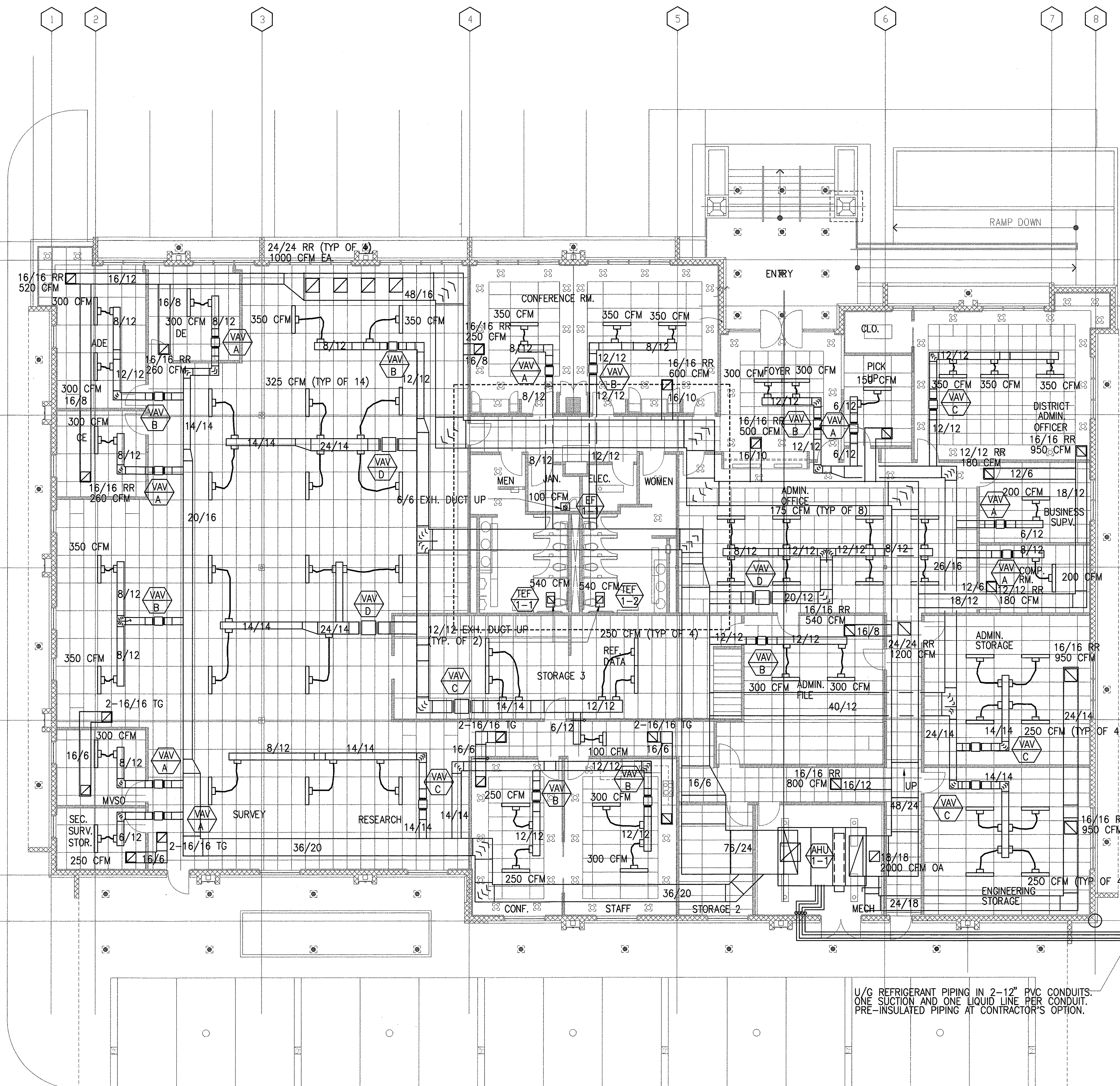


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-K-03-98	2001	110	150

MECHANICAL LEGEND

WC	NEW COLD WATER LINE
PWC	NEW HOT WATER LINE
LAV	NEW WASTE LINE
PLAV	NEW VENT LINE
UR	WATER CLOSET
PUR	ACCESSIBLE WATER CLOSET
PDF	LAVATORY
SK	ACCESSIBLE LAVATORY
W	URINAL
CW	ACCESSIBLE URINAL
V	ACCESSIBLE DRINKING FOUNTAIN
VTR	SINK
COTG	WASTE
FCO	COLD WATER
WCO	VENT
HB	VENT THRU ROOF
WHA	CLEANOUT TO GRADE
FD	FLOOR CLEANOUT
F.E.	FIRE EXTINGUISHER
FS	FLOOR SINK
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
AHU	AIR HANDLING UNIT
FCU	FAN COIL UNIT
ACCU	AIR COOLED CONDENSING UNIT
EF	EXHAUST FAN
TEF	TOILET EXHAUST FAN
OA	OUTSIDE AIR
SA	SUPPLY AIR
RA	RETURN AIR
CD	NEW CONDENSATE DRAIN LINE
RL	REFRIGERANT LIQUID LINE
RS	REFRIGERANT SUCTION LINE

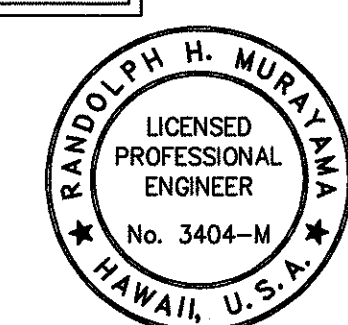


U/G REFRIGERANT PIPING IN 2-12" PVC CONDUITS. ONE SUCTION AND ONE LIQUID LINE PER CONDUIT. PRE-INSULATED PIPING AT CONTRACTOR'S OPTION.

SEAL ENDS WATERTIGHT (TYP)
4" HIGH CONC. PAD

MECHANICAL FLOOR PLAN - ADMINISTRATION OFFICE
SCALE: 1/8" = 1'-0"

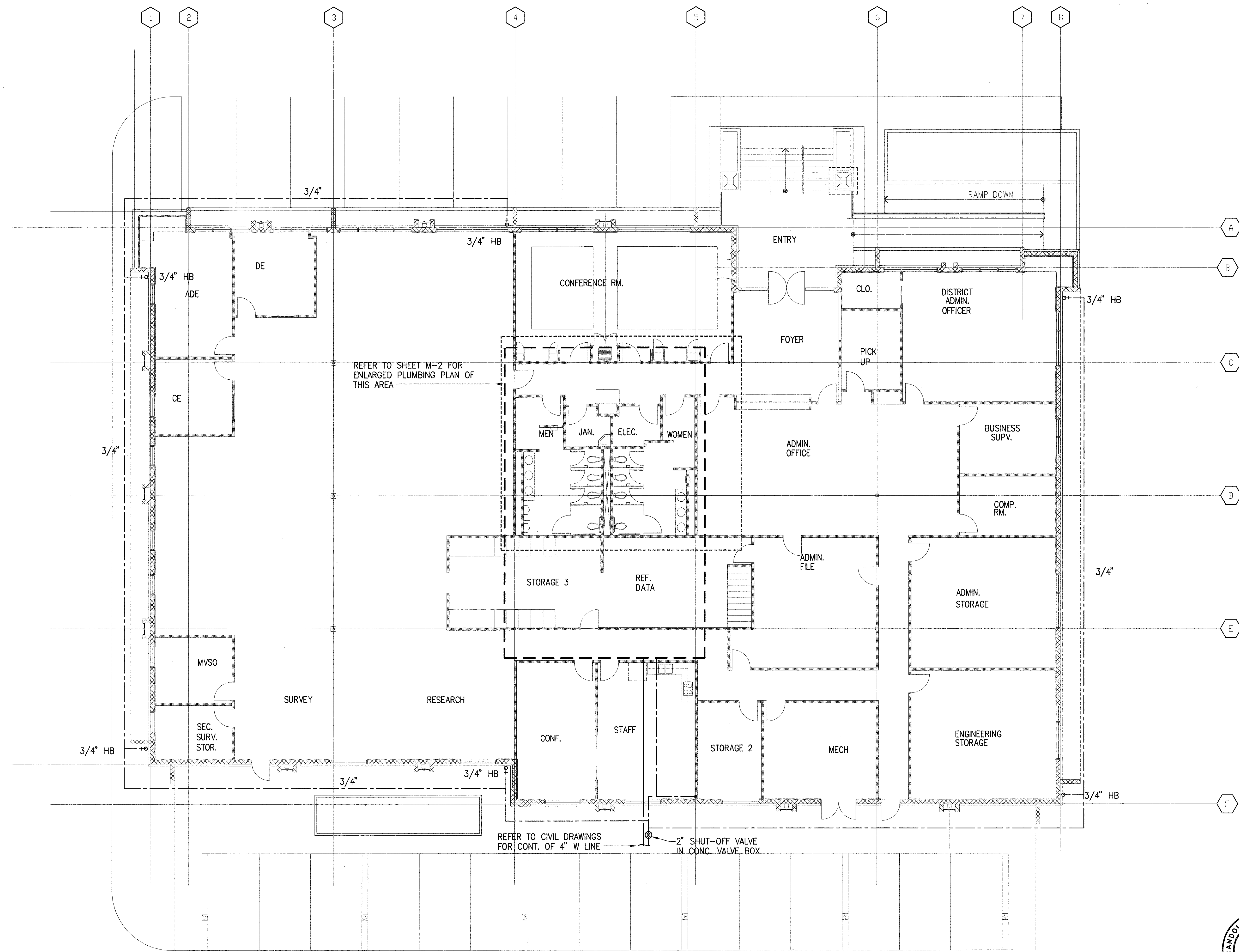
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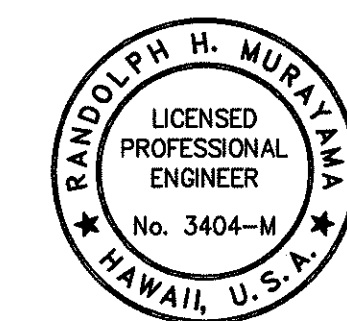
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**CENTRALIZED DISTRICT OFFICE
AND BASEYARD COMPLEX**
LIHUE, KAUAI
PROJECT NO. HWY-K-03-98
ADMINISTRATION BUILDING
MECHANICAL FLOOR PLAN

SCALE: AS NOTED
DATE: MARCH 30, 01
SHEET NO. M2.01 OF 150 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-K-03-98	2001	111	150



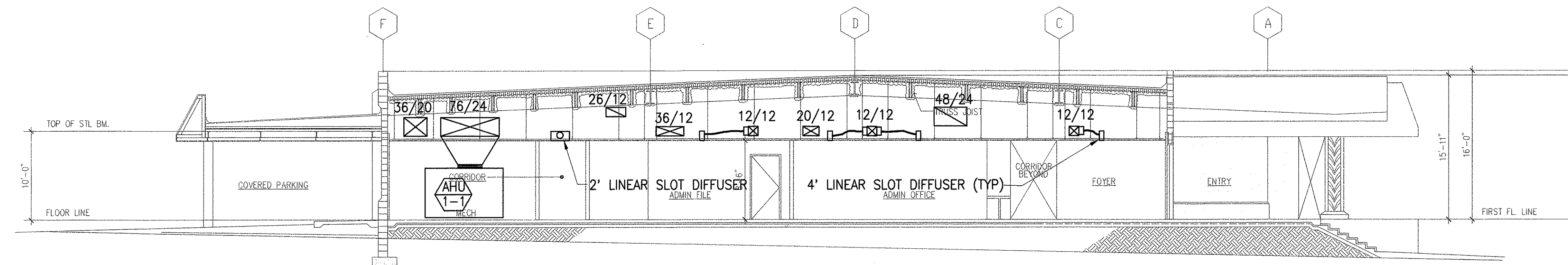
PLUMBING FLOOR PLAN - ADMINISTRATION OFFICE
SCALE: 1/8" = 1'-0"



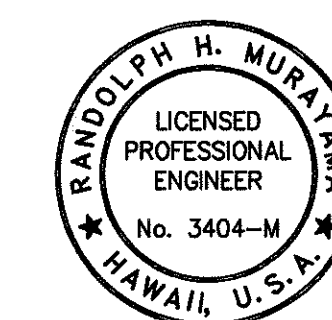
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**CENTRALIZED DISTRICT OFFICE
AND BASEYARD COMPLEX**
LIHUE, KAUAI
PROJECT NO. HWY-K-03-98
ADMINISTRATION BUILDING
PLUMBING FLOOR PLAN
SCALE: AS NOTED
DATE: MARCH 30, 01
SHEET NO. M2.02 OF 150 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-K-03-98	2001	113	150



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



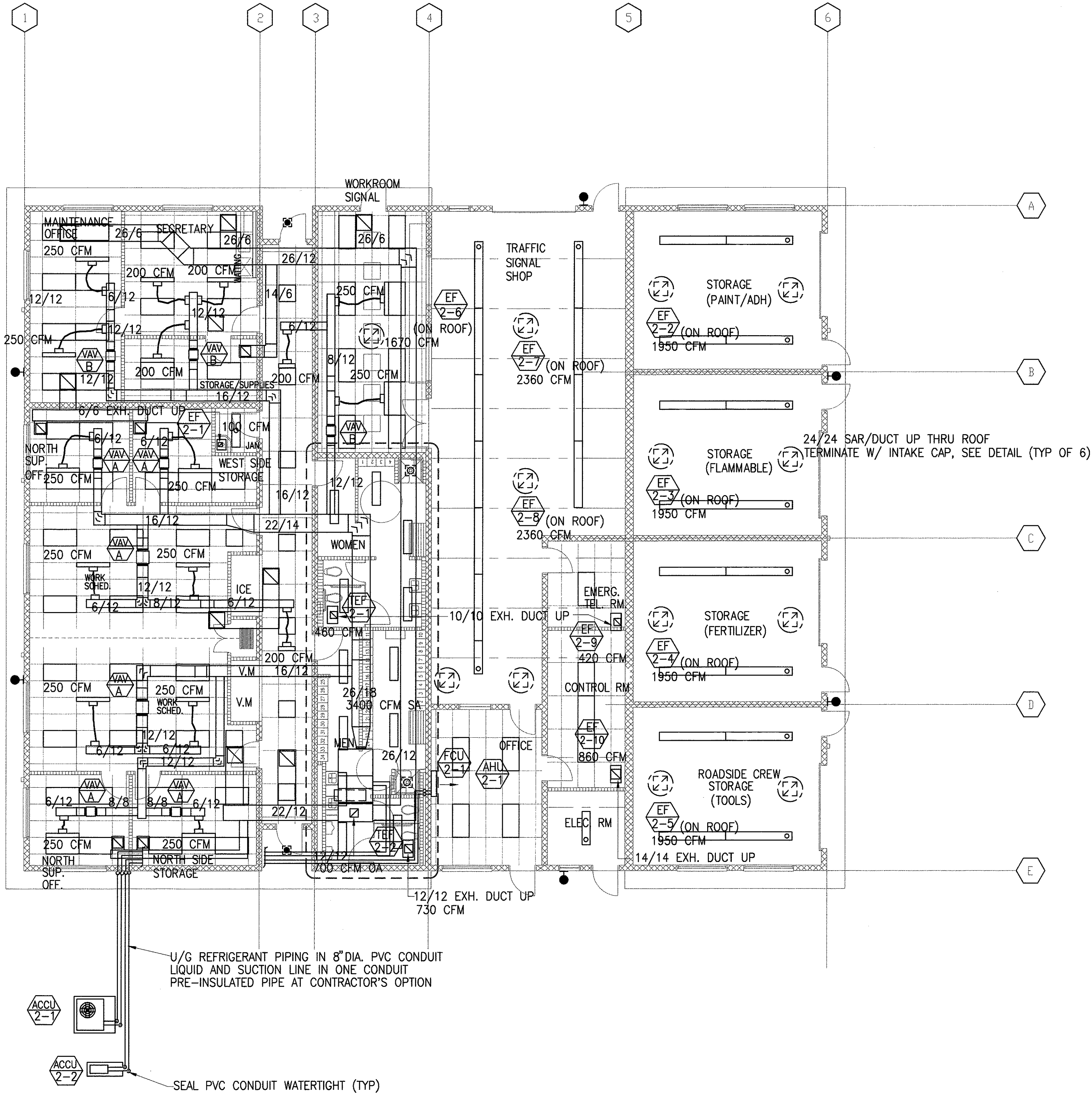
THIS WORK WAS PREPARED BY ME
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**CENTRALIZED DISTRICT OFFICE
AND BASEYARD COMPLEX**
LIHUE, KAUAI
PROJECT NO. HWY-K-03-98
ADMINISTRATION BUILDING
SECTIONS

SCALE: AS NOTED DATE: MARCH 30, 01
SHEET NO. M2.04 OF 150 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-K-03-98	2001	114	150



MECHANICAL FLOOR PLAN - MAINTENANCE BUILDING
 SCALE: 1/8" = 1'-0"

RANDOLPH H. MURAY
 LICENSED PROFESSIONAL ENGINEER
 No. 3404-M
 HAWAII, U.S.A.

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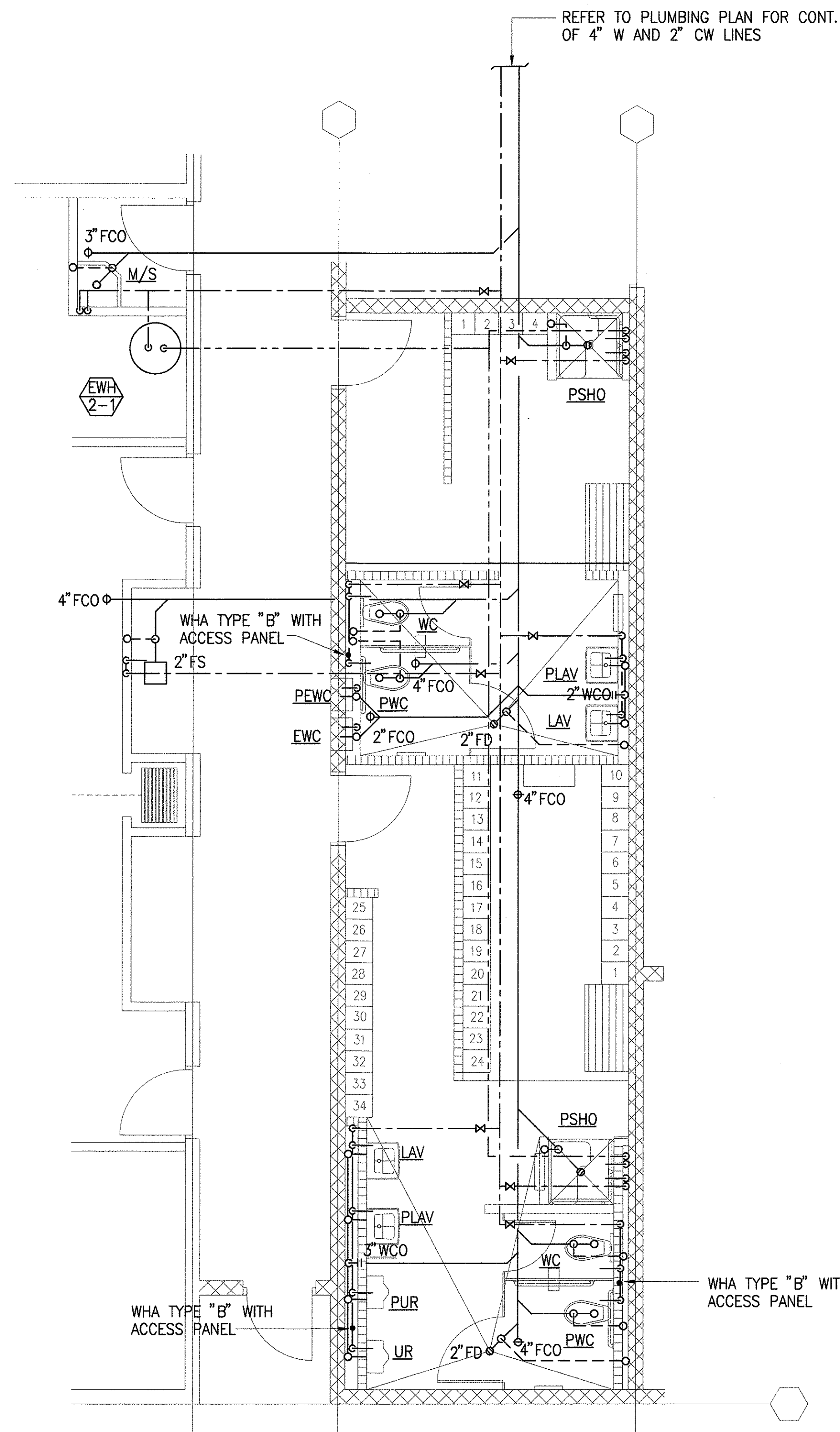
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CENTRALIZED DISTRICT OFFICE
AND BASEYARD COMPLEX
LIHUE, KAUAI
PROJECT NO. HWY-K-03-98
MAINTENANCE BUILDING
MECHANICAL FLOOR PLAN

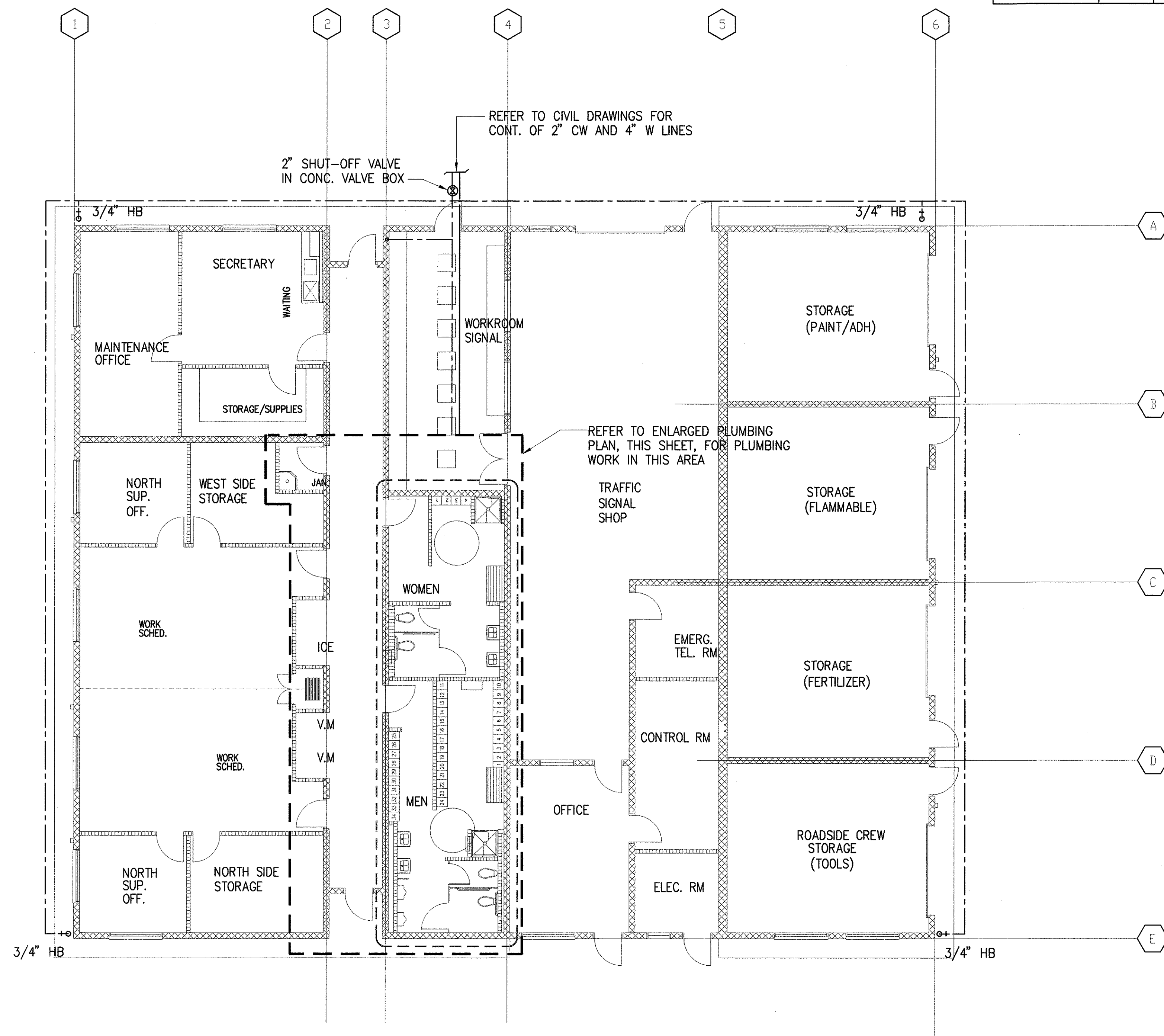
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DATE: MARCH 30, 01

SHEET NO. M3.01 OF 150 SHEETS

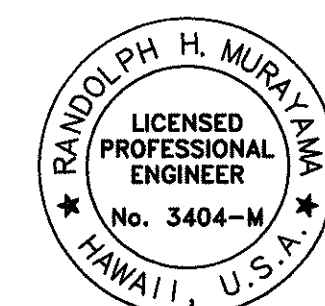
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-K-03-98	2001	115	150



ENLARGED PLUMBING FLOOR PLAN - MAINTENANCE BUILDING
SCALE: 1/4" = 1'-0"



PLUMBING FLOOR PLAN - MAINTENANCE BUILDING
SCALE: 1/8" = 1'-0"



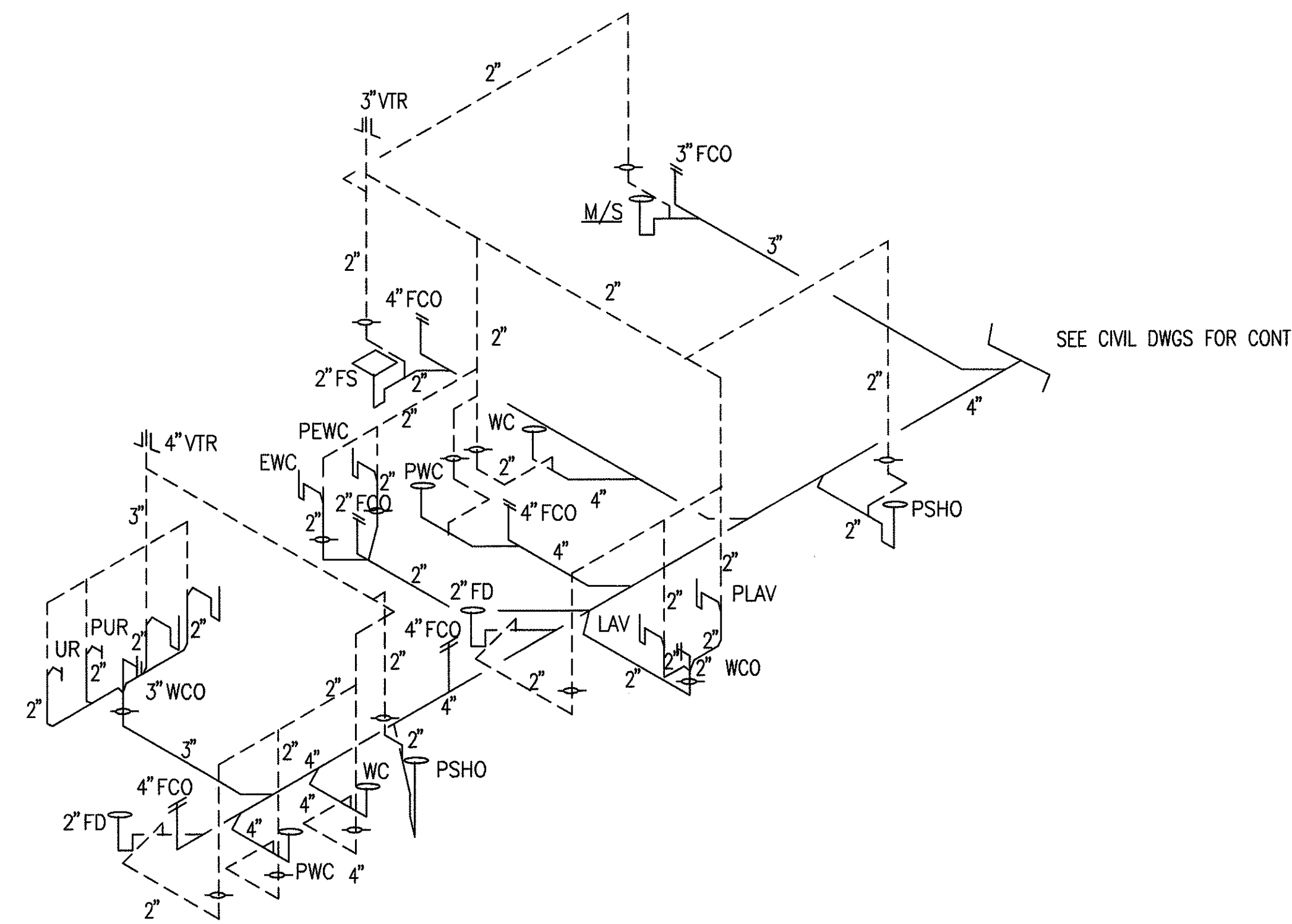
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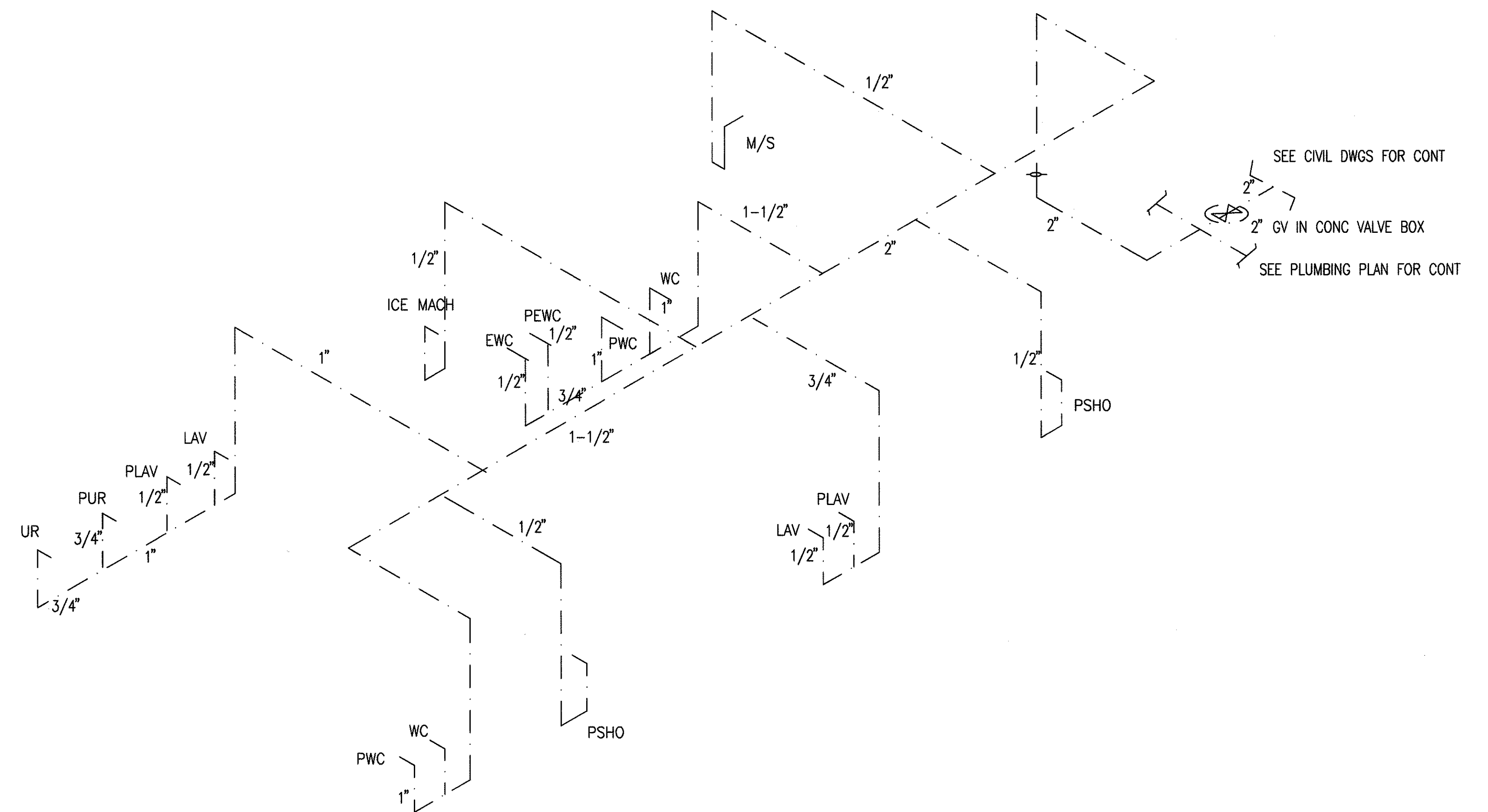
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**CENTRALIZED DISTRICT OFFICE
AND BASEYARD COMPLEX**
LIHUE, KAUAI
PROJECT NO. HWY-K-03-98
MAINTENANCE BUILDING
PLUMBING FLOOR PLANS

SCALE: AS NOTED DATE: MARCH 30, 01
SHEET NO. M3.02 OF 150 SHEETS

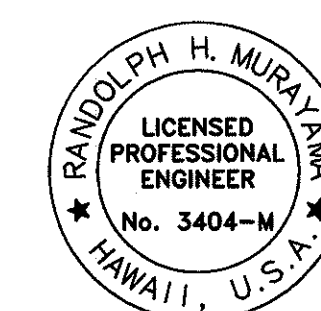
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-K-03-98	2001	116	150



WASTE AND VENT PIPING DIAGRAMS



HOT AND COLD WATER PIPING DIAGRAMS



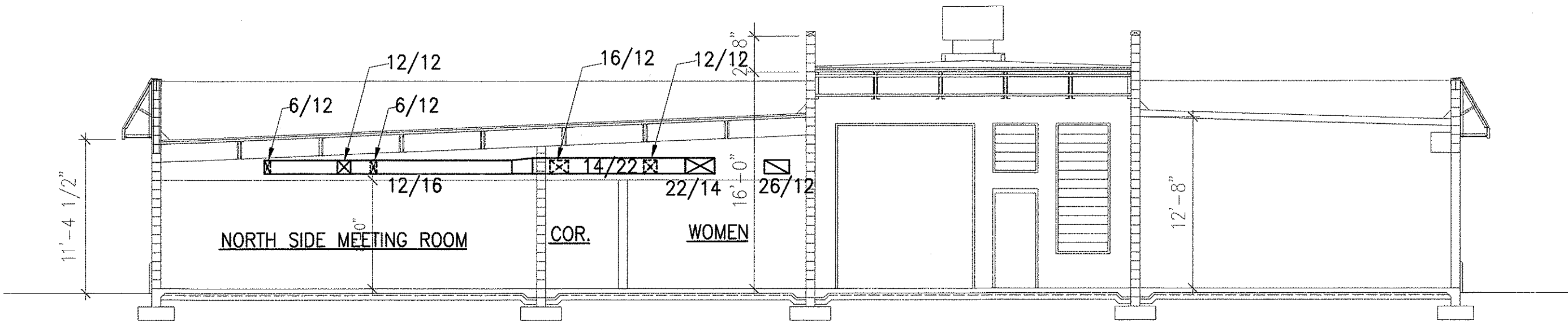
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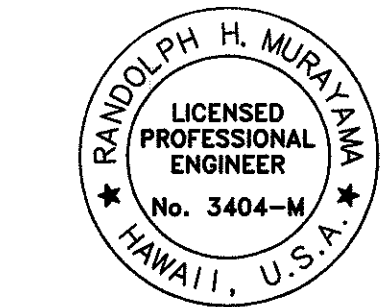
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**CENTRALIZED DISTRICT OFFICE
AND BASEYARD COMPLEX**
LIHUE, KAUAI
PROJECT NO. HWY-K-03-98
MAINTENANCE BUILDING
PLUMBING DIAGRAM

SCALE: AS NOTED DATE: MARCH 30, 01
SHEET NO. M3.03 OF 150 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-K-03-98	2001	117	150



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



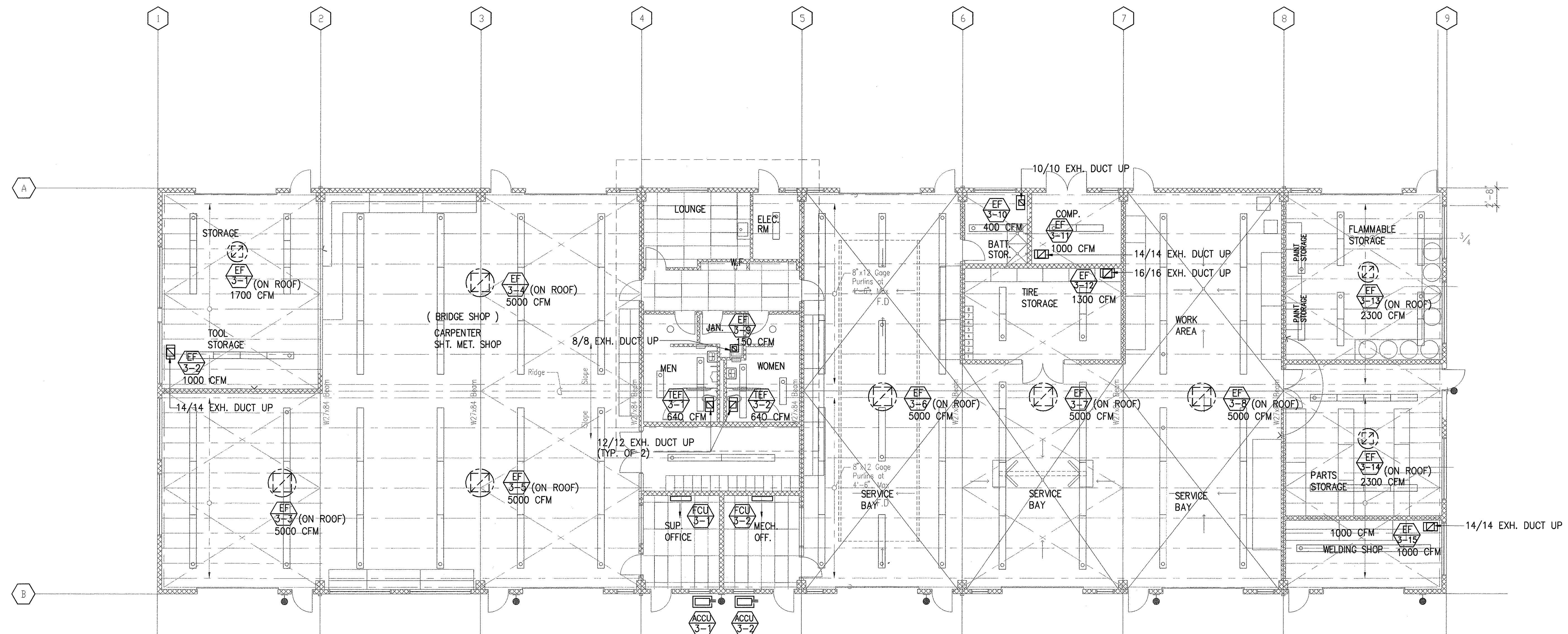
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ME OR UNDER MY SUPERVISION.

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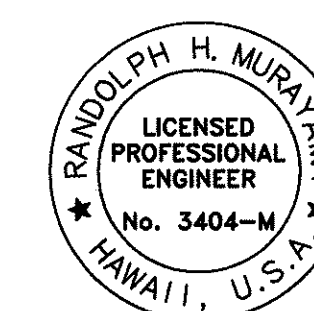
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**CENTRALIZED DISTRICT OFFICE
AND BASEYARD COMPLEX**
LIHUE, KAUAI
PROJECT NO. HWY-K-03-98
MAINTENANCE BUILDING
MECHANICAL SECTIONS

SCALE: AS NOTED DATE: MARCH 30, 01
SHEET NO. M3.04 OF 150 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-K-03-98	2001	118	150



MECHANICAL FLOOR PLAN - MECHANIC/BRIDGE SHOP BUILDING
SCALE: 1/8" = 1'-0"



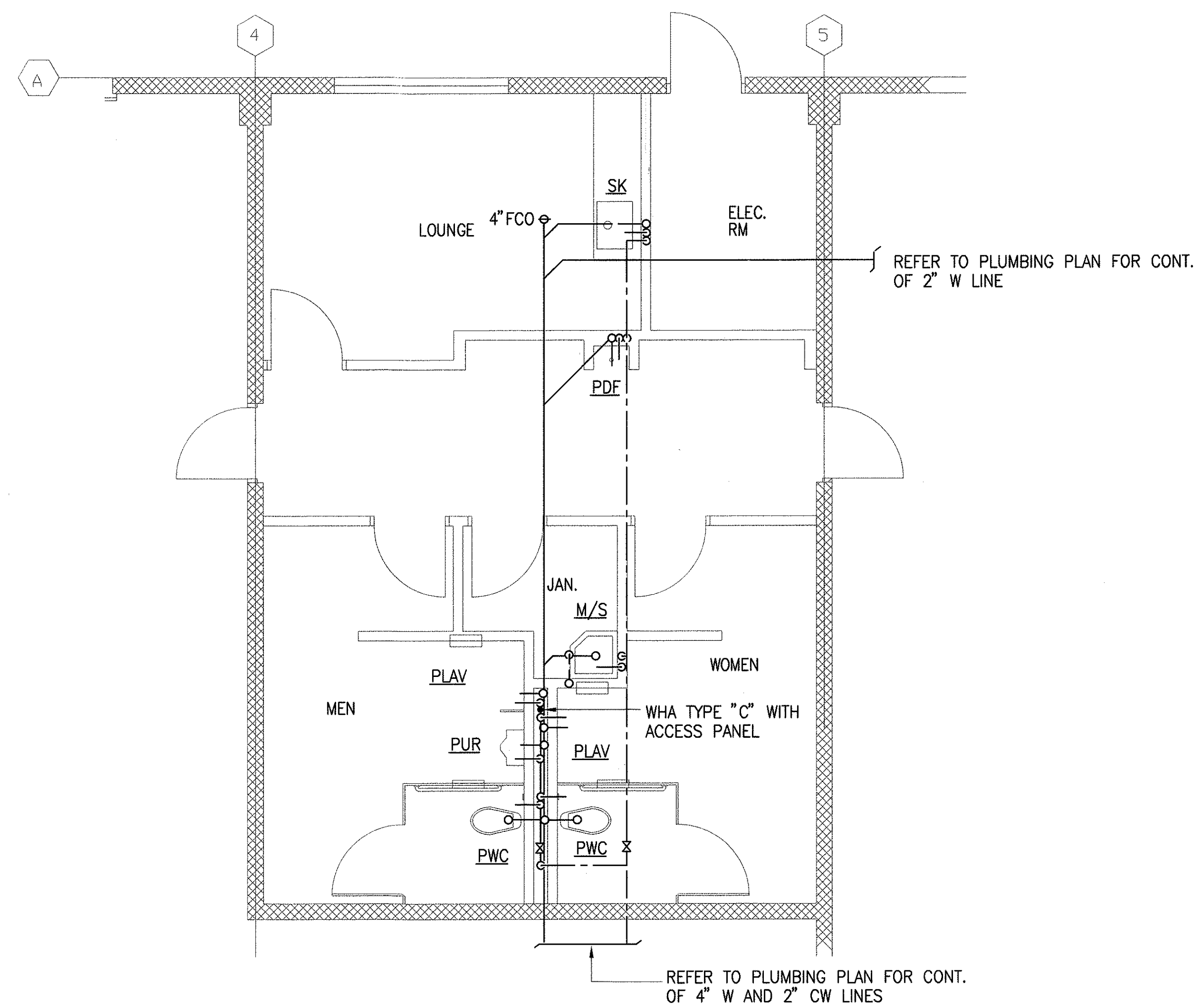
THIS WORK WAS PREPARED BY
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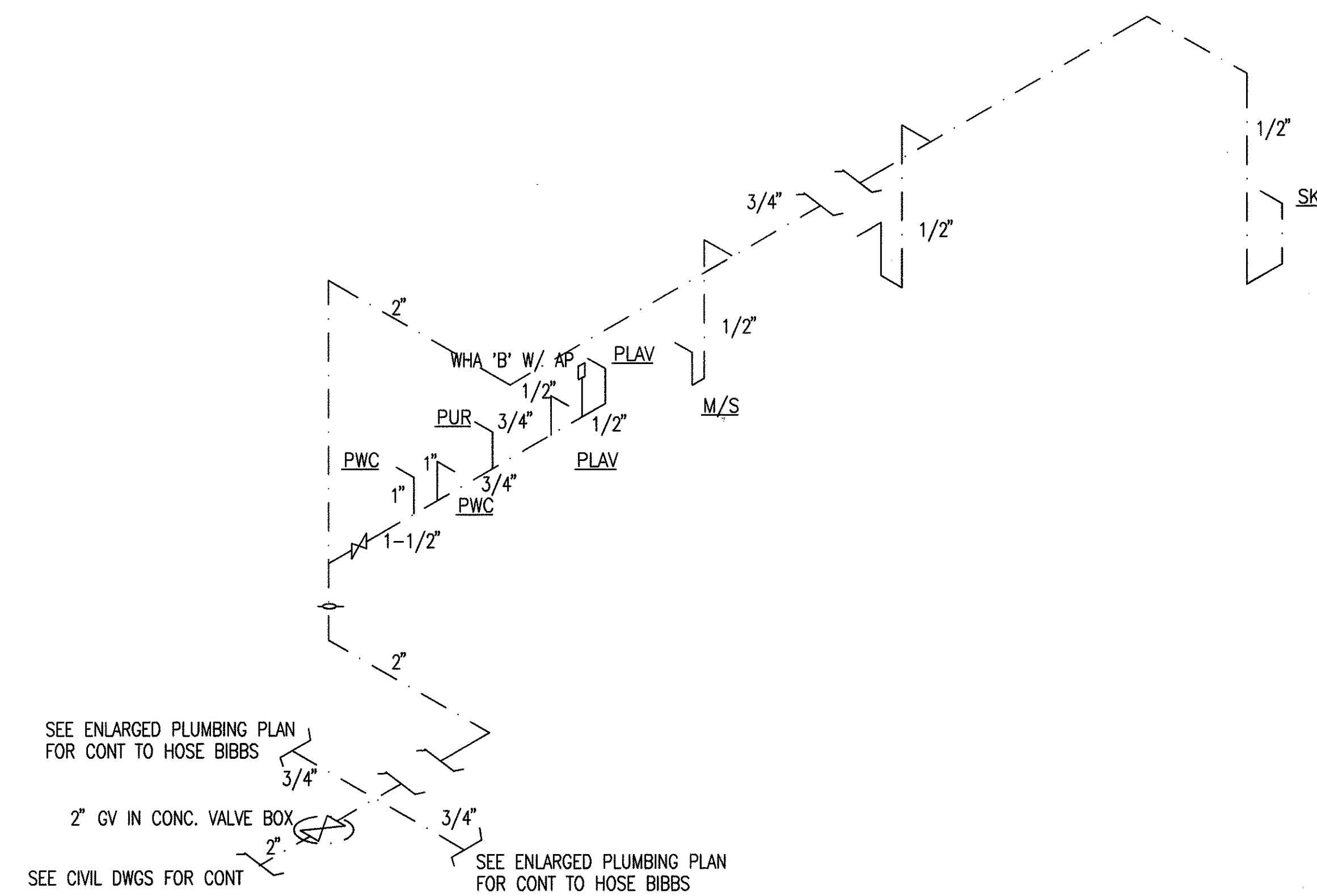
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**CENTRALIZED DISTRICT OFFICE
AND BASEYARD COMPLEX**
LIHUE, KAUAI
PROJECT NO. HWY-K-03-98
MECHANIC/BRIDGE SHOP BUILDING
MECHANICAL FLOOR PLAN

SCALE: 1/8" = 1'-0" DATE: MARCH 30, 01
SHEET NO. M4.01 OF 150 SHEETS

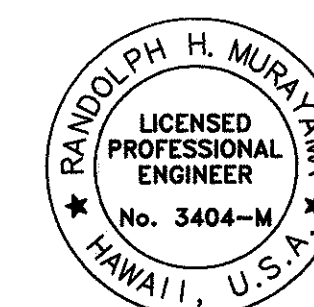
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-K-03-98	2001	120	150



MECHANIC/BRIDGE SHOP BUILDING - ENLARGED PLUMBING FLOOR PLAN
SCALE: 1/4" = 1'-0"



WATER PIPING DIAGRAMS



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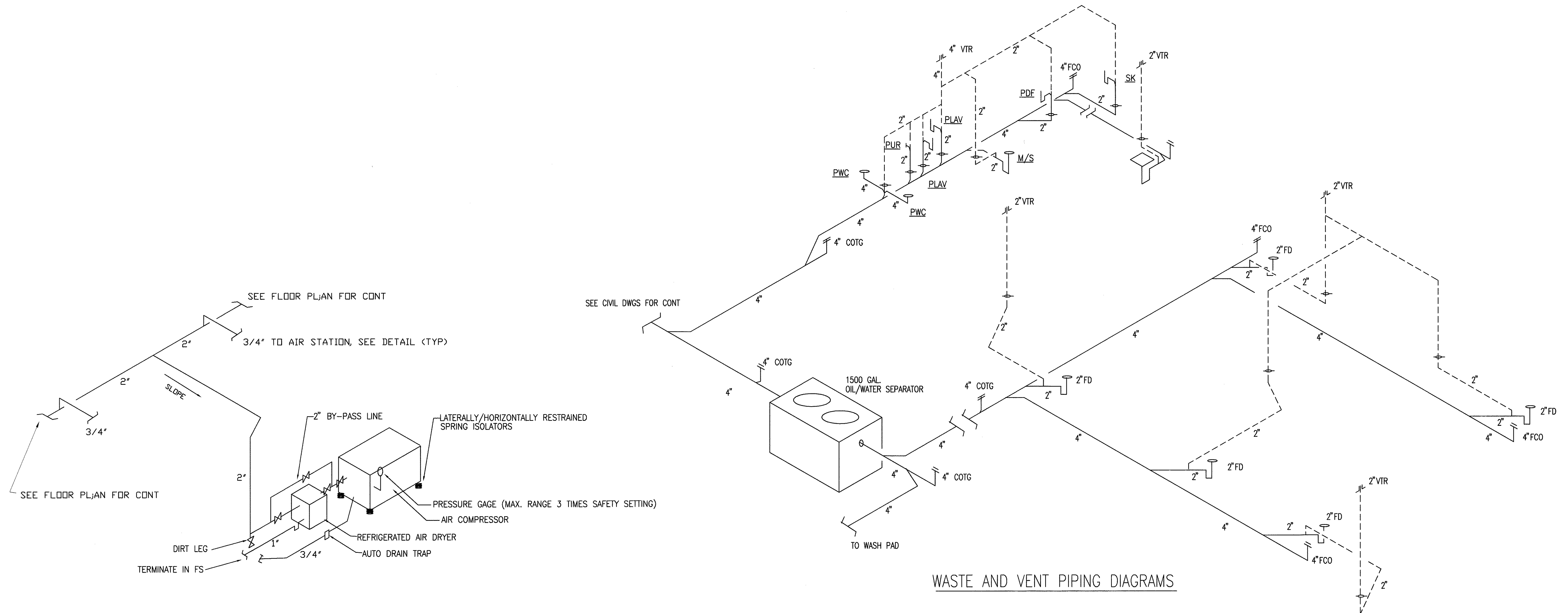
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SIGNATURE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**CENTRALIZED DISTRICT OFFICE
AND BASEYARD COMPLEX**
LIHUE, KAUAI
PROJECT NO. HWY-K-03-98
MECHANIC/BRIDGE SHOP BUILDING
PARTIAL PLUMBING PLAN, PIPING DIAGRAMS

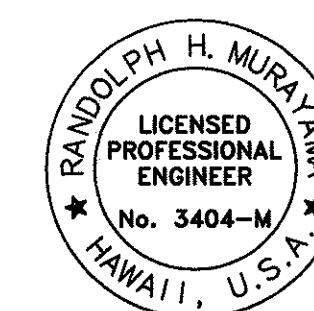
SCALE: AS NOTED
DATE: MARCH 30, 01
SHEET NO. M4.03 OF 150 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-K-03-98	2001	121	150



COMPRESSED AIR PIPING DIAGRAM
NTS

WASTE AND VENT PIPING DIAGRAMS



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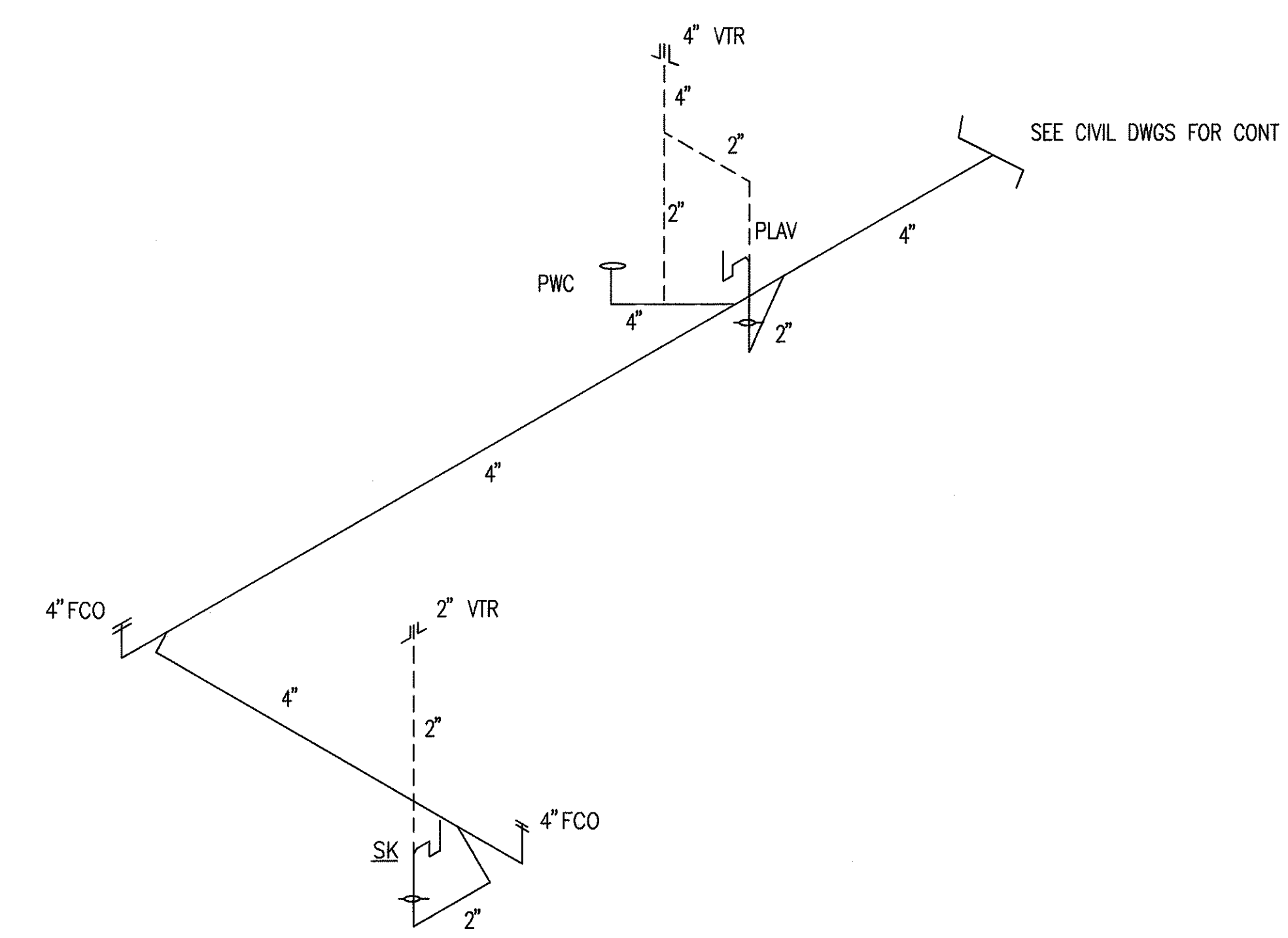
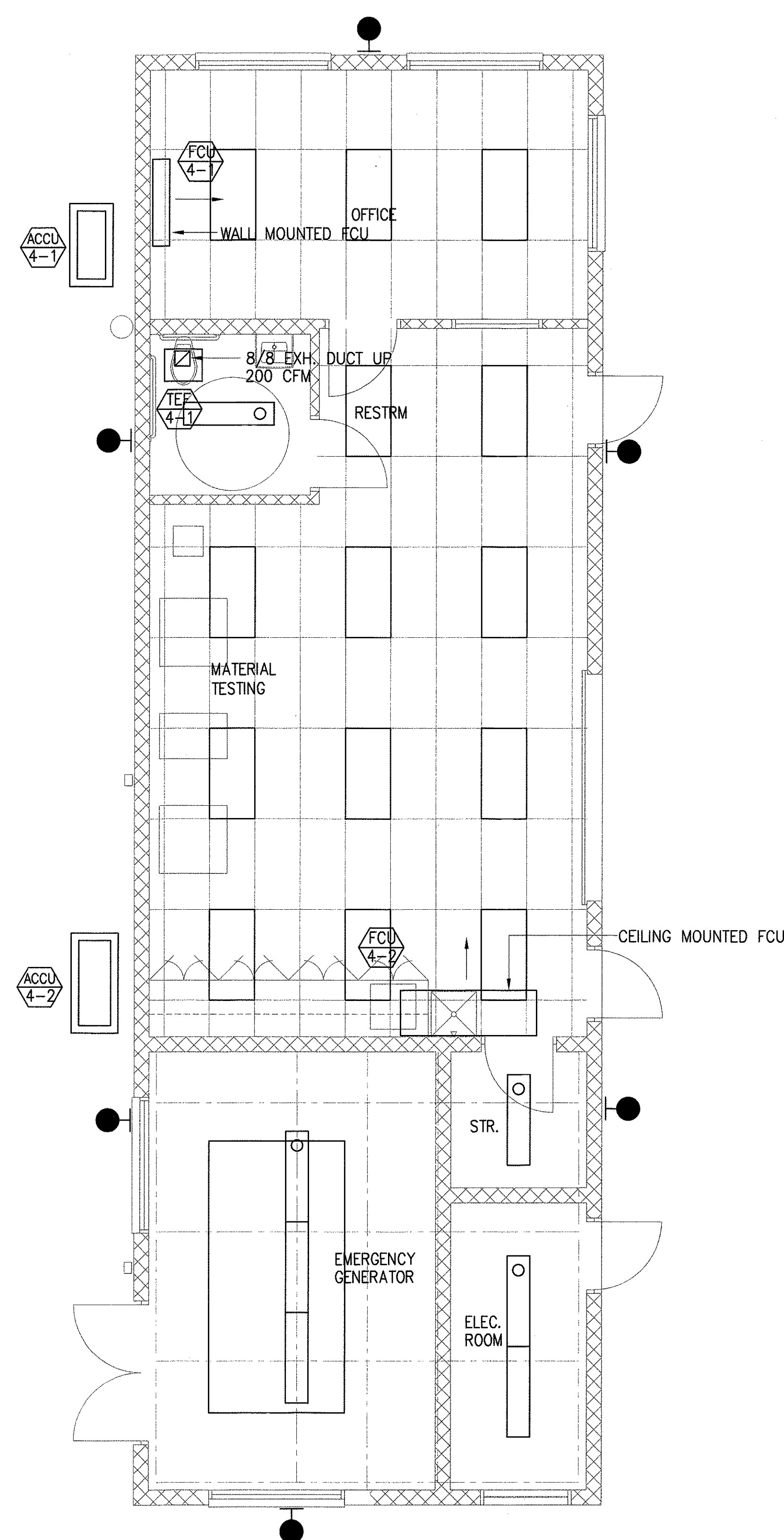
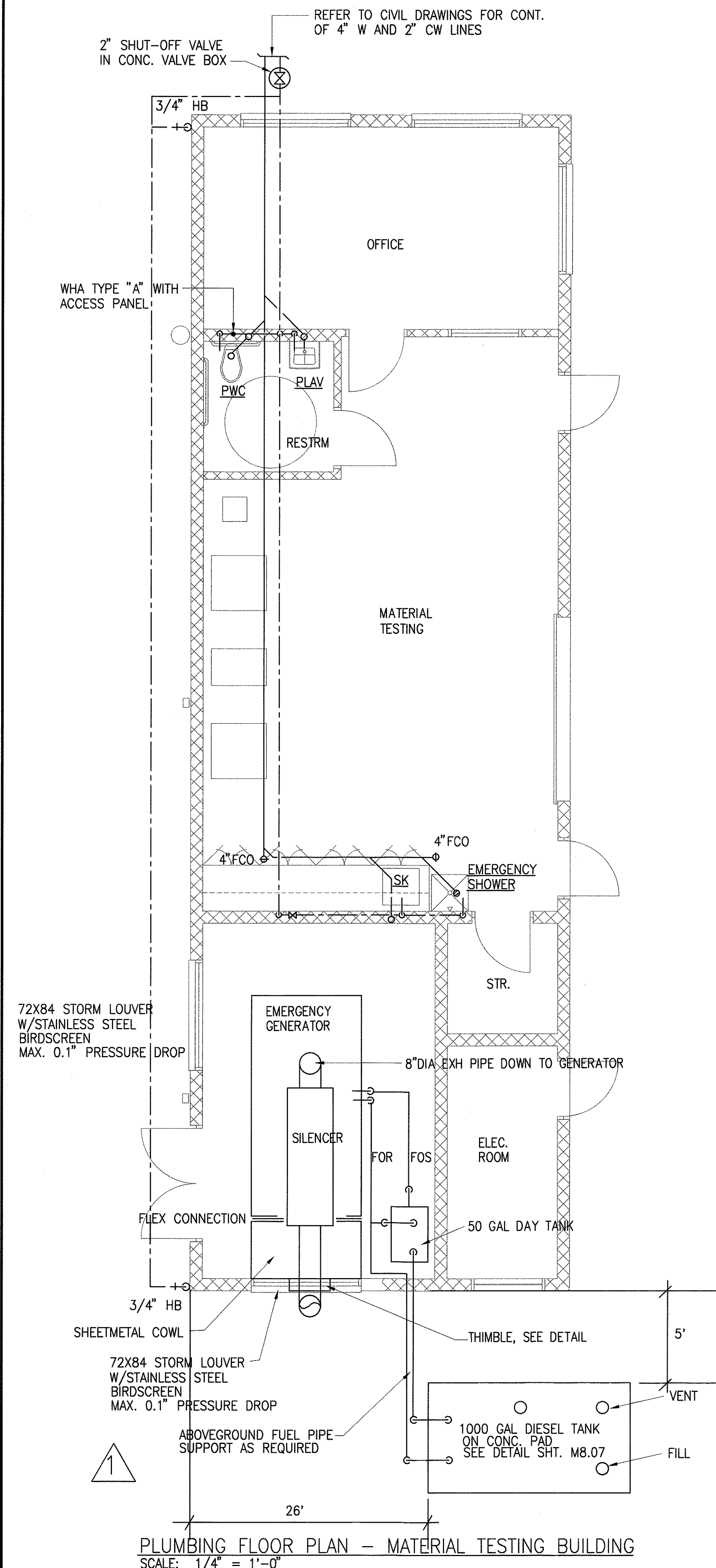
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SIGNATURE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

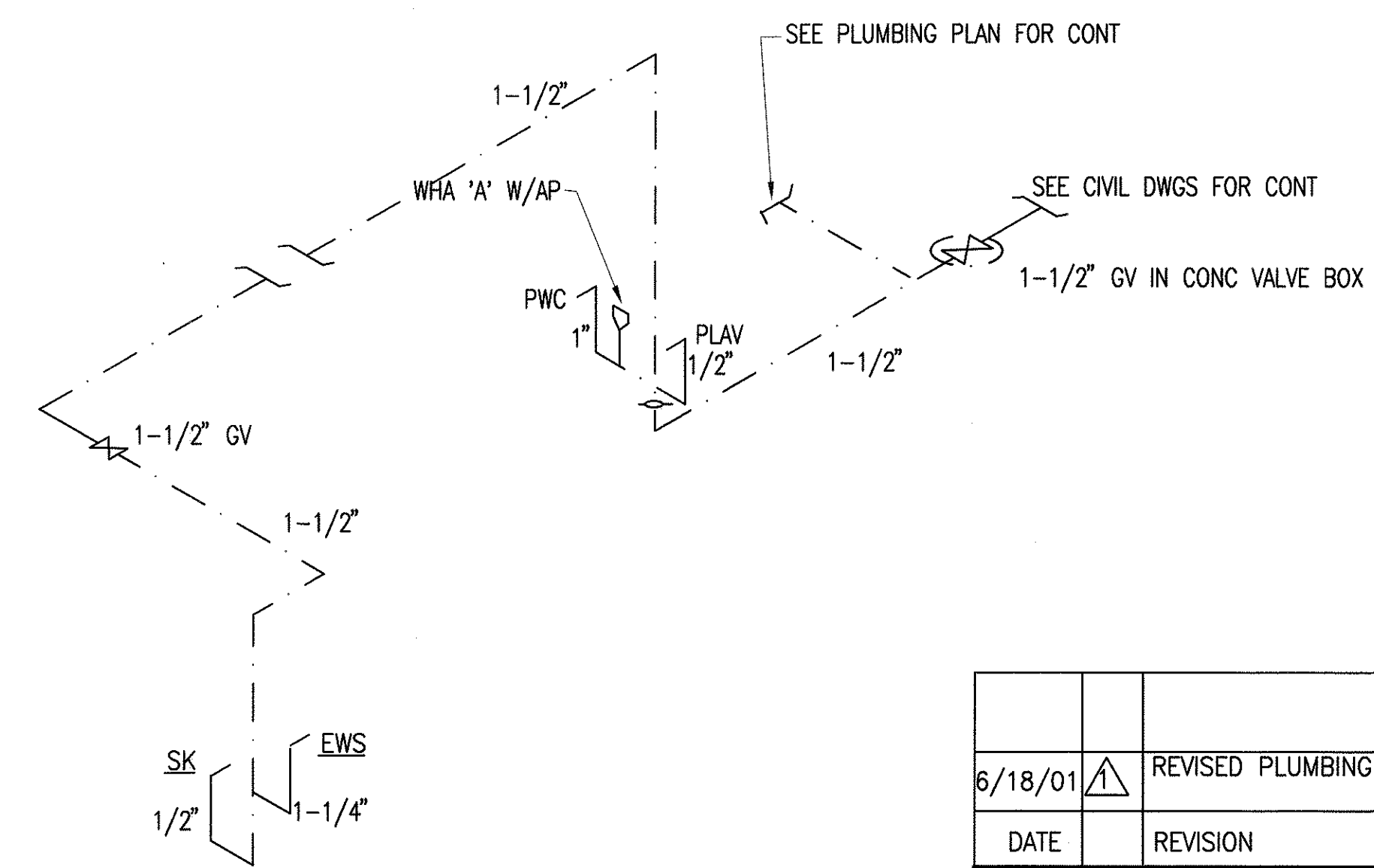
**CENTRALIZED DISTRICT OFFICE
AND BASEYARD COMPLEX**
LIHUE, KAUAI
PROJECT NO. HWY-K-03-98
MECHANIC/BRIDGE SHOP BUILDING
PIPING DIAGRAMS

SCALE: AS NOTED DATE: MARCH 30, 01
SHEET NO. M4.04 OF 150 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-K-03-98	2001	ADD 122	150



WASTE AND VENT PIPING DIAGRAMS



COLD WATER PIPING DIAGRAM

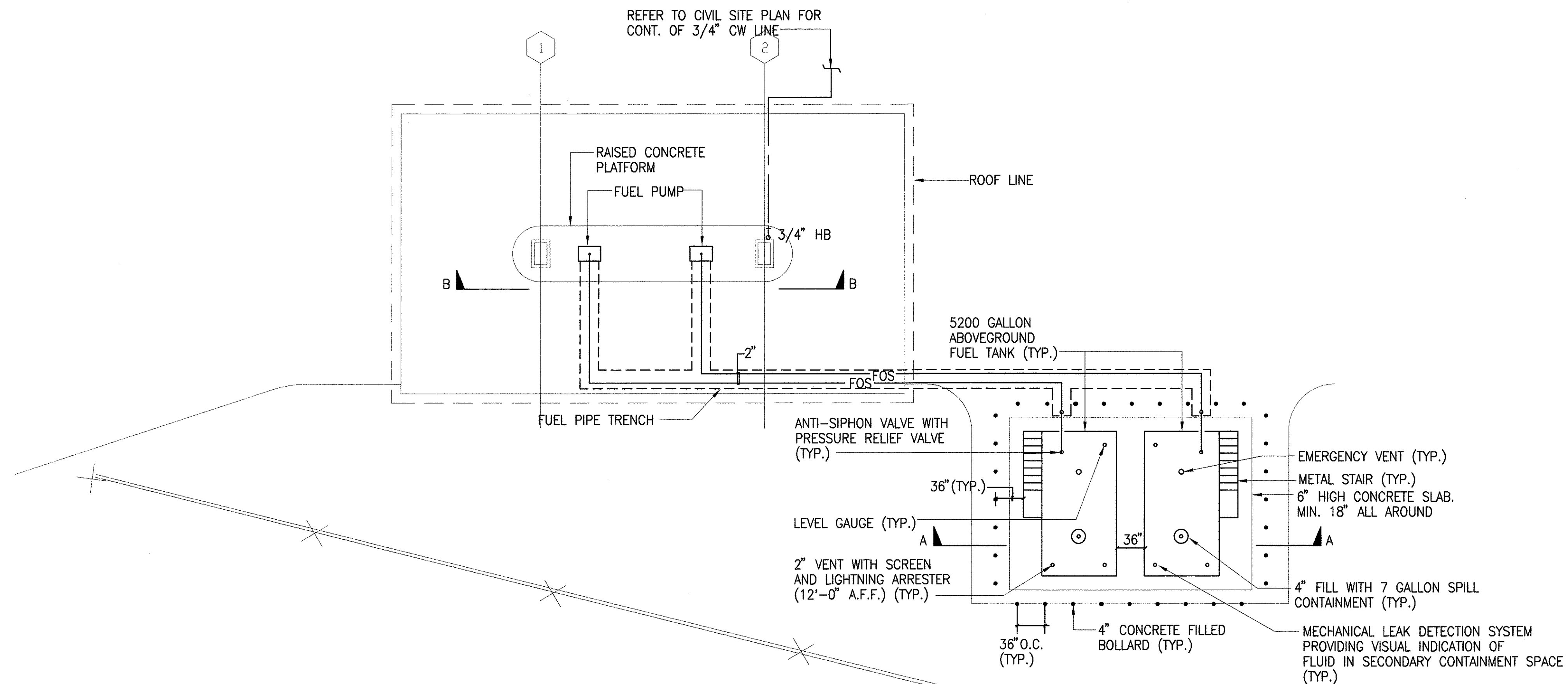
RANDOLPH H. MURRAY
LICENSED PROFESSIONAL ENGINEER
No. 3404-W
HAWAII, U.S.A.

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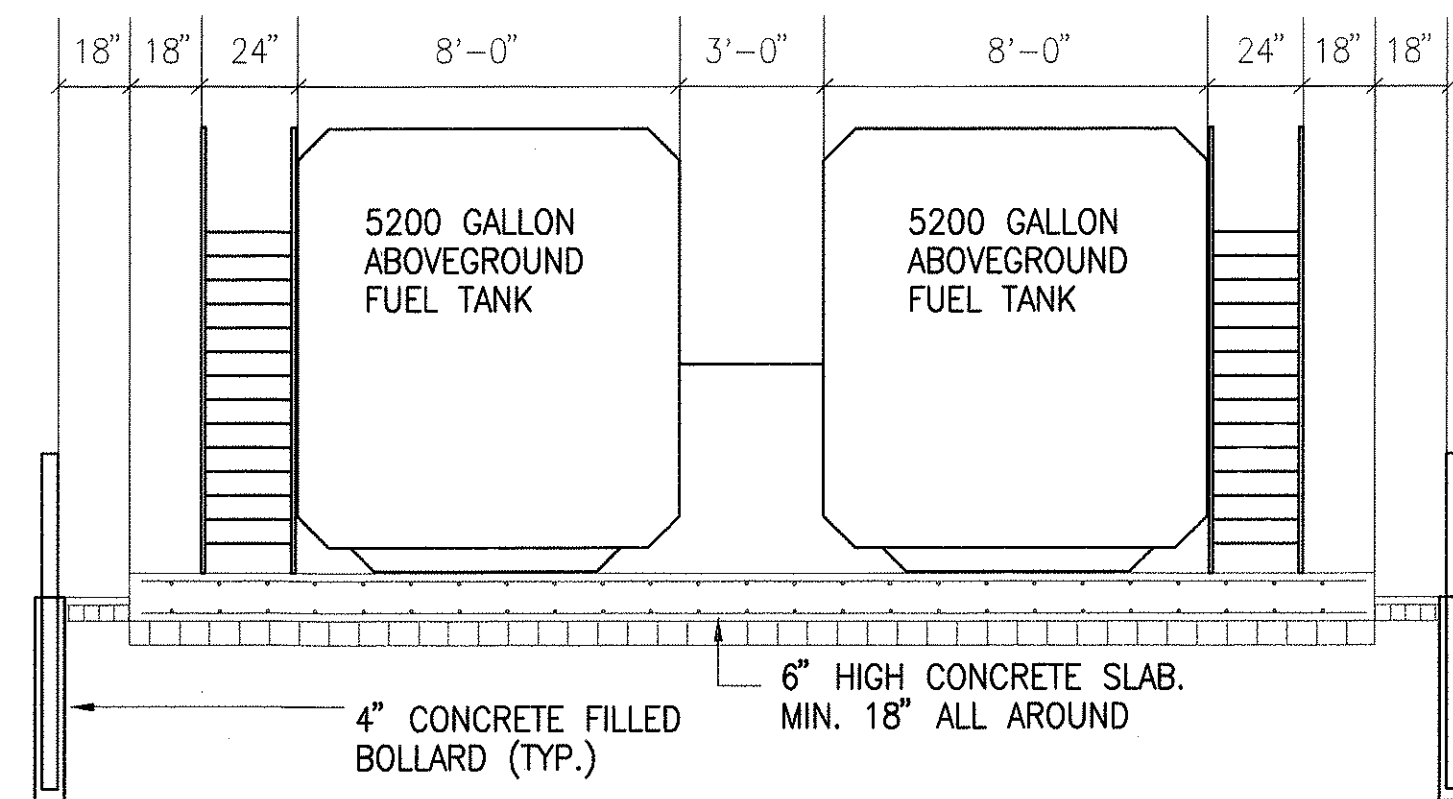
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6/18/01	REVISION	STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
DATE	REVISION	CENTRALIZED DISTRICT OFFICE AND BASEYARD COMPLEX LIHUE, KAUAI PROJECT NO. HWY-K-03-98 MATERIAL TESTING BUILDING PLUMBING & MECHANICAL FLOOR PLANS PIPING DIAGRAMS
SCALE: AS NOTED	DATE: MARCH 30, 01	SHEET NO. M5.01 OF 150 SHEETS

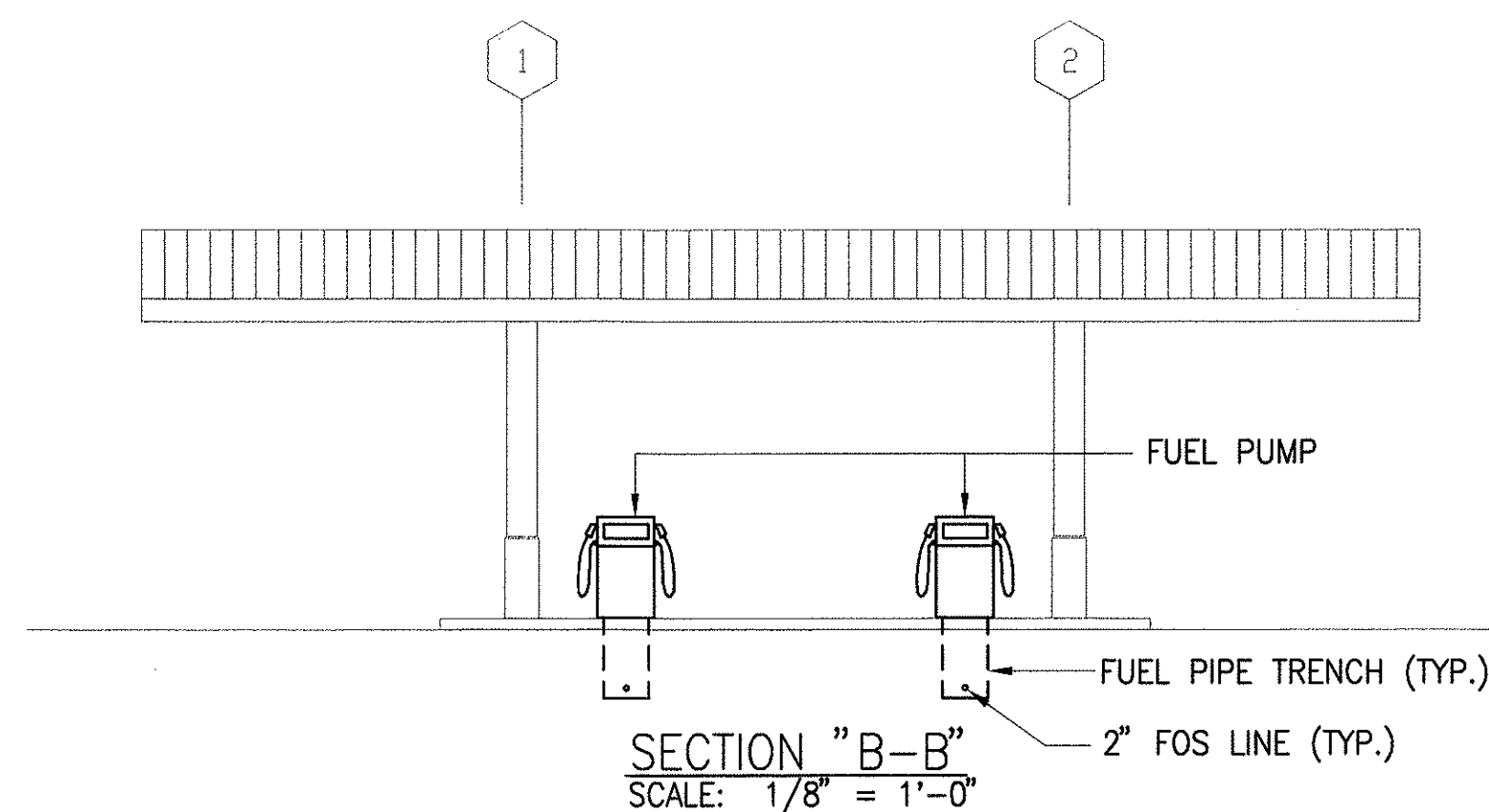
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-K-03-98	2001	123	150



FUEL PUMPING STATION AND STORAGE TANK PLAN
SCALE: 1/8" = 1'-0"



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



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

INSTALLATION NOTES:

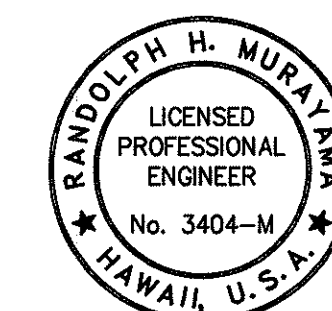
- THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT AND MATERIALS AND PROVIDE ALL LABOR FOR INSTALLATION OF THE FUEL STORAGE TANKS AND FUEL DISPENSING AND TICKETING SYSTEM SHOWN ON PLANS, COMPLETE IN PLACE, AND READY FOR OPERATION.

AFTER COMPLETING THE INSTALLATION, THE CONTRACTOR SHALL TEST THE FUEL STORAGE AND FUEL DISPENSING AND TICKETING SYSTEM AND SHALL MAKE THE NECESSARY ADJUSTMENTS, REPLACEMENTS AND/OR CORRECTIONS TO INSURE SAFE AND PROPER OPERATION OF THE ENTIRE SYSTEM.
- INSTALLATION SHALL COMPLY WITH APPLICABLE COUNTY, STATE AND FEDERAL REGULATIONS AND GUIDELINES.
- ABOVEGROUND FUEL TANKS SHALL BE CONVAULT 5000 GALLON TANKS, OR APPROVED EQUAL. ALL TANK ACCESSORIES REQUIRED FOR A COMPLETE INSTALLATION SHALL BE INCLUDED. BOTH TANKS SHALL BE IDENTICAL AND SHALL BE DESIGNED TO BE FILLED FROM THE SAME END.
- FUEL DISPENSERS SHALL BE BENNET FLEETMASTER, SELF-CONTAINED, SINGLE PRODUCT, TWIN PUMP STATIONS, OR APPROVED EQUALS. ALL DISPENSERS SHALL BE EQUIPPED WITH A TICKET PRINTING SYSTEM TO BE USED AS SPECIFIED IN THE SPECIAL PROVISIONS. (TICKET PRINTING SYSTEM SHALL BE COMPATIBLE FOR USE WITH THE SAMPLE TICKET SHOWN ON SHEET M8.07)

SERVICE HOSES SHALL BE 18' LONG (MIN.), U.L. LISTED WITH SAFETY BREAKAWAY CONNECTIONS. NOZZLES SHALL BE U.L. LISTED WITH AN AUTOMATIC SHUT-OFF VALVE. ALL ACCESSORIES AND COUPLING HARDWARE (SHEAR VALVES, ETC.) REQUIRED FOR THIS INSTALLATION SHALL BE U.L. LISTED.
- CONCRETE FILLED PIPE GUARDS SHALL BE INSTALLED AROUND THE FUEL STORAGE TANK AREA AS SHOWN ON THE PLANS. AFTER INSTALLATION, ALL PIPES SHALL BE CLEANED AND PAINTED WITH ONE COAT OF PRIMER AND TWO COATS OF YELLOW PAINT. STEEL POSTS INCLUDING CONCRETE FOUNDATIONS SHALL BE CONSIDERED INCIDENTAL TO ITEM NO. 678J006 - ABOVEGROUND FUEL TANK, DISPENSING AND TICKETING SYSTEM.
- SEISMIC TANKS RESTRAINTS SHALL BE GALVANIZED STEEL AND SHALL CONFORM TO THE MANUFACTURER'S SPECIFICATIONS. ALL BOLTS, NUTS AND WASHERS SHALL BE STAINLESS STEEL.
- FOR ACCESS TO TOP OF FUEL TANKS, METAL STAIR UNITS SHALL BE INSTALLED AS SHOWN ON THE PLANS. STAIR UNITS SHALL BE CONVAULT MULTI-STEP MODEL OR AN APPROVED EQUAL, CONFORMING TO OSHA REQUIREMENTS AND SHALL BE COMPATIBLE FOR USE WITH THE FUEL STORAGE TANKS. CONCRETE SLAB SHALL EXTEND BEYOND THE BOTTOM OF THE STAIR UNIT AS SHOWN ON THE PLANS.

EQUIPMENT SCHEDULE

FUEL PUMP:
GASBOY MODEL 9153ATW1M OR APPROVED EQUAL, TWIN NOZZLE FUEL DISPENSER WITH SUCTION PUMP. PUMP RATED AT UP TO 22 GPM. TWO (2) 3/4 HP MOTORS, 115 V/1 PH/60 HZ.

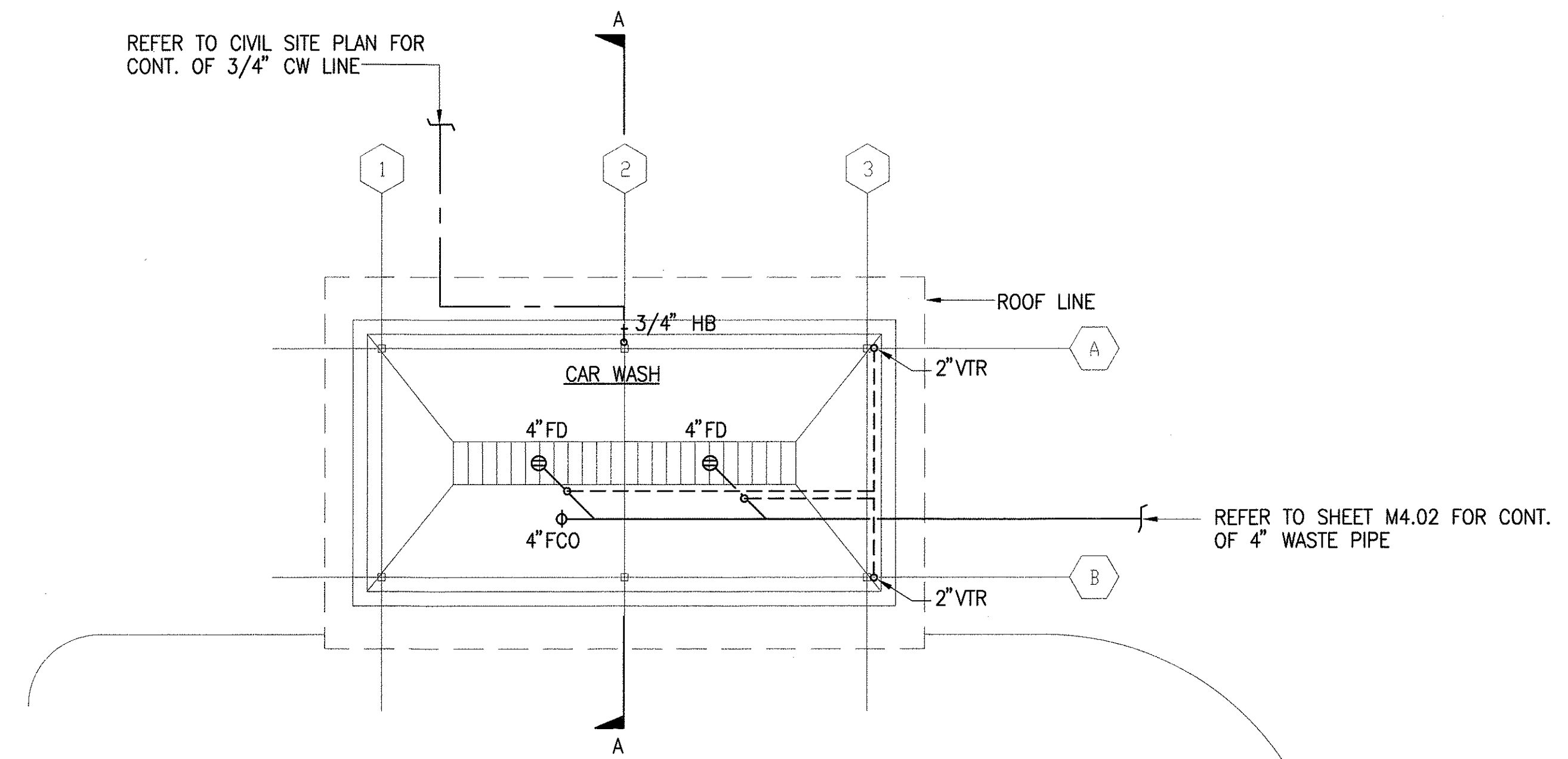


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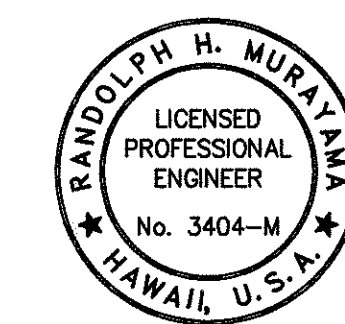
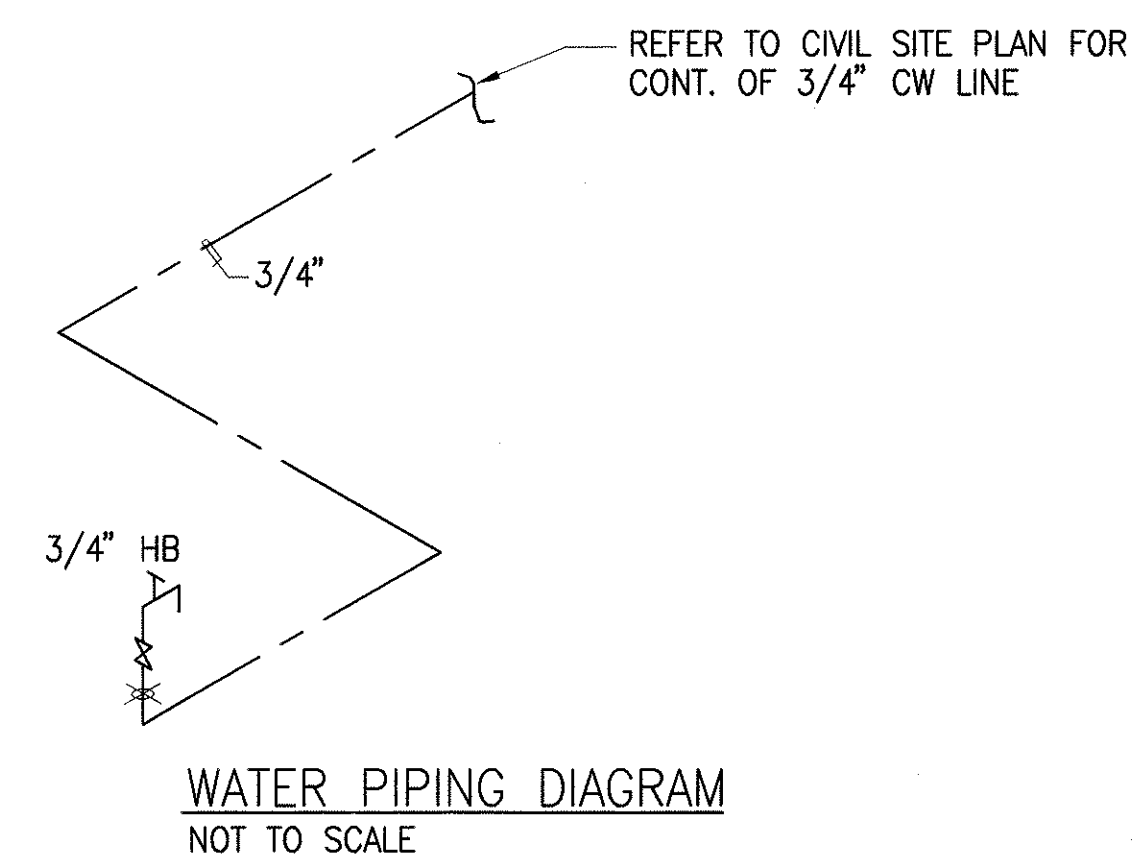
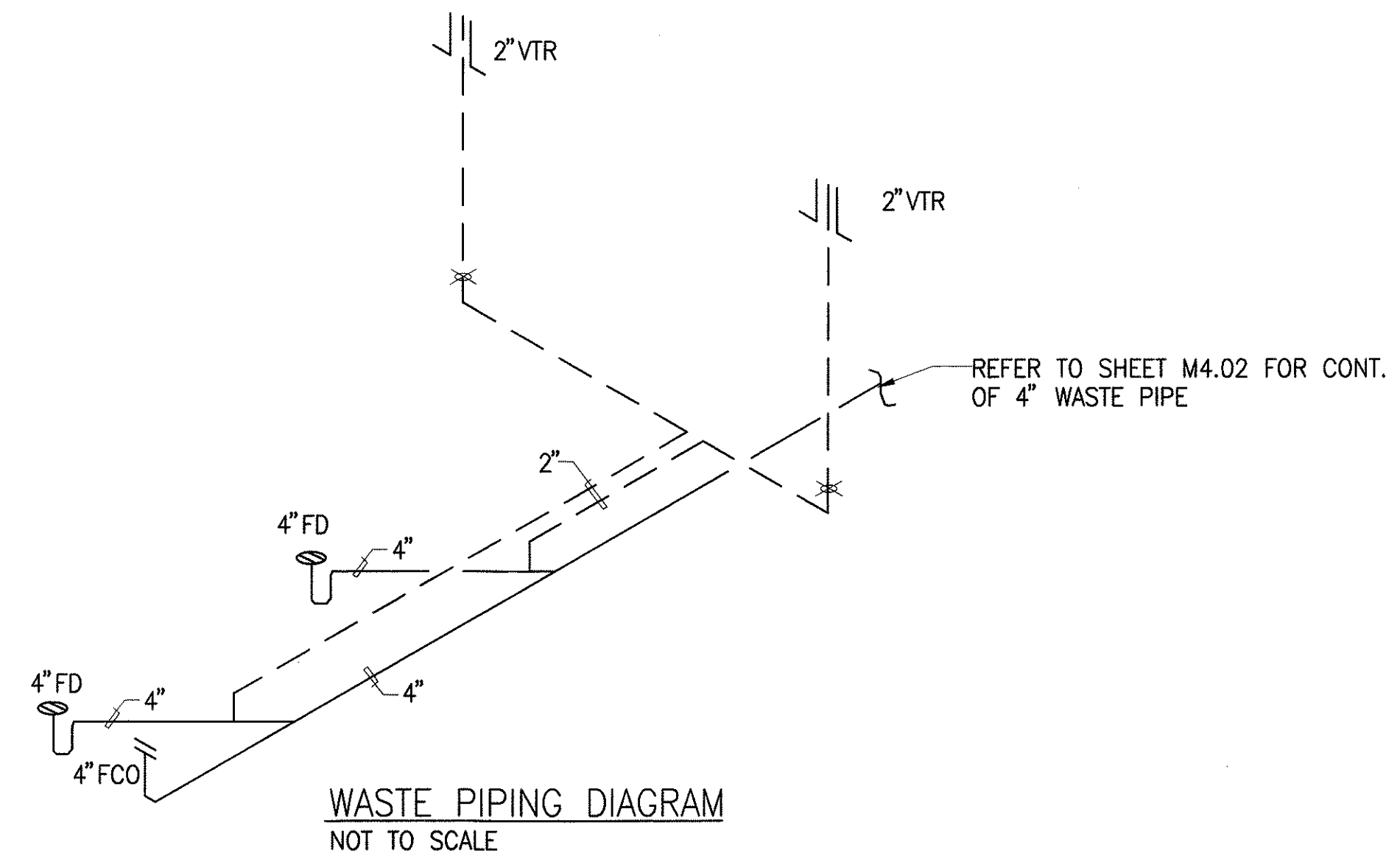
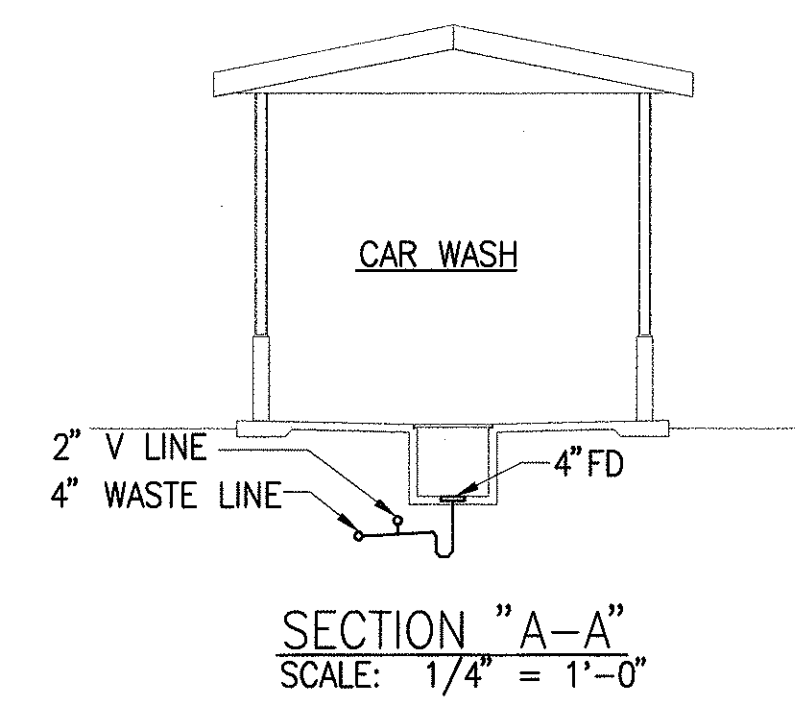
SIGNATURE

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
CENTRALIZED DISTRICT OFFICE AND BASEYARD COMPLEX	
LIHUE, KAUAI	
PROJECT NO. HWY-K-03-98	
FUEL STATION - MECHANICAL PLAN	
SCALE: AS NOTED	DATE: MARCH 30, 01
SHEET NO. M6.01 OF 150 SHEETS	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-K-03-98	2001	124	150



CAR WASH PLUMBING PLAN
SCALE: 1/8" = 1'-0"



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OR UNDER MY SUPERVISION

[Signature]
SIGNATURE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**CENTRALIZED DISTRICT OFFICE
AND BASEYARD COMPLEX**

LIHUE, KAUAI

PROJECT NO. HWY-K-03-98

WASH PAD - MECHANICAL PLAN AND
PIPING DIAGRAMS


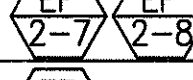
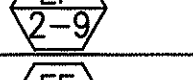


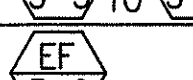
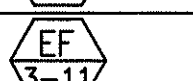
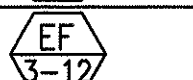


SCALE: AS NOTED


DATE: MARCH 30, 01

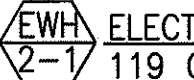
SHEET NO. M6.02 OF 150 SHEETS


MECHANICAL EQUIPMENT SCHEDULE

EXHAUST FANS

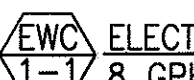
UNIT NO.	LOCATION	CFM	T.S.P.	FAN RPM	HP	W	V/PH/HZ	OPERATING WEIGHT (LBS)	SONES	MODEL NO.	REMARKS
	ADMINISTRATION BLDG. MEN, WOMEN	540	0.25"	758	—	798	115 V/1 PH/60 HZ	56	5.1	GREENHECK MODEL SP-262 OR EQUAL	INTERLOCK WITH LIGHT SWITCH OF ROOM SERVED
	ADMINISTRATION BLDG. JANITOR	100	0.25"	1072	—	76	115 V/1 PH/60 HZ	15	2.0	GREENHECK MODEL SP-216 OR EQUAL	INTERLOCK WITH LIGHT SWITCH OF ROOM SERVED
	MAINTENANCE BLDG. WOMEN	460	0.25"	644	—	584	115 V/1 PH/60 HZ	56	4.9	GREENHECK MODEL SP-260 OR EQUAL	INTERLOCK WITH LIGHT SWITCH OF ROOM SERVED
	MAINTENANCE BLDG. MEN	730	0.25"	854	—	584	115 V/1 PH/60 HZ	56	5.8	GREENHECK MODEL SP-260 OR EQUAL	INTERLOCK WITH LIGHT SWITCH OF ROOM SERVED
	MAINTENANCE BLDG. JANITOR	100	0.25"	1072	—	76	115 V/1 PH/60 HZ	15	2.0	GREENHECK MODEL SP-216 OR EQUAL	INTERLOCK WITH LIGHT SWITCH OF ROOM SERVED
	MAINTENANCE BLDG. STORAGE ROOMS	1950	0.5"	770	1/3	—	115 V/1 PH/60 HZ	103	7.9	GREENHECK MODEL CUBE-180-3 OR EQUAL	PROVIDE "ON-OFF" SWITCH.
	MAINTENANCE BLDG. WORKROOM SIGNAL	1670	0.5"	705	1/4	—	115 V/1 PH/60 HZ	101	6.3	GREENHECK MODEL GB-180-4 OR EQUAL	INTERLOCK WITH LIGHT SWITCH OF ROOM SERVED
	MAINTENANCE BLDG. TRAFFIC SIGNAL SHOP	2360	0.5"	688	1/2	—	115 V/1 PH/60 HZ	101	7.7	GREENHECK MODEL CUBE-200-5 OR EQUAL	PROVIDE "ON-OFF" SWITCH.
	MAINTENANCE BLDG. EMERG. TEL. ROOM	420	0.25"	624	—	584	115 V/1 PH/60 HZ	56	4.8	GREENHECK MODEL SP-260 OR EQUAL	INTERLOCK WITH LIGHT SWITCH OF ROOM SERVED
	MAINTENANCE BLDG. CONTROL ROOM	840	0.25"	950	—	584	115 V/1 PH/60 HZ	56	6.4	GREENHECK MODEL SP-260 OR EQUAL	INTERLOCK WITH LIGHT SWITCH OF ROOM SERVED
	MECH./BRIDGE SHOP BLDG. MEN, WOMEN	640	0.25"	781	—	285	115 V/1 PH/60 HZ	56	5.6	GREENHECK MODEL SP-260 OR EQUAL	INTERLOCK WITH LIGHT SWITCH OF ROOM SERVED
	MECH./BRIDGE SHOP BLDG. STORAGE	1700	0.5"	708	1/4	—	115 V/1 PH/60 HZ	101	6.5	GREENHECK MODEL GB-180-4 OR EQUAL	INTERLOCK WITH LIGHT SWITCH OF ROOM SERVED
	MECH./BRIDGE SHOP BLDG. TOOL STOR., WELDING SHOP	1000	0.25"	1095	—	798	115 V/1 PH/60 HZ	56	7	GREENHECK MODEL SP-262 OR EQUAL	INTERLOCK WITH LIGHT SWITCH OF ROOM SERVED
	MECH./BRIDGE SHOP BLDG. SHOPS, SERVICE BAYS	5000	0.5"	471	3/4	—	460 V/3 PH/60 HZ	208	8.3	GREENHECK MODEL GB-300-7 OR EQUAL	PROVIDE "ON-OFF" SWITCH.
	MECH./BRIDGE SHOP BLDG. JANITOR	150	0.25"	1311	—	156	115 V/1 PH/60 HZ	15	3.0	GREENHECK MODEL SP-218 OR EQUAL	INTERLOCK WITH LIGHT SWITCH OF ROOM SERVED
	MECH./BRIDGE SHOP BLDG. BATTERY STOR.	400	0.25"	614	—	584	115 V/1 PH/60 HZ	56	4.6	GREENHECK MODEL SP-260 OR EQUAL	INTERLOCK WITH LIGHT SWITCH OF ROOM SERVED
	MECH./BRIDGE SHOP BLDG. COMPRESSOR	1000	0.25"	1095	—	798	115 V/1 PH/60 HZ	56	7	GREENHECK MODEL SP-262 OR EQUAL	INTERLOCK WITH SPACE THERMOSTAT.
	MECH./BRIDGE SHOP BLDG. TIRE STORAGE	1300	0.25"	1420	—	1032	115 V/1 PH/60 HZ	56	11.5	GREENHECK MODEL SP-265 OR EQUAL	INTERLOCK WITH LIGHT SWITCH OF ROOM SERVED
	MECH./BRIDGE SHOP BLDG. FLAMMABLE AND PARTS STORAGE	2300	0.5"	1015	1/2	—	115 V/1 PH/60 HZ	65	11.9	GREENHECK MODEL CUBE-160-5 OR EQUAL	PROVIDE "ON-OFF" SWITCH.
	MATERIAL TESTING BLDG. RESTROOM	200	0.25"	742	—	224	115 V/1 PH/60 HZ	31	3.3	GREENHECK MODEL SP-250 OR EQUAL	INTERLOCK WITH LIGHT SWITCH OF ROOM SERVED

 **ELECTRIC WATER HEATER**
30 GALLON CAPACITY, 4500 WATT ELEMENT (TWO HEATING ELEMENTS), 208 V/1 PH/60 HZ. COMPLY TO ASHRAE 90-1980. STATE MODEL PV-30-10MS-K OR APPROVED EQUIVALENT. PROVIDE PRESSURE AND TEMPERATURE RELIEF VALVE, VACUUM BREAKER, VALVES AND UNIONS. 111 LBS. SHIPPING WEIGHT.


 **ELECTRIC WATER HEATER**
119 GALLON CAPACITY, 4500 WATT ELEMENT (TWO HEATING ELEMENTS), 208 V/1 PH/60 HZ. COMPLY TO ASHRAE 90-1980. STATE MODEL PV-120-20RT OR APPROVED EQUIVALENT. PROVIDE PRESSURE AND TEMPERATURE RELIEF VALVE, VACUUM BREAKER, VALVES AND UNIONS. 312 LBS. SHIPPING WEIGHT.

 **AIR COMPRESSOR**
TWO-STAGE, HORIZONTAL TANK MOUNTED AIR COMPRESSOR. 35 ACFM AT 100 PSIG. 10 HP, 460 V/3 PH/60 HZ. 120 GALLON STORAGE TANK. 835 LB. OPERATING WEIGHT. MAX. 175 PSIG PRESSURE. PROVIDE STAINLESS STEEL CONTROL PANEL FOR AUTO CONTROLS.

 **REFRIGERATED AIR DRYER:**
35 SCFM AT 100 PSIG, 1/2 HP, 115 V/1 PH/60 HZ. 72 LBS. WEIGHT. 250 PSI MAX. WORKING PRESSURE. PROVIDE STAINLESS STEEL CONTROL CABINET.


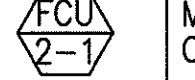
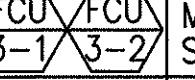
 **ELECTRIC WATER COOLER**
8 GPH CAPACITY, FULLY RECESSED BARRIER-FREE WATER COOLER. 4.7 AMPS, 380 WATTS, 1/5 HP COMPRESSOR, 50 DEG F WATER AT 90 DEG F ROOM TEMP. AND 80 DEG F INLET WATER. 115V/1PH/60HZ. ELKAY EFRC-8 OR EQUAL.

 **ELECTRIC WATER COOLER**
SAME AS EWC 1-1 EXCEPT FOR MOUNTING HEIGHT. SEE ARCHITECTURAL DRAWINGS FOR HEIGHTS.

 **ELECTRIC WATER COOLER**
DUAL HEIGHT, 8 GPH CAPACITY, BARRIER-FREE WATER COOLER. 4.7 AMPS, 380 WATTS, 1/5 HP COMPRESSOR, 50 DEG F WATER AT 90 DEG F ROOM TEMP. AND 80 DEG F INLET WATER. 115V/1PH/60HZ. ELKAY EFRC-8 OR EQUAL.

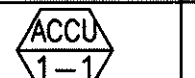
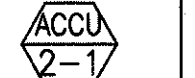
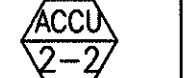
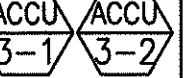
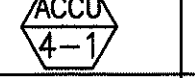
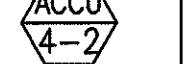
AIR HANDLING UNITS/FAN COIL UNITS

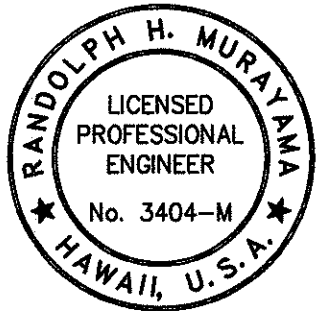
ALL MOTORS SHALL BE HIGH EFFICIENCY TYPE. PROVIDE MIN. 3 FILTER CHANGES: DURING CONSTRUCTION, PRIOR TO TEST AND BALANCING AND ONE MONTH AFTER FINAL ACCEPTANCE OF THE PROJECT. TOTAL COOLING AT 95° F AMBIENT TEMPERATURE, 80° F DB/67° F WB ENTERING AIR.


UNIT NO.	LOCATION	USE WITH ACCU #	TOTAL COOLING (BTUH)	SENSIBLE COOLING (BTUH)	TONS	CFM	OA CFM	E.S.P.	FAN RPM	HP	FLA	V/PH/HZ	OPERATING WEIGHT (LBS)	SOUND POWER LEVEL (DBA)	MODEL NO.	REMARKS
	ADMINISTRATION BLDG.	ACCU/1-1	600,000	450,000	50	20,000	2000	3.5"	675	20		460 V/3 PH/60 HZ			CARRIER 39T39 OR APPROVED EQUAL	
	MAINTENANCE BLDG.	ACCU/2-1	102,000	76,500	8.5	3400	700	2.0"	675	2		208 V/3 PH/60 HZ			CARRIER 39LA08 OR APPROVED EQUAL	
	MAINTENANCE BLDG. OFFICE	ACCU/2-2	12,000	8,000	1	400	40	-	1040 (HI)	35 W	0.23	208 V/1 PH/60 HZ	42.9		CARRIER 40QNB 024 OR APPROVED EQUAL	
	MECHANIC/BRIDGE SHOP BLDG. SUP. OFFICE, MECH. OFFICE	ACCU/3-1 ACCU/3-2	12,000	8,000	1	400	40	-	1040 (HI)	35 W	0.23	208 V/1 PH/60 HZ	149		CARRIER 40QAB 048 OR APPROVED EQUAL	
	MATERIAL TESTING BLDG. OFFICE	ACCU/4-1	24,000	18,000	2	800	40	-	1470 (HI)	49 W	0.53	208 V/1 PH/60 HZ	24.2		CARRIER 40QNB 012 OR APPROVED EQUAL	
	MATERIAL TESTING BLDG. MATERIAL TESTING	ACCU/4-2	48,000	36,000	4	1600	80	-	1435 (HI)	1/16	0.50	208 V/1 PH/60 HZ	24.2		CARRIER 40QNB 012 OR APPROVED EQUAL	

AIR COOLED CONDENSING UNITS

95° F CONDENSER ENTERING AIR TEMPERATURE, 40° F SATURATED SUCTION TEMPERATURE
PROVIDE SILOXANE COATING ON ENTIRE UNIT INSIDE AND OUTSIDE OF CASING.

UNIT NO.	COMPRESSOR A		COMPRESSOR B		FAN	V/PH/HZ	OPERATING WEIGHT (LBS)	MODEL NO.	SOUND POWER LEVEL (BELS)	REMARKS
	LRA	RLA	LRA	RLA	FLA					
	173	34.5	223	43.6	1.45	460 V/3 PH/60 HZ	3309	CARRIER 38AH054 OR APPROVED EQUAL		
	99	19.9	—	—	1.4	460 V/3 PH/60 HZ	564	CARRIER 38AKS009 OR APPROVED EQUAL		
	30.0	5.5	—	—	0.35	208 V/1 PH/60 HZ	62	CARRIER 38AN012 OR APPROVED EQUAL		
	30.0	5.5	—	—	0.35	208 V/1 PH/60 HZ	62	CARRIER 38AN012 OR APPROVED EQUAL		
	62.5	12.9	—	—	0.7	208 V/1 PH/60 HZ	154	CARRIER 38HD024 OR APPROVED EQUAL		10.7 EER
	129.0	26.4	—	—	1.45	208 V/1 PH/60 HZ	270	CARRIER 38HD048 OR APPROVED EQUAL		



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**CENTRALIZED DISTRICT OFFICE
AND BASEYARD COMPLEX**
LIHUE, KAUAI
PROJECT NO. HWY-K-03-98
EQUIPMENT SCHEDULE

SCALE: AS NOTED
DATE: MARCH 30, 01
SHEET NO. M8.01 OF 150 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-K-03-98	2001	126	150

General Conditions:

- Conform to all requirements of the Building, Plumbing, and Electrical Codes of Kauai County, State of Hawaii Health Regulations, Fire Department's Regulations, and other applicable regulations.
- Installation shall be guaranteed to be free from defects for one year from final date of acceptance of the project as a whole.
- Contractor shall verify all field conditions prior to bid and construction.
- Coordinate all work with other trades to avoid interferences and delays.
- Pay for all permit fees and applications.
- Provide additional materials and labor for a complete operable system at no additional cost to the State.
- Provide dielectric unions or separations at all dissimilar metals.
- Caulk all roof and wall penetrations to the outside watertight.
- All duct dimensions are net dimensions.
- All items shall be installed in accordance with manufacturer's recommendations.
- Provide access panels for all items under this section requiring servicing, inspection, maintenance, and adjustment.
- All steel shall be hot dipped galvanized. Steel exposed to weather shall have two extra coats of epoxy paint.
- Provide all control wiring and power wiring to variable air volume boxes. All wiring shall be in conduit. No EMT outdoors.
- Provide rebalancing within one year guarantee period to satisfy User's requirements. Rebalancing shall include changing of pulleys and sheaves.
- Coordinate all switch locations with User/Architect to avoid interferences with furniture, equipment, pictures, etc.
- Prepare six (6) sets of shop drawings, submitted to the engineer for approval prior to the start of work. No reproductions of any kind of the contract documents shall be acceptable as shop drawings. Provide one set of reproducible as-built drawings showing the actual installed conditions and submit to the Engineer upon completion of work.
- Provide bell mouth taps at all round duct taps.
- Provide air extractors at all rectangular duct taps.
- Provide turning vanes in ducts at all changes in direction. Provide splitter damper with locking quadrant handle at all duct tees.
- Provide flexible connections at intake and discharge of all mechanical equipment, including variable air boxes.

REVISED ORDINANCE OF KAUAI COUNTY
CHAPTER 32
BUILDING ENERGY EFFICIENCY STANDARDS

THE BUILDING ENERGY EFFICIENCY STANDARDS HAVE BEEN REVIEWED AND TO THE BEST OF MY KNOWLEDGE THIS DESIGN SUBSTANTIALLY CONFORMS TO THE MECHANICAL REQUIREMENTS OF SECTIONS 9.3, 10.3, 11.3, 12.3 OR 13.3

Signature

Randolph H. Murayama

Name (Print)

President

Title

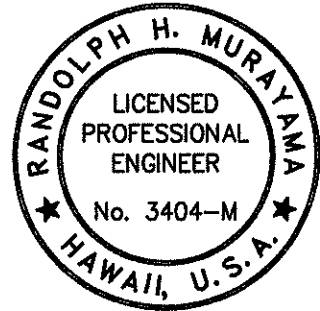
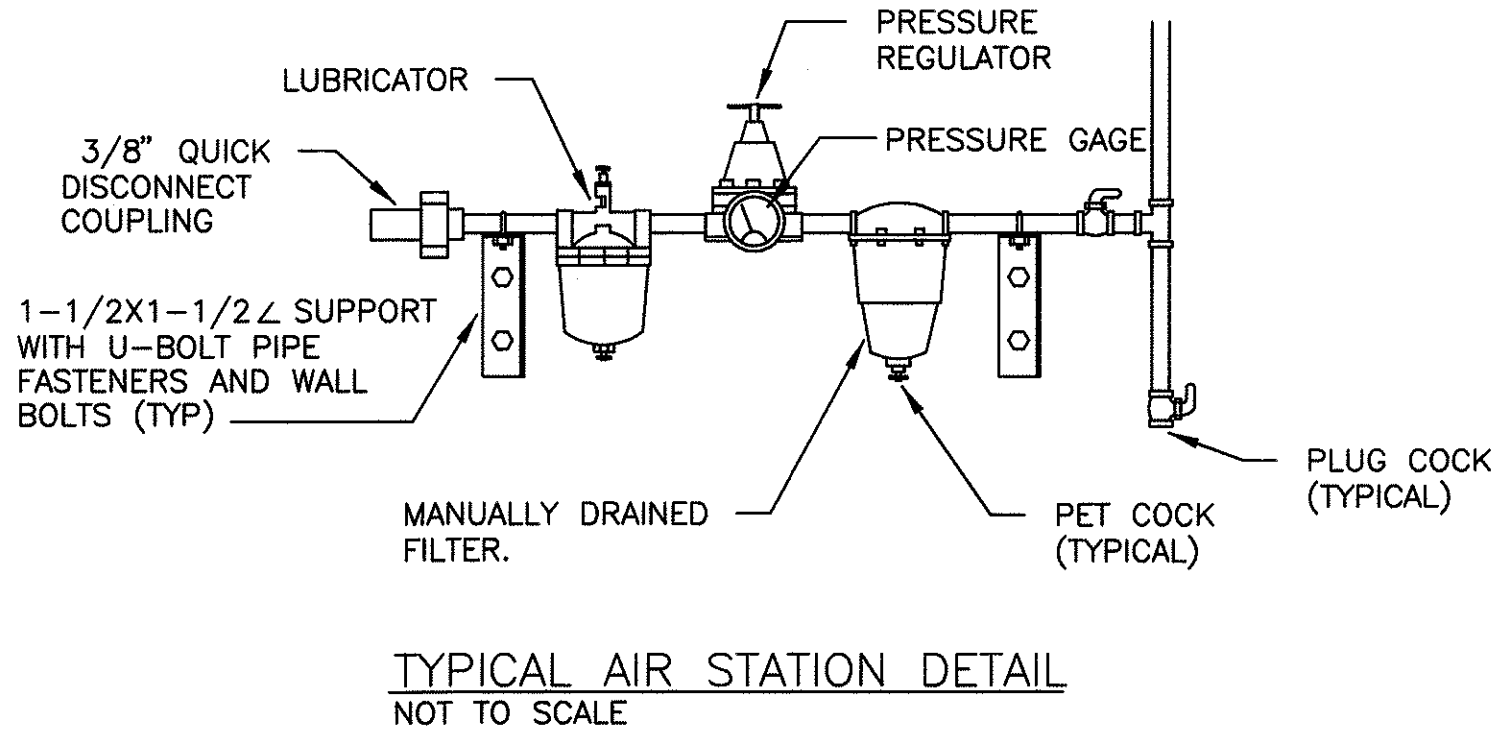
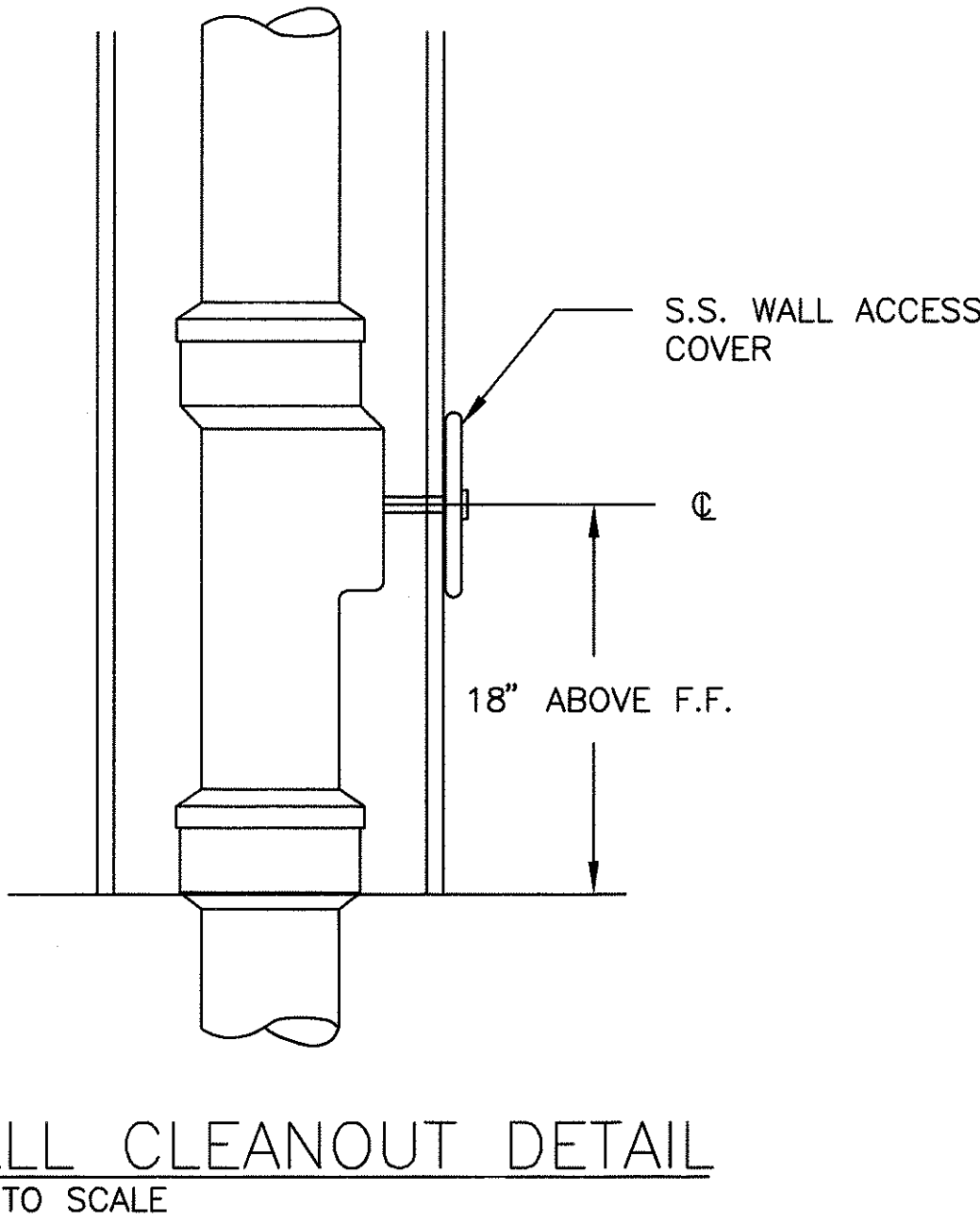
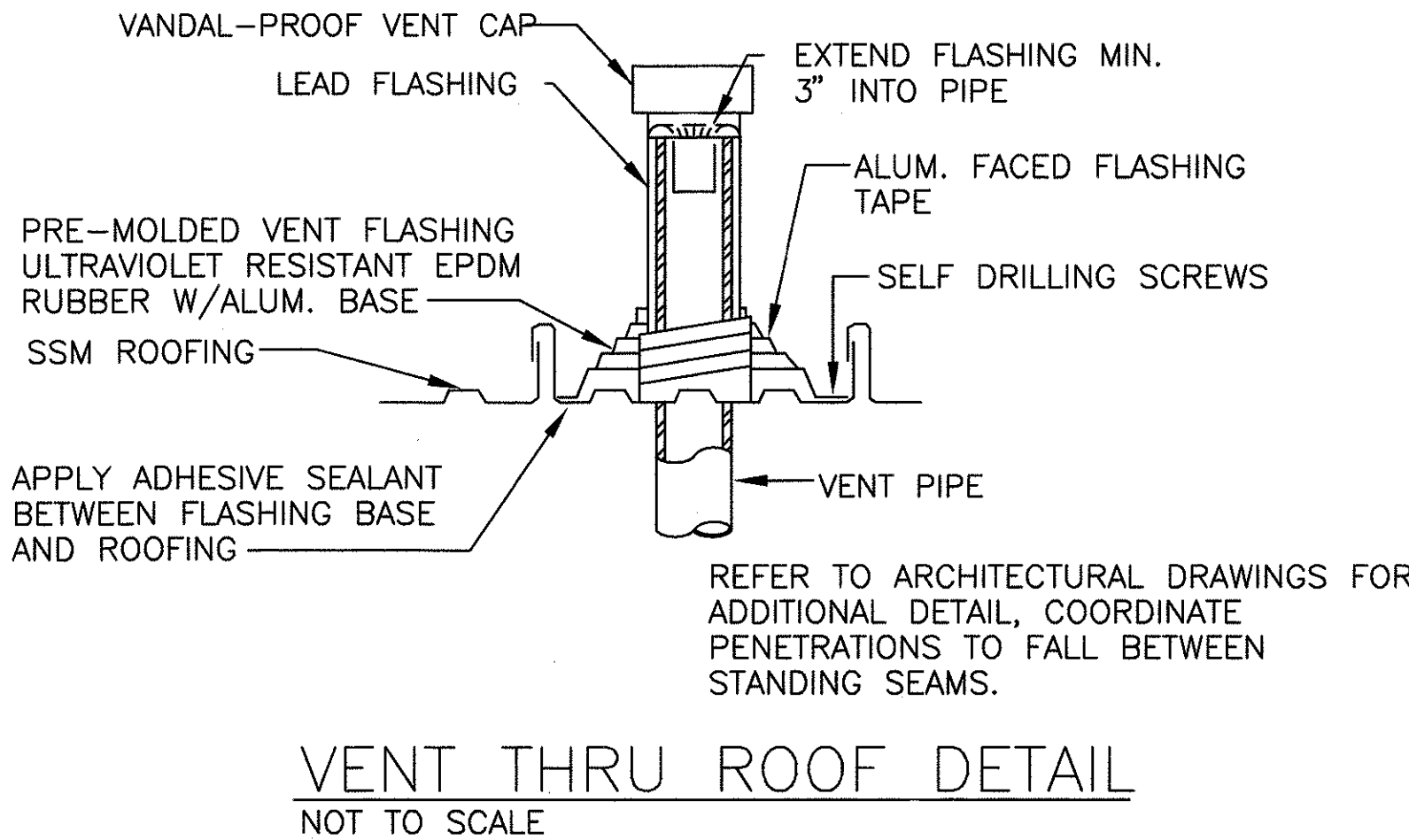
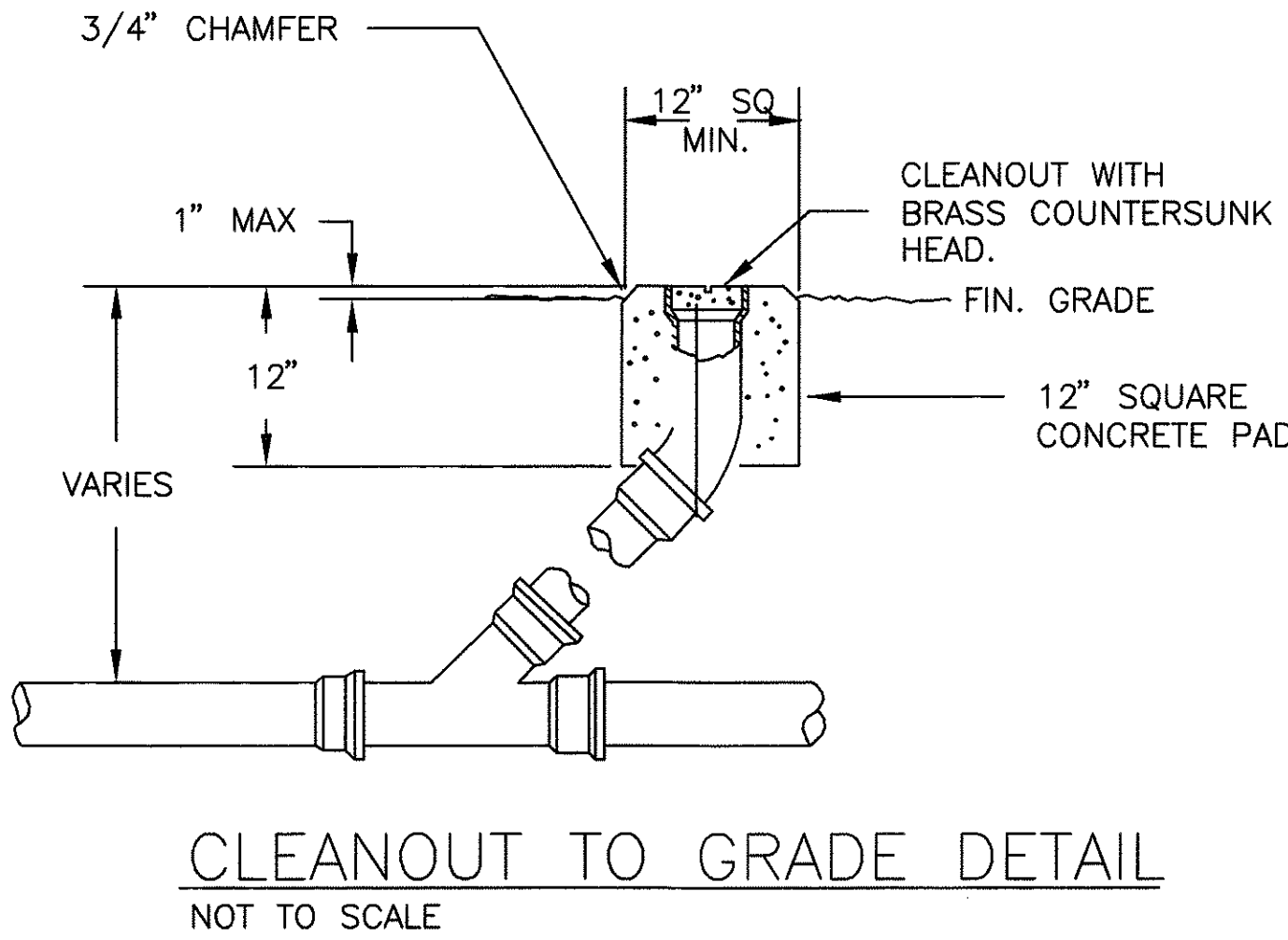
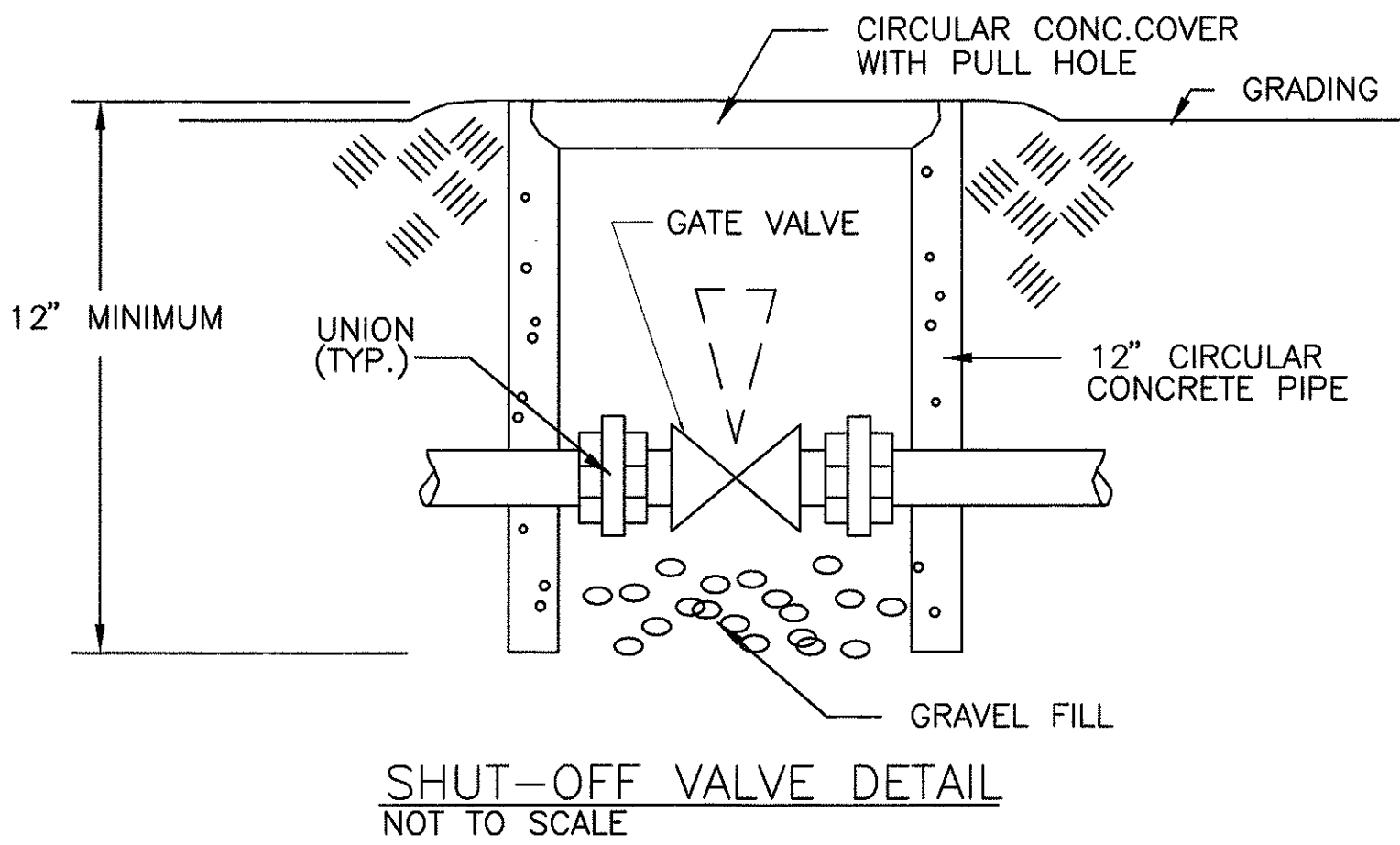
RANDOLPH H. MURAYAMA

LICENSED PROFESSIONAL ENGINEER

No. 3404-M

HAWAII, U.S.A.

THE AIR CONDITIONING AND VENTILATION SYSTEM SHALL COMPLY WITH TITLE 11, ADMINISTRATIVE RULES, DEPARTMENT OF HEALTH, CHAPTER 39, AIR CONDITIONING AND VENTILATING REQUIREMENTS



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CENTRALIZED DISTRICT OFFICE
AND BASEYARD COMPLEX

LIHUE, KAUAI

PROJECT NO. HWY-K-03-98

NOTES, DETAILS

SCALE: AS NOTED

DATE: MARCH 30, 01

SHEET NO. M8.02 OF 150 SHEETS

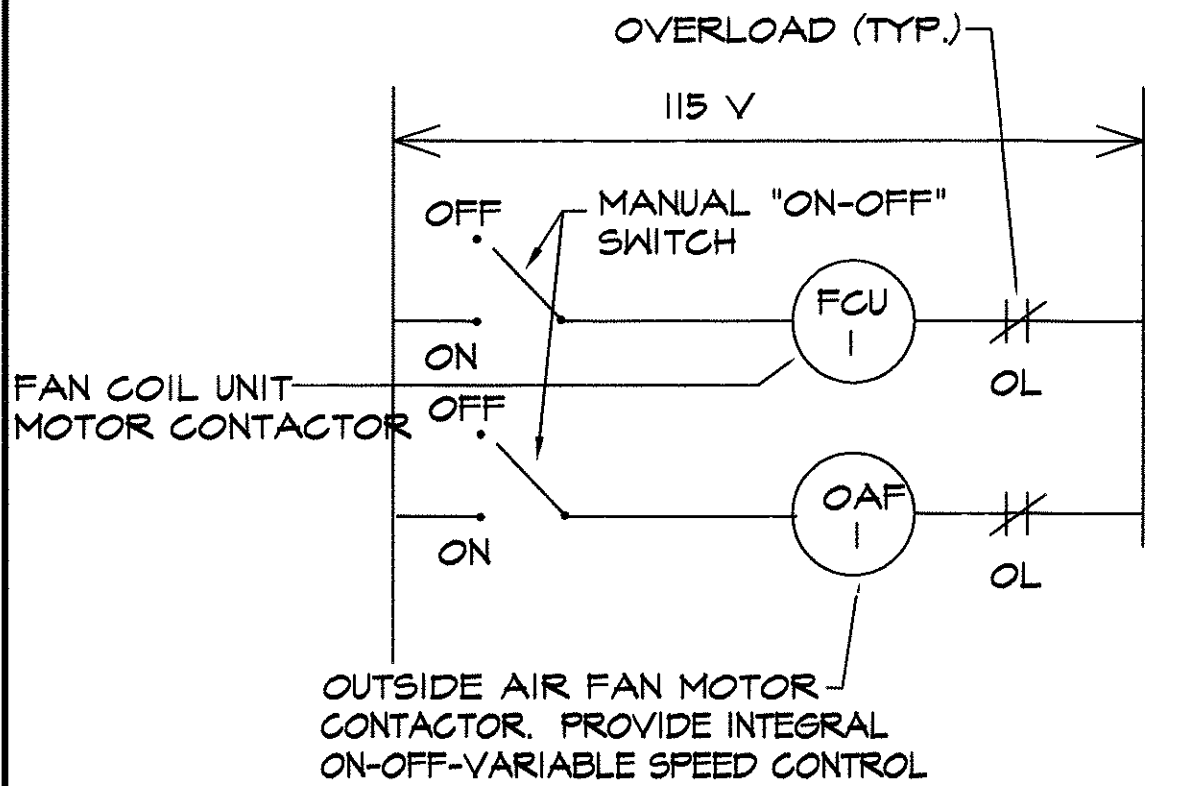
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-K-03-98	2001	127	150

VAV TERMINAL UNITS: FACTORY FABRICATED, ELECTRICALLY CONTROLLED, COMPLETE WITH REMOTE THERMOSTAT, ACTUATOR AND VOLUME CONTROL DAMPER. SYSTEM POWERED NOT ALLOWED. SET MINIMUM FLOW TO 20% OF DESIGN AIR VOLUME. MAXIMUM PRESSURE DIFFERENTIAL OF 0.4". NC 30 BASED ON 10 DB CEILING INSERTION LOSS AND 8 DB ROOM EFFECT AT 1" S.P. AT BOX INLET.

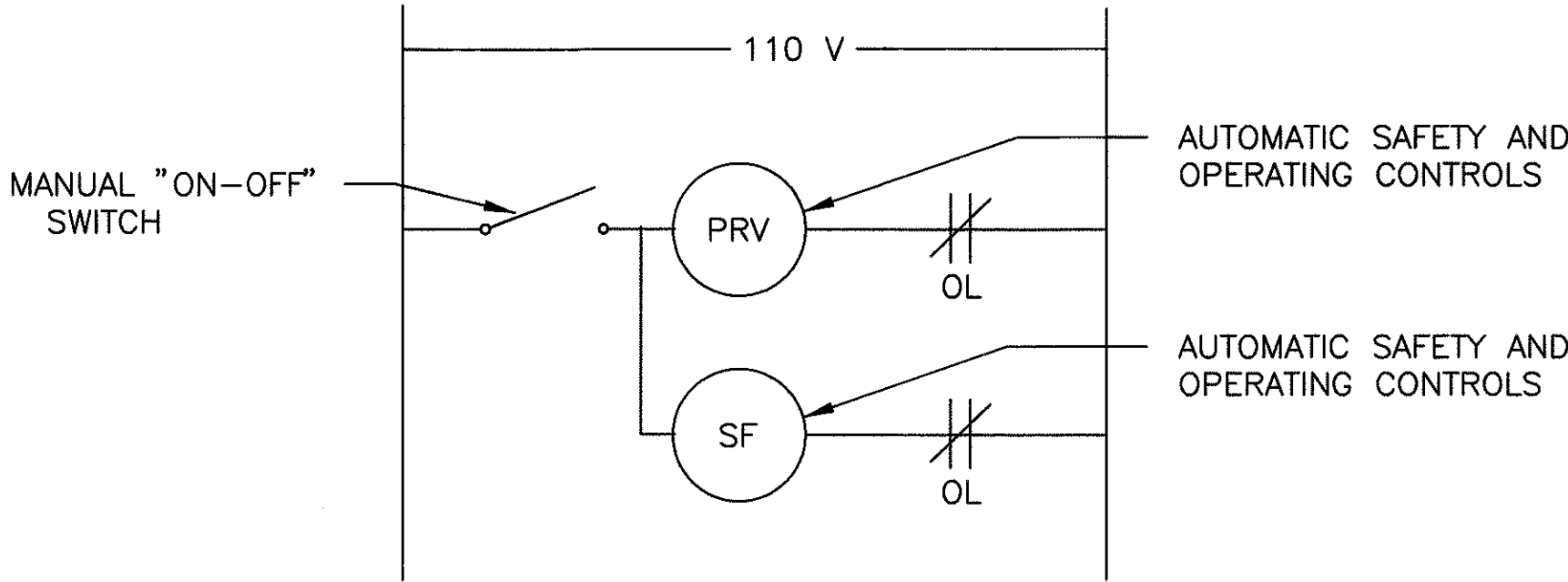
UNIT NO.	CFM RANGE
VAV A	0 - 350
VAV B	0 - 600
VAV C	0 - 1050
VAV D	0 - 2000
VAV E	0 - 3200

FLEXIBLE DUCT SIZES (PROVIDE REDUCING FITTINGS AS REQ'D)

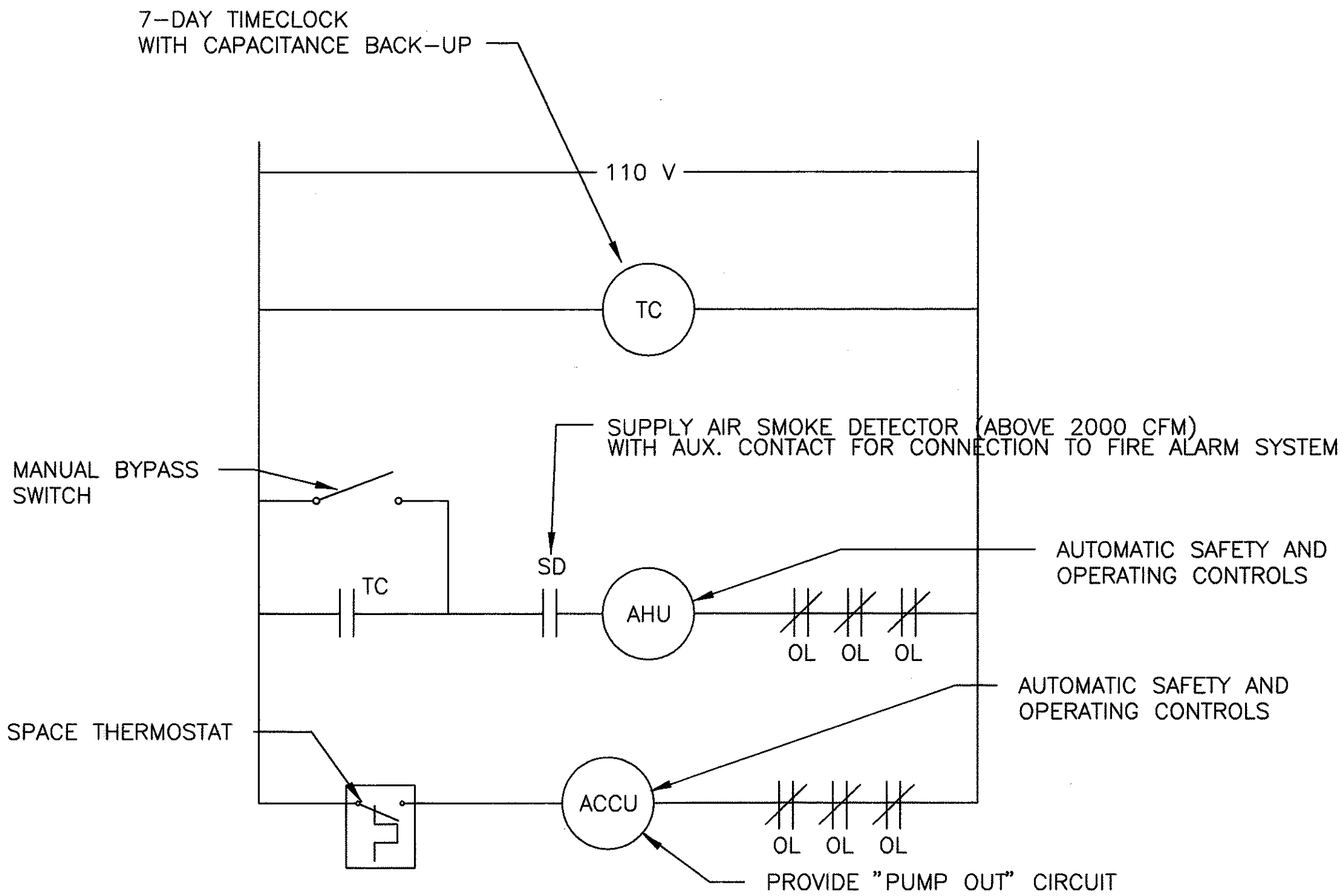
DUCT DIA.	CFM RANGE
6"	0 - 100
8"	0 - 200
10"	0 - 300
12"	0 - 600



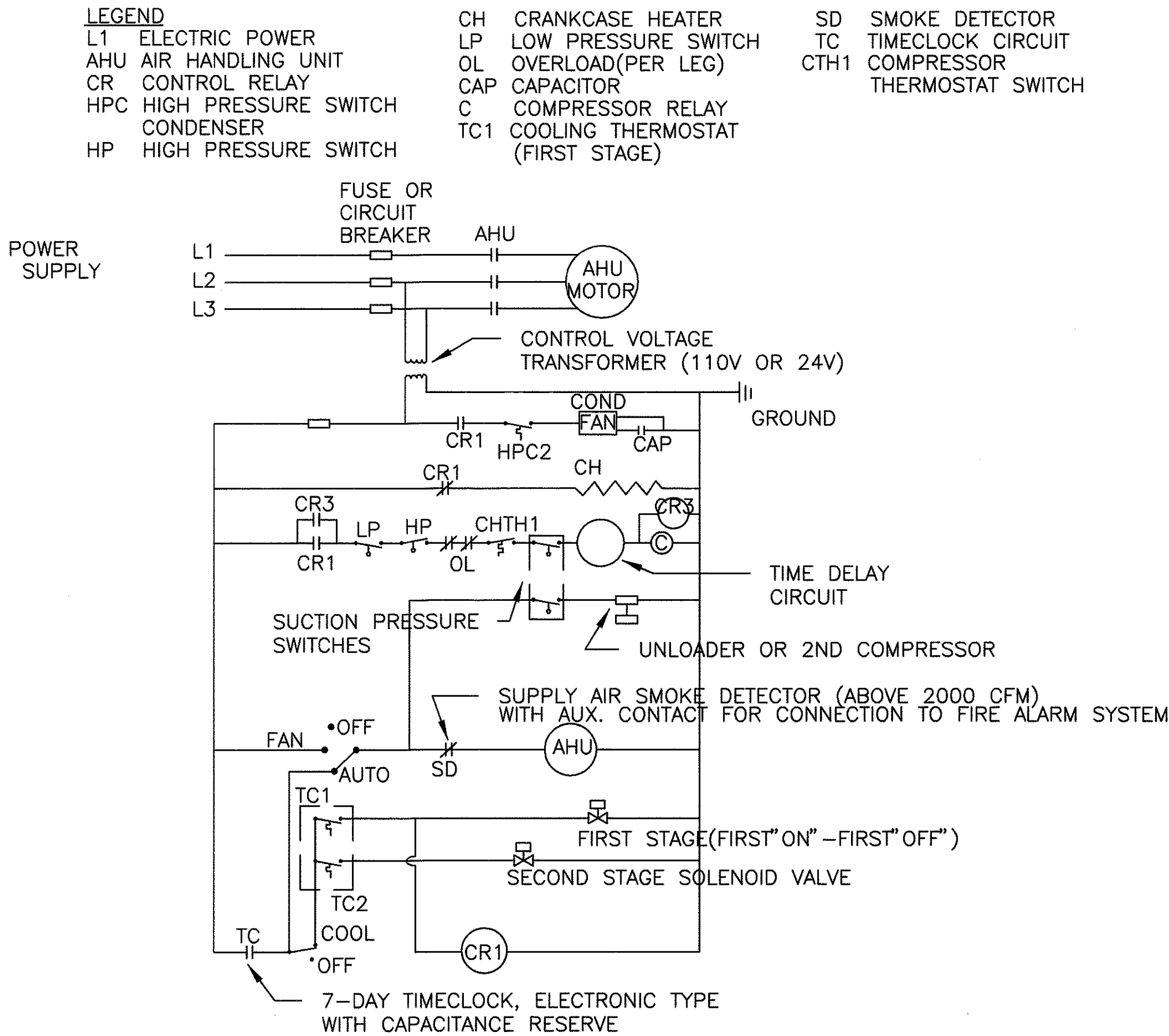
CONTROL DIAGRAM



TYPICAL LOCAL PRV CONTROL DIAGRAM
NOT TO SCALE

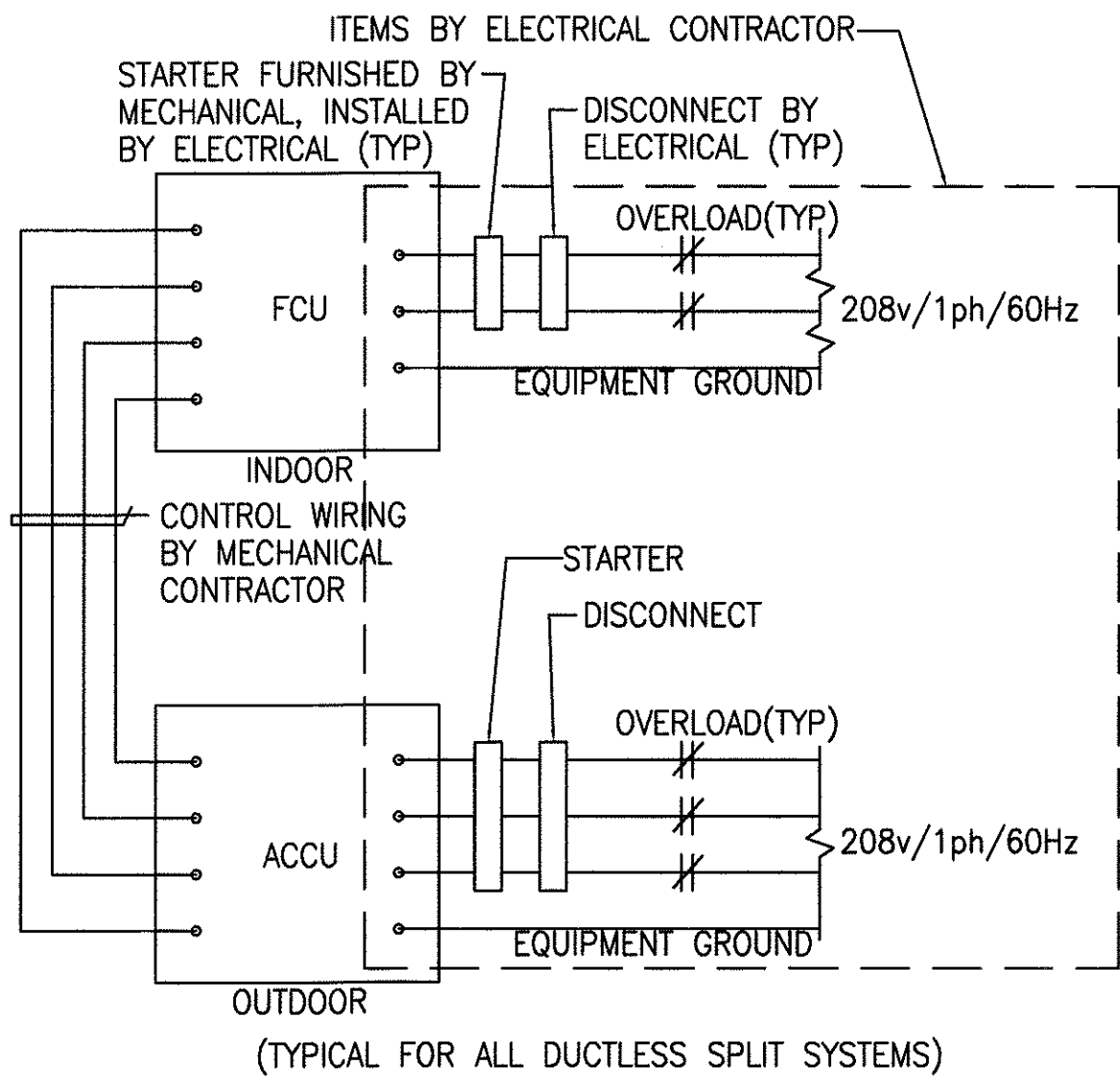


TYPICAL LOCAL AHU CONTROL DIAGRAM
NOT TO SCALE

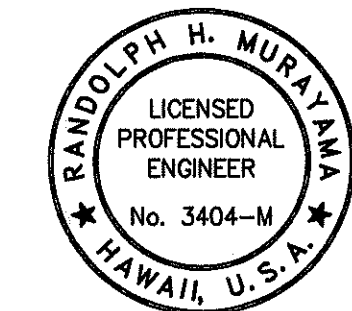


TYPICAL AIR CONDITIONING CONTROLS-ABOVE 15 TONS

PUMP OUT SYSTEM, ABOVE 15 TONS, THERMOSTAT MUST BE CALLING FOR COOLING BEFORE CONDENSING UNIT IS ACTIVATED. SUCTION PRESSURE SWITCHES UNLOAD COMPRESSOR UNTIL CONDENSING UNIT SHUTS DOWN.



CONTROL DIAGRAM
NOT TO SCALE

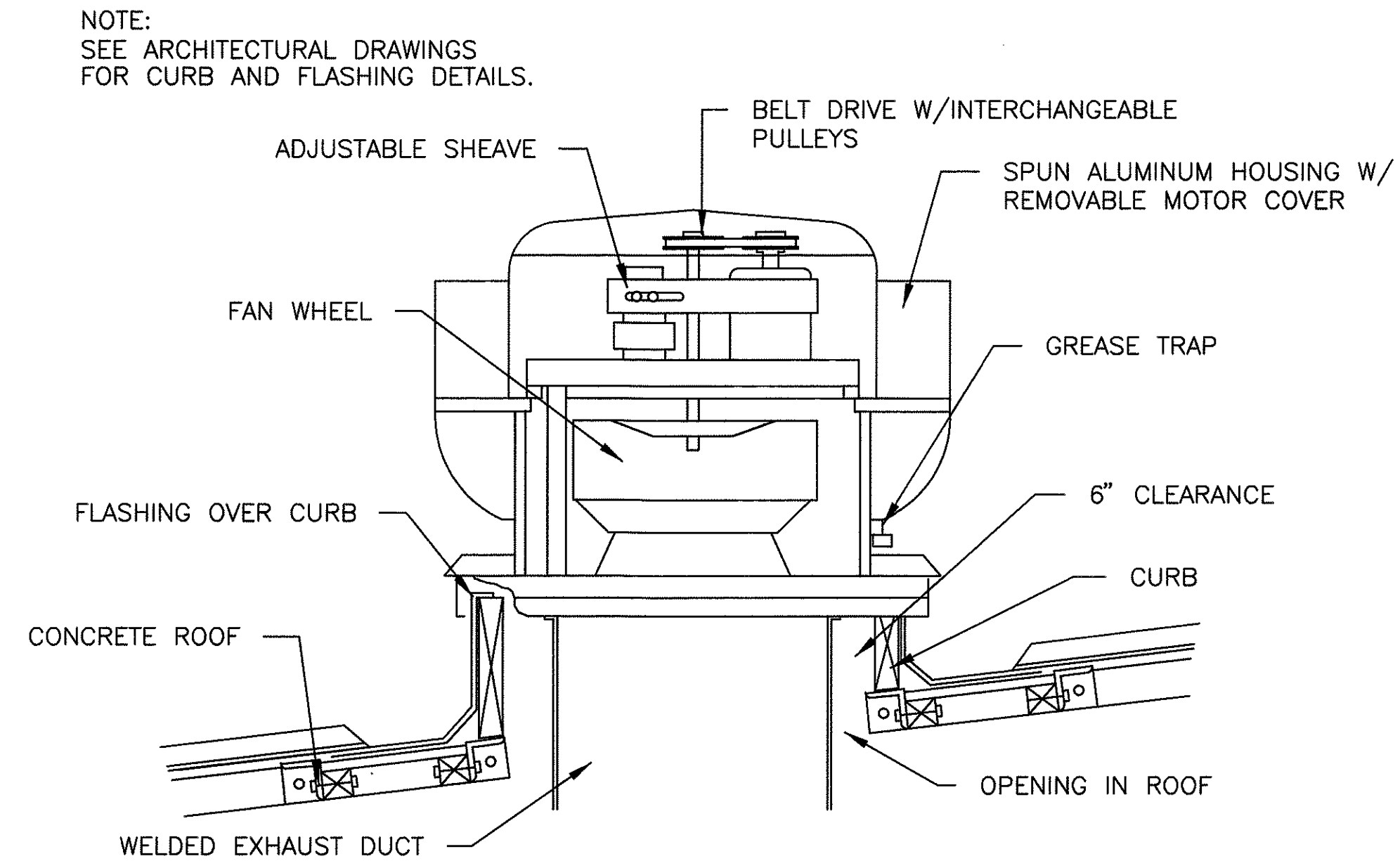


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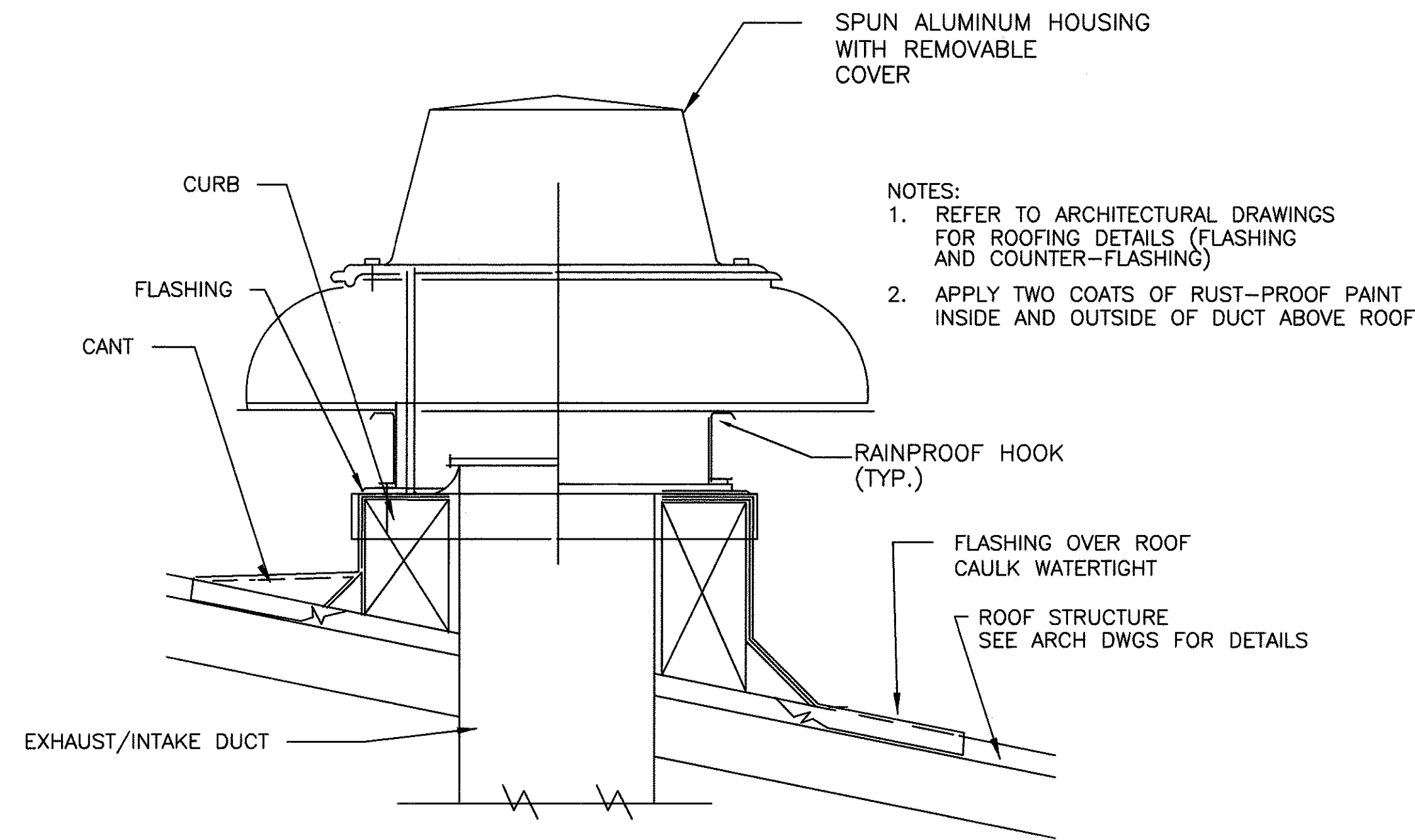
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**CENTRALIZED DISTRICT OFFICE
AND BASEYARD COMPLEX**
LIHUE, KAUAI
PROJECT NO. HWY-K-03-98
DIAGRAMS, SCHEDULES

SCALE: AS NOTED
DATE: MARCH 30, 01
SHEET NO. M8.03 OF 150 SHEETS

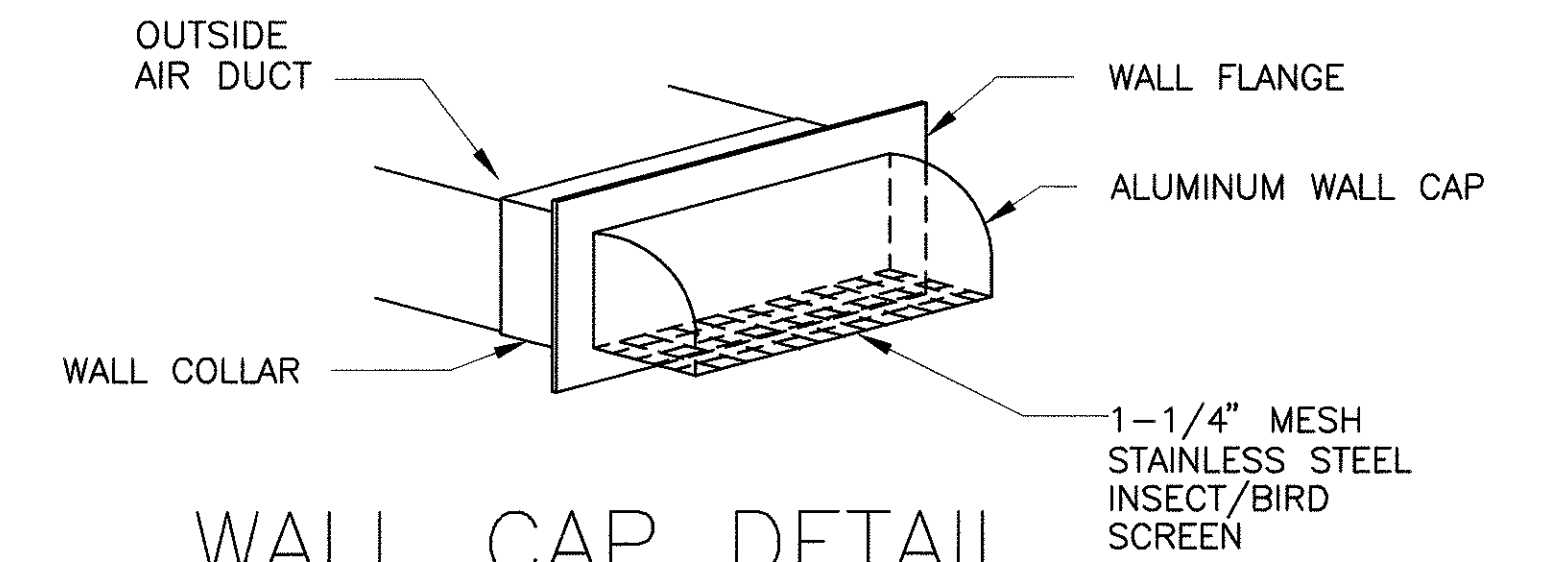
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-K-03-98	2001	128	150



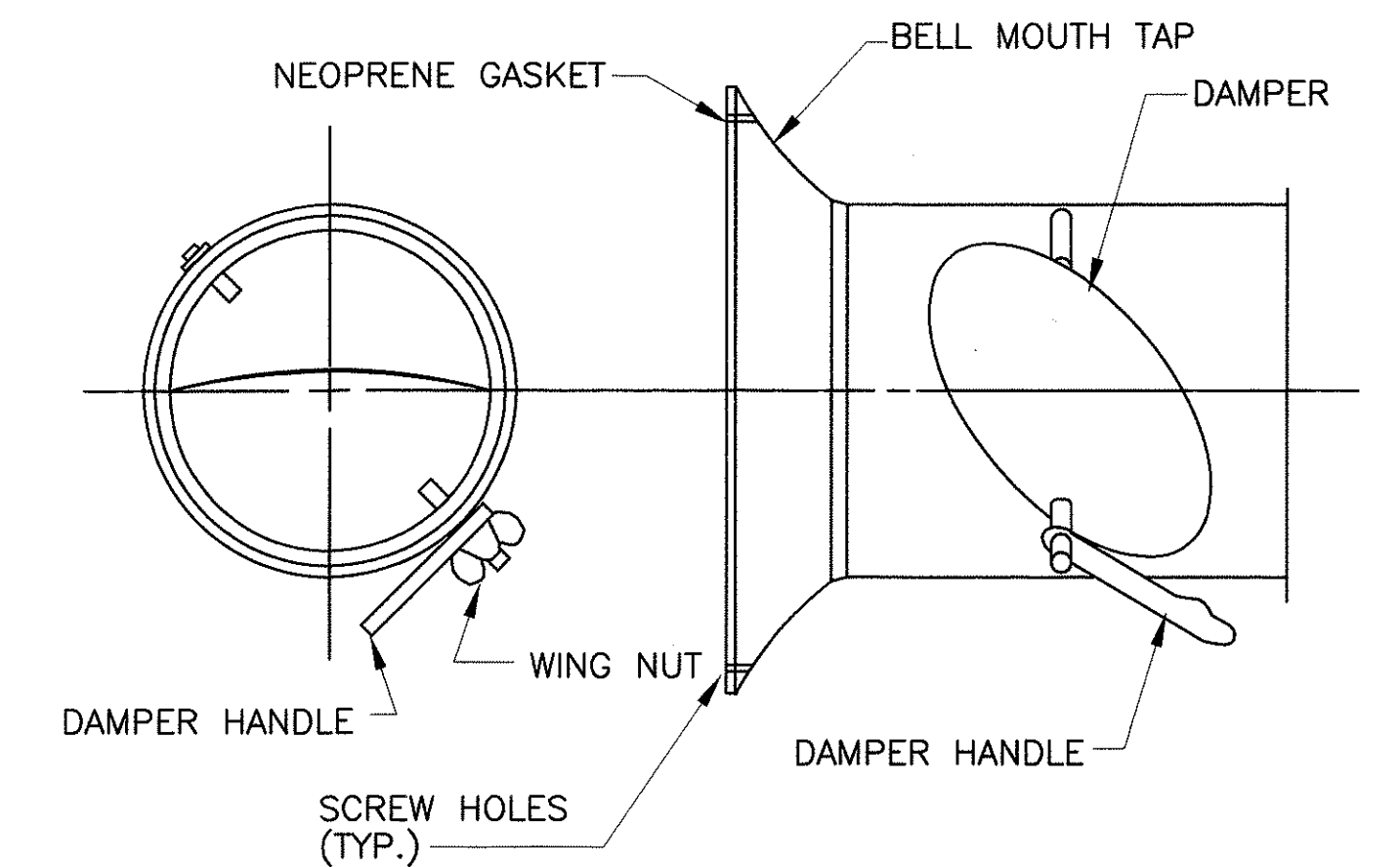
POWER ROOF VENTILATOR DETAIL
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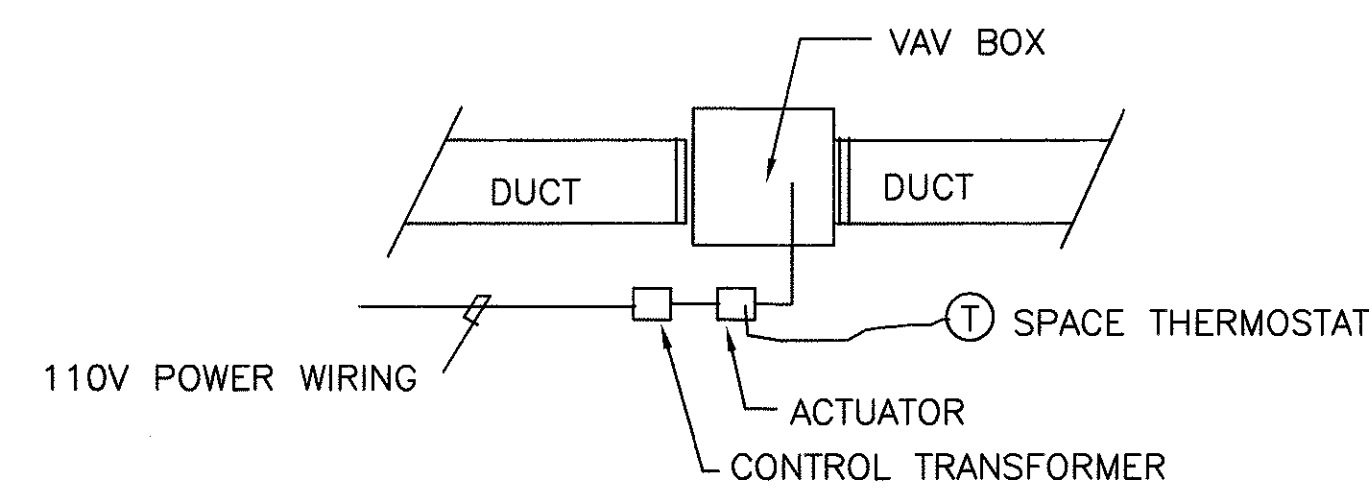
ROOF DISCHARGE/INTAKE HOOD DETAIL
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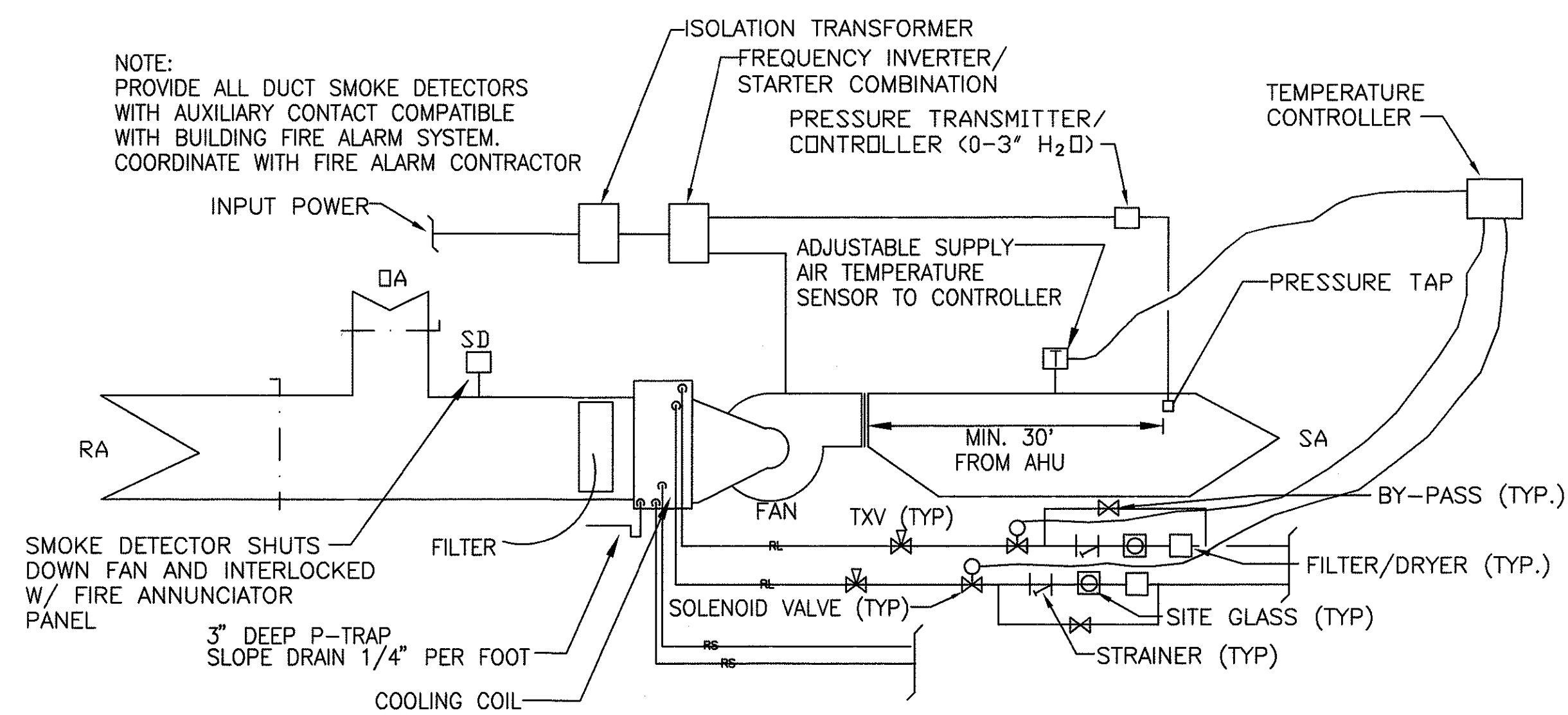
WALL CAP DETAIL
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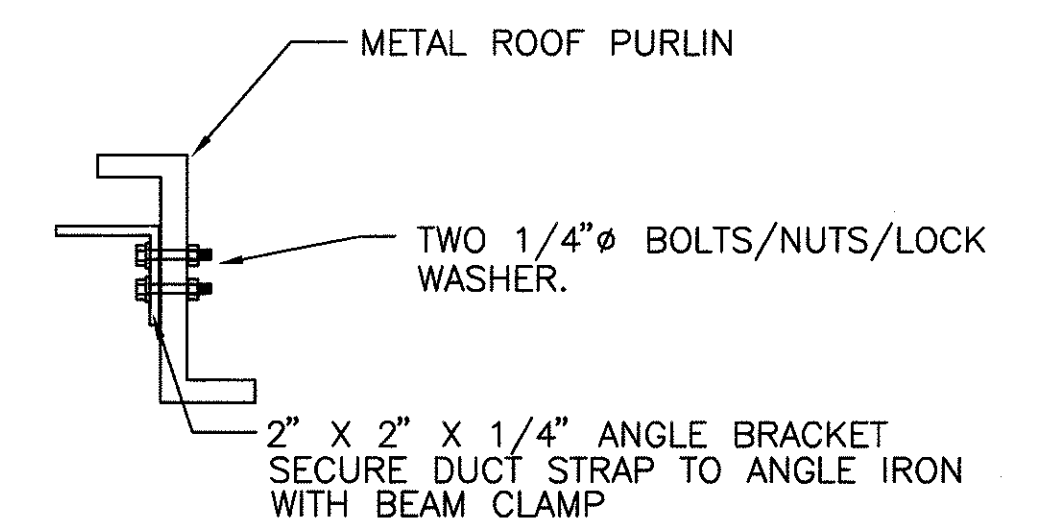
BELL MOUTH TAP FITTING DETAIL
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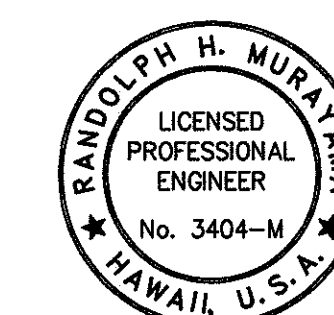
VAV BOX SCHEMATIC DIAGRAM
NOT TO SCALE



TYPICAL AHU CONTROL SCHEMATIC
NOT TO SCALE



DUCT STRAP SUPPORT DETAIL
NOT TO SCALE

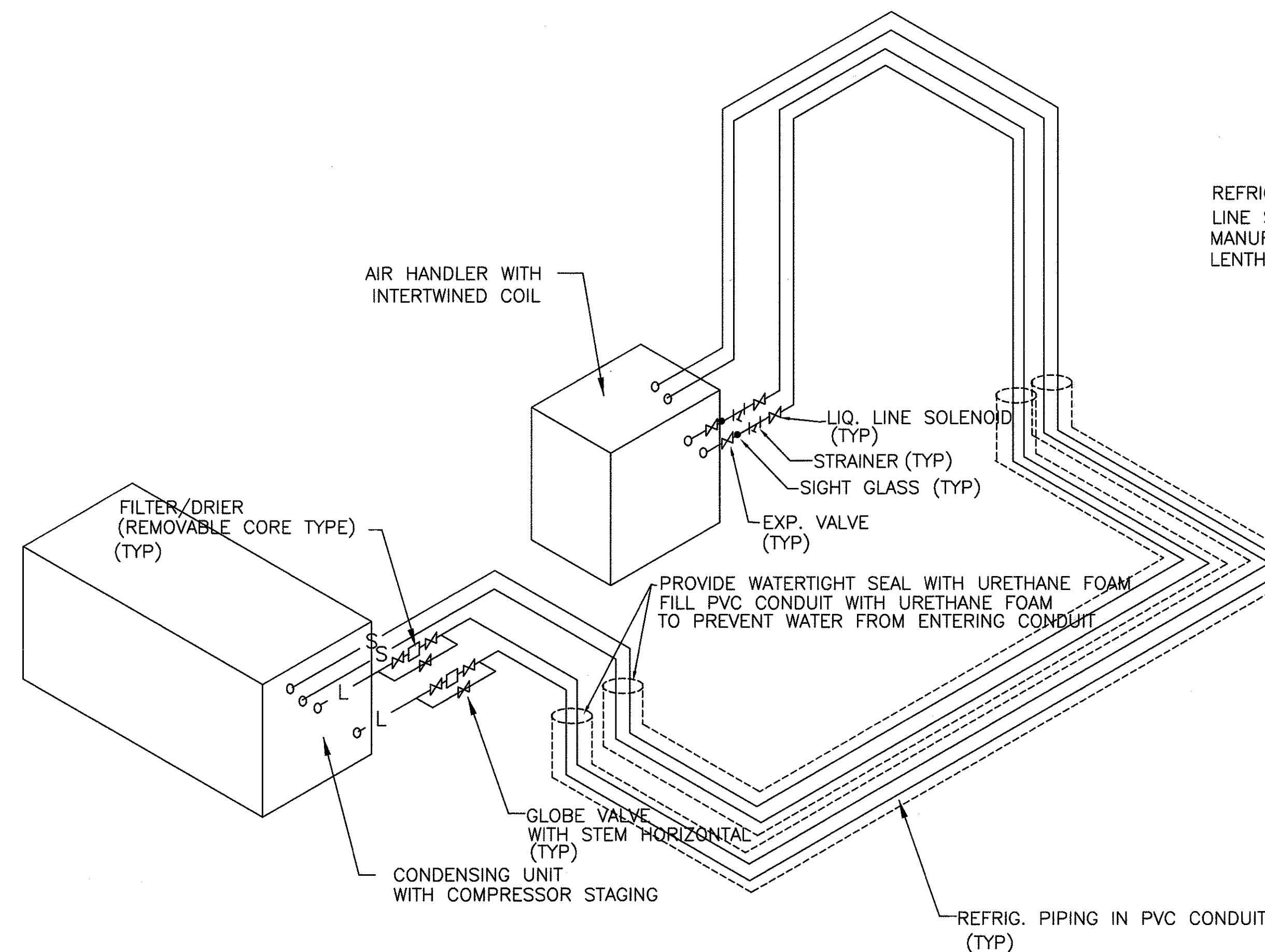
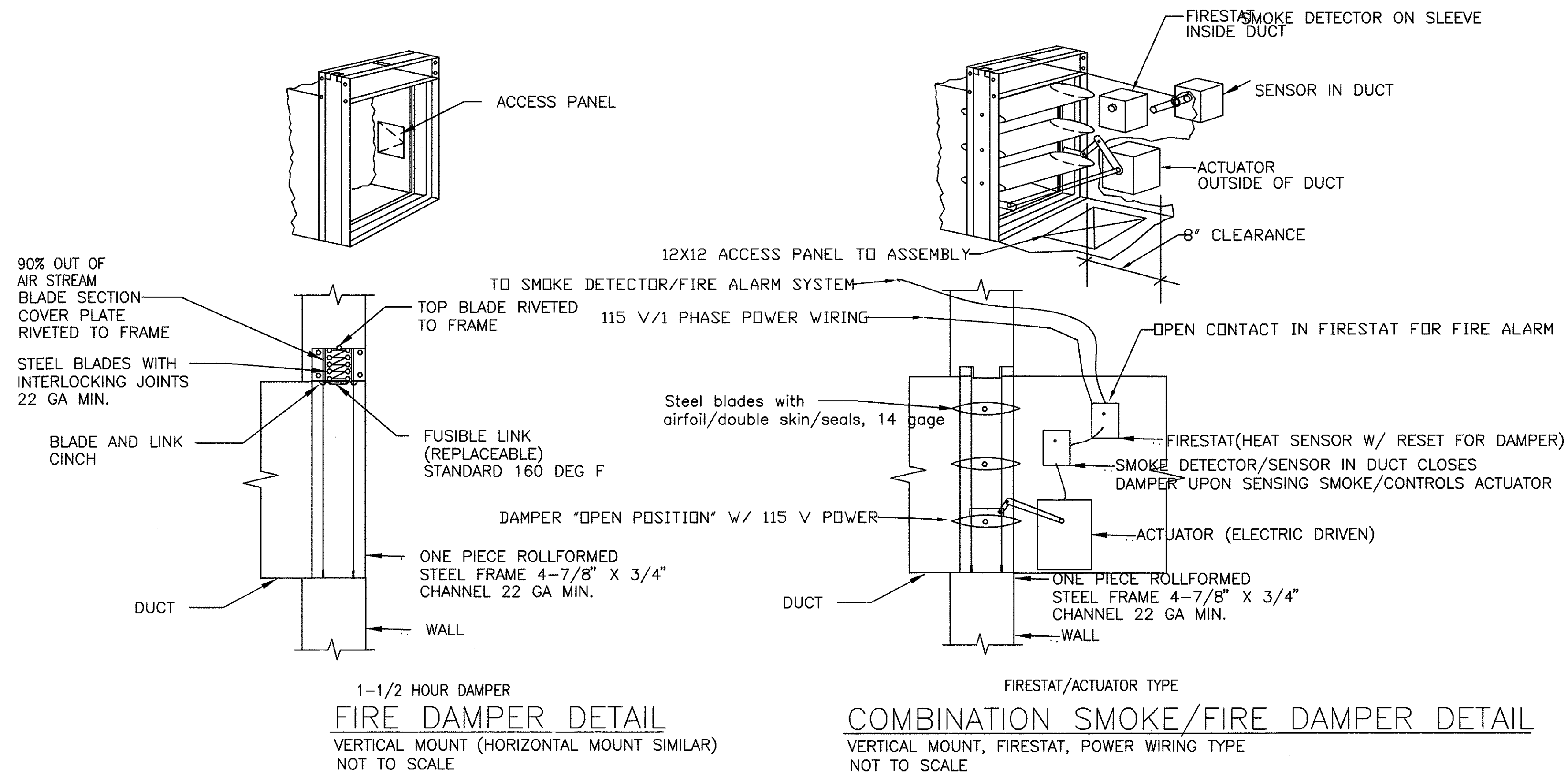
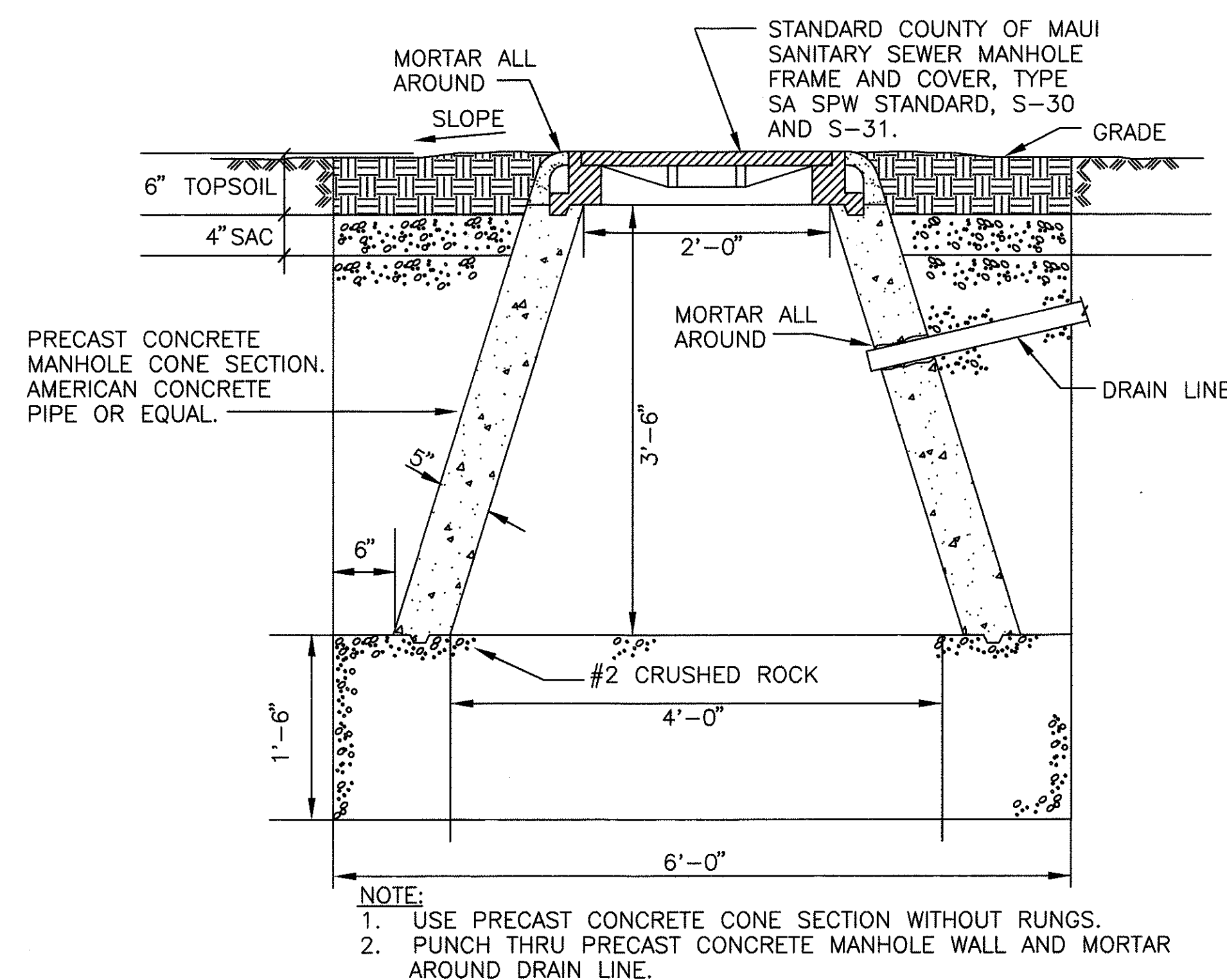
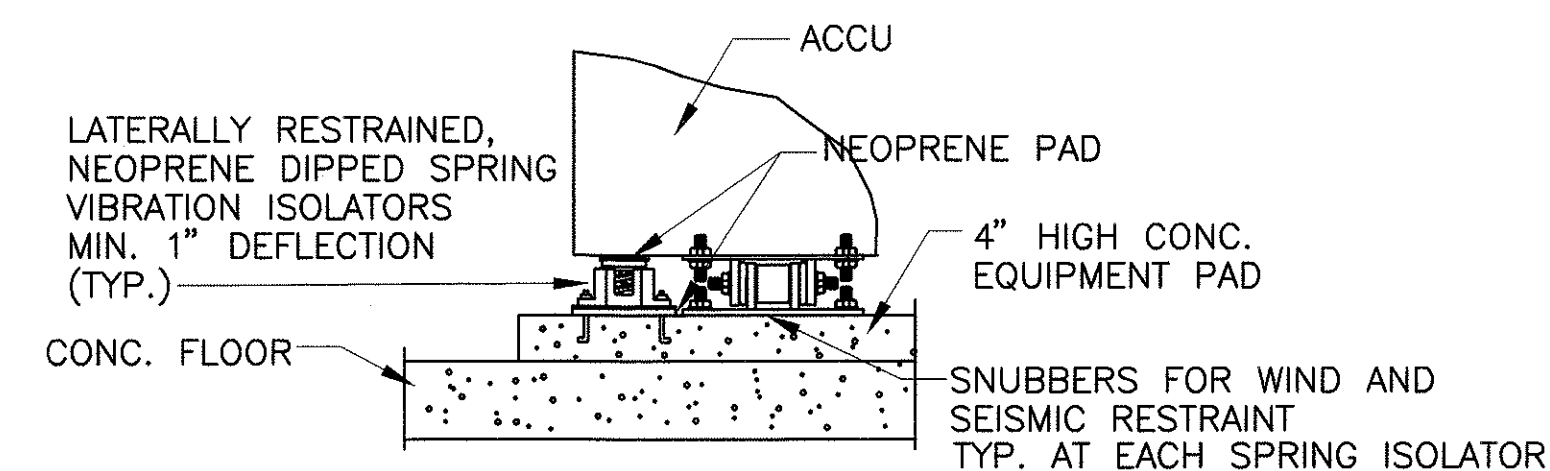
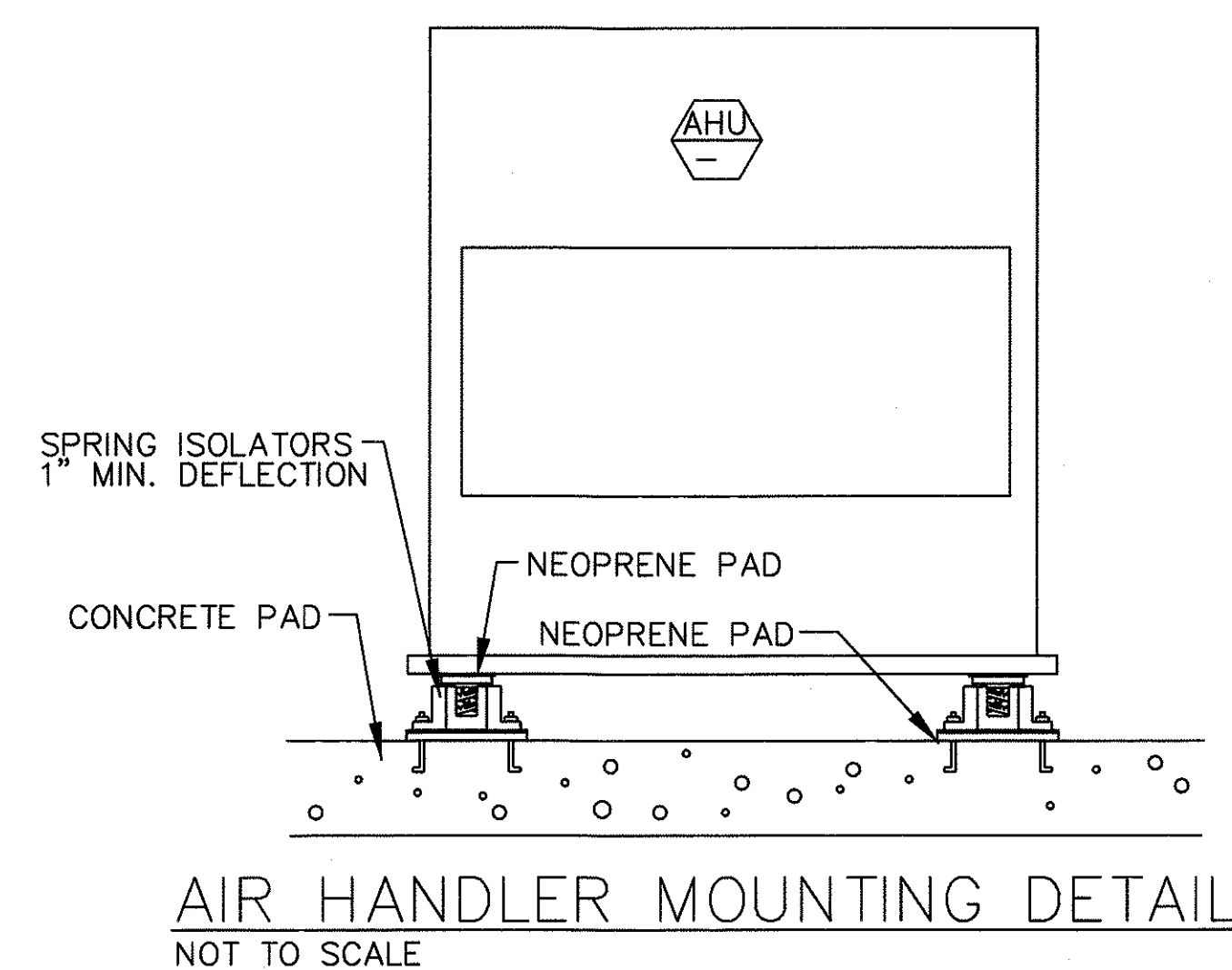


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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**CENTRALIZED DISTRICT OFFICE
AND BASEYARD COMPLEX**
LIHUE, KAUAI
PROJECT NO. HWY-K-03-98
DETAILS

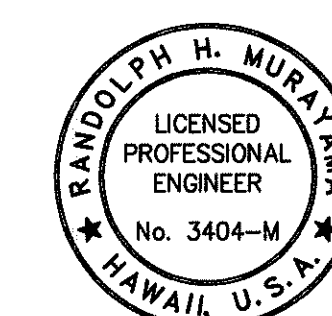
SCALE: AS NOTED
DATE: MARCH 30, 01
SHEET NO. M8.04 OF 150 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-K-03-98	2001	129	150



REFRIGERANT PIPE SIZES:
LINE SIZES SHALL BE AS RECOMMENDED BY
MANUFACTURER FOR EQUIPMENT TONAGE AND
LENGTH AND VERTICAL RISE OF PIPE.

- NOTE:
1. INSULATE ALL COLD PIPING IN ADDITION TO SUCTION LINES.
 2. PROVIDE ONE SET OF PIPING PER REFRIGERANT CIRCUIT.

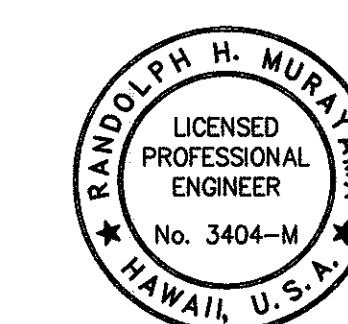
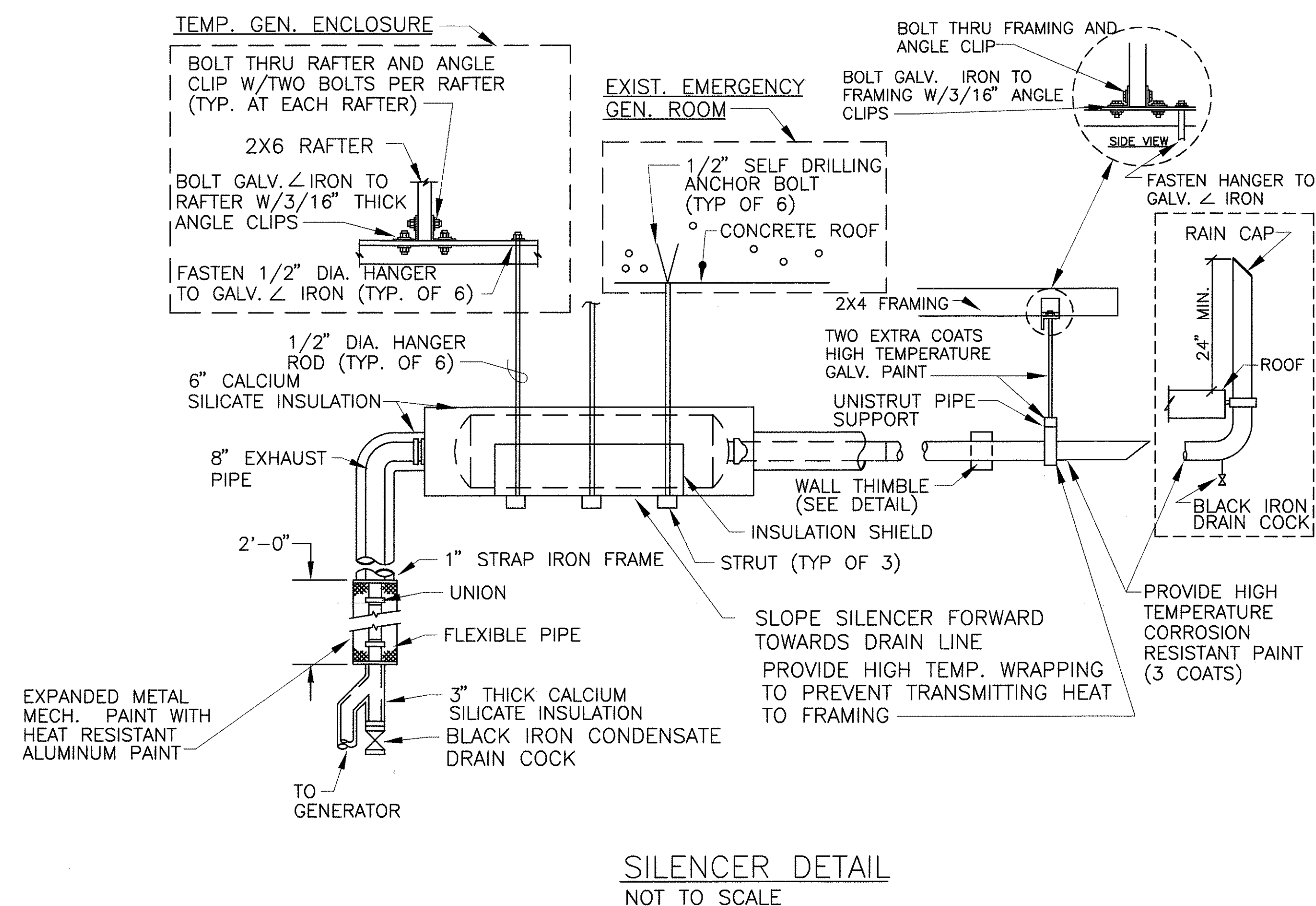
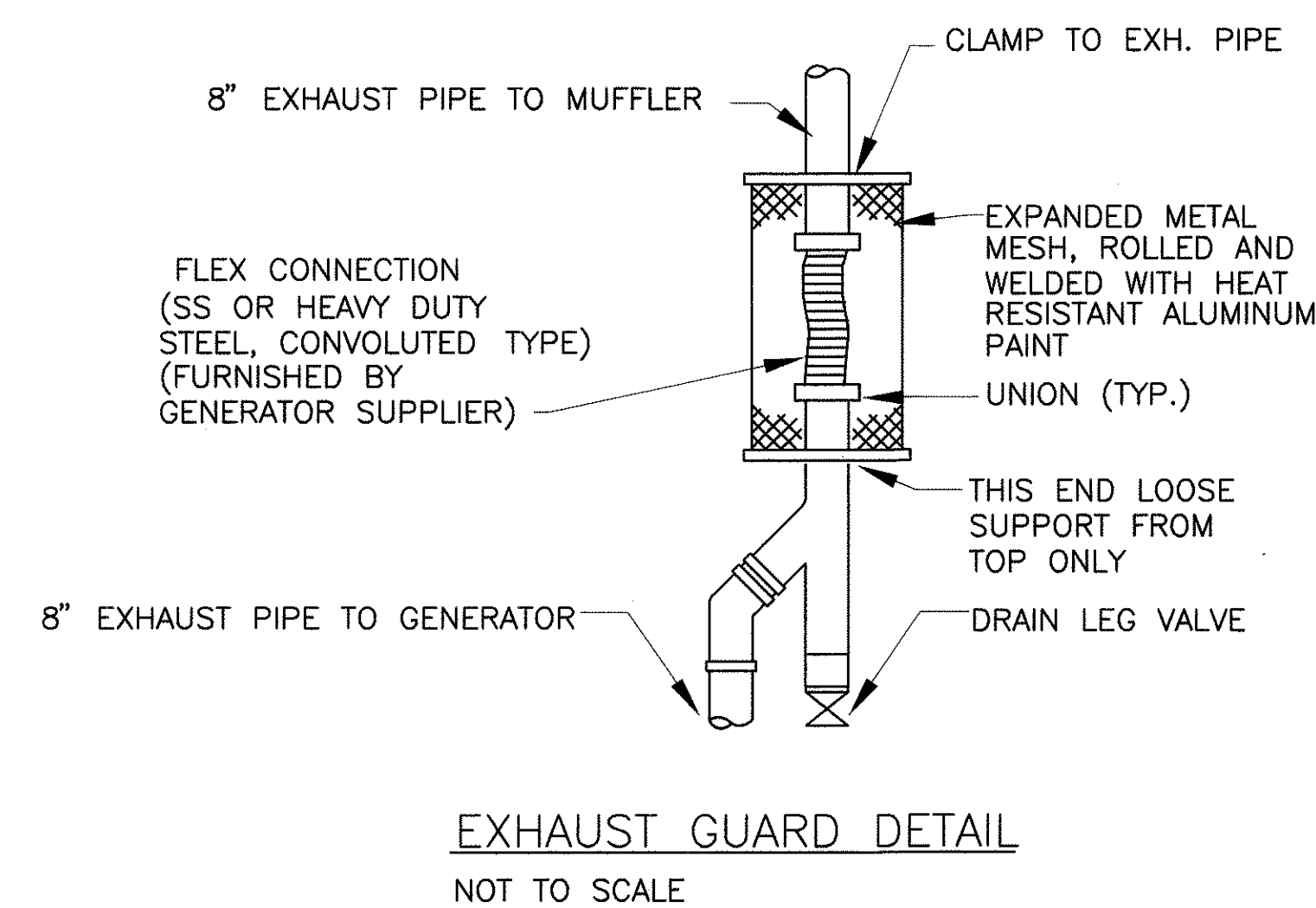
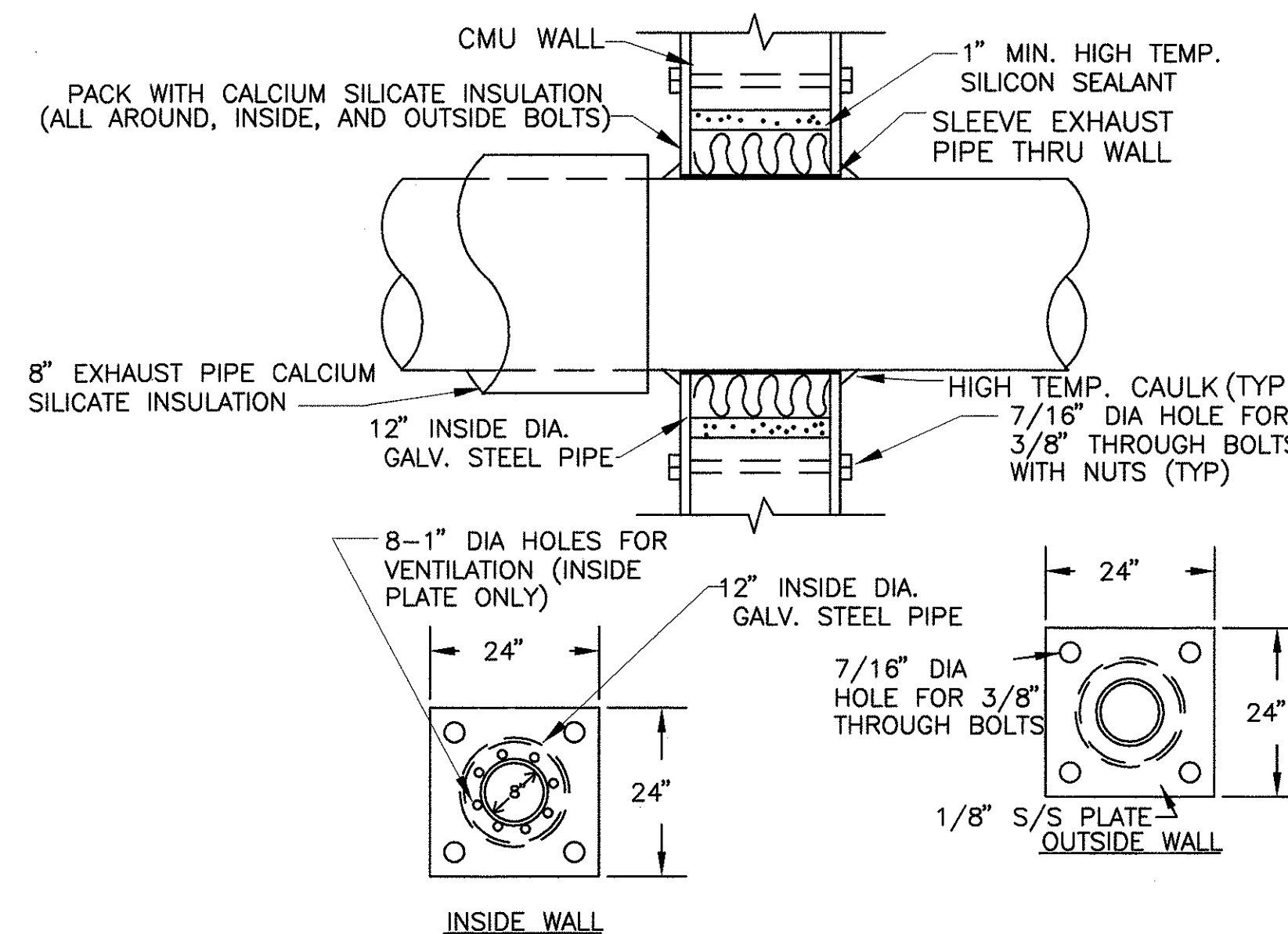
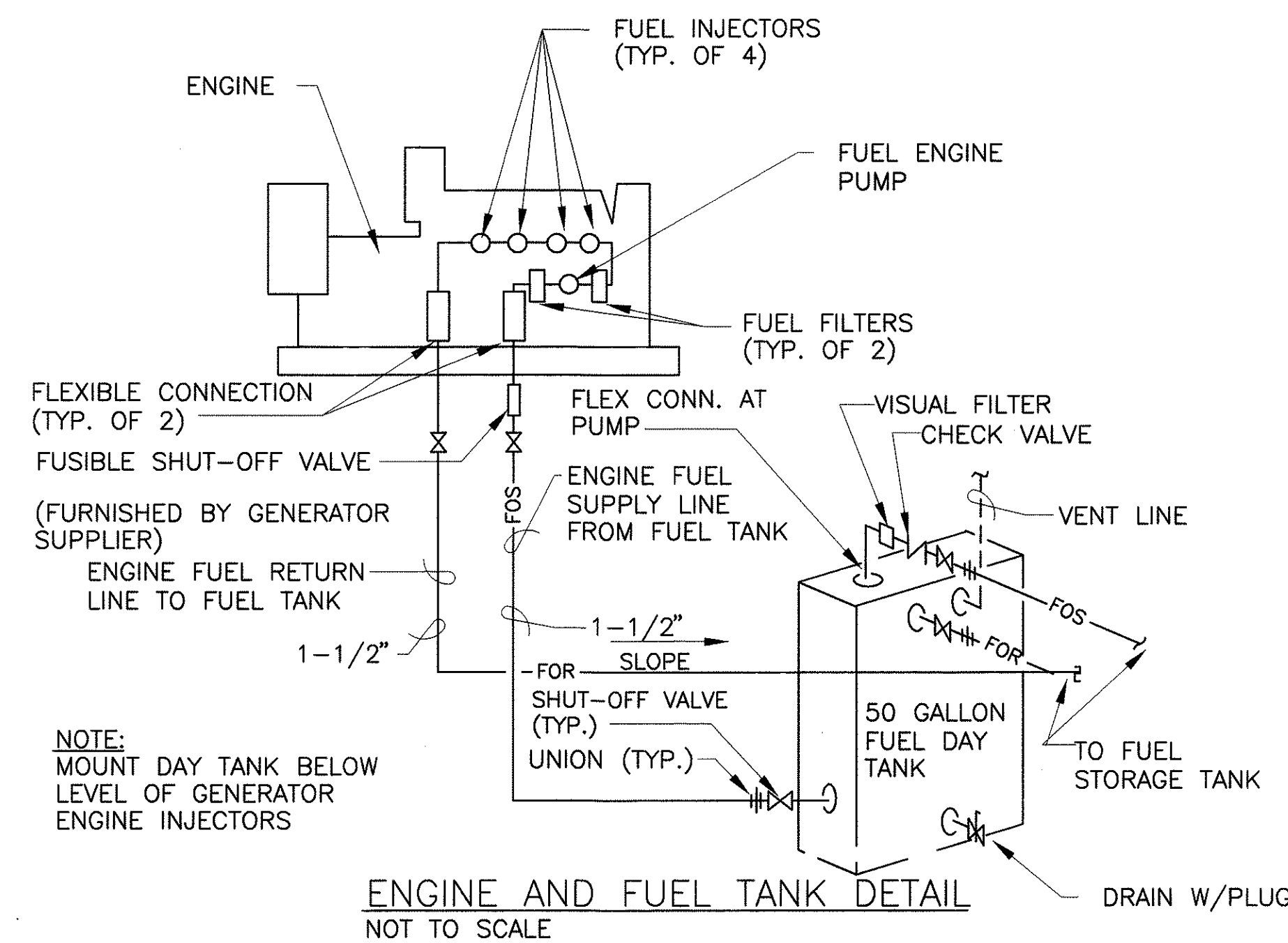


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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**CENTRALIZED DISTRICT OFFICE
AND BASEYARD COMPLEX**
LIHUE, KAUAI
PROJECT NO. HWY-K-03-98
ADMINISTRATION BUILDING
SECTIONS

SCALE: AS NOTED
DATE: MARCH 30, 01
SHEET NO. M8.05 OF 150 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-K-03-98	2001	130	150



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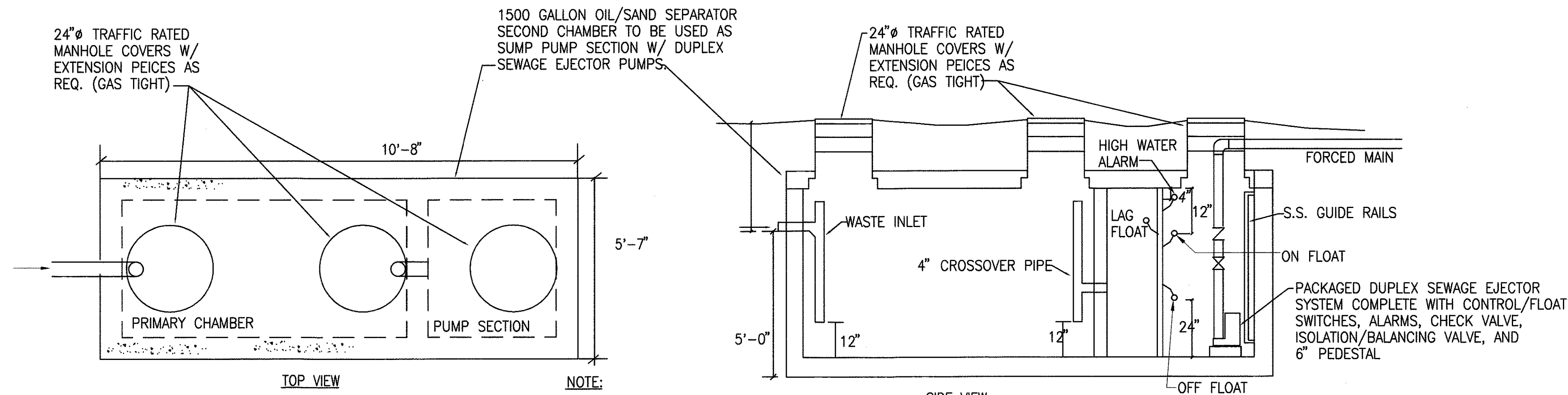
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

**CENTRALIZED DISTRICT OFFICE
 AND BASEYARD COMPLEX**

LIHUE, KAUAI
 PROJECT NO. HWY-K-03-98
 GENERATOR DETAILS

SCALE: AS NOTED
 DATE: MARCH 30, 01
 SHEET NO. M8.06 OF 150 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-K-03-98	2001	132	150



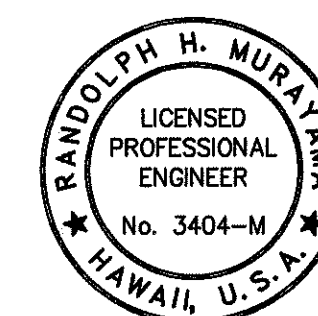
SAND/OIL SEPARATOR NOTES:

- 1) ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
- 2) CEMENT TO BE PORTLAND CEMENT CONFORMING TO ASTM C 150.
- 3) REINFORCING STEEL SHALL BE INTERMEDIATE GRADE, DEFORMED CONFORMING TO ASTM A-616 GRADE 40.
- 4) REINFORCING BARS SHALL BE IN LONG LENGTHS AND SHALL BE LAPPED A MINIMUM OF 15 INCHES, OR 40 BAR DIAMETERS.
- 5) ALL TANKS SHALL BE COATED ON THE INTERIOR AND EXTERIOR & SHALL COVER ALL OF THE AREA WITH AN APPROVED WATERPROOF COATING AND SHALL BE APPLIED PER MANUFACTURER'S RECOMMENDATIONS.
- 6) TANKS SHALL BEAR ON UNDISTURBED SOIL A MINIMUM OF 12" BELOW ORIGINAL GRADE ON A SOLID BED AND TO BE INSTALLED LEVEL.

NOTE:
CONTRACTOR SHALL CONSTRUCT ADDITIONAL
CONSTRUCTION PITS/TRENCHES AND PROVIDE
TEMPORARY DEWATERING PUMPS AS REQUIRED

- 7) IF TANK HOLE IS OVEREXCAVATED OR HAS A ROCKY UNLEVEL BOTTOM, 2" SAND-PEA GRAVEL 8" THICK SHALL BE ADDED TO LEVEL BOTTOM.
- 8) FILL TANK WITH WATER AFTER IT HAS BEEN SET IN PLACE AND THE SIDES BACKFILLED.
- 9) ALL PIPES LEAVING/ENTERING TANKS SHALL BE SEALED WITH A NON-SHRINK GROUT MIX.
- 10) THE TANK MANUFACTURER SHALL SUBMIT TWO (2) SETS OF PLANS STAMPED BY A STRUCTURAL ENGINEER OF EACH TANK DRAWN TO SCALE TO THE WASTEWATER BRANCH, HAWAII DEPARTMENTS OF HEALTH AND THE DESIGN ENGINEER FOR APPROVAL BEFORE FABRICATION. THE PLANS SHALL SHOW ALL DIMENSION, MANHOLES, TEES, BAFFELS, COMPARTMENT WALLS AND CLEANOUTS. MATERIAL SPECIFICATIONS, LIQUID AND WATER VOLUME CALCULATIONS, INSTALLATION AND MAINTENANCE INSTRUCTIONS AND MANUFACTURER'S NAME, ADDRESS AND PHONE NUMBER SHALL BE SUBMITTED UNDER SEPARATE COVER.

PRECAST CONCRETE PIT SHALL HAVE
WATERPROOFING ON INTERIOR AND EXTERIOR.
GROUND WATER TO BE PUMPED INTO SUMP
AS SUMP BEING INSTALLED. WATER SHALL
BE ALLOWED TO SETTLE PRIOR TO
DISCHARGING.



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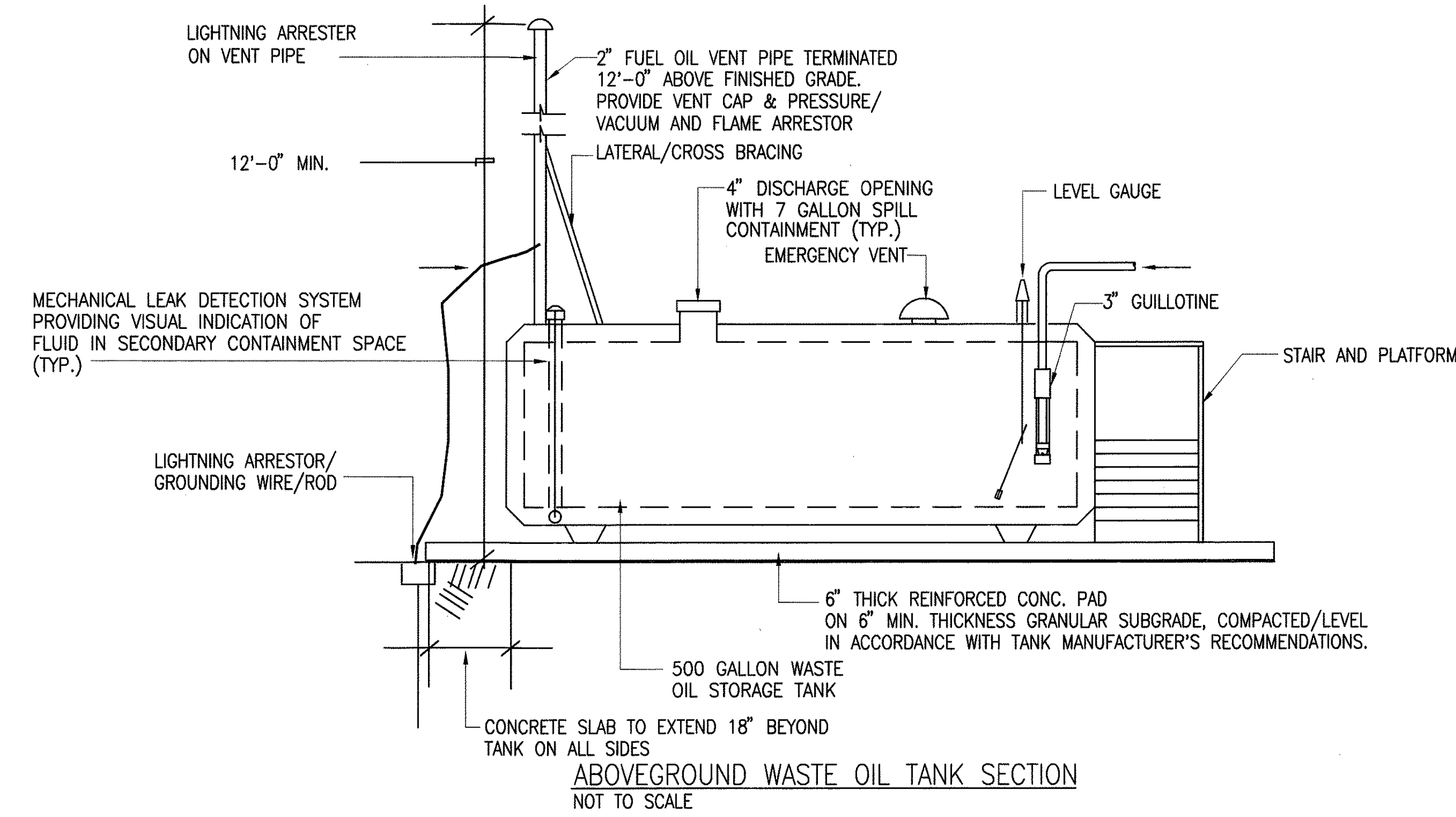
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**CENTRALIZED DISTRICT OFFICE
AND BASEYARD COMPLEX**
LIHUE, KAUAI
PROJECT NO. HWY-K-03-98
OIL/WATER SEPARATOR DETAILS

SCALE: AS NOTED

DATE: MARCH 30, 01

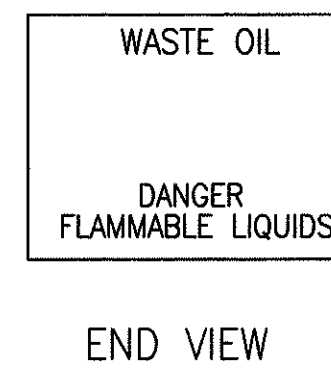
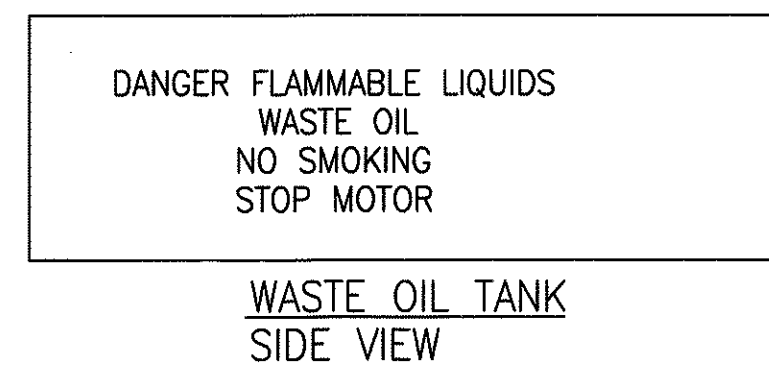
SHEET NO. M8.08 OF 150 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-K-03-98	2001	133	150

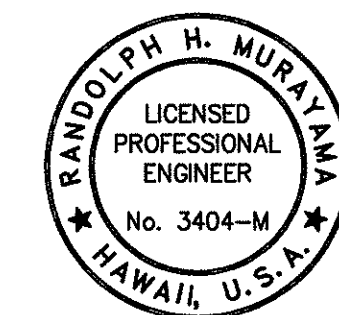


WARNING AND SAFETY SIGNS:

- "DANGER - FLAMMABLE LIQUIDS"**
3" H X 1/2" STROKE, RED ON WHITE, ON ALL APPROACHABLE SIDES OF TANK.
- "NO SMOKING"**
3" H X 1/2" STROKE, RED ON WHITE, ON ALL APPROACHABLE SIDES OF TANK
- "STOP MOTOR"**
3" H X 1/2" STROKE, RED ON WHITE, AT DISPENSING ENDS OF TANK.
- "OWNER/OPERATOR: STATE OF HAWAII, DEPARTMENT OF TRANSPORTATION, HIGHWAYS DIVISION, TEL. 274-3111"**
1" H X 3/16" STROKE, RED ON WHITE, ON TANK.
- IN CASE OF FIRE OR SPILL**
 - USE EMERGENCY PUMP SHUTOFF.
 - REPORT THE ACCIDENT
FIRE DEPARTMENT NO. 911
LIHUE BASEYARD ADDRESS: XXXXXX
LIHUE, HAWAII 967XX
1" H X 3/16" STROKE, RED ON WHITE, ON OR UNDER DISPENSER
- PRODUCT I.D. "WASTE OIL" ON DISPENSER.
1" H X 3/16" STROKE, RED ON WHITE.
- STANDARD DECAL KIT, IF SUPPLIED WITH TANK, MAY BE USED SUBJECT TO APPROVAL BY THE ENGINEER.
- ALL PROPOSED SIGNS AND DECALS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.



SIGN INSTALLATION
NOT TO SCALE



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**CENTRALIZED DISTRICT OFFICE
AND BASEYARD COMPLEX**
LIHUE, KAUAI
PROJECT NO. HWY-K-03-98
WASTE OIL TANK DETAILS

SCALE: AS NOTED DATE: MARCH 30, 01
SHEET NO. M8.08 OF 150 SHEETS