MECHANICAL LEGEND

- SUPPLY AIR DIFFUSER
- RETURN AIR GRILLE
- EXHAUST AIR GRILLE
- PERFORATED RETURN AIR PANEL
- DIRECTIONAL AIR FLOW
- MANUAL VOLUME DAMPER
- SUPPLY AIR OR OUTSIDE AIR DUCT UP & DOWN
- RETURN AIR DUCT UP & DOWN
- EXHAUST AIR DUCT UP & DOWN
- SUPPLY AIR OR OUTSIDE AIR DUCT UP & DOWN
- RETURN AIR DUCT UP & DOWN
- EXHAUST AIR DUCT UP & DOWN
- (E) EXISTING
- (N) NEW
- (D) DEMOLISH
- (R) REPLACE
- CONNECT TO EXISTING
- T AC-4 THERMOSTAT OR TEMP. SENSOR
- ? NOTE
- XX / ? EQUIPMENT DESIGNATOR
- BALL VALVE
- GATE VALVE
- CHECK VALVE
- BALANCING VALVE
- THERMOMETER
- DIRECTION OF FLOW
- PUMP
- STRAINER
- PRESSURE GAUGE
- PETE'S PLUG
- VB VACUUM BREAKER
- DOUBLE CHECK ASSEMBLY
- PRESSURE REDUCING VALVE
- UNION
- 2-WAY CONTROL VALVE
- 3-WAY CONTROL VALVE
- CAP
- S SMOKE DETECTOR
- MOTORIZED DAMPER
- FIRE DAMPER
- FIRE / SMOKE DAMPER
- S SMOKE DAMPER
- PIPE SLOPE DIRECTION
- CO CO2 SENSOR
- SP DIFFERENTIAL PRESSURE TRANSMITTER
- BDD BACKDRAFT DAMPER
- M MOTORIZED DAMPER

AFF	ABOVE FINISH FLOOR
AHU	AIR HANDLING UNIT
B.D.	BOTTOM OF DUCT
BHP	BRAKE HORSEPOWER
BTU	BRITISH THERMAL UNITS
CFM	CUBIC FEET PER MINUTE
CONN.	CONNECTION
CONT.	CONTINUATION
CW	DOMESTIC COLD WATER
DB	DRY BULB
DIA.	DIAMETER
DIST.	DISTRIBUTION
EA	EXHAUST AIR
EDB	ENTERING DRY BULB TEMPERATURE
EWB	ENTERING WET BULB TEMPERATURE
EWT	ENTERING WATER TEMPERATURE
FF	FINISH FLOOR
FIXT.	FIXTURE
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT.	FEET / FOOT
GA.	GAUGE
GPM	GALLONS PER MINUTE
H	HEIGHT
HP	HORSEPOWER
I.D.	INSIDE DIAMETER
IN.	INCHES
L	LENGTH
LBS.	POUNDS
LDB	LEAVING DRY BULB
LWB	LEAVING WET BULB
LWT	LEAVING WATER TEMPERATURE
MAX.	MAXIMUM
MBH	THOUSANDS OF BTUs PER HOUR
MIN.	MINIMUM
NC	NOISE CRITERIA
N.C.	NORMALLY CLOSED
N.I.M.	NOT IN MECHANICAL
NO.	NUMBER
N.O.	NORMALLY OPEN
OA	OUTSIDE AIR
P	PERSON
PSI	POUNDS PER SQUARE INCH
P/T	PRESSURE / TEMPERATURE
RA	RETURN AIR
RE	RELIEF AIR
RECT.	RECTANGULAR
REQ'D	REQUIRED
SA	SUPPLY AIR
S.P.	STATIC PRESSURE
SQ.	SQUARE
TEMP.	TEMPERATURE
TYP.	TYPICAL
VAV	VARIABLE AIR VOLUME
W	WIDTH
WB	WET BULB
WPD	WATER PRESSURE DROP
ø	DIAMETER

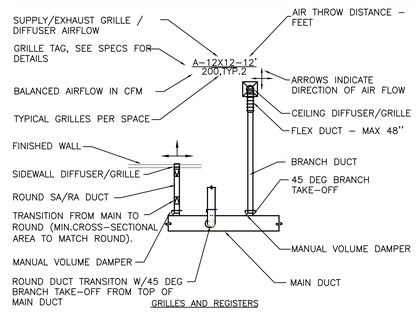
- (E) EXISTING
- (D) DEMOLISH
- NEW WORK
- G (G) NATURAL GAS
- CD (CD) CONDENSATE DRAIN
- RF (RF) TWO OR THREE REFRIGERANT LINES
- HWS EXISTING HOT WATER SUPPLY
- HWR EXISTING HOT WATER RETURN
- HWS NEW HOT WATER SUPPLY
- HWR NEW HOT WATER RETURN

EQUIPMENT MAINTENANCE CLEARANCE AND ACCESS

AIR DISTRIBUTION DETAILS

DOUBLE LINE / SINGLE LINE

- CONCENTRIC TRANSITION (15° MAX)
- SQUARE TO ROUND TRANSITION (15° MAX)
- FLEXIBLE DUCT 4 FT. MAX
- MITER TEE (W1, W2, W1+W2)
- MITERED OFFSET (15° MAX.)
- SMOOTH RADIUS OFFSET NO VANES R/W = 1.0 (30° MAX.)
- SMOOTH RADIUS OFFSET NO VANES, R/W = 1.0 (45° MAX., R=1.0D)
- SQUARE ELBOW (TURNING VANE)
- RADIUS ELBOW (R=1.0W)
- TAKE OFF (45°, 1/2D TO 12" MAX)
- SPIN-IN TAKE OFF (SPIN-IN)
- ROUND OR RECTANGULAR DUCT WITH CONNICAL FITTING (6", 1" CONNICAL FITTING)
- DUCT CAP
- SHEET METAL DUCTWORK. SIZE AS SHOWN. FIRST DIMENSION IS SIDE SEEN.
- INTERNALLY LINED DUCTWORK. DUCT SIZES ON PLANS SHOW NET INSIDE DUCT DIMENSIONS.
- DUCT CROSSING (BOTTOM DUCT, TOP DUCT)
- MITER TEE (2W, d)
- 90 DEG TAKE OFF WITH SPLITTER DAMPER (2W, d)
- BELLMOUTH FITTING (BM)
- 45 DEGREES LATERAL FITTING



GRILLES AND REGISTERS

MECHANICAL GENERAL NOTES

A. THE DRAWINGS ARE DIAGRAMMATIC. PROVIDE ALL MATERIAL (NEW AND UNDAMAGED) AND LABOR FOR A COMPLETE AND OPERABLE SYSTEM. VERIFY ALL BUILDING MEASUREMENTS DIMENSIONS AND EQUIPMENT LOCATIONS BEFORE PROCEEDING WITH ANY OF THE WORK.

B. REFER TO THE MECHANICAL SPECIFICATIONS FOR MATERIALS, EQUIPMENT, AND ADDITIONAL CONSTRUCTION INSTRUCTIONS NOT COVERED BY THESE PLANS.

C. ALL INSTALLATIONS SHALL COMPLY WITH APPLICABLE FEDERAL AND STATE CODES INCLUDING, 2014 OREGON STRUCTURAL SPECIALTY CODE (OSSC) INCLUDING APPENDIX N FOR OREGON FIRE CODE REGULATIONS, 2017 OREGON PLUMBING SPECIALTY CODE (OPSC), 2014 OREGON MECHANICAL SPECIALTY CODE (OMSC), 2014 OREGON ENERGY EFFICIENCY SPECIALTY CODE (OEESC), AND NATIONAL FIRE PROTECTION ASSOCIATION (NFPA). WHERE TWO CODES DIFFER THE MORE STRICT OF THE TWO SHALL BE FOLLOWED.

D. OBTAIN ALL NECESSARY PERMITS AND INSPECTIONS REQUIRED BY THE GOVERNING AUTHORITIES HAVING JURISDICTION. SUBMIT ALL CERTIFICATES PRIOR TO ACCEPTANCE.

E. COORDINATE WITH OTHER CRAFTS AS REQUIRED TO COMPLETE WORK IN ACCORDANCE WITH CONSTRUCTION SCHEDULE.

F. PROVIDE OWNER INSTRUCTION BY QUALIFIED PERSONNEL ON EQUIPMENT AND SYSTEMS AT OWNER'S REQUEST.

G. AIR BALANCE DIFFUSERS AND GRILLES TO THE CFM INDICATED ON FLOOR PLANS.

H. PROVIDE MANUAL BALANCING DAMPERS ON BRANCH DUCTS SERVING DIFFUSERS AND GRILLES.

I. PROVIDE DIFFUSER, REGISTERS, AND GRILLES OF SIZE AND TYPE INDICATED.

J. INSULATE SUPPLY AIR, OUTSIDE AIR AND RETURN AIR DUCTWORK OR INTERNALLY LINE SUPPLY AIR AND RETURN AIR DUCTWORK AS SHOWN ON PLANS AND PER MECHANICAL SPECIFICATIONS.

K. ALL DUCTWORK SHALL BE GALVANIZED STEEL, UNLESS OTHERWISE INDICATED, CONFORMING TO LATEST SMACNA, ASHRAE, OMSC, NFPA, AND UL STANDARDS.

L. MANUFACTURERS AND MODEL NUMBERS LISTED IN THE EQUIPMENT SCHEDULES ARE THE BASIS OF DESIGN.

M. CUT WALLS FOR PROPER EQUIPMENT, DUCT OR PIPE INSTALLATION. FILL HOLES WHICH ARE CUT OVERSIZED FOR A TIGHT FIT AROUND OBJECTS PASSING THROUGH. PATCH AND SEAL FINISHES TO MATCH NEW OR EXISTING FINISHES.

N. INSTALL LABELS ON ALL MECHANICAL EQUIPMENT.

O. CONTROLS AND WIRING SHALL MEET ALL ELECTRICAL REQUIREMENTS OF APPLICABLE ELECTRICAL SPECIFICATIONS AND REQUIREMENTS OF OWNER, BUILDING OFFICIALS AND EQUIPMENT SUPPLIERS OF EQUIPMENT INSTALLED ON PROJECT.

P. ELECTRIC MOTORS SHALL HAVE BUILT-IN THERMAL OVERLOAD PROTECTION OR BE PROTECTED EXTERNALLY WITH SEPARATE THERMAL OVERLOAD DEVICES, WITH LOW-VOLTAGE RELEASE OR LOCK OUT AS REQUIRED.

Q. ALL NEW EQUIPMENT, PIPING, CONDUIT, AND DUCTWORK SHALL BE INSTALLED FOR CURRENT SEISMIC CODE.

R. PROVIDE LOW LEAK AUTOMATIC DAMPERS ON OUTSIDE AIR, EXHAUST AIR AND RELIEF AIR CONTROL DAMPERS WHERE THESE ARE INDICATED.

MECHANICAL GENERAL DEMO. NOTES

A. ALL EXISTING/DEMO INFORMATION ON DRAWINGS IS BASED OFF RECORD DRAWINGS. CONTRACTOR IS RESPONSIBLE TO VERIFY ALL EQUIPMENT, DUCTWORK, PIPING, AND ASSOCIATED SIZE AND LOCATIONS ON SITE PRIOR TO THE NOTED DEMOLITION WORK.

B. REMOVE ALL CONTROL DEVICES AND CONTROL CONDUITS/WIRES WHERE EXPOSED BELOW OR IN THE CEILING PLENUM ABOVE IN THE REMODELED AREA REQUIRING NEW CONTROLS.

DIFFUSER AND REGISTER SCHEDULE

TAG	TYPE	LOCATION - NOTES	MANUFACTURER: MODEL
A	SUPPLY DIFFUSER, PERFORATGED ADJUSTABLE BLADES	CEILING - [1][3][5]	TITUS PMC
B	RETURN GRILLE, PERFORATED FACE	CEILING - [1][3][4]	TITUS PAR
C	SUPPLY GRILLE - DOUBLE DEFLECTION	SIDEWALL - [1][2]	TITUS 300RL
D	RETURN/EXHAUST GRILLE - SIDEWALL	SIDEWALL -[1][2]	TITUS 350RL

NOTES:

[1] PROVIDE NECK SIZE AS SHOWN ON PLANS.
[2] PROVIDE BLADES PARALLEL TO THE LONG DIMENSION AT SIDEWALL GRILLES.
[3] PROVIDE BORDER FOR SURFACE MOUNT OR TILE CEILING AS REQUIRED BY CEILINGS.
[4] NOT USED.
[5] PROVIDE BLOW CONFIGURATION AS SHOWN ON PLANS. THE INDICATED THROW DISTANCE IS FOR 4 WAY BLOW ONLY.

CLARK KJOS ARCHITECTS, LLC
Phone: 503.224.4848
621 SW Alder Street, Suite 700
Portland, OR 97205

REGISTERED PROFESSIONAL ENGINEER 52786 OREGON JAN. 15, 2002 MARIANA GALOFTEANU EXPIRES 6/30/19

Wallowa MOB Addition

Wallowa County Healthcare District

603 Medical Pkwy, Enterprise, OR 97828

ISSUE DATE: 01.25.2019

REVISIONS:

Bid / Permit Set

MECHANICAL LEGEND, NOTES AND SCHEDULES

M0.01

MFA INC. Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFA-ENG.COM
CONTACT: Mariana Galofteanu

EXHAUST FANS SCHEDULE

DESIGN SYMBOL	FAN TYPE	SERVES	MIN CFM	MAX CFM	ESP INCHES	FAN RPM	MOTOR BHP	MOTOR HP	MOTOR RPM	MOTOR DRIVE TYPE	MOTOR SPEED CONTROLLER	MOTOR VOLTS/PHASE /HZ	MOUNTING	INLET SONES	DAMPER TYPE	OPER. WEIGHT LBS	INTER-LOCK / CONTROL WITH	REMARKS NOTES	DESIGN BASIS MODEL# GREENHECK
EF-200	INLINE	GAS STORAGE	50	50	0.25	1725	0.04	1/4	1725	BELT	NONE	115/1/60	INLINE	6.1	BACKDRAFT	80		1,2,3,4,5,6,7	BSQ-70

NOTES:

1 PROVIDE FLEX CONNECTORS AT FAN DUCT CONNECTION(S).
2 DISCONNECT SWITH BY ELECTRICAL.
3 FAN SHALL RUN CONTINUOUSLY AND BE SUPERVISED.
4 PROVIDE MOTOR GUARD.
5 PROVIDE APPROVED WALL SWITCH OUTSIDE THE ROOM.
6 PROVIDE CLASS 1 FAN.
7 PROVIDE SPARK RESISTANT CONSTRUCTION.

UPDATED: 1/25/2019 14:07

BRANCH SELECTOR UNITS SCHEDULE

SYMBOL	CONNECTIONS	SIZE WIDTH IN	SIZE DEPTH IN	SIZE HEIGHT IN	ELECTRIC POWER VOLT/PHASE/HZ	EMERGENCY POWER	UNIT MCA	UNIT WEIGHT LBS	INTERLOCK CONTROL WITH	REMARKS NOTES	DESIGN BASIS DAIKIN
BS-200	7	23	19	12	208/1/60	NO	0.6	75	VRF-200		BS-Q54TVJ

NOTES:

1 PROVIDE CONDENSATE DRAIN AND ROUTE TO DISCHARGE PER MANUFACTURER'S REQUIREMETNS AND TO MEET CODE.
2
3
4

UPDATED: 1/25/2019

ELECTRIC DUCT HEATING COILS SCHEDULE

MARK NUMBER	EDH-210	EDH-211	EDH-223	EDH-225	EDH-227	EDH--236		
SPACE SERVED	ZONE - 110	ZONE - 011	ZONE - 023	ZONE - 025	ZONE - 027	ZONE - 036		
DUCT HEATER TYPE	OPEN COIL	OPEN COIL	OPEN COIL	OPEN COIL	OPEN COIL	OPEN COIL		
TEMPERATURE CONTROL	SCR	SCR	SCR	SCR	SCR	SCR		
AIRFLOW CFM	280	500	690	550	690	720		
ENTERING AIR TEMPERATURE F	70	70	70	70	70	70		
LEAVING AIR TEMPERATURE F	86.9	93.2	93.9	99.4	99.5	85.3		
REQUIRE HEAT (BTUH)	5690	13920	19820	19382	24410	13200		
REQUIRED ELECTRICAL LOAD (KW)	2.0	5.0	6.0	6.0	8.0	4.0		
DUCT HEATER KW	2.0	5.0	6.0	6.0	8.0	4.0		
HEATER AMPS(3 PH=WATTS/VOLTS/1.73)	5.56	13.9	16.68	16.68	22.24	11.12		
HEATER AMPS(1 PH=WATTS/VOLTS)	9.6	24.0	28.9	28.9	38.5	19.2		
HEATER DUCT WIDTH (IN)	10	12	14	14	16	16		
HEATER DUCT HEIGHT (IN)	8	10	12	10	12	12		
AIRFLOW VELOCITY (FPM)	504	600	591	566	518	540		
HEATER KW / SQ FT	3.6	6.0	5.1	6.2	6.0	3.0		
HEATER MAX. PRESSURE DROP (IN WG)	0.05	0.05	0.05	0.05	0.05	0.05		
ELECTRICAL (VOLTS/PH)	208/1/60	208/1/60	208/1/60	208/1/60	208/1/60	208/1/60		
CONTROL FAN INTELOCK	FCU-210	FCU-211	FCU-223	FCU-225	FCU-227	FCU-236		
CONTROLLED BY	FAN-COIL UNIT	FAN-COIL UNIT	FAN-COIL UNIT	FAN-COIL UNIT	FAN-COIL UNIT	FAN-COIL UNIT		
UNIT WEIGHT (POUNDS)	21	21	21	21	21	21		
BASIS OF DESIGN								
REMARKS, SEE NOTES:	1,2,3,4,5,6	1,2,3,4,5,6	1,2,3,4,5,6	1,2,3,4,5,6	1,2,3,4,5,6	1,2,3,4,5,6		

NOTES:

1. CONTROL FROM SPACE THERMOSTAT.
2. INTERLOCK WITH FAN-COIL UNIT AND PROVIDE FLOW SWITCH TO PREVENT OPERATION WHEN FAN IS OFF.
3. PROVIDE BUILT-IN DISC TYPE OVER TEMPERATURE PROTECTION.
4. PROVIDE PRIMARY AND SECONDARY TEMPERATURE PROTECTION.
5. INSTALL 4 FT DOWNSTREAM OF ELBOWS, DUCT TURNS, DUCT TRANSITIONS, FAN OUTLET OR FILTERS AND 2 FEET UPSTREAM OF ELBOWS OR DUCT TURNS OR FILTER FRAMES.

UPDATED:

WALL EXHAUST/RELIEF LOUVER SCHEDULE

DESIGN SYMBOL	LOCATION	TYPE	AIRFLOW DIRECTION	MAX AIRFLOW CFM	MAX PRESSURE DROP IN	BACKDRAFT DAMPER	SIZE WIDTH IN	SIZE HEIGHT IN	SIZE PERCENT FREE AREA	SIZE FREE AREA SF	SIZE DESIGN VELOCITY FPM	SIZE NUMBER OF SECTIONS	ELECTRICAL NUMBER OF ACTUATORS	ELECTRICAL EMERGENCY POWER	ELECTRICAL ACTUATOR VOLTS/PHASE /HERTS	INTERLOCK WITH UNIT	REMARKS NOTES	DESIGN BASIS
LVE-200	WALL	STATIONARY	EXHAUST	8800	0.07	YES	96	36	53%	12.57	700	1		NO		VRF-200	1,2,3,4	GREENHECK ESD-403

NOTES:

1 INSTALL LOUVER WITH BLADES RUNNING HORIZONTALLY.
2 PROVIDE INSECT SCREEN AT LOUVER.
3 COORDINATE LOUVER FINISH WITH ARCHITECTURAL REQUIREMENTS.
4

UPDATED: 1/25/2019

ELECTRIC CEILING RADIANT PANEL

SYMBOL	ROOM SERVED	HEAT LOSS BTUH	MOUNTING	PROVIDED HEAT KW	ELECTRICAL AMPS	ELECTRICAL POWER CONNECTION VOLT/PHASE/HZ	OPERATING WEIGHT LBS	PANEL SIZE W X L FT	CEILING TYPE	NOTES	DESIGN BASIS/ REMARKS MARKEL
ERP-105		1,707	SURFACE	0.50	4.2	115/1/60	30	2X4	T-BAR		CP125

NOTES:

1
2

UPDATED: 1/10/2019

WALL INTAKE AIR LOUVERS SCHEDULE

DESIGN SYMBOL	SERVES	LOCATION	TYPE	AIRFLOW DIRECTION	MAX AIRFLOW CFM	MAX PRESSURE DROP IN	BACKDRAFT DAMPER	SIZE WIDTH IN	SIZE HEIGHT IN	SIZE PERCENT FREE AREA	SIZE FREE AREA SF	SIZE DESIGN VELOCITY FPM	SIZE NUMBER OF SECTIONS	ELECTRICAL NUMBER OF ACTUATORS	ELECTRICAL EMERGENCY POWER	ELECTRICAL ACTUATOR VOLTS/PHASE /HERTS	INTERLOCK UNIT	REMARKS NOTES	DESIGN BASIS
LVI-200	VRF-200	WALL	STATIONARY	INTAKE	8800	0.07	YES	96	36	53%	9.78	700	1	[6]	NO		VRF	1,2,3,4,5,6	SEE SPECS

NOTES:

1 INSTALL LOUVER WITH BLADES RUNNING HORIZONTALLY.
2 PROVIDE BIRD SCREEN.
3 PROVIDE ALL WELDED CONSTRUCTION.
4 COORDINATE LOUVER FINISH WITH ARCHITECTURAL REQUIREMENTS.
5
6

UPDATED: 2/12/2018

VARIABLE REFRIGERANT FLOW HEAT RECOVERY CONDENSING UNITS SCHEDULE

DESIGN SYMBOL	LOCATION	COMPRESSOR TYPE NO	COMPRESSOR CAPACITY CONTROL RANGE %	COMPRESSOR AMPS RATED LOAD	COMPRESSOR AMPS START METHOD	R410A CHARGE LBS	DX COOLING CAPACITY MBH TOTAL	DX COOLING CAPACITY MBH SENS	DX COOLING EVAP EAT F [4] DB	DX COOLING EVAP EAT F [4] WB	DX COOLING EVAP LAT F DB	DX COOLING EVAP LAT F WB	DX COOLING AMBIENT TEMP DB/WB F	DX COOLING MIN DUCTED EER/IEER/SCHE	HEAT PUMP HEATING REQ'D HEAT MBH	HEAT PUMP HEATING INDOOR TEMP F	HEAT PUMP HEATING AMBIENT TEMP DB/WB	HEAT PUMP HEATING MIN COP 47 / 17	ELECTRICAL POWER VOLT PHASE/HZ	ELECTRICAL UNIT MOP AMPS	ELECTRICAL UNIT MCA AMPS	ELECTRICAL EMERG POWER	UNIT WGH LBS	INTERLOCK	PIPE RUN EQUIV-LENGTH FT	PIPE RUN RISE FT	REMARKS NOTES	DESIGN BASIS DAIKIN AURORA VRV IV RELQ--TAYDU
VRF-200	ROOF	INVERTER	5-100	17.8		25.8	81.8	80.0	75.3	59.6	56.5	51.9	96.2/64.7	12.4/19.6/21.4	92.7	70.0	-10 / -12	3.51 / 2.25	208/3/60	90	83.4	NO	880		0	15	1,2,3,4,5	RELQ120TAYDU

NOTES:

1 PROVIDE DISCONNECT SWITCH.
2 PROVIDE REFRIGERANT PIPING AND DEVICES PER MANUFACTURER'S RECOMMENDATIONS.
3 PROVIDE THERMAL OVERLOAD MOTOR PROTECTION.
4 PROVIDE ANTI-SHORT CYCLE TIMER.
5 PIPE RUN IS EQUIVALENT LENGTH TO FAN COIL UNIT AND ELEVATION RISE FROM FAN-COIL TO CONDENSER.

UPDATED 1/25/2019

VRF FAN COIL UNITS SCHEDULE

DESIGN SYMBOL	FAN COIL TYPE	SERVES	OA MIN CFM	OA MAX CFM	SUPPLY FAN SA CFM	SUPPLY FAN ESP IN [5]	SUPPLY FAN BHP	SUPPLY FAN HP	DX COOLING COIL - R410A CAPACITY MBH TOTAL	CAPACITY MBH SENS	EAT F DB	EAT F WB	LAT F DB	LAT F WB	COIL VEL < FPM	COILS/ ROWS #/#	HEAT PUMP HEATING SEER	CAP MBH[9]	EAT F	LAT F DB	HEATING STAGES	COP	MIN HSPF	ZONE TSTAT CLG/HTG	SOUND Dba	UNIT SMOKE DETECT	ELECTRICAL POWER V/PH/HZ	FUSE AMPS	MCA AMPS	UNIT WEIGHT LBS	INTERLOCK / CONTROL WITH [7]	REMARKS NOTES	DESIGN BASIS DAIKIN VRF SYSTEM FXM—PBJU
FCU-210	DUCTED-CEILING	ENTRY	10	10	280	0.42			7.0	7.0	75.3	59.6	56.5	51.7			[11]	6.5	70	89		[10]	[10]	75/70	39-33	NO	208/1/60	15	0.6	56	EDH	1,2,3,4,5,6,7,8,9,10,11	FXMQ9PBVJU
FCU-211	DUCTED-CEILING	HALL	20	20	500	0.45			12.0	12.0	75.3	59.6	56.5	51.9			[11]	16.0	70	97		[10]	[10]	75/70	38-42	NO	208/1/60	15	1.6	80	EDH	1,2,3,4,5,6,7,8,9,10,11	FXMQ18PBVJU
FCU-223	DUCTED-CEILING	EXAM	90	90	690	0.50			16.1	16.1	75.3	59.3	56.5	51.8			[11]	22.8	70	98		[10]	[10]	75/70	38-42	NO	208/1/60	15	1.8	80	EDH	1,2,3,4,5,6,7,8,9,10,11	FXMQ24PBVJU
FCU-225	DUCTED-CEILING	DENTAL	70	70	550	0.51			13.3	13.3	75.3	59.4	56.5	51.7			[11]	18.9	70	99		[10]	[10]	75/70	38-42	NO	208/1/60	15	1.8	80	EDH	1,2,3,4,5,6,7,8,9,10,11	FXMQ24PBVJU
FCU-227	DUCTED-CEILING	OFFICE	160	160	690	0.49			17.6	16.5	75.3	60.0	56.5	52.4			[11]	25.3	70	99		[10]	[10]	75/70	38-42	NO	208/1/60	15	1.8	80	EDH	1,2,3,4,5,6,7,8,9,10,11	FXMQ24PBVJU
FCU-236	DUCTED-CEILING	BEHAVORIAL	210	210	720	0.55			18.0	16.0	75.3	58.0	56.5	50.2			[11]	15.2	70	88		[10]	[10]	75/70	38-42	NO	208/1/60	15	1.8	80	EDH	1,2,3,4,5,6,7,8,9,10,11	FXMQ24PBVJU

NOTES:

1 EQUIPMENT SHALL MEET EFFICIENCY AS REQUIRED BY THE ENERGY CODE.
2 EQUIPMENT LOAD INCLUDES ELEVATION DERATION.
3 PROVIDE CONDENSATE DRAIN PAN WITH WATER LEVEL DETECTOR PER UL 508.
4 PROVIDE CONDENSATE PUMP: 18 IN LIFT.
5 PROVIDE MERV8 PLEADED FILTER.
6 PROVIDE DUCTED CONCEALEAD UNIT.
7 FAN-COIL UNIT SHALL OPERATE TO PROVIDE HEAITING WHEN VRF CONDENSING UNIT IS OFF TO PROVIDE AIRFLOW TO DUCT HEATING COIL.
8 NOT USED.
9 HEATING CAPACITY PROVIDED BY EQUIPMENT HEAT PUMP OPERATION.
10 SEE CONDENSING UNIT SCHEDULE FOR COP, HSPF VALUE
11 SEE CONDENSING UNIT SCHEDULE FOR SEER VALUE

UPDATED: 1/11/2019 15:49

ELECTRIC BASEBOARD HEATERS

SYMBOL	ROOM SERVED	HEAT LOSS BTUH	REQUIRED HEAT KW	LENGTH FT	ELECTRICAL WATT/ FT	ELECTRICAL AMPS	ELECTRICAL POWER CONNECTION VOLT/PHASE/HZ	NUMBER OF ELEMENTS	UNIT WIDTH X HEIGHT X	REMARKS	DESIGN BASIS/ REMARKS Q'MARK
FT-211	011	5,120	1.5	10	150	7.2	208/1/60	1	3-5/8 IN X 6 IN	1	DBA
FT-210	10	3,850	1.1	6	188	7.5	208/1/60	1	3-5/8 IN X 6 IN	1	DBA

NOTES:

1 PROVIDE WALL THERMOSTAT.

RELIEF / EXHAUST AIR ROOF HOODS SCHEDULE

DESIGN SYMBOL	APPLICATION	SYSTEM SERVED	LOCATION	AIRFLOW DIRECTION	MAX AIRFLOW CFM	MAX PRESSURE DROP IN	SIZE THROAT SIZE WIDTH/DIA IN	SIZE THROAT SIZE DEPTH IN	SIZE THROAT AREA SF	SIZE DESIGN VELOCITY FPM	SIZE OVERALL DIA/ L x W x H IN	ELECTRICAL DAMPER TYPE	ELECTRICAL EMERGENCY POWER	ELECTRICAL VOLTS/PHASE /HERTS	OPER WEIGHT LBS	REMARKS NOTES	DESIGN BASIS
RHE-200	EXHAUST	GAS STORAGE	ROOF	EXHAUST	50	0.05	8		0.35	143	20-1/2"	NA	NO	-	50	1,2,3	GREENHECK GRSR

NOTES:

1 PROVIDE 30 INCH ROOF CURB.
2 INSULATE DUCTWORK BETWEEN THE EXTERIOR RELIEF HOOD AND DAMPER LOCATION.
3 PROVIDE INSECT SCREEN SCREEN.
4

UPDATED: 1/25/2019 18:47

CLARK KJOS ARCHITECTS, LLC
Phone: 503224-4848
621 SW Alder Street, Suite 700
Portland, OR 97205

REGISTERED PROFESSIONAL ENGINEER 52786 MARIANA GALOFFEANU OREGON JAN. 15, 2002 EXPIRES: 6/30/19

Wallowa MOB Addition

Wallowa County Healthcare District

603 Medical Pkwy, Enterprise, OR 97828

ISSUE DATE: 01.25.2019

REVISIONS:

Bid / Permit Set

MECHANICAL SCHEDULES

M0.02

MFIA INC. Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM
CONTACT: Mariana Galofteanu

OUTSIDE AIR MECHANICAL CODE AND OAR CODE ANALYSIS

UNIT	ROOM	REMARKS	MECH CODE CLASSIFICATION	SPACE AREA (FT^2) - Az	OCCUPANCY (PEOPLE / 1000FT^2)	PLUMBING FIXTURES	OSA CFM / PERSON (FIXTURE) - Rp	OSA CFM/FT^2 - Ra	EA REQUIRED CFM / FIXTURE OR SF	CODE PEOPLE	DESIGN PEOPLE (FIXTURE) Pz	OCCUPANT OSA CFM VBzp =Rp*Pz	AREA OSA CFM Vbza =Ra*Az	MECH CODE REQUIRED EXHAUST CFM	PROVIDED 100% EXHAUST CFM (2)	REQUIRED OSA CFM Vbz =Sum(Vbz)	MECH CODE REQ'D OSA CFM Voz =(Vbz)/Ez	MAXIMUM PROVIDED ROOM SUPPLY AIR CFM	MINIMUM PROVIDED OSA SUPPLY AIR CFM Vpz	ZONE EFFECT. FACTOR Ez(3)	MAXIMUM OUTDOOR AIR FRACTION Zp =Voz/Vpz	SYSTEM VENTILATION EFFICIENCY AT MAX Zp - Ev (4)100%DIRECT OSA=1	OCCUPANT DIVERSITY - D =Ps/(sum Pz)	UNCORREC OA INTAKE - Vou = DxSum(Rp x Pz)+Sum(Ra x Az)	MIN CODE OUTDOOR AIR CFM - Vot = Vou / Ev	OUTDOOR AIR INTAKE CFM - Vot	PROVIDED MINIMUM OSA CFM (1)
	011 - Hall		CORRIDOR	107	5		0	0.06	0	1	0	0	6	0	0	6	8	310	310	0.8	2%						
	020 - Vitals		CORRIDOR	43	5		0	0.06	0	0	0	0	3	0	0	3	4	190	190	0.8	2%						
FC- 011	TOTALS			150						1	0	0	9	0	0	9	11.25	500	500	0.8	2%	1	0.9	9	9	9	20
	021 - Behavorial		PROCEDURE	101	20		15	0	0	2	2	30	0	0	0	30	38	230	230	0.8	16%						
	022 - Behavorial		PROCEDURE	101	20		15	0	0	2	2	30	0	0	0	30	38	220	220	0.8	17%						
	023 - Exam		PROCEDURE	100	20		15	0	0	2	2	30	0	0	0	30	38	250	250	0.8	15%						
FC- 023	TOTALS			302						6	6	90	0	0	0	90	113	690	690	0.8	17%	0.95	0.9	81	85	85	90
	024 - Dental		PROCEDURE	97	20		15	0	0	2	2	30	0	0	0	30	40	230	230	0.8	17%						
	025 - Dental		PROCEDURE	101	20		15	0	0	2	2	30	0	0	0	30	38	240	240	0.8	16%						
	031 - Patient Toilet		TOILET	54	20	1	0	0	70	0	1	0	0	70	140	0	0	90	90	0.8							
FC- 025	TOTALS			252						4	5	60	0	70	140	60	78	550	550	0.8	17%	0.95	0.9	54	57	70	70
	013 - Hall		CORRIDOR	205	5		0	0.06	0	0	1	0	20	0	0	20	25	120	120	0.8	21%						
	027 - Staff Break		CAFETERIA	216	100		7.5	0.18	0	11	11	82.5	38.9	0	150	121.4	152	460	460	0.8	33%						
	028 - Office		OFFICE	105	5		5	0.06	0	1	1	5	6.3	0	0	11.3	14	110	110	0.8	13%						
	029 - Gas Storage		STORAGE-HAZARDOUS	15	-		0	0	1	0	0	0	0	20	40	0	0	0	0	0.8							
FC- 027	TOTALS			541						12	13	87.5	65.2	20	190	153	191	690	690	0.8	33%	0.8	0.8	135	169	169	160
	012 - Hall		CORRIDOR	241	5		0	0.06	0	0	1	0	14.5	0	0	14.5	18	90	90	0.8	20%						
	031 - Panorex		PROCEDURE	28	20		15	0	0	1	1	15	0	0	0	15	20	80	80	0.8	25%						
	030 - Dental Equip		UTILITY	43	-		0	0	0.75	0	0	0	0	30	50	0	0	0	0	0.8							
	032 - Dental		PROCEDURE	100	20		15	0	0	2	2	30	0	0	0	30	40	130	130	0.8	31%						
	033 - Dental		PROCEDURE	100	20		15	0	0	2	2	30	0	0	0	30	40	130	130	0.8	31%						
	034 - Exam		PROCEDURE	101	20		15	0	0	2	2	30	0	0	0	30	40	110	110	0.8	36%						
	035 - Exam		PROCEDURE	101	20		15	0	0	2	2	30	0	0	0	30	40	110	110	0.8	36%						
	036 - Behavorial		PROCEDURE	101	20		15	0	0	2	2	30	0	0	0	30	38	110	110	0.8	35%						
FC- 036	TOTALS			815						11	12	165	14.5	30	50	180	236	720	720	0.8	36%	0.75	0.9	163	217	217	210
	010 - Entry		CORRIDOR	84	5		0	0.06	0	0	0	0	5	0	0	5	10	280	280	0.8	4%						
FC- 110	TOTALS			84						0	0	0	5	0	0	5	10	280	280	0.8	4%	1	0.9	5	5	5	10

NOTES:

(1) OUTDOOR AIR SUPPLIED FROM EXISTING 100 % OUTDOOR AIR HEAT RECOVERY VENTILATOR UNIT.
(2) ADDITIONAL EXHAUST AIR WILL BE PROVIDE BY TRANSFER ROOM AIR NOT OSA.
(3) CEILING SUPPLY OF COOL AIR
(4)
(5) ADDITIONAL OUTSIDE AIR REQUIRED TO PROVIDE AIR FOR SPACE PRESSURIZATION AND REPLENISH EXHAUSTED AIRFLOW.
(6) SPACE MUST BE NEGATIVE TO THE SURROUNDING SPACES.
(7) SUPPLY AND OUTSIDE AIR PROVIDED FROM THE MAIN ADJOINING SPACE
(8) KITCHEN EXHAUST IS INTERMITTENT, NO MAKE-UP AIR PROVIDED

EXISTING BUILDING FAN COIL SCHEDULE-USE FOR AIR BALANCING ONLY

SYMBOL	AREA SERVED	HEAT PUMP UNIT	AIR FLOW (CFM)	MIN OSA (CFM)	FAN E.S.P. (IN.H20)	COOLING TOTAL (MBH)	COOLING SENS. (MBH)	COOLING ENT. AIR (F DB)	COOLING ENT. AIR (F WB)	HEATING ENT. AIR (MBH)	HEATING HEATING (MBH)	HEATING AUX. HEATING	BASIS OF DESIGN	MAX. WT. (LBS)	ELECTRICAL VOLT/PH	ELECTRICAL MCA
FC-1	STAFF LOUNGE	AC-1	300	35	0.40		7.4	75.0	62.0	70.0	4.2	EDH-1	DAIKIN FXMQ09PVJU	60	208/1	0.6
FC-2	EXAM 1,2,3,4	AC-1	680	160	0.40		19.5	75.0	62.0	70.0	9.5	EDH-2	DAIKIN FXMQ24PVJU	80	208/1	1.8
FC-3	OFFICE MANAGER	AC-1	230	20	0.40		1.4	75.0	62.0	70.0	1.5	EDH-3	DAIKIN FXMQ07PVJU	60	208/1	0.6
FC-4	TEAM 1,2 & NURSE STATION	AC-1	300	100	0.40		8.0	75.0	62.0	70.0	7.2	EDH-4	DAIKIN FXMQ09PVJU	60	208/1	0.6
FC-5	RECEPTION	AC-1	1,300	115	0.40		34.0	75.0	62.0	70.0	5.4	EDH-5	DAIKIN FXMQ09PVJU	60	208/1	0.6
FC-6	EXAM 5,6,7,8,9,10 &11	AC-1	300	375	0.40		7.6	75.0	62.0	70.0	3.2	EDH-6	DAIKIN FXMQ48PVJU	110	208/1	3.4
FC-7	LOBBY	AC-1	1,300	220	0.40		38.1	75.0	62.0	70.0	3.3		DAIKIN FXMQ48PVJU	110	208/1	3.4
FC-8	PROCEDURE	AC-1	240	75	0.40		4.7	75.0	62.0	70.0	1.3	EDH-8	DAIKIN FXMQ07PVJU	60	208/1	0.6
FC-9	EXAM 1,2 DR BAILEY OFFICE	AC-1	670	255	0.40		18.4	75.0	62.0	70.0	4.0	EDH-9	DAIKIN FXMQ24PVJU	80	208/1	1.8
FC-10	RETAIL	AC-1	300	145	0.40		9.4	75.0	62.0	70.0	1.1	EDH-10	DAIKIN FXMQ12PVJU	60	208/1	0.6
FC-12	LOBBY	AC-1	2,000	260	0.40		46.9	75.0	62.0	70.0	3.9		DAIKIN FXMQ72PVJU	310	208/1	9.0
FC-13	NURSE STATION	AC-1	300	65	0.40		7.6	75.0	62.0	70.0	2.6	EDH-13	DAIKIN FXMQ09PVJU	60	208/1	0.6
FC-14	EXAM 1,2 DR ROSE OFFICE	AC-1	300	115	0.40		8.6	75.0	62.0	70.0	1.5	EDH-14	DAIKIN FXMQ12PVJU	60	208/1	0.6
FC-15	CONSULT	AC-1	300	65	0.40		8.0	75.0	62.0	70.0	7.7	EDH-15	DAIKIN FXMQ09PVJU	60	208/1	0.6
FC-16	CONFERENCE ROOM B	AC-1	300	100	0.40		6.2	75.0	62.0	70.0	2.1	EDH-16	DAIKIN FXMQ09PVJU	60	208/1	0.6
FC-17	CONFERENCE ROOM A	AC-1	300	100	0.40		6.6	75.0	62.0	70.0	1.1	EDH-17	DAIKIN FXMQ09PVJU	60	208/1	0.6
FC-18	MDF	AC-1	610	20	0.40		11.9	75.0	62.0	70.0	0.7	EDH-18	DAIKIN FXMQ18PVJU	80	208/1	1.6
FC-19	HOSPITAL STORAGE	AC-1	300	50	0.40		6.4	75.0	62.0	70.0	2.9	EDH-19	DAIKIN FXMQ09PVJU	60	208/1	0.6
FC-20	TREATMENT 1,2,3,4	AC-1	600	200	0.40		13.3	75.0	62.0	70.0	1.6	EDH-20	DAIKIN FXMQ18PVJU	80	208/1	1.6
FC-21	STAFF LOUNGE	AC-1	300	85	0.40		8.8	75.0	62.0	70.0	4.5	EDH-21	DAIKIN FXMQ12PVJU	60	208/1	0.6
FC-22	RECEPTION	AC-1	300	50	0.40		10.0	75.0	62.0	70.0	9.5	EDH-22	DAIKIN FXMQ07PVJU	60	208/1	0.6
FC-23	OFFICE 1,2	AC-1	260	90	0.40		3.3	75.0	62.0	70.0	4.1	EDH-23	DAIKIN FXMQ07PVJU	60	208/1	0.6
FC-24	PT GYM	AC-1	660	275	0.40		18.0	75.0	62.0	70.0	14.5	EDH-24	DAIKIN FXMQ24PVJU	80	208/1	1.8

EXISTING HEAT RECOVERY UNIT EQUIPMENT SCHEDULE-USE FOR AIRBALANCING ONLY

SYMBOL	DESCRIPTION	ELECTRICAL
HRU-1	HEAT RECOVERY UNIT WITH DIRECT PROPANE-FIRED REHEAT SUPPLY FAN: 3,500 CFM AT 1.0 IN. E.S.P. WITH VFD EXHAUST FAN: 3,100 CFM AT 1.0 IN. E.S.P. WITH VFD HEATER: INDIRECT GAS-FIRED; STAINLESS STEEL HEAT EXCHANGER HEATING: 75 F LAT; 148 MBH OUTPUT CAPACITY., MIN. 80% EFFICIENCY, 2 PSI GAS PRESSURE DX COOLING COIL; SPLIT SYSTEM; PROVIDE WITH STAINLESS STEEL DRAIN PAN. COOLING: EAT 84/62, LAT 68/58.5, 12 MAX FPI, SENSIBLE HEAT RECOVERY WHEEL SUMMER PERFORMANCE: 94/66 EAT, 75/62 RAT, 84/62.7 LAT, 87.5/66.2 EAT SENSIBLE HEAT RECOVERY WHEEL WINTER PERFORMANCE: -10 EAT, 70 RAT, 30 LAT, 25 EAT PROVIDE ECONOMIZER, HEAT WHEEL FROST SENSOR, MOTOR STARTER, DISCHARGE AIR TEMPERATURE GAS CONTROL SYSTEMS, CONVENIENCE OUTLET, INTERLOCK RELAYS. PROVIDE 2 IN MERV 8 FILTER ON OSA AND 2 IN MERV 8 FILTER ON RETURN AIR TO PROTECT HEAT RECOVERY WHEEL PROVIDE 4 IN MERV 13 FILTER ON SUPPLY AIR ALL PREMIUM EFFICIENCY MOTORS APPROXIMATE OPERATING WEIGHT: 2000 LB. BASIS OF DESIGN: AAON RN-009	208 V/ 3 PHASE 5 HP SUPPLY FAN MOTOR. 208 V/ 3 PHASE 3 HP EXHAUST FAN MOTOR. UNIT FLA: 30 MCA: 34

CLARK KJOS ARCHITECTS, LLC
Phone: 5032244848
621 SW Alder Street, Suite 700
Portland, OR 97205

REGISTERED PROFESSIONAL ENGINEER 52786 MARIANA GALOFTEANU OREGON JAN. 15, 2002 EXPIRES 6/30/19

[redacted]

Wallowa MOB Addition

Wallowa County Healthcare District

603 Medical Pkwy, Enterprise, OR 97828

[redacted]

ISSUE DATE: 01.25.2019

REVISIONS:

Bid / Permit Set

MECHANICAL SCHEDULES

M0.03

MEA INC. Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MEA-ENG.COM
CONTACT: Mariana Galofteanu

1 M1.01 MECHANICAL SNOW MELT PLAN
SCALE: 1/8"=1'-0"

GENERAL NOTES:

A. VERIFY ALL EXISTING CONDITIONS RELATIVE TO THE SCOPE OF WORK. DO NOT FABRICATE W/O CONFIRMING SPACE EXISTS, FOR SIZES REQUIRED.

B. COORDINATE ALL MECHANICAL AND CONTROL WORK WITH GENERAL CONTRACTOR, CONTROL CONTRACTOR, ELECTRICAL AND ARCHITECTURAL.

C. OBTAIN ACTUAL AS–BUILTS OF THE EXISTING SNOW MELT SYSTEM AND PROVIDE CONTRACTOR DESIGNED SNOW–MELT SYSTEM.

D. PROVIDE HEATING CAPACITY OF 170 BTU/H FOR EACH SQUARE FOOT OF HEATED AREA SHOWN. DESIGN INCLUDES MANIFOLDS, GLYCOL, HEATING WATER, MAINS, AND TUBING IN SLABS.

E. PROVIDE SLEEVES AND SEGMENTED LINK SEAL AT ALL FOUNDATION AND SLAB PENETRATIONS.

F. THE TRANSITION FROM METAL PIPING TO PEX TUBING IS TO OCCUR AT THE ZONE MANIFOLDS LOCATION.

G. PROVIDE TEMPERATURE AND PRECIPITATION SENSORS IN THE SLABS AT EACH ZONE AND TERMINATE INSIDE THE MOB PENTHOUSE AS ANALOG INPUTS TO THE DDC CONTROL SYSTEM.

X MECHANICAL NOTES:

1. SIDEWALK SNOW MELT SYSTEM: PROVIDE UNDERSLAB AND PERIMETER INSULATION FOR SIDEWALKS COVERED BY THE SNOW MELT SYSTEM SEE DETAILS 2/M6.02 & 4/M6.02.
2. NEW SNOW MELT MANIFOLD. PROVIDE SUPPLY AND RETURN HEADER FOR EACH PIPING LOOP ZONES SEE DETAIL 3/M6.02.
3. UTILITY VAULT, POLYMER ACCESS BOX W/ POLYMER CONCRETE LID OR EQUAL W/ ROOM FOR HEADERS. MOUNT TOP OF VAULT FLUSH WITH GRADE. COORDINATE LOCATION WITH OWNER.
4. REBALANCE EXISTING SNOW MELT ZONES AND SYSTEM AFTER NEW ADDITION INSTALLATION.
5. INFORMATION PER EXISTING RECORD DRAWINGS. FIELD VERIFY INSTALLED CONDITION.
6. EXISTING HOT WATER PIPING FROM/TO MAIN HOSPITAL PER EXISTING RECORD DRAWINGS. FIELD VERIFY INSTALLED CONDITION.
6. EXISTING MANIFOLD AND HOT WATER SUPPLY PER EXISTING RECORD DRAWINGS. FIELD VERIFY INSTALLATION. INVESTIGATE SOURCE OF HOT WATER SUPPLY TO ZONE VALVE MANIFOLD. DETERMINE IF SOURCE HAS CAPACITY AVAILABLE FOR THE ADDED SNOW MELT AREA. REPORT TO OWNER/ARCHITEC.

CLARK KJOS ARCHITECTS, LLC
621 SW Alder Street, Suite 700
Portland, OR 97205
Phone: 5032244848

REGISTERED PROFESSIONAL ENGINEER
52786
Mariana G Galofteanu
OREGON
JAN. 15, 2002
MARIANA GALOFTEANU
EXPIRES 6/30/19

Wallowa MOB Addition

Wallowa County Healthcare District

603 Medical Pkwy, Enterprise, OR 97828

ISSUE DATE: 01.25.2019

REVISIONS:

Bid / Permit Set

MECHANICAL FLOOR PLAN

M1.01

MFA Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFA-ENG.COM
CONTACT: Mariana Galofteanu

NOTE: EXISTING WORK SHOWN FOR AIR BALANCING ONLY

GENERAL NOTES:

A. VERIFY ALL EXISTING CONDITIONS RELATIVE TO THE SCOPE OF WORK. DO NOT FABRICATE PIPING W/O CONFIRMING SPACE EXISTS, FOR SIZES REQUIRED.

B. COORDINATE ALL MECHANICAL AND CONTROL WORK WITH GENERAL CONTRACTOR, CONTROL CONTRACTOR, ELECTRICAL AND ARCHITECTURAL.

C. PROVIDE FLEXIBLE DUCTS TO CEILING SUPPLY AIR DIFFUSERS. SEE DETAIL 1/M6.10 FOR SUPPLY DIFFUSERS. SEE DETAIL 3/M6.10 FOR EXHAUST AIR CEILING GRILLE. PROVIDE BALANCING DAMPERS AT MAIN TAKEOFFS ON ALL SUPPLY AND EXHAUST AIR DIFFUSER/GRILLE BRANCH DUCT.

D. SEE SHEETS SERIES M3 FOR PIPING PLANS.

E. AIR BALANCE NEW SUPPLY/RETURN/EXHAUST AIRFLOW SETTINGS AS INDICATED AS SHOWN ON PLANS.

F. THE EXISTING HEAT RECOVERY UNIT EXHAUST AND OUTSIDE AIR DUCTWORK SHALL BE AIR BALANCE AFTER THE COMPLETION OF THE NEW ADDITION INSTALLATION.

G. BALANCE EXHAUST FLOWS BASED ON AIRFLOW SHOWN ON THESE PLANS AND THE OUTSIDE AIR VENTILATION AIRFLOW SHOWN ON THE EXISTING FAN-COIL UNITS SCHEDULE ON M0.03.

(X) MECHANICAL KEYED NOTES:

1. LOW WALL RETURN/EXHAUST GRILLE. INSTALL 12 INCHES ABOVE FLOOR.
2. MEDICAL GAS STORAGE EXHAUST AND DUCT. LOCATE EXHAUST FAN IN ATTIC IN ACCESSIBLE 1 HR RATED SHAFT ENCLOSURE. PROVIDE GLASS TYPE OR APPROVED VENTILATION FAN EMERGENCY SHUT-OFF SWITCH OUTSIDE THE ROOM. ROUTE DUCT TO OUTSIDE LOCATION IN 1 HOUR RATED SHAFT. DISCHARGE 10 FT FROM OPERABLE BLDG OPENINGS, 3 FT FROM WALLS/ROOFS, 10 FT ABOVE ADJOINING GRADE OR PROPERTY LINES, 25 FT FROM OUTSIDE AIR INTAKES. PROVIDE UL LISTED PENETRATIONS TO MEET CONSTRUCTION REQUIREMENTS.
3. INDOOR DX FAN COIL UNIT: INSTALL IN SPACE MOUNTED HIGH WALL JUST BELOW THE CEILING. PROVIDE CONDENSATE DRAIN.
4. DUCTED VRF FAN COIL UNIT ABOVE THE CEILING MAINTAIN INSTALLATION CLEARANCES. PROVIDE FLEXIBLE CONNECTORS ON ALL DUCT CONNECTIONS. PROVIDE DUCT LINER ON THE SUPPLY AND RETURN MAINS FOR A LENGTH OF 10 FOOT FROM UNIT ON EACH SIDE. SEE DETAIL 7/M6.10.
5. ELECTRIC DUCT HEATER. PROVIDE 36 IN CLEARANCE ON THE CONTROL BOX SIDE.
6. PROVIDE ONE LOW WALL EXHAUST GRILLE, INSTALL 12 INCHES ABOVE FLOOR. ONE HIGH WALL EXHAUST GRILLE, INSTALL 12 INCHES BELOW CLG.
7. AIR BALANCE EXHAUST/OA TO THE INDICATED AIRFLOW.

OA CONNET TO EXISTING HRU OA DUCTWORK

REMOVE SECTION OF DUCT AND RECONNECT

REMOVE (E) ELECTRIC HEATER

(E)EA UP TO HEAT-RECOVERY UNIT

(E)VENTILATION AIR DUCT UP FROM HEAT-RECOVERY UNIT

AREA OF WORK

1 / M211 HVAC NEW WORK FLOOR PLAN
SCALE: 1/4" = 1'-0"

CLARK KJOS ARCHITECTS, LLC
621 SW Alder Street, Suite 700
Portland, OR 97205
Phone: 5032244848

REGISTERED PROFESSIONAL ENGINEER
52786
OREGON
JAN. 15, 2002
MARIANA GALOFFEANU
EXPIRES 6/30/19

Wallowa MOB Addition

Wallowa County Healthcare District

603 Medical Pkwy, Enterprise, OR 97828

ISSUE DATE: 01.25.2019

REVISIONS:

Bid / Permit Set

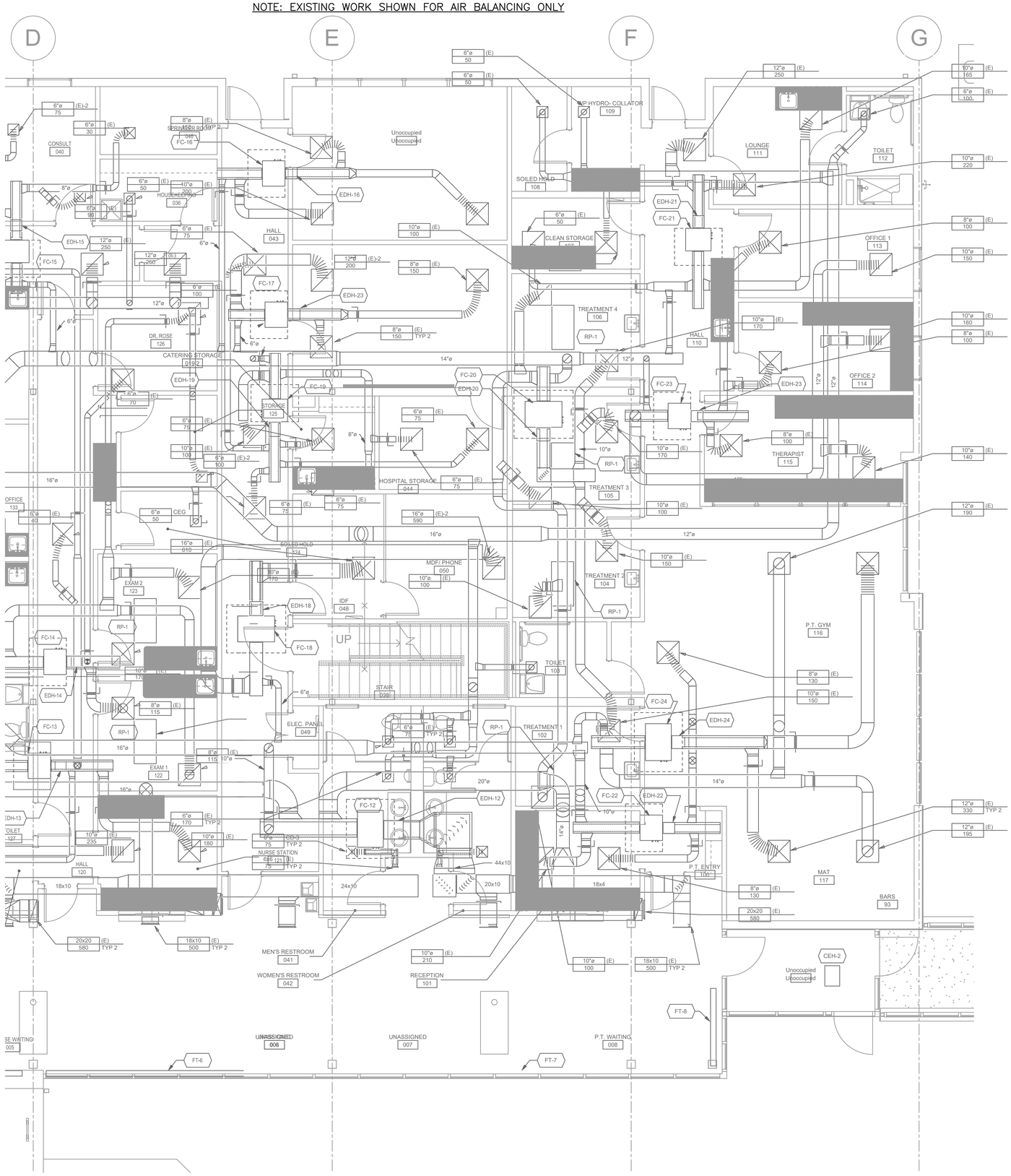
HVAC FLOOR PLAN

M2.11

MFIA Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
INC. WWW.MFIA-ENG.COM
CONTACT: Mariana Galoffeanu

G:\Clark Kjos\9701 Wallowa MOB Addition\Mech\9701_M200.dwg, M211, 1/25/2019 7:18:47 PM, ARCH full bleed E1 (30.00 x 42.00 Inches), 1:1

NOTE: EXISTING WORK SHOWN FOR AIR BALANCING ONLY



GENERAL NOTES:

A. THE EXISTING HEAT RECOVERY UNIT EXHAUST AND OUTSIDE AIR DUCTWORK SHALL BE AIR BALANCE AFTER THE COMPLETION OF THE NEW ADDITION INSTALLATION.

B. BALANCE EXHAUST FLOWS BASED ON AIRFLOW SHOWN ON THESE PLANS AND THE OUTSIDE AIR VENTILATION AIRFLOW SHOWN ON THE EXISTING FAN-COIL UNITS SCHEDULE ON M0.04.

(X) MECHANICAL KEYED NOTES:

1. VRF CONDENSING UNIT IN MECHANICAL ROOM. PROVIDE VIBRATION ISOLATION AND INSTALL ON HOUSEKEEPING PAD PER MANUFACTURERS INSTALLATION REQUIREMENTS.
2. GAS ROOM EXHAUST ROOF HOOD ON ROOF CURB. FOR INSTALLATION SEE DETAIL 4/M6.10

1 / M212 HVAC WORK FLOOR PLAN – EXISTING BUILDING
SCALE: 1/4" = 1'-0"

CLARK KJOS ARCHITECTS, LLC
621 SW Alder Street, Suite 700
Portland, OR 97205
Phone: 5032244848

REGISTERED PROFESSIONAL ENGINEER 52786 OREGON JAN. 15, 2002 MARIANA GALOFTEANU
EXPIRES 6/30/19

Wallowa MOB Addition

Wallowa County Healthcare District

603 Medical Pkwy, Enterprise, OR 97828

ISSUE DATE: 01.25.2019

REVISIONS:

Bid / Permit Set

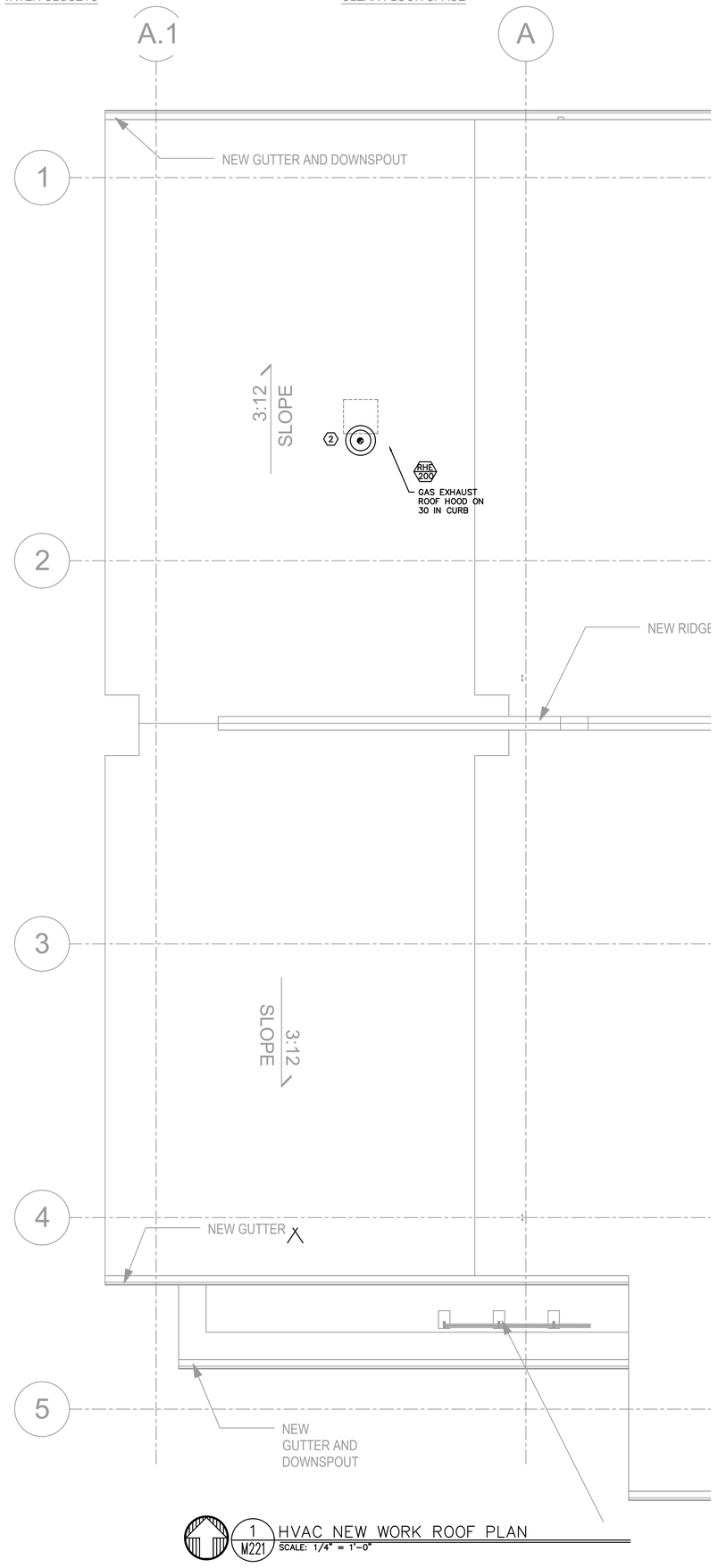
HVAC FLOOR PLAN

M2.12

M F A INC. Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM
CONTACT: Mariana Galofteanu

VATER CLOSETS

CLEAR FLOOR SPACE



1 M221 HVAC NEW WORK ROOF PLAN
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

A. VERIFY ALL EXISTING CONDITIONS RELATIVE TO THE SCOPE OF WORK. DO NOT FABRICATE PIPING W/O CONFIRMING SPACE EXISTS, FOR SIZES REQUIRED.

B. COORDINATE ALL MECHANICAL AND CONTROL WORK WITH GENERAL CONTRACTOR, CONTROL CONTRACTOR, ELECTRICAL AND ARCHITECTURAL.

(X) MECHANICAL KEYED NOTES:

1. VRF CONDENSING UNIT IN MECHANICAL ROOM. PROVIDE VIBRATION ISOLATION AND INSTALL ON HOUSEKEEPING PAD PER MANUFACTURERS INSTALLATION REQUIREMENTS. PROVIDED FLEXIBLE CONNECTOR AND DUCTED PLENUM TO OUTDOOR AIR LOUVER.
2.

CLARK KJOS ARCHITECTS, LLC
621 SW Alder Street, Suite 700
Portland, OR 97205
Phone: 5032244848

REGISTERED PROFESSIONAL ENGINEER
52786
OREGON
JAN. 15, 2002
MARIANA GALOFTEANU
EXPIRES 6/30/19

Wallowa MOB Addition

Wallowa County Healthcare District

603 Medical Pkwy, Enterprise, OR 97828

ISSUE DATE: 01.25.2019

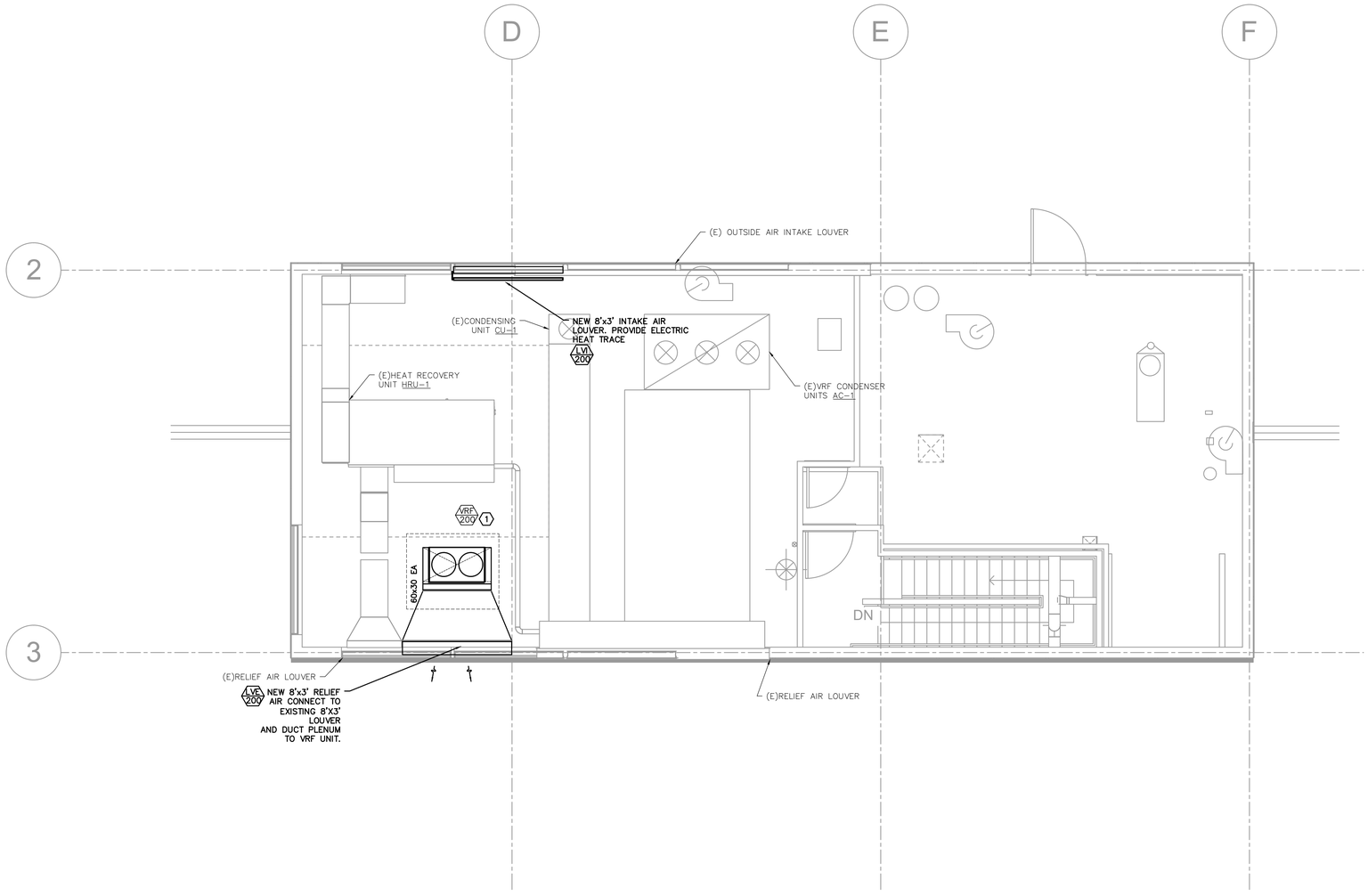
REVISIONS:

Bid / Permit Set

HVAC ROOF PLAN

M2.21

MEI INC. Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0577
WWW.MFIA-ENG.COM
CONTACT: Mariana Galofteanu



1 M222 HVAC NEW WORK UPPER LEVEL PLAN
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

A. VERIFY ALL EXISTING CONDITIONS RELATIVE TO THE SCOPE OF WORK. DO NOT FABRICATE PIPING W/O CONFIRMING SPACE EXISTS, FOR SIZES REQUIRED.

B. COORDINATE ALL MECHANICAL AND CONTROL WORK WITH GENERAL CONTRACTOR, CONTROL CONTRACTOR, ELECTRICAL AND ARCHITECTURAL.

(X) MECHANICAL KEYED NOTES:

1. VRF CONDENSING UNIT IN MECHANICAL ROOM. PROVIDE VIBRATION ISOLATION AND INSTALL ON HOUSEKEEPING PAD PER MANUFACTURERS INSTALLATION REQUIREMENTS. PROVIDED FLEXIBLE CONNECTOR AND DUCTED PLENUM TO OUTDOOR AIR LOUVER.
2.

CLARK KJOS ARCHITECTS, LLC
621 SW Alder Street, Suite 700
Portland, OR 97205
Phone: 5032244848

REGISTERED PROFESSIONAL ENGINEER
52786
OREGON
JAN. 15, 2002
MARIANA GALOFTEANU
EXPIRES 6/30/19

Wallowa MOB Addition

Wallowa County Healthcare District

603 Medical Pkwy, Enterprise, OR 97828

ISSUE DATE: 01.25.2019

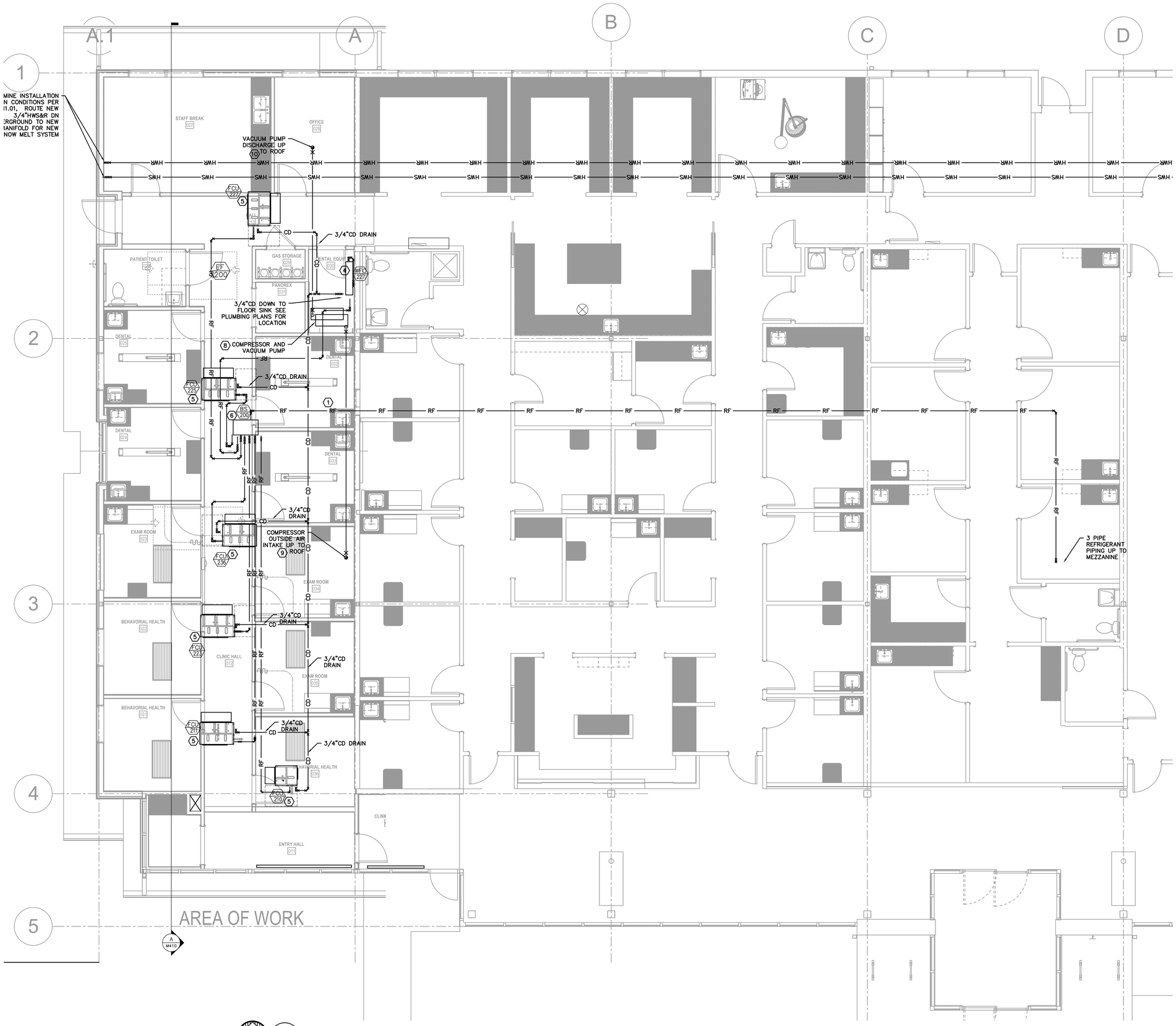
REVISIONS:

Bid / Permit Set

HVAC UPPER LEVEL PLAN

M2.22

M E I A INC. Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MEIA-ENG.COM
CONTACT: Mariana Galofteanu



1 M311 HVAC PIPING NEW WORK FLOOR PLAN
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

A. VERIFY ALL EXISTING CONDITIONS RELATIVE TO THE SCOPE OF WORK. DO NOT FABRICATE PIPING W/O CONFIRMING SPACE EXISTS, FOR SIZES REQUIRED.

B. COORDINATE ALL MECHANICAL AND CONTROL WORK WITH GENERAL CONTRACTOR, CONTROL CONTRACTOR, ELECTRICAL AND ARCHITECTURAL.

C. REFRIGERANT PIPING SHOWN FOR REFERENCE ONLY. PROVIDE SHOP DRAWINGS SHOWING EXACT PIPING ROUTING AND PIPE SIZING TO DISTRIBUTION BOXES AND FAN-COIL UNITS PER MANUFACTURER'S RECOMMENDATIONS.

(X) MECHANICAL NOTES:

1. 3 PIPE REFRIGERANT PIPING ABOVE CEILING TO BS-1 UNIT. ROUTE PER MANUFACTURER'S REQUIREMENTS.
2. CONDENSATE DRAIN, ROUTE ABOVE CEILING AND DRAIN BY GRAVITY. MAINTAIN A MINIMUM HORIZONTAL SLOPE IN THE DIRECTION OF DISCHARGE OF 1%. DISCHARGE WITH AIR GAP ABOVE FLOOR DRAIN/SINK OR THROUGH AIR-GAP FITTING. SEE PLUMBING PLANS.
3. ROUTE HEATING WATER SUPPLY AND RETURN TO SNOW MELT MANIFOLD. SEE M1.01 FOR SNOW MELT PLAN. SEE HEADER DETAIL 3/M6.20.
4. FAN COIL UNIT BELOW CEILING. PROVIDE 2 LINE REFRIGERANT PIPING FROM BS UNIT. PROVIDE CONDENSATE DRAIN AND DRAIN BY GRAVITY AS SHOWN. 3/4 "MIN PIPE SIZE.
5. DUCTED FAN-COIL UNIT. PROVIDE 2 LINE REFRIGERANT PIPING FROM BS UNIT. PROVIDE CONDENSATE DRAIN FROM PUMPED CONDENSATE OUTLET, SLOPE HORIZONTAL DRAIN DOWN TO DRAIN AT $\frac{1}{16}$ SLOPE. AND ROUTE AS SHOW. SEE DETAIL 7/M6.10.
6. BRANCH SELECTOR BOX. ROUTE TWO PIPE REFRIGERANT LINES TO FAN-COIL UNITS AS SHOWN.
8. THE COMPRESSOR AND VACUUM PUMP TO BE LOCATED IN THE DENTAL EQUIPMENT ROOM. PROVIDED AND DESIGNED BY BURKHART DENTAL. SEE BURKHART PLANS FOR INSTALLATION AND DESIGN REQUIREMENTS.
9. COMPRESSOR OUTSIDE AIR INTAKE UP TO ROOF SEE BURKHART FOR INSTALLATION DETAILS. LOCATE 25 FT AWAY FROM ANY EXHAUST OR PLUMBING VENTS.
10. VACUUM PUMP EXHAUST UP TO ROOF. DISCHARGE AT ROOF SEE BURHART DRAWINGS FOR DETAILS.
11. .
12. -.
13.

CLARK KJOS ARCHITECTS, LLC
621 SW Alder Street, Suite 700
Portland, OR 97205
Phone: 5032244848

REGISTERED PROFESSIONAL ENGINEER
52786
OREGON
JAN. 15, 2002
MARIANA GALOFFEANU
EXPIRES 6/30/19

Wallowa MOB Addition

Wallowa County Healthcare District

603 Medical Pkwy, Enterprise, OR 97828

ISSUE DATE: 01.25.2019

REVISIONS:

Bid / Permit Set

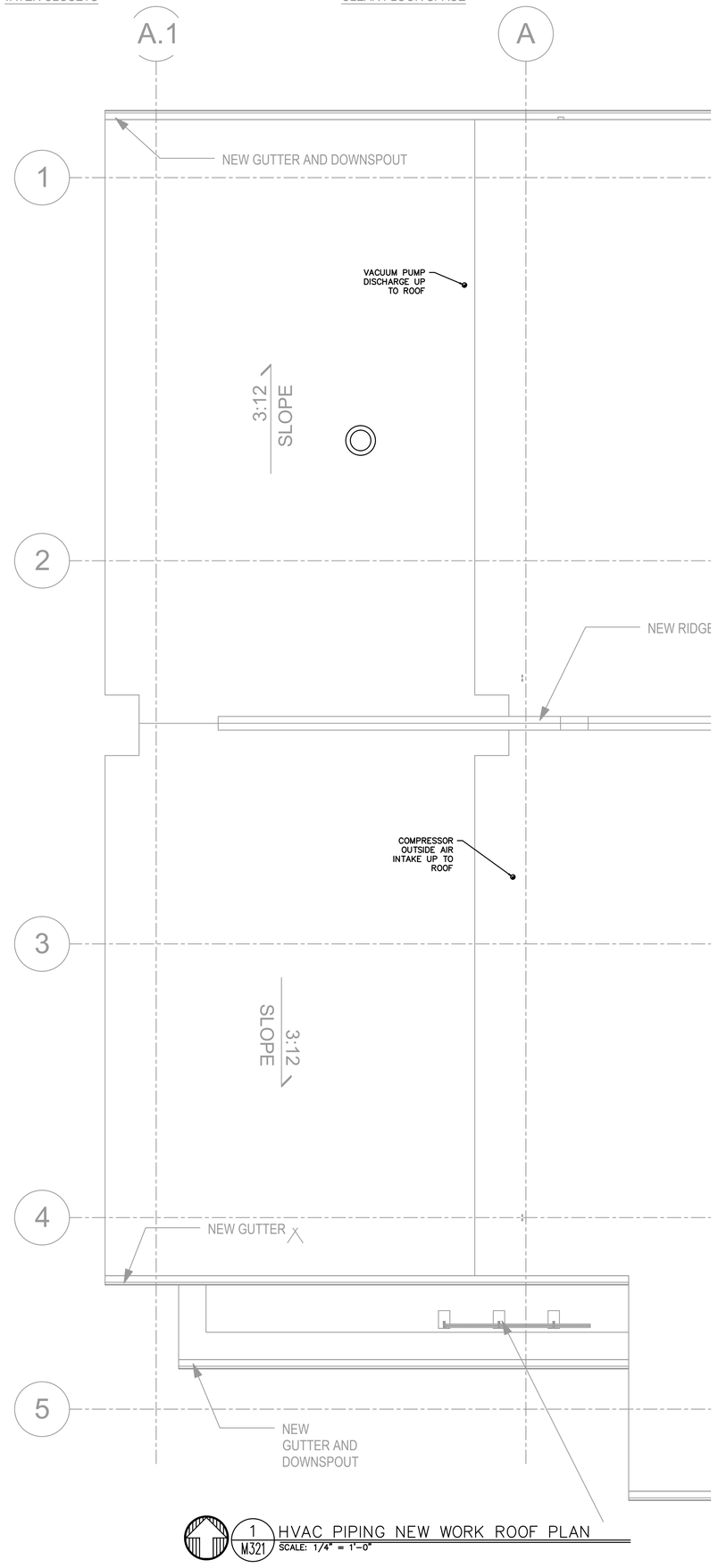
HVAC PIPING FLOOR PLAN

M3.11

MFIA INC. Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM
CONTACT: Mariana Galoffeanu

VATER CLOSETS

CLEAR FLOOR SPACE



1 M321 HVAC PIPING NEW WORK ROOF PLAN
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

A. VERIFY ALL EXISTING CONDITIONS RELATIVE TO THE SCOPE OF WORK. DO NOT FABRICATE W/O CONFIRMING SPACE EXISTS, FOR SIZES REQUIRED.

B. COORDINATE ALL WORK WITH GENERAL CONTRACTOR, CONTROL CONTRACTOR, ELECTRICAL AND ARCHITECTURAL.

C. REFRIGERANT PIPING SHOWN FOR REFERENCE ONLY. PROVIDE SHOP DRAWINGS SHOWING EXACT PIPING ROUTING AND PIPE SIZING TO DISTRIBUTION BOXES AND FAN-COIL UNITS PER MANUFACTURER'S RECOMMENDATIONS.

(X) MECHANICAL KEYED NOTES:

1. VRF CONDENSING UNIT IN MECHANICAL ROOM. ROUTE 3 PIPE REFRIGERANT PIPING TO THE NEW BRANCH SELECTOR UNIT IN THE NEW ADDITION. SEE DETAIL 8/M6.10.
2. –.

CLARK KJOS ARCHITECTS, LLC
621 SW Alder Street, Suite 700
Portland, OR 97205
Phone: 5032244848

REGISTERED PROFESSIONAL ENGINEER
52786
OREGON
JAN. 15, 2002
MARIANA GALOFTEANU
EXPIRES 6/30/19

Wallowa MOB Addition

Wallowa County Healthcare District

603 Medical Pkwy, Enterprise, OR 97828

ISSUE DATE: 01.25.2019

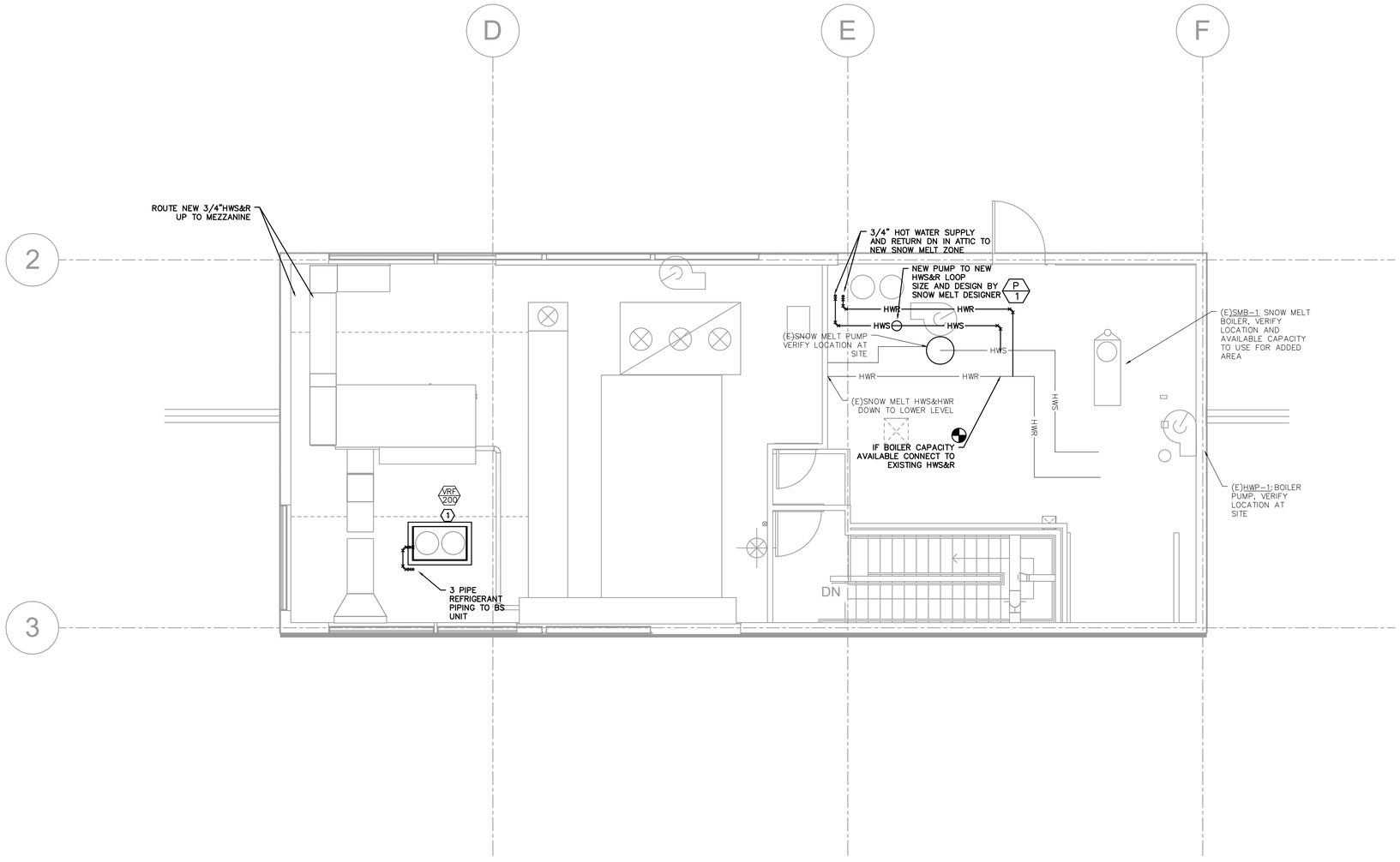
REVISIONS:

Bid / Permit Set

HVAC PIPING ROOF PLAN

M3.21

MEI ENGINEERING INC.
Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0577
WWW.MFIA-ENG.COM
CONTACT: Mariana Galofteanu



1 M322 HVAC PIPING NEW WORK UPPER LEVEL PLAN
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

A. VERIFY ALL EXISTING CONDITIONS RELATIVE TO THE SCOPE OF WORK. DO NOT FABRICATE W/O CONFIRMING SPACE EXISTS, FOR SIZES REQUIRED.

B. COORDINATE ALL WORK WITH GENERAL CONTRACTOR, CONTROL CONTRACTOR, ELECTRICAL AND ARCHITECTURAL.

C. REFRIGERANT PIPING SHOWN FOR REFERENCE ONLY. PROVIDE SHOP DRAWINGS SHOWING EXACT PIPING ROUTING AND PIPE SIZING TO DISTRIBUTION BOXES AND FAN-COIL UNITS PER MANUFACTURER'S RECOMMENDATIONS.

(X) MECHANICAL KEYED NOTES:

1. VRF CONDENSING UNIT IN MECHANICAL ROOM. ROUTE 3 PIPE REFRIGERANT PIPING TO THE NEW BRANCH SELECTOR UNIT IN THE NEW ADDITION. SEE DETAIL 8/M6.10.
2. –.

CLARK KJOS ARCHITECTS, LLC
621 SW Alder Street, Suite 700
Portland, OR 97205
Phone: 5032244848

REGISTERED PROFESSIONAL ENGINEER
52786
Mariana Galofteanu
OREGON
JAN. 15, 2002
MARIANA GALOFTEANU
EXPIRES 6/30/19

Wallowa MOB Addition

Wallowa County Healthcare District

603 Medical Pkwy, Enterprise, OR 97828

ISSUE DATE: 01.25.2019

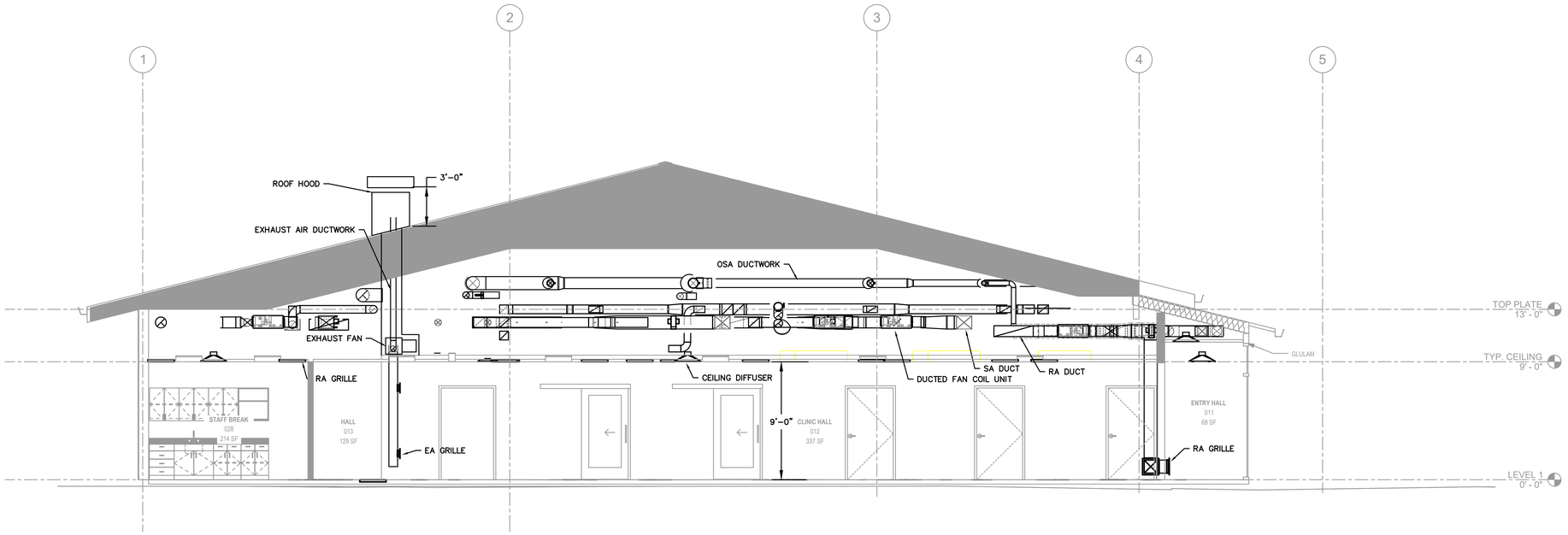
REVISIONS:

Bid / Permit Set

HVAC PIPING UPPER FLOOR PLAN

M3.22

MEI ENGINEERING INC.
Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MEA-ENG.COM
CONTACT: Mariana Galofteanu



A M4.10 HVAC SECTION
SCALE: 1/4" = 1'-0"

CLARK KJOS ARCHITECTS, LLC
621 SW Alder Street, Suite 700
Portland, OR 97205
Phone: 5032244848

REGISTERED PROFESSIONAL ENGINEER
52786
OREGON
JAN. 15, 2002
MARIANA GALOFTEANU
EXPIRES 6/30/19

Wallowa MOB Addition

Wallowa County Healthcare District

603 Medical Pkwy, Enterprise, OR 97828

ISSUE DATE: 01.25.2019

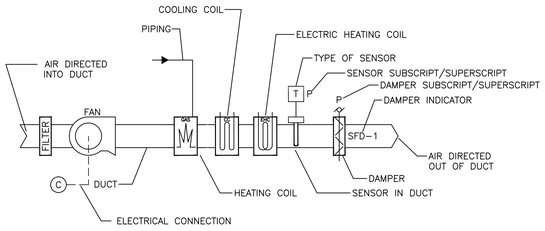
REVISIONS:

Bid / Permit Set

HVAC SECTIONS

M4.10

MFIA INC. Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM
CONTACT: Mariana Galofteanu



- T SPACE TEMPERATURE SENSOR
- P SPACE PRESSURE SENSOR
- H SPACE HUMIDITY SENSOR
- DP DIFFERENTIAL PRESSURE SENSOR
- H HUMIDITY SENSOR
- T TEMPERATURE SENSOR
- LL TEMPERATURE LOW LIMIT SENSOR
- HL HIGH LIMIT SENSOR(S)
- FL FLUID LEVEL SENSOR
- MPA MECHANICAL PUMP ALTERNATOR
- AQ AIR QUALITY SENSOR
- OS OCCUPANCY SENSOR
- CT CURRENT SWITCH/TRANSDUCER
- M MANOMETER
- VFD VARIABLE FREQUENCY DRIVE
- C CONTACTOR/STARTER
- MCC MOTOR CONTROL CENTER
- SD SMOKE DETECTOR
- FS FLOW SENSOR (WATER OR AIR)
- P DUCT PRESSURE SENSOR
- REF REFRIGERANT LEAK SENSOR
- FS FLOW SWITCH
- FM FLOW METER
- I CURRENT
- E DAMPER END-SWITCH

LEGEND

- CAPPED LINE
- PUMP
- FLOW DIRECTION INDICATOR
- MULTI VALVE
- 3-WAY VALVE
- 2-WAY VALVE
- RELAY WITH DRY CONTACTS
- = 2 ACTUATORS PER DAMPER (2)

EQUIPMENT ABBREVIATIONS:

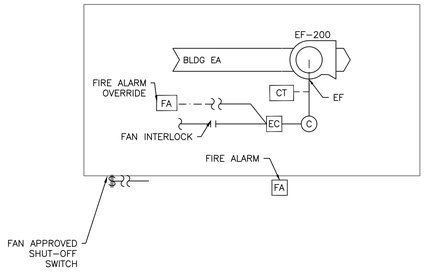
P – PUMP
SP – SUMP PUMP
BP – BOOSTER PUMP
HWP – HEATING WATER PUMP
CHP – CHILLED WATER PUMP
CWP – CONDENSING WATER PUMP
CSP – COOLING TOWER SUMP PUMP
HWRP – DOMESTIC HOT WATER RECIRCULATION
VFD – VARIABLE FREQUENCY DRIVE
CT – CONTACTOR
CC – CONTROL COMPRESSOR
CH – CHILLER
COV – VALUE CHANGE FOR DIGITAL POINTS
DCV – DIFFERENTIAL VALUE CHANGE FOR ANALOG POINTS
B – BOILER
EF – EXHAUST FAN
RF – RETURN/RELIEF FAN
AH – AIR HANDLER
VAV – VARIABLE AIR VOLUME DAMPER BOX
AD – AREA DAMPER
SD – SMOKE DAMPER
SFD – FIRE SMOKE COMBINATION DAMPER
H – HUMIDIFIER
V – VALVE
WH – WATER HEATER
BAS – BUILDING AUTOMATION SYSTEM

PIPING ABBREVIATIONS:

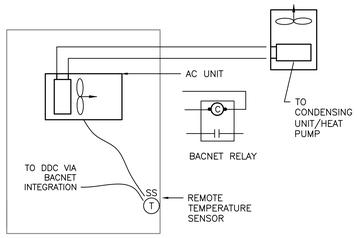
HWS – HEATING WATER SUPPLY
HWR – HEATING WATER RETURN
HW – DOMESTIC HOT WATER
CW – DOMESTIC COLD WATER
GPM – GALLONS PER MINUTE
DB – DOUBLE VALVE OPERATOR

AIR FLOW ABBREVIATIONS:

OSA – OUTSIDE AIR
RA – RETURN AIR
SA – SUPPLY AIR
EXH – EXHAUSTED AIR



1 M5.01 GAS ROOM EXHAUST SCHEMATIC



2 M5.01 DX FAN-COIL UNIT SCHEMATIC

CONTROL INPUT/OUTPUT SCHEDULE

POINT NAME	HARDWARE POINTS: INPUT TO CONTROL DIGITAL	INPUT TO CONTROL ANALOG	OUTPUT TO SYSTEM DIGITAL	OUTPUT TO SYSTEM ANALOG	ALARM	TREND	SHOW ON GRAPHIC
GENERAL CONDITIONS							
EXISTING OUTSIDE AIR TEMP		X				15 MIN	X
FIRE ALARM PANEL	X				X	COV	X
EXHAUST FAN: 1/M5.01							
FAN START/STOP			X			COV	X
FAN STATUS PROOF	X				X	COV	
FAN SPEED				X		DCV	X
FIRE CONTROL PANEL ALARM					X	COV	X
VRF SYSTEM FCU/VRF, 2/M5.01 (FCU TYPICAL.7)							
SPACE TEMP		X				15 MIN	X
HIGH SPACE TEMP ALARM					X	15 MIN	X
ELECTRIC DUCT COIL EDH (TYPICAL 6)							
DISCHARGE AIR TEMP		X				15 MIN	X
ELECTRIC COIL MODULATION				X		15 MIN	X
SPACE TEMP		X				15 MIN	X
ADDITIONAL FCU/VRF POINTS, 2/M5.01 (FCU TYPICAL.7)		X				15 MIN	X
SUPPLY FAN STATUS	X					COV	X
SUPPLY FAN START/STOP			X			COV	X
FAN STATUS PROOF	X				X		
SCHEDULE							
SUPPLY AIR HEATING SETPOINT						+/-1 DEG F	X
SUPPLY FAN FAILURE					X		
SUPPLY FAN IN HAND					X		
SUPPLY FAN RUNTIME EXCEEDED					X		
HIGH DISCHARGE AIR TEMP					X		

DEFINITIONS
AI ANALOG INPUT TO CONTROL
DI DIGITAL INPUT TO CONTROL
AO ANALOG OUTPUT TO SYSTEM
DO DIGITAL OUTPUT TO SYSTEM
AV ANALOG VALUE.
DVC DIGITAL VALUE.
COV CHANGE OF VALUE FOR DIGITAL POINTS.
DCV DIFFERENTIAL VALUE CHANGE FOR ANALOG POINTS.

CLARK KJOS ARCHITECTS, LLC
621 SW Alder Street, Suite 700
Portland, OR 97205
Phone: 503/224-4848

REGISTERED PROFESSIONAL ENGINEER 52786 MARIANA GALOFFEANU JAN. 15, 2002 OREGON EXPIRES 6/30/19

Wallowa MOB Addition

Wallowa County Healthcare District

603 Medical Pkwy, Enterprise, OR 97828

ISSUE DATE: 01.25.2019

REVISIONS:

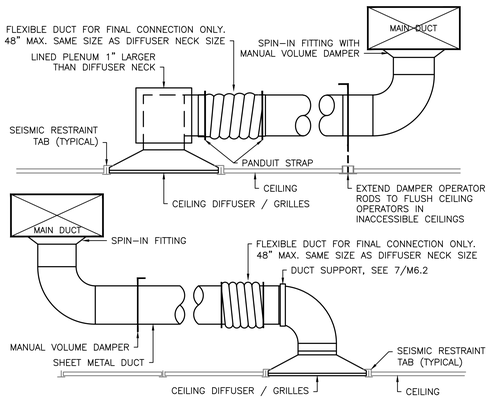
Bid / Permit Set

CONTROL DIAGRAMS

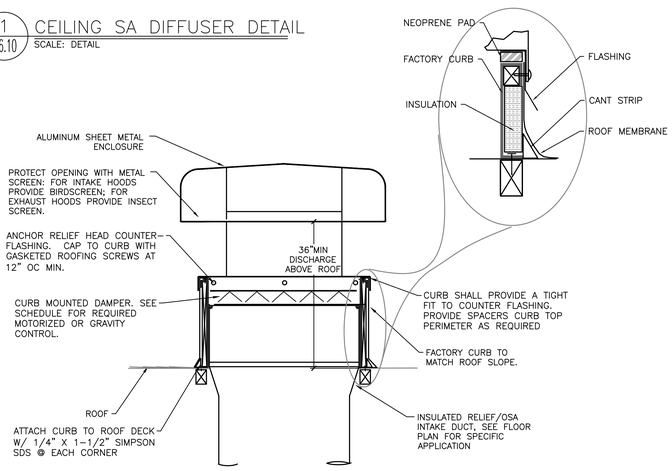
M5.01

MFIA INC. Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM
CONTACT: Mariana Galoffeanu

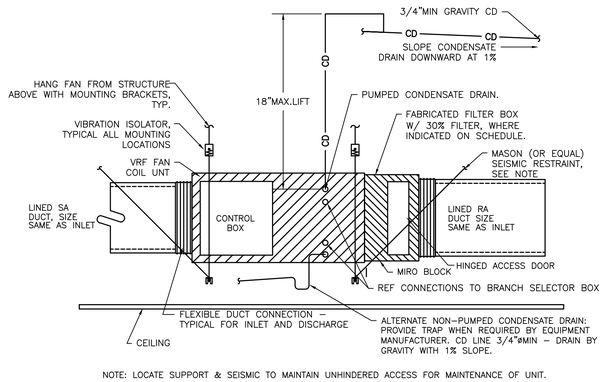
G:\Clark Kjos\9701 Wallowa MOB Addition\Mech\9701_M500.dwg, M510, 1/25/2019 7:19:38 PM, ARCH expand E1 (30.00 x 42.00 Inches), 1:1



1 M6.10 CEILING SA DIFFUSER DETAIL
SCALE: DETAIL



4 M6.10 NEW RELIEF/INTAKE HOOD DETAIL
SCALE: DETAIL

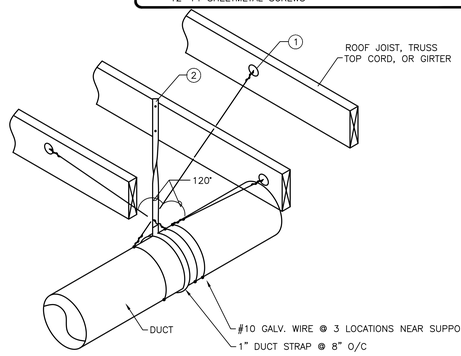


NOTE: LOCATE SUPPORT & SEISMIC TO MAINTAIN UNHINDERED ACCESS FOR MAINTENANCE OF UNIT.

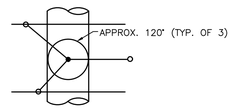
7 M6.10 VRF DUCTED FAN COIL (FC)
SCALE: DETAIL

10/M6.02 NOTES

1. 1/4" GALV. THREADED EYE BOLT @ CENTER OF WOOD MEMBER (TYP. OF 3). FOR Z-GIRT USE MACHINE THREAD EYE BOLT W/ JAMB NUT & 1/4" WASHER @ EACH SIDE OF GIRT. FOR METAL DECK USE 12 SHEETMETAL SCREWS & 16 GA. MIN STRUT ANGLE CLIP
2. ATTACH TO TOP CORD. OF TRUSS ONLY OR WOOD JOIST W/ #12 X 1-5/8 DECK SCREW @ MIN. 1" FROM WOOD MATERIAL EDGE. ATTACH TO Z-GIRT W/ (2) #12 TEK SCREWS. FOR METAL DECK USE (2) 12-14 SHEETMETAL SCREWS

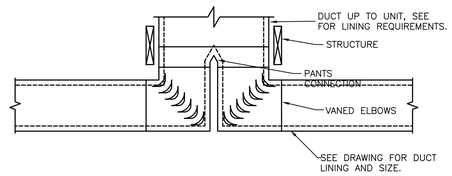


- FOR SHEETMETAL DUCTS 11" TO 27" IN DIAMETER & ALL SQUARE OR RECTANGULAR DUCTS (STRAP ALONE IS SUFFICIENT FOR DUCTS SMALLER THAN 11" IN DIAMETER)
- STRAP INTERVAL MAY BE DECREASED (LESS THAN 96" O/C TO REDUCE THE NEED FOR WIRE TIES AS DETAILED. CONSULT ENGINEER OR SMACNA STANDARDS

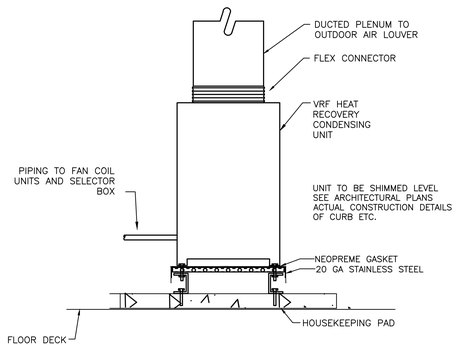


TOP VIEW

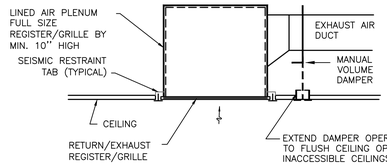
2 M6.10 DUCT SUPPORT
SCALE: DETAIL



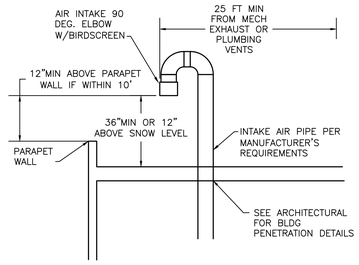
5 M6.10 DUCT DROPS
SCALE: DETAIL



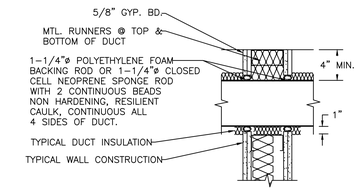
8 M6.10 VRF CONDENSER UNIT INDOOR INSTALLATION
SCALE: DETAIL



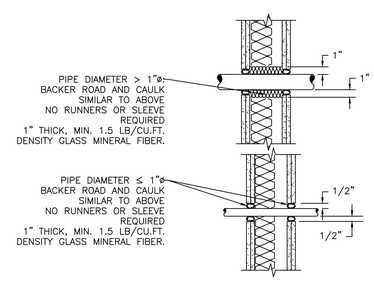
3 M6.10 RETURN/EXHAUST AIR GRILLE DETAIL
DETAIL



6 M6.10 AIR INTAKE
SCHEMATIC



DUCT PENETRATION OF DRYWALL CONSTRUCTION
PROVIDE MINIMUM 5" SEPARATION BETWEEN ADJACENT PENETRATIONS



PIPE/CONDUIT PENETRATION DRYWALL CONSTRUCTION TO BE APPLIED TO WALLS WITH STC ≥ 49 SEE ARCHITECTURAL DRAWINGS FOR ACOUSTICALLY IMPORTANT WALLS (WALL TYPES). SEAL PENETRATIONS IN THOSE WALLS PER THESE DETAILS

9 M6.10 ACOUSTICAL MECHANICAL PENETRATION
SCALE: DETAIL

CLARK KJOS ARCHITECTS, LLC
621 SW Alder Street, Suite 700
Portland, OR 97205
Phone: 5032244848

REGISTERED PROFESSIONAL ENGINEER 52786 OREGON JAN. 15, 2002 MARIANA GALOFTEANU
EXPIRES 6/30/19

Wallowa MOB Addition

Wallowa County Healthcare District

603 Medical Pkwy, Enterprise, OR 97828

ISSUE DATE: 01.25.2019

REVISIONS:

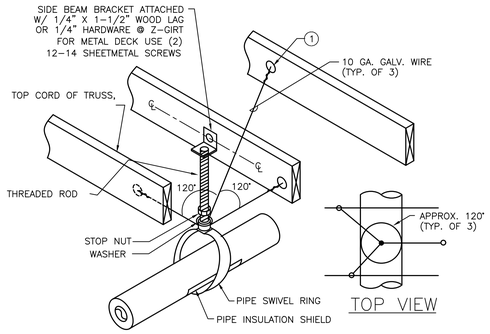
Bid / Permit Set

HVAC DETAILS

M6.10

MFIA INC. Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFIA-ENG.COM
CONTACT: Mariana Galofteanu

G:\Clark Kjos\9701 Wallowa MOB Addition\Mech\9701_M610.dwg, M6.10, 1/25/2019 7:19:45 PM, ARCH full bleed E1 (30.00 x 42.00 inches), 1:1

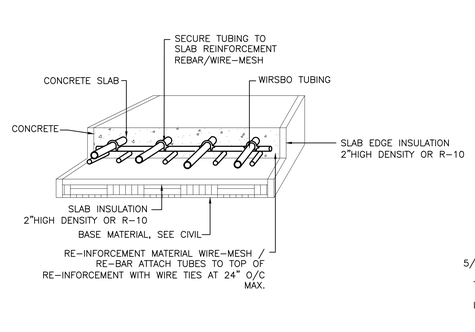


DETAIL NOTES

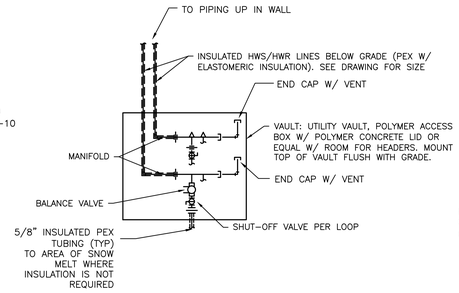
(1) – 1/4" GALV. THREADED EYE BOLT @ CENTER OF WOOD MEMBER (TYP. OF 3). FOR 2 GIRT USE MACHINE THREAD EYE BOLT W/ JAMB NUT & 1/4" WASHER @ EACH SIDE OF GIRT USE 12 SHEETMETAL SCREWS & 16 GA MIN. 16 GA. MIN STRUT ANGLE CLIP

- FOR SINGLE 1-1/2" TO 3" STEEL LINES
- FOR SINGLE 2" COPPER LINES

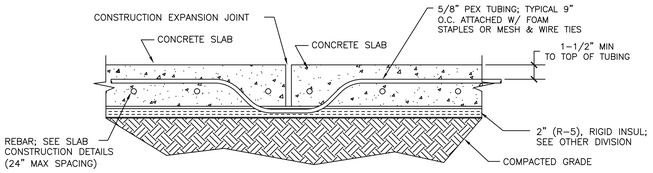
1 / M6.20 PIPE SUPPORT
SCALE: DETAIL



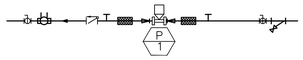
2 / M6.03 SNOWMELT UNDERSLAB PIPING DETAIL
SCALE: DETAIL

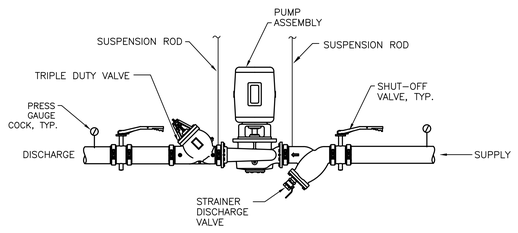


3 / M6.02 SNOW MELT HEADER
SCALE: DETAIL

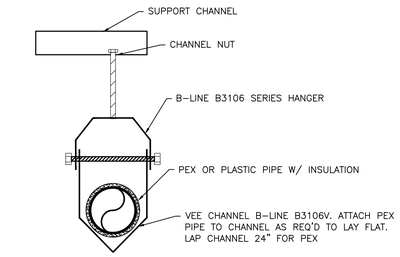


4 / M6.02 SNOW MELT SLAB & EXPANSION JOINT
SCALE: DETAIL





5 / M6.20 IN-LINE PUMP
SCALE: DETAIL



6 / M6.20 PEX SUPPORT DETAIL
SCALE: DETAIL

CLARK KJOS ARCHITECTS, LLC
621 SW Alder Street, Suite 700
Portland, OR 97205
Phone: 5032244848

REGISTERED PROFESSIONAL ENGINEER 52786 OREGON JAN. 15, 2002 MARIANA GALOFTEANU
EXPIRES 6/30/19

Wallowa MOB Addition

Wallowa County Healthcare District

603 Medical Pkwy, Enterprise, OR 97828

ISSUE DATE: 01.25.2019

REVISIONS:

Bid / Permit Set

HVAC DETAILS

M6.20

MFA INC. Consulting Engineers
2007 S.E. Ash St.
Portland, OR 97214
PHN: (503) 234-0548
FAX: (503) 234-0677
WWW.MFA-ENG.COM
CONTACT: Mariana Galofteanu