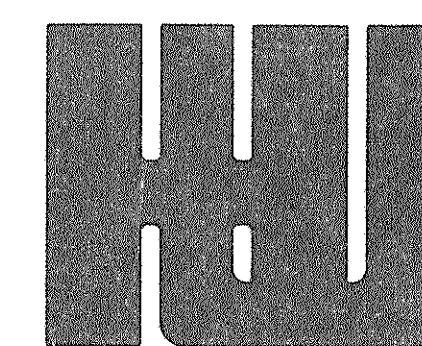


GRAND STRAND WATER & SEWER AUTHORITY
SURFACE WATER TREATMENT PROJECT

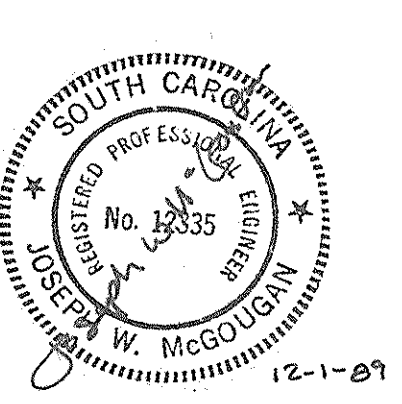
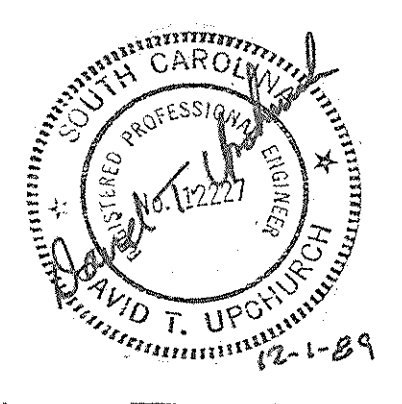
BOOSTER PUMP STATIONS

SOUTH PUMP STATION

CONWAY PUMP STATION



HOBBS, UPCHURCH & ASSOCIATES, P.A.
CONSULTING ENGINEERS
SOUTHERN PINES, NORTH CAROLINA 28387

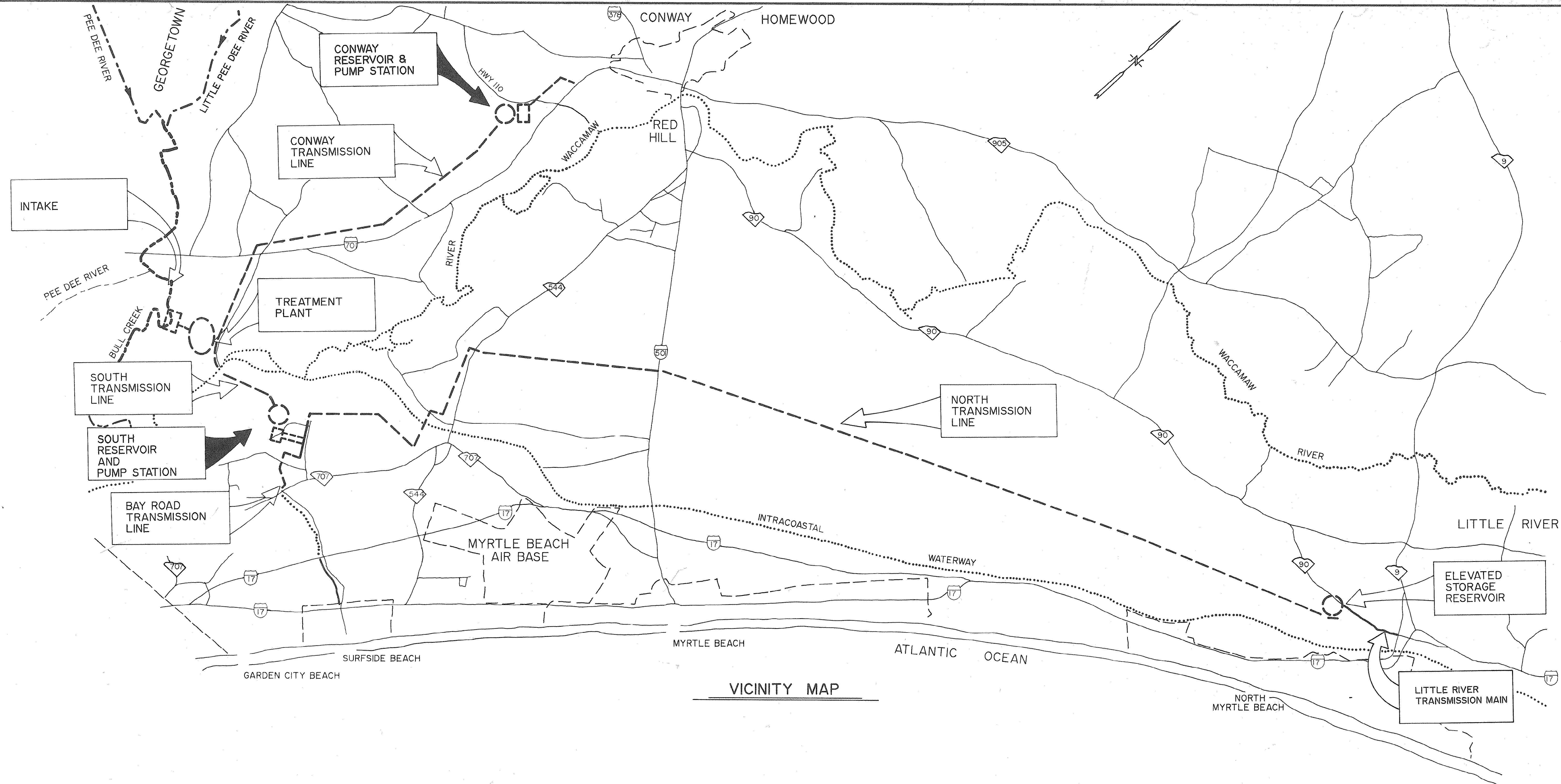


33-04-001/21w

AS BUILT
CONWAY SO. P.S.

RECORD DRAWING / 1-14-92. / RAC

REVISED 1-5-90



VICINITY MAP

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- G-4 SOUTH PUMP STATION - CHEMICAL FEED DETAILS
- G-5 SOUTH PUMP STATION - DETAILS
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- M-1 SOUTH P.S. - FLOOR PLAN - SITE PLAN - SCHEDULES
- M-2 CONWAY P.S. - SITE PLAN, FLOOR PLAN, AND SCHEDULES

33-04-002w

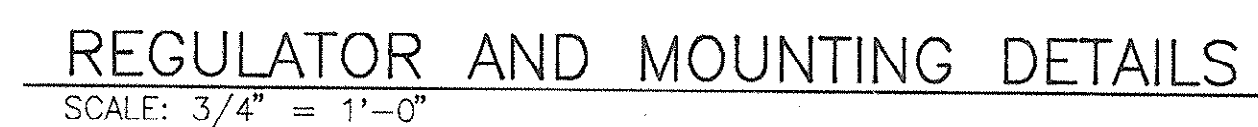
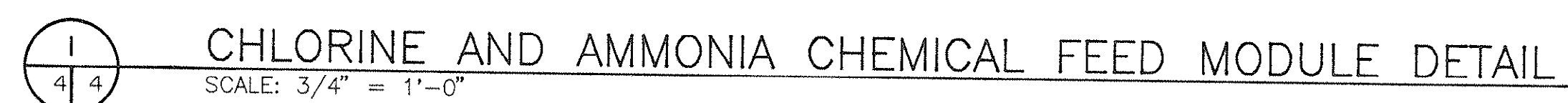
REVISIONS			
SYM.	DESCRIPTION	DATE	BY
	RECORD DRAWING	1-14-92	RAC

HOBBS, UPCHURCH & ASSOCIATES, P.A.
CONSULTING ENGINEERS
SOUTHERN PINES, NORTH CAROLINA 28387

SURFACE WATER TREATMENT PLANT PROJECT
GRAND STRAND WATER AND SEWER AUTHORITY

BOOSTER PUMP STATIONS LOCATION MAP AND INDEX

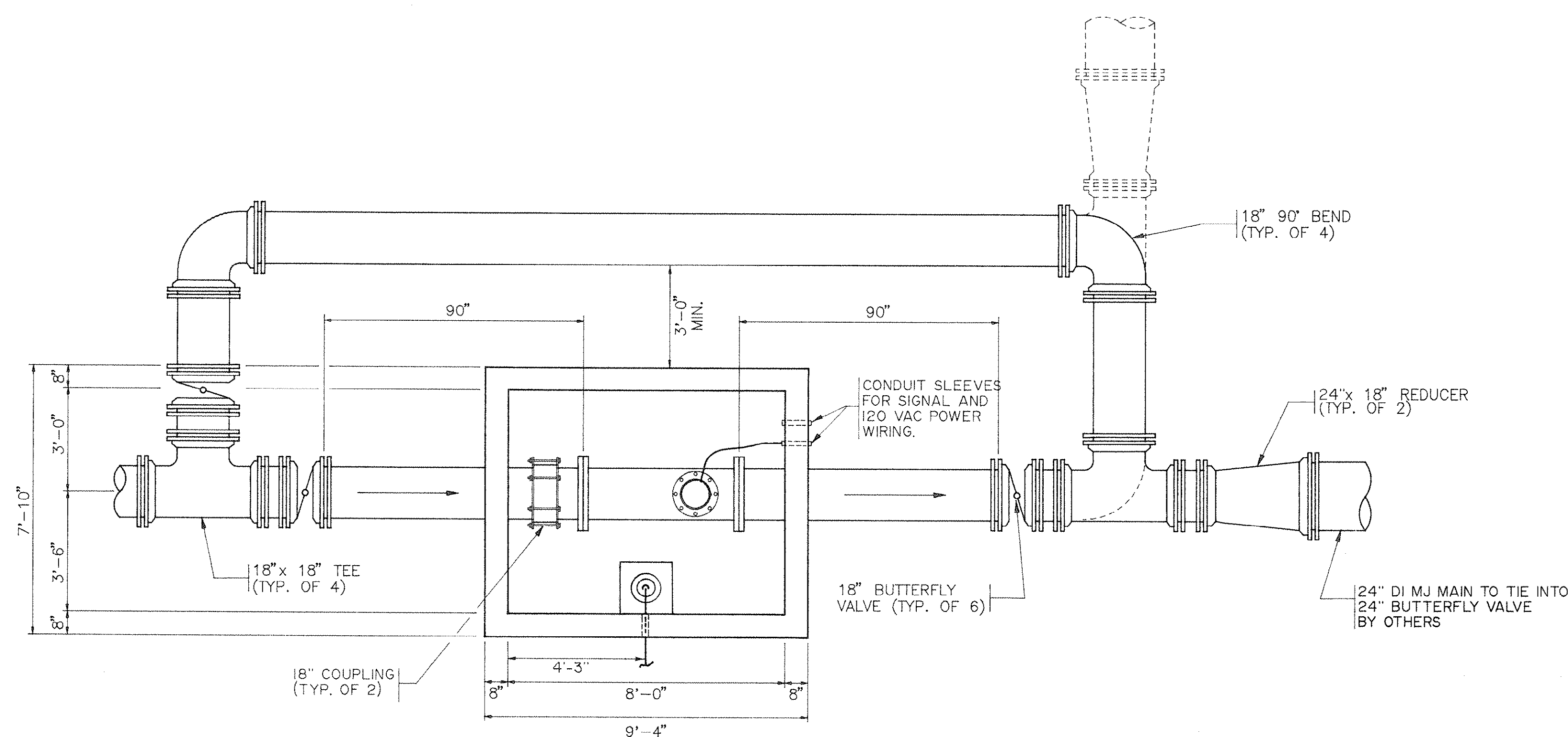
DATE: NOV, 1989	SHEET NO: G-2
DESIGNED: RSH	CHECKED: DTU
DRAWN: TFW	SCALE: NONE
OFF: _____	

[illegible]

7'-10"

9'-4"

GAS-TIGHT MANHOLE RING AND COVER



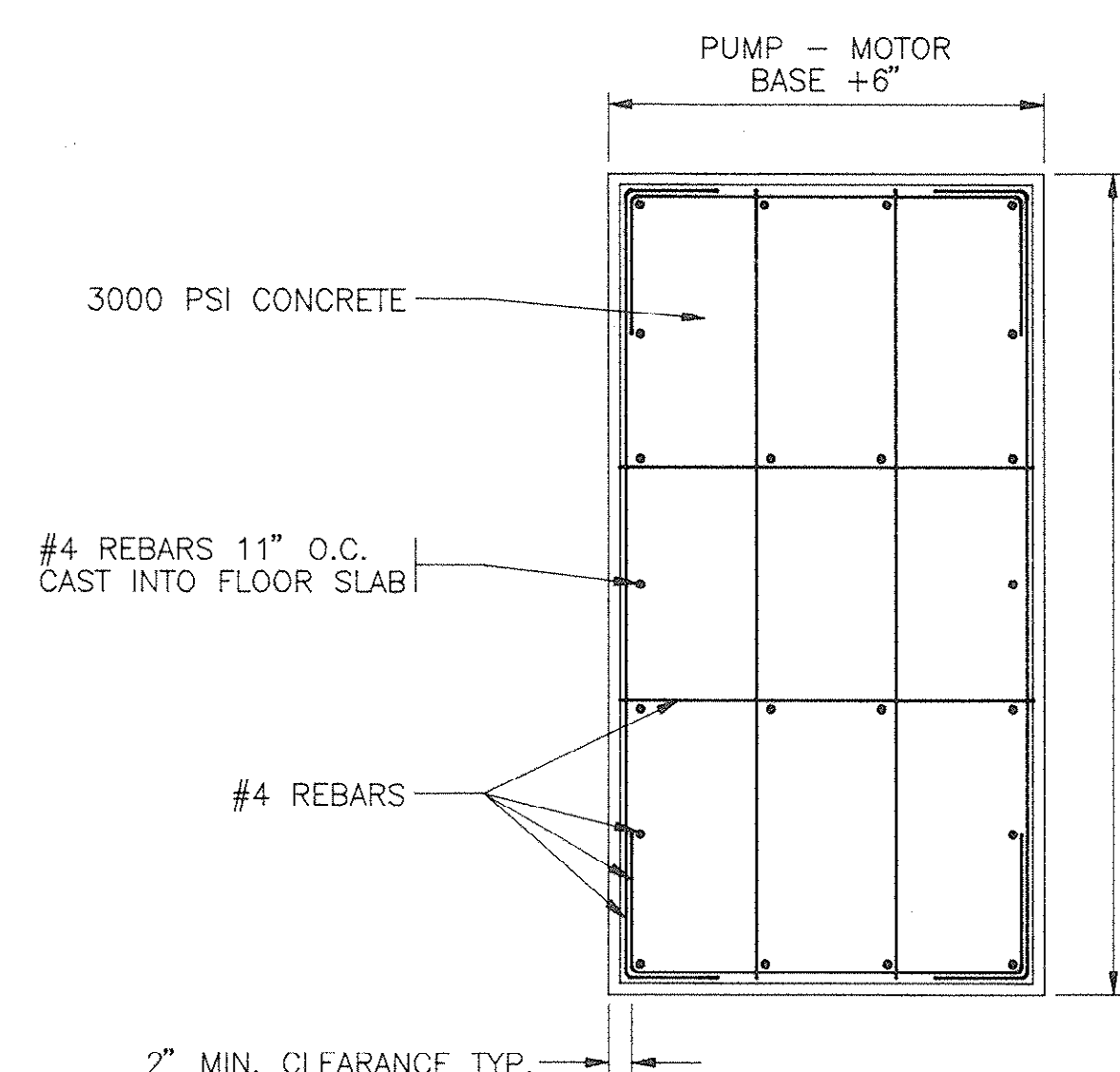
Technical drawing of a vault structure, likely a manhole or access point, showing internal components and dimensions. The drawing includes the following labels and dimensions:

- 1" SCH. 80 PVC PUMP PUMP LINE TO 12" DISCHARGE LINE (SEE SITE PLAN)**: Points to the top horizontal pipe.
- GAS-TIGHT MANHOLE RING AND COVER**: Points to the top horizontal pipe.
- #4 REBAR @ 9" O.C. EACH WAY**: Points to the reinforcement bars on the top horizontal pipe.
- 8'-0"**: Dimension for the total height of the vault.
- 3'-9"**: Dimension for the height of the vault from the top of the manhole ring to the bottom of the vault.
- 1" CHECK VALVE**: Points to a valve on the left vertical wall.
- 1" TRUE UNION BALL VALVE**: Points to a valve on the left vertical wall.
- 12"**: Dimension for the height of the vault from the bottom of the vault to the bottom of the manhole ring.
- 18" PROPELLER METER WITH TRANSDUCER**: Points to a meter on the right vertical wall.
- 1" MIN. CLEARANCE (TYP.)**: Points to the clearance between the bottom of the vault and the bottom of the manhole ring.
- 16" (TYP.)**: Dimension for the width of the vault.
- 1 HP 110 VAC JHP 110 VAC**: Points to a pump at the bottom of the vault.
- PRECAST CONCRETE VAULT**: Points to the main structure of the vault.
- NOTE: VAULT TO BE WATER TIGHT INSIDE AND OUT THOROUGH OR EQUAL**: A note at the bottom right.

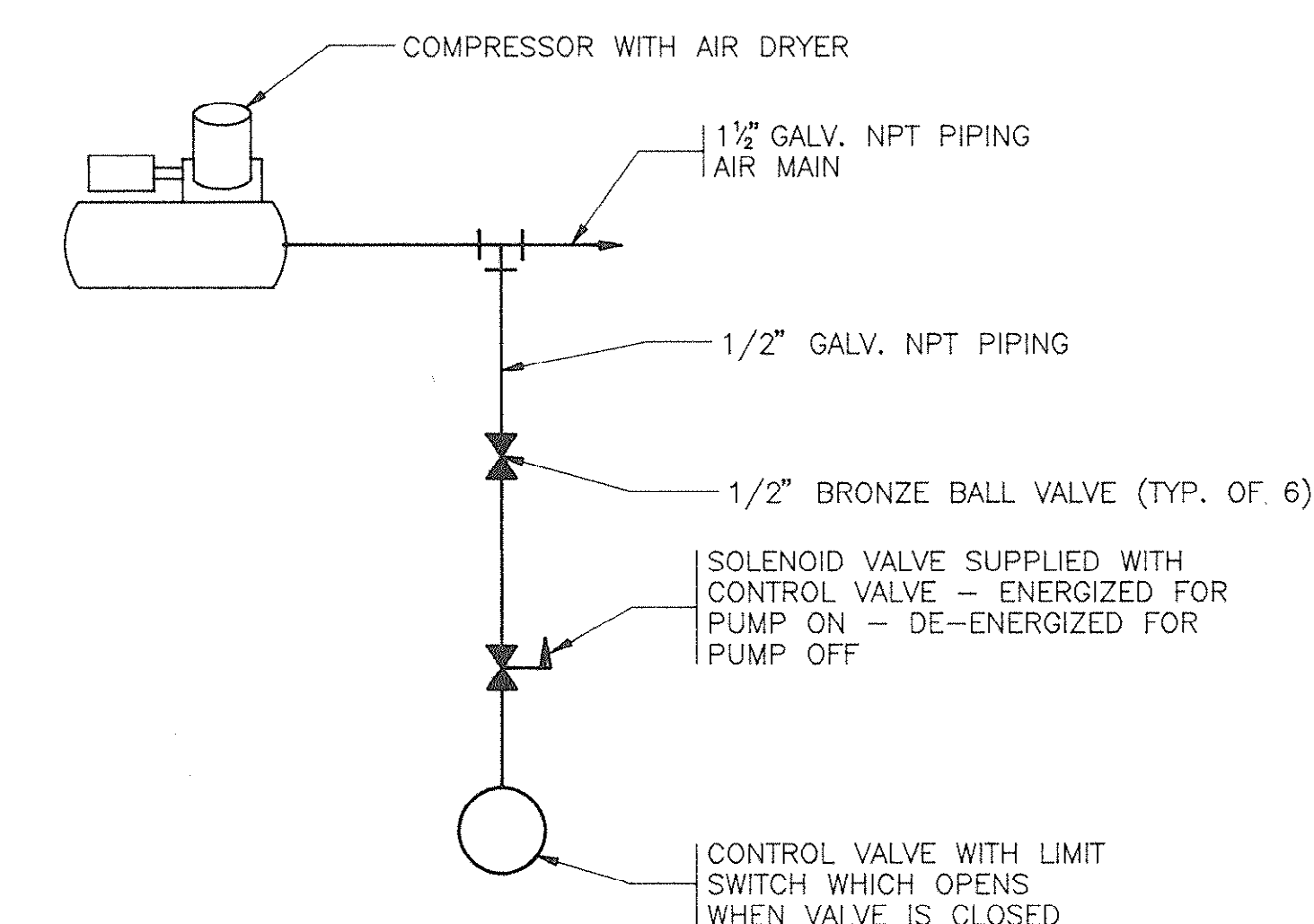
Diagram illustrating the reinforcement requirements for a pipe support structure. The structure is shown in cross-section, with dimensions and reinforcement details labeled:

- VARIES**: Dimension across the top of the structure.
- 6" MIN.**: Minimum dimension from the center of the pipe to the edge of the structure.
- 4 EXTRA #3 DIAGONAL AROUND EACH PIPE**: Reinforcement requirement for the structure.
- 12" EACH WAY**: Dimension for the reinforcement grid at the base of the structure.

CONTRACTOR SHALL CONSTRUCT HEADWALL
TO ACCOMMODATE PIPING AS SHOWN ON
SITE PLANS.

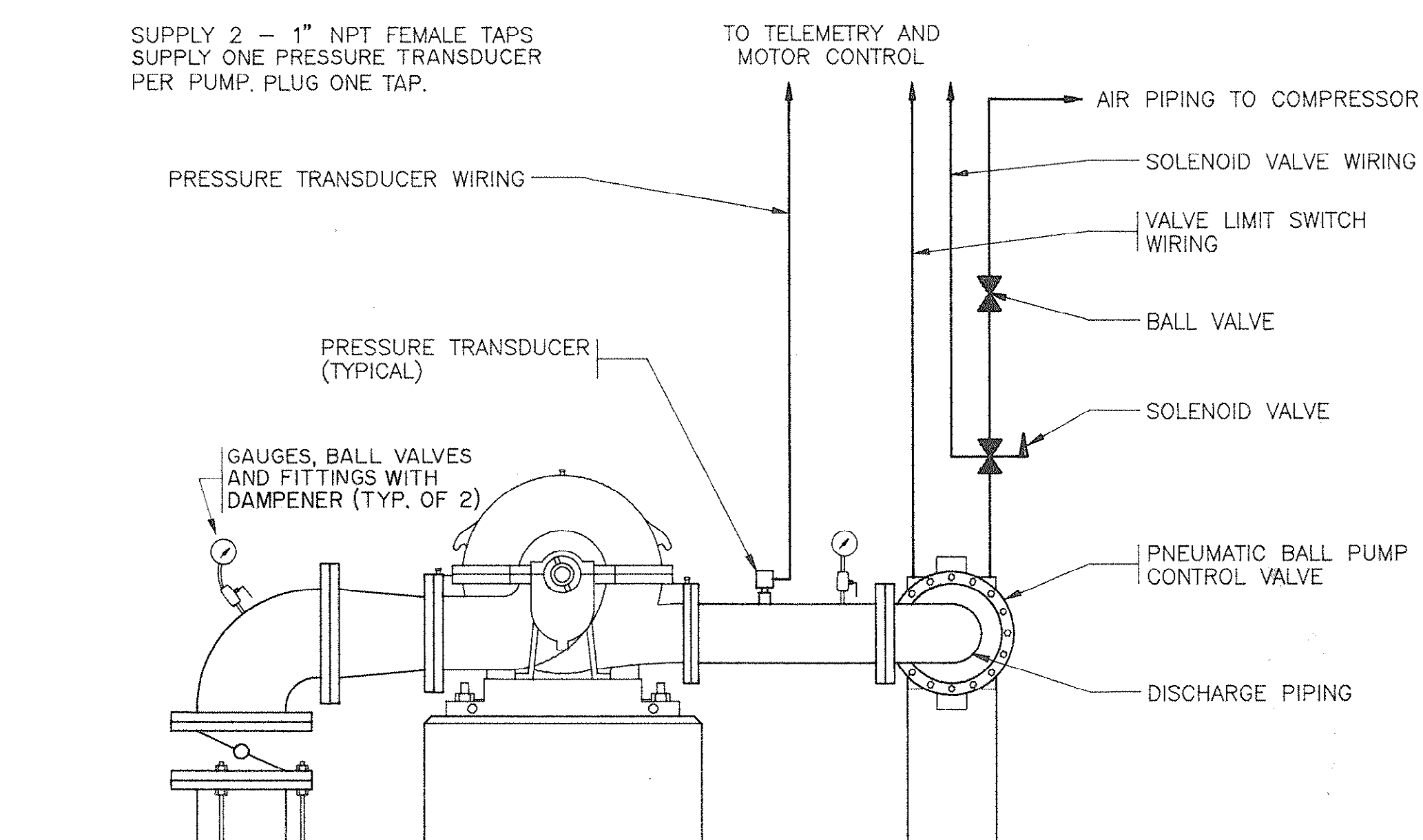
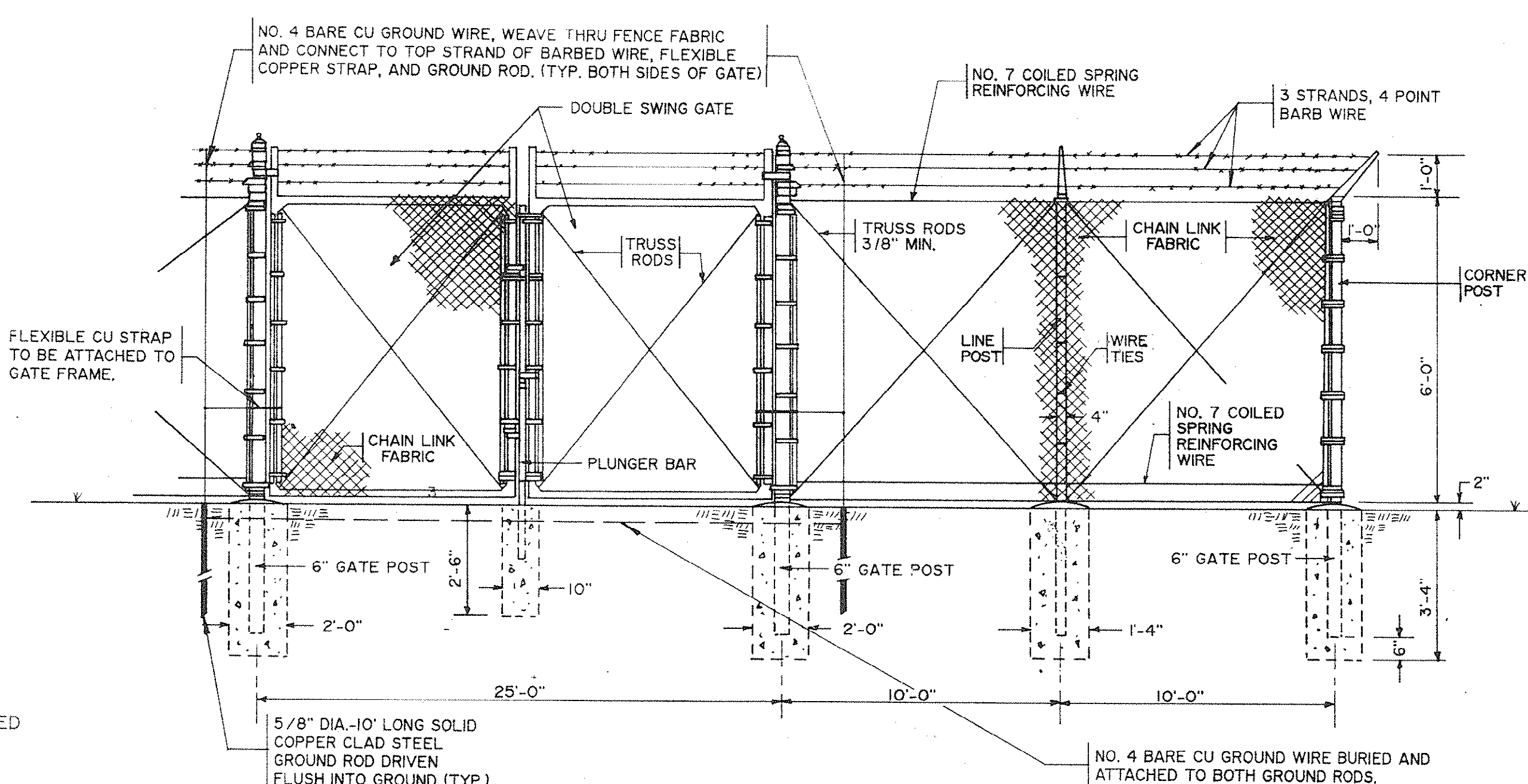


SCALE: $3/4" = 1'-0"$

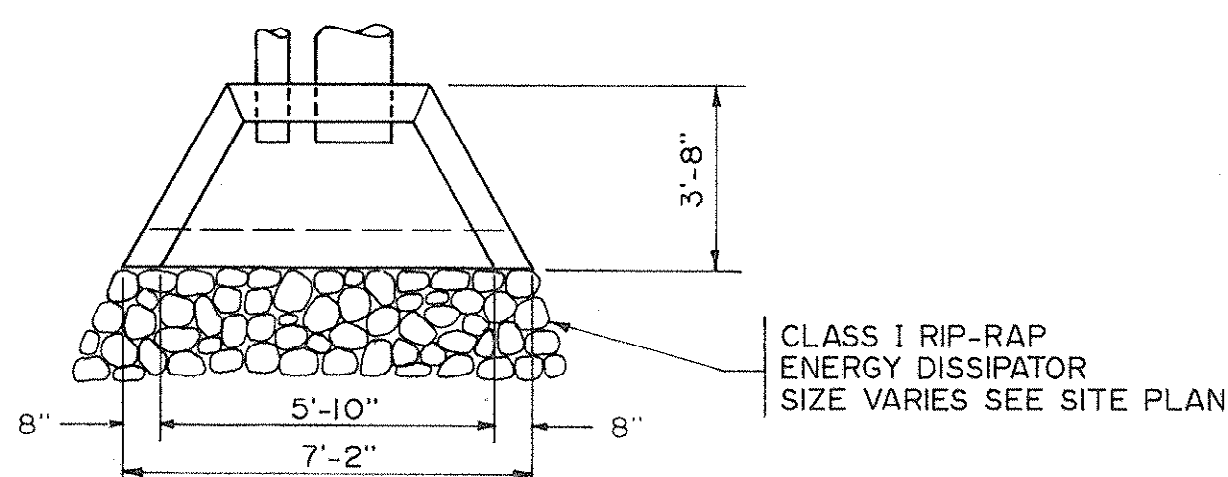
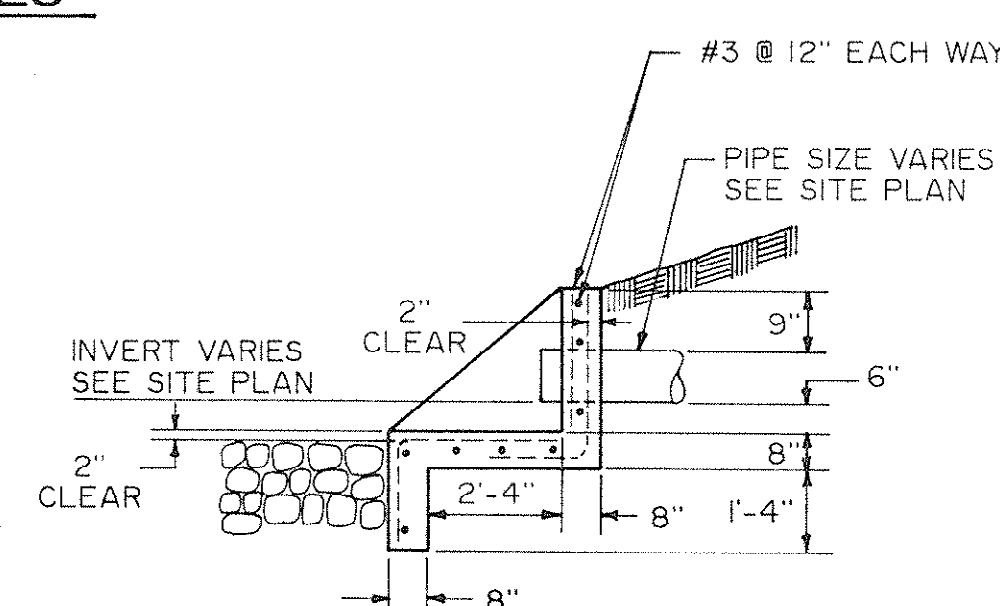


NTS

SUPPLY 2 - 1" NPT FEMALE TAPS
SUPPLY ONE PRESSURE TRANSDUCER
PER PUMP, PLUG ONE TAP.


$$\frac{1}{NT}$$


NTS



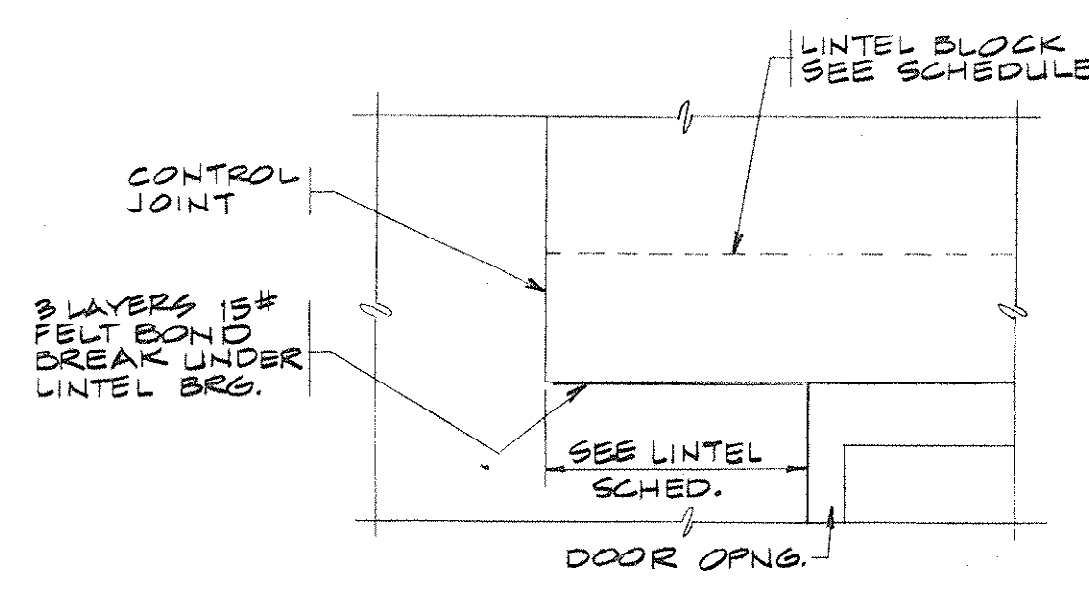
NTS

[illegible]

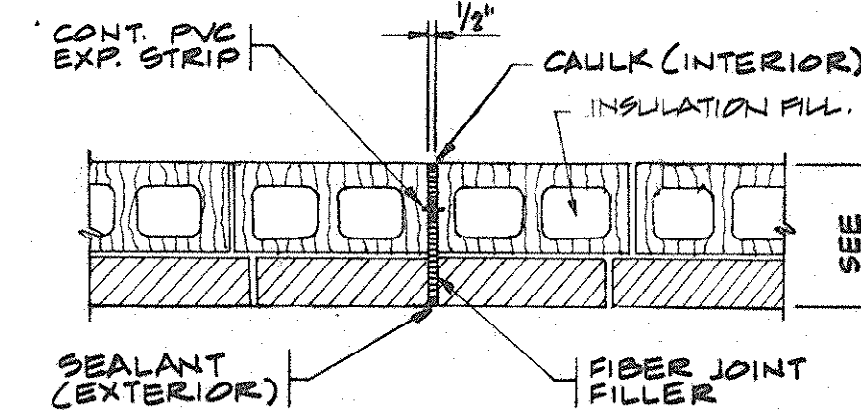
Two circular professional engineer stamps from the State of South Carolina. The left stamp is for David T. Upchurch, No. 12435, and the right stamp is for Joseph W. McGowan, No. 12435. Both stamps are dated 12-1-68.

SOUTH PUMP STATION
DETAILS

03W	DATE:	NOV., 1989
	DESIGNED:	JWM
	DRAWN:	DC
	CHECKED:	DTU
	SCALE:	AS SHOWN
	SHEET NO.	G-5
	OF:	



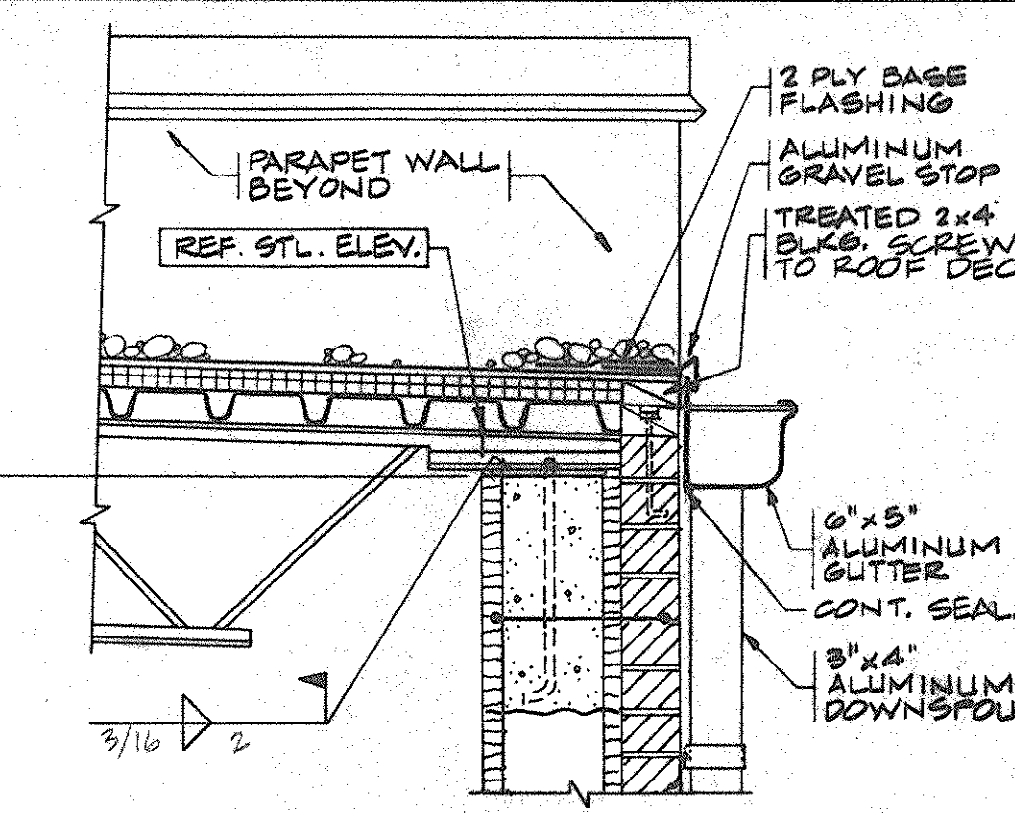
(E) CONTROL JOINT DETAIL AT DOOR OPENING 1/2" = 1'-0"



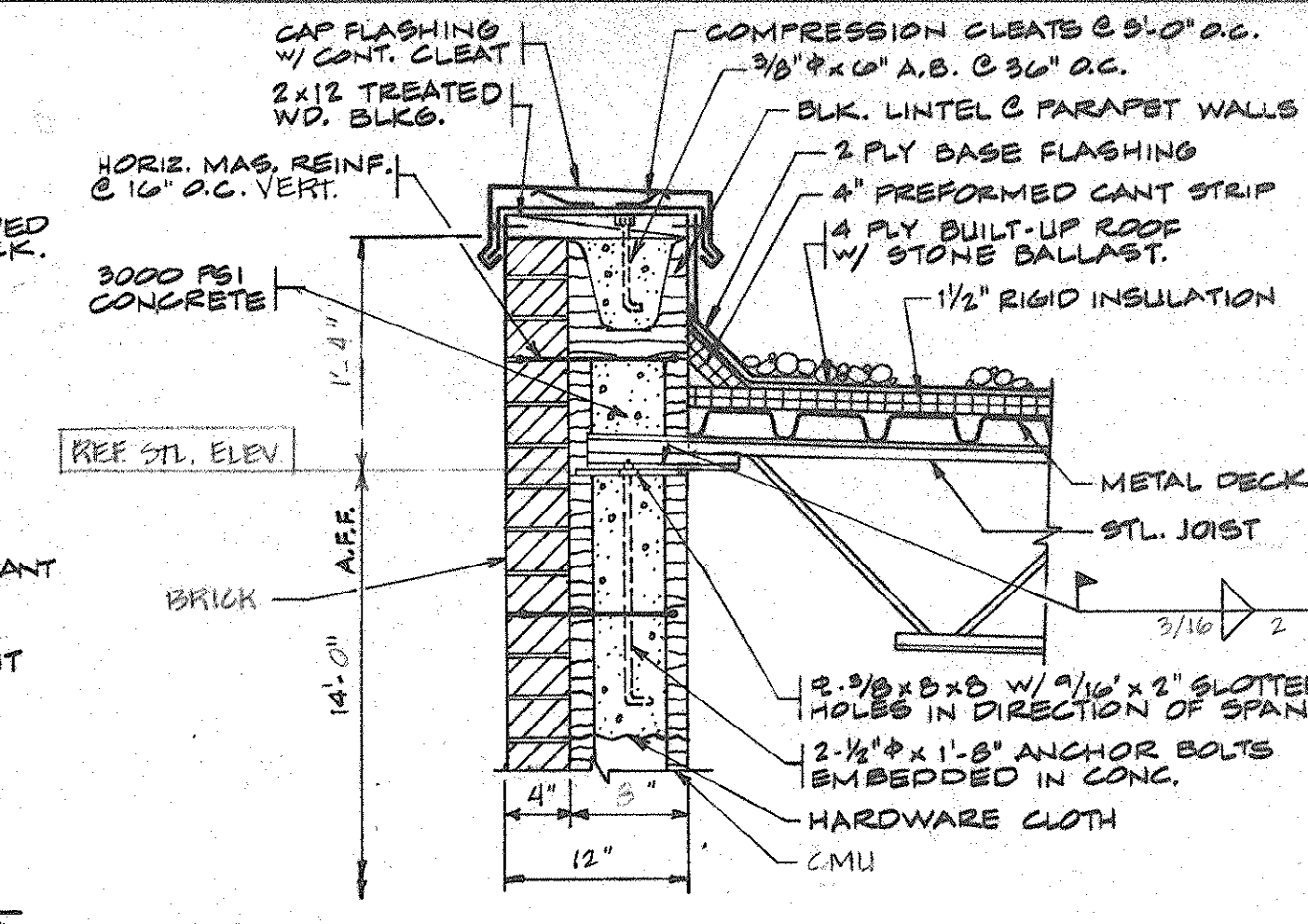
(D) TYP. MAS. WALL CONTROL JOINT (CJ) 3/4" = 1'-0"

NOTE: 1. BRIDGING ANCHORS SHALL BE ACCURATELY LOCATED AND EMBEDDED IN WALLS DURING CONSTRUCTION OF MASONRY WORK.
2. FOR DETAILS NOT SHOWN SEE (A).

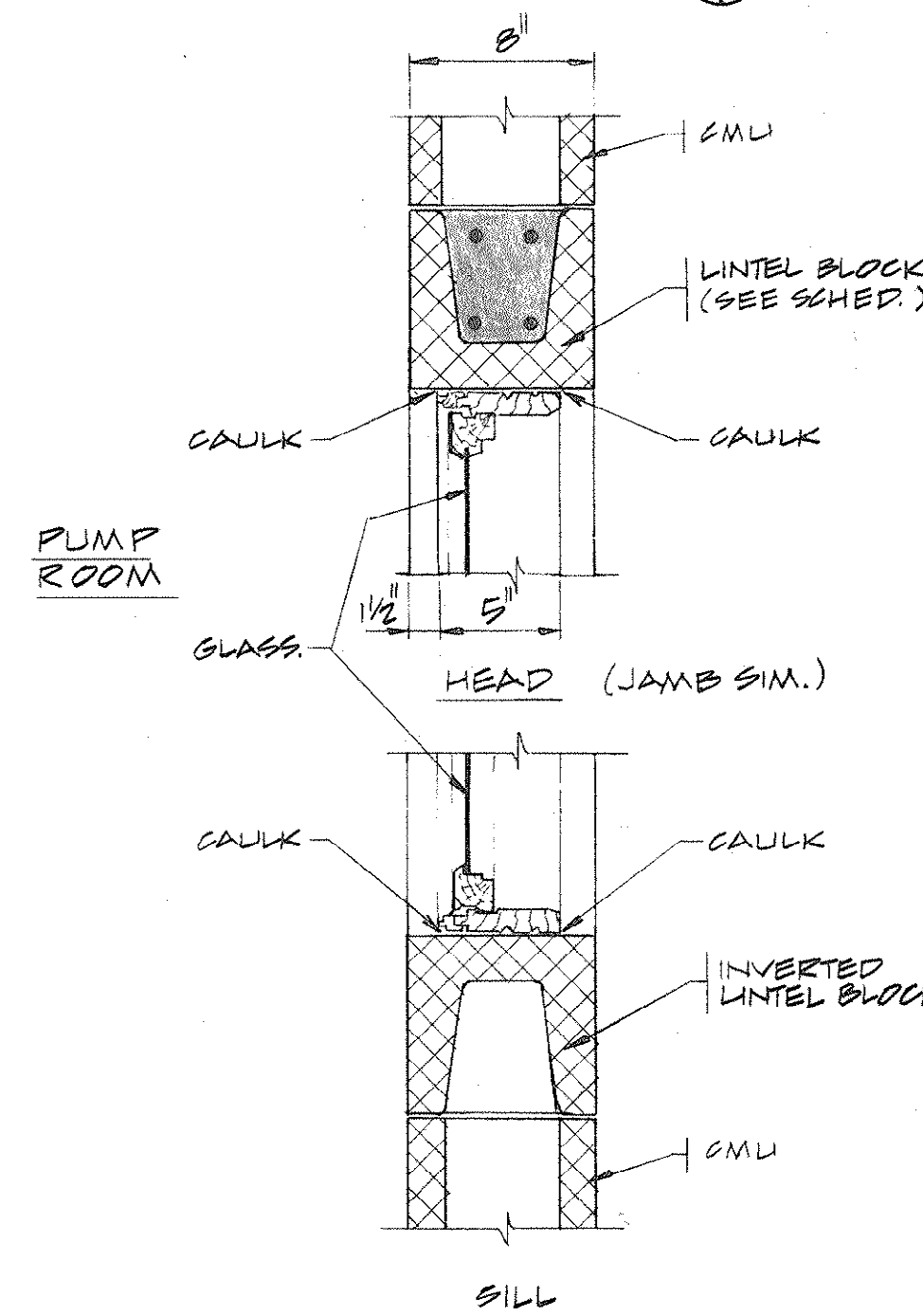
(C) TYPICAL SECTION THRU SIDE WALL 1/2" = 1'-0"



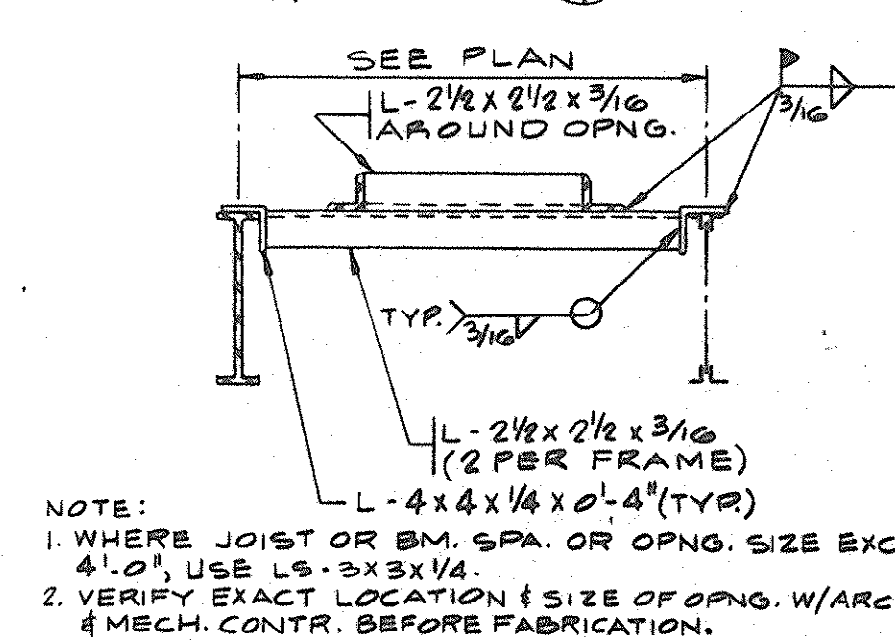
(B) TYPICAL WALL SECTION AT REAR OF BUILDING 1/2" = 1'-0"



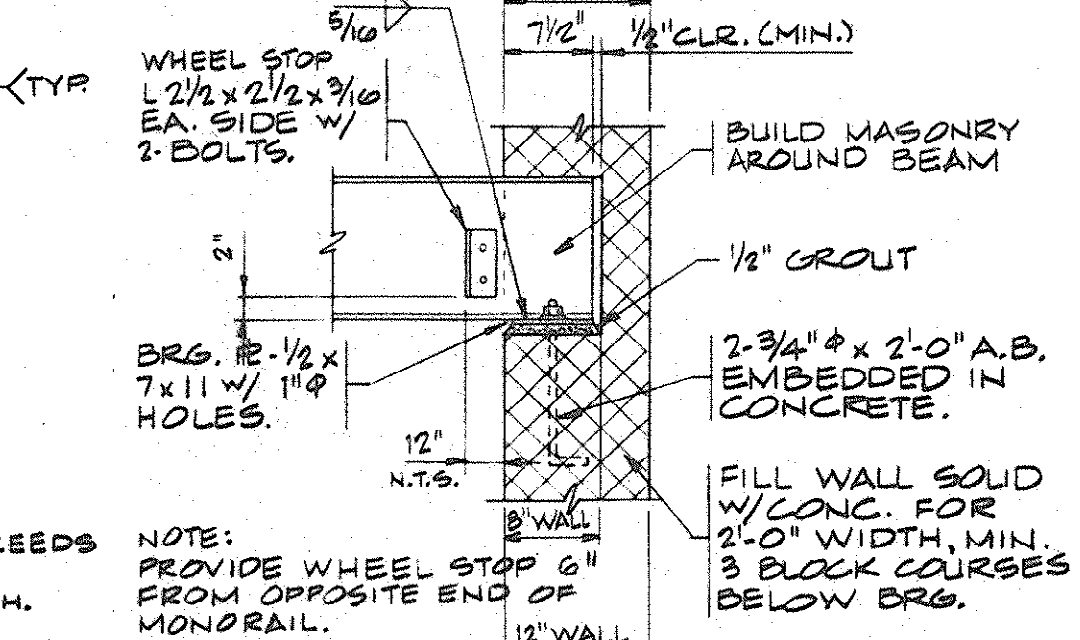
(A) TYPICAL WALL SECTION AT FRONT OF BUILDING 1/2" = 1'-0"



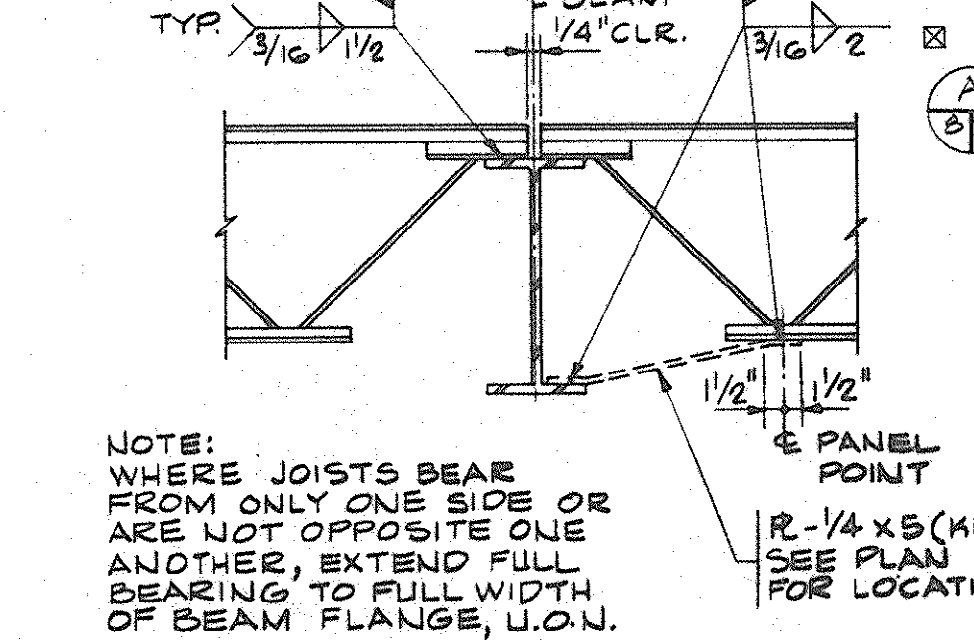
(N) TYPICAL SECTION THRU WINDOW 1/2" = 1'-0"



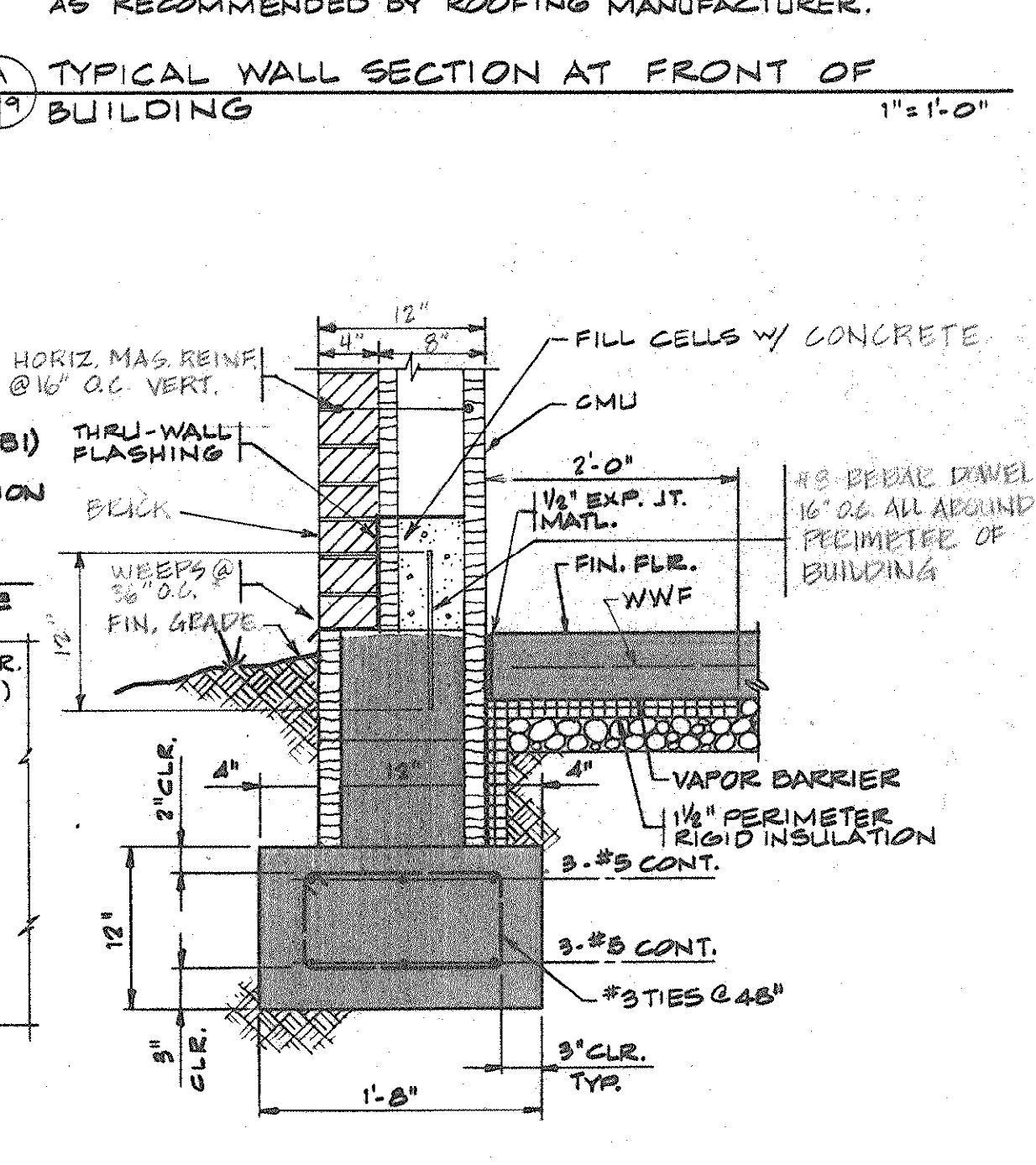
(H) TYP. FRAME AROUND ROOF OPENING NO SCALE



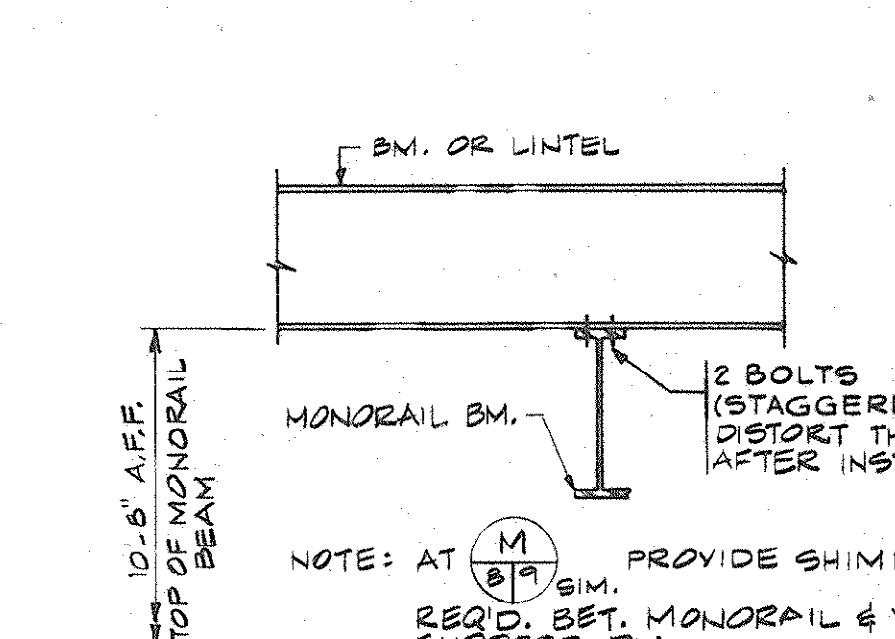
(G) TYP. BM. BRG. DETAIL AT WALLS 3/4" = 1'-0"



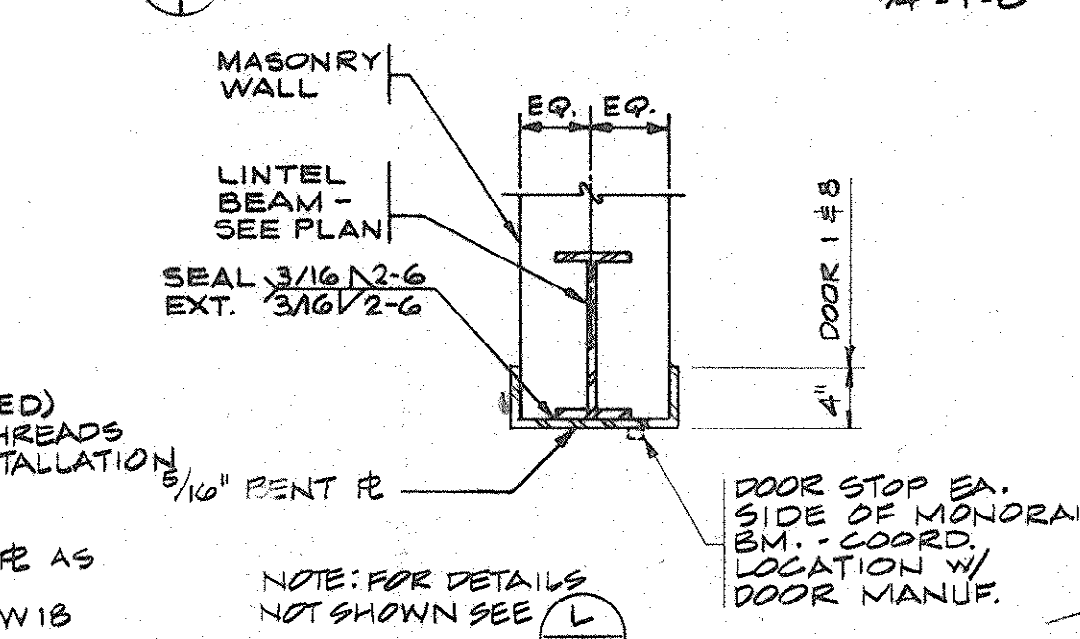
(F) TYP. JOIST TO BEAM CONN. & KBI NO SCALE



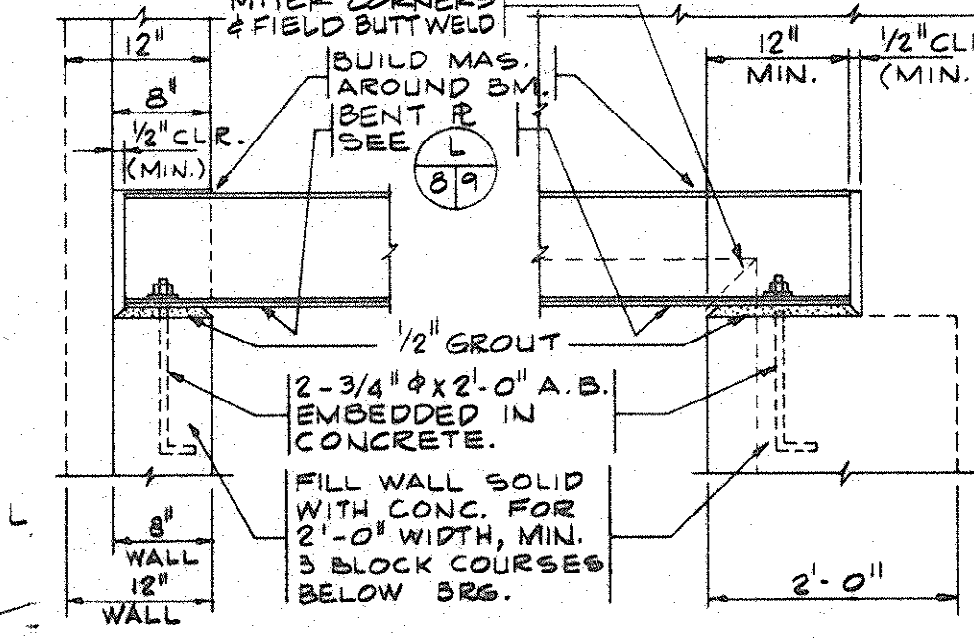
(J) TYPICAL WALL SECTION AT FOOTING 1/2" = 1'-0"



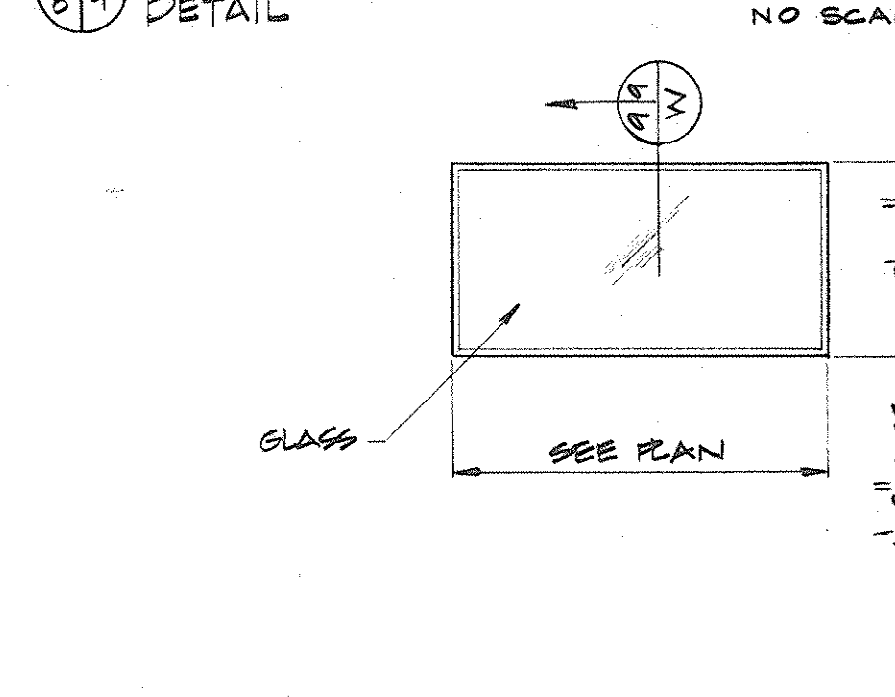
(M) TYP. MONORAIL BM. TO BM. CONN. DETAIL NO SCALE



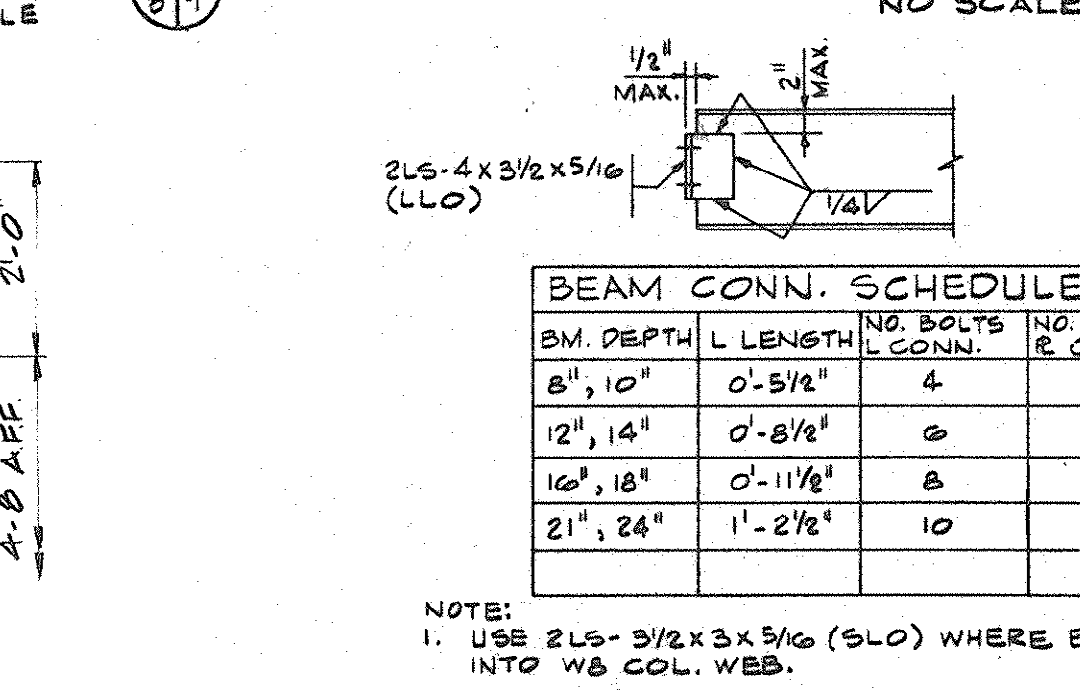
(L) TYP. LINTEL DETAIL NO SCALE



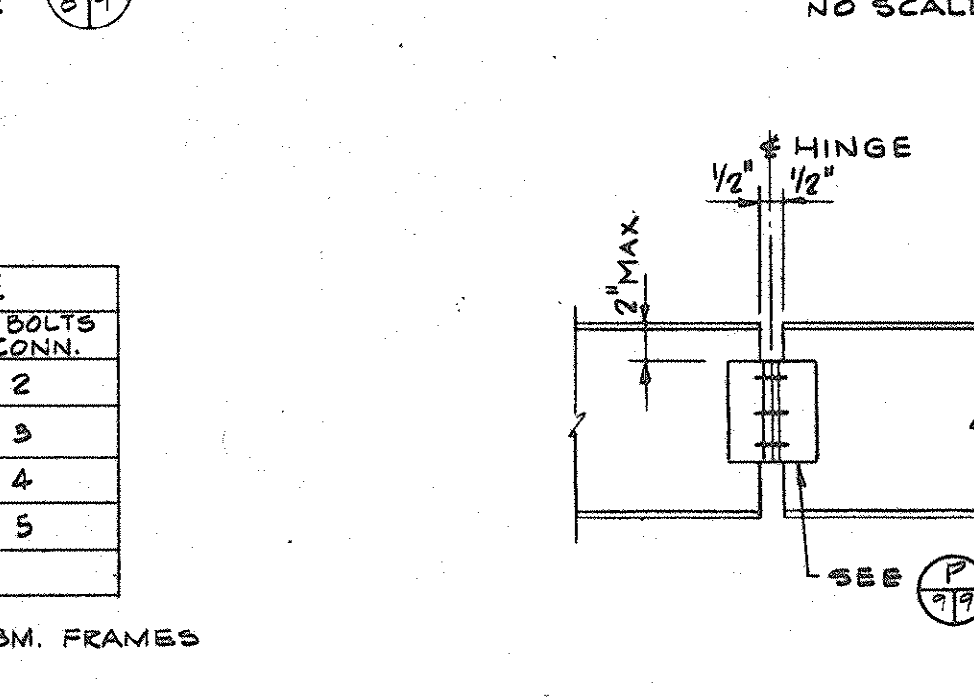
(K) TYP. LINTEL BEARING DETAIL NO SCALE



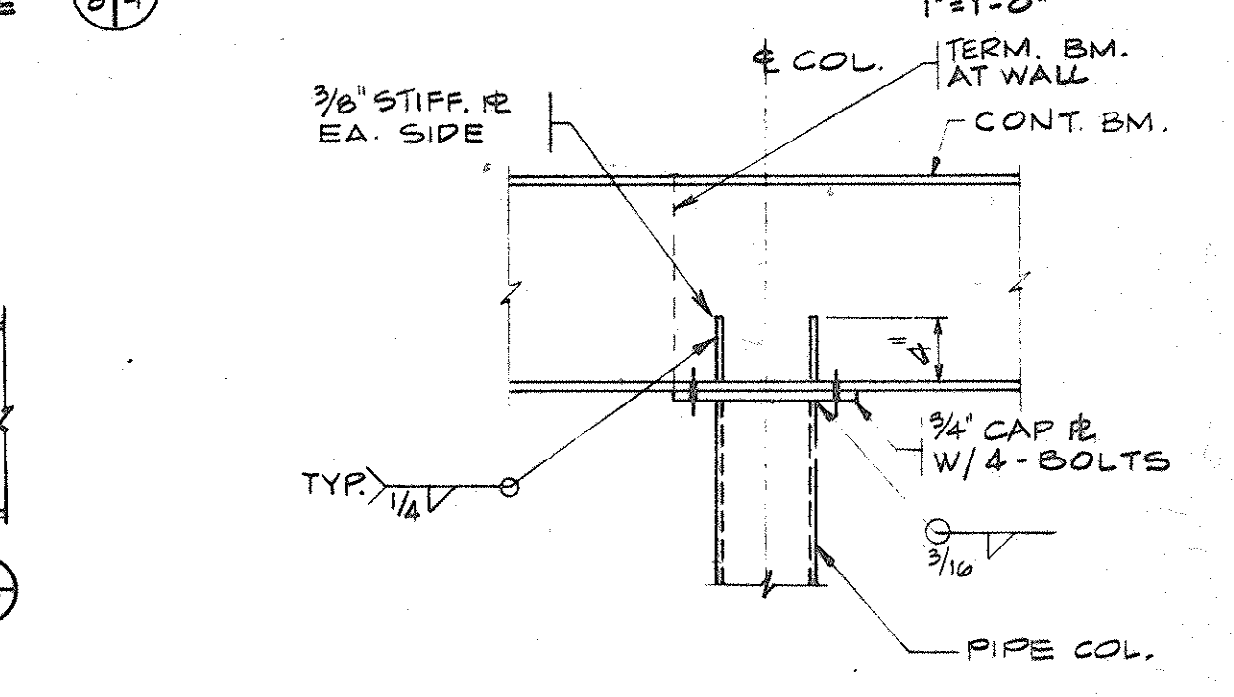
(X) WINDOW ELEVATION NO SCALE



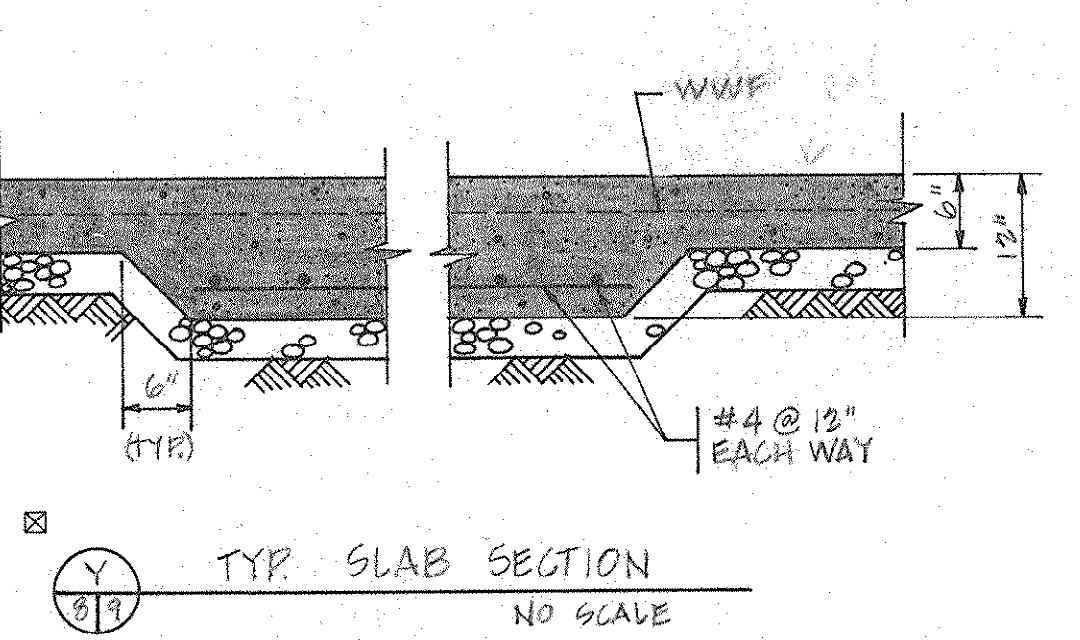
(P) TYP. BEAM CONNECTIONS NO SCALE



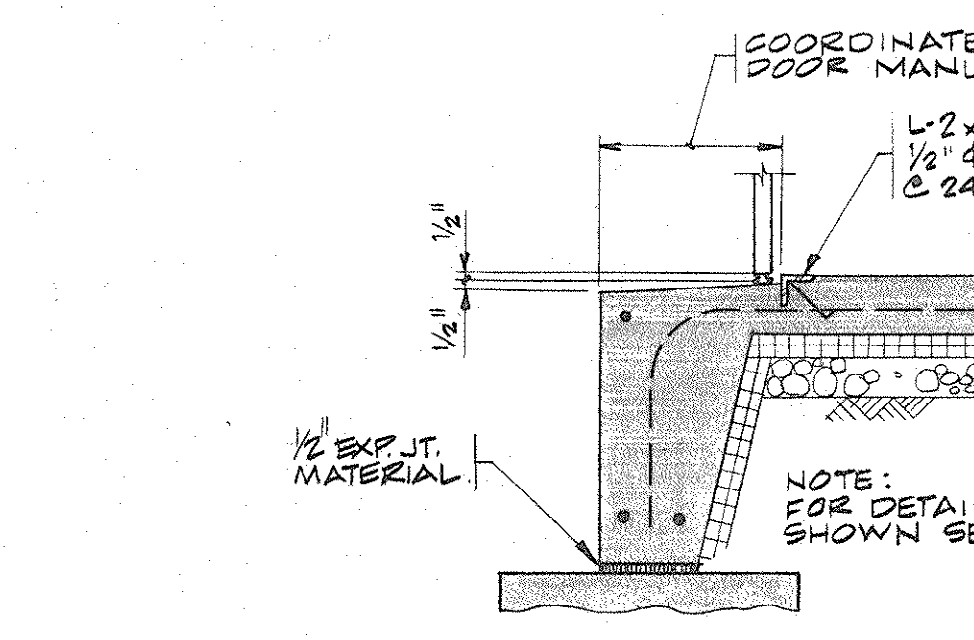
(Q) TYP. HINGE DETAIL AT BEAMS NO SCALE



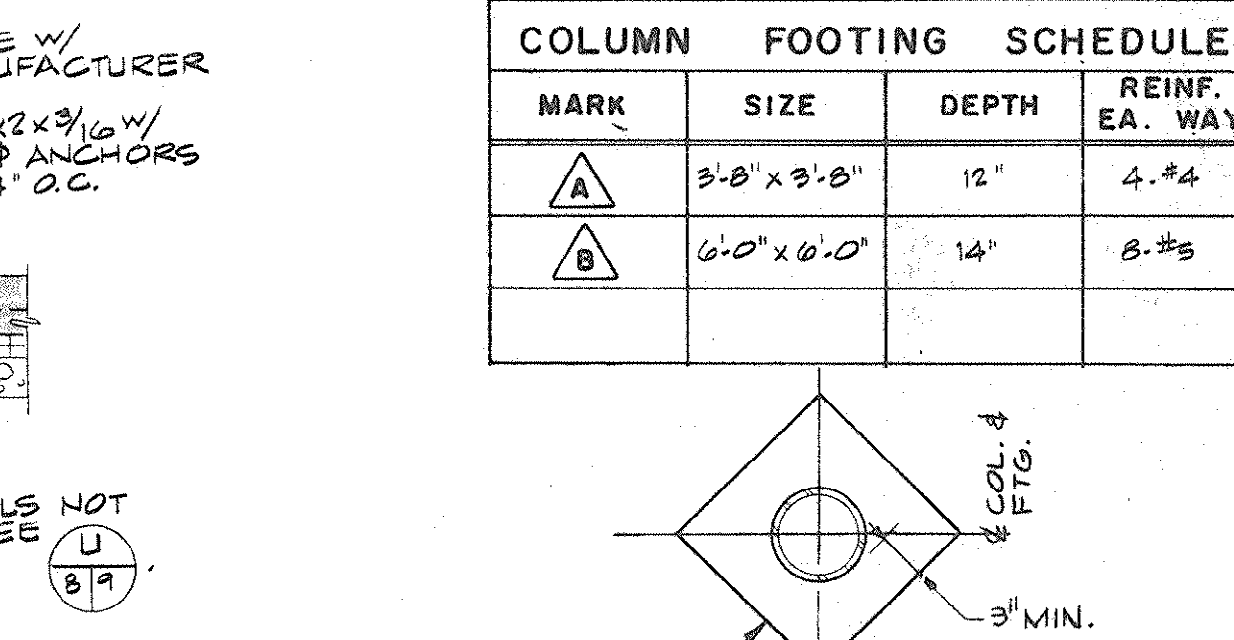
(N) TYP. CONT. BEAM TO COL. CONN. NO SCALE



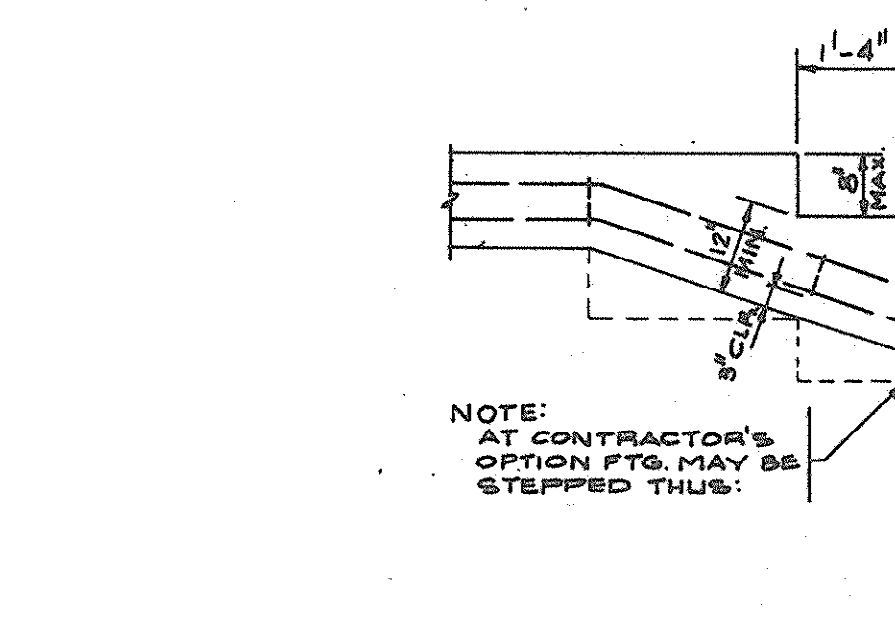
(V) TYP. SLAB SECTION NO SCALE



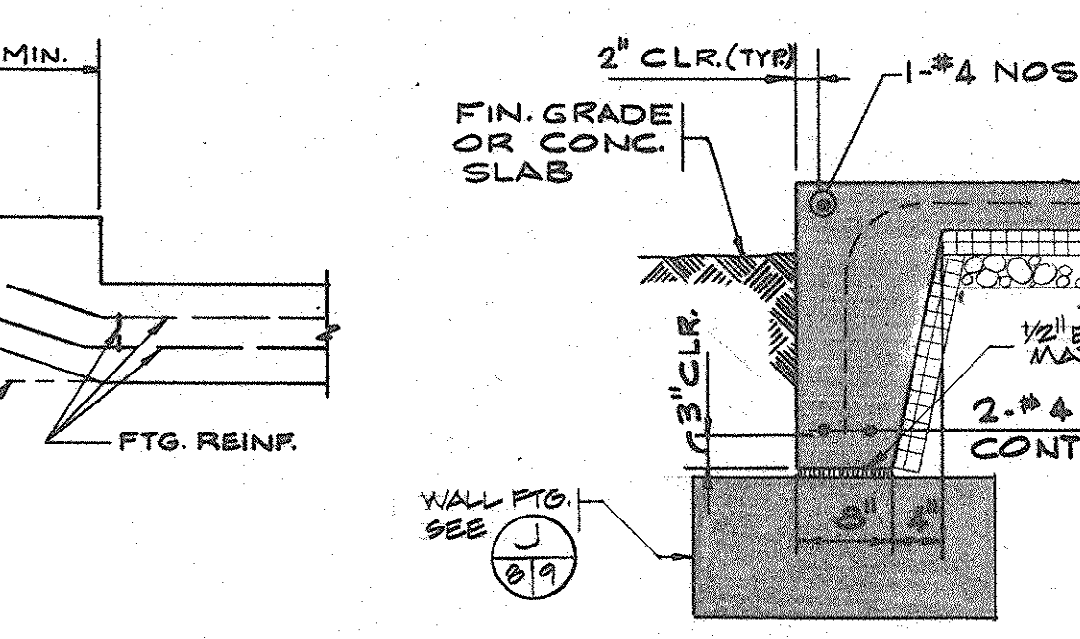
(S) SECTION THRU SLAB AT ROLL-UP DOOR 3/4" = 1'-0"



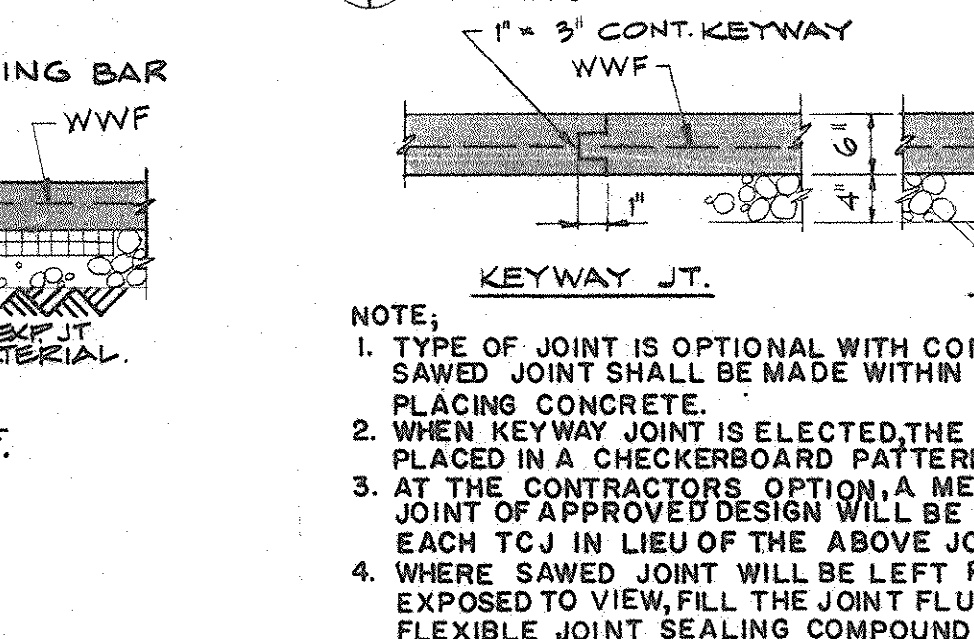
(R) TYP. PIPE COLUMN BASE DETAIL NO SCALE



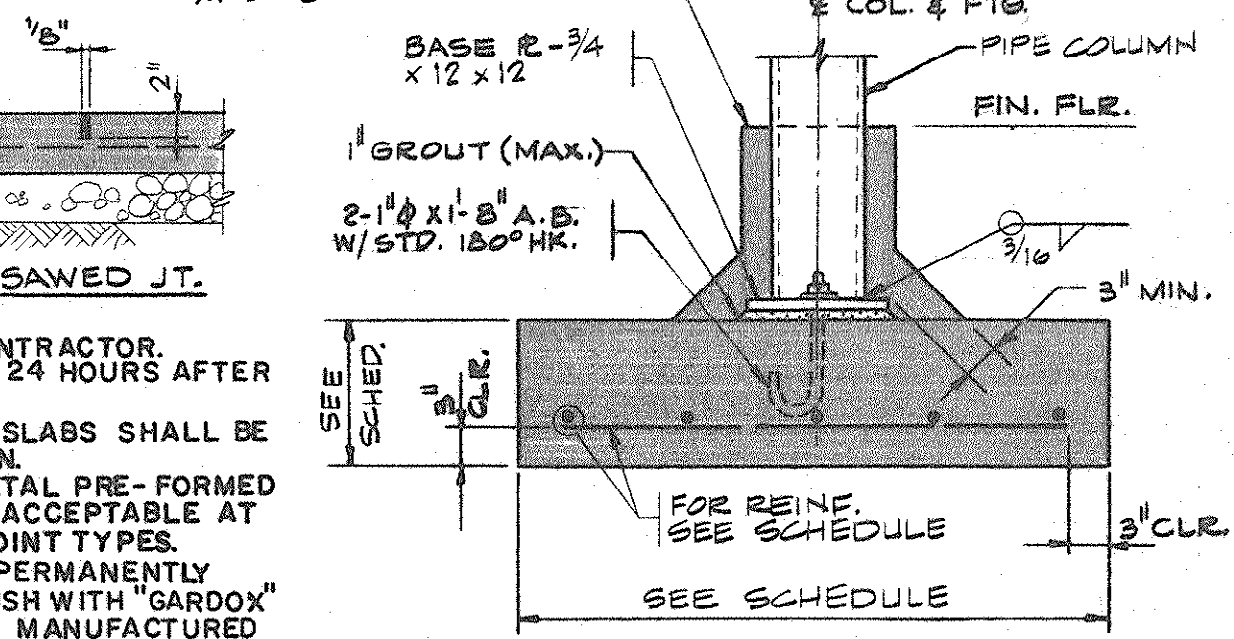
(U) TYP. STEPPED FOOTING DETAIL NO SCALE



(W) TYP. SLAB EDGE REINFORCING 3/4" = 1'-0"



(T) TYP. CONTROL JOINT (TCJ) AT SLAB ON-GRADE NO SCALE



(R) TYP. PIPE COLUMN BASE DETAIL NO SCALE

LINTEL SCHEDULE				REVISIONS			
OPENING	LINTEL	BEARING	OPENING	6" OR 8" WALL	10" OR 12" WALL BEARING	SYM.	DESCRIPTION
0'-0" to 1'-4"	1L-3/8 x 3/8	8"	0'-0" to 1'-4"	2-3	2-3	1	SLAB SECTION AND BRICK WALL RECORD DRAWING
1'-4" to 4'-0"	1L-3/8 x 3/8 x 3/8	8"	1'-4" to 4'-0"	2-3	2-3	2	
4'-0" to 6'-0"	1L-4 x 3/8 x 3/8	8"	4'-0" to 6'-0"	2-3	2-3	3	
6'-0" to 8'-0"	1L-5 x 3/8 x 3/8	8"	6'-0" to 8'-0"	2-3	2-3	4	
8'-0" to 10'-0"	1L-6 x 3/8 x 3/8	8"	8'-0" to 10'-0"	2-3	2-3	5	
10'-0" to 12'-0"	1L-6 x 3/8 x 3/8	8"	10'-0" to 12'-0"	2-3	2-3	6	
12'-0" to 14'-0"	1L-6 x 3/8 x 3/8	8"	12'-0" to 14'-0"	2-3	2-3	7	
14'-0" to 16'-0"	1L-6 x 3/8 x 3/8	8"	14'-0" to 16'-0"	2-3	2-3	8	
16'-0" to 18'-0"	1L-6 x 3/8 x 3/8	8"	16'-0" to 18'-0"	2-3	2-3	9	
18'-0" to 20'-0"	1L-6 x 3/8 x 3/8	8"	18'-0" to 20'-0"	2-3	2-3	10	

DATE	BY
12/21/89	WJM
1-14-92	RAC

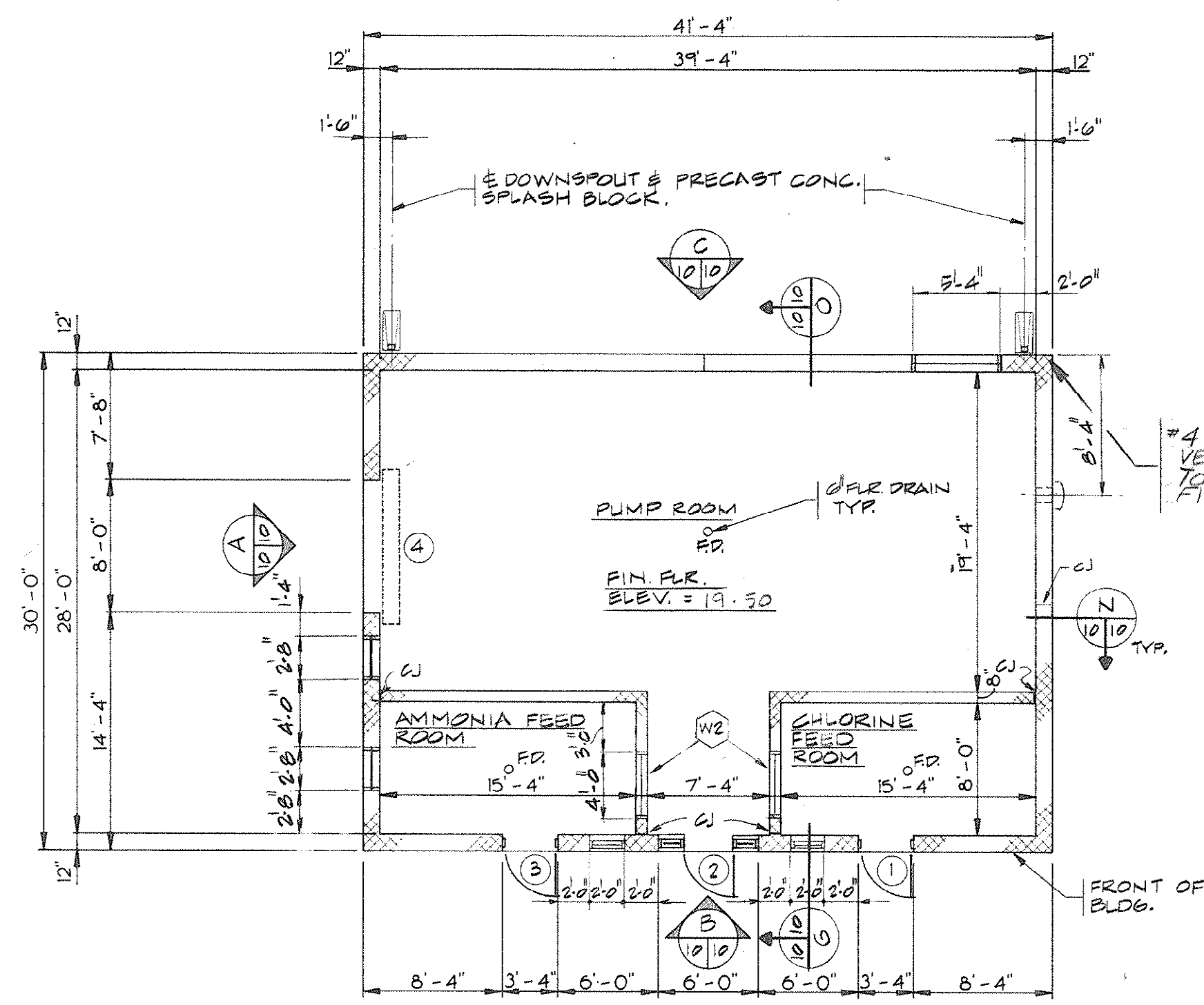
Greiner
GREINER, INC.
Raleigh, North Carolina

HOBBS, UPCHURCH & ASSOCIATES, P.A.
CONSULTING ENGINEERS
SOUTHERN PINES, NORTH CAROLINA 28387

SURFACE WATER TREATMENT PLANT
GRAND STRAND WATER AND SEWER AUTHORITY

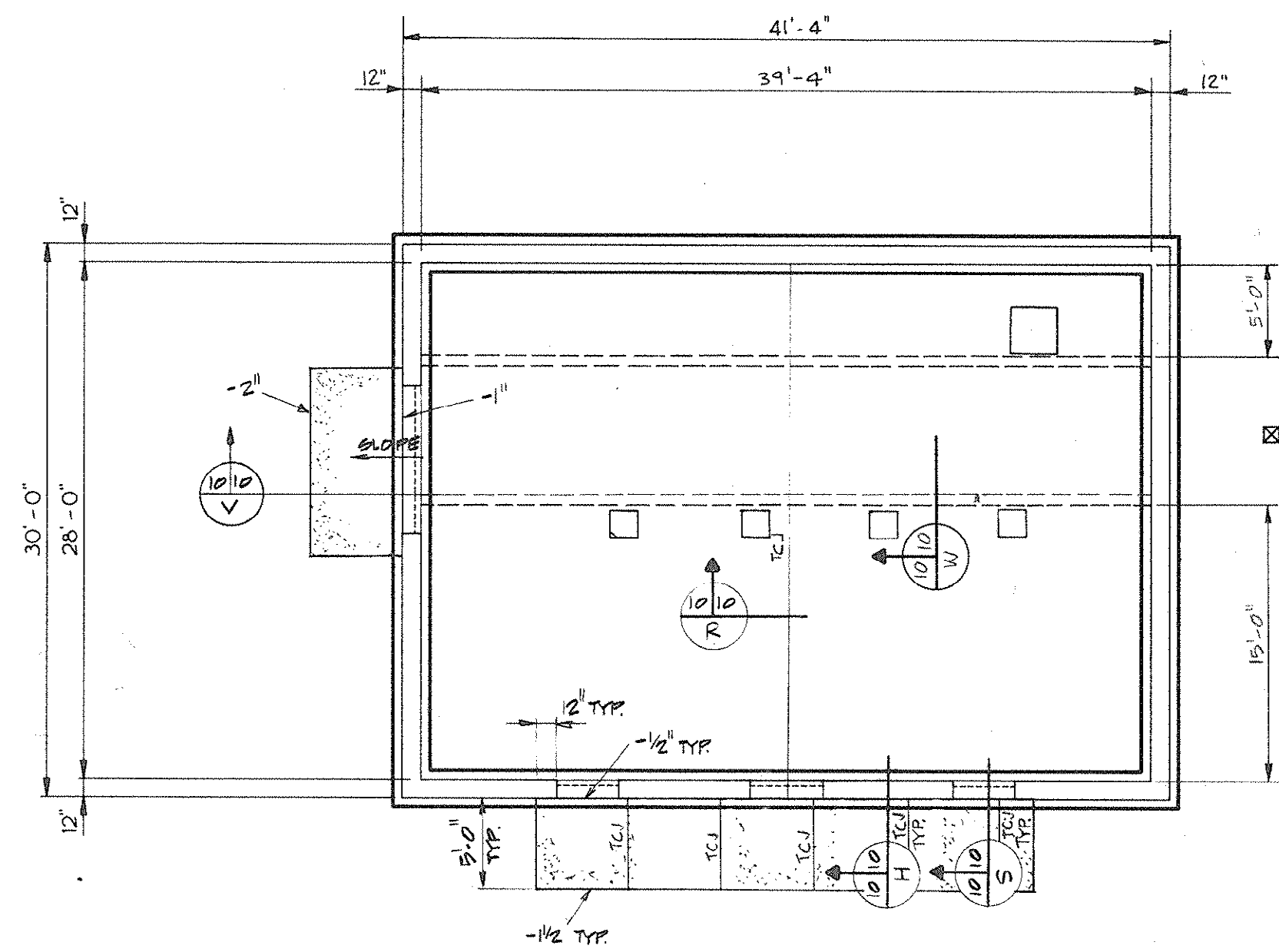
SOUTH PUMP STATION DETAILS
33-04-009W

DATE: 12/21/89
DESIGNED: WFD
DRAWN: LAW
CHECKED: WFD
SCALE: AS NOTED
SHEET NO. G-9



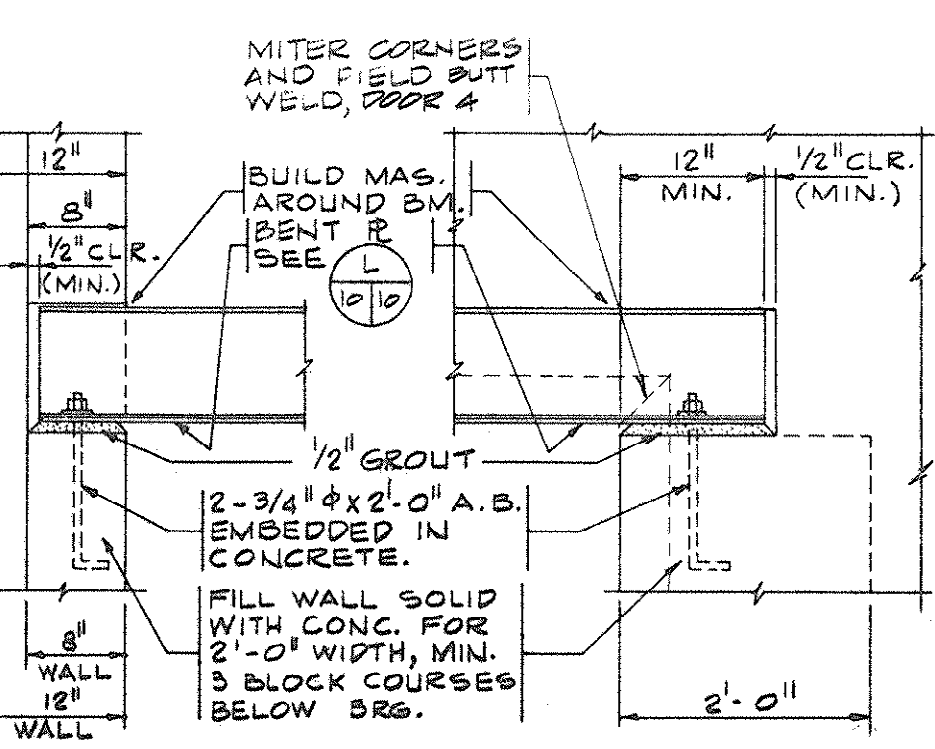
FLOOR PLAN - CONWAY PUMP STATION

- NOTES:
1. EXTEND ALL INTERIOR MASONRY WALLS TO BOTTOM OF ROOF DECK.
 2. SEE PIPING DRAWINGS FOR LOCATIONS AND DETAILS OF PIPE SUPPORTS AND PUMP PADS.
 3. CONSTRUCT WOOD JOIST DROP CEILING IN CHLORINE FEED AND AMMONIA FEED ROOMS USING 2"x8" JOISTS. FINISH CEILING WITH 1/2" MOLDED PLANK. HEIGHT TO CEILING FROM FINISHED FLOOR SHALL BE 9'-0".

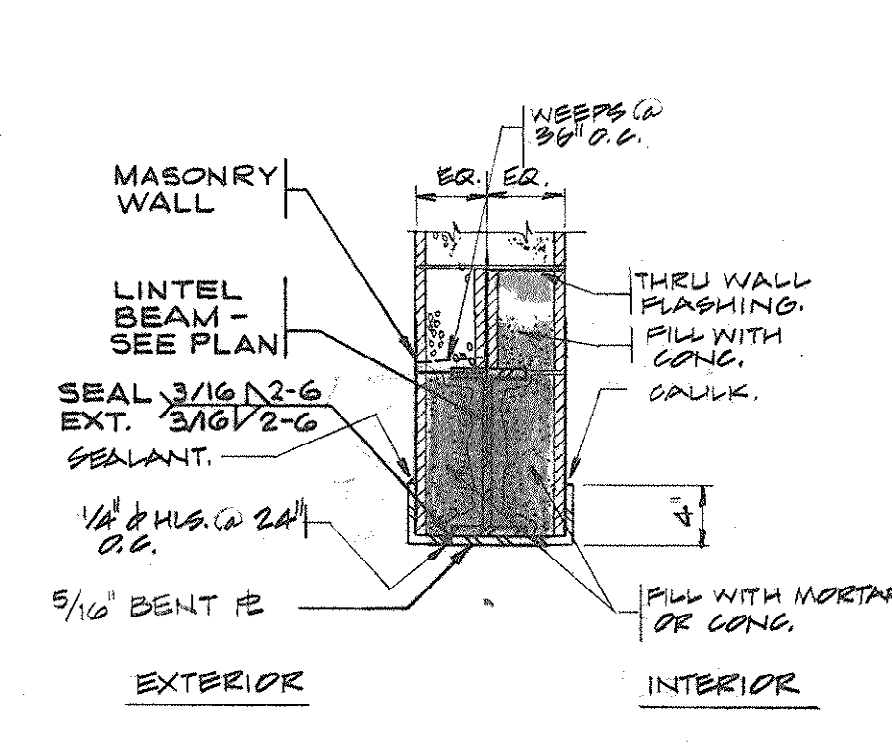


FOUNDATION PLAN - CONWAY PUMP STATION

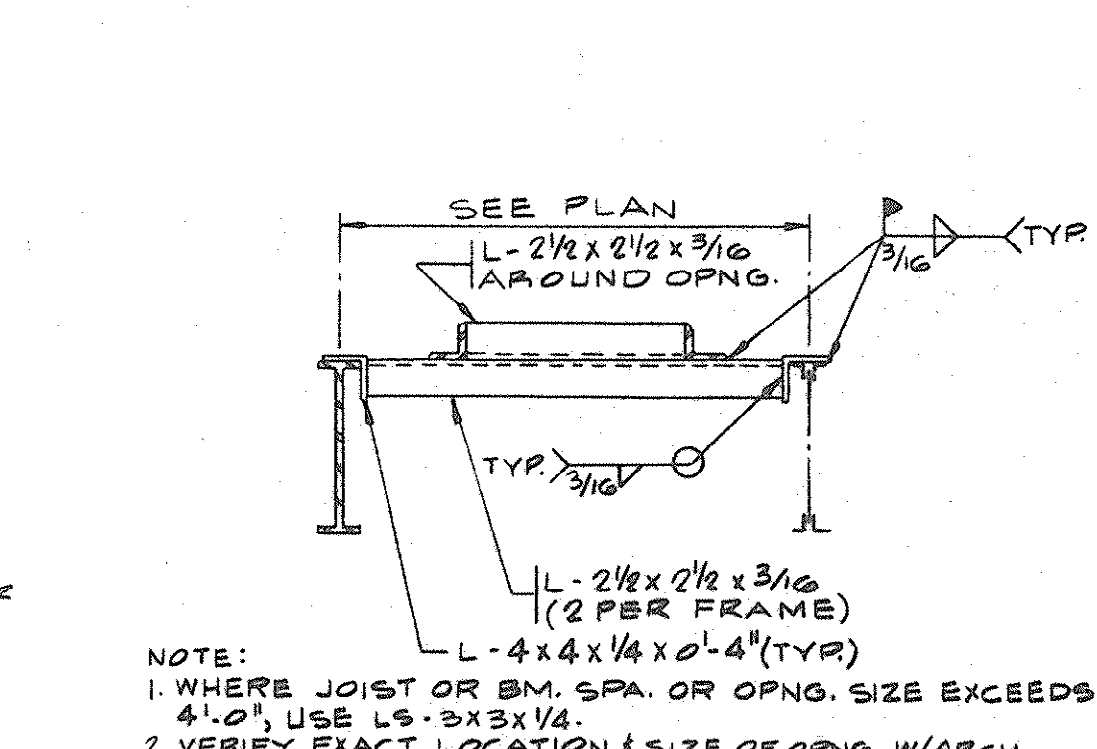
- NOTES:
1. TOP OF WALL FTO ELEV. = 19.97 U.O.N. THUS: XX.XX.
 2. ALL SLABS SHALL BE 6" THICKNESS AND SHALL BE PLACED OVER VAPOR BARRIER AND 4" COMPACTED STONE.
 3. FIN. FLOOR ELEV. = 20.00 U.O.N.
 4. ALL WALL DIMENSIONS SHOWN ARE NOMINAL DIMENSIONS.
 5. REIN. SLAB WITH 6x6-N2x8-W2.8 WALLS.



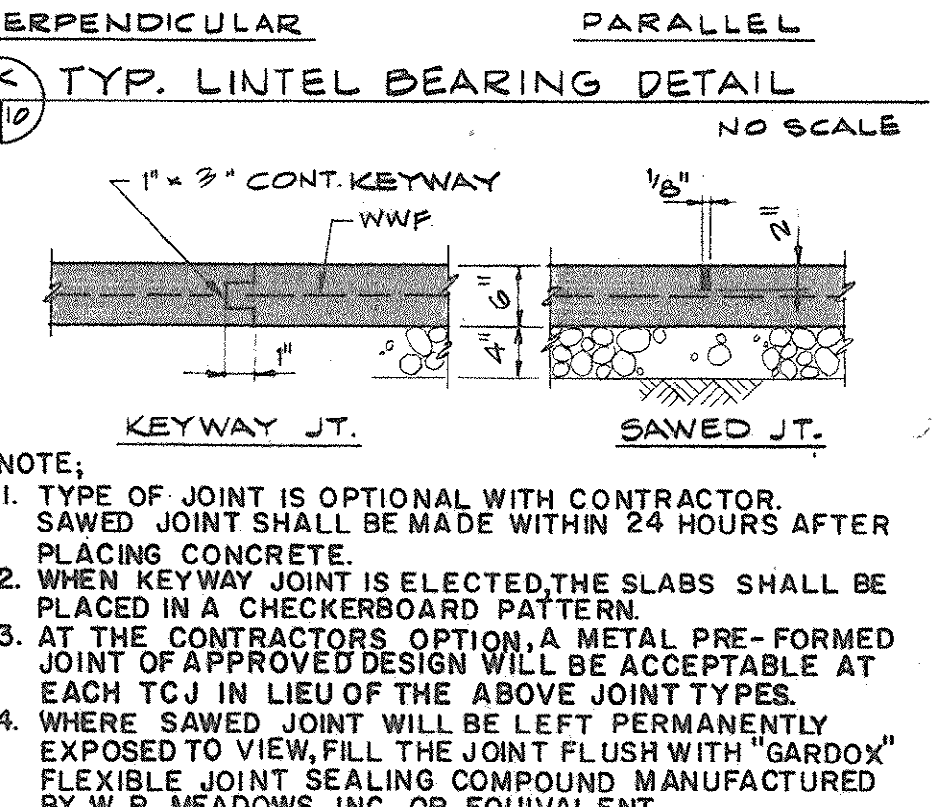
TYP. LINTEL BEARING DETAIL



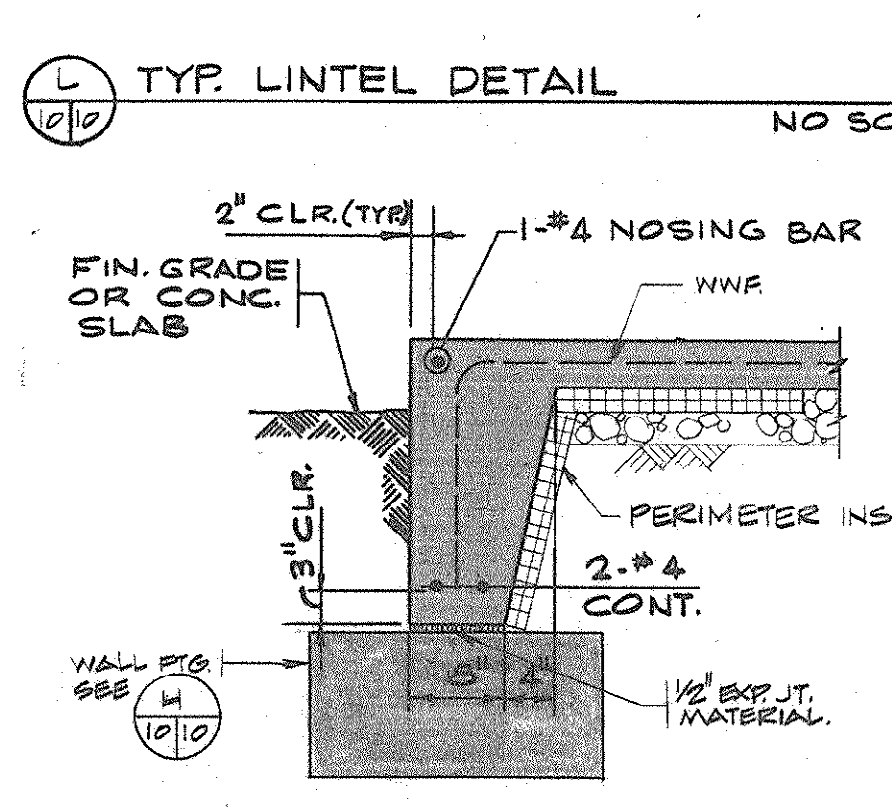
TYP. LINTEL DETAIL



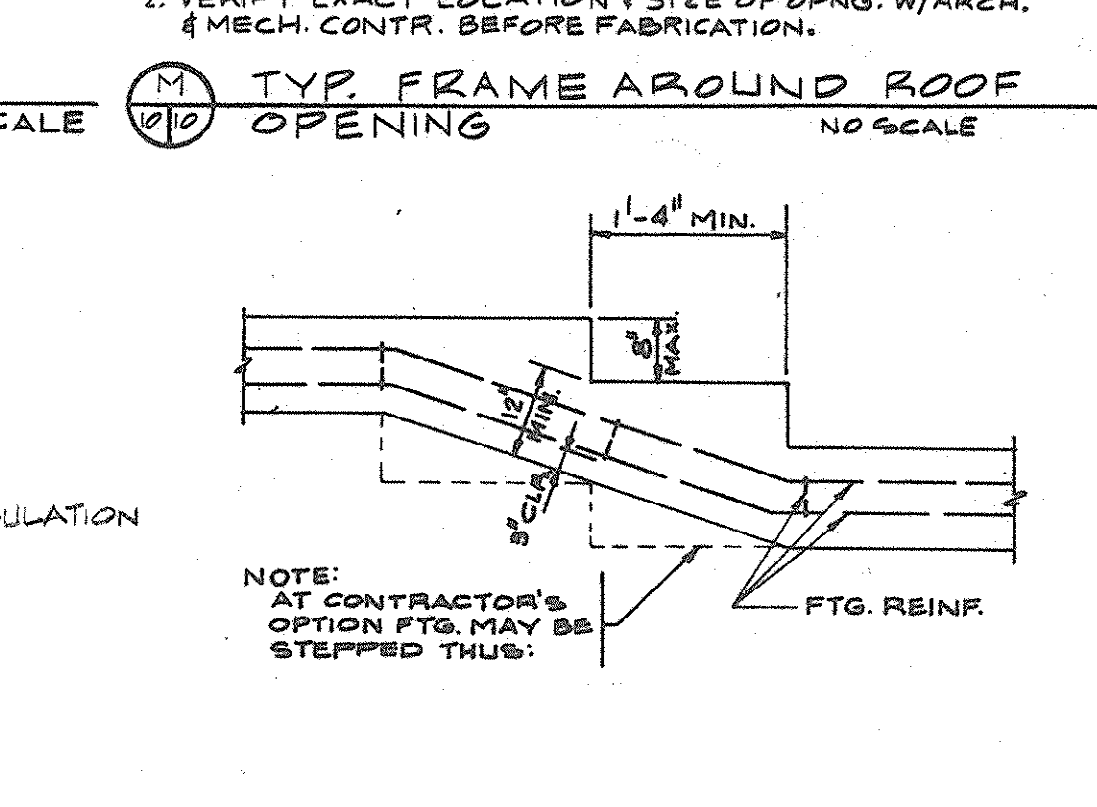
TYP. FRAME AROUND ROOF OPENING



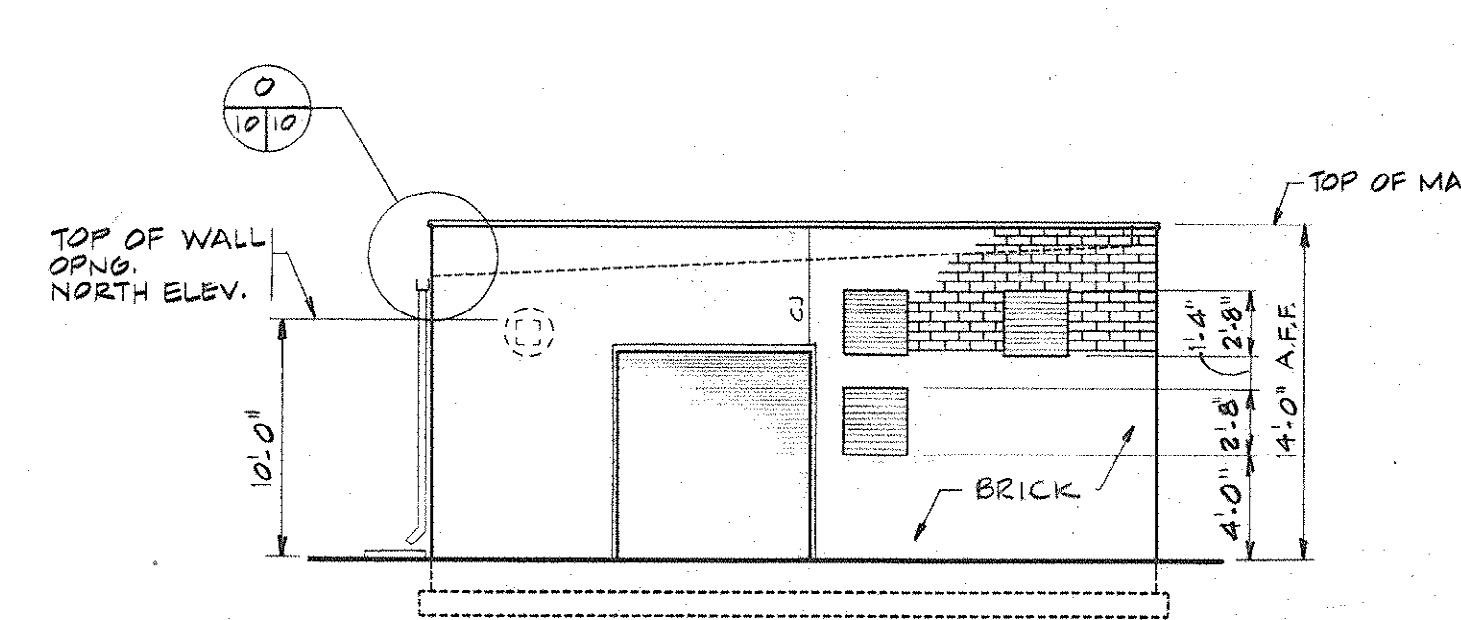
TYP. CONTROL JOINT (CJ) AT SLAB-ON-GRADE



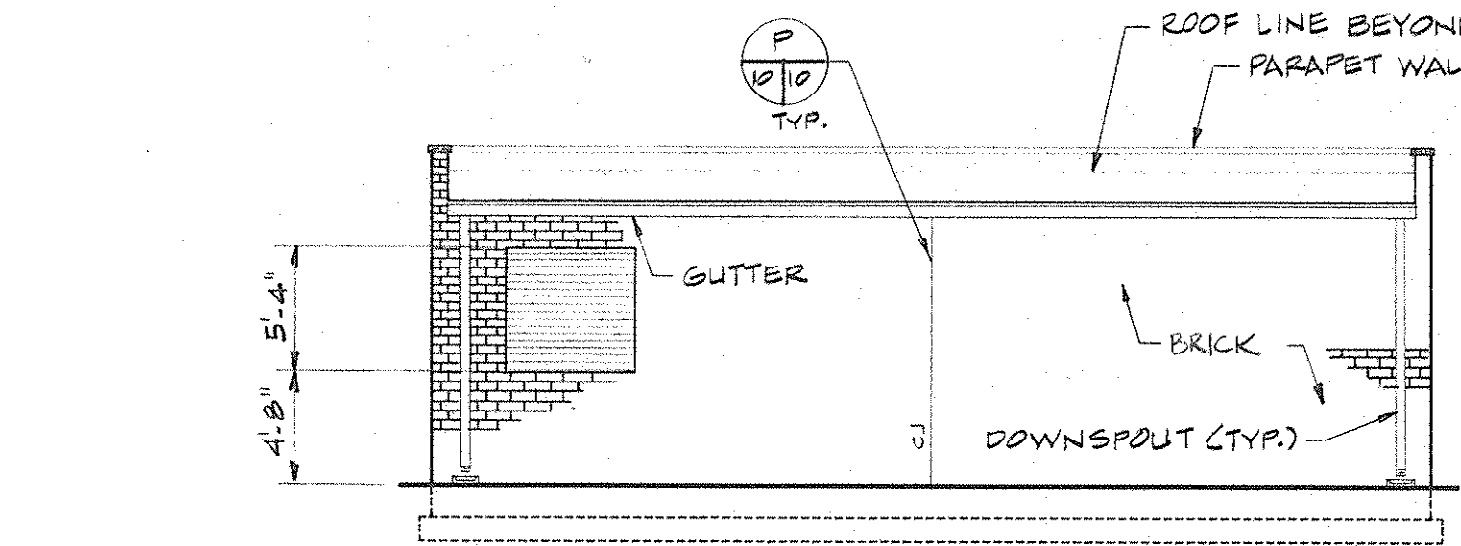
TYP. SLAB EDGE REINFORCING



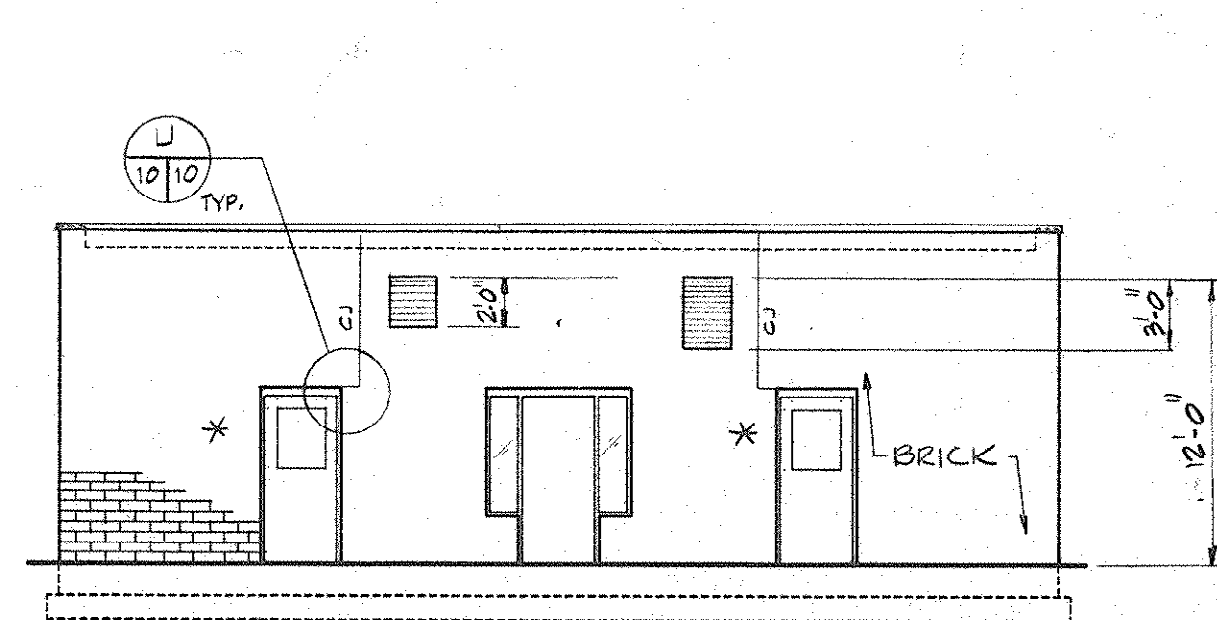
TYP. STEPPED FOOTING DETAIL



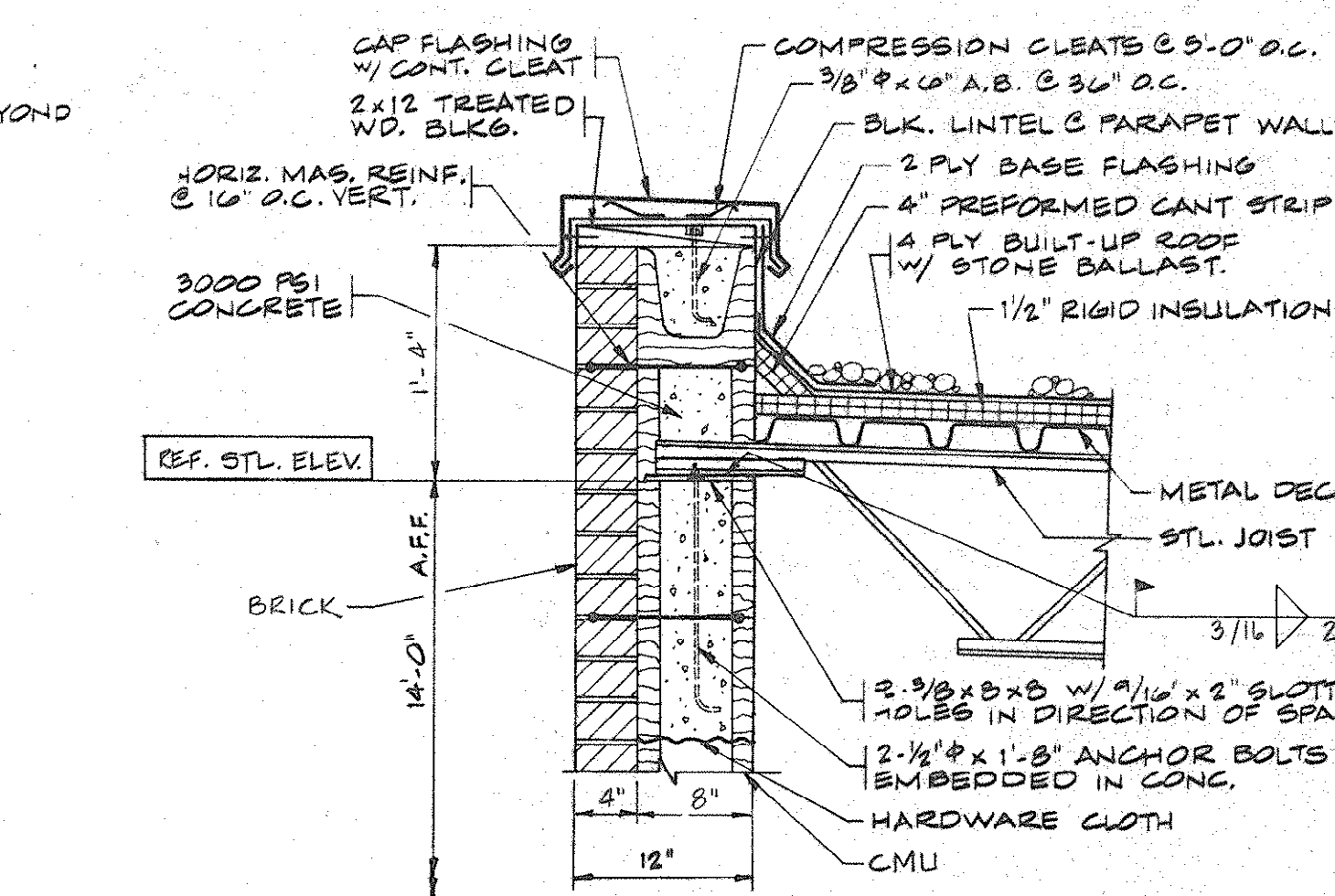
SOUTH ELEVATION NORTH ELEVATION SIMILAR



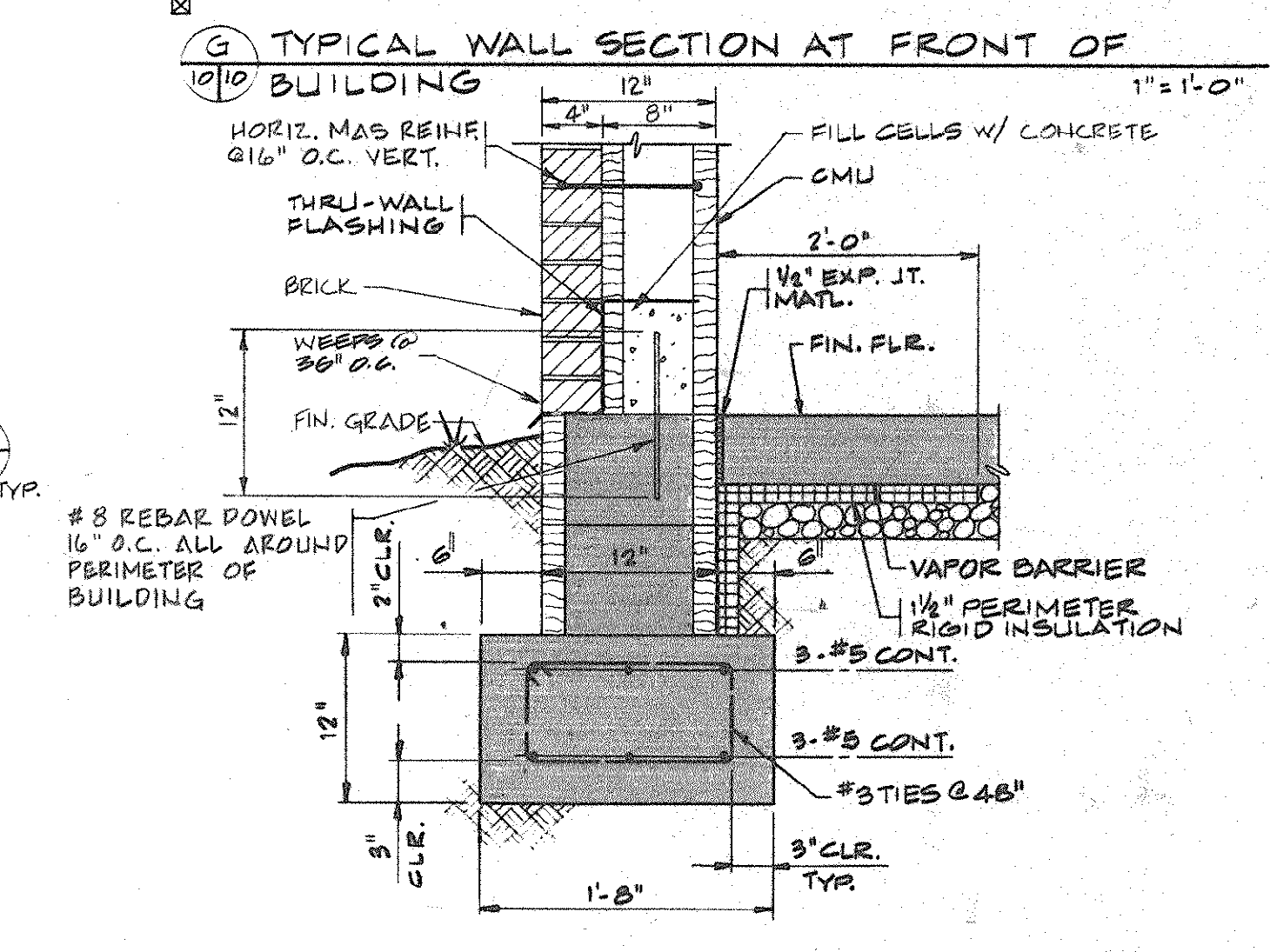
WEST ELEVATION



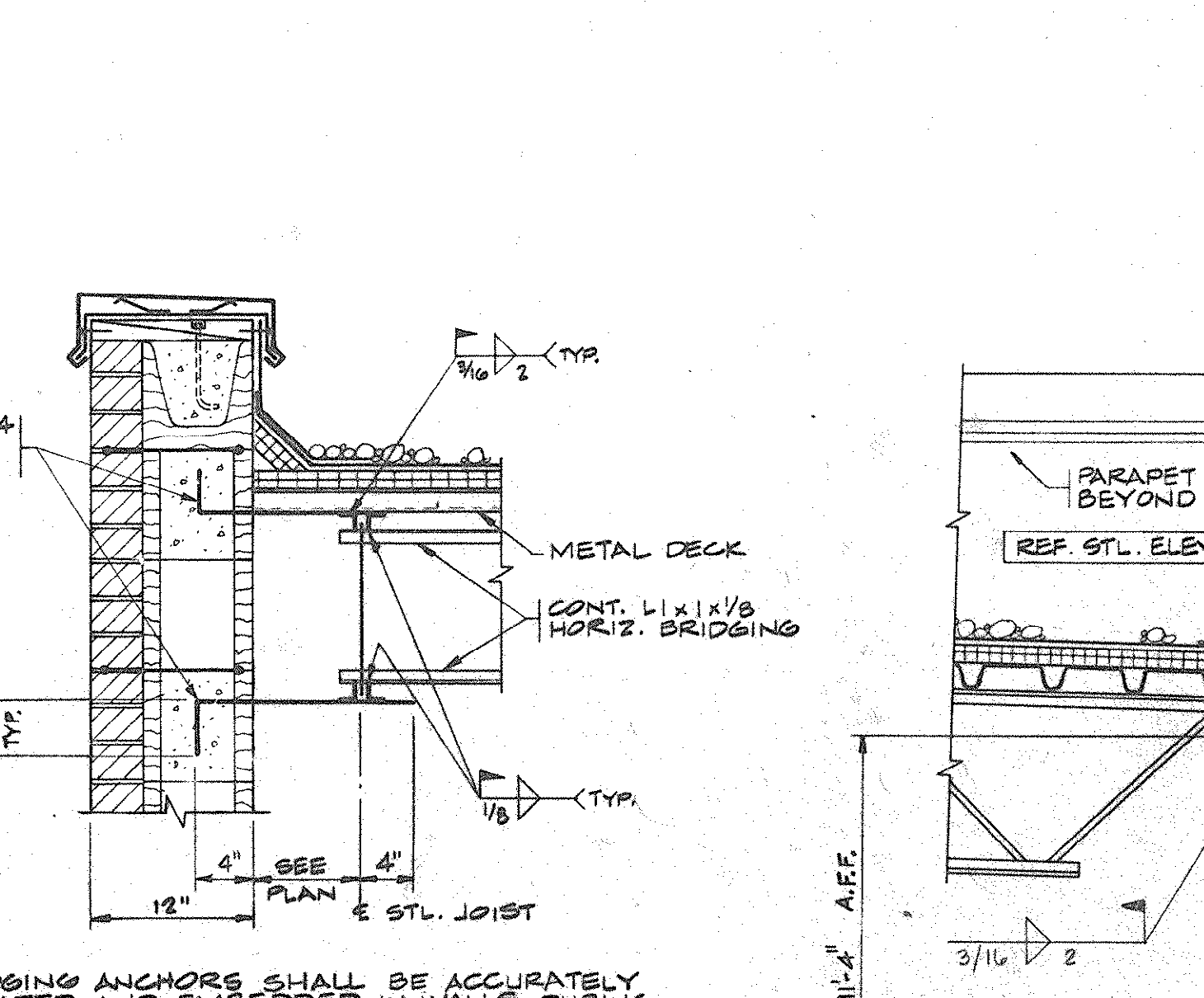
EAST ELEVATION



TYPICAL WALL SECTION AT FRONT OF BUILDING



TYPICAL WALL SECTION AT FOOTING



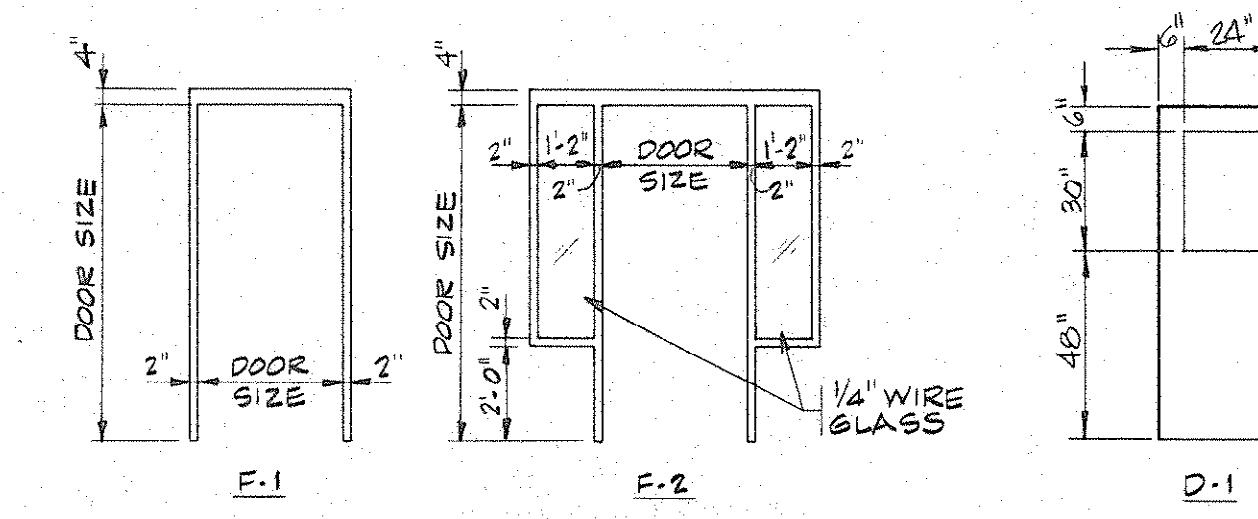
TYPICAL SECTION THRU SIDE WALL

LINTEL SCHEDULE			
OPENING	LINTEL	BEARING	REMARKS
0'-0" to 1'-4"	1'-4" x 8" x 1/2"	8"	
1'-4" to 4'-0"	1'-4" x 12" x 1/2"	12"	
4'-0" to 8'-0"	1'-4" x 16" x 1/2"	16"	
8'-0" to 12'-0"	1'-4" x 20" x 1/2"	20"	
12'-0" to 16'-0"	1'-4" x 24" x 1/2"	24"	
16'-0" to 20'-0"	1'-4" x 28" x 1/2"	28"	
20'-0" to 24'-0"	1'-4" x 32" x 1/2"	32"	
24'-0" to 28'-0"	1'-4" x 36" x 1/2"	36"	
28'-0" to 32'-0"	1'-4" x 40" x 1/2"	40"	
32'-0" to 36'-0"	1'-4" x 44" x 1/2"	44"	
36'-0" to 40'-0"	1'-4" x 48" x 1/2"	48"	

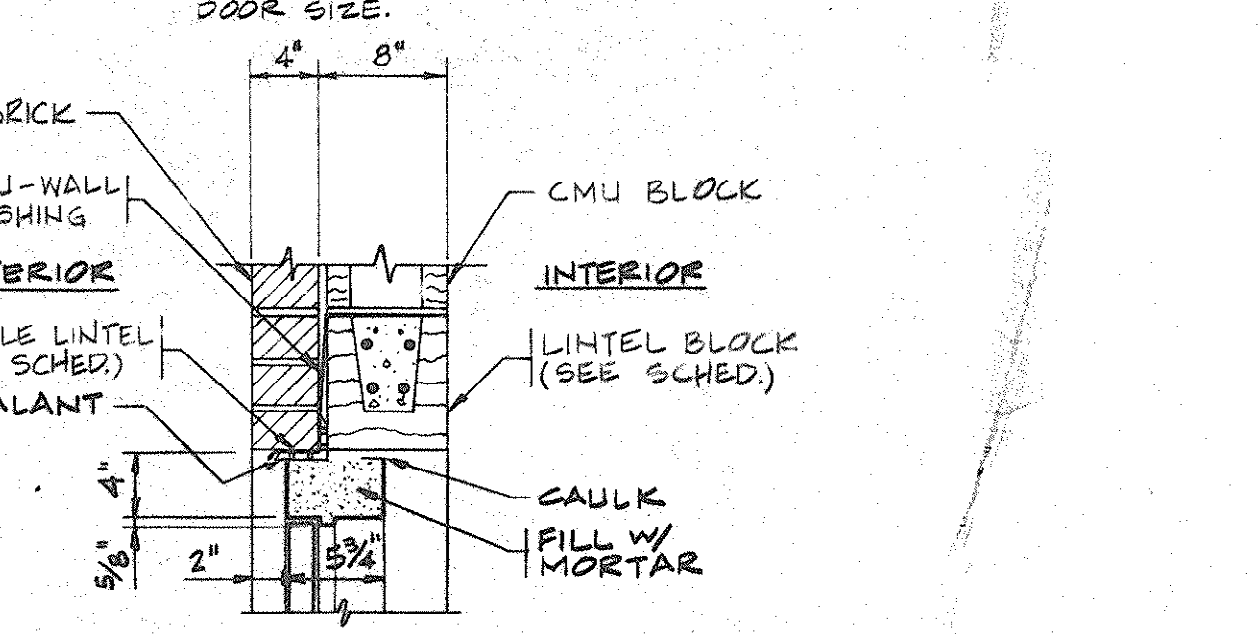
REQUIRED LINTELS NOT OTHERWISE INDICATED ON THE DRAWINGS SHALL BE AS SHOWN IN THE ABOVE SCHEDULE. CONCRETE MASONRY LINTELS SHALL BE FILLED WITH 3000 PSI CONCRETE.

DOOR SCHEDULE													
NO.	SIZE	TYPE	FRAME				DOORS				HARDWARE SET	REMARKS	
			MAT'L	ELEV.	JAMB	HEAD	MAT'L	ELEV.	LABEL	LOUVR.	THRSH.		
1	3'-0" x 7'-0"	EXT.	H.M.	F-1	J-1	H-1	H.M.	D-1	-	-	T-1	1	SHATTER PROOF WINDOW
2	3'-0" x 7'-0"	EXT.	H.M.	F-2	J-1	H-1	H.M.	D-1	-	-	T-1	1	SHATTER PROOF WINDOW
3	3'-0" x 7'-0"	EXT.	H.M.	F-1	J-1	H-1	H.M.	D-1	-	-	T-1	1	SHATTER PROOF WINDOW
4	3'-0" x 8'-0"	ROLL-UP	STEEL	-	J-2	L	STL.	-	-	-	V	1	PROVIDE PADLOCK

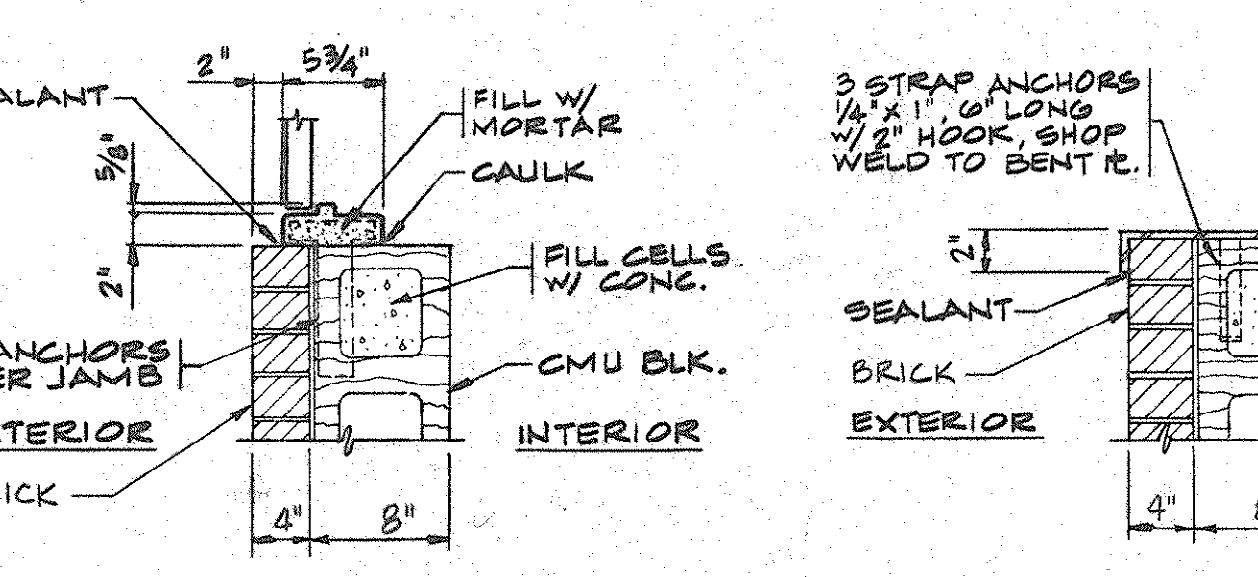
- HARDWARE SET NOTES:
1. HARDWARE SET NO. 1:
 2. HINGES
 3. LOCK SET
 4. EXIT DEVICE
 5. LOCK SET CLOSURE



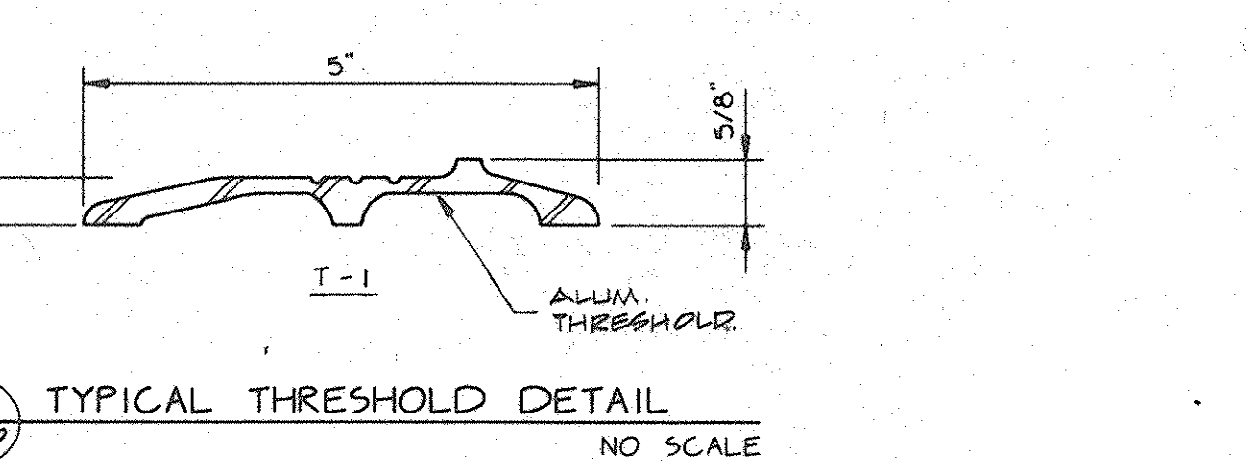
DOOR FRAME ELEVATIONS



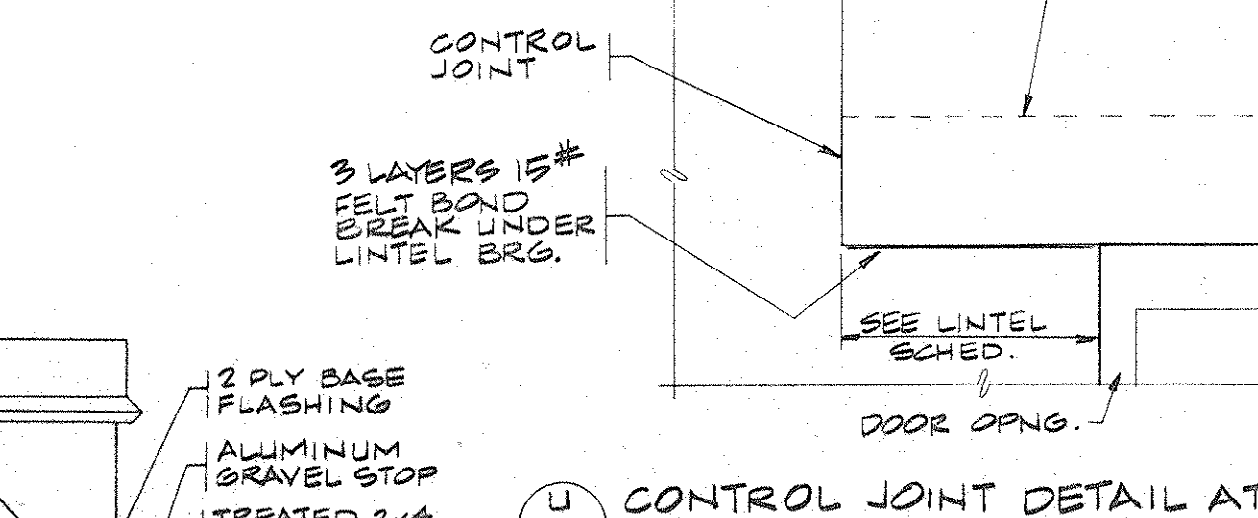
DOOR ELEVATION



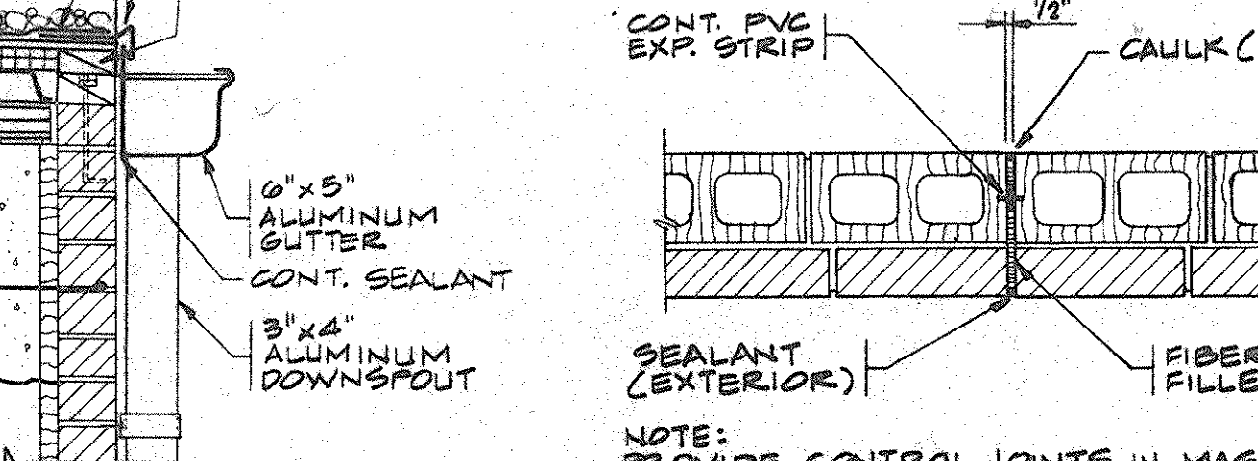
HEAD AND JAMB DETAILS



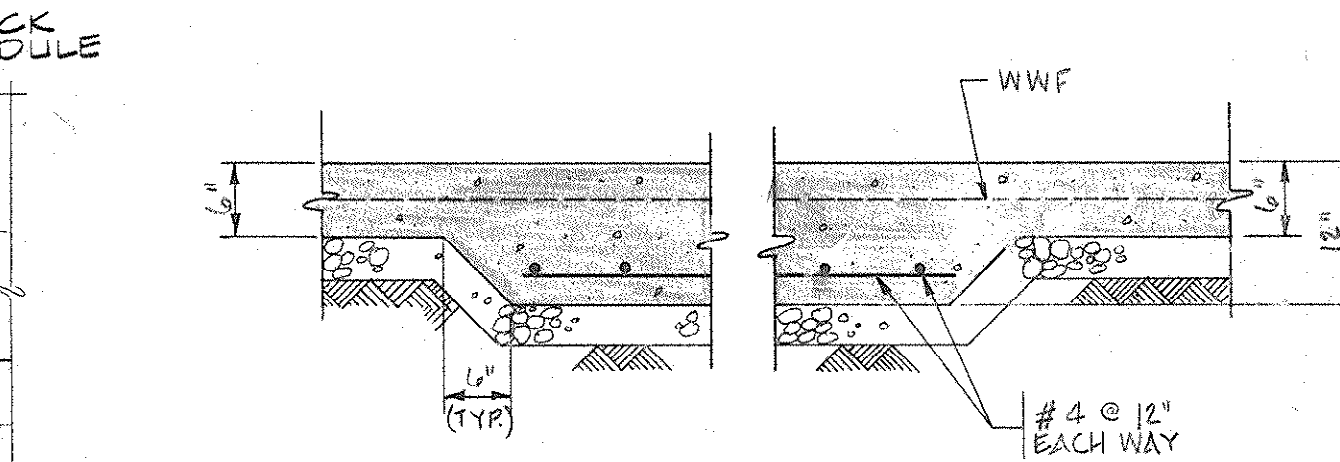
TYPICAL THRESHOLD DETAIL



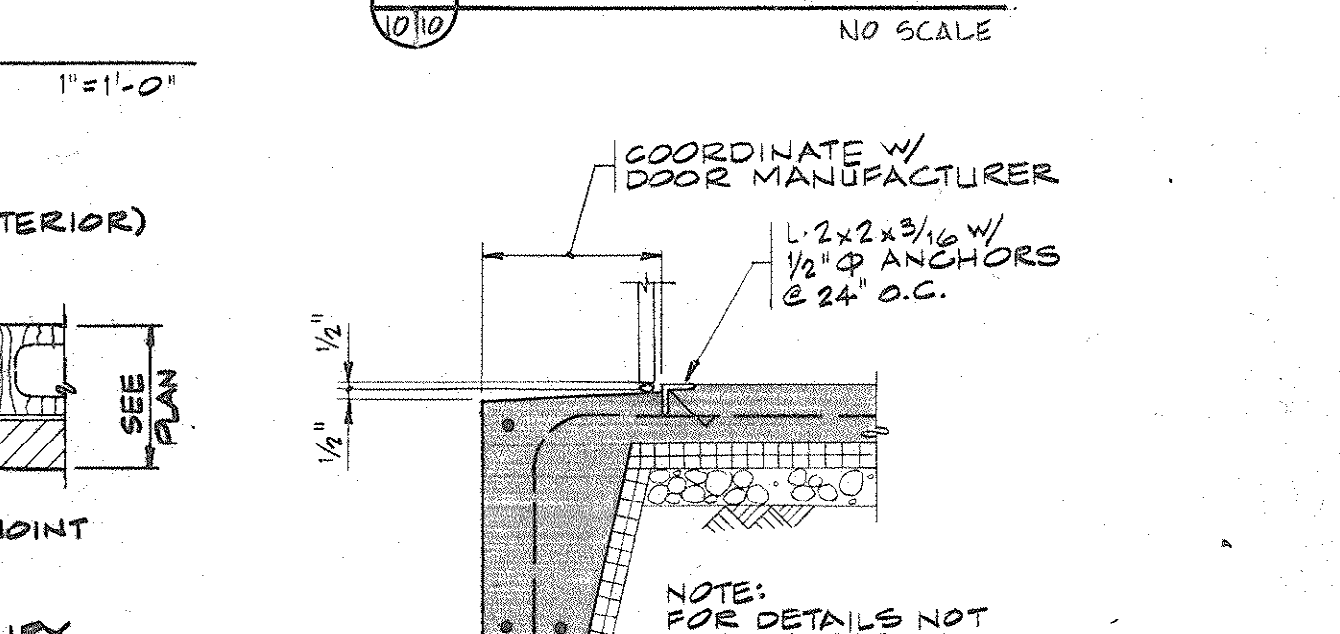
CONTROL JOINT DETAIL AT DOOR OPENING



TYP. MAS. WALL CONTROL JOINT (CJ)



TYP. SLAB SECTION



SECTION THRU SLAB AT ROLL-UP DOOR

REVISIONS

SYN.	DESCRIPTION	DATE	BY
1	DOOR ELEVATIONS AND SCHEDULE	1-5-90 JMM	
2	SLAB SECTION AND REIN. WALL	3-1-90 JMM	
3	RECORD DRAWING	3-14-90 JMM	

HOBBES, UPCHURCH & ASSOCIATES, P.A.

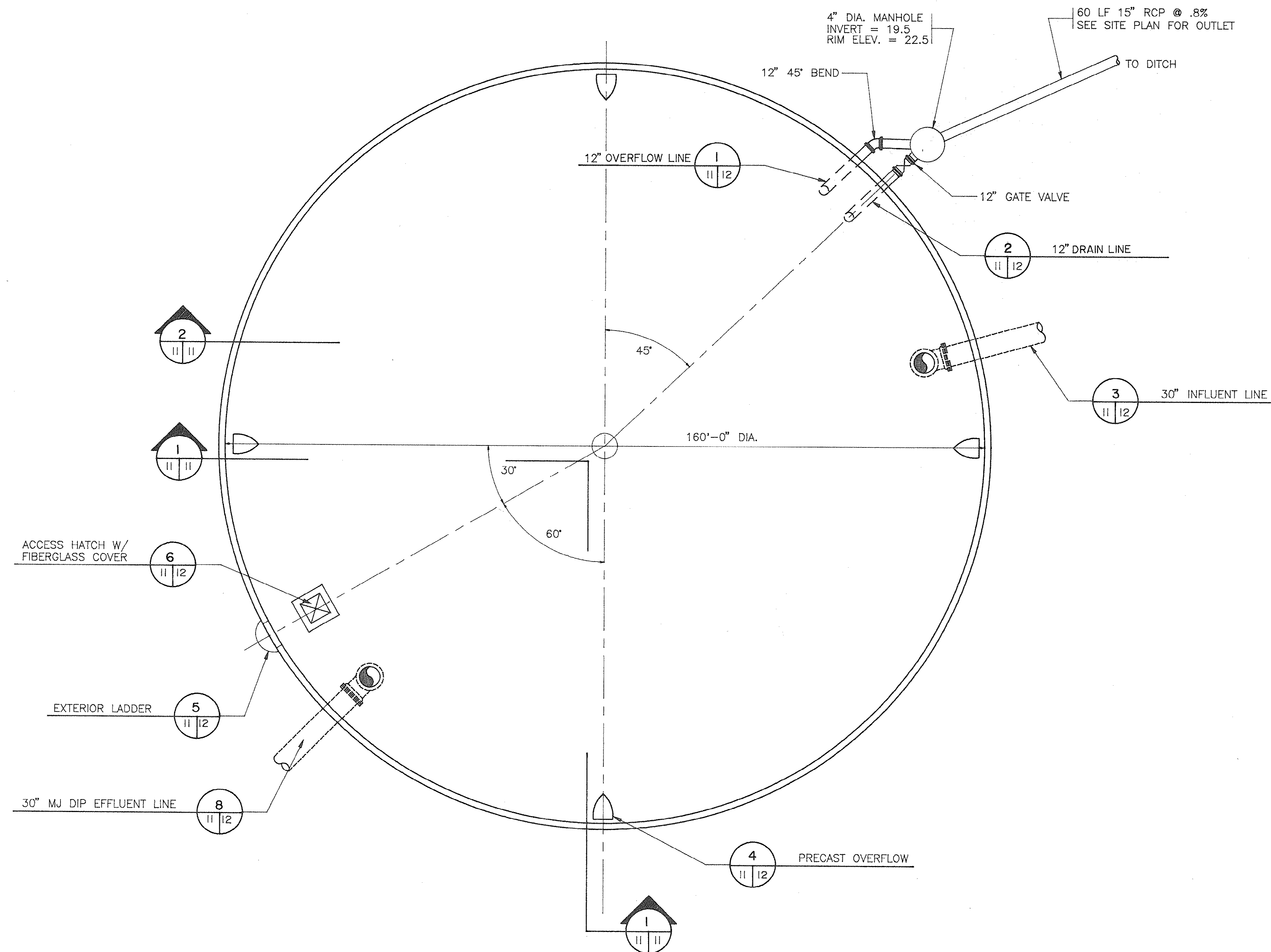
CONSULTING ENGINEERS
SOUTHERN PINES, NORTH CAROLINA 28387

Greiner
GREINER, INC.
Raleigh, North Carolina

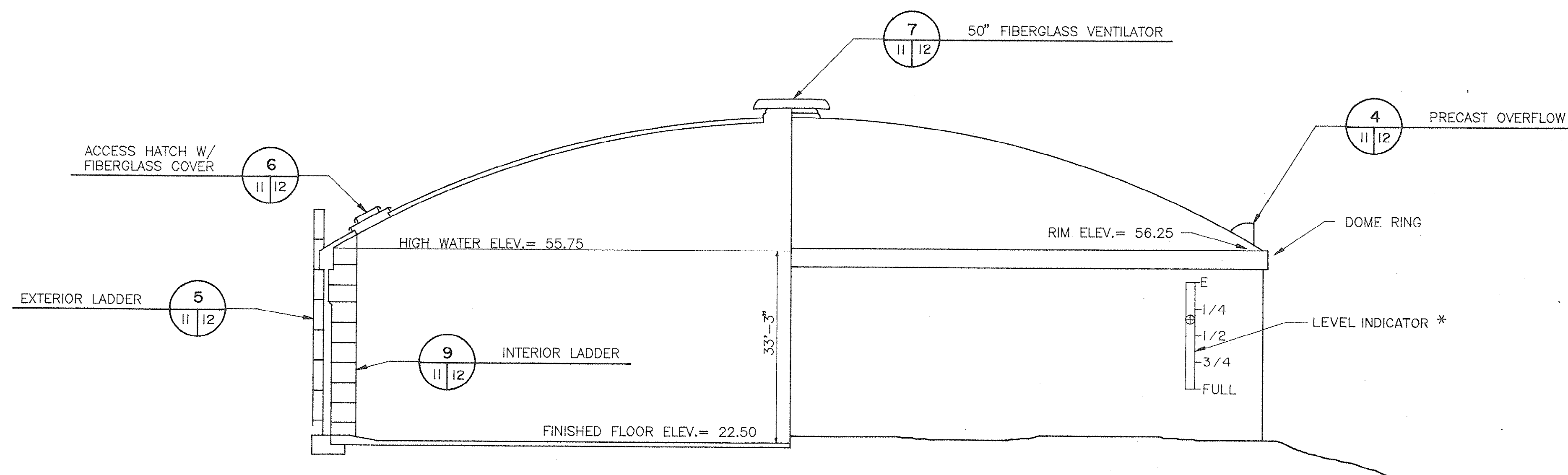
SURFACE WATER TREATMENT
PLANT
GRAND STRAND WATER AND SEWER
AUTHORITY

CONWAY PUMP STATION
PLANS AND DETAILS

DATE: 12/21/89
DESIGNED: WPD
DRAWN: LAW
CHECKED: WPD
SCALE: AS NOTED
SHEET NO. G-10
OF:



1 5,000,000 GALLON CLEARWELL - PLAN
NTS



1 5,000,000 GALLON CLEARWELL - SECTION
NTS

ELEV. 56.25 TOP OF WALL
TOP OF STEEL
SHELL DIAPHRAGM

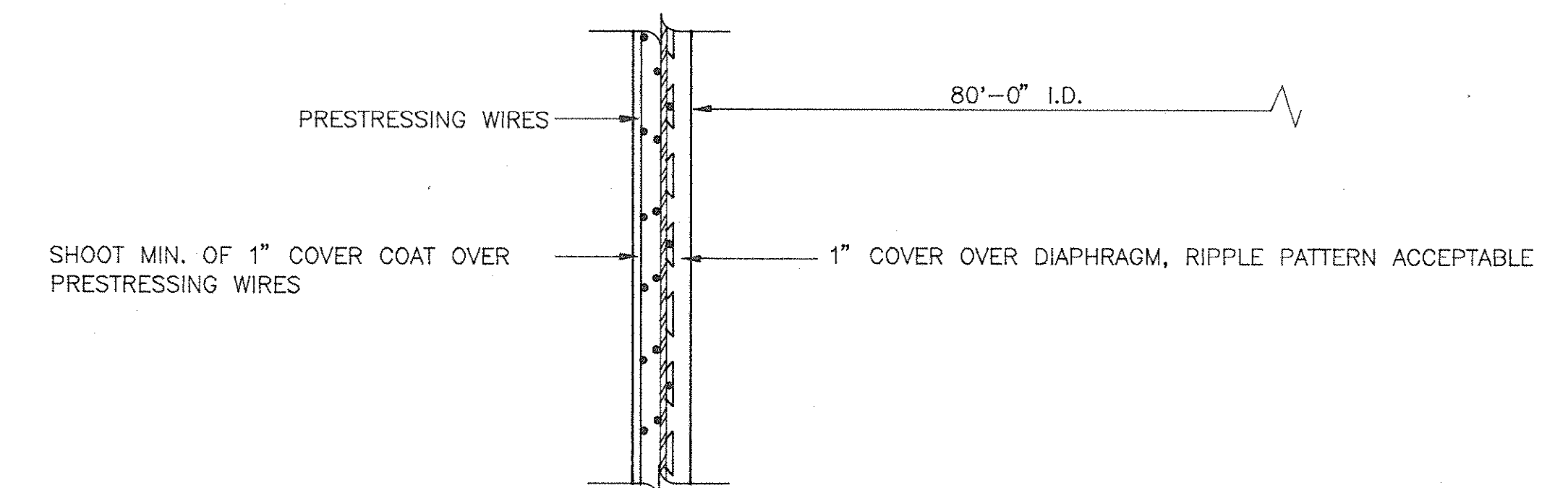
SPRINGLINE

LIMIT OF DOME BAND
PRESTRESSING WIRES

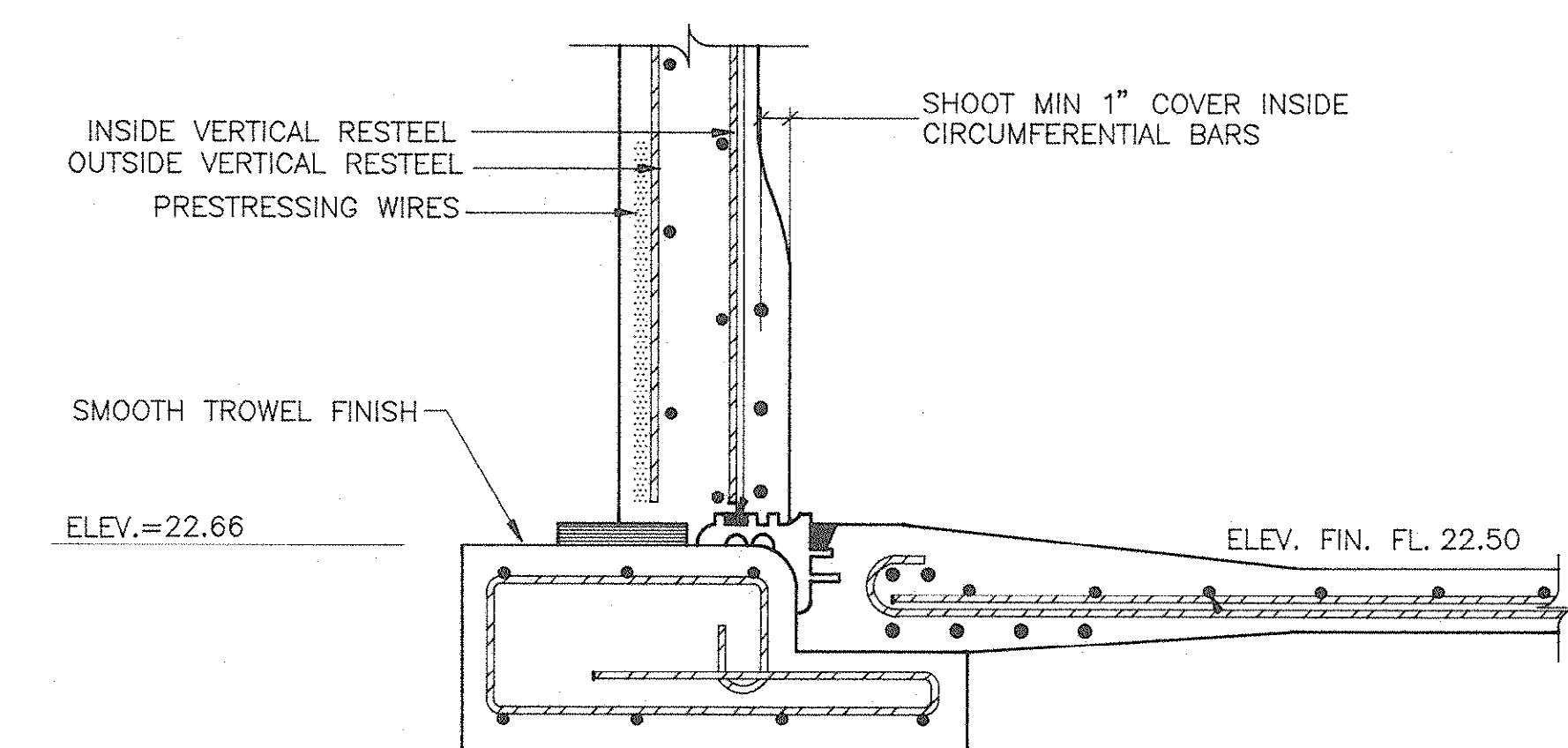
SHOOT MIN. 1" COVER COAT
OVER PRESTRESSING WIRE

OUTSIDE VERTICAL RESTEEL

2 DOME RING DETAIL
NTS

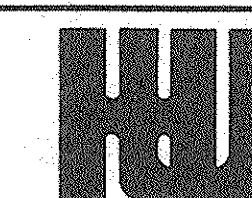


2 HORIZONTAL WALL SECTION
NTS

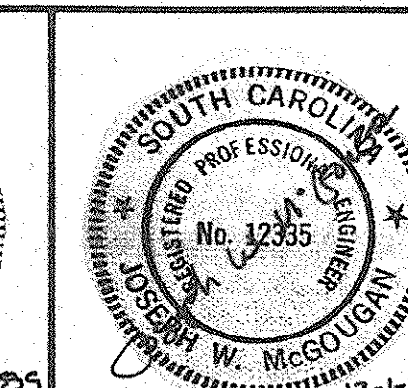
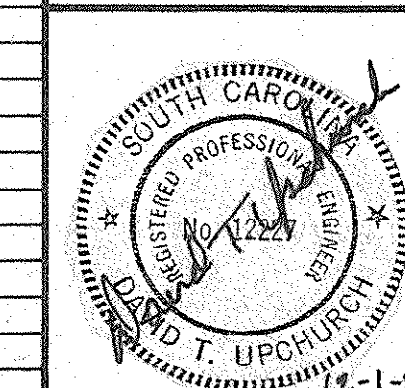


2 FLOOR-WALL DETAIL
NTS

REVISIONS			
SYM.	DESCRIPTION	DATE	BY
*	LEVEL INDICATOR	1-5-90	JWM
	RECORD DRAWING	1-14-92	RAC



HOBBS, UPCHURCH & ASSOCIATES, P.A.
CONSULTING ENGINEERS
SOUTHERN PINES, NORTH CAROLINA 28387

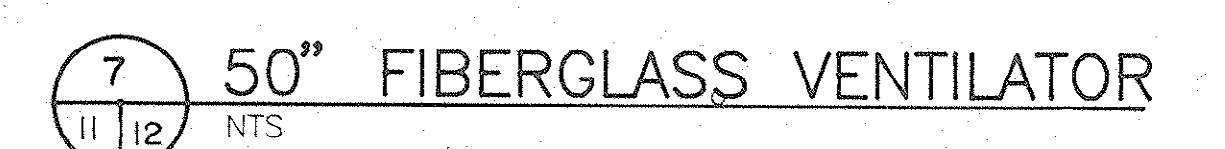
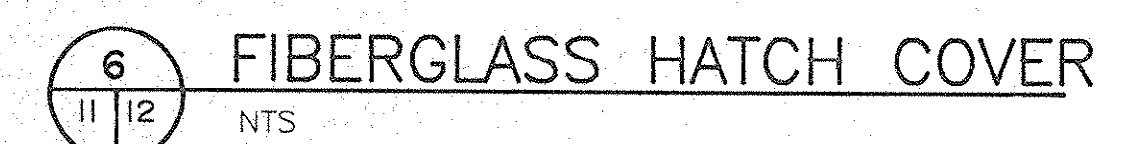
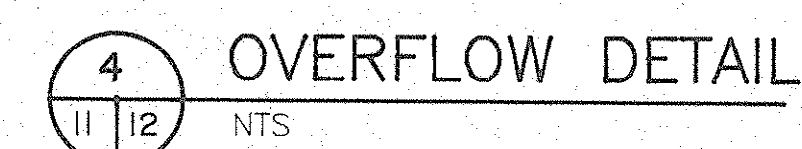
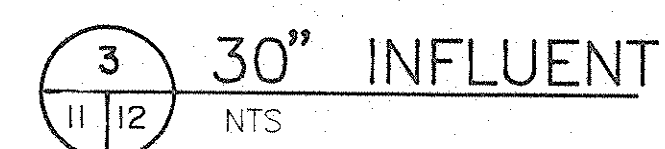
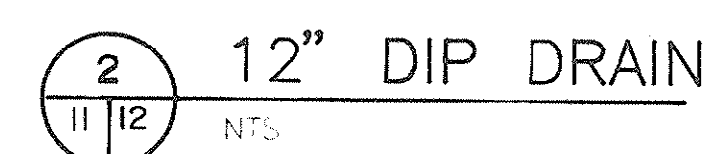


**SURFACE WATER TREATMENT
PLANT PROJECT**
GRAND STRAND WATER AND SEWER
AUTHORITY

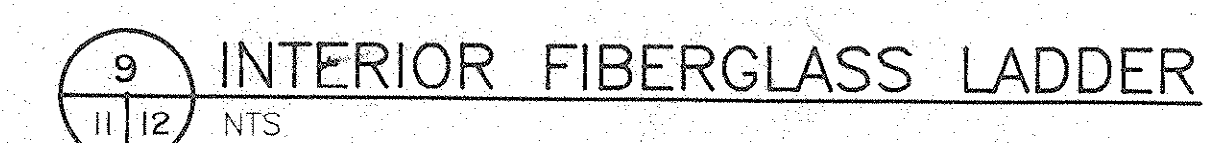
**SOUTH PUMP STATION
RESERVOIR PLANS AND DETAILS**

DATE: NOV., 1989
DESIGNED: JWM
DRAWN: DC
CHECKED: DTU
SCALE: NONE
SHEET NO.: G-11
OF:

33-04-011w



8 30" EFFLUENT
11 12 NTS



MURCH & ASSOCIATES, P.A. CONSULTING ENGINEERS 2000 W. NORTH CAROLINA 28387	DATE	NOV, 1989
	DESIGNED	JWM
	DRAWN	DC
	CHECKED	DTU
SURFACE WATER TREATMENT PLANT PROJECT GRAND STRAND WATER AND SEWER AUTHORITY		SCALE: NONE SHEET NO. G-12
SOUTH PUMP STATION RESERVOIR DETAILS		

33-04-012 w

DATE:
NOV., 1989
DESIGNED:
JWM
DRAWN:
DC
CHECKED:
DTU
SCALE:
NONE
SHEET NO.
G-12

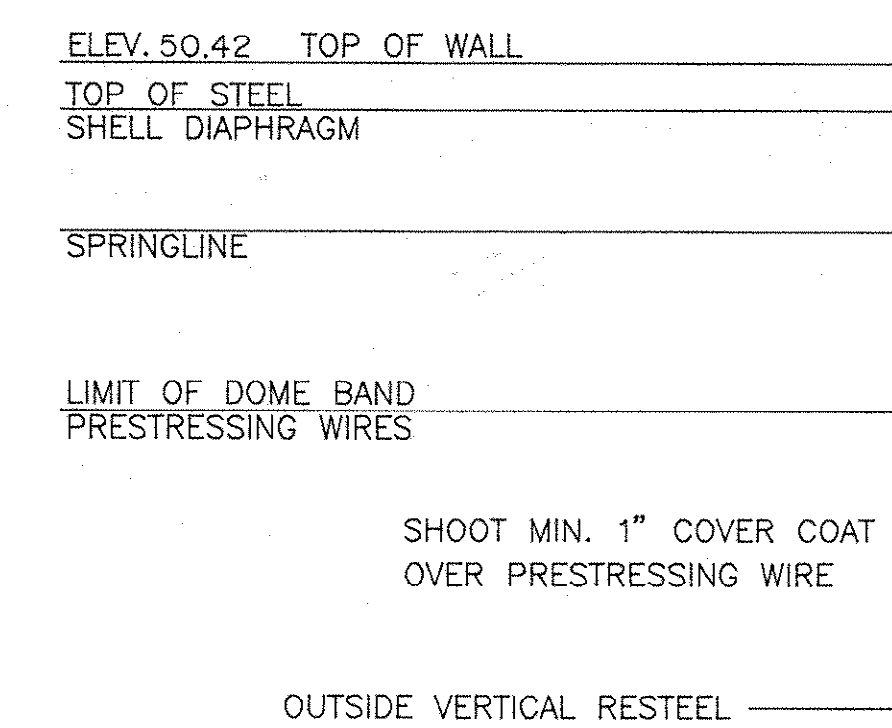


Diagram illustrating the placement of prestressing wires and the required cover coat over them. The diagram shows a vertical cross-section of a wall with a central core of prestressing wires. The wires are labeled "PRESTRESSING WIRES". A horizontal line with a zigzag end indicates the placement of the cover coat, labeled "SHOOT MIN. OF 1\" cover coat over PRESTRESSING WIRES". The distance from the wires to the outer surface is labeled "1\" cover over DIAPHRAGM, RIPPLE PATTERN ACCEPTABLE".

INSIDE VERTICAL RESTEEL

OUTSIDE VERTICAL RESTEEL

PRESTRESSING WIRES

SHOOT MIN. 1" COVER COAT OVER PRESTRESSING WIRES

SUPERSTOP

SMOOTH TROWEL FINISH

SHOOT MIN 1" COVER INSIDE CIRCUMFERENTIAL BARS

ELEV.= 19.16

ELEV. FIN. FL. 19.00

2,000,000 GALLON CLEARWELL — PLAN

1
6 | 13

NTS

4 PRECAST OVERFLOW

7 50" FIBERGLASS VENTILATOR

6 ACCESS HATCH W/
FIBERGLASS COVER

9 INTERIOR LADDER

5 EXTERIOR LADDER

8 * LEVEL INDICATOR

RIM ELEV. = 50.42

HIGH WATER ELEV. = 49.92

FLOOR ELEV. = 19.00

30'-11"

1
13 | 13

NTS

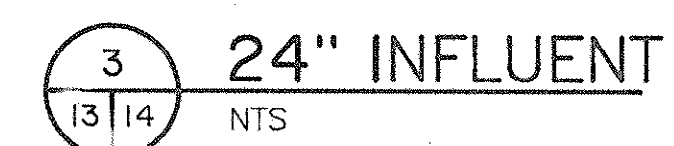
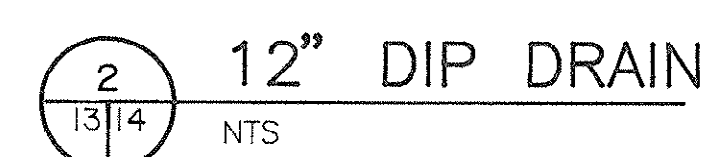
[illegible]

H HOBBS, UPCHURCH & ASSOCIATES, P.A.
CONSULTING ENGINEERS
SOUTHERN PINES, NORTH CAROLINA 28387

**SURFACE WATER TREATMENT
PLANT PROJECT**
GRAND STRAND WATER AND SEWER
AUTHORITY

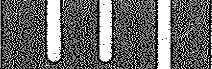
CONWAY PUMP STATION
RESERVOIR PLANS AND DETAILS

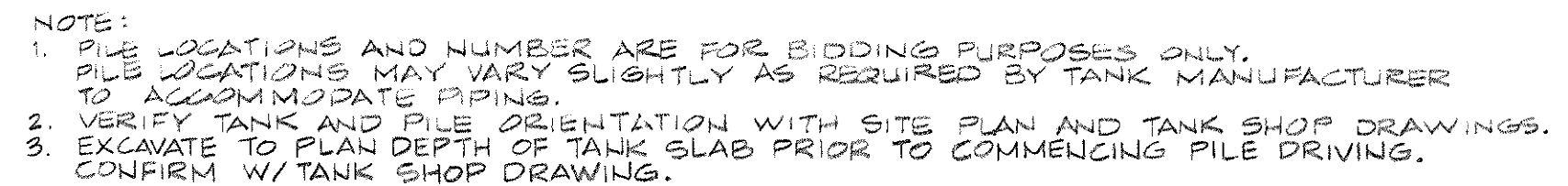
DATE:	NOV., 1989
DESIGNED:	JWM
DRAWN:	DC
CHECKED:	DTU
SCALE:	NONE
SHEET NO.	
G-13	



8 24" EFFLUENT
13 14 NTS



 HOBBS, UPCHURCH & ASSOCIATES, P.A. CONSULTING ENGINEERS SOUTHERN PINES, NORTH CAROLINA 28387		DATE: NOV. 1989 DESIGNED: WFM DRAWN: DC CHECKED: DTU SCALE: NONE	
			
SURFACE WATER TREATMENT PLANT PROJECT GRAND STRAND WATER AND SEWER AUTHORITY		CONWAY PUMP STATION RESERVOIR DETAILS	



FILE #4

2. FORMING TO THE SOUTHERN PINE ASSOCIATION GRADING RULES.
3. CONNECTION BOLTS FOR ATTACHMENT OF BLOCKING SHALL BE 3/8 INCH DIAMETER CONFORMING TO "STANDARD SPECIFICATION FOR CARBON STEEL EXTERNALLY THREADED STANDARD FASTENERS," ASTM A307 GRADE 5, UNLESS OTHERWISE NOTED.
4. THROUGH BOLTS SHALL BE PROVIDED WITH BOLT HEADS WHICH ARE 1/32 TO 1/16 INCH LARGER THAN THE BOLT.
5. PROVIDE OTHER MANUFACTURED ACCESSORIES AS REQUIRED AND AS SPECIFIED.
6. GROUT
1. PROVIDE NON-SHRINK, NON-METALLIC, NON-STAINING, HIGH-STRENGTH GROUT UNDER ALL COLUMN BASE PLATES AND BEAM BEARING PLATES AND WHERE SHOWN ON DRAWINGS. USE "SONOREGRET" MANUFACTURED BY CONCRETE BUILDING PRODUCTS DIVISION, "SUPREME GROUT" MANUFACTURED BY GIFFORD & HILL & CO., "CONSTRUCTION GROUT" MANUFACTURED BY THE W.R. BONSAL COMPANY OR "FIVE STAR GROUT" MANUFACTURED BY U.S. GROUT CORPORATION, OR EQUIVALENT.

- FOUNDATIONS.
1. MAXIMUM ALLOWABLE SOIL PRESSURE - 2000 PSF.
2. FOOTING EXCAVATIONS AND FORMS SHALL BE REVIEWED BY THE ENGINEER PRIOR TO PLACING CONCRETE.
3. FOOTINGS SHALL BE LOWERED WHEN DIRECTED BY THE ENGINEER TO REACH FIRM, UNDISTURBED SOIL.
4. CONSTRUCTION JOINTS IN WALL FOOTINGS SHALL BE MADE AT LEAST TWO FEET FROM THE INTERSECTION WITH ANOTHER WALL FOOTING.
5. ALL FILL BENEATH STRUCTURES SHALL BE SELECT MATERIAL FREE FROM ROOTS, TRASH, WOOD SCRAP, AND OTHER EXTRANEOUS MATERIALS. PLACE FILL IN LIFTS NOT EXCEEDING 8 INCHES AND COMPACT EACH LIFT TO 95% DENSITY AT OPTIMUM MOISTURE CONTENT AS MEASURED BY ASTM D698.
6. FILL PLACEMENT SHALL BE UNDER THE CONTROL OF AN INDEPENDENT TESTING LABORATORY.
7. CONCRETE PILES FOR USE IN THE FOUNDATIONS FOR THE CIRCULAR CONCRETE TANK SHALL BE 10 INCH SQUARE PRECAST STRESS-REINFORCED CONCRETE PILES. THE CONCRETE PILES SHALL BE DRIVEN TO 45 TONS CAPACITY. SEE SPECIFICATIONS FOR THE PILE DRIVING EQUIPMENT AND LOAD TESTS REQUIRED.
8. CONCRETE.
1. CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS AS FOLLOWS:
- | | |
|------------------------------|----------|
| CONCRETE FOR TACTS AND PILES | 4000 PSI |
| ALL OTHER CONCRETE | 3000 PSI |
2. CONCRETE WORK SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE," ACI 318-83, INCLUDING ALL SUPPLEMENTS AND AMENDMENTS.
3. SLABS ON-GRADE 6 INCHES THICK, UNLESS OTHERWISE NOTED.
4. PLACE 1/2 INCH EXPANSION JOINT MATERIAL BETWEEN EDGES OF SLABS AND VERTICAL SURFACES UNLESS OTHERWISE NOTED.
5. PROVIDE CONSTRUCTION OR CONTROL JOINTS IN SLABS AT LOCATIONS SHOWN ON DRAWINGS, AT OFFSETS AND CHANGES IN DIRECTION, AND AT 30 FEET MAXIMUM.
6. CHAMFER EXPOSED EDGES OF CONCRETE (AND ALL CORNERS OF ALL COLUMNS) 3/4 INCH, UNLESS OTHERWISE NOTED.
7. CONCRETE SHALL BE CURED A MINIMUM OF 7 DAYS BY ONE OR MORE METHODS SPECIFIED IN CHAPTER 12 OF THE "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS," ACI 301-84 (REVISED 1988), EXCEPT POLYETHYLENE FILMS SHALL NOT BE USED FOR THE CURING OF CONCRETE WORK.
8. REINFORCING STEEL SHALL CONFORM TO "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS," ACI 301-84 (REVISED 1988), EXCEPT AS OTHERWISE NOTED.
9. CONCRETE FORMWORK SHALL CONFORM TO "RECOMMENDED PRACTICE FOR CONCRETE FORMWORK," ACI 307-84 (REVISED 1984) AND "FORMWORK FOR CONCRETE," ACI MANUAL SP-4.
10. REINFORCING STEEL.
1. BARS SHALL BE ROLLED FROM NEW BILLET-STEEL OF DOMESTIC MANUFACTURE CONFORMING TO "STANDARD SPECIFICATION FOR DEFORMED AND PLAIN BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT," ASTM A618.
2. WELDED WIRE FABRIC SHALL CONFORM TO "STANDARD SPECIFICATION FOR WELDED STEEL WIRE FABRIC FOR CONCRETE REINFORCEMENT," ASTM A185.
3. DETAIL AND FABRICATE REINFORCING STEEL IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE "ACI DETAILING MANUAL," 1980, PUBLICATION SP-66.
4. REINFORCING STEEL IN PLACE SHALL BE REVIEWED BY THE ENGINEER PRIOR TO PLACING CONCRETE.
5. PROVIDE BARS AT CORNERS AND INTERSECTIONS OF THE SAME NUMBER AND SIZE AS LONGITUDINAL BARS AT CORNERS AND INTERSECTIONS OF GRADE BEAMS AND WALLS.
6. PROVIDE 4-#5 BARS (2 EACH FACE) AT EACH SIDE OF OPENINGS IN SLABS AND WALLS AND EXTEND 2'-0" PAST OPENING. IF SUCH AN EXTENSION IS NOT OBTAINABLE, TERMINATE THE BAR WITH A STANDARD HOOK.
- D. STRUCTURAL STEEL.
1. STEEL SHALL CONFORM TO "STANDARD SPECIFICATION FOR STRUCTURAL STEEL," ASTM A36.
2. STRUCTURAL TUBING SHALL CONFORM TO "STANDARD SPECIFICATION FOR HOT-FORMED WELDED AND SEAMLESS CARBON STEEL STRUCTURAL TUBING," ASTM A501.
3. STEEL PLATE SHALL CONFORM TO "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS," OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, INC., EFFECTIVE NOVEMBER 1, 1978, INCLUDING ALL SUPPLEMENTS, AND THE "CODE OF STANDARD PRACTICE FOR STEEL BUILDING AND BRIDGES," EFFECTIVE SEPTEMBER 1, 1976.
4. CONNECTION BOLTS SHALL BE 3/4 INCH DIAMETER CONFORMING TO "STANDARD SPECIFICATION FOR HIGH-STRENGTH BOLTS FOR STRUCTURAL STEEL JOINTS," ASTM A325, UNLESS OTHERWISE NOTED.
5. STRUCTURES ARE BEARING TYPE WITH THREADS EXCLUDED FROM SHEAR PLANES. INSTALL EACH BOLT WITH A HARDENED WASHER UNDER THE NUT OR HEAD, WHICHEVER IS TURNED FOR TIGHTENING TO THE REQUIRED TENSION.
6. OVERSIZE HOLES AND SLOTTED HOLES SHALL NOT BE USED FOR BOLTED CONNECTIONS ON THIS PROJECT. EXCEPT AS NOTED ON THE DRAWINGS.
7. WELDING SHALL BE BY WELDERS AND WELDING OPERATORS WHO HAVE BEEN PREVIOUSLY QUALIFIED BY TESTS AS PRESCRIBED IN THE "STRUCTURAL WELDING CODE," AWS D1.1-89 OF THE AMERICAN WELDING SOCIETY TO PERFORM THE TYPES OF WELDS REQUIRED ON THIS PROJECT.
8. ALL WELDS SHALL BE 1/8 INCH MINIMUM WELD THICKNESS UNLESS OTHERWISE NOTED.
9. THE CONTRACTOR SHALL PROVIDE ADEQUATE TEMPORARY BRACING, SHORING AND GUYING OF FRAMING AGAINST WIND, CONSTRUCTION LOADS AND OTHER TEMPORARY FORCES UNTIL SUCH PROTECTION IS NOT REQUIRED FOR THE REQUIRED SUPPORT OF THE FRAMING.
10. ANCHOR BOLT LENGTH SHOWN ON THE DRAWINGS SHALL INCLUDE HOOKS OF NOT LESS THAN 3 INCHES IN LENGTH. PROVIDE ONE NUT AND ONE WASHER WITH EACH ANCHOR BOLT UNLESS OTHERWISE NOTED.
11. ALL STRUCTURAL STEEL SHALL BE GIVEN ONE SHOP COAT OF PAINT OF NOT LESS THAN 3 MILS DRY FILM THICKNESS CONFORMING TO STEEL STRUCTURES PAINTING COUNCIL SSPC PAINT 2, SSPC PAINT 13 OR SSPC PAINT 14.
- F. OPEN WEB STEEL JOISTS.
1. FABRICATE AND ERECT JOISTS IN ACCORDANCE WITH "STANDARD SPECIFICATIONS, LOAD TABLES AND WEIGHT TABLES FOR STEEL JOISTS AND JOIST GIRDERS," OF THE STEEL JOIST INSTITUTE, 1966 EDITION.
2. JOISTS SHALL HAVE MINIMUM BEARING ON SUPPORTS IN ACCORDANCE WITH THE SJI SPECIFICATIONS UNLESS OTHERWISE NOTED.
3. BRIDGING SHALL BE IN PLACE, ANCHORED AND REVIEWED BY THE ENGINEER PRIOR TO PLACING CORRUGATED STEEL FLOORS OR DECKING.
4. ANCHOR BOLT LENGTHS SHOWN ON THE DRAWINGS SHALL INCLUDE A STANDARD HOOK. PROVIDE ONE NUT AND ONE WASHER WITH EACH ANCHOR BOLT UNLESS OTHERWISE NOTED.
5. JOISTS SHALL RECEIVE ONE SHOP COAT OF PAINT OF NOT LESS THAN 3 MILS DRY FILM THICKNESS CONFORMING TO STEEL STRUCTURES PAINTING COUNCIL SSPC PAINT 15, TYPE I (RED OXIDE) OR TYPE II (ASPHALT).
- F. STEEL ROOF DECK.
1. STEEL ROOF DECK SHALL BE DESIGNED AND MANUFACTURED IN ACCORDANCE WITH THE "SDI STEEL ROOF DECK SPECIFICATIONS" AND THE "SDI CODE OF RECOMMENDED STANDARD PRACTICE, ROOF DECK CONSTRUCTION," LIT-81-82, OF THE STEEL DECK INSTITUTE.
2. THE STEEL DECK SHALL BE 1 1/2 INCHES IN DEPTH, 22 GAUGE, INTERMEDIATE RIB, AND SHALL BE ZINC COATED.
3. PROVIDE WALL RIDGE AND VALLEY PLATES, CANT STRIPS, SUMPS AND OTHER ACCESSORIES TO BE ATTACHED TO THE DECK FOR THE INSTALLATION OF INSULATION, ROOFING AND DRAINAGE.
4. SPOT PAINT ALL FIELD WELDS, FIELD CUT EDGES AND SERIOUS ABRASIONS TO THE SHOP COAT WITH ZINC CHROMATE PRIMER CONFORMING TO STEEL STRUCTURES PAINTING COUNCIL SSPC PAINT 11.
5. ANCHOR BOLT LENGTH SHOWN ON THE DRAWINGS SHALL INCLUDE HOOKS OF NOT LESS THAN 3 INCHES IN LENGTH. PROVIDE ONE NUT AND ONE WASHER WITH EACH ANCHOR BOLT UNLESS OTHERWISE NOTED.
6. PUDDLE WELDS OR 3/16" DIAMETER SELF-TAPPING SCREWS.
- I. UNIT MASONRY.
1. HOLLOW CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90, GRADE N-1.
2. CONCRETE MASONRY WORK SHALL CONFORM TO THE NATIONAL CONCRETE MASONRY ASSOCIATION "SPECIFICATION FOR THE DESIGN AND CONSTRUCTION OF LOAD-BEARING CONCRETE MASONRY," ACI 530-88.
3. ASSUMED COMPRESSIVE STRENGTH OF LOAD-BEARING CONCRETE MASONRY, $f_m = 1500$ psi.
4. MORTAR SHALL BE WITH A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS = 1800 psi.
5. MORTAR SHALL CONFORM TO "MORTAR FOR UNIT MASONRY," ASTM C270.
6. STEEL JOINT REINFORCEMENT FOR USE IN HORIZONTAL BED JOINTS OF UNIT MASONRY SHALL BE A 1/4 INCH DEFORMED TYPE MANUFACTURED FROM COLD DRAWN STEEL WIRE CONFORMING TO ASTM A82, AND SHALL BE CONSISTENT WITH THE DEFLECTION OF THE JOINTS UNDER LOADS.
7. INTERVALS TO CROSS RODS. THE OUT TO OUT SPACING OF SIDE RODS SHALL BE APPROXIMATELY 2 INCHES LESS THAN THE NOMINAL THICKNESS OF THE WALL. SIDE RODS SHALL BE 3/16" DIAMETER AND CROSS RODS SHALL BE NOT LESS THAN 1/2" GAUGE. PREFABRICATED REINFORCEMENT UNITS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION OR SHALL BE MANUFACTURED FROM STAINLESS STEEL CONTAINING NOT LESS THAN 16% CHROMIUM.
8. PREFABRICATED CORNER AND TEE SECTIONS SHALL BE USED TO FORM CONTINUOUS REINFORCEMENT AROUND CORNERS AND INTERSECTIONS.
- H. STRUCTURAL LUMBER.
1. LUMBER FOR GROUNDING AND BLOCKING SHALL BE NO. 3 DIMENSION OR BETTER, SOUTHERN PINE CON-

8. EXPOSED EXTERIOR MASONRY SHALL BE LEFT NATURAL WITHOUT ADDITIONAL FINISHES EXCEPT EXPOSED EXTERIOR SURFACES SHALL BE CLEANED AND FREE OF MORTAR.

PILE PLAN-2MG RESERVOIR
CONWAY RESERVOIR

DATE:	12/21/89
DESIGNED:	WPD
DRAWN:	LAW
CHECKED:	WPD
SCALE:	AS NOTED
SHEET NO.	G-15
OF:	

FIXTURE SCHEDULE

TYPE 'A'

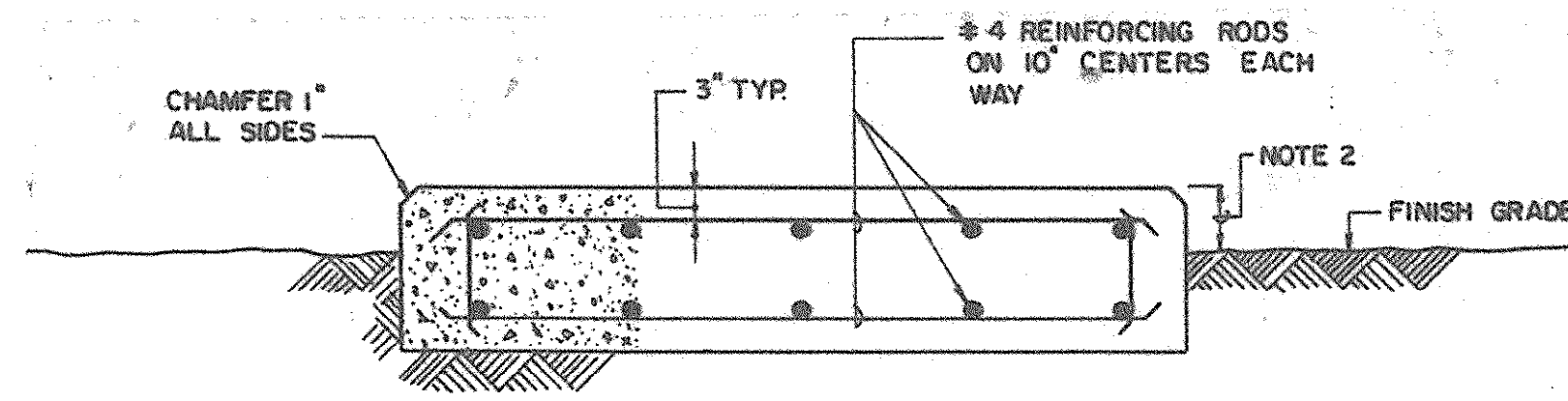
CORROSION RESISTANT FLUORESCENT FIXTURE FOR SURFACE OR SUSPENDED MOUNTING WITH TWO 40 WATT, RAPID START LAMPS. LENS SHALL BE INJECTION MOLDED ACRYLIC, SECURED BY SIX CAPTIVE NYLON LAMCHES.

WILLIAMS #6622-A, LITHONIA DL240A OR EQUIV.

TYPE 'B'

WALL MOUNTED, 70-WATT HIGH PRESSURE SODIUM FIXTURE WITH DIE-CAST ALUMINUM HOUSING PAINTED GRAY, PRISMATIC GLASS REFRACTOR, BUILT-IN PHOTOELECTRIC CONTROL SWITCH AND UL LISTED FOR WET LOCATIONS.

HOLOPHANE #WP2A070H12GRP



GENERATOR SET CONCRETE PAD

NOT TO SCALE

NOTES: 1. DIMENSIONS NOTED BELOW ARE BASED ON EQUIPMENT DESIGNED AROUND. COORDINATE THE EXACT DIMENSIONS WITH APPROVED SHOP DRAWING AND MAKE PAD A MINIMUM OF AT LEAST FOUR INCHES LARGER ON ALL SIDES THAN THE EQUIPMENT.

GENERATOR = 12'-8" LONG x 5'-8" WIDE x 18" DEEP

2. PAD SHALL BE 4" ABOVE HIGHEST FINISHED GRADE.

3. CONCRETE COMPRESSIVE STRENGTH IN 28 DAYS SHALL BE 3000 P.S.I.

CIRCUITING LEGEND

HOMERUNS TO PANELBOARDS ARE SHOWN AS POLES RATHER THAN CIRCUITS. SIMILARLY, PANEL SCHEDULES LIST POLES RATHER THAN CIRCUITS, BUT INDICATE WHICH POLES ARE COMMON TRIP FORMING TWO AND THREE POLE CIRCUITS. HOMERUN DESIGNATIONS INDICATE PANELBOARD AND POLES TO WHICH PHASE WIRES ARE TO BE CONNECTED. NUMBER OF ARROWS INDICATE NUMBER OF CIRCUITS INVOLVED. CROSS HATCHES, SHOWN ONLY WHEN THE NUMBER OF POLES EXCEEDS THE NUMBER OF CIRCUITS, INDICATE THE NUMBER OF WIRES. FOR EXAMPLE:

SYMBOL	NO. OF POLES	CIRCUITS	PHASE WIRES	NEUTRAL
→ LP-1	1	1	1	1
→ LP-1, 3	2	1	2	1
→ LP-1, 3, 5	3	1	3	1
→ LP-1, 3, 5	3	1	3	1
→ LP-5, 7	2	2	2	1
→ LP-5, 7, 9	3	3	3	1

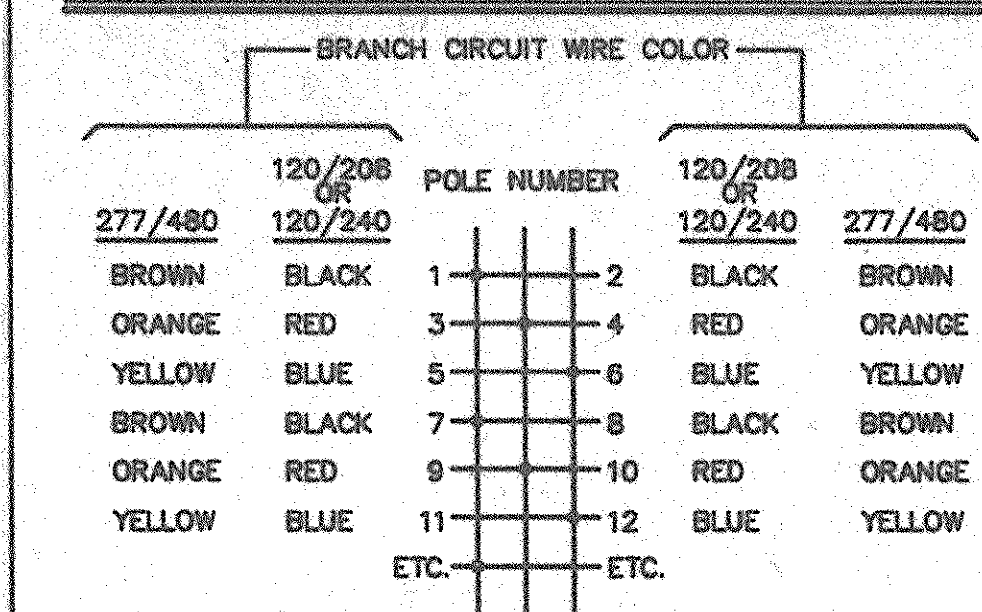
FEEDERS

NO. () INDICATES QUANTITY OF CONDUITS AND CONDUCTORS IN PARALLEL. SEE NEC 250-78C, 250-95, 300-20 AND 310-4 FOR SPECIAL REQUIREMENTS. EXAMPLE: 3(3 #3/0, 1 #1/0 N, 2 #1/2") REQUIRES THREE 2 1/2" CONDUIT EACH HAVING THREE NO. 3/0 PHASE CONDUCTORS, ONE NO. 1/0 NEUTRAL CONDUCTOR AND ONE NO. 1 GROUNDING CONDUCTOR.

EQUIPMENT GROUNDING CONDUCTORS

EQUIPMENT GROUNDING CONDUCTORS ARE GENERALLY NOT SHOWN ON CIRCUITING PLANS BUT SHALL BE PROVIDED IN THE SIZES AS SCHEDULED ON N.E.C. TABLE 250-95 ON ALL CIRCUITS.

TYPICAL PANEL DIAGRAM

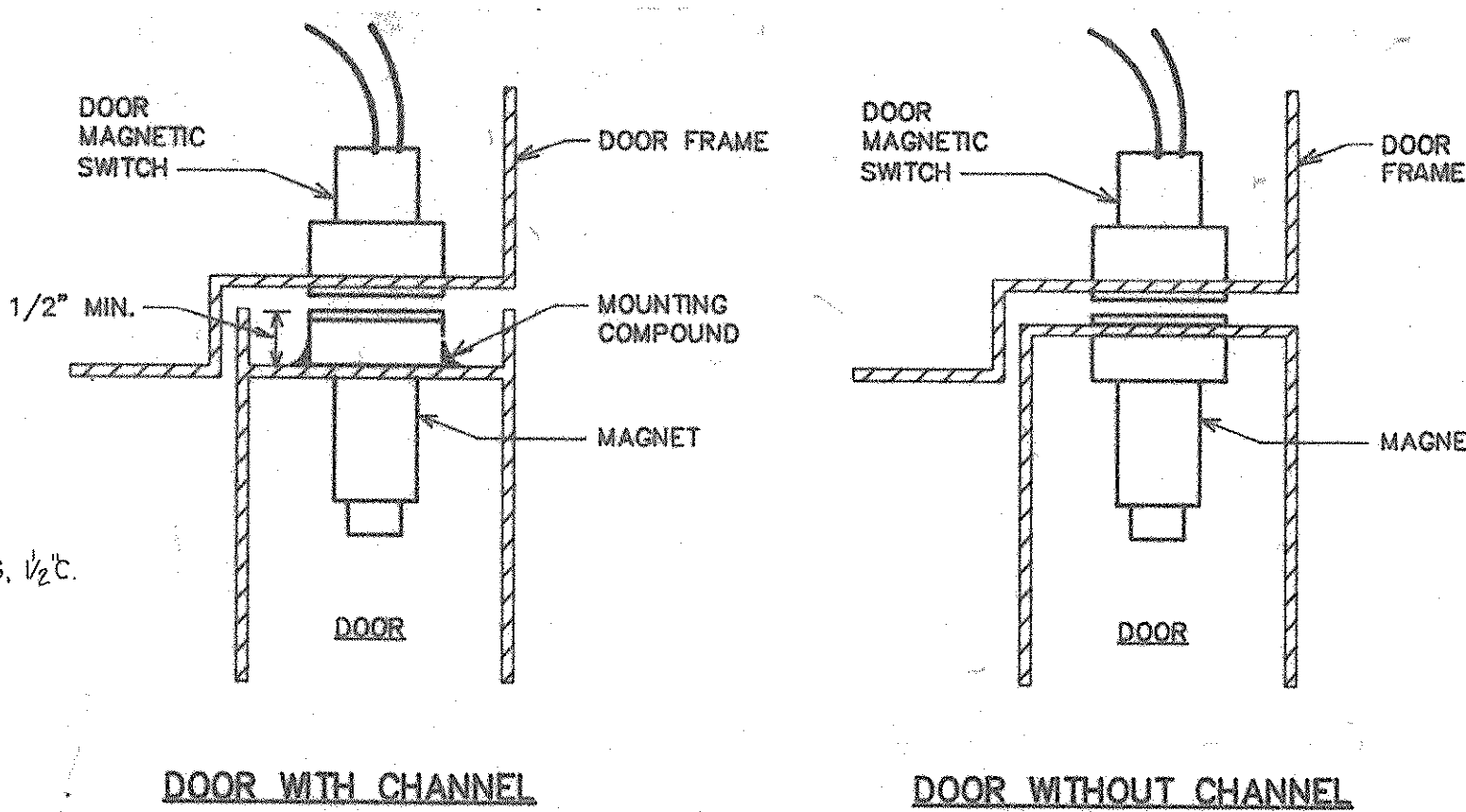


NEUTRAL

120/240 OR 120/208 VOLTS - WHITE

277/480 VOLTS - WHITE WITH IDENTIFIABLE COLOR STRIPE (NOT GREEN). IF NOT AVAILABLE AT TIME OF INSTALLATION, CLEAR USE OF GRAY WITH ELECTRICAL INSPECTOR.

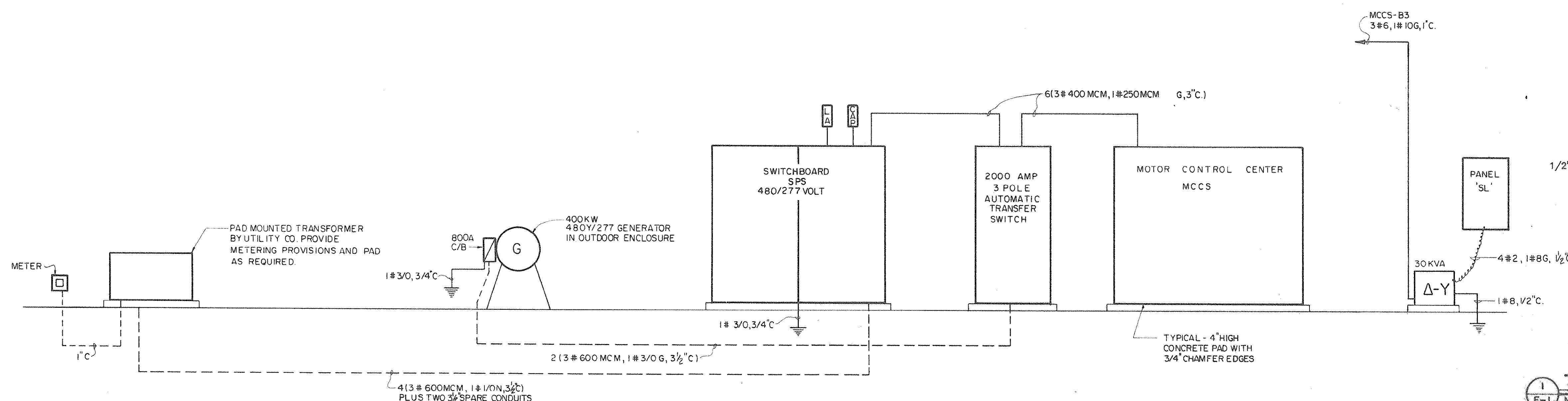
GROUND WIRE, SHALL BE GREEN FOR ALL VOLTAGES.



TYPICAL 'MS' MOUNTING

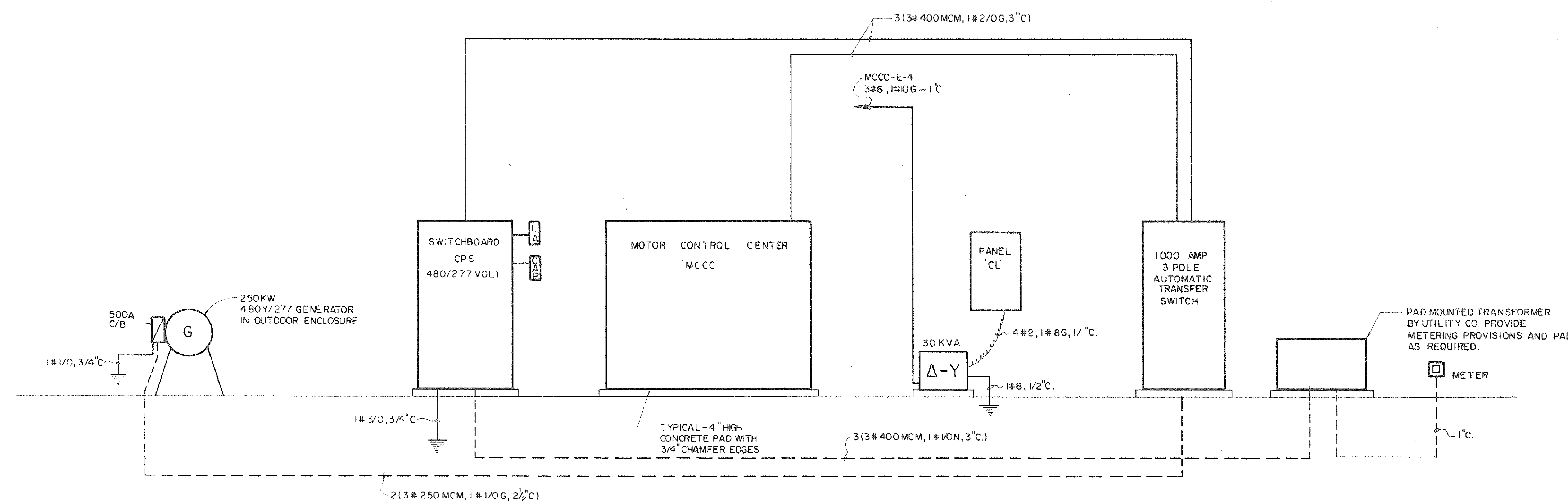
NOT TO SCALE

SOUTH PUMP STATION POWER RISER DIAGRAM



CONWAY PUMP STATION POWER RISER DIAGRAM

NOT TO SCALE



SYMBOL	DESCRIPTION
⬠	KEY PAD ELECTRIC LOCK SYSTEM PROVIDED BY GENERAL CONTRACTOR. WIRED BY ELECTRICAL CONTRACTOR. SEE DETAILS ON SHEET E-2.
MS	DOOR SECURITY MAGNETIC SWITCH. SENTROL I078 SERIES WITH CLOSED CONTACTS WHEN DOOR IS CLOSED. SEE DETAILS ON SHEET E-1 WIRE TOGETHER WITH 28-14-1/2" TO RTU IN PUMP STATION.
VCP	VALVE CONTROL PANEL.
ES	ELECTRIC DOOR SWITCH. INSTALL IN HINGE SIDE OF DOOR FRAME. SWITCH TO BE "OPEN" WHEN DOOR IS CLOSED. EXAMINE #502 WITH CONTACTS RATED 6 AMPS AT 125 VOLTS.
B	HELDEN #0760 SHIELDED CABLE CONSISTING OF TWO 18 GAGE STRANDED COPPER CONDUCTORS WITH ONE 20-GAUGE DRAIN WIRE, 100% SHIELD COVERAGE WITH PVC JACKET.
EL	EMERGENCY BATTERY LIGHT.
LM	LEVEL TRANSMITTER PROVIDED BY OTHERS. PROVIDE WIRING AS SHOWN.
RTU	CONTACTS AND TELEMETRY PANEL BY OTHERS. RUN CONDUCTORS AND CABLES, AS SHOWN ON THE DRAWINGS, TO PANEL FOR CONNECTION BY OTHERS. TAG EACH TO INDICATE DEVICE OR EQUIPMENT SERVED.
RS	ROLL UP DOOR MONITOR SWITCH. MICRO SWITCH BELN SERIES ENCLOSED SWITCH WITH STRAIGHT PLUNGER OR ROLLER ARM ACTUATOR AS REQUIRED. MOUNT AT FLOOR ON INSIDE OF FRAME. SWITCH TO BE CLOSED WHEN DOOR IS CLOSED.
MOC	MOTOR OPERATED DAMPER PROVIDED BY OTHERS AND WIRED UNDER THIS CONTRACT.
CRA	CHLORINE RESIDUAL ANALYSER PROVIDED BY OTHERS.
CT	CHLORINE TRANSMITTER PROVIDED BY OTHERS.
AV	AMMONIA FRED VALVE PROVIDED BY OTHERS.
CV	CHLORINE FEED VALVE PROVIDED BY OTHERS.
PT	PRESSURE TRANSMITTER PROVIDED BY OTHERS.
H	RATE OF RISE/FIXED TEMPERATURE FIRE DETECTOR (200°F)
FAC	FIRE ALARM CONTROL PANEL.
EB	FIRE ALARM BELL.

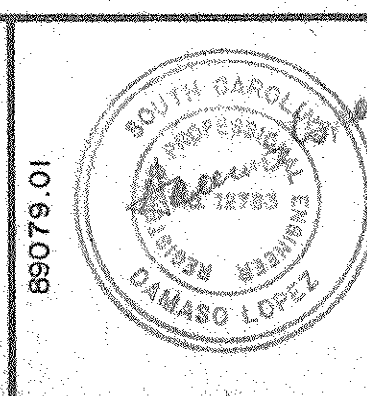
ELECTRICAL SYMBOL SCHEDULE

SYMBOL	DESCRIPTION
—	CONDUIT CONCEALED IN OR ABOVE CEILING; IN OVERHEAD SLAB OR IN WALL.
- - -	CONDUIT CONCEALED IN OR BELOW FLOOR; BELOW GRADE OR IN WALL.
///	IF SHOWN, CROSS LINES INDICATE NUMBER OF CURRENT CARRYING CONDUCTORS. EQUIPMENT GROUNDING CONDUCTORS ARE GENERALLY NOT INCLUDED IN THE QUANTITY INDICATED.
—	HOME RUN TO PANEL - WITH PANEL AND CIRCUIT DESIGNATION.
—	CONDUIT TURNING UP.
—	CONDUIT TURNING DOWN.
—	CONDUIT STUB-IN WITH CONNECTION TO EQUIPMENT.
⊗	JUNCTION BOX SIZED PER N.E.C.
⊙	JUNCTION BOX AND CONNECTION TO EQUIPMENT.
—	LIGHTING, POWER OR DISTRIBUTION PANELBOARD.
□	CONTROL PANEL.
□	FLUORESCENT FIXTURE - DRAWN APPROXIMATELY TO SCALE.
○	CEILING OUTLET - INCANDESCENT OR HID FIXTURE AS SCHEDULED.
○	WALL OUTLET - INCANDESCENT OR HID FIXTURES AS SCHEDULED.
⊕	STANDARD CONVENIENCE RECEPTACLE - MOUNT 18" UP. NEMA 5-15R, DUPLEX HUBBELL 5262 SERIES.
S	SINGLE POLE SWITCH - G.E. 5431, BRYANT 4801, HUBBELL 1201, A-H 1891, P&S 15NC1. MOUNT 48" UP FROM TOP OF DEVICE TO FLOOR.
S ₂	DOUBLE POLE SWITCH - G.E. 5432-1, BRYANT 4802, HUBBELL 1202, A-H 1894, P&S 15AC2. MOUNT 48" UP FROM TOP OF DEVICE TO FLOOR.
□	NONFUSIBLE DISCONNECT SWITCH.
□	FUSIBLE DISCONNECT SWITCH.
□	CIRCUIT BREAKER.
S _{wp}	SWITCH WITH CAST WEATHERPROOF COVER. COVER: BRYANT 7420, HUBBELL 7420, CROUSE-HINDS DS1020G. SWITCH BOX ADAPTER: HUBBELL 7349, CROUSE-HINDS ARB3.
WP	INDICATES DEVICE TO HAVE WEATHERPROOF COVER.
Δ-Y	DRY TYPE TRANSFORMER - THREE PHASE, 480-120/208 VOLTS.
CAP	SURGE CAPACITOR - MOUNT 8'-0" A.F.F.
LA	SECONDARY LIGHTNING ARRESTER - MOUNT 8'-0" A.F.F.
⊕	115 OR 230 VOLT, 1 PHASE MOTOR.
S	460 VOLT, 3-PHASE MOTOR - NUMERAL INDICATES HORSEPOWER.
Sm	MANUAL MOTOR STARTER.
⊕	LINE VOLTAGE THERMOSTAT. PROVIDED BY OTHERS, INSTALLED AND WIRED UNDER THIS CONTRACT.
EUH	ELECTRIC UNIT HEATER.
F	FUSE.
C	CONDUIT.
A	AMPERE.
EC	EMPTY CONDUIT.
P	POLE.
G	GROUND.
FPN	FUSE PER EQUIPMENT NAMEPLATE REQUIREMENTS.
REC	RECEPTACLE.
LTG	LIGHTING.
S.O.	SPACE WITH BUS PROVISION FOR FUTURE BREAKER.
AFF	ABOVE FINISHED FLOOR.
-H-	NORMALLY OPEN AUXILIARY CONTACT.
-H-	NORMALLY CLOSED AUXILIARY CONTACT.
FVNR	FULL VOLTAGE NON-REVERSIBLE MAGNETIC STARTER.
RVNR	REDUCED VOLTAGE NON-REVERSIBLE MAGNETIC STARTER - TYPE AS INDICATED.
TR	ADJUSTABLE TIME DELAY RELAY WITH RANGE OF 0 TO 180 SECONDS. TIME DELAY ON ENERGIZATION WITH REPETITIVE ACCURACY OF 10% ± OF AVERAGE TIME SETTING. CONTACTS SHALL BE RATED 10 AMPS AT 120 VOLTS.
BSP	BLOWN FUSE & SINGLE PHASE PROTECTION.
SR	START RELAY IN MOTOR STARTER. REFER TO MANUFACTURERS STARTER DIAGRAM.
TM	RUN TIME METER.
GP	GREEN PILOT LIGHT.
SV	SOLENOID VALVE PROVIDED BY OTHERS, WIRED UNDER THIS CONTRACT.
S	LIGHT SWITCH PROVIDED BY OTHERS, WIRED UNDER THIS CONTRACT.
SKR	CORROSION RESISTANT LIGHT SWITCH AND PLATE. HUBBELL #17C50 IN NONMETALLIC BOX. MOUNT 48" UP FROM TOP OF DEVICE TO FLOOR.
XR	CORROSION RESISTANT NEMA 5-20R DUPLEX RECEPTACLE IN NONMETALLIC BOX. HUBBELL #53C062 WITH #53C062 COVER PLATE. MOUNT 18" UP.
GLD	CHLORINE DETECTOR PROVIDED BY OTHERS. PROVIDE WIRING AS SHOWN ON DIAGRAM. COORDINATE THE EXACT LOCATION IN THE ROOM WITH THE INSTALLER.
GLA	CHLORINE DETECTOR ALARM LIGHT. EDWARDS #52R-15 ROTATING BEACON, UL LISTED, 120 VOLT WITH 25 WATT LAMP. SUITABLE FOR OUTDOOR INSTALLATION AND FOR MOUNTING ON A 4" OCEANON BOX. MOUNT 8'-0" UP.
⊕	CEILING MOUNTED IONIZATION SMOKE DETECTOR.
⊕	END OF LINE DEVICE.

33-04-016w

REVISIONS			
SYM.	DESCRIPTION	DATE	BY
1	RECORD DRAWING	1-14-92	RAC

HOBBS, UPCHURCH & ASSOCIATES, P.A.
CONSULTING ENGINEERS
SOUTHERN PINES, NORTH CAROLINA 28387

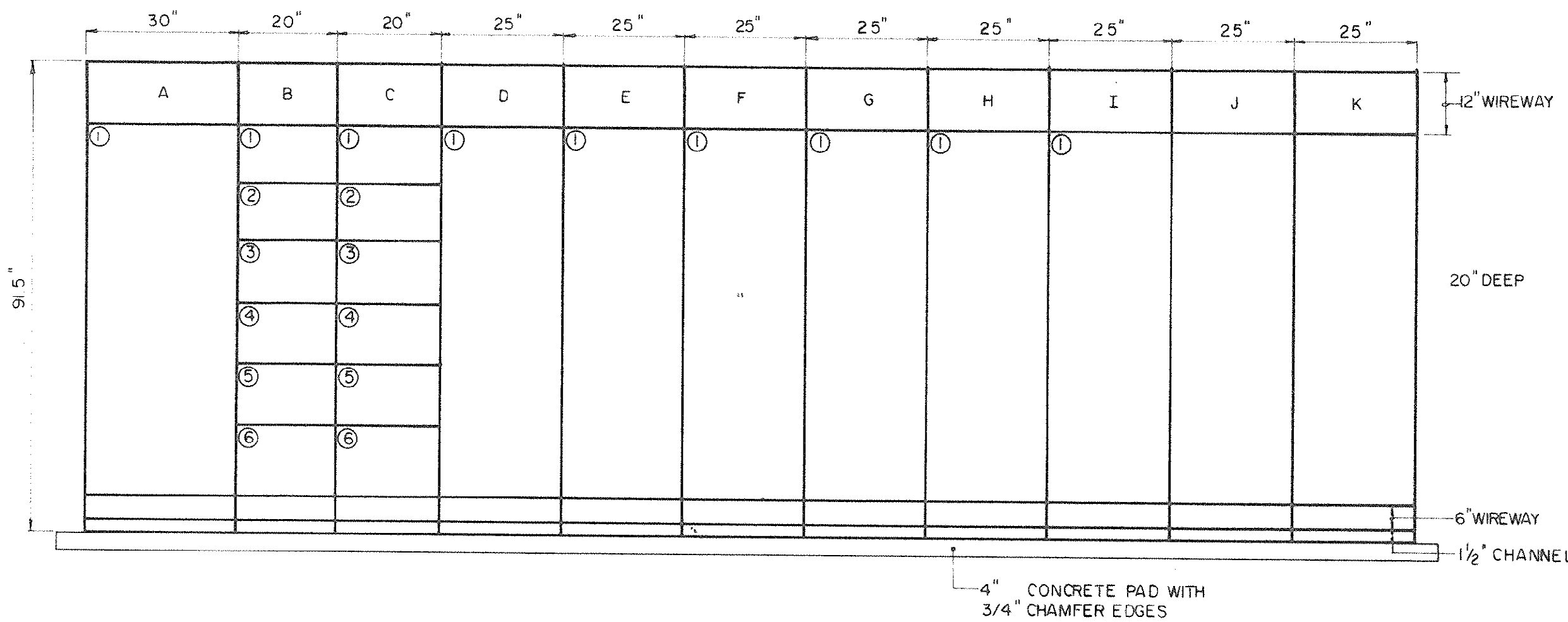


GRAND STRAND
WATER & SEWER AUTHORITY
SURFACE WATER TREATMENT
PROJECT

CONWAY & SOUTH PUMP STATIONS
RISER DIAGRAMS - SYMBOL SCHEDULE -
FIXTURE SCHEDULE - PAD DETAIL

DATE: 3-5-90
DESIGNED: W. H. A.
DRAWN: R.T.
CHECKED: O.L.
SCALE: AS NOTED
SHEET NO. E-1
OF 4

RECORD DRAWING
DATE: 5-20-92

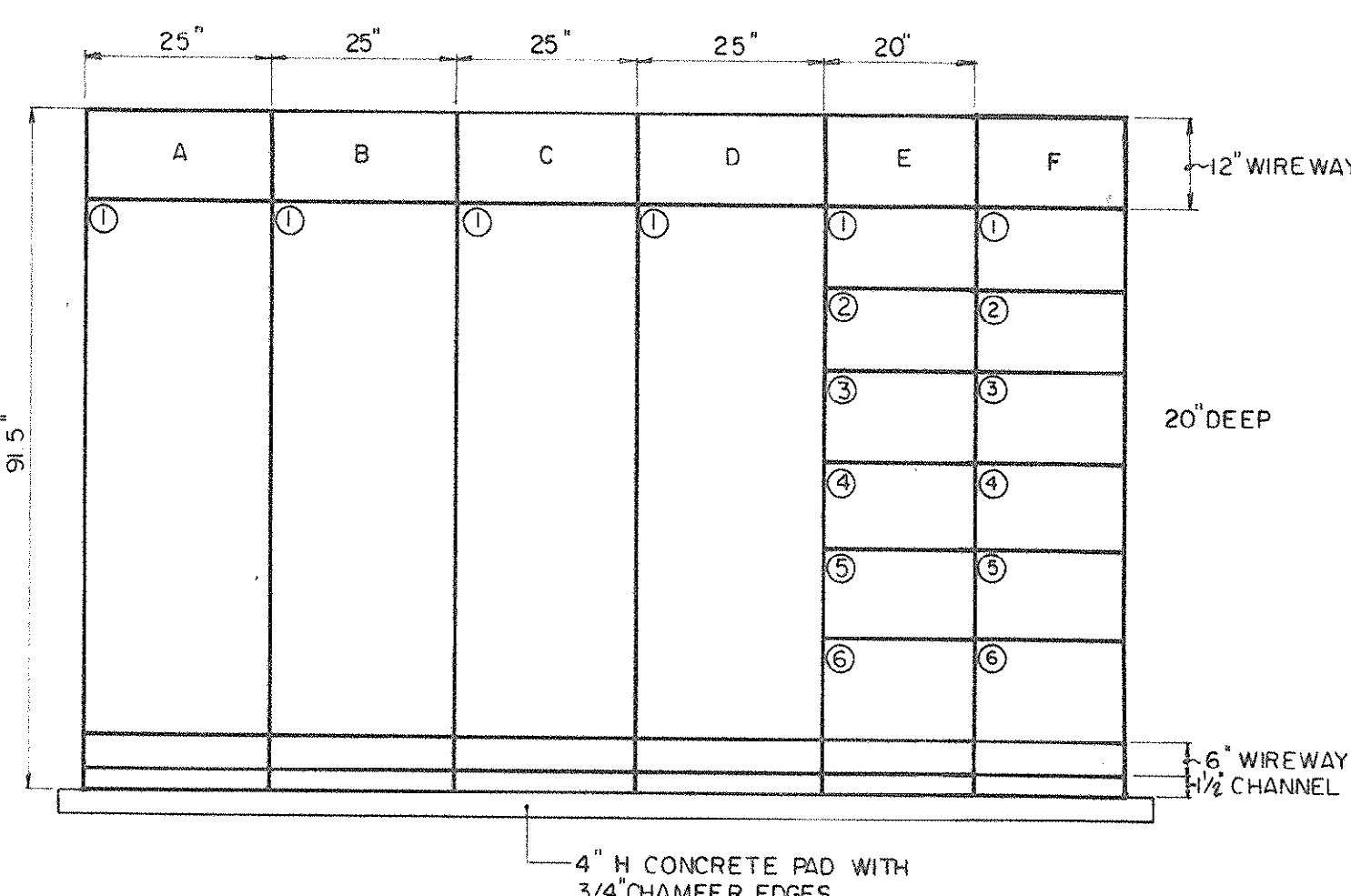


MOTOR CONTROL CENTER MCCS - ELEVATION
NOT TO SCALE

MOTOR CONTROL CENTER MCCS					
SERVICE: 480V, 3 Ø, 3W			MAIN BUS: 2000 AMPS		
TYPE: NEMA 1, CLASS B			BRACED FOR 42,000 AMPS RMS SYM		
UNIT	SERVICE	HP	AMPS	WIRE & CONDUIT	REMARKS
A1	INCOMING LINE	1	1.8	C-FVNR	4 3#12, 1#12G, 1/2" C
B1	SOUTH BOOSTER PUMP	1	1.8	C-FVNR	4 3#12, 1#12G, 1/2" C
B2	CENTRAL BOOSTER PUMP	1	1.8	C-FVNR	4 3#12, 1#12G, 1/2" C
B3	PN'L "SL" VIA TRANSFORMER	---	---	50	3#6, 1#10G, 1" C
B4	EUM-1, 2, 3 & 5	---	---	36.0	3#8, 1#10G, 3/4" C
B5	VF-1a	5	7.6	C-FVNR	15 REFER TO DRAWINGS
B6	VF-1b	5	7.6	C-FVNR	15 REFER TO DRAWINGS
C1	AIR COMPRESSOR	1	1.8	---	4 3#12, 1#12G, 1/2" C
C2	CHLORINE STORE RM. HOIST	1	1.8	---	15 3#12, 1#12G, 1/2" C
C3	VF-2	2	3.4	C-FVNR	5 REFER TO DRAWINGS
C4	VF-3	1	1.8	C-FVNR	5 REFER TO DRAWINGS
C5	SPACE ONLY	---	---	---	---
C6	SPACE ONLY	---	---	---	---
D1	FUTURE PUMP #4	200	240	C-RVNR	---
E1	PUMP #3	200	240	C-RVNR	400 3#350MCM, 1#3G, 3" C
F1	PUMP #2	200	240	C-RVNR	400 3#350MCM, 1#3G, 3" C
G1	PUMP #1	200	240	C-RVNR	400 3#350MCM, 1#3G, 3" C
H1	FUTURE PUMP #8	200	240	C-RVNR	---
I1	PUMP #7	200	240	C-RVNR	400 3#350MCM, 1#3G, 3" C
J1	PUMP #6	200	240	C-RVNR	400 3#350MCM, 1#3G, 3" C
K1	PUMP #5	200	240	C-RVNR	400 3#350MCM, 1#3G, 3" C

NOTES:

1. COMBINATION FULL-VOLTAGE, NON-REVERSIBLE THREE PHASE STARTER WITH FUSIBLE DISCONNECT.
2. THIRTY AMP, THREE PHASE FUSIBLE SWITCH FEEDER UNIT.
3. SPACE ONLY FOR FUTURE NEMA SIZE 5 REDUCED VOLTAGE AUTO TRANSFORMER STARTER WITH FUSIBLE DISCONNECT SWITCH.
4. NEMA SIZE 5, COMBINATION REDUCED VOLTAGE NON-REVERSIBLE, CLOSED TRANSITION, AUTO TRANSFORMER STARTER WITH 50%, 65% & 80% TAP WITH FUSIBLE DISCONNECT. PROVIDE WITH FUSE REDUCERS AND PROPERLY SIZED AUTO TRANSFORMER FOR THE HORSEPOWER LISTED. FOR INFORMATION, THESE PUMPS WILL BE CHANGED TO 200 HORSEPOWER IN THE FUTURE. SET ON 65% TAP. SET START TIMER TO TRANSFER TO RUN MODE AS SOON AS THE MOTOR REACHES NAMEPLATE RPM.
5. PROVIDE WITH HAND-OFF-AUTOMATIC SELECTOR SWITCH IN COVER. CONTROLS WILL BE 120-VOLTS FROM REMOTE SOURCE. PROVIDE AUXILIARY CONTACT ON DISCONNECT TO CUT OFF CONTROL POWER WHEN DISCONNECT IS OPENED AND TWO EXTRA NORMALLY OPEN AND ONE NORMALLY CLOSED AUXILIARY CONTACTS IN ADDITION TO THOSE SHOWN ON THE WIRING DIAGRAM.
6. PROVIDE RUN TIME METER, AMP METER AND GREEN RUN PILOT LIGHT IN STARTER COVER. PROVIDE WITH BLOWN FUSE AND SINGLE PHASE PROTECTION.
7. SIXTY AMP, THREE PHASE FUSIBLE SWITCH FEEDER UNIT.
8. RUN #14, 1/2" C. FROM STARTER TO CIP PANEL.

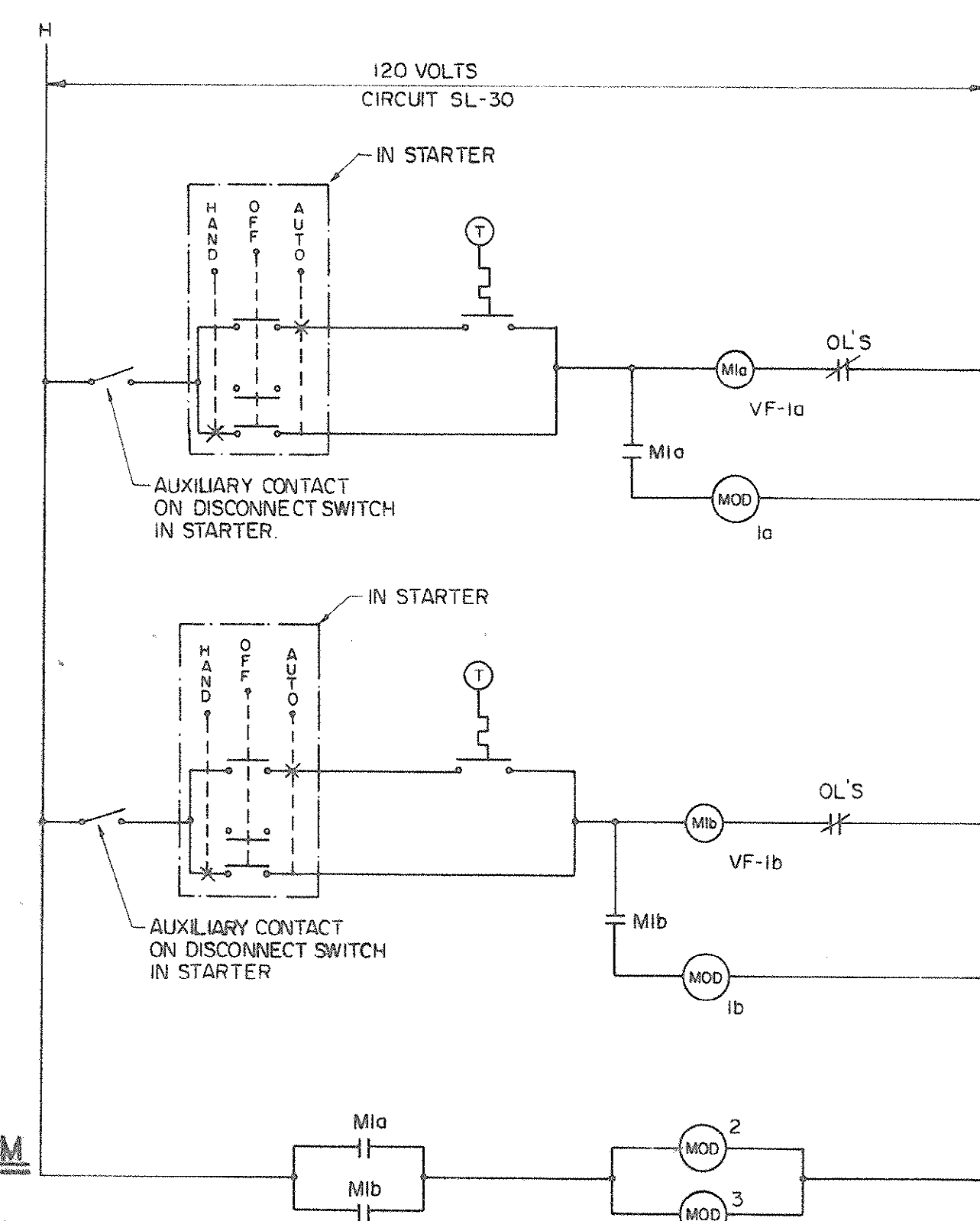


MOTOR CONTROL CENTER MCCC-ELEVATION
NOT TO SCALE

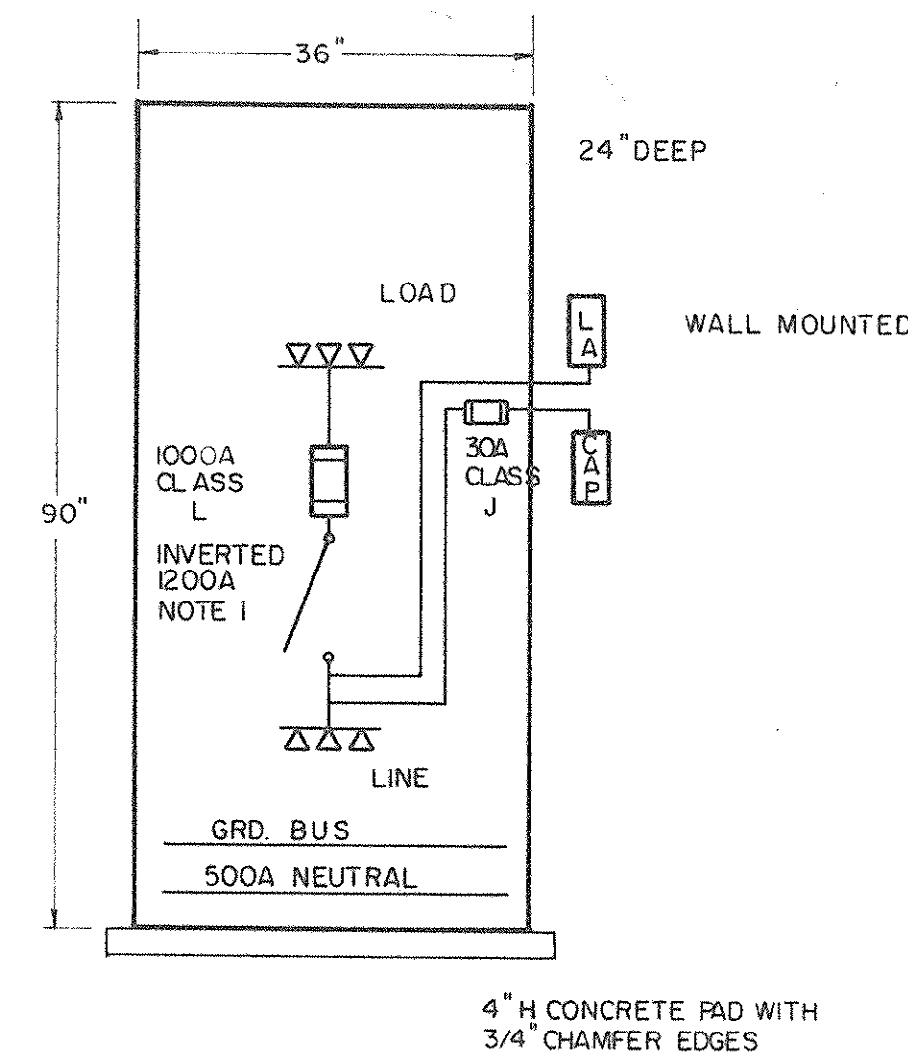
MOTOR CONTROL CENTER MCCC					
SERVICE: 480V, 3 Ø, 3W			MAIN BUS: 1000 AMPS		
TYPE: NEMA 1, CLASS B			BRACED FOR 42,000 AMPS RMS SYM		
UNIT	SERVICE	HP	AMPS	WIRE & CONDUIT	REMARKS
A1	PUMP #1	100	124	C-RVNR	200 3#2/0, 1#6G, 2 1/2" C
B1	PUMP #2	100	124	C-RVNR	200 3#2/0, 1#6G, 2 1/2" C
C1	PUMP #3	100	124	C-RVNR	200 3#2/0, 1#6G, 2 1/2" C
D1	FUTURE PUMP #4	100	124	C-RVNR	---
E1	INCOMING LINE	---	---	---	---
E2	BOOSTER PUMP	1	1.8	C-FVNR	4 3#12, 1#12G, 1/2" C
E3	AIR COMPRESSOR	1	1.8	---	4 3#12, 1#12G, 1/2" C
E4	PN'L CL VIA TRANSFORMER	---	---	50	3#6, 1#10G, 1" C
E5	SPACE ONLY	---	---	---	---
E6	SPACE ONLY	---	---	---	---
F1	EUM-6	---	9.0	---	15 3#12, 1#12G, 1/2" C
F2	EUM-7	---	9.0	---	15 3#12, 1#12G, 1/2" C
F3	VF-6	3/4	1.4	C-FVNR	3 3#12, 1#12G, 1/2" C
F4	VF-7	3/4	1.4	C-FVNR	3 3#12, 1#12G, 1/2" C
F5	SPACE ONLY	---	---	---	---
F6	SPACE ONLY	---	---	---	---

NOTES:

1. COMBINATION FULL-VOLTAGE, NON-REVERSIBLE THREE PHASE STARTER WITH FUSIBLE DISCONNECT.
2. THIRTY AMP, THREE PHASE FUSIBLE SWITCH FEEDER UNIT.
3. SPACE ONLY FOR FUTURE NEMA SIZE 5 REDUCED VOLTAGE AUTO TRANSFORMER STARTER WITH FUSIBLE DISCONNECT SWITCH.
4. NEMA SIZE 5, COMBINATION REDUCED VOLTAGE NON-REVERSIBLE, CLOSED TRANSITION, AUTO TRANSFORMER STARTER WITH 50%, 65% & 80% TAP WITH FUSIBLE DISCONNECT. PROVIDE WITH FUSE REDUCERS AND PROPERLY SIZED AUTO TRANSFORMER FOR THE HORSEPOWER LISTED. FOR INFORMATION, THESE PUMPS WILL BE CHANGED TO 200 HORSEPOWER IN THE FUTURE. SET ON 65% TAP. SET START TIMER TO TRANSFER TO RUN MODE AS SOON AS THE MOTOR REACHES NAMEPLATE RPM.
5. PROVIDE WITH HAND-OFF-AUTOMATIC SELECTOR SWITCH IN COVER. CONTROLS WILL BE 120-VOLTS FROM REMOTE SOURCE. PROVIDE AUXILIARY CONTACT ON DISCONNECT TO CUT OFF CONTROL POWER WHEN DISCONNECT IS OPENED AND TWO EXTRA NORMALLY OPEN AND ONE NORMALLY CLOSED AUXILIARY CONTACTS IN ADDITION TO THOSE SHOWN ON THE WIRING DIAGRAM.
6. PROVIDE RUN TIME METER, AMP METER AND GREEN RUN PILOT LIGHT IN STARTER COVER. PROVIDE WITH BLOWN FUSE AND SINGLE PHASE PROTECTION.
7. RUN #14, 1/2" C. FROM STARTER TO CIP PANEL.
8. SIXTY AMP, THREE PHASE FUSIBLE SWITCH FEEDER UNIT.

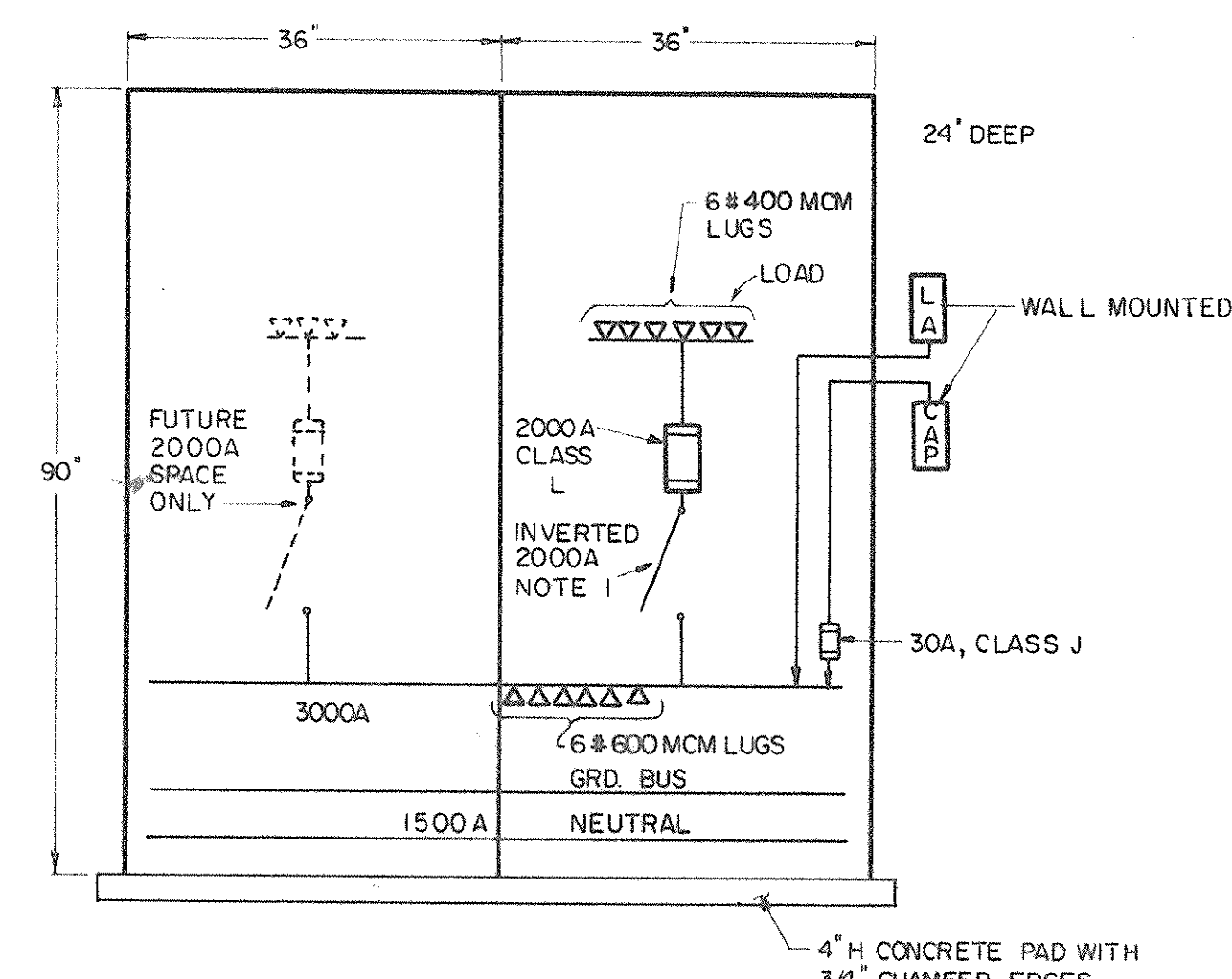


FANS VF-1a & 1b WIRING DIAGRAM



SWITCHBOARD CPS
NOT TO SCALE

- NOTES:
1. BLOWN PRESSURE SWITCH WITH ELECTRICAL TRIP, GROUND FAULT PROTECTION, BLOWN FUSE, SINGLE PHASE AND UNDERVOLTAGE PROTECTION. PROVIDE AUXILIARY CONTACTS ON SWITCH AND EACH PROTECTIVE DEVICE LISTED AND WIRE PER NOTE 3.
 2. SWITCHBOARD SHALL BE UL LISTED "SUITABLE FOR SERVICE EQUIPMENT" AND SHALL BE FRONT ACCESSIBLE ONLY.
 3. RUN 1#14, 3/4" C TO CIP PANEL. CONNECT TO AUXILIARY CONTACTS FOR REMOTE INDICATION OF SWITCH TRIPPED, GROUND FAULT, BLOWN FUSE, SINGLE PHASE AND UNDERVOLTAGE.



SWITCHBOARD SPS
NOT TO SCALE

- NOTES:
1. BLOWN PRESSURE SWITCH WITH ELECTRICAL TRIP, GROUND FAULT PROTECTION, BLOWN FUSE, SINGLE PHASE AND UNDERVOLTAGE PROTECTION. PROVIDE AUXILIARY CONTACTS ON SWITCH AND EACH PROTECTIVE DEVICE LISTED AND WIRE PER NOTE 3.
 2. SWITCHBOARD SHALL BE UL LISTED "SUITABLE FOR SERVICE EQUIPMENT" AND SHALL BE FRONT ACCESSIBLE ONLY.
 3. RUN 1#14, 3/4" C TO CIP PANEL. CONNECT TO AUXILIARY CONTACTS FOR REMOTE INDICATION OF SWITCH TRIPPED, GROUND FAULT, BLOWN FUSE, SINGLE PHASE AND UNDERVOLTAGE.

PANEL : SL NOTES: 1. WITH EQUIPMENT GROUNDING BUS.

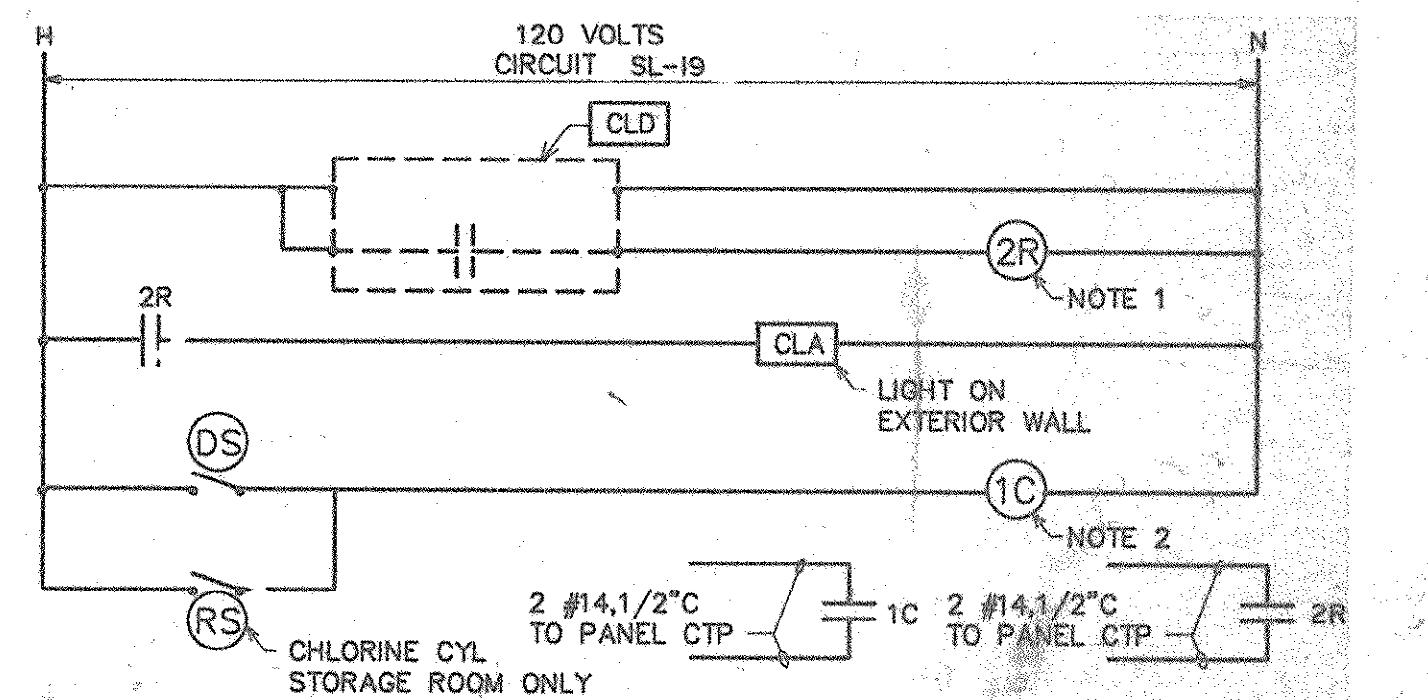
SERVICE: 120/208V, 3Ø, 4W
MAINS: 100A MCB
MOUNTING: SURFACE
TYPE: BRANCH CIRCUIT

TYPED CIRCUIT DIRECTORY	WIRE SIZE	BRKR SIZE	CT NO.	A B C	CT NO.	WIRE SIZE	TYPED CIRCUIT DIRECTORY
LIGHTING	12	20	1	---	2	20	12 LIGHT
AMONIA FEED CONTROLS	---	---	---	---	---	---	VAULT METERS
CHLORINE FEED CONTROL	---	---	---	---	---	---	CHLORINE TRANSMITTERS
PRESSURE TRANSMITTERS	---	---	---	---	---	---	CHLORINE TRANSMITTERS
RECEPTS	---	---	---	---	---	---	GENERATOR BLOCK
RESERVOIR PRESS. TRANSMITTER	---	---	---	---	---	---	HEATER 3KW
CHLORINE DETECTOR	---	---	---	---	---	---	GENERATOR LIGHT & RECEPT
PUMP CONTROLS #1, 2, 3	---	---	---	---	---	---	GENERATOR BATTERY CHARGER
#5, 6 & 7	---	---	---	---	---	---	---
BOOSTER PUMPS CONTROL	12	20	23	---	24	20	12
EUM-CONTROLS	12	20	24	---	26	20	12
SPARE	---	---	---	---	28	20	12
SPARE	---	---	---	---	30	20	12
SPACE ONLY	---	---	---	---	32	20	12
SPACE ONLY	---	---	---	---	34	20	12
SPACE ONLY	---	---	---	---	36	20	12
SPACE ONLY	---	---	---	---	38	20	12
SPACE ONLY	---	---	---	---	40	20	12
SPACE ONLY	---	---	---	---	42	20	12

PANEL : CL NOTES: 1. WITH EQUIPMENT GROUNDING BUS.

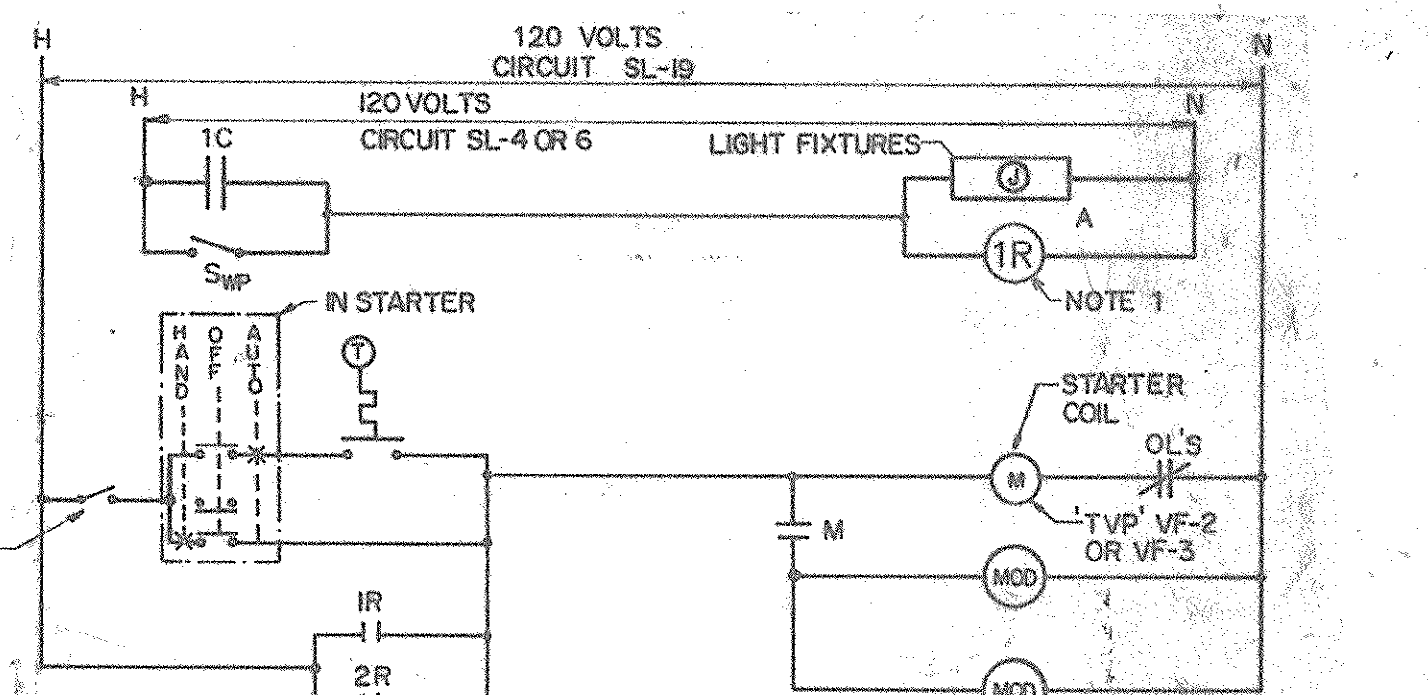
SERVICE: 120/208V, 3Ø, 4W
MAINS: 100A MCB
MOUNTING: SURFACE
TYPE: BRANCH CIRCUIT

TYPED CIRCUIT DIRECTORY	WIRE SIZE	BRKR SIZE	CT NO.	A B C	CT NO.	WIRE SIZE	TYPED CIRCUIT DIRECTORY
METERING	12	20	1	---	2	20	12 LIGHTING
PUMPS 1&2 CONTROLS	---	---	---	---	---	---	---
PUMPS 3&4 FUTURE 4 CONTROL	---	---	---	---	---	---	GENERATOR BLOCK
CHLORINE DETECTOR & ALARM	---	---	---	---	---	---	HEATER 3KW
BOOSTER PUMP CONTROL	12	20	13	---	10	20	12
METER VAULT	12	20	14	---	12	20	12
AMMONIA & CHLORINE CONTROLS	12	20	15	---	14	20	12
SPARE	---	---	---	---	16	20	12
EUM-CONTROL	12	20	16	---	18	20	12
EUM-8, 3KW	12	20	17	---	20	20	12
SPARE	---	---	---	---	22	20	12
SPARE	---	---	---	---	24	20	12
SPACE ONLY	---	---	---	---	26	20	12
SPACE ONLY	---	---	---	---	28	20	12
SPACE ONLY	---	---	---	---	30	20	12
SPACE ONLY	---	---	---	---	32	20	12
SPACE ONLY	---	---	---	---	34	20	12
SPACE ONLY	---	---	---	---	36	20	12
SPACE ONLY	---	---	---	---	38	20	12
SPACE ONLY	---	---	---	---	40	20	12
SPACE ONLY	---	---	---	---	42	20	12



CHLORINE STORAGE & FEED ROOMS ALARMS
CONTROL WIRING DIAGRAM - SOUTH PUMP STATION
NOT TO SCALE

- NOTES:
1. RELAY (R) SHALL BE INDUSTRIAL TYPE WITH 10AMP CONTACTS AND MOUNTED IN NEMA 4X ENCLOSURE.
 2. CONTACTOR (C) SHALL BE SQUARE D, CLASS 8903, CATALOG # LHM-20, 2 POLE, 20 AMP CONTACTS AND WITH NEMA 4X ENCLOSURE.



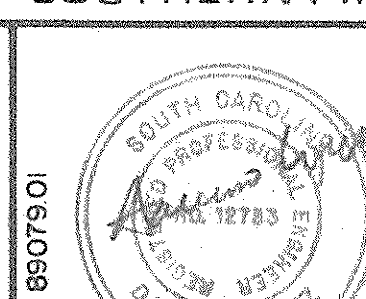
CHLORINE STORAGE & FEED ROOMS EXHAUST
FAN & LIGHT CONTROL WIRING DIAGRAM
NOT TO SCALE

- NOTES:
1. RELAY (R) SHALL BE INDUSTRIAL TYPE WITH 10 AMP CONTACTS AND MOUNTED IN NEMA 4X ENCLOSURE.

RECORD DRAWING
DATE: 5-20-92

REVISIONS			
SYM.	DESCRIPTION	DATE	BY
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HOBBS, UPCHURCH & ASSOCIATES, P.A.
CONSULTING ENGINEERS
SOUTHERN PINES, NORTH CAROLINA 28387

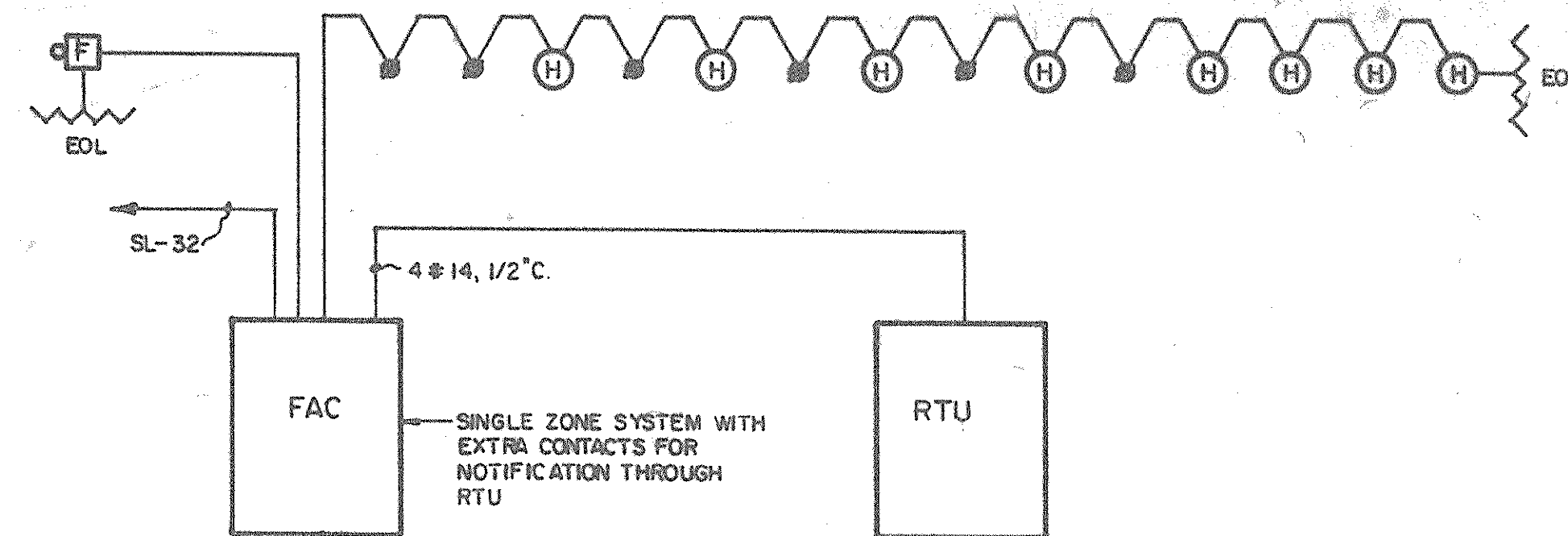


GRAND STRAND
WATER & SEWER AUTHORITY
SURFACE WATER TREATMENT
PROJECT

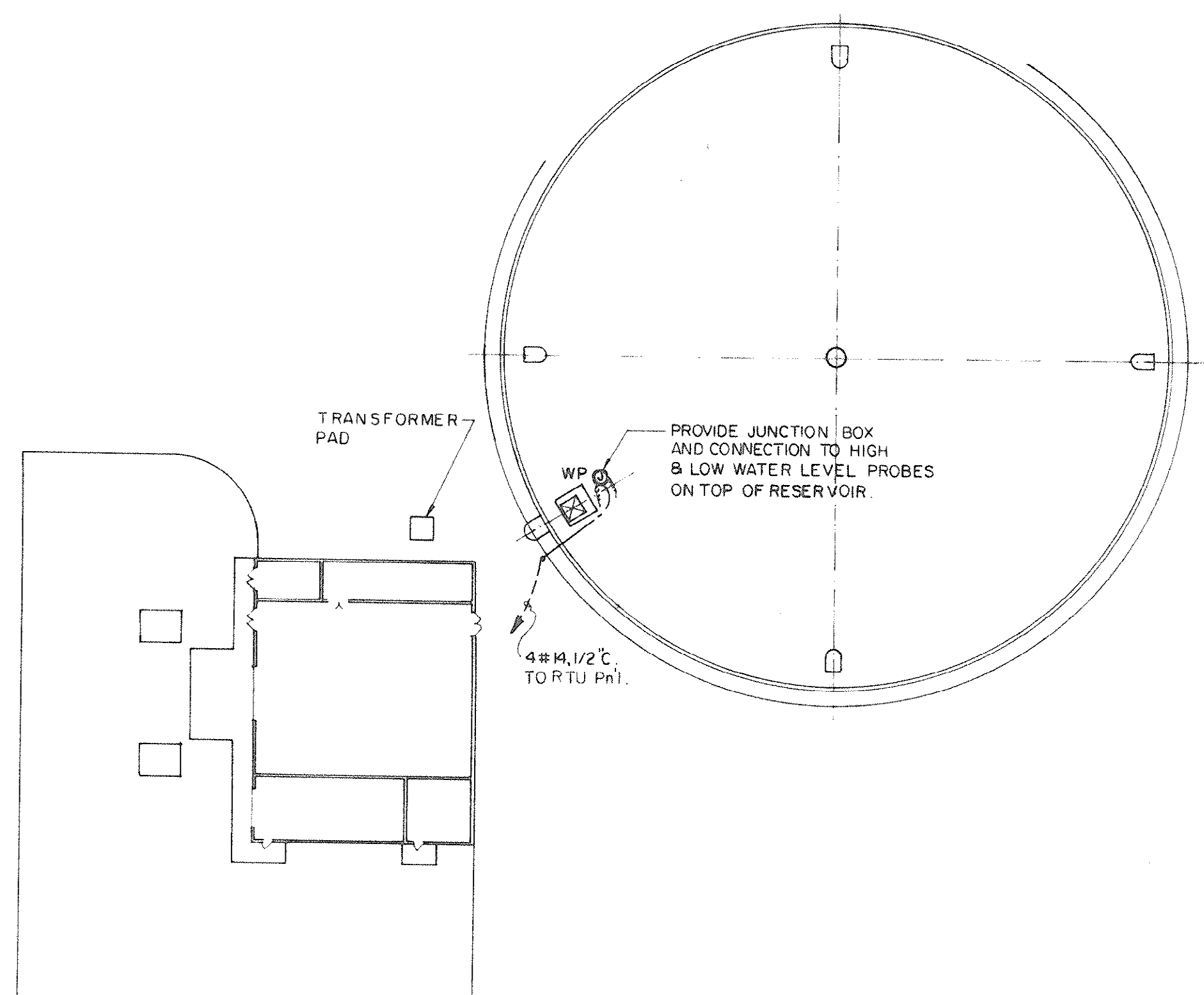
CONWAY & SOUTH PUMP STATIONS

33-04-017w

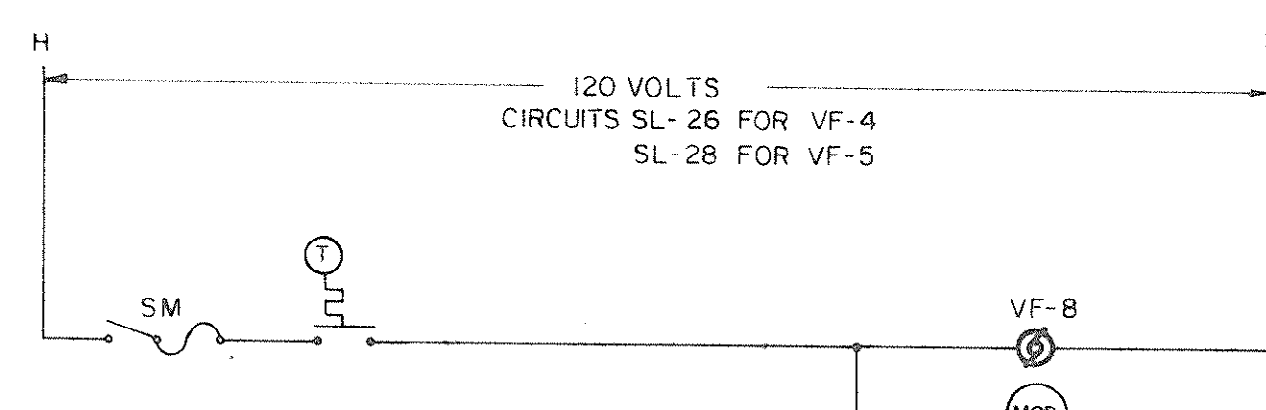
DATE: 5-5-92
DESIGNED: W.H.A.
DRAWN: R.T.
CHECKED: O.L.
SCALE: AS NOTED
SHEET NO.



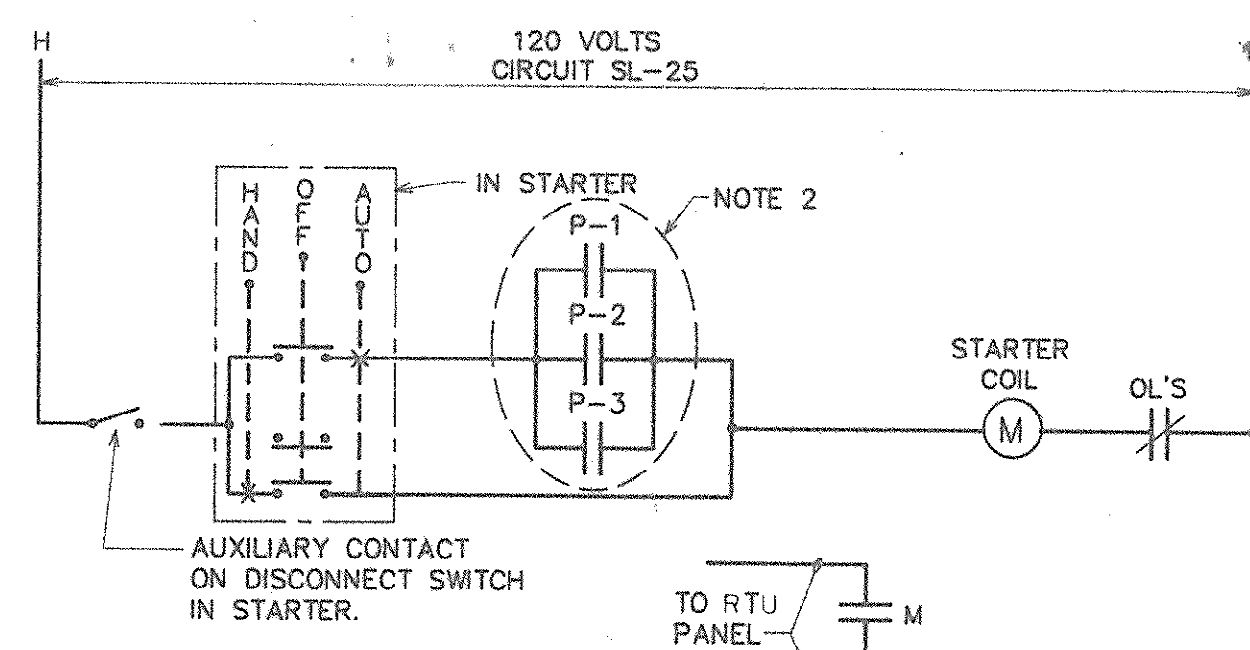
SOUTH PUMP STATION FIRE DETECTION SYSTEM RISER DIAGRAM
NOT TO SCALE



SOUTH PUMP STATION - SITE PLAN
SCALE: 1"=40'

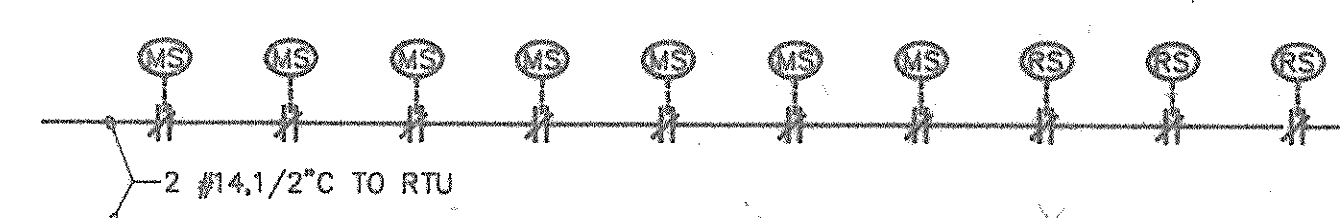


FANS VF-4 & 5 WIRING DIAGRAM
NOT TO SCALE

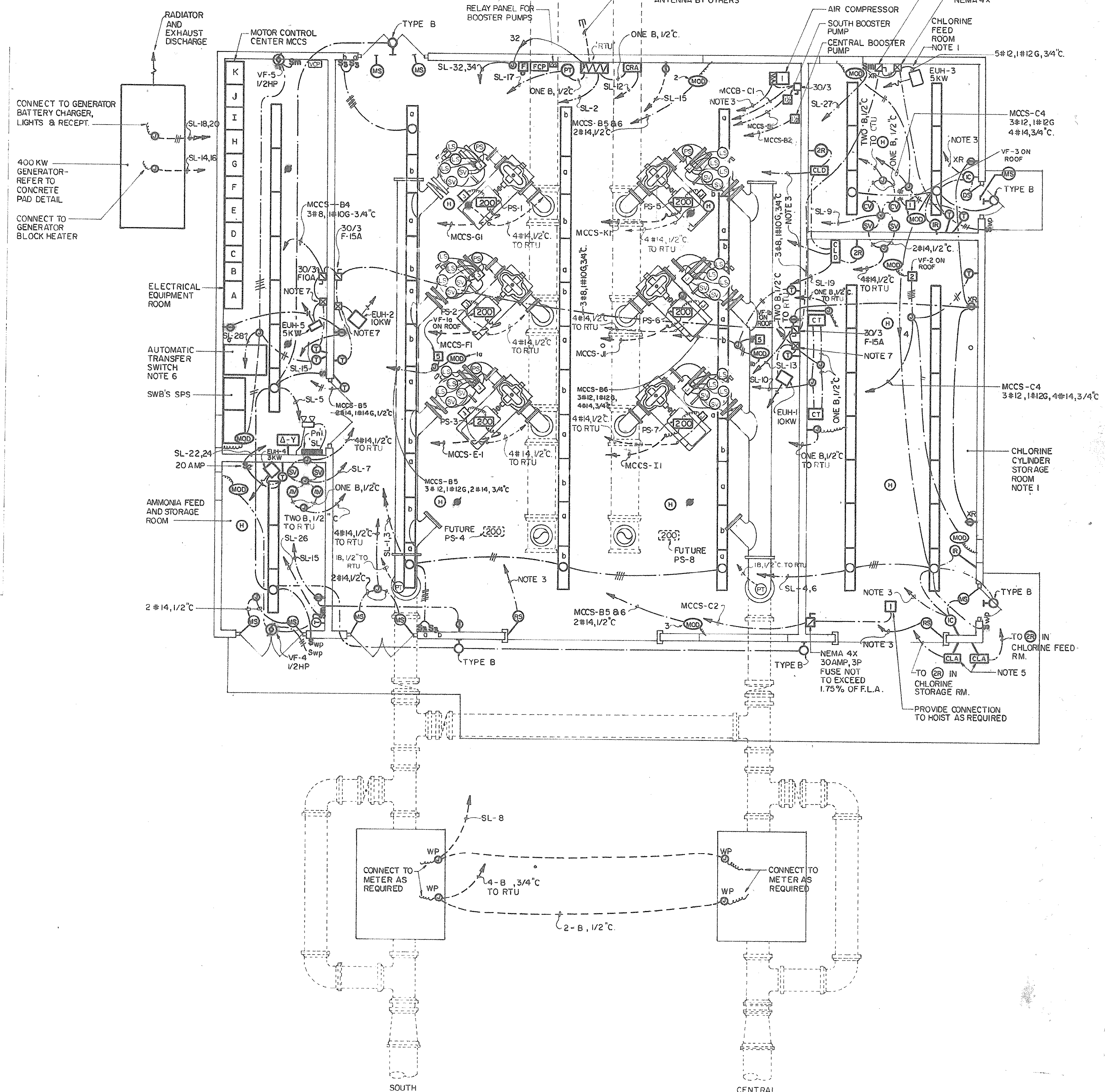


SOUTH AND CENTRAL BOOSTER PUMPS CONTROL DIAGRAM
NOT TO SCALE

- NOTES:
1. DIAGRAM SHOWN ABOVE IS FOR THE SOUTH BOOSTER PUMP. CENTRAL BOOSTER PUMP DIAGRAM IS IDENTICAL EXCEPT CONTROLLED FROM AUXILIARY CONTACTS IN PUMPS 5, 6 & 7 STARTERS.
 2. CONTACTS P-1, P-2 & P-3 ARE AUXILIARY CONTACTS IN STARTERS FOR PUMPS 1, 2 & 3.



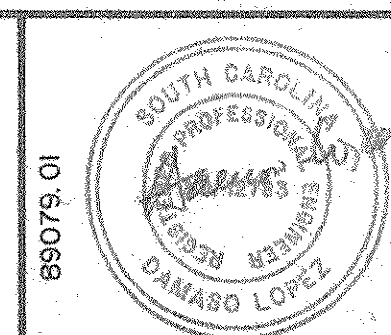
SOUTH PUMP STATION DOOR SECURITY DIAGRAM
NOT TO SCALE



SOUTH PUMP STATION - LAYOUT
SCALE: 3/16"=1'-0"

REVISIONS			
SYM.	DESCRIPTION	DATE	BY
1	RECORD DRAWING	1-14-92	RAC

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SOUTHERN PINES, NORTH CAROLINA 28387



GRAND STRAND
WATER & SEWER AUTHORITY
SURFACE WATER TREATMENT
PROJECT

SOUTH PUMP STATION
FLOOR PLAN - SITE PLAN - WIRING DIAGRAMS

DATE:	3-5-90
DESIGNED:	W. H. A.
DRAWN:	R.T.
CHECKED:	D.L.
SCALE:	AS NOTED
SHEET NO.	E-3
OF	4

RECORD DRAWING
DATE 5-20-92

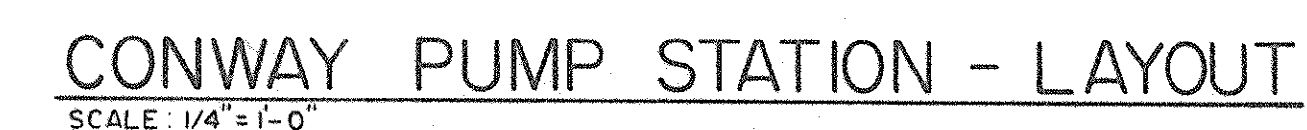
33-04-018w



NOT TO SCALE
NOTES: 1. RELAY (R) SHALL BE INDUSTRIAL TYPE, HORSEPOWER RATED FOR THE APPLICABLE FAN BEING CONTROLLED AND MOUNTED IN NEMA 4X ENCLOSURE.



NOTES: 1. RELAY (2R) SHALL BE INDUSTRIAL TYPE, HORSEPOWER RATED FOR THE APPLICABLE FAN BEING CONTROLLED AND MOUNTED IN NEMA 4X ENCLOSURE.



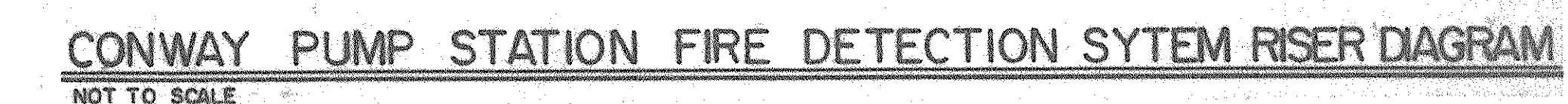
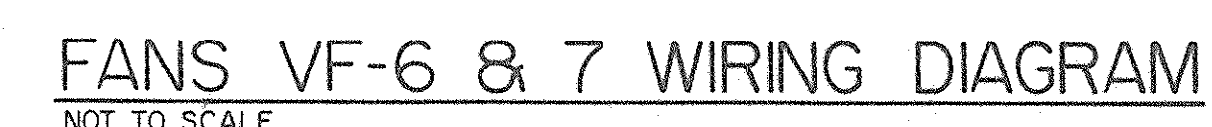
- NOTES:**
1. ALL CONDUIT IN THIS ROOM SHALL BE SCHEDULE 40 PVC.
 2. ALL FLUORESCENT FIXTURES ARE TYPE A.
 3. RUN #14, 1/2" C TO RTU , VIA ALL M.S.
 4. RUN #14, 1/2" C. TO RTU
PANEL. LEAVE CONDUCTORS TAPED IN JUNCTION BOX FOR FUTURE
USE BY OWNER.
 5. INSTALL ENGRAVED PHENOLIC NAMEPLATE UNDER LIGHT, BLACK
BACKGROUND WITH WHITE 1/2" HIGH LETTERS AND NOTCHED WITH
"CHERIE". ENGRAVE "ALARM."
 6. RUN ONE B TO RTU PANEL IN 1/2" C.
 7. DELETED.
 8. RUN #14, 1/2" C TO RTU PANEL. CONNECT FOR REMOTE MANUAL
START AND TO INDICATE GENERATOR IN RUNNING.
 9. 30AMP, 3POLE, ELECTRICALLY HELD CONTACTOR IN NEMA I ENCLOSURE
WITH 200VOLT COIL. WIRE THERMOSTAT TO CONTROL EUM BY
CIRCUIT G-19.



NOT TO SCALE

NOTES:

1. CONTACTS P-1, P-2 & P-3 ARE AUXILIARY CONTACTS IN STARTERS FOR PUMPS 1, 2, & 3.



33-04-019w

[illegible]

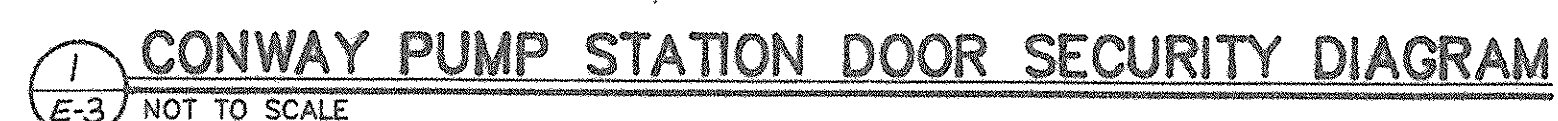
HOBBS, UPCHURCH & ASSOCIATES, P.A.
CONSULTING ENGINEERS
SOUTHERN PINES, NORTH CAROLINA 28387

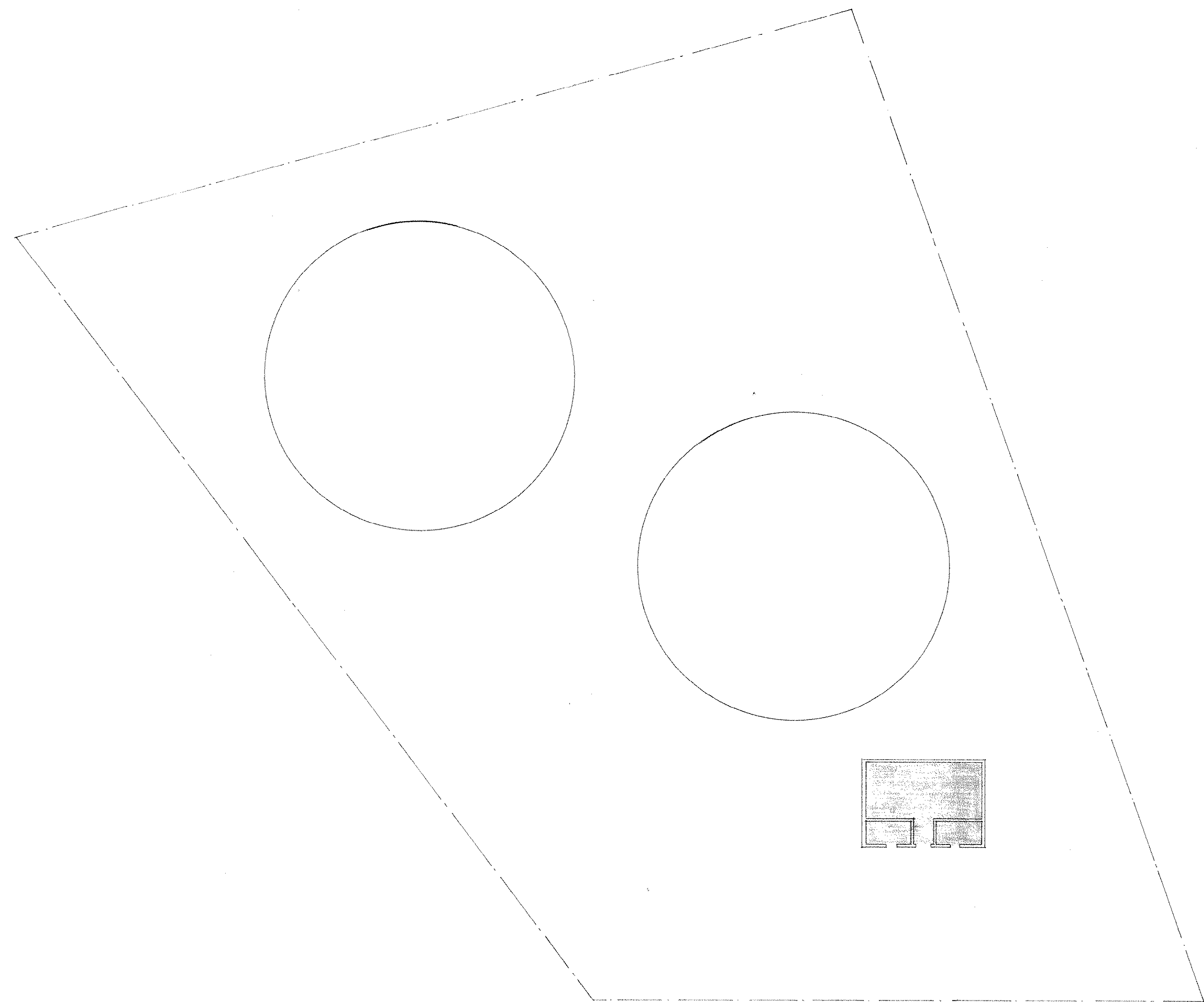
GRAND STRAND
WATER & SEWER AUTHORITY
SURFACE WATER TREATMENT
PROJECT

CONWAY PUMP STATION

FLOOR PLAN - SITE PLAN - WIRING DIAGRAMS

DATE:	3-5-90
DESIGNED:	W.H.A.
DRAWN:	R.T.
CHECKED:	D.L.
SCALE:	AS NOTED
SHEET NO.	E-4

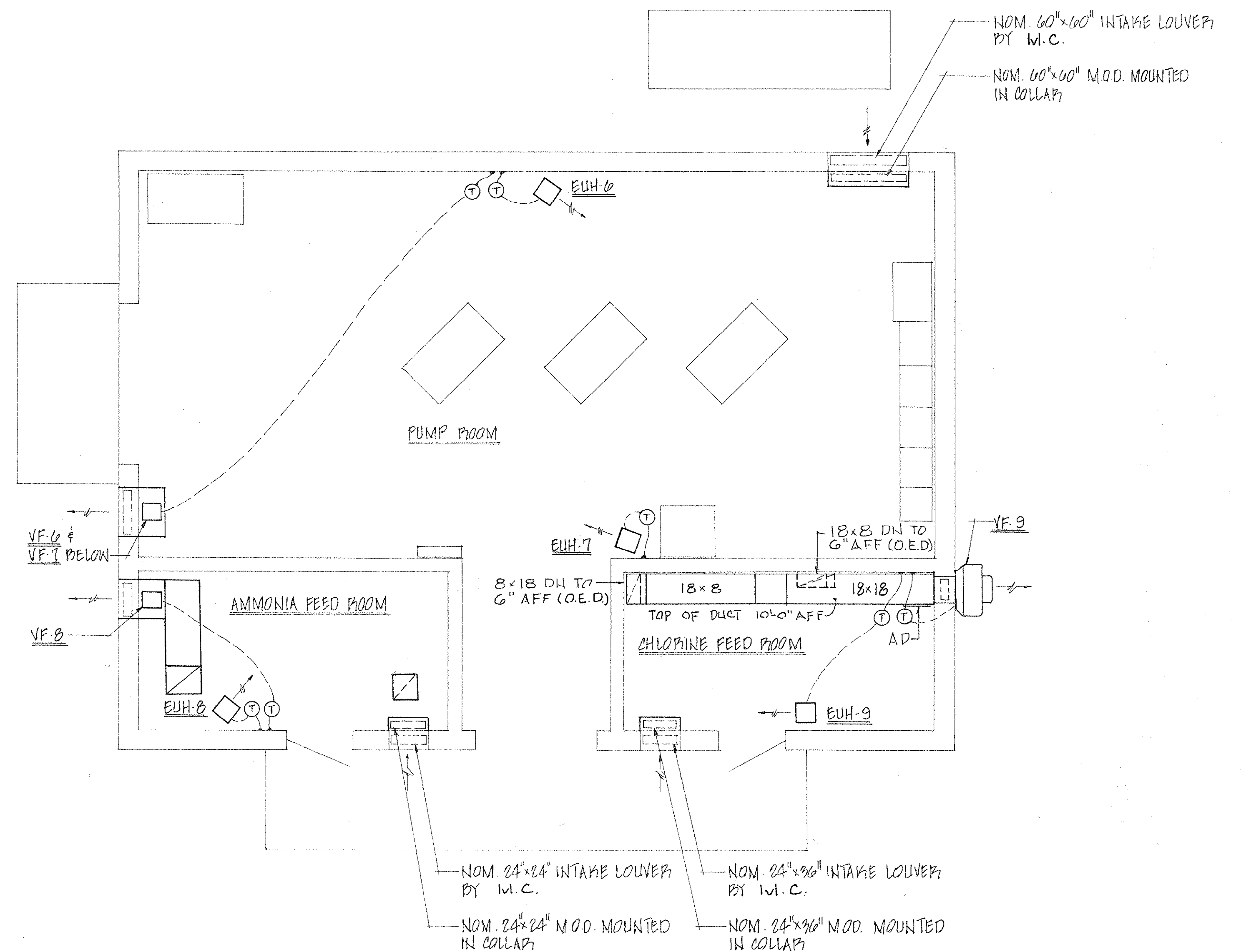




CONWAY PUMP STATION-SITE PLAN
SCALE: 1" = 30'

MECHANICAL EQUIPMENT SCHEDULE

VENTILATION FAN VF-6 & VF-7	CFM-4400, STATIC-0.5" W.C., RPM-1230, H.P.-3/4, 460V/3 PHASE, PROVIDE WITH WALL MOUNTING COLLAR, GRAVITY DISCHARGE DAMPER, MOTOR SIDE FAN GUARD GREENHECK RPD-FB-24 OR APPROVED EQUAL
VENTILATION FAN VF-8	CFM-1800, STATIC-0.5" W.C., RPM-1025, H.P.-1/2, 115V/1 PHASE, PROVIDE WITH WALL MOUNTING COLLAR, GRAVITY DISCHARGE DAMPER, MOTOR SIDE FAN GUARD, HERBOTE COATED GREENHECK RPF-20 OR APPROVED EQUAL
VENTILATION FAN VF-9	CFM-1900, STATIC-0.5" W.C., RPM-1275, H.P.-1/2, 115V/1 PHASE, PROVIDE WITH BIRDSCREEN, GRAVITY DAMPER, DISCONNECT SWITCH, HERBOTE COATED GREENHECK RPD-14-5 OR APPROVED EQUAL
ELECTRIC UNIT HEATER EUH-6 & EUH-7	FW-912, BTUH-25000, 480V/3 PHASE, 115V FAN MOTOR, PROVIDE 480V/115V TRANSFORMER, WALL MOUNTING BRACKET CHROMALOX CAT. NO. UG-15CT OR APPROVED EQUAL
ELECTRIC UNIT HEATER EUH-8 & EUH-9	FW-5, BTUH-10000, 600V/1 PHASE, 100V/1 PHASE FAN MOTOR, PROVIDE CORROSION RESISTANT WALL MOUNTING BRACKET CHROMALOX CAT. NO. CGR-003 OR APPROVED EQUAL

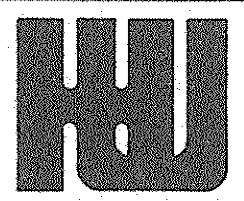
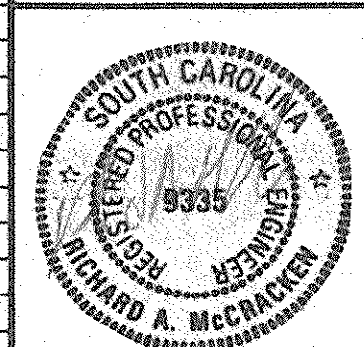


CONWAY PUMP STATION-LAYOUT
SCALE: 1/4" = 1'-0"

NOTES:

1. MOUNT ELECTRIC UNIT HEATERS 8'-0" AFF.
2. ALL DUST AND BALANCING DAMPERS SHALL BE FABRICATED OF 304 STAINLESS STEEL.
3. THIS CONTRACTOR SHALL TURN THE THERMOSTATS OVER TO THE ELECTRICAL CONTRACTOR FOR MOUNTING AND WIRING.
4. CONTROL WIRING SHALL BE BY THE ELECTRICAL CONTRACTOR.
5. LOUVERS SHALL BE EQUAL TO AIRLOTE MODEL N-1-K-605.

33-04-021w

REVISIONS				 HOBBS, UPCHURCH & ASSOCIATES, P.A. CONSULTING ENGINEERS SOUTHERN PINES, NORTH CAROLINA 28387		DATE: 3-5-92 DESIGNED: BW DRAWN: BW CHECKED: RAM SCALE: NOTED SHEET NO.:	
SYM.	DESCRIPTION	DATE	BY				
	RECORD DRAWING	1-14-92	RAC			GRAND STRAND WATER & SEWER AUTHORITY SURFACE WATER TREATMENT PROJECT CONWAY PUMP STATION SITE PLAN, FLOOR PLAN, SCHEDULES	
						M-2 OF 2	

FIXTURE SCHEDULE

TYPE 'A'

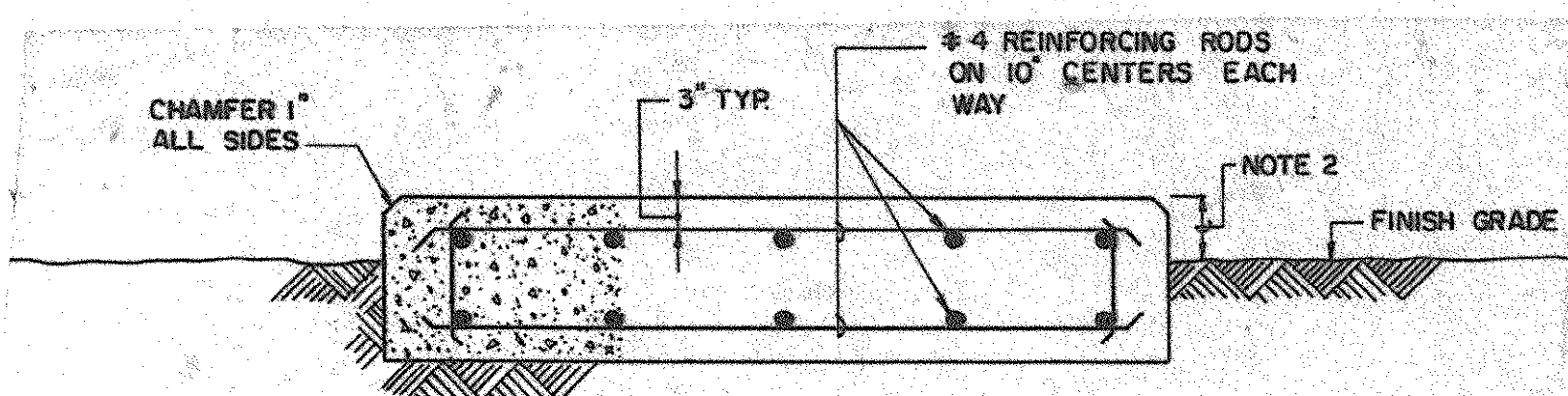
CORROSION RESISTANT FLUORESCENT FIXTURE FOR SURFACE OR SUSPENDED MOUNTING WITH TWO 40 WATT, RAPID START LAMPS. LENS SHALL BE INJECTION MOLED ACRYLIC, SECURED BY SIX CAPTIVE NYLON LATCHES.

WILLIAMS #8622-A, LITHONIA DL240A OR EQUAL.

TYPE 'B'

WALL MOUNTED, 70-WATT HIGH PRESSURE SODIUM FIXTURE WITH DIE-CAST ALUMINUM HOUSING PAINTED GRAY, PRISMATIC GLASS REFRACTOR, BUILT-IN PHOTOELECTRIC CONTROL SWITCH AND UL LISTED FOR WET LOCATIONS.

HOLOPHANE #WP2A070HP12GR



GENERATOR SET CONCRETE PAD

NOT TO SCALE

NOTES: 1. DIMENSIONS NOTED BELOW ARE BASED ON EQUIPMENT DESIGNED AROUND. COORDINATE THE EXACT DIMENSIONS WITH APPROVED SHOP DRAWING AND MAKE PAD A MINIMUM OF AT LEAST FOUR INCHES LARGER ON ALL SIDES THAN THE EQUIPMENT.

GENERATOR = 12'-8" LONG x 5'-8" WIDE x 18" DEEP

2. PAD SHALL BE 4" ABOVE HIGHEST FINISHED GRADE.

3. CONCRETE COMPRESSIVE STRENGTH IN 28 DAYS SHALL BE 3000 PSI.

CIRCUITING LEGEND

HOMERUNS TO PANELBOARDS ARE SHOWN AS POLES RATHER THAN CIRCUITS. SIMILARLY, PANEL SCHEDULES LIST POLES RATHER THAN CIRCUITS, BUT INDICATE WHICH POLES ARE COMMON TRIP FORMING TWO AND THREE POLE CIRCUITS. HOMERUN DESIGNATIONS INDICATE PANELBOARD AND POLES TO WHICH PHASE WIRES ARE TO BE CONNECTED. NUMBER OF ARROWS INDICATE NUMBER OF CIRCUITS INVOLVED. CROSS HATCHES, SHOWN ONLY WHEN THE NUMBER OF POLES EXCEEDS THE NUMBER OF CIRCUITS, INDICATE THE NUMBER OF WIRES. FOR EXAMPLE:

SYMBOL	NO. OF POLES	CIRCUITS	PHASE WIRES	NEUTRAL
→ LP-1	1	1	1	1
→ LP-1, 3	2	1	2	0
→ LP-1, 3, 5	3	1	3	0
→ LP-1, 3, 5	3	1	3	0
→ LP-5, 7	2	2	2	1
→ LP-5, 7, 9	3	3	3	1

FEEDERS:

NO. () INDICATES QUANTITY OF CONDUITS AND CONDUCTORS IN PARALLEL. SEE NEC 250-79C, 250-95, 300-20 AND 310-4 FOR SPECIAL REQUIREMENTS. EXAMPLE: 3(3 #3/0, 1 #1/0 N, 1 LG, 2 1/2" C) REQUIRES THREE 2 1/2" CONDUIT EACH HAVING THREE NO. 3/0 PHASE CONDUCTORS, ONE NO. 1/0 NEUTRAL CONDUCTOR AND ONE NO. 1 GROUNDING CONDUCTOR.

EQUIPMENT GROUNDING CONDUCTORS:

EQUIPMENT GROUNDING CONDUCTORS ARE GENERALLY NOT SHOWN ON CIRCUITING PLANS BUT SHALL BE PROVIDED IN THE SIZES AS SCHEDULED ON N.E.C. TABLE 250-95 ON ALL CIRCUITS.

TYPICAL PANEL DIAGRAM

BRANCH CIRCUIT WIRE COLOR			
120/208 OR 120/240	POLE NUMBER	120/208 OR 120/240	277/480
BROWN	1	BLACK	BROWN
ORANGE	2	RED	ORANGE
YELLOW	3	BLUE	YELLOW
BROWN	4	BLACK	BROWN
ORANGE	5	RED	ORANGE
YELLOW	6	BLUE	YELLOW
ETC.	ETC.	ETC.	ETC.

NEUTRAL

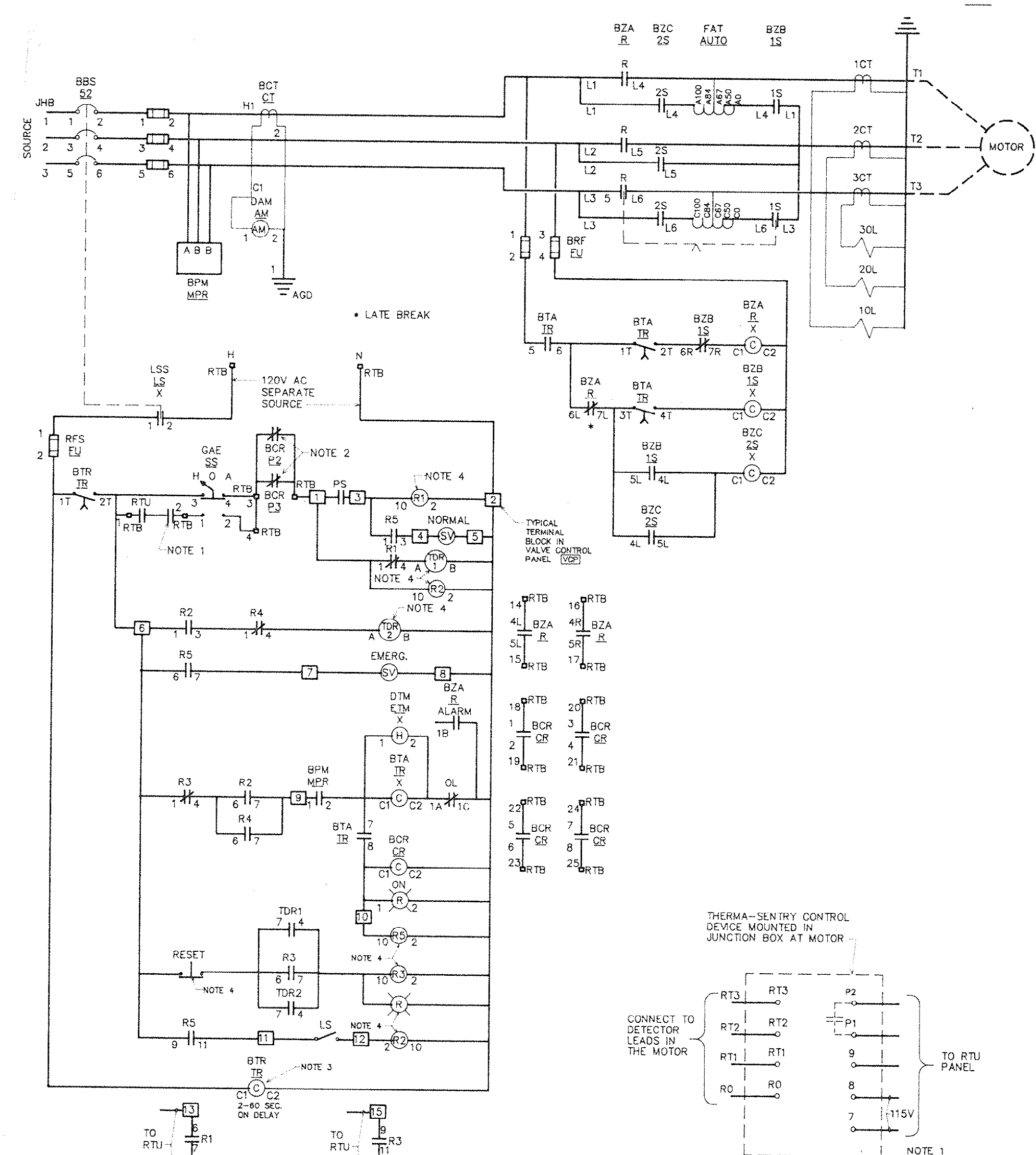
120/240 OR 120/208 VOLTS - WHITE

277/480 VOLTS - WHITE WITH IDENTIFIABLE COLOR STRIPE (NOT GREEN). IF NOT AVAILABLE AT TIME OF INSTALLATION, CLEAR USE OF GRAY WITH ELECTRICAL INSPECTOR.

GROUND WIRE SHALL BE GREEN FOR ALL VOLTAGES.

ELECTRICAL SYMBOL SCHEDULE

SYMBOL	DESCRIPTION
—	CONDUIT CONCEALED IN OR ABOVE CEILING; IN OVERHEAD SLAB OR IN WALL.
- - -	CONDUIT CONCEALED IN OR BELOW FLOOR; BELOW GRADE OR IN WALL.
	IF SHOWN, CROSS LINES INDICATE NUMBER OF CURRENT CARRY CONDUCTORS. EQUIPMENT GROUNDING CONDUCTORS ARE GENERALLY NOT INCLUDED IN THE QUANTITY INDICATED.
—	HOME RUN TO PANEL - WITH PANEL AND CIRCUIT DESIGNATION.
○	CONDUIT TURNING UP.
○	CONDUIT TURNING DOWN.
○	CONDUIT STUB-IN WITH CONNECTION TO EQUIPMENT.
○ OR □	JUNCTION BOX SIZED PER N.E.C.
□	JUNCTION BOX AND CONNECTION TO EQUIPMENT.
■	LIGHTING, POWER OR DISTRIBUTION PANELBOARD.
□	CONTROL PANEL.
□	FLUORESCENT FIXTURE - DRAWN APPROXIMATELY TO SCALE.
○	CEILING OUTLET - INCANDESCENT OR HID FIXTURE AS SCHEDULED.
○	WALL OUTLET - INCANDESCENT OR HID FIXTURES AS SCHEDULED.
○	STANDARD CONVENIENCE RECEPTACLE - MOUNT 18" UP. NEMA 5-15R, DUPLEX HUBBELL 5262 SERIES.
S	SINGLE POLE SWITCH - G.E. 5431, BRYANT 4801, HUBBELL 1201, A-H 1891, PAS 15AC1. MOUNT 48" UP FROM TOP OF DEVICE TO FLOOR.



CONWAY AND SOUTH PUMP STATIONS - TYPICAL PUMP WIRING DIAGRAM

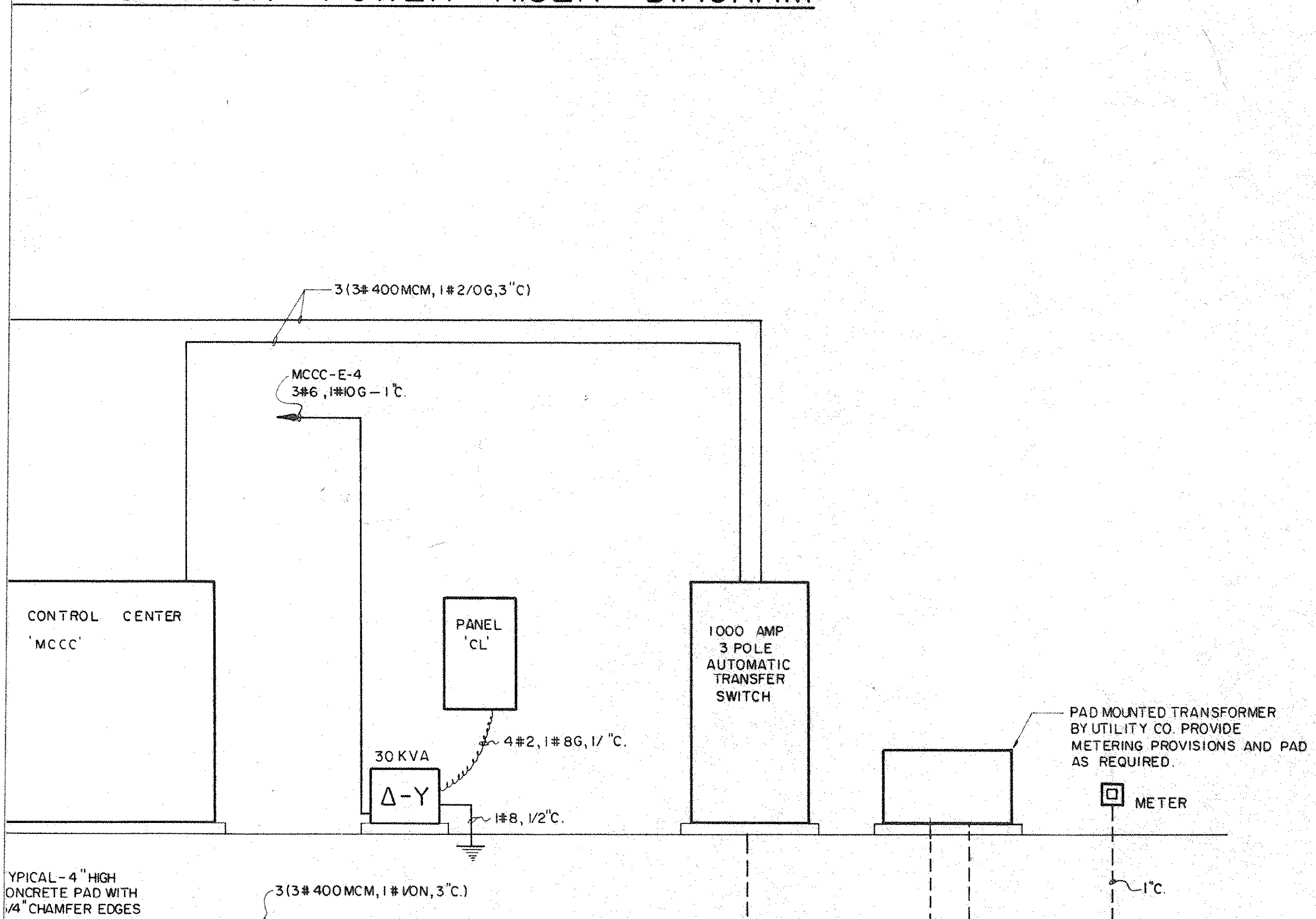
NOTES:
1. CONTACT ON MOTOR THERMA SENTRY CONTROL, RELAY AT MOTOR.
2. PUMP INTERLOCK TO PREVENT ONLY TWO OF EACH SET OF THREE PUMPS FROM RUNNING SIMULTANEOUSLY.
3. THE RELAY RELAY SET AT 10 SECOND INTERVALS TO SEQUENCE PUMPS BACK TO SERVICE AFTER RELAY OF POWER.
4. ITEMS LOCATED IN VALVE CONTROL PANEL.

THERMA SENTRY

CONTROL WIRING DIAGRAM

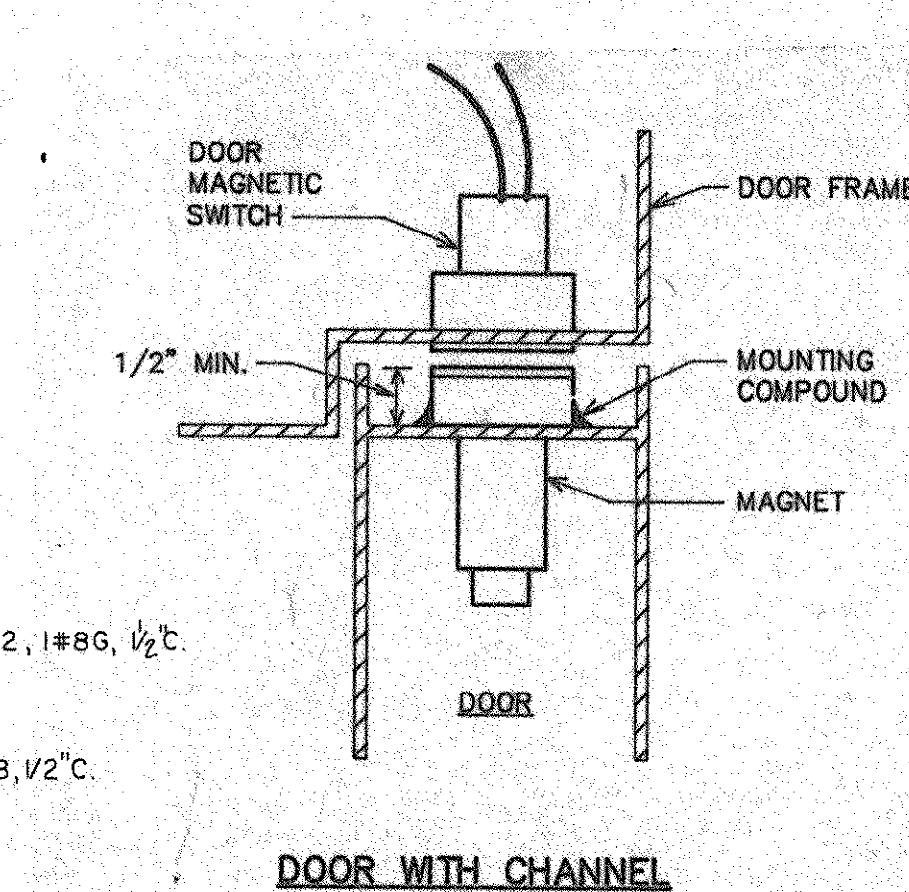
NOTES:
1. USE 120V CIRCUIT SERVING THE RTU PANEL.
2. APPLIED TO CONWAY AND SOUTH PUMP STATIONS PUMPS ONLY.

PUMP STATION POWER RISER DIAGRAM



CONWAY PUMP STATION POWER RISER DIAGRAM

NOT TO SCALE

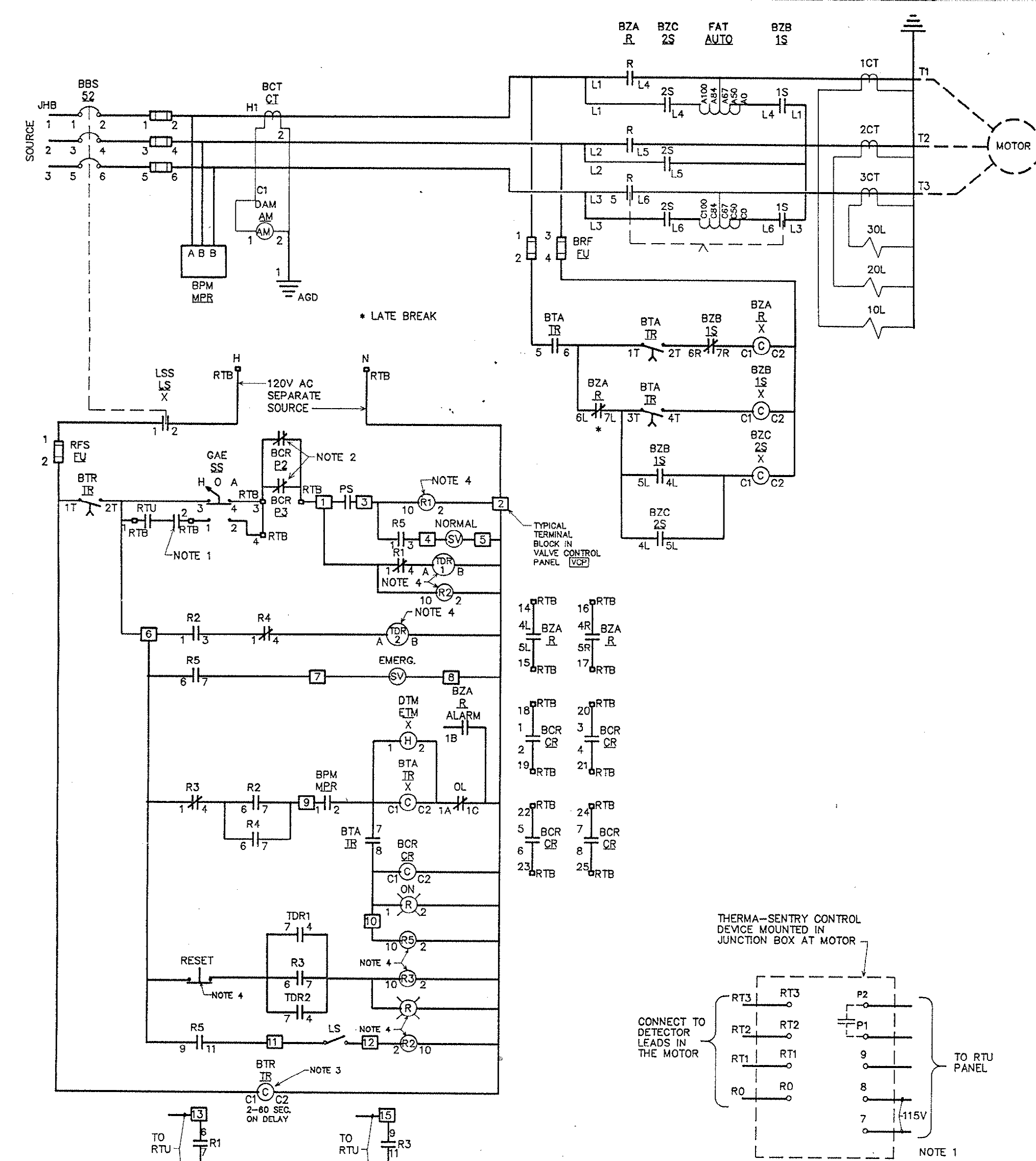


TYPICAL 'MS' MOUNTING

E-1 NOT TO SCALE

SYMBOL DESCRIPTION

◇	KEY PAD ELECTRIC LOCK WIRED BY ELECTRICAL
MS	DOOR SECURITY MAGNETIC CONTACTS WHEN DOOR IS TOGETHER WITH 2#14-1 VALVE CONTROL PANEL
MS	ELECTRIC DOOR SWITCH, SWITCH TO BE "OPEN" WITH CONTACTS WIRING 6
B	BELDEN #8760 SHIELDED STRANDED COPPER CONDUIT 100% SHIELD COVERAGE
EM	EMERGENCY BATTERY LI
LW	LEVEL TRANSMITTER FOR SHOW
RTU	CONTROLS AND TELEMETRY AND CABLES, AS SHOWN CONNECTION BY OTHERS, EQUIPMENT SERVED.
RS	ROLL UP DOOR MONITOR ENCLOSED SWITCH WITH ACTUATOR AS REQUIRED, SWITCH TO BE "CLOSED"
MS	MOTOR OPERATED DAMPER THIS CONTACT
CRA	CHLORINE RESIDUAL AIR
CT	CHLORINE TRANSMITTER
AV	AMMONIA FEED VALVE PH
CV	CHLORINE FEED VALVE PH
PT	PRESSURE TRANSMITTER
DI	RATE OF RISE/FIXED TE
FAC	FIRE ALARM CONTROL P
FB	FIRE ALARM BELL



CONWAY AND SOUTH PUMP STATIONS - TYPICAL PUMP WIRING DIAGRAM

NOTES:
1. CONTACT ON MOTOR THERMA SENTRY CONTROL, RELAY AT MOTOR.
2. PUMP INTERLOCK TO PREVENT ONLY TWO OF EACH SET OF THREE PUMPS FROM RUNNING SIMULTANEOUSLY.
3. THE RELAY RELAY SET AT 10 SECOND INTERVALS TO SEQUENCE PUMPS BACK TO SERVICE AFTER RELAY OF POWER.
4. ITEMS LOCATED IN VALVE CONTROL PANEL.

THERMA SENTRY

CONTROL WIRING DIAGRAM

NOTES:
1. USE 120V CIRCUIT SERVING THE RTU PANEL.
2. APPLIED TO CONWAY AND SOUTH PUMP STATIONS PUMPS ONLY.

HOBBS, UPCHURCH & ASSOCIATES, P.A.
CONSULTING ENGINEERS
SOUTHERN PINES, NORTH CAROLINA 28387

SURFACE WATER TREATMENT PLANT
GRAND STRAND WATER AND SEWER AUTHORITY

CONWAY & SOUTH PUMP STATIONS
PUMP WIRING DIAGRAM

DATE: 5-15-92
DESIGNED: W.H.A.
CHECKED: D.L.
SHEET NO. ED-1

33-04-016W

HOBBS, UPCHURCH & ASSOCIATES, P.A.
CONSULTING ENGINEERS
SOUTHERN PINES, NORTH CAROLINA 28387

GRAND STRAND
WATER & SEWER AUTHORITY
SURFACE WATER TREATMENT PROJECT

STATE OF SOUTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

CONWAY & SOUTH PUMP STATIONS
PUMP WIRING DIAGRAM - FUTURE SCHEDULE - PAD DETAIL

DATE: 5-15-92
DESIGNED: W.H.A.
CHECKED: R.T.
SCALE: AS NOTED
SHEET NO. E-1
OF 4

RECORD DRAWING

DATE 5-20-92