

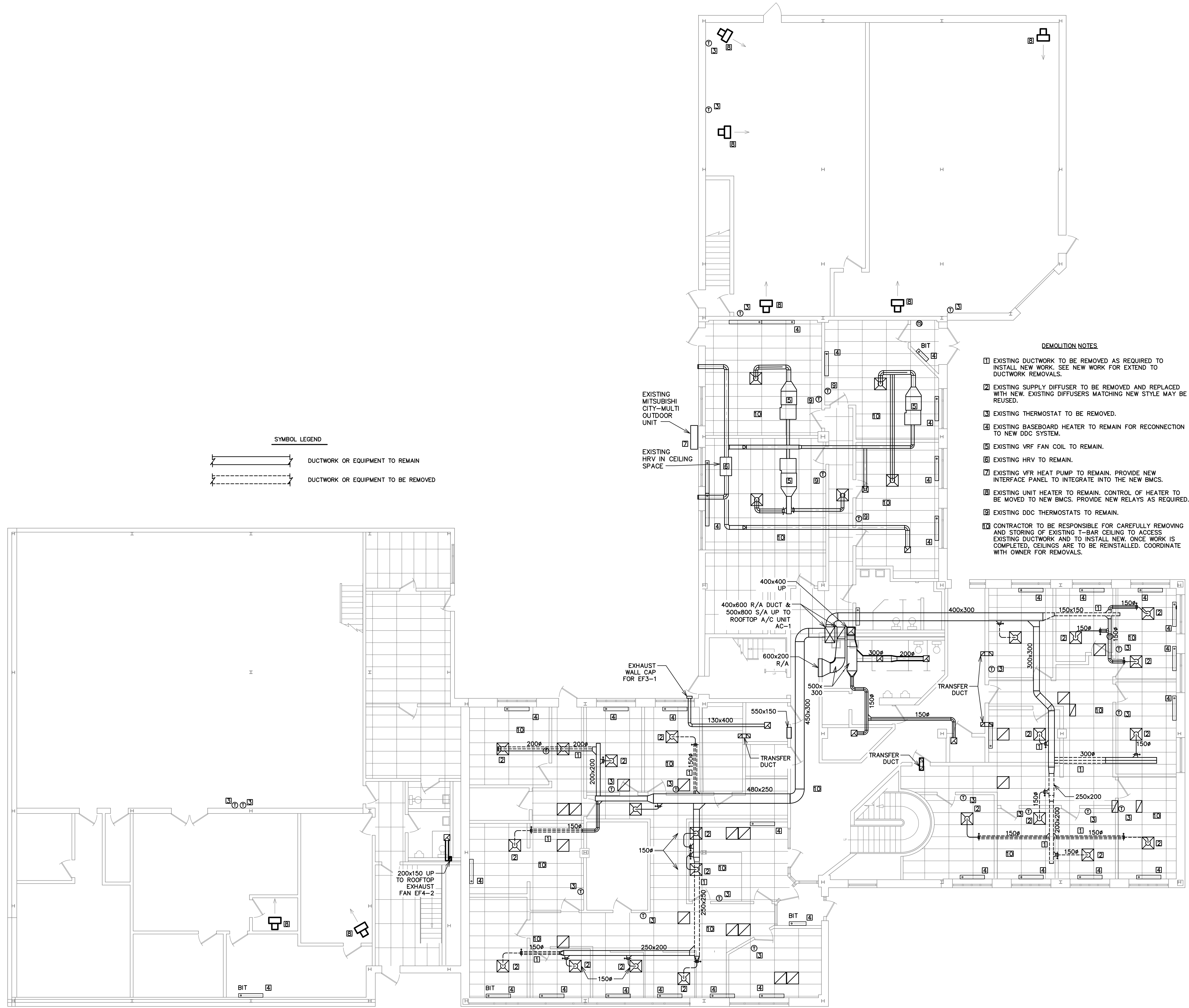


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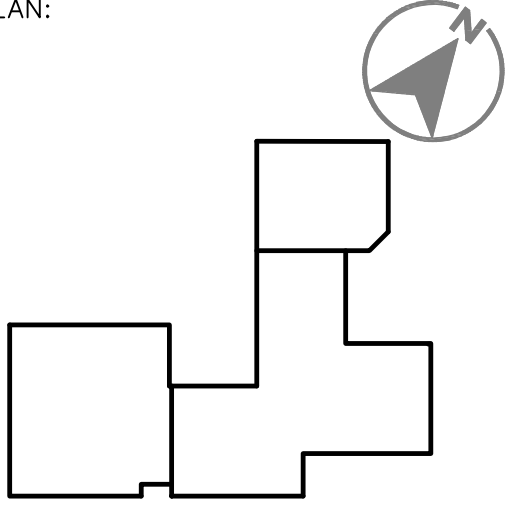


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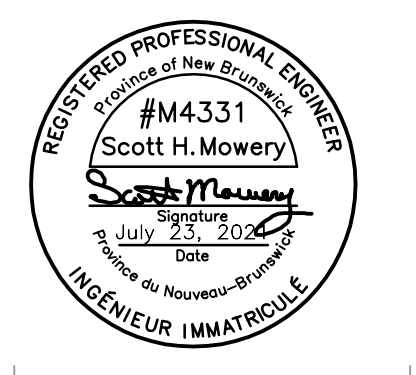
120 MILLINIUM DRIVE, SUITE 201
QUISPAMIS, NB E2E 0C6
BUS: (506) 849-8285 FAX: (506) 849-2131
WWW.MCW.COM ENG. JOB NO. 12-19-082
PKG B5



KEYPLAN:



STAMP:



NO.	ISSUED FOR TENDER	2021/07/23	SM
	REVISIONS	DATE	INIT.
		YYYY/MM/DD	

PROJECT TITLE:
MUNICIPAL OPS HVAC AND CONTROLS

DRAWING TITLE:
LEVEL 1 DEMOLITION

SCALE: AS NOTED DATE: JULY 2021

DRAWN BY: K.M. DRAWING NO: MD-1

CHECKED BY: S.H.M.



CLIENT:



CONSULTANT:

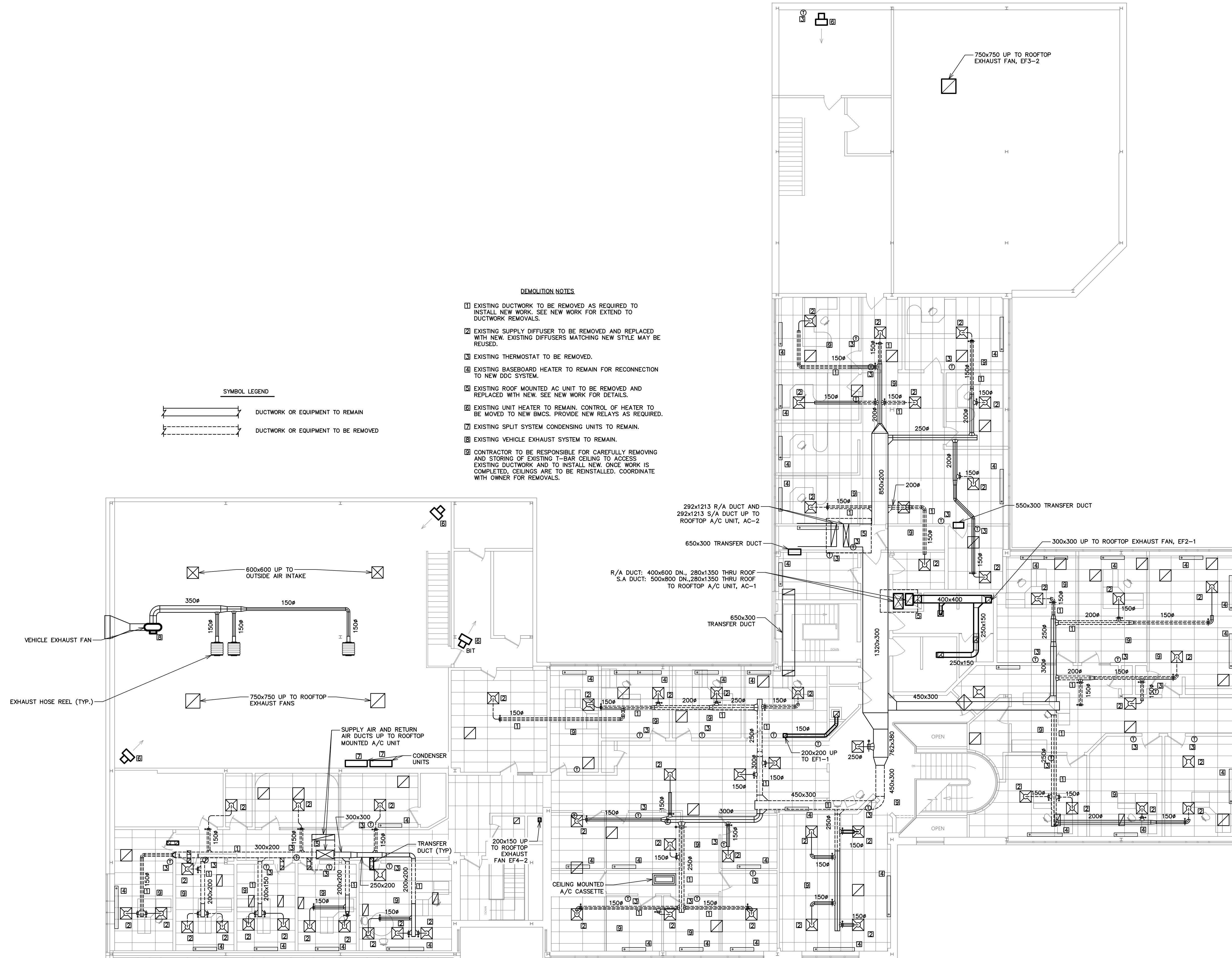
120 MILLINIUM DRIVE, SUITE 201
QUISPANIS, NB E2E 0C6
BUS: (506) 849-8295 FAX: (506) 849-2131
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PKG B5

DEMOLITION NOTES

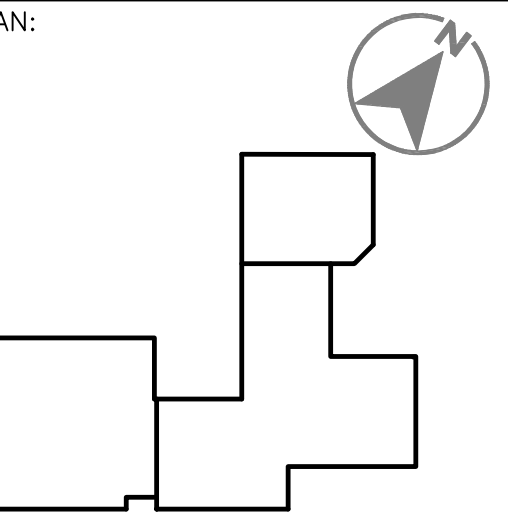
- 1 EXISTING DUCTWORK TO BE REMOVED AS REQUIRED TO INSTALL NEW WORK. SEE NEW WORK FOR EXTEND TO DUCTWORK REMOVALS.
- 2 EXISTING SUPPLY DIFFUSER TO BE REMOVED AND REPLACED WITH NEW. EXISTING DIFFUSERS MATCHING NEW STYLE MAY BE REUSED.
- 3 EXISTING THERMOSTAT TO BE REMOVED.
- 4 EXISTING BASEBOARD HEATER TO REMAIN FOR RECONNECTION TO NEW DDC SYSTEM.
- 5 EXISTING ROOF MOUNTED AC UNIT TO BE REMOVED AND REPLACED WITH NEW. SEE NEW WORK FOR DETAILS.
- 6 EXISTING UNIT HEATER TO REMAIN. CONTROL OF HEATER TO BE MOVED TO NEW BMCS. PROVIDE NEW RELAYS AS REQUIRED.
- 7 EXISTING SPLIT SYSTEM CONDENSING UNITS TO REMAIN.
- 8 EXISTING VEHICLE EXHAUST SYSTEM TO REMAIN.
- 9 CONTRACTOR TO BE RESPONSIBLE FOR CAREFULLY REMOVING AND STORING OF EXISTING T-BAR CEILING TO ACCESS EXISTING DUCTWORK AND TO INSTALL NEW. ONCE WORK IS COMPLETED, CEILINGS ARE TO BE REINSTALLED. COORDINATE WITH OWNER FOR REMOVALS.

SYMBOL LEGEND

- DUCTWORK OR EQUIPMENT TO REMAIN
- DUCTWORK OR EQUIPMENT TO BE REMOVED



KEYPLAN:



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PROJECT TITLE:

MUNICIPAL OPS HVAC AND CONTROLS

DRAWING TITLE:

LEVEL 2 PLAN - DEMOLITION

SCALE: AS NOTED DATE: JULY 2021

DRAWN BY: K.M. DRAWING NO. MD-2

CHECKED BY: S.H.M.



CLIENT:



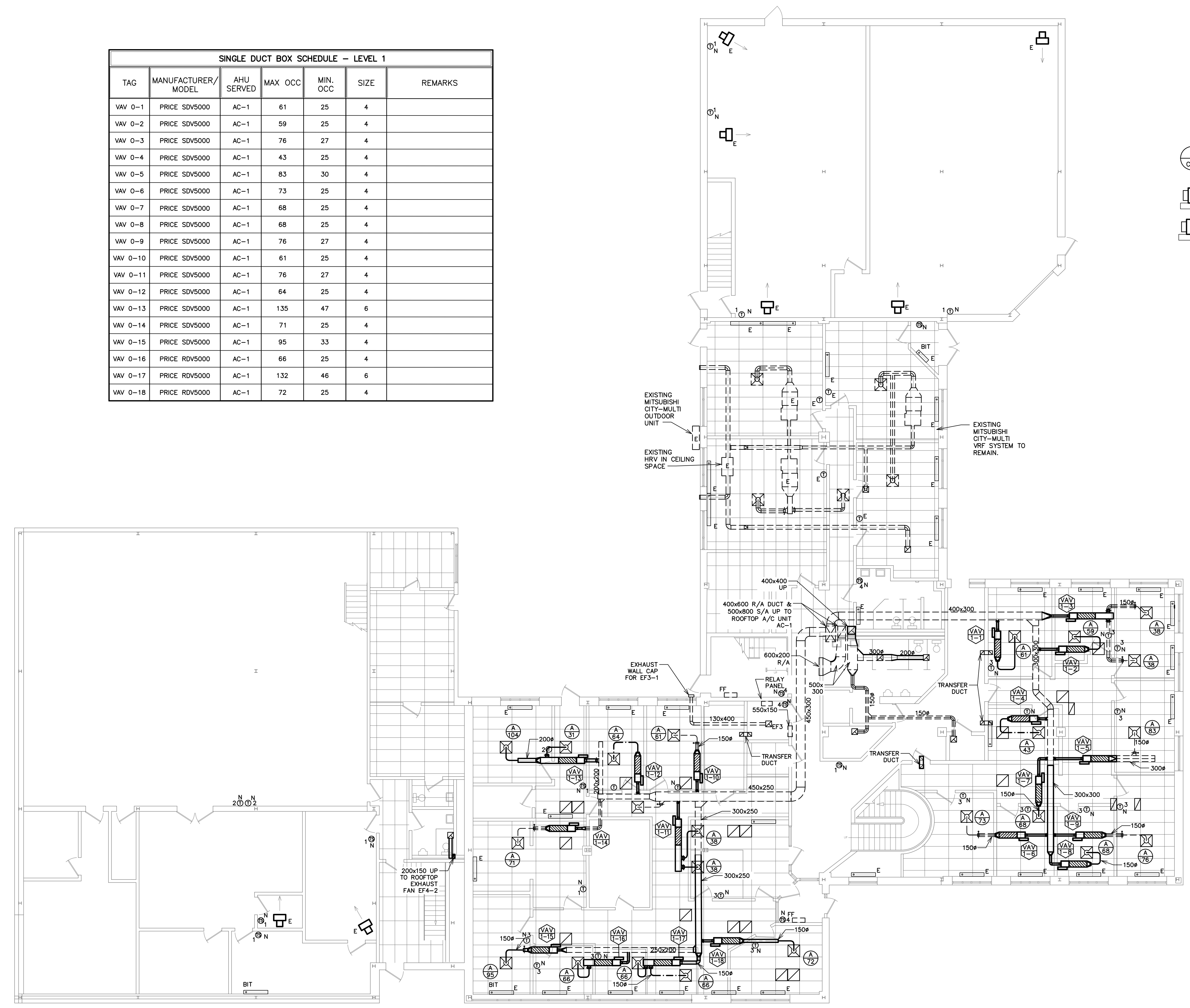
CONSULTANT:

SYMBOL LEGEND

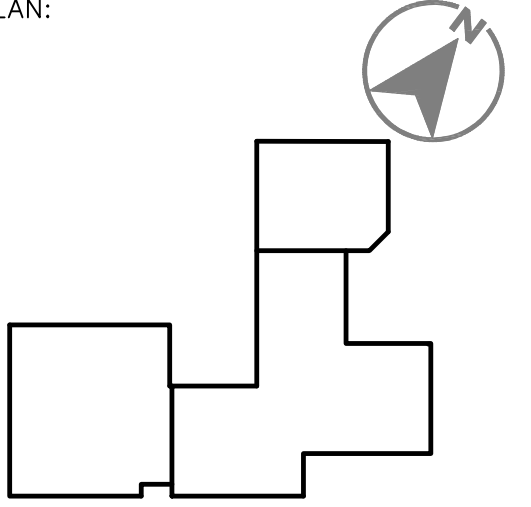
	EXISTING DUCTWORK
	RECTANGULAR DUCTWORK
	ACOUSTICALLY LINED DUCTWORK
	FLEXIBLE DUCT CONNECTION
	FIRE DAMPER
	TAKE-OFF c/w BALANCING DAMPER AND FLEXIBLE DUCT
	SUPPLY AIR DUCT RISER
	RETURN AIR DUCT RISER
	EXHAUST AIR DUCT RISER
	SUPPLY DIFFUSER W/TAG AND AIR FLOW
	VARIABLE AIR VOLUME BOX (VAV) c/w RHC
	VARIABLE AIR VOLUME BOX (VAV) WITHOUT RHC
	DDC THERMOSTAT W/ LED DISPLAY C/W TYPE
	SS BLANK PLATE TEMPERATURE SENSOR C/W TYPE
	EXISTING TO REMAIN
	NEW TO BE INSTALLED

SINGLE DUCT BOX SCHEDULE - LEVEL 1

TAG	MANUFACTURER/MODEL	AHU SERVED	MAX OCC	MIN. OCC	SIZE	REMARKS
VAV 0-1	PRICE SDV5000	AC-1	61	25	4	
VAV 0-2	PRICE SDV5000	AC-1	59	25	4	
VAV 0-3	PRICE SDV5000	AC-1	76	27	4	
VAV 0-4	PRICE SDV5000	AC-1	43	25	4	
VAV 0-5	PRICE SDV5000	AC-1	83	30	4	
VAV 0-6	PRICE SDV5000	AC-1	73	25	4	
VAV 0-7	PRICE SDV5000	AC-1	68	25	4	
VAV 0-8	PRICE SDV5000	AC-1	68	25	4	
VAV 0-9	PRICE SDV5000	AC-1	76	27	4	
VAV 0-10	PRICE SDV5000	AC-1	61	25	4	
VAV 0-11	PRICE SDV5000	AC-1	76	27	4	
VAV 0-12	PRICE SDV5000	AC-1	64	25	4	
VAV 0-13	PRICE SDV5000	AC-1	135	47	6	
VAV 0-14	PRICE SDV5000	AC-1	71	25	4	
VAV 0-15	PRICE SDV5000	AC-1	95	33	4	
VAV 0-16	PRICE RDV5000	AC-1	66	25	4	
VAV 0-17	PRICE RDV5000	AC-1	132	46	6	
VAV 0-18	PRICE RDV5000	AC-1	72	25	4	



KEYPLAN:



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PROJECT TITLE:

MUNICIPAL OPS HVAC AND CONTROLS

DRAWING TITLE:

LEVEL 1 HVAC PLAN

SCALE:	AS NOTED	DATE:	JULY 2021
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DRAWN BY:	K.M.	DRAWING NO.:	M-1
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CHECKED BY:	S.H.M.
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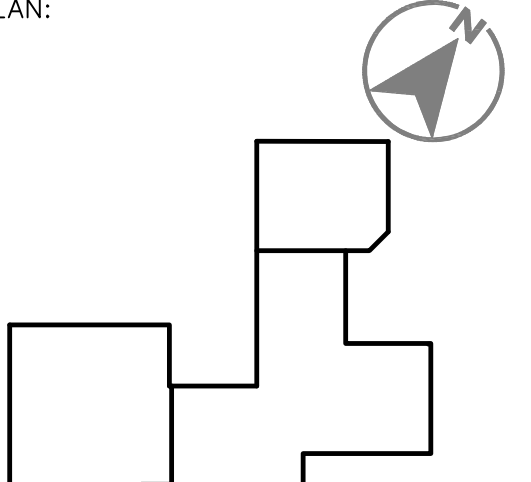


CONSULTANT:



120 MILLINIUM DRIVE, SUITE 201
 QUISPAMIS, NB E2E 0C6
 BUS: (506) 849-8295 FAX: (506) 849-2131
 WWW.MCW.COM ENG. JOB NO. 12-19-082
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KEYPLAN:



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		YYYY/MM/DD	

PROJECT TITLE:

MUNICIPAL OPS HVAC AND CONTROLS

DRAWING TITLE:

LEVEL 2 HVAC PLAN

SCALE: AS NOTED DATE: JULY 2021

DRAWN BY: K.M. DRAWING NO. M-2

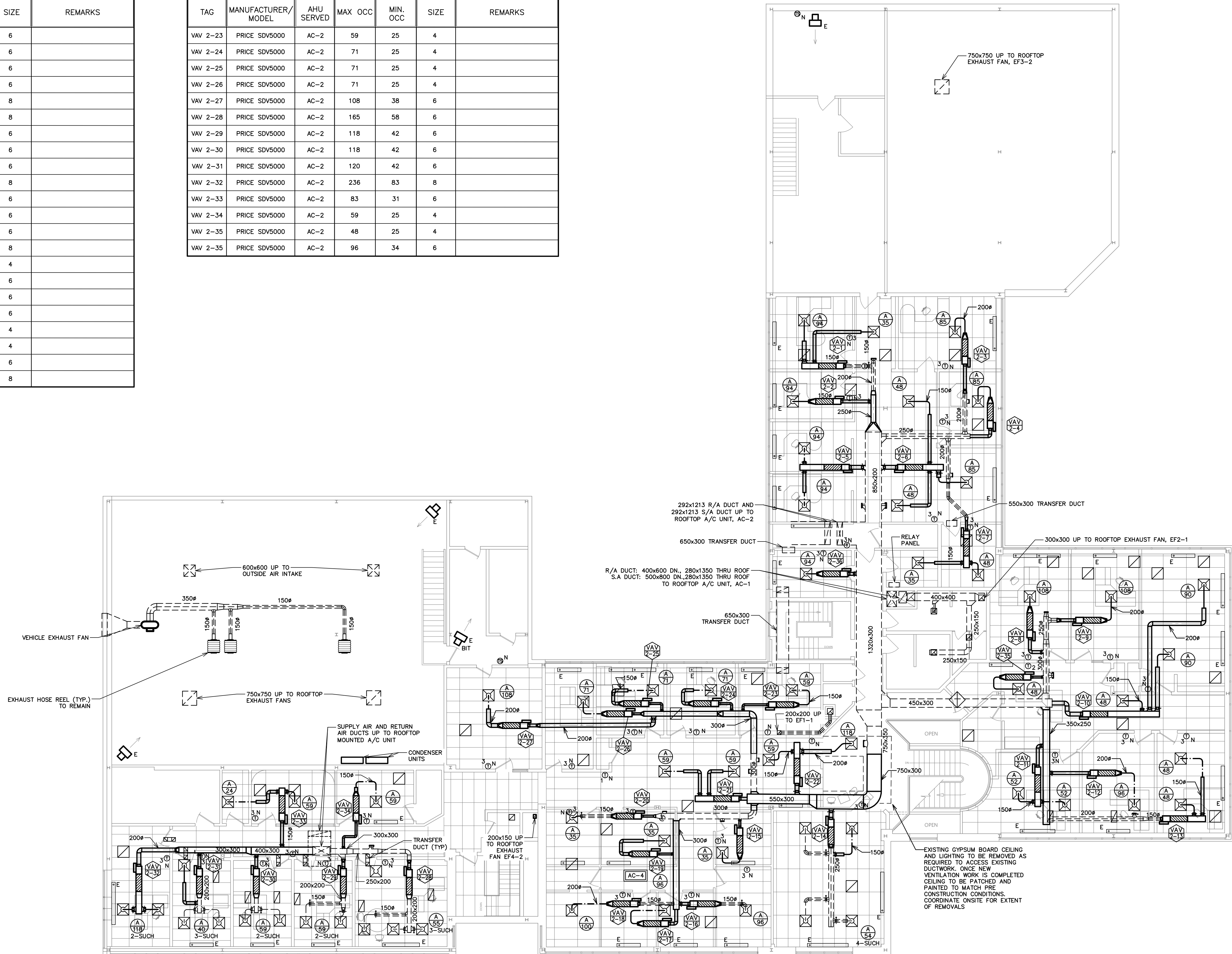
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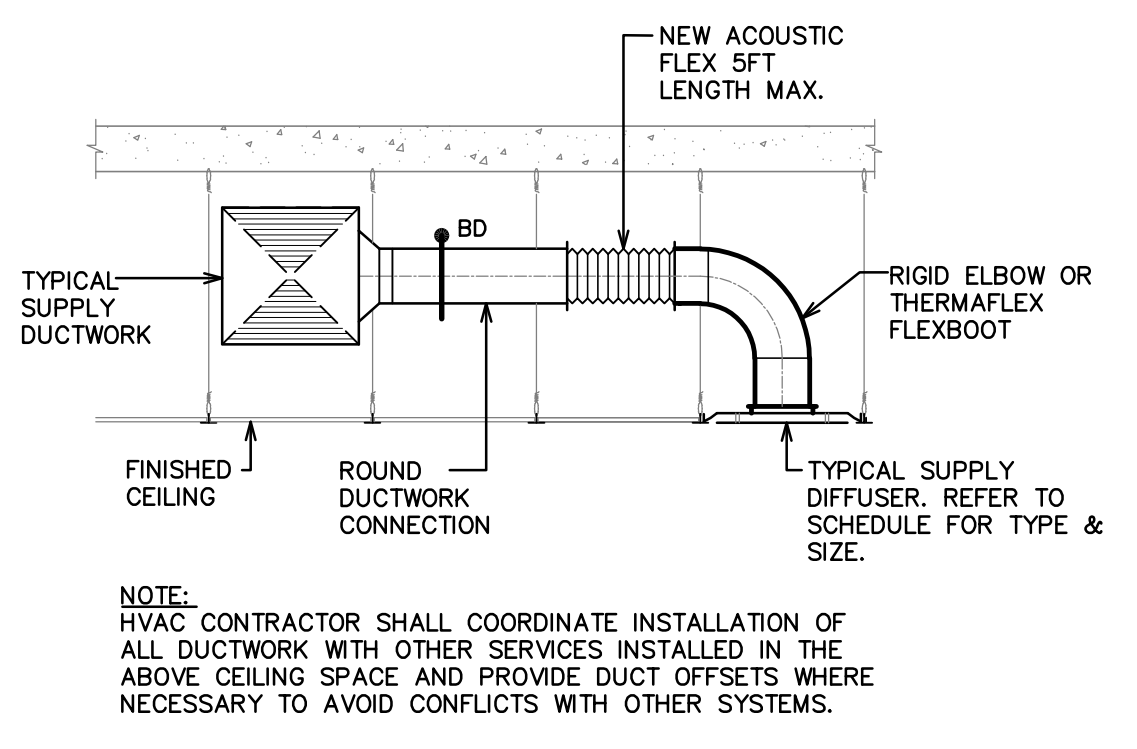
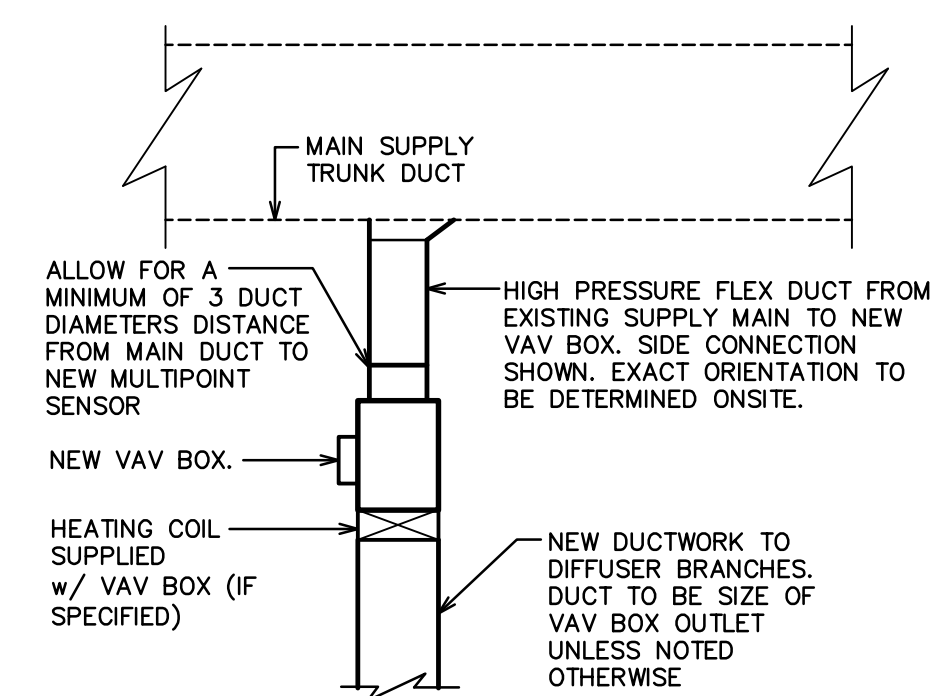
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SINGLE DUCT BOX SCHEDULE - LEVEL 2						
TAG	MANUFACTURER/MODEL	AHU SERVED	MAX OCC	MIN. OCC	SIZE	REMARKS
VAV 2-1	PRICE SDV5000	AC-2	129	45	6	
VAV 2-2	PRICE SDV5000	AC-2	94	33	6	
VAV 2-3	PRICE SDV5000	AC-2	85	31	6	
VAV 2-4	PRICE SDV5000	AC-2	85	31	6	
VAV 2-5	PRICE SDV5000	AC-2	188	66	8	
VAV 2-6	PRICE SDV5000	AC-2	181	63	8	
VAV 2-7	PRICE SDV5000	AC-2	83	31	6	
VAV 2-8	PRICE SDV5000	AC-2	108	38	6	
VAV 2-9	PRICE SDV5000	AC-2	108	38	6	
VAV 2-10	PRICE SDV5000	AC-2	228	107	8	
VAV 2-11	PRICE SDV5000	AC-2	104	37	6	
VAV 2-12	PRICE SDV5000	AC-2	96	34	6	
VAV 2-13	PRICE SDV5000	AC-2	96	34	6	
VAV 2-14	PRICE SDV5000	AC-2	216	76	8	
VAV 2-15	PRICE SDV5000	AC-2	35	25	4	
VAV 2-16	PRICE SDV5000	AC-2	96	34	6	
VAV 2-17	PRICE SDV5000	AC-2	96	34	6	
VAV 2-18	PRICE SDV5000	AC-2	100	35	6	
VAV 2-19	PRICE SDV5000	AC-2	35	25	4	
VAV 2-20	PRICE SDV5000	AC-2	35	25	4	
VAV 2-21	PRICE SDV5000	AC-2	118	42	6	
VAV 2-22	PRICE SDV5000	AC-2	177	84	8	

APPROVED ALTERNATES: NALOR, TITUS

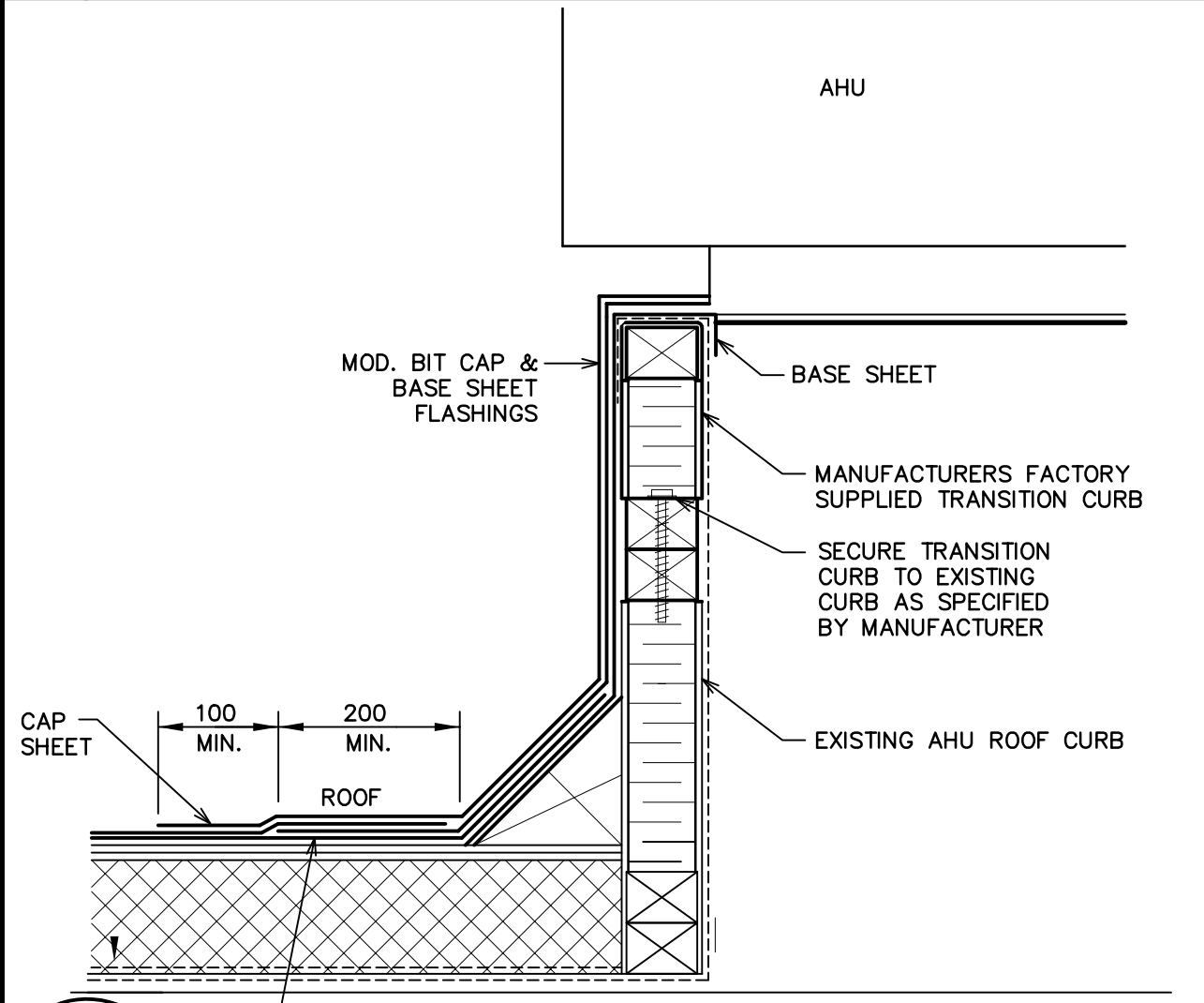
SINGLE DUCT BOX SCHEDULE - LEVEL 2						
TAG	MANUFACTURER/MODEL	AHU SERVED	MAX OCC	MIN. OCC	SIZE	REMARKS
VAV 2-23	PRICE SDV5000	AC-2	59	25	4	
VAV 2-24	PRICE SDV5000	AC-2	71	25	4	
VAV 2-25	PRICE SDV5000	AC-2	71	25	4	
VAV 2-26	PRICE SDV5000	AC-2	71	25	4	
VAV 2-27	PRICE SDV5000	AC-2	108	38	6	
VAV 2-28	PRICE SDV5000	AC-2	165	58	6	
VAV 2-29	PRICE SDV5000	AC-2	118	42	6	
VAV 2-30	PRICE SDV5000	AC-2	118	42	6	
VAV 2-31	PRICE SDV5000	AC-2	120	42	6	
VAV 2-32	PRICE SDV5000	AC-2	236	83	8	
VAV 2-33	PRICE SDV5000	AC-2	83	31	6	
VAV 2-34	PRICE SDV5000	AC-2	59	25	4	
VAV 2-35	PRICE SDV5000	AC-2	48	25	4	
VAV 2-35	PRICE SDV5000	AC-2	96	34	6	





1 M-3 VAV BOX INSTALLATION DETAIL

4 M-3 TYPICAL DIFFUSER INSTALATION DETAIL



ROOF MOUNT HEAT PUMP SCHEDULE

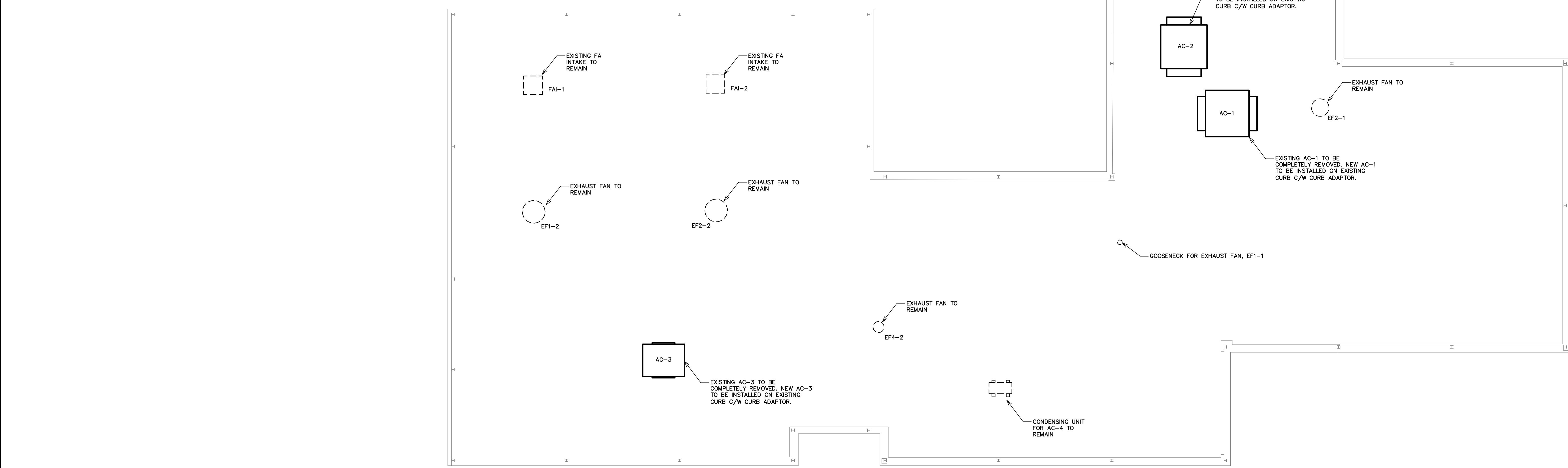
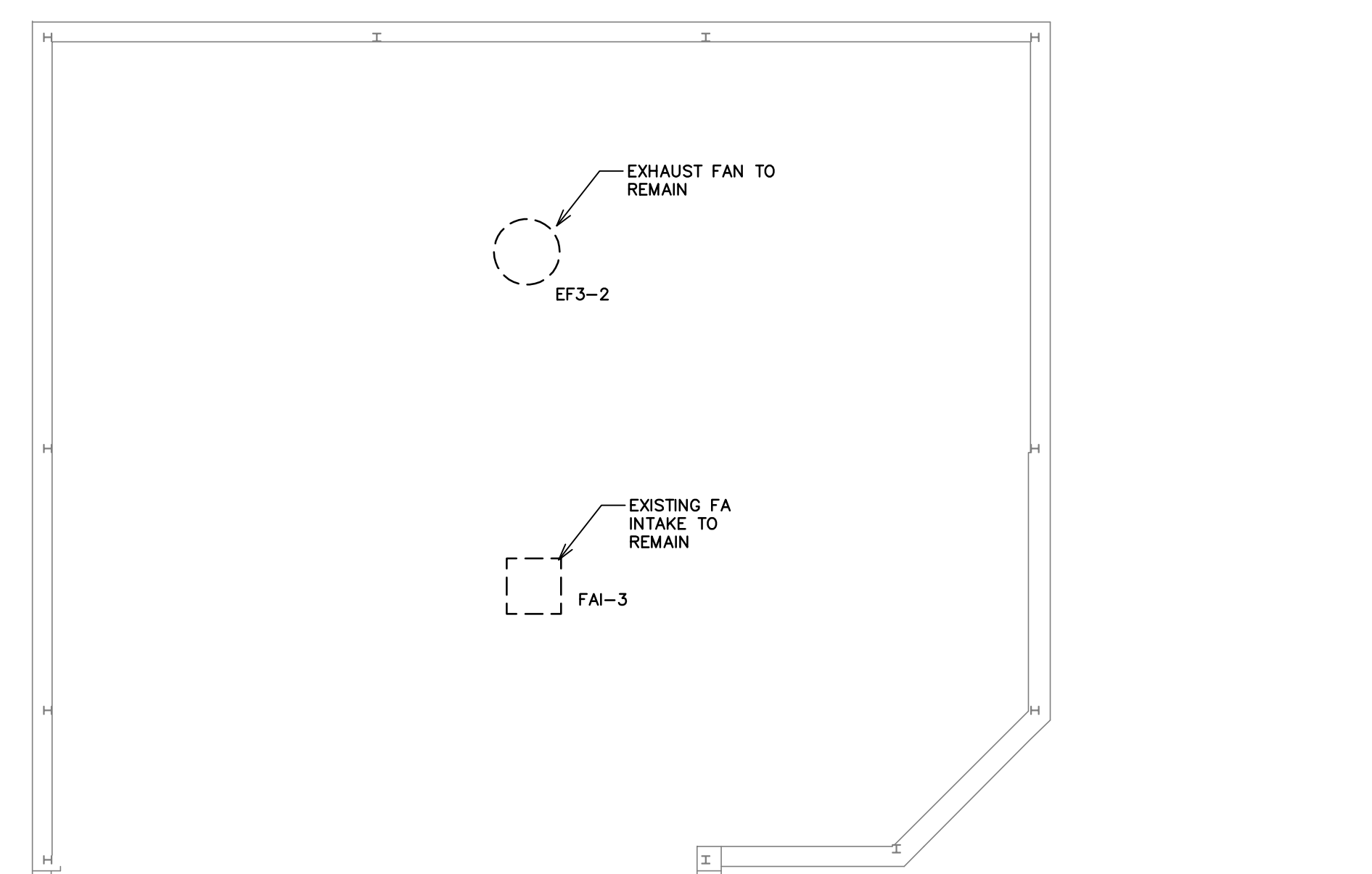
TAG	MANUFACTURER & MODEL	AIR FLOW (L/S)			EXP. S.P. (Pa)	DX COOLING		HEATING			ELECTRICAL				NOTES	
		TOTAL	RETURN	FRESH		TOTAL (KW)	SENSIBLE (KW)	HEAT PUMP		ELECTRIC NET CAPACITY (KW)	VOLTS	PHASE	MCA	MOP		
								NET CAPACITY @ 8.3°C (KW)	NET CAPACITY @ -8.3°C (KW)							
AC-1	DAKIN REBEL DPS007A	1370	1190	180	310	26.9	21.3	26	22.8	13.8	18	575	3	33.4	35	NOTE 1
AC-2	DAKIN REBEL DPS012A	2410	2140	270	310	44.5	36.4	41.6	39.8	22.6	36	575	3	63	70	NOTE 1
AC-3	DAKIN REBEL DPS005A	873	783	90	248	20	14.6	16.1	15.2	N/A	12	208	3	67	70	NOTE 1

NOTE 1 c/w

- VARIABLE SPEED INVERTER COMPRESSOR
- VARIABLE SPEED HEAT PUMP
- ELECTRIC HEATING BACK-UP
- VARIABLE SPEED ECM MOTORS
- BACNET MSTP INTERFACE
- MERV 8 PRE, MERV 13 FINAL FILTERS
- TRANSITION CURB TO ROOFCURB (AC-1&2 YORK, AC-3 TRANE)
- 100% ECONOMIZER C/W BAROMETRIC RELIEF
- NON-FUSED DISCONNECT
- AC-2 TO BE C/W POWERED EXHAUST

2 M-3 ROOF CURB DETAIL

5 M-3 ROOF CURB DETAIL

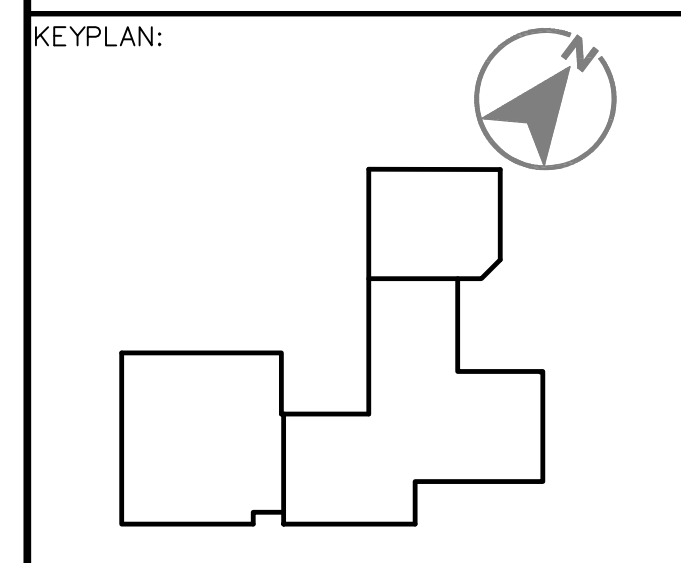


3 M-3 ROOF PLAN

CLIENT:

CONSULTANT:

120 MILLINIUM DRIVE, SUITE 201
QUISPANISH, NB E2E 0G6
BUS: (506) 849-8295 FAX: (506) 849-2131
WWW.MCW.COM ENG. JOB NO. 12-19-082
PKG B5



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PROJECT TITLE:

MUNICIPAL OPS HVAC AND CONTROLS

DRAWING TITLE:

ROOF PLAN & DETAILS

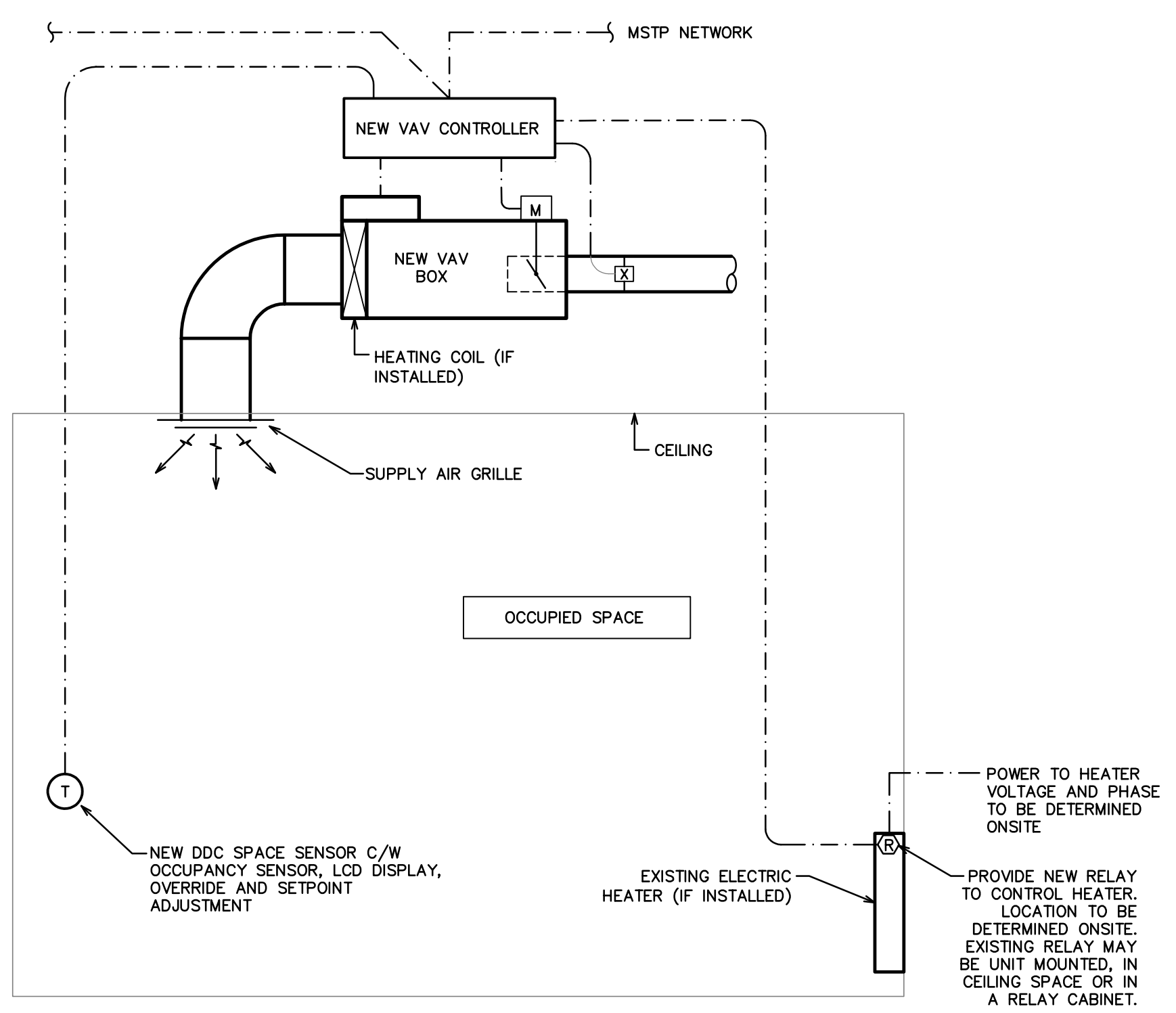
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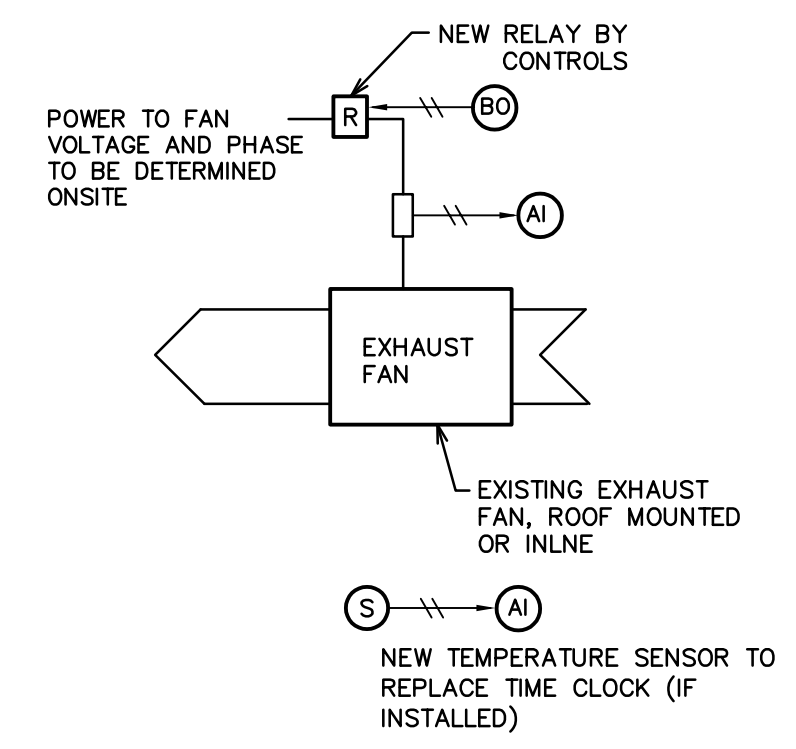
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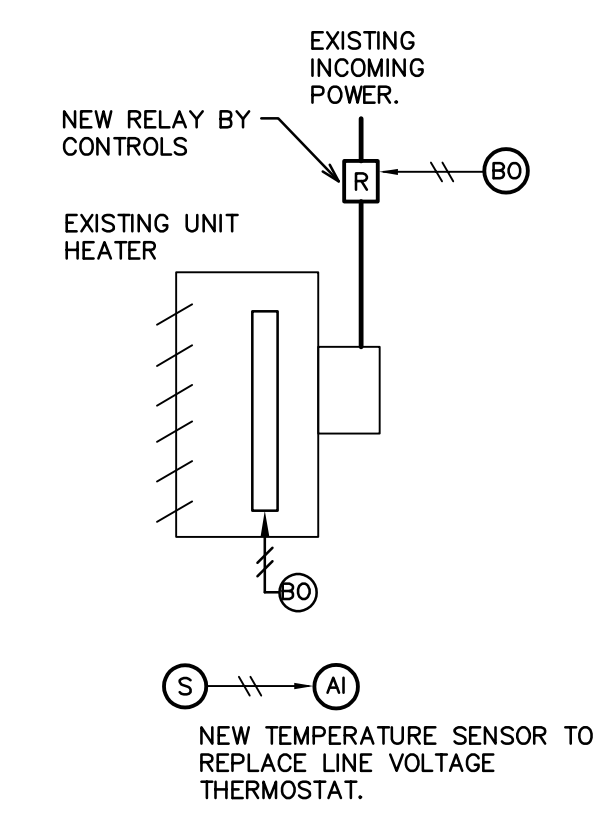
CLIENT:
 CONSULTANT:
M&W Maricor
 120 MILLINIUM DRIVE, SUITE 201
 QUISPANMS, NB E2E 0C6
 BUS: (506) 849-8285 FAX: (506) 849-3131
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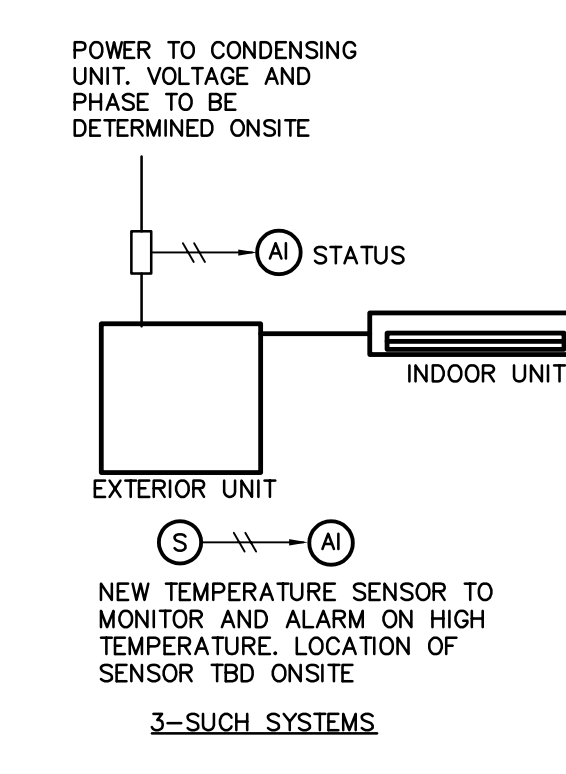
1 M-4 TYPICAL ZONE CONTROL



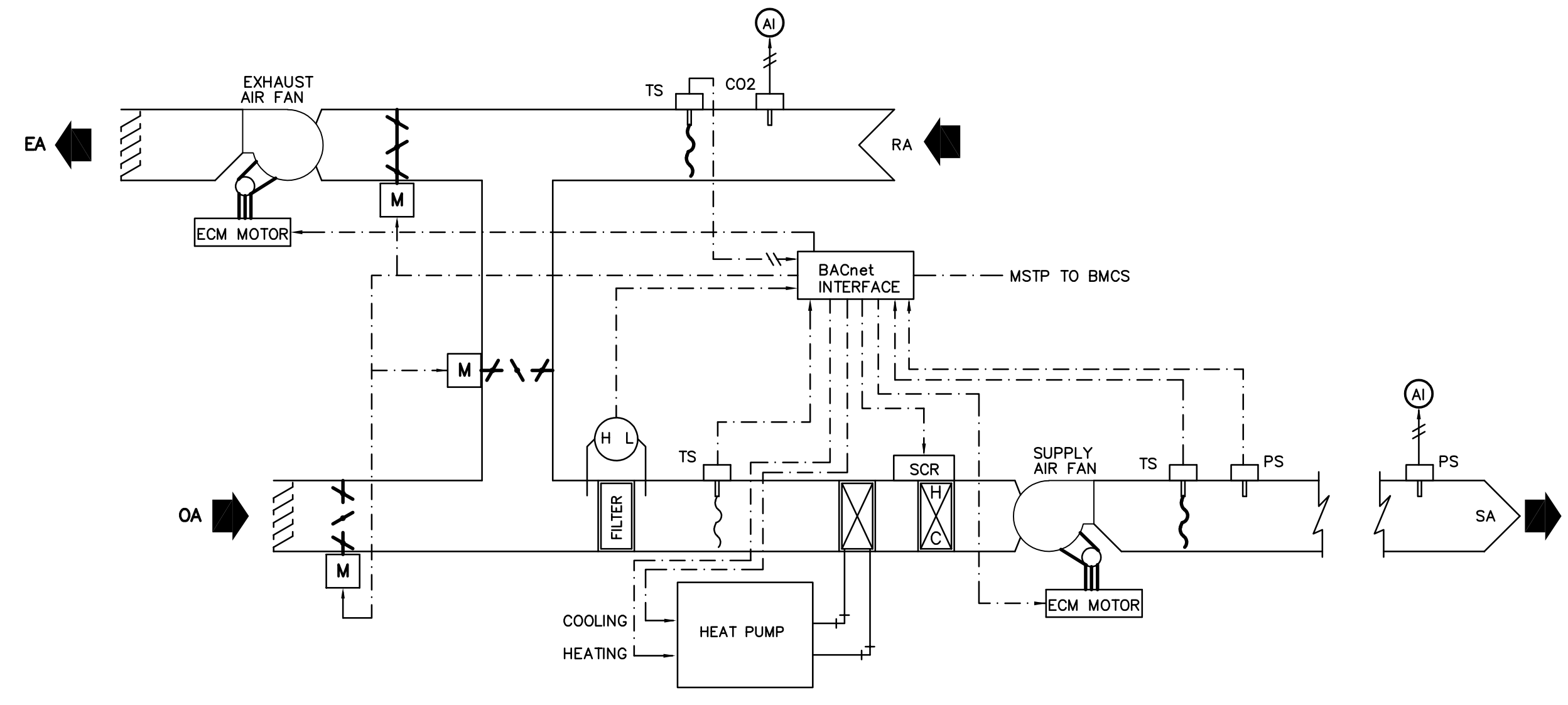
5 M-4 EXISTING EXHAUST FAN CONTROLS



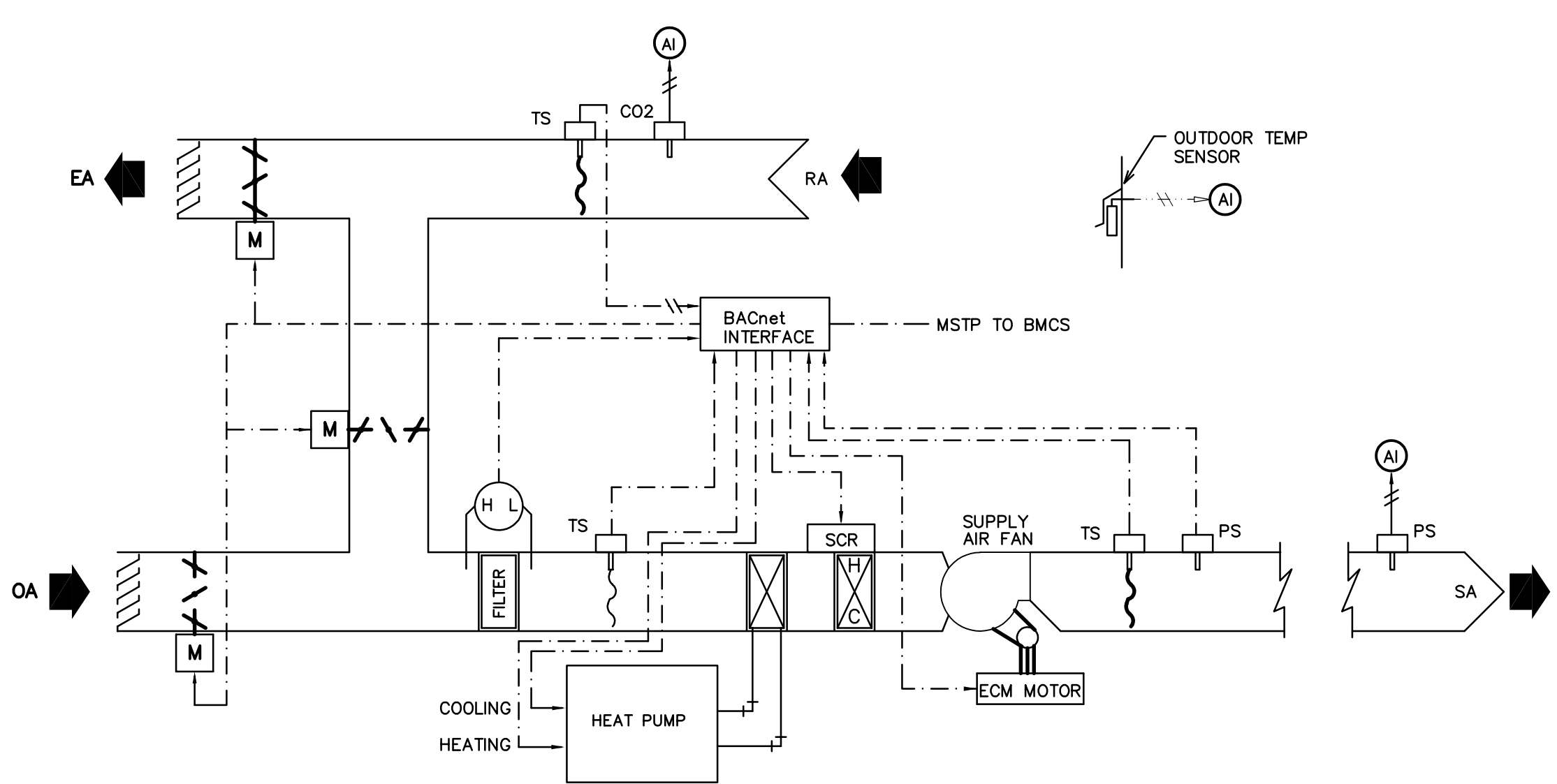
8 M-4 EXISTING UNIT HEATER CONTROLS



10 M-4 EXISTING DUCTLESS SPLIT SYSTEM CONTROL

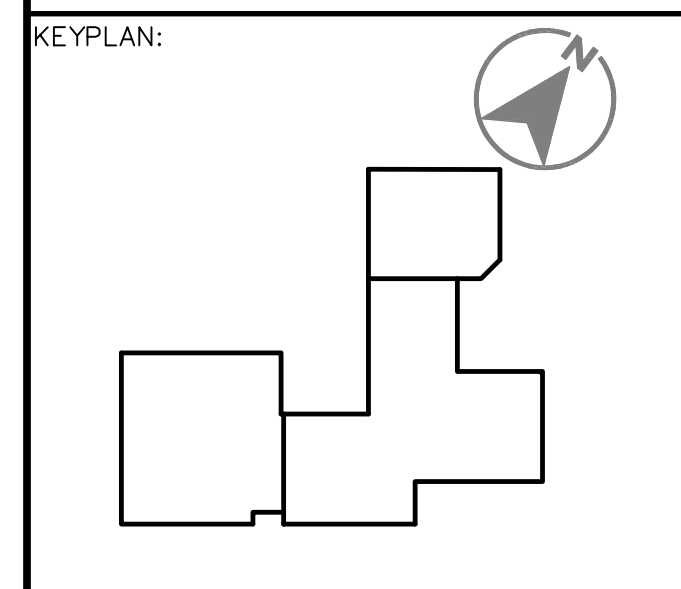


2 M-4 NEW AC-2 CONTROLS

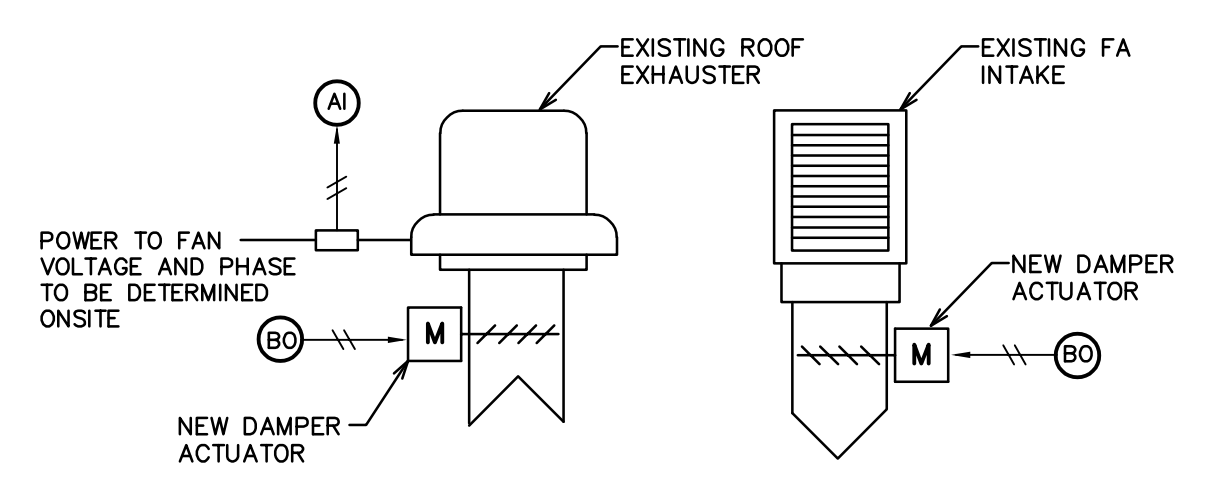


6 M-4 NEW AC-1 AND AC-3 CONTROLS

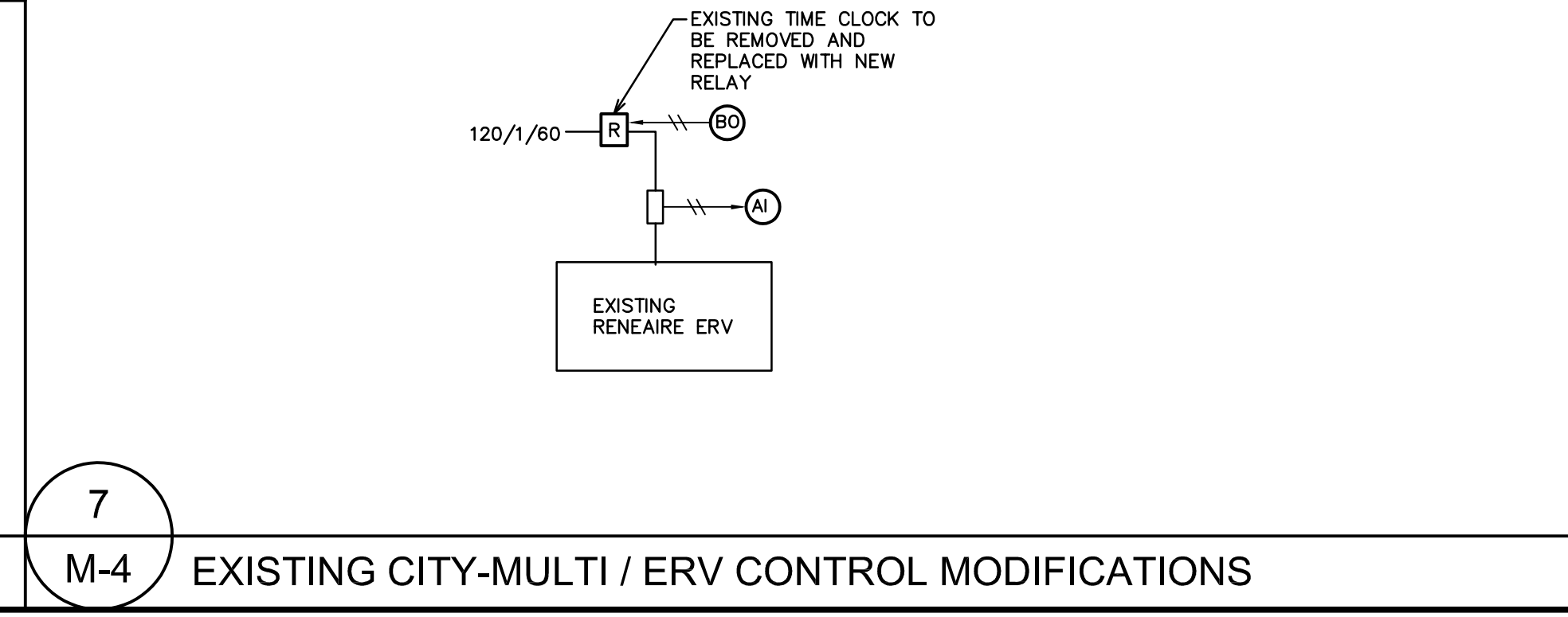
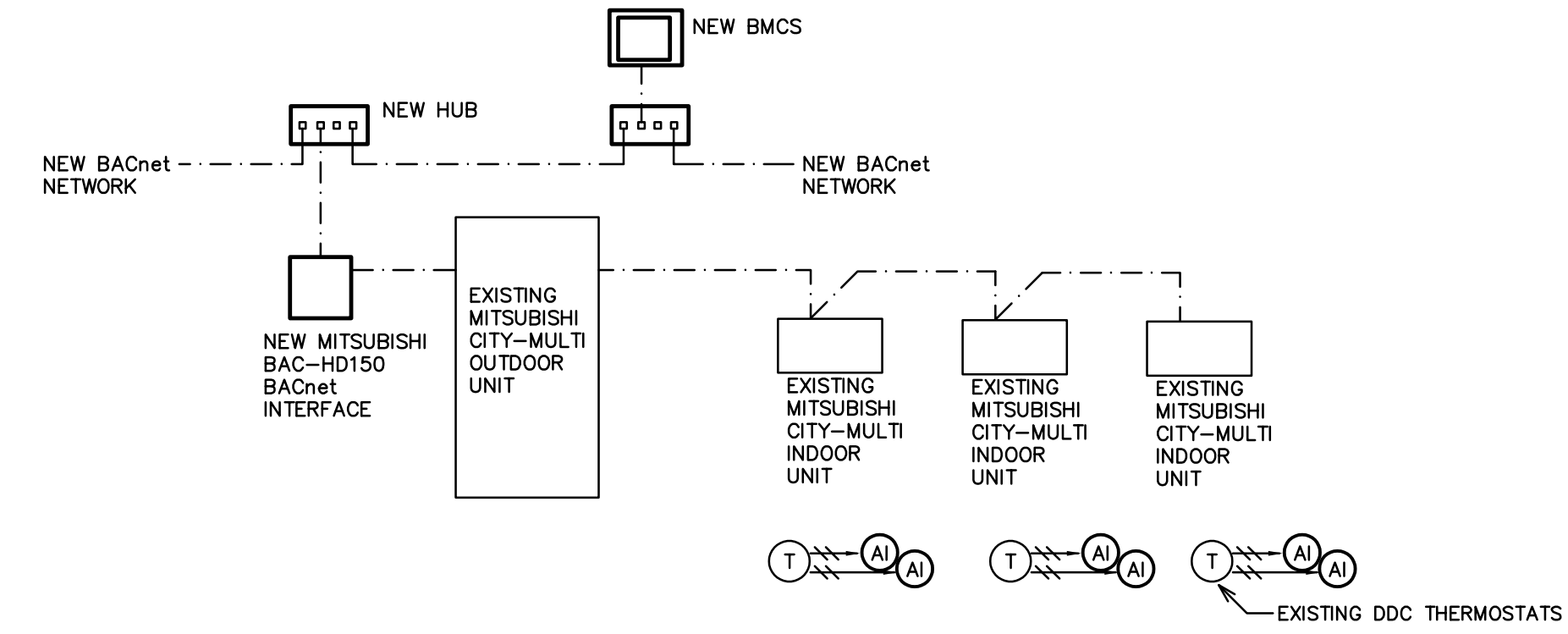
NOTES:
 1. EXISTING JOHNSON CONTROL SYSTEM INSTALLED IN BUILDING TO BE COMPLETELY REMOVED ALONG WITH ALL PANELS, SENSORS AND WIRING.
 2. CONTROLS CONTRACTOR TO NOTE THAT THERE IS AN EXISTING DELTA SYSTEM IN THE BUILDING MONITORING DOOR SENSORS. THIS SYSTEM TO REMAIN.
 3. CONTROLS CONTRACTOR TO MOVE ENERGY METER FOR THE MAIN BUILDING FROM THE EXISTING DELTA SYSTEM OVER TO THE NEW DDC SYSTEM AND ARRANGE FOR SAINT JOHN ENERGY TO RECALIBRATE THE PULSE RELAY AS NOTED IN THE SPECIFICATIONS.



STAMP:
 REGISTERED PROFESSIONAL ENGINEER
 #M4331
 Scott H. Mowery
 July 25, 2024
 INGENIEUR IMMATRICULE

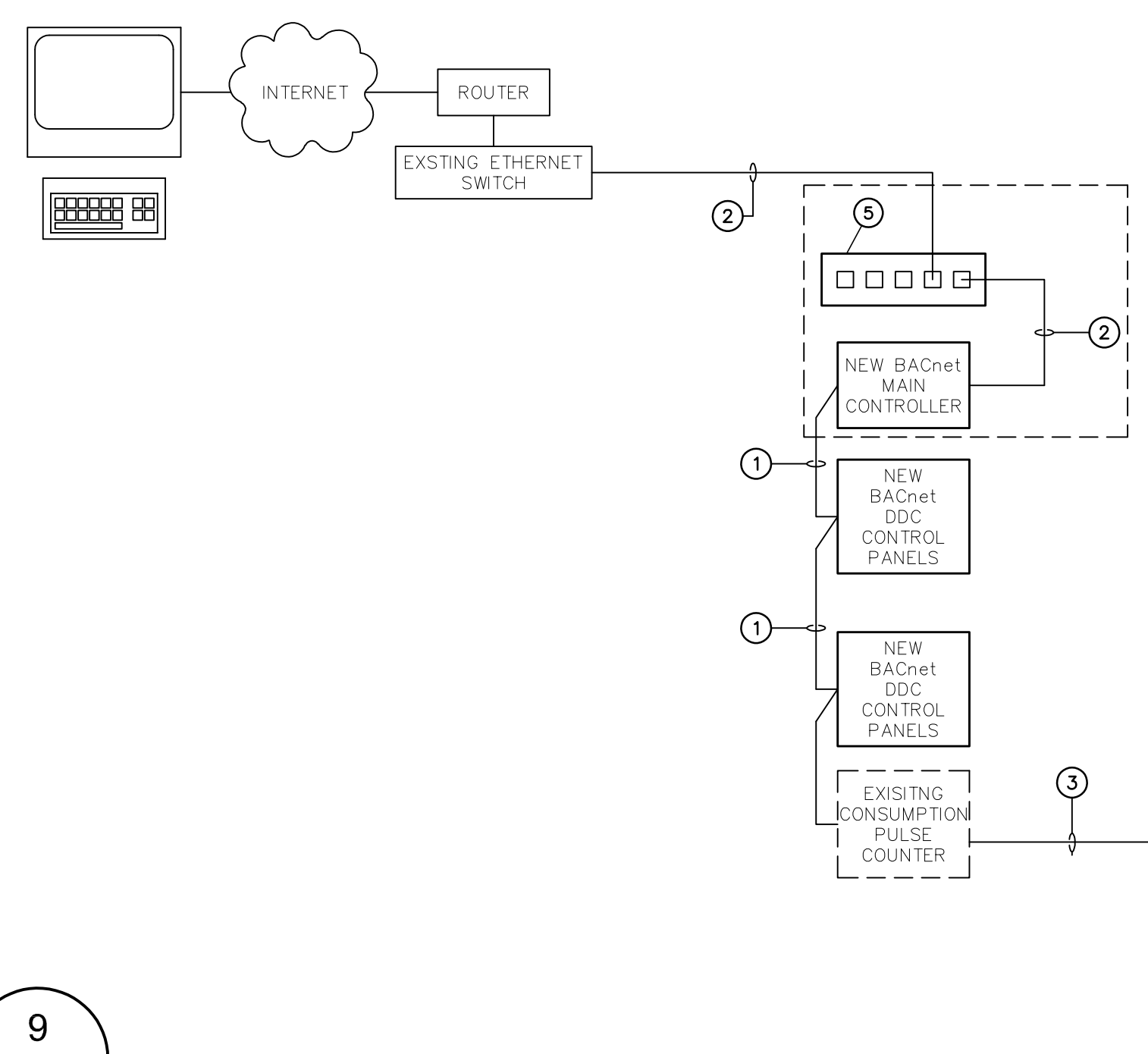


3 M-4 ROOF EXHAUST/INTAKE CONTROL



4 M-4 TYPICAL BASEBOARD HEATER CONTROL

7 M-4 EXISTING CITY-MULTI / ERV CONTROL MODIFICATIONS



9 M-4 NETWORK DIAGRAM

REFERENCE NOTES:
 1 - NEW MSTP 3 WIRE, TWISTED, SHIELDED, INSULATED PAIRS, IN SHIELDED CABLE. PROVIDE END OF LINE RESISTORS.
 2 - NEW CAT-6 ETHERNET COMMUNICATION CABLE.
 3 - EXISTING WIRING BETWEEN PULSE RELAY KYZ OUTPUT AND BAS.
 4 - EXISTING SAINT JOHN ENERGY PULSE RELAY.
 5 - NEW ETHERNET HUB TO BE INSTALLED IN SAME ENCLOSURE AS NEW BACnet MAIN CONTROLLER. NEW HUB SHALL HAVE MINIMUM TWO SPARE/EMPTY POTS.
 6 - CONTROLS CONTRACTOR UNDER THIS CONTRACT TO HAVE SJ ENERGY CALIBRATE EXISTING ENERGY METER/PULSE RELAY IN THE SERVICE GARAGE.

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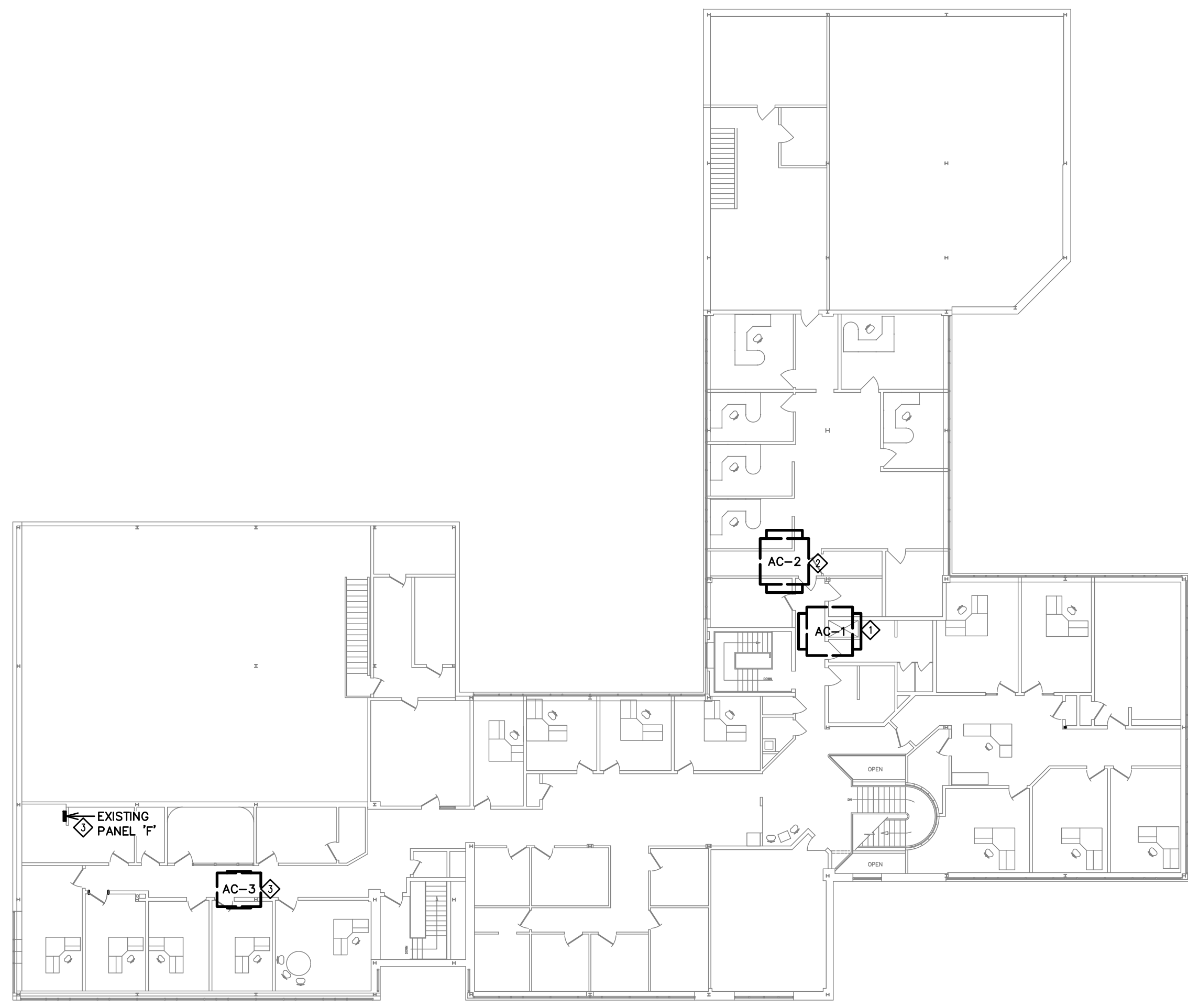
PROJECT TITLE:
MUNICIPAL OPS HVAC AND CONTROLS

DRAWING TITLE:
CONTROLS

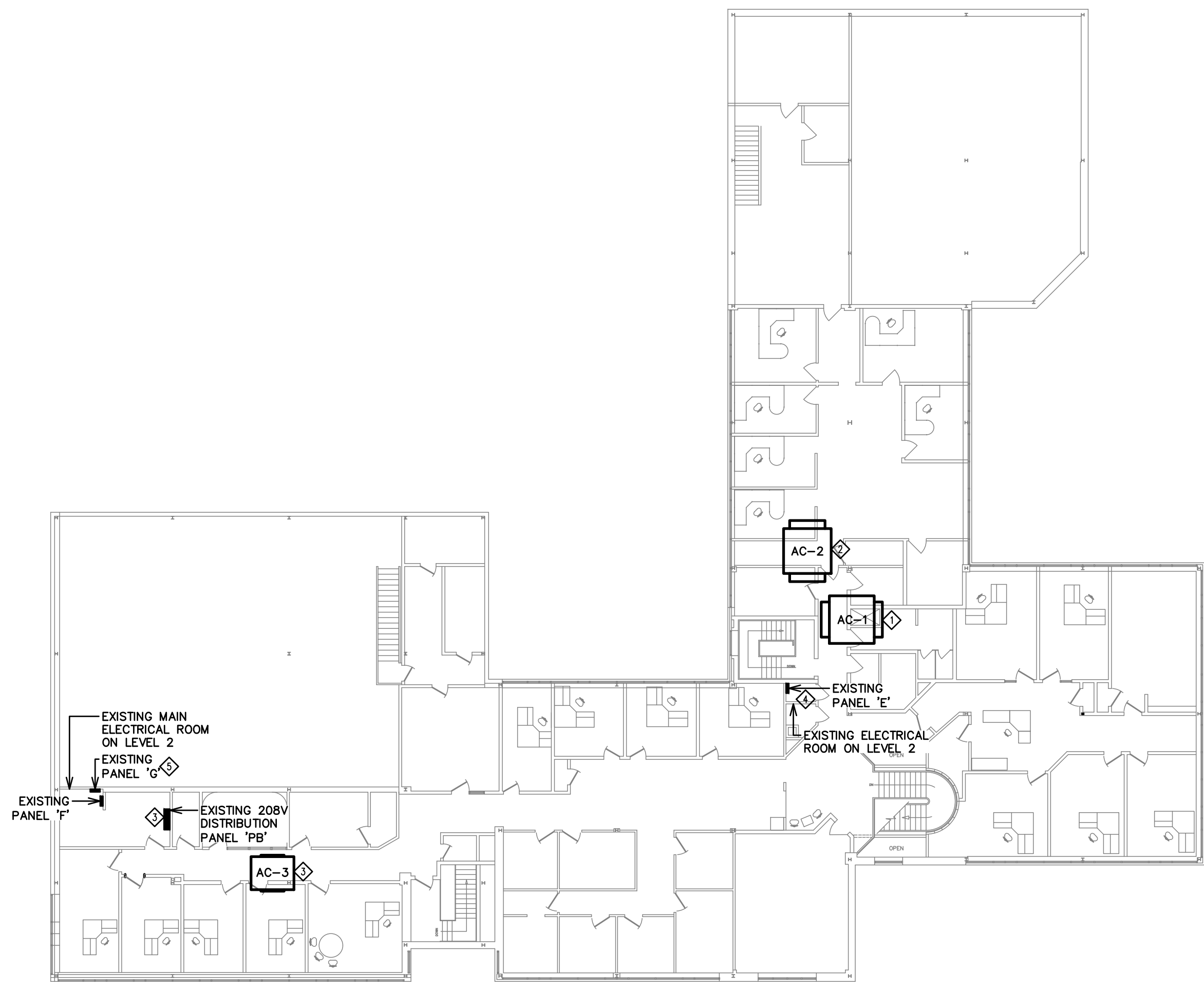
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 DRAWN BY: K.M. DRAWING NO.: M-4
 CHECKED BY: S.H.M.



CONSULTANT:
McW Maricor
 120 MILLINIUM DRIVE, SUITE 201
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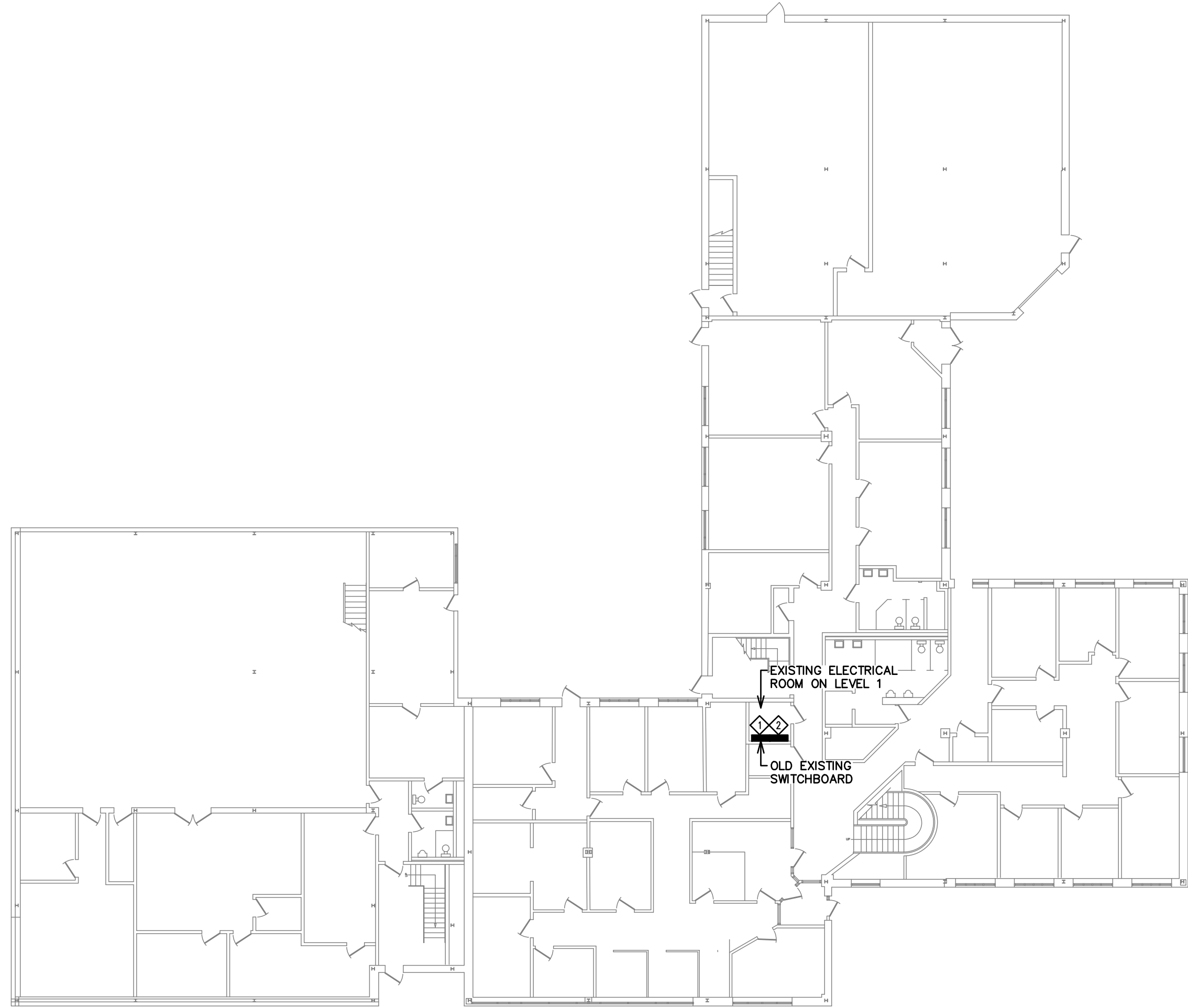


1
E-1 LEVEL 2 ELECTRICAL PLAN - DEMOLITION

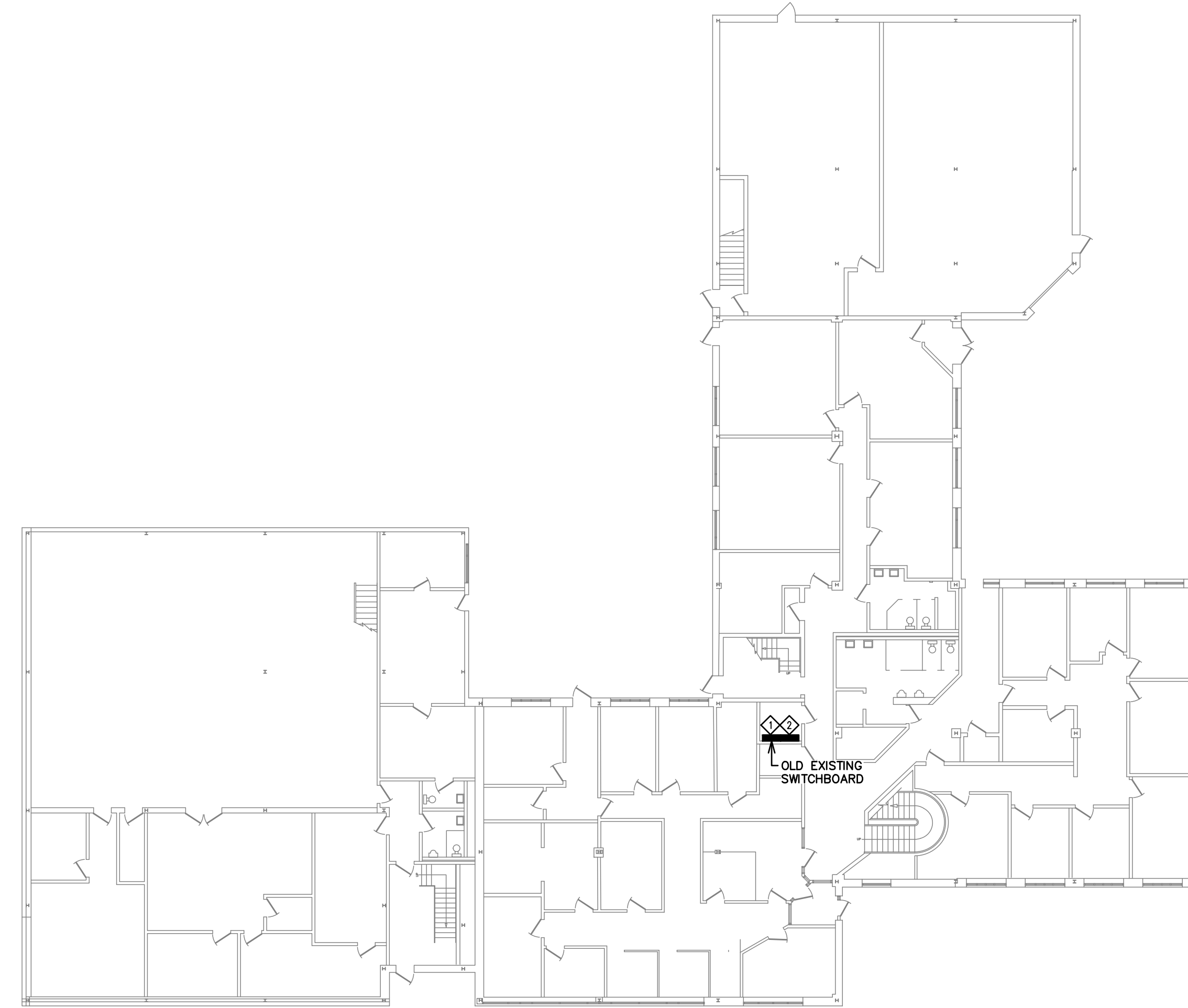


2
E-1 LEVEL 2 ELECTRICAL PLAN - NEW WORK

1:200



3
E-1 LEVEL 1 ELECTRICAL PLAN - DEMOLITION



4
E-1 LEVEL 1 ELECTRICAL PLAN - NEW WORK

1:200

SPECIFIC NOTES - DEMOLITION:

- ◇ EXISTING ROOFTOP AIR CONDITIONER AC-1 TO BE REMOVED BY MECHANICAL CONTRACTOR. DISCONNECT AND REMOVE ALL ASSOCIATED CONDUIT, WIRE, BOXES AND DEVICES BACK TO POINT OF POWER SUPPLY (OLD EXISTING SWITCHBOARD ON LEVEL 1). LABEL EXISTING 30A-3P BREAKER TAKEN OUT OF SERVICE WITH LAMACOID PLATE READING 'SPARE'. SEE NEW WORK FOR ADDITIONAL ELECTRICAL REQUIREMENTS.
- ◇ EXISTING ROOFTOP AIR CONDITIONER AC-2 TO BE REMOVED BY MECHANICAL CONTRACTOR. DISCONNECT AND REMOVE ALL ASSOCIATED CONDUIT, WIRE, BOXES AND DEVICES BACK TO POINT OF POWER SUPPLY (OLD EXISTING SWITCHBOARD ON LEVEL 1). LABEL EXISTING 30A-3P BREAKER TAKEN OUT OF SERVICE WITH LAMACOID PLATE READING 'SPARE'. SEE NEW WORK FOR ADDITIONAL ELECTRICAL REQUIREMENTS.
- ◇ EXISTING ROOFTOP AIR CONDITIONER AC-3 TO BE REMOVED BY MECHANICAL CONTRACTOR. DISCONNECT AND REMOVE ALL ASSOCIATED CONDUIT, WIRE, BOXES AND DEVICES BACK TO POINT OF POWER SUPPLY (EXISTING PANEL 'F' IN MAIN ELECTRICAL ROOM ON LEVEL 2). LABEL EXISTING 15A-3P BREAKER TAKEN OUT OF SERVICE WITH LAMACOID PLATE READING 'SPARE'. SEE NEW WORK FOR ADDITIONAL ELECTRICAL REQUIREMENTS.

5
E-1 SPECIFIC NOTES - DEMOLITION

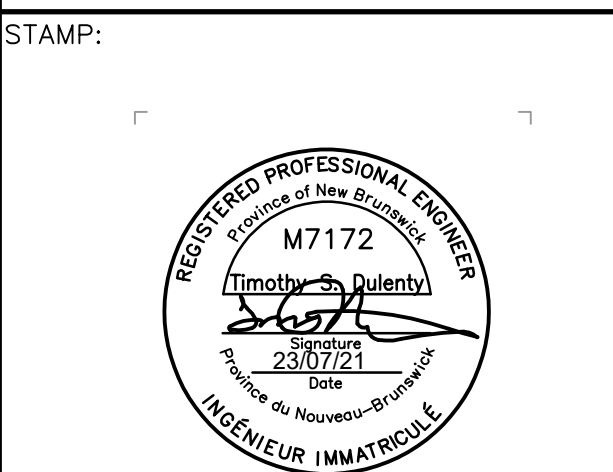
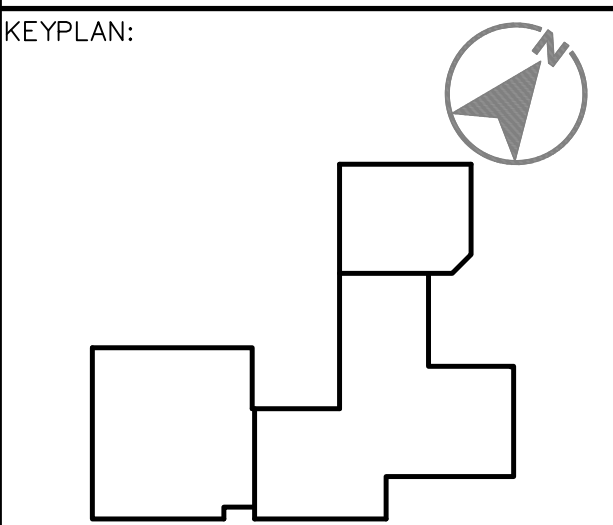
N.T.S.

SPECIFIC NOTES - DEMOLITION:

- ◇ NEW ROOFTOP AIR CONDITIONER AC-1 SUPPLIED AND INSTALLED BY MECHANICAL CONTRACTOR. PROVIDE A DEDICATED 35A-3P CIRCUIT FROM OLD EXISTING SWITCHBOARD ON LEVEL 1 TO UNIT DISCONNECT ON ROOF USING 8/3C TECK90 AND CONNECT. UNIT DISCONNECT WILL BE EQUIPMENT SUPPLIED BY MECHANICAL CONTRACTOR AND WIRE BY ELECTRICAL CONTRACTOR. NEW 35A-3P BREAKER SHALL BE SUPPLIED, INSTALLED AND WIRE BY ELECTRICAL CONTRACTOR. INTERRUPTING CAPACITY OF NEW BREAKER SHALL BE 14KAIC. TRANSFER LAMACOID PLATE FROM EXISTING BREAKER TAKEN OUT OF SERVICE AND AFFIX ADJACENT NEW BREAKER.
- ◇ NEW ROOFTOP AIR CONDITIONER AC-2 SUPPLIED AND INSTALLED BY MECHANICAL CONTRACTOR. PROVIDE A DEDICATED 70A-3P CIRCUIT FROM OLD EXISTING SWITCHBOARD ON LEVEL 1 TO UNIT DISCONNECT ON ROOF USING 4/3C TECK90 AND CONNECT. UNIT DISCONNECT WILL BE EQUIPMENT SUPPLIED BY MECHANICAL CONTRACTOR AND WIRE BY ELECTRICAL CONTRACTOR. NEW 70A-3P BREAKER SHALL BE SUPPLIED, INSTALLED AND WIRE BY ELECTRICAL CONTRACTOR. INTERRUPTING CAPACITY OF NEW BREAKER SHALL BE 14KAIC. TRANSFER LAMACOID PLATE FROM EXISTING BREAKER TAKEN OUT OF SERVICE AND AFFIX ADJACENT NEW BREAKER.
- ◇ NEW ROOFTOP AIR CONDITIONER AC-3 SUPPLIED AND INSTALLED BY MECHANICAL CONTRACTOR. PROVIDE A DEDICATED 70A-3P CIRCUIT FROM EXISTING 208V DISTRIBUTION PANEL 'PB' IN EXISTING ELECTRICAL ROOM ON LEVEL 2 TO UNIT ON ROOF USING 4/3C TECK90 AND CONNECT. UNIT DISCONNECT WILL BE EQUIPMENT SUPPLIED BY MECHANICAL CONTRACTOR AND WIRE BY ELECTRICAL CONTRACTOR. INTERRUPTING CAPACITY OF NEW BREAKER SHALL MATCH EXISTING. PROVIDE NEW LAMACOID PLATE READING 'AIR CONDITIONER AC-3' ADJACENT NEW BREAKER.
- ◇ NEW ROOFTOP MAINTENANCE 20A 125V GFI RECEPTACLE c/w WEATHERPROOF WHILE-IN-USE COVER PLATE SUPPLIED, INSTALLED AND WIRE BY ELECTRICAL CONTRACTOR. INSTALLATION TO CEC 25-710. PROVIDE A DEDICATED 20A-1P CIRCUIT FROM EXISTING PANEL 'E' TO RECEPTACLE USING 12/2C TECK90. THE SUPPLY AND INSTALLATION OF A NEW TWIN 15A-1P BREAKER WILL BE REQUIRED TO PERFORM THIS WORK. BREAKER FRAME SHALL MATCH EXISTING.
- ◇ NEW ROOFTOP MAINTENANCE 20A 125V GFI RECEPTACLE c/w WEATHERPROOF WHILE-IN-USE COVER PLATE SUPPLIED, INSTALLED AND WIRE BY ELECTRICAL CONTRACTOR. INSTALLATION TO CEC 25-710. PROVIDE A DEDICATED 20A-1P CIRCUIT FROM EXISTING PANEL 'G' TO RECEPTACLE USING 12/2C TECK90. PROVIDE NEW 20A-1P BREAKER. BREAKER FRAME TO MATCH EXISTING. CIRCUIT G-5.

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E-1 SPECIFIC NOTES - NEW WORK

N.T.S.



NO.	ISSUED FOR TENDER	2021/07/23	-
NO.	REVISIONS	DATE	INIT.
		YYYY/MM/DD	

PROJECT TITLE:
MUNICIPAL OPS HVAC AND CONTROLS

DRAWING TITLE:
ELECTRICAL PLANS & ELECTRICAL NOTES

SCALE:	AS NOTED	DATE:	JULY 2021
DRAWN BY:	S.R.	DRAWING NO.:	E-1
CHECKED BY:	T.D.		