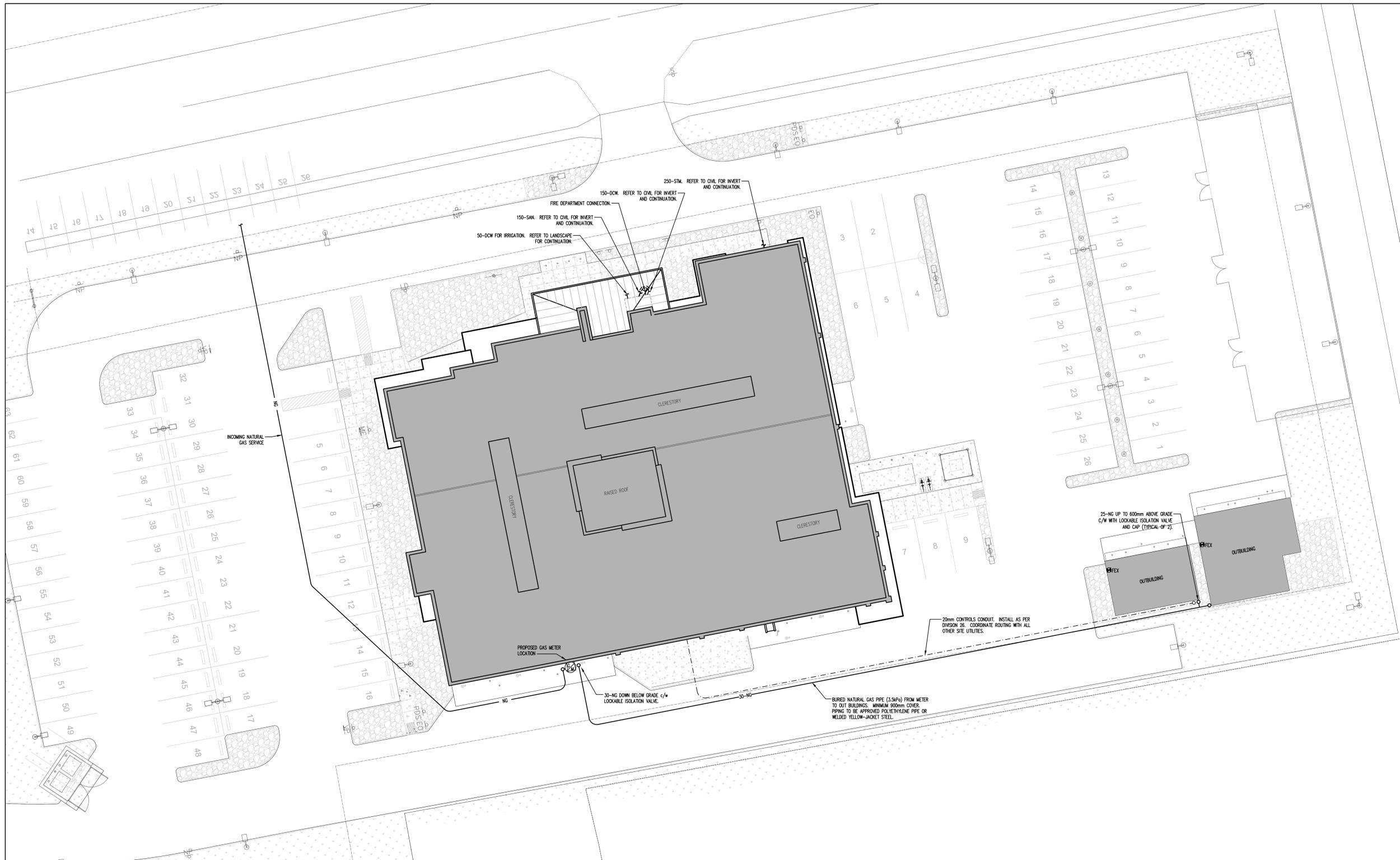


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MECHANICAL SITE PLAN
SCALE: 1:200

MECHANICAL LEGEND	
--- DW --- DOMESTIC COLD WATER	--- DHW --- DOMESTIC HOT WATER
--- DHWR --- DOMESTIC HOT WATER REDUC.	--- F --- FIRE WATER
--- GLYS --- HEATING GLYCOL SUPPLY	--- GLYR --- HEATING GLYCOL RETURN
--- CH-GLYS --- CHILLED GLYCOL SUPPLY	--- CH-GLYR --- CHILLED GLYCOL RETURN
--- HWS --- HEATING WATER SUPPLY	--- HWR --- HEATING WATER RETURN
--- CH-CWS --- CHILLED WATER SUPPLY	--- CH-CWR --- CHILLED WATER RETURN
--- NG --- NATURAL GAS	--- LPS --- LOW PRESSURE STEAM
--- SAN --- SANITARY	--- SAN --- UNDERGROUND SANITARY
--- SP --- SPRINKLER LINE	--- ST --- STORM WATER
--- ST --- UNDERGROUND STORM WATER	--- BV --- BALL VALVE
--- G --- GATE VALVE	--- CV --- CHECK VALVE
--- FV --- FLUX VALVE	--- FC --- FLEXIBLE CONNECTION
--- CBV --- CIRCUIT BALANCING VALVE	--- PRV --- PRESSURE REDUCING VALVE
--- Y --- Y TYPE STRAINER	--- CV --- CONTROL VALVE
--- UN --- UNION	--- BPP --- BACKFLOW PREVENTOR
--- PUMP --- PUMP	--- FLOOR DRAIN --- FLOOR DRAIN
--- ROOF DRAIN --- ROOF DRAIN	--- THERMOSTAT --- THERMOSTAT
--- THERMOSTAT WITH GUARD --- THERMOSTAT WITH GUARD	--- TI --- TEMPERATURE INDICATOR
--- TT --- TEMPERATURE TRANSMITTER	--- TS --- TEMPERATURE SENSOR
--- PI --- PRESSURE INDICATOR	--- PT --- PRESSURE TRANSMITTER
--- ES --- EQUIPMENT SWITCH	--- WM --- WATER METER
--- GM --- GAS METER	--- FE --- FIRE EXTINGUISHER
--- FE --- FIRE EXTINGUISHER CABINET	--- FDC --- FIRE DEPARTMENT CONNECTION (SIAMES)
--- PD --- PIPE DROP	--- PR --- PIPE ROSE
--- EC --- END CAP	--- PTD --- PIPE TEE DOWN / PIPE TEE UP
--- D --- DRAIN C/W HOSE BBS AND CAP	--- C --- CLEANOUT
--- FD --- FLOOR CLEANOUT	--- HB --- HOSE BBS
--- NFHB --- NON-FREEZE HOSE BBS	--- P --- P-TRAP
--- SA --- SUPPLY AIR	--- RA --- RETURN AIR
--- EA --- EXHAUST AIR	--- RD --- ROUND DUCT
--- SD --- SMOKE/FIRE DAMPER	--- MD --- MOTORIZED DAMPER
--- BD --- BACKDRAFT DAMPER	--- BD --- BALANCING DAMPER
--- FDC --- FLEXIBLE DUCT CONNECTION	--- AI --- ACOUSTIC INSULATION
--- TV --- TURNING VANES	
--- AHU --- AIR HANDLING UNIT	--- B --- BOILER
--- C --- CLEANOUT	--- CU --- CONDENSING UNIT
--- DF --- DRINKING FOUNTAIN	--- DMW --- DOMESTIC WATER HEATER
--- E/A --- EXHAUST AIR	--- EF --- EXHAUST FAN
--- FE --- FIRE EXTINGUISHER	--- FF --- FORCE FLOW
--- FM --- FLOW METER	--- HC --- HEATING COIL
--- HE --- HEAT EXCHANGER	--- HU --- HUMIDIFIER
--- LAV --- LAVATORY	--- MS --- MOP SINK
--- O/A --- OUTDOOR AIR	--- P --- PUMP
--- R/A --- RETURN AIR	--- RF --- RETURN FAN
--- RH --- RANGE HOOD	--- RP --- RADIANT PANEL
--- S/A --- SUPPLY AIR	--- SF --- SUPPLY FAN
--- SH --- SHOWER	--- SK --- SINK
--- T/A --- TRANSFER AIR	--- TK --- TANK
--- WC --- WATER CLOSET	--- UH --- UNIT HEATER
--- UR --- URINAL	

GAS LOAD INFORMATION		
EQUIPMENT	INPUT CMH (CFH)	MINIMUM DISTANCE BETWEEN GAS LINE AND UNDERGROUND SERVICES - 2 METERS (6 FEET)
BOILER B-1	11.33 (400)	INCOMING GAS LINE AND MECHANICAL ROOM FLOOR.
BOILER B-2	11.33 (400)	
DOMESTIC HOT WATER DHW-1	11.33 (400)	152mm (6 INCHES)
DOMESTIC HOT WATER DHW-2	11.33 (400)	
HUMIDIFIER HU-1	2.83 (100)	
OUTDOOR PATIO CONNECTION	1.7 (60)	
UNIT HEATER UH-1	1.84 (65)	
UNIT HEATER UH-2	1.84 (65)	
UNIT HEATER UH-3	1.84 (65)	
UNIT HEATER UH-4	1.84 (65)	
UNIT HEATER UH-5	1.84 (65)	
UNIT HEATER UH-6	1.84 (65)	
FUTURE OUT BUILDING EQUIPMENT	5.66 (200)	
TOTAL	66.55 (2350)	

FOR MECHANICAL CONTRACTOR

PRIOR TO COMMENCING INSTALLATION WITHIN THE BUILDING, THE MECHANICAL CONTRACTOR SHALL CHECK THE LOCATION AND INVERT ELEVATIONS OF ALL SERVICE LINES INCLUDING SANITARY SEWER, STORM SEWER, WATER MAINS, AND GAS MAINS WITH LOCAL AUTHORITIES TO INSURE THAT THESE SERVICES CAN BE INSTALLED AS SHOWN.

ADDITIONAL NOTES:
GAS LINES SIZING WITHIN BUILDING BASED ON CASH LOADS.

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No.	Description	Date	By
0	ISSUED FOR TENDER	2018.11.30	CK

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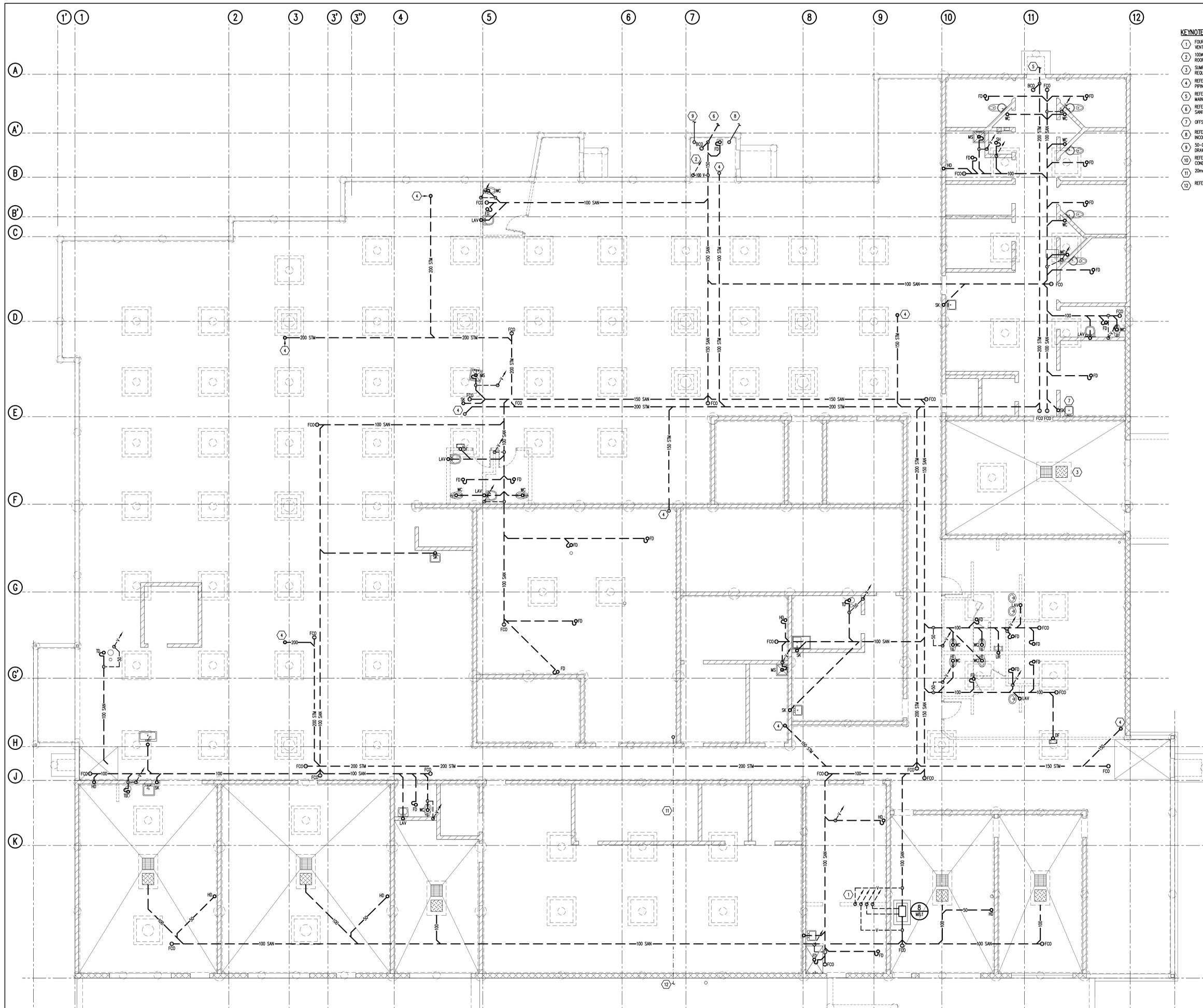
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Project: **COALDALE PROTECTIVE SERVICES BUILDING**

Scale	AS NOTED	Designed By	OK
Project No.	33966.00	Drawn By	CK
Date	2018.11.30	Checked By	PC

Drawing Title: **MECHANICAL SITE PLAN AND LEGEND**

Drawing No. **M1.0**



KEYNOTES:

- ① FOUR 50mm VENTS FROM OIL INTERCEPTOR UP TO 100mm VENT TERMINAL THRU ROOF.
- ② 100mm BUILDING VENT TO 100mm VENT TERMINAL THRU ROOF.
- ③ SUMP PIT TO BE MANUALLY PUMPED OUT. NO DRAINAGE REQUIRED.
- ④ REFER TO DRAWING M2.1 FOR CONTINUATION OF STORM PIPING LEADER.
- ⑤ REFER TO CIVIL DRAWINGS FOR CONTINUATION OF SANITARY MAIN PIPING.
- ⑥ REFER TO CIVIL DRAWINGS FOR CONTINUATION OF SANITARY MAIN PIPING.
- ⑦ OFFSET DRAIN PIPE IN WALL ABOVE TO AVOID PILE.
- ⑧ REFER TO CIVIL DRAWINGS FOR CONTINUATION OF INCOMING WATER MAIN PIPING.
- ⑨ 50-DOW PIPE FOR IRRIGATION. REFER TO LANDSCAPE DRAWINGS FOR CONTINUATION.
- ⑩ REFER TO DRAWING M2.1 FOR CONTINUATION OF CONDENSATE DRAIN FROM UH-6.
- ⑪ 20mm CONTROLS CONDUIT TO OUT BUILDINGS.
- ⑫ REFER TO MECHANICAL SITE PLAN FOR CONTINUATION.

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GENERAL NOTES:

1. ALL BELOW GRADE PIPING TO BE SUSPENDED FROM MAIN FLOOR STRUCTURAL SLAB.
2. ALL WORK SHALL BE AS PER NATIONAL, PROVINCIAL, AND MUNICIPAL CODES, REGULATIONS AND AUTHORITIES HAVING JURISDICTION.
3. COORDINATE UNDERGROUND SANITARY AND STORM PIPING LAYOUT WITH OTHER TRADES ON SITE PRIOR TO INSTALLATION.
4. CONTRACTOR TO CONFIRM ALL INVERTS PRIOR TO INSTALLATION OF PIPING.
5. SLOPE ALL UNDERGROUND SANITARY PIPING AT 2% UNLESS OTHERWISE NOTED.
6. SLEEVE ALL PIPES THRU CONCRETE AND FIRE RATED WALLS.
7. ALL FLOOR DRAIN AND SHOWER DRAIN TO BE CONNECTED TO TRAP PRIMERS.
8. MAIN FLOOR ELEVATION = 100.00m
9. VENT ALL PLUMBING AS PER THE LATEST EDITION OF THE NATIONAL PLUMBING CODE.
10. THE OWNER OR A REPRESENTATIVE(S) SHALL HAVE ACCESS TO THE WORK IN PROGRESS AT ALL TIMES AND SHALL RESERVE THE RIGHT TO INSPECT THIS WORK AT ANY TIME FOR COMPLIANCE WITH ALL REQUIREMENTS OF THE SPECIFICATION. HE OR SHE SHALL ALSO RESERVE THE RIGHT TO APPROVE EACH PHASE OF THE WORK BEFORE FURTHER WORK MAY BE DONE. TO HALT ALL WORK DEEMED TO BE IMPROPER OR NOT IN COMPLIANCE WITH THE PROJECT, AND TO REQUIRE THAT THE CONTRACTOR PROMPTLY CORRECT ALL IMPROPER PRACTICES AND DEFECTIVE OR DEFICIENT WORK.

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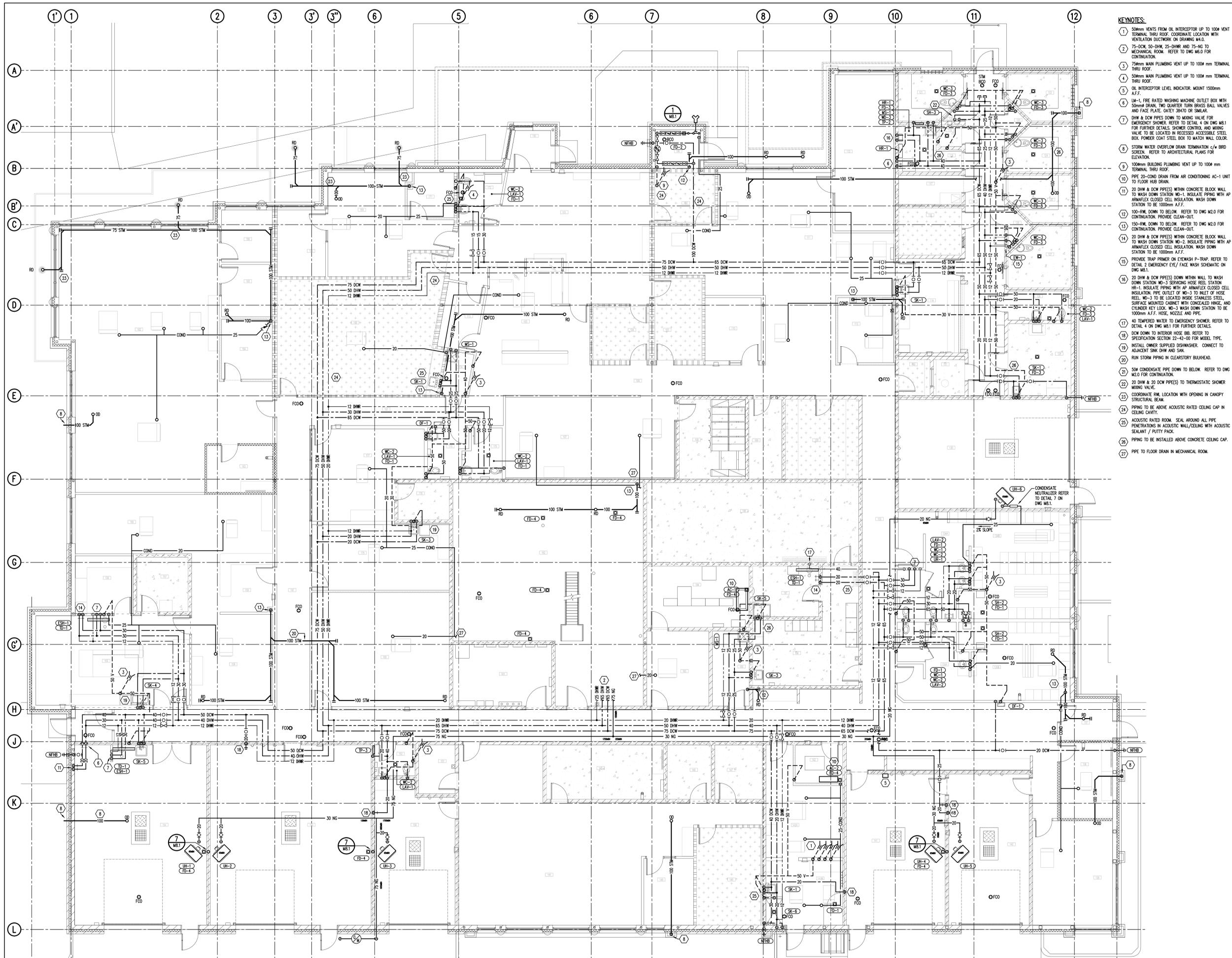
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Project
COALDALE PROTECTIVE SERVICES BUILDING

Scale	AS NOTED	Designed By	OK
Project No.	33966.00	Drawn By	OK
Date	2019-01-09	Checked By	PC

Drawing Title
MECHANICAL FOUNDATION PIPING

Drawing No.

M2.0



- KEYNOTES:**
- 50mm VENTS FROM OIL INTERCEPTOR UP TO 1000mm TERMINAL THRU ROOF. COORDINATE LOCATION WITH VENTILATION CONTRACTOR ON DRAWING M4.0
 - 75-DCW, 50-DHW, 25-DHWR AND 75-NG TO MECHANICAL ROOM. REFER TO DWG M6.0 FOR CONTINUATION
 - 75mm MAIN PLUMBING VENT UP TO 1000mm TERMINAL THRU ROOF.
 - 50mm MAIN PLUMBING VENT UP TO 1000mm TERMINAL THRU ROOF.
 - OIL INTERCEPTOR LEVEL INDICATOR. MOUNT 1500mm A.F.F.
 - LM-1, FIRE RATED WASHING MACHINE OUTLET BOX WITH 50mm# DRAIN, TWO QUARTER TURN BRASS BALL VALVES AND FACE PLATE. GATEY 30470 OR SIMILAR.
 - DHW & DCW PIPES DOWN TO MIXING VALVE FOR EMERGENCY SHOWER. REFER TO DETAIL 4 ON DWG M8.1 FOR FURTHER DETAILS. SHOWER CONTROL AND MIXING VALVE TO BE LOCATED IN RECESSED ACCESSIBLE STEEL BOX. POWDER COAT STEEL BOX TO MATCH WALL COLOR. REFER TO ARCHITECTURAL PLANS FOR ELEVATION
 - STORM WATER OVERFLOW DRAIN TERMINATION c/w BIRD SCREEN. REFER TO ARCHITECTURAL PLANS FOR ELEVATION
 - 100mm BUILDING PLUMBING VENT UP TO 1000mm TERMINAL THRU ROOF.
 - PIPE 20-COND DRAIN FROM AIR CONDITIONING AC-1 UNIT TO FLOOR HUB DRAIN.
 - 20 DHW & DCW PIPES WITHIN CONCRETE BLOCK WALL TO WASH DOWN STATION WD-1. INSULATE PIPING WITH AP ARMALFLEX CLOSED CELL INSULATION. WASH DOWN STATION TO BE 1000mm A.F.F.
 - 100-RW, DOWN TO BELOW. REFER TO DWG M2.0 FOR CONTINUATION. PROVIDE CLEAN-OUT.
 - 150-RW, DOWN TO BELOW. REFER TO DWG M2.0 FOR CONTINUATION. PROVIDE CLEAN-OUT.
 - 20 DHW & DCW PIPES WITHIN CONCRETE BLOCK WALL TO WASH DOWN STATION WD-2. INSULATE PIPING WITH AP ARMALFLEX CLOSED CELL INSULATION. WASH DOWN STATION TO BE 1000mm A.F.F.
 - PROVIDE TRAP PRIMER ON EYEWASH -TRAP. REFER TO DETAIL 2 EMERGENCY EYE / FACE WASH SCHEMATIC ON DWG M8.1.
 - 20 DHW & DCW PIPES DOWN WITH WALL TO WASH DOWN STATION WD-3 SERVING HOSE REEL. STATION HR-1. INSULATE PIPING WITH AP ARMALFLEX CLOSED CELL INSULATION. PIPE OUTLET OF WD-3 TO INLET OF HOSE REEL. WD-3 TO BE LOCATED INSIDE STAINLESS STEEL, SURFACE MOUNTED CABINET WITH CONCEALED HINGE, AND CYLINDER KEY LOCK. WD-3 WASH DOWN STATION TO BE 1000mm A.F.F. HOSE, NOZZLE AND PIPE.
 - 40 TEMPERED WATER TO EMERGENCY SHOWER. REFER TO DETAIL 4 ON DWG M8.1 FOR FURTHER DETAILS.
 - DOWN DOWN TO INTERIOR HOSE REEL. REFER TO SPECIFICATION SECTION 22-42-30 FOR MODEL TYPE.
 - INSTALL OWNER SUPPLIED DISHWASHER. CONNECT TO ADJACENT SINK, DHW AND SAN.
 - RUN STORM PIPING IN CLEARSTORY BULKHEAD.
 - 50# CONDENSATE PIPE DOWN TO BELOW. REFER TO DWG M2.0 FOR CONTINUATION.
 - 20 DHW & 20 DCW PIPES TO THERMOSTATIC SHOWER MIXING VALVE.
 - COORDINATE R/W LOCATION WITH OPENING IN CANOPY STRUCTURAL BEAM
 - PIPING TO BE ABOVE ACUSTIC RATED CEILING CAP IN CEILING CAVITY.
 - ACUSTIC RATED ROOM. SEAL AROUND ALL PIPE PENETRATIONS IN ACUSTIC WALL/CEILING WITH ACUSTIC SEALANT / PUTTY PACK.
 - PIPING TO BE INSTALLED ABOVE CONCRETE CEILING CAP.
 - PIPE TO FLOOR DRAIN IN MECHANICAL ROOM.

GENERAL NOTES:

- SET BACK ALL PLUMBING VENT STACKS A MINIMUM 3 METERS FROM EXTERIOR BUILDING WALL AND OR CLEAR STORY WINDOW. GOAL IS TO NOT SEE VENT FROM THE GROUND OR THRU CRESTORY WINDOW.
- NO OVERHEAD PLUMBING IN ROOMS 108, 142, 145, 146, 147, 157, 178, 184, 186, 187, 188, AND 189.
- OVERFLOW DRAINS TO BE ROUTED AS PER ARCHITECTURAL ELEVATIONS.
- VENT ALL PLUMBING AS PER THE LATEST EDITION OF THE NATIONAL PLUMBING CODE.
- ALL PIPING TO BE INSTALLED INSIDE WALLS, CEILING, AND SERVICE CHASES UNLESS OTHERWISE NOTED.
- THE OWNER OR A REPRESENTATIVE(S) SHALL HAVE ACCESS TO THE WORK IN PROGRESS AT ALL TIMES AND SHALL RESERVE THE RIGHT TO INSPECT THIS WORK AT ANY TIME FOR COMPLIANCE WITH ALL REQUIREMENTS OF THE SPECIFICATION. HE OR SHE SHALL ALSO RESERVE THE RIGHT TO APPROVE EACH PHASE OF THE WORK BEFORE FURTHER WORK MAY BE DONE. TO HALT ALL WORK DEEMED TO BE IMPROPER OR NOT IN COMPLIANCE WITH THE PROJECT, AND TO REQUIRE THAT THE CONTRACTOR PROMPTLY CORRECT ALL IMPROPER PRACTICES AND DEFECTIVE OR DEFICIENT WORK.
- ENSURE CLEANOUTS ARE IN ACCESSIBLE LOCATIONS.
- ALL VALVES SHALL BE INSTALLED SO THAT HANDLES ARE MOST EASILY ACCESSIBLE.
- INSTALL SANITARY PIPING AT 2% SLOPE. 1% SLOPE IS ACCEPTABLE WHERE 2% IS NOT FEASIBLE FOR INVERTS.
- INSTALL OWNER SUPPLIED DISHWASHER. CONNECT TO ADJACENT SINK, DHW AND SAN.
- NO PIPING SHALL BE INSTALLED THAT INTERFERES WITH OPERATION OF OTHER EQUIPMENT.
- SEAL AROUND ALL PIPE PENETRATIONS PENETRATING ACUSTIC PARTITIONS WITH ACUSTIC SEALANT / PUTTY PACK.
- INSTALL 20mm CONDENSATE DRAIN PIPING FROM ALL FAN COIL UNIT DRAIN PANS AS SHOWN ON DRAWINGS (REFER TO 12 ON M2.0). INCREASE DRAIN PIPING TO 25mm PIPES COMBINING MULTIPLE DRAIN PIPES. CONDENSATE PUMP TO BE INSTALLED AT EACH FAN COIL UNIT TO PUMP CONDENSATE. PUMP TO BE USED ONLY WHERE GRAVITY DRAINAGE CAN NOT BE UTILIZED.



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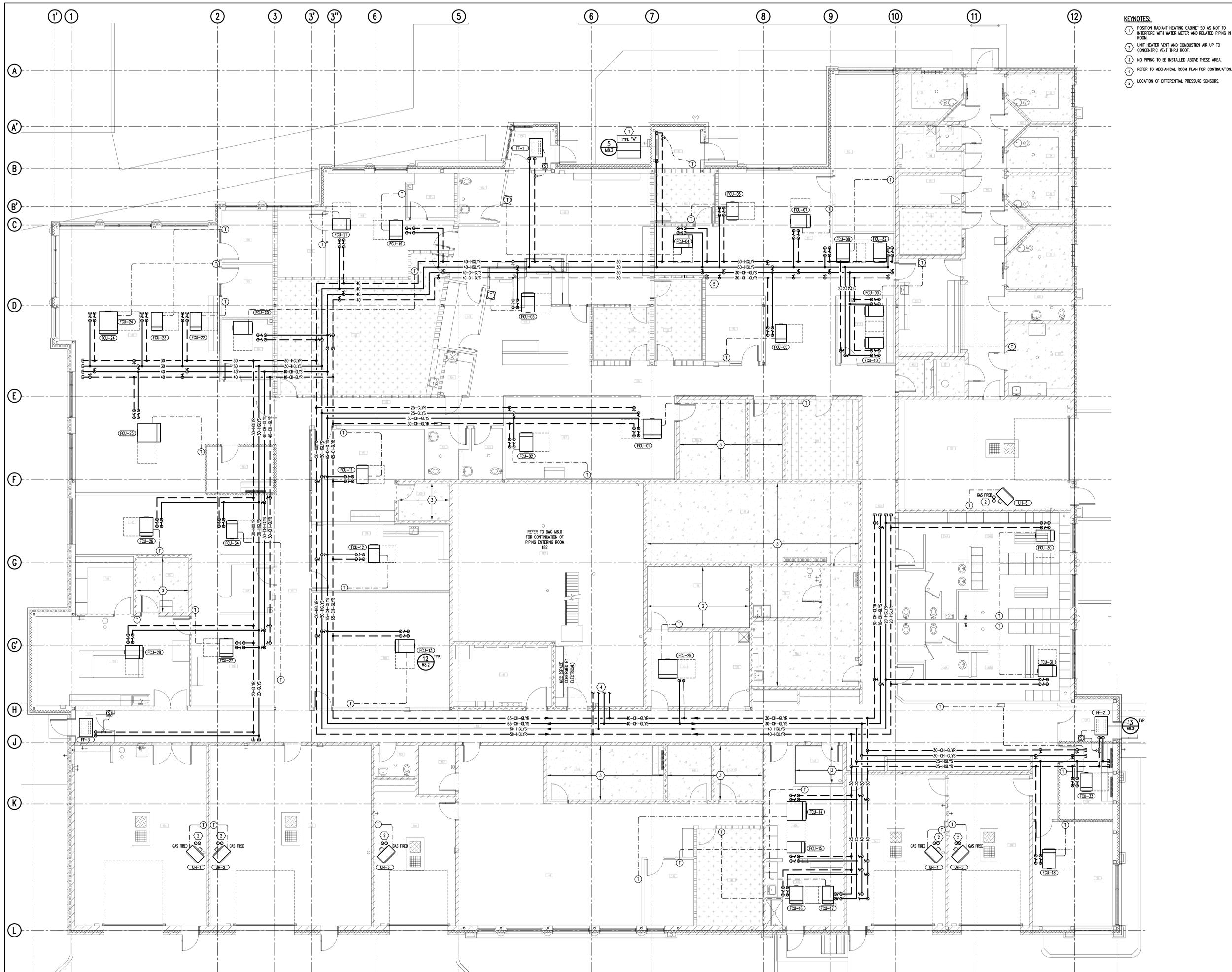
Project: **COALDALE PROTECTIVE SERVICES BUILDING**

Scale: AS NOTED	Designed By: OK
Project No.: 33866.00	Drawn By: OK
Date: 2019.01.09	Checked By: PC

Drawing Title: **MECHANICAL MAIN FLOOR PLUMBING**

Drawing No.

M2.1



- KEYNOTES:**
- 1 POSITION RADIANT HEATING CABINET SO AS NOT TO INTERFERE WITH WATER METER AND RELATED PIPING IN ROOM.
 - 2 UNIT HEATER VENT AND COMBUSTION AIR UP TO CONCENTRIC VENT THRU ROOF.
 - 3 NO PIPING TO BE INSTALLED ABOVE THESE AREA.
 - 4 REFER TO MECHANICAL ROOM PLAN FOR CONTINUATION.
 - 5 LOCATION OF DIFFERENTIAL PRESSURE SENSORS.

STEPHENS KOZAK ACI ARCHITECTS AND PLANNERS

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- GENERAL NOTES:**
- 1 CLEAR 3-DIMENSIONAL ZONE TO BE PRESERVED TO FACILITATE FAN COIL SERVING TO DIMENSIONS INDICATED. HEIGHT OF CLEAR ZONE TO EXTEND FROM THE UNDERSIDE OF CEILING DIRECTLY BELOW TO WITHIN 100 OF THE UNDERSIDE OF STRUCTURAL DECK.
 - NO ENCROACHMENT BY ARCHITECTURAL, STRUCTURAL, MECHANICAL, OR ELECTRICAL ELEMENT IS PERMITTED, WITHOUT EXCEPTION, UNLESS REVIEWED IN ADVANCE WITH THE PRIME CONSULTANT. THIS INCLUDES SERVICES TO THE FANCOIL WHICH MUST BE CAREFULLY COORDINATED TO RESPECT THE SERVICE ZONE.
 - SUPPLY ALL ADDITIONAL MATERIALS AND LABOUR TO ENSURE COMPLIANCE, WHERE SERVICES ARE FOUND TO ENCROACH ON THESE CLEAR ZONES THEY WILL BE REQUIRED TO BE RELOCATED AT NO ADDITIONAL COST.
 - NO OVERHEAD PLUMBING IN ROOMS 108, 142, 145, 146, 147, 157, 176, 184, 186, 187, 188, AND 189.
 - 20-HWS AND 20-HWR TO ALL TERMINAL UNITS UNLESS NOTED OTHERWISE.
 - CONTROL CONTRACTOR SHALL INCLUDE FOR RELOCATION OF FAN COIL UNIT CONTROL BOXES FROM FAN COIL UNIT FACTORY INSTALLED LOCATIONS TO ALTERNATE LOCATIONS ON THE FAN COIL CABINETS WITHIN 1800MM OF THE ORIGINAL LOCATIONS. FAN COIL UNIT MANUFACTURER IS TO PROVIDE 180MM OF WIRING FOR THE FAN COIL MOTOR CONTROLS AND TERMINAL INTERFACE. ALL WIRING BETWEEN FAN COIL AND FINAL CONTROL BOX LOCATION SHALL BE PLACED INSIDE OF CONDUIT BY THE CONTROL CONTRACTOR.
 - REFER TO FAN COIL INSTALLATION DETAIL 12 ON M6.2 FOR FAN COIL PIPING, CONTROL, AND VALVE DETAILS.
- DENOTES ACOUSTIC CEILING CAVITY WITH CEILING SPACE ABOVE AND BELOW ACOUSTIC CAP.
 DENOTES CONCRETE CEILING CAP WITH CEILING SPACE ABOVE CONCRETE CAP.

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Project: **COALDALE PROTECTIVE SERVICES BUILDING**

Scale: AS NOTED	Designed By: OK
Project No.: 33966.00	Drawn By: OK
Date: 2019.01.09	Checked By: PC

Drawing Title: **MECHANICAL MAIN FLOOR HEATING & COOLING**

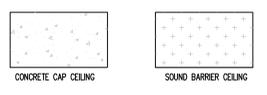
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GENERAL NOTES:

- REFER TO DRAWING M4.1 "ROOM GRILLE SCHEDULE" FOR DIFFUSER, GRILLES AND LOUVER TYPES.
- ACCESS PANELS FOR BOTTOM PULL OUT FILTERS FROM FAN COILS LOCATED ABOVE DRY WALL CEILING. TO BE LOCATED DIRECTLY BELOW FILTER SECTION. COORDINATE LOCATIONS WITH ALL DISPOSALS. THE GOAL IS TO ENSURE MAINTENANCE STAFF CAN EASILY REMOVE FILTER.
- PROVIDE ACCESS PANEL FOR ACCESS TO CONTROL, LOCATED VALVES, PIPING AND DRAIN PAN FOR FAN COILS LOCATED ABOVE DRY WALL CEILING. COORDINATE LOCATIONS WITH ALL DISPOSALS.
- ENSURE ACCESS TO BOTTOM PULL OUT FILTERS FROM FAN COILS LOCATED ABOVE T-BAR CEILING. COORDINATE LOCATIONS WITH ALL DISPOSALS. THE GOAL IS TO ENSURE MAINTENANCE STAFF CAN EASILY REMOVE FILTER.
- PROVIDE BELL MOUTH OPENINGS ON ALL OPEN ENDED RETURN / EXHAUST DUCT INLETS.
- COORDINATE MOUNTING HEIGHT OF FAN COILS TO ALLOW FOR GRAVITY DRAINING OF FAN COIL CONDENSATE DRAINS WHERE POSSIBLE. WERE UNABLE, ENABLE CONDENSATE PUMP ON FAN COIL AND RUN DRAIN LINE TO NEAREST WOP SINK. COORDINATE PIPING RUNS WHERE POSSIBLE.
- REFER TO DRAWING M4.0 FOR THERMOSTAT LOCATIONS.
- CLEAR 3-DIMENSIONAL ZONE TO BE PRESERVED TO FACILITATE FAN COIL SERVING TO DIMENSIONS INDICATED. HEIGHT OF CLEAR ZONE TO EXTEND FROM UNDERSIDE OF CEILING DIRECTLY BELOW TO WITHIN 100 OF THE UNDERSIDE OF STRUCTURAL DECK.
- NO ENCROACHMENT BY ARCHITECTURAL, STRUCTURAL, MECHANICAL, OR ELECTRICAL ELEMENT IS PERMITTED WITHOUT EXCEPTION, UNLESS REVIEWED IN ADVANCE WITH THE PRIME CONSULTANT. THIS INCLUDED SERVICES TO THE FANCOIL WITH MUST BE CAREFULLY COORDINATED TO RESPECT THE SERVICE ZONE.
- SUPPLY ALL ADDITIONAL MATERIALS AND LABOUR TO ENSURE COMPLIANCE. WHERE SERVICES ARE FOUND TO ENCROACH ON THESE CLEAR ZONES THEY WILL BE REQUIRED TO BE RELOCATED AT NO ADDITIONAL COST.
- ACCUSTICALLY SEAL DUCTWORK PENETRATIONS THROUGH ACUSTIC RATED WALLS, ROOMS 102, 103, 104, 116, 131, 132, 148, 168, 189, 170 and 171.
- ACCUSTICALLY LINE ALL INTAKES TO FAN FAN COIL UNITS.
- PROVIDE SECURITY BARS IN DUCTS PASSING THROUGH SECURE WALLS AS PER KEYNOTED LOCATIONS AND AS PER ROOM GRILLE SCHEDULE.
- FLUSH GRILLE INSTALLATION. NO SHARP EDGES OR CORNERS ALLOWED IN SECURE AREAS TO PREVENT PERSONAL INJURIES.
- SEAL AROUND ALL DUCTS PENETRATING GRR FIRE SEPARATIONS.



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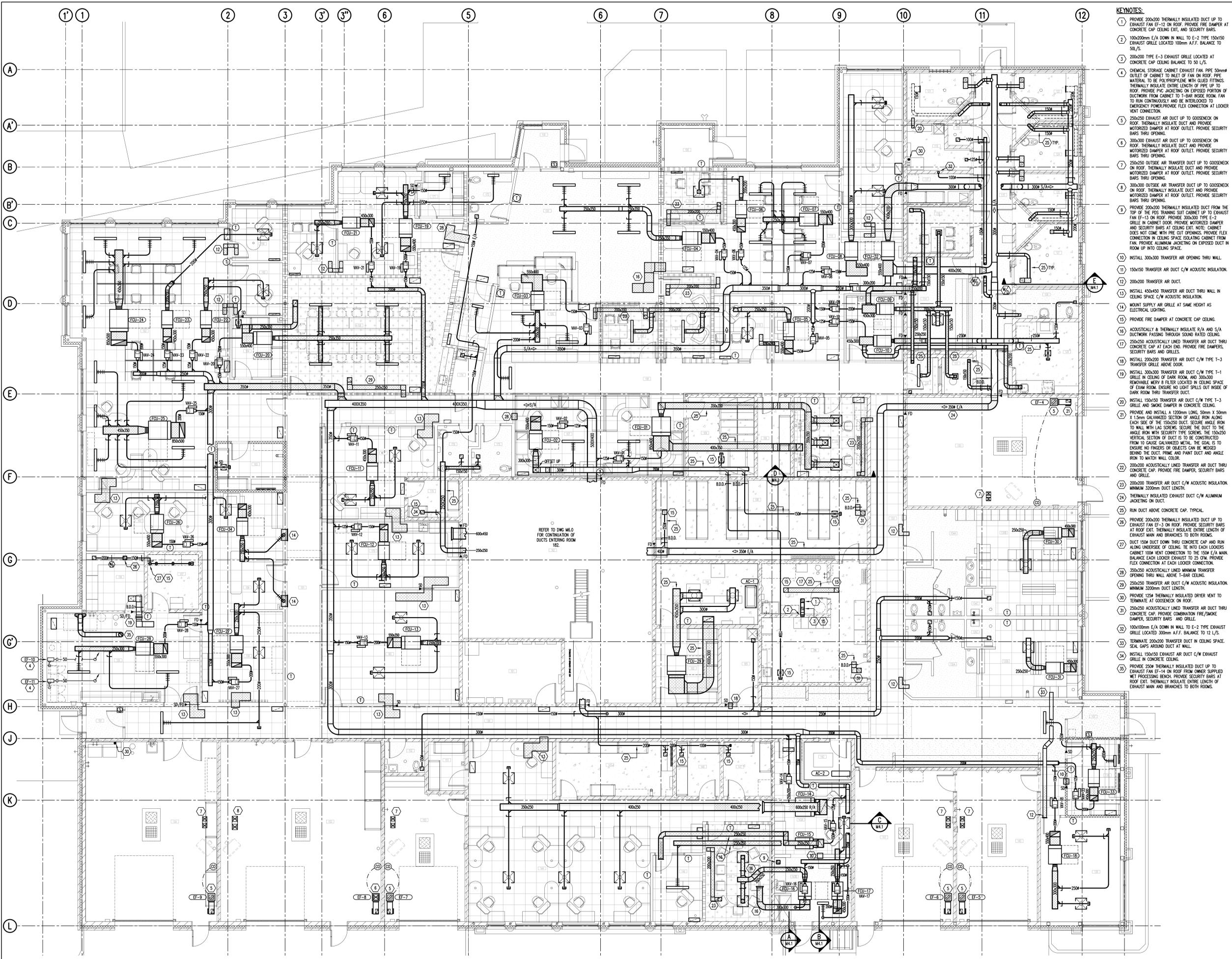
Project: **Canada**
COALDALE PROTECTIVE SERVICES BUILDING

Scale: AS NOTED / Drawn By: OK
Project No.: 33966.00 / Checked By: OK

Date: 2019.01.09 / Drawing Title: **MECHANICAL MAIN FLOOR VENTILATION**

Drawing Title: **MECHANICAL MAIN FLOOR VENTILATION**

Drawing No.: **M4.0**

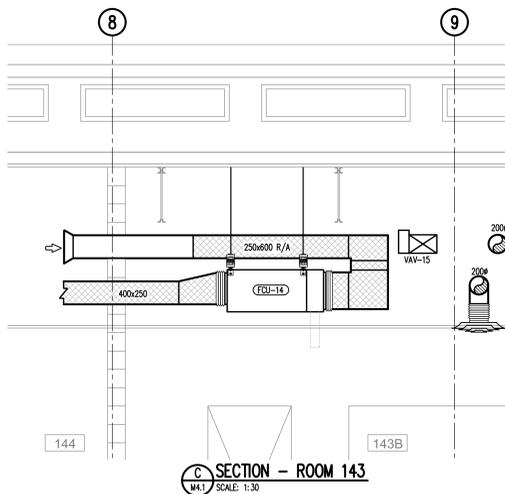
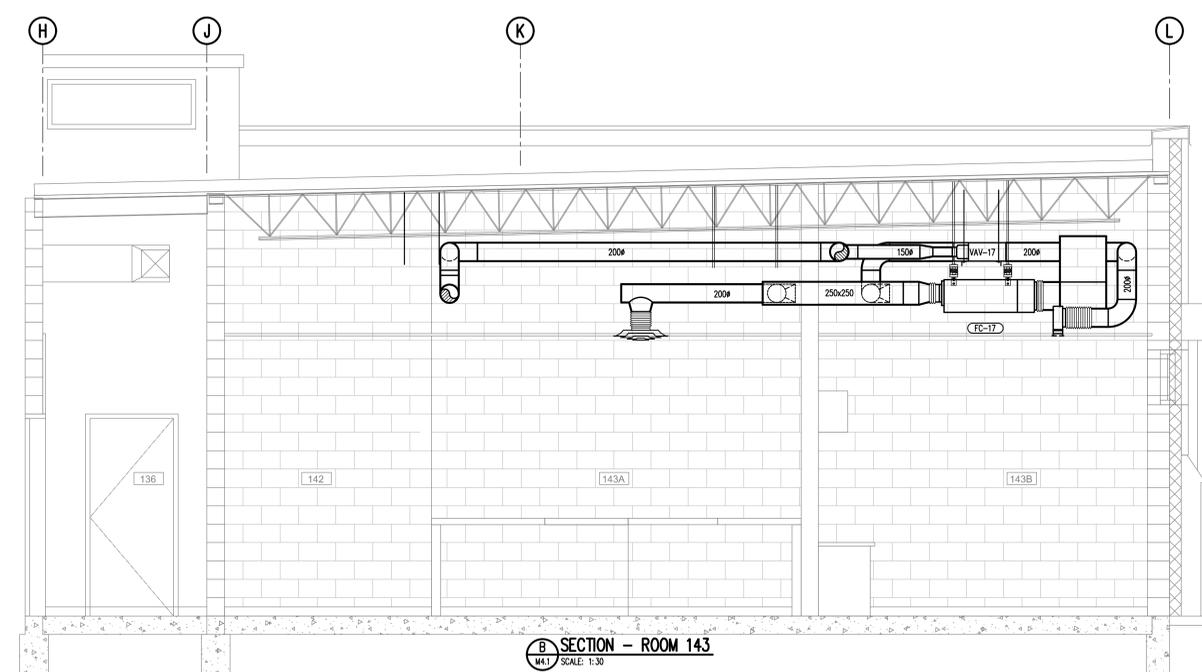
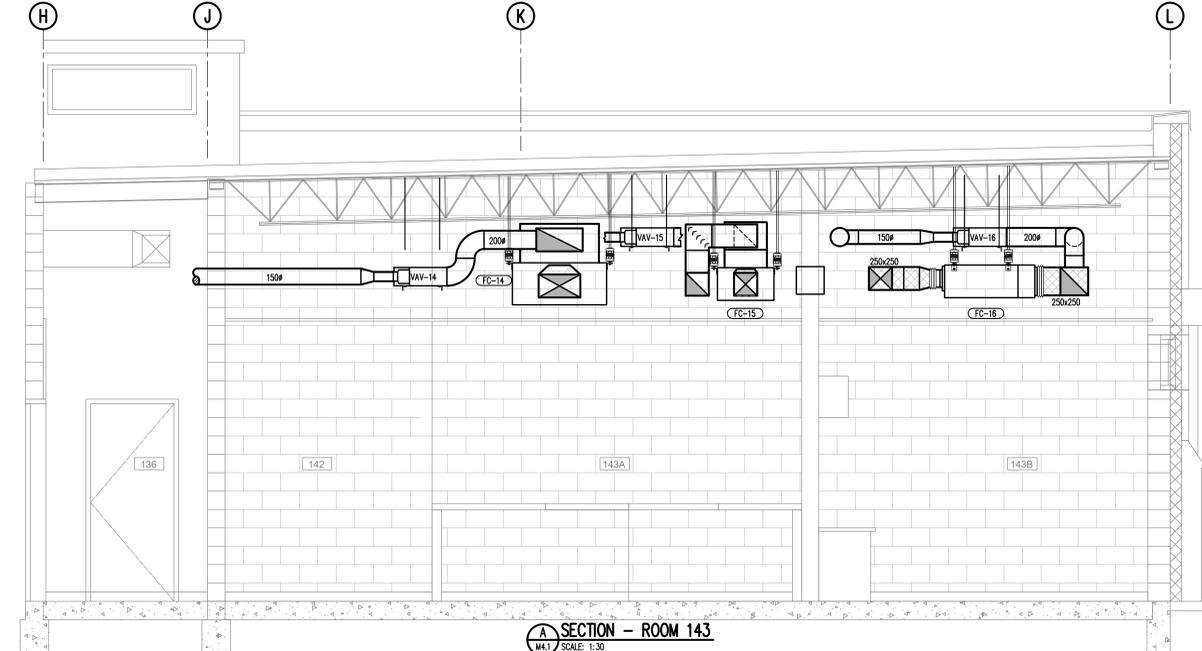
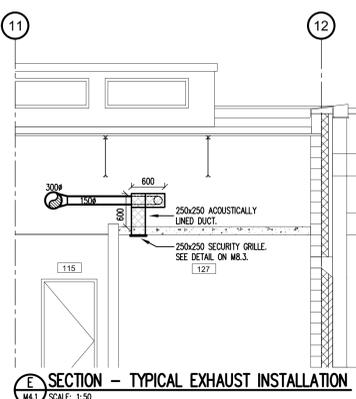
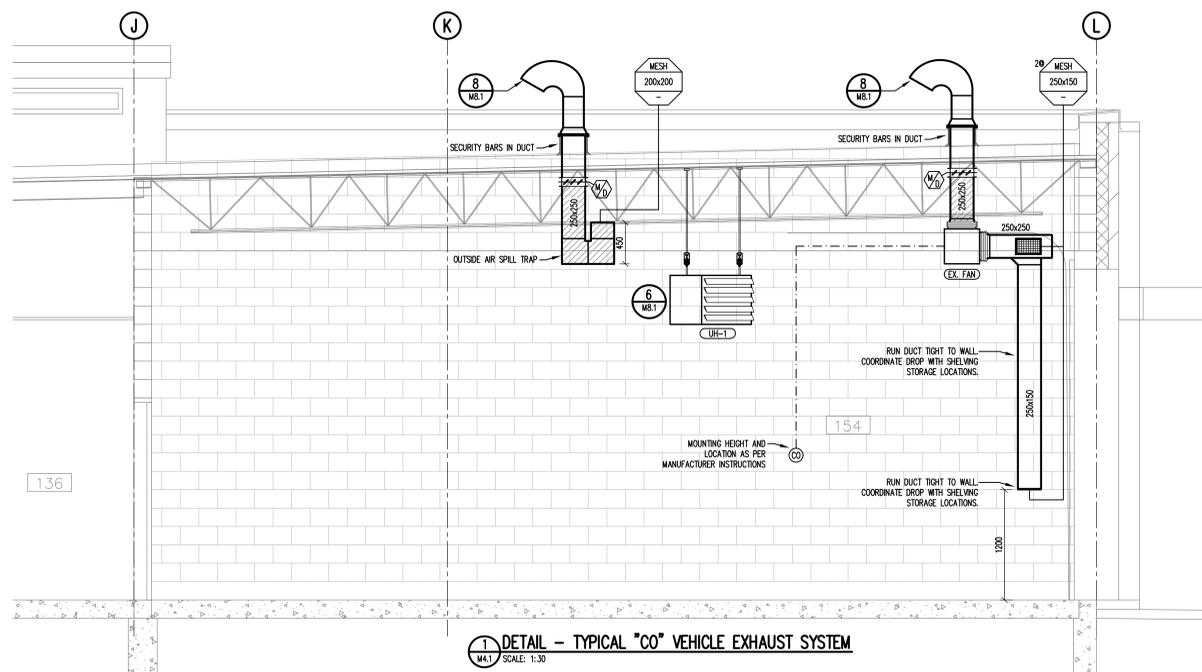


- KEYNOTES:**
- PROVIDE 200x200 THERMALLY INSULATED DUCT UP TO EXHAUST FAN EF-12 ON ROOF. PROVIDE FIRE DAMPER AT CONCRETE CAP CEILING. BALANCE TO 12 L/S.
 - 100x200mm E/A DOWN IN WALL TO E-2 TYPE 150x450 EXHAUST GRILLE LOCATED 100mm A.F.F. BALANCE TO 50 L/S.
 - 200x200 TYPE E-3 EXHAUST GRILLE LOCATED AT CONCRETE CAP CEILING. BALANCE TO 50 L/S.
 - CHEMICAL STORAGE CABINET EXHAUST FAN PIPE 50mm⁴ OUTLET OF CABINET TO INLET OF FAN ON ROOF. PIPE MATERIAL TO BE POLYPROPYLENE WITH GLEED FITTINGS. THERMALLY INSULATE ENTIRE LENGTH OF PIPE TO ROOF. PROVIDE PVC JACKETING ON EXPOSED PORTION OF DUCTWORK FROM CABINET TO T-BAR RISER ROOM. FAN TO RUN CONTINUOUSLY AND BE INTERLOCKED TO EMERGENCY POWER. PROVIDE FLEX CONNECTION AT LOCKER VENT CONNECTION.
 - 250x250 EXHAUST AIR DUCT UP TO GOOSENECK ON ROOF. THERMALLY INSULATE DUCT AND PROVIDE MOTORIZED DAMPER AT ROOF OUTLET. PROVIDE SECURITY BARS THRU OPENING.
 - 300x300 EXHAUST AIR DUCT UP TO GOOSENECK ON ROOF. THERMALLY INSULATE DUCT AND PROVIDE MOTORIZED DAMPER AT ROOF OUTLET. PROVIDE SECURITY BARS THRU OPENING.
 - 250x250 OUTSIDE AIR TRANSFER DUCT UP TO GOOSENECK ON ROOF. THERMALLY INSULATE DUCT AND PROVIDE MOTORIZED DAMPER AT ROOF OUTLET. PROVIDE SECURITY BARS THRU OPENING.
 - 300x300 OUTSIDE AIR TRANSFER DUCT UP TO GOOSENECK ON ROOF. THERMALLY INSULATE DUCT AND PROVIDE MOTORIZED DAMPER AT ROOF OUTLET. PROVIDE SECURITY BARS THRU OPENING.
 - PROVIDE 200x200 THERMALLY INSULATED DUCT FROM THE TOP OF THE PDS TRAINING SUIT CABINET UP TO EXHAUST FAN EF-13 ON ROOF. PROVIDE 300x300 TYPE E-2 GRILLE IN CABINET DOOR. PROVIDE MOTORIZED DAMPER AND SECURITY BARS AT CEILING EXIT. NOTE: CABINET DOES NOT COME WITH FLEX OUT OPENING. PROVIDE FLEX CONNECTION IN CEILING SPACE ISOLATING CABINET FROM FAN. PROVIDE ALUMINUM JACKETING ON EXPOSED DUCT IN ROOM UP INTO CEILING SPACE.
 - INSTALL 300x300 TRANSFER AIR OPENING THRU WALL.
 - 150x150 TRANSFER AIR DUCT C/W ACUSTIC INSULATION.
 - 200x200 TRANSFER AIR DUCT.
 - INSTALL 450x450 TRANSFER AIR DUCT THRU WALL IN CEILING SPACE C/W ACUSTIC INSULATION.
 - MOUNT SUPPLY AIR GRILLE AT SAME HEIGHT AS ELECTRICAL LIGHTING.
 - PROVIDE FIRE DAMPER AT CONCRETE CAP CEILING.
 - ACCUSTICALLY & THERMALLY INSULATE R/A AND S/A DUCTWORK PASSING THROUGH SOUND RATED CEILING.
 - 250x250 ACCUSTICALLY LINED TRANSFER AIR DUCT THRU CONCRETE CAP AT EACH END. PROVIDE FIRE DAMPERS, SECURITY BARS AND GRIFFS AT EACH END.
 - INSTALL 200x200 TRANSFER AIR DUCT C/W TYPE T-3 TRANSFER GRILLE ABOVE DOOR.
 - INSTALL 300x300 TRANSFER AIR DUCT C/W TYPE T-1 GRILLE IN CEILING OF DARK ROOM, AND 300x300 REMOVABLE MESH 8 FILTER LOCATED IN CEILING SPACE OF EXAM ROOM. ENSURE NO LIGHT SPILLS OUT INSIDE OF DARK ROOM THRU TRANSFER DUCT.
 - INSTALL 150x150 TRANSFER AIR DUCT C/W TYPE T-3 GRILLE AND SMOKE DAMPER IN CONCRETE CEILING.
 - PROVIDE AND INSTALL A 1200mm LONG, 50mm X 50mm X 1.5mm GALVANIZED SECTION OF ANGLE IRON ALONG HIGH SIDE OF THE 150x250 DUCT TO SECURE ANGLE IRON TO WALL WITH LAG SCREWS. SECURE THE DUCT TO THE ANGLE IRON WITH SECURITY TYPE SCREWS. THE 150x250 VERTICAL SECTION OF DUCT IS TO BE CONSTRUCTED FROM 10 GAUGE GALVANIZED METAL. THE GOAL IS TO ENSURE NO FINGERS OR OBJECTS CAN BE WEDGED BEHIND THE DUCT. PRIME AND PAINT DUCT AND ANGLE IRON TO MATCH WALL COLOR.
 - 200x200 ACCUSTICALLY LINED TRANSFER AIR DUCT THRU CONCRETE CAP. PROVIDE FIRE DAMPER, SECURITY BARS AND GRILLE.
 - 200x200 TRANSFER AIR DUCT C/W ACUSTIC INSULATION. MINIMUM 3200mm DUCT LENGTH.
 - THERMALLY INSULATED EXHAUST DUCT C/W ALUMINUM JACKETING ON DUCT.
 - RUN DUCT ABOVE CONCRETE CAP. TYPICAL.
 - PROVIDE 200x200 THERMALLY INSULATED DUCT UP TO EXHAUST FAN EF-3 ON ROOF. PROVIDE SECURITY BARS AT ROOF EXIT. THERMALLY INSULATE ENTIRE LENGTH OF EXHAUST MAIN AND BRANCHES TO BOTH ROOMS.
 - DUCT 150x150mm DOWN THRU CONCRETE CAP AND RUN ALONG UNDERSIDE OF CEILING. TIE INTO EACH LOCKERS CABINET 100mm VENT CONNECTION TO THE 150mm E/A MAIN. BALANCE EACH LOCKER EXHAUST TO 25 CFM. PROVIDE FLEX CONNECTION AT EACH LOCKER CONNECTION.
 - 350x250 ACCUSTICALLY LINED MINIMUM TRANSFER OPENING THRU WALL ABOVE T-BAR CEILING.
 - 250x250 TRANSFER AIR DUCT C/W ACUSTIC INSULATION. MINIMUM 3200mm DUCT LENGTH.
 - PROVIDE 125x125 THERMALLY INSULATED DRYER VENT TO TERMINATE AT GOOSENECK ON ROOF.
 - 250x250 ACCUSTICALLY LINED TRANSFER AIR DUCT THRU CONCRETE CAP. PROVIDE COMBINATION FIRE/SMOKE DAMPER, SECURITY BARS AND GRILLE.
 - 100x100mm E/A DOWN IN WALL TO E-2 TYPE EXHAUST GRILLE LOCATED 300mm A.F.F. BALANCE TO 12 L/S.
 - TERMINATE 200x200 TRANSFER DUCT IN CEILING SPACE. SEAL GAPS AROUND DUCT AT WALL.
 - INSTALL 150x150 EXHAUST AIR DUCT C/W EXHAUST GRILLE IN CONCRETE CEILING.
 - PROVIDE 250x250 THERMALLY INSULATED DUCT UP TO EXHAUST FAN EF-14 ON ROOF FROM UNSES SUPPLIED WET PROCESSING BENCH. PROVIDE SECURITY BARS AT ROOF EXIT. THERMALLY INSULATE ENTIRE LENGTH OF EXHAUST MAIN AND BRANCHES TO BOTH ROOMS.

REFER TO DWG M4.0 FOR CONTINUATION OF DUCTS ENTERING ROOM 102.

Notes:

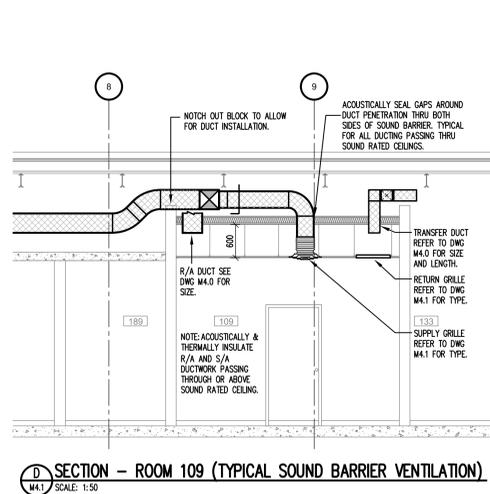
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ROOM GRILLE SCHEDULE													
FAN COIL	ROOM NO.	GRILLE TYPE	SIZE	VOLUME [L/S]	QTY	NOTES	FAN COIL	ROOM NO.	GRILLE TYPE	SIZE	VOLUME [L/S]	QTY	NOTES
FC-01	109	S-8	300x300	215	3	2	FC-19	169	S-1	250#	140	2	2
	109	R-1	300x600	-	2	2		169	R-1	300x600	-	1	2
								171	S-7	150#	25	1	2
FC-02	107	S-5	200#	125	2	2		172	S-7	150#	20	1	2
	107	R-1	200x600	-	2	2		172	E-3	150x150	25	1	2
	108	S-3	150#	25	1	2							
	188	S-3	150x150	50	1	2	FC-20	168	S-6	200#	70	4	2
	188	E-3	250x250	165	1	1,2		168	R-1	300x600	-	2	2
	186	S-3	150#	25	1	2							
FC-03	105	S-6	200#	75	2	2	FC-21	170	S-1	250#	120	1	2
	105	R-1	300x600	-	1	2		170	R-1	150x600	-	1	2
	173	S-7	200#	60	1	2							
	173	R-1	150x600	-	1	2	FC-22	165	S-1	200#	105	1	2
								165	R-1	150x600	-	1	2
FC-04	101	S-6	200#	65	4	2		164	S-3	150#	12	1	2
	101	R-3	300x600	-	1	2	FC-23	166	S-1	200#	120	1	2
								166	R-1	150x600	-	1	2
FC-05	103	S-6	200#	30	1	2							
	103	R-1	150x600	-	1	2	FC-24	162	S-5	200#	145	5	2
	104	S-6	200#	30	1	2		162	R-1	300x600	1	2	2
	104	R-1	150x600	-	1	2							
	110	S-1	200#	70	1	2	FC-25	162	S-1	200#	125	5	2
	110	R-1	150x600	-	1	2		162	R-1	300x600	-	2	2
FC-06	102	S-8	200#	75	1	2		163	S-3	150#	12	1	2
	102	R-1	150x600	-	1	2	FC-26	160	S-1	250#	150	2	2
								160	R-1	300x600	-	1	2
FC-07	111	S-6	200#	60	4	2							
	111	R-1	300x600	-	2	2	FC-27	159	S-1	200#	55	1	2
								158	S-1	200#	70	1	2
FC-08	112	S-1	250#	120	2	2		158	R-1	300x600	-	1	2
	112	R-1	400x600	-	1	2		136	S-5	200#	120	1	2
								136	R-1	250x600	-	1	2
FC-09	114	S-1	200#	70	1	2							
	114	R-3	200x200	70	1	2	FC-28	155	S-5	200#	135	2	2
	116	S-9	200#	40	1	2		155	R-1	300x600	-	1	2
	116	R-3	200x200	40	1	2							
	131	S-9	150x150	15	1	2	FC-29	184	S-1	300#	340	2	1,2
	131	E-4	150x150	15	1	2		184	R-3	450x350	-	1	1,2
	132	S-6	200#	15	1	2							
	132	R-3	150x150	15	1	2	FC-30	134B	S-1	250#	120	1	2
								134B	R-2	300x600	-	1	2
FC-10	128	S-2	150x150	20	1	2							
	128	E-3	150x150	25	1	2	FC-31	135A	S-1	250#	120	1	2
	129	S-3	200#	60	1	1,2		135A	R-3	300x600	-	1	2
	129	R-3	200x200	60	1	1,2							
FC-11	177	S-1	200#	75	2	2	FC-32	121	S-4	250x250	50	1	1,4
	177	R-1	200x600	-	1	2		121	E-4	250x250	50	1	1,2
								122	S-4	250x250	50	1	1,4
FC-12	179	S-1	200#	60	2	2		122	E-4	250x250	50	1	1,2
	179	R-1	200x600	-	1	2		124	S-4	250x250	50	1	1,4
								124	E-4	250x250	50	1	1,2
FC-13	180	S-1	250#	120	2	2		125	S-4	250x250	50	1	1,4
	180	R-1	300x600	-	2	2		125	E-4	250x250	50	1	1,2
								127	S-4	250x250	50	1	1,2
FC-14	144	S-1	250#	155	4	2		127	E-4	250x250	50	1	1,2
	144	R-1	300x600	-	2	2	FC-33	136	S-5	200#	120	1	2
								136	R-1	250x600	-	2	2
FC-15	149	S-5	200#	120	1	2		138	S-7	200#	50	1	2
	149	R-1	200x600	-	1	2		138	R-1	250x600	-	1	2
FC-16	148	S-8	200#	95	2	2	FC-34	161	S-7	200#	80	2	4
	148	R-1	200x600	-	1	2							
FC-17	143	S-1	200#	115	1	2	ROOMS	134A	E-3	200x200	75	1	2
	143	R-1	200x600	-	1	2		135A	E-3	200x200	50	1	2
	143B	S-7	200#	50	1	2		135C	E-3	150x150	25	1	2
	143B	E-2	300x300	-	1	-		134C	E-3	150x150	25	1	2
								174	E-3	150x150	12	1	3
FC-18	139	S-1	250#	120	2	3		175	E-3	150x150	25	1	2
	139	T-3	200x200	-	1	4		176	E-3	150x150	25	1	2
								178	E-3	150x150	12	1	2
ROOMS	117	E-3	100x100	12	1	4		152	E-3	150x150	25	1	2
	118	E-3	150x150	35	1	2		186	T-3	250x250	-	1	1,2
	118	T-3	150x150	-	1	2		186	T-3	250x250	-	1	1,2
	119	E-4	100x100	12	1	2		187	T-3	250x250	-	1	1,2
	185	E-3	150x150	50	1	3		187	E-3	200x200	70	1	1,2
	156	E-1	200x200	80	1	2		187	E-3	150x150	50	1	4
	156	T-1	300x300	-	1	2		145	T-3	150x150	-	1	2
	188	T-3	250x250	-	1	1,2		146	T-3	150x150	-	1	2
	136/133	T-1	450x450	-	3	2		147	T-3	150x150	-	1	2

NOTES:

- PROVIDE SECURITY BARS AT WALL/CEILING PENETRATION.
- GRILLE / DIFFUSER TO BE CEILING MOUNTED.
- GRILLE / DIFFUSER TO BE DUCT MOUNTED.
- GRILLE / DIFFUSER TO BE WALL MOUNTED.



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PERMIT NUMBER
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The Association of Prof. Engineers
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Client: Government of Canada / Gouvernement du Canada

Canada

Project: COALDALE PROTECTIVE SERVICES BUILDING

Scale	AS NOTED	Designed By	OK
Project No.	33966.00	Drawn By	OK
Date	2019.01.09	Checked By	OK

Drawing Title: MECHANICAL SECTIONS & DIFFUSER SCHEDULE

Drawing No.

M4.1

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GENERAL NOTES:

- SPRINKLER CONTRACTOR TO DESIGN AND INSTALL SPRINKLER SYSTEM IN ACCORDANCE WITH NFPA AND AUTHORITY HAVING JURISDICTION.
- WHERE SPRINKLER HEADS ARE IDENTIFIED, THE CONTRACTOR SHALL CONFIRM THE LAYOUT AND PROVIDE ADDITIONAL SPRINKLER HEADS AS REQUIRED TO MEET CODE.
- CONTRACTOR SHALL COORDINATE ALL WORK ON SITE. COORDINATE SPRINKLER PIPING INSTALLATION WITH DUCTWORK, PIPING, AND ELECTRICAL INSTALLATIONS.
- SPRINKLER PIPING NOT TO BE INSTALLED BELOW FAN COIL UNITS. MAINTENANCE ACCESS TO FAN COIL UNITS TO BE MAINTAINED.
- VANDAL PROOF SPRINKLER HEADS TO BE USED WHERE INDICATED.
- SECURE AREA TO BE SEPARATE SPRINKLER ZONE (ZONE 2) FROM REST OF BUILDING (ZONE 1).
- COORDINATE SPRINKLER LOCATIONS WITH AS-BUILT CEILING LAYOUT ON SITE.
- ALL NON-SECURE SPRINKLER HEADS IN DRYWALL AND T-BAR CEILINGS TO BE FULLY RECESSED WITH WHITE COVER PLATE.
- SEAL AROUND ALL PIPE PENETRATIONS PENETRATING ACOUSTIC PARTITIONS WITH ACOUSTIC SEALANT / PUTTY PACK.
- ZONE 2 SPRINKLER ZONE CEILING SPACE IS OPEN TO FLOOR AREA AT ROOMS 120, 123, AND 126. SPRINKLER COVERAGE REQUIRED IN CEILING SPACE AS PER NFPA.
- INSTALL PIPING IN JOIST SPACE IN ALL AREAS WITH EXPOSED STRUCTURE CEILING.
- REFER TO MECHANICAL SITE PLAN FOR FIRE EXTINGUISHER LOCATIONS IN OUT BUILDINGS.

• DENOTES ACOUSTIC CEILING CAP IN CEILING CAVITY WITH CEILING SPACE ABOVE AND BELOW ACOUSTIC CAP.

• DENOTES CONCRETE CEILING CAP WITH CEILING SPACE ABOVE CONCRETE CAP.

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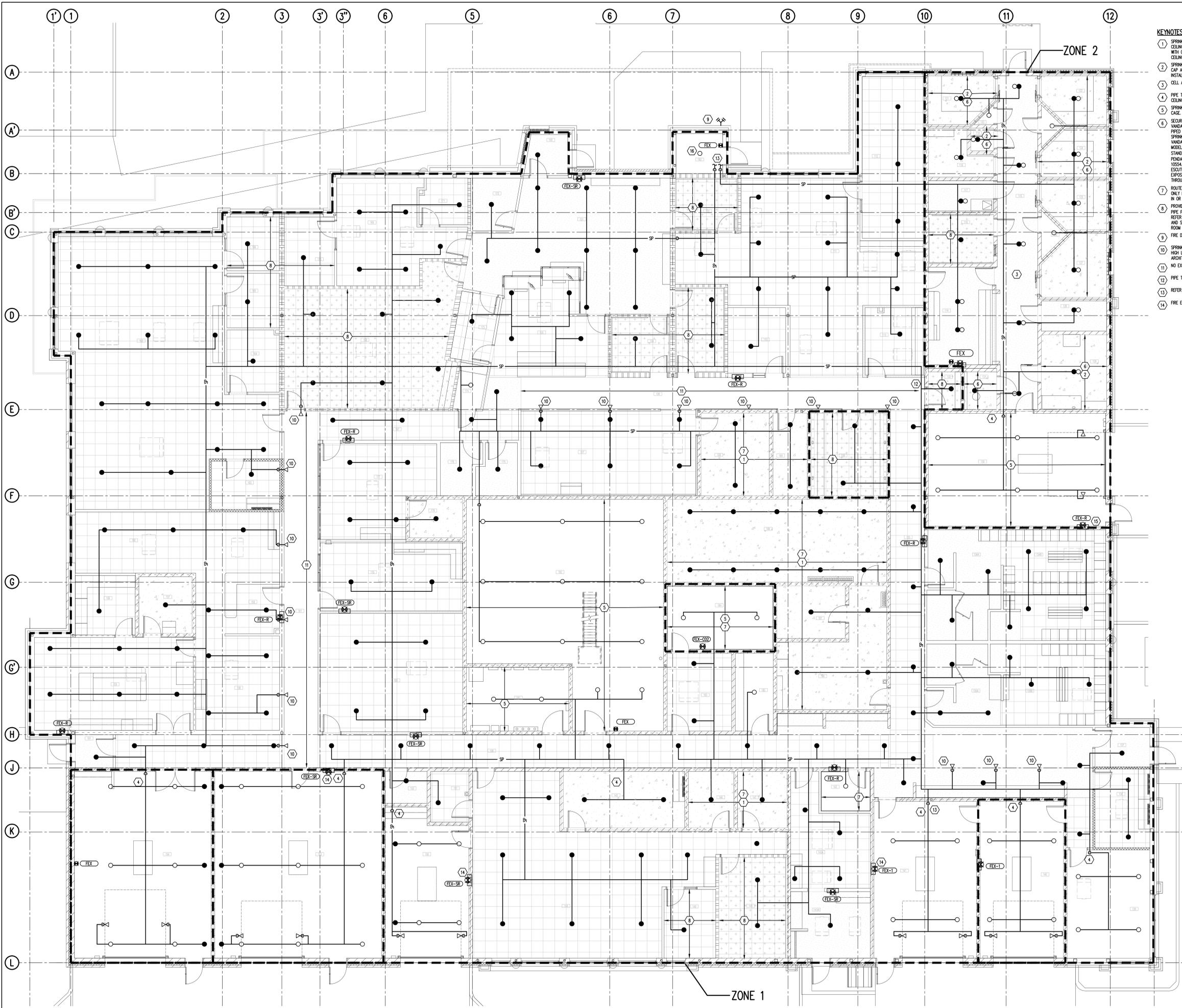
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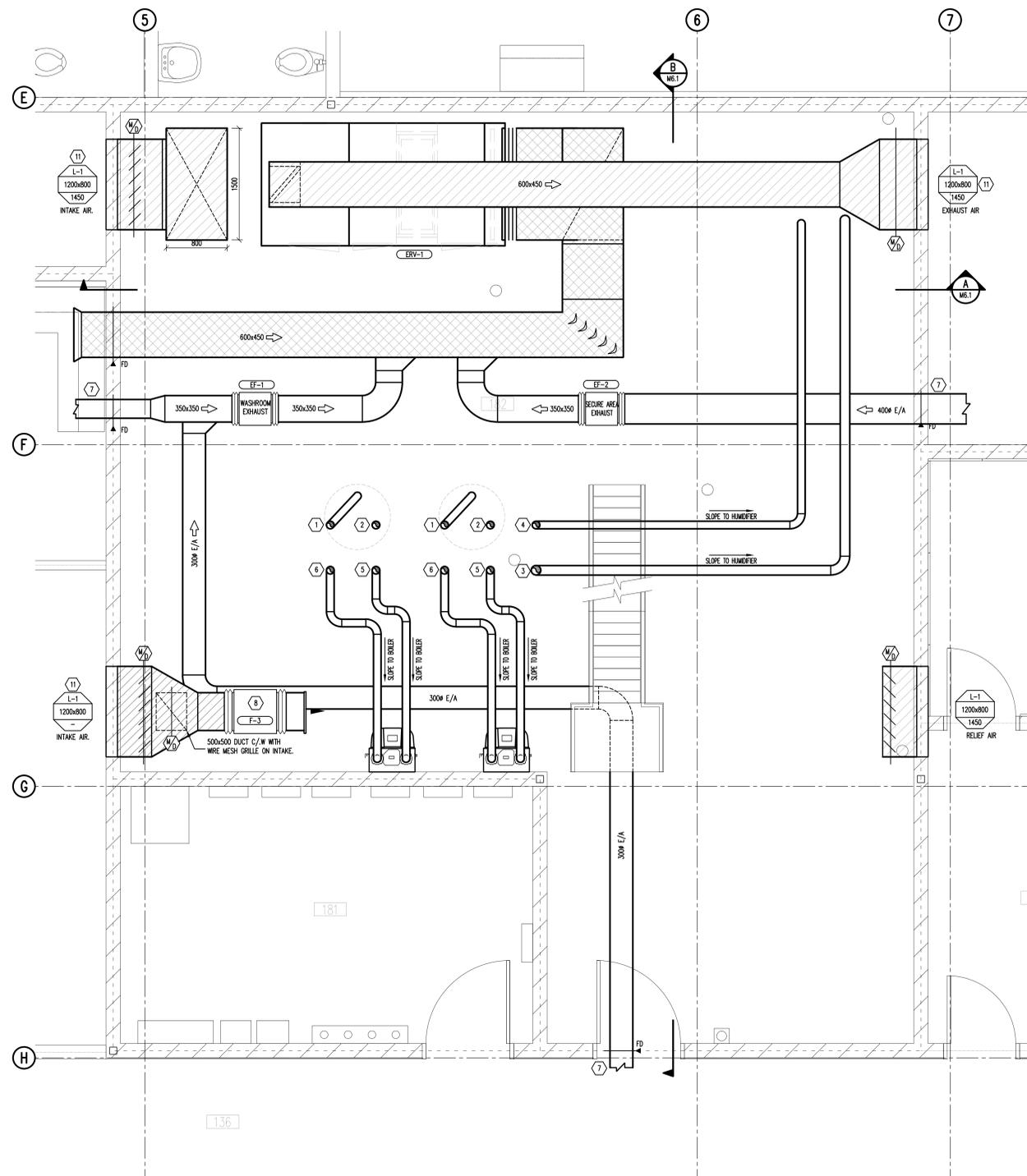
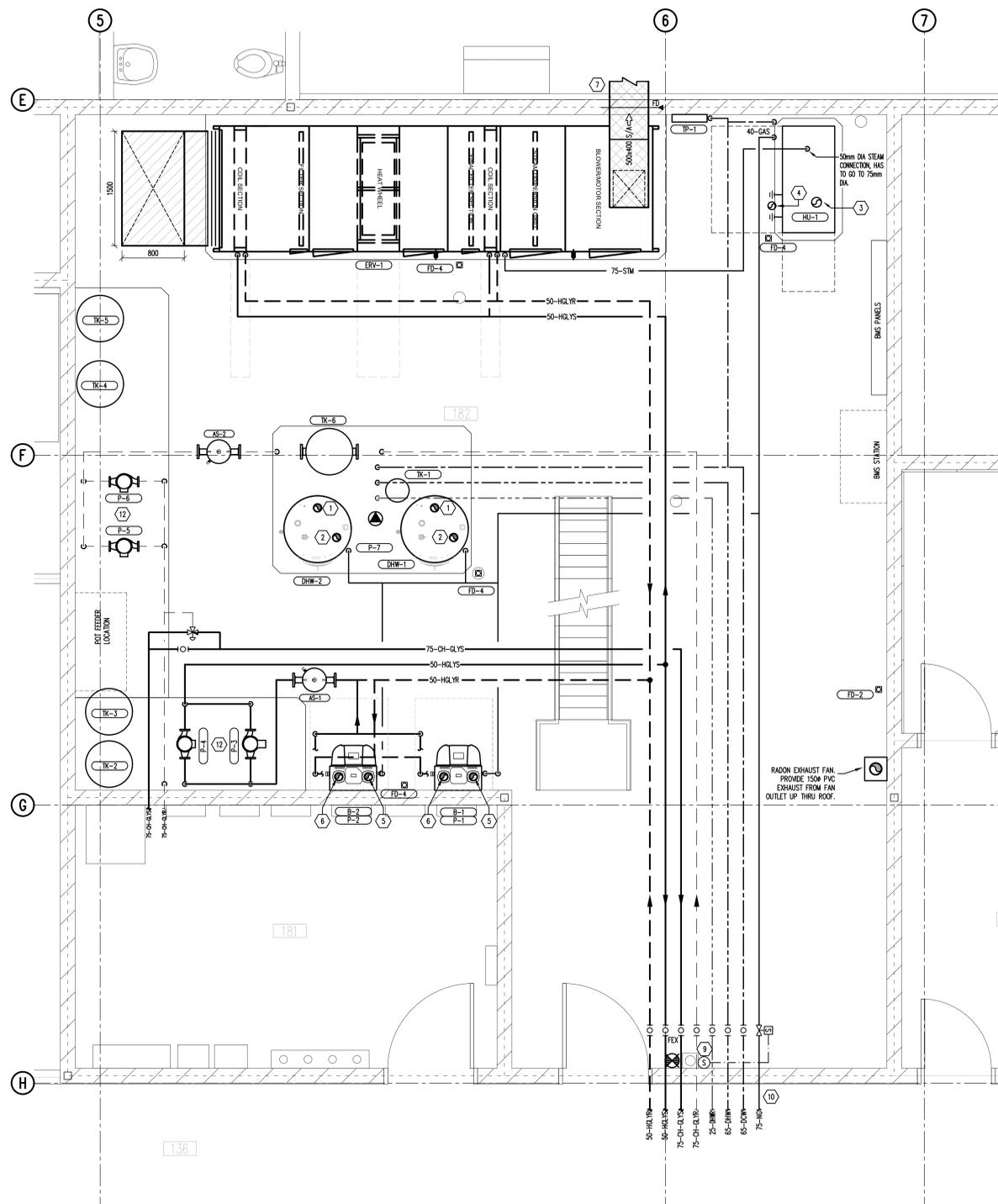
Drawing Title
**MECHANICAL
MAIN FLOOR
FIRE PROTECTION**

Drawing No.

M5.0



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1 MECHANICAL ROOM EQUIPMENT PLAN AND PIPING
SCALE: 1:30

2 MECHANICAL ROOM VENTILATION PLAN
SCALE: 1:30

GENERAL QUESTIONS:

- PROVIDE SWEEP OR LONG RADIUS ELBOWS FOR COMBUSTION AIR AND VENT PIPING. DO NOT USE SHORT RADIUS ELBOWS.
- ENSURE ALL VENT AND COMBUSTION AIR PIPING HAS BIRD SCREENS.
- PROVIDE SECURITY BARS ON OPENINGS LARGER THAN 150mm X 150mm THRU SECURE AREA WALLS, CEILINGS AND ROOFS.
- COORDINATE LOCATION OF EQUIPMENT WITH ELECTRICAL.

KEYNOTES:

- 100mm VENT FROM DOMESTIC HOT WATER HEATER. PROVIDE RAIN CAP AND TERMINATE 1200mm ABOVE ROOF PARAPET.
- 100mm COMBUSTION COMBUSTION AIR INTAKE FOR DOMESTIC HOT WATER HEATER. EXIT THRU MECH ROOM ROOF AND TERMINATE 1200mm ABOVE ROOF PARAPET.
- 125mm VENT FROM HUMIDIFIER HU-1. PROVIDE RAIN CAP AND TERMINATE 1200mm ABOVE ROOF PARAPET.
- 100mm COMBUSTION AIR INTAKE FOR HUMIDIFIER HU-1. EXIT THRU MECH ROOM ROOF AND TERMINATE 1200mm ABOVE ROOF PARAPET.
- 100mm COMBUSTION AIR INTAKE FOR BOILER. EXIT THRU MECH ROOM ROOF.
- 100mm VENT FROM BOILER. PROVIDE RAIN CAP AND TERMINATE 1200mm ABOVE ROOF PARAPET.
- REFER TO DRAWING M4.0 FOR CONTINUATION OF DUCTWORK.
- ROOM VENTILATION FAN. REFER TO CONTROLS SPECIFICATIONS FOR OPERATION.
- EMERGENCY GAS SHUT-DOWN SWITCH.
- REFER TO DWG M201 FOR CONTINUATION OF PIPING.
- PROVIDE SECURITY BARS ON LOUVER INLET / OUTLET.
- PROVIDE SPRING ISOLATION UPSTREAM AND DOWNSTREAM OF CEILING SUSPENDED INLINE PUMPS.

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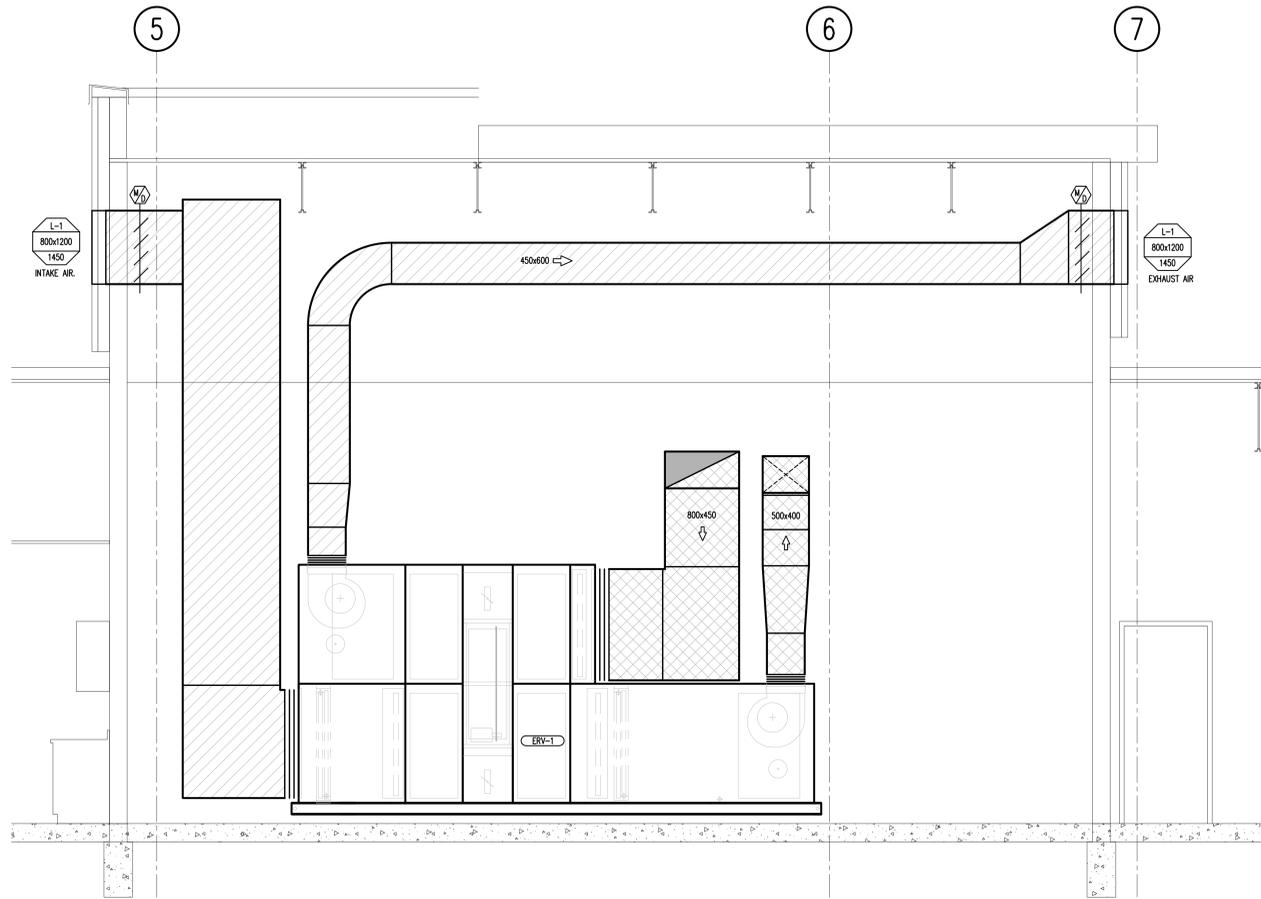
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Project No.	33966.00	Drawn By	CK
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Drawing Title
ROOM 182 LAYOUT

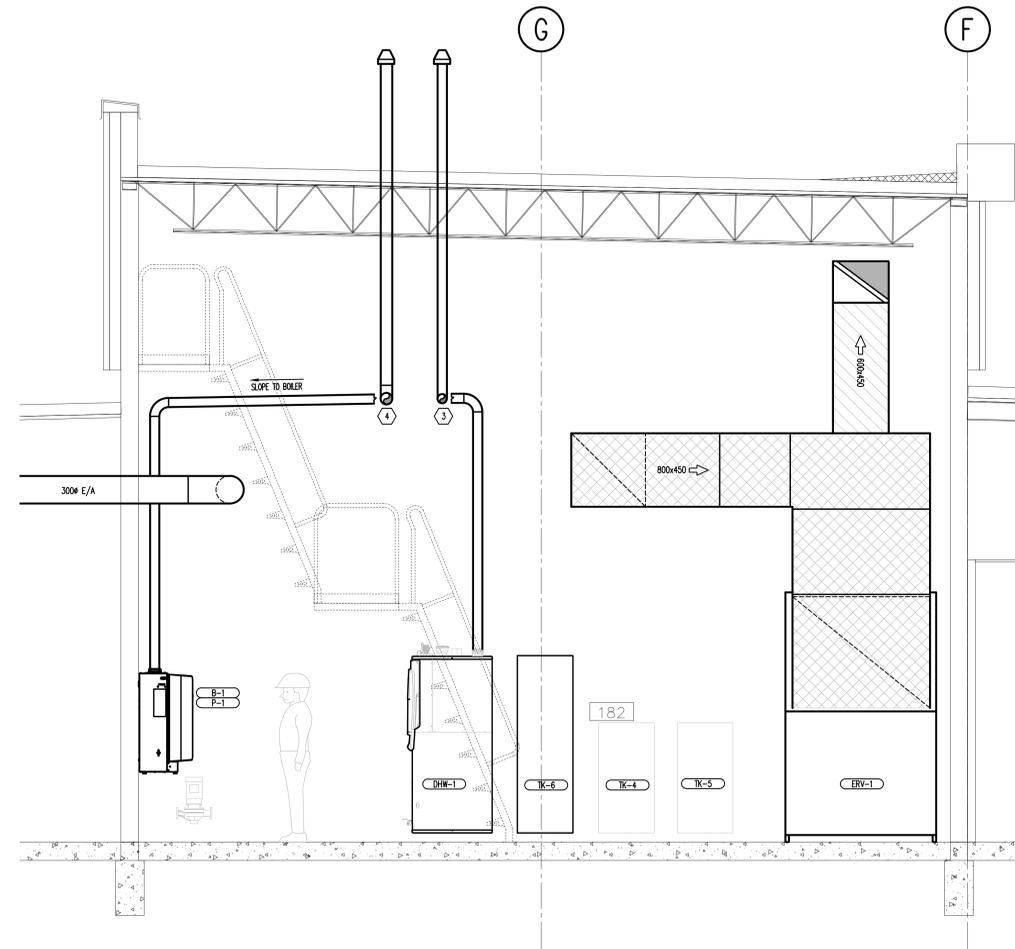
Drawing No.

M6.0

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A SECTION A-A: MEHCANICAL ROOM
SCALE: 1:30



B SECTION B-B: MEHCANICAL ROOM
SCALE: 1:30

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ME: 20 P: 3306.00

**WILLIAMS
ENGINEERING**

Issues/Revisions

No.	Description	Date	By
0	ISSUED FOR TENDER	2019-01-09	CK

Seal

PERMIT TO PRACTICE
WILLIAMS ENGINEERING CANADA INC.
PERMIT NUMBER
P 10527
The Association of Prof. Engineers
and Geoscientists of Alberta.

Client
Government of Canada / Gouvernement du Canada

Canada

Project
**COALDALE PROTECTIVE
SERVICES BUILDING**

Scale	AS NOTED	Designed By	OK
Project No.	33966.00	Drawn By	CK
Date	2019-01-09	Checked By	PC

Drawing Title
**ROOM 182
SECTIONS**

Drawing No.

M6.1

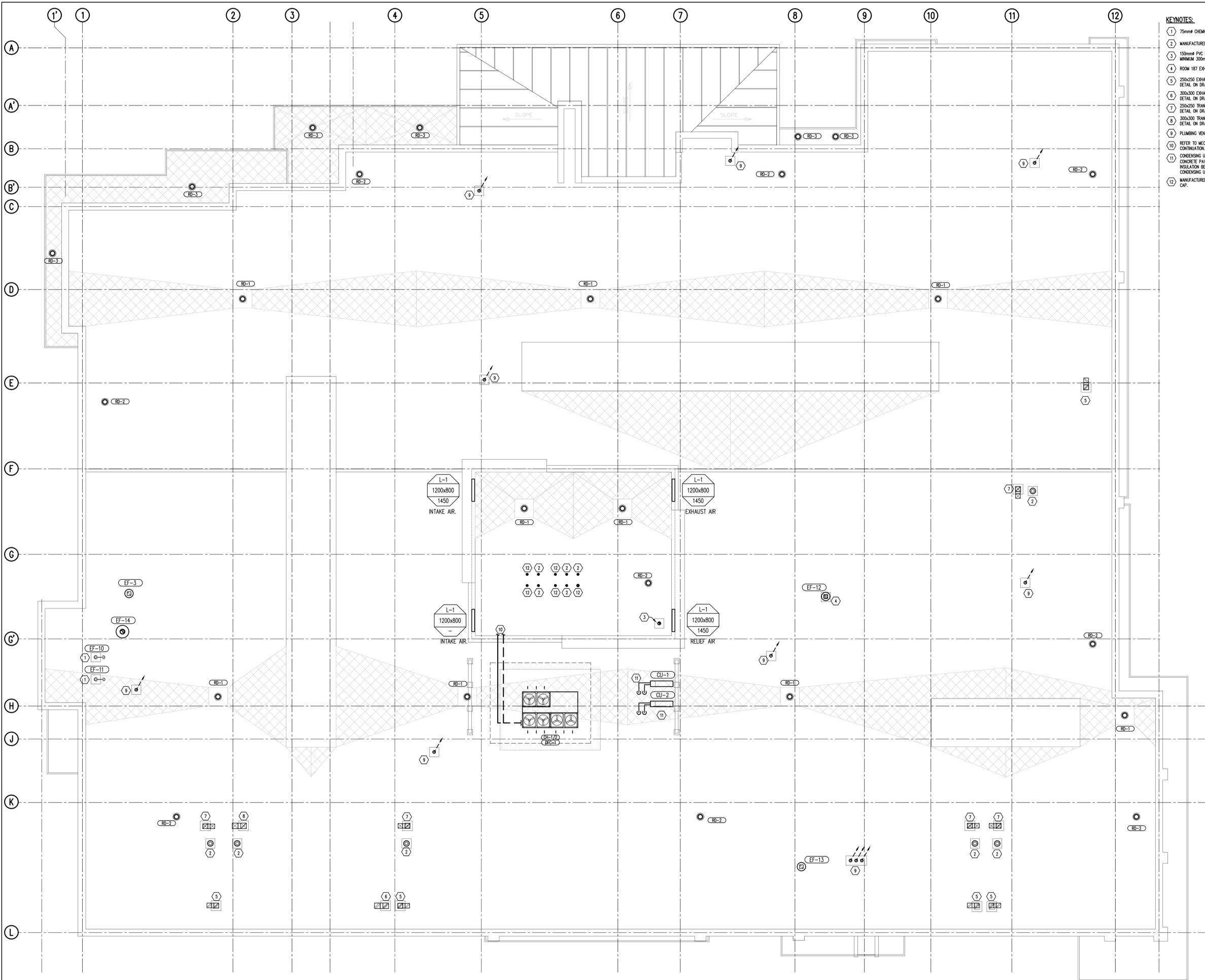
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GENERAL NOTES:

- COORDINATE LOCATION OF EQUIPMENT AND ROOF DRAINS WITH ARCHITECTURAL AND STRUCTURAL.
- COORDINATE VENT TERMINATION LOCATIONS WITH ARCHITECTURAL.
- PROVIDE SECURITY BARS IN OPENINGS THRU ROOF LARGER THAN 150mmx150mm.

- KEYNOTES:**
- 75mm# CHEMICAL STORAGE CABINET FAN VENT.
 - MANUFACTURER'S 100# C/A INLET WITH CAP.
 - 150mm# PVC RADON EXHAUST VENT. TERMINATE MINIMUM 300mm ABOVE ROOF.
 - ROOM 187 EXHAUST FAN.
 - 250x250 EXHAUST AIR GOOSENECK. REFER TO DETAIL ON DRAWING MB.2.
 - 300x300 EXHAUST AIR GOOSENECK. REFER TO DETAIL ON DRAWING MB.2.
 - 250x250 TRANSFER AIR GOOSENECK. REFER TO DETAIL ON DRAWING MB.2.
 - 300x300 TRANSFER AIR GOOSENECK. REFER TO DETAIL ON DRAWING MB.2.
 - PLUMBING VENT.
 - REFER TO MECHANICAL ROOMS PLAN FOR CONTINUATION.
 - CONDENSING UNIT TO BE INSTALLED ON CONCRETE FINING STONES 1/4" 25mm RIGID INSULATION BELOW PAVING STONE. ANCHOR CONDENSING UNIT TO PAVING STONE.
 - MANUFACTURER'S 100# EQUIPMENT VENT WITH CAP.



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0	ISSUED FOR TENDER	2019.01.09	CK

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ALBERTA

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WILLIAMS ENGINEERING CANADA INC.
PERMIT NUMBER
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Client: Government of Canada / Gouvernement du Canada

Project:
COALDALE PROTECTIVE SERVICES BUILDING

Scale:	AS NOTED	Designed By:	OK
Project No.:	33966.00	Drawn By:	OK
Date:	2019.01.09	Checked By:	PC

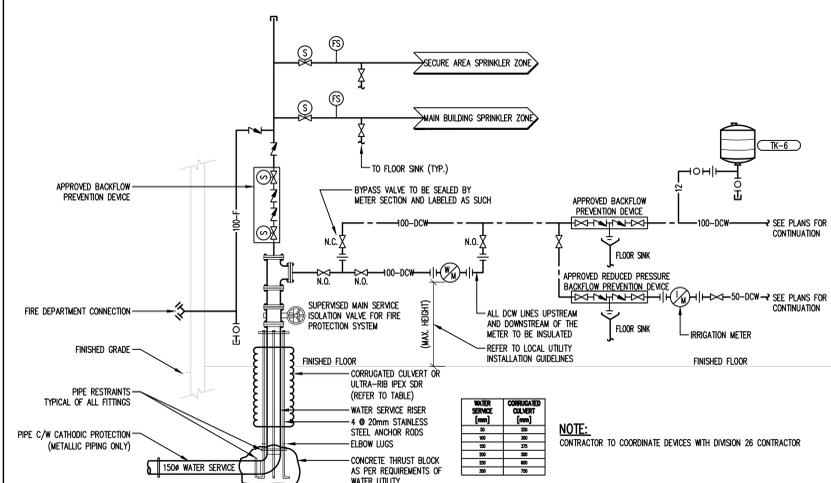
Drawing Title:
MECHANICAL ROOF PLAN

Drawing No.:

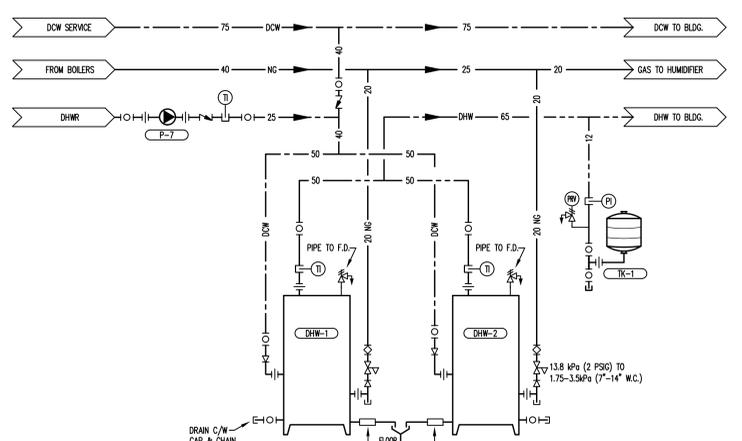
M7.0

Notes:

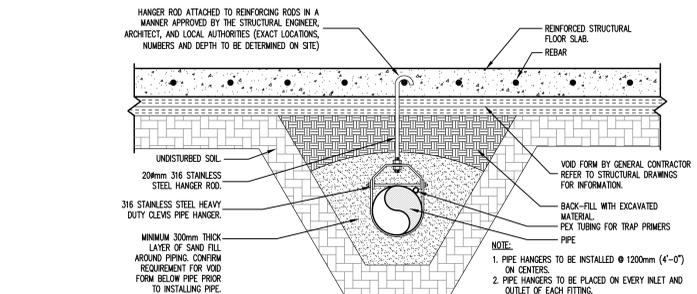
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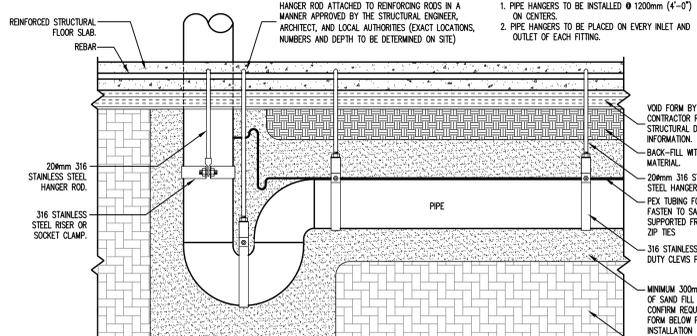
1 BUILDING WATER SERVICE ENTRY
M8.1 SCALE: N.T.S.



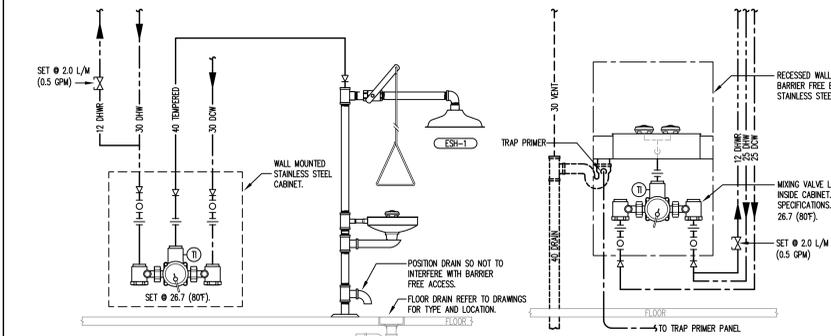
2 DOMESTIC HOT WATER SCHEMATIC
M8.1 SCALE: N.T.S.



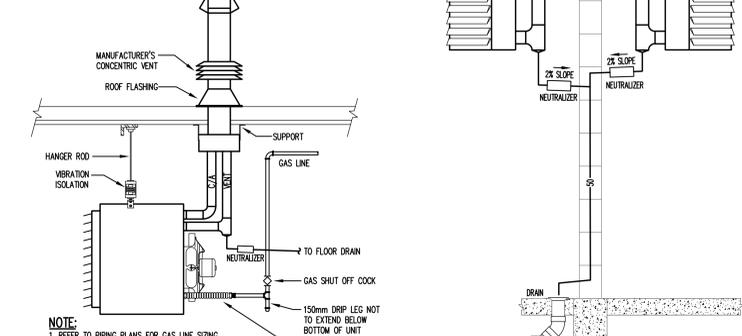
TYPICAL PIPE HANGER INSTALLATION



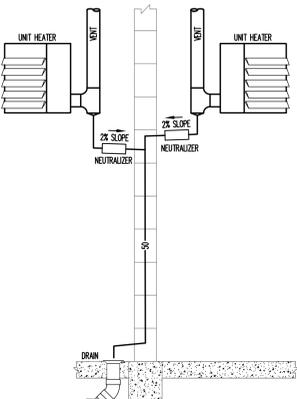
3 STRUTURAL SLAB PIPE HANGER INSTALLATION DETAILS
M8.1 SCALE: N.T.S.



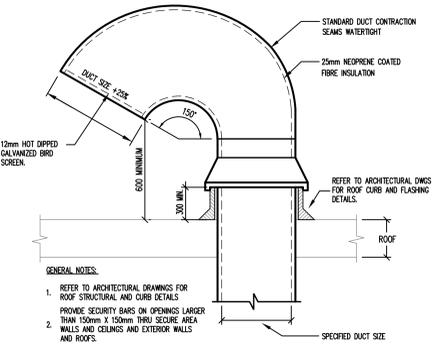
4 EMERGENCY SHOWER EYE/ FACE WASH SCHEMATIC
M8.1 SCALE: N.T.S.



6 DETAIL - GAS UNIT HEATER DETAIL
M8.1 SCALE: N.T.S.



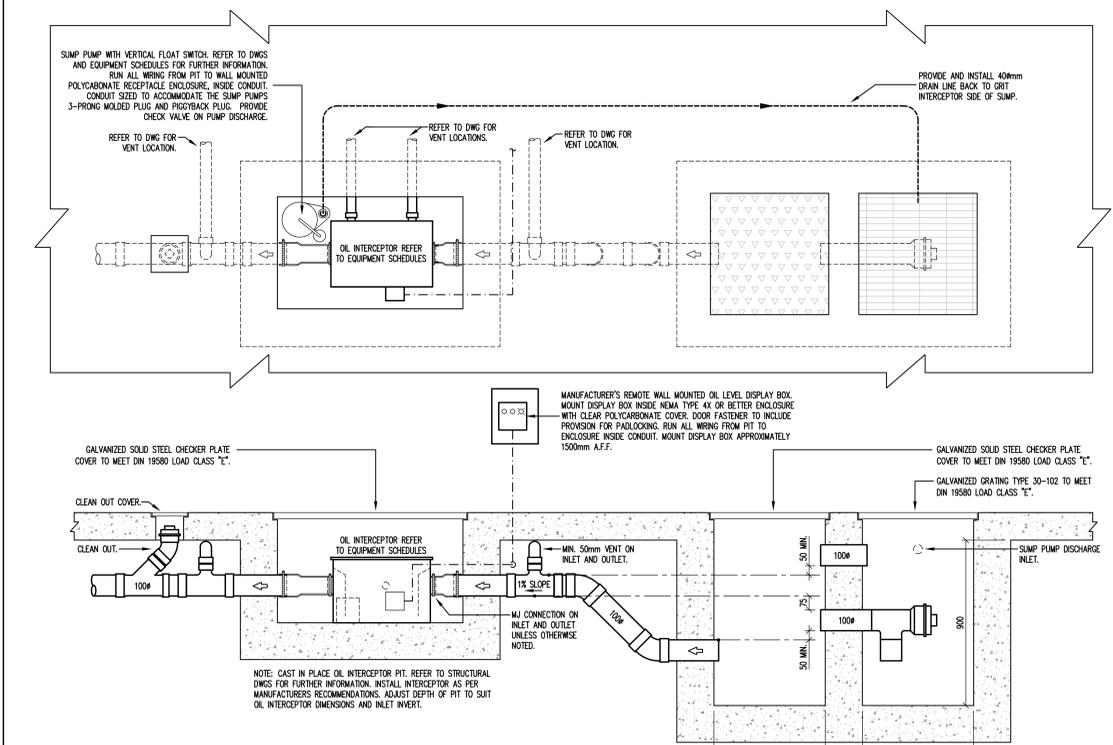
7 DETAIL - UNIT HEATER CONDENSATE DRAIN
M8.1 SCALE: N.T.S.



8 DETAIL - GOOSENECK
M8.1 SCALE: N.T.S.

5 EMERGENCY EYE/ FACE WASH SCHEMATIC
M8.1 SCALE: N.T.S.

7 DETAIL - UNIT HEATER CONDENSATE DRAIN
M8.1 SCALE: N.T.S.



9 DETAIL: TWO COMPARTMENT SUMP WITH OIL INTERCEPTOR.
M8.1 SCALE: N.T.S.

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Project: COALDALE PROTECTIVE SERVICES BUILDING

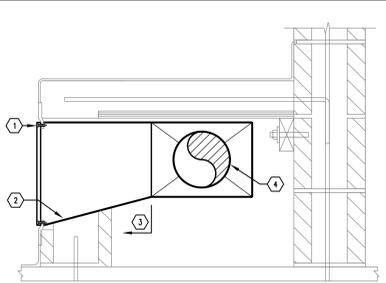
Scale: AS NOTED	Designed By: CK
Project No.: 33966.00	Drawn By: CK
Date: 2019.01.09	Checked By: PC

Drawing Title: MECHANICAL SCHEMATICS

Drawing No. M8.1

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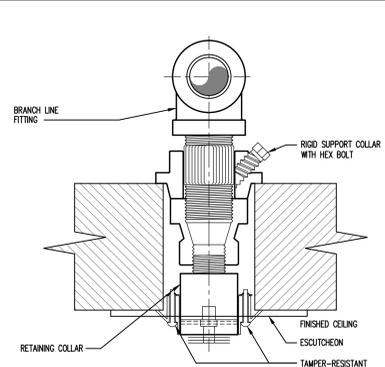


KEYNOTES:

- METAL GRILLE SECURED TO BLOODING WITH SECURITY SCREWS (TYPICAL)
- SLOPE DUCT TOWARDS GRILLE.
- PROVIDE S.S. DUCTWORK TO GRILLE FROM THIS POINT.
- SUPPLY AIR DUCT TO TRANSITION INTO SHOP FABRICATED GRILLE TRANSITION.

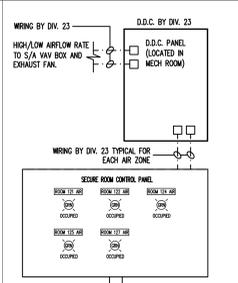
NOTE: REFER TO ARCHITECTURAL DWG DETAILS FOR FURTHER INFO.

1 SECURE AREA BUNK DETAIL (TYPICAL)
SCALE: N.T.S.

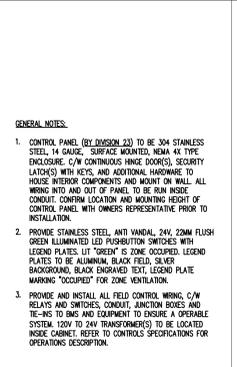


NOTE: THE SPECIAL TAMPER-PROOF SOCKET MUST BE USED FOR INSTALLATION OR REMOVAL OF THE TAMPER-RESISTANT SCREWS.

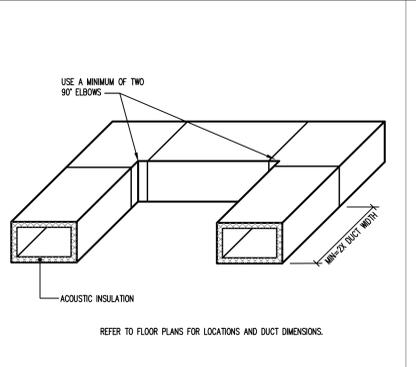
2 SECURE SPRINKLER DETAIL
SCALE: N.T.S.



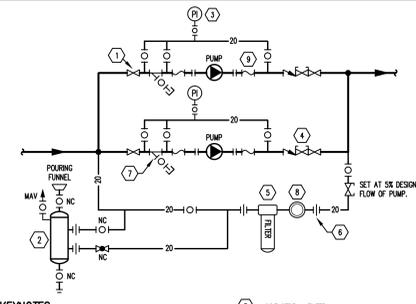
3 SECURE ROOM CONTROL PANEL
SCALE: N.T.S.



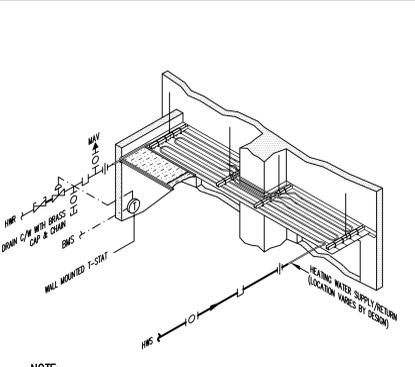
4 CROSS-TALK SILENCER DETAIL
SCALE: N.T.S.



5 HEATING PIPING TAKE-OFFS FROM MAIN
SCALE: N.T.S.

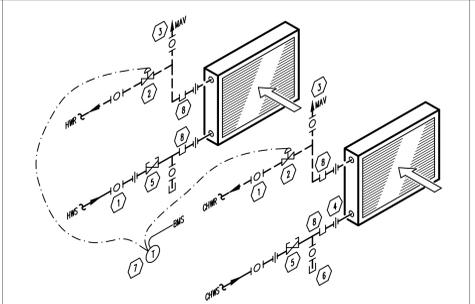


6 PARALLEL PUMP SCHEMATIC
SCALE: N.T.S.

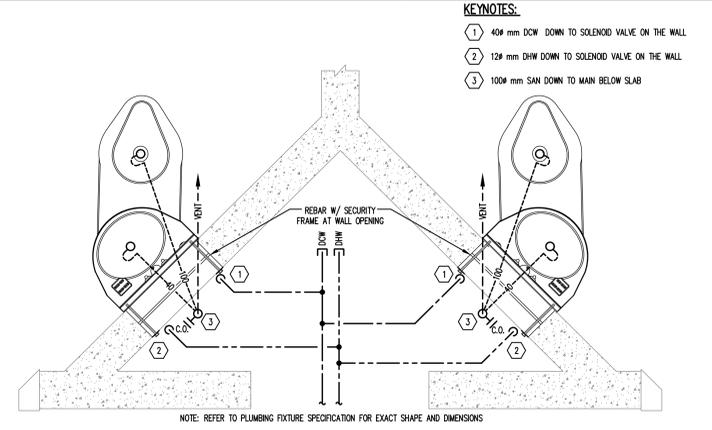


NOTE: WHEN CONTROL SERVICES MORE THAN ONE RADIANT PANEL, EACH RADIANT PANEL TO BE INSTALLED WITH ISOLATION VALVE ON HWS AND BALANCING VALVE ON HWR.

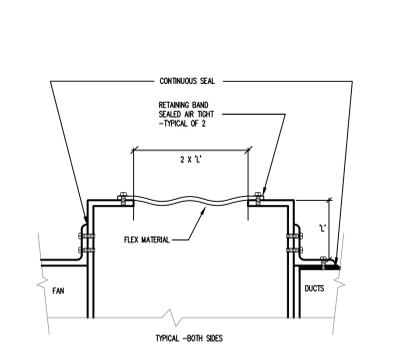
7 RADIANT PANEL SCHEMATIC
SCALE: N.T.S.



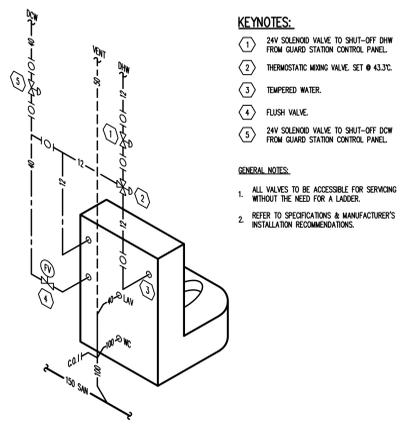
8 FAN COIL UNIT PIPING SCHEMATIC
SCALE: N.T.S.



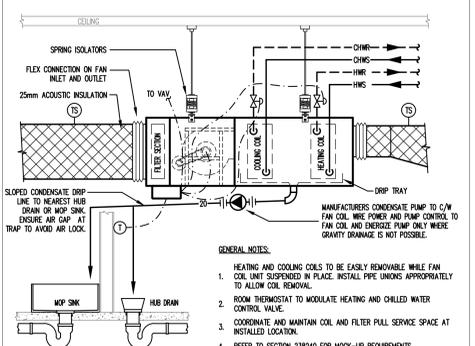
9 SECURE ROOM PLUMBING SERVICE CLOSET PIPING SCHEMATIC
SCALE: N.T.S.



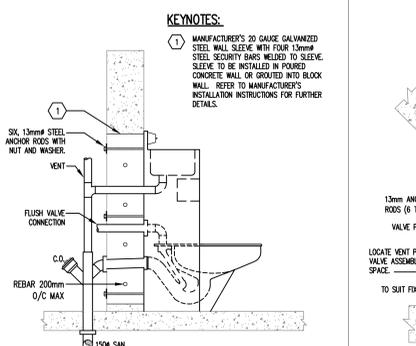
10 FAN/DUCT FLEXIBLE CONNECTION DETAIL
SCALE: N.T.S.



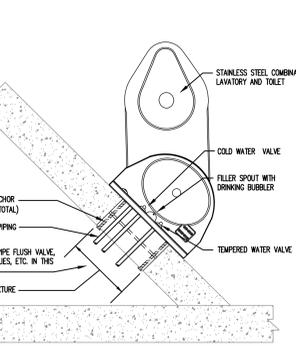
11 SECURE ROOM PIPING INSTALLATION DETAIL
SCALE: N.T.S.



12 FAN COIL UNIT DETAIL
SCALE: N.T.S.



13 SECTION MOUNTING DETAIL SECURE ROOM COMBINATION FIXTURE
SCALE: N.T.S.



14 SECURE ROOM COMBINATION FIXTURE DETAIL
SCALE: N.T.S.

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Scale	AS NOTED	Designed By	CK
Project No.	33966.00	Drawn By	CK
Date	2019.01.09	Checked By	PC

Drawing Title: **MECHANICAL DETAILS**

Drawing No.

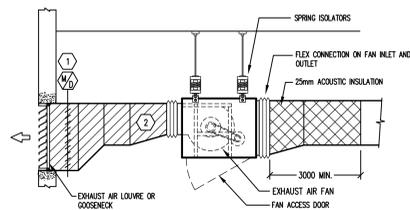
M8.2

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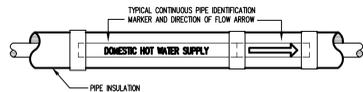
KEYNOTES:

- PROVIDE AND INSTALL MOTORIZED DAMPER AT LOUVER WHERE FAN CAPACITY EXCEEDS 140 L/S (300 CFM) OR WERE INDICATED ON DWGS, ELSE INSTALL QUICK DRAFT DAMPER.
- PROVIDE THERMAL DUCT INSULATION FROM FAN OUTLET TO EXTERIOR WALL LOUVER OR GOOSENECK. REFER TO SPECIFICATIONS FOR INSULATION THICKNESS AND JACKETING.



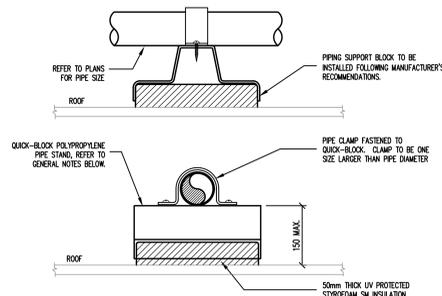
- GENERAL NOTES:**
- REFER TO FLOOR PLANS FOR LOCATIONS AND DUCT DIMENSIONS.
 - PROVIDE SECURITY BARS ON OPENINGS LARGER THAN 150mm X 150mm THRU SECURE AREAS.

1 EXHAUST FAN DETAIL
SCALE: N.T.S.



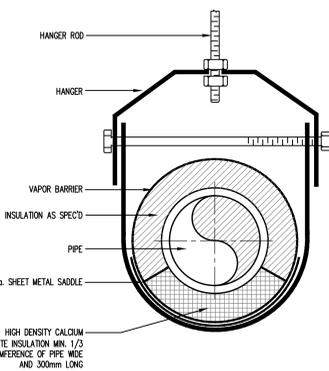
- GENERAL NOTES:**
- APPLY A PRE-FORMED "SNAP AROUND-THE-PIPE" IDENTIFICATION
 - REFER TO SPECIFICATIONS FOR COLOR CODING OF SERVICES.
 - INSTALL AT 15m INTERVALS (MAXIMUM) AND AT EACH CHANGE IN DIRECTION.

2 TYPICAL PIPE IDENTIFICATION DETAIL
SCALE: N.T.S.

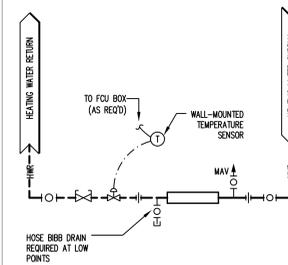


- GENERAL NOTES:**
- ALL INSULATED PIPING TO BE COVERED WITH ALUMINUM JACKETING C/W A HOT DIPPED GALVANIZED LOAD DISTRIBUTION PLATE BENEATH PIPING AT EACH SUPPORT LOCATION TO PREVENT THE INSULATION FROM BEING CRUSHED.
 - PROVIDE EXTENSIONS KIT(S) C/W HOT DIPPED GALVANIZED STEEL REEDY RODS 16mm (5/8") MIN. HOT DIPPED GALVANIZED STEEL STRUTS (12 GAUGE MIN) TO RAISE ALL INSULATED / ALUMINUM JACKED PIPING A MINIMUM 300mm ABOVE FINISHED ROOF DECK.

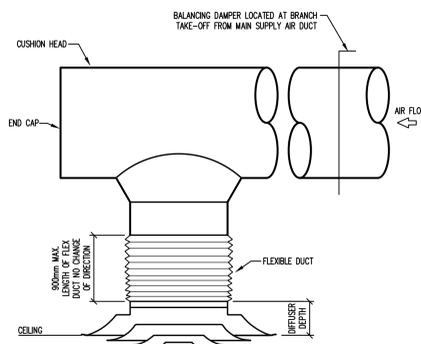
3 TYPICAL PIPING SUPPORT - ROOF
SCALE: N.T.S.



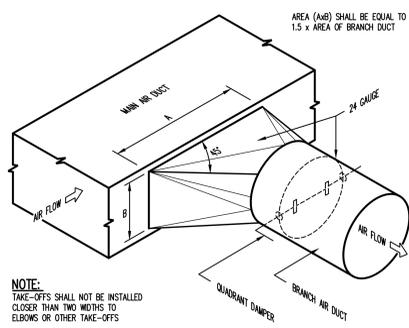
4 PIPE HANGER AND INSULATION DETAIL
SCALE: N.T.S.



5 TYPICAL RADIATION SCHEMATIC
SCALE: N.T.S.

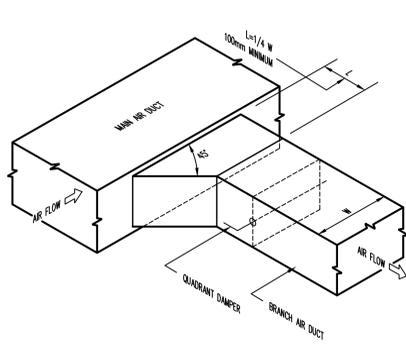


6 DIFFUSER CONNECTION DETAIL
SCALE: N.T.S.

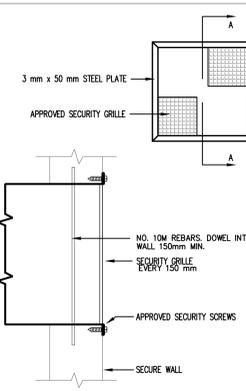


NOTE:
TAKE-OFFS SHALL NOT BE INSTALLED CLOSER THAN TWO WIDTHS TO ELBOWS OR OTHER TAKE-OFFS

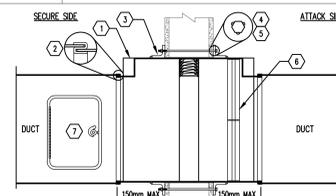
7 SQUARE TO ROUND TAKE-OFF
SCALE: N.T.S.



8 SQUARE TO SQUARE TAKE-OFF
SCALE: N.T.S.

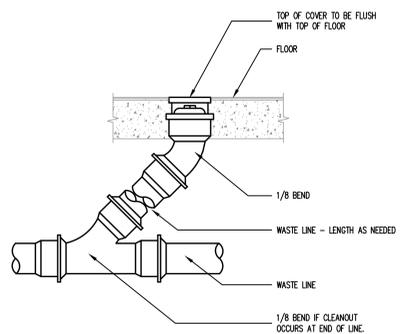


9 SECURE GRILLE DETAIL
SCALE: N.T.S.

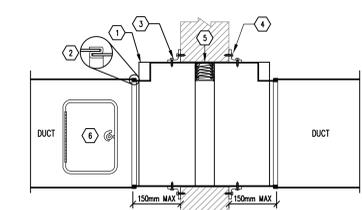


- KEYNOTES:**
- MINIMUM 3.0mm (10 GAUGE) GALVANIZED STEEL SLEEVE WITH TYPE "F" FIRE DAMPER SPOT ON TACK WELDED IN PLACE. PROVIDE A MINIMUM OF FOUR ATTACHMENTS, TWO ON EACH SIDE OF THE BLADE CHANNEL, FOR A MINIMUM TOTAL OF 16.
 - BREAKAWAY JOINT USING "S" SLIP CONNECTION ON TOP AND BOTTOM WITH DRIVE SLIPS ON THE SIDES, OR AS PER MANUFACTURERS RECOMMENDATIONS. SEAL AIR TIGHT.
 - RETAINING ANGLE FRAME ON EACH SIDE OF THE WALL FRAME TO BE CONSTRUCTED FROM 40mm X 40mm X 3.2mm ANGLE STEEL AND WELDED ALL AROUND TO DUCT SLEEVE.
 - SECURE DUCT SLEEVE FRAME TO WALL WITH 6.4mm (1/4") DIA BOLTS AND HEX NUTS AT 200mm (8") ON CENTER AROUND THE DUCT SLEEVE. BOLT LENGTH DETERMINED BY WALL THICKNESS.
 - THE BOLT HEAD SHALL BE ON THE ATTACK SIDE AND BE WELDED IN AT LEAST THREE PLACES TO THE ANGLE FRAME. FRAMING AROUND DUCT SLEEVE IS REQUIRED.
 - SPACE 150mm MIN. DIAMETER VERTICAL SECURITY BARS 150mm O/C. PROVIDE 50mm x 6.4mm HORIZONTAL FLAT BARS AT 300mm ON CENTER. VERTICAL BARS PASS THRU HORIZONTAL BARS. BOTH BARS TO BE WELDED INSIDE A 50mm x 6.4mm FRAME. FRAME TO BE WELDED TO DUCT SLEEVE.
 - PROVIDE ACCESS PANEL ON SECURE SIDE.

10 SECURE AREA DUCT OPENING DETAIL
SCALE: N.T.S.

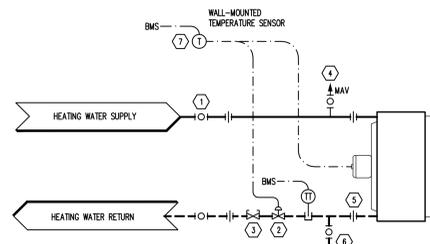


11 FLOOR CLEANOUT
SCALE: N.T.S.



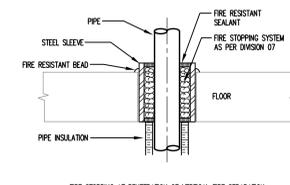
- KEYNOTES:**
- GALVANIZED STEEL SLEEVE WITH TYPE "F" FIRE DAMPER IN PLACE FROM MANUFACTURER. SLEEVE GAUGE SHALL NOT BE LESS THAN THE GAUGE OF THE CONNECTION DUCT. FIRE DAMPER TO BE SPOT OR TACK WELDED IN PLACE. PROVIDE A MINIMUM OF FOUR ATTACHMENTS, TWO ON EACH SIDE OF THE BLADE CHANNEL, FOR A MINIMUM TOTAL OF 16.
 - BREAKAWAY JOINT - USING "S" SLIP CONNECTION ON TOP AND BOTTOM WITH DRIVE SLIPS ON THE SIDES, OR AS PER MANUFACTURERS RECOMMENDATIONS. SEAL AIR TIGHT.
 - RETAINING ANGLE FRAME ON EACH SIDE OF THE WALL FRAME TO BE CONSTRUCTED FROM 40mm X 40mm X 3.2mm ANGLE STEEL.
 - SECURE DUCT SLEEVE FRAME TO WALL WITH 6.4mm (1/4") DIA BOLTS AND HEX NUTS AT 200mm (8") ON CENTER AROUND THE DUCT SLEEVE. BOLT LENGTH DETERMINED BY WALL THICKNESS.
 - ENSURE CLEARANCE BETWEEN WALL AND SLEEVE, 3mm PER LINEAL FOOT, BOTH DIMENSIONS.
 - PROVIDE ACCESS PANEL ON SECURE SIDE.
- NOTES:** PROVIDE CEILING ACCESS PANELS WHERE REQUIRED TO ACCESS DAMPERS PER SPECIFICATION. REFER TO PLAN DWG'S FOR LOCATIONS OF FIRE DAMPERS.

12 FIRE DAMPER INSTALLATION
SCALE: N.T.S.

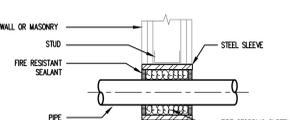


- KEYNOTES:**
- ISOLATION VALVE (TYPICAL)
 - TWO WAY CONTROL VALVE
 - BALANCING VALVE
 - MANUAL AIR VENT
 - FLANGE / UNION (TYPICAL)
 - DRAIN VALVE WITH HOSE BIB, CAP AND CHAIR
 - TEMPERATURE SENSOR

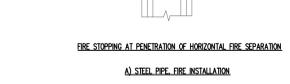
13 TYPICAL HYDRONIC FORCE FLOW / UNIT HEATER SCHEMATIC
SCALE: N.T.S.



FIRE STOPPING AT PENETRATION OF VERTICAL FIRE SEPARATION



FIRE STOPPING AT PENETRATION OF VERTICAL FIRE SEPARATION



FIRE STOPPING AT PENETRATION OF HORIZONTAL FIRE SEPARATION



FIRE STOPPING AT PENETRATION OF HORIZONTAL FIRE SEPARATION

14 FIRE SEPARATION PENETRATIONS DETAIL
SCALE: N.T.S.

- GENERAL NOTES:**
- THICKNESS OF FIRE STOPPING AND SEALANT AS REQUIRED TO MEET FIRE SEPARATION RATINGS
 - FIRE STOPPING SHALL BE INSTALLED BY A QUALIFIED APPLICATOR
 - FIRE RESISTANT SEALANT TO MEET LOCAL CODE REQUIREMENTS.
 - REFER TO MANUFACTURERS DETAIL FOR INSTALLATION.

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Issues/Revisions

No.	Description	Date	By
0	ISSUED FOR TENDER	2019-01-09	OK

Professional Engineer Alberta
PERMIT TO PRACTICE
WILLIAMS ENGINEERING CANADA INC.
PERMIT NUMBER
P 10527
The Association of Prof. Engineers
and Geoscientists of Alberta.

Client
Government of Canada / Gouvernement du Canada

Canada
Project
COALDALE PROTECTIVE SERVICES BUILDING

Scale	AS NOTED	Designed By	OK
Project No.	33966.00	Drawn By	OK
Date	2019-01-09	Checked By	PC

**MECHANICAL
DETAILS**

- Notes:
- Do not scale drawing
 - It is the responsibility of the appropriate Contractor to check and verify all dimensions on site and report all errors and/or omissions to the Architect or Engineer
 - It is the responsibility of the appropriate Contractor to comply with all Codes and Regulations applicable to the performance of their work.
 - All Drawings and Specifications are instruments of service and are the property of the Architect or Engineer. This Drawing is the Copyright of STEPHENS KOZAK ACI ARCHITECTS AND PLANNERS or the Consultant named on this Drawing as at the date shown and may not be used or reproduced in whole or in part without the express written consent of the Architect or Engineer.
 - All dimensions are in mm unless noted otherwise.

TAG	MAKE	MODEL	TYPE	LOCATION	SERVICE	WEIGHT (kg)	DIMENSIONS (mm)			FUEL	INPUT (kW)	OUTPUT (kW)	FLUID RATE (L/s)	FLUID TEMPERATURE (°C)		PRESSURE DROP (kPa)	OPERATING PRESSURE (kPa)	ELECTRICAL (VOLT/PH/Hz)	NOTES
							DEPTH	WIDTH	HEIGHT					EWT	LWT				
B-1	WEL MCLAN	EVG 399	CONDENSING	ROOM 182	BUILDING HEAT	120	585	690	1150	N.GAS	116	108	1.51	43	60		207.0	120/1/60	NATURAL GAS WALL MOUNTED, SIDE WALL VENTED CONDENSING BOILER, C/W STAINLESS STEEL FIRE-TUBE HEAT EXCHANGER, 10:1 TURNDOWN RATIO, BOILER CIRCULATOR, HIGH LIMIT BOILER WATER TEMPERATURE CONTROLLER, LOW WATER CUTOFF, ASME RATED PRESSURE RELIEF VALVE SET @ 207 kPa (30 PSIG), CONDENSATE ACID NEUTRALIZATION KIT WITH BY-PASS, MANUFACTURERS MAINTENANCE KIT, MANUFACTURERS SIDEWALL VENT (W-M) DIRECT VENT PLATE KIT, EVERGREEN MODBUS INTERFACE (NOTE: WHERE THE SMS USES BACKET PROTOCOL, INSTALL A BACKET CONVERTOR BETWEEN THE BMS AND THE EVERGREEN MODBUS TO BMS TERMINALS). REFER TO CONTROLS SPECIFICATIONS FOR BOILER CONTROL AND POINTS LISTS.
B-2	WEL MCLAN	EVG 399	CONDENSING	ROOM 182	BUILDING HEAT	120	585	690	1150	N.GAS	116	108	1.51	43	60		207.0	120/1/60	NATURAL GAS WALL MOUNTED, SIDE WALL VENTED CONDENSING BOILER, C/W STAINLESS STEEL FIRE-TUBE HEAT EXCHANGER, 10:1 TURNDOWN RATIO, BOILER CIRCULATOR, HIGH LIMIT BOILER WATER TEMPERATURE CONTROLLER, LOW WATER CUTOFF, ASME RATED PRESSURE RELIEF VALVE SET @ 207 kPa (30 PSIG), CONDENSATE ACID NEUTRALIZATION KIT WITH BY-PASS, MANUFACTURERS MAINTENANCE KIT, MANUFACTURERS SIDEWALL VENT (W-M) DIRECT VENT PLATE KIT, EVERGREEN MODBUS INTERFACE (NOTE: WHERE THE SMS USES BACKET PROTOCOL, INSTALL A BACKET CONVERTOR BETWEEN THE BMS AND THE EVERGREEN MODBUS TO BMS TERMINALS). REFER TO CONTROLS SPECIFICATIONS FOR BOILER CONTROL AND POINTS LISTS.

TAG	MAKE	MODEL	QTY	LOCATION	SERVICE	WEIGHT (kg)	DIMENSIONS (mm)			REFRIGERANT	AMBIENT AIR TEMP (°C)		FLUID			PRESSURE DROP (kPa)	CAPACITY PER MOD (kW)	COP @ FULL LOAD	EER @ FULL LOAD	ELECTRICAL (VOLT/PH/Hz)	MCA (Amp)	NOISE (dB)	CONDENSER FAN		NOTES	
							LENGTH	WIDTH	HEIGHT		DRY BULB	WET BULB	TYPE	EWT (°C)	LWT (°C)								FLOW (L/s)	QUANTITY		ESP (Pa)
CH-1	MULTISTACK	ASPD15	2	ROOF	CHILLED WATER SYSTEM	2320	2940	2050	2050	R-410A	31	19	40X PROPYLENE GLYCOL	13.8	7.2	4.0	63	52 (PER MODULE) 104 (TOTAL)	3.92	13.38	208/3/60	167	2 (PER MODULE) 4 (TOTAL)	0	3-WAY VALVE TO DIVERT FLOW AROUND DRY-COOLERS, 2-WAY VALVE TO CONTROL FLOW THROUGH CHILLER MODULES, BYPASS VALVE TO PERMIT FLOW THROUGH DRY-COOLER WHILE NO FLOW THROUGH CHILLER MODULES, BACKET COMMUNICATION CARD, FACTORY PAINTED AS SELECTED BY ARCHITECT DURING SHOP DRAWING STAGE.	
DFC-1	MULTISTACK	FP2	1								2	1	40X PROPYLENE GLYCOL	13.8	7.2	2.5	50	---	---			2	0			

TAG	MAKE	MODEL	TYPE	LOCATION	SERVICE	INLET/OUTLET (mm)	FLUID	CAPACITY (L/s)	PRESSURE (kPa)	MOTOR RPM	MOTOR (kW)	ELECTRICAL (VOLT/PH/Hz)	NOTES								
														DIMENSIONS (mm)			AMBIENT AIR TEMP (°C)		FLUID		
														LENGTH	WIDTH	HEIGHT	DRY BULB	WET BULB	TYPE	EWT (°C)	LWT (°C)
P-1	GRUNDFOS	UP 26-96 F/V5	CIRCULATOR	ROOM 212	HEATING SYSTEM	40	40X PROP. GLYCOL	1.51	15	---	205 WATTS	115/1/60	CAST IRON, FLANGED CONNECTIONS, INTERLOCKED WITH ON BOARD BOILER CONTROLS, CAPABLE FOR FUTURE INTEGRATION INTO BMS. VARIABLE SPEED PUMPING, INITIALLY BALANCE PUMP TO 1.25L/s.								
P-2	GRUNDFOS	UP 26-96 F/V5	CIRCULATOR	ROOM 212	HEATING SYSTEM	40	40X PROP. GLYCOL	1.51	15	---	205 WATTS	115/1/60	CAST IRON, FLANGED CONNECTIONS, INTERLOCKED WITH ON BOARD BOILER CONTROLS, CAPABLE FOR FUTURE INTEGRATION INTO BMS. VARIABLE SPEED PUMPING INITIALLY BALANCE PUMP TO 1.25L/s.								
P-3	GRUNDFOS	MAGNA3 40-180	CIRCULATOR	ROOM 212	HEATING SYSTEM	40	40X PROP. GLYCOL	1.94	110	---	600 WATTS	208/1/60	C/W VFD DRIVE & CONTROL, PROVIDE ADD-ON CM MODULE FOR BMS SYSTEM.								
P-4	GRUNDFOS	MAGNA3 40-180	CIRCULATOR	ROOM 212	HEATING SYSTEM	40	40X PROP. GLYCOL	1.94	110	---	600 WATTS	208/1/60	C/W VFD DRIVE & CONTROL, PROVIDE ADD-ON CM MODULE FOR BMS SYSTEM.								
P-5	GRUNDFOS	TPE	VERTICAL IN-LINE	ROOM 212	CHILLED GLYCOL SYSTEM	40	40X PROP. GLYCOL	5.53	180	---	2.2	208/3/60	C/W VFD DRIVE & CONTROL, PROVIDE ADD-ON CM MODULE FOR BMS SYSTEM.								
P-6	GRUNDFOS	TPE	VERTICAL IN-LINE	ROOM 212	CHILLED GLYCOL SYSTEM	40	40X PROP. GLYCOL	5.53	180	---	2.2	208/3/60	C/W VFD DRIVE & CONTROL, PROVIDE ADD-ON CM MODULE FOR BMS SYSTEM.								
P-7	GRUNDFOS	MAGNA1	CIRCULATOR	ROOM 212	DOMESTIC WATER SYSTEM	25	DOMESTIC WATER	0.25	30	3250	105 WATTS	120/1/60	APPROVED FOR DOMESTIC WATER								
SP-1	LITTLE GIANT	5-ASP-LL	SUMP	ROOM 141	WASTE WATER	- / 25	WASTE WATER	1.16	15	---	380 WATTS	115/1/60Hz	CAST ALUMINUM CONSTRUCTION, WITH DIAPHRAGM SWITCH. RUN ALL WIRING FROM OIL INTERCEPTOR PIT TO WALL MOUNTED WATER RESISTANT POLYCARBONATE RECEPTACLE ENCLOSURE, INSIDE CONDUIT, CONDUIT SIZE TO ACCOMMODATE THE PUMPS 3-PRONG MOULDED POWER PLUG AND PROTECTIVE FUSE, PROTECTIVE AND POWER CORD LENGTHS TO BE MINIMUM 5.5M IN LENGTH EACH, REFER TO DWG M6.0 DETAIL 2 - TWO COMPARTMENT SUMP WITH OIL INTERCEPTOR FOR FURTHER DETAILS.								

TAG	MAKE	MODEL	LOCATION	DIMENSIONS (mm)			TYPE	CAPACITY (kW) IN/OUT	AIRFLOW (L/s)	FLUID				MOTOR (W)	ELECTRICAL (VOLT/PH/Hz)	NOTES		
				LENGTH	WIDTH	HEIGHT				GAS IN (kW)	GAS OUT (kW)	FLOW (L/s)	EWT (°C)				LWT (°C)	PD (kPa)
UH-1	MOORE	EFFINITY PTC 65	ROOM 154	750	700	450	GAS (CONDENSING)	19/17.7	540	19.0	17.3	---	---	---	93	120/1/60	CONDENSATE NEUTRALIZATION KIT, VERTICAL CONCENTRIC VENT KIT, HIGH ALTITUDE KIT, VERTICAL DEFLECTION BLADES AND SPRING ISOLATORS.	
UH-2	MOORE	EFFINITY PTC 65	ROOM 153	750	700	450	GAS (CONDENSING)	19/17.7	540	19.0	17.3	---	---	---	93	120/1/60	CONDENSATE NEUTRALIZATION KIT, VERTICAL CONCENTRIC VENT KIT, HIGH ALTITUDE KIT, VERTICAL DEFLECTION BLADES AND SPRING ISOLATORS.	
UH-3	MOORE	EFFINITY PTC 65	ROOM 150	750	700	450	GAS (CONDENSING)	19/17.7	540	19.0	17.3	---	---	---	93	120/1/60	CONDENSATE NEUTRALIZATION KIT, VERTICAL CONCENTRIC VENT KIT, HIGH ALTITUDE KIT, VERTICAL DEFLECTION BLADES AND SPRING ISOLATORS.	
UH-4	MOORE	EFFINITY PTC 65	ROOM 141	750	700	450	GAS (CONDENSING)	19/17.7	540	19.0	17.3	---	---	---	93	120/1/60	CONDENSATE NEUTRALIZATION KIT, VERTICAL CONCENTRIC VENT KIT, HIGH ALTITUDE KIT, VERTICAL DEFLECTION BLADES AND SPRING ISOLATORS.	
UH-5	MOORE	EFFINITY PTC 65	ROOM 140	750	700	450	GAS (CONDENSING)	19/17.7	540	19.0	17.3	---	---	---	93	120/1/60	CONDENSATE NEUTRALIZATION KIT, VERTICAL CONCENTRIC VENT KIT, HIGH ALTITUDE KIT, VERTICAL DEFLECTION BLADES AND SPRING ISOLATORS.	
UH-6	MOORE	EFFINITY PTC 65	ROOM 130	750	700	450	GAS (CONDENSING)	19/17.7	540	19.0	17.3	---	---	---	93	120/1/60	CONDENSATE NEUTRALIZATION KIT, VERTICAL CONCENTRIC VENT KIT, HIGH ALTITUDE KIT, VERTICAL DEFLECTION BLADES AND SPRING ISOLATORS.	
UH-7	SIGMA	133H	ROOM 182	940	450	675	HYDRONIC	15.5	1230	---	---	0.4	60	43	1.0	125	120/1/60	---
FF-1	SIGMA	SFD6	ROOM 100	1030	715	245	HYDRONIC	7.8	280	---	---	0.2	60	43	6.0	125	120/1/60	FRONT IN/FRONT OUT, LOUVERED IN/OUT, CUSTOM STAINLESS STEEL FRONT.
FF-2	SIGMA	SFD6	ROOM 137	1030	715	245	HYDRONIC	7.8	280	---	---	0.2	60	43	6.0	125	120/1/60	FRONT IN/FRONT OUT, LOUVERED IN/OUT, CUSTOM STAINLESS STEEL FRONT.
FF-3	SIGMA	SFD6	ROOM 191	1030	715	245	HYDRONIC	7.8	280	---	---	0.2	60	43	6.0	125	120/1/60	FRONT IN/FRONT OUT, LOUVERED IN/OUT, CUSTOM STAINLESS STEEL FRONT.

TAG NO.	MFG.	MODEL	EQUIPMENT INFO				WEIGHT	NOTES		
			DIMENSIONS (MM)			FLOW CAPACITY			ELECTRICAL (VOLT/PH/Hz)	MOTOR (kW)
			LENGTH	WIDTH	HEIGHT					
Oil-01	ZURN	Z196	584(l) x 359(w) x 356(d)	56.8 L/M	22.5 LITRES	35 KG Dry	DURA-COATED INTERIOR AND EXTERIOR FABRICATED STEEL OIL INTERCEPTOR, WITH A ELECTRONIC OIL LEVER SENSOR, BRONZE CLEAN OUT PLUG, VISIBLE DOUBLE WALL TRAP SEAL, REMOVABLE COMBINATION PRESSURE EQUALIZING/FLOW DIFFUSING BAFFLE, SEDIMENT BUCKET, HORIZONTAL BAFFLE, VENT CONNECTIONS, SECURED CASKETS NON-SKID COVER COMPLETE WITH INTEGRAL FLOW CONTROL, FITTING, SENSOR LEVEL DISPLAY BOX C/W ONE GREEN POWER LIGHT, RED OIL LEVEL LIGHT, ADJUSTABLE ALARM AND JUNCTION BOX, MOUNT LEVEL SENSOR, DISPLAY BOX INSIDE A SEPARATE, 4X TYPE NEMA ENCLOSURE WITH CLEAR POLYCARBONATE COVER, NEMA ENCLOSURE DOOR FASTENERS TO INCLUDE PROVISION FOR PAINTING, PROVIDE AND RUN ALL WIRING FROM OIL INTERCEPTOR PIT TO NEMA ENCLOSURE INSIDE CONDUIT, MOUNT ENCLOSURE APPROXIMATELY 1500mm A.F.F. REFER TO DWG M8.1 "DETAIL 3 - TWO COMPARTMENT SUMP WITH OIL INTERCEPTOR" FOR FURTHER DETAILS. REFER TO STRUCTURAL DWGS FOR FURTHER INFORMATION ON OIL INTERCEPTOR PIT.			

TAG	MAKE	MODEL	TYPE	LOCATION	DIMENSIONS (mm)			VOLUME (L)	INPUT (kW)	EFFICIENCY	RECOVERY @56°C (L/hr)	ELECTRICAL (VOLT/PH/Hz)	NOTES
					DIAM	HEIGHT	WT(KG)						
DWH-1	LOOHVAR	SHIELD SNA401-125	TANK	ROOM 212	865	1920	375	450	85	96%	1185	120/1/60	NATURAL GAS CONDENSING HOT WATER HEATER, ASME RATED, CONDENSATE ACID NEUTRALIZATION KIT WITH BY-PASS, MANUFACTURERS MAINTENANCE KIT, DIRECT VENT THRU ROOF WITH RAIN CAP (NO TURNED DOWN ELBOW), SIDEWALL COMBUSTION AIR.
DWH-2	LOOHVAR	SHIELD SNA401-125	TANK	ROOM 212	865	1920	375	450	85	96%	1185	120/1/60	NATURAL GAS CONDENSING HOT WATER HEATER, ASME RATED, CONDENSATE ACID NEUTRALIZATION KIT WITH BY-PASS, MANUFACTURERS MAINTENANCE KIT, DIRECT VENT THRU ROOF WITH RAIN CAP (NO TURNED DOWN ELBOW), SIDEWALL COMBUSTION AIR.

TAG	MAKE	MODEL	TYPE	LOCATION	SERVICE	DIMENSIONS (mm)		WEIGHT (kg)	VOLUME (L)	ACCEPTANCE VOLUME (L)	MAX.WORKING PRESSURE (kPa)	NOTES
						DIAM	HEIGHT					
TK-1	ARIMTROL	ST-30VC	DIAPHRAGM EXPANSION	ROOM 182	DHW SYSTEM	400	480	27	53	34	1034	SUITABLE FOR POTABLE WATER
TK-2	TACO	CEB-84	DIAPHRAGM EXPANSION	ROOM 182	HEATING SYSTEM	400	980	68	84	45	860	ASME RATE, PRECHARGE TO 83kPa
TK-3	TACO	CEB-84	DIAPHRAGM EXPANSION	ROOM 182	CHILLED WATER SYSTEM	400	980	68	84	45	860	ASME RATE, PRECHARGE TO 83kPa
TK-4	TACO	BTP-0125F	BUFFER TANK	ROOM 182	CHILLED WATER SYSTEM	600	1930	623	526	526	860	40mm ARM-FLEX INSULATION, FLANGED CONNECTIONS, ASME RATED.
TK-5	AXOM	SF100	GLYCOL FILL	ROOM 182	CHILLED WATER SYSTEM	600	1245	---	208	208	345	115V/60Hz
TK-6	AXOM	SF100	GLYCOL FILL	ROOM 182	HEATING SYSTEM	600	1245	---	208	208	345	115V/60Hz
TK-7	ARIMTROL	ST-5VC	DIAPHRAGM EXPANSION	ROOM 182	DHW SYSTEM	200	356	8	6.4	2.8	1034	SUITABLE FOR POTABLE WATER

TAG	MAKE	MODEL	LOCATION	DIMENSIONS (mm)			FLUID	NOTES
				WIDTH	LENGTH	DEPTH		
WD-1	LEONARD	SW-75-EVBD	SEE DRAWINGS	250	640	75	WATER	MANUAL WATER BLENDER, 20MM HOT AND COLD WATER INLETS, TWO STOP AND CHECK VALVES WITH COLOR CODED HEAT RESISTANT HANDLES ON INLETS, (INTERNAL PARTS OF STAINLESS STEEL CONSTRUCTION), MIXING CHAMBER WITH 20MM OULET AND DIAL THERMOMETER (20 TO 240°F, -5 TO 115°C), VACUUM BREAKER, CHROME PLATED FINISH, HOSE CONNECTION, STAINLESS STEEL HOSE HOOK, PROVIDE 15.2 METERS (50FT) OF MANUFACTURERS 20MM, HEAVY DUTY HOSE (HDH) AND RUBBER COATED N2 HOSE NOZZLE.
WD-2	ACORN	8156	SEE DRAWINGS	250	250	100	WATER	18 GAGE, TYPE 304 STAINLESS STEEL ENCLOSURE WITH CAM CYLINDER LOCK DESIGNED FOR RECESS WALL MOUNTING, VALVE AND STOP BODY IS CAST BRONZE WITH EXPOSED PARTS CHROME-PLATED, VALVE AND STOP FEATURE TAMPER RESISTANT LOCKSHIELD BONNETS AND REPLACEABLE CARTRIDGES CONTAINING ALL WEARING PARTS INCLUDING THE SEAT. SUPPLY INLETS ARE 20mm (3/4")NPT FEMALE, OULET IS 20mm (3/4") MALE HOSE THREAD, INCLUDED SCREWMARKER STOPS TO ALLOW FOR SHUTTING DOWN WATER SUPPLY, UNIT TO C/W VACUUM BREAKER AND CHECK VALVES AT EACH SUPPLY INLET.
WD-3	LEONARD	SW-75-EVBD	SEE DRAWINGS	250	640	75	WATER	MANUAL WATER BLENDER, 20MM HOT AND COLD WATER INLETS, TWO STOP AND CHECK VALVES WITH COLOR CODED HEAT RESISTANT HANDLES ON INLETS, (INTERNAL PARTS OF STAINLESS STEEL CONSTRUCTION), MIXING CHAMBER WITH 20MM OULET AND DIAL THERMOMETER (20 TO 240°F, -5 TO 115°C), VACUUM BREAKER, CHROME PLATED FINISH, HOSE CONNECTION.
HR-1	NATIONAL FIRE EQUIPMENT	CS-1310-MAX	SEE DRAWINGS	750	750	300	WATER	MAXIMUM SECURITY SURFACE MOUNTED RED HOSE REEL, CABINET, C/W HIGH SECURITY MECHANICAL DEADBOLT LOCK MODEL 7010, ESCUTCHEON FOR MAXIMUM SECURITY LOCK, MAXIMUM SECURITY DOOR LOCK KEY, AND H23010 HEAVY DUTY SECURITY HINGE, HRS-047-75 FIXED HOSE REEL WITH 22.9 METERS (75FT) OF LEONARD MANUFACTURERS 20MM, HEAVY DUTY HOSE (HDH) AND RUBBER COATED N2 HOSE NOZZLE.

TAG	MAKE	MODEL	TYPE	LOCATION	SERVICE	INPUT (kW)	STEAM CAPACITY	WATER (L/hr)	MOTOR (kW)	ELECTRICAL (VOLT/PH/Hz)	NOTES
HU-1	DRH-STEEM	GTS-100	NATURAL GAS	ROOM 182	ERV-1	44	WATER			120/1/60	ULTRASORB STEAM DISPERSION TUBE PANEL

TAG	MAKE	MODEL	LOCATION	SERVICE	PIPE SIZE (mm)	MAX PRESSURE (kPa)	MAX TEMP (°C)	FLOW RATE (L/s)	PRESSURE DROP (kPa)	NOTES
AS-1	TACO	4902ADR-125	ROOM 182	HEATING SYSTEM	50	860	115	1.58	6.0	304 STAINLESS STEEL RINGS, 5 MICRON FILTER
AS-2	TACO	4902ADR-125	ROOM 182	CHILLED WATER SYSTEM	75	860	115	5.53	3.0	304 STAINLESS STEEL RINGS, 5 MICRON FILTER

TAG	MAKE	MODEL	TYPE	LOCATION	SERVICE	DRIVE	AIRFLOW (L/s)	ESP (Pa)	RPM	MOTOR (Watts)	ELECTRICAL (VOLT/PH/Hz)	NOTES
EF-1	GREENDEX	SQ-99-VG	IN-LINE	ROOM 182	WASHROOM EXHAUST	DIRECT	375	75	---	186	120/1/60	VARGREEN MOTOR, MOTOR COVER, INSULATED HOUSING, INLET/OUTLET ADAPTERS, SPRING ISOLATORS, CONSTANT AIRFLOW CONTROL, C/W PILOT TUBE PROBE
EF-2	GREENDEX	SQ-100-VG	IN-LINE	ROOM 182	SECURE AREA EXHAUST	DIRECT	505	75	---	186	120/1/60	VARGREEN MOTOR, MOTOR COVER, INSULATED HOUSING, INLET/OUTLET ADAPTERS, SPRING ISOLATORS, CONSTANT AIRFLOW CONTROL, C/W PILOT TUBE PROBE
EF-3	GREENDEX	CUE-070-VG	ROOF EXHAUST	ROOM 155/156	ROOF	DIRECT	115	75	---	125	120/1/60	ROOF MOUNTED EXHAUST FAN C/W VARGREEN ECM MOTOR, INSULATED ROOF CURB MINIMUM 300 HIGH, INSULATED LOW LEAKAGE MOTORIZED DAMPER AT EXIT THRU ROOF, SECURITY BARS AT EXIT THRU ROOF, 0-10V DC SIGNAL TIED INTO BMS SYSTEM REFER TO CONTROLS SPECIFICATIONS FOR OPERATION.
EF-4	GREENDEX	SQ-85-VG	IN-LINE	ROOM 130	GARAGE EXHAUST	DIRECT	210	60	---	125	120/1/60	VARGREEN MOTOR, MOTOR COVER, INSULATED HOUSING, INLET/OUTLET ADAPTERS, SPRING ISOLATORS, CONSTANT AIRFLOW CONTROL, C/W PILOT TUBE PROBE
EF-5	GREENDEX	SQ-85-VG	IN-LINE	ROOM 140	GARAGE EXHAUST	DIRECT	140	60	---	125	120/1/60	VARGREEN MOTOR, MOTOR COVER, INSULATED HOUSING, INLET/OUTLET ADAPTERS, SPRING ISOLATORS, CONSTANT AIRFLOW CONTROL, C/W PILOT TUBE PROBE
EF-6	GREENDEX	SQ-85-VG	IN-LINE	ROOM 141	GARAGE EXHAUST	DIRECT	170	60	---	125	120/1/60	VARGREEN MOTOR, MOTOR COVER, INSULATED HOUSING, INLET/OUTLET ADAPTERS, SPRING ISOLATORS, CONSTANT AIRFLOW CONTROL, C/W PILOT TUBE PROBE
EF-7	GREENDEX	SQ-85-VG	IN-LINE	ROOM 150	GARAGE EXHAUST	DIRECT	140	60	---	125		

HEAT RECOVERY VENTILATOR SCHEDULE	
TAG	ERV-1
TYPE	INDOOR MODULAR
LOCATION	MECHANICAL ROOM
AREAS SERVED	BUILDING O/A
MANUFACTURER	ENGINEERED AIR
MODEL	
UNIT ELEVATION (m)	863
WIDTH (mm)	1650
LENGTH (mm)	5970
HEIGHT (mm)	2670
WEIGHT (kg)	2300
SUPPLY FAN	
AIRFLOW (L/s)	1600
ESP (Pa)	435
MOTOR POWER (kW)	3.73
ELECTRICAL (VOLT/PH/Hz)	208/3/60
RETURN FAN	
AIRFLOW (L/s)	1285
ESP (Pa)	125
MOTOR POWER (kW)	1.5
ELECTRICAL (VOLT/PH/Hz)	208/3/60
PREDHEAT COIL	
AIRFLOW	1600
FLUID	40% PROPYLENE GLYCOL
ENTERING FLUID TEMP (°C)	60
LEAVING FLUID TEMP (°C)	38
ENTERING AIR TEMP (°C)	-38
LEAVING AIR TEMP (°C)	-4
FLUID FLOW (L/s)	0.78
FLUID PRESSURE DROP (MPa)	14.5
CAPACITY (kW)	64
HEATING COIL	
AIRFLOW	1600
FLUID	40% PROPYLENE GLYCOL
ENTERING FLUID TEMP (°C)	60
LEAVING FLUID TEMP (°C)	38
ENTERING AIR TEMP (°C)	-4
LEAVING AIR TEMP (°C)	20
FLUID FLOW (L/s)	0.59
FLUID PRESSURE DROP (MPa)	12
CAPACITY (kW)	48
FILTER SECTION	
FRESH AIR	MERV 8
EXHAUST AIR	MERV 8
ENERGY RECOVERY	
TYPE	ENTHALPY WHEEL
O/A AIRFLOW (L/s)	1600
E/A AIRFLOW (L/s)	1285
O/A ENTERING TEMP DB (°C)	-4
S/A LEAVING TEMP DB (°C)	
E/A ENTERING TEMP DB (°C)	22
E/A LEAVING TEMP DB (°C)	
O/A CORRECTION FACTOR	1.02
E/A TRANSFER RATIO	
SENS. ENERGY RECOVERY (kW)	
LATENT EFFECTIVENESS	
SENSIBLE EFFECTIVENESS	
TOTAL EFFECTIVENESS	
MOTOR POWER (kW)	
ELECTRICAL (VOLT/PH/Hz)	120/1/60
NOTES / OPTIONS	
VAVs ON SUPPLY FAN AND RETURN FAN. SINGLE POINT POWER. SEPARATE POWER FOR WARMING LIGHTS, BASKET CADD, BYPASS ON SUPPLY/EXHAUST FOR HEAT WHEEL DURING FREE COOLING.	

		FAN COIL SCHEDULE																												
TAG	MAKE	MODEL	LOCATION	SERVICE	DIMENSIONS (mm)			AIR FLOW RATE (L/s)	HEATING COIL						HEATING CAPACITY (kW)	COOLING COIL						COOLING CAPACITY (kW)	FAN ESP (Pa)	FAN DRIVE	MOTOR POWER (W)	ELECTRICAL (VOLT/PH/Hz)	NOTES			
					LENGTH	WIDTH	HEIGHT		EAT (°C)	LAT (°C)	FLUID	FLUID FLOW RATE (L/s)	EWT (°C)	LWT (°C)		FLUID PD (kPa)	EDB (°C)	EWB (°C)	LAT (°C)	FLUID	FLOW RATE (L/s)							EWT (°C)	LWT (°C)	FLUID PD (kPa)
FCU-01	TRANE	BCHD 36	ROOM 107	ROOM 109	1040	1020	460	640	21	24	40% PROP. GLYCOL	0.03	60	38	2.5	2.5	24	18	14.7	40% PROP. GLYCOL	0.30	7.2	13.8	33	7.5	125	DIRECT	745	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-02	TRANE	BCHD 24	ROOM 107	ROOM 107	1040	710	460	290	20	25	40% PROP. GLYCOL	0.02	60	40	2.5	1.7	25	18	13.9	40% PROP. GLYCOL	0.17	7.2	13.8	13	4.1	125	DIRECT	375	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-03	TRANE	BCHD 18	ROOM 105	ROOMS 105/173	975	710	360	205	21	27	40% PROP. GLYCOL	0.02	60	40	2.5	1.5	25	18	13.2	40% PROP. GLYCOL	0.14	7.2	13.8	11	3.4	125	DIRECT	375	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-04	TRANE	BCHD 24	ROOM 111	ROOM 101	1040	710	460	295	21	24	40% PROP. GLYCOL	0.01	60	40	2.5	1.0	25	18	14.8	40% PROP. GLYCOL	0.14	7.2	13.8	17	3.4	125	DIRECT	375	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-05	TRANE	BCHD 12	ROOM 111	ROOMS 103/104/110	975	610	360	100	20	27	40% PROP. GLYCOL	0.01	60	43	2.5	0.82	25	18	12.9	40% PROP. GLYCOL	0.08	7.2	13.8	8	1.8	125	DIRECT	375	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-06	TRANE	BCHD 12	ROOM 111	ROOM 102	975	610	360	100	21	28	40% PROP. GLYCOL	0.01	60	44	2.5	0.84	25	18	13.1	40% PROP. GLYCOL	0.07	7.2	13.8	8	1.7	125	DIRECT	375	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-07	TRANE	BCHD 24	ROOM 111	ROOM 111	1040	710	460	400	21	25	40% PROP. GLYCOL	0.03	60	42	2.5	1.9	25	18	14.6	40% PROP. GLYCOL	0.20	7.2	13.8	16	4.9	125	DIRECT	375	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-08	TRANE	BCHD 24	ROOM 111	ROOM 112	1040	710	460	220	21	27	40% PROP. GLYCOL	0.02	60	41	2.5	1.6	25	18	13.4	40% PROP. GLYCOL	0.14	7.2	13.8	11	3.6	125	DIRECT	375	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-09	TRANE	BCHD 12	ROOM 113	ROOMS 114/116/131/132	975	610	360	175	21	25	40% PROP. GLYCOL	0.01	60	43	2.5	0.91	25	18	14.1	40% PROP. GLYCOL	0.10	7.2	13.8	10	2.4	125	DIRECT	375	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-10	TRANE	BCHD 12	ROOM 113	ROOMS 128/129	975	610	360	100	21	28	40% PROP. GLYCOL	0.01	60	44	2.5	0.84	25	18	13.1	40% PROP. GLYCOL	0.07	7.2	13.8	8	1.7	125	DIRECT	375	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-11	TRANE	BCHD 18	ROOM 177	ROOM 177	975	710	360	155	21	26	40% PROP. GLYCOL	0.01	60	41	2.5	0.98	25	18	13.5	40% PROP. GLYCOL	0.10	7.2	13.8	12	2.5	125	DIRECT	375	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-12	TRANE	BCHD 18	ROOM 179	ROOM 179	975	710	360	280	21	24	40% PROP. GLYCOL	0.01	60	40	2.5	1.02	25	18	14.7	40% PROP. GLYCOL	0.13	7.2	13.8	17	3.4	125	DIRECT	375	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-13	TRANE	BCHD 24	ROOM 180	ROOM 180	1040	710	460	240	21	25	40% PROP. GLYCOL	0.02	60	44	2.5	1.2	25	18	14.4	40% PROP. GLYCOL	0.12	7.2	13.8	15	3.1	125	DIRECT	375	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-14	TRANE	BCHD 36	ROOM 143	ROOM 144	1040	1020	460	600	21	28	40% PROP. GLYCOL	0.21	60	54	2.5	4.9	25	18	14.1	40% PROP. GLYCOL	0.32	7.2	13.8	6	8.1	125	DIRECT	745	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-15	TRANE	BCHD 12	ROOM 143	ROOM 149	975	610	360	100	20	28	40% PROP. GLYCOL	0.01	60	44	2.5	0.84	25	18	13.1	40% PROP. GLYCOL	0.07	7.2	13.8	8	1.7	125	DIRECT	375	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-16	TRANE	BCHD 12	ROOM 143	ROOM 148	975	610	360	185	21	25	40% PROP. GLYCOL	0.01	60	41	2.5	1.0	25	18	13.7	40% PROP. GLYCOL	0.11	7.2	13.8	14	2.8	125	DIRECT	375	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-17	TRANE	BCHD 12	ROOM 143	ROOM 143	975	610	360	185	21	25	40% PROP. GLYCOL	0.01	60	43	2.5	0.9	25	18	14.3	40% PROP. GLYCOL	0.10	7.2	13.8	11	2.4	125	DIRECT	375	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-18	TRANE	BCHD 24	ROOM 139	ROOM 139	1040	710	460	375	21	25	40% PROP. GLYCOL	0.02	60	40	2.5	1.7	25	18	14.5	40% PROP. GLYCOL	0.19	7.2	13.8	15	4.7	125	DIRECT	375	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-19	TRANE	BCHD 24	ROOM 169	ROOMS 169/171/172	1040	710	460	355	21	26	40% PROP. GLYCOL	0.03	60	43	2.5	1.9	24	18	14.4	40% PROP. GLYCOL	0.18	7.2	13.8	15	4.5	125	DIRECT	375	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-20	TRANE	BCHD 24	ROOM 168	ROOM 168	1040	710	460	355	21	25	40% PROP. GLYCOL	0.03	60	44	2.5	2.1	25	18	14.1	40% PROP. GLYCOL	0.19	7.2	13.8	16	4.8	125	DIRECT	375	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-21	TRANE	BCHD 12	ROOM 169	ROOM 170	975	610	360	105	21	27	40% PROP. GLYCOL	0.01	60	41	2.5	0.75	25	18	13.2	40% PROP. GLYCOL	0.08	7.2	13.8	8	1.8	125	DIRECT	375	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-22	TRANE	BCHD 12	ROOM 162	ROOMS 164/165	975	610	360	100	21	28	40% PROP. GLYCOL	0.01	60	44	2.5	0.84	25	18	13.1	40% PROP. GLYCOL	0.07	7.2	13.8	8	1.7	125	DIRECT	375	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-23	TRANE	BCHD 12	ROOM 162	ROOM 166	975	610	360	100	21	28	40% PROP. GLYCOL	0.01	60	44	2.5	0.84	25	18	13.1	40% PROP. GLYCOL	0.07	7.2	13.8	8	1.7	125	DIRECT	375	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-24	TRANE	BCHD 54	ROOM 162	ROOM 162	1220	1020	560	600	21	26	40% PROP. GLYCOL	0.04	60	42	2.5	2.9	24	18	14.5	40% PROP. GLYCOL	0.29	7.2	13.8	33	7.4	125	DIRECT	745	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-25	TRANE	BCHD 54	ROOM 162	ROOMS 162/163	1220	1020	560	600	21	26	40% PROP. GLYCOL	0.02	60	41	2.5	5.1	25	18	14.1	40% PROP. GLYCOL	0.17	7.2	13.8	14	4.2	125	DIRECT	745	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-26	TRANE	BCHD 24	ROOM 160	ROOM 160	1040	710	460	310	21	29	40% PROP. GLYCOL	0.22	60	54	2.5	1.7	25	18	14.0	40% PROP. GLYCOL	0.31	7.2	13.8	6	7.7	125	DIRECT	375	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-27	TRANE	BCHD 18	ROOM 158	ROOMS 136/158/159	975	710	360	280	21	26	40% PROP. GLYCOL	0.03	60	42	2.5	1.9	25	18	14.5	40% PROP. GLYCOL	0.19	7.2	13.8	15	4.7	125	DIRECT	375	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-28	TRANE	BCHD 18	ROOM 155	ROOMS 155/156	975	710	360	280	21	26	40% PROP. GLYCOL	0.04	60	42	2.5	2.9	24	18	14.3	40% PROP. GLYCOL	0.29	7.2	13.8	31	7.0	125	DIRECT	375	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-29	TRANE	BCHD 36	ROOM 183	ROOM 184	1040	1020	460	640	20	--	--	--	--	--	--	--	--	--	40% PROP. GLYCOL	0.30	7.2	13.8	33	7.4	125	DIRECT	745	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER	
FCU-30	TRANE	BCHD 12	ROOM 134	ROOM 134	975	610	360	100	22	25	40% PROP. GLYCOL	0.01	60	41	2.5	1.0	24	18	14.9	40% PROP. GLYCOL	0.12	7.2	13.8	16	3.2	125	DIRECT	375	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-31	TRANE	BCHD 12	ROOM 135	ROOM 135	975	610	360	100	22	25	40% PROP. GLYCOL	0.01	60	41	2.5	1.0	24	18	14.9	40% PROP. GLYCOL	0.12	7.2	13.8	16	3.2	125	DIRECT	375	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-32	TRANE	BCHD 24	ROOM 111	ROOMS 121/122/124/125/127	1040	710	460	250	21	25	40% PROP. GLYCOL	0.02	60	44	2.5	1.2	25	18	13.1	40% PROP. GLYCOL	0.08	7.2	13.8	8	1.7	125	DIRECT	375	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-33	TRANE	BCHD 12	ROOM 138	ROOMS 136/138	975	610	360	100	21	25	40% PROP. GLYCOL	0.01	60	44	2.5	0.84	25	18	14.5	40% PROP. GLYCOL	0.08	7.2	13.8	8	1.7	125	DIRECT	375	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER
FCU-34	TRANE	BCHD 12	ROOM 159	ROOM 161	975	610	360	100	21	25	40% PROP. GLYCOL	0.01	60	44	2.5	0.84	25	18	14.5	40% PROP. GLYCOL	0.08	7.2	13.8	8	1.7	125	DIRECT	375	120/1/60	EC MOTOR, DIRECT DRIVE, MERV 13 FILTER

VARIABLE AIR VOLUME (VAV) BOX SCHEDULE								
TAG	MAKE	MODEL	SERVICE	INLET SIZE (mm)	OPERATING DESIGN RANGE			NOTES
					UNOCCUPIED FLOW (L/s)	DESIGN FLOW (L/s)	MAX FLOW (L/s)	
VAV-01	PRICE	SDV	FCU-01	100	0	20	30	--
VAV-02	PRICE	SDV	FCU-02	100	0	30	40	--
VAV-03	PRICE	SDV	FCU-03	100	0	25	35	--
VAV-04	PRICE	SDV	FCU-04	100	0	30	40	--
VAV-05	PRICE	SDV	FCU-05	100	0	30	40	--