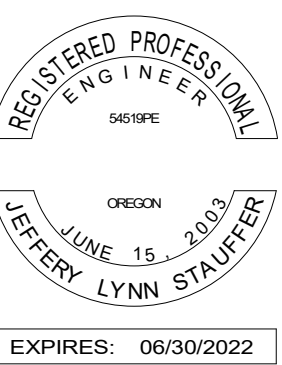


No.	Description	Date
0	PERMIT SET	01/11/21
1	BID SET	02/03/21



**BID SET**

**02/03/21**

**CC20034**

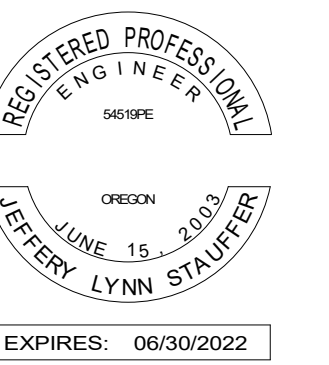
**MECHANICAL LEGEND, ABBREVIATIONS, & GENERAL NOTES**

**M0.01**

ABBREVIATIONS		GENERAL SYMBOLS		EQUIPMENT SYMBOLS		DRAWING INDEX	
<p>ABV ABOVE</p> <p>AC ACTIVATED CARBON FILTER OR ALTERNATING CURRENT</p> <p>ACC AIR COOLED CHILLER</p> <p>ACFM ACTUAL CUBIC FEET/MINUTE</p> <p>ACU AIR CONDITIONING UNIT</p> <p>AD ACCESS DOOR</p> <p>AFD ADJUSTABLE FREQUENCY DRIVE</p> <p>AFF ABOVE FINISHED FLOOR</p> <p>AH AIR HANDLER, GENERAL</p> <p>AHU AIR HANDLING UNIT</p> <p>ANSI AMERICAN NATIONAL STANDARDS INSTITUTE</p> <p>AMP AMPERE (AMP,AMPS)</p> <p>ARF ABOVE RAISED FLOOR</p> <p>BDD BACK DRAFT DAMPER</p> <p>BF BUTTERFLY VALVE</p> <p>BHP BRAKE HORSEPOWER</p> <p>BLO BLOWER</p> <p>BLR BOILER</p> <p>BOD BOTTOM OF DUCT</p> <p>BOP BOTTOM OF PIPE</p> <p>BOT BOTTOM OF TRAY</p> <p>BOTT BOTTOM</p> <p>BOM BILL OF MATERIAL</p> <p>BTU BRITISH THERMAL UNIT</p> <p>C CENTIGRADE OR COMPRESSOR</p> <p>CA COMPRESSED AIR</p> <p>CC COOLING COIL</p> <p>CD CEILING DIFFUSER</p> <p>CEG CEILING EXHAUST GRILLE</p> <p>CFM CUBIC FEET PER MINUTE</p> <p>CH CHILLER</p> <p>CKT CIRCUIT</p> <p>CLP COIL PUMP</p> <p>CO CLEANOUT</p> <p>CONN CONNECTION</p> <p>CPLG COUPLING</p> <p>CRU CONDENSATE RETURN UNIT</p> <p>CSST CORRUGATED STAINLESS STEEL TUBING</p> <p>CT COOLING TOWER</p> <p>CTG CLEANOUT TO GRADE</p> <p>CU CONDENSATE UNIT</p> <p>CV CONSTANT VOLUME TERMINAL UNIT</p> <p>CVR CONSTANT VOLUME REHEAT TERMINAL UNIT</p> <p>dB DECIBEL</p> <p>(D) DEMOLISH</p> <p>DB DRY BULB</p> <p>DBT DRY BULB TEMPERATURE</p> <p>DC DIRECT CURRENT</p> <p>DDC DIRECT DIGITAL CONTROL</p> <p>DEH DEHUMIDIFIER</p> <p>DER DEAERATOR</p> <p>DF DRINKING FOUNTAIN</p> <p>DIA DIAMETER</p> <p>DN DOWN</p> <p>(E) EXISTING</p> <p>EA EACH</p> <p>EA EXHAUST AIR</p> <p>EF EXHAUST FAN</p> <p>EFF EFFICIENCY</p> <p>EG EXHAUST GRILLE</p> <p>ELEV ELEVATION</p> <p>EPO EMERGENCY POWER OFF</p> <p>ER EXHAUST REGISTER</p> <p>ET EXPANSION TANK</p> <p>EWC ELECTRIC WATER COOLER</p> <p>EXH EXHAUST, GENERAL</p> <p>(F) FUTURE</p> <p>F FAHRENHEIT</p> <p>FAN FAN COIL UNIT</p> <p>FCO FLOOR CLEANOUT</p> <p>FD FLOOR DRAIN</p> <p>FF FINISHED FLOOR</p> <p>FFE FINISHED FLOOR ELEV</p> <p>FFU FAN FILTER UNIT</p> <p>FL CARTRIDGE OR BAG FILTER</p> <p>FLT FILTER</p> <p>FN FAN</p> <p>FOB FLAT ON BOTTOM</p> <p>FOT FLAT ON TOP</p> <p>FP FAN POWERED TERMINAL UNIT</p> <p>FPM FEET PER MINUTE</p> <p>FPS FEET PER SECOND</p> <p>FT FOOT OR FEET</p> <p>GA GAGE OR GAUGE, OR GENERAL AIR</p> <p>GAL GALLONS</p> <p>GCO GRADE CLEANOUT</p> <p>GEN GENERATOR</p> <p>GD GROUND DIFFUSER</p> <p>GPH GALLONS PER HOUR</p> <p>GPM GALLONS PER MINUTE</p> <p>HC HEATING COIL</p> <p>HD HEAD</p> <p>HE HEAT EXHAUST</p> <p>HG MERCURY</p> <p>HOR HORIZONTAL</p> <p>HP HORSEPOWER</p> <p>HR HOUR(S)</p> <p>HU HUMIDIFIER</p> <p>HX HEAT EXCHANGER</p> <p>HYD HYDRAULIC</p> <p>HZ HERTZ (FREQUENCY)</p> <p>ID INSIDE DIAMETER</p> <p>IE INVERT ELEVATION</p> <p>KW KILOWATT</p> <p>KWH KILOWATT HOUR</p> <p>KVA KILOVOLT-AMPERE</p> <p>LAV LAVATORY</p> <p>LBS POUNDS</p> <p>LD LEAK DETECTION</p> <p>LPD LOW POINT DRAIN</p> <p>(M) MECHANICAL</p> <p>MAH MAKEUP AIR HANDLER</p> <p>MAX MAXIMUM</p> <p>MCC MOTOR CONTROL CENTER</p> <p>MIN MINIMUM</p> <p>MISC MISCELLANEOUS</p> <p>MM MULTI-MEDIA FILTER</p> <p>MOT MOTOR</p> <p>MP METERING PUMP</p> <p>MUA MAKEUP AIR</p> <p>(N) NEW</p> <p>N/A NOT APPLICABLE</p> <p>NC NOISE CRITERIA OR NORMALLY CLOSED</p> <p>NIC NOT IN CONTRACT</p> <p>NO NORMALLY OPEN</p> <p>NTS NOT TO SCALE</p> <p>OA OUTSIDE AIR</p> <p>OBD OPPOSABLE BLADE DAMPER</p> <p>OD OUTSIDE DIAMETER</p> <p>OFCI OWNER FURNISHED CONTRACTOR INSTALLED</p> <p>OL OVERLOAD RELAY</p> <p>OSA OUTSIDE SUPPLY AIR</p> <p>OZ OUNCE</p> <p>PD PRESSURE DROP</p> <p>PH PHASE</p> <p>PIV POST INDICATOR VALVE</p> <p>PL PLUG VALVE</p> <p>POC POINT OF CONNECTION</p> <p>PPM PARTS PER MILLION</p> <p>PSI POUNDS PER SQUARE INCH</p> <p>PSIA PSI, ABSOLUTE</p> <p>PSIG PSI, GAUGE</p> <p>QT QUART</p> <p>QTY QUANTITY</p> <p>(R) RELOCATE</p> <p>RA RETURN AIR</p> <p>RAH RECIRC. AIR HANDLER</p> <p>REQ REQUIRED</p> <p>REV REVISION</p> <p>RG RETURN GRILLE</p> <p>RH RELATIVE HUMIDITY</p> <p>RM ROOM</p> <p>RPM REVOLUTIONS PER MINUTE</p> <p>RR RETURN REGISTER</p> <p>RTU ROOF TOP UNIT</p> <p>SA SUPPLY AIR</p> <p>SC SCRUBBER</p> <p>SCFM STANDARD CUBIC FEET/MINUTE</p> <p>SD SECOND SUPPLY DIFFUSER</p> <p>SEC SECOND</p> <p>SG SUPPLY GRILLE</p> <p>SLM STANDARD LITERS/MINUTE</p> <p>SM SHEET METAL</p> <p>SP STATIC PRESSURE</p> <p>SPEC SPECIFICATION</p> <p>SR SUPPLY REGISTER</p> <p>SS STAINLESS STEEL</p> <p>STD STANDARD</p> <p>TB THRUST BLOCK</p> <p>TD TEMPERATURE DIFFERENCE</p> <p>TEMP TEMPERATURE</p> <p>TF TRANSFER FAN</p> <p>TK TANK</p> <p>T.O TOP OF DUCT</p> <p>TOP TOP OF PIPE</p> <p>TOS TOP OF STEEL (SUPPORT)</p> <p>TPU THERMAL PROCESSING UNIT</p> <p>TSTAT THERMOSTAT</p> <p>TU TERMINAL UNIT</p> <p>TYP TYPICAL</p> <p>UF ULTRA FILTRATION UNIT</p> <p>UH UNIT HEATER</p> <p>UNO UNLESS NOTED OTHERWISE</p> <p>UR URINAL</p> <p>V VOLT</p> <p>VAC VACUUM</p> <p>VAR VARIABLE</p> <p>VAV VARIABLE AIR VOLUME</p> <p>VD VOLUME DAMPER</p> <p>VEL VELOCITY</p> <p>VERT VERTICAL</p> <p>VP VACUUM PUMP</p> <p>VV VARIABLE VOLUME TERMINAL UNIT</p> <p>VVR VARIABLE VOLUME REHEAT TERMINAL UNIT</p> <p>W WITH</p> <p>W WATT</p> <p>WB WET-BULB</p> <p>WBT WET-BULB TEMPERATURE</p> <p>WC WATER CLOSET</p> <p>W.C. WATER COLUMN</p> <p>WP WEATHERPROOF</p> <p>WS WATER SOFTENER</p> <p>WTR WATER TEMPERATURE RISE</p> <p>WTD WATER TEMPERATURE DROP</p> <p>WX WET EXHAUST</p> <p>XFMR TRANSFORMER</p> <p>YD YARD</p> <p>YR YEAR</p> <p>Z ZONE</p>	<p>(N) NEW</p> <p>N/A NOT APPLICABLE</p> <p>NC NOISE CRITERIA OR NORMALLY CLOSED</p> <p>NIC NOT IN CONTRACT</p> <p>NO NORMALLY OPEN</p> <p>NTS NOT TO SCALE</p> <p>OA OUTSIDE AIR</p> <p>OBD OPPOSABLE BLADE DAMPER</p> <p>OD OUTSIDE DIAMETER</p> <p>OFCI OWNER FURNISHED CONTRACTOR INSTALLED</p> <p>OL OVERLOAD RELAY</p> <p>OSA OUTSIDE SUPPLY AIR</p> <p>OZ OUNCE</p> <p>PD PRESSURE DROP</p> <p>PH PHASE</p> <p>PIV POST INDICATOR VALVE</p> <p>PL PLUG VALVE</p> <p>POC POINT OF CONNECTION</p> <p>PPM PARTS PER MILLION</p> <p>PSI POUNDS PER SQUARE INCH</p> <p>PSIA PSI, ABSOLUTE</p> <p>PSIG PSI, GAUGE</p> <p>QT QUART</p> <p>QTY QUANTITY</p> <p>(R) RELOCATE</p> <p>RA RETURN AIR</p> <p>RAH RECIRC. AIR HANDLER</p> <p>REQ REQUIRED</p> <p>REV REVISION</p> <p>RG RETURN GRILLE</p> <p>RH RELATIVE HUMIDITY</p> <p>RM ROOM</p> <p>RPM REVOLUTIONS PER MINUTE</p> <p>RR RETURN REGISTER</p> <p>RTU ROOF TOP UNIT</p> <p>SA SUPPLY AIR</p> <p>SC SCRUBBER</p> <p>SCFM STANDARD CUBIC FEET/MINUTE</p> <p>SD SECOND SUPPLY DIFFUSER</p> <p>SEC SECOND</p> <p>SG SUPPLY GRILLE</p> <p>SLM STANDARD LITERS/MINUTE</p> <p>SM SHEET METAL</p> <p>SP STATIC PRESSURE</p> <p>SPEC SPECIFICATION</p> <p>SR SUPPLY REGISTER</p> <p>SS STAINLESS STEEL</p> <p>STD STANDARD</p> <p>TB THRUST BLOCK</p> <p>TD TEMPERATURE DIFFERENCE</p> <p>TEMP TEMPERATURE</p> <p>TF TRANSFER FAN</p> <p>TK TANK</p> <p>T.O TOP OF DUCT</p> <p>TOP TOP OF PIPE</p> <p>TOS TOP OF STEEL (SUPPORT)</p> <p>TPU THERMAL PROCESSING UNIT</p> <p>TSTAT THERMOSTAT</p> <p>TU TERMINAL UNIT</p> <p>TYP TYPICAL</p> <p>UF ULTRA FILTRATION UNIT</p> <p>UH UNIT HEATER</p> <p>UNO UNLESS NOTED OTHERWISE</p> <p>UR URINAL</p> <p>V VOLT</p> <p>VAC VACUUM</p> <p>VAR VARIABLE</p> <p>VAV VARIABLE AIR VOLUME</p> <p>VD VOLUME DAMPER</p> <p>VEL VELOCITY</p> <p>VERT VERTICAL</p> <p>VP VACUUM PUMP</p> <p>VV VARIABLE VOLUME TERMINAL UNIT</p> <p>VVR VARIABLE VOLUME REHEAT TERMINAL UNIT</p> <p>W WITH</p> <p>W WATT</p> <p>WB WET-BULB</p> <p>WBT WET-BULB TEMPERATURE</p> <p>WC WATER CLOSET</p> <p>W.C. 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		<p><b>ANNOTATION SYMBOLS</b></p> <p>KEYED NOTE</p> <p>EQUIPMENT TAG</p> <p>REVISION TRIANGLE</p> <p>DETAIL NUMBER</p> <p>DETAIL SYMBOL</p> <p>DRAWING NUMBER WHERE DETAIL APPEARS</p> <p>ELEVATION LETTER</p> <p>ELEVATION SYMBOL</p> <p>DRAWING NUMBER WHERE ELEVATION APPEARS</p> <p>SECTION LETTER</p> <p>SECTION CUT SYMBOL</p> <p>DRAWING NUMBER WHERE SECTION APPEARS</p> <p>NORTH</p> <p>NORTH ARROW</p> <p>FLOW ARROWS</p>					
		<p><b>AIR OUTLET/INLET DESIGNATION</b></p> <p>EXAMPLE:</p> <p>SUPPLY (THROW DIRECTION)</p> <p>FIXTURE IDENTIFICATION SPECIFICATIONS (TYP.)</p> <p>NECK SIZE, INCHES (TYP.)</p> <p>AIRFLOW, CFM (TYP.)</p> <p>(3-WAY SHOWN)</p> <p>RETURN OR EXHAUST</p>					
		<p><b>PIPE DESIGNATIONS</b></p> <p>PREFERRED METHOD</p> <p>ACCEPTABLE METHOD</p> <p>MULTI-LINE DESIGNATION</p> <p>ACCEPTABLE METHOD</p> <p>PIPING IDENTIFIED FROM LEFT TO RIGHT OR TOP TO BOTTOM</p>		<p><b>FIXTURE IDENTIFICATION</b></p> <p>EXAMPLE:</p> <p>NO. IN SPECIFICATIONS</p> <p>FIXTURE TYPE AS SHOWN IN ABBREVIATIONS TABLE</p>			
				<p><b>DUCTWORK SYMBOLS</b></p> <p>SINGLE LINE</p> <p>DOUBLE LINE</p> <p>DESCRIPTION</p> <p>RECTANGULAR DUCT, WIDTH x DEPTH (INCHES)</p> <p>= INTERNALLY LINED</p> <p>ROUND DUCT (INCHES)</p> <p>= INTERNALLY LINED</p> <p>OVAL DUCT (INCHES)</p> <p>FLEXIBLE DUCT</p> <p>FLEXIBLE CONNECTION</p> <p>SUPPLY DUCT</p> <p>EXHAUST OR RETURN DUCT</p> <p>CROSS SECTION THRU ROUND DUCT</p> <p>STANDARD RADIUS ELBOW</p> <p>LONG RADIUS ELBOW</p> <p>SQUARE ELBOW W/TURNING VANES</p> <p>RADIUS ELBOW W/TURNING VANE</p> <p>CEILING DIFFUSERS (ARROWS DENOTE THROW PATTERN)</p> <p>ASSUME 4-WAY THROW UNLESS OTHERWISE INDICATED</p> <p>CEILING EXHAUST REGISTER OR RETURN AIR GRILLE</p> <p>SIDEWALL SUPPLY REGISTER</p> <p>SIDEWALL EXHAUST REGISTER OR RETURN AIR GRILLE/REGISTER</p> <p>ROOM THERMOSTAT, PNEUMATIC OR ELECTRONIC (UNIT CONTROLLED)</p> <p>ROOM THERMOSTAT, PENDENT MOUNT. (UNIT CONTROLLED)</p> <p>ROOM HUMIDISTAT</p> <p>PHOTOHELIC</p> <p>ACTUATED DAMPER</p> <p>HAND/VOLUME DAMPER</p> <p>BLAST GATE DAMPER</p> <p>FIRE DAMPER</p> <p>SMOKE DAMPER</p> <p>FIRE/SMOKE DAMPER</p> <p>BACK DRAFT DAMPER</p> <p>SMOKE DETECTOR</p>		<p><b>GENERAL NOTES</b></p> <p>A THIS IS A GENERAL LEGEND PAGE, NOT ALL ITEMS ON THIS SHEET WILL BE USED.</p> <p>B ALL WORK SHALL CONFORM TO ALL APPLICABLE LOCAL, COUNTY, STATE AND FEDERAL CODES AND REGULATIONS AND OWNER'S STANDARDS.</p> <p>C DRAWINGS ARE DIAGRAMMATIC. DRAWINGS ARE NOT INTENDED TO BE ABSOLUTELY PRECISE, AND DO NOT SPECIFY OR SHOW EVERY OFFSET, FITTING AND COMPONENT. THE PURPOSE OF THE DRAWINGS IS TO INDICATE A SYSTEM CONCEPT. THE MAIN COMPONENTS OF THE SYSTEMS, AND THE APPROXIMATE GEOMETRICAL RELATIONSHIPS. BASED ON THE SYSTEMS CONCEPT, THE MAIN COMPONENTS AND THE GEOMETRICAL RELATIONSHIPS THE CONTRACTOR SHALL PROVIDE ALL OTHER COMPONENTS AND MATERIALS NECESSARY TO MAKE THE SYSTEM FULLY COMPLETE AND OPERATIONS. CONTRACTOR SHALL ROUTE PIPING OR PROVIDE OFFSETS TO AVOID INTERFERENCE WITH STRUCTURAL ELEMENTS, ELECTRICAL PANELS AND JUNCTION BOXES ETC. VERIFY LOCATIONS, DIMENSIONS, EXISTING FLOW DIRECTIONS, ETC. BEFORE CONSTRUCTION. FIELD VERIFY ALL SIZES, DIMENSIONS AND EQUIPMENT LOCATIONS PRIOR TO CONSTRUCTION OR MATERIAL PROCUREMENT.</p> <p>D REPAIR AND PATCH ALL (NEW AND EXISTING) WALL AND FLOOR PENETRATIONS TO MATCH EXISTING FINISH. PROVIDE SLEEVES AND SEAL ALL PENETRATIONS OF FIRE RATED WALLS/ FLOORS IN ACCORDANCE WITH UL SPECIFICATIONS, WITH 3M AND/ OR HILTI FIRE STOPPING MATERIALS APPROVED FOR THE PURPOSE. PROVIDE FIRE DAMPERS WHERE DUCTS PENETRATE FIRE RATED WALLS OR FLOORS.</p> <p>E IN ADDITION TO FIRE-SAFING AND WEATHER SEALING REQUIREMENTS, PROVIDE CHROME ESCUTCHEON RINGS WHERE DUCTS AND PIPES PENETRATE THE FINISHED SIDE OF WALLS AND CEILINGS.</p> <p>F ALL EXTERIOR WALL PENETRATIONS SHALL BE FLASHED AND SEALED WEATHER-TIGHT AND TO A STRUCTURALLY SOUND CONDITIONS.</p> <p>G PROVIDE SUPPORT AND LATERAL BRACING FOR ALL DUCTWORK, PIPING AND EQUIPMENT IN ACCORDANCE WITH SMACNA AND BUILDING CODES. CONTRACTOR SHALL DESIGN AND PROVIDE CALCULATIONS AND SKETCHES AS REQUIRED BY THE LOCAL BUILDING DEPARTMENT.</p> <p>H PROVIDE VOLUME DAMPERS AT NEW AND EXISTING SUPPLY AND EXHAUST DUCT BRANCHES.</p> <p>J FIRE PROTECTION SCOPE IS A DESIGN-BUILD PROJECT BY THE FIRE PROTECTION CONTRACTOR. SPRINKLER DESIGN AND INSTALLATION SHALL BE IN ACCORDANCE WITH NFPA-13 AND THE BUILDING CODES.</p>	
				<p><b>FLOW STREAM DESIGNATION</b></p> <p>CHWS CHILLED WATER SUPPLY</p> <p>CHWR CHILLED WATER RETURN</p> <p>COND CONDENSATE DRAIN</p> <p>CW CITY WATER</p> <p>HWS HEATING WATER SUPPLY</p> <p>HWR HEATING WATER RETURN</p> <p>ICW INDUSTRIAL COLD WATER</p> <p>LPS LOW PRESSURE STEAM</p> <p>NPW NON POTABLE WATER</p>			



No.	Description	Date
0	PERMIT SET	01/11/21
1	BID SET	02/03/21



**BID SET**

Date  
**02/03/21**

Project Number  
**CC20034**

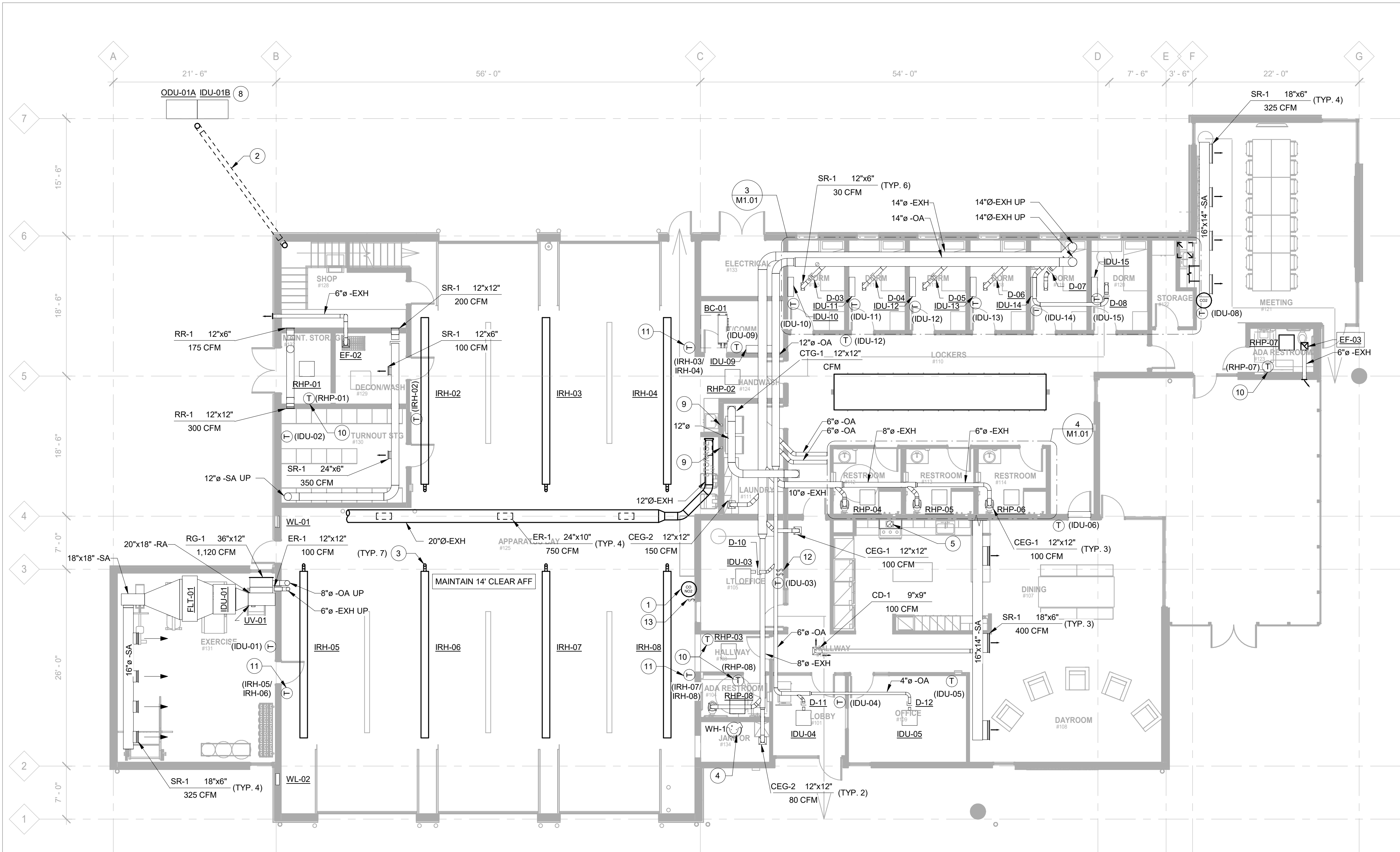
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**MECHANICAL GROUND FLOOR PLAN**

**GENERAL NOTES**

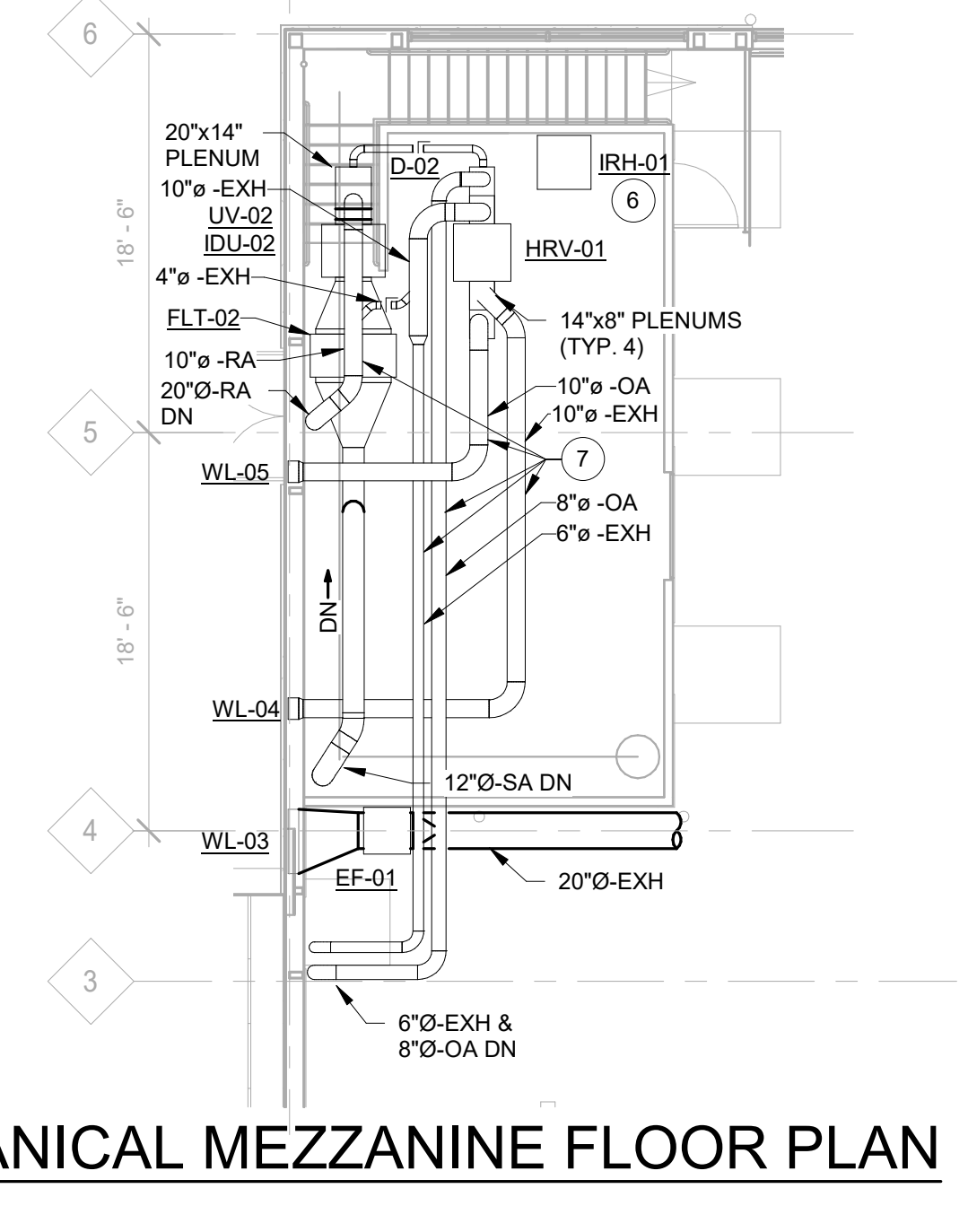
- A SEE SHEET M-0.01 FOR LEGEND, ABBREVIATIONS, & GENERAL NOTES.
- B REFRIGERATION PIPING NOT SHOWN FOR CLARITY.
- C MOUNT IRH-02 THROUGH IRH-08 AT 15' ABOVE FINISHED FLOOR.
- D ROUTE 3/4" CONDENSATE TO NEAREST TAIL PIECE, MOP SINK, OR FLOOR SINK.

**KEYED NOTES**

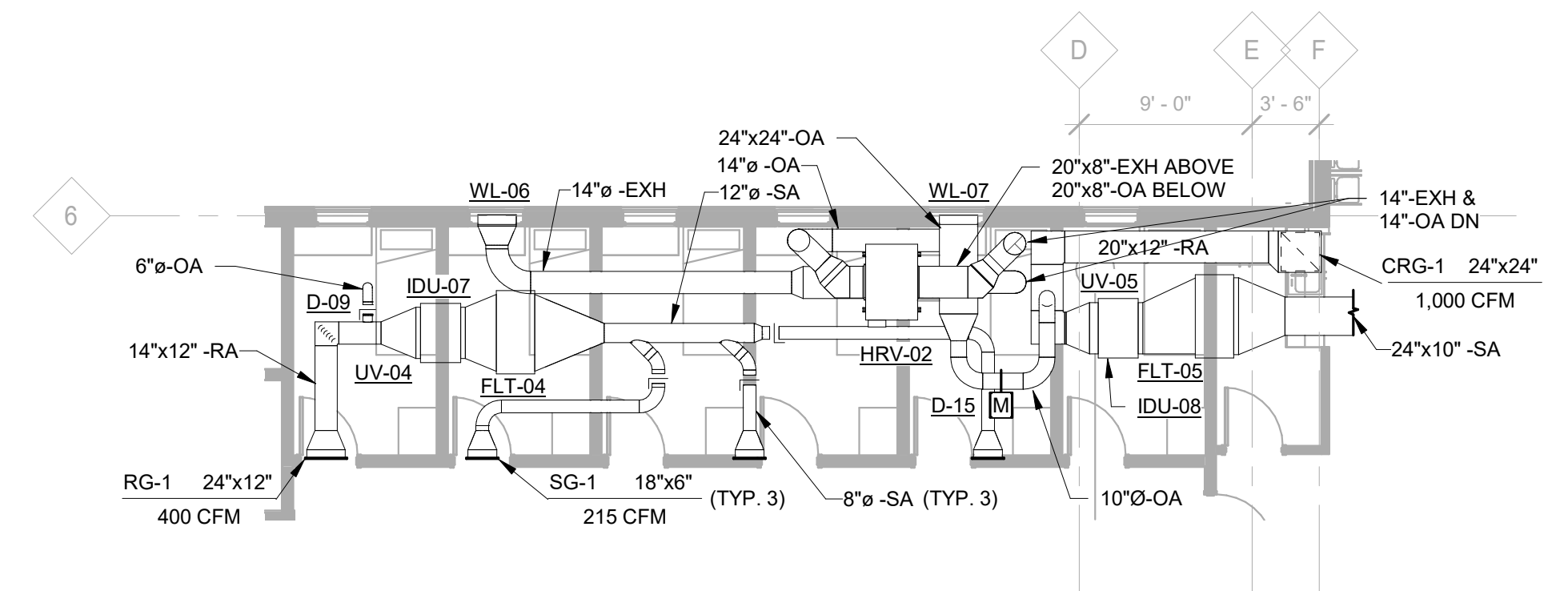
- 1 INSTALL INTEC SGC6-00-CO-NO2 SENSOR OR EQUIVALENT AT 36" ABOVE FINISHED FLOOR.
- 2 INSTALL LIQUID AND SUCTION PIPING INSIDE AN 8" CORRUGATED PIPE UNDERGROUND FROM ODU TO UNDERSIDE OF STAIRS.
- 3 VENT UP AND TERMINATE 4" GAS ON ROOF WITH GAS VENT CAP.
- 4 TERMINATE 3" COMBUSTION AIR AND VENT ON ROOF WITH WATER HEATER MANUFACTURER'S CONCENTRIC ROOF VENT KIT.
- 5 TERMINATE 10" DIAMETER RANGE EXHAUST ON ROOF.
- 6 MOUNT HEATER ON 45 DEGREE ANGLE.
- 7 MOUNT DUCTWORK IN TRUSS SPACE.
- 8 ODU-1A/1B LOCATED ON CONCRETE PAD ADJACENT TO GENERATOR AND TRASH ENCLOSURE.
- 9 PROVIDE DRYERBOX 425 AT 48" ABOVE FINISHED FLOOR TO CENTER OF UNIT. TERMINATE 4" DRYER DUCT ON ROOF.
- 10 PROVIDE LINE VOLTAGE THERMOSTAT.
- 11 PROVIDE LOW VOLTAGE THERMOSTAT AND WIRE PER RADIANT HEATER'S INSTALLATION INSTRUCTIONS FOR MULTIPLE UNIT CONTROL.
- 12 MANUAL OVERRIDE SHUT-OFF SWITCHES FOR HRV-01 AND HRV-02 FOR MANUAL SHUT-OFF DURING ADVERSE OUTDOOR AIR CONDITIONS.
- 13 OVERRIDE SWITCH TO TURN EXHAUST FAN UP TO HIGH SPEED. REQUIRES 10 VOLT DC SIGNAL.



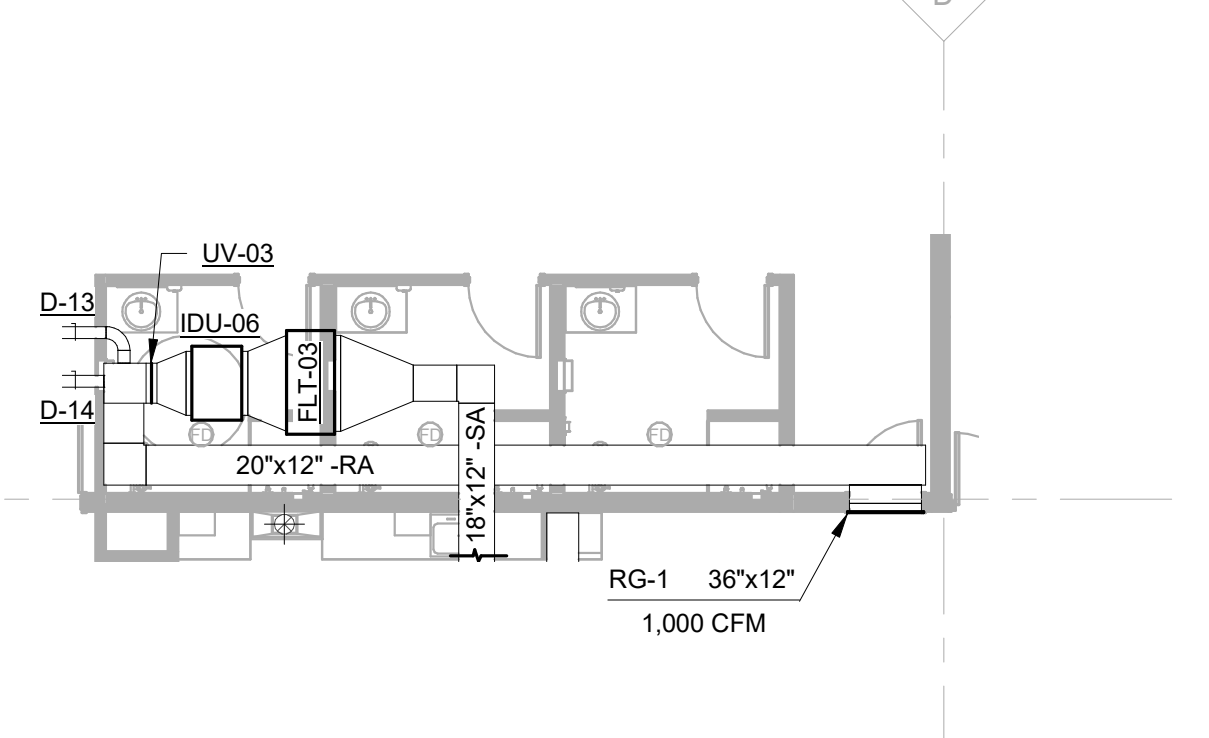
**1 MECHANICAL GROUND FLOOR PLAN**  
1/8" = 1'-0"



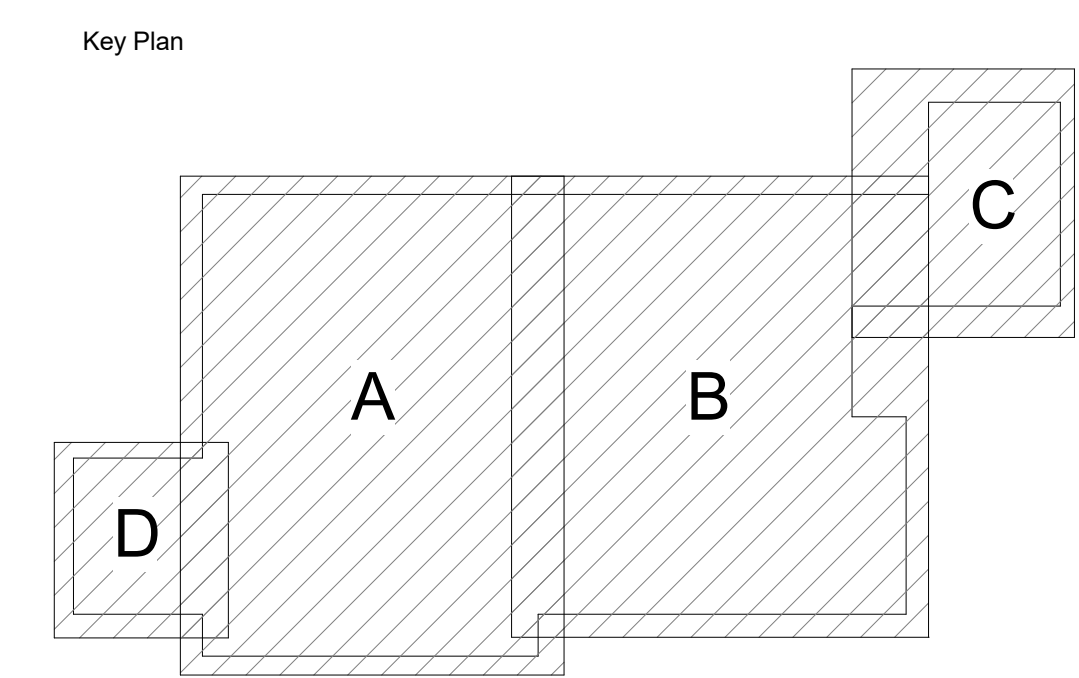
**2 MECHANICAL MEZZANINE FLOOR PLAN**  
1/8" = 1'-0"



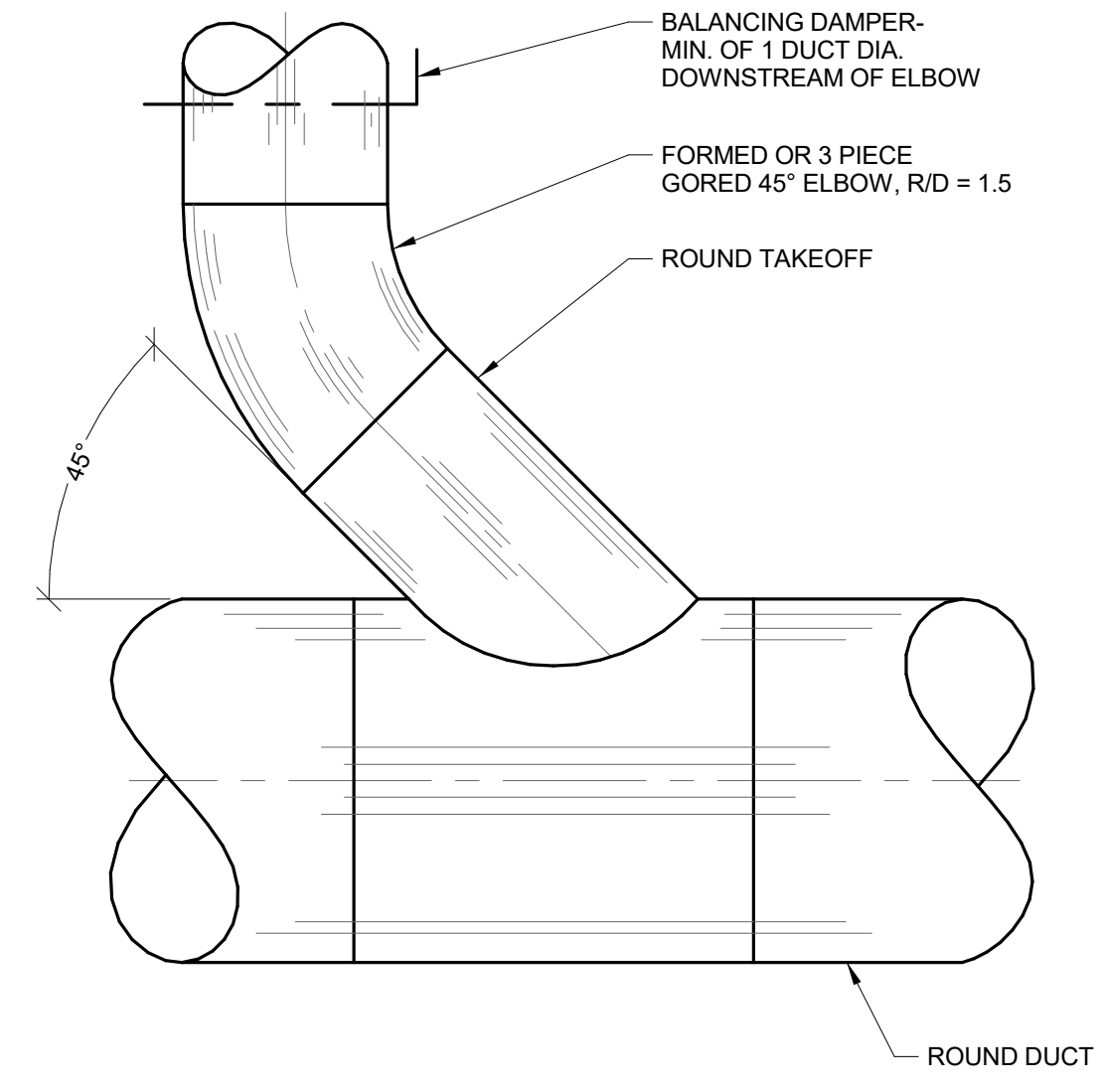
**3 ABOVE DORM AREA PLAN**  
1/8" = 1'-0"



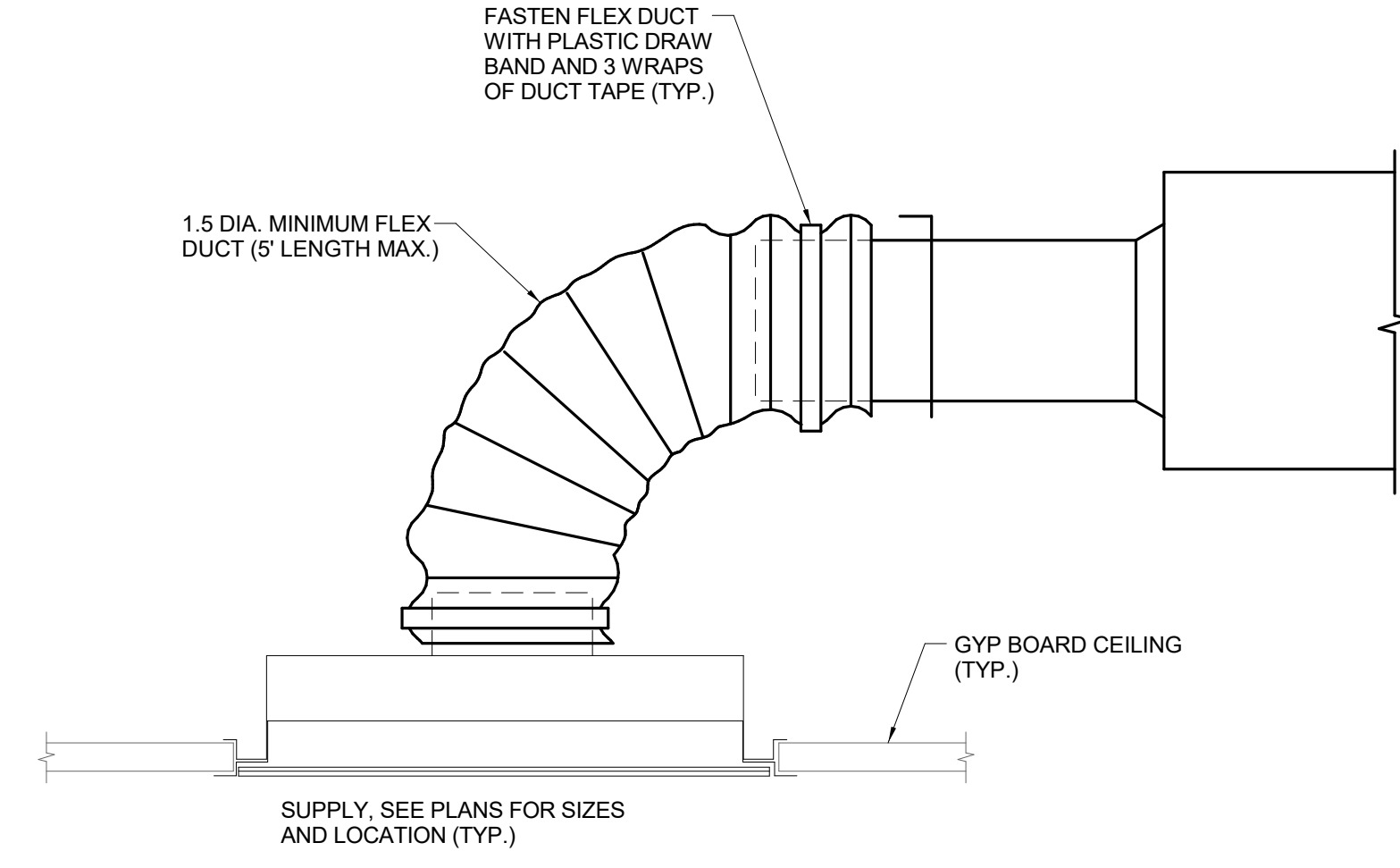
**4 ABOVE RESTROOM AREA PLAN**  
1/8" = 1'-0"



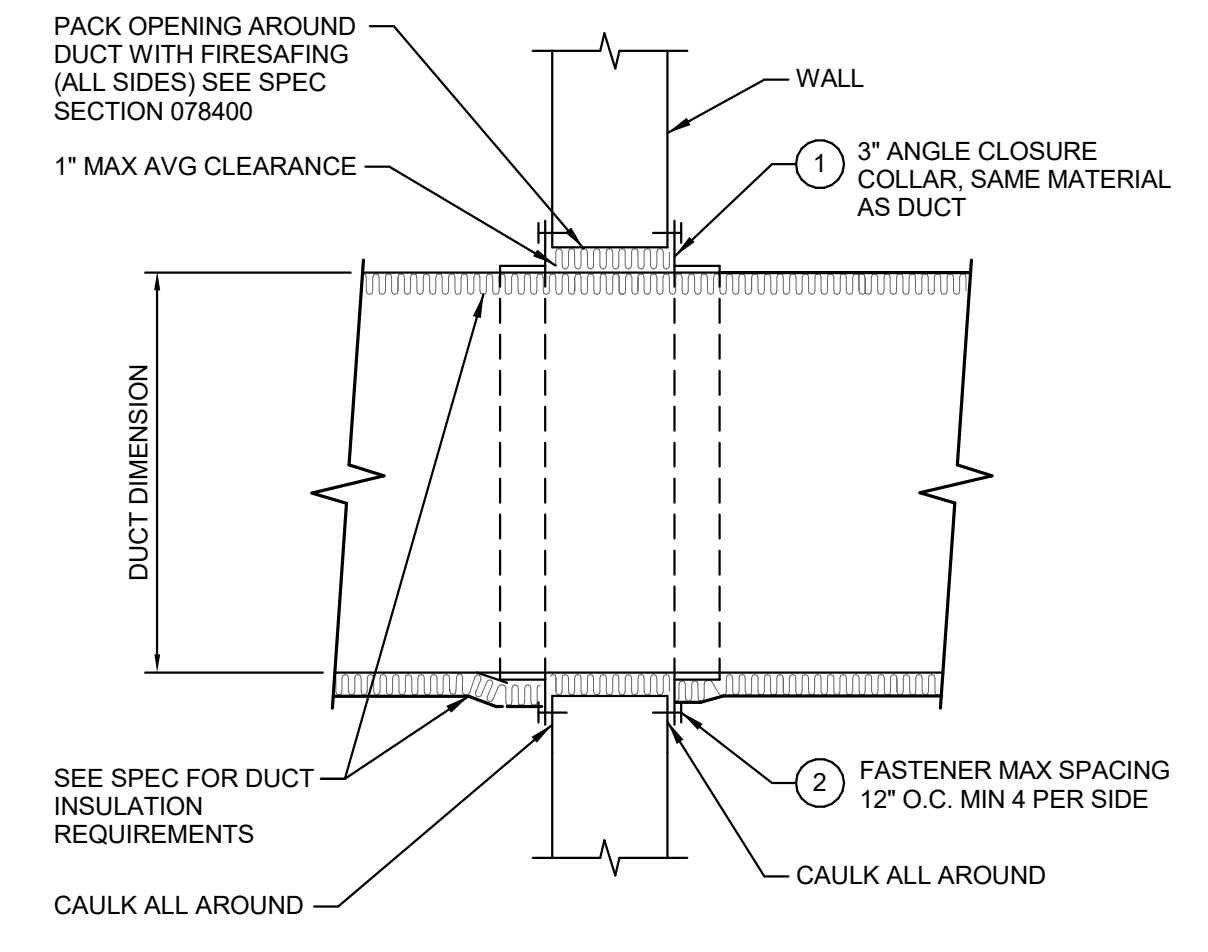
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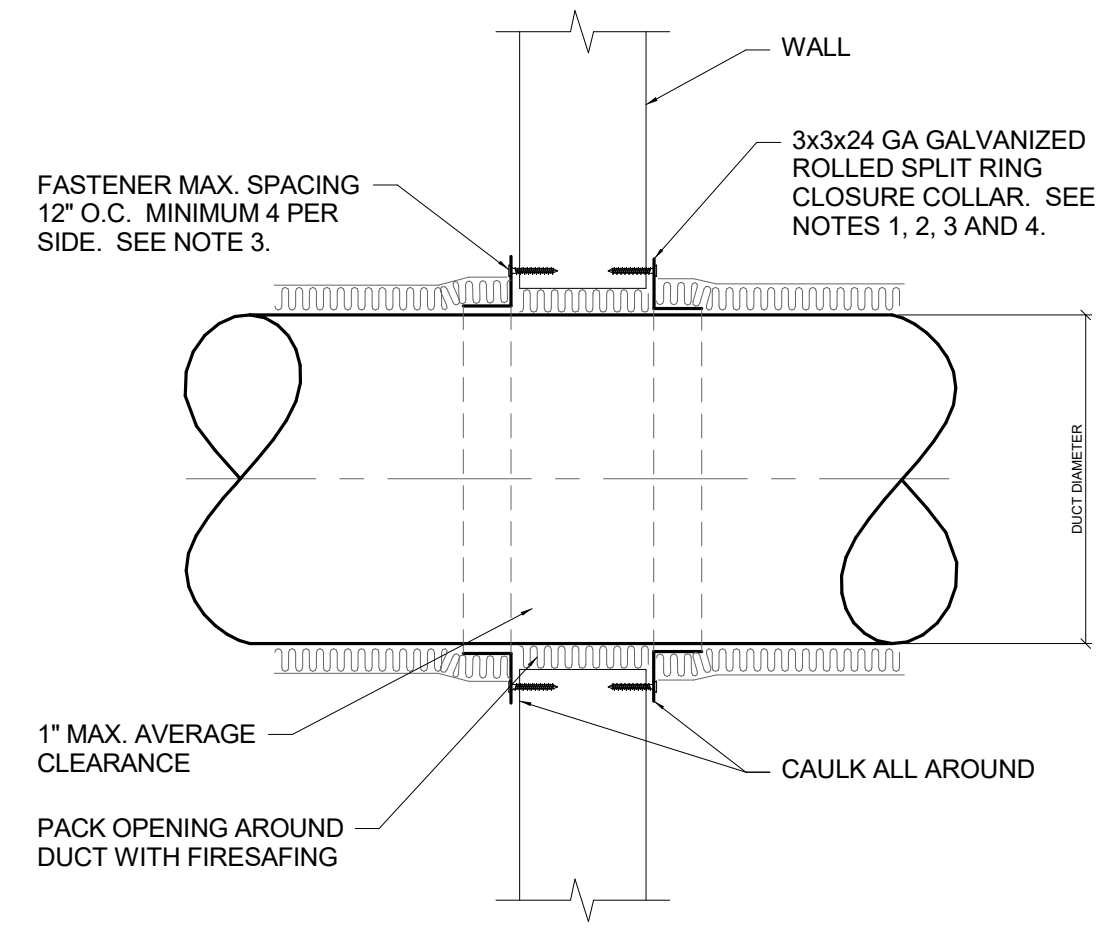
**1 SUPPLY BRANCH - ROUND TO ROUND**  
NOT TO SCALE



**2 DIFFUSER CONNECTION**  
NOT TO SCALE

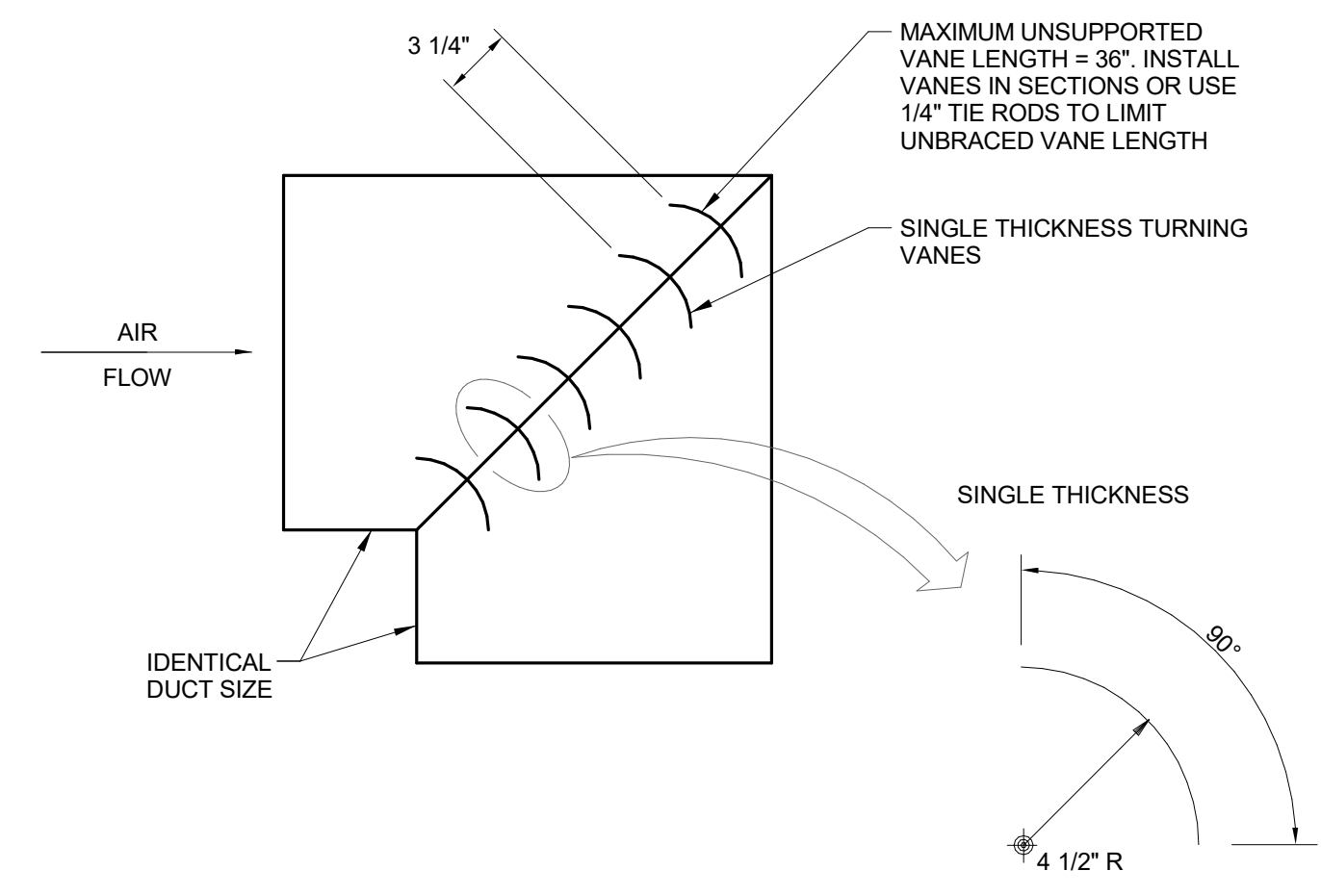


**3 RECTANGULAR DUCT WALL PENETRATION**  
NOT TO SCALE

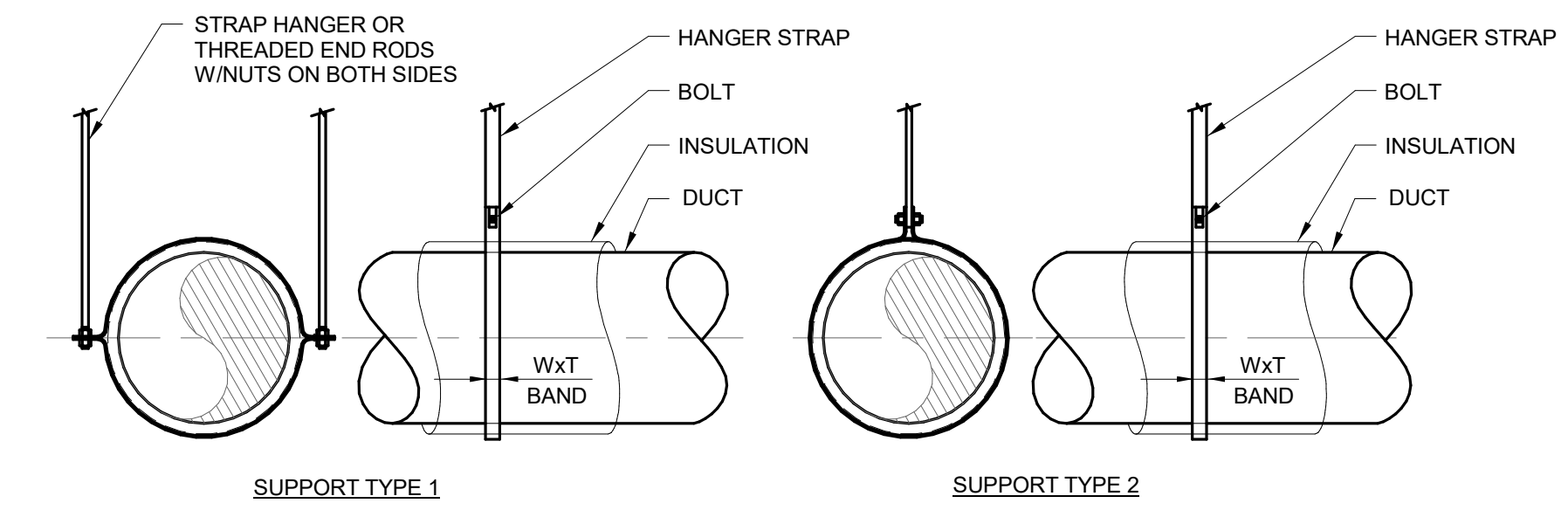


- NOTES:
- CLOSURE COLLARS ARE NOT TO BE USED FOR SUPPORTING DUCT. PROVIDE INDEPENDENT SUPPORT ON EITHER SIDE OF WALL PER SMACNA CONSTRUCTION STANDARDS.
  - WHERE WALL CONSTRUCTION DOES NOT ALLOW FOR ROUND OPENING, PROVIDE SHEETMETAL CLOSURE PIECES FASTENED AND SEALED TO BOTH SIDES OF WALL.
  - FASTENERS TO BE SHEET METAL SCREWS FOR METAL STUD WALLS, POWDER DRIVEN FOR CONCRETE WALLS OR MASONRY ANCHORS FOR MASONRY WALLS.
  - PROVIDE 3"x3" GALVANIZED ANGLE AROUND DUCTWORK FOR RECTANGULAR DUCT.

**4 DUCT WALL PENETRATION**  
NOT TO SCALE



**5 MITER ELBOW WITH TURNING VANES**  
NOT TO SCALE



STAINLESS STEEL DUCT	BAND & STRAP		ROD
	DUCT DIA.	WIDTH (W)	THICKNESS (T)
3 - 12	2 1/2"	1/8"	1/2"
13 - 30	2 1/2"	3/16"	5/8"
31 - 48	2 1/2"	1/4"	3/4"
49 - 72	4"	3/8"	7/8"
73 - 96	6"	1/2"	1"

\* 10' SPACING FOR INDUSTRIAL DUCT

**6 ROUND DUCT SUPPORTS**  
NOT TO SCALE

**Project**

**Millersburg Fire Station 15**  
3800 Old Salem Rd NE  
Millersburg, OR 97321

**Consultant**

**CORBIN**  
CONSULTING ENGINEERS  
Beaverton, OR (503) 645-0176

Revisions

No.	Description	Date
0	PERMIT SET	01/11/21
1	BID SET	02/03/21

Stamp

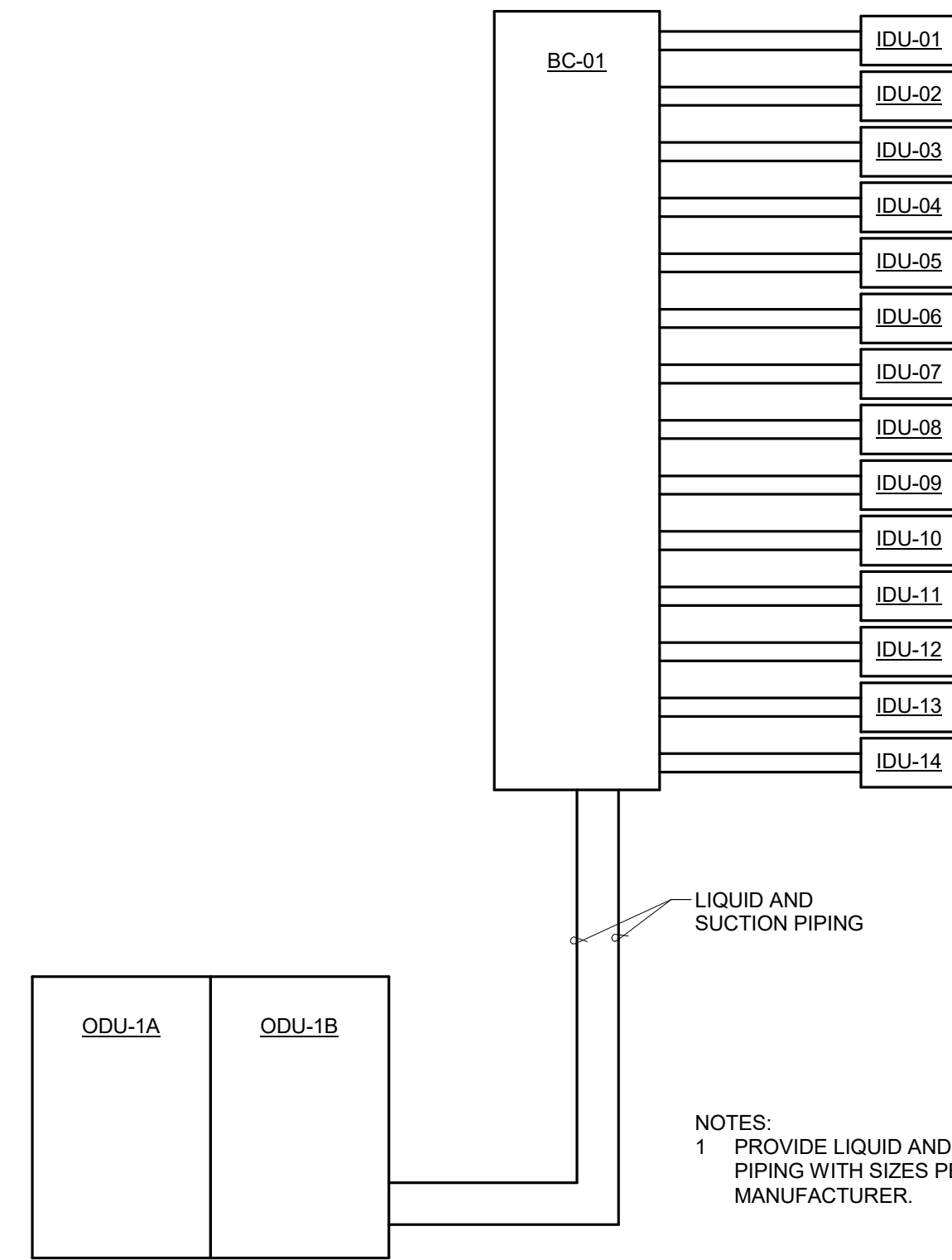
Issuance  
**BID SET**

Date  
**02/03/21**

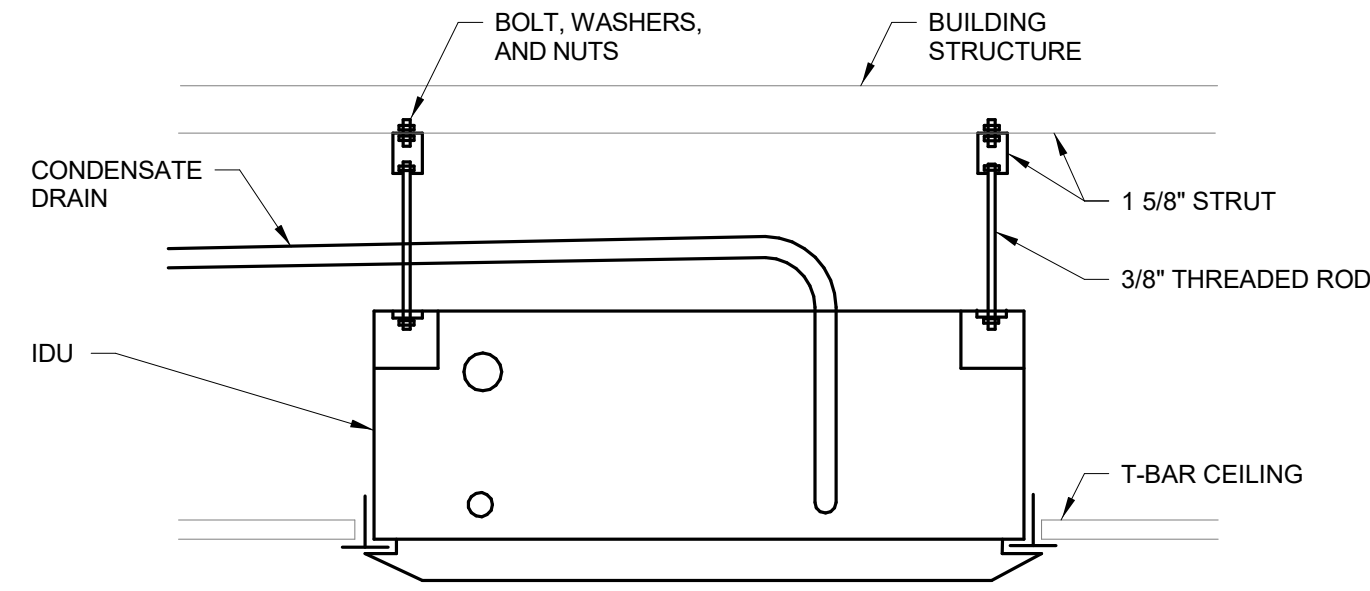
Project Number  
**CC20034**

Drawing Title  
**MECHANICAL DETAILS**

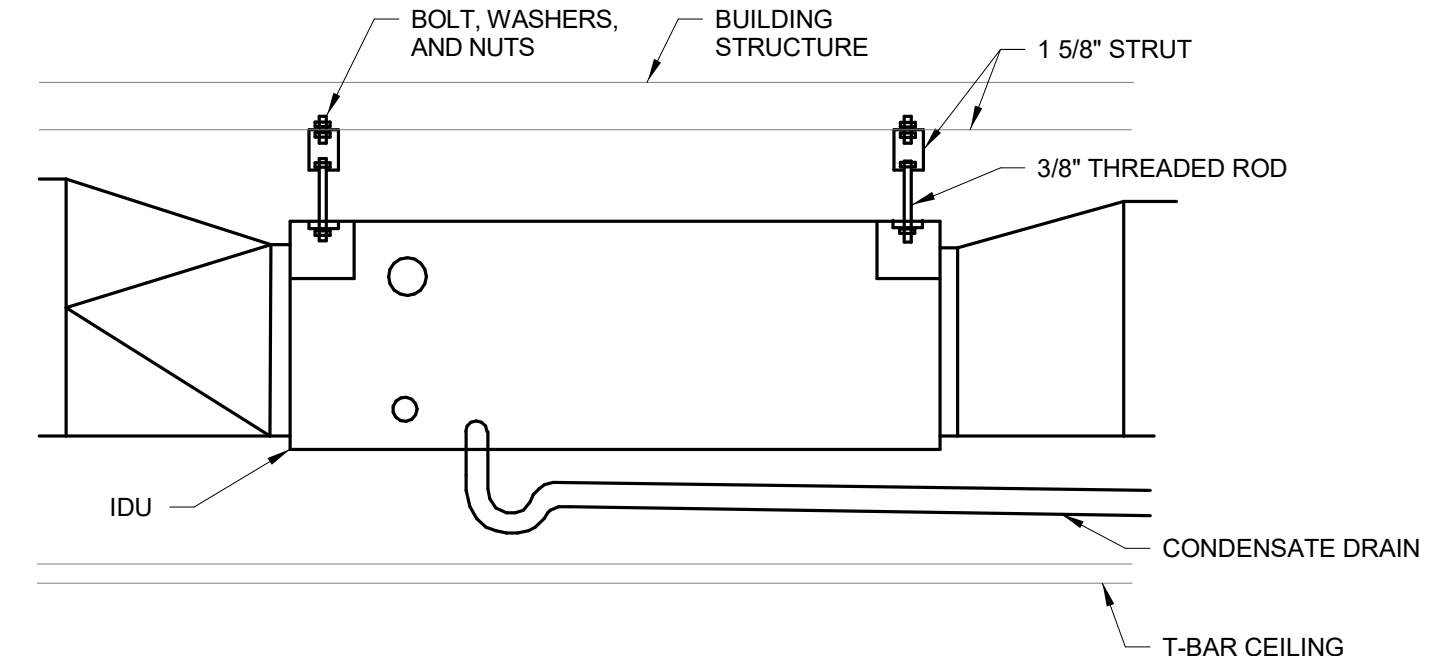
Sheet No  
**M5.01**



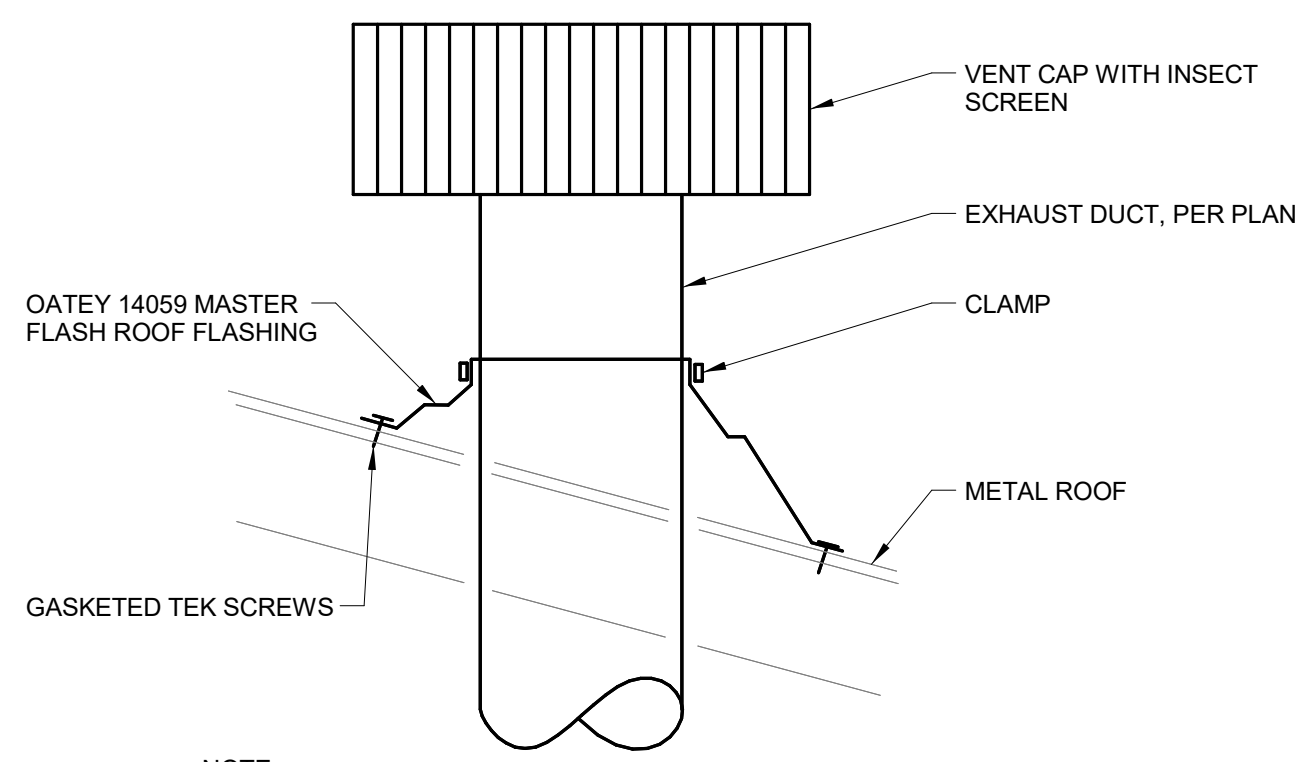
**1** VRF SYSTEM PIPING SCHEMATIC  
NOT TO SCALE



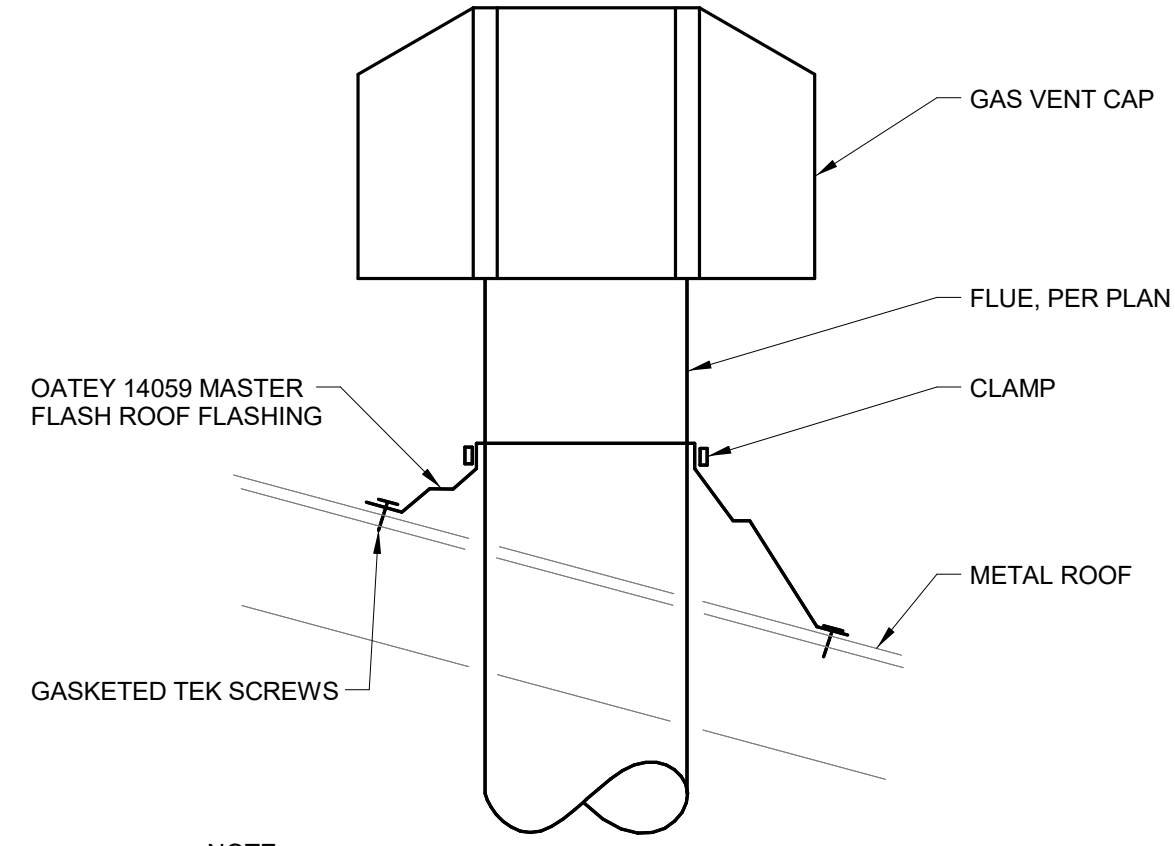
**2** IDU CASSETTE SUPPORT  
NOT TO SCALE



**3** IDU FAN COIL SUPPORT  
NOT TO SCALE



**4** DUCT ROOF PENETRATION  
NOT TO SCALE



**5** GAS VENT ROOF PENETRATION  
NOT TO SCALE

Project

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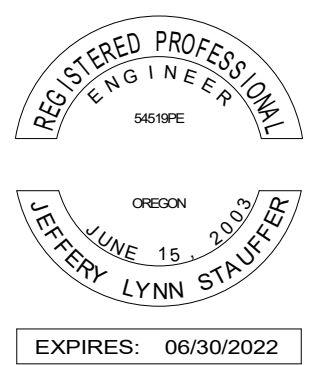
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**MECHANICAL DETAILS**

DATE 2/2/2021 1:03:53 PM  
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No.	Description	Date
0	PERMIT SET	01/11/21
1	BID SET	02/03/21



**BID SET**

**02/03/21**

**CC20034**

**MECHANICAL SCHEDULES**

**M6.02**

**(CONFERENCE ROOM) VENTILATION REQUIREMENT SUMMARY**

ROOM NAME	AZ AREA (FT²)	TABLE 403.3 VALUES			PZ ZONE POP (OCC)	VBZ BREATHING ZONE (CFM)	EZ ZONE EFF.	VOZ ZONE OSA (CFM)	VOT SYSTEM OSA (CFM)	VPZ BALANCED AIRFLOW CFM	REMARKS
		RP PEOPLE AIR RATE	OD # / 1000 FT³	RA AREA AIR RATE							
CONFERENCE	635	5	50	0.06	31.75	197	0.8	247	250	1300	DCV WILL BE PROVIDED

**(HRV-01) VENTILATION REQUIREMENT SUMMARY**

ROOM NAME	AZ AREA (FT²)	TABLE 403.3 VALUES			PZ ZONE POP (OCC)	VBZ BREATHING ZONE (CFM)	EZ ZONE EFF.	VOZ ZONE OSA (CFM)	VOT SYSTEM OSA (CFM)	VPZ BALANCED AIRFLOW CFM	REMARKS
		RP PEOPLE AIR RATE	OD # / 1000 FT³	RA AREA AIR RATE							
EXERCISE	520	20	10	0.06	5.2	136	0.8	170	180	1300	
TURNOUT STAGING	210	5	5	0.06	1.05	18	0.8	23	150	400	
DECONTAMINATION	90	0	0	0.50	0	45	0.8	57	150	100 CFM EXHAUST	
SHOP	190	0	0	0.06	0	12	0.8	15	34	100	

**(HRV-02) VENTILATION REQUIREMENT SUMMARY**

ROOM NAME	AZ AREA (FT²)	TABLE 403.3 VALUES			PZ ZONE POP (OCC)	VBZ BREATHING ZONE (CFM)	EZ ZONE EFF.	VOZ ZONE OSA (CFM)	VOT SYSTEM OSA (CFM)	VPZ BALANCED AIRFLOW CFM	REMARKS
		RP PEOPLE AIR RATE	OD # / 1000 FT³	RA AREA AIR RATE							
DORM	85	5	20	0.06	1.7	14	0.8	18	30	30	
DORM	85	5	20	0.06	1.7	14	0.8	18	30	30	
DORM	85	5	20	0.06	1.7	14	0.8	18	30	30	
DORM	85	5	20	0.06	1.7	14	0.8	18	30	30	
DORM	85	5	20	0.06	1.7	14	0.8	18	30	30	
DORM	85	5	20	0.06	1.7	14	0.8	18	30	30	
LOCKER	755	0	0	0.25	0	189	0.8	237	240	650	
OFFICE	150	5	5	0.06	0.75	13	0.8	17	30	230	
LOBBY	105	5	10	0.06	1.05	12	0.8	15	30	230	
OFFICE	175	5	5	0.06	0.875	15	0.8	19	30	230	
HALLWAY	232	0	0	0.06	0	14	0.8	18	20	100	
KITCHEN	260	7.5	20	0.12	5.2	71	0.8	89	90	0	KITCHEN EXHAUST THRU HOOD
DINING/LOUNGE	815	7.5	30	0.06	24.45	233	0.8	292	300	1200	

**EXHAUST FAN SCHEDULE**

TAG NUMBER	LOCATION	SERVICE	TYPE	FAN CLASS	CFM	TSP (IN WG)	FAN RPM	ELECTRICAL				DRIVE	VIB. ISOLATION		DESIGN BASIS				REMARKS
								MOTOR HP	MAX MOTOR BHP	V	Ø		TYPE	DEF. (IN)	WEIGHT (LBS)	MAX dBA	MFG.	MODEL	
EF-01	APPARATUS BAY	EXHAUST	CENT	1	3,000	0.51	1164	0.56	-	110	1	DIRECT	-	-	150	59	GREENHECK	SQ-180-VG	1, 2
EF-02	DECONWASH	EXHAUST	CENT	1	100	0.25	650	0.10	-	110	1	DIRECT	-	-	15	38	GREENHECK	SP-B110ES	3
EF-03	RESTROOM 123	EXHAUST	CENT	1	75	0.25	749	0.10	-	110	1	DIRECT	-	-	15	25	GREENHECK	SP-B110	3

NOTES:

1. PROVIDE WITH MODULATING SPEED CONTROL WIRE HARNESS.
2. APPROXIMATELY 3.8 FLA - USE 20 MOCPP.
3. PROVIDE WITH SOLID STATE SPEED CONTROL FOR BALANCING.

**ULTRAVIOLET DUCT DISINFECTANT SCHEDULE**

TAG	SERVICE	LAMP WATT	ELECTRICAL						WEIGHT LBS	DIMENSIONS			DESIGN BASIS		MODEL	REMARKS
			V	Ø	HZ	MCA	MOCPP	MIN SCCR		H (IN)	W (IN)	D (IN)	MFG.			
UV-01	IDU-01	15	208	1	60	0.04	-	5K	15	10	8	18	LARSEN	IND-HVAC-DTW-UVC-R1-SS-18-2L-220V	1, 2, 3	
UV-02	IDU-02	15	208	1	60	0.04	-	5K	15	10	8	18	LARSEN	IND-HVAC-DTW-UVC-R1-SS-18-2L-220V	1, 2, 3	
UV-03	IDU-06	15	208	1	60	0.04	-	5K	15	10	8	18	LARSEN	IND-HVAC-DTW-UVC-R1-SS-18-2L-220V	1, 2, 3	
UV-04	IDU-07	7.2	208	1	60	0.02	-	5K	15	10	8	12	LARSEN	IND-HVAC-DTW-UVC-R1-SS-12-2L-220V	1, 2, 3	
UV-05	IDU-08	15	208	1	60	0.04	-	5K	15	10	8	18	LARSEN	IND-HVAC-DTW-UVC-R1-SS-18-2L-220V	1, 2, 3	

NOTES:

1. PROVIDE WITH POWER CORD.
2. TWO LAMP MODEL.
2. DEPTH INDICATES LAMP LENGTH.