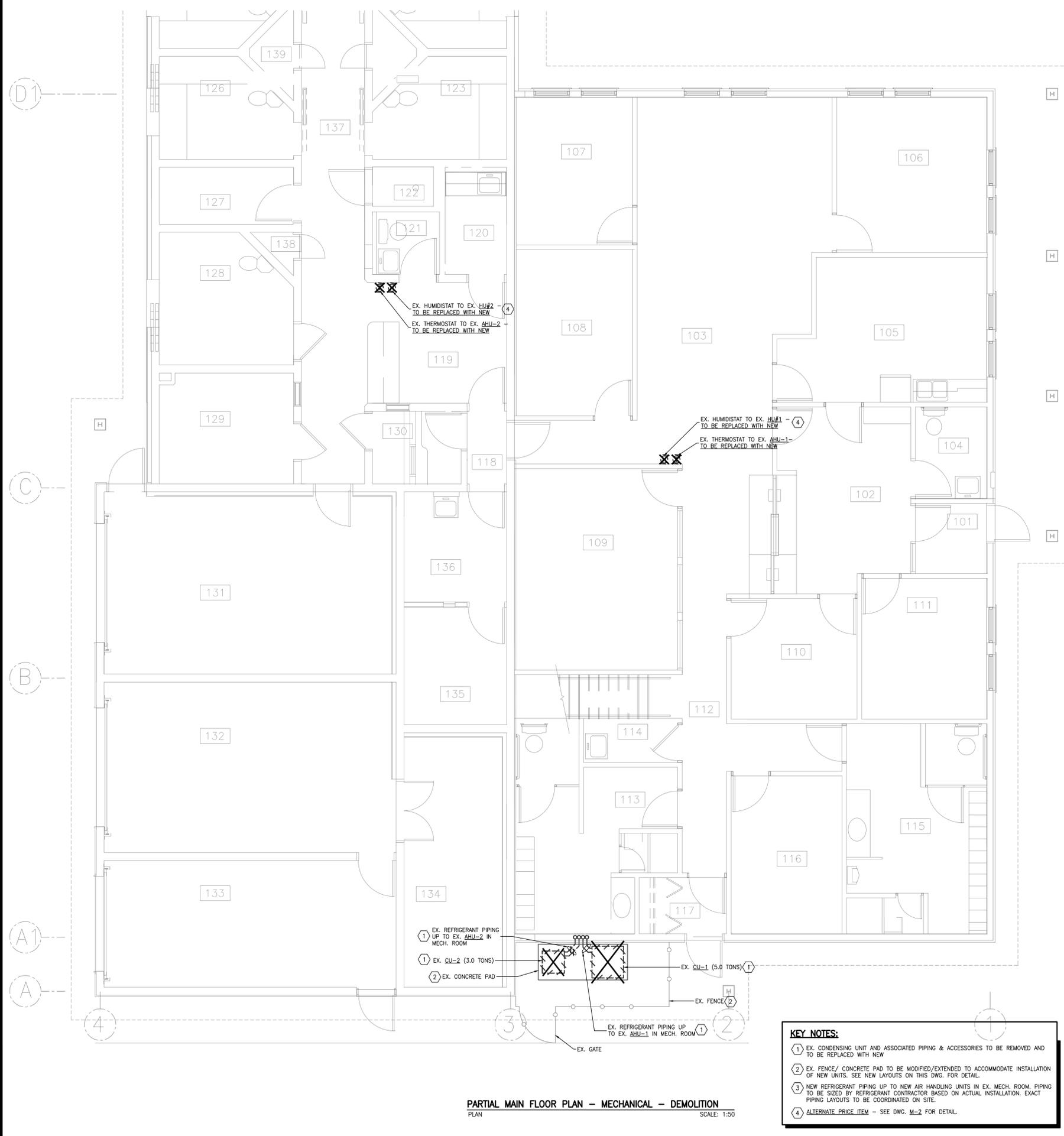


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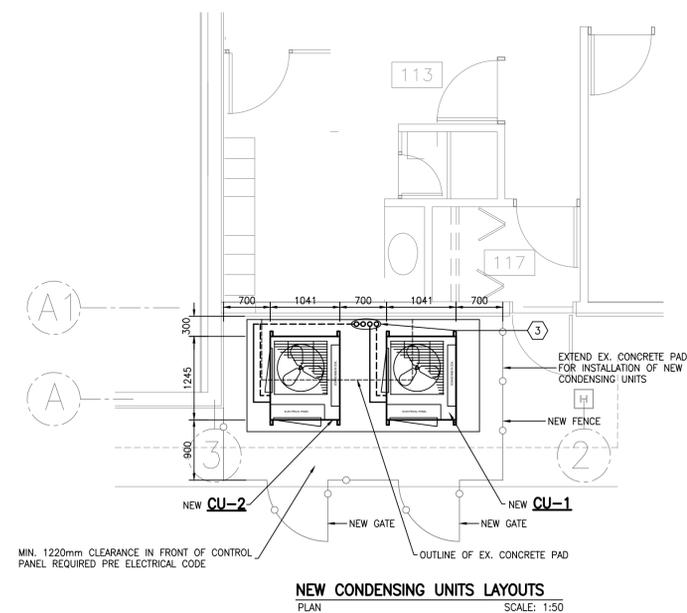


PARTIAL MAIN FLOOR PLAN - MECHANICAL - DEMOLITION
PLAN SCALE: 1:50

- KEY NOTES:**
- EX. CONDENSING UNIT AND ASSOCIATED PIPING & ACCESSORIES TO BE REMOVED AND TO BE REPLACED WITH NEW
 - EX. FENCE/ CONCRETE PAD TO BE MODIFIED/EXTENDED TO ACCOMMODATE INSTALLATION OF NEW UNITS. SEE NEW LAYOUTS ON THIS DWG. FOR DETAIL.
 - NEW REFRIGERANT PIPING UP TO NEW AIR HANDLING UNITS IN EX. MECH. ROOM, PIPING TO BE SIZED BY REFRIGERANT CONTRACTOR BASED ON ACTUAL INSTALLATION. EXACT PIPING LAYOUTS TO BE COORDINATED ON SITE.
 - ALTERNATE PRICE ITEM - SEE DWG. M-2 FOR DETAIL.

SYMBOL LEGEND	
LINETYPES	
EXISTING MECHANICAL TO REMAIN	---
EXISTING MECHANICAL TO BE REMOVED	---/---/---
HEATING AND COOLING LINE TYPES	
REFRIGERANT LIQUID	RL---
REFRIGERANT SUCTION	---RS---
PLUMBING LINE TYPES	
DOMESTIC COLD WATER (DCW)	---
DOMESTIC HOT WATER (DHW)	---
GAS LINE	---
HEATING AND COOLING SYMBOLS	
SUPPLY DUCT (UP AND DOWN)	[Symbol]
EXHAUST DUCT (UP AND DOWN)	[Symbol]
RETURN DUCT (UP AND DOWN)	[Symbol]
OUTSIDE AIR DUCT (UP AND DOWN)	[Symbol]
ROUND DUCT (UP AND DOWN)	[Symbol]
FLEXIBLE DUCT CONNECTION	[Symbol]
MANUAL BALANCE DAMPER	[Symbol]
FIRE DAMPER (1½HR UNLESS NOTED)	[Symbol]
TURNING VANES	[Symbol]
ACOUSTIC LINED DUCT	[Symbol]
THERMALLY INSULATED DUCT	[Symbol]
PIPING SYMBOLS	
ELBOW (UP, DOWN, AND TEE DOWN)	[Symbol]
SHUTOFF VALVE (NORMALLY OPEN/CLOSED)	[Symbol]
PRESSURE REDUCING VALVE	[Symbol]
CAP	[Symbol]
CLEANOUT (WALL, FLOOR)	c.o. [Symbol] c.o.
UNION OR FLANGE	[Symbol]
STRAINER	[Symbol]
GENERAL SYMBOLS	
THERMOSTAT	[Symbol]
HUMIDISTAT	[Symbol]
SMOKE DETECTOR	[Symbol]
CONNECT TO EXISTING	[Symbol]
KEY NOTE REFERENCE	[Symbol]

- DRAWING LIST:**
- M-1: PARTIAL MAIN FLOOR PLANS - MECHANICAL
 - M-2: PARTIAL SERVICE FLOOR PLANS - MECHANICAL
 - M-3: MECH. SPECIFICATIONS, EQUIPMENT SCHEDULES & DETAILS



NEW CONDENSING UNITS LAYOUTS
PLAN SCALE: 1:50

REV.	DATE	DESCRIPTION
1	DEC. 1, 2017	ISSUED FOR COORDINATION
2	DEC. 20, 2017	ISSUED FOR CLIENT REVIEW
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PROJECT
SPARWOOD RCMP - AHU REPLACEMENTS

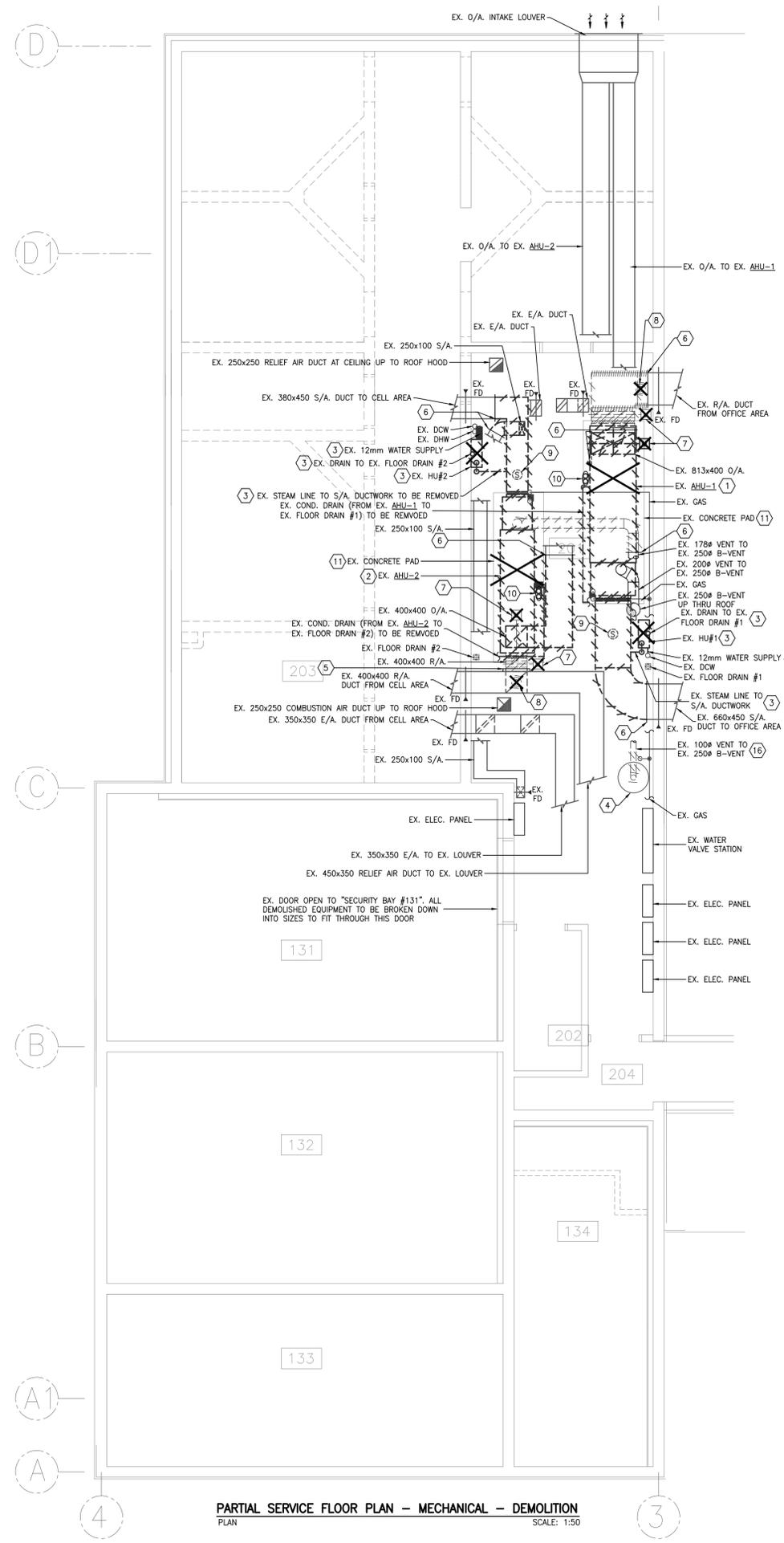
607 DOUGLAS FIR RD
SPARWOOD, BC

DRAWING TITLE
PARTIAL MAIN FLOOR PLANS - MECHANICAL

PROJ. NO.	17173	DRAWN BY:	C.C.
SCALE		DSGN BY:	C.C.
		CHKD BY:	E.S.

DRAWING NO.
M-1

PROJECT NO. 17173 PLOTTED ON: 10/26/2018 4:09 PM

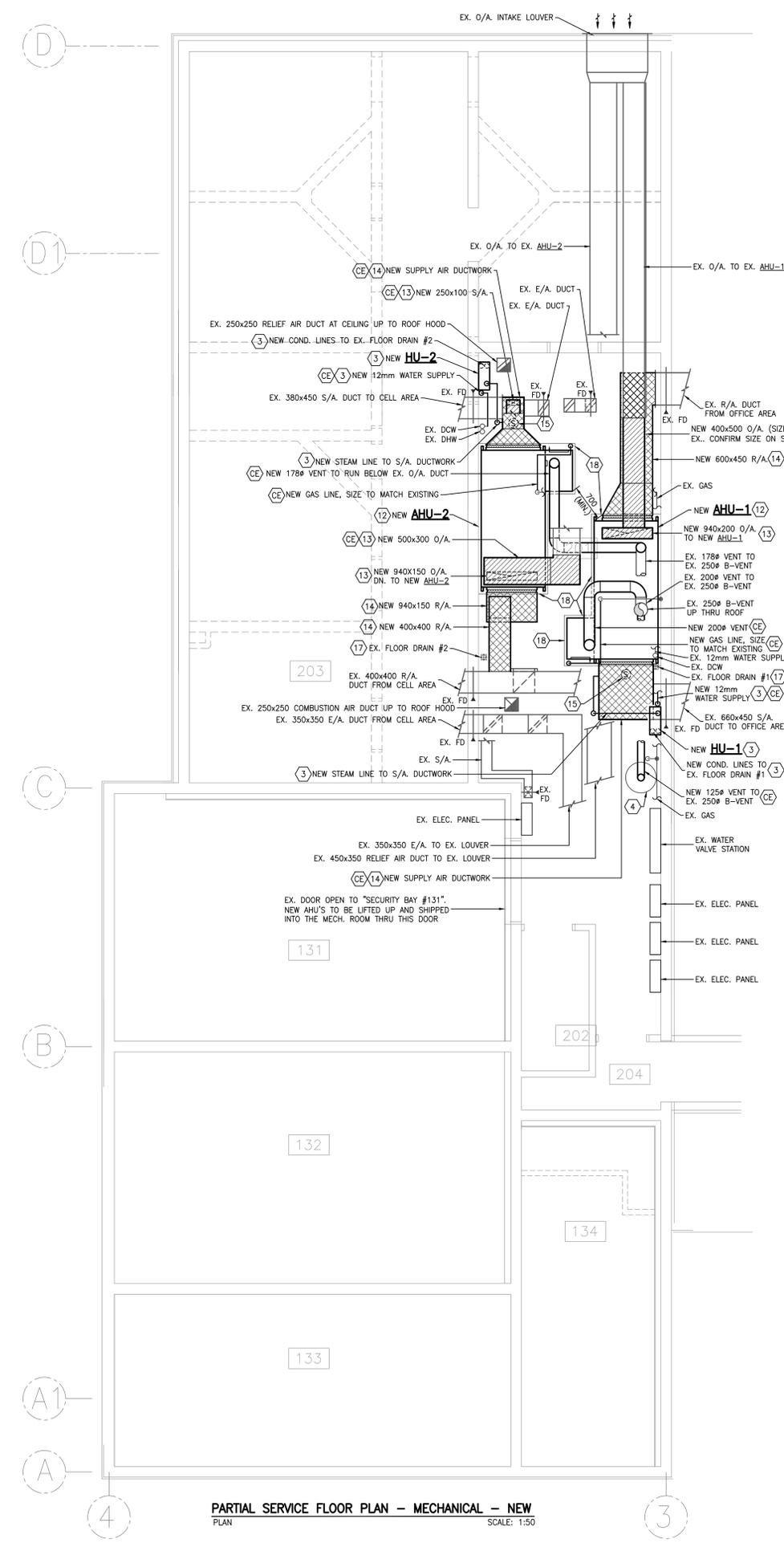


PARTIAL SERVICE FLOOR PLAN - MECHANICAL - DEMOLITION
PLAN SCALE: 1:50

- KEY NOTES:**
- EX. AHU-1 ("ENGINEERED AIR" MODE S-225-C, 1,173 L/S @ 254 Pa, 59.3 KW MAX. GAS INPUT, 45.7 KW MAX. GAS OUTPUT, 240/1/60) - TO BE REPLACED WITH NEW
 - EX. AHU-2 ("ENGINEERED AIR" MODE S-125-C, 600 L/S @ 190.5 Pa, MAX. 33.0 KW GAS INPUT, MAX. 25.4 KW GAS OUTPUT, 240/1/60) - TO BE REPLACED WITH NEW
 - ALTERNATE PRICE ITEM - REPLACING THE EXISTING HUMIDIFIERS WITH NEW AND RELATED INSTALLATION.**
 - EX. DHWT-1 ("BRADFORD WHITE" MODEL M17558BNH, 284 LITERS STORAGE CAPACITY, 20.0 KW GAS INPUT - TO BE RETAINED
 - CAP OFF EXISTING AT THIS POINT
 - TERMINATE EXISTING AT THIS POINT
 - EX. MOTORIZED DAMPER TO BE REMOVED
 - EX. DUCT-TYPE SMOKE DETECTOR TO BE REMOVED
 - EX. DUCT-TYPE SMOKE DETECTOR TO BE RELOCATED. REFER TO NEW LAYOUT ON THIS DWG. FOR NEW LOCATION.
 - EX. REFRIGERANT PIPING TO BE REMOVED
 - EX. CONCRETE PAD TO BE MODIFIED TO SUIT INSTALLATION OF NEW UNIT. REMOVE PORTIONS OF PAD NOT NEEDED. SEE NEW LAYOUT ON THIS DWG. FOR FOOTPRINTS OF NEW UNIT & CONCRETE PAD.
 - RUN NEW COND. DRAIN (COPPER) FROM UNIT TO NEAREST EX. FURNEL DRAIN. REUSE EXISTING COND. DRAIN FROM REMOVED UNIT IF POSSIBLE.
 - NEW DUCTWORK TO BE C/W 25mm THERMAL INSULATION. DUCT SIZE SHOWN IS INSIDE CLEAR DIMENSIONS.
 - NEW DUCTWORK TO BE C/W 25mm ACOUSTIC INSULATION. DUCT SIZE SHOWN IS INSIDE CLEAR DIMENSIONS.
 - NEW LOCATION OF RELOCATED EX. DUCT-TYPE SMOKE DETECTOR
 - EX. VENT TO BE REMOVED AND REPLACED WITH LARGER SIZE VENT
 - ADD NEW FUNNEL TO EX. FLOOR DRAIN
 - OUTLINE OF NEW CONCRETE PAD

- IMPORTANT NOTES:**
- MEASUREMENTS OF EXISTING SUPPLY AND RETURN AIR FLOW RATES AT THE EXISTING AHU-1 & AHU-2 MUST BE CONDUCTED AND RECORDED PRIOR TO RENOVATIONS. THE AIR FLOW RATES SHALL MATCH EXISTING AFTER INSTALLATION OF NEW AHU-1 & AHU-2.
 - CONFIGURATION OF NEW DUCTWORK BETWEEN NEW HVAC EQUIPMENT AND EXISTING DUCTWORK IS TO BE COORDINATED ON SITE. ADEQUATE FREE OPEN AREA SHALL BE MAINTAINED WHEN ODD TRANSITION IS REQUIRED TO SUIT EXISTING.

- ALTERNATE / SEPARATE PRICE ITEMS:**
- PROVIDE AN "ALTERNATE" PRICE FOR REPLACING THE EXISTING HUMIDIFIERS HU-1 & HU-2 WITH NEW UNITS AS SPECIFIED ON DWG. M-3 AND RELATED INSTALLATION.
 - PROVIDE A "SEPARATE" PRICE FOR THE INSTALLATION OF A COMPLETE BUILDING DDC (DELTA CONTROLS OR RELIABLE CONTROLS) SYSTEM.
 - PROVIDE A "SEPARATE PRICE" FOR PROVIDING THE NECESSARY EQUIPMENT TO ALLOW FOR REMOTE ACCESS PER RCMP POSITION PAPER ON DWG. M-3. DESIGN ON REMOTE MONITORING OR CONTROL FOR THE HVAC SYSTEMS MUST OBTAIN RCMP DSB APPROVAL THROUGH THE CERTIFICATION & ACCREDITATION PROCESS AND MEET THE SAFEGUARD REQUIREMENTS.



PARTIAL SERVICE FLOOR PLAN - MECHANICAL - NEW
PLAN SCALE: 1:50

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SPARWOOD, BC

DRAWING TITLE
PARTIAL SERVICE FLOOR PLANS - MECHANICAL

PROJ. NO.	17173	DRAWN BY:	C.C.
SCALE		DSGN BY:	C.C.
		CHKD BY:	E.S.

DRAWING NO.
M-2

NEW HUMIDIFIER SCHEDULE (ALTERNATE PRICE ITEM)

HU-1 & 2

"NEPTRONIC" MODEL SK-304M PACKAGED ELECTRIC STEAM HUMIDIFIER UNIT, 1.5 g/s (12 lb/hr) CAPACITY, 4.0 KW, 208/1/60, 19.0 AMPS, 300 mm (12") SAM DISTRIBUTION, C/W FILL AND DRAIN TRAP ASSEMBLY WITH EXTERNAL ACTUATED DRAIN VALE FOR HARD WATER CONDITION, C/W NETWORK COMMUNICATION SYSTEM (BACNET), ANTI-FOAM PROBE, ELECTRONIC TEMPERATURE SENSOR, STAINLESS STEEL EVAPORATION TANK, SAFETY CUT-OUT SWITCH, HIGH LIMIT HUMIDISTAT, PRESSURE DIFFERENTIAL SWITCH, TOTAL ENCLOSURE CABINET, 597x470x292mm (23-1/2"x18-1/2"x11-1/2") (HxWxD), 26 kg (57 lb)

NEW AIR COOLED CONDENSING UNIT SCHEDULE

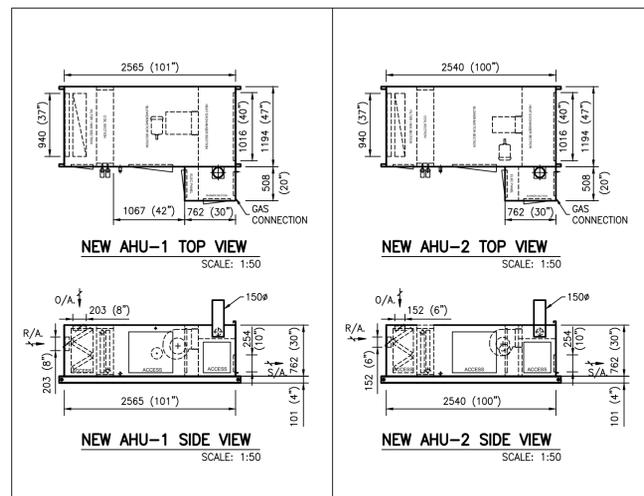
	CU-1	CU-2
MAKE	ENGINEERED AIR	ENGINEERED AIR
MODEL	CU51/O	CU31/O
AHU COUPLED	AHU-1	AHU-2
PERFORMANCE		
NOMINAL COOLING	5.0 tons	3.0 tons
TOTAL COOLING	16.06 kW (54.8 MBH)	10.53 kW (35.9 MBH)
SENSIBLE COOLING	14.03 kW (47.9 MBH)	7.98 kW (27.2 MBH)
PHYSICAL		
DIMENSIONS (LxWxH)	1,245x1,041x1,143 mm (49"x41"x45")	1,245x1,041x1,143 mm (49"x41"x45")
WEIGHT	295 kg (650 lbs)	272 kg (600 lbs)
ELECTRICAL		
V/PH/Hz	230/1/60	230/1/60
COMPRESSOR	7.6 HP	5.4 HP
CONDENSER FAN MOTOR	0.75 HP	0.75 HP
MCA	38.1 AMPS	27.6 AMPS
MAXIMUM BREAKER	60.0 AMPS	45.0 AMPS
REFRIGERANT	R410A	R410A
NOTES	1,2,3	1,2,3

- NOTES:
- C/W SUCTION ACCUMULATOR & DISCHARGE TANK
 - C/W ENGA FLASH INTERCOOLER
 - C/W LOW PRESSURE BYPASS TIMERS & COMPRESSOR FREEZESTAT

NEW AIR HANDLING UNIT SCHEDULE

	AHU-1 (OFFICE AREA)	AHU-2 (CELL AREA)
MAKE	ENGINEERED AIR	ENGINEERED AIR
MODEL	DJS20/C	DJS20/C
CONDENSING UNIT COUPLED	CU-1	CU-2
PERFORMANCE		
AIR FLOW RATE	1,173 l/s (2,485 cfm)	600 l/s (1,270 cfm)
E.S.P	254 Pa (1.0")	190 Pa (0.75")
NOMINAL COOLING	5.0 tons	3.0 tons
GAS INPUT	58.6 kW (200.0 MBH)	36.6 kW (125.0 MBH)
GAS OUTPUT	46.9 Kw (160.0 MBH)	29.3 Kw (100.0 MBH)
PHYSICAL		
DIMENSIONS (HxWxD)	SEE DWGS	SEE DWGS
SHIPPING WEIGHT	658 kg (1,450 lbs)	612 kg (1,350 lbs)
CONFIGURATION	HORIZONTAL DISCHARGE, BASE MOUNTED	HORIZONTAL DISCHARGE, BASE MOUNTED
ELECTRICAL		
V/PH/Hz	230/1/60	230/1/60
BLOWER	2.0 HP	1.0 HP
MCA	16.7 AMPS	9.9 AMPS
MAXIMUM BREAKER	25.0 AMPS	15.0 AMPS
NOTES	1,2,3,4,5,6	1,2,3,4,5,6

- NOTES:
- C/W DX COIL SECTION
 - C/W STAINLESS STEEL HEAT EXCHANGER AND BURNERS, MODULATING GAS VALVE (15 TO 1 TURNDOWN RATIO)
 - C/W 2" REPLACEABLE AIR FILTERS
 - C/W ANGLE (TOP O/A, INTAKE & END RETURN) MIXING AIR INTAKE SECTION WITH "BELIMO" DAMPER MOTORS
 - DRAFT HOOD TO SUIT B-VENT CONNECTION TO EXISTING
 - CONTROLS TO SUIT DDC



UNCLASSIFIED

Position Paper
Departmental Security Branch

1 Subject
Remote control of heating, ventilation and air conditioning (HVAC)

2 Position
The position of Departmental Security Branch (DSB) is that:

- Remote control of HVAC facilities on RCMP premises by external service providers introduces additional risk from outsider threats to the maintenance of environmental conditions that may have an impact on critical operations;
- Remote connections to RCMP-hosted infrastructure introduce additional risk to information and communications technology and the information assets they support; and
- Five core risk mitigation safeguards are needed to operate at an acceptable level of risk.

Hence contracts with HVAC maintenance service providers that include consideration of the safeguards (described below) as part of the solution are an acceptable HVAC remote control solution. Variances from this approach must meet formal certification requirements and be accredited by DSB. Additional activities with respect to remote control that are not addressed in this document must be approved by DSB.

2.1 Definitions
Remote control means the direction, regulation or activation of equipment or technology via signals from a distance.

2.2 Other Considerations
A local policy centre authority must accept the risk and approve the remote control HVAC solution. This requirement is in addition to the solution complying with the other provisions of this document.

2.3 Encryption Safeguard
Communications between an HVAC installation on RCMP premises and an external service provider off-site control centre must be secured by encryption using AES-256 as per ITSA-11E (ESEC, March 2011) or better as identified if/when ITSA-11E is superseded.

Page 1 of 2

UNCLASSIFIED

Position Paper
Departmental Security Branch

2.4 Remote Authentication Safeguard
Authentication of any remote sessions must be to a device using a FIPS 140-3 validated cryptographic module such as IE Conivly or Cisco ASA with encryption standards as outlined in Section 2.3.

2.5 User Identification and Authentication Safeguard
The remote control solution must include identification and authentication of users (of any privilege level) prior to any action being allowed and provide an audit trail of usage with a minimum retention period of ninety days. External service providers must be able to supply logs that track user activities to the RCMP upon request.

2.6 Personnel Safeguard
External service provider personnel charged with performing remote control of an HVAC installation on RCMP premises must be specifically and formally authorized to do so.

The authorization process must tie in to the user ID&A safeguard in Section 2.5 and include screening (ISS at a minimum or more if required), training on the secure use of the remote control enabling solution and the individual signing a declaration or acknowledgement of responsibility for his or her actions.

2.7 Isolation Safeguard
The remote control solution must be entirely isolated from RCMP systems and communications networks. Any element of control using RCMP systems or networks must be performed or overseen by RCMP personnel at all times. Installation of information and communications technology systems on RCMP premises must be performed by RCMP personnel with appropriate authorization.

Page 2 of 2

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DRAWING NO.
M-3