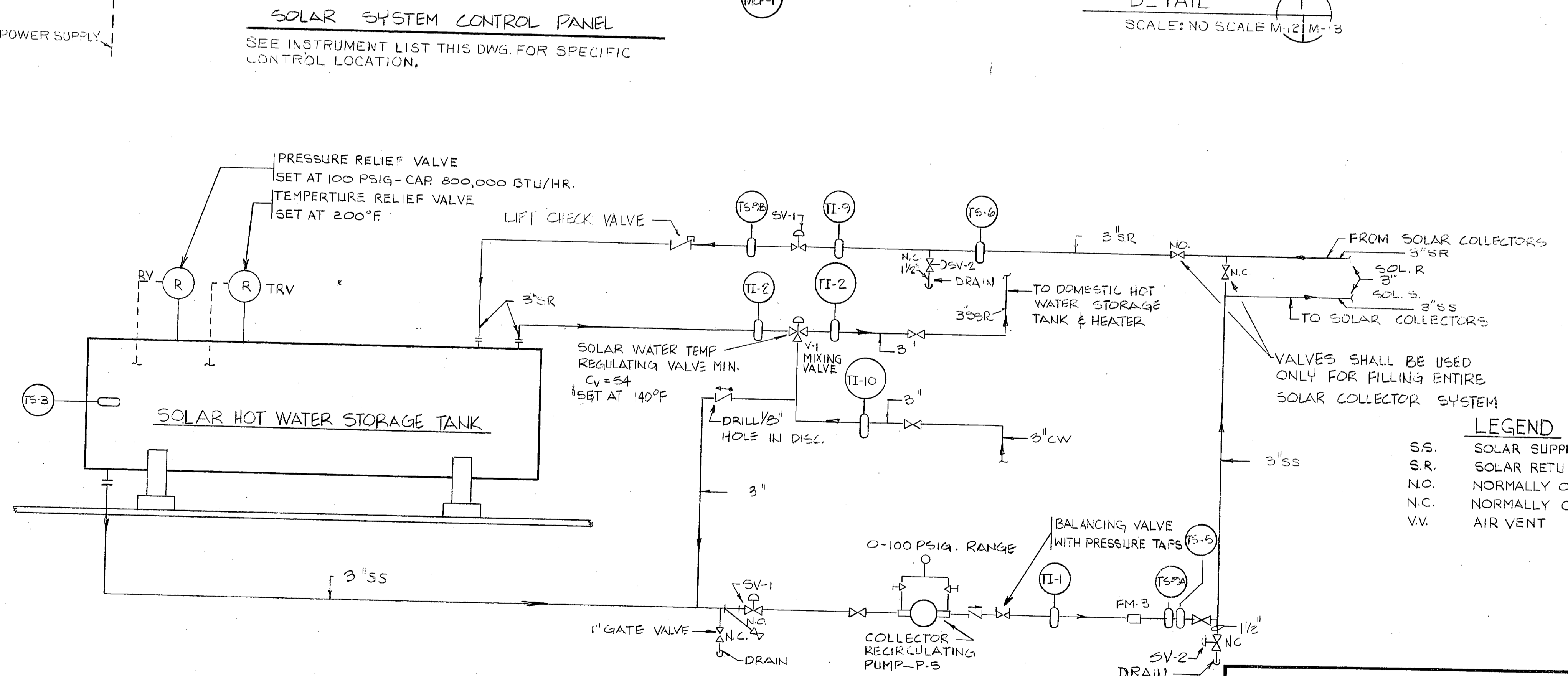
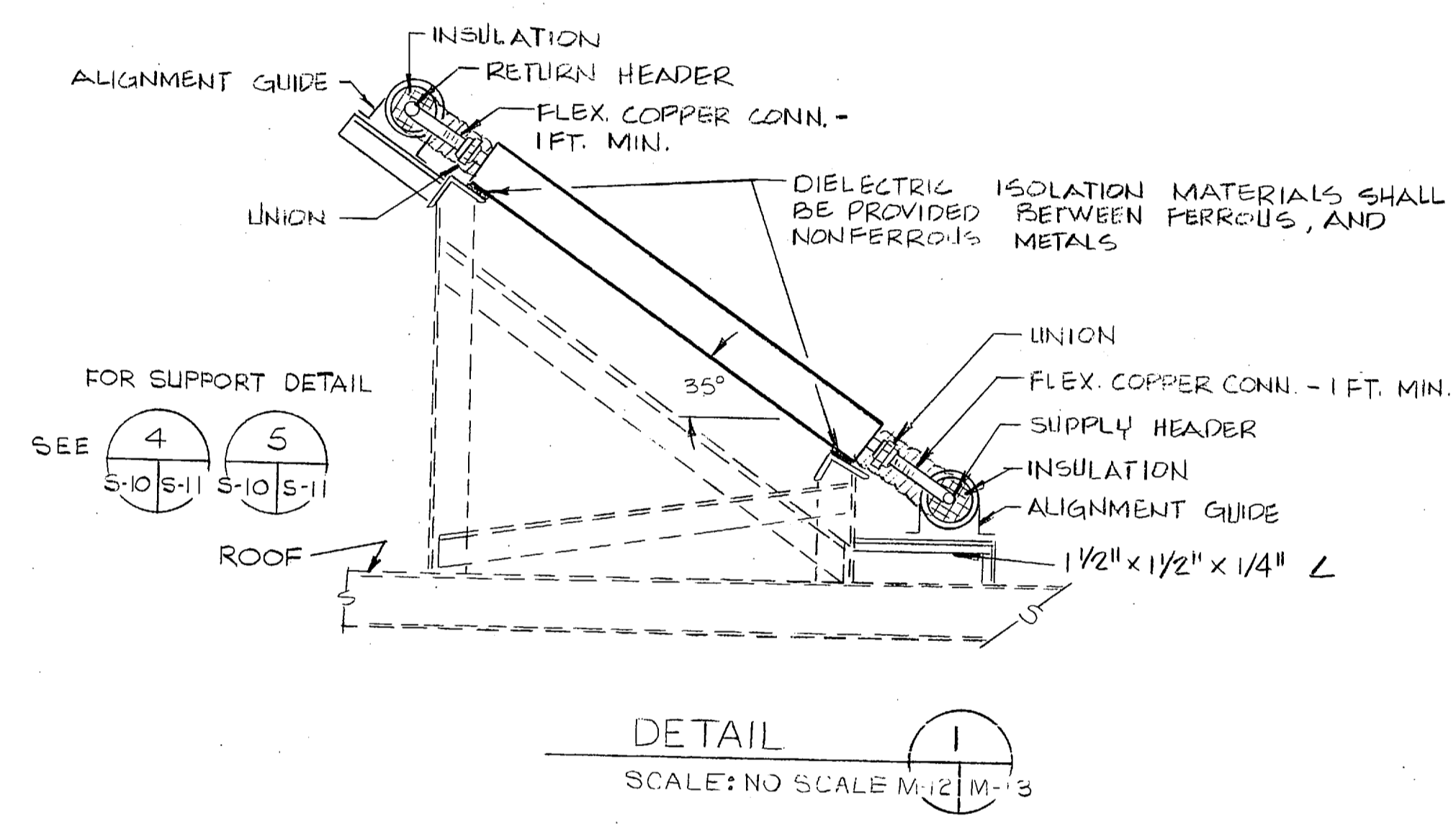
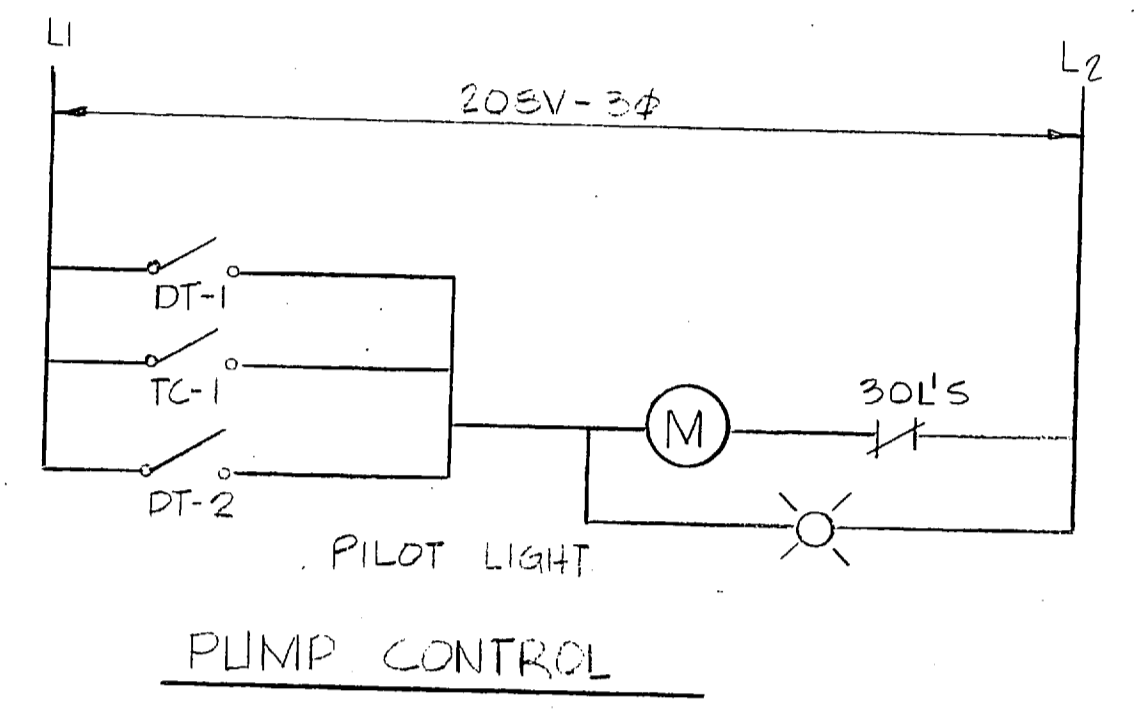
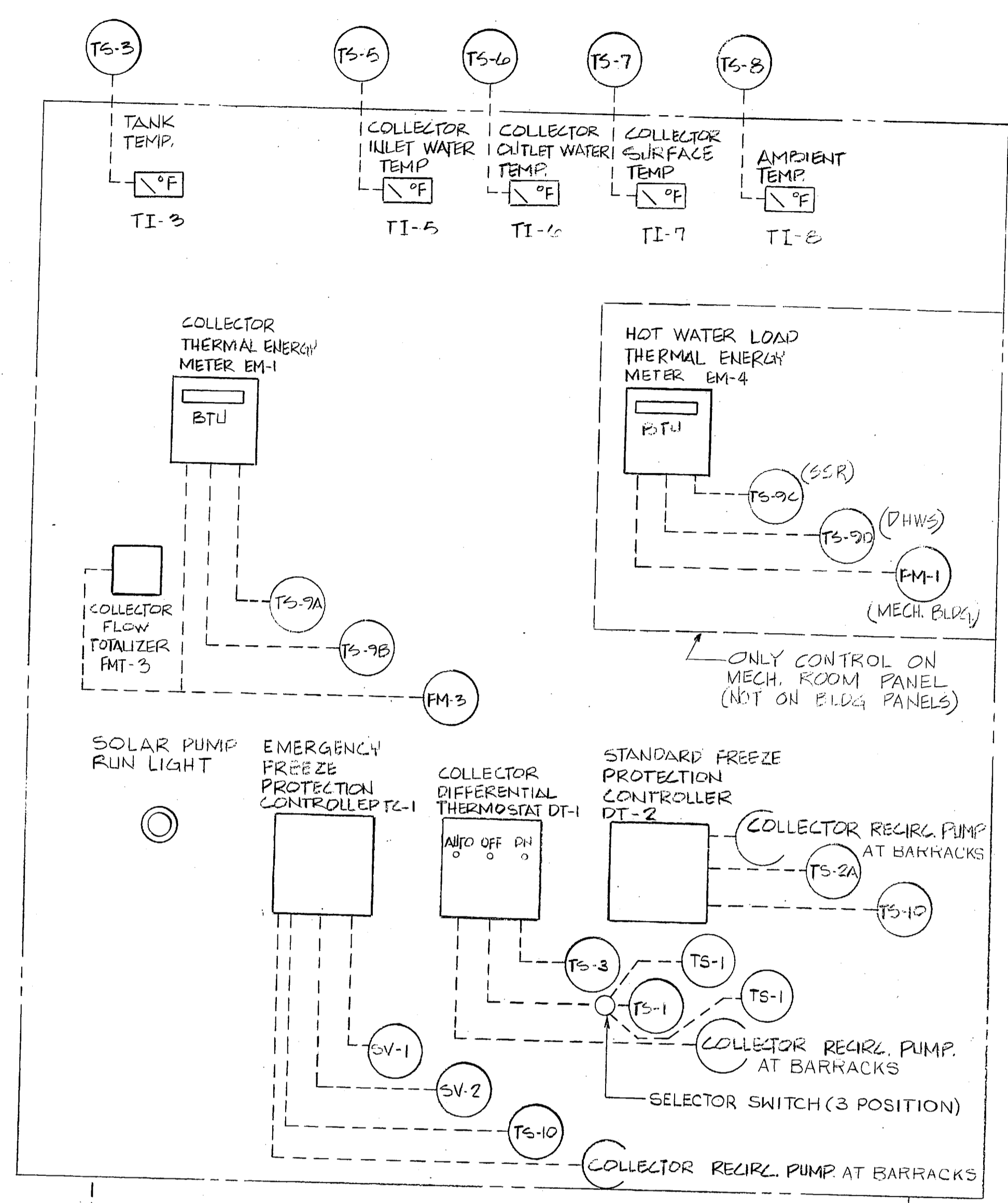


REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED
②	REVISED AS-BUILT	9-23-80	AWK

INSTRUMENT LIST			
IDENT. NO.	DESCRIPTION	RANGE	NOTES
PI-1	WATER PRESSURE INDICATOR	0-150PSI	①
MCP-1	MASTER SOLAR CONTROL PANEL		
DT-1	SOLAR DIFFERENTIAL THERMASTAT		①
TI-1	PUMP DISCHARGE WATER TEMP INDICATOR	0-250°F	① THERMOMETER
TI-2	WATER SUPPLY TEMP. INDICATOR	0-200°F	① THERMOMETER
TI-3	PANEL MTD. TANK INDICATOR	0-250°F	①
TI-5	PANEL MTD. COLLECTOR INLET H ₂ O INDICATOR	0-250°F	①
TI-6	PANEL MTD. COLLECTOR OUTLET H ₂ O INDICATOR	0-250°F	①
TI-7	PANEL MTD. COLLECTOR SURFACE INDICATOR	0-400°F	①
TI-8	PANEL MTD. AMBIENT INDICATOR	0-120°F	①
TS-1	COLLECTOR SURFACE TEMP. SENSOR	0-400°F	② ③ ④
TS-3	TANK WATER OPERATING SENSOR	0-250°F	②
TS-5	COLLECTOR INLET WATER INDICATING SENSOR	0-250°F	②
TS-6	COLLECTOR OUTLET WATER INDICATING SENSOR	0-250°F	②
TS-7	COLLECTOR SURFACE INDICATING SENSOR	0-400°F	② ④
TS-8	AMBIENT INDICATING SENSOR	0-120°F	②
TS-9A/B/C/D	TEMPERATURE SENSOR	0-250°F	② TSS C&D IN MECH. BLDG. ONLY
EM-1	COLLECTOR THERMAL ENERGY METER		
EM-4	HOT WATER THERMAL LOAD ENERGY METER		⑤
TS-10	FREEZE PROTECTION TEMP. SENSOR	250°F OPERATING	② ③ ④
FM-1	DOMESTIC WATER FLOW METER	0-160 GPM	⑥
FM-5	COLLECTOR WATER FLOW METER	100-140 GPM	
DT-2	FREEZE PROTECTION TEMP. CONTROLLER		
TC-1	EMERGENCY TEMP. CONTROLLER		
VV-1	AIR WATER VENT VALVE		
SV-1	NORMALLY OPEN SOLENOID VALVE		USE INDUSTRIAL GRADE COIL
SV-2	NORMALLY CLOSED SOLENOID VALVE		USE INDUSTRIAL GRADE COIL
TRV	WATER TEMP RELIEF VALVE	200°F	
RV	WATER PRESSURE - RELIEF VALVE	100PSI	
TS-2A	STANDARD FREEZE PROTECTION TEMP SENSOR	250°F OPERATING	② ③ ④ ⑦
TI-9	COLLECTOR RETURN TEMP INDICATOR	0-400°F	① THERMOMETER
TI-10A/B	COLLECTOR WATER MAKE-UP TEMP INDICATOR	0-120°F	① THERMOMETER
FMT-3	COLLECTOR WATER FLOW TOTALIZER	0-10 ⁶ GAL	①

- ① INDICATING RANGE
- ② OPERATING RANGE
- ③ SHALL BE MOUNTED TO BACK OF COLLECTOR ABSORBER SURFACE
- ④ MAXIMUM OPERATING RANGE 400°F
- ⑤ THESE INSTRUMENTS SHALL APPEAR IN MECH. BLDG. ONLY
- ⑥ 5 CONTROL PANELS REQUIRED FOR COMPLETE SYSTEM. NOTE ⑤ ABOVE NOTES THOSE INSTRUMENTS LOCATED IN THE MECH. BLDG. PANEL ONLY. EACH BARRACKS PANEL IS A COMPLETE INDEPENDENT UNIT.
- ⑦ TWO POSITION SET AT TURN ON AT 37°F/TURN OFF AT 50°F



RECORD DRAWING
LETTER DATED AUG 22 1985

M-13

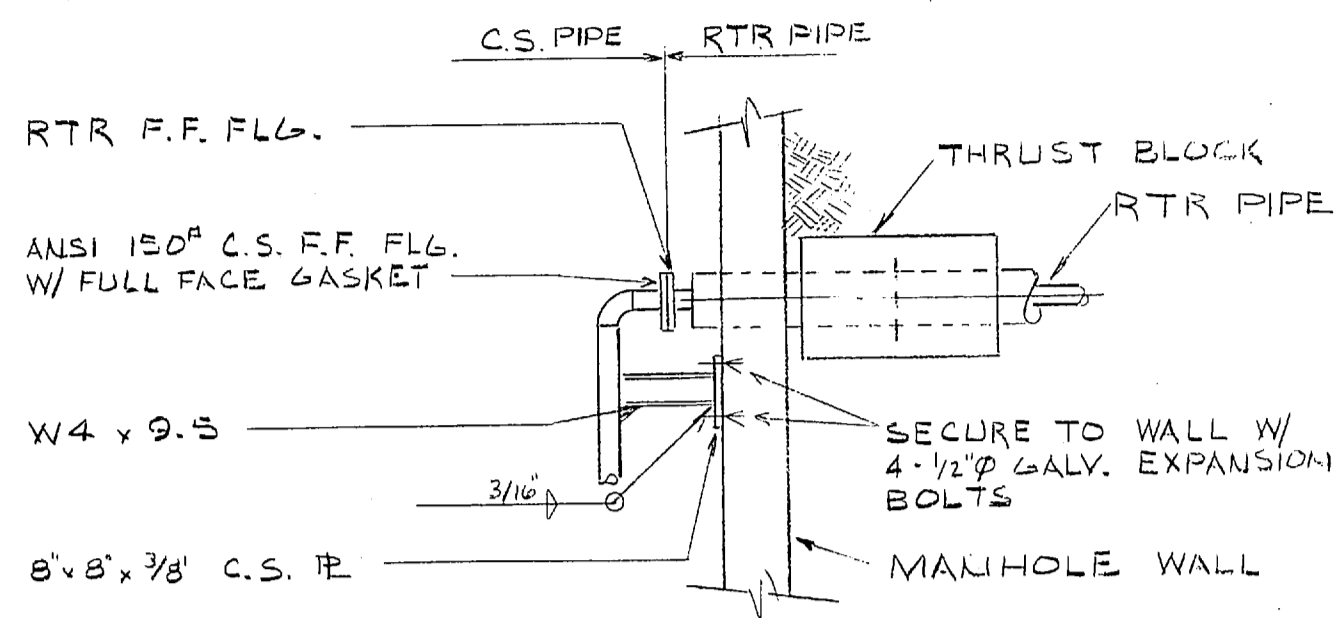
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
 NAVAL STATION NORFOLK, VIRGINIA

CAMP LEJEUNE MARINE CORPS BASE NORTH CAROLINA
 UNACCOMPANIED ENLISTED PERSONNEL HOUSING
SOLAR SYSTEM SCHEMATIC
DIAGRAM & DETAILS

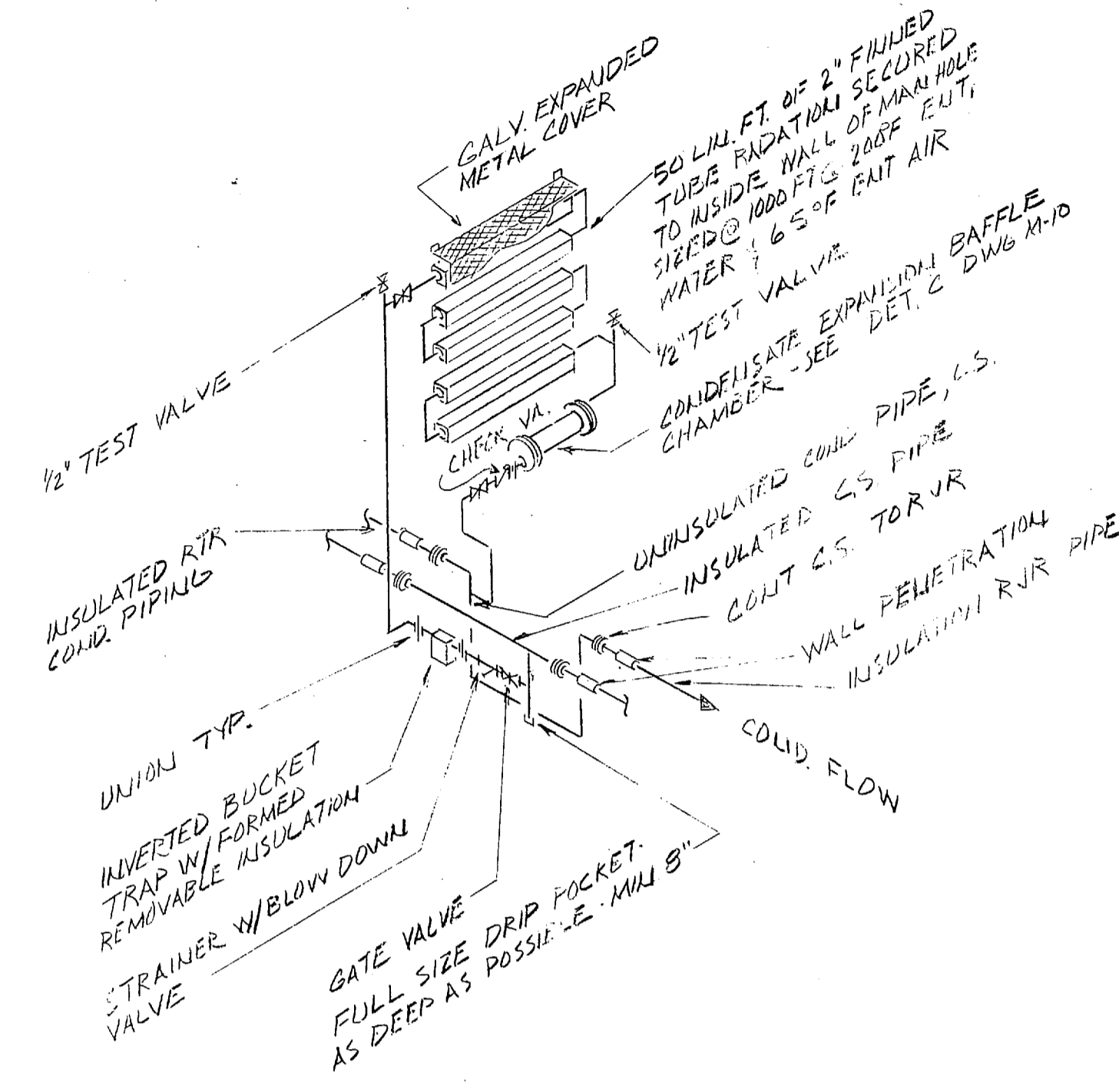
DES: JEL dr. DIA CHK: AW
 PROJ. MGR: V.C. CH. ENGR.
 SUBMITTED BY: DATE: 9/16/81
 FIRM MEMBER: PRINCIPAL
 EFD: P.F. 2770 RVD: JLS
 HD: DIR.
 APPROVED: DATE: 11/18/81
 OFFICER IN CHARGE: 4075532
 APPROVED: DATE:
 FOR EFD FOR COMMANDER, NAVFAC

SIZE: F CODE IDENT. NO.: 80091 NAVFAC DRAWING NO.: 4075532
 CONSTR. CONTR. NO.: N62470-80-B-0102
 SCALE: AS SHOWN SPEC. 05-80-0102 SHEET 73 OF 94

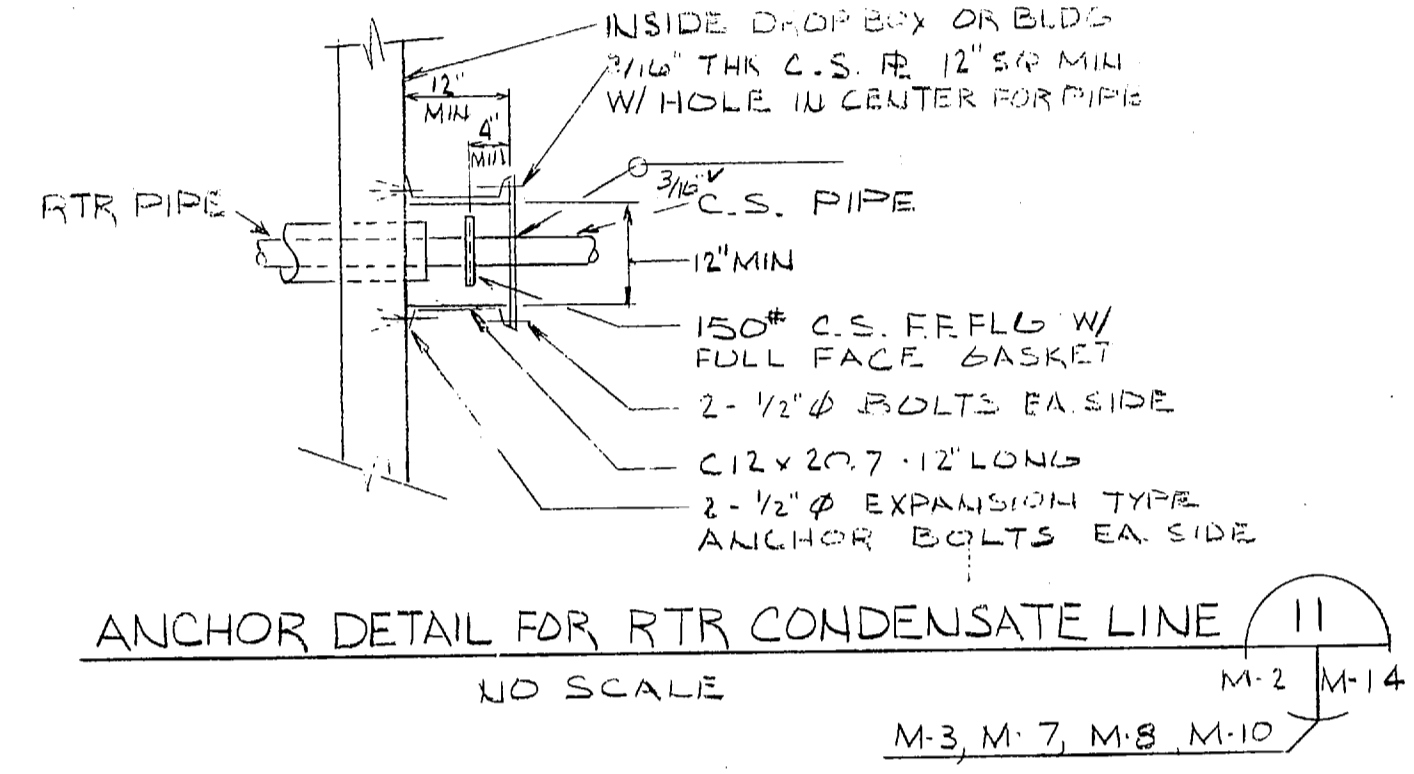
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED
(A)	REVISED AS-BUILT	9-23-81	AWH



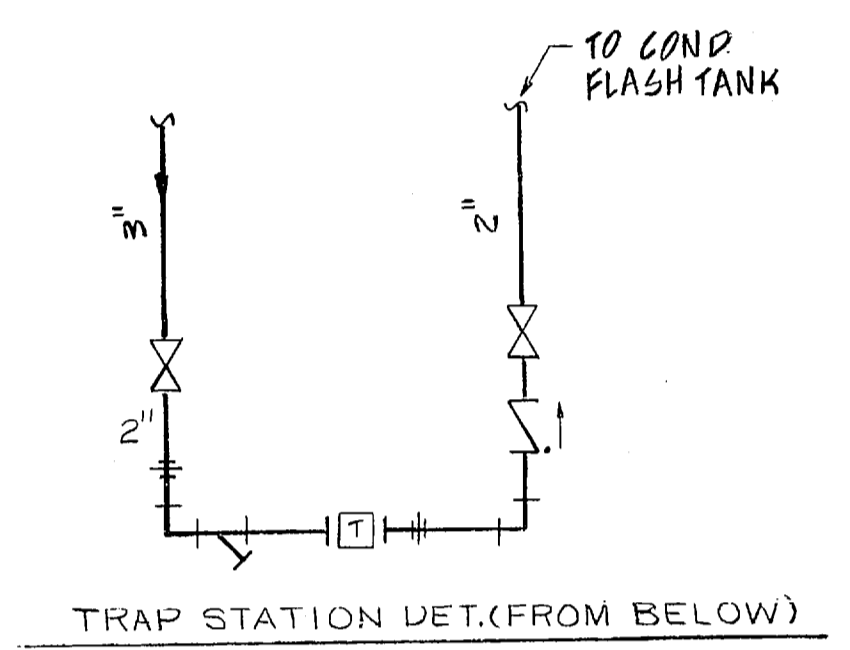
SUPPORT ANCHOR FOR STEEL PIPE
NO SCALE



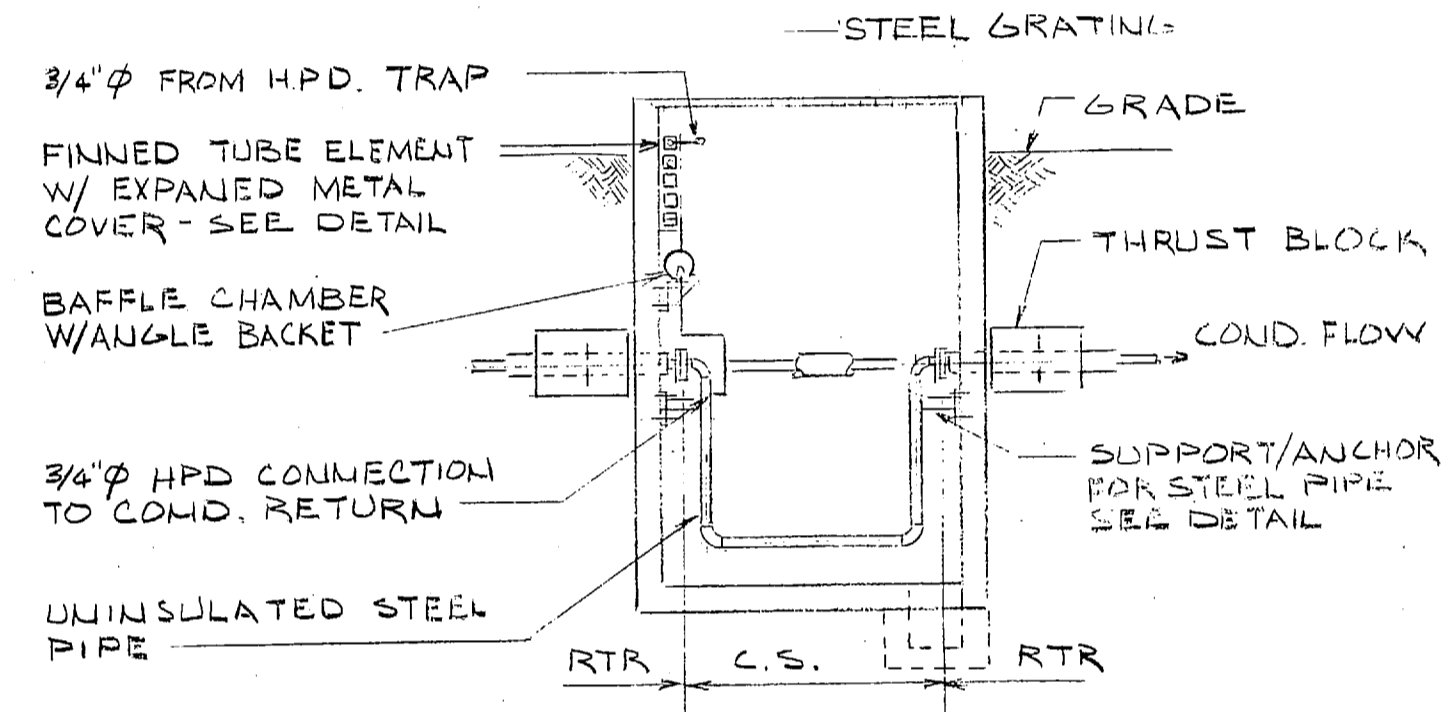
UNDER GROUND H.P. CONDENSATE DRIP TO RTR CONDENSATE RETURN PIPING
NO SCALE



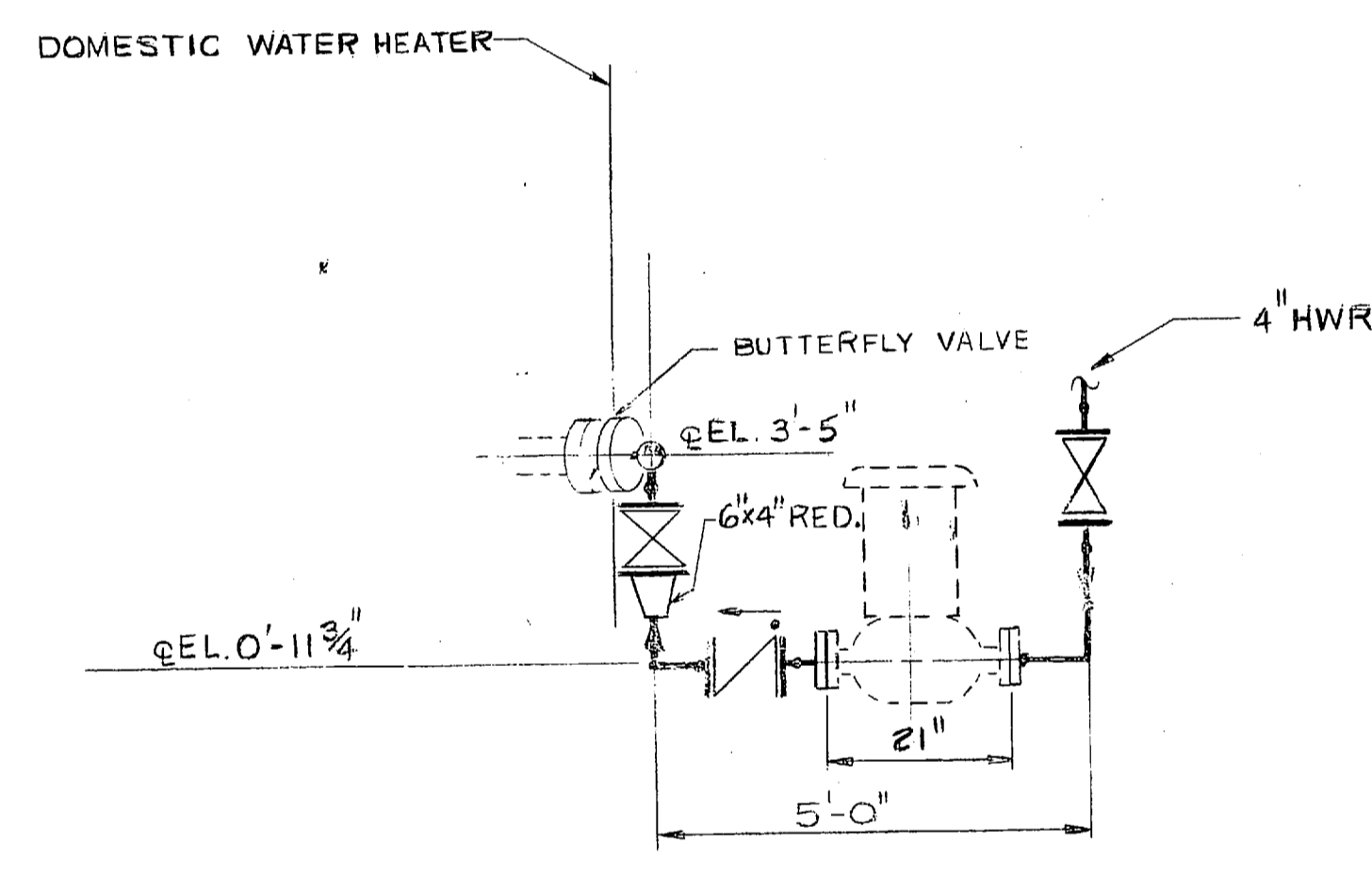
ANCHOR DETAIL FOR RTR CONDENSATE LINE
NO SCALE M-3, M-7, M-8, M-10



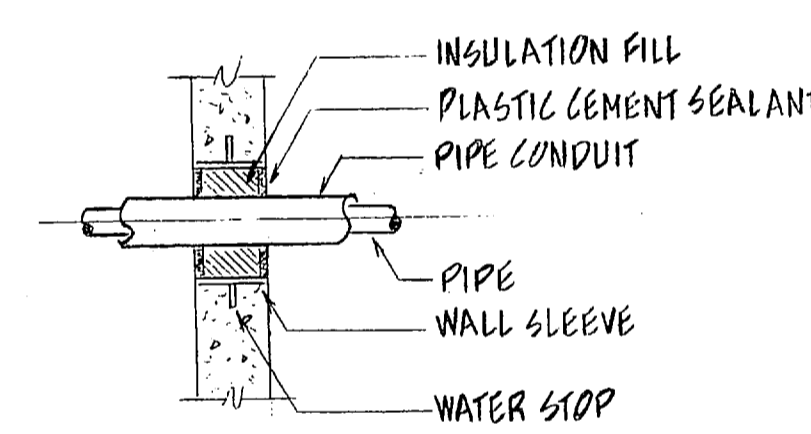
TRAP STATION DET. (FROM BELOW)
NO SCALE



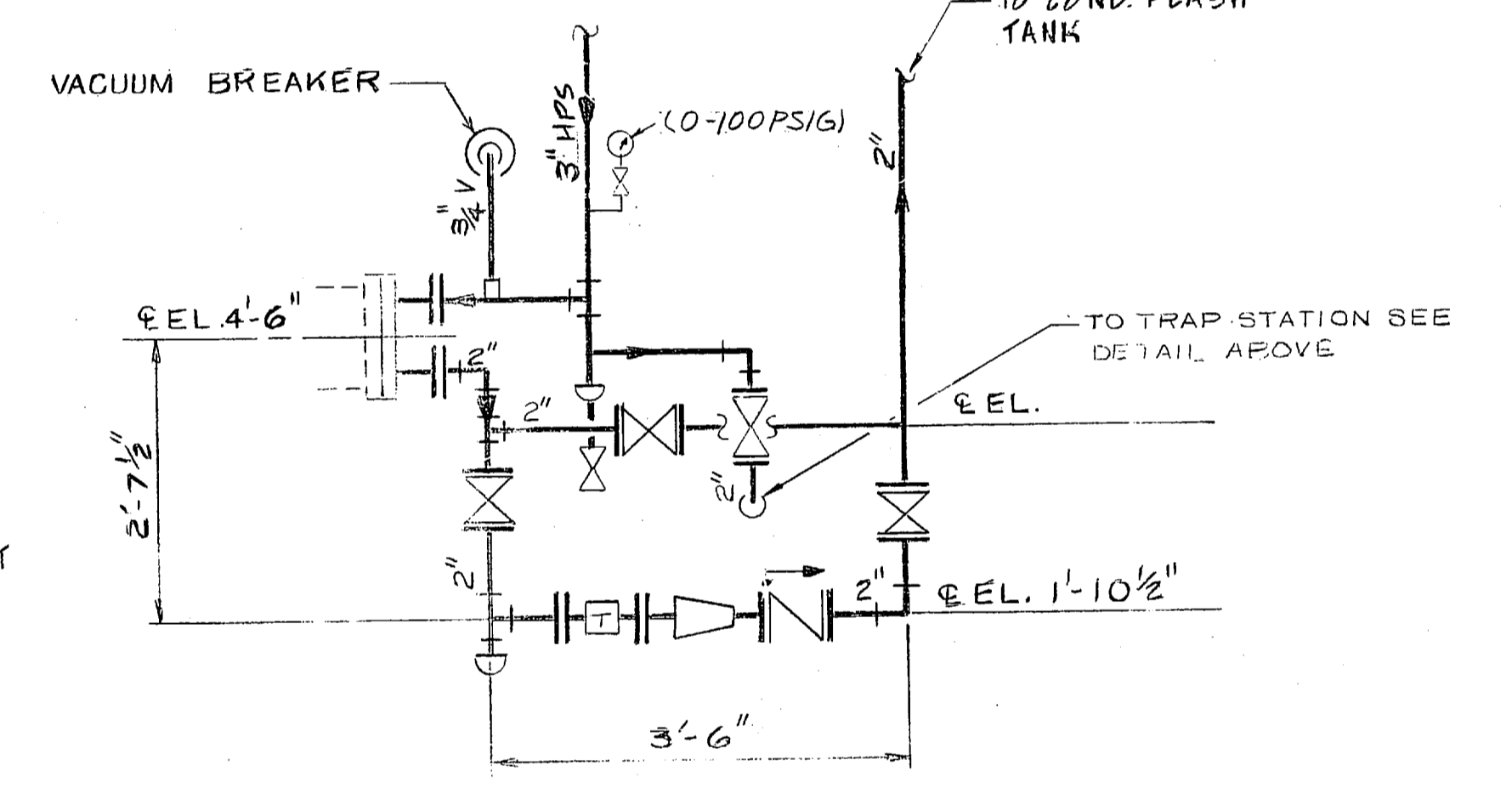
TYPICAL SECTION THRU MAN HOLE OR DROP BOX
NO SCALE



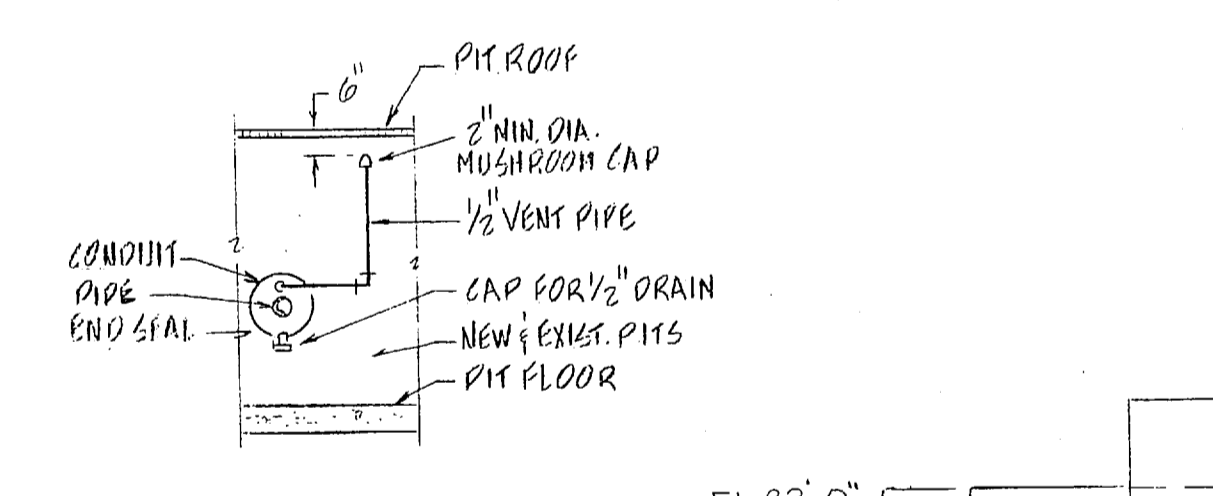
DETAIL 5
SCALE: NO SCALE M-10 M-14



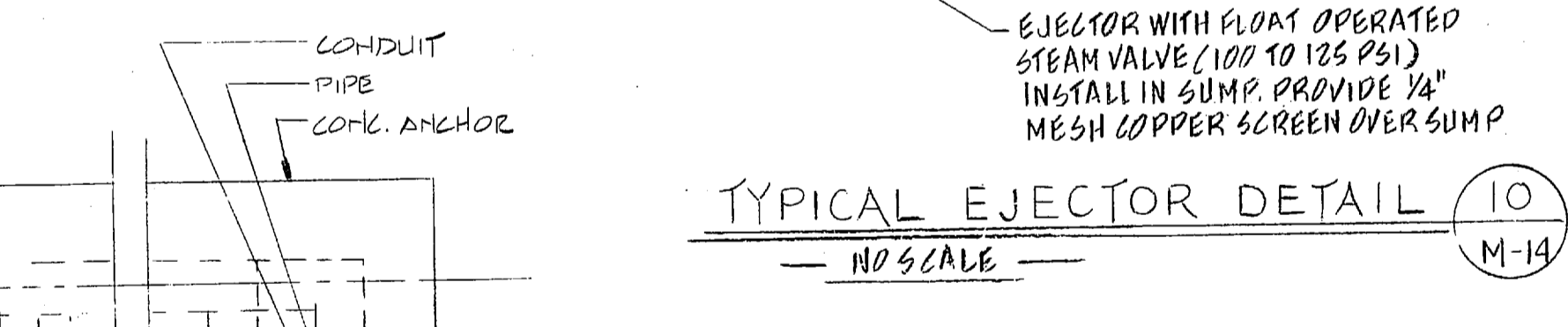
DETAIL 9
NO SCALE M-14 M-14



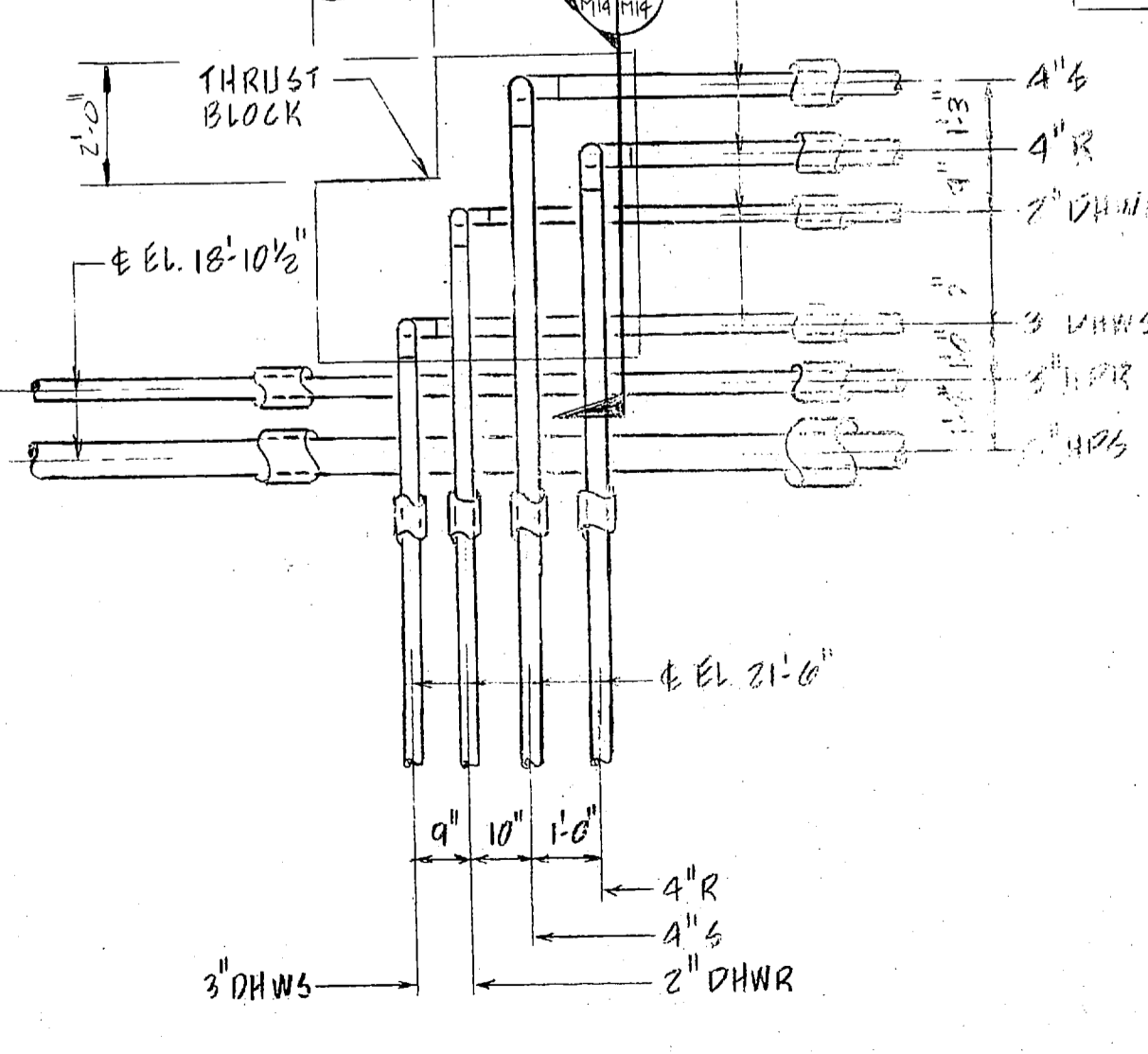
DETAIL 6
SCALE: NO SCALE M-10 M-14 (TYP. 2 PLC'S.)



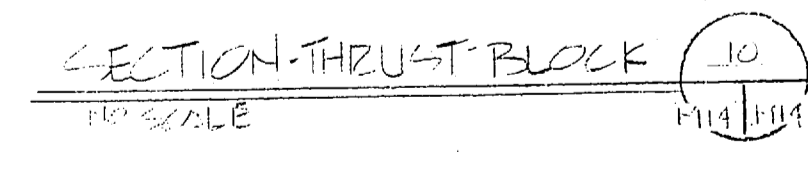
CONDUIT DRAIN & VENT DETAIL
NO SCALE M-3 M-14



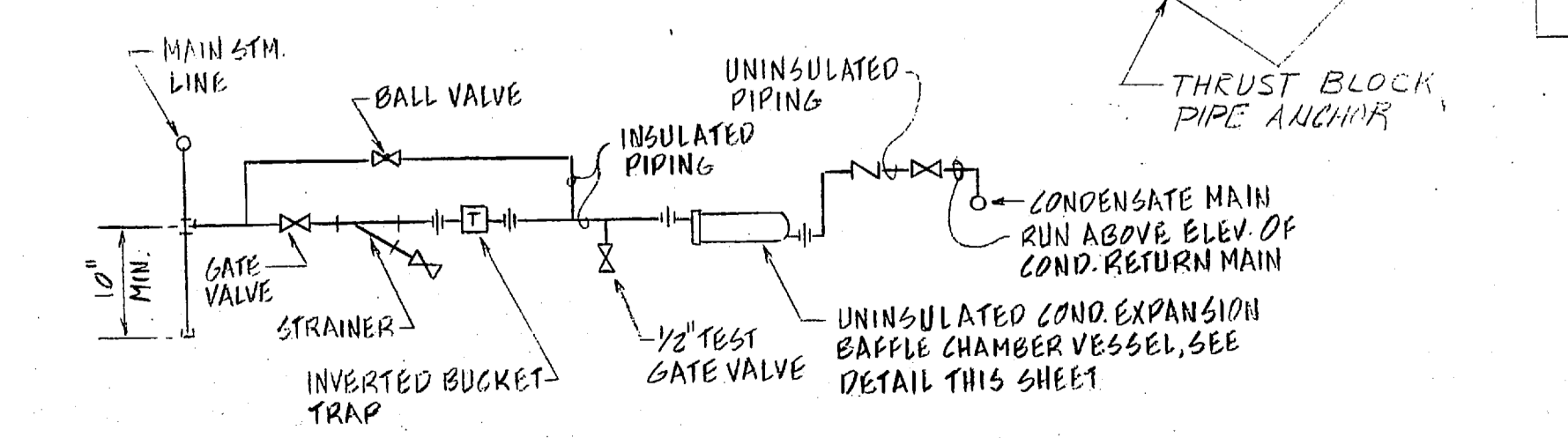
TYPICAL EJECTOR DETAIL
NO SCALE M-14



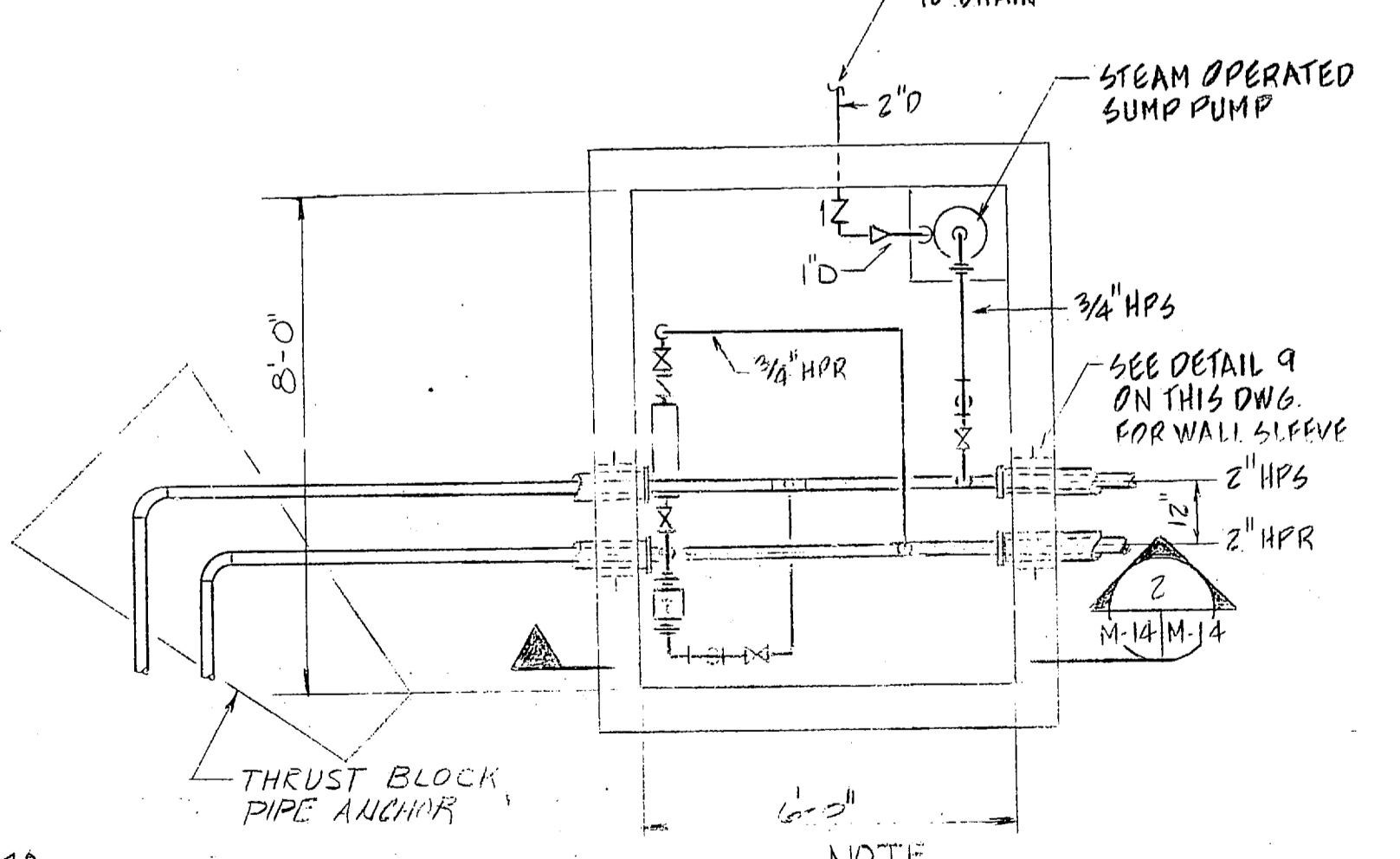
PLAN - FOR BLDG HP-236
SCALE: 3/8" = 1'-0"



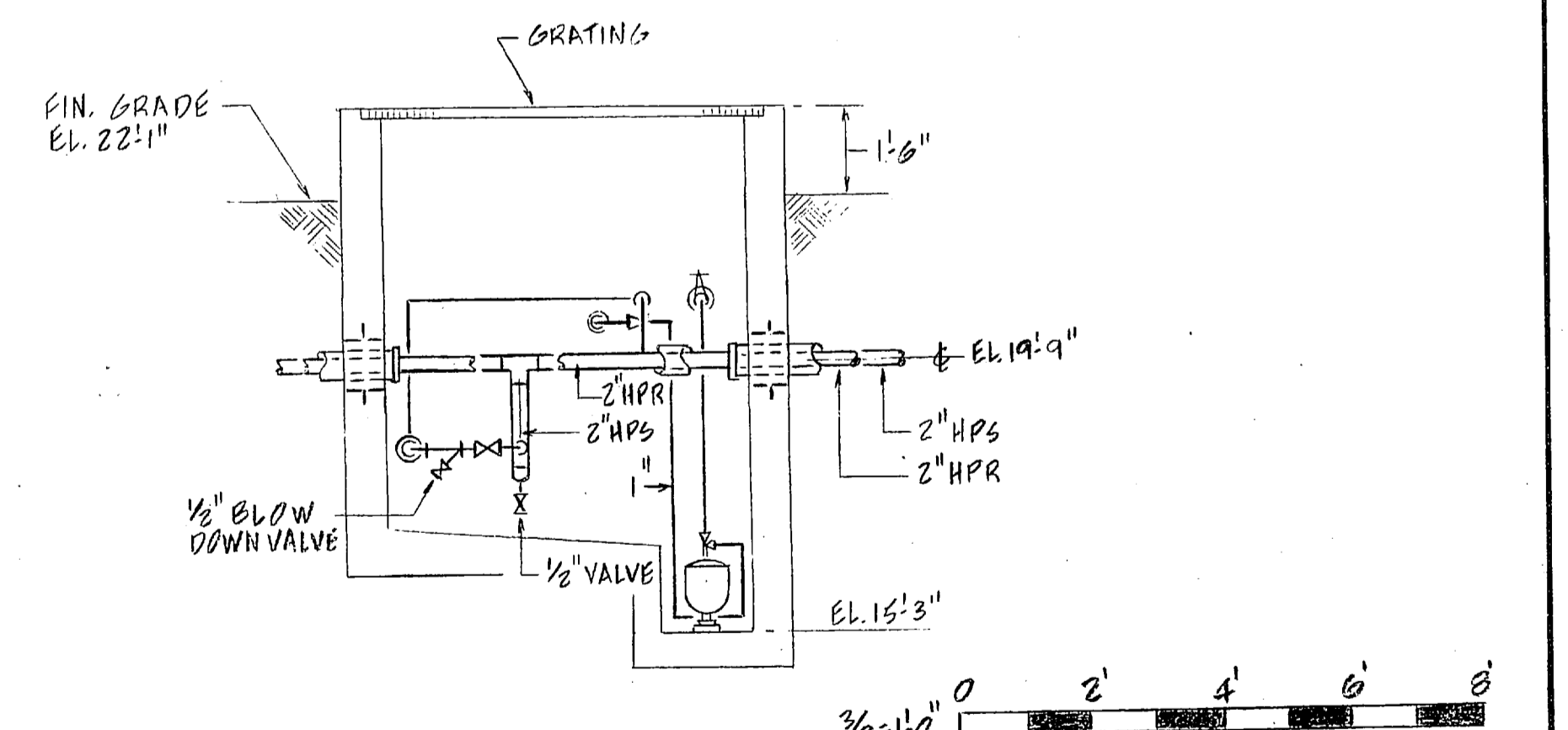
SECTION THRU THRUST BLOCK
NO SCALE



H.P. DRIP ASSEMBLY
NO SCALE



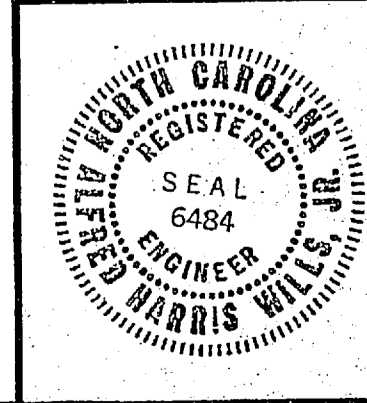
PLAN-ANCHOR & TRAP-DROP BOX NO 7
SCALE: 3/8" = 1'-0"



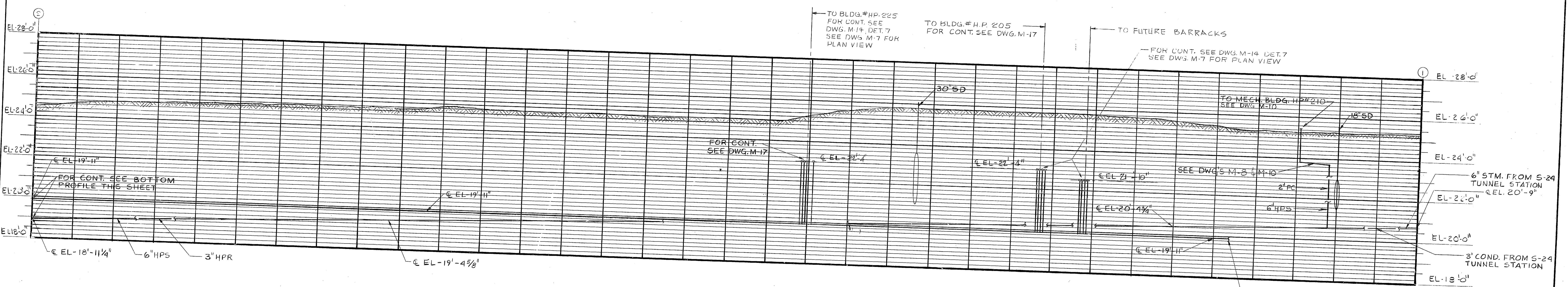
SECTION 2
SCALE: 3/8" = 1'-0" M-14 M-14

NOTE: SHEETS M-11, 12 & 13 NOT USED

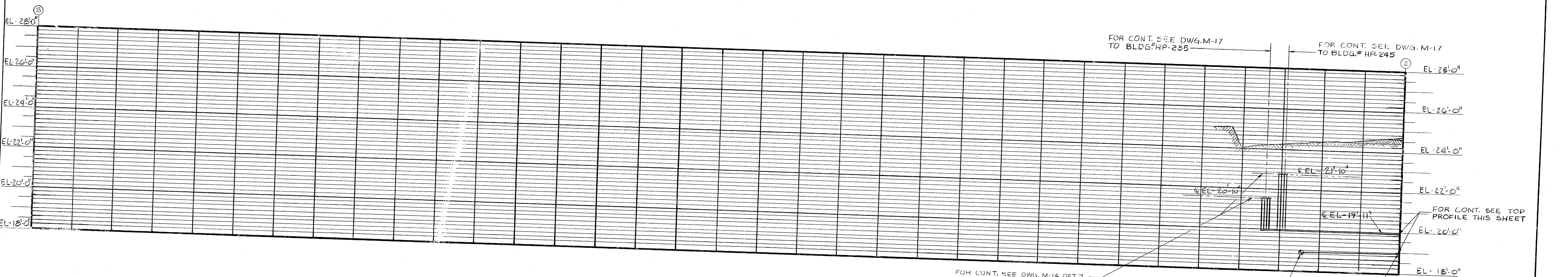
RECORD DRAWING LETTER DATED AUG 22 1986		M-14	
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND		NORFOLK, VIRGINIA	
NAVAL STATION		NORTH CAROLINA	
CAMP LEJUNE MARINE CORPS BASE		UNACCOMPANIED ENLISTED PERSONNEL HOUSING	
MISCELLANEOUS		DETAIL SHEET	
DES. MAK DR. DC CHK. AW		PROJ. MGR. VC CH. ENGR.	
SUBMITTED BY: [Signature]		DATE: 3-16-81	
FIRM MEMBER		PRINCIPAL	
EFD. F.P. [Signature]		RVD. [Signature]	
NO. [Signature]		DIR. [Signature]	
APPROVED BY: [Signature]		DATE: [Signature]	
OFFICER IN CHARGE		DATE: [Signature]	
APPROVED BY: [Signature]		DATE: [Signature]	
FOR EFD FOR COMMANDER, NAVFAC		SCALE: AS SHOWN SPEC. 05-80-010	
NAVFAC DRAWING NO. 4075533		CONSTR. CONTR. NO. N62470-80-B-0102	
SHEET 74 OF 94		EFD. DWG. NO. 175533	



REVISIONS		DATE	APPROVED
SYM	DESCRIPTION		
Ⓐ	REVISED AS-BUILT	9-29-81	[Signature]



UTILITIES PROFILE
 SCALE: VERTICAL: 1"=2'-0"
 HORIZONTAL: 1"=25'-0"
 GRAPHIC SCALE (TYP.)
 0 2' 4' 6' 8'
 0 25' 50' 75' 100'



UTILITIES PROFILE
 SCALE: VERTICAL: 1"=2'-0"
 HORIZONTAL: 1"=25'-0"

RECORD DRAWING
LETTER DATED AUG 12 1985
M-15

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
 ATLANTIC DIVISION
 NAVAL STATION NORFOLK, VIRGINIA

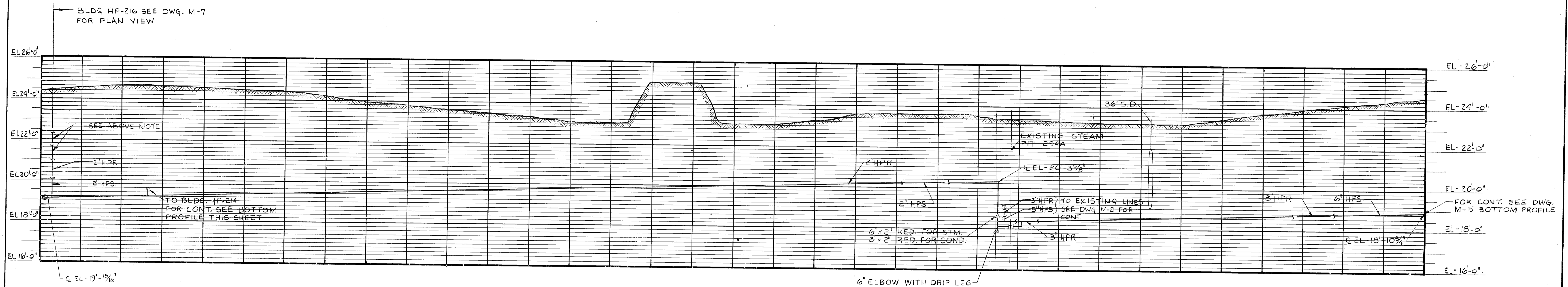
CAMP LEJEUNE MARINE CORPS BASE NORTH CAROLINA
 UNACCOMPANIED ENLISTED PERSONNEL HOUSING
MECHANICAL PROFILE-SHEET I

DES. MAK [Dr. DC] CHK. AW
 SUBMITTED BY: [Name] DATE: 9-16-81
 FIRM MEMBER: [Name] PRINCIPAL
 EPD. P.P. 3002C RVD-3002C

PRINT MACHINE, INC.

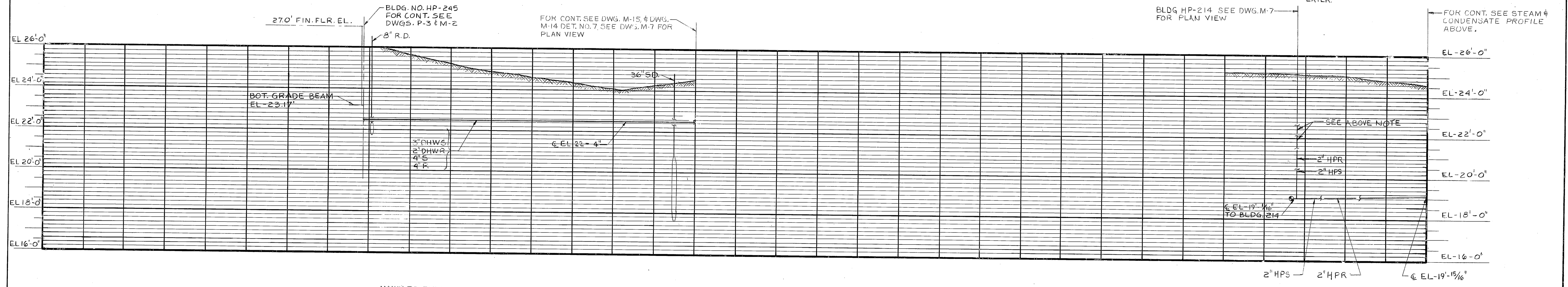
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED
①	REVISED AS-BUILT	9-23-81	SMH

NOTE:
ELEVATION OF POINT OF
CONNECTION TO EXISTING PIPING
TO BE DETERMINED LATER



STEAM & CONDENSATE PROFILE
 SCALE: VERTICAL: 1"=2'-0"
 HORIZONTAL: 1"=25'-0"
 GRAPHIC SCALE (FT): 0 2' 4' 6' 8' 25' 50' 75' 100'

NOTE:
ELEVATION OF POINT OF
CONNECTION TO EXISTING
PIPING TO BE DETERMINED
LATER.

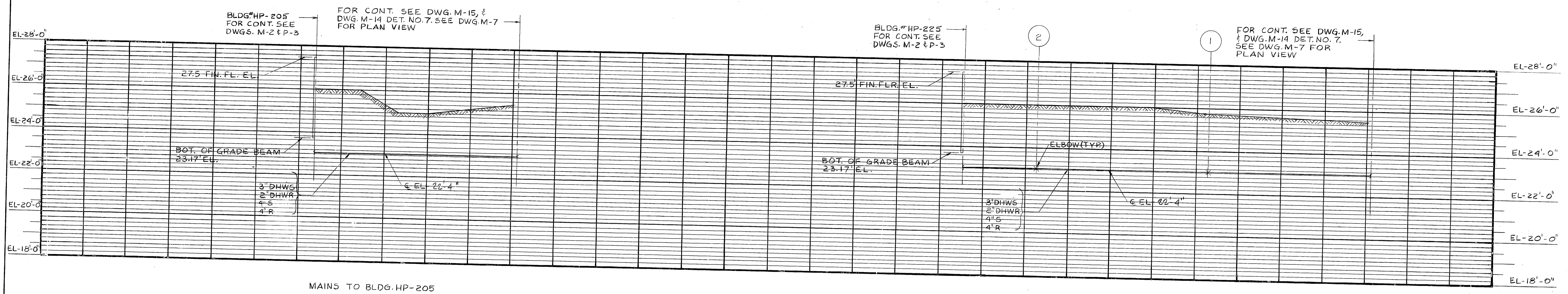


UTILITIES PROFILE
 SCALE: VERTICAL: 1"=2'-0"
 HORIZONTAL: 1"=25'-0"

RECORD DRAWING LETTER DATED AUG 22 1986		M-16	
PIEDMONT <small>ENGINEERS ARCHITECTS PLANNERS 400 PARK AVE. GREENVILLE, S.C.</small>		DEPARTMENT OF THE NAVY ATLANTIC DIVISION <small>NAVAL FACILITIES ENGINEERING COMMAND NORFOLK, VIRGINIA</small>	
DES. MAK DR. DC CHK. AW PROJ. MGR. VC CH. ENGR. SUBMITTED BY: DATE: 9-16-81 <small>George W. McDaniel</small> FIRM MEMBER PRINCIPAL EPD. P.R. 271016 RVD. 11/1/81		NAVAL STATION MARINE CORPS BASE NORTH CAROLINA CAMP LEJEUNE UNACCOMPANIED ENLISTED PERSONNEL HOUSING MECHANICAL PROFILE-SHEET 2	
SEAL 6484 REGISTERED PROFESSIONAL ENGINEER STATE OF NORTH CAROLINA		NAVFAC DRAWING NO. 4075535 CONSTR. CONTR. NO. N62470-80-B-0102 SCALE: AS SHOWN SPEC. 05-80-0102 SHEET 76 OF 94	

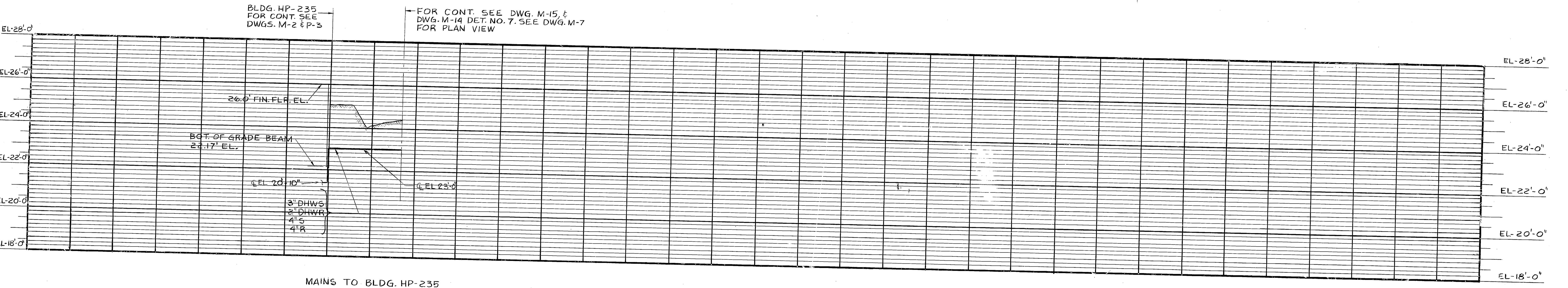
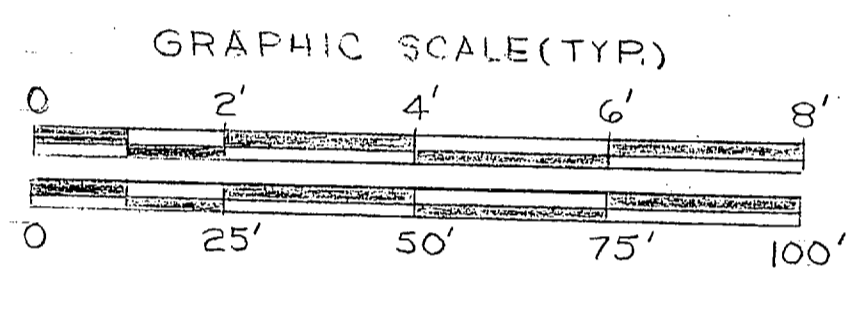


REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED
Ⓐ	REVISED AS-BUILT	9-25-80	AWA



UTILITIES PROFILE

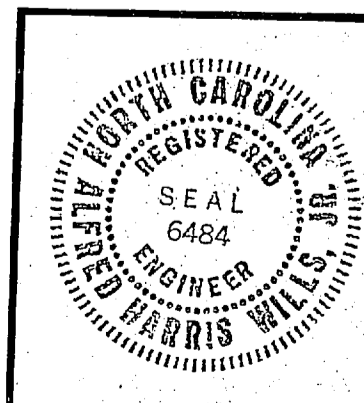
SCALE: VERTICAL: 1"=2'-0"
HORIZONTAL: 1"=25'-0"



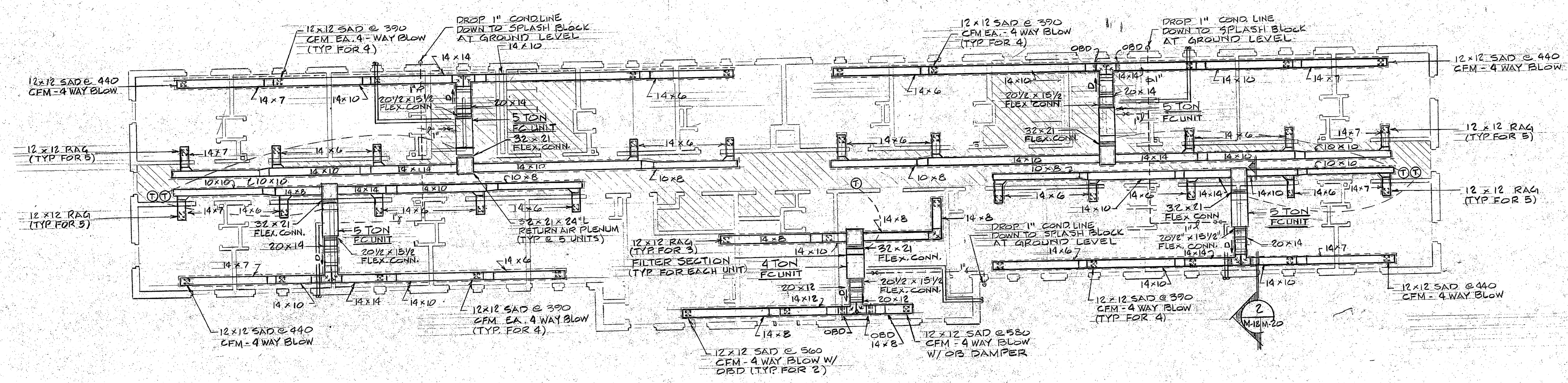
UTILITIES PROFILE

SCALE: VERTICAL: 1"=2'-0"
HORIZONTAL: 1"=25'-0"

RECORD DRAWING LETTER DATED 9/16/81		M-17	
PIEDMONT ENGINEERS ARCHITECTS PLANNERS 400 PARK AVE., GREENVILLE, S.C.		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION	
DES. MAK OR. DC CHK. A.W. PROJ. MGR. V.C. CH. ENGR. SUBMITTED BY: Gene W. McDermott DATE: 9-16-81		NAVAL STATION: CAMP LEJEUNE MARINE CORPS BASE NORTH CAROLINA	
FIRM MEMBER: PRINCIPAL EFD. FF. TITLE: RVD. 3012 NO. DIR. DATE: 7-20-81		UNACCOMPANIED ENLISTED PERSONNEL HOUSING MECHANICAL PROFILE-SHEET-3	
APPROVED BY: [Signature] DATE: 9-25-80 OFFICER IN CHARGE: [Signature] DATE: 9-25-80		SIZE: F	CODE IDENT. NO.: 80091
FOR EFD FOR COMMANDER, NAVFAC		NAVFAC DRAWING NO.: 4075536	CONSTR. CONTR. NO. N62470-80-B-0102
SCALE: AS SHOWN SPEC. 05-80-0102		SHEET 77 OF 94	



REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED
①	REVISED AS-BUILT	1-25-86	AWP



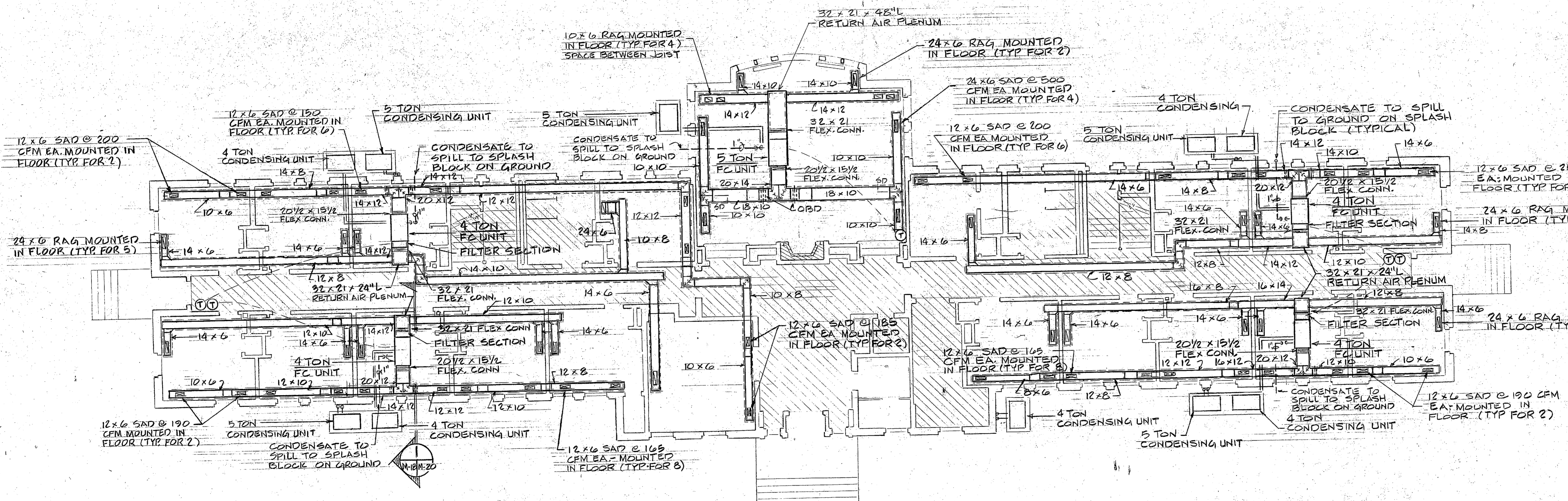
SECOND FLOOR PLAN

LEGEND

SAD	SUPPLY AIR DIFFUSER
RAQ	RETURN AIR GRILLE
CFM	CUBIC FT PER MINUTE
OBD	OPPOSED BLADE DAMPER
FC	FAN COIL
FLEX CONN	FLEXIBLE CONNECTION
---	AREAS IN WHICH NO COOLING WILL BE APPLIED
COND	CONDENSATE
⊖	THERMOSTAT W/ REMOTE SENSOR
---	CONDENSATE PIPE
---	REFRIGERANT LINES
---	EXTERNALLY INSULATED DUCT
SD	SPLITTER DAMPER W/ ACCESS DOOR
D	DROP ELEVATION OF DUCT
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION

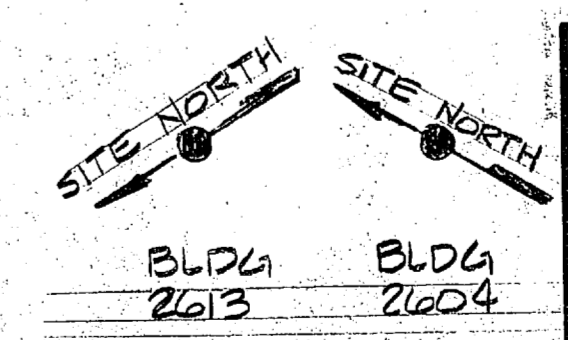
NOTES:

- CONTRACTOR SHALL PROVIDE A NEW ACCESS IN RELATED BUILDINGS WHERE EXISTING ACCESS IS NOT OF ADEQUATE SIZE TO GET FC UNITS INTO ATTIC SPACE
- FAN COIL AND CONDENSING UNITS TO BE RELOCATED FROM BLDGS 204, 208 AND 212 AT CAMP LEJEUNE
- SEE DRAWING M-23 FOR MAKE AND MODEL NUMBERS OF EXISTING FAN COIL AND CONDENSING UNITS
- ALL DUCTWORK, FC UNITS AND ASSOCIATED PIPING SERVING FIRST FLOOR SHALL BE LOCATED IN CRAWL SPACE UNDER STRUCTURE
- ALL DUCTWORK, FC UNITS AND ASSOCIATED PIPING SERVING SECOND FLOOR SHALL BE LOCATED IN THE ATTIC SPACE ABOVE BEILING.
- LAYOUT TYPICAL FOR 2 BUILDINGS
- FAN COIL UNITS AND CONDENSING UNITS ARE EXISTING AND TO BE RELOCATED FROM ANOTHER SITE. ALL DUCTWORK, GRILLES, PIPING, THERMOSTATS AND CONTROL WIRING SHALL BE PROVIDED
- ALL PIPING SHALL BE RUN PLUMB SQUARE AND LEVEL WITH RESPECT TO THE BUILDING EXCEPT CONDENSATE LINES WHICH SHALL BE SLOPED 1/4" PER FOOT FROM HORIZONTAL
- NOTES AND LEGEND THIS SHEET APPLIES TO DRAWINGS M-18 THRU M-20 ONLY
- SEE DRAWINGS M-19 AND M-20 FOR DETAILS
- CONDENSING UNITS TO BE MOUNTED ON NEW CONCRETE PADS SEE DETAIL ON DRAWING M-19
- CONTRACTOR SHALL PROVIDE ALL NECESSARY OPENINGS TO INSTALL DUCTWORK & GRILLES



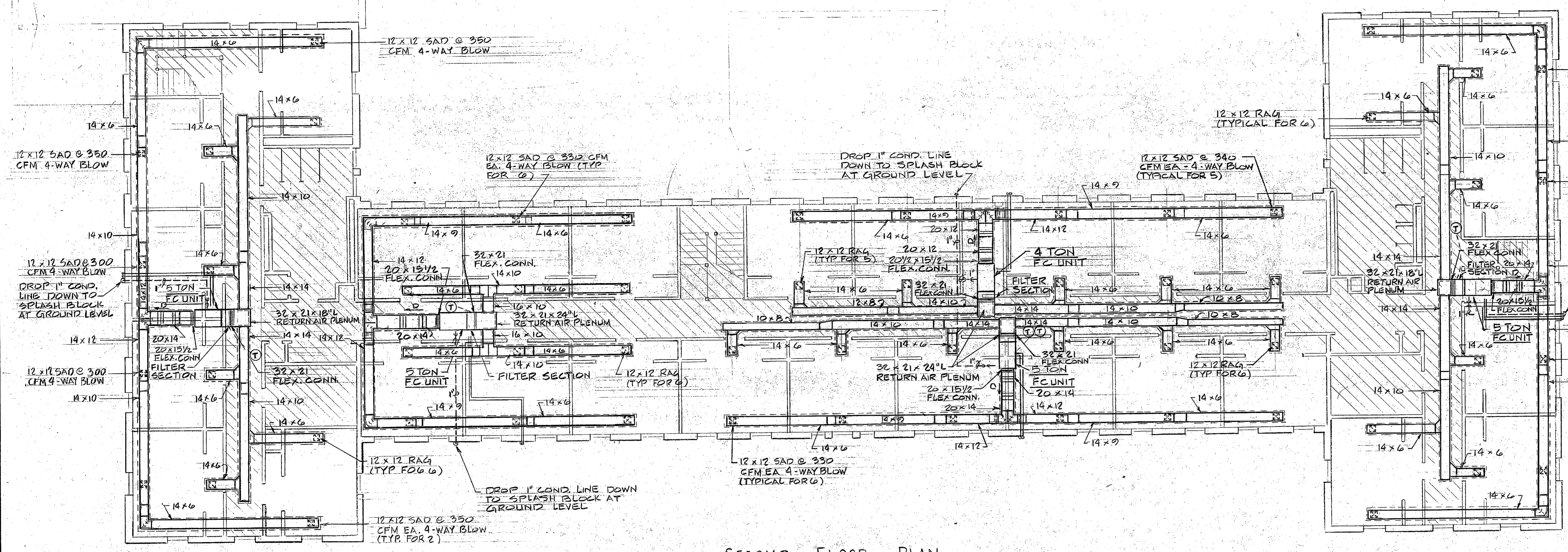
FIRST FLOOR PLAN
SCALE 1/8" = 1'-0"

PARADISE POINT
BLDG'S 2613 & 2604

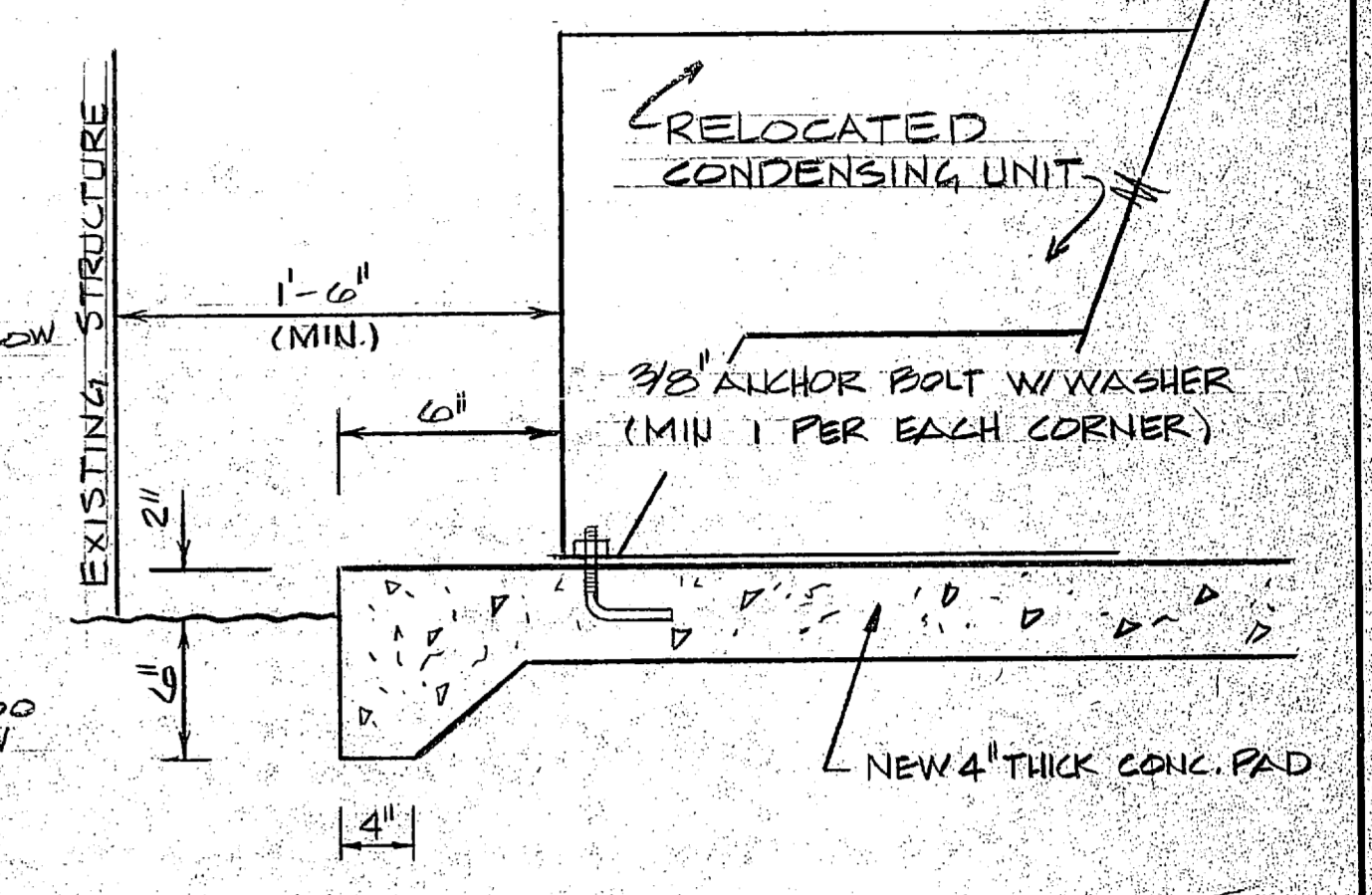


M 18	
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION	
NAVAL STATION NORFOLK VIRGINIA MARINE CORPS BASE NORTH CAROLINA CAMP LEJEUNE	
UNACCOMPANIED ENLISTED PERSONNEL QUARTERS BARRACKS HVAC FLOOR PLAN	
DES. RB DR. RB CHK. A.W. PROJ. MGR. V.C. CH. ENGR. SUBMITTED BY: <i>George W. M. Dandridge</i> DATE: 9/16/81 FIRM MEMBER: <i>W. H. Harris</i> RVD: <i>AWP</i> HO. <i>AWP</i> DIR. <i>AWP</i> APPROVED: <i>AWP</i> DATE: 1/25/86 OFFICER IN CHARGE: <i>AWP</i> DATE: 1/25/86 FOR: <i>AWP</i> FOR COMMANDER, NAVFAC	SIZE: F CODE IDENT. NO.: 80091 NAVFAC DRAWING NO.: 4075537 CONSTR. CONTR. NO. N62470-80-B-0102 SHEET 78 OF 94
SCALE: AS SHOWN SPEC 05-80-0102	

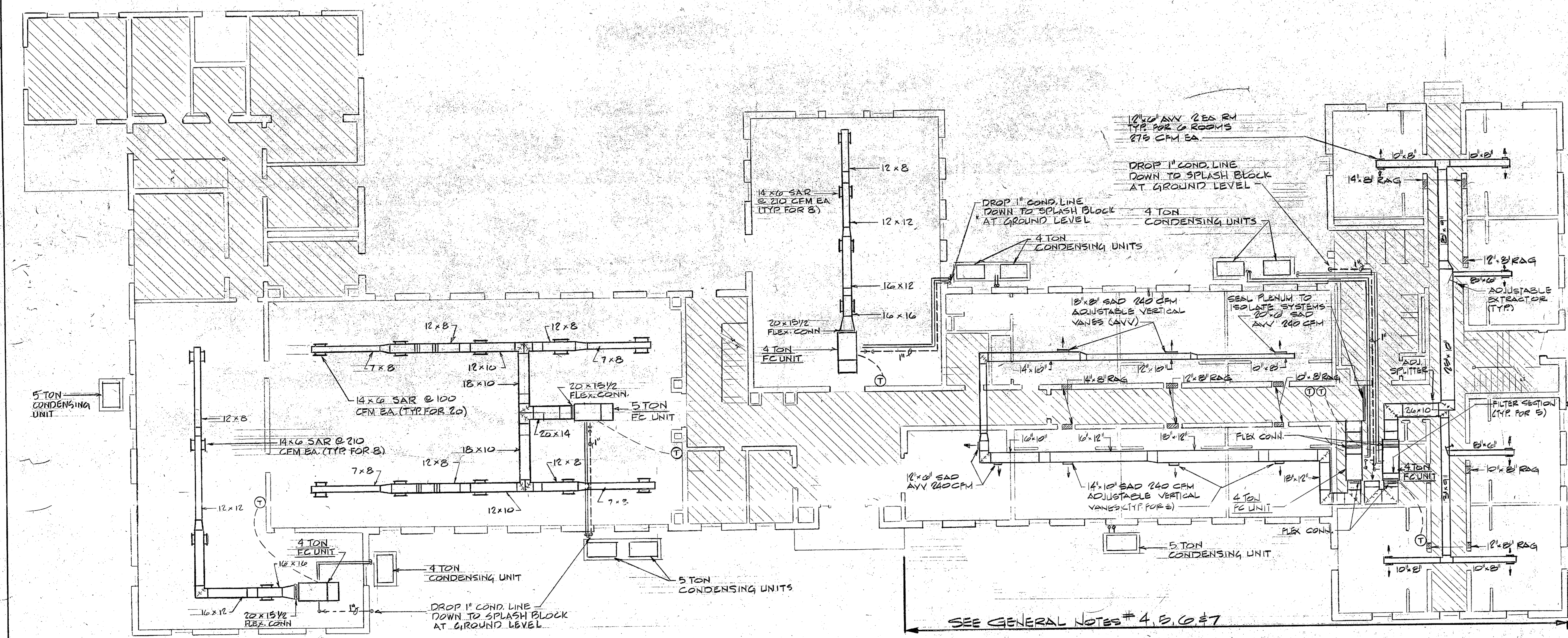
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED
(A)	REMOVED AS-BUILT	9-23-86	AWM



SECOND FLOOR PLAN



CONDENSING UNIT MOUNTING PAD DETAIL



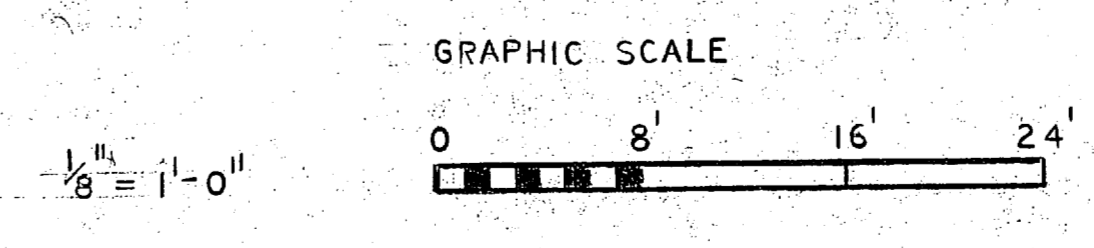
FIRST FLOOR PLAN
SCALE 1/8" = 1'-0"

- NOTES:**
1. ALL DUCTWORK, FC UNITS AND ASSOCIATED PIPING ON FIRST FLOOR TO BE EXPOSED TO LIVING AREA. DUCTWORK AND PIPING SHALL BE ROUTED AS HIGH AS CONDITIONS WILL ALLOW.
 2. ALL DUCTWORK, FC UNITS AND ASSOCIATED PIPING ON SECOND FLOOR SHALL BE MOUNTED IN THE ATTIC SPACE ABOVE THE CEILING.
 3. NOTES 1 THRU 3 AND 7 THRU 12 ON DWG M-18 ALSO APPLIES TO THIS DRAWING.
 4. PROVIDE DROP CEILING. ALL DROPPED CEILING SHALL BE CLIPPED WHERE NEW CEILING IS INSTALLED, IT SHALL BE 1 1/2" LOWER THAN EXISTING.
 5. REMOVE & REINSTALL LIGHTS IN HALLWAY.
 6. DROPPED CEILING IS TO BE RETURN AIR PLENUM.
 7. ALL DUCT IS TO BE INTERNALLY INSULATED.

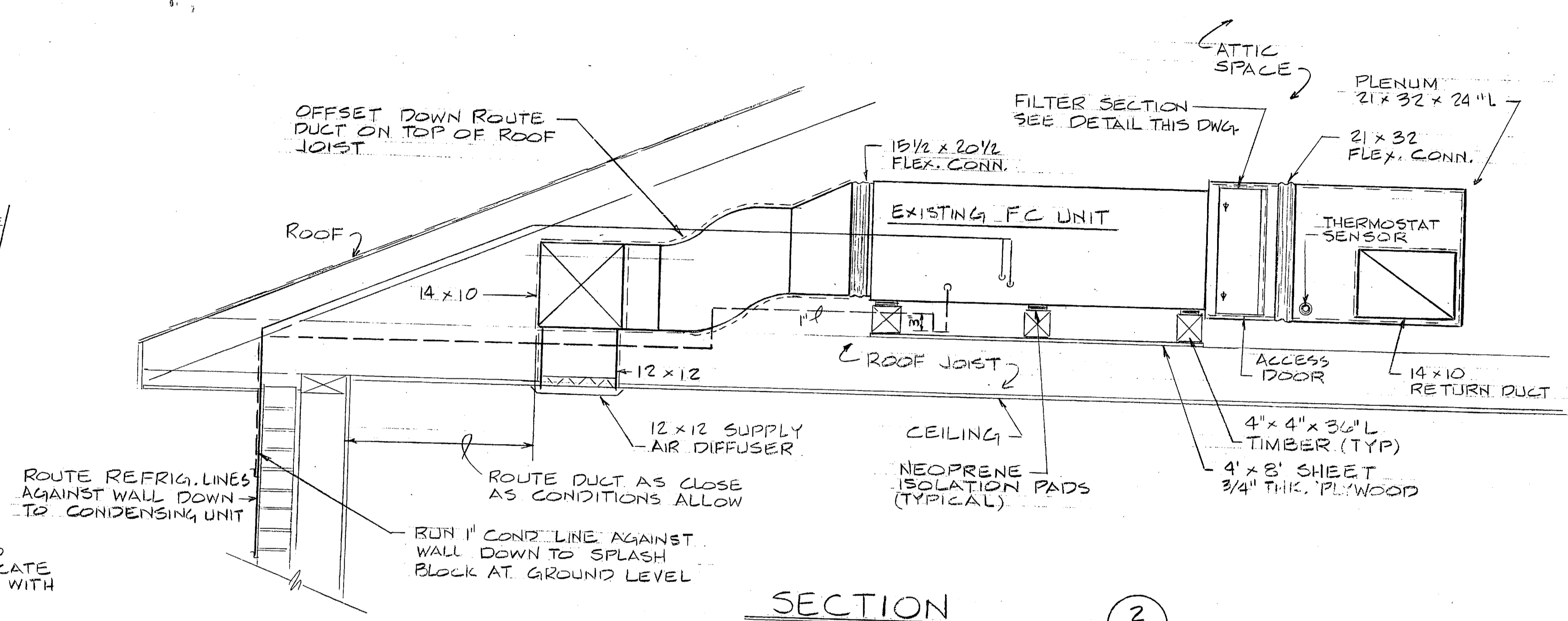
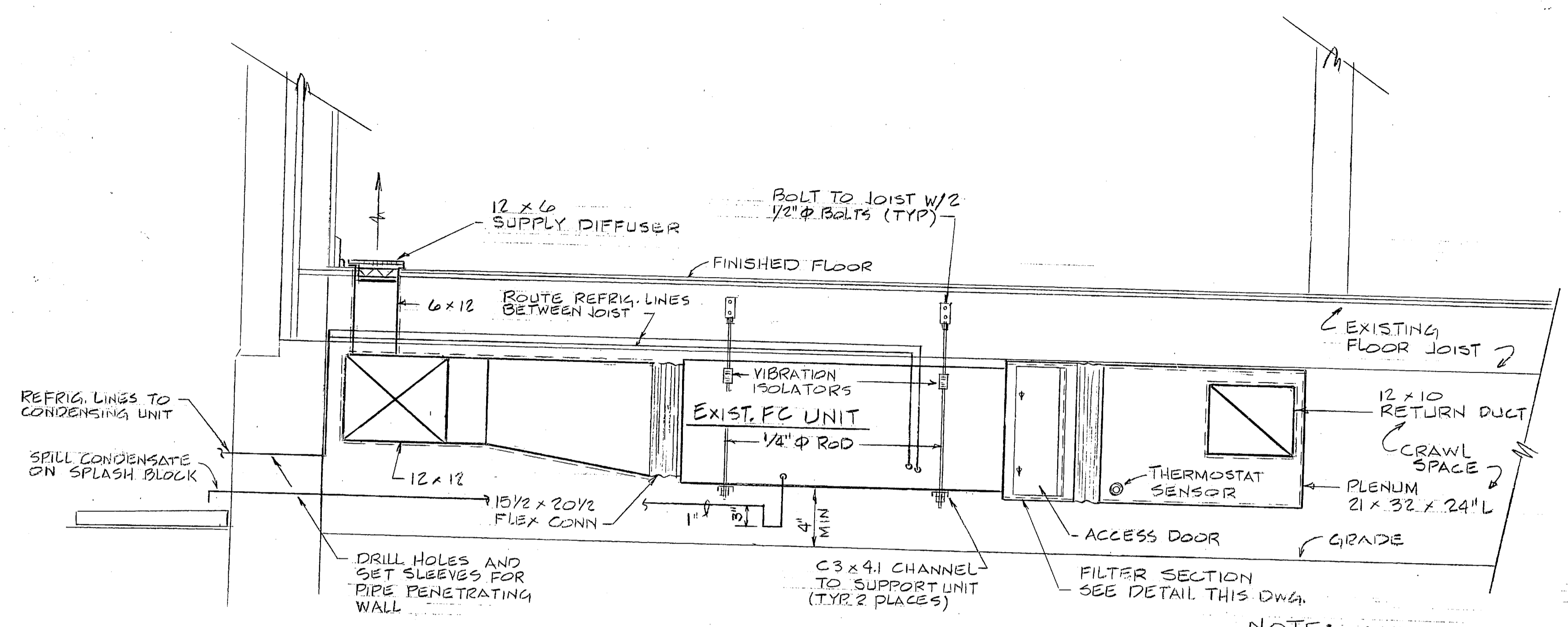
COURTHOUSE BAY
BLDG BB-43

BLDG BB-43
SITE NORTH

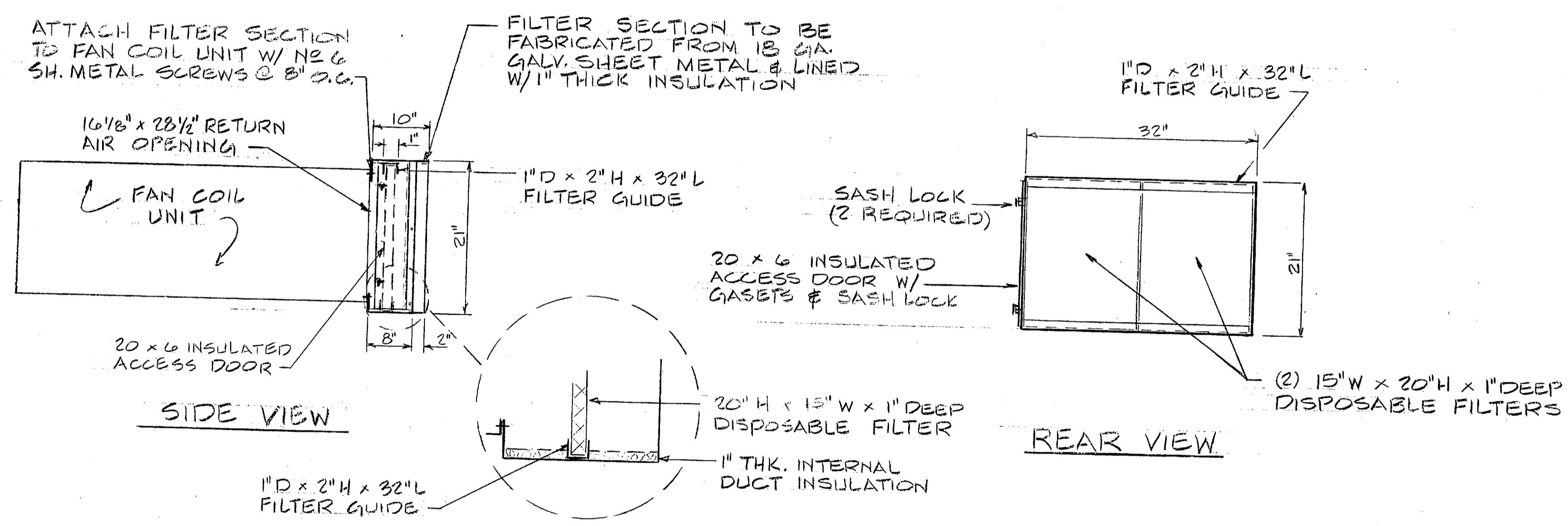
RECORD DRAWING CONTROL NO. 183		M-19	
PIEDMONT ENGINEERS ARCHITECTS PLANNERS 800 PARK AVE. GREENVILLE, S.C.		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND NAVAL DIVISION NORFOLK, VIRGINIA	
DES. RB. DR. RB. CHK. A.W. PROJ. MGR. V.C. CH. ENGR. SUBMITTED BY: <i>George W. McDaniel</i> DATE: 5/16/81 FIRM MEMBER: PRINCIPAL EFD. F.P. 37077 RVD. J.C.B.		NAVAL STATION MARINE CORPS BASE CAMP LEJEUNE NORTH CAROLINA UNACCOMPANIED ENLISTED PERSONNEL HOUSING BACHELORS OFFICERS QUARTERS BARRACKS HVAC FLOOR PLAN	
HD. <i>[Signature]</i> DIP. <i>[Signature]</i> APPROVER: <i>[Signature]</i> DATE: <i>[Date]</i> OFFICER IN CHARGE		SIZE: CODE IDENT. NO. NAVFAC DRAWING NO. F. 80091 4075538	
APPROVED: <i>[Signature]</i> DATE: <i>[Date]</i> EFD FOR COMMANDER, NAVFAC		CONSTR. CONTR. NO. N62470-80-B-0102 SHEET 79 OF 94	



SYM	REVISIONS DESCRIPTION	DATE	APPROVED
(A)	REVISED AS-BUILT	9/27/81	AWT

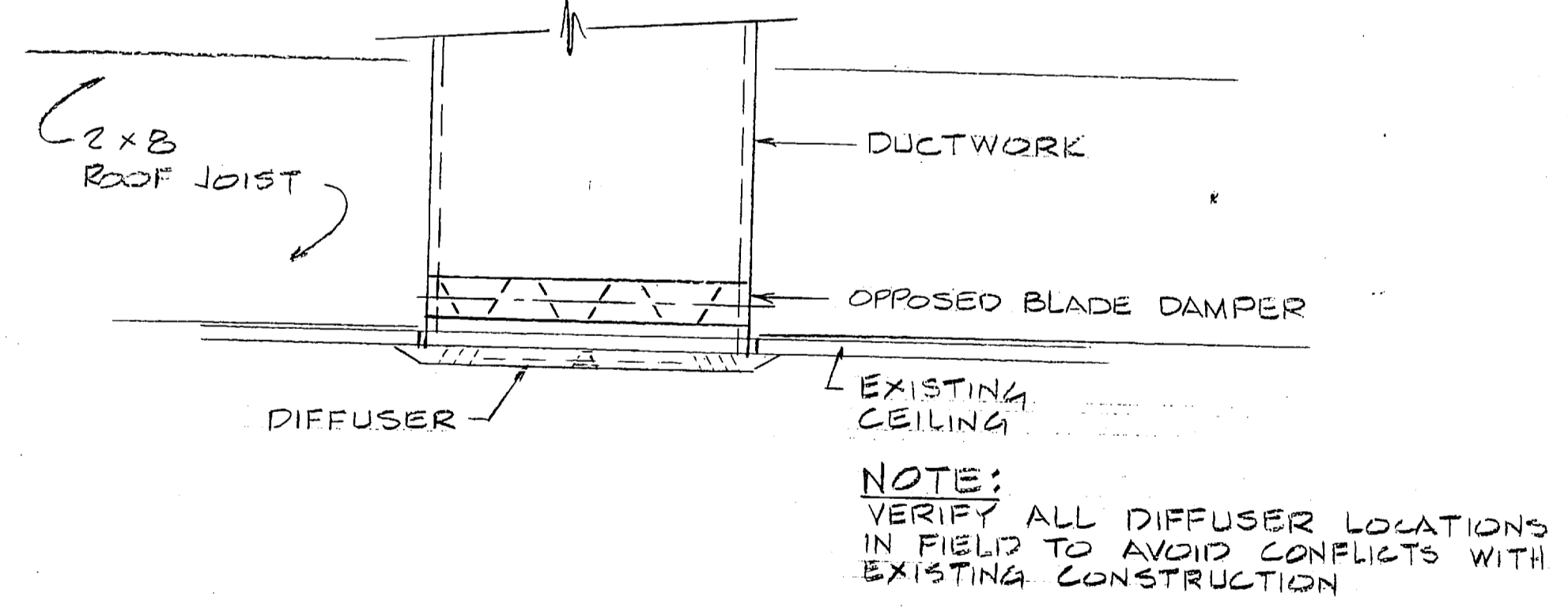
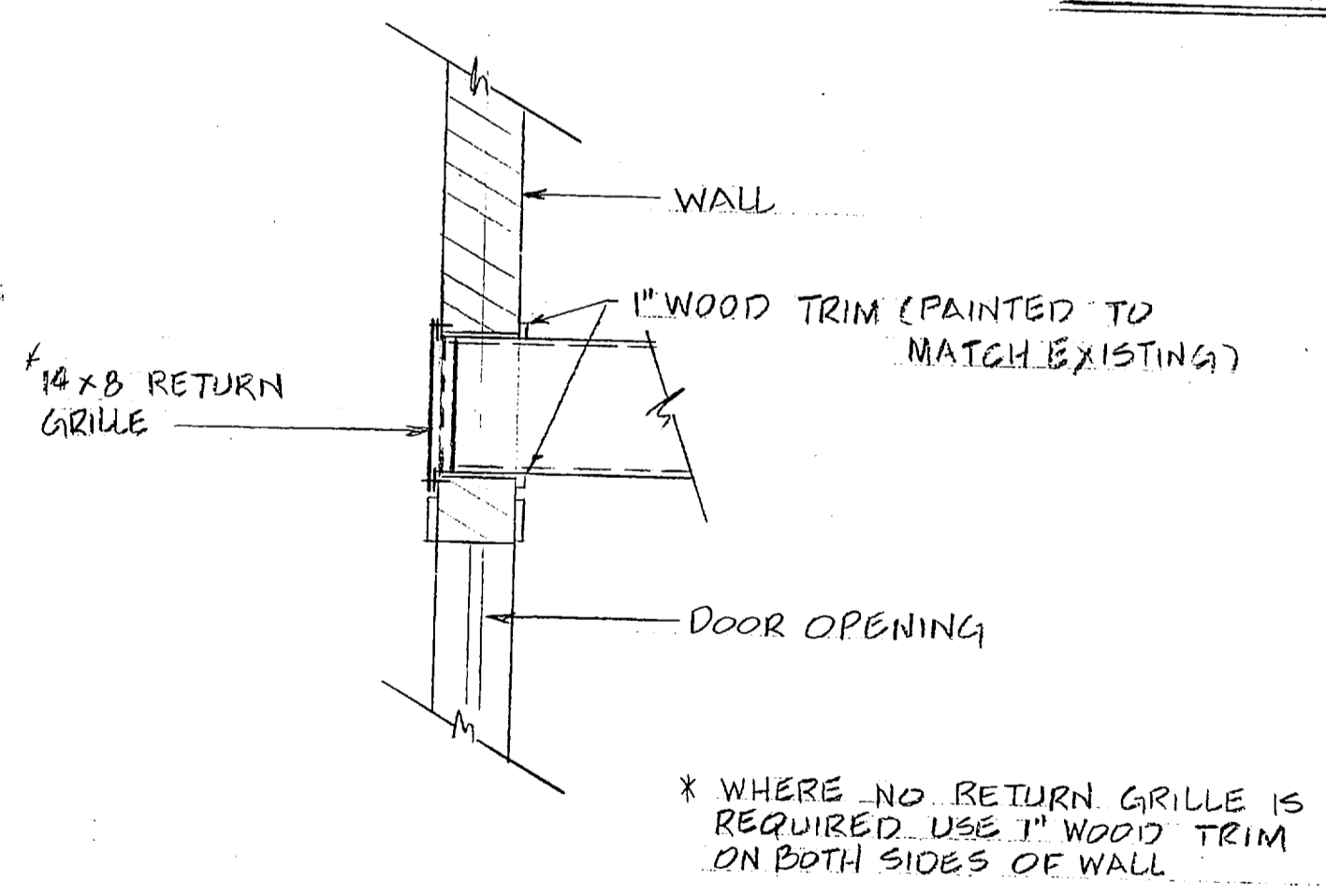
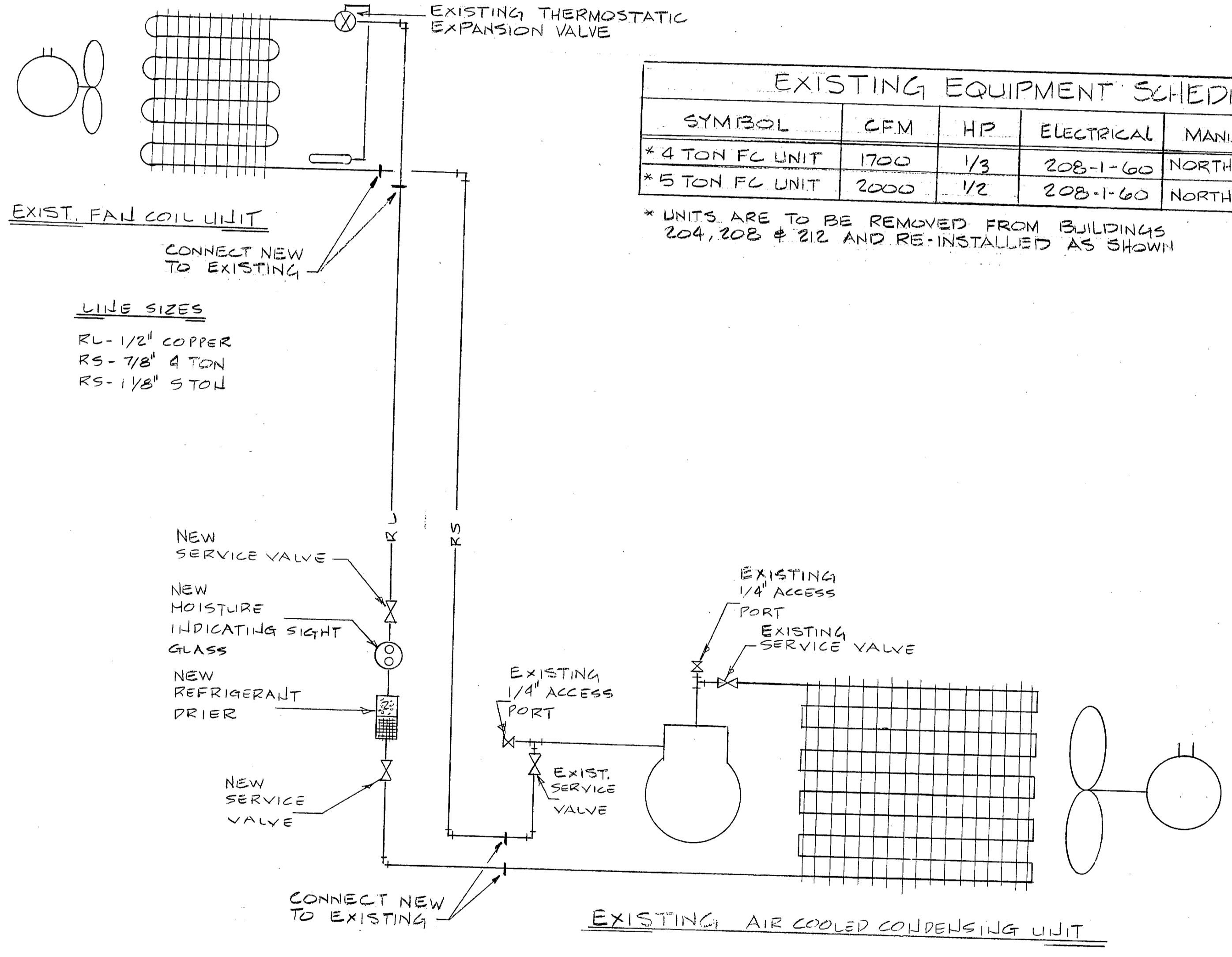


NOTE: CONTRACTOR TO ROUTE DUCTWORK AND LOCATE UNITS TO AVOID CONFLICTS WITH EXISTING CONSTRUCTION



EXISTING EQUIPMENT SCHEDULE					
SYMBOL	CFM	HP	ELECTRICAL	MANUFACTURER	MODEL NO.
* 4 TON FC UNIT	1700	1/3	208-1-60	NORTHROP	FE-O-48H
* 5 TON FC UNIT	2000	1/2	208-1-60	NORTHROP	FE-O-60H

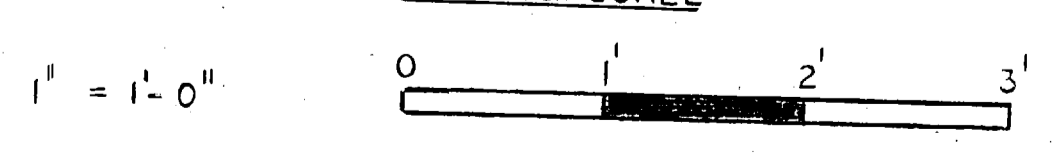
* UNITS ARE TO BE REMOVED FROM BUILDINGS 204, 208 & 212 AND RE-INSTALLED AS SHOWN



SEQUENCE OF CONTROL
THERMOSTATS SHALL BE LOCATED AS SHOWN ON THE FLOOR PLANS (SEE SHEETS M-18 & M-19)

COOLING SEQUENCE: ON A RISE IN SPACE TEMPERATURE ABOVE SET POINT AS SENSED BY RETURN AIR SENSOR BEHIND FILTER, FAN SHALL CYCLE ON AND OUTDOOR CONDENSING UNIT SHALL OPERATE. WHEN THE RETURN AIR SENSOR IS SATISFIED THE REVERSE IS TRUE.

THE THERMOSTAT SHALL HAVE AN ON-OFF-AUTO SWITCH. IN THE AUTO POSITION THE FAN SHALL SEQUENCE AUTOMATICALLY AS DESCRIBED ABOVE. THE FAN WILL BE CONTROLLED FOR CONTINUOUS OPERATION. WHEN THE THERMOSTAT IS SET IN THE ON POSITION.



RECORD DRAWING LETTER DATED AUG 22 1981

M 20

PIEDMONT ENGINEERS ARCHITECTS PLANNERS
200 PARK AVE. GREENVILLE, S.C.

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION

NAVAL STATION NORFOLK, VIRGINIA
CAMP LEJEUNE MARINE CORPS BASE NORTH CAROLINA
UNAC COMPANIED ENLISTED PERSONNEL HOUSING
HVAC SECTIONS AND DETAILS

DES. R.B. DR. R.B. CHK. A.W.
PROJ. MGR. V.C. CH. ENGR.
SUBMITTED BY: George W. M. DATE: 9/16/81
FIRM MEMBER: PRINCIPAL
REF. P. 2000 RVD: WJL

APPROVED: [Signature] DATE: 9/24/81
OFFICER IN CHARGE: [Signature] DATE: [Signature]
FORWARDED FOR COMMANDER, NAVFAC

SIZE: F CODE IDENT. NO.: 80091
NAVFAC DRAWING NO.: 4075539
CONSTR. CONTR. NO. N62470-80-B-0102
SCALE: AS SHOWN SPEC. 05-80-0102 SHEET 80 OF 94

EPD. DWG. NO. 175539

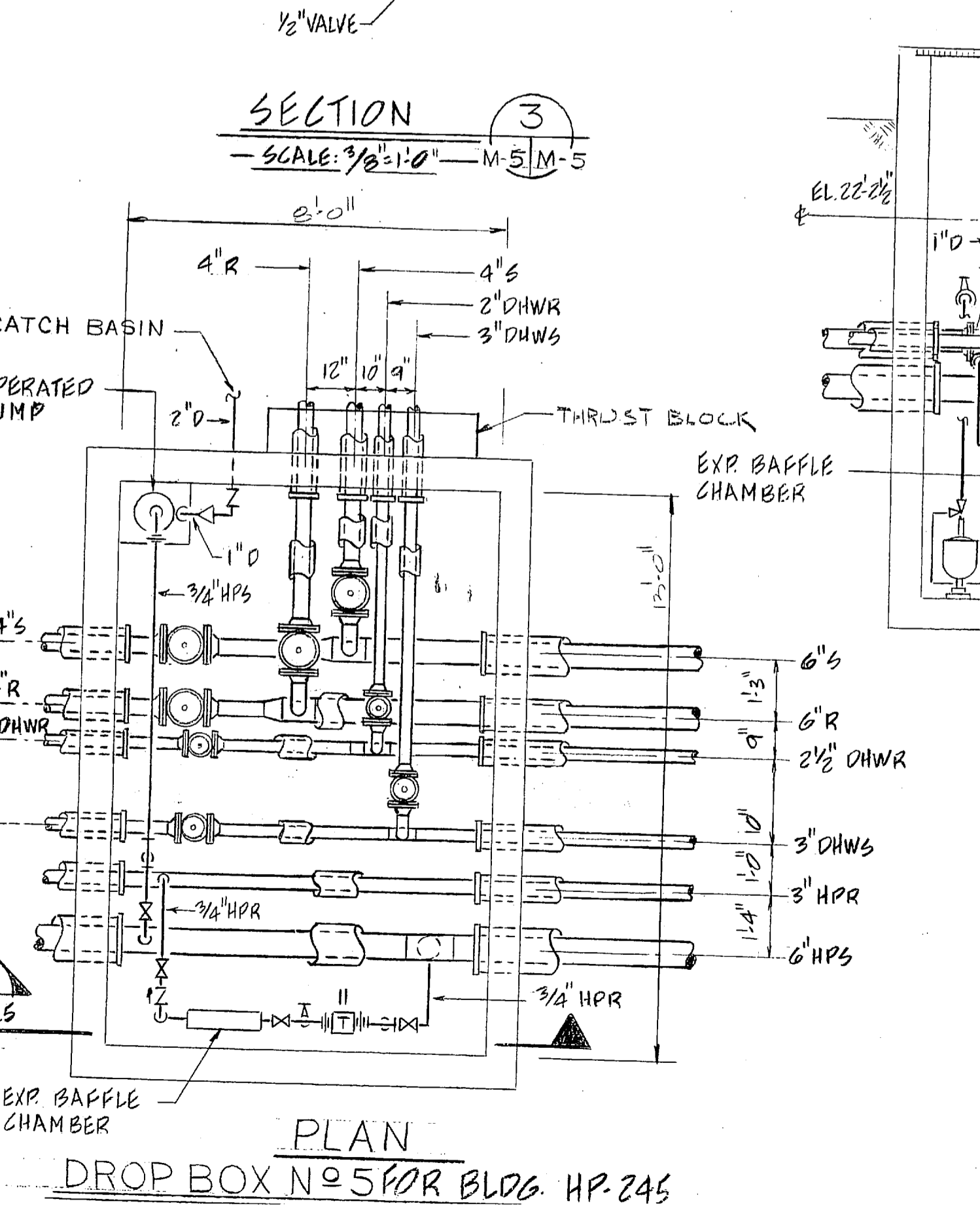
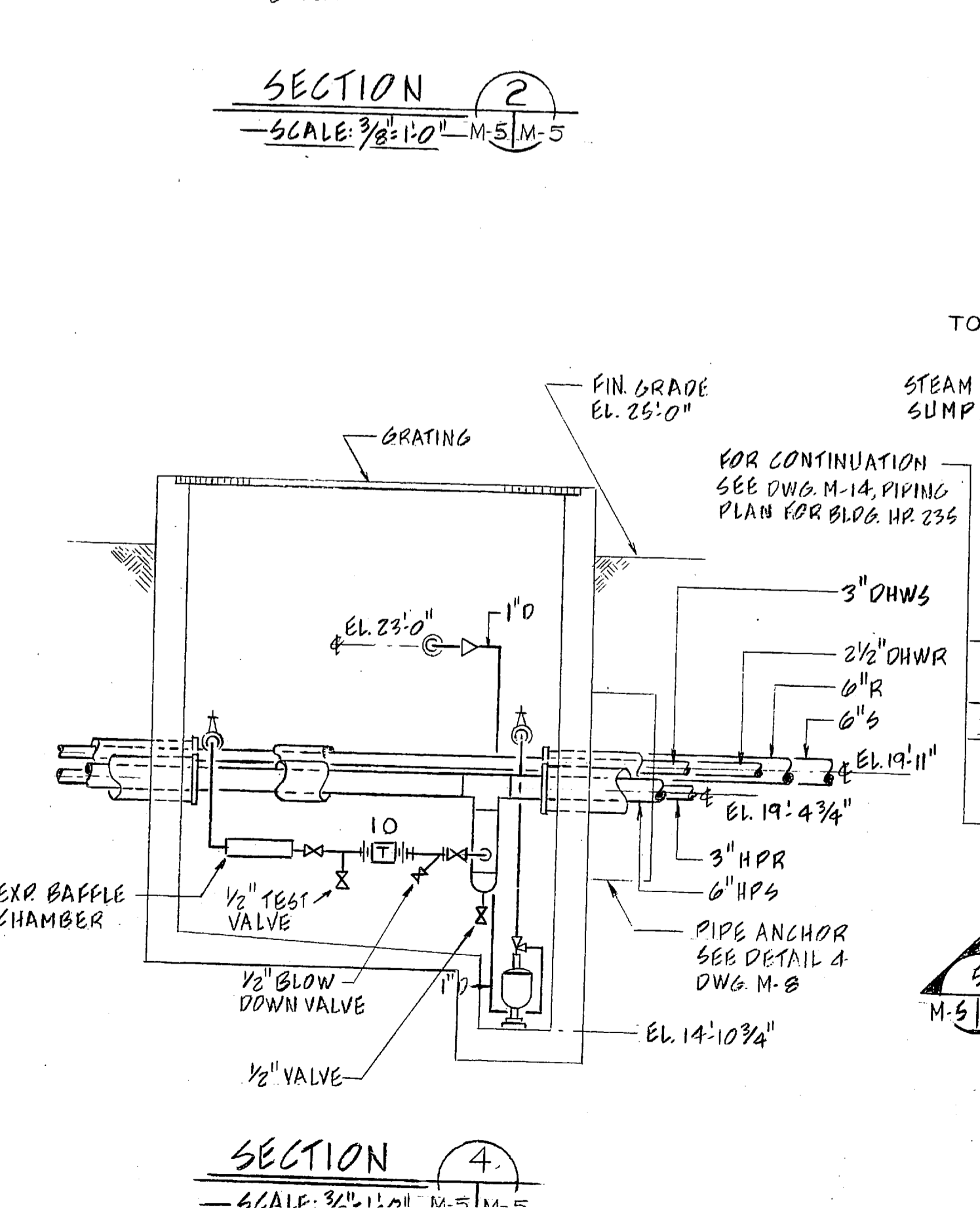
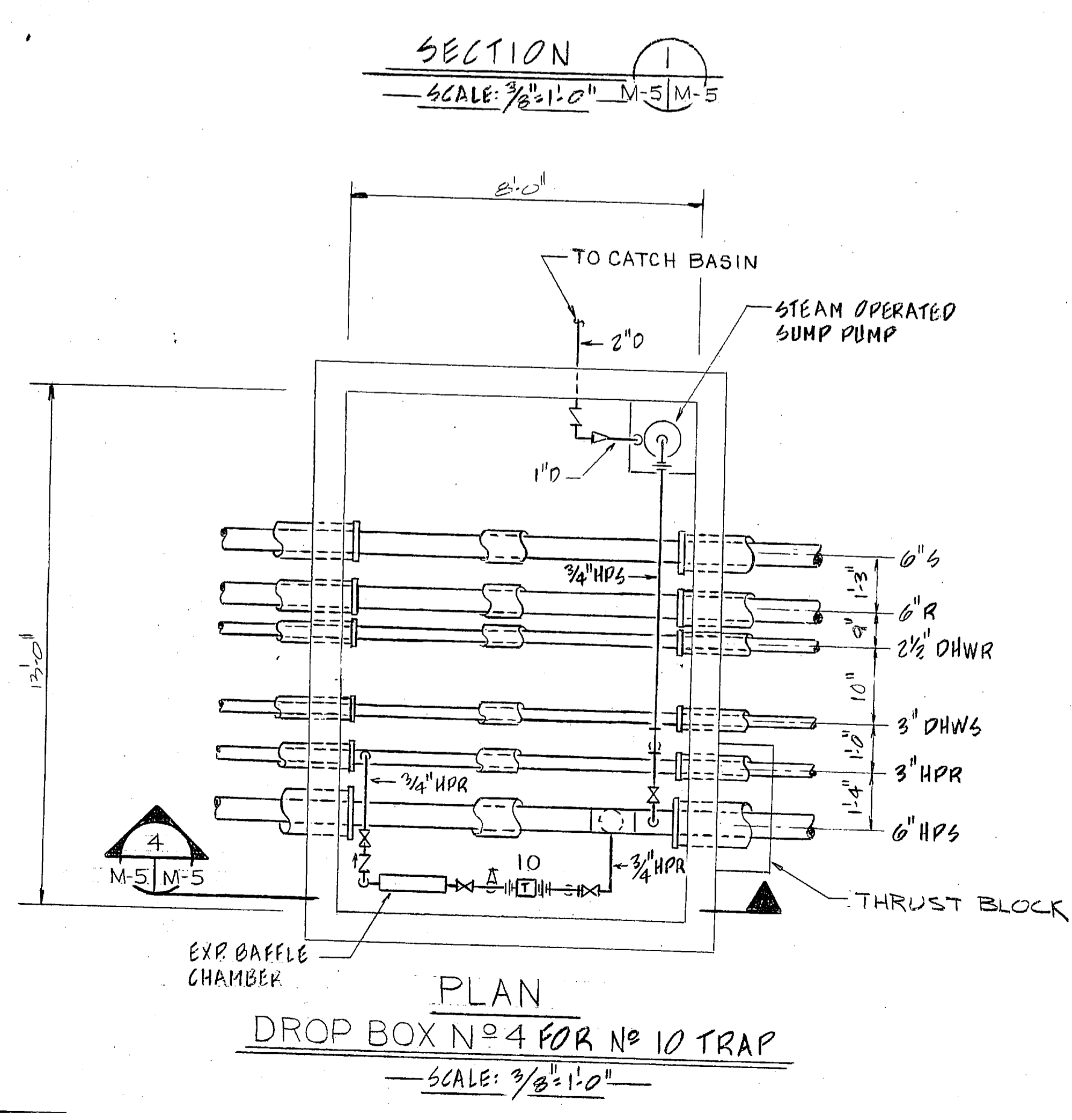
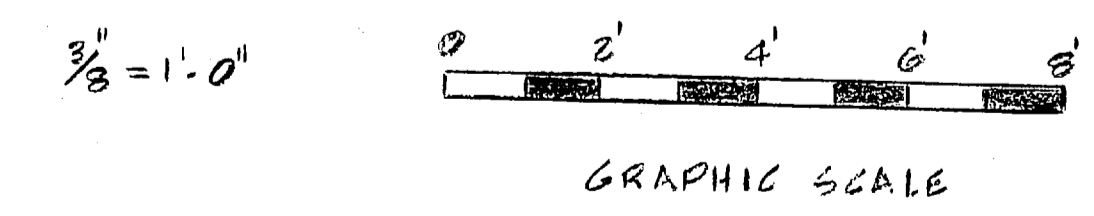
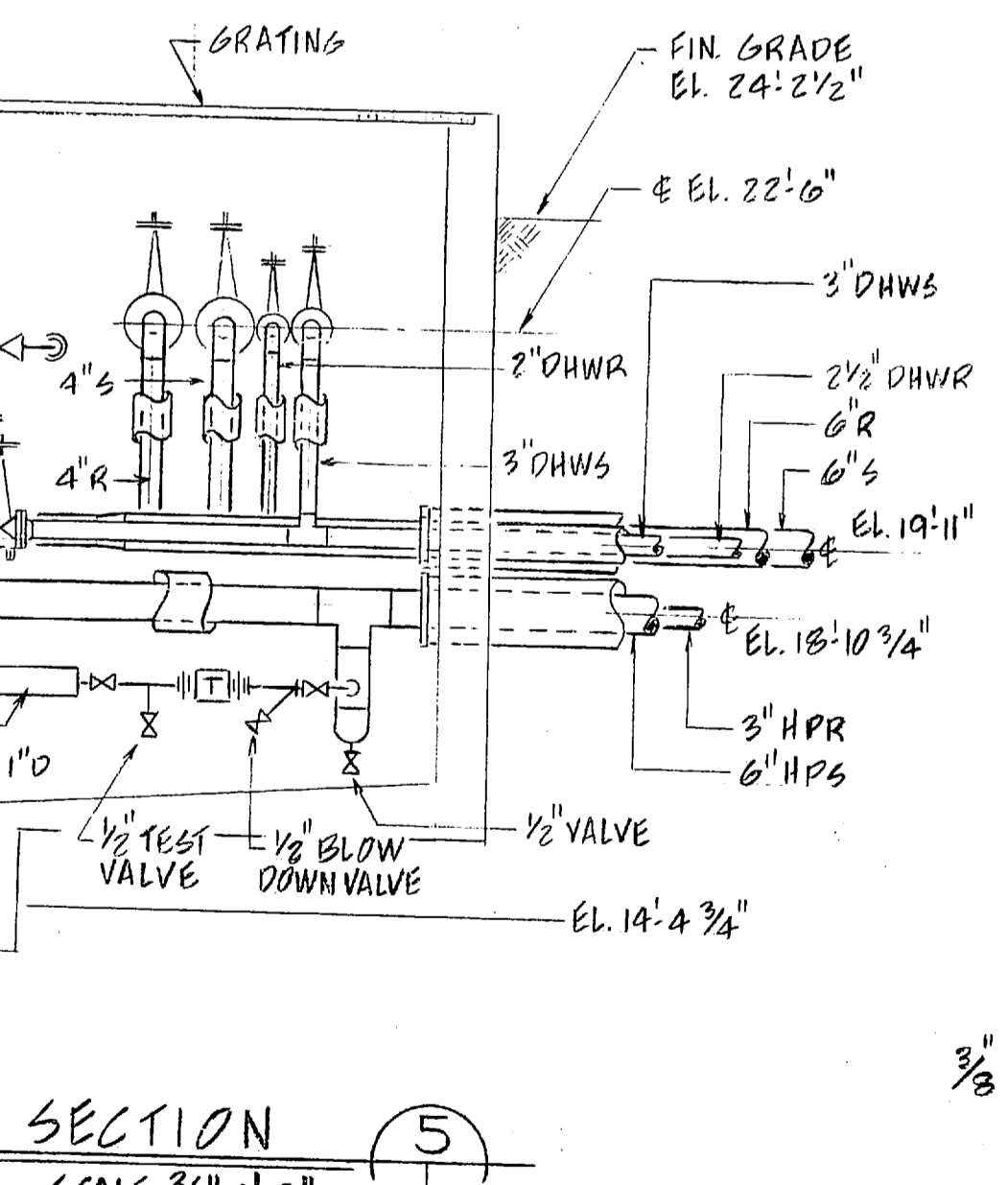
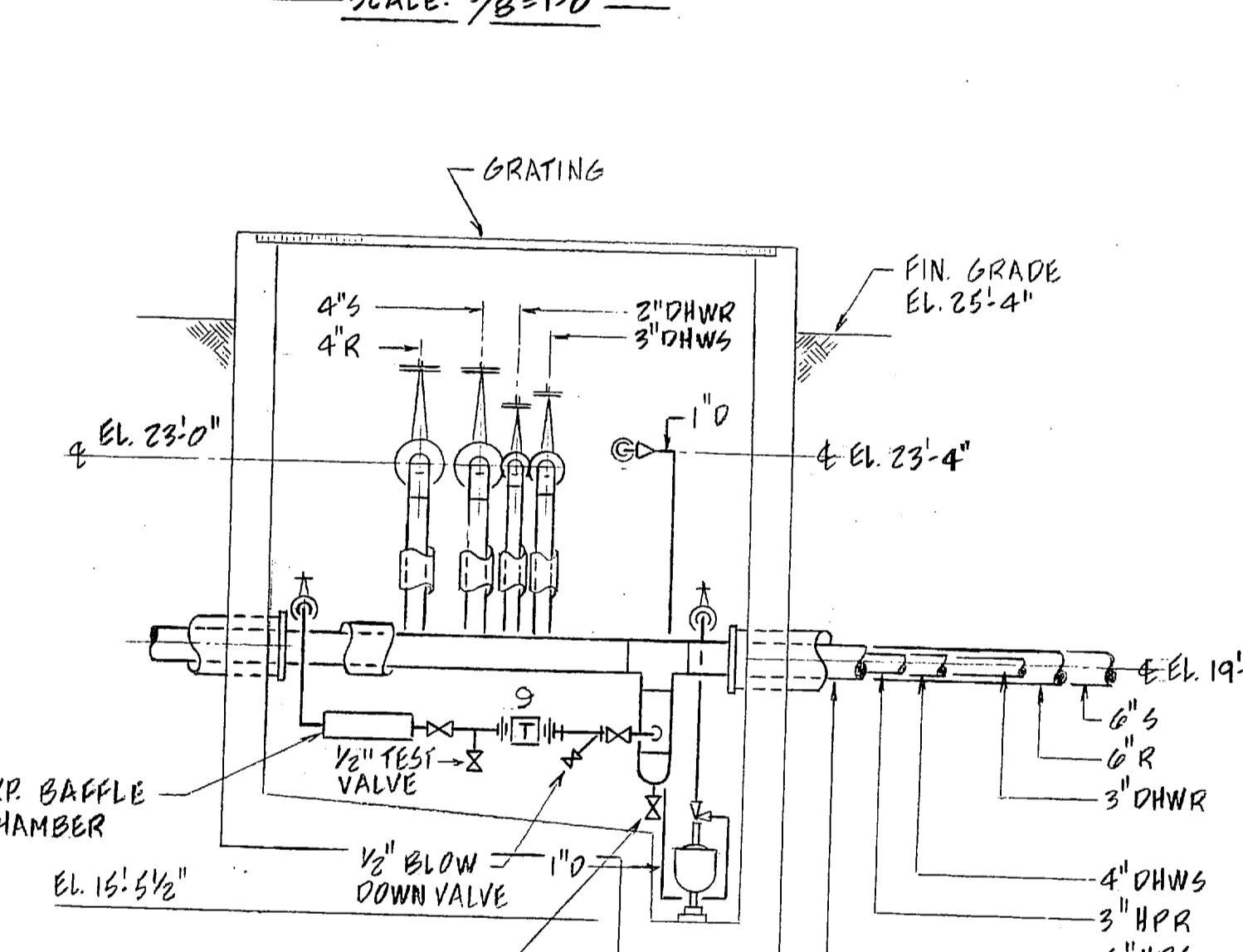
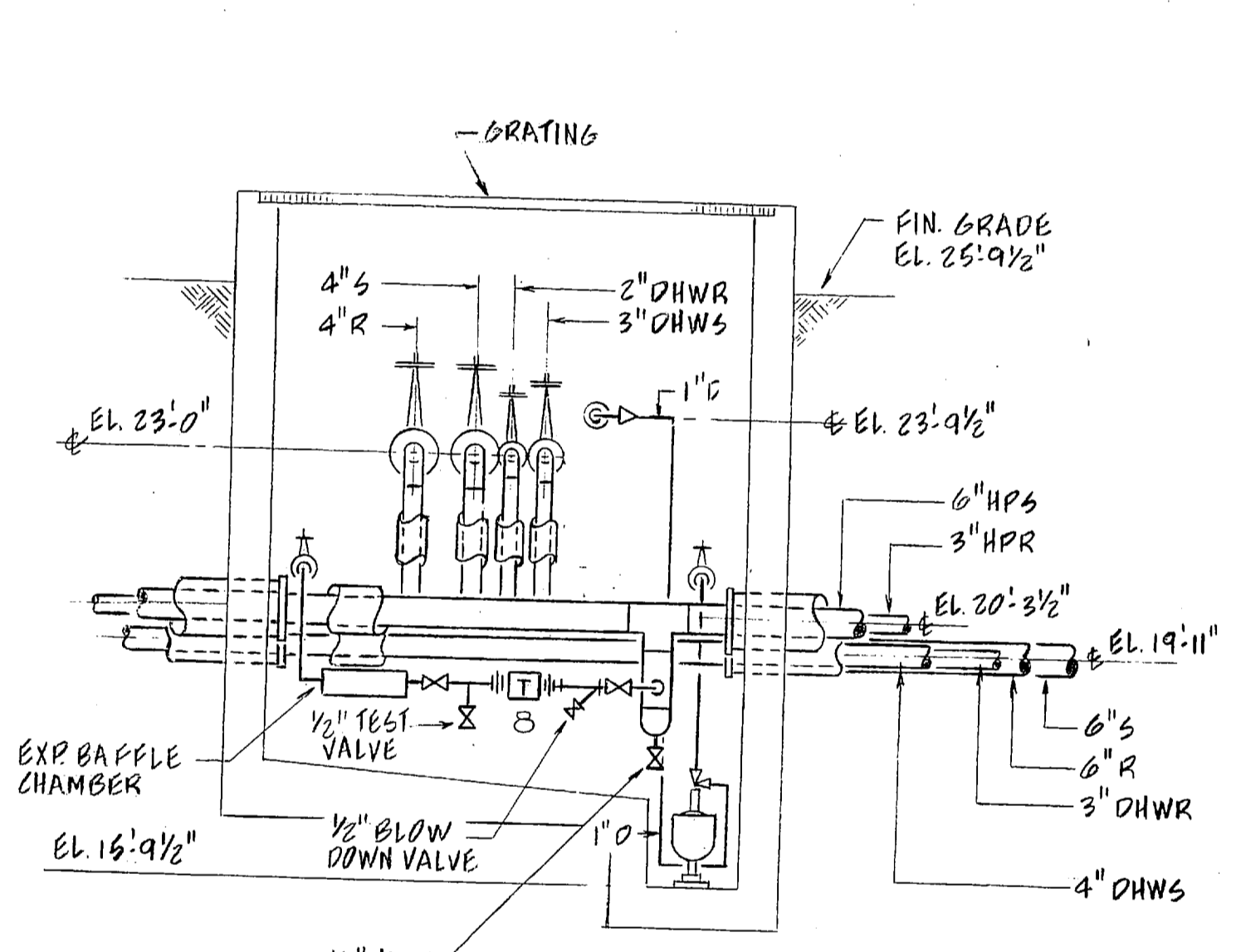
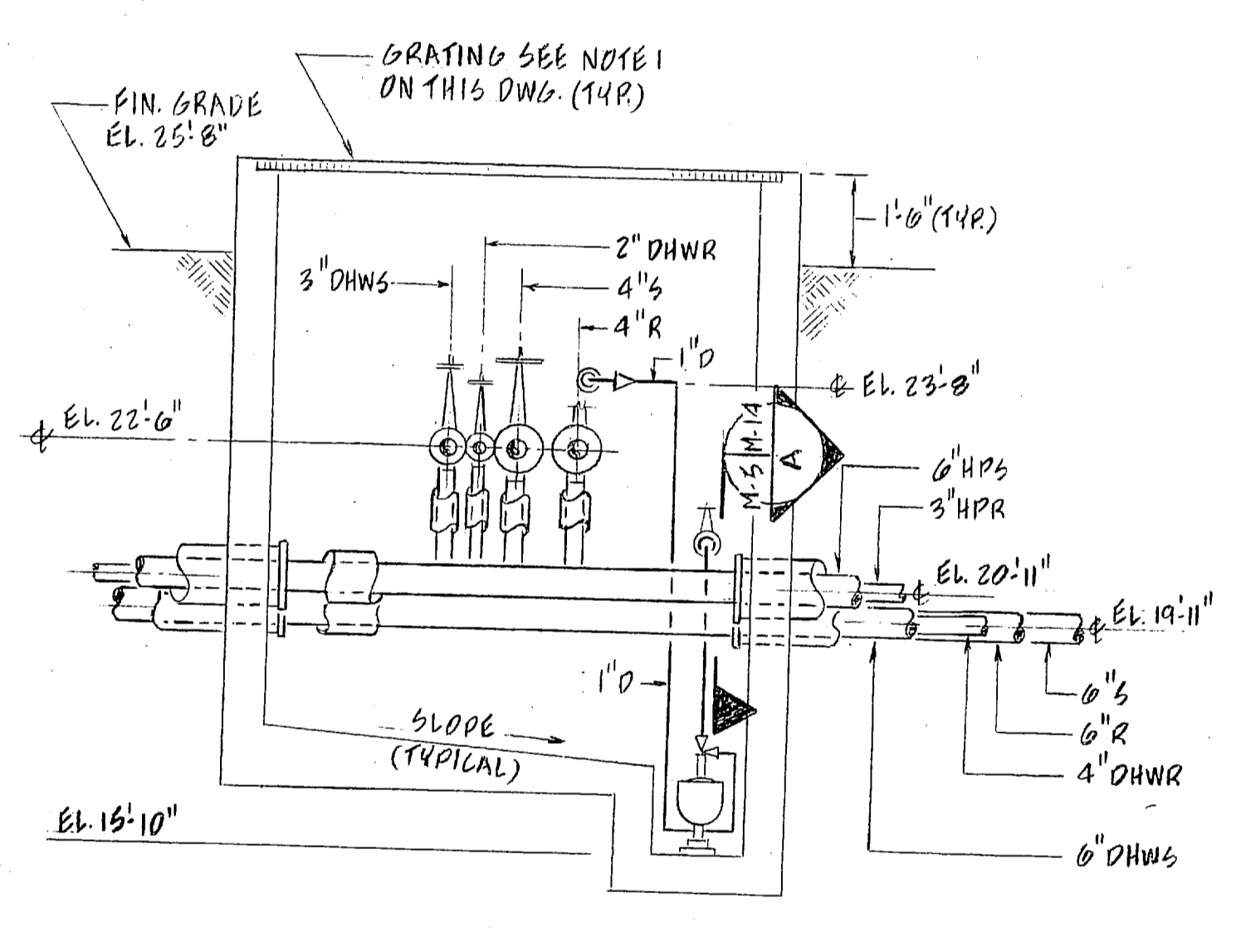
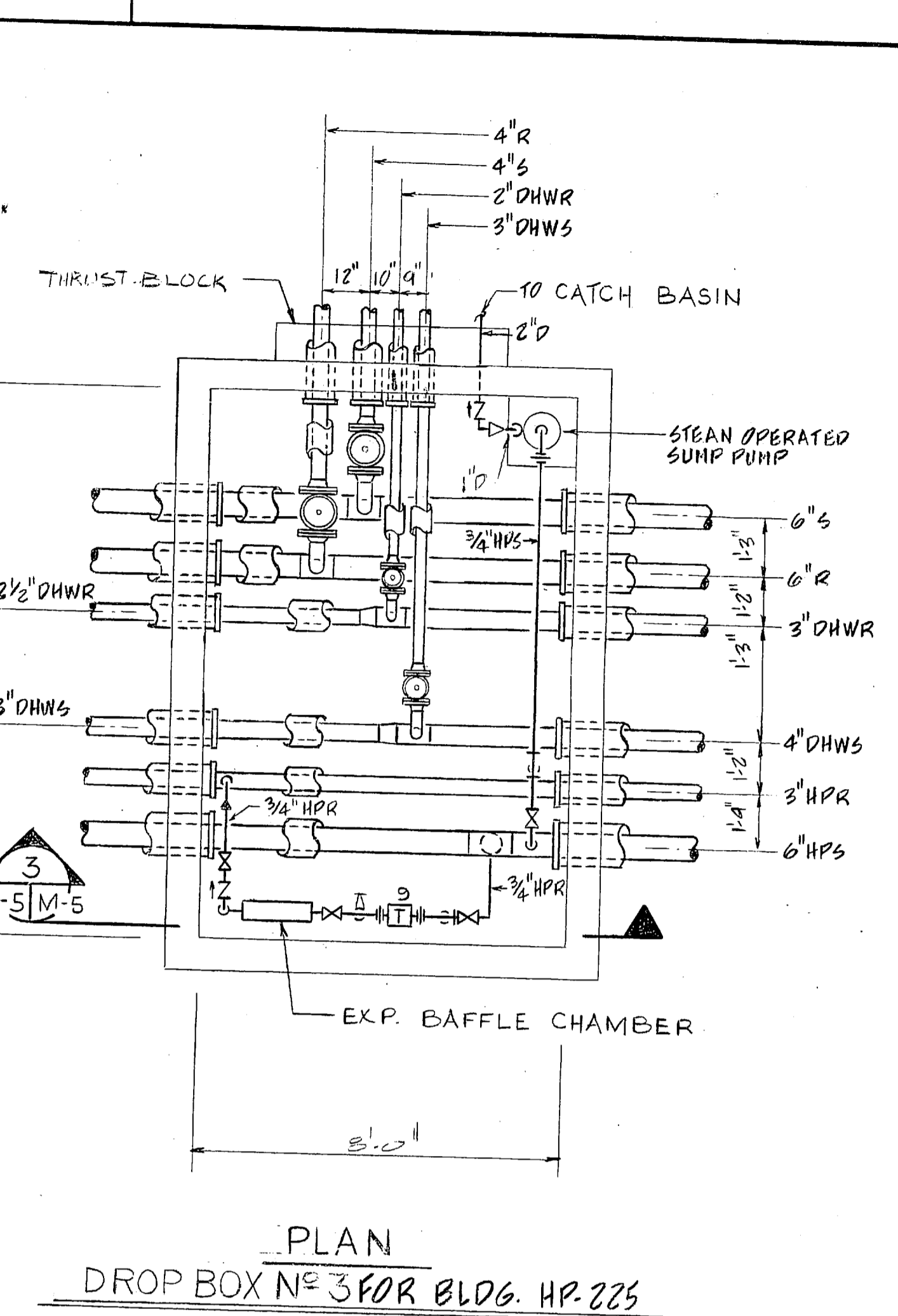
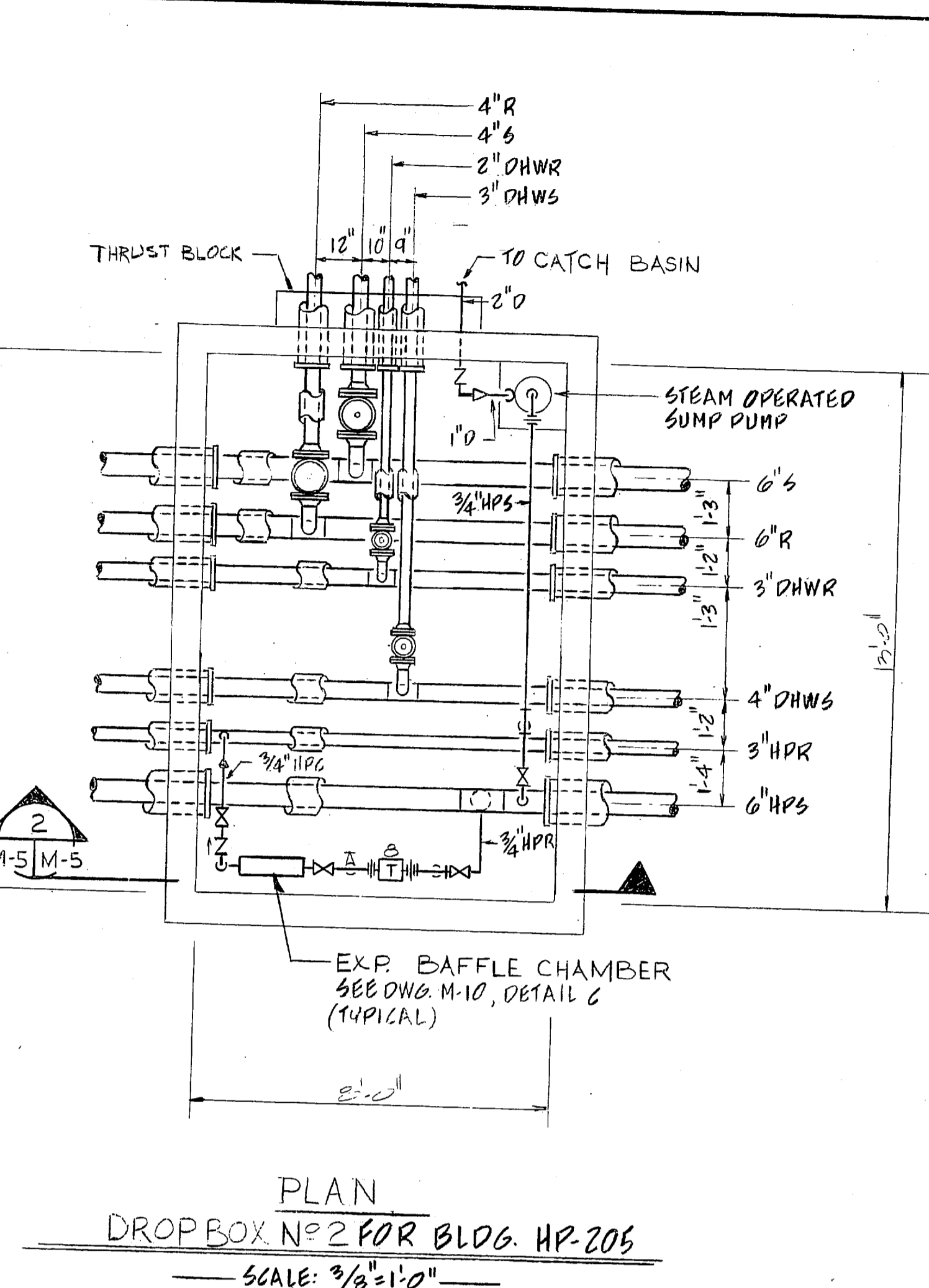
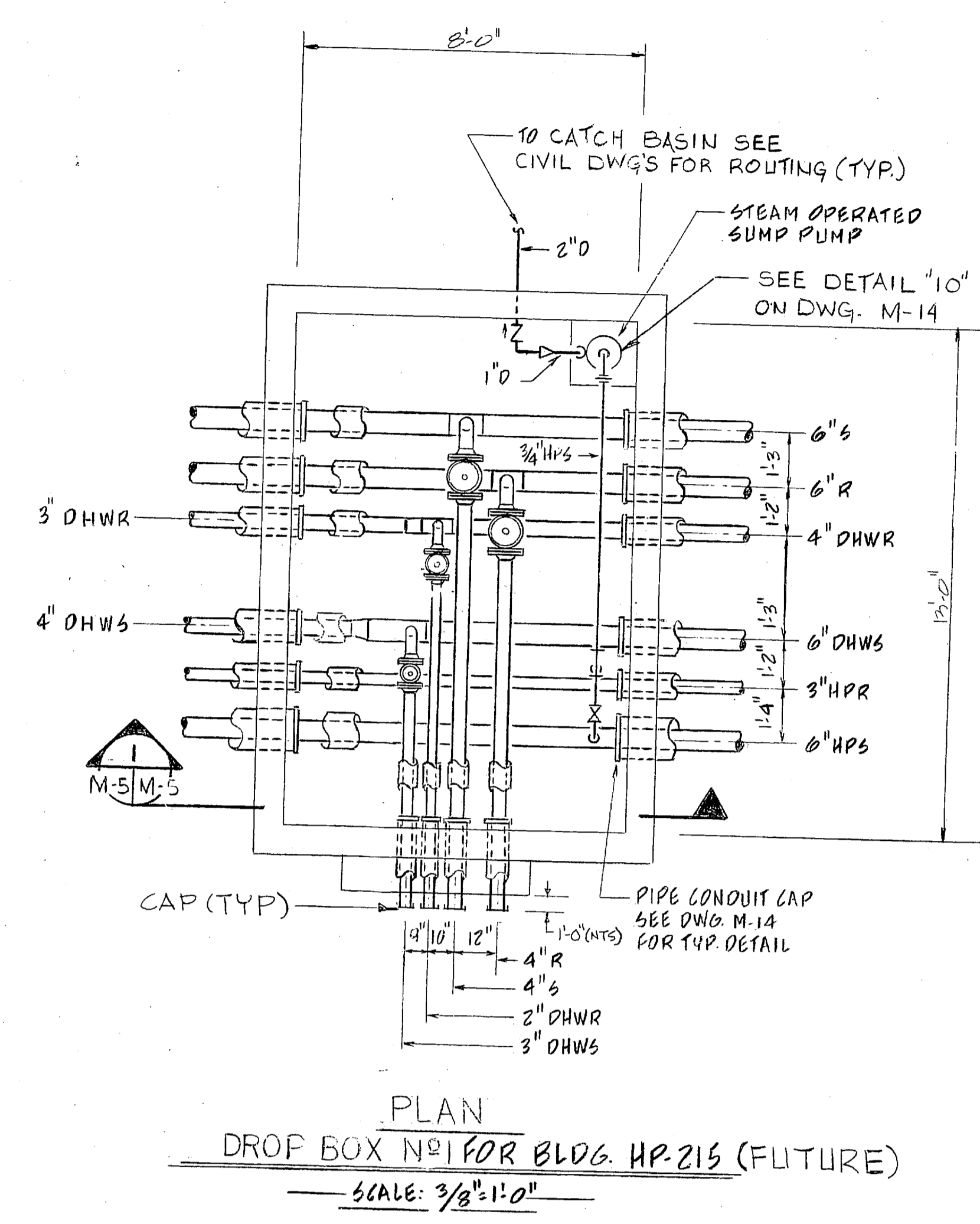
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED
(A)	REVISED AS-BUILT	9-23-84	[Signature]

NOTES

- GRATINGS FOR STEAM PIT TOPS SHALL BE ELECTROFORGED STEEL ALL WELDED CONSTRUCTION W/2" x 3/16" MIN BARS, 13/16" ON CENTER W/1/8" BARS AT 4" CENTERS, ZINC COATED. GRATINGS SHALL BE SUPPORTED ON ZINC COATED ANGLES OR CHANNELS INSTALLED AS INDICATED SO GRATINGS ARE FLUSH WITH PIT WALLS. SECURE W/APPROVED ZINC COATED FASTENERS NOT LESS THAN FOUR EACH SECTION OF GRATINGS.
- CONTROL VALVE FOR EJECTOR SHOULD BE WITHIN 12" OF TOP SO IT CAN BE OPERATED WITHOUT GETTING INTO PIT.
- SEE SHEET M-5 FOR CONNECTION DETAILS ON PITS.
- PIPING IN DROP BOXES TO BE CARBON STEEL.
- PROVIDE SUPPORT FOR ALL VALVES IN RTR PIPING SYSTEMS. SUPPORT SHALL BE IN ACCORDANCE WITH RTR PIPE MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE THRUST BLOCKS ON ALL RTR PIPING PENETRATIONS THROUGH DROP BOX NO. 1 THRU NO. 7. THRUST BLOCKS SHALL BE LOCATED ON OUTSIDE OF DROP BOX.
- PROVIDE PIPE ANCHORS ON ALL STEAM LINE PENETRATIONS THROUGH DROP BOX NO. 1 THRU NO. 7. PIPE ANCHORS SHALL BE LOCATED ON OUTSIDE OF DROP BOXES AND SIZED PER STEAM CONDUIT MANUFACTURER'S RECOMMENDATIONS.

SYMBOL LEGEND

- | | |
|-------|-----------------------------------|
| DHWS | DOMESTIC HOT WATER SUPPLY |
| DHWR | DOMESTIC HOT WATER RETURN |
| S | DUAL TEMP. SUPPLY |
| R | DUAL TEMP. RETURN |
| D | DRAIN |
| HPS | HIGH PRESSURE SUPPLY (STEAM) |
| HPR | HIGH PRESSURE RETURN (CONDENSATE) |
| LPS | LOW PRESSURE SUPPLY (STEAM) |
| LPR | LOW PRESSURE RETURN (CONDENSATE) |
| CW | COLD WATER SERVICE |
| MAV | MANUAL AIR VENT |
| MVD | MANUAL VOLUME DAMPER |
| AP/AD | ACCESS PANEL/DOOR |
| PRV | PRESSURE REDUCING VALVE |
| PD | PUMP DISCHARGE |
-
- | | |
|-----|----------------------------------|
| EA | EACH FACE |
| PA | PIPE ANCHOR |
| DTG | DATA COLLECTION TERMINAL CABINET |
| FIC | FIELD INTERFACE DEVICE |
| PI | PRESSURE GAUGE |
-
- | | |
|----------|----------------------------|
| [Symbol] | GATE VALVE |
| [Symbol] | GLOBE VALVE |
| [Symbol] | BUTTERFLY VALVE |
| [Symbol] | HOSE END GATE VALVE |
| [Symbol] | STRAINER |
| [Symbol] | UNION |
| [Symbol] | 2-WAY CONTROL VALVE |
| [Symbol] | 3-WAY CONTROL VALVE |
| [Symbol] | ECCENTRIC REDUCER |
| [Symbol] | THERMOMETER (0 TO 200°F) |
| [Symbol] | PRESSURE GAUGE COCK |
| [Symbol] | CHECK VALVE |
| [Symbol] | PRESSURE REDUCING VALVE |
| [Symbol] | FLOW CONTROL HAND VALVE |
| [Symbol] | STEAM TRAP |
| [Symbol] | REDUCER |
| [Symbol] | TEMPERATURE SENSOR |
| [Symbol] | BALANCING VALVES WITH TAPS |
| [Symbol] | SAFETY VALVES |
| [Symbol] | DRAIN |



RECORD DRAWING
LETTER DATED AUG 22 1985
M-5

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA

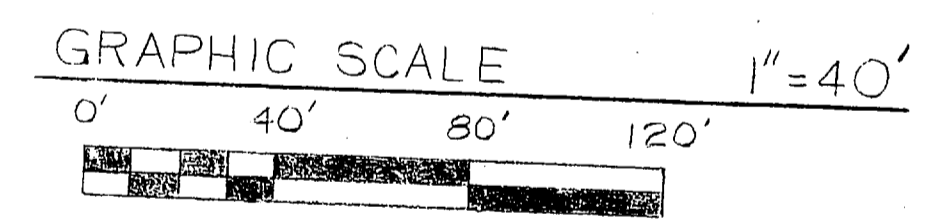
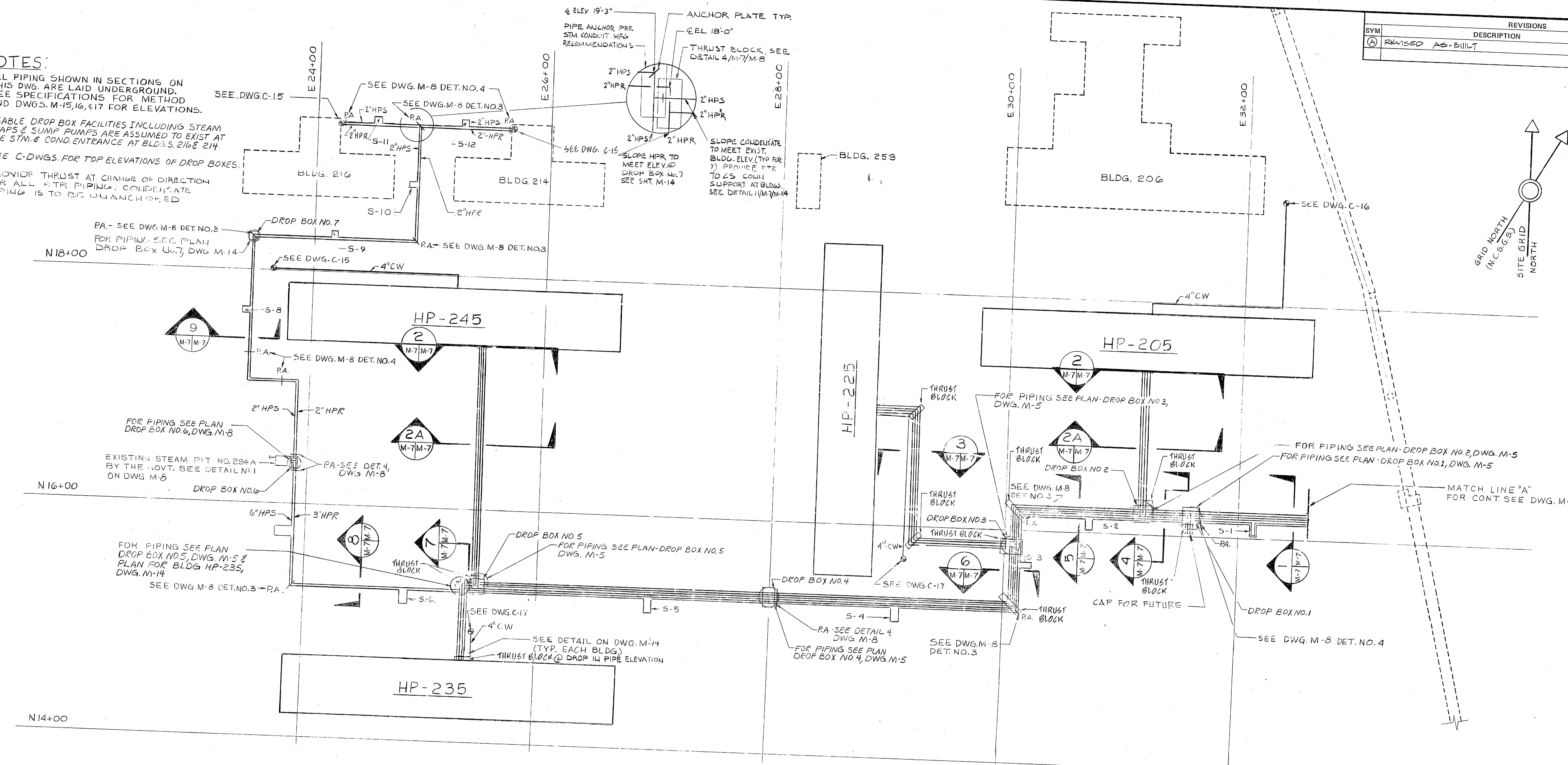
DES. MAK. DR. DC. CHK. AW
PROJ. MGR. V. C. CH. ENGR.
SUBMITTED BY: [Signature] DATE: 8-16-81
FIRM MEMBER: [Signature] PRINCIPAL
EFD. P. 3710 RVD. [Signature]
[Stamp]

CAMP LEJEUNE MARINE CORPS BASE NORTH CAROLINA
UNACCOMPANIED ENLISTED PERSONNEL HOUSING
GENERAL NOTES & LEGEND

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED
(A)	REVISED AS-BUILT	9-28-80	MMH

NOTES:

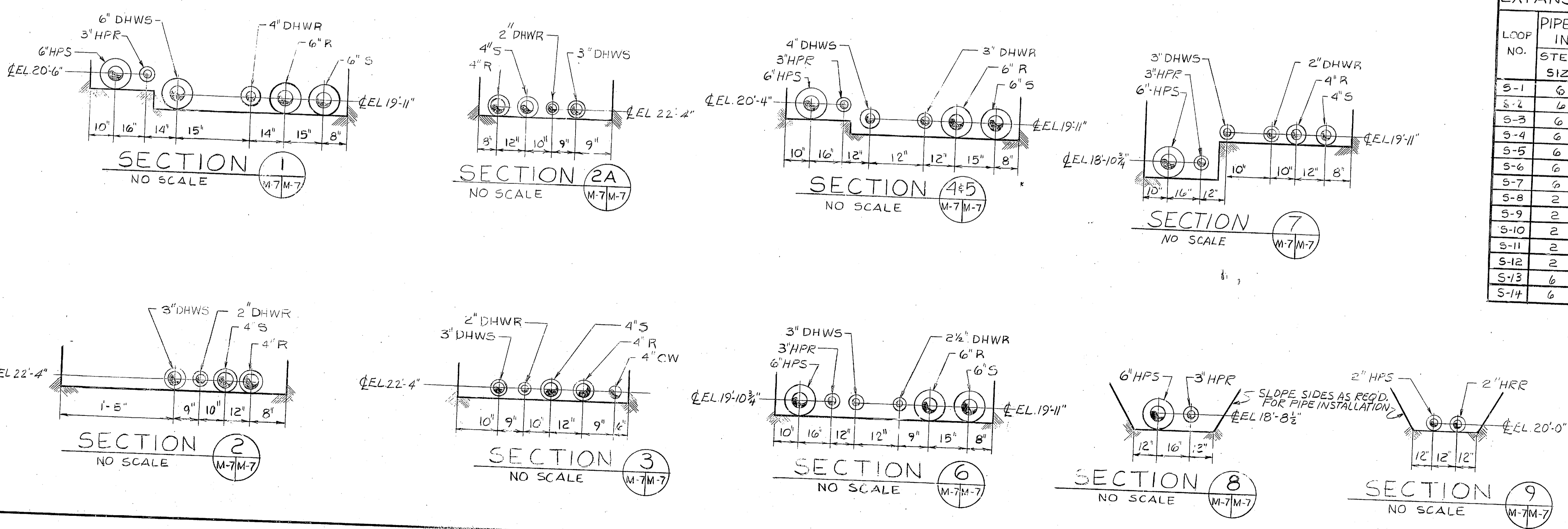
ALL PIPING SHOWN IN SECTIONS ON THIS DWG. ARE LAID UNDERGROUND. SEE SPECIFICATIONS FOR METHOD AND DWGS. M-15, 16, 17 FOR ELEVATIONS. USABLE DROP BOX FACILITIES INCLUDING STEAM TRAPS & SUMP PUMPS ARE ASSUMED TO EXIST AT THE STM. & COND. ENTRANCE AT BLDGS. 216 & 214. SEE C-DWGS. FOR TOP ELEVATIONS OF DROP BOXES. PROVIDE THRUST AT CHANGE OF DIRECTION FOR ALL RTR. PIPING. CONDENSATE PIPING IS TO BE UNANCHORED.



LOOP NO.	PIPE SIZE, INCHES		TOTAL EXPLAN., IN.	DIMENSIONS, FEET		
	STEAM SIZE	COND. SIZE		STEAM	COND.	COND.
S-1	6	3	2.490	12.0	6.0	
S-2	6	3	3.850	19.0	7.0	
S-3	6	3	2.315	10.0	5.0	
S-4	6	3	3.405	14.0	7.0	
S-5	6	3	3.405	14.0	7.0	
S-6	6	3	3.405	14.0	7.0	
S-7	6	3	2.829	11.0	6.5	
S-8	2	2	2.572	6.0	5.0	
S-9	2	2	3.600	8.0	5.0	
S-10	2	2	2.572	6.0	5.0	
S-11	2	2	1.800	5.0	5.0	
S-12	2	2	2.060	5.0	5.0	
S-13	6	3	2.083	10.0	5.0	
S-14	6	3	1.760	10.0	5.0	

SCHEDULE NOTES:

- EXPANSION LOOPS TO BE INSTALLED WITH DIMENSIONS AS SHOWN BELOW.
- ALL BENDS AND LOOPS SHALL BE COLD SPRUNG TO 1/2 TOTAL EXPANSION.
- BASIS OF DESIGN FOR LOOPS STM.: 150 PSI, 366°F, 50° AMBIENT, 2.572" EXPLAN./100'.
- SEE PIPING PROFILES FOR STEAM PIPE ELEVATIONS.



RECORD DRAWING LETTER DATED AUG 22 1985

M-7

PIEDMONT ENGINEERS ARCHITECTS PLANNERS AND PARK AVENUE GREENVILLE, S.C.

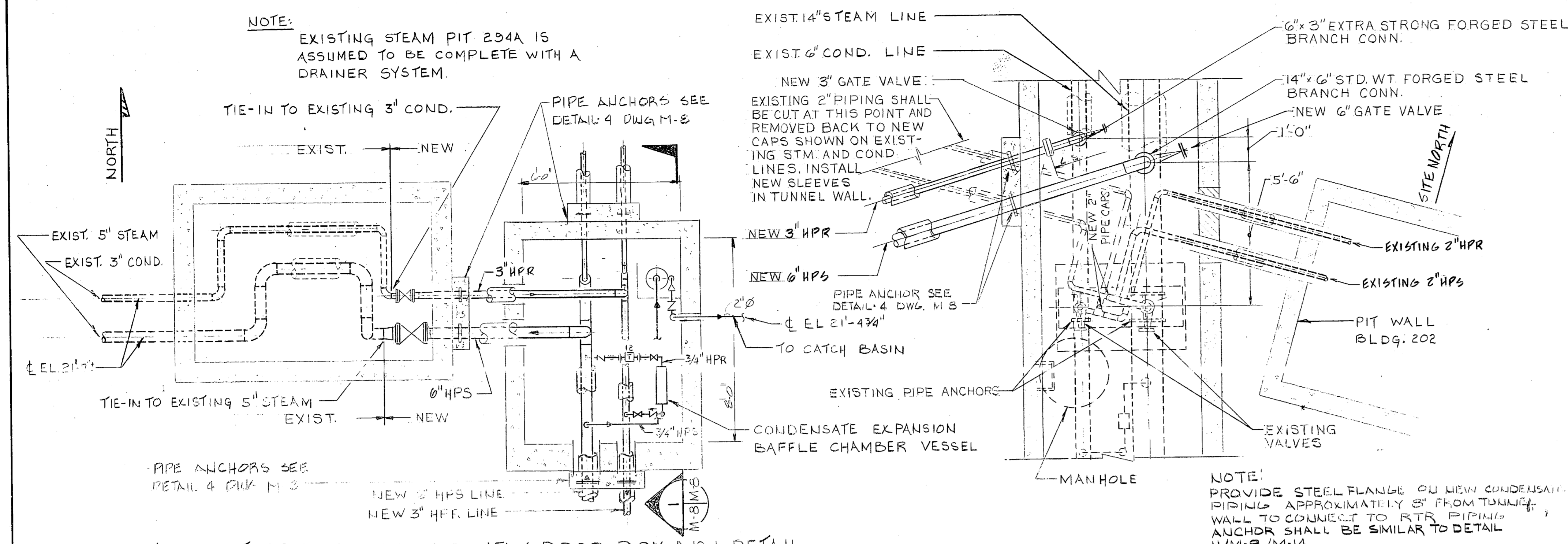
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
NAVAL STATION ATLANTIC DIVISION NORFOLK, VIRGINIA

DES. MAK DR. DC CHK. AW
PROJ. MGR. VC CIL. ENGR.
SUBMITTED BY DATE
SUPERVISOR M. D. 9-16-81
FIRM MEMBER
EFD. F.P. 11/27 RVD. 11/27
APPROVED BY DATE
DATE 8-21-1985

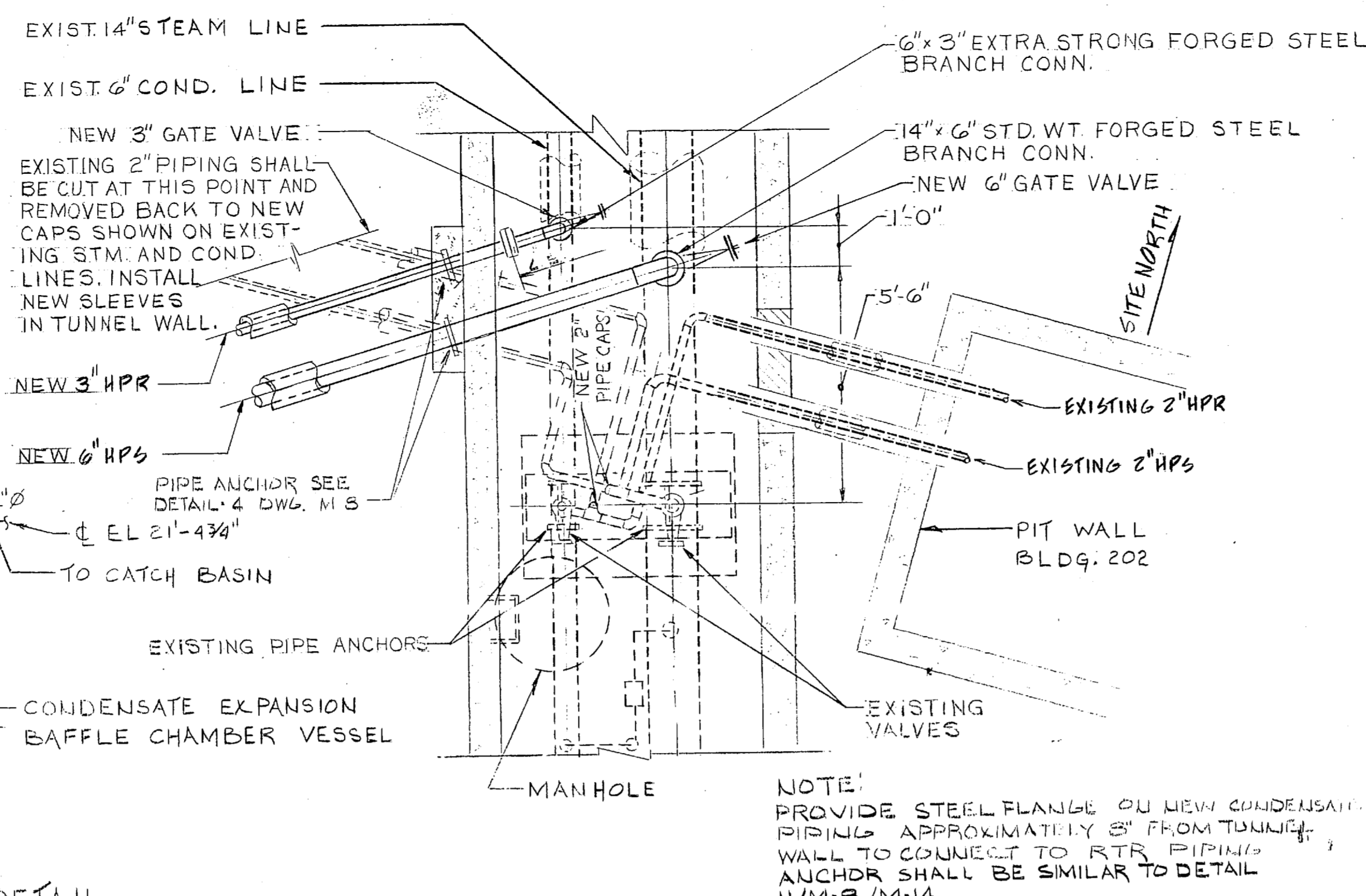
CAMP LEJEUNE MARINE CORPS BASE NORTH CAROLINA
UNACCOMPANIED ENLISTED PERSONNEL HOUSING
UTILITY DISTRIBUTION PLAN

SIZE CODE IDENT. NO. NAVFAC DRAWING NO.

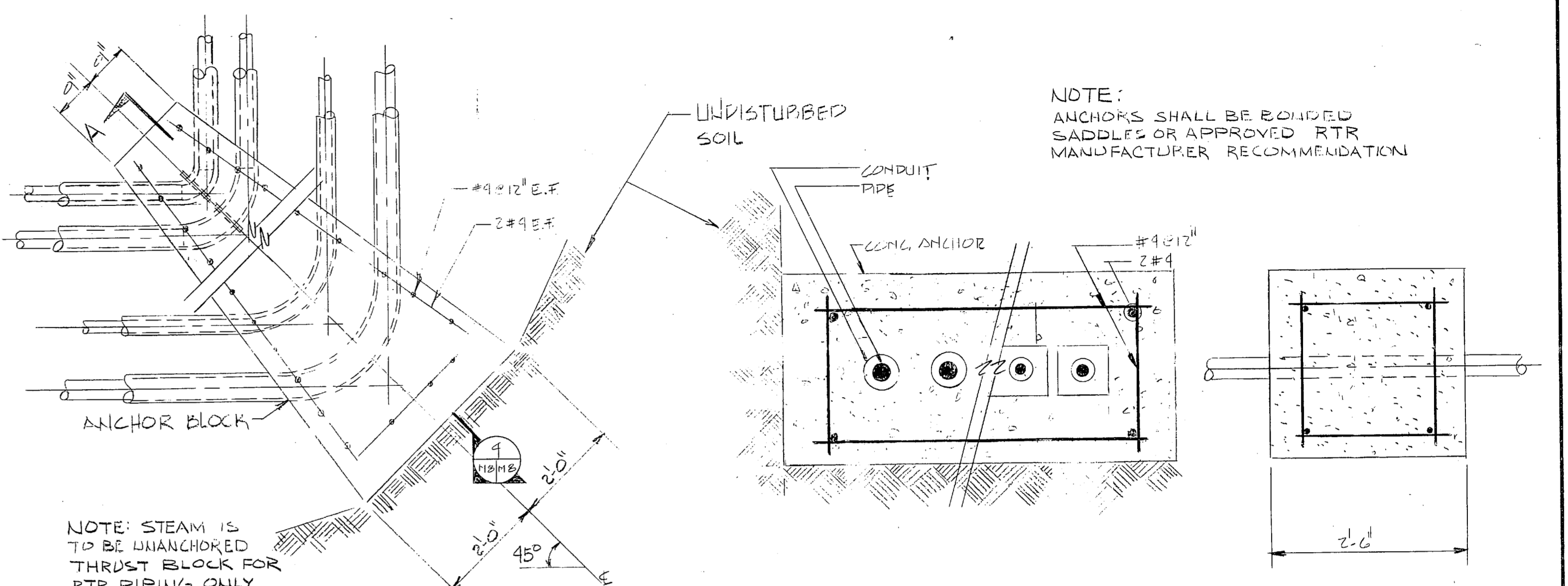
SYM	REVISIONS	DATE	APPROVED
①	REVISED AS-BUILT	9-23-80	AMH



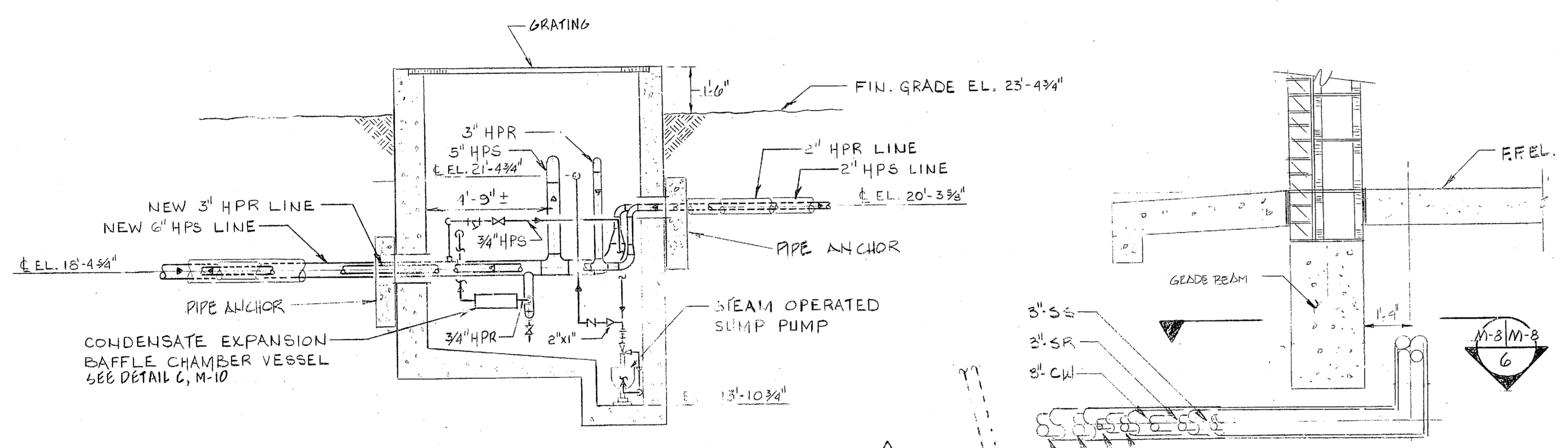
1 STEAM PIT 294A TIE-IN AND NEW DROP BOX No. 6 DETAIL
SCALE: 3/8" = 1'-0"



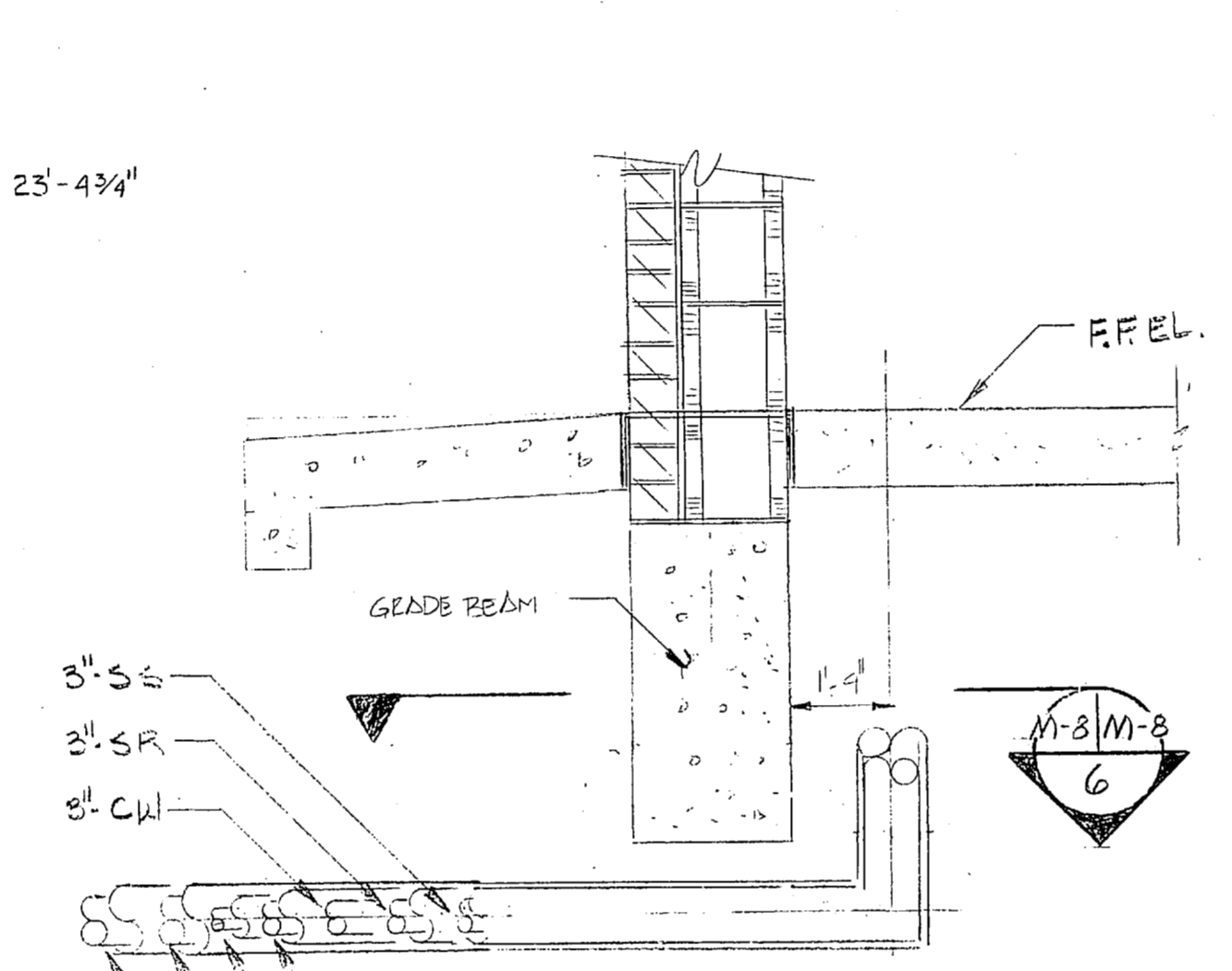
2 TUNNEL STATION S-24 TIE-IN DETAIL
SCALE: 3/8" = 1'-0"



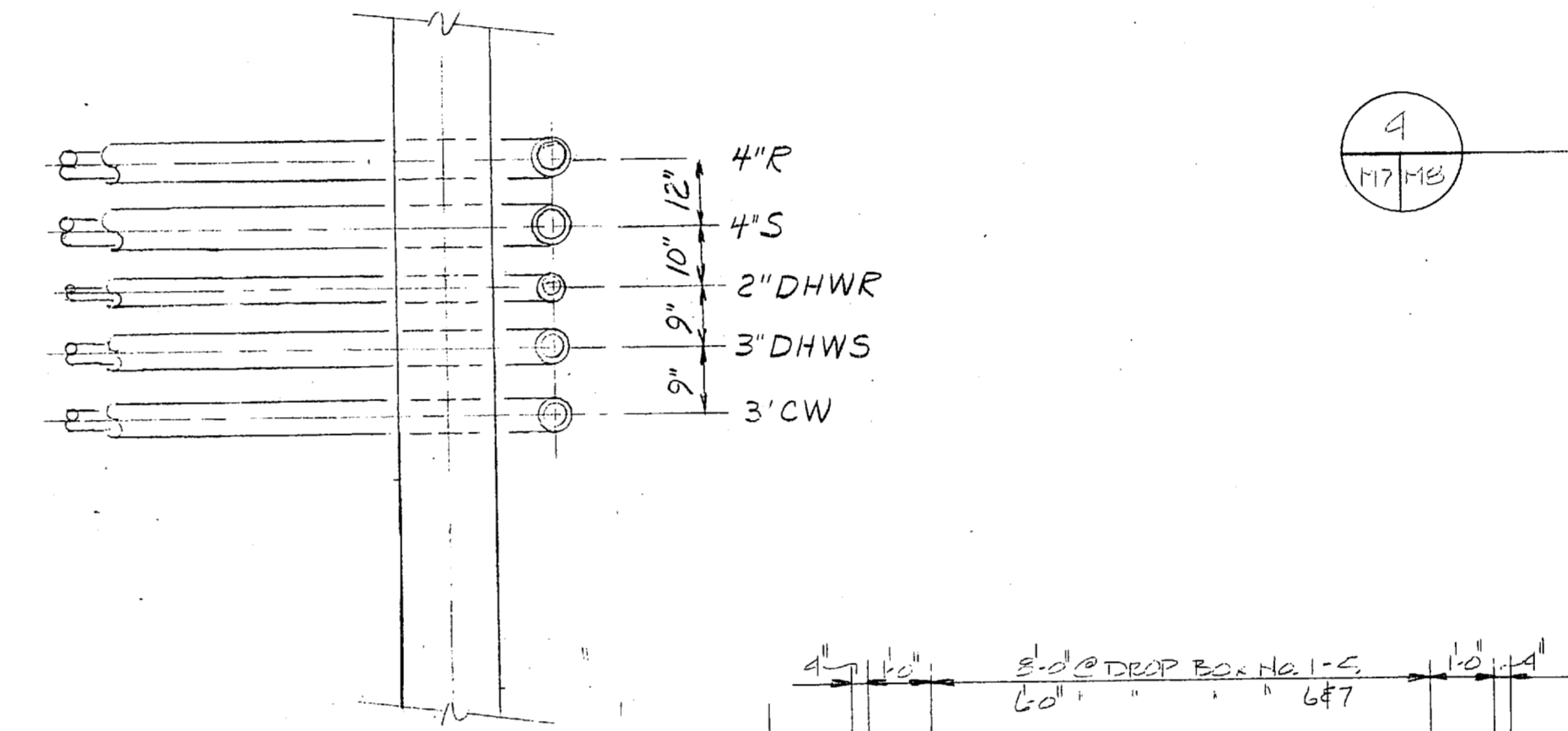
3 CORNER ANCHOR DETAIL
NO SCALE



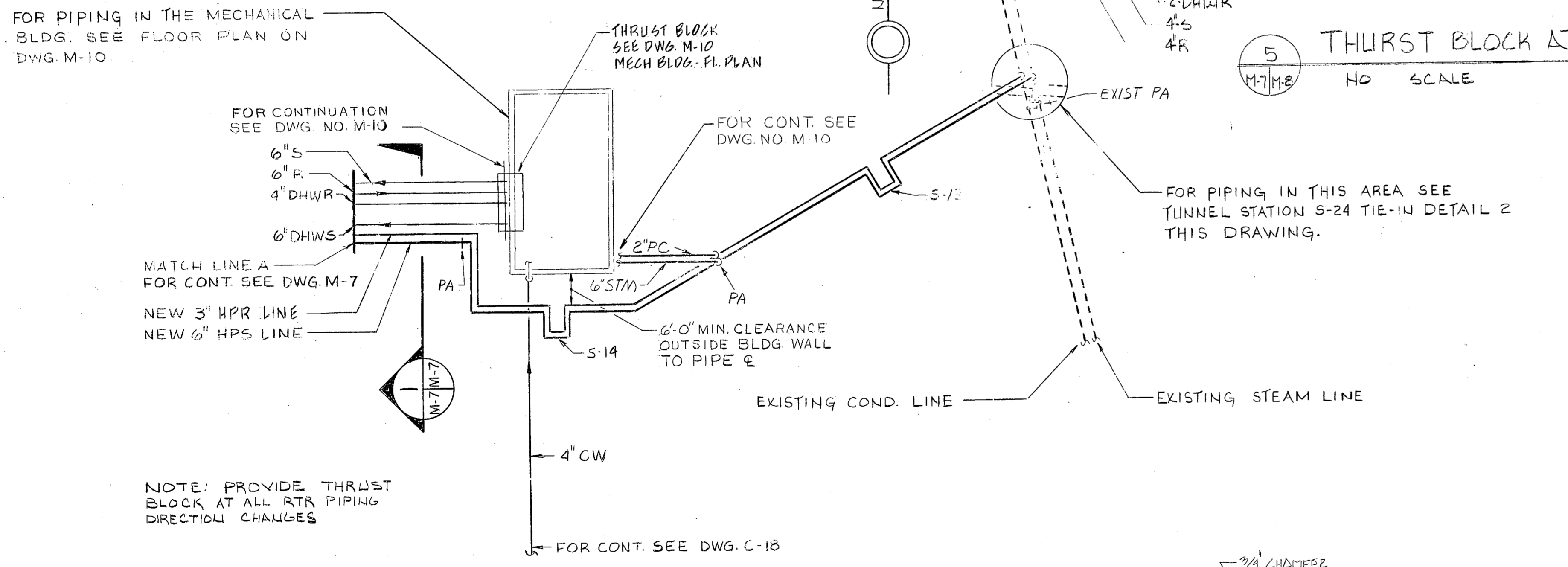
SECTION 1
SCALE: 3/8" = 1'-0"



5 THURST BLOCK AT BARRACKS
NO SCALE



SECTION 6
NO SCALE



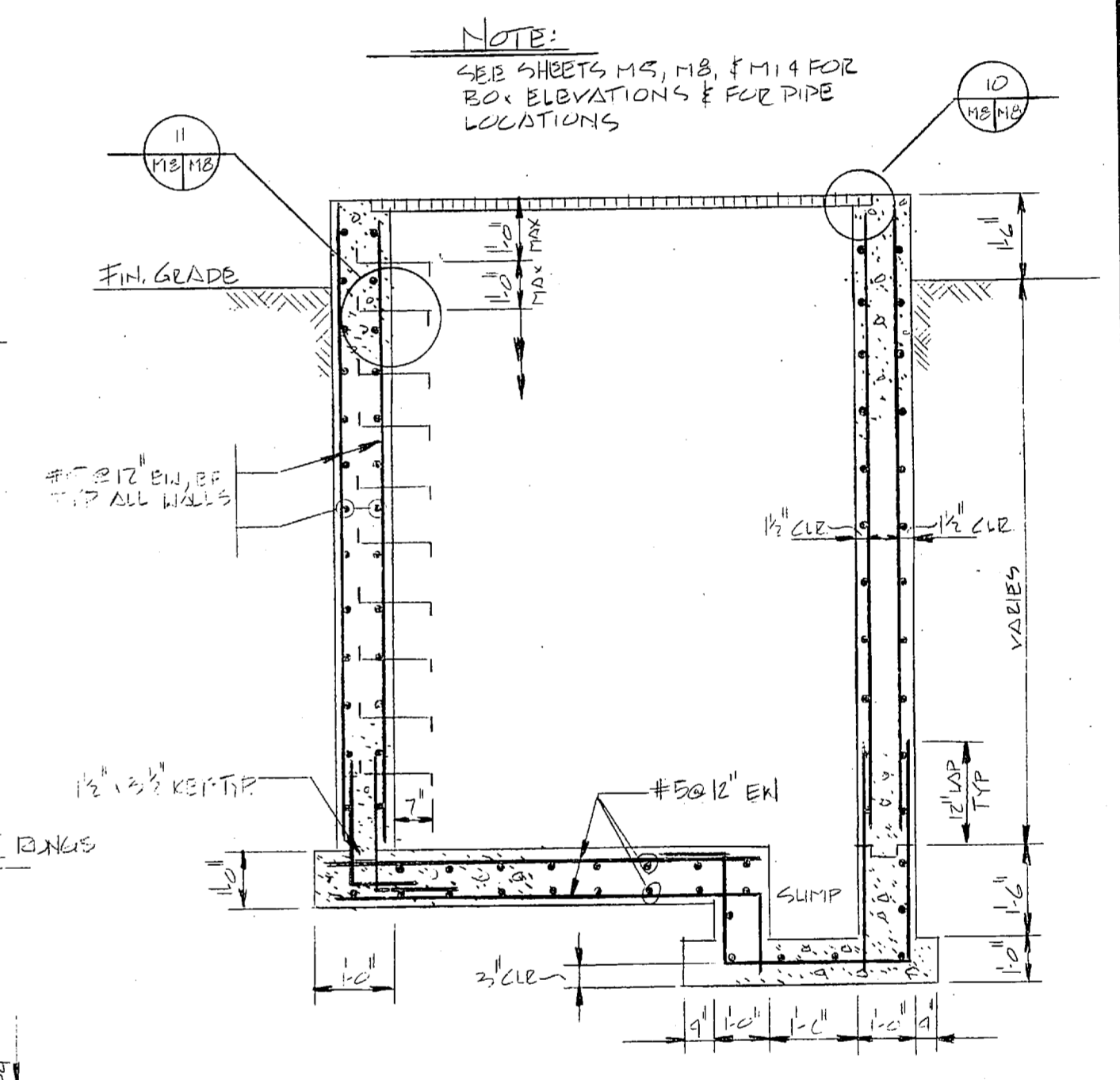
PARTIAL UTILITY DISTRIBUTION PLAN
MECHANICAL BLDG. AREA
SCALE: 1/8" = 1'-0"

NOTE: ANCHORS SHALL BE BOLTED SADDLES OR APPROVED RTR MANUFACTURER RECOMMENDATION

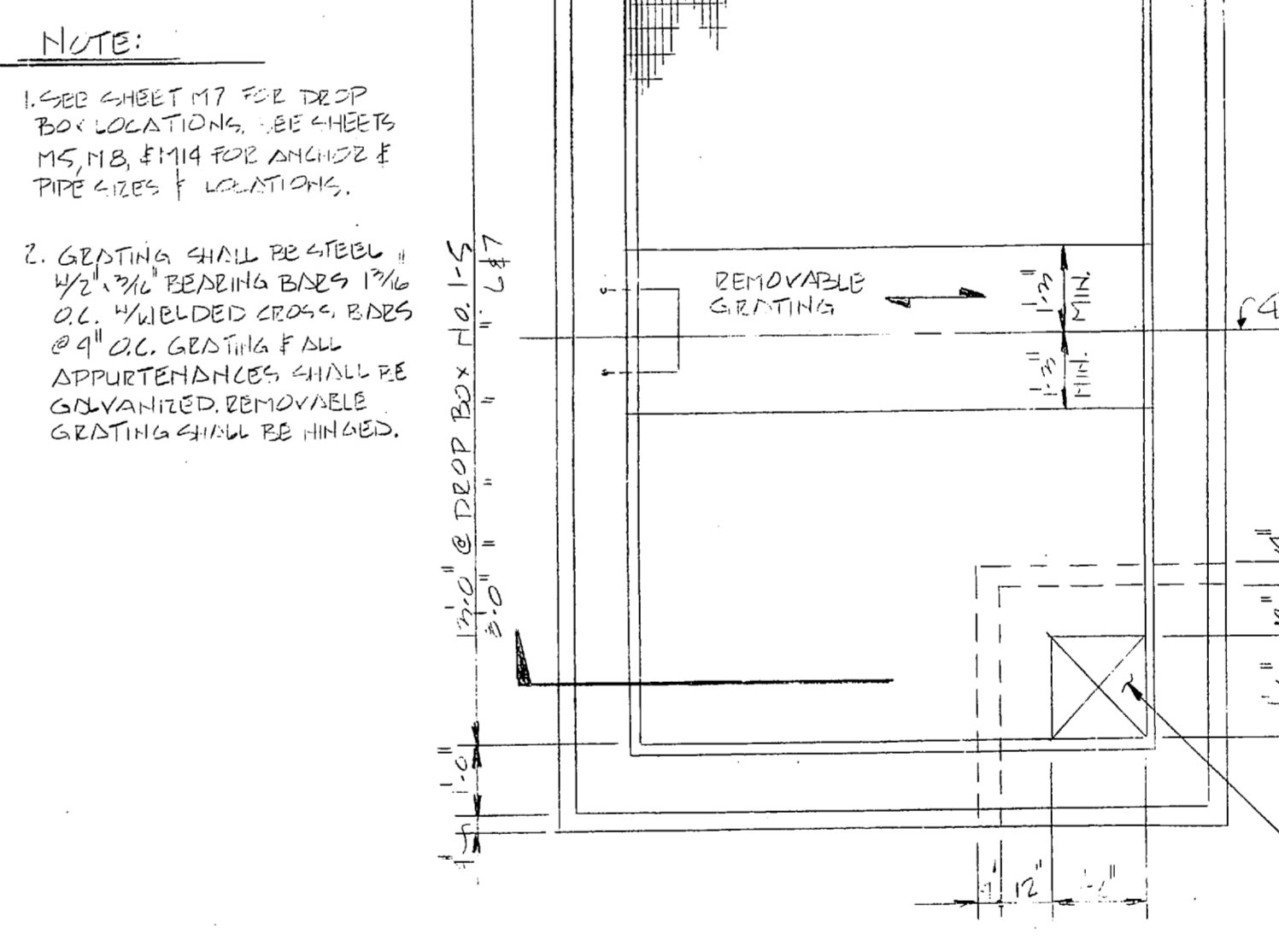
NOTE: STEAM IS TO BE UNANCHORED TO BE UNANCHORED THRUST BLOCK FOR RTR PIPING ONLY

NOTE: FOR PIPE RUNS AT DIFFERENT ELEVATIONS, DIMENSIONS OF CURVE SHALL BE CLEAR FROM MOST EXTREME COLLAR TO OTHER COLLAR USE 9\"/>

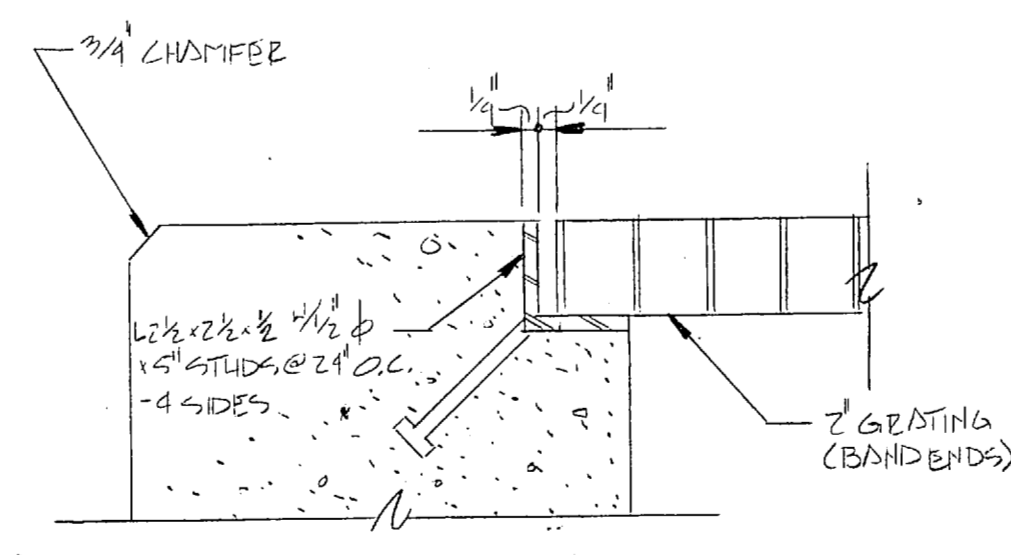
DETAIL - STRAIGHT RUN PIPE ANCHOR
NO SCALE



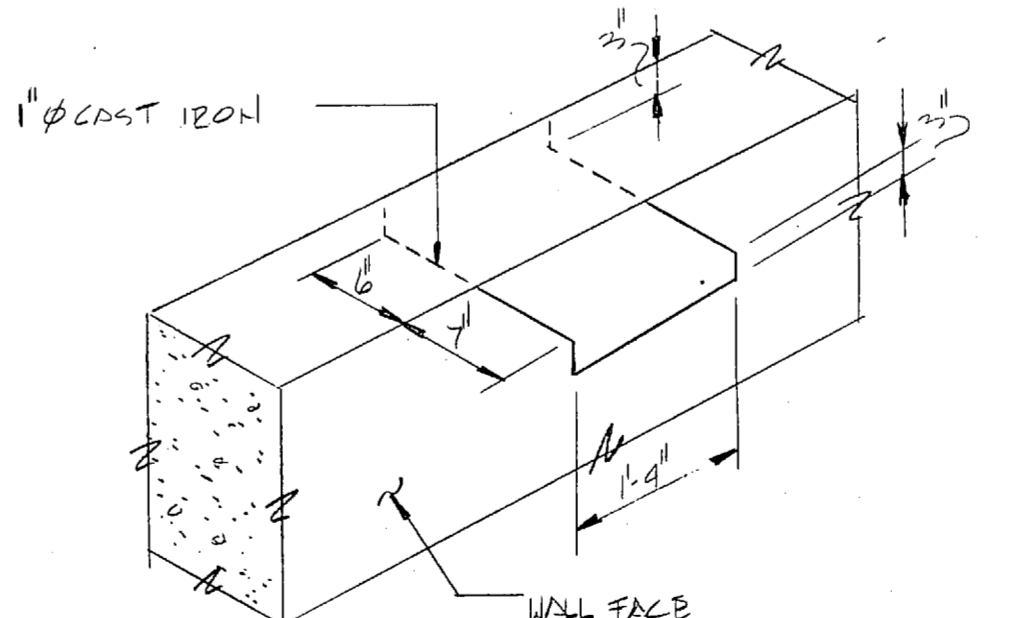
SECTION - DEEP BOX
NO SCALE



PLAN - DROP BOX
NO SCALE



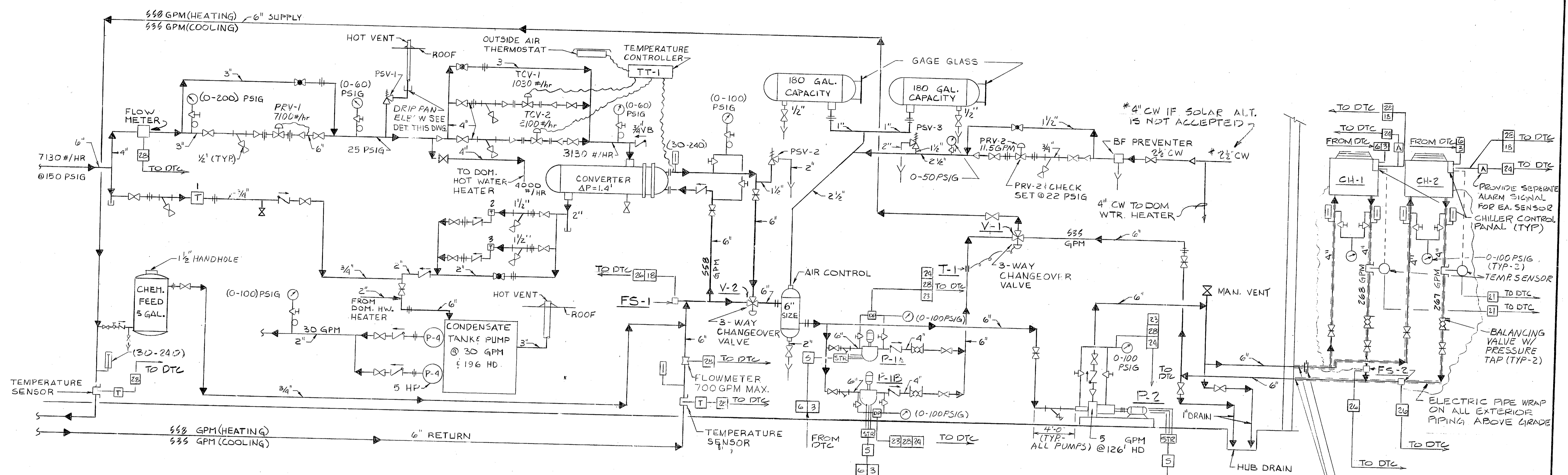
DETAIL - GRATING SUPPORT
NO SCALE



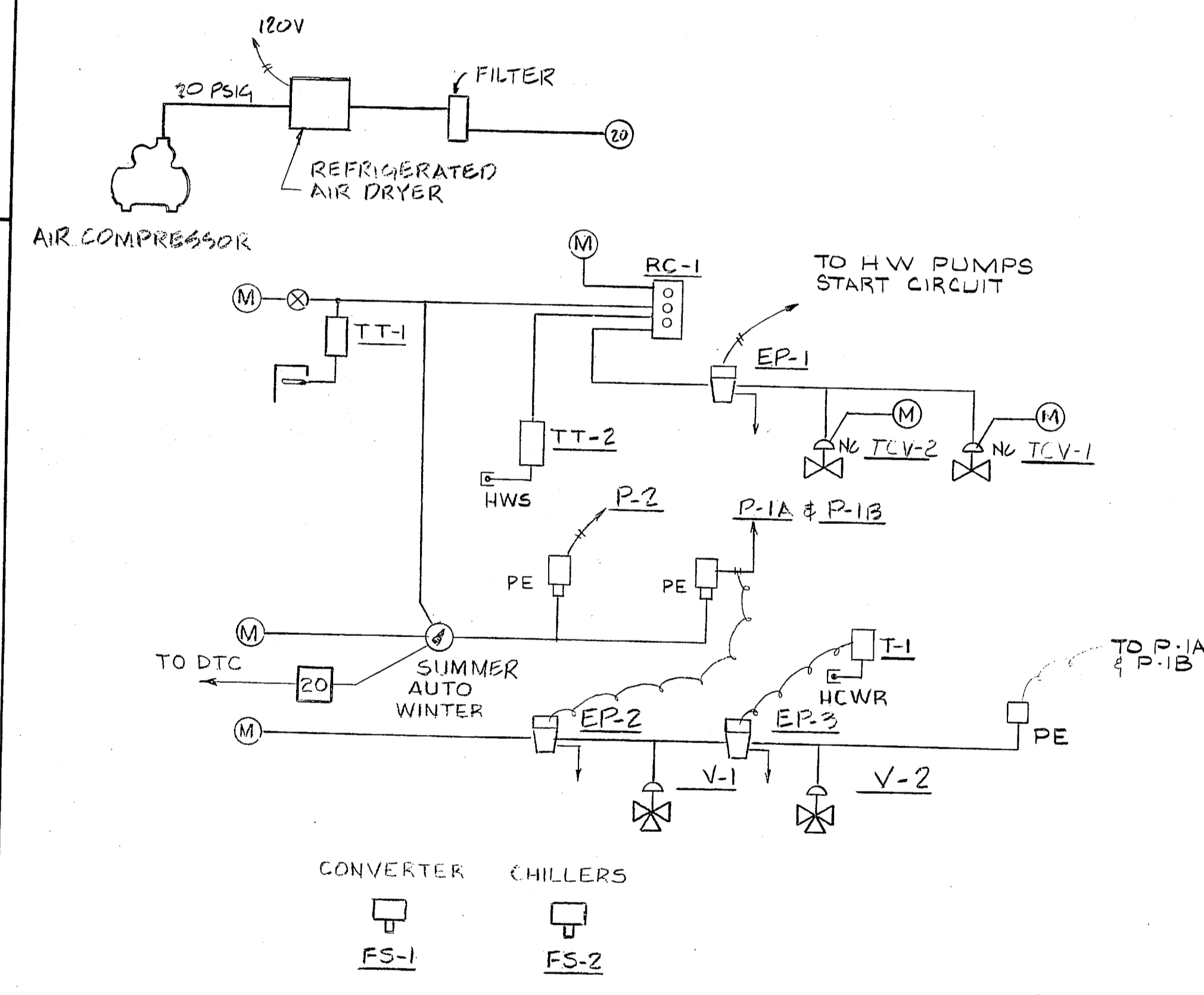
DETAIL - LADDER RUNGS
NO SCALE

RECORD DRAWING LETTER DATED AUG 22 1968		M-8	
DEPARTMENT OF THE NAVY PIEDMONT ENGINEERS ARCHITECTS PLANNERS 460 MARK AVE. GREENVILLE, S.C.		NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA	
DES. MAK DR. DC CHK. AW PROJ. MGR. V.C. CH. ENGR. SUBMITTED BY: George W.M. Dennis DATE: 9-16-81		CAMP LEJEUNE MARINE CORPS BASE NORTH CAROLINA UNACCOMPANIED ENLISTED PERSONNEL HOUSING	
FIRM MEMBER ED. F.P. TORREY RVD. 10/2/81		STEAM DISTRIBUTION DETAILS	
APPROVED: [Signature] DATE: 10/2/81 OFFICER IN CHARGE		SIZE: F	CODE IDENT. NO.: 80091
APPROVED: [Signature] DATE: 10/2/81 FOR EPD FOR COMMANDER, NAVFAC		NAVFAC DRAWING NO.: 4075526	CONSTR. CONTR. NO. N62470-80-B-0102
		SCALE: AS SHOWN SPEC. 05-80-0102	SHEET 67 OF 94
		EPD. DWG. NO. 175526	

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED
(A)	REVISED AS-BUILT	1-23-81	6/MS

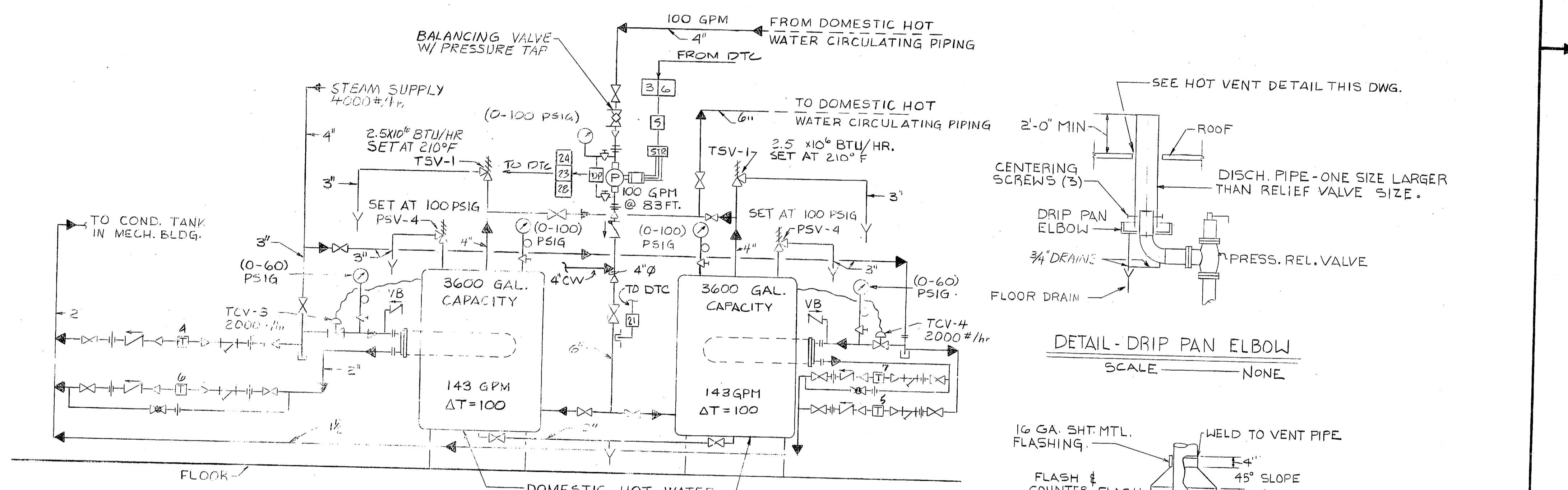


PIPING & CONTROL SCHEMATIC FOR CHILLED/HOT WATER SYSTEMS
SCALE NONE

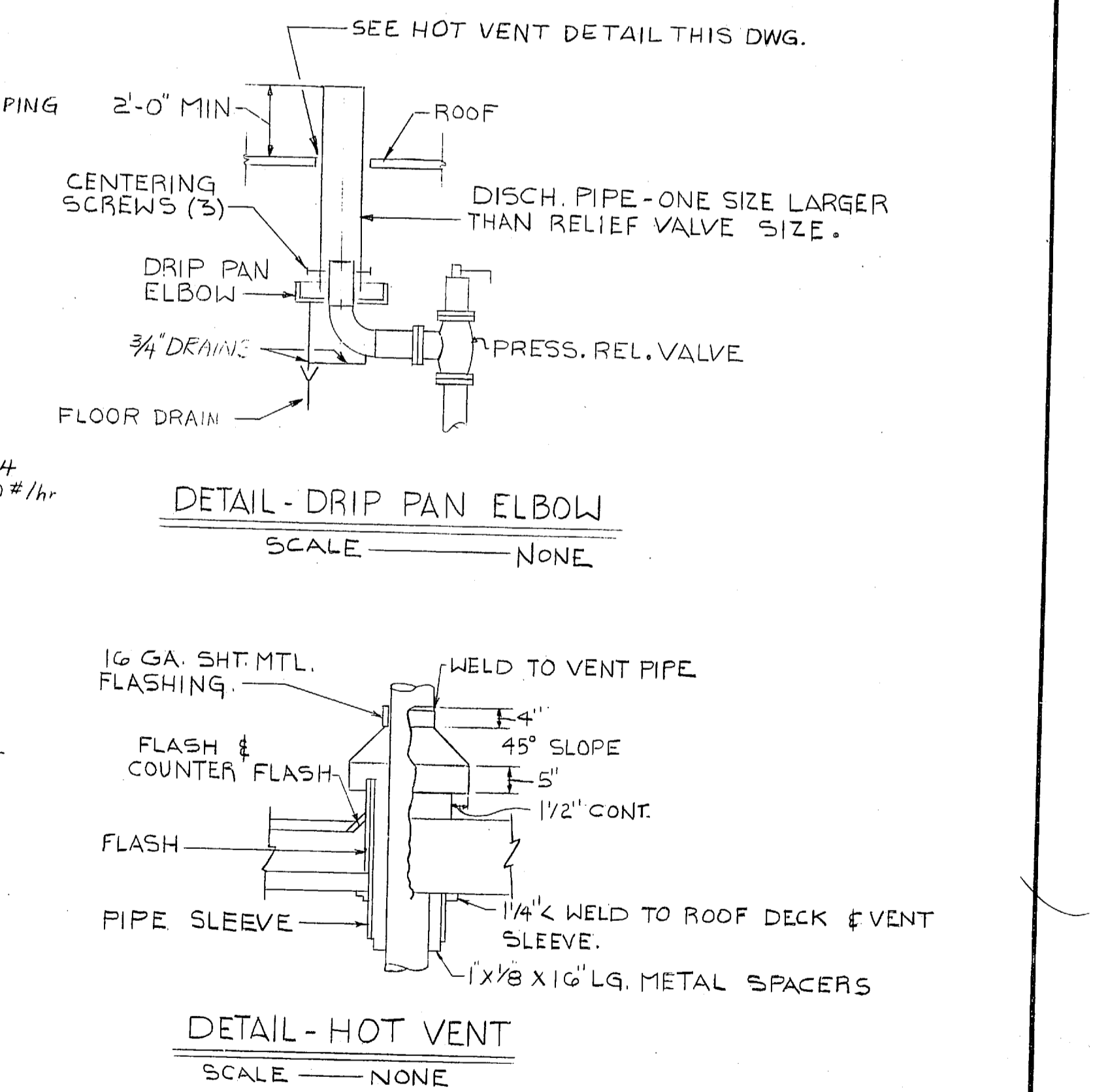


MECHANICAL ROOM CONTROL DIAGRAM AND INSTRUMENT AIR SYSTEM

HW REHEAT SCHEDULE
 OA = 23°F OA = 65°F
 HW = 115°F HW = 90°F



TYPICAL DOMESTIC HOT WATER STORAGE HEATER PIPING
SCALE NONE

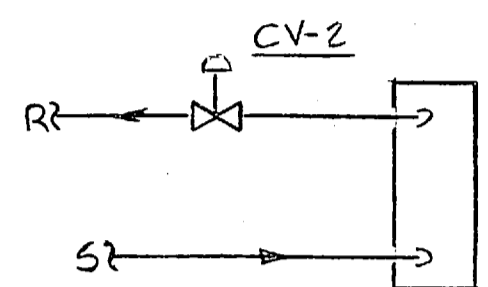


NOTE:
 1. FOR CONTROL LEGEND SEE SHEET M-9A
 2. SEE SHEET M-6 FOR STEAM TRAP SCHEDULE.

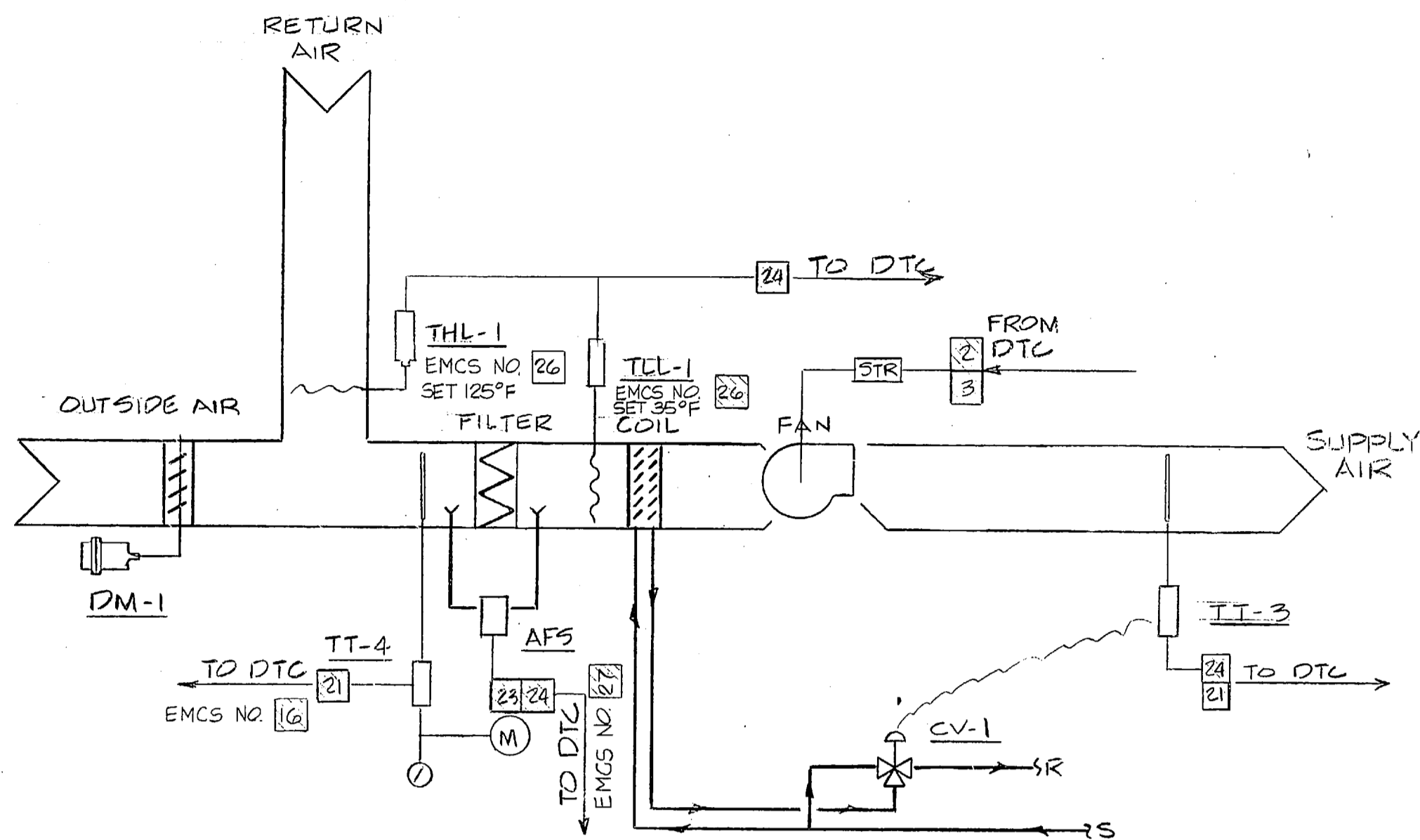
RECORD DRAWING LETTER DATED AUG 22 1986		M-9	
PIEDMONT ENGINEERS ARCHITECTS PLANNERS 402 PARK AVE. GREENVILLE, S.C.		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA	
DES. GWS	DR. DJA	CHK. AW	
PROJ. MGR. VC	CH. ENGR.	DATE	
SUBMITTED BY	DATE	9-16-81	
FIRM MEMBER	PRINCIPAL		
PRO. FOR. 30000	RVD. 3126		
APPROVED	DIR.	DATE	
OFFICER IN CHARGE	DATE		
APPROVED	DATE		
UNACCOMPANIED ENLISTED PERSONNEL HOUSING HEATING & COOLING P&ID		SIZE	CODE IDENT. NO.
		F	80091
		NAVFAC DRAWING NO. 4075527	
		CONSTR. CONTR. NO. N62470-80-B-0102	



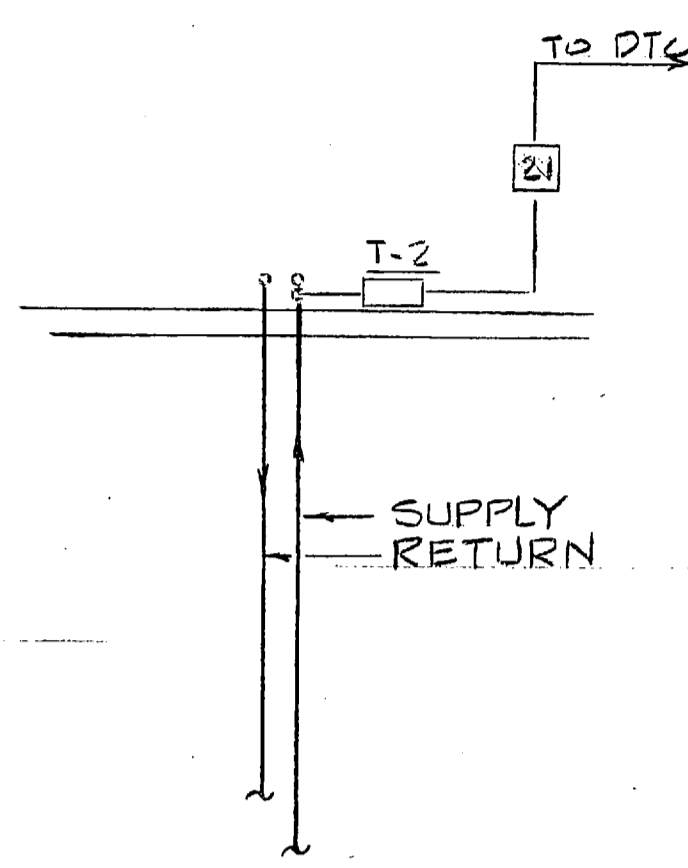
REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED
(A)	REVISED AS-BUILT	9-29-84	[Signature]



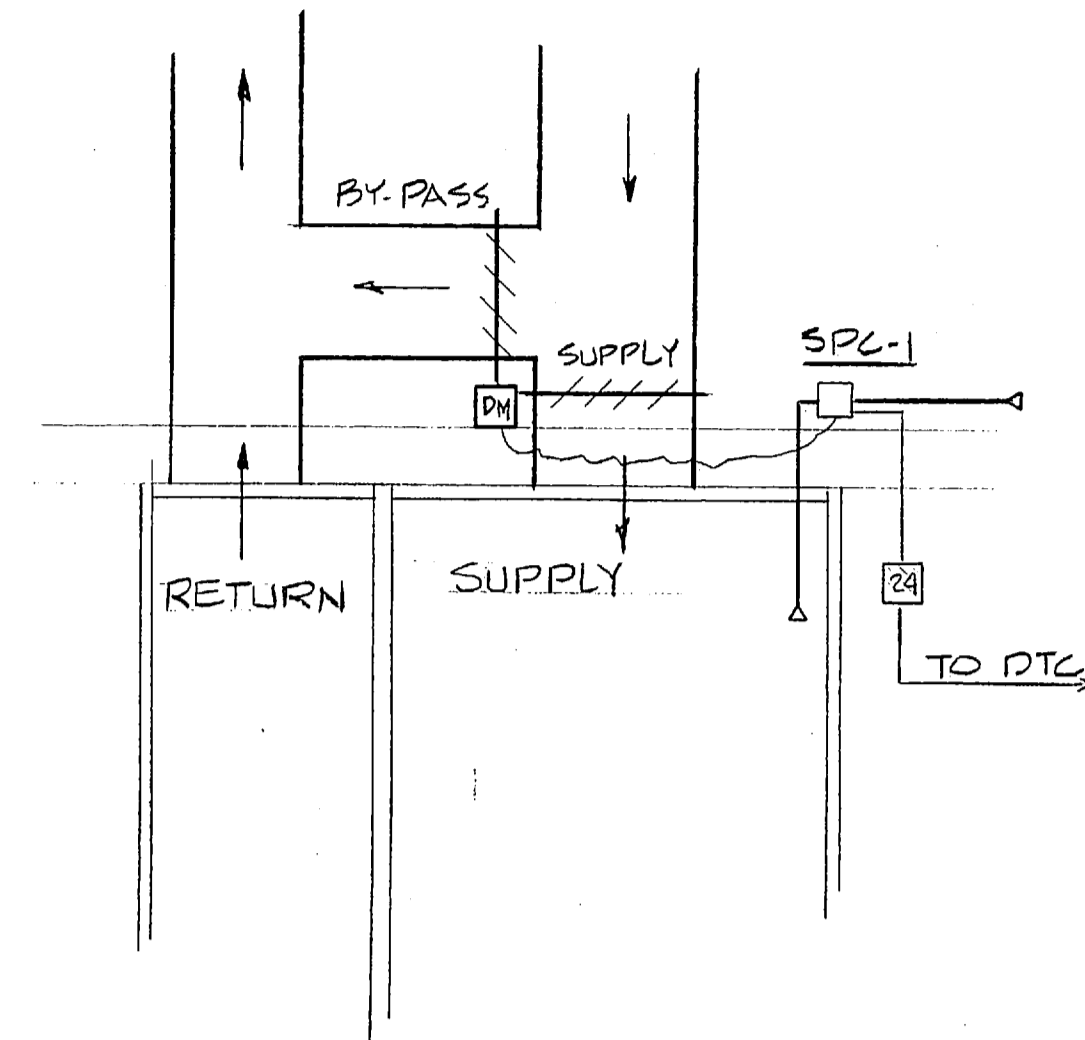
UNIT HEATER SCHEMATIC



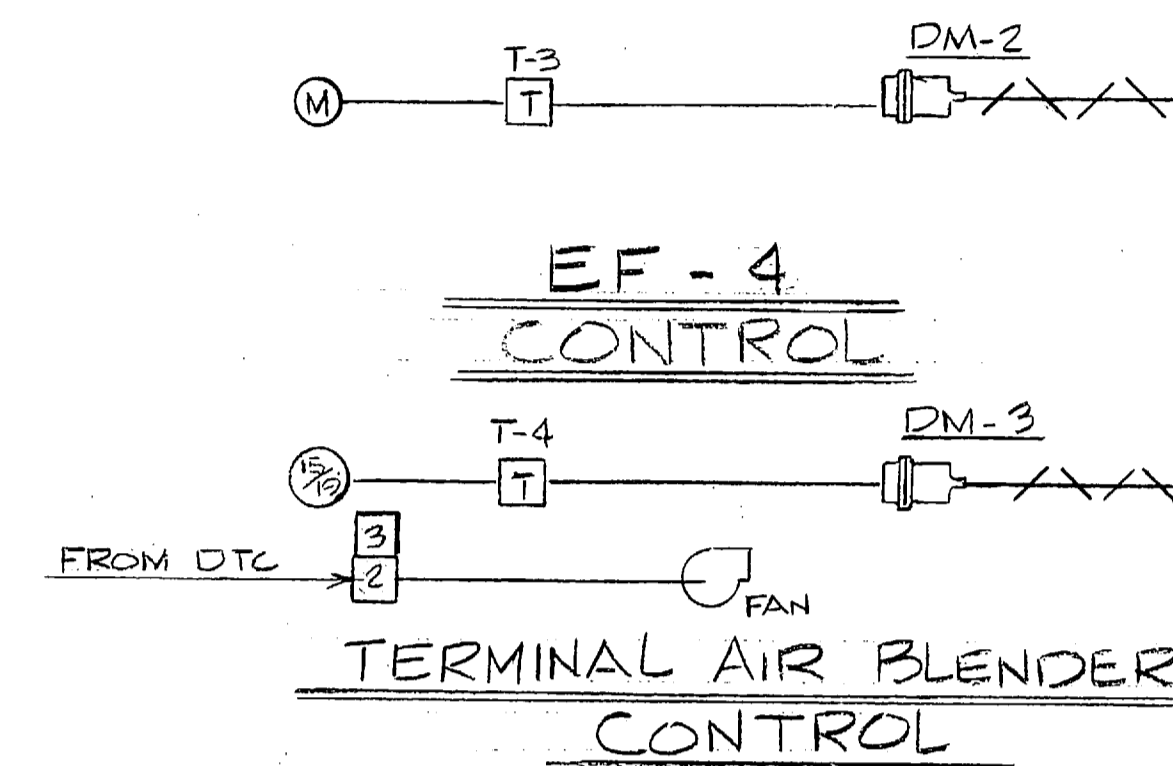
AHU SCHEMATIC



SCHEMATIC OF PIPE INTO BARRACKS

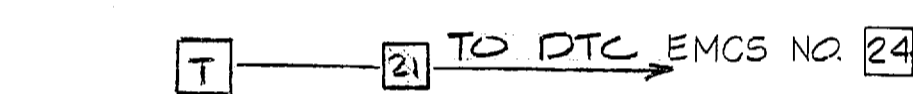


PLENUM PRESSURE SCHEMATIC

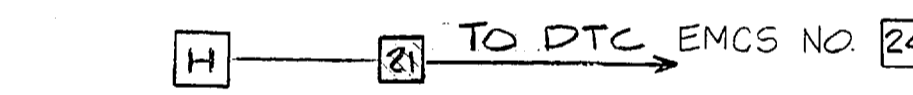


TERMINAL AIR BLENDER CONTROL

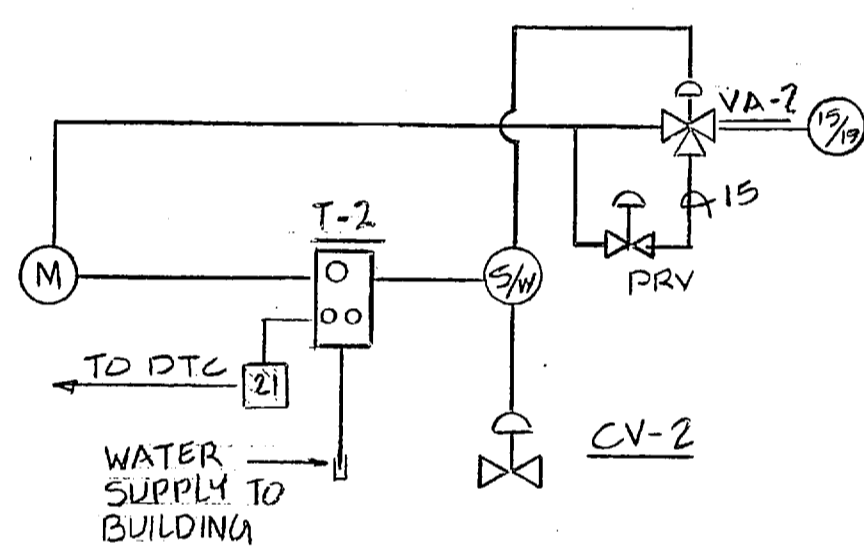
FAN COIL UNIT CONTROL



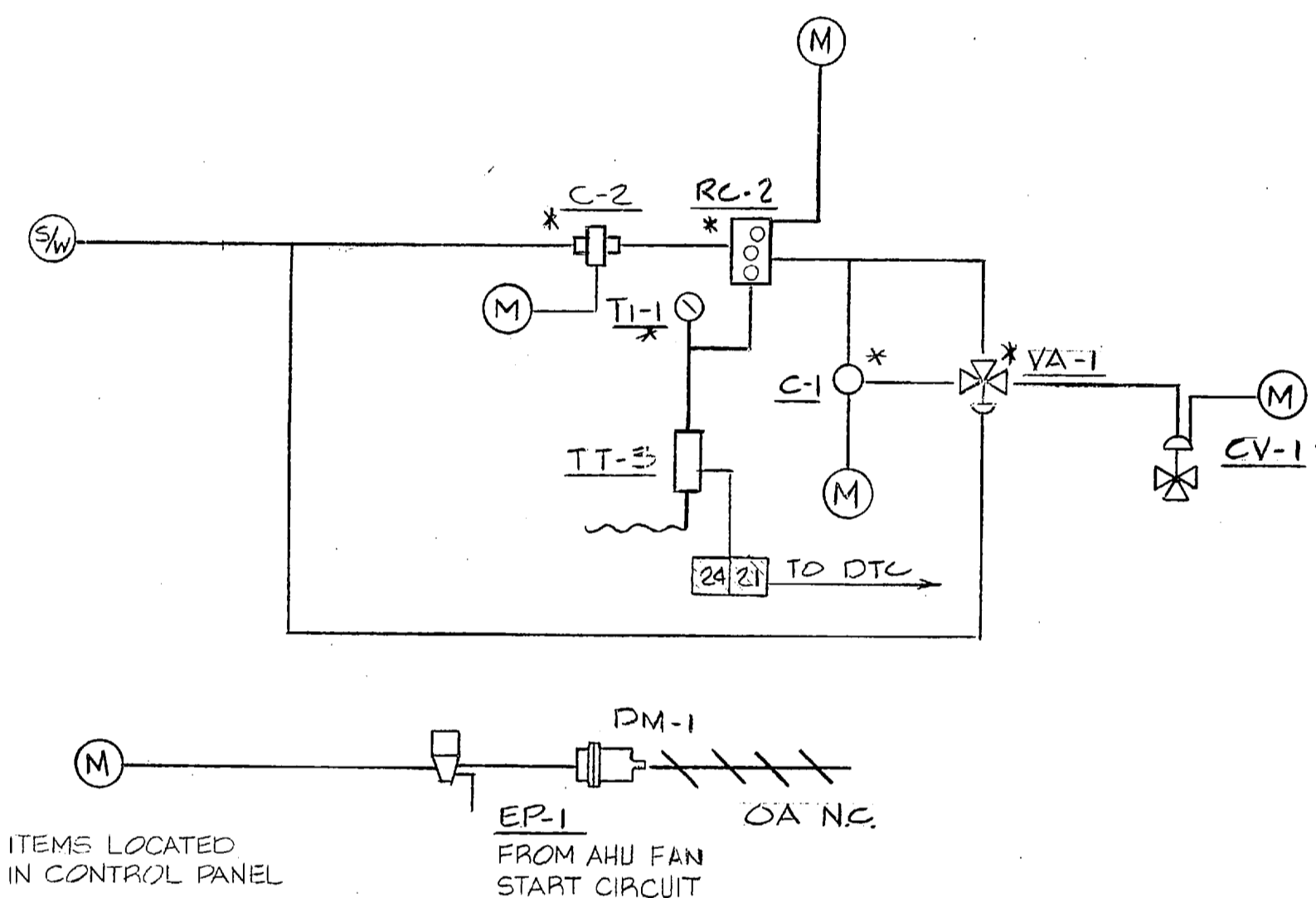
REMOTE TEMPERATURE ELEMENT
(TYP FOR 24)



REMOTE HUMIDITY ELEMENT
(TYP FOR 24)



BARRACK CHANGE OVER CONTROL



AIR HANDLING UNIT CONTROL

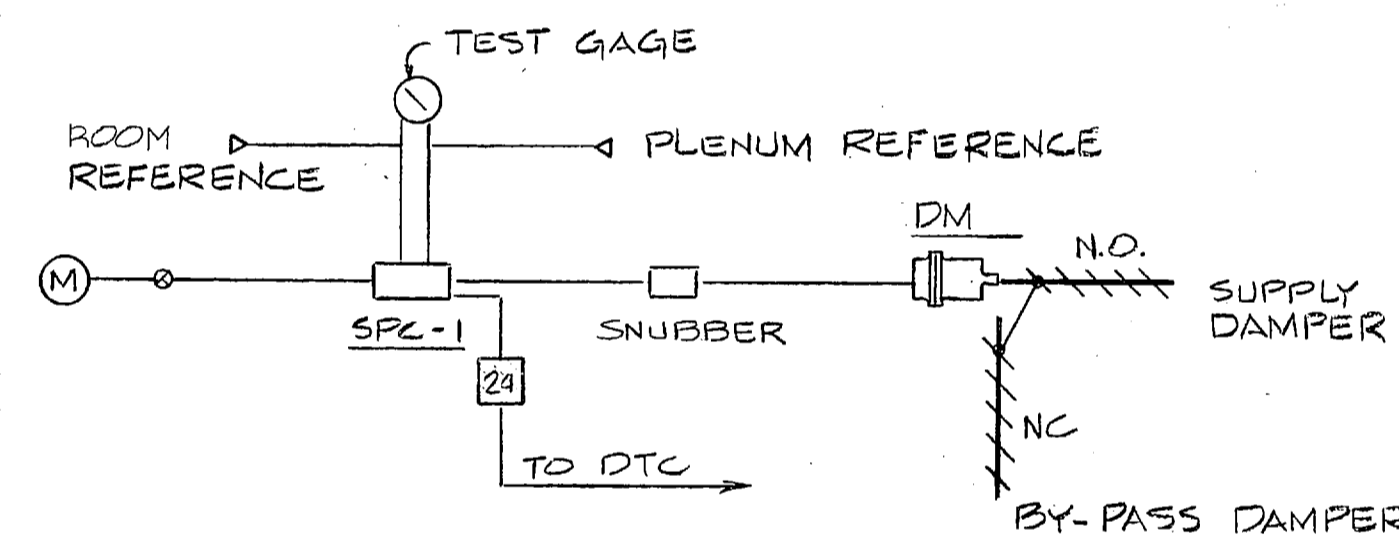
(TYP FOR 24, 6 PER BLDG.)

* ITEMS LOCATED IN CONTROL PANEL

EMCS FUNCTION TABLE		
EQUIPMENT UTILIZATION DURING OPERATION	TIME SCHEDULE OPERATION	1
	DUTY CYCLE	2
	DEMAND LIMITING	3
	START/STOP	4
OA CONTROL	GENERATOR OPERATION	5
	CHILLED WATER RESET	6
	QA TEMP CUTOFF	7
	WARM UP/NIGHT CYCLE	8
	ENTHALPY ECONOMIZER	9
	SPACE NIGHT SETBACK	10
	HOT/COLD DECK RESET	11
TEMP RESET	COLD DECK TEMP RESET	12
	CHILLED WATER RESET	13
	CONDENSER WATER RESET	14
	QA SCHEDULE RESET	15
CENTRAL PLANT OPTIMIZATION	START/STOP OPTIMIZATION	16
	BOILER PROFILE & SELECT	17
	CHILLER PROFILE & SELECT	18
MONITORING	PUMP SUCTION	19
	SUMMER WINTER CHANGE OVER	20
	ANALOG INPUTS	21
	FIRE ALARM FUNCTIONS	22
	MAINT. RUN TIME REPORTS	23
	TRUBLE DIAGNOSIS	24
	CRITICAL AREAS ALARMS	25
	SAFETY ALARMS	26
	DIRTY FILTER	27
	METERING	28

NOTE: BLOCKED NUMBERS, IE [2] INDICATE EMCS FUNCTION NUMBERS AS SHOWN IN TABLE

- [] INDICATE EMCS FUNCTIONS IN USEPH
- [] INDICATE EMCS FUNCTIONS IN MECH. BUILDING
- [] TEMPERATURE ELEMENT
- [] HUMIDITY ELEMENT



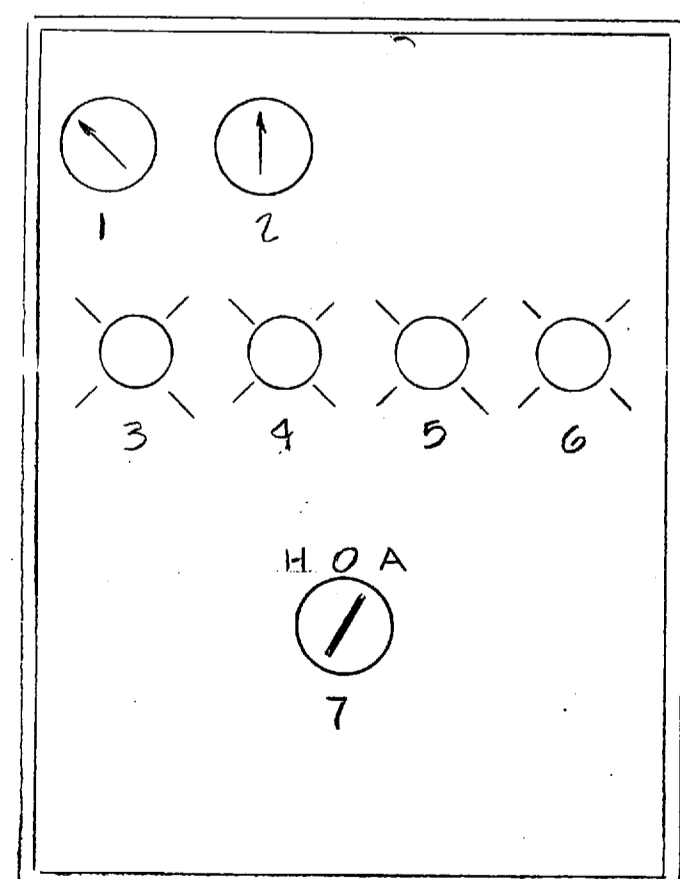
PLENUM PRESSURE CONTROL

BUILDING NO 205, 225, 235, 245	I/O SCHEDULE							
	HARDWARE				SOFTWARE			
	OUTPUT	INPUT		ALARMS	APPLICATION PROGRAMS			
SYSTEM:	DIGITAL	ANALOG	DIGITAL	ANALOG	DIGITAL	ANALOG	DIGITAL	ANALOG
AIR HANDLING UNIT (6 PER BUILDING)	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
QUANTITY REQUIRED	1	1	1	1	1	1	1	1
POINT DESCRIPTION	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
AHU FAN MOTOR	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
FAN DIFFERENTIAL PRESS	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
CHILLED WATER PUMP	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
CH PUMP DIFFERENTIAL PRESS	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
HOT WATER PUMPS (A & B)	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
HL PUMP A DIFF PRESSURE	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
HL PUMP B DIFF PRESSURE	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
HL PUMP DIFF PRESSURE	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
ELECTRICAL IN	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
RETURN WATER TEMPERATURE	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
SUPPLY WATER TEMPERATURE	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
RETURN WATER FLOW	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
DOMESTIC HOT WATER PUMP	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
DOMESTIC H.W. PUMP DIFF PRESS	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
CH FLOW SWITCH (CHILLER 1)	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
CH FLOW SWITCH (CHILLER 2)	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
OUTSIDE AIR	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
* TO ROOMS EACH FLOOR								

BUILDING NO MECHANICAL EQUIPMENT BUILDING 210	I/O SCHEDULE							
	HARDWARE				SOFTWARE			
	OUTPUT	INPUT		ALARMS	APPLICATION PROGRAMS			
SYSTEM:	DIGITAL	ANALOG	DIGITAL	ANALOG	DIGITAL	ANALOG	DIGITAL	ANALOG
CHILLED WATER PUMP	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
CH PUMP DIFFERENTIAL PRESS	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
HOT WATER PUMPS (A & B)	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
HL PUMP A DIFF PRESSURE	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
HL PUMP B DIFF PRESSURE	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
HL PUMP DIFF PRESSURE	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
ELECTRICAL IN	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
RETURN WATER TEMPERATURE	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
SUPPLY WATER TEMPERATURE	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
RETURN WATER FLOW	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
DOMESTIC HOT WATER PUMP	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
DOMESTIC H.W. PUMP DIFF PRESS	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
CH FLOW SWITCH (CHILLER 1)	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
CH FLOW SWITCH (CHILLER 2)	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)
OUTSIDE AIR	CONTROL RELAY	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)	TEMPERATURE (T)

CONTROL LEGEND

- TT-1 OUTSIDE AIR TRANSMITTER
- TT-2 HOT WATER TRANSMITTER
- RC-1 HOT WATER TEMP CONTROLLER
- EP-1 SUMMER/WINTER CHANGE OVER
- EP-2 SUMMER/WINTER CHANGE OVER EP
- EP-3 HOT WATER RETURN LOCK OUT
- T-1 HOT WATER HIGH TEMP THERMOSTAT
- T-2 BARRACK RESET THERMOSTAT
- FS-1 CONVERTER FLOW SWITCH
- FS-2 CHILLER FLOW SWITCH
- RC-2 AHU DISCHARGE AIR CONTROLLER
- C-1 REVERSING RELAY
- C-2 DISCH AIR SUB-MASTER SET POINT LIMITER
- TT-4 MIXED AIR TRANSMITTER
- SPL-1 STATIC PRESSURE CONTROLLER
- DM DAMPER MOTOR
- T THERMOSTAT
- TI-1 TEMPERATURE INDICATOR
- THL TEMP HIGH LIMIT
- TLL TEMP LOW LIMIT
- AFS AIR FLOW SWITCH
- TI-3 DISCHARGE AIR TEMP SENSOR & TEMP HIGH LIMIT
- VA-1#2 3-WAY SWITCHING AIR VALVE
- V-1#2 CHANGE OVER CONTROL VALVE
- TCV-1#2 HW CONVERTER CONTROL VALVE
- TCV-3#4 HW HEATER CONTROL VALVE
- CV-1 3-WAY CONTROL VALVE @ AHU'S
- CV-2 CONTROL VALVE @ UNIT HEATERS
- CV-3 CONTROL VALVE @ FAN COIL UNITS
- PRV PRESSURE REDUCING VALVE
- (M) MAIN AIR 20 PSIG



EXTERIOR PANEL LAYOUT

ONE REQUIRED @ EACH AHU

RECORD DRAWING
LETTER DATED AUG 22 1985

PIEDMONT
ENGINEERING ARCHITECTS PLANNERS
290 PARK AVE., GREENVILLE, S.C.

M-9A

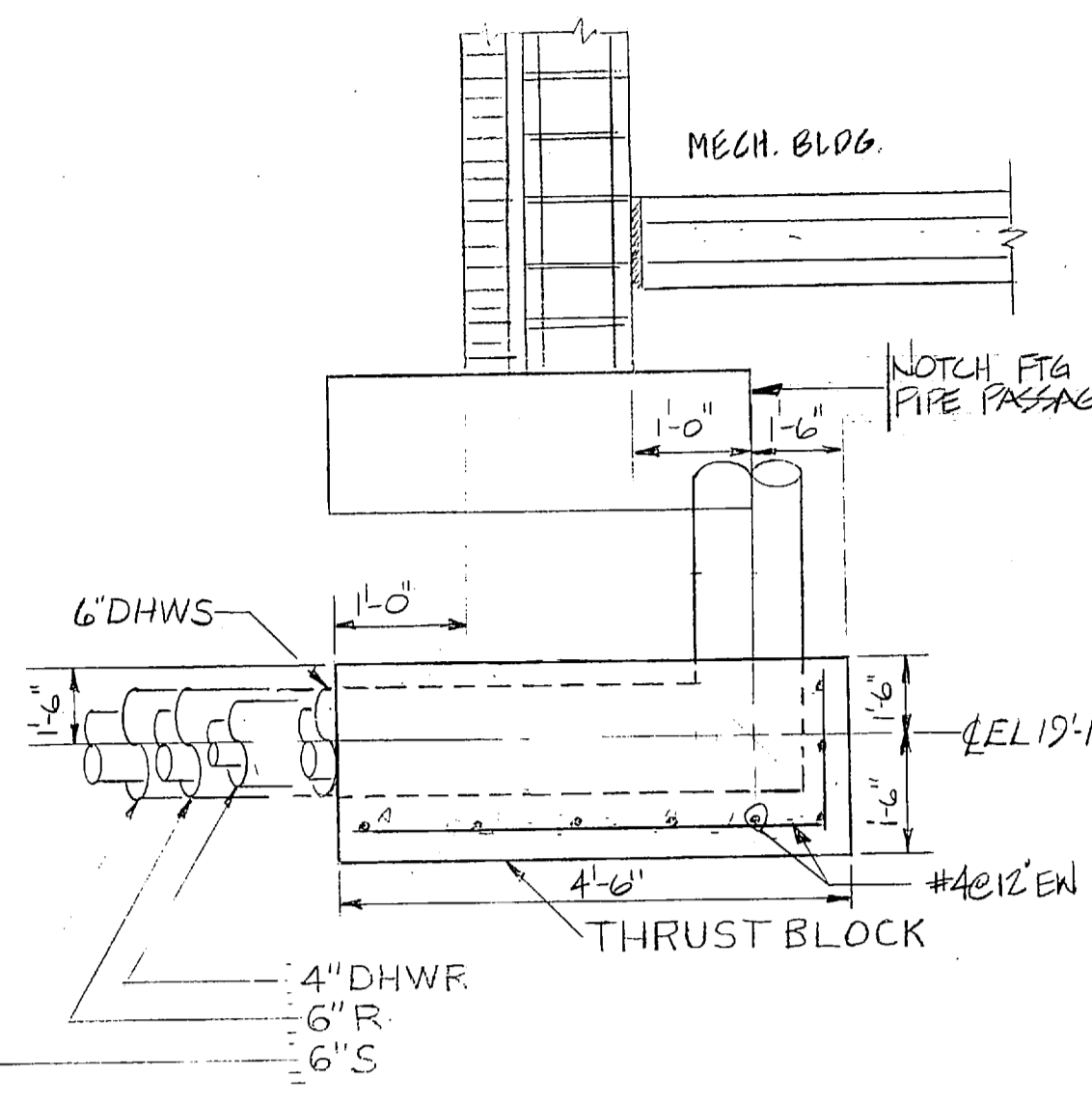
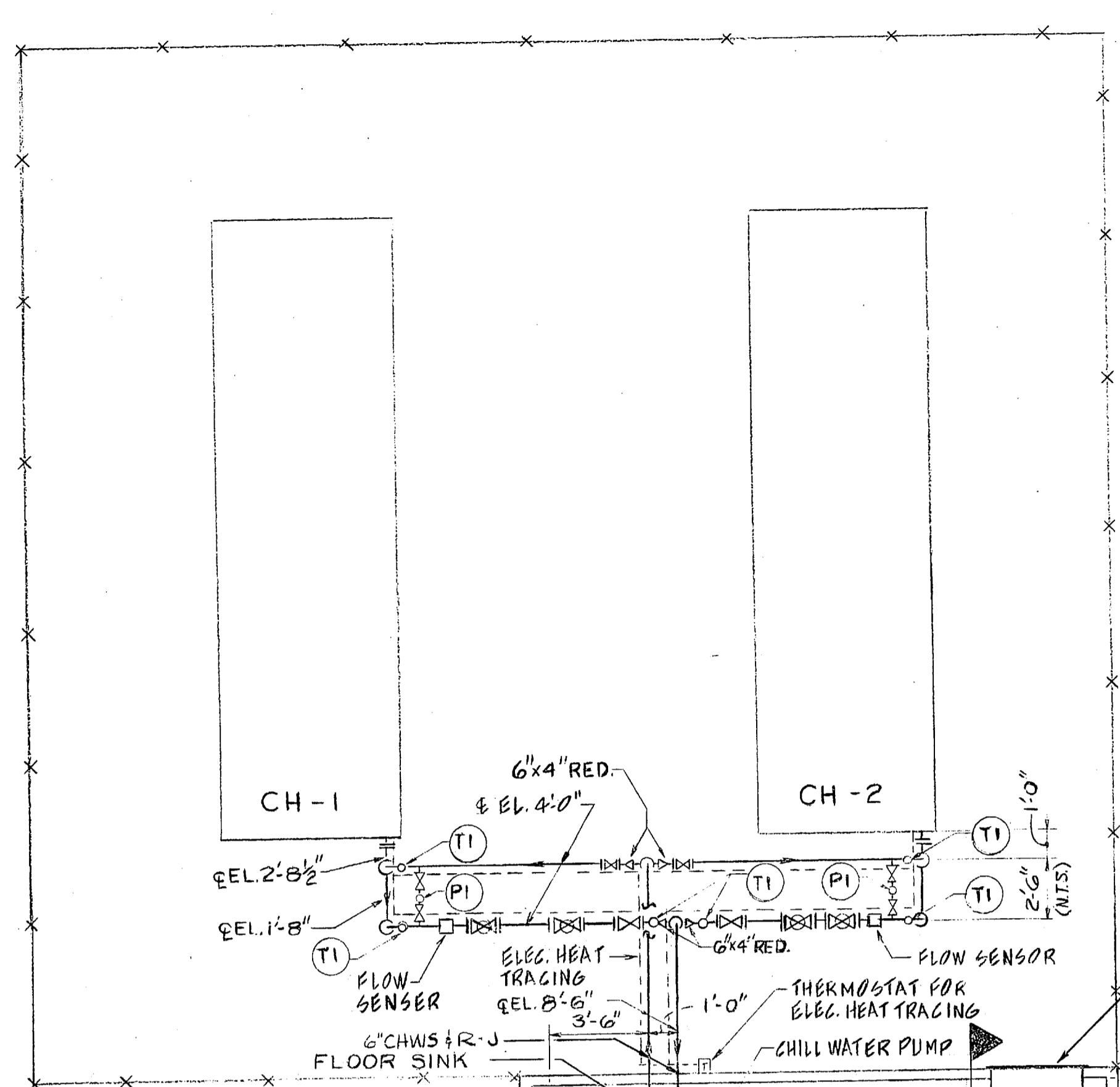
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA

DES. R.B. DR. R.B. CHK. A.W.
PROJ. MGR. V.C. CH. ENGR.
SUBMITTED BY: [Signature] DATE: 9/16/81
FIRM MEMBER: [Signature] PRINCIPAL
S.E.A.L. 6484
NO. 28077 DIR. DATE: 9/16/81
OFFICER IN CHARGE: [Signature]
APPROVED: [Signature] DATE: [Signature]
FOR FILE FOR COMMANDER NAVFAC

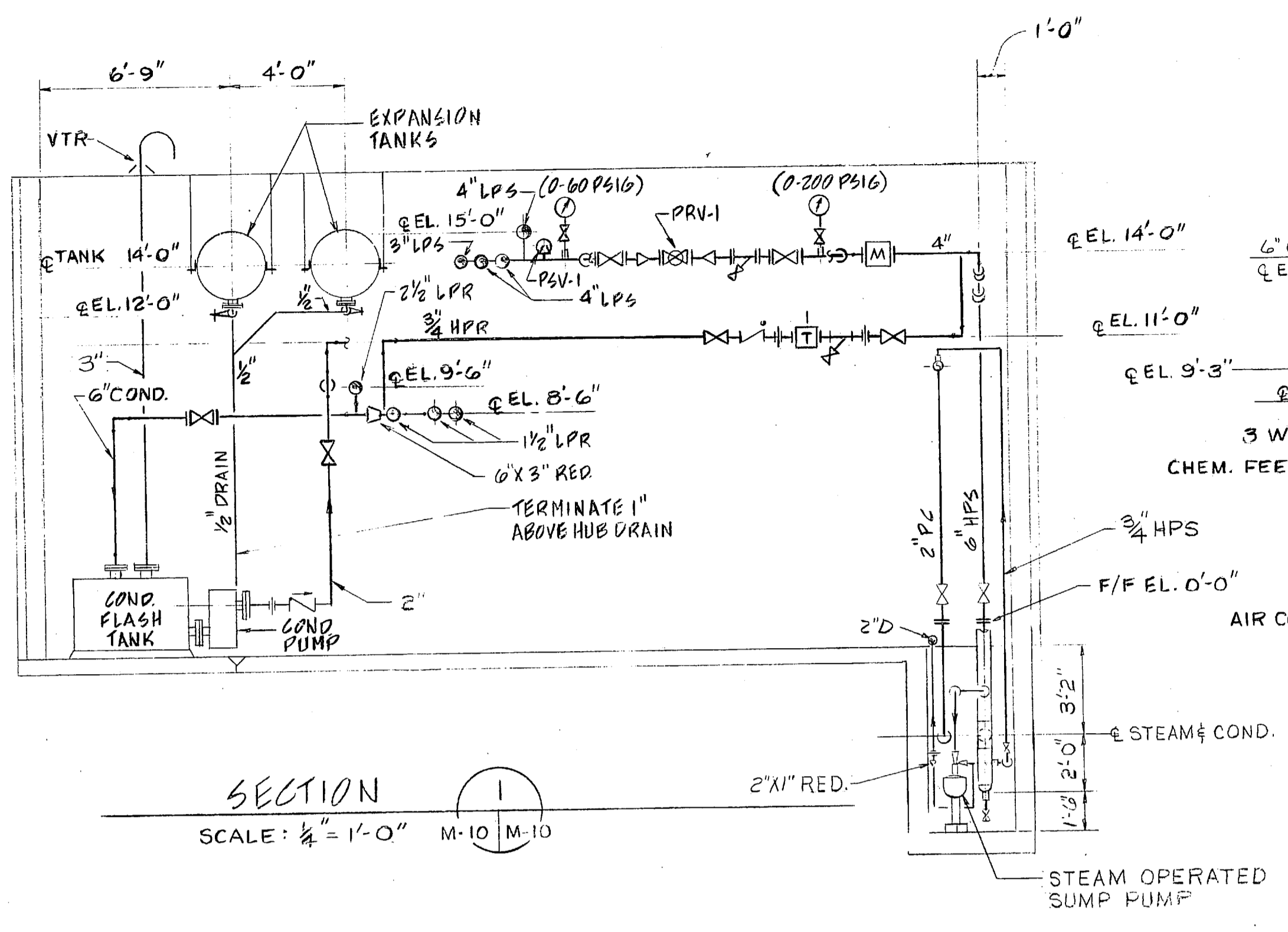
CAMP LEJEUNE MARINE CORPS BASE NORTH CAROLINA
UNACCOMPANIED ENLISTED PERSONNEL HOUSING
CONTROL DIAGRAMS & DETAILS

SIZE: F CODE IDENT. NO. 80091
NAVFAC DRAWING NO. 4075528
CONSTR. CONTR. NO. N62470-80-B-0102

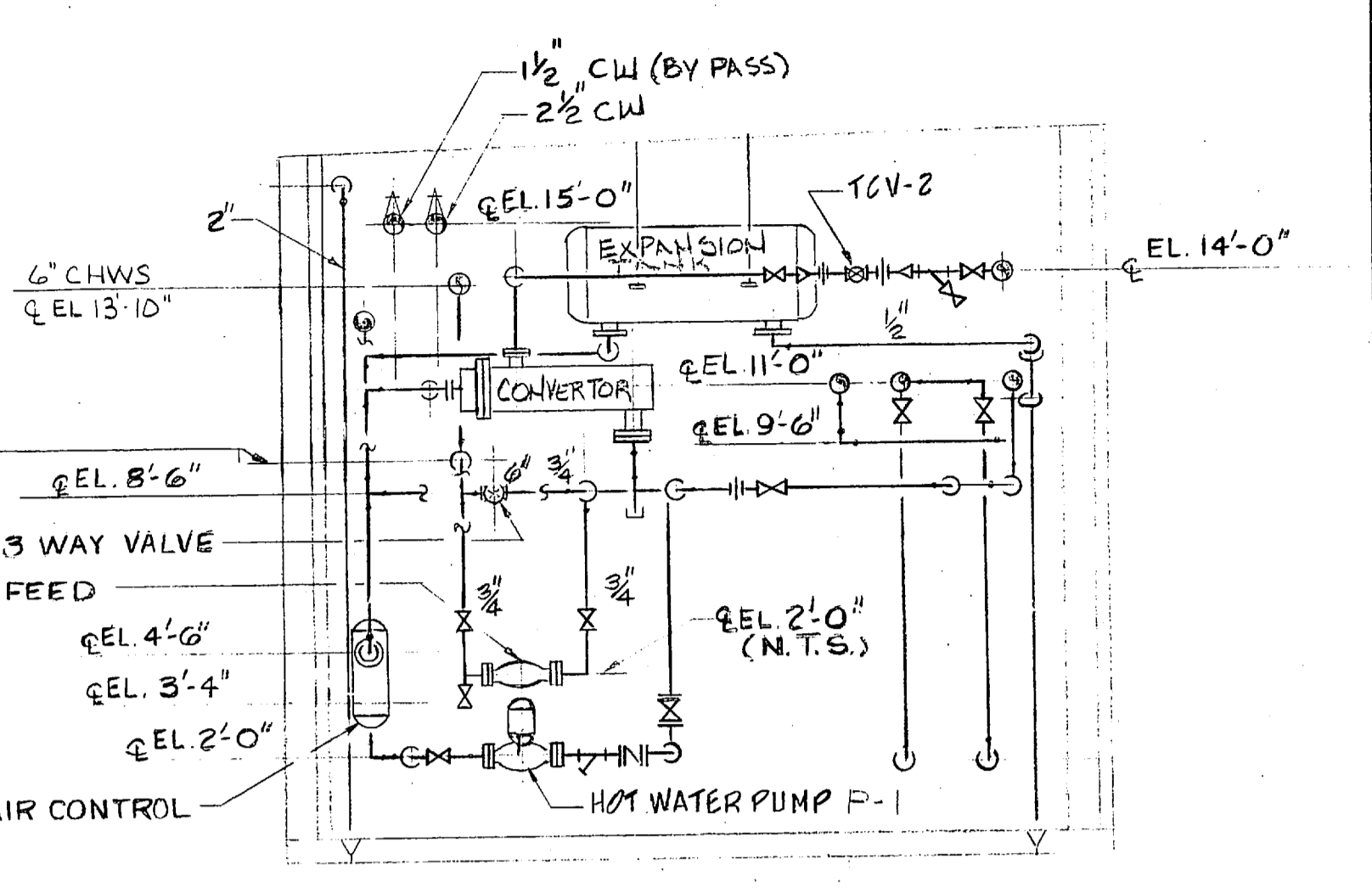
REVISIONS		
SYM	DESCRIPTION	DATE
①	REVISED AS-BUILT	9/23/81



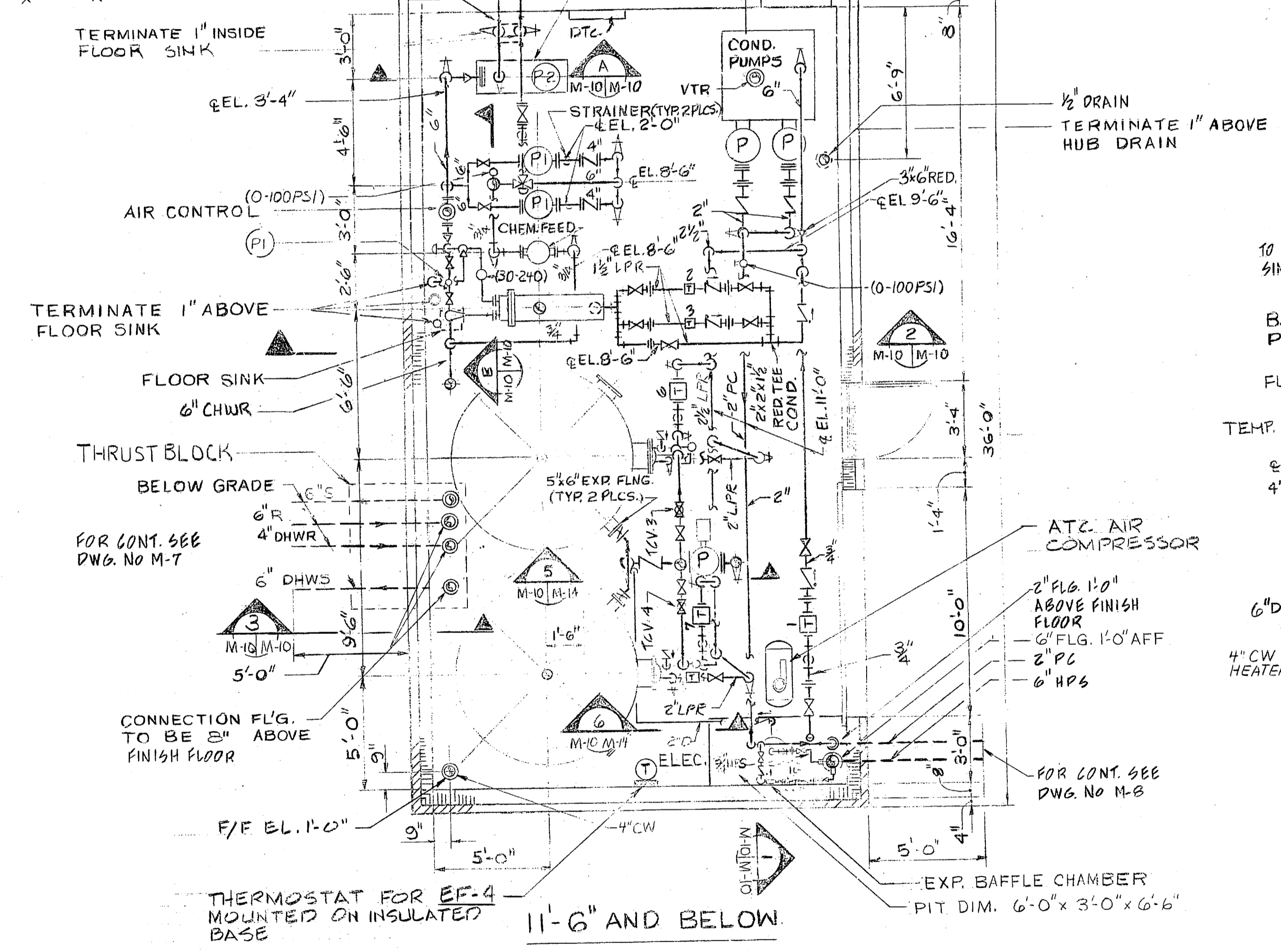
SECTION 3
SCALE: NO SCALE M-10



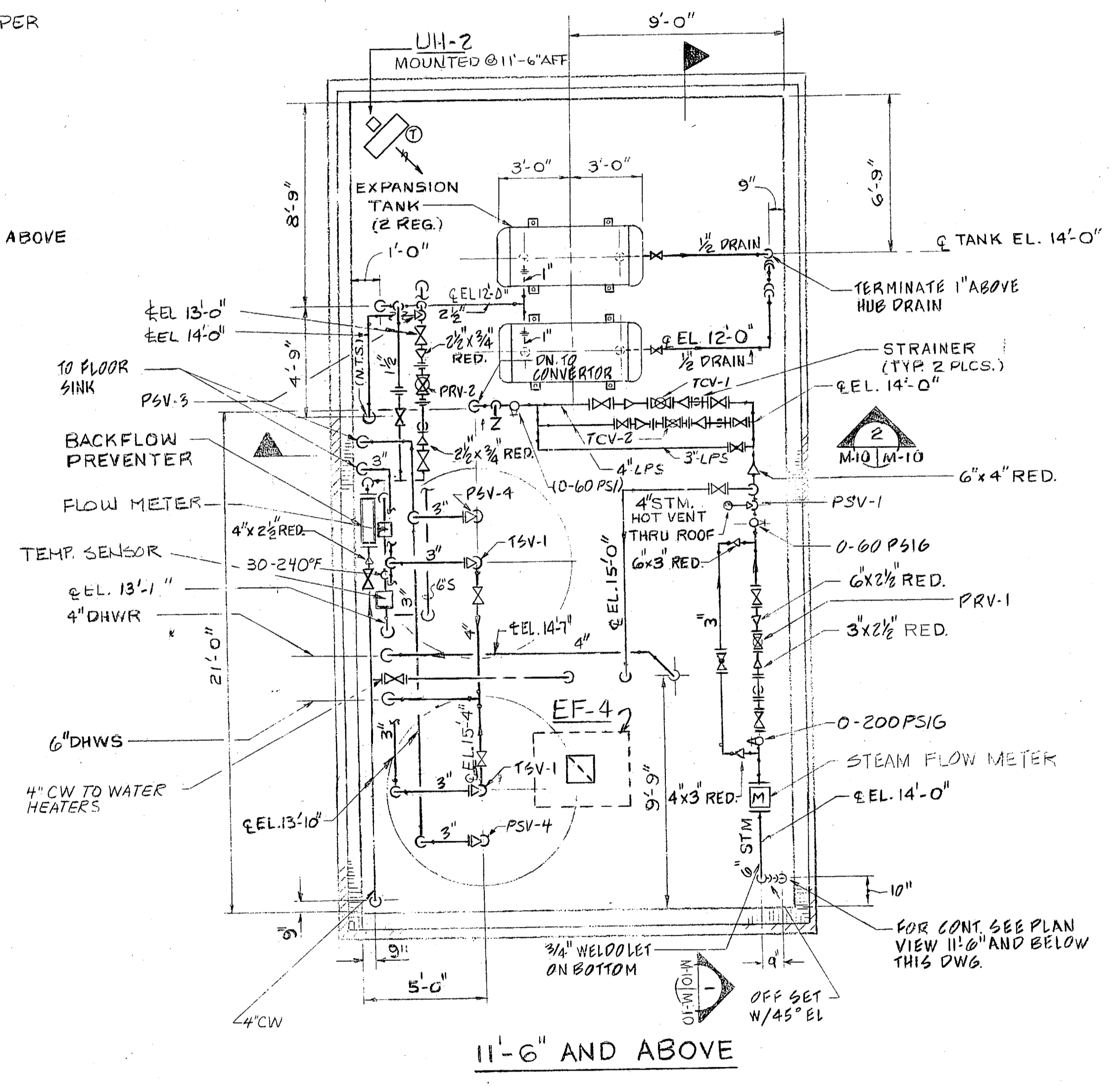
SECTION 1
SCALE: 1/4" = 1'-0" M-10



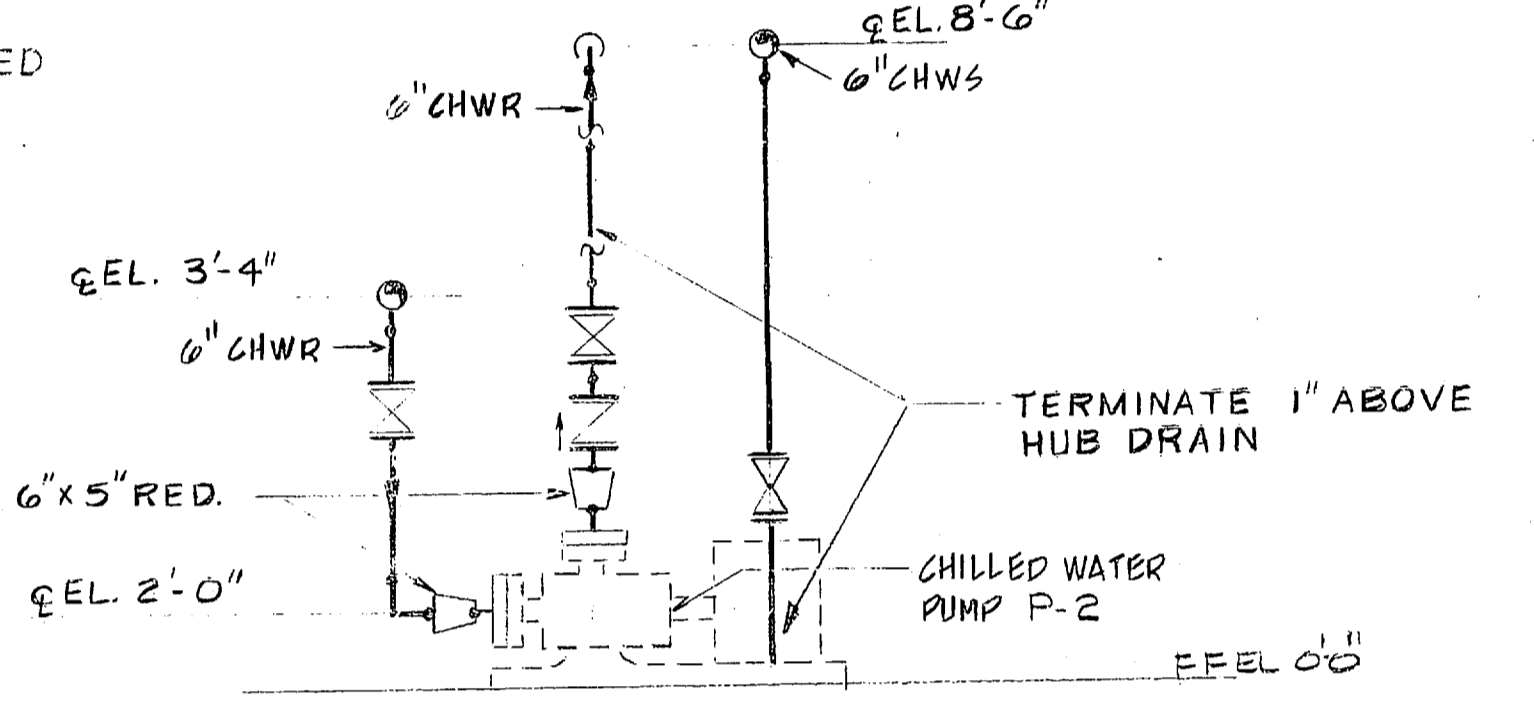
SECTION 2
SCALE: 1/4" = 1'-0" M-10



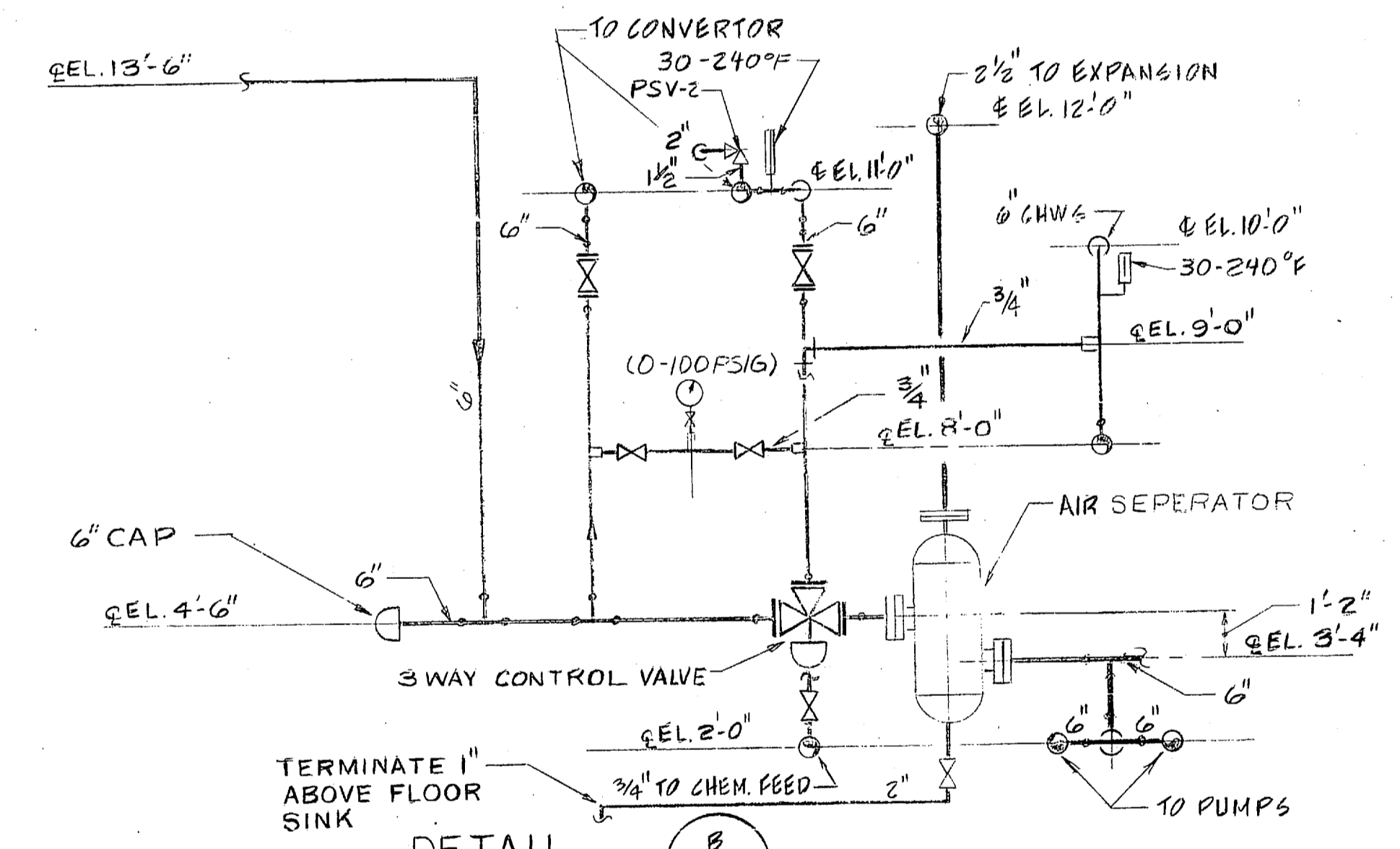
MECHANICAL BLDG.-FLOOR PLAN
SCALE: 1/4" = 1'-0"



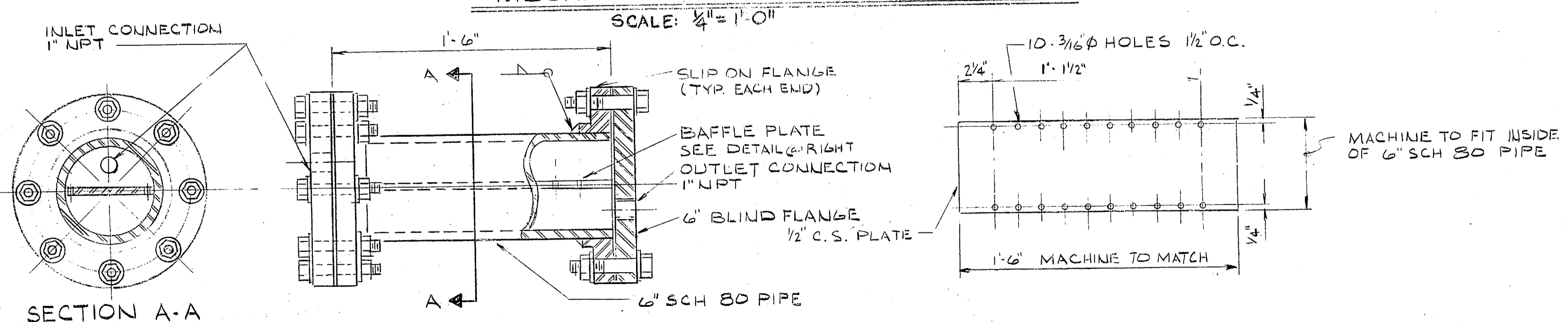
MECHANICAL BLDG.-FLOOR PLAN
SCALE: 1/4" = 1'-0"



DETAIL A
SCALE: NO SCALE M-10

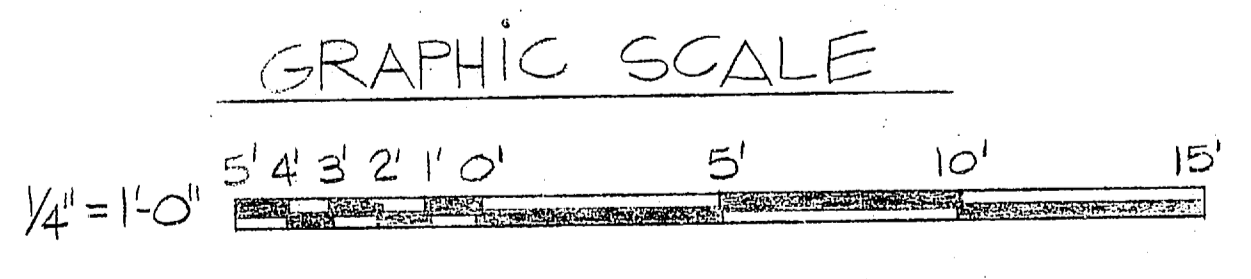


DETAIL B
SCALE: NO SCALE M-10



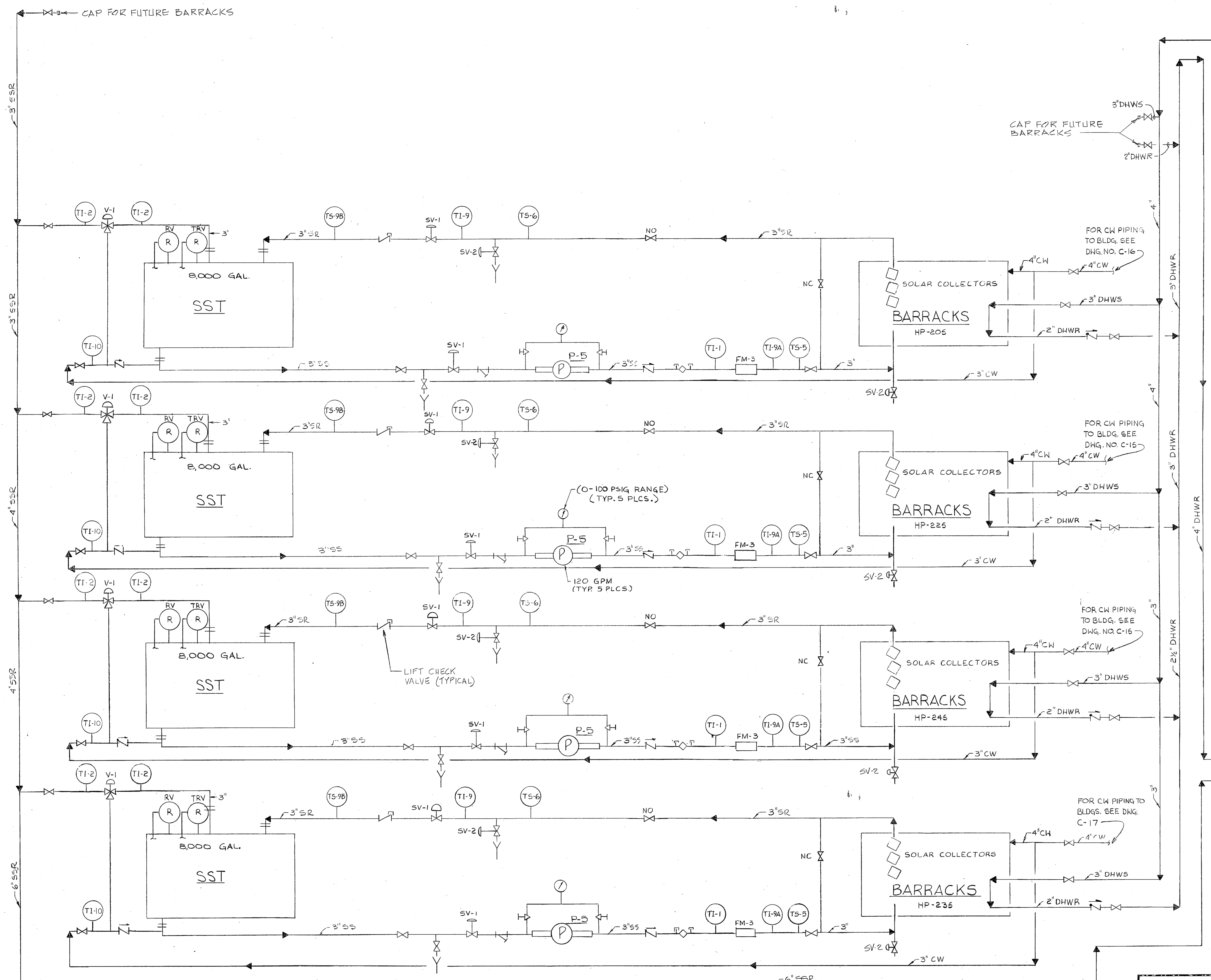
SECTION A-A
BAFFLE CHAMBER CONSTRUCTION DETAIL
NO SCALE M-5

BAFFLE PLATE DETAIL
NO SCALE

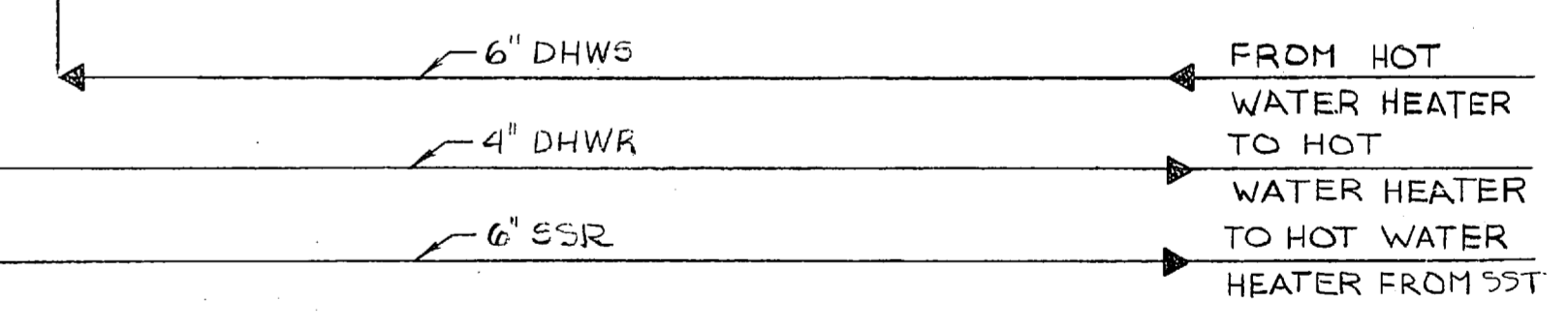


		M-10	
		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION	
DES/MAK [or] DC [or] CHK AW PROJ MGR/V.C. CH ENGR.		NAVAL STATION NORFOLK, VIRGINIA	
SUBMITTED BY: [Signature] DATE: 9-16-81		CAMP LEJEUNE MARINE CORPS BASE NORTH CAROLINA	
FIRM MEMBER EFD, FP 721121 RVD, JJC/C		UNACCOMPANIED ENLISTED PERSONNEL HOUSING	
APPROVED: [Signature] DATE: 9/23/81		MECHANICAL BUILDING PIPING PLANS AND DETAILS	
OFFICER IN CHARGE		SIZE CODE IDENT. NO. NAVFAC DRAWING NO. 4075529	
FOR EFD FOR COMMANDER, NAVFAC		CONSTR. CONTR. NO. N62 470-80-B-0102	
SCALE: AS SHOWN SPEC. 05-80-0102		SHEET 70 OF 94	
EFD. DWG. NO. 175529		175529	

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED
Ⓐ	REVISED AS-BUILT	9/25/80	EMH

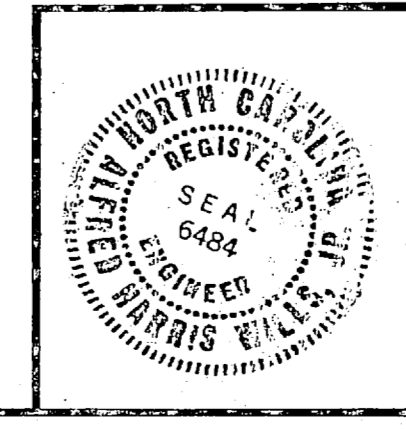


- NOTES:**
1. THE LOCAL CONTROL FOR EACH BARRACK'S SOLAR SYSTEM IS LOCATED IN RM. 139
 2. FOR PIPING LEGEND, SEE DWG. M-5
 3. FOR CONTROL LEGEND, SEE DWG. M-9A
 4. FOR SOLAR TANK LOCATION SEE DWG. M-7.

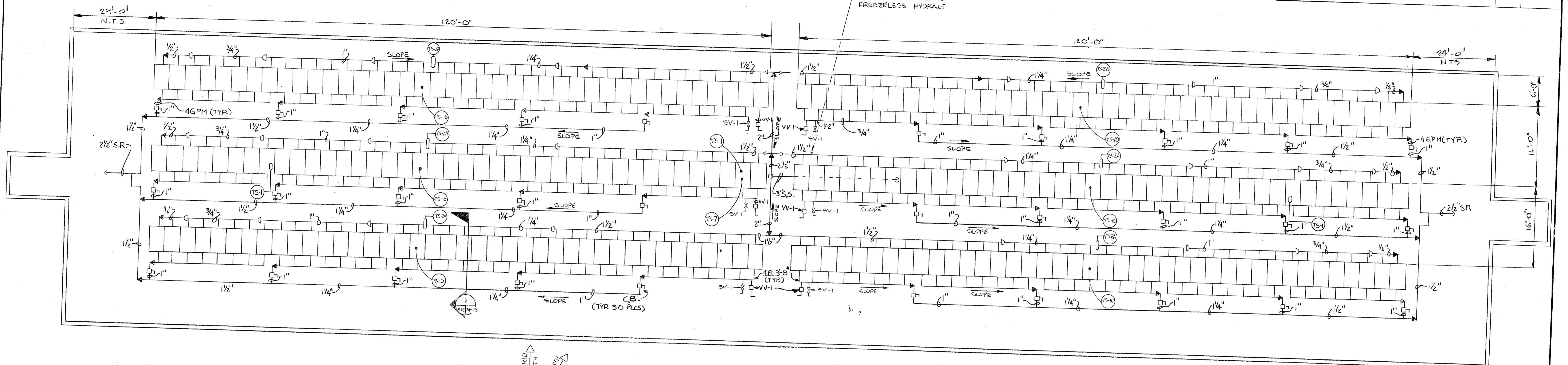


NOTE: FOR SOLAR INSTRUMENT LIST SEE SHT. M-13.

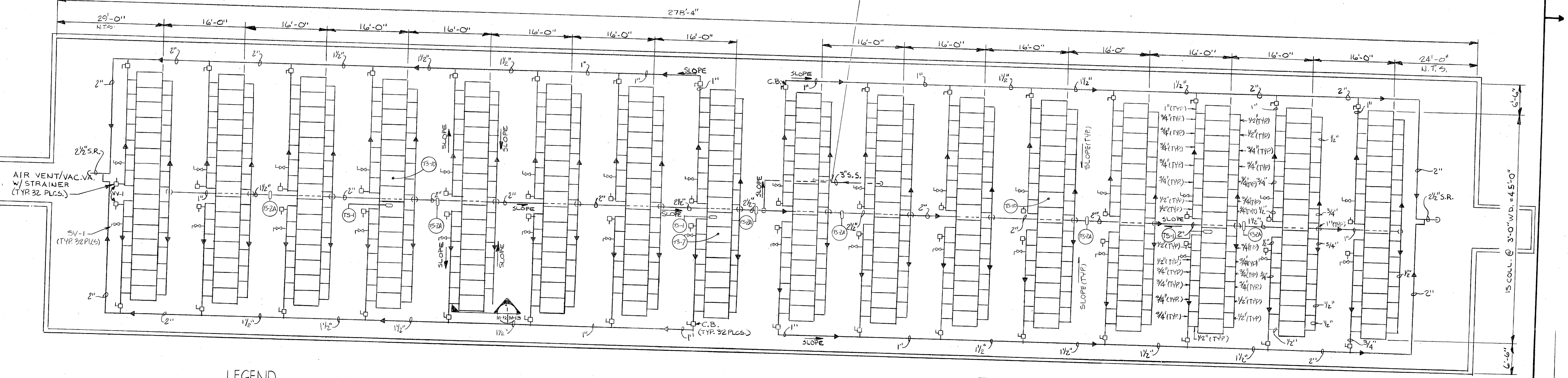
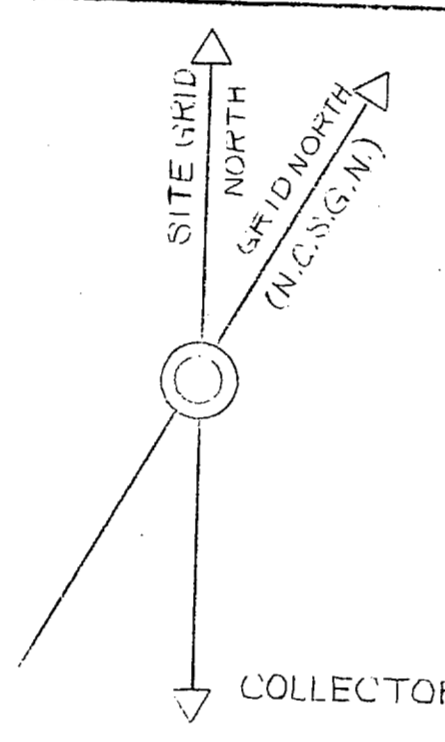
RECORD DRAWING		M-11	
LETTER DATED AUG 22 1985			
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION			
NAVAL STATION NORFOLK, VIRGINIA CAMP LEJEUNE MARINE CORPS BASE NORTH CAROLINA			
UNACCOMPANIED ENLISTED PERSONNEL HOUSING BARRACKS SOLAR SYSTEM P&ID			
DES. GWS	DR. DJA	CHK. AW	
PROJ. MGR. V.C.	CH. ENGR.		
SUBMITTED BY: Steve W. M. [Signature]	DATE: 9/16/81		
FIRM MEMBER	PRINCIPAL		
EFD. F.P. [Signature]	RVD. J.J.S.		
HD. [Signature]	DIR. [Signature]	DATE: 9/23/81	
APPROVED:	DATE:		
OFFICER IN CHARGE			
FOR EFD FOR COMMANDER, NAVFAC			
SIZE: F	CODE IDENT. NO.: 80091	NAVFAC DRAWING NO.: 4075550	
		CONSTR. CONTR. NO. N62470-80-B-0102	
SCALE: AS SHOWN	SPEC. 05-80-0102	SHEET 71	OF 94



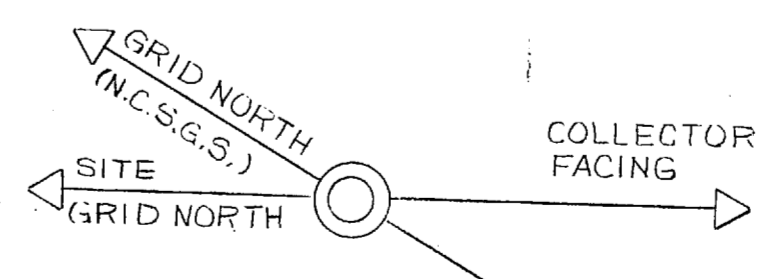
REVISIONS		DATE	APPROVED
①	REVISED AS-BUILT	1/23/84	AW



COLLECTOR ARRANGEMENTS BUILDINGS HP 205, HP 235 & HP 245
SCALE: 1/8" = 1'-0"



COLLECTOR FACING BUILDING HP 225
SCALE: 1/8" = 1'-0"



LEGEND
 CB - COLLECTOR BALANCER
 VV - AIR VENT/VACUUM VALVE
 S.S. - SOLAR SUPPLY
 S.R. - SOLAR RETURN
 S.V. - SOLENOID VALVE

COLLECTOR SCHEDULE	
MAX. SQ. FT.	4300 / BLDG.
AREA FACTOR	2279 / BLDG.
MIN. SQ. FT.	3780 / BLDG.

- NOTES:**
- COLLECTOR PIPING ARRANGEMENT IS SHOWN FOR CLARITY ONLY. FOR ACTUAL PIPE LOCATIONS, SEE SECTIONS ON DWG M-13.
 - SUPPLY & RETURN MAINS SHALL HAVE EXPANSION COMPENSATORS A MAXIMUM OF 50 FT. ON CENTER GUIDES SHALL BE A MAXIMUM OF 10 FT. ON CENTER COMPENSATORS AND ANCHORS SHALL BE MIDWAY BETWEEN COMPENSATORS.
 - SLOPE ALL LINES 1" IN 40 FT. AS SHOWN.
 - AIR VENT VALVES SHALL BE LOCATED AT ALL HIGH POINTS IN SYSTEM.
 - SEE DETAIL 1 ON DWG M-13 FOR SIDE VIEW OF COLLECTOR.

RECORD DRAWING LETTER DATED AUG 22 1986		M-12	
PIEDMONT ENGINEERS ARCHITECTS PLANNERS 450 MAIN AVE., GREENVILLE, S.C.		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA	
DES. GWS [Dr. DJA] [Chk. AW] PROJ. MGR. VC CH. ENGR. SUBMITTED BY: [Signature] DATE: 9/16/81 FIRM MEMBER: [Signature] PRINCIPAL EFD. P.P. [Signature] NVD. [Signature]		CAMP LEJEUNE MARINE CORPS BASE NORTH CAROLINA UNACCOMPANIED ENLISTED PERSONNEL HOUSING ROOF PLAN- SOLAR SYSTEM	
APPROVED: [Signature] OFFICER IN CHARGE	DATE: 9/15/81	SIZE: F CODE IDENT. NO.: 80091	NAVFAC DRAWING NO.: 4075531



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