE BEEN PROPERLY BRACED.
- DEVELOPMENT OF REINFORCEMENT SHALL BE IN ACCORDANCE WITH CHAPTER 12 OF THE ACI 318-71 STANDARDS OR AS NOTED ON THE DRAWINGS.
- WHERE COLUMNS ARE AN INTEGRAL PART OF CONC. WALLS, HORIZONTAL WALL REINFORCEMENT SHALL BE CONTINUOUS THROUGH COLUMNS.
- SLAB ON GRADE SHALL HAVE A MINIMUM OF 4" CRUSHED STONE UNLESS OTHERWISE NOTED.
- AT ALL CONSTRUCTION JOINTS, THE SURFACE OF THE CONCRETE SHALL BE ROUGHENED FOR BOND.



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



**TYP. SIDE-MOUNTED HANDRAIL DETAIL**  
SCALE: 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 (1/2" WIDE)

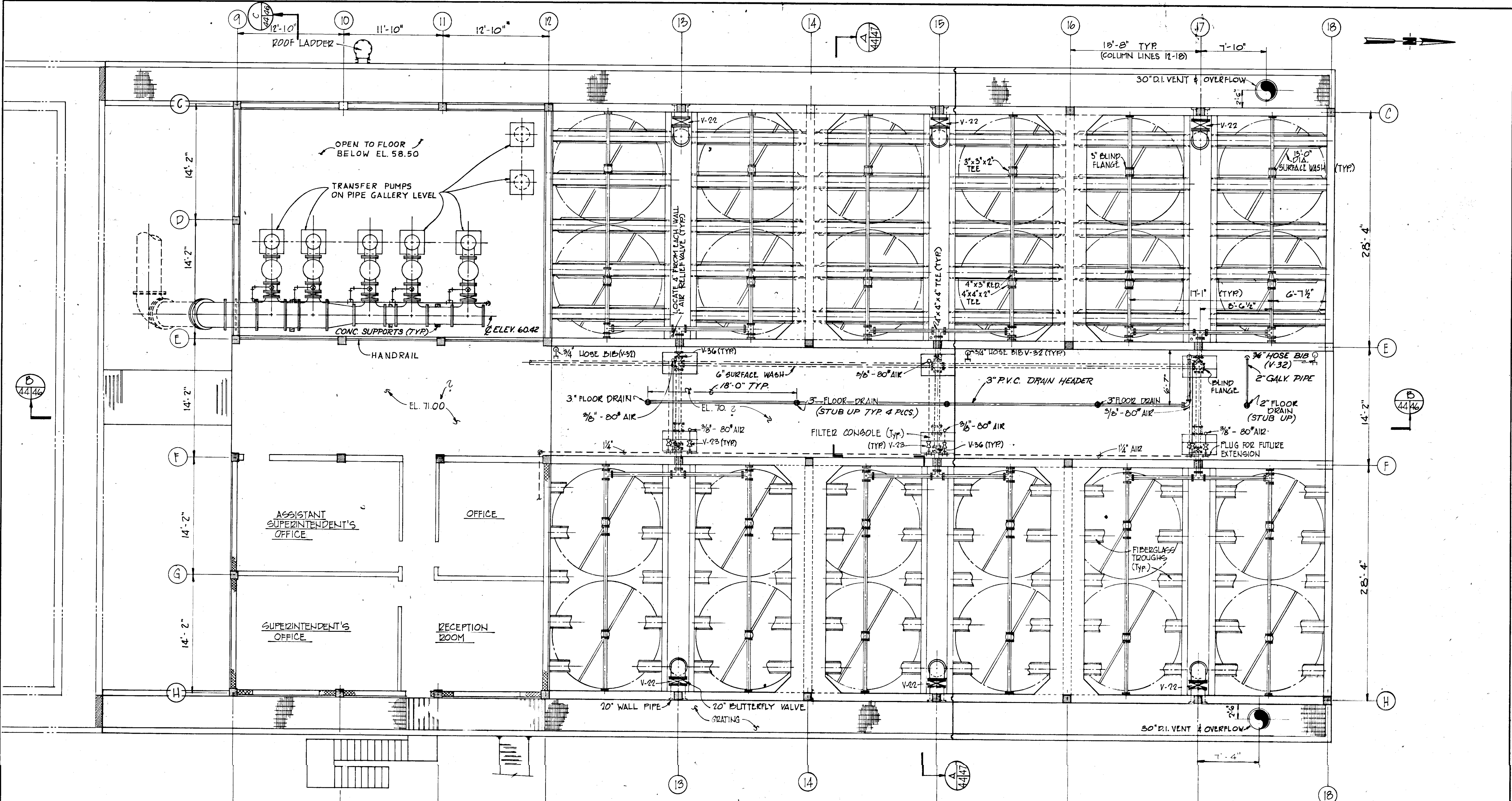
**TYP. HANDRAIL DETAIL**  
SCALE: 1/2" = 1'-0"

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: 8/30/78 BY: KEN  
CHECKED BY: R & A  
M.C.U.S.

NO.	DATE	DESCRIPTION	WRW	WPH
5/79	GEN REV			
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT FILTER BUILDING TYPICAL DETAILS				
MANATEE COUNTY,			T-44 FLORIDA	
DESIGNED BY	FILE NO.	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"

MAINTENANCE BUILDING

**RECORD DRAWING**

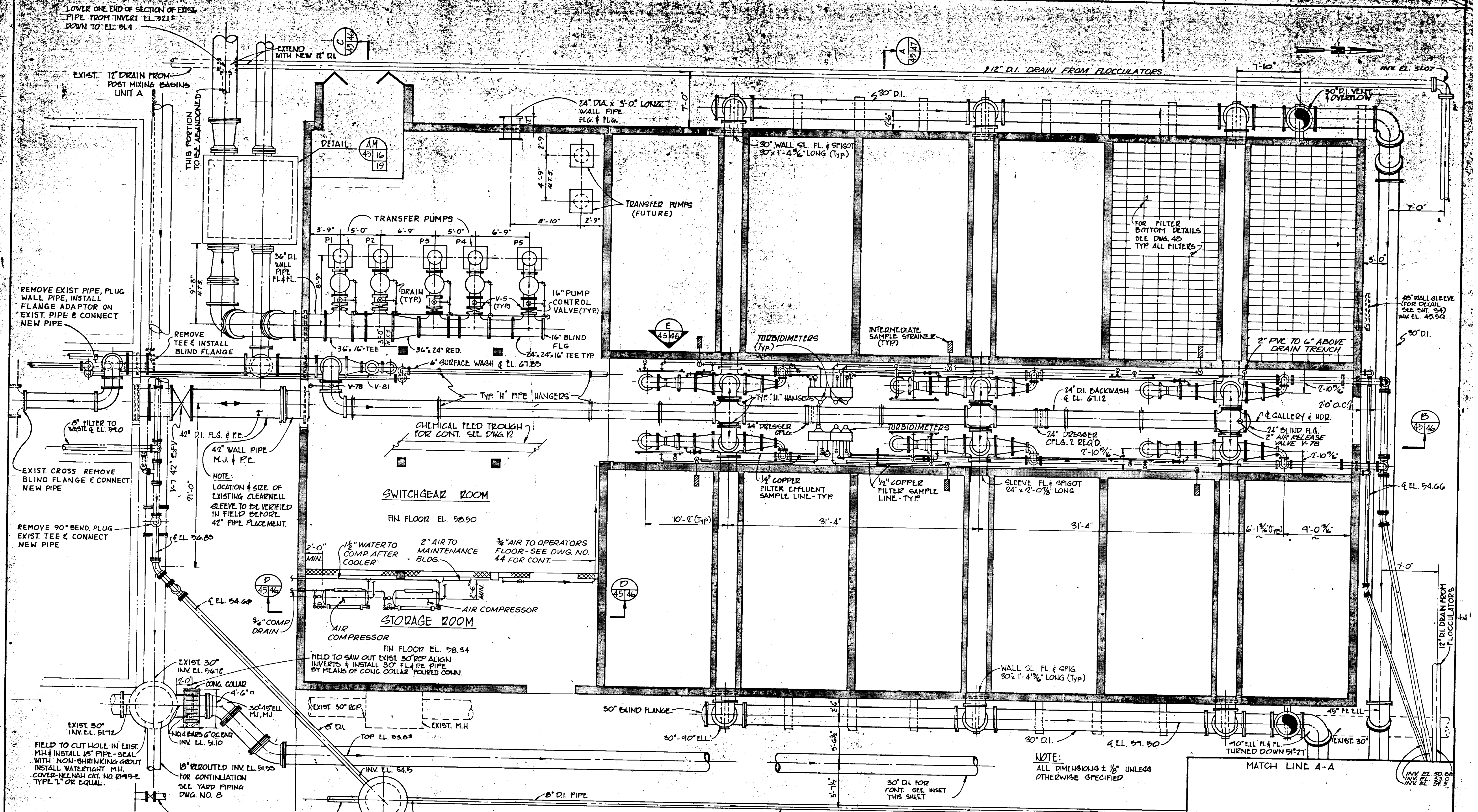
PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.

DATE 8/30/78 BY R.A. [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. 11.

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,		<b>T-45</b>	
		FLORIDA	
DESIGNED BY	FILE NO.	<b>SEAL</b>	
B.E.D	630-761-04		
DRAWN BY	SHEET M-1		
H.G.B			
CHECKED BY	No. 44		
	OF 130 SHEETS		
DATE	SCALE: 3/16" = 1'-0"		
AUGUST, 1978			



LOWER ONE END OF SECTION OF EXIST. PIPE FROM INVERT EL. 52.12 DOWN TO EL. 51.4

REMOVE EXIST. PIPE, PLUG WALL PIPE, INSTALL FLANGE ADAPTOR ON EXIST. PIPE & CONNECT NEW PIPE

EXIST. CROSS REMOVE BLIND FLANGE & CONNECT NEW PIPE

REMOVE 90° BEND, PLUG EXIST. TEE & CONNECT NEW PIPE

FIELD TO CUT HOLE IN EXIST. M.H. & INSTALL 18" PIPE - SEAL WITH NON-SHRINKING GROUT. INSTALL WATER-TIGHT M.H. COVER - MINNAH CAT. NO. R145-E TYPE "L" OR EQUAL.

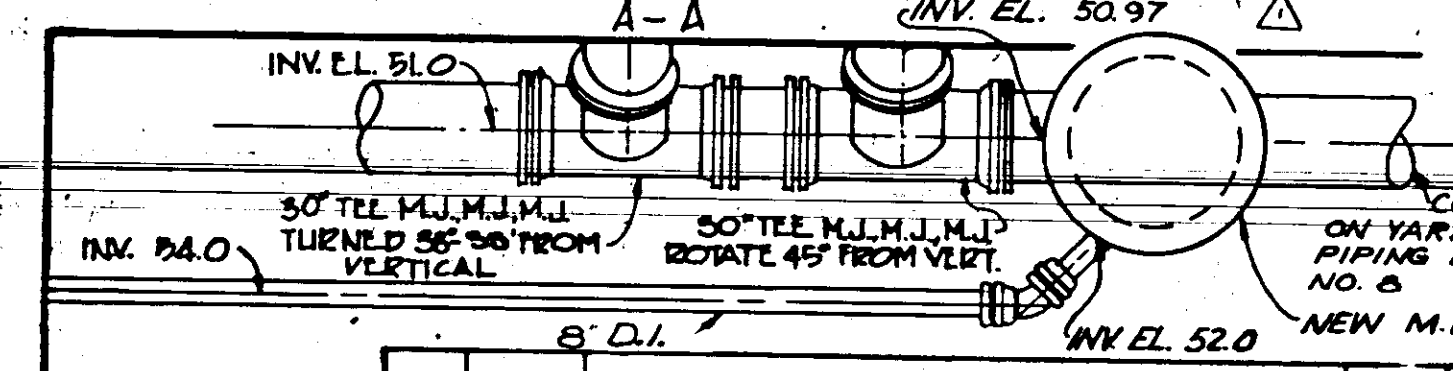
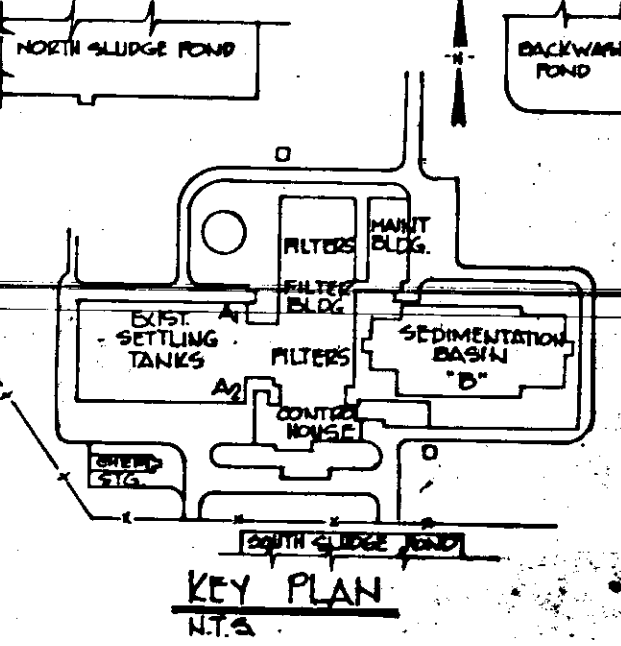
EXIST. 5" DRAIN REROUTE AND RAISE INV. EL. FROM 53.75 TO 54.5

NOTE: LOCATION & SIZE OF EXISTING CLEARWELL SLEEVE TO BE VERIFIED IN FIELD BEFORE 42" PIPE PLACEMENT.

HOLD TO SAW OUT EXIST. 30" RCP ALIGN INVERTS & INSTALL 30" FL. PE. PIPE BY MEANS OF CONG. COLLAR & RIGID CONN.

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

NOTES  
1. FOR VALVE SCHEDULE, SEE SH. 57  
2. FOR PUMP SCHEDULE, SEE SH. 11



NO.	DATE	DESCRIPTION	BY	CHKD.
5/79		RELOCATED MAN HOLE, REVISED PIPING	MAS.	WDH
				CKD

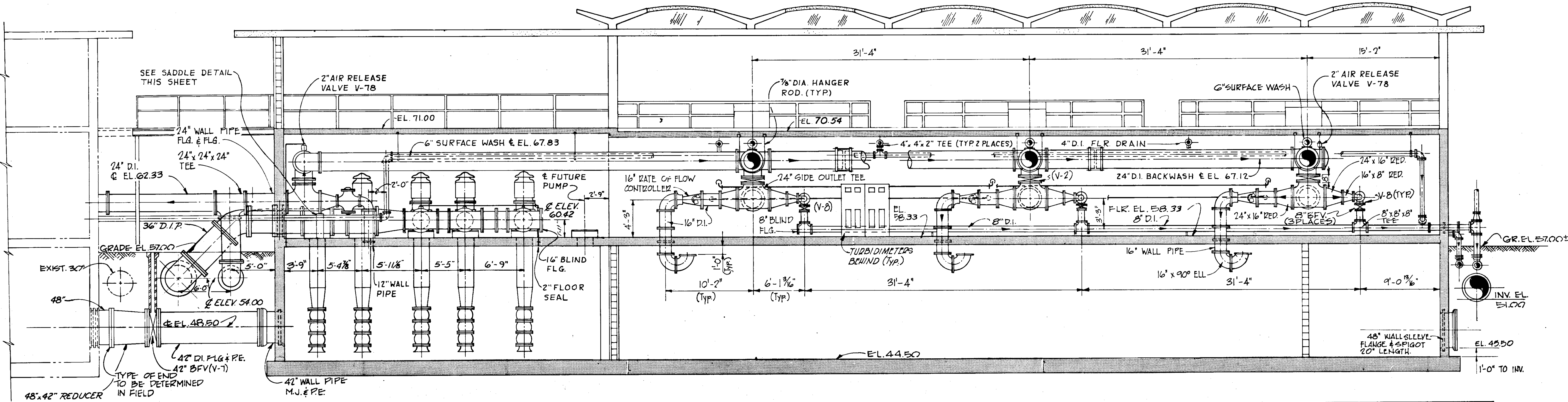
**RUSSELL & AXON**  
Engineers - Planners - Architects

**FILTER BUILDING**  
PLAN AT ELEVATION 69.00

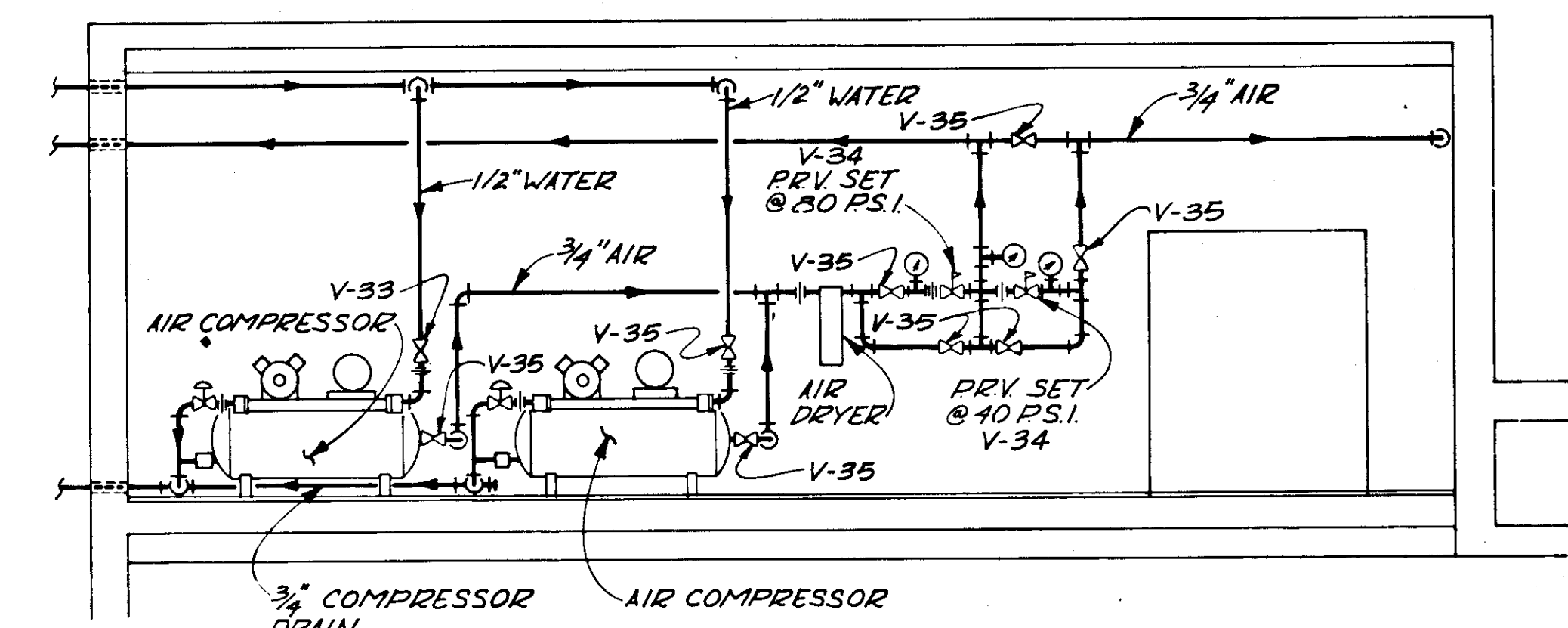
**T-46**  
FLORIDA

MANATEE COUNTY, FLORIDA

DESIGNED BY	FILE NO.
WDG./R.D.H.	630-761-04
DRAWN BY	SHEET NO.
H.G.B.	M 2
CHECKED BY	NO. 45
	OF 130 SHEETS
DATE	SCALE: 3/16" = 1'-0"
AUGUST, 1978	14-01

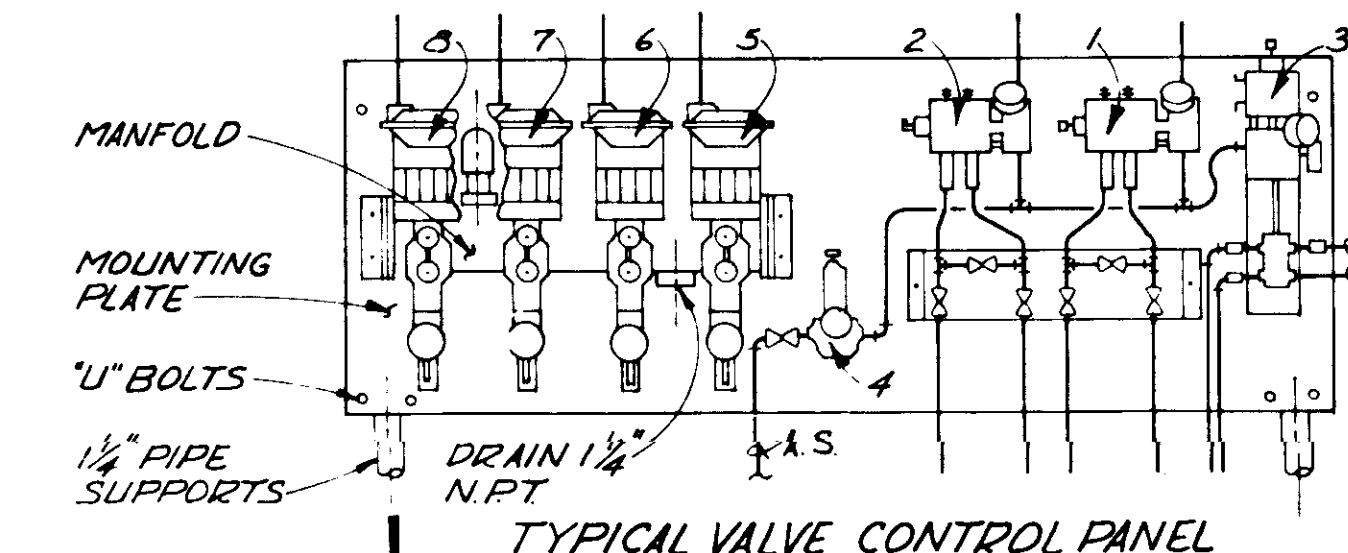


SECTION B  
SCALE 3/16" = 1'-0"

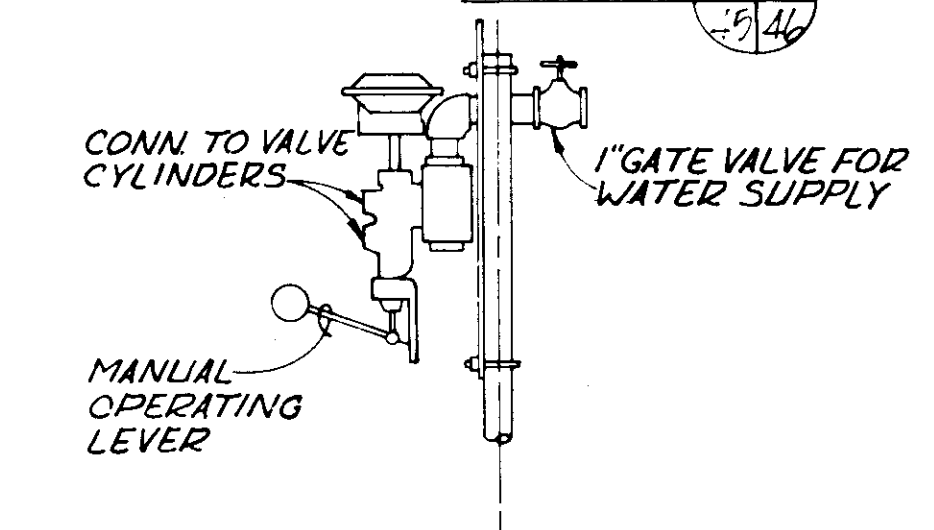


SECTION D  
SCALE 1/4" = 1'-0"

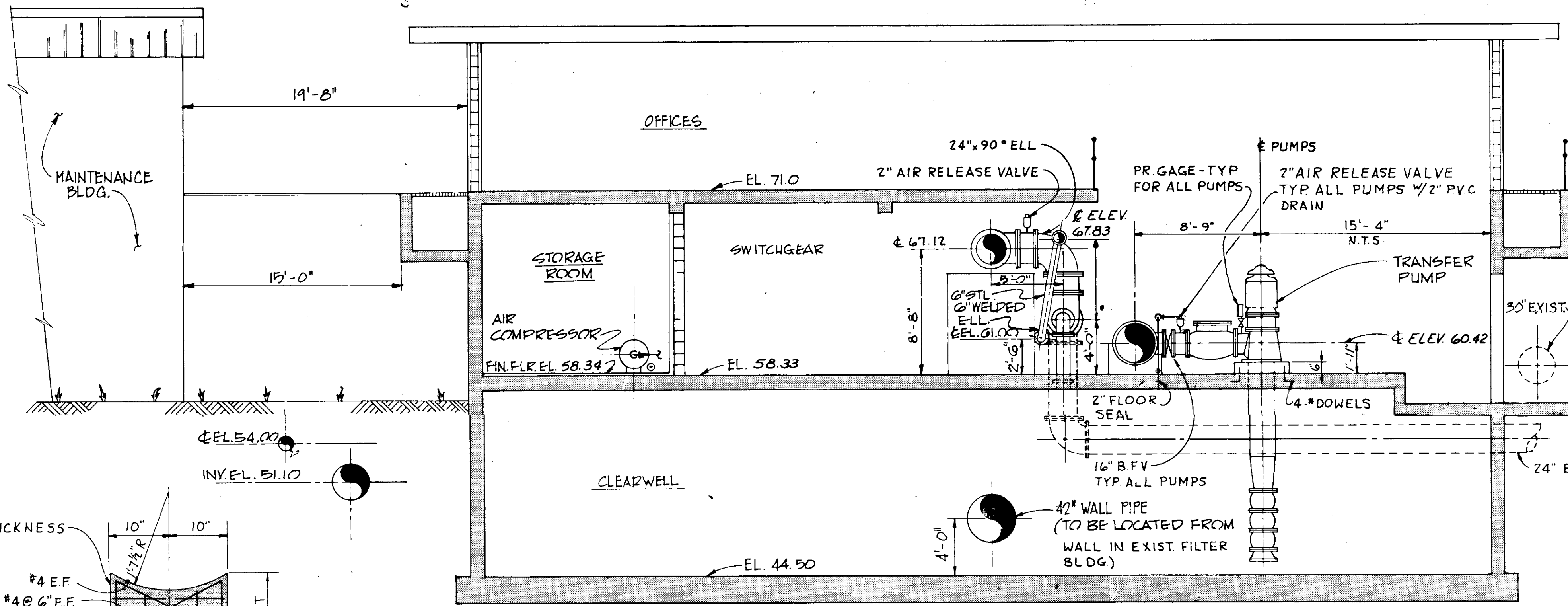
- 1 LOSS OF HEAD TRANSMITTER
  - 2 RATE OF FLOW TRANSMITTER
  - 3 PILOT VALVE FOR RATE OF FLOW CONTROLLER
  - 4 AIR SET-PRESS. REGULATOR
  - 5 HYDRO-PNEUMATIC 4-WAY VALVE FOR SURFACE WASH
  - 6 HYDRO-PNEUMATIC 4-WAY VALVE FOR DRAIN VALVE
  - 7 HYDRO-PNEUMATIC 4-WAY VALVE FOR FILTER INFLUENT VALVE
  - 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.



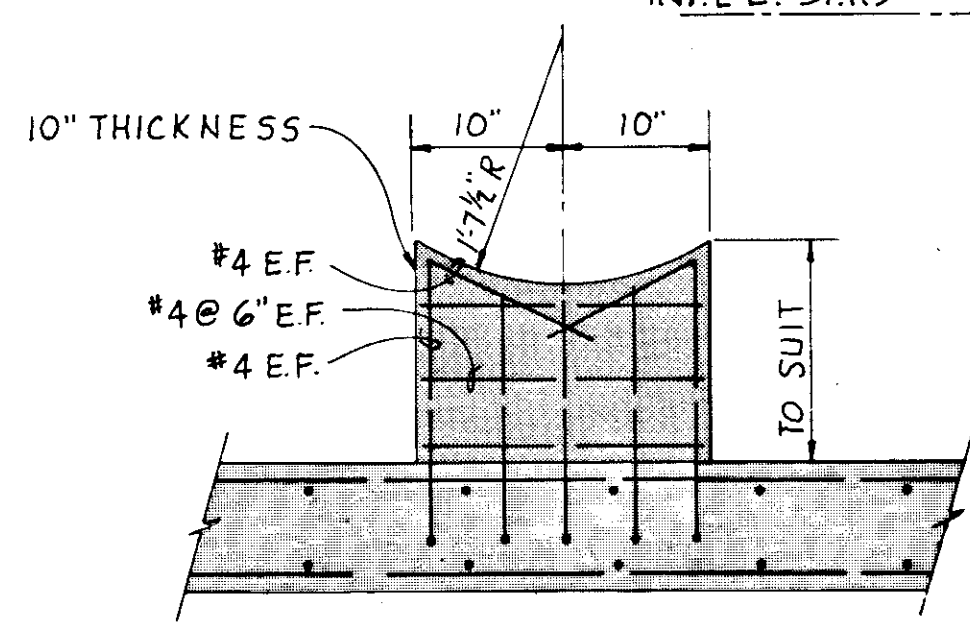
TYPICAL VALVE CONTROL PANEL



ELEVATION E  
SCALE 1/4" = 1'-0"



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

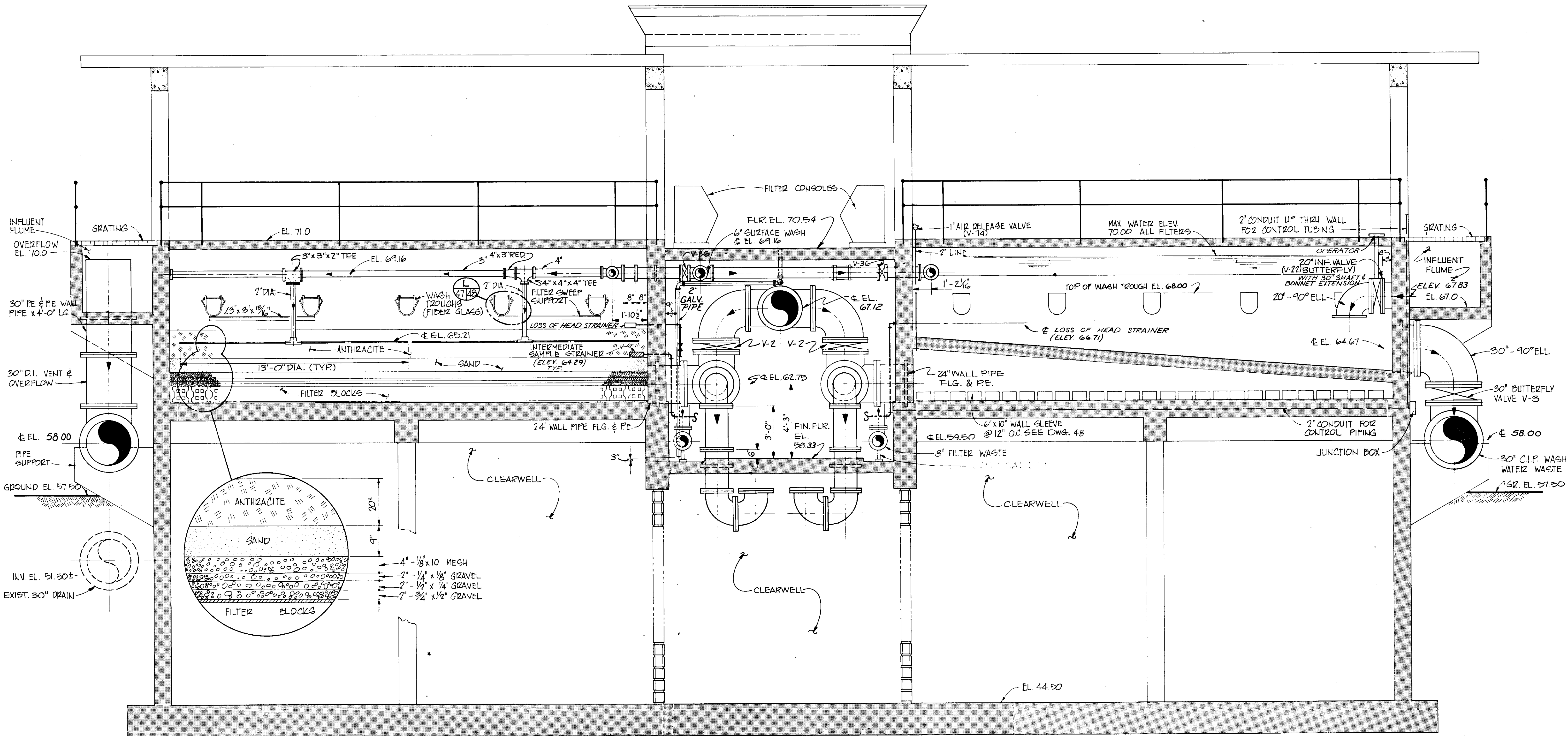


CONCRETE SADDLE DETAIL  
NOT TO SCALE

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

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

REVISIONS			
NO.	DATE	DESCRIPTION	BY
5		GEN. REVISIONS	AL
REVISIONS			
RUSSELL & AXON Engineers — Planners — Architects			
WATER WORKS PROJECT FILTER BUILDING SECTIONS & DETAILS			
MANATEE COUNTY,		<b>T-47</b> FLORIDA	
DESIGNED BY W.D.G./R.D.H.	FILE NO. 630-761-04	SEAL	
DRAWN BY H.G.B.	SHEET M-3		
CHECKED BY	NO. 46	OF 130 SHEETS	
DATE AUGUST, 1978	SCALE: 3/16" = 1'-0"		



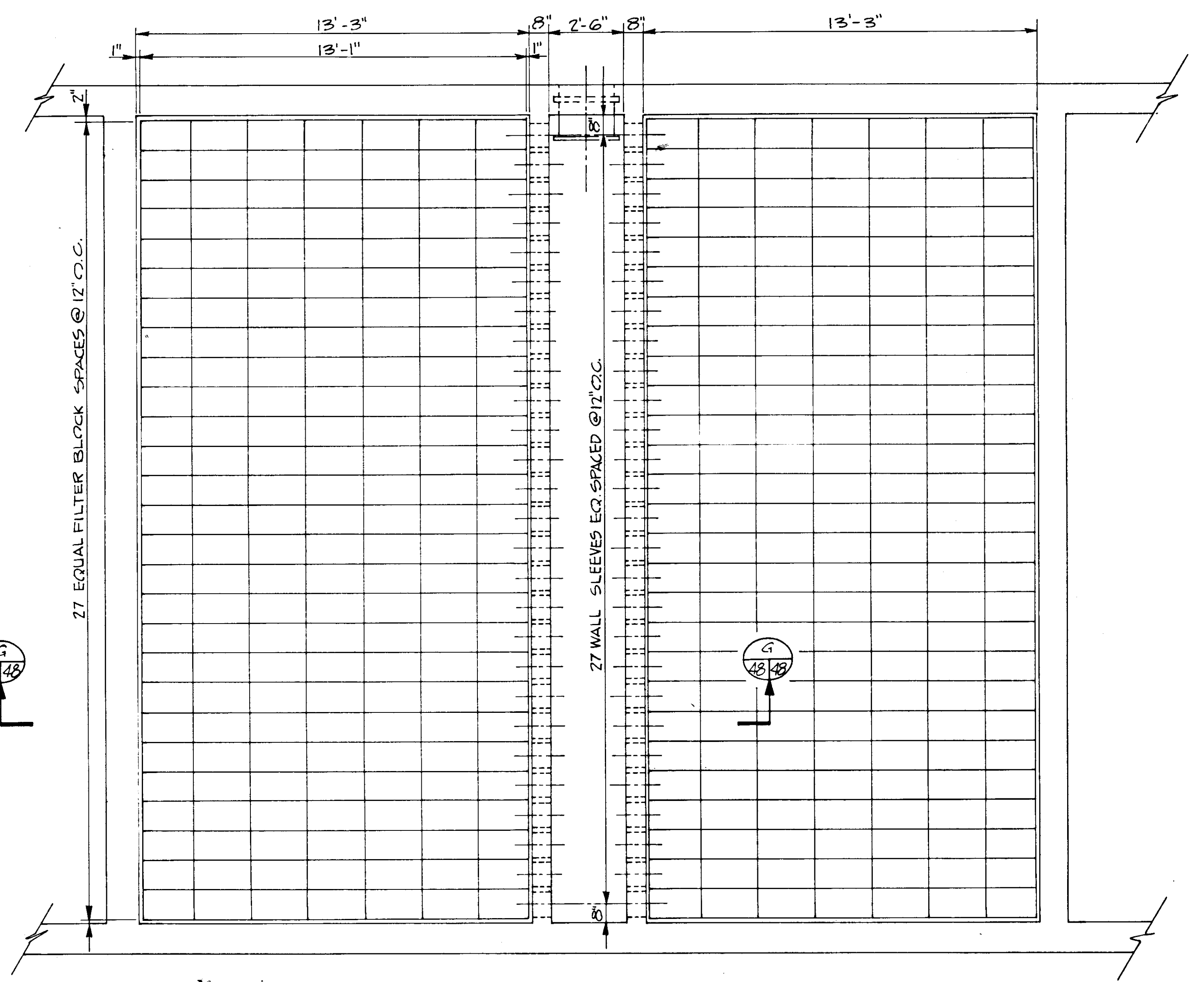
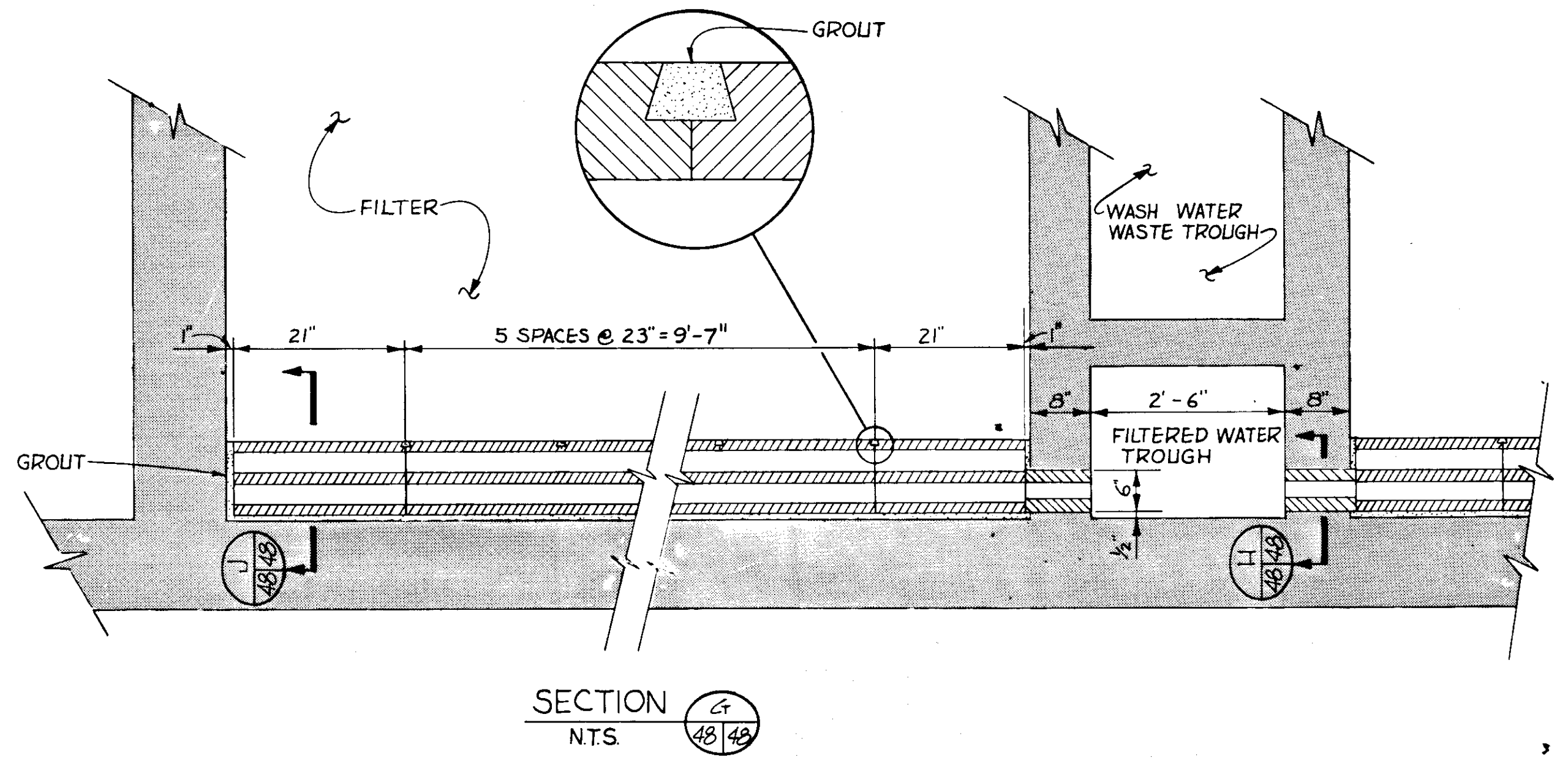
SECTION A  
SCALE 3/8" = 1'-0"

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

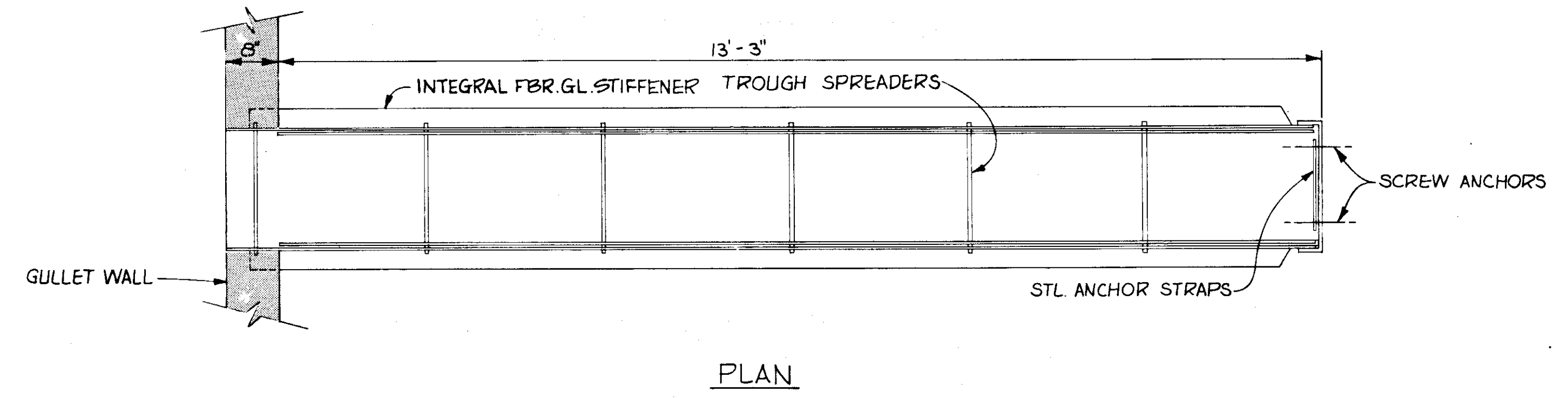
**RECORD DRAWING**  
PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.  
DATE 8/24/75 BY K.R.M.  
CHECKED BY:  
R & A  
M.C.U.S.

NO.	DATE	DESCRIPTION	BY	CHKD.
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
WATER WORKS PROJECT FILTER BUILDING SECTION				
T-48 FLORIDA				
MANATEE COUNTY,		SEAL		
DESIGNED BY B.E.D.	FILE NO. 630-761-04			
DRAWN BY K.R.G./HGB	SHEET M-4 No. 47			
CHECKED BY	OF 130 SHEETS			
DATE AUGUST, 1975	SCALE: 3/8" = 1'-0"			

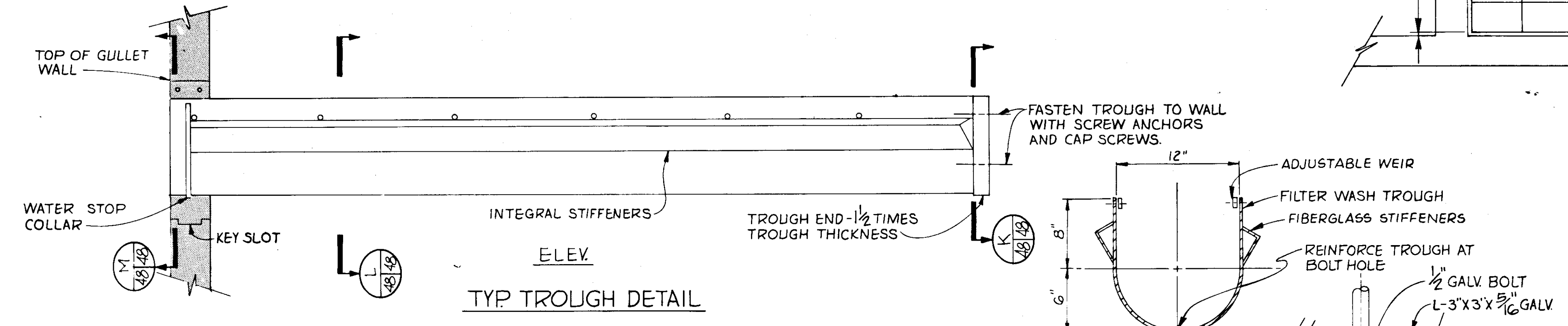




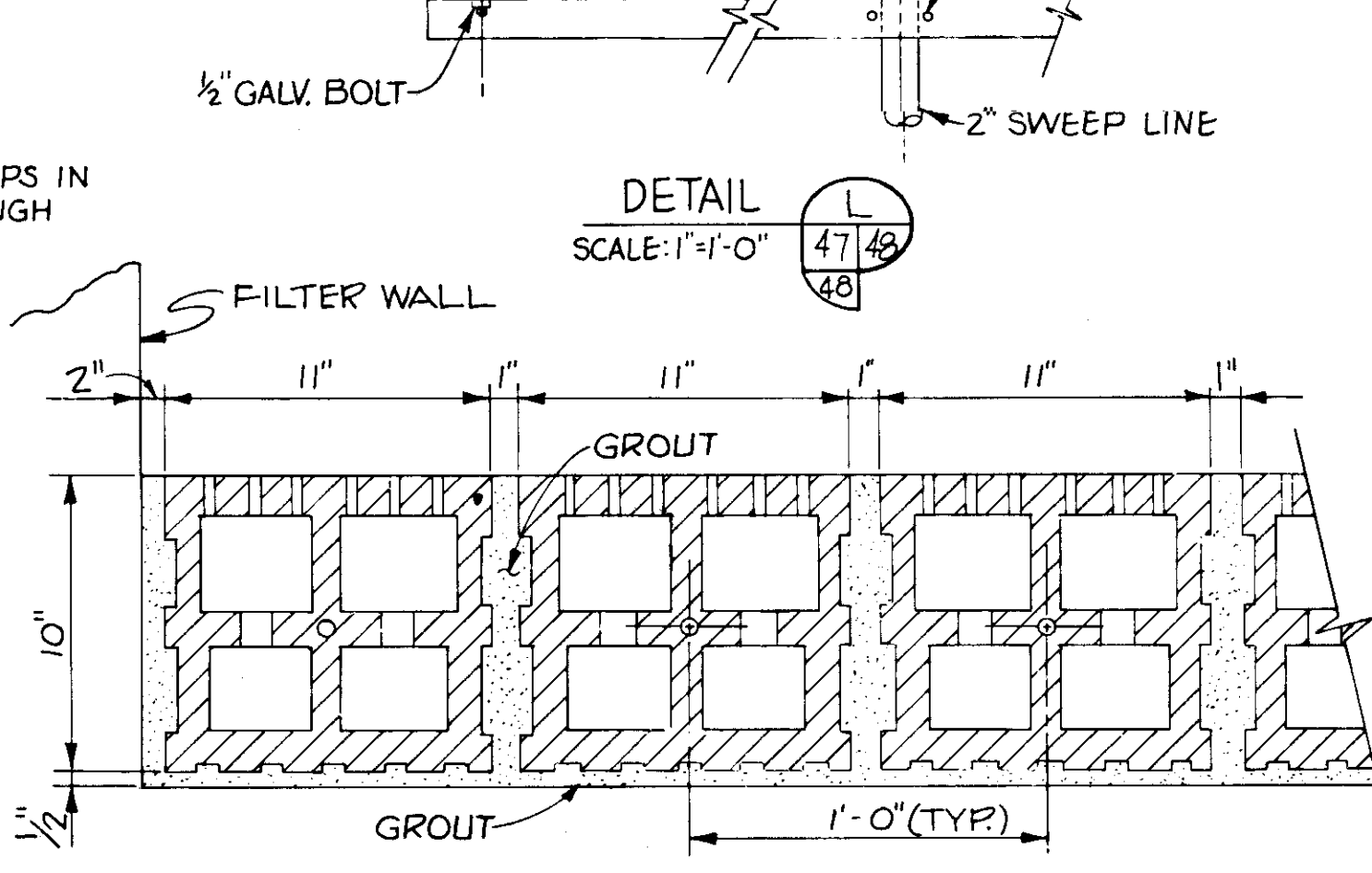
LEOPOLD FILTER BOTTOM PLAN  
SCALE: 3/8" = 1'-0"



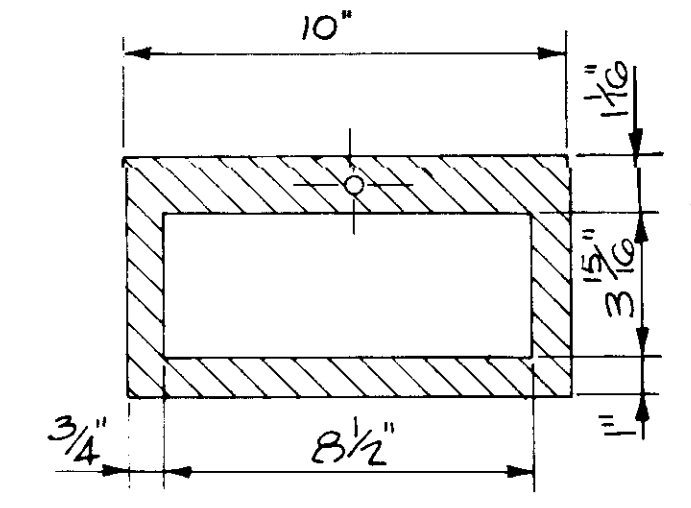
PLAN



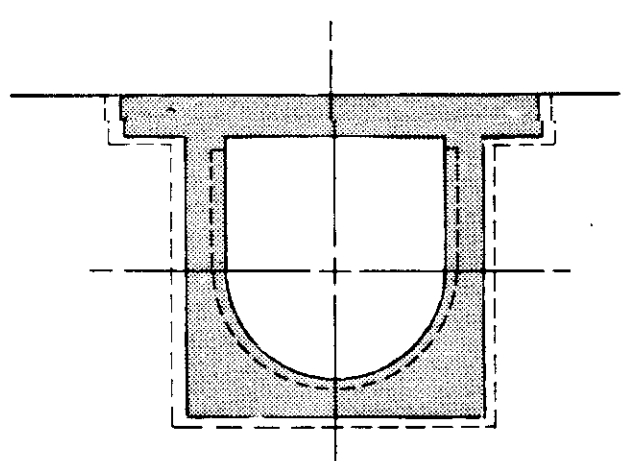
ELEV.  
TYP. TROUGH DETAIL



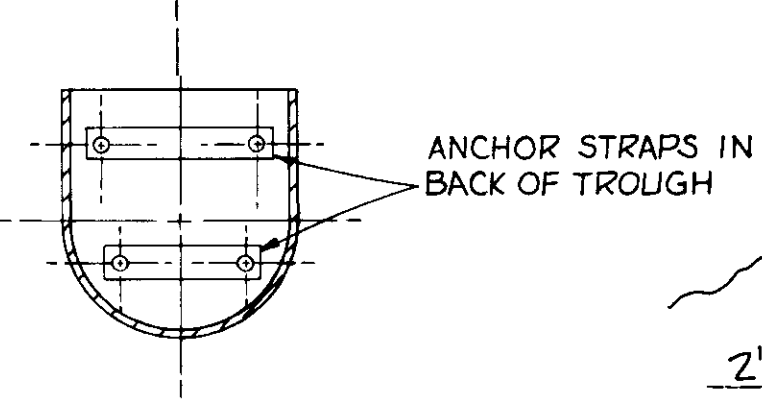
DETAIL  
SCALE: 1" = 1'-0"



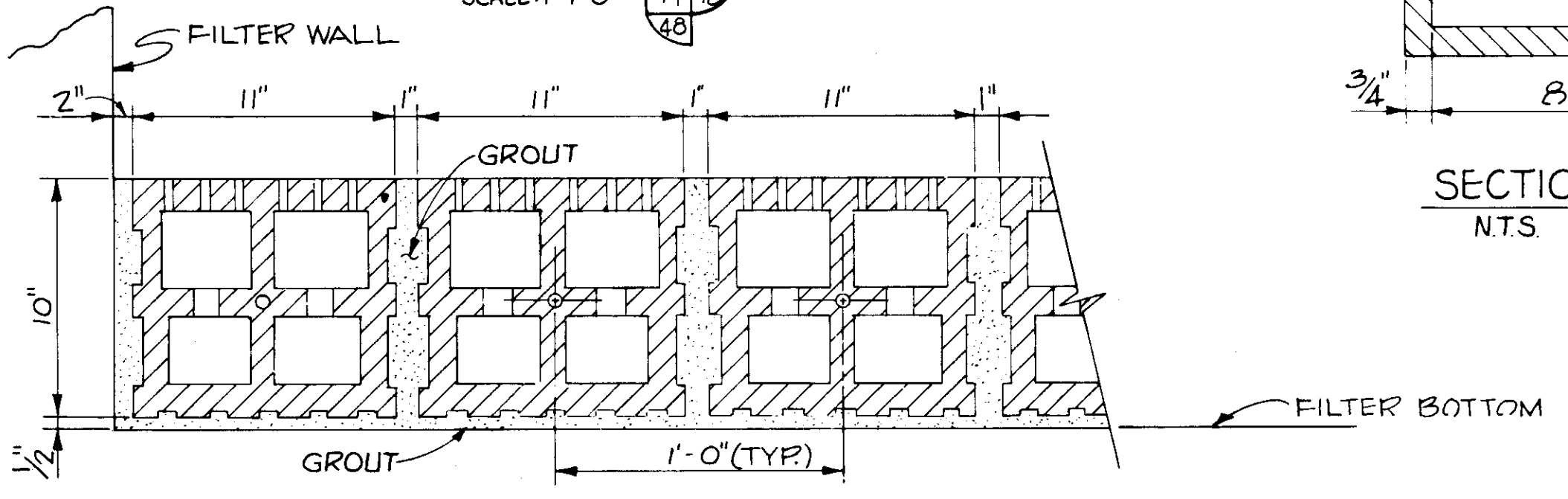
SECTION H  
N.T.S.



SECTION M  
N.T.S.



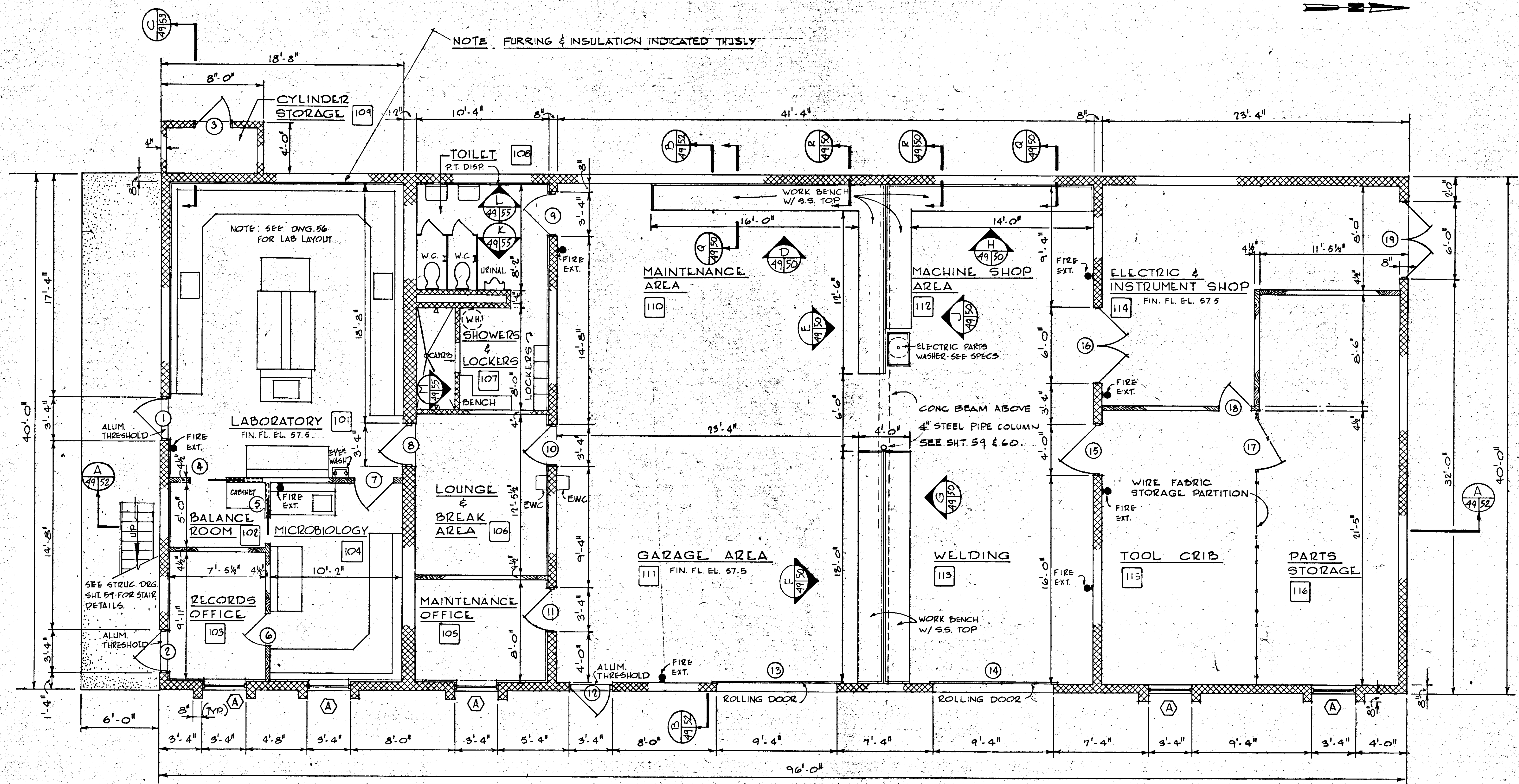
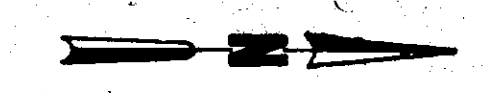
SECTION K  
N.T.S.



SECTION J  
N.T.S.

**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				
T-49 FLORIDA				
MANATEE COUNTY,		FILE No.	<b>SEAL</b>	
DESIGNED BY B.E.D.	630-761-04			
DRAWN BY I.C.S.	SHEET M-5	No. 48		
CHECKED BY	OF 130	SHEETS		
DATE AUGUST, 1978	SCALE: AS NOTED			

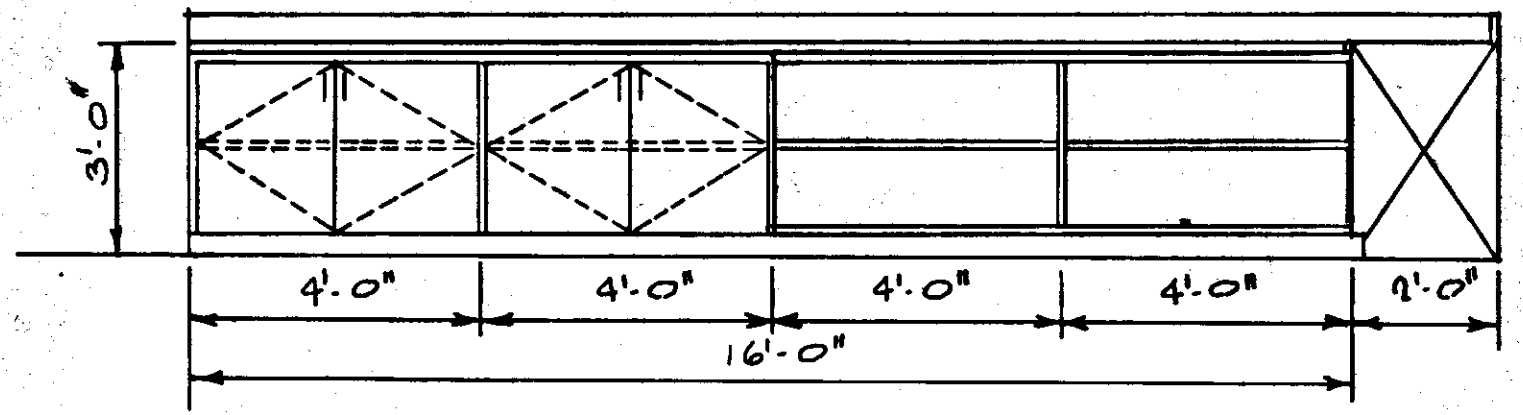


NOTE: DIMENSIONS FOR WOOD STUD WALLS GIVEN TO FACE OF GYPSUM BOARD

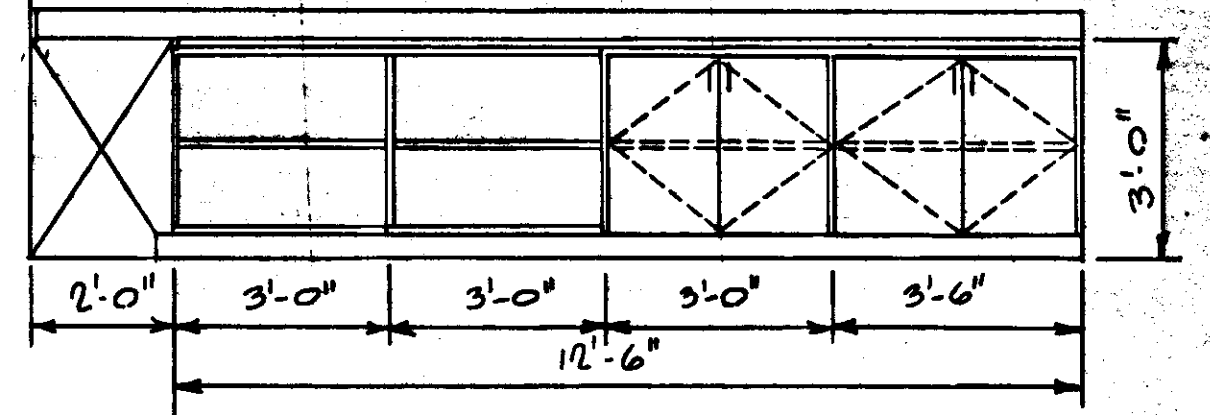
**FIRST FLOOR PLAN**  
SCALE: 1/4" = 1'-0"

NO.	DATE	DESCRIPTION	BY	CHKD.
5/79		GEN REV		
REVISIONS				
<b>RUSSELL &amp; AXON</b> Engineers — Planners — Architects				
WATER WORKS PROJECT MAINTENANCE BUILDING FIRST FLOOR PLAN				
<b>7-50</b> FLORIDA				
MANATEE COUNTY		DESIGNED BY	FILE NO.	<b>SEAL</b> 
		DRAWN BY	630-761-04	
		CHECKED BY	SHEET 1	
		DATE	OF 130 SHEETS	
		AUGUST, 1978	SCALE: 1/4" = 1'-0"	

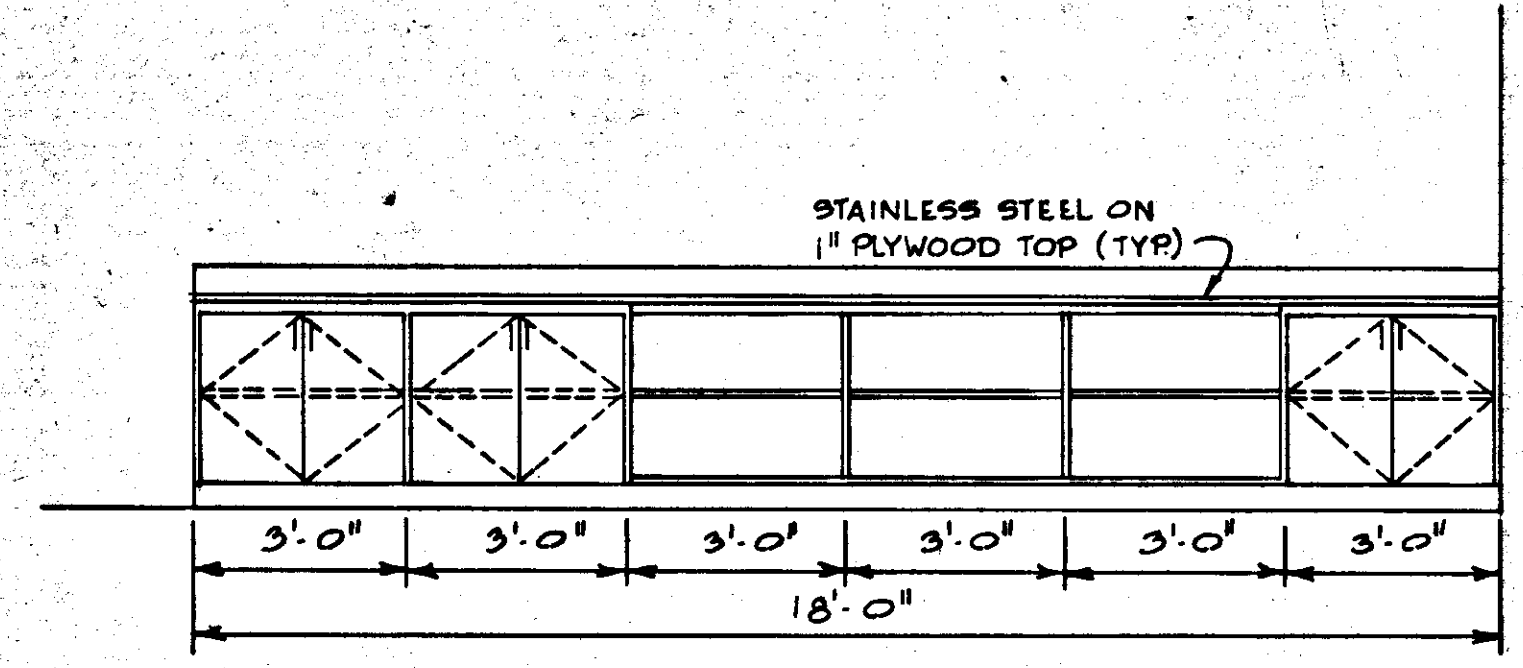
14-01



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

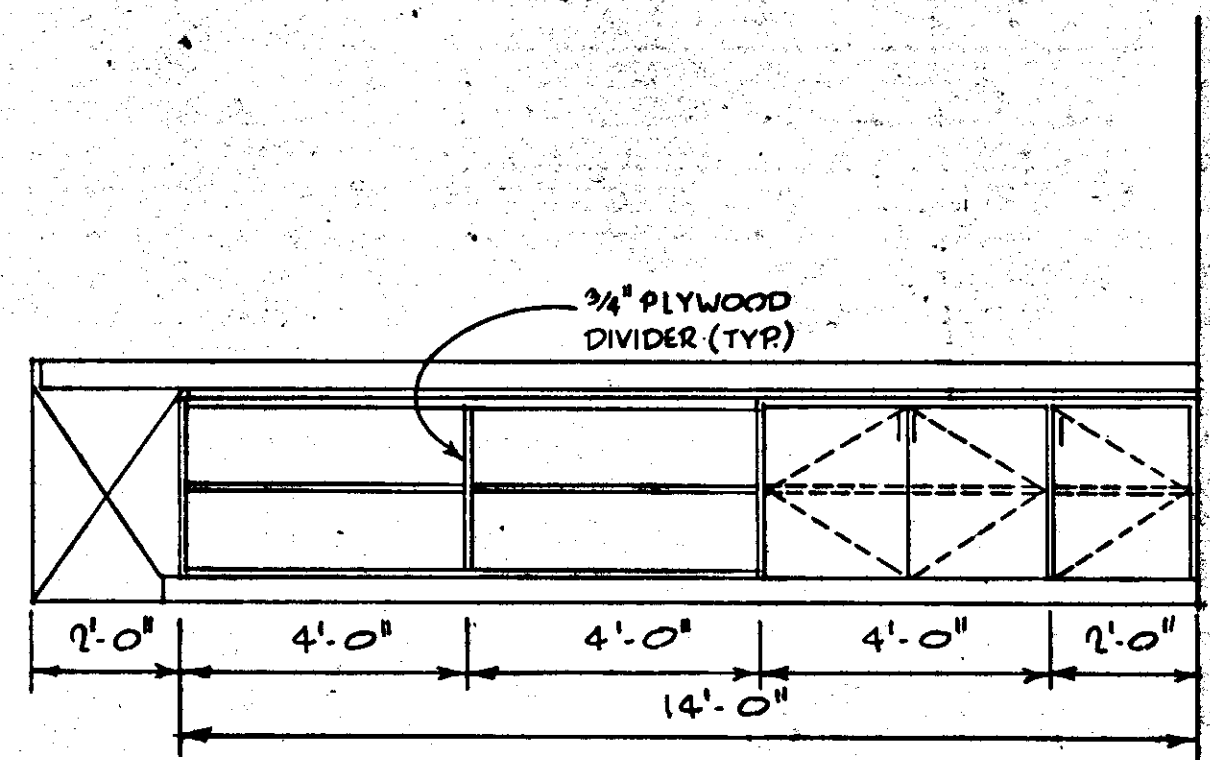


ELEVATION E  
SCALE: 3/8" = 1'-0"

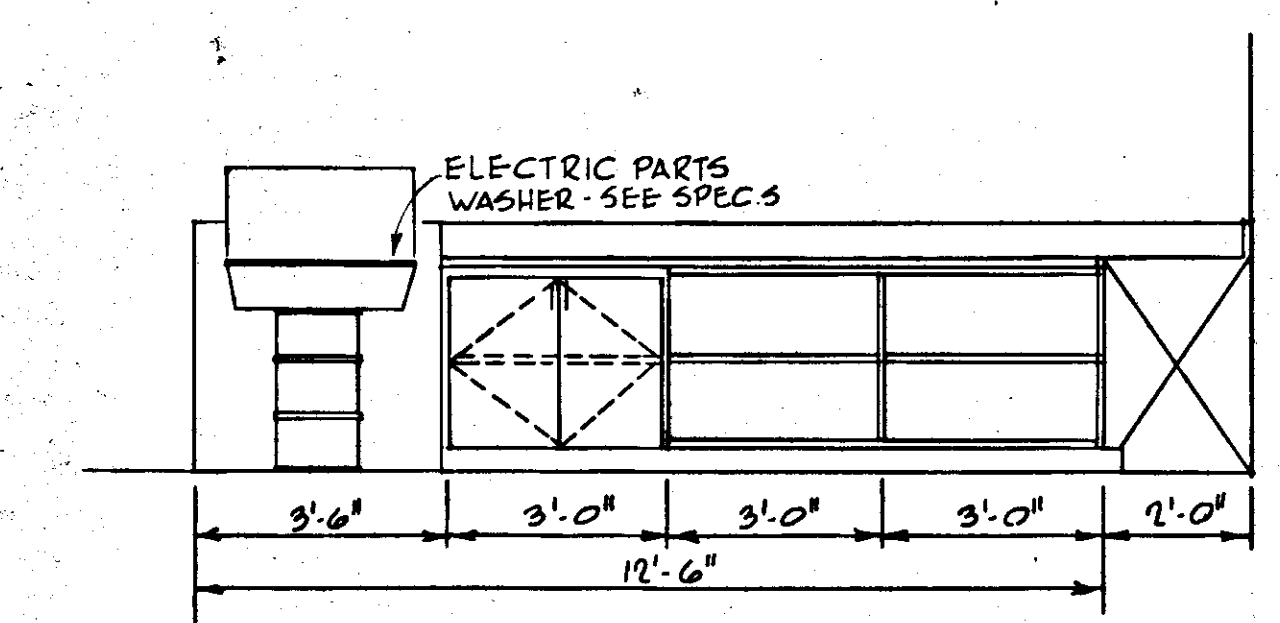


ELEVATION F  
SCALE: 3/8" = 1'-0"

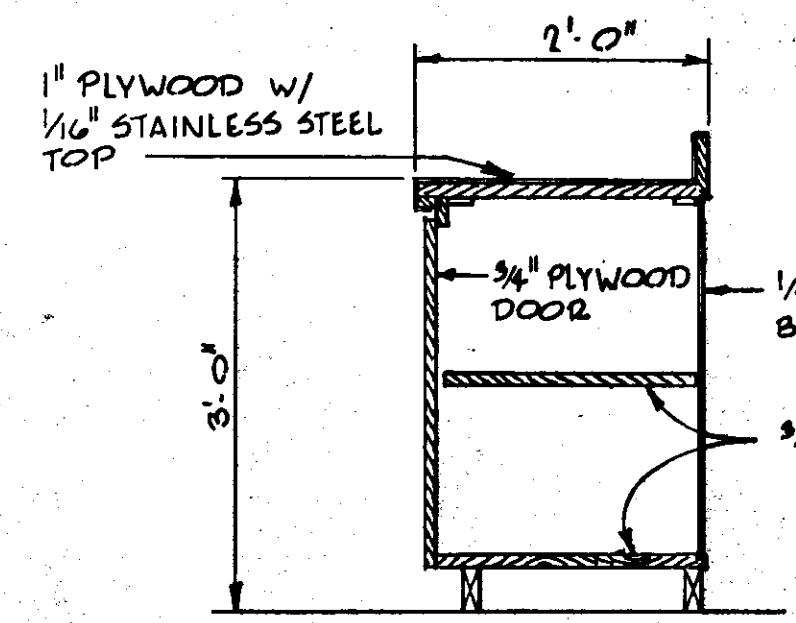
ELEVATION G SIMILAR



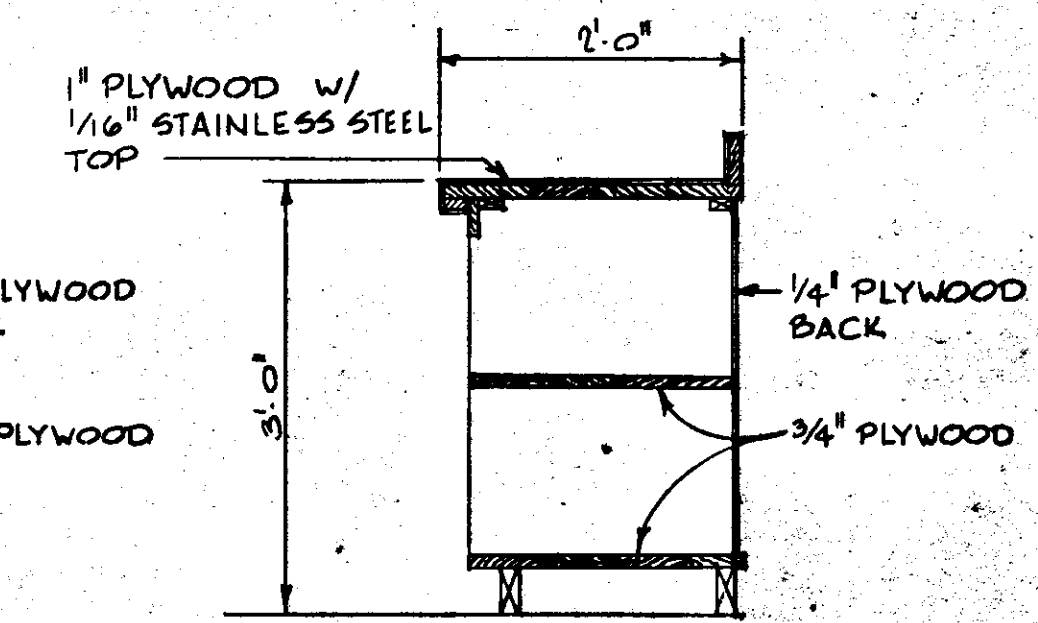
ELEVATION H  
SCALE: 3/8" = 1'-0"



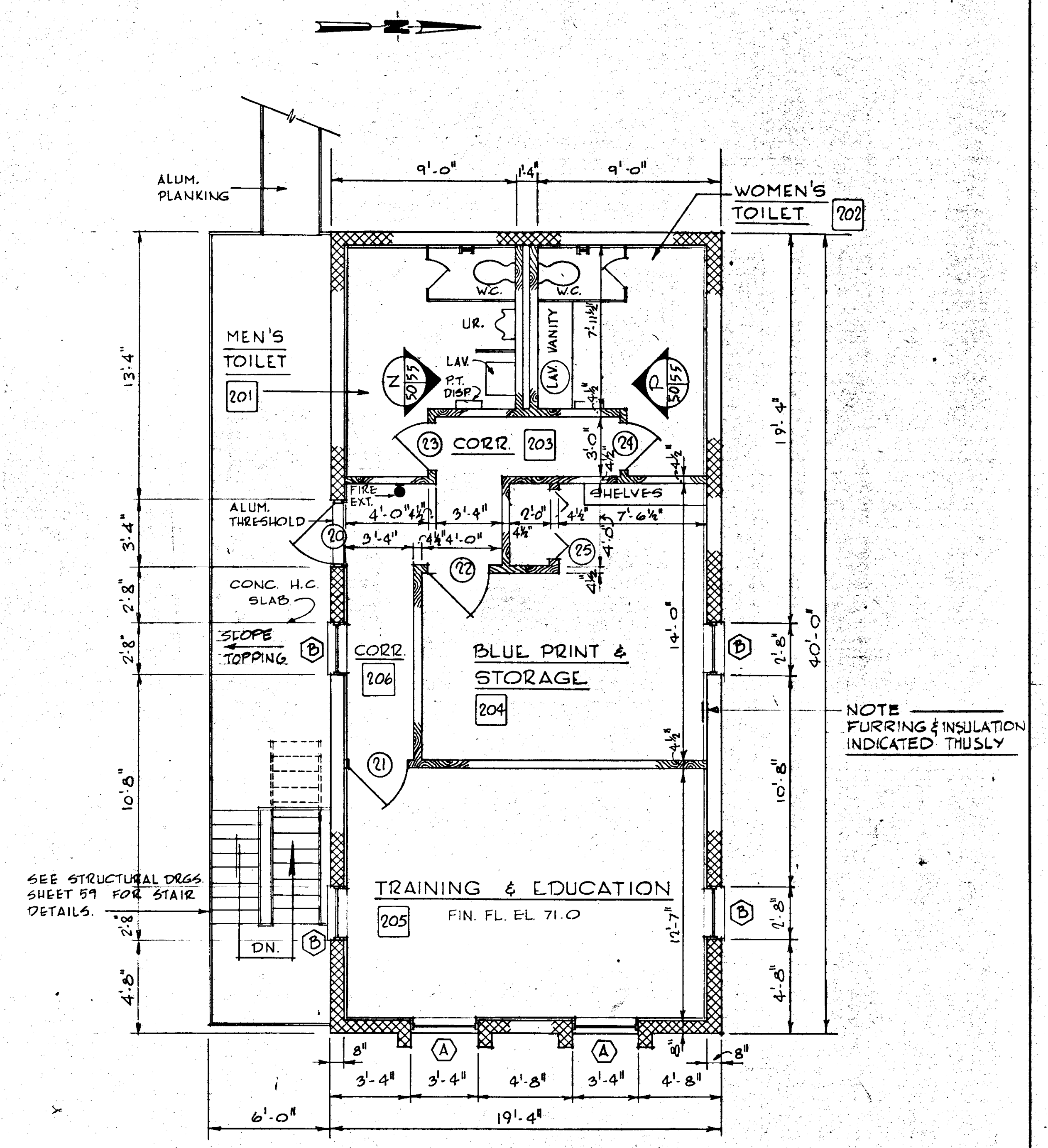
ELEVATION J  
SCALE: 3/8" = 1'-0"



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

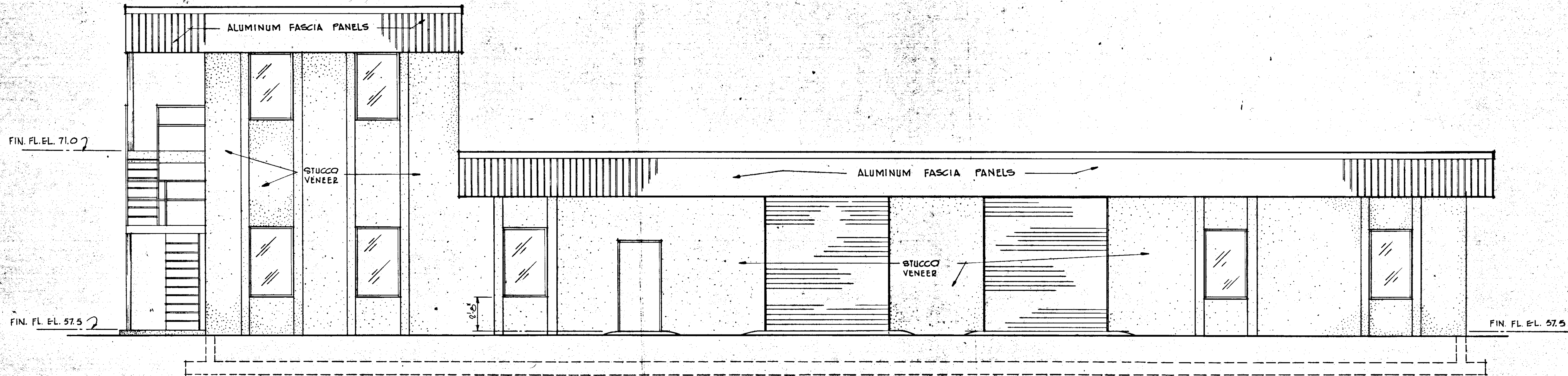


SECTION R  
SCALE: 3/4" = 1'-0"



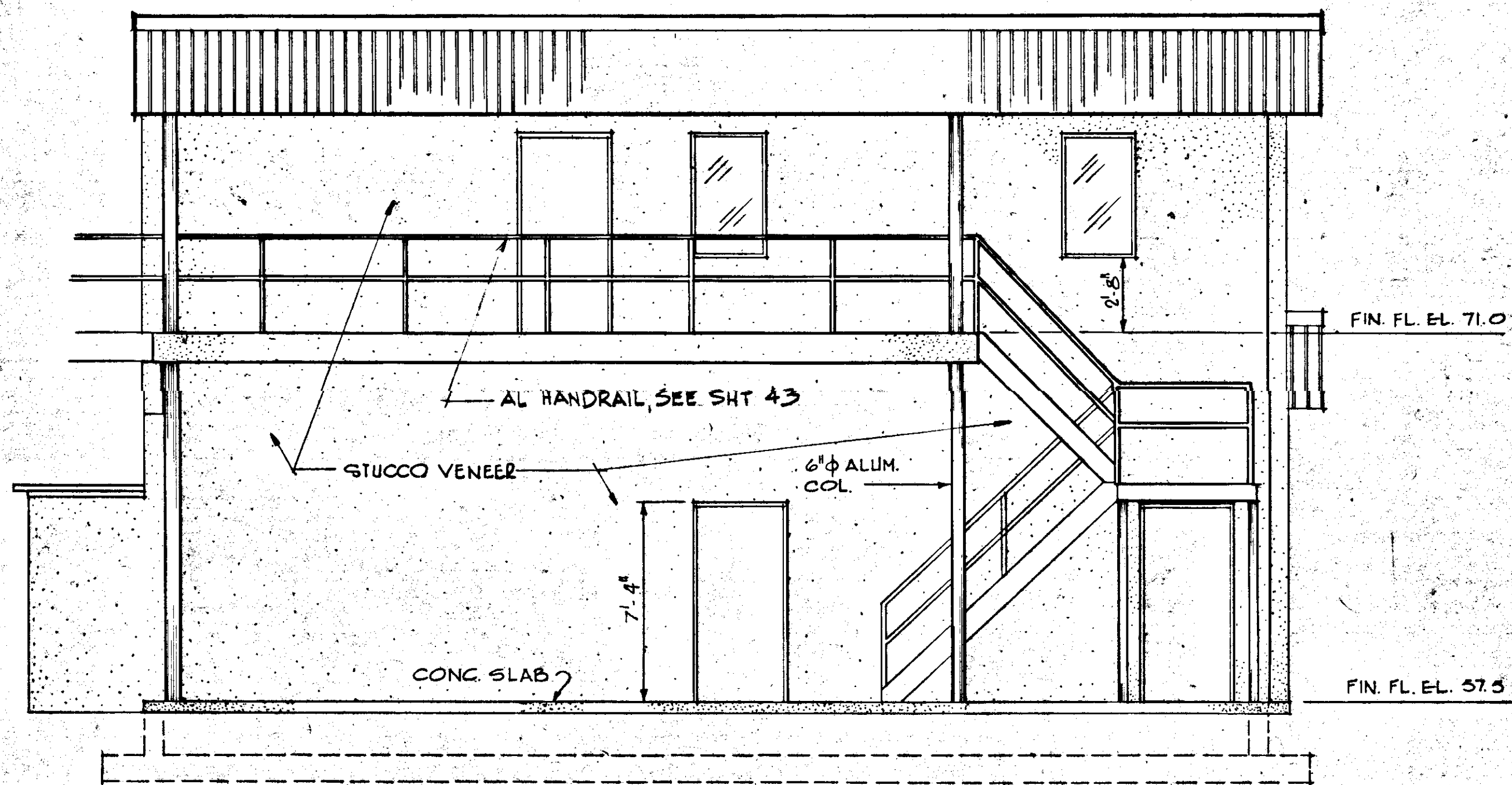
SECOND FLOOR PLAN  
SCALE: 1/4" = 1'-0"

NO.	DATE	DESCRIPTION	BY	CHKD.
1	5/79	GEN REV	WRW	MLH
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
WATER WORKS PROJECT MAINTENANCE BUILDING SECOND FLOOR PLAN				
MANATEE COUNTY,				T-51 FLORIDA
DESIGNED BY J.R.A.	FILE NO. 630-761-04	<b>SEAL</b> 		
DRAWN BY J.R.A.	SHEET A2			
CHECKED BY	OF 130 SHEETS			
DATE AUGUST, 1978	SCALE: AS NOTED			



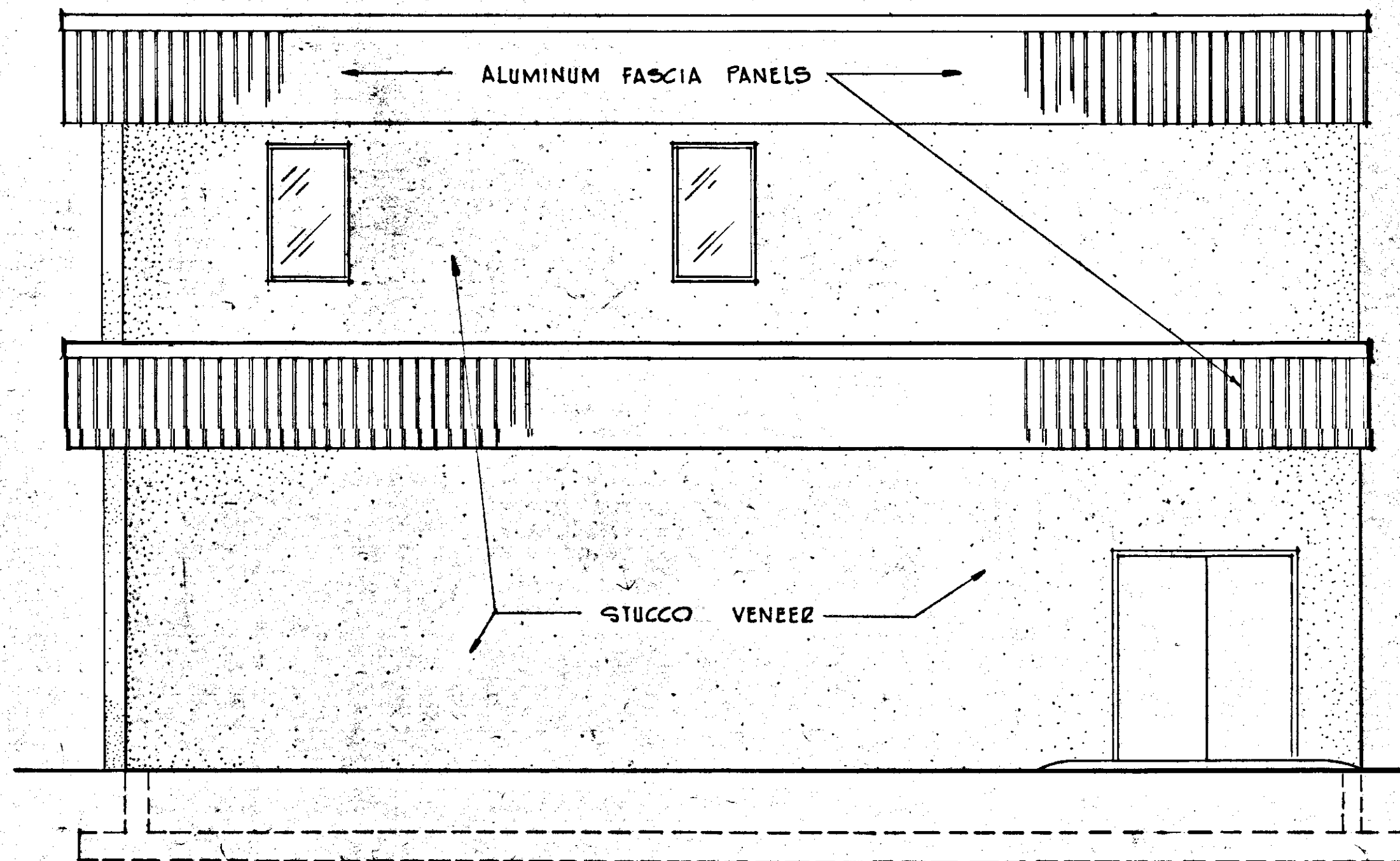
**EAST ELEVATION**

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



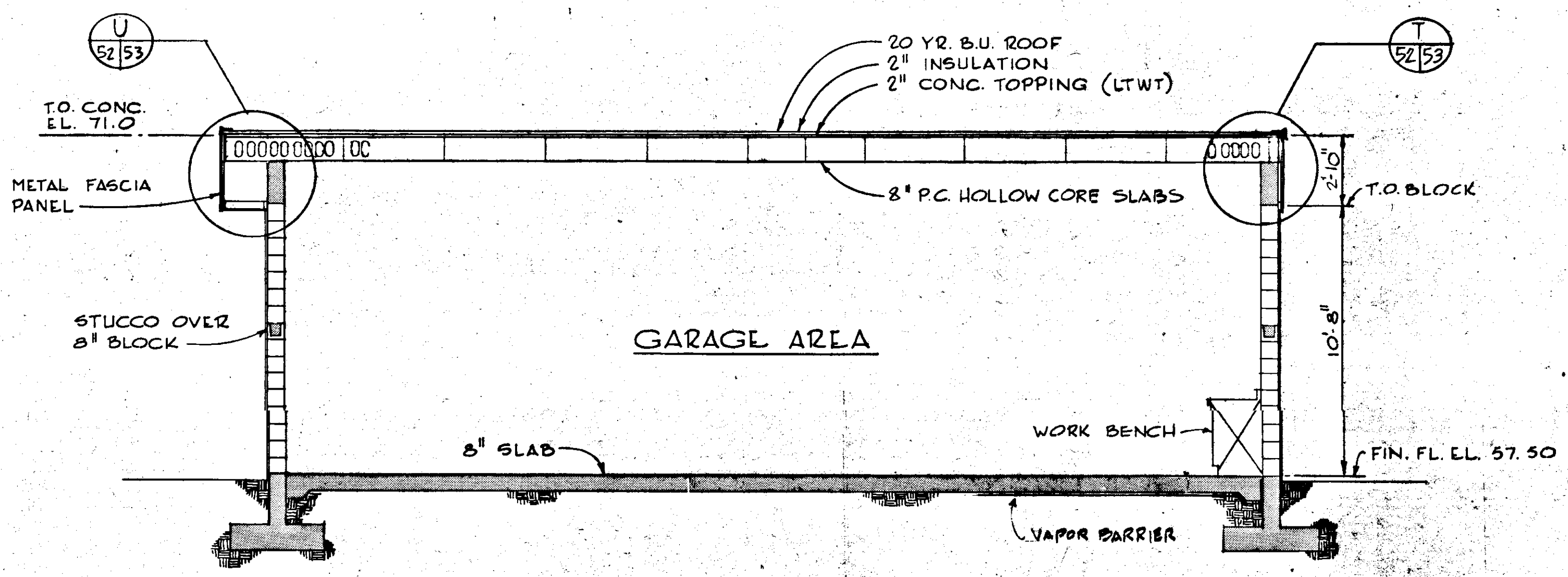
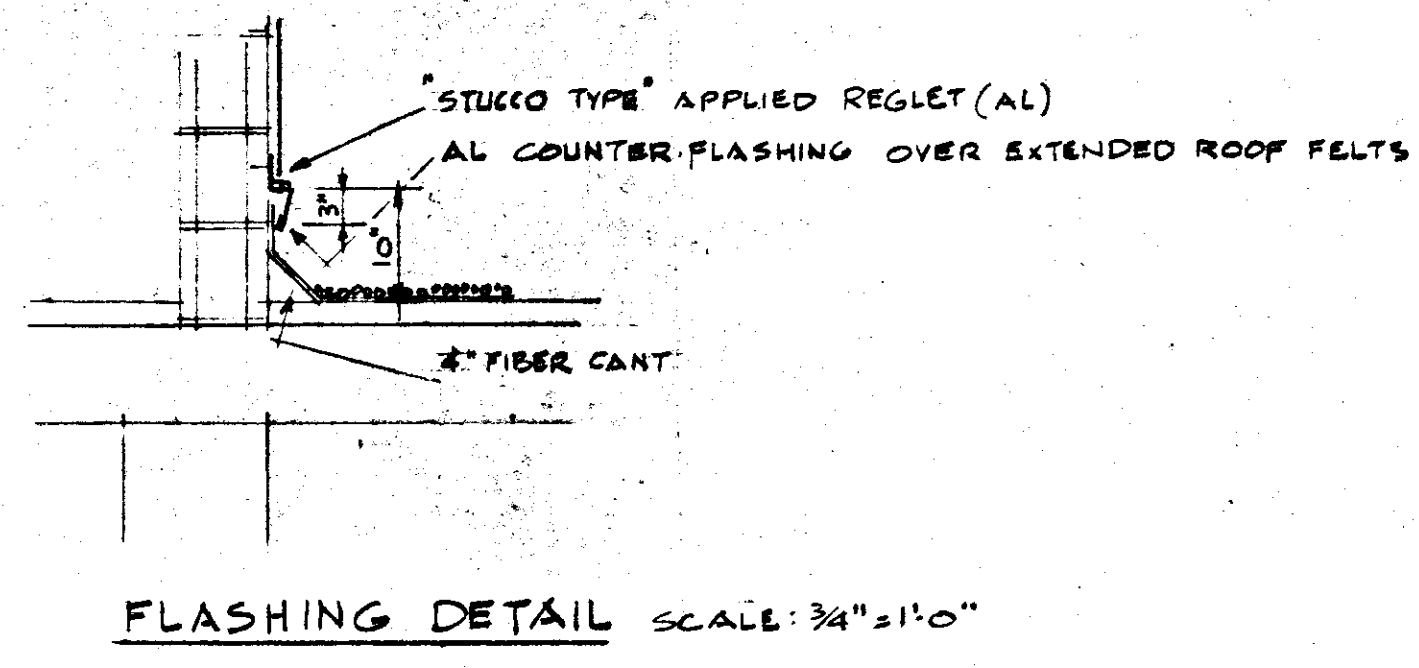
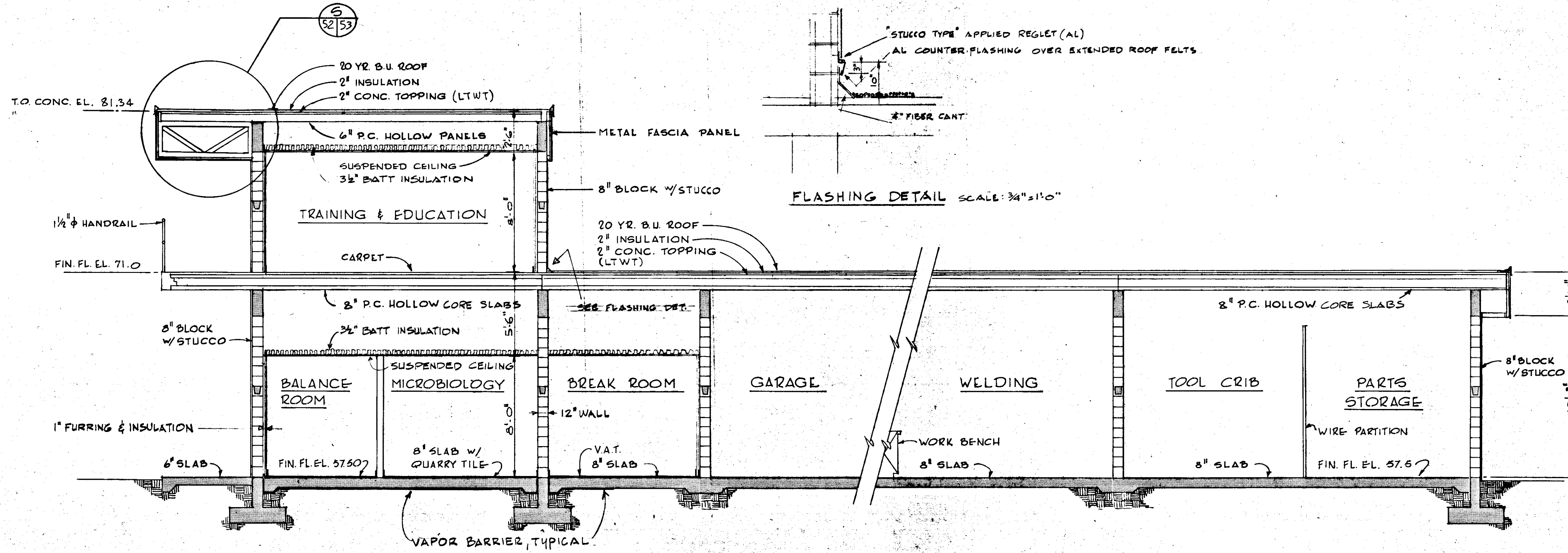
**SOUTH ELEVATION**

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

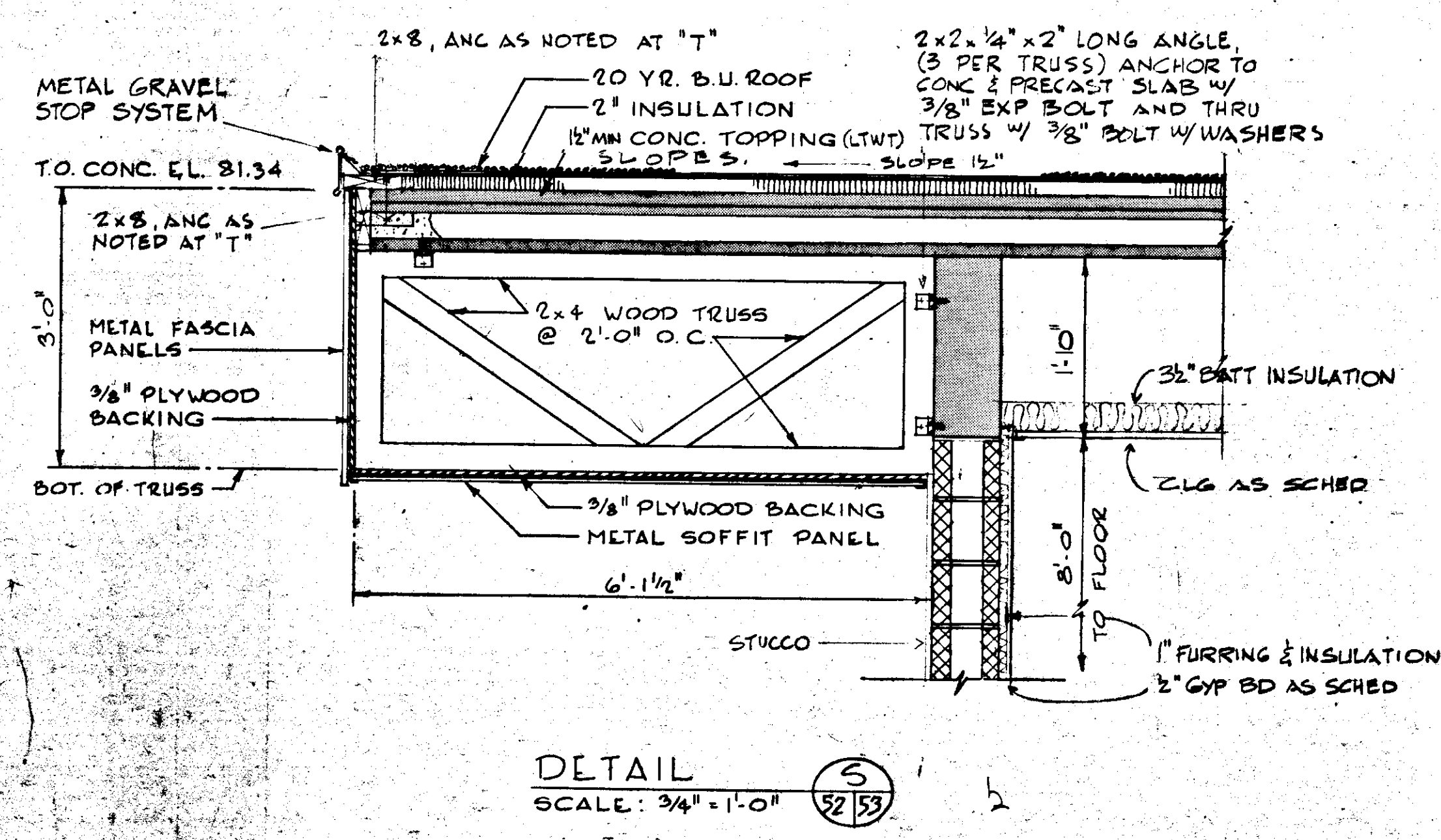
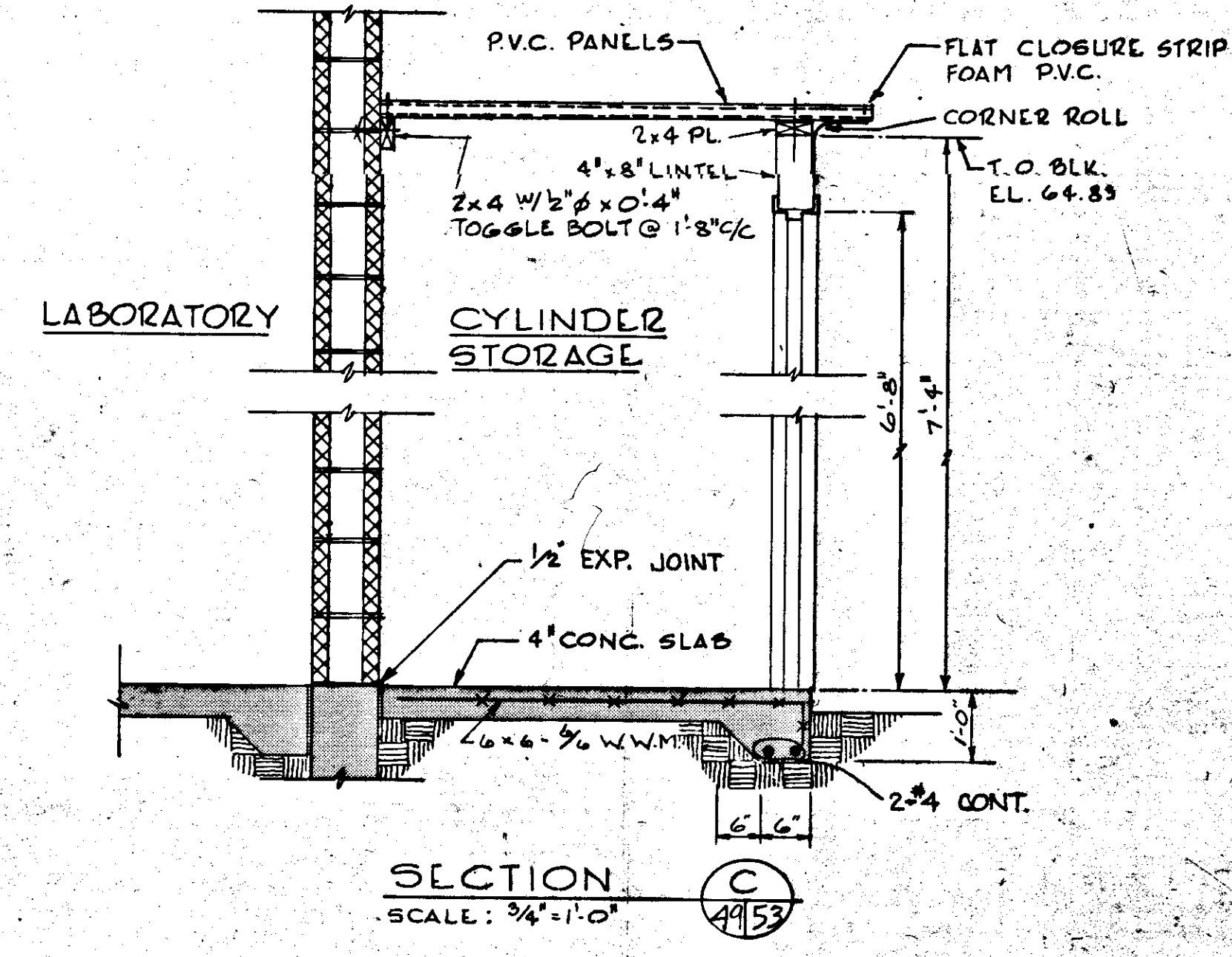
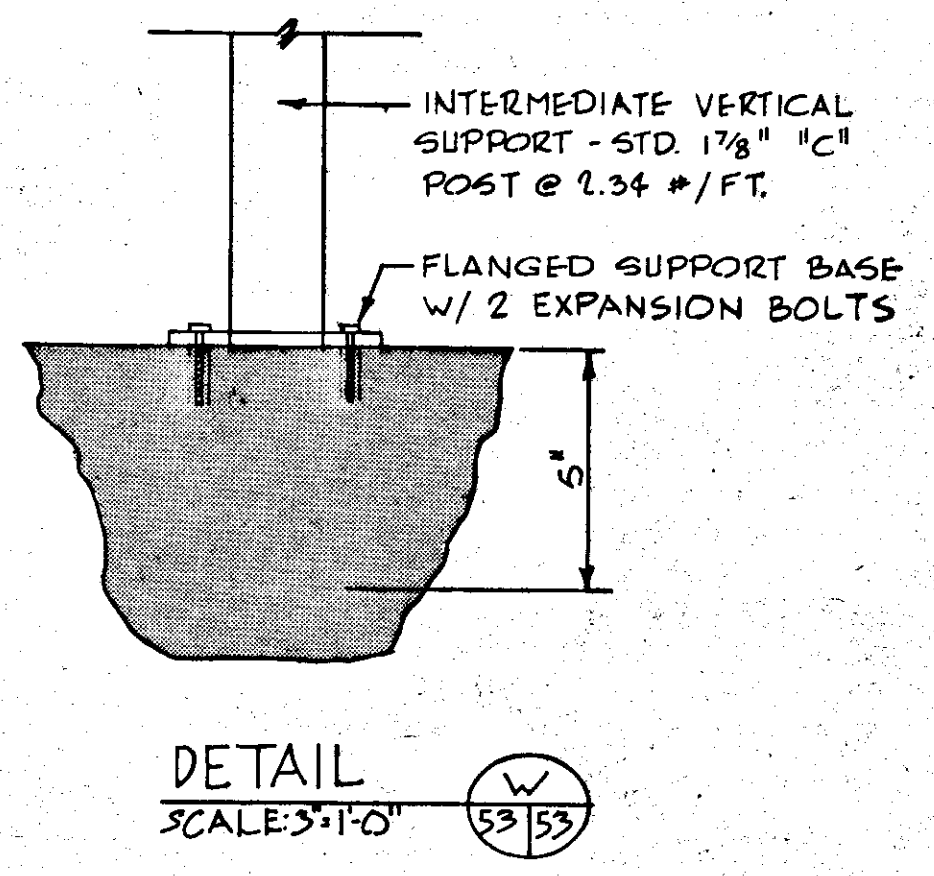
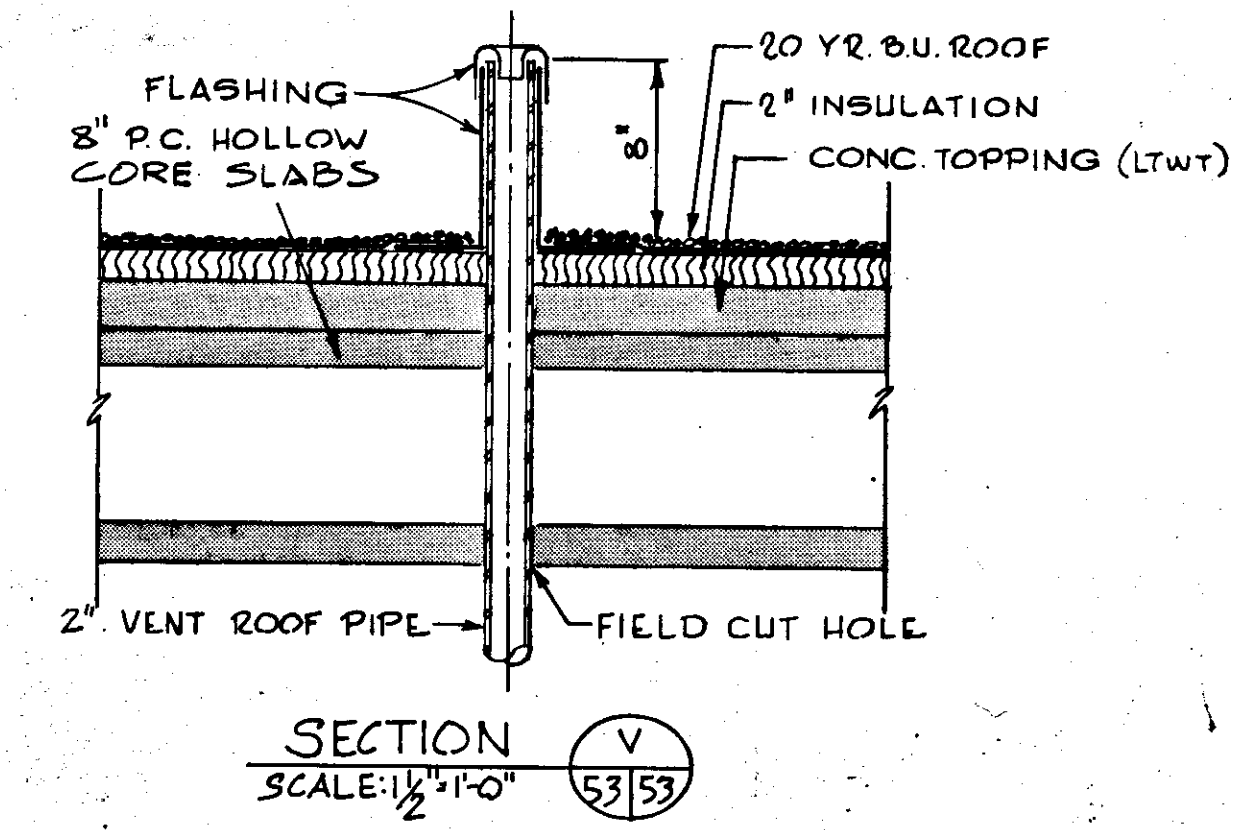
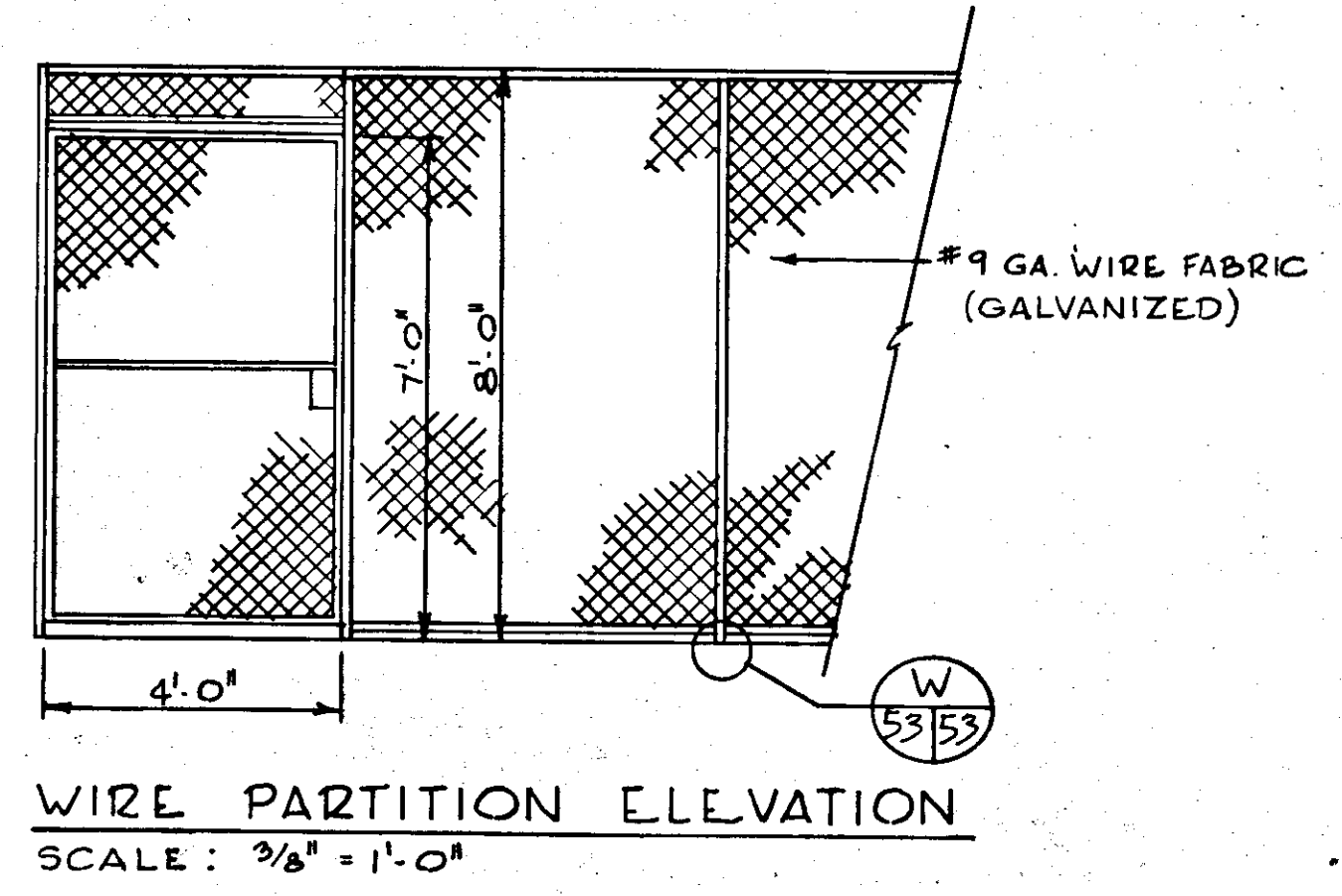
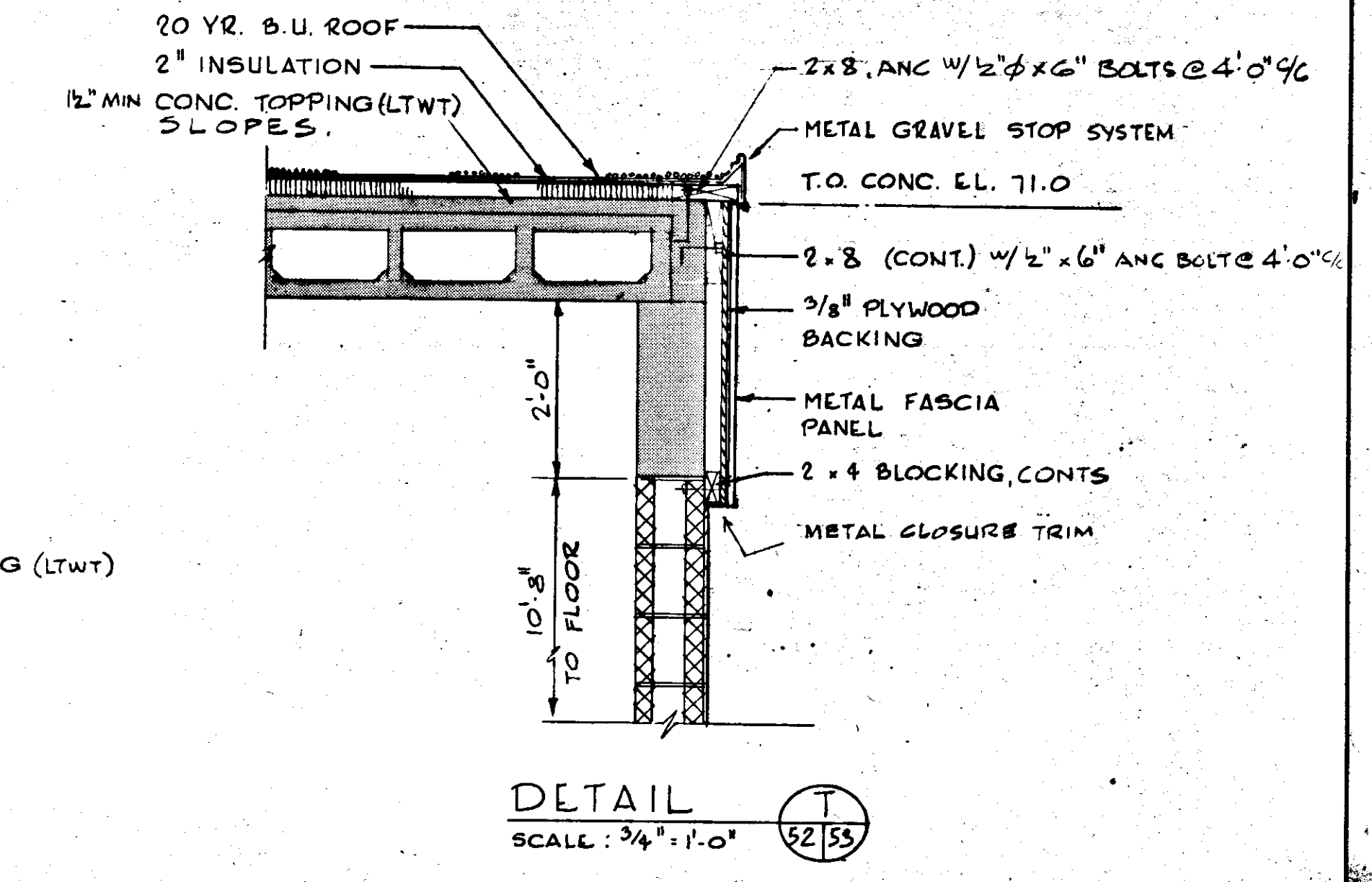
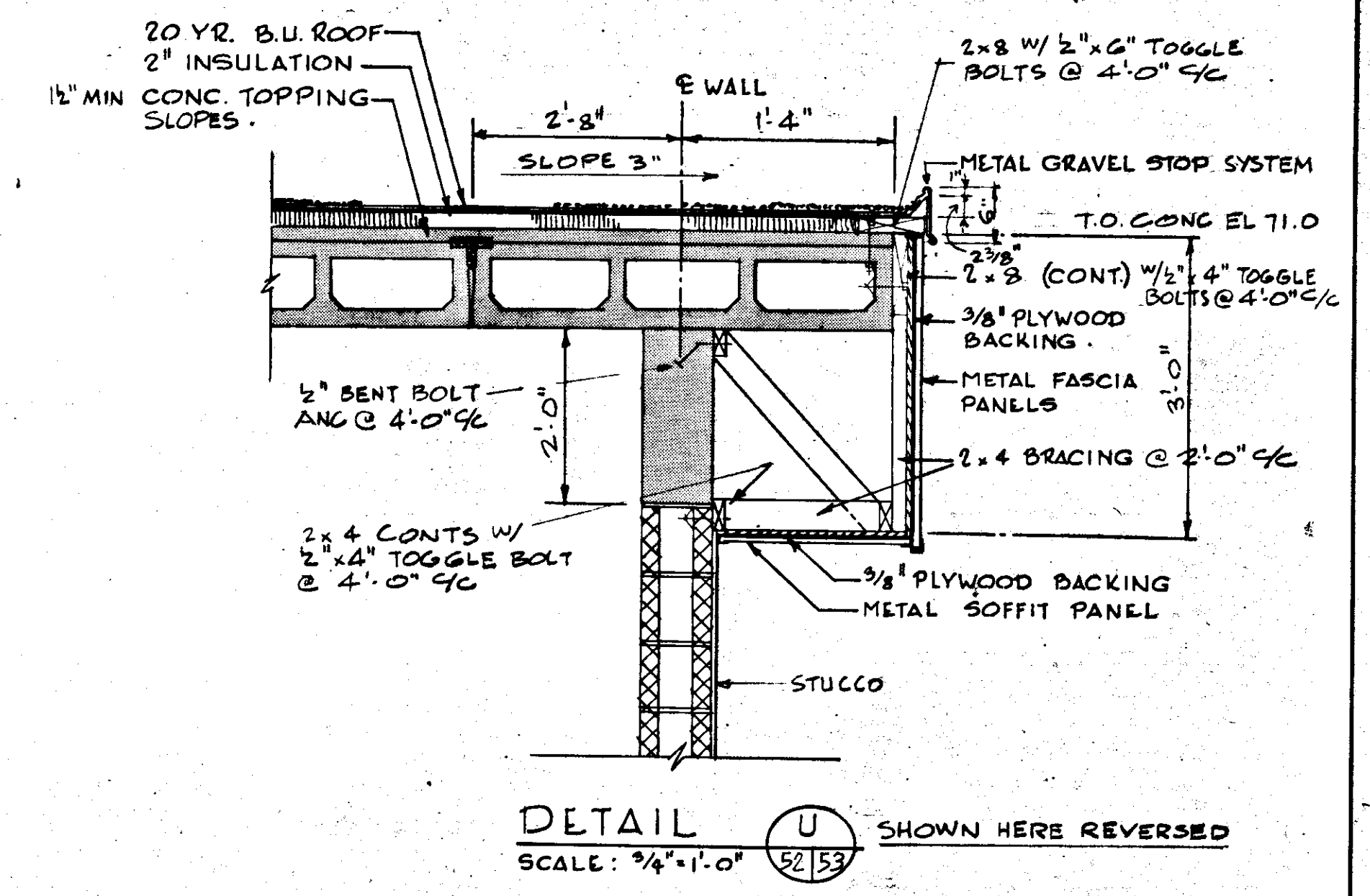
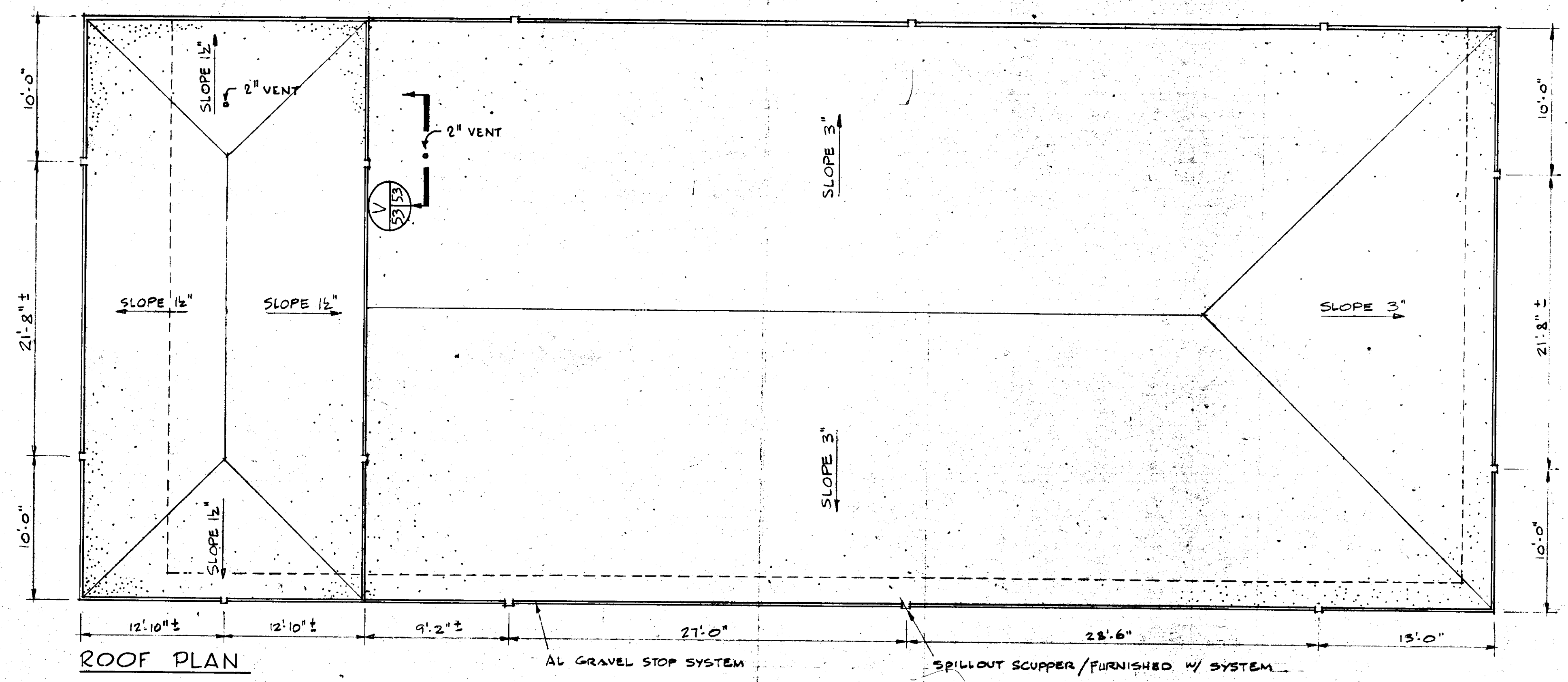


**NORTH ELEVATION**

NO.	DATE	DESCRIPTION	BY	CHKD.
Δ 5/78		GEN REV	WRW	WPH
REVISIONS				
<b>RUSSELL &amp; AXON</b> Engineers — Planners — Architects				
<b>WATER WORKS PROJECT</b> MAINTENANCE BUILDING ELEVATIONS				
MANATEE COUNTY, FLORIDA		<b>T-52</b>		
DESIGNED BY	FILE NO.	<b>SEAL</b> 		
B.E.A.	630-761-04			
DRAWN BY	SHEET A3			
CHECKED BY	OF 130 SHEETS			
DATE		SCALE: 1/4" = 1'-0"		
AUGUST, 1978				



NO.	DATE	DESCRIPTION	BY	CHKD.
Δ 5/79		GEN REV		WRW WDH
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT MAINTENANCE BUILDING SECTIONS				
MANATEE COUNTY,				<b>T-53</b> FLORIDA
DESIGNED BY J.R.A.	FILE NO. 630-761-04	SEAL <i>[Signature]</i> JUL 2 1978		
DRAWN BY J.R.A.	SHEET A4			
CHECKED BY	NO. 52 OF 130 SHEETS			
DATE AUGUST, 1978	SCALE: AS NOTED			



Δ	5/79	GEN REV		WRW	WDH
NO.	DATE	DESCRIPTION		BY	CKD.
REVISIONS					
RUSSELL & AXON Engineers - Planners - Architects					
WATER WORKS PROJECT MAINTENANCE BUILDING ROOF PLAN, SECTIONS & DETAILS					
T-54 FLORIDA					
MANATEE COUNTY, FLORIDA					
DESIGNED BY	FILE NO.		SEAL <i>[Signature]</i> JUL 2 1979		
J.R.A.	630-761-04				
DRAWN BY	SHEET A5				
CHECKED BY	NO. 53		SHEETS		
DATE	SCALE: AS NOTED				
AUGUST, 1978					

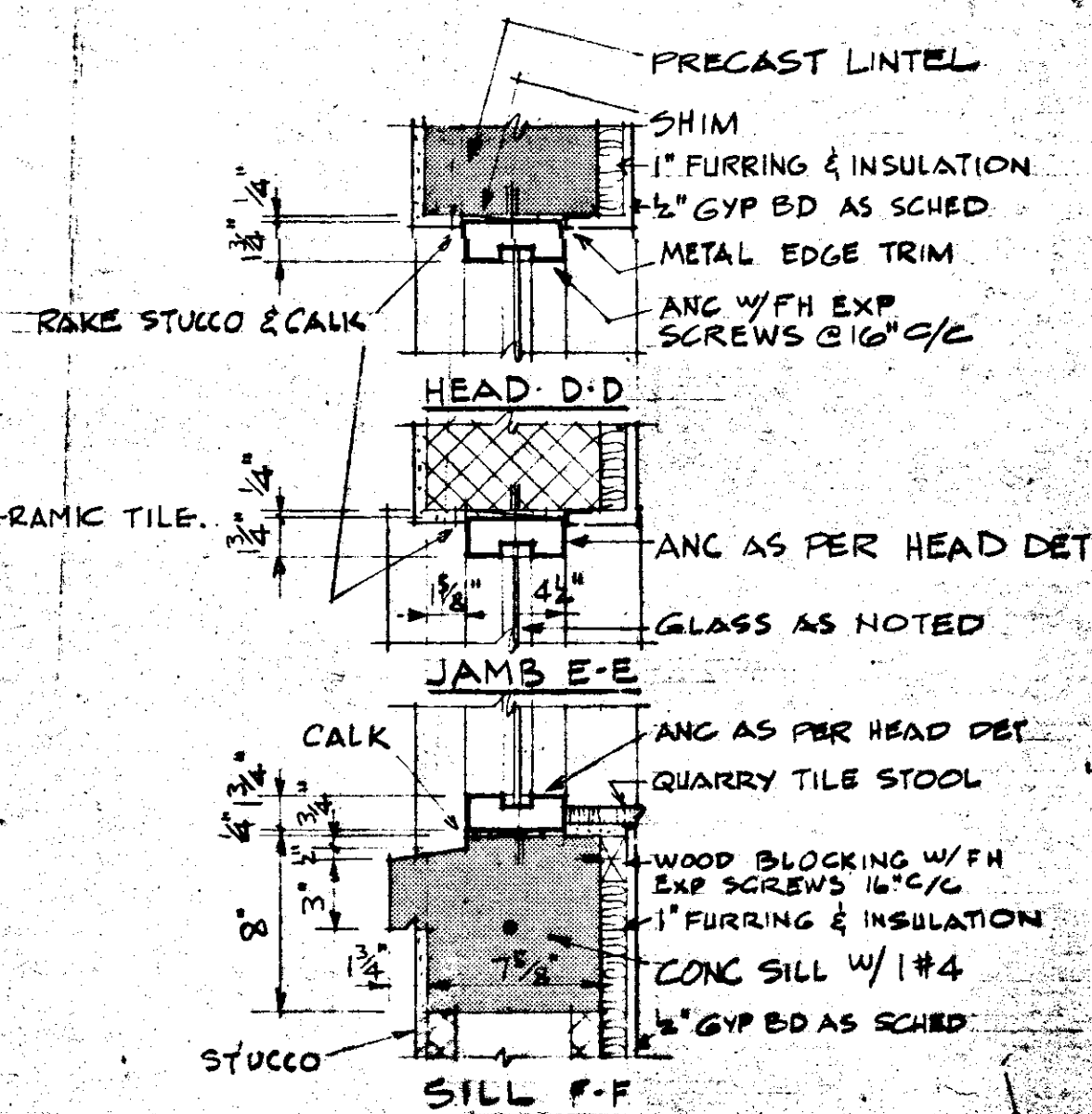
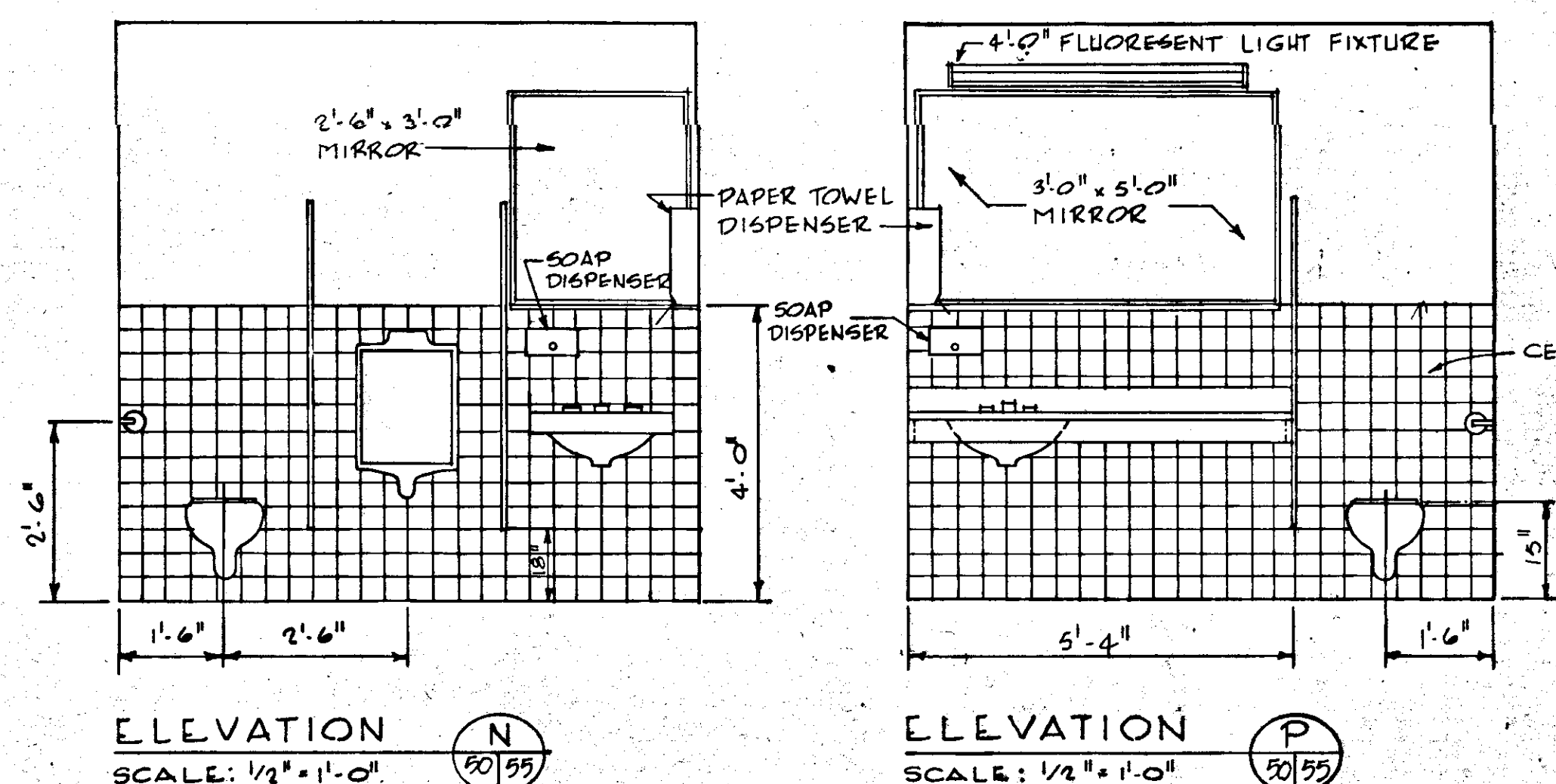
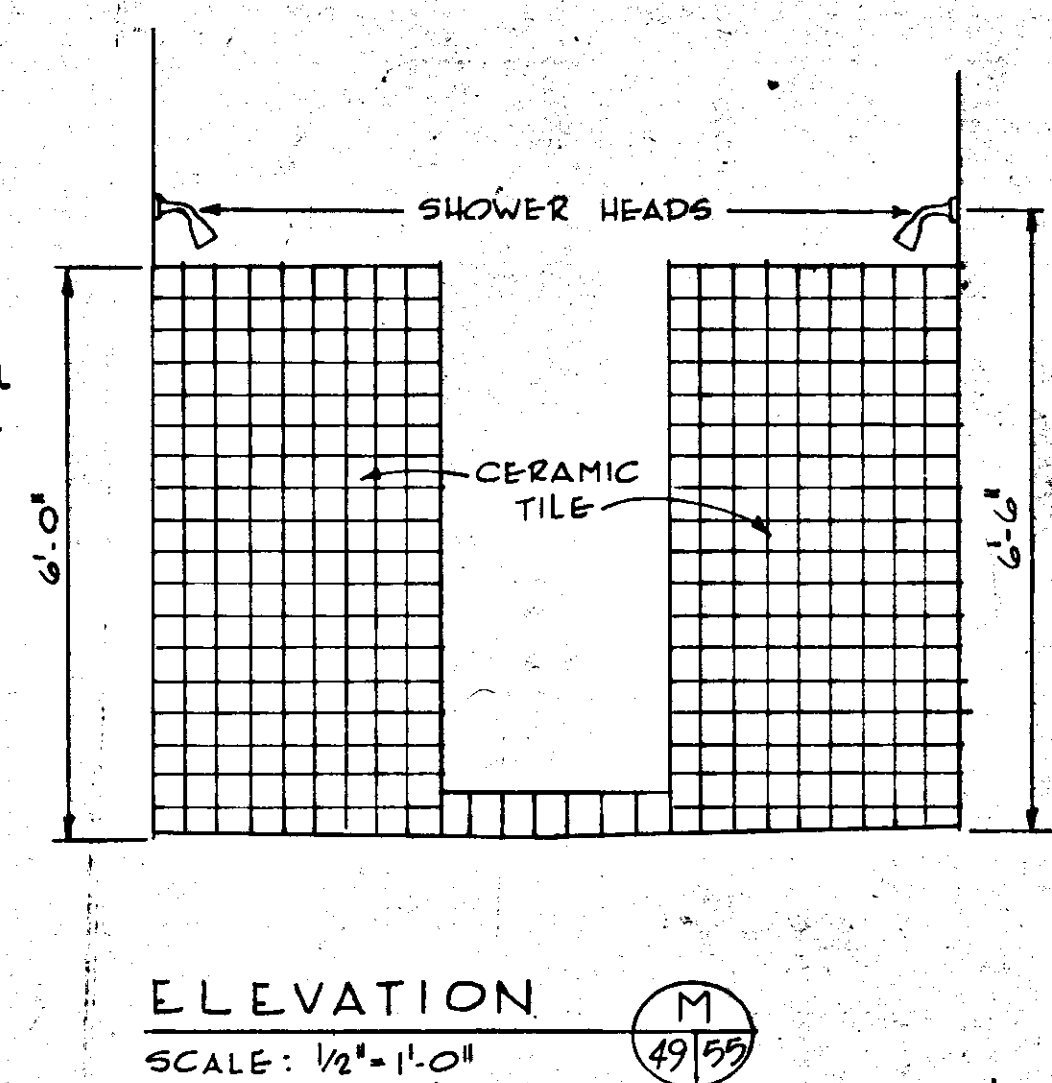
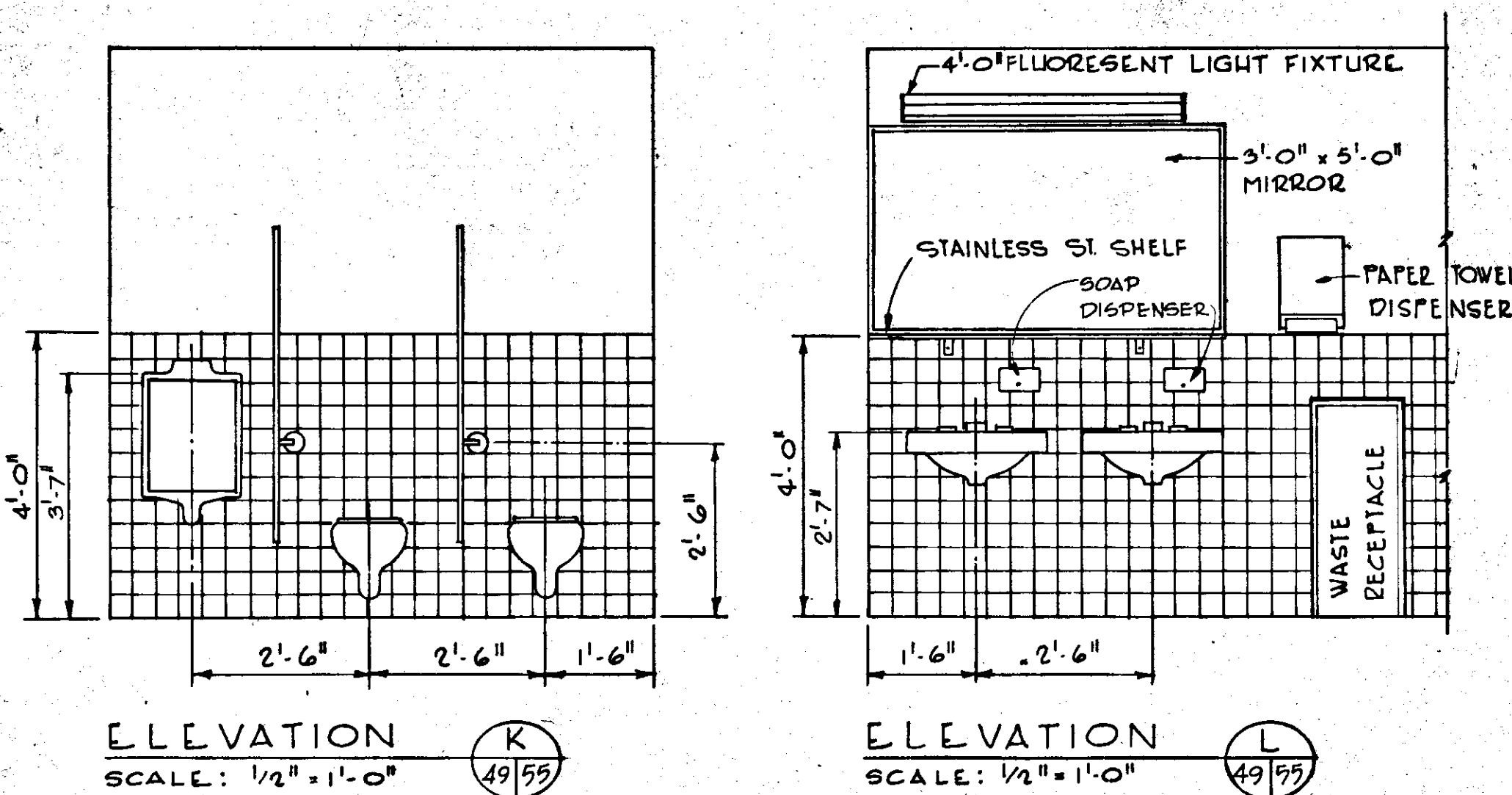
**FINISH SCHEDULE**

ROOM DESCRIPTION	FLOOR			BASE		WAINSCOT		WALLS			CEILING			REMARKS					
	CONCRETE	VINYL ASB. TILE	QUARRY TILE	CERAMIC TILE	COLOR CODE	VINYL (4")	QUARRY TILE	CERAMIC TILE	COLOR CODE	COLOR CODE	PAINTED CONC. BLK	PAINTED GYP. BD.	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"	
110 MAINTENANCE AREA																		12'-4"	
111 GARAGE AREA																		12'-4"	
112 MACHINE SHOP AREA																		12'-4"	
113 WELDING																		12'-4"	
114 ELECT. & INSTRUMENT SHOP																		12'-4"	
115 TOOL CRIB																		12'-4"	
116 PARTS STORAGE																		12'-4"	
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"	

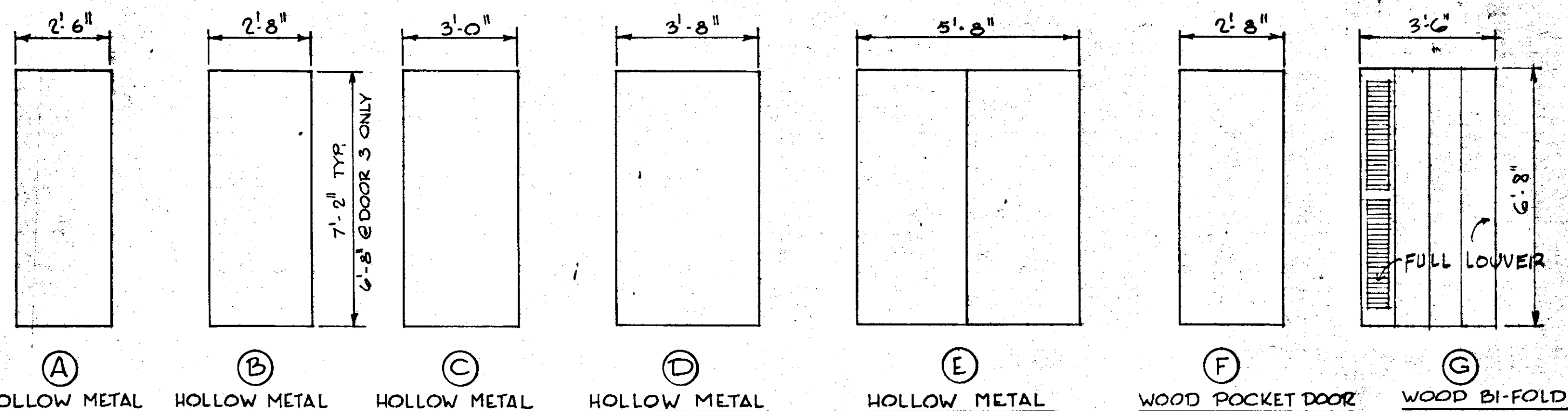
**DOOR AND HARDWARE SCHEDULE**

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.													F-1
17		4'-0"	7'-2"		WIRE FABRIC													LOCK BY DOOR MANUF.
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.

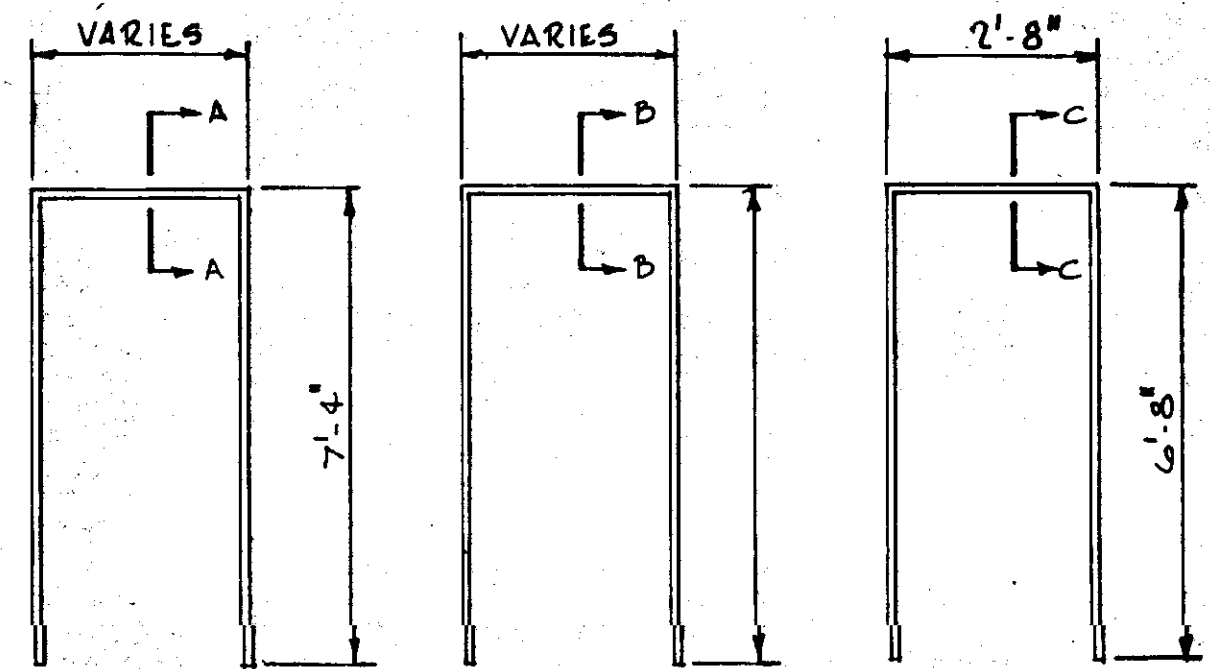
SEE SPECIFICATIONS REGARDING COLOR SELECTIONS.



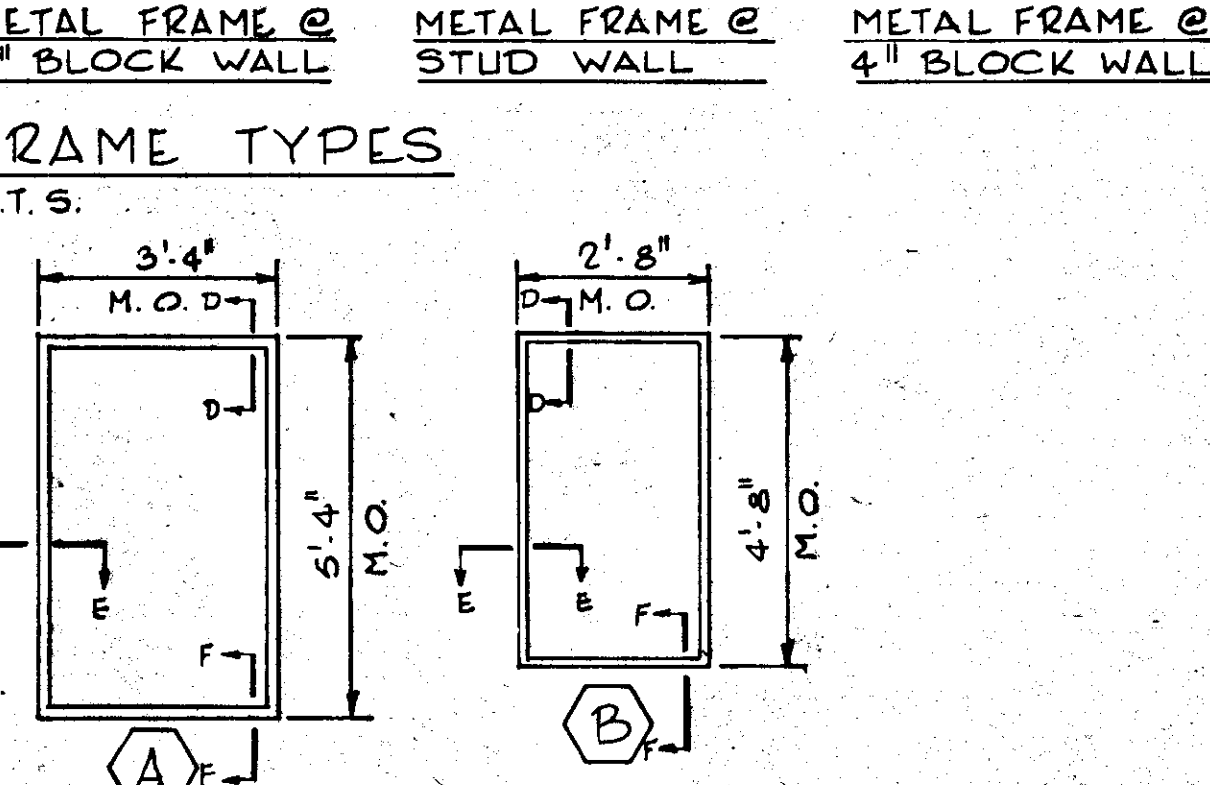
**WINDOW DETAILS**  
SCALE: 1/8" = 1'-0"



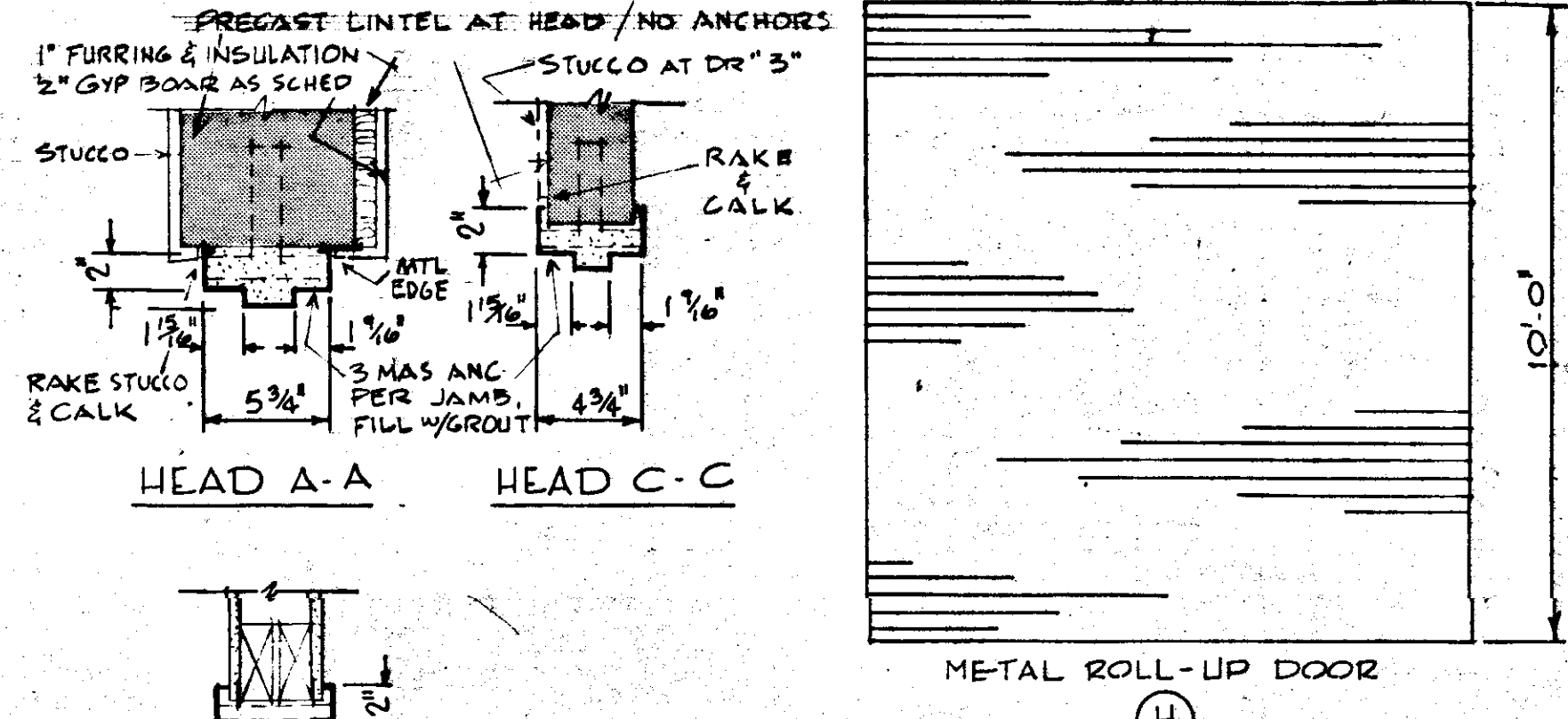
**DOOR ELEVATIONS**  
SCALE: 3/8" = 1'-0"



**FRAME TYPES**  
N.T.S.



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



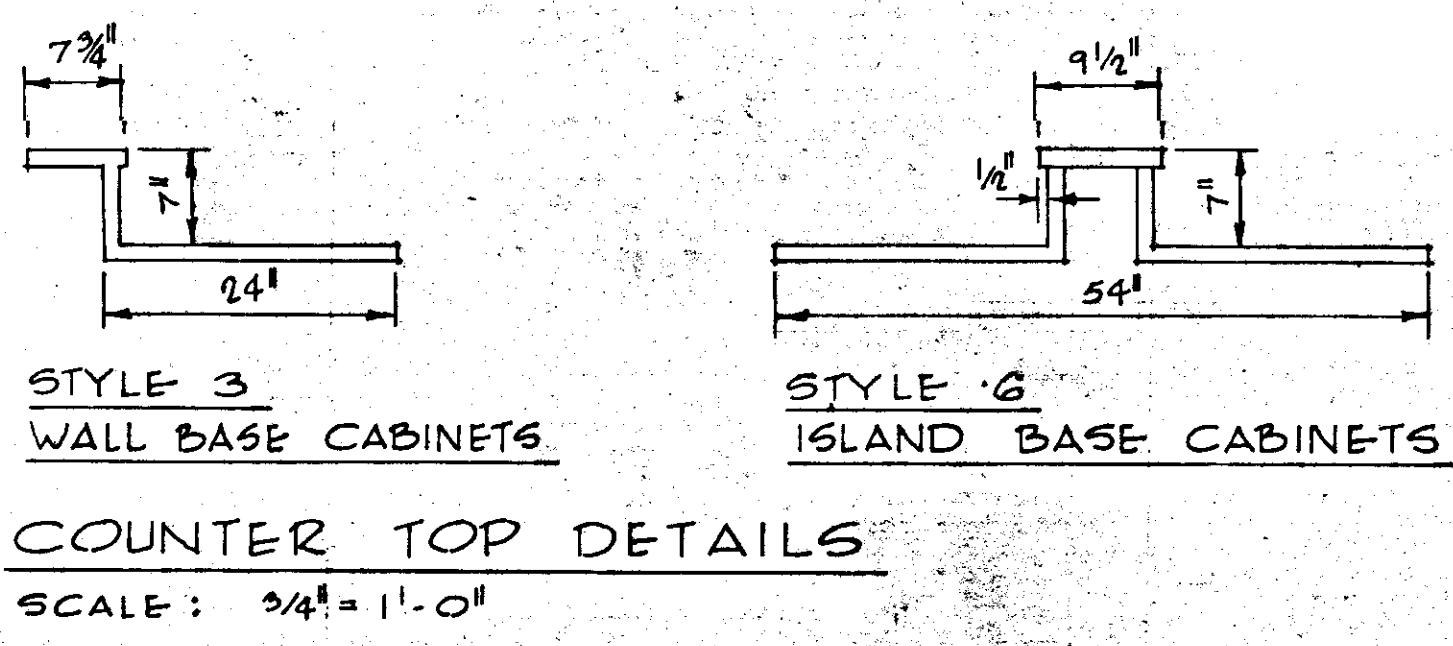
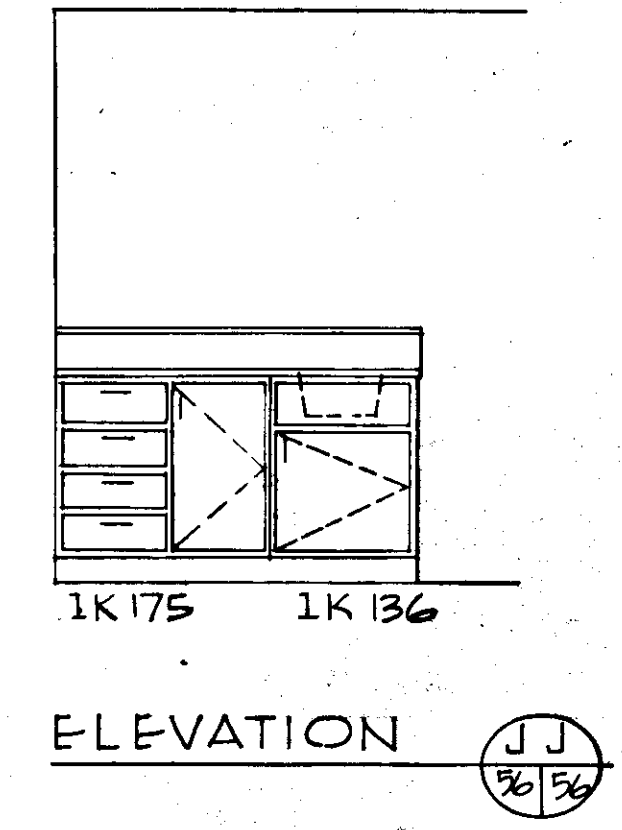
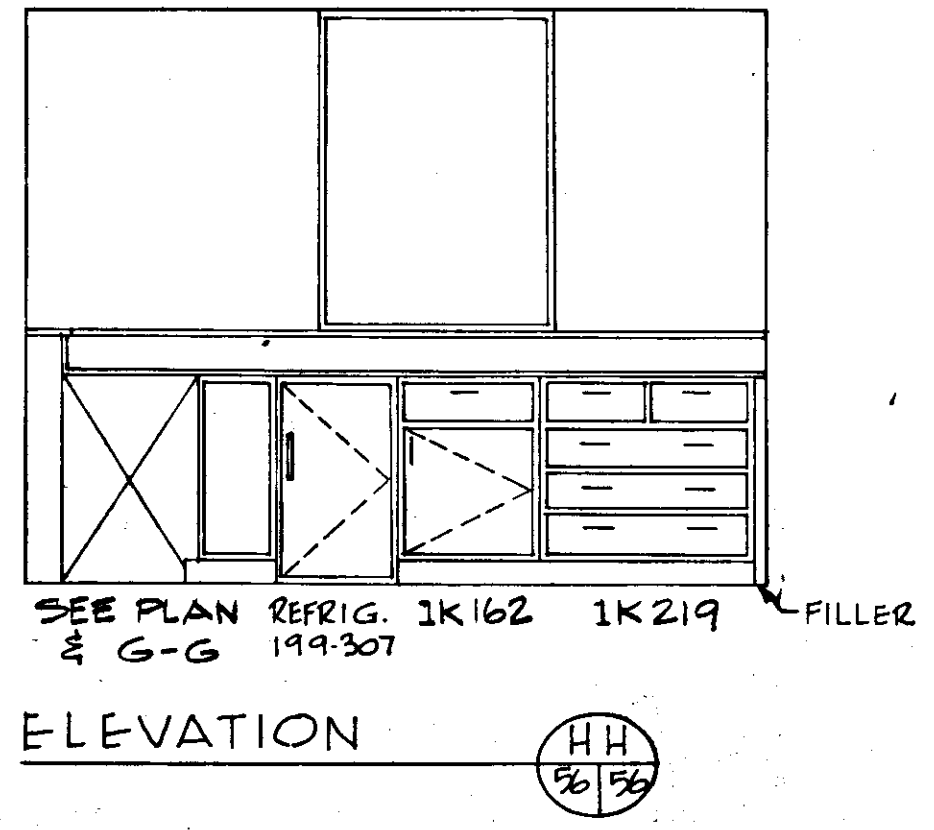
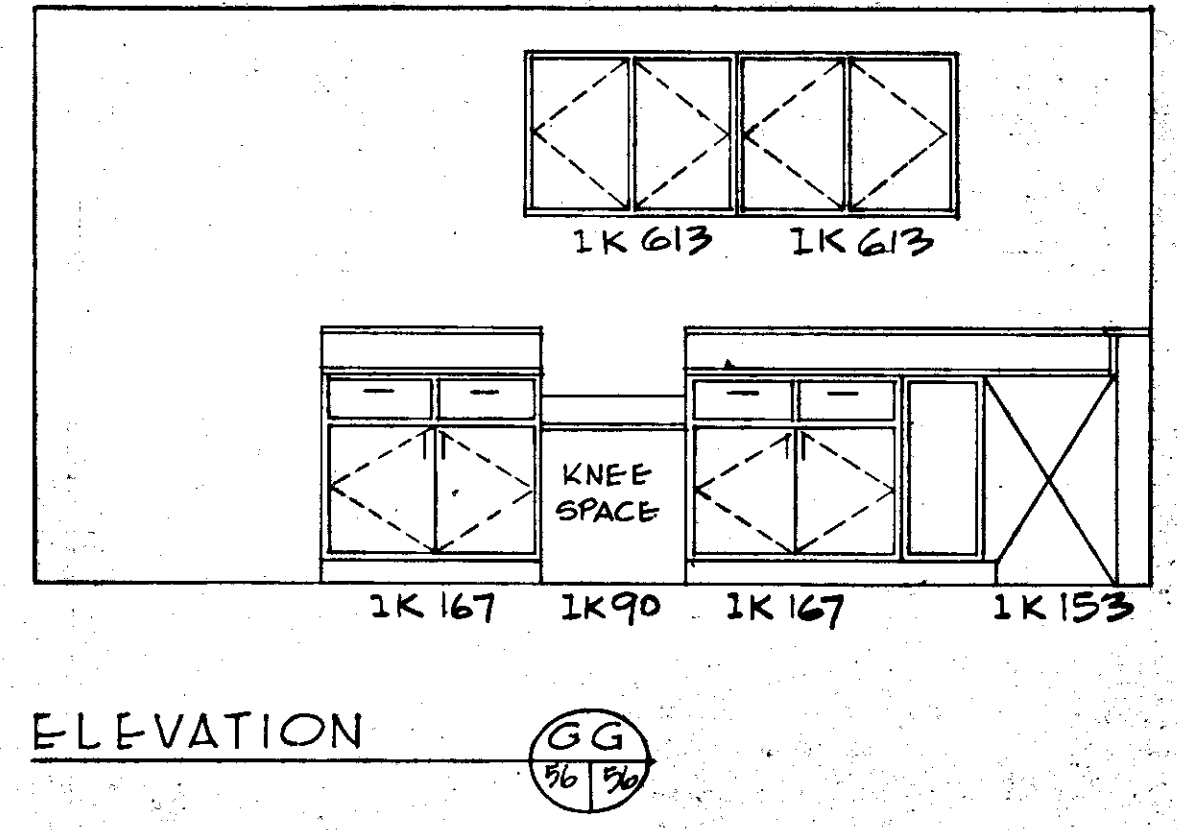
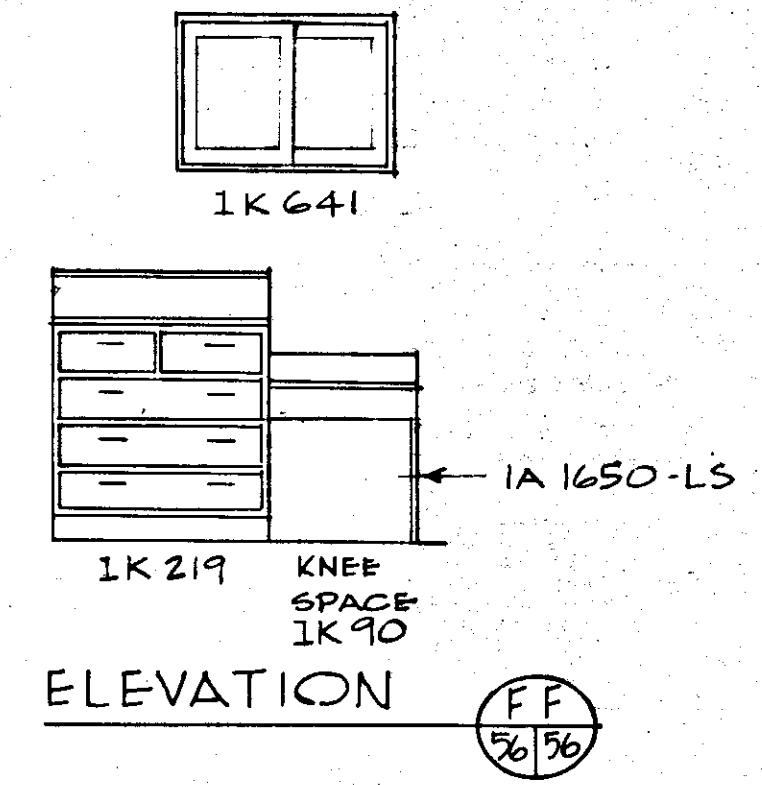
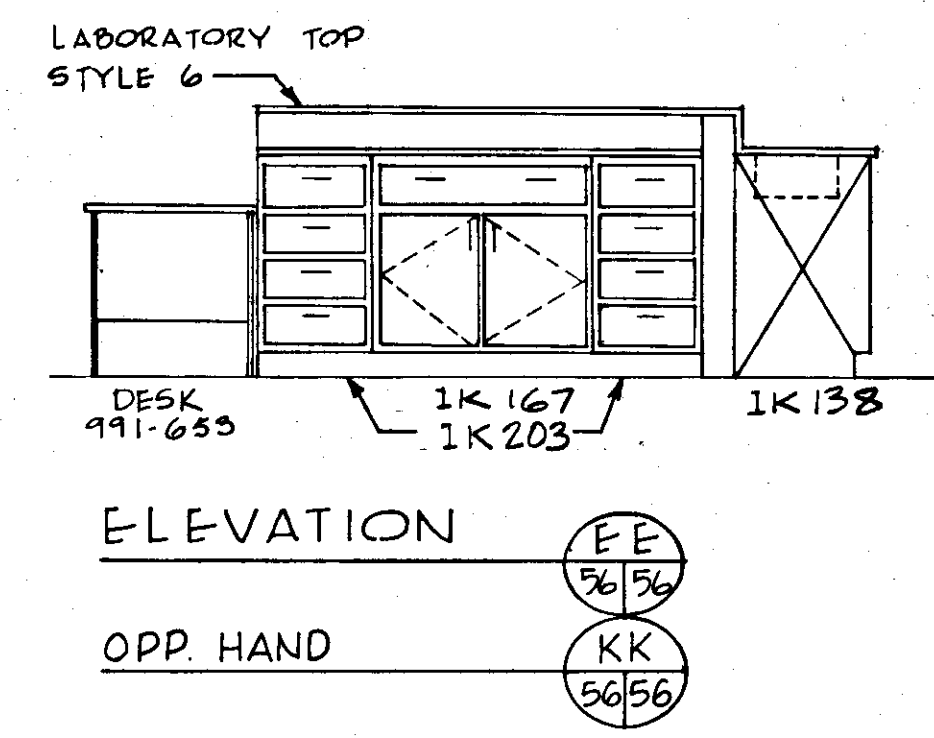
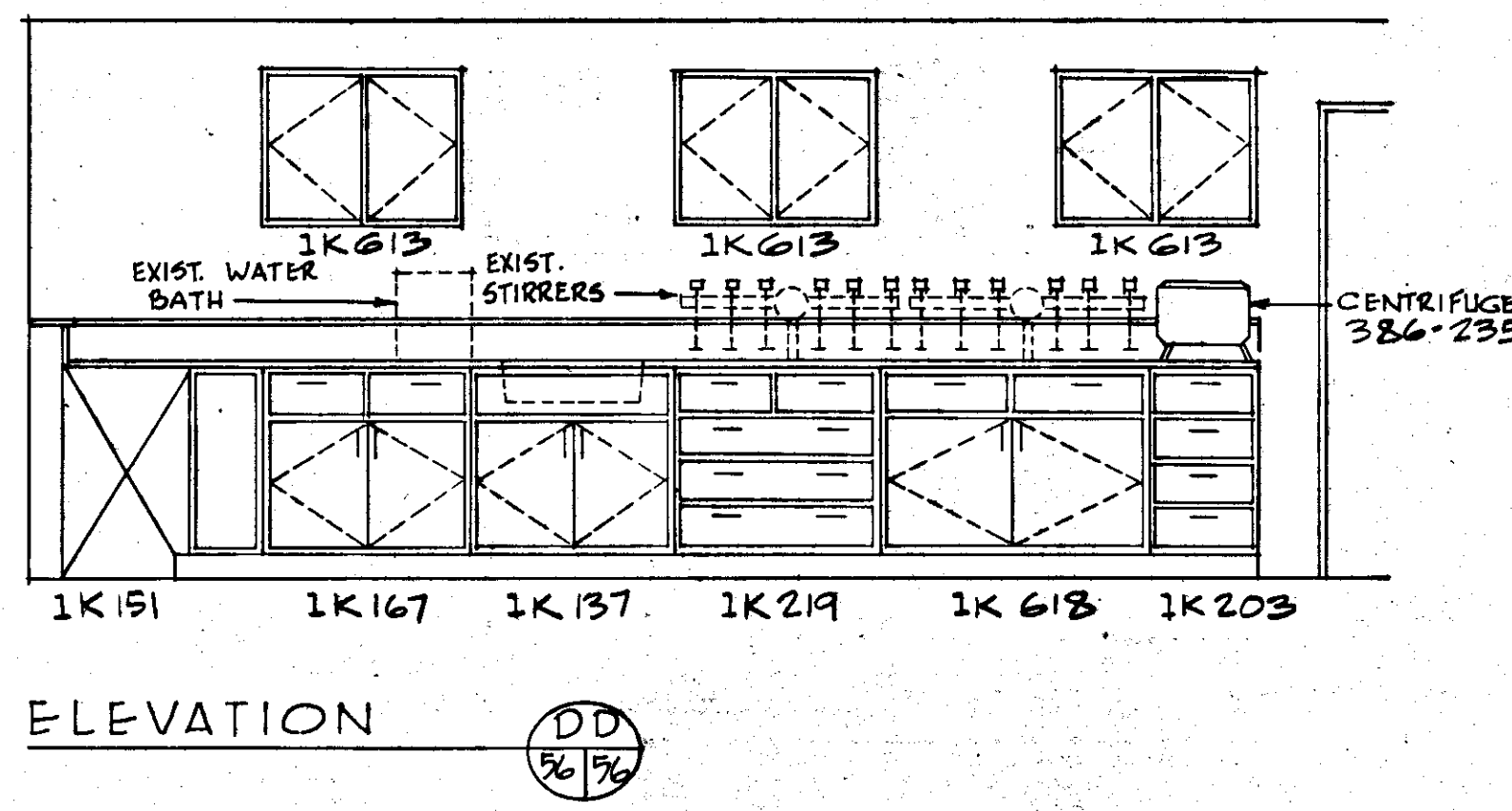
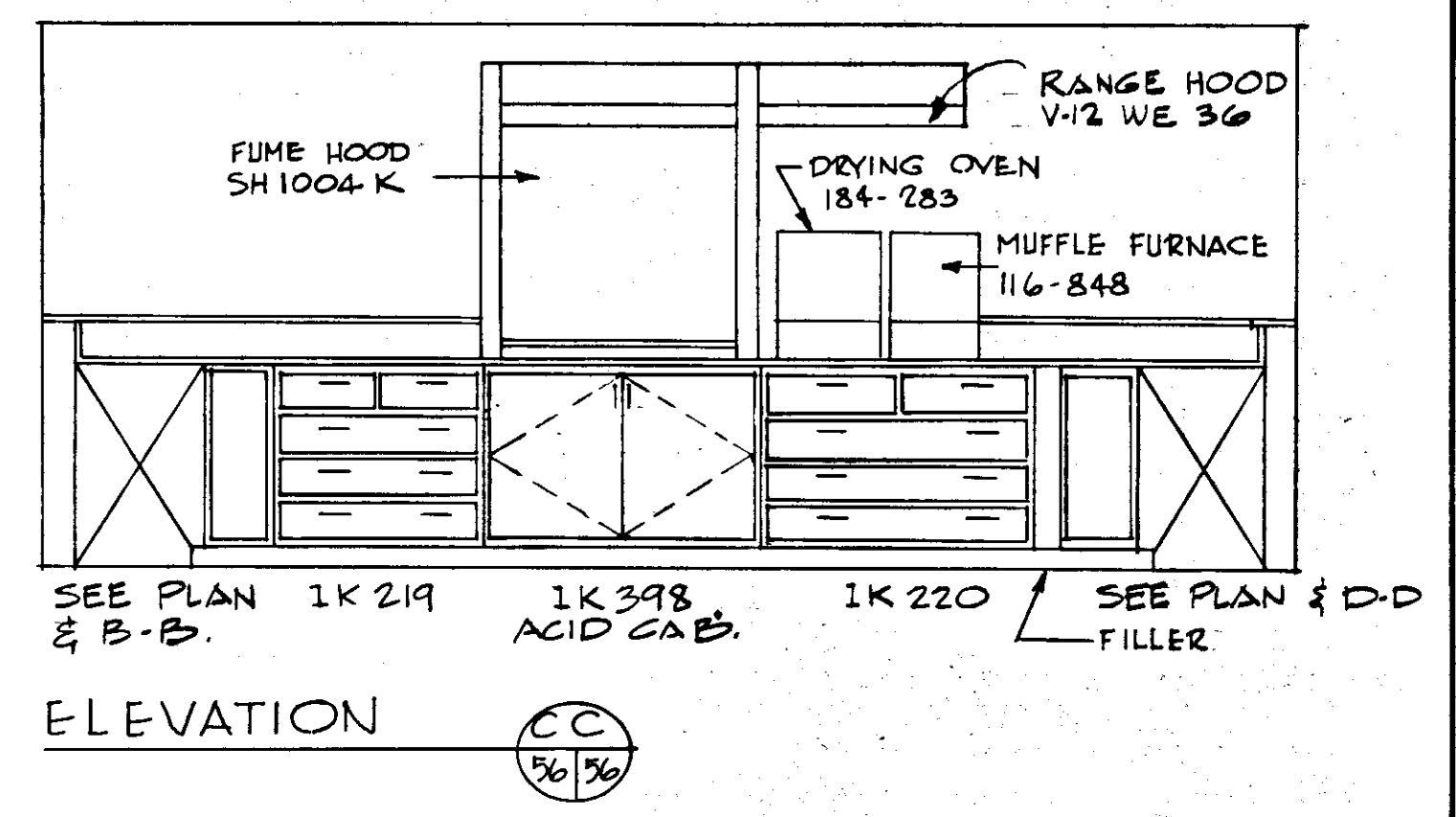
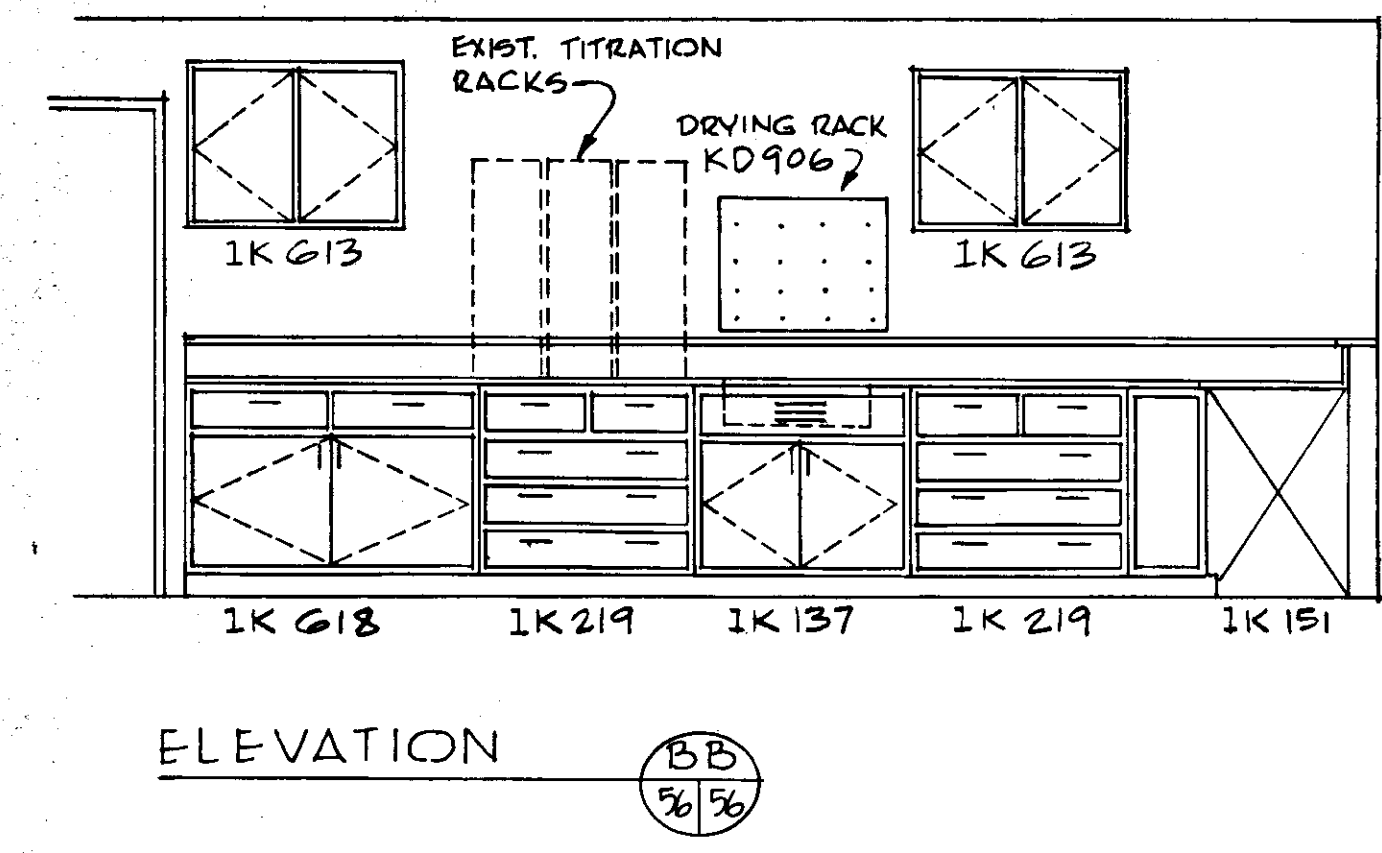
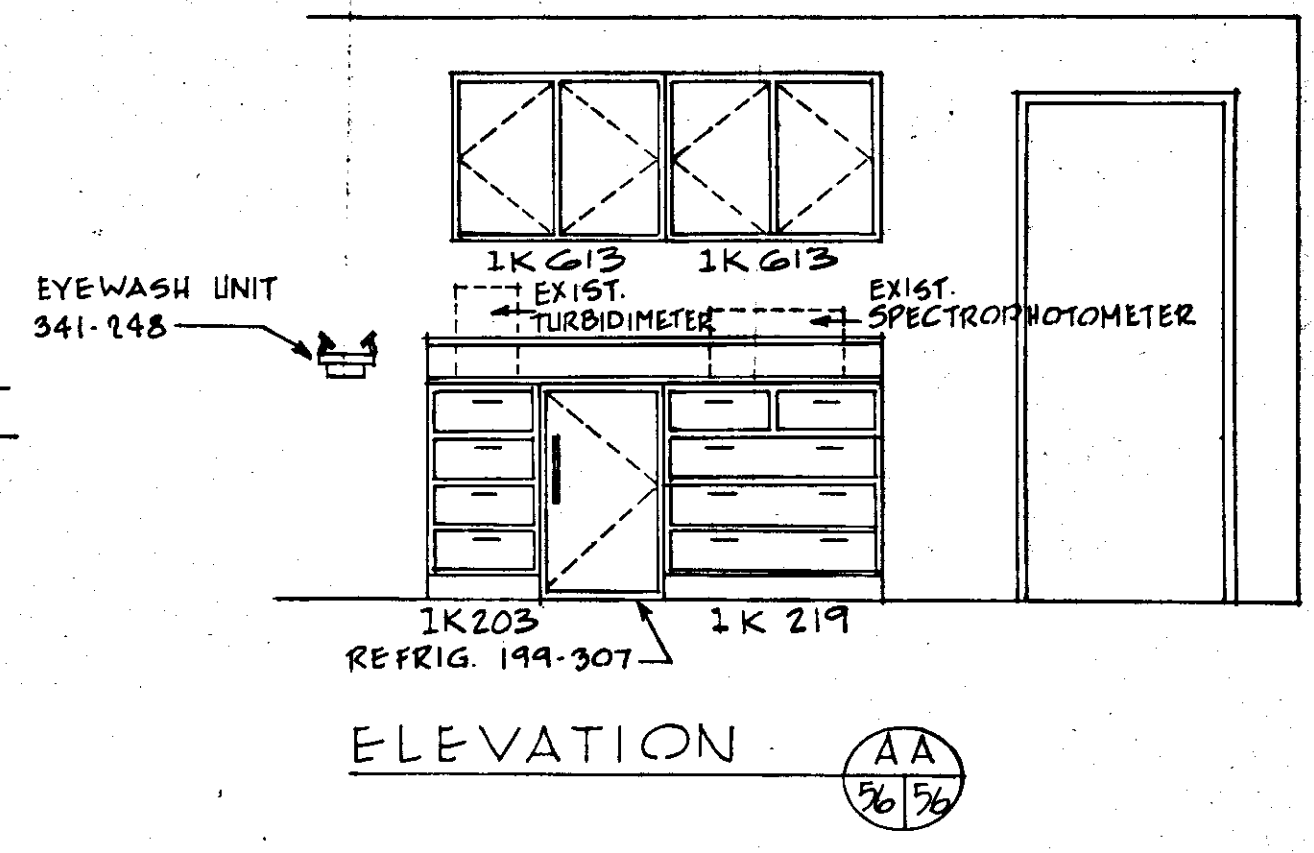
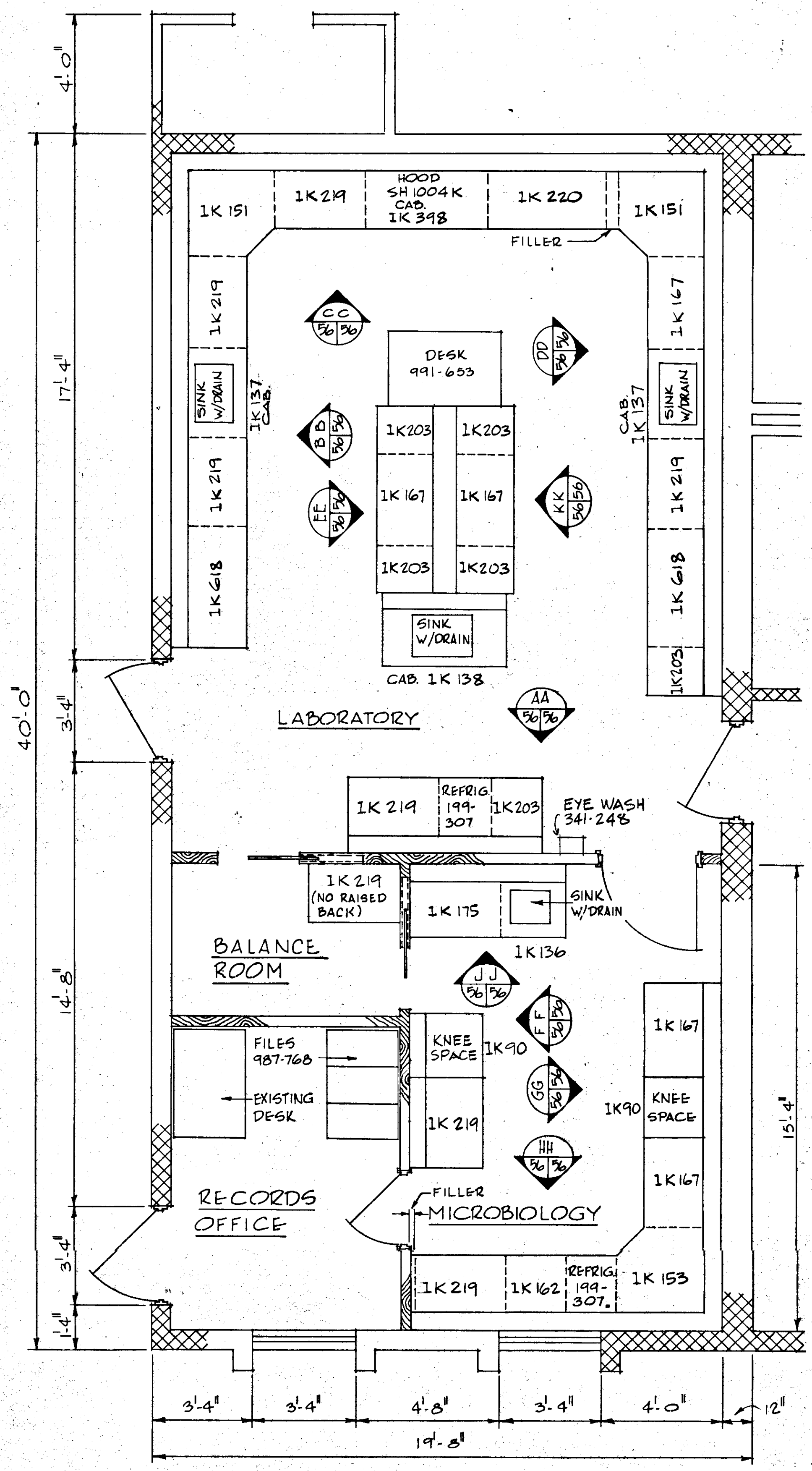
NO.	DATE	GEN REV	DESCRIPTION	WRW	WDH
A	5/79		GEN REV		

**RUSSELL & AXON**  
Engineers - Planners - Architects

**WATER WORKS PROJECT**  
MAINTENANCE BUILDING  
FINISH SCHEDULE, DOOR AND HARDWARE  
SCHEDULE, DETAILS & TOILET ELEVATIONS

**T-55**  
FLORIDA

DESIGNED BY J.R.A.	FILE NO. 630-761-04	<b>SEAL</b> <i>[Signature]</i> JUL 27 1978
DRAWN BY J.R.A.	SHEET A7	
CHECKED BY	NO. 55	
DATE AUGUST, 1978	OF 130 SHEETS	
	SCALE: AS NOTED	

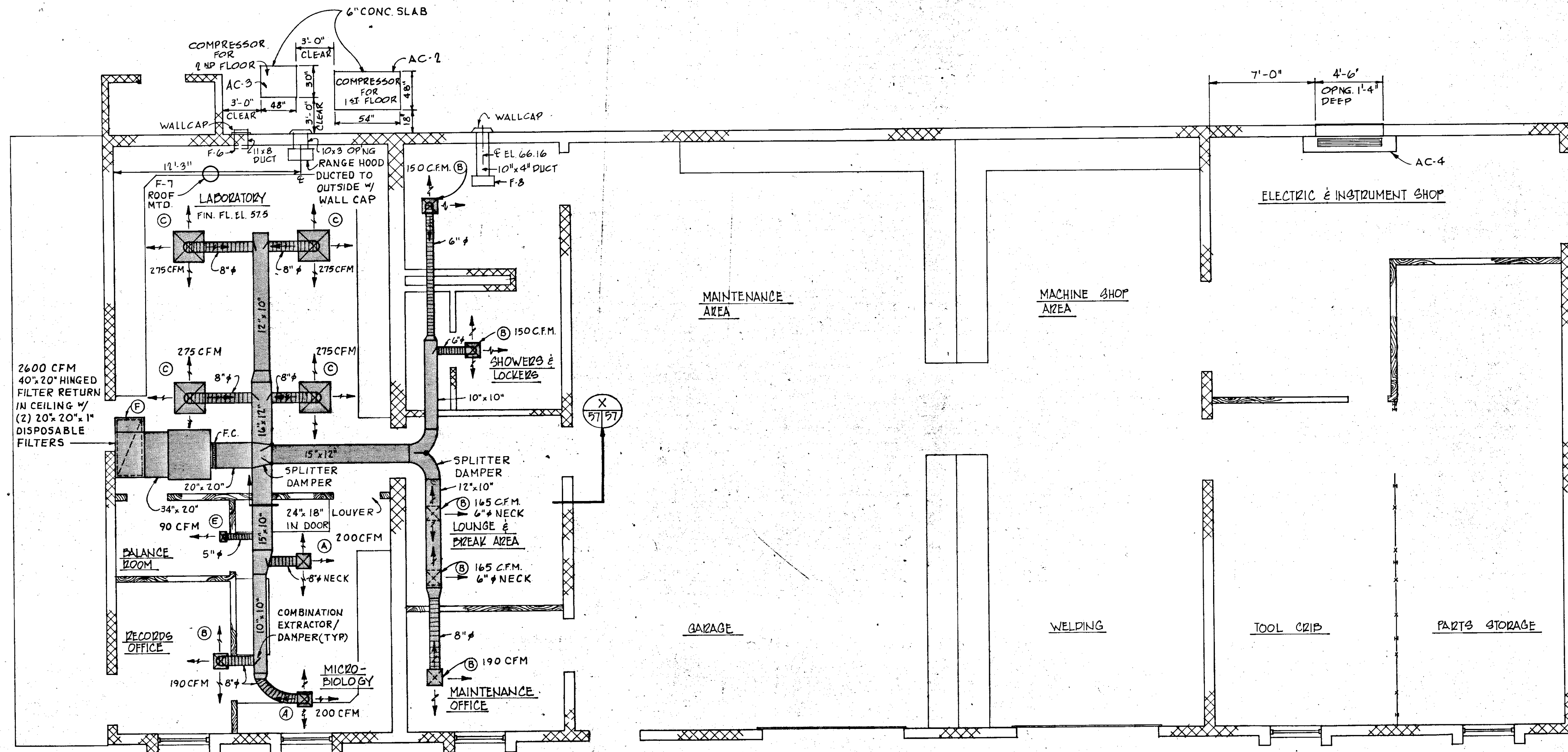


**NOTES:**

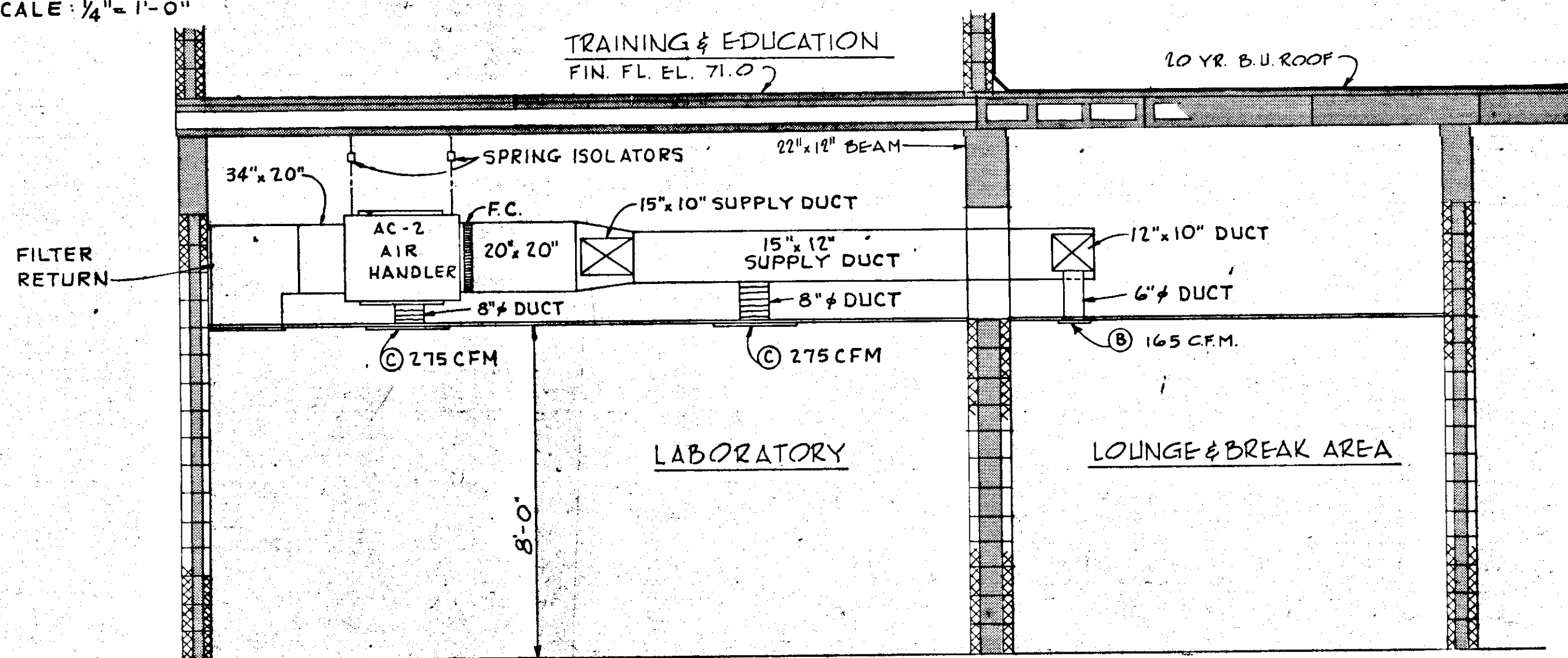
- SINK IN CENTER ISLAND TO BE SAMPLE SINK WITH FOLLOWING SAMPLES PIPED IN (SIPHON FLOW):  
RAW WATER (PRIOR TO CHEMICAL FEED)  
RAPID MIX A  
RAPID MIX B  
POST MIX B  
POST MIX A1 & A2  
TRANSFER LINE 1  
TRANSFER LINE 2
- AFTER ALL CHEMICALS MIXED DESIRE TO USE SAME LINES AS SAMPLING FOR CL<sub>2</sub> ANALYZER, PH RECORDER, TURBIDITY MONITORS.
- ALL LINES SHALL BE LABELED AS NOTED AT SINK BY NAMEPLATES
- 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				
T-56 FLORIDA				
DESIGNED BY	FILE NO.	SEAL		
J.R.A.	630-761-04			
DRAWN BY	SHEET A8			
J.R.A.				
CHECKED BY	OF 130 SHEETS			
	NO. 56			
DATE	SCALE: AS NOTED			
AUGUST, 1978				



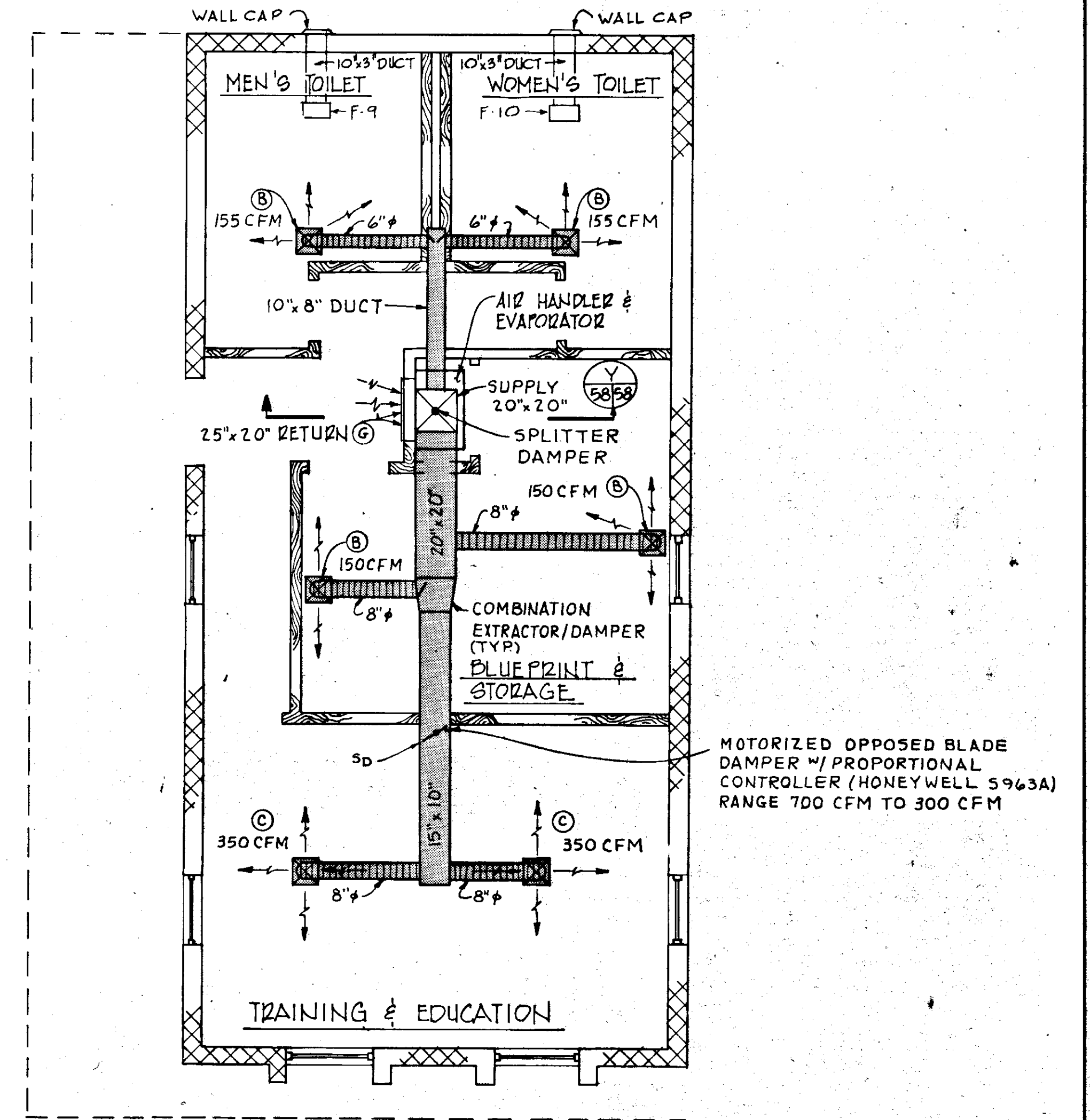


H.V.A.C. PLAN  
SCALE: 1/4" = 1'-0"

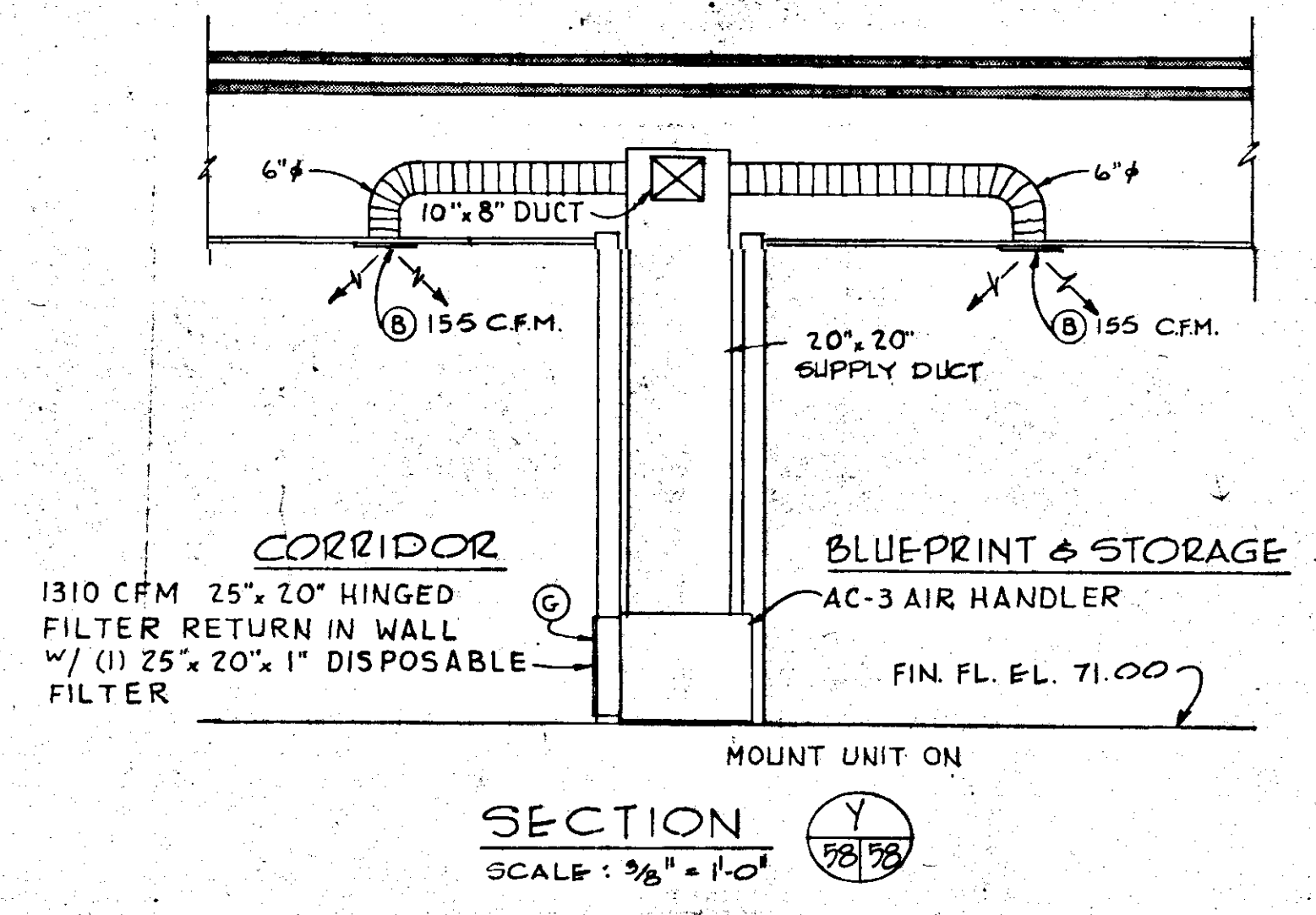


SECTION X-57/97  
SCALE: 3/8" = 1'-0"

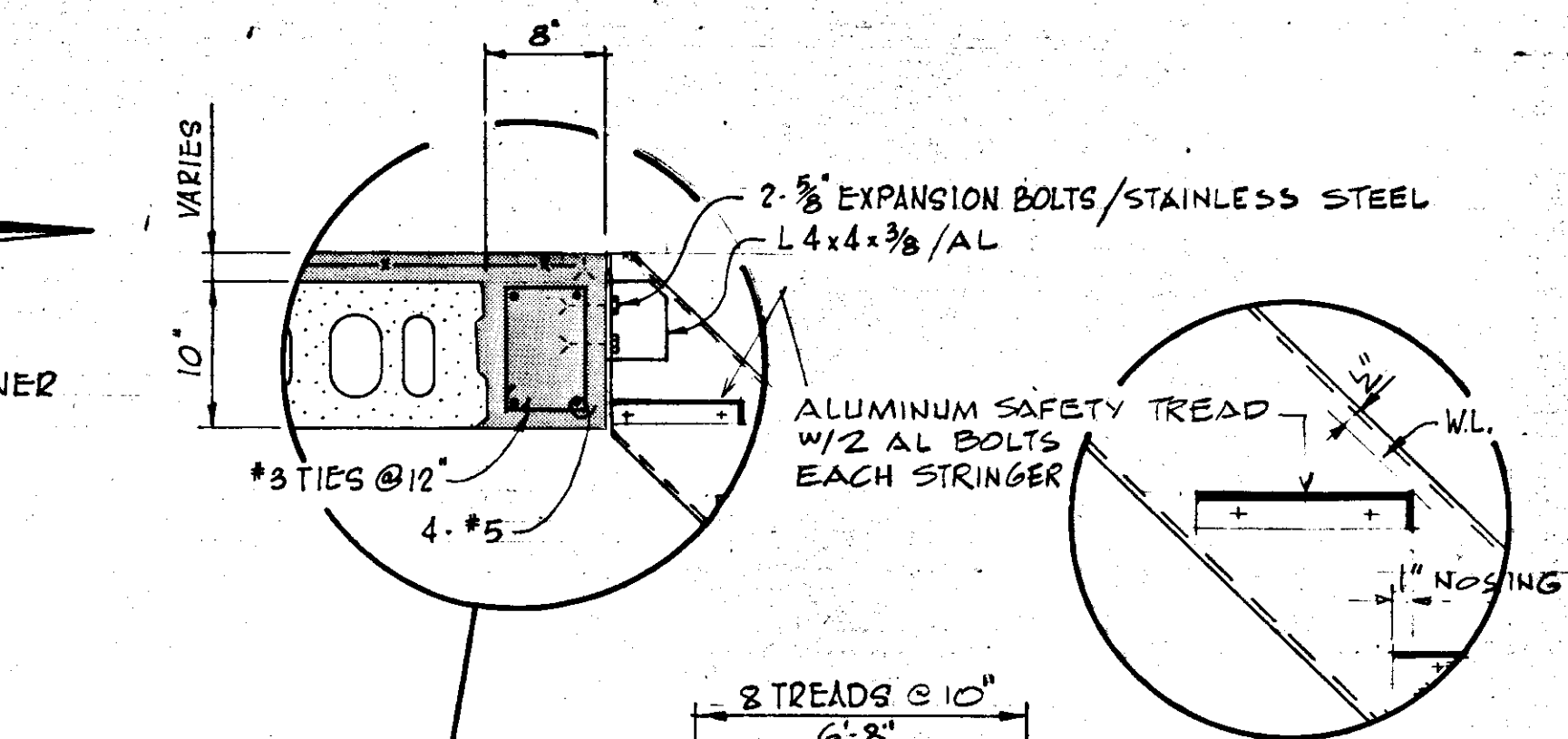
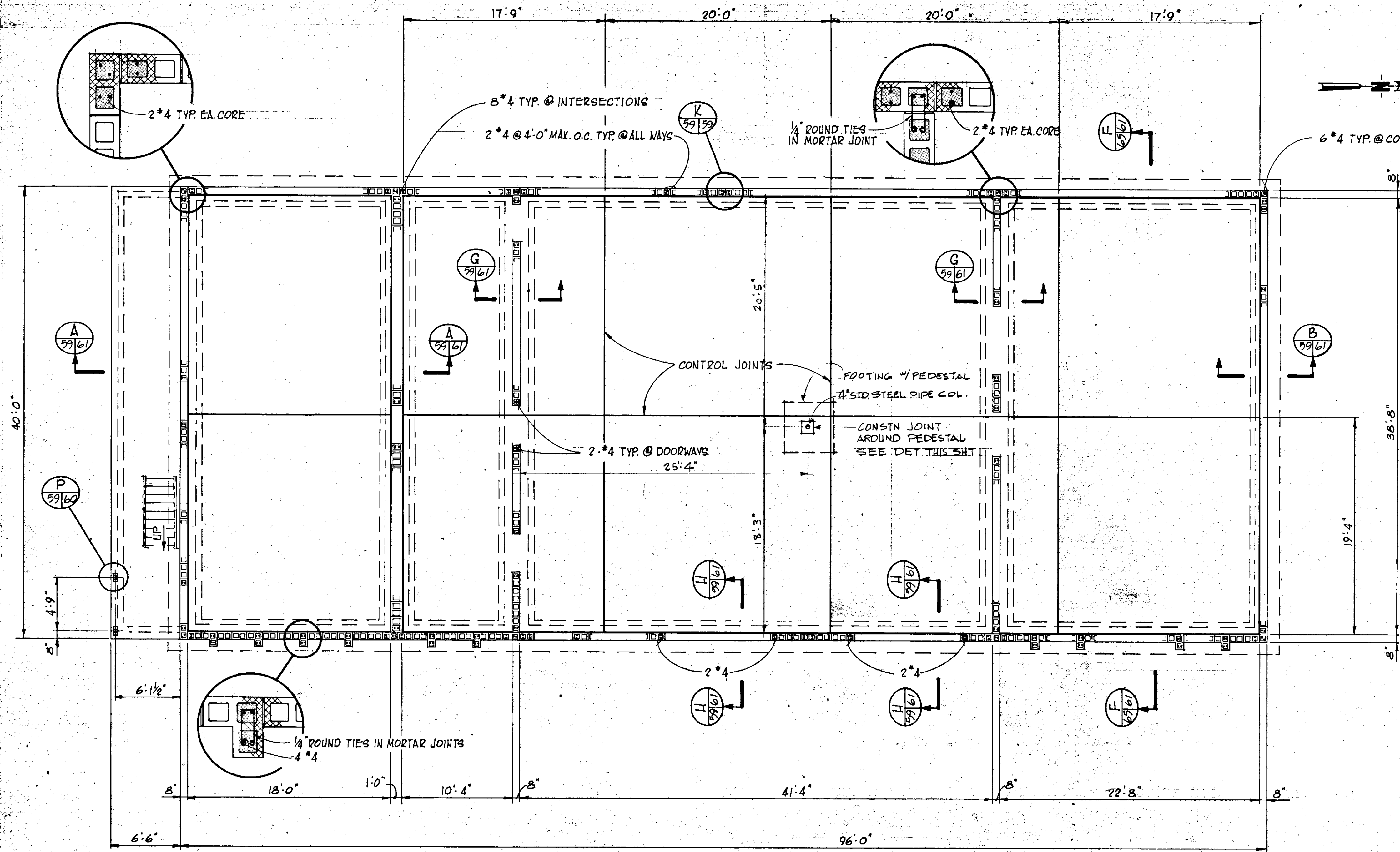
NO.	DATE	DESCRIPTION	BY	CHKD.
5/79		GEN. REV.	AL	
REVISIONS				
<b>RUSSELL &amp; AXON</b> Engineers — Planners — Architects				
WATER WORKS PROJECT MAINTENANCE BUILDING H.V.A.C. PLAN				
<b>T-57</b> FLORIDA SEAL				
MANATEE COUNTY,		FILE NO.		
DESIGNED BY B.E.D.		630-761-04		
DRAWN BY H.G.B.		SHEET 9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



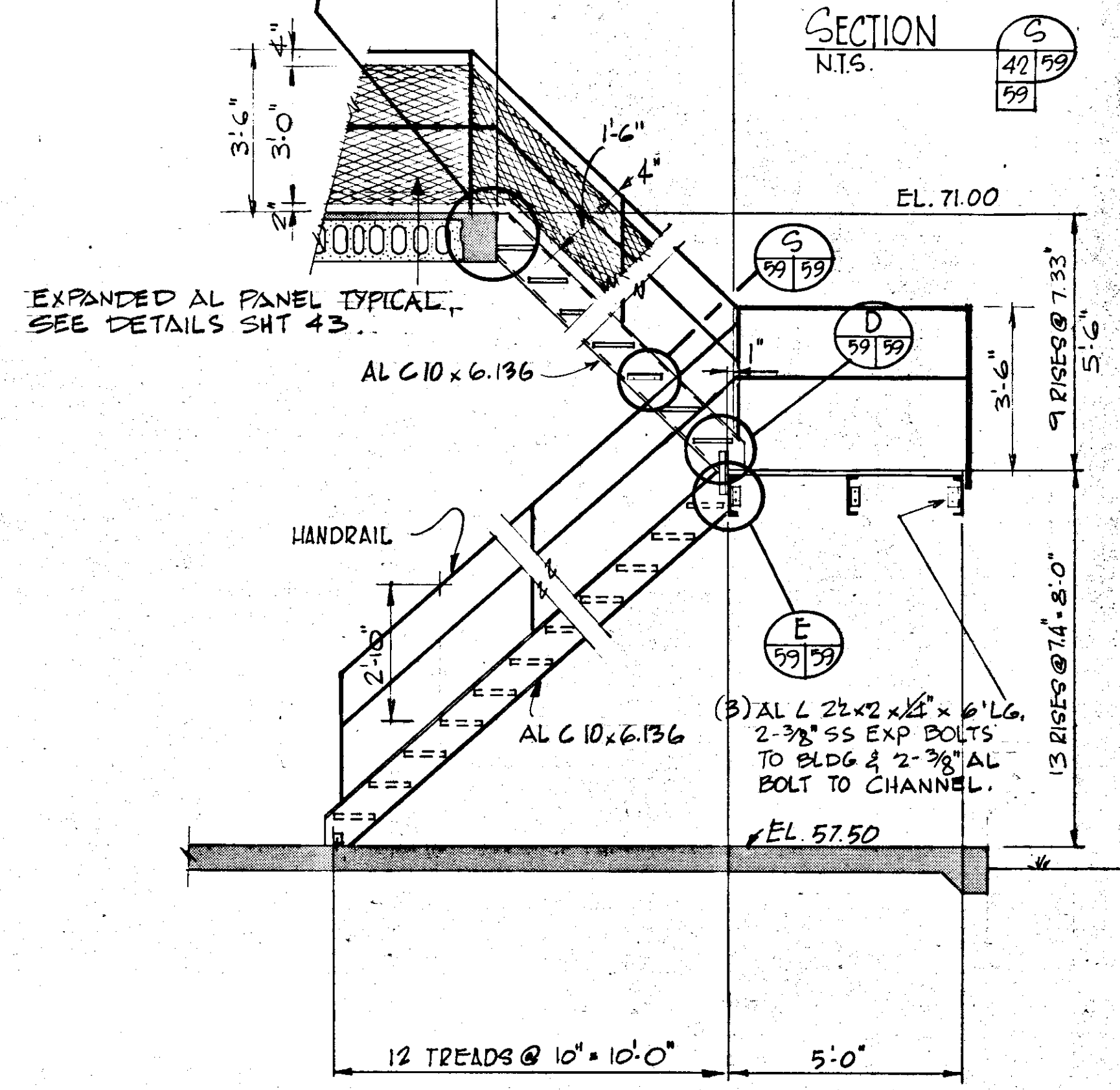
H.V.A.C. FLOOR PLAN  
SCALE 1/4" = 1'-0"



NO.	DATE	DESCRIPTION	BY	CHKD.
5/79		GEN. REV.	AL	
REVISIONS				
<b>RUSSELL &amp; AXON</b> Engineers — Planners — Architects				
WATER WORKS PROJECT MAINTENANCE BUILDING H.V.A.C. PLAN & SECTIONS.				
MANATEE COUNTY, FLORIDA			T-58 FLORIDA SEAL	
DESIGNED BY	FILE NO.			
B.E.D.	630-761-04			
DRAWN BY	SHEET A 10			
H.G.B.	No. 58			
CHECKED BY	OF 130 SHEETS			
DATE	SCALE: 1/4" = 1'-0"			
AUGUST, 1978				

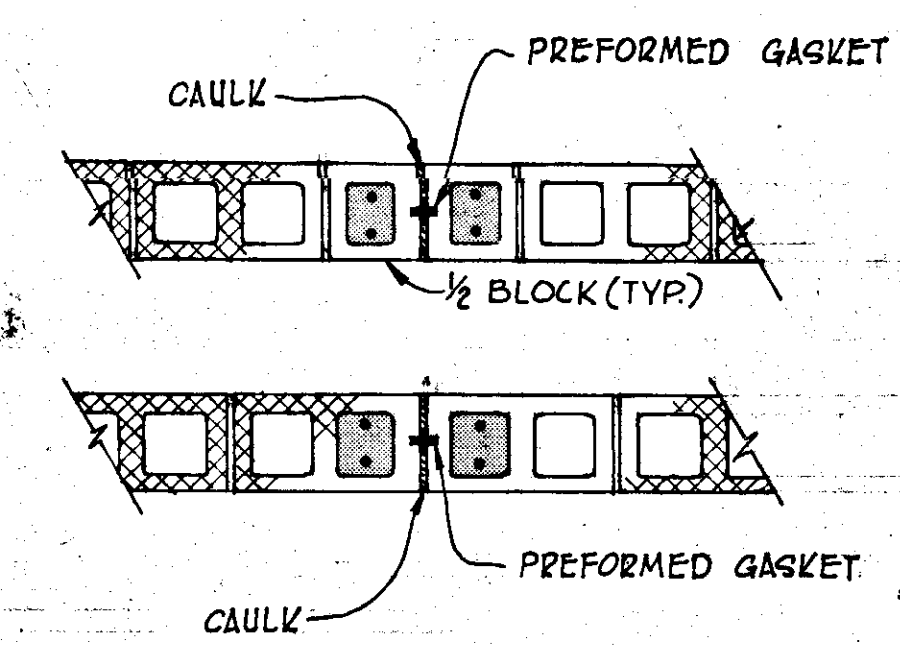


SECTION S  
NTS. 42/59/59

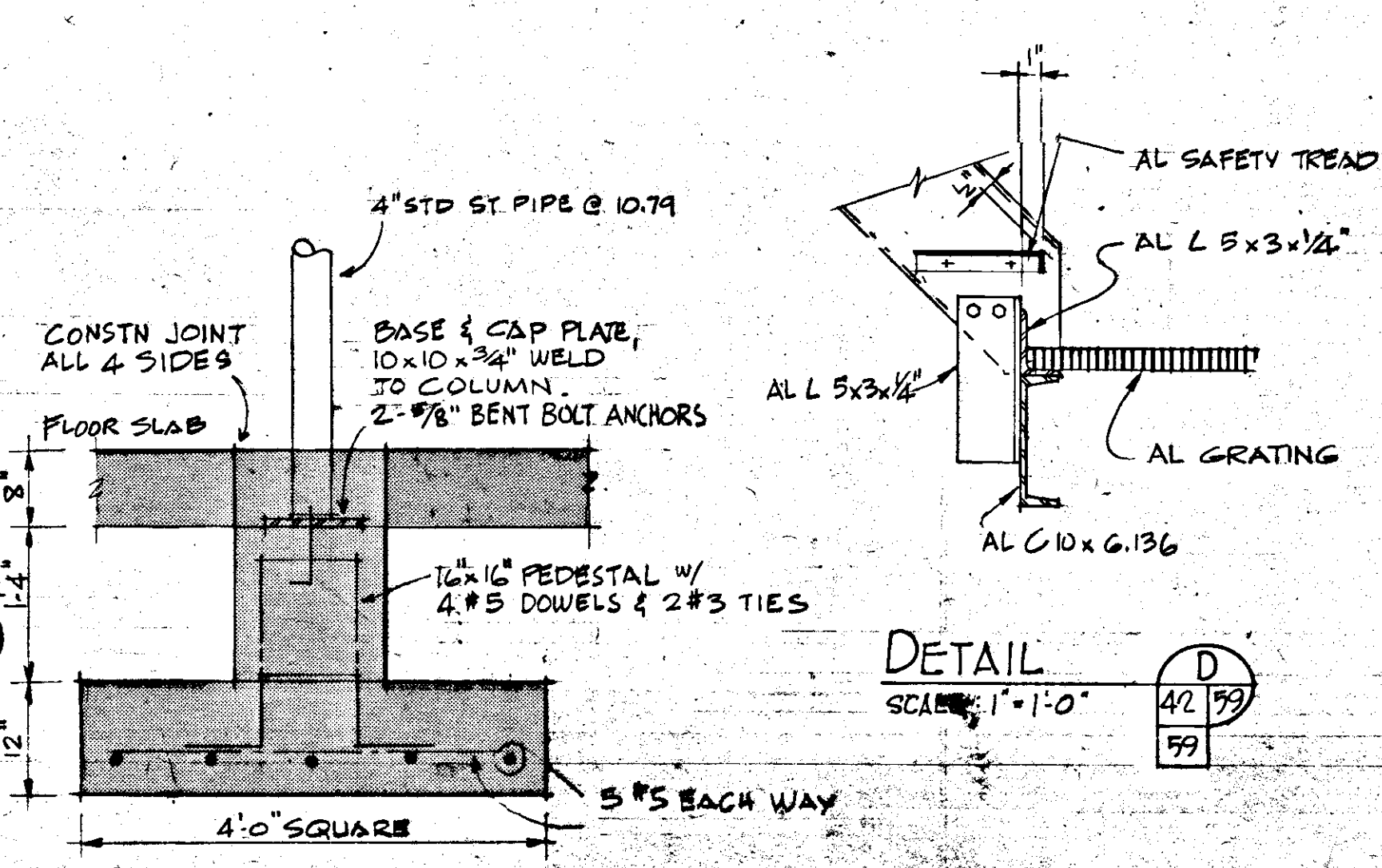


SECTION C  
SCALE: 3/8" = 1'-0"

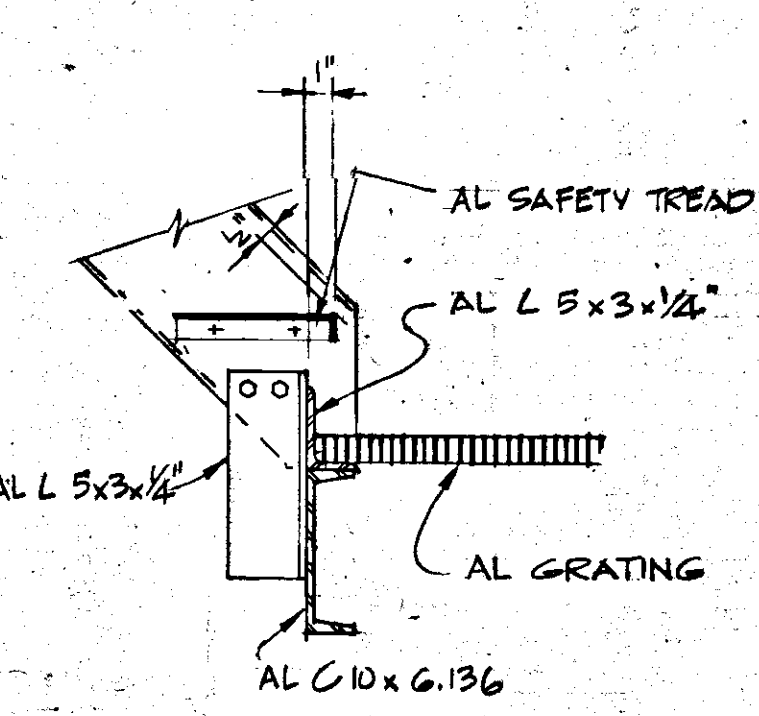
NOTE: ALL RAIL PANELS NOT SHOWN. SEE SHEET 43.



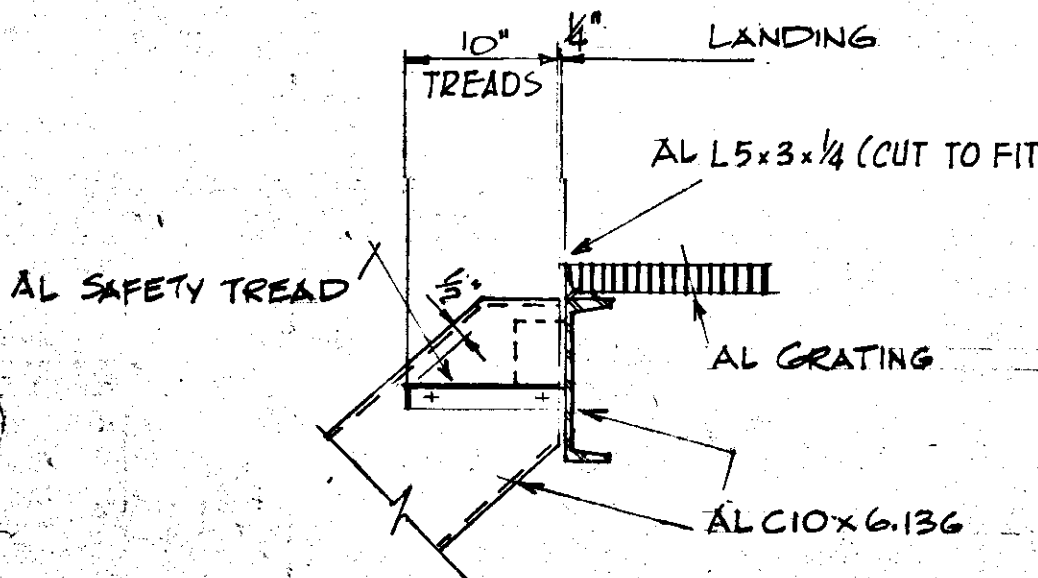
CONTROL JOINT DETAIL  
SCALE: 3/4" = 1'-0"



COLUMN FOOTING & PEDESTAL DETAIL  
SCALE: 3/4" = 1'-0"



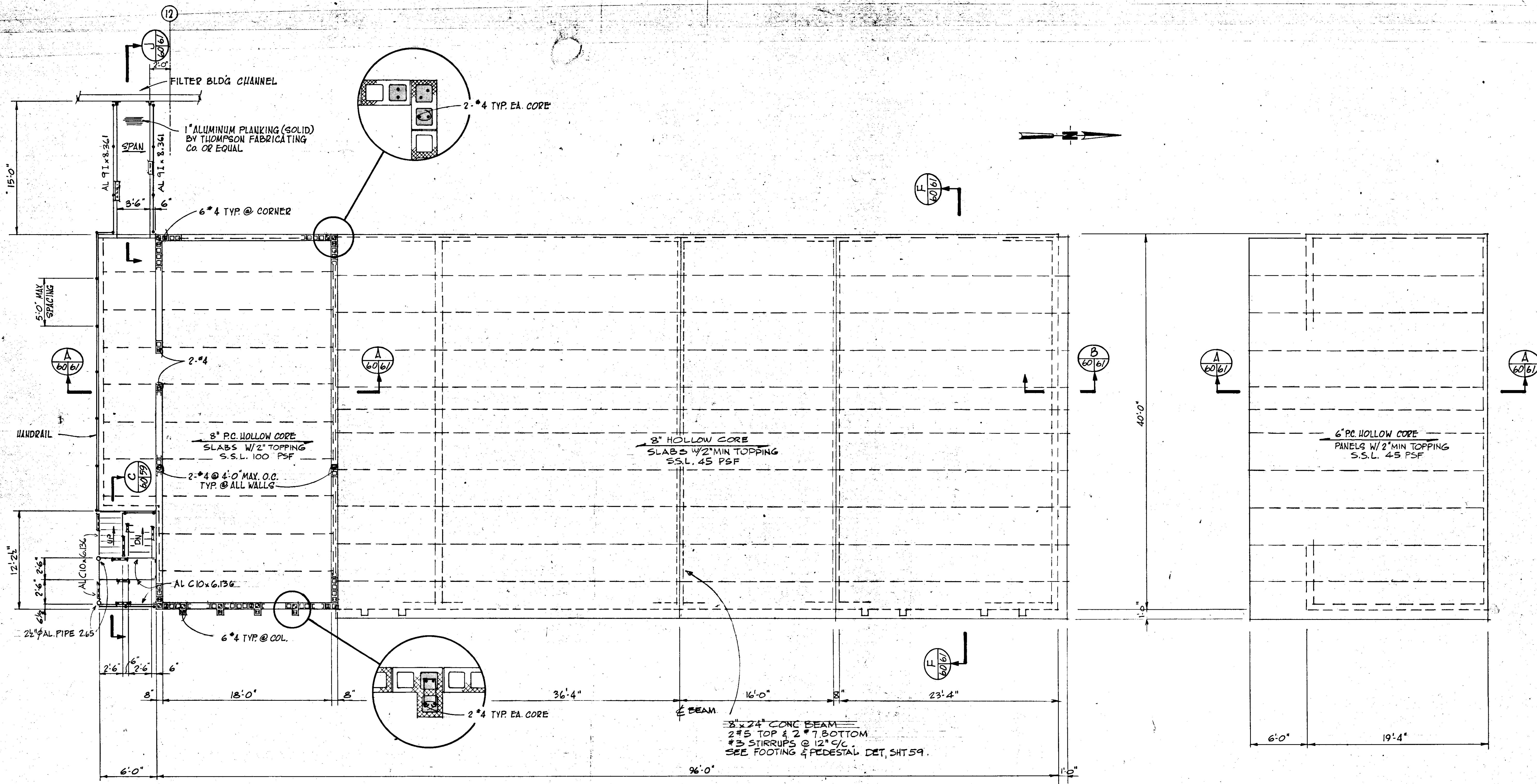
DETAIL D  
SCALE: 1" = 1'-0"



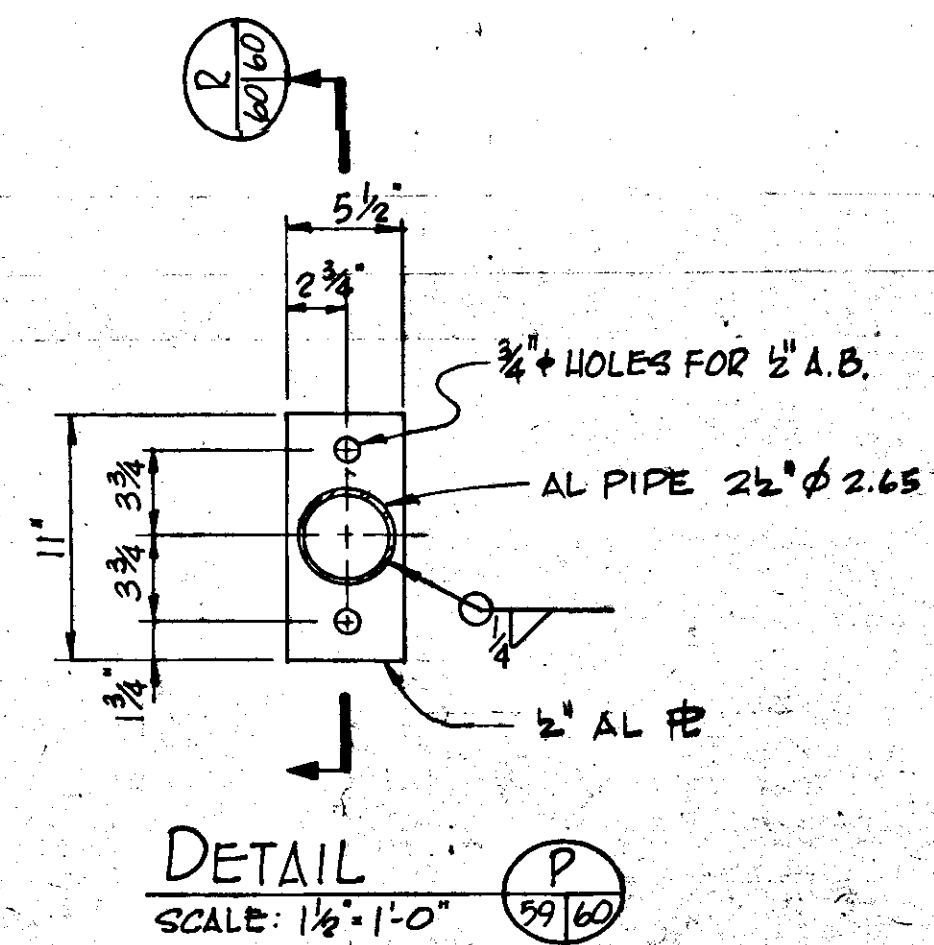
DETAIL E  
SCALE: 1" = 1'-0"

NO.	DATE	GEN REV	DESCRIPTION	WRW	WDH
4	5/79		GEN REV		
REVISIONS					
RUSSELL & AXON Engineers - Planners - Architects					
WATER WORKS PROJECT MAINTENANCE BUILDING PLAN AT EL. 57.50, SECTIONS & DETAILS					
MANATEE COUNTY, FLORIDA				T-59 FLORIDA SEAL	
DESIGNED BY M.B.	FILE NO. 630-761-04				
DRAWN BY E.L.	SHEET S1				
CHECKED BY	OF 130 SHEETS				
DATE AUGUST, 1978	SCALE: AS NOTED				

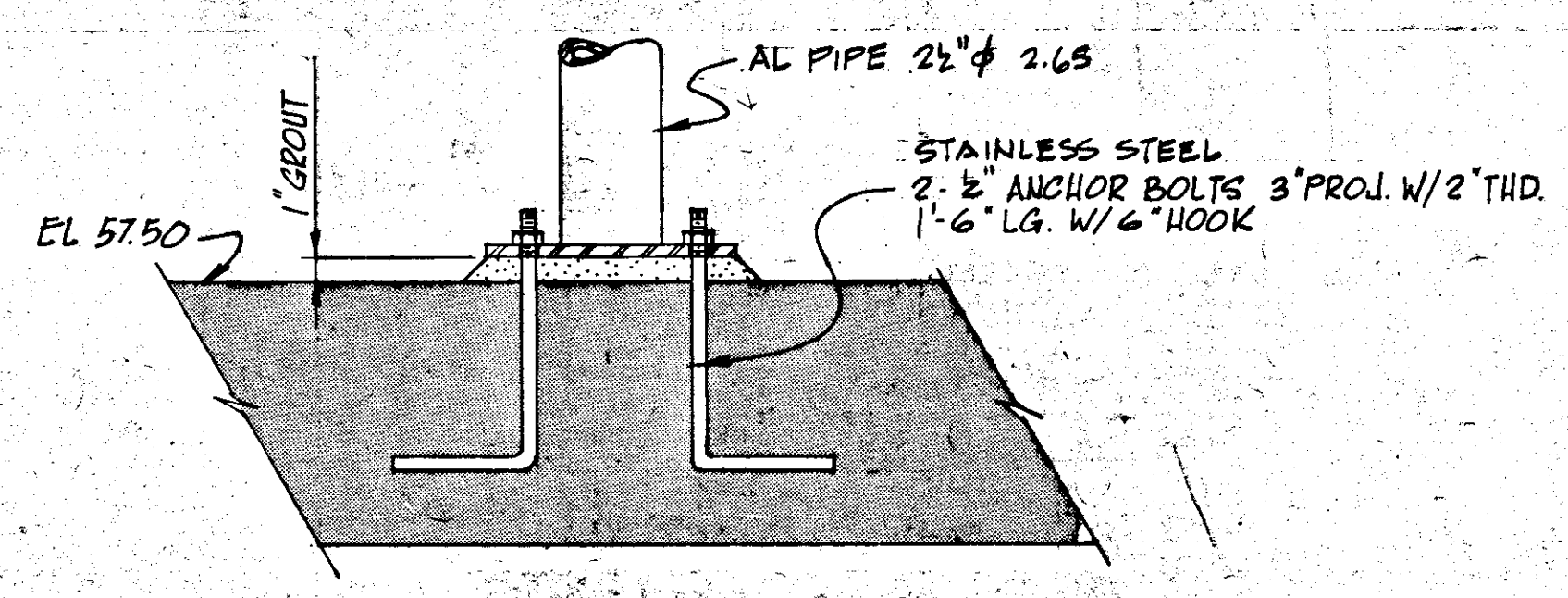
NOTE: SEE DWG No. 43 FOR TYP. DETAIL Q



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



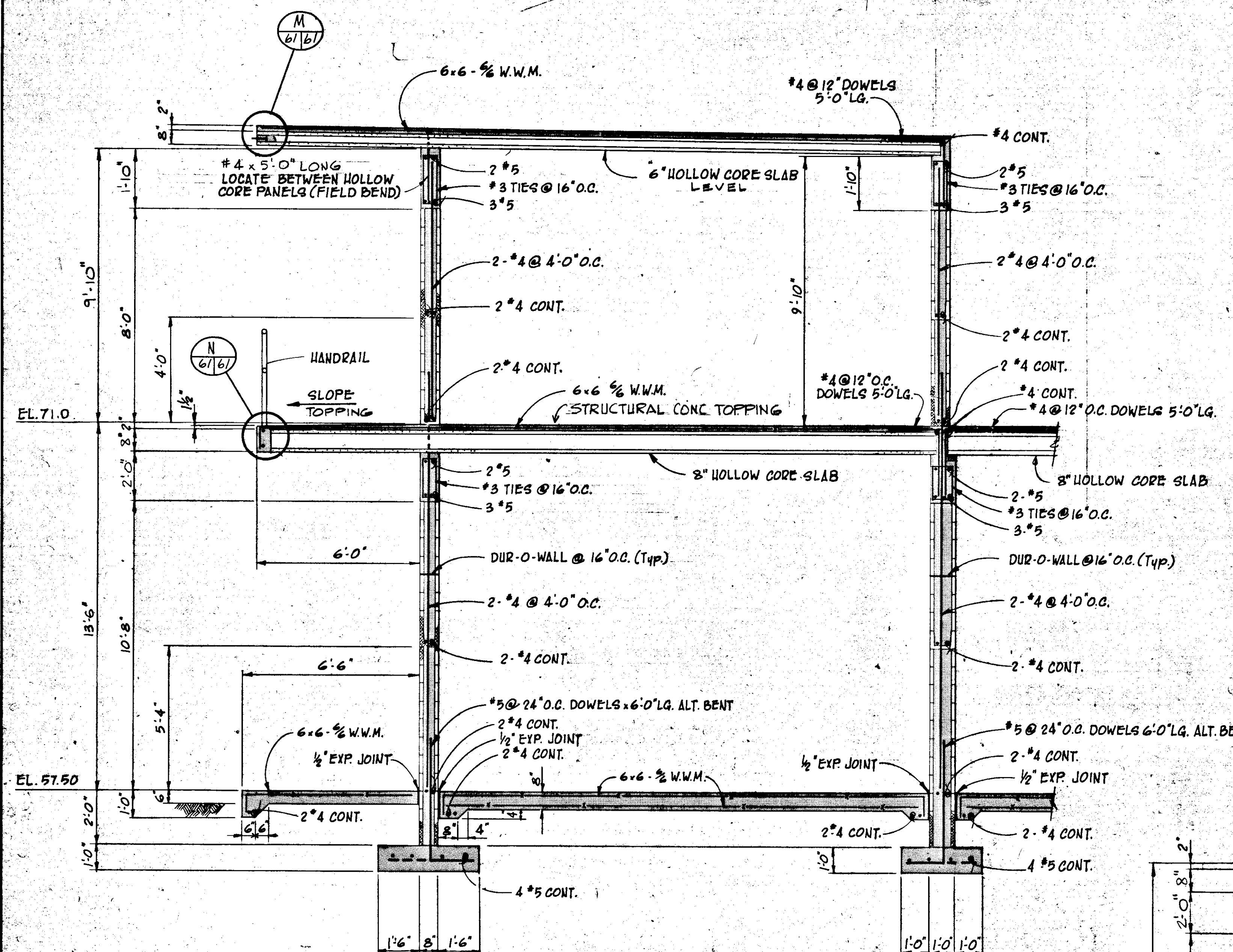
PLAN @ EL. 71.00  
SCALE: 3/16" = 1'-0"



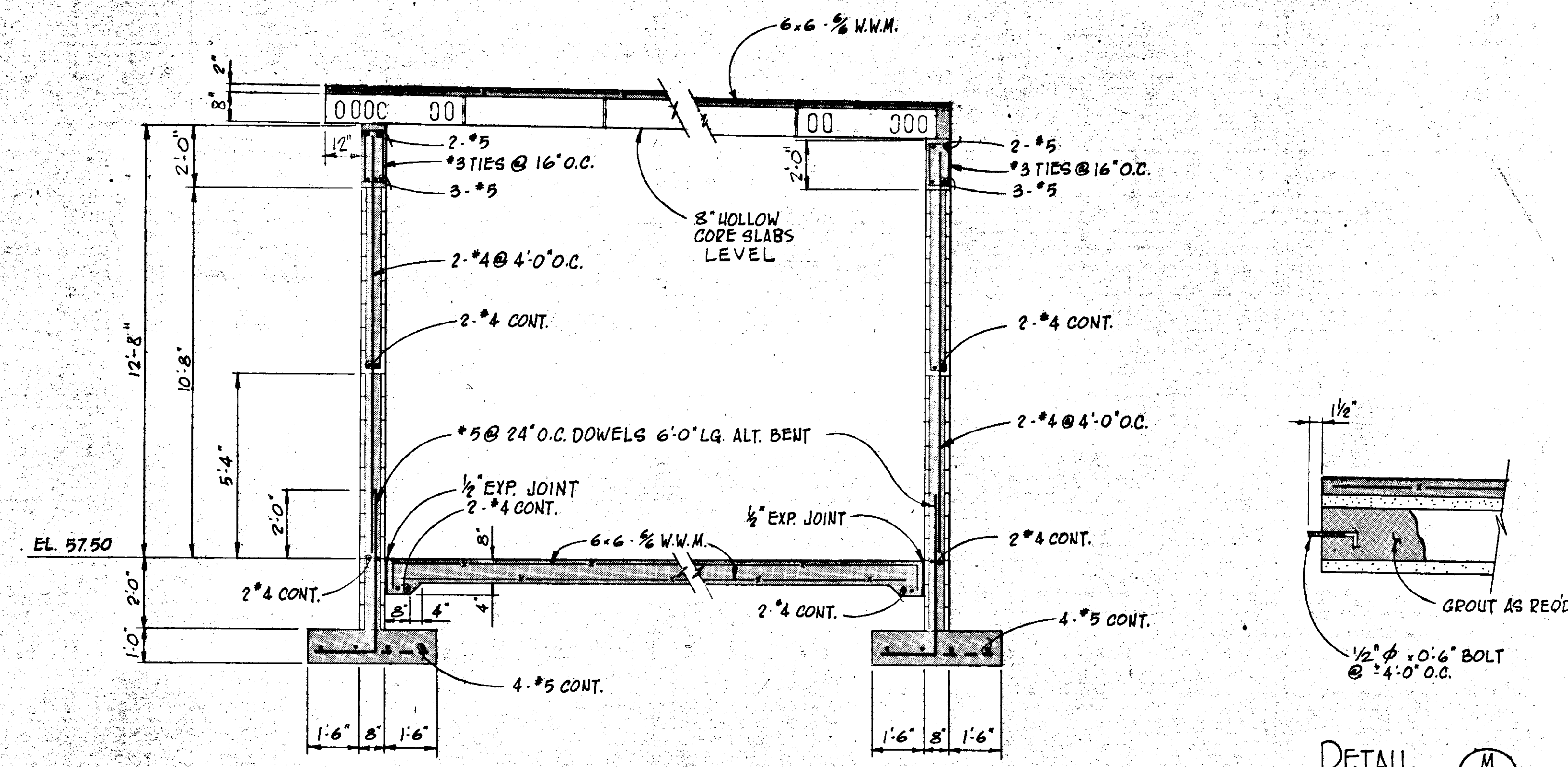
SECTION  
SCALE: 1/2" = 1'-0"

NOTE:  
SEE DWG No. 43 FOR TYP. DETAILS

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

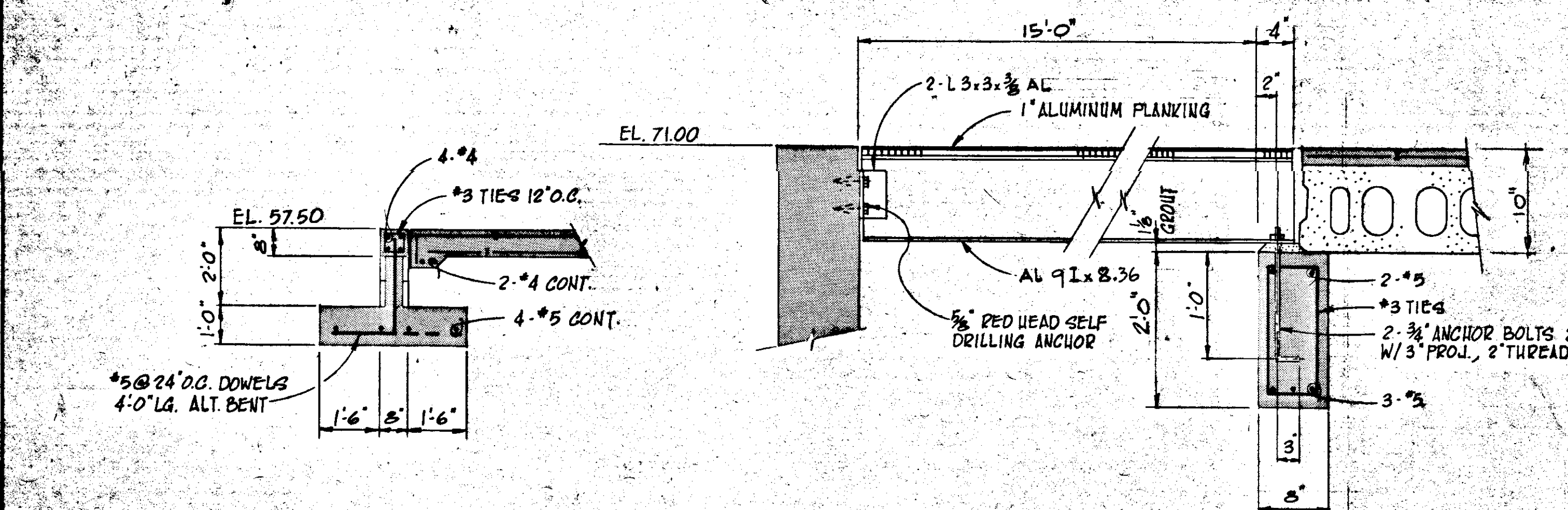


SECTION A  
SCALE: 3/8" = 1'-0"  
59/61  
60

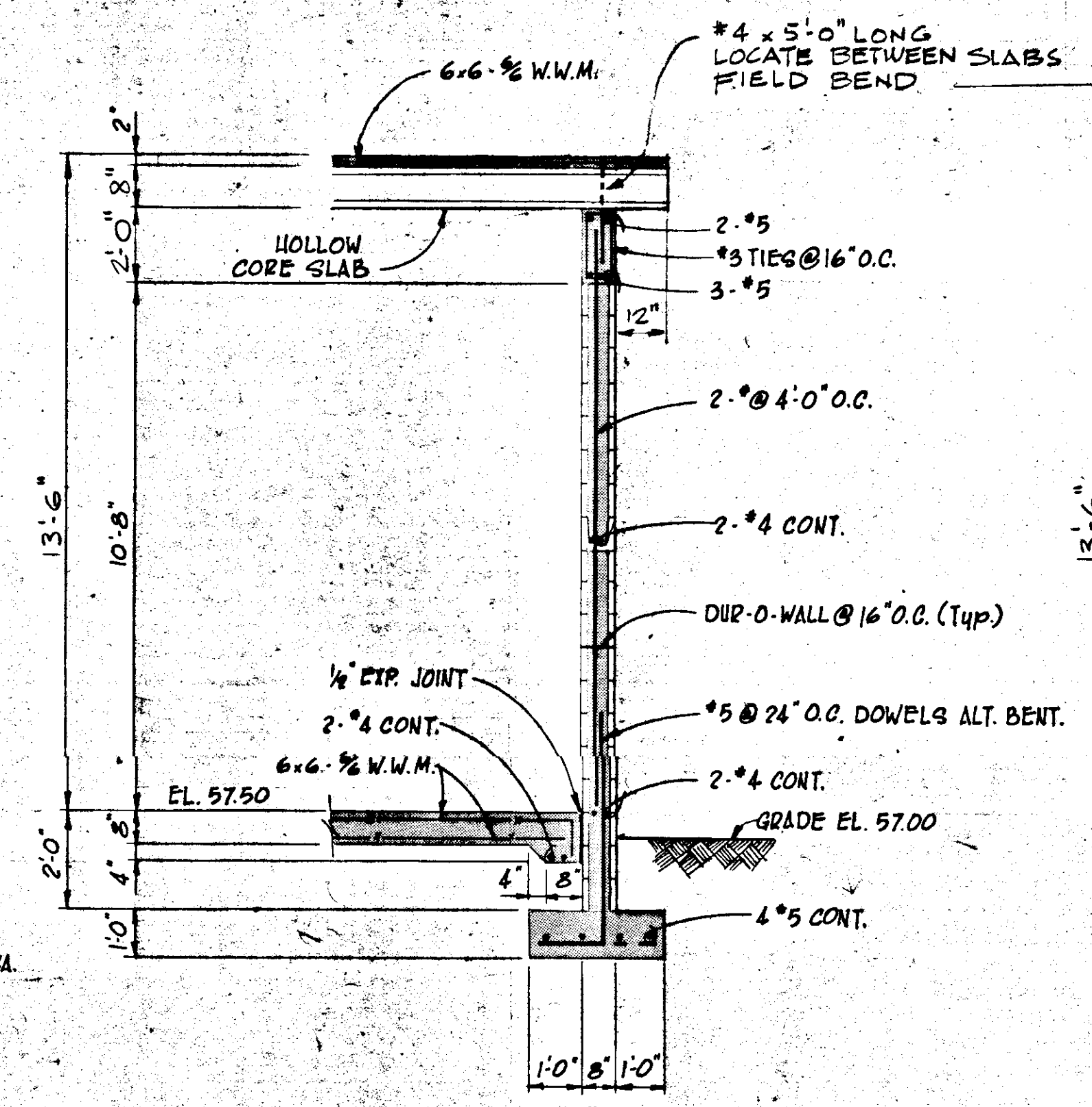


SECTION F  
SCALE: 3/8" = 1'-0"  
59/61  
60

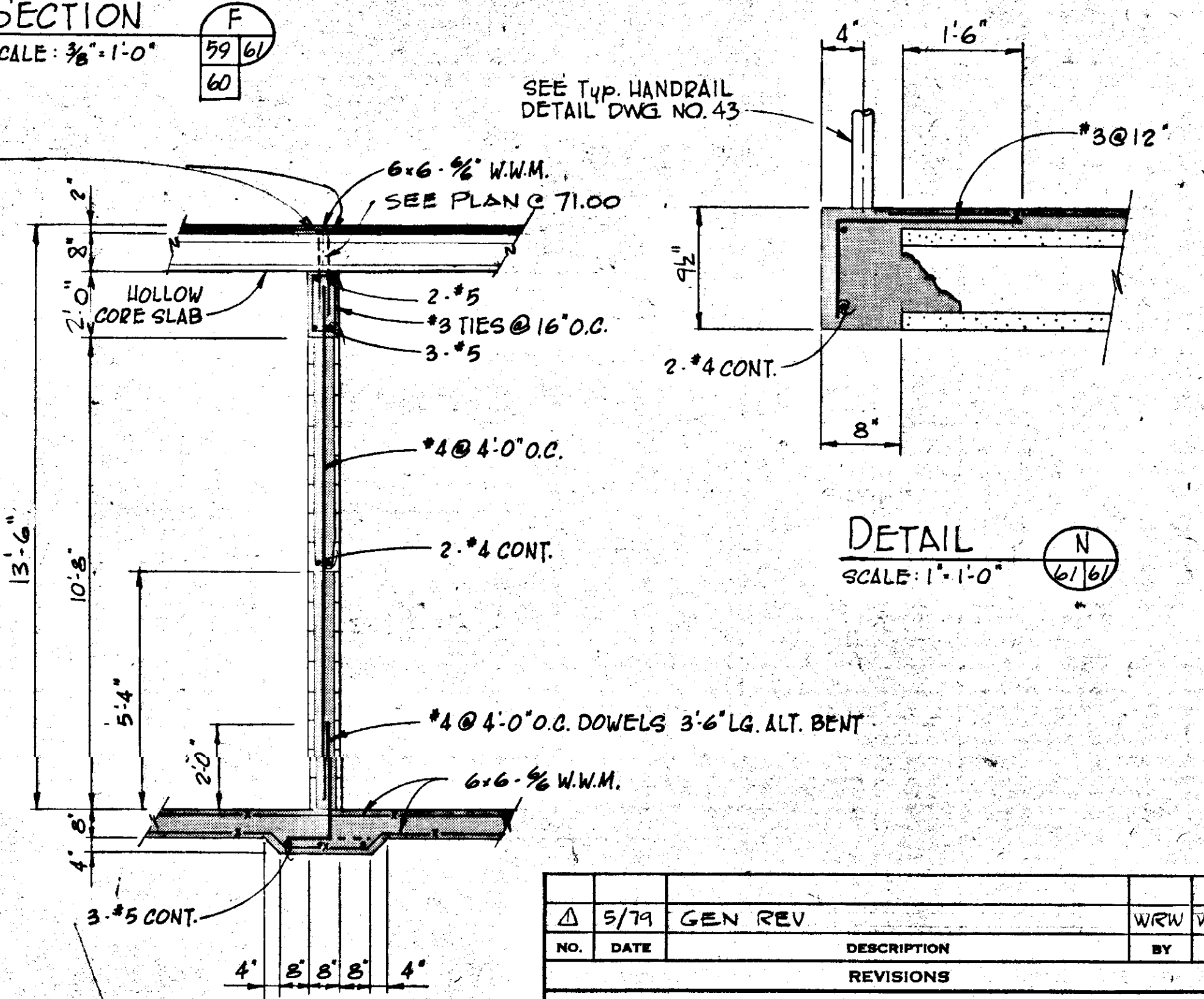
DETAIL M  
SCALE: 1" = 1'-0"  
61/61



SECTION H  
SCALE: 3/8" = 1'-0"  
59/61



SECTION B  
SCALE: 3/8" = 1'-0"  
59/61  
60



SECTION G  
SCALE: 3/8" = 1'-0"  
59/61

DETAIL N  
SCALE: 1" = 1'-0"  
61/61

SECTION J  
SCALE: 1" = 1'-0"  
60/61

NOTE:  
SEE DWG NO. 43 FOR TYP. DETAILS

NO.	DATE	DESCRIPTION	BY	CHKD.
Δ	5/79	GEN REV		

REVISIONS

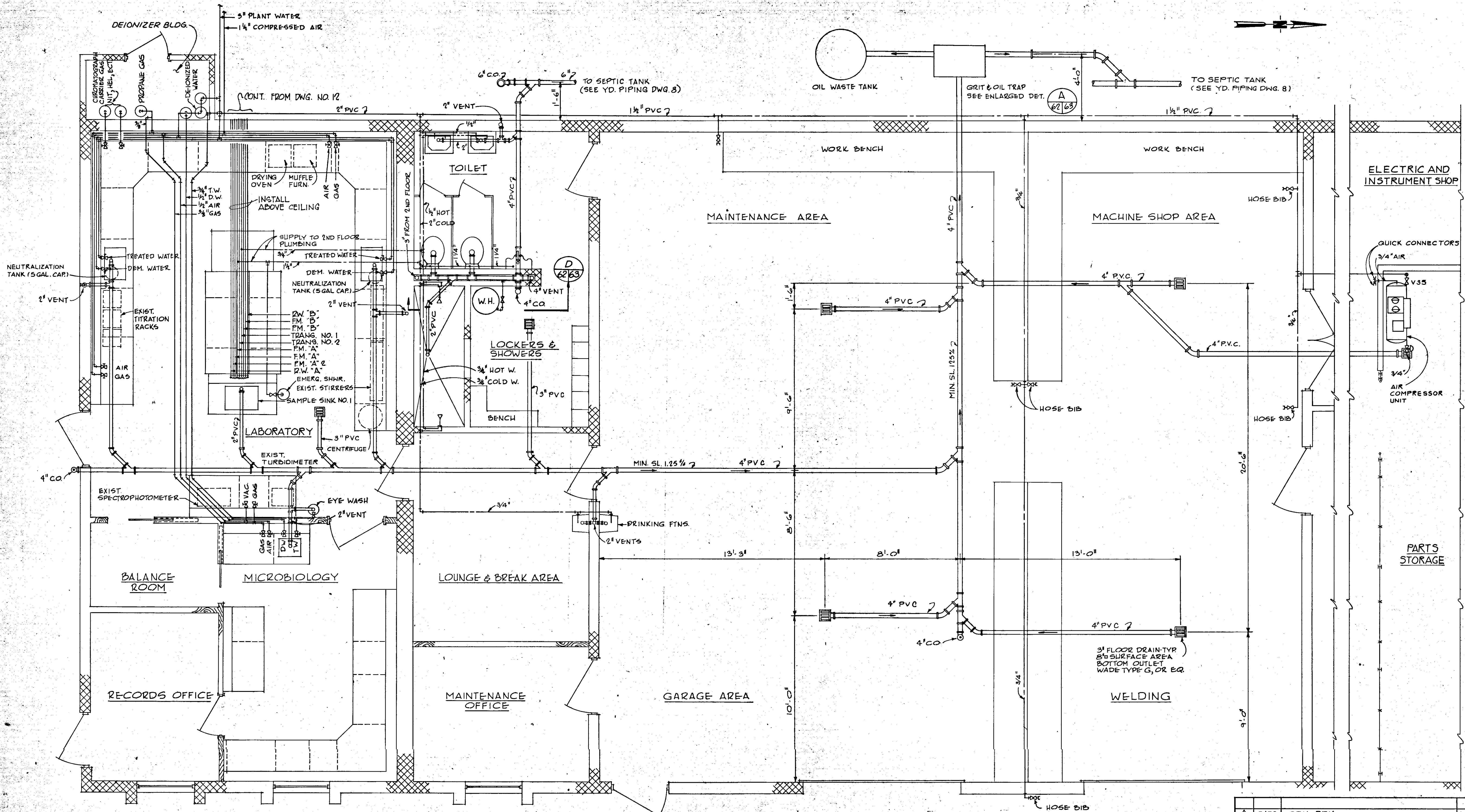
**RUSSELL & AXON**  
Engineers - Planners - Architects

**WATER WORKS PROJECT**  
MAINTENANCE BUILDING  
SECTIONS & DETAILS

MANATEE COUNTY, FLORIDA

DESIGNED BY: M. B. FILE NO. 630-761-04  
DRAWN BY: EL SHEET 53  
CHECKED BY: [Signature] NO. 61 SHEETS  
DATE: AUGUST, 1978 SCALE: AS NOTED

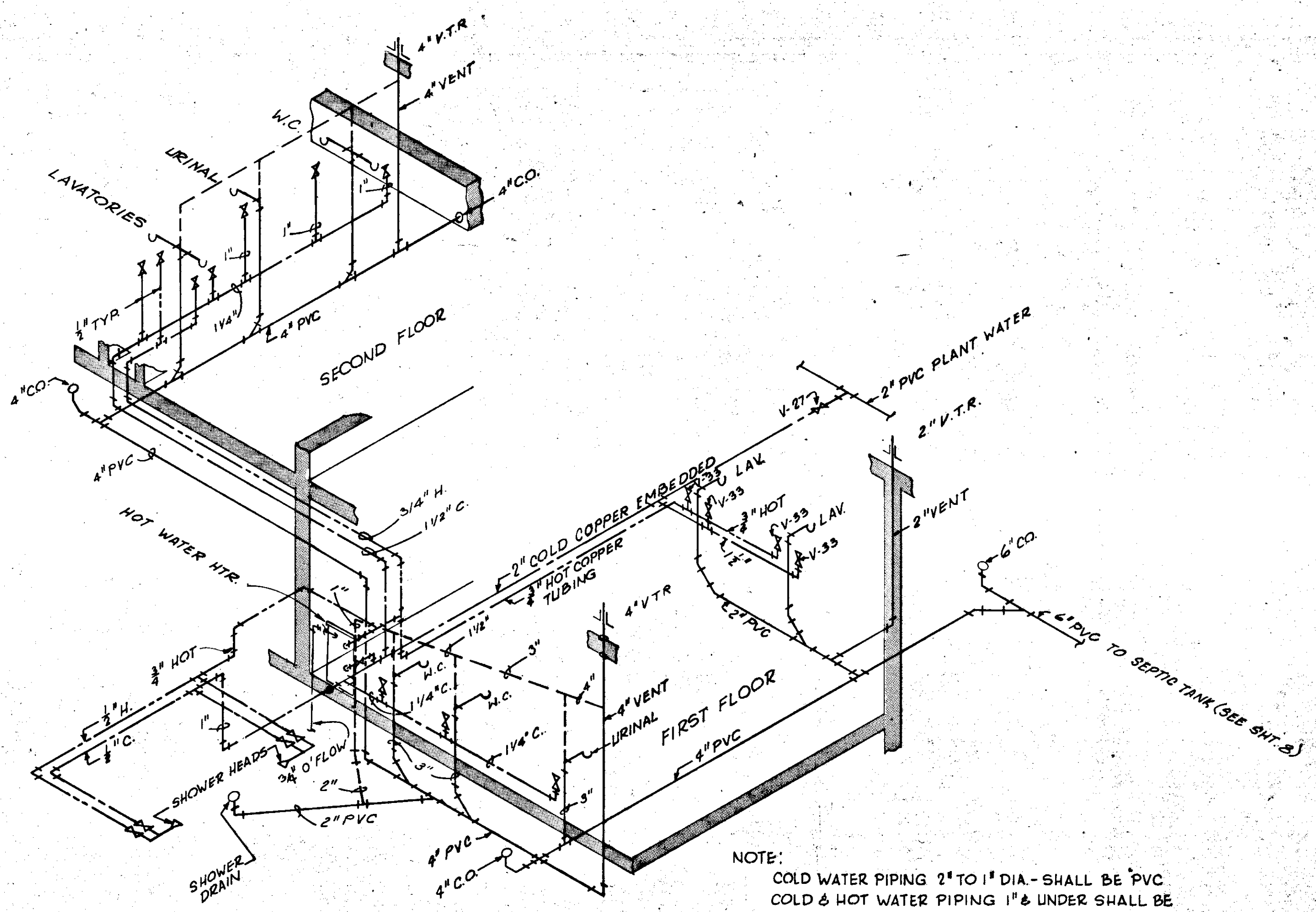
**SEAL**  
T-61  
JUL 2 1979



PLAN - PLUMBING LAYOUT - FIRST FLOOR  
SCALE : 3/8" = 1'-0"

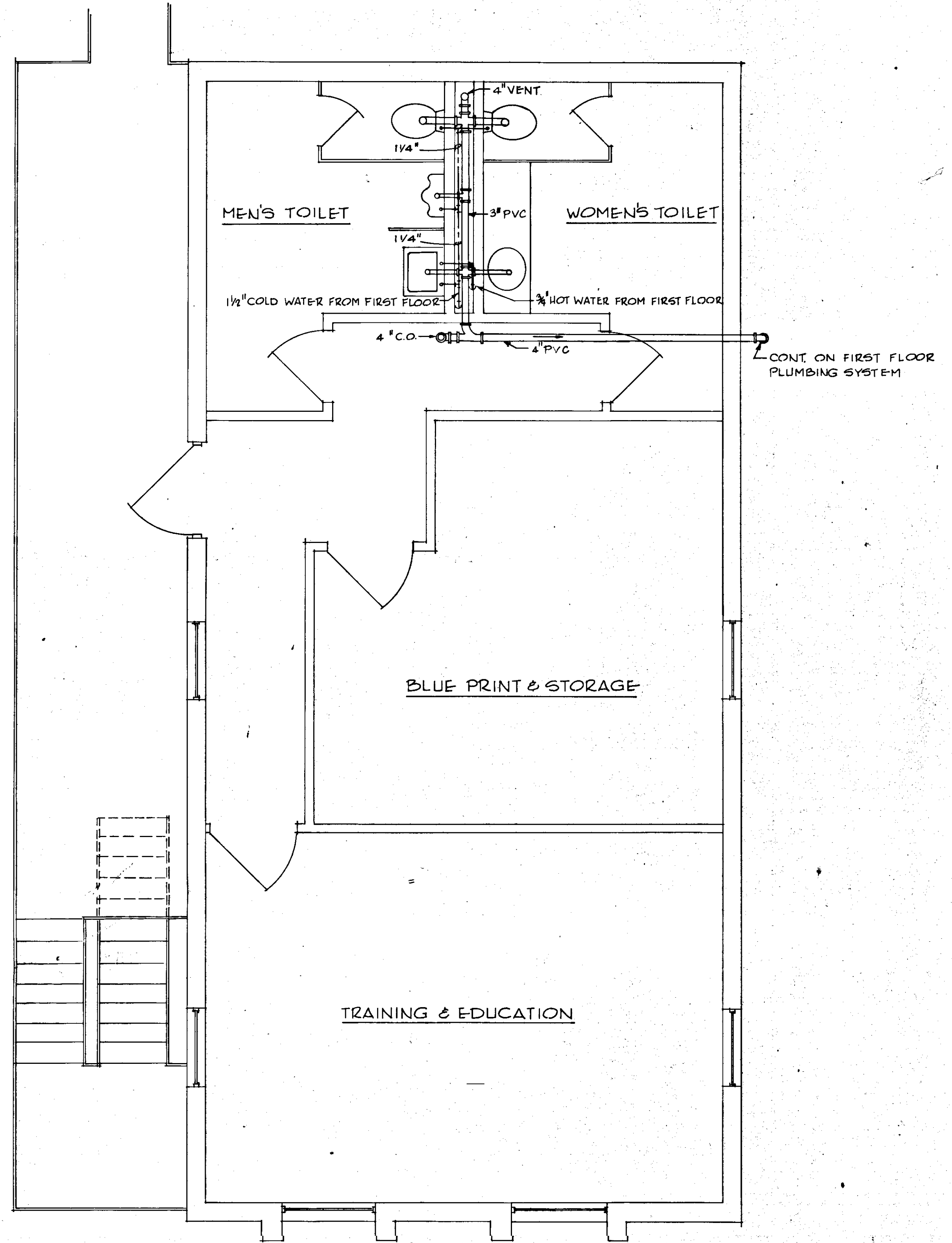
5/79	GEN. REV.	W.T.
NO.	DATE	DESCRIPTION
REVISIONS		
<b>RUSSELL &amp; AXON</b> Engineers — Planners — Architects		
WATER WORKS PROJECT MAINTENANCE BUILDING PLUMBING LAYOUT - FIRST FLOOR		
MANATEE COUNTY, FLORIDA		<b>T-62</b>
DESIGNED BY	FILE NO.	<b>SEAL</b> 
B.E.D.	630-761-04	
DRAWN BY	SHEET M 1	
J.R.A.	OF 130 SHEETS	
CHECKED BY	No. 62	
DATE	SCALE: AS NOTED	
AUGUST, 1978		

14-01

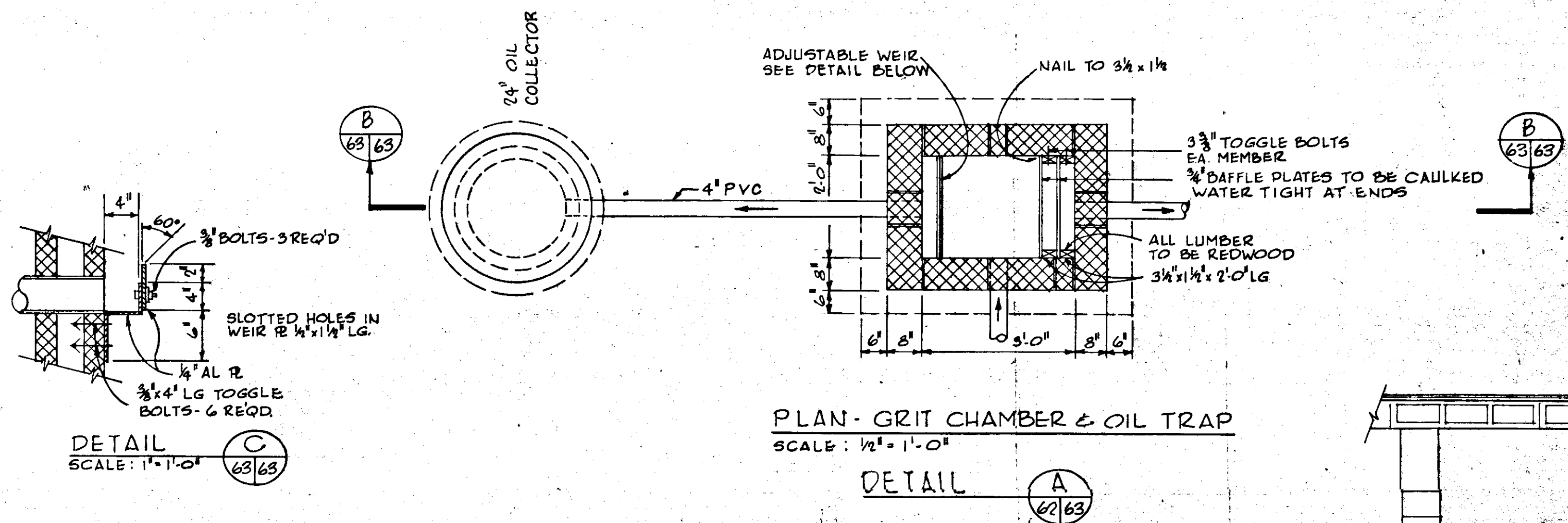


**PLUMBING ISOMETRIC**  
NO SCALE

NOTE:  
COLD WATER PIPING 2\"/>

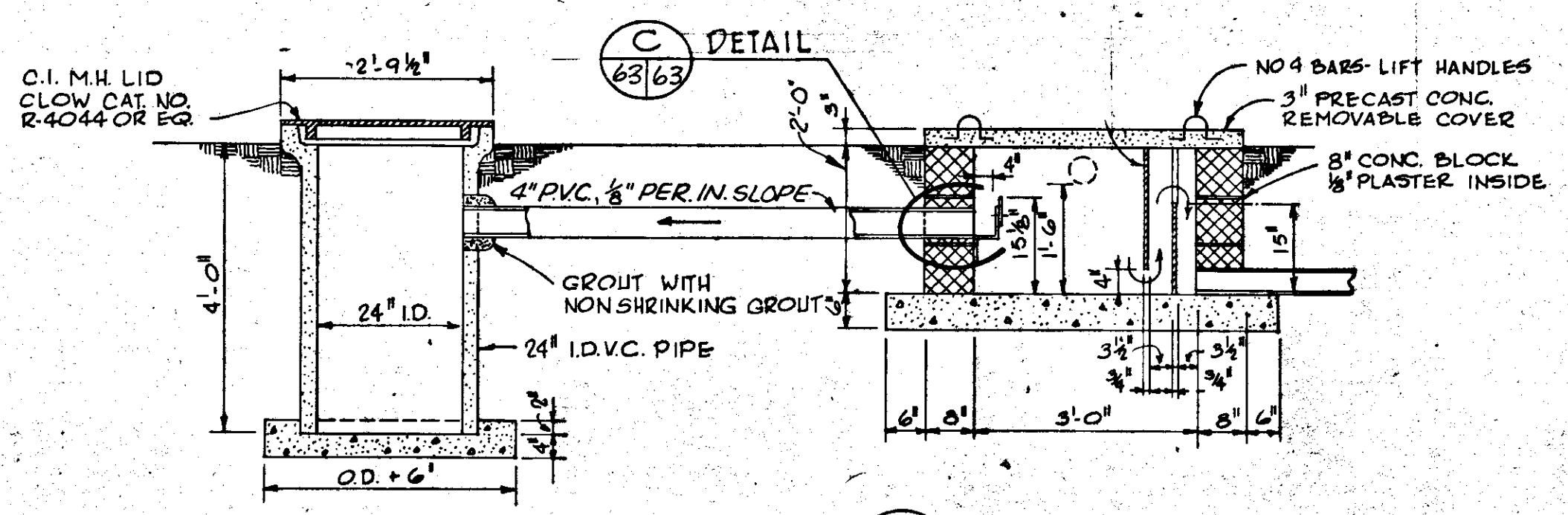


**PLAN-PLUMBING LAYOUT SECOND FLOOR**  
SCALE: 3/8\"/>

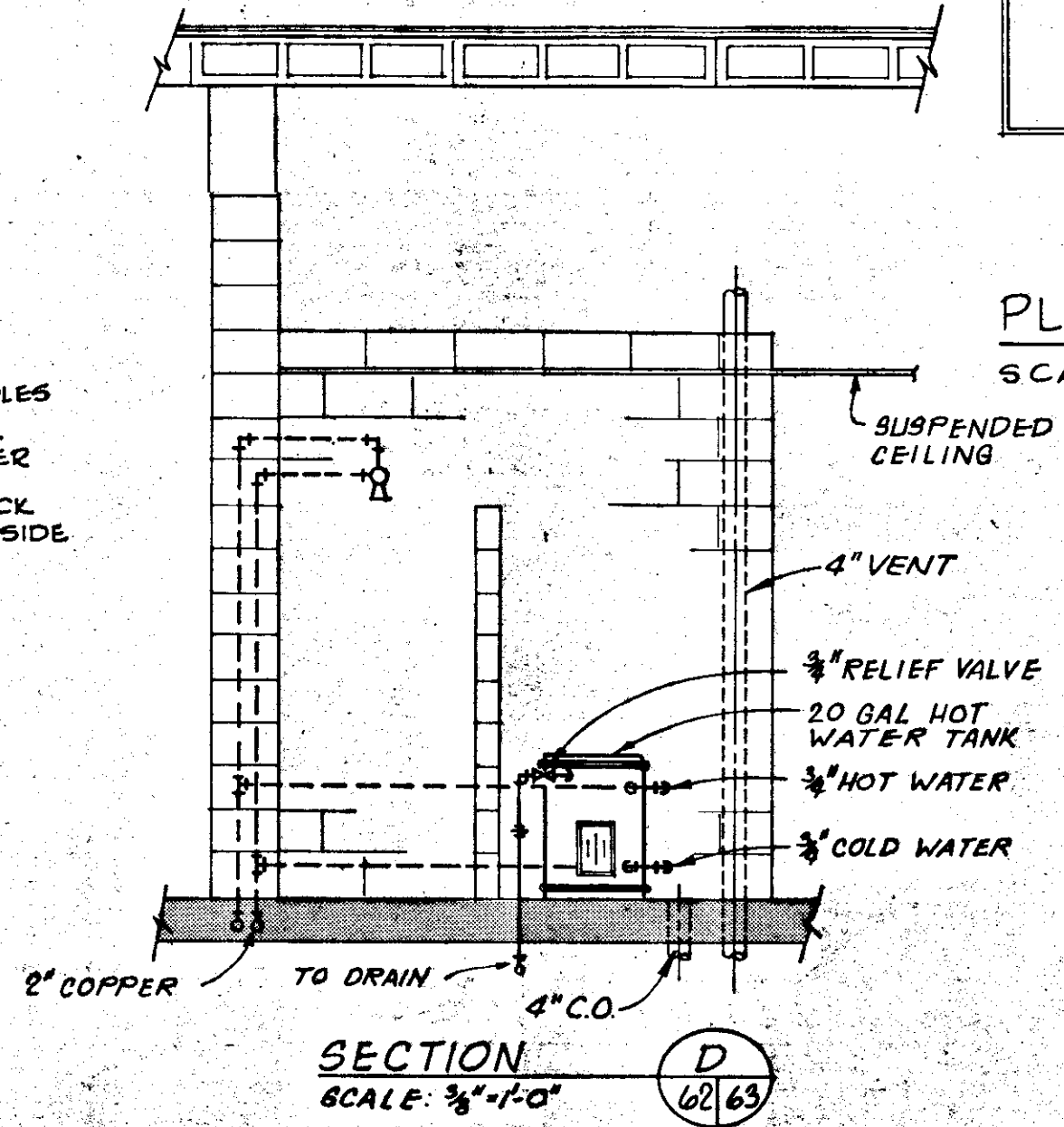


**PLAN-GRIT CHAMBER & OIL TRAP**  
SCALE: 1/2\"/>

**DETAIL**  
SCALE: 1\"/>

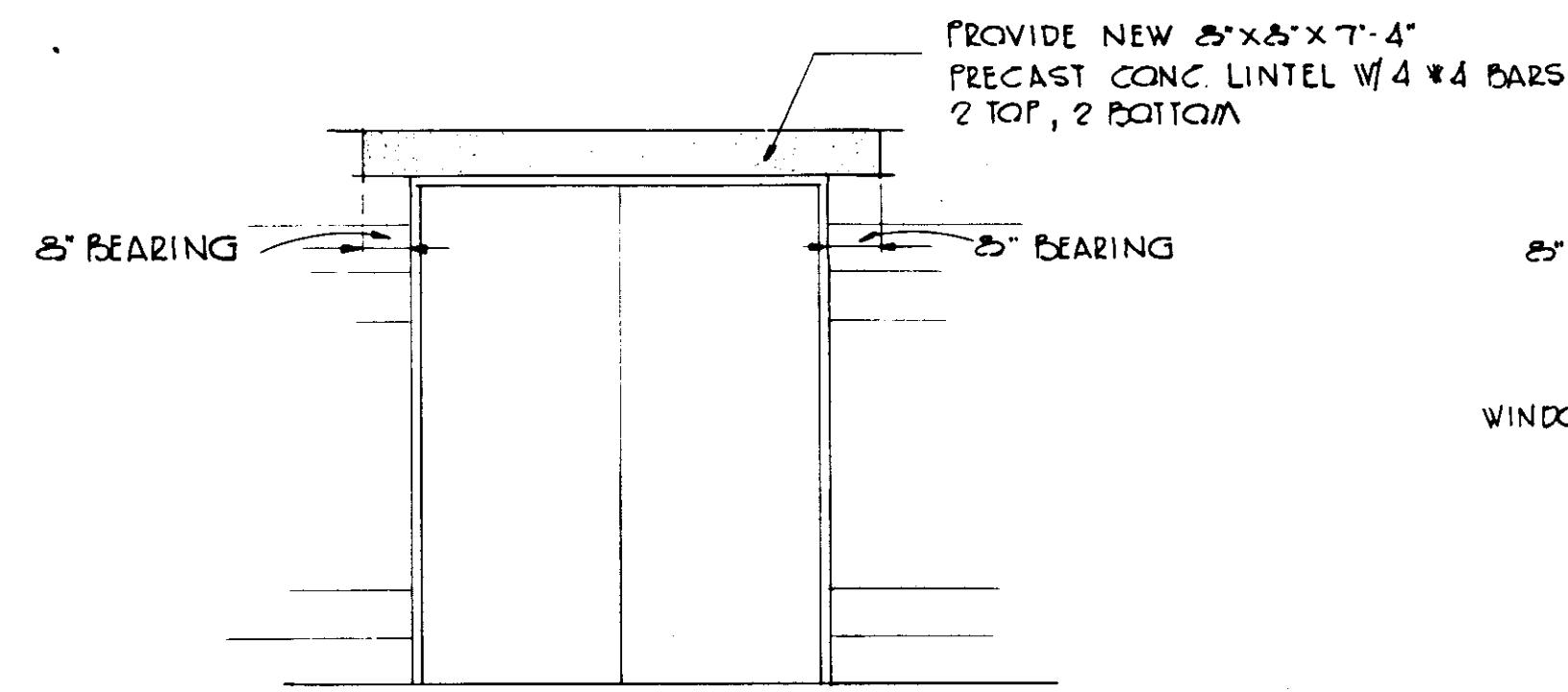
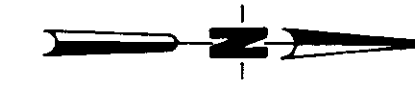


**SECTION**  
SCALE: 1/4\"/>

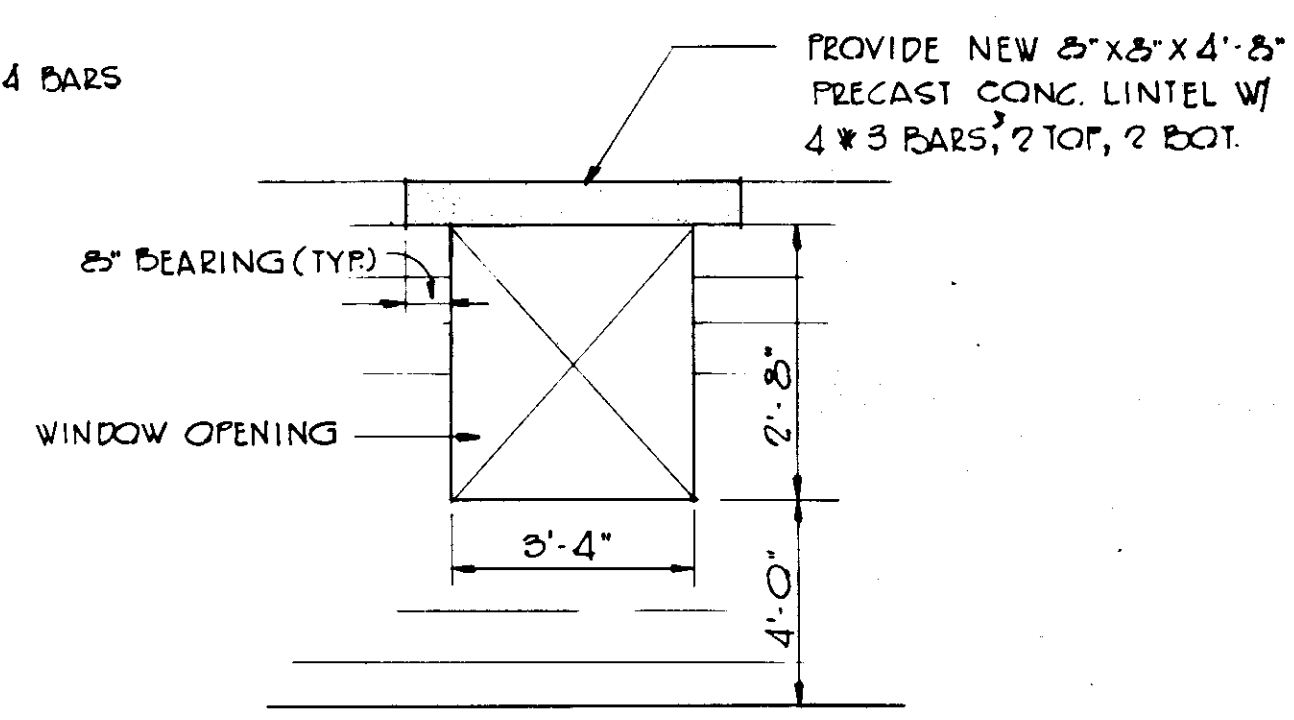


**SECTION**  
SCALE: 3/8\"/>

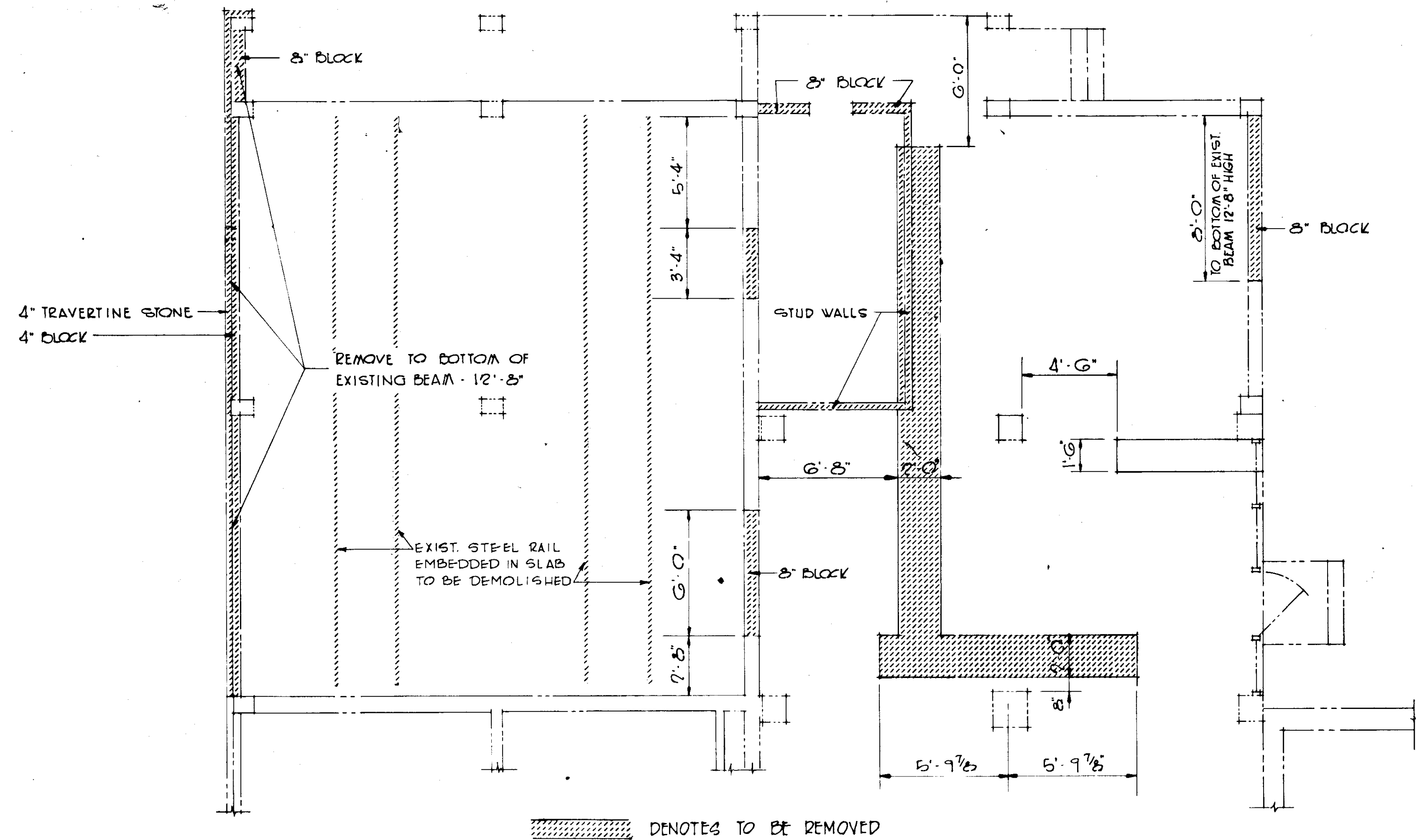
NO.	DATE	DESCRIPTION	BY	CHKD.
5/79		GEN. REV.		
REVISIONS				
<b>RUSSELL &amp; AXON</b> Engineers — Planners — Architects				
<b>WATER WORKS PROJECT</b> MAINTENANCE BUILDING PLUMBING LAYOUT-SECOND FLOOR PLUMBING ISOMETRIC, DETAILS				
MANATEE COUNTY, FLORIDA		<b>T-63</b>		
DESIGNED BY R.D.H.	FILE NO.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



TYPICAL DEMOLITION FOR DOORWAY  
NO SCALE



TYPICAL DEMOLITION FOR WINDOW OPENING  
NO SCALE



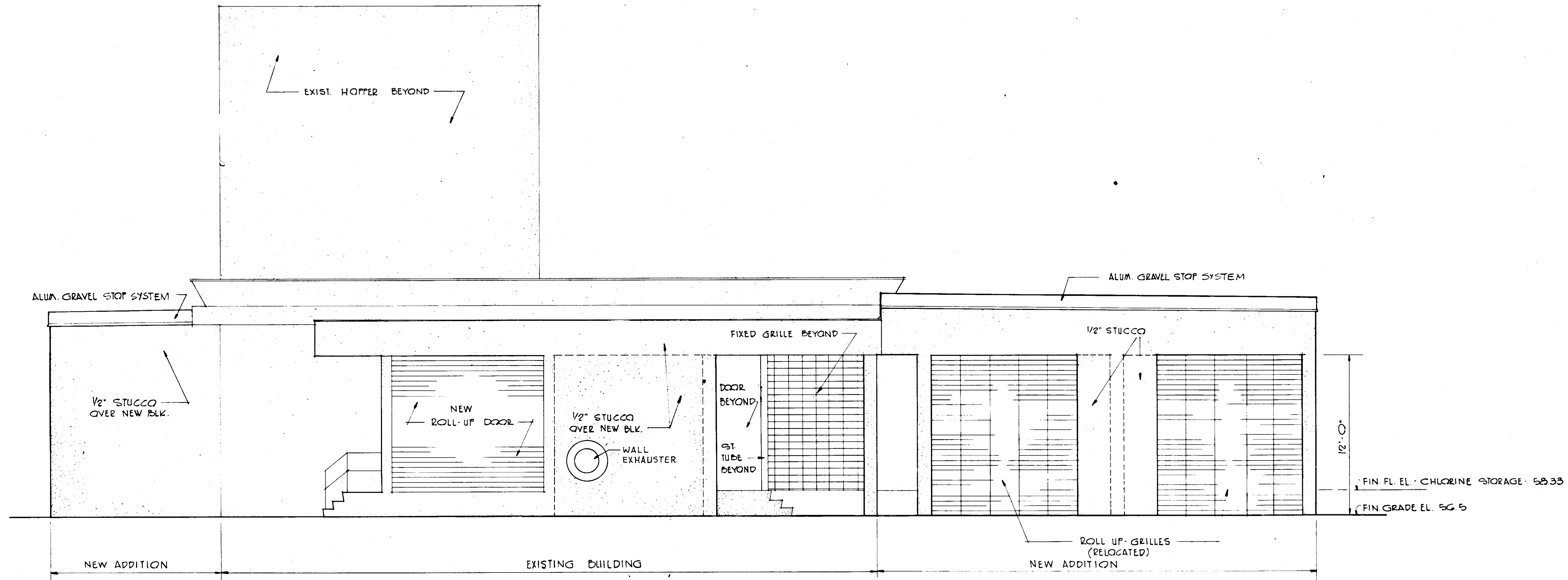
██████████ DENOTES TO BE REMOVED

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

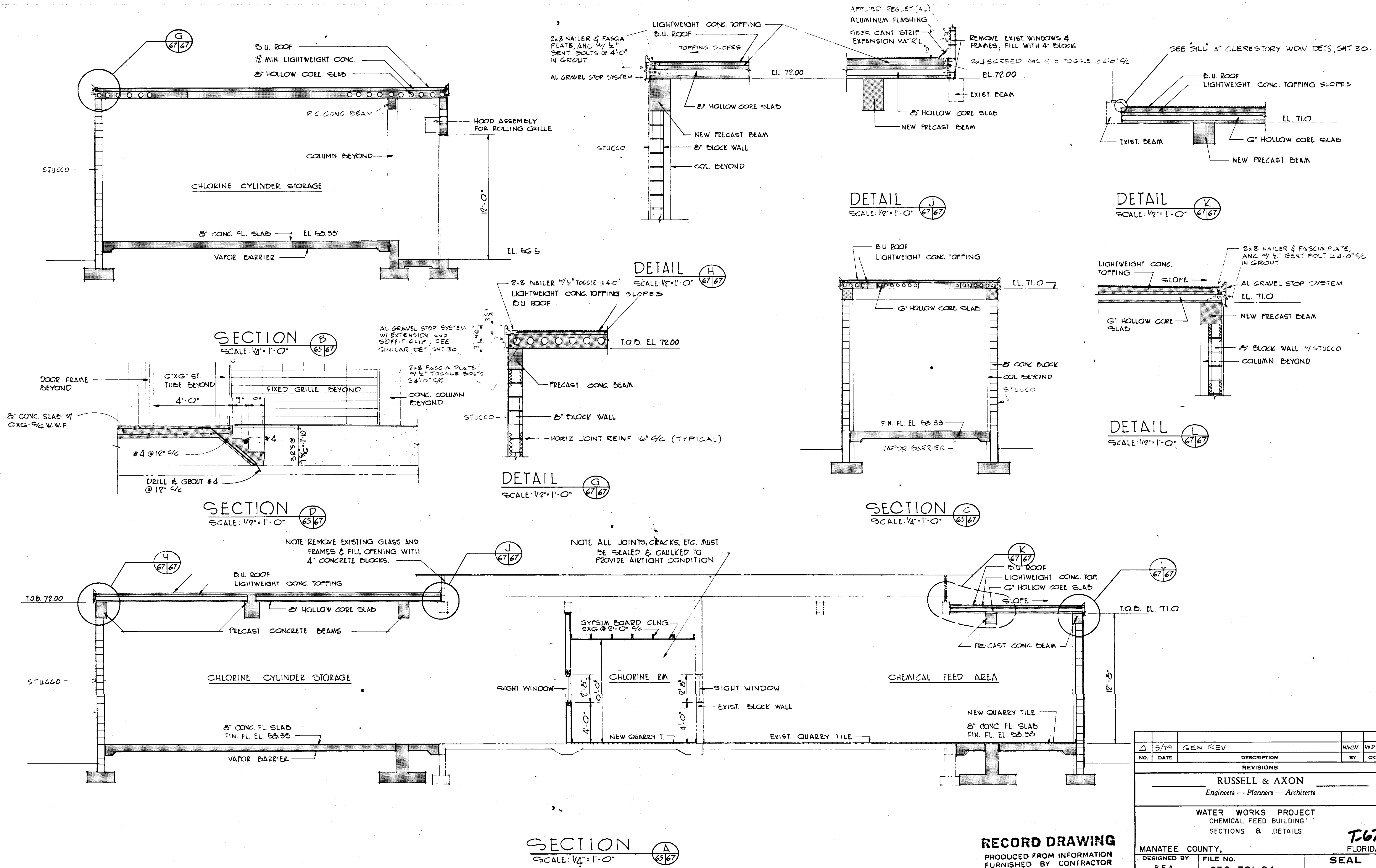




WEST ELEVATION  
SCALE: 1/4" = 1'-0"

**RECORD DRAWING**  
 PRODUCED FROM INFORMATION  
 FURNISHED BY CONTRACTOR  
 THROUGH M.C.U.S.  
 DATE 8/15/78 BY R.A.  
 CHECKED BY: [Signature]  
 R & A [Signature]  
 M.C.U.S. \_\_\_\_\_

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



**SECTION A**  
SCALE: 1/4" = 1'-0" (A) 67/67

**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.
Δ	5/79		GEN REV		

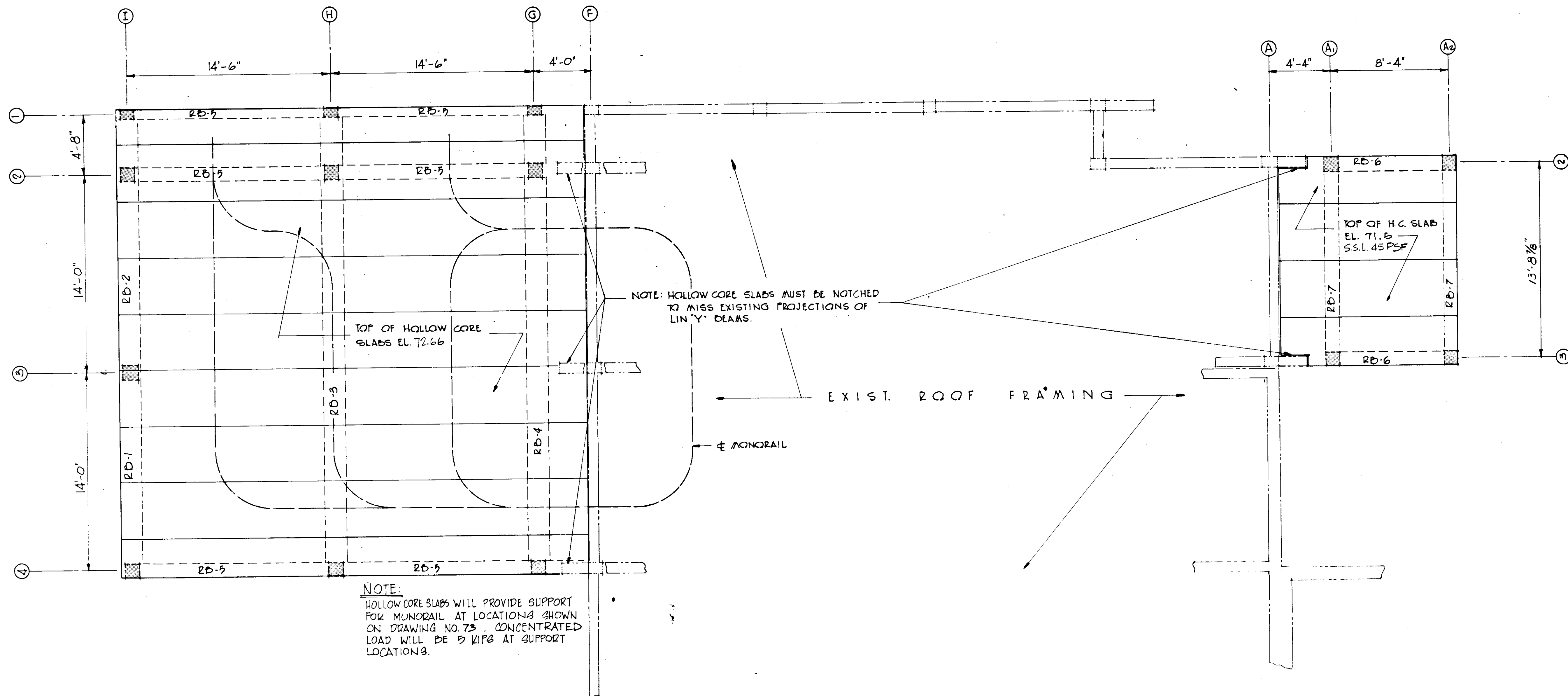
REVISIONS

**RUSSELL & AXON**  
Engineers — Planners — Architects

**WATER WORKS PROJECT**  
CHEMICAL FEED BUILDING  
SECTIONS & DETAILS

MANATEE COUNTY, FLORIDA

DESIGNED BY B.E.A.	FILE NO. 630-761-04	<b>SEAL</b>
DRAWN BY BEA	SHEET A4	
CHECKED BY	No. 67	
	OF 130 SHEETS	
DATE AUGUST, 1978	SCALE: AS SHOWN	



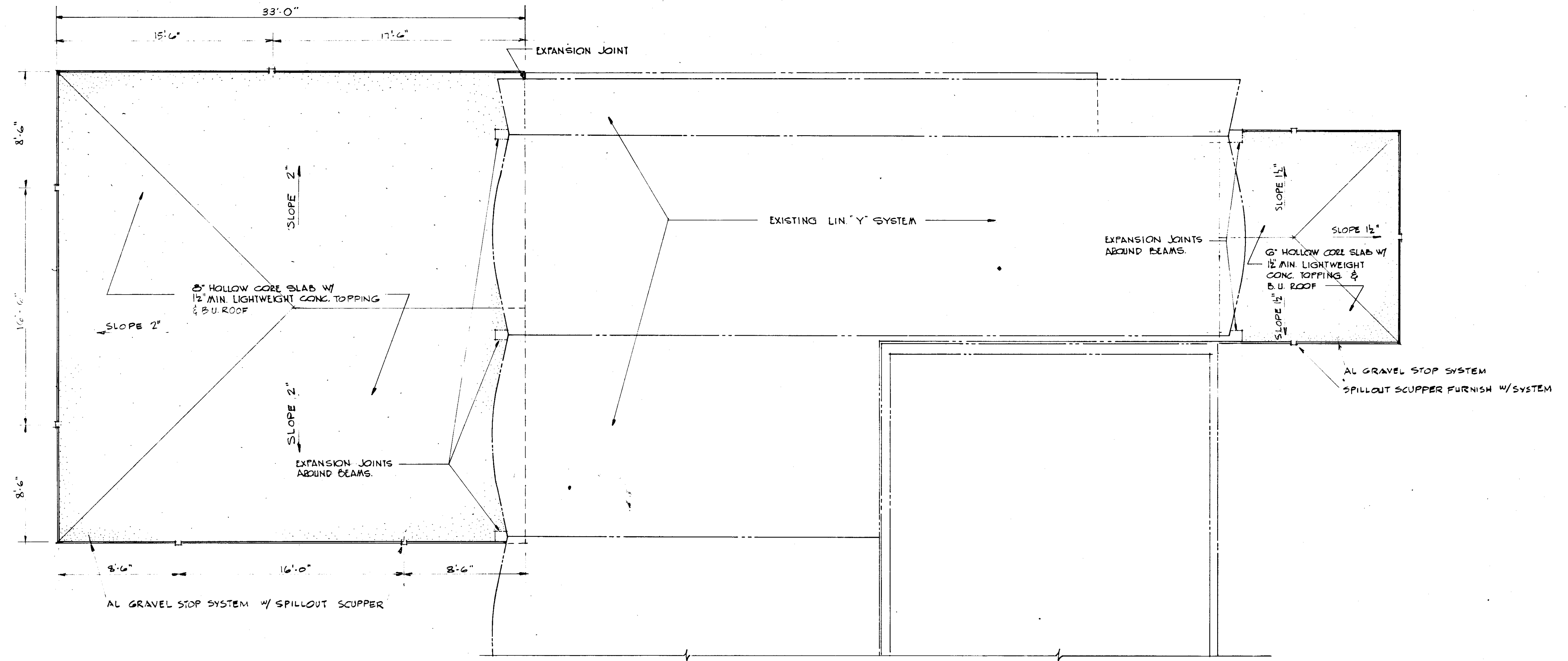
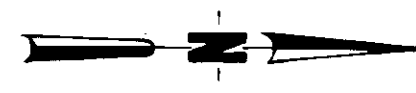
**ROOF FRAMING PLAN**  
SCALE: 1/4" = 1'-0"

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 8/24/78 BY KRM  
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 CHEMICAL FEED BUILDING ROOF FRAMING PLAN & DETAILS				
MANATEE COUNTY, FLORIDA				
DESIGNED BY	J.C.P.	FILE NO.	630-761-04	<b>SEAL</b>
DRAWN BY	BEA	SHEET #	5	
CHECKED BY		OF 130 SHEETS	68	
DATE	AUGUST, 1978	SCALE:	AS SHOWN	



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

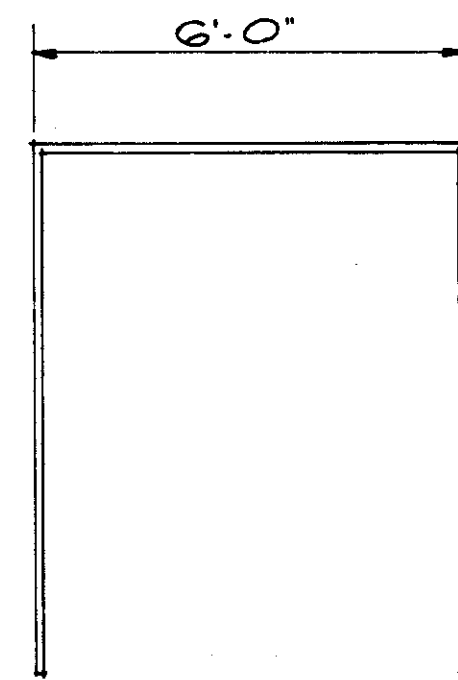
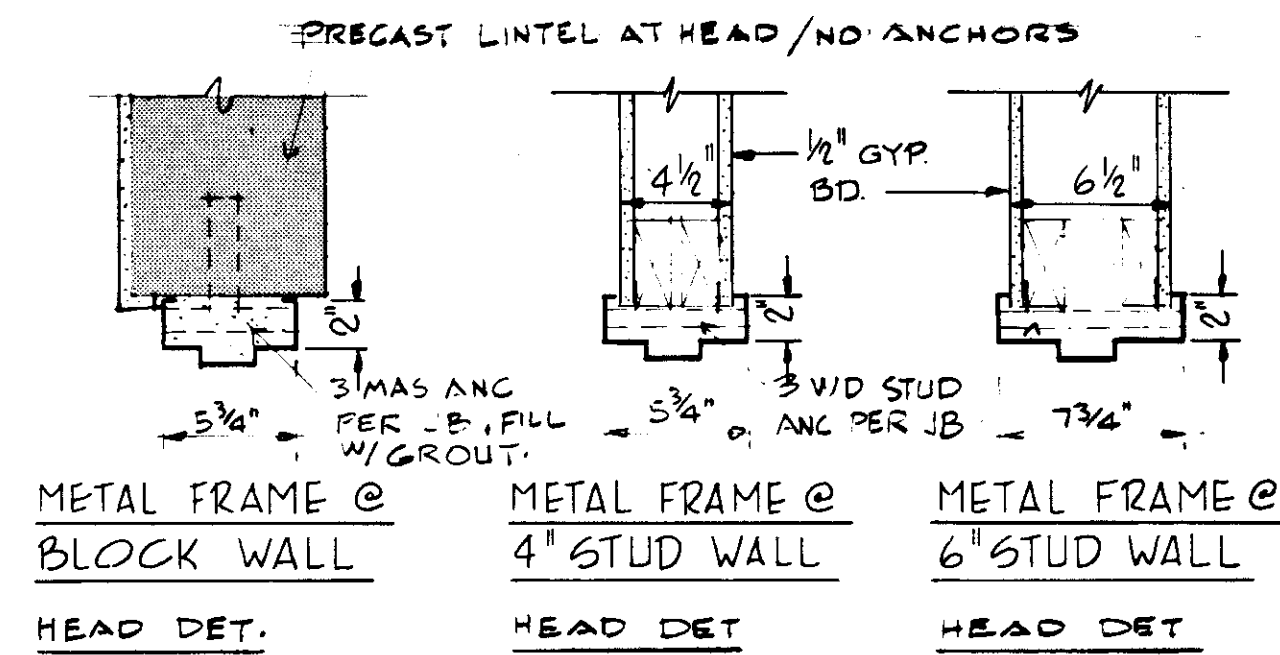
**RECORD DRAWING**  
 PRODUCED FROM INFORMATION  
 FURNISHED BY CONTRACTOR  
 THROUGH M.C.U.S.  
 DATE 1/30/82 BY *K.R.*  
 CHECKED BY:  
 R & A *[Signature]*  
 M.C.U.S. \_\_\_\_\_

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

### FINISH SCHEDULE

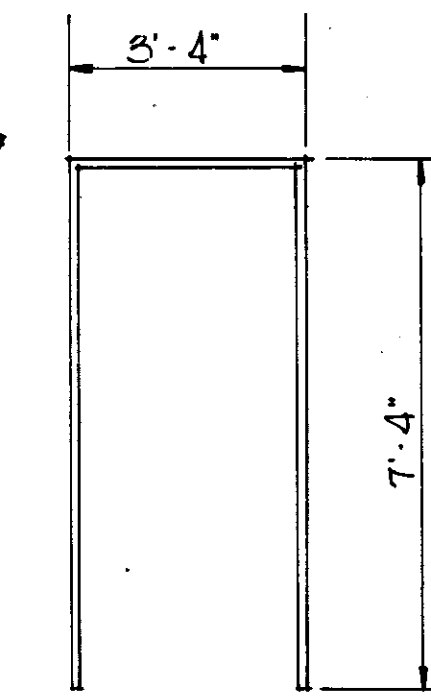
ROOM DESCRIPTION	FLOOR		BASE		WAINSCOT		WALLS		CEILING		HEIGHT	REMARKS
	CONC. NAT'L FIN. QUARRY TILE		QUARRY TILE VINYL ASS. TILE		PAINTED BLOCK GYPSUM BOARD		CONC. NAT'L FIN. GYPSUM BOARD					
1. CHEMICAL FEED AREA	●		●				●		●		12'-8"	COAT WALLS W/WATER PROOF EPOXY SEALER
2. CHLORINE RM.	●		●				●		●		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

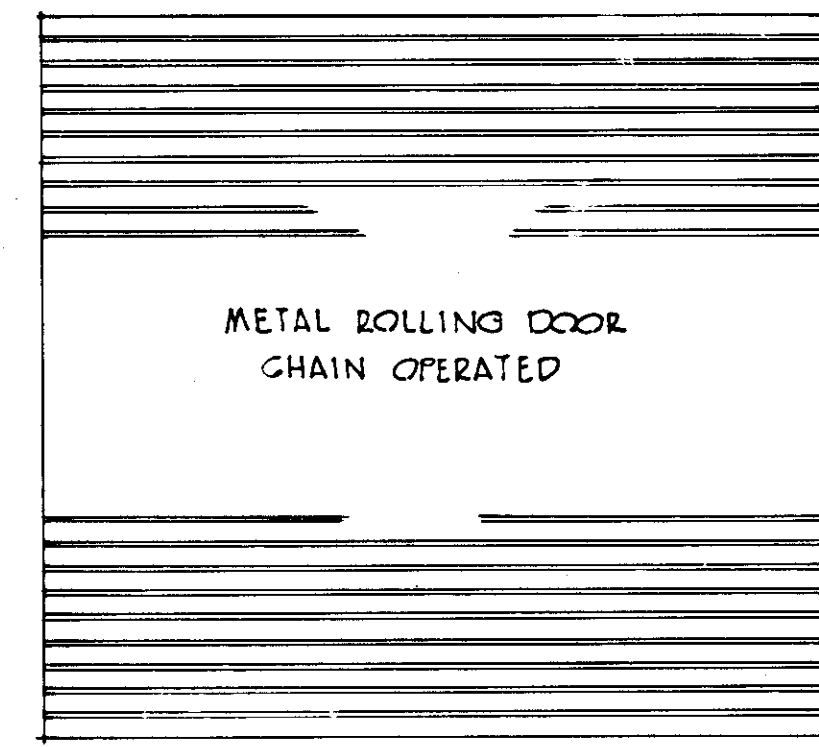
DOOR FRAME TYPES



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

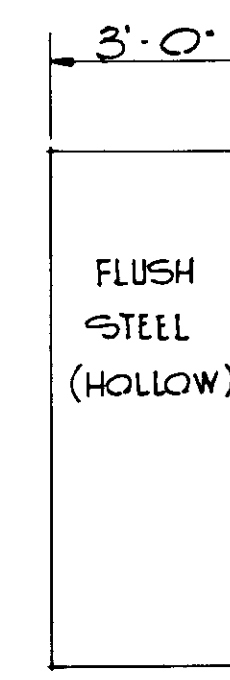
TYPE A

DOOR TYPES

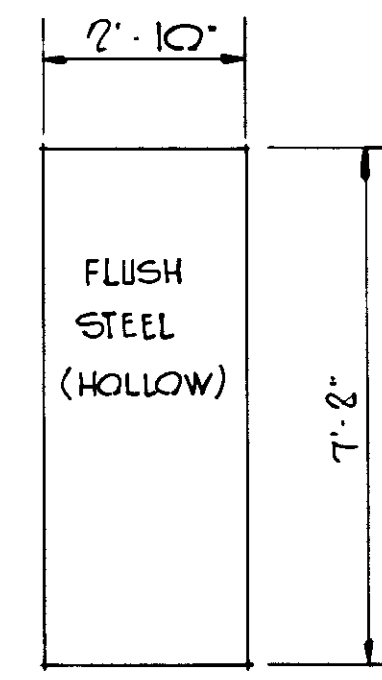


TYPE C

DOOR TYPES



TYPE D



TYPE E

NOTE: DOOR HARDWARE BY SARGENT & COMPANY

### DOOR AND HARDWARE SCHEDULE

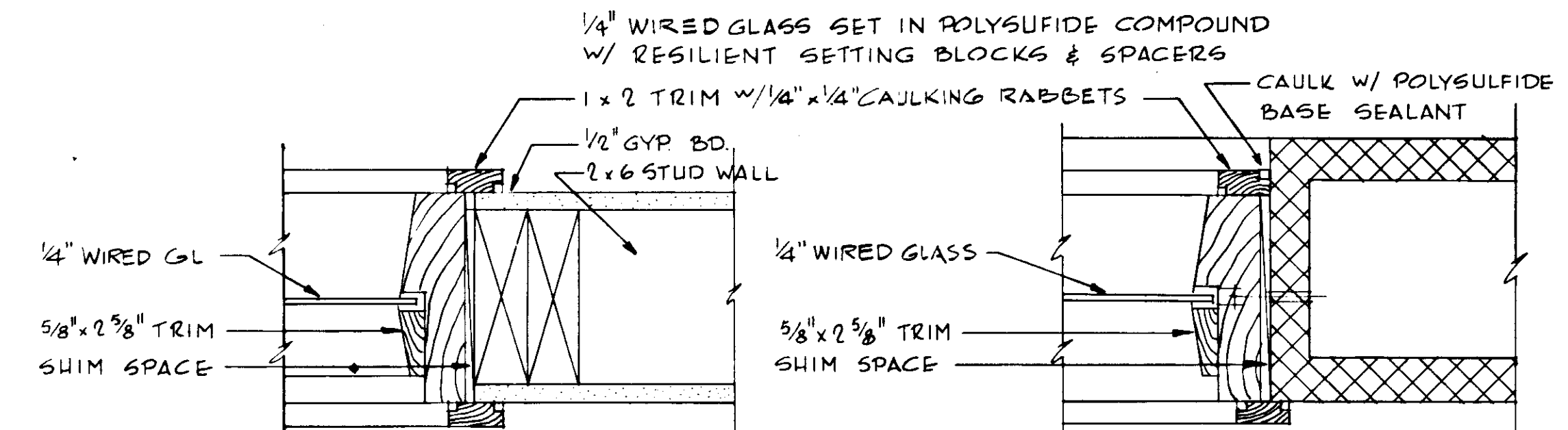
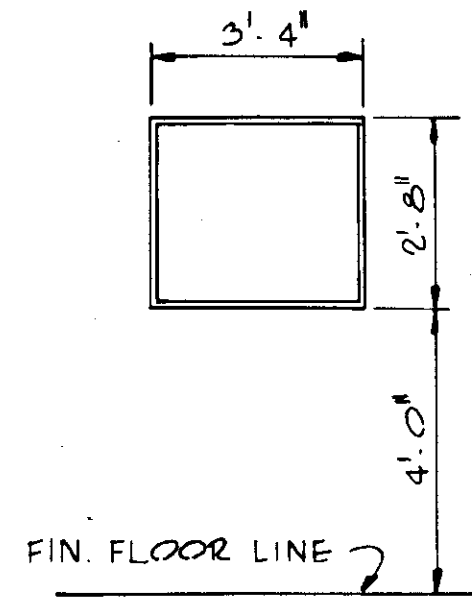
MARK	TYPE	SIZE			MATERIAL	LOUVER	GLAZING		TRANS.	TH'LD	LOCK	CLOSER (SERIES)	FINISH	REMARKS	FINISH	FRAME TYPE
		WIDTH	HEIGHT	TH'K			GLAZING	GLAZING								
1.	A	11'-0"	10'-0"		METAL						*			LOCK BY DOOR MANUF. *		
3.	C	3'-0"	7'-2"	1 3/4"	H. METAL						8305	1240	OL 26 D			F-3
5.	D	2'-10"	7'-2"	1 3/4"	H. METAL						8304		OL 26 D	DOUBLE DOOR		F-1
6.	C	3'-0"	7'-2"	1 3/4"	H. METAL						8304	1240	OL 26 D			F-3
7.	C	3'-0"	7'-2"	1 3/4"	H. METAL						8305		OL 26 D			F-3
8.	C	3'-0"	7'-2"	1 3/4"	H. METAL						8304		OL 26 D			F-3

METAL FRAME @ BLOCK WALL HEAD DET.

METAL FRAME @ 4" STUD WALL HEAD DET.

METAL FRAME @ 6" STUD WALL HEAD DET.

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



FRAME SHALL BE SHAPED AS SHOWN FROM 2x6 (NET) CLEAR FIR

FRAME SHALL BE SHAPED AS SHOWN FROM 2x6 (NET) CLEAR FIR. ANCHOR TO MASONRY W/ 1/2" EXP. BOLTS @ 24" O.C. (COUNTERSUNK)

DETAIL E 6576

DETAIL F 6576

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

#### RECORD DRAWING

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

NO.	DATE	DESCRIPTION	BY	CHKD.
Δ	5/79	GEN REV		

REVISIONS

**RUSSELL & AXON**  
 Engineers - Planners - Architects

WATER WORKS PROJECT  
 CHEMICAL FEED BLDG.

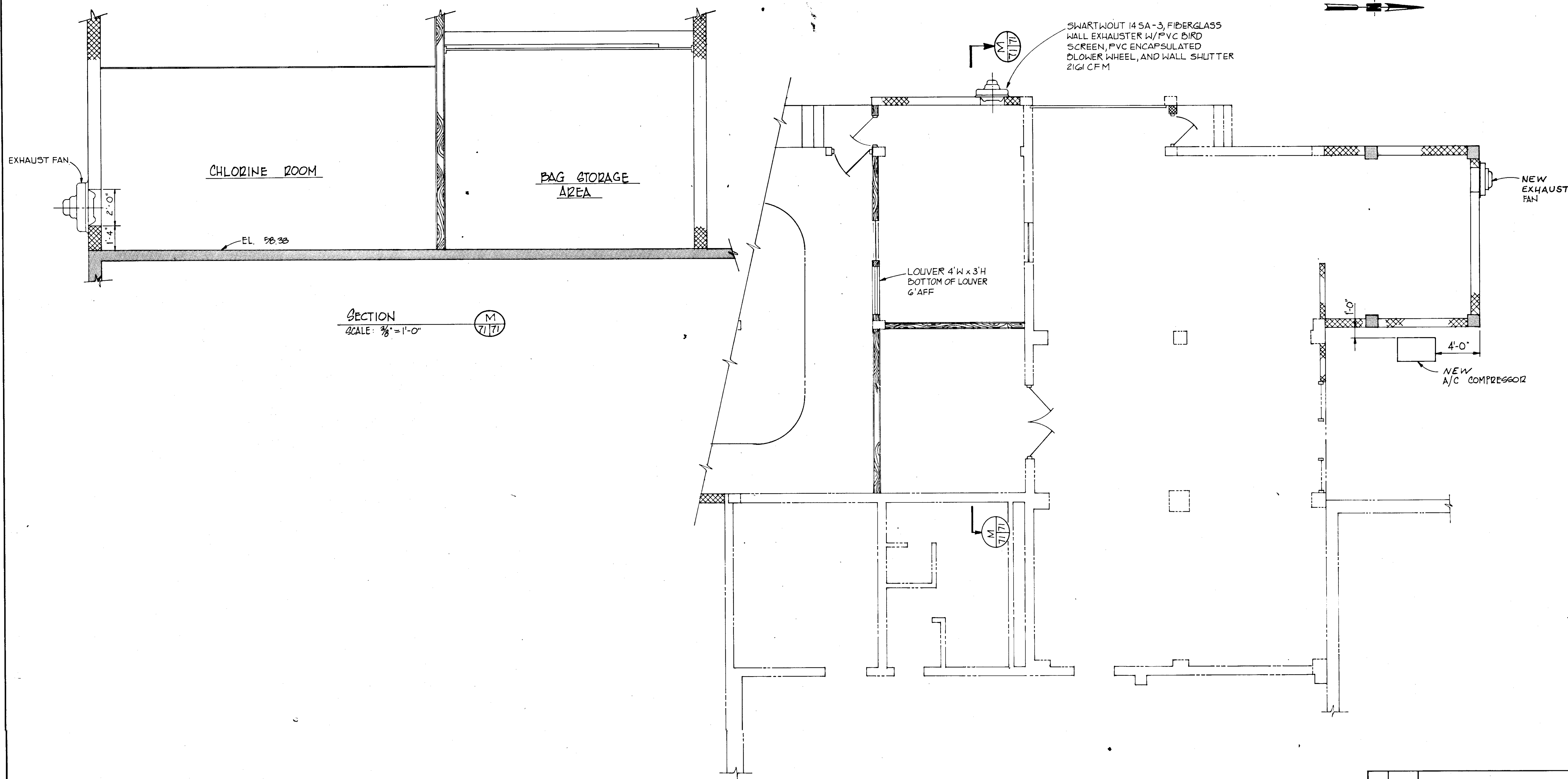
MANATEE COUNTY, FLORIDA

DESIGNED BY: B.E.A.  
 DRAWN BY: B.E.A. & J.R.A.  
 CHECKED BY: [Signature]

FILE NO. 630-761-04  
 SHEET A7  
 No. 70 OF 130 SHEETS

DATE: AUGUST, 1978  
 SCALE: AS NOTED

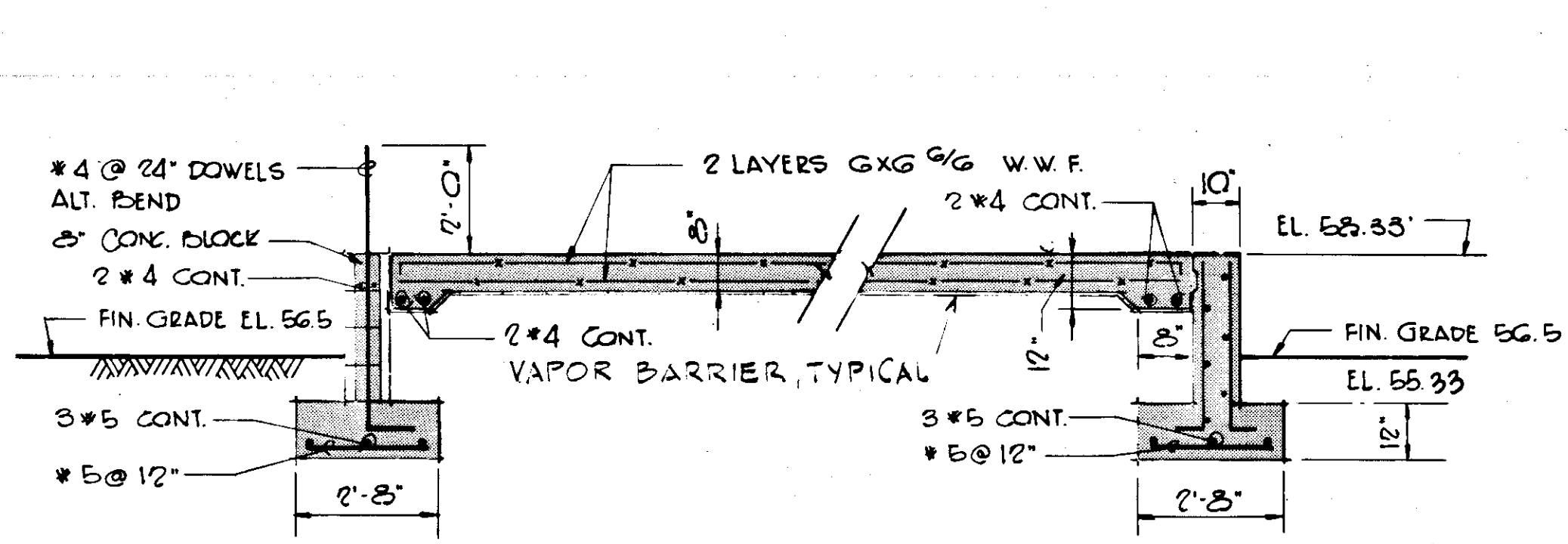
SEAL



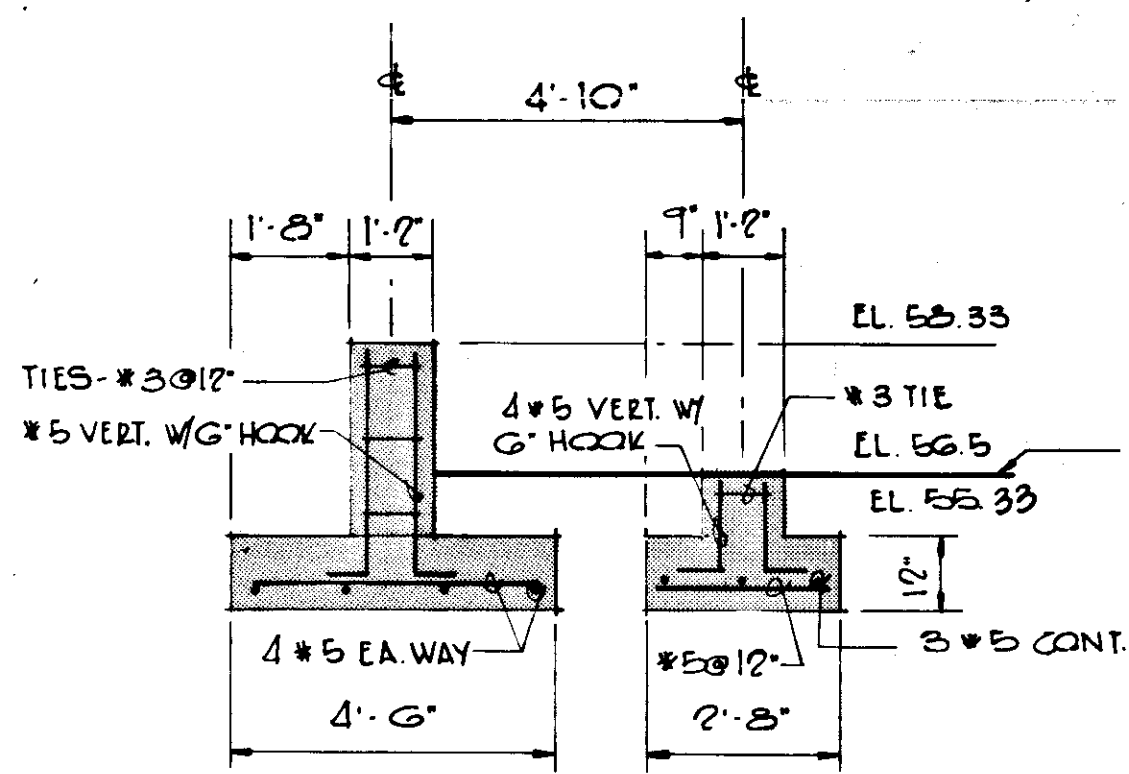
HVAC PLAN  
SCALE: 3/8" = 1'-0"

**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.

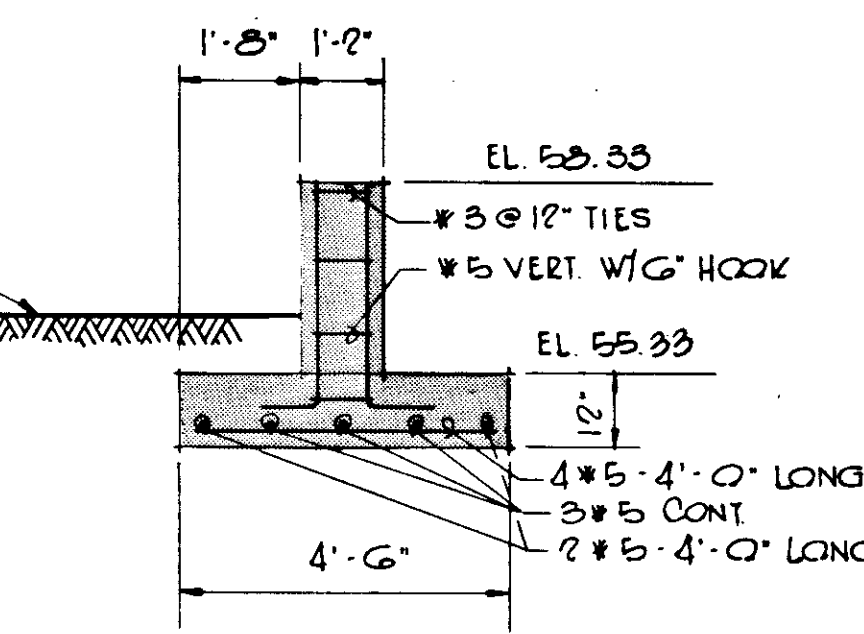
NO.	DATE	DESCRIPTION	BY	CKD.
5/79	GEN. REV.			
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT CHEMICAL FEED BUILDING H.V.A.C. PLAN & SECTIONS				
MANATEE COUNTY,				<b>T-71</b> FLORIDA <b>SEAL</b>
DESIGNED BY B.E.D.	FILE NO. 630-761-04			
DRAWN BY H.G.B.	SHEET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



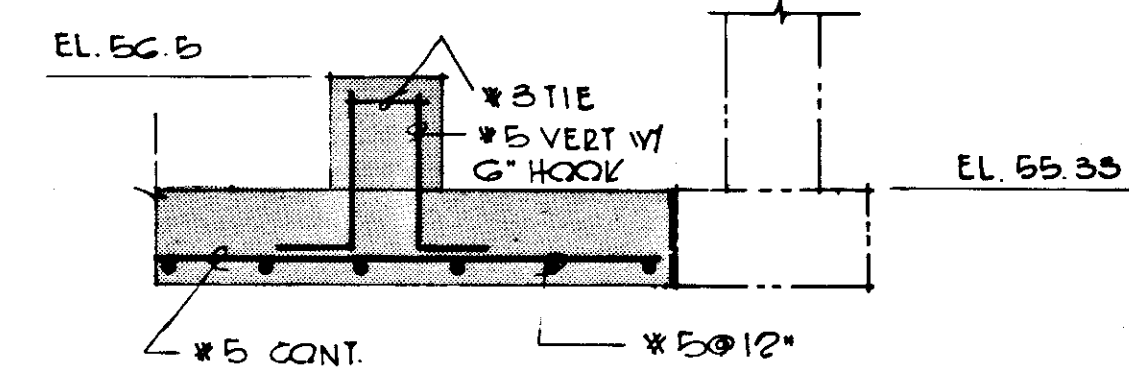
SECTION A  
SCALE: 3/8" = 1'-0"  
72/72



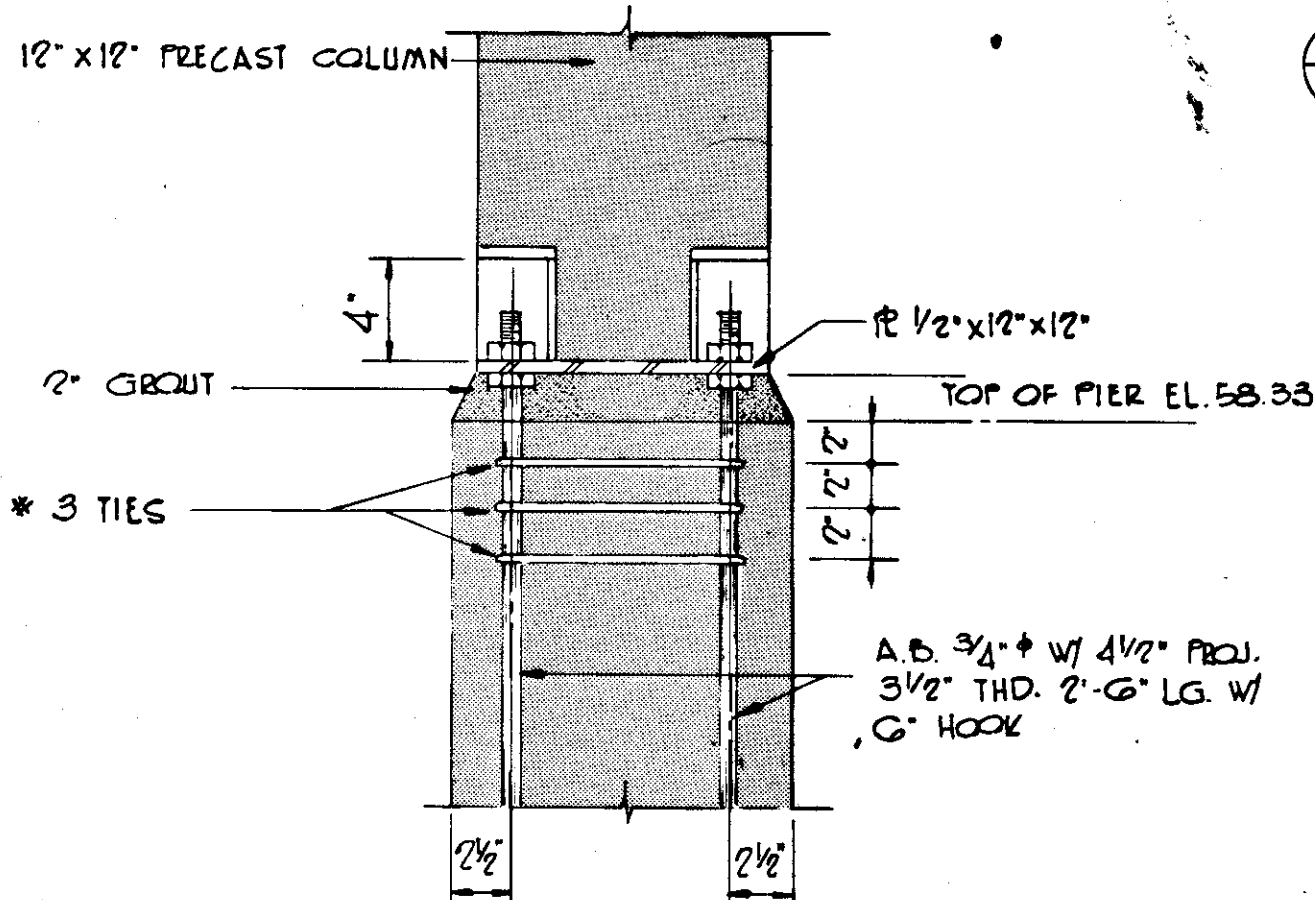
SECTION B  
SCALE: 3/8" = 1'-0"  
72/72



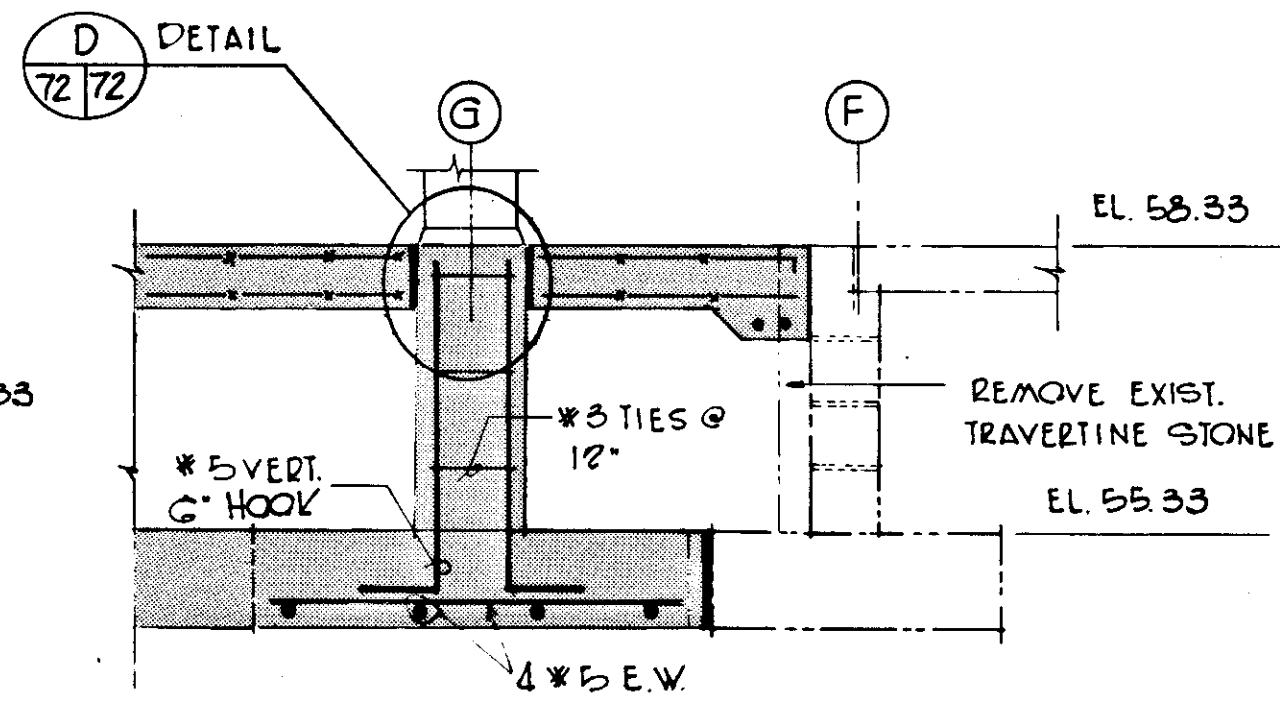
SECTION C  
SCALE: 3/8" = 1'-0"  
72/72



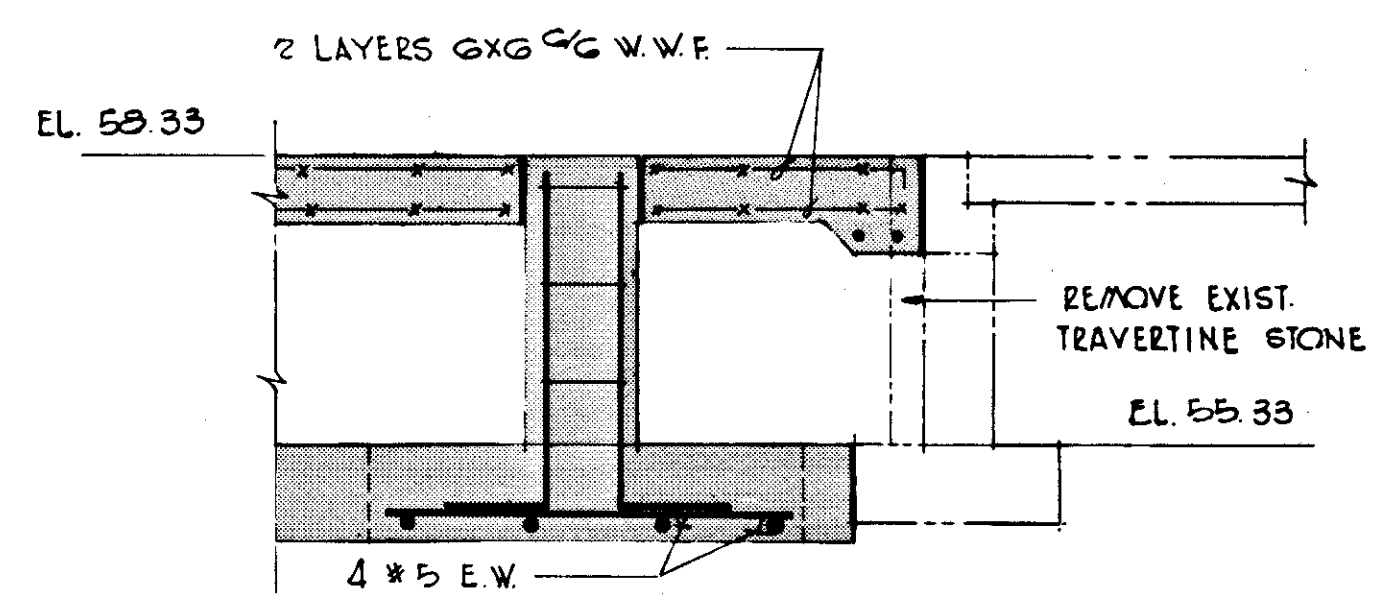
SECTION F  
SCALE: 1/2" = 1'-0"  
72/72



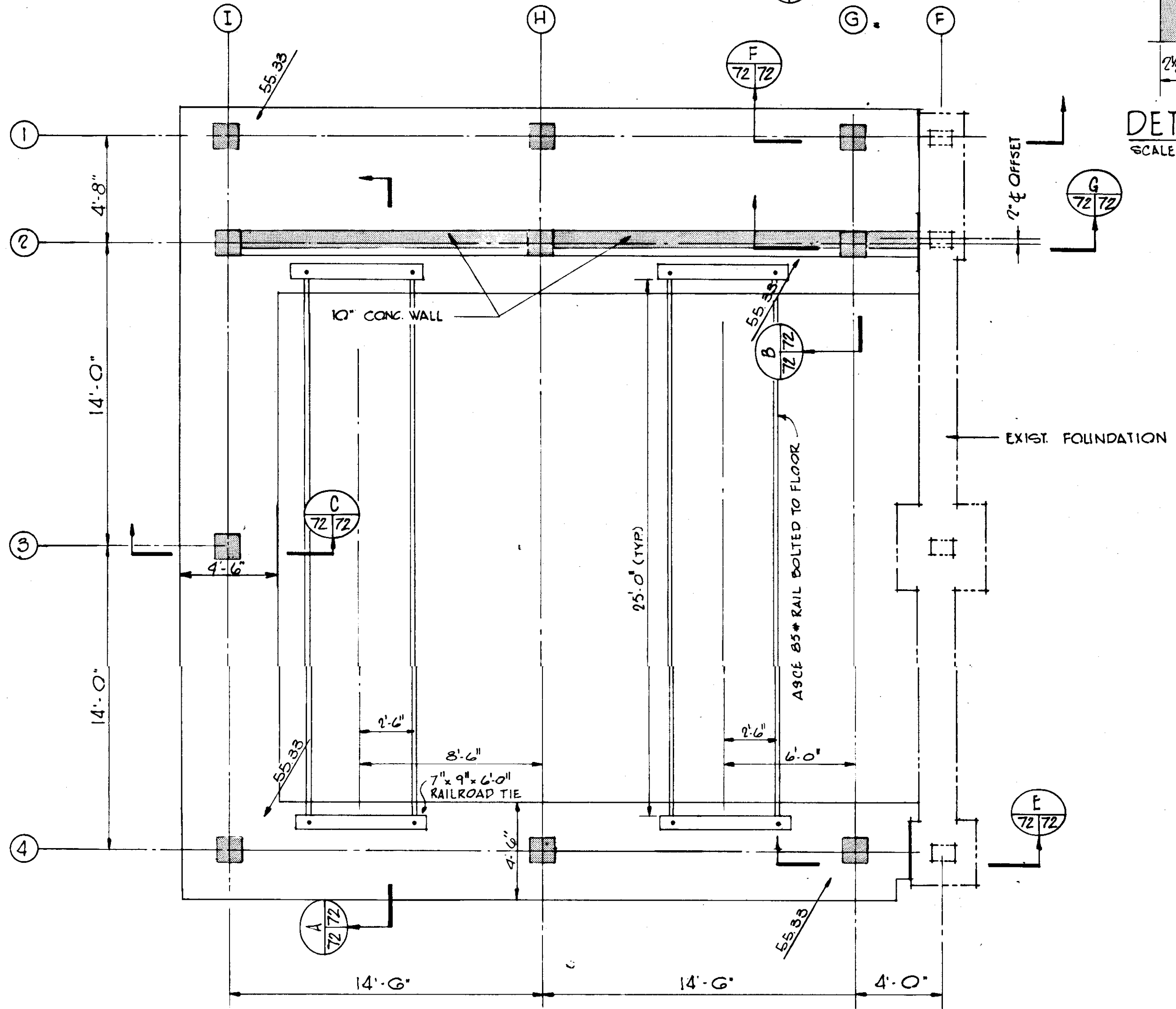
DETAIL D  
SCALE: 1/2" = 1'-0"  
72/72



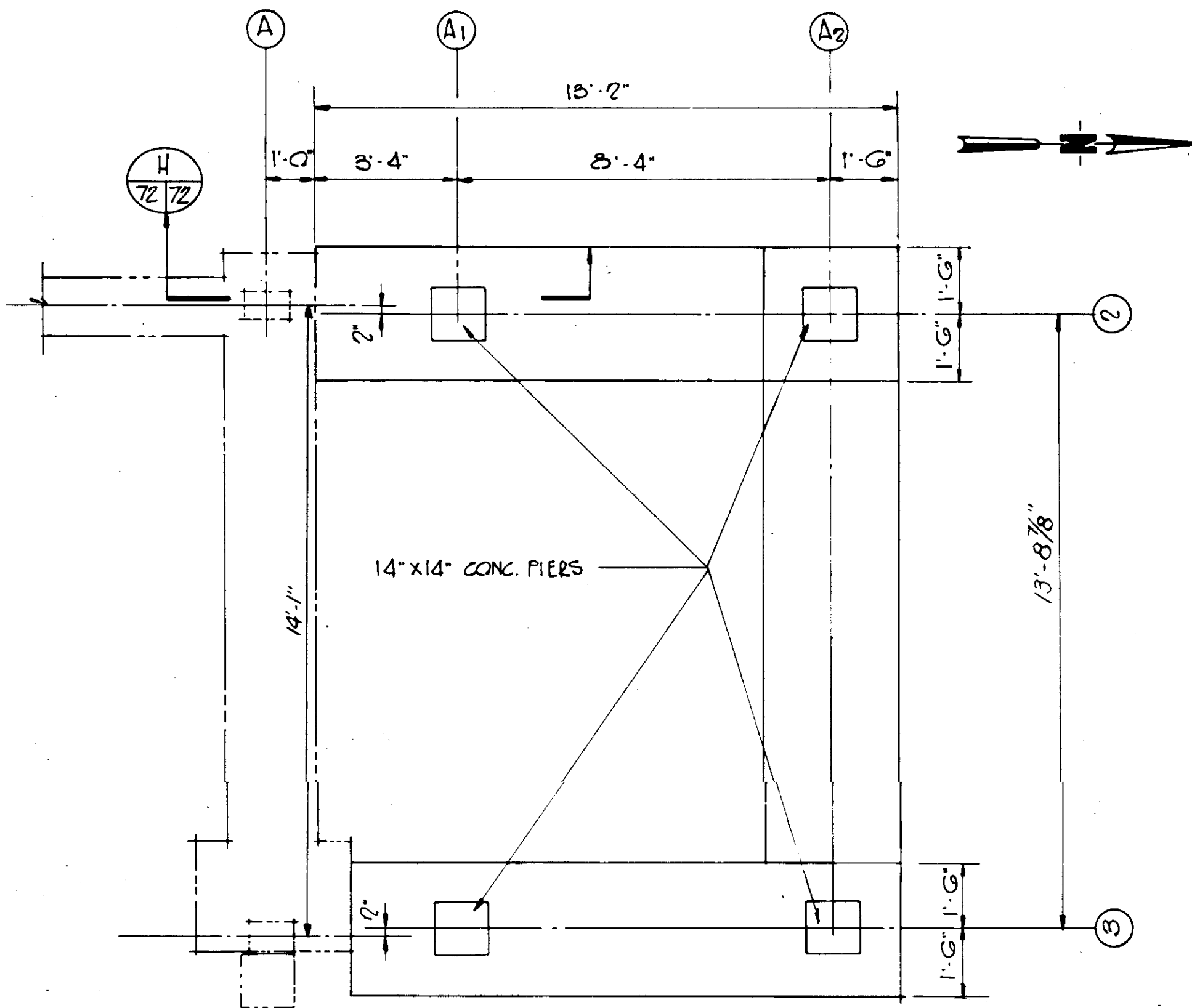
SECTION E  
SCALE: 1/2" = 1'-0"  
72/72



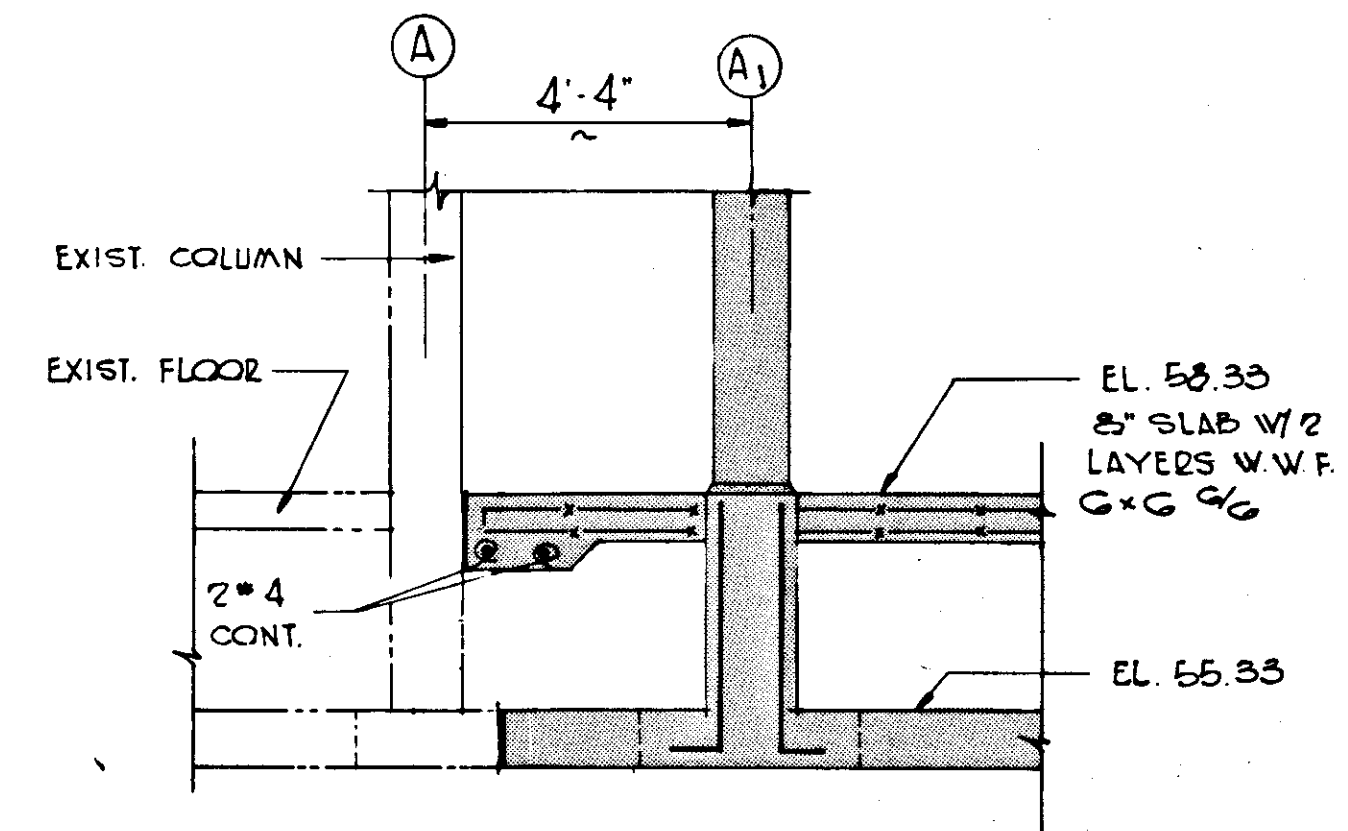
SECTION G  
SCALE: 1/2" = 1'-0"  
72/72



FOUNDATION PLAN - CL<sub>2</sub> CYLINDER STOR.  
SCALE: 1/4" = 1'-0"



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



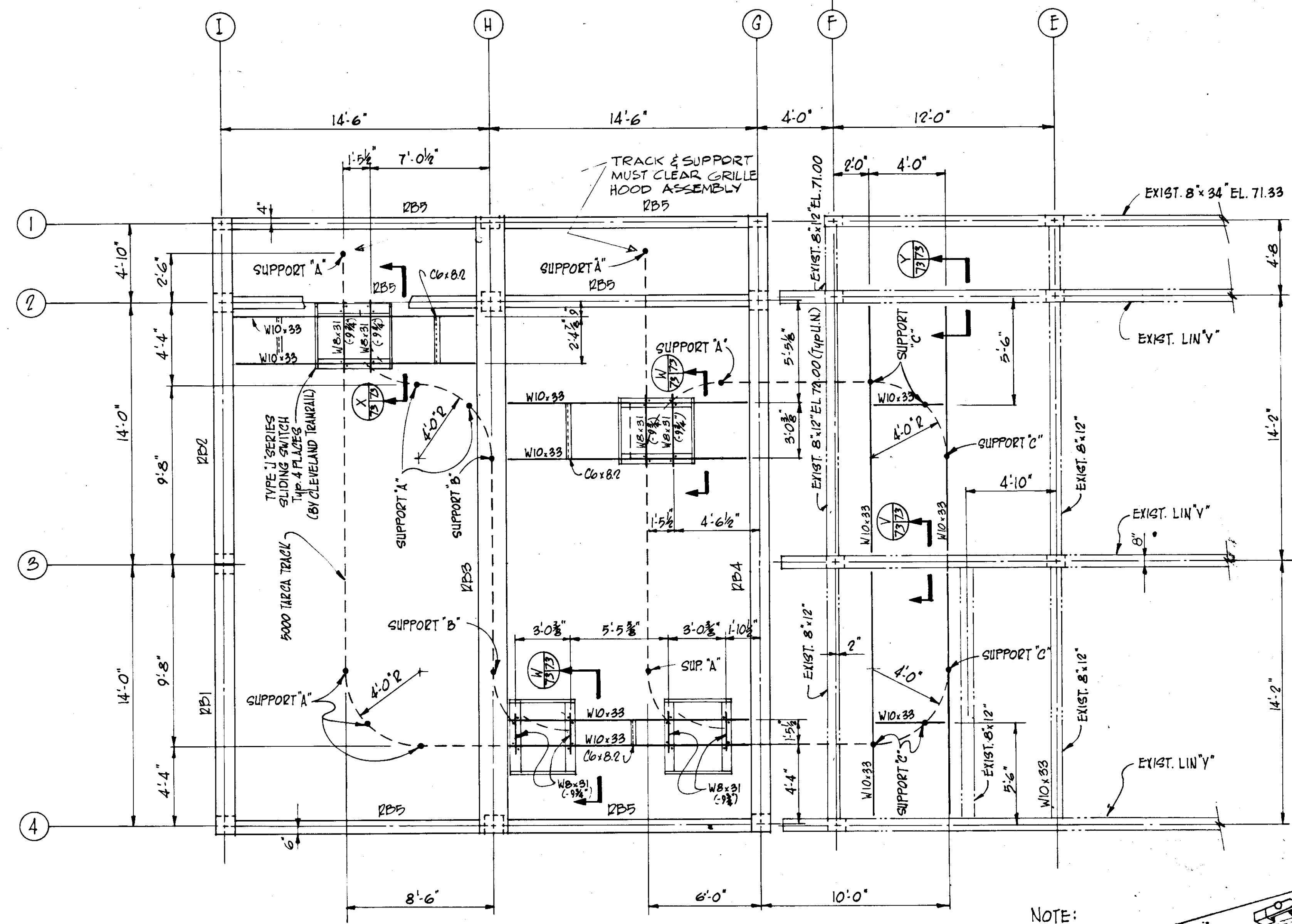
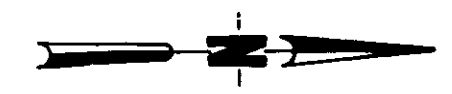
SECTION H  
SCALE: 3/8" = 1'-0"  
72/72

**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.

NO.	DATE	GEN REV	DESCRIPTION	WRW	WCH
REVISIONS					
RUSSELL & AXON Engineers - Planners - Architects					
WATER WORKS PROJECT CHEMICAL FEED BUILDING FOUNDATION PLANS, SECTIONS & DETAILS					
MANATEE COUNTY, FLORIDA		FILE NO.	SEAL		
DESIGNED BY M. B.	630-761-04				
DRAWN BY B. E. A.	SHEET 51				
CHECKED BY	OF 130 SHEETS				
DATE AUGUST, 1978	No. 72				
		SCALE: AS NOTED			

NEW ADDITION ← → EXISTING STRUCTURE

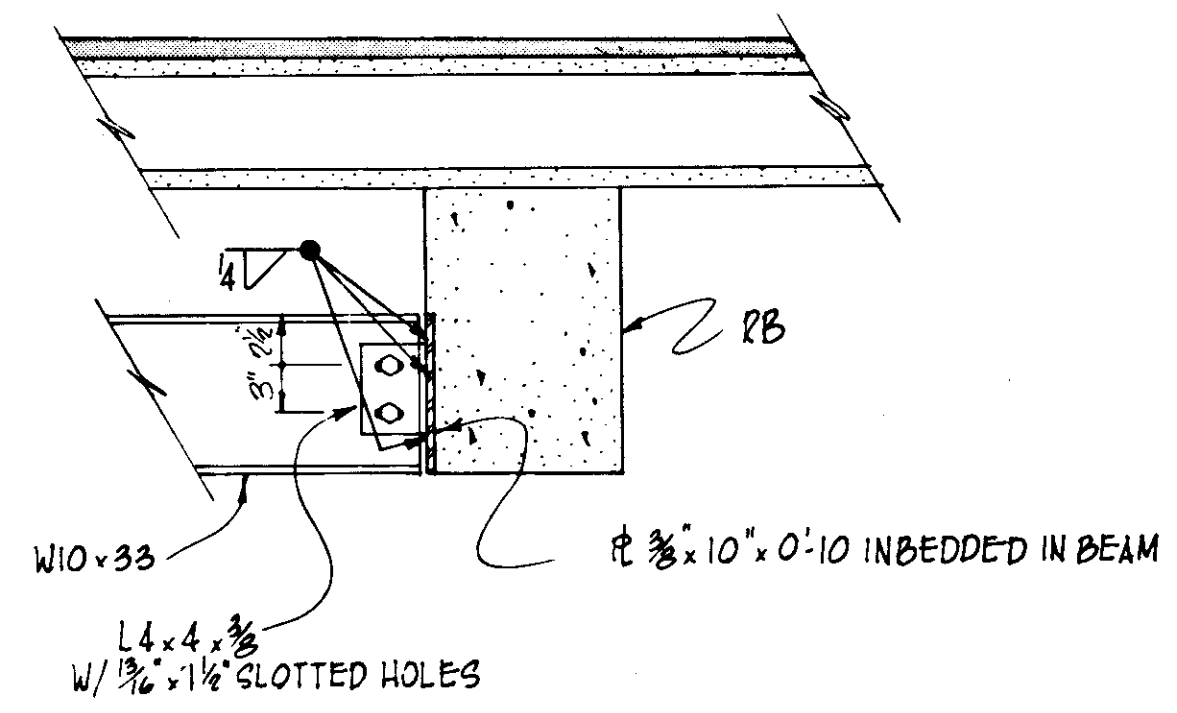


PLAN @ EL. 72.00  
SCALE: 1/4" = 1'-0"

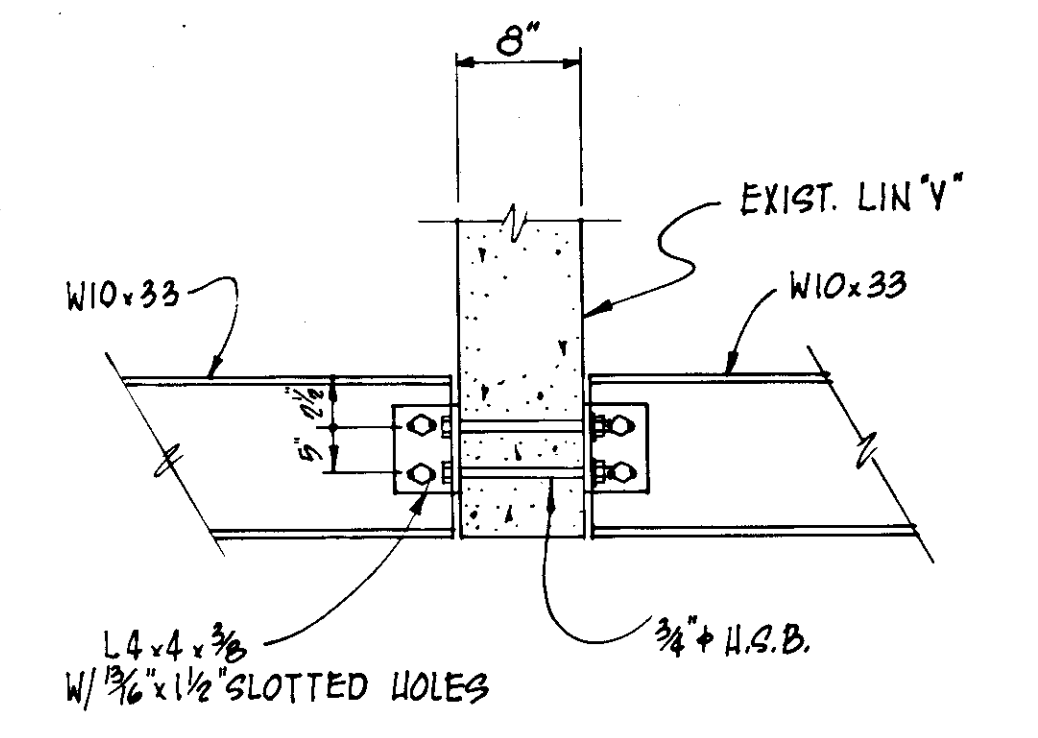
MARK	SIZE		LOADS (ps.f.)		REMARKS	ELEV TOP OF BEAM
	W	D	D.L.	L.L.		
RB1	12	18	75	45	SPAN - 14'-6" ±	72.0
RB2	12	18	75	45	" - 19'-2" ±	72.0
RB3	18	26	75	45	" - 33'-8" ±	72.67
RB4	12	18	75	45	" - 33'-8" ±	72.00
RB5	8	12	-	-	" - 13'-9" ±	72.00
RB6	-	-	75	45	" - 7'-4" ±	71.00
RB7	-	-	75	45	" - 14'-0" ±	71.00

**RECORD DRAWING**  
 PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.  
 DATE: 8/21/82 BY: KRA  
 CHECKED BY: [Signature]  
 R & A [Signature]  
 M.C.U.S. [Signature]

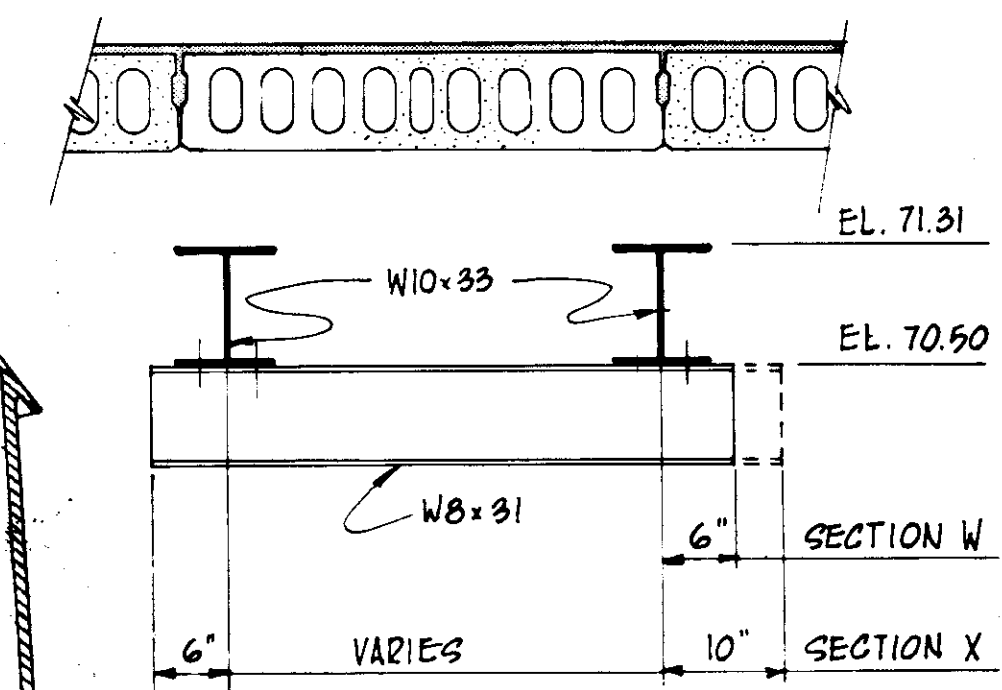
NOTE:  
ALL COLUMNS 12x12



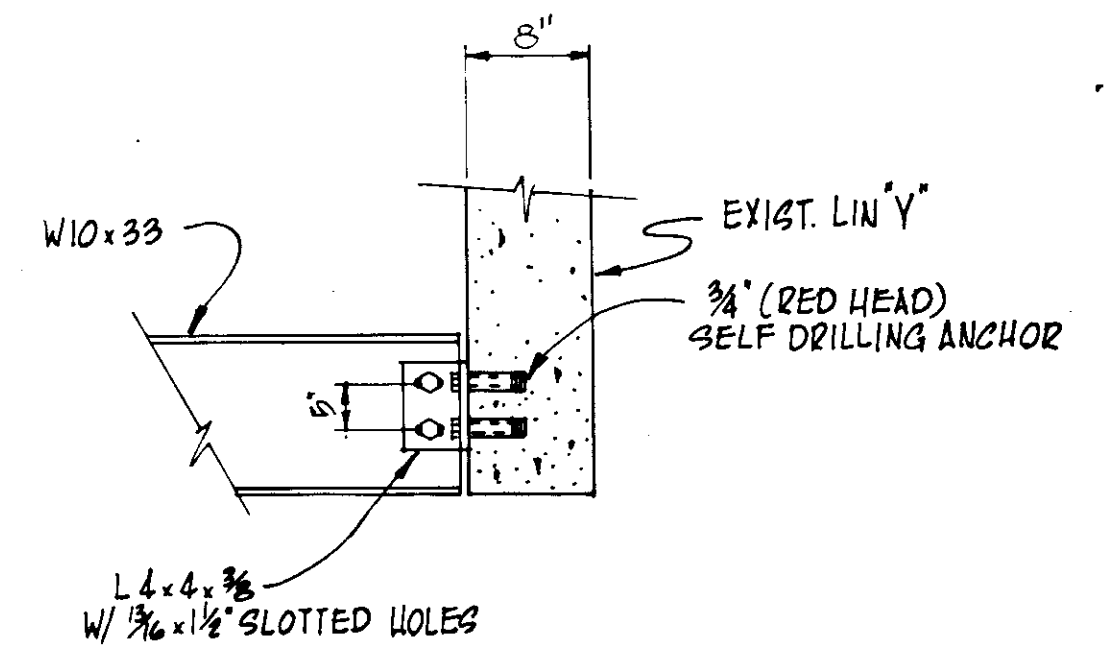
TYP. STEEL BEAM TO PRECAST BEAM CONN.  
SCALE: 1" = 1'-0"



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

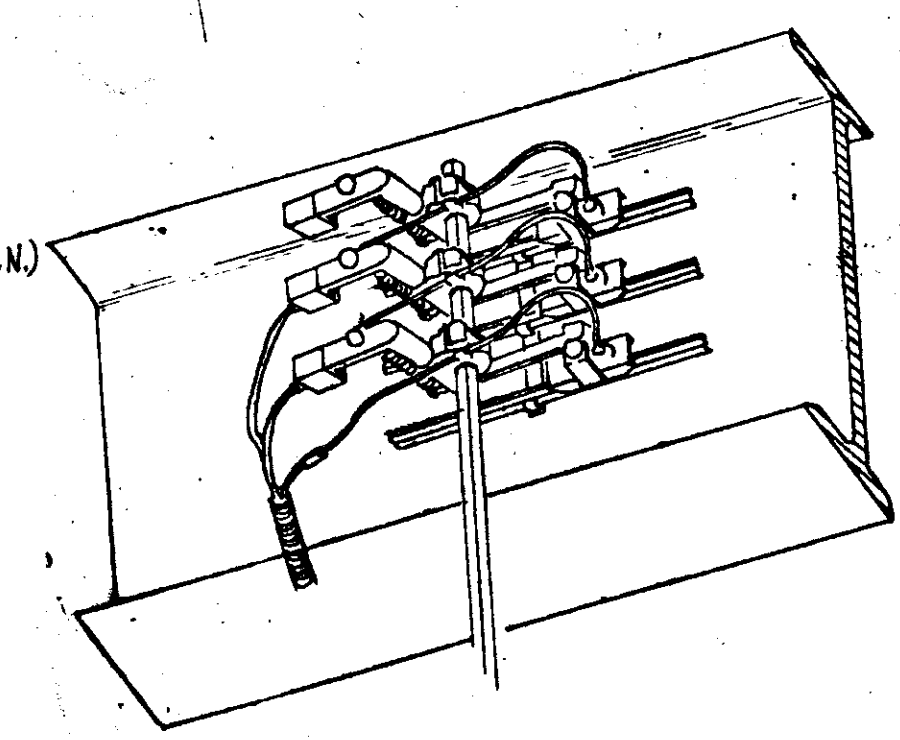


SECTION X  
SCALE: 3/4" = 1'-0"

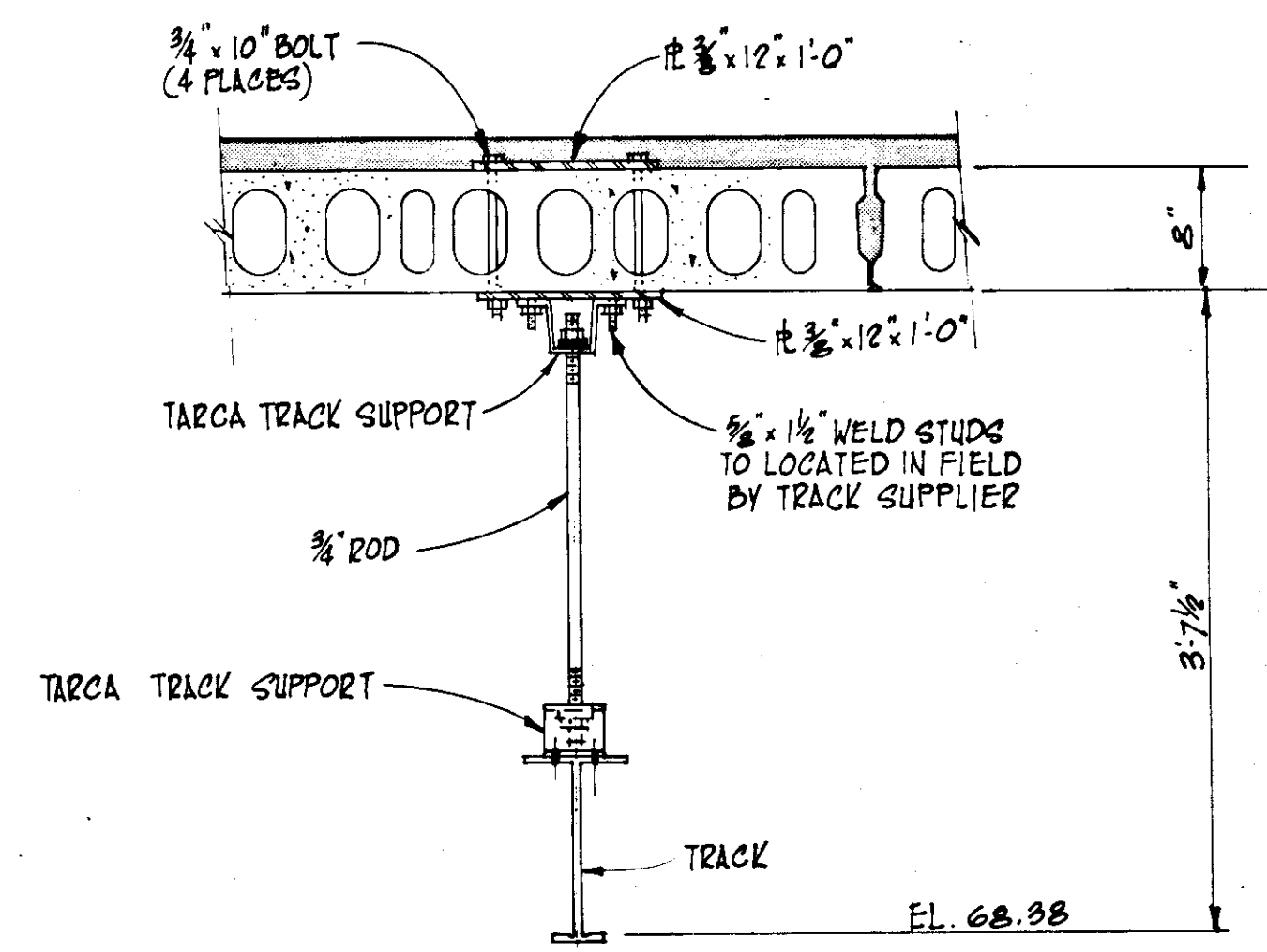


SECTION Y  
SCALE: 1" = 1'-0"

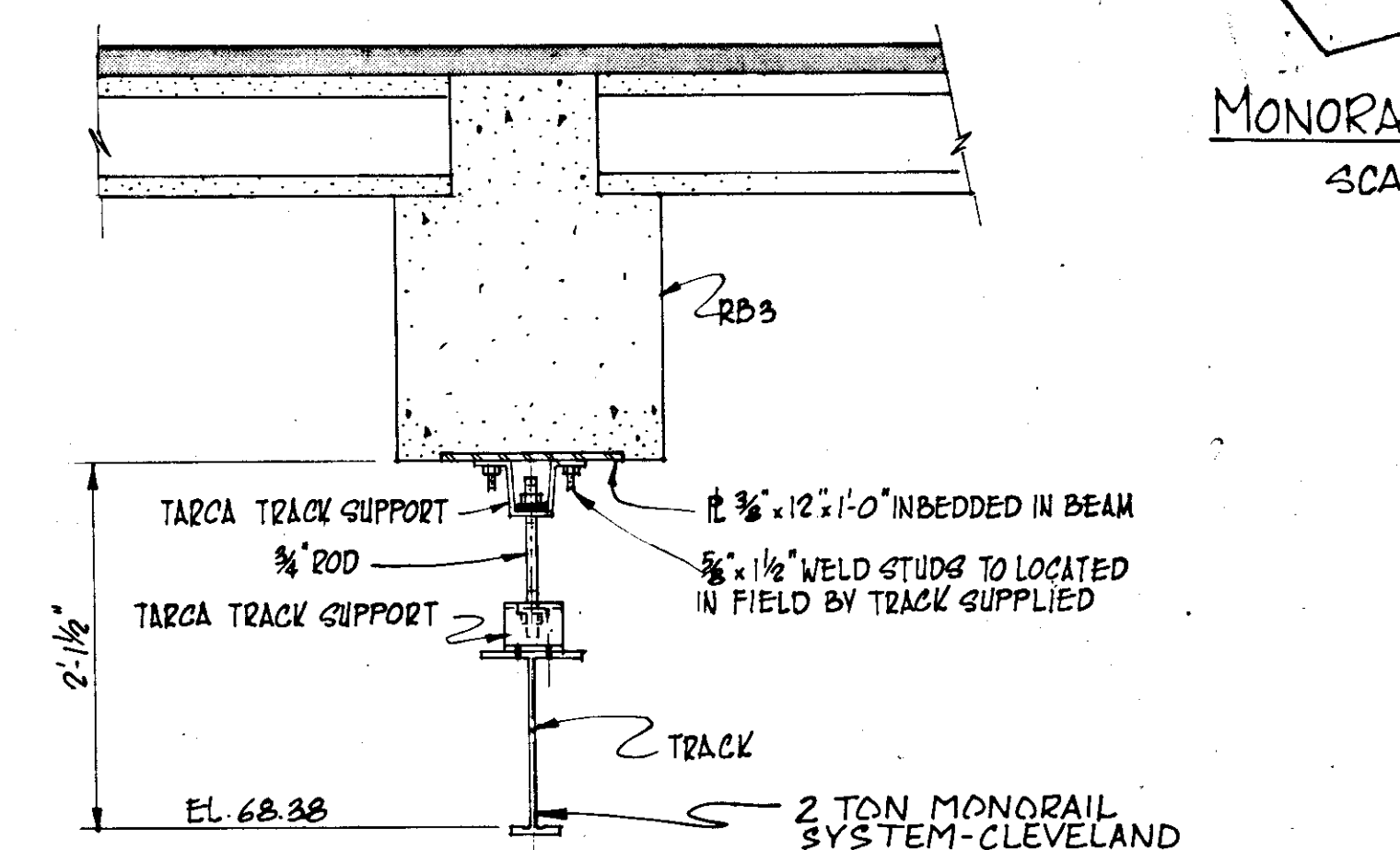
NOTE:  
EL. 71.91 T.O.G. (U.N.)



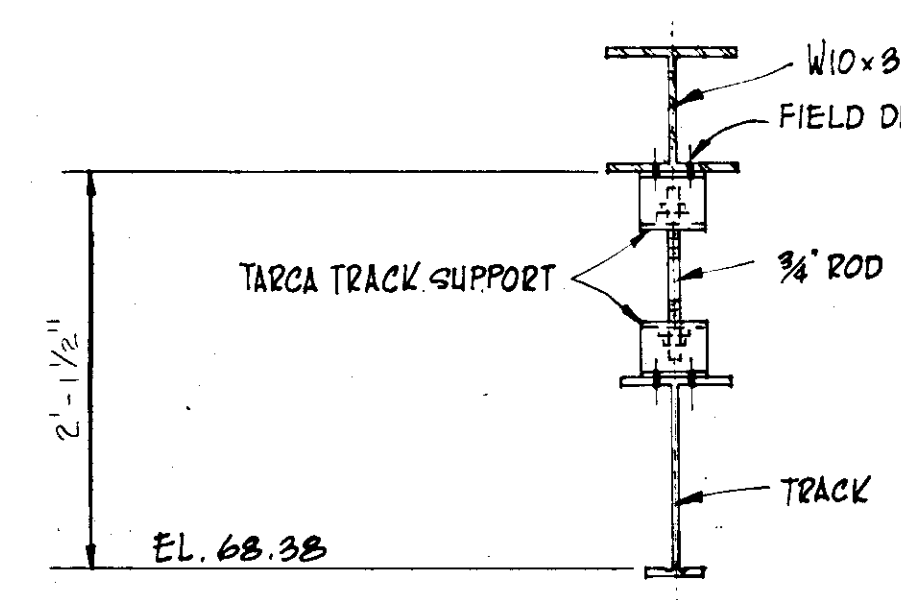
MONORAIL POWER COLLECTOR SYSTEM  
SCALE: N.T.S.



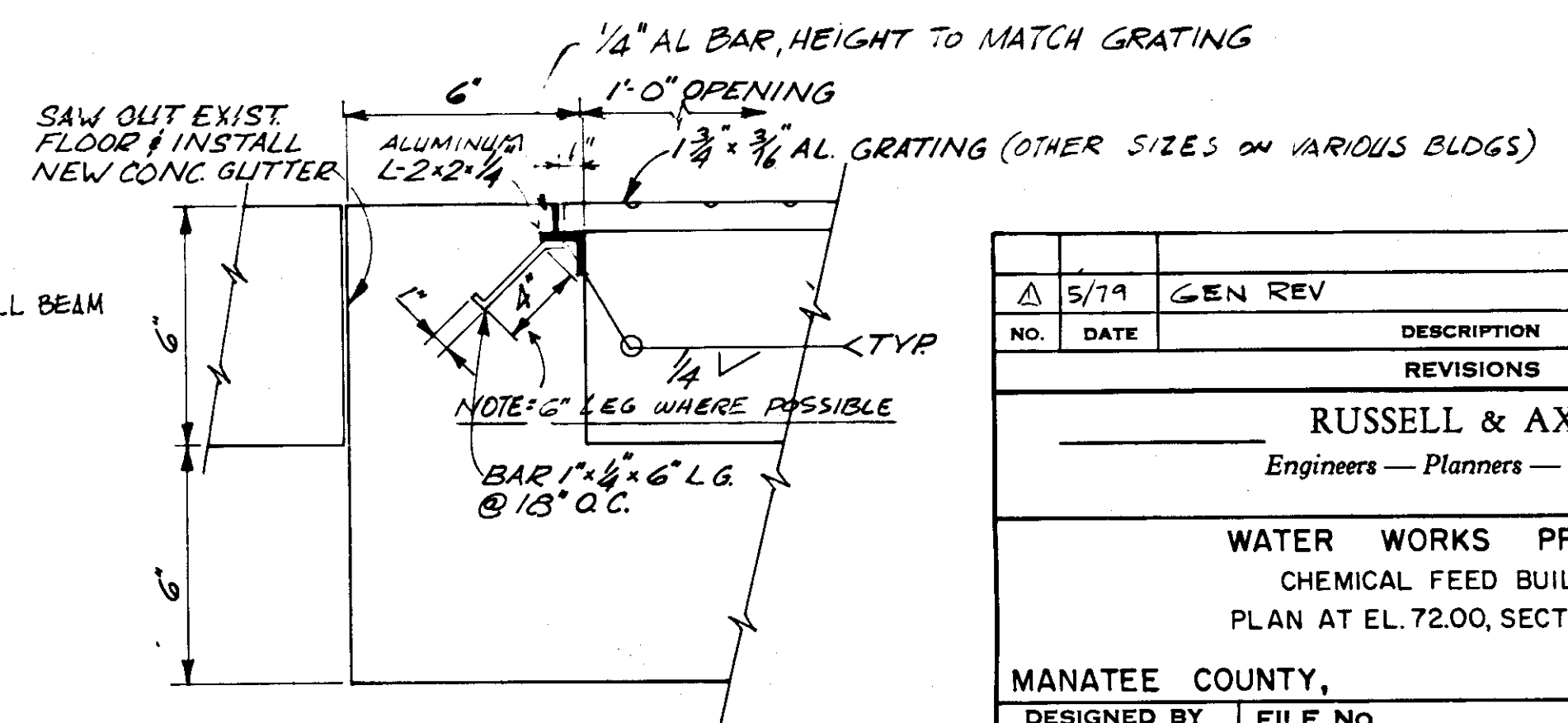
SUPPORT A  
SCALE: 1" = 1'-0"



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



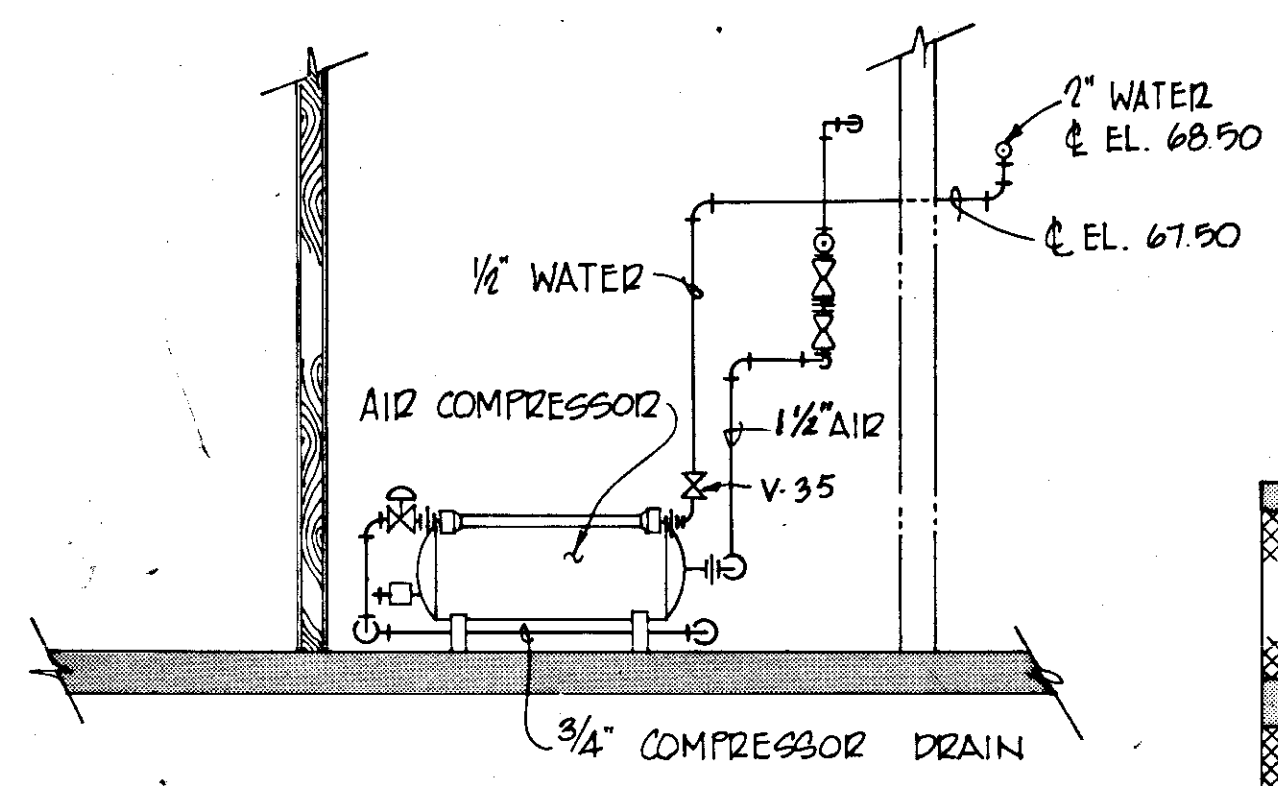
SUPPORT C  
SCALE: 1" = 1'-0"



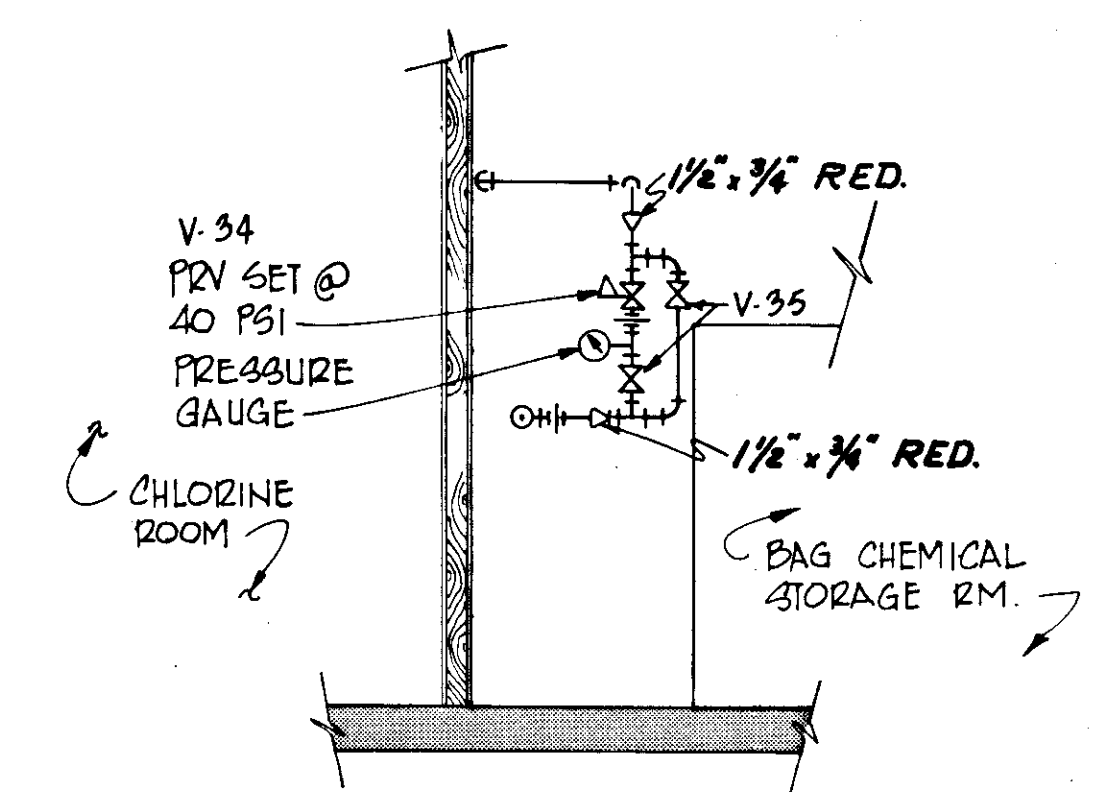
DETAIL U  
N.T.S.  
TYPICAL GRATING SEAT

NO.	DATE	GEN REV	DESCRIPTION	BY	CHKD.
Δ	5/79			WRW	WFF
REVISIONS					
<b>RUSSELL &amp; AXON</b> Engineers — Planners — Architects					
<b>WATER WORKS PROJECT</b> CHEMICAL FEED BUILDING PLAN AT EL. 72.00, SECTIONS & DETAILS					
<b>T-73</b> FLORIDA					
MANATEE COUNTY, FLORIDA					
DESIGNED BY	FILE NO.		<b>SEAL</b>		
J.P.	630-761-04				
DRAWN BY	SHEET S2				
E.L.W.	No. 73				
CHECKED BY	OF 130 SHEETS				
DATE	SCALE: AS NOTED				
AUGUST, 1978					

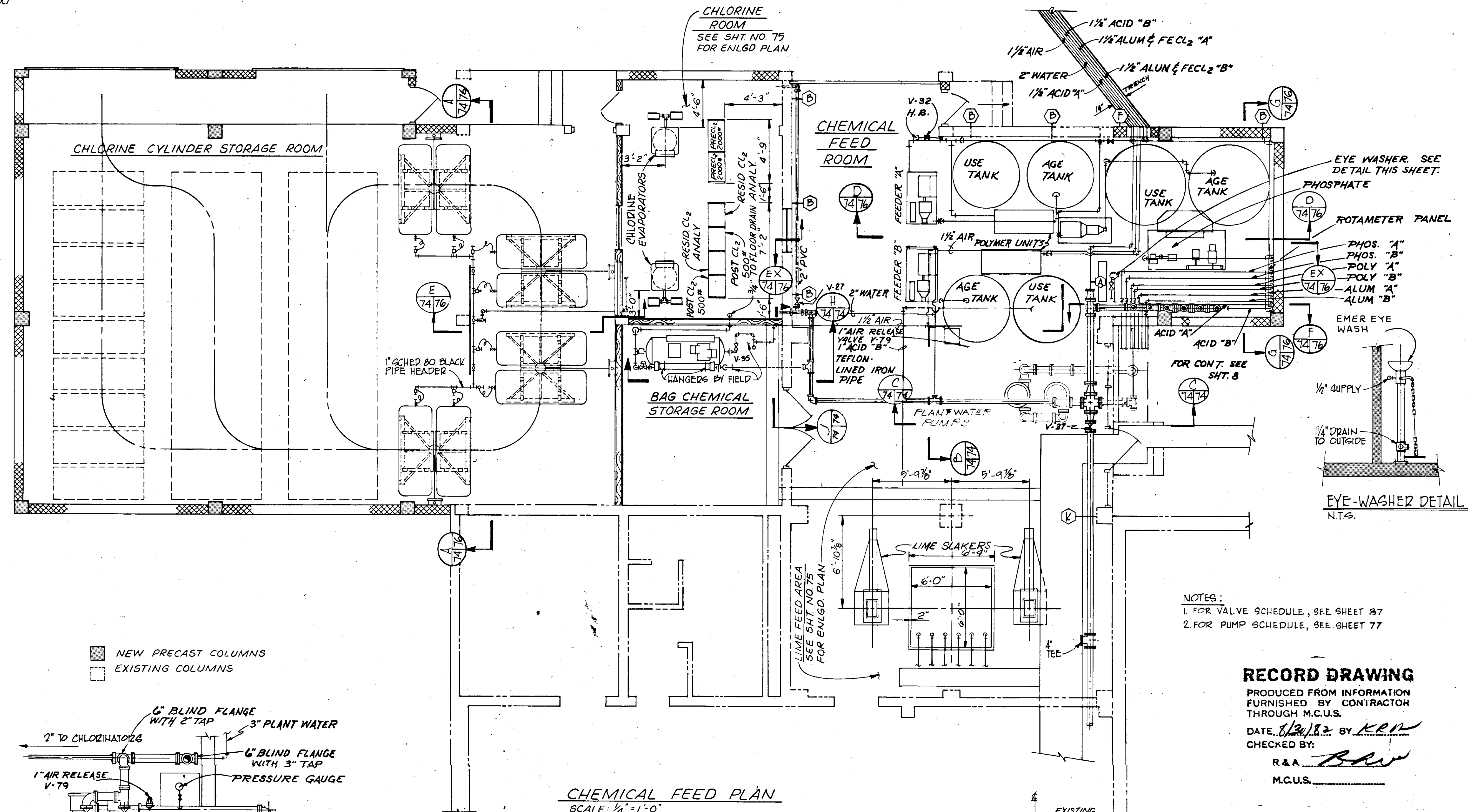




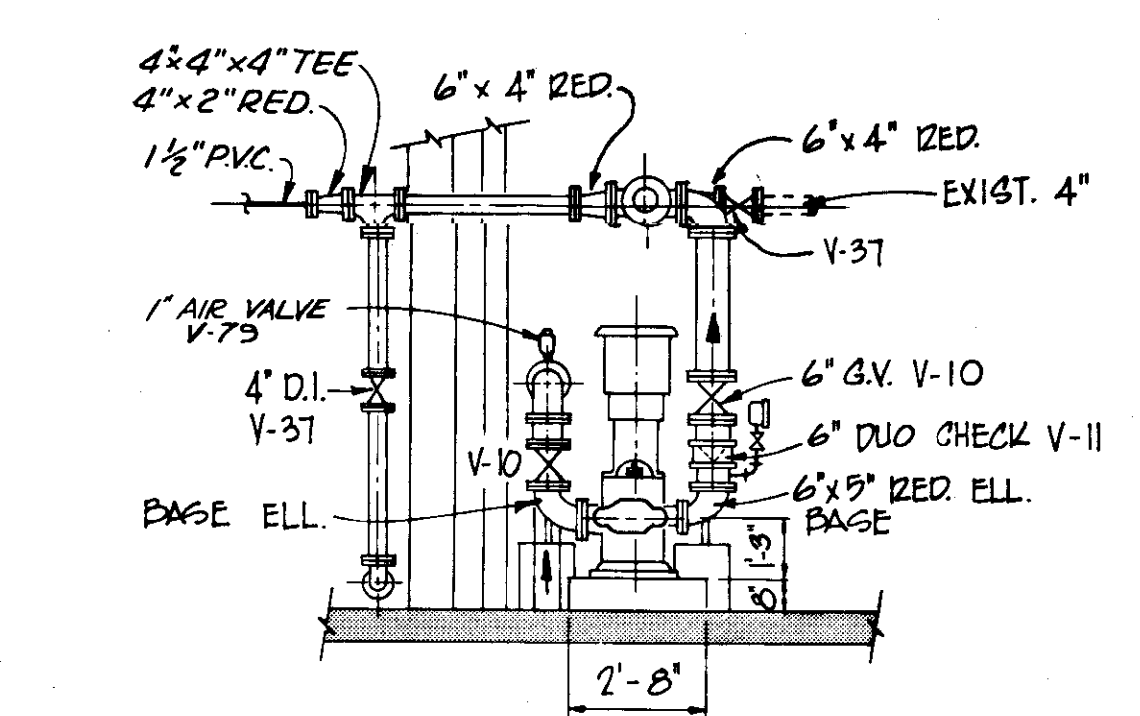
SECTION H  
SCALE: 1/4" = 1'-0"



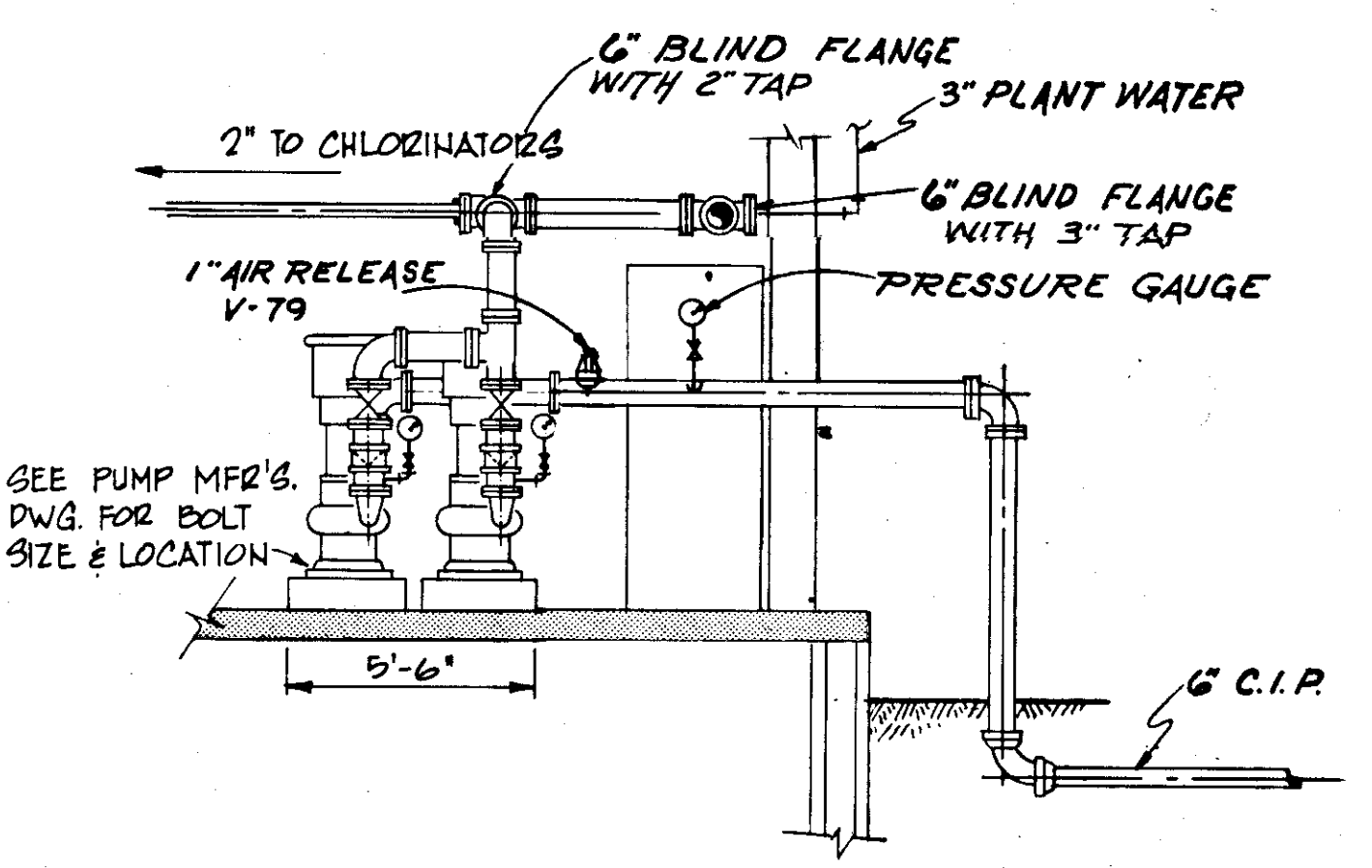
SECTION J  
SCALE: 1/4" = 1'-0"



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



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



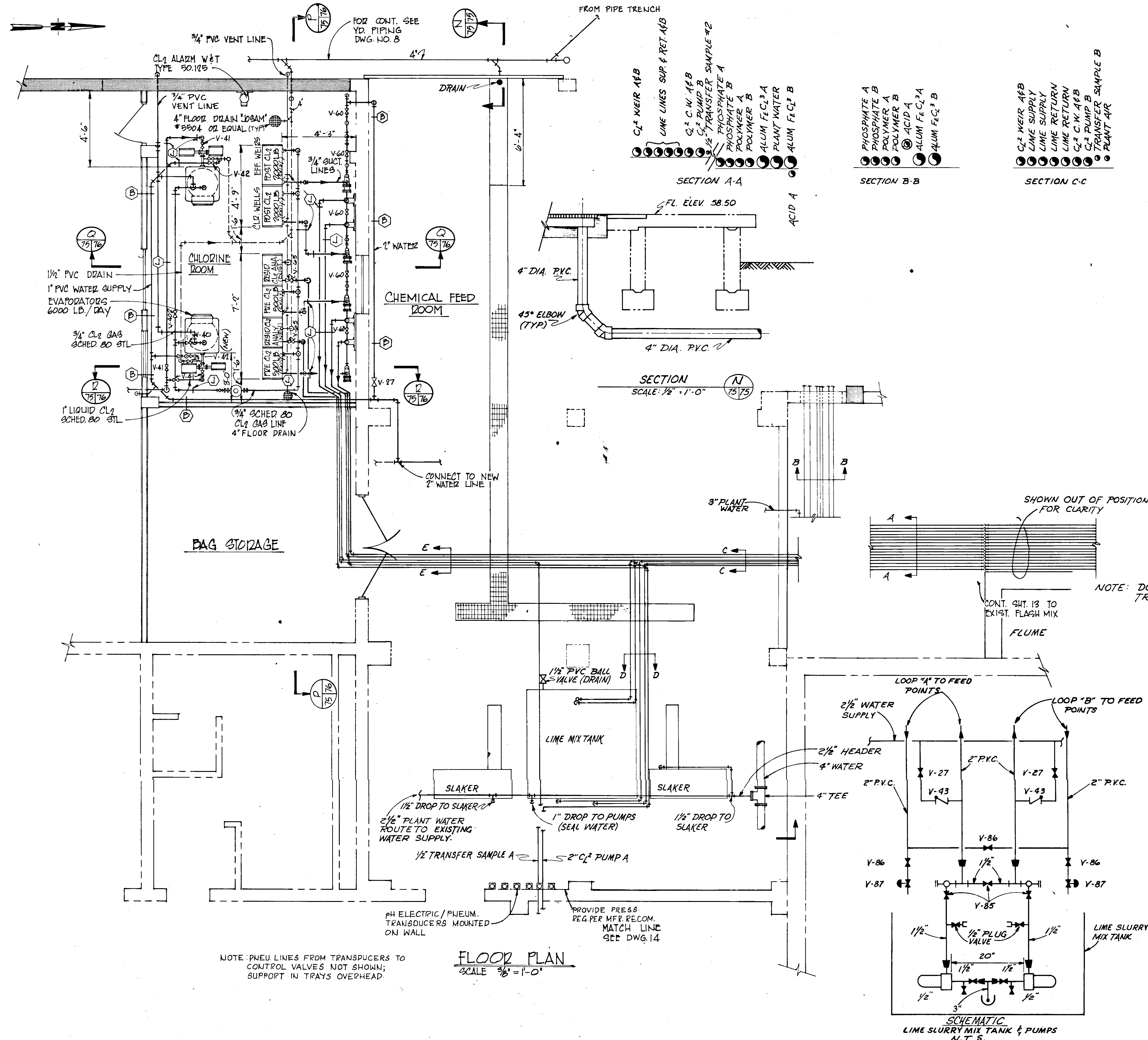
SECTION C  
SCALE: 1/4" = 1'-0"

- NOTES:  
1. FOR VALVE SCHEDULE, SEE SHEET 87  
2. FOR PUMP SCHEDULE, SEE SHEET 77

**RECORD DRAWING**

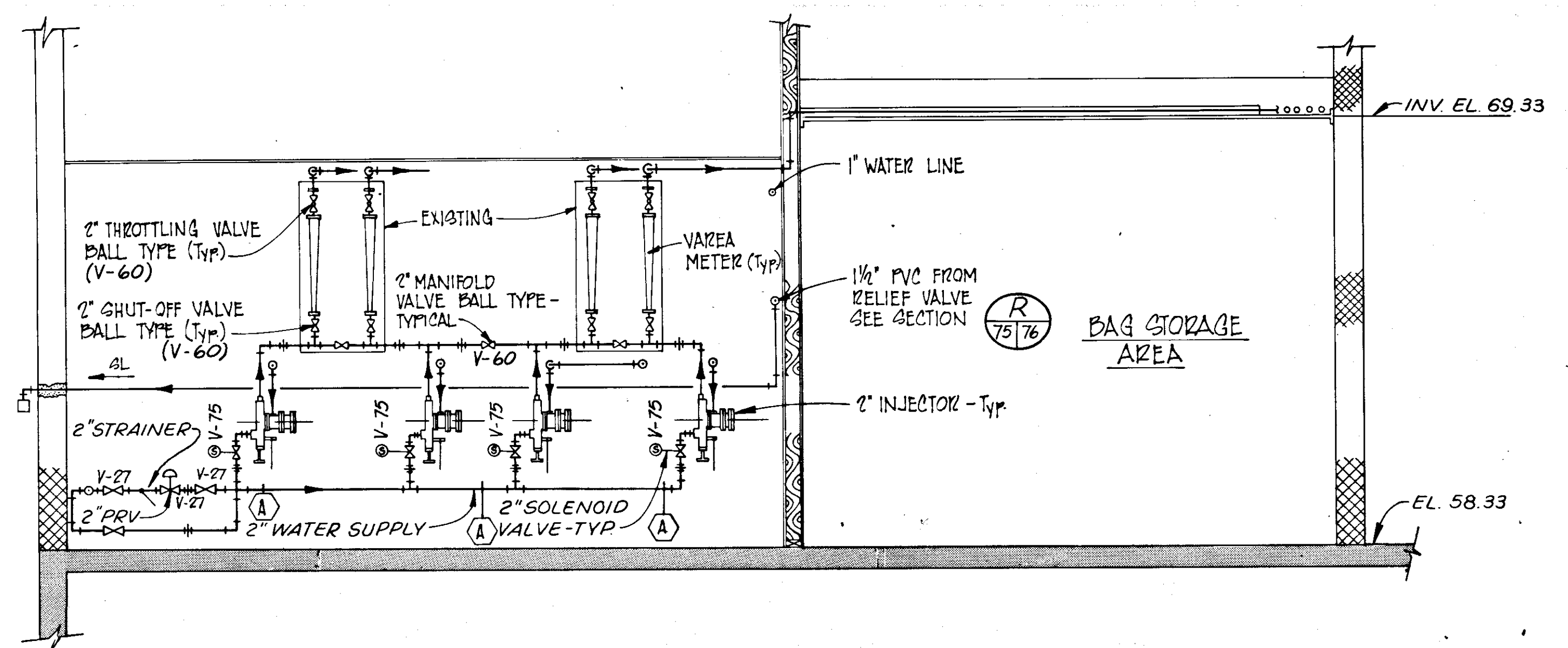
PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.  
DATE: 1/21/82 BY: KRN  
CHECKED BY: R & A  
M.C.U.S.

NO.	DATE	DESCRIPTION	BY	CKD.
5/79		INSTALLATION BY K.F.L.D. PREVENTER	M.A.S.	W.P.H.
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT CHEMICAL FEED BUILDING CHEMICAL FEED PLAN & SECTIONS				
MANATEE COUNTY, FLORIDA		FILE NO. 630-761-04	<b>F74</b> SEAL	
DESIGNED BY B.E.D.	SHEET M-1	NO. 74		
DRAWN BY M.E.P.	OF 130 SHEETS			
CHECKED BY	DATE AUGUST, 1978	SCALE: AS NOTED		

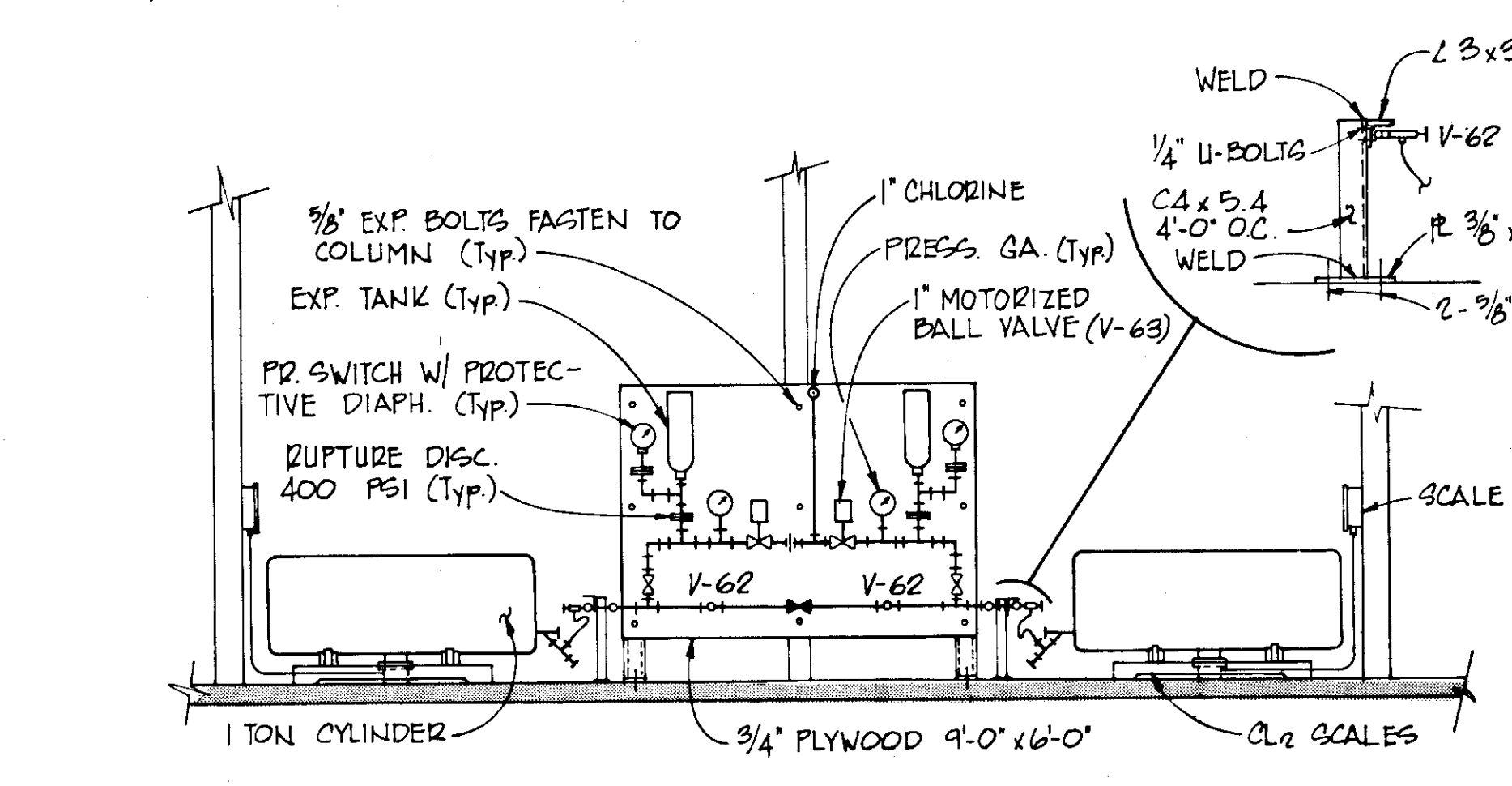


**RECORD DRAWING**  
 PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.  
 DATE 3/12/78 BY KRN  
 CHECKED BY:  
 R & A  
 M.C.U.S.

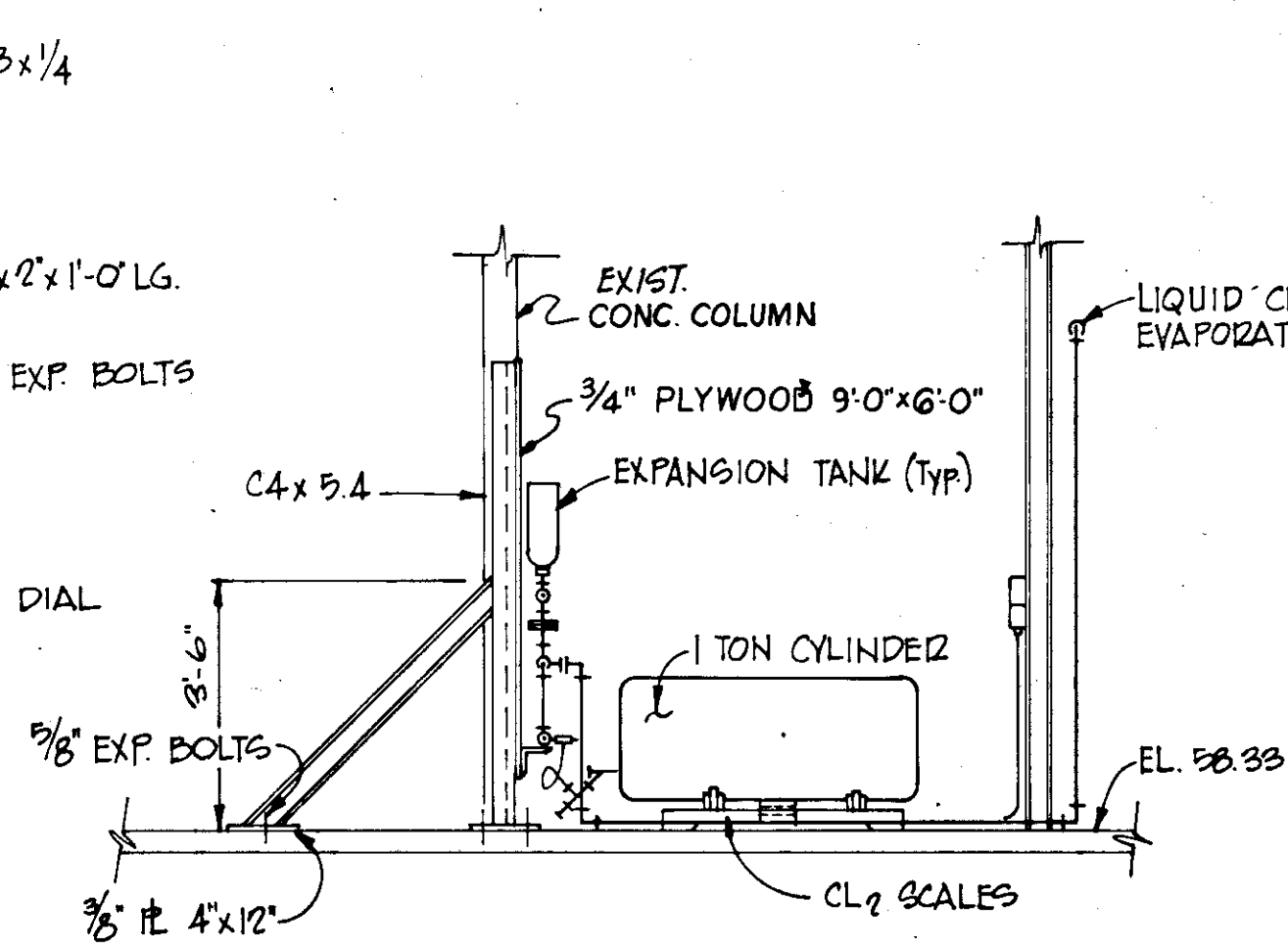
NO.	DATE	DESCRIPTION	BY	CKD.
5/78	GEN REV			
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
WATER WORKS PROJECT CHEMICAL FEED BUILDING PLAN & SECTIONS				
<b>T-75</b> FLORIDA <b>SEAL</b>				
MANATEE COUNTY,		FILE NO.		
DESIGNED BY B.E.D.	630-761-04			
DRAWN BY H.G.B.	SHEET M-2			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



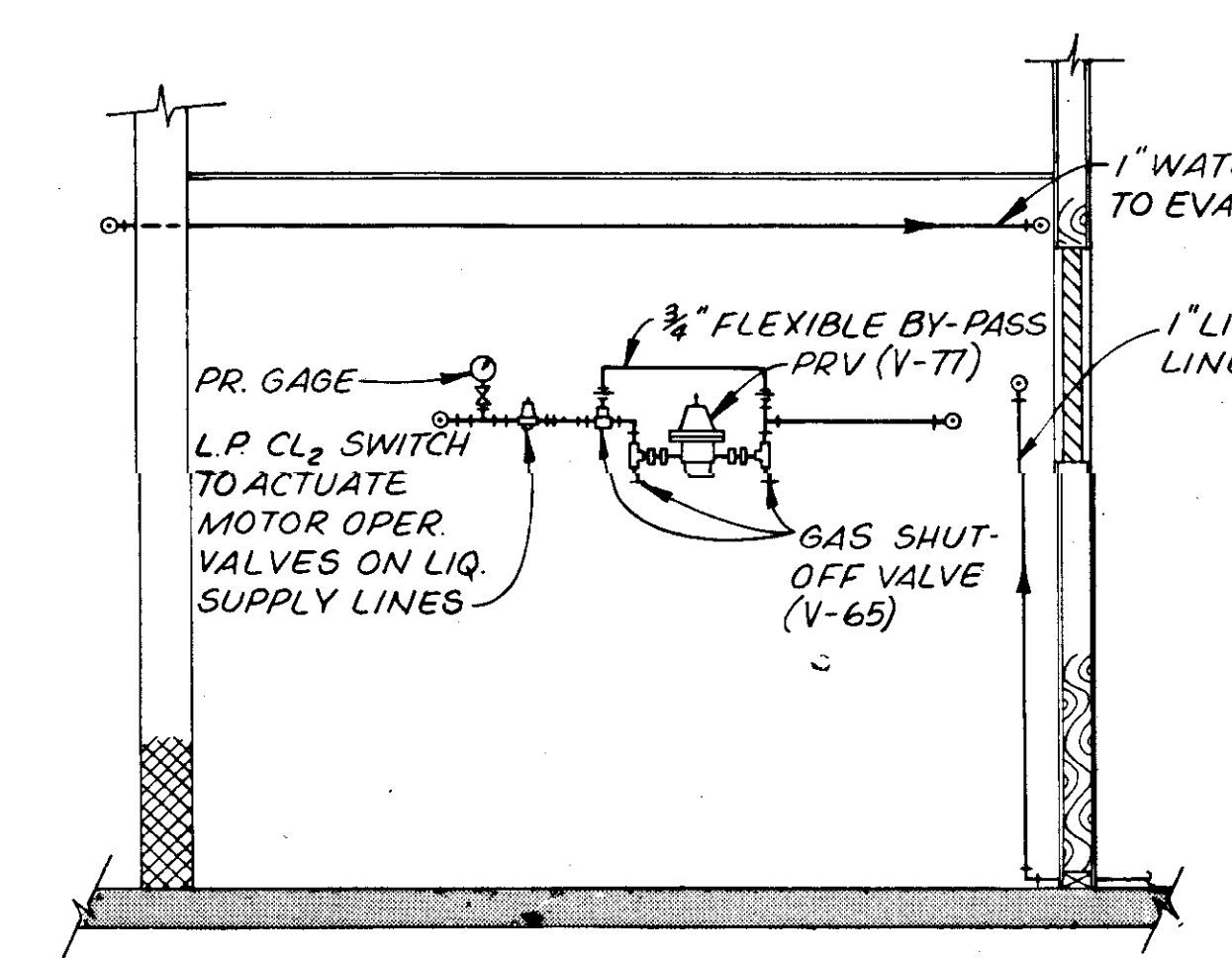
SECTION P  
SCALE: 3/8" = 1'-0"



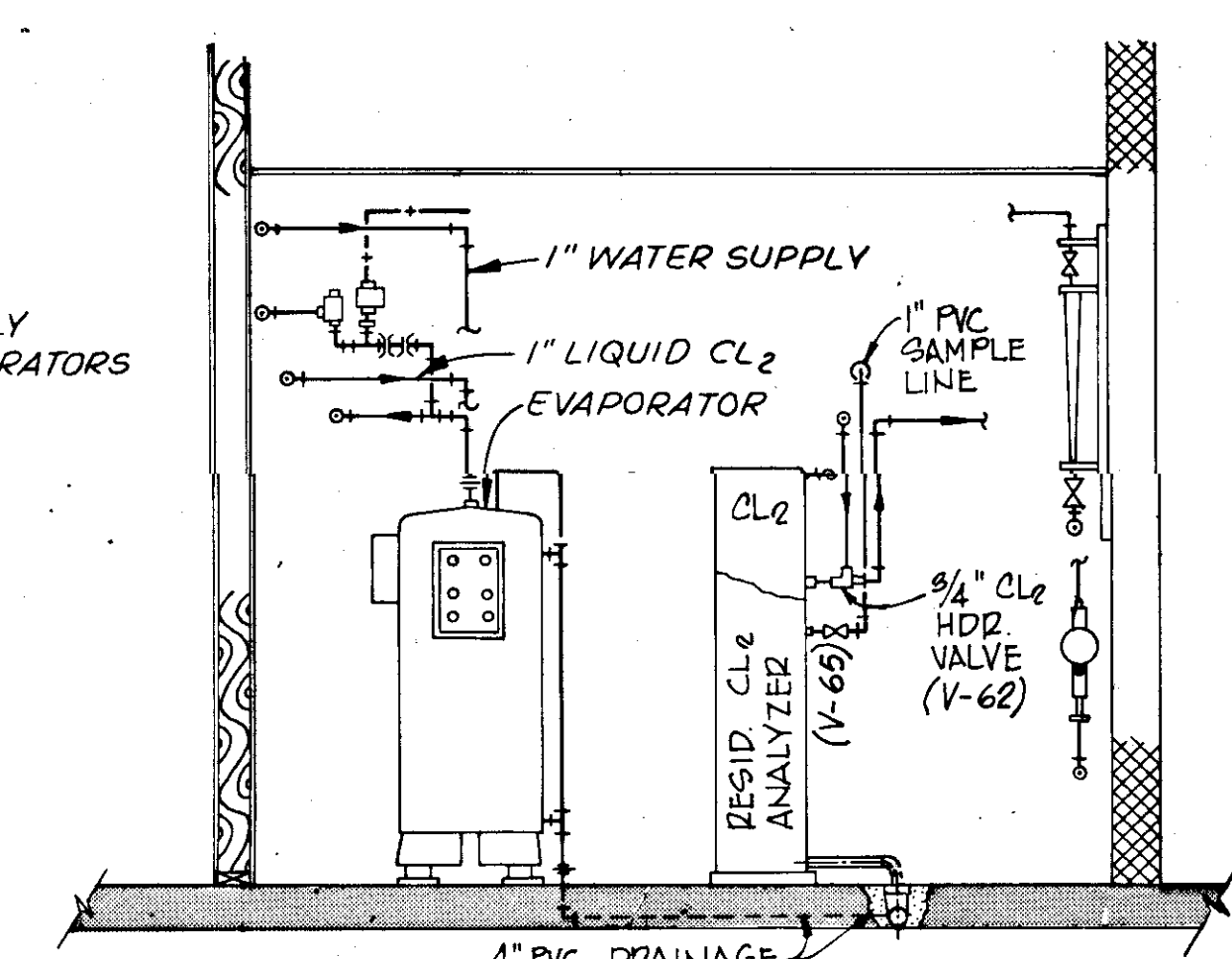
SECTION A  
SCALE: 1/4" = 1'-0"



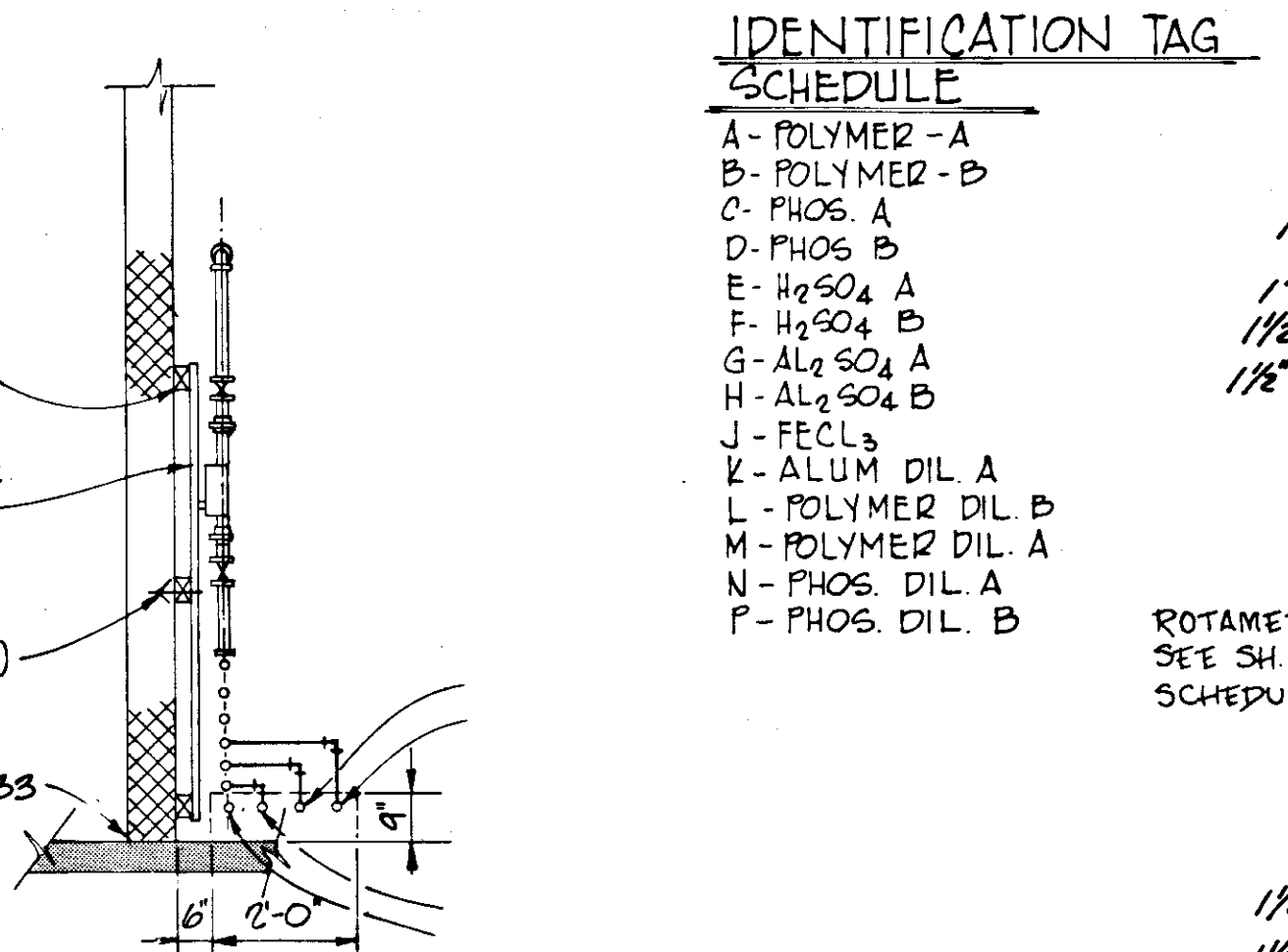
SECTION E  
SCALE: 1/4" = 1'-0"



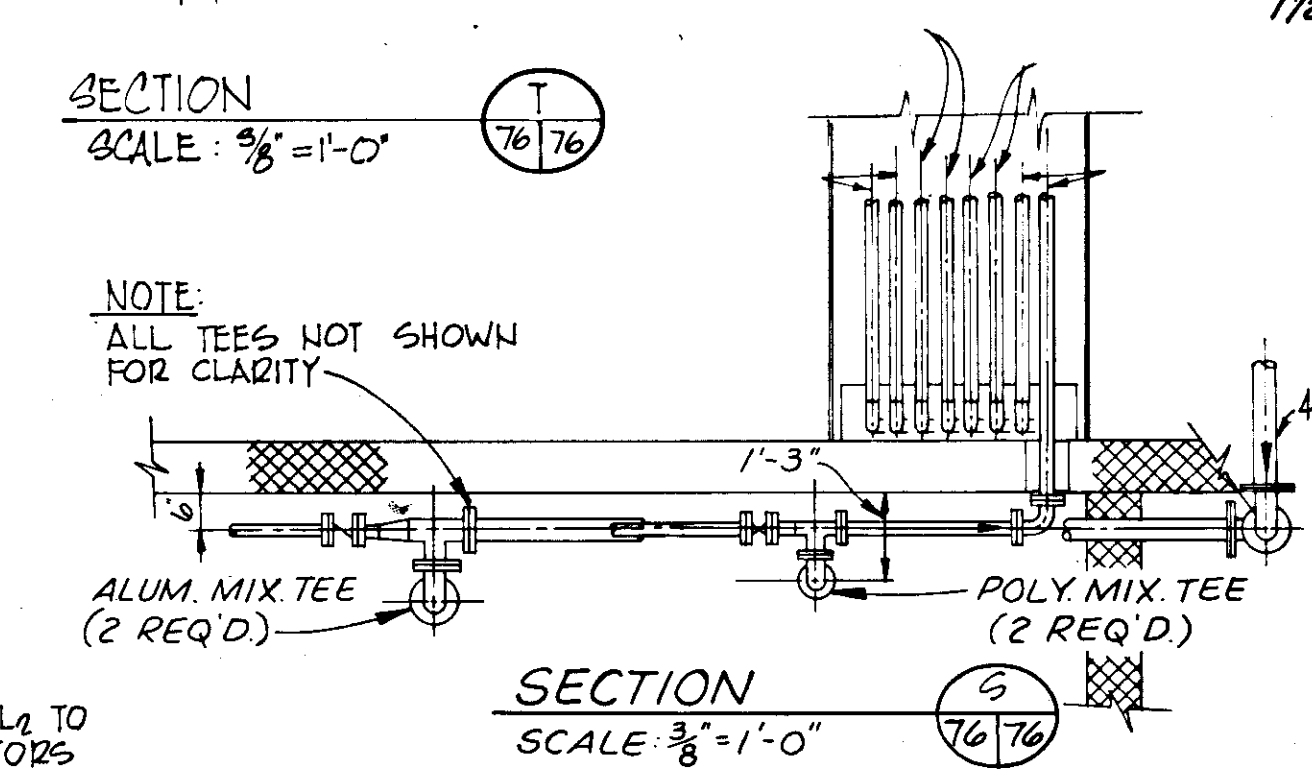
SECTION R  
SCALE: 3/8" = 1'-0"



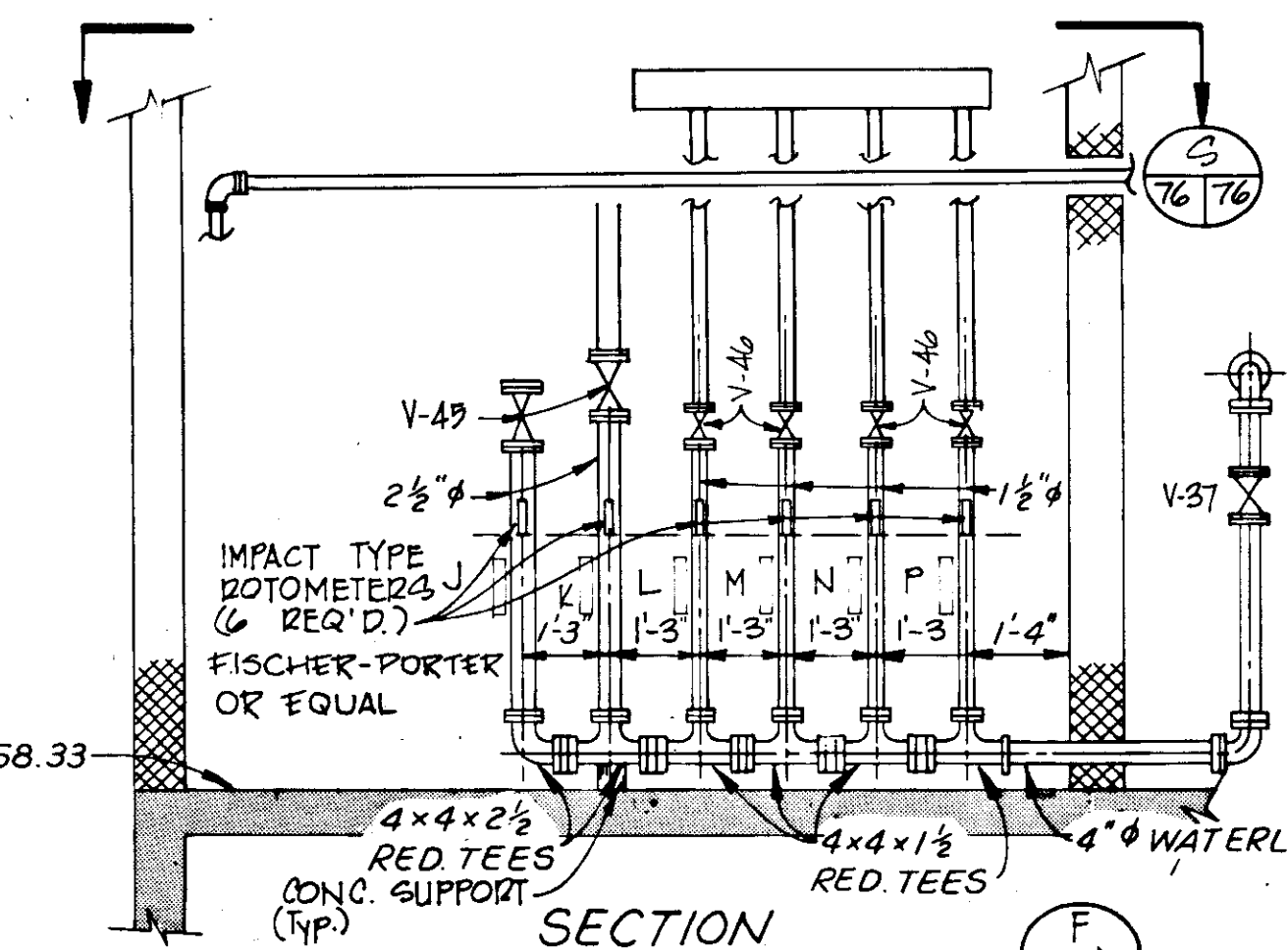
SECTION Q  
SCALE: 3/8" = 1'-0"



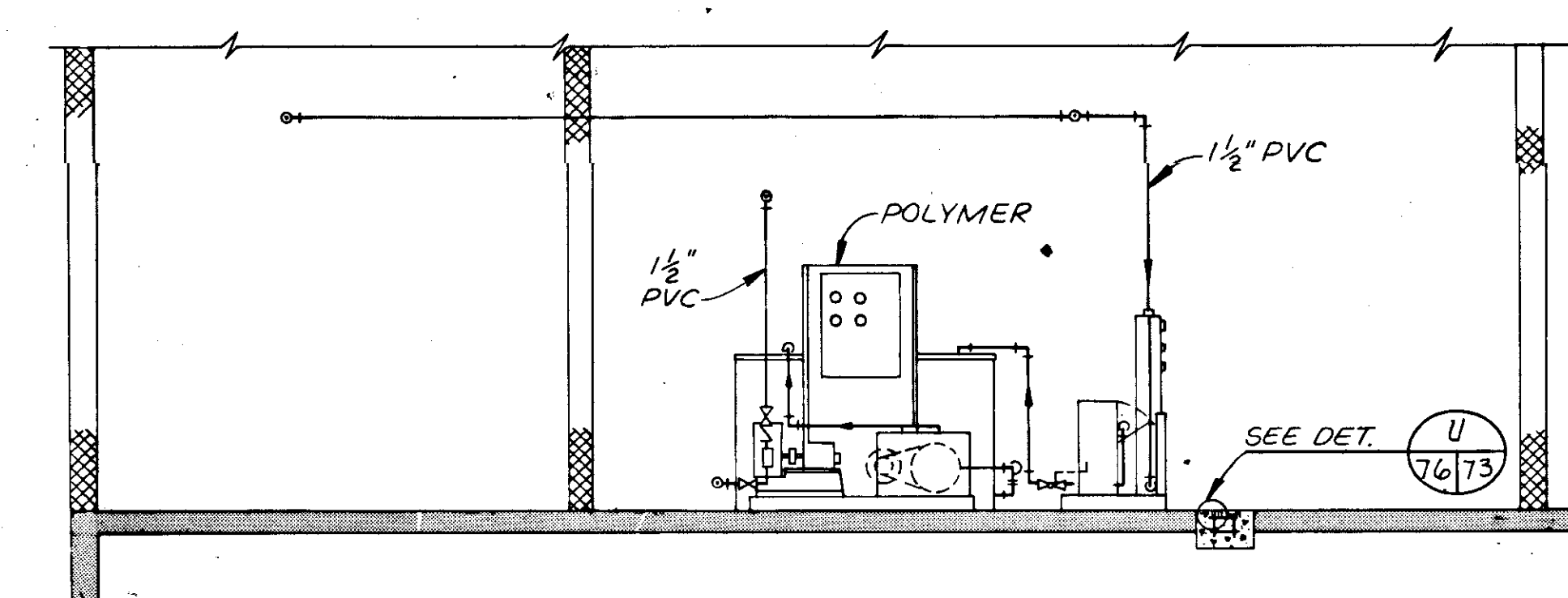
SECTION G  
SCALE: 3/8" = 1'-0"



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

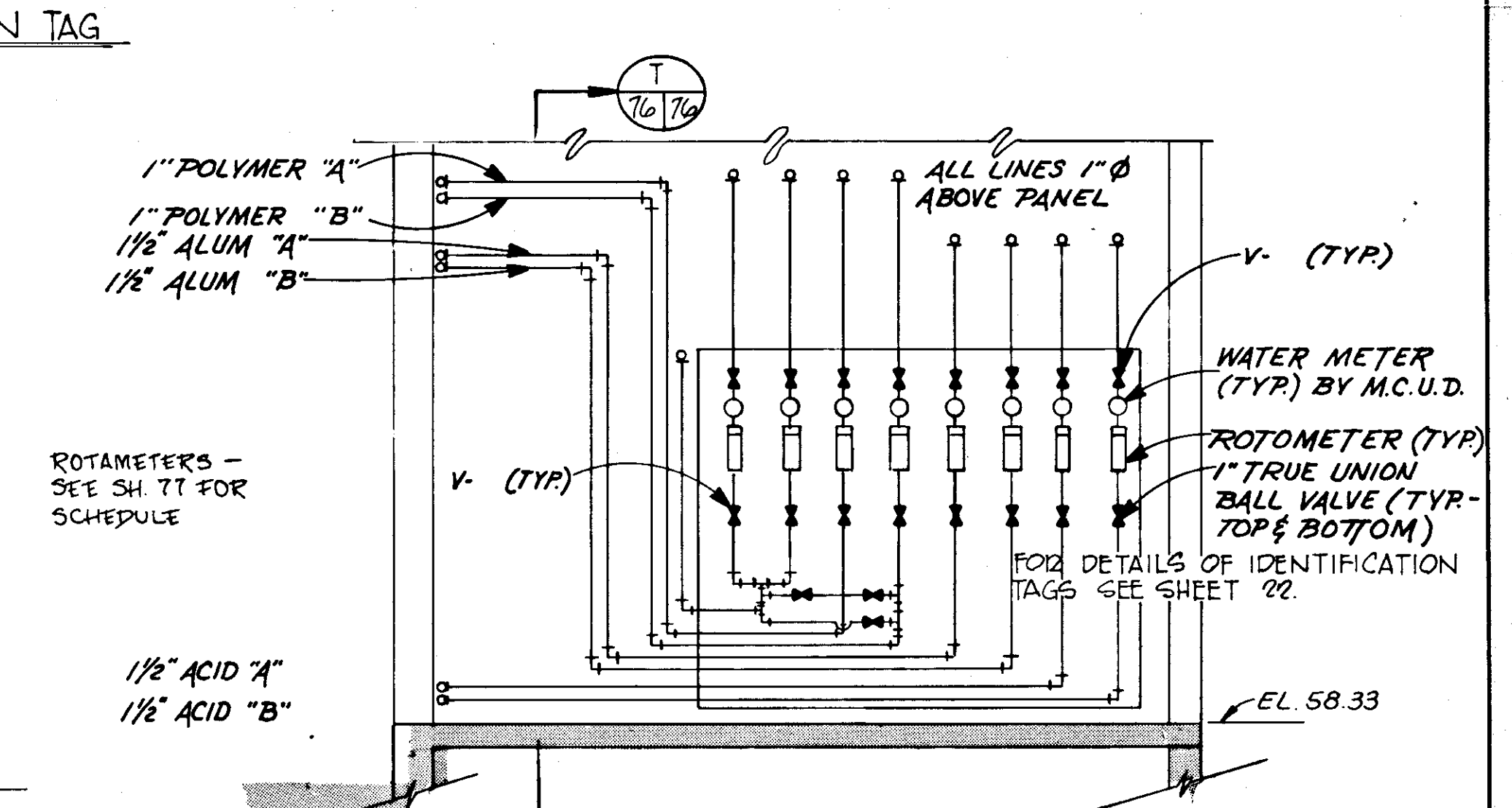


SECTION F  
SCALE: 3/8" = 1'-0"

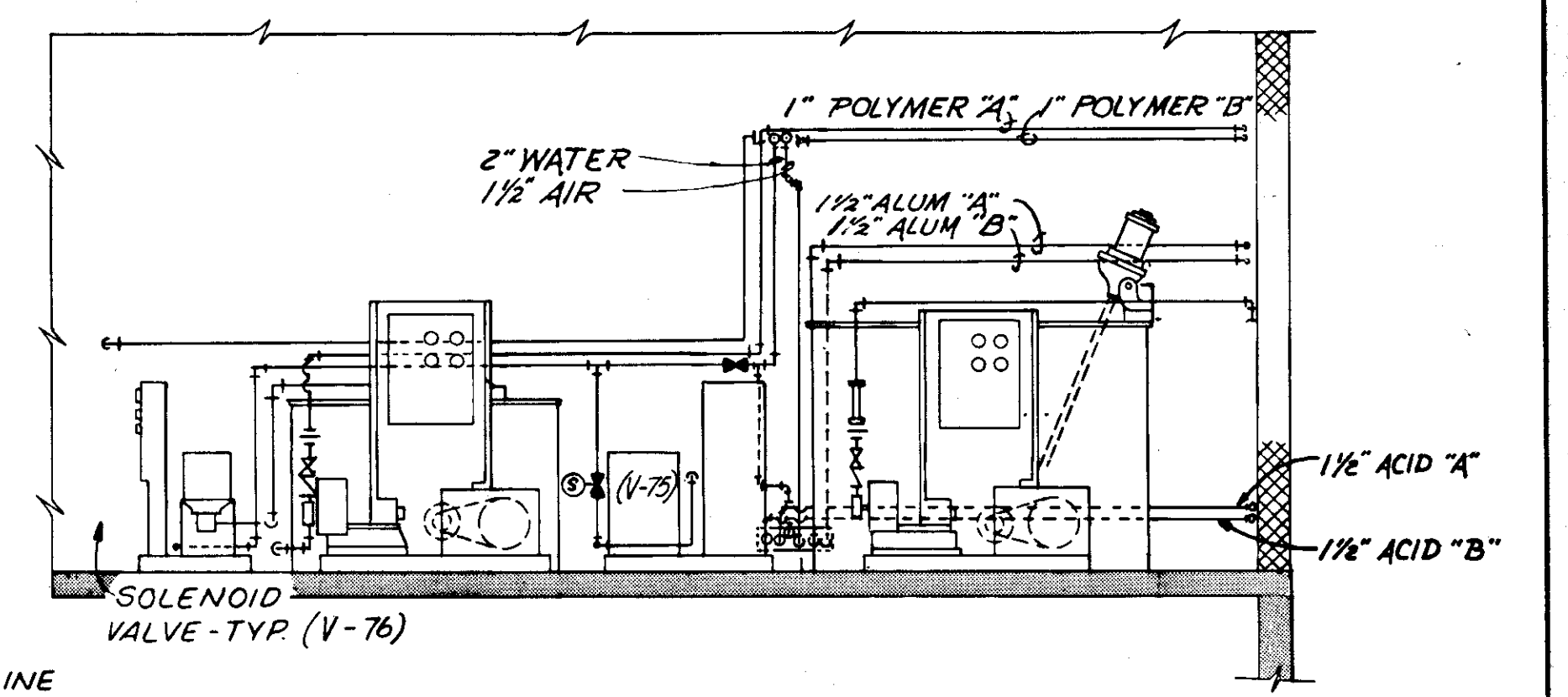


SECTION EX  
SCALE: 1/4" = 1'-0"

- IDENTIFICATION TAG SCHEDULE
- A - POLYMER - A
  - B - POLYMER - B
  - C - PHOS. A
  - D - PHOS. B
  - E - H<sub>2</sub>SO<sub>4</sub> A
  - F - H<sub>2</sub>SO<sub>4</sub> B
  - G - AL<sub>2</sub>SO<sub>4</sub> A
  - H - AL<sub>2</sub>SO<sub>4</sub> B
  - J - FECL<sub>3</sub>
  - K - ALUM DIL. A
  - L - POLYMER DIL. B
  - M - POLYMER DIL. A
  - N - PHOS. DIL. A
  - P - PHOS. DIL. B



SECTION T  
SCALE: 3/8" = 1'-0"



SECTION D  
SCALE: 1/4" = 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. [Signature]  
 M.C.U.S.

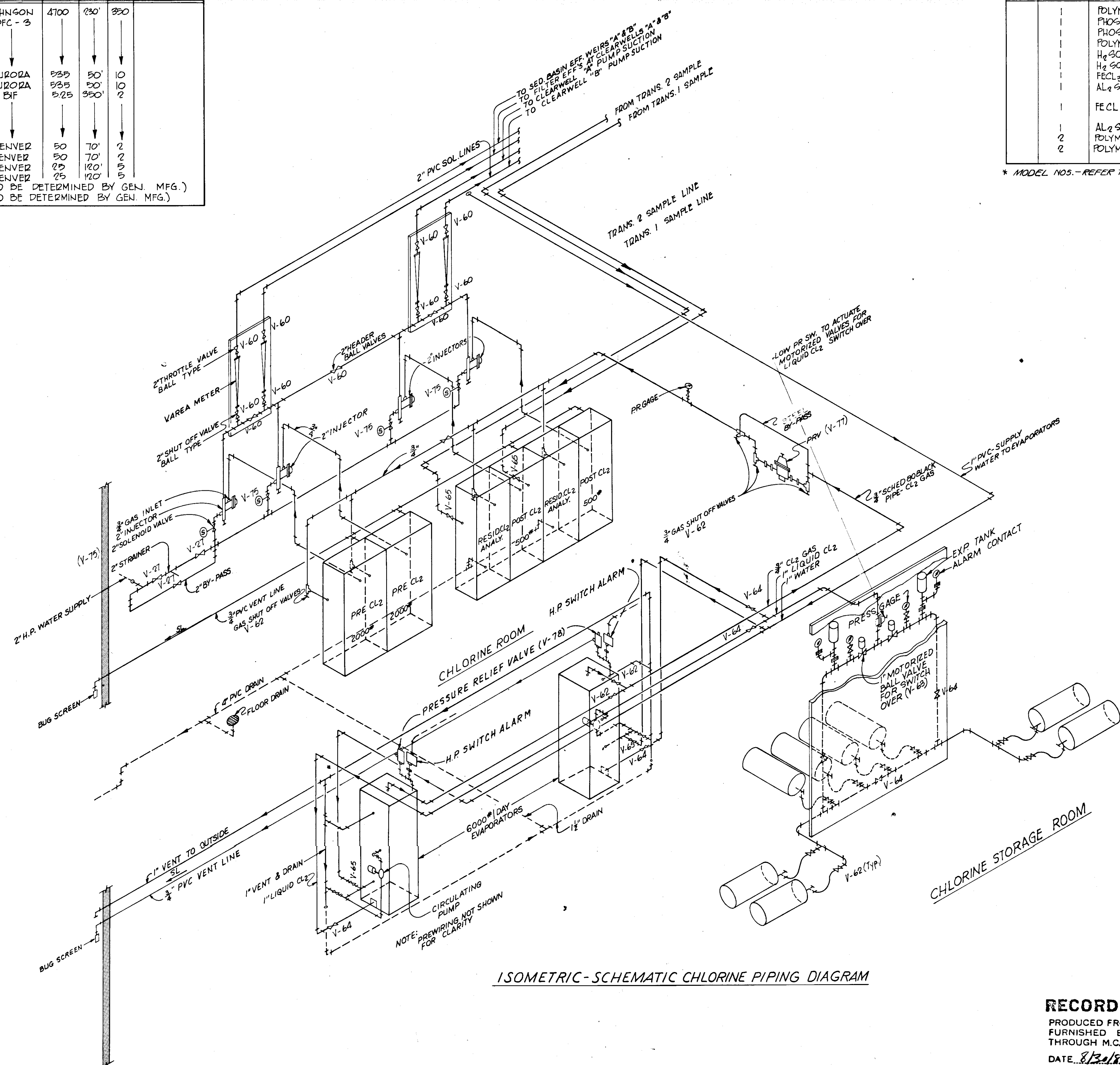
NO.	DATE	DESCRIPTION	BY	CKD.
5/79		GEN. REV.		AL
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
WATER WORKS PROJECT CHEMICAL FEED BUILDING SECTIONS				
MANATEE COUNTY, FLORIDA		FILE NO.	<b>T.76</b> SEAL	
DESIGNED BY	B.E.D.	630-761-04		
DRAWN BY	M.E.P.	SHEET M-3		
CHECKED BY		No. 76 OF 130 SHEETS		
DATE	AUGUST, 1978	SCALE: AS NOTED		

PUMP SCHEDULE							
PUMP	SERVICE	TYPE	MFG. & MODEL NO.	FLOW GPM	T.D.H.	HP	REMARKS
P-1	TRANSFER	VERT. TURBINE	JOHNSON 20FC-3	4700	130'	350	
P-2							
P-3							
P-4							
P-5							
P-6	PLT. WATER	CENTRIF.	AURORA	535	50'	10	
P-7	"	CENTRIF.	AURORA	535	50'	10	
P-8	ALUM & FECL <sub>3</sub>	POS. DISP.	BIF	525	350'	2	
P-9	ALUM & FECL <sub>3</sub>						
P-10	ALUM & FECL <sub>3</sub>						
P-11	ACID						
P-12	ACID						
P-13	LIME RECIRC.	CENTRIF.	DENVER	50	70'	2	
P-14	LIME RECIRC.	CENTRIF.	DENVER	50	70'	2	
P-15	CARBON FEED	CENTRIF.	DENVER	25	120'	5	
P-16	CARBON FEED	CENTRIF.	DENVER	25	120'	5	
P-17	EMER. GEN. FUEL	CENTRIF.					(TO BE DETERMINED BY GEN. MFG.)
P-18	EMER. GEN. FUEL	CENTRIF.					(TO BE DETERMINED BY GEN. MFG.)

ROTAMETER SCHEDULE										
PART NO.	NO. REQUIRED	SERVICE	RANGE	SIZE	TUBE SIZE	MATL.	MOD. NO.	SP. GR.	REMARKS	
	1	POLYMER FEED 'A'	03-7GPM	3/4" NPT	1"	316SS	10A1755	1.0		
	1	PHOSPHATE 'A'	03-7GPM	3/4" NPT	1"	316SS	10A1755	1.0		
	1	PHOSPHATE 'B'	03-7GPM	3/4" NPT	1"	316SS	10A1755	1.0		
	1	POLYMER FEED 'B'	03-7GPM	3/4" NPT	1"	316SS	10A1755	1.0		
	1	H <sub>2</sub> SO <sub>4</sub> FEED 'A'	00-4GPM	3/4" NPT	3/4"	316SS	1755	1.84	HASTELOY FLOAT	
	1	H <sub>2</sub> SO <sub>4</sub> FEED 'B'	00-4GPM	3/4" NPT	3/4"	316SS	1755	1.84	HASTELOY FLOAT	
	1	FECL <sub>3</sub> FEED 'A' & 'B'	025-2GPM	1/2" NPT	1/2"	HASTELOY	1755A	1.34	HASTELOY FLOAT	
	1	AL <sub>2</sub> SO <sub>4</sub> FEED 'A' & 'B'	03-7GPM	3/4" NPT	3/4"	HASTELOY	10A1755	0.65	GLASS TUBE	
	1	FECL <sub>3</sub> SOL WATER	20-200GPM	2" NPT	3"	AL BODY	71K1021A	1.0	GLASS IMPACT	
	1	AL <sub>2</sub> SO <sub>4</sub> SOL WATER	10-200GPM	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'						
P-27	SLUDGE TRANSFER 'A'				23.5	7.5	
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							
P-35							
P-36							
P-37	CARBON SLURRY RECIRC.	CENTRIF.		40	50	2	
P-38	CARBON SLURRY RECIRC.	CENTRIF.		40	50	2	

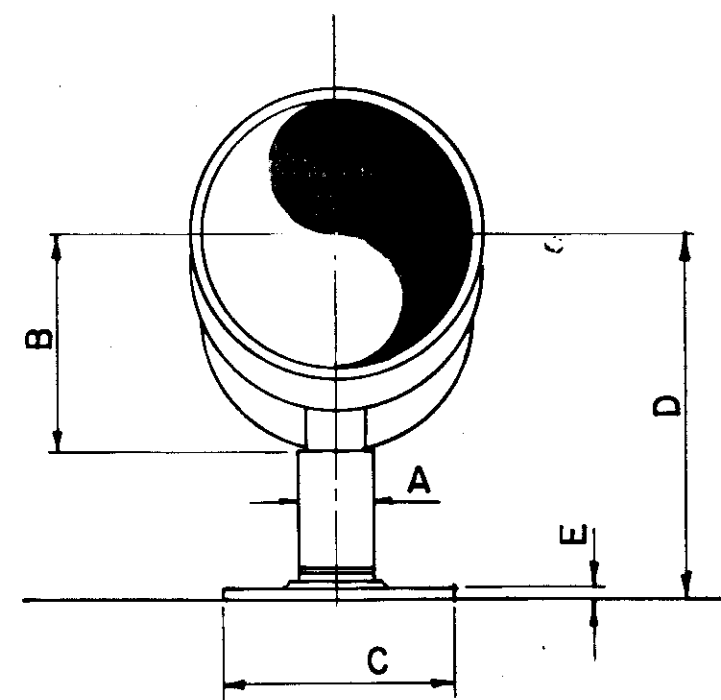


ISOMETRIC-SCHEMATIC CHLORINE PIPING DIAGRAM

**RECORD DRAWING**

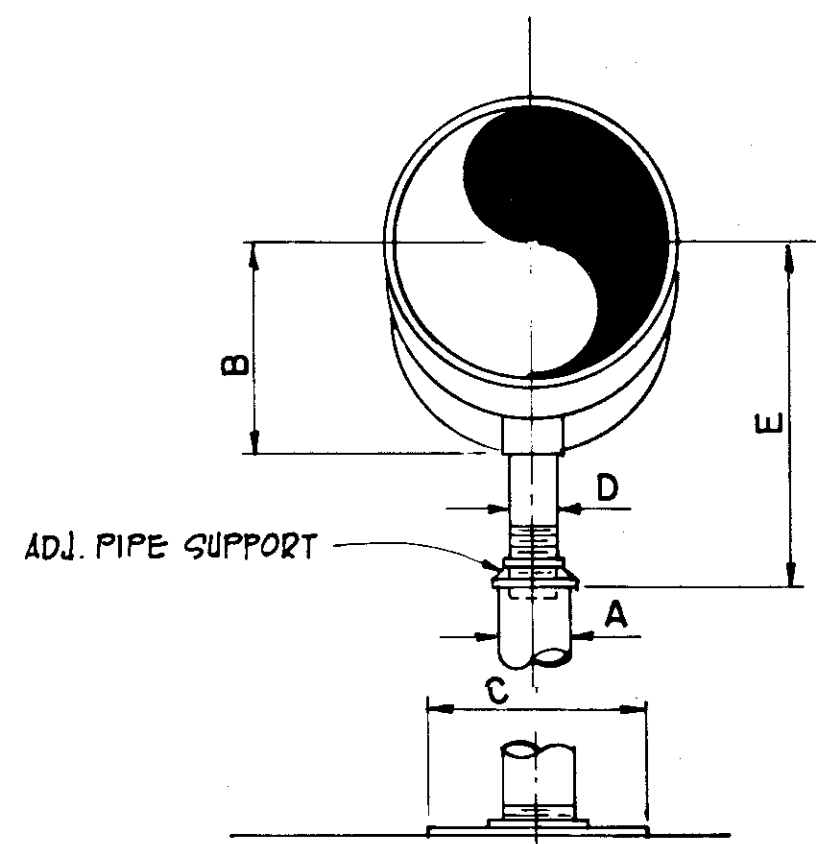
PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.  
 DATE 8/13/78 BY K.P.A.  
 CHECKED BY:  
 R & A [Signature]  
 M.C.U.S.

5/79	GEN. REVISIONS	AL		
NO.	DATE	DESCRIPTION	BY	CKD.
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
WATER WORKS PROJECT CHEMICAL FEED BUILDING ISOMETRIC & SCHEDULES				
<b>F-77</b> FLORIDA				
MANATEE COUNTY, FLORIDA		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.		



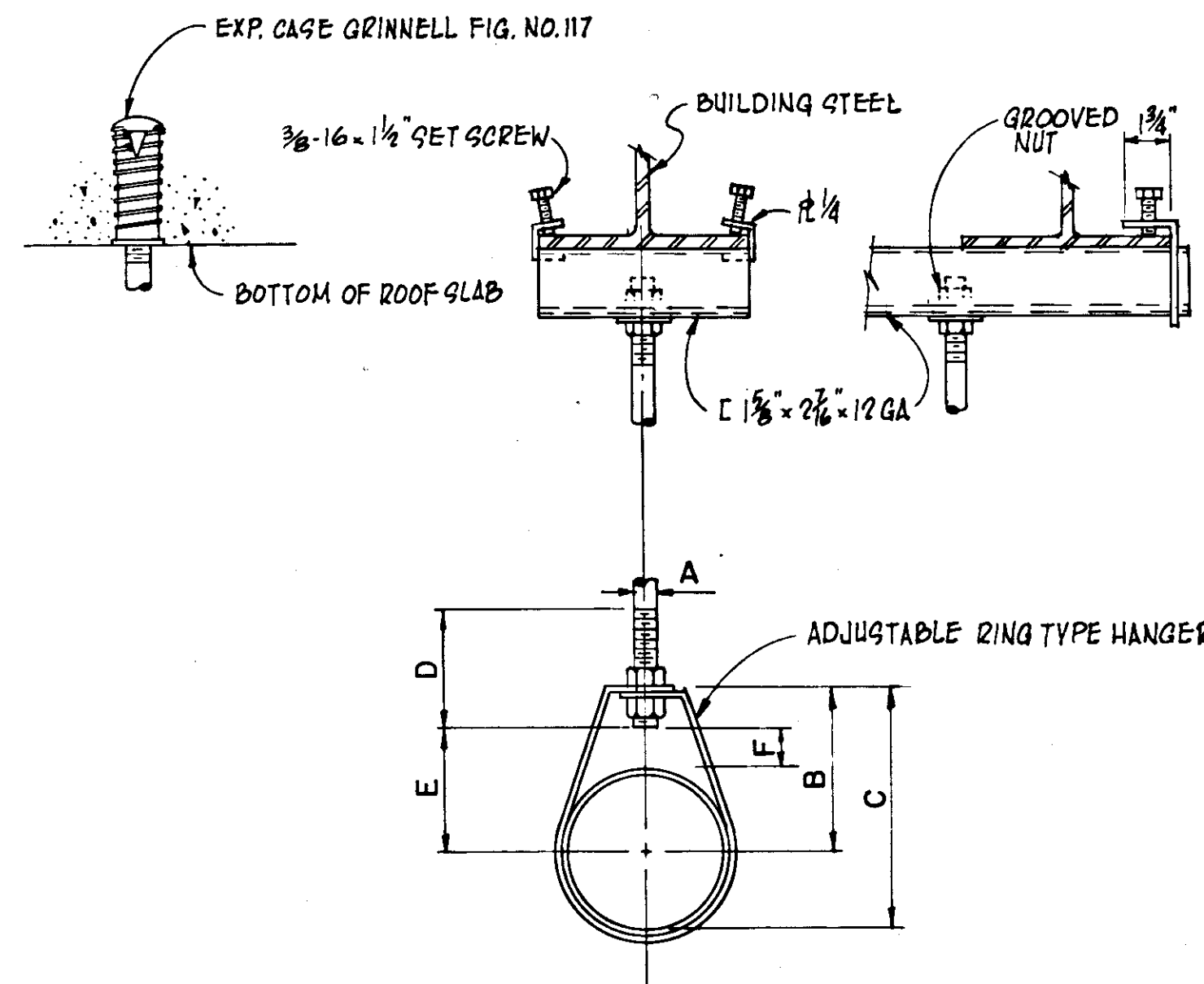
PIPE SIZE	A	B	C	D	E
2"	1 1/2"	3 1/2"	9"	12"	3/8"
4"	2 1/2"	4 1/2"	9"	12"	1/2"
6"	2 1/2"	5 1/2"	9"	12"	1"
8"	2 1/2"	6 1/2"	9"	12"	1 1/8"

PIPE SUPPORT - TYPE "E"



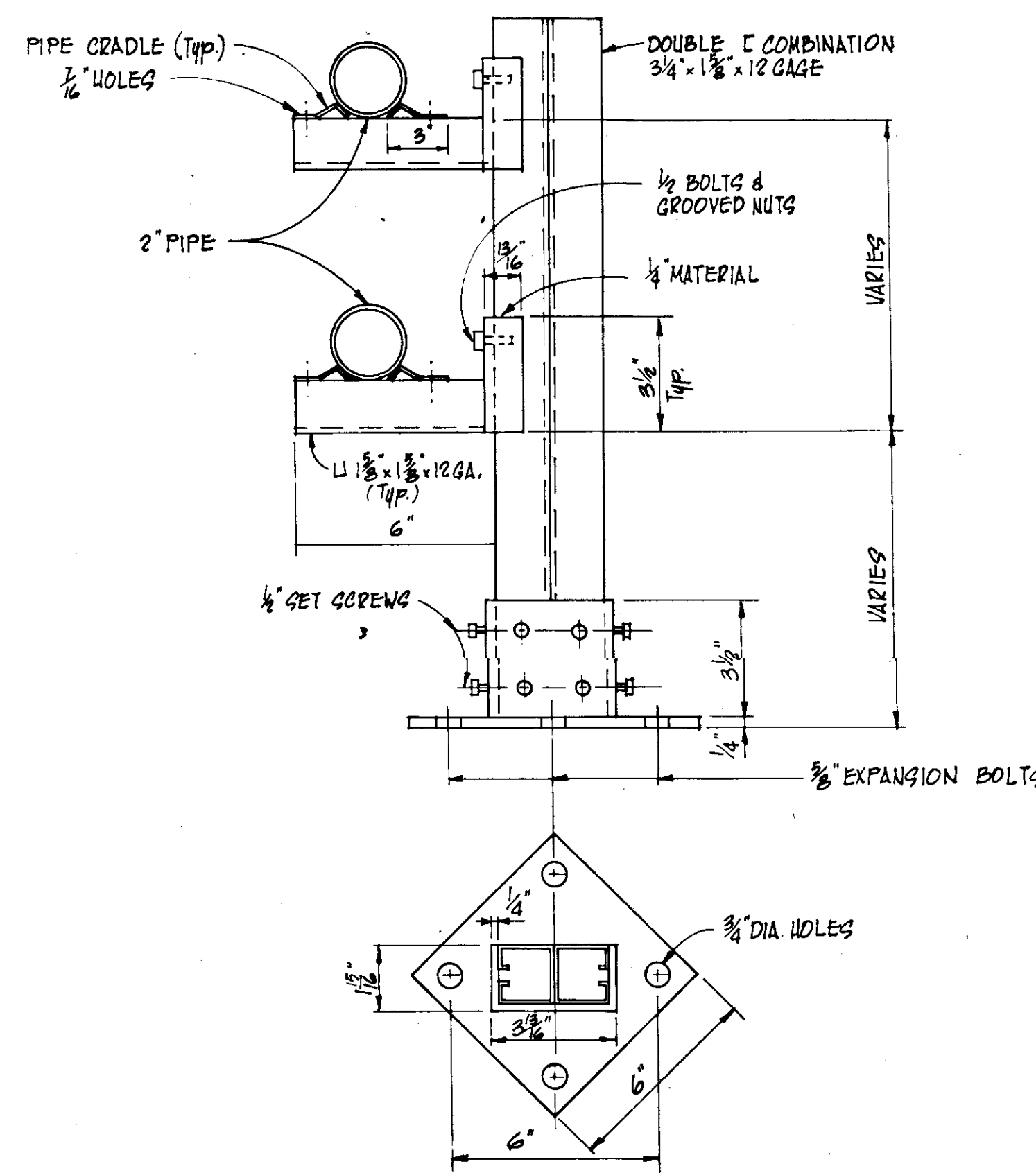
PIPE SIZE	A	B	C	D	E	
					MIN.	MAX.
4"	3"	4 1/2"	9"	2 1/2"	9 1/4"	14"
6"	3"	5 1/2"	9"	2 1/2"	10 1/2"	15 1/2"
8"	3"	6 1/2"	9"	2 1/2"	11 1/4"	16 1/2"

ADJUSTABLE PIPE SUPPORT

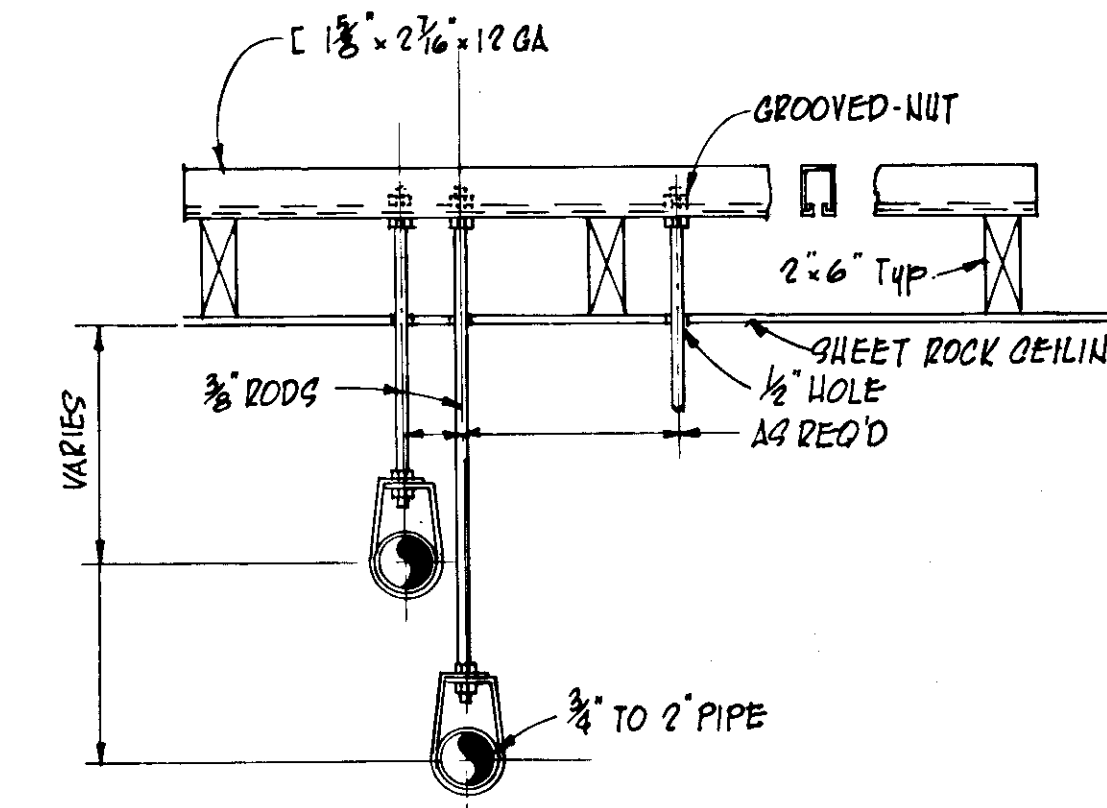
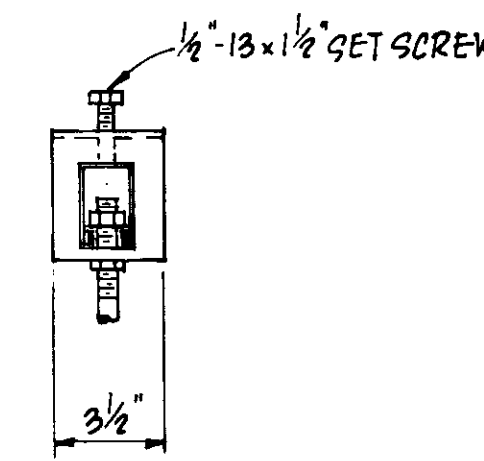


PIPE SIZE	MINIMUM DIMENSIONS						MAX. SPACING
	A	B	C	D	E	F	
1"	3/8"	2 3/8"	2 1/2"	2 1/2"	1 1/8"	1"	10'-0"
1 1/2"	3/8"	2 3/4"	3 1/4"	2 1/2"	1 1/8"	1 1/4"	10'-0"
2"	3/8"	3"	4 1/4"	2 1/2"	2 3/8"	1 1/2"	10'-0"
2 1/2"	1/2"	3 3/8"	5 3/8"	3 1/2"	3"	1 3/4"	10'-0"
3"	1/2"	4 1/4"	6"	3 1/2"	3 3/8"	1 3/4"	12'-0"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

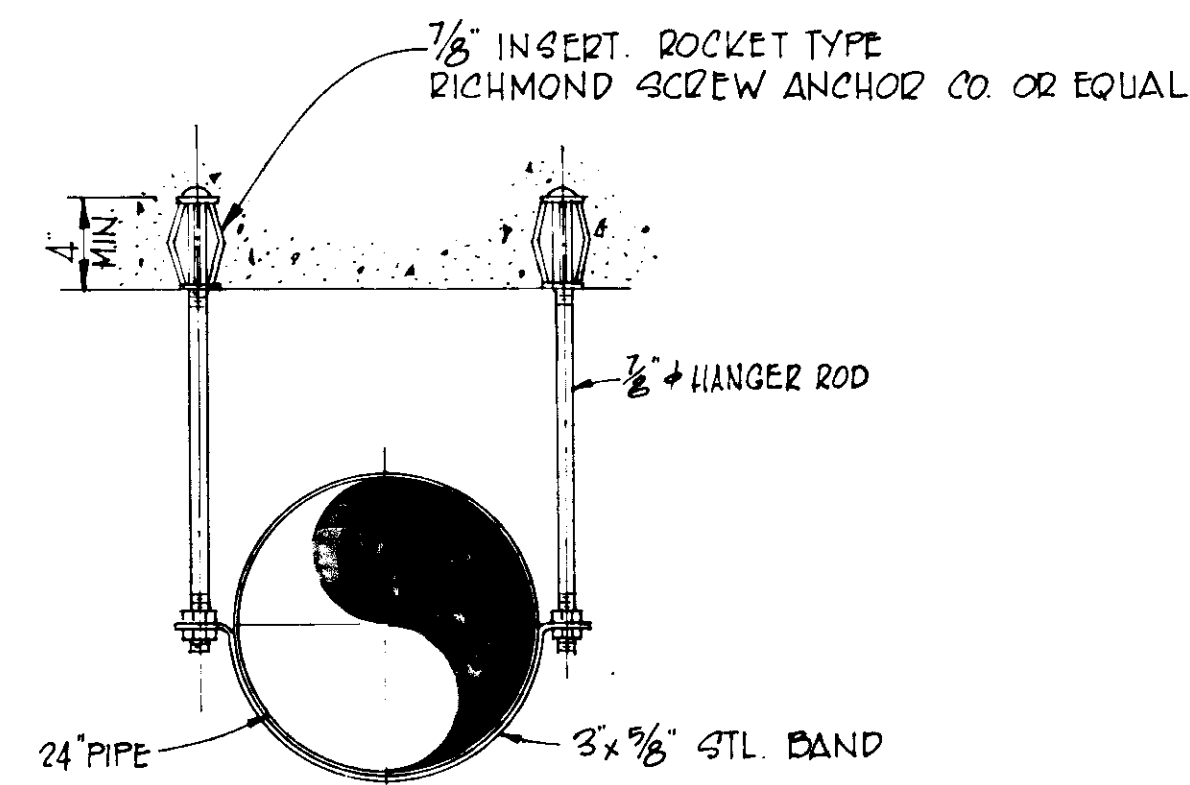


PIPE SUPPORT - TYPE "G"

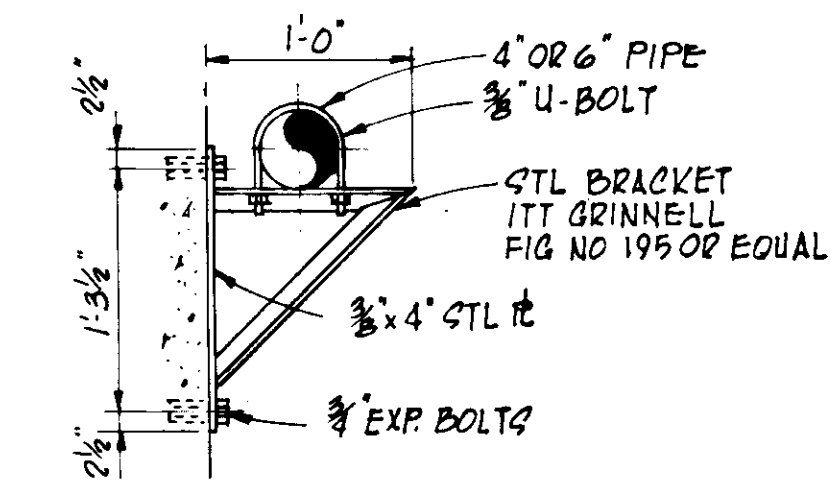


PIPE HANGER - TYPE "J"

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 MANUFACTURER'S EQUIPMENT & ALL OTHER PIPING, SHALL BE FURNISHED & INSTALLED IN ACCORDANCE WITH THE BEST ETHICS SUITABLE TO THE ENGINEER.

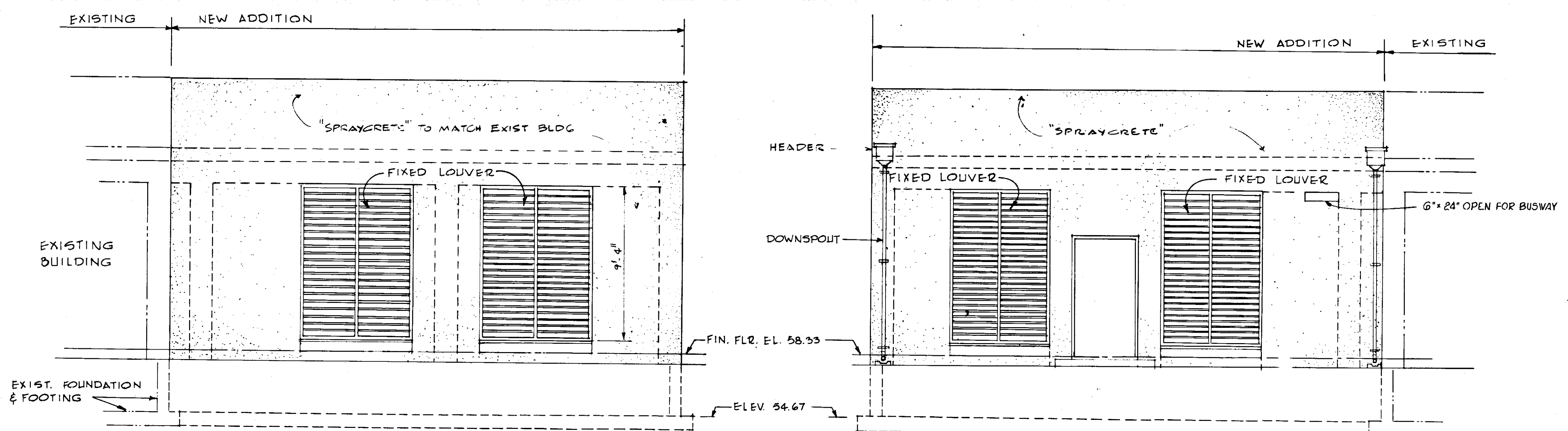
**RECORD DRAWING**

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

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

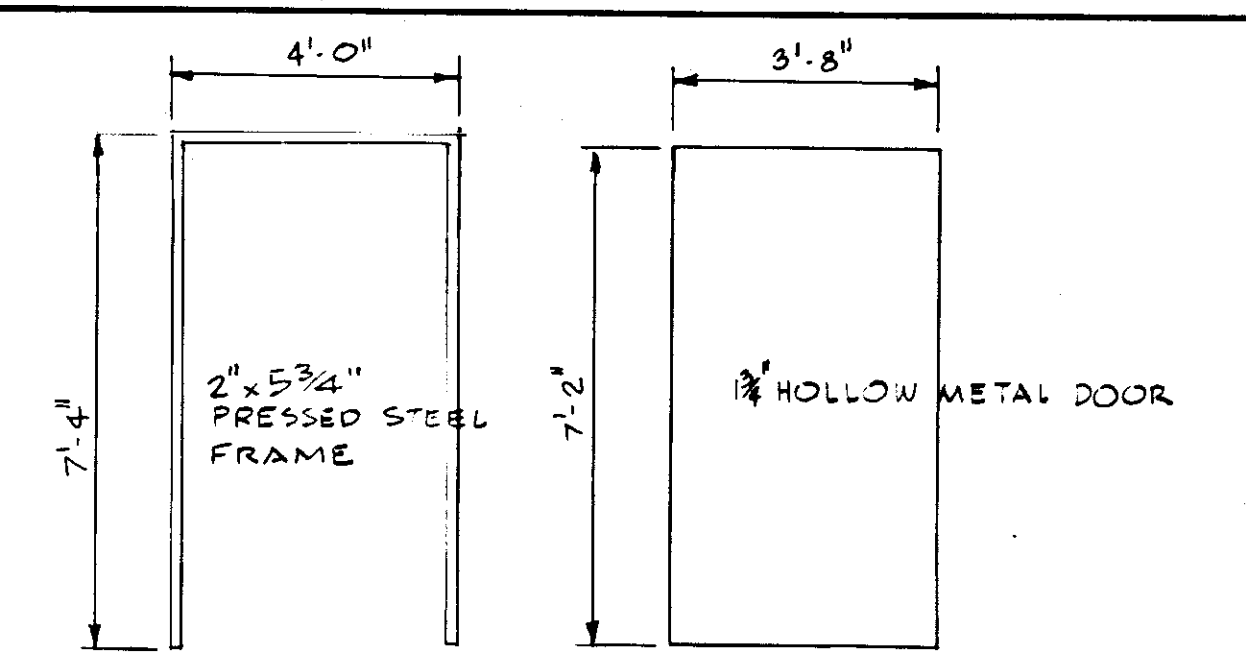
R & A [Signature]  
M.C.U.S.

NO.	DATE	DESCRIPTION	BY	CKD.
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT PIPE HANGER DETAILS				
MANATEE COUNTY,		FILE No.	<b>T-78</b> FLORIDA <b>SEAL</b>	
DESIGNED BY	R.D.H.	630-761-04		
DRAWN BY	ET	SHEET M 5	No. <b>(78)</b> SHEETS	
CHECKED BY		OF 130		
DATE	AUGUST, 1978	SCALE: NOT TO SCALE		

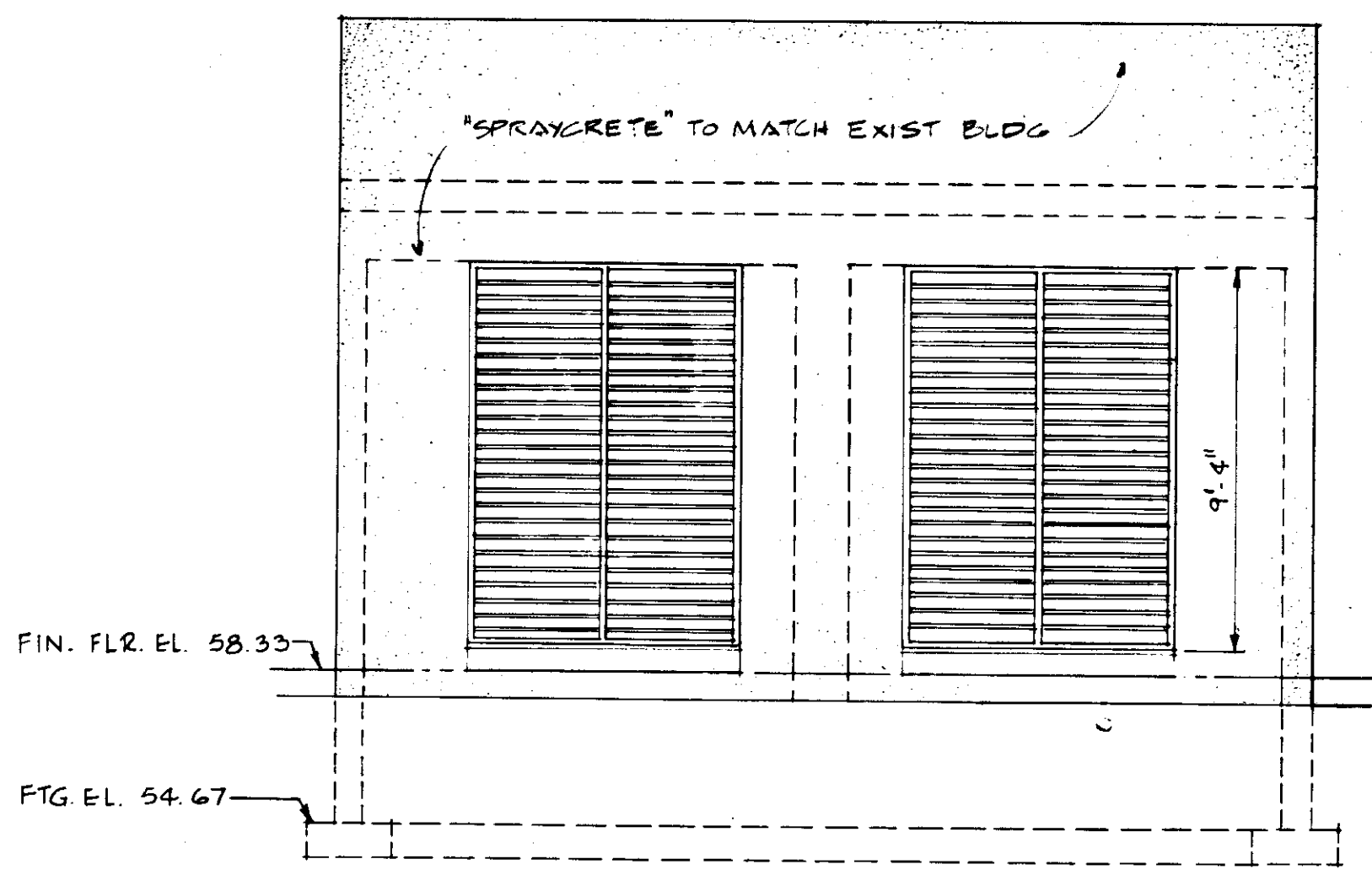


**SOUTH ELEVATION**  
SCALE: 1/4" = 1'-0"

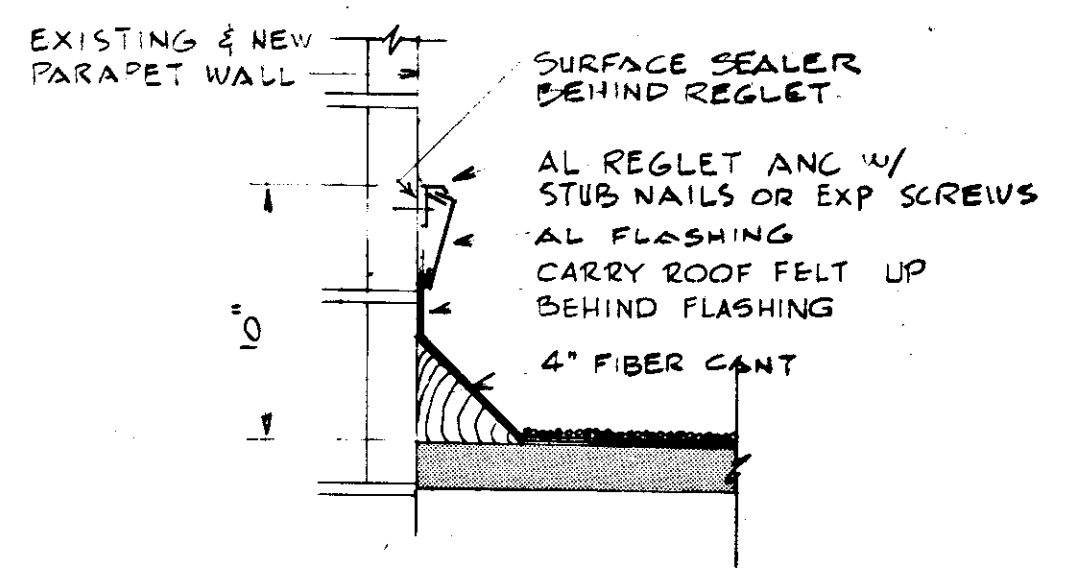
**NORTH ELEVATION**  
SCALE: 1/4" = 1'-0"



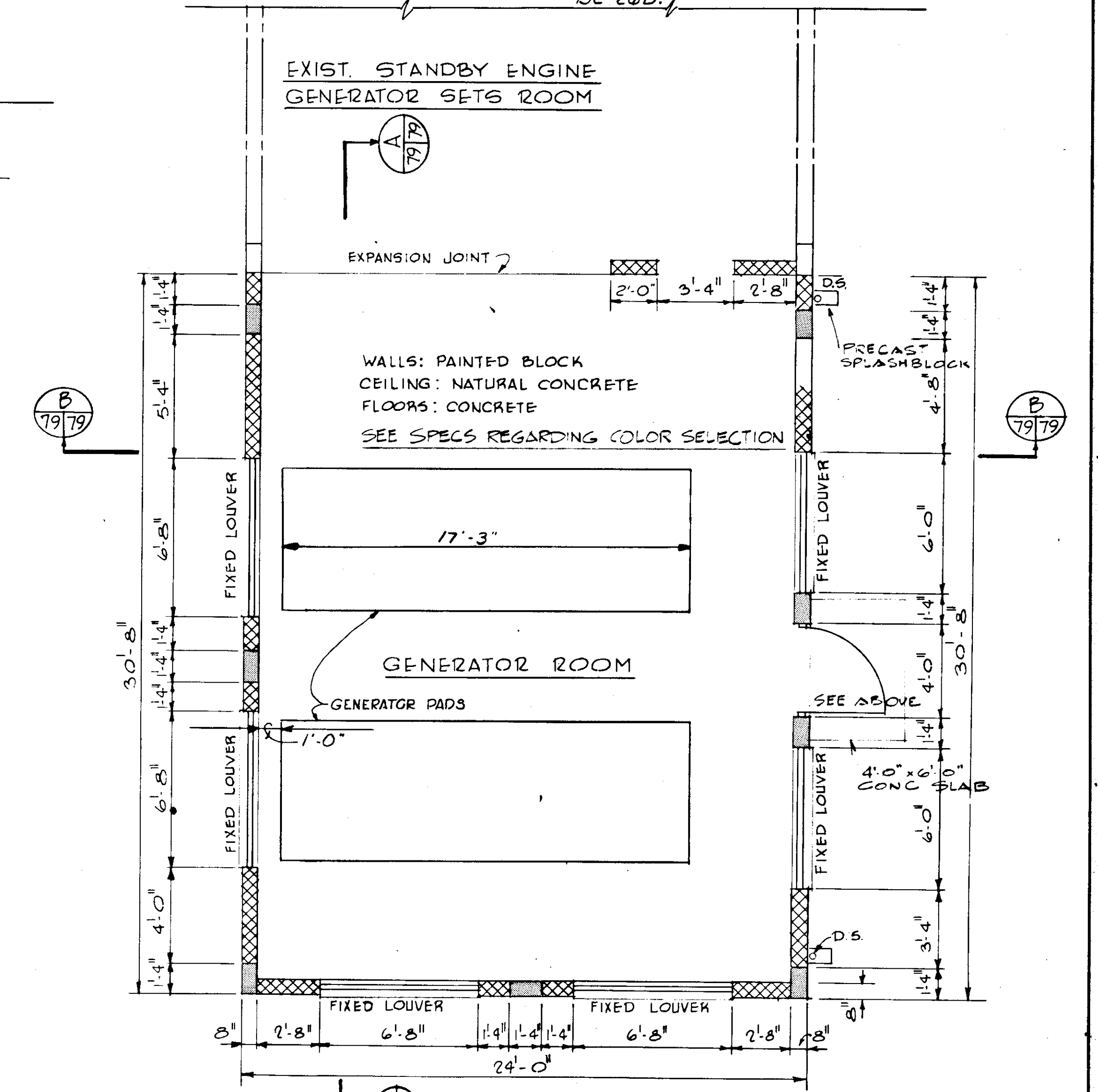
**DOOR & FRAME ELEVATIONS**  
SCALE: 3/8" = 1'-0"  
NOTE: FOR HARDWARE FOR 3'-8" x 7'-2" HOLLOW METAL DOOR IN METAL FRAME PROVIDE LOCK 8 GOS, CLOSURE SERIES 50, FINISH SHALL BE 26D.



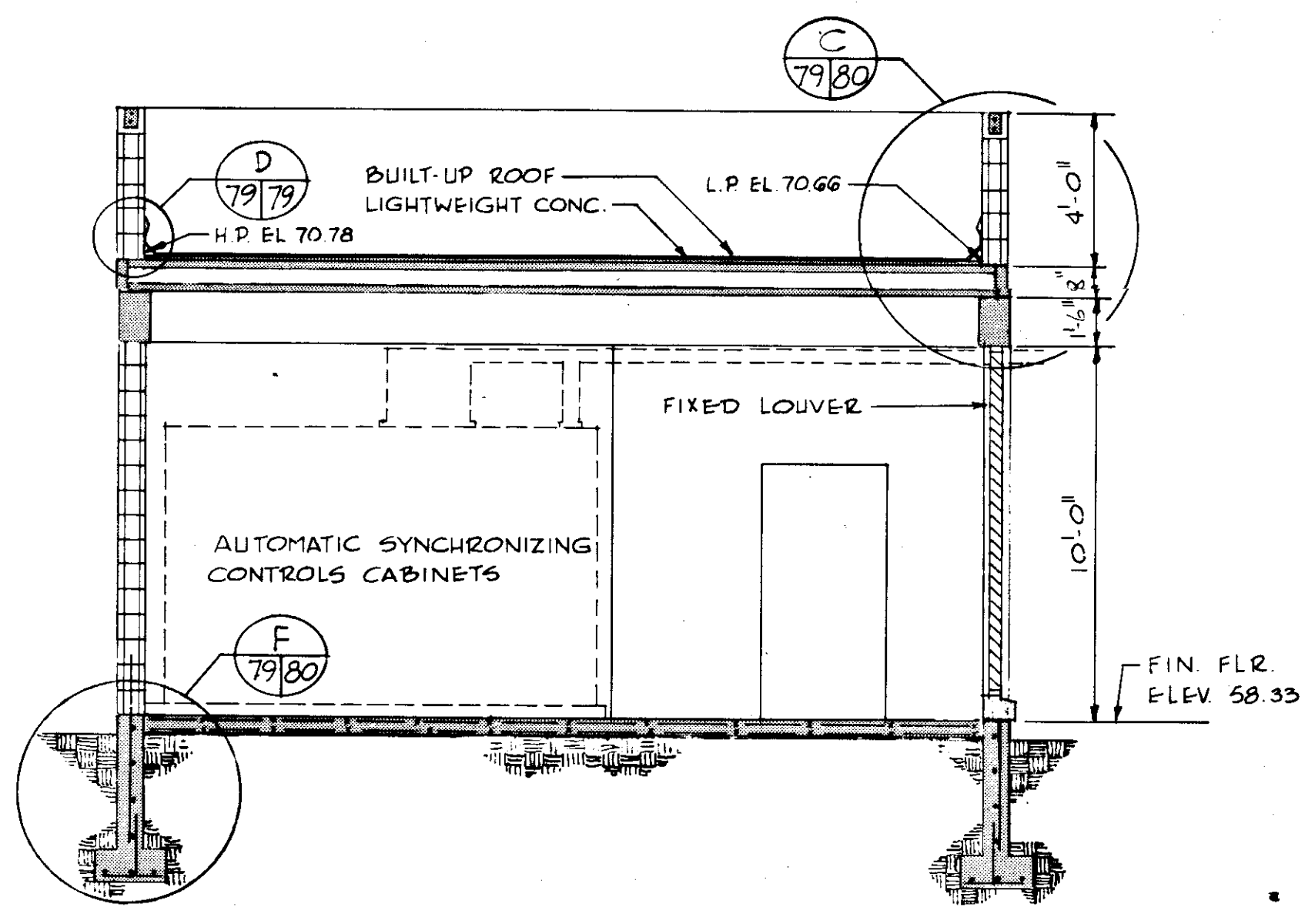
**EAST ELEVATION**  
SCALE: 1/4" = 1'-0"



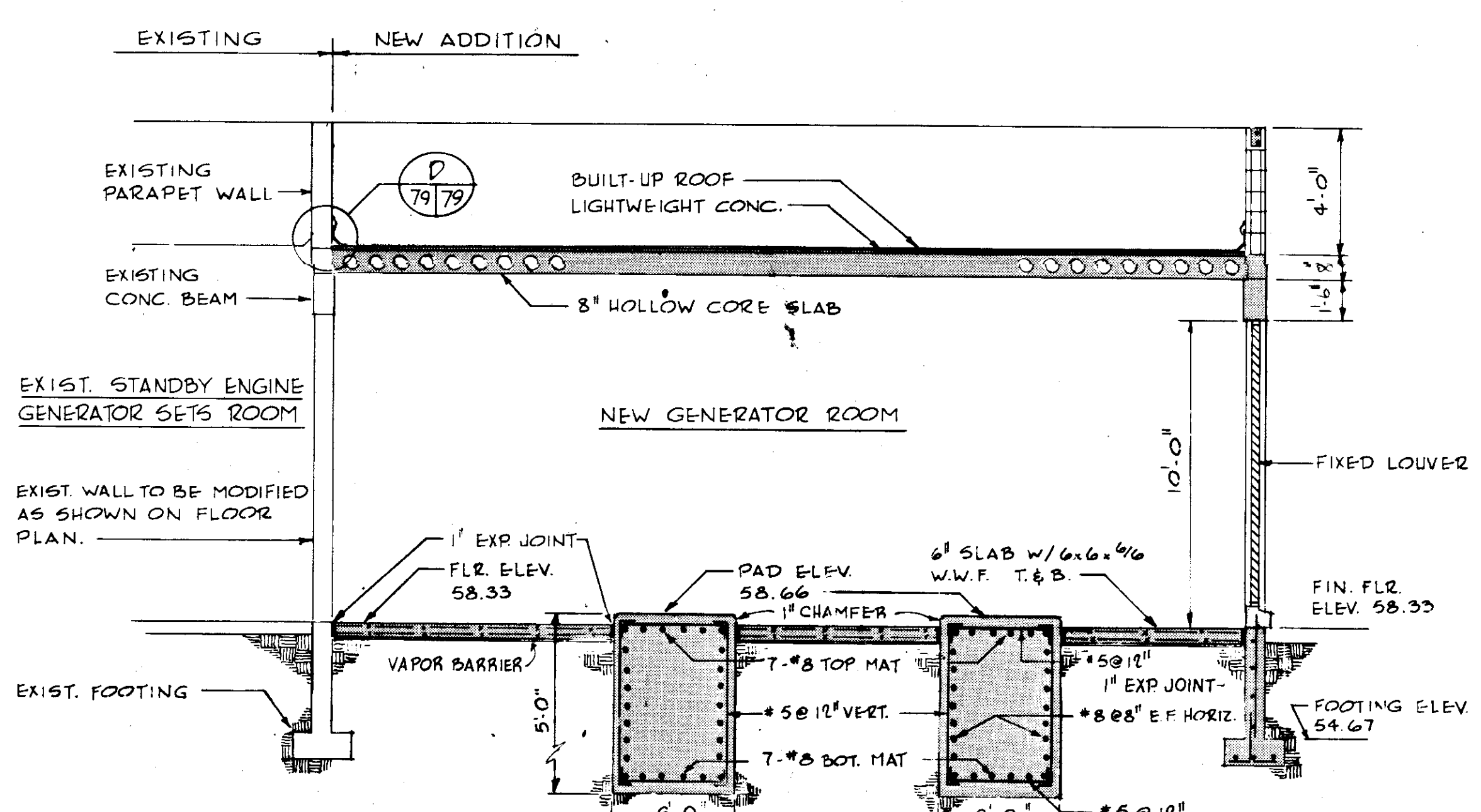
**FLASHING DETAIL**  
SCALE: 1/2" = 1'-0"  
DETAIL E NOT USED



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



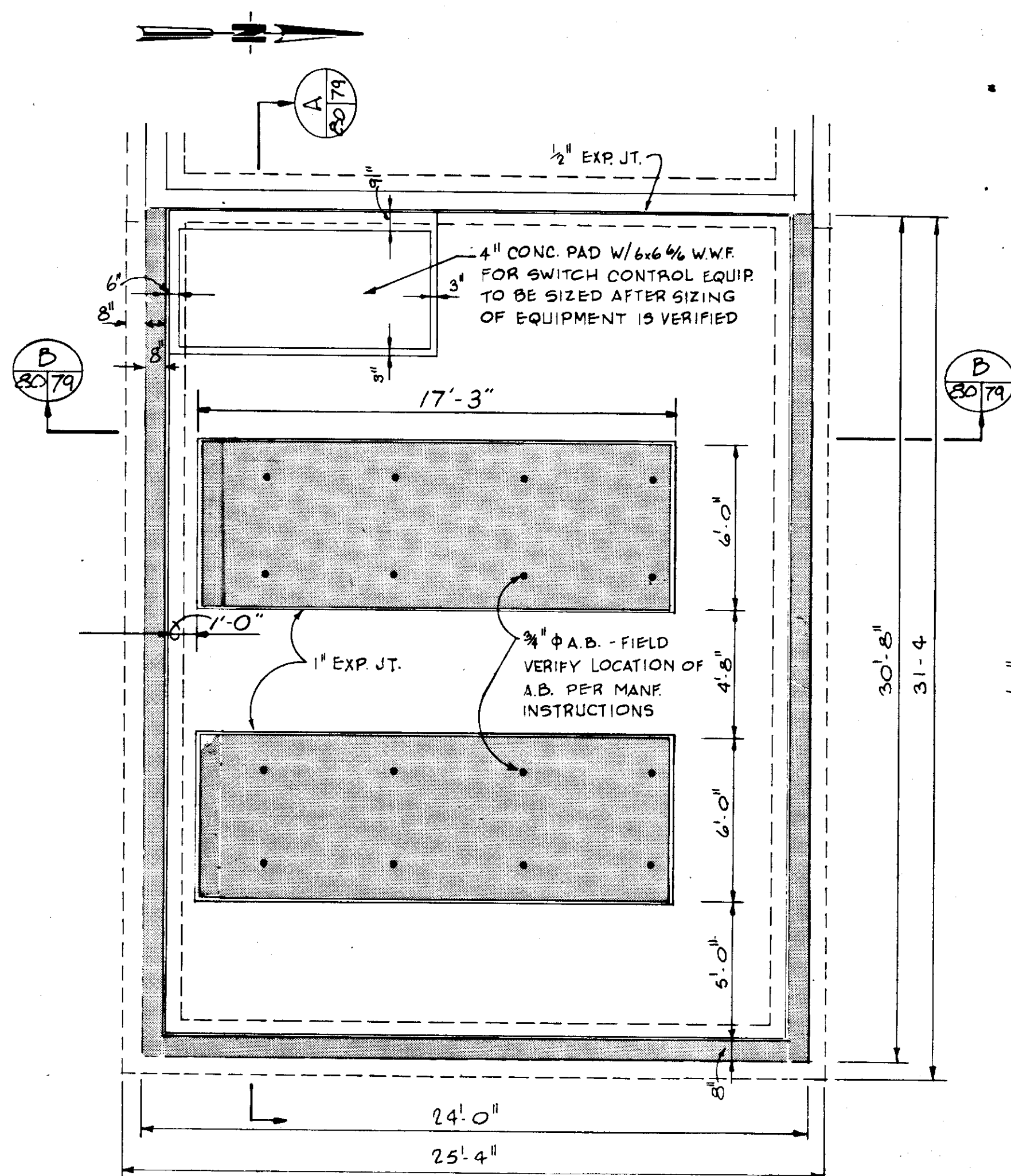
**SECTION**  
SCALE: 1/4" = 1'-0"



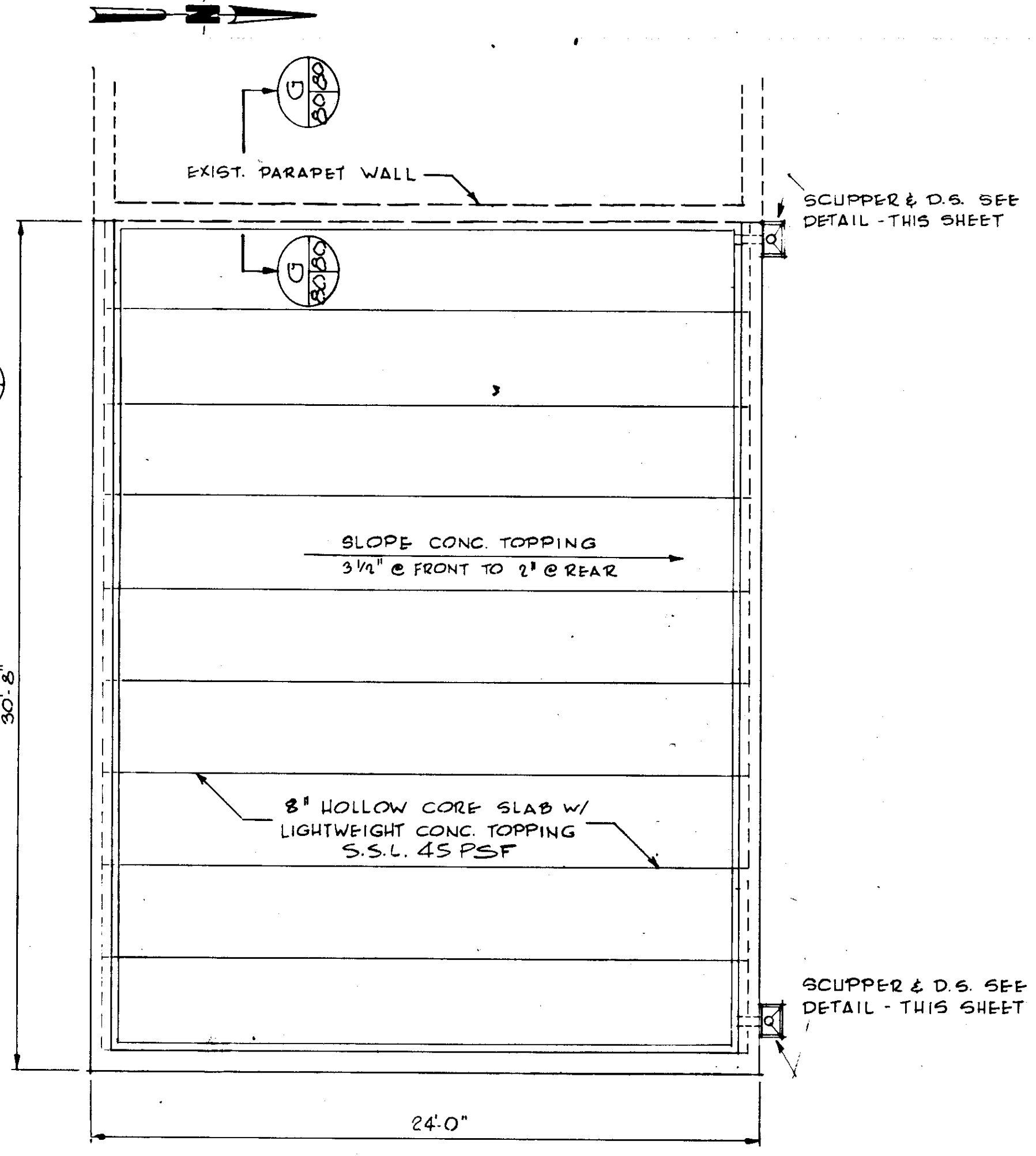
**SECTION**  
N.T.S.

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

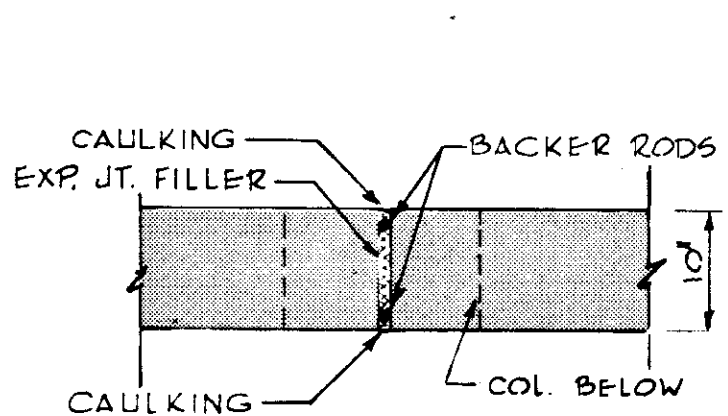
**RECORD DRAWING**  
PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.  
DATE 8/30/78 BY K.P.R.  
CHECKED BY:  
R & A  
M.C.U.S.



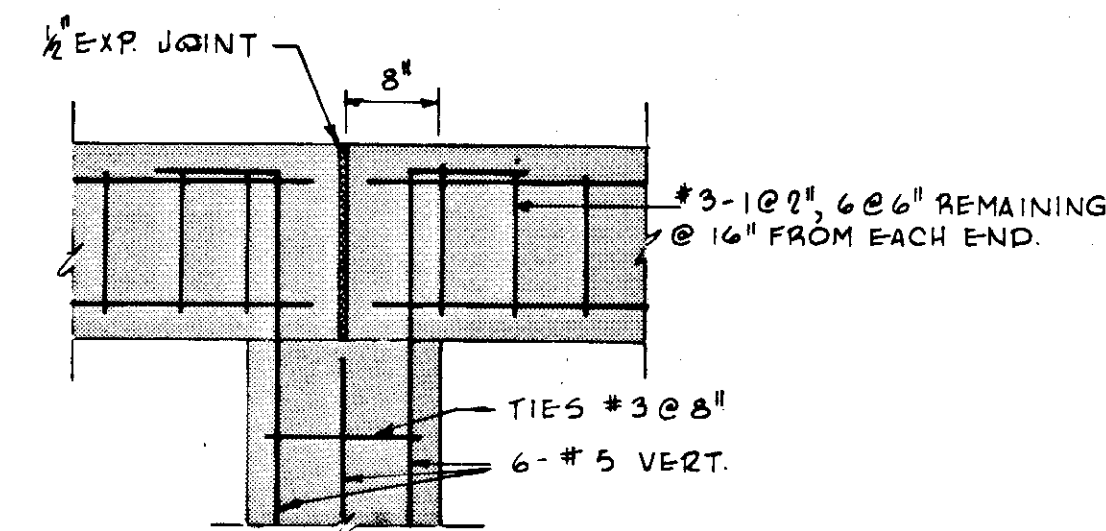
**FOUNDATION PLAN**  
SCALE: 1/4" = 1'-0"



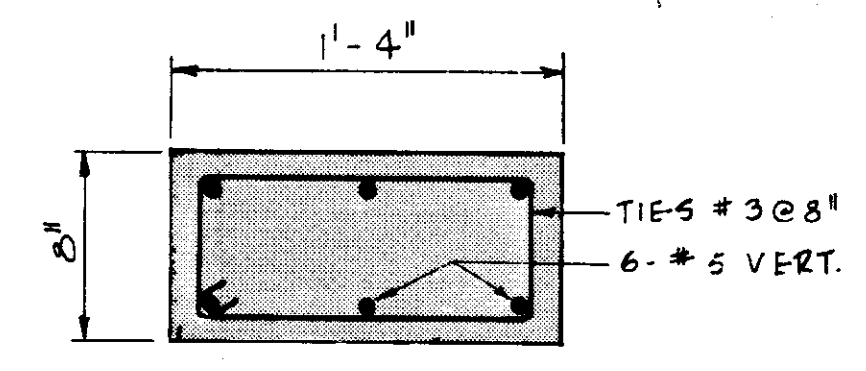
**ROOF PLAN**  
SCALE: 1/4" = 1'-0"



**PLAN OF BEAM @ COLUMN**

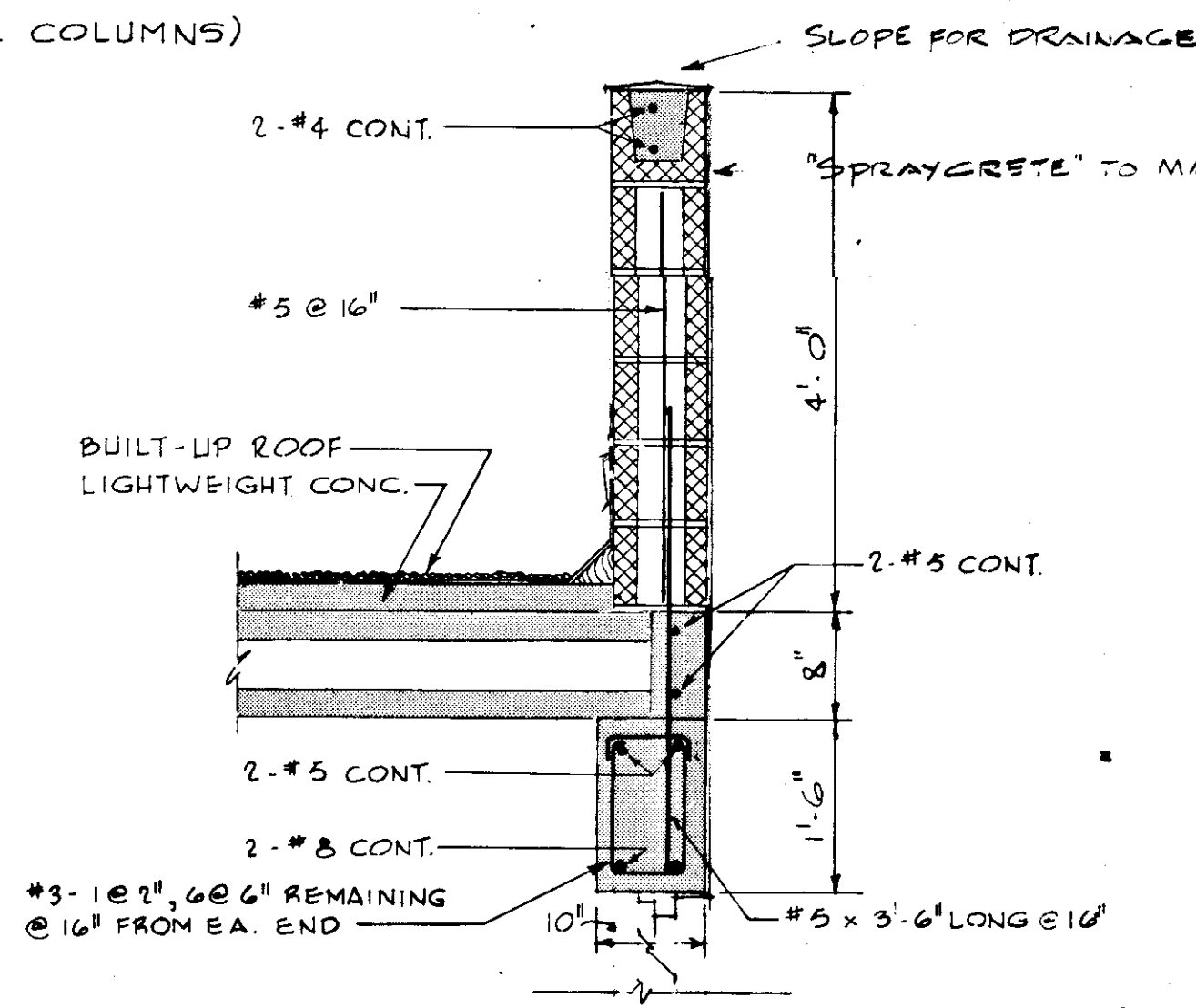


**SECTION @ COLUMN**

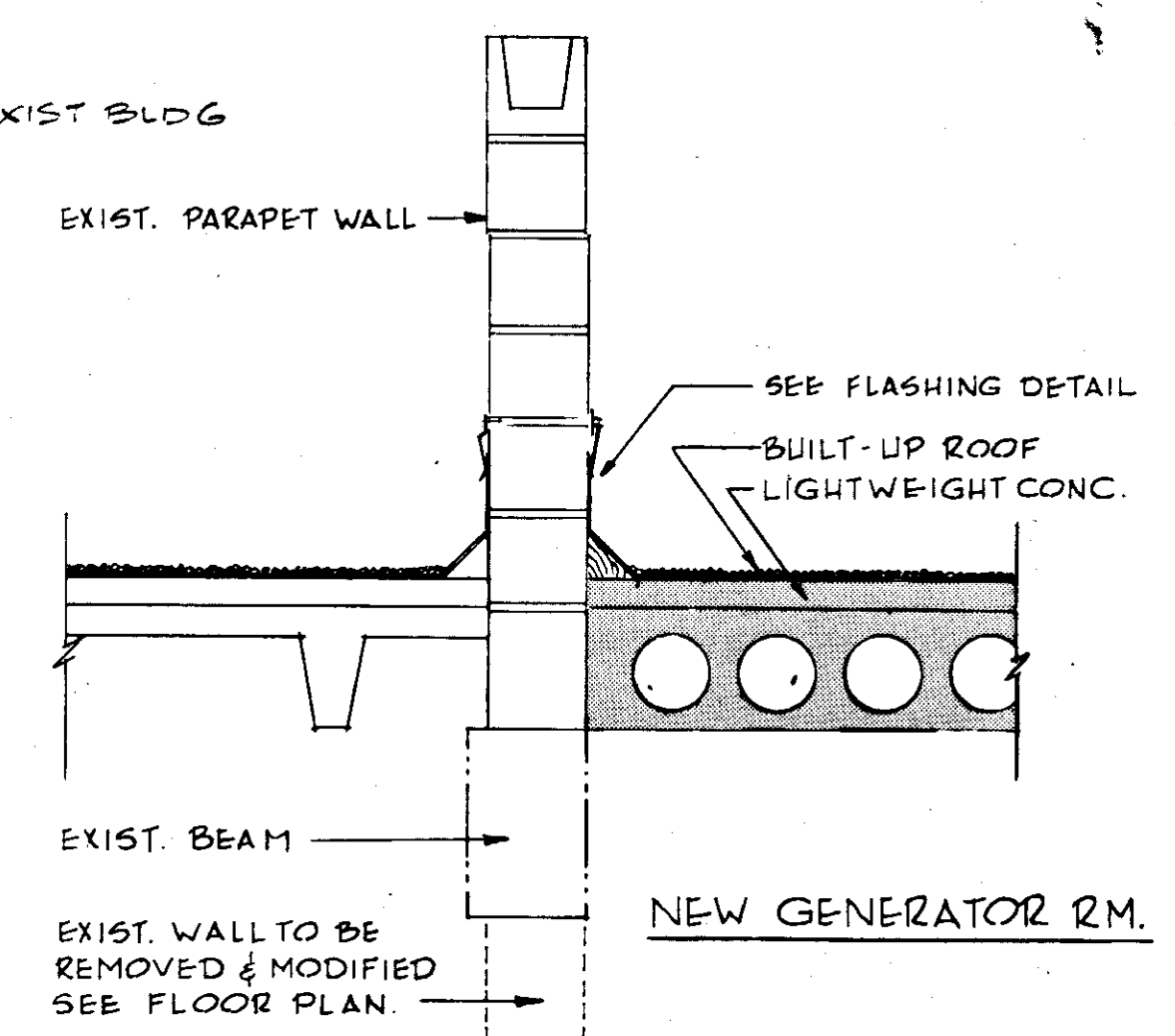


**TYPICAL COLUMN DETAIL**  
SCALE: 1 1/2" = 1'-0"

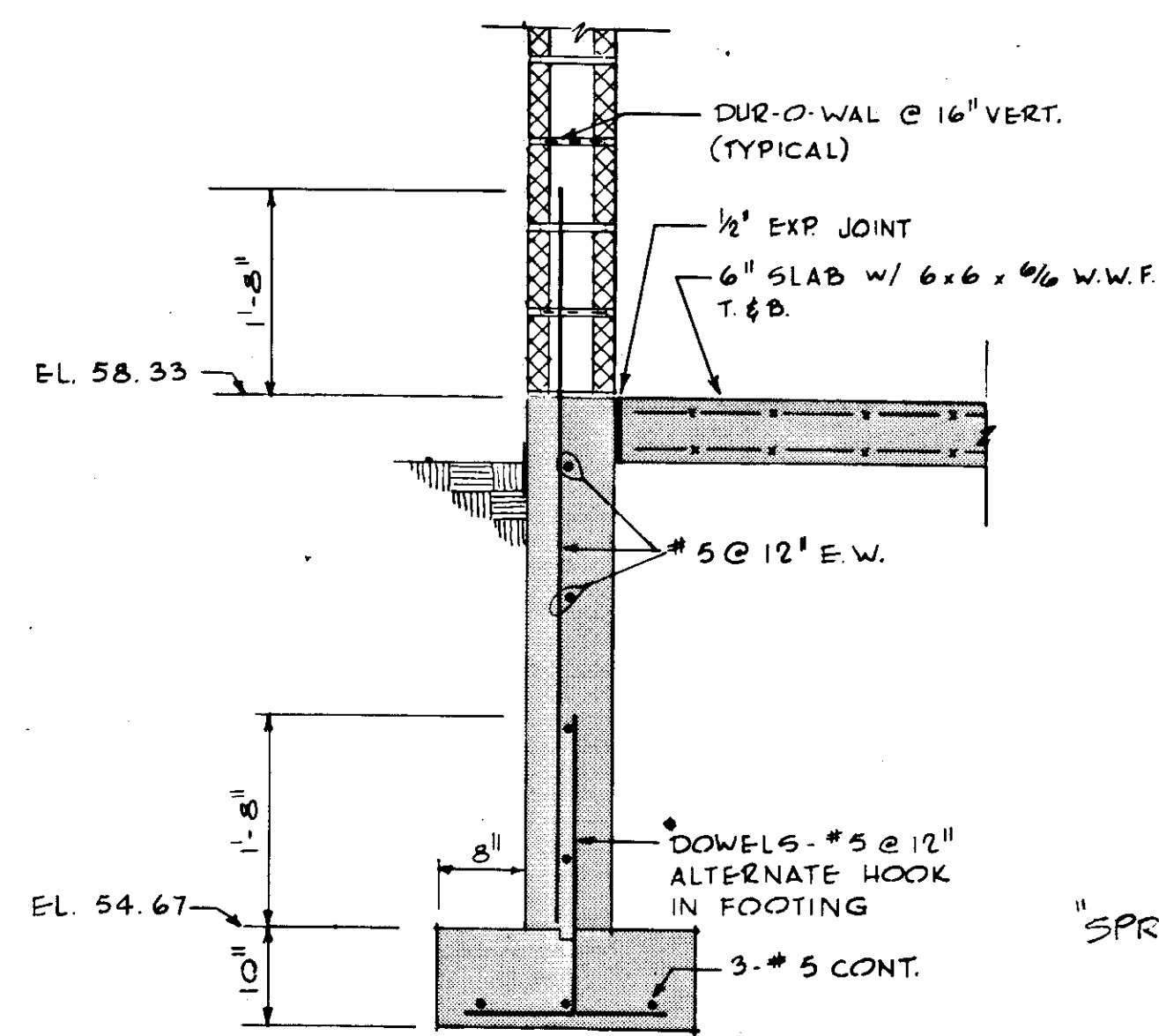
**COLUMN & BEAM DETAILS**  
SCALE: 3/4" = 1'-0"  
(TYPICAL @ ALL COLUMNS)



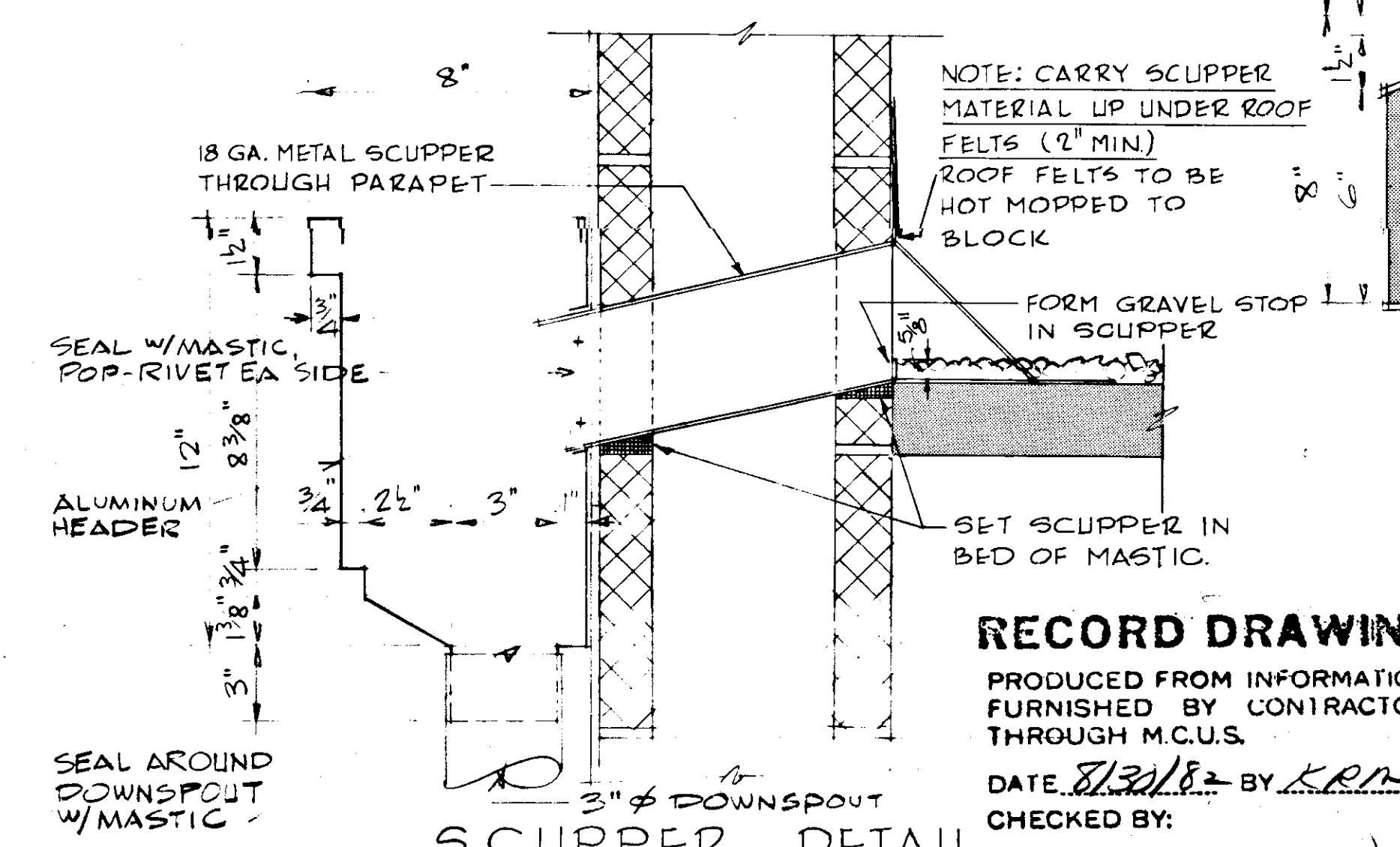
**DETAIL C**  
SCALE: 3/4" = 1'-0"



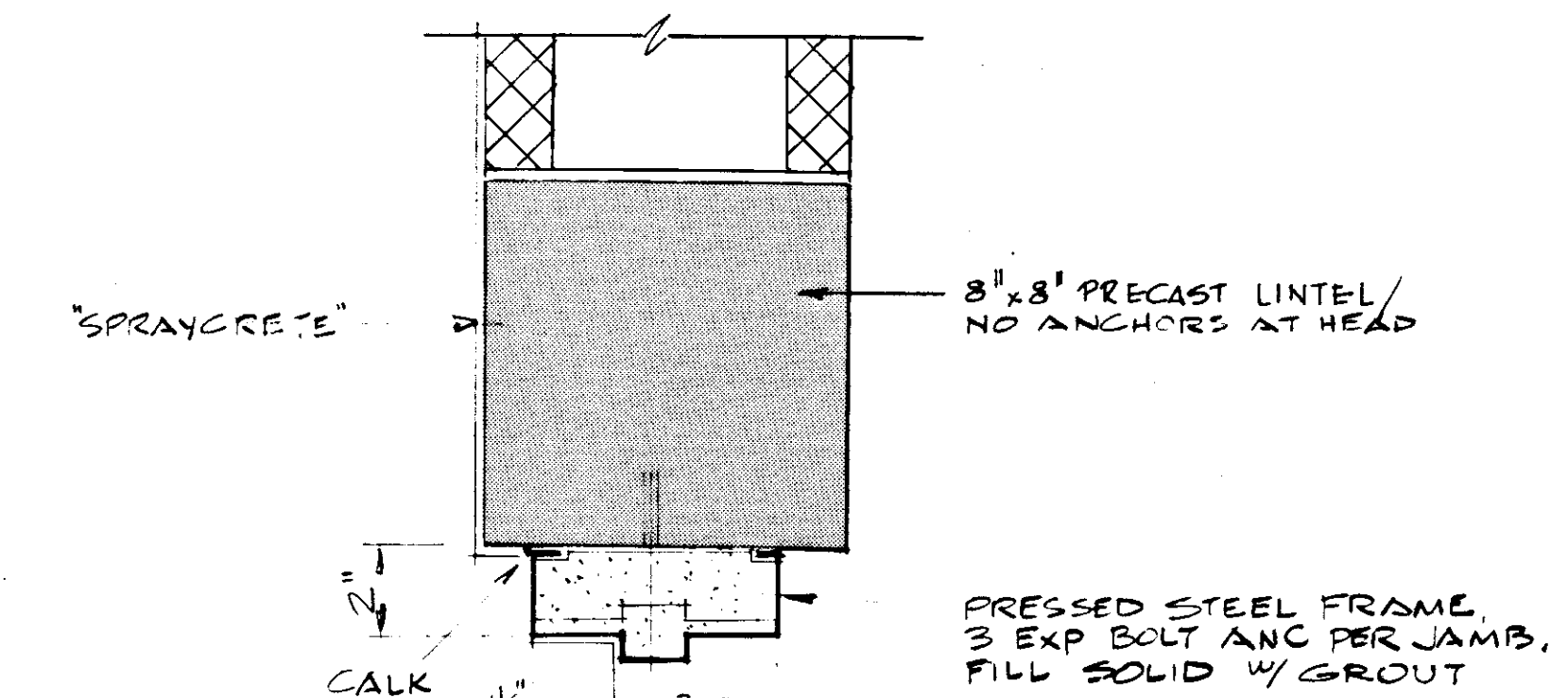
**SECTION G**  
SCALE: 3/4" = 1'-0"



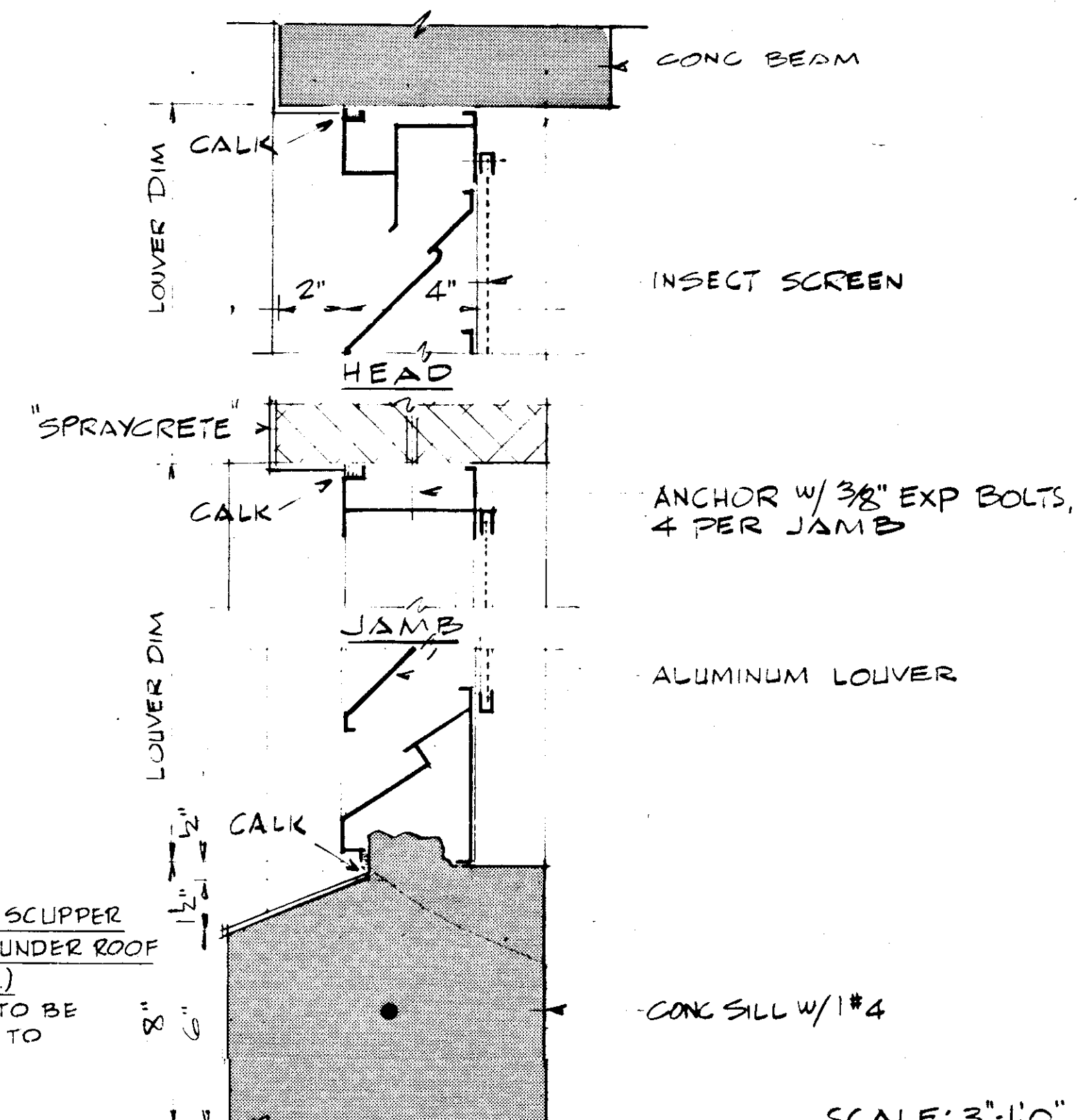
**DETAIL F**  
SCALE: 3/4" = 1'-0"  
NOTE: TYPICAL AT ALL THREE SIDES



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



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

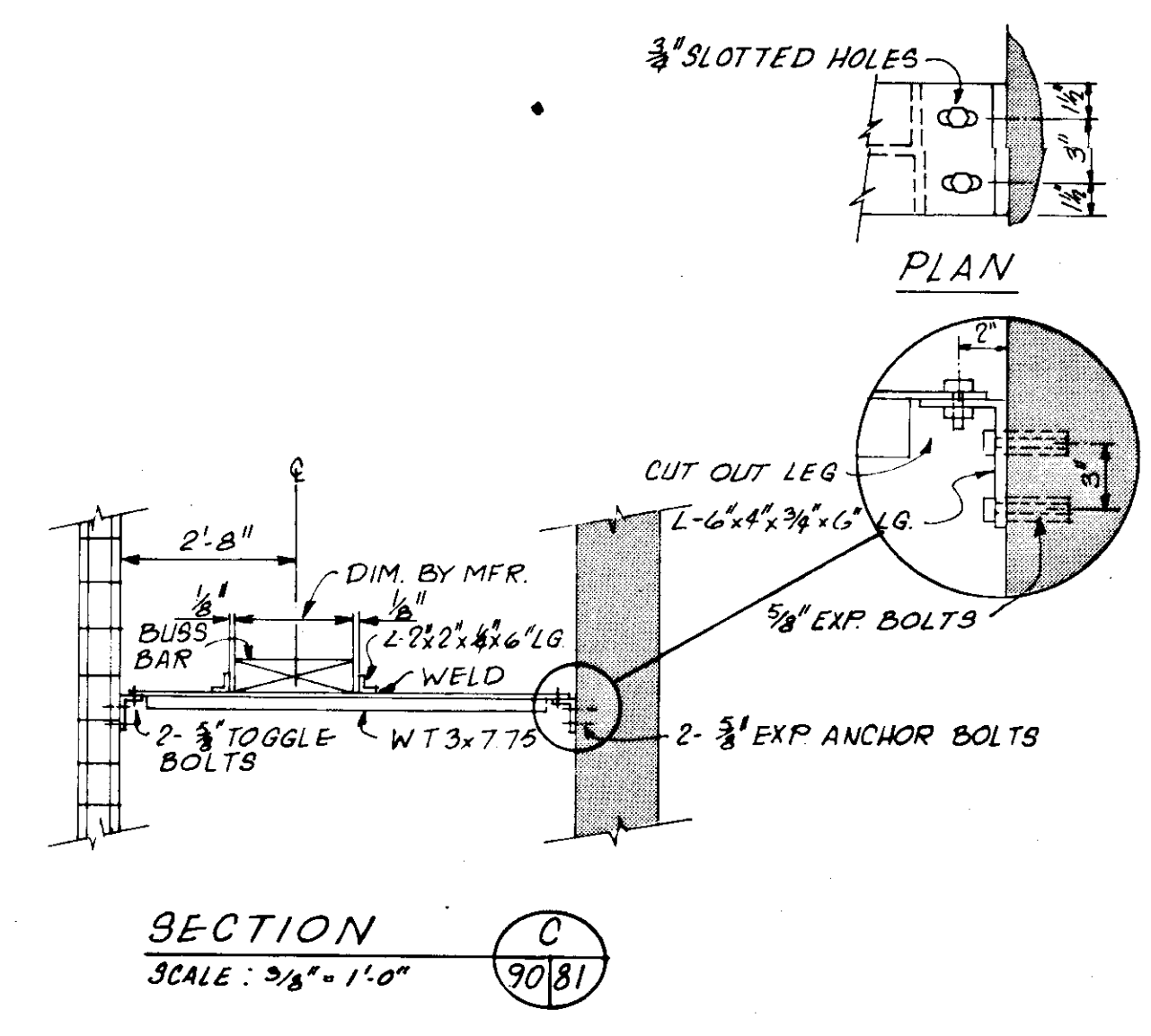
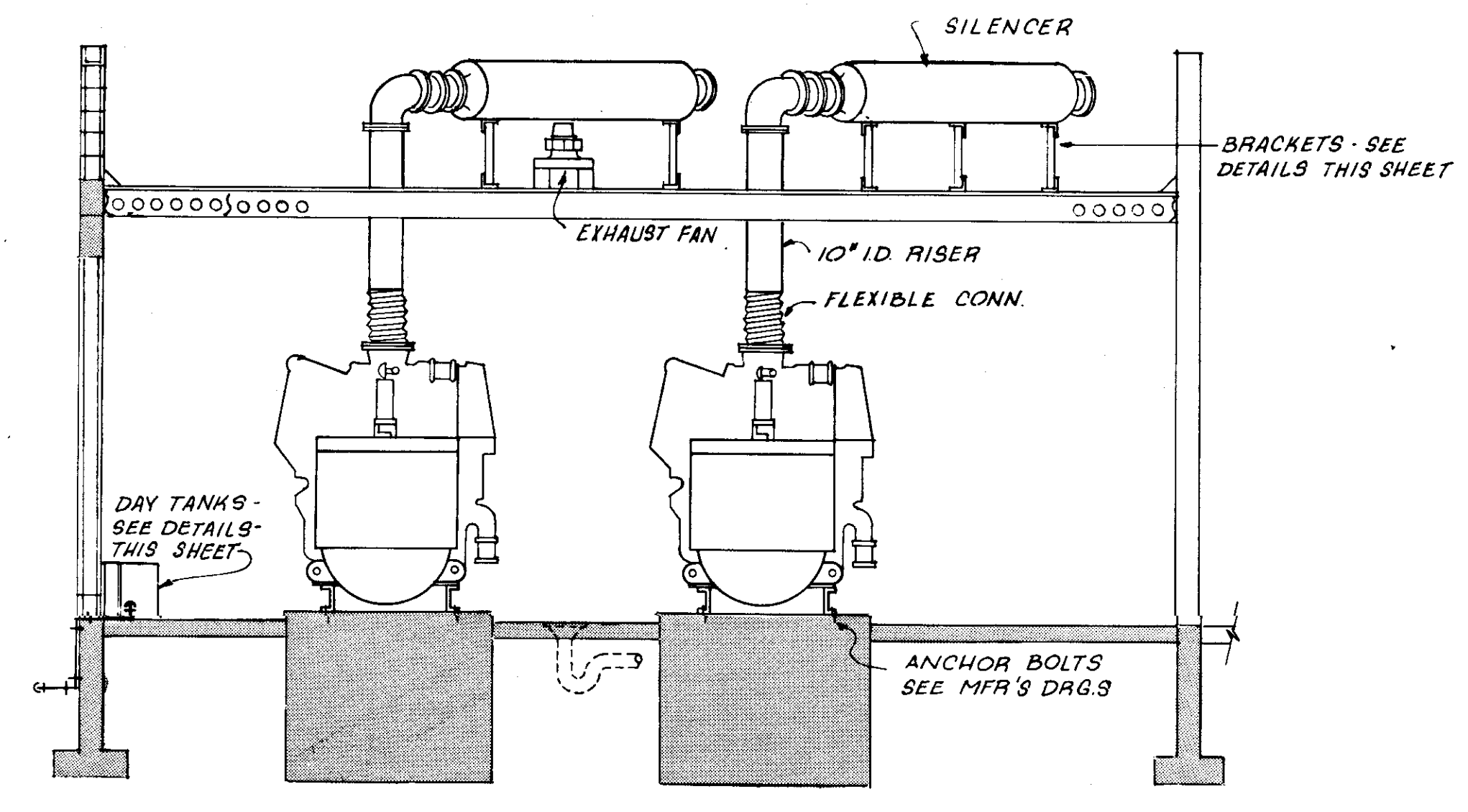
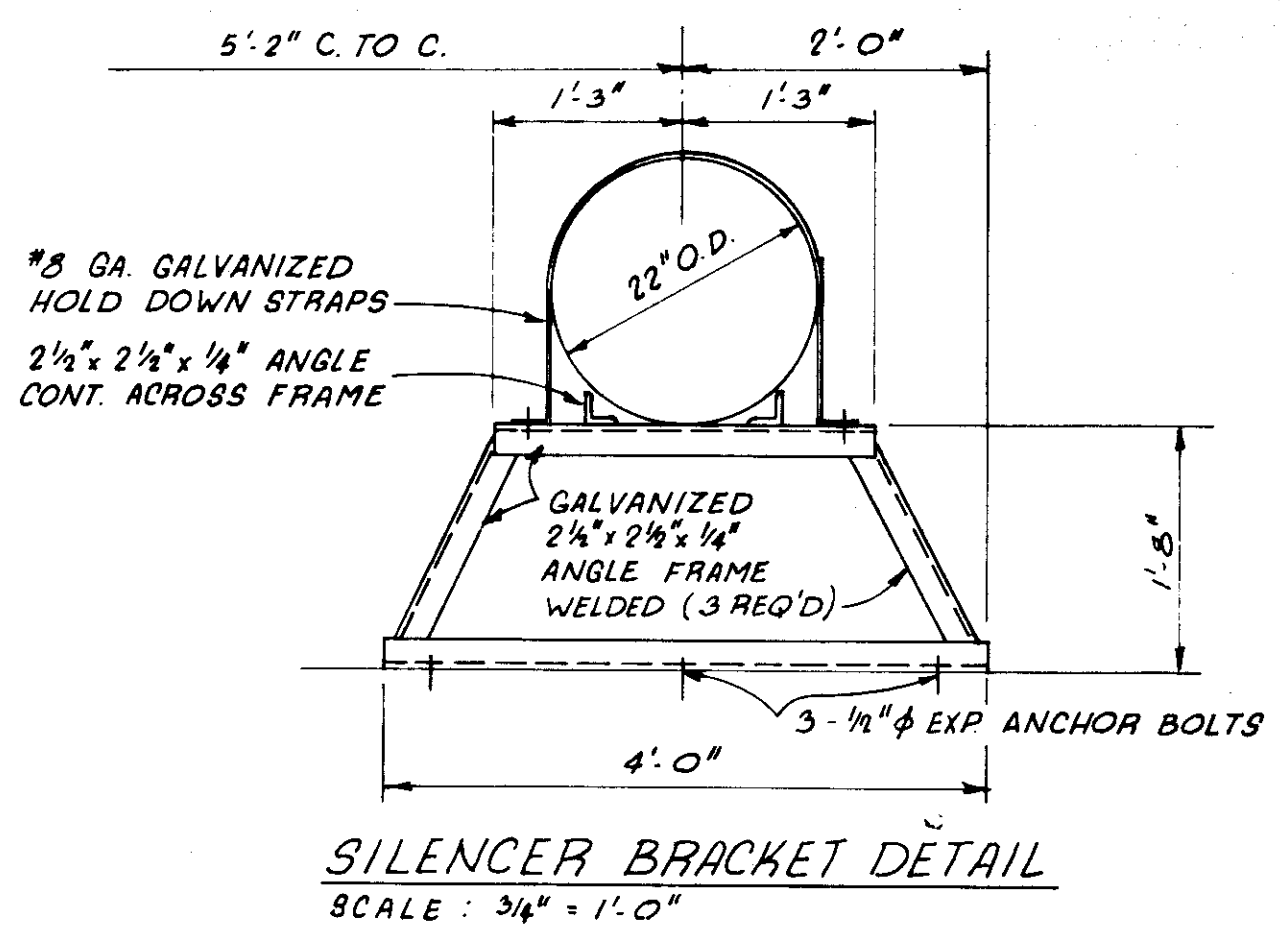
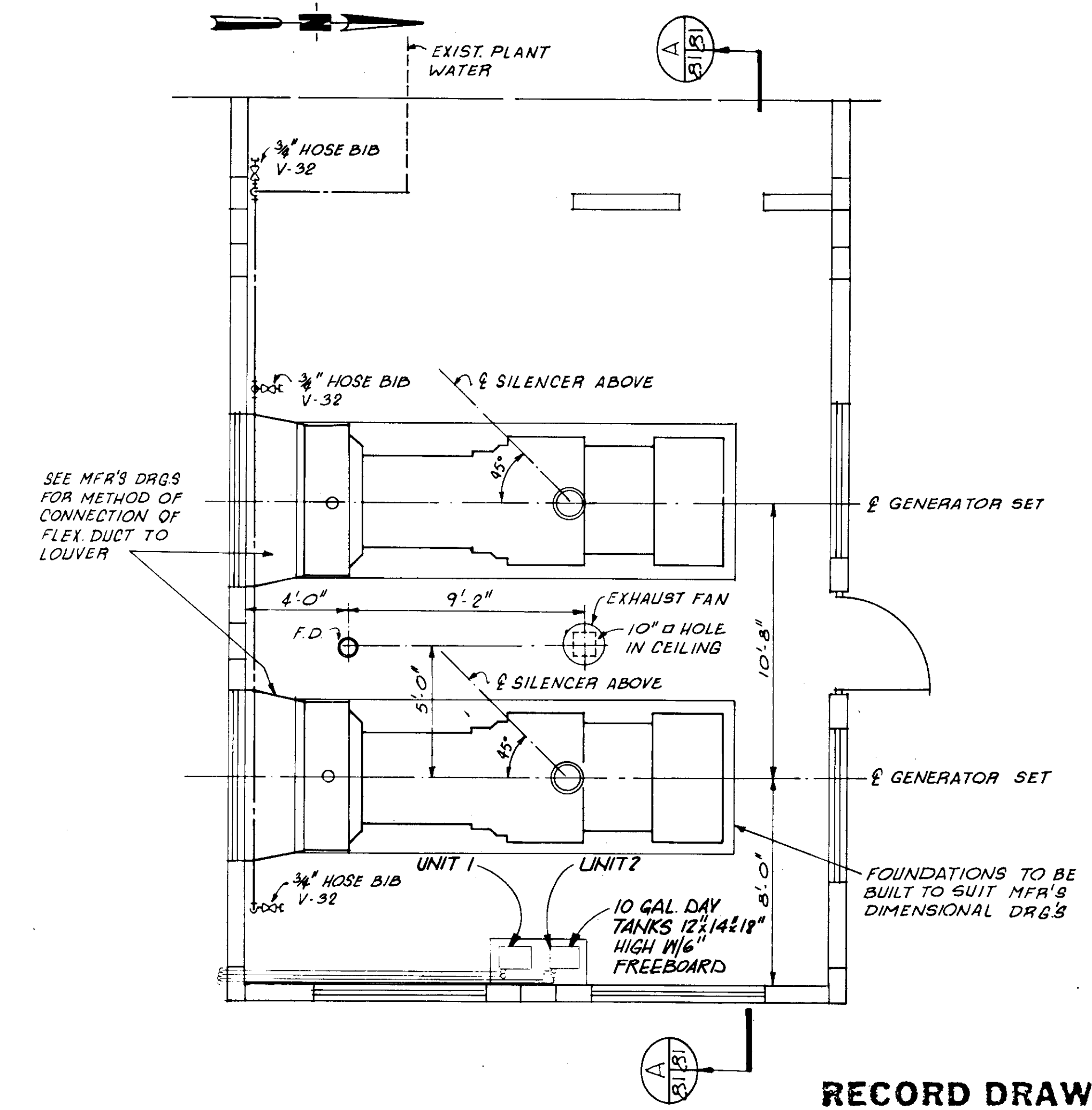
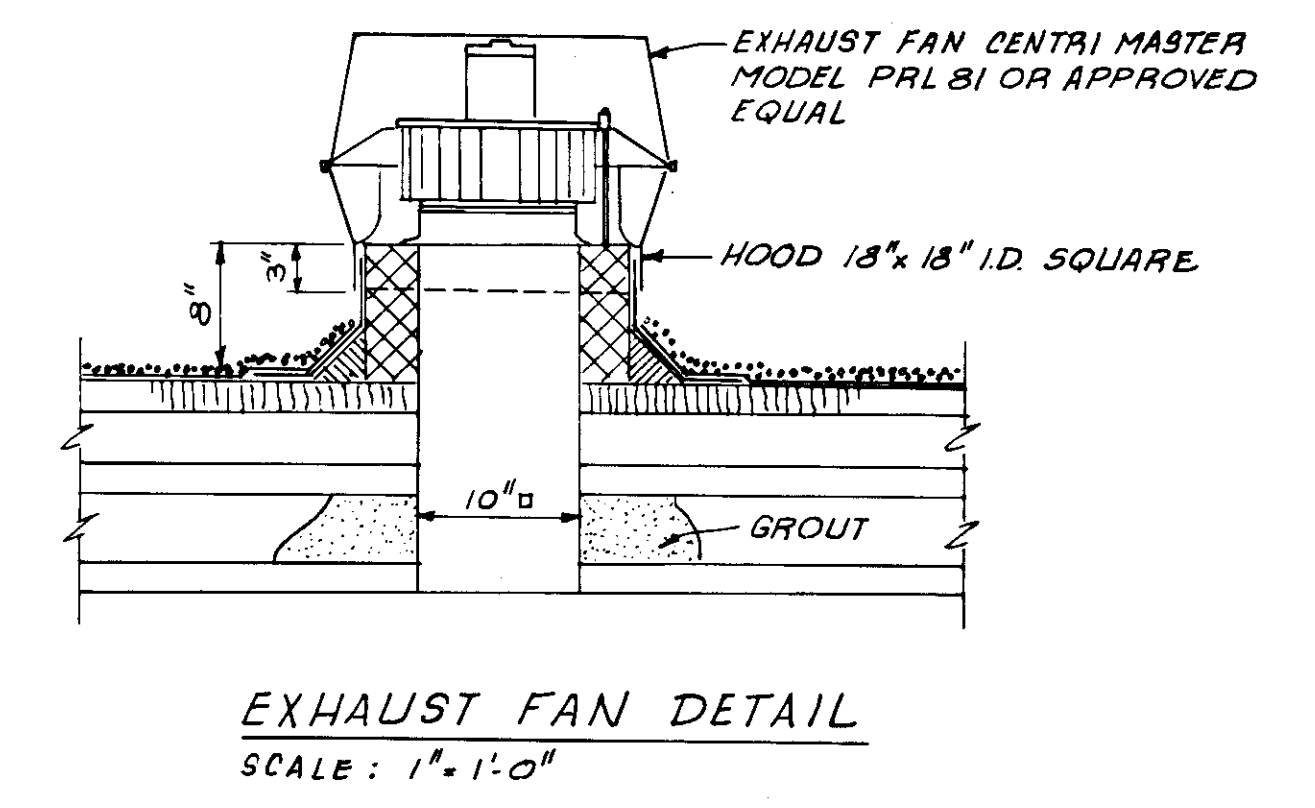
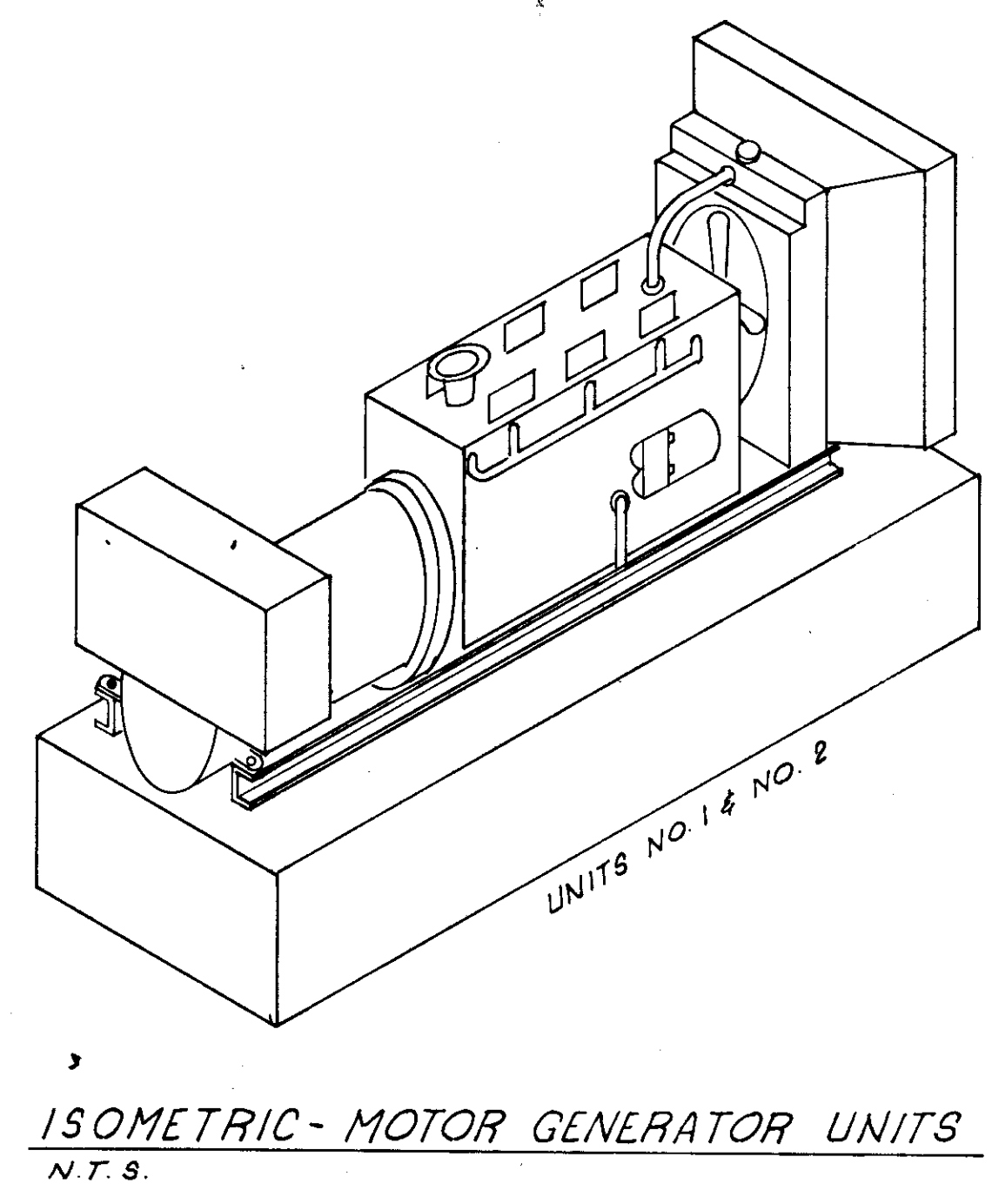
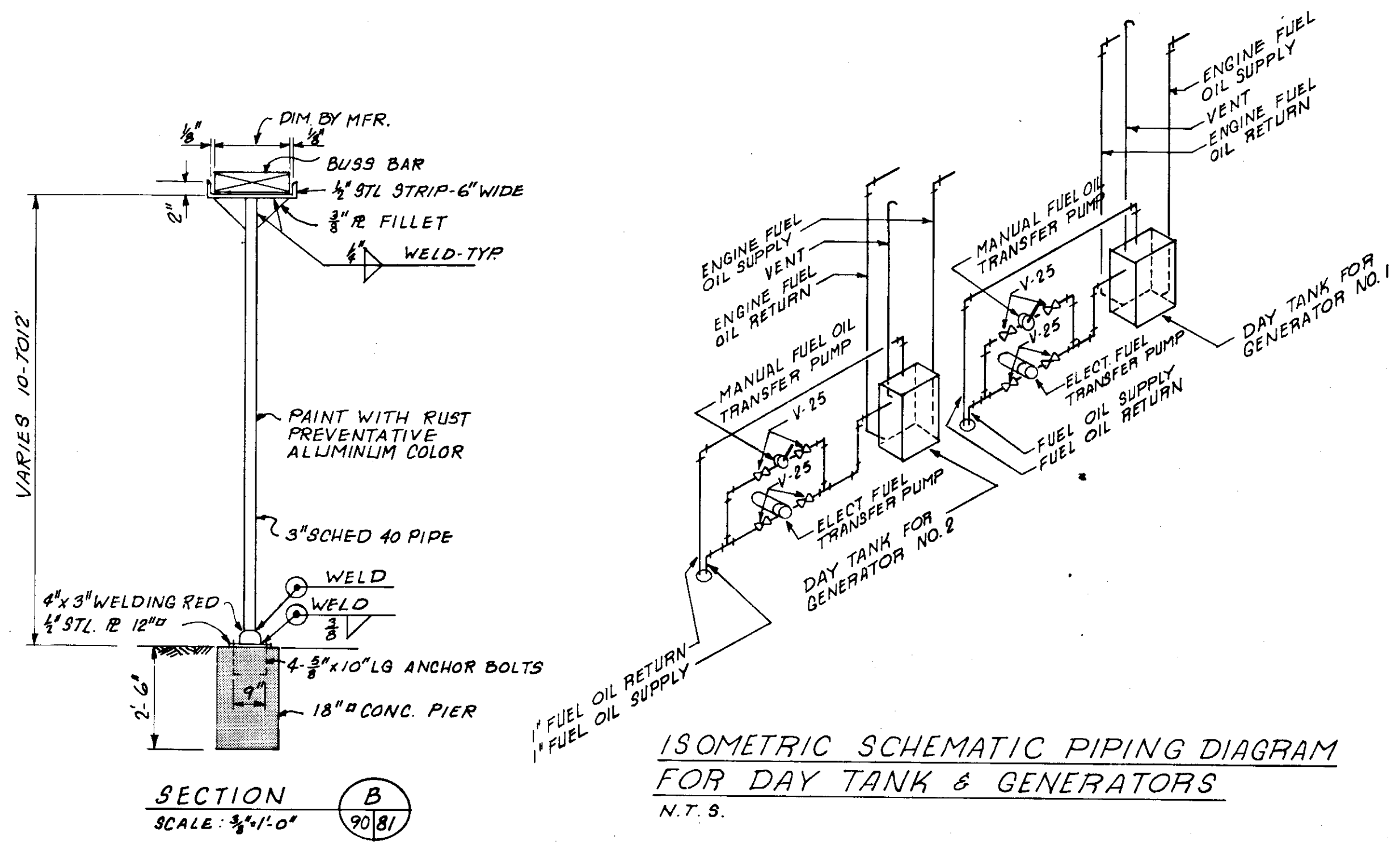


**SILL FIXED LOUVER DETAILS**  
SCALE: 3" = 1'-0"

**RECORD DRAWING**

PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.  
DATE: 8/21/82 BY: KRA  
CHECKED BY: R & A  
M.C.U.S.

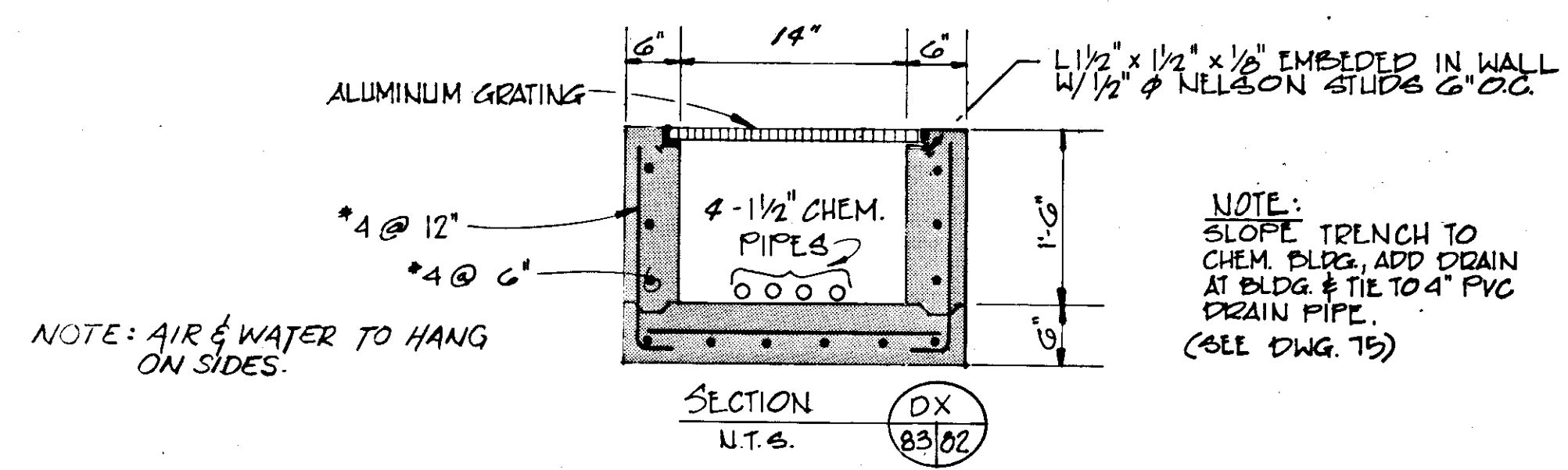
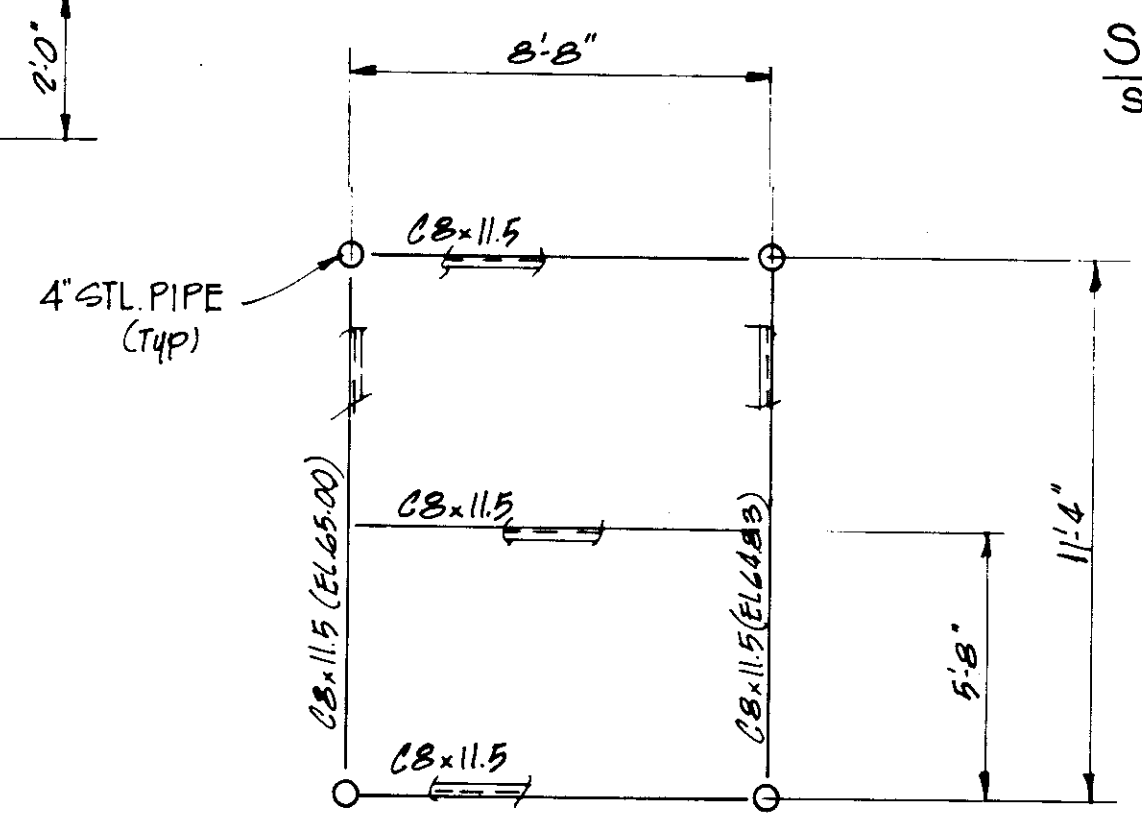
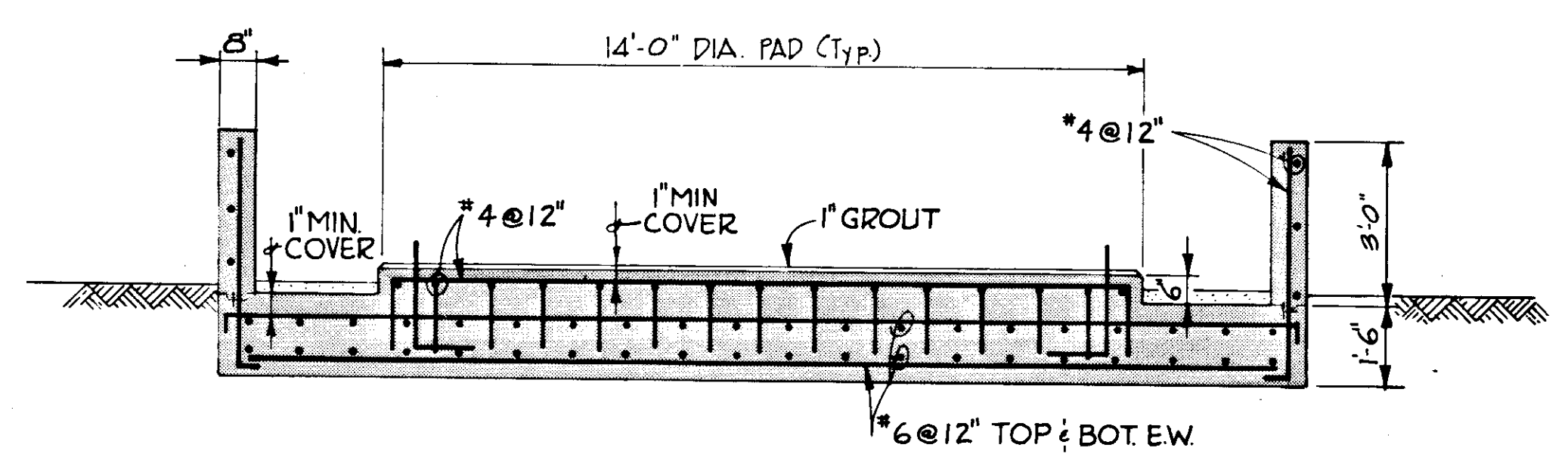
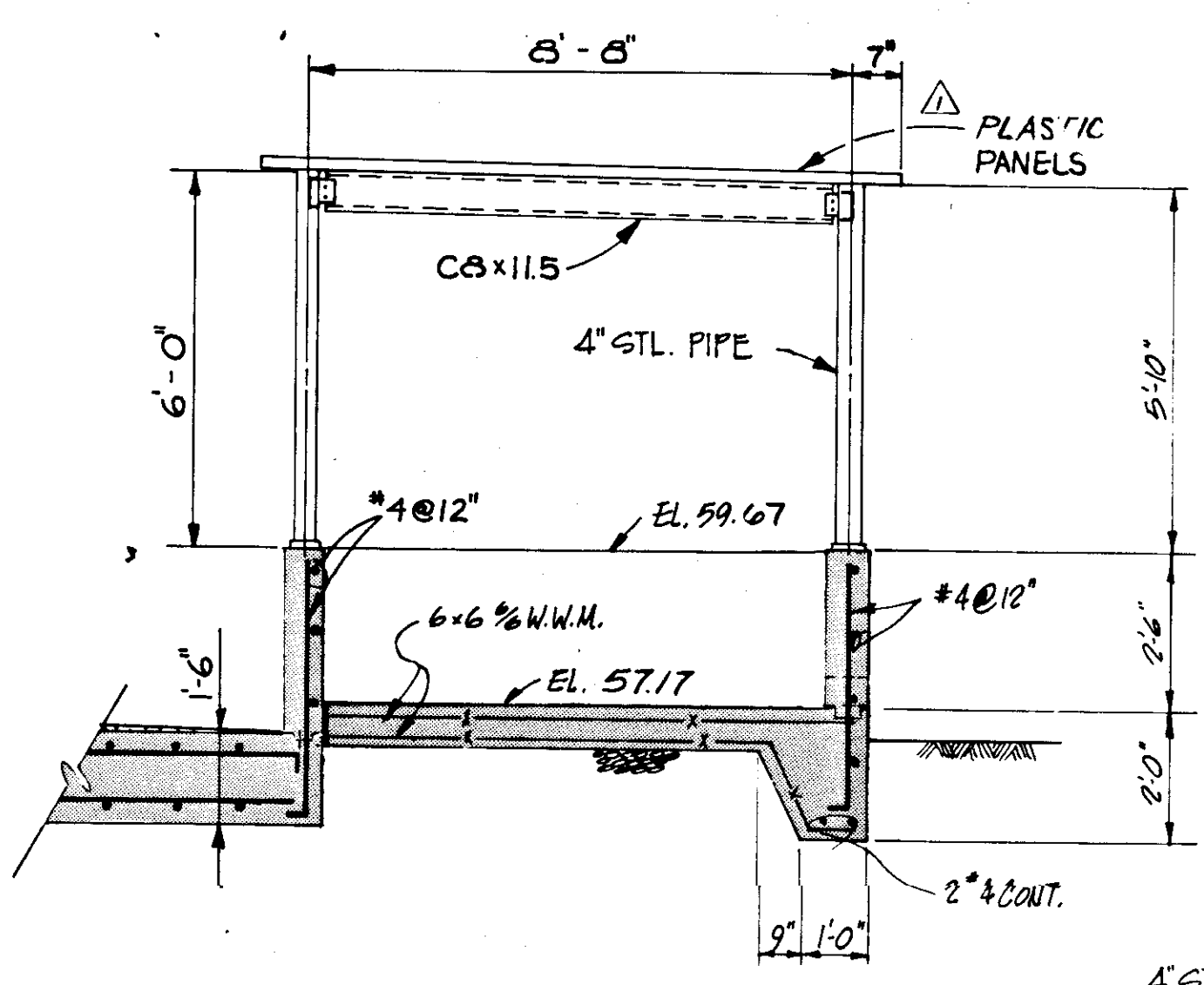
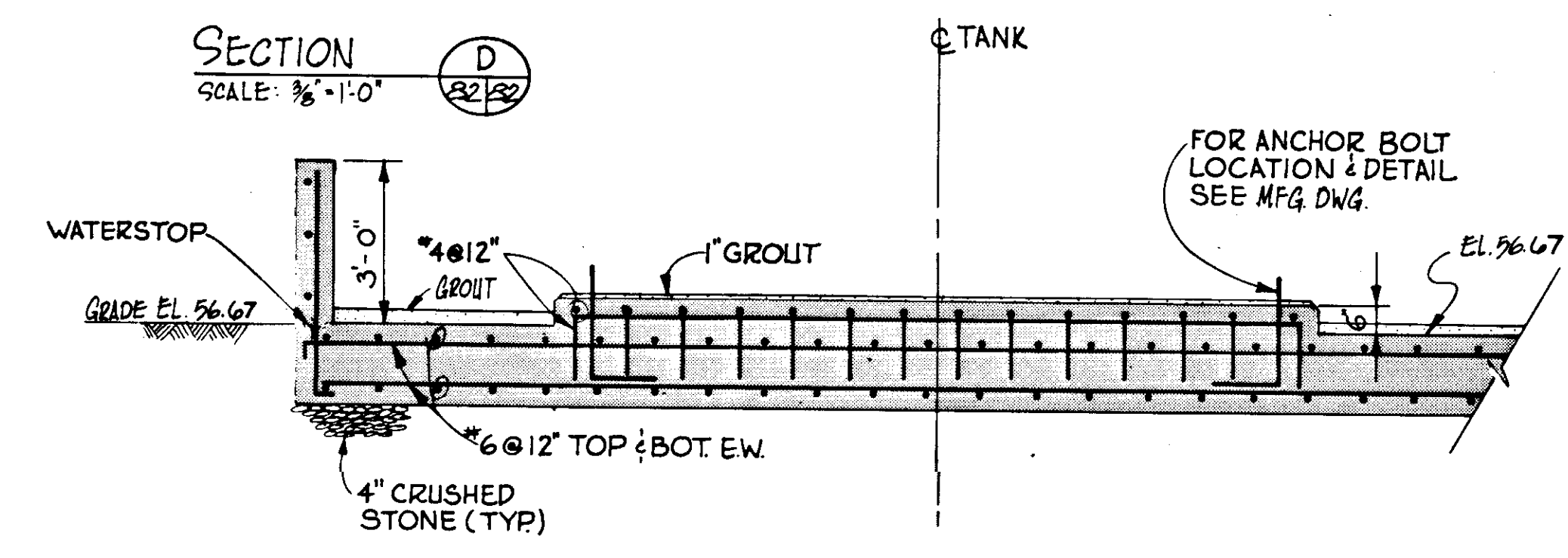
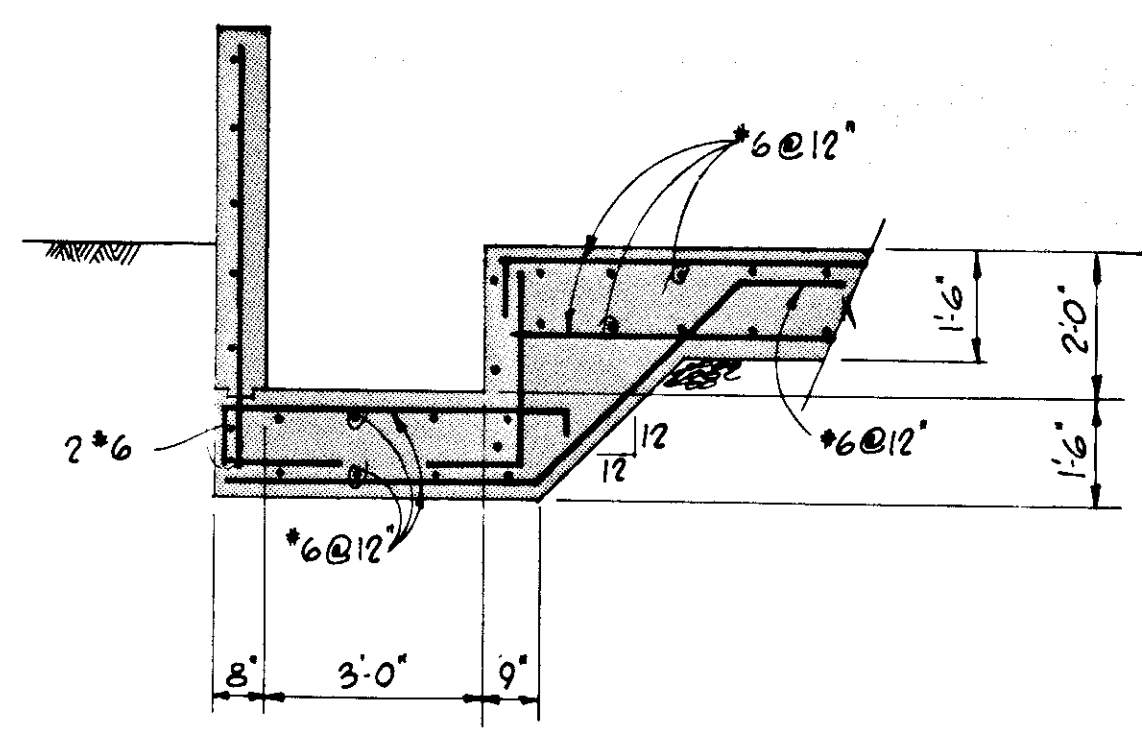
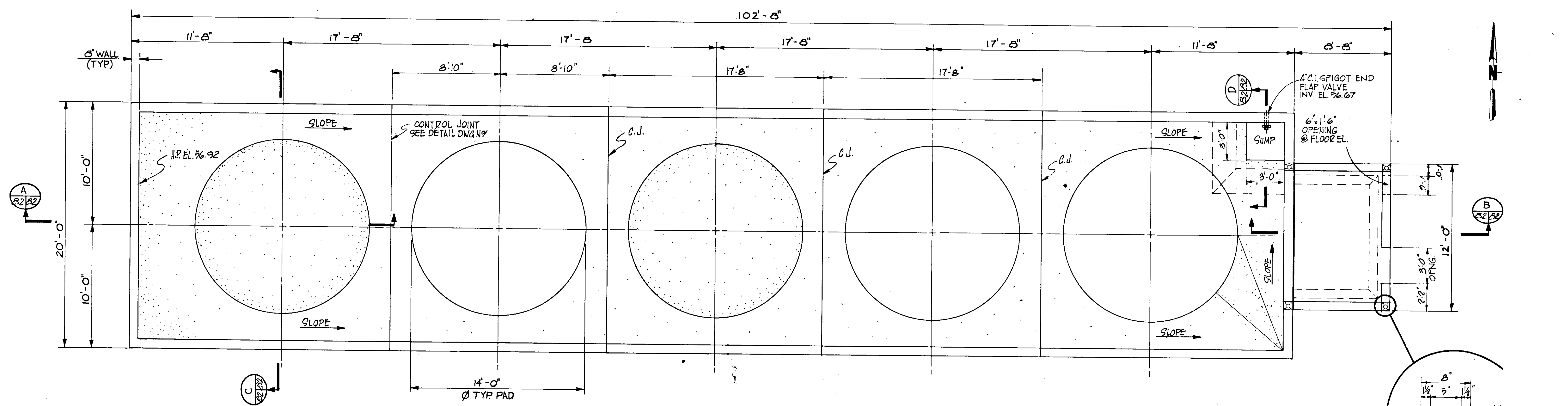
REVISIONS		NO.	DATE	DESCRIPTION	BY	CHKD.
<p style="text-align: center;"><b>RUSSELL &amp; AXON</b> Engineers - Planners - Architects</p> <p style="text-align: center;"><b>WATER WORKS PROJECT</b> STANDBY GENERATOR ROOM EXPANSION ROOF PLAN, SECTIONS, DETAILS</p>						
DESIGNED BY		FILE NO.		SEAL		
DRAWN BY		630-761-04				
CHECKED BY		SHEET A2				
DATE		No. 80				
AUGUST, 1978		OF 130 SHEETS				
		SCALE: AS NOTED				



**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  
 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				
T-81 FLORIDA SEAL				
MANATEE COUNTY,		DESIGNED BY	FILE NO.	
		R.D.H.	630-761-04	
		DRAWN BY	SHEET M1	
		J.R.A.	No. 81	
		CHECKED BY	OF 130 SHEETS	
		DATE	SCALE: AS NOTED	
		AUGUST, 1978		



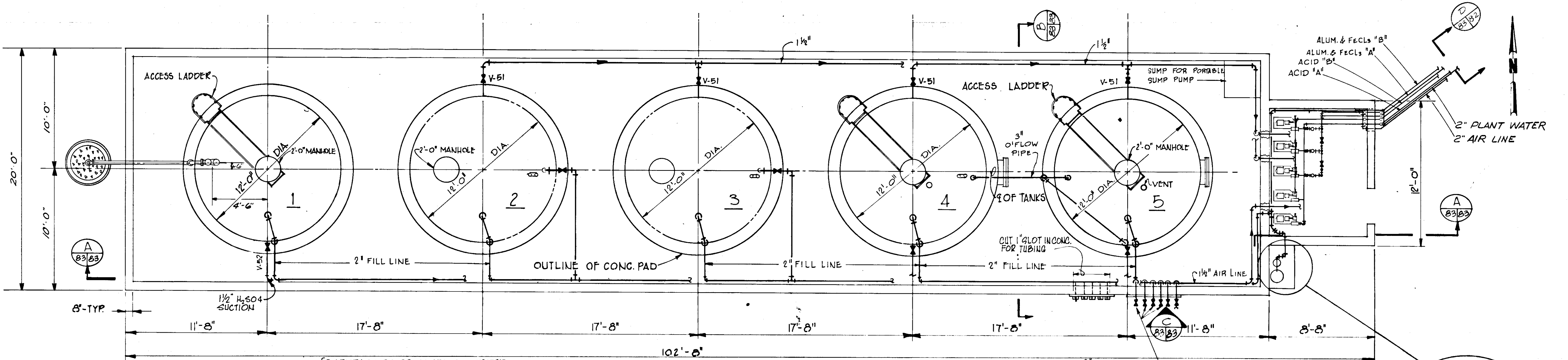


NOTE: SLOPE TRENCH TO CHEM. PIPES, ADD DRAIN AT BLDG. & TIL TO 4" PVC DRAIN PIPE. (SEE DWG. 75)

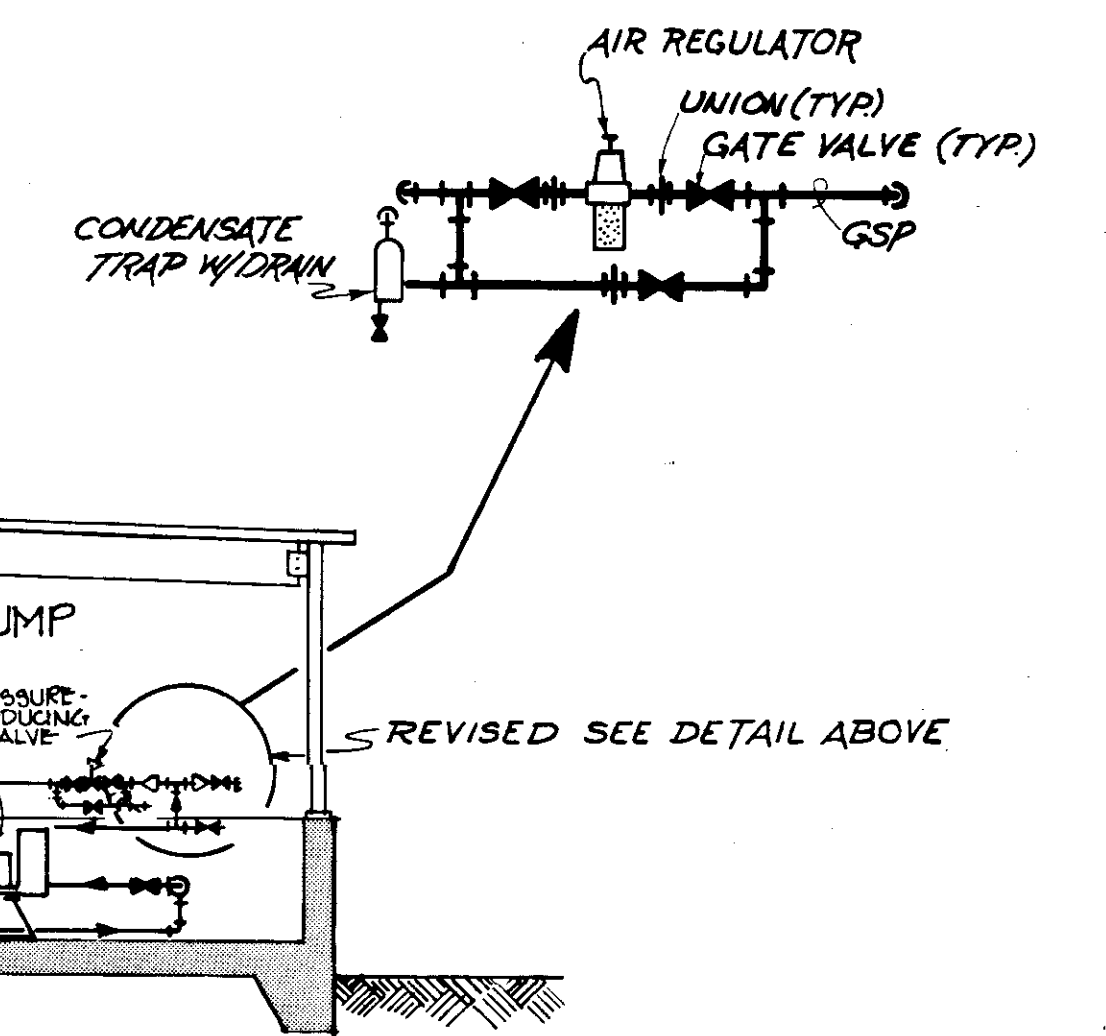
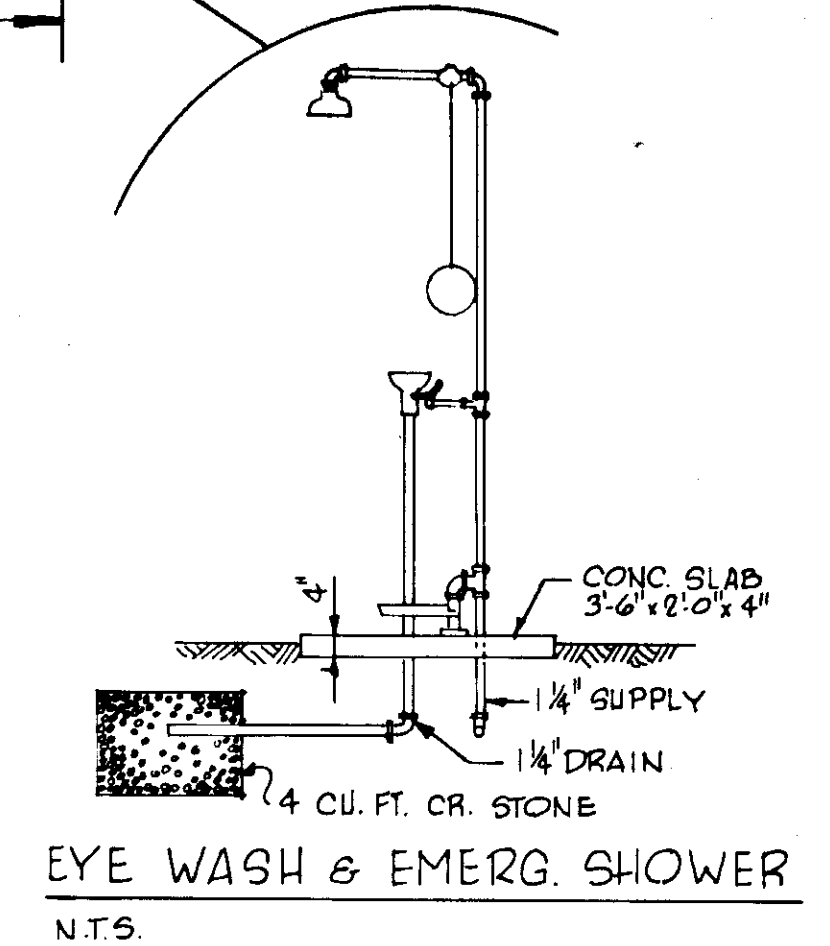
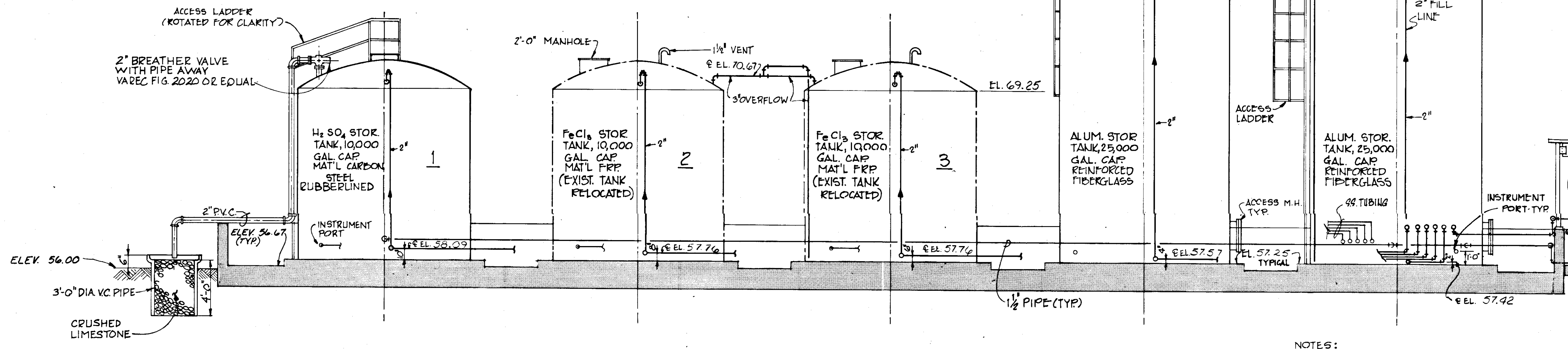
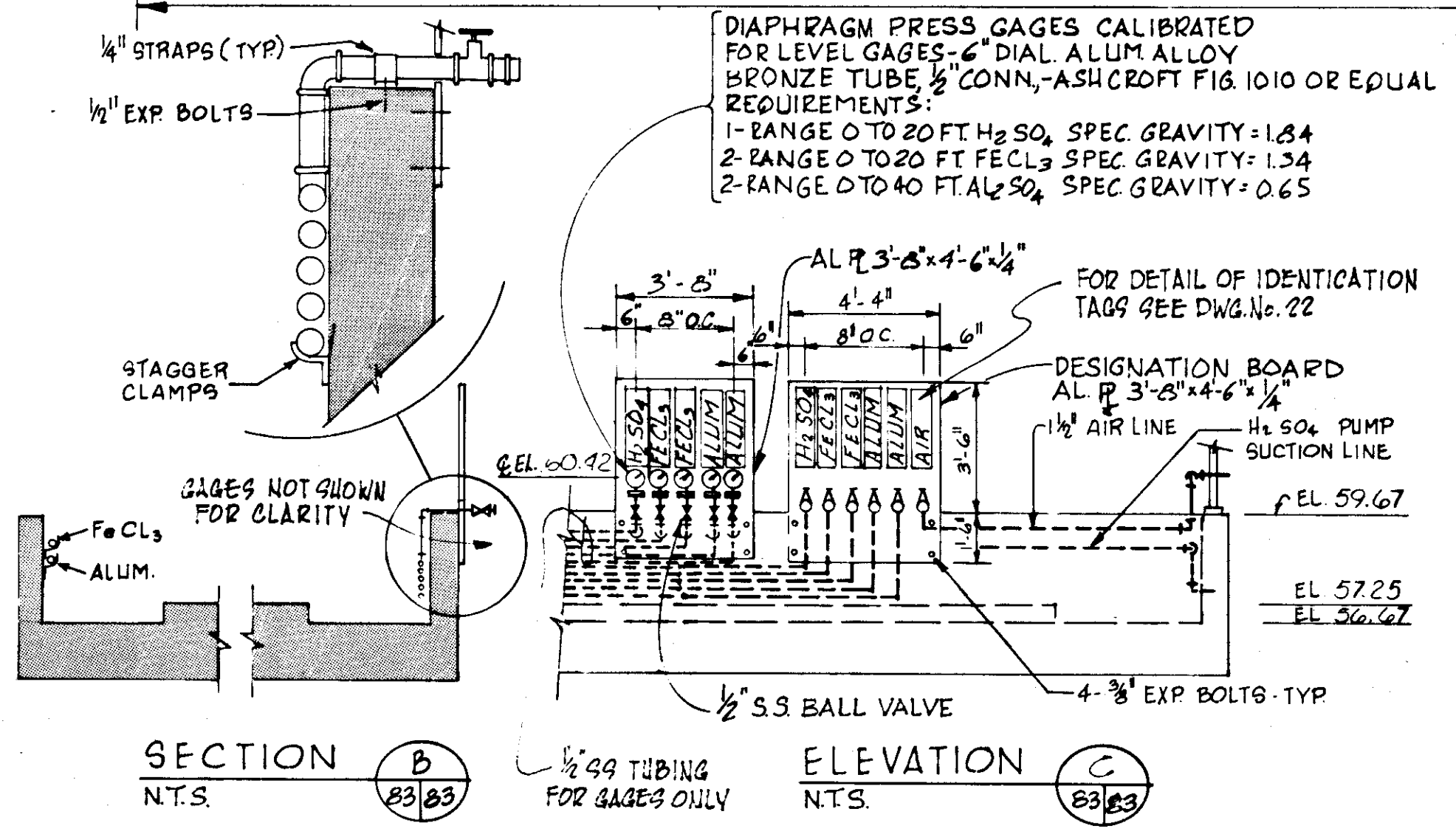
**RECORD DRAWING**  
 PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.  
 DATE: 8/24/82 BY: R.R.  
 CHECKED BY: R & A  
 M.C.U.S.

NO.	DATE	DESCRIPTION	MADE BY	CHKD.
1		MAY 79 CHANGED PHASE II PVC TO PLASTIC		
REVISIONS				
<b>RUSSELL &amp; AXON</b> Engineers — Planners — Architects				
WATER WORKS PROJECT CHEMICAL STORAGE FOUNDATION PLAN & SECTIONS				
T-82 FLORIDA				
MANATEE COUNTY, FLORIDA				
DESIGNED BY M.B.	FILE NO. 630-761-04	<b>SEAL</b>		
DRAWN BY I.C.S.	SHEET(S) No. 82			
CHECKED BY	OF 130 SHEETS			
DATE AUGUST, 1978	SCALE: AS NOTED			

NOTE: SEE DWG. No. 43 FOR TYP. DETAILS



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

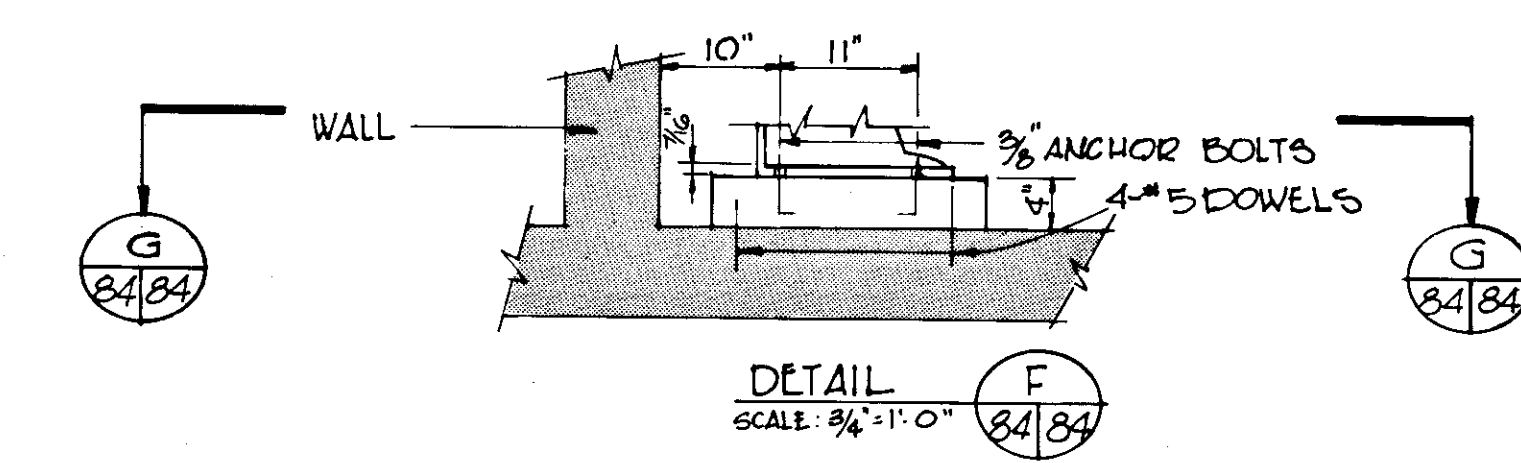
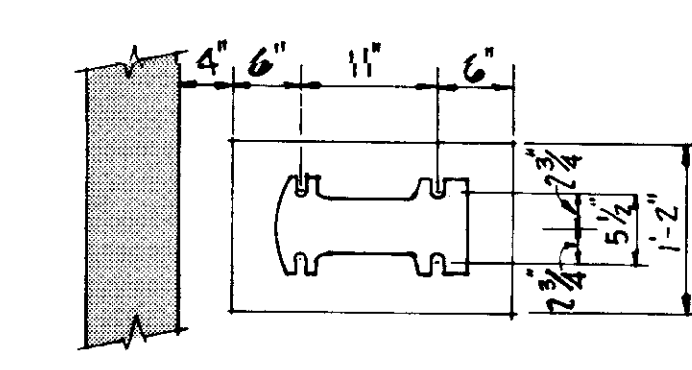
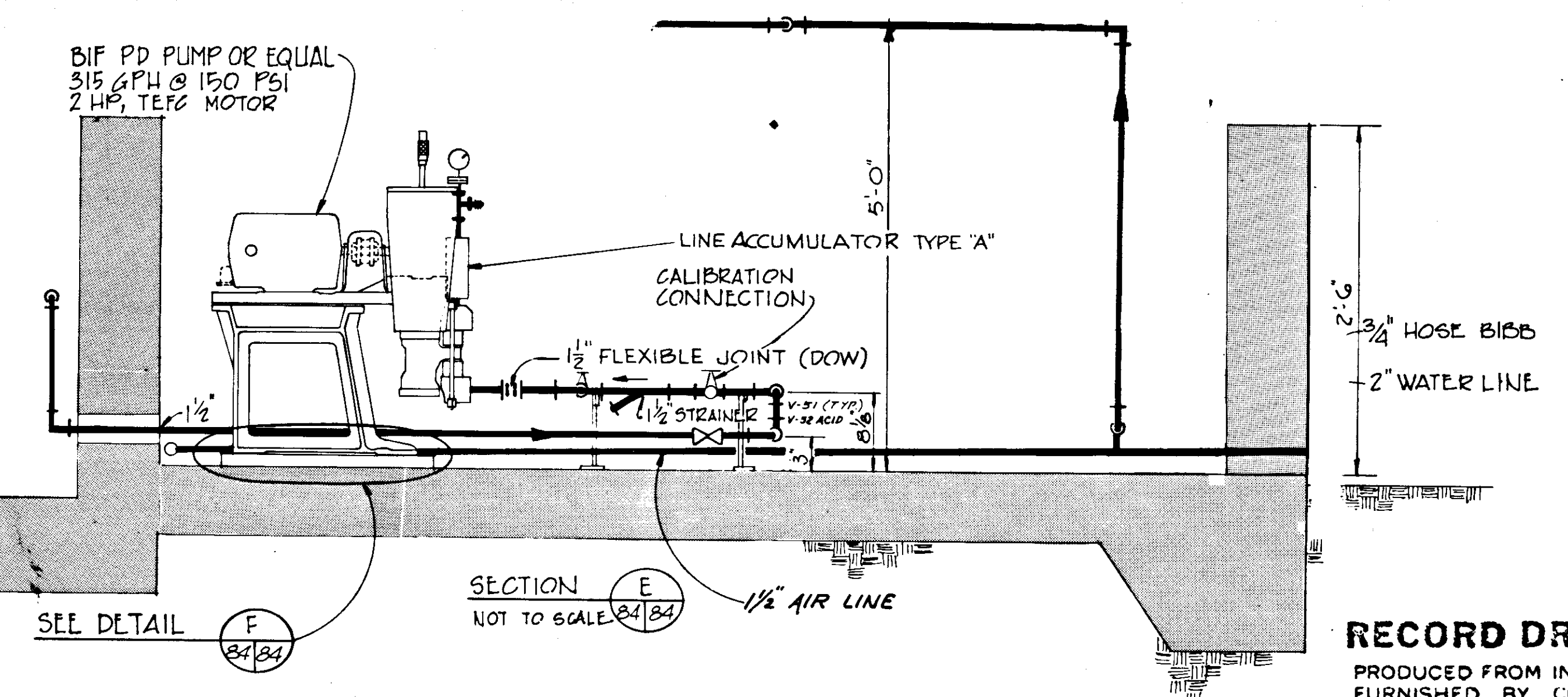
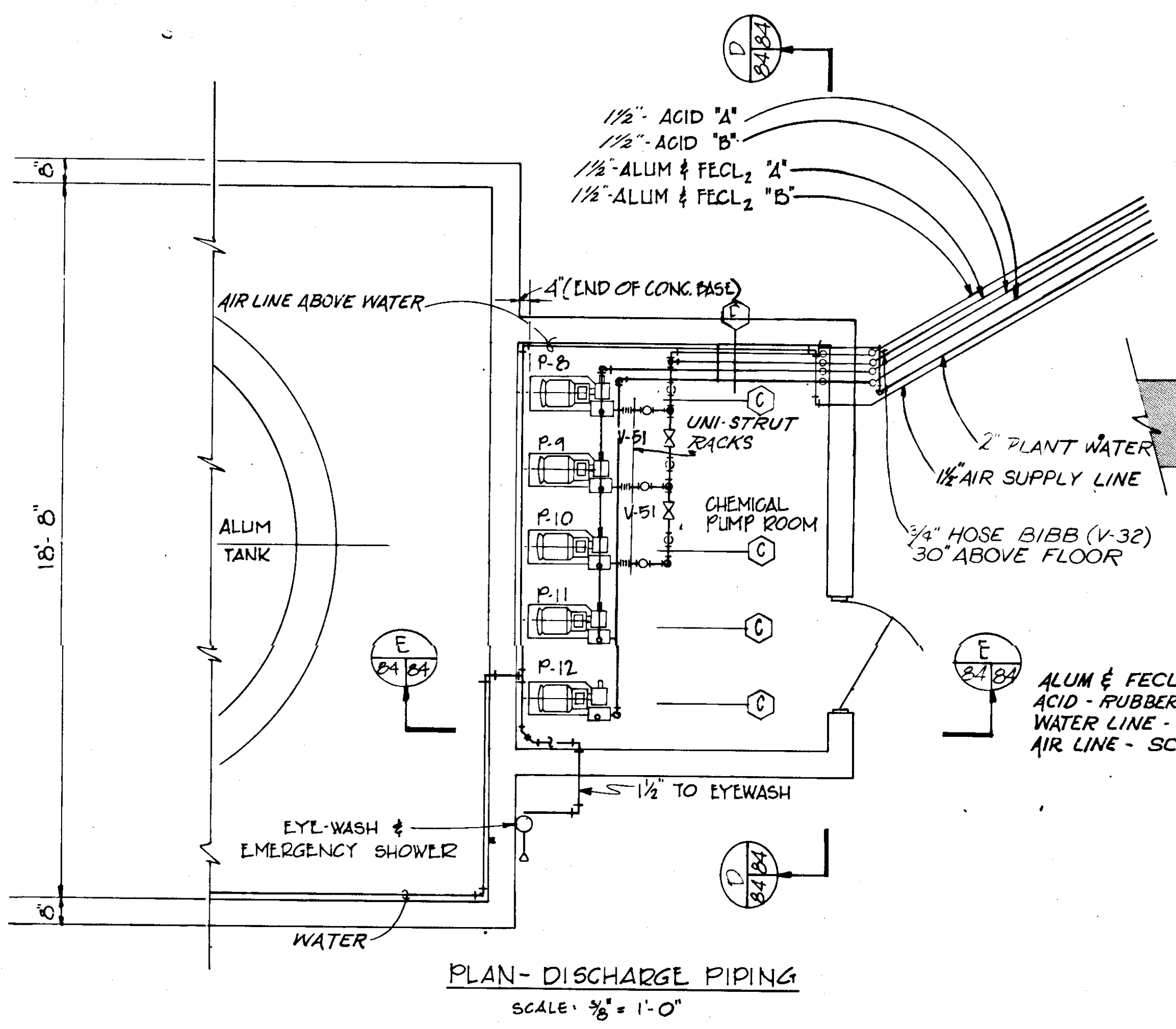
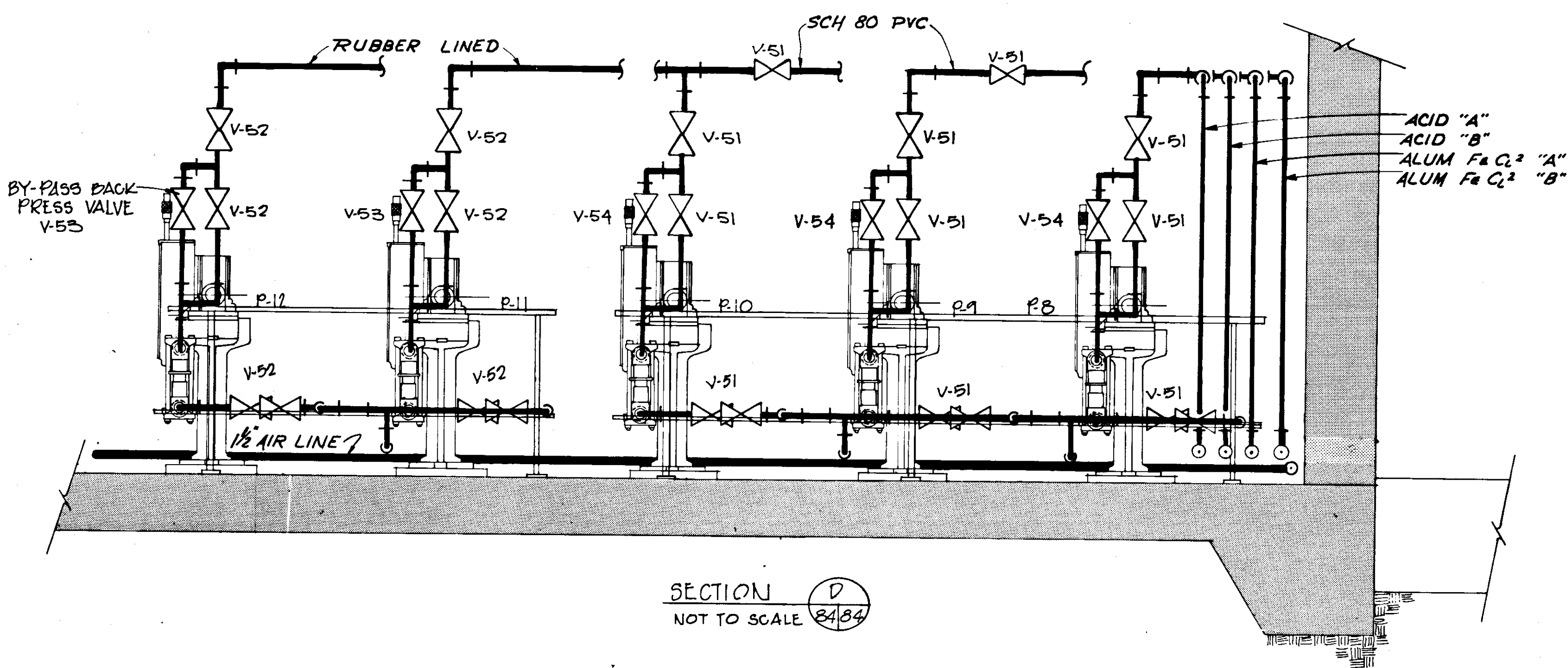
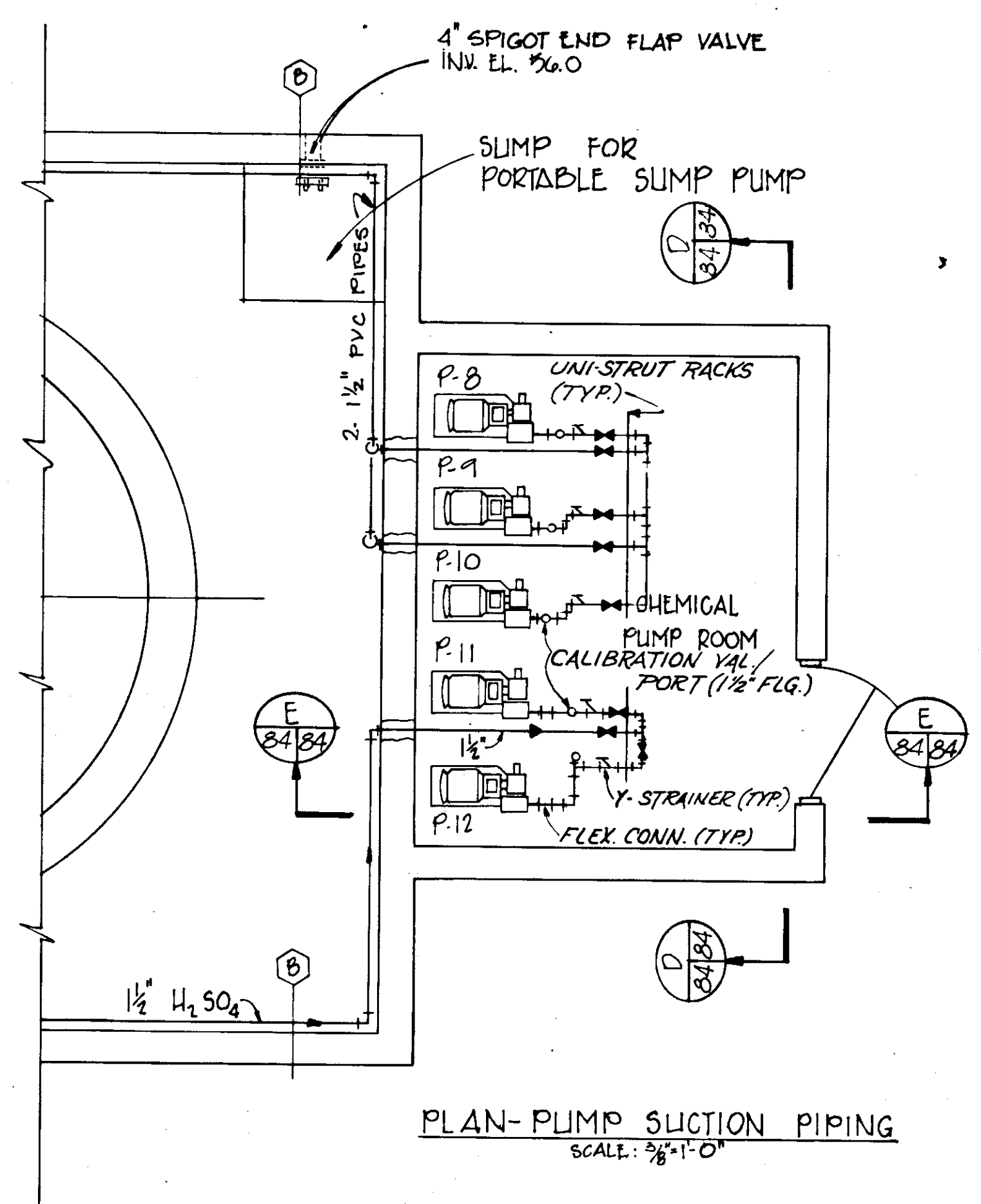


- NOTES:**
- ALL CHEMICAL PIPING SCH 80 PVC UNLESS OTHERWISE NOTED. (REFER TO SPECS)
  - ACID PIPING TO BE PLASTIC LINED STEEL (REFER TO SPECS)
  - FOR VALVE SCHEDULE, SEE SH. 87
  - FOR PUMP SCHEDULE, SEE SH. 77

**RECORD DRAWING**  
PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.  
DATE: 8/2/78 BY: R.D.H.  
CHECKED BY: R & A  
M.C.U.S.

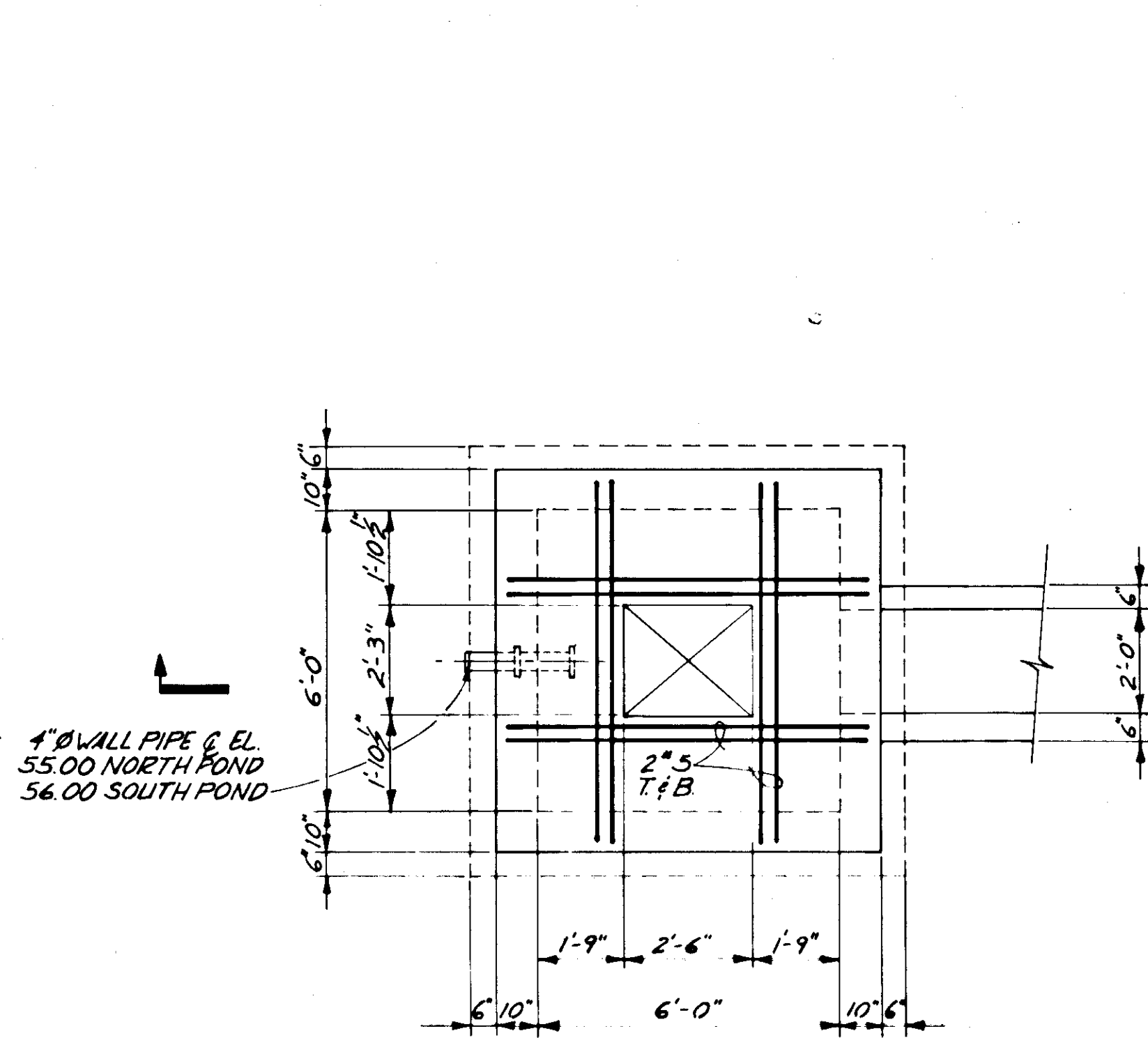
<b>RUSSELL &amp; AXON</b> Engineers — Planners — Architects	
<b>WATER WORKS PROJECT</b> CHEMICAL STORAGE PLAN & SECTION	
MANATEE COUNTY, DESIGNED BY R.D.H.	FILE NO. 630-761-04
DRAWN BY D.R.K./J.R.A.	SHEET M I No. 83
CHECKED BY	OF 130 SHEETS
DATE AUGUST, 1978	SCALE: AS NOTED

NO.	DATE	DESCRIPTION	BY	CHKD.

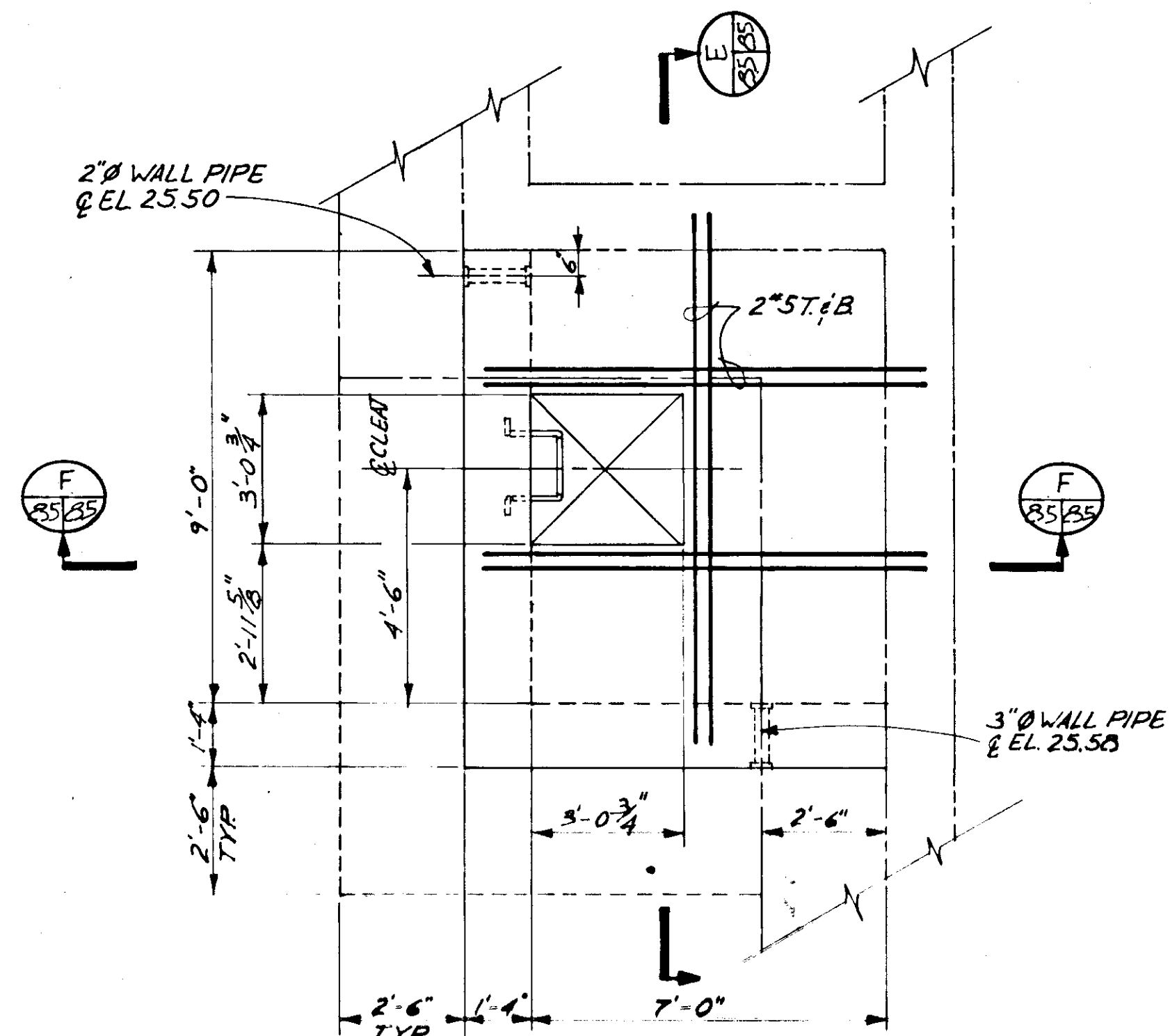


**RECORD DRAWING**  
 PRODUCED FROM INFORMATION  
 FURNISHED BY CONTRACTOR  
 THROUGH M.C.U.S.  
 DATE 8/30/82 BY *K.R.*  
 CHECKED BY:  
 R & A *Blu*  
 M.C.U.S.

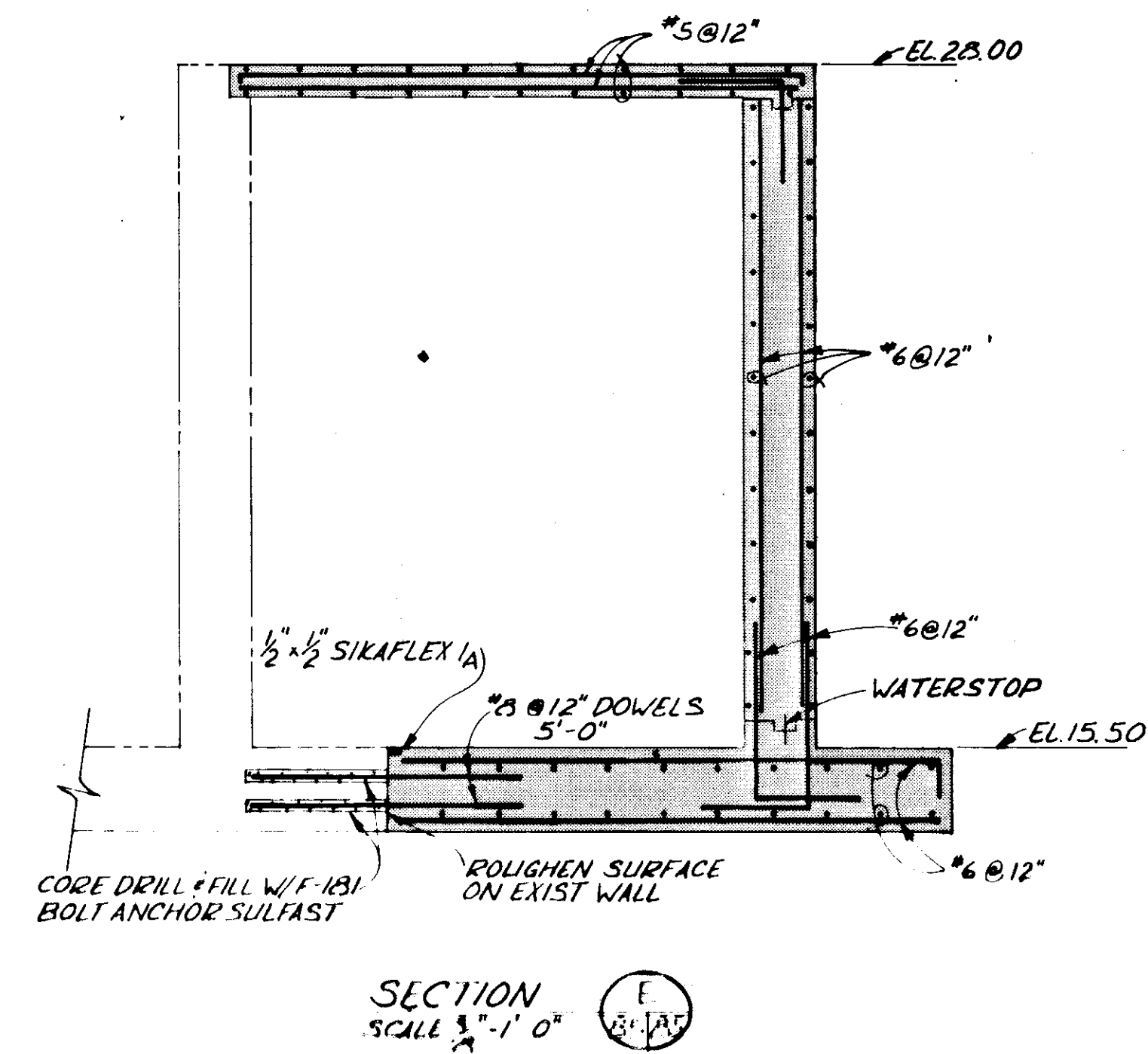
NO.	DATE	DESCRIPTION	BY	CHKD.
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
WATER WORKS PROJECT CHEMICAL STORAGE ENLARGED PLANS, SECTIONS & DETAILS				
T-84 FLORIDA				
MANATEE COUNTY		FILE NO.	<b>SEAL</b>	
DESIGNED BY B.E.D.	630-761-04			
DRAWN BY E.L.L./D.R.K.	SHEET M2	No. <b>(84)</b>		
CHECKED BY	OF 130 SHEETS			
DATE AUGUST, 1978	SCALE: AS NOTED			



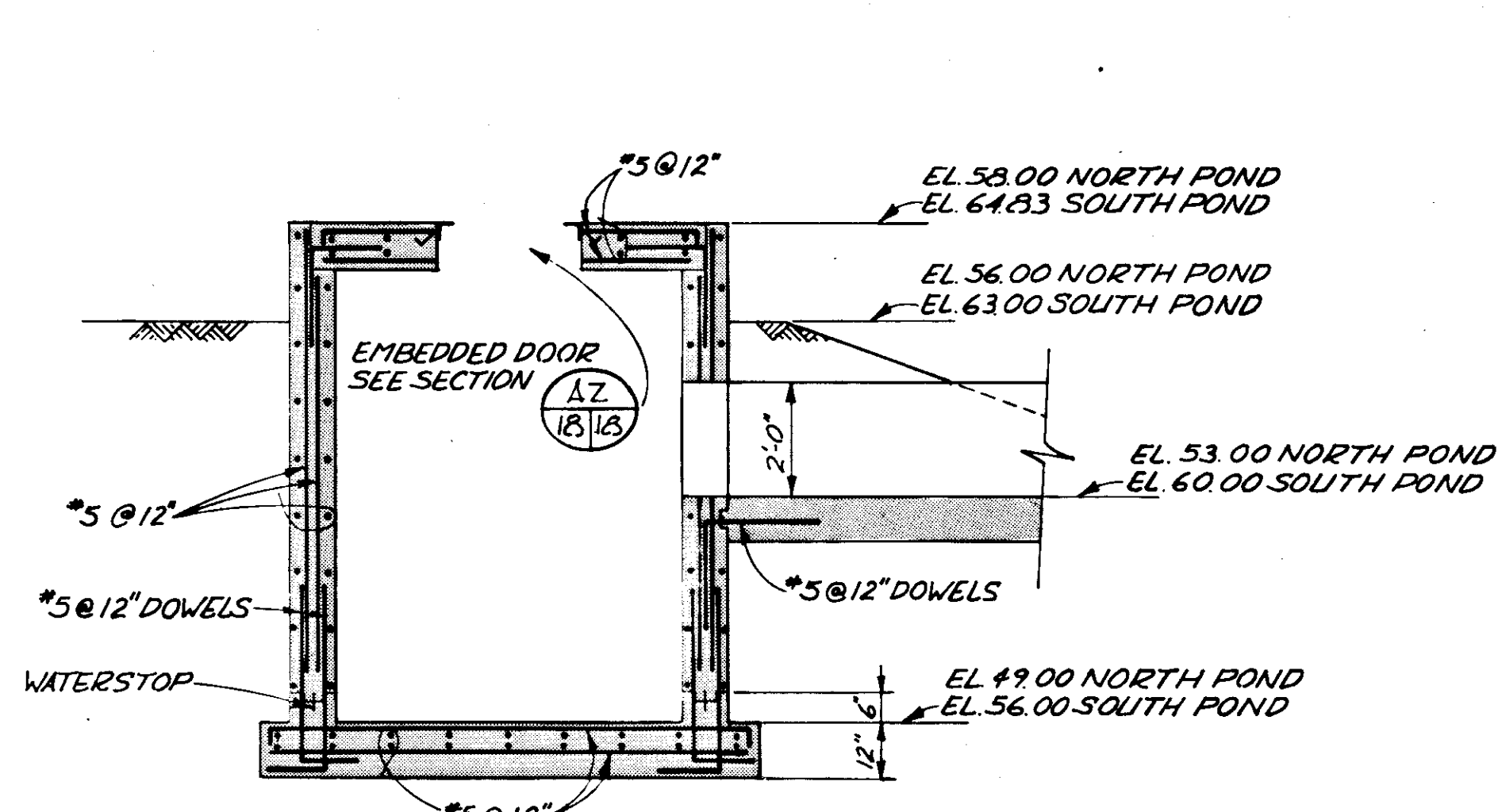
DETAIL C  
SCALE: 3/8" = 1'-0"



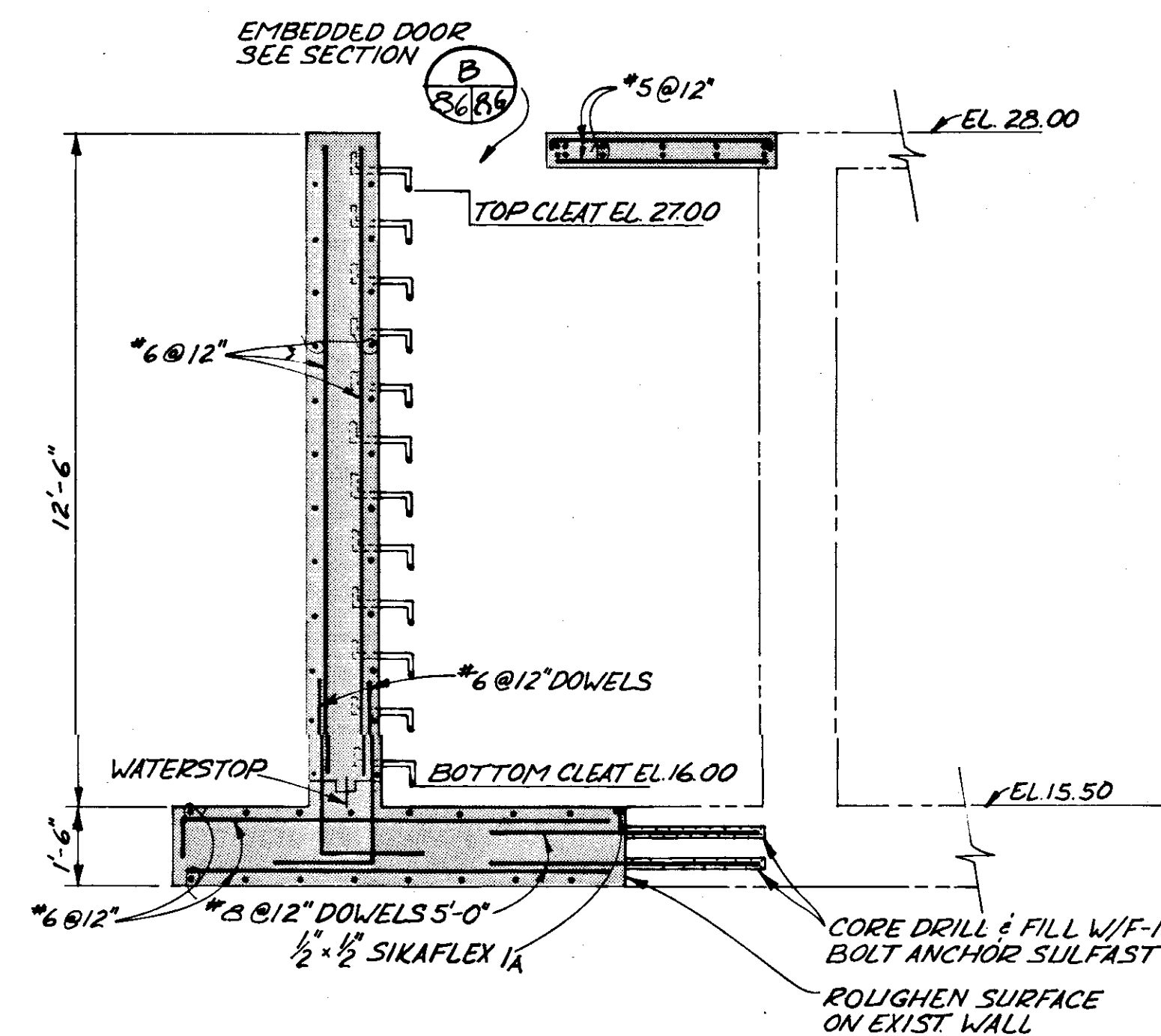
DETAIL D  
SCALE: 3/8" = 1'-0"



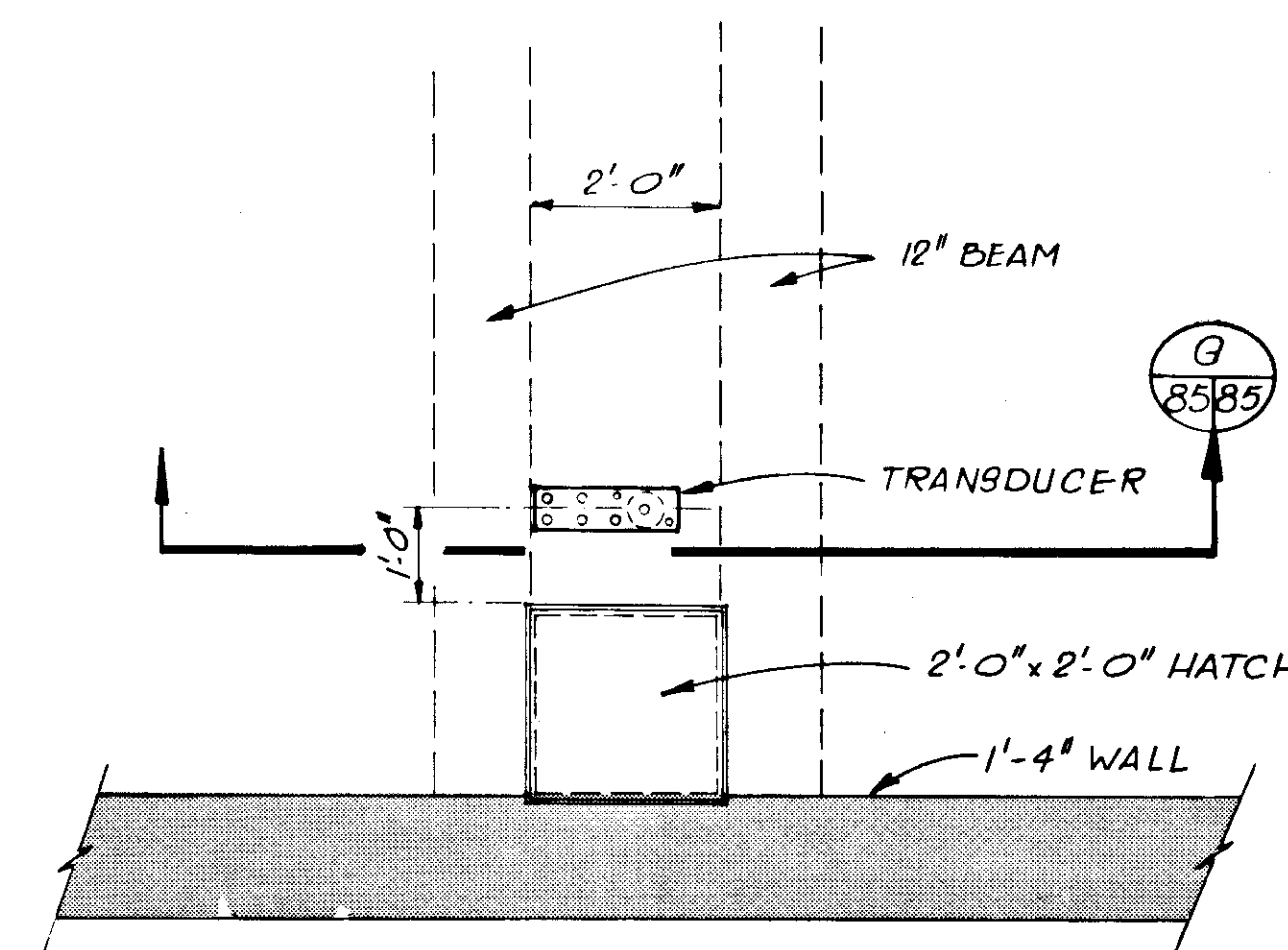
SECTION E  
SCALE: 1/2" = 1'-0"



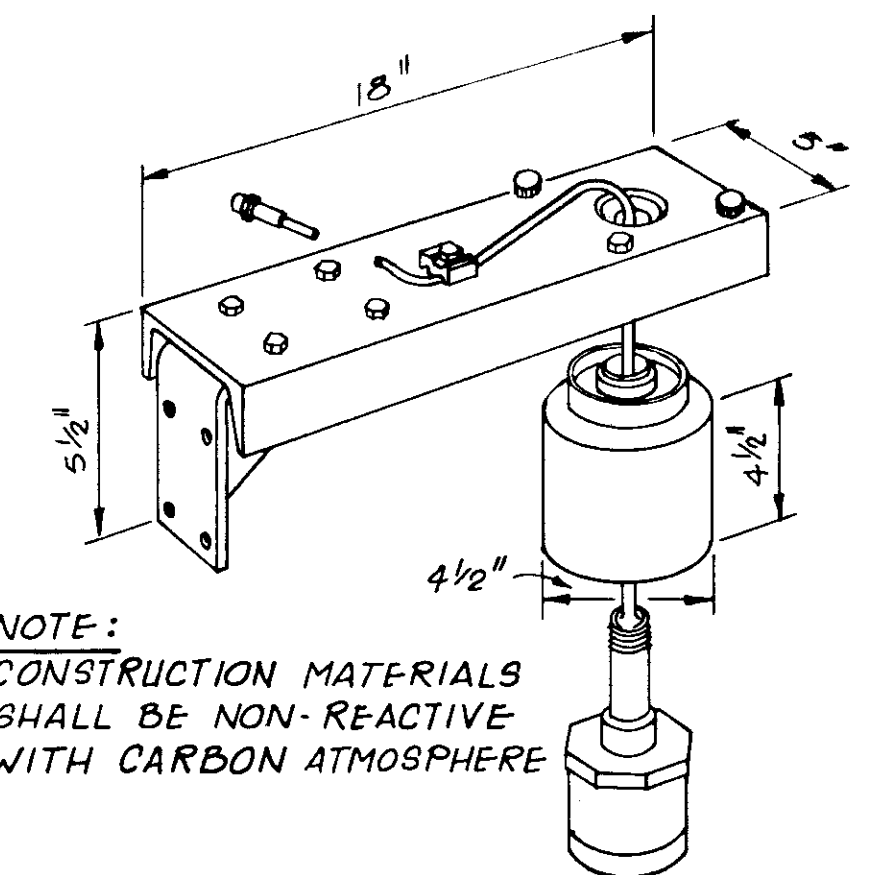
SECTION A  
SCALE: 3/8" = 1'-0"



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

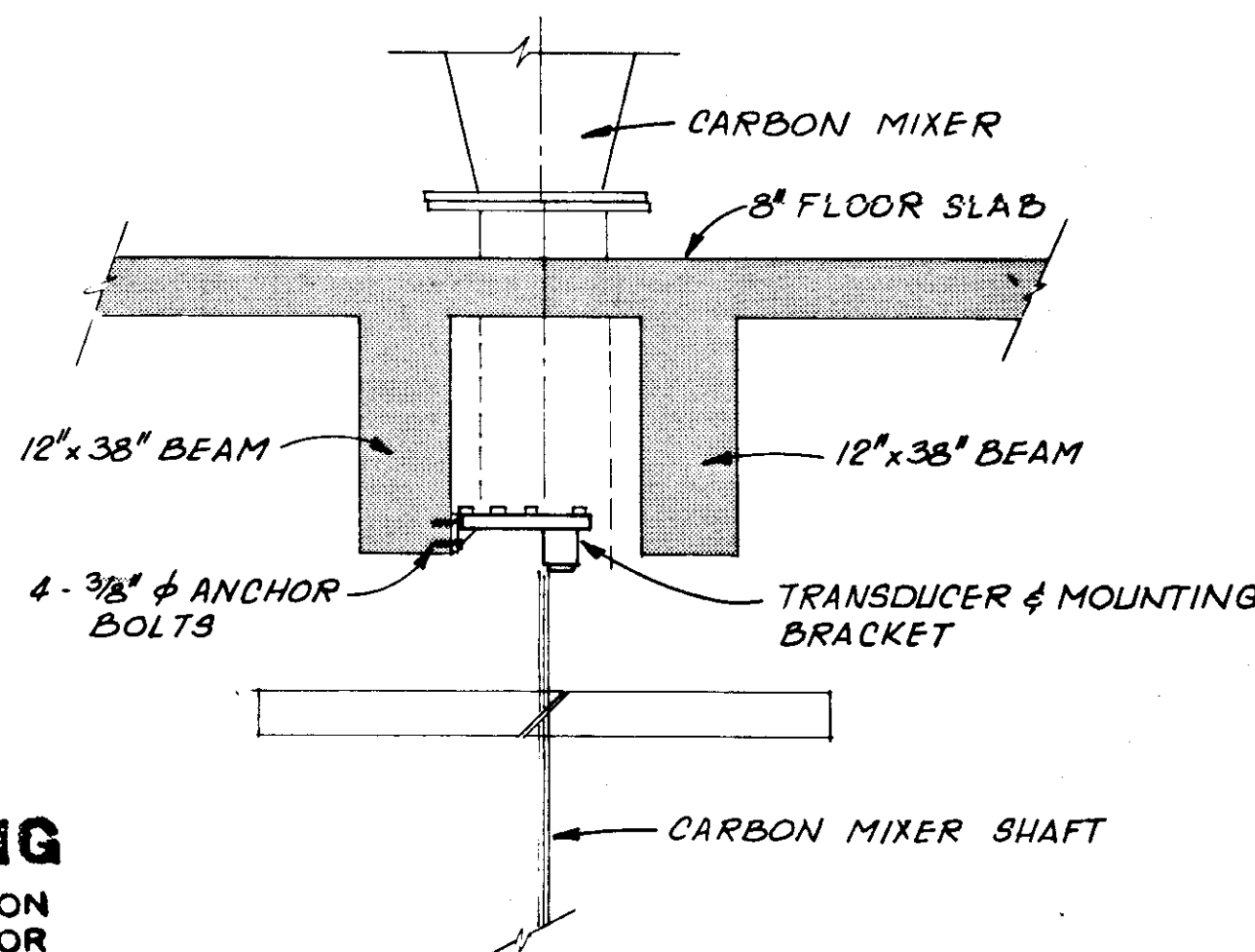


PLAN - TRANSDUCER @ CARBON TANK  
SCALE: 1/8" = 1'-0"



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

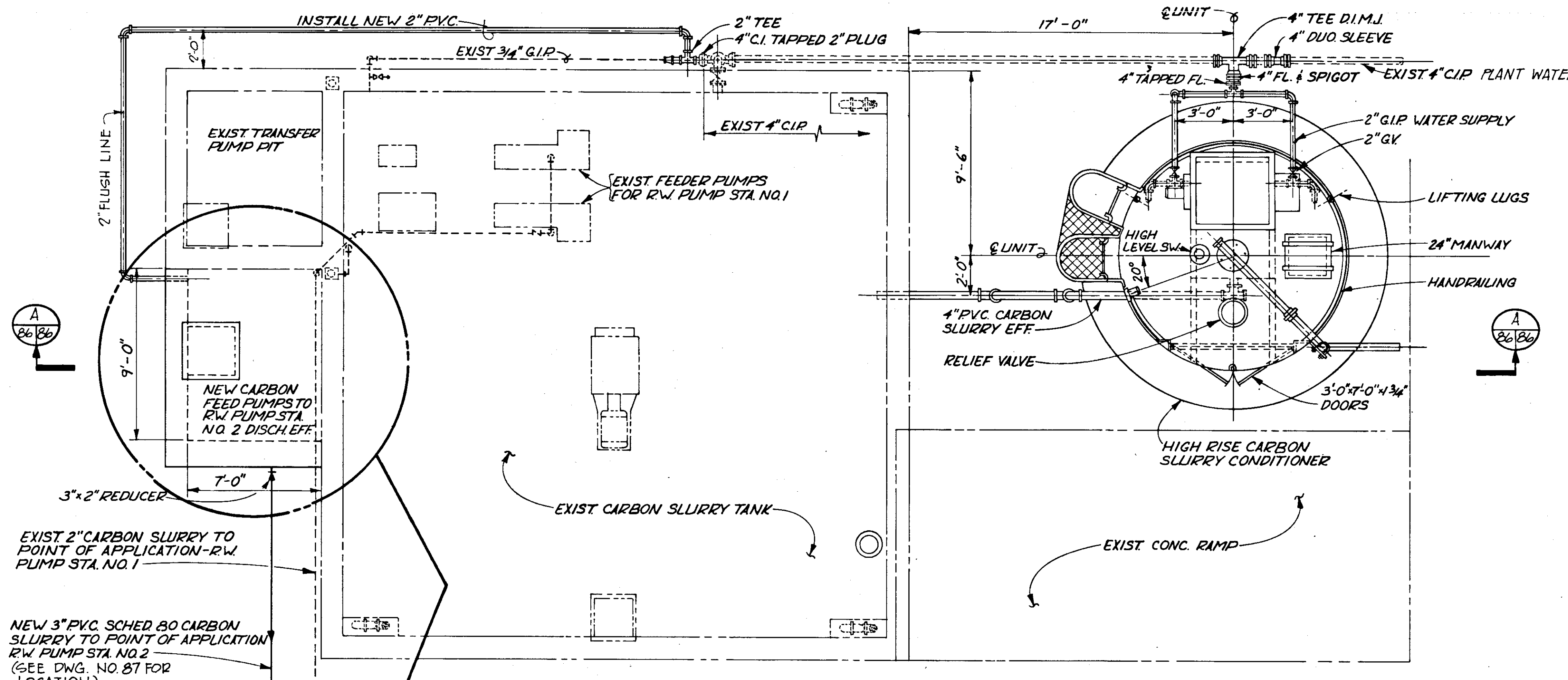
ISOMETRIC - TRANSDUCER &  
MOUNTING BRACKET  
N.T.S.



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

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

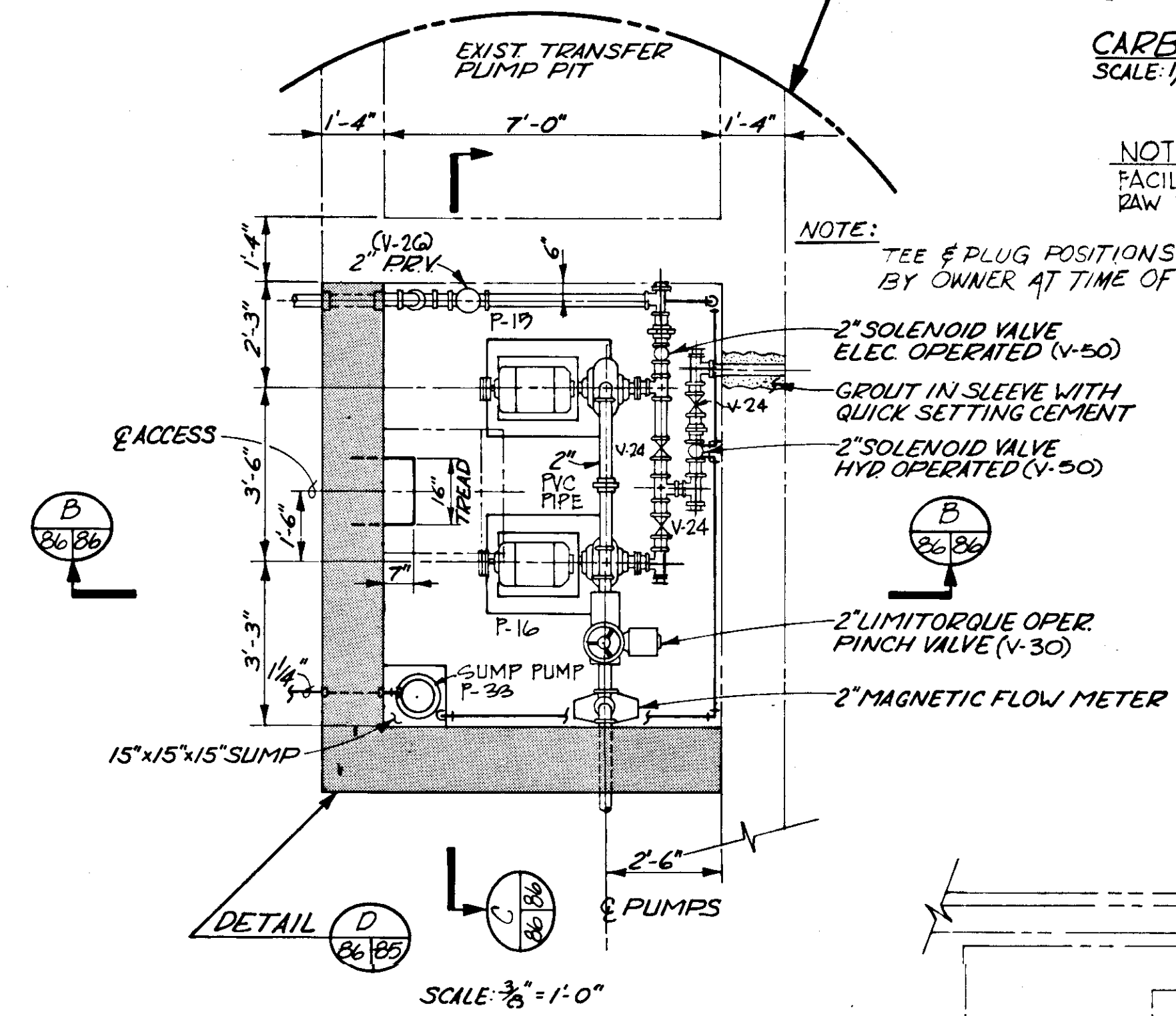
NO.	DATE	DESCRIPTION	BY	CKD.
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
WATER WORKS PROJECT CARBON CONDITIONING SYSTEM PLAN, SECTIONS & DETAILS				
7-85 FLORIDA				
MANATEE COUNTY,				
DESIGNED BY M.B.	FILE NO. 630-761-04	<b>SEAL</b>		
DRAWN BY I.C.S. & J.R.A.	SHEETS: No. 85			
CHECKED BY	OF 130 SHEETS			
DATE AUGUST, 1978	SCALE: 3/8" = 1'-0"			



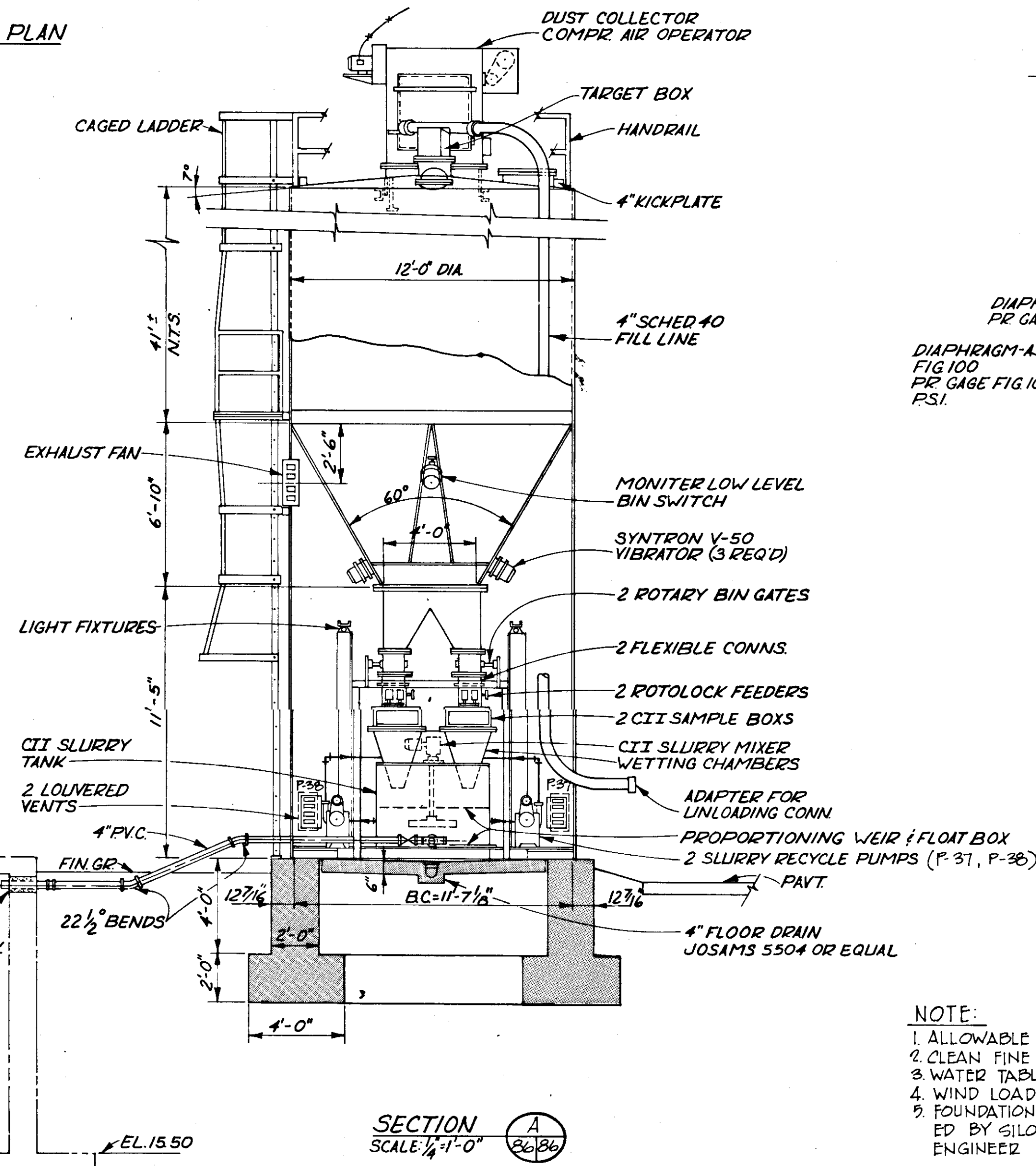
**CARBON CONDITIONING SYSTEM PLAN**  
SCALE: 1/4" = 1'-0"

NOTE:  
FACILITY LOCATION AT EXISTING RAW WATER PUMP STATION.

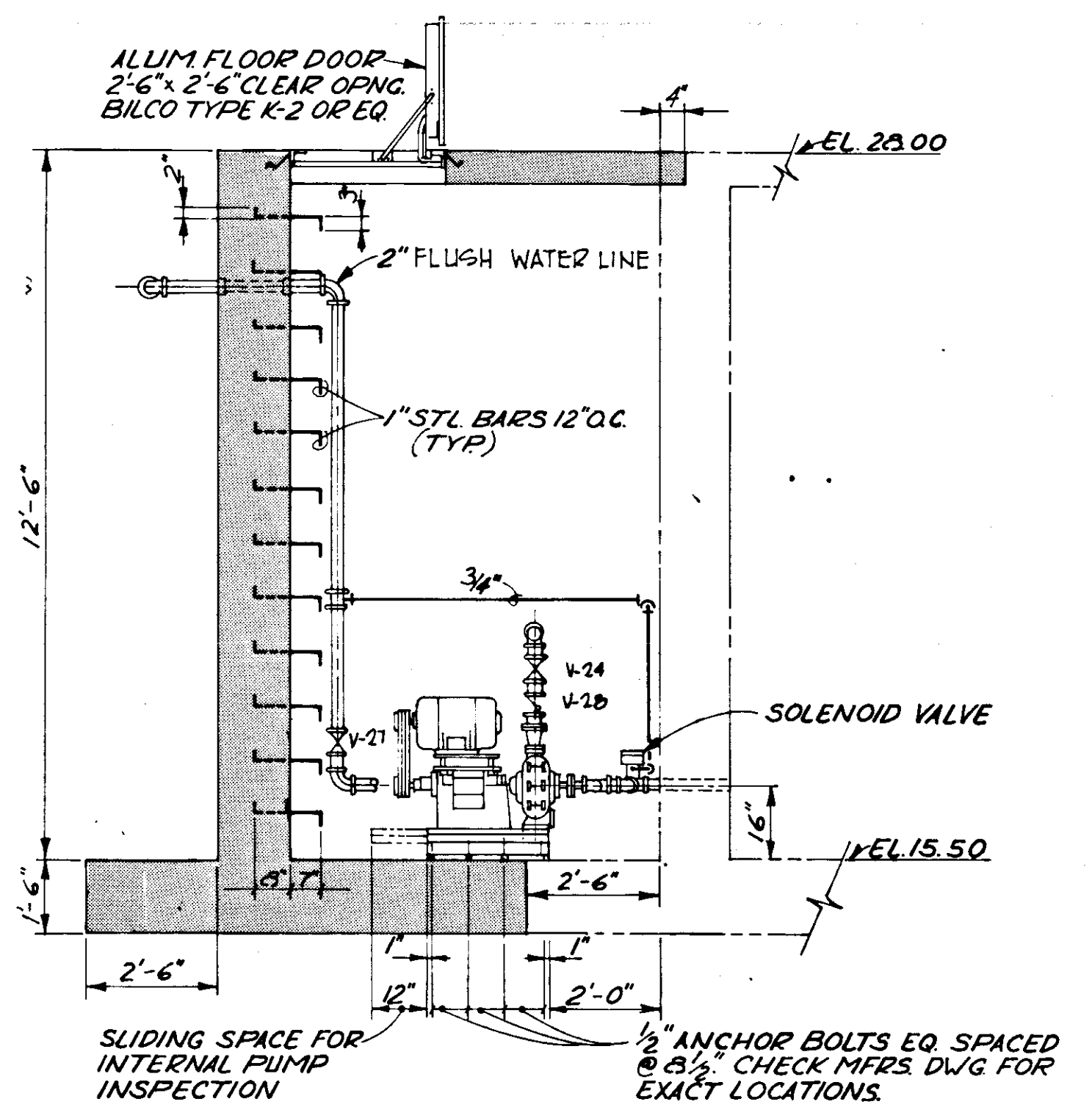
NOTE:  
TEE & PLUG POSITIONS TO BE VERIFIED BY OWNER AT TIME OF INSTALLATION.



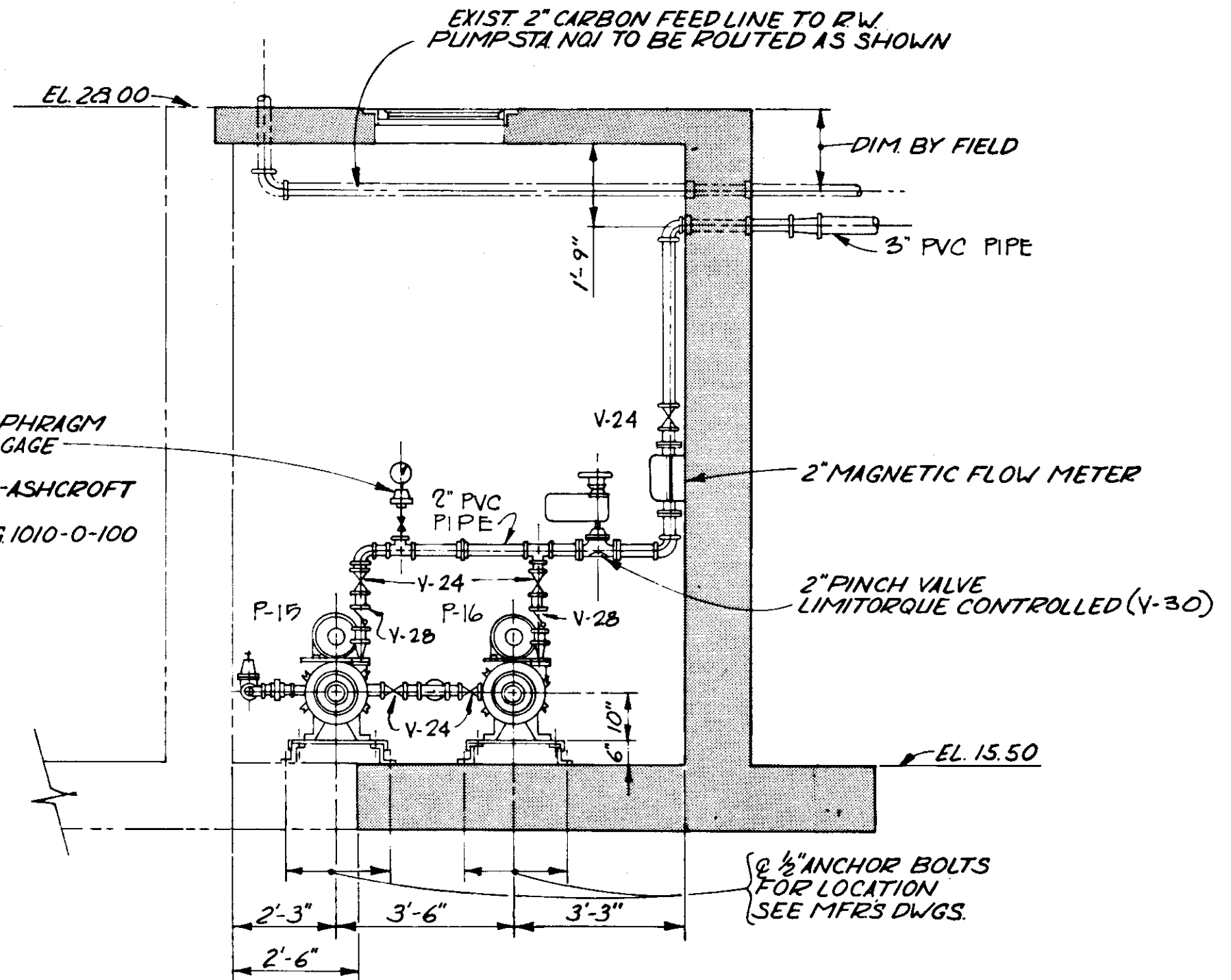
SCALE: 3/8" = 1'-0"



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



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

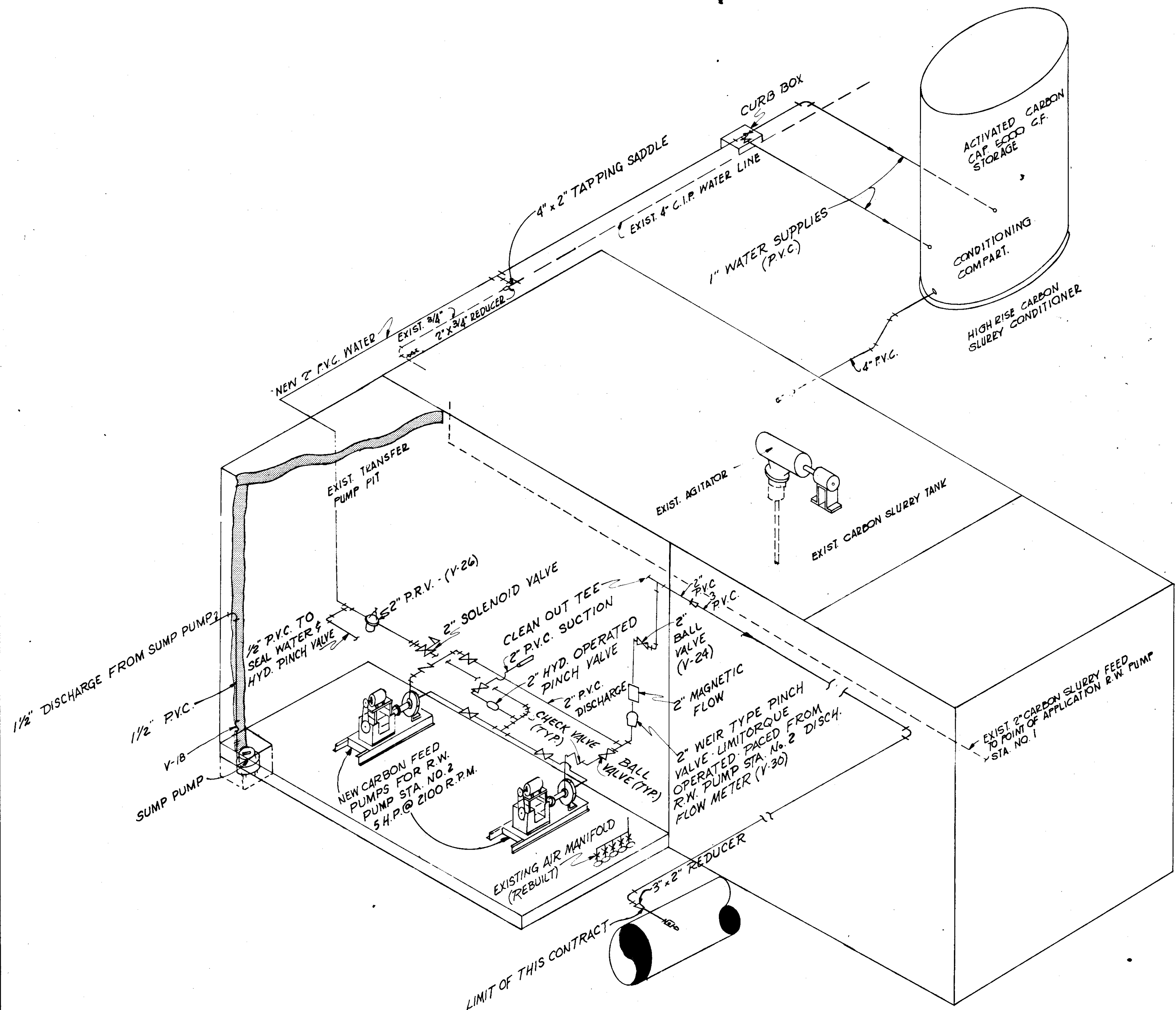


SECTION C  
SCALE: 3/8" = 1'-0"

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

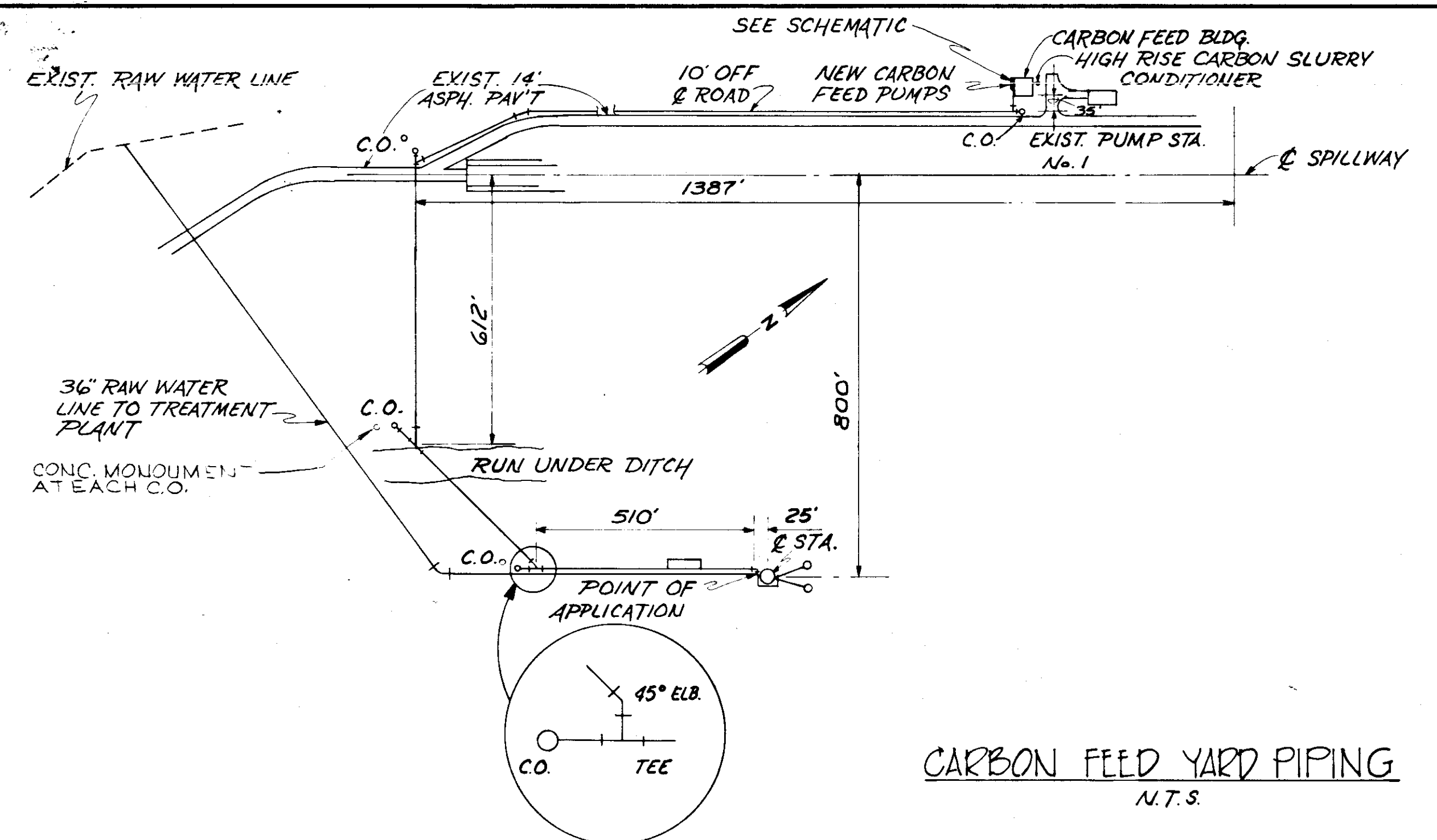
NOTE:  
1. ALLOWABLE SOIL CONTACT PRESSURE 2000 PSF  
2. CLEAN FINE SAND BELOW FOUNDATION  
3. WATER TABLE APPROX. 3'-0" BELOW FINISH GRADE  
4. WIND LOAD = 39 PSF  
5. FOUNDATION FOR CARBON SILO SHALL BE DESIGNED BY SILO MFG. AND SUBMITTED TO THE ENGINEER FOR APPROVAL.

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



ISOMETRIC SCHEMATIC CARBON SLURRY PIPING  
SCALE: NONE

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	Fill. Backwash	46	Flanged		Set 15 Psi.

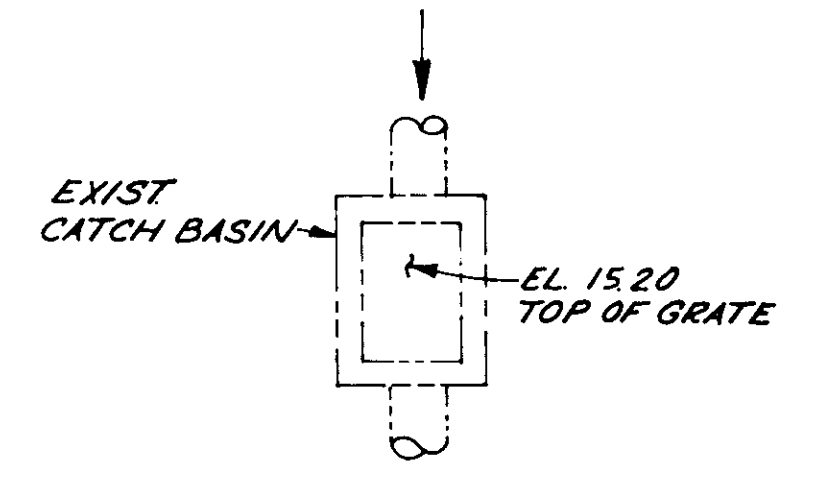
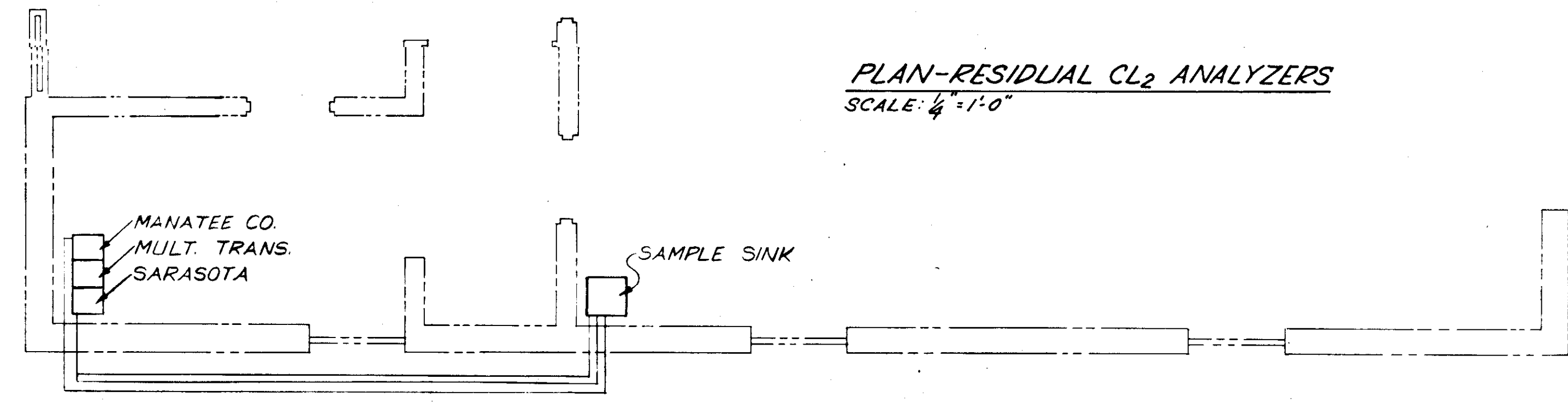
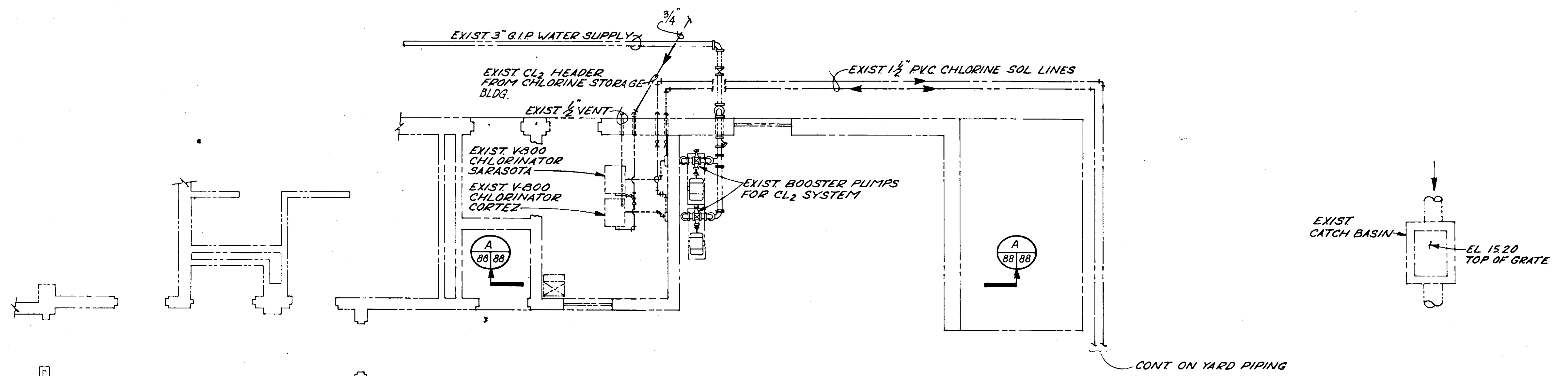
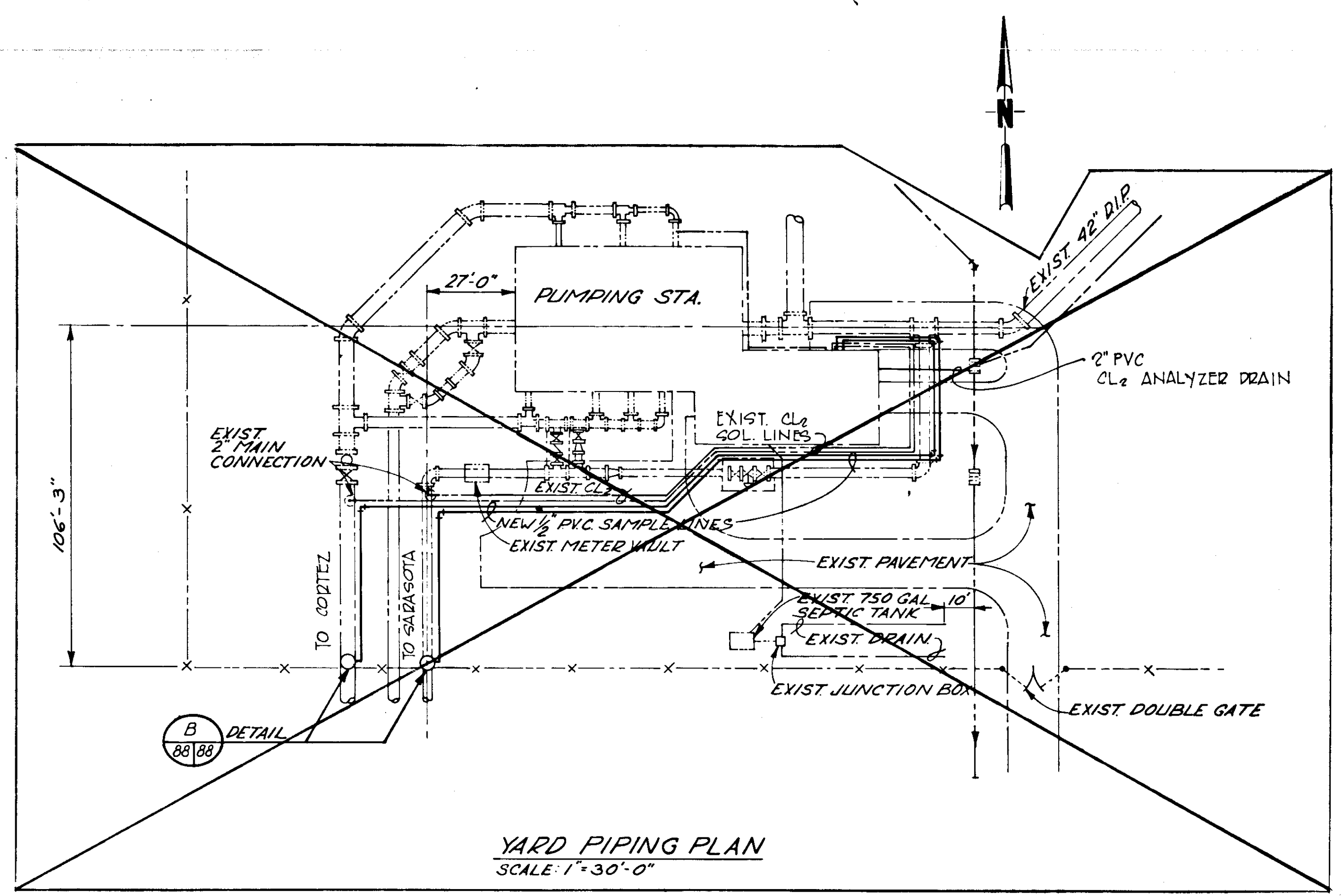
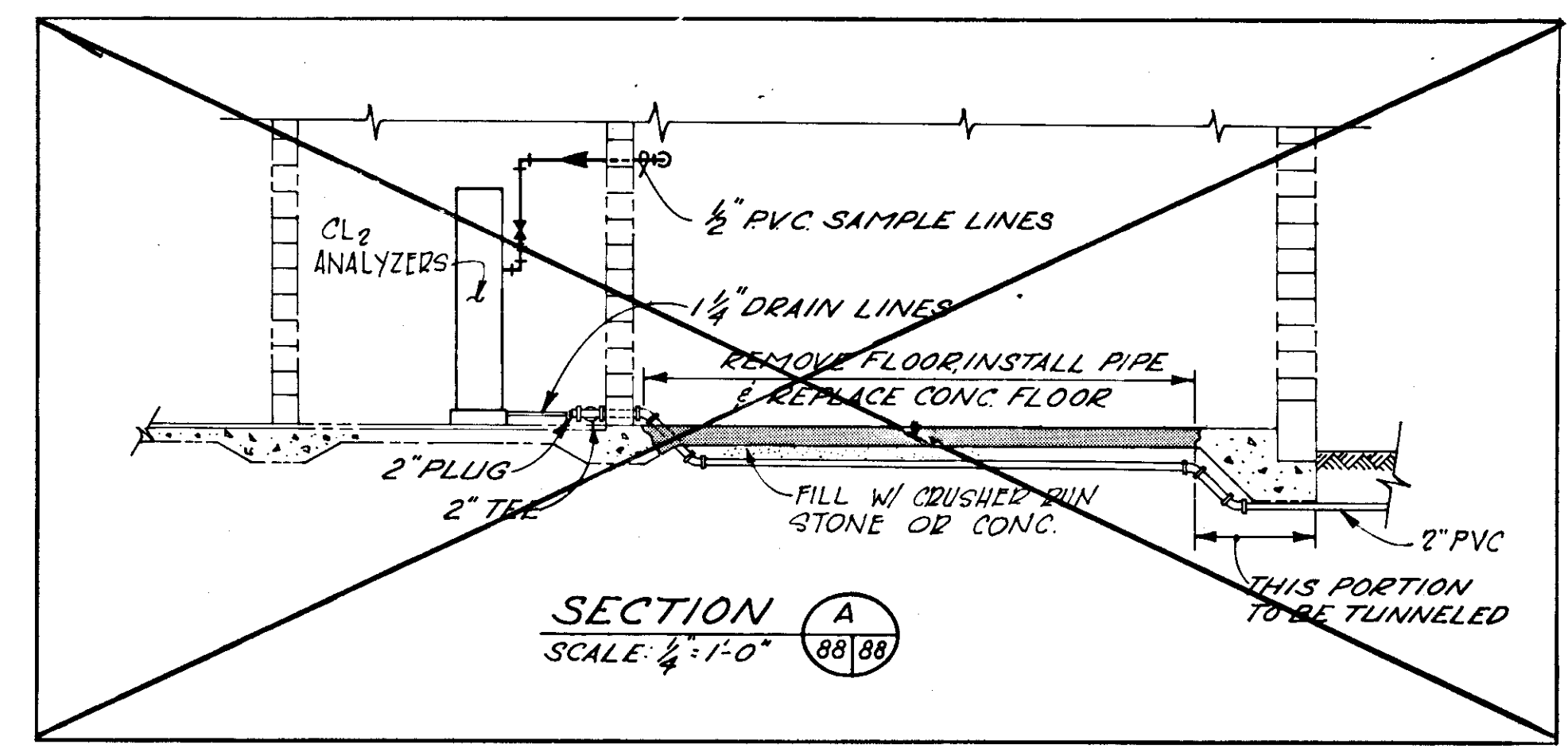
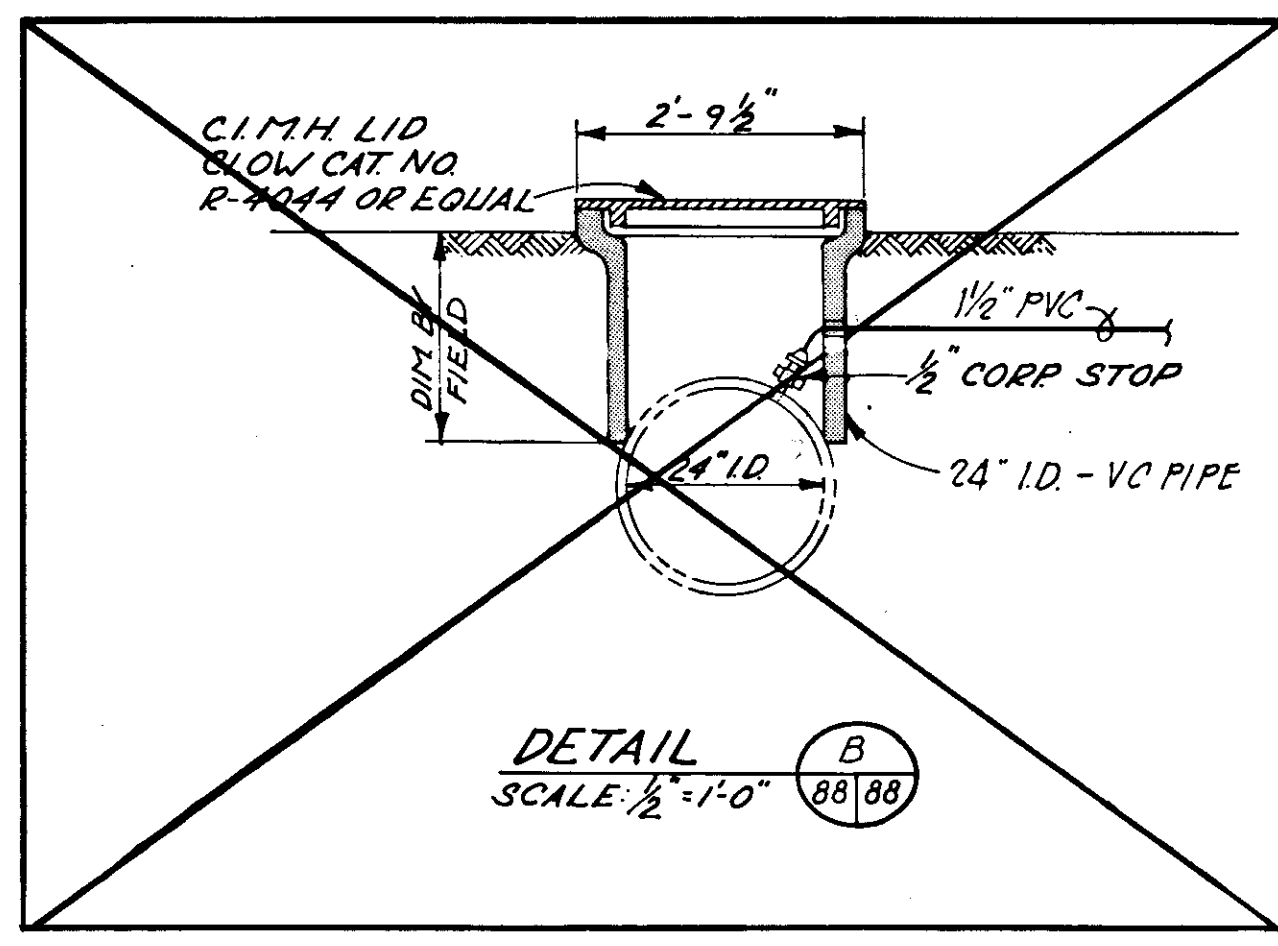


CARBON FEED YARD PIPING  
N.T.S.

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.	19			
V-17	1 1/2"	Gate	Sump Drain	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 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	Bk. Press.Reg
V-40	3/4"	Ball	Cl <sub>2</sub> (Gas)	75			PVC
V-41	1"	Ball	Cl <sub>2</sub> (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			TFE Lined Steel
V-55	1 1/2"	Gate	Air	83,84			PVC
V-56	1"	Gate	Air	83,84			D.I., M.J.
V-57	2"	Gate	Air	83,84			D.I., M.J.
V-58	2"	PRV	Air	83			D.I., M.J.
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 <sub>2</sub> Liquid	77			
V-63	1"	Ball	Cl <sub>2</sub> Liquid	77	Motor	Press. Switch Actuated	
V-64	1"	Ball	Cl <sub>2</sub> Liquid	77			
V-65	1"	Ball	Water	77,75,76			
V-66	4"	Check	Supermantant	8,11			PVC
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 Dschng.	46			Deep Well Type
V-74	1"	Air Rls. Vlv.	Filter Channel	46			"Universal"
V-75	2"	Solenoid	Chem. Water Supply	77,76			PVC
V-76	1 1/2"	Solenoid	Chem. Water Supply	76			PVC
V-77	3/4"	Pres. Relief	Cl <sub>2</sub> Liquid	77,76			
V-78	2"	Air Rls. Vlv.	Backwash Header	45,46			"Universal"

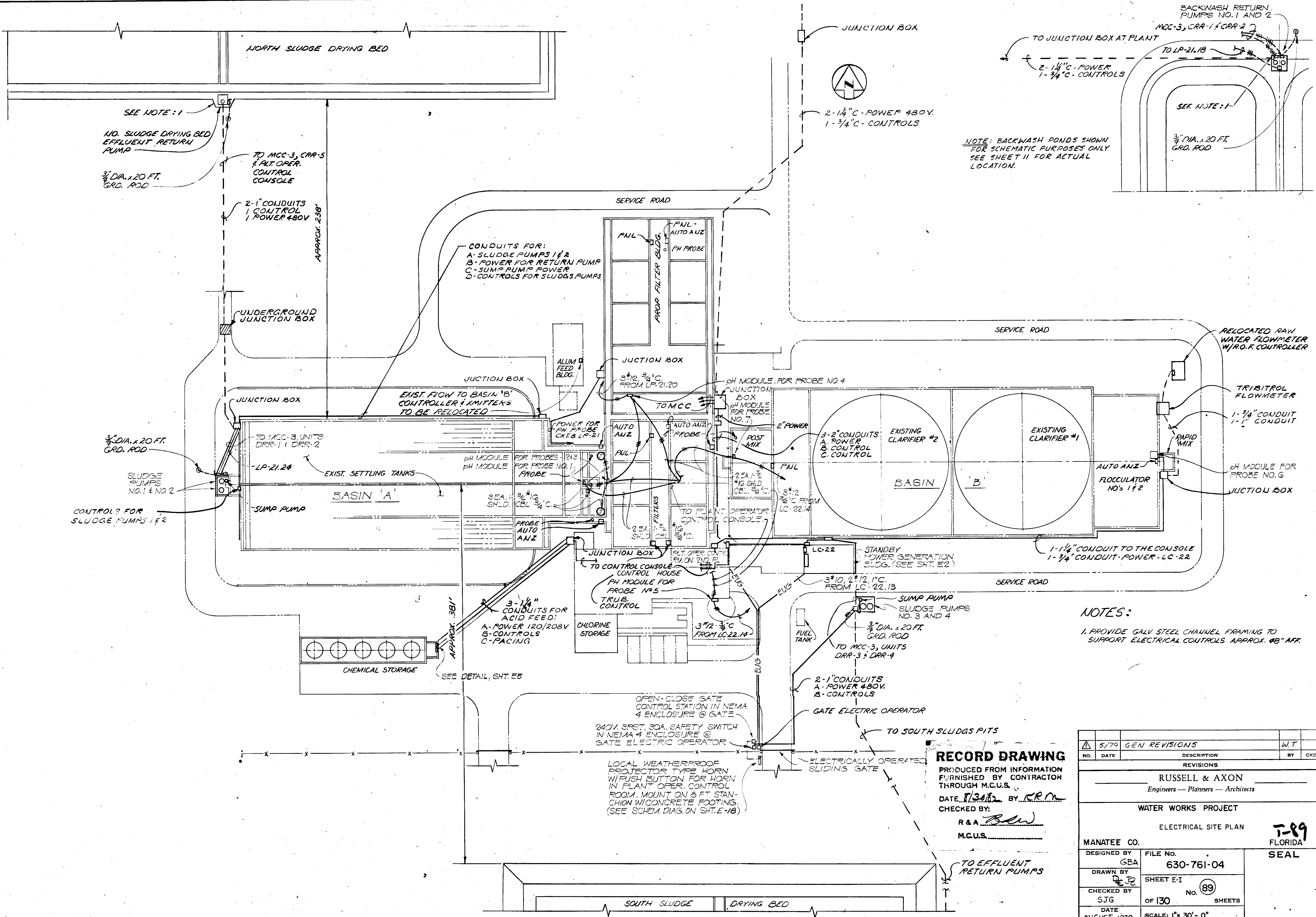
**RECORD DRAWING**  
 PRODUCED FROM INFORMATION  
 FURNISHED BY CONTRACTOR  
 THROUGH M.C.U.S.  
 DATE 8/15/78 BY K.R.A.  
 CHECKED BY:  
 R & A  
 M.C.U.S.

NO.	DATE	DESCRIPTION	BY	CKD.
5/79		REV VALVE SCHED & CARBON YARD PIPING	A.L.	
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT CARBON SLURRY PIPING & ISOMETRIC				
F87 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		
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
ELWOOD PARK BOOSTER PUMPING STATION I MODIFICATIONS TO CHLORINATION SYSTEM				
MANATEE COUNTY, FLORIDA				
DESIGNED BY	FILE NO.	<b>J-88</b> 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				



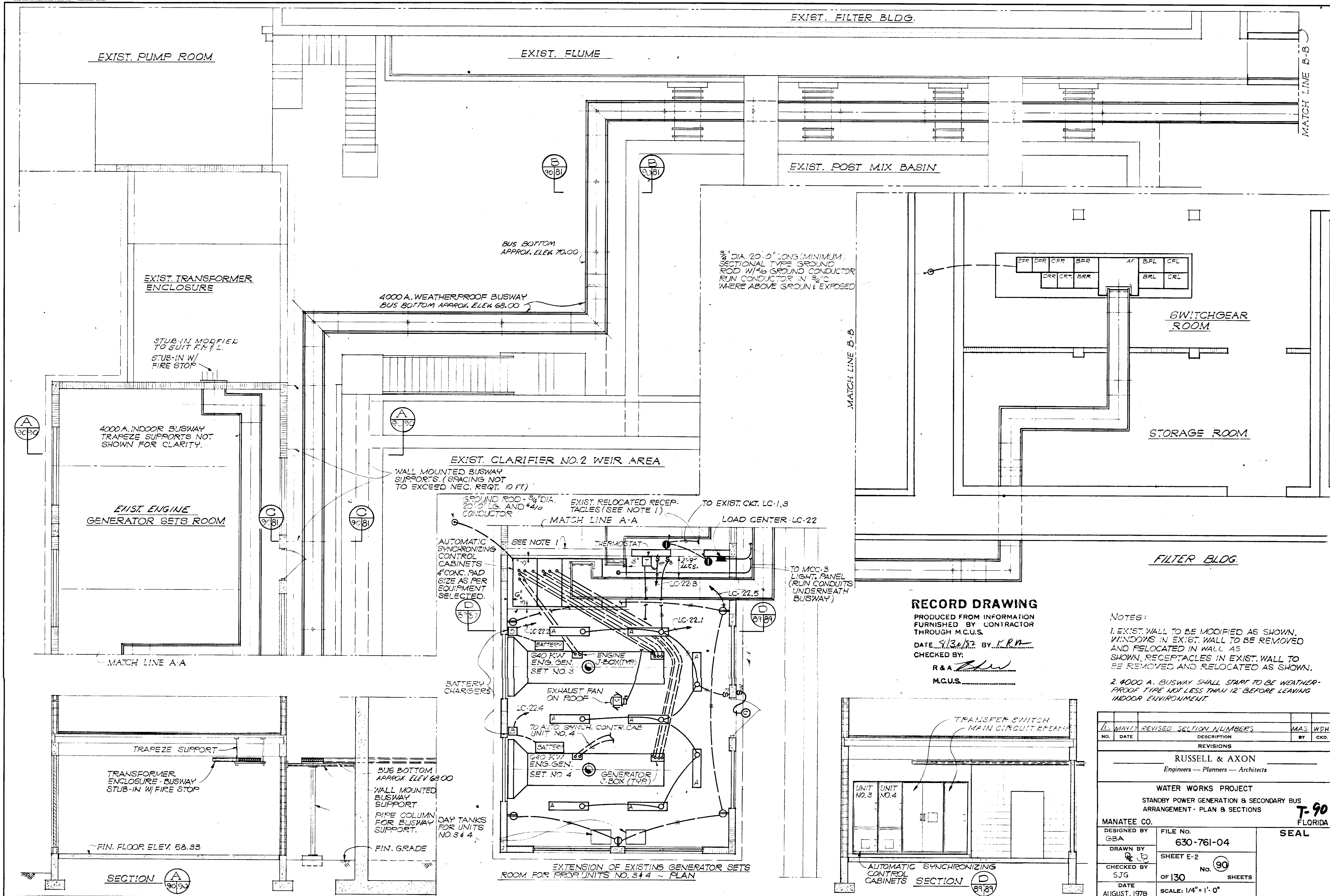
NOTE: BACKWASH PONDS SHOWN FOR SCHEMATIC PURPOSES ONLY. SEE SHEET II FOR ACTUAL LOCATION.

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 8/30/88 BY R.R.M.  
CHECKED BY:  
R & A. *[Signature]*  
M.C.U.S.

NO.	DATE	GEN REVISIONS	DESCRIPTION	W.T.	BY	CKD.
1	5/79	GEN REVISIONS				
REVISIONS						
RUSSELL & AXON Engineers - Planners - Architects						
WATER WORKS PROJECT						
ELECTRICAL SITE PLAN						
7-89 FLORIDA SEAL						
DESIGNED BY	FILE NO.					
GBA	630-761-04					
DRAWN BY	SHEET E-I					
<i>[Signature]</i>	No. 89					
CHECKED BY	OF 130 SHEETS					
SJG						
DATE	SCALE: 1" = 30'-0"					
AUGUST, 1978						





**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. \_\_\_\_\_

- NOTES:**
- 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.
  - 4000 A. BUSWAY SHALL START TO BE WEATHER-PROOF TYPE NOT LESS THAN 12' BEFORE LEAVING INDOOR ENVIRONMENT.

NO.	DATE	REVISED SECTION NUMBERS	DESCRIPTION	M.A.S.	W.D.H.
1	MAY 11				

**REVISIONS**

**RUSSELL & AXON**  
Engineers - Planners - Architects

**WATER WORKS PROJECT**  
STANDBY POWER GENERATION & SECONDARY BUS  
ARRANGEMENT - PLAN & SECTIONS

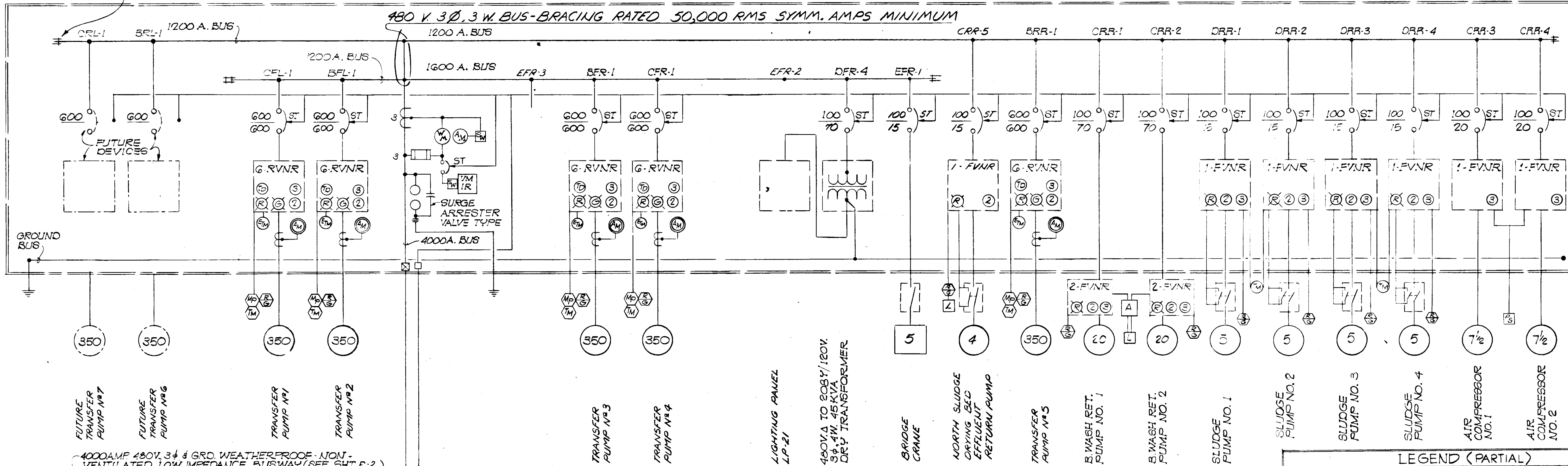
MANATEE CO. **T-90**  
FLORIDA

DESIGNED BY GBA	FILE NO. 630-761-04	<b>SEAL</b>
DRAWN BY [Signature]	SHEET E-2	
CHECKED BY S.J.G.	OF 130 SHEETS	
DATE AUGUST, 1978	No. 90	
	SCALE: 1/4" = 1'-0"	

ALLOW PROVISIONS FOR BUS EXTENSION (TYP)

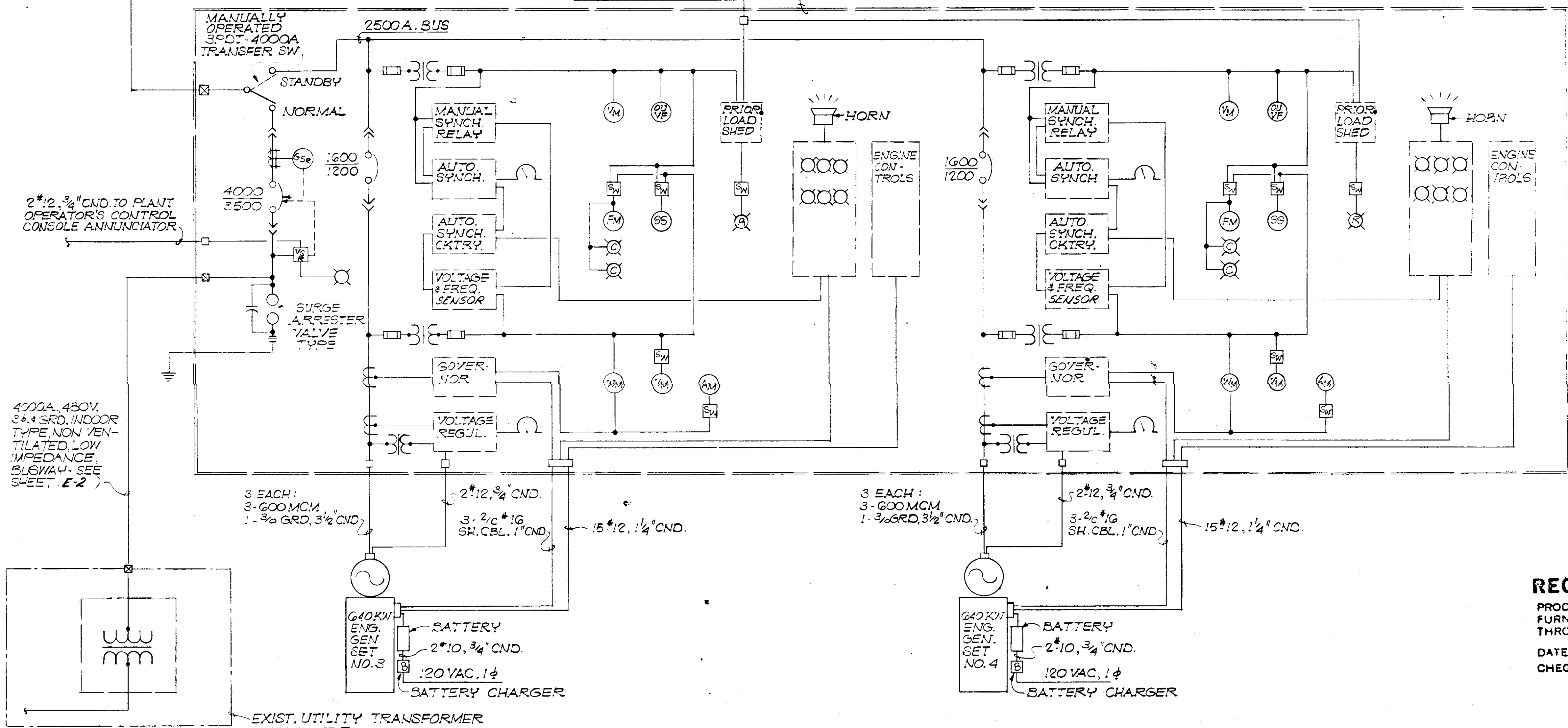
MOTOR CONTROL CENTER MCC-3 SINGLE LINE DIAGRAM

480 V. 3Ø, 3 W. BUS-BRACING RATED 50,000 RMS SYMM. AMPS MINIMUM



4000AMP 480V. 3Ø GRD. WEATHERPROOF-NON-VENTILATED, LOW IMPEDANCE BUSWAY (SEE SHEET E-2)

STANDBY ENGINE GENERATOR SETS AUTOMATIC SYNCHRONIZING CONTROLS



**LEGEND (PARTIAL)**

⊗	AMMETER, SWITCHBOARD; PANEL
⊙	WATTHOUR METER W/DEMAND REGISTER
⊖	VOLTMETER-RECORDING TYPE
⊕	TIMER, FIELD LOCATED
⊗	SWITCHBOARD TYPE ROTARY SELECTOR SWITCH
⊙	TIME DELAY RELAY
⊕	START-STOP PUSH BUTTON
⊖	SELECTOR SWITCH 3-POSITION
⊗	PUSH-TO-TEST PILOT LIGHT; R=RED, G=GREEN
⊙	MATRIX PINBOARD - PLANT OPERATOR CONTROL CONSOLE
⊕	STATUS INDICATING LIGHT " " " "
⊖	CURRENT TRANSFORMER
⊗	ILLUMINATED START-STOP CONTROL - PLT. OPER. CONT. CONS.
⊙	PRESSURE OPERATED SWITCH
⊕	TIMER - PLT. OPER. CONTROL CONSOLE
⊖	GROUND FAULT SENSING RELAY
⊗	LEVEL CONTROL - PLT. OP. C.C., IN FIELD
⊙	CIRCUIT BREAKER W/SHUNT TRIP
⊕	BUS TYPE CONNECTION
⊖	VOLTAGE SENSING RELAY
⊗	GROUND FAULT SENSING DEVICE
⊙	2-CKT. ALTERNATOR
⊕	JUNCTION BOX

**NOTES:**  
1. ALL CMT. BARRS. IN MCC-3 MUST BE LOCKABLE IN THE OPEN POSITION.

NO.	DATE	DESCRIPTION	BY	CHKD.
5/79		REV. B. WASH. RET. PUMPS & EFR-3	RSJ	
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
WATER WORKS PROJECT MOTOR CONTROL CENTER & STANDBY POWER SUPPLY SINGLE LINE DIAGRAM				
MANATEE CO.		T-91 FLORIDA		
DESIGNED BY SEA	FILE NO. 630-761-04	SEAL		
DRAWN BY R&A	SHEET E-3			
CHECKED BY SJK	OF 130 SHEETS	No. 91		
DATE AUGUST, 1978	SCALE: NONE			

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

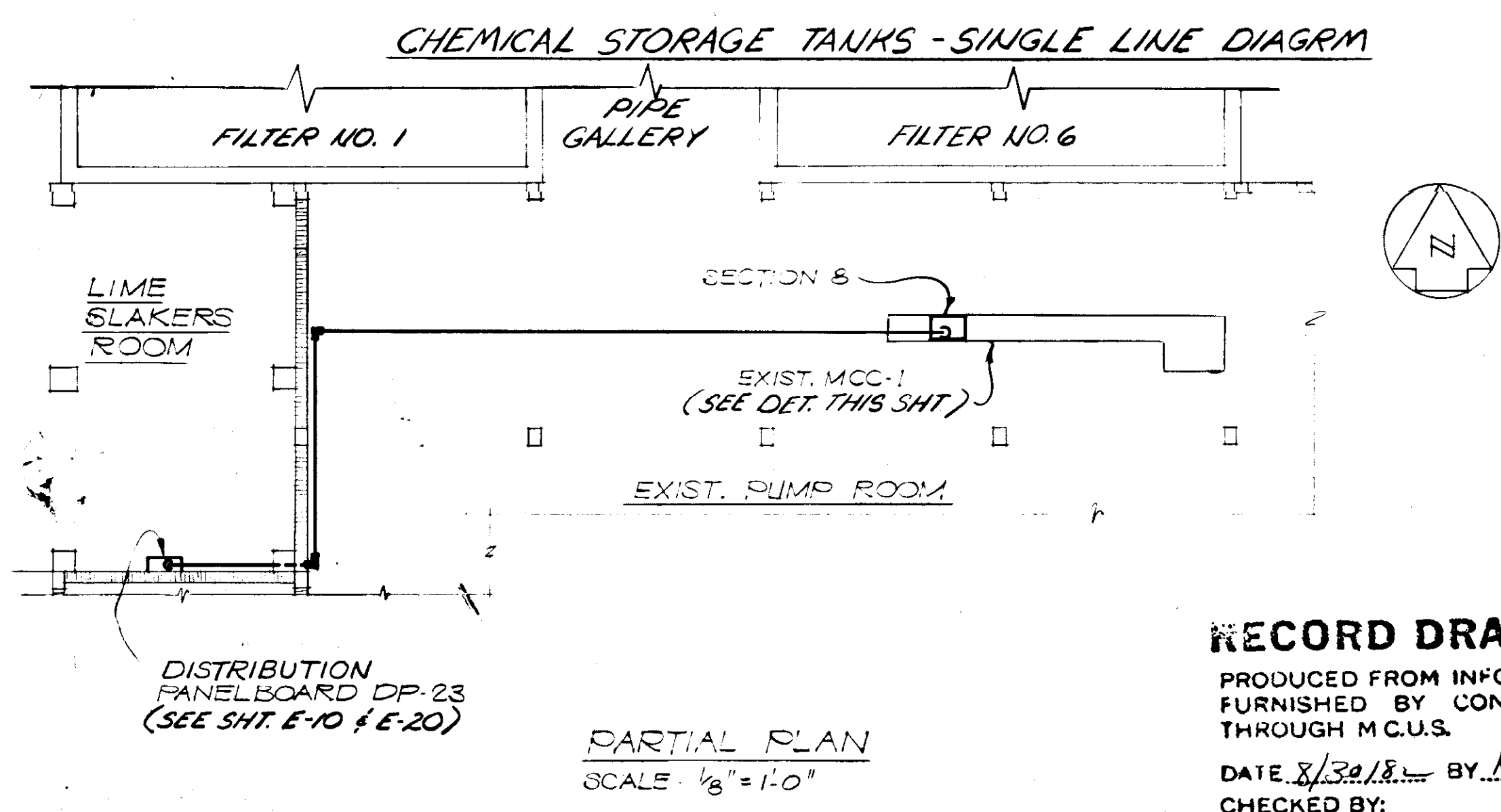
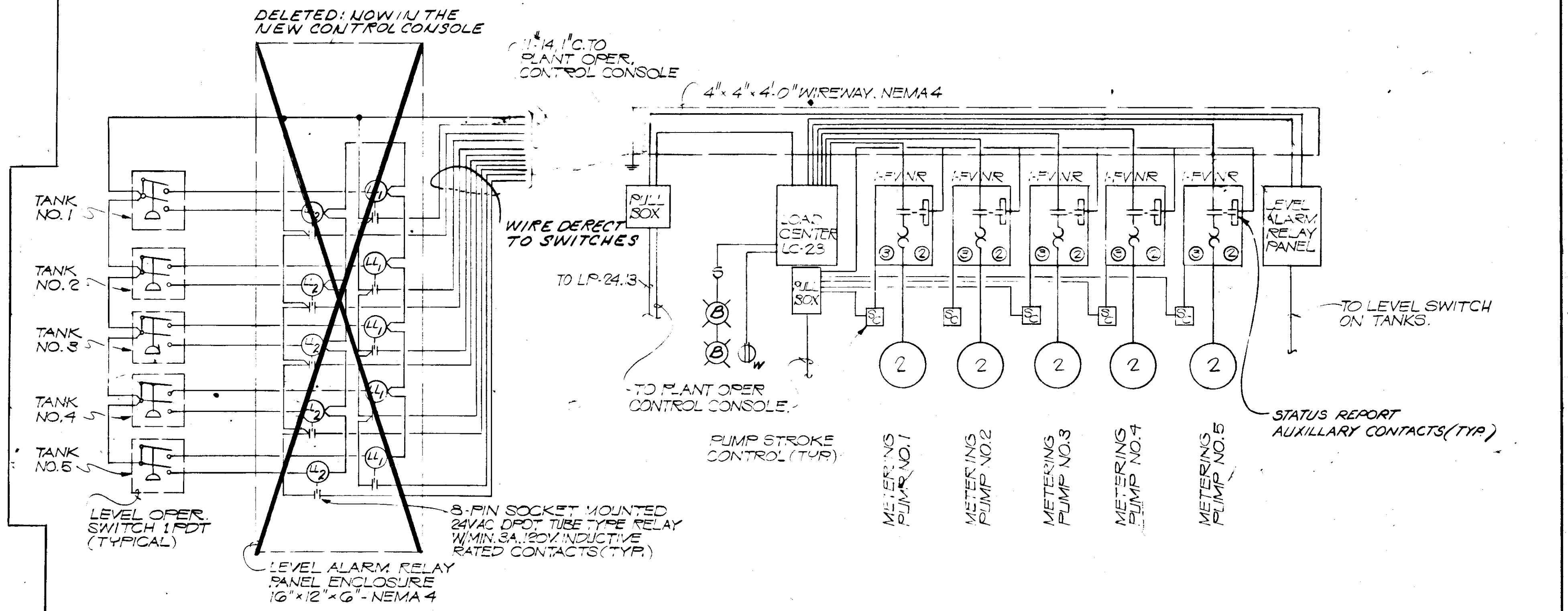
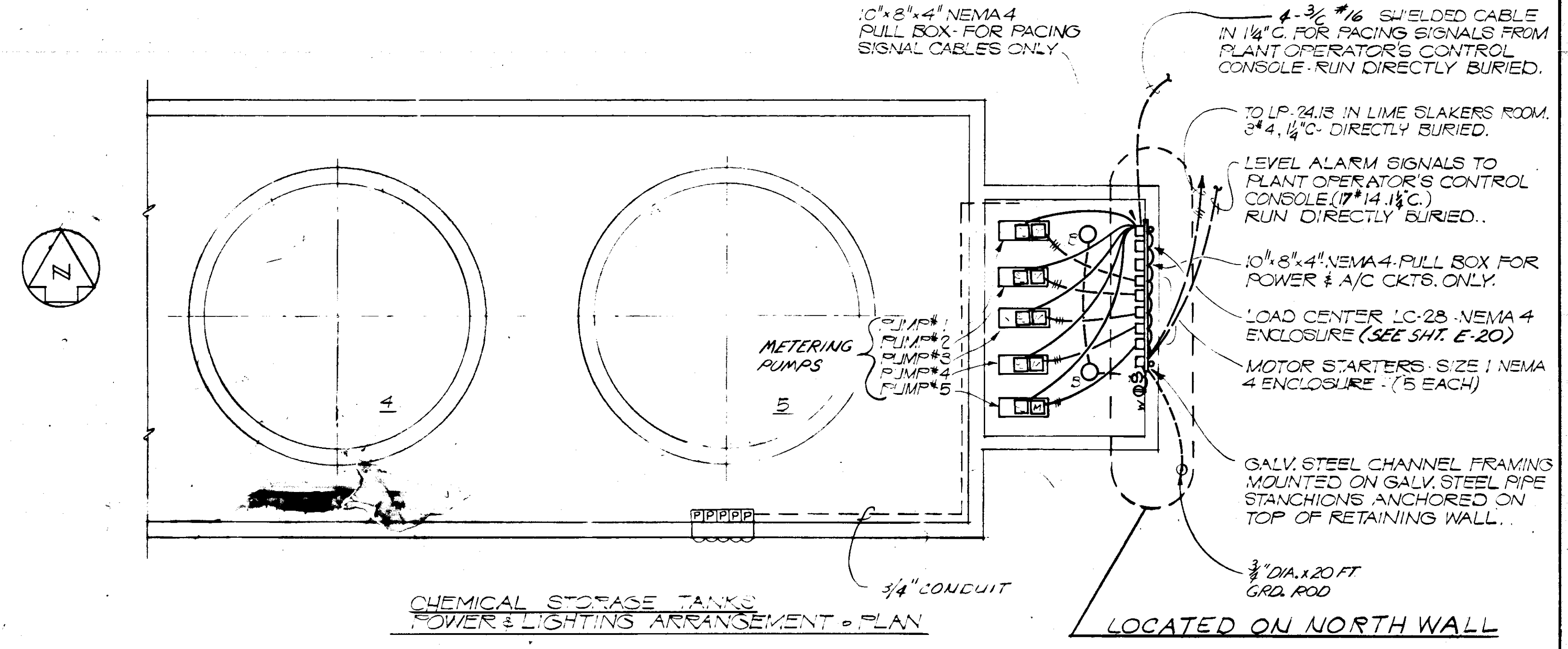
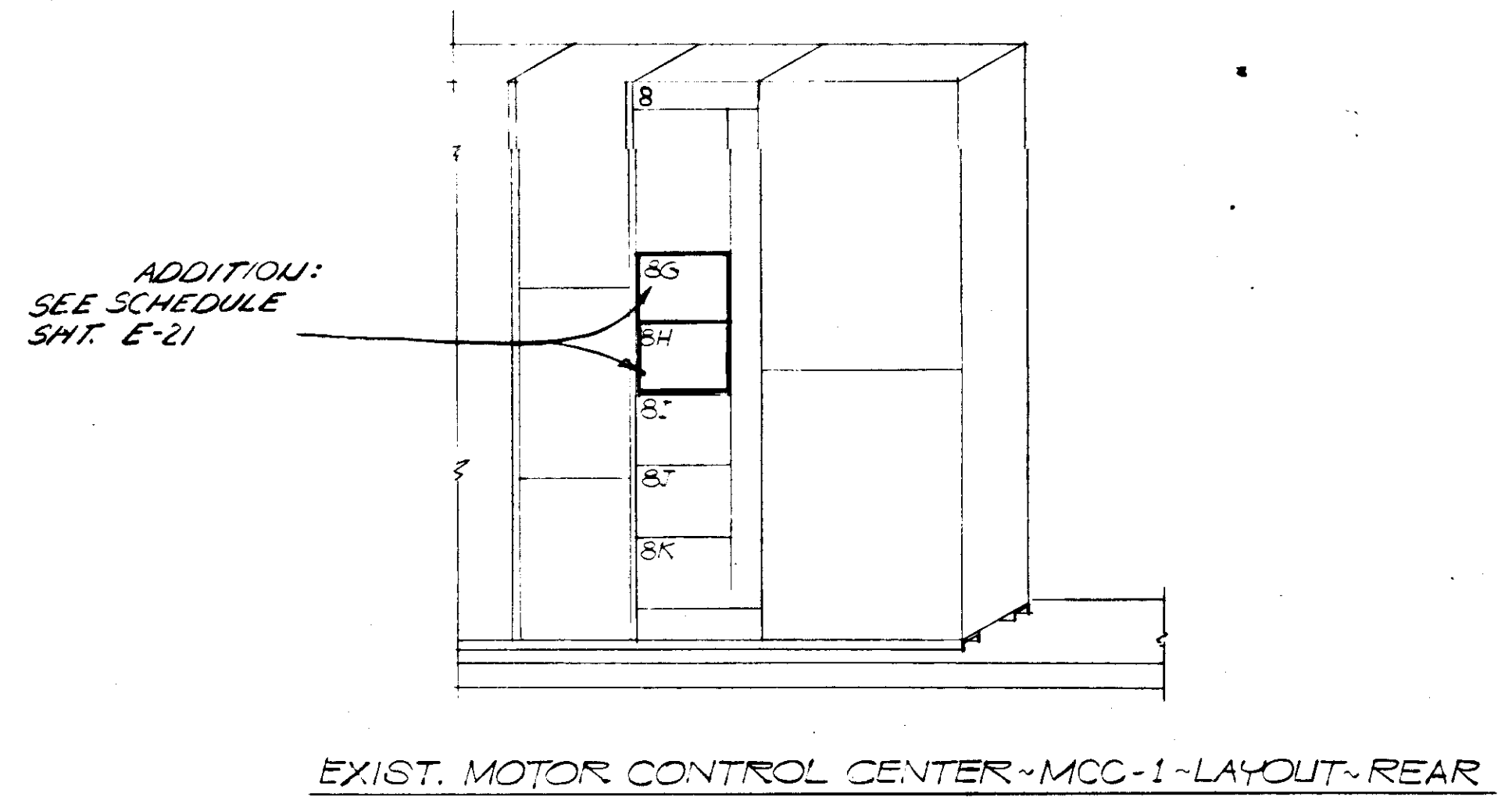
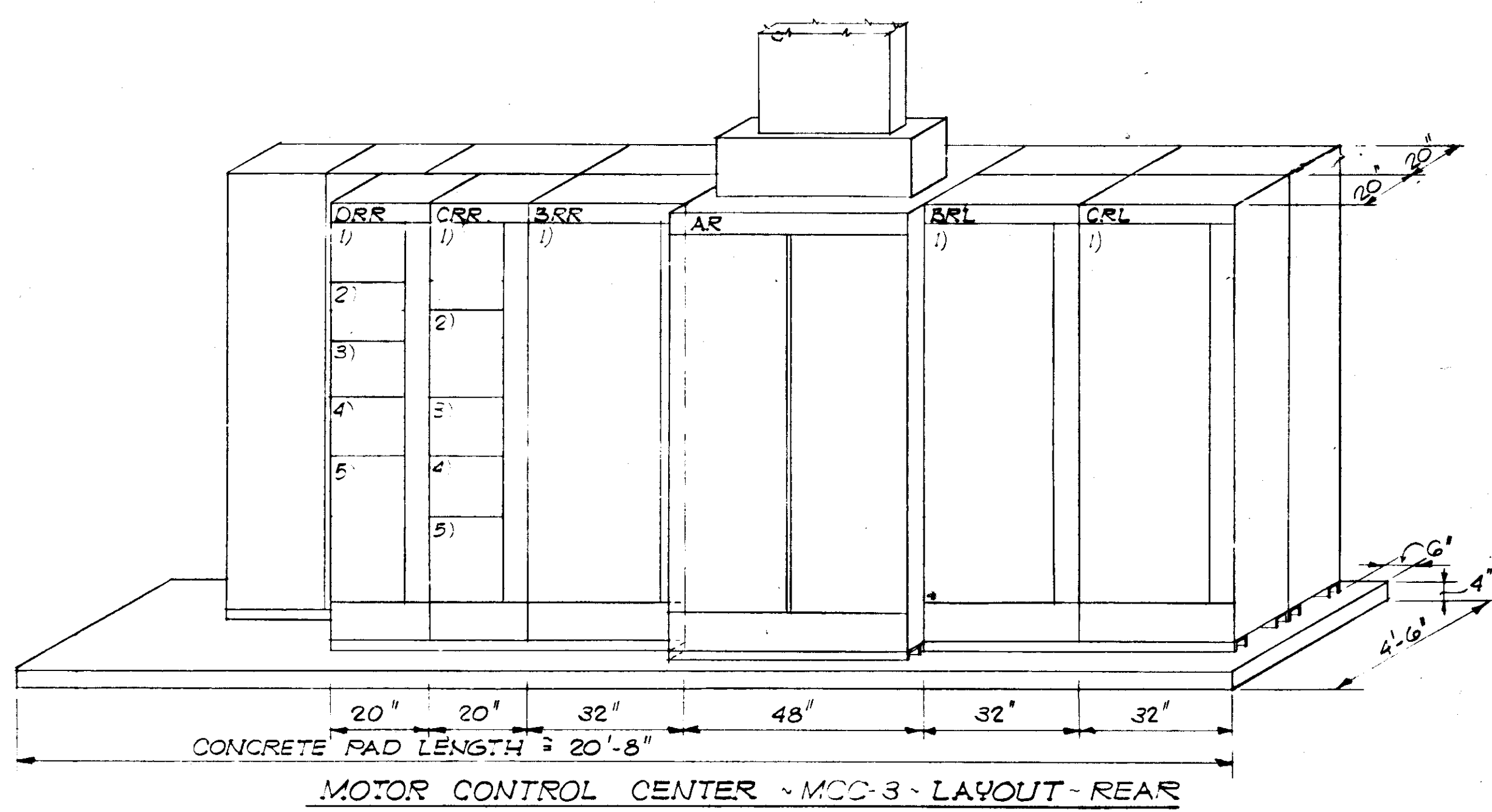
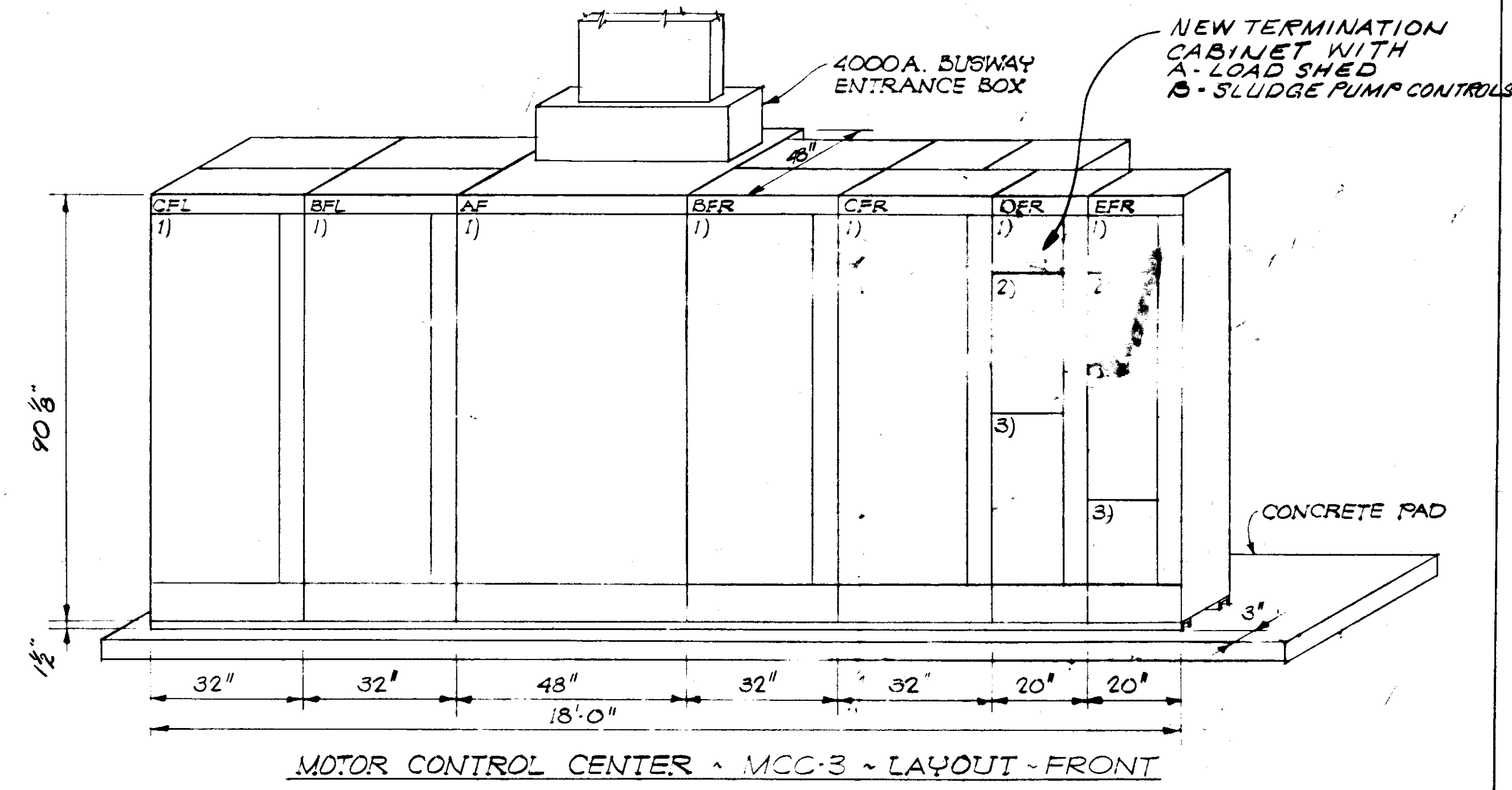
NOTES...  
 1. MCC-3 SECTIONS SHALL BE PROVIDED WITH SPACE HEATERS AND THERMOSTATIC CONTROL AS PER MCC-3 MFR. RECOMMENDATIONS. POWER SUPPLY TO ORIGINATE IN LIGHTING PANEL LP-21, UNIT EFR. 2...

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		
				FRAME SIZE AMP	TRIP SIZE AMP	SHUNT TRIP	NEMA SIZE	TYPE	COIL VOLT	PUSH BUTT. STA.	SEL. SW.	AUX. CONTACTS	CNT. XFMR. DELAY	TIME RELAY	ELPS. TIME MET.	AMMETER	ANNUN. 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							
A	1	METERING SECTION TO INCLUDE: AMMETER, SWITCHBOARD TYPE W/TRANSFER SWITCH AND 3-C.T.'S; TWO ELEMENT, STATIONARY TYPE WATT-HOUR 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.																																				
BFL	1	350	406	3	600	600	ST	6	RVNR		R&G		HOA	3	2	ONE	ONE	ONE	ONE																	TRANSFER PUMP NO. 2		
CFL	1	350	406	3	600	600	ST	6	RVNR		R&G		HOA	3	2	ONE	ONE	ONE	ONE																	TRANSFER PUMP NO. 1		
BFR	1	350	406	3	600	600	ST	6	RVNR		R&G		HOA	3	2	ONE	ONE	ONE	ONE																	TRANSFER PUMP NO. 3		
CFR	1	350	406	3	600	600	ST	6	RVNR		R&G		HOA	3	2	ONE	ONE	ONE	ONE																	TRANSFER PUMP NO. 4		
DFR	2																																					
	3																																					
EFR	4	45	54	3	100	70	ST																													DRY TRANSFORMER		
	1	5	8	3	100	15	ST																													BRIDGE CRANE		
BRL	2																																			LIGHTING PANEL LP-21		
	1	350	406																																			
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																	TRANSFER PUMP NO. 5		
CRR	1	20	27	3	100	70	ST	2	FVNR	120	R			3	2	ONE																				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. #MOTOR	B. WASH RETURN PUMP NO. 2
	3	7.5	11	3	100	20	ST	1	FVNR	120			HOA	3	2	ONE																						AIR COMPRESSOR NO. 1
	4	7.5	11	3	100	20	ST	1	FVNR	120			HOA	3	2	ONE																						AIR COMPRESSOR NO. 2
	5	4.0	7.4	3	100	15	ST	1	FVNR	120	R&G			HOA	3	2	ONE																				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-SP	HOA	3	2	ONE																				SAFETY SWITCH	SLUDGE PUMP NO. 1
	2	5	7.6	3	100	15	ST	1	FVNR	120	R&G		ST-SP	HOA	3	2	ONE																				AT MOTOR	SLUDGE PUMP NO. 2
	3	5	7.6	3	100	15	ST	1	FVNR	120	R&G		ST-SP	HOA	3	2	ONE																				LOCATION	SLUDGE PUMP NO. 3
	4	5	7.6	3	100	15	ST	1	FVNR	120	R&G		ST-SP	HOA	3	2	ONE																					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
	ELECTRIC UNDERGROUND SERVICE

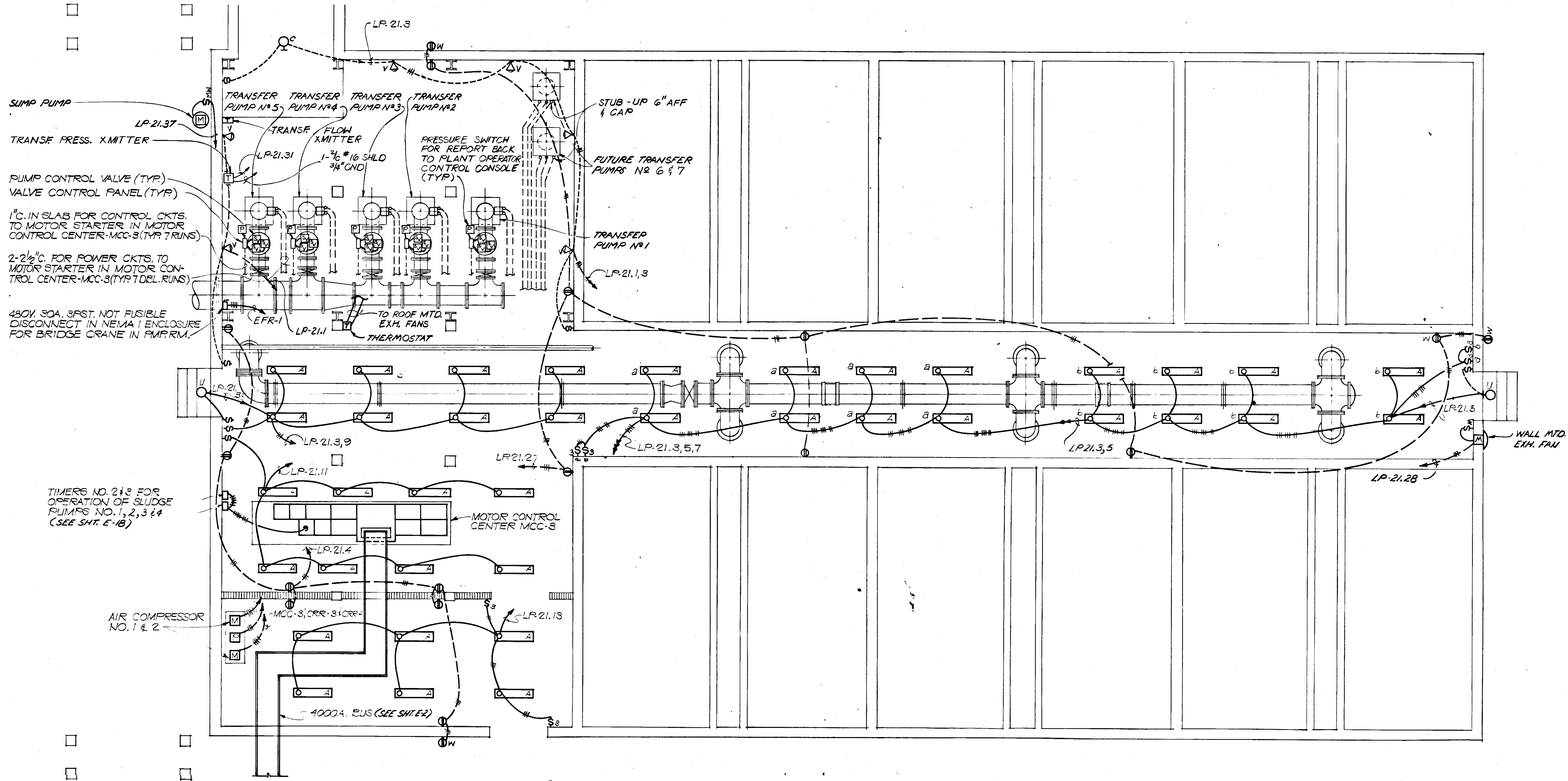
**RECORD DRAWING**  
 PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.  
 DATE 8/23/78 BY CEC  
 CHECKED BY: R & A  
 M.C.U.S.

NO.	DATE	DESCRIPTION	BY	CKD.
Δ	5/79	REV CRR 1, 2, 5 & EFR 3		W.T.
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT MOTOR CONTROL CENTER MCC-3 SCHEDULE-LEGEND				
MANATEE CO.		FILE NO.	SEAL T-9a FLORIDA	
DESIGNED BY	630-761-04			
DRAWN BY	SHEET E-4			
CHECKED BY	No. 92			
DATE	OF 130 SHEETS			
AUGUST, 1978	SCALE: NONE			



**RECORD DRAWING**  
PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.  
DATE 8/30/88 BY K.R.N.  
CHECKED BY: R & A [Signature] 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.		FILE NO.	<b>T-93</b> FLORIDA <b>SEAL</b>	
DESIGNED BY	GBA	630-761-04		
DRAWN BY	R.E.	SHEET E-5	No. <b>93</b> SHEETS	
CHECKED BY	SJG	OF 130		
DATE	AUGUST, 1978	SCALE: AS SHOWN		



FILTER BUILDING - FIRST FLOOR PLAN  
POWER & LIGHTING DISTRIBUTION

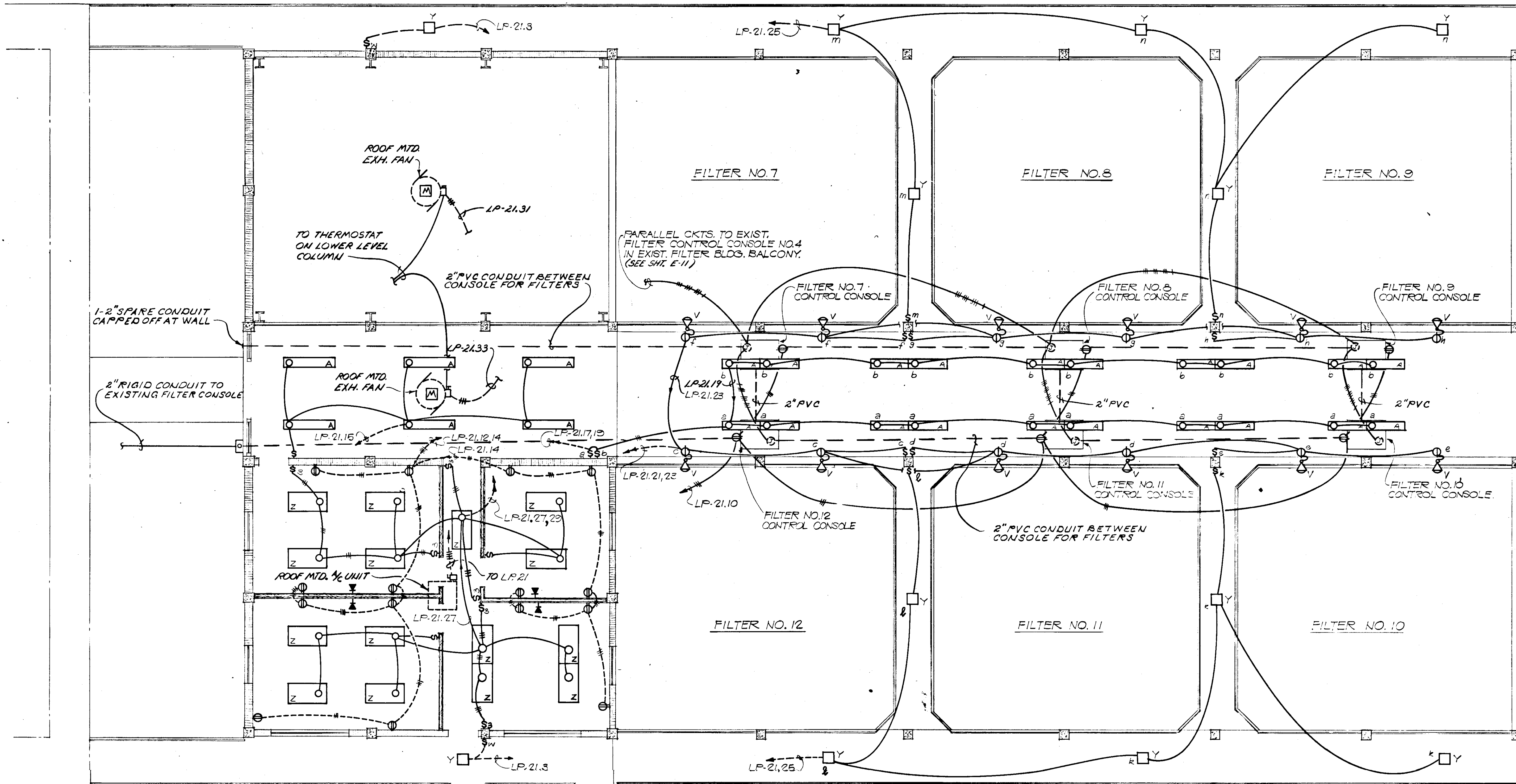
LEGEND:

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

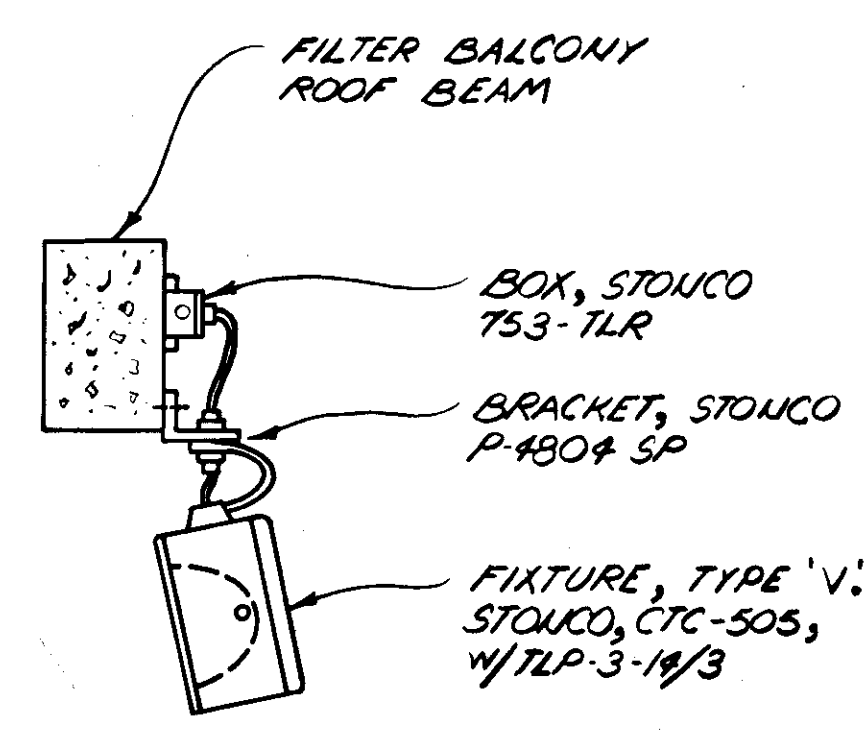
RECORD DRAWING

PRODUCED FROM INFORMATION  
FURNISHED BY CONTRACTOR  
THROUGH M.C.U.S.  
DATE 8/30/78 BY KRN  
CHECKED BY:  
R & A [Signature]  
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.		FILE NO.	SEAL	
DESIGNED BY GBA	630-761-04			
DRAWN BY E R	SHEET E-6 No. 94			
CHECKED BY S J G	OF 130 SHEETS			
DATE AUGUST, 1978	SCALE: 3/16" = 1'-0"			



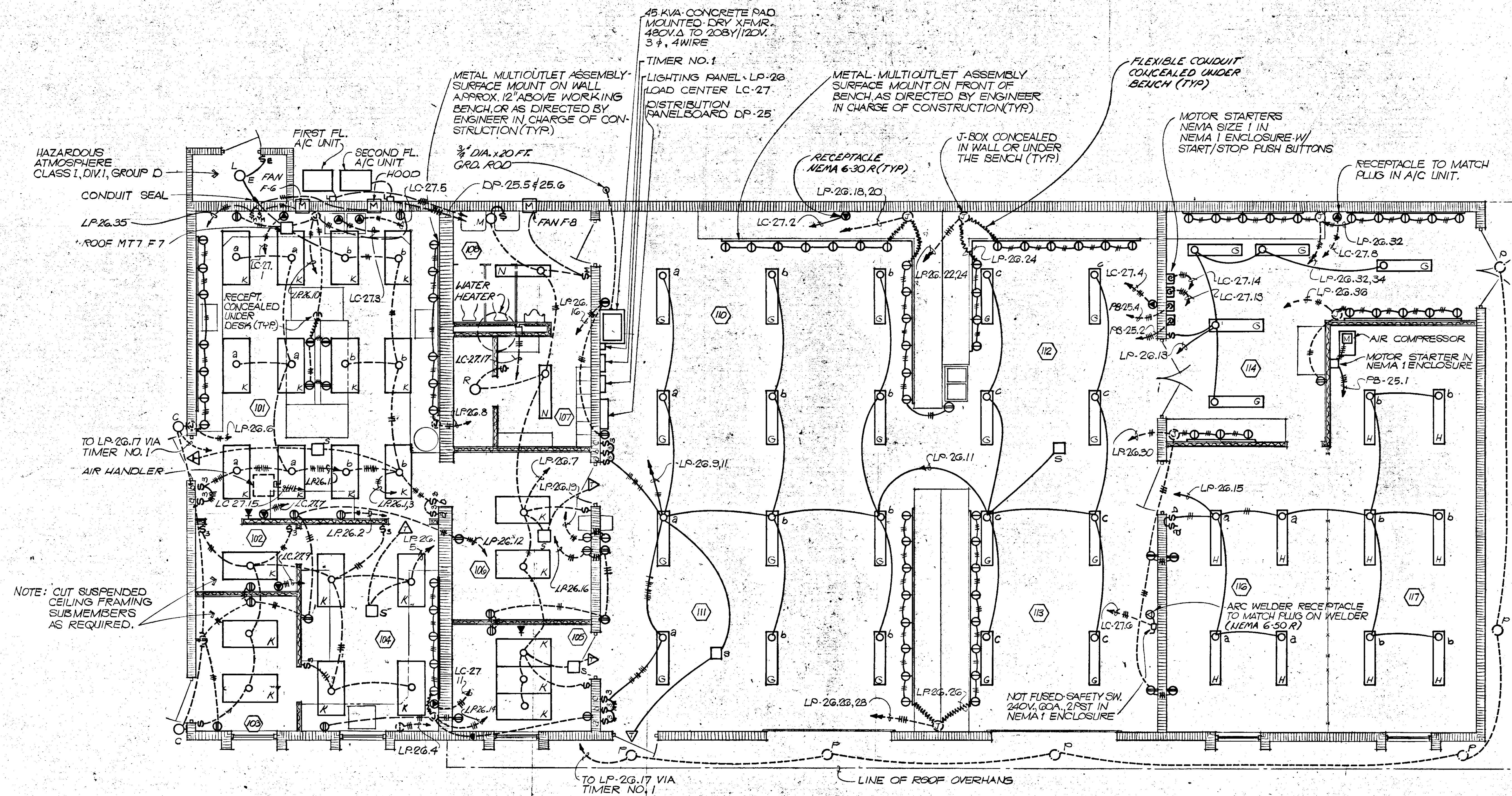
**FILTER BUILDING SECOND FLOOR - PLAN**  
**POWER & LIGHTING DISTRIBUTION.**  
 SCALE 3/16" = 1'-0"



**FIXTURE TYPE 'V' MOUNTING**  
**DETAIL**  
 U.T.S.

**RECORD DRAWING**  
 PRODUCED FROM INFORMATION  
 FURNISHED BY CONTRACTOR  
 THROUGH M.C.U.S.  
 DATE 8/31/78 BY *KRN*  
 CHECKED BY:  
 R & A *Blw*  
 M.C.U.S. \_\_\_\_\_

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



MAINTENANCE BUILDING - FIRST FLOOR  
POWER & LIGHTING DISTRIBUTION

JUN 22 1979

5/79	GEN. REV.	W.T.
NO.	DATE	BY
DESCRIPTION		
REVISIONS		
RUSSELL & AXON		
Engineers - Planners - Architects		
WATER WORKS PROJECT		
MAINTENANCE BLDG - FIRST FLOOR PLAN		
POWER AND LIGHTING DISTRIBUTION		
MANATEE CO.	FILE NO.	SEAL
DESIGNED BY SJG - GBA	630-761-04	
DRAWN BY DJ	SHEET E-8	
CHECKED BY SJG	OF 130 SHEETS	
DATE AUGUST, 1978	SCALE: 1/4" = 1'-0"	

14-01

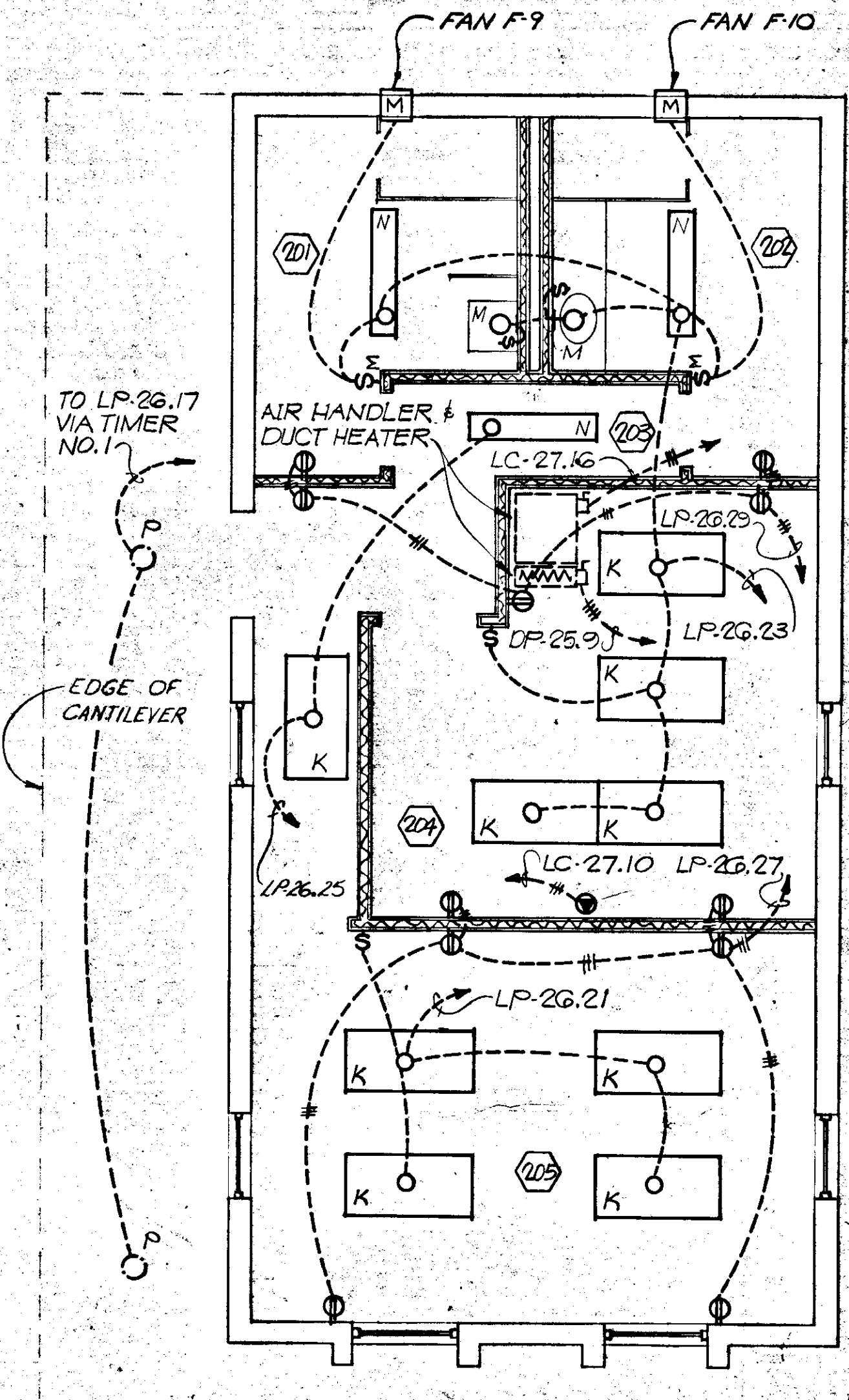
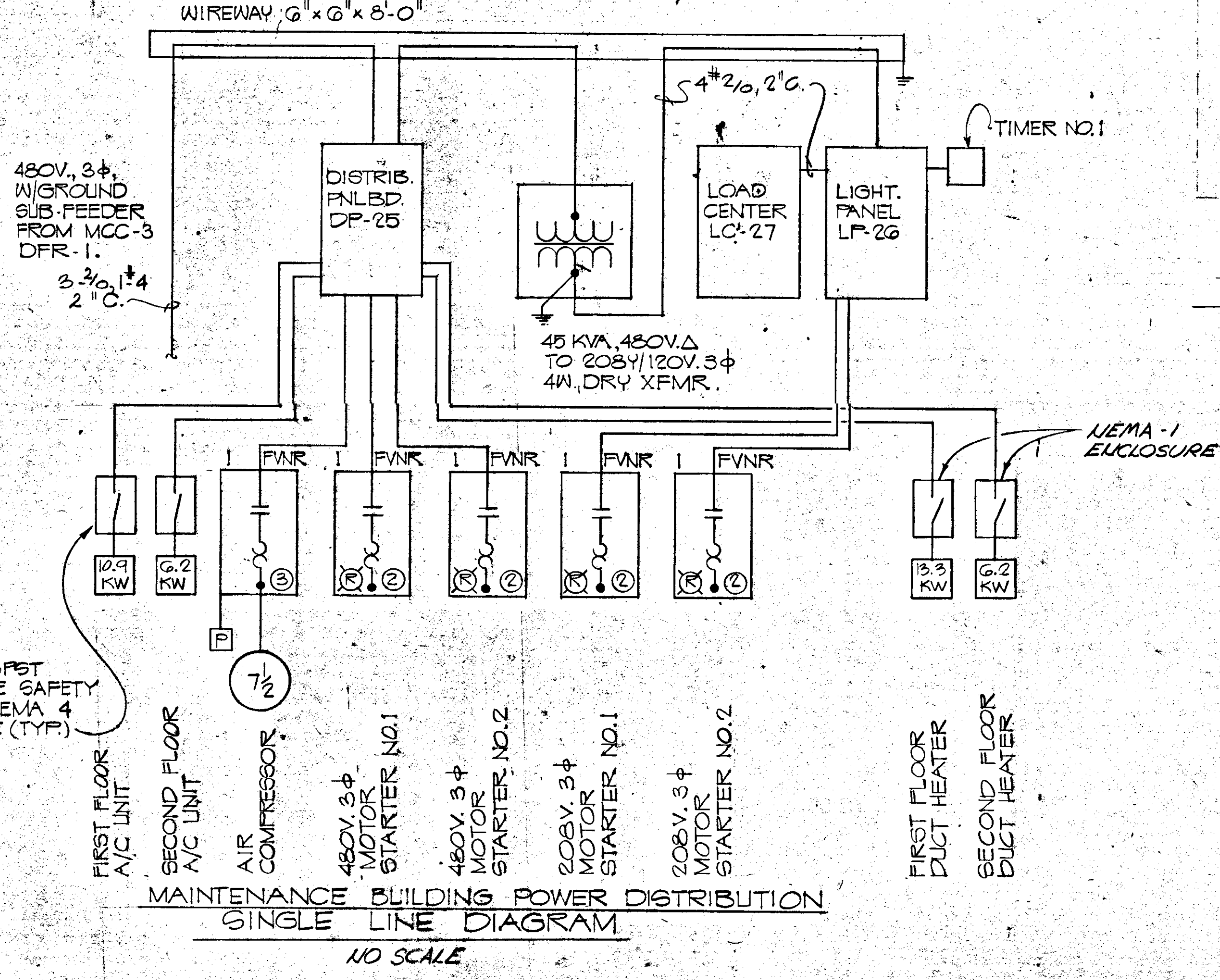
22/178 ER

LIGHTING PANEL ~ LP-26 ~ SCHEDULE													MAINTENANCE BUILDING												
208Y/120VAC, 3Φ, 4W, 225A MAINS, 225A MAIN C.B.; 42-1P CKTS, NEMA 1, SURFACE MOUNTED																									
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							
LIGHTS ROOM 101	12	3/4	10000 A.I.C.	20	1	900	-	-	1	2	300	-	-	1	20	10000 A.I.C.	3/4	12	REFRIGERATOR ROOM 101						
LIGHTS RMS 102, 103, 104	12	3/4	20	1	-	900	-	-	3	4	-	-	-	1	20	3/4	12	REFRIGERATOR ROOM 104							
LIGHTS RMS 105, 106, 107, 108	12	3/4	20	1	-	1410	-	-	7	8	1080	-	-	1	20	3/4	12	MULTIOUTLET ASSY RM. 101							
LIGHTS RMS 110, 111	10	3/4	20	1	-	1800	-	-	9	10	-	-	-	1	20	3/4	12	RECEPTACLES ROOM 101							
LIGHTS RMS 112, 113	12	3/4	20	1	-	1200	-	-	11	12	-	-	-	1	20	3/4	12	RECEPT. RMS 101, 102, 103, 104, 106							
LIGHTS ROOM 114	12	3/4	20	1	-	750	-	-	13	14	1440	-	-	1	20	3/4	12	MULTIOUTLET ASSY RECEPT. RM. 104, 105							
LIGHTS RMS 116, 117	12	3/4	20	1	-	1000	-	-	15	16	-	-	-	1	20	3/4	12	RECEPT. ROOMS 109, 106, 110, 111							
OUTDOOR TIMED LIGHTS & TIMER	12	3/4	20	1	-	1500	-	-	17	18	-	-	-	1	20	3/4	12	MULTIOUTLET ASSY BENCH. RM. 110							
ELECTRIC WATER COOLER	12	3/4	20	1	-	800	-	-	19	20	1260	-	-	1	20	3/4	12	12							
LIGHTS ROOM 205	12	3/4	20	1	-	600	-	-	21	22	-	-	-	1	20	3/4	12	MULTIOUTLET ASSY BENCH. RM. 112							
LIGHTS RMS 201, 202, 204	10	3/4	25	1	-	1720	-	-	23	24	-	-	-	1	20	3/4	12	12							
LIGHTS CORR. DOOR 203	12	3/4	20	1	-	250	-	-	25	26	1440	-	-	1	20	3/4	12	MULTIOUTLET ASSY BENCH. RM. 111							
RECEPTACLES RMS 204 & 209	12	3/4	20	1	-	1080	-	-	27	28	-	-	-	1	20	3/4	12	MULTIOUTLET ASSY BENCH. RM. 113							
RECEPTACLES RMS 201 THRU 204	12	3/4	20	1	-	900	-	-	29	30	-	-	-	1	20	3/4	12	RECEPT. RMS 113, 114, 116							
LOAD CENTER LC-27	2/0	2"	175	3	-	13,200	-	-	31	32	900	-	-	1	20	3/4	12	MULTIOUTLET ASSY RM. 114							
			175	3	-	12,200	-	-	34	35	900	-	-	1	20	3/4	12	12							
			175	3	-	12,820	-	-	36	37	-	-	-	1	20	3/4	12	12							
SPARE	-	-	20	1	-	-	-	-	33	38	-	-	-	1	20	-	-	SPARE							
FANS & HOOD F-6 & F-7	12	3/4	20	1	-	-	-	-	35	40	-	-	-	1	20	-	-	12							
SPARE	-	-	20	1	-	-	-	-	37	42	-	-	-	1	20	-	-	12							
											A	B	C												
											24,660	24,580	25,850												

LOAD CENTER ~ LC-27 ~ SCHEDULE													MAINTENANCE BUILDING												
208Y/120VAC, 3Φ, 4W, 225A M.L.O. 36-1P CKTS, NEMA 1 ENCLOSURE, 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	CLASS	C	W							
FUME HOOD	10	3/4	10000 A.I.C.	30	2	15	-	-	2	15	-	-	-	2	30	10000 A.I.C.	3/4	10	RECEPTACLES RM. 110						
DRYING OVEN	10	3/4	20	2	-	15	-	-	3	4	-	-	-	15	2	30	3/4	10	RECEPTACLES ROOM 112						
MUFFLE FURNACE	10	3/4	20	2	-	15	-	-	5	6	-	-	-	30	-	2	30	3/4	10	RECEPTACLE ROOM 113					
SPECTROPHOTOMETER	10	3/4	20	2	-	15	-	-	7	8	15.8	-	-	2	30	3/4	10	A/C UNIT							
RECEPTACLES ROOM 102	10	3/4	20	2	-	15	-	-	9	10	-	-	-	15	2	30	3/4	10	RECEPTACLES RM. 204						
RECEPTACLES ROOM 104	10	3/4	20	2	-	15	-	-	11	12	-	-	-	2	30	-	-	10	SPARE						
MOTOR STARTER NO. 1	8	3/4	40	3	20	-	-	-	13	14	20	-	-	3	40	3/4	8	MOTOR STARTER NO. 2							
AIR HANDLER FIRST FLOOR	12	3/4	20	2	8	-	-	-	15	16	8	-	-	2	20	3/4	12	AIR HANDLER SECOND FL.							
WATER HEATER	8	3/4	40	2	-	25	17	18	15	-	-	-	-	3	-	-	-	A/C FILTER BLDG.							
SPARE	-	-	20	1	-	-	-	-	19	24	-	-	-	-	-	-	-	-	SPACE						
											A	B	C												
											216	191	200												

- NOTES IN "CKT. NO. COLUMN":
- NOT USED
  - CKT. BKR. TO BE PROVIDED W/ HANDLE PADLOCK ATTACHMENT (TYP)
  - ALL CKT. BKR. IN DISTRIBUTION PANELBOARD DP-25 SHALL BE LOCKABLE IN THE 'OPEN' POSITION.

DISTRIBUTION PANELBOARD ~ DP-25 ~ SCHEDULE													MAINTENANCE BUILDING												
480VAC, 3Φ & GROUND BAR, 225A MAINS; 30-1P CKTS, NEMA 1, 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	CLASS	C	W							
AIR COMPRESSOR	12	3/4	14,000 A.I.C.	20	3	11	-	-	1	2	14	-	-	3	25	14,000 A.I.C.	3/4	10	MOTOR STARTER NO. 1						
DRY XFMR.	4	1"	70	3	54	-	-	-	3	4	14	-	-	3	25	3/4	10	MOTOR STARTER NO. 2							
FIRST FLOOR A/C UNIT	10	3/4	25	3	13	-	-	-	5	6	9	-	-	3	15	3/4	12	SECOND FLOOR A/C UNIT							
SPACE	-	-	30	3	18	-	-	-	7	8	9	-	-	3	-	-	-	SPACE							
SPACE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	SPACE						
SPACE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	SPACE						
SPACE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	SPACE						
SPACE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	SPACE						
											A	B	C												
											142	142	142												



NO.	DATE	GEN. REV.	DESCRIPTION	BY	W.T.	CKD.
		5/79				
REVISIONS						
RUSSELL & AXON Engineers - Planners - Architects						
WATER WORKS PROJECT MAINTENANCE BLDG. - SECOND FLOOR PLAN POWER AND LIGHTING DISTRIBUTION SCHEDULES T-97						
MANATEE CO.			FLORIDA			
DESIGNED BY	FILE NO.	SEAL				
SJG - GBA	630-761-04					
DRAWN BY	SHEET E-9					
R. J. C.	NO. 97					
CHECKED BY	OF 130 SHEETS					
SJG						
DATE	SCALE: AS SHOWN					
AUGUST, 1978						

14-01

JUN 22 1979



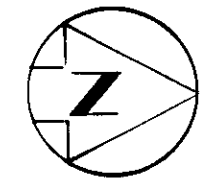
**RECORD DRAWING**

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

DATE: 8/30/82 BY: KRM

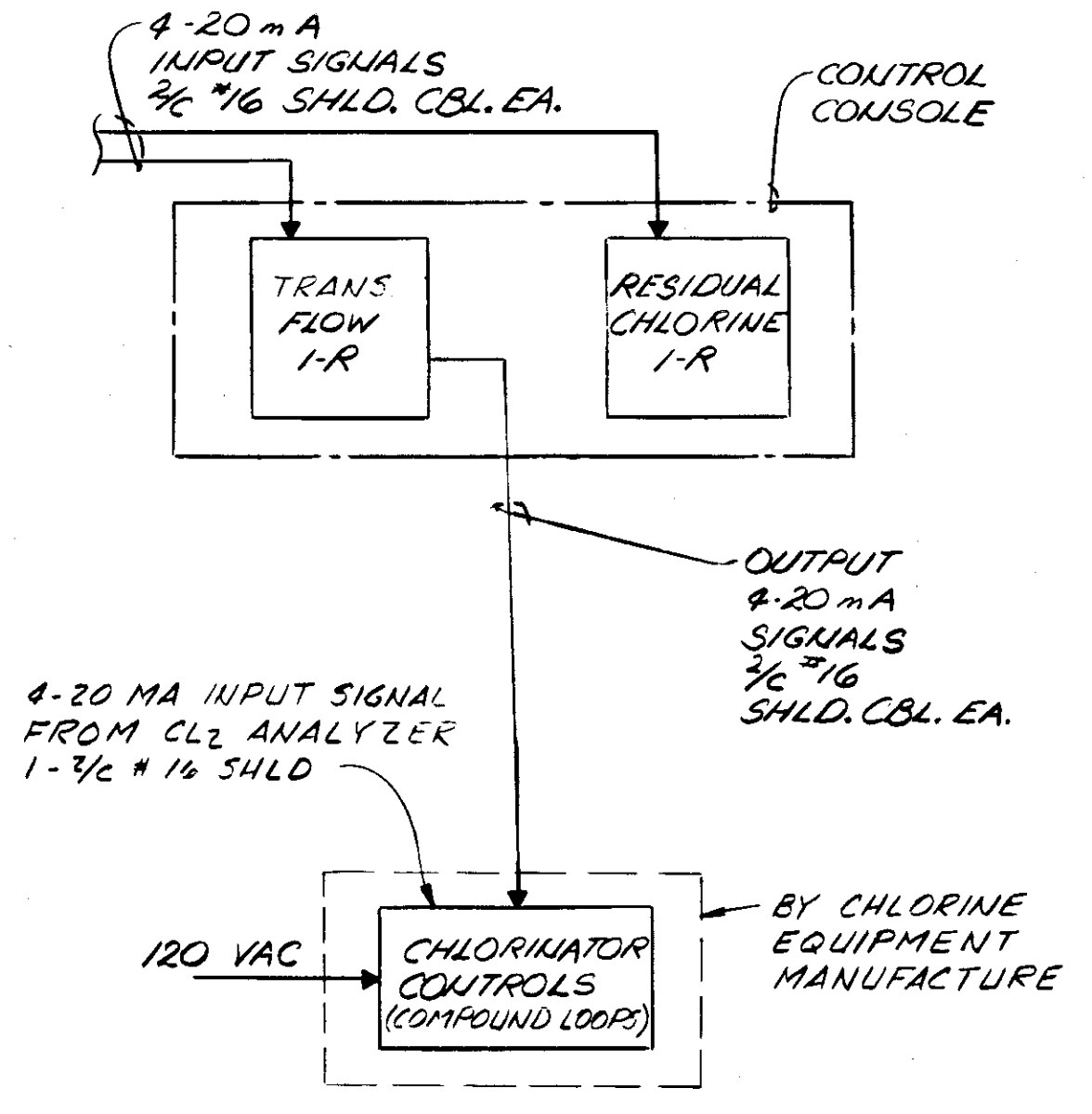
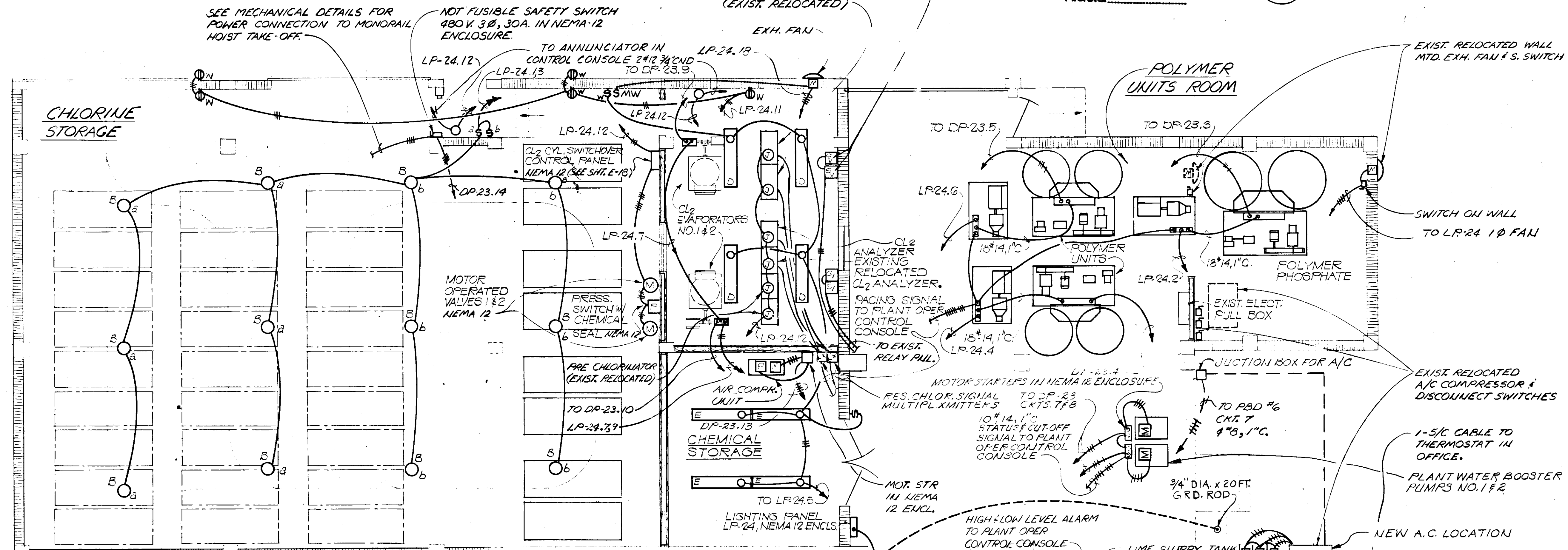
CHECKED BY: BLM

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

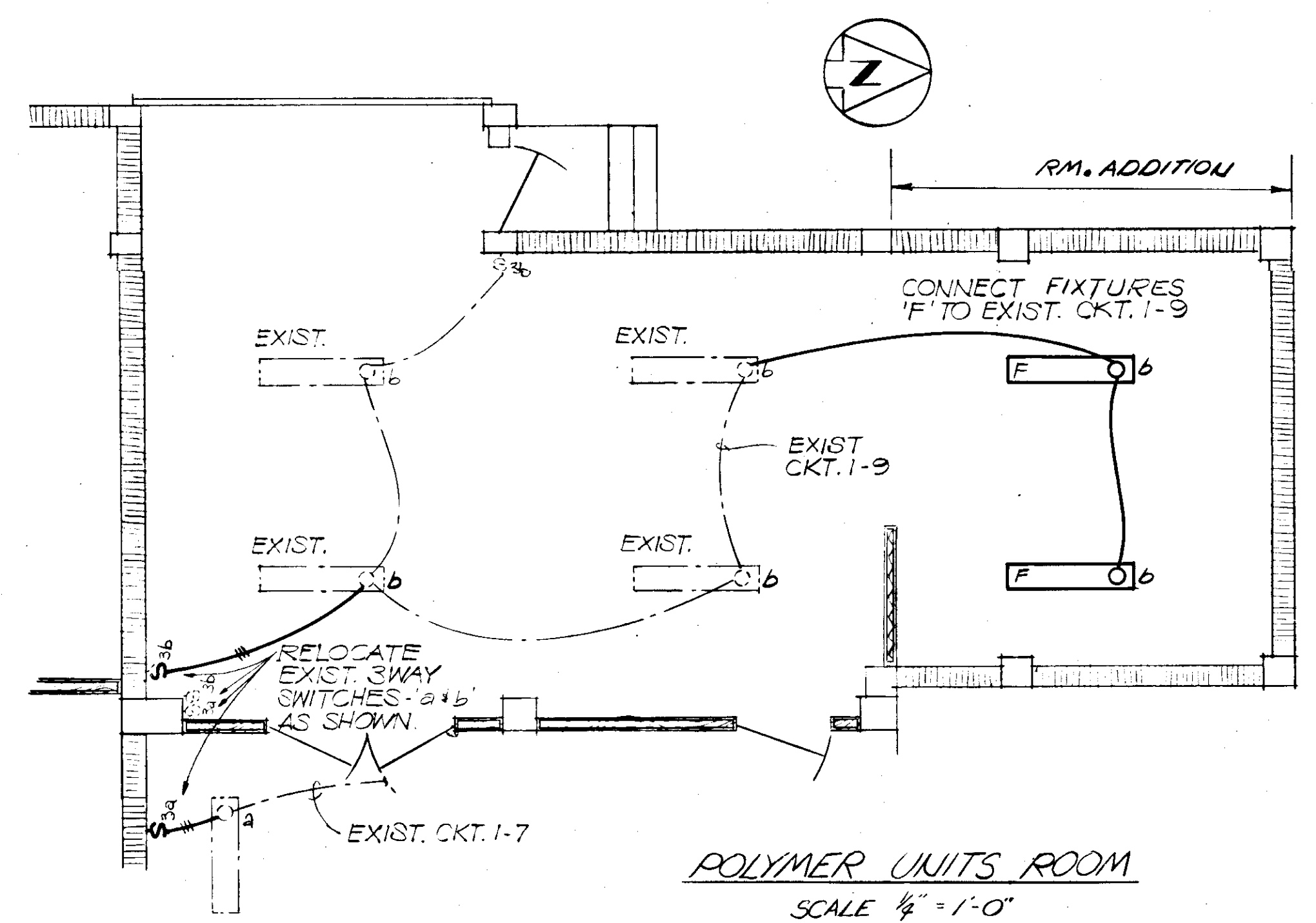


**CHEMICAL EQUIPMENT & STORAGE**

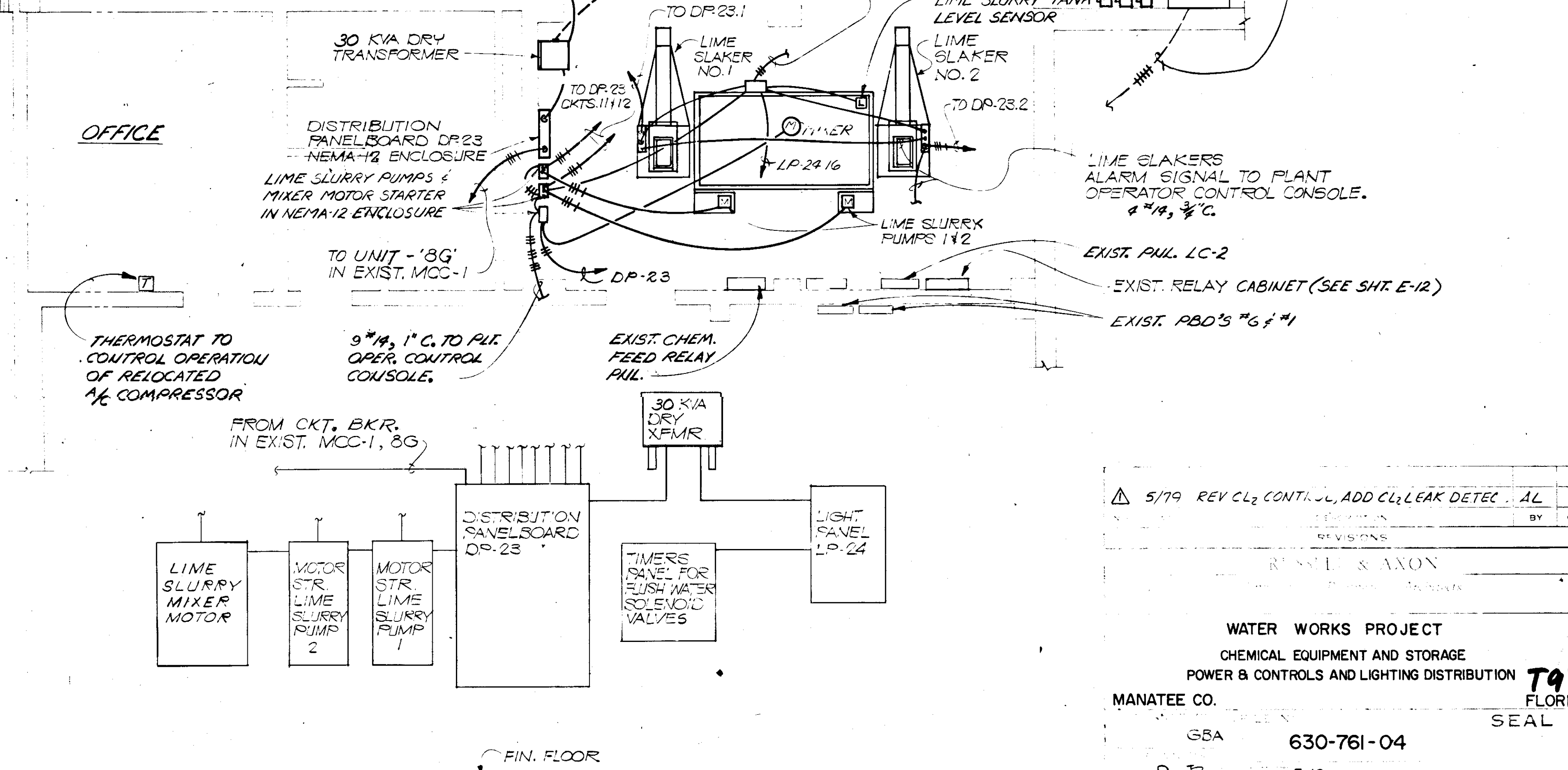
SCALE 1/4" = 1'-0"



**CHLORINE ADDITION CONTROL LOOP (TYPICAL)**



**POLYMER UNITS ROOM**  
SCALE 1/4" = 1'-0"



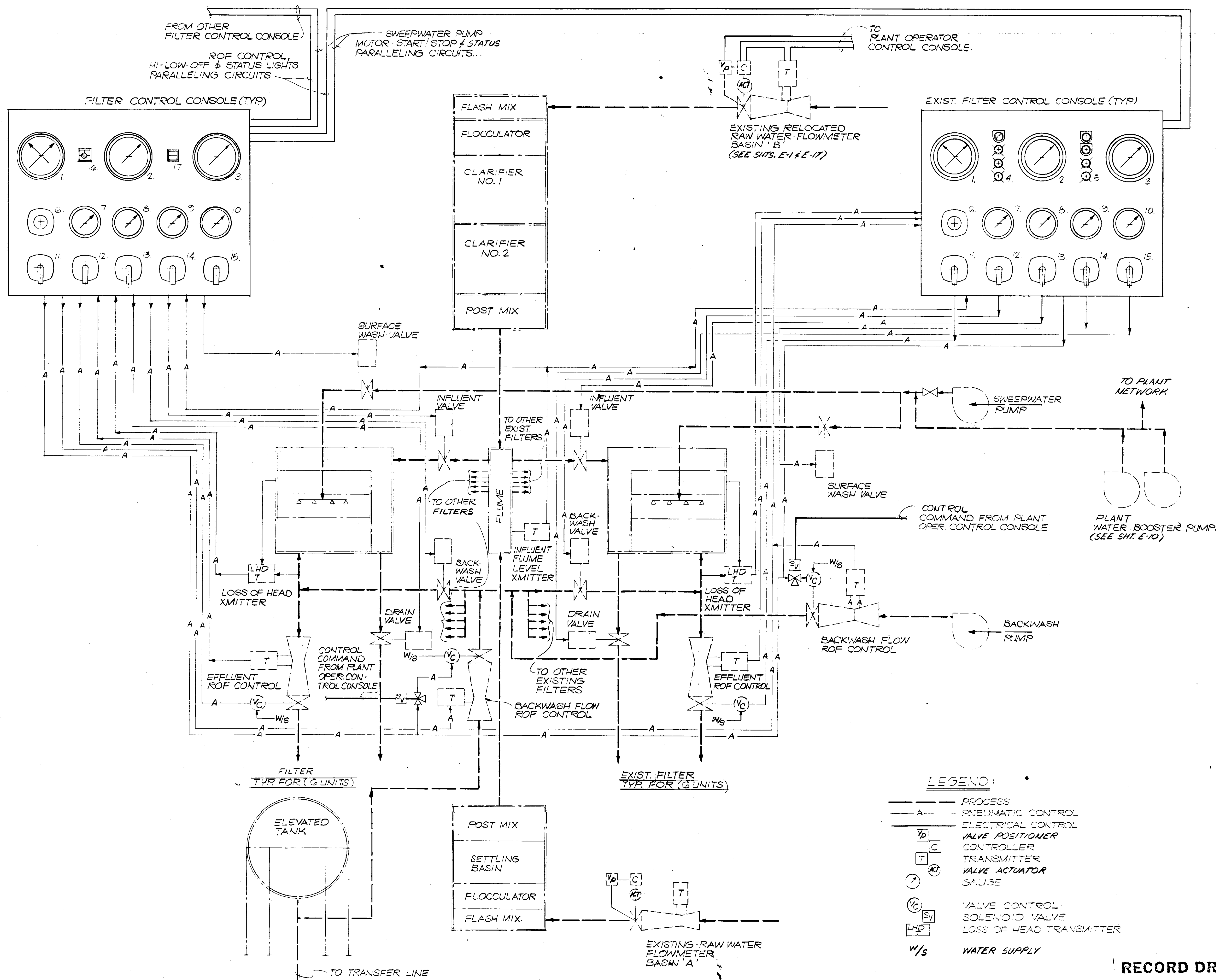
**ELECTRICAL EQUIPMENT ARRS. - NORTH ELEV.**  
N.T.S.

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

RUSSELL & AXON  
WATER WORKS PROJECT  
CHEMICAL EQUIPMENT AND STORAGE  
POWER & CONTROLS AND LIGHTING DISTRIBUTION  
MANATEE CO. FLORIDA  
SEAL

GBA 630-761-04  
E-10 98  
S.J.G. 130  
AUGUST, 1978 AS SHOWN

14-01

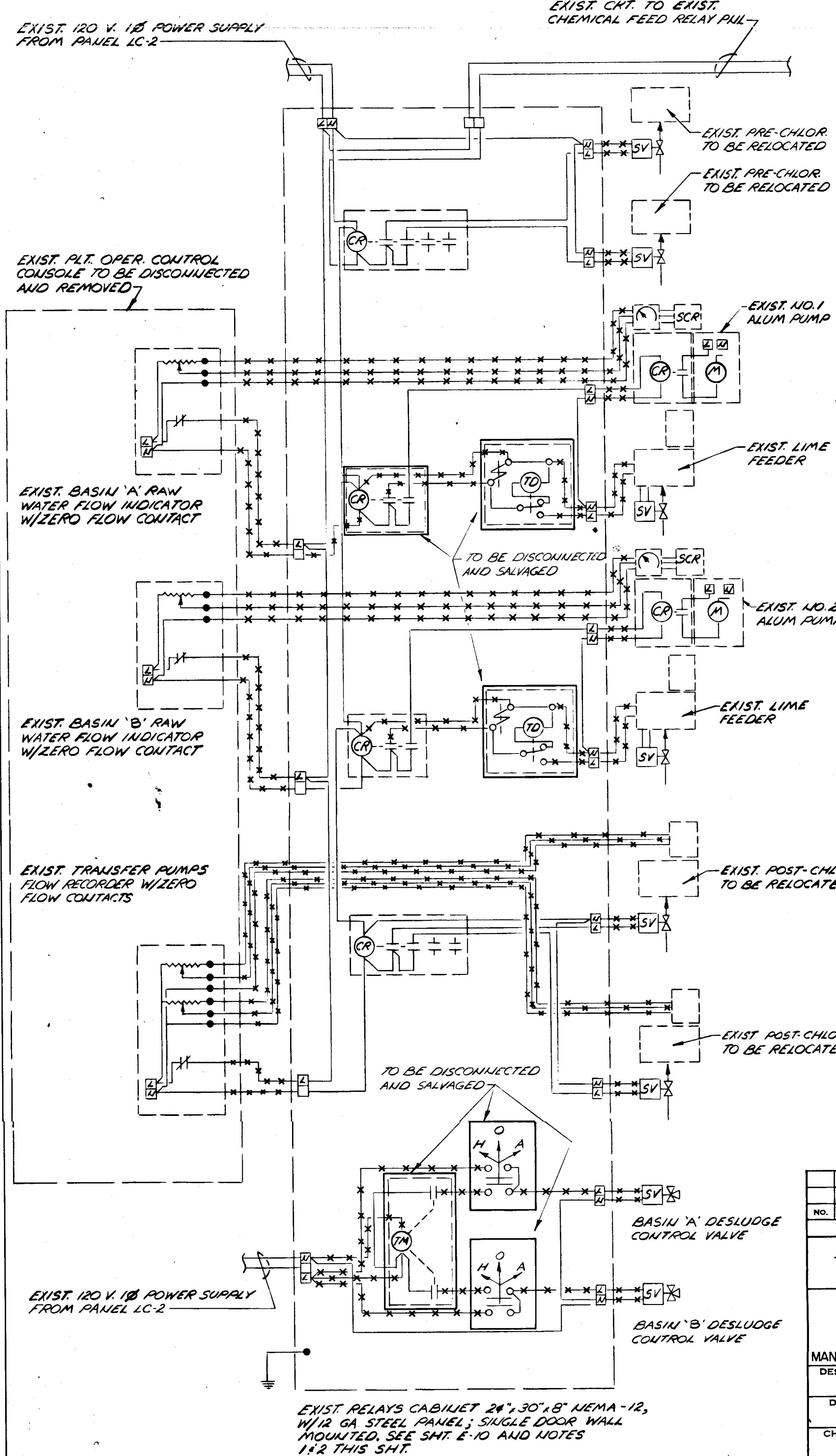
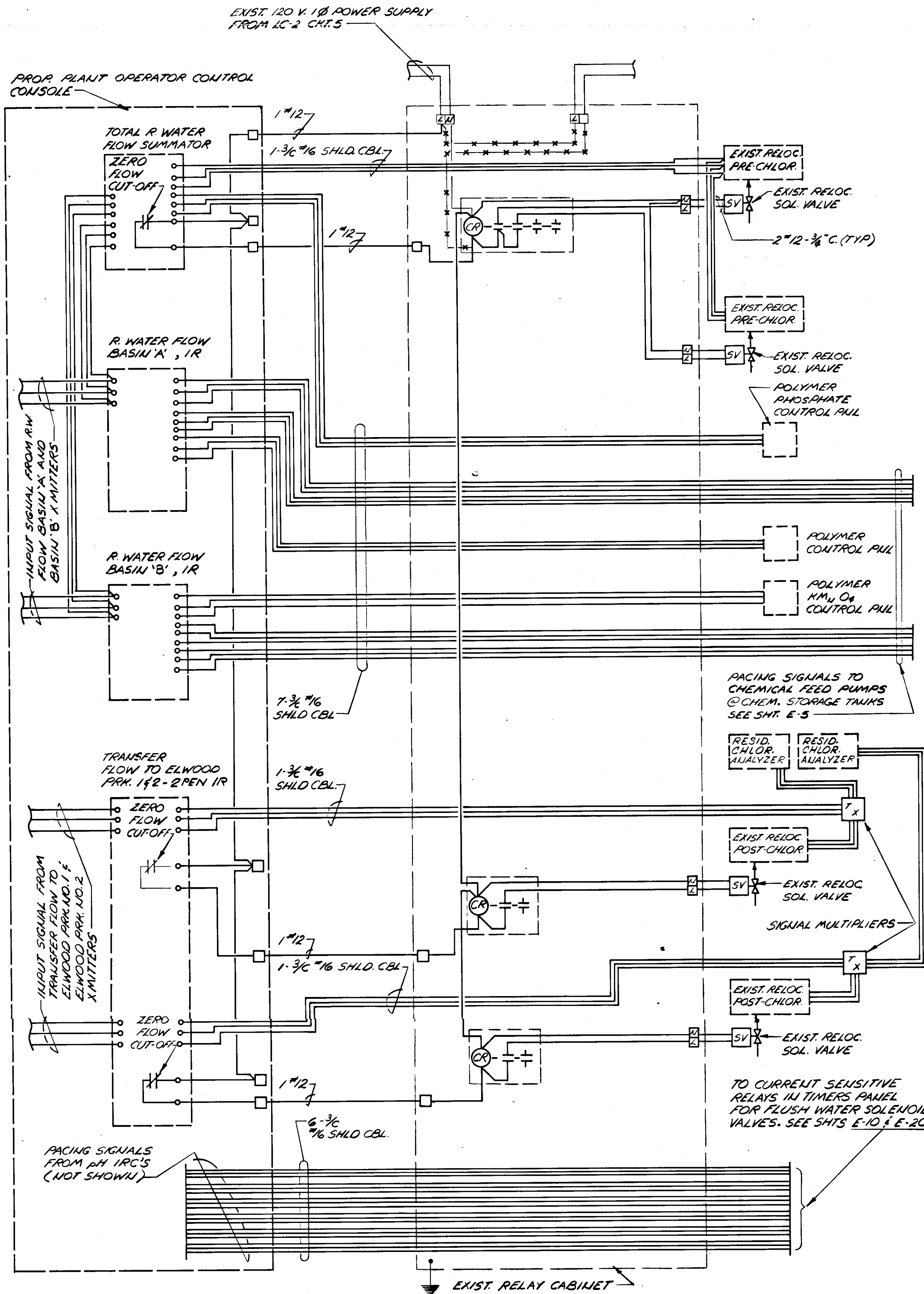


INSTRUMENT SCHEDULE	
MARK	DESCRIPTION
1	EFFLUENT: RED - RATE-OF-FLOW, BLACK-SET RATE
2	BACKWASH RATE-OF-FLOW INDICATOR
3	LOSS OF HEAD INDICATOR
4	BWASH ROF: HI-LO-OFF SEL. SW & STATUS LIGHTS
5	SURFACE WASH PUMP: START/STOP & STATUS LTS.
6	EFFLUENT RATE SETTER
7	BACKWASH VALVE POSITION INDICATOR
8	INFLUENT 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.

- LEGEND:**
- PROCESS
  - A — PNEUMATIC CONTROL
  - T, V, L, W/S — ELECTRICAL CONTROL
  - Y<sub>D</sub> VALVE POSITIONER
  - G CONTROLLER
  - T TRANSMITTER
  - (K) VALVE ACTUATOR
  - (V) VALVE CONTROL
  - (S) SOLENOID VALVE
  - (L) LOSS OF HEAD TRANSMITTER
  - W/S WATER SUPPLY

**RECORD DRAWING**  
 PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.  
 DATE 1/3/78 BY *K.R.D.*  
 CHECKED BY: *R.A. [Signature]*  
 M.C.U.S. \_\_\_\_\_

NO.	DATE	DESCRIPTION	BY	CHKD.
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT FILTER CONSOLE - CONTROLS SCHEMATIC				
MANATEE CO.		<b>T-99</b> FLORIDA		
DESIGNED BY GSA	FILE NO. 630-761-04	<b>SEAL</b>		
DRAWN BY <i>[Signature]</i>	SHEET E-11 No. 99			
CHECKED BY SJG	OF 130 SHEETS			
DATE AUGUST, 1978	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

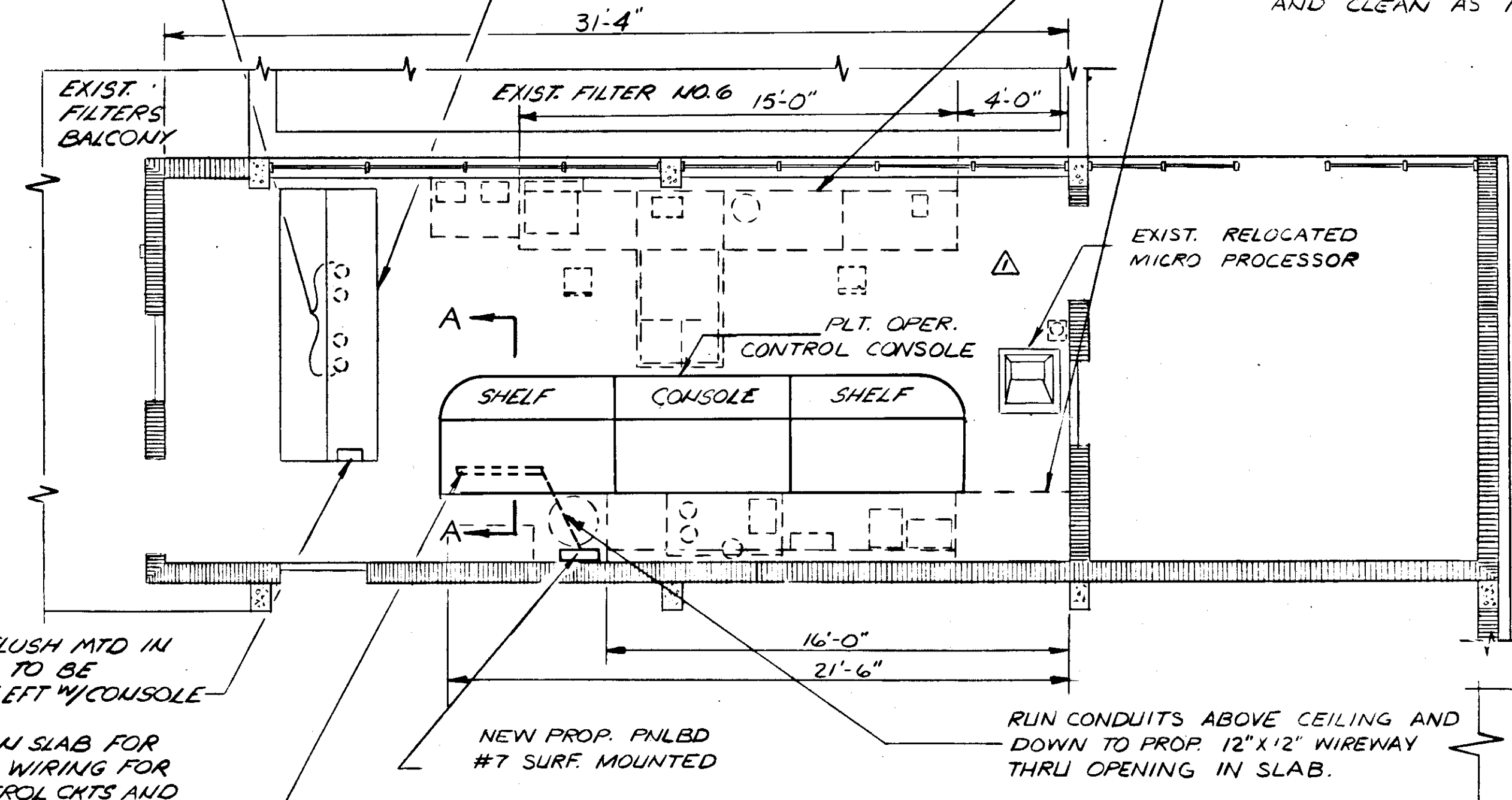
**RECORD DRAWING**  
 PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.  
 DATE: 8/30/78 BY: R.R.N.  
 CHECKED BY: R & A  
 M.C.U.S.

NO.	DATE	DESCRIPTION	BY	CHK.
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
WATER WORKS PROJECT CHEMICAL EQUIPMENT CONTROL SCHEMATIC				
MANATEE CO.		FILE NO.	<b>T100</b> FLORIDA <b>SEAL</b>	
DESIGNED BY GBA	630-761-04			
DRAWN BY R	SHEET E-12	No. 100 OF 130 SHEETS		
CHECKED BY S.J.G.	SCALE: NONE			
DATE AUGUST, 1978				

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.

EXIST. PIPE SLEEVES IN PRE-CAST 2<sup>ND</sup> FLOOR SLABS FOR PASSAGE OF EXIST. 4-8" C'S HANDLING POWER & CONTROL CXTS AND SIGNAL CXTS (SEE NOTE: 1)

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



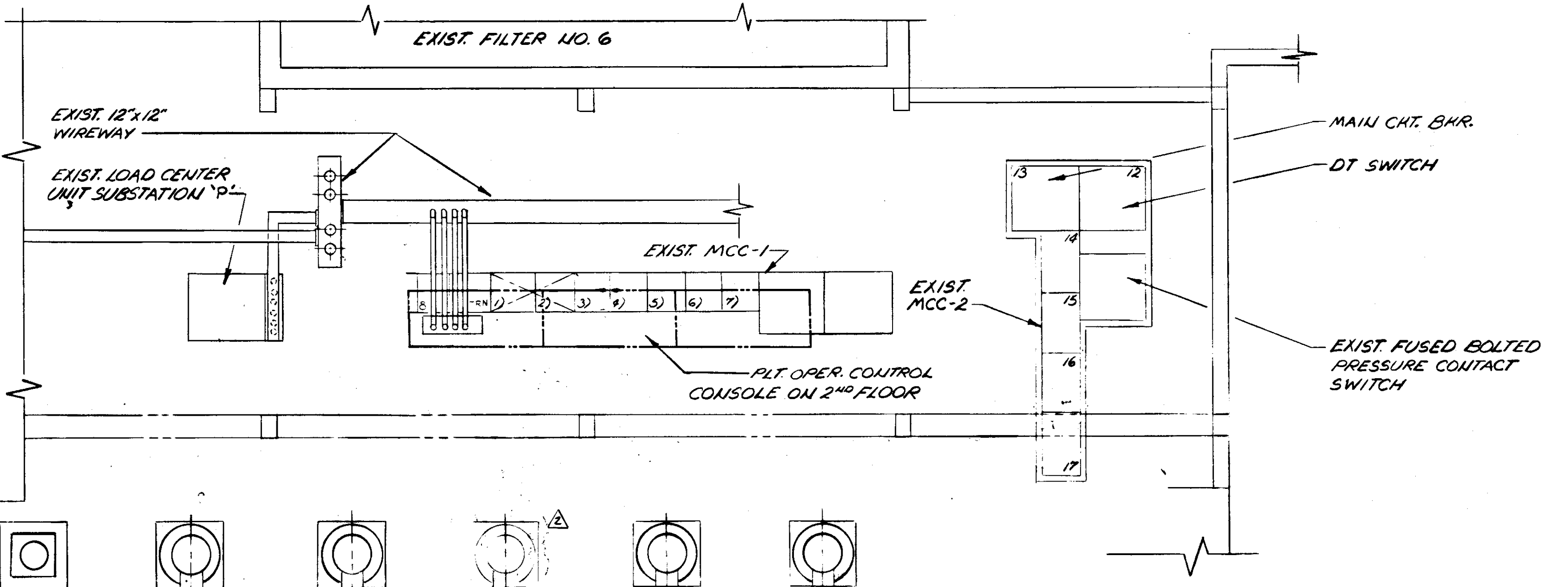
PLAN-2<sup>ND</sup> FLOOR  
PLANT OPERATOR CONTROL ROOM  
SCALE: 1/4" = 1'-0"

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

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

NEW PROP. PNLBD #7 SURF. MOUNTED

RUN CONDUITS ABOVE CEILING AND DOWN TO PROP. 12"x12" WIREWAY THRU OPENING IN SLAB.

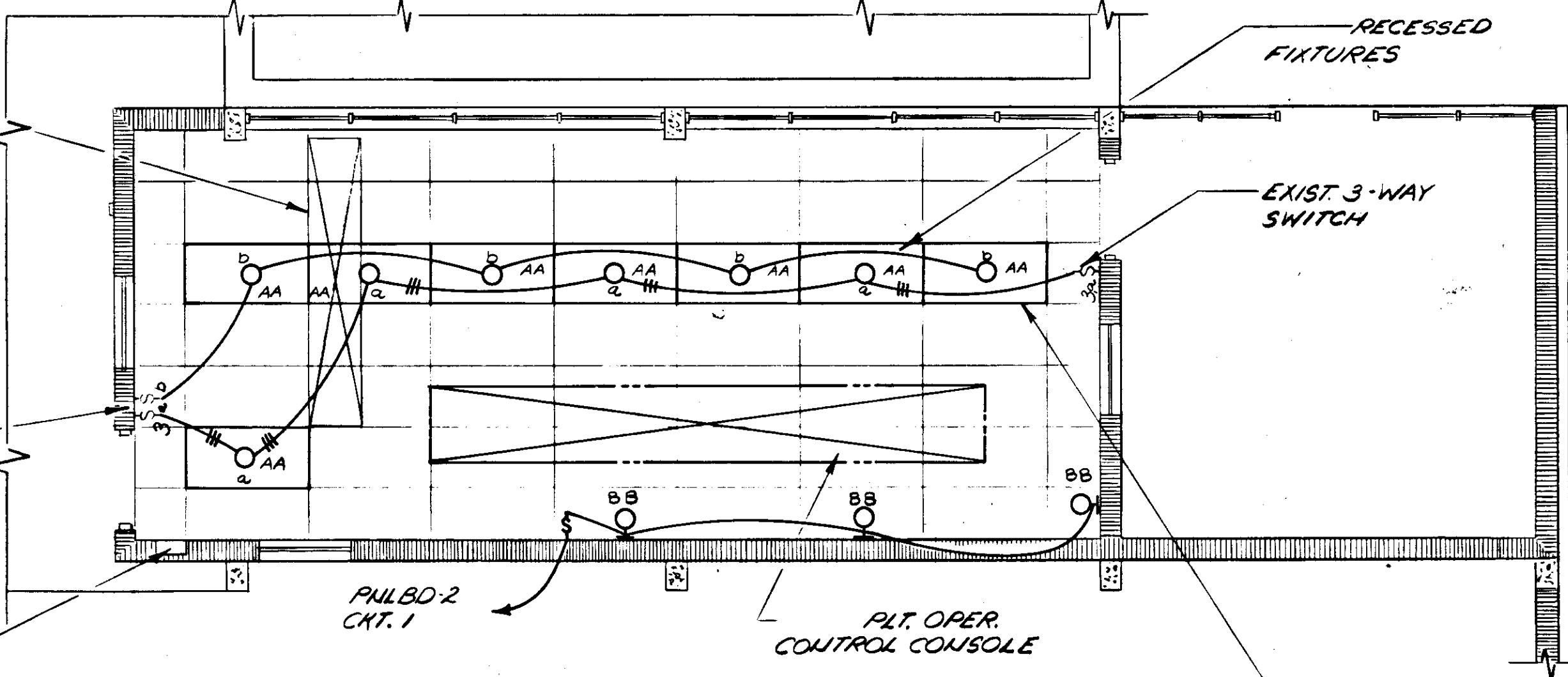


PLAN-1<sup>ST</sup> FLOOR  
EXIST. MCC'S IN EXIST. PUMP ROOM  
SCALE: 1/4" = 1'-0"

EXIST. PLT OPER. CONTROL CONSOLE TO BE REMOVED

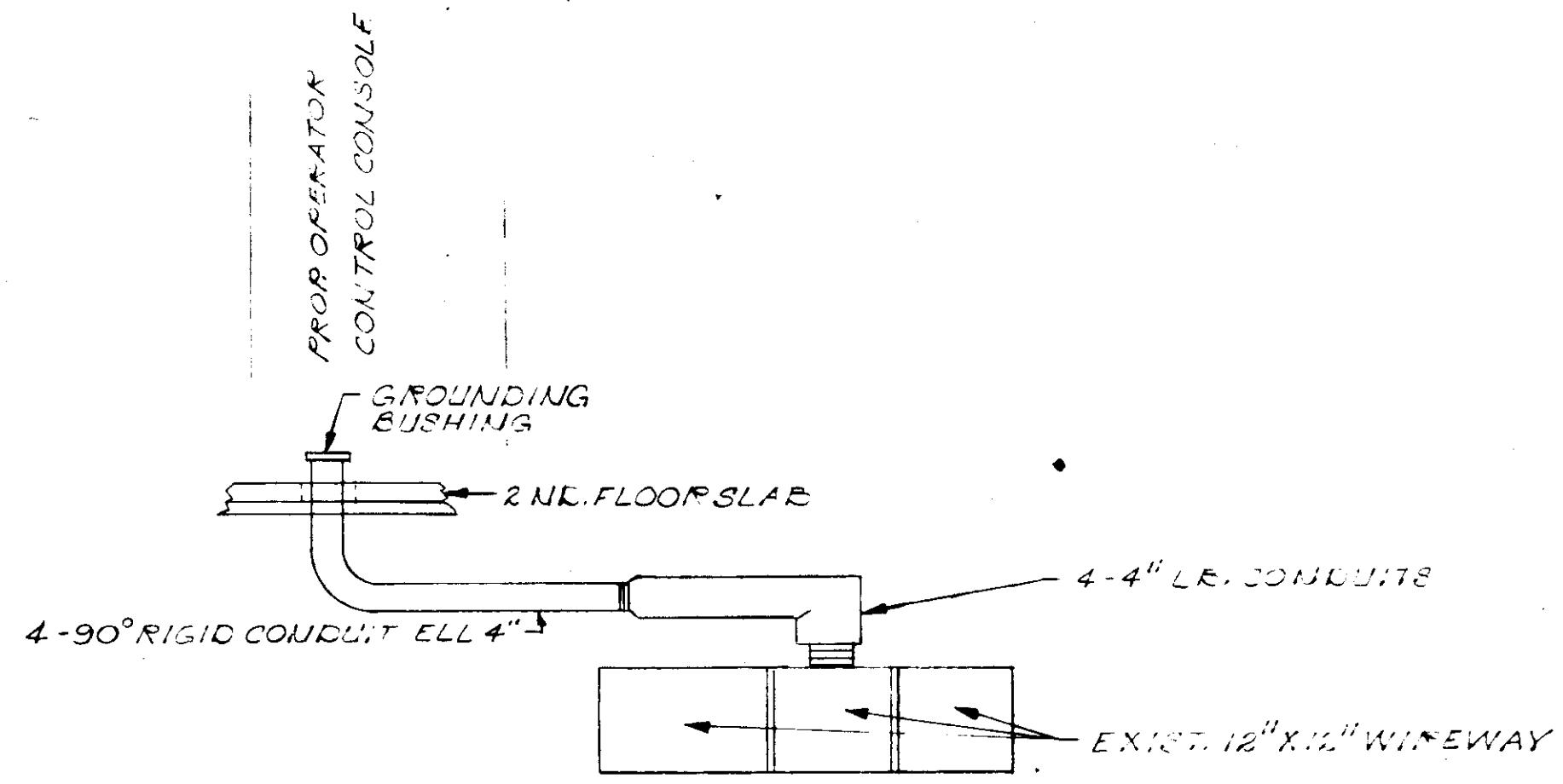
EXIST. SWITCHES WIRED TO PNLBD-2 CXTS. 1 & 3

EXIST. PNLB-NO. 2

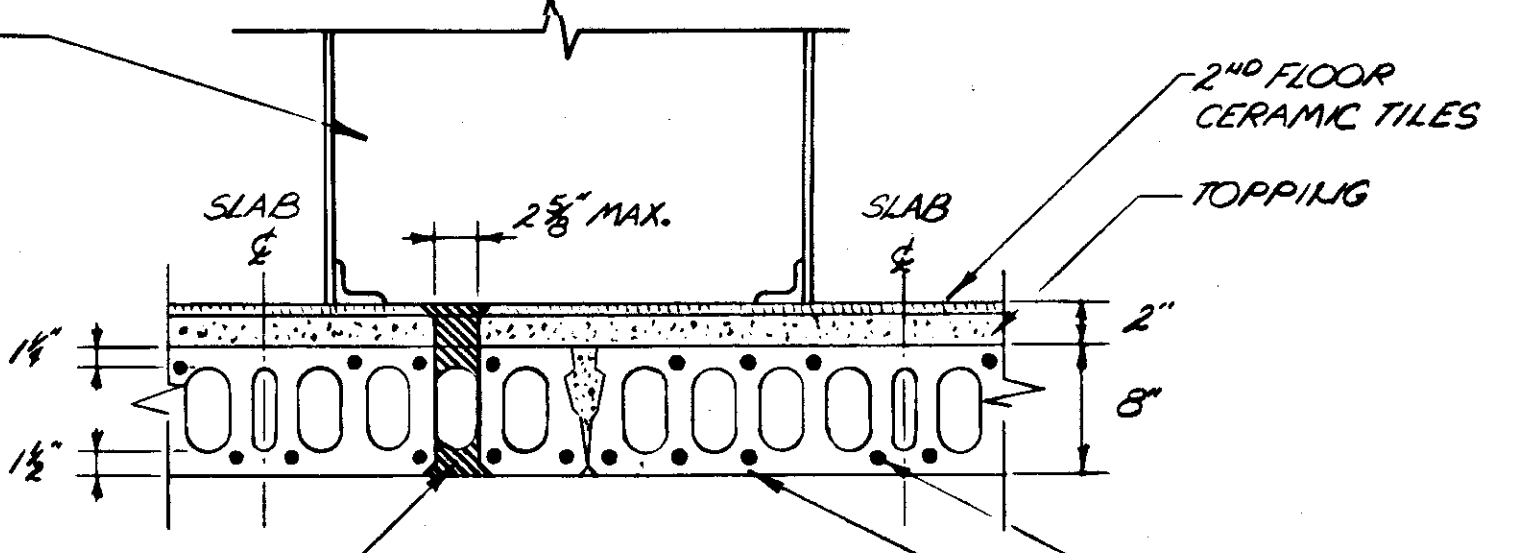


PLAN-2<sup>ND</sup> FLOOR  
LIGHTING ARRANGEMENT  
PLANT OPERATOR CONTROL ROOM  
SCALE: 1/4" = 1'-0"

REMOVE EXISTING LUMINOUS CEILING AND INSTALL NEW SUSPENDED 24' X 48" ACUSTICAL PANEL CEILING WITH RECESSED LIGHT FIXTURES AS SHOWN.



PLT OPER. CONTROL CONSOLE



SECTION-A-A  
N.T.S.

SLOT SHALL BE APPROX. 36" LONG AND SHALL PROVIDE NOT LESS THAN 51 SQ. IN. TOT. OF FREE OPENING FOR CXTS WIRING PASSAGE

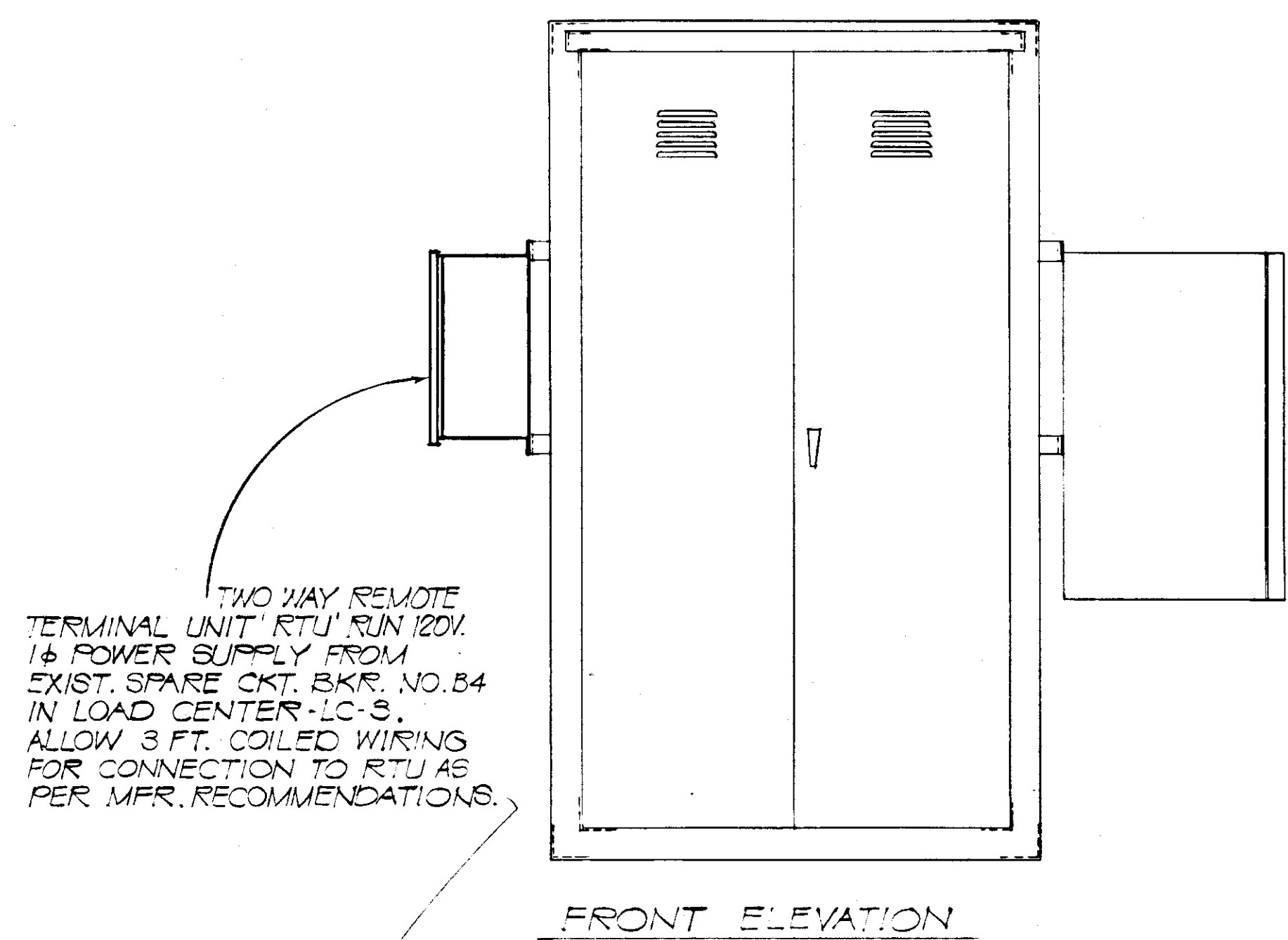
NOTES:

- EXISTING PLANT OPERATOR CONTROL CONSOLE SHALL HAVE ALL EXISTING COLLECTED POWER & CONTROL AND SIGNAL CXTS. DISCONNECTED AND PULLED THRU EXISTING 4-8" CONDUITS CROSSING THE 2<sup>ND</sup> FLOOR SLAB, DOWN IN EXISTING 12"x12" WIREWAY. POWER & CONTROL AND SIGNAL CXTS DESIGNATED (SEE INSTRUMENTATION SHEETS & SHT. E-12) TO BE RECONNECTED TO PLANT OPERATOR CONTROL CONSOLE WILL BE SPliced IN WIREWAY AND ROUTED THRU 4-8" CONDUITS IN 2<sup>ND</sup> FLOOR PRE-STRESSED SLAB. MULTI-CONDUCTOR SHIELDED CABLES SHALL RUN FROM SOURCE TO APPLICATION POINT W/ JOINT SPLICES IN THE WHOLE RUN. EXISTING 4-8" C'S SHALL THEN BE REMOVED FROM THEIR PRESENT LOCATION, THE 4-8" 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.

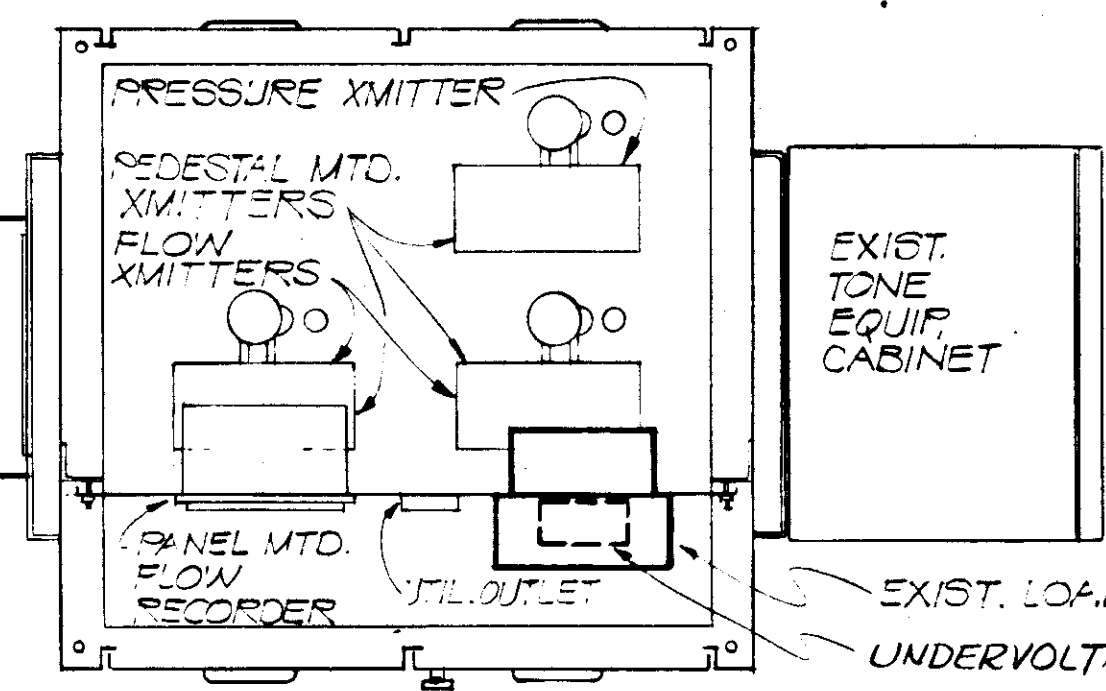
RECORD DRAWING

PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.  
DATE: 8/20/82 BY: KRN  
CHECKED BY: R & A  
M.C.U.S.

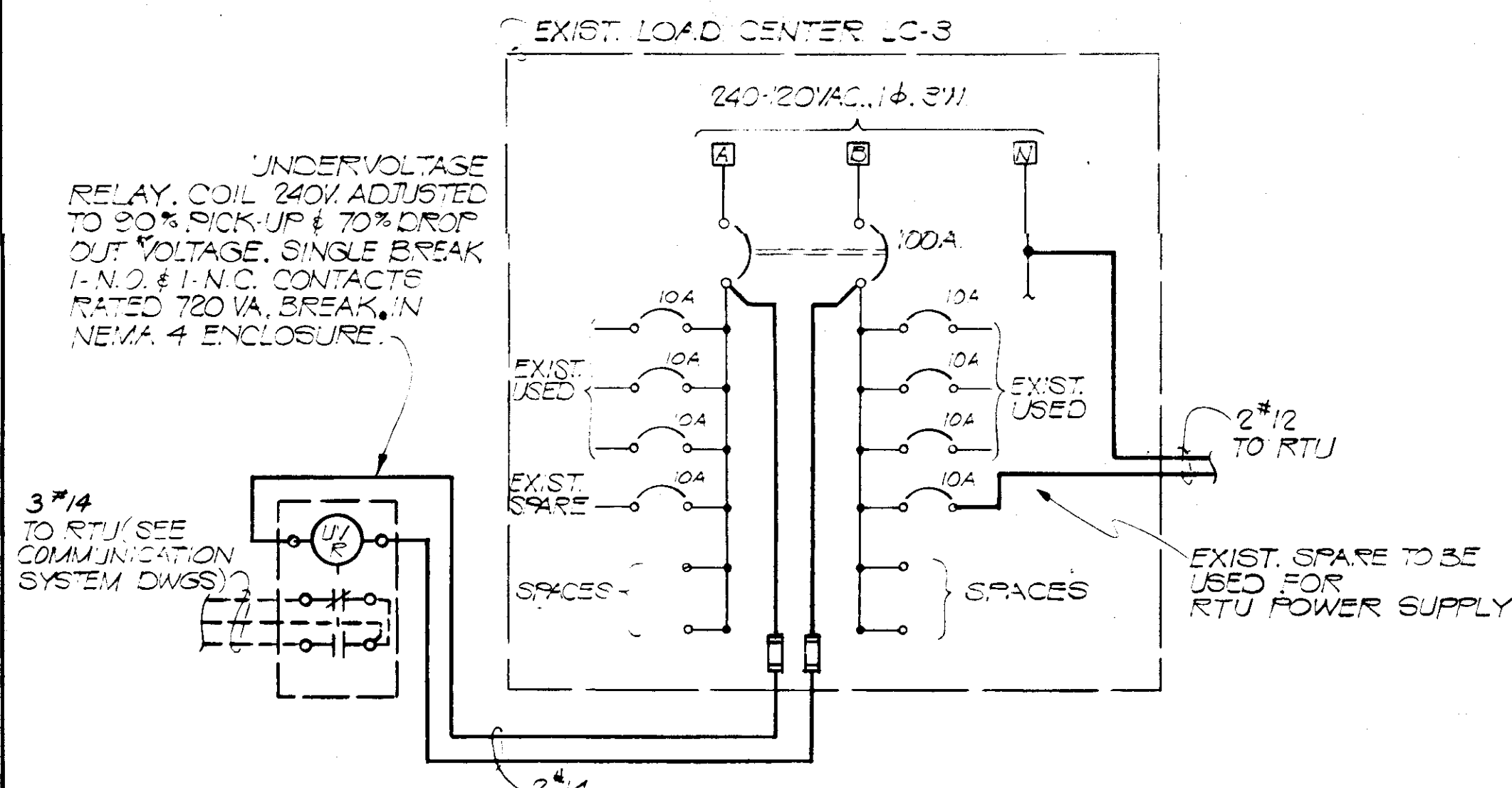
NO.	DATE	DESCRIPTION	BY	CHKD.
1	MAY 73	REV. PROP. TRANSFER PUMP P-3 TO EXIST. M.C.U.S.	M.A.S.	W.D.H.
2	MAY 73	REV. PLANT OPERATOR CONTROL ROOM	M.A.S.	W.D.H.
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
WATER WORKS PROJECT PLANT OPERATOR CONTROL CONSOLE ARRANGEMENT & DETAILS				
MANATEE CO.		FILE NO. 630-761-04		<b>T-101</b> FLORIDA SEAL
DESIGNED BY GSA	FILE NO.	SHEET E-13	No. 101	
DRAWN BY DCE	FILE NO.	OF 130	SHEETS	
CHECKED BY S.J.G.	DATE	SCALE: AS SHOWN		
AUGUST, 1978				



TWO WAY REMOTE TERMINAL UNIT RTU RUN 120V. 1Ø POWER SUPPLY FROM EXIST. SPARE CKT. BKR. NO. B4 IN LOAD CENTER LC-3. ALLOW 3 FT. COILED WIRING FOR CONNECTION TO RTU AS PER MFR. RECOMMENDATIONS.

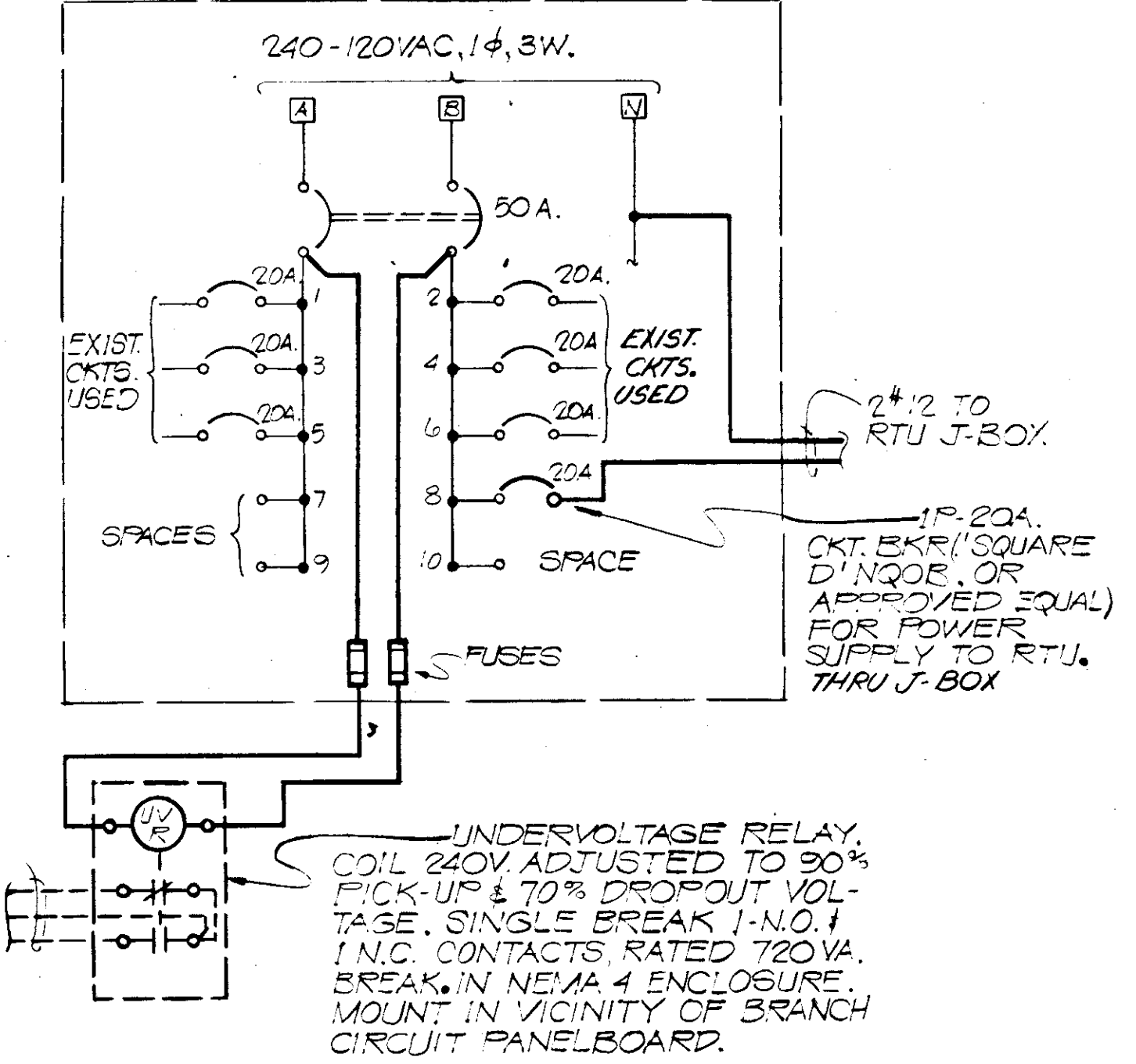


EXIST. TONE EQUIP. CABINET  
EXIST. LOAD CENTER LC-3  
UNDERVOLTAGE RELAY



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

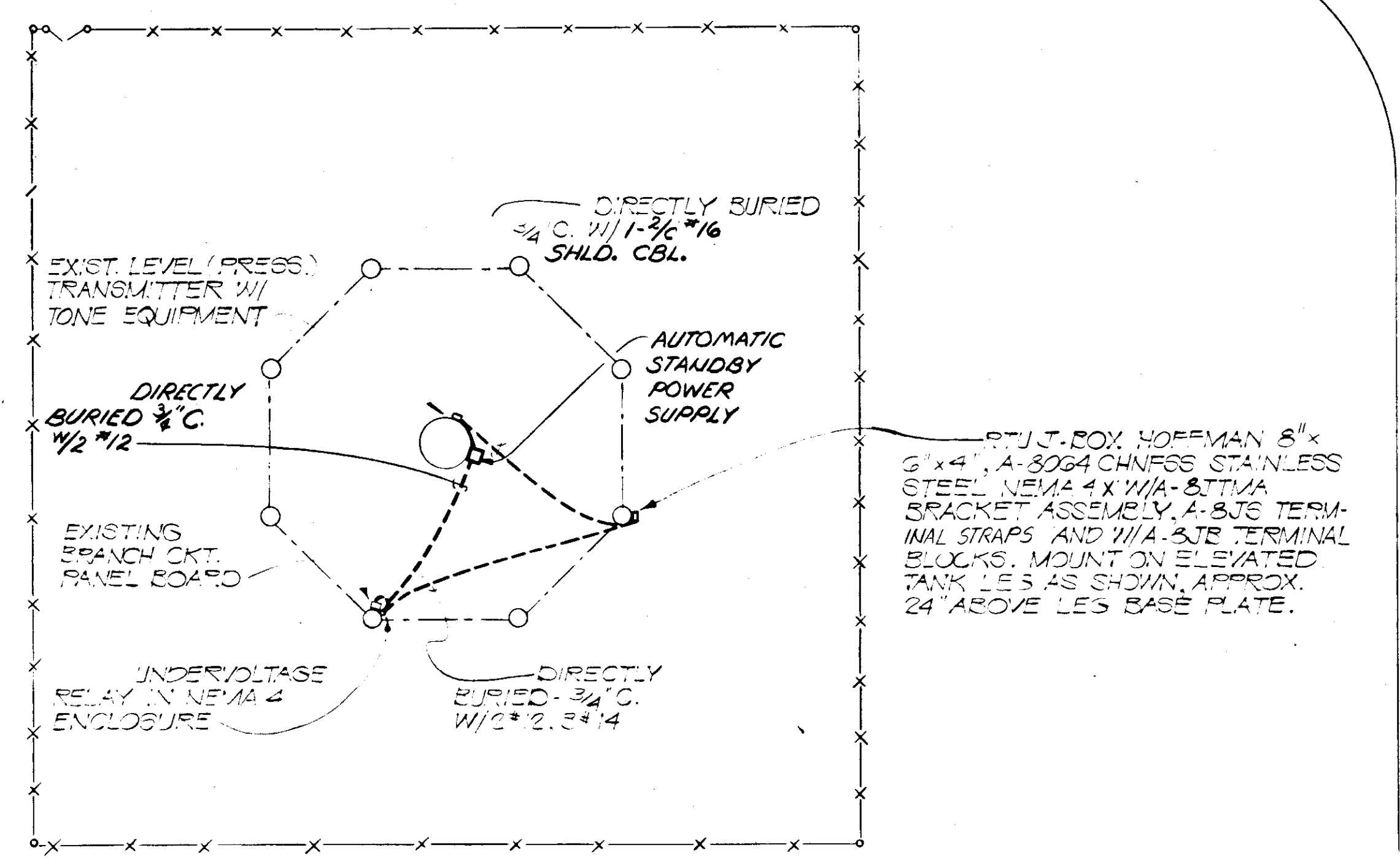
EXIST. BRANCH CKT. PANELBOARD IN NEMA 4 ENCL.



3#14 TO RTU THRU J-BOX

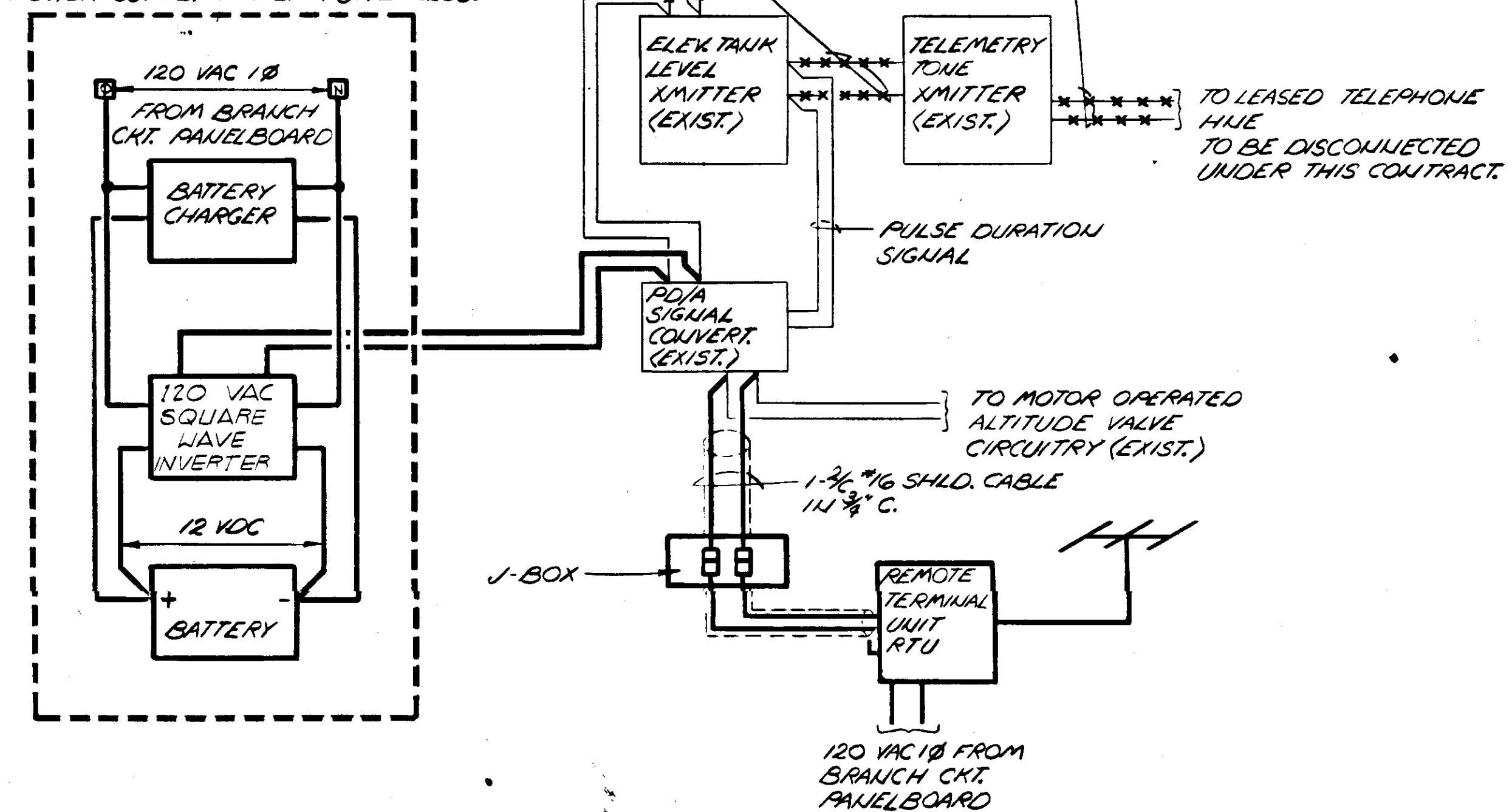
UNDERVOLTAGE RELAY, COIL 240V. ADJUSTED TO 90% PICK-UP & 70% DROPOUT VOLTAGE. SINGLE BREAK I-N.O. I I.N.C. CONTACTS RATED 720VA. BREAK IN NEMA 4 ENCLOSURE. MOUNT IN VICINITY OF BRANCH CIRCUIT PANELBOARD.

GOTH STREET WEST



44TH AVE. WEST (CORTEZ RD.) (SR 684)

AUTOMATIC STANDBY POWER SUPPLY IN NEMA 3R ENCLOS.



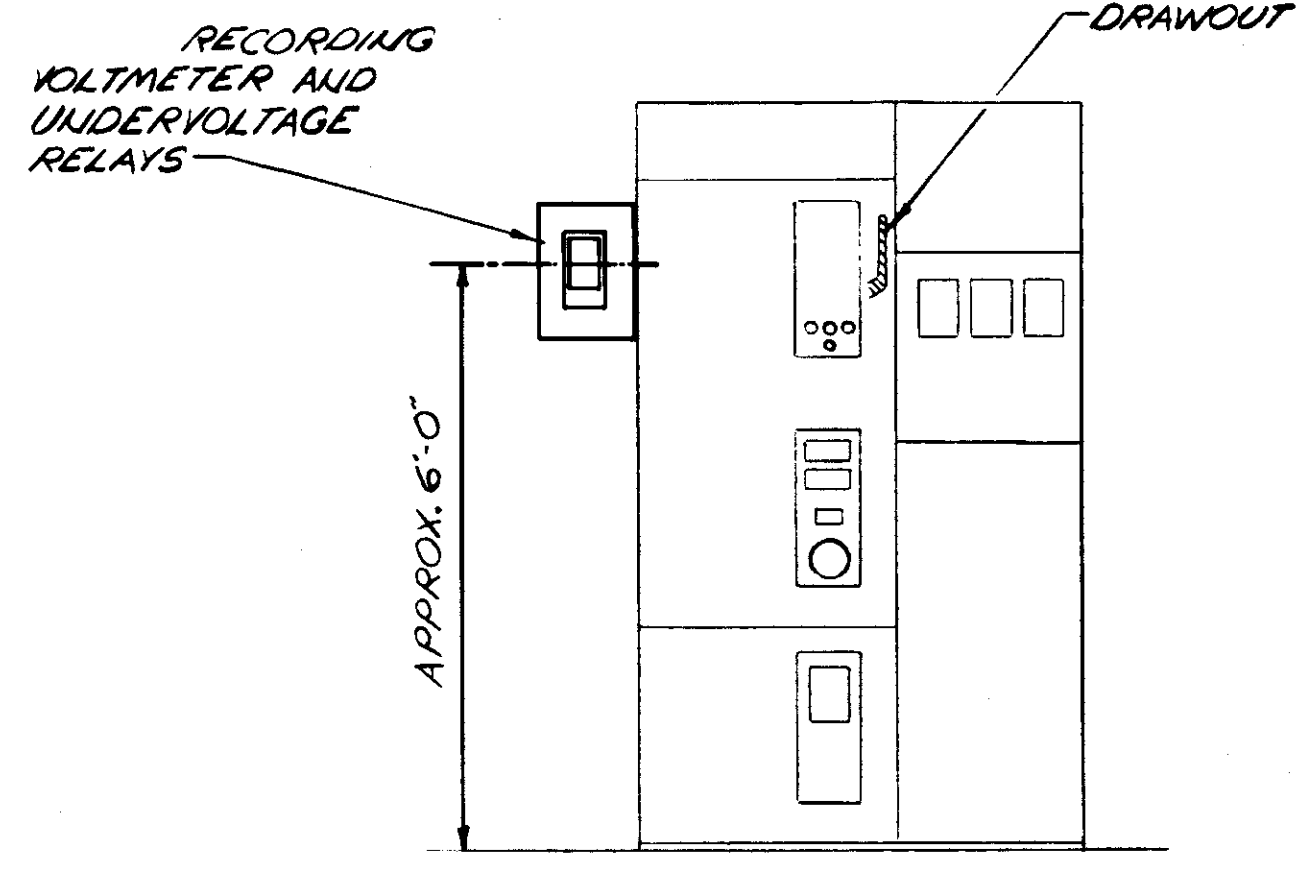
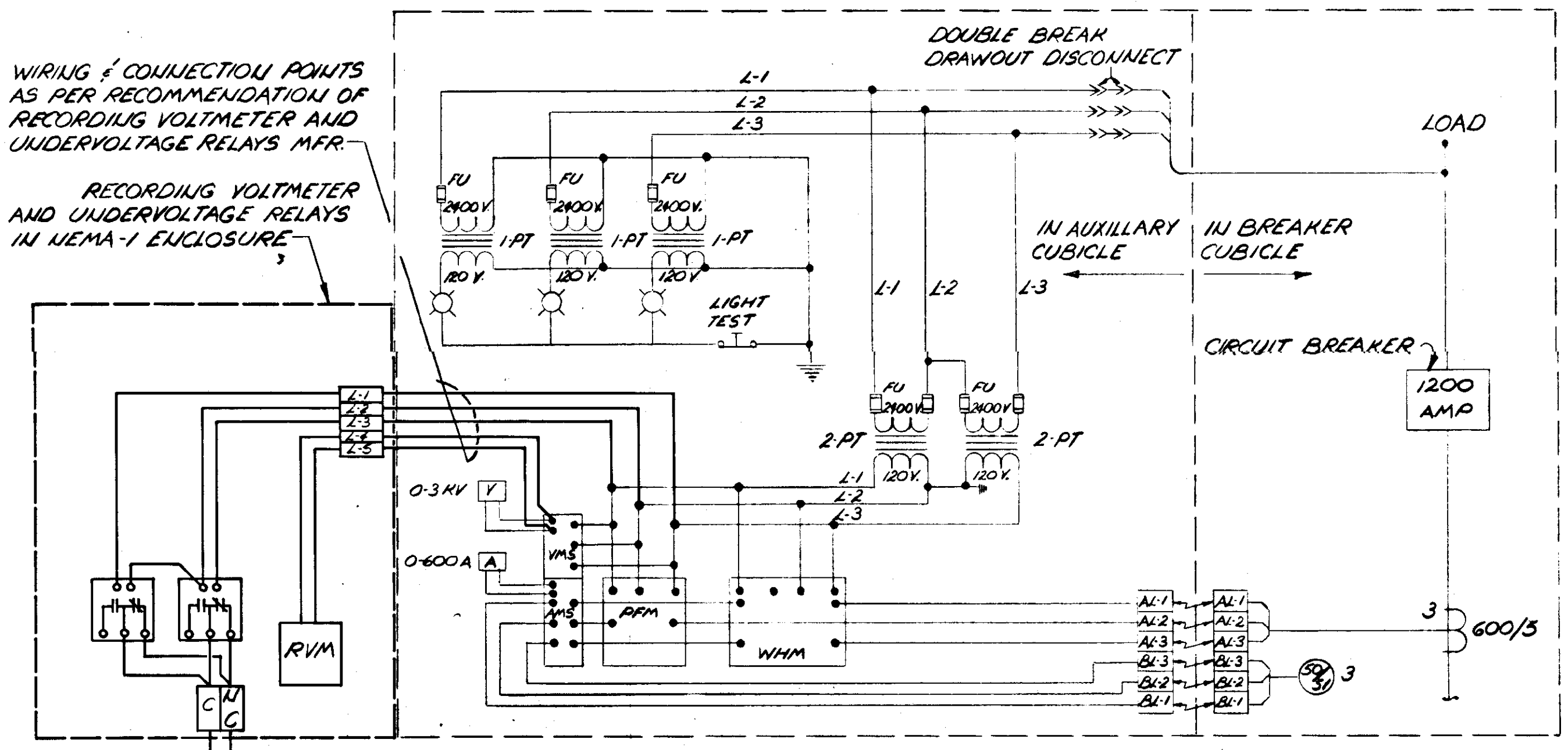
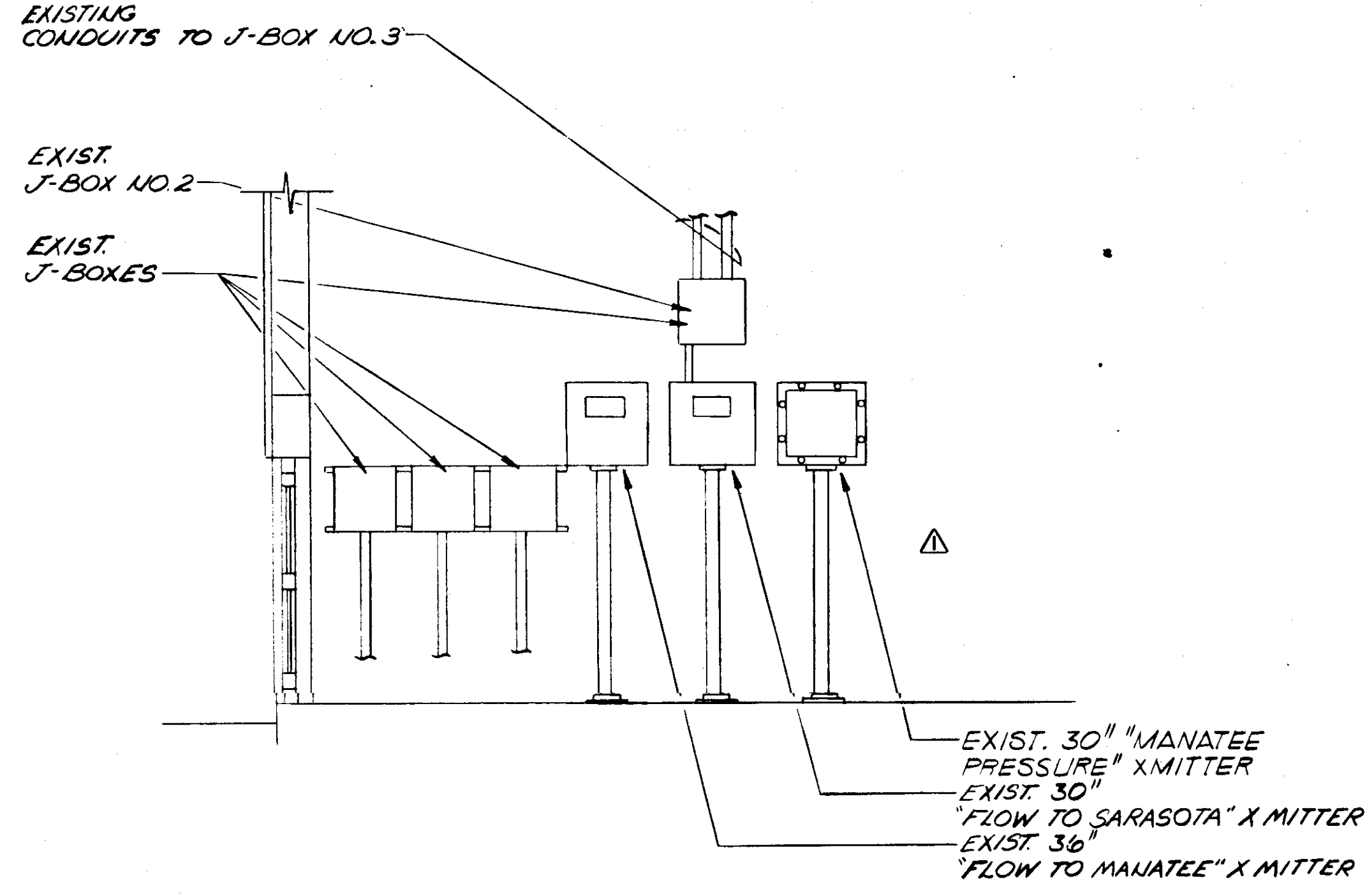
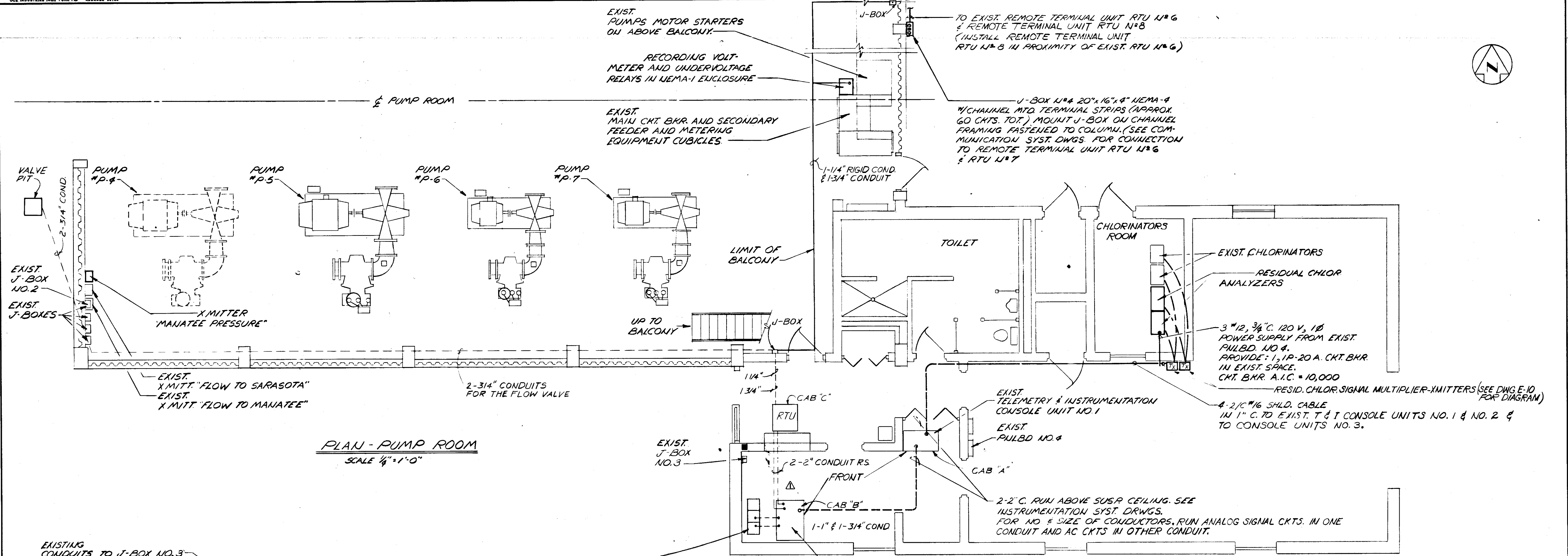
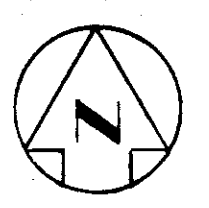
CORTEZ ROAD - ELEVATED TANK SITE PLAN

SCALE: 1" = 20'-0"

**RECORD DRAWING**

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

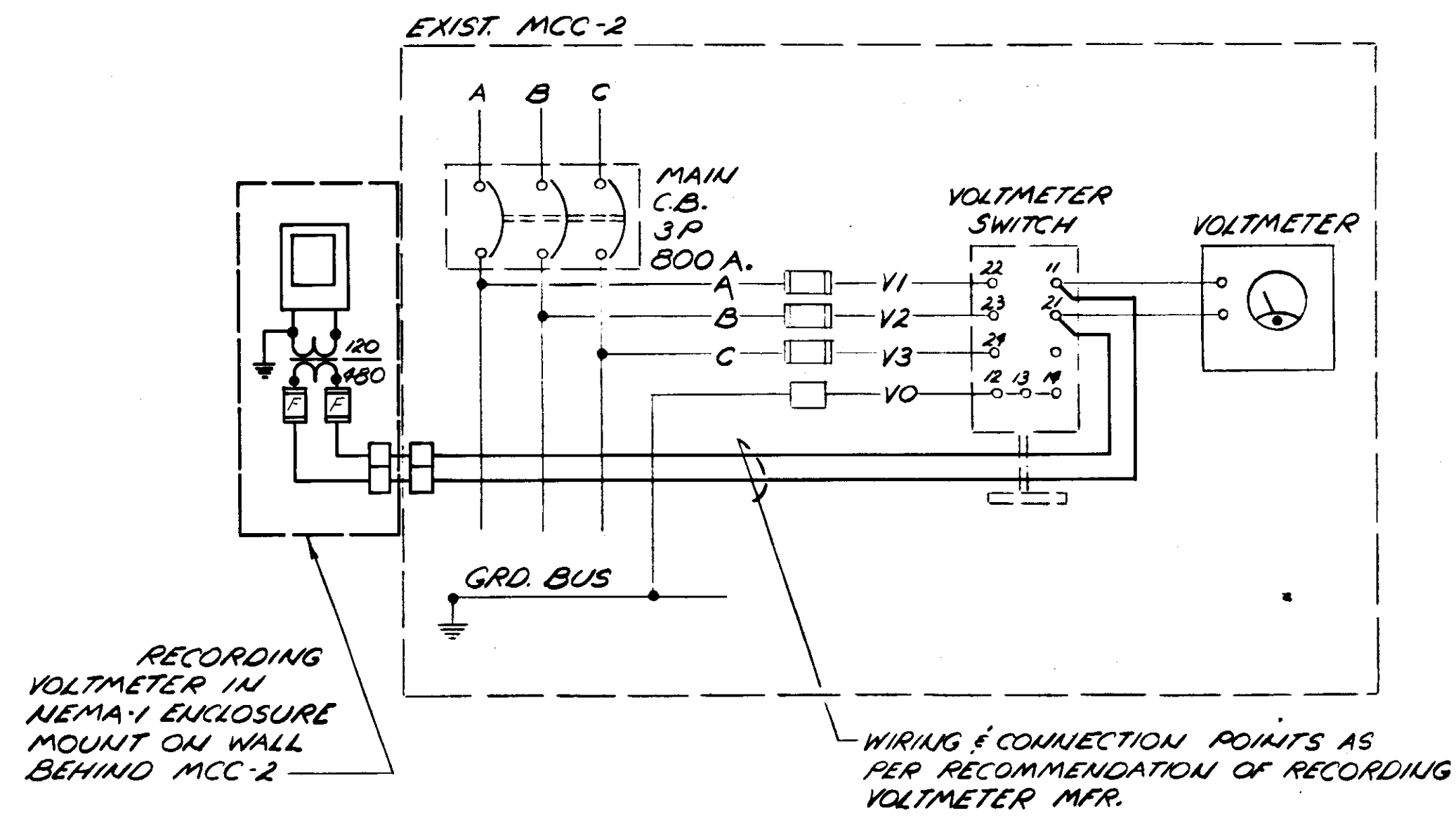
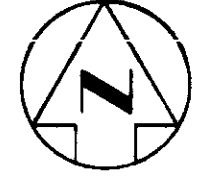
NO.	DATE	DESCRIPTION	BY	CHKD.
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
WATER WORKS PROJECT COMMUNICATION SYSTEM INSTALLATION DETAILS I				
MANATEE CO.		FILE NO.	<b>T-102</b> FLORIDA <b>SEAL</b>	
DESIGNED BY GBA	FILE NO. 630-761-04			
DRAWN BY R & A	SHEET E-14	No. 102 SHEETS		
CHECKED BY S.J.G.	OF 130			
DATE AUGUST, 1978	SCALE: AS SHOWN			



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

2 #14, 3/4" C TO J-BOX NO. 4 FOR CONNECTION TO RTU

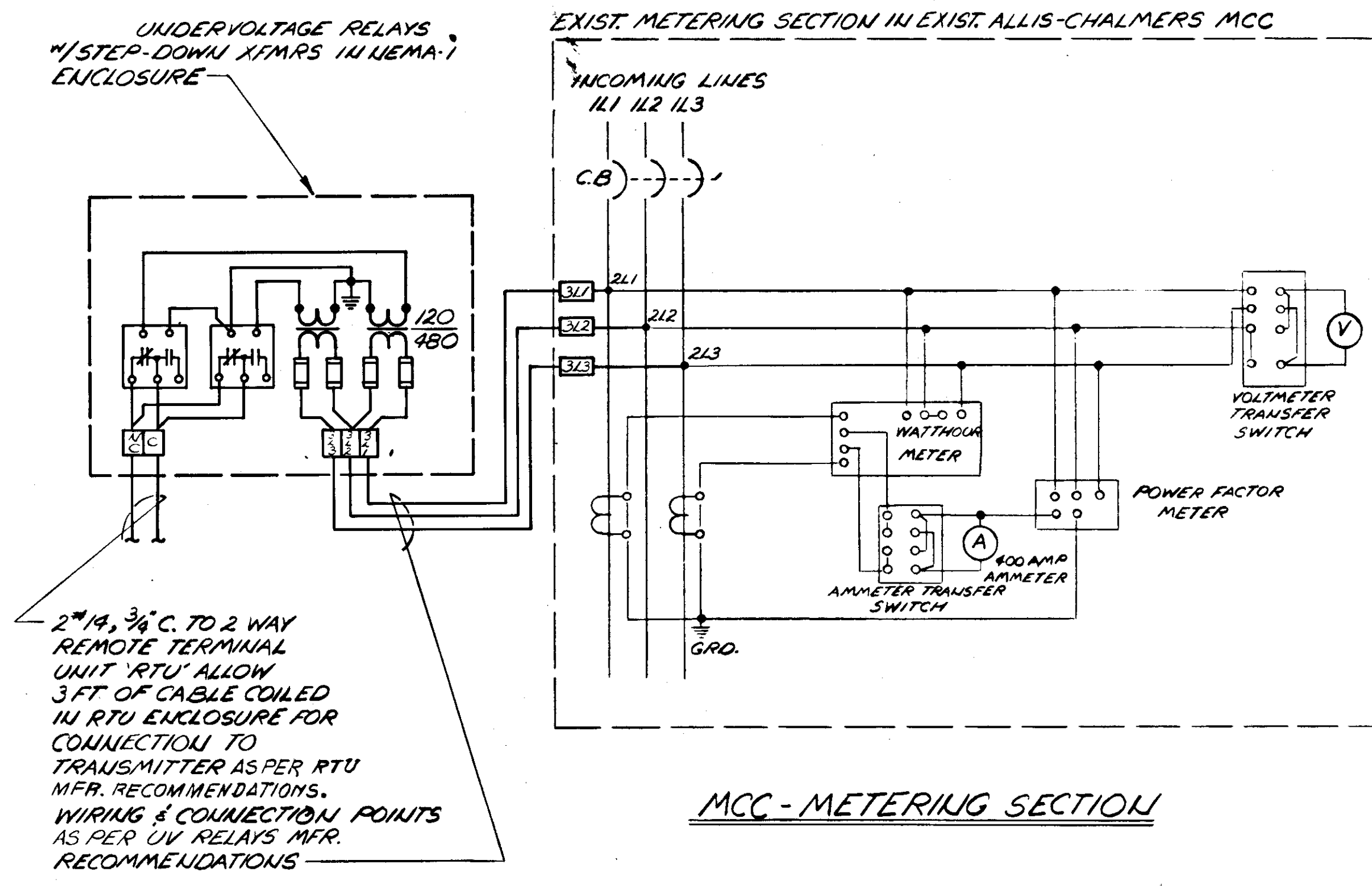
NO.	1179	AS PER REVISION #1	RWF	SJG	SJG
DATE					
REVISIONS					
RUSSELL & AXON Engineers - Planners - Architects					
WATER WORKS PROJECT COMMUNICATION SYSTEM INSTALLATION ELWOOD PARK STA. NO. 1 - DETAILS II					
MANATEE CO. FLORIDA					
DESIGNED BY	FILE NO.	SEAL			
GBA	630-761-04				
DRAWN BY	SHEET E-15				
DC	No. 103				
CHECKED BY	OF 130 SHEETS				
SJG					
DATE	SCALE: AS SHOWN				
AUGUST, 1978					



RECORDING VOLTMETER IN NEMA-1 ENCLOSURE MOUNT ON WALL BEHIND MCC-2

WIRING & CONNECTION POINTS AS PER RECOMMENDATION OF RECORDING VOLTMETER MFR.

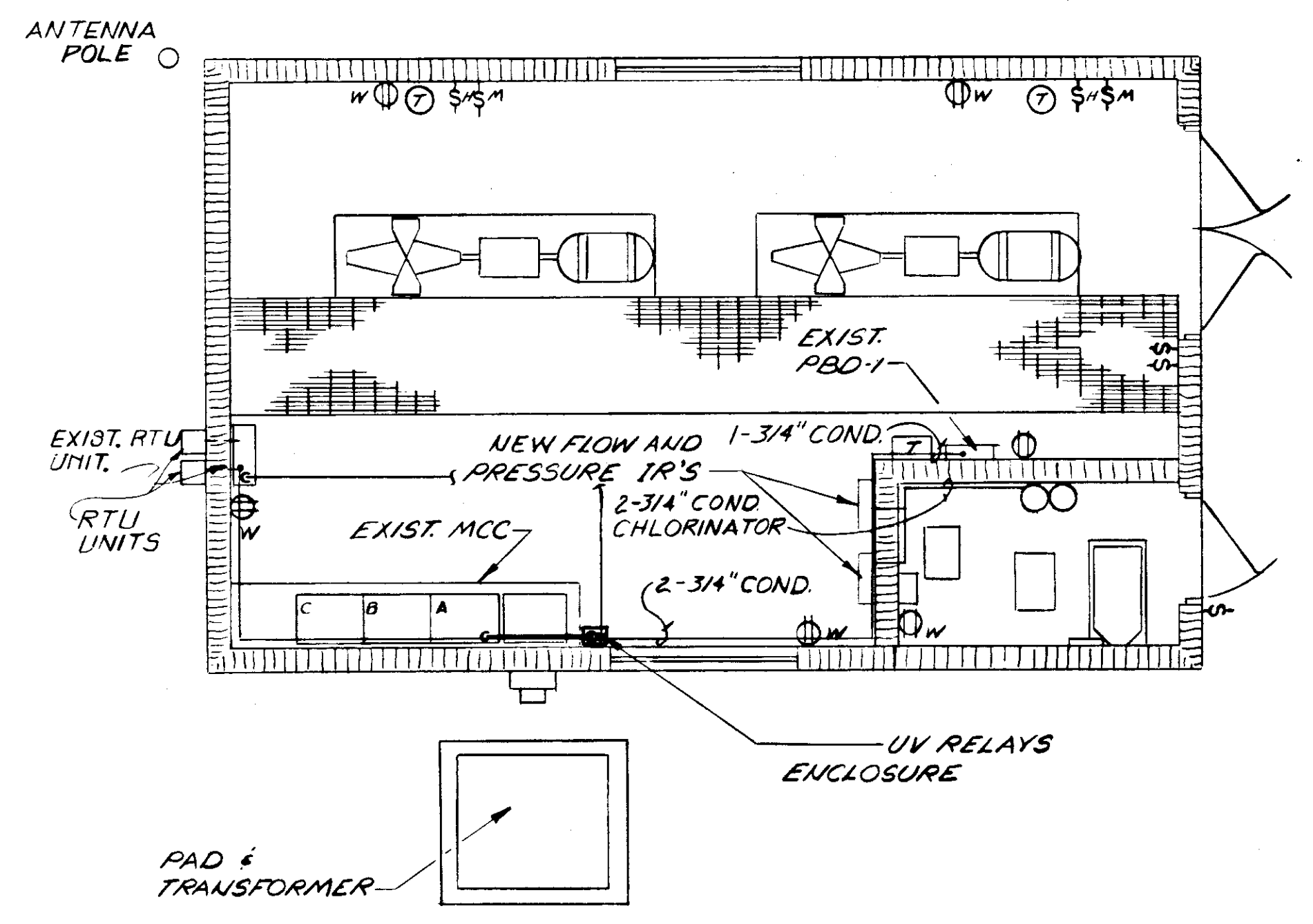
**SCHMATIC DIAGRAM RAW WATER PUMPING STATION NO.1**



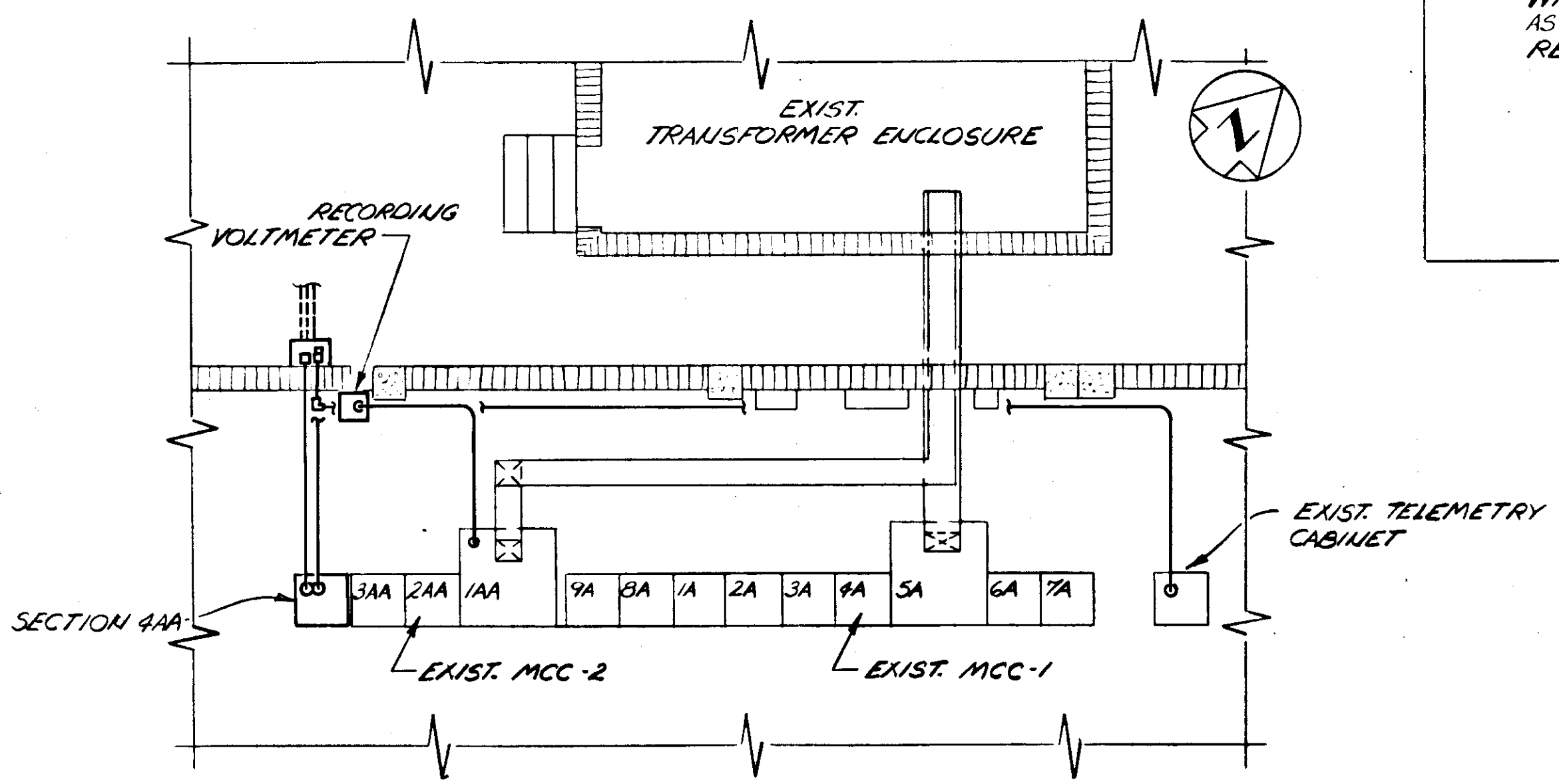
2" 1/4, 3/4" C. TO 2 WAY REMOTE TERMINAL UNIT "RTU" ALLOW 3 FT. OF CABLE COILED IN RTU ENCLOSURE FOR CONNECTION TO TRANSMITTER AS PER RTU MFR. RECOMMENDATIONS. WIRING & CONNECTION POINTS AS PER UV RELAYS MFR. RECOMMENDATIONS

**MCC-METERING SECTION**

**ELLENTON BOOSTER STATION**



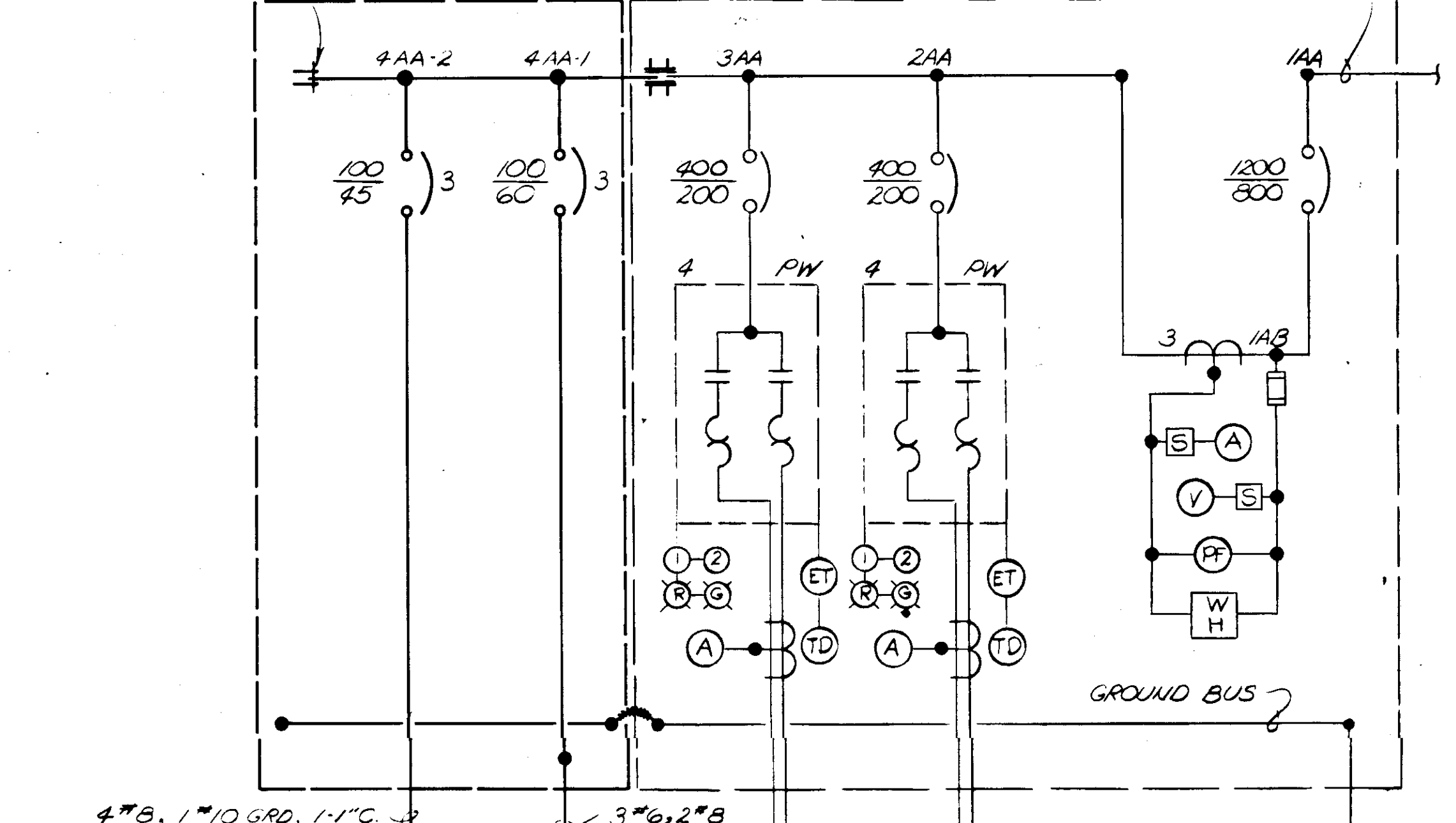
**PLAN NO SCALE**



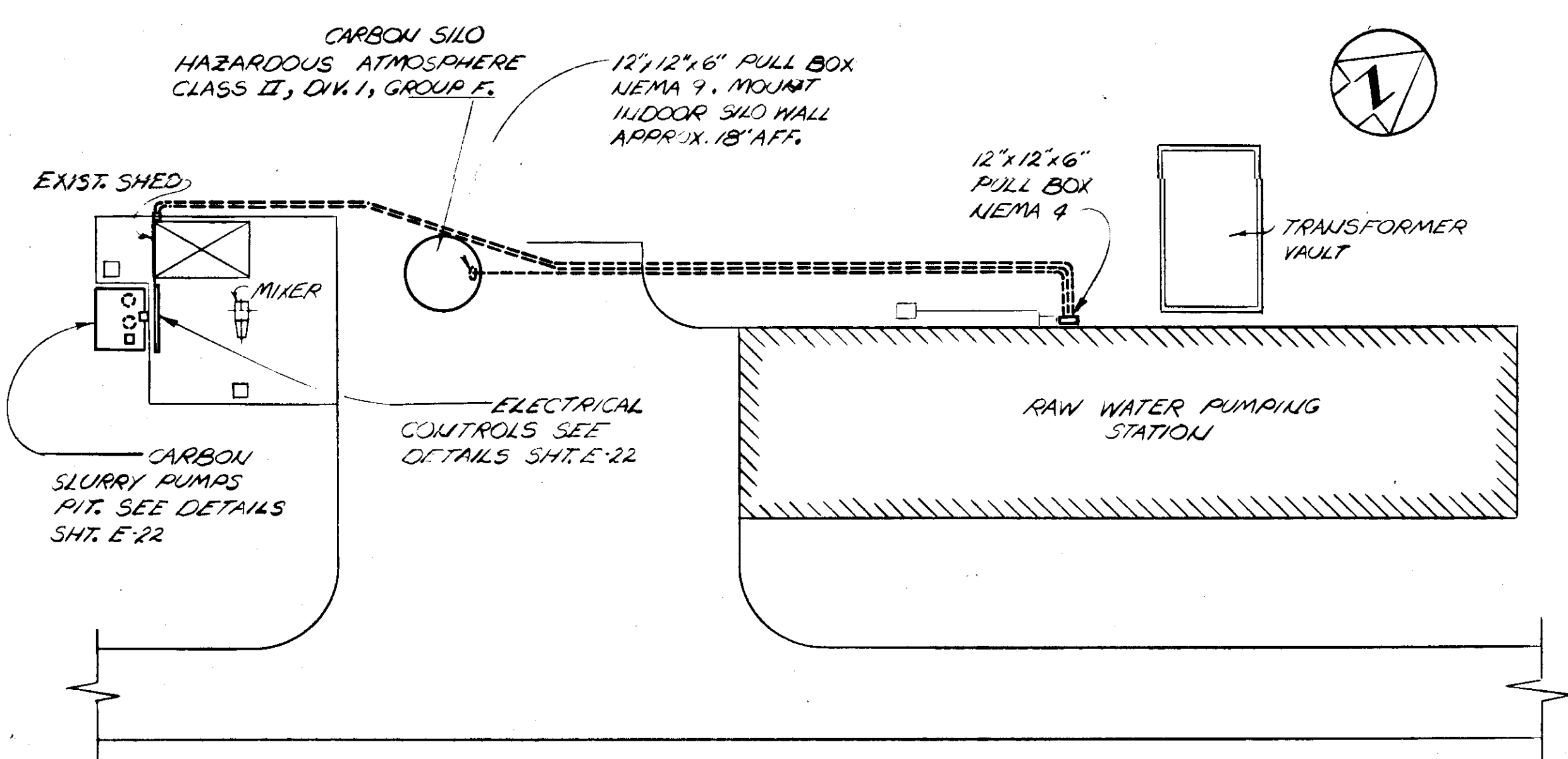
**PARTIAL PLAN RAW WATER PUMPING STATION NO.1**

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

**ADDITION TO MOTOR CONTROL CENTER MCC-2**

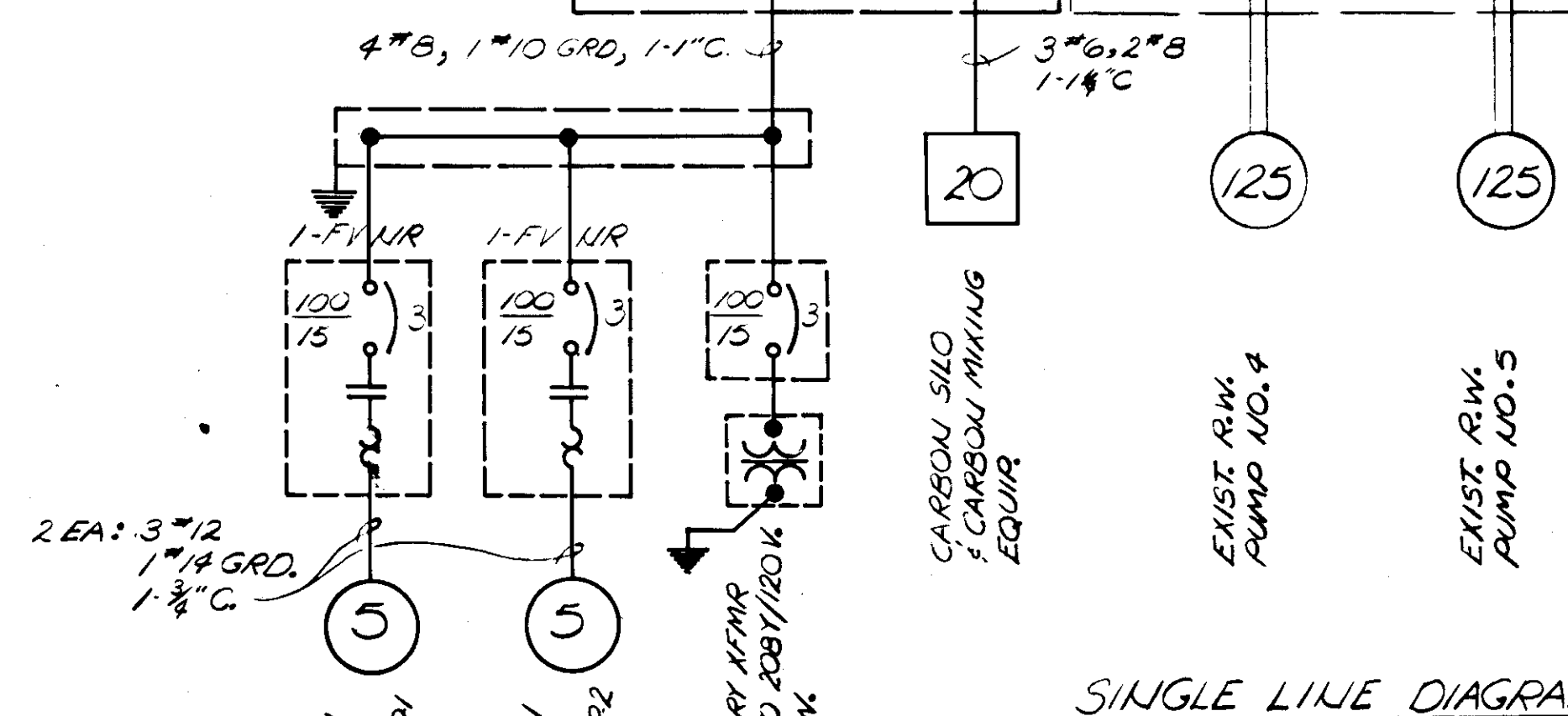


NOTE:  
1. SEE SHIT. NO. E-22 FOR ADDITIONAL DETAILS OF RAW PUMPING STA. NO.1



**SITE PLAN - RAW WATER PUMPING STATION NO.1**

SCALE: 1" = 20'-0"

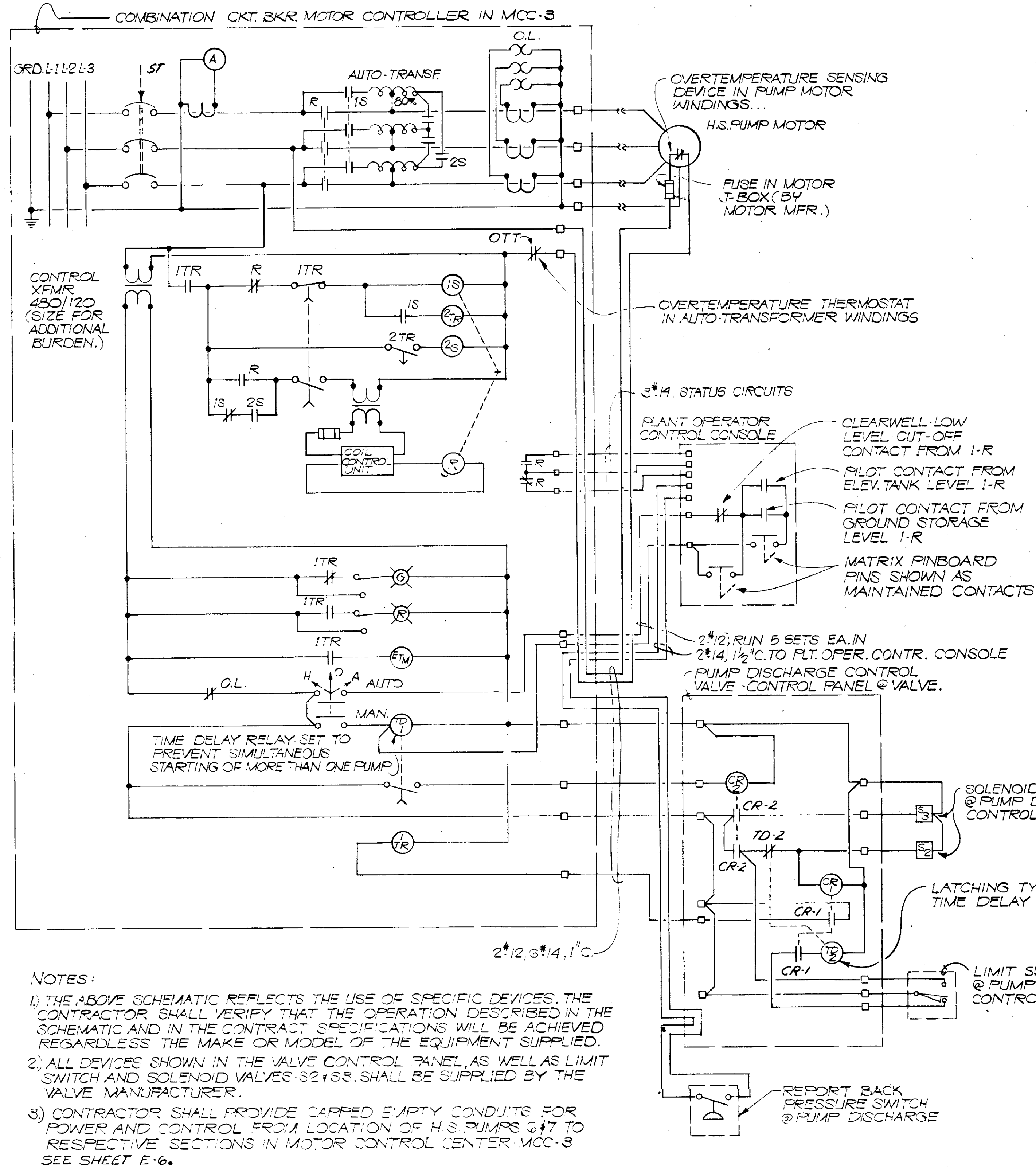


**SINGLE LINE DIAGRAM - PARTIAL**

NO SCALE

**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.

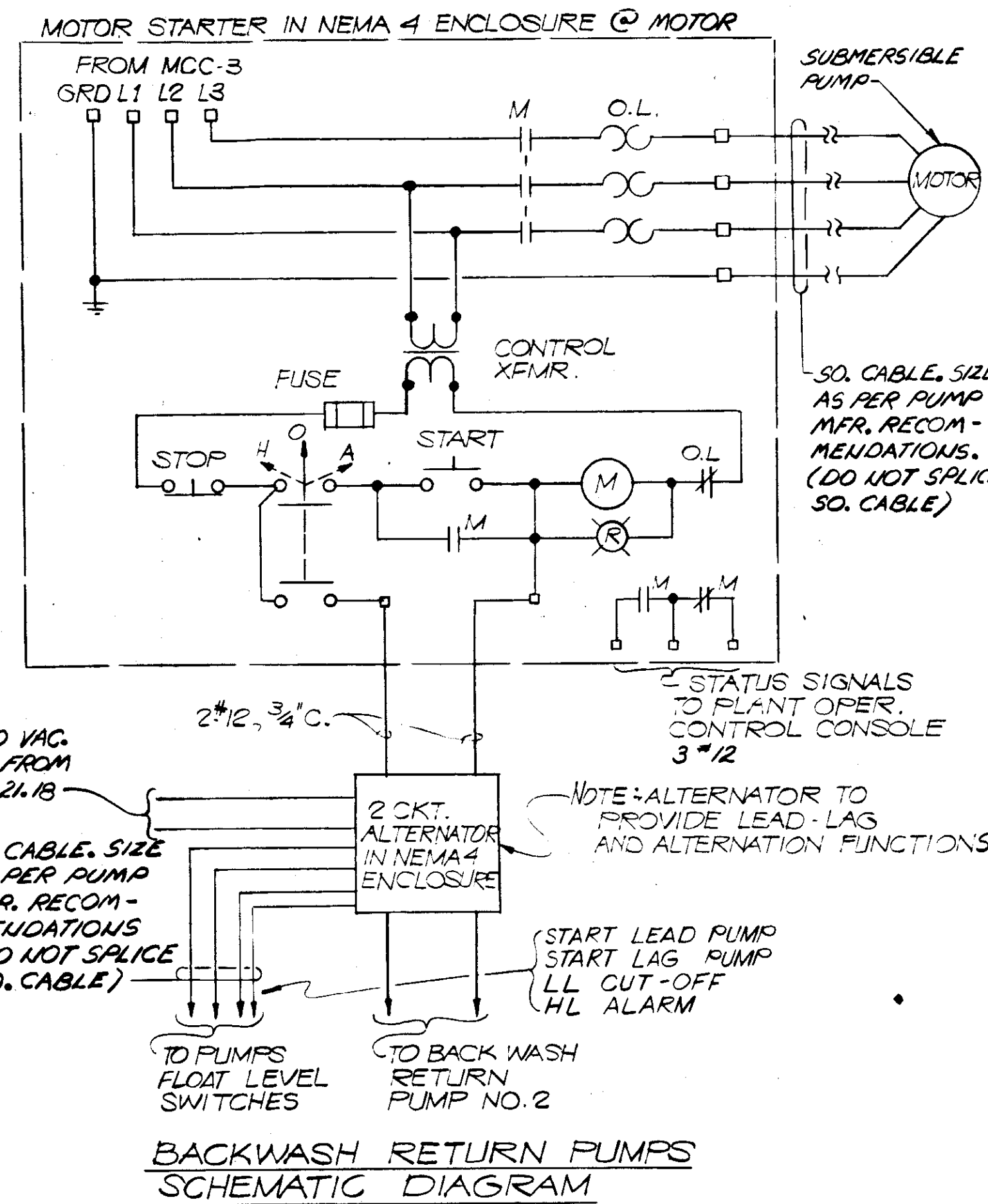
NO.	DATE	DESCRIPTION	BY	CHKD.
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
WATER WORKS PROJECT COMMUNICATION SYSTEM INSTALLATION - DETAILS III RW. PUMPING STATION NO.1 - DETAILS				
MANATEE CO.		<b>T-104</b> FLORIDA		
DESIGNED BY GBA	FILE NO. 630-761-04	<b>SEAL</b>		
DRAWN BY R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



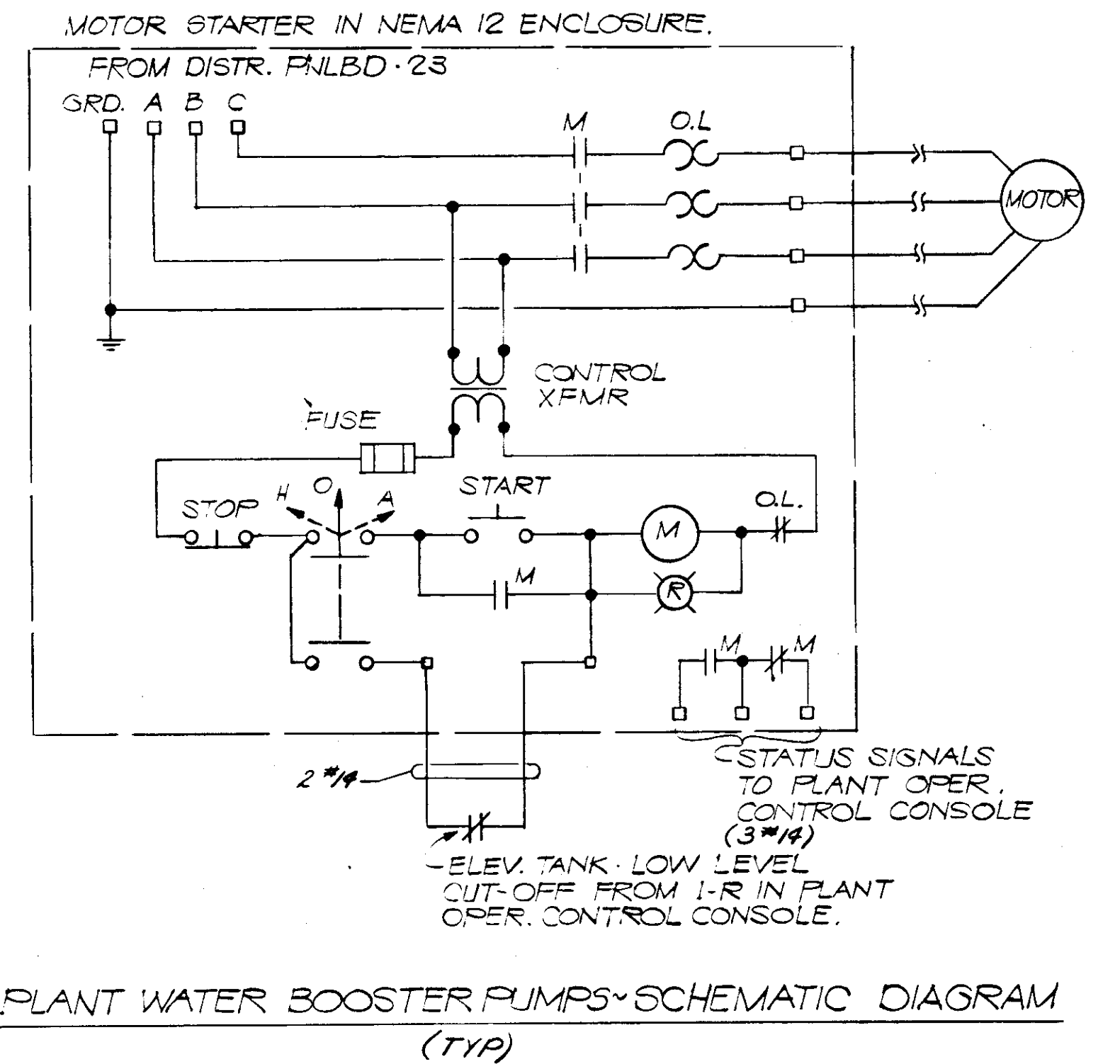
NOTES:

- 1) THE ABOVE SCHEMATIC REFLECTS THE USE OF SPECIFIC DEVICES. THE CONTRACTOR SHALL VERIFY THAT THE OPERATION DESCRIBED IN THE SCHEMATIC AND IN THE CONTRACT SPECIFICATIONS WILL BE ACHIEVED REGARDLESS THE MAKE OR MODEL OF THE EQUIPMENT SUPPLIED.
- 2) ALL DEVICES SHOWN IN THE VALVE CONTROL PANEL, AS WELL AS LIMIT SWITCH AND SOLENOID VALVES @ PUMP DISCHARGE, SHALL BE SUPPLIED BY THE VALVE MANUFACTURER.
- 3) CONTRACTOR SHALL PROVIDE CAPPED EMPTY CONDUITS FOR POWER AND CONTROL FROM LOCATION OF H.S. PUMPS #47 TO RESPECTIVE SECTIONS IN MOTOR CONTROL CENTER MCC-3 SEE SHEET E-6.

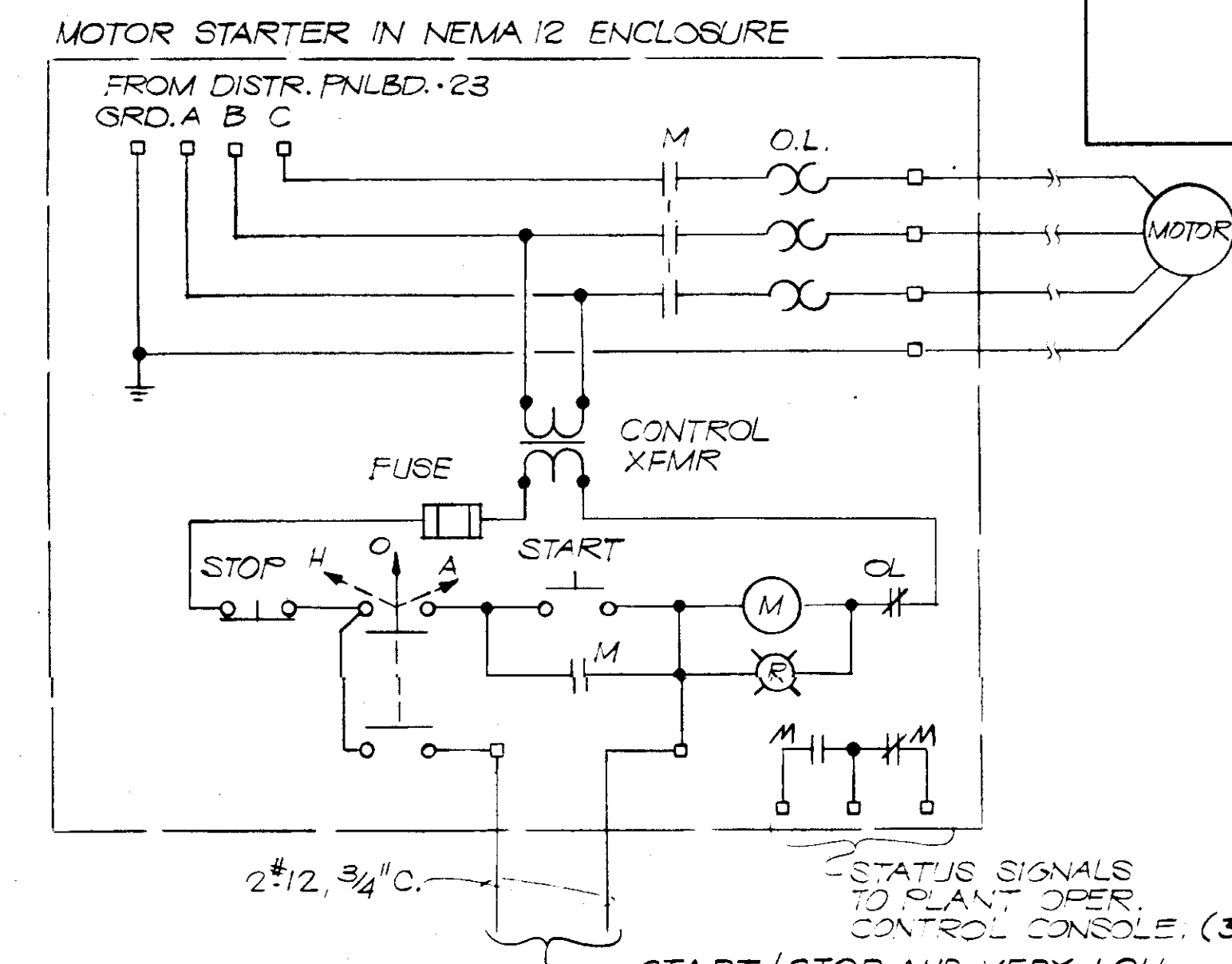
TRANSFER PUMP SCHEMATIC DIAGRAM  
TYP. FOR TRANSFER PUMPS 1 THRU 5



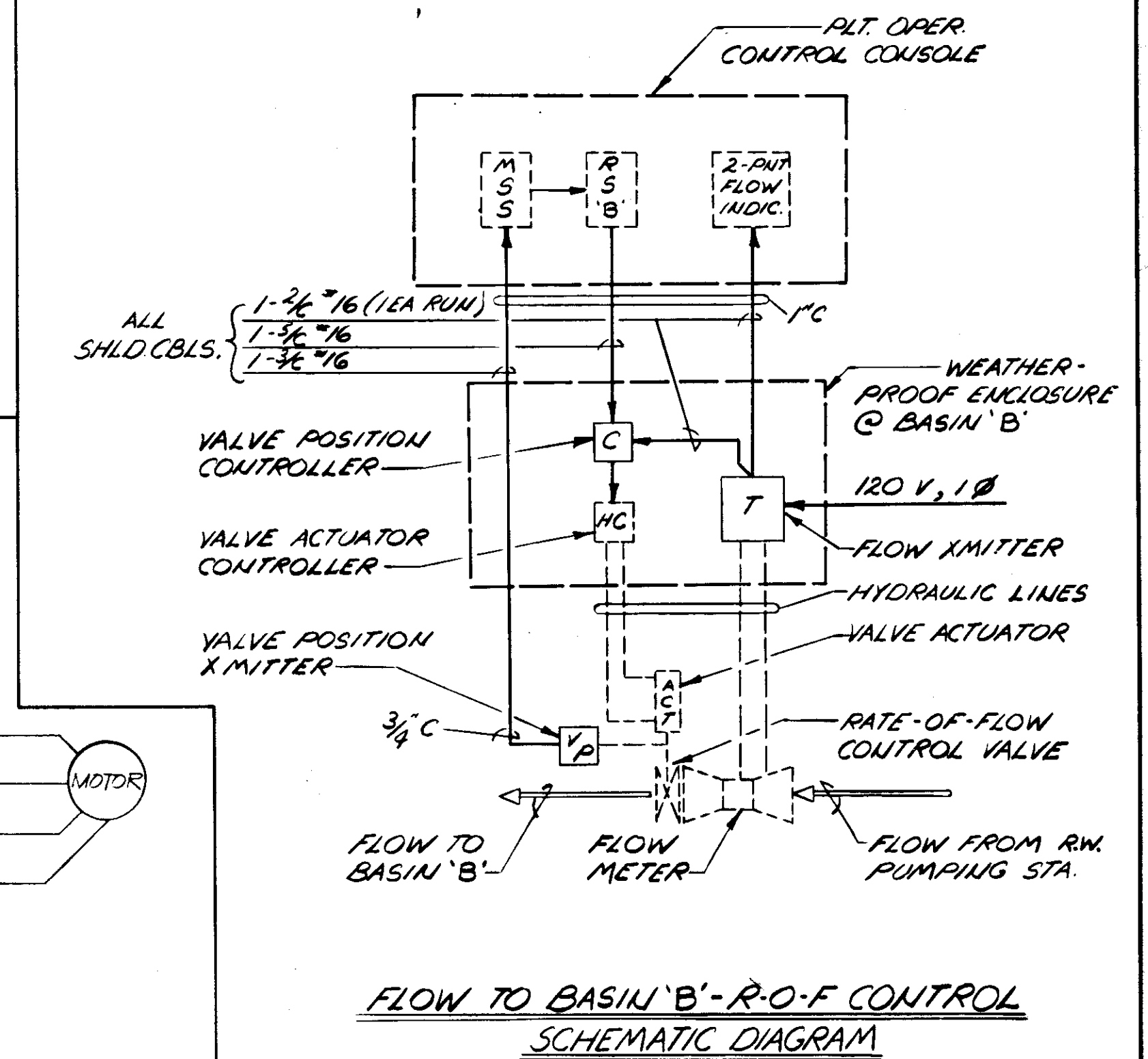
BACKWASH RETURN PUMPS SCHEMATIC DIAGRAM



PLANT WATER BOOSTER PUMPS SCHEMATIC DIAGRAM (TYP)



LIME SLURRY PUMPS SCHEMATIC DIAGRAM (TYP)



FLOW TO BASIN 'B' - R-O-F CONTROL SCHEMATIC DIAGRAM

RECORD DRAWING

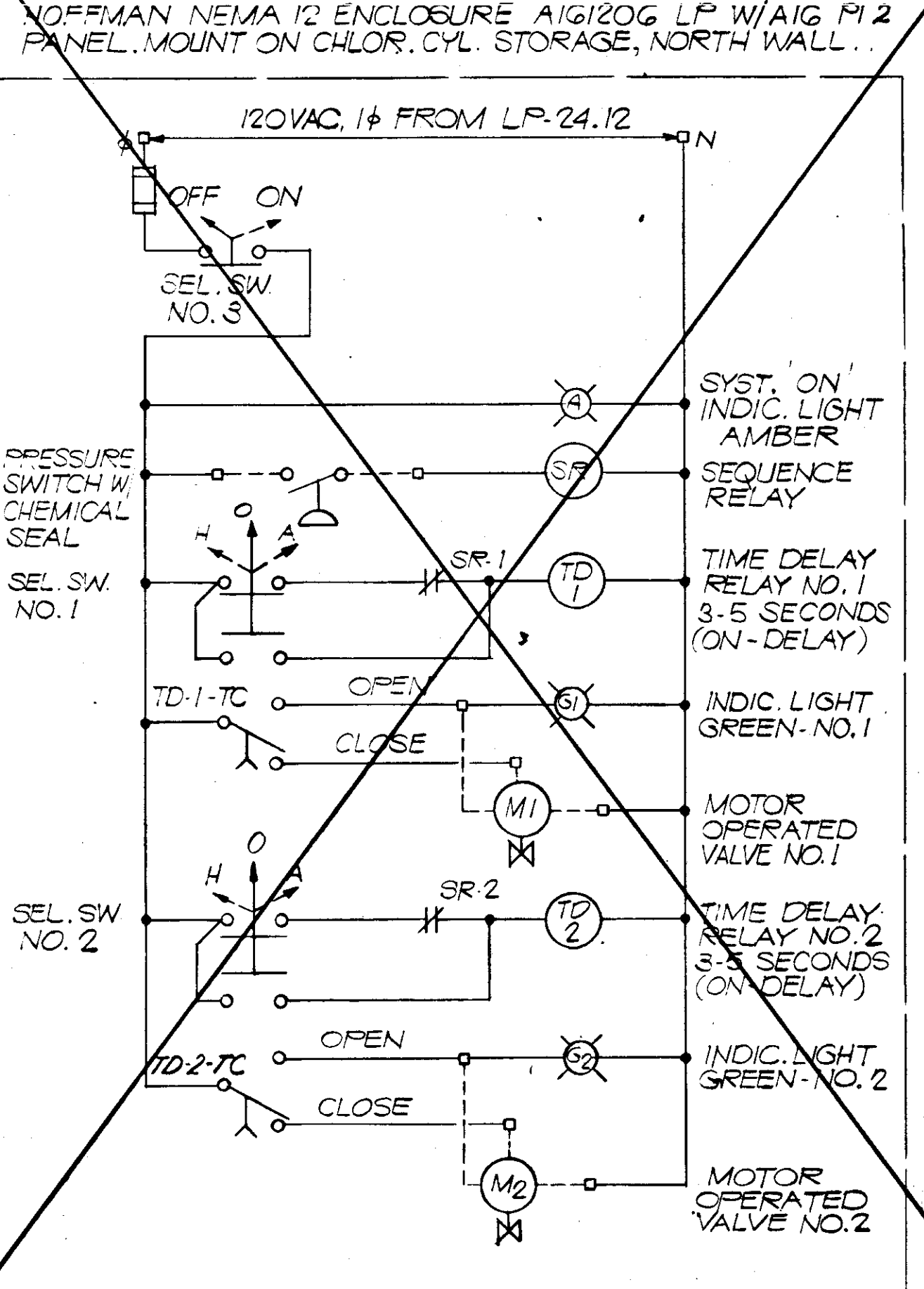
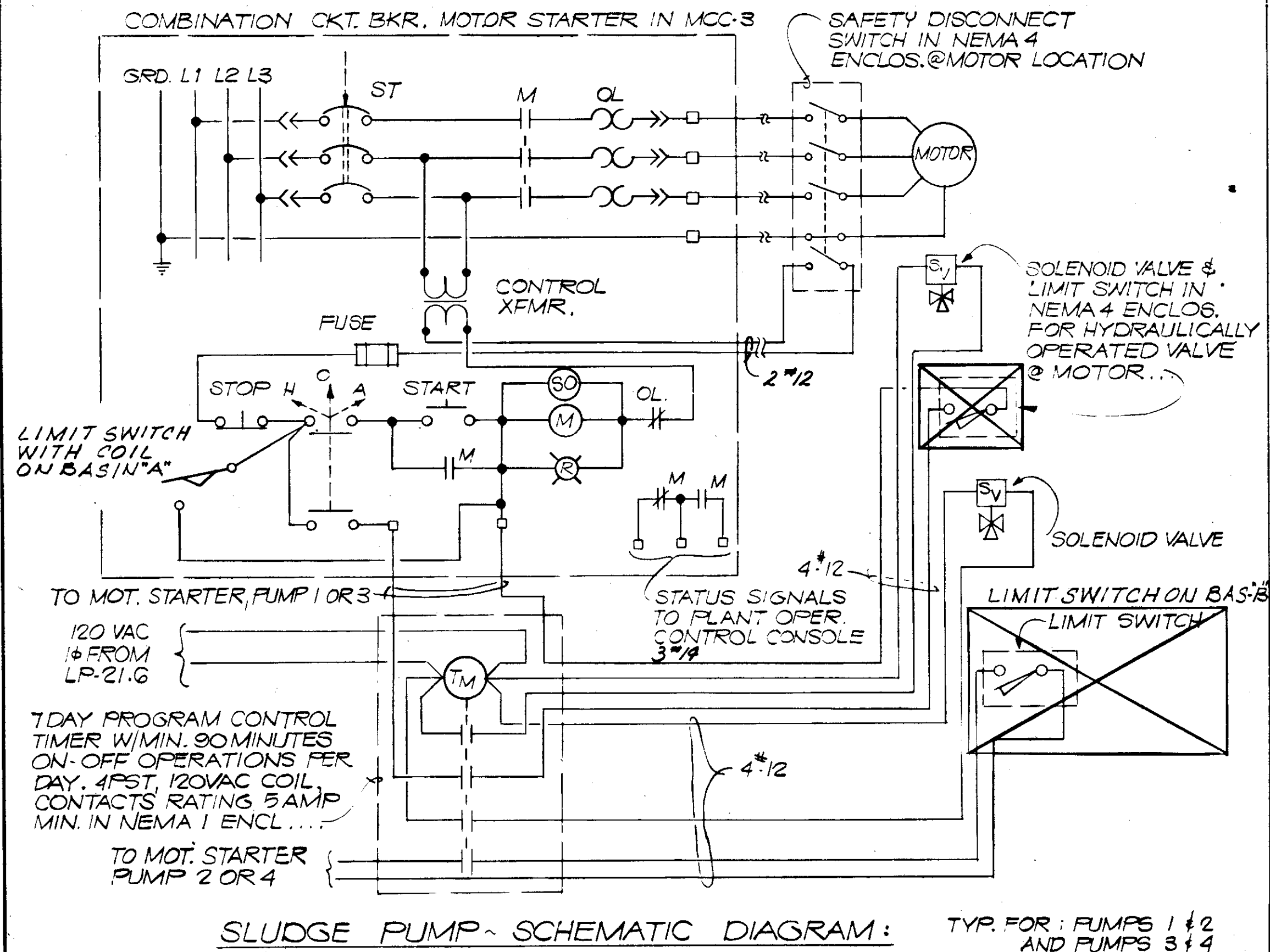
PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.

DATE 8/30/88 BY R.R.

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

NO.	DATE	DESCRIPTION	BY	CKD.
5/79	REV B'WASH RET. PUMPS, TRANSF. PUMP #3		RSG	
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
WATER WORKS PROJECT PROCESS SCHEMATIC DIAGRAMS I				
MANATEE CO.		FILE NO.	SEAL	
DESIGNED BY	GBA	630-761-04		
DRAWN BY	DEB	SHEET E-17		
CHECKED BY	SJG	OF 130 SHEETS		
DATE	AUGUST, 1978	SCALE: NONE		



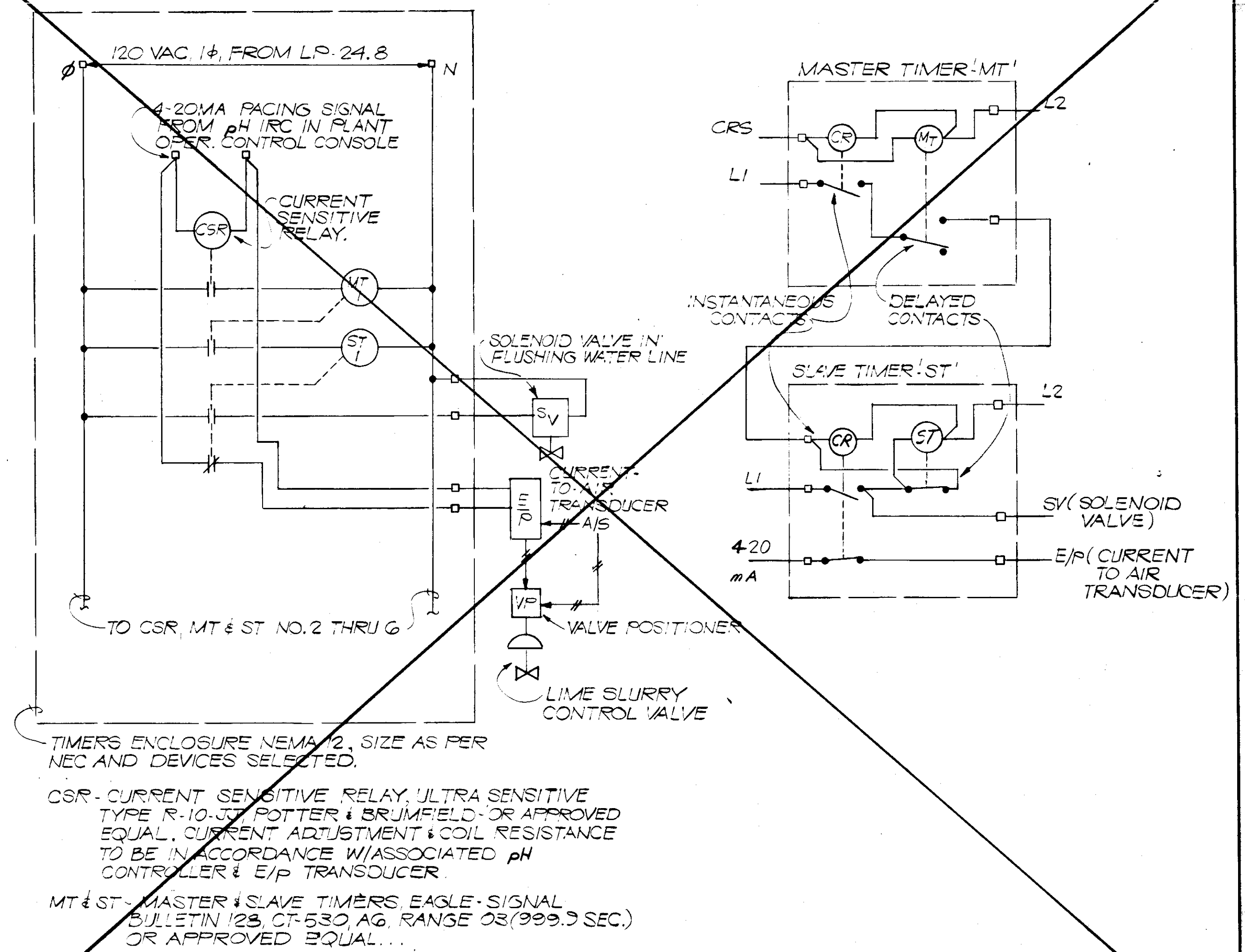


FUNCTION DIAGRAM

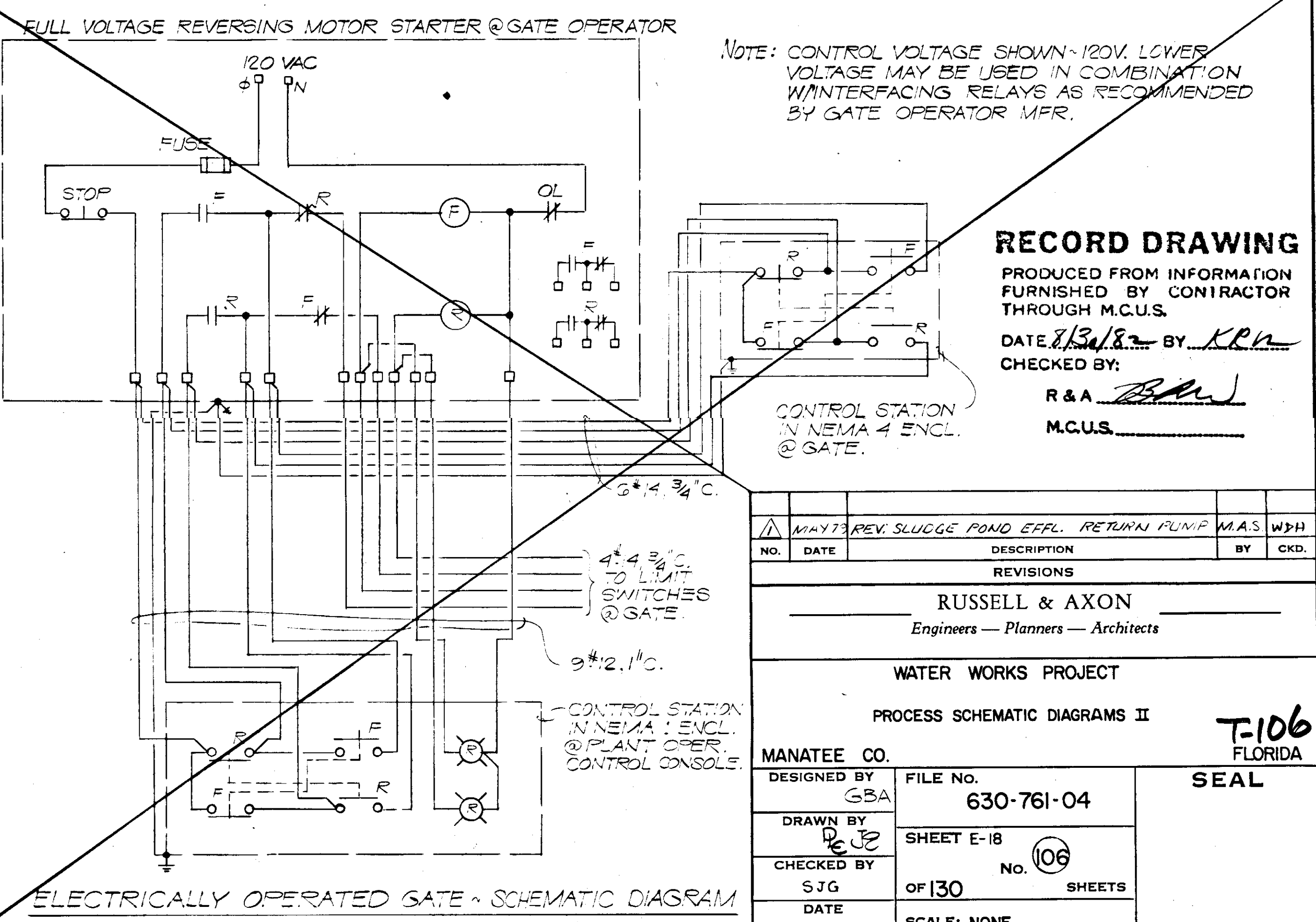
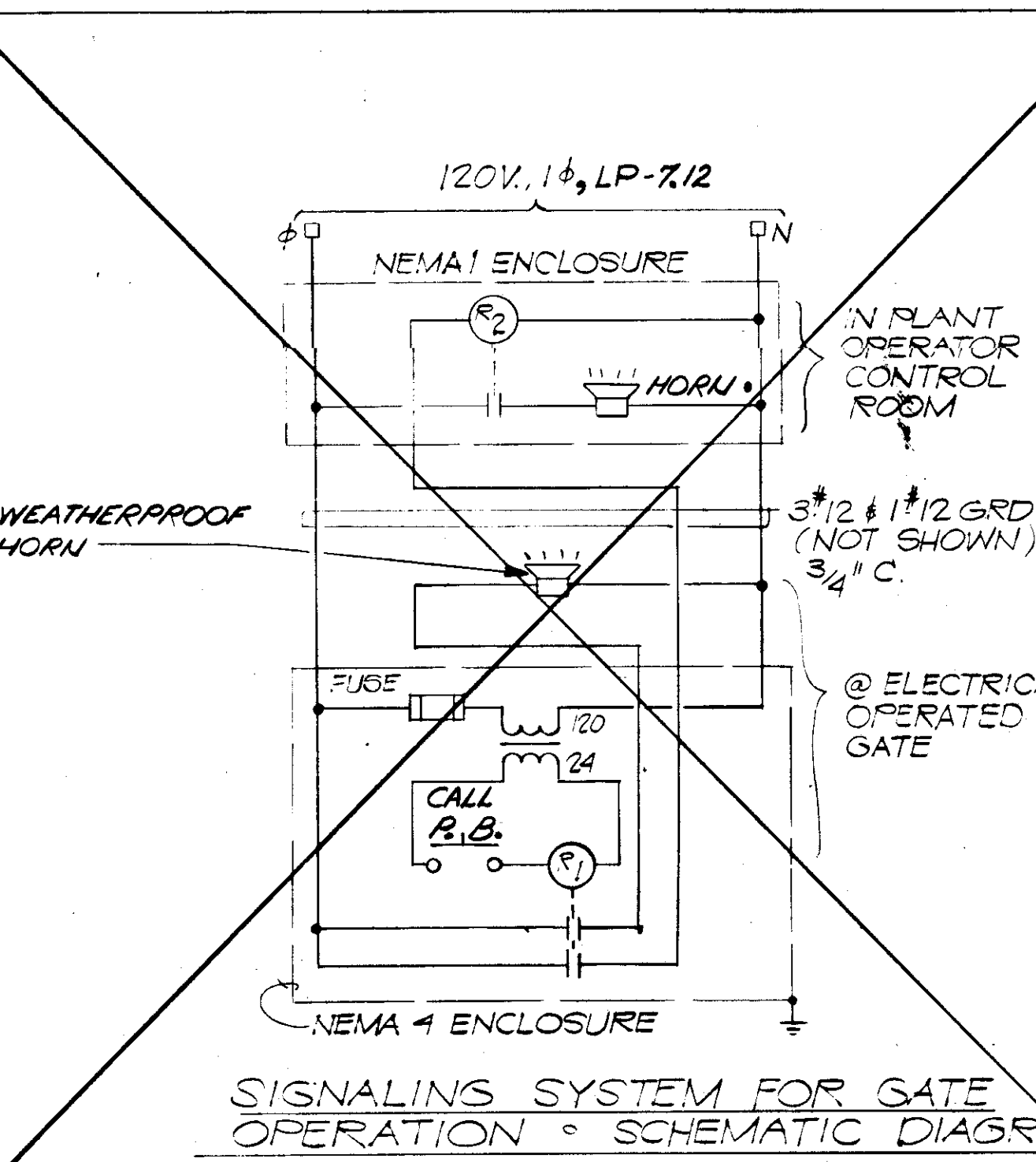
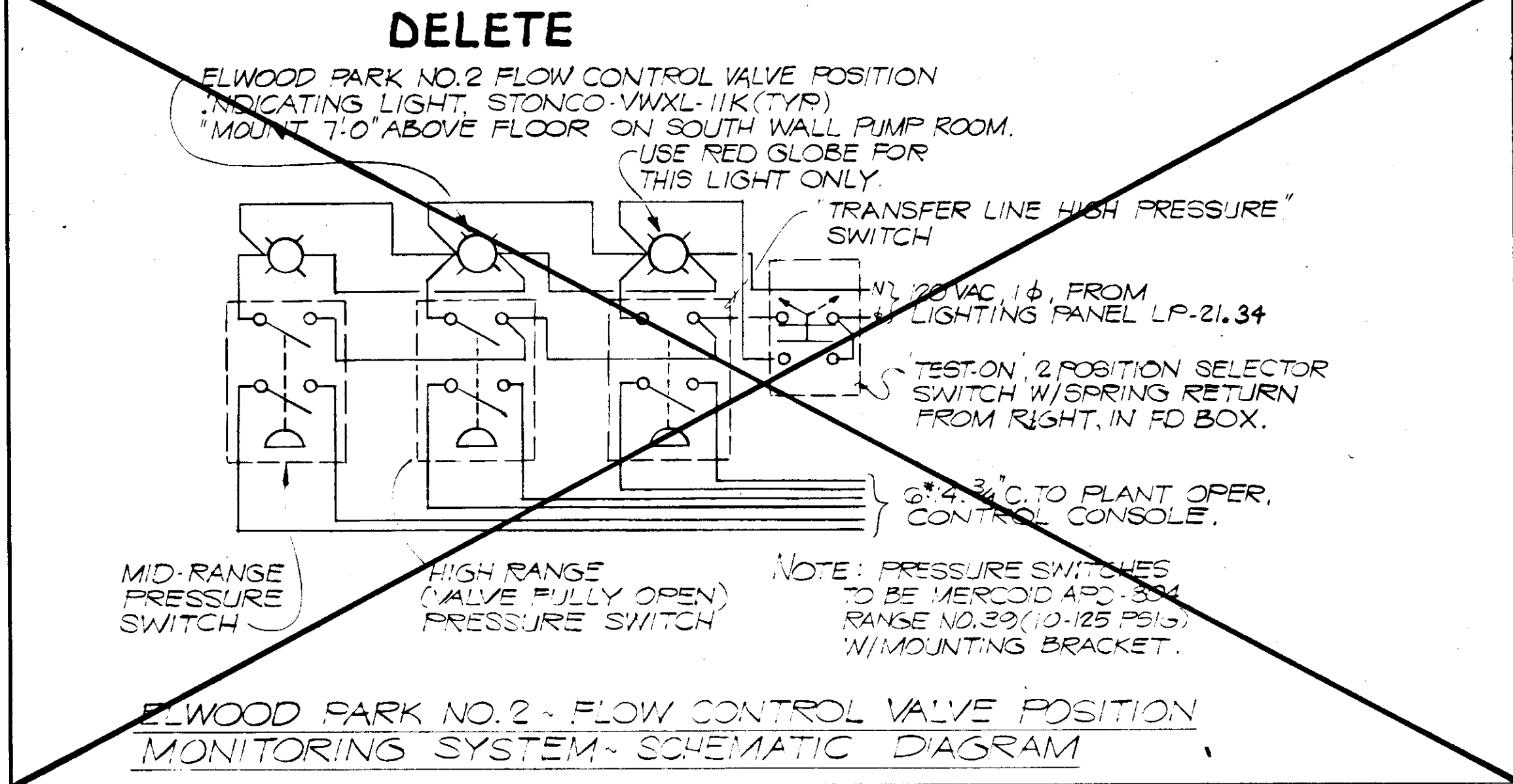
CONTACT NO.	CYCLE STEPS				REMARKS
	1	2	3	4	
1	X	O	X	O	REPEAT
2	O	X	O	X	CYCLE

X = CONTACT CLOSED  
O = CONTACT OPEN

CHLORINE CYLINDERS CHANGE-OVER SCHEMATIC DIAGRAM

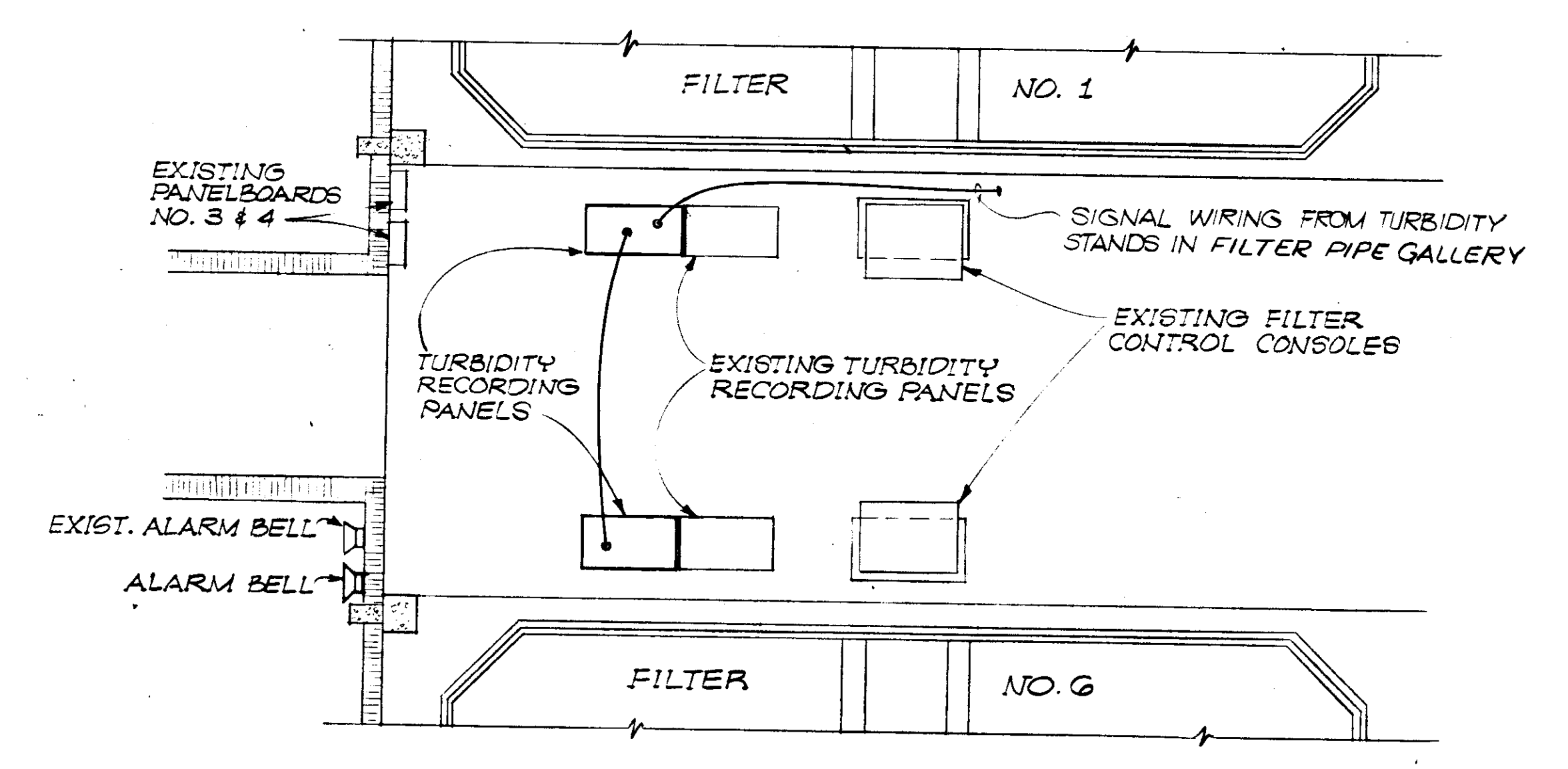
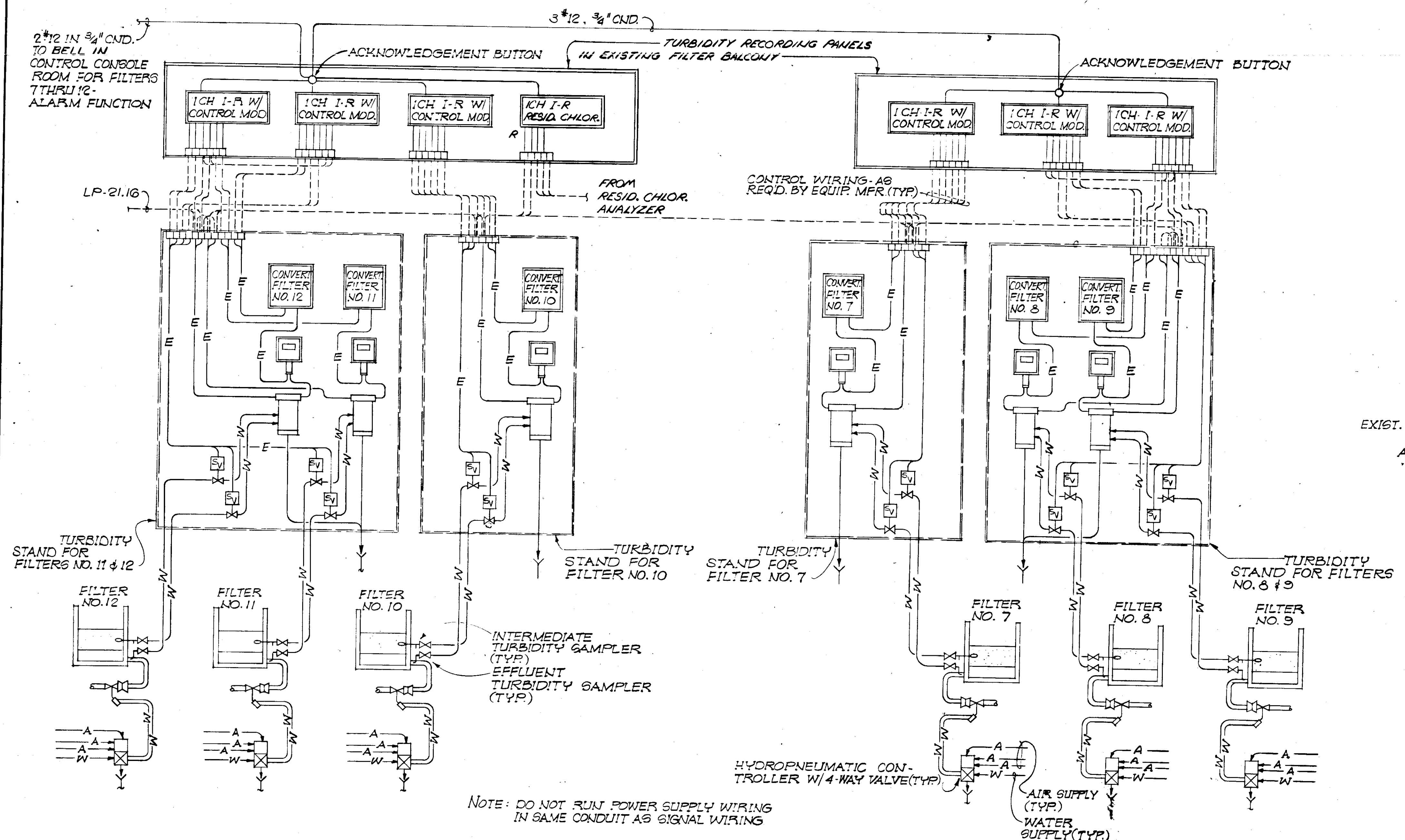


LIME SLURRY CONTROL VALVE & LINE FLUSHING - SCHEMATIC DIAGRAM (TYP)

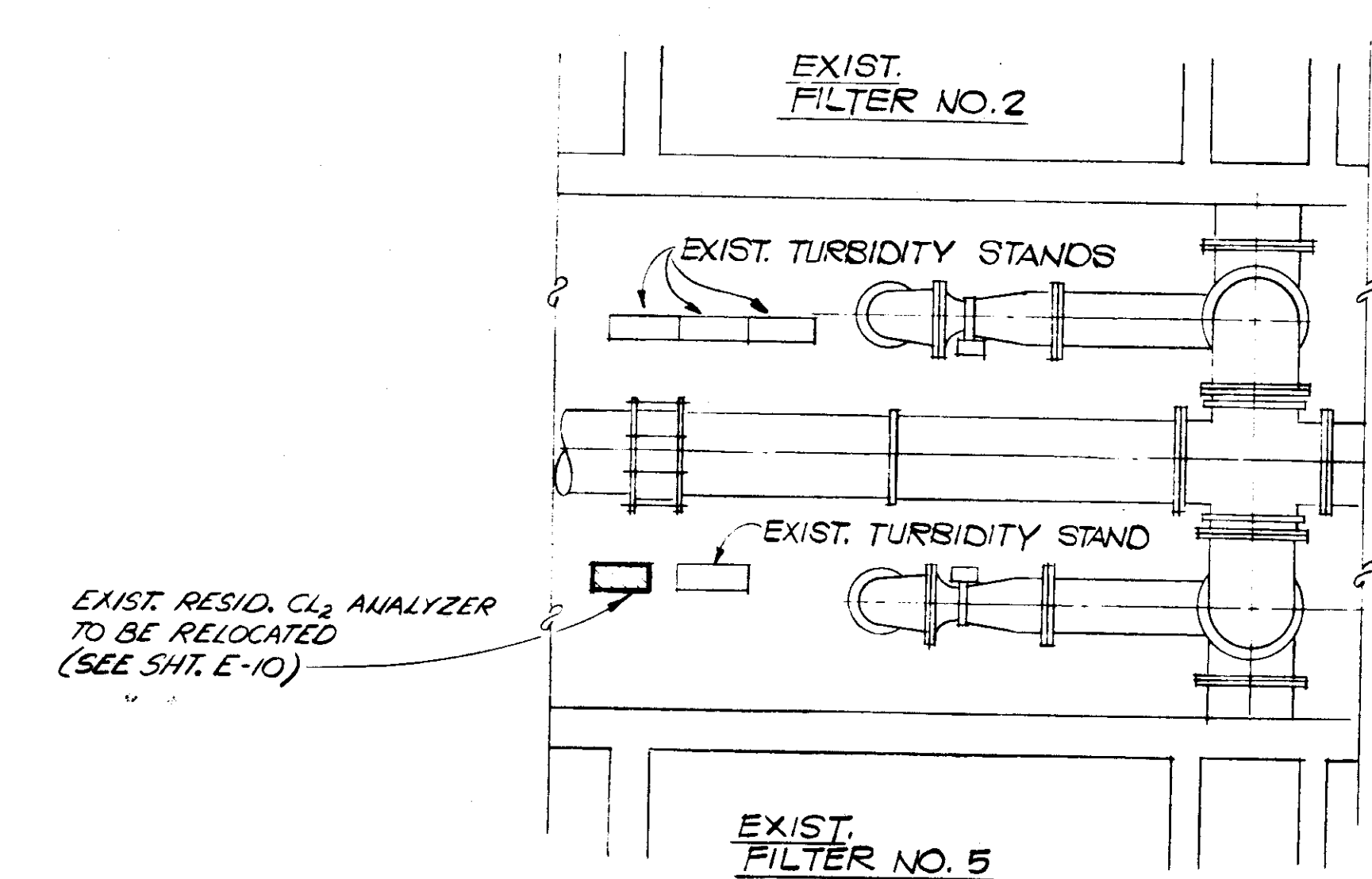


**RECORD DRAWING**  
 PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.  
 DATE 7/31/82 BY KRN  
 CHECKED BY:  
 R & A [Signature]  
 M.C.U.S.

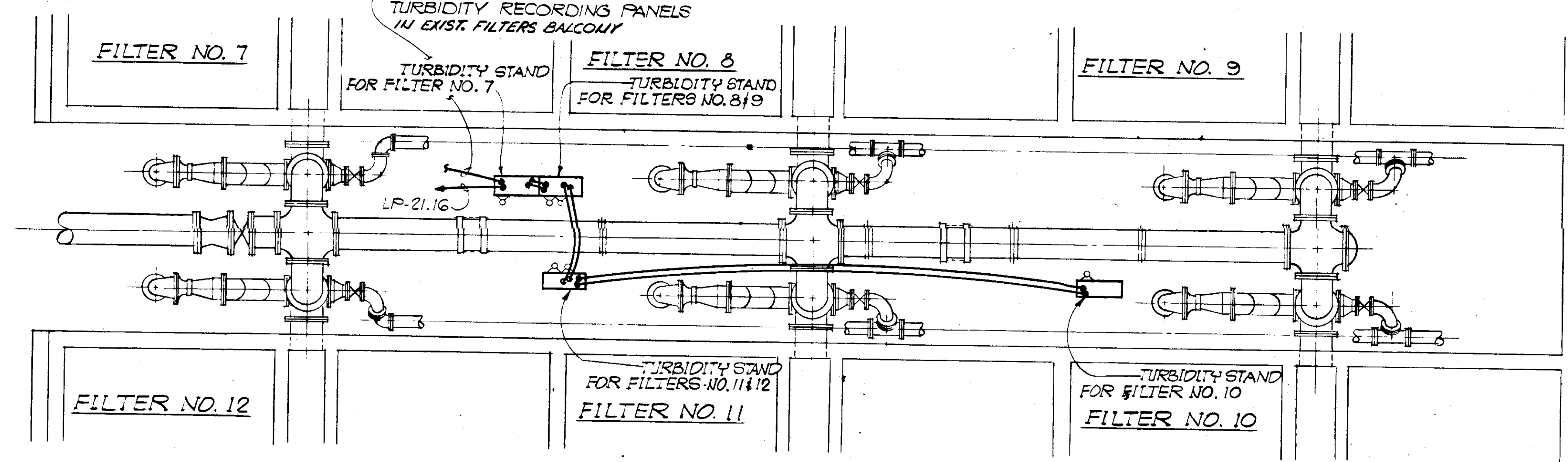
NO.	DATE	DESCRIPTION	M.A.S.	W.P.H.
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
WATER WORKS PROJECT PROCESS SCHEMATIC DIAGRAMS II				
MANATEE CO.		FILE No.	<b>T-106</b> FLORIDA <b>SEAL</b>	
DESIGNED BY	GSA	630-761-04		
DRAWN BY	[Signature]	SHEET E-18		
CHECKED BY	SJG	OF 130	No. 106	SHEETS
DATE	AUGUST, 1978	SCALE: NONE		



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 1/4" = 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				
DESIGNED BY	FILE NO.	<b>SEAL</b>		
GBA	630-761-04			
DRAWN BY	SHEET E-19	<b>107</b>		
J2	OF 130 SHEETS			
CHECKED BY	SCALE: AS SHOWN			
SJG				
DATE				
AUGUST, 1978				

LIGHTING FIXTURE SCHEDULE

LIGHTING PANEL LP-21 SCHEDULE MOTOR CONTROL CENTER MCC-3

DISTRIBUTION PANELBOARD - DP-23 SCHEDULE - LIME SLAKERS ROOM

LOAD CENTER LC-22 SCHEDULE ENGINE GENERATOR SETS ROOM

LOAD CENTER LC-28 SCHEDULE CHEMICAL TANKS

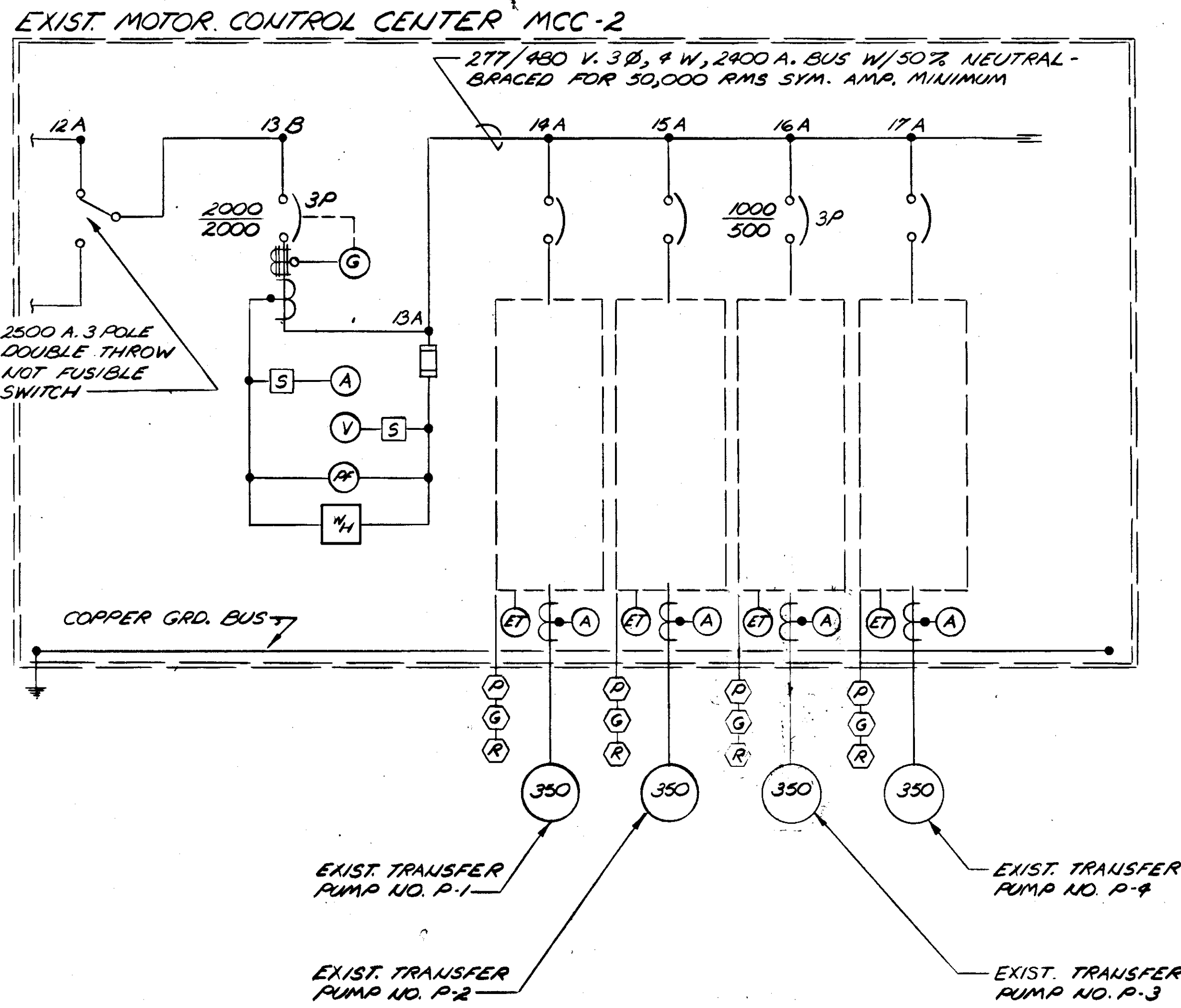
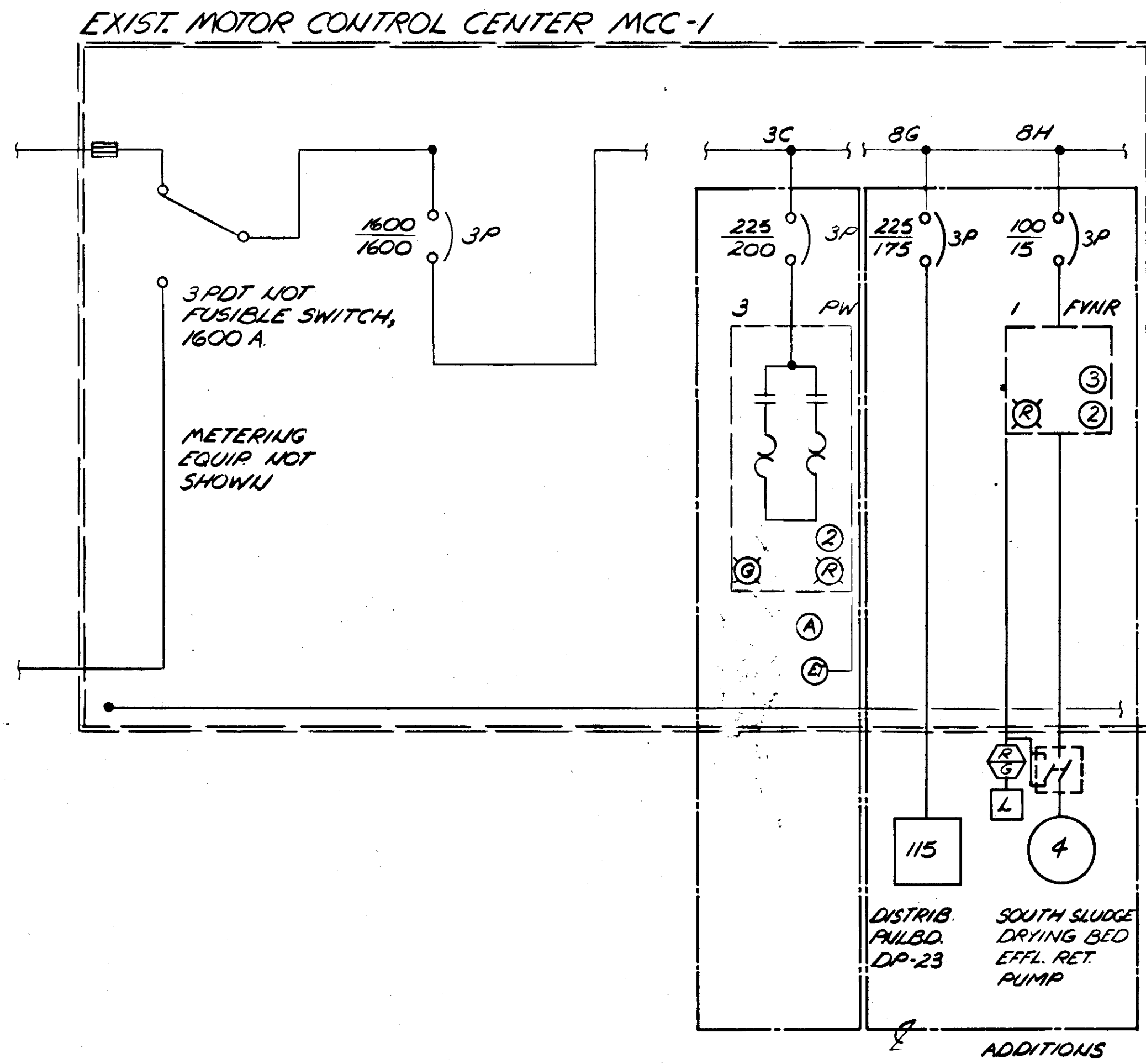
LIGHTING PANEL LP-7 SCHEDULE CONTROL ROOM

LIGHTING PANEL LP-24 SCHEDULE LIME SLAKERS ROOM

NOTES IN "CKT. NO." COLUMN: 1) CKT. TO BE PROVIDED W/GROUND FAULT CKT. INTERRUPTER. (TYR) 2) CKT. BKR TO BE PROVIDED W/HANDLE PADLOCK ATTACHMENT. (TYR)

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

Revision table and project information: RUSSELL & AXON Engineers - Planners - Architects WATER WORKS PROJECT MISCELLANEOUS SCHEDULES MANATEE CO. FILE NO. 630-761-04 SHEET E-20 OF 130 SHEETS SCALE: NONE



LEGEND

- Ⓟ PRESSURE OPERATED SWITCH @ PUMP DISCHARGE
- Ⓝ RED PILOT LIGHT @ PLT. OPER. CONTROL CONSOLE
- Ⓞ GREEN PILOT LIGHT @ PLT. OPER. CONTROL CONSOLE
- Ⓜ ELAPSED TIME METER
- Ⓣ TIME DELAY RELAY
- Ⓢ THREE POSITION SELECTOR SWITCH
- Ⓞ GREEN PUSH-TO-TEST LIGHT
- Ⓞ RED PUSH-TO-TEST LIGHT
- Ⓢ START/STOP PUSH BUTTON
- Ⓢ POWER FACTOR METER
- Ⓞ GROUND FAULT PROTECTION RELAY
- Ⓞ AMMETER
- Ⓞ VOLTMETER
- Ⓢ FOUR & SEVEN POSITION SWITCH
- Ⓞ WATTHOUR METER
- Ⓞ CURRENT TRANSFORMER
- Ⓞ CONTROL VALVE @ PUMP DISCHARGE

EXIST. MOTOR CONTROL CENTER MCC-2 SCHEDULE

SECTION	UNIT	LOAD HP KVA	FLA	CIRCUIT BREAKER			STARTER		MODIFICATIONS						WIRING				SERVICE									
				POLES	FRAME AMP	TRIP AMP	GROUND FAULT DETECT.	NEMA SIZE	TYPE	COIL VOLT	P-T-T PILOT LIGHT	PUSH BUTTON STATION	SELECTOR SWITCH	AUX. CONT.	CONTR. TRANSF.	CONTR. RELAYS	FIELD CONTROL	TIME DELAY RELAY		ELAPS. TIME METER	PHASES NO. & SIZE	NEUTRAL OR GRD. NO. & SIZE	CND. SIZE	RUN FT.				
12	A			3	2500																							DT NON FUSIBLE SWITCH
13	A																											METERING EQUIPMENT
	B	1400	1730																									MAIN CIRCUIT BREAKER
14	A	350	406																									TRANSFER PUMP P-1
15	A	350	406																									TRANSFER PUMP P-2
16	A	350	406																									TRANSFER PUMP P-3
17	A	350	406																									TRANSFER PUMP P-4

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

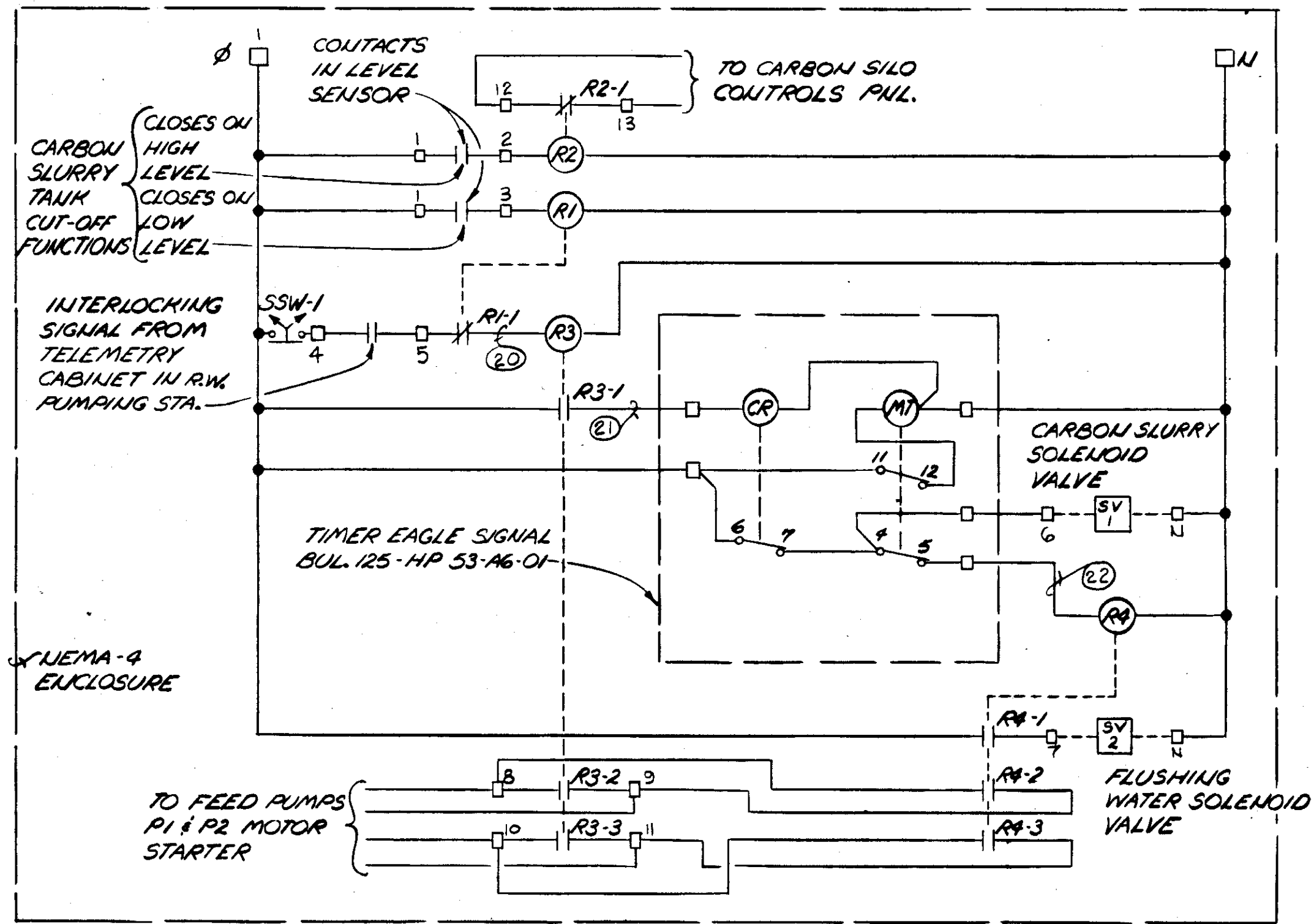
SECTION	UNIT	LOAD HP KVA	FLA	CIRCUIT BREAKER			STARTER		MODIFICATIONS						WIRING				SERVICE										
				POLES	FRAME AMP	TRIP AMP	NEMA SIZE	TYPE	COIL VOLT	P-T-T PILOT LIGHT	PUSH BUTTON STA.	AUX. CONT.	CONTR. TRANSF.	STAT. LIGHT	FIELD CONTROL	PHASES NO. & SIZE	NEUTRAL OR GRD. NO. & SIZE	CND. SIZE		RUN FT.									
G	115	138	3	225	175																								SUB-FEEDER TO EXIST. PANELBOARD DP-23 SOUTH SLUDGE PUMP EFFLUENT RETURN PUMP
H	4	74	3	100	15		1	FVNR	120	RED & GREEN	ST-SP			3	2	ONE	RED & GREEN	S.S.W.					3# 2/0	1# 4/0 NEUT. 1# 6 GRD. 6# FEEDER 1# 2 GRD.	1-2"	2-1"			
I																													
J																													
K																													

ADDITION

RECORD DRAWING

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

NO.	DATE	DESCRIPTION	BY	CKD.
1	MAY 78	REV. PROP. PUMP P-3 TO EXISTING	M.A.S.	WDH
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
WATER WORKS PROJECT MOTOR CONTROL CENTERS MCC-1 & MCC-3 SCHEDULES EXISTING PUMP ROOM TRANSFER PUMP P-3 POWER & CONTROLS				
MANATEE CO.	FILE NO.	FLORIDA		
DESIGNED BY GBA	630-761-04	T-109 SEAL		
DRAWN BY De	SHEET E-21			
CHECKED BY S.J.G.	OF 130	No. 109 SHEETS		
DATE AUGUST, 1978	SCALE: NONE			

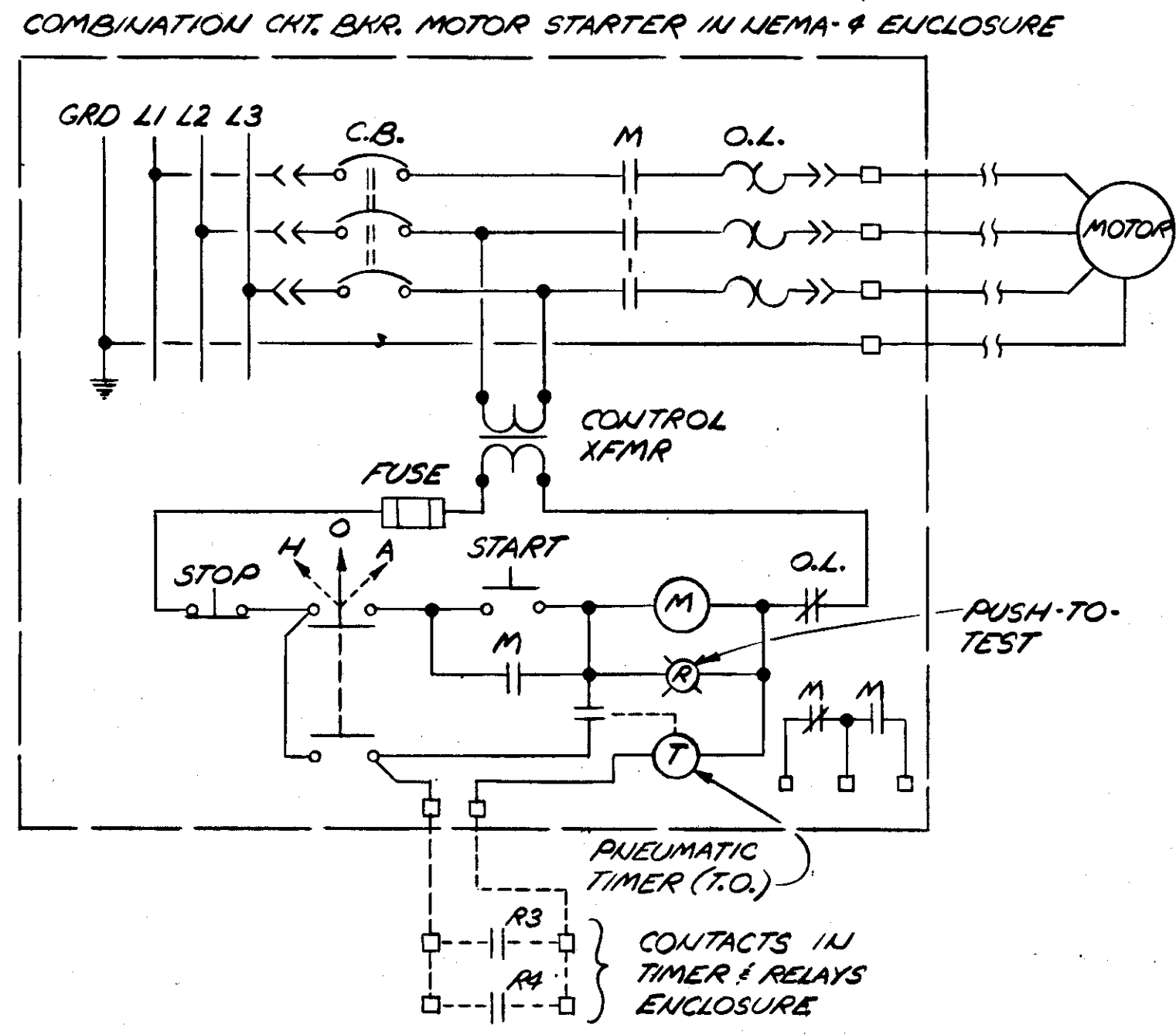


R1, R2, R3 & R4 - GENERAL PURPOSE CONTROL RELAYS 3 PDT, 120 V. COIL, SQUARE D, CLASS 8501, TYPE HP-13 1/2" IN-2 SCREW TYPE SOCKET

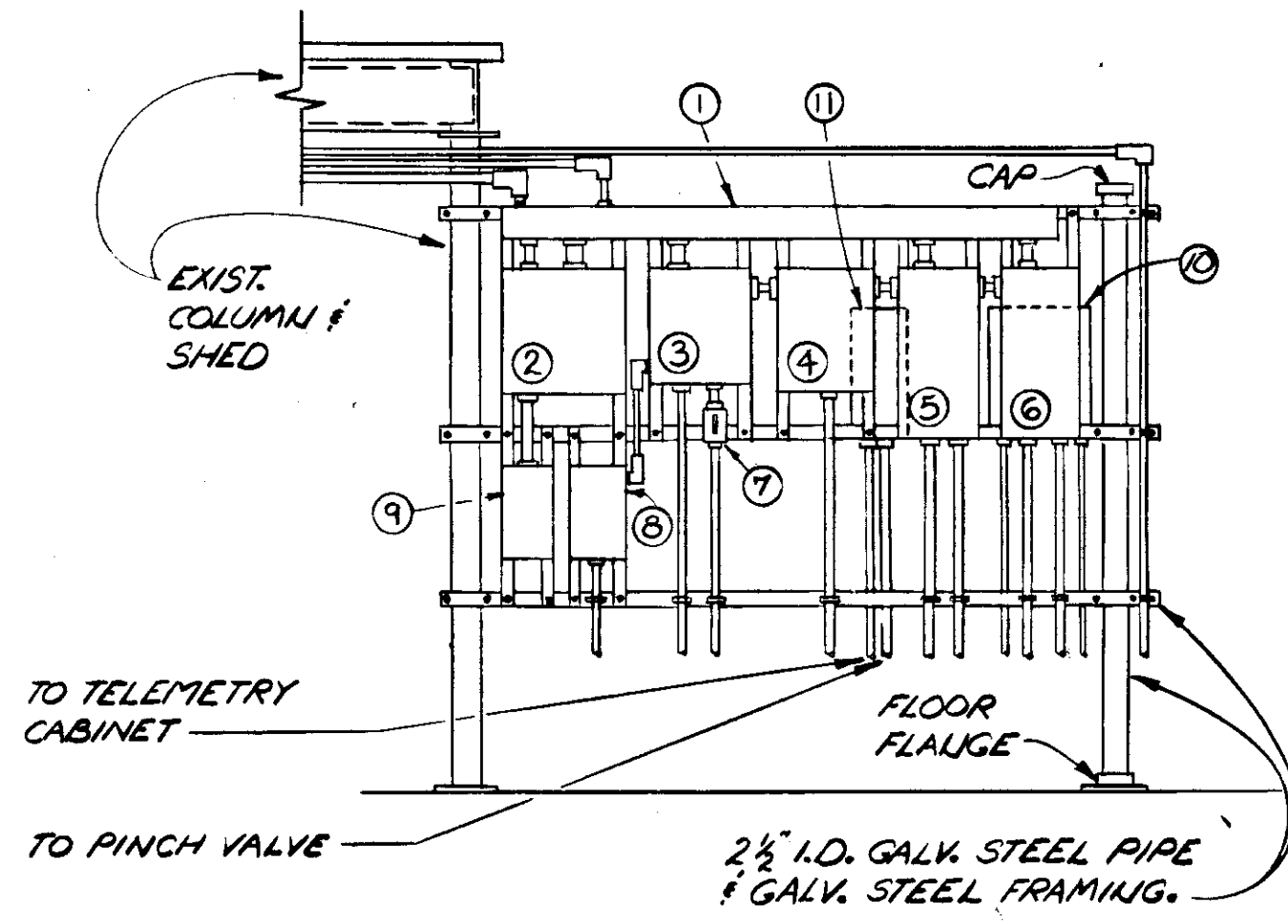
OPERATION:  
 WHEN R3 IS ENERGIZED, 6-7 OPER, R3-2 & R3-3 START FEED PUMPS P1 & P2, SOLENOID VALVES SV-1 & SV-2 ARE IN QUIESCENT STATE. CARBON SLURRY FLOWS TO FEED PUMPS. WHEN R3 IS DEENERGIZED, 6-7 CLOS, SV-1 IS ENERGIZED & CARBON SLURRY FLOW IS CUT OFF, SV-2 IS ENERGIZED AND FLUSHING WATER FLOWS TO FEED PUMPS P1 & P2 WHICH ARE KEPT RUNNING BY R4-2 & R4-3; AFTER TIME SETTING HAS TIMED OUT, 4-5 & 11-12 OPER CAUSING SV-1, R4 & SV-2 TO BECOME QUIESCENT AND FEED PUMPS P1 & P2 STOP. WHEN R3 IS REENERGIZED TIMER RESETS FOR NEXT CYCLE. SSW-1 IS PROVIDED TO ENABLE MANUAL CONTROL OF CARBON LINE FLUSHING.

**TIMER & RELAYS PANEL - SCHEMATIC DIAGRAM**  
 NO SCALE

LIGHTING PANEL LP-29 SCHEDULE												CARBON FACILITY								
208Y/120 VAC, 3 Ø, 4 W., 100 A. MAINS, 15 A MAIN C.B.; 12-1P CKTS. NEMA-4 SURE MTD.																				
EQUIPMENT SERVED	SIZE		CKT. BKR.		VA/PHASE			CKT. NO.		VA/PHASE		CKT. BKR.		SIZE		EQUIPMENT SERVED				
	W	C	CLASS	TRIP	POLL	A	B	C	NO	NO	A	B	C	POLE	TRIP		CLASS	C	W	
SUMP PUMP	12	3/4"	15000	A/C	15	3	250	—	1	2	300	—	—	1	20	10000	A/C	3/4"	12	PINCH VALVE W/ACTUATOR
	12						250	—	4	—	300	—	—	1	20			3/4"	12	MAGNETIC FLOW METER & PRE-AMPLIF.
	12						250	—	6	—	150	—	—	1	20			3/4"	12	SOLENOID VALVE & TIMER
SPARE									8	300	—	—	—	1	20			3/4"	12	DRY PIT LIGHTS
SPACE																				SPACE
												A	B	C						
												850	550	400						

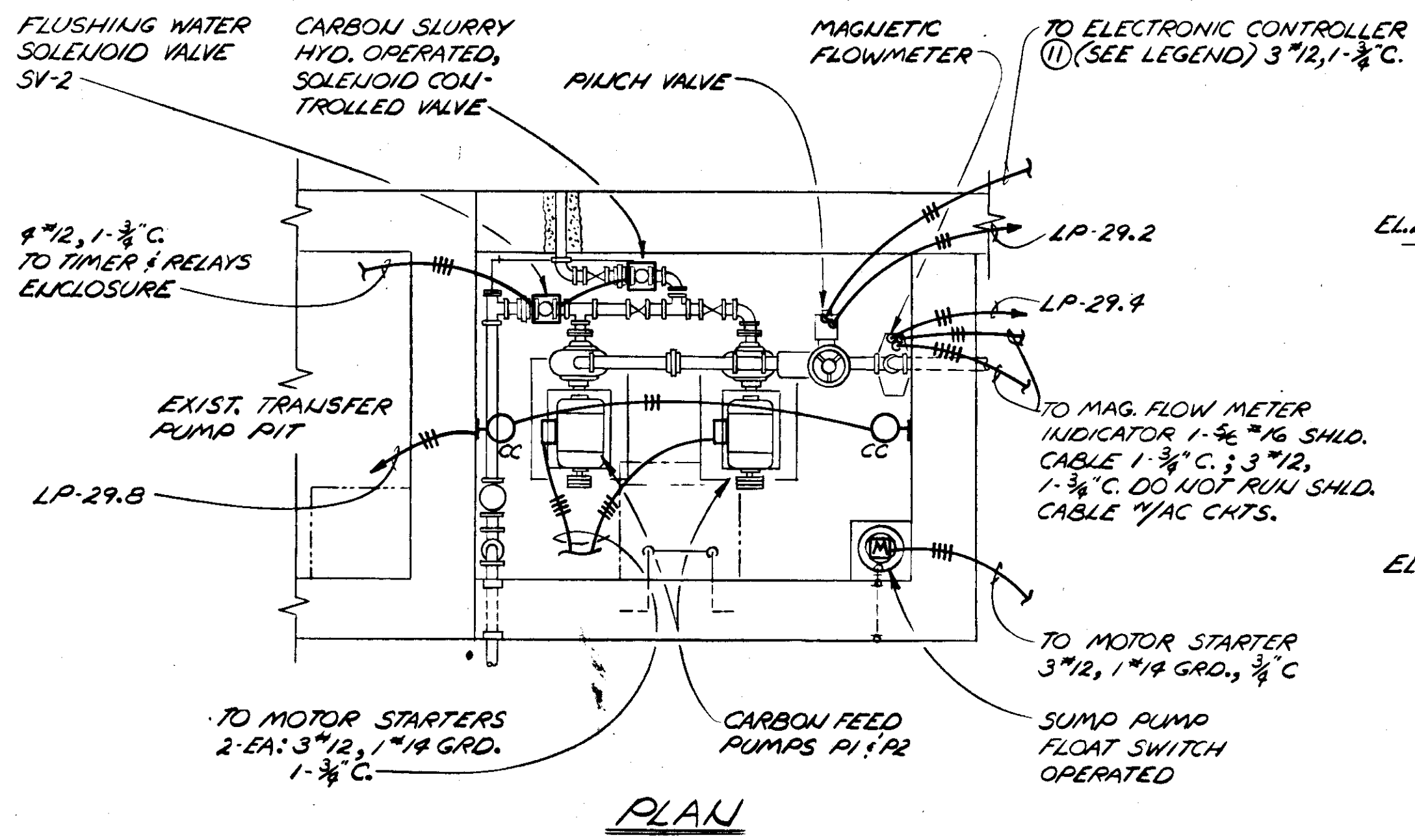


**CARBON FEED PUMP SCHEMATIC DIAGRAM (TYP FOR P1 & P2)**  
 NO SCALE

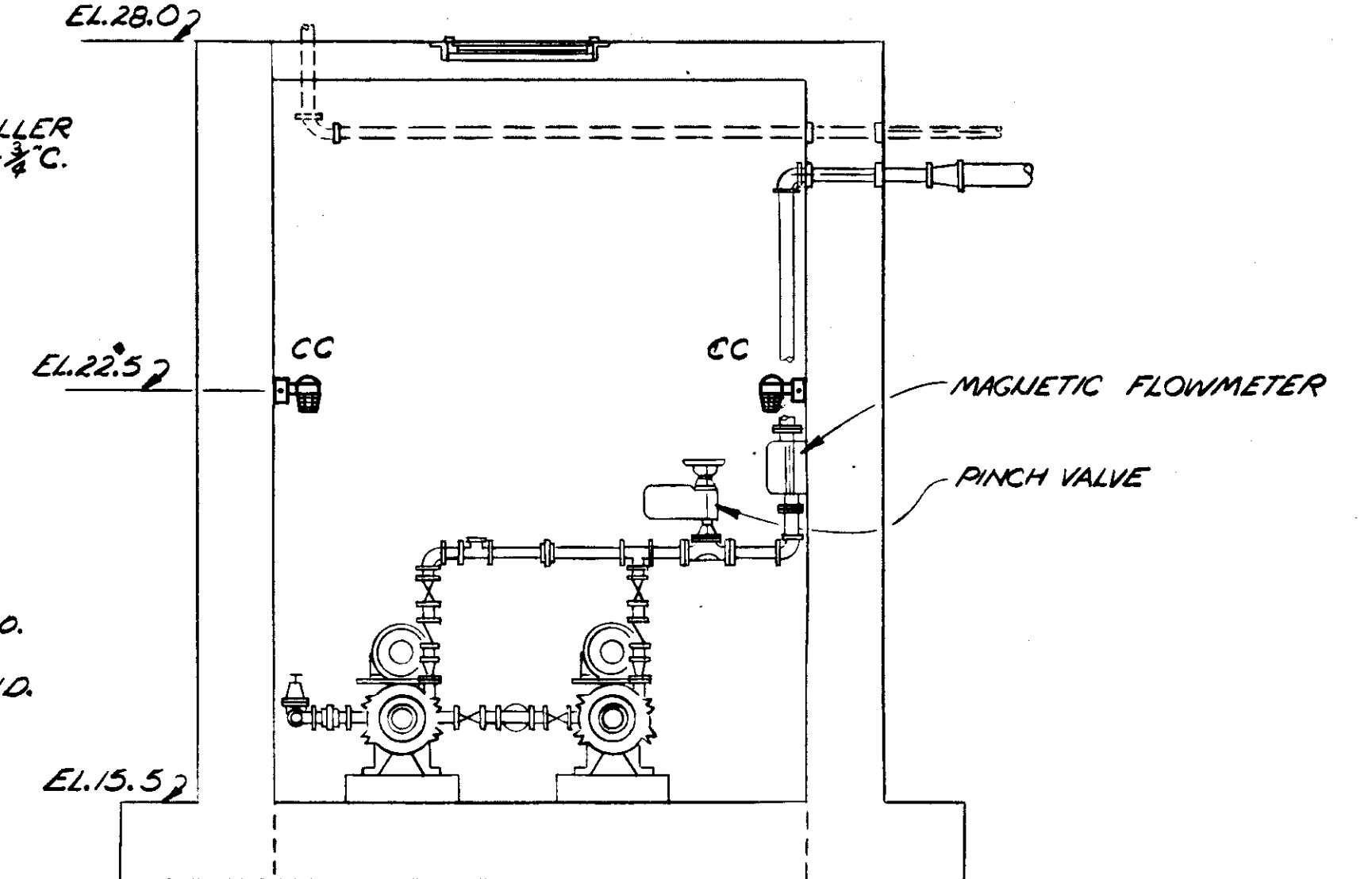


**ELECTRIC CONTROLS ARRANGEMENT FRONT VIEW**  
 N.T.S.

- LEGEND:**
- ① 4"x4"x6" NEMA-4 WIREWAY
  - ② 6 KVA, 480 V TO 208Y/120 V 3 Ø, 4 W. DRY XFMR.
  - ③ LIGHTING PANEL LP-29
  - ④ 16"x12"x8" NEMA-4 ENCLOSURE 1/2" TIMER & CONTROL RELAYS
  - ⑤ ⑥ COMBINATION CKT. BKR. MOTOR STARTER IN NEMA-4 ENCLOSURE FOR CARBON FEED PUMPS
  - ⑦ 20 A, 125 V., SPST TOGGLE SWITCH IN NEMA-4 ENCLOSURE FOR DRY PIT LIGHTS
  - ⑧ MOTOR STARTER SIZE 1-FVWR, 3P, 240 V. NEMA-4 ENCLOSURE FOR SUMP PUMP
  - ⑨ 3-P-CKT. BKR. IN NEMA-4 ENCLOSURE FOR XFMR PRIMARY POWER SUPPLY
  - ⑩ MAGNETIC FLOW METER INDICATOR MOUNT ON BACK SIDE OF STL. FRAMING
  - ⑪ PINCH VALVE ELECTRONIC CONTROLLER



**PLAN**



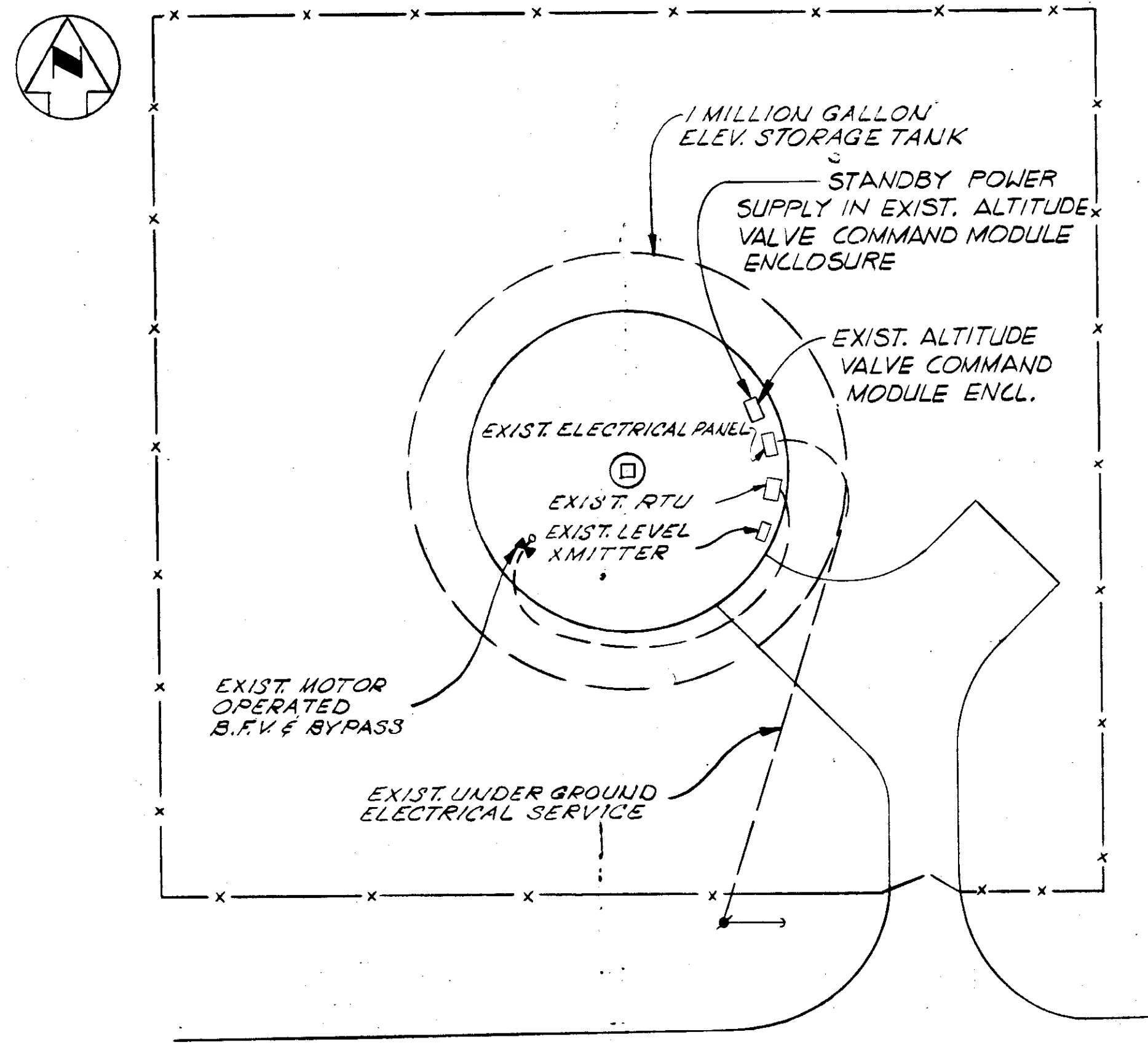
**ELEV. SECTION**

NOTE: SEE OTHER DETAILS SHT. E-16

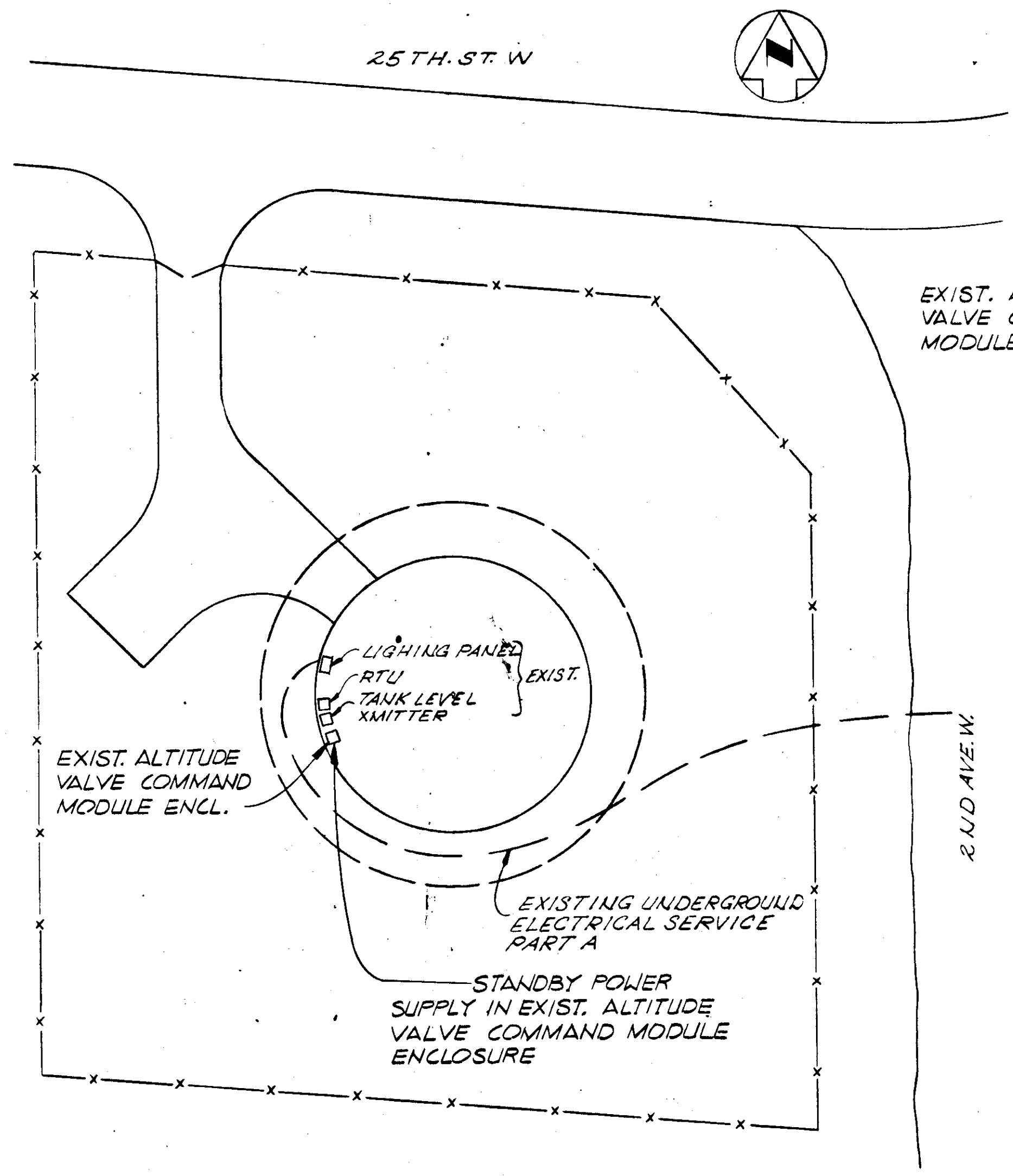
**CARBON FEED PUMPS - DRY PIT (U.T.S.)**

**RECORD DRAWING**  
 PRODUCED FROM INFORMATION FURNISHED BY CONTRACTOR THROUGH M.C.U.S.  
 DATE 8/30/78 BY K.P.A.  
 CHECKED BY: R & A [Signature] M.C.U.S.

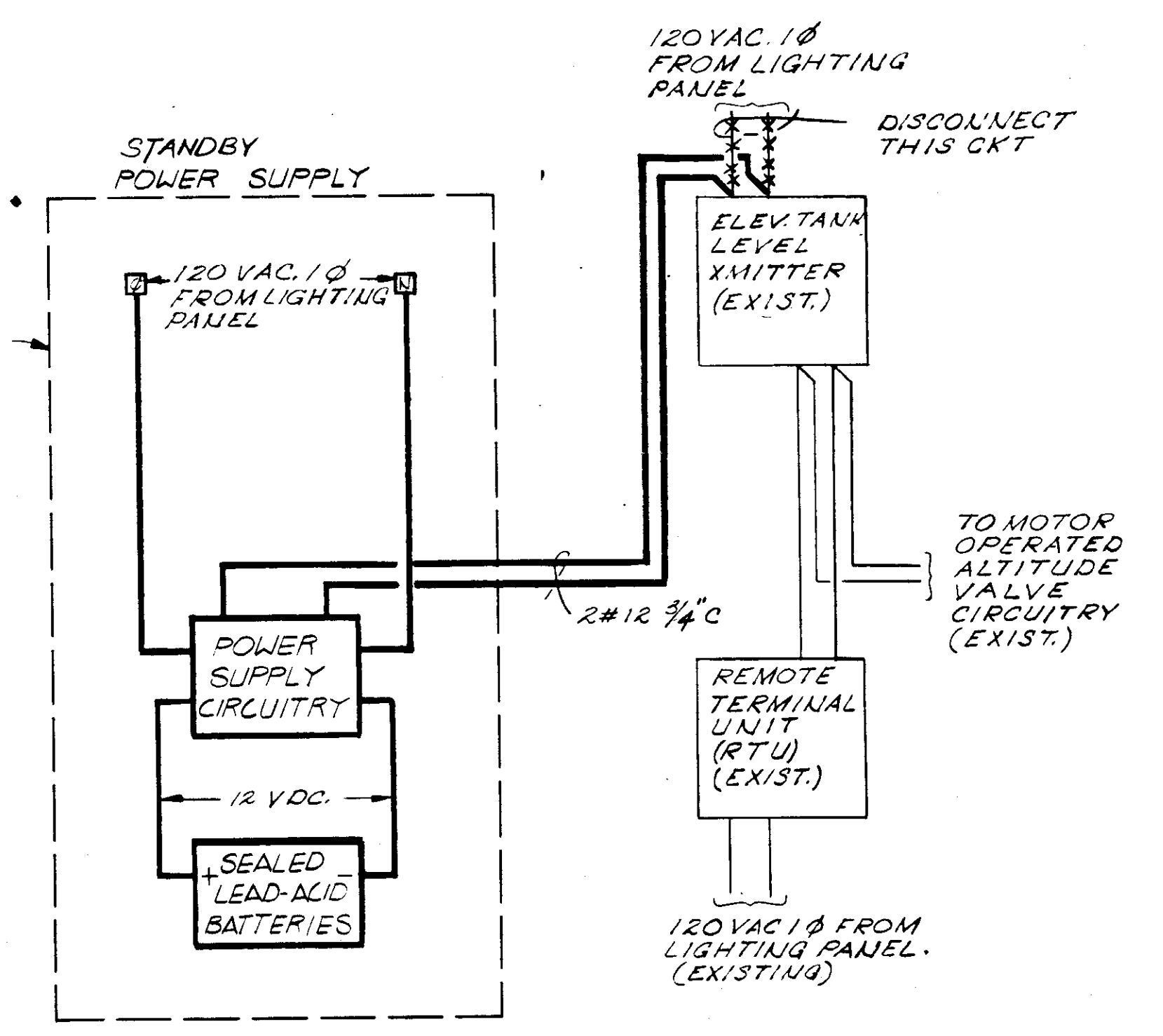
NO.	DATE	DESCRIPTION	BY	CKD.
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
WATER WORKS PROJECT				
CARBON FEED SYSTEM - DETAILS				
MANATEE CO.		<b>T-110</b> FLORIDA		
DESIGNED BY GBA	FILE NO. 630-761-04	<b>SEAL</b>		
DRAWN BY [Signature]	SHEET E-22			
CHECKED BY S.J.G.	OF 130	No. 110 SHEETS		
DATE AUGUST, 1978	SCALE: NONE			



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



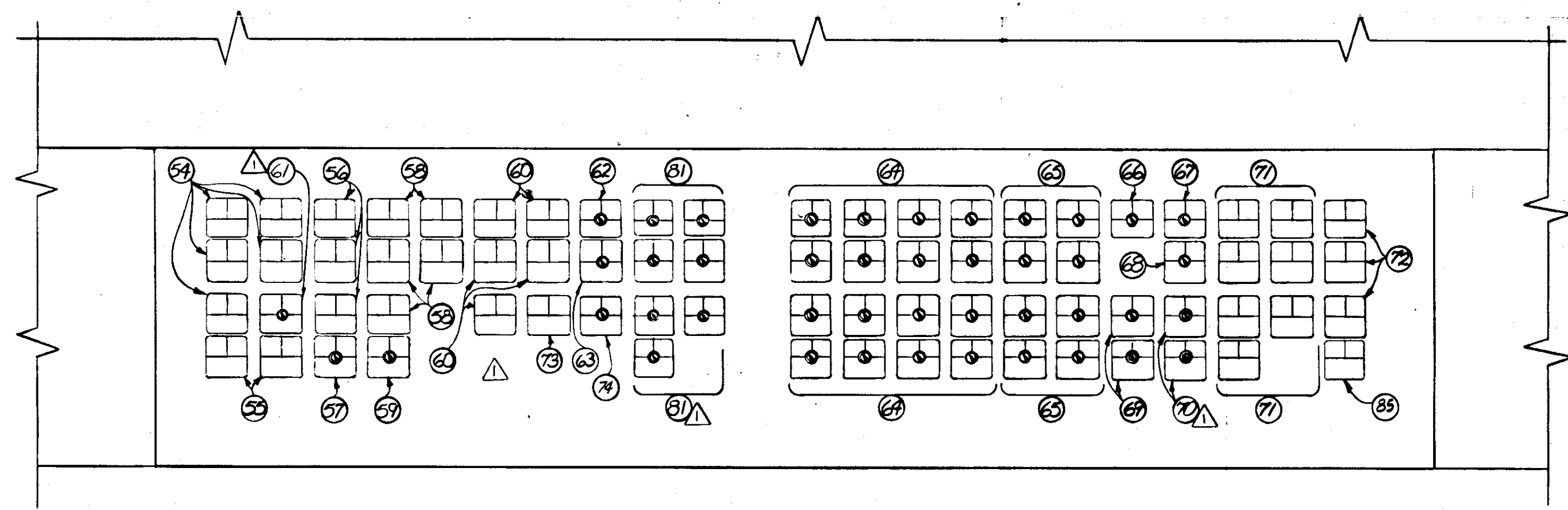
SITE PLAN PALMETTO ELEVATED STORAGE TANK NO. 3  
SCALE: 1" = 20'-0"



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 8/31/78 BY KRM  
CHECKED BY: R & A  
M.C.U.S. \_\_\_\_\_

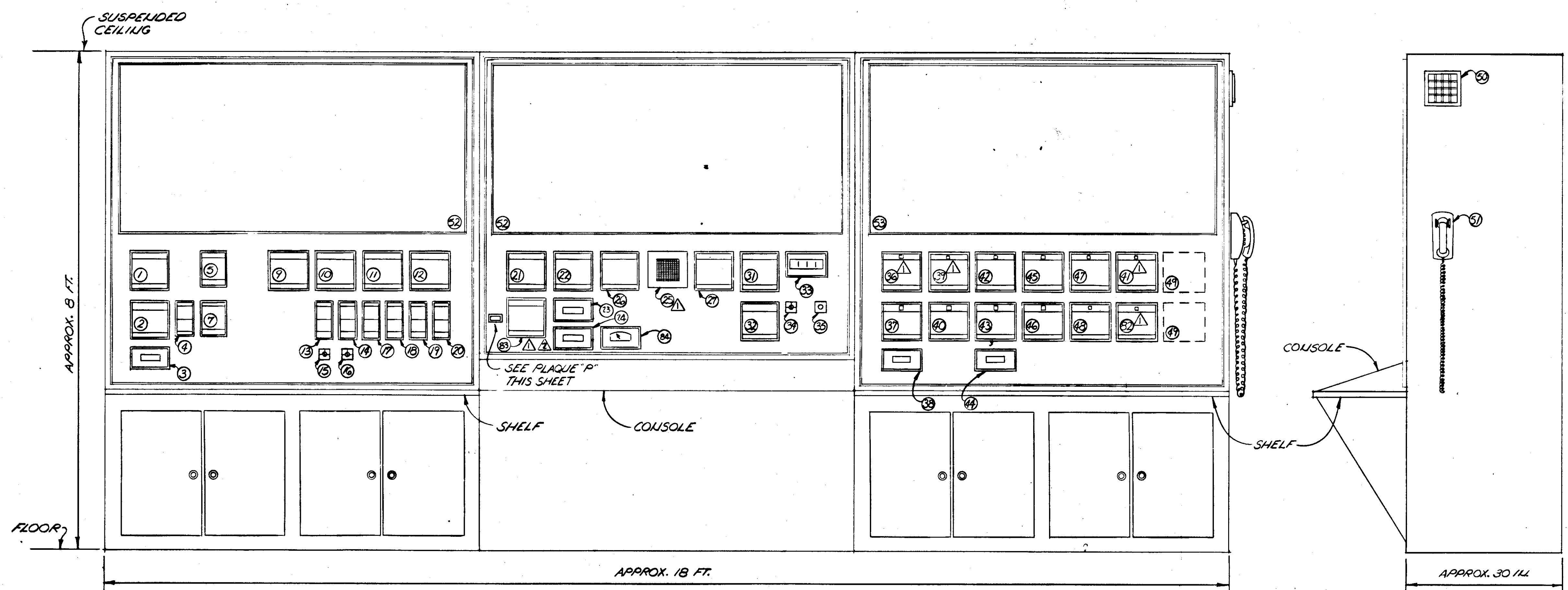
NO.	DATE	DESCRIPTION	BY	CKD.
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT COMMUNICATION SYSTEM INSTALLATION DETAIL II				
MANATEE CO.		DESIGNED BY	FILE NO.	<b>T-111</b> FLORIDA <b>SEAL</b>
		GBA	630-761-04	
		DRAWN BY	SHEET E-23	
		KRM	No. (III)	
		CHECKED BY	OF 130 SHEETS	
		SJG	SCALE: NONE	
		DATE		
		AUGUST, 1978		



- 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	PACING 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	TEST 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. TANK BACKWASH WATER SUPPLY	SOURCE SELECTION
75	LIGHTS	PLANT WATER BOOSTER PUMPS	STATUS



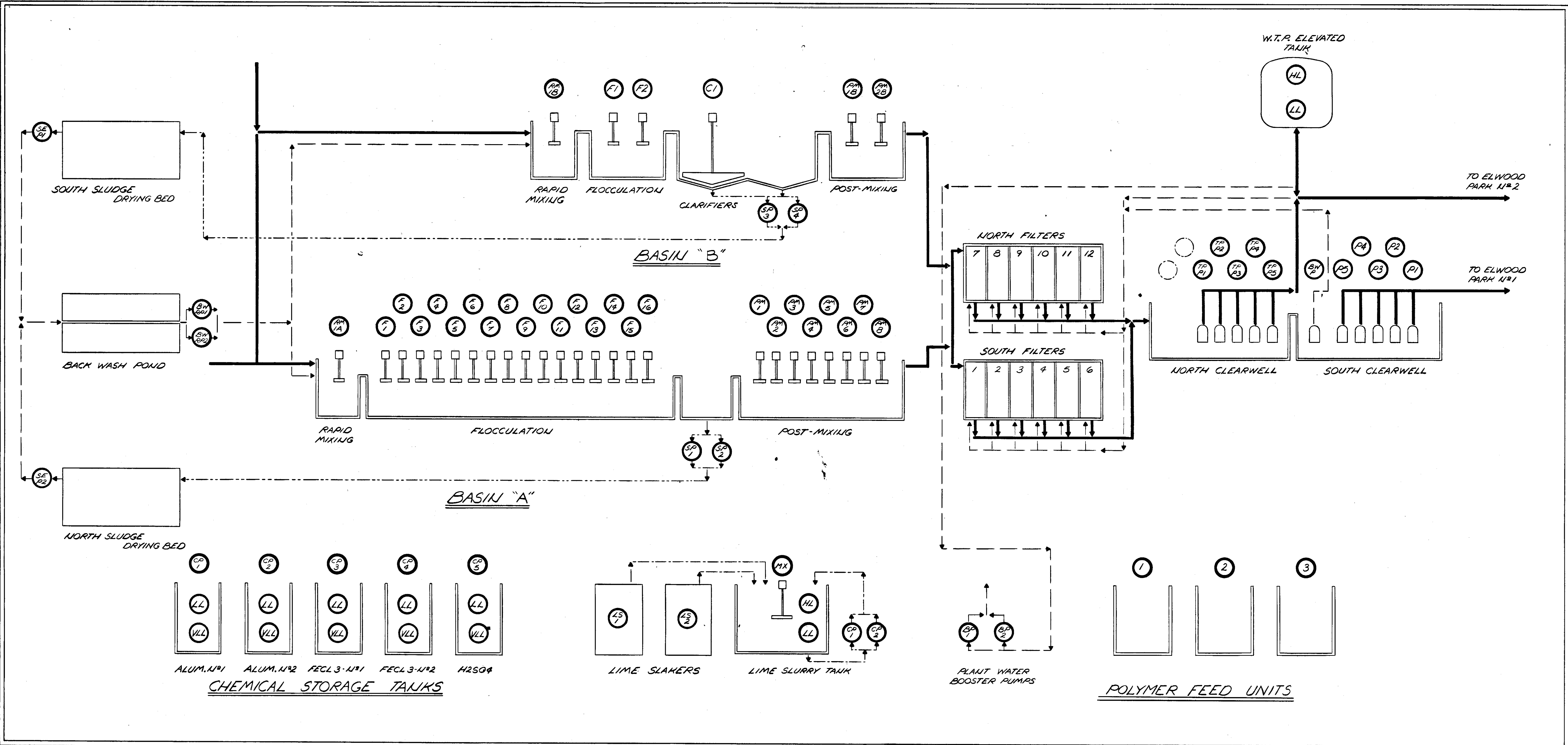
MARK	DEVICE	SERVICE	FUNCTION
1	INDIC. REC.	RAW WATER RESERVOIR	LEVEL
2	2P. INDIC.	RAW W. TO BAS. "A" & "B"	FLOW
3	TOTAL.	RAW W. TO BAS. "A" & "B"	FLOW
4	MASTER STA.	RAW W. TO BAS. "A" & "B"	FLOW PROP.
5	RATIO STA.	RAW W. TO BAS. "A"	FLOW PROP.
7	RATIO STA.	RAW W. TO BAS. "B"	FLOW PROP.
9	INDIC. REC.	CLEARWELL	LEVEL
10	2P. IND. REC.	RAPID MIX - BASIN "A" & BASIN "B"	pH
11	2P. IND. REC.	BASIN "A" & BASIN "B" POSTMIX	pH
12	2P. IND. REC.	CLEARWELL NORTH & SOUTH	pH
13	CONTROL STA.	SET POINT BASIN "A" RAPID MIX	pH
14	CONTROL STA.	SET POINT BASIN "B" RAPID MIX	pH
15	SEL. SW.	LIME SLURRY - SULFURIC ACID - BAS. "A"	pH
16	SEL. SW.	LIME SLURRY - SULFURIC ACID - BAS. "B"	pH
17	CONTROL STA.	SET POINT - BAS. "A" POST MIX	pH
18	CONTROL STA.	SET POINT - BAS. "B" POST MIX	pH

MARK	DEVICE	SERVICE	FUNCTION
19	CONTROL STA.	SET POINT - CLEARWELL NO.	pH
20	CONTROL STA.	SET POINT - CLEARWELL SO	pH
21	INDIC. REC.	W.T.P. ELEVATED TANK	LEVEL
22	2P. IND. REC.	TRANSFER FLOW #1 & #2	FLOW
23	TOTAL.	TRANSFER FLOW #1	FLOW
24	TOTAL.	TRANSFER FLOW #2	FLOW
25	MATRIX PBD.	RAW W. PUMPING STA. #1 & #2 PUMPS	START/STOP
26	2P. IND. REC.	ELLENTON SUCTION & DISCHARGE	PRESSURE
27	IND. REC.	BORDEN ELEVATED TANK	LEVEL
28			
29			
30			
31	INDIC. REC.	ELWOOD PARK N#1 - GROUND STORAGE	LEVEL
32	INDIC. REC.	ELLENTON BOOSTER PUMP STA	FLOW
33	INDIC.	DIGITAL CLOCK	TIME
34	PUSH BUTT.	SEMI-GRAPHIC TRICOLOR LIGHTS	TEST
35	PUSH BUTT.	ALARM ACKNOWLEDGEMENT	
36	2P. IND. REC.	ELWOOD PARK N#1 - CHLORINE RESIDUAL	

MARK	DEVICE	SERVICE	FUNCTION
37	2P. IND. REC.	MANATEE COUNTY SYST. 36" & 30"	FLOW
38	TOTAL.	MANATEE COUNTY SYST. 36" & 30"	FLOW
39	INDIC. REC.	ELWOOD PARK N#2 EFFLUENT	FLOW
40	INDIC. REC.	ELWOOD PARK N#2 EFFLUENT	FLOW
41			
42	INDIC. REC.	SARASOTA COUNTY LINE	PRESSURE
43	INDIC. REC.	SARASOTA COUNTY LINE	FLOW
44	TOTAL.	SARASOTA COUNTY LINE	FLOW
45	INDIC. REC.	ELLENTON BOOSTER STA. CL <sub>2</sub> RESIDUAL	
46	INDIC. REC.	ELEVATED TANK CORTAZ RD.	LEVEL
47	INDIC. REC.	ELEVATED TANK LIN. 1ST ST.	LEVEL
48	INDIC. REC.	ELEVATED TANK PALMETTO	LEVEL
49		FUTURE	
50	CHIME		ALARM
51	PLAQUE	RAW W. PUMPING STA. #1	
52	SEMI-GRAPHIC	WATER TREATMENT PLANT	STATUS & ALARM
53	SEMI-GRAPHIC	DISTRIBUTION SYSTEM	STATUS & ALARM

MARK	DEVICE	SERVICE	FUNCTION
76	LIGHTS	SLUDGE BLOW-OFF PUMP	STATUS
77			
78			
79			
80	LIGHTS	ELLENTON BOOSTER PUMPS	STATUS
81	PUSH BUTTONS	ELWOOD PARK N#1 BOOSTER PUMPS	START/STOP
82	INDIC. REC.	ELWOOD PARK N#2 CL <sub>2</sub> RESIDUAL	
83	INDIC. REC.	TRANSFER LINE	PRESSURE
84	INDIC.	DIVERSION B/FV ELWOOD PARK NO. 1	VALV. POS.
85	LIGHT	BORDEN ELEV. TANK SIGNAL FAILURE	

5/79	GEN. REVISION	AL		
JAN. 79	AS PER REVISION #1	SC	S.J.G.	
NO.	DATE	DESCRIPTION	BY	CHKD.
REVISIONS				
<b>RUSSELL &amp; AXON</b> Engineers - Planners - Architects				
WATER WORKS PROJECT WATER TREATMENT PLANT PLANT OPERATOR CONTROL CONSOLE LAYOUT				
MANATEE CO.		<b>T-112</b>		FLORIDA
DESIGNED BY GBA	FILE NO. 630-761-04	<b>SEAL</b>		
DRAWN BY DC	SHEET 1-1			
CHECKED BY S.J.G.	OF 130 SHEETS			
DATE AUGUST, 1978	SCALE: NONE			

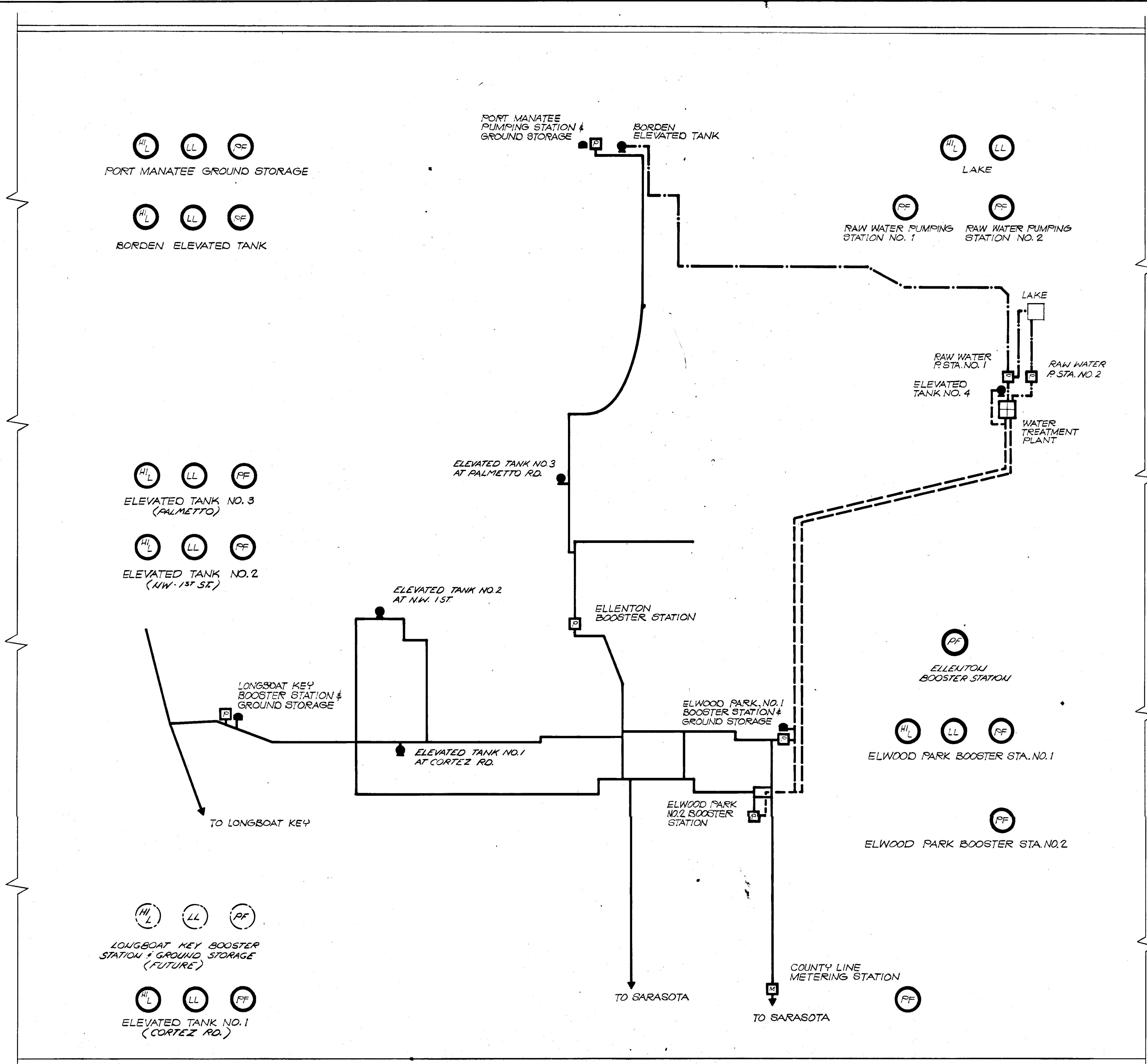


**LEGEND:**

- 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.		DESIGNED BY GBA	FILE No. 630-761-04	<b>T-113</b> FLORIDA <b>SEAL</b>
		DRAWN BY RE	SHEET I-2	
		CHECKED BY SJG	No. 113 OF 130 SHEETS	
		DATE AUGUST, 1978	SCALE:	



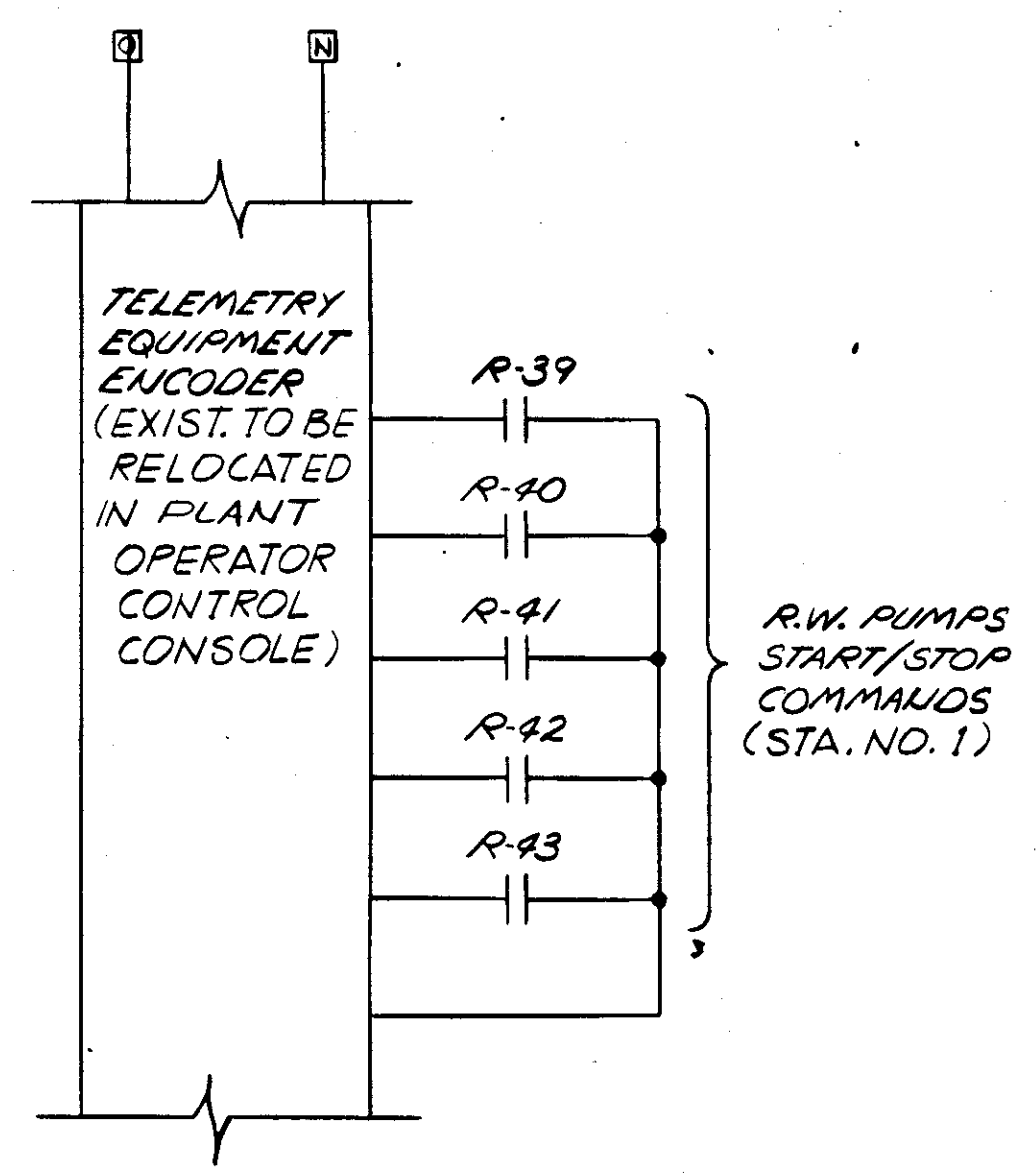
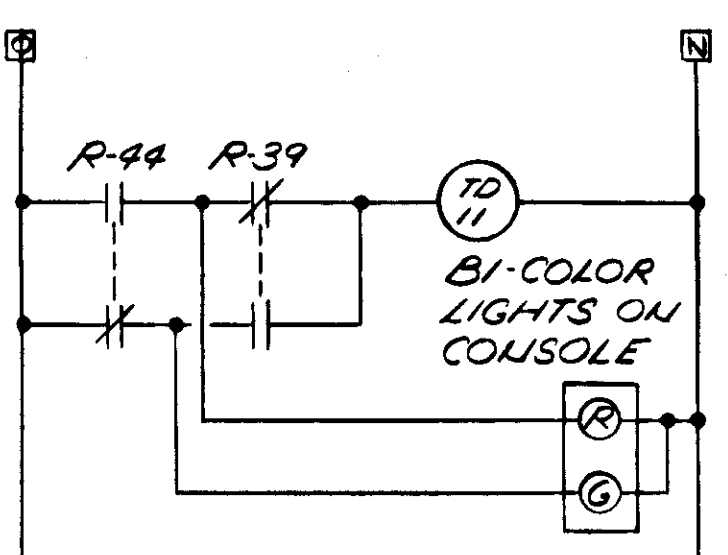
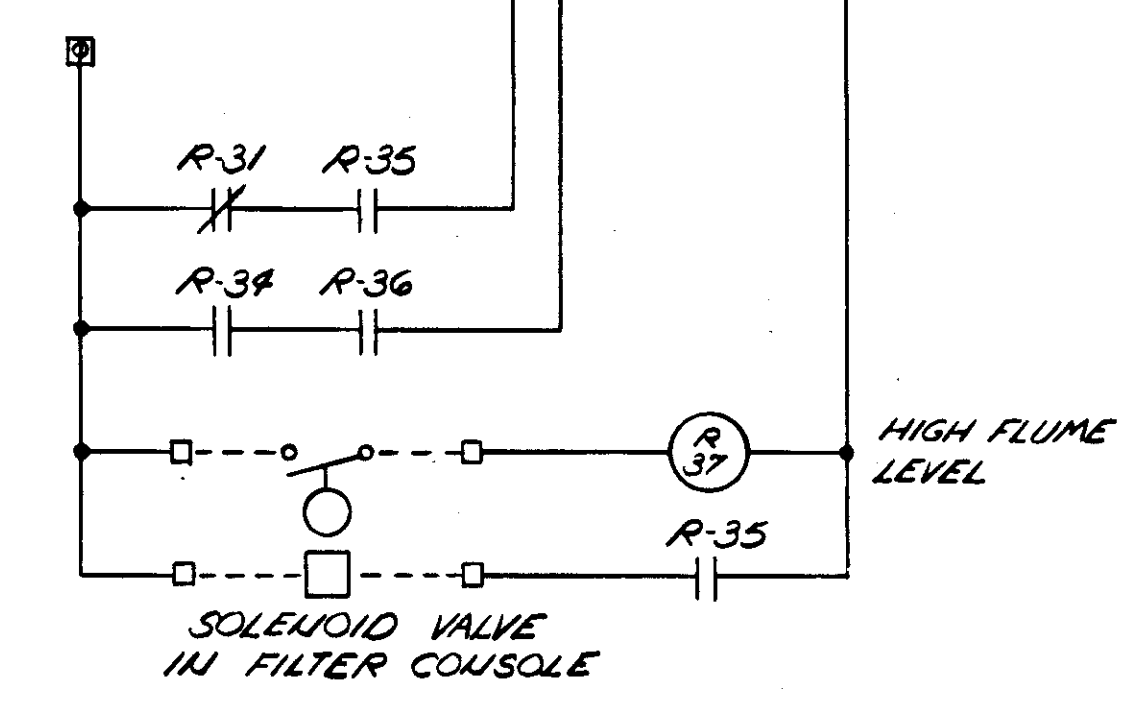
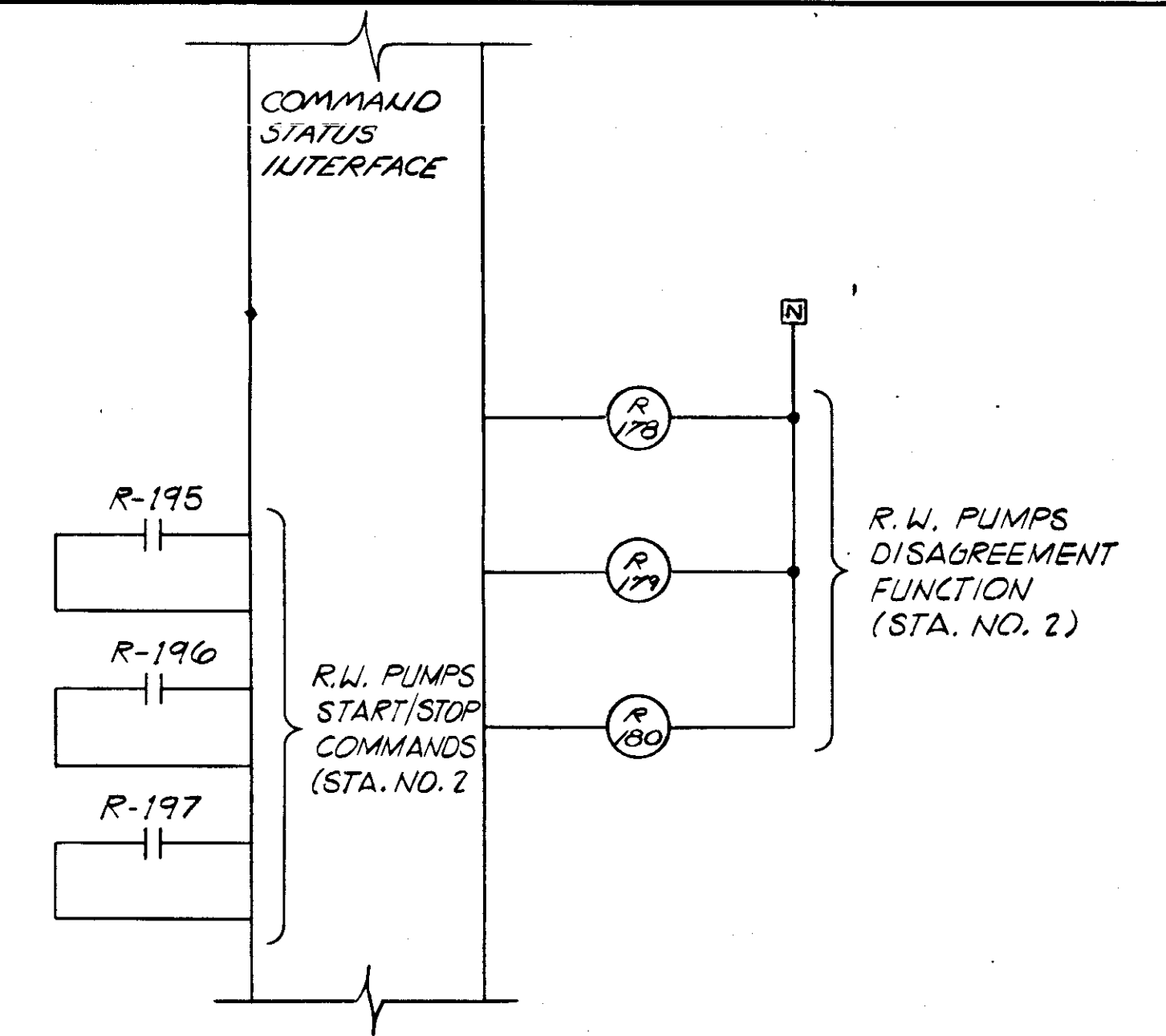
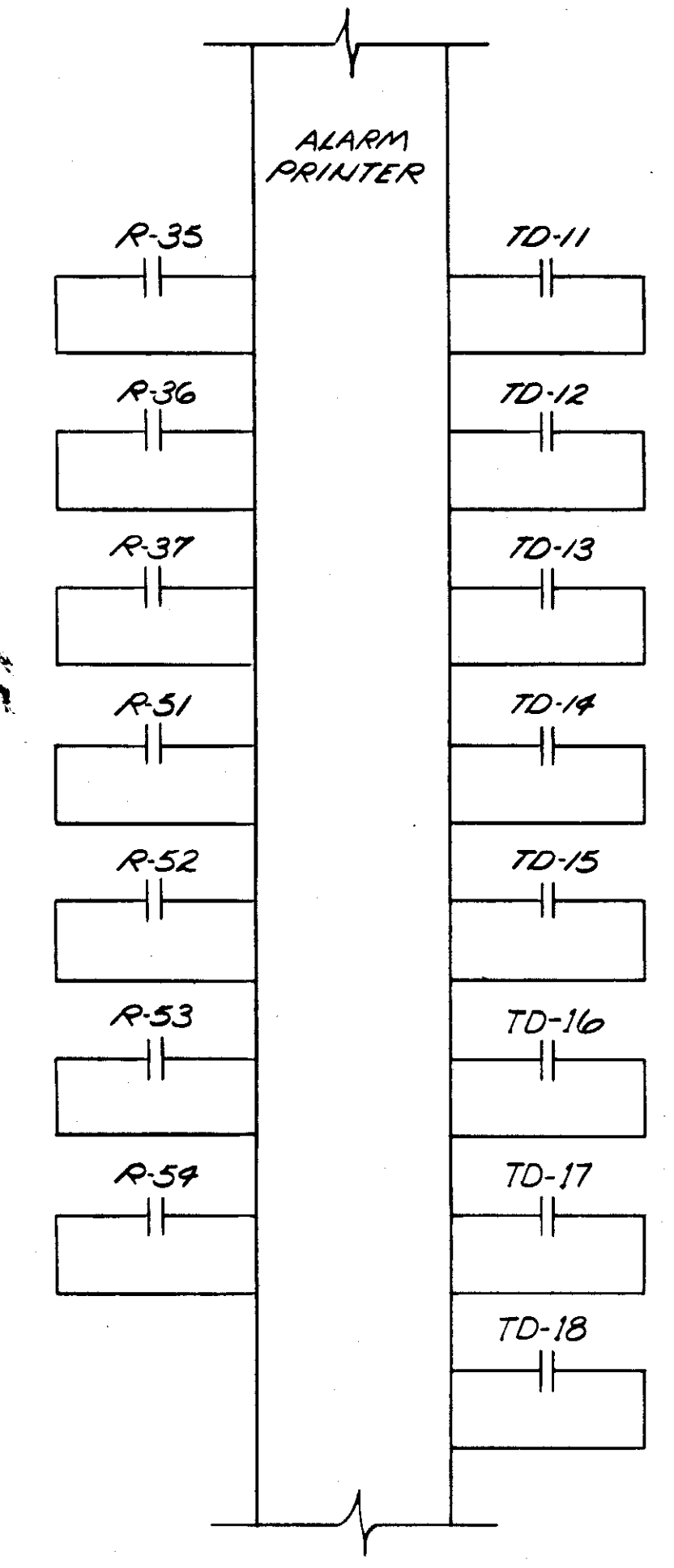
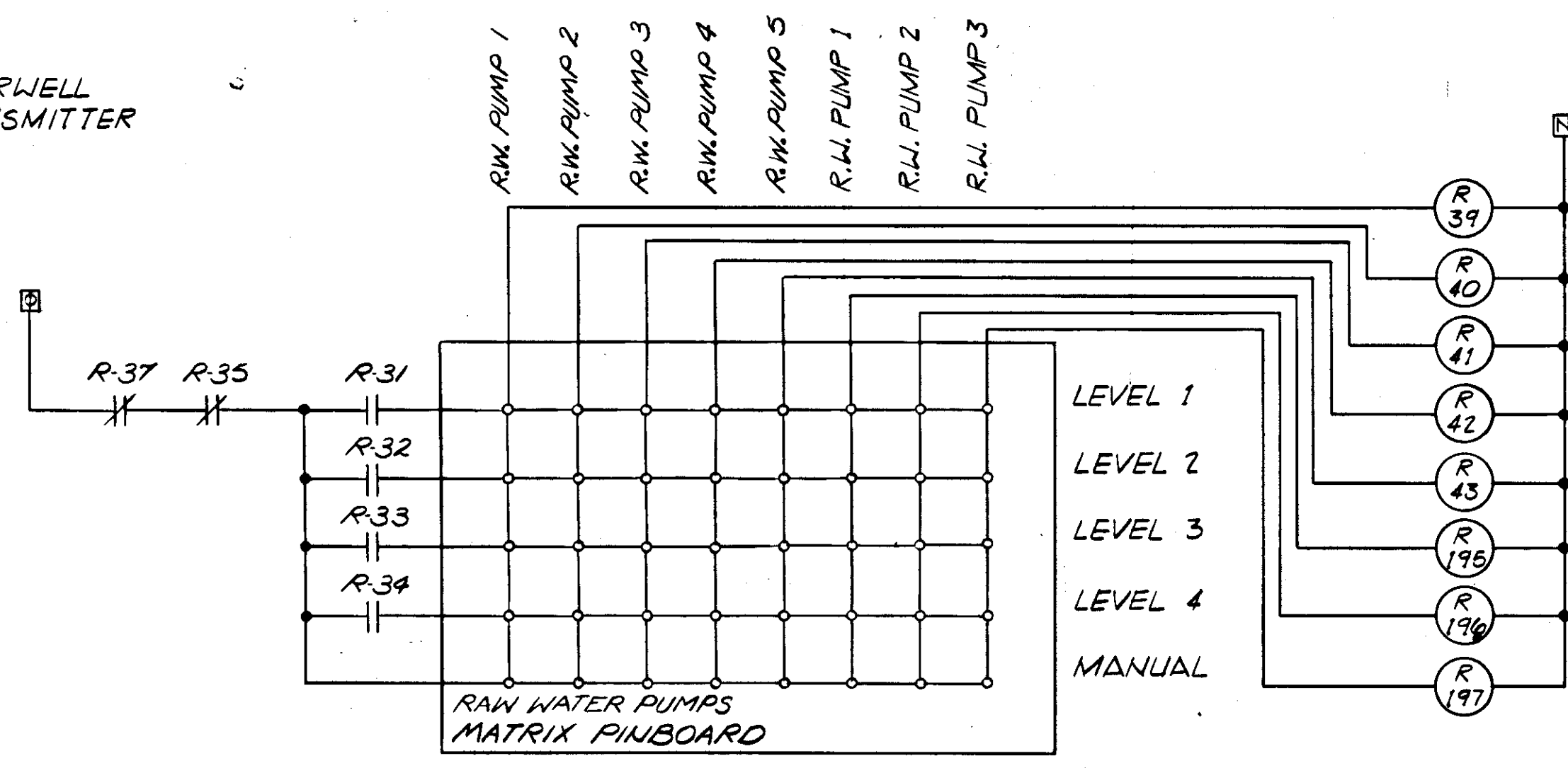
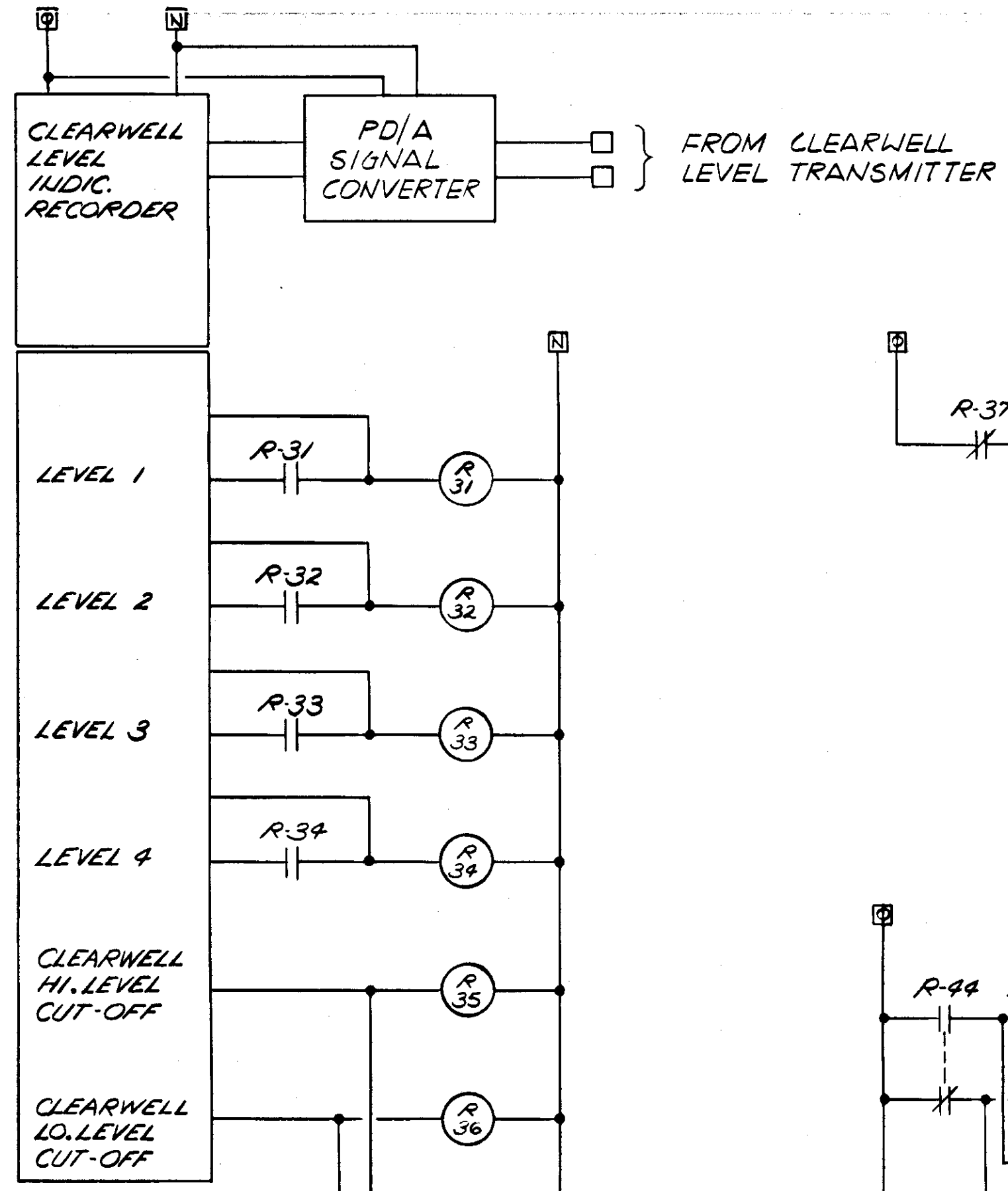


**LEGEND:**

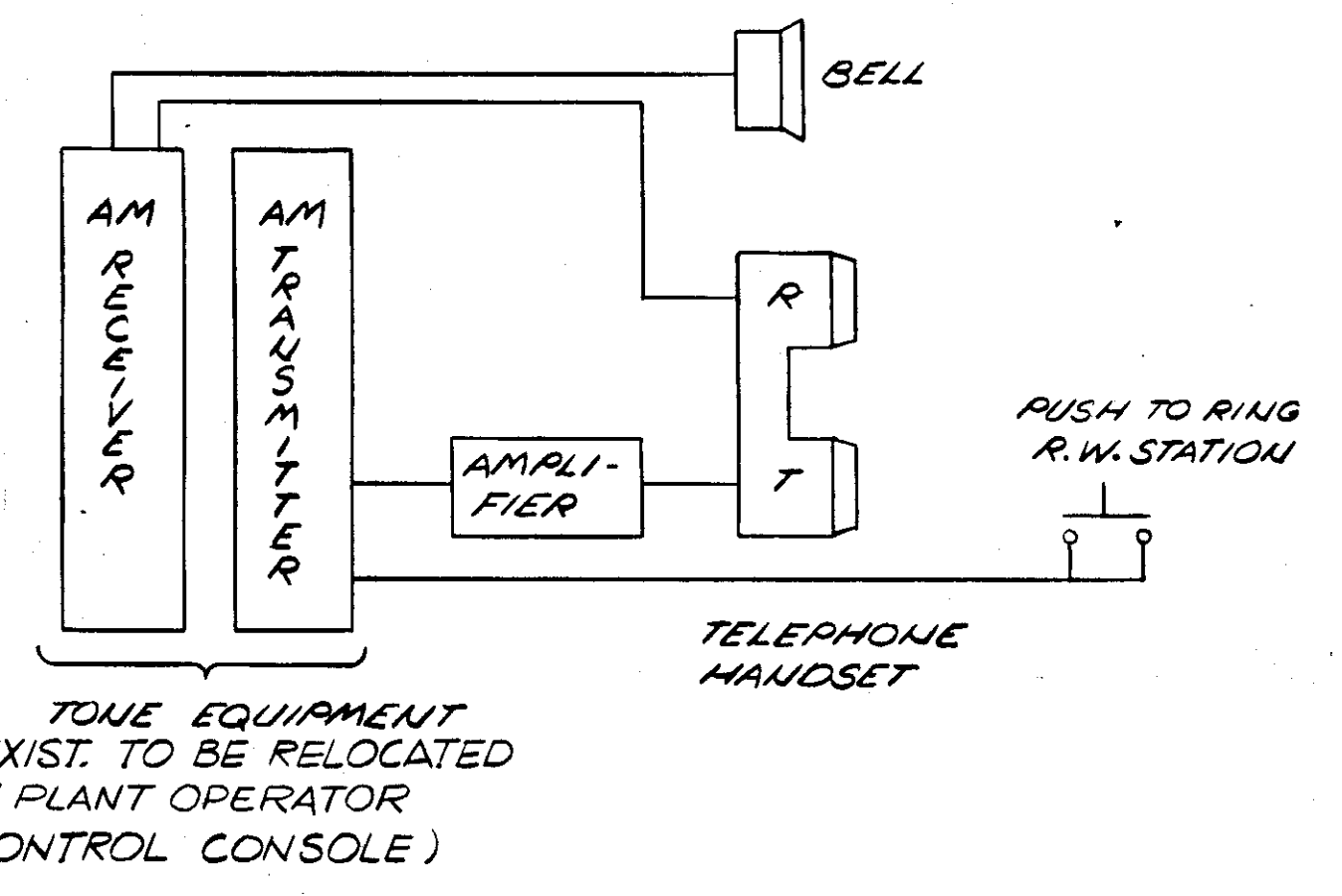
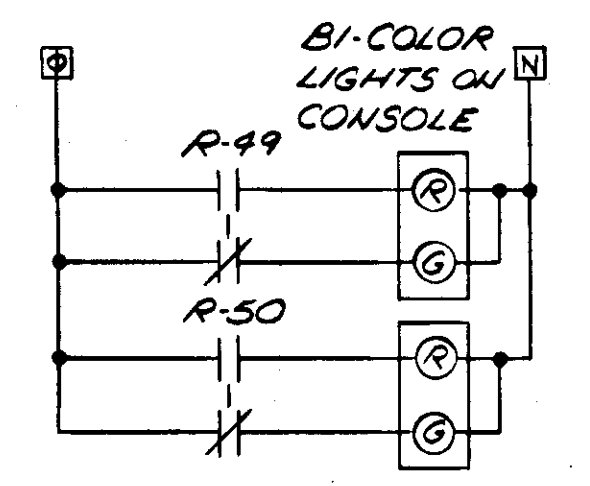
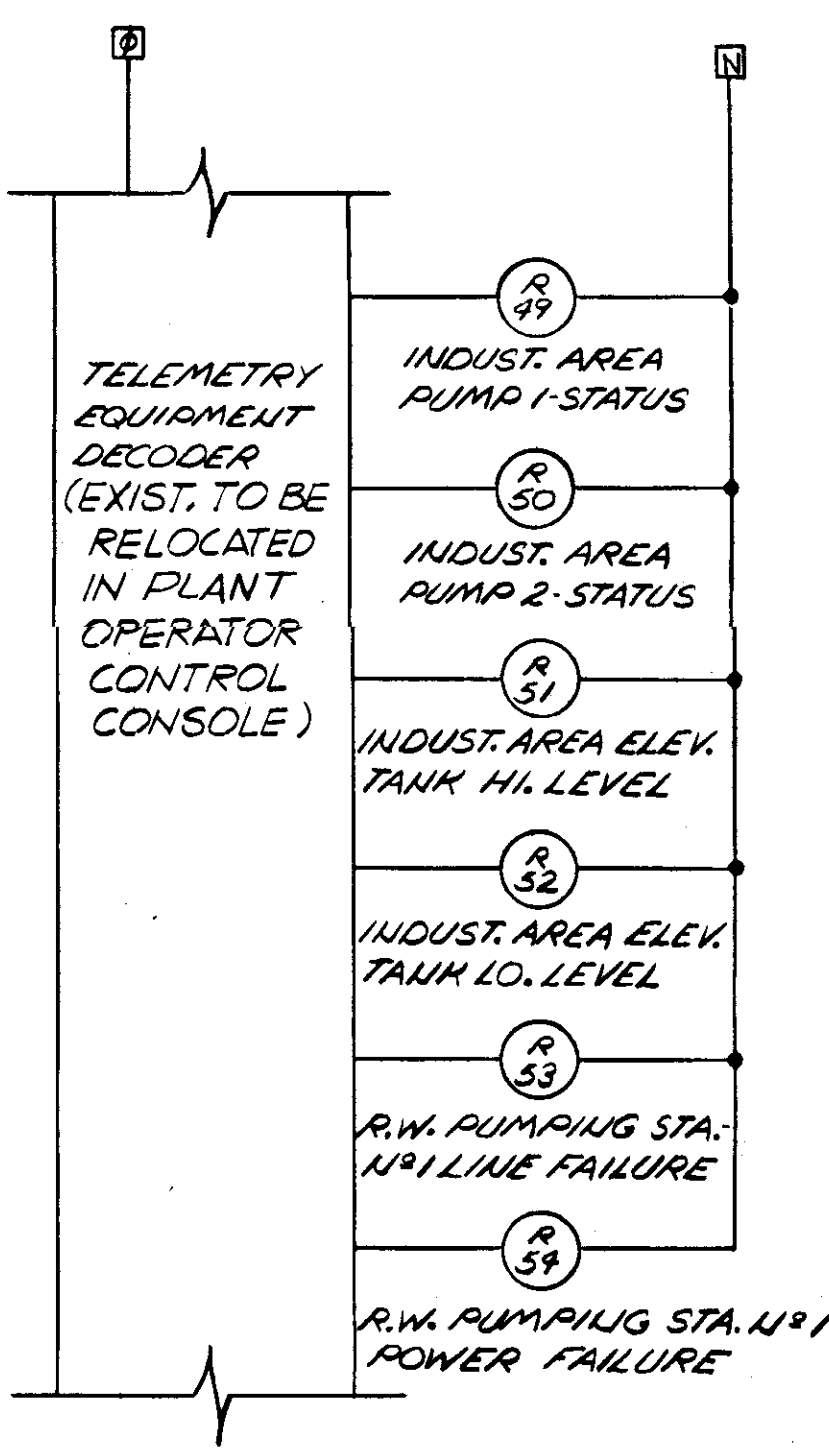
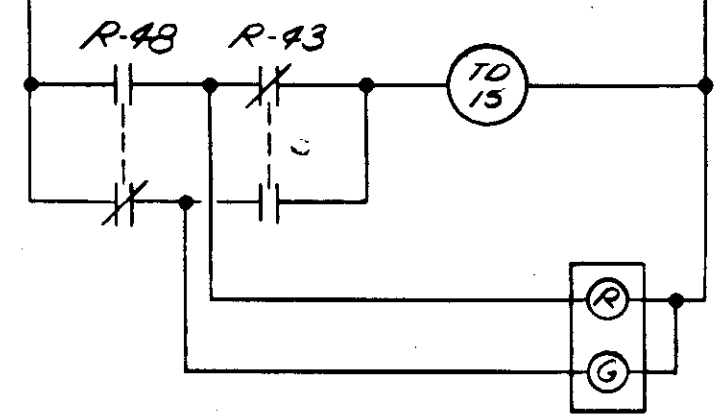
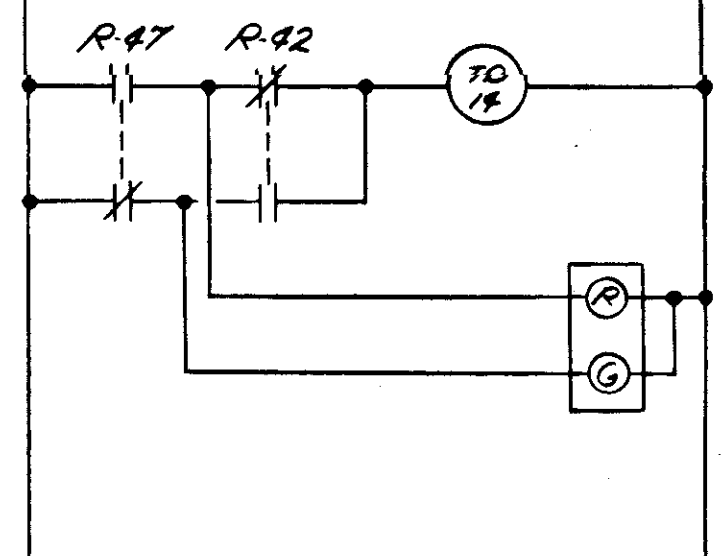
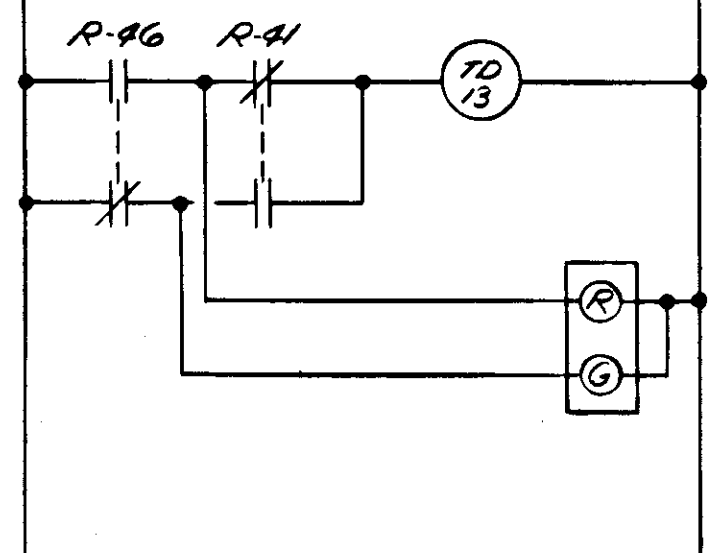
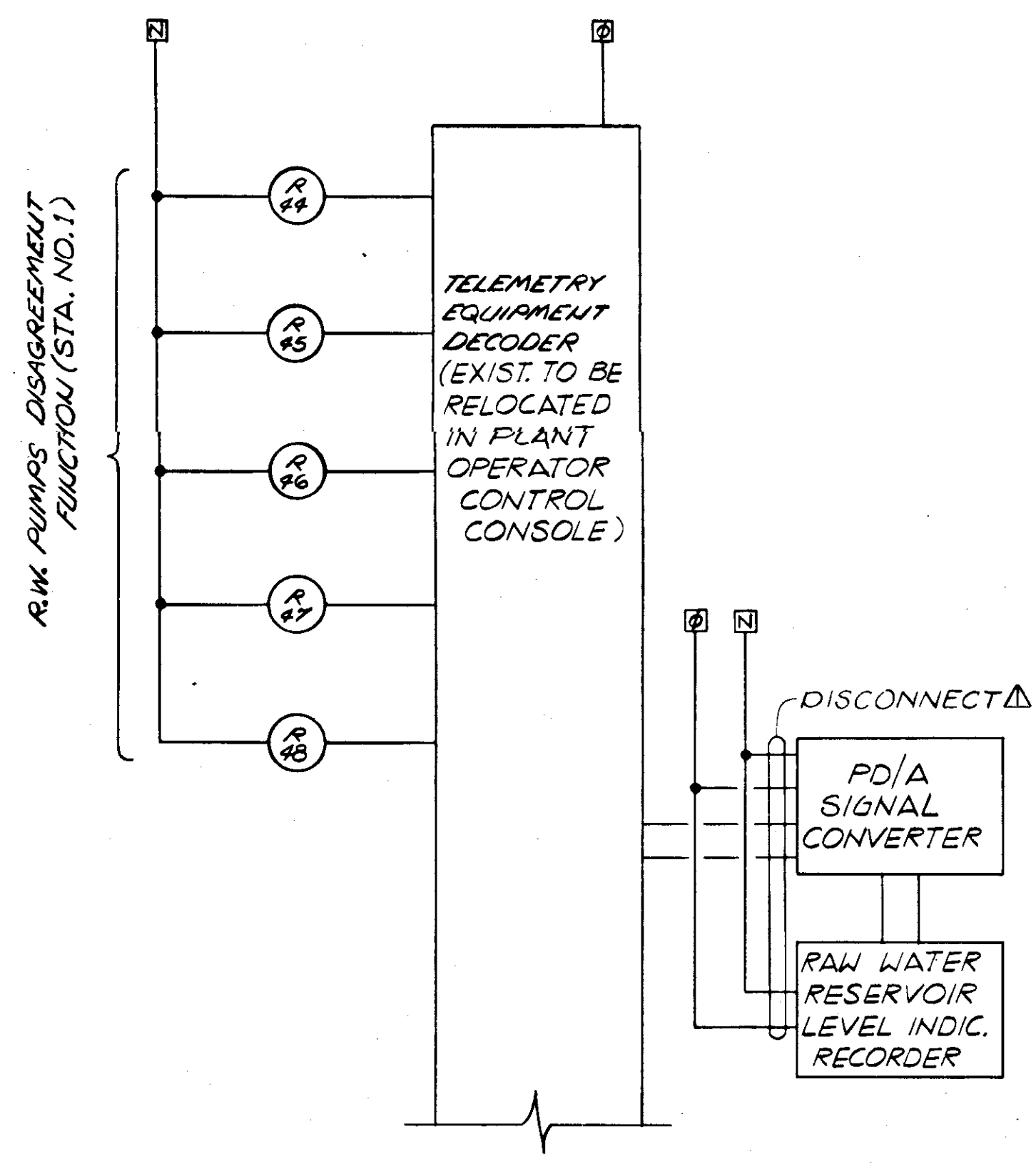
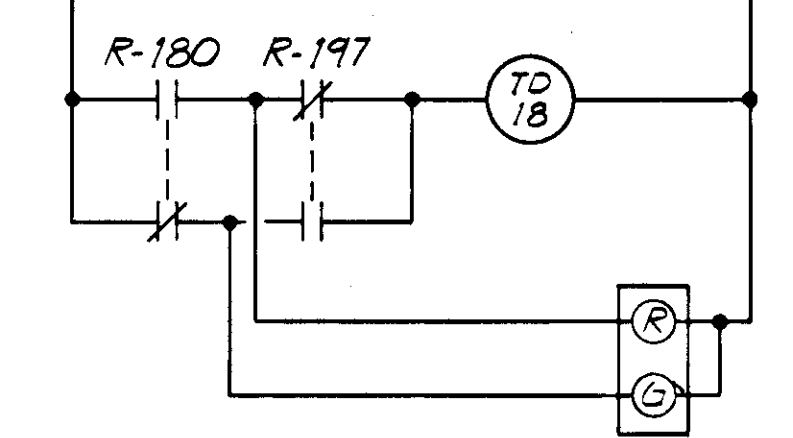
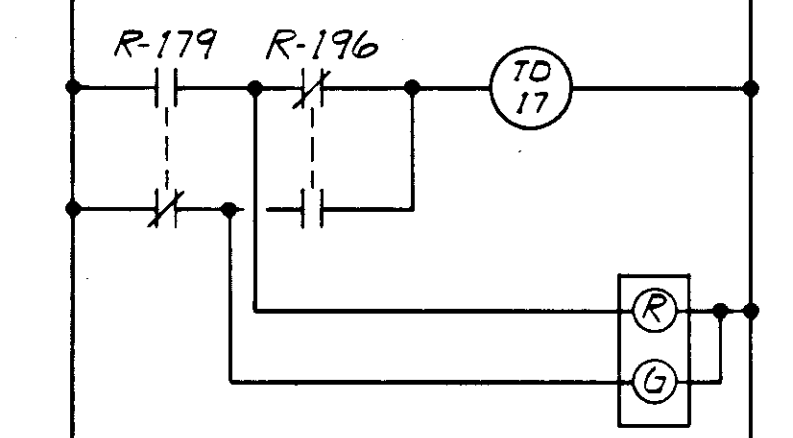
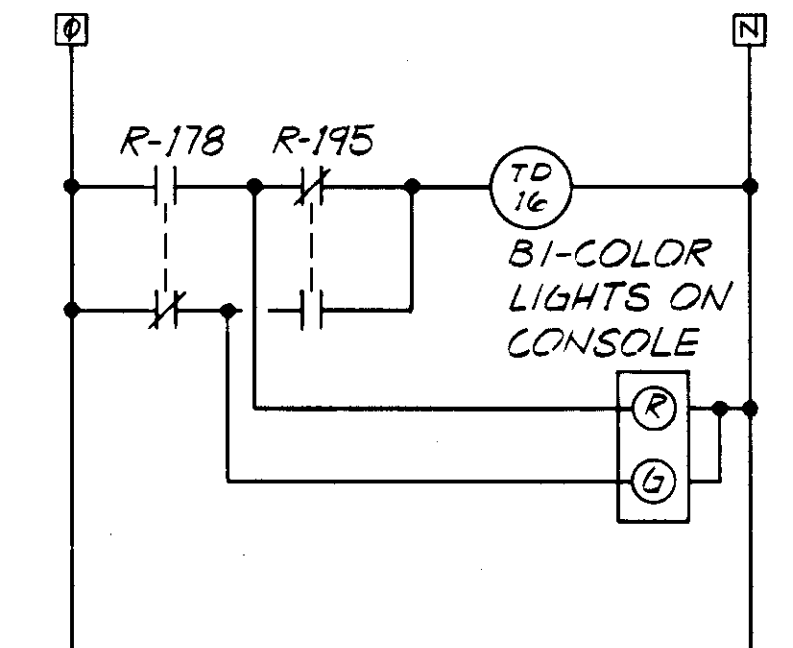
- WATER TREATMENT PLANT
- PUMPING STATION
- ELEVATED TANK
- GROUND STORAGE TANK
- METERING STATION
- TREATED WATER DISTRIBUTION LINE
- RAW WATER TRANSFER LINE
- TREATED WATER TRANSFER LINE
- HL HIGH LEVEL
- LL LOW LEVEL
- PF POWER FAILURE

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

EXIST. PUMPS @ RAW WATER PUMPING STA. NO. 1  
 PUMPS AT FUTURE RAW WATER PUMPING STATION NO. 2

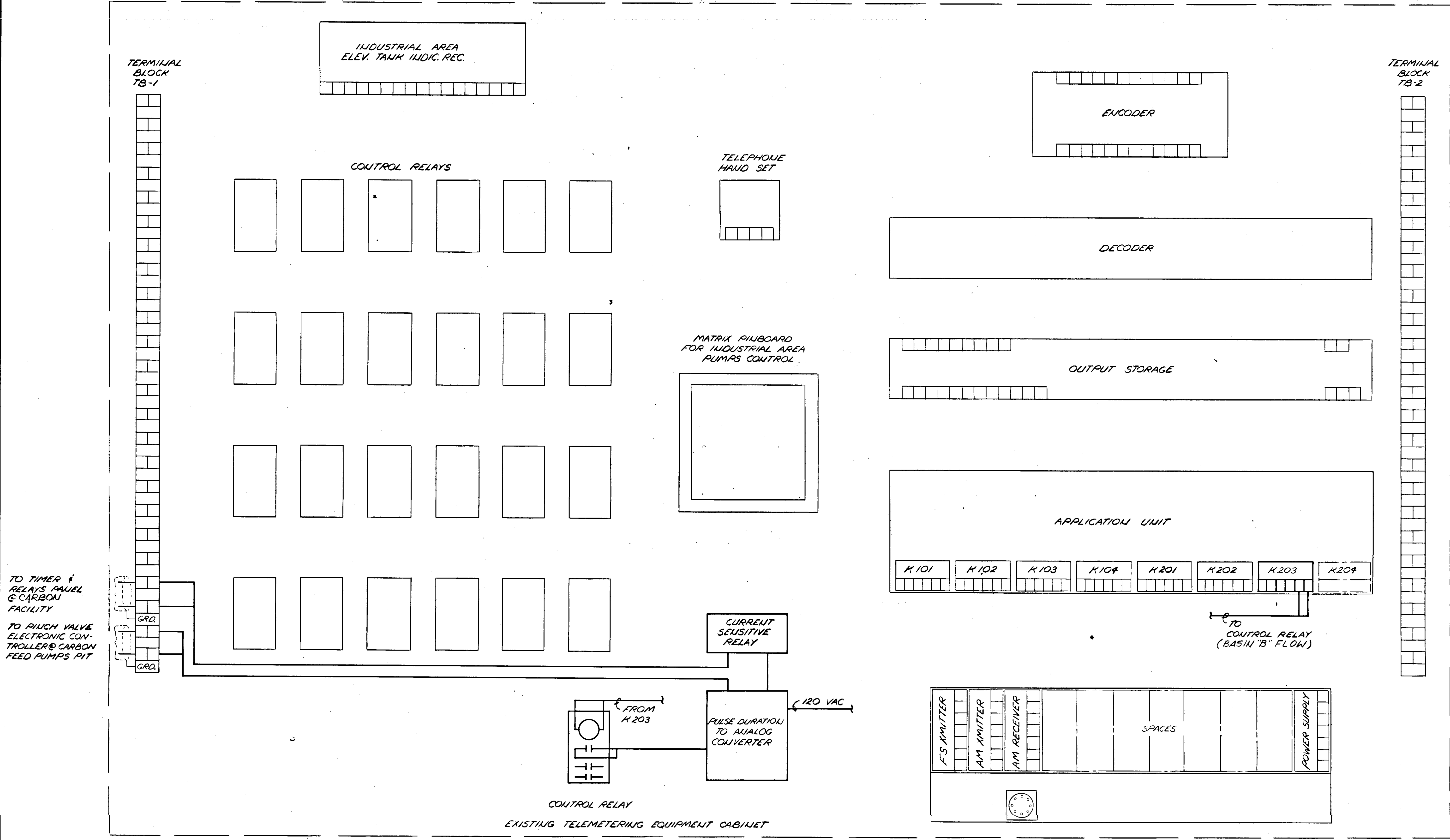


R.W. PUMPS START/STOP COMMANDS (STA. NO. 1)



TONE EQUIPMENT (EXIST. TO BE RELOCATED IN PLANT OPERATOR CONTROL CONSOLE)

NO.	DATE	DESCRIPTION	BY	CHKD.
1179		AS PER REVISION #1	RWF	SJG
REVISIONS				
RUSSELL & AXON Engineers — Planners — Architects				
WATER WORKS PROJECT WATER TREATMENT PLANT PLANT OPERATOR CONTROL CONSOLE RAW WATER PUMPS CONTROL				
MANATEE CO.		FILE NO. 630-761-04		SEAL
DESIGNED BY GBA	SHEET 4 OF 130		No. 115 SHEETS	
DRAWN BY DC	DATE AUGUST, 1978		SCALE: NONE	

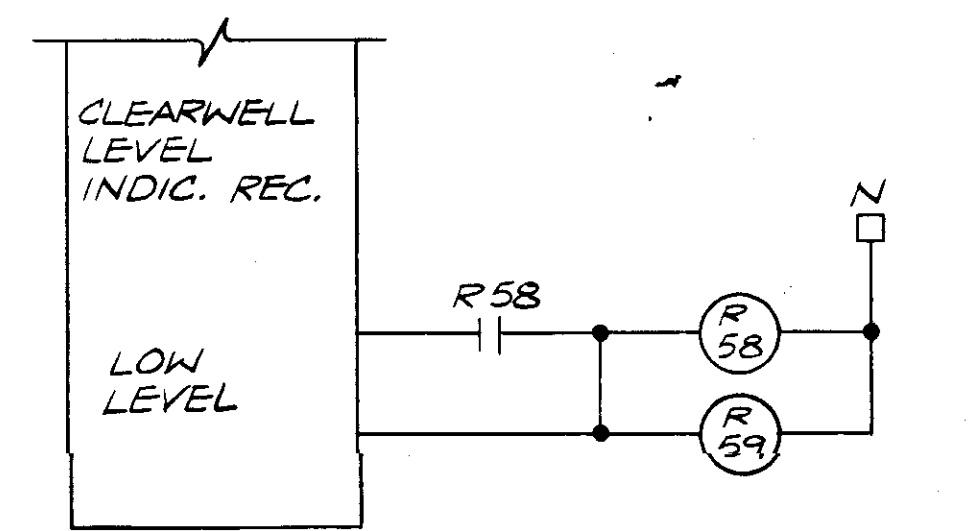
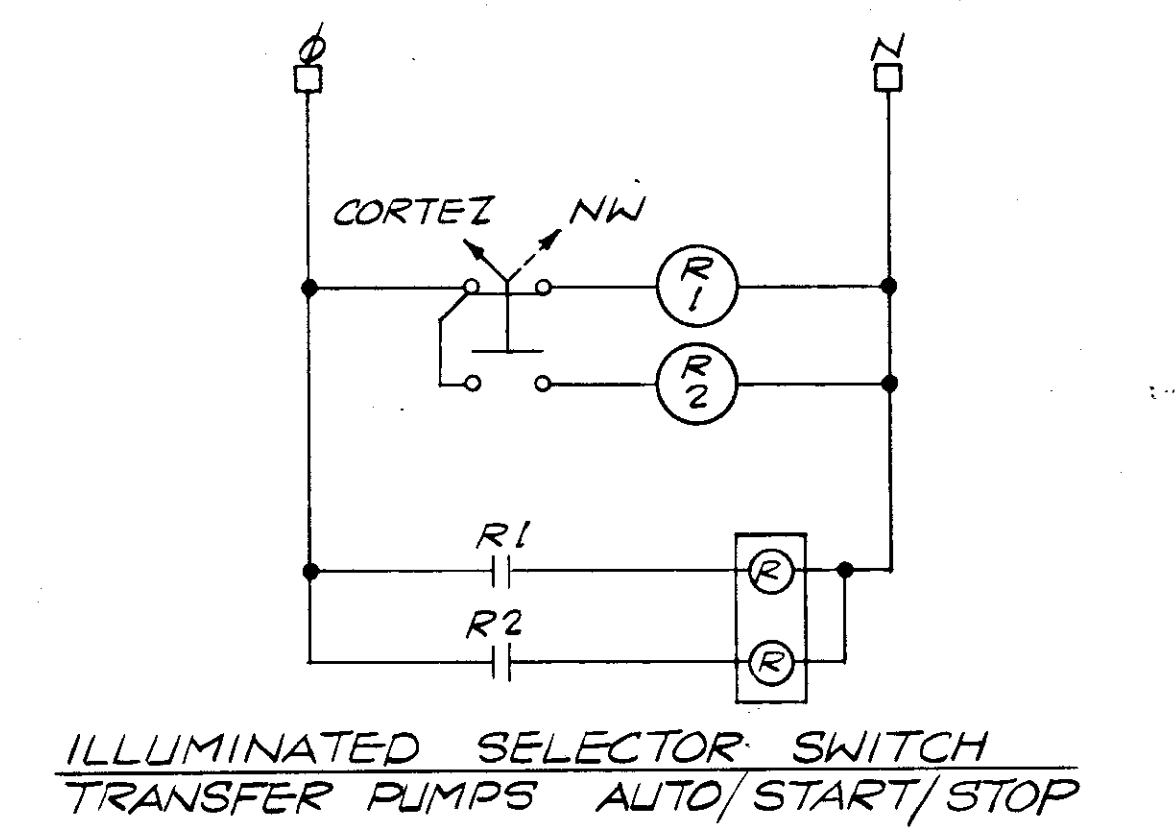
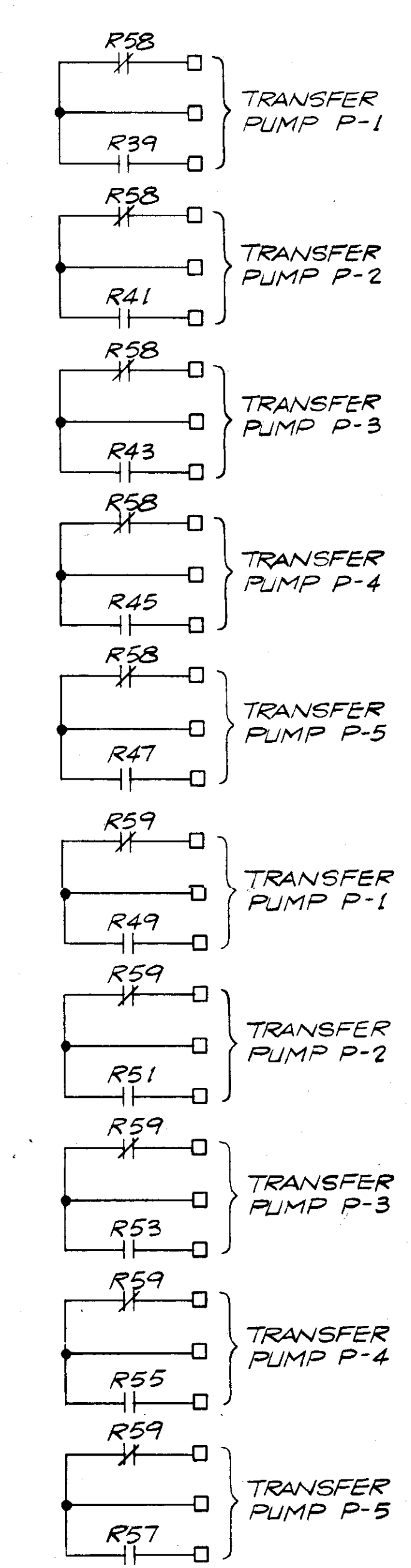
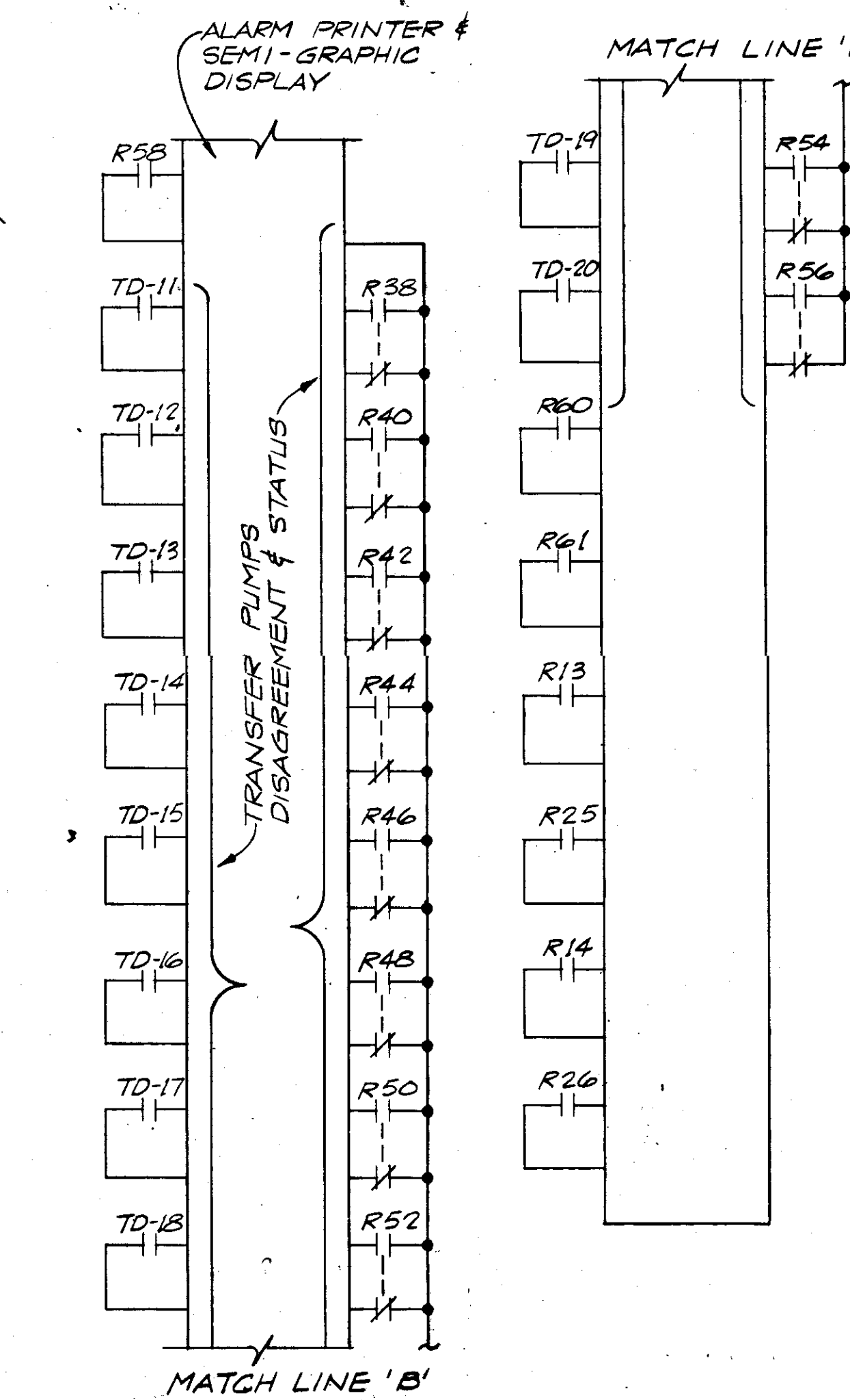
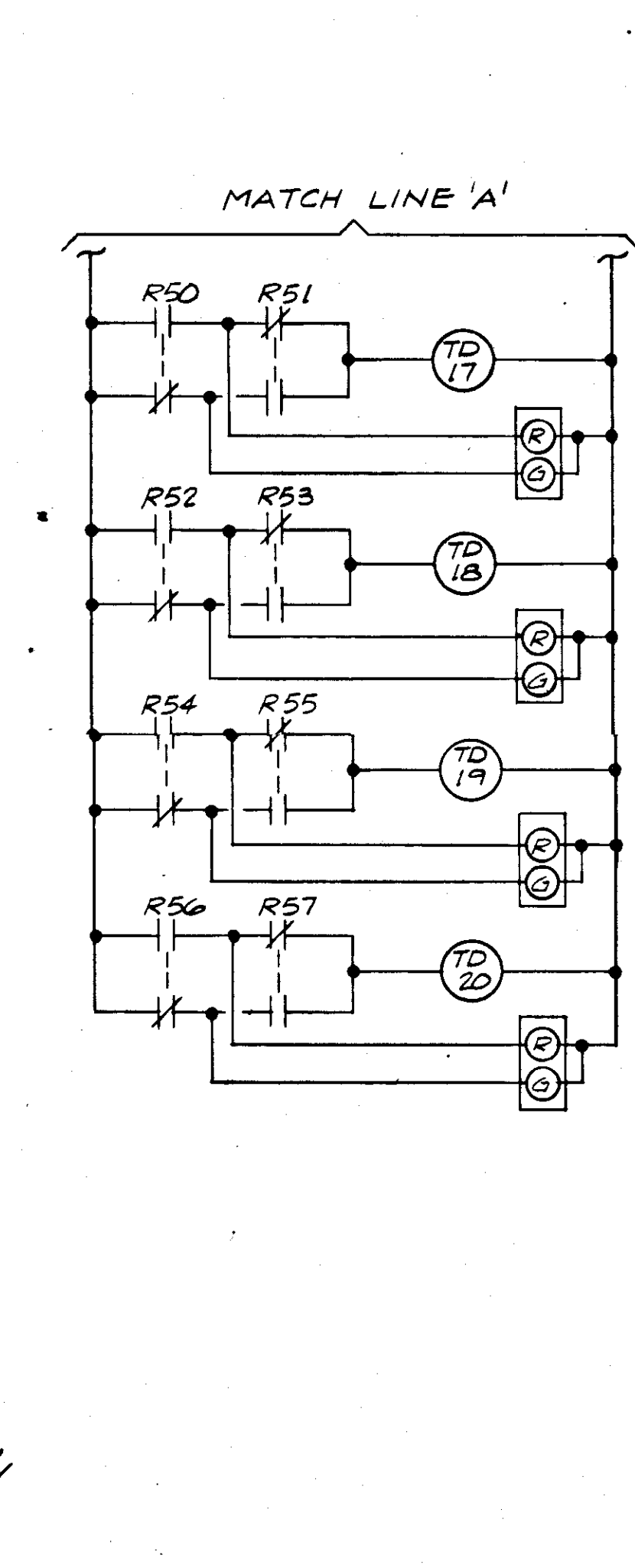
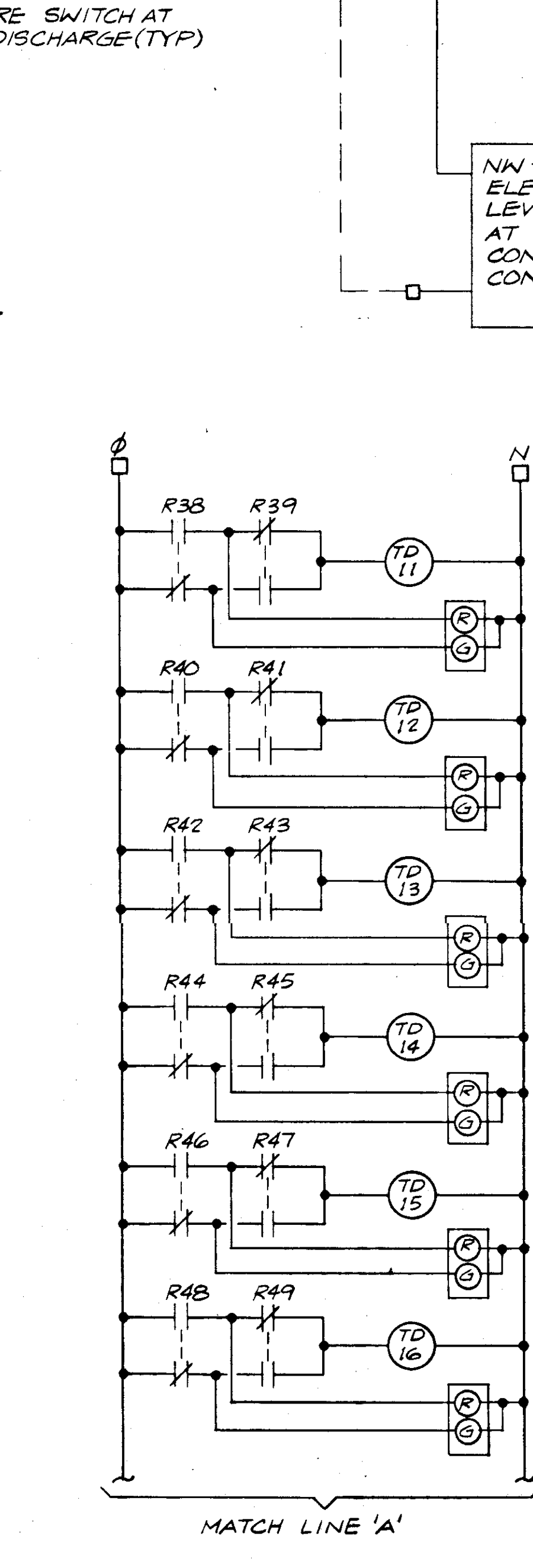
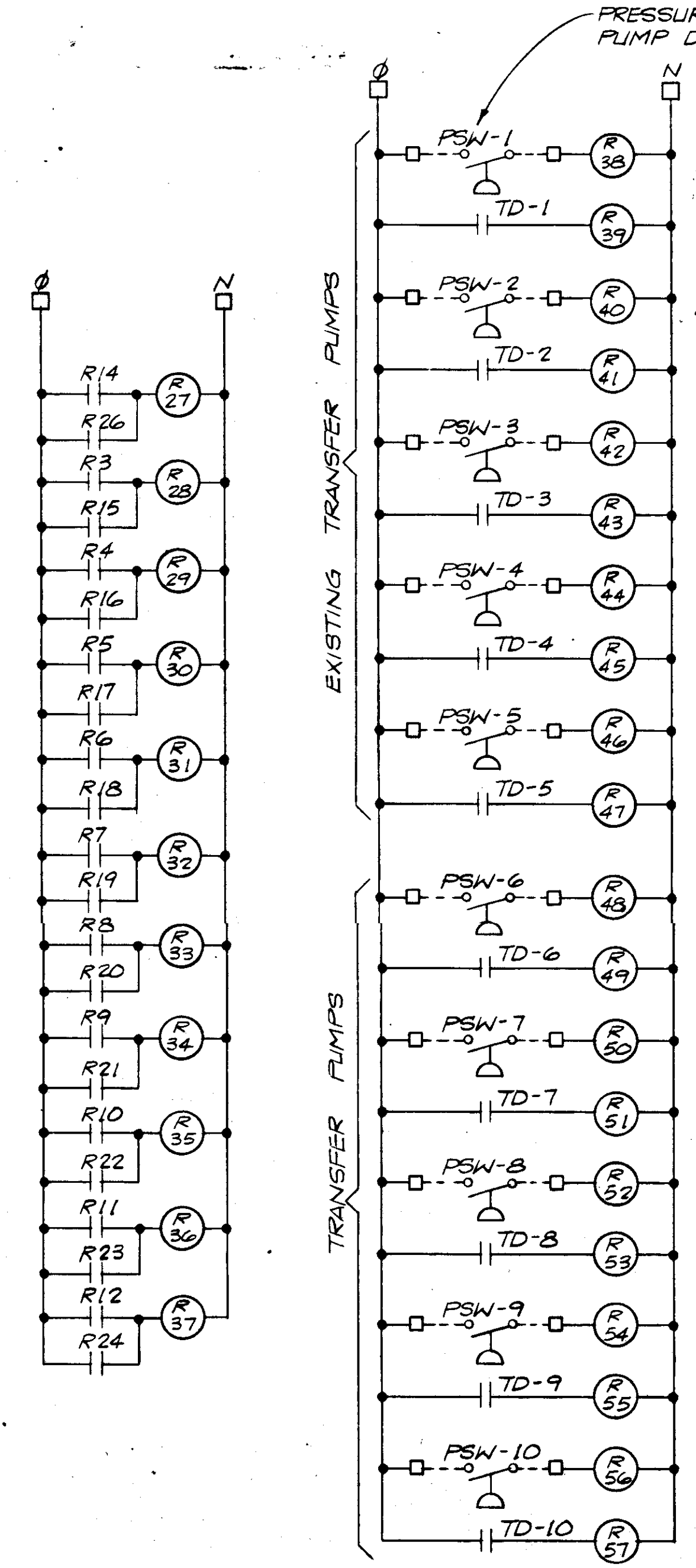
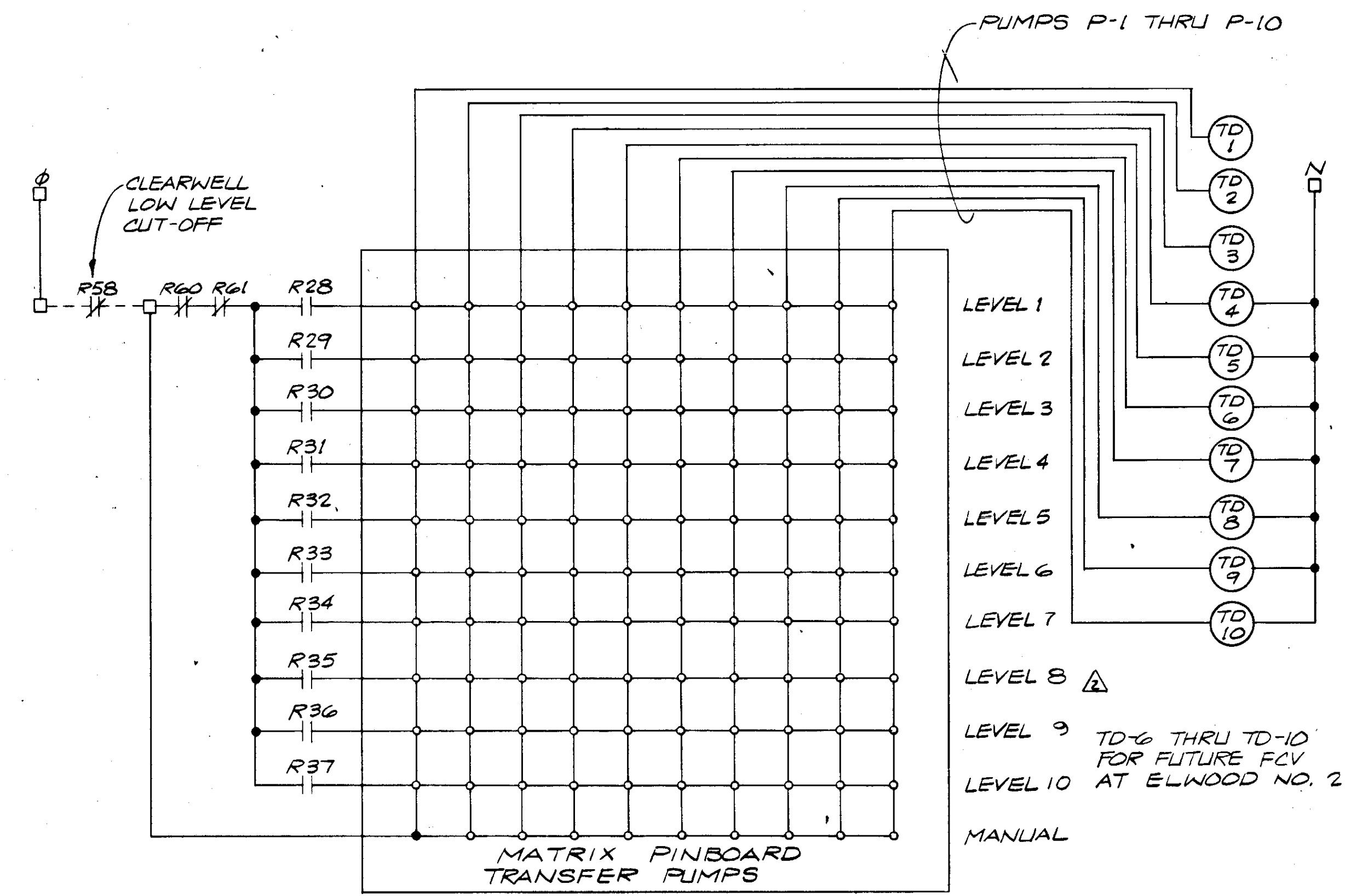
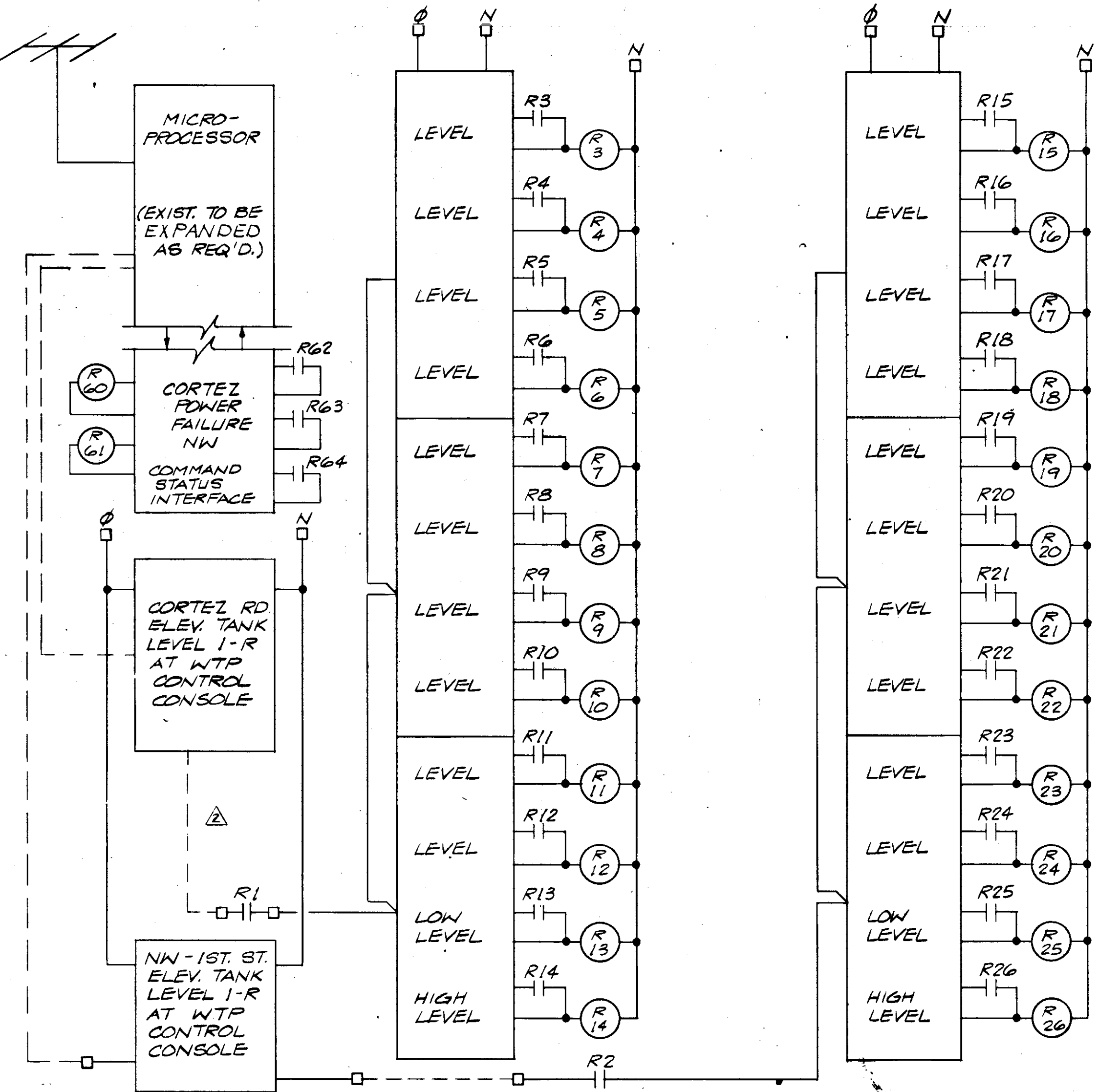
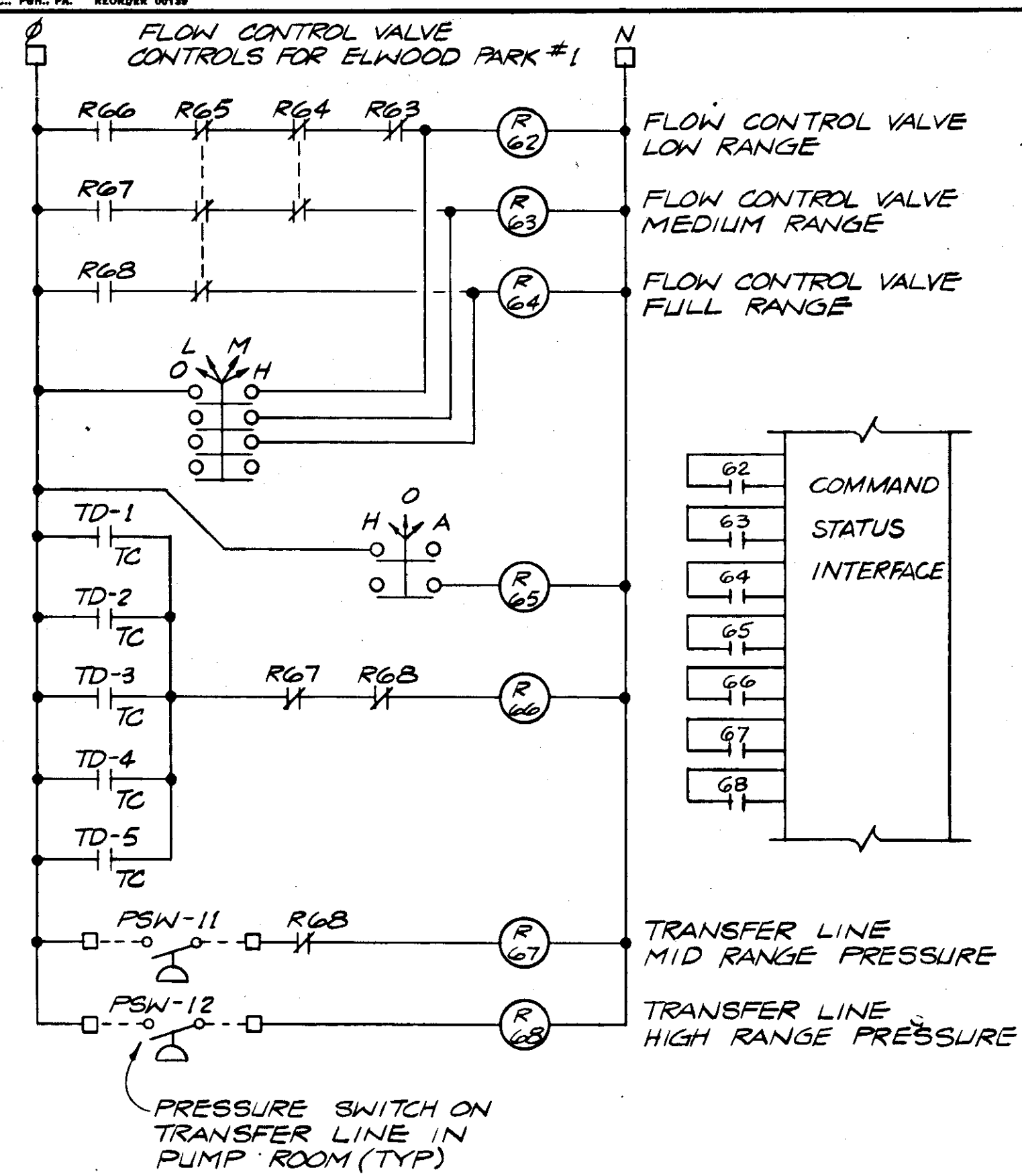


NOTE: HEAVY LINES ARE NEW COMPONENTS  
 LIGHT LINES ARE EXISTING COMPONENTS  
 DASH-DOT LINES ARE FUTURE COMPONENTS

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

T-116  
FLORIDA

SEAL



NO.	DATE	REVISIONS	BY	CHKD.
1	MAY 79	DELETED AND ADDED TO PULSE DURAT SIGNAL	M.A.	WPH
2	JAN 79	AS PER REVISION N°1	EDS	SJG

**RUSSELL & AXON**  
Engineers — Planners — Architects

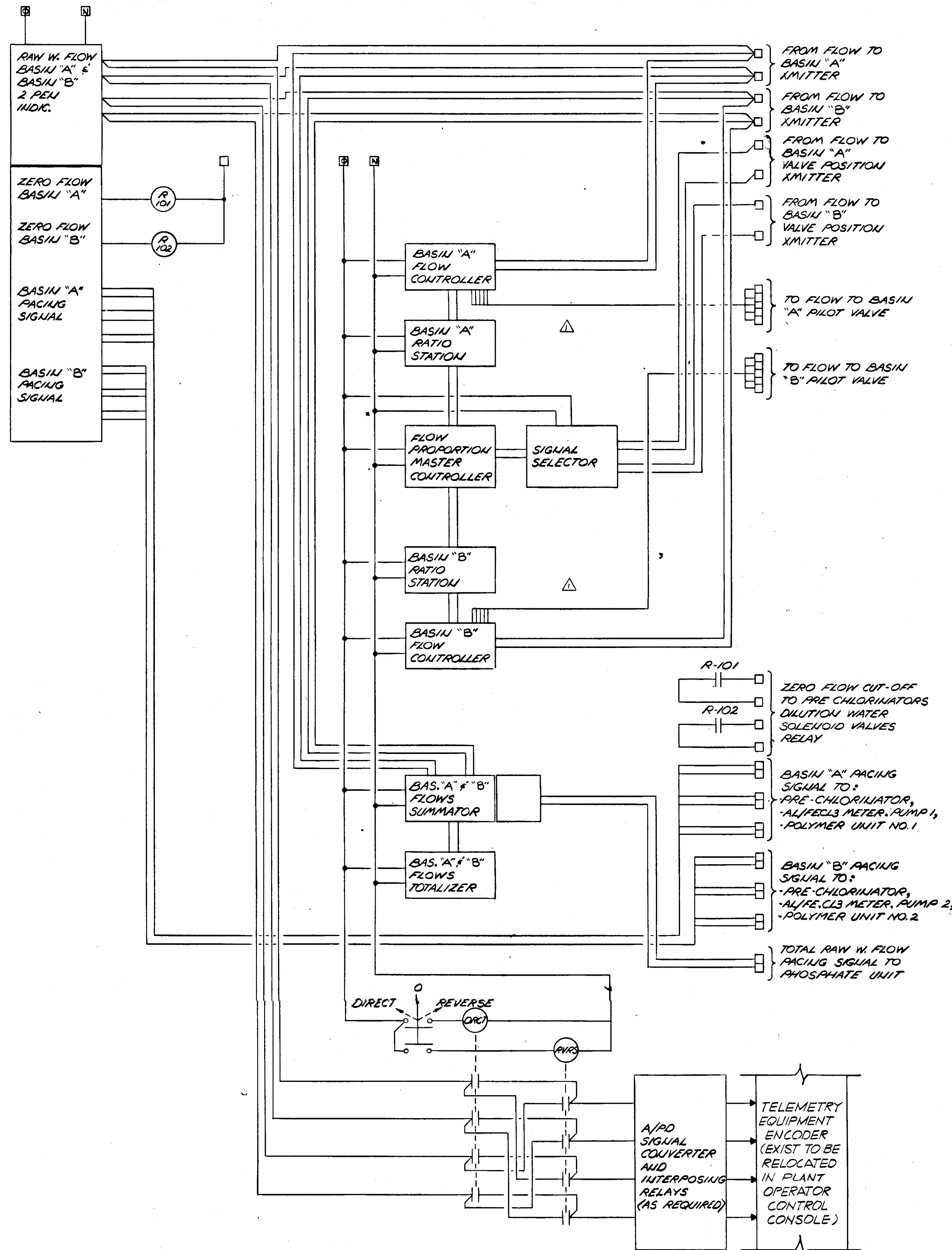
**WATER WORKS PROJECT**  
WATER TREATMENT PLANT  
CONTROL CONSOLE

MANATEE COUNTY, FLORIDA

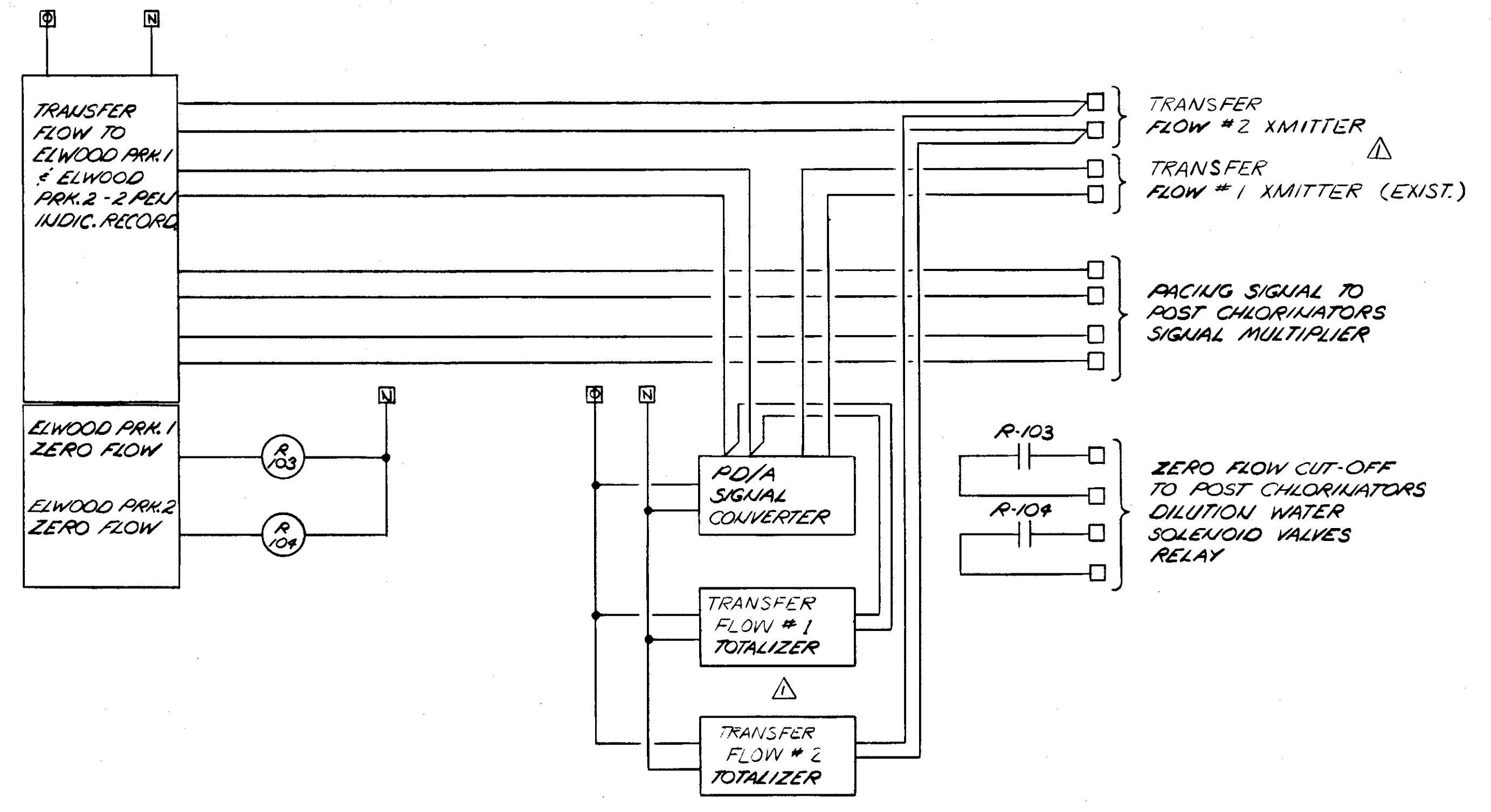
DESIGNED BY: SJG  
DRAWN BY: EDS  
CHECKED BY: SJG  
DATE: JANUARY, 1979

FILE NO.: 630-761-04  
SHEET I-6  
OF 130 SHEETS  
SCALE: NOT TO SCALE

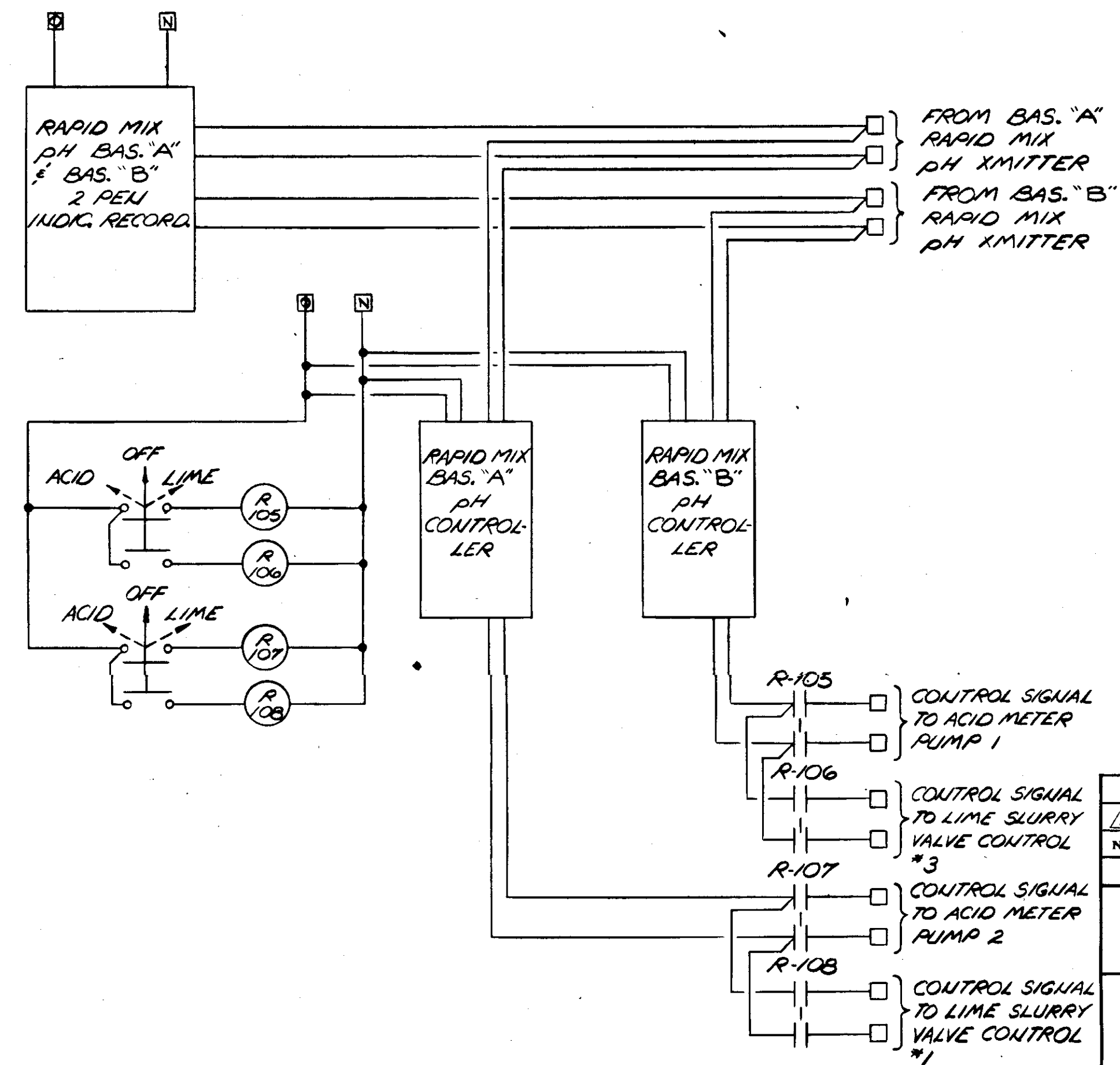
**T-117 SEAL**



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

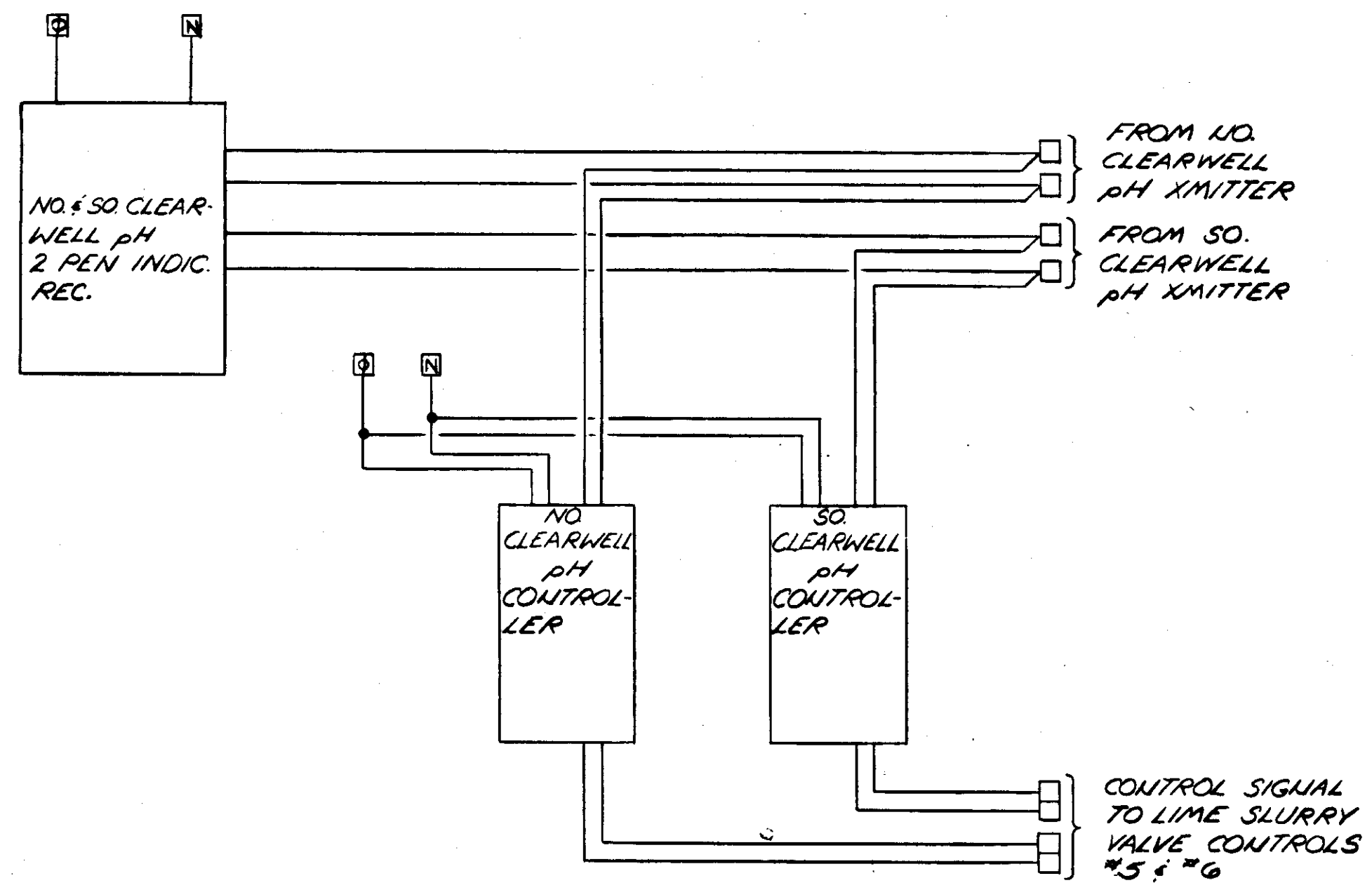
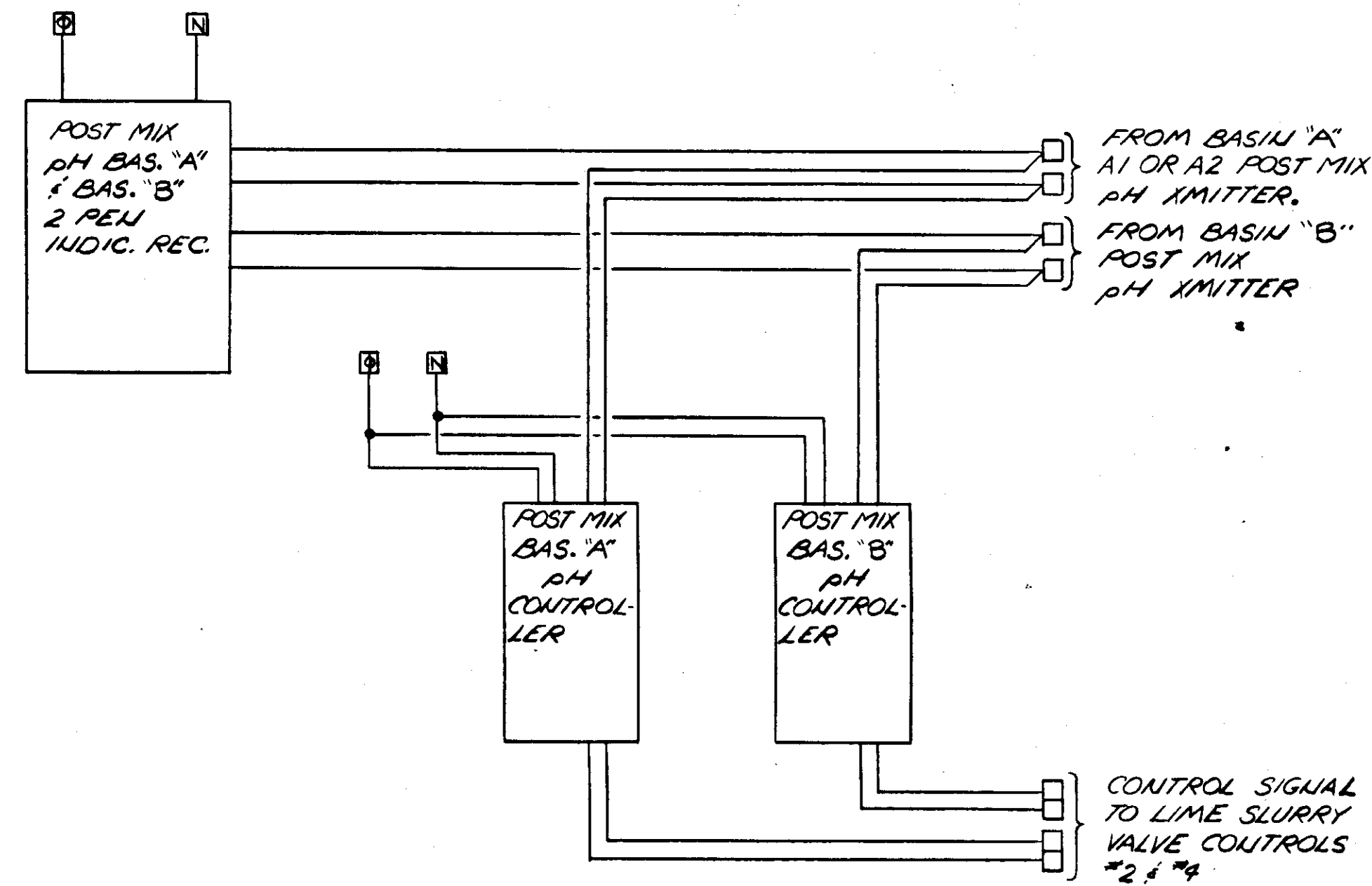
MANATEE CO. FLORIDA

DESIGNED BY: GBA  
FILE NO.: 630-761-04  
SEAL

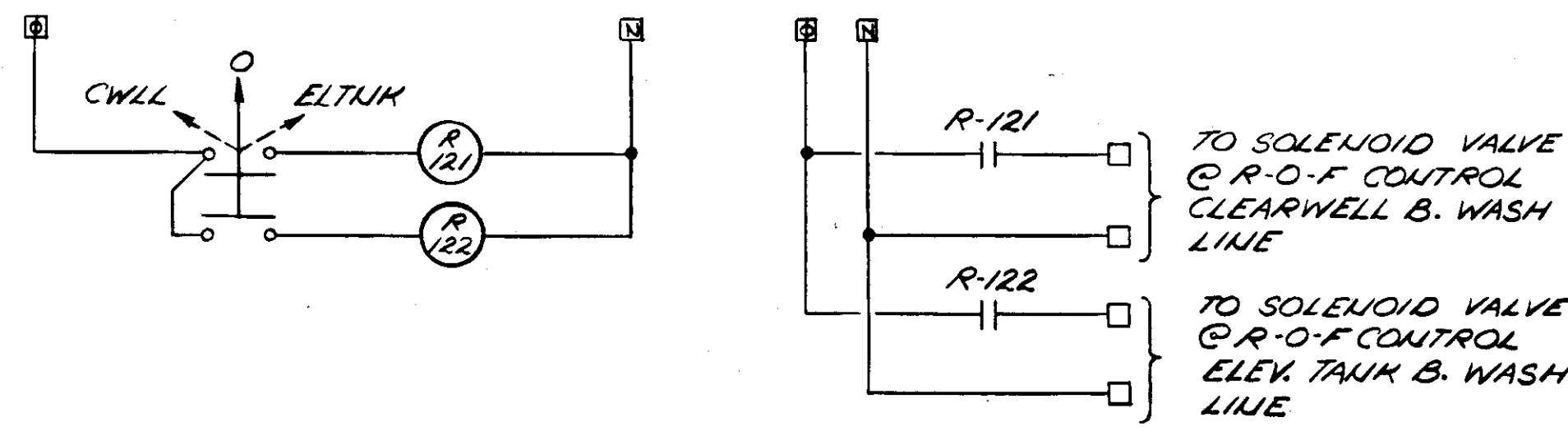
DRAWN BY: [Signature]  
SHEET I-8  
No. 119 SHEETS

CHECKED BY: SJG  
OF 130 SHEETS

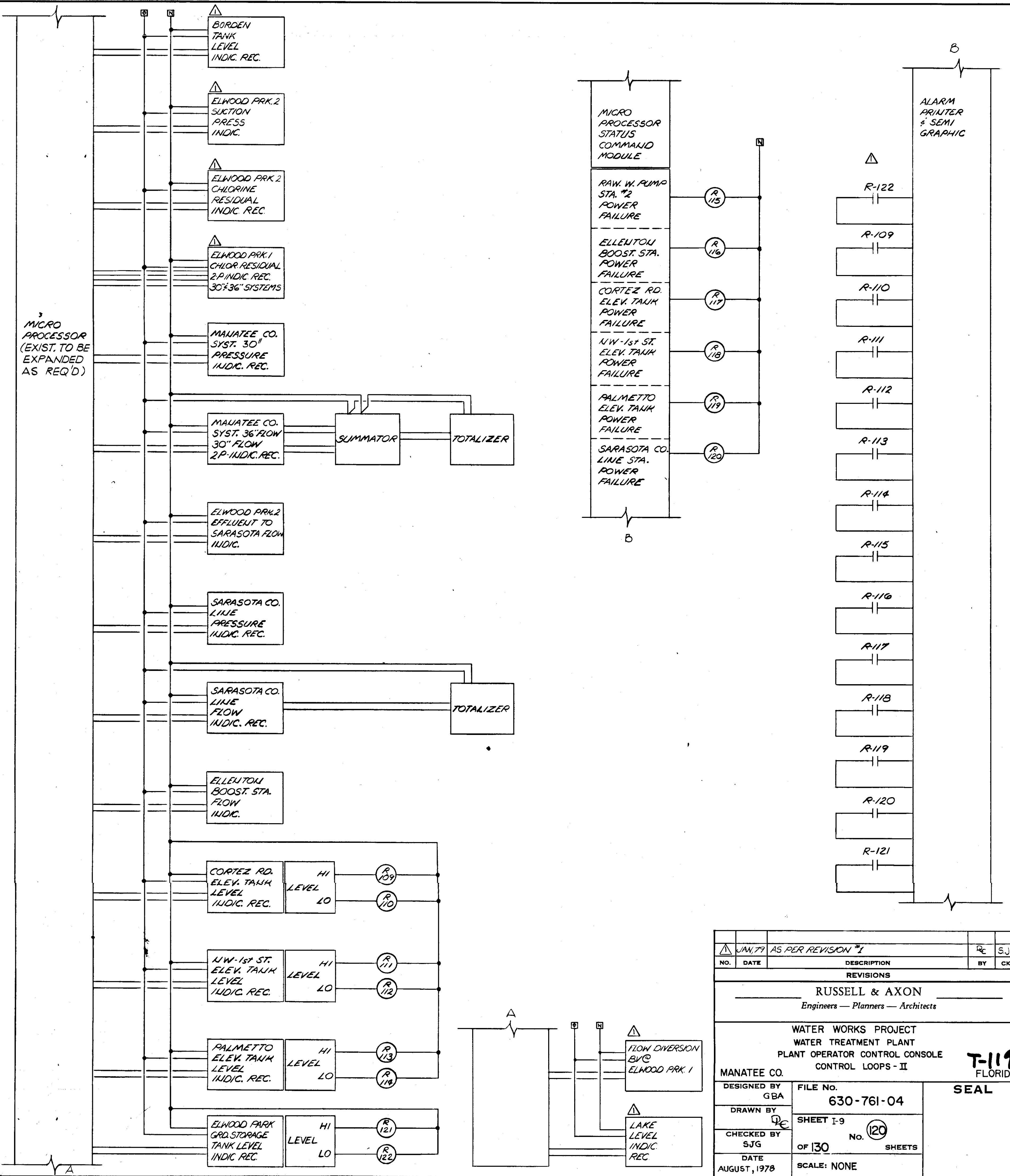
DATE: AUGUST, 1978  
SCALE: NONE



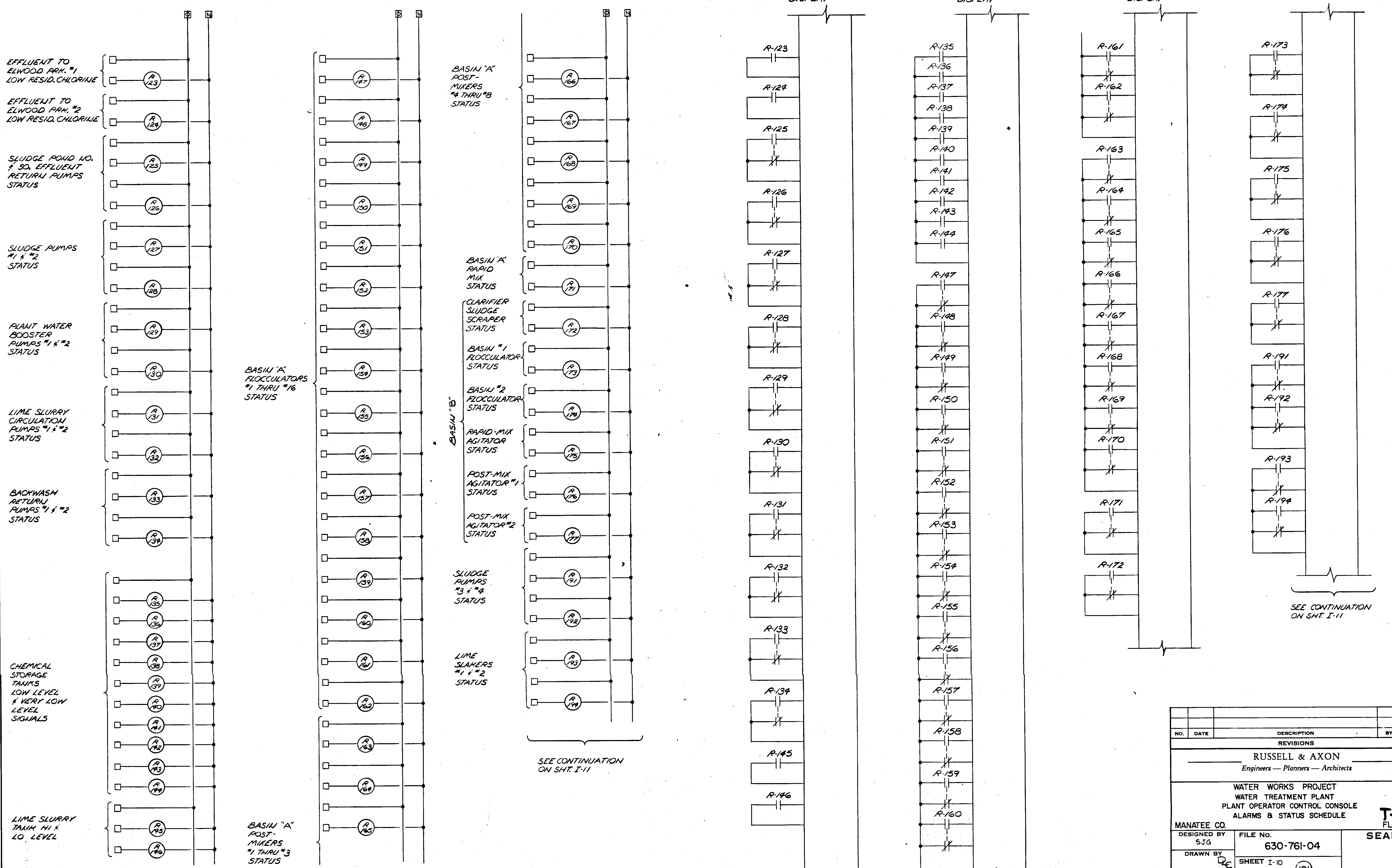
*pH-INSTRUMENTS & CONTROLS (ARRG. #2)*



*BACK WASH WATER SUPPLY SELECTION*

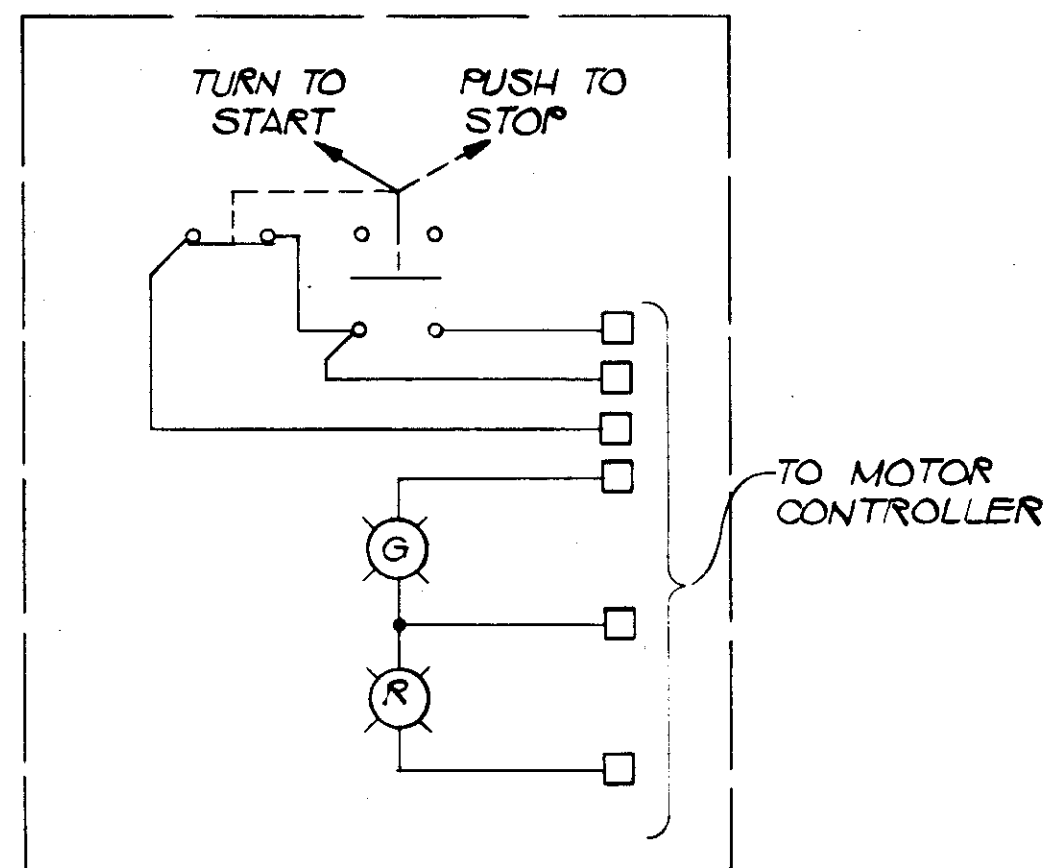


NO.	DATE	DESCRIPTION	BY	CHKD.
1	JAN. 79	AS PER REVISION #1	RC	S.J.G.
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
WATER WORKS PROJECT WATER TREATMENT PLANT PLANT OPERATOR CONTROL CONSOLE CONTROL LOOPS - II				
MANATEE CO.		FILE NO.	<b>T-119</b> FLORIDA	
DESIGNED BY GBA	FILE NO.	SEAL		
DRAWN BY D.C.	630-761-04			
CHECKED BY S.J.G.	SHEET 1-9	No. 120		
DATE AUGUST, 1978	OF 130	SHEETS		
	SCALE: NONE			

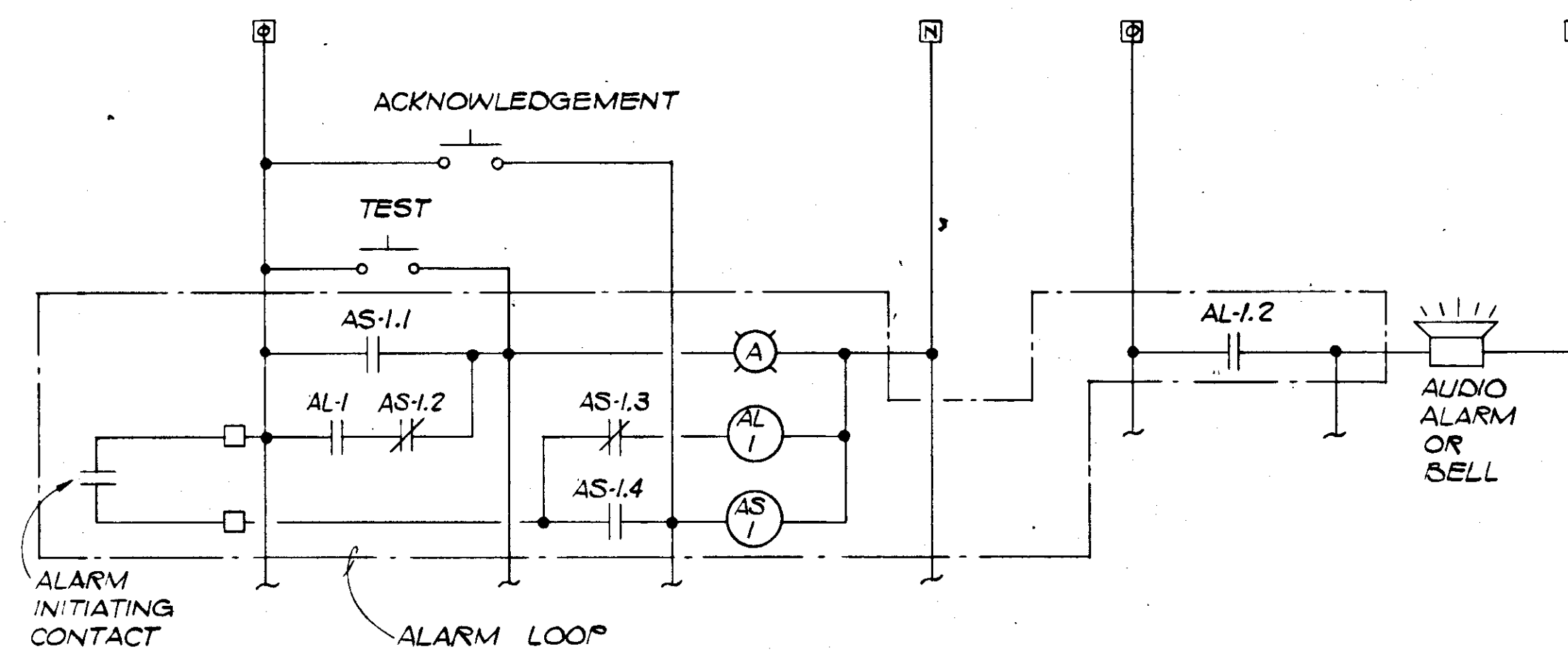


SEE CONTINUATION ON SHT. I-11

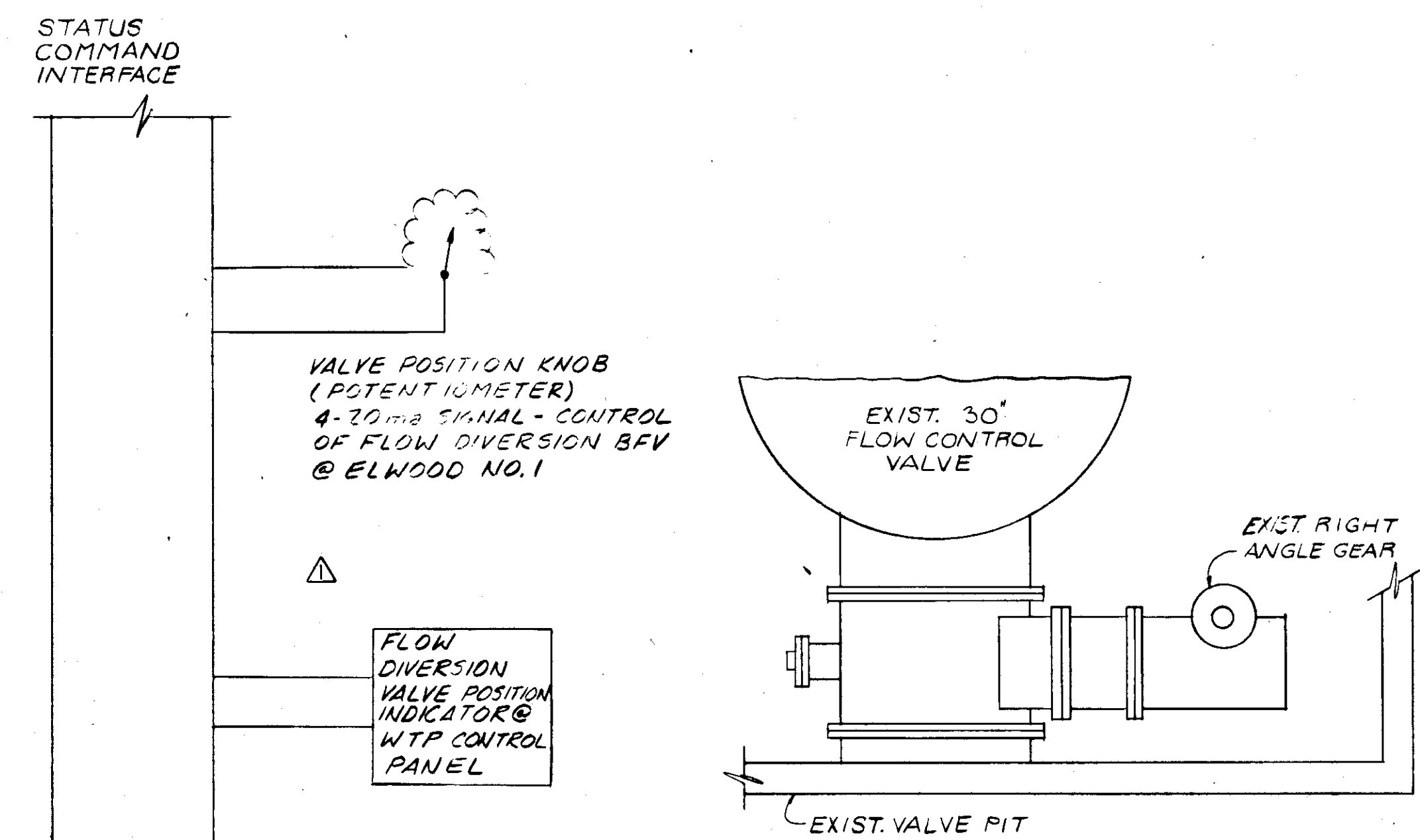
NO.	DATE	DESCRIPTION	BY	CHKD.
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
WATER WORKS PROJECT WATER TREATMENT PLANT PLANT OPERATOR CONTROL CONSOLE ALARMS & STATUS SCHEDULE				
MANATEE CO.		<b>T-120</b> FLORIDA		<b>SEAL</b>
DESIGNED BY S J G	FILE NO. 630-761-04			
DRAWN BY S J G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



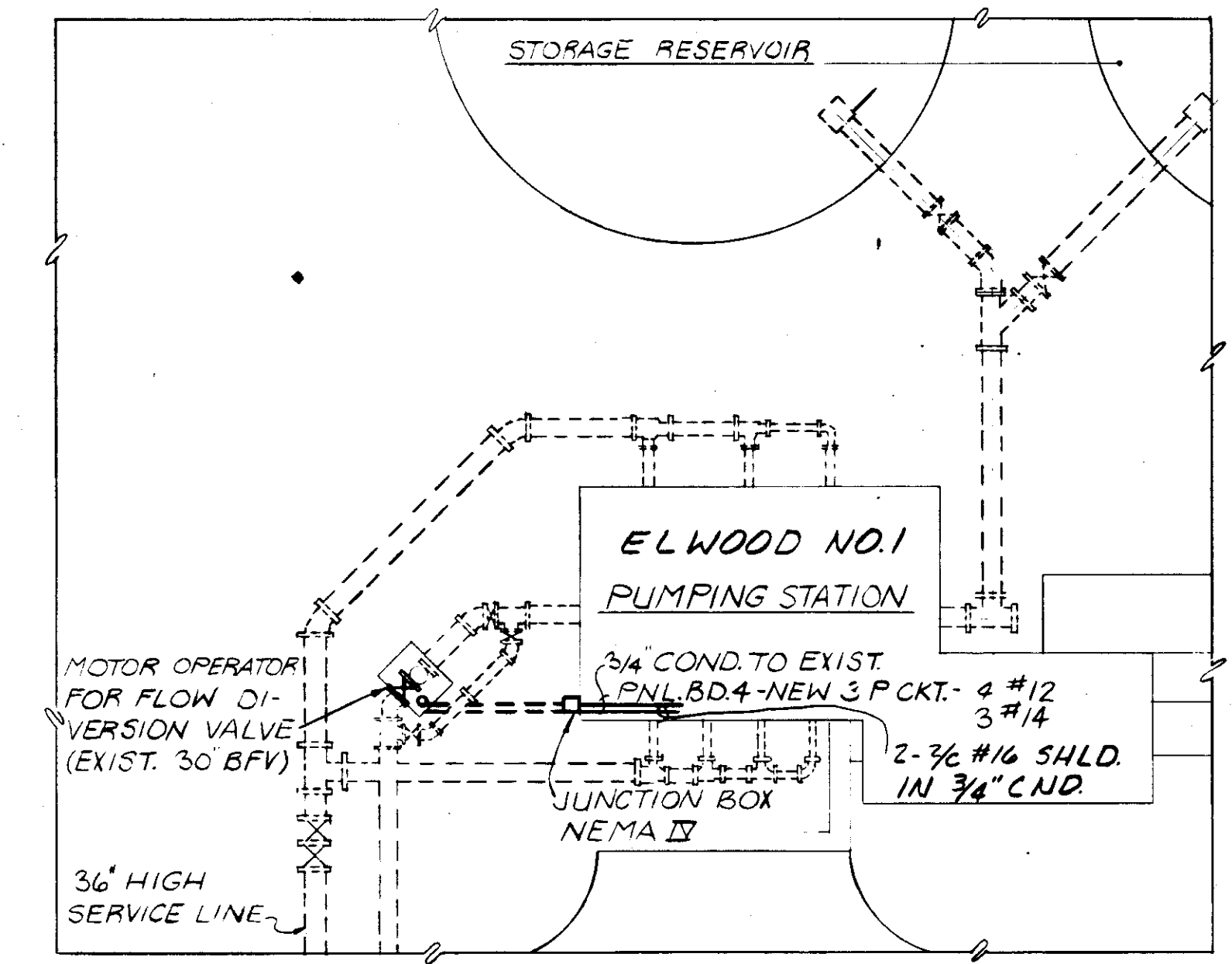
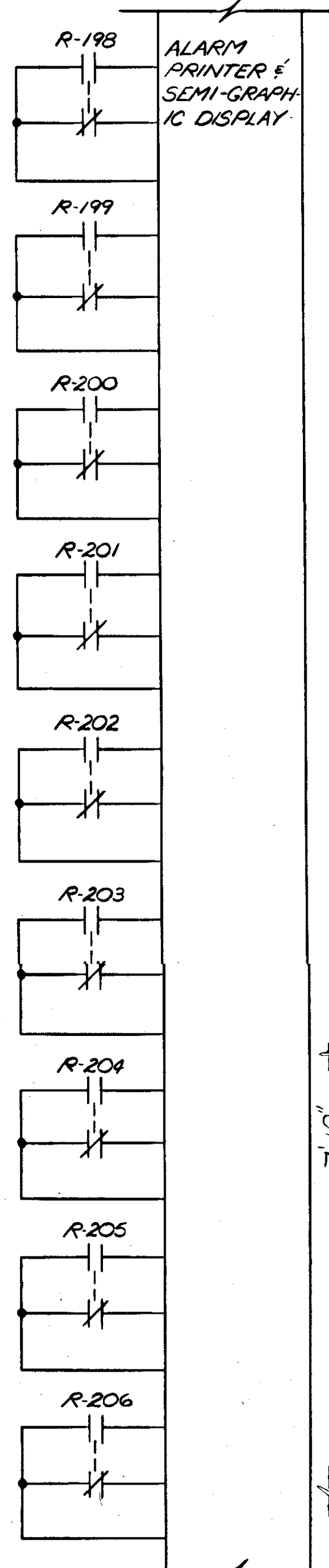
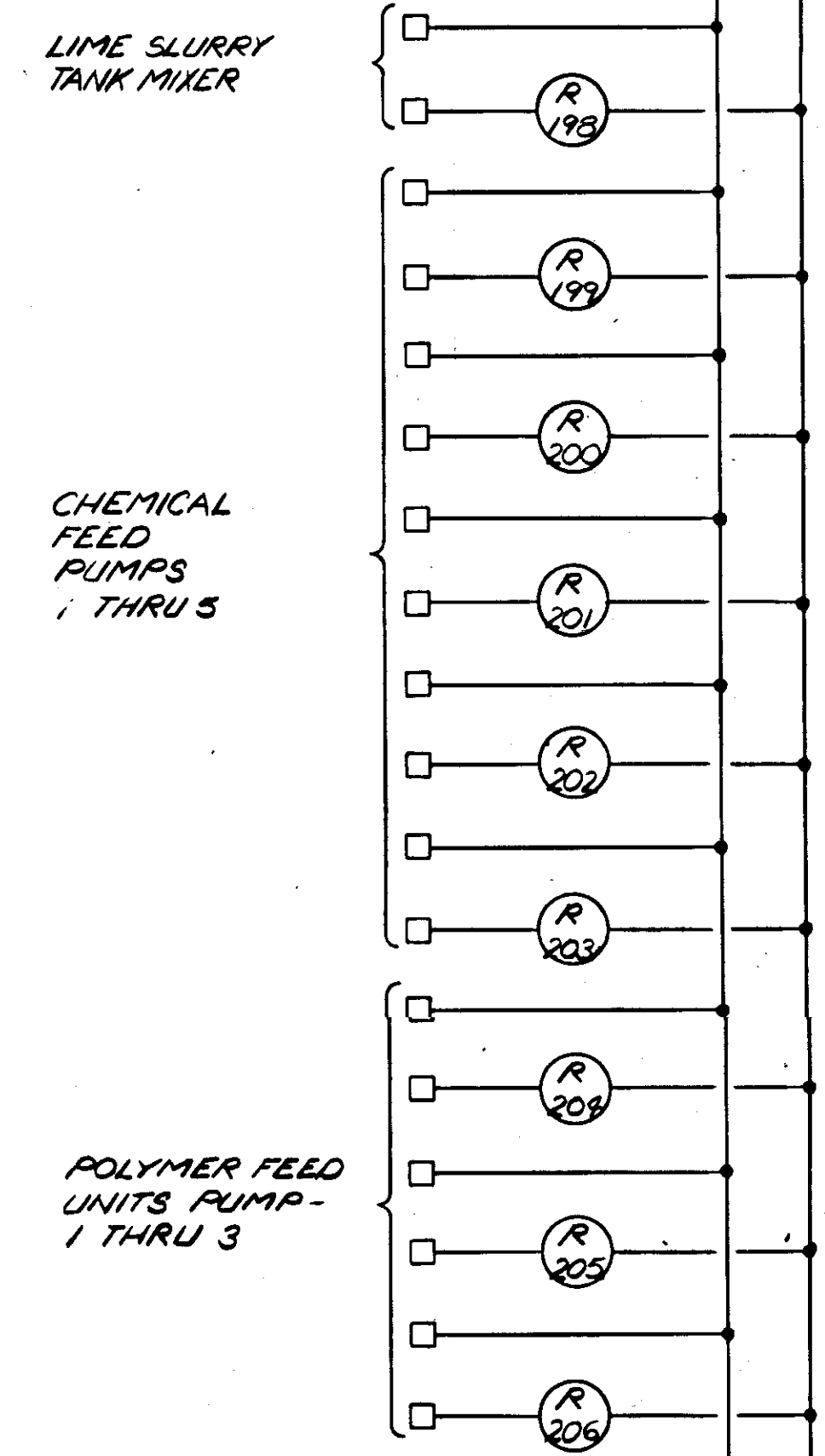
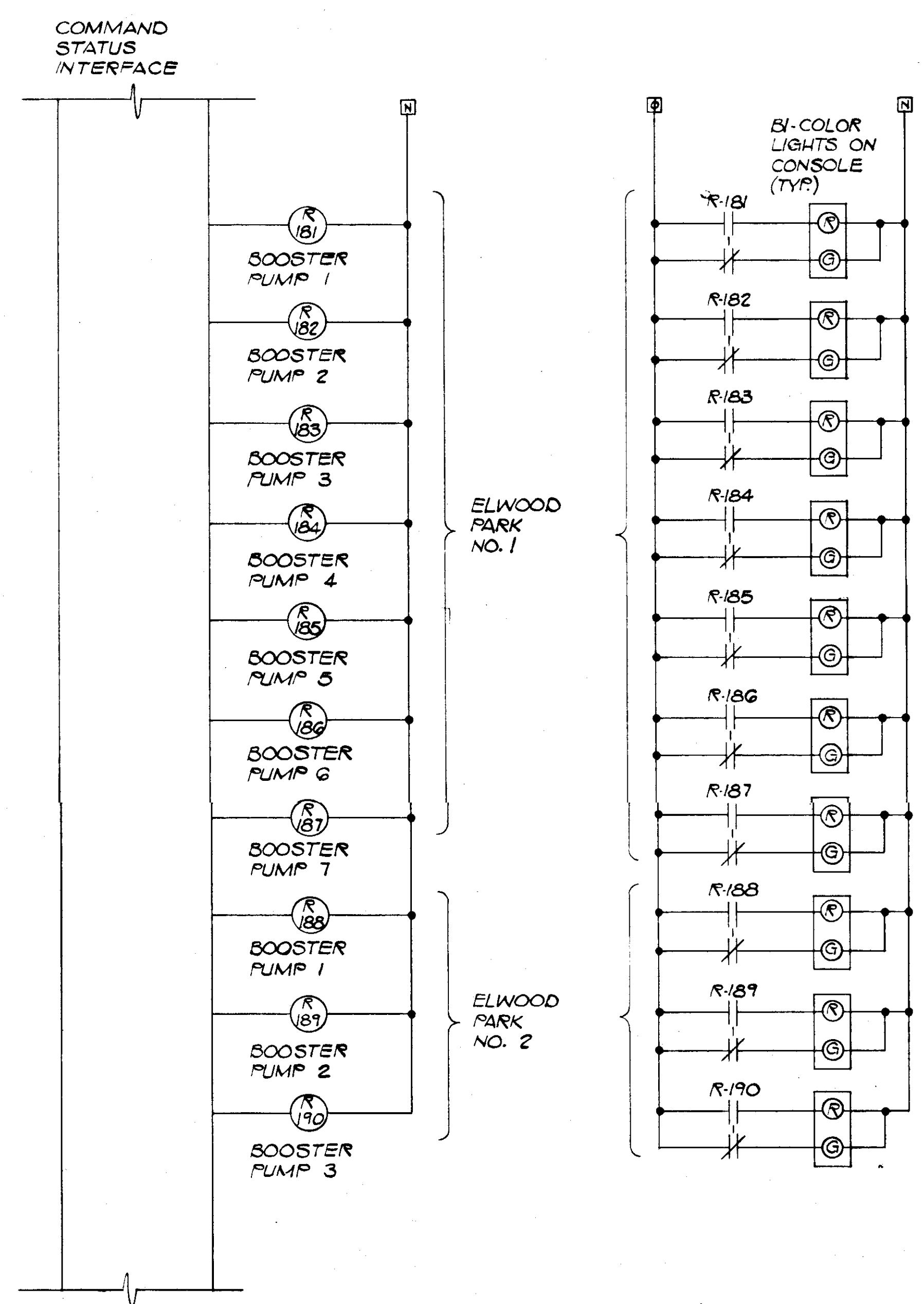
ILLUMINATED START-STOP PUSH BUTTON (TYP.) ON CONSOLE  
NOTE: SEE PLANT OPER. CONTROL CONSOLE SCHEDULE



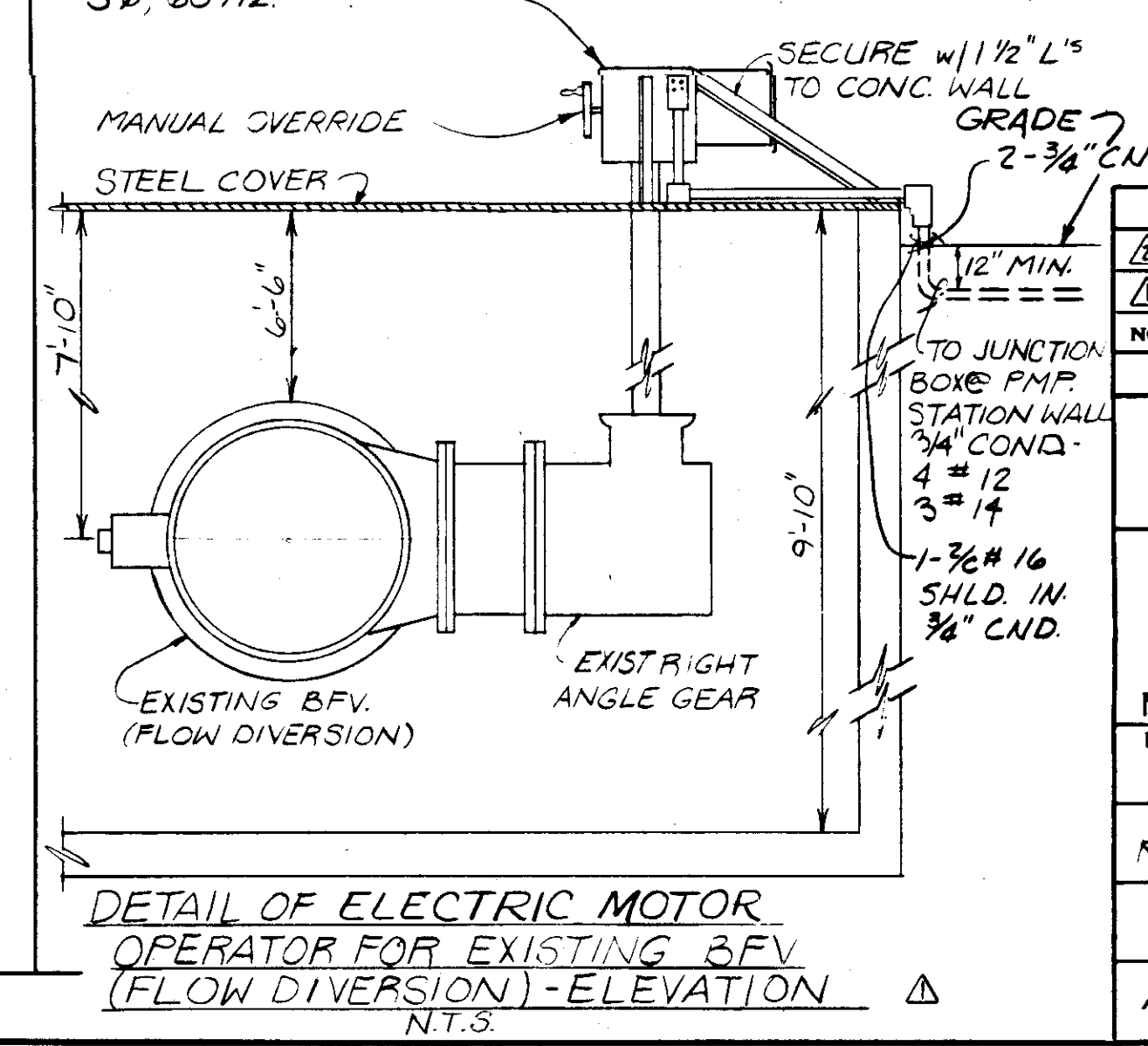
AUDIO-VISUAL ALARM LOOP-TYPICAL



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



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



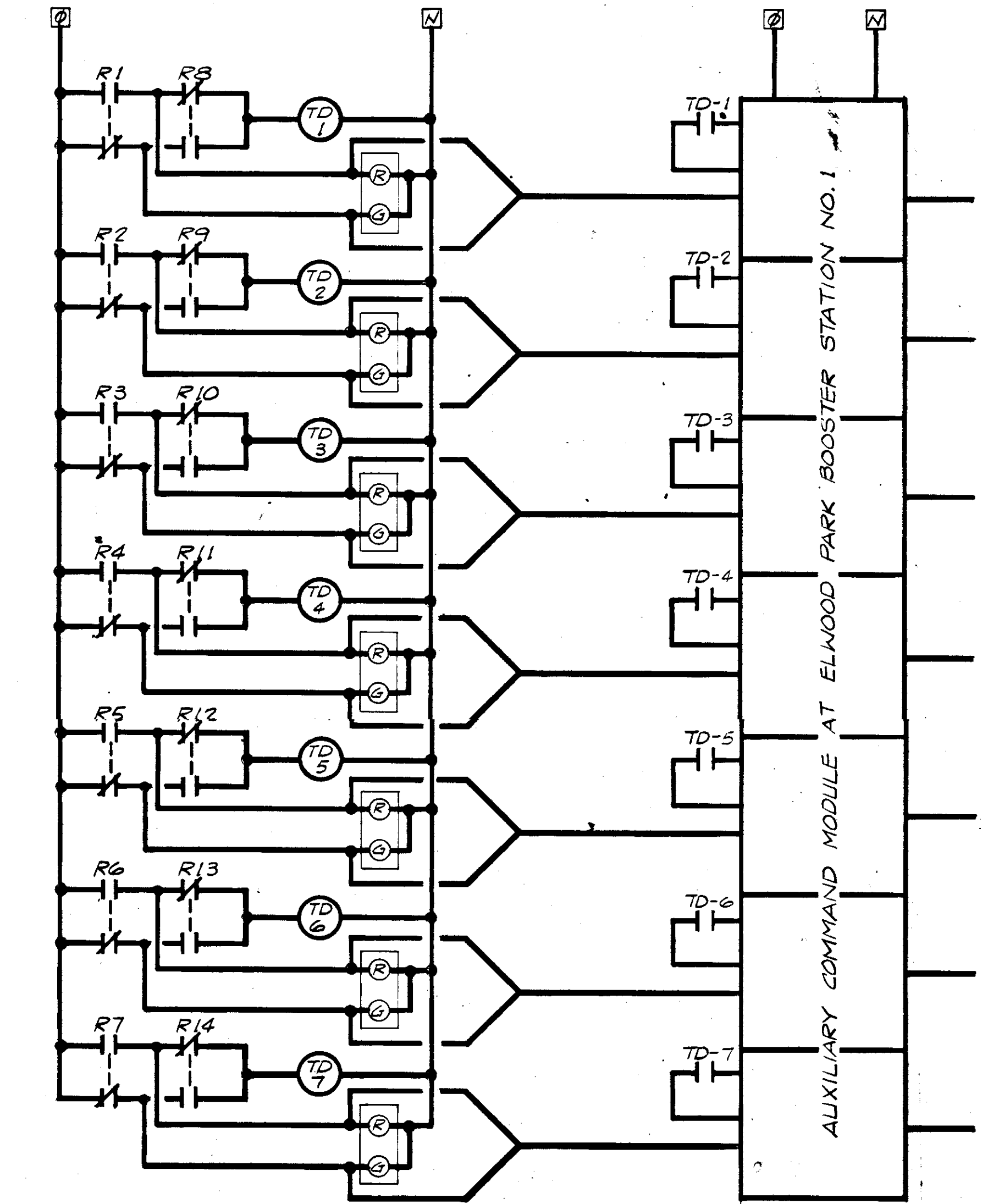
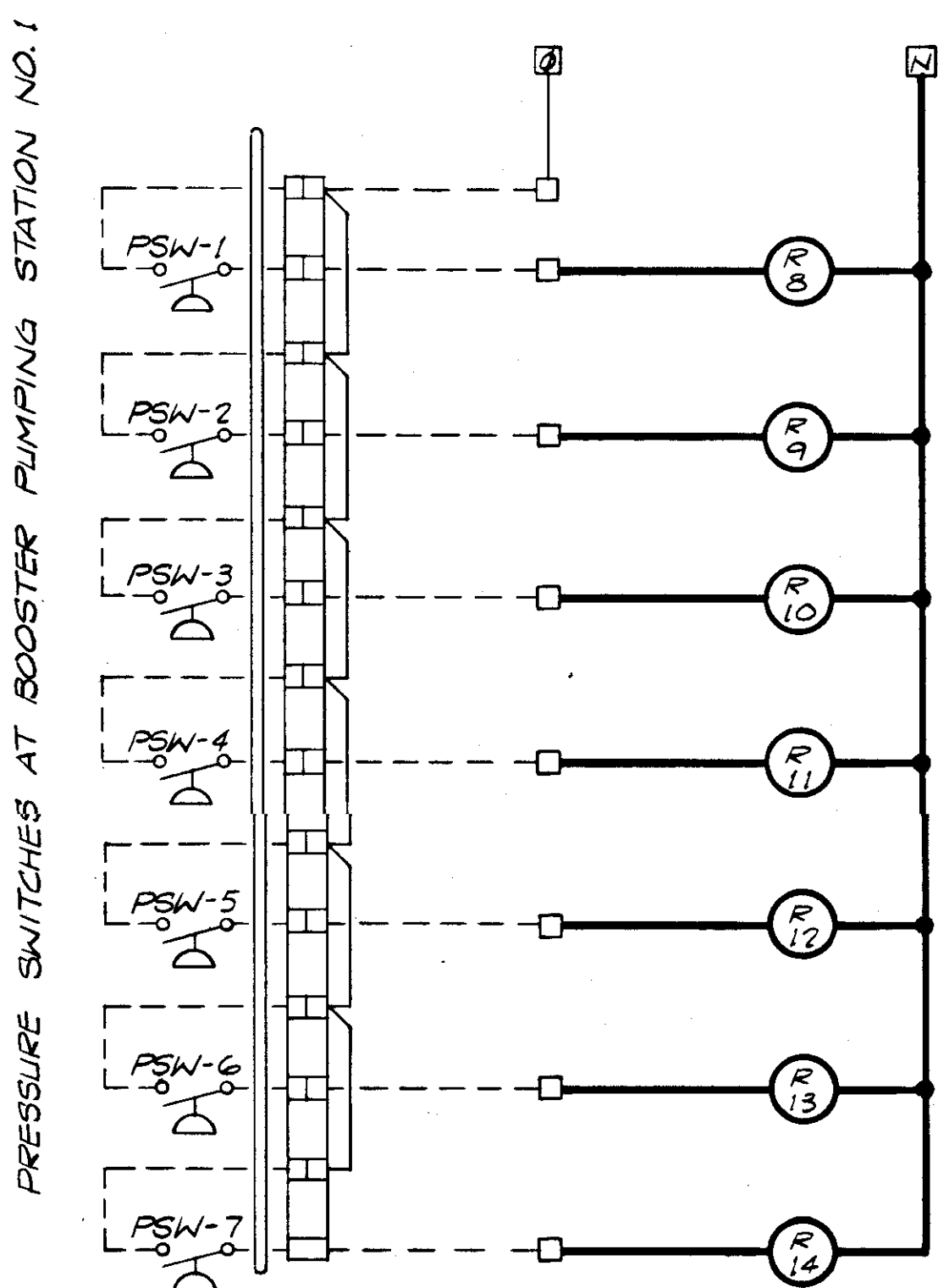
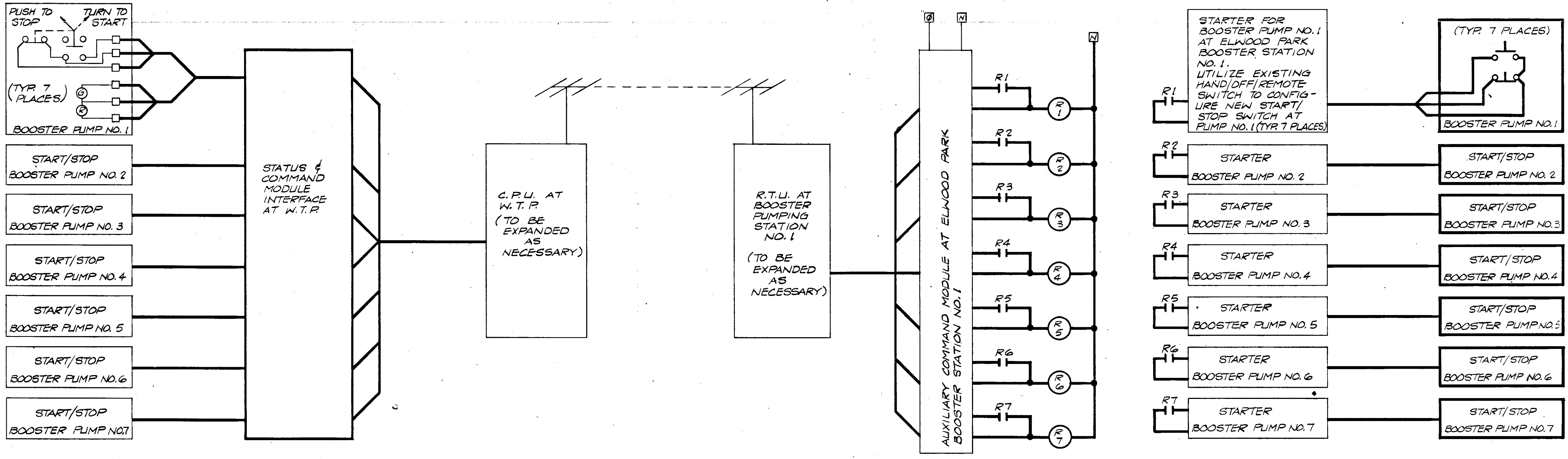
DETAIL OF ELECTRIC MOTOR OPERATOR FOR EXISTING B.F.V. (FLOW DIVERSION)-ELEVATION Δ  
N.T.S.

NO.	DATE	DESCRIPTION	BY	CHKD.
Δ 5/79		GEN. REVISIONS	AL	
Δ 1/79		AS PER REVISION #1	RWF	SJG

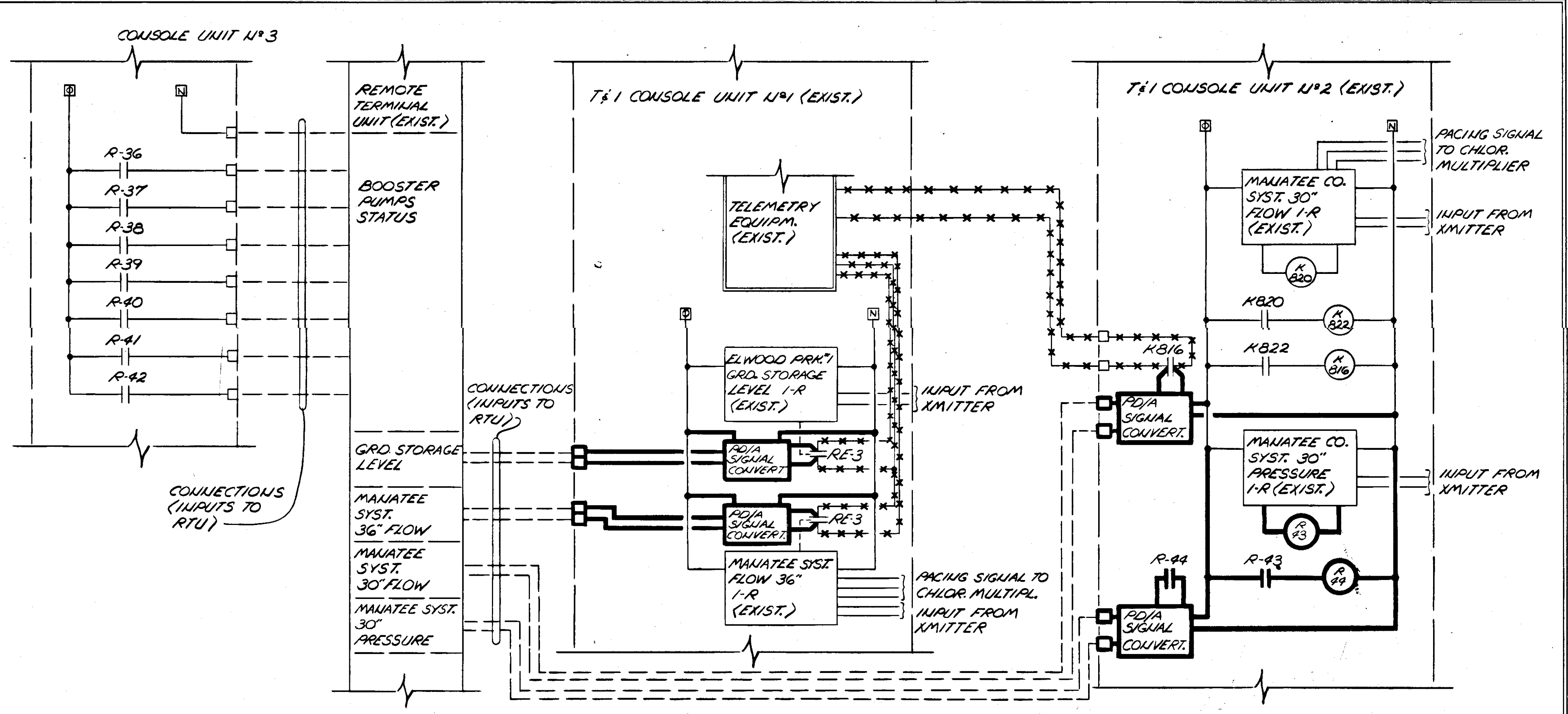
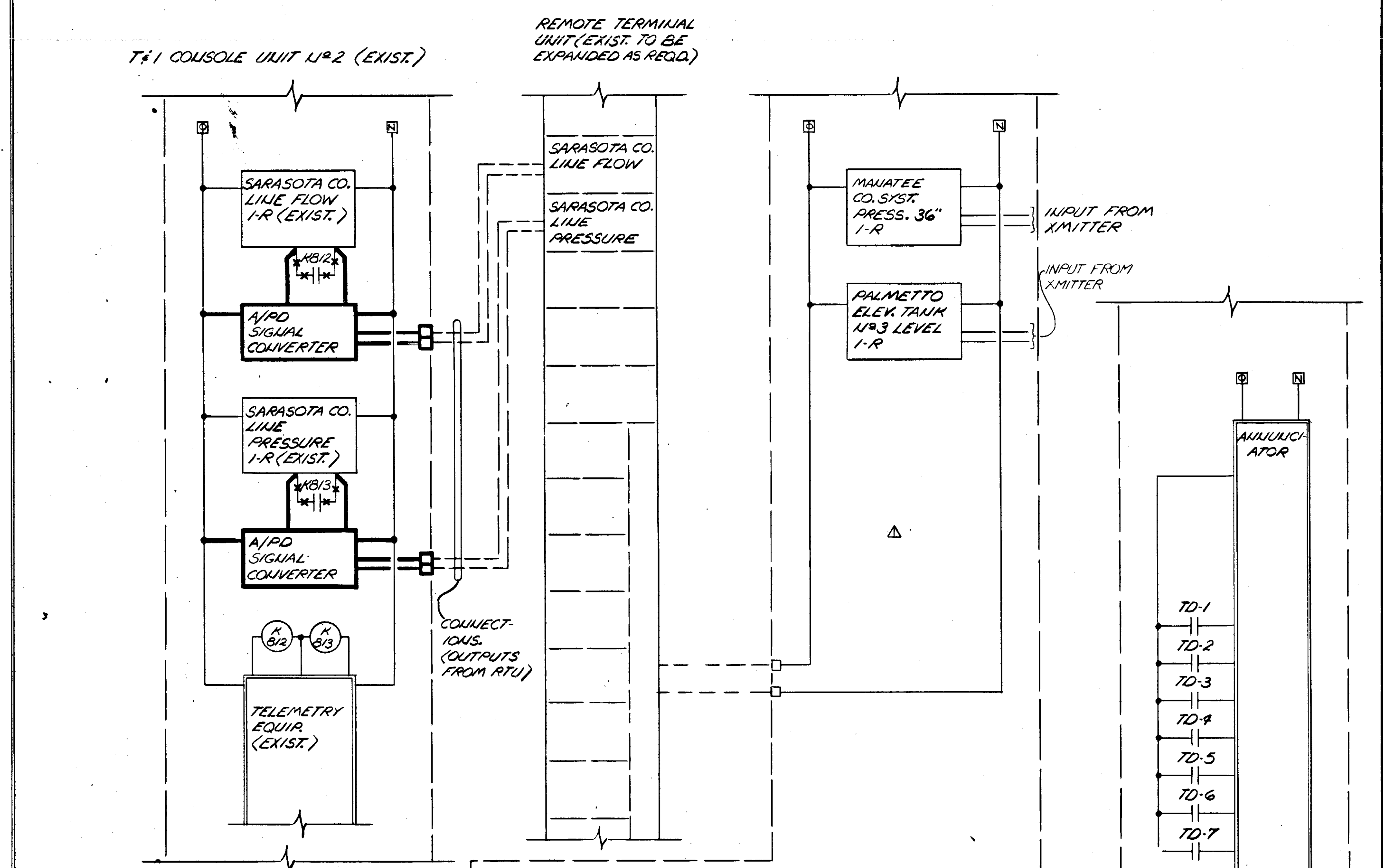
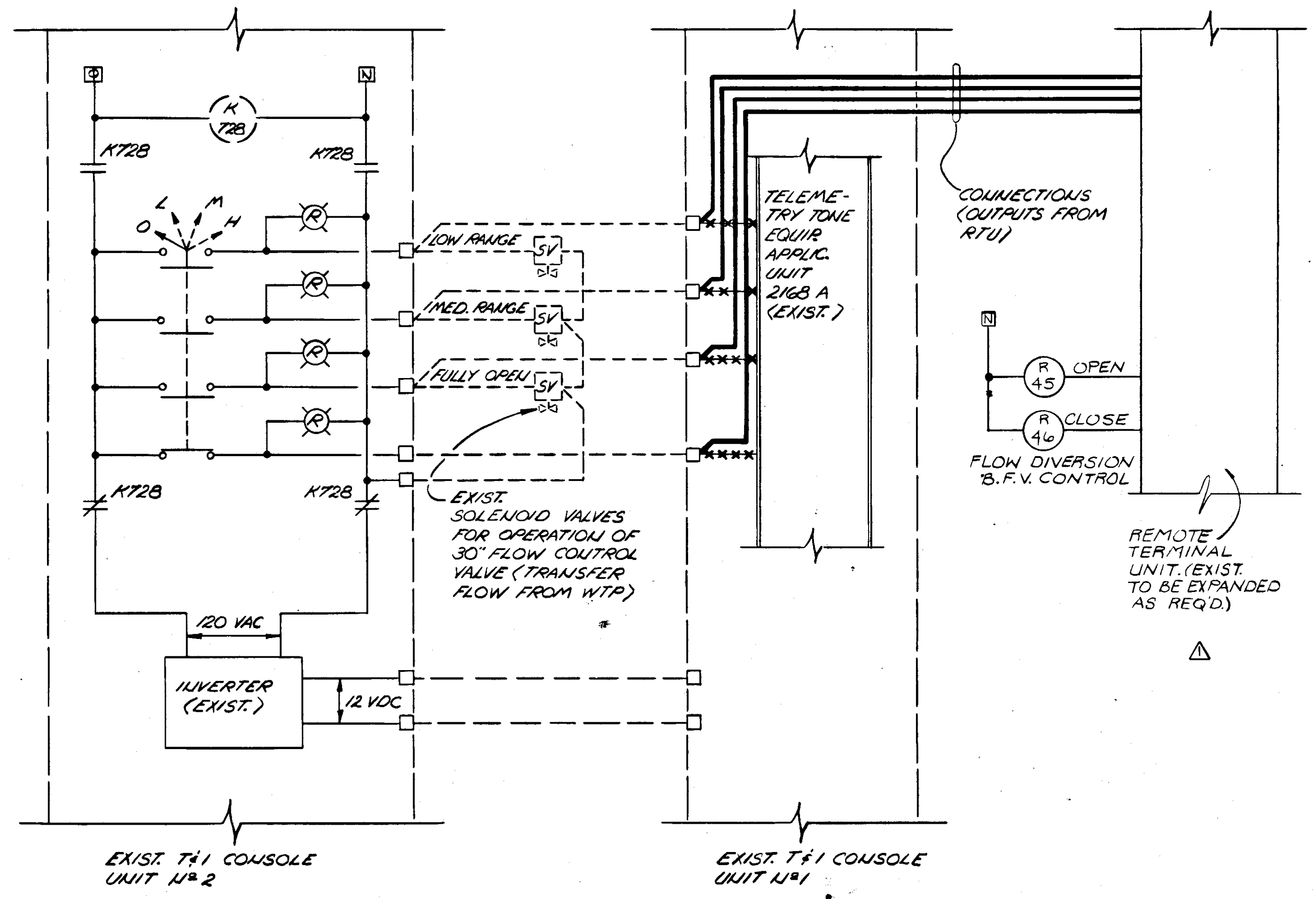
  

<b>RUSSELL &amp; AXON</b> Engineers — Planners — Architects	
WATER WORKS PROJECT WATER TREATMENT PLANT PLANT OPERATOR CONTROL CONSOLE MISCELLANEOUS - SCHEMATICS	
MANATEE CO. DESIGNED BY GBA DRAWN BY RLO CHECKED BY SJG DATE AUGUST, 1978	FILE NO. 630-761-04 SHEET I-11 No. 122 OF 130 SHEETS SCALE: NONE

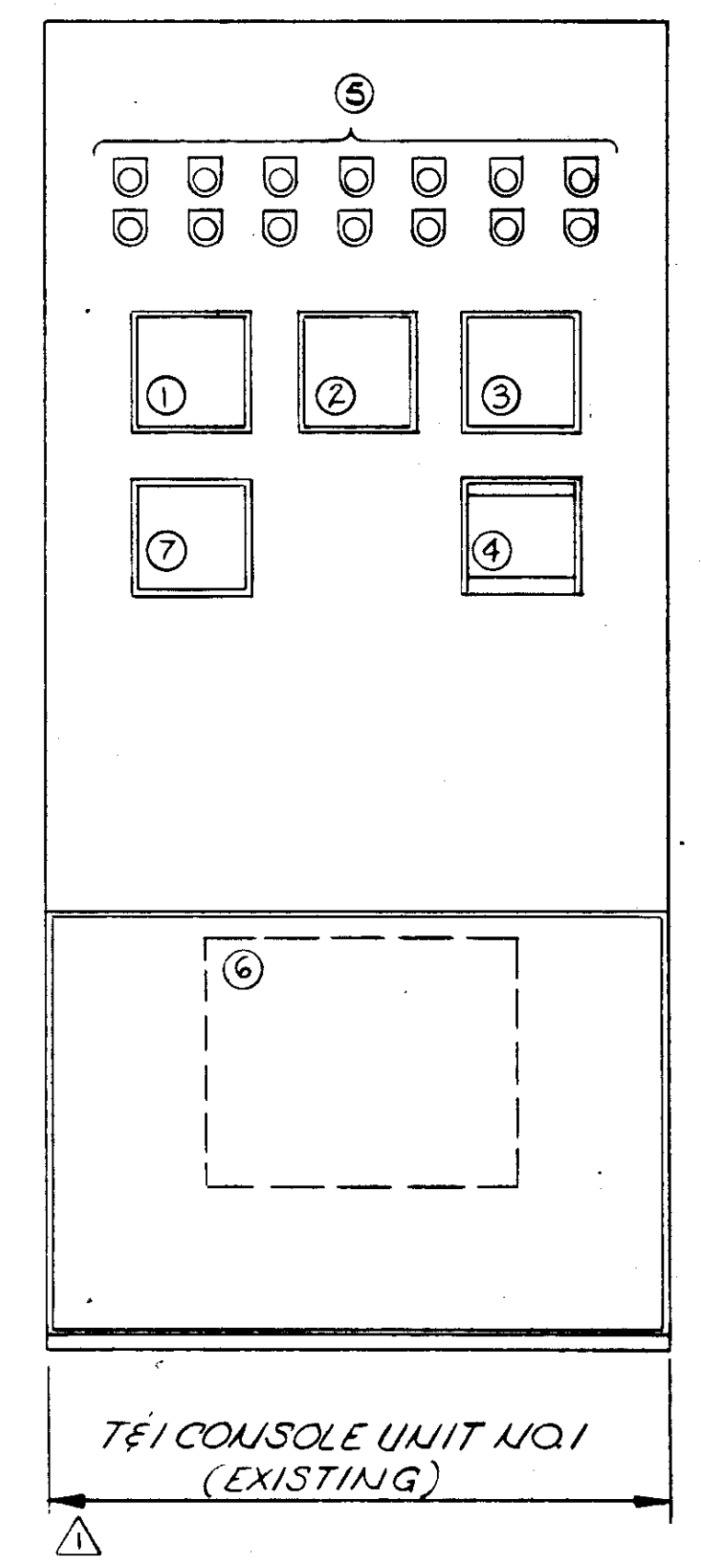
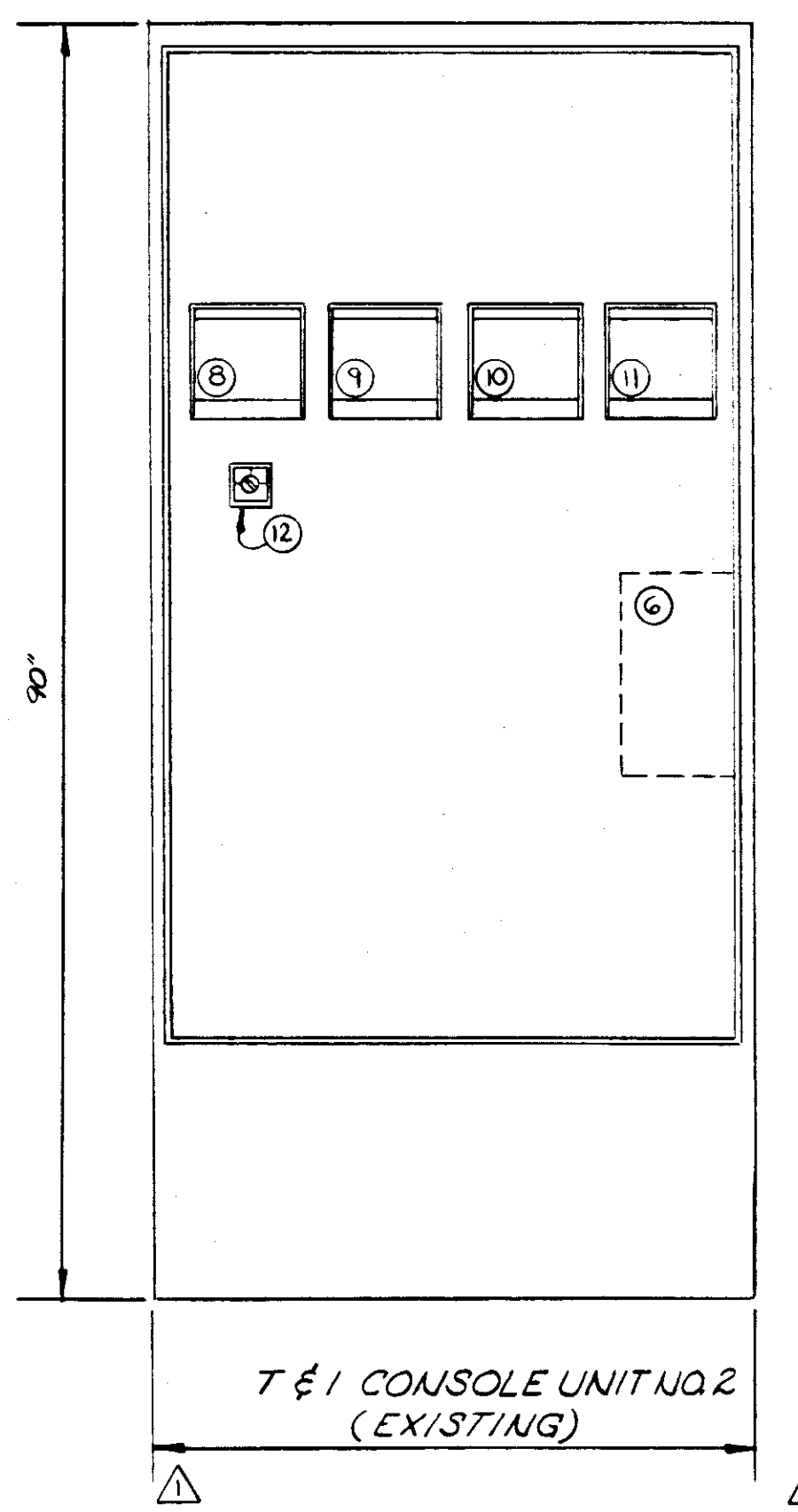




NO.	DATE	DESCRIPTION	EDS	SJG	SJG
REVISIONS					
RUSSELL & AXON Engineers - Planners - Architects					
WATER WORKS PROJECT WATER TREATMENT PLANT ELWOOD BOOSTER STA. NO. 1 PUMP CONTROL					
<b>T-12a</b> FLORIDA					
DESIGNED BY	FILE NO.	SEAL			
SJG	630-761-04				
DRAWN BY	SHEET I-12				
EDS	No. 123			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



NO.	DATE	DESCRIPTION	BY	CKD.
1179		AS PER REVISION #1	RWF	SJG
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
WATER WORKS PROJECT ELWOOD PARK BOOSTER STATION NO. 1 MODIFICATIONS & ADDITIONS TO PLANT OPERATOR CONTROL CONSOLE				
DESIGNED BY	FILE NO.	<div style="float: right; font-size: 2em; font-weight: bold;">T-23</div> SEAL FLORIDA		
DRAWN BY	630-761-04			
CHECKED BY	SHEET 1-13 of 130 SHEETS			
DATE	SCALE: NONE			
JANUARY, 1979				

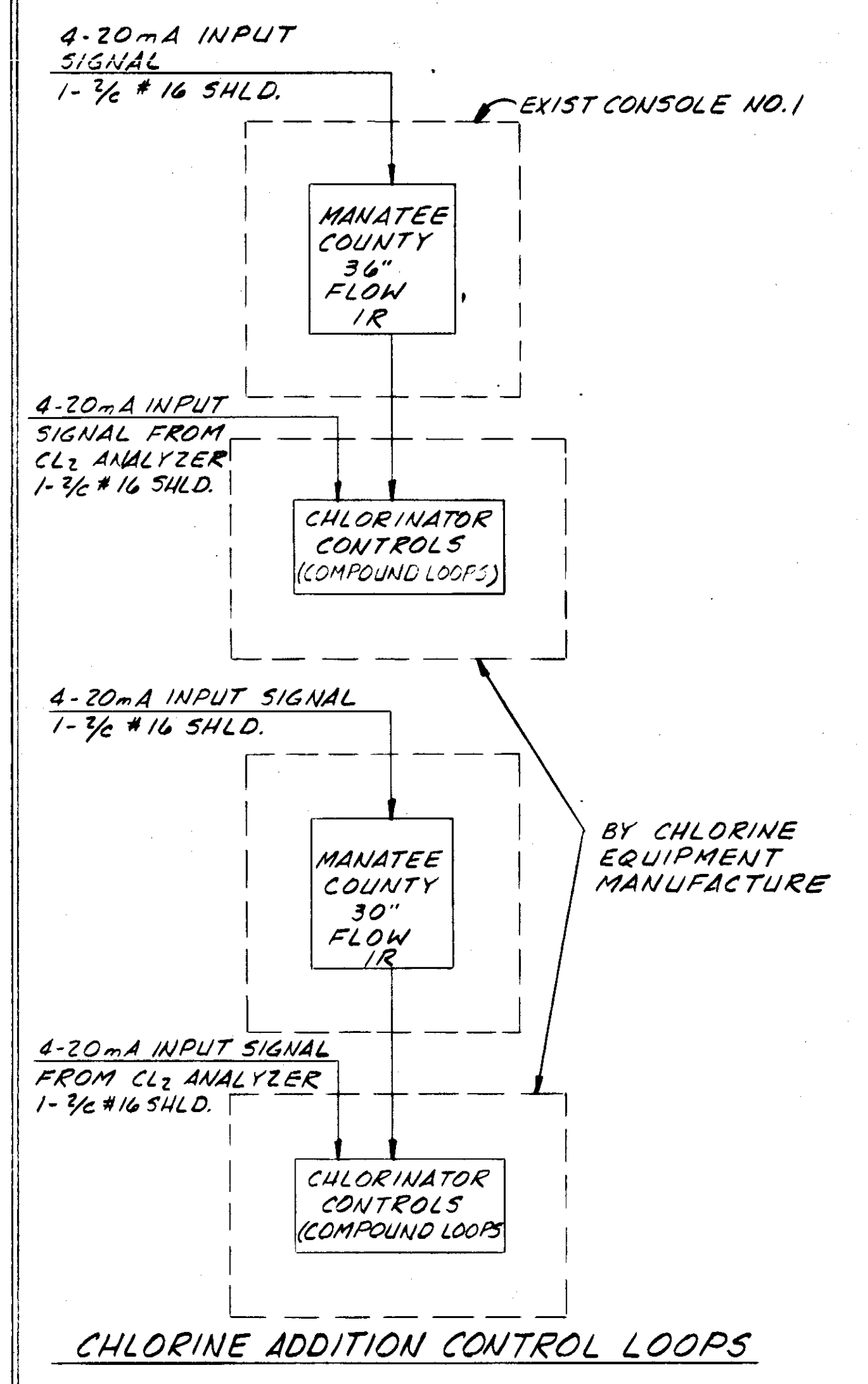


EXIST CONSOLE N°1

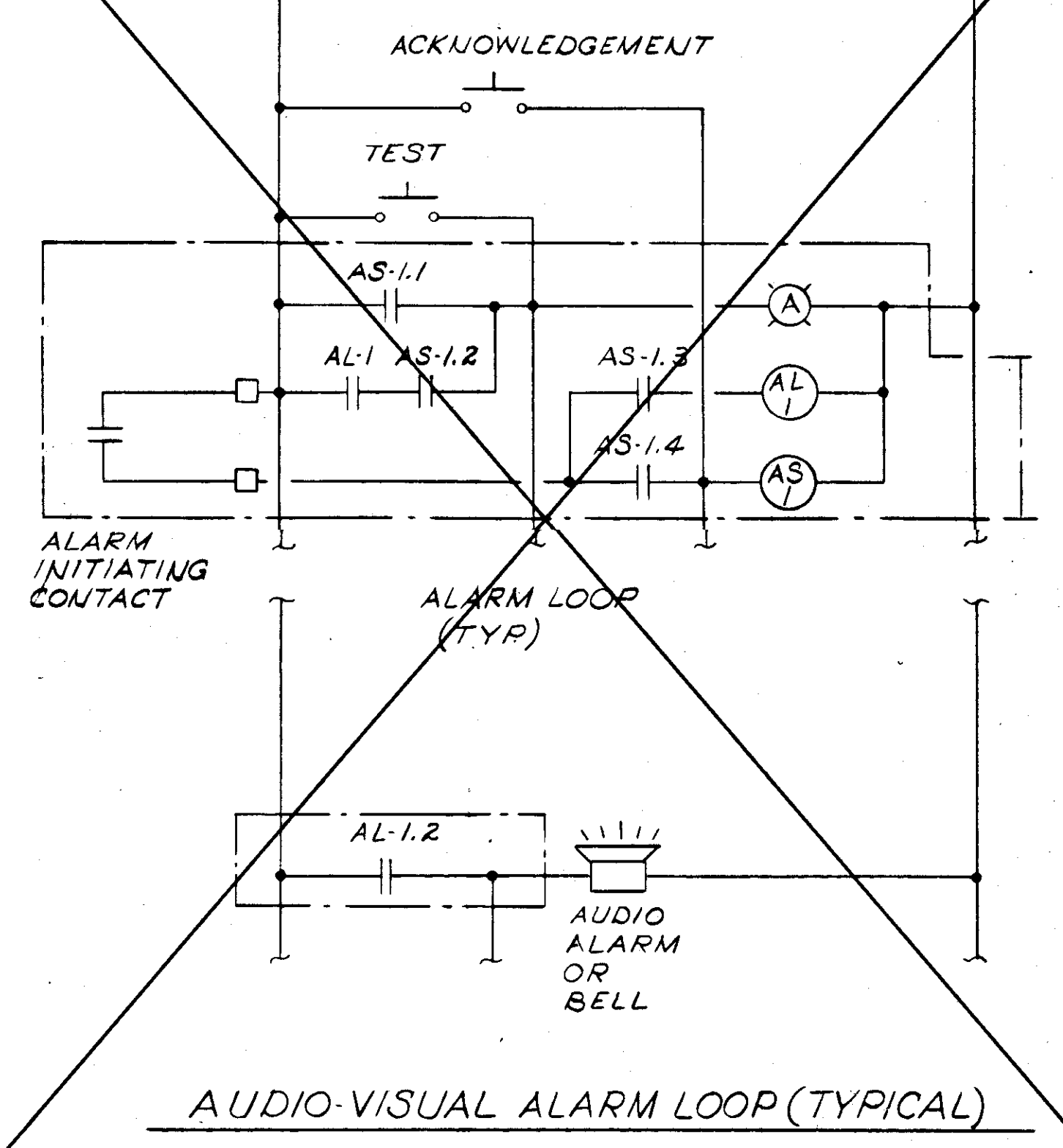
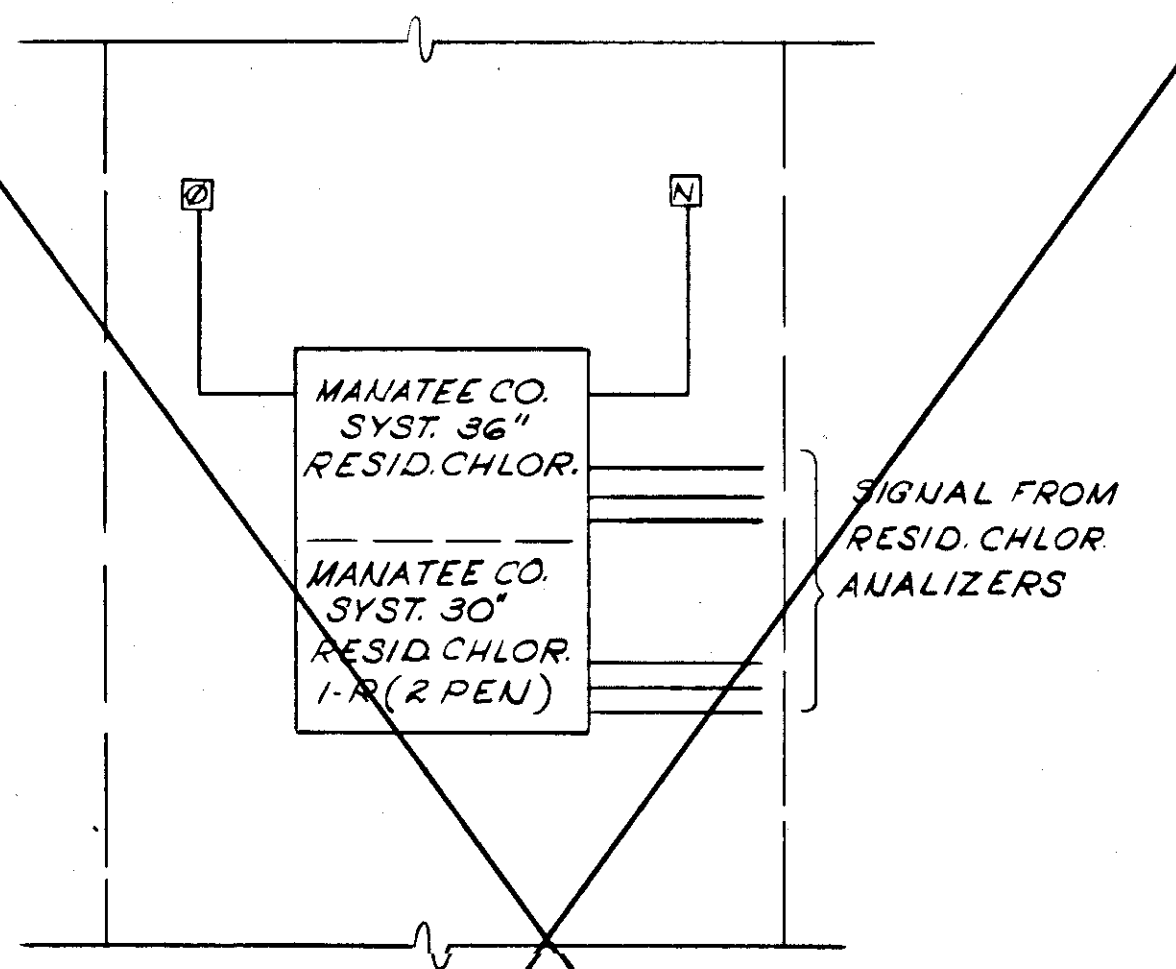
MARK	DEVICE	SERVICE	FUNCTION
1.	INDIC. REC.	GROUND STORAGE IR	LEVEL
2.	INDIC. REC.	MANATEE CO. SYST. 36" IR	FLOW
3.	INDIC. REC.	CORTEZ RD. ELEV. TANK N°1 IR	LEVEL
4.	INDIC. REC.	NW 1 <sup>ST</sup> ST. ELEV. TANK N°2 IR	LEVEL
5.	LIGHTS	ELWOOD PARK BOOSTER STA. N°1 PUMPS	STATUS
6.	PHONE EQUIP.	TELEMETRY EQUIPMENT (NOT USED)	MINI/CONTR.
7.	INDIC. REC.	FRUETTIG ELEV. TANK N°3 IR	LEVEL

EXIST CONSOLE N°2

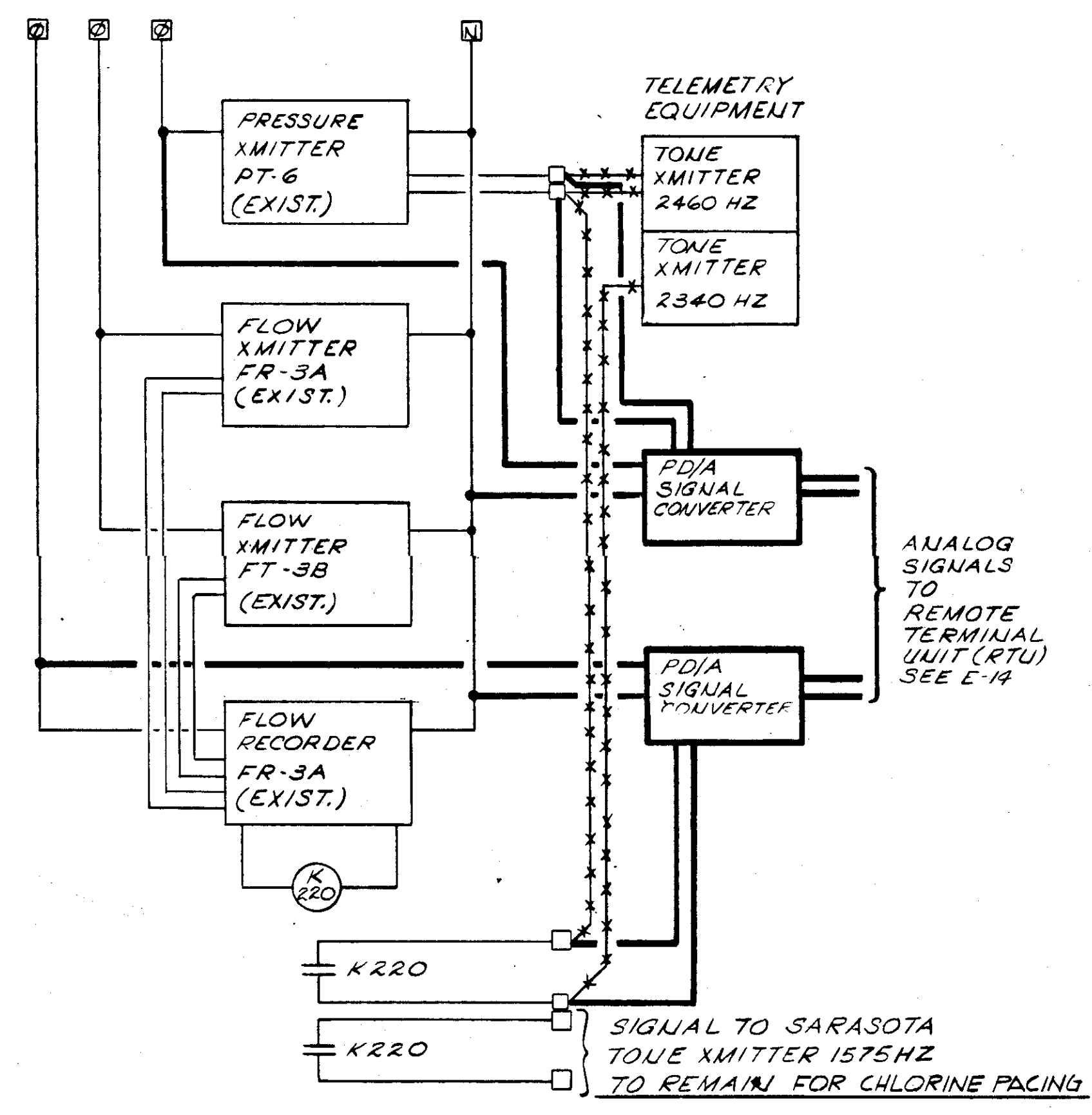
MARK	DEVICE	SERVICE	FUNCTION
8.	INDIC. REC.	SARASOTA CO. SYSTEM 30" TO MANATEE	FLOW
9.	INDIC. REC.	SARASOTA CO. SYSTEM 30" TO MANATEE	PRESSURE
10.	INDIC. REC.	SARASOTA CO. LINE	FLOW
11.	INDIC. REC.	SARASOTA CO. LINE	PRESSURE
12.	SEL. SW.	TRANSFER FLOW CONTROL VALVE	MANUAL



PROPOSED CONSOLE NO. 3



AUDIO-VISUAL ALARM LOOP (TYPICAL)



SARASOTA COUNTY LINE METERING STA. MODIFICATIONS AND ADDITIONS - SCHEMATIC

NO.	DATE	DESCRIPTION	BY	CHKD.
5/79		ADD CHLOR. CONTROL LOOPS	AL	
JAN 79		AS PER REVISION #1	SJG	

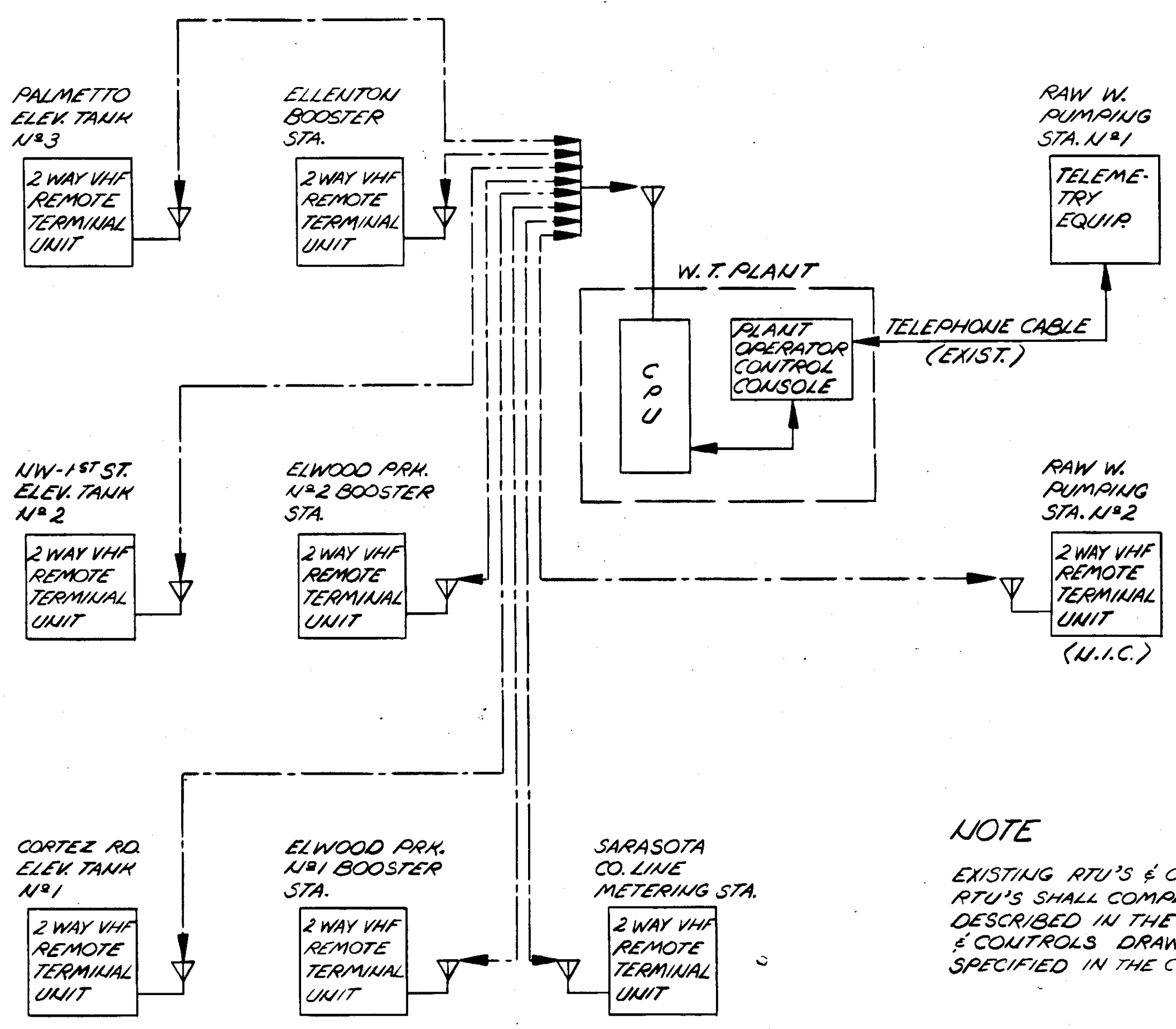
**REVISIONS**

**RUSSELL & AXON**  
Engineers - Planners - Architects

**WATER WORKS PROJECT**  
ELWOOD PARK BOOSTER STATION NO. 1  
PLANT OPERATOR CONTROL CONSOLES  
LAYOUT & MISCELLANEOUS CONTROLS

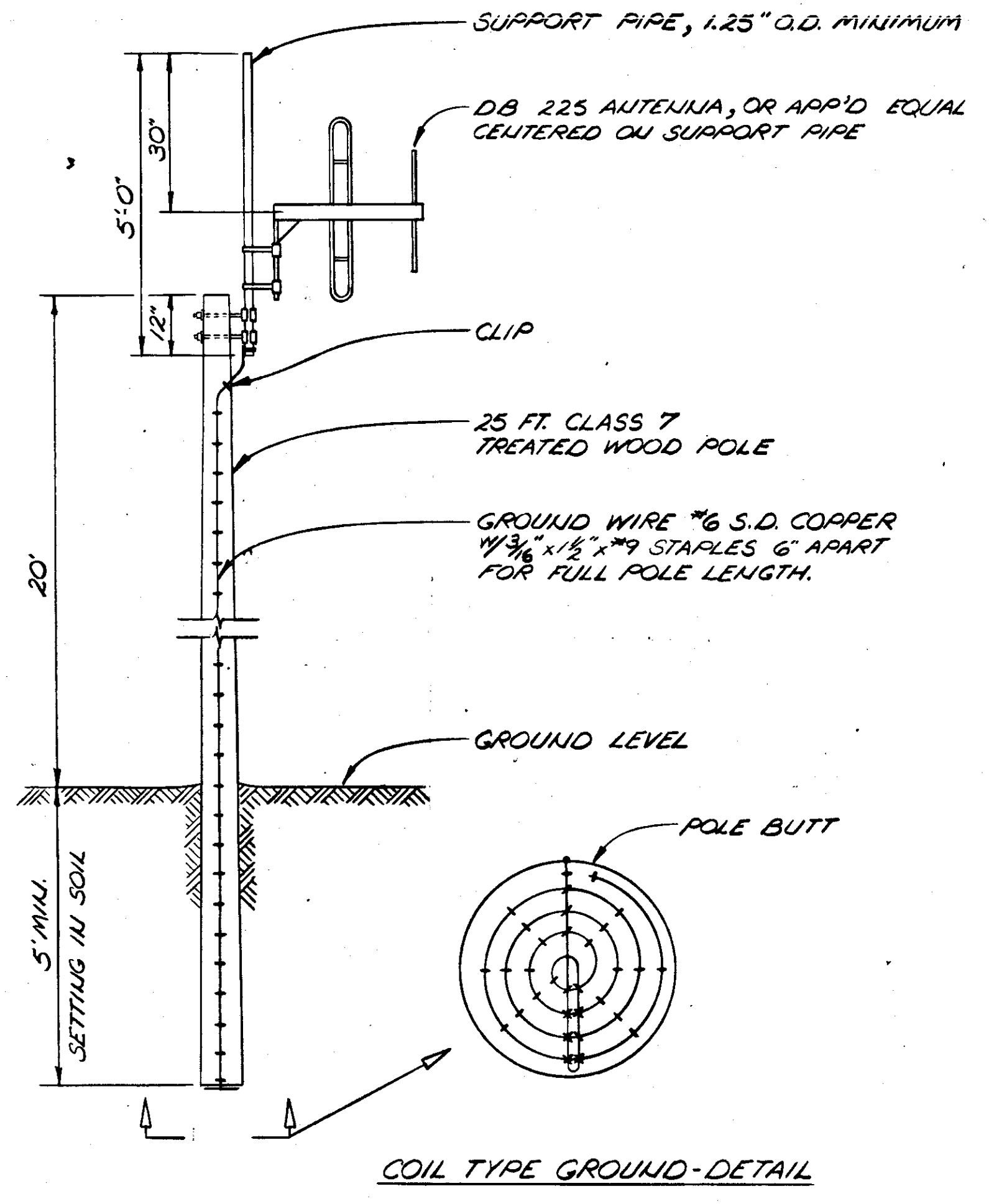
MANATEE CO. T-124  
FLORIDA

DESIGNED BY GBA	FILE NO. 630-761-04	<b>SEAL</b>
DRAWN BY FRM	SHEET 1-14	
CHECKED BY S JG	of 130 No. 125 SHEETS	
DATE AUGUST, 1978	SCALE: NONE	



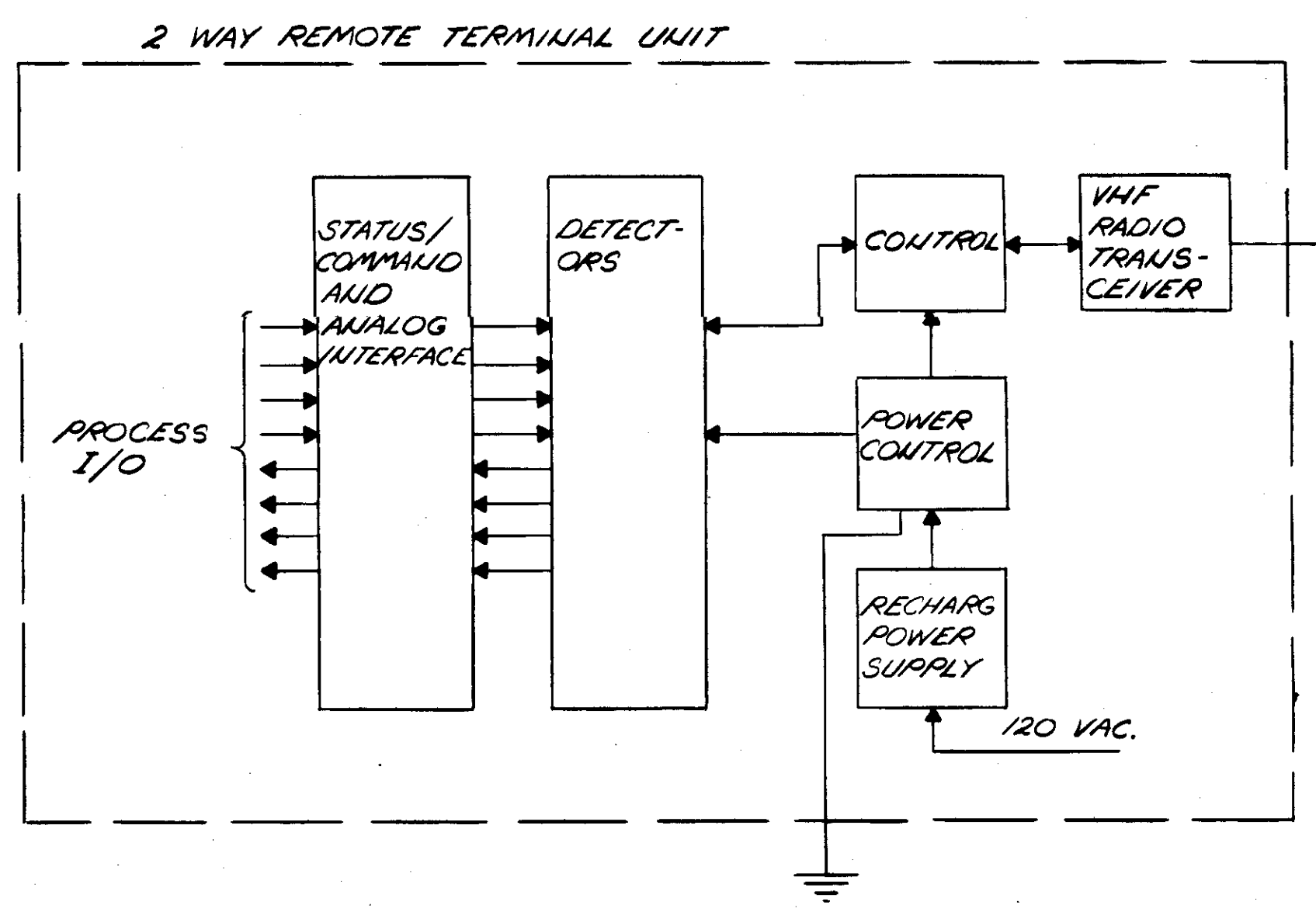
**NOTE**  
 EXISTING RTU'S & CPU, & NEW RTU'S SHALL COMPLY WITH REQUIREMENTS DESCRIBED IN THE INSTRUMENTATION & CONTROLS DRAWINGS AND AS SPECIFIED IN THE CONTRACT DOCUMENTS.

COMMUNICATION SYSTEM - BLOCK DIAGRAM

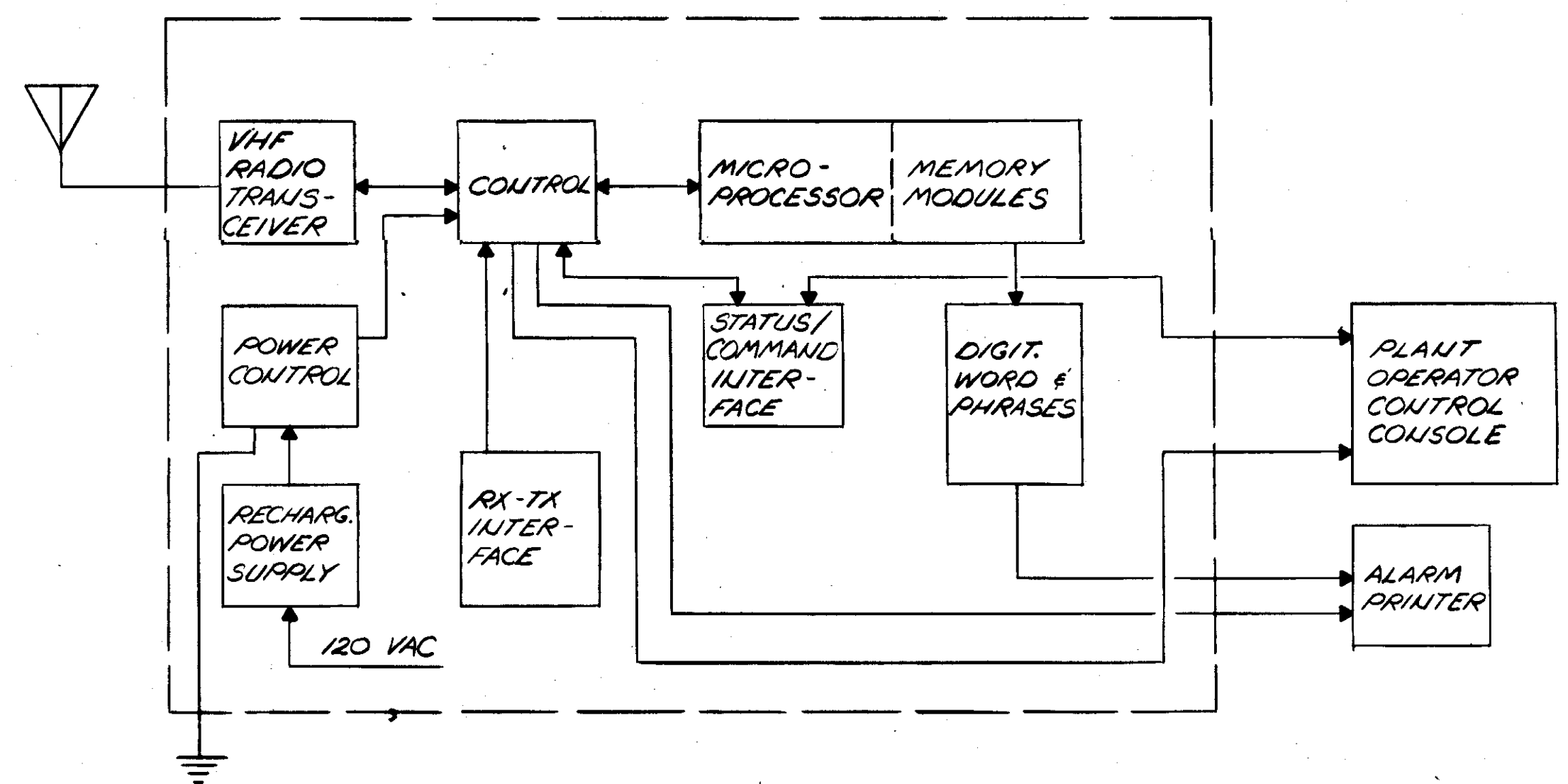


ANTENNA FOR REMOTE TERMINAL UNIT (TYR) MOUNTING ARRANGEMENT

**NOTE:**  
 CONTRACTOR SHALL VERIFY ALL MATERIALS AND COMPONENTS W/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. T-125 FLORIDA				
DESIGNED BY GBA	FILE NO. 630-761-04	SEAL		
DRAWN BY DCE	SHEET I-15 No. 126			
CHECKED BY SJG	of 130 SHEETS			
DATE AUGUST, 1978	SCALE: NONE			

**CORTEZ RD. ELEVATED TANK N°1 - RTU N°1**

SIGNALS XMITTED	SIGNALS RECEIVED
POWER FAILURE	COMMAND-OPEN MOTOR OP VALVE
3 ADDITIONAL SIGNALS FOR FUTURE USE	COMMAND-CLOSE MOTOR OP VALVE
ELEV TANK - LEVEL	2 ADD. COMMANDS FUTURE USE

**NW-1<sup>ST</sup> ST. ELEVATED TANK N°2 - RTU N°2**

SIGNALS XMITTED	SIGNALS RECEIVED
POWER FAILURE	COMMAND-OPEN MOTOR OP VALVE
3 ADDITIONAL SIGNALS FOR FUTURE USE	COMMAND-CLOSE MOTOR OP VALVE
ELEV TANK - LEVEL	2 ADD. COMMANDS FUTURE USE

**PALMETTO ELEVATED TANK N°3 - RTU N°3**

SIGNALS XMITTED	SIGNALS RECEIVED
POWER FAILURE	COMMAND-OPEN MOTOR OP VALVE
3 ADDITIONAL SIGNALS FOR FUTURE USE	COMMAND-CLOSE MOTOR OP VALVE
ELEV TANK - LEVEL	2 ADD. COMMANDS FUTURE USE

**SARASOTA CO. LINE METERING STA. - RTU N°4**

SIGNALS XMITTED	SIGNALS RECEIVED
POWER FAILURE	4 COMMAND SIGNALS
3 ADDITIONAL SIGNALS FOR FUTURE USE	FOR FUTURE USE
COUNTY LINE - FLOW	
COUNTY LINE - PRESSURE	

**ELLENTON BOOSTER STATION - RTU N°5**

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

**ELWOOD PRK. BOOSTER STA. N°1 - RTU N°6**

SIGNALS XMITTED	SIGNALS RECEIVED
POWER FAILURE	FLOW VALVE - LOW RANGE
PUMP N°1 - STATUS	MEDIUM RANGE
N°2 -	HIGH RANGE
N°3 -	
N°4 -	
N°5	PUMP NO.1 START/STOP
N°6	NO.2
N°7	NO.3
	NO.4
LOW LEVEL ALARM GRD STG.	NO.5
HIGH LEVEL ALARM GRD STG.	NO.6
	NO.7
	10 ADDITIONAL COMMAND SIGNALS - FUTURE USE
GROUND STORAGE - LEVEL	CORTEZ RD. EL. TANK - LEVEL
MANATEE CO. 36" - FLOW	NW-1 <sup>ST</sup> ST. EL. TANK - LEVEL
30" - FLOW	SARASOTA CO. LINE - FLOW
30" - PRESSURE	- PRESSURE
CHLORINE RESIDUAL (2 SIGNALS)	PALMETTO ELEV TANK LEVEL
B.F.V. DIVERSION VALV POSITION	FLOW DIV. B.F.V. POSITIONER

**ELWOOD PRK. BOOSTER STA. N°2 - RTU N°7**

SIGNALS XMITTED	SIGNALS RECEIVED
POWER FAILURE	4 COMMAND SIGNALS
PUMP N°1 - STATUS	FOR FUTURE USE
N°2 -	
N°3 -	
1 ADDITIONAL SIGNAL FOR FUTURE USE	
	SARASOTA CO. LINE - FLOW
STATION EFFLUENT FLOW	- PRESSURE
RESIDUAL CHLORINE	
SUCTION PRESSURE	

**WATER TREATMENT PLANT - CPU**

SIGNALS XMITTED	SIGNALS RECEIVED
ELWD. PRK. N°1 FLOW VALVE LOW	RAW W. P. STA. N°2 - PWR. FAIL.
	PUMPS 1-3 STATUS
	ELWD. PRK. N°1 - PWR. FAIL.
	PUMPS 1-7 STATUS
	ELWD. PRK. N°2 - PWR. FAIL.
	PUMPS 1-3 STATUS
	ELLENTON B. STA. - PWR. FAIL.
	PUMPS 1,2 - STATUS
	SARASOTA CO. LINE - PWR. FAIL.
RAW W. P. STA. NO.2 PUMPS 1-3 ST/SP	CORTEZ RD. ELEV. TANK -
	NW-1 <sup>ST</sup> ST. ELEV. TANK -
	PALMETTO ELEV. TANK -
	ELWD. PRK. N°1 - GRD. STOR. LL ALARM
	ELWD. PRK. N°1 - GRD. STOR. H. ALARM
CORTEZ RD. EL. TANK - LEVEL	ELWD. PRK. N°1 GRD. STRG. - LEVEL
NW-1 <sup>ST</sup> ST. EL. TANK - LEVEL	
PALMETTO EL. TANK - LEVEL	MANATEE CO. 36" - FLOW
ELLENTON B. STA. - PUMP SPEED	30" - FLOW
	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
	- PRESSURE
	ELLENTON B. STA. - FLOW
	CORTEZ RD. EL. TANK - LEVEL
	NW-1 <sup>ST</sup> ST. EL. TANK - LEVEL
	PALMETTO EL. TANK - LEVEL
	FLOW DIVERSION B.F.V. POSITION
	ELWD. PRK. N°1 CL <sub>2</sub> RESIDUAL (2)
	ELLENTON SUCTION PRESS.
	ELLENTON DISCH. PRESS.
	ELLENTON BOOSTER STA. CL <sub>2</sub> RESIDUAL
	LAKE LEVEL

**W.T. PLANT - INPUTS TO ALARM PRINTER**

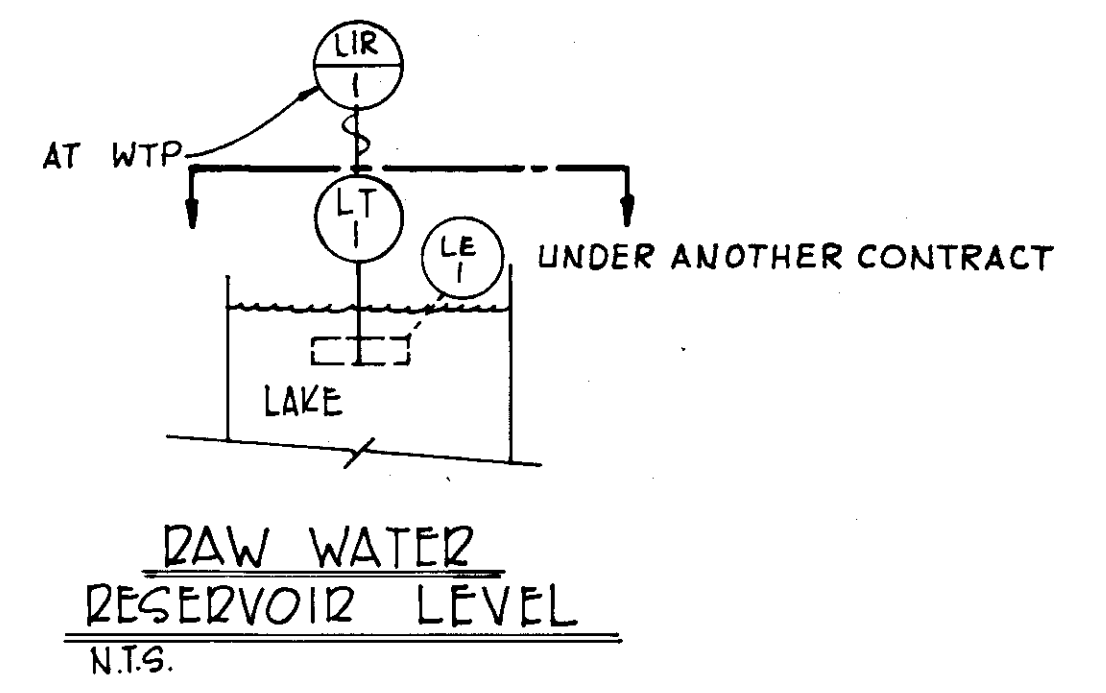
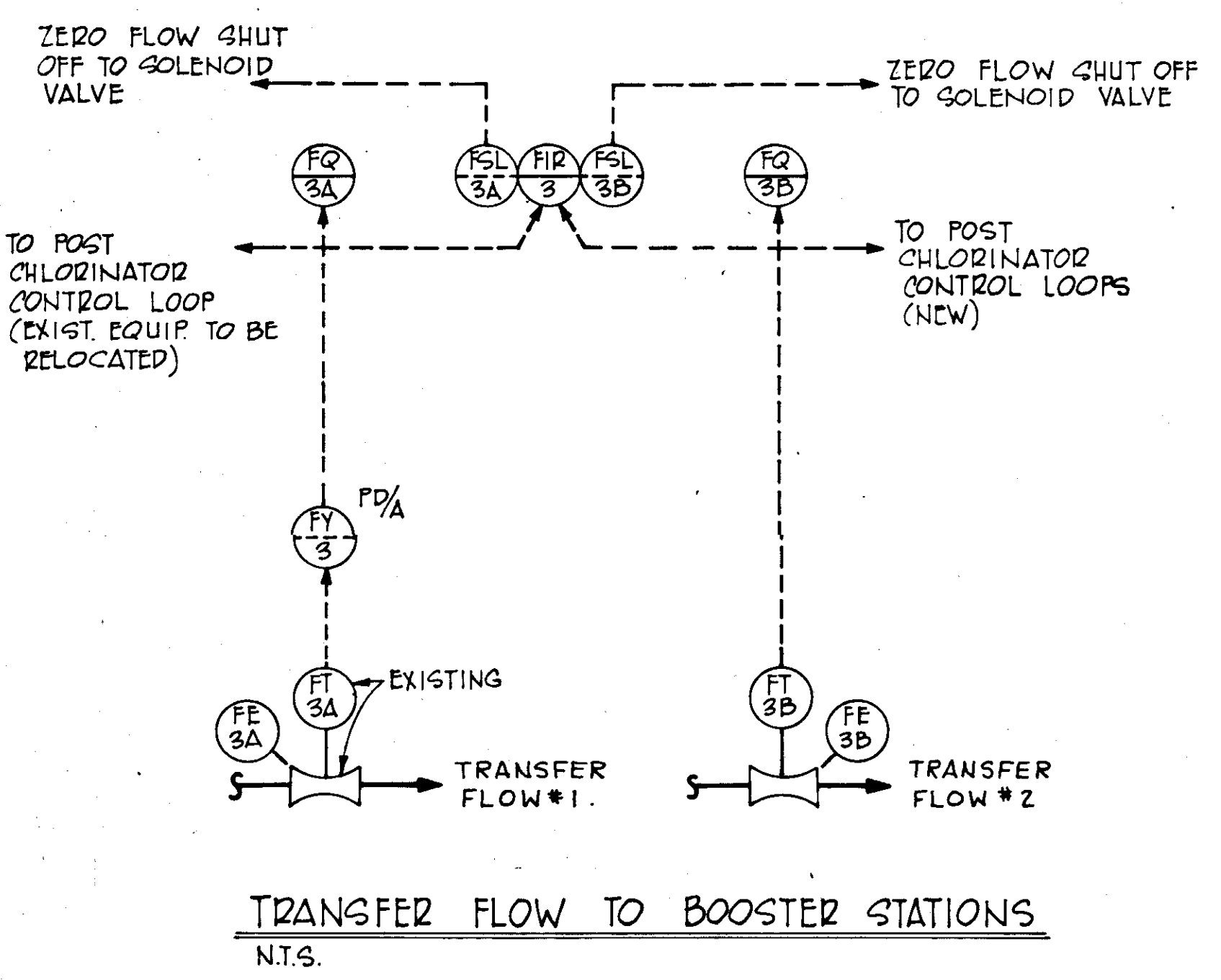
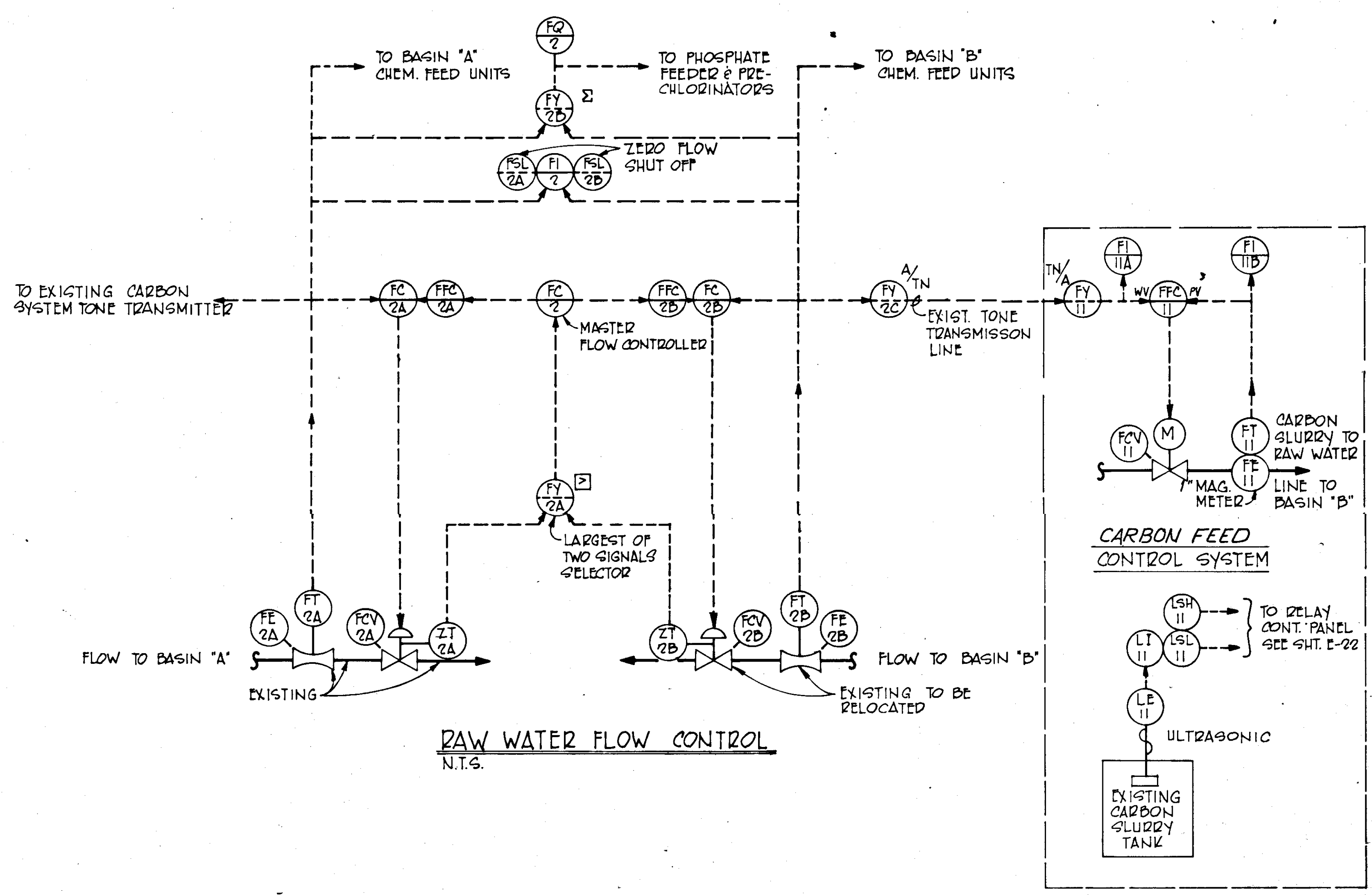
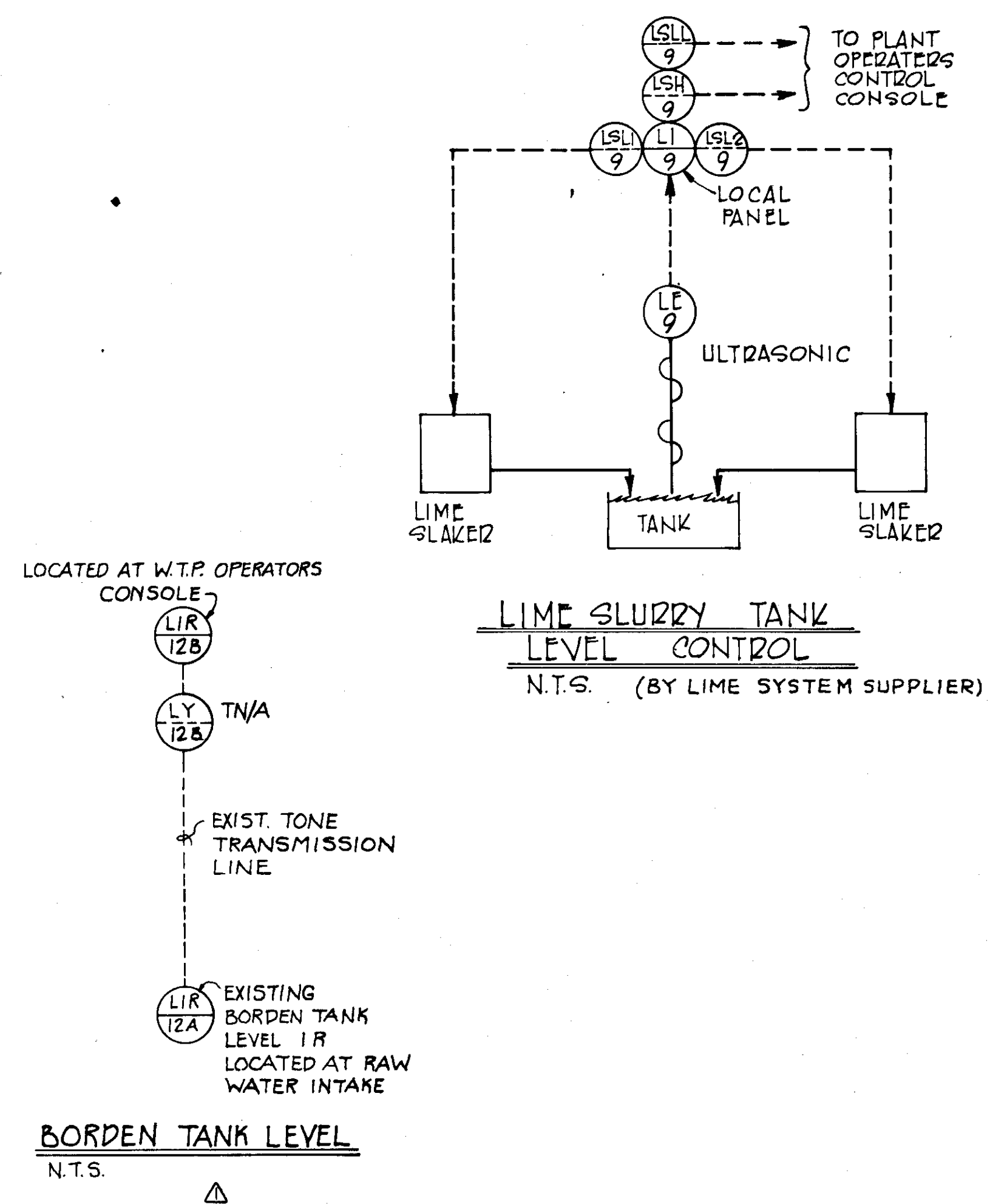
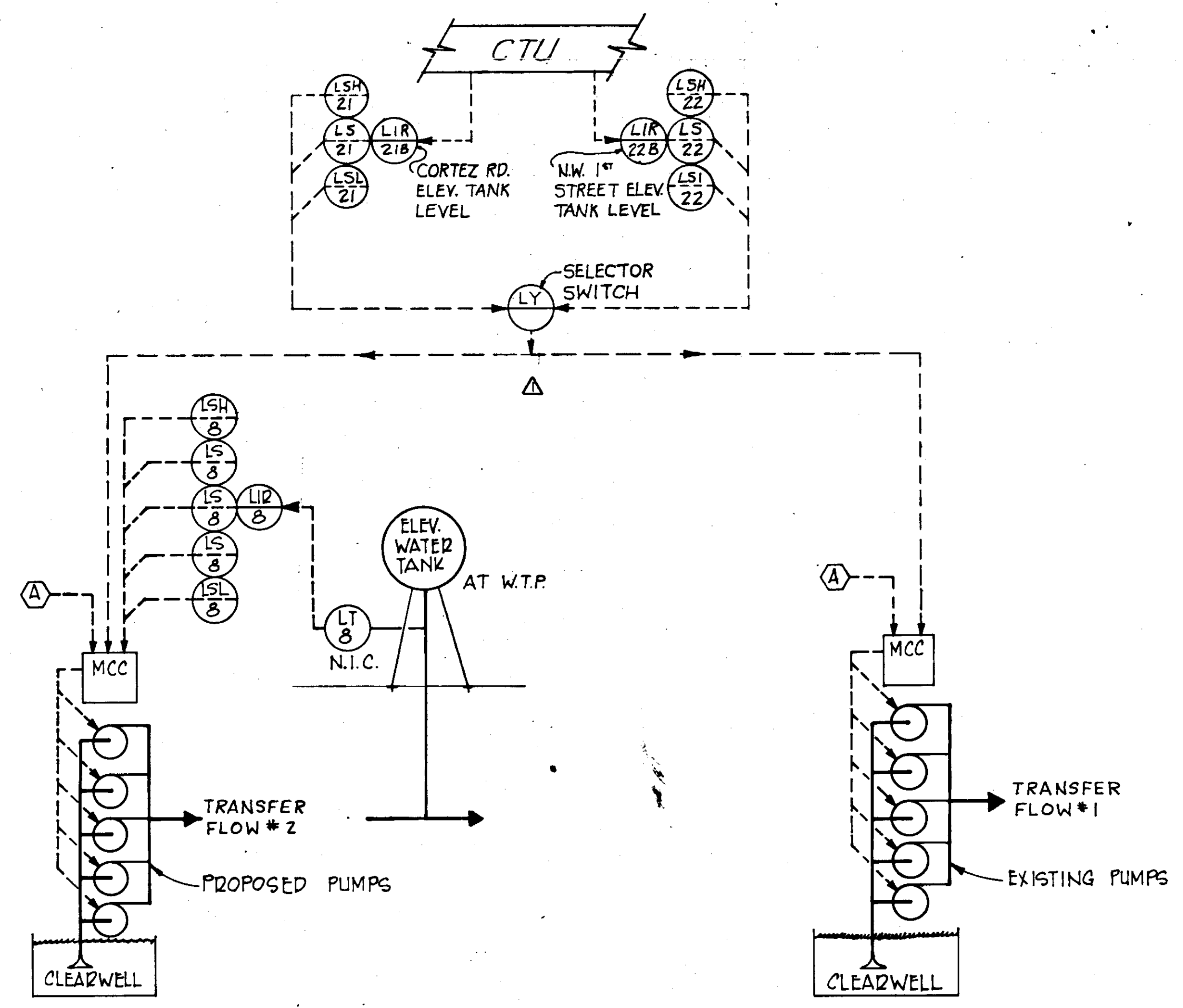
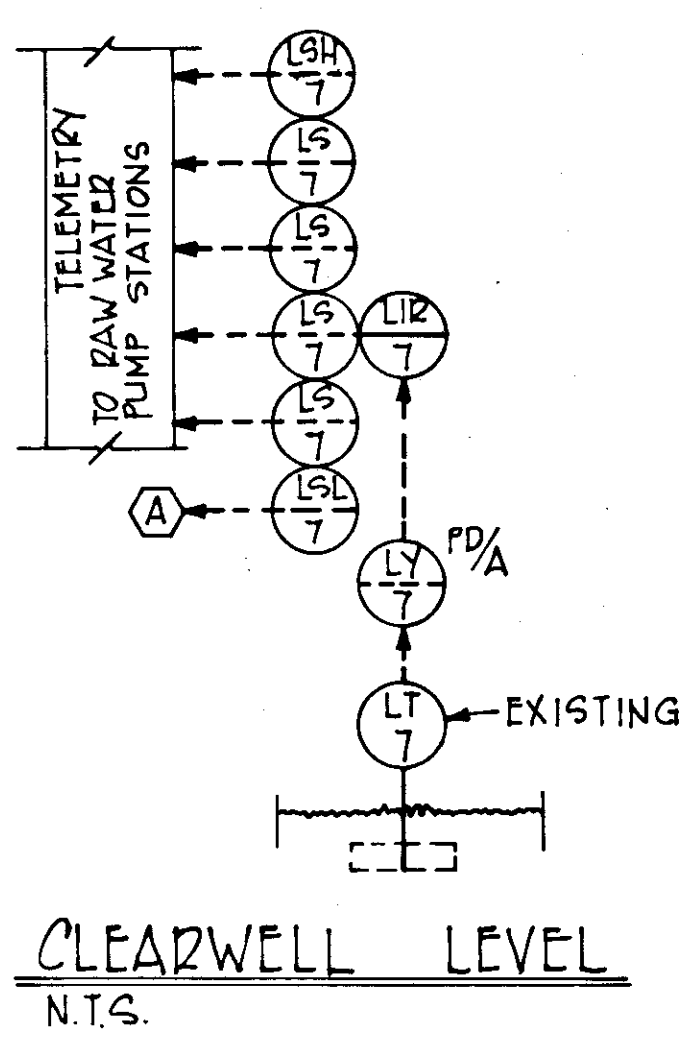
FROM CPU	FROM RD. CONTR. CONS.
CORTEZ RD. ELEV. TANK - PWR. FAIL.	CORTEZ RD. ELEV. TANK - HI + LO LEVELS
NW-1 <sup>ST</sup> ST. ELEV. TANK -	NW-1 <sup>ST</sup> ST. ELEV. TANK -
PALMETTO ELEV. TANK -	PALMETTO ELEV. TANK -
ELLENTON B. STA. -	ELWD. PRK. N°1 GRD. STRG. -
ELWD. PRK. B. STA. N°1 -	W.T.P. CLEARWELL -
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 -
	FILTERS FLUME - HI LEVEL
	ALUM TANK. N°1 - LO + VLO LEVEL
	N°2 -
	FECL <sub>3</sub> TANK. N°1 -
	N°2 -
	H <sub>2</sub> SO <sub>4</sub> TANK -
	TRANS. LINE N°1 - RES. CHLOR. LOW
	TRANS. LINE N°2 -
	RAW W. PUMP STA. N°1 PWR. FAIL.
	- LINE FAIL.
	R.W. P. STA. N°1 - PUMPS 1-5 DISAGR.
	TRANSFER PUMPS 1-10
	R.W. P. STA. NO. 2 PUMPS 1-3
	ELWOOD NO.1 DISAGREEMENT
	PUMPS NO. 1 THRU 7
	ELLENTON DISCH. PRESS
	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

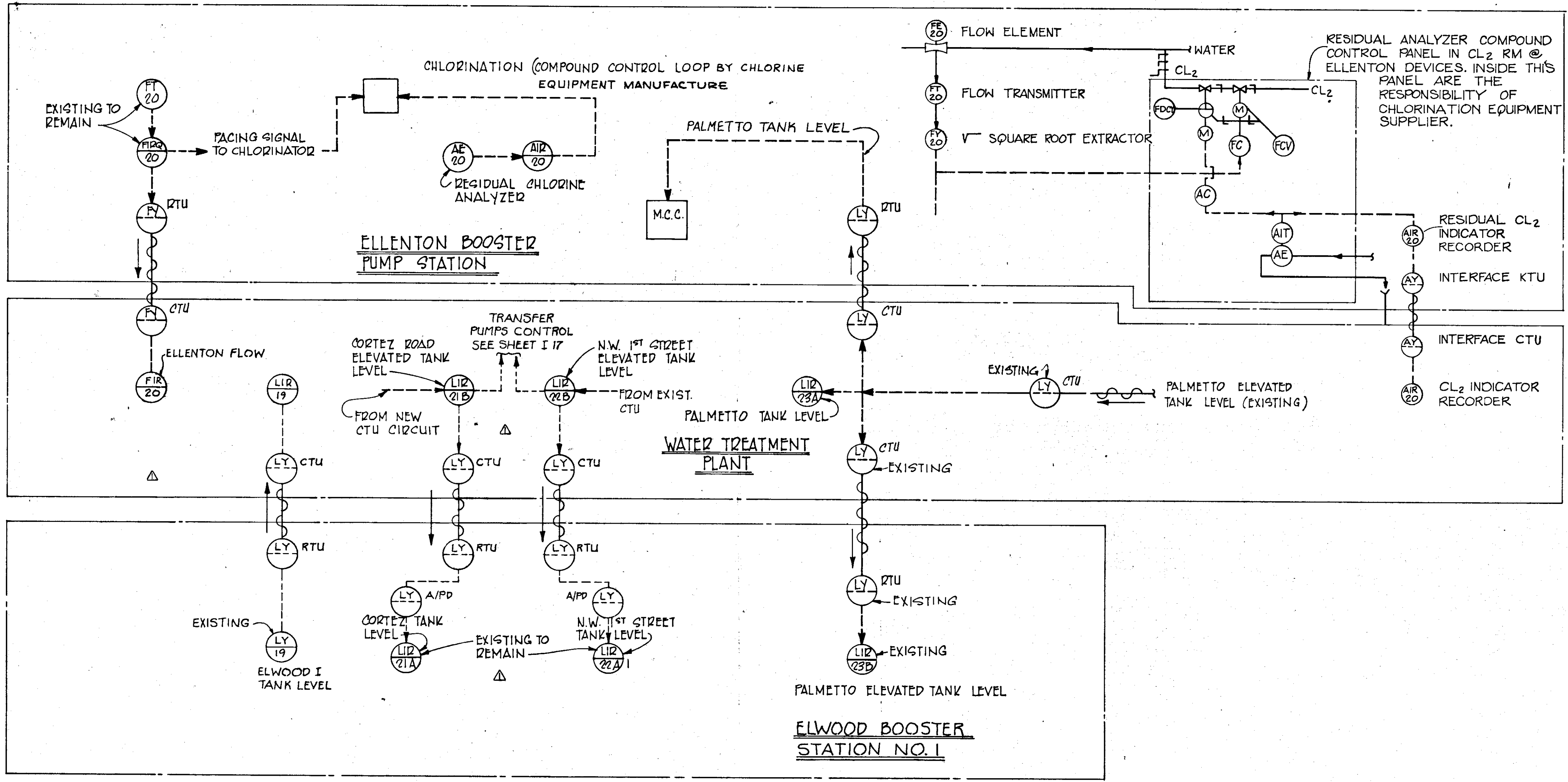
**RAW WATER PUMPING STATION NO.2 RTU NO. 8**

SIGNALS XMITTED	SIGNALS RECEIVED
POWER FAILURE	4 COMMAND SIGNALS
PUMP NO. 1 - STATUS	FOR FUTURE USE
PUMP NO. 2 - STATUS	
1 ADD. COMMAND FUT. USE	
CLEARWELL LEVEL	
LAKE LEVEL	

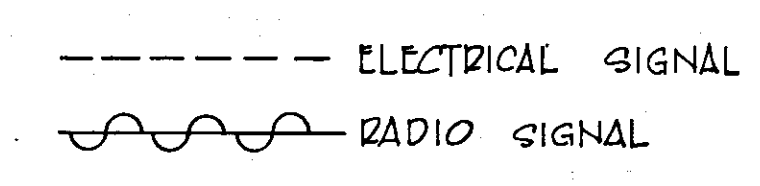
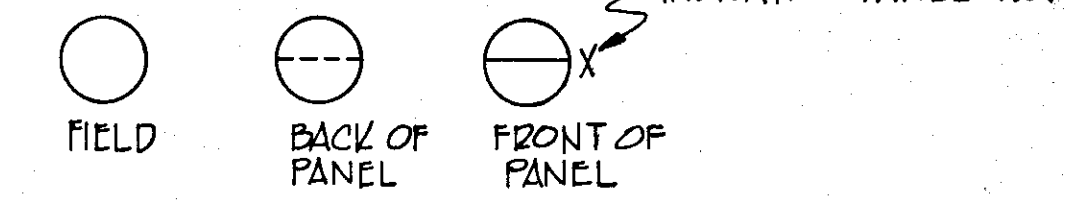
5/79	GEN. REVISIONS	AL	
NO.	DATE	DESCRIPTION	BY CKD.
REVISIONS			
RUSSELL & AXON Engineers - Planners - Architects			
WATER WORKS PROJECT COMMUNICATION SYSTEM - SCHEDULES			
MANATEE CO.		<b>T-126</b> FLORIDA	
DESIGNED BY GBA	FILE NO. 630-761-04	<b>SEAL</b>	
DRAWN BY Re	SHEET 1-16		
CHECKED BY S.J.G.	NO. (127) OF 130 SHEETS		
DATE JANUARY, 1979	SCALE: NONE		



5/79	GEN. REVISIONS	RSG	
11/79	AS PER REVISION #1	RWF	SJG
REVISIONS			
<b>RUSSELL &amp; AXON</b> Engineers — Planners — Architects			
<b>WATER WORKS PROJECT</b> WATER TREATMENT PLANT INSTRUMENTATION LOOPS			
MANATEE COUNTY,		<b>T-127</b> FLORIDA	
DESIGNED BY J.M.H.	FILE NO. 630-761-04	<b>SEAL</b>	
DRAWN BY E.L.L./HGB.	SHEET I-17		
CHECKED BY SJG	No. 128		
DATE AUGUST, 1978	OF 130 SHEETS		
SCALE: NOT TO SCALE			



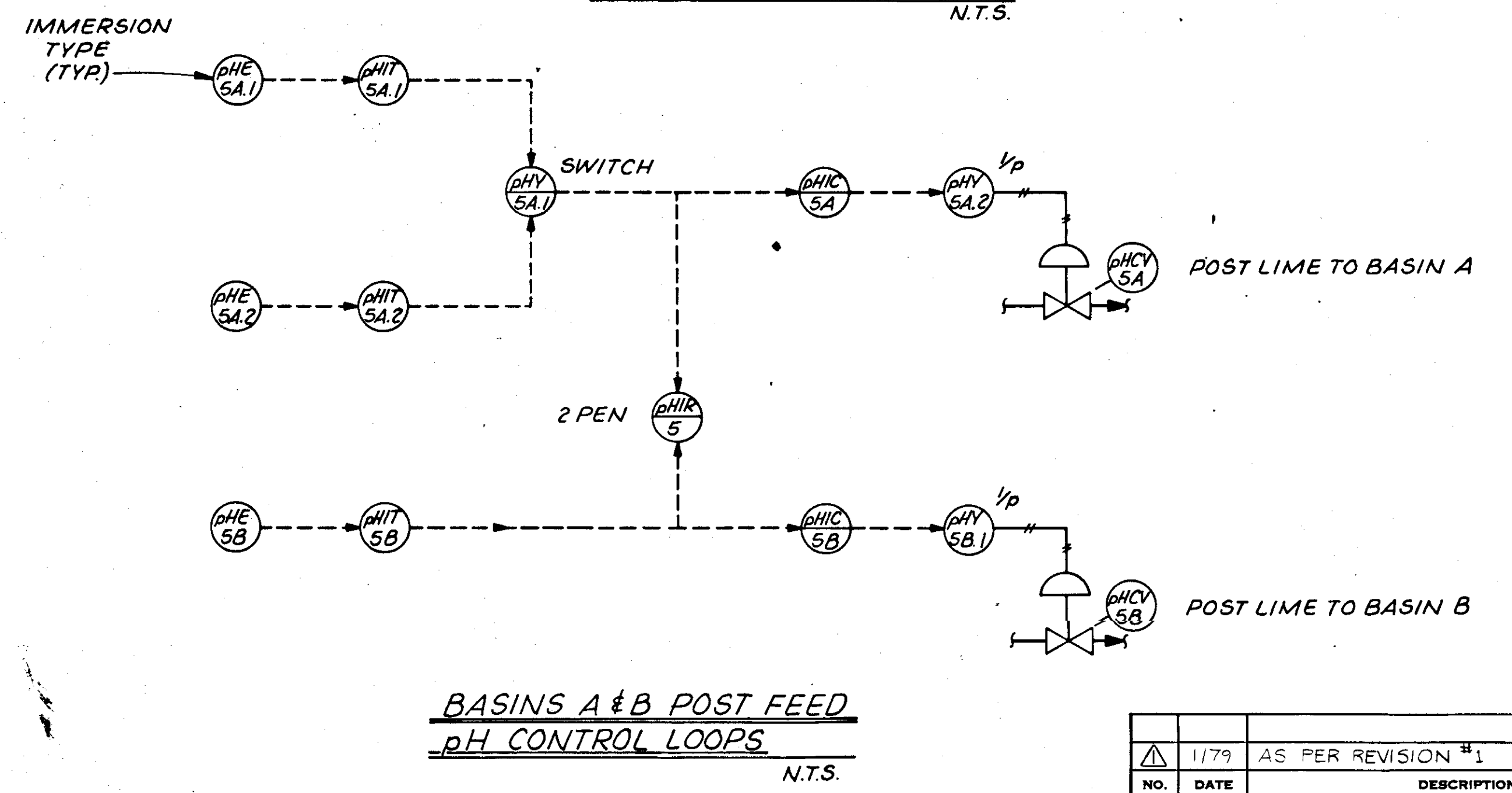
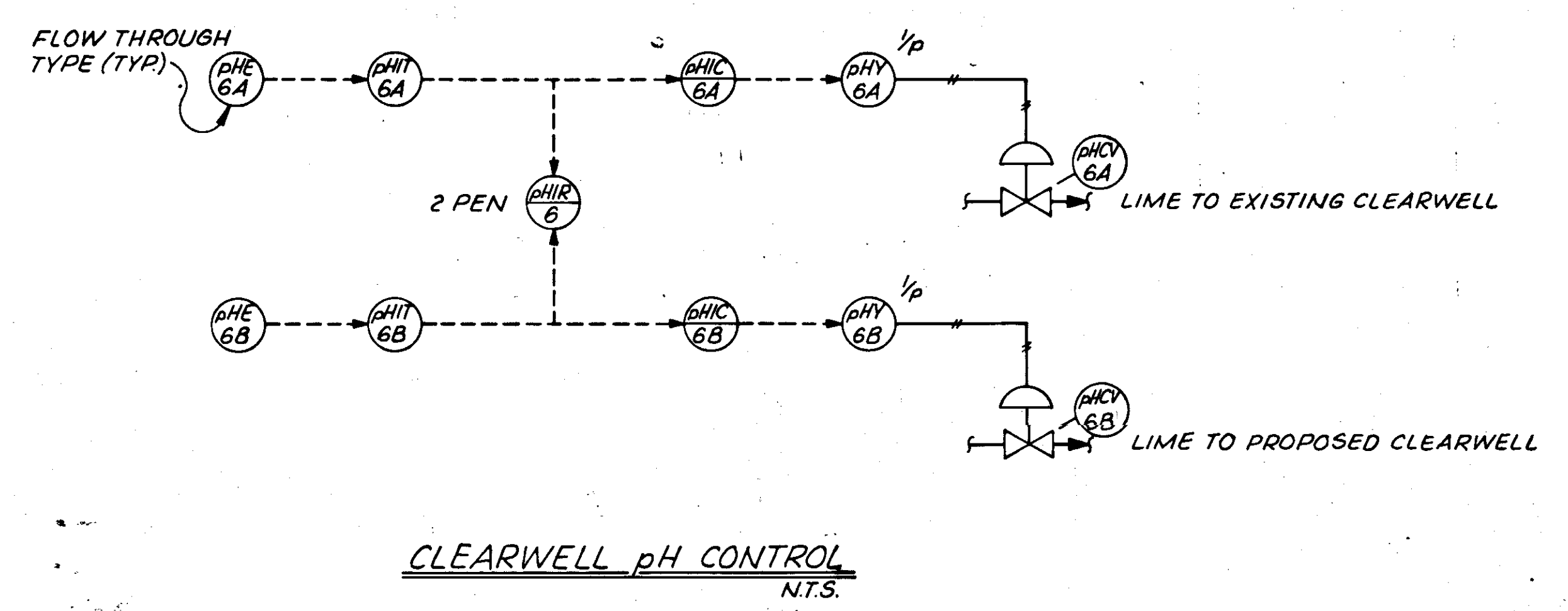
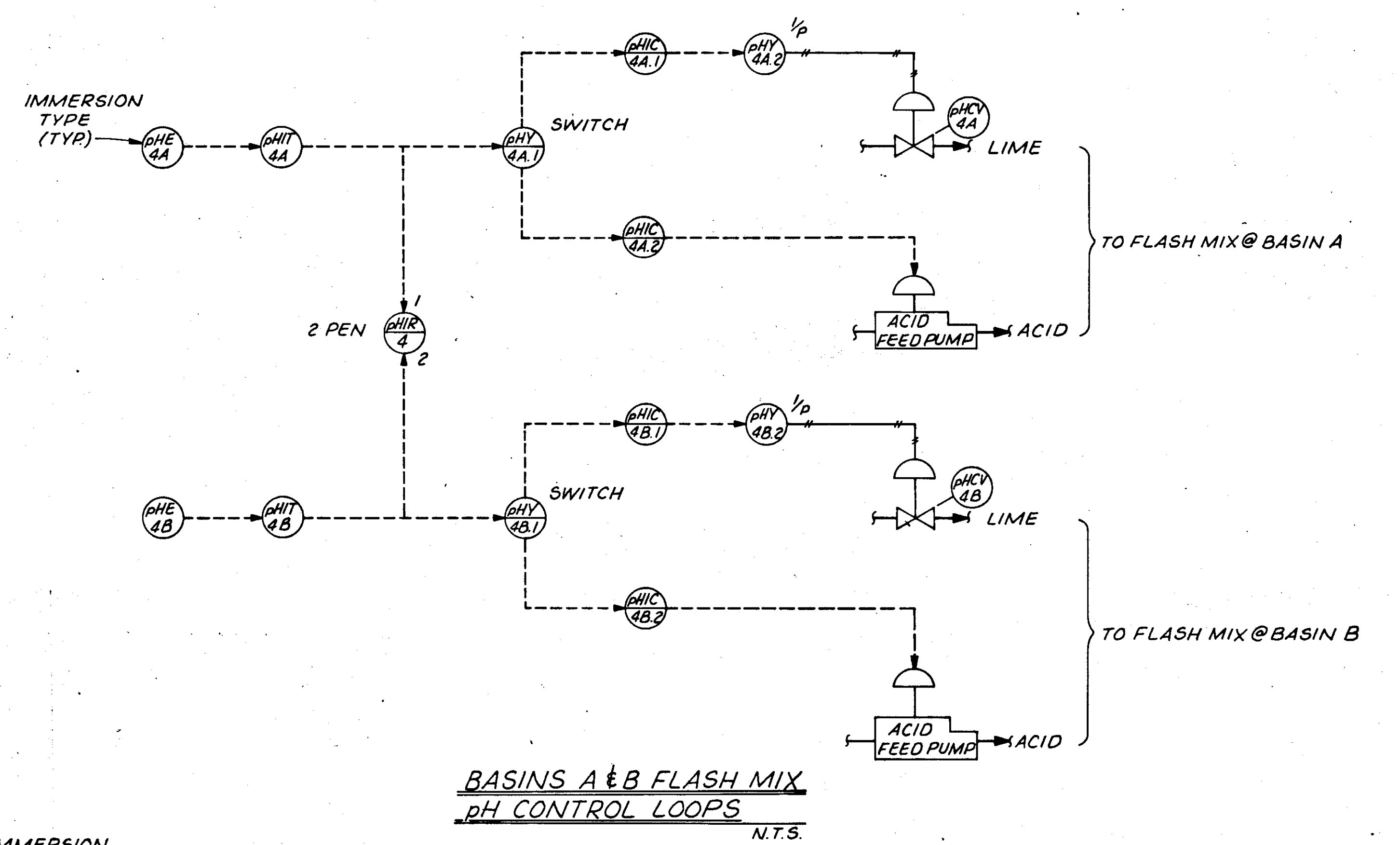
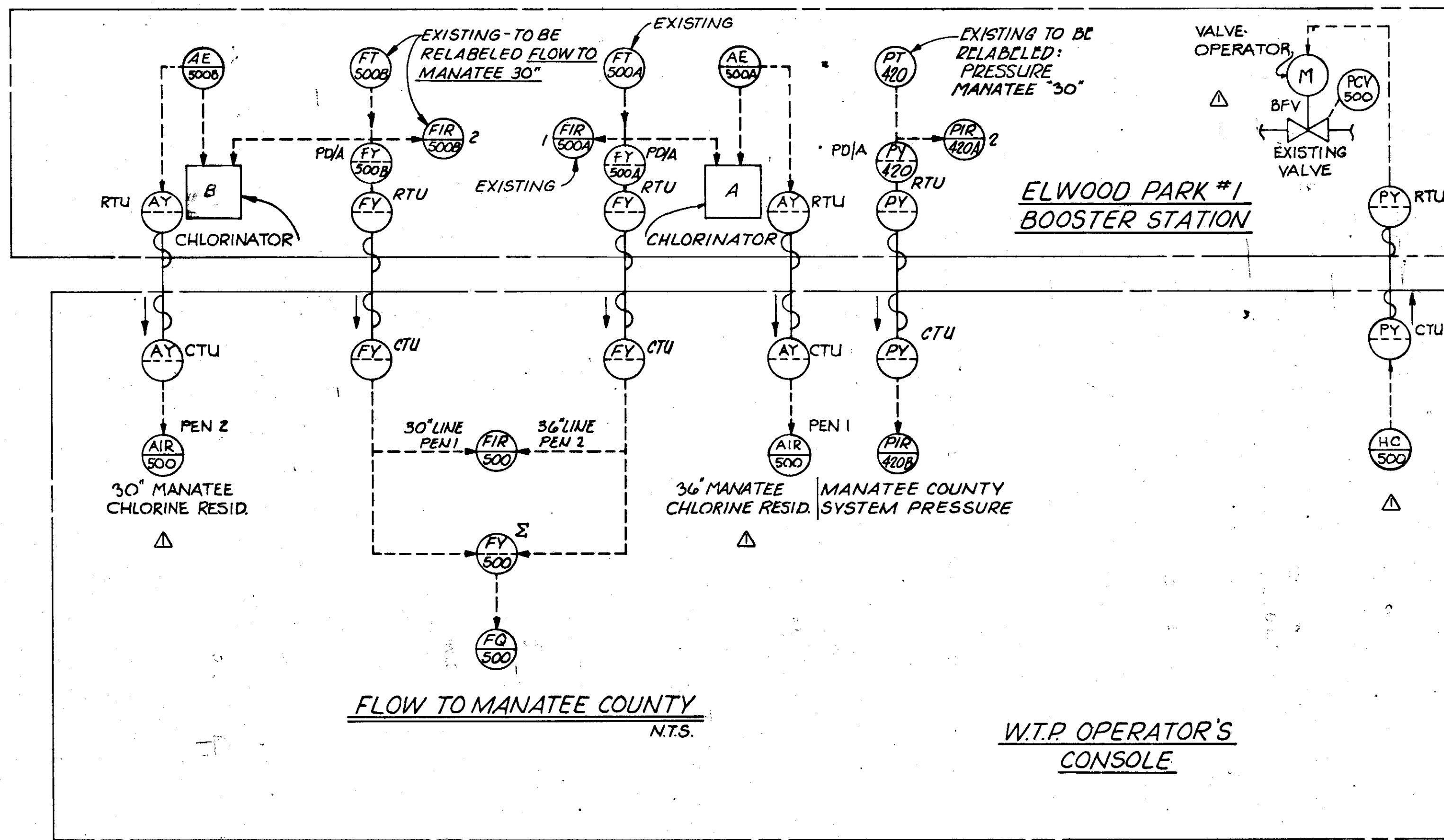
**LEGEND**



**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> Engineers — Planners — Architects			
<b>WATER WORKS PROJECT</b> WATER TREATMENT PLANT INSTRUMENTATION LOOPS			
<b>T-128</b>			
FLORIDA			
<b>SEAL</b>			
DESIGNED BY J.M.H.	FILE NO. 630-761-04		
DRAWN BY H.G.B.	SHEET I-18		
CHECKED BY S.J.G.	No. (129)		
DATE AUGUST, 1978	OF 130 SHEETS		
	SCALE: NOT TO SCALE		
JUN 22 1978			

14-01



NO.	DATE	DESCRIPTION	BY	CHKD.
REVISIONS				
RUSSELL & AXON Engineers - Planners - Architects				
WATER WORKS PROJECT WATER TREATMENT PLANT INSTRUMENTATION LOOPS				
<b>T-129</b> FLORIDA				
<b>SEAL</b>				
MANATEE COUNTY,		DESIGNED BY		
FILE NO.		J.M.H.		
630-761-04		DRAWN BY		
SHEET I-19		M.E.P.		
No. 130		CHECKED BY		
SHEETS		S.J.G.		
DATE		AUGUST, 1978		
SCALE: NOT TO SCALE				