

Oregon State Correctional Institution (OSCI)

Oregon Department of Corrections

3405 Deer Park Dr. SE, Salem, Oregon

VISITING UPGRADE

Drawing Index:

- M1.0 Cover Sheet/Scope of Work
- M2.0 Floor Plan - Visiting
- M3.0 Controls Drawings
- E1.0 Electrical Symbol List
- E2.0 Electrical Power Plan
- S0.0 Structural Notes
- S1.0 Structural Plans.

REFERENCE PDFS:

- VISITING 1975 ADDITION.PDF

SUPPORTING DOCUMENTS:

- ODOC - MFIA DESIGN SUBMITTAL,PDF (BASIS OF DESIGN RTU SUBMITAL)
- STRUCTURAL CALCULATIONS.

PROJECT SCOPE OF WORK:

DEMO:

- REMOVE ROOF TOP CONDENSING UNIT
- REMOVE SUPPLY FAN
- MODIFY FAN ROOM PLENUM AS NEEDED FOR NEW WORK.

HVAC UPGRADES & MODIFICATIONS:

- REPLACE EXISTING BUILT IN SUPPLY FAN WITH NEW PAD MOUNTED RTU WITH HORIZONTAL DISCHARGE
- CONNECT NEW DUCTWORK TO EXISTING SUPPLY AND RETURN DUCTS
- PROVIDE NEW VAV BOXES IN ZONES AS SHOWN
- REPLACE STEAM CONTROL VALVES AND REFURBISH STEAM COILS..

CONTROLS WORK:

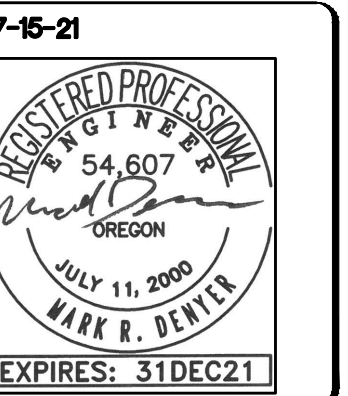
- EXTEND EXISTING DELTA BACNET CONTROLS TO NEW RTU, VAV BOXES AND STEAM COILS.
- CONTROL WORK TO INCLUDE ALL NEW POINTS SHOWN ON THE CONTROLS DRAWINGS.
- CONTROLS WORK TO ALSO INCLUDE INTERFACE WITH RTU BACKNET CARD AND TO INTEGRATE ALL POINTS SHOWN ON THE EQUIPMENT CUT SHEETS.

ELECTRICAL WORK:

- DEMO POWER TO REMOVED SUPPLY FAN AND ROOF MOUNTED CONDENSING UNIT
- PROVIDE POWER TO NEW GROUND MOUNT RTU AND FOR CONTROLS.
- SEE REFERENCE PLANS FOR LOCATION OF ELECTRICAL LOAD CENTER.

STRUCTURAL WORK:

- PROVIDE CONCRETE PAD PER STRUCTURAL DESIGN FOR NEW GROUND MOUNTED HVAC UNIT.



Date:	7-15-21
Proj. No.:	10039
Drawn By:	MD
Chkd By:	MD
DSGN By:	MD
Acad File #:	2024-M10

OREGON STATE CORRECTIONAL INSTITUTION
OSCI VISITING UPGRADE
OREGON DEPT OF CORRECTIONS
 OREGON
 SALEM
COVER SHEET



Consulting Engineers
 2007 S.E. Ash St.
 Portland, OR 97214
 (503) 234-0548

SHEET

M1.0



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OREGON STATE CORRECTIONAL INSTITUTION
 OSCI CONTROLS UPGRADES
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SHEET

M2.0

PACKAGED HEAT PUMP	
MARK NUMBER	RTU-1 7.5 TON
SYSTEM	VISITING
NOMINAL SIZE - TONS	17.5 TONS
TYPE	VAV HORIZONTAL DISCHARGE
TYPE/SIZE	PLENUM-DIRECT DRIVE
TOTAL SA CFM	7200
MIN. CFM	1500
OSA MIN/MAX (CO2 CONTROL)****	500/2000
ECONOMIZER	DUAL ENTHALPY
FAN @/MOTOR HP	0.81 / 10
EXTERNAL SP. (H2O)	1.5"
VARIABLE SPEED SA FAN	YES
TOTAL EXHAUST CFM	7200
MIN. CFM	0
FAN BHP/MOTOR HP	3.16 / 7.5
EXTERNAL SP. (H2O)	0.75
VARIABLE SPEED EXH FAN	YES-BUILDING PRESSURE
FILTER SIZE	TO FIT UNIT
FILTER TYPE - EXHAUST	NA
FILTER TYPE - SUPPLY	2" - MERV 13 MIN
GAS INPUT (MBH)	NONE
EFF.	NA
MODULATING	NA
TOTAL CLG. (TONS)	17.5
SENSIBLE CLG. (MBH)	172.8
ENT. EVAP AIR TEMP (DB/MB)	84/67
LVG. EVAP AIR TEMP (DB/MB)	55.0/53.1
AMBIENT AIR (°F)	45
COOLING SEER/EER	10.8 EER/14.6 IEER
REFRIGERANT	410A
COMPRESSOR	INVERTOR-SCROLL
HP HEATING. (MBH @ 47°F)	151.5
ENT. EVAP AIR TEMP (DB)	55.0
LVG. EVAP AIR TEMP (DB)	75.0
AMBIENT AIR (°F)	20
HEATING COP (47°/17°F)	3.25/2.05
SECONDARY HEAT +	41.0 KW SCR
DESIGN WEIGHT (LBS.)	4550 LBS
SMOKE DETECTOR (RETURN DUCT)	YES
PAD MOUNT - HORIZONTAL DISCHARGE	YES
BASIS OF DESIGN - VALENT **	VX-212-17.5A
ELECTRICAL (VOLTS/PHASE)	208/3
ELECTRICAL (MCAMCOCP)	284.8/300
BACNET DDC INTERFACE ***	YES
SHORT CIRCUIT RATING	5 KAIC
UV LIGHTS	YES
BIPOLAR IONIZATION	YES
ECONOMIZER FAULT DETECTION	YES
FACTORY WIRED DISCONNECT	YES
FACTORY SERVICE OUTLET	YES
MOTOR SHAFT GROUNDING	YES

STEAM REHEAT COILS

TYPICAL OF ALL REHEAT COILS:
 MIN 1 ROW, MAX 8 FPI, BAT 68°F
 2 PSI @ COIL, 3 PSI MAX DROP IN VALVE

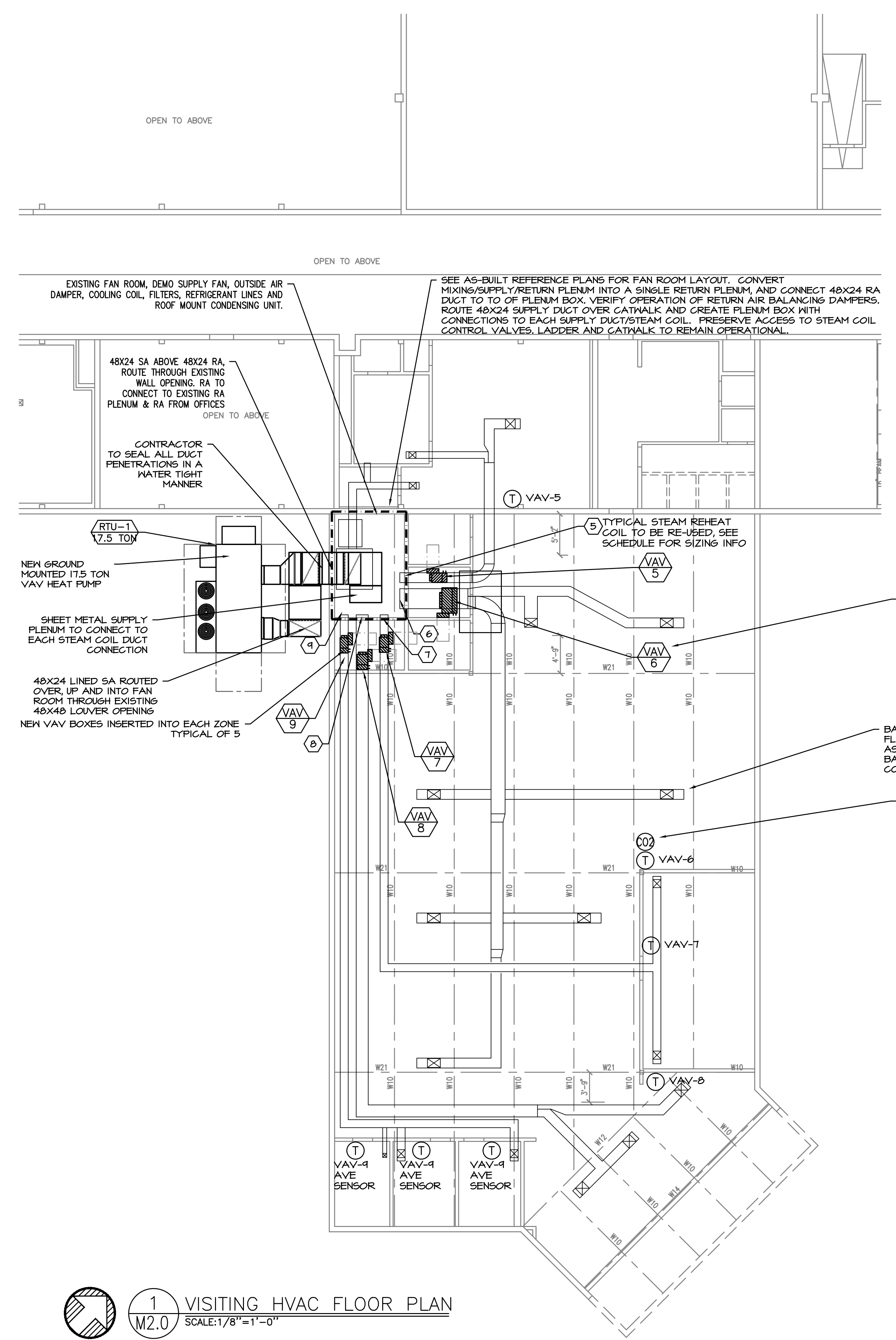
NO.	EXISTING OFFICES	CFM	SIZE	MBH	FY	VALVE	TRAP
5	EXISTING OFFICES	625	12x15"	15	300	15	23
6	VISITORS ROOM	3500	24"x42"	75	500	75	113
7	CHILDRENS ROOM	450	9"x12"	12	450	12	18
8	WAITING ROOM	1200	15"x24"	48	450	48	72
9	INTERVIEW ROOM	475	9"x12"	16	475	16	24

SPACE EXHAUST FAN PACE CRE20F WITH SOUND CURB 5000 CFM SET FOR 399 RPM

2 EXISTING RE-HEAT STEAM COILS
 SCALE: 1/8" = 1'-0"

5 6 7 8 9

REPLACE STEAM CONTROL VALVES AND ACTUATORS (TYPICAL OF 5) FOR EACH STEAM COIL. VERIFY/REFURBISH CONDENSATE TRAPS/TRAP OPERATION. CONNECT NEW DDC CONTROLS TO EXISTING STEAM CONTROL VALVES. NOTE - STEAM VALVES ARE ACCESSED FROM CAT WALK IN FAN ROOM.



VAV BOXES											
MARK NO.	TYPE	MAX COOLING CFM	20% OF COOLING CFM	MIN VENTILATION CFM	MIN 300 CFM	MAXIMUM DEADBAND CFM	MAXIMUM HEATING CFM 50% or VENT	INLET IN.	OUTLET IN.	MAX. STATIC LOSS *	CONTROL TYPE
VAV-5	VAV	718.75	144	50	0	144	359	10	14X13	0.05	DDC
VAV-6	VAV	4025	805	300	0	805	2013	24X16	24X18	0.05	DDC
VAV-7	VAV	517.5	104	40	0	104	259	8	12X10	0.05	DDC
VAV-8	VAV	1380	276	50	0	276	690	12	16X15	0.05	DDC
VAV-9	VAV	546.25	109	60	0	109	273	8	12X10	0.05	DDC
TOTAL		7187.5	***	500		1438	3594				

* - VAV BOX ONLY - MAX PRESSURE DROP
 ** - THIRD OCTAVE CERTIFIED RATING IN ACCORDANCE WITH ARI STANDARD 880-94
 *** - SET AIR FLOWS FOR EACH ZONE TO BE 115% OF ORIGINAL DESIGN CFMS

1 VISITING HVAC FLOOR PLAN
 SCALE: 1/8" = 1'-0"

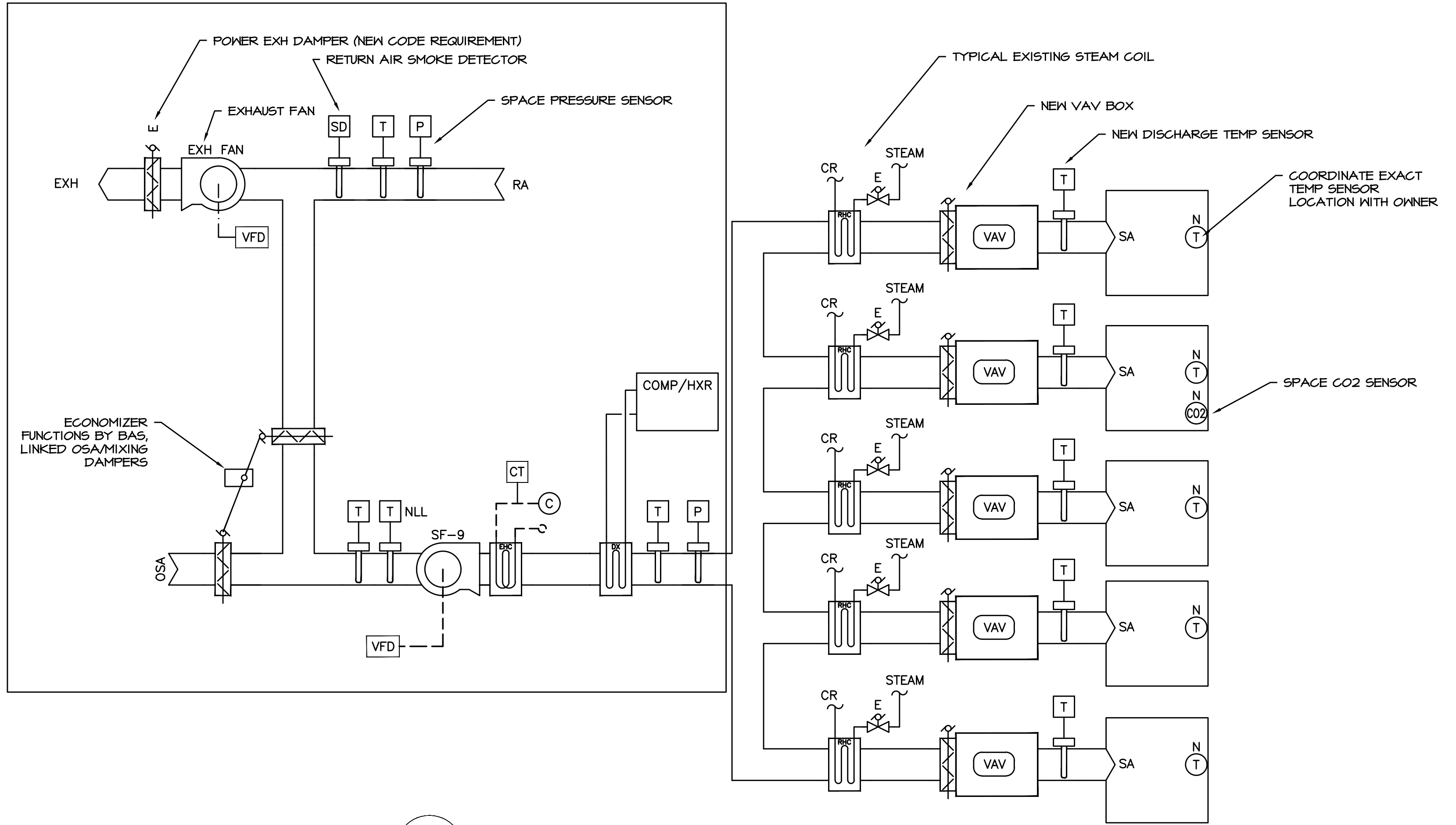
CONTROLS FOR RTU

POINT DESCRIPTION	INPUT		OUTPUT		ALARM
	DIGITAL	ANALOG	DIGITAL	ANALOG	
SPACE PRESSURE SENSOR		X			
RETURN AIR TEMP		X			
SMOKE DETECTOR	X				
EXH FAN START/STOP			X		
EXH FAN STATUS	X				X
EXH FAN SPEED				X	
EXH DAMPER POSITION				X	
OSA/MIXING DAMPER POSITION				X	
MIXED AIR TEMP		X			
NIGHT LOW LIMIT		X			
SUPPLY FAN START/STOP			X		
SUPPLY FAN STATUS	X				X
SUPPLY FAN SPEED				X	
ELECTRIC HEATING ENABLE/SCR CONTROL				X	
COOLING ENABLE (DX coil-CONDENSING UNIT)			X		
SUPPLY DISCHARGE AIR TEMP		X			
SUPPLY PRESSURE SENSOR		X			
STEAM HEATING VALVE (REHEAT COIL) TYP OF 5				X	
VAV BOX DAMPER POSITION TYP OF 5				X	
ZONE DISCHARGE AIR TEMP - TYP OF 5		X			
ZONE SPACE TEMP - TYP OF 5		X			
SPACE CO2 SENSOR		X			

RTU BACNET CONTROL POINTS:

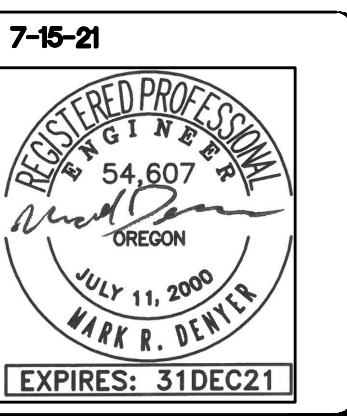
SEE EQUIPMENT CUT SHEET FOR READ, READ/WRITE POINTS AVAILABLE VIA THE UNIT BACNET CARD.

NEW PACKAGED UNIT



1 VISITING -- RTU-1
M3.0 SCALE: DETAIL

RTU-1
7.5 TON



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 FLOOR PLANS



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ELECTRICAL SYMBOL LIST

LIGHTING SYMBOLS

	LIGHT FIXTURE, RECESSED
	LIGHT FIXTURE, RECESSED - EMERGENCY
	LIGHT FIXTURE, SURFACE MOUNT
	LIGHT FIXTURE, SURFACE MOUNT - EMERGENCY
	LIGHT FIXTURE, STRIP
	LIGHT FIXTURE, STRIP - EMERGENCY
	DOWNLIGHT FIXTURE, RECESSED
	DOWNLIGHT FIXTURE, RECESSED, WALLWASH
	DOWNLIGHT FIXTURE, RECESSED - EMERGENCY
	LIGHT FIXTURE, WALL MOUNT
	LIGHT FIXTURE, CEILING MOUNT
	RECESSED LIGHT FIXTURE, WALL MOUNT
	LIGHT FIXTURE, WALL SCONCE
	LIGHT FIXTURE, TRACK W/ HEADS AS SHOWN ON PLAN
	EXIT SIGN, UNIVERSAL MOUNT, W/ DIRECTIONAL ARROW
	EXIT SIGN, WALL MOUNT, +8'-0" A.F.F.
	EMERGENCY LIGHT W/ BATTERY PACK, +8'-0" A.F.F.
	FLOOD LIGHT
	AREA LUMINAIRE
	AREA LUMINAIRE W/STANDBY LAMP
	AREA LUMINAIRE, WALL MOUNT
	AREA LUMINAIRE, POLE MOUNT
	LIGHT FIXTURE, DAYLIGHT DIMMING (DIMMING ZONE 1)
	REMOTE LED EMERGENCY BATTERY

SWITCH SYMBOLS

	SWITCH, SPST +48" A.F.F.
	SWITCH, DPST +48" A.F.F.
	SWITCH, 3-WAY +48" A.F.F.
	SWITCH, 4-WAY +48" A.F.F.
	SWITCH, KEYED +48" A.F.F.
	SWITCH, 3-WAY KEYED +48" A.F.F.
	SWITCH, LOW-VOLTAGE OVER RIDE +48" A.F.F.
	0-10V LED DIMMER, TOGGLE ON/OFF WITH PRESET
	EMERGENCY BYPASS RELAY
	PHOTOCELL, CONTACT CLOSURE
	PHOTOCELL, 0-10V DAYLIGHT DIMMING (DIMMING ZONE 1)
	OCCUPANCY SENSOR, INFRA-RED, WALL +48" A.F.F.
	OCCUPANCY SENSOR, DUAL TECH, CEILING
	OCCUPANCY SENSOR, DUAL TECH, CORNER
	OCCUPANCY SENSOR, ULTRASONIC, CEILING

POWER SYMBOLS

	RECEPTACLE, DUPLEX +18" A.F.F.
	RECEPTACLE, DUPLEX, TAMPER RESISTANT +18" A.F.F.
	RECEPTACLE, WEATHER-RESISTANT DUPLEX, WEATHER-PROOF COVER
	RECEPTACLE, QUAD +18" A.F.F.
	RECEPTACLE, QUAD, EMERGENCY +18" A.F.F.
	RECEPTACLE, QUAD, EMERGENCY +6" ABV COUNTER
	RECEPTACLE, DUPLEX +6" ABV COUNTER
	RECEPTACLE, DUPLEX +18" A.F.F. (ONE OUTLET SWITCHED)
	RECEPTACLE, DUPLEX, UPS +18" A.F.F.
	RECEPTACLE, DUPLEX, UPS +6" ABV COUNTER
	RECEPTACLE, DUPLEX, PEDESTAL MOUNT
	RECEPTACLE, DUPLEX, FLUSH FLOOR MOUNT
	RECEPTACLE, SPECIAL (COORDINATE WITH EQUIPMENT SERVED)
	SNOW MELT CABLE LENGTH AS INDICATED ON PLAN
	ELECTRIC VEHICLE CHARGING STATION
	MAGNETIC CONTACTOR
	RELAY
	TIME CLOCK CONTROL
	PUSHBUTTON STATION
	JUNCTION BOX
	THERMOSTAT
	TRANSFORMER
	DISCONNECT, NON-FUSED
	DISCONNECT, FUSED
	ELECTRICAL CONNECTION
	ELECTRICAL CONNECTION, SINGLE MOTOR
	ELECTRICAL CONNECTION, MULTI-MOTOR
	ELECTRICAL DISTRIBUTION PANEL, SURFACE
	MISCELLANEOUS PANEL, RECESSED
	ELECTRICAL DISTRIBUTION PANEL, RECESSED
	ELECTRICAL CONNECTION, FIRE/SMOKE DAMPER

WIRING SYMBOLS

	PANEL & CIRCUIT NUMBER
	HOMERUN TO PANEL
	CONDUCTOR SIZE (IF OTHER THAN #12)
	PHASE CONDUCTOR
	NEUTRAL CONDUCTOR
	GROUND CONDUCTOR
	CONCEALED CONDUIT
	CONDUIT SIZE
	CONDUIT (UNDER SLAB OR FLOOR)
	CONDUIT, STUBBED & CAPPED

ONE-LINE DIAGRAM SYMBOLS

	ELECTRICAL DISTRIBUTION PANELBOARD (MLO)
	ELECTRICAL DISTRIBUTION PANELBOARD (MCB)
	SUB-FEED CIRCUIT BREAKER
	CIRCUIT BREAKER (TRIP RATING & POLES AS INDICATED ON PLAN)
	ELECTRONIC TRIP CIRCUIT BREAKER
	MAIN SWITCH (RATING & POLES AS INDICATED ON PLAN)
	FUSE (RATING & CLASS AS INDICATED ON PLAN)
	TRANSFORMER (RATING AS INDICATED ON PLAN)
	GROUND SYSTEM (SIZE AS INDICATED ON PLAN)
	WATER PIPE GROUND ELECTRODE
	TRANSIENT VOLTAGE SURGE SUPPRESSOR
	UTILITY METER & METER BASE
	UTILITY METER CURRENT TRANSFORMER
	FEEDER NO. (SEE FEEDER SCHEDULE)

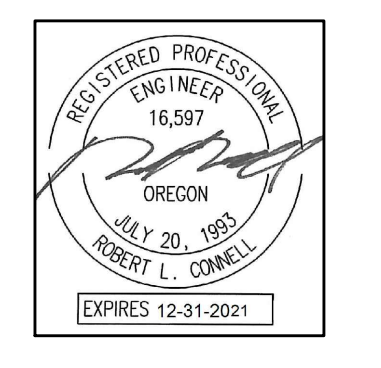
NOTATIONS

	DRAWING NOTE
	DETAIL REFERENCE: TOP=DETAIL NO., BOTTOM=SHEET NO.
	MECHANICAL EQUIPMENT MARK NO. (SEE EQUIPMENT SCHEDULE)
	XRAY EQUIPMENT NO. (SEE XRAY VENDOR SCHEDULE)
	XRAY ROOM DRAWING NOTE

ABBREVIATIONS

'A'	LIGHT FIXTURE TYPE (SEE FIXTURE LIST)
A.F.F.	ABOVE FINISHED FLOOR
A.F.G.	ABOVE FINAL GRADE
A.F.I.	ARC FAULT INTERRUPTER
A.T.S.	TRANSFER SWITCH, AUTOMATIC
C	CONDUIT
C.O.	CONDUIT ONLY
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
C.T.	CURRENT TRANSFORMER
E	EMERGENCY
E.L.	EMERGENCY LIGHT
E.L.C.	EXTERIOR LIGHTING CONTROL
FACP	FIRE ALARM CONTROL PANEL
G.F.I.	GROUND FAULT INTERRUPTER
GND	GROUND
H.I.D.	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
I.G.	ISOLATED GROUND
I R	INFRARED
JB	JUNCTION BOX
LCP	LIGHTING CONTROL PANEL
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUGS ONLY
M.T.S.	TRANSFER SWITCH, MANUAL
(N)	NEW
N.I.C.	NOT IN CONTRACT
N.L.	NIGHT LIGHT
OL	OVERLOAD
O.L.C.	OFFICE LIGHTING CONTROL
P	POLE
P.A.	PUBLIC ADDRESS
PC	PARTIAL CIRCUIT
PH	PHASE
PRI	PRIMARY
R.T.U.	REMOTE TELEMETRY UNIT
SEC	SECONDARY
SCCR	SHORT CIRCUIT CURRENT RATING
T.V.S.S.	TRANSIENT VOLTAGE SURGE SUPPRESSOR
U.G.	UNDERGROUND
U.O.N.	UNLESS OTHERWISE NOTED
VFD	VARIABLE FREQUENCY DRIVE
W	WIRE
W.G.	WIRE GUARD
W.P.	WEATHERPROOF
W.T.	WATERTIGHT
X.P.	EXPLOSION PROOF

NOTE: SOME OF THE SYMBOLS AND ABBREVIATIONS ON THIS LIST MAY NOT APPLY TO THIS PROJECT.

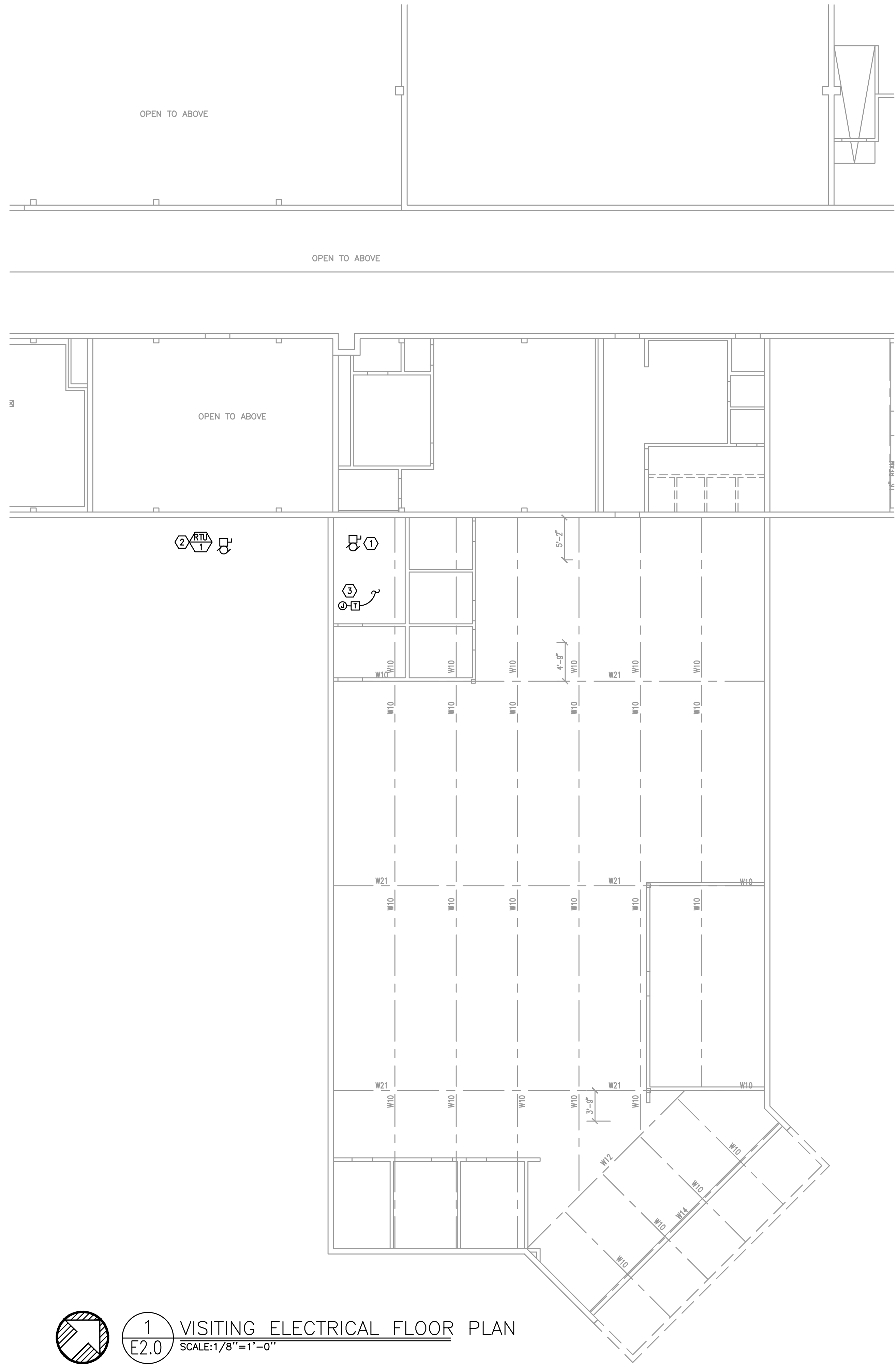


Date:	6-30-21
Proj No:	10204
Drawn By:	REM
Chkd By:	REM
DSN By:	REM
Acad File:	0204-E10

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OREGON
SALEM
ELECTRICAL COVER SHEET

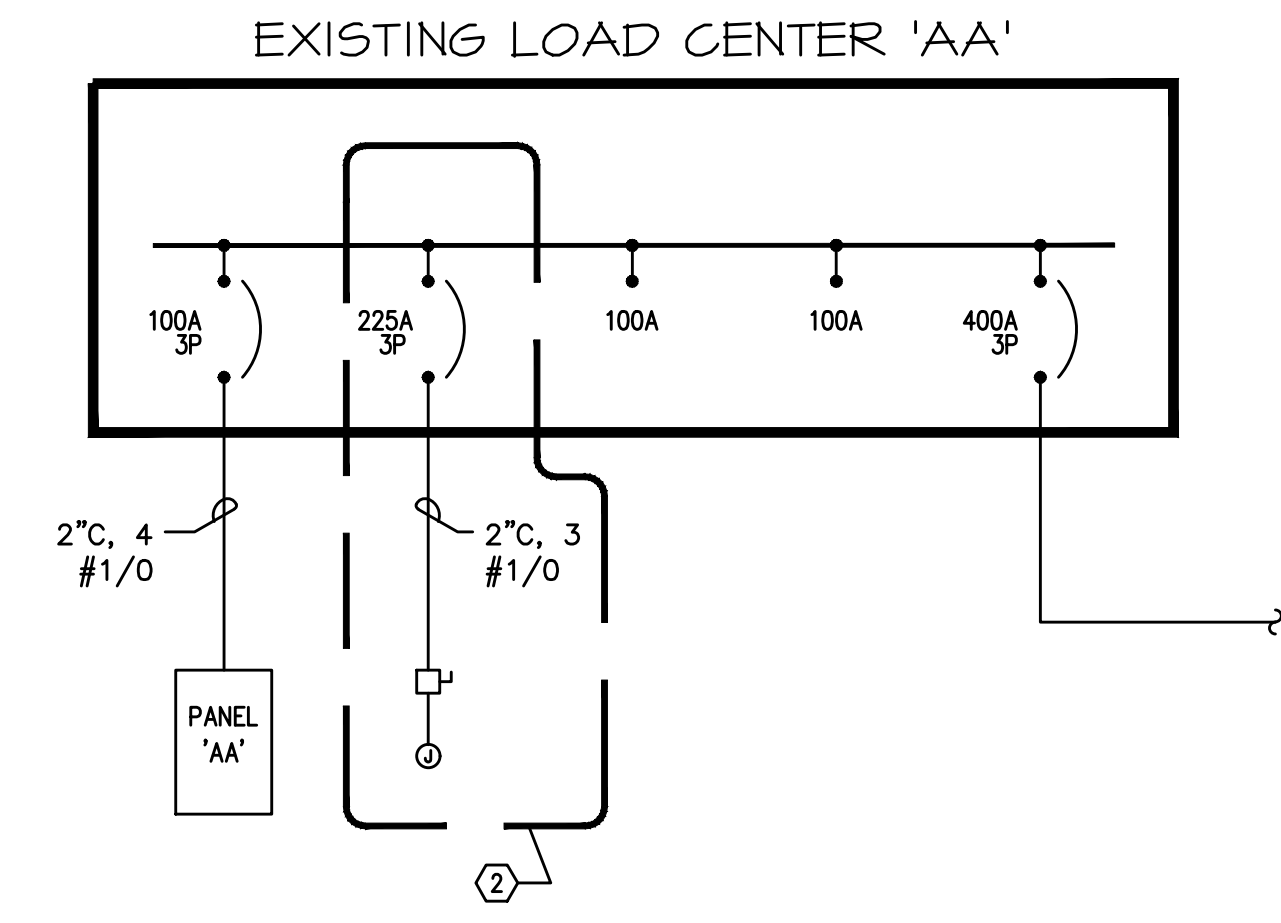


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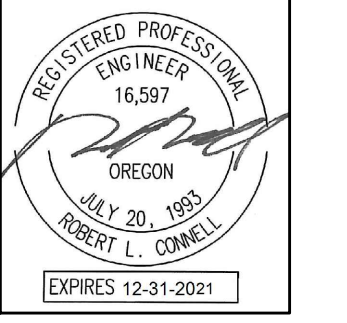
KEYNOTES:

- ① EXISTING ROOF MOUNTED AC UNIT TO BE REMOVED. DISCONNECT AND DEMO FEEDER BACK TO PANEL (CKT AA-18,20,22).
- ② EXISTING SUPPLY FAN TO BE REMOVED. DISCONNECT AND DEMO FEEDER BACK TO PANEL AND REMOVE 225A BREAKER. PROVIDE 150A/3P BREAKER AND NEW 150A FEEDER (2" C, #1/0, #6G) RTU-1.
- ③ FIELD LOCATE EXISTING 20A CIRCUIT. PROVIDE LOW VOLTAGE TRANSFORMER TO PROVIDE POWER TO LV VAV BOXES.



1 PARTIAL ONE-LINE
E2.0 SCALE: N/A

1 VISITING ELECTRICAL FLOOR PLAN
E2.0 SCALE: 1/8" = 1'-0"



Date:	7-8-2021
Proj No:	10204
Drawn By:	REM
Chkd By:	REM
DSN By:	REM
Acad File:	E20

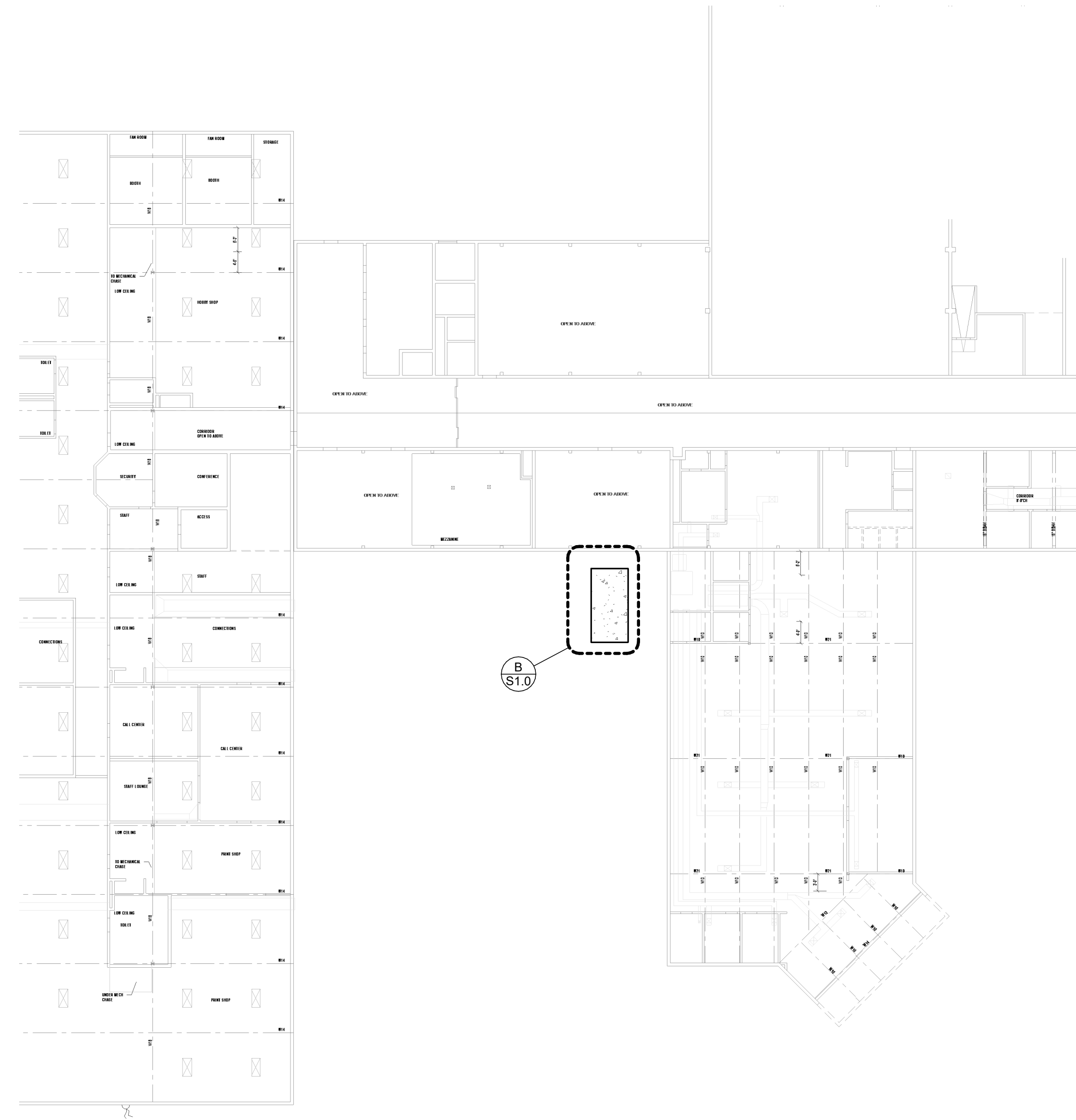
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 SALEM OREGON
 FLOOR PLANS



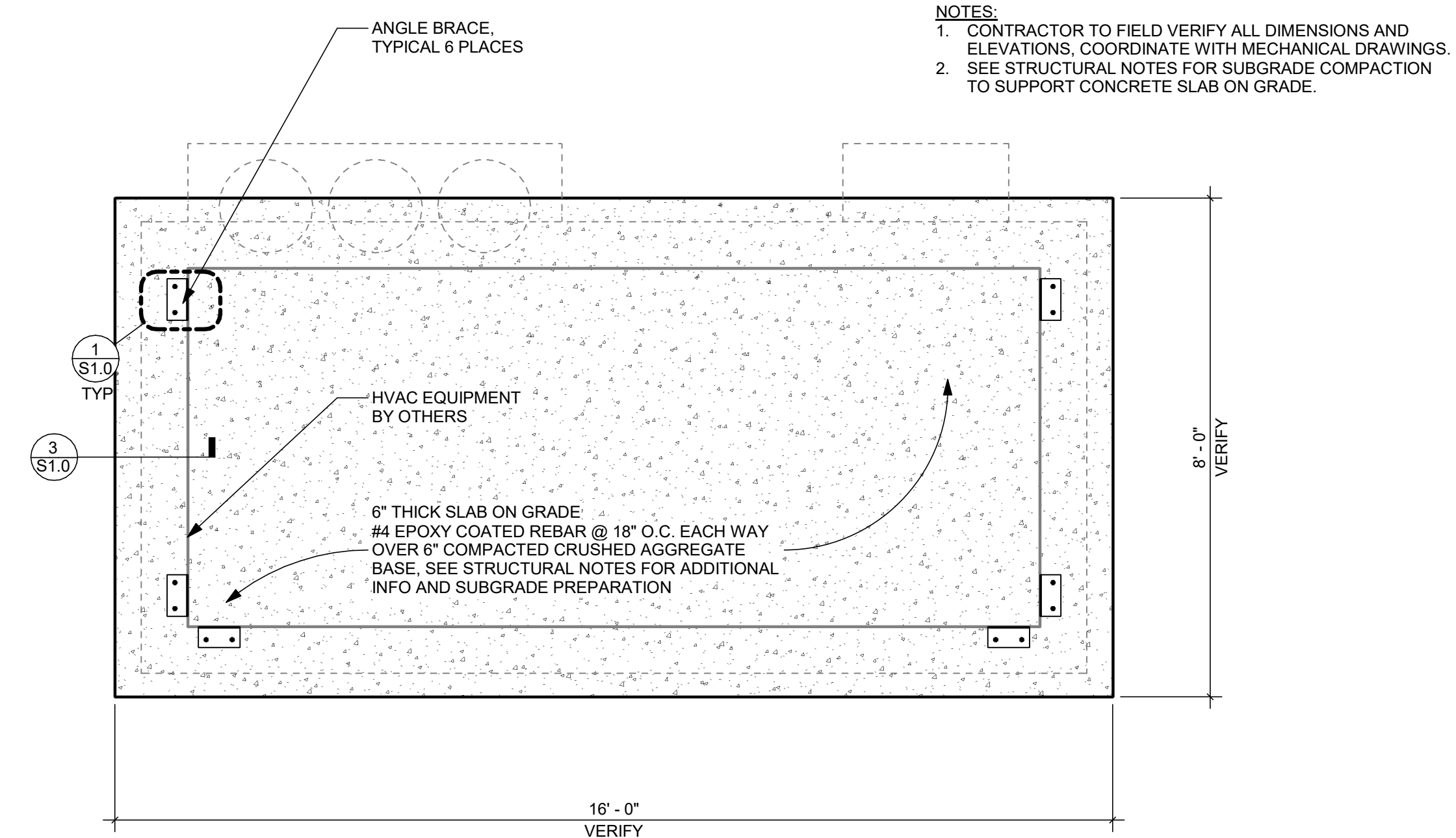
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SHEET

E2.0



A
S1.0 ENLARGED SITE PLAN
1" = 20'-0"
SITE LOCATION



- NOTES:**
- CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS. COORDINATE WITH MECHANICAL DRAWINGS.
 - SEE STRUCTURAL NOTES FOR SUBGRADE COMPACTION TO SUPPORT CONCRETE SLAB ON GRADE.

B
S1.0 SLAB PLAN DETAIL
1/2" = 1'-0"
CONCRETE PAD PLAN

PROJECT NAME

ODOC HVAC

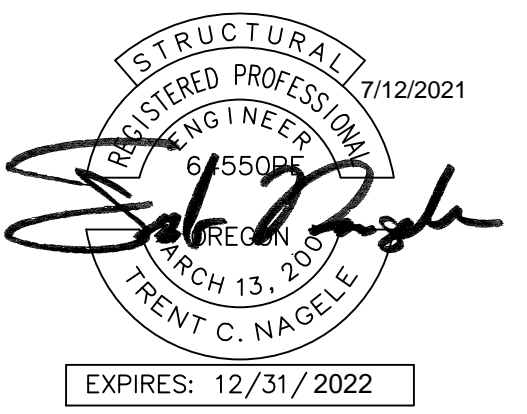
DRAWING SET
DESCRIPTION 1

3405 DEERPARK DR SE
SALEM, OR 97310

DRAWING SET TITLE 1

REVISIONS

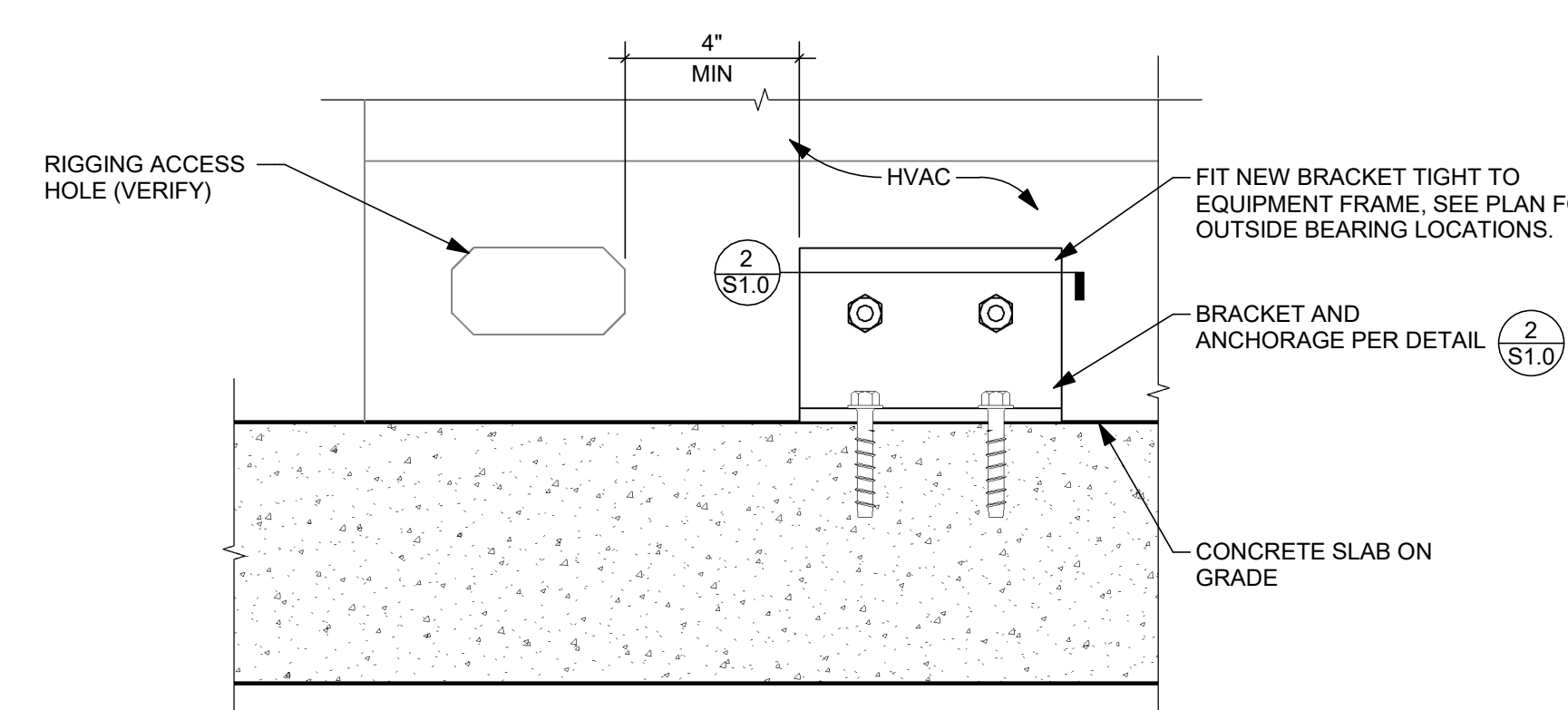
DATE	DESCRIPTION



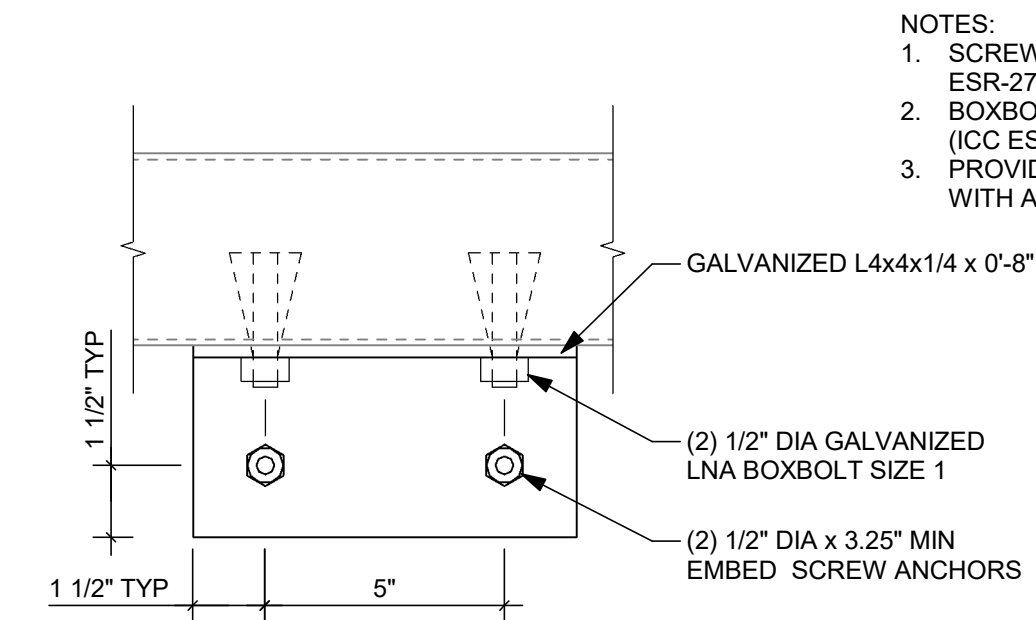
DATE	JULY 12, 2021
SCALE	AS NOTED
PROJ. NO.	20210146
DRAWN	RJK
CHECKED	TCN

HVAC DETAILS

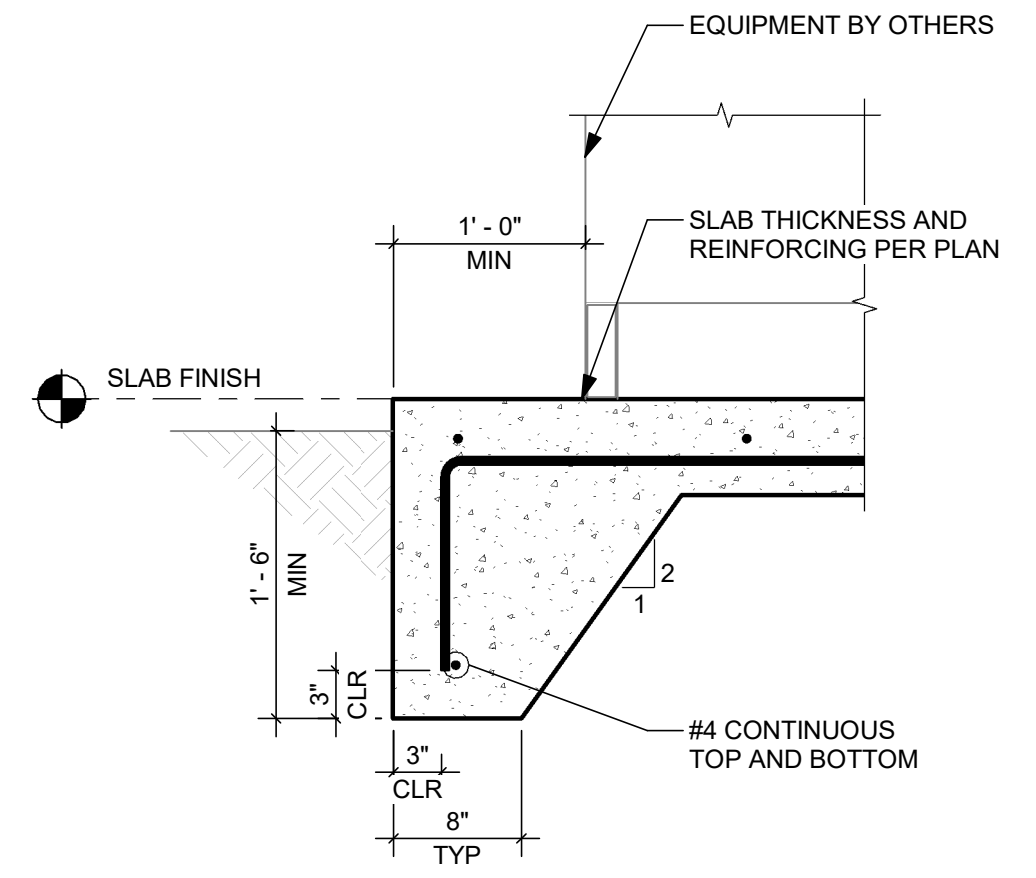
S1.0



1
S1.0 FUME HOOD ANCHORAGE DETAIL
3" = 1'-0"
Angle Brace Elev



2
S1.0 FUME HOOD ANCHORAGE DETAIL
3" = 1'-0"
Angle Brace



3
S1.0 TURN DOWN SLAB EDGE DETAIL
1" = 1'-0"
T114