

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-02-08R	2016	ADD.49	69

MECHANICAL GENERAL REQUIREMENTS:

- In general, plans and diagrams are schematic only and should not be scaled.
- Contractor to visit site and verify all clearances before fabrication of ductwork and provide additional offset and/or changes in duct sizes to meet field conditions and coordinate with electrical and plumbing subcontractors before any construction work.
- Contractor shall notify the engineer, architect or his authorized representative o any damage to the existing installation before proceeding with the work.
- The general contractor is responsible for all trades installation schedules. field work such as ductwork and plumbing shall be installed prior to any trade work that can be easily relocated or offset such as electrical conduits, small water lines, etc.
- Unless otherwise noted, install ductwork as high as possible, tight to bottom of structure. coordinate duct elevation with water piping, sanitary drains and major electrical conduits.
- Contractor shall provide allsupplementary steel required to suspend mechanical equipment and materials.
- Ductwork, diffusers, registers, grilles, and other items f the air handling system, shall not be supported by the ceiling suspension system.
- Location of the wall mounted thermostats shall be coordinated with other trades for a neat appearance. Final location of the thermostat and sensors shall be subject to the approval of the engineer or his representative in the field. Thermostat shall be mounted to comply with ADAAG 205.1 and 309 with a maximum height of 48-inches to the top of the thermostat.
- Coordinate air device locations with lighting fixtures, speakers and fire sprinkler head (where applicable).
- Provide a trap in all condensate piping located at the fan coil unit. condensate piping to be sch 40 cpvc. insulate all condensate lines above finish grade with ½" thick armaflex insulation.
- Regardless of hvac schedules, the mechanical contractor to verify voltage with electrical before ordering equipment.
- Duct dimensions shown on drawings are clear inside dimensions. internal insulation (where used) has not been accounted for.
- Flexible and rigid round duct take-offs for diffusers shall be the same size as diffuser neck. maximum flexible duct length shall be 7'-0" and minimum 3'-0". insulate rigid round ducts with 1-1/2" foil faced fiberglass duct wrap. duct wrap to have an installed minimum thermal resistance (r) value of 6.0.
- All exhaust and outside air duckwork shall be galvanized sheetmetal construction in accordance with latest smacna standards. All joints shall be securely taped with 3" wide glass fabric tape with foster 30/35 mastic or equal.
- Provide all hvac equipment with manufacturer's recommended service area clearances.
- Fan coil units outside air intake shall maintain a minimum of 12'-0" from any wall exhaust fans, caps, sanitary vent thru roof piping, etc.
- It shall be the responsibility of this contractor to install the heating, ventilation and air conditioning system so as to insure quiet operation. no vibration or sound shall be transmitted to the building, structure or occupied areas. The decision of the engineer as to the quietness of the system and equipment shall be final. It shall be this contractor's responsibility to correct or place any noisy system or equipment as required.
- All automatic temperature control system work, modification and inspection shall be accomplished by this contractor. All damaged, defective, missing or inappropriate devices shall be repaired or replaced as required. The contractor shall provide a complete and operational control system.
- Seal all penetrations through walls, ceilings, floors, etc., so that they are air, water and fire tight.
- Furnish and install access panels for all concealed equipment, fire campers, piping valves, cleanouts, etc. access panels shall be of sufficient size to provide adequate working clearance an access per code.

MECHANICAL GENERAL REQUIRMENTS: CONTINUED

- Disinfect water lines per UPC section 609.9. water lines shall be disinfected with chlorine before acceptance of work. Flush system with clean potable water. System shall be filled with a water-chlorine solution containing not less than 50 ppm of chlorine. Allow for 24-hour contact period. after contact period, flush system with clean potable water until the chlorine residual in the system does not exceed the chlorine residual in the flushing water.
- FIRE SAFETY NOTES:
 - Structures undergoing construction, alteration or demolition operations including those in underground locations shall comply with nfpa 214, standard for safeguarding construction, alteration, and demolition operations and this chapter per 2012 nfpa 1.
 - Where the building is protected by fire protection system, such systems shall be maintained operational at all times during alteration per 2012 NFPA 1, section 16.4.4.1.
 - Where alteration requires modification of a portion of the fire protection system, the remainder of the system shall be kept in service and the fire department shall be notified per 2012 NFPA 1, section 16.4.4.2.
 - When it is necessary to shut down the system, the Authority Having Jurisdiction, AHJ, shall have the authority to require alternate measures of protection until the system is returned to service.
 - As necessary during emergencies, maintenance, drills, prescribed testing, alterations, or renovations, portable or fixed fire extinguishing systems or devices or any fire-warning system shall be permitted to be made inoperative or inaccessible, a fire watch shall be required as specified in 2012 NFPA 1, sections 13.3.4.3.5.2 (3), 13.7.1.4.4, 16.5.4, 20.2.3.6, 34.6.3.3, 41.2.2.5, 41.2.2.6, 41.2.4, 41.3.4, 41.4.1, 34.5.4.3, and 25.1.8, at no cost to the ahj per 2012 NFPA 1 as amended.
 - The installation, maintenance, selection and distribution of portable fire extinguishers shall be in accordance to nfpa 10, standard for portable fire extinguishers, and 2012 NFPA 1, section 13.6.

MECHANICAL LEGEND AND SYMBOLS:

Abv	Above	H	Height
Ap	Access Panel	Hb	Hose Bib
Bel	Below	Hp	Horsepower
Btuh	British Thermal Units Per Hour	H, Hw	Hot Water
		Insul	Insulation
Cd	Ceiling Diffuser	Oa	Outside Air
Cdr	Condensate Drain	Obvd	Opposed Blade Volume Damper
Cfm	Cubic Feet Per Minute	Poc	Point Of Connection
Clg	Ceiling	Qty	Quantity
Co	Cleanout	Rr	Return Register
Conc	Concrete	Shr	Shower
Conn	Connection	Sht	Sheet
Cont	Continuation	Sp	Static Pressure
Cotg	Cleanout to Grade	Ss	Service Sink
Cw	Cold water	Sst	Stainless Steel
Cv	Check Valve	Typ	Typical
Det	Detail	Vd	Volume Damper
Df	Drinking Fountain	Vt	Vent
Dn	Down	W	Waste
Dr, D.	Drain	Wc	Water Closet
Dwg, Drwg	Drawings	Wco	Wall Cleanout
Ea	Each	W/	With
Ef	Exhaust Fan	— · —	Hot Water Piping
Er	Exhaust Register	— · —	Cold Water Piping
Exh	Exhaust	— — —	Vent Piping
Ex,Exist	Existing	☒	Ceiling Diffuser
F	Fahrenheit	☒	Return Register
Fco	Floor Cleanout	☒	Obvd
Fcu	Fan Coil Unit	☒	Firedamper
Fd	Floor Drain	☒	Combination fire/Smoke Damper
Fdb	Fahrenheit Dry Bulb	☒	Thermostat Mount 48" From Top Of Thermostat
Fe	Fire Extinguisher	☒	Extinguish Floor
Ffl	Finish Floor	(E)	New
Fin	Finish	(N)	Relocated
Flr	Floor	(R)	
Fs	Floor Sink		
Ft	Feet		
Fu	Fixture Unit		
Gal	Gallon		

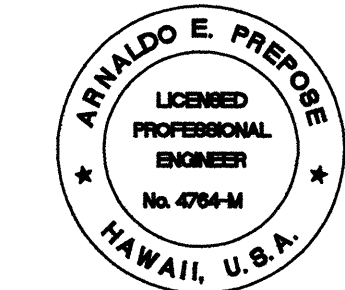
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QUANTITIES BY	
CHECKED BY	
NO.	

CITY AND COUNTY OF HONOLULU
REVISED ORDINANCE CHAPTER 32,
HONOLULU COUNTY CODE 1990. AS AMENDED

To the best of my knowledge, this project's design substantially conforms to the Energy Code for:

- Building Component Systems
- Electrical Component Systems
- X Mechanical Component Systems

Signature: Arnaldo E. Prepose Date: 05-03-16
Name: Arnaldo E. Prepose
Title: President
License No: 4764-M



EXPIRATION DATE OF THE LICENSE 4/30/2018
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

5/27/16	△	Corrected Mechanical Legend And Symbols
DATE	REVISION	
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION		
MECHANICAL NOTES		
MECHANICAL LEGEND		
MOTOR VEHICLE SAFETY OFFICE		
RENOVATION		
Project No. HWY-0-02-08R		
Scale: As Noted	Date: April, 2016	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-02-08R	2016	50	69

Equipment Schedule

Variable Refrigerant Flow (Vrf) Air Conditioning System

Fan Coil Unit: Horizontal Ceiling Concealed Ducted

Factory assembled concealed multi-poise horizontal direct expansion fan coil unit with pre-coated galvanized steel cabinet, centrifugal direct driven three speed fan, copper tube aluminum fins cooling coil, insulated condensate drain pan, throwaway Merv 8 filters and rack, permanently lubricated motor, wired programmable controller/thermostat with weekly scheduling. Provide uv lights. See specifications for additional requirements.

Fan Coil Unit: Cassette Duct Free

Factory assembled cassette duct free direct expansion type with copper and aluminum fins cooling coil, zinc coated steel cabinet with coated finish, mounting brackets, auto-air grille, built-in condensate pump, multi-speed centrifugal fans, 1-inch filter and wired thermostat controller with scheduling. Provided rubber isolators. Interlock fcu with respective outside air fan.

Fcu No.	Tbtuh	Sbtuh	Sa Cfm	Oa Cfm	Ent Air		Amb Air F	Fan Coil Units			Volt/Ph/Cyc	Fcu Model or Approved Equal	Remarks
					Fdb	Fwb		Watts	Mca	Mopd			
A1	48,000	---	1650	---	80	67	95	490	5.3	15	208-230/1/60	Carrier 40WAV048	165.0 Lbs., Horizontal Ducted
A2	48,000	---	1650	---	80	67	95	490	5.3	15	208-230/1/60	Carrier 40WAV048	165.0 Lbs., Horizontal Ducted
A3	36,000	---	1200	---	80	67	95	350	5.3	15	208-230/1/60	Carrier 40WAV036	165.0 Lbs., Horizontal Ducted
B1a	15,000	---	550	---	80	67	95	50	0.3	15	208-230/1/60	Carrier 40WAC015	40.0 Lbs., Compact Cassette
B1b	7,000	---	300	---	80	67	95	50	0.3	15	208-230/1/60	Carrier 40WAC007	37.0 Lbs., Compact Cassette
B1c	15,000	---	550	---	80	67	95	50	0.3	15	208-230/1/60	Carrier 40WAC015	40.0 Lbs., Compact Cassette
B1d	7,000	---	300	---	80	67	95	50	0.3	15	208-230/1/60	Carrier 40WAC007	37.0 Lbs., Compact Cassette
B1e	7,000	---	300	---	80	67	95	50	0.3	15	208-230/1/60	Carrier 40WAC007	37.0 Lbs., Compact Cassette
B2a	24,000	---	760	---	80	67	95	60	0.8	15	208-230/1/60	Carrier 40WAV24	123.0 Lbs., Horizontal Ducted
B2b	18,000	---	600	---	80	67	95	55	0.8	15	208-230/1/60	Carrier 40WAF18	53.0 Lbs., 4-Way Cassette
B2c	7,000	---	300	---	80	67	95	50	0.3	15	208-230/1/60	Carrier 40WAC007	37.0 Lbs., Compact Cassette
B3	48,000	---	1400	---	80	67	95	490	5.3	15	208-230/1/60	Carrier 40WAV048	165.0 Lbs., Horizontal Ducted
B4	48,000	---	1400	---	80	67	95	490	5.3	15	208-230/1/60	Carrier 40WAV048	165.0 Lbs., Horizontal Ducted

Condensing Units:

Air cooled condensing unit complete with variable speed dc inverter scroll compressors, galvanized steel with powder coated cabinet, direct driven propeller horizontal discharge condenser fan, pvc coated wire guard, copper tube with aluminum fins condenser coil, puron r410a refrigerant, internal overloads, txv valve, and support feet with isolation pads. Provide corrosion protection for condenser coil. Protect finned tubes with blygold poulal coating, cabinet surfaces for air conditioning unit shall be coated with ameron psx 700. Replace all hardware with stainless steel hardware. See specifications for additional requirements.

Cu No.	Tbtuh	Ent Air		Amb Air F	Comp		Pwr Sup			Volt/Ph/Cyc	Cu Model or Approved Equal	Remarks
		Fdb	Fwb		Rla	Lra	Rla	Mca	Mocp			
A1	48,000	80	67	95	---	---	---	29.0	30	208-230/1/60	Carrier 38WAH048---3	16.2 Seer, 209 Lbs
A2	48,000	80	67	95	---	---	---	29.0	30	208-230/1/60	Carrier 38WAH048---3	16.2 Seer, 209 Lbs
A3	36,000	80	67	95	---	---	---	26.0	30	208-230/1/60	Carrier 38WAH036---3	16.5 Seer, 209 Lbs
B1	48,000	80	67	95	---	---	---	29.0	30	208-230/1/60	Carrier 38WAH048---3	16.0 Seer, 209 Lbs
B2	48,000	80	67	95	---	---	---	29.0	30	208-230/1/60	Carrier 38WAH048---3	16.2 Seer, 209 Lbs
B3	48,000	80	67	95	---	---	---	29.0	30	208-230/1/60	Carrier 38WAH048---3	16.2 Seer, 209 Lbs
B4	48,000	80	67	95	---	---	---	29.0	30	208-230/1/60	Carrier 38WAH048---3	16.2 Seer, 209 Lbs

*Electrical contractor shall provide circuit breaker and disconnect switch.

Equipment Schedule - Continuation

Exhaust Fan:

Ceiling fan shall be direct driven centrifugal type with galvanized steel housing with acoustic insulation, motor vibration isolators, integral wiring box, disconnect receptacle, convertible discharge, backdraft damper, mounting bracket, speed controller, nonoverloading open drip motor with built-in thermal protection and non-yellowing high impact styrene molded grille.

Ef No.	Cfm	Sp	Rpm	Watts	Volt/Ph/Cyc	Wt., Lbs	Remarks
A1 & A2	145	0.25	1200	103	120-1-60	---	Loren Cook GC-162 Or Approved Equal
B1 & B2	320	0.25	1205	172	120-1-60		Loren Cook GC-520 Or Approved Equal

Outside Air Fan:

In-line fan shall be direct driven centrifugal type with galvanized steel housing with acoustic insulation, motor vibration isolators, integral wiring box, disconnect receptacle, backdraft damper, mounting bracket, speed controller, and nonoverloading open drip motor with built-in thermal protection.

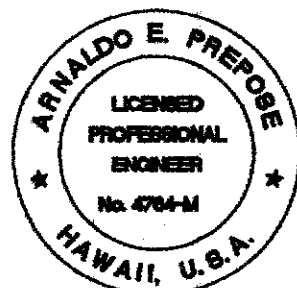
Oaf No.	Cfm	Sp	Rpm	Watts	Volt/Ph/Cyc	Remarks
A1	60	0.25	900	65	120-1-60	Loren Cook GN-124 Or Approved Equal

Tankless Water Heater: Htr-1

Tankless water heater with digital microprocessing temperature control with mechanical pressure differential flow switch, adjustable flow, safety high limit switch, polycarbonate plastic cover, replaceable element cartridge insert, copper sheathed element, and maximum operting pressure of 150 psi.

Htr-1: 0.60 Gpm At 50-DegF / 1.0 Gpm At 30-DegF Temperature Rise, 4.5 Kw, 22.0 Amps, 208-1-60. Stiebel Eltron DHC-6-2 Or Approved Equal.

DATE	_____
DESIGNED BY	_____
DRAWN BY	_____
CHECKED BY	_____
NOTED BY	_____
NO.	_____



EXPIRATION DATE OF THE LICENSE 4/30/2018
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STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
EQUIPMENT SCHEDULE	
MOTOR VEHICLE SAFETY OFFICE RENOVATION	
Project No. HWY-0-02-08R	
Scale: As Noted	Date: April, 2016

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-02-08R	2016	ADD.51	69

Equipment Schedule - Continuation

Inverter Air Conditioning System

Fan Coil Unit: Horizontal Ceiling Concealed Ducted

Factory assembled ceiling concealed horizontal ducted unit, direct expansion type with anti-corrosion cooling coil of copper coils and aluminum fins, corrosion protected casing with finish, microprocessor control with self diagnosing and 24-hour timer, mounting brackets, built-in condensate, merv 8 filter, auto restart, motor, 3-speed centrifugal fans, and wired standard thermostat. See specifications for additional requirements.

Fan Coil Unit: Cassette Duct Free

Factory assembled cassette duct free direct expansion type with copper and aluminum fins cooling coil, zinc coated steel cabinet with coated finish, mounting brackets, auto-air grille, built-in condensate pump, multi-speed centrifugal fans, 1-inch filter and wired thermostat controller with scheduling, provided rubber isolators. Interlock fcu with respective outside air fan. See specifications for additional requirements.

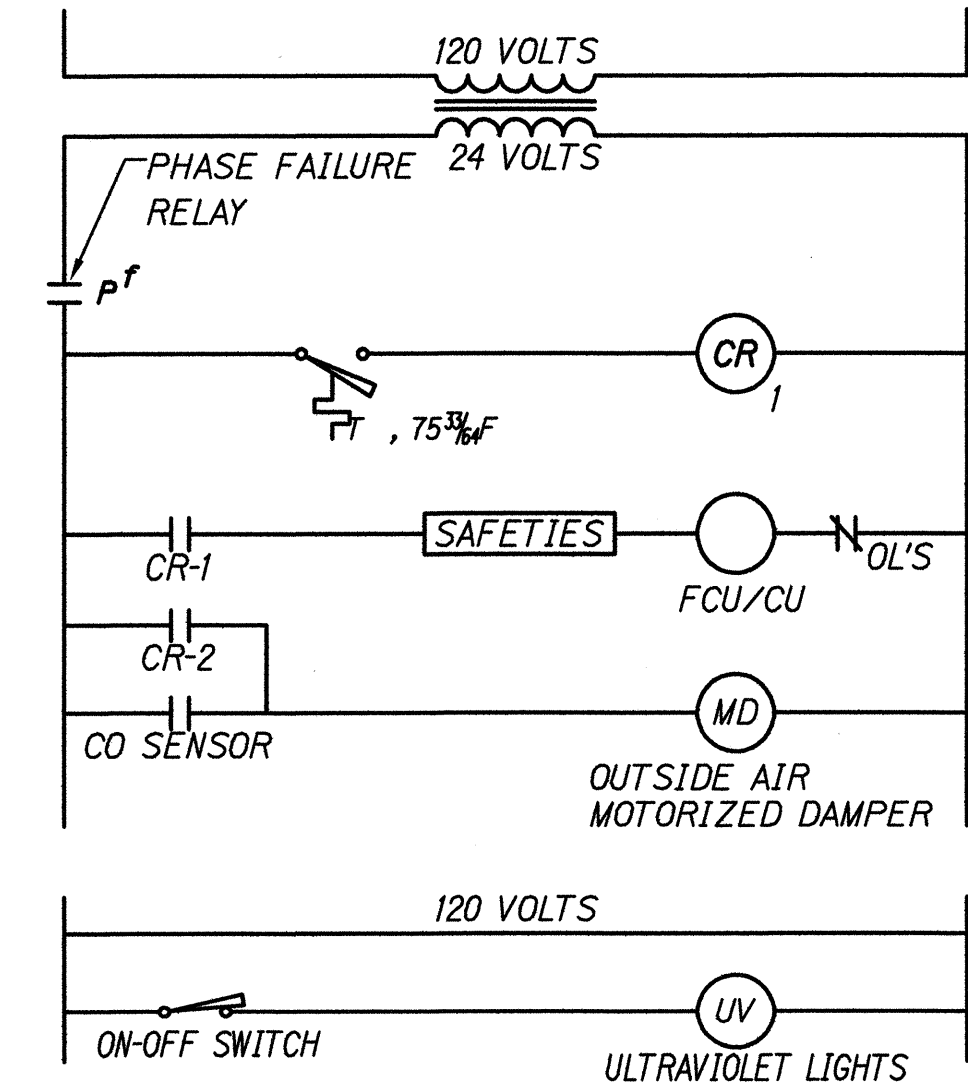
Fcu No.	Tbtuh	Sbtuh	Sa Cfm	Oa Cfm	Ent Air		Amb Air F	Fan Coil Units			Volt/Ph/Cyc	Fcu/Cu Model or Approved Equal	Remarks
					Fdb	Fwb		Fla	Watts	Mocp			
O-A1	16,000	---	480	---	80	67	95	0.83	---	---	208-230/1/60	Carrier 40MBQB18D--3	51.0 Lbs., Horizontal Ducted Fcu Power From Cu
A-4a	9,000	---	340	---	80	67	95	---	---	---	208-230/1/60	Carrier 40MBQB09C--3	35.3 Lbs., Cassette Fcu Power From Cu
A-4b	9,000	---	340	---	80	67	95	---	---	---	208-230/1/60	Carrier 40MBQB09C--3	35.3 Lbs., Cassette Fcu Power From Cu
A-4c	9,000	---	340	---	80	67	95	---	---	---	208-230/1/60	Carrier 40MBQB09C--3	35.3 Lbs., Cassette Fcu Power From Cu

Condensing Units:

Air cooled condensing unit complete with variable speed dc inverter scroll compressors, galvanized steel with powder coated cabinet, direct driven propeller horizontal discharge condenser fan, pvc coated wire guard, copper tube with aluminum fins condenser coil, puron r410a refrigerant, internal overloads, txv valve, and support feet with isolation pads. Provide corrosion protection for condenser coil. Protect finned tubes with blygold poulal coating, cabinet surfaces for air conditioning unit shall be coated with ameron psx 700. Replace all hardware with stainless steel hardware. See specifications for additional requirements.

Note: Fan coil units power from respective condensing units; disconnects required at fan coil unit.

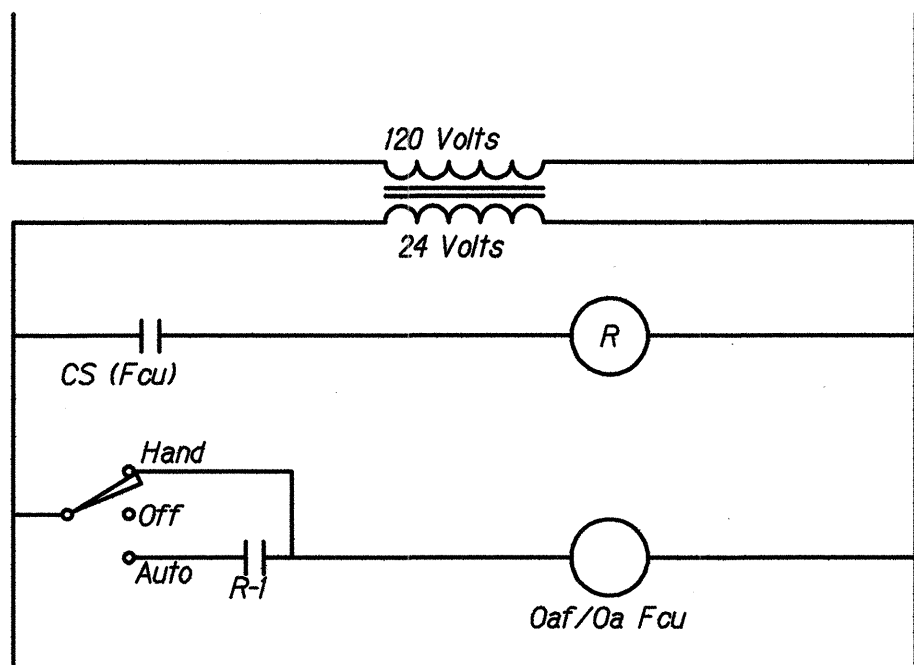
Cu No.	Tbtuh	Ent Air		Amb Air F	Comp		Pwr Sup			Volt/Ph/Cyc	Cu Model or Approved Equal	Remarks
		Fdb	Fwb		Rla	Lra	Rla	Mca	Mocp			
O-A1	16,000	80	67	95	7.30	---	13.7	15.0	20	208-230/1/60	Carrier 38MAQB18--3	18.5 Seer, 103 Lbs
A4	25,000	80	67	95	---	---	---	18.0	30	208-230/1/60	Carrier 38MGQD27--3	22.0 Seer, 155 LBS.



SEQUENCE OF CONTROLS:

1. Thermostat with time scheduling (t) shall activate fcu/cu when space is calling for cooling through control relay cr-1.
3. Motorized damper, MD, shall be normally closed during unoccupied mode. In occupied mode MD shall open to set point of outside air requirement indicated on drawings. Co2 sensor in return duct shall modulate motorized damper to full open to reduce the Co2 level if Co2 level rises above 700 ppm (adjustable).
4. Ultraviolet lights, uv, shall be activated continuously. Personnel shall deactivate uv lights upon servicing fcu.

FCU/CU CONTROL DIAGRAM D1
NO SCALE M1.3 M1.3



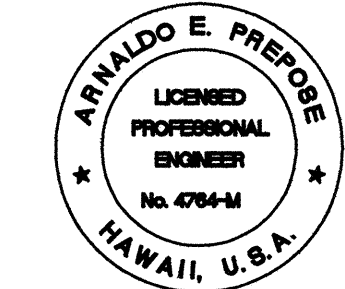
CS - CurrentSensor
R - Rib Relay W/ HOA Switch
OaF - Outside Air Fan

Sequence Of Controls:

1. Outside air fan shall be activated through respective current sensors (senra c-1200 or approved equal) on fan coil units.
2. Outside air fan shall be activated whenever current is sensed on any one of the activated fan coil units.
3. Any current sensor on fan coil units shall activate or close rib relay. Rib relay contact will close to activate outside air fan.

OUTSIDE AIR CONTROL DIAGRAM E1
NO SCALE M1.3 M1.3

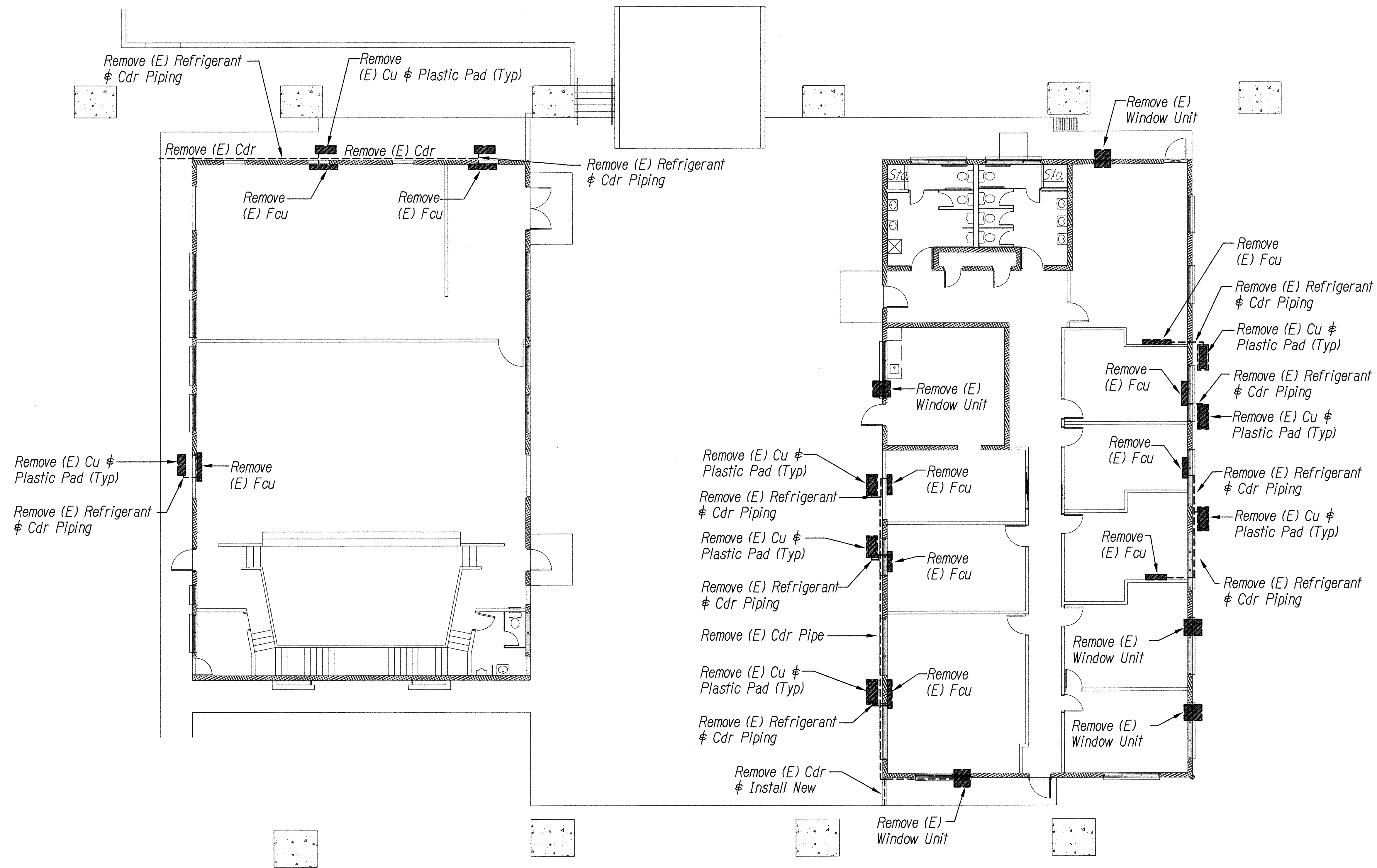
5/27/16	△	Corrected Outside Air Control Diagram Legend
DATE	REVISION	
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION		
EQUIPMENT SCHEDULE MECHANICAL DETAILS		
MOTOR VEHICLE SAFETY OFFICE RENOVATION		
Project No. HWY-0-02-08R		
Scale: As Noted Date: April, 2016		



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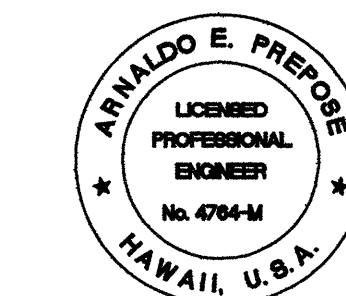
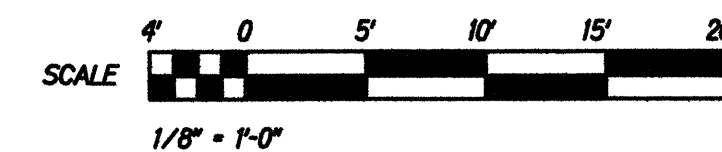
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FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-02-08R	2016	52	69



DATE	_____
SURVEY PLANNED BY	_____
DESIGNED BY	_____
TRACED BY	_____
NOTED BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
No.	_____

AIR CONDITIONING REMOVAL PLAN - BUILDING A & B A1
SCALE: 1/8" = 1'-0" M2.1 M2.1



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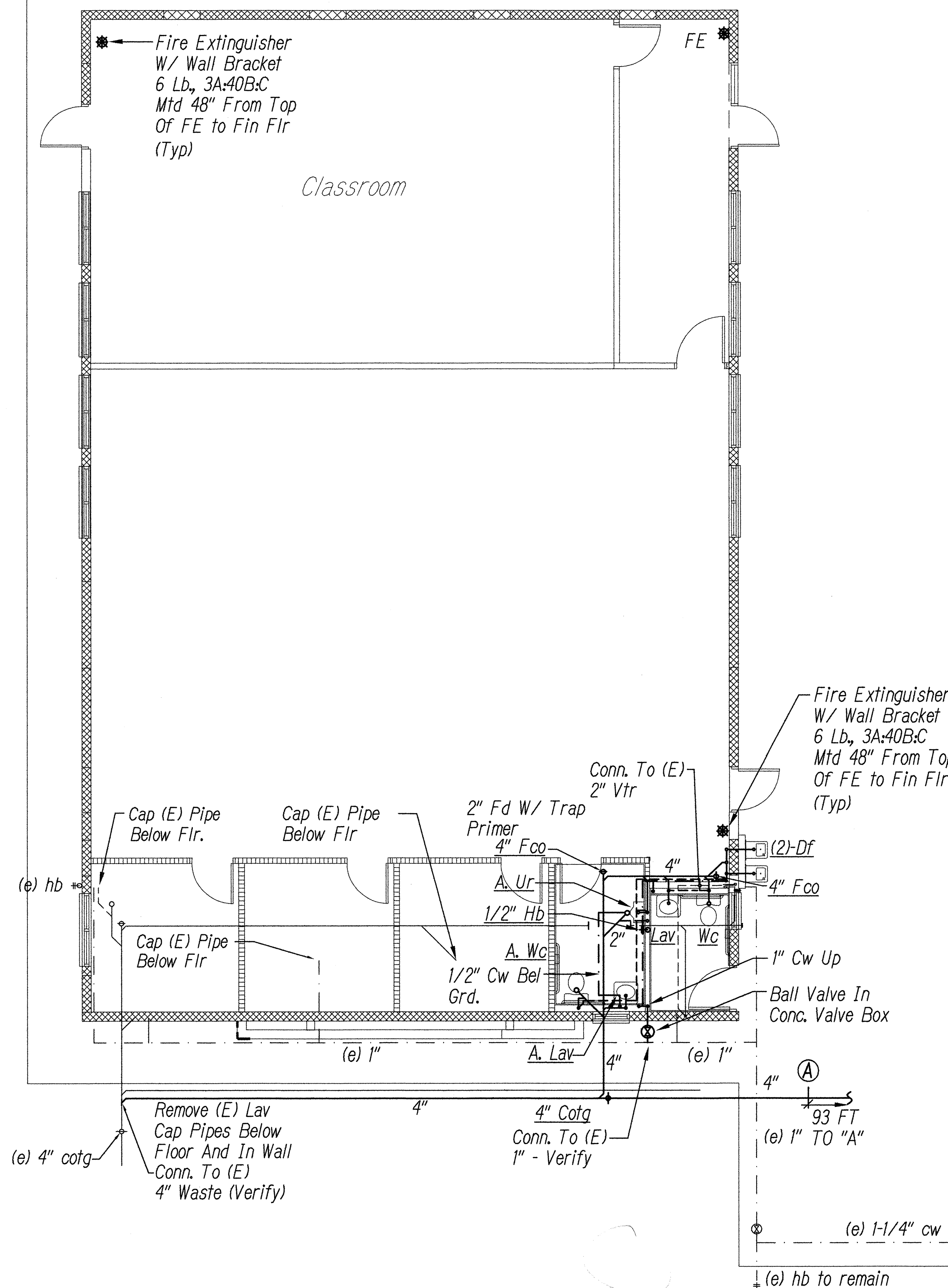
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BUILDING A & B AIR
CONDITIONING REMOVAL PLAN

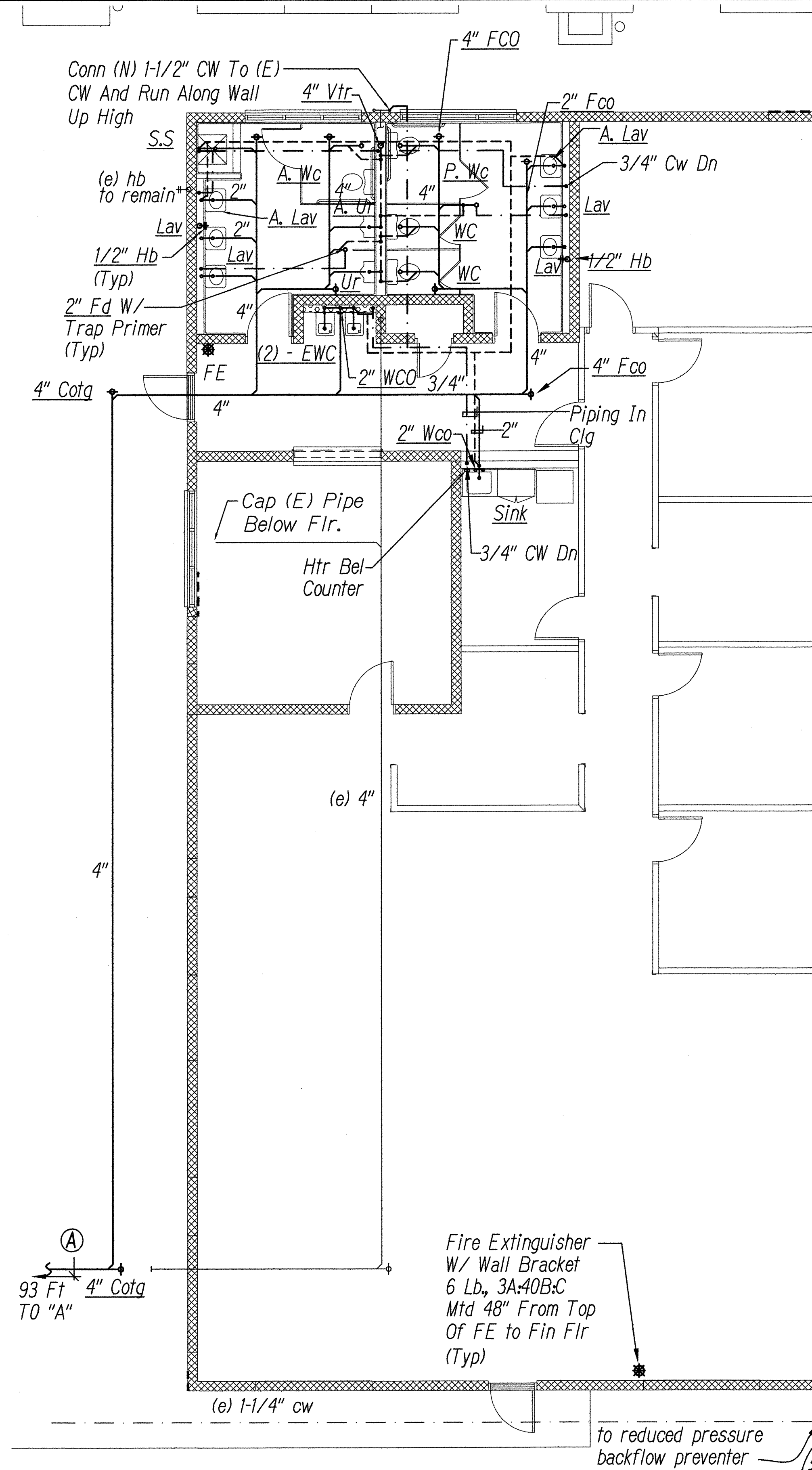
MOTOR VEHICLE SAFETY OFFICE
RENOVATION
Project No. HWY-0-02-08R
Scale: As Noted Date: April, 2016

SHEET No. M2J OF 69 SHEETS

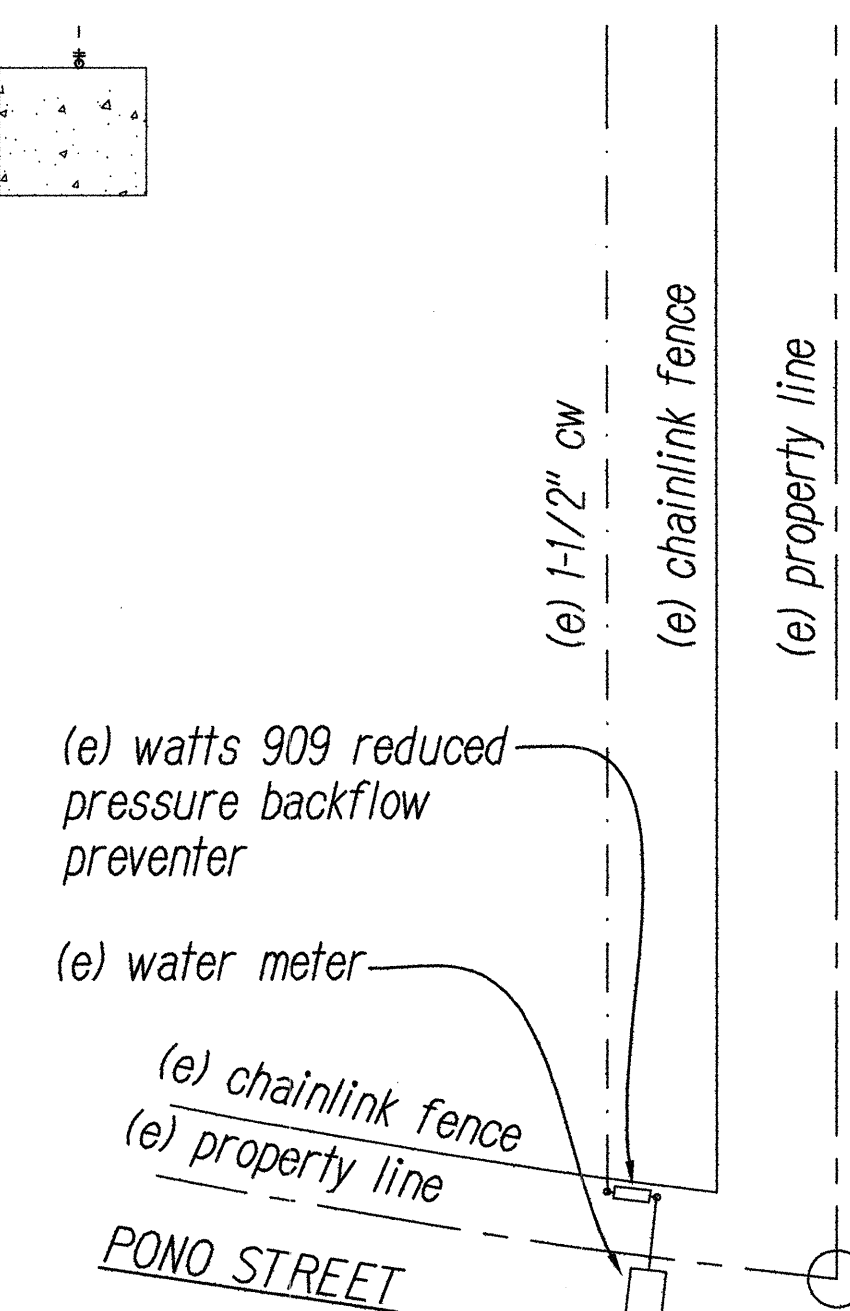
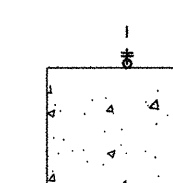
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-02-08R	2016	56	69



PLUMBING PLAN - BUILDING A A1
SCALE: 3/16" = 1'-0" M3.2 M3.2

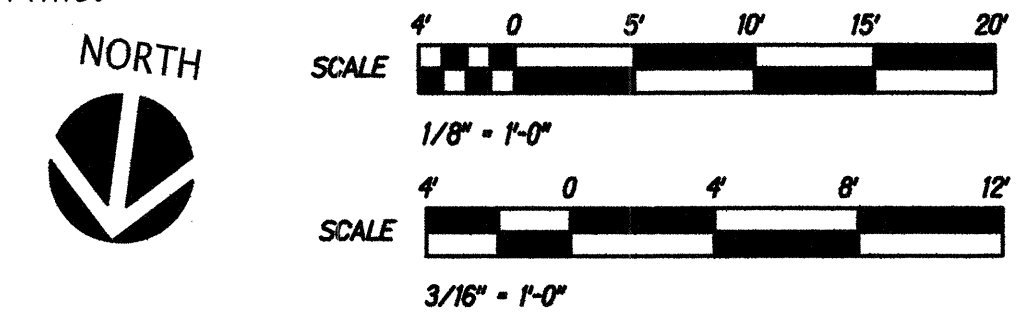


PLUMBING PLAN - BUILDING B A2
SCALE: 3/16" = 1'-0" M3.2 M3.2

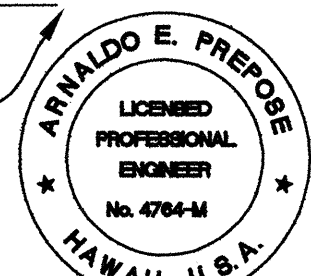


RPBP LOCATION E2
SCALE: 1/8" = 1'-0" M3.2 M3.2

- Plumbing General Notes:**
- Router all existing waste piping and check for proper waste flow. provide camera work to video the main 4" waste pipe. contractor shall notify engineer of any bad waste piping.
 - Flush out existing water water pipes and hot water heater of sediments.
 - Replace all urinal flush valves.
 - Replace all water closet flushing mechanisms in tanks and replace all supply valves and risers.
 - Clean existing lavatory aerators.
 - Clean and polish all existing plumbing fixtures, faucets and trims.



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STATE OF HAWAII
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HIGHWAYS DIVISION

**BUILDING A AND B
PLUMBING PLANS**

MOTOR VEHICLE SAFETY OFFICE
RENOVATION

Project No. HWY-0-02-08R
Scale: As Noted Date: April, 2016

SHEET No. M3.2 OF 69 SHEETS

DATE
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ORIGINAL PLAN
NOTE BOOK
No.

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-02-08R	2016	57	69

BWS FLOW REQUIREMENTS

98-339 Pono St.
Aiea, HI 96821
TMK: 9-8-026:064
Premise Number:
Meter Number: 1162310412

	F.U.	GPM	GPD
A. Proposed Domestic Total	31.6	21.0	525
B. Irrigation*	N/A		
C. Other	N/A		
D. Total Proposed	31.6	21.0	525
E. Removed Fixtures	36.2	23.0	575
F. Net Change (D - E)	-6.3	-5.0	-50
G. Existing To Remain	2.0	2.5	75
H. Grand Total (D + G)	33.6	21.5	600

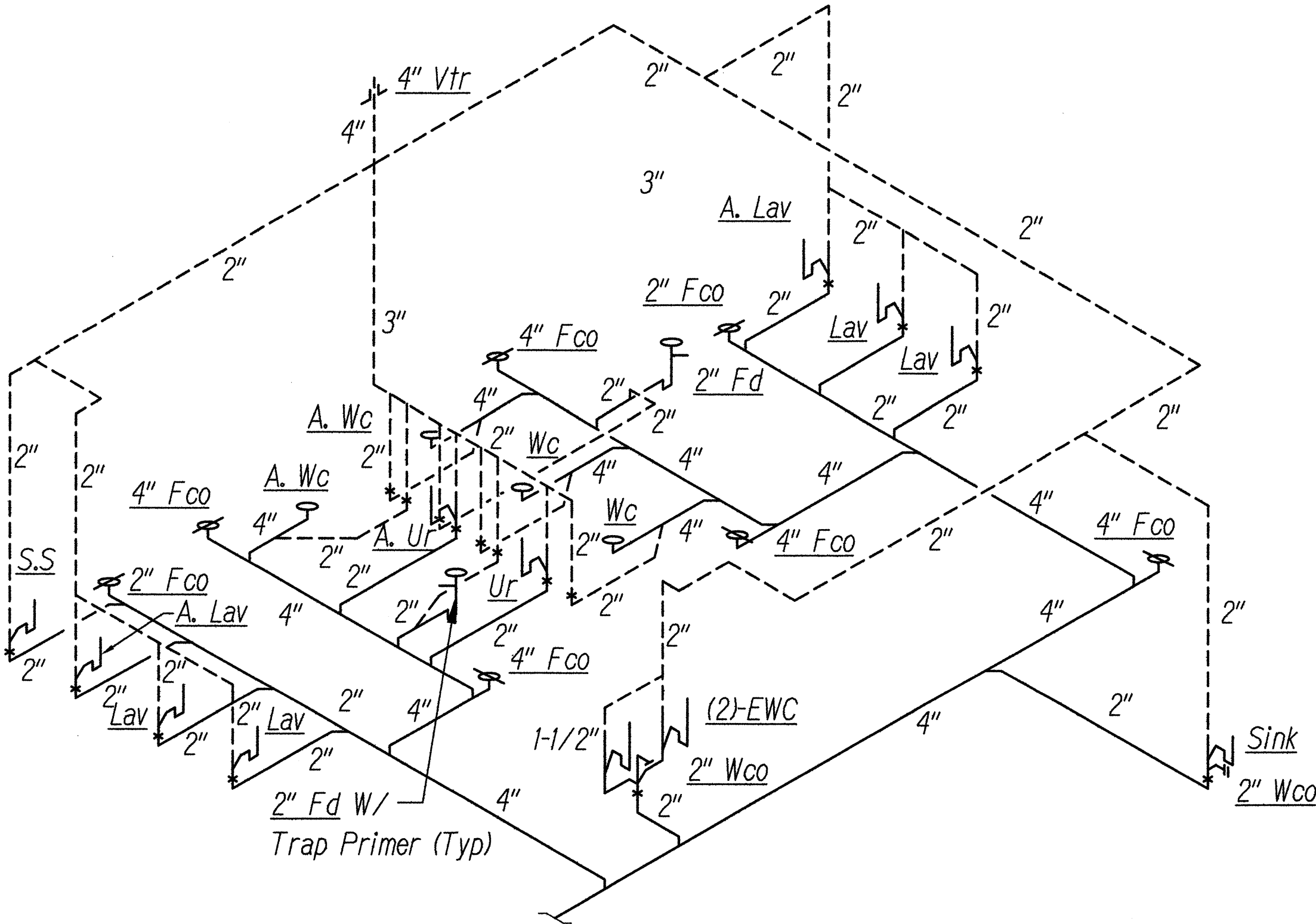
Notes:

- There is no irrigation for this project.
- A/C work will not affect water demand.
- There is no fire sprinkler system in this project.

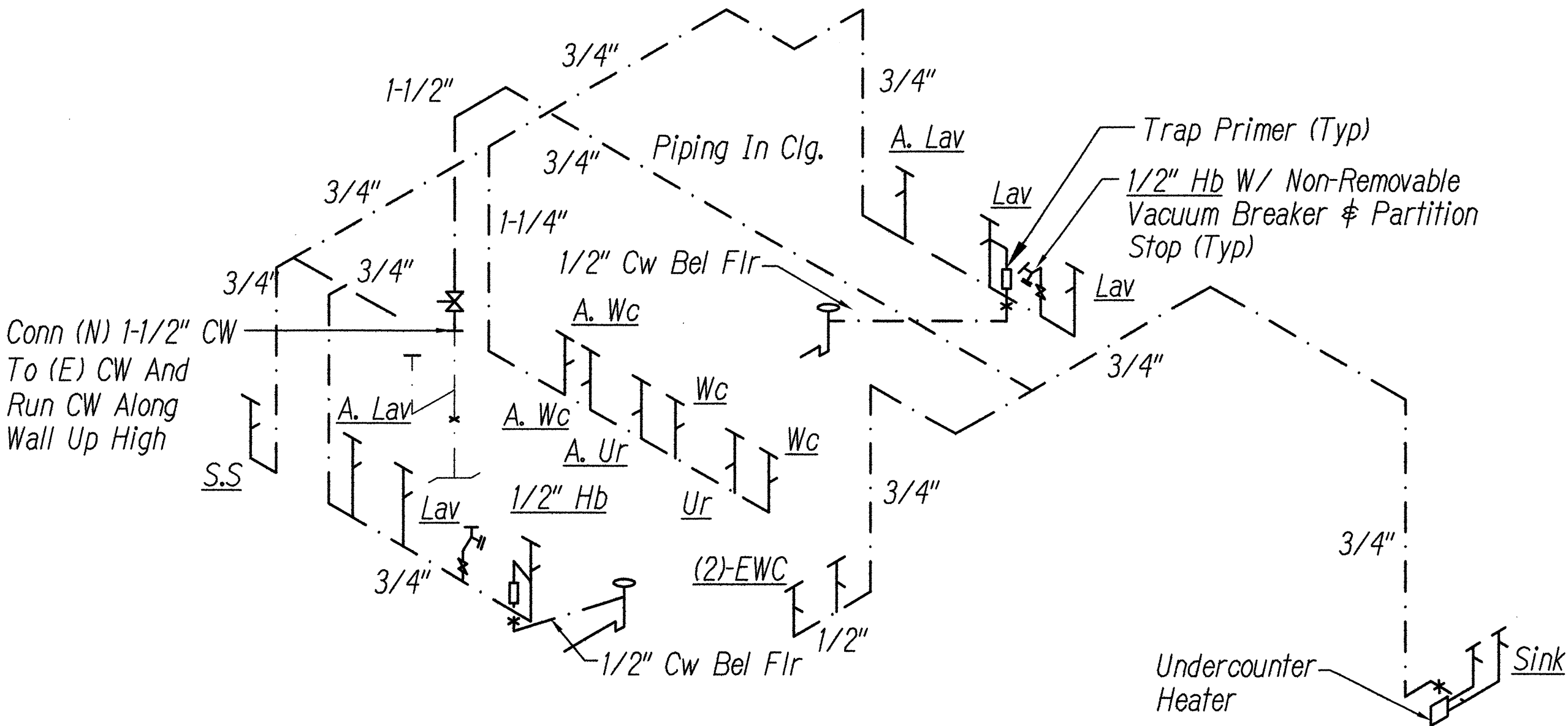
New Fixtures	QTY	F.U.	TOTAL F.U.
Water Closet	6	1.7	10.2
Lavatory	7	0.6	4.2
Urinal	3	1.7	5.1
Sink	1	1.6	1.6
Drinking Fountain	4	1.0	4.0
Service Sink	1	2.0	2.0
Hose Bibb	1	2.5	2.5
Hose Bibb	2	1.0	2.0
31.6 FU, 21.0 GPM			

Fixtures to be Removed	QTY	F.U.	TOTAL F.U.
Water Closet	8	1.7	13.6
Lavatory	7	0.6	4.2
Urinal	3	1.7	5.1
Sink	1	1.6	1.6
Drinking Fountain	2	1.0	2.0
Shower	2	1.6	3.2
Hose Bibb	1	2.5	2.5
Hose Bibb	2	1.0	2.0
Laundry Tray	1	2.0	2.0
36.2 FU, 23.0 GPM			

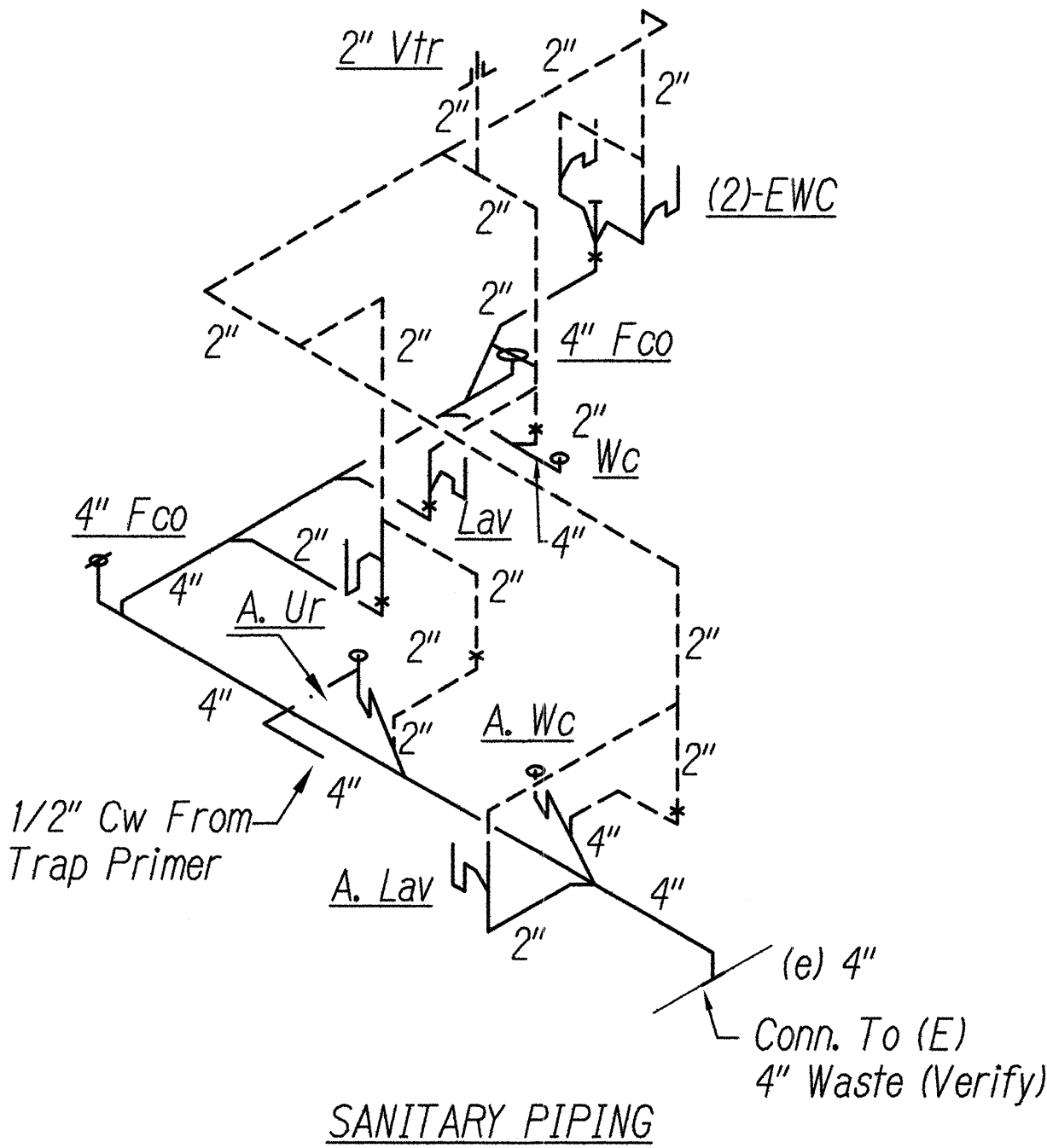
Fixtures to be Remain	QTY	F.U.	TOTAL F.U.
Hose Bibb	2	1.0	2.0
2.0 FU, 2.5 GPM			



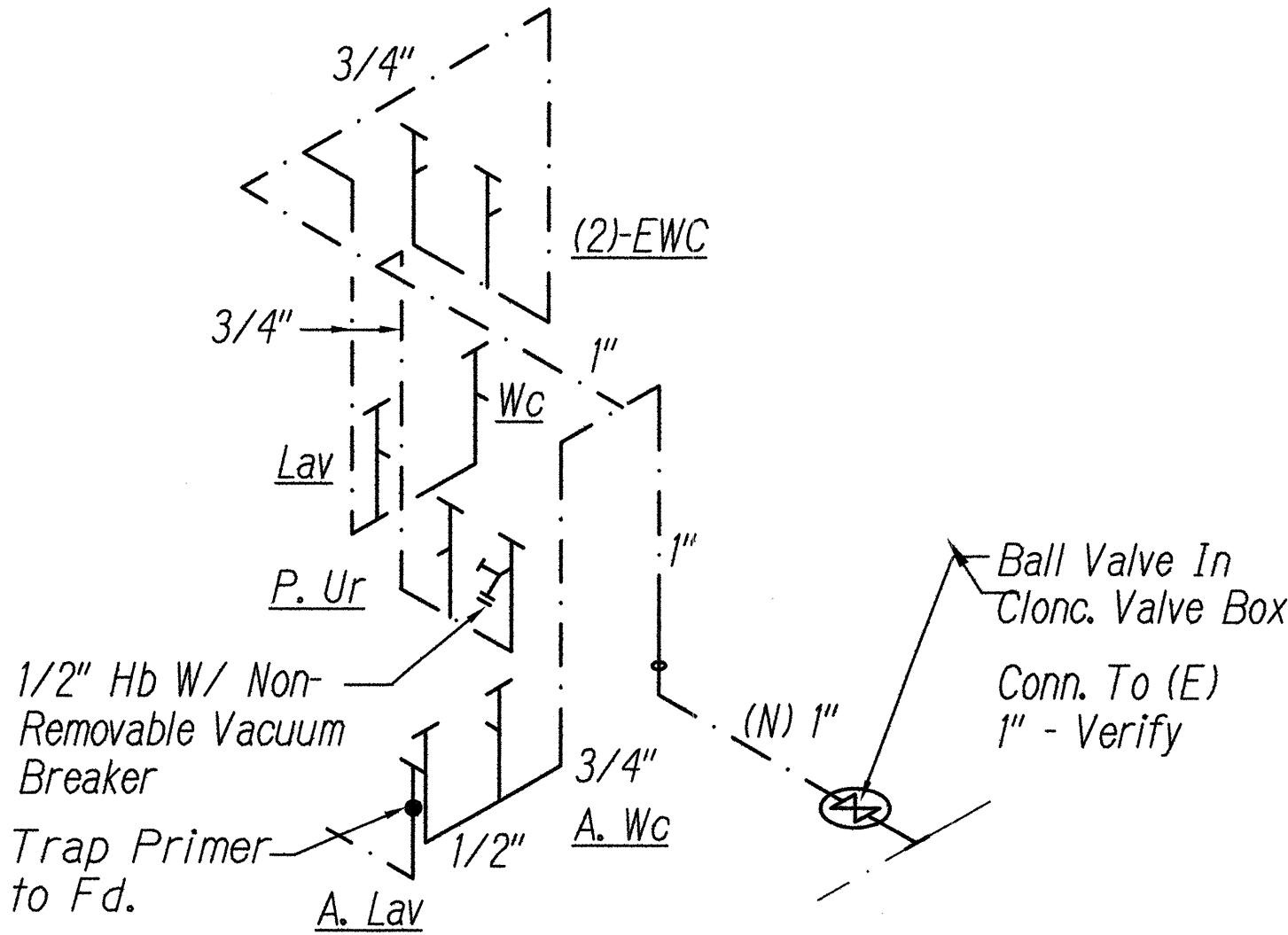
SANITARY PIPING



WATER PIPING



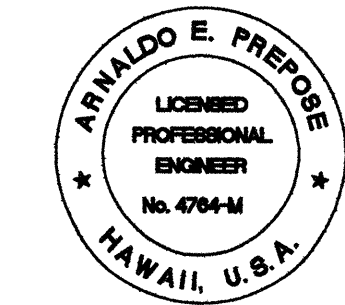
SANITARY PIPING



PLUMBING DIAGRAMS - BUILDING A D2
NO SCALE M3.3 M3.3

PLUMBING DIAGRAMS - BUILDING B A2
NO SCALE M3.3 M3.3

DATE	_____
SURVEY PLANNED BY	_____
DRAWN BY	_____
CHECKED BY	_____
NOTED BY	_____
NO.	_____



EXPIRATION DATE OF THE LICENSE 4/30/2018
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

BUILDING A AND B
PLUMBING DIAGRAMS

MOTOR VEHICLE SAFETY OFFICE
RENOVATION
Project No. HWY-0-02-08R
Scale: As Noted Date: April, 2016

SHEET No. M3.3 OF 69 SHEETS