SOUTHCENTRAL FOUNDATION

Yagheli Shesh Qenq'a
ROOF REPLACEMENT & MECHANICAL UPGRADES

4320 DIPLOMACY DRIVE

65% DESIGN DEVELOPMENT - REVISION 1
MAY 11, 2026

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GENERAL

G001 GENERAL INFORMATION & ABBREVIATIONS
G100 ARCHITECTURAL CODE ANALYSIS
G200 ROOF ASSEMBLIES

STRUCTURAL

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A031 PCC3 FIRST FLOOR CEILING PLAN - AREA OF WORK
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A100 OVERALL ROOF ASSEMBLIES PLAN - NEW
A113 PCC1 ROOF PLAN - NEW
A123 PCC2 ROOF PLAN - NEW
A134 PCC3 ROOF PLAN - NEW

A221 PCC2 SECTION 2C ENLARGED PLANS - DEMO & NEW
A232 PCC3 SECOND FLOOR - ENLARGED FAN ROOM - DEMO & NEW
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A312 PCC1 SKYLIGHT PLANS, ELEVATIONS, SECTIONS
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A334 PCC3 STAIR EXTENSION PLANS, ELEVATIONS
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A501 TYPICAL EXTERIOR DETAILS
A511 PCC1 EXTERIOR DETAILS
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FP 101 FIRE PROTECTION

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M011 PCC1 FIRST FLOOR PLUMBING DEMOLITION PLAN
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M015 PCC1 FIRST FLOOR VENTILATION DEMOLITION PLAN
M016 PCC1 SECOND FLOOR VENTILATION DEMOLITION PLAN
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M021 PCC2 FIRST FLOOR PLUMBING DEMOLITION PLAN
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M025 PCC2 ROOF MECHANICAL DEMOLITION PLAN

M031 PCC3 FIRST FLOOR PLUMBING DEMOLITION PLAN
M032 PCC3 THIRD FLOOR PLUMBING DEMOLITION PLAN
M033 PCC3 FIRST FLOOR HEATING DEMOLITION PLAN
M034 PCC3 SECOND FLOOR HEATING DEMOLITION PLAN
M035 PCC3 THIRD FLOOR HEATING DEMOLITION PLAN
M036 PCC3 FIRST FLOOR VENTILATION DEMOLITION PLAN
M037 PCC3 SECOND FLOOR VENTILATION DEMOLITION PLAN
M038 PCC3 THIRD FLOOR VENTILATION DEMOLITION PLAN
M039 PCC3 ROOF MECHANICAL DEMOLITION PLAN

M111 PCC1 FIRST FLOOR PLUMBING NEW PLAN
M112 PCC1 SECOND FLOOR PLUMBING NEW PLAN
M113 PCC1 FIRST FLOOR HEATING NEW PLAN
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M115 PCC1 FIRST FLOOR VENTILATION NEW PLAN - SUPPLY
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M121 PCC2 FIRST FLOOR PLUMBING NEW PLAN
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M124 PCC2 SECOND FLOOR VENTILATION NEW PLAN - SUPPLY
M125 PCC2 FIRST FLOOR VENTILATION NEW PLAN - RETURN
M126 PCC2 SECOND FLOOR VENTILATION NEW PLAN - RETURN
M127 PCC2 ROOF MECHANICAL NEW PLAN

M131 PCC3 FIRST FLOOR PLUMBING NEW PLAN
M132 PCC3 THIRD FLOOR PLUMBING NEW PLAN
M133 PCC3 FIRST FLOOR HEATING NEW PLAN
M134 PCC3 SECOND FLOOR HEATING NEW PLAN
M135 PCC3 THIRD FLOOR HEATING NEW PLAN
M136 PCC3 FIRST FLOOR VENTILATION NEW PLAN - SUPPLY
M137 PCC3 SECOND FLOOR VENTILATION PLAN - SUPPLY
M138 PCC3 THIRD FLOOR VENTILATION PLAN - SUPPLY
M139 PCC3 FIRST FLOOR VENTILATION NEW PLAN - RETURN
M1310 PCC3 SECOND FLOOR VENTILATION PLAN - RETURN
M1311 PCC3 THIRD FLOOR VENTILATION PLAN - RETURN
M1312 PCC3 ROOF MECHANICAL NEW PLAN

M211 PCC1 - ENLARGED PLANS - DEMO + NEW
M212 PCC1 - ENLARGED PLANS - DEMO + NEW
M231 PCC3 - ENLARGED PLANS - DEMO + NEW
M232 PCC3 - ENLARGED PLANS - DEMO + NEW
M233 PCC3 - ENLARGED PLANS - DEMO + NEW
M234 PCC3 - ENLARGED PLANS - DEMO + NEW
M301 DEMOLITION SCHEMATICS
M401 REMODEL SCHEMATICS
M402 REMODEL SCHEMATICS
M501 SECTIONS
M502 SECTIONS
M601 DETAILS
M701 MECHANICAL DIAGRAMS
M702 MECHANICAL DIAGRAMS
M703 MECHANICAL DIAGRAMS
M801 CONTROLS DIAGRAMS
M802 CONTROLS DIAGRAMS
M803 CONTROLS DIAGRAMS
M804 CONTROLS DIAGRAMS
M805 CONTROLS DIAGRAMS
M806 CONTROLS DIAGRAMS
M807 CONTROLS DIAGRAMS
M808 CONTROLS DIAGRAMS
M809 CONTROLS DIAGRAMS

ELECTRICAL

E001 ELECTRICAL LEGEND AND LIGHT FIXTURE SCHEDULE
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E023 PCC2 - ROOF - ELECTRICAL DEMOLITION PLAN
E031 PCC3 - LEVEL 1 - ELECTRICAL DEMOLITION PLAN
E034 PCC3 - ROOF - ELECTRICAL DEMOLITION PLAN
E035 PCC3 - ENLARGED PLANS - ELECTRICAL PLANS
E112 PCC1 - LEVEL 2 - PARTIAL ELECTRIC REMODEL PLAN
E113 PCC1 - ROOF - ELECTRICAL REMODEL PLAN
E123 PCC2 - ROOF - ELECTRICAL REMODEL PLAN
E132 PCC3 - LEVEL 3 - ELECTRICAL REMODEL PLAN
E133 PCC3 - ROOF - ELECTRICAL REMODEL PLAN
E211 PCC1 - ENLARGED PLANS - ELECTRICAL ROOMS
E221 PCC2 - ENLARGED PLANS - ELECTRICAL ROOMS
E231 PCC3 - ENLARGED PLANS - ELECTRICAL ROOMS
E233 PCC3 - FAN ROOM - ELECTRICAL PLANS
E301 PARTIAL POWER REMODEL ONE-LINE DIAGRAMS

DEDUCTIVE ALTERNATES:

M1-1: On PCC1 roof, replace filters in existing Daikin RTU-1.1. Current filters are MERV 8. Replace with MERV 13. Include any filter frame modifications to make this change.
← What are the final frame modifications needed?

M1-3: Replace existing Trane condensing units CU-1.1 and CU-1.2 located on PCC1 roof. Include replacing both indoor evaporators in the Electrical and Comm rooms. Include electrical and control support for the new 3-ton units.

M2-4A: To reduce noise transmission for RTU-2.4 on PCC2 2022 Addition, install 1" sound lining in new S/A riser. Include electrical and control support.

M2-4B: To reduce noise transmission for RTU-2.4 on PCC2 2022 Addition, raise curb a minimum of 24" and install a sound attenuator in the existing supply air duct. Include electrical and control support.

M2-4C: To reduce noise transmission for RTU-2.4 on PCC2 2022 Addition, implement both alternate M2-4A and M2-4B. Include electrical and control support.

← Ensure all internal RTU vibration isolation is properly installed and adjsuted per 20260210 Neeser SCF PCC HVAC Assessment Memo.pdf (acoustical assessment) This report did not recommend sound lining, the curb raise and sound attenuator be installed.

M2-5A: To reduce noise transmission for RTU-2.1 on PCC2, install 1" sound lining in new S/A riser. Include electrical and control support.

M2-5B: To reduce noise transmission for RTU-2.1 on PCC2, raise curb a minimum of 24" and install a sound attenuator in the existing supply air duct. Include electrical and control support.

M2-5C: To reduce noise transmission for RTU-2.1 on PCC2; implement both alternate M2-5A and M2-5B. Include electrical and control support.

← Explore the movement of the RTU-2.1 and other recommendations per 20260210 Neeser SCF PCC HVAC Assessment Memo.pdf (acoustical assessment)

M2-6: Install RTU-2.2 & RTU-2.3raise curb a minimum of 24" and install a sound attenuator in the existing supply air duct. Include electrical and control support.

← Any new RTUs will need their curbs matched with them.

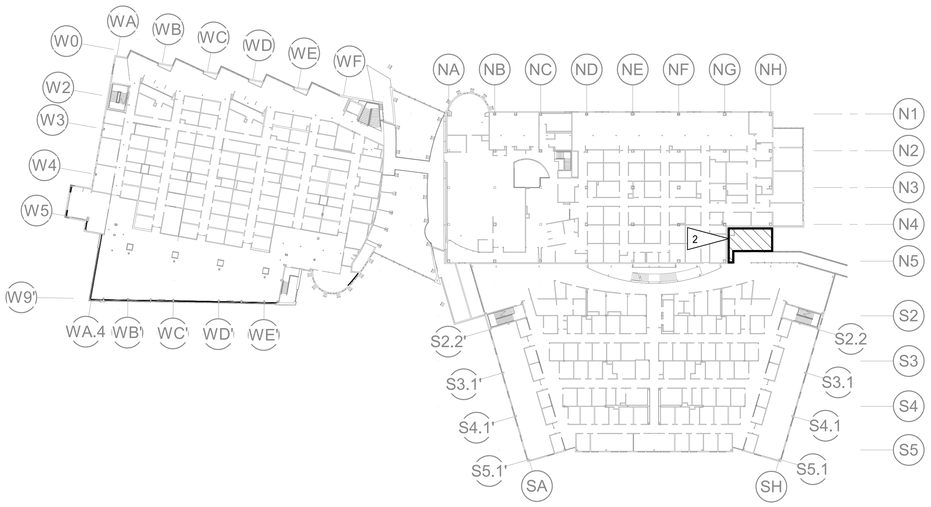
M3-1: On PCC3 roof replace existing RTU-3.1 and RTU-3.2 with new units. Include electrical and control support for the new 90-ton units.

← This to include the upsized piping for coordination with condensing boilers.

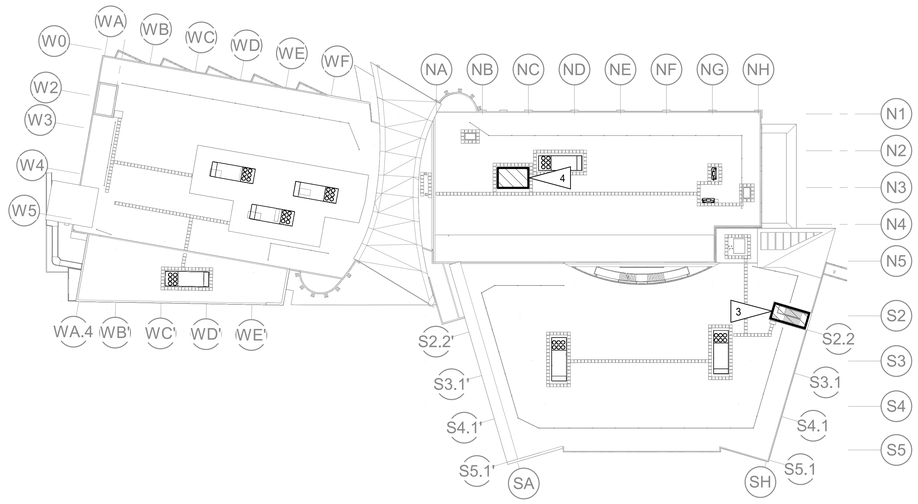
M3-2: Re-purpose existing HX-3.1 for use as RTU/AHU heat exchanger.

← This was determined not to be in scope any longer.

1 FIRST FLOOR FIRE PROTECTION PLAN
1" = 40'-0"



2 SECOND FLOOR FIRE PROTECTION PLAN
1" = 40'-0"

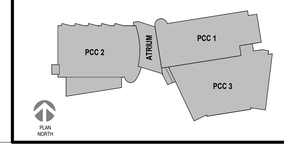


3 THIRD FLOOR FIRE PROTECTION PLAN
1" = 40'-0"

SHEET NOTES: X

1. PROVIDE SPRINKLER MODIFICATIONS AS REQUIRED FOR BOILER ROOM REMODEL.
2. PROVIDE SPRINKLER MODIFICATIONS AS REQUIRED FOR FAN ROOM REMODEL.
3. PROVIDE SPRINKLER COVERAGE FOR NEW STAIRWELL.
4. PROVIDE SPRINKLER COVERAGE FOR REVISED SKYLIGHT.

KEY PLAN



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SOUTHCENTRAL FOUNDATION

YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES

65% DESIGN DEVELOPMENT

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REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME
FIRE PROTECTION

SHEET NO.
FP101

FULL-SCALE AT 30X42

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PIPING LEGEND

- WASTE
- VENT PIPING
- COLD WATER
- HOT WATER
- HOT WATER RECIRCULATED
- SEE ABBREVIATIONS FOR MEDIA
- PIPE UP
- PIPE DOWN
- TEE UP
- TEE DOWN
- CAP
- UNION
- DIRECTION OF FLOW
- BALL VALVE
- GAS SHUT-OFF VALVE
- 2-WAY CONTROL VALVE
- 3-WAY CONTROL VALVE
- CHECK VALVE
- BALANCE VALVE
- REDUCED PRESSURE BACKFLOW PREVENTER
- PRESSURE REDUCING VALVE
- FLEXIBLE PIPING CONNECTOR
- PRESSURE/TEMPERATURE RELIEF VALVE
- HOSE BIBB
- PUMP
- CLEANOUT
- WATER HAMMER ARRESTOR
- THERMOMETER
- PRESSURE GAUGE W/ ISOLATION COCK
- STRAINER W/ BLOWDOWN
- PIPE GUIDE
- PIPE ANCHOR
- FLOOR DRAIN
- DETAILED PIPE UP & DOWN

DUCTWORK LEGEND

- THERMOSTAT
- SENSOR
- CARBON DIOXIDE SENSOR
- THERMOSTAT OR SENSOR WITH GUARD
- DIFFERENTIAL PRESSURE SENSOR
- DUCT STATIC PRESSURE SENSOR
- SNOW/ICE DETECTOR
- SUPPLY AIR UP & DOWN
- RETURN AIR UP & DOWN
- EXHAUST AIR UP & DOWN
- VOLUME DAMPER
- MOTORIZED CONTROL DAMPER
- SOUND LINED DUCTWORK
- DUCT SIZE - EXTERIOR INSULATED (1ST FIGURE-SIDE SHOWN) (2ND FIGURE-SIDE NOT SHOWN)
- EXTERNALLY INSULATED DUCTWORK
- TURNING VANES
- FLEXIBLE DUCT
- FIRE SMOKE DAMPER
- MODULATING FIRE SMOKE DAMPER
- VAV BOX
- COIL IF REQUIRED

LOGIC

- POINT OF CONNECTION
- DETAIL NUMBER
- SHEET LOCATED ON
- DIRECTION OF VIEW
- SECTION NUMBER
- SHEET LOCATED ON
- SHEET NOTES
- NECK SIZE
- CFM
- DIFFUSER OR GRILLE TYPE

ABBREVIATIONS

ABV	ABOVE	FT	FEET	PSI	POUNDS PER SQUARE INCH
AC-X	AIR CONDITIONING UNIT DESIGNATOR	G	NATURAL GAS	PSIG	POUNDS PER SQUARE INCH GAUGE
ADA	AMERICANS WITH DISABILITIES ACT GUIDELINES	GA	GAUGE	R/A	RETURN AIR
		GAL	GALLONS	RD-X	ROOF DRAIN DESIGNATOR
AFF	ABOVE FINISHED FLOOR	GALV	GALVANIZED	RL	RAINLEADER
AFG	ABOVE FINISHED GRADE	GPH	GALLONS PER HOUR	RTU-X	ROOFTOP UNIT DESIGNATOR
AFMS	AIR FLOW MONITORING STATION	GPM	GALLONS PER MINUTE	RPM	REVOLUTIONS PER MINUTE
AHAP	AS HIGH AS POSSIBLE	GT-X	GLYCOL TANK DESIGNATOR	SA-X	SOUND ATTENUATOR DESIGNATOR
AHU-X	AIR HANDLING UNIT DESIGNATOR	GTD	GLYCOL TEMPERATURE DROP	S/A	SUPPLY AIR
AMPS	AMPERES	HC-X	HEATING COIL DESIGNATOR	SCFM	STANDARD CUBIC FEET PER MINUTE
APD	AIR PRESSURE DROP	HD	HEAD	SP	STATIC PRESSURE
ARCH	ARCHITECTURAL	HGR	HEATING GLYCOL RETURN	SQ	SQUARE
AS-X	AIR SEPARATOR DESIGNATOR	HGS	HEATING GLYCOL SUPPLY	T/A	TRANSFER AIR
B-X	BOILER DESIGNATOR	HOA	HAND-OFF-AUTO	TEMP	TEMPERATURE
BTUH	BRITISH THERMAL UNIT/HOUR	HP	HORSEPOWER	TSP	TOTAL STATIC PRESSURE
CAP	CAPACITY	HW	HOT WATER	T'STAT	THERMOSTAT
CFM	CUBIC FEET PER MINUTE	HWC	HOT WATER CIRCULATED	TTL	TOTAL
CIRC	CIRCULATING	HWH-X	HOT WATER HEATER DESIGNATOR	TYP/TYP.	TYPICAL
CLG	CEILING	IBC	INTERNATIONAL BUILDING CODE	UH-X	UNIT HEATER DESIGNATOR
CONT	CONTINUED	IN	INCHES	UPC	UNIFORM PLUMBING CODE
C.O./CO	CLEANOUT	INS.	INSULATION	V	VENT
CONN	CONNECTION	LAT	LEAVING AIR TEMPERATURE	VTR	VENT THRU ROOF
CP-X	CIRCULATION PUMP DESIGNATOR	LF	LINEAL FEET	W	WASTE
CU-X	CONDENSING UNIT DESIGNATOR	LGT	LEAVING GLYCOL TEMPERATURE	W/	WITH
CUH-X	CABINET UNIT HEATER DESIGNATOR	LWT	LEAVING WATER TEMPERATURE	W/O	WITHOUT
CU	COPPER	MAX	MAXIMUM	W.C.	WATER COLUMN
CW	COLD WATER	MBH	THOUSAND BTUH	WCO	WALL CLEAN OUT
dB	DECIBELS	MCA	MINIMUM CIRCUIT AMPACITY	WG	WATER GAUGE
DEG	DEGREE	MFGR	MANUFACTURER	WPD	WATER PRESSURE DROP
DIA	DIAMETER	M/A	MAKEUP AIR	YCO	YARD CLEAN OUT
DIM	DIMENSION	MIN/MIN.	MINIMUM		
DN	DOWN	MPG	MEDIUM PRESSURE GAS		
DWG	DRAWING	MOD	MOTOR OPERATED DAMPER		
(E)	EXISTING EQUIPMENT DESIGNATOR	MTD	MOUNTED		
E/A	EXHAUST AIR	NAT.	NATURAL		
EAT	ENTERING AIR TEMPERATURE	NC	NOISE CRITERIA		
EFF	EFFICIENCY	N.C.	NORMALLY CLOSED		
EF-X	EXHAUST FAN DESIGNATOR	NO.	NUMBER		
EGT	ENTERING GLYCOL TEMPERATURE	N.O.	NORMALLY OPEN		
ENT	ENTERING	NTS	NOT TO SCALE		
ESP	EXTERNAL STATIC PRESSURE	O/A	OUTSIDE AIR		
ET-X	EXPANSION TANK DESIGNATOR	O.D.	OUTSIDE DIAMETER		
EXIST	EXISTING	OC	ON CENTER		
EXH	EXHAUST	OD	OUTSIDE DAMPER		
F	FAHRENHEIT	OD-X	OVERFLOW DRAIN DESIGNATOR		
FIN	FINISHED	OL	OVERFLOW RAINLEADER		
FLA	FULL LOAD AMPS	PD	PRESSURE DROP		
FLR	FLOOR	PG/P.G.	PROPYLENE GLYCOL		
FPM	FEET PER MINUTE	PH	PHASE		

PLUMBING FIXTURE SCHEDULE

SYMBOL	FIXTURE	MOUNTING	CW	HW	WASTE	VENT	TRAP	BASIS OF DEISGN	MODEL	REMARKS
OD-1	ROOF DRAIN - PRIMARY	ROOF	--	--	3	--	--	SIOUX CHIEF	868	CAST IRON BODY AND DOME.
OD-2	ROOF DRAIN - PRIMARY	ROOF	--	--	3	--	--	SIOUX CHIEF	868	CAST IRON BODY AND DOME, 2" OVERFLOW DAMN.
RD-1	ROOF DRAIN - PRIMARY	ROOF	--	--	3	--	--	SIOUX CHIEF	868	CAST IRON BODY AND DOME.

WATER HEATER SCHEDULE

SYMBOL	MFGR	MODEL	RECOVERY GPH	FUEL TYPE	INPUT MBH	VOLUME GAL	AMPS	VOLTS	PH	LABEL	REMARKS
HWH-3.1	PVI	CQT400	472	NG	400	115.6	12	120	1	ASME, NSF	SEMI-INSTANTANEOUS WATER HEATER, BACNET COMPATIBLE CONTROLLER, AXIOM NC-2 CONDENSATE NEUTRALIZER KIT.
HWH-3.2	PVI	CQT400	472	NG	400	115.6	12	120	1	ASME, NSF	SEMI-INSTANTANEOUS WATER HEATER, BACNET COMPATIBLE CONTROLLER, AXIOM NC-2 CONDENSATE NEUTRALIZER KIT.

TEMPERING VALVE SCHEDULE

SYMBOL	MFGR	MODEL	INLET SIZE	OUTLET SIZE	TEMPERATURE RANGE (DEG F)	SET POINT (DEG F)	FLOW RATE (GPM)	PRESS. DROP (PSI)	REMARKS
TV-3.1	WATTS	IS2150VL	1 1/2"	2"	60-180	120	77.8	5.00	DIGITAL WATER MIXING VALVE, INTEGRAL CHECK VALVES, PROGRAMMABLE ALERTS AND SCHEDULE, BACNET COMPATIBLE CONTROLLER.

PUMP SCHEDULE

				PUMP			MOTOR DATA					
SYMBOL	MFGR	MODEL	FUNCTION	MEDIUM	GPM	HEAD FT	HP	WATTS	VOLTS	Hz	PH	REMARKS
BP-3.1	GRUNDFOS	TPE3 100-170	BOILER CIRC	WATER	380	29	7.5	--	480	60	3	INLINE PUMP, INTEGRAL VFD.
BP-3.2	GRUNDFOS	TPE3 100-170	BOILER CIRC	WATER	380	29	7.5	--	480	60	3	INLINE PUMP, INTEGRAL VFD.
CP-3.1	GRUNDFOS	CRE 95-2-2	BUILDING HEAT	WATER	550	110	25	--	480	60	3	FLOOR MOUNTED, VERTICAL MULTISTAGE PUMP, INTEGRAL VFD.
CP-3.2	GRUNDFOS	CRE 95-2-2	BUILDING HEAT	WATER	550	110	25	--	480	60	3	FLOOR MOUNTED, VERTICAL MULTISTAGE PUMP, INTEGRAL VFD.
CP-3.3	GRUNDFOS	TPE3 80-180	AHU/RTU COILS	50% P.G.	203	45	3	--	480	60	3	INLINE PUMP, INTEGRAL VFD.
CP-3.4	GRUNDFOS	TPE3 80-180	AHU/RTU COILS	50% P.G.	203	45	3	--	480	60	3	INLINE PUMP, INTEGRAL VFD.
CP-3.5	GRUNDFOS	CRE 20-2	SNOWMELT	50% P.G.	115	72	7.5	--	480	60	3	FLOOR MOUNTED, VERTICAL MULTISTAGE PUMP, INTEGRAL VFD.
CP-3.6	GRUNDFOS	CRE 20-2	SNOWMELT	50% P.G.	115	72	7.5	--	480	60	3	FLOOR MOUNTED, VERTICAL MULTISTAGE PUMP, INTEGRAL VFD.
HWCP-3.1	GRUNDFOS	UPS 32-160 F B	DOMESTIC HOT WATER CIRC	WATER	25	25	--	625	120	60	1	THREE SPEED PUMP, BALANCER TO SET FINAL SPEED, NSF RATED.

BOILER SCHEDULE

SYMBOL	MFGR	MODEL	MEDIUM	FUEL	GROSS INPUT (MBH)	GROSS OUTPUT (MBH)	POWER DATA FLA	VOLTS	Hz	PH	REMARKS
B-3.1	AERCO	BMK6000	WATER	NATURAL GAS	6000	5700	9	480	60	3	CONDENSING BOILER, ASME PRESSURE RELIEF VALVE, INTEGRAL CONTROLLER, CONDENSATE TRAP OPTION, AXIOM NT-25 CONDENSATE NEUTRALIZER.
B-3.2	AERCO	BMK6000	WATER	NATURAL GAS	6000	5700	9	480	60	3	CONDENSING BOILER, ASME PRESSURE RELIEF VALVE, INTEGRAL CONTROLLER, CONDENSATE TRAP OPTION, AXIOM NT-25 CONDENSATE NEUTRALIZER.

HEAT EXCHANGER SCHEDULE

					HOT SIDE					COLD SIDE					
SYMBOL	MFGR	MODEL	TYPE	AREA SERVED	MEDUIM	FLOW (GPM)	WPD (FT HD)	EWT DEG F	LWT DEG F	MEDIUM	FLOW (GPM)	WPD (FT HD)	EGT DEG F	LGT DEG F	REMARKS
HX-3.1	TRANTER	GXD-042-I-5-NR-125	PLATE AND FRAME	RTU/AHU GLYCOL	WATER	158.0	3.00	140	110	50% P.G.	154.0	3.00	105	135	EXISTING HEAT EXCHANGER TO BE RE-USED, COORDINATE W/ MFGR AND REMOVE PLATES TO MEET PERFORMANCE SPECIFIED.
HX-3.2	BELL AND GOSSETT	GPX AP47	PLATE AND FRAME	RTU/AHU GLYCOL	WATER	182.5	3.84	140	110	50% P.G.	203.0	5.05	105	135	PLATE AND FRAME HEAT EXCHANGER.
HX-3.3	BELL AND GOSSETT	GPX AP19	PLATE AND FRAME	SNOWMELT GLYCOL	WATER	105.0	7.20	140	110	50% P.G.	117.5	11.00	80	110	PLATE AND FRAME HEAT EXCHANGER.

AIR CONDITIONING UNIT SCHEDULE - EVAPORATOR

SYMBOL	MFGR	MODEL	NOMINAL TONS	COOLING NET CAPACITY	REFR. TYPE	FAN CFM HIGH/LOW	VOLTS	PH	SOUND LEVEL (dBA)	REMARKS
AC-1.1	MITSUBISHI	PKA-AK36NL	3	33,400 Btu/h	R454B	705/920	208	1	49	POWERED FROM OUTDOOR UNIT, WALL MOUNT,CONDENSATE PUMP.
AC-1.2	MITSUBISHI	PKA-AK36NL	3	33,400 Btu/h	R454B	705/920	208	1	49	POWERED FROM OUTDOOR UNIT, WALL MOUNT,CONDENSATE PUMP.

AIR CONDITIONING UNIT SCHEDULE - CONDENSING UNIT

				ELECTRICAL DATA			SOUND	
SYMBOL	MFGR	MODEL	REFR. TYPE	MCA	VOLTS	PH	LEVEL dB	REMARKS
CU-1.1	MITSUBISHI	PUY-AK36NL	R454B	34	230	1	52	TWIN ROTARY COMPRESSORS, R-454B REFRIGERANT.
CU-1.2	MITSUBISHI	PUY-AK36NL	R454B	34	230	1	52	TWIN ROTARY COMPRESSORS, R-454B REFRIGERANT.

GLYCOL MIX TANK SCHEDULE

						TANK		POWER			
SYMBOL	MFGR	MODEL	FUNCTION	MEDIUM	MATERIAL	CAPACITY (GAL)	DIMENSIONS	HP	VOLTS	PH	REMARKS
GT-3.1	WESSELS	GMPD-23100	SNOWMELT/RTU/AHU GLYCOL	50% P.G.	PLASTIC	100.0	34" ø x 84" H	1/3 x 2 EACH	115	1	DUPLEX PUMP GLYCOL MAKEUP SYSTEM, PRESET TO 12PSIG DISCHARGE PRESSURE SETTING.

GENERAL PROJECT NOTES:

A. DO NOT ROUTE ANY PIPING IN EXTERIOR WALLS UNLESS OTHERWISE INDICATED.

B. PROVIDE ACCESS DOORS OF APPROPRIATE SIZE AS REQUIRED TO ALL EQUIPMENT AND VALVES LOCATED ABOVE HARD LID CEILINGS OR WITHIN WALLS REQUIRING ACCESS.

C. SEE ARCHITECTURAL FOR ALL ROOF PENETRATION DETAILS.

D. PROVIDE SEISMIC BRACING AS REQUIRED AND PROVIDE STRUCTURAL, SEISMIC AND WIND LOAD CALCULATIONS, AS APPLICABLE, PLUS FASTENING DETAILS FOR HWH-3.1,3.2, ET-3.1,3.2,3.3, B-3.1,3.2, CU-3.1, GT-3.1 CU-1.1,1.2, BP-3.1,3.2, CP-3.1,3.2,3.3,3.4,3.5,3.6, HWCP-3.1, VF-3.1, AS-3.1,3.2,3.3, HS-3.1 RTU-2.2,2.3,3.1,3.2, AHU-3.3, HX-3.1,3.2,3.3, RF-3.1,3.2 AND SA-2.1-3.2. TO INCLUDE THE ENGINEERS STAMP AND SIGNATURE. FOR STRUCTURAL REVIEW ON A DEFERRED SUBMITTAL BASIS.

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REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME

MECHANICAL LEGEND AND ABBREVIATIONS

SHEET NO.

M001

FULL-SCALE AT 30X42

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EXPANSION TANK SCHEDULE

SYMBOL	MFGR	MODEL	FUNCTION	MEDIUM	MATERIAL	TANK VOLUME TOTAL (GAL)	TANK VOLUME ACCEPTANCE (GAL)	DIMENSIONS DIA	DIMENSIONS HEIGHT	LABEL	REMARKS
ET-3.1	AMTROL	AX-280V	HEATING WATER	WATER	STEEL/HEAVY DUTY BUTYL	211.0	84.0	30"	84"	ASME	PRECHARGE TO 12 PSI.
ET-3.2	AMTROL	AX-100V	AHU/RTU COILS	50% P.G.	STEEL/HEAVY DUTY BUTYL	55.7	22.6	24"	36"	ASME	PRECHARGE TO 12 PSI.
ET-3.3	AMTROL	AX-80V	SNOWMELT	50% P.G.	STEEL/HEAVY DUTY BUTYL	44.4	22.6	24"	29"	ASME	PRECHARGE TO 12 PSI.
ET-3.4	AMTROL	ST-30VC-DD	DOMESTIC HOT WATER	WATER	STEEL/HEAVY DUTY BUTYL	16.6	11.3	16"	25"	ASME	FACTORY PRECHARGE TO 55 PSI.

DX COIL CONDENSING UNIT SCHEDULE

SYMBOL	MFGR	MODEL	COOLING NET CAPACITY	REFR. TYPE	ELECTRICAL DATA MOP	ELECTRICAL DATA MCA	ELECTRICAL DATA VOLTS	ELECTRICAL DATA Hz	ELECTRICAL DATA PH	SOUND LEVEL (dBA)	REMARKS
CU-3.1	TRANE	INTELLICORE RAUKC504B	634000.0 Btu/h	R-454B	125.00	108	480	60	3	69	FACTORY INSTALLED CONTROLLER, 2 EACH 4 STAGE COMPRESSORS, LEAK DETECTION,SPRING VIBRATION ISOLATORS.

AIR SEPARATOR SCHEDULE

SYMBOL	MFGR	MODEL	FUNCTION	MEDIUM	SIZE	CONNECTION	MAX PRESSURE	MAX TEMPERATURE	REMARKS
AS-3.1	SPIROTHERM	VDT 400 FAM	RTU/AHU LOOP	50% P.G.	4"	FLANGED	150 PSI	270°F	COMBINATION DIRT AND AIR SEPARATOR WITH MAGNET.
AS-3.2	SPIROTHERM	VDT 300 FAM	SNOWMELT LOOP	50% P.G.	3"	FLANGED	150 PSI	270°F	COMBINATION DIRT AND AIR SEPARATOR WITH MAGNET.

HEATING COIL SCHEDULE

SYMBOL	SYSTEM	MFGR	MODEL	AIR P.D. IN. WC.	FACE VEL. FPM	EAT DEG F	LAT DEG F	GPM	MEDIUM	EGT DEG F	LGT DEG F	WPD FT HD	REMARKS
HC-2.2	RTU-2.2	TRANE	INTEGRAL TO RTU-2.2	0.37	580	40	57	37.0	50% P.G.	130	100	0.00	SIZED FOR CONDENSING BOILER OPERATION.
HC-2.3	RTU-2.3	TRANE	INTEGRAL TO RTU-2.3	0.34	393	40	61	19.5	50% P.G.	130	100	0.00	SIZED FOR CONDENSING BOILER OPERATION.
HC-3.1	RTU-3.1	TRANE	INTEGRAL TO RTU-3.1	0.35	462	40	63	56.5	50% P.G.	130	100	0.00	SIZED FOR CONDENSING BOILER OPERATION.
HC-3.2	RTU-3.2	TRANE	INTEGRAL TO RTU-3.2	0.35	462	40	63	56.5	50% P.G.	130	100	0.00	SIZED FOR CONDENSING BOILER OPERATION.
HC-3.3	AHU-3.3	TRANE	INTEGRAL TO AHU-3.3	0.09	400	45	75	36.3	50% P.G.	130	100	1.48	SIZED FOR CONDENSING BOILER OPERATION.

HYDRAULIC SEPARATOR SCHEDULE

SYMBOL	MFGR	MODEL	FUNCTION	MEDIUM	SIZE	CONNECTION	MAX PRESSURE	MAX TEMPERATURE	REMARKS
HS-3.1	SPIROTHERM	VDX 800 FA	BUILDING HEAT/BOILER LOOP	WATER	8"	FLANGED	150 PSI	270°F	COMBINATION DIRT AND HYDRAULIC AIR SEPARATOR WITH MAGNET.

COOLING COIL SCHEDULE

SYMBOL	MFGR	MODEL	PIPE SIZE	CFM	AIR P.D. IN. WC.	FACE VEL. FPM	EAT DB DEG F	EAT WB DEG F	LAT DB DEG F	LAT WB DEG F	REMARKS
CC-1	TRANE	INTEGRAL TO AHU-3.3	1/2"	20,000	0.92	500	75	62	52	51	--

FAN SCHEDULE

SYMBOL	MFGR	MODEL	TYPE	SERVICE	CFM	ESP IN W.C.	MOTOR DATA HP	MOTOR DATA VOLTS	MOTOR DATA Hz	MOTOR DATA PH	DRIVE	SONES	LABEL	REMARKS
RF-3.1	GREENHECK	SQ-30-VG	INLINE	AHU-3.3 RELIEF AIR	10,000	0.50	5	480	60	3	DIRECT	9.7	AMCA	EC MOTOR. PROVIDE W/ FAN INLET GUARD.
RF-3.2	GREENHECK	SQ-30-VG	INLINE	AHU-3.3 RELIEF AIR	10,000	0.50	5	480	60	3	DIRECT	9.7	AMCA	EC MOTOR. PROVIDE W/ FAN INLET GUARD.
VF-3.1	GREENHECK	SQ-160-VG	INLINE	BOILER VENTILATION	3,000	0.50	1	120	60	1	DIRECT	13	AMCA	EC MOTOR.

AIR HANDLER SCHEDULE

SYMBOL	MFGR	MODEL	AREA SERVED	HEATING COIL TAG	COOLING COIL TAG	SUPPLY FAN SIZE	SUPPLY FAN CFM	SUPPLY FAN ARRANGEMENT	ESP IN. W.C.	MOTOR DATA # MOTORS	MOTOR DATA HP	MOTOR DATA VOLTS	MOTOR DATA PH	FILTERS SQ. FT.	FILTER RATING	O/A %	REMARKS
AHU-3.3	TRANE	CSAA040	PCC3 LENS	HC-3.3	CC-1	20 HP	20,000	PLENUM	3.50	2	20.0	480	3	82	MERV8/ MERV14	8	MERV 8 PREFILTER, MERV 14 FINAL FILTER, STAINLESS STEEL DRAIN PANS, EXTENDED FAN GREASE LINES, UNIT MOUNTED DISCONNECT WITH HIGH FAULT SCCR, FACTORY MOUNTED RECEPCTICLE, FAN MOTOR SHAFT GROUNDING RINGS, FAN SPRING ISOLATORS, LOW LEAK DAMPERS, HIGH INTENSITY UVC LIGHTS SHIPPED LOOSE, FAN VFDS PROVIDED AND INSTALLED BY CONTROLS CONTRACTOR.

RTU SCHEDULE

SYMBOL	MFGR	MODEL	AREA SERVED	HEATING COIL TAG	COOLING NOMINAL TONS	COOLING TOTAL MBH	COOLING EWB DEG F	COOLING AMBIENT DEG F	SUPPLY FAN CFM	SUPPLY FAN ESP IN. W.C.	SUPPLY FAN # MOTORS	SUPPLY FAN HP	SUPPLY FAN VOLTS	SUPPLY FAN PH	RELIEF FAN CFM	RELIEF FAN ESP IN. W.C.	RELIEF FAN # MOTORS	RELIEF FAN HP	RELIEF FAN VOLTS	RELIEF FAN PH	MCA	FILTERS SQ. FT.	FILTER RATING	O/A %	REMARKS
RTU-2.2	TRANE	SLHPF604C*77EABD8001E0WE0000A00461Y8A0	PCC-2 LEVEL 2	HC-2.2	60	720	61	75	25,500	5.67	2	50.0	480	3	25,500	1.00	1	15.0	480	3	201 A	44	MERV8/ MERV14	27	ECC CONTROLLER OPTION, CONVENIENCE RECEPTACLE, MERV 8 PREFILTER, MERV 14 FINAL FILTER, STAINLESS STEEL DRAIN PANS, EXTENDED FAN GREASE LINES, UNIT DISCONNECT WITH HIGH FAULT SCCR, FACTORY MOUNTED RECEPCTICLE, FAN MOTOR SHAFT GROUNDING RINGS, FAN SPRING ISOLATORS, LOW LEAK DAMPERS, HIGH INTENSITY UV LIGHTS SHIPPED LOOSE FROM FACTORY.
RTU-2.3	TRANE	SLHPF3043*00E6DD6011E0WE0000A00461Y8A0	ATRIUM	HC-2.3	30	360	61	75	11,000	4.56	2	20.0	480	3	11,000	1.00	1	5.0	480	3	100 A	28	MERV8/ MERV14	11	ECC CONTROLLER OPTION, CONVENIENCE RECEPTACLE, MERV 8 PREFILTER, MERV 14 FINAL FILTER, STAINLESS STEEL DRAIN PANS, EXTENDED FAN GREASE LINES, UNIT DISCONNECT WITH HIGH FAULT SCCR, FACTORY MOUNTED RECEPCTICLE, FAN MOTOR SHAFT GROUNDING RINGS, FAN SPRING ISOLATORS, LOW LEAK DAMPERS, HIGH INTENSITY UV LIGHTS SHIPPED LOOSE FROM FACTORY.
RTU-3.1	TRANE	SLHRC9046*00EEED6001E0WE0000A00461Y8A*0	PCC-3 LEVELS 1,2	HC-3.1	90	1080	61	75	30,000	6.54	2	25.0	480	3	30,000	1.50	1	25.0	480	3	258 A	65	MERV8/ MERV14	18	ECC CONTROLLER OPTION, CONVENIENCE RECEPTACLE, MERV 8 PREFILTER, MERV 14 FINAL FILTER, STAINLESS STEEL DRAIN PANS, EXTENDED FAN GREASE LINES, UNIT DISCONNECT WITH HIGH FAULT SCCR, FACTORY MOUNTED RECEPCTICLE, FAN MOTOR SHAFT GROUNDING RINGS, FAN SPRING ISOLATORS, LOW LEAK DAMPERS, HIGH INTENSITY UV LIGHTS SHIPPED LOOSE FROM FACTORY.
RTU-3.2	TRANE	SLHRC9046*00EEED6001E0WE0000A00461Y8A*0	PCC-3 LEVELS 2,3	HC-3.2	90	1080	61	75	30,000	6.54	2	25.0	480	3	30,000	1.50	1	25.0	480	3	258 A	65	MERV8/ MERV14	18	ECC CONTROLLER OPTION, CONVENIENCE RECEPTACLE, MERV 8 PREFILTER, MERV 14 FINAL FILTER, STAINLESS STEEL DRAIN PANS, EXTENDED FAN GREASE LINES, UNIT DISCONNECT WITH HIGH FAULT SCCR, FACTORY MOUNTED RECEPCTICLE, FAN MOTOR SHAFT GROUNDING RINGS, FAN SPRING ISOLATORS, LOW LEAK DAMPERS, HIGH INTENSITY UV LIGHTS SHIPPED LOOSE FROM FACTORY.

SOUND ATTENUATOR SCHEDULE

SYMBOL	MANUFACTURER	MODEL	EQUIPMENT SERVED	VELOCITY (FPM)	PRESSURE DROP (IN WC)	ATTENUATION DYNAMIC INSERTION LOSS IN dB OCTAVE BAND 1	2	3	4	5	6	7	8	REGENERATION SELF-NOISE POWER LOSS, dB OCTAVE BAND 1	2	3	4	5	6	7	8	DIMENSIONS	REMARKS
SA-2.1	PRICE	--	RTU-2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SA-2.2	PRICE	--	RTU-2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SA-2.3	PRICE	--	RTU-2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SA-2.4	PRICE	--	RTU-2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SA-2.5	PRICE	--	RTU-2.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SA-2.6	PRICE	--	RTU-2.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SA-2.7	PRICE	--	RTU-2.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SA-2.8	PRICE	--	RTU-2.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SA-3.1	PRICE	--	RTU-3.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SA-3.2	PRICE	--	RTU-3.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

SNOWMELT MANIFOLD SCHEDULE

ZONE #	AREA	MEDIUM	GPM	OUTPUT (BTU/SQFT)	AREA (SQ. FT.)	EGT	LGT	PRESSURE DROP (FT HD)
1.1	PCC1	50% P.G.	6.8	160	573	110	80	11
1.2	PCC1	50% P.G.	11.6	160	979	110	80	11.2
1.3	PCC1	50% P.G.	11.73	175	901	110	80	22.4
1.4	PCC1	50% P.G.	3.6	160	250	110	85	20
1.5	PCC1	50% P.G.	21.19	158	1,807	110	80	18.1
1.6	PCC1	50% P.G.	23.39	178	1,772	110	80	14.3
3.1	PCC3	50% P.G.	14.7	150	1,100	110	85	20
3.2	PCC3	50% P.G.	24.2	149	1,830	110	85	25

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65% DESIGN DEVELOPMENT

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REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO. M5052
DATE May 11, 2026
DRAWN SF
REVIEWED MRB

SHEET NAME
MECHANICAL SCHEDULES

SHEET NO.
M002

FULL-SCALE AT 30X42

STAMP

GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

SHEET NOTES: X

1. FOR ENLARGED BOILER ROOM DEMOLITION PLAN, SEE - 1/M231
2. FOR GAS PIPING DEMOLITION SCHEMATIC, SEE - 4/M301
3. ELECTRICAL PANEL, SEE ELECTRICAL PLANES FOR MORE INFORMATION.

1 PCC1 FIRST FLOOR PLUMBING DEMOLITION PLAN
1/8" = 1'-0"

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DATE	May 11, 2026
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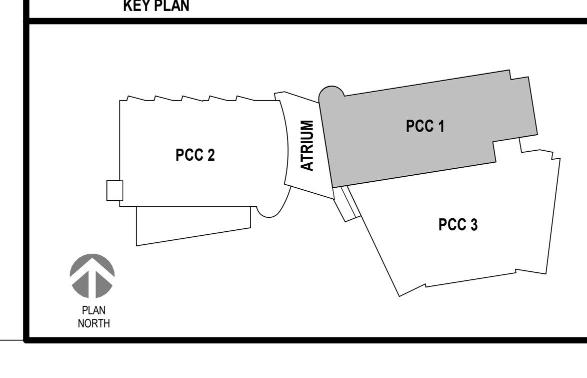
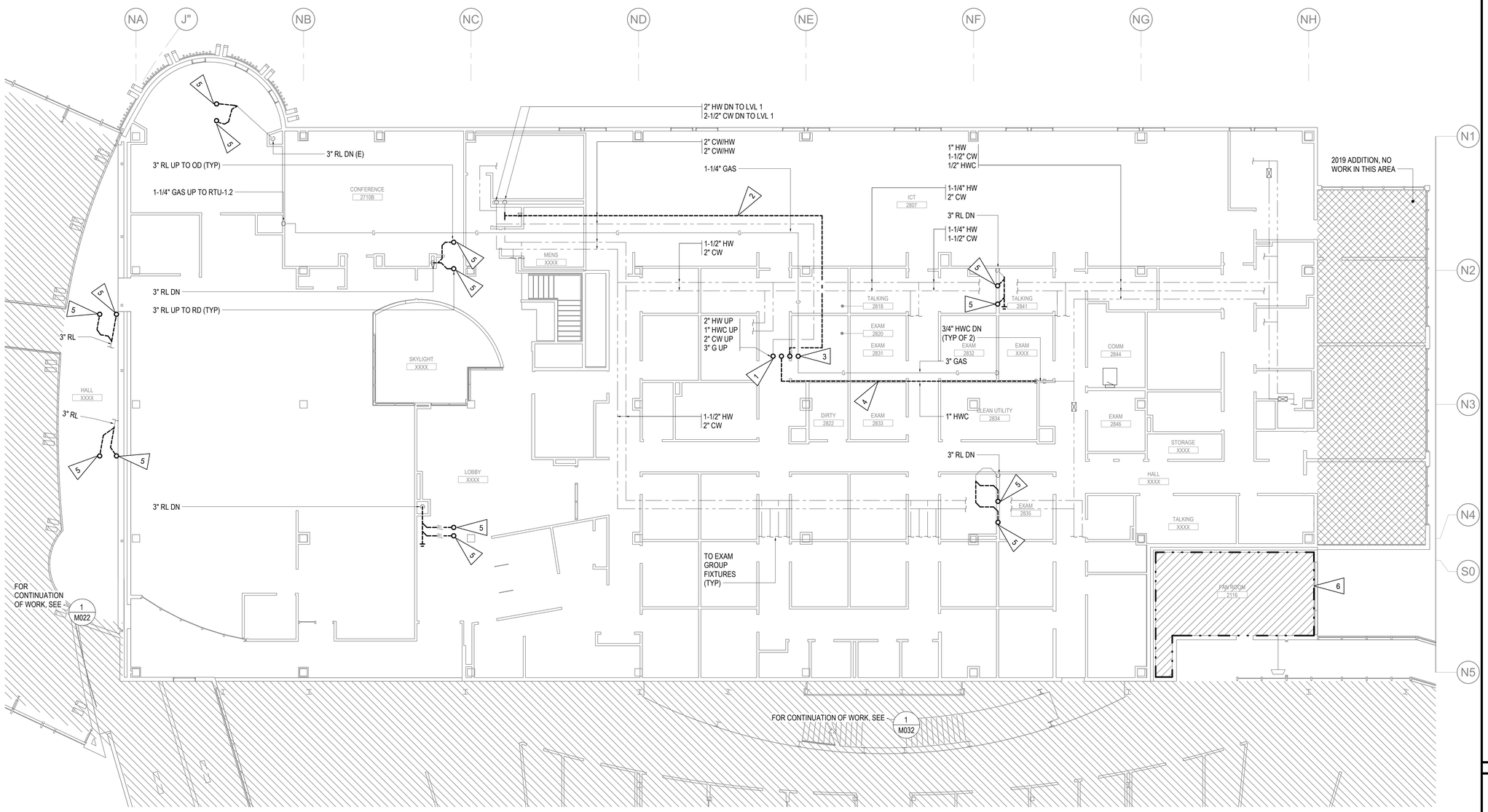
KEY PLAN



SHEET NAME
PCC1 FIRST FLOOR PLUMBING DEMOLITION

SHEET NO.
M011

FULL-SCALE AT 30X42



1 PCC1 SECOND FLOOR PLUMBING DEMOLITION PLAN

1/8" = 1'-0"

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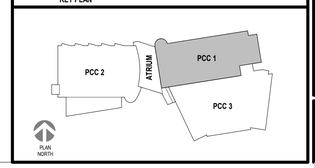
2. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

SHEET NOTES: X

1. DEMOLISH ALL PLUMBING PIPING, GAS PIPING, AND ALL ASSOCIATED APPURTENANCES UP TO ROOFTOP BOILER ENCLOSURE. SALVAGE HW CONNECTION FOR RE-USE AND CAP ALL OTHER PIPING AT MAIN WITH NO DEAD LEGS FOR DOMESTIC PLUMBING.
2. DEMOLISH CW AND ALL ASSOCIATED APPURTENANCES BACK TO MAIN AND CAP WITH NO DEAD LEG.
3. DEMOLISH GAS PIPING FROM BOILER ENCLOSURE TO MAIN AND CAP. FOR GAS PIPING DEMOLITION SCHEMATIC, SEE - 4 / M301
4. DEMOLISH HWC AND ALL ASSOCIATED APPURTENANCES AS SHOWN AND CAP WITH NO DEAD LEG
5. DEMOLISH PRIMARY AND OVERFLOW ROOF DRAINS AND 3" RL PIPING AS NECESSARY TO ACCOMMODATE NEW ROOF AND OVERFLOW DRAIN INSTALLATION.
6. FOR ENLARGED FAN ROOM DEMOLITION PLAN, SEE - 1 / M232

KEY PLAN



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DRAWN	SF
REVIEWED	MRB

SHEET NAME

PCC1 SECOND FLOOR PLUMBING DEMOLITION

SHEET NO.

M012

FULL-SCALE AT 30X42

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1 PCC1 FIRST FLOOR HEATING DEMOLITION PLAN

1/8" = 1'-0"

GENERAL NOTES:

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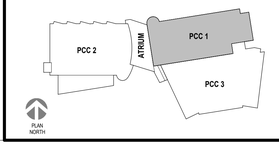
2. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.
3. ALL PIPING ASSOCIATED WITH PCC1 AND PCC3 HEATING SYSTEMS TO BE DRAINED AND CLEANED PER THE HYDRONIC PIPING SPECIFICATION. EXISTING GLYCOL TO BE RECOVERED AND RECYCLED.

SHEET NOTES: X

1. **BASE BID SCOPE:** DEMOLISH EVAPORATOR AND REFRIGERANT PIPING AND ALL OTHER ASSOCIATED APPURTENANCES UP TO ROOFTOP CONDENSING UNIT. **DEDUCTIVE ALTERNATE M 1-3:** EVAPORATOR AND PIPING TO REMAIN.
2. FOR ENLARGED BOILER ROOM DEMOLITION PLAN, SEE - 1 / M231
3. FOR ENLARGED FIRE SPRINKLER ROOM PLAN, SEE - 1 / M211

KEY PLAN



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65% DESIGN DEVELOPMENT

4320 Diplomacy Dr, Anchorage, AK 99508

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME

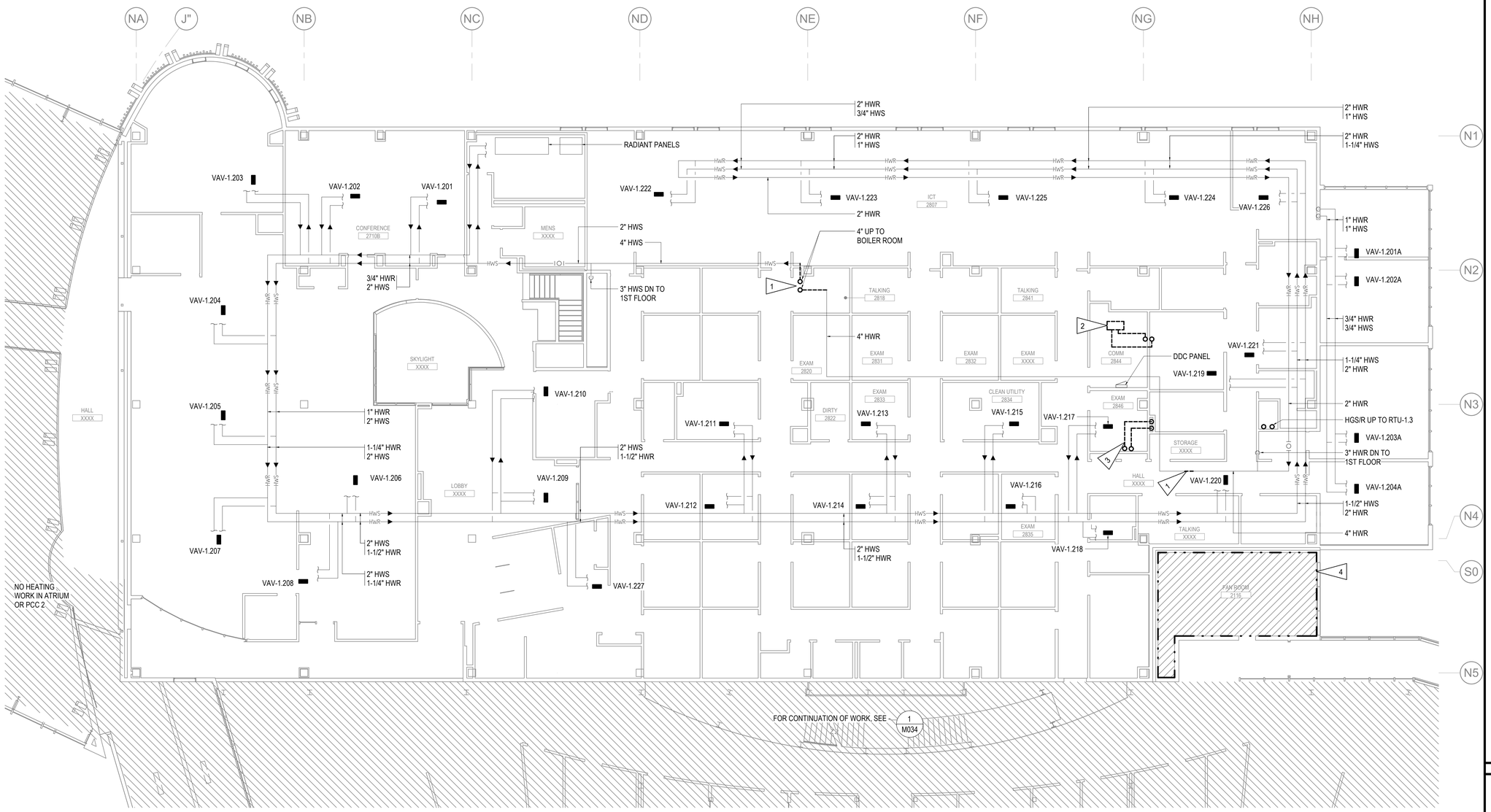
PCC1 FIRST FLOOR HEATING DEMOLITION

SHEET NO.

M013

FULL-SCALE AT 30X42

C:\Users\Stephan.Fonseca\Documents\M5052_MSERIES_R25_sfonsecaQGZ1G.rvt



1 PCC1 SECOND FLOOR HEATING DEMOLITION PLAN
1/8" = 1'-0"

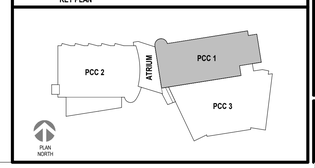
GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.
3. ALL PIPING ASSOCIATED WITH PCC1 AND PCC3 HEATING SYSTEMS TO BE DRAINED AND CLEANED PER THE HYDRONIC PIPING SPECIFICATION. EXISTING GLYCOL TO BE RECOVERED AND RECYCLED.

SHEET NOTES: X

1. **BASE BID SCOPE:** DEMOLISH EVAPORATOR AND REFRIGERANT PIPING AND ALL OTHER ASSOCIATED APPURTENANCES UP TO ROOFTOP CONDENSING UNIT. **DEDUCTIVE ALTERNATE M 1-3:** EVAPORATOR AND PIPING TO REMAIN.
2. **DEDUCTIVE ALTERNATE M 1-3:** DEMOLISH EVAPORATOR AND REFRIGERANT PIPING AND ALL OTHER ASSOCIATED APPURTENANCES UP TO ROOFTOP CONDENSING UNIT.
3. **BASE BID SCOPE:** DEMOLISH REFRIGERANT PIPING AND ALL ASSOCIATED APPURTENANCES FROM ROOFTOP CONDENSING UNIT DOWN THROUGH FLOOR. EXISTING PIPING PENETRATIONS TO REMAIN FOR RE-USE. **DEDUCTIVE ALTERNATE M 1-3:** REFRIGERANT PIPING AND APPURTENANCES TO REMAIN FOR RE-USE.
4. FOR ENLARGED FAN ROOM DEMOLITION PLAN, SEE - 1 M232

KEY PLAN



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RSA Mechanical and Electrical Consulting Engineers
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907.276.1058

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7033 EAST TUDOR ROAD
ANCHORAGE, ALASKA 99507

SOUTHCENTRAL FOUNDATION
YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES
65% DESIGN DEVELOPMENT
4320 Diplomacy Dr, Anchorage, AK 99508

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME
PCC1 SECOND FLOOR HEATING DEMOLITION

SHEET NO.
M014

FULL-SCALE AT 30X42

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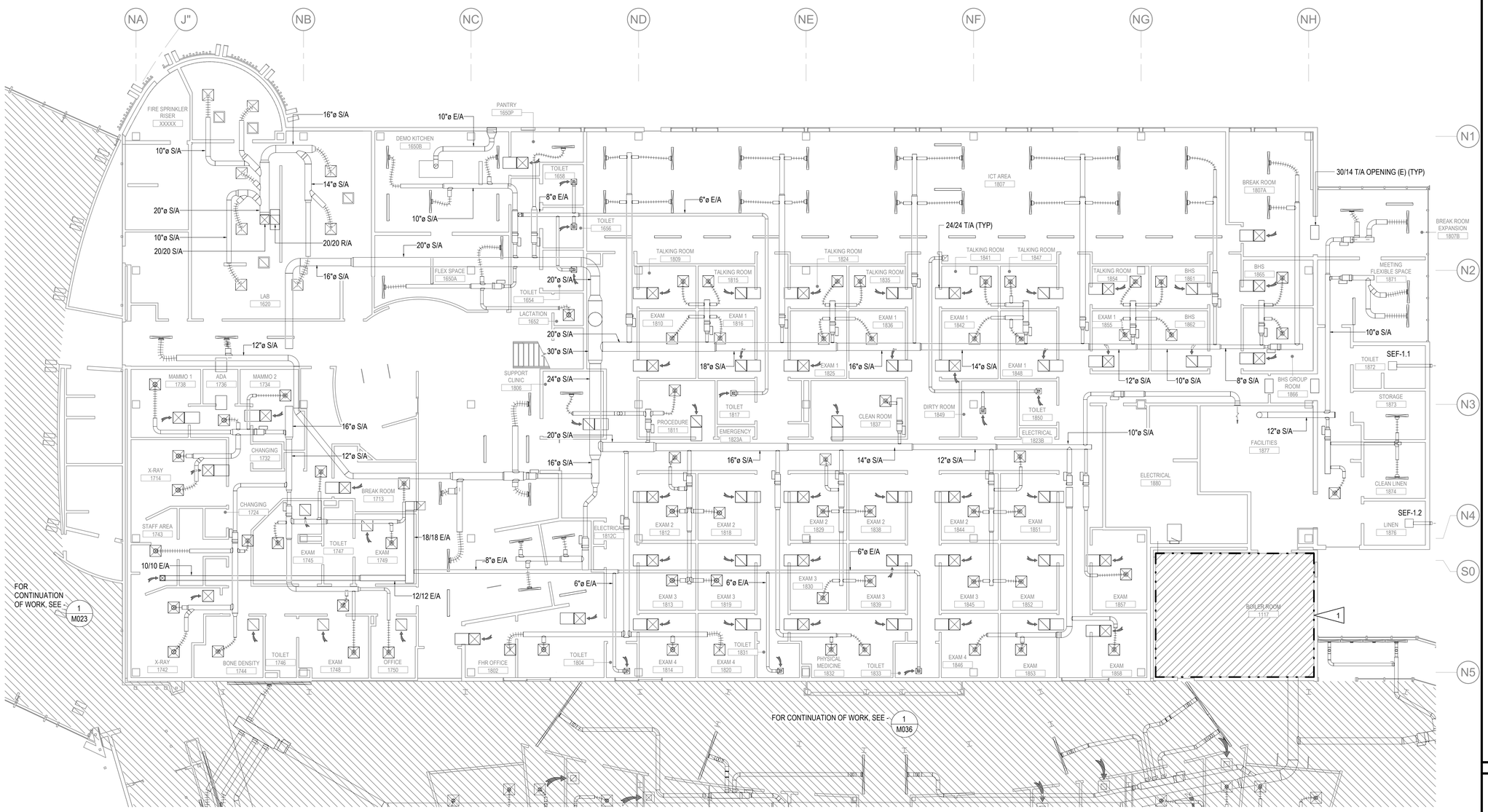

1 PCC1 FIRST FLOOR VENTILATION DEMOLITION PLAN

1/8" = 1'-0"

GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

SHEET NOTES: X

1. FOR ENLARGED BOILER ROOM DEMOLITION PLAN, SEE - 1 M231

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SOUTHCENTRAL FOUNDATION

YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES

65% DESIGN DEVELOPMENT

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REVISION SCHEDULE

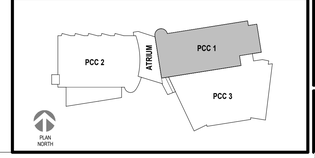
#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME

PCC1 FIRST FLOOR VENTILATION DEMOLITION

KEY PLAN



SHEET NO.

M015

FULL-SCALE AT 30X42

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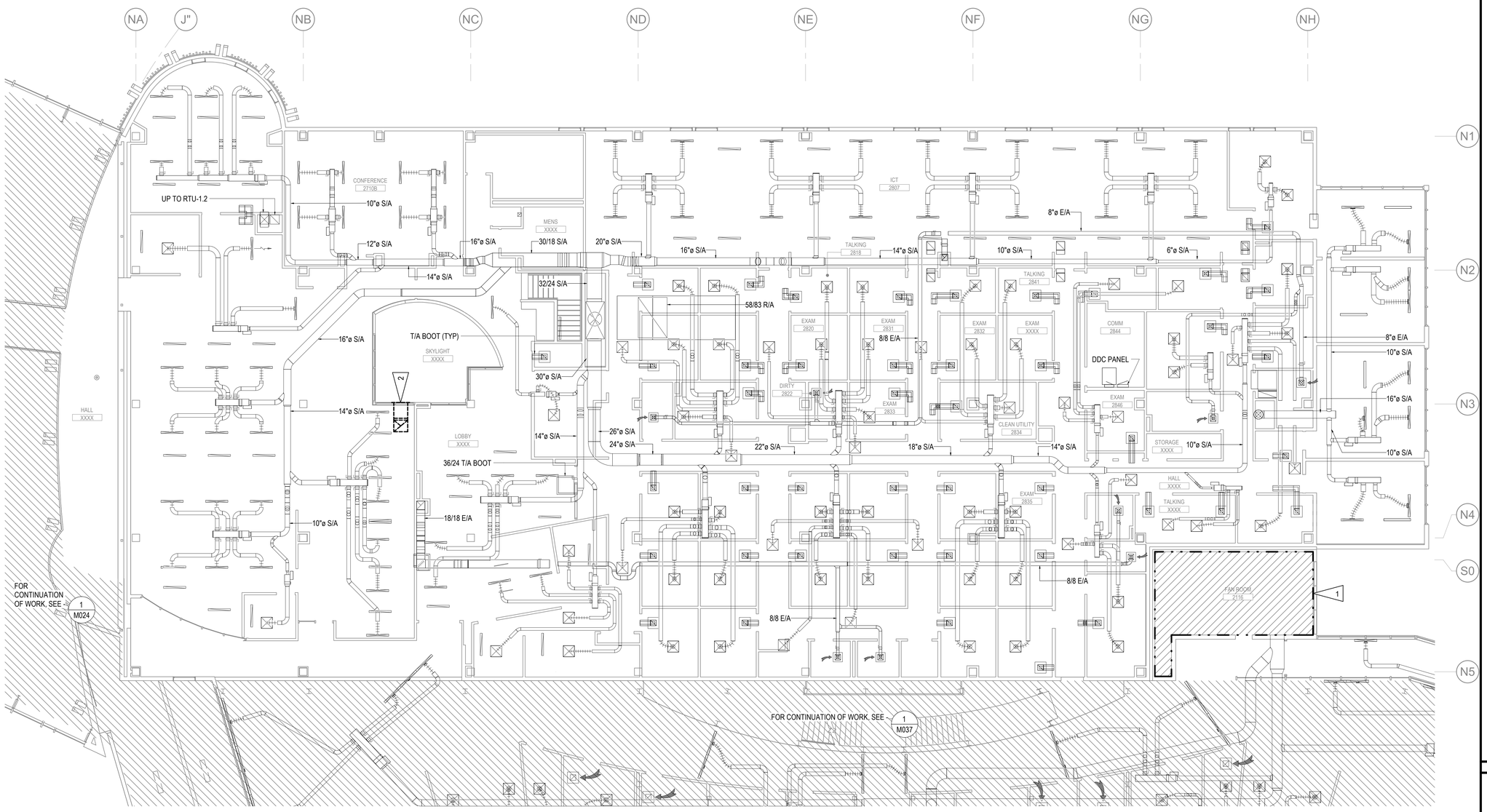

1 PCC1 SECOND FLOOR VENTILATION DEMOLITION PLAN

1/8" = 1'-0"

GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

SHEET NOTES: X

1. FOR ENLARGED FAN ROOM DEMOLITION PLAN, SEE - 1 M232
2. DEMOLISH GRILLES AND EF-1.5 DUCTWORK AT SKYLIGHT/CEILING THROUGH ROOF.

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SOUTHCENTRAL FOUNDATION

YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES

65% DESIGN DEVELOPMENT

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REVISION SCHEDULE

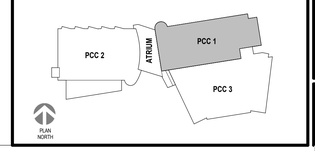
#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME

PCC1 SECOND FLOOR VENTILATION DEMOLITION

KEY PLAN



SHEET NO.

M016

FULL-SCALE AT 30X42

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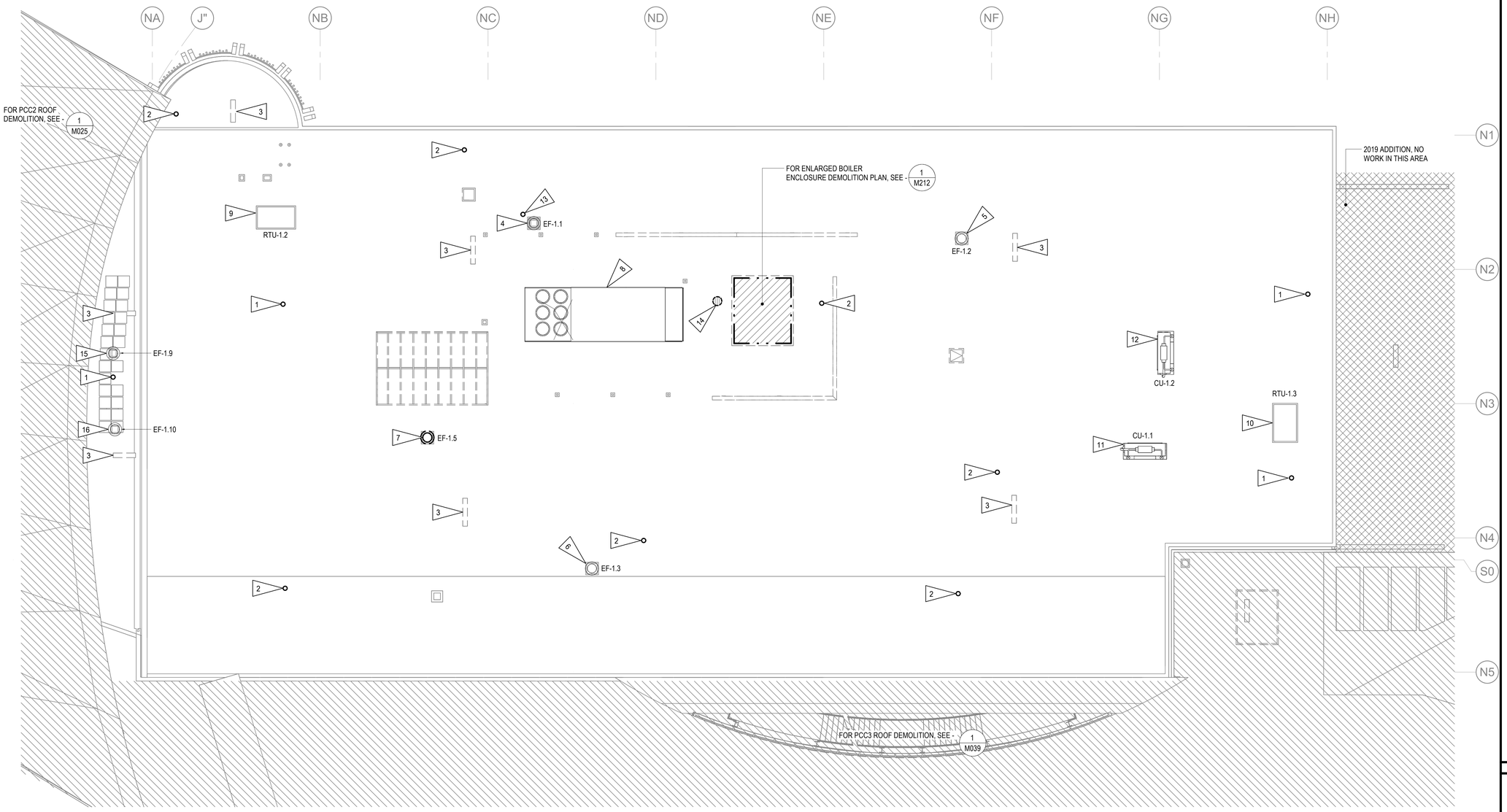


1 PCC1 ROOF MECHANICAL DEMOLITION PLAN

1/8" = 1'-0"

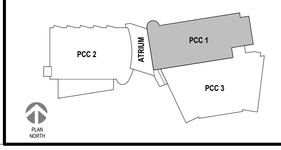
GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

SHEET NOTES: X

1. DEMOLISH 3" VTR TO 12" BELOW DECK.
2. DEMOLISH 4" VTR TO 12" BELOW DECK.
3. DEMOLISH ROOF AND OVERFLOW DRAINS AS SHOWN. DEMOLISH INTERIOR RAIN LEADER PIPING AS NECESSARY TO ACCOMMODATE NEW ROOF INSTALL.
4. REMOVE AND SALVAGE EXHAUST FAN, EF-1.1. DEMOLISH ASSOCIATED ROOF CURB.
5. REMOVE AND SALVAGE EXHAUST FAN, EF-1.2.DEMOLISH ASSOCIATED ROOF CURB.
6. REMOVE AND SALVAGE EXHAUST FAN, EF-1.3. DEMOLISH ASSOCIATED ROOF CURB.
7. DEMOLISH EXHAUST FAN, EF-1.5, CONTROLS, DIFFUSER AND ASSOCIATED DUCTWORK IN THEIR ENTIRETY. PATCH WALL PENETRATION AT DIFFUSER PER ARCHITECTURAL. DEMOLISH ASSOCIATED ROOF CURB.
8. REMOVE RTU-1.1 AS REQUIRED FOR ROOFING, SALVAGE RTU AND ASSOCIATED CONNECTIONS FOR RE-USE. DEMOLISH ASSOCIATED ROOF CURB.
9. REMOVE RTU-1.2 AS REQUIRED FOR ROOFING, SALVAGE RTU AND ASSOCIATED CONNECTIONS FOR RE-USE. DEMOLISH ASSOCIATED ROOF CURB.
10. REMOVE RTU-1.3 AS REQUIRED FOR ROOFING, SALVAGE RTU AND ASSOCIATED CONNECTIONS FOR RE-USE. DEMOLISH ASSOCIATED ROOF CURB.
11. **BASE BID SCOPE**: DEMOLISH CU-1.1 AND ASSOCIATED PIPING. DEMOLISH ASSOCIATED ROOF CURB. **DEDUCTIVE ALTERNATE M1-3**: REMOVE CU-1.1 AS REQUIRED FOR ROOFING, SALVAGE CU AND ASSOCIATED CONNECTIONS FOR RE-USE.
12. **BASE BID SCOPE**: DEMOLISH CU-1.2 AND ASSOCIATED PIPING. DEMOLISH ASSOCIATED ROOF CURB. **DEDUCTIVE ALTERNATE M1-3:** REMOVE CU-1.2 AS REQUIRED FOR ROOFING, SALVAGE CU AND ASSOCIATED CONNECTIONS FOR RE-USE.
13. DEMOLISH 4" GOOSENECK INTAKE.
14. DEMOLISH ROOF DRAIN IN IT'S ENTIRETY. CAP RAIN LEADER BELOW DECK IN SECOND FLOOR CEILING.
15. REMOVE AND SALVAGE EXHAUST FAN, EF-1.9.
16. REMOVE AND SALVAGE EXHAUST FAN, EF-1.10.

KEY PLAN



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ANCHORAGE, ALASKA 99507

SOUTHCENTRAL FOUNDATION

YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES

65% DESIGN DEVELOPMENT

4320 Diplomacy Dr, Anchorage, AK 99508

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME

PCC1 ROOF MECHANICAL DEMOLITION

SHEET NO.

M017

FULL-SCALE AT 30X42"

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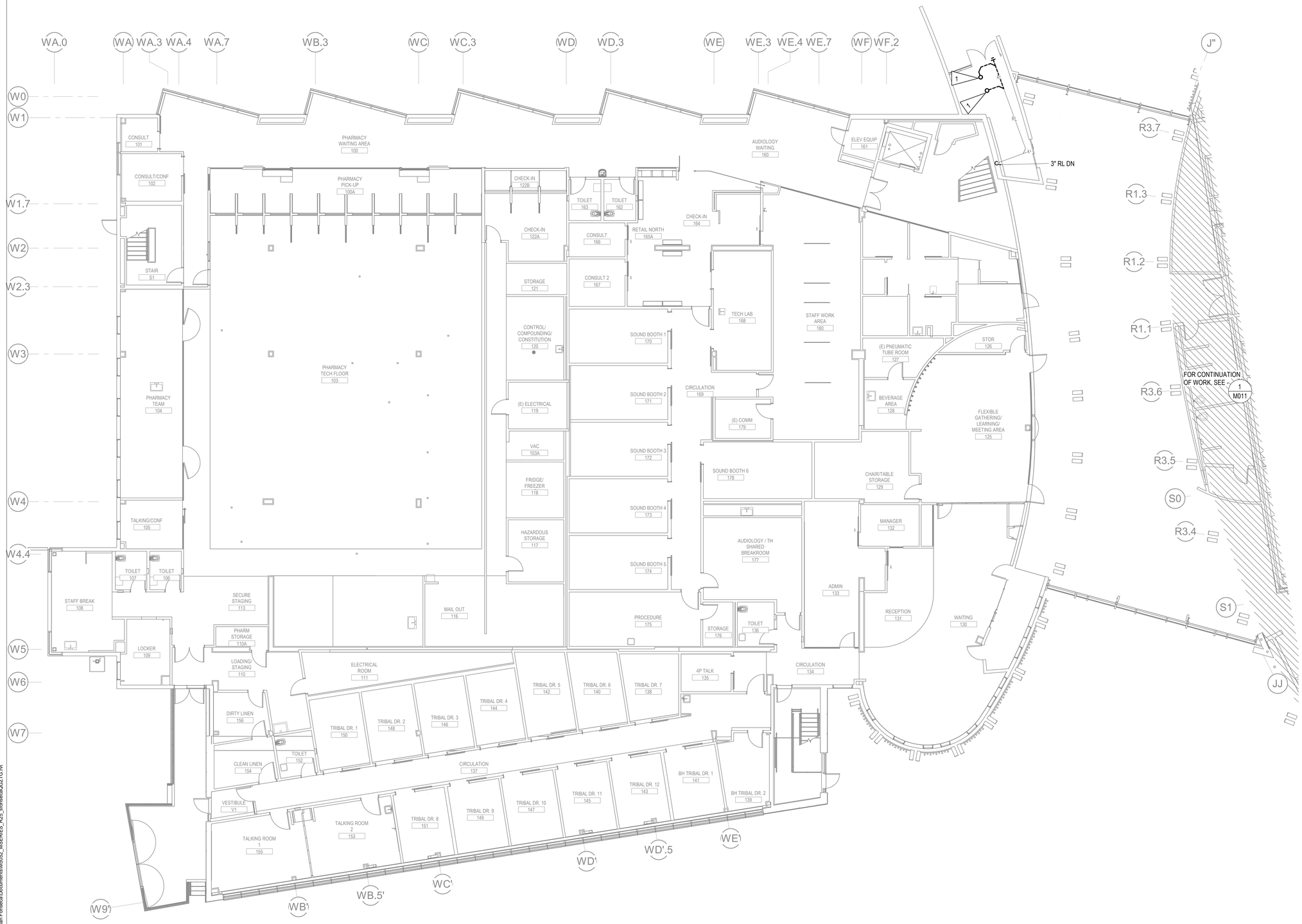


1 PCC2 FIRST FLOOR PLUMBING DEMOLITION PLAN

1/8" = 1'-0"

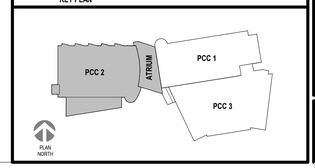
GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

SHEET NOTES: X

1. DEMOLISH PRIMARY AND OVERFLOW ROOF DRAINS AND 3" RL PIPING AS NECESSARY TO ACCOMMODATE NEW ROOF AND OVERFLOW DRAIN INSTALLATION.

KEY PLAN



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Southcentral Foundation
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7033 EAST TUDOR ROAD
ANCHORAGE, ALASKA 99507

SOUTHCENTRAL FOUNDATION

YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES

65% DESIGN DEVELOPMENT

4320 Diplomacy Dr, Anchorage, AK 99508

REVISION SCHEDULE

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JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME

PCC2 FIRST FLOOR PLUMBING DEMOLITION

SHEET NO.

M021

FULL-SCALE AT 30X42

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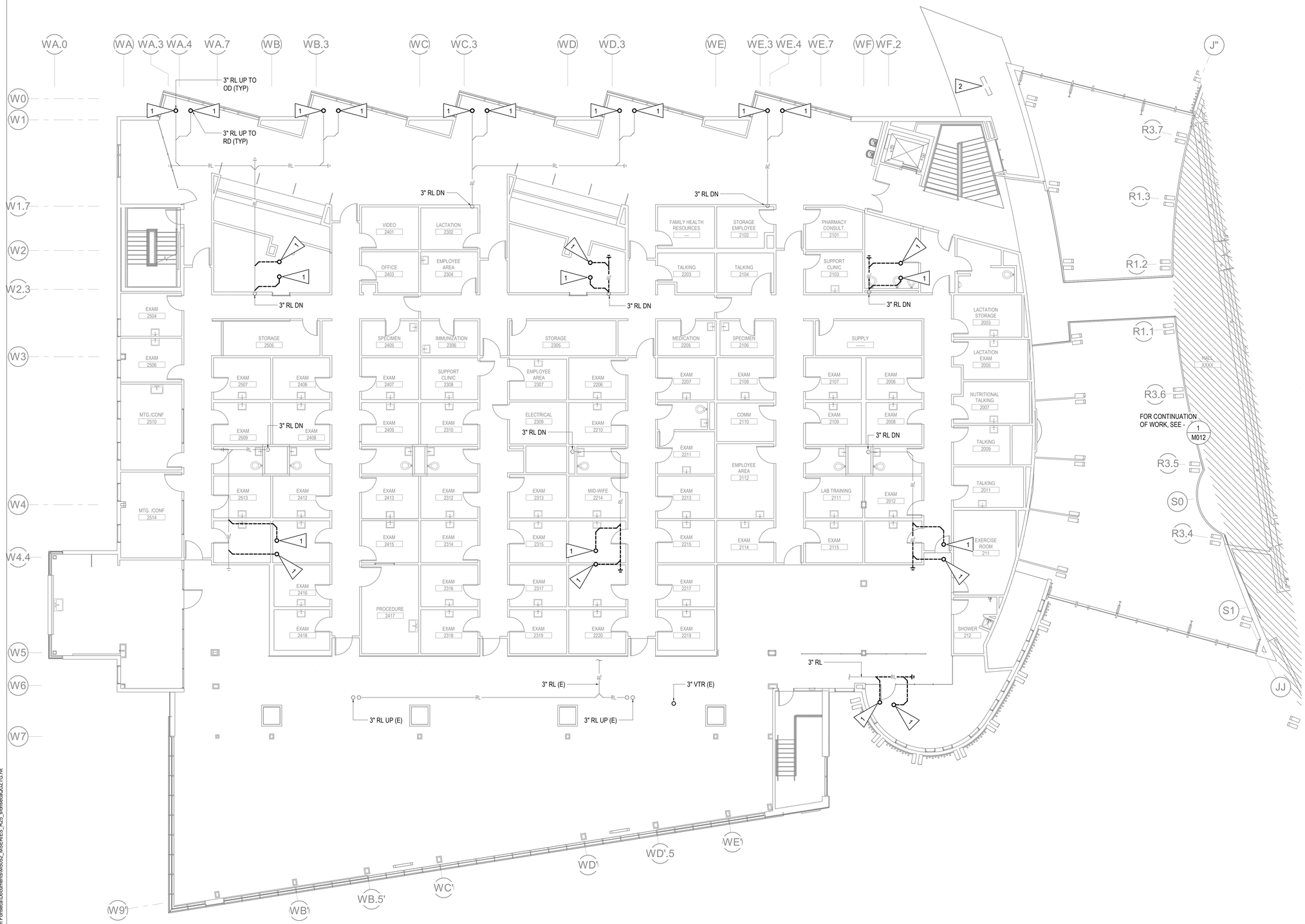


1 PCC2 SECOND FLOOR PLUMBING DEMOLITION PLAN
1/8" = 1'-0"

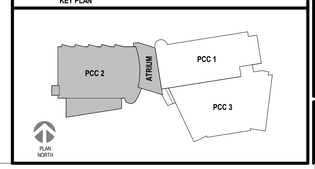
GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

SHEET NOTES: X

1. DEMOLISH PRIMARY AND OVERFLOW ROOF DRAINS AND 3" RL PIPING AS NECESSARY TO ACCOMMODATE NEW ROOF AND OVERFLOW DRAIN INSTALLATION.
2. DEMOLISH ROOF AND OVERFLOW DRAIN AS SHOWN. DEMOLISH INTERIOR RAIN LEADER PIPING AS NECESSARY TO ACCOMMODATE NEW ROOF INSTALL.

KEY PLAN



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ANCHORAGE, ALASKA 99507

SOUTHCENTRAL FOUNDATION
YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES
65% DESIGN DEVELOPMENT
4320 Diplomacy Dr, Anchorage, AK 99508

REVISION SCHEDULE

#	DESCRIPTION	DATE

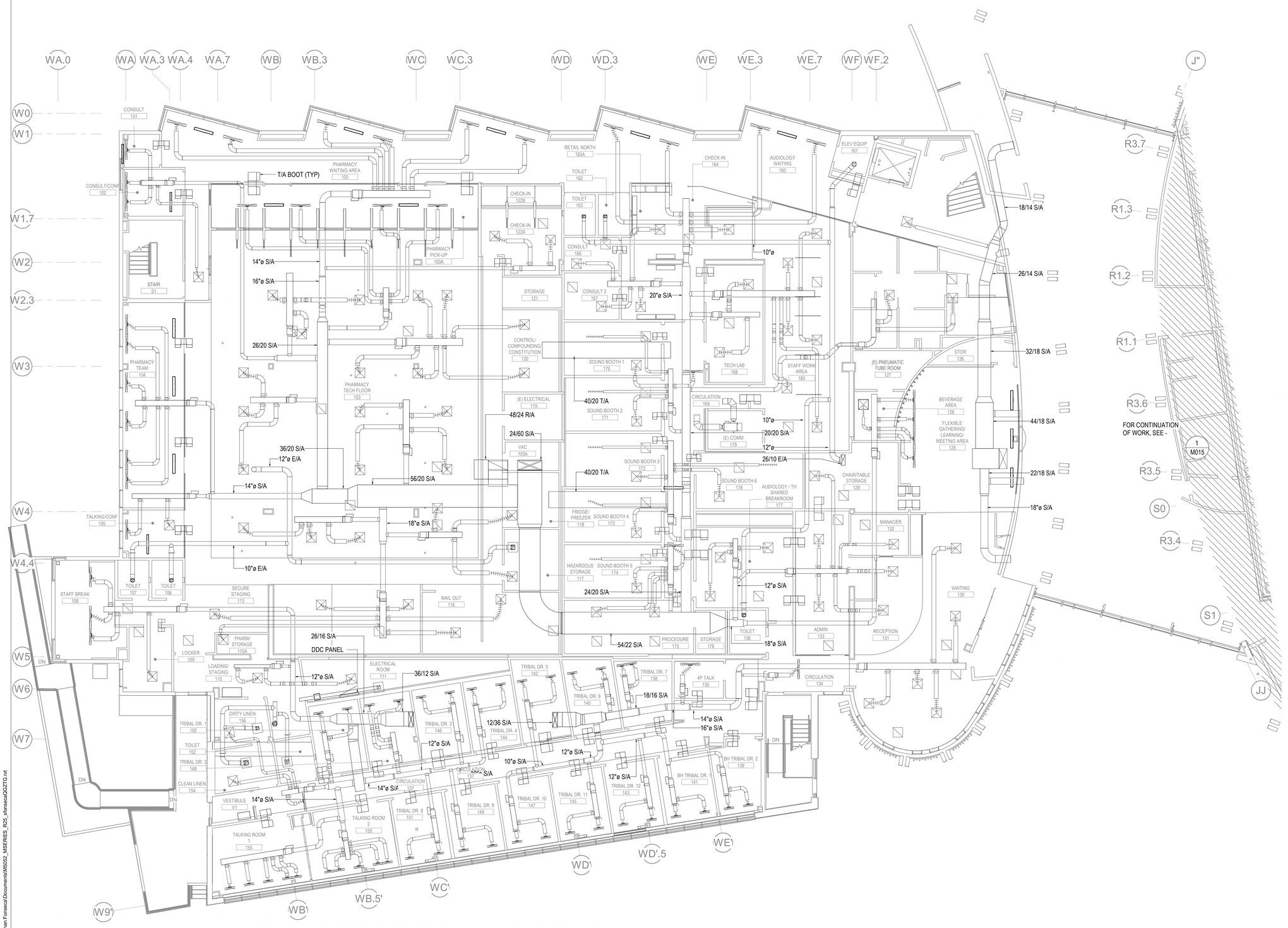
JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME
PCC2 SECOND FLOOR PLUMBING DEMOLITION

SHEET NO.
M022

FULL-SCALE AT 30X42

C:\Users\Stephan Fonseca\Documents\M5052_MSERIES_R25_sfonsecaQGZTG.rvt



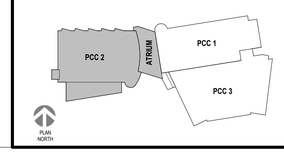
1 PCC2 FIRST FLOOR VENTILATION DEMOLITION PLAN

1/8" = 1'-0"

GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

KEY PLAN



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SOUTHCENTRAL FOUNDATION

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65% DESIGN DEVELOPMENT

4320 Diplomacy Dr, Anchorage, AK 99508

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME

PCC2 FIRST FLOOR VENTILATION DEMOLITION

SHEET NO.

M023

FULL-SCALE AT 30X42

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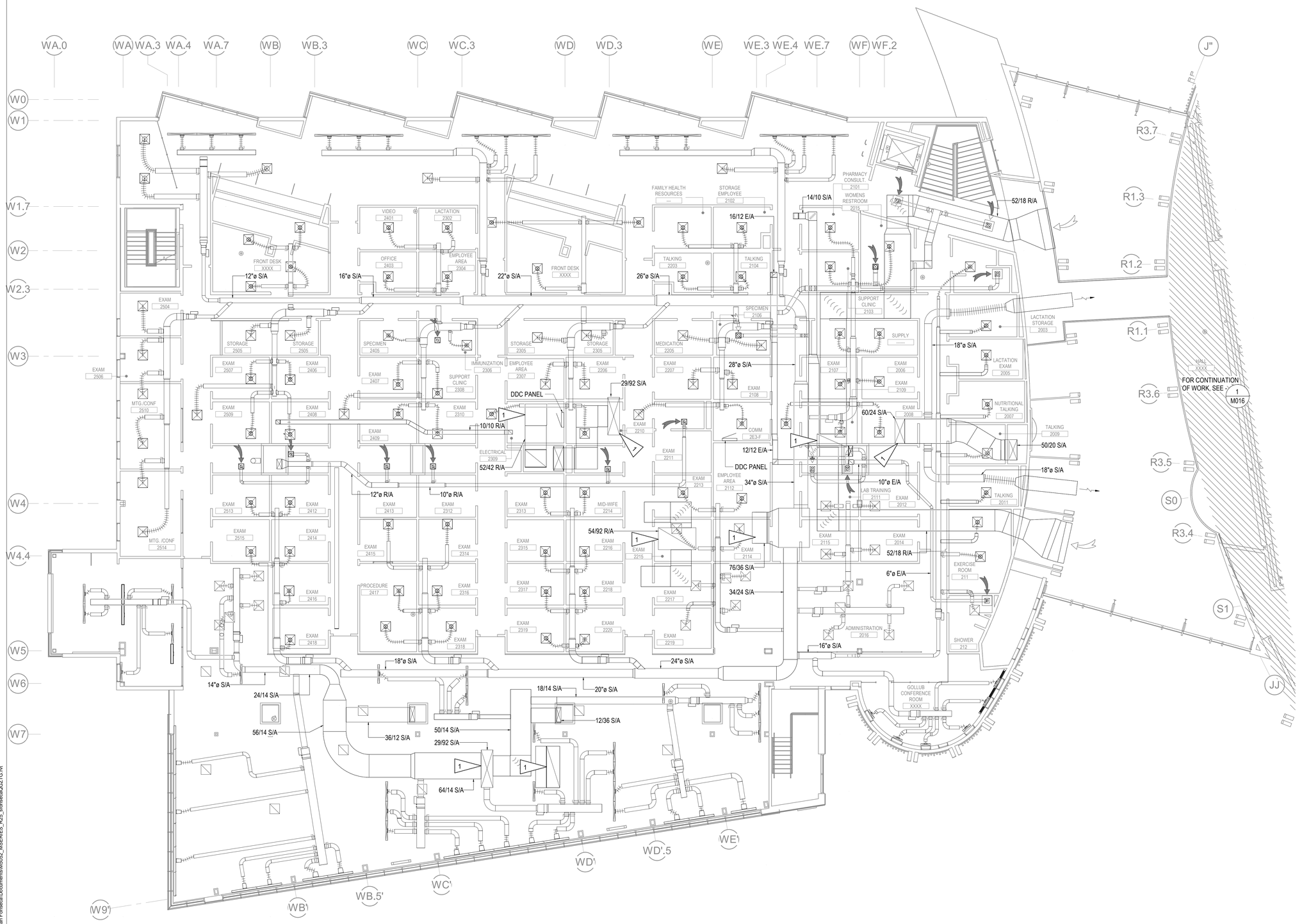


1 PCC2 SECOND FLOOR VENTILATION DEMOLITION PLAN

1/8" = 1'-0"

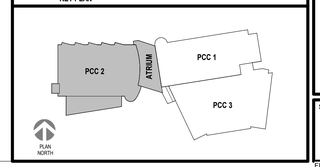
GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

SHEET NOTES: X

1. DEMOLISH DUCTWORK RISERS AS REQUIRED FOR INSTALLATION OF SOUND ATTENUATORS.

KEY PLAN



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SOUTHCENTRAL FOUNDATION

YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES

65% DESIGN DEVELOPMENT

4320 Diplomacy Dr, Anchorage, AK 99508

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME

PCC2 SECOND FLOOR VENTILATION DEMOLITION

SHEET NO.

M024

FULL-SCALE AT 30X42

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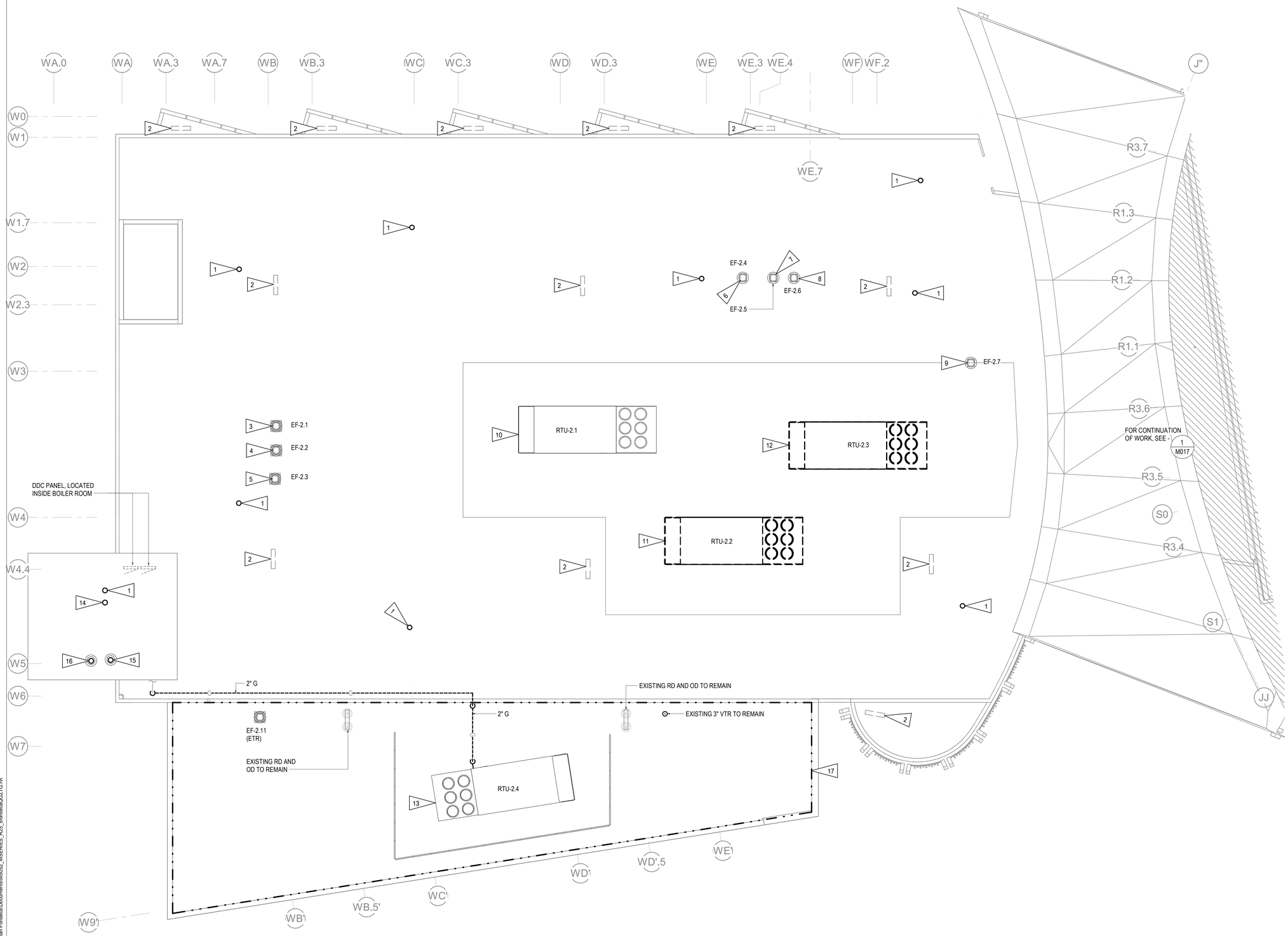

1 PCC2 ROOF MECHANICAL DEMOLITION PLAN
1/8" = 1'-0"

C:\Users\Stephan Fonseca\Documents\M5052_MSERIES_R25_sfonsecaQGZTG.rvt

GENERAL NOTES:

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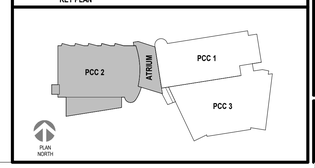
2. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

SHEET NOTES:

1. DEMOLISH 3" VTR TO 12" BELOW DECK.
2. DEMOLISH ROOF AND OVERFLOW DRAINS AS SHOWN. DEMOLISH INTERIOR RAIN LEADER PIPING AS NECESSARY TO ACCOMMODATE NEW ROOF INSTALL.
3. REMOVE AND SALVAGE EXHAUST FAN, EF-2.1. DEMOLISH ASSOCIATED ROOF CURB.
4. REMOVE AND SALVAGE EXHAUST FAN, EF-2.2. DEMOLISH ASSOCIATED ROOF CURB.
5. REMOVE AND SALVAGE EXHAUST FAN, EF-2.3. DEMOLISH ASSOCIATED ROOF CURB.
6. REMOVE AND SALVAGE EXHAUST FAN, EF-2.4. DEMOLISH ASSOCIATED ROOF CURB.
7. REMOVE AND SALVAGE EXHAUST FAN, EF-2.5. DEMOLISH ASSOCIATED ROOF CURB.
8. REMOVE AND SALVAGE EXHAUST FAN, EF-2.6. DEMOLISH ASSOCIATED ROOF CURB.
9. REMOVE AND SALVAGE EXHAUST FAN, EF-2.7. DEMOLISH ASSOCIATED ROOF CURB.
10. REMOVE RTU-2.1 AS REQUIRED FOR ROOFING, SALVAGE RTU AND ASSOCIATED CONNECTIONS FOR RE-USE. DEMOLISH ASSOCIATED ROOF CURB.
11. DEMOLISH RTU-2.2, SALVAGE ASSOCIATED CONNECTIONS FOR RE-USE. DEMOLISH ASSOCIATED ROOF CURB.
12. DEMOLISH RTU-2.3, SALVAGE ASSOCIATED CONNECTIONS FOR RE-USE. DEMOLISH ASSOCIATED ROOF CURB.
13. **DEDUCTIVE ALTERNATE M2-4B/M2-4C**: REMOVE RTU-2.4 AS REQUIRED FOR INSTALLATION OF SOUND ATTENUATOR, AND CURB EXTENSION. DEMOLISH ASSOCIATED ROOF CURB. SALVAGE AND EXTEND AS NECESSARY ALL ASSOCIATED CONNECTIONS FOR RE-USE.
14. DEMOLISH ABANDONED GAS VENT PIPING AND PENETRATION IN THEIR ENTIRETY.
15. REMOVE AND SALVAGE BOILER FLUE AS REQUIRED FOR ROOFING WORK.
16. REMOVE AND SALVAGE WATER HEATER FLUE AS REQUIRED FOR ROOFING WORK.
17. ROOF ASSEMBLY TO REMAIN, THIS SECTION ONLY.

KEY PLAN



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RSA Mechanical and Electrical Consulting Engineers
670 West Fireweed Lane, Suite 200
Anchorage, AK 99503
(907)276-0521
Corporate No.: AECC542

NEESER CONSTRUCTION, INC.
2501 BLUEBERRY STREET
ANCHORAGE, ALASKA 99503
907.276.1058

Southcentral Foundation
SFC CONTRACTS DEPARTMENT
7033 EAST TUDOR ROAD
ANCHORAGE, ALASKA 99507

SOUTHCENTRAL FOUNDATION
YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES
65% DESIGN DEVELOPMENT
4320 Diplomacy Dr, Anchorage, AK 99508

REVISION SCHEDULE

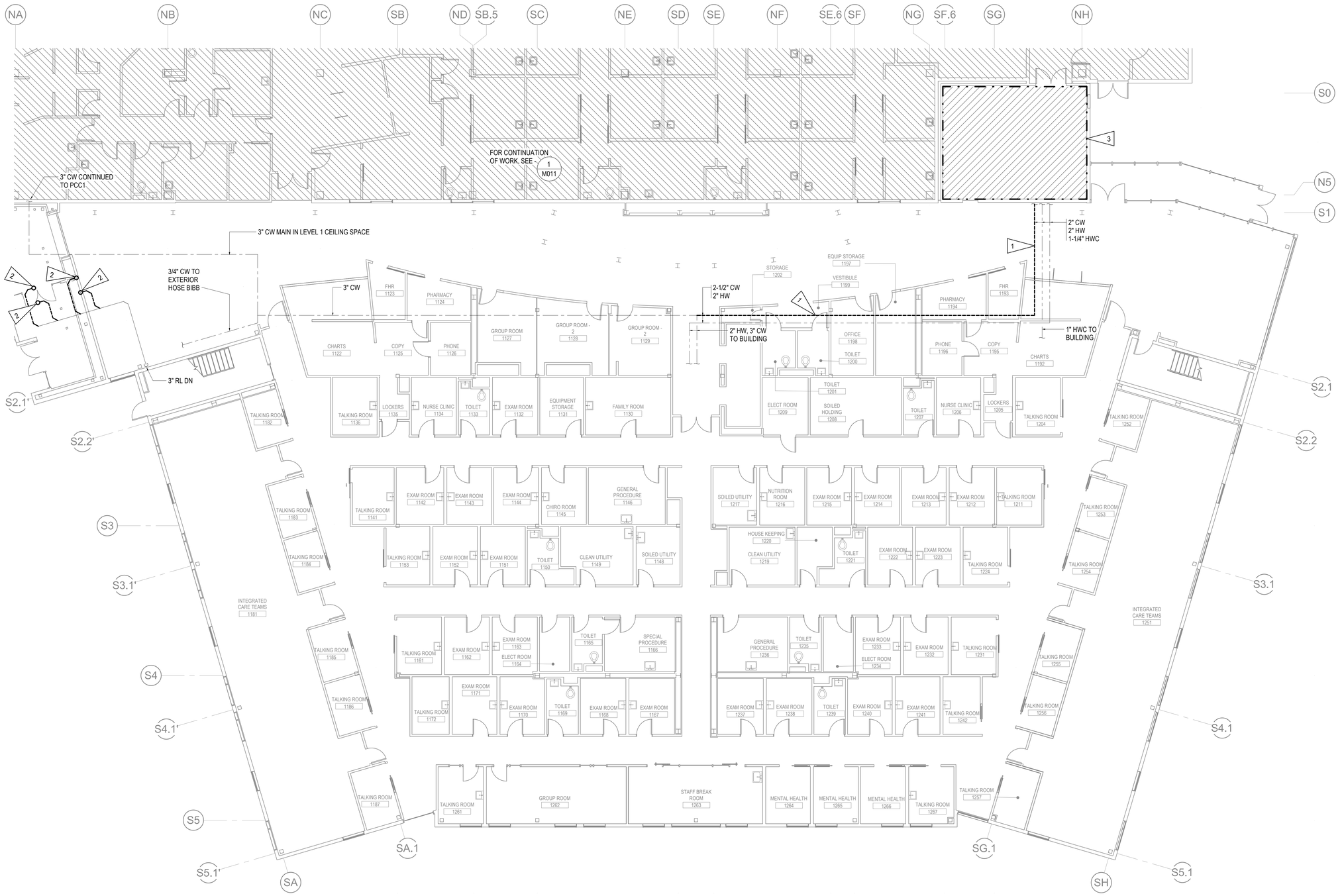
#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME
PCC2 ROOF MECHANICAL DEMOLITION

SHEET NO.
M025

FULL-SCALE AT 30X42



1 PCC3 FIRST FLOOR PLUMBING DEMOLITION PLAN
1/8" = 1'-0"

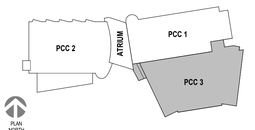
GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

SHEET NOTES:

1. DEMOLISH COLD WATER PIPING AS SHOWN.
2. DEMOLISH PRIMARY AND OVERFLOW ROOF DRAINS AND 3" RL PIPING AS NECESSARY TO ACCOMMODATE NEW ROOF AND OVERFLOW DRAIN INSTALLATION.
3. FOR ENLARGED BOILER ROOM DEMOLITION PLAN, SEE - 1 M231

KEY PLAN



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NEESER CONSTRUCTION, INC.
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Southcentral Foundation
SFC CONTRACTS DEPARTMENT
3201 C STREET, SUITE 310
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SOUTHCENTRAL FOUNDATION
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65% DESIGN DEVELOPMENT
4320 Diplomacy Dr, Anchorage, AK 99508

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME
PCC3 FIRST FLOOR PLUMBING DEMOLITION

SHEET NO.
M031

FULL-SCALE AT 30X42

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1 PCC3 THIRD FLOOR PLUMBING DEMOLITION PLAN
1/8" = 1'-0"

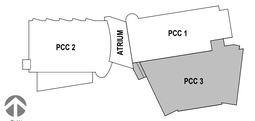
GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

SHEET NOTES:

1. DEMOLISH PRIMARY AND OVERFLOW ROOF DRAINS AND 3" RL PIPING AS NECESSARY TO ACCOMMODATE NEW ROOF AND OVERFLOW DRAIN INSTALLATION.

KEY PLAN



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YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES

65% DESIGN DEVELOPMENT

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REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME
PCC3 THIRD FLOOR PLUMBING DEMOLITION

SHEET NO.
M032

FULL-SCALE AT 30X42"

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1 PCC3 FIRST FLOOR HEATING DEMOLITION PLAN

1/8" = 1'-0"

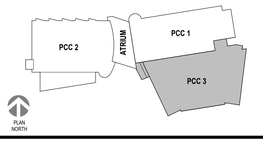
GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.
3. ALL PIPING ASSOCIATED WITH PCC1 AND PCC3 HEATING SYSTEMS TO BE DRAINED AND CLEANED PER THE HYDRONIC PIPING SPECIFICATION. EXISTING GLYCOL TO BE RECOVERED AND RECYCLED.

SHEET NOTES:

1. FOR PCC3 SNOWMELT MANIFOLD-3.1 PIPING DEMOLITION SCHEMATIC, SEE - 2 M301
2. FOR ENLARGED BOILER ROOM DEMOLITION PLAN, SEE - 1 M231

KEY PLAN



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3333 CAMPBELL AIRSTRIP ROAD
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YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES

65% DESIGN DEVELOPMENT

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REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME

PCC3 FIRST FLOOR HEATING DEMOLITION

SHEET NO.

M033

FULL-SCALE AT 30X42

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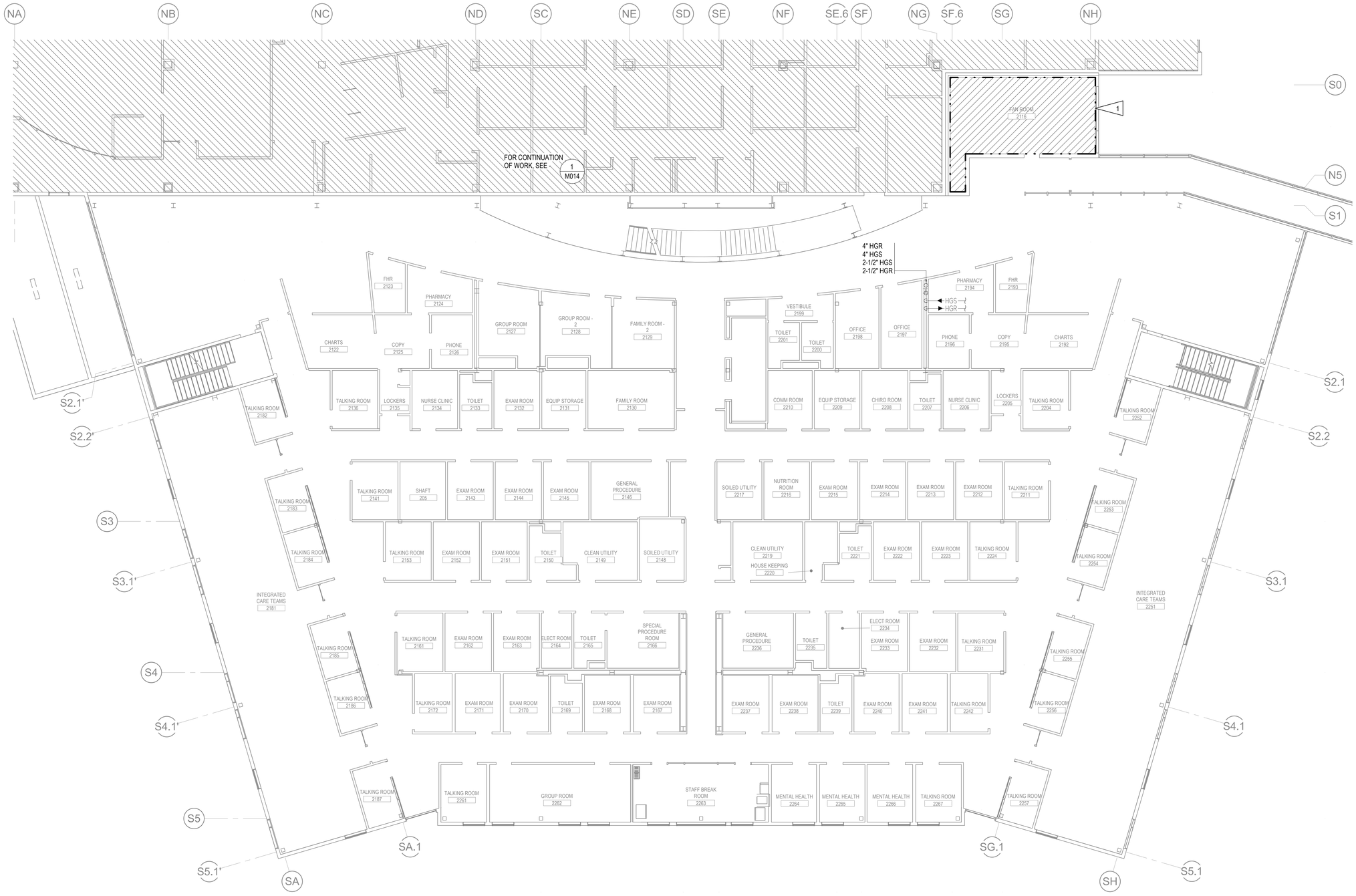


1 PCC3 SECOND FLOOR HEATING DEMOLITION PLAN
1/8" = 1'-0"

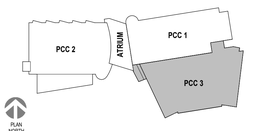
GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.
3. ALL PIPING ASSOCIATED WITH PCC1 AND PCC3 HEATING SYSTEMS TO BE DRAINED AND CLEANED PER THE HYDRONIC PIPING SPECIFICATION. EXISTING GLYCOL TO BE RECOVERED AND RECYCLED.

SHEET NOTES: X

1. FOR ENLARGED FAN ROOM PLAN, SEE - 1 M232

KEY PLAN



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NESSER CONSTRUCTION, INC.
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ANCHORAGE, ALASKA 99507

SOUTHCENTRAL FOUNDATION
YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES
65% DESIGN DEVELOPMENT
4320 Diplomacy Dr, Anchorage, AK 99508

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME
PCC3 SECOND FLOOR HEATING DEMOLITION

SHEET NO.
M034

FULL-SCALE AT 30X42

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1 PCC3 THIRD FLOOR HEATING DEMOLITION PLAN

1/8" = 1'-0"

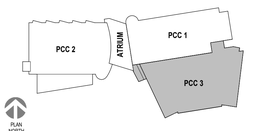
GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.
3. ALL PIPING ASSOCIATED WITH PCC1 AND PCC3 HEATING SYSTEMS TO BE DRAINED AND CLEANED PER THE HYDRONIC PIPING SPECIFICATION. EXISTING GLYCOL TO BE RECOVERED AND RECYCLED.

SHEET NOTES:

1. DEMOLISH HEATING PIPING AS SHOWN, BRANCH PIPING TO REMAIN FOR RECONNECTION. CAP BRANCH PIPING AT MAIN.
2. DEMOLISH REFRIGERANT PIPING UP TO ROOFTOP CONDENSING UNIT.
3. DEMOLISH 22"ø BOILER FLUE IN IT'S ENTIRETY.

KEY PLAN



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Southcentral Foundation
SFC CONTRACTS DEPARTMENT
4501 DIPLOMACY DRIVE
ANCHORAGE, ALASKA 99507

SOUTHCENTRAL FOUNDATION

YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES

65% DESIGN DEVELOPMENT

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REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME

PCC3 THIRD FLOOR HEATING DEMOLITION

SHEET NO.

M035

FULL-SCALE AT 30X42

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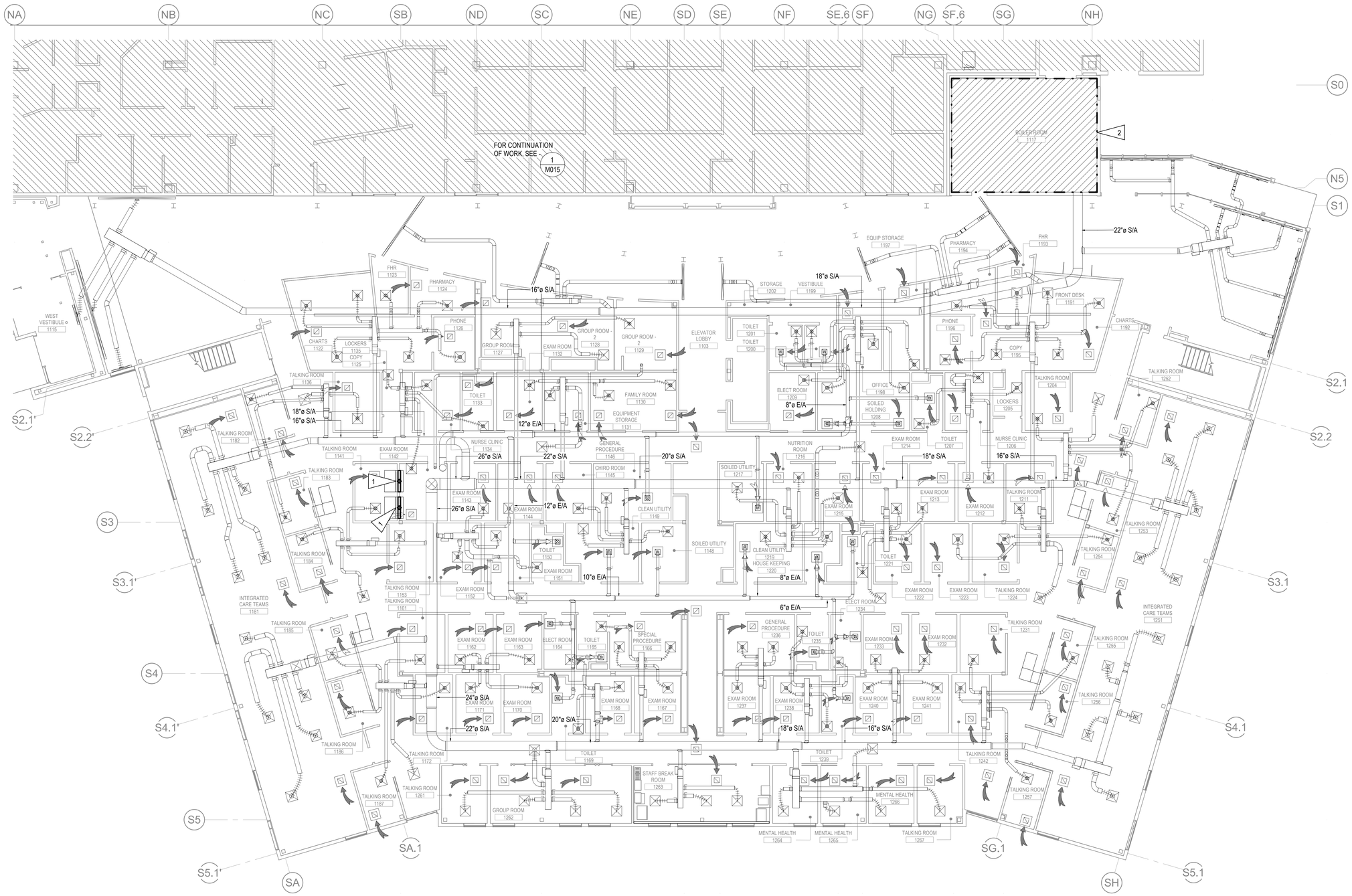

1 PCC3 FIRST FLOOR VENTILATION DEMOLITION PLAN

1/8" = 1'-0"

C:\Users\Stephan Fonseca\Documents\M5052_MSERIES_R25_sfonsecaQSZTG.rvt

GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

SHEET NOTES: X

1. DEMOLISH 50/26 FIRE SMOKE DAMPER AS REQUIRED FOR REMODEL WORK, EXISTING 50/26 DUCTWORK TO REMAIN.
2. FOR ENLARGED BOILER ROOM DEMOLITION PLAN, SEE - 1 M231

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3000 C STREET, SUITE 301
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Southcentral Foundation
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ANCHORAGE, ALASKA 99507

SOUTHCENTRAL FOUNDATION

YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES

65% DESIGN DEVELOPMENT

4320 Diplomacy Dr, Anchorage, AK 99508

REVISION SCHEDULE

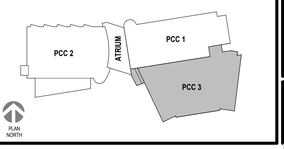
#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME

PCC3 FIRST FLOOR VENTILATION DEMOLITION

KEY PLAN



SHEET NO.

M036

FULL-SCALE AT 30X42

1 PCC3 SECOND FLOOR VENTILATION DEMOLITION PLAN

1/8" = 1'-0"

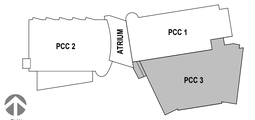
GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

SHEET NOTES: X

1. DEMOLISH 50/26 FIRE SMOKE DAMPER AS REQUIRED FOR REMODEL WORK, EXISTING 50/26 DUCTWORK TO REMAIN.
2. FOR ENLARGED FAN ROOM PLAN, SEE - 1 M232

KEY PLAN



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SFC CONTRACTS DEPARTMENT
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ANCHORAGE, ALASKA 99507

SOUTHCENTRAL FOUNDATION

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65% DESIGN DEVELOPMENT

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REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME

PCC3 SECOND FLOOR VENTILATION DEMOLITION

SHEET NO.

M037

FULL-SCALE AT 30X42"

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1 PCC3 THIRD FLOOR VENTILATION DEMOLITION PLAN
1/8" = 1'-0"

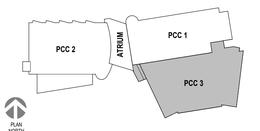
GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

SHEET NOTES: X

1. DEMOLISH DUCTWORK RISERS AS REQUIRED FOR INSTALLATION OF SOUND ATTENUATORS.
2. DEMOLISH 50/26 FIRE SMOKE DAMPER AS REQUIRED FOR REMODEL WORK, EXISTING 50/26 DUCTWORK TO REMAIN.

KEY PLAN



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Corporate No: AECC542

NEESER CONSTRUCTION, INC.
GENERAL CONTRACTOR
NEESER CONSTRUCTION, INC.
550 E. 70TH AVE., STE. 1000
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Southcentral Foundation
SFC CONTRACTS DEPARTMENT
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ANCHORAGE, ALASKA 99507

SOUTHCENTRAL FOUNDATION
YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES
65% DESIGN DEVELOPMENT
4320 Diplomacy Dr, Anchorage, AK 99508

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME
PCC3 THIRD FLOOR VENTILATION DEMOLITION

SHEET NO.
M038

FULL-SCALE AT 30X42

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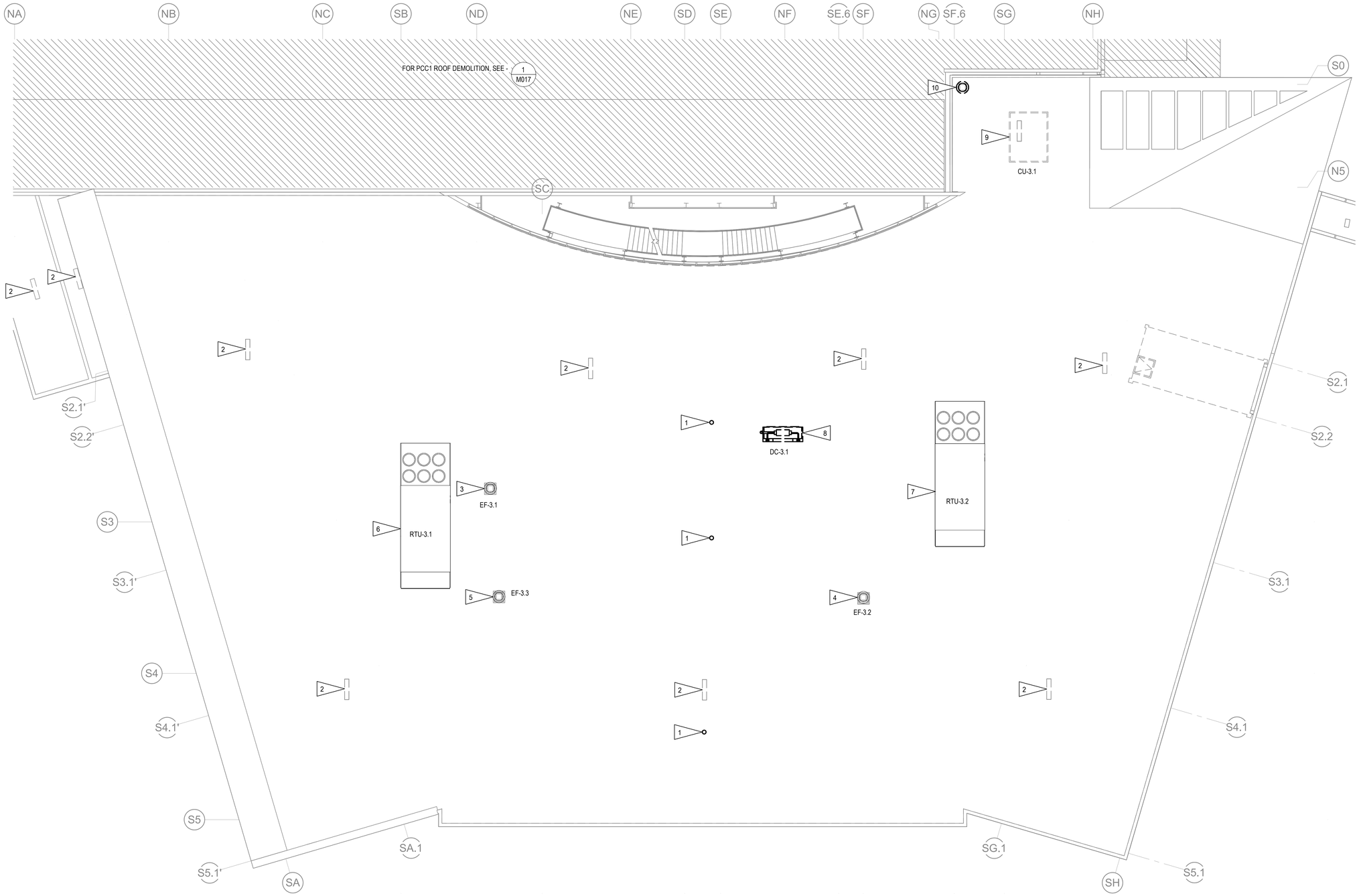


1 PCC3 ROOF MECHANICAL DEMOLITION PLAN
1/8" = 1'-0"

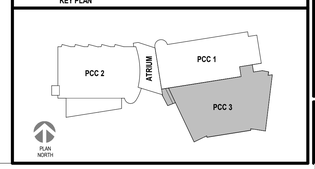
GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

SHEET NOTES:

1. DEMOLISH 4" VTR TO 12" BELOW DECK.
2. DEMOLISH ROOF AND OVERFLOW DRAINS AS SHOWN. DEMOLISH INTERIOR RAIN LEADER PIPING AS NECESSARY TO ACCOMMODATE NEW ROOF INSTALL.
3. REMOVE AND SALVAGE EXHAUST FAN, EF-3.1. DEMOLISH ASSOCIATED ROOF CURB.
4. REMOVE AND SALVAGE EXHAUST FAN, EF-3.2. DEMOLISH ASSOCIATED ROOF CURB.
5. REMOVE AND SALVAGE EXHAUST FAN, EF-3.3. DEMOLISH ASSOCIATED ROOF CURB.
6. **BASE BID SCOPE:** DEMOLISH RTU-3.1, SALVAGE ASSOCIATED CONNECTIONS FOR RE-USE. DEMOLISH ASSOCIATED ROOF CURB. **DEDUCTIVE ALTERNATE 3-1:** REMOVE RTU-3.1 AS REQUIRED FOR ROOFING, SALVAGE RTU FOR RE-USE.
7. **BASE BID SCOPE:** DEMOLISH RTU-3.2, SALVAGE ASSOCIATED CONNECTIONS FOR RE-USE. DEMOLISH ASSOCIATED ROOF CURB. **DEDUCTIVE ALTERNATE 3-1:** REMOVE RTU-3.2 AS REQUIRED FOR ROOFING, SALVAGE RTU FOR RE-USE.
8. DEMOLISH ABANDONED DRY COOLER AND ALL ASSOCIATED APPURTENANCES IN THEIR ENTIRETY.
9. DEMOLISH CONDENSING UNIT CU-3.1 AS SHOWN. DEMOLISH PIPING AND ALL ASSOCIATED APPURTENANCES DOWN TO COOLING COIL.
10. DEMOLISH BOILER FLUE. OPENING THROUGH DECK TO REMAIN FOR RE-USE IN REMODEL.

KEY PLAN



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RSA Mechanical and Electrical Consulting Engineers
670 West Fireweed Lane, Suite 200
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SFC CONTRACTS DEPARTMENT
7033 EAST TUDOR ROAD
ANCHORAGE, ALASKA 99507

SOUTHCENTRAL FOUNDATION
YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES
65% DESIGN DEVELOPMENT
4320 Diplomacy Dr, Anchorage, AK 99508

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME
PCC3 ROOF MECHANICAL DEMOLITION

SHEET NO.
M039

FULL-SCALE AT 30X42

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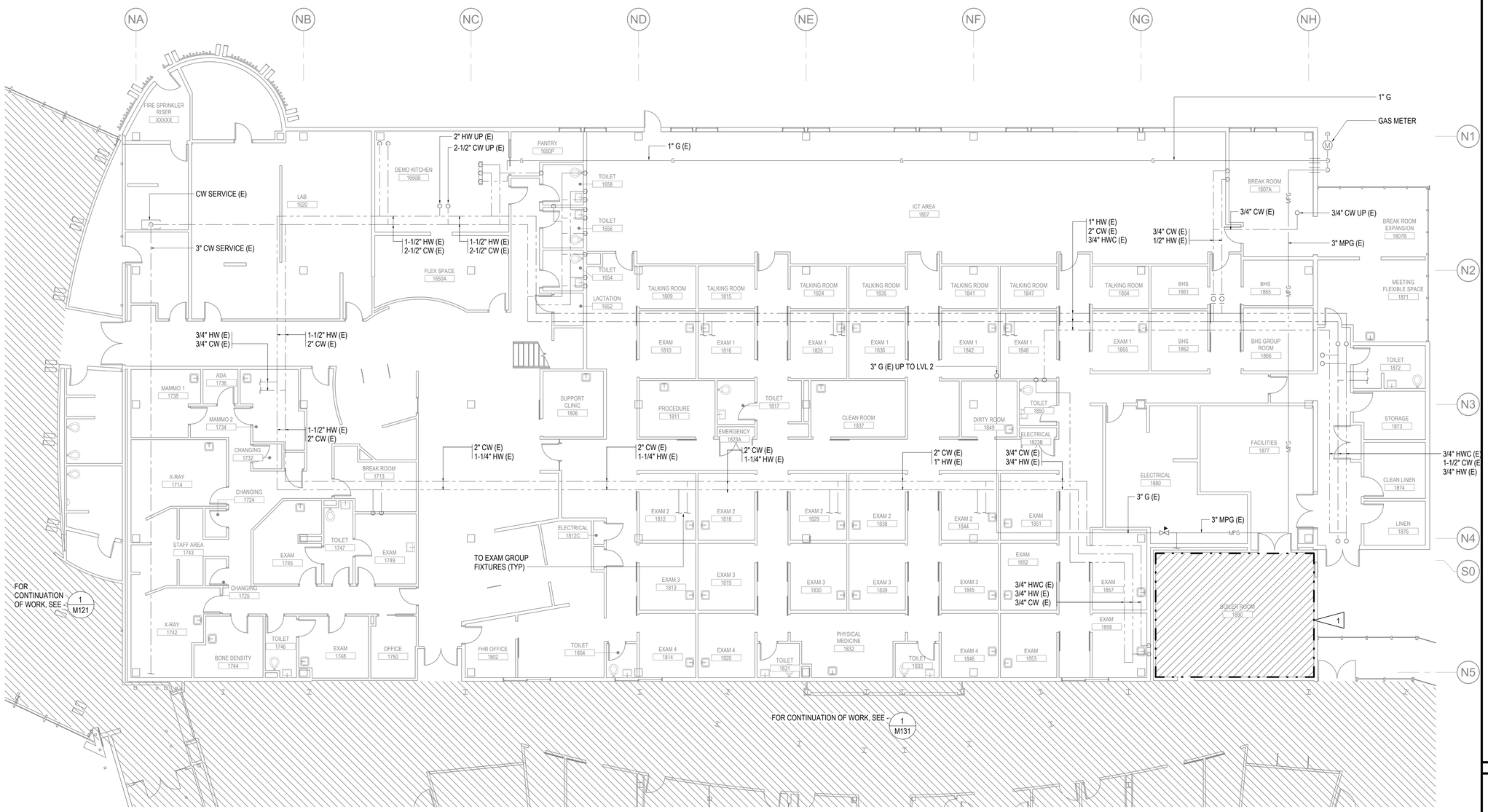

1 PCC1 FIRST FLOOR PLUMBING REMODEL PLAN
1/8" = 1'-0"

GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. FOR GAS PIPING SCHEMATIC, SEE - 1 M401

SHEET NOTES: X

1. FOR ENLARGED BOILER ROOM PLAN, SEE - 1 M233

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REVISION SCHEDULE

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DATE	May 11, 2026
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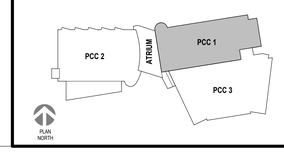
REVIEWED	MRB

SHEET NAME
PCC1 FIRST FLOOR PLUMBING REMODEL

KEY PLAN



SHEET NO.
M111

FULL-SCALE AT 30X42

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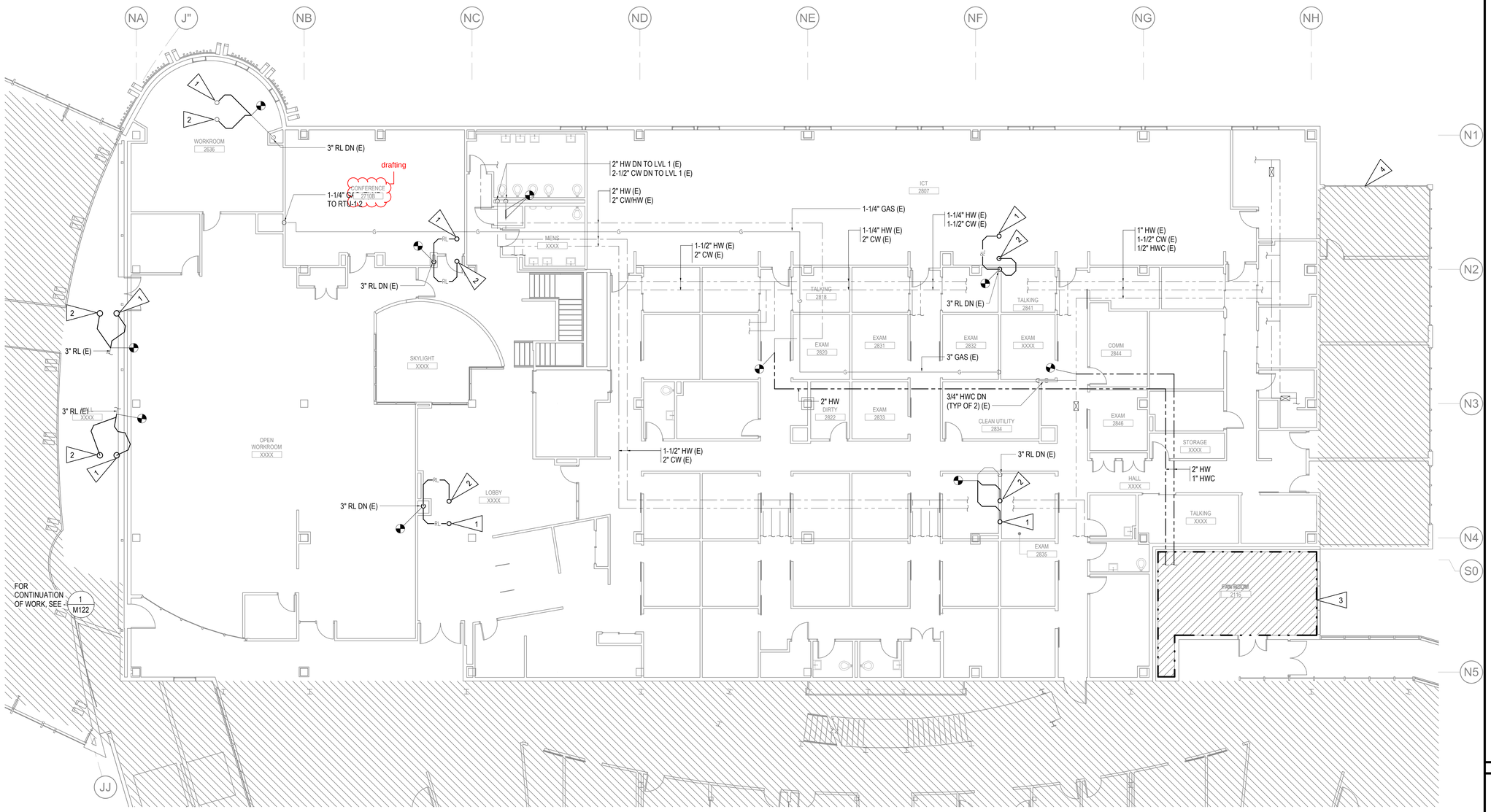


1 PCC1 SECOND FLOOR PLUMBING REMODEL PLAN

1/8" = 1'-0"

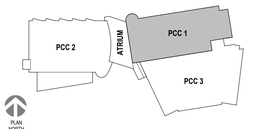
GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. FOR ROOF DRAIN INSTALLATION DETAIL, SEE - 6 / M601

SHEET NOTES: X

1. 3" RL UP TO ROOF DRAIN, RD-1. CONNECT TO EXISTING RL PIPING.
2. 3" RL UP TO OVERFLOW DRAIN, OD-1. CONNECT TO EXISTING RL PIPING.
3. FOR ENLARGED FAN ROOM PLAN, SEE - 1 / M234
4. ROOF ASSEMBLY TO REMAIN, THIS SECTION ONLY. NO ROOF DRAIN MODIFICATIONS REQUIRED.

KEY PLAN



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SOUTHCENTRAL FOUNDATION

YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES

65% DESIGN DEVELOPMENT

4320 Diplomacy Dr, Anchorage, AK 99508

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME

PCC1 SECOND FLOOR PLUMBING REMODEL

SHEET NO.

M112

FULL-SCALE AT 30X42

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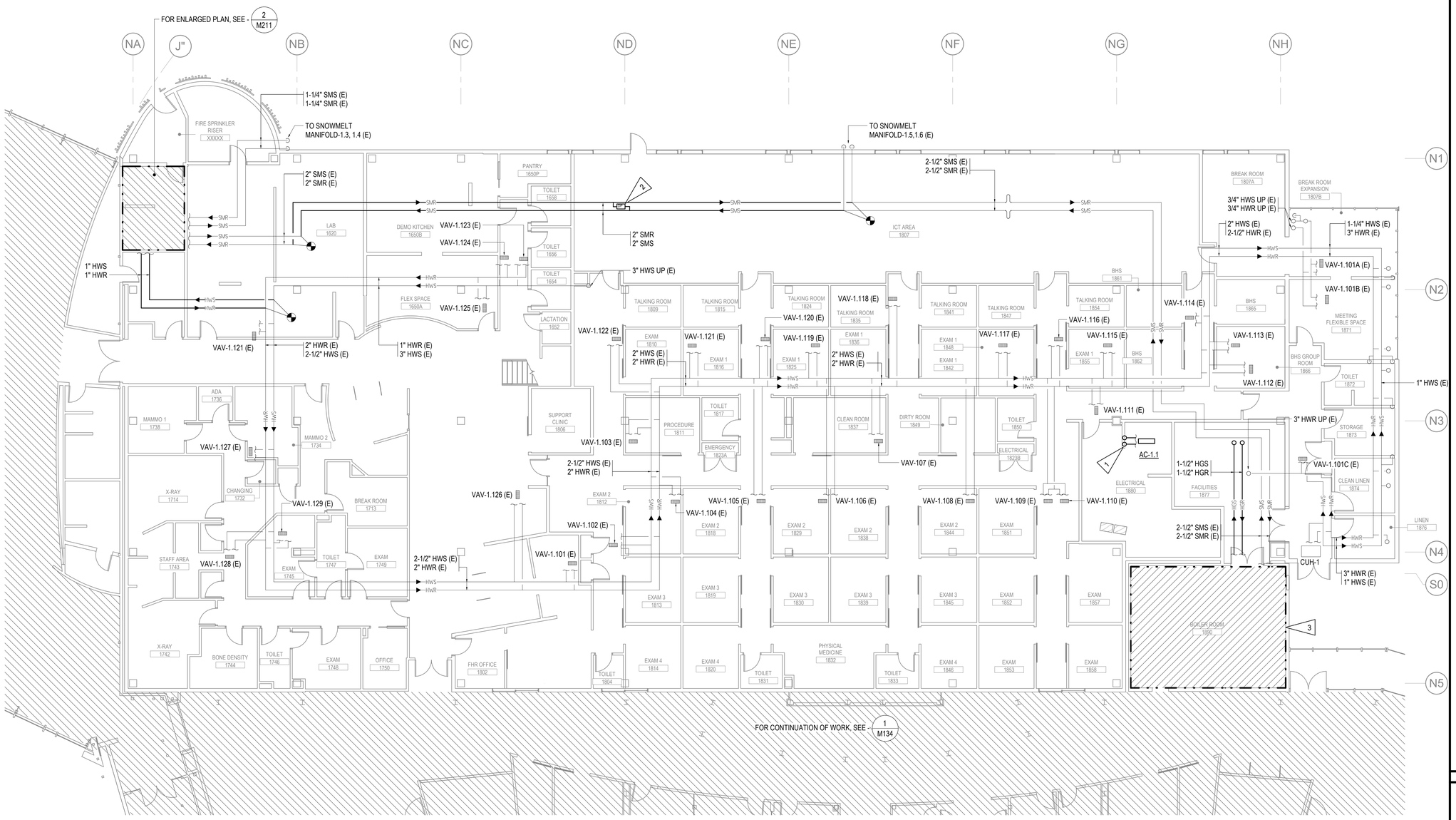

1 PCC1 FIRST FLOOR HEATING REMODEL PLAN

1/8" = 1'-0"

GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. ALL PIPING ASSOCIATED WITH PCC1 AND PCC3 HEATING SYSTEMS TO BE DRAINED AND CLEANED PER THE HYDRONIC PIPING SPECIFICATION. EXISTING GLYCOL TO BE RECOVERED AND RECYCLED.
3. FOR SNOWMELT PIPING SCHEMATIC, SEE - 1 / M402

SHEET NOTES: X

1. **BASE BID SCOPE:** INSTALL AC-1, ROUTE REFRIGERANT PIPING FROM AC-1 UP THROUGH EXISTING PENETRATIONS. **DEDUCTIVE ALTERNATE M 1-3:** RE-USE EXISTING EVAPORATOR AND PIPING
2. INSTALL DIFFERENTIAL PRESSURE SENSOR.
3. FOR ENLARGED BOILER ROOM PLAN, SEE - 1 / M233

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SOUTHCENTRAL FOUNDATION

YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES

65% DESIGN DEVELOPMENT

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REVISION SCHEDULE

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JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME

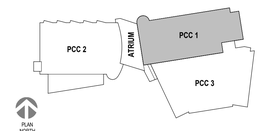
PCC1 FIRST FLOOR HEATING REMODEL

SHEET NO.

M113

FULL-SCALE AT 30X42

KEY PLAN



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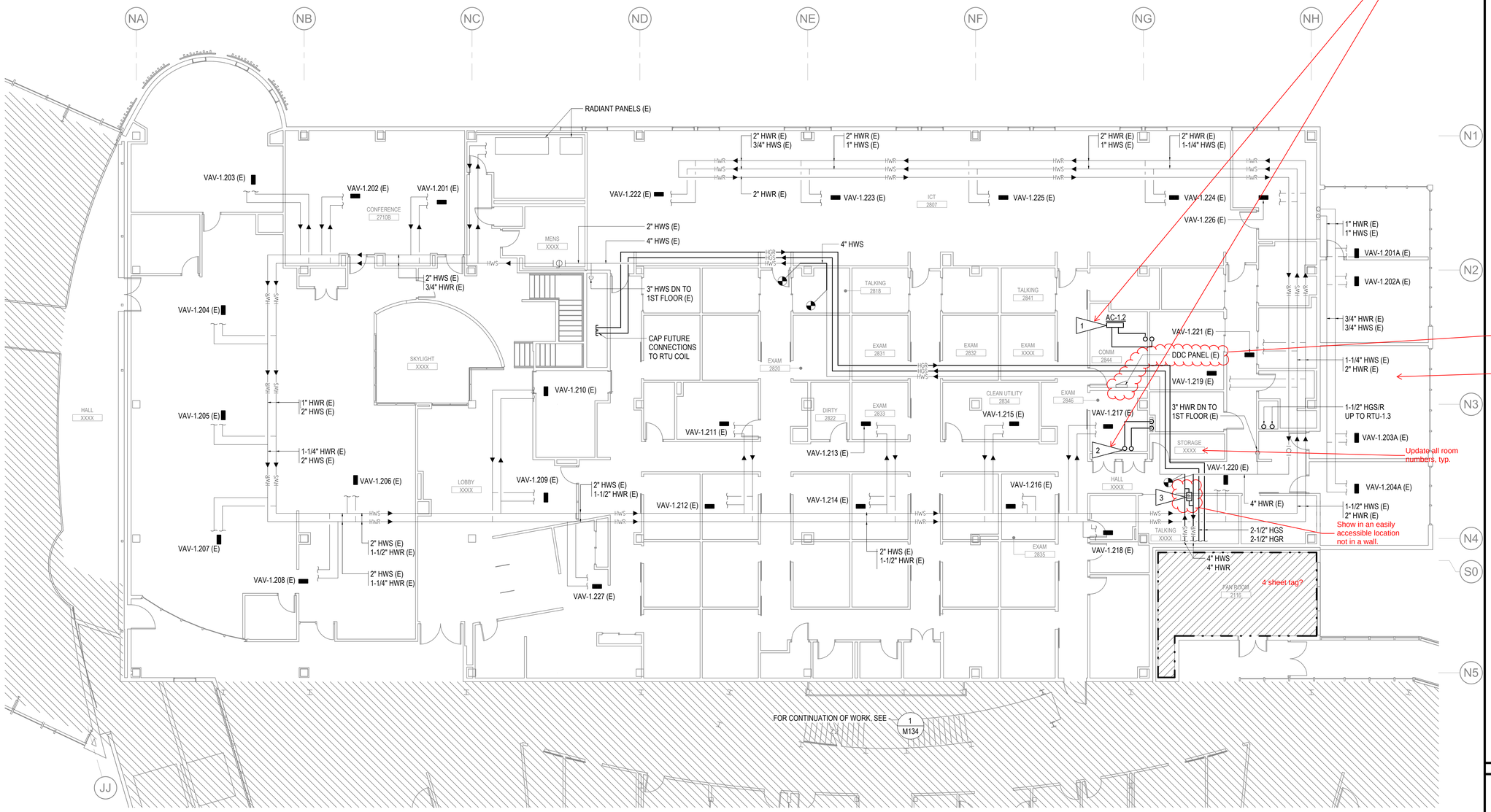


1 PCC1 SECOND FLOOR HEATING REMODEL PLAN
1/8" = 1'-0"

GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. ALL PIPING ASSOCIATED WITH PCC1 AND PCC3 HEATING SYSTEMS TO BE DRAINED AND CLEANED PER THE HYDRONIC PIPING SPECIFICATION. EXISTING GLYCOL TO BE RECOVERED AND RECYCLED.

SHEET NOTES: X

1. **BASE BID SCOPE:** INSTALL AC-2. ROUTE REFRIGERANT PIPING FROM AC-2 UP THROUGH EXISTING PENETRATIONS. **DEDUCTIVE ALTERNATE M 1-3:** RE-USE EXISTING EVAPORATOR AND PIPING.
2. **BASE BID SCOPE:** ROUTE REFRIGERANT PIPING FROM AC-2 UP THROUGH EXISTING PENETRATIONS. **DEDUCTIVE ALTERNATE M 1-3:** RE-USE EXISTING EVAPORATOR AND PIPING.
3. INSTALL DIFFERENTIAL PRESSURE SENSOR.
4. FOR ENLARGED FAN ROOM PLAN, SEE - 1 M234

For clarity please change the sheet notes related to AC-2 to Sheet Note 2 and the AC-1 to sheet note 1.

AC-1?

What is this DDC panel serving?

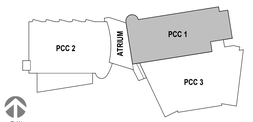
Add room names and numbers, typ.

Update all room numbers, typ.

Show in an easily accessible location not in a wall.

4 sheet tag?

KEY PLAN



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SOUTHCENTRAL FOUNDATION

YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES

65% DESIGN DEVELOPMENT

4320 Diplomacy Dr, Anchorage, AK 99508

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME
PCC1 SECOND FLOOR HEATING REMODEL

SHEET NO.
M114

FULL-SCALE AT 30X42"

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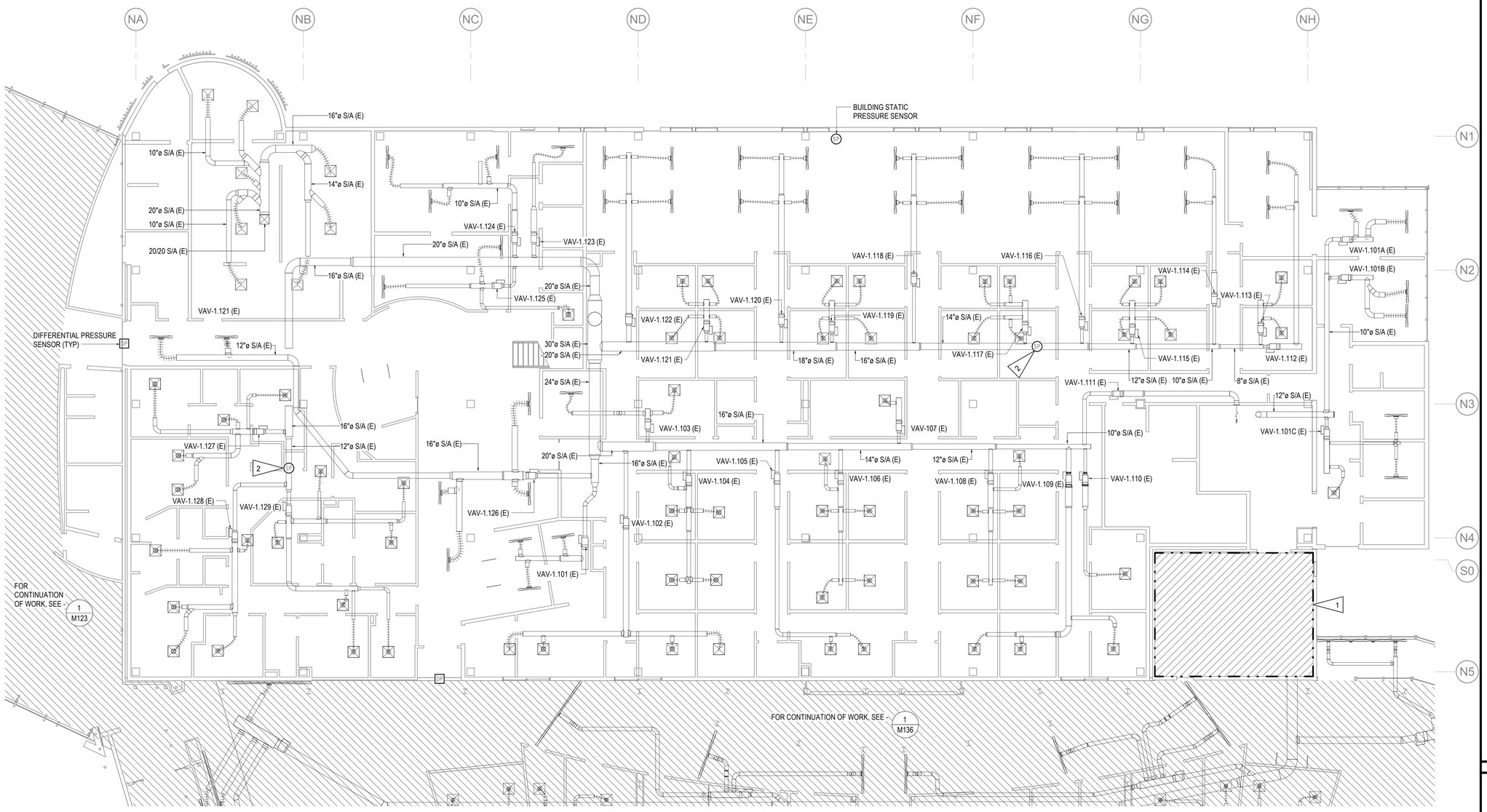


1 PCC1 FIRST FLOOR VENTILATION REMODEL - SUPPLY PLAN

1/8" = 1'-0"

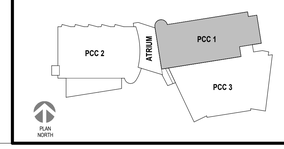
GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. FOR DIFFUSER/GRILLE AIRFLOW, SEE 2017 2NORTH, 2019 1NORTH, 2017 2NORTH PCC1 LAB COOLING UNIT DRAWINGS.

SHEET NOTES: X

1. FOR ENLARGED BOILER ROOM PLAN, SEE - 1 M233
2. INSTALL DUCT STATIC PRESSURE SENSOR

KEY PLAN



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JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME

PCC1 FIRST FLOOR VENTILATION REMODEL - SUPPLY PLAN

SHEET NO.

M115

FULL-SCALE AT 30X42

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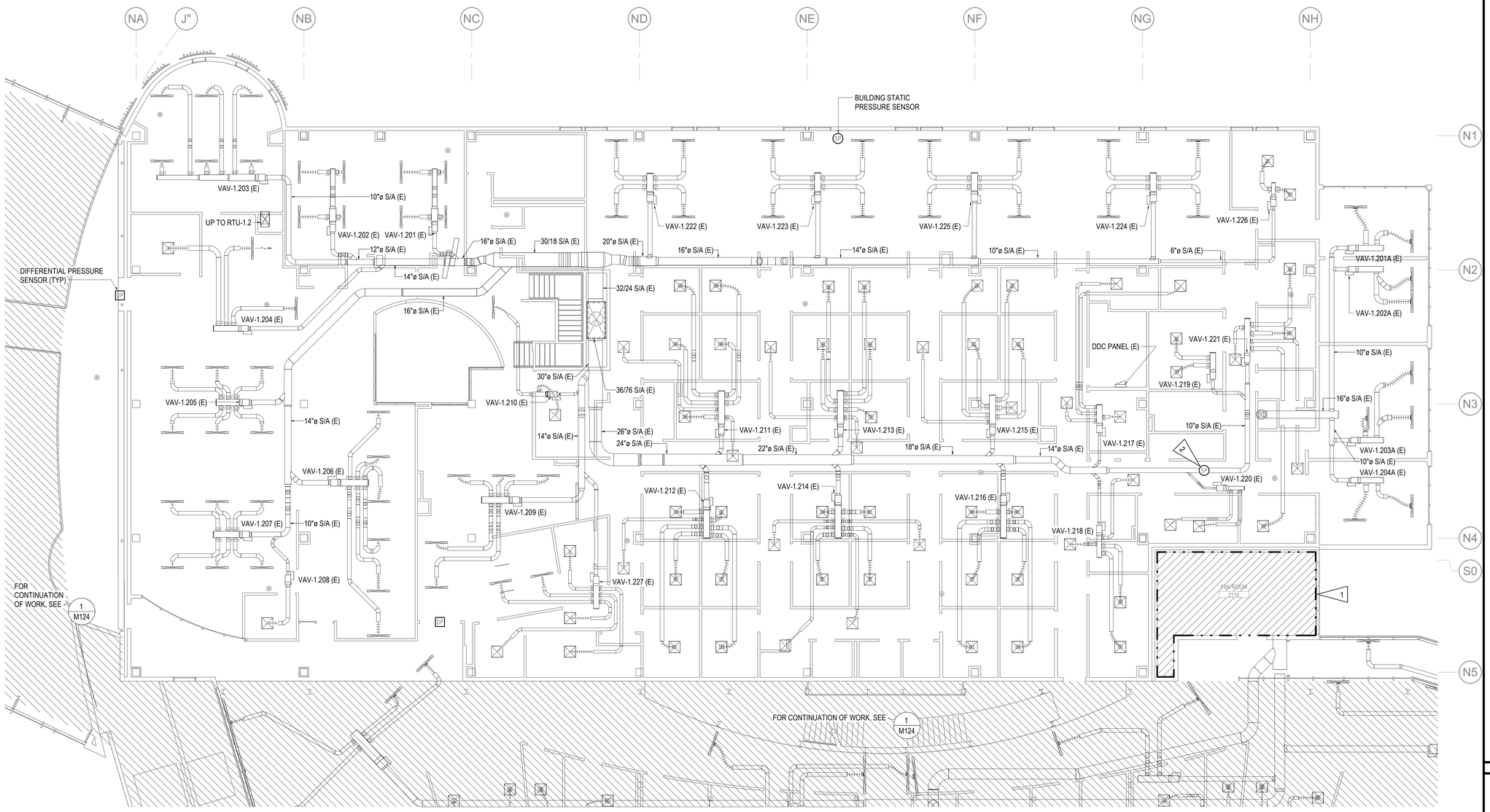


1 PCC1 SECOND FLOOR VENTILATION REMODEL - SUPPLY PLAN

1/8" = 1'-0"

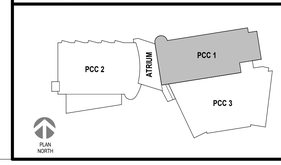
GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. FOR DIFFUSER/GRILLE AIRFLOW, SEE 2017 2NORTH, 2019 1NORTH, 2017 2NORTH PCC1 LAB COOLING UNIT DRAWINGS.

SHEET NOTES: X

1. FOR ENLARGED FAN ROOM PLAN, SEE - 1 M234
2. INSTALL DUCT STATIC PRESSURE SENSOR

KEY PLAN



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REVIEWED	MRB

SHEET NAME

PCC1 SECOND FLOOR VENTILATION REMODEL - SUPPLY PLAN

SHEET NO.

M116

FULL-SCALE AT 30X42

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1 PCC1 FIRST FLOOR VENTILATION REMODEL - RETURN PLAN

1/8" = 1'-0"

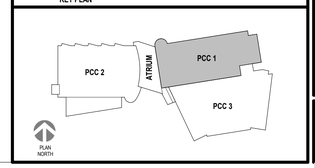
GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. FOR DIFFUSER/GRILLE AIRFLOW, SEE 2017 2NORTH, 2019 1NORTH, 2017 2NORTH PCC1 LAB COOLING UNIT DRAWINGS.

SHEET NOTES: X

1. FOR ENLARGED BOILER ROOM PLAN, SEE - 1 M233

KEY PLAN



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REVISION SCHEDULE

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JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME

PCC1 FIRST FLOOR VENTILATION REMODEL - RETURN PLAN

SHEET NO.

M117

FULL-SCALE AT 30X42

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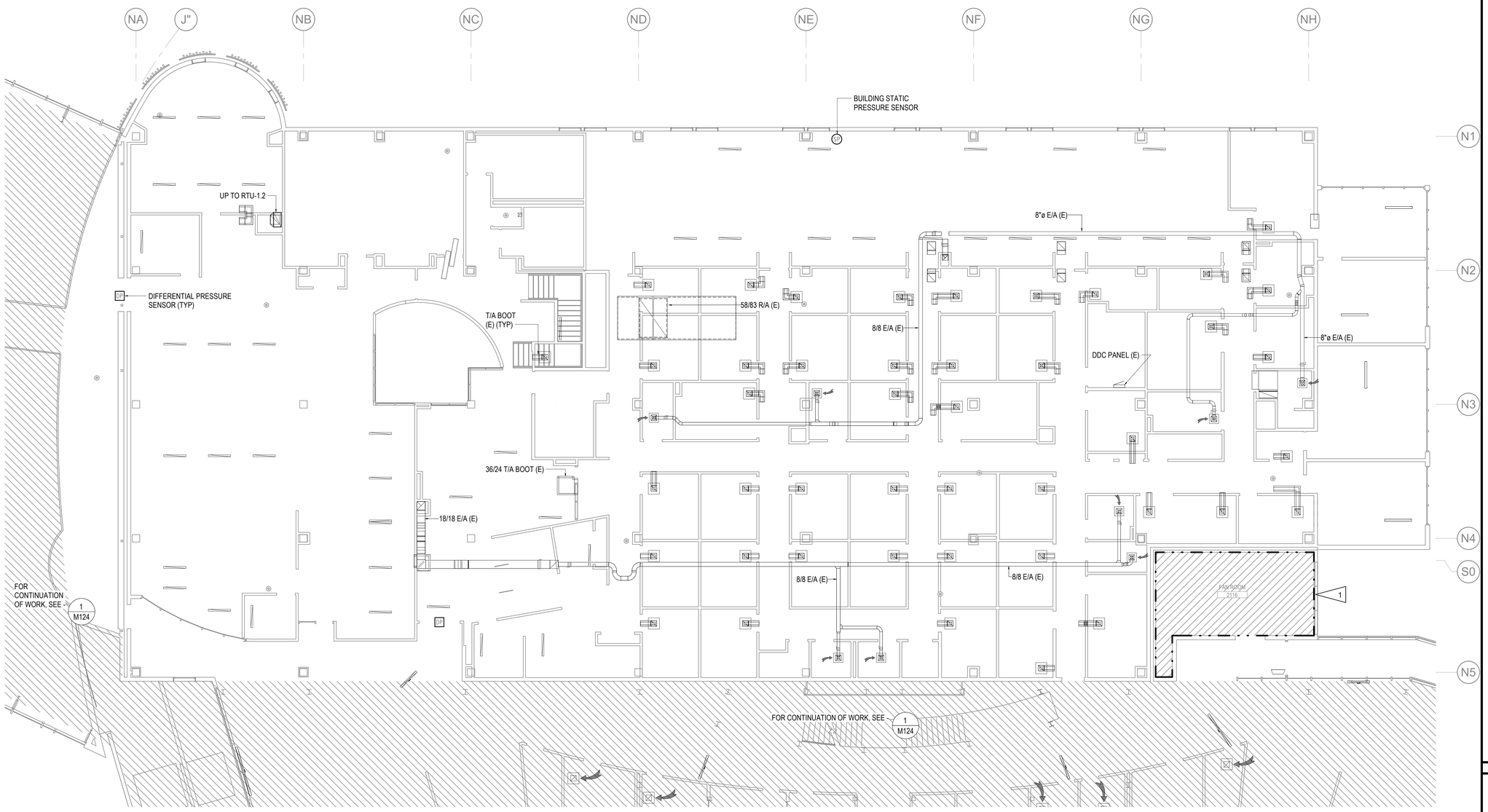

1 PCC1 SECOND FLOOR VENTILATION REMODEL - RETURN PLAN
1/8" = 1'-0"

GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. FOR DIFFUSER/GRILLE AIRFLOW, SEE 2017 2NORTH, 2019 1NORTH, 2017 2NORTH PCC1 LAB COOLING UNIT DRAWINGS.

SHEET NOTES: X

1. FOR ENLARGED FAN ROOM PLAN, SEE - 1 M234

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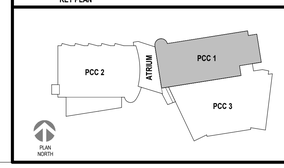
SHEET NAME
PCC1 SECOND FLOOR VENTILATION REMODEL - RETURN PLAN

KEY PLAN



SHEET NO.
M118

FULL-SCALE AT 30X42

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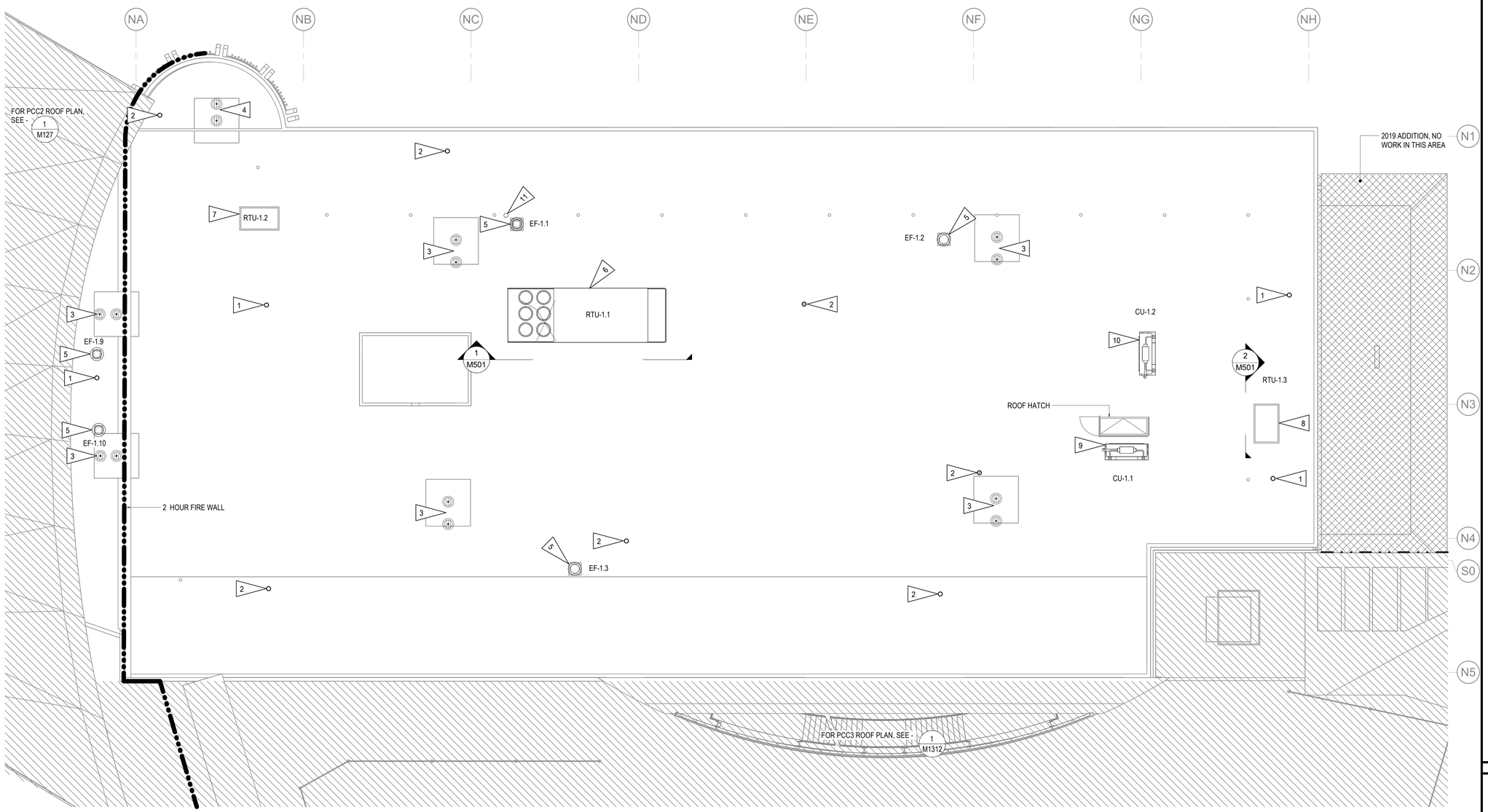


1 PCC1 ROOF MECHANICAL REMODEL PLAN
1/8" = 1'-0"

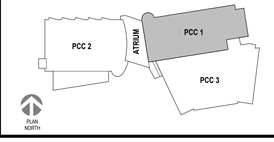
GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. SEE ARCHITECTURAL PLANS FOR ALL CURB DETAILS.
3. FOR AFM STATION AND MOD LOCATIONS REFERENCE MECHANICAL DIAGRAMS, SEE - 3 / M701
4. FOR GOOSENECK INTAKE DETAIL, SEE - - / ---
5. FOR ROOF DRAIN DETAIL, SEE - 6 / M601
6. FOR VTR DETAIL, SEE - 2 / M601
7. FOR REFRIGERATION PIPING ROOF PENETRATION DETAIL, SEE - 5 / M601
8. FOR HEATING COIL PIPING DETAIL, SEE - 7 / M601

SHEET NOTES: X

1. NEW 3" VTR, CONNECT TO EXISTING VENT 12" BELOW DECK.
2. NEW 4" VTR, CONNECT TO EXISTING VENT 12" BELOW DECK
3. RD-1 AND OD-1, EXTEND EXISTING RAINLEADER PIPING AS REQUIRED FOR INSTALLATION.
4. RD-1 AND OD-2, EXTEND EXISTING RAINLEADER PIPING AS REQUIRED FOR INSTALLATION.
5. RE-INSTALL SALVAGED EXHAUST FAN. EXTEND DUCTWORK, CONTROL AND ELECTRICAL WIRING AS REQUIRED FOR RE-CONNECTION. PREFABRICATED INSULATED ROOF CURB.
6. **BASE BID SCOPE:** RE-INSTALL RTU-1.1, EXTEND 60/86 R/A AND 40/80 S/A RISERS, CONTROL AND ELECTRICAL WIRING AS REQUIRED FOR RE-CONNECTION. SOUND ATTENUATING CURB AND ISOLATION CURB. PREFABRICATED INSULATED ROOF CURB. REPLACE MERV 8 FILTERS WITH MERV 13 FILTERS, INCLUDE ANY FRAME MODIFICATIONS TO MAKE THIS CHANGE. **DEDUCTIVE ALTERNATE M1-1:** EXISTING MERV FILTERS AND FRAMES TO REMAIN.
7. RE-INSTALL RTU-1.2, EXTEND 17/33 R/A AND 17/33 S/A RISERS, 1-1/4" GAS PIPING, CONTROL AND ELECTRICAL WIRING AS REQUIRED FOR RE-CONNECTION. PREFABRICATED INSULATED ROOF CURB.
8. RE-INSTALL RTU-1.3, EXTEND 20"ø S/A AND 40/14 R/A RISERS, 1" HGS/HGR PIPING, CONTROL AND ELECTRICAL WIRING AS REQUIRED FOR RE-CONNECTION. SOUND ATTENUATING CURB. PREFABRICATED INSULATED ROOF CURB.
9. **BASE BID SCOPE:** INSTALL CU-1.1 AND ASSOCIATED PIPING. PREFABRICATED INSULATED ROOF CURB. **DEDUCTIVE ALTERNATE M1-3:** RE-INSTALL CU-1.1, EXTEND WIRING AND PIPING AS REQUIRED FOR RE-CONNECTION.
10. **BASE BID SCOPE:** INSTALL CU-1.2 AND ASSOCIATED PIPING. PREFABRICATED INSULATED ROOF CURB. **DEDUCTIVE ALTERNATE M1-3:** RE-INSTALL CU-1.2, EXTEND WIRING AND PIPING AS REQUIRED FOR RE-CONNECTION.
11. 4" GOOSENECK INTAKE, CONNECT TO EXISTING INTAKE BELOW.

KEY PLAN



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907.276.1058

Southcentral Foundation
SFC CONTRACTS DEPARTMENT
4501 DIPLOMACY DRIVE
ANCHORAGE, ALASKA 99507

SOUTHCENTRAL FOUNDATION

YAGHELI SHESH QEN'A ROOF REPLACEMENT & MECHANICAL UPGRADES

65% DESIGN DEVELOPMENT

4320 Diplomacy Dr, Anchorage, AK 99508

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME
PCC1 ROOF MECHANICAL REMODEL

SHEET NO.
M119

FULL-SCALE AT 30X42

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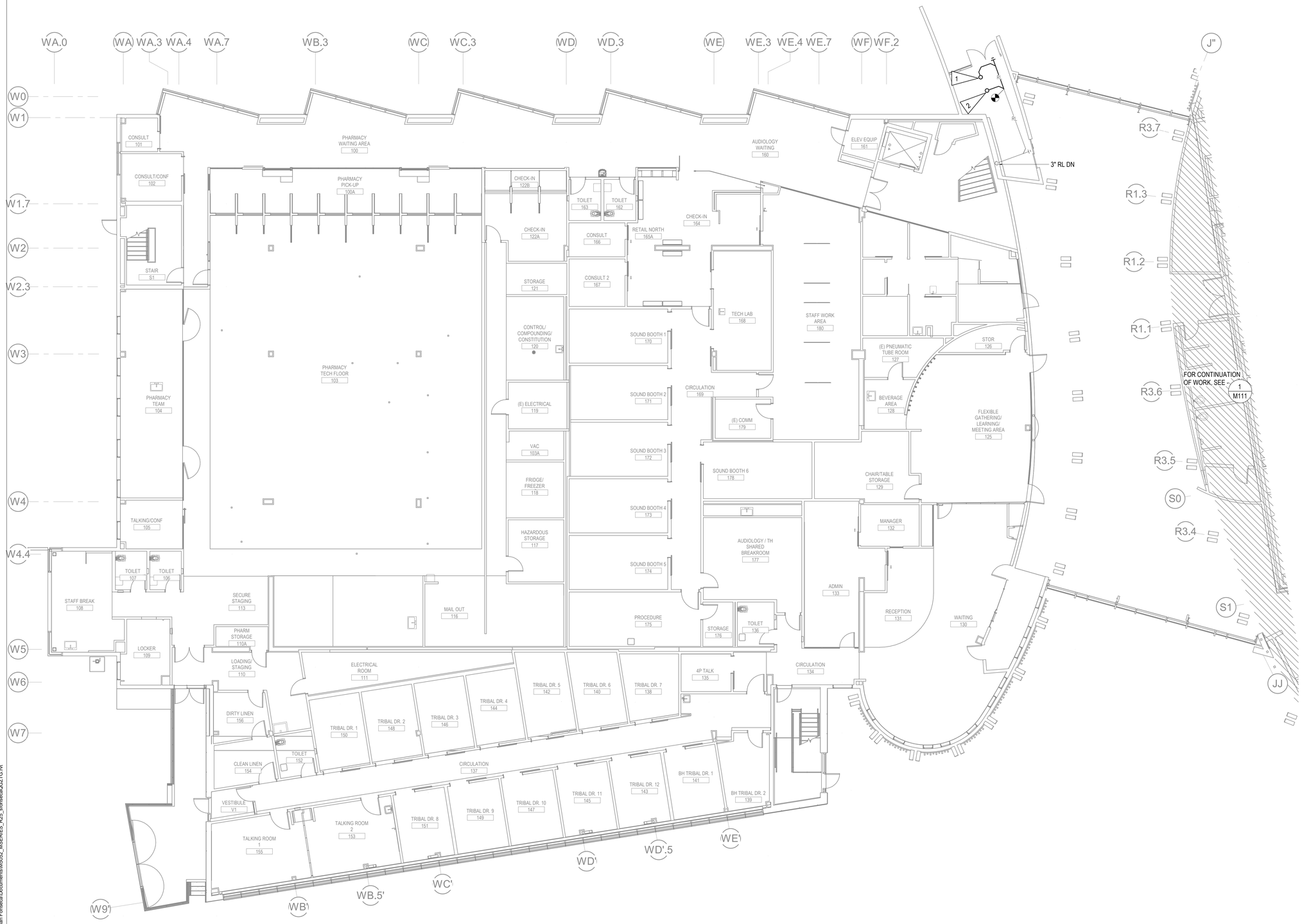


1 PCC2 FIRST FLOOR PLUMBING REMODEL PLAN
1/8" = 1'-0"

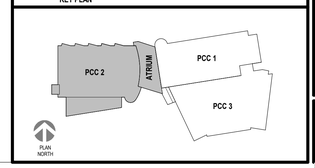
GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. FOR ROOF DRAIN INSTALLATION DETAIL, SEE - 6 M601

SHEET NOTES: X

1. 3" RL UP TO ROOF DRAIN, RD-1. CONNECT TO EXISTING RL PIPING.
2. 3" RL UP TO OVERFLOW DRAIN, OD-1. CONNECT TO EXISTING RL PIPING.

KEY PLAN



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65% DESIGN DEVELOPMENT
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REVISION SCHEDULE

#	DESCRIPTION	DATE

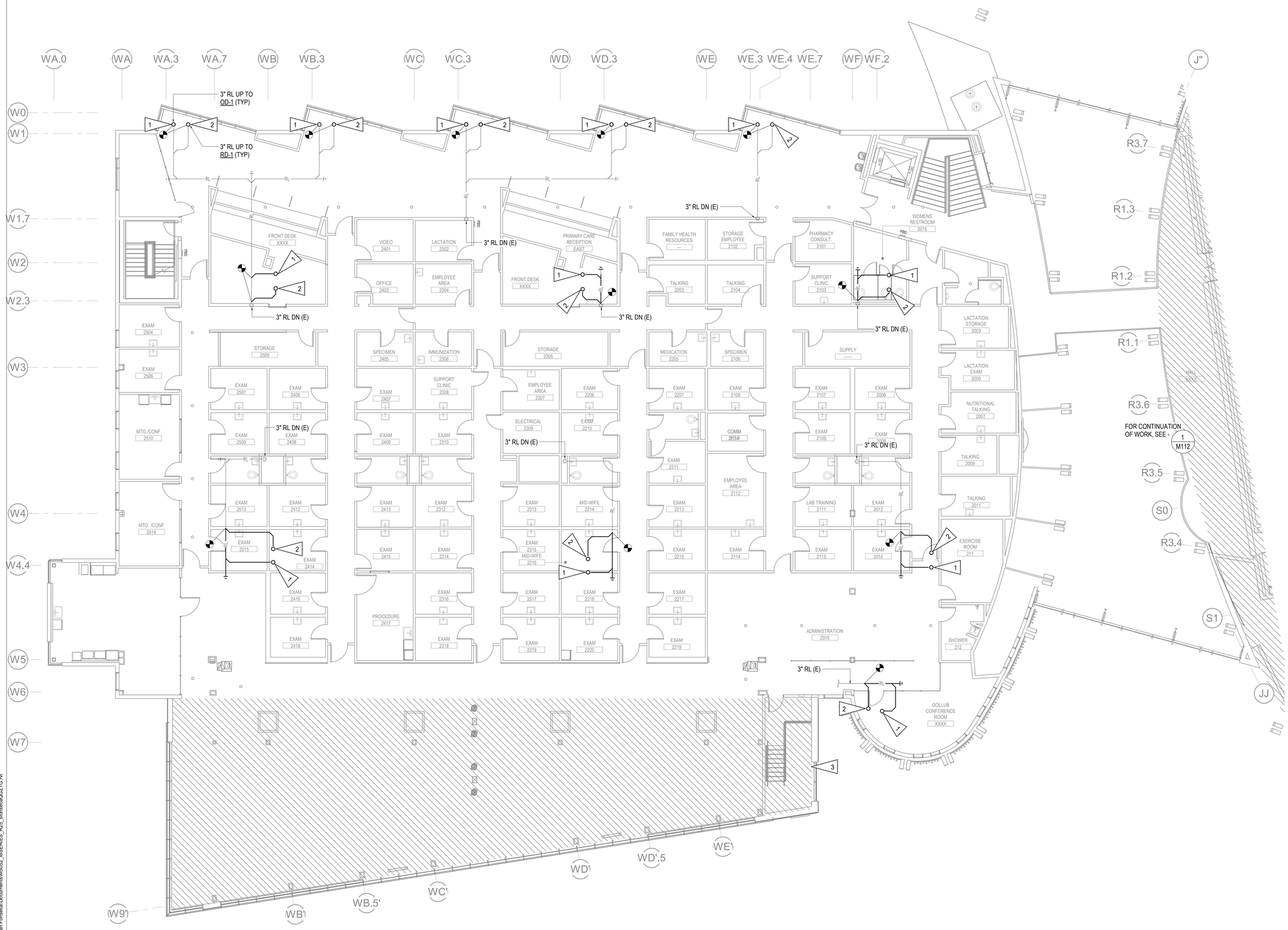
JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME
PCC2 FIRST FLOOR PLUMBING REMODEL

SHEET NO.
M121

FULL-SCALE AT 30X42

C:\Users\Stephan Fonseca\Documents\M5052_MSERIES_R25_sfonsecaQGZTG.rvt



1 PCC2 SECOND FLOOR PLUMBING REMODEL PLAN
1/8" = 1'-0"

C:\Users\Stephan Fonseca\Documents\M5052_MSERIES_R25_sfonsecaQGZTG.rvt

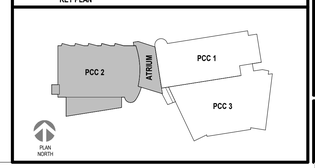
GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. FOR ROOF DRAIN INSTALLATION DETAIL, SEE - 6 / M601

SHEET NOTES: X

1. 3" RL UP TO ROOF DRAIN, RD-1. CONNECT TO EXISTING RL PIPING.
2. 3" RL UP TO OVERFLOW DRAIN, OD-1. CONNECT TO EXISTING RL PIPING.
3. ROOF ASSEMBLY TO REMAIN, THIS SECTION ONLY. NO ROOF DRAIN MODIFICATIONS REQUIRED.

KEY PLAN



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REVISION SCHEDULE

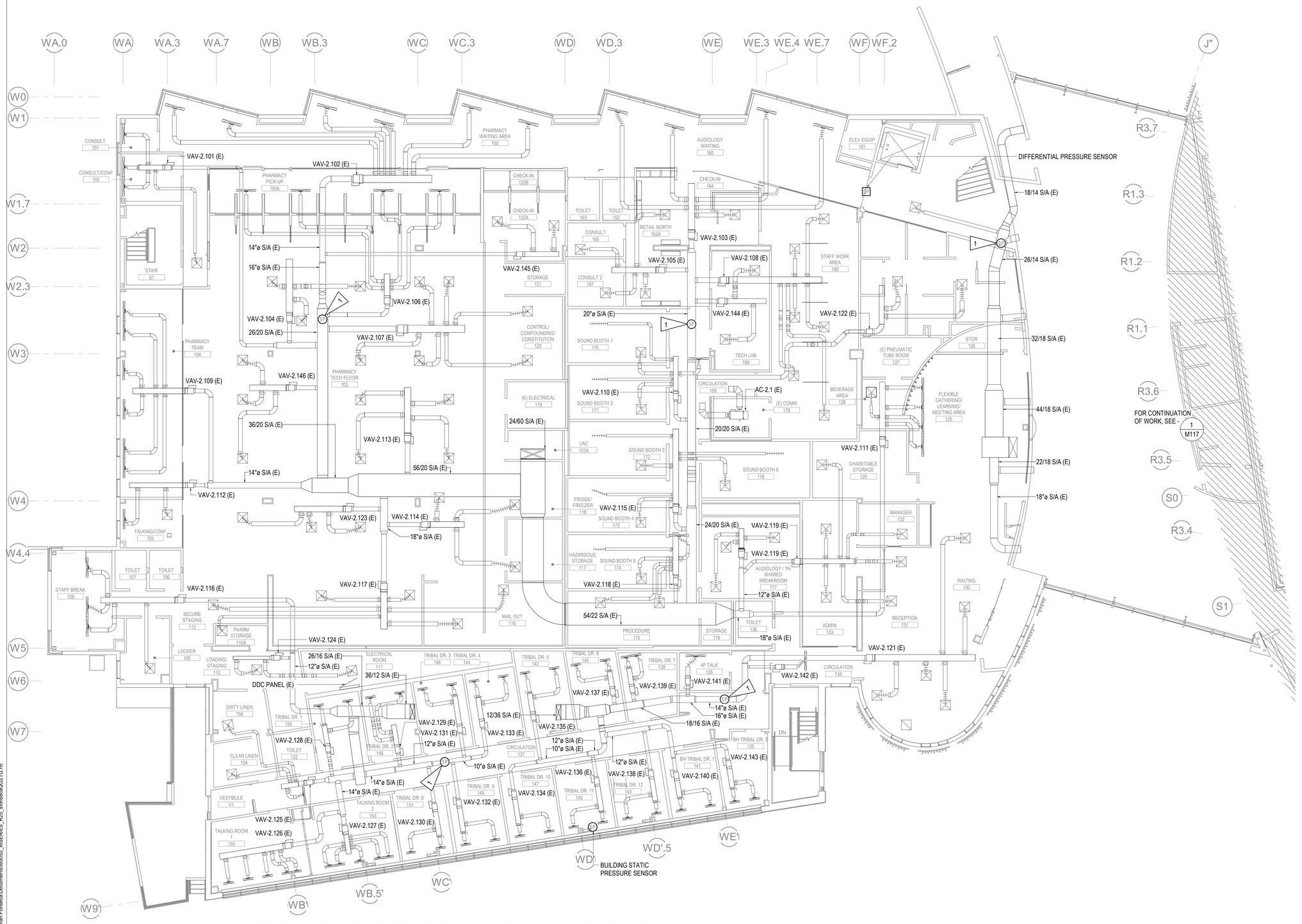
#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME
PCC2 SECOND FLOOR PLUMBING REMODEL

SHEET NO.
M122

FULL-SCALE AT 30X42



1 PCC2 FIRST FLOOR VENTILATION REMODEL -SUPPLY PLAN

1/8" = 1'-0"

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GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. FOR DIFFUSER/GRILLE AIRFLOWS, SEE 2022 PCC2 WEST EXPANSION, 2000 PCC 2 DRAWINGS.

SHEET NOTES:

1. INSTALL DUCT STATIC PRESSURE SENSOR

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65% DESIGN DEVELOPMENT

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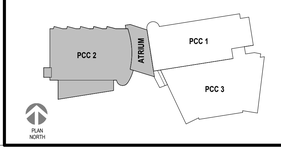
JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME

PCC2 FIRST FLOOR VENTILATION REMODEL - SUPPLY PLAN

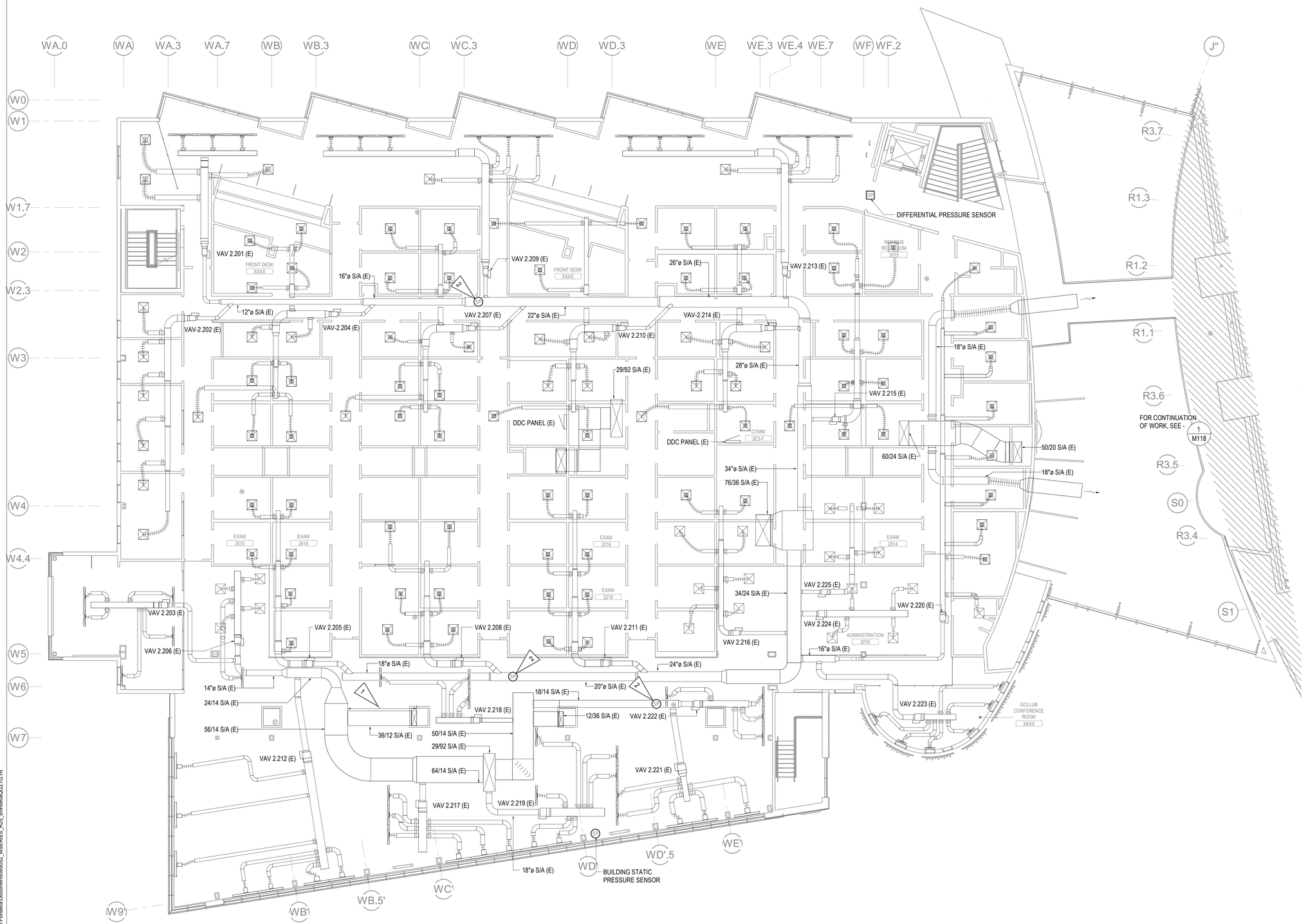
KEY PLAN



SHEET NO.

M123

FULL-SCALE AT 30X42"



1 PCC2 SECOND FLOOR VENTILATION REMODEL -SUPPLY PLAN

1/8" = 1'-0"

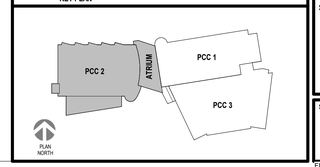
GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. FOR DIFFUSER/GRILLE AIRFLOWS, SEE 2022 PCC2 WEST EXPANSION, 2000 PCC 2 DRAWINGS.

SHEET NOTES: X

1. REPAIR AND RESEAL 36/12 DUCTWORK AND CONNECTIONS.
2. INSTALL DUCT STATIC PRESSURE SENSOR.

KEY PLAN



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SOUTHCENTRAL FOUNDATION

YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES

65% DESIGN DEVELOPMENT

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REVISION SCHEDULE

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JOB NO.	M5052
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REVIEWED	MRB

SHEET NAME

PCC2 SECOND FLOOR VENTILATION REMODEL - SUPPLY PLAN

SHEET NO.

M124

FULL-SCALE AT 30X42

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1 PCC2 FIRST FLOOR VENTILATION REMODEL - RETURN PLAN

1/8" = 1'-0"

C:\Users\Stephan Fonseca\Documents\M5052_MSERIES_R25_sfonsecaQGZTG.rvt

GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. FOR DIFFUSER/GRILLE AIRFLOWS, SEE 2022 PCC2 WEST EXPANSION, 2000 PCC 2 DRAWINGS.

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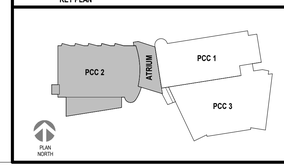
REVIEWED	MRB

SHEET NAME

PCC2 FIRST FLOOR VENTILATION REMODEL - RETURN PLAN

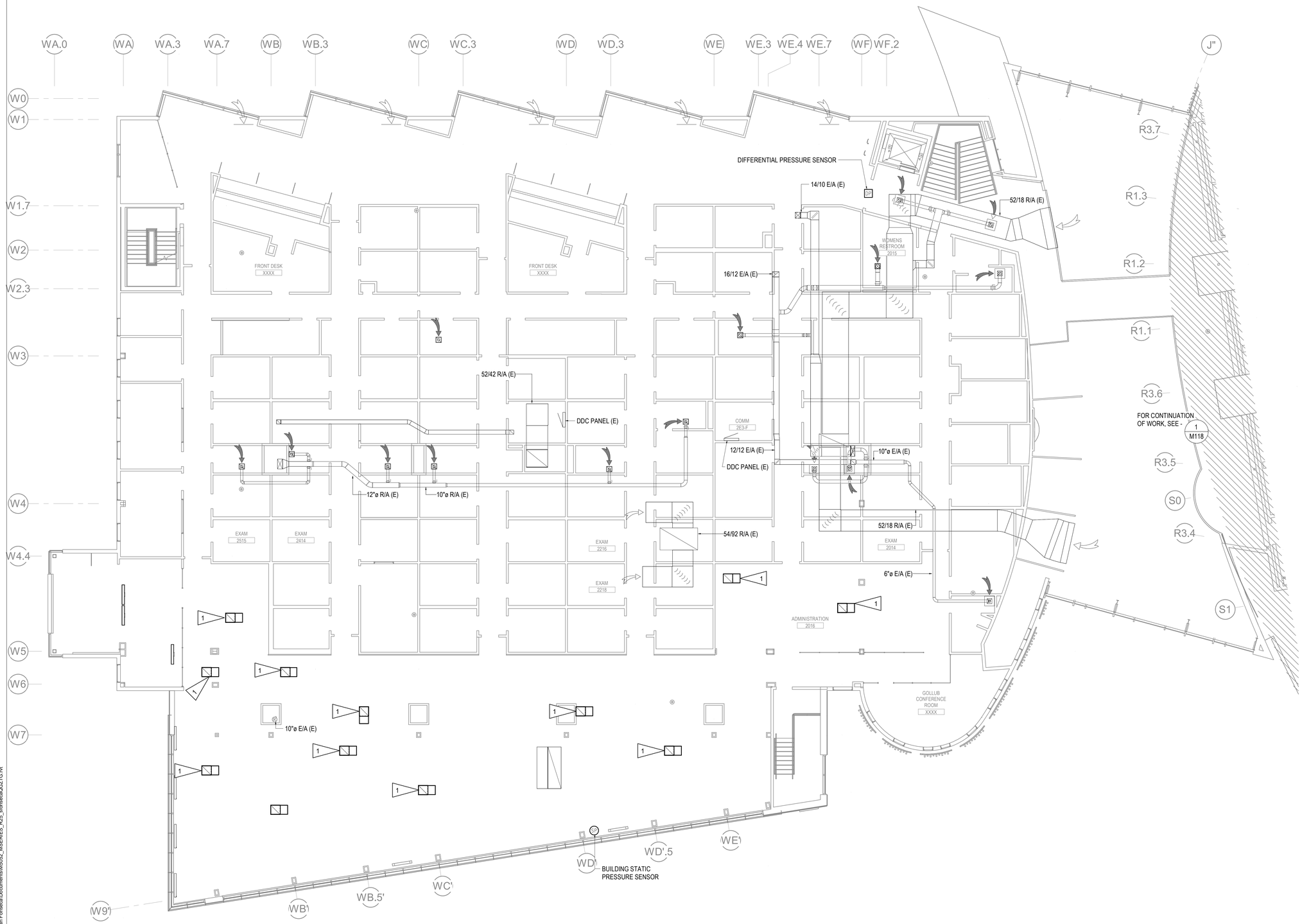
KEY PLAN



SHEET NO.

M125

FULL-SCALE AT 30X42



1 PCC2 SECOND FLOOR VENTILATION REMODEL - RETURN PLAN

1/8" = 1'-0"

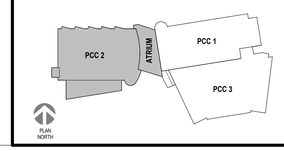
GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. FOR DIFFUSER/GRILLE AIRFLOWS, SEE 2022 PCC2 WEST EXPANSION, 2000 PCC 2 DRAWINGS.
3. FOR PCC2 TRANSFER AIR BOOT DETAIL, SEE - -

SHEET NOTES: X

1. 22/22 RETURN AIR BOOTS, CONNECT TO EXISTING RETURN AIR GRILLE.

KEY PLAN



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SOUTHCENTRAL FOUNDATION

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DATE	May 11, 2026
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REVIEWED	MRB

SHEET NAME

PCC2 SECOND FLOOR VENTILATION REMODEL - RETURN PLAN

SHEET NO.

M126

FULL-SCALE AT 30X42

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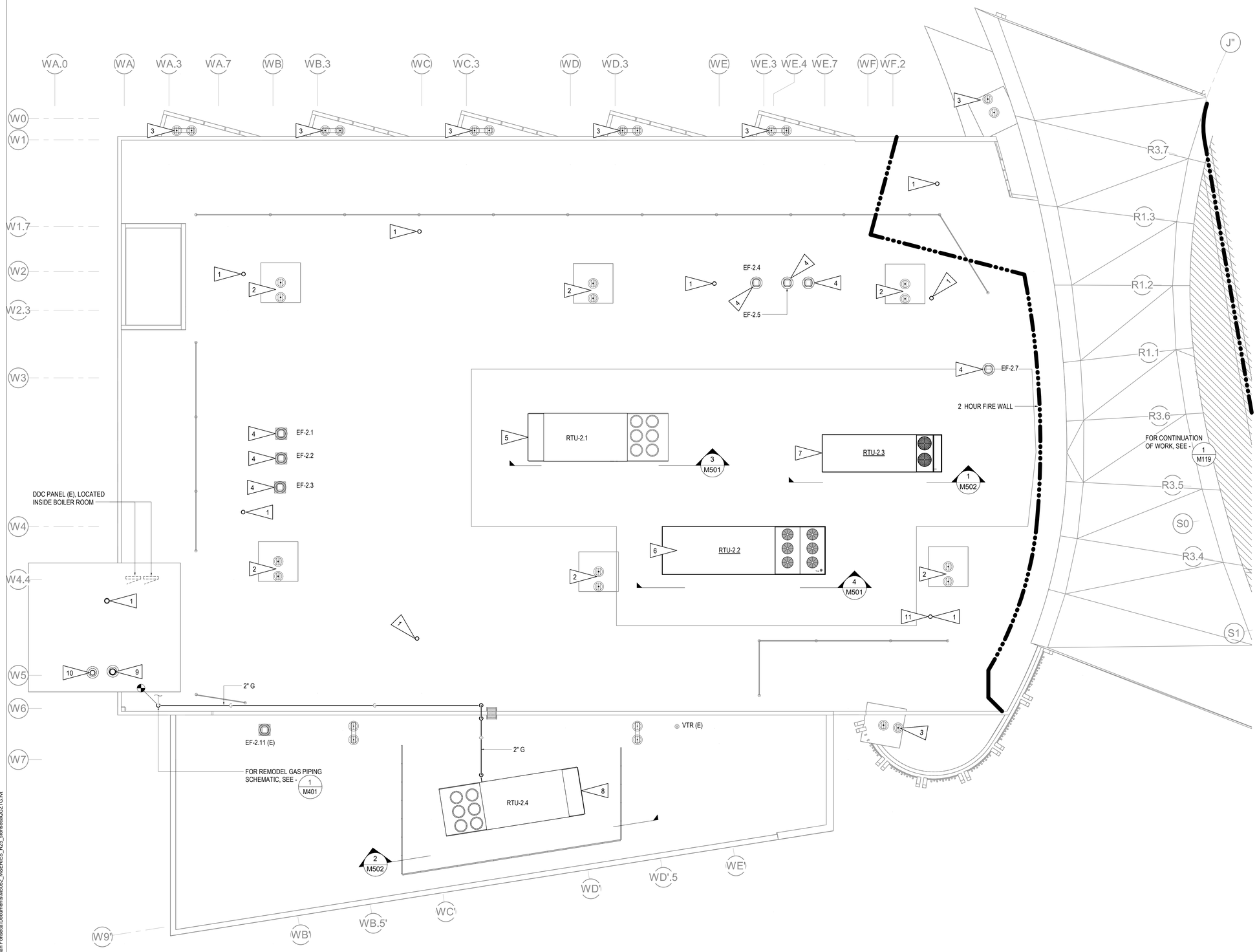

1 PCC2 ROOF MECHANICAL REMODEL PLAN

1/8" = 1'-0"

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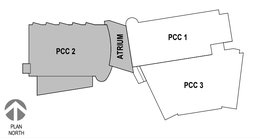
GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN.
2. SEE ARCHITECTURAL PLANS FOR ALL CURB DETAILS.
3. REFERENCE MECHANICAL DIAGRAMS FOR AFM STATION AND MOD LOCATIONS, SEE - 1 / M702
4. FOR ROOF DRAIN DETAIL, SEE - 6 / M601
5. FOR VTR DETAIL, SEE - 2 / M601

SHEET NOTES:

1. NEW 3" VTR, CONNECT TO EXISTING VENT 12" BELOW DECK..
2. RD-1 AND OD-1, EXTEND EXISTING RAINLEADER PIPING AS REQUIRED FOR INSTALLATION.
3. RD-1 AND OD-2, EXTEND EXISTING RAINLEADER PIPING AS REQUIRED FOR INSTALLATION.
4. RE-INSTALL SALVAGED EXHAUST FAN. EXTEND DUCTWORK, CONTROL AND ELECTRICAL WIRING AS REQUIRED FOR RE-CONNECTION. PREFABRICATED INSULATED ROOF CURB.
5. **BASE BID SCOPE:** RE-INSTALL RTU-2.1, EXTEND 28/92 S/A AND 92/52 R/A RISERS, 2" HGS/R PIPING, CONTROL AND ELECTRICAL WIRING AS REQUIRED FOR RE-CONNECTION. INSTALL 1" SOUND LINING IN S/A RISER. REMOVE EXISTING MFGR PACKAGED CONTROLLER AND CONTROLS. PROVIDE CONTROLS AND MFGR "EXTERNAL CAPACITY CONTROL" (ECC) CONTROLLER FOR USE AND CONTROL BY BUILDING BAS. INSTALL SA-2.2 AT R/A RISER AND SA-2.1 AT S/A RISER. SOUND ATTENUATING CURB. PREFABRICATED INSULATED ROOF CURB AS REQUIRED. **DEDUCTIVE ALTERNATE M2-5A:** NO SOUND LINING TREATMENT TO S/A RISER. **DEDUCTIVE ALTERNATE M2-5B:** NO NEW SOUND ATTENUATORS ON DUCTWORK RISERS. **DEDUCTIVE ALTERNATE M2-5C:** BOTH DEDUCTIVE ALTERNATES M2-5A&B.
6. **BASE BID SCOPE:** INSTALL RTU-2.2, EXTEND 28/92 S/A AND 92/52 R/A RISERS, 2" HGS/R PIPING, CONTROL AND ELECTRICAL WIRING AS REQUIRED. SOUND ATTENUATING CURB. PREFABRICATED INSULATED ROOF CURB. INSTALL SA-2.3 AT S/A RISER AND SA-2.4 AT R/A RISER. **DEDUCTIVE ALTERNATE M2-6:** NO NEW SOUND ATTENUATORS ON DUCTWORK RISERS.
7. **BASE BID SCOPE:** INSTALL RTU-2.3, EXTEND 26/66 S/A AND 78/40 R/A RISERS, 2" HGS/R PIPING, CONTROL AND ELECTRICAL WIRING AS REQUIRED. SOUND ATTENUATING CURB AND ISOLATION CURB. PREFABRICATED INSULATED ROOF CURB. INSTALL SA-2.6 AT S/A RISER AND SA-2.6 AT R/A RISER. **DEDUCTIVE ALTERNATE M2-6:** NO NEW SOUND ATTENUATORS ON DUCTWORK RISERS.
8. **BASE BID SCOPE:** RE-INSTALL RTU-2.4, EXTEND 32/94 S/A AND 32/101 R/A RISERS, 2" GAS PIPING, CONTROL AND ELECTRICAL WIRING AS REQUIRED FOR RE-CONNECTION. INSTALL 1" SOUND LINING IN S/A RISER. INSTALL SA-2.8 AT R/A RISER AND SA-2.7 AT S/A RISER. SOUND ATTENUATING CURB. PREFABRICATED INSULATED ROOF CURB. **DEDUCTIVE ALTERNATE M2-4A:** NO SOUND LINING TREATMENT TO S/A RISER. **DEDUCTIVE ALTERNATE M2-4B:** NO NEW SOUND ATTENUATORS ON DUCTWORK RISERS. **DEDUCTIVE ALTERNATE M2-4C:** BOTH DEDUCTIVE ALTERNATES M2-4A&B.
9. RE-INSTALL BOILER AND WATER HEATER FLUES.
10. RELOCATE VTR OUTSIDE OF ATRIUM ROOF SLIDE AREA. PROVIDE ALL PLUMBING MODIFICATIONS BELOW ROOF DECK TO ACCOMMODATE.

KEY PLAN



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65% DESIGN DEVELOPMENT

4320 Diplomacy Dr, Anchorage, AK 99508

REVISION SCHEDULE

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JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME

PCC2 ROOF MECHANICAL REMODEL

SHEET NO.

M127

FULL-SCALE AT 30X42"

1 PCC3 FIRST FLOOR PLUMBING REMODEL PLAN
1/8" = 1'-0"

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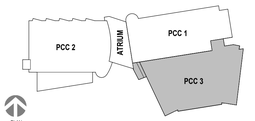
GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN.
2. FOR ROOF DRAIN DETAIL, SEE - 6 M601

SHEET NOTES:

1. FOR ENLARGED BOILER ROOM PLAN, SEE - 1 M233

KEY PLAN



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SHEET NAME
PCC3 FIRST FLOOR PLUMBING REMODEL

SHEET NO.
M131

FULL-SCALE AT 30X42

1 PCC3 THIRD FLOOR PLUMBING REMODEL PLAN

1/8" = 1'-0"

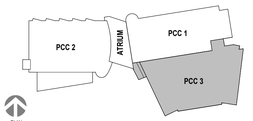
GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN.
2. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.
3. FOR ROOF DRAIN INSTALLATION DETAIL, SEE - 6 M601

SHEET NOTES: X

1. 3" RL UP TO ROOF DRAIN, RD-1. CONNECT TO EXISTING RL PIPING.
2. 3" RL UP TO OVERFLOW DRAIN, OD-1. CONNECT TO EXISTING RL PIPING.

KEY PLAN



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RSA Mechanical and Electrical Consulting Engineers
670 West Fireweed Lane, Suite 200
Anchorage, AK 99503
(907)276-5521
Corporate No: AECC942

NEESER CONSTRUCTION, INC.
3000 A STREET, SUITE 300
ANCHORAGE, ALASKA 99503
907.276.1058

Southcentral Foundation
SFC CONTRACTS DEPARTMENT
4501 DIPLOMACY DRIVE
ANCHORAGE, ALASKA 99507

SOUTHCENTRAL FOUNDATION

YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES

65% DESIGN DEVELOPMENT

4320 Diplomacy Dr, Anchorage, AK 99508

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME

PCC3 THIRD FLOOR PLUMBING REMODEL

SHEET NO.

M132

FULL-SCALE AT 30X42

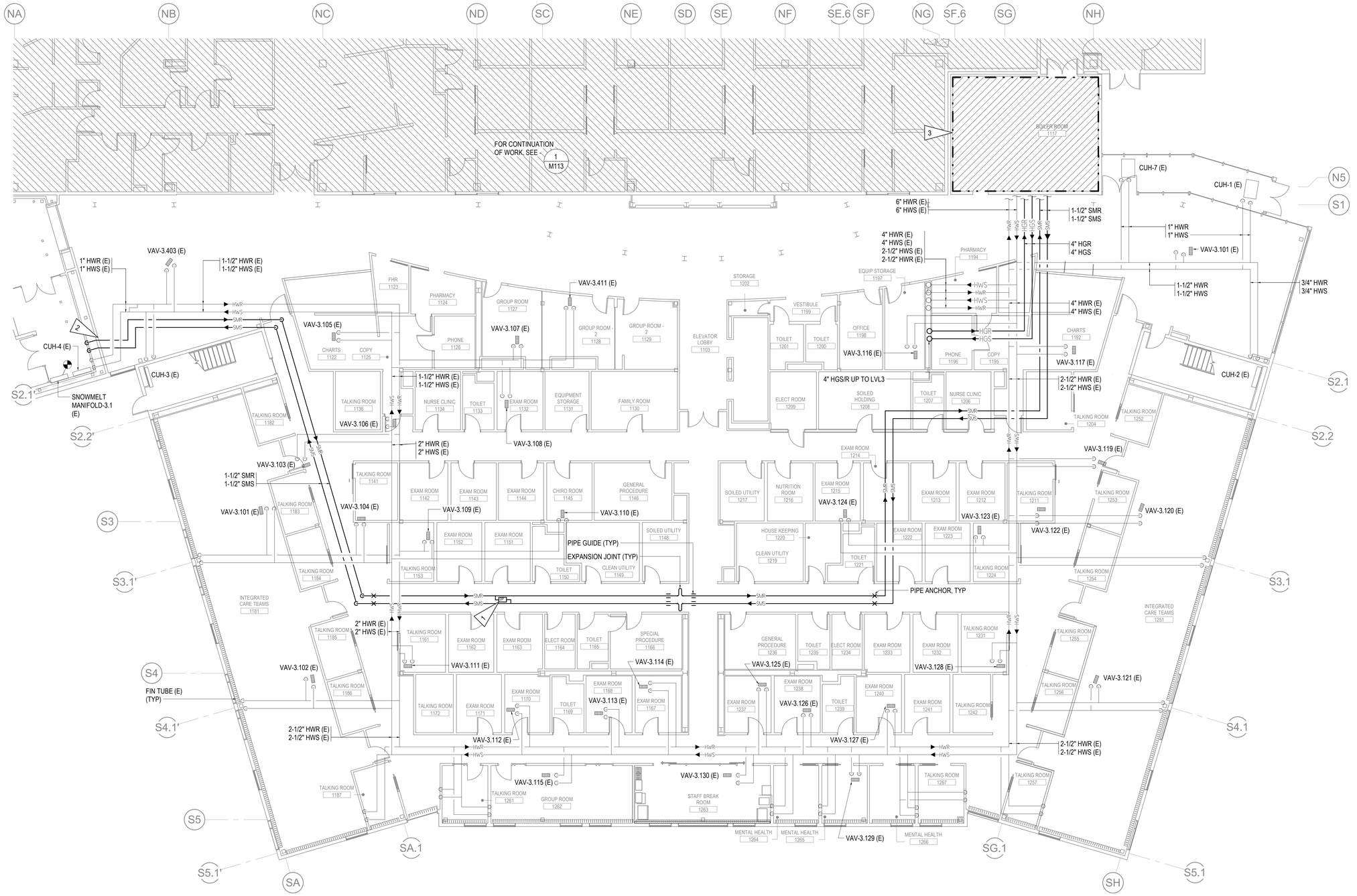
C:\Users\Stephan Fonseca\Documents\M5062_MSERES_R25_sfonsecaQQZ7TG.rvt

GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN.
2. ALL PIPING ASSOCIATED WITH PCC1 AND PCC3 HEATING SYSTEMS TO BE DRAINED AND CLEANED PER THE HYDRONIC PIPING SPECIFICATION. EXISTING GLYCOL TO BE RECOVERED AND RECYCLED.
3. FOR SNOWMELT PIPING SCHEMATIC, SEE - 1/M808

SHEET NOTES: X

1. INSTALL DIFFERENTIAL PRESSURE SENSOR.
2. FOR ENLARGED BOILER ROOM PLAN, SEE - 1/M233



1 PCC3 FIRST FLOOR HEATING REMODEL PLAN
1/8" = 1'-0"

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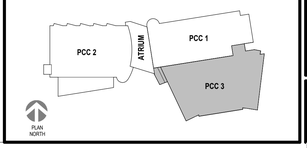
REVIEWED	MRB

SHEET NAME
PCC3 FIRST FLOOR HEATING REMODEL

KEY PLAN



SHEET NO.
M133

FULL-SCALE AT 30X42

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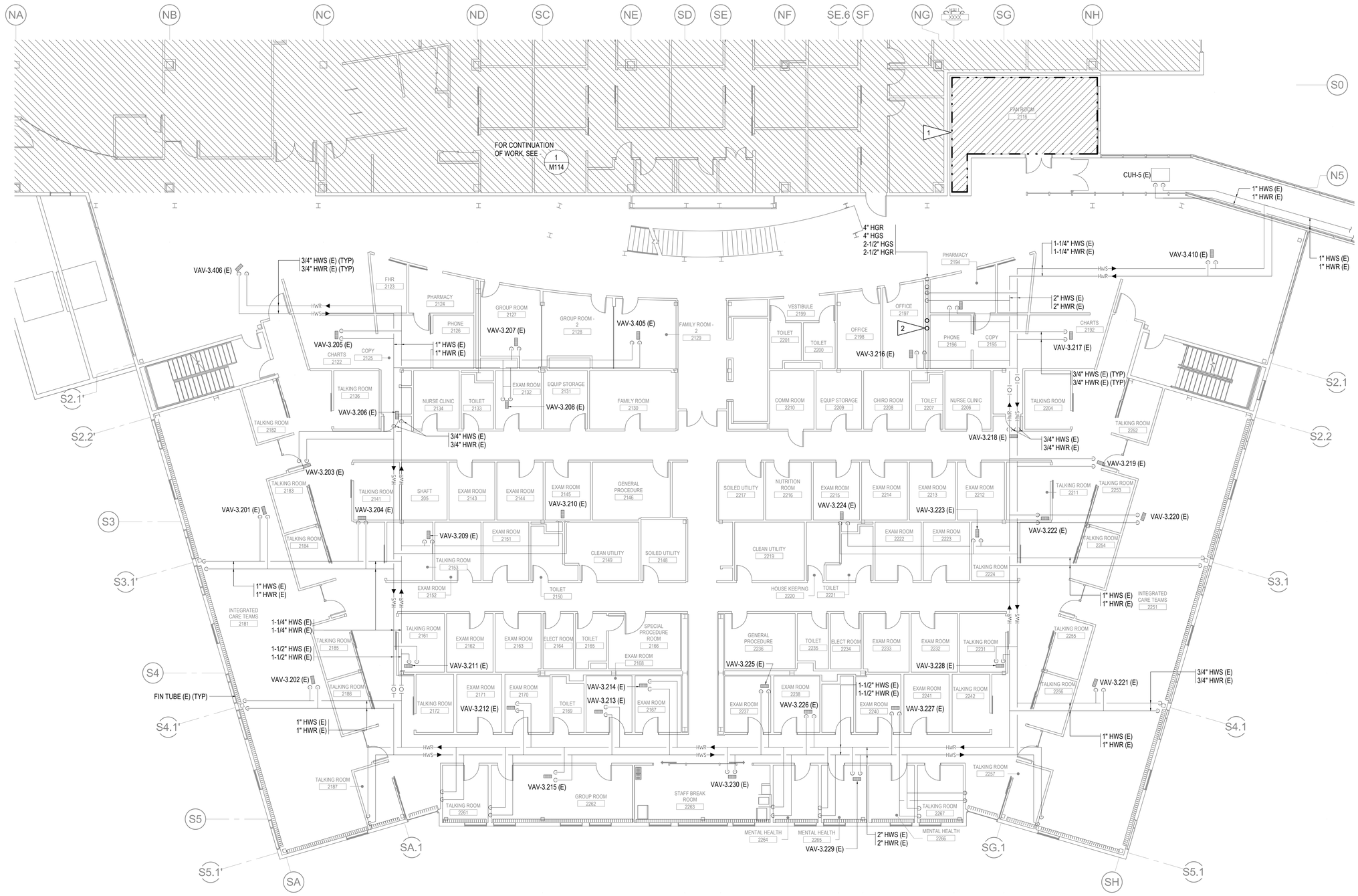

1 PCC3 SECOND FLOOR HEATING REMODEL PLAN

1/8" = 1'-0"

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GENERAL NOTES:

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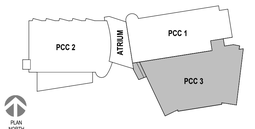
2. ALL PIPING ASSOCIATED WITH PCC1 AND PCC3 HEATING SYSTEMS TO BE DRAINED AND CLEANED PER THE HYDRONIC PIPING SPECIFICATION. EXISTING GLYCOL TO BE RECOVERED AND RECYCLED.

SHEET NOTES:

1. FOR ENLARGED FAN ROOM PLAN, SEE - 1 M234
2. 4" HGS/R UP IN CHASE.

KEY PLAN



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SOUTHCENTRAL FOUNDATION

YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES

65% DESIGN DEVELOPMENT

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JOB NO.	M5052
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REVIEWED	MRB

SHEET NAME

PCC3 SECOND FLOOR HEATING REMODEL

SHEET NO.

M134

FULL-SCALE AT 30X42

1 PCC3 THIRD FLOOR HEATING REMODEL PLAN

1/8" = 1'-0"

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GENERAL NOTES:

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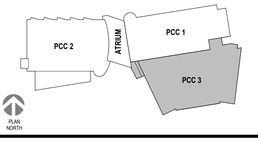
2. ALL PIPING ASSOCIATED WITH PCC1 AND PCC3 HEATING SYSTEMS TO BE DRAINED AND CLEANED PER THE HYDRONIC PIPING SPECIFICATION. EXISTING GLYCOL TO BE RECOVERED AND RECYCLED.

SHEET NOTES: X

1. INSTALL DIFFERENTIAL PRESSURE SENSOR.

KEY PLAN



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REVIEWED	MRB

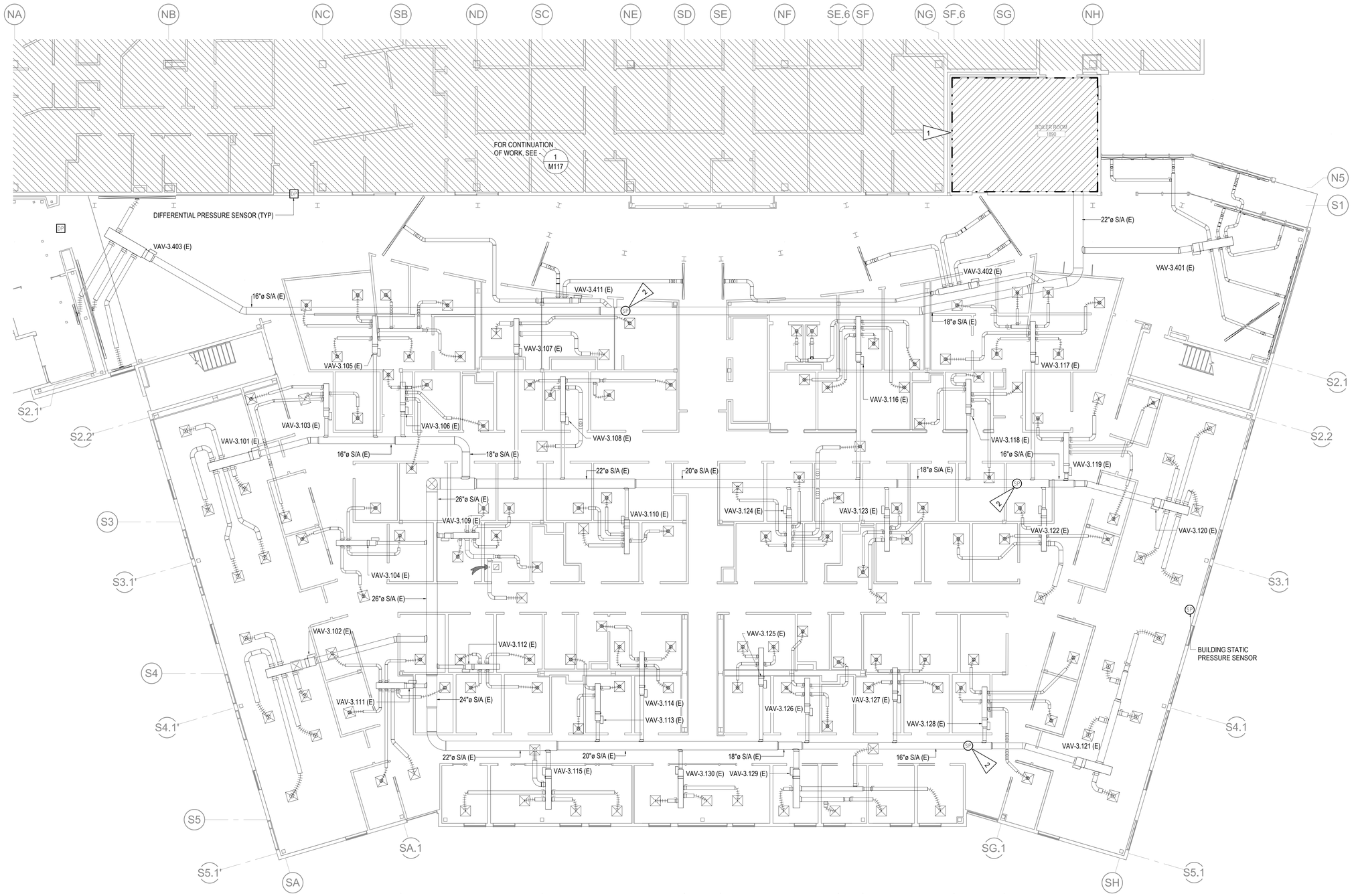
SHEET NAME

PCC3 THIRD FLOOR HEATING REMODEL

SHEET NO.

M135

FULL-SCALE AT 30X42



1 PCC3 FIRST FLOOR VENTILATION REMODEL - SUPPLY PLAN

1/8" = 1'-0"

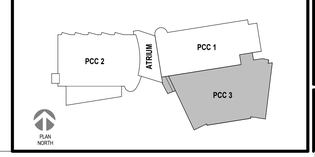
GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN.
2. FOR DIFFUSER/GRILLE AIRFLOWS, SEE 2008 PCC3 DRAWINGS.

SHEET NOTES: X

1. FOR ENLARGED BOILER ROOM PLAN, SEE - 1 M233
2. INSTALL DUCT STATIC PRESSURE SENSOR.

KEY PLAN



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ANCHORAGE, ALASKA 99507

SOUTHCENTRAL FOUNDATION

YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES

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REVIEWED	MRB

SHEET NAME

PCC3 FIRST FLOOR VENTILATION REMODEL - SUPPLY PLAN

SHEET NO.

M136

FULL-SCALE AT 30X42

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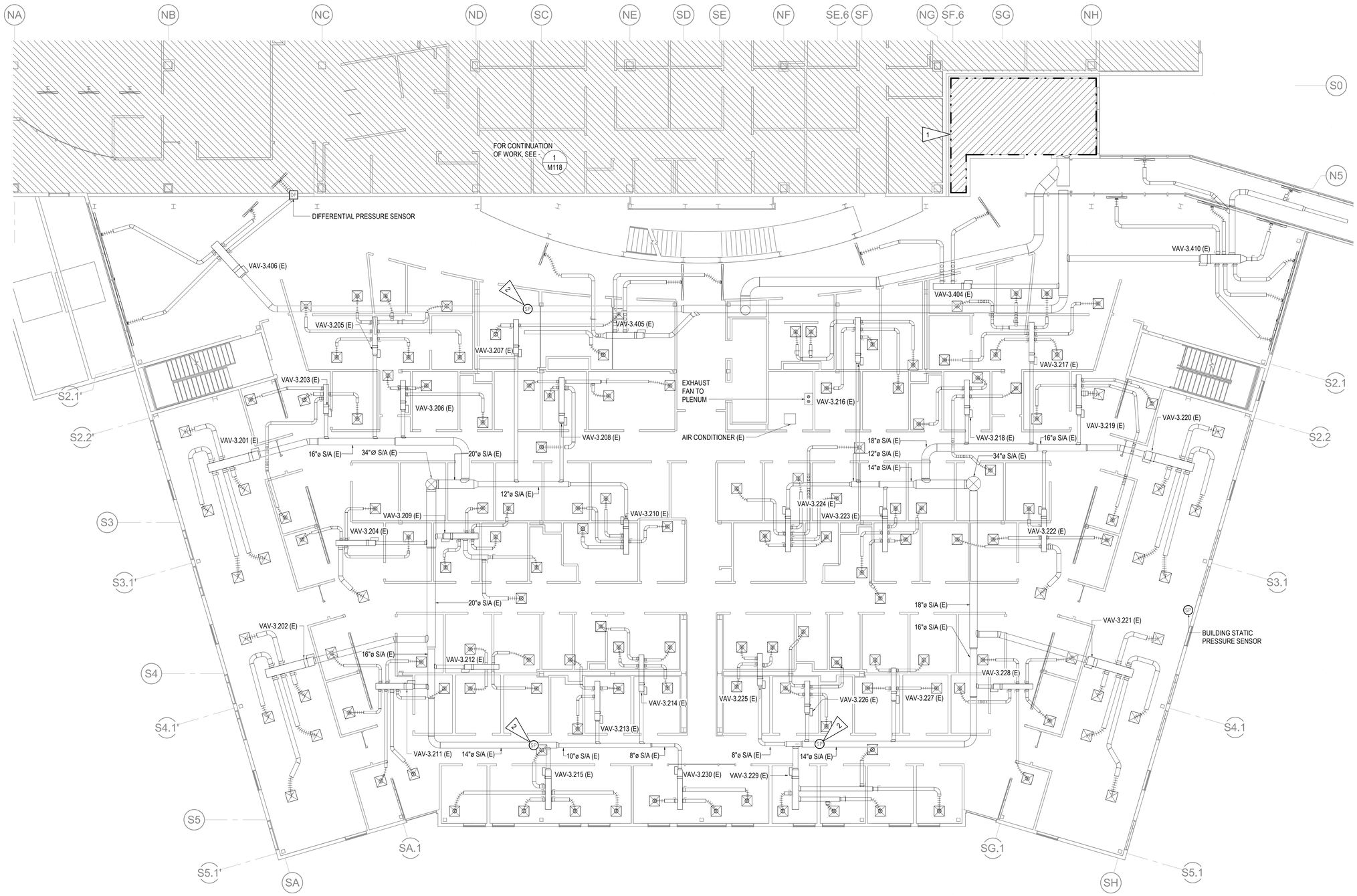


1 PCC3 SECOND FLOOR VENTILATION REMODEL - SUPPLY PLAN

1/8" = 1'-0"

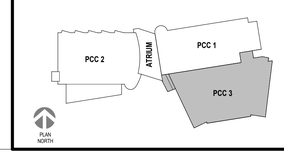
GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN.
2. FOR DIFFUSER/GRILLE AIRFLOWS, SEE 2008 PCC3 DRAWINGS.

SHEET NOTES: X

1. FOR ENLARGED FAN ROOM PLAN, SEE - 1 M234
2. INSTALL DUCT STATIC PRESSURE SENSOR.

KEY PLAN



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SHEET NAME

PCC3 SECOND FLOOR VENTILATION REMODEL - SUPPLY PLAN

SHEET NO.

M137

FULL-SCALE AT 30X42

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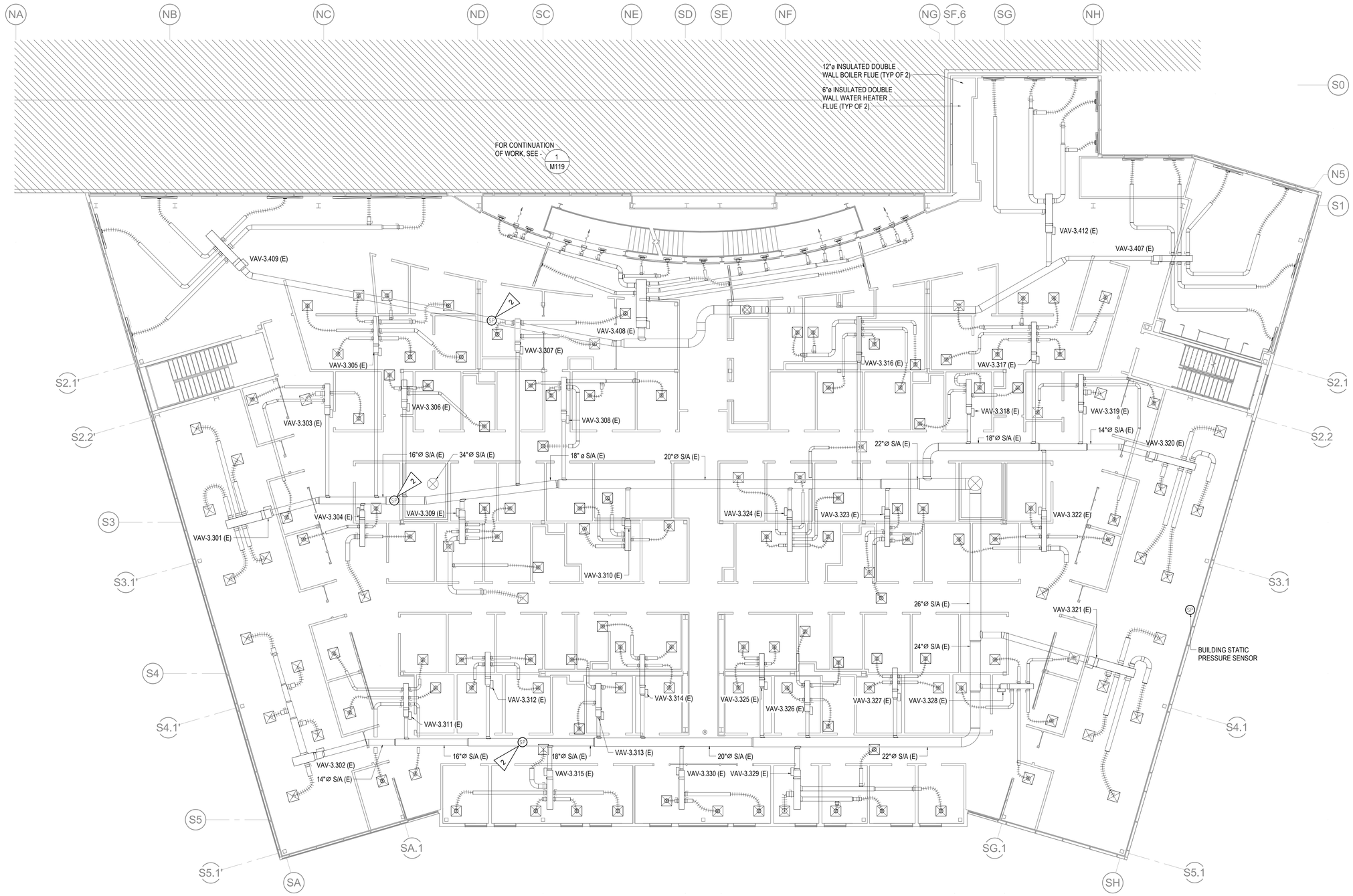

1 PCC3 THIRD FLOOR VENTILATION REMODEL PLAN - SUPPLY PLAN

1/8" = 1'-0"

GENERAL NOTES:

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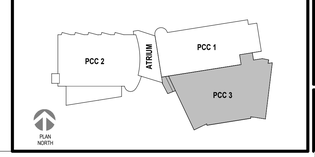
2. FOR DIFFUSER/GRILLE AIRFLOWS, SEE 2008 PCC3 DRAWINGS.

SHEET NOTES: X

1. INSTALL DUCT STATIC PRESSURE SENSOR.

KEY PLAN



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65% DESIGN DEVELOPMENT

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REVIEWED	MRB

SHEET NAME

PCC3 THIRD FLOOR VENTILATION REMODEL - SUPPLY PLAN

SHEET NO.

M138

FULL-SCALE AT 30X42

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1 PCC3 FIRST FLOOR VENTILATION REMODEL - RETURN PLAN

1/8" = 1'-0"

GENERAL NOTES:

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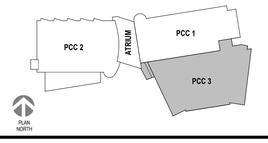
2. FOR DIFFUSER/GRILLE AIRFLOWS, SEE 2008 PCC3 DRAWINGS.
3. FOR PCC3 RETURN BOOT RETROFIT DETAIL, SEE - 8 / M601

SHEET NOTES: X

1. INSTALL AFM STATION AND MODULATING FIRE SMOKE DAMPER AT 50/26 RETURN AIR BOOT (E).
2. FOR ENLARGED BOILER ROOM PLAN, SEE - 1 / M233

KEY PLAN



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SOUTHCENTRAL FOUNDATION

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REVIEWED	MRB

SHEET NAME

PCC3 FIRST FLOOR VENTILATION REMODEL - RETURN PLAN

SHEET NO.

M139

FULL-SCALE AT 30X42

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1 PCC3 SECOND FLOOR VENTILATION REMODEL - RETURN PLAN

1/8" = 1'-0"

GENERAL NOTES:

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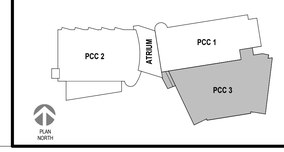
2. FOR DIFFUSER/GRILLE AIRFLOWS, SEE 2008 PCC3 DRAWINGS.
3. FOR PCC3 RETURN BOOT RETROFIT DETAIL, SEE - 8 M601

SHEET NOTES: X

1. INSTALL AFM STATION AND MODULATING FIRE SMOKE DAMPER AT 50/26 RETURN AIR BOOT (E).
2. FOR ENLARGED FAN ROOM PLAN, SEE - 1 M234

KEY PLAN



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REVIEWED	MRB

SHEET NAME

PCC3 SECOND FLOOR VENTILATION REMODEL - RETURN PLAN

SHEET NO.

M1310

FULL-SCALE AT 30X42

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1 PCC3 THIRD FLOOR VENTILATION REMODEL - RETURN PLAN
1/8" = 1'-0"

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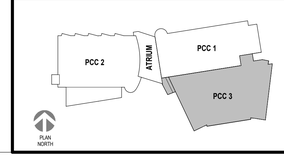
2. FOR DIFFUSER/GRILLE AIRFLOWS, SEE 2008 PCC3 DRAWINGS.
3. FOR PCC3 RETURN BOOT RETROFIT DETAIL, SEE - 8 M601

SHEET NOTES: X

1. INSTALL AFM STATION AND MODULATING FIRE SMOKE DAMPER AT 50/26 RETURN AIR BOOT (E).

KEY PLAN



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SOUTHCENTRAL FOUNDATION
YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES
65% DESIGN DEVELOPMENT
4320 Diplomacy Dr, Anchorage, AK 99508

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JOB NO.	M5052
DATE	May 11, 2026
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REVIEWED	MRB

SHEET NAME
PCC3 THIRD FLOOR VENTILATION REMODEL - RETURN PLAN

SHEET NO.
M1311

FULL-SCALE AT 30X42

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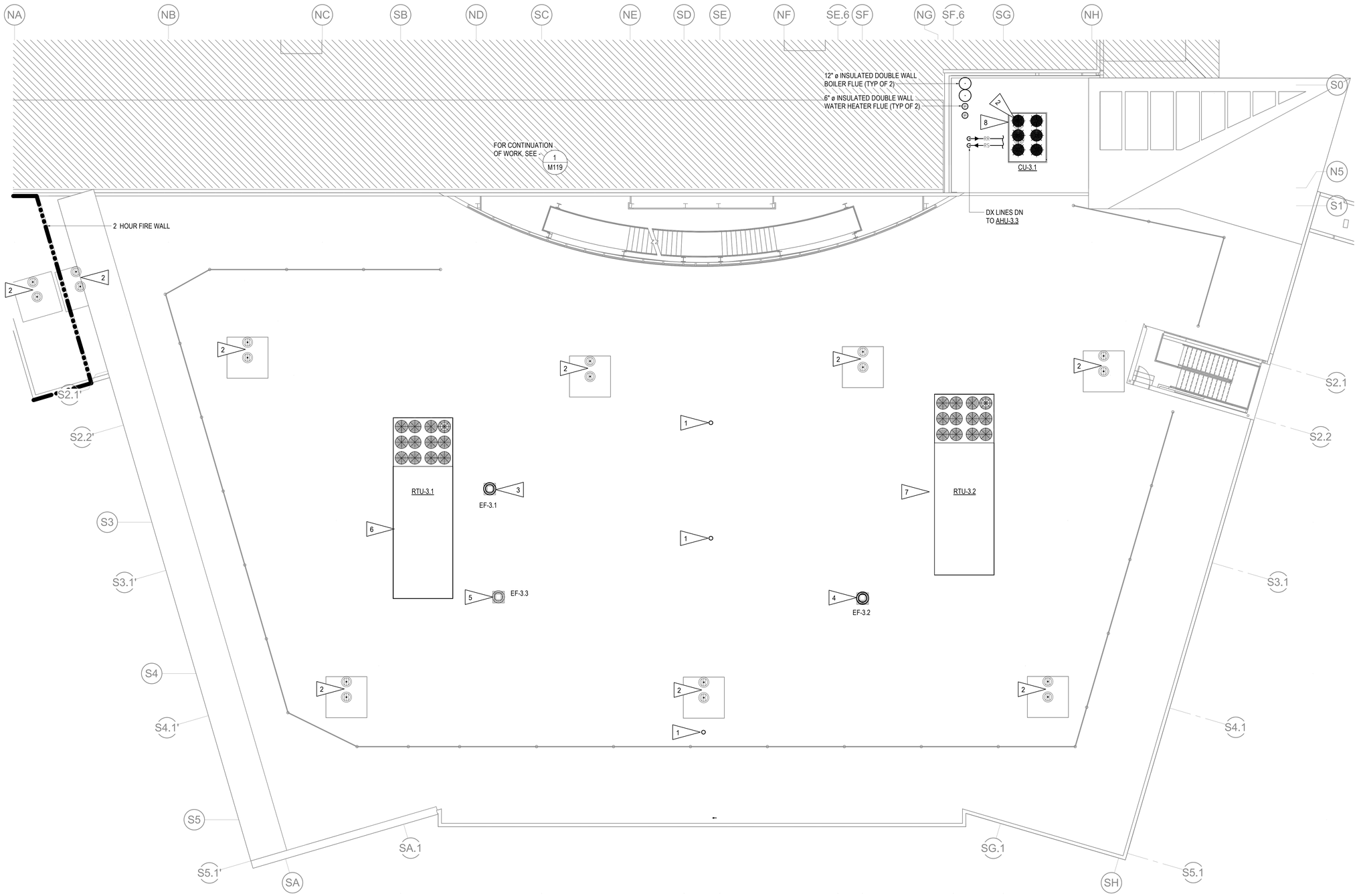

1 PCC3 ROOF MECHANICAL REMODEL PLAN
1/8" = 1'-0"

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GENERAL NOTES:

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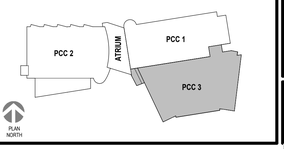
2. SEE ARCHITECTURAL PLANS FOR ALL CURB DETAILS.
3. REFERENCE MECHANICAL DIAGRAMS FOR AFM STATION AND MOD LOCATIONS, SEE - 1 / M703
4. FOR ROOF DRAIN DETAIL, SEE - 6 / M601
5. FOR VTR DETAIL, SEE - 2 / M601
6. FOR REFRIGERATION PIPING ROOF PENETRATION DETAIL, SEE - 5 / M601
8. FOR HEATING COIL PIPING DETAIL, SEE - 7 / M601

SHEET NOTES: X

1. NEW 4" VTR, CONNECT TO EXISTING VENT BELOW. FOR
2. RD-1 AND OD-1, EXTEND EXISTING RAINLEADER PIPING AS REQUIRED FOR INSTALLATION.
3. RE-INSTALL SALVAGED EXHAUST FAN, EF-3.1. EXTEND DUCTWORK, CONTROL AND ELECTRICAL WIRING AS REQUIRED FOR RE-CONNECTION. PREFABRICATED INSULATED ROOF CURB.
4. RE-INSTALL SALVAGED EXHAUST FAN, EF-3.2. EXTEND DUCTWORK, CONTROL AND ELECTRICAL WIRING AS REQUIRED FOR RE-CONNECTION. PREFABRICATED INSULATED ROOF CURB.
5. RE-INSTALL SALVAGED EXHAUST FAN, EF-3.3. EXTEND DUCTWORK, CONTROL AND ELECTRICAL WIRING AS REQUIRED FOR RE-CONNECTION. PREFABRICATED INSULATED ROOF CURB.
6. **BASE BID SCOPE:** INSTALL RTU-3.1, EXTEND 65/109 R/A AND 84/45 S/A RISERS, 2" HGS/R PIPING, CONTROL AND ELECTRICAL WIRING AS REQUIRED. SOUND ATTENUATING CURB AND ISOLATION CURB. PREFABRICATED INSULATED ROOF CURB. INSTALL SA-3.1 AT S/A RISER. **DEDUCTIVE ALTERNATE M3-1:** RE-INSTALL RTU-3.1, REMOVE RELIEF FAN, RELIEF AIR OPENING SHALL BE SEALED WITH PANEL AND MADE WATERTIGHT.
7. **BASE BID SCOPE:** INSTALL RTU-3.2, EXTEND 65/109 R/A AND 84/45 S/A RISERS, 2" HGS/R PIPING, CONTROL AND ELECTRICAL WIRING AS REQUIRED. SOUND ATTENUATING CURB AND ISOLATION CURB. PREFABRICATED INSULATED ROOF CURB. INSTALL SA-3.2 AT S/A RISER. **DEDUCTIVE ALTERNATE M3-1:** RE-INSTALL RTU-3.2, REMOVE RELIEF FAN, RELIEF AIR OPENING SHALL BE SEALED WITH PANEL AND MADE WATERTIGHT.
8. INSTALL CU-3.1, USE EXISTING REFRIGERANT PIPING ROUTING LOCATION. SEE STRUCTURAL FOR MOUNTING DETAILS.

KEY PLAN



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Corporate No: AECC542

NESSER CONSTRUCTION, INC.
GENERAL CONTRACTOR
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ANCHORAGE, ALASKA 99503
907.276.1058

Southcentral Foundation
SFC CONTRACTS DEPARTMENT
3201 C STREET, SUITE 505
ANCHORAGE, ALASKA 99507

SOUTHCENTRAL FOUNDATION

YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES

65% DESIGN DEVELOPMENT

4320 Diplomacy Dr, Anchorage, AK 99508

REVISION SCHEDULE

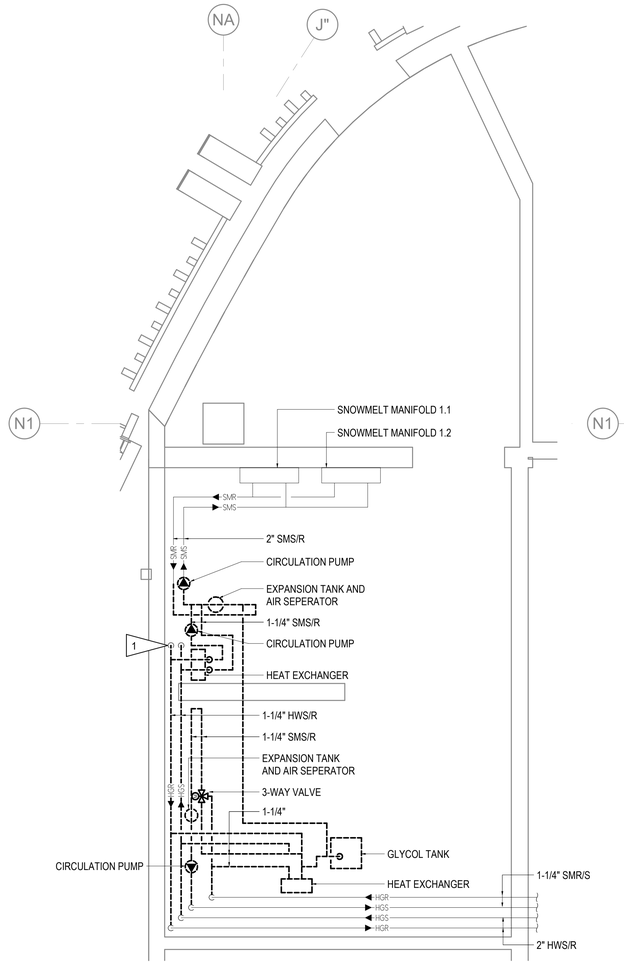
#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

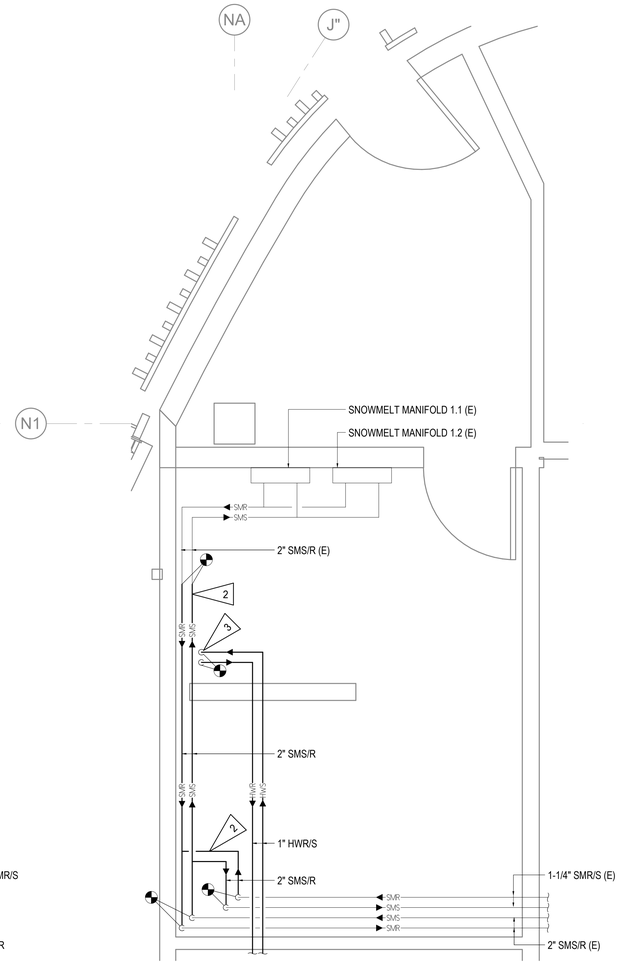
SHEET NAME
PCC3 ROOF MECHANICAL REMODEL

SHEET NO.
M1312

FULL-SCALE AT 30X42"



1 PCC1 FIRST FLOOR ENLARGED DEMOLITION PLAN
1/2" = 1'-0"



2 PCC1 FIRST FLOOR ENLARGED REMODEL PLAN
1/2" = 1'-0"

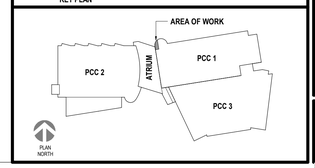
GENERAL NOTES:

1. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.
2. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

SHEET NOTES: X

1. PIPING TO FINTUBE BELOW TO REMAIN.
2. FOR SNOWMELT PIPING SCHEMATIC, SEE - 1/M402
3. RECONNECT PIPING AT DEMOLISHED PUMP.

KEY PLAN



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SOUTHCENTRAL FOUNDATION
YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES
65% DESIGN DEVELOPMENT
4320 Diplomacy Dr, Anchorage, AK 99508

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME
PCC1 - ENLARGED PLANS - DEMO + NEW

SHEET NO.
M211

FULL-SCALE AT 30X42

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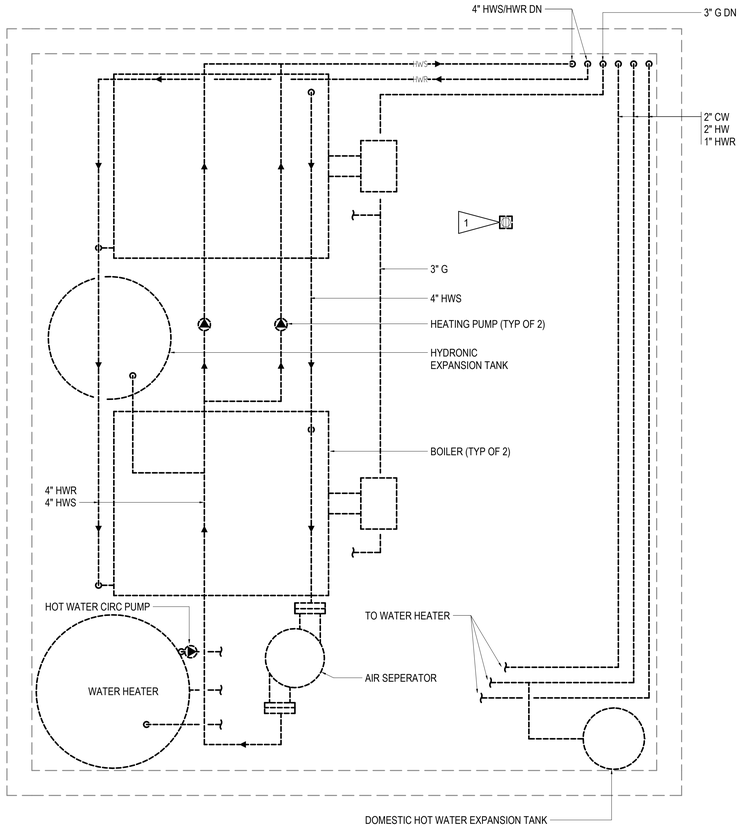

1 PCC1 BOILER ENCLOSURE ENLARGED DEMOLITION PLAN
1" = 1'-0"

GENERAL NOTES:

A. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.

B. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

C. DEMOLISH ALL MECHANICAL EQUIPMENT IN BOILER ENCLOSURE. ALL PIPING TO BE DEMOLISHED. SEE DEMOLITION FLOOR PLANS FOR CONTINUATION.

SHEET NOTES:

1. DEMOLISH FLOOR DRAIN AND PIPING THROUGH ROOF ASSEMBLY. CAP WASTE ABOVE 2ND FLOOR CEILING. EXISTING FIXTURE VENT TO REMAIN.

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YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES
65% DESIGN DEVELOPMENT
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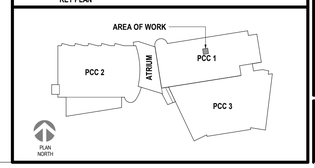
REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME
PCC1 - ENLARGED PLANS - DEMO

KEY PLAN



SHEET NO.
M212

FULL-SCALE AT 30X42

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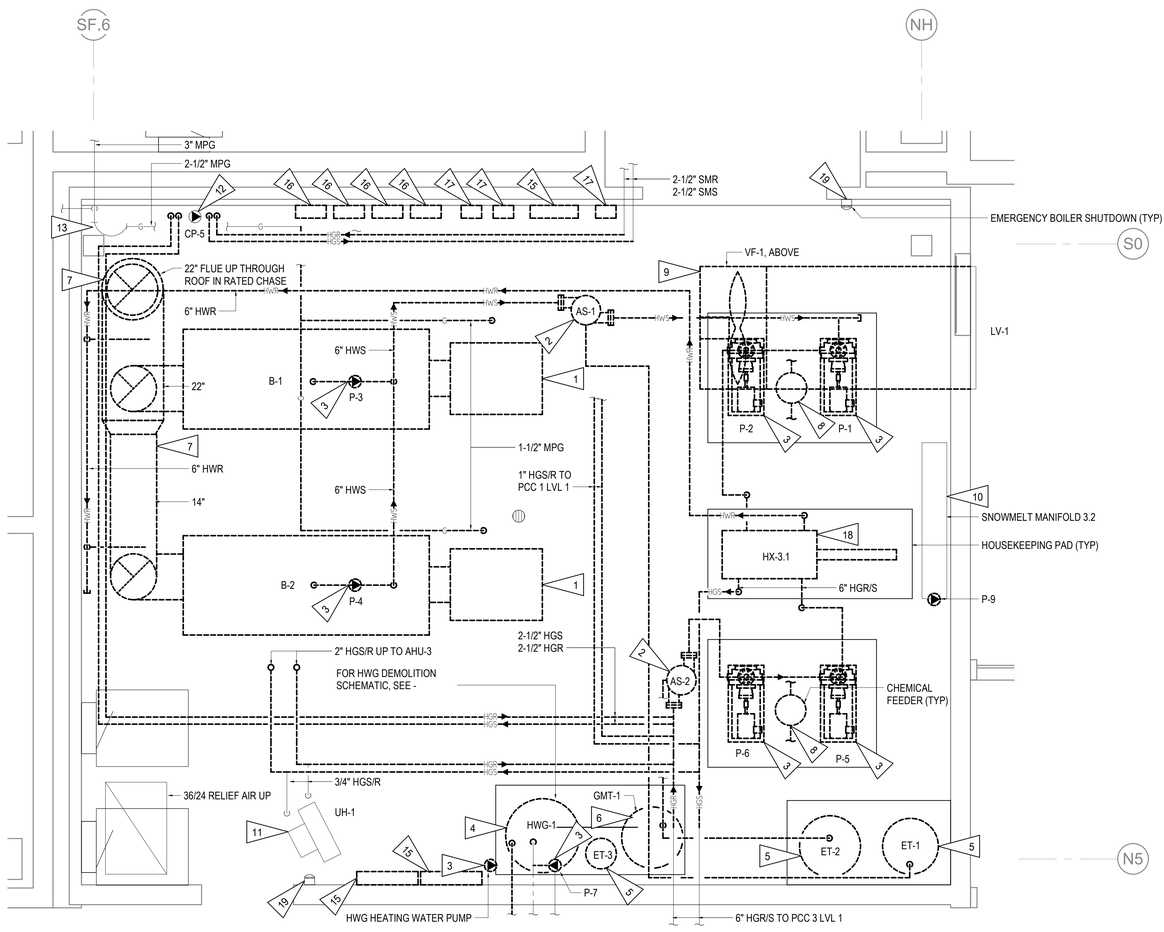


1 PCC3 BOILER ROOM ENLARGED DEMOLITION PLAN

1/2" = 1'-0"

GENERAL NOTES:

A. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.

B. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

C. DEMOLISH ALL MECHANICAL EQUIPMENT AND PIPING WITHIN BOILER ROOM AS SHOWN.

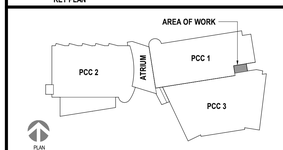
D. FOR HWG DEMOLITION SCHEMATIC, SEE - 1/M301

E. FOR GAS PIPING DEMOLITION SCHEMATIC, SEE - 4/M301

SHEET NOTES:

1. DEMOLISH BOILER, BURNER, ALL CONTROLS AND ALL ASSOCIATED APPURTENANCES.
2. DEMOLISH AIR SEPARATOR AND ALL ASSOCIATED APPURTENANCES.
3. DEMOLISH PUMP, CONTROLS AND ALL ASSOCIATED APPURTENANCES.
4. DEMOLISH HOT WATER GENERATOR, CONTROLS AND ALL ASSOCIATED APPURTENANCES.
5. DEMOLISH EXPANSION TANK AND ALL ASSOCIATED APPURTENANCES.
6. DEMOLISH GLYCOL MAKEUP TANK AND ALL ASSOCIATED APPURTENANCES.
7. DEMOLISH BOILER FLUES AND ALL ASSOCIATED APPURTENANCES IN THEIR ENTIRETY UP THROUGH ROOF.
8. DEMOLISH CHEMICAL FEEDER AND ALL ASSOCIATED APPURTENANCES.
9. DEMOLISH VF-1 CONTROLS, DUCTWORK AND ASSOCIATED APPURTENANCES BACK TO LV-1. LV-1 TO REMAIN FOR RE-USE.
10. SNOW MELT MANIFOLD TO REMAIN.
11. UNIT HEATER TO REMAIN.
12. SALVAGE SNOW MELT PUMP AND TURN OVER TO OWNER'S REP.
13. DEMOLISH LOW PRESSURE GAS REGULATOR PRESSURE SERVING BOILERS. REDUCING VALVE VENT LINES TO REMAIN FOR RE-USE.
14. **BASE BID SCOPE:** DEMOLISH HEAT EXHCANGER. **DEDUCTIVE ALTERNATE M3-2:** SALVAGE HEAT EXCHANGER FOR RE-USE. REMOVE PLATES AS NECESSARY FOR REMODEL.
15. DEMOLISH DDC PANEL AND UPS.
16. DEMOLISH ELECTRICAL DISCONNECTS.
17. DEMOLISH VFD'S.
18. SALVAGE HX-3.1 FOR RE-USE IF DEDUCTIVE ALTERNATE IS AWARDED.
19. BOILER SHUTDOWN TO REMAIN FOR REUSE.

KEY PLAN



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SOUTHCENTRAL FOUNDATION

YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES

65% DESIGN DEVELOPMENT

4320 Diplomacy Dr, Anchorage, AK 99508

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME

PCC3 - ENLARGED PLANS - DEMO

SHEET NO.

M231

FULL-SCALE AT 30X42"

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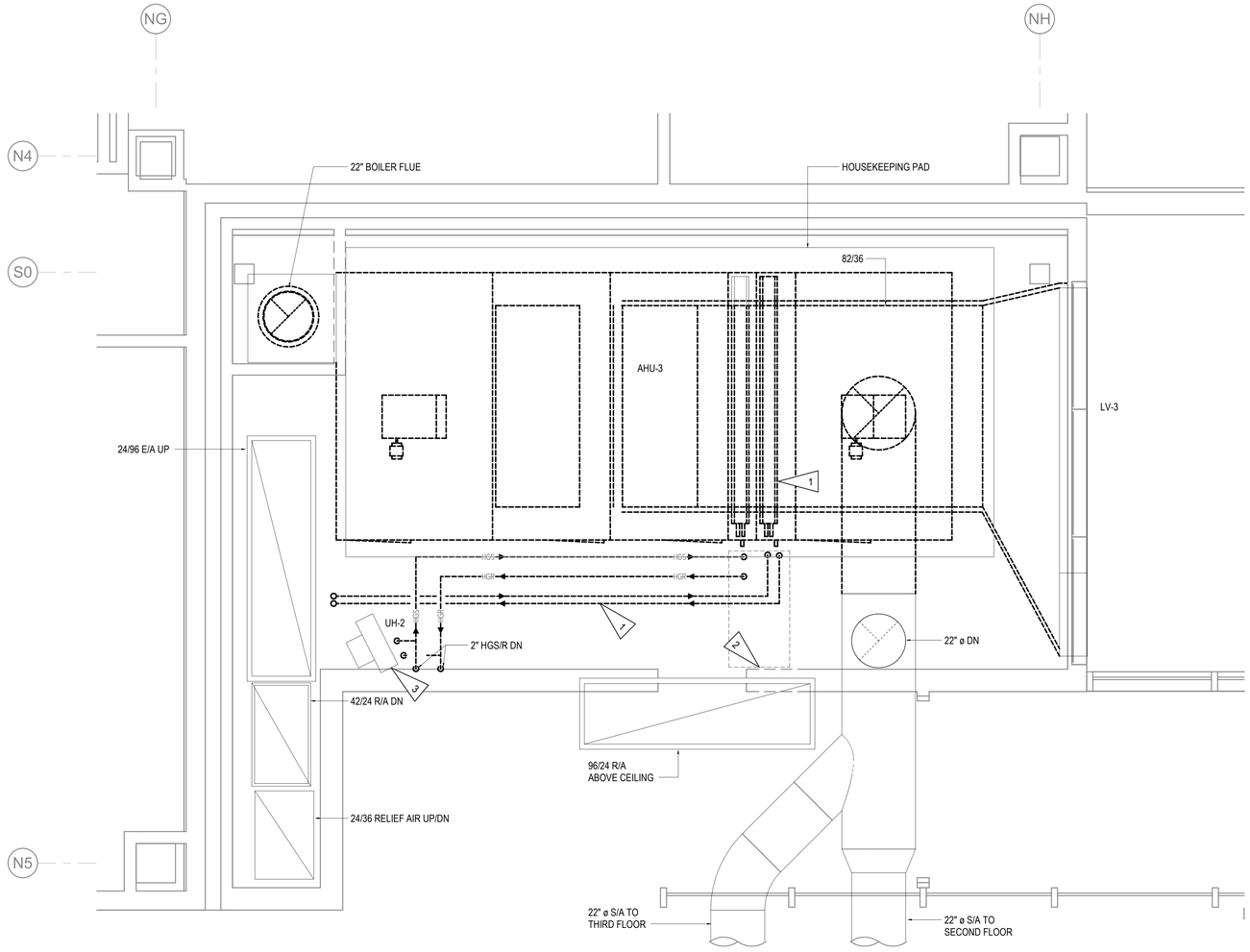


1 PCC3 FAN ROOM ENLARGED DEMOLITION PLAN

1/2" = 1'-0"

GENERAL NOTES:

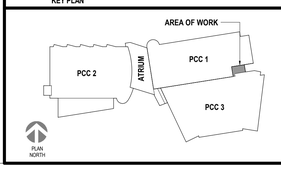
A. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM A NON-DESTRUCTIVE WALK-THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HEREIN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS NOTED FOR DEMOLITION PRIOR TO START OF WORK.

B. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

SHEET NOTES: X

1. DEMOLISH DX COIL AND ASSOCIATED REFRIGERANT PIPING UP TO ROOFTOP CONDENSING UNIT.
2. DEMOLISH DOORFRAME AND WALL AS REQUIRED FOR INSTALLATION OF AHU-3.3. RELOCATE 1/2" CW and TRAP PRIMER. COORDINATE WITH ARCHITECTURAL FOR DOOR AND WALL DEMOLITION.
3. REMOVE AND SALVAGE UH-2 FOR RE-USE.

KEY PLAN



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Corporate No: AECO542

NESSER CONSTRUCTION, INC.
2550 E. 15TH AVENUE, 99501
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4501 E. TUDOR ROAD
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SOUTHCENTRAL FOUNDATION

YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES

65% DESIGN DEVELOPMENT

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REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME

PCC3 - ENLARGED PLANS - DEMO

SHEET NO.

M232

FULL-SCALE AT 30X42"

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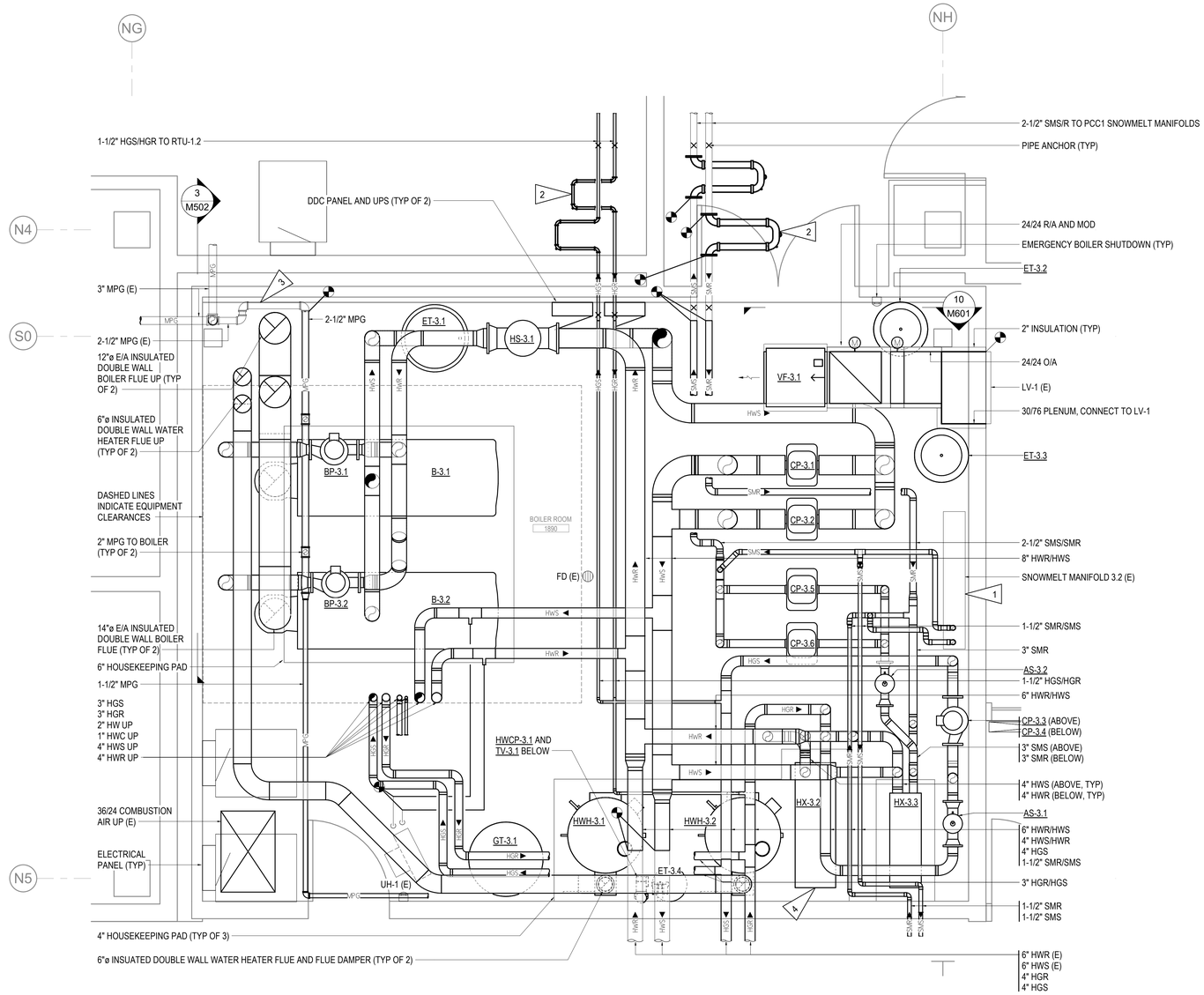


1 PCC3 BOILER ROOM ENLARGED REMODEL PLAN

1/2" = 1'-0"

GENERAL NOTES:

A. FOR HEAT EXCHANGER SCHEMATICS, SEE - 2 M401 1 M402

B. FOR WATER HEATER PIPING SCHEMATIC, SEE - 3 M401

C. FOR PH NEUTRALIZER DETAIL, SEE - 3 M601

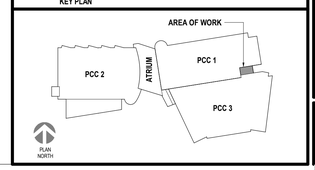
D. FOR GAS PIPING SCHEMATIC, SEE - 1 M401

E. FOR BOILER PIPING SCHEMATIC, SEE - 4 M401

SHEET NOTES: X

1. FOR SNOWMELT MANIFOLD PIPING SCHEMATIC, SEE - 1 M808
2. METRAFLEX METRALOOPS WITH ±6" MOVEMENT, NESTED OR OFFSET AS REQ. FOR DETAIL SEE - 1 M601
3. EXTEND AND RECONNECT GAS PIPING AT EXISTING REGULATOR DEMOLITION.
4. **BASE BID SCOPE:** INSTALL HX-3.2. **DEDUCTIVE ALTERNATE M3-2:** RE-PURPOSE EXISTING HX-3.1 FOR USE AS RTU/AHU HEAT EXCHANGER.

KEY PLAN



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SOUTHCENTRAL FOUNDATION

YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES

65% DESIGN DEVELOPMENT

4320 Diplomacy Dr, Anchorage, AK 99508

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME

PCC3 - ENLARGED PLANS - NEW

SHEET NO.

M233

FULL-SCALE AT 30X42

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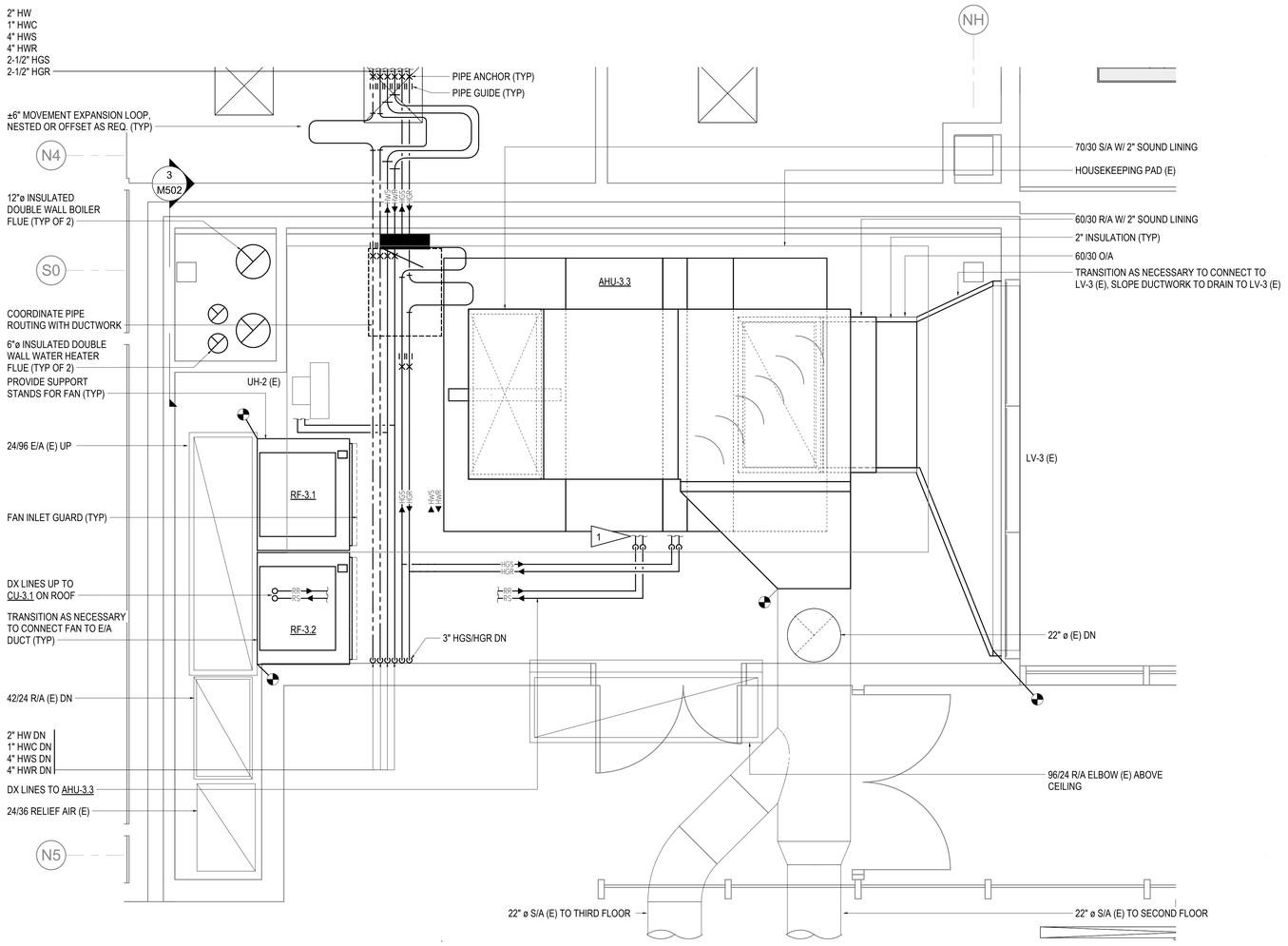

1 PCC3 FAN ROOM ENLARGED REMODEL PLAN
1/2" = 1'-0"

GENERAL NOTES:

A. FOR AHU-3.3 3-WAY HEATING PIPING COIL DETAIL, SEE - 7/M601

B. RE-INSTALL SALVAGED TRAP PRIMER. EXTEND PLUMBING AS REQUIRED FOR RECONNECTION. FOR TRAP PRIMER DETAIL, SEE - 4/M601

C. RE-INSTALL SALVAGED UH-2 AS SHOWN ON PLANS, FOR UNIT HEATER PIPING DETAIL, SEE - -/---

D. FOR BOILER FLUE DETAIL, SEE - 3/M502

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SOUTHCENTRAL FOUNDATION
YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES
65% DESIGN DEVELOPMENT
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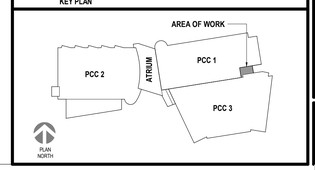
REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME
PCC3 - ENLARGED PLANS - NEW

KEY PLAN



SHEET NO.
M234

FULL-SCALE AT 30X42

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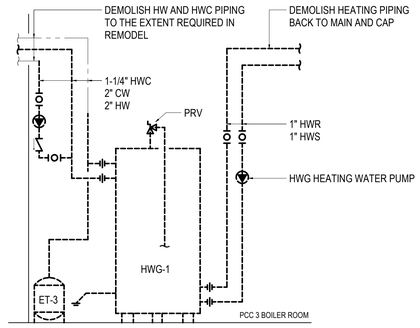
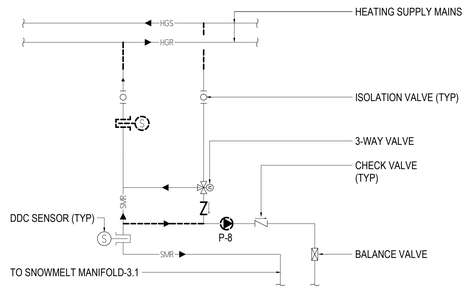
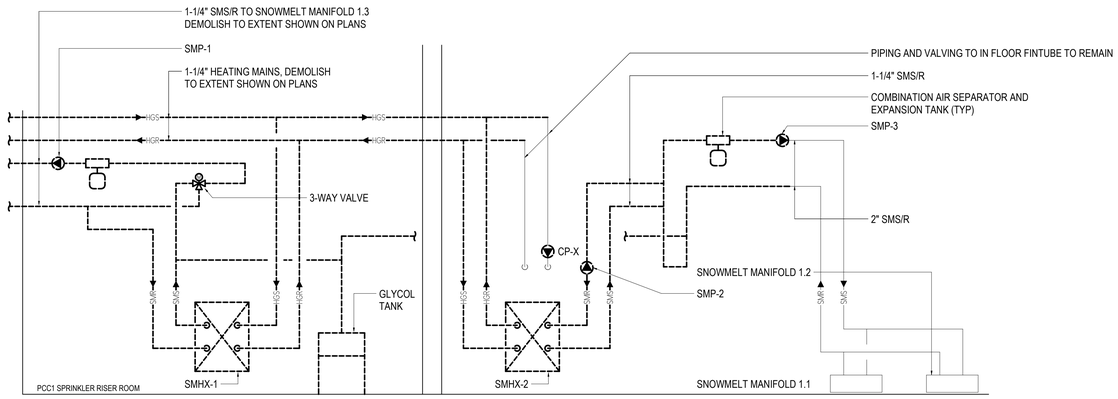


1 PCC 3 DOMESTIC HOT WATER PIPING DEMOLITION SCHEMATIC
NOT TO SCALE

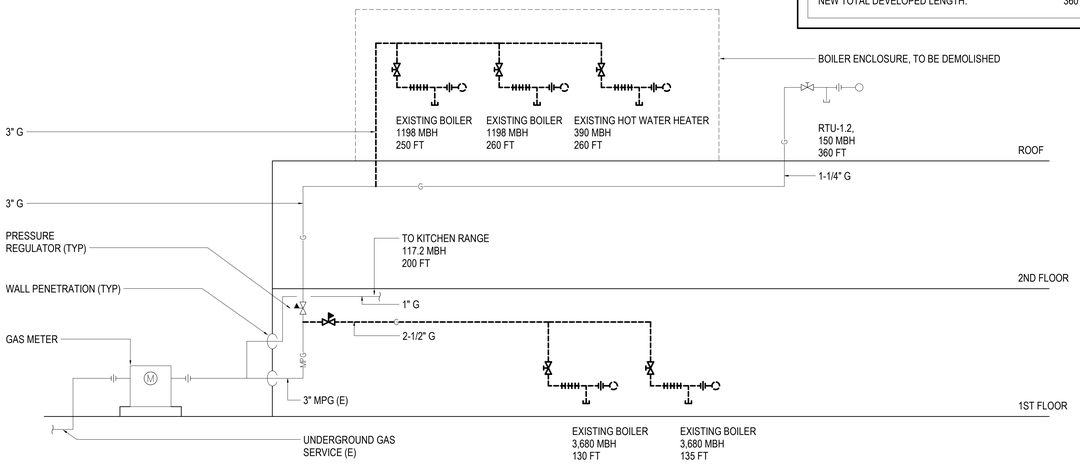


2 PCC 3 SNOWMELT MANIFOLD-3.1 PIPING DEMOLITION SCHEMATIC
NOT TO SCALE



3 PCC 1 SNOWMELT MANIFOLD-1.1,2,3 PIPING DEMOLITION SCHEMATIC
NOT TO SCALE

GAS PIPING SIZED IN ACCORDANCE WITH 2018 IFGC TABLE 402.4(3) AND 402.4(5)	
DEMOLISHED LOAD:	10,146 MBH
NEW LOAD:	12,800 MBH
TOTAL LOAD:	13,067.2 MBH
EXISTING DEVELOPED LENGTH:	360 FT
NEW TOTAL DEVELOPED LENGTH:	360 FT



4 GAS PIPING DEMOLITION SCHEMATIC
NOT TO SCALE

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SOUTHCENTRAL FOUNDATION
YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES
65% DESIGN DEVELOPMENT
4320 Diplomacy Dr, Anchorage, AK 99508

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME
DEMOLITION SCHEMATICS

SHEET NO.
M301

FULL-SCALE AT 30X42

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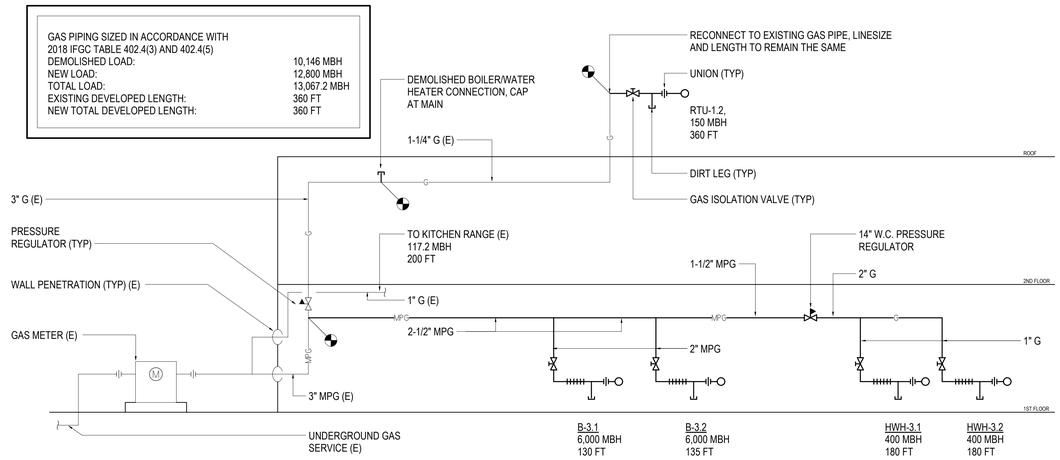
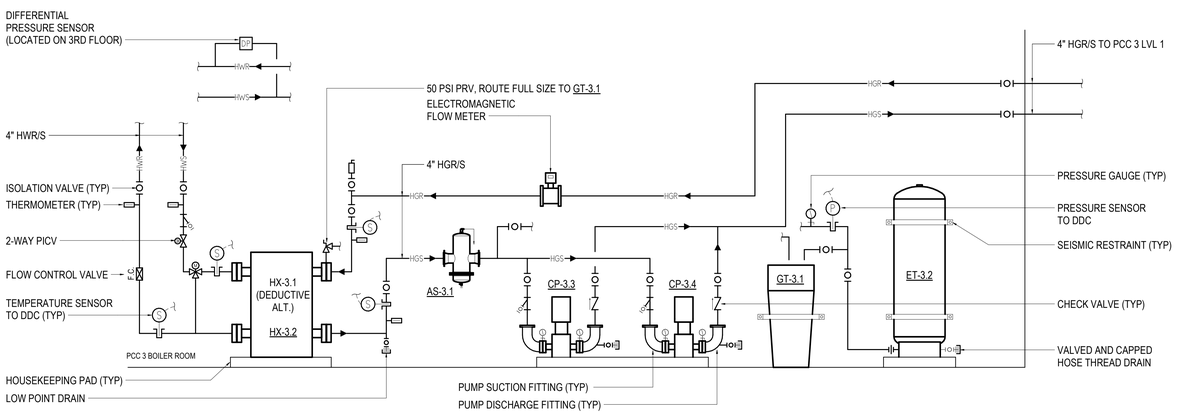
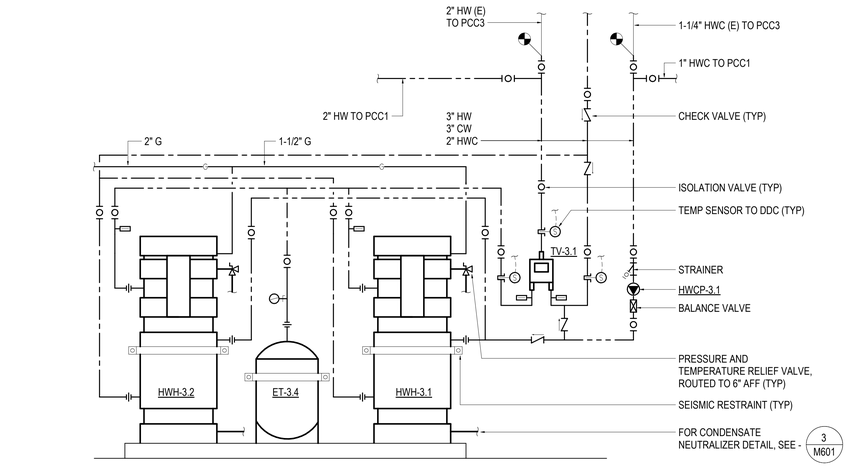


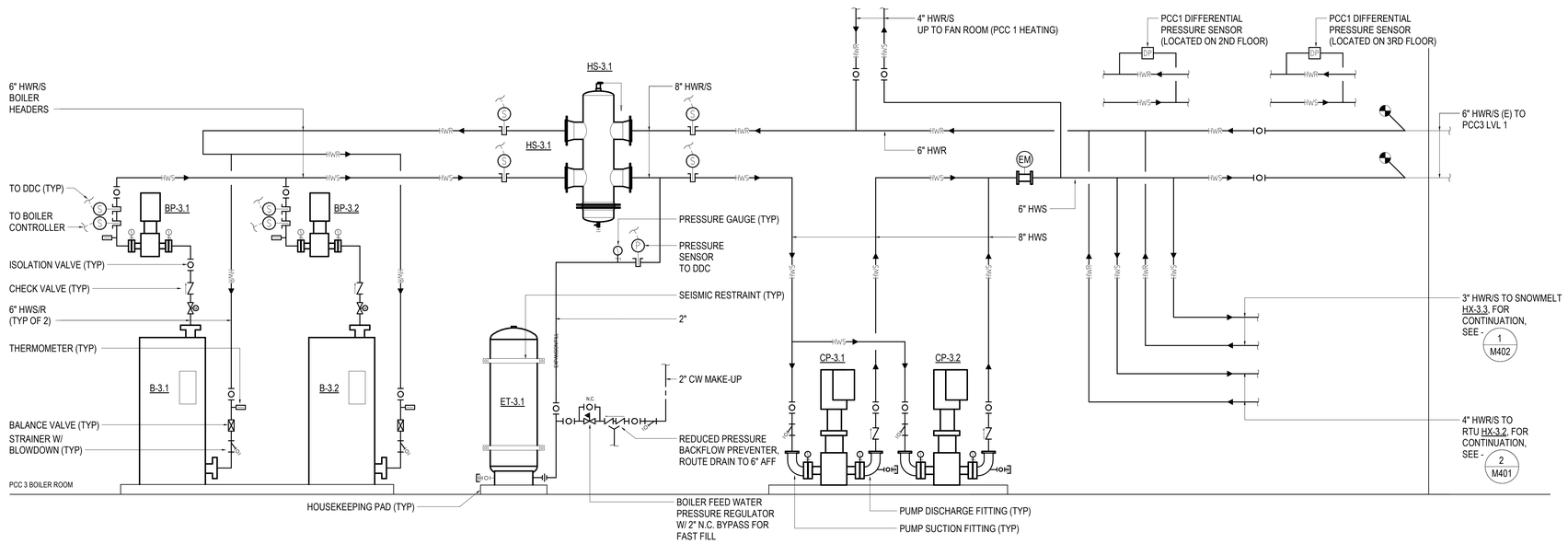
1 GAS PIPING REMODEL SCHEMATIC
NOT TO SCALE



2 RTU / AHU HEATING COIL HEAT EXCHANGER SCHEMATIC
NOT TO SCALE



3 PCC3 WATER HEATER PIPING SCHEMATIC
NOT TO SCALE



4 PCC3 BOILER SCHEMATIC
NOT TO SCALE

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(907)276-0521
Corporate No: AECC942

NEESER CONSTRUCTION, INC.
2000 E. 88TH AVENUE
ANCHORAGE, ALASKA 99503
907.276.1058

Southcentral Foundation
SFC CONTRACTS DEPARTMENT
2500 E. TUDOR ROAD
ANCHORAGE, ALASKA 99507

SOUTHCENTRAL FOUNDATION

YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES

65% DESIGN DEVELOPMENT

4320 Diplomacy Dr, Anchorage, AK 99508

REVISION SCHEDULE

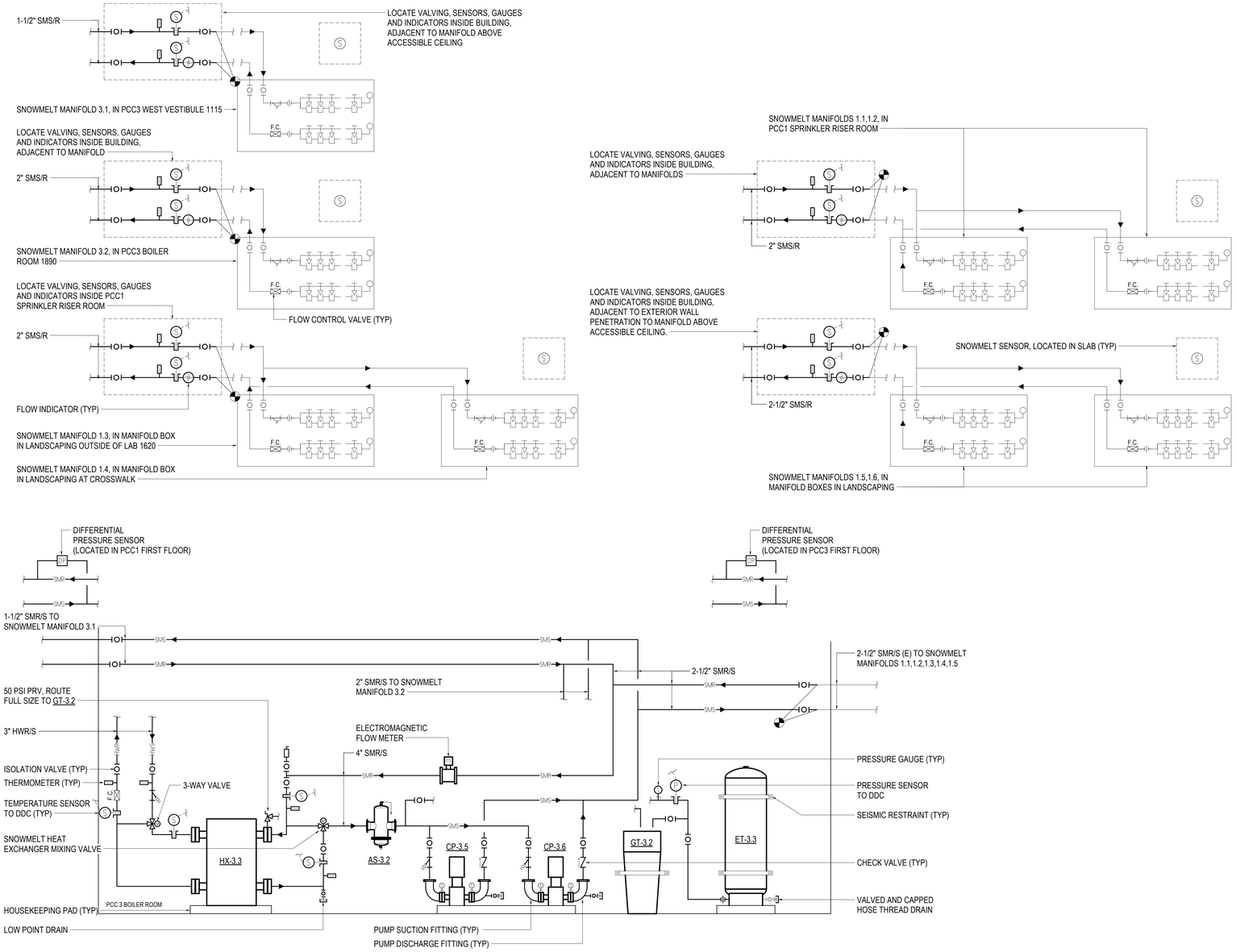
#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME
REMODEL SCHEMATICS

SHEET NO.
M401

FULL-SCALE AT 30X42



1 SNOWMELT PIPING SCHEMATIC
NOT TO SCALE

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Anchorage, AK 99503
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Corporate No.: AECC542

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2501 BLUEBERRY STREET
ANCHORAGE, ALASKA 99503
907.276.1038

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7033 EAST TUDOR ROAD
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YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES
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REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME
REMODEL SCHEMATICS

SHEET NO.
M402

FULL-SCALE AT 30X42

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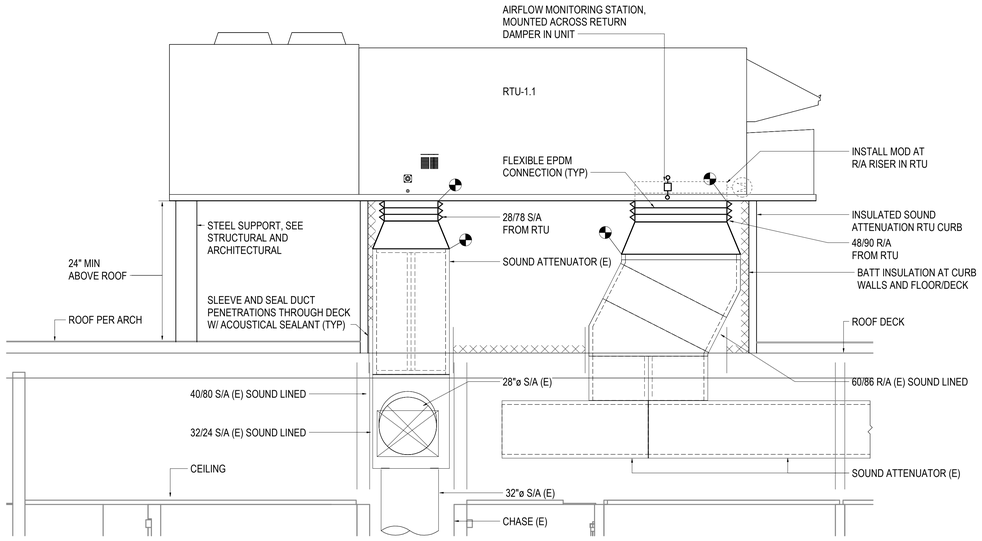
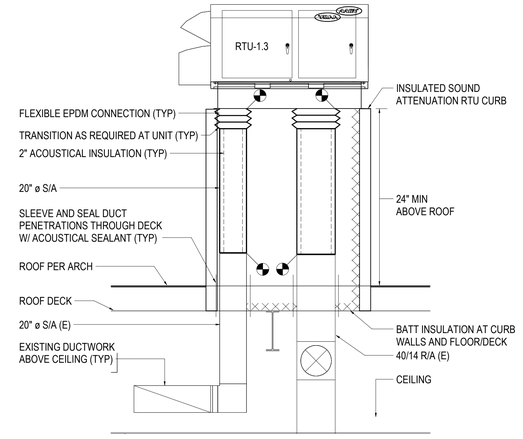


1 RTU-1.1 SECTION
3/8" = 1'-0"



2 RTU-1.3
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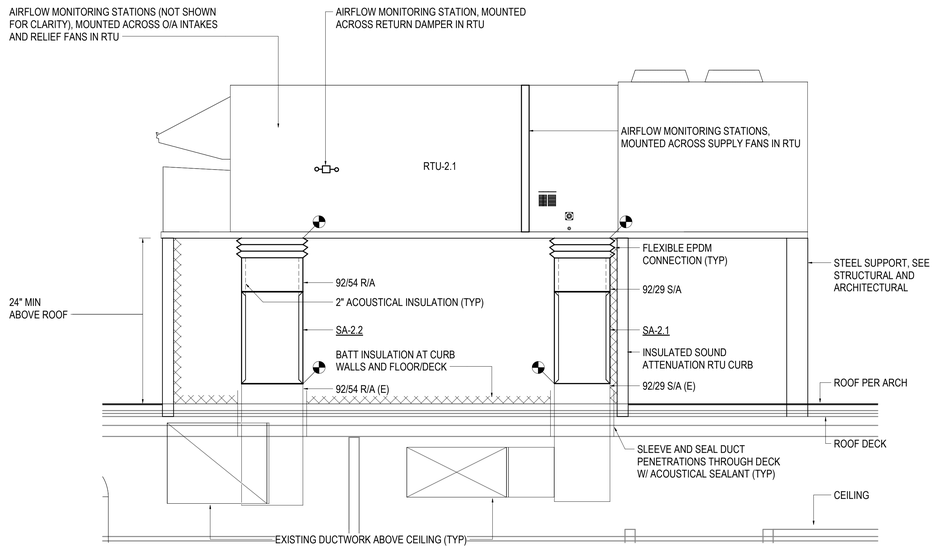

3 RTU-2.1 SECTION
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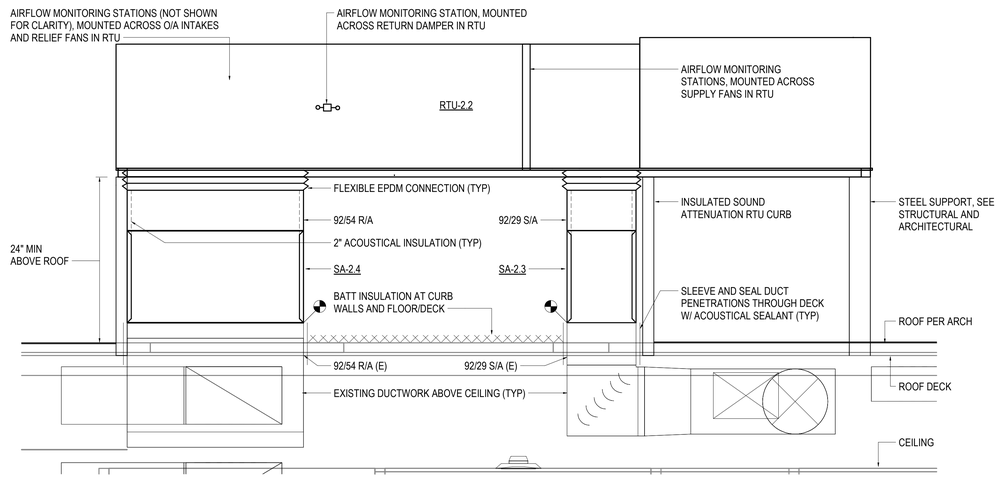

4 RTU-2.2 SECTION
3/8" = 1'-0"

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65% DESIGN DEVELOPMENT
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REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME
SECTIONS

SHEET NO.
M501

FULL-SCALE AT 30X42

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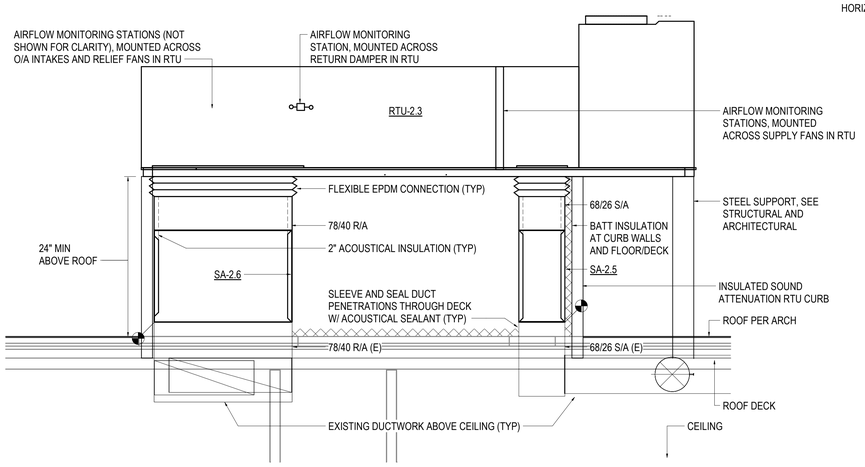
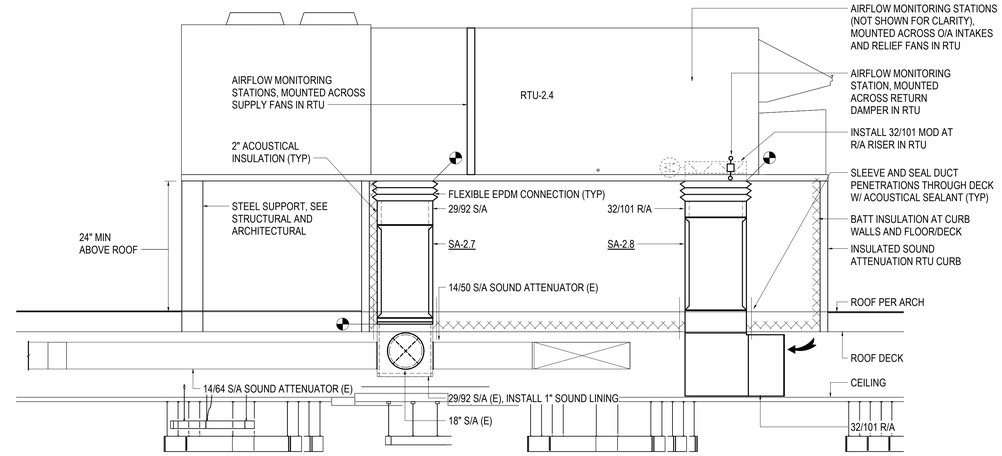


1 RTU-2.3 SECTION
3/8" = 1'-0"



2 RTU-2.4 SECTION
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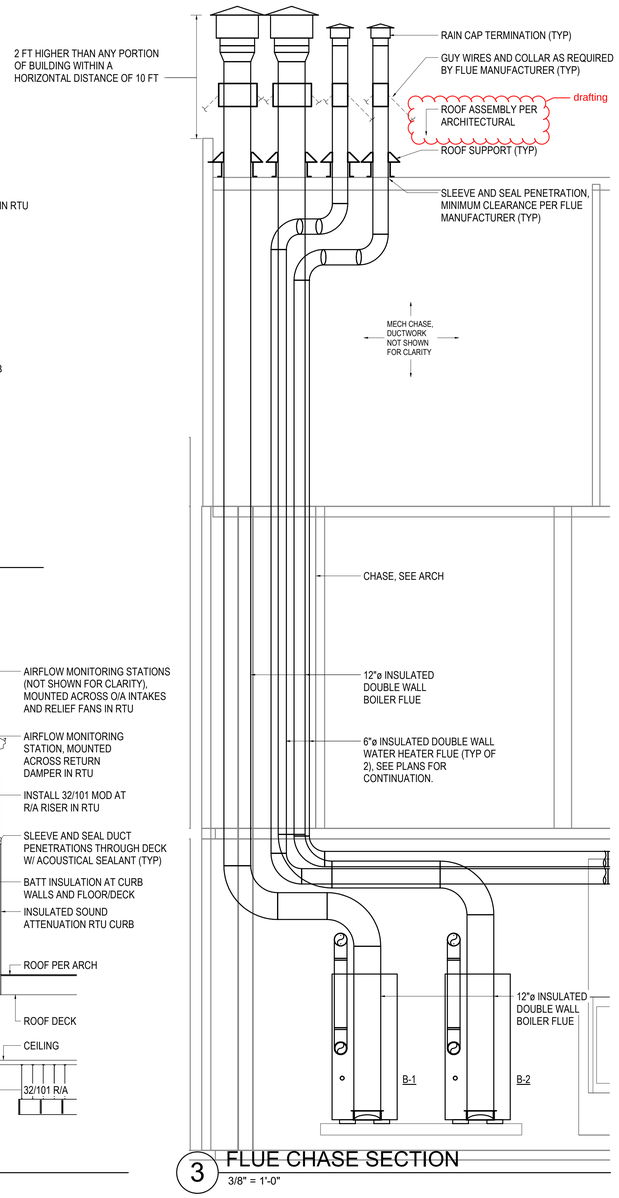

3 FLUE CHASE SECTION
3/8" = 1'-0"

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REVISION SCHEDULE

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SHEET NAME
SECTIONS

SHEET NO.
M502

FULL-SCALE AT 30X42

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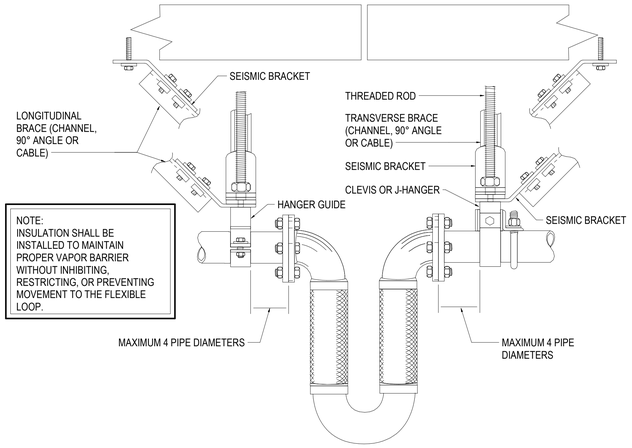
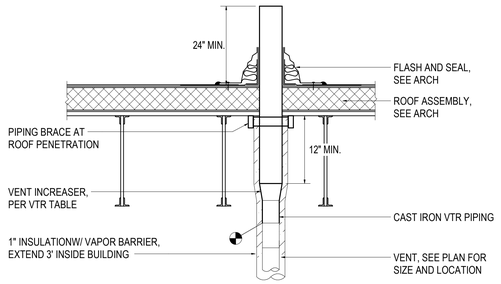


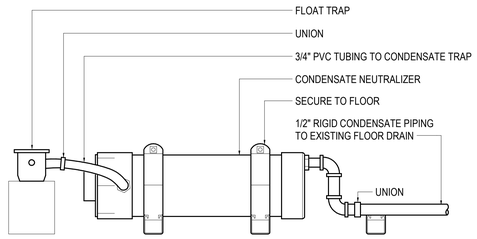
1 SEISMIC/EXPANSION JOINT DETAIL
NOT TO SCALE

VTR TABLE	
VENT	VTR
1 1/2"	3" MIN.
2"	3"
2 1/2"	4"
3"	4"
4" & UP	SAME AS VENT

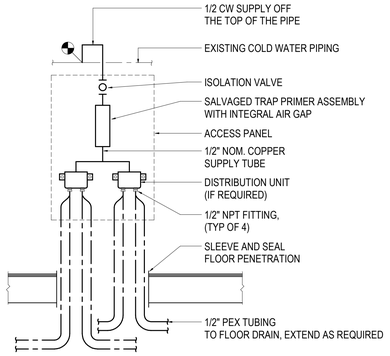
NOTE: VTR TO BE CAST IRON PIPING



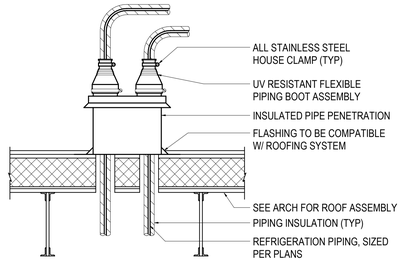
2 VENT THROUGH ROOF DETAIL
NOT TO SCALE



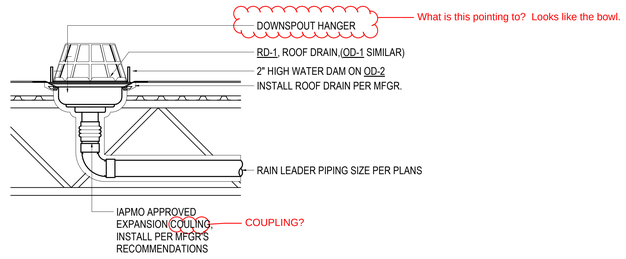
3 PH NEUTRALIZER AT BOILER/WATER HEATER DETAIL
NOT TO SCALE



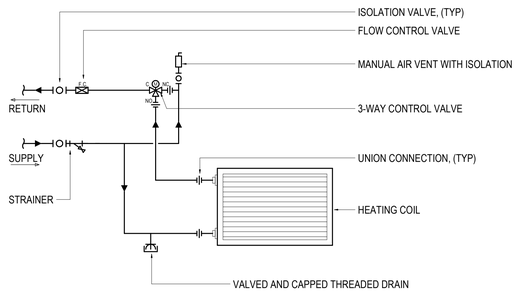
4 TRAP PRIMER DETAIL
NOT TO SCALE



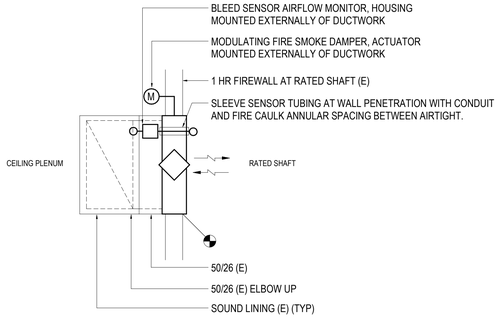
5 PIPING ROOF PENETRATION DETAIL
NOT TO SCALE



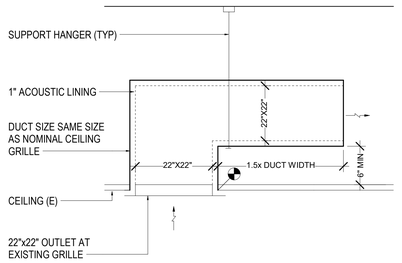
6 ROOF/OVERFLOW DRAIN DETAIL
NOT TO SCALE



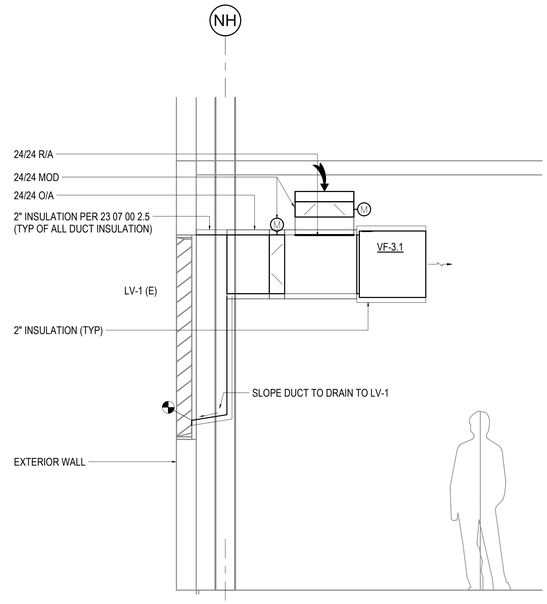
7 THREE WAY HEATING COIL PIPING DETAIL
NOT TO SCALE



8 PCC 3 RETURN AIR BOOT RETROFIT DETAIL
NOT TO SCALE



9 PCC2 RETURN BOOT DETAIL
NOT TO SCALE



10 BOILER VENTILATION FAN
NOT TO SCALE

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Southcentral Foundation
SFC CONTRACTS DEPARTMENT
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ANCHORAGE, ALASKA 99507

SOUTHCENTRAL FOUNDATION

YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES

65% DESIGN DEVELOPMENT

4320 Diplomacy Dr, Anchorage, AK 99508

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME
DETAILS

SHEET NO.
M601

FULL-SCALE AT 30X42

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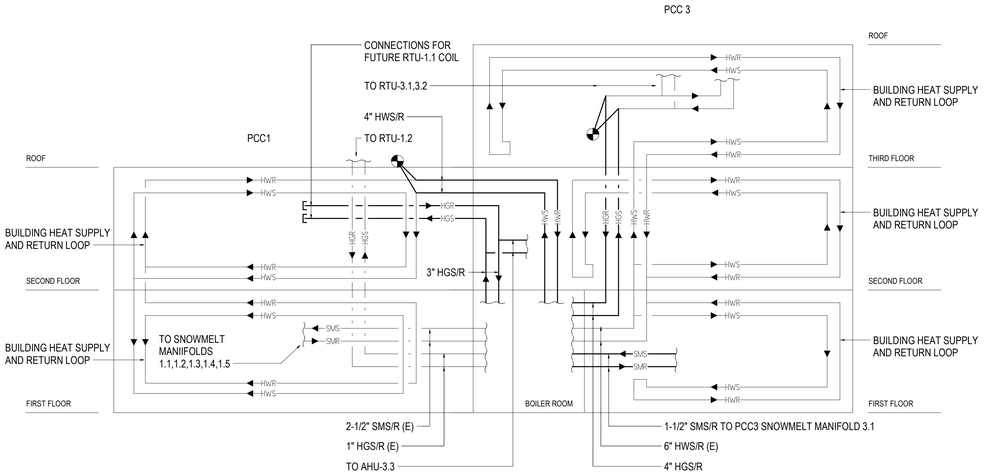
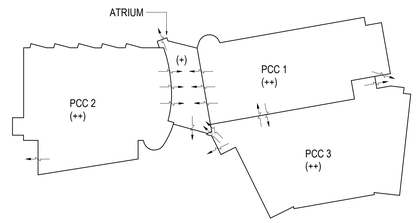


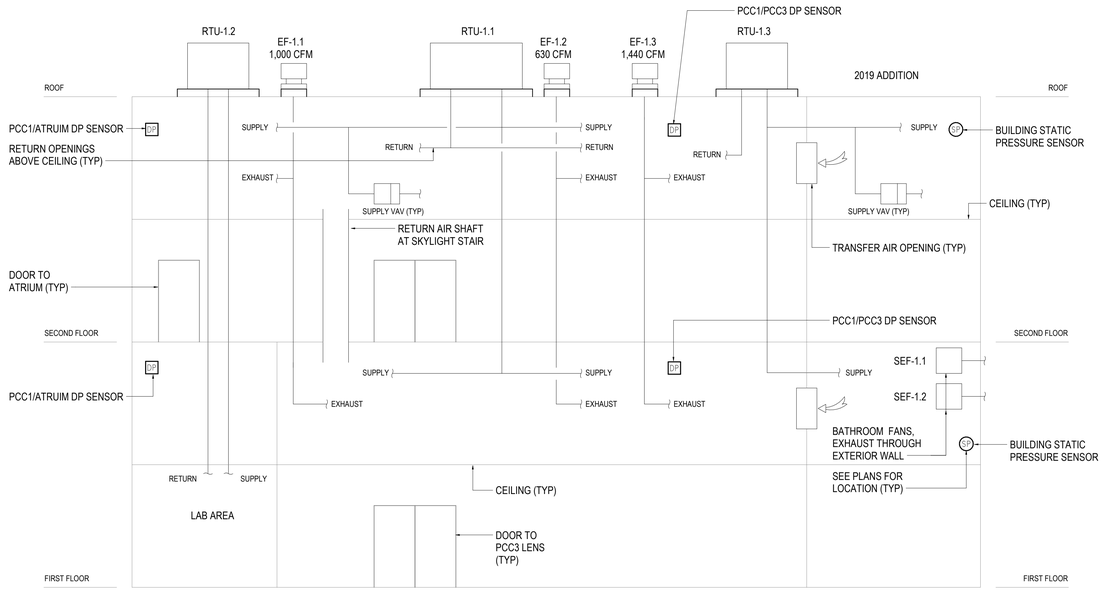
1 PCC1 AND PCC 3 HEATING RISER DIAGRAM
NOT TO SCALE

BUILDING AIRFLOW SUMMARY:

PCC 1:	OCCUPIED MODE	ECONOMIZER MODE
SUPPLY AIR CFM :	41,720	41,720
OUTSIDE AIR CFM:	9,925	41,720
RETURN AIR CFM:	22,585	0
RELIEF AIR CFM:	1,970	34,480
DEDICATED EXHAUST AIR CFM:	3,310	3,310
EXFILTRATION CFM (APPROX 10%):	3,930	3,930
PCC 2:		
SUPPLY AIR CFM :	67,370	67,370
OUTSIDE AIR CFM:	15,545	67,370
RETURN AIR CFM:	36,280	0
RELIEF AIR CFM:	4,060	55,885
DEDICATED EXHAUST AIR CFM:	4,745	4,745
EXFILTRATION CFM (APPROX 10%):	6,740	6,740
ATRIUM:		
SUPPLY AIR CFM :	11,000	11,000
OUTSIDE AIR CFM:	1,750	11,000
RETURN AIR CFM:	7,490	0
RELIEF AIR CFM:	0	9,250
DEDICATED EXHAUST AIR CFM:	1,200	1,200
EXFILTRATION CFM (APPROX 5%):	550	1,100
PCC 3:		
SUPPLY AIR CFM :	80,000	80,000
OUTSIDE AIR CFM:	13,230	80,000
RETURN AIR CFM:	53,540	0
RELIEF AIR CFM:	1,070	67,840
DEDICATED EXHAUST AIR CFM:	4,160	4,160
EXFILTRATION CFM (APPROX 10%):	8,000	8,000



2 OVERALL AIRFLOW SUMMARY
NOT TO SCALE



3 PCC1 AIRFLOW RISER DIAGRAM
NOT TO SCALE

EQUIPMENT AIRFLOW SUMMARY:

RTU-1.1:	OCCUPIED MODE	ECONOMIZER MODE
SUPPLY AIR CFM :	36,000	36,000
OUTSIDE AIR CFM:	8,640	36,000
OUTSIDE AIR %:	24	100%
RETURN AIR CFM:	18,720	0
RELIEF AIR CFM:	1,970	29,330
DEDICATED EXHAUST AIR CFM (EF-1.1,1.2,1.3):	3,070	3,070
EXFILTRATION CFM (10%):	3,600	3,600
RTU-1.2:		
SUPPLY AIR CFM :	2,400	2,400
OUTSIDE AIR CFM:	720	100%
OUTSIDE AIR %:	30	2,400
RETURN AIR CFM:	1,680	0
RELIEF AIR CFM:	720	2,400
DEDICATED EXHAUST AIR CFM:	0	0
EXFILTRATION CFM (0%)	0	0
RTU-1.3:		
SUPPLY AIR CFM :	3,320	3,320
OUTSIDE AIR CFM:	565	3,320
OUTSIDE AIR %:	17%	100%
RETURN AIR CFM:	2,185	0
RELIEF AIR CFM:	0	2,750
DEDICATED EXHAUST AIR CFM (SEF-1.1,1.2):	240	240
EXFILTRATION CFM (10%):	330	330

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NEESER CONSTRUCTION, INC.
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SFC CONTRACTS DEPARTMENT
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ANCHORAGE, ALASKA 99507

SOUTHCENTRAL FOUNDATION
YAGHELI SHESH QEN'A ROOF REPLACEMENT & MECHANICAL UPGRADES
65% DESIGN DEVELOPMENT
4320 Diplomacy Dr, Anchorage, AK 99508

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME
MECHANICAL DIAGRAMS

SHEET NO.
M701

FULL-SCALE AT 30X42

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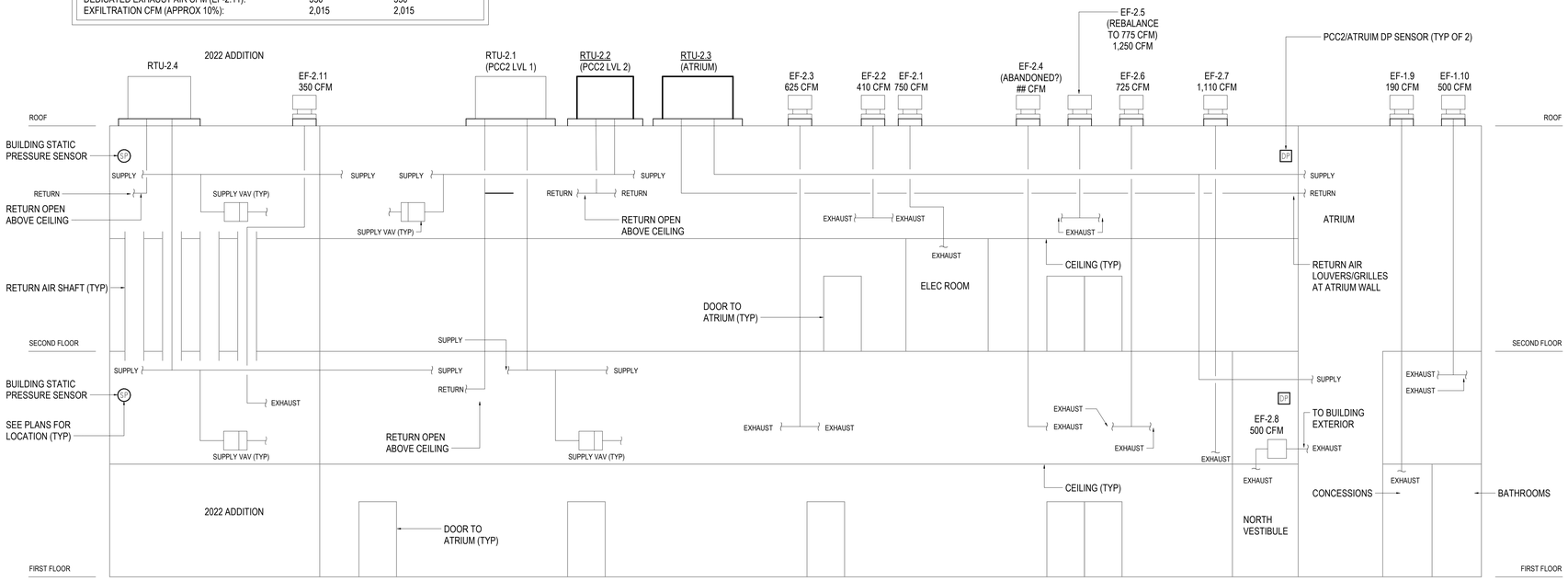
EQUIPMENT AIRFLOW SUMMARY:

RTU-2.1:	OCCUPIED MODE	ECONOMIZER MODE
SUPPLY AIR CFM :	21,745	21,745
OUTSIDE AIR CFM:	4,635	21,745
OUTSIDE AIR %:	21.3	100
RETURN AIR CFM:	12,475	0
RELIEF AIR CFM:	0	17,110
DEDICATED EXHAUST AIR CFM (EF-2.3,2.4,2.6,2.7):	2,460	2,460
EXFILTRATION CFM (APPROX 10%):	2,175	2,175
RTU-2.2:		
SUPPLY AIR CFM :	25,500	25,500
OUTSIDE AIR CFM:	6,885	25,500
OUTSIDE AIR %:	27	100
RETURN AIR CFM:	11,730	0
RELIEF AIR CFM:	2,400	21,015
DEDICATED EXHAUST AIR CFM (EF-2.1,2.2,2.5):	1,935	1,935
EXFILTRATION CFM (APPROX 10%):	2,550	2,550
RTU-2.3		
SUPPLY AIR CFM :	11,000	11,000
OUTSIDE AIR CFM:	1,750	11,000
OUTSIDE AIR %:	15.9	100%
RETURN AIR CFM:	7,490	0
RELIEF AIR CFM:	0	9,250
DEDICATED EXHAUST AIR CFM (EF-2.8,1.9,1.10):	1,200	1,200
EXFILTRATION CFM (APPROX 5%):	550	550
RTU-2.4:		
SUPPLY AIR CFM :	20,125	20,125
OUTSIDE AIR CFM:	4,025	20,125
OUTSIDE AIR %:	20	100
RETURN AIR CFM:	12,075	0
RELIEF AIR CFM:	1,660	17,760
DEDICATED EXHAUST AIR CFM (EF-2.11):	350	350
EXFILTRATION CFM (APPROX 10%):	2,015	2,015



1 PCC2/ATRIUM AIRFLOW RISER DIAGRAM
NOT TO SCALE

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SOUTHCENTRAL FOUNDATION
YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES
65% DESIGN DEVELOPMENT
4320 Diplomacy Dr, Anchorage, AK 99508

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
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DRAWN	SF
REVIEWED	MRB

SHEET NAME
MECHANICAL DIAGRAMS

SHEET NO.
M702

FULL-SCALE AT 30X42

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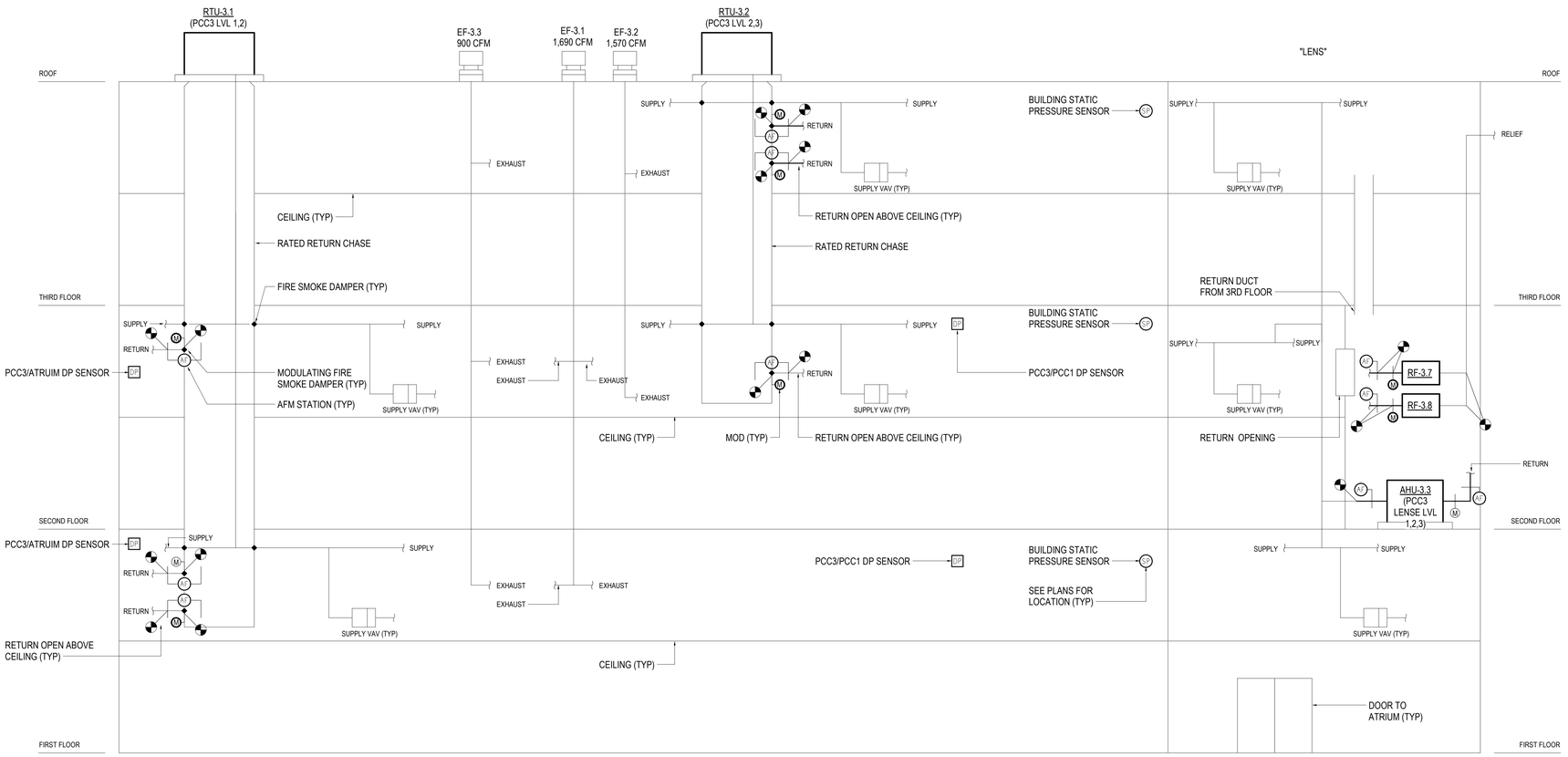
EQUIPMENT AIRFLOW SUMMARY:

RTU-3.1:	OCCUPIED MODE	ECONOMIZER MODE
SUPPLY AIR CFM :	30,000	30,000
OUTSIDE AIR CFM:	5,290	30,000
OUTSIDE AIR %:	17.6	100
RETURN AIR CFM:	19,420	0
RELIEF AIR CFM:	0	24,710
DEDICATED EXHAUST AIR CFM (EF-3.1,3):	2,290	2,290
EXFILTRATION CFM (APPROX 10%):	3,000	3,000
RTU-3.2:		
SUPPLY AIR CFM :	30,000	30,000
OUTSIDE AIR CFM:	5,290	30,000
OUTSIDE AIR %:	17.6	100
RETURN AIR CFM:	19,420	0
RELIEF AIR CFM:	420	25,130
DEDICATED EXHAUST AIR CFM (EF-3.2,3):	1,870	1,870
EXFILTRATION CFM (APPROX 10%):	3,000	3,000
AHU-3.3:	OCCUPIED MODE	ECONOMIZER MODE
SUPPLY AIR CFM :	20,000	20,000
OUTSIDE AIR CFM:	2,650	20,000
OUTSIDE AIR %:	13.3	100
RELIEF AIR CFM:	650	18,000
RETURN AIR CFM:	14,700	0
DEDICATED EXHAUST AIR CFM:	0	0
EXFILTRATION CFM (10%):	2,000	2,000



1 PCC3 AIRFLOW RISER DIAGRAM
NOT TO SCALE

STAMP

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65% DESIGN DEVELOPMENT
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REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME
MECHANICAL DIAGRAMS

SHEET NO.
M703

FULL-SCALE AT 30X42

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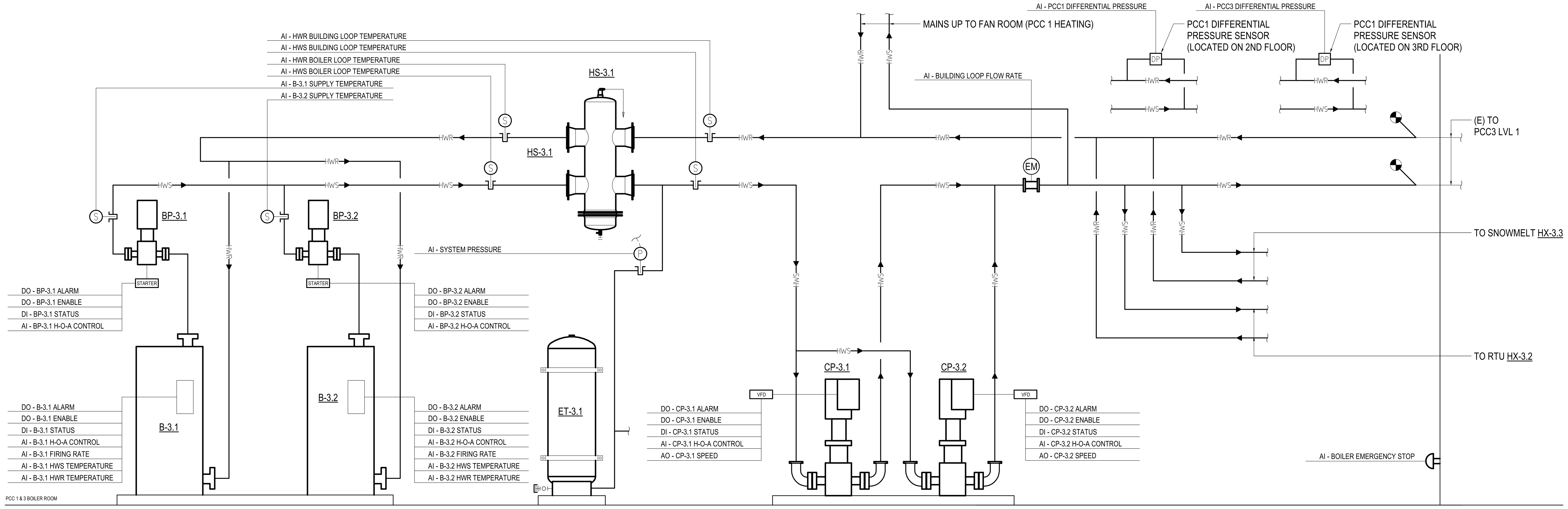


B-3.1,3.2, BP-3.1,3.2, & CP-3.1,3.2 SEQUENCE OF OPERATIONS

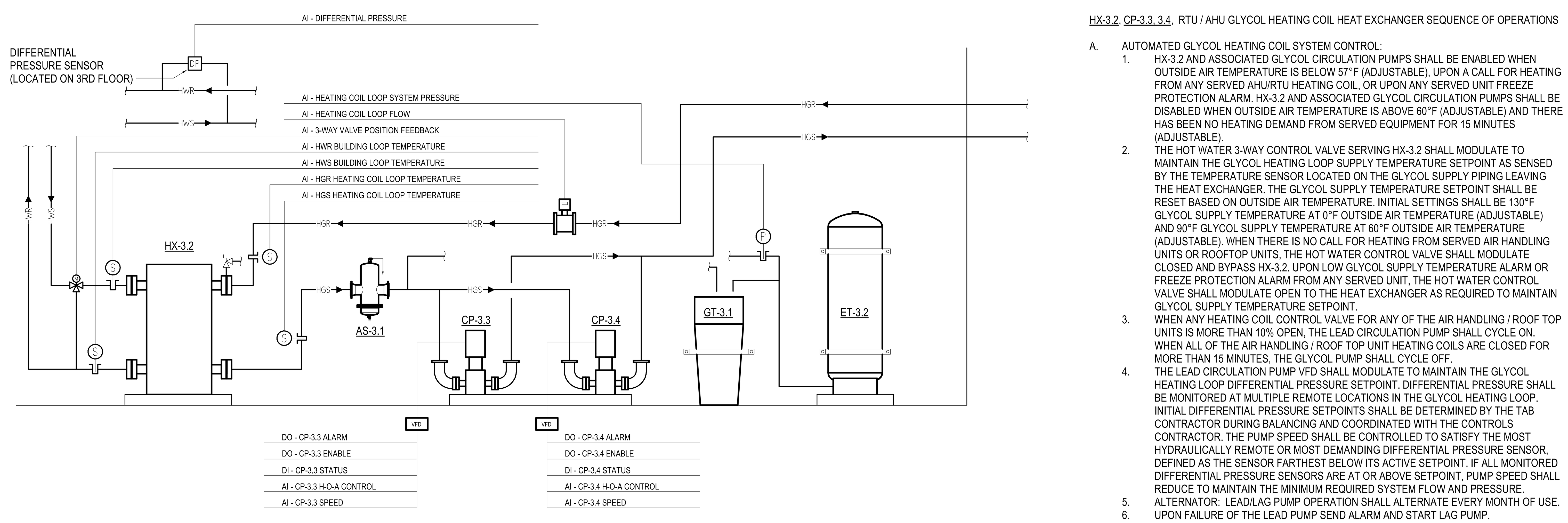
A. AUTOMATED BOILER SYSTEM CONTROL:
1. THE INTENT IS TO OPERATE THE BOILER SYSTEM AT THE LOWEST TEMPERATURE POSSIBLE TO MAXIMIZE BOILER EFFICIENCY. INTEGRAL BOILER CONTROLS SHALL MODULATE BOILERS AT THE LOWEST POSSIBLE INPUT TO MAINTAIN BUILDING LOOP TEMPERATURE. THE BUILDING AUTOMATION SYSTEM WILL INTERFACE WITH THE INTEGRAL BOILER CONTROLLERS VIA BACNET FOR REMOTE MONITORING THROUGH THE BAS SYSTEM. COORDINATE THIS WORK WITH THE BOILER SYSTEM MANUFACTURER.
2. BUILDING LOOP SUPPLY TEMPERATURE SETPOINT: THE BOILERS AND ASSOCIATED CIRCULATION PUMPS SHALL START, STOP, AND THE BURNER FIRING RATE SHALL MODULATE TO MAINTAIN THE MAIN HYDRONIC LOOP TEMPERATURE SETPOINT AS SENSED BY THE SENSOR LOCATED ON THE BUILDING SIDE OF THE HYDRONIC LOOP. THE BUILDING LOOP SUPPLY TEMPERATURE SHALL BE RESET ON AN ADJUSTABLE OUTSIDE TEMPERATURE. INITIAL SETTINGS (ADJUSTABLE) SHALL BE 140 °F HWS TEMPERATURE AT 0 °F O/A TEMPERATURE, 100 °F HWS TEMPERATURE AT 60 °F O/A TEMPERATURE. THE BAS SHALL OPTIMIZE THE ACTIVE SETPOINT TO MAINTAIN THE LOWEST EFFECTIVE SUPPLY WATER TEMPERATURE NECESSARY TO SATISFY BUILDING HEATING DEMAND.
3. BUILDING LOOP SUPPLY TEMPERATURE OPTIMIZATION: THE BAS SHALL MONITOR OCCUPIED ZONE HEATING DEMAND BASED ON ACTIVE ZONE HEATING SETPOINTS. IF MORE THAN 5% OF MONITORED OCCUPIED ZONES (ADJUSTABLE) ARE BELOW THEIR ACTIVE HEATING SETPOINT BY 2°F (ADJUSTABLE) FOR 15 MINUTES (ADJUSTABLE), THE BUILDING LOOP SUPPLY TEMPERATURE SETPOINT SHALL BE INCREASED IN 5°F INCREMENTS (ADJUSTABLE), UP TO A MAXIMUM OF 160°F (ADJUSTABLE), UNTIL HEATING DEMAND IS SATISFIED. WHEN 95% OF MONITORED OCCUPIED ZONES (ADJUSTABLE) ARE AT OR ABOVE HEATING SETPOINT FOR 30 MINUTES (ADJUSTABLE), THE BUILDING LOOP SUPPLY TEMPERATURE SHALL BE REDUCED IN 2°F INCREMENTS, DOWN TO THE MINIMUM TEMPERATURE REQUIRED TO SATISFY HEATING DEMAND, WHICH SHALL NOT BE BELOW 100°F (ADJUSTABLE). THE OUTDOOR AIR RESET SCHEDULE ESTABLISHES THE INITIAL/DEFAULT BUILDING LOOP SUPPLY WATER TEMPERATURE SETPOINT. THE BAS SHALL BE PERMITTED TO TRIM THE SETPOINT BELOW THE RESET VALUE WHEN BUILDING HEATING DEMAND IS SATISFIED, AND SHALL INCREASE THE SETPOINT ABOVE THE TRIMMED VALUE AS REQUIRED TO SATISFY HEATING DEMAND, UP TO THE MAXIMUM SCHEDULED TEMPERATURE.
4. LOW BUILDING LOOP SUPPLY TEMPERATURE ALARM: IF BUILDING LOOP SUPPLY TEMPERATURE IS MORE THAN 20 °F BELOW SETPOINT A CRITICAL SYSTEM ALARM SHALL BE GENERATED.
5. PROVIDE CRITICAL ALARM IF BOTH BOILERS OR PUMPS FAIL TO OPERATE.
6. BOILER RUN TIME EQUALIZATION AND ALTERNATION: BOILERS SHALL STAGE THEMSELVES LEAD/STANDBY VIA THE INTEGRAL BOILER CONTROLS. LEAD BOILER SHALL SWITCH MONTHLY (INITIAL SETTING, ADJUSTABLE).
7. EMERGENCY BOILER SHUT-OFF: WIRE EMERGENCY BOILER SHUT-OFF SWITCH TO BOILER SYSTEM SAFETY CIRCUITS TO DISABLE BOILER OPERATION WHEN SWITCH IS ON. PROVIDE ALARM AND GRAPHIC INDICATION FOR SWITCH AND ITS STATUS ON/OFF.

B. AUTOMATED BUILDING PUMPS CONTROL:
1. THE LEAD BUILDING CIRCULATION PUMP SHALL OPERATE WHEN THE OUTSIDE AIR TEMPERATURE IS BELOW 60 °F (INITIAL SETTING, ADJUSTABLE), UPON A CALL FOR HEATING FROM ANY SERVED AIR HANDLING UNIT OR TERMINAL UNIT, DURING OCCUPIED WARM-UP, OR WHENEVER REQUIRED TO MAINTAIN BUILDING HEATING LOOP SUPPLY TEMPERATURE AS SENSED BY THE AUTOMATED BOILER SYSTEM CONTROL SEQUENCE. THE PUMPS SHALL BE DISABLED WHEN OUTSIDE AIR TEMPERATURE IS ABOVE 60°F AND THERE HAS BEEN NO HEATING DEMAND FROM SERVED EQUIPMENT FOR 30 MINUTES (ADJUSTABLE).
2. THE LEAD BUILDING CIRCULATION PUMP VFD SHALL MODULATE TO MAINTAIN THE BUILDING HEATING LOOP DIFFERENTIAL PRESSURE SETPOINT. DIFFERENTIAL PRESSURE SHALL BE MONITORED AT MULTIPLE REMOTE LOCATIONS IN THE BUILDING HEATING LOOP. INITIAL DIFFERENTIAL PRESSURE SETPOINTS SHALL BE DETERMINED BY THE TAB CONTRACTOR DURING BALANCING AND COORDINATED WITH THE CONTROLS CONTRACTOR. THE PUMP SPEED SHALL BE CONTROLLED TO SATISFY THE MOST HYDRAULICALLY REMOTE OR MOST DEMANDING DIFFERENTIAL PRESSURE SENSOR, DEFINED AS THE SENSOR FARTHEST BELOW ITS ACTIVE SETPOINT. IF ALL MONITORED DIFFERENTIAL PRESSURE SENSORS ARE AT OR ABOVE SETPOINT, PUMP SPEED SHALL REDUCE TO MAINTAIN THE MINIMUM REQUIRED SYSTEM FLOW AND PRESSURE.
3. UPON FAILURE OF THE LEAD PUMP, THE STANDBY PUMP SHALL OPERATE.
4. ALTERNATOR: LEAD/STANDBY PUMP OPERATION SHALL ALTERNATE EVERY 200 HOURS OF USE (INITIAL SETTING, ADJUSTABLE).
5. PROVIDE CRITICAL ALARM IF BOTH PUMPS FAIL TO OPERATE.
6. BOILERS, BOILER PUMPS, AND BUILDING HEATING LOOP CIRCULATION PUMPS SHALL BE ENABLED AND DISABLED IN COORDINATION. WHEN THE BUILDING HEATING LOOP CIRCULATION PUMP IS DISABLED DUE TO LACK OF HEATING DEMAND, THE BOILERS SHALL ALSO BE DISABLED.

C. DIGITAL CONTROL, INDICATION, AND TRENDING:
1. B-3.1,3.2 STATUS
2. B-3.1,3.2 H-O-A CONTROL
3. B-3.1,3.2, FIRING RATE
4. B-3.1,3.2 HWS TEMPERATURE (SENSOR)
5. B-3.1,3.2 HWS TEMPERATURE (BOILER CONTROLLER)
6. B-3.1,3.2 HWR TEMPERATURE (BOILER CONTROLLER)
7. BOILER LOOP HWS TEMPERATURE INDICATION
8. BOILER LOOP HWR TEMPERATURE INDICATION
9. BUILDING LOOP HWS TEMPERATURE INDICATION
10. BUILDING LOOP HWS TEMPERATURE SETPOINT
11. BUILDING LOOP HWR TEMPERATURE INDICATION
12. BP-3.1,3.2 STATUS
13. BP-3.1,3.2 H-O-A CONTROL
14. CP-3.1,3.2 STATUS
15. CP-3.1,3.2 H-O-A CONTROL
16. CP-3.1,3.2 SPEED
17. O/A TEMPERATURE RESET
18. B-3.1,3.2 LEAD/STANDBY SELECTION & INDICATION
19. B-3.1,3.2 TOTALIZED RUN TIME
20. CP-3.1,3.2 LEAD/STANDBY SELECTION & INDICATION
21. CP-3.1,3.2 TOTALIZED RUN TIME
22. BUILDING LOOP FLOW RATE (BY EM FLOW METER)
23. BUILDING LOOP BTU'S (CALCULATED)
24. SYSTEM PRESSURE
25. PCC1 DIFFERENTIAL PRESSURE SETPOINT
26. PCC1 DIFFERENTIAL PRESSURE INDICATION
27. PCC3 DIFFERENTIAL PRESSURE SETPOINT
28. PCC3 DIFFERENTIAL PRESSURE INDICATION

D. ALARMS:
1. B-3.1,3.2 FAILURE
2. B-3.1,3.2 LOW HWR TEMPERATURE
3. HWS BUILDING LOOP CRITICAL LOW TEMPERATURE
4. BP-3.1,3.2 PUMP FAILURE
5. BUILDING LOOP NO FLOW
6. CP-3.1,3.2 PUMP FAILURE
7. LOW SYSTEM PRESSURE
8. BOILER EMERGENCY STOP

1 PCC3 BOILER CONTROL DIAGRAM
NOT TO SCALE



HX-3.2, CP-3.3, 3.4, RTU / AHU GLYCOL HEATING COIL HEAT EXCHANGER SEQUENCE OF OPERATIONS

A. AUTOMATED GLYCOL HEATING COIL SYSTEM CONTROL:
1. HX-3.2 AND ASSOCIATED GLYCOL CIRCULATION PUMPS SHALL BE ENABLED WHEN OUTSIDE AIR TEMPERATURE IS BELOW 57°F (ADJUSTABLE), UPON A CALL FOR HEATING FROM ANY SERVED AHU/RTU HEATING COIL, OR UPON ANY SERVED UNIT FREEZE PROTECTION ALARM. HX-3.2 AND ASSOCIATED GLYCOL CIRCULATION PUMPS SHALL BE DISABLED WHEN OUTSIDE AIR TEMPERATURE IS ABOVE 60°F (ADJUSTABLE) AND THERE HAS BEEN NO HEATING DEMAND FROM SERVED EQUIPMENT FOR 15 MINUTES (ADJUSTABLE).
2. THE HOT WATER 3-WAY CONTROL VALVE SERVING HX-3.2 SHALL MODULATE TO MAINTAIN THE GLYCOL HEATING LOOP SUPPLY TEMPERATURE SETPOINT AS SENSED BY THE TEMPERATURE SENSOR LOCATED ON THE GLYCOL SUPPLY PIPING LEAVING THE HEAT EXCHANGER. THE GLYCOL SUPPLY TEMPERATURE SETPOINT SHALL BE RESET BASED ON OUTSIDE AIR TEMPERATURE. INITIAL SETTINGS SHALL BE 130°F GLYCOL SUPPLY TEMPERATURE AT 0°F OUTSIDE AIR TEMPERATURE (ADJUSTABLE) AND 90°F GLYCOL SUPPLY TEMPERATURE AT 60°F OUTSIDE AIR TEMPERATURE (ADJUSTABLE). WHEN THERE IS NO CALL FOR HEATING FROM SERVED AIR HANDLING UNITS OR ROOFTOP UNITS, THE HOT WATER CONTROL VALVE SHALL MODULATE CLOSED AND BYPASS HX-3.2. UPON LOW GLYCOL SUPPLY TEMPERATURE ALARM OR FREEZE PROTECTION ALARM FROM ANY SERVED UNIT, THE HOT WATER CONTROL VALVE SHALL MODULATE OPEN TO THE HEAT EXCHANGER AS REQUIRED TO MAINTAIN GLYCOL SUPPLY TEMPERATURE SETPOINT.
3. WHEN ANY HEATING COIL CONTROL VALVE FOR ANY OF THE AIR HANDLING / ROOF TOP UNITS IS MORE THAN 10% OPEN, THE LEAD CIRCULATION PUMP SHALL CYCLE ON. WHEN ALL OF THE AIR HANDLING / ROOF TOP UNIT HEATING COILS ARE CLOSED FOR MORE THAN 15 MINUTES, THE GLYCOL PUMP SHALL CYCLE OFF.
4. THE LEAD CIRCULATION PUMP VFD SHALL MODULATE TO MAINTAIN THE GLYCOL HEATING LOOP DIFFERENTIAL PRESSURE SETPOINT. DIFFERENTIAL PRESSURE SHALL BE MONITORED AT MULTIPLE REMOTE LOCATIONS IN THE GLYCOL HEATING LOOP. INITIAL DIFFERENTIAL PRESSURE SETPOINTS SHALL BE DETERMINED BY THE TAB CONTRACTOR DURING BALANCING AND COORDINATED WITH THE CONTROLS CONTRACTOR. THE PUMP SPEED SHALL BE CONTROLLED TO SATISFY THE MOST HYDRAULICALLY REMOTE OR MOST DEMANDING DIFFERENTIAL PRESSURE SENSOR, DEFINED AS THE SENSOR FARTHEST BELOW ITS ACTIVE SETPOINT. IF ALL MONITORED DIFFERENTIAL PRESSURE SENSORS ARE AT OR ABOVE SETPOINT, PUMP SPEED SHALL REDUCE TO MAINTAIN THE MINIMUM REQUIRED SYSTEM FLOW AND PRESSURE.
5. ALTERNATOR: LEAD/LAG PUMP OPERATION SHALL ALTERNATE EVERY MONTH OF USE.
6. UPON FAILURE OF THE LEAD PUMP SEND ALARM AND START LAG PUMP.
7. PROVIDE CRITICAL ALARM IF BOTH PUMPS FAIL TO OPERATE.
8. GLYCOL MAKE-UP TANK PUMP SHALL OPERATE TO MAINTAIN SYSTEM PRESSURE, INITIALLY SET TO 25 PSIG (ADJUSTABLE).

C. DIGITAL CONTROL, INDICATION, AND TRENDING:
1. 3-WAY VALVE POSITION
2. HWR BUILDING LOOP TEMPERATURE INDICATION
3. HWS BUILDING LOOP TEMPERATURE INDICATION
4. HEATING COIL LOOP HGS TEMPERATURE INDICATION
5. HEATING COIL LOOP HGR TEMPERATURE INDICATION
6. HEATING COIL LOOP HGS TEMPERATURE SETPOINT
7. CP-3.3,3.4 STATUS
8. CP-3.3,3.4 H-O-A CONTROL
9. CP-3.3,3.4 SPEED
10. CP-3.3,3.4 LEAD/LAG SELECTION
11. CP-3.3,3.4 TOTALIZED RUN TIME
12. SYSTEM PRESSURE INDICATION
13. PRESSURE DIFFERENTIAL INDICATION
14. PRESSURE DIFFERENTIAL SETPOINT
15. HEATING COIL LOOP FLOW RATE

D. ALARMS:
1. CP-3.3,3.4 VFD FAULT
2. CP-3.3,3.4 PUMP FAILURE
3. HEATING COIL LOOP HGR CRITICAL LOW TEMPERATURE
4. LOW SYSTEM PRESSURE (5 PSIG, INITIAL SETTING, ADJUSTABLE)

2 RTU / AHU HEATING COIL HEAT EXCHANGER CONTROL DIAGRAM
NOT TO SCALE

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STAMP

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65% DESIGN DEVELOPMENT
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REVISION SCHEDULE

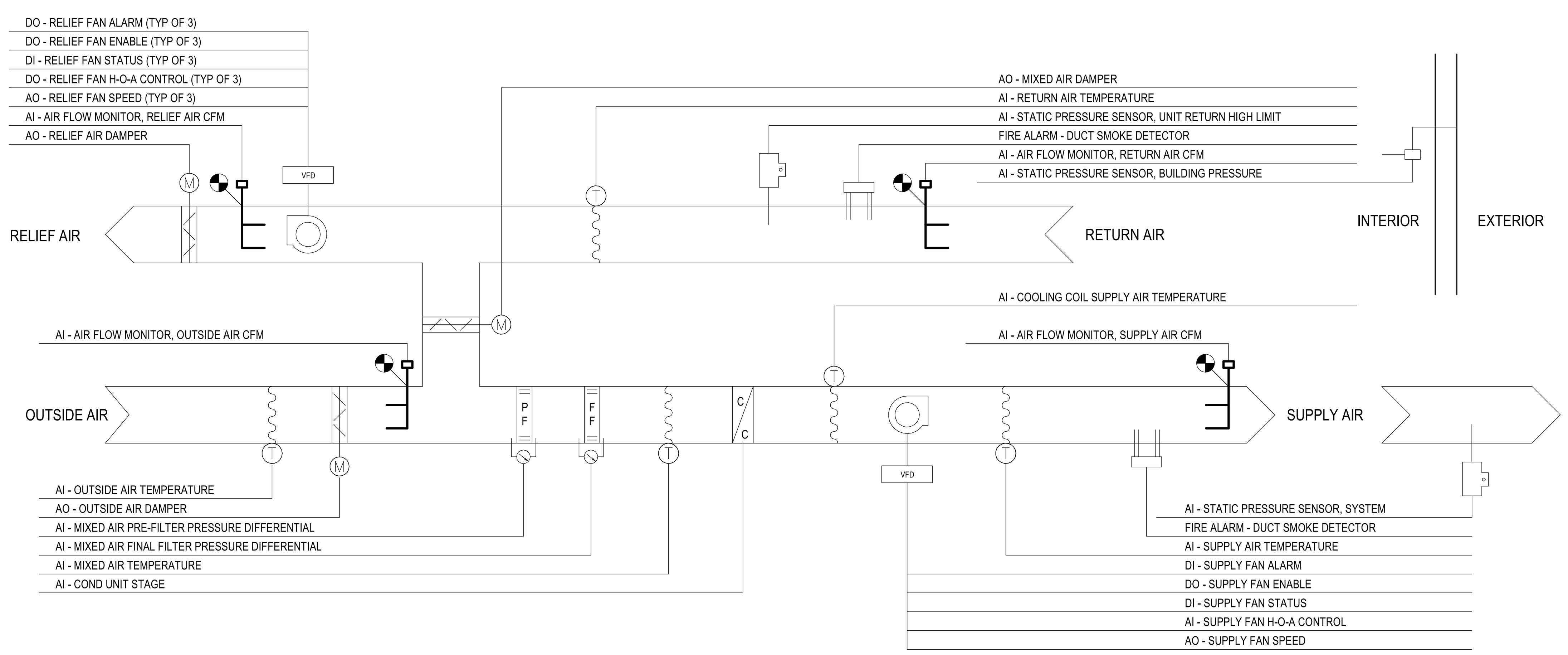
#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME
CONTROLS DIAGRAMS

SHEET NO.
M801

FULL-SCALE AT 30X42



RTU-1.1 SEQUENCE OF OPERATIONS

A. AUTOMATED VARIABLE AIR VOLUME ROOF TOP UNIT SYSTEM CONTROL
1. OPERATION MODE: DAY AND NIGHT MODE OF OPERATION WILL BE CONTROLLED BY THE BAS.
2. NIGHT MODE OPERATION: DURING NIGHT MODE OF OPERATION, INTEGRAL SUPPLY AND RELIEF FANS MUST BE OFF, O/A AND RELIEF DAMPER MUST BE FULLY CLOSED, AND R/A DAMPER MUST BE FULLY OPEN.
3. DAY MODE OPERATION:
a. DURING OCCUPIED OPERATION, AN OUTSIDE AIRFLOW SENSOR MUST BE PROVIDED TO MEASURE, CONTROL, AND RECORD THE OUTSIDE AIRFLOW DELIVERED TO THE UNIT. THE OUTSIDE AIR DAMPER MUST MODULATE TO MAINTAIN THE SCHEDULED/CODE-REQUIRED MINIMUM OUTSIDE AIRFLOW RATE AS INDICATED ON THE DRAWINGS (INITIAL SETTING, ADJUSTABLE). DURING ECONOMIZER OPERATION, THE OUTSIDE AIR DAMPER MUST MODULATE PER THE ECONOMIZER SEQUENCE TO PROVIDE ADDITIONAL OUTSIDE AIR FOR FREE COOLING, BUT MUST NOT REDUCE BELOW THE SCHEDULED MINIMUM OUTSIDE AIRFLOW REQUIREMENT DURING OCCUPIED OPERATION. THE INTEGRAL RELIEF FAN MUST OPERATE AS REQUIRED TO MAINTAIN BUILDING PRESSURE AND RELIEVE EXCESS AIRFLOW DURING ECONOMIZER OR INCREASED OUTSIDE AIR OPERATION. IN THE EVENT OF OUTSIDE AIRFLOW SENSOR FAILURE, THE OUTSIDE AIR DAMPER MUST FAILSAFE TO THE DESIGN MINIMUM POSITION.
b. DISCHARGE AIR TEMPERATURE RESET: THE DISCHARGE AIR TEMPERATURE MUST BE RESET BASED ON SENSING ALL SERVED ROOM SENSORS AND VAV BOX POSITIONS. DURING COOLING MODE, THE BAS MUST RESET THE DISCHARGE AIR TEMPERATURE SETPOINT UP OR DOWN AS REQUIRED TO MAINTAIN THE COOLING SETPOINT IN THE WARMEST ROOM WITH THE ASSOCIATED VAV BOX NEAR FULL COOLING POSITION. INITIAL COOLING DISCHARGE AIR TEMPERATURE RESET RANGE MUST BE 55°F TO 65°F (ADJUSTABLE). DURING HEATING MODE, THE BAS MUST RESET THE DISCHARGE AIR TEMPERATURE SETPOINT AS REQUIRED TO MAINTAIN HEATING SETPOINTS IN THE SERVED SPACES. INITIAL HEATING DISCHARGE AIR TEMPERATURE SETPOINT IS 55°F (ADJUSTABLE).
c. THE O/A DAMPERS AND R/A DAMPERS MUST MODULATE, AND INTEGRAL DX UNIT CONTROLLER MUST STAGE TO MAINTAIN THE DESIRED S/A TEMPERATURE SETPOINT. MIXED AIR TEMPERATURE MUST NOT BE ALLOWED TO DROP BELOW 35 °F (ADJUSTABLE) UNDER ANY OF THE OPERATING CONDITIONS DESCRIBED ABOVE.
d. SUPPLY FAN & VARIABLE SPEED DRIVE: DUCT STATIC PRESSURE SENSORS MUST MODULATE THE SUPPLY FAN VFD TO MAINTAIN THE SUPPLY DUCT STATIC PRESSURE SETPOINT. DUCT STATIC PRESSURE SENSORS MUST BE LOCATED IN THE MAIN SUPPLY DUCT AT APPROXIMATELY 2/3 OF THE DISTANCE BETWEEN THE SUPPLY FAN AND THE MOST REMOTE TERMINAL UNIT. IN SYSTEMS WITH MULTIPLE MAIN DUCT BRANCHES, PROVIDE A STATIC PRESSURE SENSOR IN EACH MAJOR DUCT BRANCH OR AS INDICATED TO MONITOR SYSTEM PERFORMANCE. OPERATIONAL DUCT STATIC PRESSURE SETPOINTS MUST BE DETERMINED BY THE TEST AND BALANCE CONTRACTOR DURING SYSTEM BALANCING AND COORDINATED WITH THE CONTROLS CONTRACTOR. FAN SPEED MUST BE CONTROLLED TO SATISFY THE MOST DEMANDING OR MOST RESTRICTIVE DUCT STATIC PRESSURE SENSOR, DEFINED AS THE SENSOR FARTHEST BELOW ITS ACTIVE SETPOINT. IF ALL MONITORED STATIC PRESSURE SENSORS ARE AT OR ABOVE SETPOINT, FAN SPEED MUST REDUCE TO MAINTAIN THE MINIMUM REQUIRED SYSTEM PRESSURE AND AIRFLOW.
e. FREEZE ALARM: ON DISCHARGE AIR FREEZE ALARM SET INITIALLY AT 35° F (ADJUSTABLE), THE FAN MUST STOP, O/A DAMPERS WILL FULLY CLOSE, AND R/A DAMPERS WILL FULLY OPEN. PROVIDE AUTOMATIC RESET. UPON THE 6TH CONSECUTIVE AUTOMATIC RESET RESTART FAILURE, THE BAS SHALL LOCK OUT UNIT OPERATION UNTIL MANUAL RESET.
f. HIGH DISCHARGE STATIC PRESSURE SAFETY: UNIT DISCHARGE STATIC PRESSURE MUST BE MONITORED BY THE BAS AND/OR UNIT SAFETY CONTROLS TO PROTECT THE SUPPLY AIR SYSTEM FROM EXCESSIVE PRESSURE CONDITIONS. THE HIGH STATIC PRESSURE ALARM AND SHUTDOWN THRESHOLD SHALL BE DETERMINED DURING SYSTEM TEST AND BALANCE AND COORDINATED WITH THE CONTROLS CONTRACTOR AND UNIT MANUFACTURER BASED ON FINAL OPERATING CONDITIONS AND EQUIPMENT LIMITATIONS. UPON HIGH DISCHARGE STATIC PRESSURE ALARM, THE SUPPLY FAN MUST STOP, THE OUTSIDE AIR DAMPERS MUST FULLY CLOSE, AND THE RETURN AIR DAMPERS MUST FULLY OPEN. PROVIDE AUTOMATIC RESET.
g. FIRE ALARM SHUTDOWN: AIR HANDLING UNIT SMOKE DETECTOR MUST BE WIRED DIRECTLY TO THE ADDRESSABLE FIRE ALARM SYSTEM. AIR HANDLING UNIT FAN MOTOR STARTER MUST BE CONNECTED TO THE FIRE ALARM SYSTEM TO STOP FAN MOTOR ON ALARM. DDC SYSTEM MUST VERIFY FAN SHUT DOWN AND MUST CLOSE THE OUTSIDE AIR DAMPER AND SHUT DOWN RESPECTIVE RELIEF FANS AND CLOSE THE MOTORIZED DAMPERS. COORDINATE WITH DIVISION 26. DETECTION OF SMOKE AT THE AIR HANDLING UNIT SMOKE DETECTOR MUST SHUT DOWN THE AHU.
h. ECONOMIZER: ECONOMIZER OPERATION MUST BE ENABLED WHEN OUTDOOR AIR CONDITIONS ARE SUITABLE FOR FREE COOLING AS DETERMINED BY THE BAS USING ADJUSTABLE DRY-BULB AND ENTHALPY CONTROL STRATEGIES. WHEN ENABLED, THE OUTSIDE AIR AND RETURN AIR DAMPERS MUST MODULATE TO MAINTAIN THE DISCHARGE AIR TEMPERATURE COOLING SETPOINT WHILE MINIMIZING MECHANICAL COOLING ENERGY USE. THE ECONOMIZER MUST MODULATE BETWEEN THE OCCUPIED MINIMUM OUTSIDE AIR POSITION AND THE MAXIMUM ALLOWABLE ECONOMIZER POSITION. MECHANICAL COOLING MUST REMAIN DISABLED WHILE THE ECONOMIZER ALONE CAN MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT. IF THE ECONOMIZER REACHES MAXIMUM ALLOWABLE POSITION AND THE DISCHARGE AIR TEMPERATURE REMAINS ABOVE SETPOINT BY AN ADJUSTABLE DIFFERENTIAL FOR 15 MINUTES (ADJUSTABLE), MECHANICAL COOLING MUST BE ENABLED IN STAGES WHILE ECONOMIZER OPERATION REMAINS ACTIVE (INTEGRATED ECONOMIZER). THE ECONOMIZER MUST BE DISABLED AND OUTSIDE AIR DAMPERS RETURNED TO THE OCCUPIED MINIMUM POSITION WHEN OUTDOOR CONDITIONS ARE NO LONGER SUITABLE, OR UPON ANY FREEZE, SMOKE, OR SAFETY ALARM.
i. INTEGRAL RELIEF FANS: THE INTEGRAL RELIEF FANS MUST OPERATE AS REQUIRED TO MAINTAIN BUILDING AIRFLOW BALANCE AND BUILDING PRESSURIZATION DURING OCCUPIED OPERATION. THE BAS MUST CALCULATE THE RELIEF AIRFLOW SETPOINT BASED ON MEASURED OUTSIDE AIRFLOW, MEASURED SUPPLY AIRFLOW, MEASURED RETURN AIRFLOW, SCHEDULED OR MONITORED STAND-ALONE EXHAUST AIRFLOW, AND AN ADJUSTABLE POSITIVE BUILDING PRESSURIZATION / EXFILTRATION OFFSET. INITIAL PRESSURIZATION OFFSET MUST BE 10% OF TOTAL AIRFLOW, ADJUSTABLE, UNLESS OTHERWISE DETERMINED DURING SYSTEM TEST AND BALANCE. THE INTEGRAL RELIEF FANS MUST BE ENABLED, STAGED, AND MODULATED TO MAINTAIN THE CALCULATED RELIEF AIRFLOW SETPOINT. DURING MINIMUM OUTSIDE AIR OPERATION, THE RELIEF FANS MAY REMAIN OFF UNLESS REQUIRED TO MAINTAIN THE CALCULATED AIRFLOW BALANCE OR BUILDING PRESSURE. A BUILDING STATIC PRESSURE SENSOR MUST BE PROVIDED BETWEEN A REPRESENTATIVE INDOOR COMMON AREA AND OUTDOORS WITH A WIND-SHIELDED OUTDOOR REFERENCE. BUILDING STATIC PRESSURE MUST BE MONITORED BY THE BAS FOR ALARM AND TRIM OF THE RELIEF AIRFLOW OFFSET. BUILDING PRESSURE MUST BE +0.05" W.C. RELATIVE TO OUTDOORS (ADJUSTABLE) OR AS DETERMINED DURING TEST AND BALANCE. THE RELIEF FANS MUST BE DISABLED UPON UNIT SHUTDOWN OR RECEIPT OF ANY FREEZE, SMOKE, OR SAFETY ALARM UNLESS OTHERWISE REQUIRED BY LIFE SAFETY SEQUENCE. UPON FAILURE OF AN AIRFLOW SENSOR USED FOR RELIEF FAN CONTROL, THE BAS MUST DEFAULT TO TAB-DETERMINED RELIEF FAN SPEEDS OR STAGES BASED ON OUTSIDE AIR DAMPER POSITION AND UNIT OPERATING MODE, AND MUST GENERATE AN ALARM.

B. ALARMS:
1. DISCHARGE AIR TEMPERATURE, LOW TEMPERATURE ALARM (45 °F, INITIALLY)
2. DISCHARGE AIR TEMPERATURE, FREEZE ALARM (35 °F, INITIALLY)
3. FINAL FILTER HIGH DIFFERENTIAL PRESSURE.
4. PRE-FILTER HIGH DIFFERENTIAL PRESSURE.
5. DISCHARGE AIR STATIC HIGH PRESSURE ALARM.
6. DISCHARGE AIR NO AIRFLOW.
7. RETURN AIR DUCT DETECTOR ALARM.
8. SUPPLY FAN ALARM.
9. RELIEF FAN ALARM.
10. COOLING ALARM.

C. DIGITAL CONTROL AND INDICATION.
1. OUTSIDE AIR TEMPERATURE RESET.
2. DISCHARGE AIR TEMPERATURE INDICATION (UNIT).
3. DISCHARGE AIR TEMPERATURE INDICATION (EXTERNAL SENSOR).
4. DISCHARGE AIR TEMPERATURE HEATING SETPOINT, OCCUPIED.
5. DISCHARGE AIR TEMPERATURE HEATING SETPOINT, UNOCCUPIED.
6. DISCHARGE AIR TEMPERATURE COOLING SETPOINT, OCCUPIED.
7. DISCHARGE AIR TEMPERATURE COOLING SETPOINT, UNOCCUPIED.
8. DISCHARGE AIR AIRFLOW INDICATION.
9. MIXED AIR TEMPERATURE INDICATION (UNIT).
10. MIXED AIR TEMPERATURE SETPOINT.
11. MIXED AIR DAMPER POSITION.
12. OUTSIDE AIR TEMPERATURE INDICATION.
13. OUTSIDE AIR DAMPER POSITION.
14. OUTSIDE AIR AIRFLOW INDICATION.
15. OUTSIDE AIR AIRFLOW SETPOINT.
16. RETURN AIR AIRFLOW INDICATION.
17. RETURN AIR TEMPERATURE INDICATION.
18. FINAL FILTER DIFFERENTIAL PRESSURE INDICATION.
19. PRE-FILTER DIFFERENTIAL PRESSURE INDICATION.
20. DUCT STATIC PRESSURE SETPOINT.
21. DUCT STATIC PRESSURE INDICATION.
22. DISCHARGE AIR STATIC PRESSURE INDICATION.
23. BUILDING STATIC PRESSURE INDICATION.
24. BUILDING STATIC PRESSURE SETPOINT.
25. SUPPLY FAN H-O-A CONTROL / STATUS.
26. SUPPLY FAN SPEED INDICATION.
27. SUPPLY FAN SPEED SETPOINT.
28. RELIEF FAN H-O-A CONTROL / STATUS (TYP OF 3)
29. RELIEF FAN SPEED INDICATION (TYP OF 3)
30. RELIEF FAN SPEED SETPOINT (TYP OF 3)
31. RELIEF AIR AIRFLOW INDICATION.
32. CONDENSING UNIT ENABLE/DISABLE.
33. CONDENSING UNIT STAGE.
34. CONDENSING UNIT STATUS.
35. ECONOMIZER STATUS.
36. ECONOMIZER PERCENTAGE.
37. RETURN AIR ENTHALPY.
38. OCCUPANCY STATUS.
39. UNIT ON-OFF INDICATION / STATUS.
40. HEATING / COOLING STATUS.
41. HEATING / COOLING SWITCHOVER SETPOINT.
42. ALARMS.

1 RTU-1.1 CONTROL DIAGRAM

NOT TO SCALE

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STAMP

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REVISION SCHEDULE

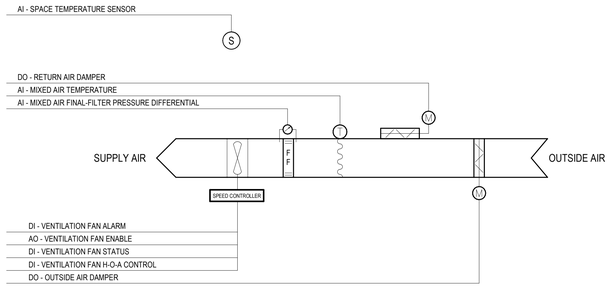
#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME
CONTROLS DIAGRAMS

SHEET NO.
M802

FULL-SCALE AT 30X42



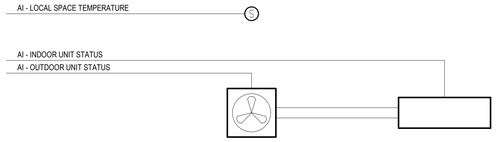
BOILER ROOM VENTILATION FAN VF-1 SEQUENCE OF OPERATIONS

A. AUTOMATED VENTILATION FAN SYSTEM CONTROL:
   1. THE LOCAL SPACE TEMPERATURE SENSOR WILL MODULATE THE OUTSIDE AIR AND RETURN AIR DAMPERS TO MAINTAIN THE SPACE TEMPERATURE COOLING SETPOINT OF 75 °F (INITIAL SETTING, ADJUSTABLE).
   2. ON FREEZE ALARM, THE FAN SHALL STOP, OUTSIDE AIR DAMPER WILL FULLY CLOSE, AND RETURN AIR DAMPER SHALL FULLY OPEN. PROVIDE AUTOMATIC RESET.

B. DIGITAL CONTROL, INDICATION, AND TRENDING (PER FAN, PER SENSOR):
   1. VF-1 ENABLE
   2. VF-1 STATUS
   3. VF-1 H-O-A CONTROL
   4. BOILER ROOM SPACE TEMPERATURE INDICATION
   5. BOILER ROOM SPACE TEMPERATURE SETPOINT
   6. OUTSIDE AIR TEMPERATURE INDICATION
   7. MIXED AIR TEMPERATURE INDICATION
   8. OUTSIDE AIR DAMPER POSITION
   9. RETURN AIR DAMPER POSITION
   10. FILTER DIFFERENTIAL PRESSURE

C. ALARMS (PER FAN):
   1. VF-1 FAILURE
   2. BOILER ROOM FREEZE ALARM (50 °F, INITIAL SETTING, ADJUSTABLE)
   3. HIGH FILTER DIFFERENTIAL PRESSURE

1 BOILER ROOM VENTILATION FAN CONTROL DIAGRAM
NOT TO SCALE



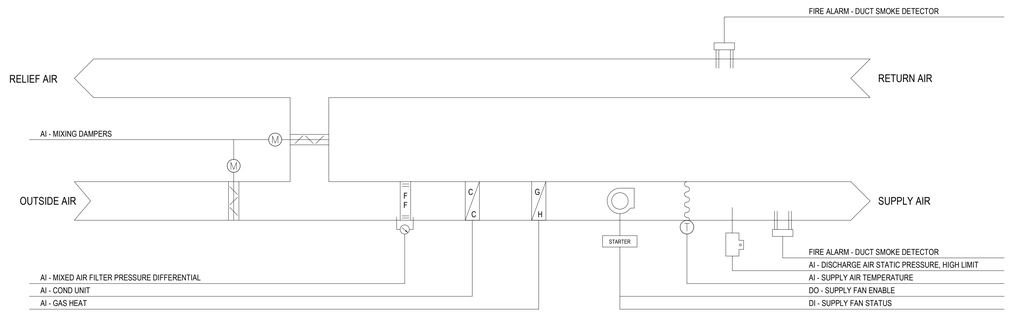
AIR CONDITIONING SYSTEM CU-1.1.1.2 & AC-1.1.1.2 SEQUENCE OF OPERATIONS

A. AUTOMATED AIR CONDITIONING SYSTEM CONTROL:
   1. INTEGRAL MANUFACTURER'S CONTROLLER SHALL OPERATE, STAGE, AND SEQUENCE BOTH THE EVAPORATOR (INDOOR UNIT, IU) AND CONDENSER (OUTDOOR UNIT, OU) TO MAINTAIN SPACE BELOW SPACE TEMPERATURE SETPOINT OF 70 °F (INITIAL SETTING, ADJUSTABLE).

B. DIGITAL CONTROL, INDICATION, AND TRENDING (PER SYSTEM):
   1. INDOOR UNIT STATUS
   2. OUTDOOR UNIT STATUS
   3. SPACE TEMPERATURE SETPOINT
   4. SPACE TEMPERATURE INDICATION

C. ALARMS (PER SYSTEM):
   1. HIGH LOCAL SPACE TEMPERATURE
   2. INDOOR UNIT FAILURE
   3. OUTDOOR UNIT FAILURE

2 AIR CONDITIONING SYSTEM CONTROL DIAGRAM
NOT TO SCALE



RTU 1.2 SEQUENCE OF OPERATIONS

A. AUTOMATED PACKAGED ROOFTOP UNIT SYSTEM CONTROL
   1. OPERATION MODE: DAY AND NIGHT MODE OF OPERATION MUST BE CONTROLLED BY THE BAS OR THE UNIT PROGRAMMABLE SENSOR IN COORDINATION WITH THE PACKAGED UNIT CONTROLLER.
   2. NIGHT MODE OPERATION: DURING NIGHT MODE OF OPERATION, THE SUPPLY FAN MUST BE OFF, OUTSIDE AIR DAMPER MUST BE FULLY CLOSED, AND RETURN AIR DAMPER MUST BE FULLY OPEN. UNIT HEATING AND COOLING MUST OPERATE AS REQUIRED BY THE PACKAGED UNIT CONTROLLER TO MAINTAIN UNOCCUPIED SPACE TEMPERATURE SETPOINTS.
   3. DAY MODE OPERATION:
      a. OUTSIDE AIR CONTROL: DURING OCCUPIED OPERATION, THE OUTSIDE AIR DAMPER MUST OPEN TO THE MINIMUM OUTSIDE AIR POSITION AS INDICATED ON THE DRAWINGS. MINIMUM OUTSIDE AIR POSITION MUST BE ESTABLISHED DURING SYSTEM TEST AND BALANCE AND COORDINATED WITH THE CONTROLS CONTRACTOR.
      b. SUPPLY FAN OPERATION: THE SUPPLY FAN MUST OPERATE CONTINUOUSLY DURING OCCUPIED MODE AND CYCLE AS REQUIRED DURING UNOCCUPIED MODE. SUPPLY FAN OPERATION AND FAN SPEED, MUST BE CONTROLLED BY THE PACKAGED UNIT CONTROLLER IN ACCORDANCE WITH THE MANUFACTURER'S SEQUENCE.
      c. SPACE TEMPERATURE CONTROL: UNIT HEATING AND COOLING MUST STAGE AS REQUIRED BY THE PACKAGED UNIT CONTROLLER TO MAINTAIN SPACE TEMPERATURE SETPOINTS. HEATING MUST BE PROVIDED BY THE UNIT INTEGRAL STAGED GAS-FIRED BURNER. COOLING MUST BE PROVIDED BY THE UNIT INTEGRAL DX COOLING SYSTEM UTILIZING ECONOMIZER, AND COMPRESSOR STAGES AS AVAILABLE PER MANUFACTURER'S SEQUENCE. GAS HEATING AND DX COOLING STAGES MUST OPERATE IN ACCORDANCE WITH THE PACKAGED UNIT CONTROLLER AND MANUFACTURER REQUIREMENTS.
      d. ECONOMIZER: ECONOMIZER OPERATION MUST BE ENABLED WHEN OUTDOOR AIR CONDITIONS ARE SUITABLE FOR FREE COOLING AS DETERMINED BY THE PACKAGED UNIT CONTROLLER USING FACTORY PROVIDED SEQUENCING. WHEN ENABLED, THE OUTSIDE AIR AND RETURN AIR DAMPERS MUST MODULATE TO MAINTAIN SPACE OR DISCHARGE AIR TEMPERATURE SETPOINT WHILE MINIMIZING MECHANICAL DX COOLING ENERGY USE. MECHANICAL DX COOLING MUST REMAIN DISABLED WHILE THE ECONOMIZER ALONE CAN SATISFY COOLING DEMAND. IF ECONOMIZER OPERATION CANNOT SATISFY COOLING DEMAND, DX COOLING MUST BE ENABLED IN STAGES IN ACCORDANCE WITH THE PACKAGED UNIT CONTROLLER. ECONOMIZER MUST BE DISABLED AND THE OUTSIDE AIR DAMPER RETURNED TO MINIMUM POSITION WHEN OUTDOOR CONDITIONS ARE NO LONGER SUITABLE OR UPON RECEIPT OF ANY FREEZE, SMOKE, OR SAFETY ALARM.
      e. BUILDING PRESSURE / RELIEF: BAROMETRIC RELIEF, MUST OPERATE IN ACCORDANCE WITH THE MANUFACTURER'S PACKAGED UNIT DESIGN TO RELIEVE EXCESS OUTSIDE AIR DURING ECONOMIZER OR ELEVATED OUTSIDE AIR OPERATION.
      f. SAFETIES: UNIT SAFETIES, INCLUDING GAS-FIRED BURNER SAFETIES, DIRECT SPARK IGNITION LOCKOUT, FLAME SAFEGUARD, HIGH LIMIT CONTROLS, COMBUSTION AIR/VENTING SAFETIES, DX REFRIGERANT HIGH/LOW PRESSURE SAFETIES, FROSTAT/FREEZE PROTECTION, SMOKE DETECTION INTERLOCKS, FAN PROVING, AND OTHER MANUFACTURER-REQUIRED SAFETIES MUST OPERATE IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS AND APPLICABLE LIFE SAFETY SEQUENCES. UPON SAFETY SHUTDOWN, THE UNIT MUST STOP, GAS HEATING AND DX COOLING MUST BE DISABLED, OUTSIDE AIR DAMPER MUST CLOSE, AND RETURN AIR DAMPER MUST OPEN UNLESS OTHERWISE REQUIRED BY THE LIFE SAFETY SEQUENCE.
      g. BAS MONITORING: BAS MUST MONITOR AVAILABLE UNIT STATUS POINTS PROVIDED BY THE PACKAGED UNIT CONTROLLER. BAS MONITORING IS LIMITED TO AVAILABLE FACTORY CONTROL POINTS.

B. ALARMS:
   1. DISCHARGE AIR TEMPERATURE, LOW TEMPERATURE ALARM (45 °F, INITIALLY)
   2. DISCHARGE AIR TEMPERATURE, FREEZE ALARM (35 °F, INITIALLY)
   3. FILTER HIGH DIFFERENTIAL PRESSURE.
   4. DISCHARGE AIR STATIC HIGH PRESSURE ALARM.
   5. RETURN AIR DUCT DETECTOR ALARM.
   6. SUPPLY FAN ALARM.
   7. COOLING ALARM.

C. DIGITAL CONTROL AND INDICATION.
   1. OUTSIDE AIR TEMPERATURE RESET.
   2. DISCHARGE AIR TEMPERATURE INDICATION (UNIT).
   3. DISCHARGE AIR TEMPERATURE INDICATION (EXTERNAL SENSOR).
   4. DISCHARGE AIR TEMPERATURE HEATING SETPOINT, OCCUPIED.
   5. DISCHARGE AIR TEMPERATURE HEATING SETPOINT, UNOCCUPIED.
   6. DISCHARGE AIR TEMPERATURE COOLING SETPOINT, OCCUPIED.
   7. DISCHARGE AIR TEMPERATURE COOLING SETPOINT, UNOCCUPIED.
   8. MIXED AIR TEMPERATURE INDICATION (UNIT).
   9. MIXED AIR TEMPERATURE SETPOINT.
   10. MIXED AIR DAMPER POSITION.
   11. OUTSIDE AIR TEMPERATURE INDICATION.
   12. OUTSIDE AIR DAMPER POSITION.
   13. FILTER DIFFERENTIAL PRESSURE INDICATION.
   14. DISCHARGE AIR STATIC PRESSURE INDICATION.
   15. SUPPLY FAN STATUS.
   16. CONDENSING UNIT STATUS.
   17. GAS HEAT STATUS.
   18. ECONOMIZER STATUS.
   19. OCCUPANCY STATUS.
   20. UNIT ON-OFF INDICATION / STATUS.
   21. HEATING / COOLING STATUS.
   22. HEATING / COOLING SWITCHOVER SETPOINT.
   23. ALARMS.

3 RTU-1.2 CONTROL DIAGRAM
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JOB NO.	M5052
DATE	May 11, 2026
DRAWN	Author
REVIEWED	Checker

SHEET NAME
CONTROLS DIAGRAMS

SHEET NO.
M803

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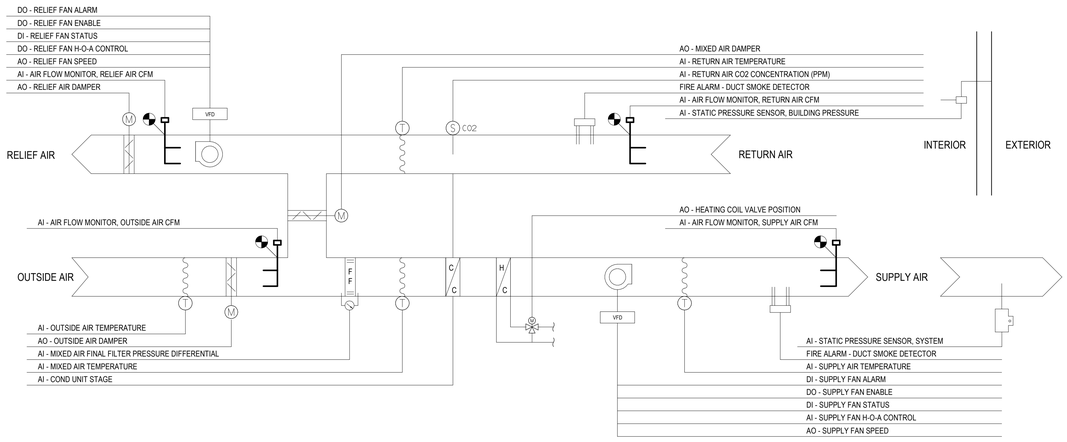

RTU-1.3 SEQUENCE OF OPERATIONS

A. AUTOMATED VARIABLE AIR VOLUME ROOF TOP UNIT SYSTEM CONTROL
1. OPERATION MODE: DAY, NIGHT, AND MORNING WARM-UP MODES OF OPERATION WILL BE CONTROLLED BY THE BAS.
2. NIGHT MODE OPERATION: DURING NIGHT MODE OF OPERATION, INTEGRAL SUPPLY AND RELIEF FANS MUST BE OFF, O/A AND RELIEF DAMPER MUST BE FULLY CLOSED, R/A DAMPER MUST BE FULLY OPEN, AND HEATING COIL 3-WAY CONTROL VALVE MUST BE CLOSED TO THE COIL.
3. MORNING WARM-UP MODE: PRIOR TO NORMAL OCCUPIED DAY MODE, THE UNIT MUST ENTER MORNING WARM-UP MODE AS DETERMINED BY BAS OPTIMUM START/STOP PROGRAMMING UTILIZING HISTORICAL BUILDING RESPONSE AND OUTDOOR CONDITIONS TO ACHIEVE OCCUPIED SPACE TEMPERATURE SETPOINT BY SCHEDULED OCCUPANCY. DURING MORNING WARM-UP MODE, THE SUPPLY FAN MUST OPERATE AND RAMP UP TO THE OCCUPIED MODE DUCT STATIC PRESSURE SETPOINT OR MINIMUM REQUIRED AIRFLOW AS DETERMINED BY THE BAS. THE RETURN AIR DAMPER MUST BE FULLY OPEN, THE OUTSIDE AIR AND RELIEF DAMPERS MUST BE FULLY CLOSED, AND THE HOT WATER HEATING COIL 3-WAY CONTROL VALVE MUST MODULATE TO MAINTAIN AN ADJUSTABLE DISCHARGE AIR TEMPERATURE HEATING SETPOINT, INITIALLY 80°F ADJUSTABLE. THE UNIT MUST TRANSITION TO NORMAL DAY MODE WHEN THE AVERAGE REPRESENTATIVE SPACE TEMPERATURE, RETURN AIR TEMPERATURE, OR OCCUPIED ZONE TEMPERATURE CRITERIA REACH THE OCCUPIED HEATING SETPOINT THRESHOLD (ADJUSTABLE) OR AT THE END OF THE OPTIMUM START PERIOD.
4. DAY MODE OPERATION:
   a. DURING OCCUPIED OPERATION, AN OUTSIDE AIRFLOW SENSOR MUST BE PROVIDED TO MEASURE, CONTROL, AND RECORD THE OUTSIDE AIRFLOW DELIVERED TO THE UNIT. THE OUTSIDE AIR DAMPER MUST MODULATE TO MAINTAIN THE ACTIVE OUTSIDE AIRFLOW SETPOINT. DURING NORMAL OCCUPIED OPERATION, THE MINIMUM OUTSIDE AIRFLOW SETPOINT MUST BE 565 CFM, ADJUSTABLE, AS INDICATED ON THE DRAWINGS. DURING DEMAND CONTROL VENTILATION OPERATION, THE OUTSIDE AIRFLOW SETPOINT MUST BE RESET BETWEEN THE DCV MINIMUM OUTSIDE AIRFLOW OF 265 CFM, ADJUSTABLE, AND THE DESIGN MINIMUM OCCUPIED OUTSIDE AIRFLOW OF 565 CFM, ADJUSTABLE, BASED ON CO_2 CONCENTRATION AS SENSED BY THE UNIT RETURN AIR CO_2 SENSOR. OUTSIDE AIR AIRFLOW MUST INCREASE ONCE RETURN CO_2 THRESHOLD OF 700 PPM (ADJUSTABLE) IS REACHED. UPON LOSS OF VALID CO_2 SIGNAL, THE OUTSIDE AIRFLOW SETPOINT MUST DEFAULT TO THE MINIMUM OUTSIDE AIRFLOW SETPOINT OF 565 CFM. DURING ECONOMIZER OPERATION, THE OUTSIDE AIR DAMPER MUST MODULATE PER THE ECONOMIZER SEQUENCE TO PROVIDE ADDITIONAL OUTSIDE AIR FOR FREE COOLING, BUT MUST NOT REDUCE BELOW THE ACTIVE OUTSIDE AIRFLOW SETPOINT DURING OCCUPIED OPERATION. IN THE EVENT OF OUTSIDE AIRFLOW SENSOR FAILURE, THE OUTSIDE AIR DAMPER MUST FAILSAFE TO THE TAB-DETERMINED POSITION REQUIRED TO PROVIDE THE DESIGN OCCUPIED OUTSIDE AIRFLOW.
   b. DISCHARGE AIR TEMPERATURE RESET: THE DISCHARGE AIR TEMPERATURE MUST BE RESET BASED ON SENSING ALL SERVED ROOM SENSORS AND VAV BOX POSITIONS. DURING COOLING MODE, THE BAS MUST RESET THE DISCHARGE AIR TEMPERATURE SETPOINT UP OR DOWN AS REQUIRED TO MAINTAIN THE COOLING SETPOINT IN THE WARMEST ROOM WITH THE ASSOCIATED VAV BOX NEAR FULL COOLING POSITION. INITIAL COOLING DISCHARGE AIR TEMPERATURE RESET RANGE MUST BE 55°F TO 65°F (ADJUSTABLE). DURING HEATING MODE, THE BAS MUST RESET THE DISCHARGE AIR TEMPERATURE SETPOINT AS REQUIRED TO MAINTAIN HEATING SETPOINTS IN THE SERVED SPACES. INITIAL HEATING DISCHARGE AIR TEMPERATURE SETPOINT IS 55°F (ADJUSTABLE).
   c. DX COOLING CONTROL: THE O/A DAMPERS, R/A DAMPERS, ECONOMIZER, AND INTEGRAL DX UNIT CONTROLLER MUST STAGE AS REQUIRED TO MAINTAIN THE ACTIVE DISCHARGE AIR TEMPERATURE COOLING SETPOINT. MECHANICAL DX COOLING MUST NOT BE ALLOWED TO DROP DISCHARGE AIR TEMPERATURE BELOW 55°F, ADJUSTABLE, UNDER ANY OPERATING CONDITION.
   d. HEATING COIL CONTROL: THE HOT WATER HEATING COIL 3-WAY CONTROL VALVE MUST MODULATE TO MAINTAIN THE ACTIVE DISCHARGE AIR TEMPERATURE HEATING SETPOINT. UPON A CALL FOR HEATING FROM THE BAS, THE HEATING COIL CONTROL VALVE MUST MODULATE OPEN TO MAINTAIN DISCHARGE AIR TEMPERATURE SETPOINT. WHEN HEATING IS NOT REQUIRED, THE CONTROL VALVE MUST MODULATE CLOSED. THE HEATING COIL CONTROL VALVE MUST FAIL OPEN TO FLOW THROUGH THE COIL UPON LOSS OF CONTROL SIGNAL OR FREEZE PROTECTION ALARM.
   e. SUPPLY FAN & VARIABLE SPEED DRIVE: DUCT STATIC PRESSURE SENSORS MUST MODULATE THE SUPPLY FAN VFD TO MAINTAIN THE SUPPLY DUCT STATIC PRESSURE SETPOINT. DUCT STATIC PRESSURE SENSORS MUST BE LOCATED IN THE MAIN SUPPLY DUCT AT APPROXIMATELY 2/3 OF THE DISTANCE BETWEEN THE SUPPLY FAN AND THE MOST REMOTE TERMINAL UNIT. IN SYSTEMS WITH MULTIPLE MAIN DUCT BRANCHES, PROVIDE A STATIC PRESSURE SENSOR IN EACH MAJOR DUCT BRANCH OR AS INDICATED TO MONITOR SYSTEM PERFORMANCE. OPERATIONAL DUCT STATIC PRESSURE SETPOINTS MUST BE DETERMINED BY THE TEST AND BALANCE CONTRACTOR DURING SYSTEM BALANCING AND COORDINATED WITH THE CONTROLS CONTRACTOR. FAN SPEED MUST BE CONTROLLED TO SATISFY THE MOST DEMANDING OR MOST RESTRICTIVE DUCT STATIC PRESSURE SENSOR, DEFINED AS THE SENSOR FARTHEST BELOW ITS ACTIVE SETPOINT. IF ALL MONITORED STATIC PRESSURE SENSORS ARE AT OR ABOVE SETPOINT, FAN SPEED MUST REDUCE TO MAINTAIN THE MINIMUM REQUIRED SYSTEM PRESSURE AND AIRFLOW.
   f. FREEZE ALARM: ON DISCHARGE AIR FREEZE ALARM SET INITIALLY AT 35° F (ADJUSTABLE), THE FAN MUST STOP, O/A DAMPERS WILL FULLY CLOSE, AND R/A DAMPERS WILL FULLY OPEN. PROVIDE AUTOMATIC RESET. UPON THE 6TH CONSECUTIVE AUTOMATIC RESET RESTART FAILURE, THE BAS SHALL LOCK OUT UNIT OPERATION UNTIL MANUAL RESET.
   g. HIGH DISCHARGE STATIC PRESSURE SAFETY: HIGH DISCHARGE STATIC PRESSURE MUST BE MONITORED BY THE BAS AND UNIT SAFETY CONTROLS TO PROTECT THE SUPPLY AIR SYSTEM FROM EXCESSIVE PRESSURE CONDITIONS. THE HIGH STATIC PRESSURE ALARM AND SHUTDOWN THRESHOLD MUST BE DETERMINED DURING SYSTEM TEST AND BALANCE AND COORDINATED WITH THE CONTROLS CONTRACTOR AND UNIT MANUFACTURER BASED ON FINAL OPERATING CONDITIONS AND EQUIPMENT LIMITATIONS. UPON HIGH DISCHARGE STATIC PRESSURE ALARM, THE SUPPLY FAN MUST STOP, THE OUTSIDE AIR DAMPERS MUST FULLY CLOSE, THE RETURN AIR DAMPERS MUST FULLY OPEN, AND RELIEF FANS MUST STOP. PROVIDE AUTOMATIC RESET.
   h. FIRE ALARM SHUTDOWN: AIR HANDLING UNIT SMOKE DETECTOR MUST BE WIRED DIRECTLY TO THE ADDRESSABLE FIRE ALARM SYSTEM. AIR HANDLING UNIT FAN MOTOR STARTER MUST BE CONNECTED TO THE FIRE ALARM SYSTEM TO STOP FAN MOTOR ON ALARM. DDC SYSTEM MUST VERIFY FAN SHUTDOWN AND MUST CLOSE THE OUTSIDE AIR DAMPER AND SHUT DOWN RESPECTIVE RELIEF FANS AND CLOSE THE MOTORIZED DAMPERS. COORDINATE WITH DIVISION 26. DETECTION OF SMOKE AT THE AIR HANDLING UNIT SMOKE DETECTOR MUST SHUT DOWN THE AHU.
   i. ECONOMIZER: ECONOMIZER OPERATION MUST BE ENABLED WHEN OUTDOOR AIR CONDITIONS ARE SUITABLE FOR FREE COOLING AS DETERMINED BY THE BAS USING ADJUSTABLE DRY-BULB CONTROL STRATEGIES. WHEN ENABLED, THE OUTSIDE AIR AND RETURN AIR DAMPERS MUST MODULATE TO MAINTAIN THE DISCHARGE AIR TEMPERATURE COOLING SETPOINT WHILE MINIMIZING MECHANICAL COOLING ENERGY USE. THE ECONOMIZER MUST MODULATE BETWEEN THE ACTIVE OCCUPIED OUTSIDE AIRFLOW SETPOINT AND THE MAXIMUM ALLOWABLE ECONOMIZER POSITION. MECHANICAL COOLING MUST REMAIN DISABLED WHILE THE ECONOMIZER ALONE CAN MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT. IF THE ECONOMIZER REACHES MAXIMUM ALLOWABLE POSITION AND THE DISCHARGE AIR TEMPERATURE REMAINS ABOVE SETPOINT BY AN ADJUSTABLE DIFFERENTIAL FOR 15 MINUTES (ADJUSTABLE) MECHANICAL COOLING MUST BE ENABLED IN STAGES WHILE ECONOMIZER OPERATION REMAINS ACTIVE. THE ECONOMIZER MUST BE DISABLED AND OUTSIDE AIR DAMPERS RETURNED TO THE ACTIVE OCCUPIED OUTSIDE AIRFLOW SETPOINT WHEN OUTDOOR CONDITIONS ARE NO LONGER SUITABLE, OR UPON RECEIPT OF ANY FREEZE, SMOKE, OR SAFETY ALARM.
   j. INTEGRAL RELIEF FAN: THE INTEGRAL RELIEF FAN MUST OPERATE AS REQUIRED TO MAINTAIN BUILDING AIRFLOW BALANCE AND BUILDING PRESSURIZATION DURING OCCUPIED OPERATION. THE BAS MUST CALCULATE THE RELIEF AIRFLOW SETPOINT BASED ON MEASURED OUTSIDE AIRFLOW, MEASURED SUPPLY AIRFLOW, MEASURED RETURN AIRFLOW, SCHEDULED OR MONITORED STAND-ALONE EXHAUST AIRFLOW, AND AN ADJUSTABLE POSITIVE BUILDING PRESSURIZATION / EXFILTRATION OFFSET. INITIAL PRESSURIZATION OFFSET MUST BE 10% OF TOTAL AIRFLOW (ADJUSTABLE) UNLESS OTHERWISE DETERMINED DURING SYSTEM TEST AND BALANCE. THE INTEGRAL RELIEF FAN MUST BE ENABLED AND MODULATED TO MAINTAIN THE CALCULATED RELIEF AIRFLOW SETPOINT. DURING MINIMUM OUTSIDE AIR OPERATION, THE RELIEF FAN MAY REMAIN OFF UNLESS REQUIRED TO MAINTAIN THE CALCULATED AIRFLOW BALANCE OR BUILDING PRESSURE. A BUILDING STATIC PRESSURE SENSOR MUST BE PROVIDED BETWEEN A REPRESENTATIVE INDOOR COMMON AREA AND OUTDOORS WITH A WIND-SHIELDED OUTDOOR REFERENCE. BUILDING STATIC PRESSURE MUST BE MONITORED BY THE BAS FOR ALARM AND TRIM OF THE RELIEF AIRFLOW OFFSET. BUILDING PRESSURE MUST BE +0.05" W.C. RELATIVE TO OUTDOORS (ADJUSTABLE) OR AS DETERMINED DURING TEST AND BALANCE. THE RELIEF FAN MUST BE DISABLED UPON UNIT SHUTDOWN OR RECEIPT OF ANY FREEZE, SMOKE, OR SAFETY ALARM UNLESS OTHERWISE REQUIRED BY LIFE SAFETY SEQUENCE. UPON FAILURE OF AN AIRFLOW SENSOR USED FOR RELIEF FAN CONTROL, THE BAS MUST DEFAULT TO TAB-DETERMINED RELIEF FAN SPEEDS OR STAGES BASED ON OUTSIDE AIR DAMPER POSITION AND UNIT OPERATING MODE, AND MUST GENERATE AN ALARM.

B. ALARMS:
1. DISCHARGE AIR TEMPERATURE, LOW TEMPERATURE ALARM (45 °F, INITIALLY)
2. DISCHARGE AIR TEMPERATURE, FREEZE ALARM (35 °F, INITIALLY)
3. FILTER HIGH DIFFERENTIAL PRESSURE.
4. DISCHARGE AIR STATIC HIGH PRESSURE ALARM.
5. DISCHARGE AIR NO AIRFLOW.
6. RETURN AIR DUCT DETECTOR ALARM.
7. RETURN AIR CO2 CONCENTRATION HIGH LIMIT (1,100 PPM).
8. SUPPLY FAN ALARM.
9. RELIEF FAN ALARM.
10. COOLING ALARM.

C. DIGITAL CONTROL AND INDICATION.
1. OUTSIDE AIR TEMPERATURE RESET.
2. DISCHARGE AIR TEMPERATURE INDICATION (UNIT).
3. DISCHARGE AIR TEMPERATURE INDICATION (EXTERNAL SENSOR).
4. DISCHARGE AIR TEMPERATURE HEATING SETPOINT, OCCUPIED.
5. DISCHARGE AIR TEMPERATURE HEATING SETPOINT, UNOCCUPIED.
6. DISCHARGE AIR TEMPERATURE COOLING SETPOINT, OCCUPIED.
7. DISCHARGE AIR TEMPERATURE COOLING SETPOINT, UNOCCUPIED.
8. DISCHARGE AIR AIRFLOW INDICATION.
9. MIXED AIR TEMPERATURE INDICATION (UNIT).
10. MIXED AIR TEMPERATURE SETPOINT.
11. MIXED AIR DAMPER POSITION.
12. OUTSIDE AIR TEMPERATURE INDICATION.
13. OUTSIDE AIR DAMPER POSITION.
14. OUTSIDE AIR AIRFLOW INDICATION.
15. OUTSIDE AIR AIRFLOW SETPOINT.
16. RETURN AIR AIRFLOW INDICATION.
17. RETURN AIR TEMPERATURE INDICATION.
18. RETURN AIR CO2 CONCENTRATION (PPM).
19. FILTER DIFFERENTIAL PRESSURE INDICATION.
20. DUCT STATIC PRESSURE SETPOINT.
21. DUCT STATIC PRESSURE INDICATION.
22. DISCHARGE AIR STATIC PRESSURE INDICATION.
23. BUILDING STATIC PRESSURE INDICATION.
24. BUILDING STATIC PRESSURE SETPOINT.
25. SUPPLY FAN H-O-A CONTROL / STATUS.
26. SUPPLY FAN SPEED INDICATION.
27. SUPPLY FAN SPEED SETPOINT.
28. RELIEF FAN H-O-A CONTROL / STATUS.
29. RELIEF FAN SPEED INDICATION.
30. RELIEF FAN SPEED SETPOINT.
31. RELIEF AIR AIRFLOW INDICATION.
32. CONDENSING UNIT ENABLE/DISABLE.
33. CONDENSING UNIT STAGE.
34. CONDENSING UNIT STATUS.
35. HEATING COIL 3-WAY VALVE POSITION.
36. ECONOMIZER STATUS.
37. ECONOMIZER PERCENTAGE.
38. OCCUPANCY STATUS.
39. UNIT ON-OFF INDICATION / STATUS.
40. HEATING / COOLING STATUS.
41. HEATING / COOLING SWITCHOVER SETPOINT.
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1 RTU-1.3 CONTROL DIAGRAM
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REVISION SCHEDULE

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DATE	May 11, 2026
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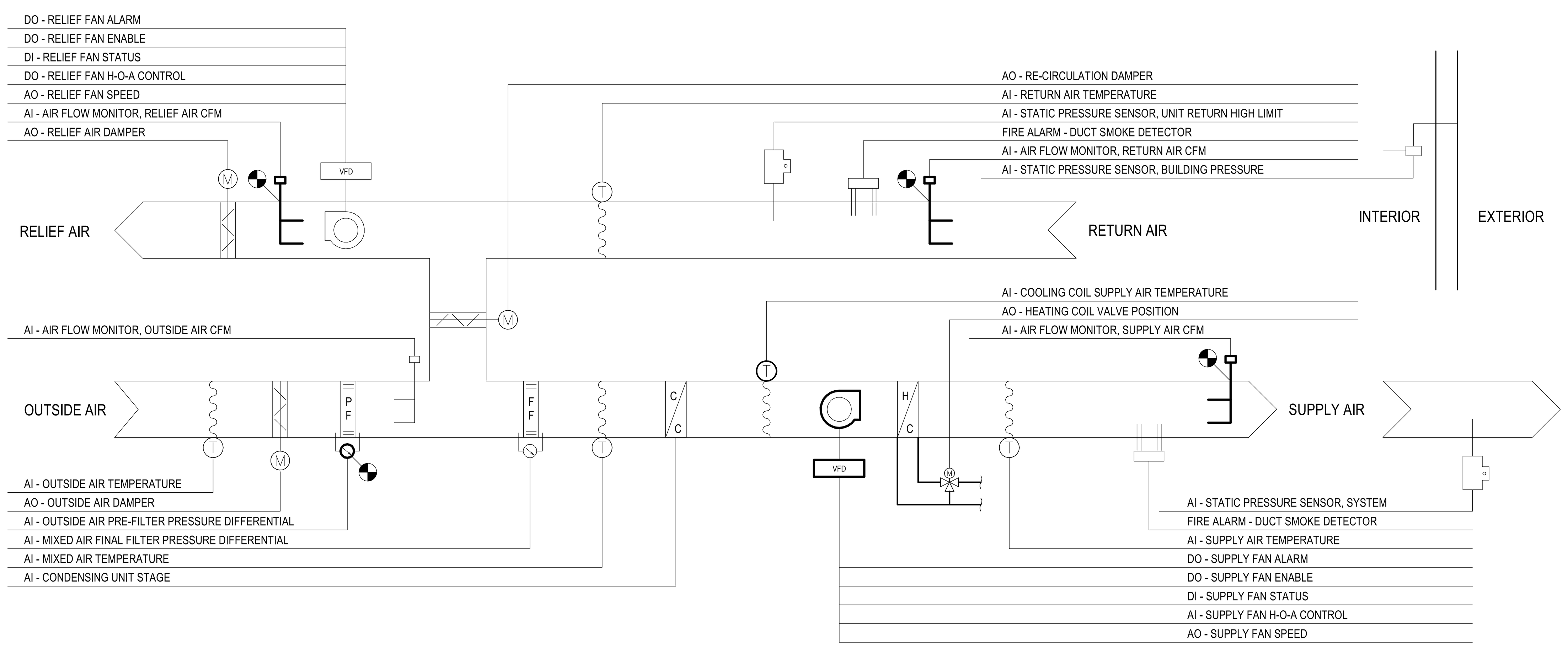
REVIEWED	Checker

SHEET NAME
CONTROLS DIAGRAMS

SHEET NO.
M804

FULL-SCALE AT 30X42



RTU-2.1, 2.2, 2.3, 3.1, 3.2 SEQUENCE OF OPERATIONS

A. AUTOMATED VARIABLE AIR VOLUME ROOF TOP UNIT SYSTEM CONTROL

1. OPERATION MODE: DAY, NIGHT, AND MORNING WARM-UP MODES OF OPERATION WILL BE CONTROLLED BY THE BAS.
2. NIGHT MODE OPERATION: DURING NIGHT MODE OF OPERATION, INTEGRAL SUPPLY AND RELIEF FANS MUST BE OFF, O/A AND RELIEF DAMPER MUST BE FULLY CLOSED, R/A DAMPER MUST BE FULLY OPEN, AND HEATING COIL 3-WAY CONTROL VALVE MUST BE CLOSED TO THE COIL.
3. MORNING WARM-UP MODE: PRIOR TO NORMAL OCCUPIED DAY MODE, THE UNIT MUST ENTER MORNING WARM-UP MODE AS DETERMINED BY BAS OPTIMUM START/STOP PROGRAMMING UTILIZING HISTORICAL BUILDING RESPONSE AND OUTDOOR CONDITIONS TO ACHIEVE OCCUPIED SPACE TEMPERATURE SETPOINT BY SCHEDULED OCCUPANCY. DURING MORNING WARM-UP MODE, THE SUPPLY FAN MUST OPERATE AND RAMP UP TO THE OCCUPIED MODE DUCT STATIC PRESSURE SETPOINT OR MINIMUM REQUIRED AIRFLOW AS DETERMINED BY THE BAS. THE RETURN AIR DAMPER MUST BE FULLY OPEN, THE OUTSIDE AIR AND RELIEF DAMPERS MUST BE FULLY CLOSED, AND THE HOT WATER HEATING COIL 3-WAY CONTROL VALVE MUST MODULATE TO MAINTAIN AN ADJUSTABLE DISCHARGE AIR TEMPERATURE HEATING SETPOINT, INITIALLY 80°F ADJUSTABLE. THE UNIT MUST TRANSITION TO NORMAL DAY MODE WHEN THE AVERAGE REPRESENTATIVE SPACE TEMPERATURE, RETURN AIR TEMPERATURE, OR OCCUPIED ZONE TEMPERATURE CRITERIA REACH THE OCCUPIED HEATING SETPOINT THRESHOLD (ADJUSTABLE) OR AT THE END OF THE OPTIMUM START PERIOD.
4. DAY MODE OPERATION:
   a. DURING OCCUPIED OPERATION, AN OUTSIDE AIRFLOW SENSOR MUST BE PROVIDED TO MEASURE, CONTROL, AND RECORD THE OUTSIDE AIRFLOW DELIVERED TO THE UNIT. THE OUTSIDE AIR DAMPER MUST MODULATE TO MAINTAIN THE SCHEDULED/CODE-REQUIRED MINIMUM OUTSIDE AIRFLOW RATE AS INDICATED ON THE DRAWINGS (INITIAL SETTING, ADJUSTABLE). DURING ECONOMIZER OPERATION, THE OUTSIDE AIR DAMPER MUST MODULATE PER THE ECONOMIZER SEQUENCE TO PROVIDE ADDITIONAL OUTSIDE AIR FOR FREE COOLING, BUT MUST NOT REDUCE BELOW THE SCHEDULED MINIMUM OUTSIDE AIRFLOW REQUIREMENT DURING OCCUPIED OPERATION. THE INTEGRAL RELIEF FAN MUST OPERATE AS REQUIRED TO MAINTAIN BUILDING PRESSURE AND RELIEVE EXCESS AIRFLOW DURING ECONOMIZER OR INCREASED OUTSIDE AIR OPERATION. IN THE EVENT OF OUTSIDE AIRFLOW SENSOR FAILURE, THE OUTSIDE AIR DAMPER MUST FAILSAFE TO THE DESIGN MINIMUM POSITION.
   b. DISCHARGE AIR TEMPERATURE RESET: THE DISCHARGE AIR TEMPERATURE MUST BE RESET BASED ON SENSING ALL SERVED ROOM SENSORS AND VAV BOX POSITIONS. DURING COOLING MODE, THE BAS MUST RESET THE DISCHARGE AIR TEMPERATURE SETPOINT UP OR DOWN AS REQUIRED TO MAINTAIN THE COOLING SETPOINT IN THE WARMEST ROOM WITH THE ASSOCIATED VAV BOX NEAR FULL COOLING POSITION. INITIAL COOLING DISCHARGE AIR TEMPERATURE RESET RANGE MUST BE 55°F TO 65°F (ADJUSTABLE). DURING HEATING MODE, THE BAS MUST RESET THE DISCHARGE AIR TEMPERATURE SETPOINT AS REQUIRED TO MAINTAIN HEATING SETPOINTS IN THE SERVED SPACES. THE HOT WATER HEATING COIL 3-WAY CONTROL VALVE MUST MODULATE TO MAINTAIN THE ACTIVE DISCHARGE AIR TEMPERATURE HEATING SETPOINT. INITIAL HEATING DISCHARGE AIR TEMPERATURE SETPOINT IS 55°F (ADJUSTABLE).
   c. DX COOLING CONTROL: THE O/A DAMPERS, R/A DAMPERS, ECONOMIZER, AND INTEGRAL DX UNIT CONTROLLER MUST STAGE AS REQUIRED TO MAINTAIN THE ACTIVE DISCHARGE AIR TEMPERATURE COOLING SETPOINT. MECHANICAL DX COOLING MUST NOT BE ALLOWED TO DROP DISCHARGE AIR TEMPERATURE BELOW 55°F, ADJUSTABLE, UNDER ANY OPERATING CONDITION.
   d. HEATING COIL CONTROL: THE HOT WATER HEATING COIL 3-WAY CONTROL VALVE MUST MODULATE TO MAINTAIN THE ACTIVE DISCHARGE AIR TEMPERATURE HEATING SETPOINT. UPON A CALL FOR HEATING FROM THE BAS, THE HEATING COIL CONTROL VALVE MUST MODULATE OPEN TO MAINTAIN DISCHARGE AIR TEMPERATURE SETPOINT. WHEN HEATING IS NOT REQUIRED, THE CONTROL VALVE MUST MODULATE CLOSED. THE HEATING COIL CONTROL VALVE MUST FAIL OPEN TO FLOW THROUGH THE COIL UPON LOSS OF CONTROL SIGNAL OR FREEZE PROTECTION ALARM.
   e. SUPPLY FAN & VARIABLE SPEED DRIVE: DUCT STATIC PRESSURE SENSORS MUST MODULATE THE SUPPLY FAN VFD TO MAINTAIN THE SUPPLY DUCT STATIC PRESSURE SETPOINT. DUCT STATIC PRESSURE SENSORS MUST BE LOCATED IN THE MAIN SUPPLY DUCT AT APPROXIMATELY 2/3 OF THE DISTANCE BETWEEN THE SUPPLY FAN AND THE MOST REMOTE TERMINAL UNIT. IN SYSTEMS WITH MULTIPLE MAIN DUCT BRANCHES, PROVIDE A STATIC PRESSURE SENSOR IN EACH MAJOR DUCT BRANCH OR AS INDICATED TO MONITOR SYSTEM PERFORMANCE. OPERATIONAL DUCT STATIC PRESSURE SETPOINTS MUST BE DETERMINED BY THE TEST AND BALANCE CONTRACTOR DURING SYSTEM BALANCING AND COORDINATED WITH THE CONTROLS CONTRACTOR. FAN SPEED MUST BE CONTROLLED TO SATISFY THE MOST DEMANDING OR MOST RESTRICTIVE DUCT STATIC PRESSURE SENSOR, DEFINED AS THE SENSOR FARTHEST BELOW ITS ACTIVE SETPOINT. IF ALL MONITORED STATIC PRESSURE SENSORS ARE AT OR ABOVE SETPOINT, FAN SPEED MUST REDUCE TO MAINTAIN THE MINIMUM REQUIRED SYSTEM PRESSURE AND AIRFLOW.
   f. FREEZE ALARM: ON DISCHARGE AIR FREEZE ALARM SET INITIALLY AT 35° F (ADJUSTABLE), THE FAN MUST STOP, O/A DAMPERS WILL FULLY CLOSE, AND R/A DAMPERS WILL FULLY OPEN. PROVIDE AUTOMATIC RESET. UPON THE 6TH CONSECUTIVE AUTOMATIC RESET RESTART FAILURE, THE BAS SHALL LOCK OUT UNIT OPERATION UNTIL MANUAL RESET.
   g. HIGH DISCHARGE STATIC PRESSURE SAFETY: UNIT DISCHARGE STATIC PRESSURE MUST BE MONITORED BY THE BAS AND/OR UNIT SAFETY CONTROLS TO PROTECT THE SUPPLY AIR SYSTEM FROM EXCESSIVE PRESSURE CONDITIONS. THE HIGH STATIC PRESSURE ALARM AND SHUTDOWN THRESHOLD SHALL BE DETERMINED DURING SYSTEM TEST AND BALANCE AND COORDINATED WITH THE CONTROLS CONTRACTOR AND UNIT MANUFACTURER BASED ON FINAL OPERATING CONDITIONS AND EQUIPMENT LIMITATIONS. UPON HIGH DISCHARGE STATIC PRESSURE ALARM, THE SUPPLY FAN MUST STOP, THE OUTSIDE AIR DAMPERS MUST FULLY CLOSE, AND THE RETURN AIR DAMPERS MUST FULLY OPEN. PROVIDE AUTOMATIC RESET.
   h. FIRE ALARM SHUTDOWN: AIR HANDLING UNIT SMOKE DETECTOR MUST BE WIRED DIRECTLY TO THE ADDRESSABLE FIRE ALARM SYSTEM. AIR HANDLING UNIT FAN MOTOR STARTER MUST BE CONNECTED TO THE FIRE ALARM SYSTEM TO STOP FAN MOTOR ON ALARM. DDC SYSTEM MUST VERIFY FAN SHUT DOWN AND MUST CLOSE THE OUTSIDE AIR DAMPER AND SHUT DOWN RESPECTIVE RELIEF FANS AND CLOSE THE MOTORIZED DAMPERS. COORDINATE WITH DIVISION 26. DETECTION OF SMOKE AT THE AIR HANDLING UNIT SMOKE DETECTOR MUST SHUT DOWN THE AHU.
   i. ECONOMIZER: ECONOMIZER OPERATION MUST BE ENABLED WHEN OUTDOOR AIR CONDITIONS ARE SUITABLE FOR FREE COOLING AS DETERMINED BY THE BAS USING ADJUSTABLE DRY-BULB AND ENTHALPY CONTROL STRATEGIES. WHEN ENABLED, THE OUTSIDE AIR AND RETURN AIR DAMPERS MUST MODULATE TO MAINTAIN THE DISCHARGE AIR TEMPERATURE COOLING SETPOINT WHILE MINIMIZING MECHANICAL COOLING ENERGY USE. THE ECONOMIZER MUST MODULATE BETWEEN THE OCCUPIED MINIMUM OUTSIDE AIR POSITION AND THE MAXIMUM ALLOWABLE ECONOMIZER POSITION. MECHANICAL COOLING MUST REMAIN DISABLED WHILE THE ECONOMIZER ALONE CAN MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT. IF THE ECONOMIZER REACHES MAXIMUM ALLOWABLE POSITION AND THE DISCHARGE AIR TEMPERATURE REMAINS ABOVE SETPOINT BY AN ADJUSTABLE DIFFERENTIAL FOR 15 MINUTES (ADJUSTABLE), MECHANICAL COOLING MUST BE ENABLED IN STAGES WHILE ECONOMIZER OPERATION REMAINS ACTIVE (INTEGRATED ECONOMIZER). THE ECONOMIZER MUST BE DISABLED AND OUTSIDE AIR DAMPERS RETURNED TO THE OCCUPIED MINIMUM POSITION WHEN OUTDOOR CONDITIONS ARE NO LONGER SUITABLE, OR UPON ANY FREEZE, SMOKE, OR SAFETY ALARM.
   j. INTEGRAL RELIEF FANS: THE INTEGRAL RELIEF FANS MUST OPERATE AS REQUIRED TO MAINTAIN BUILDING AIRFLOW BALANCE AND BUILDING PRESSURIZATION DURING OCCUPIED OPERATION. THE BAS MUST CALCULATE THE RELIEF AIRFLOW SETPOINT BASED ON MEASURED OUTSIDE AIRFLOW, MEASURED SUPPLY AIRFLOW, MEASURED RETURN AIRFLOW, SCHEDULED OR MONITORED STAND-ALONE EXHAUST AIRFLOW, AND AN ADJUSTABLE POSITIVE BUILDING PRESSURIZATION / EXFILTRATION OFFSET. INITIAL PRESSURIZATION OFFSET MUST BE 10% OF TOTAL AIRFLOW, ADJUSTABLE, UNLESS OTHERWISE DETERMINED DURING SYSTEM TEST AND BALANCE. THE INTEGRAL RELIEF FANS MUST BE ENABLED, STAGED, AND MODULATED TO MAINTAIN THE CALCULATED RELIEF AIRFLOW SETPOINT. DURING MINIMUM OUTSIDE AIR OPERATION, THE RELIEF FANS MAY REMAIN OFF UNLESS REQUIRED TO MAINTAIN THE CALCULATED AIRFLOW BALANCE OR BUILDING PRESSURE. A BUILDING STATIC PRESSURE SENSOR MUST BE PROVIDED BETWEEN A REPRESENTATIVE INDOOR COMMON AREA AND OUTDOORS WITH A WIND-SHIELDED OUTDOOR REFERENCE. BUILDING STATIC PRESSURE MUST BE MONITORED BY THE BAS FOR ALARM AND TRIM OF THE RELIEF AIRFLOW OFFSET. BUILDING PRESSURE MUST BE +0.05" W.C. RELATIVE TO OUTDOORS (ADJUSTABLE) OR AS DETERMINED DURING TEST AND BALANCE. THE RELIEF FANS MUST BE DISABLED UPON UNIT SHUTDOWN OR RECEIPT OF ANY FREEZE, SMOKE, OR SAFETY ALARM UNLESS OTHERWISE REQUIRED BY LIFE SAFETY SEQUENCE. UPON FAILURE OF AN AIRFLOW SENSOR USED FOR RELIEF FAN CONTROL, THE BAS MUST DEFAULT TO TAB-DETERMINED RELIEF FAN SPEEDS OR STAGES BASED ON OUTSIDE AIR DAMPER POSITION AND UNIT OPERATING MODE, AND MUST GENERATE AN ALARM.
   k. REFRIGERANT SAFETIES (RTU-2.2, 2.3, 3.1, 3.2 ONLY): FOR NEW UNITS UTILIZING INTEGRAL DX COOLING SYSTEMS WITH A2L REFRIGERANTS, THE BAS CONTRACTOR MUST COORDINATE WITH THE RTU MANUFACTURER, INSTALLING CONTRACTOR, AND ALL APPLICABLE CODES AND STANDARDS, INCLUDING ASHRAE STANDARD 15, IMC, APPLICABLE PRODUCT SAFETY STANDARDS, AND MANUFACTURER REQUIREMENTS, TO IMPLEMENT ALL REQUIRED REFRIGERANT SAFETIES, DETECTION, ALARM, MITIGATION, CONTROL INTERLOCKS, AND RESET SEQUENCES. WHILE THE BAS SHALL PROVIDE COOLING ENABLE / DEMAND SIGNALS TO THE INTEGRAL DX SYSTEM, THE BAS CONTRACTOR MUST ENSURE THAT ALL REQUIRED REFRIGERANT SAFETY FUNCTIONS, INCLUDING BUT NOT LIMITED TO REFRIGERANT LEAK DETECTION, HIGH- AND LOW-PRESSURE SAFETIES, COMPRESSOR PROTECTION, REQUIRED AIRFLOW OR VENTILATION MITIGATION, SAFETY SHUTDOWN, ALARM ANNUNCIATION, FAN OR DAMPER INTERLOCKS, AND REQUIRED RESET LOGIC, ARE PROPERLY INTEGRATED AND COORDINATED BETWEEN THE BAS, BAS CONTRACTOR RTU CONTROLLER, AND MANUFACTURER'S DX CONTROLLER AS REQUIRED BY THE INSTALLED REFRIGERANT TYPE, UNIT CONFIGURATION, INSTALLED REFRIGERANT CHARGE, OCCUPANCY CLASSIFICATION, AND INSTALLATION CONDITIONS. UPON REFRIGERANT SAFETY ALARM, LEAK DETECTION EVENT, OR UNIT SAFETY TRIP, THE BAS MUST COORDINATE WITH THE UNIT CONTROLLER TO DISABLE MECHANICAL COOLING DEMAND, INITIATE ALL REQUIRED SAFETY OR MITIGATION RESPONSES, AND ANNUNCIATE ASSOCIATED ALARMS. THE BAS CONTRACTOR IS RESPONSIBLE FOR VERIFYING THAT THE FINAL INSTALLED CONTROL SEQUENCE FULLY COMPLIES WITH THE MANUFACTURER'S REQUIREMENTS AND ALL APPLICABLE CODES AND STANDARDS.

B. ALARMS:

1. DISCHARGE AIR TEMPERATURE, LOW TEMPERATURE ALARM (45 °F, INITIALLY)
2. DISCHARGE AIR TEMPERATURE, FREEZE ALARM (35 °F, INITIALLY)
3. FINAL FILTER HIGH DIFFERENTIAL PRESSURE.
4. PRE-FILTER HIGH DIFFERENTIAL PRESSURE.
5. DISCHARGE AIR STATIC HIGH PRESSURE ALARM.
6. DISCHARGE AIR NO AIRFLOW.
7. RETURN AIR DUCT DETECTOR ALARM.
8. RETURN AIR CO2 HIGH LIMIT (1,100 PPM, RTU-3.1, 3.2 ONLY)
9. SUPPLY FAN ALARM.
10. RELIEF FAN ALARM.
11. COOLING ALARM.

C. DIGITAL CONTROL AND INDICATION.

1. OUTSIDE AIR TEMPERATURE RESET.
2. DISCHARGE AIR TEMPERATURE INDICATION (UNIT).
3. DISCHARGE AIR TEMPERATURE INDICATION (EXTERNAL SENSOR).
4. DISCHARGE AIR TEMPERATURE HEATING SETPOINT, OCCUPIED.
5. DISCHARGE AIR TEMPERATURE HEATING SETPOINT, UNOCCUPIED.
6. DISCHARGE AIR TEMPERATURE COOLING SETPOINT, OCCUPIED.
7. DISCHARGE AIR TEMPERATURE COOLING SETPOINT, UNOCCUPIED.
8. DISCHARGE AIR AIRFLOW INDICATION.
9. MIXED AIR TEMPERATURE INDICATION (UNIT).
10. MIXED AIR TEMPERATURE SETPOINT.
11. MIXED AIR DAMPER POSITION.
12. OUTSIDE AIR TEMPERATURE INDICATION.
13. OUTSIDE AIR DAMPER POSITION.
14. OUTSIDE AIR AIRFLOW INDICATION.
15. OUTSIDE AIR AIRFLOW SETPOINT.
16. RETURN AIR AIRFLOW INDICATION.
17. RETURN AIR TEMPERATURE INDICATION.
18. RETURN AIR CO2 CONCENTRATION (PPM). (RTU-3.1, 3.2 ONLY)
19. FINAL FILTER DIFFERENTIAL PRESSURE INDICATION.
20. PRE-FILTER DIFFERENTIAL PRESSURE INDICATION.
21. DUCT STATIC PRESSURE SETPOINT.
22. DUCT STATIC PRESSURE INDICATION.
23. DISCHARGE AIR STATIC PRESSURE INDICATION.
24. BUILDING STATIC PRESSURE INDICATION.
25. BUILDING STATIC PRESSURE SETPOINT.
26. HEATING COIL CONTROL VALVE POSITION.
27. HEATING COIL WATER TEMPERATURE SUPPLY INDICATION (EXTERNAL SENSOR).
28. HEATING COIL WATER TEMPERATURE RETURN INDICATION (EXTERNAL SENSOR).
29. HEATING COIL LEAVING AIR TEMPERATURE INDICATION.
30. HEATING COIL LEAVING AIR TEMPERATURE SETPOINT.
31. SUPPLY FAN H-O-A CONTROL / STATUS.
32. SUPPLY FAN SPEED INDICATION.
33. SUPPLY FAN SPEED SETPOINT.
34. RELIEF FAN H-O-A CONTROL / STATUS
35. RELIEF FAN SPEED INDICATION
36. RELIEF FAN SPEED SETPOINT
37. RELIEF AIR AIRFLOW INDICATION.
38. CONDENSING UNIT ENABLE/DISABLE.
39. CONDENSING UNIT STAGE.
40. CONDENSING UNIT STATUS.
41. ECONOMIZER STATUS.
42. ECONOMIZER PERCENTAGE.
43. RETURN AIR ENTHALPY.
44. OCCUPANCY STATUS.
45. UNIT ON-OFF INDICATION / STATUS.
46. HEATING / COOLING STATUS.
47. HEATING / COOLING SWITCHOVER SETPOINT.
48. ALARMS.

1 RTU-2.1, 2.2, 2.3, 3.1, 3.2 CONTROL DIAGRAM
NOT TO SCALE

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STAMP

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YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES
65% DESIGN DEVELOPMENT
4320 Diplomacy Dr, Anchorage, AK 99508

REVISION SCHEDULE

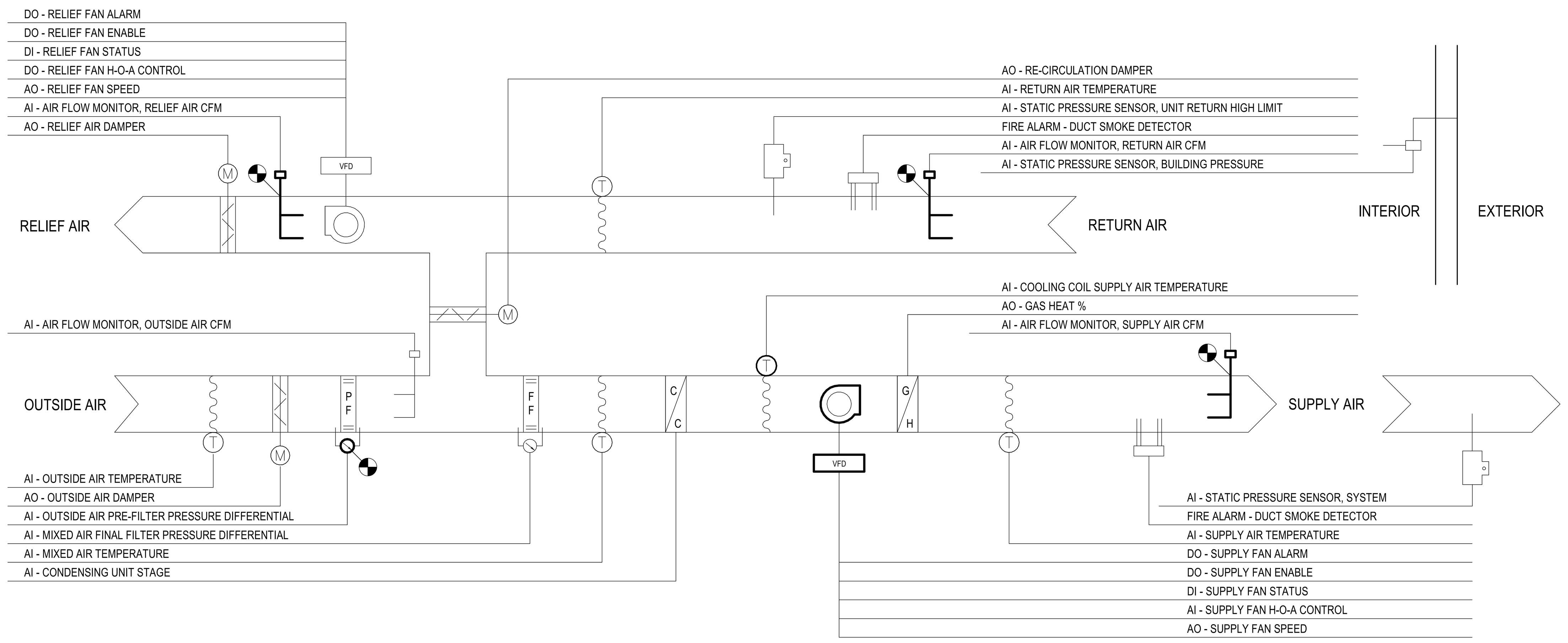
#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME
CONTROLS DIAGRAMS

SHEET NO.
M805

FULL-SCALE AT 30X42



RTU-2.4 SEQUENCE OF OPERATIONS

A. AUTOMATED VARIABLE AIR VOLUME ROOF TOP UNIT SYSTEM CONTROL

1. OPERATION MODE: DAY, NIGHT, AND MORNING WARM-UP MODES OF OPERATION WILL BE CONTROLLED BY THE BAS.
2. NIGHT MODE OPERATION: DURING NIGHT MODE OF OPERATION, INTEGRAL SUPPLY AND RELIEF FANS MUST BE OFF, O/A AND RELIEF DAMPER MUST BE FULLY CLOSED, R/A DAMPER MUST BE FULLY OPEN, AND GAS HEAT MUST BE OFF.
3. MORNING WARM-UP MODE: PRIOR TO NORMAL OCCUPIED DAY MODE, THE UNIT MUST ENTER MORNING WARM-UP MODE AS DETERMINED BY BAS OPTIMUM START/STOP PROGRAMMING UTILIZING HISTORICAL BUILDING RESPONSE AND OUTDOOR CONDITIONS TO ACHIEVE OCCUPIED SPACE TEMPERATURE SETPOINT BY SCHEDULED OCCUPANCY. DURING MORNING WARM-UP MODE, THE SUPPLY FAN MUST OPERATE AND RAMP UP TO THE OCCUPIED MODE DUCT STATIC PRESSURE SETPOINT OR MINIMUM REQUIRED AIRFLOW AS DETERMINED BY THE BAS. THE RETURN AIR DAMPER MUST BE FULLY OPEN, THE OUTSIDE AIR AND RELIEF DAMPERS MUST BE FULLY CLOSED, AND THE GAS BURNER MUST MODULATE TO MAINTAIN AN ADJUSTABLE DISCHARGE AIR TEMPERATURE HEATING SETPOINT, INITIALLY 80°F (ADJUSTABLE). THE UNIT MUST TRANSITION TO NORMAL DAY MODE WHEN THE AVERAGE REPRESENTATIVE SPACE TEMPERATURE, RETURN AIR TEMPERATURE, OR OCCUPIED ZONE TEMPERATURE CRITERIA REACH THE OCCUPIED HEATING SETPOINT THRESHOLD (ADJUSTABLE) OR AT THE END OF THE OPTIMUM START PERIOD.
4. DAY MODE OPERATION:
   a. DURING OCCUPIED OPERATION, AN OUTSIDE AIRFLOW SENSOR MUST BE PROVIDED TO MEASURE, CONTROL, AND RECORD THE OUTSIDE AIRFLOW DELIVERED TO THE UNIT. THE OUTSIDE AIR DAMPER MUST MODULATE TO MAINTAIN THE SCHEDULED/CODE-REQUIRED MINIMUM OUTSIDE AIRFLOW RATE AS INDICATED ON THE DRAWINGS (INITIAL SETTING, ADJUSTABLE). DURING ECONOMIZER OPERATION, THE OUTSIDE AIR DAMPER MUST MODULATE PER THE ECONOMIZER SEQUENCE TO PROVIDE ADDITIONAL OUTSIDE AIR FOR FREE COOLING, BUT MUST NOT REDUCE BELOW THE SCHEDULED MINIMUM OUTSIDE AIRFLOW REQUIREMENT DURING OCCUPIED OPERATION. THE INTEGRAL RELIEF FAN MUST OPERATE AS REQUIRED TO MAINTAIN BUILDING PRESSURE AND RELIEVE EXCESS AIRFLOW DURING ECONOMIZER OR INCREASED OUTSIDE AIR OPERATION. IN THE EVENT OF OUTSIDE AIRFLOW SENSOR FAILURE, THE OUTSIDE AIR DAMPER MUST FAILSAFE TO THE DESIGN MINIMUM POSITION.
   b. DISCHARGE AIR TEMPERATURE RESET: THE DISCHARGE AIR TEMPERATURE MUST BE RESET BASED ON SENSING ALL SERVED ROOM SENSORS AND VAV BOX POSITIONS. DURING COOLING MODE, THE BAS MUST RESET THE DISCHARGE AIR TEMPERATURE SETPOINT UP OR DOWN AS REQUIRED TO MAINTAIN THE COOLING SETPOINT IN THE WARMEST ROOM WITH THE ASSOCIATED VAV BOX NEAR FULL COOLING POSITION. INITIAL COOLING DISCHARGE AIR TEMPERATURE RESET RANGE MUST BE 55°F TO 65°F (ADJUSTABLE). DURING HEATING MODE, THE BAS MUST RESET THE DISCHARGE AIR TEMPERATURE SETPOINT AS REQUIRED TO MAINTAIN HEATING SETPOINTS IN THE SERVED SPACES. THE GAS BURNER MUST MODULATE TO MAINTAIN THE ACTIVE DISCHARGE AIR TEMPERATURE HEATING SETPOINT. INITIAL HEATING DISCHARGE AIR TEMPERATURE SETPOINT IS 55°F (ADJUSTABLE).
   c. DX COOLING CONTROL: THE O/A DAMPERS, R/A DAMPERS, ECONOMIZER, AND INTEGRAL DX UNIT CONTROLLER MUST STAGE AS REQUIRED TO MAINTAIN THE ACTIVE DISCHARGE AIR TEMPERATURE COOLING SETPOINT. MECHANICAL DX COOLING MUST NOT BE ALLOWED TO DROP DISCHARGE AIR TEMPERATURE BELOW 55°F, ADJUSTABLE, UNDER ANY OPERATING CONDITION.
   d. GAS HEATING CONTROL: THE MODULATING GAS BURNER MUST MODULATE AS REQUIRED TO MAINTAIN THE ACTIVE DISCHARGE AIR TEMPERATURE HEATING SETPOINT. UPON A CALL FOR HEATING, THE BAS MUST INITIATE ALL REQUIRED PRE-PURGE, IGNITION, FLAME PROVING, AND SAFETY VERIFICATION SEQUENCES IN ACCORDANCE WITH THE BURNER MANUFACTURERS REQUIREMENTS. THE GAS BURNER MUST MODULATE BETWEEN MINIMUM AND MAXIMUM FIRING RATES AS REQUIRED TO SATISFY DISCHARGE AIR TEMPERATURE SETPOINT WHILE MINIMIZING TEMPERATURE OVERSHOOT AND CYCLING. GAS HEATING MUST OPERATE SUBJECT TO FLAME SAFEGUARD, HIGH LIMIT, COMBUSTION AIR, GAS TRAIN, AND OTHER MANUFACTURER REQUIRED SAFETIES. LOSS OF FLAME PROVING OR SAFETY FAULT MUST DISABLE GAS HEATING AND GENERATE AN ALARM.
   e. SUPPLY FAN & VARIABLE SPEED DRIVE: DUCT STATIC PRESSURE SENSORS MUST MODULATE THE SUPPLY FAN VFD TO MAINTAIN THE SUPPLY DUCT STATIC PRESSURE SETPOINT. DUCT STATIC PRESSURE SENSORS MUST BE LOCATED IN THE MAIN SUPPLY DUCT AT APPROXIMATELY 2/3 OF THE DISTANCE BETWEEN THE SUPPLY FAN AND THE MOST REMOTE TERMINAL UNIT. IN SYSTEMS WITH MULTIPLE MAIN DUCT BRANCHES, PROVIDE A STATIC PRESSURE SENSOR IN EACH MAJOR DUCT BRANCH OR AS INDICATED TO MONITOR SYSTEM PERFORMANCE. OPERATIONAL DUCT STATIC PRESSURE SETPOINTS MUST BE DETERMINED BY THE TEST AND BALANCE CONTRACTOR DURING SYSTEM BALANCING AND COORDINATED WITH THE CONTROLS CONTRACTOR. FAN SPEED MUST BE CONTROLLED TO SATISFY THE MOST DEMANDING OR MOST RESTRICTIVE DUCT STATIC PRESSURE SENSOR, DEFINED AS THE SENSOR FARTHEST BELOW ITS ACTIVE SETPOINT. IF ALL MONITORED STATIC PRESSURE SENSORS ARE AT OR ABOVE SETPOINT, FAN SPEED MUST REDUCE TO MAINTAIN THE MINIMUM REQUIRED SYSTEM PRESSURE AND AIRFLOW.
   f. FREEZE ALARM: ON DISCHARGE AIR FREEZE ALARM SET INITIALLY AT 35° F (ADJUSTABLE), THE FAN MUST STOP, O/A DAMPERS WILL FULLY CLOSE, AND R/A DAMPERS WILL FULLY OPEN. PROVIDE AUTOMATIC RESET. UPON THE 6TH CONSECUTIVE AUTOMATIC RESET RESTART FAILURE, THE BAS SHALL LOCK OUT UNIT OPERATION UNTIL MANUAL RESET.
   g. HIGH DISCHARGE STATIC PRESSURE SAFETY: UNIT DISCHARGE STATIC PRESSURE MUST BE MONITORED BY THE BAS AND/OR UNIT SAFETY CONTROLS TO PROTECT THE SUPPLY AIR SYSTEM FROM EXCESSIVE PRESSURE CONDITIONS. THE HIGH STATIC PRESSURE ALARM AND SHUTDOWN THRESHOLD SHALL BE DETERMINED DURING SYSTEM TEST AND BALANCE AND COORDINATED WITH THE CONTROLS CONTRACTOR AND UNIT MANUFACTURER BASED ON FINAL OPERATING CONDITIONS AND EQUIPMENT LIMITATIONS. UPON HIGH DISCHARGE STATIC PRESSURE ALARM, THE SUPPLY FAN MUST STOP, THE OUTSIDE AIR DAMPERS MUST FULLY CLOSE, AND THE RETURN AIR DAMPERS MUST FULLY OPEN. PROVIDE AUTOMATIC RESET.
   h. FIRE ALARM SHUTDOWN: AIR HANDLING UNIT SMOKE DETECTOR MUST BE WIRED DIRECTLY TO THE ADDRESSABLE FIRE ALARM SYSTEM. AIR HANDLING UNIT FAN MOTOR STARTER MUST BE CONNECTED TO THE FIRE ALARM SYSTEM TO STOP FAN MOTOR ON ALARM. DDC SYSTEM MUST VERIFY FAN SHUT DOWN AND MUST CLOSE THE OUTSIDE AIR DAMPER AND SHUT DOWN RESPECTIVE RELIEF FANS AND CLOSE THE MOTORIZED DAMPERS. COORDINATE WITH DIVISION 26. DETECTION OF SMOKE AT THE AIR HANDLING UNIT SMOKE DETECTOR MUST SHUT DOWN THE AHU.
   i. ECONOMIZER: ECONOMIZER OPERATION MUST BE ENABLED WHEN OUTDOOR AIR CONDITIONS ARE SUITABLE FOR FREE COOLING AS DETERMINED BY THE BAS USING ADJUSTABLE DRY-BULB AND ENTHALPY CONTROL STRATEGIES. WHEN ENABLED, THE OUTSIDE AIR AND RETURN AIR DAMPERS MUST MODULATE TO MAINTAIN THE DISCHARGE AIR TEMPERATURE COOLING SETPOINT WHILE MINIMIZING MECHANICAL COOLING ENERGY USE. THE ECONOMIZER MUST MODULATE BETWEEN THE OCCUPIED MINIMUM OUTSIDE AIR POSITION AND THE MAXIMUM ALLOWABLE ECONOMIZER POSITION. MECHANICAL COOLING MUST REMAIN DISABLED WHILE THE ECONOMIZER ALONE CAN MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT. IF THE ECONOMIZER REACHES MAXIMUM ALLOWABLE POSITION AND THE DISCHARGE AIR TEMPERATURE REMAINS ABOVE SETPOINT BY AN ADJUSTABLE DIFFERENTIAL FOR 15 MINUTES (ADJUSTABLE), MECHANICAL COOLING MUST BE ENABLED IN STAGES WHILE ECONOMIZER OPERATION REMAINS ACTIVE (INTEGRATED ECONOMIZER). THE ECONOMIZER MUST BE DISABLED AND OUTSIDE AIR DAMPERS RETURNED TO THE OCCUPIED MINIMUM POSITION WHEN OUTDOOR CONDITIONS ARE NO LONGER SUITABLE, OR UPON ANY FREEZE, SMOKE, OR SAFETY ALARM.
   j. INTEGRAL RELIEF FANS: THE INTEGRAL RELIEF FANS MUST OPERATE AS REQUIRED TO MAINTAIN BUILDING AIRFLOW BALANCE AND BUILDING PRESSURIZATION DURING OCCUPIED OPERATION. THE BAS MUST CALCULATE THE RELIEF AIRFLOW SETPOINT BASED ON MEASURED OUTSIDE AIRFLOW, MEASURED SUPPLY AIRFLOW, MEASURED RETURN AIRFLOW, SCHEDULED OR MONITORED STAND-ALONE EXHAUST AIRFLOW, AND AN ADJUSTABLE POSITIVE BUILDING PRESSURIZATION / EXFILTRATION OFFSET. INITIAL PRESSURIZATION OFFSET MUST BE 10% OF TOTAL AIRFLOW, ADJUSTABLE, UNLESS OTHERWISE DETERMINED DURING SYSTEM TEST AND BALANCE. THE INTEGRAL RELIEF FANS MUST BE ENABLED, STAGED, AND MODULATED TO MAINTAIN THE CALCULATED RELIEF AIRFLOW SETPOINT. DURING MINIMUM OUTSIDE AIR OPERATION, THE RELIEF FANS MAY REMAIN OFF UNLESS REQUIRED TO MAINTAIN THE CALCULATED AIRFLOW BALANCE OR BUILDING PRESSURE. A BUILDING STATIC PRESSURE SENSOR MUST BE PROVIDED BETWEEN A REPRESENTATIVE INDOOR COMMON AREA AND OUTDOORS WITH A WIND-SHIELDED OUTDOOR REFERENCE. BUILDING STATIC PRESSURE MUST BE MONITORED BY THE BAS FOR ALARM AND TRIM OF THE RELIEF AIRFLOW OFFSET. BUILDING PRESSURE MUST BE +0.05" W.C. RELATIVE TO OUTDOORS (ADJUSTABLE) OR AS DETERMINED DURING TEST AND BALANCE. THE RELIEF FANS MUST BE DISABLED UPON UNIT SHUTDOWN OR RECEIPT OF ANY FREEZE, SMOKE, OR SAFETY ALARM UNLESS OTHERWISE REQUIRED BY LIFE SAFETY SEQUENCE. UPON FAILURE OF AN AIRFLOW SENSOR USED FOR RELIEF FAN CONTROL, THE BAS MUST DEFAULT TO TAB-DETERMINED RELIEF FAN SPEEDS OR STAGES BASED ON OUTSIDE AIR DAMPER POSITION AND UNIT OPERATING MODE, AND MUST GENERATE AN ALARM.

B. ALARMS:

1. DISCHARGE AIR TEMPERATURE, LOW TEMPERATURE ALARM (45 °F, INITIALLY)
2. DISCHARGE AIR TEMPERATURE, FREEZE ALARM (35 °F, INITIALLY)
3. FINAL FILTER HIGH DIFFERENTIAL PRESSURE.
4. PRE-FILTER HIGH DIFFERENTIAL PRESSURE.
5. DISCHARGE AIR STATIC HIGH PRESSURE ALARM.
6. DISCHARGE AIR NO AIRFLOW.
7. RETURN AIR DUCT DETECTOR ALARM.
8. SUPPLY FAN ALARM.
9. RELIEF FAN ALARM.
10. COOLING ALARM.
11. GAS BURNER ALARM.

C. DIGITAL CONTROL AND INDICATION.

1. OUTSIDE AIR TEMPERATURE RESET.
2. DISCHARGE AIR TEMPERATURE INDICATION (UNIT).
3. DISCHARGE AIR TEMPERATURE INDICATION (EXTERNAL SENSOR).
4. DISCHARGE AIR TEMPERATURE HEATING SETPOINT, OCCUPIED.
5. DISCHARGE AIR TEMPERATURE HEATING SETPOINT, UNOCCUPIED.
6. DISCHARGE AIR TEMPERATURE COOLING SETPOINT, OCCUPIED.
7. DISCHARGE AIR TEMPERATURE COOLING SETPOINT, UNOCCUPIED.
8. DISCHARGE AIR AIRFLOW INDICATION.
9. MIXED AIR TEMPERATURE INDICATION (UNIT).
10. MIXED AIR TEMPERATURE SETPOINT.
11. MIXED AIR DAMPER POSITION.
12. OUTSIDE AIR TEMPERATURE INDICATION.
13. OUTSIDE AIR DAMPER POSITION.
14. OUTSIDE AIR AIRFLOW INDICATION.
15. OUTSIDE AIR AIRFLOW SETPOINT.
16. RETURN AIR AIRFLOW INDICATION.
17. RETURN AIR TEMPERATURE INDICATION.
18. FINAL FILTER DIFFERENTIAL PRESSURE INDICATION.
19. PRE-FILTER DIFFERENTIAL PRESSURE INDICATION.
20. DUCT STATIC PRESSURE SETPOINT.
21. DUCT STATIC PRESSURE INDICATION.
22. DISCHARGE AIR STATIC PRESSURE INDICATION.
23. BUILDING STATIC PRESSURE INDICATION.
24. BUILDING STATIC PRESSURE SETPOINT.
25. GAS BURNER HEATING %
26. SUPPLY FAN H-O-A CONTROL / STATUS.
27. SUPPLY FAN SPEED INDICATION.
28. SUPPLY FAN SPEED SETPOINT.
29. RELIEF FAN H-O-A CONTROL / STATUS
30. RELIEF FAN SPEED INDICATION
31. RELIEF FAN SPEED SETPOINT
32. RELIEF AIR AIRFLOW INDICATION.
33. CONDENSING UNIT ENABLE/DISABLE.
34. CONDENSING UNIT STAGE.
35. CONDENSING UNIT STATUS.
36. ECONOMIZER STATUS.
37. ECONOMIZER PERCENTAGE.
38. RETURN AIR ENTHALPY.
39. OCCUPANCY STATUS.
40. UNIT ON-OFF INDICATION / STATUS.
41. HEATING / COOLING STATUS.
42. HEATING / COOLING SWITCHOVER SETPOINT.
43. ALARMS.

1 RTU-2.4 CONTROL DIAGRAM
NOT TO SCALE

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REVISION SCHEDULE

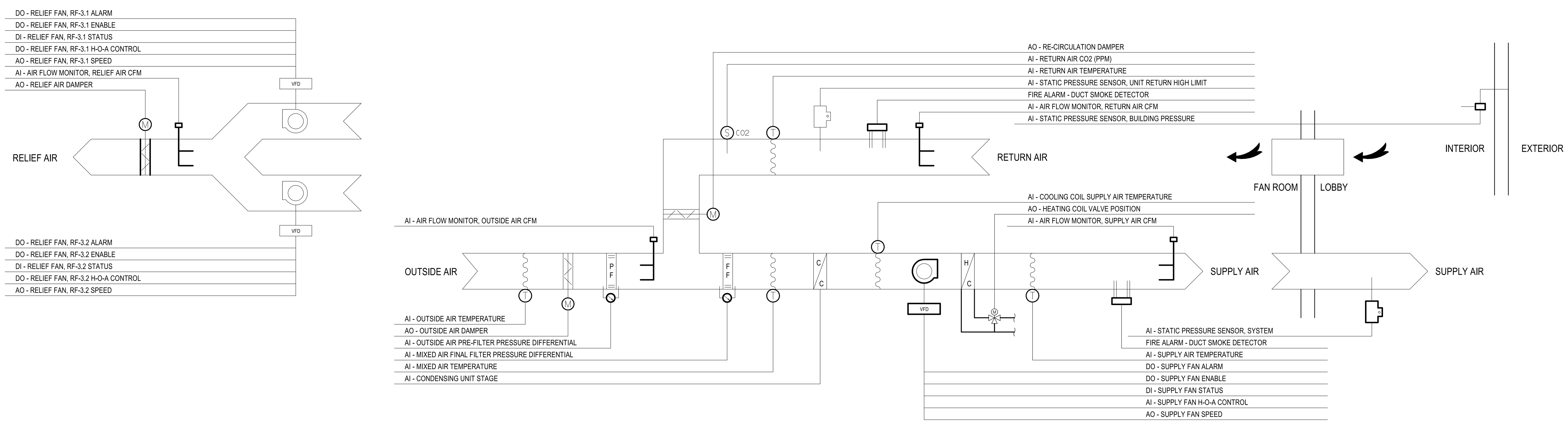
#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME
CONTROLS DIAGRAMS

SHEET NO.
M806

FULL-SCALE AT 30X42



AHU-3.3, RF-3.1,3.2 SEQUENCE OF OPERATIONS

A. AUTOMATED VARIABLE AIR VOLUME AIR HANDLING UNIT SYSTEM CONTROL
1. OPERATION MODE: DAY, NIGHT, AND MORNING WARM-UP MODES OF OPERATION WILL BE CONTROLLED BY THE BAS.
2. NIGHT MODE OPERATION: DURING NIGHT MODE OF OPERATION, INTEGRAL SUPPLY FANS FANS MUST BE OFF, RELIEF FANS MUST BE OFF, O/A AND RELIEF DAMPERS MUST BE FULLY CLOSED, R/A DAMPER MUST BE FULLY OPEN, AND HEATING COIL 3-WAY CONTROL VALVE MUST BE CLOSED TO THE COIL.
3. MORNING WARM-UP MODE: PRIOR TO NORMAL OCCUPIED DAY MODE, THE UNIT MUST ENTER MORNING WARM-UP MODE AS DETERMINED BY BAS OPTIMUM START/STOP PROGRAMMING UTILIZING HISTORICAL BUILDING RESPONSE AND OUTDOOR CONDITIONS TO ACHIEVE OCCUPIED SPACE TEMPERATURE SETPOINT BY SCHEDULED OCCUPANCY. DURING MORNING WARM-UP MODE, THE SUPPLY FANS MUST OPERATE AND RAMP UP TO THE OCCUPIED MODE DUCT STATIC PRESSURE SETPOINT OR MINIMUM REQUIRED AIRFLOW AS DETERMINED BY THE BAS. THE RETURN AIR DAMPER MUST BE FULLY OPEN, THE OUTSIDE AIR AND RELIEF DAMPERS MUST BE FULLY CLOSED, AND THE HOT WATER HEATING COIL 3-WAY CONTROL VALVE MUST MODULATE TO MAINTAIN AN ADJUSTABLE DISCHARGE AIR TEMPERATURE HEATING SETPOINT, INITIALLY 80°F ADJUSTABLE. THE UNIT MUST TRANSITION TO NORMAL DAY MODE WHEN THE AVERAGE REPRESENTATIVE SPACE TEMPERATURE, RETURN AIR TEMPERATURE, OR OCCUPIED ZONE TEMPERATURE CRITERIA REACH THE OCCUPIED HEATING SETPOINT THRESHOLD (ADJUSTABLE) OR AT THE END OF THE OPTIMUM START PERIOD.
4. DAY MODE OPERATION:
   a. DURING OCCUPIED OPERATION, AN OUTSIDE AIRFLOW SENSOR MUST BE PROVIDED TO MEASURE, CONTROL, AND RECORD THE OUTSIDE AIRFLOW DELIVERED TO THE UNIT. THE OUTSIDE AIR DAMPER MUST MODULATE TO MAINTAIN THE SCHEDULED/CODE-REQUIRED MINIMUM OUTSIDE AIRFLOW RATE AS INDICATED ON THE DRAWINGS (INITIAL SETTING, ADJUSTABLE). DURING ECONOMIZER OPERATION, THE OUTSIDE AIR DAMPER MUST MODULATE PER THE ECONOMIZER SEQUENCE TO PROVIDE ADDITIONAL OUTSIDE AIR FOR FREE COOLING, BUT MUST NOT REDUCE BELOW THE SCHEDULED MINIMUM OUTSIDE AIRFLOW REQUIREMENT DURING OCCUPIED OPERATION. THE RELIEF FANS MUST OPERATE AS REQUIRED TO MAINTAIN BUILDING PRESSURE AND RELIEVE EXCESS AIRFLOW DURING ECONOMIZER OR INCREASED OUTSIDE AIR OPERATION. IN THE EVENT OF OUTSIDE AIRFLOW SENSOR FAILURE, THE OUTSIDE AIR DAMPER MUST FAILSAFE TO THE DESIGN MINIMUM POSITION.
   b. DISCHARGE AIR TEMPERATURE RESET: THE DISCHARGE AIR TEMPERATURE MUST BE RESET BASED ON SENSING ALL SERVED ROOM SENSORS AND VAV BOX POSITIONS. DURING COOLING MODE, THE BAS MUST RESET THE DISCHARGE AIR TEMPERATURE SETPOINT UP OR DOWN AS REQUIRED TO MAINTAIN THE COOLING SETPOINT IN THE WARMEST ROOM WITH THE ASSOCIATED VAV BOX NEAR FULL COOLING POSITION. INITIAL COOLING DISCHARGE AIR TEMPERATURE RESET RANGE MUST BE 55°F TO 65°F (ADJUSTABLE). DURING HEATING MODE, THE BAS MUST RESET THE DISCHARGE AIR TEMPERATURE SETPOINT AS REQUIRED TO MAINTAIN HEATING SETPOINTS IN THE SERVED SPACES. THE HOT WATER HEATING COIL 3-WAY CONTROL VALVE MUST MODULATE TO MAINTAIN THE ACTIVE DISCHARGE AIR TEMPERATURE HEATING SETPOINT. INITIAL HEATING DISCHARGE AIR TEMPERATURE SETPOINT IS 55°F (ADJUSTABLE).
   c. DX COOLING CONTROL: THE O/A DAMPERS, R/A DAMPERS, ECONOMIZER, AND INTEGRAL DX UNIT CONTROLLER MUST STAGE AS REQUIRED TO MAINTAIN THE ACTIVE DISCHARGE AIR TEMPERATURE COOLING SETPOINT. MECHANICAL DX COOLING MUST NOT BE ALLOWED TO DROP DISCHARGE AIR TEMPERATURE BELOW 55°F, ADJUSTABLE, UNDER ANY OPERATING CONDITION.
   d. HEATING COIL CONTROL: THE HOT WATER HEATING COIL 3-WAY CONTROL VALVE MUST MODULATE TO MAINTAIN THE ACTIVE DISCHARGE AIR TEMPERATURE HEATING SETPOINT. UPON A CALL FOR HEATING FROM THE BAS, THE HEATING COIL CONTROL VALVE MUST MODULATE OPEN TO MAINTAIN DISCHARGE AIR TEMPERATURE SETPOINT. WHEN HEATING IS NOT REQUIRED, THE CONTROL VALVE MUST MODULATE CLOSED. THE HEATING COIL CONTROL VALVE MUST FAIL OPEN TO FLOW THROUGH THE COIL UPON LOSS OF CONTROL SIGNAL OR FREEZE PROTECTION ALARM.
   e. SUPPLY FANS & VARIABLE SPEED DRIVE: DUCT STATIC PRESSURE SENSORS MUST MODULATE THE SUPPLY FAN VFDS TO MAINTAIN THE SUPPLY DUCT STATIC PRESSURE SETPOINT. DUCT STATIC PRESSURE SENSORS MUST BE LOCATED IN THE MAIN SUPPLY DUCT AT APPROXIMATELY 2/3 OF THE DISTANCE BETWEEN THE SUPPLY FANS AND THE MOST REMOTE TERMINAL UNIT. IN SYSTEMS WITH MULTIPLE MAIN DUCT BRANCHES, PROVIDE A STATIC PRESSURE SENSOR IN EACH MAJOR DUCT BRANCH OR AS INDICATED TO MONITOR SYSTEM PERFORMANCE. OPERATIONAL DUCT STATIC PRESSURE SETPOINTS MUST BE DETERMINED BY THE TEST AND BALANCE CONTRACTOR DURING SYSTEM BALANCING AND COORDINATED WITH THE CONTROLS CONTRACTOR. FAN SPEEDS MUST BE CONTROLLED TO SATISFY THE MOST DEMANDING OR MOST RESTRICTIVE DUCT STATIC PRESSURE SENSOR, DEFINED AS THE SENSOR FARTHEST BELOW ITS ACTIVE SETPOINT. IF ALL MONITORED STATIC PRESSURE SENSORS ARE AT OR ABOVE SETPOINT, FAN SPEEDS MUST REDUCE TO MAINTAIN THE MINIMUM REQUIRED SYSTEM PRESSURE AND AIRFLOW.
   f. FREEZE ALARM: ON DISCHARGE AIR FREEZE ALARM SET INITIALLY AT 35° F (ADJUSTABLE), THE FAN MUST STOP, O/A DAMPERS WILL FULLY CLOSE, AND R/A DAMPERS WILL FULLY OPEN. PROVIDE AUTOMATIC RESET. UPON THE 6TH CONSECUTIVE AUTOMATIC RESET RESTART FAILURE, THE BAS SHALL LOCK OUT UNIT OPERATION UNTIL MANUAL RESET.
   g. HIGH DISCHARGE STATIC PRESSURE SAFETY: UNIT DISCHARGE STATIC PRESSURE MUST BE MONITORED BY THE BAS AND/OR UNIT SAFETY CONTROLS TO PROTECT THE SUPPLY AIR SYSTEM FROM EXCESSIVE PRESSURE CONDITIONS. THE HIGH STATIC PRESSURE ALARM AND SHUTDOWN THRESHOLD SHALL BE DETERMINED DURING SYSTEM TEST AND BALANCE AND COORDINATED WITH THE CONTROLS CONTRACTOR AND UNIT MANUFACTURER BASED ON FINAL OPERATING CONDITIONS AND EQUIPMENT LIMITATIONS. UPON HIGH DISCHARGE STATIC PRESSURE ALARM, THE SUPPLY FAN MUST STOP, THE OUTSIDE AIR DAMPERS MUST FULLY CLOSE, AND THE RETURN AIR DAMPERS MUST FULLY OPEN. PROVIDE AUTOMATIC RESET.
   h. FIRE ALARM SHUTDOWN: AIR HANDLING UNIT SMOKE DETECTOR MUST BE WIRED DIRECTLY TO THE ADDRESSABLE FIRE ALARM SYSTEM. AIR HANDLING UNIT FAN MOTOR STARTER MUST BE CONNECTED TO THE FIRE ALARM SYSTEM TO STOP FAN MOTOR ON ALARM. DDC SYSTEM MUST VERIFY FAN SHUT DOWN AND MUST CLOSE THE OUTSIDE AIR DAMPER AND SHUT DOWN RESPECTIVE RELIEF FANS AND CLOSE THE MOTORIZED DAMPERS. COORDINATE WITH DIVISION 26. DETECTION OF SMOKE AT THE AIR HANDLING UNIT SMOKE DETECTOR MUST SHUT DOWN THE AHU.
   i. ECONOMIZER: ECONOMIZER OPERATION MUST BE ENABLED WHEN OUTDOOR AIR CONDITIONS ARE SUITABLE FOR FREE COOLING AS DETERMINED BY THE BAS USING ADJUSTABLE DRY-BULB AND ENTHALPY CONTROL STRATEGIES. WHEN ENABLED, THE OUTSIDE AIR AND RETURN AIR DAMPERS MUST MODULATE TO MAINTAIN THE DISCHARGE AIR TEMPERATURE COOLING SETPOINT WHILE MINIMIZING MECHANICAL COOLING ENERGY USE. THE ECONOMIZER MUST MODULATE BETWEEN THE OCCUPIED MINIMUM OUTSIDE AIR POSITION AND THE MAXIMUM ALLOWABLE ECONOMIZER POSITION. MECHANICAL COOLING MUST REMAIN DISABLED WHILE THE ECONOMIZER ALONE CAN MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT. IF THE ECONOMIZER REACHES MAXIMUM ALLOWABLE POSITION AND THE DISCHARGE AIR TEMPERATURE REMAINS ABOVE SETPOINT BY AN ADJUSTABLE DIFFERENTIAL FOR 15 MINUTES (ADJUSTABLE), MECHANICAL COOLING MUST BE ENABLED IN STAGES WHILE ECONOMIZER OPERATION REMAINS ACTIVE (INTEGRATED ECONOMIZER). THE ECONOMIZER MUST BE DISABLED AND OUTSIDE AIR DAMPERS RETURNED TO THE OCCUPIED MINIMUM POSITION WHEN OUTDOOR CONDITIONS ARE NO LONGER SUITABLE, OR UPON ANY FREEZE, SMOKE, OR SAFETY ALARM.
   j. RELIEF FANS CONTROL: THE FAN ROOM RELIEF FANS MUST OPERATE AS REQUIRED TO MAINTAIN BUILDING AIRFLOW BALANCE AND BUILDING PRESSURIZATION DURING OCCUPIED OPERATION. RELIEF FANS ARE SEPARATE FROM THE AHU AND MUST RELIEVE AIR FROM THE FAN ROOM RETURN AIR PLENUM. THE BAS MUST CALCULATE THE RELIEF AIRFLOW SETPOINT BASED ON MEASURED OUTSIDE AIRFLOW, MEASURED SUPPLY AIRFLOW, SCHEDULED OR MONITORED STAND-ALONE EXHAUST AIRFLOW, AND AN ADJUSTABLE POSITIVE BUILDING PRESSURIZATION / EXFILTRATION OFFSET. INITIAL PRESSURIZATION OFFSET MUST BE 10% OF OUTSIDE AIRFLOW (ADJUSTABLE) UNLESS OTHERWISE DETERMINED DURING SYSTEM TEST AND BALANCE. THE RELIEF FANS MUST BE ENABLED, STAGED, AND MODULATED TO MAINTAIN THE CALCULATED RELIEF AIRFLOW SETPOINT. DURING MINIMUM OUTSIDE AIR OPERATION, THE RELIEF FANS MAY REMAIN OFF UNLESS REQUIRED TO MAINTAIN THE CALCULATED AIRFLOW BALANCE OR BUILDING PRESSURE. A BUILDING STATIC PRESSURE SENSOR MUST BE PROVIDED BETWEEN A REPRESENTATIVE INDOOR COMMON AREA AND OUTDOORS WITH A WIND-SHIELDED OUTDOOR REFERENCE. BUILDING STATIC PRESSURE MUST BE MONITORED BY THE BAS FOR ALARM AND TRIM OF THE RELIEF AIRFLOW OFFSET. INITIAL BUILDING STATIC PRESSURE TARGET MUST BE +0.05 IN. W.C. RELATIVE TO OUTDOORS (ADJUSTABLE) OR AS DETERMINED DURING TEST AND BALANCE. THE RELIEF FANS MUST BE DISABLED UPON AHU SHUTDOWN OR RECEIPT OF ANY FREEZE, SMOKE, OR SAFETY ALARM UNLESS OTHERWISE REQUIRED BY LIFE SAFETY SEQUENCE. UPON FAILURE OF AN AIRFLOW SENSOR USED FOR RELIEF FAN CONTROL, THE BAS MUST DEFAULT TO TAB-DETERMINED RELIEF FAN SPEEDS OR STAGES BASED ON OUTSIDE AIR DAMPER POSITION AND UNIT OPERATING MODE, AND MUST GENERATE AN ALARM.
   k. REFRIGERANT SAFETIES: FOR DX COOLING SYSTEMS WITH A2L REFRIGERANTS, THE BAS CONTRACTOR MUST COORDINATE WITH THE AHU / DX CONDENSING UNIT MANUFACTURER, INSTALLING CONTRACTOR, AND ALL APPLICABLE CODES AND STANDARDS, INCLUDING ASHRAE STANDARD 15, IMC, APPLICABLE PRODUCT SAFETY STANDARDS, AND MANUFACTURER REQUIREMENTS, TO IMPLEMENT ALL REQUIRED REFRIGERANT SAFETIES, DETECTION, ALARM, MITIGATION, CONTROL INTERLOCKS, AND RESET SEQUENCES. WHILE THE BAS SHALL PROVIDE COOLING ENABLE / DEMAND SIGNALS TO THE DX SYSTEM, THE BAS CONTRACTOR MUST ENSURE THAT ALL REQUIRED REFRIGERANT SAFETY FUNCTIONS, INCLUDING BUT NOT LIMITED TO REFRIGERANT LEAK DETECTION, HIGH- AND LOW-PRESSURE SAFETIES, COMPRESSOR PROTECTION, REQUIRED AIRFLOW OR VENTILATION MITIGATION, SAFETY SHUTDOWN, ALARM ANNUNCIATION, FAN OR DAMPER INTERLOCKS, AND REQUIRED RESET LOGIC, ARE PROPERLY INTEGRATED AND COORDINATED BETWEEN THE BAS, BAS CONTRACTOR RTU CONTROLLER, AND MANUFACTURER'S DX CONTROLLER AS REQUIRED BY THE INSTALLED REFRIGERANT TYPE, UNIT CONFIGURATION, INSTALLED REFRIGERANT CHARGE, OCCUPANCY CLASSIFICATION, AND INSTALLATION CONDITIONS. UPON REFRIGERANT SAFETY ALARM, LEAK DETECTION EVENT, OR UNIT SAFETY TRIP, THE BAS MUST COORDINATE WITH THE UNIT CONTROLLER TO DISABLE MECHANICAL COOLING DEMAND, INITIATE ALL REQUIRED SAFETY OR MITIGATION RESPONSES, AND ANNUNCIATE ASSOCIATED ALARMS. THE BAS CONTRACTOR IS RESPONSIBLE FOR VERIFYING THAT THE FINAL INSTALLED CONTROL SEQUENCE FULLY COMPLIES WITH THE MANUFACTURER'S REQUIREMENTS AND ALL APPLICABLE CODES AND STANDARDS.

B. ALARMS:
1. DISCHARGE AIR TEMPERATURE, LOW TEMPERATURE ALARM (45 °F, INITIALLY)
2. DISCHARGE AIR TEMPERATURE, FREEZE ALARM (35 °F, INITIALLY)
3. FINAL FILTER HIGH DIFFERENTIAL PRESSURE.
4. PRE-FILTER HIGH DIFFERENTIAL PRESSURE.
5. DISCHARGE AIR STATIC HIGH PRESSURE ALARM.
6. DISCHARGE AIR NO AIRFLOW.
7. RETURN AIR DUCT DETECTOR ALARM.
8. RETURN AIR CO2 CONCENTRATION HIGH LIMIT (PPM).
9. SUPPLY FAN ALARM (TYP OF 2).
10. RELIEF FAN, RF-3.1 ALARM.
11. RELIEF FAN, RF-3.2 ALARM.
12. COOLING ALARM.

C. DIGITAL CONTROL AND INDICATION.
1. OUTSIDE AIR TEMPERATURE RESET.
2. DISCHARGE AIR TEMPERATURE INDICATION (UNIT).
3. DISCHARGE AIR TEMPERATURE INDICATION (EXTERNAL SENSOR).
4. DISCHARGE AIR TEMPERATURE HEATING SETPOINT, OCCUPIED.
5. DISCHARGE AIR TEMPERATURE HEATING SETPOINT, UNOCCUPIED.
6. DISCHARGE AIR TEMPERATURE COOLING SETPOINT, OCCUPIED.
7. DISCHARGE AIR TEMPERATURE COOLING SETPOINT, UNOCCUPIED.
8. DISCHARGE AIR AIRFLOW INDICATION.
9. MIXED AIR TEMPERATURE INDICATION (UNIT).
10. MIXED AIR TEMPERATURE SETPOINT.
11. MIXED AIR DAMPER POSITION.
12. OUTSIDE AIR TEMPERATURE INDICATION.
13. OUTSIDE AIR DAMPER POSITION.
14. OUTSIDE AIR AIRFLOW INDICATION.
15. OUTSIDE AIR AIRFLOW SETPOINT.
16. RETURN AIR AIRFLOW INDICATION.
17. RETURN AIR TEMPERATURE INDICATION.
18. RETURN AIR CO2 CONCENTRATION (PPM).
19. FINAL FILTER DIFFERENTIAL PRESSURE INDICATION.
20. PRE-FILTER DIFFERENTIAL PRESSURE INDICATION.
21. DUCT STATIC PRESSURE SETPOINT.
22. DUCT STATIC PRESSURE INDICATION.
23. DISCHARGE AIR STATIC PRESSURE INDICATION.
24. BUILDING STATIC PRESSURE INDICATION.
25. BUILDING STATIC PRESSURE SETPOINT.
26. HEATING COIL CONTROL VALVE POSITION.
27. HEATING COIL WATER TEMPERATURE SUPPLY INDICATION (EXTERNAL SENSOR).
28. HEATING COIL WATER TEMPERATURE RETURN INDICATION (EXTERNAL SENSOR).
29. HEATING COIL LEAVING AIR TEMPERATURE INDICATION.
30. HEATING COIL LEAVING AIR TEMPERATURE SETPOINT.
31. SUPPLY FAN H-O-A CONTROL / STATUS (TYP OF 2).
32. SUPPLY FAN SPEED INDICATION (TYP OF 2).
33. SUPPLY FAN SPEED SETPOINT (TYP OF 2).
34. RELIEF FAN, RF-3.1 H-O-A CONTROL / STATUS
35. RELIEF FAN, RF-3.1 SPEED INDICATION
36. RELIEF FAN, RF-3.1 SPEED SETPOINT
37. RELIEF FAN, RF-3.2 H-O-A CONTROL / STATUS
38. RELIEF FAN, RF-3.2 SPEED INDICATION
39. RELIEF FAN, RF-3.2 SPEED SETPOINT
40. RELIEF AIR AIRFLOW INDICATION.
41. CONDENSING UNIT ENABLE/DISABLE.
42. CONDENSING UNIT STAGE.
43. CONDENSING UNIT STATUS.
44. ECONOMIZER STATUS.
45. ECONOMIZER PERCENTAGE.
46. RETURN AIR ENTHALPY.
47. OCCUPANCY STATUS.
48. UNIT ON-OFF INDICATION / STATUS.
49. HEATING / COOLING STATUS.
50. HEATING / COOLING SWITCHOVER SETPOINT.
51. ALARMS.

1 AHU-3.3 & RF-3.1, 3.2 CONTROL DIAGRAM

NOT TO SCALE

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REVISION SCHEDULE

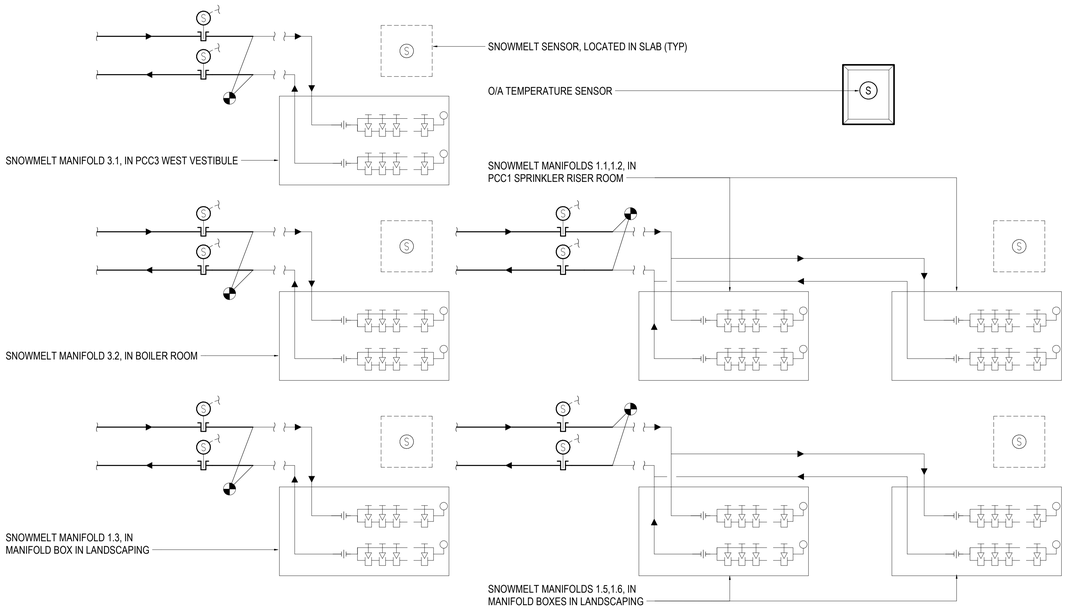
#	DESCRIPTION	DATE

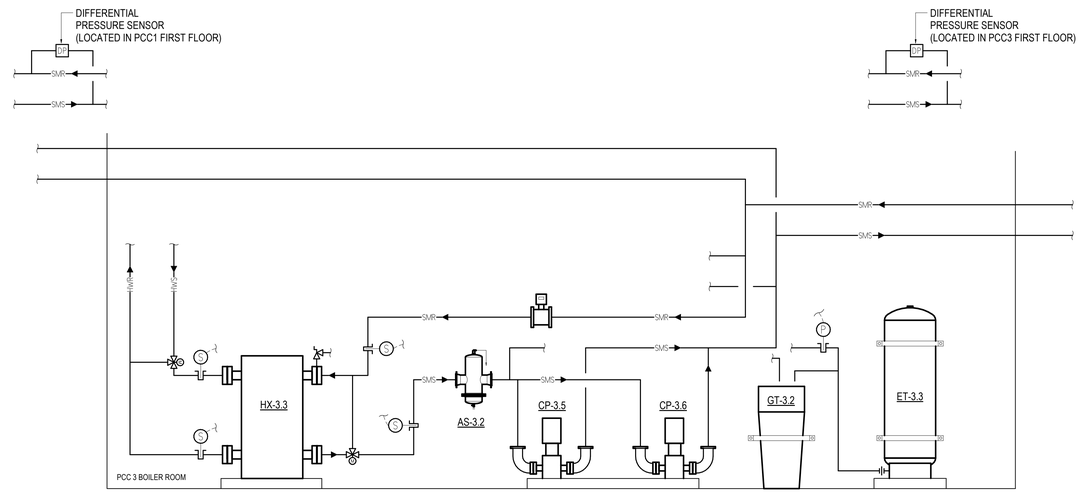
JOB NO.	M5052
DATE	May 11, 2026
DRAWN	Author
REVIEWED	Checker

SHEET NAME
CONTROLS DIAGRAMS

SHEET NO.
M807

FULL-SCALE AT 30X42





1 SNOWMELT PIPING CONTROL SCHEMATIC
NOT TO SCALE

HX-3.3, CP-3.5,3.6 SNOWMELT HEAT EXCHANGER SEQUENCE OF OPERATIONS

A. SNOWMELT HEAT EXCHANGER SYSTEM AUTOMATED CONTROL:
1. SYSTEM OPERATION:
   a. SNOW MELT: ON SENSING OF MOISTURE AT ANY OF THE SNOWMELT SENSORS, THE SYSTEM MUST CYCLE ON, ENTER MELT MODE AND RAMP UP TO THE MELTING LOOP TEMPERATURE OVER A MINIMUM OF 15 MINUTES. THE SNOW MELT SYSTEM MUST CONTINUE TO OPERATE IN MELT MODE UNTIL ALL SENSORS CEASE TO SENSE MOISTURE FOR A PERIOD OF 30 MINUTES.
   b. STANDBY MODE: WHEN THE SYSTEM ENTERS STANDBY MODE, THE PUMPS AND BOILER MUST CONTINUE TO CIRCULATE/HEAT THE SLAB TO THE INDICATED TEMPERATURE. IF NO FURTHER MOISTURE IS SENSED AFTER 10 MINUTES, THE PUMPS MUST BE CYCLED OFF AND AFTER A PERIOD OF 2 MINUTES CLOSE ALL SNOWMELT SYSTEM VALVES.
2. CIRCULATION PUMP CONTROL: THE LEAD PUMP VFD MUST MODULATE TO MAINTAIN DIFFERENTIAL PRESSURE SETPOINT. DIFFERENTIAL PRESSURE SHALL BE MONITORED AT MULTIPLE REMOTE LOCATIONS IN THE SNOWMELT HEATING LOOP. INITIAL DIFFERENTIAL PRESSURE SETPOINTS SHALL BE DETERMINED BY THE TAB CONTRACTOR DURING BALANCING AND COORDINATED WITH THE CONTROLS CONTRACTOR. THE PUMP SPEED SHALL BE CONTROLLED TO SATISFY THE MOST HYDRAULICALLY REMOTE OR MOST DEMANDING DIFFERENTIAL PRESSURE SENSOR, DEFINED AS THE SENSOR FARTHEST BELOW ITS ACTIVE SETPOINT. IF ALL MONITORED DIFFERENTIAL PRESSURE SENSORS ARE AT OR ABOVE SETPOINT, PUMP SPEED SHALL REDUCE TO MAINTAIN THE MINIMUM REQUIRED SYSTEM FLOW AND PRESSURE.
   A. UPON FAILURE OF THE LEAD PUMP, THE LAG PUMP MUST OPERATE.
   B. ALTERNATOR: LEAD/LAG PUMP OPERATION MUST ALTERNATE EVERY 200 HOURS OF USE (INITIAL SETTING, ADJUSTABLE).
3. HYDRONIC LOOP TEMPERATURE: UPON STARTING THE LEAD SNOWMELT CIRCULATION PUMP, THE SNOWMELT HEAT EXCHANGER 3-WAY CONTROL VALVE MUST MODULATE TO MAINTAIN SMS TEMPERATURE SETPOINT. THE DDC SYSTEM MUST SET THE MAIN SMS TEMPERATURE SETPOINT BASED ON AN ADJUSTABLE OUTSIDE AIR TEMPERATURE RESET SCHEDULE. INITIAL SETTINGS AS FOLLOWS:

SLAB MODE	LOOP TEMPERATURE
MELTING	110 °F
STANDBY	100 °F

4. LOW HWR TEMPERATURE: UPON HWR TEMPERATURE INDICATION OF 80F OR LOWER, THE NOWMELT HEAT EXCHANGER MIXING VALVE MUST OPERATE IN FULL BYPASS AND REPORT ALARM TO DDC. ONCE HWR TEMPERATURE IS MAINTAINED ABOVE 90 DEGREES FOR 2 MINUTES, NORMAL SNOWMELT HEAT EXCHANGER MIXING VALVE OPERATION MUST RESUME AND ALARM MUST BE CLEARED.
5. OUTSIDE AIR TEMPERATURE SHUTDOWN: IF OUTSIDE AIR TEMPERATURE RISES ABOVE 40 °F (ADJUSTABLE), DISABLE CIRCULATION PUMPS, AND AFTER A PERIOD OF 2 MINUTES CLOSE ALL SNOWMELT SYTEM VALVES. WHEN OUTSIDE AIR TEMPERATURE DROPS BELOW 38 DEG F, THE SNOWMELT SYSTEM MUST OPERATE NORMALLY.
6. CRITICAL ALARMS UNDER THE FOLLOWING CONDITIONS:
   a. LOW SUPPLY TEMPERATURE ALARM: IF SUPPLY TEMPERATURE IS MORE THAN 20 DEG F BELOW SUPPLY SETPOINT A CRITICAL ALARM MUST BE GENERATED.
   b. PROVIDE CRITICAL ALARM IF BOTH PUMPS FAIL TO OPERATE.
7. SYSTEM PRESSURE: IF SYSTEM PRESSURE FALLS BELOW 5 PSI, INITIATE A LOW PRESSURE ALARM.
8. GLYCOL TANK:
   a. SYSTEM MUST BE NORMALLY OFF. UTILIZE SUPERVISED FILL PROCEDURE ONLY.
   b. UNDER SUPERVISED FILL THE PACKAGED CONTROLS MUST CYCLE PUMP ON AS REQUIRED TO ACHIEVE THE DESIRED SYSTEM OPERATING PRESSURE.
   c. THE TANK IS EQUIPPED WITH AN AUDIBLE LOW LEVEL ALARM THAT WILL ANNUNCIATE WHEN GLYCOL VOLUME FALLS TO A CRITICAL LEVEL.

B. ALARMS:
1. MAIN HYDRONIC LOOP LOW SGS TEMPERATURE.
2. LOW SYSTEM PRESSURE.
3. CP-3.5,3.6 NO CURRENT.
4. CP-3.5,3.6 VFD FAULT.
5. EMERGENCY BOILER SWITCH ON.
6. LOW GLYCOL LEVEL.
7. LOW HWR TEMPERATURE.

C. DIGITAL CONTROL AND INDICATION:
1. MAIN HYDRONIC LOOP SMR TEMPERATURE INDICATION.
2. MAIN HYDRONIC LOOP SMR TEMPERATURE INDICATION.
3. MANIFOLD SMR TEMPERATURE INDICATION (TYP OF 7).
4. MANIFOLD SMR TEMPERATURE INDICATION (TYP OF 7).
5. SNOWMELT GLYCOL 3-WAY VALVE POSITION.
6. HWR TEMPERATURE INDICATION.
7. HWS TEMPERATURE INDICATION.
8. HEATING WATER 3-WAY VALVE POSITION.
9. OUTDOOR AIR TEMPERATURE INDICATION.
10. OUTDOOR TEMPERATURE RESET ADJUSTMENT.
11. SNOWMELT SYSTEM ENABLE/DISABLE MODE.
12. CP-3.5,3.6 H-O-A CONTROL.
13. CP-3.5,3.6 ON-OFF INDICATION.
14. CP-3.5,3.6 SPEED.
15. LEAD PUMP SELECTOR.
16. SYSTEM PRESSURE INDICATION.
17. SYSTEM FLOW (GPM)
18. BTU METER TOTAL – ANNUAL.
19. BTU METER TOTAL – MONTHLY.
20. LOW GLYCOL LEVEL
21. ALARM SETPOINTS.
22. MOISTURE SENSOR (TYP OF 5).

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REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME
CONTROLS DIAGRAMS

SHEET NO.
M808

FULL-SCALE AT 30X42

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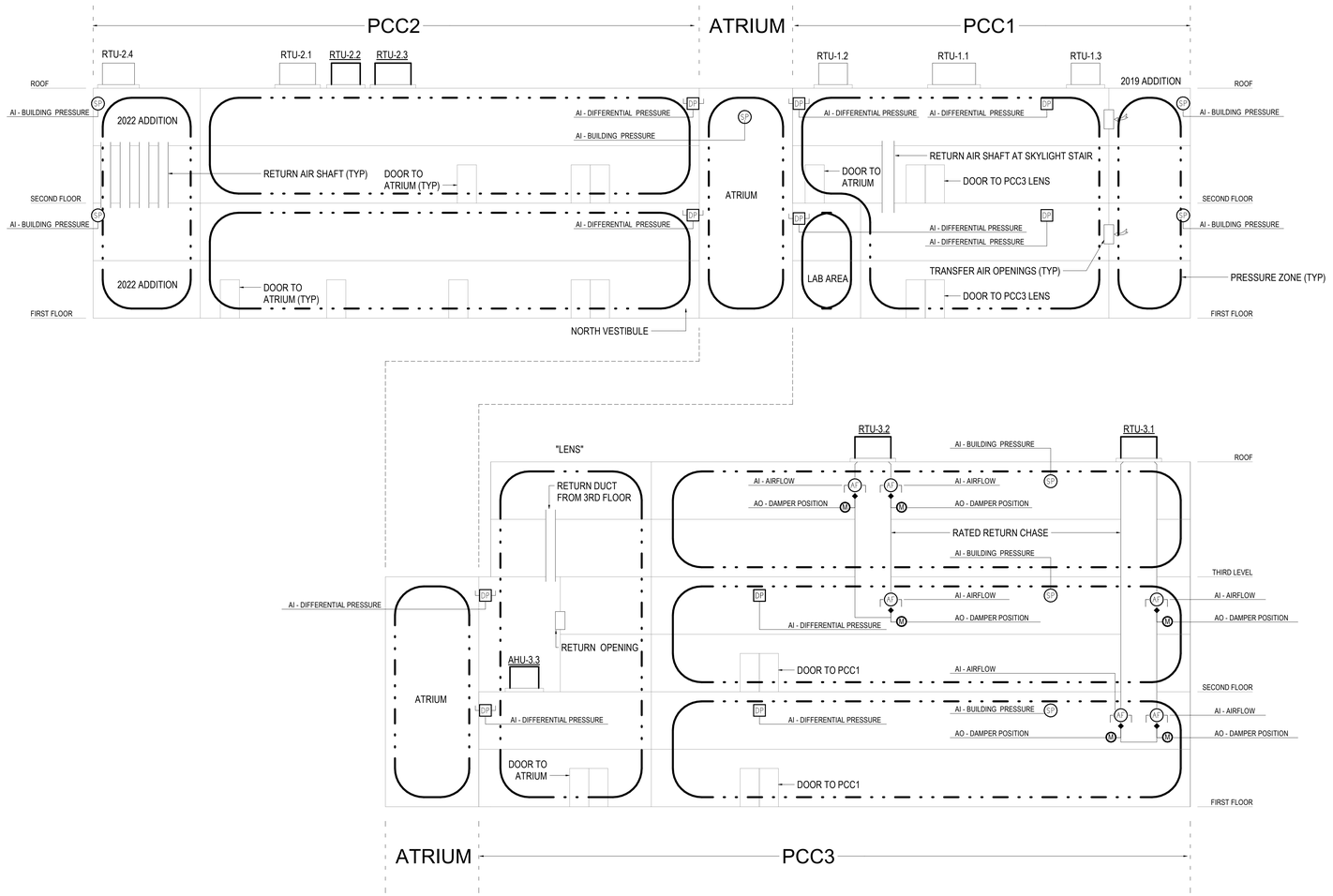

1 PRESSURIZATION CONTROL SCHEMATIC
NOT TO SCALE

BUILDING COMPLEX PRESSURIZATION CONTROL STRATEGY

A. GENERAL

EACH FLOOR OF PCC1, PCC2, AND PCC3 BUILDING STATIC PRESSURE MUST BE INITIALLY SET TO 0.05 IN. W.C. POSITIVE (ADJUSTABLE). THE ATRIUM BUILDING STATIC PRESSURE MUST BE INITIALLY SET TO 0.02 IN. W.C. POSITIVE (ADJUSTABLE).
PROVIDE BUILDING STATIC PRESSURE SENSORS AS SHOWN IN THE CONTROL SCHEMATIC. FINAL SENSOR LOCATIONS MUST BE COORDINATED WITH THE OWNER AND ENGINEER PRIOR TO INSTALLATION.
PROVIDE DIFFERENTIAL PRESSURE SENSORS BETWEEN ADJOINING BUILDINGS AT LOCATIONS SHOWN ON THE PLANS AND IN THE CONTROL SCHEMATIC. SENSORS MUST BE USED FOR MONITORING ONLY AND MUST NOT BE USED FOR DIRECT CONTROL OR TRIM. DIFFERENTIAL PRESSURE MUST BE DISPLAYED IN THE GRAPHICS FOR REFERENCE AND TROUBLESHOOTING.
BUILDING PRESSURE MUST BE MAINTAINED THROUGH AIRFLOW BALANCE AT EACH AIR HANDLING UNIT OR RETURN AIR SHAFT OPENING, AS APPLICABLE. SYSTEMS MUST OPERATE INDEPENDENTLY AND MUST NOT BE CONTROLLED FROM A COMMON BUILDING PRESSURE LOOP.

B. PRESSURIZATION OFFSET

DURING OCCUPIED OPERATION, EACH SYSTEM MUST MAINTAIN AN AIRFLOW PRESSURIZATION OFFSET.
THE INITIAL PRESSURIZATION OFFSET MUST BE INITIALLY SET TO 10% MORE SUPPLY AIRFLOW THAN THE COMBINED RETURN, RELIEF, AND EXHAUST AIRFLOW (ADJUSTABLE), OR AS OTHERWISE DETERMINED BY THE FINAL TAB REPORT TO MEET THE REQUIRED BUILDING PRESSURE SETPOINTS.
FOR VARIABLE VOLUME SYSTEMS, RELIEF AND RETURN AIRFLOW SETPOINTS MUST BE CALCULATED BASED ON CURRENT SUPPLY AIRFLOW, RETURN AIRFLOW, RELIEF AIRFLOW, AND DEDICATED EXHAUST AIRFLOW ASSOCIATED WITH THE APPLICABLE ZONES.
RTU-1.2 MUST BE BALANCED TO MAINTAIN THE AIRFLOW OFFSET NECESSARY TO ACCOMMODATE A PRESSURIZATION OF -0.02" W.C. (ADJUSTABLE) AS DETERMINED DURING BALANCING.
MINIMUM OUTSIDE AIRFLOW MUST BE MAINTAINED AND MUST BE ADJUSTABLE AS APPROPRIATE.

C. BUILDING PRESSURE VERIFICATION AND TRIM

THE BAS MUST VERIFY THAT PCC1, PCC2, AND PCC3 BUILDING PRESSURE REMAINS AT SETPOINT AND THAT ATRIUM PRESSURE REMAINS AT SETPOINT.
THE BAS MUST VERIFY THAT PCC1, PCC2, AND PCC3 ARE MAINTAINED AT A HIGHER PRESSURE THAN THE PCC2 ATRIUM.
IF BUILDING PRESSURE DOES NOT MEET THE SPECIFIED CONDITIONS, THE BAS MUST TRIM THE PRESSURIZATION OFFSET BY ADJUSTING RELIEF AIRFLOW OR RETURN AIRFLOW, AS APPLICABLE.
TRIM MUST BE INITIALLY LIMITED TO ±5% (ADJUSTABLE) AND MUST BE INITIALLY DELAYED BY A MINIMUM OF 5 MINUTES (ADJUSTABLE).
IF A BUILDING PRESSURE SENSOR FAILS, ASSOCIATED SYSTEMS MUST MAINTAIN CURRENT AIRFLOW SETPOINTS AS DETERMINED BY INDIVIDUAL RTU/AHU SEQUENCES WITHOUT FURTHER PRESSURE-BASED TRIM.

D. PRESSURE TRIM PRIORITY (GENERAL)

RELIEF AIRFLOW TRIM MUST NOT BE APPLIED UNIFORMLY TO ALL SYSTEMS.
THE BAS MUST FIRST APPLY TRIM TO SYSTEMS SERVING PCC1, PCC2, AND PCC3, EXCLUDING RTU-1.3, RTU-2.3, RTU-3.1, AND RTU-3.2.
RTU-1.3 UTILIZES PACKAGED CONTROLS AND MUST NOT PARTICIPATE IN BAS PRESSURIZATION OFFSET TRIM.
RTU-2.3 MUST BE USED ONLY TO MAINTAIN ATRIUM PRESSURE.
RTU-3.1 AND RTU-3.2 MUST NOT BE USED FOR DIRECT PCC3 BUILDING PRESSURE TRIM.

E. AIR HANDLING UNIT OPERATION

ALL VARIABLE VOLUME AIR HANDLING UNITS MUST CALCULATE RELIEF AIRFLOW SETPOINT BASED ON CURRENT SUPPLY AIRFLOW, OUTSIDE AIRFLOW, RETURN AIRFLOW, DEDICATED EXHAUST AIRFLOW ASSOCIATED WITH THE APPLICABLE ZONES (PCC1, PCC1 LAB, PCC1 ADDITION, PCC2 LEVEL 1, PCC2 LEVEL 2, ATRIUM, PCC2 ADDITION, PCC3 EXAM SPACES – LEVEL 1, PCC3 EXAM SPACES – LEVEL 2 (RTU-3.1 SYSTEM), PCC3 EXAM SPACES – LEVEL 2 (RTU-3.2 SYSTEM), PCC3 EXAM SPACES – LEVEL 3, AND PCC3 LENSE), AND THE REQUIRED PRESSURIZATION OFFSET.
EACH UNIT MUST MODULATE RELIEF FAN SPEED AND RELIEF DAMPER POSITION AS REQUIRED TO MAINTAIN THE CALCULATED RELIEF AIRFLOW SETPOINT.
RTU-1.2 (PCC1 LAB) IS CONSTANT VOLUME AND MUST MAINTAIN PRESSURIZATION OFFSET THROUGH BALANCED AIRFLOW.
RTU-1.3 (PCC1 ADDITION) UTILIZES PACKAGED CONTROLS AND MUST NOT PARTICIPATE IN BAS PRESSURIZATION OFFSET TRIM.
RTU-2.3 (ATRIUM) MUST BE PERMITTED TO TRIM ITS PRESSURIZATION OFFSET TO MAINTAIN ATRIUM PRESSURE.
RTU-2.4 (PCC2 ADDITION) MUST PARTICIPATE IN PCC2 BUILDING PRESSURE TRIM.
RTU-3.1 AND RTU-3.2 RELIEF FANS MUST NOT BE USED FOR DIRECT PCC3 BUILDING PRESSURE TRIM.
AHU-3.3 (PCC3 LENSE) MUST MAINTAIN A PRESSURIZATION OFFSET CONSISTENT WITH OTHER VARIABLE VOLUME SYSTEMS.

F. PCC3 EXAM SPACE RETURN AIR SHAFT CONTROL

PCC3 EXAM SPACE PRESSURIZATION MUST BE MAINTAINED THROUGH RETURN AIR SHAFT DAMPERS.
THE BAS MUST TOTALIZE VAV SUPPLY AIRFLOW FOR PCC3 EXAM SPACE ZONES (LEVEL 1 (RTU-3.1 SYSTEM), LEVEL 2 (RTU-3.1 SYSTEM), LEVEL 2 (RTU-3.2 SYSTEM), AND LEVEL 3 (RTU-3.2 SYSTEM)).
RETURN AIRFLOW SETPOINT MUST BE CALCULATED AS:
SUPPLY AIRFLOW
MINUS DEDICATED EXHAUST AIRFLOW
MINUS PRESSURIZATION OFFSET
THE PRESSURIZATION OFFSET MUST BE INITIALLY SET TO 10% OF SUPPLY AIRFLOW (ADJUSTABLE).
RETURN AIR SHAFT DAMPERS MUST MODULATE TO MAINTAIN RETURN AIRFLOW SETPOINT.
IF PCC3 BUILDING PRESSURE DOES NOT MEET SETPOINT, THE BAS MUST TRIM RETURN AIRFLOW SETPOINT.

G. PCC3 LEVEL 2 RETURN AIR SHAFT TRIM

PCC3 EXAM SPACES – LEVEL 2 MUST UTILIZE A SINGLE BUILDING PRESSURE SENSOR.
THE RTU-3.2 SYSTEM MUST BE THE PRIMARY TRIM POINT.
RTU-3.1 MUST REMAIN AT SETPOINT UNLESS THE PRIMARY SYSTEM HAS REACHED ITS TRIM LIMIT.

H. PCC1 TRIM PRIORITY

1. RTU-1.1

RTU-1.2 MUST NOT BE USED FOR TRIM.
RTU-1.3 MUST NOT PARTICIPATE IN BAS PRESSURIZATION OFFSET TRIM.

I. PCC2 TRIM PRIORITY

LEVEL 1:
1. RTU-2.1
2. RTU-2.4

LEVEL 2:
1. RTU-2.2
2. RTU-2.4

RTU-2.3 MUST NOT BE USED FOR LEVEL 1 OR 2 TRIM.
WHEN RTU-2.4 IS UTILIZED, RTU-2.1 AND RTU-2.2 MUST CONTINUE TO MAINTAIN THEIR RESPECTIVE LEVEL PRESSURE SETPOINTS.

J. PCC3 TRIM PRIORITY

LEVEL 1:
1. RTU-3.1
2. AHU-3.3

LEVEL 2:
1. RTU-3.2
2. RTU-3.1
3. AHU-3.3

LEVEL 3:
1. RTU-3.2
2. AHU-3.3

WHEN AHU-3.3 IS UTILIZED FOR TRIM, RTU-3.1 AND RTU-3.2 MUST CONTINUE TO MAINTAIN THEIR ASSOCIATED ZONE PRESSURE CONDITIONS UNTIL THEIR ADJUSTABLE TRIM LIMITS ARE REACHED.

K. ATRIUM CONTROL

ATRIUM MUST BE MAINTAINED BELOW PCC1, PCC2, AND PCC3 PRESSURE.
AIR MUST FLOW INTO THE ATRIUM AND BE RELIEVED THROUGH RTU-2.3.
RTU-2.3 MUST TRIM RELIEF AIRFLOW TO MAINTAIN ATRIUM PRESSURE.
PRESSURE RESPONSE MUST INCLUDE DEADBAND INITIALLY SET TO ±0.002 IN. W.C. (ADJUSTABLE).

L. ALARMS AND TRENDING

THE BAS MUST ALARM IF BUILDING PRESSURE DEVIATES BY MORE THAN 0.03 IN. W.C. (ADJUSTABLE) FOR 15 MINUTES (ADJUSTABLE).
THE BAS MUST TREND BUILDING PRESSURE, RELIEF AIRFLOW, RETURN AIRFLOW, SUPPLY AIRFLOW, OUTSIDE AIRFLOW, AND DAMPER POSITIONS.

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65% DESIGN DEVELOPMENT
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REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	May 11, 2026
DRAWN	SF
REVIEWED	MRB

SHEET NAME
CONTROLS DIAGRAMS

SHEET NO.
M809

FULL-SCALE AT 30X42

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ELECTRICAL LEGEND

	LIGHT FIXTURE - SURFACE MTD ON WALL		DUCT MOUNTED SMOKE DETECTOR
	LINEAR LIGHT FIXTURE - SURFACE MTD CLG		FIRE ALARM HORN/STROBE LIGHT (WALL, CLG MOUNTED)
	LINEAR LIGHT FIXTURE - WALL MTD, EM		DUPLEX RECEPTACLE TO BE REMOVED (DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED TYPICAL)
A	FIXTURE TAG (LETTER INDICATES TYPE)	1	NOTE TAG (No. INDICATES NOTE)
$	SINGLE POLE SWITCH	XX-XX	CIRCUIT TAG (No. INDICATES CIRCUIT)
$P	PILOT LIGHT SWITCH	AFF	ABOVE FINISHED FLOOR
P	PHOTOCELL	AFG	ABOVE FINISHED GRADE
	CONDUIT, CONCEALED	C	CONDUIT
#10	NUMBER AND SIZE OF WIRES (NO MARKS = 3 #12)	CLG	DENOTES ITEM LOCATED ON THE CEILNG
A-2	HOMERUN TO PANEL (PANEL AND CIRCUIT No.)	E	DENOTES EXISITNG ITEM
	PANEL	EM	DENOTES EMERGENCY POWER
	DUPLEX RECEPTACLE	GFCI	GROUND FAULT CIRCUIT INTERRUPTER
	DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTER	K	KELVIN
J	JUNCTION BOX	LED	LIGHT EMITTING DIODE
	EMERGENCY PUSHBUTTON SWITCH	LM	LUMENS
	MOTOR (SIZED AS SHOWN)	NEC	NATIONAL ELECTRICAL CODE
$F	FRACTIONAL HORSEPOWER MOTOR STARTER	NTS	NOT TO SCALE
	DISCONNECT SWITCH	R	DENOTES EXISTING ITEM THAT HAS BEEN RELOCATED
	DISCONNECT SWITCH (FUSED)	SCF	SOUTH CENTRAL FOUNDATION
	COMBINATION DISCONNECT/MAGNETIC MOTOR STARTER	TYP	TYPICAL
VFD	VARIABLE FREQUENCY DRIVE WITH INTEGRAL DISCONNECT	UON	UNLESS OTHERWISE NOTED
FCP	FIRE ALARM CONTROL PANEL	WP	WEATHERPROOF

LIGHT FIXTURE SCHEDULE

TYPE	LOCATION	MANUFACTURER AND CATALOG NUMBER (OR APPROVED EQUAL)	LUMINAIRE DESCRIPTION	MOUNTING		LAMPS	BALLAST/DRIVER	TOTAL INPUT WATTS
				TYPE	HEIGHT			
A	STAIRWELL	FINLIGHT #HP-4-WM-ID-8-S-B-835-TG-F-96LG-277-SC-FC-DALI-1%-MB-FE-SW-LGD18W-VOCC	8'L X 4"W LINEAR WALL FIXTURE WITH DIRECT/INDIRECT DISTRIBUTION, LUTRON VIVE CONTROLS AND WHITE FINISH.	WALL	8'-0" AFF, UON	3,500K LED 8,118LM INDIRECT 7,410LM DIRECT	120/277V, DIMMABLE TO 10%	148
A1	SKY LIGHT	LITHONIA #S4WID-LSL-12FT-MSL4-80CRI-TUWH-RHYR-I80CRI-SCT-FLL-DC	TUNABLE WHITE 12'L X 4"W LINEAR WALL FIXTURE WITH DYNAMIC COLOR TEMPERATURE, LAMBERTIAN DISTRIBUTION AND WHITE FINISH.	WALL	AS SHOWN ON PLANS	TUNEABLE LED	120/277V	210
B	EXTERIOR	KIM LIGHTING #CY1-15-3K8-2-4-4-UNV-WT-F-PCU-EM	EXTERIOR WALL PACK WITH UP/DOWN TYPE IV DISTRIBUTION, FLAT FACE AND EMERGENCY BACK UP.	WALL	ABOVE DOOR	3,000K LED 1,668LM	120/277V,	17
C	SKYLIGHT	LIGHTGLASS #S48X24-G2-TWRCU-TBD-40	STANDALONE 48X24, CLEAR GLASS, 2 INCH FRAME, SUNDIAL ALASKA, REMOTE 2 CHANNEL 0-10V, CEILING UNISTRUT, TBD FINISH, NO SHROUD,NO MUNTINS	CEILNG	RECESSED	TUNEABLE LED 3,628LM	120/277V	37
C1	SKYLIGHT	LIGHTGLASS #S48X24-G2-AKRCU-TBD-DS-40	STANDALONE 48X24, CLEAR GLASS, 2 INCH FRAME, SUNDIAL ALASKA, REMOTE 2 CHANNEL 0-10V, CEILING UNISTRUT, TBD FINISH, NO SHROUD.	CEILNG	RECESSED	TUNEABLE LED 3,628LM	120/277V	37
INV	STAIRWELL	EVENLITE #LM-32-LC-V2-1S-DD-WB	325VA EMERGENCY INVERTER WITH SELF-TEST/SELF-DIAGNOSTICS AND WALL MOUNTED BRACKET.	WALL	5'-0" AFF	N/A	277V	32

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SOUTHCENTRAL FOUNDATION

YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES

65% DESIGN DEVELOPMENT - REVISION 1

ANCHORAGE, ALASKA

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	MAY 11, 2026
DRAWN	CSZ,NVF,AWK
REVIEWED	SB

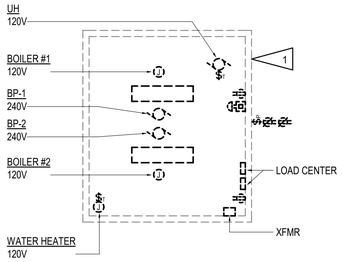
SHEET NAME

ELECTRICAL LEGEND AND LIGHT FIXTURE SCHEDULE

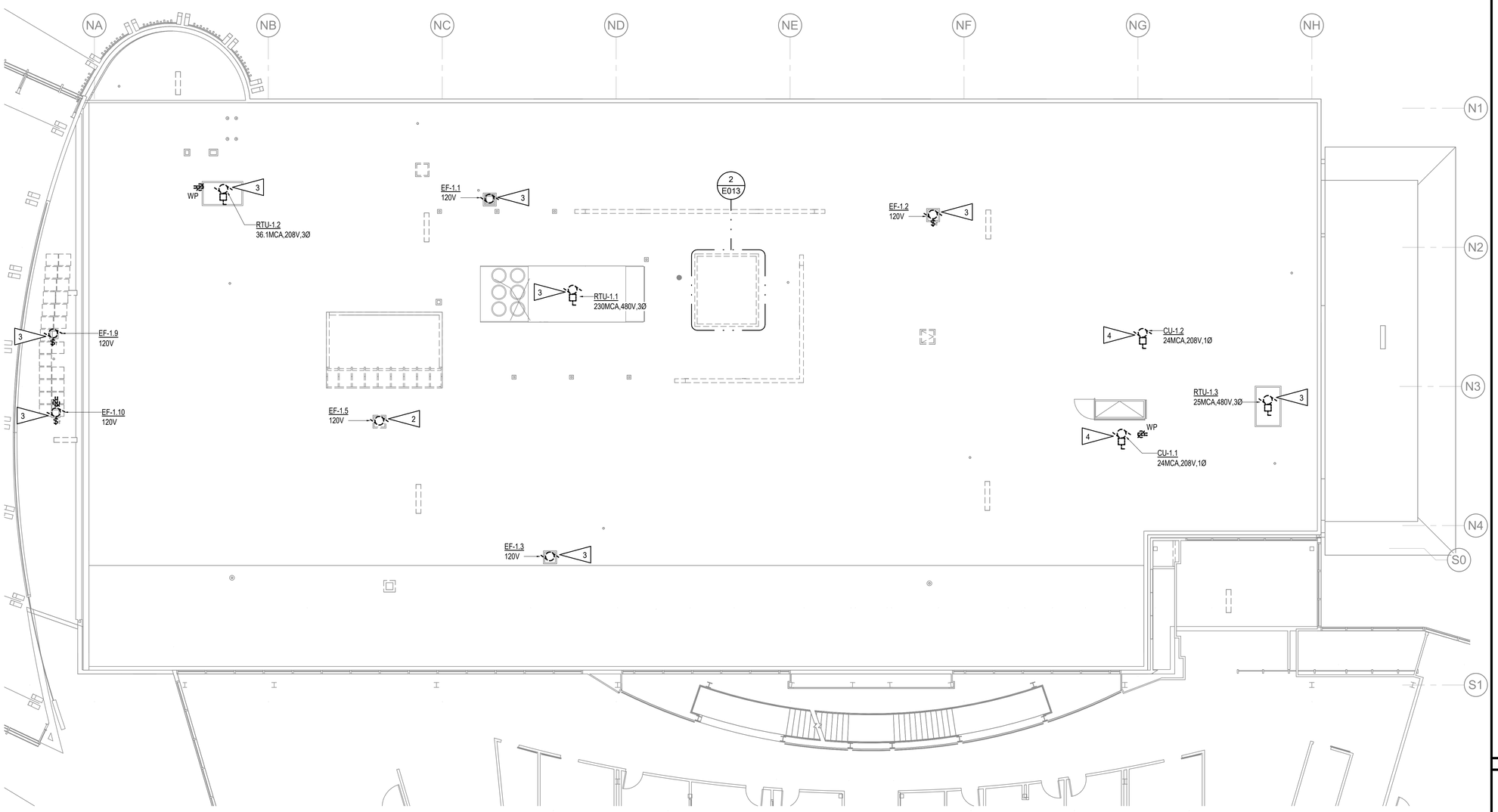
SHEET NO.

E001

FULL-SCALE AT 30X42"



2 PCC1 - ROOF - BOILER MODULE ELECTRICAL DEMOLITION PLAN
1/4" = 1'-0"



1 PCC1 - ROOF - ELECTRICAL DEMOLITION PLAN
1/8" = 1'-0"

GENERAL NOTES:

A. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM AS-BUILT DRAWINGS AND A NON-DESTRUCTIVE WALK THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HERE-IN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS SCHEDULED FOR DEMOLITION PRIOR TO START OF WORK

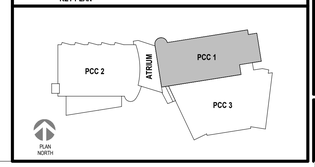
B. THE OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL SALVAGEABLE MATERIALS. THE CONTRACTOR SHALL DELIVER SALVAGED MATERIALS TO A WAREHOUSE AS DIRECTED BY THE OWNER. THE CONTRACTOR SHALL DISPOSE OF, OFF SITE, ALL UNWANTED MATERIALS.

C. DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

SHEET NOTES:

1. BOILER MODULE SHALL BE DEMOLISHED IN IT'S ENTIRETY. DEMOLISH POWER FEEDER FEEDING TRANSFORMER BACK TO MDP. LABEL CIRCUIT BREAKER AS 'SPARE'.
2. DEMOLISH EQUIPMENT IN IT'S ENTIRETY. DEMOLISH POWER FEEDER BACK TO SOURCE. LABEL CIRCUIT BREAKER AS 'SPARE'.
3. REMOVE EQUIPMENT AND STORE FOR REUSE IN SAME LOCATION. SALVAGE POWER FEEDER FOR REUSE.
4. **BASE BID:** DEMOLISH EQUIPMENT. SALVAGE POWER FEEDER FOR REUSE WITH NEW EQUIPMENT. **DEDUCTIVE ALTERNATE M1-3:** REMOVE EQUIPMENT AND STORE FOR REUSE IN SAME LOCATION. SALVAGE POWER FEEDER FOR REUSE.

KEY PLAN



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YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES
65% DESIGN DEVELOPMENT - REVISION 1
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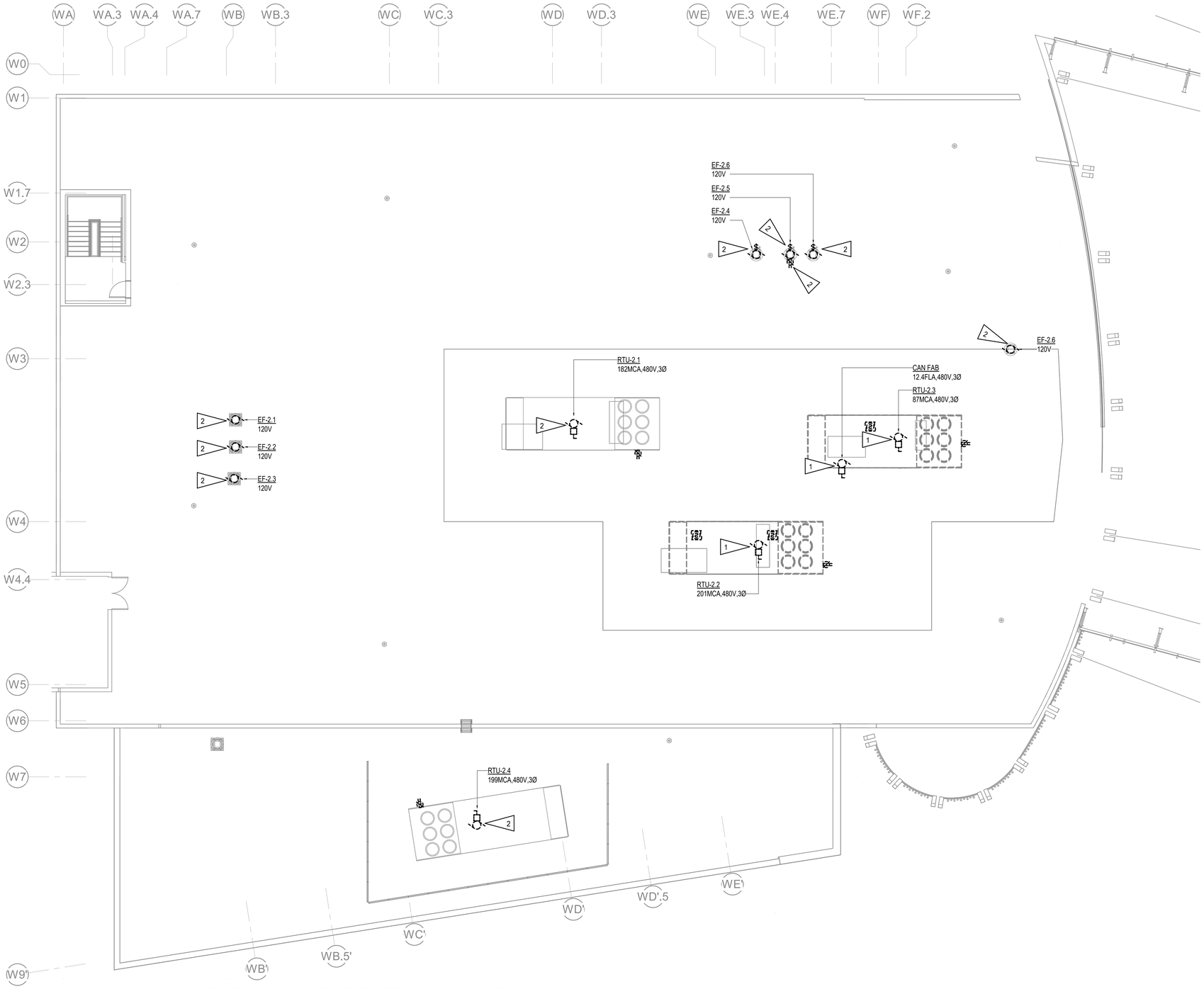
DRAWN	CSZ,NVF,AWK
REVIEWED	SB

SHEET NAME
PCC1 - ROOF - ELECTRICAL DEMOLITION PLAN

SHEET NO.
E013

FULL-SCALE AT 30X42



1 PCC2 - ROOF - ELECTRICAL DEMOLITION PLAN
1/8" = 1'-0"

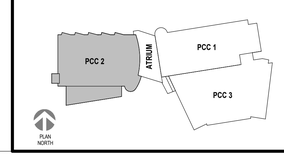
GENERAL NOTES:

A. SEE SHEET E013 FOR GENERAL NOTES.

SHEET NOTES:

1. DEMOLISH EQUIPMENT. SALVAGE POWER FEEDER AND ASSOCIATED DUCT DETECTORS FOR REUSE WITH NEW EQUIPMENT.
2. REMOVE EQUIPMENT AND STORE FOR REUSE IN SAME LOCATION. SALVAGE POWER FEEDER FOR REUSE.

KEY PLAN



STAMP

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SOUTHCENTRAL FOUNDATION
YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES
65% DESIGN DEVELOPMENT - REVISION 1
ANCHORAGE, ALASKA

REVISION SCHEDULE

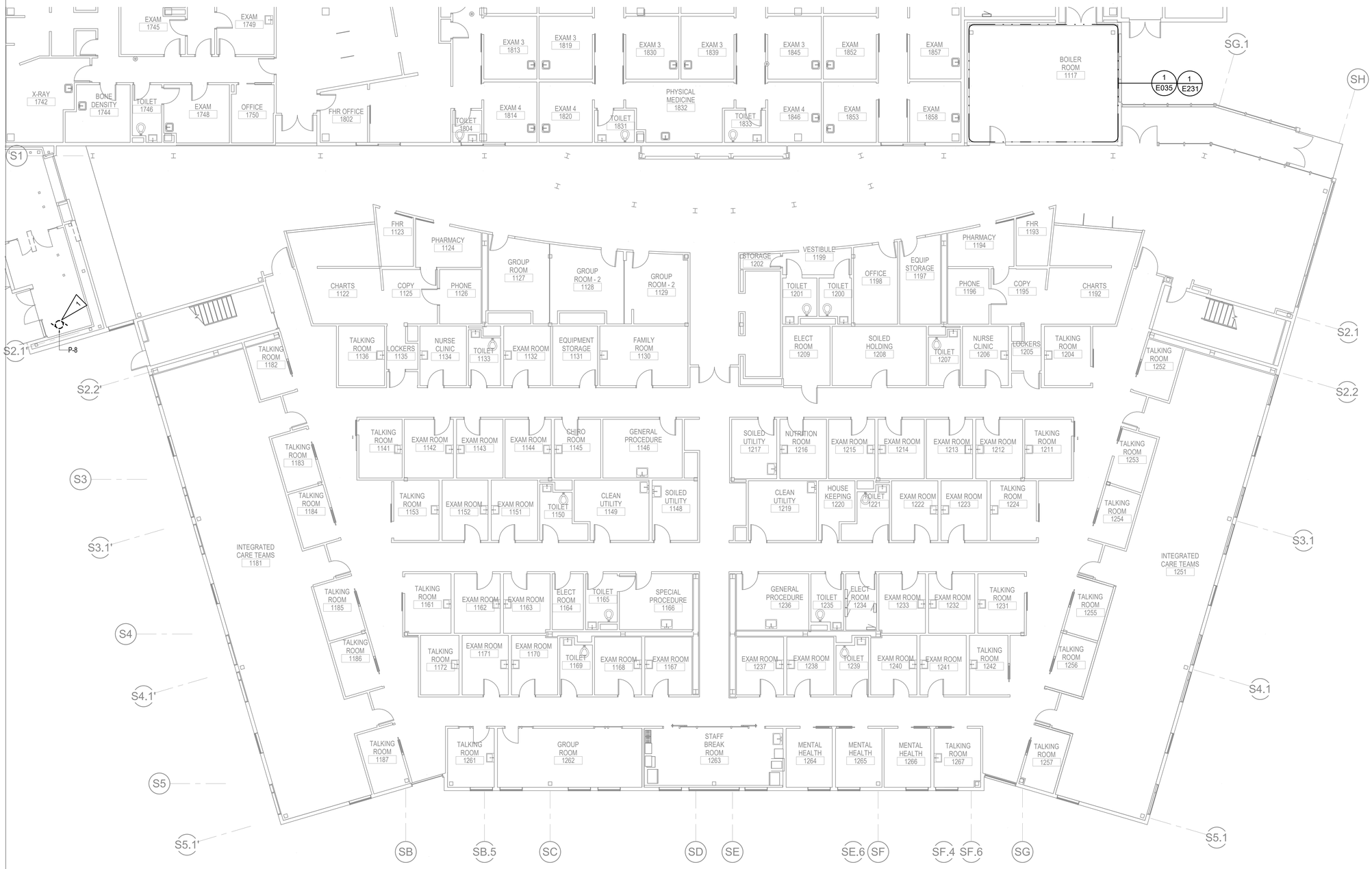
#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	MAY 11, 2026
DRAWN	CSZ,NVF,AWK
REVIEWED	SB

SHEET NAME
PCC2 - ROOF - ELECTRICAL DEMOLITION PLAN

SHEET NO.
E023

FULL-SCALE AT 30X42



1 PCC3 - LEVEL 1 - ELECTRICAL REMODEL PLAN

1/8" = 1'-0"

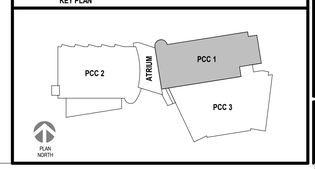
GENERAL NOTES:

A. SEE SHEET E013 FOR GENERAL NOTES.

SHEET NOTES:

1. DEMOLISH EQUIPMENT IN IT'S ENTIRETY. DEMOLISH POWER FEEDER BACK TO SOURCE. LABEL CIRCUIT BREAKER AS 'SPARE'.

KEY PLAN



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SOUTHCENTRAL FOUNDATION

YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES

65% DESIGN DEVELOPMENT - REVISION 1

ANCHORAGE, ALASKA

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
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REVIEWED	SB

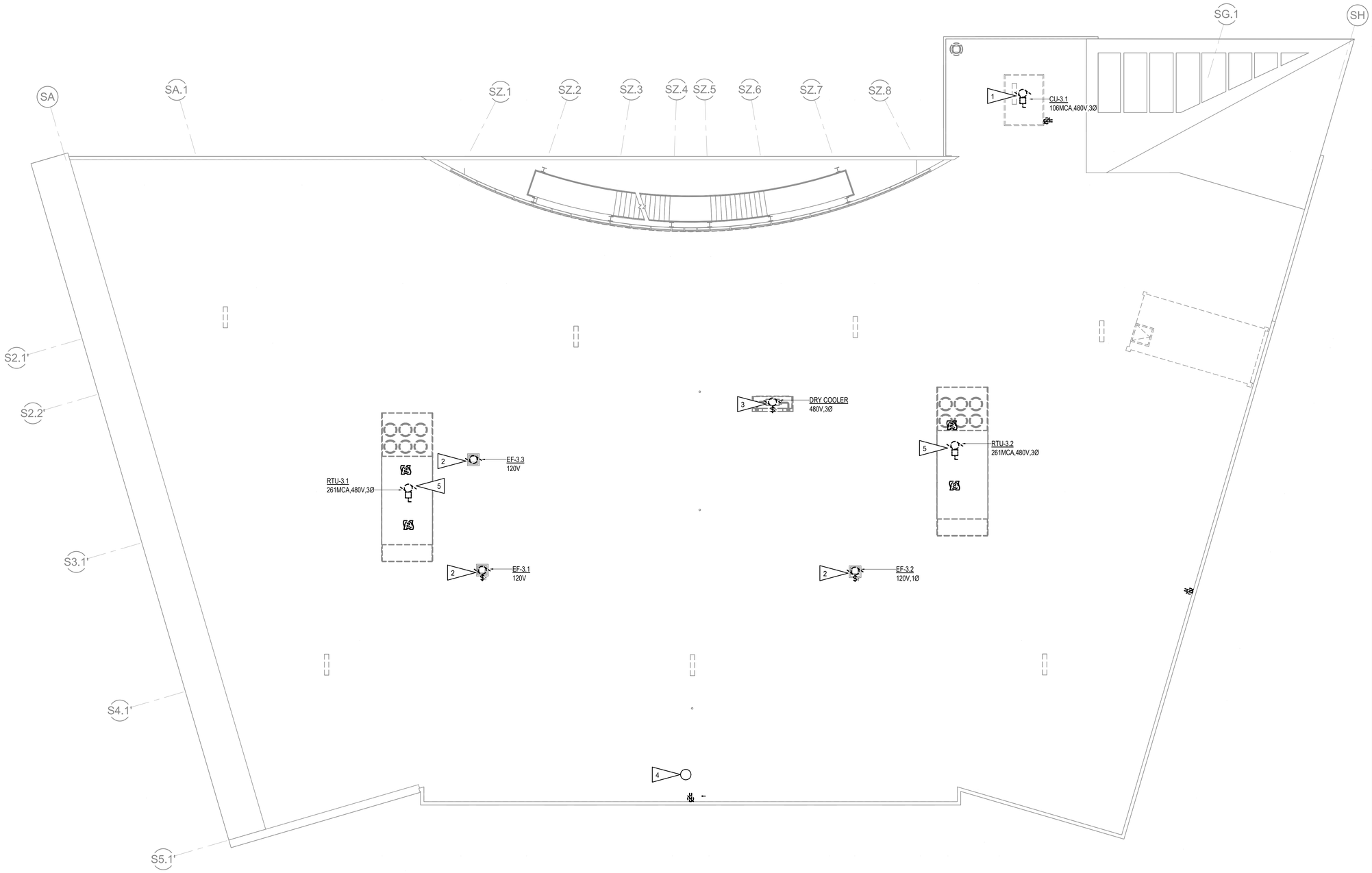
SHEET NAME

PCC3 - LEVEL 1 - ELECTRICAL DEMOLITION PLAN

SHEET NO.

E031

FULL-SCALE AT 30X42



1 PCC3 - ROOF - ELECTRICAL DEMOLITION PLAN
1/8" = 1'-0"

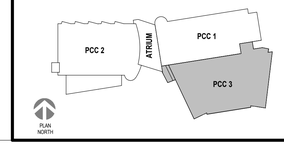
GENERAL NOTES:

A. SEE SHEET E013 FOR GENERAL NOTES.

SHEET NOTES:

1. DEMOLISH EQUIPMENT. SALVAGE POWER FEEDER FOR REUSE WITH NEW EQUIPMENT.
2. REMOVE EQUIPMENT AND STORE FOR REUSE IN SAME LOCATION. SALVAGE POWER FEEDER FOR REUSE.
3. DEMOLISH EQUIPMENT IN ITS ENTIRETY. DEMOLISH POWER FEEDER BACK TO SOURCE. LABEL CIRCUIT BREAKER AS 'SPARE'.
4. CONDUIT PENETRATION WITH BOOT AND WEATHER HEAD FOR ANTENNA. PROTECT ANTENNA AS REQUIRED FOR ROOF WORK.
5. BASE BID: REMOVE EQUIPMENT AND STORE FOR REUSE IN SAME LOCATION. SALVAGE POWER FEEDER FOR REUSE.
DEDUCTIVE ALTERNATE M3-1: DEMOLISH EQUIPMENT. SALVAGE POWER FEEDER AND ASSOCIATED DUCT DETECTORS FOR REUSE WITH NEW EQUIPMENT.

KEY PLAN



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SOUTHCENTRAL FOUNDATION
YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES
65% DESIGN DEVELOPMENT - REVISION 1
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REVISION SCHEDULE

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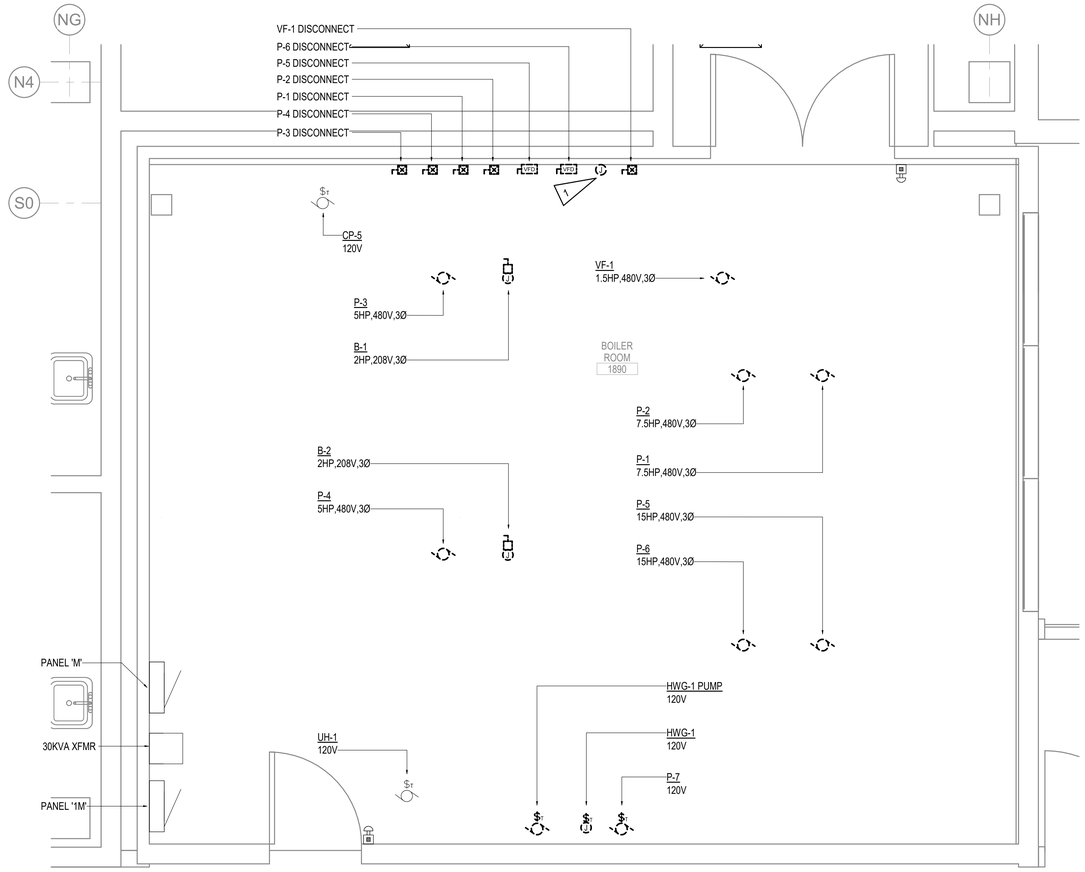
REVIEWED	SB

SHEET NAME
PCC3 - ROOF - ELECTRICAL DEMOLITION PLAN

SHEET NO.
E034

FULL-SCALE AT 30X42



1 PCC3 - BOILER ROOM - DEMOLITION PLAN

1/2" = 1'-0"

GENERAL NOTES:

A. SEE SHEET E013 FOR GENERAL NOTES.

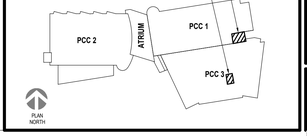
SHEET NOTES:

1. SALVAGE POWER FEED TO DEMOLISHED DDC PANEL FOR REUSE WITH NEW DDC PANELS.

LOCATED ON 1ST FLOOR. SEE 1/E231 AND 2/E231

LOCATED ON 1ST & 2ND FLOOR. SEE 3/E231 AND 4/E231

KEY PLAN



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SOUTHCENTRAL FOUNDATION

YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES

65% DESIGN DEVELOPMENT - REVISION 1

ANCHORAGE, ALASKA

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JOB NO.	M5052
DATE	MAY 11, 2026
DRAWN	CSZ,NVF,AWK
REVIEWED	SB

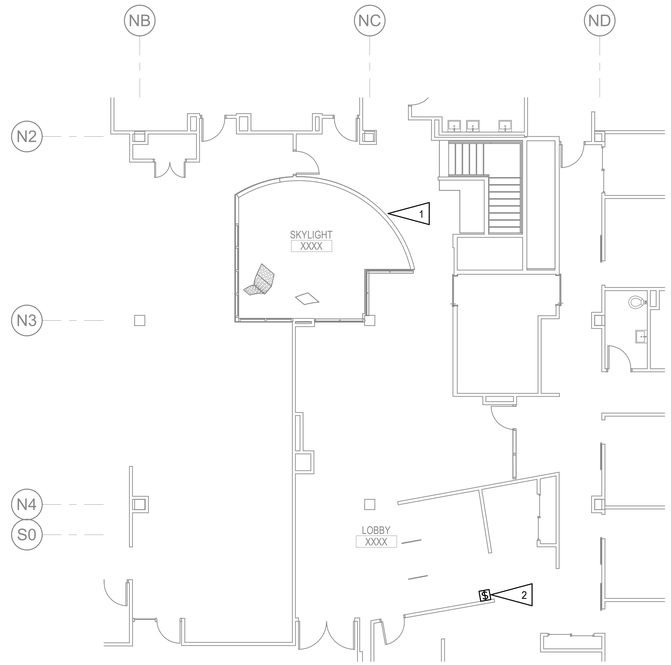
SHEET NAME

PCC3 - ENLARGED PLANS - ELECTRICAL PLANS

SHEET NO.

E035

FULL-SCALE AT 30X42



1 PCC1 - LEVEL 2 - PARTIAL ELECTRICAL REMODEL PLAN
1/8" = 1'-0"

GENERAL NOTES:

A. COORDINATE WITH MECHANICAL TO AVOID CONFLICTS WITH DUCTWORK, PIPING, ETC.

B. COORDINATE INSTALLATION AND REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH MECHANICAL AND DIVISIONS 22 AND 23 PRIOR TO ROUGH-IN. SEE MECHANICAL PLANS FOR CONNECTION TYPE, MOTOR STARTER, AND DISCONNECT REQUIREMENTS.

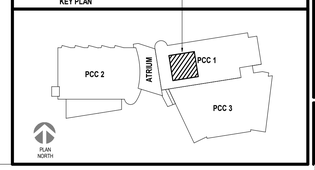
SHEET NOTES:

1. FIELD LOCATE REMOTE DRIVERS, DIGITAL TIME CLOCK, POWER PACKS, ETC., FOR SKYLIGHT FIXTURES ABOVE, ABOVE ACCESSIBLE CEILING IN LOCATION INDICATED. PROVIDE LABEL TO INDICATE EXISTENCE OF EQUIPMENT VISIBLE WITHOUT REMOVING CEILING TILES. COORDINATE LABELING CONVENTION WITH SCF FACILITY MAINTENANCE PERSONNEL.

2. 4-POLE SWITCH FOR CONTROL OF SKYLIGHT FIXTURES. SEE 1/E113 FOR FIXTURE LOCATIONS. SWITCH SHALL INDEPENDENTLY PROVIDE DIMMING CONTROL FOR LIGHT GLASS AND WALL-MOUNTED FIXTURES AS WELL AS ON/OFF CONTROL. COORDINATE EXACT LOCATION OF SWITCH WITH SCF PERSONNEL PRIOR TO ROUGH-IN.

AREA OF WORK

KEY PLAN



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SOUTHCENTRAL FOUNDATION

YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES

65% DESIGN DEVELOPMENT - REVISION 1

ANCHORAGE, ALASKA

REVISION SCHEDULE

#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	MAY 11, 2026
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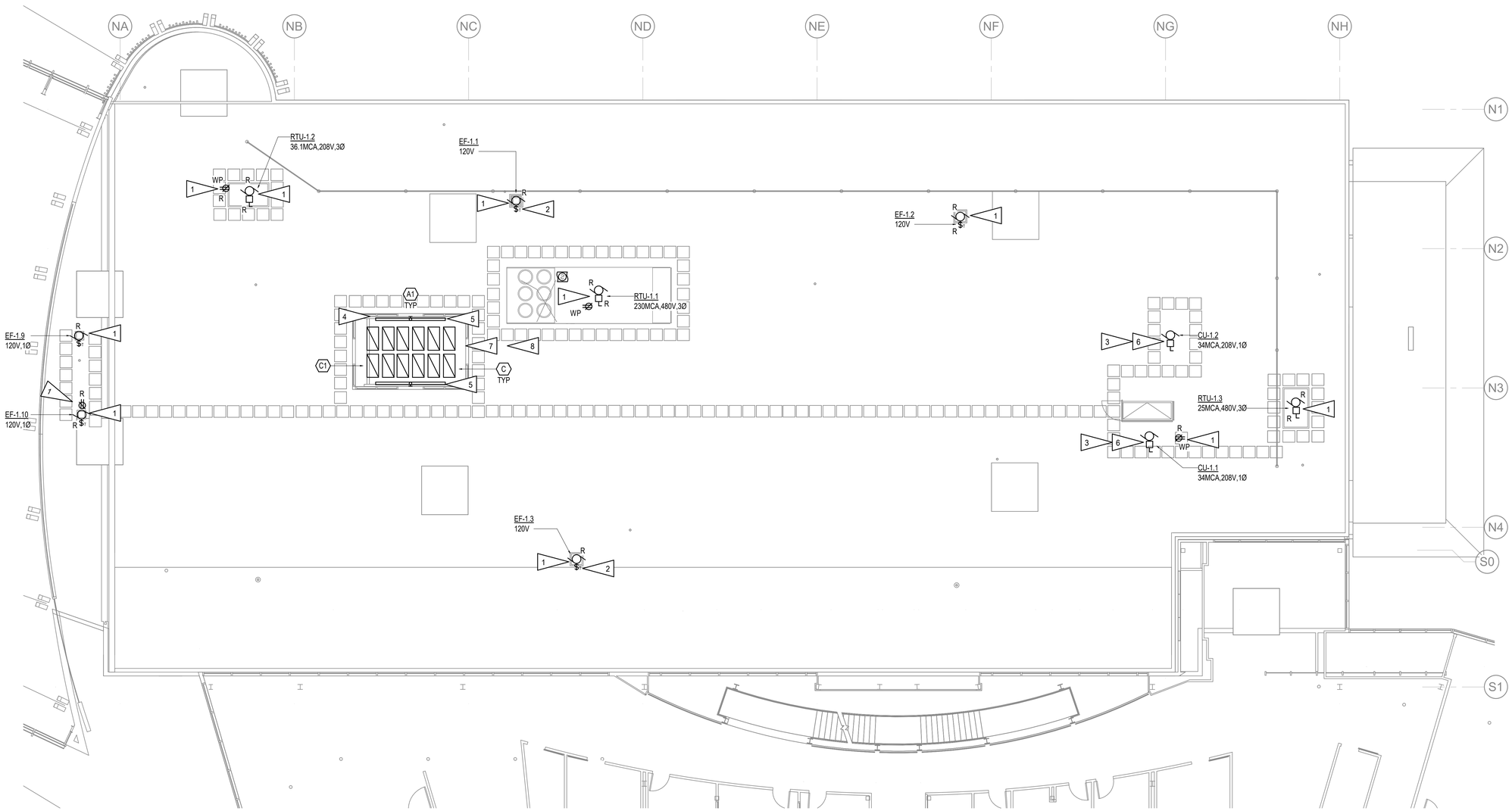
REVIEWED	SB

SHEET NAME
PCC1 - LEVEL 2 - PARTIAL ELECTRICAL REMODEL PLAN

SHEET NO.
E112

FULL-SCALE AT 30X42



1 PCC1 - ROOF - ELECTRICAL REMODEL PLAN
1/8" = 1'-0"

GENERAL NOTES:

A. SEE SHEET E112 FOR GENERAL NOTES.

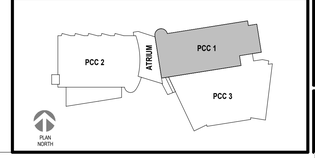
B. FIXTURES IN SKYLIGHT SHALL BE CONTROLLED BY DIGITAL TIME CLOCK AS WELL AS MANUAL SWITCH. INTENT IS FOR FIXTURES TO FOLLOW CIRCADIAN CYCLE OF THE ANCHORAGE AREA. FIXTURES SHALL UTILIZE COLOR TUNING CAPABILITIES, POWER PACKS AND A DIGITAL TIME CLOCK TO ACHIEVE THIS.

C. RELIEF FAN DISCONNECTS PROVIDED INTEGRAL TO UNITS.

SHEET NOTES:

1. PROVIDE CONNECTION TO SALVAGED FEEDER. EXTEND FEEDER AS NEEDED FOR A COMPLETE INSTALLATION.
2. PROVIDE LOCAL DISCONNECT TO MEET NEC CODE.
3. PROVIDE CONNECTION TO AC-1.1 AND AC-1.2. SEE 2/E211 AND 4/E211 FOR LOCATIONS.
4. MOUNT NEW FIXTURE IN SKYLIGHT ON NEW WALL, BELOW WINDOW. CONNECT TO LOCAL AREA LIGHTING POWER CIRCUIT.
5. PROVIDE FIXTURES WITH REMOTE DRIVERS FOR EASE OF MAINTENANCE. FIELD LOCATE REMOTE DRIVERS ADJACENT TO SKYLIGHT CONTROLS AND POWER PACKS. SEE NOTE 7. CONNECT TO LOCAL AREA LIGHTING CIRCUIT.
6. **BASE BID:** PROVIDE CONNECTION TO NEW EQUIPMENT FROM SALVAGED FEEDER. EXTEND FEEDER AS NEEDED FOR A COMPLETE INSTALLATION.
   DEDUCTIVE ALTERNATE M1-3: PROVIDE CONNECTION TO REINSTALLED EQUIPMENT FROM SALVAGED FEEDER. EXTEND FEEDER AS NEEDED FOR A COMPLETE INSTALLATION.
7. PROVIDE DIGITAL TIME CLOCK CONTROLLER FOR FIXTURES IN SKYLIGHT. MOUNT POWER PACKS REQUIRED TO CONTROL TYPE 'A1', 'C', AND 'C1' FIXTURES AND ASSOCIATED DIGITAL TIME CLOCK AND REMOTE DRIVERS IN ACCESSIBLE LOCATION BELOW SKYLIGHT. SEE 1/E112 FOR LOCATION.
8. FIXTURES IN SKYLIGHT SHALL BE CONTROLLED BY 4-POLE LOW-VOLTAGE DIMMING SWITCH LOCATED IN SECOND FLOOR LOBBY. SEE 1/E112 FOR LOCATION.

KEY PLAN



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SOUTHCENTRAL FOUNDATION
YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES
65% DESIGN DEVELOPMENT - REVISION 1
ANCHORAGE, ALASKA

REVISION SCHEDULE

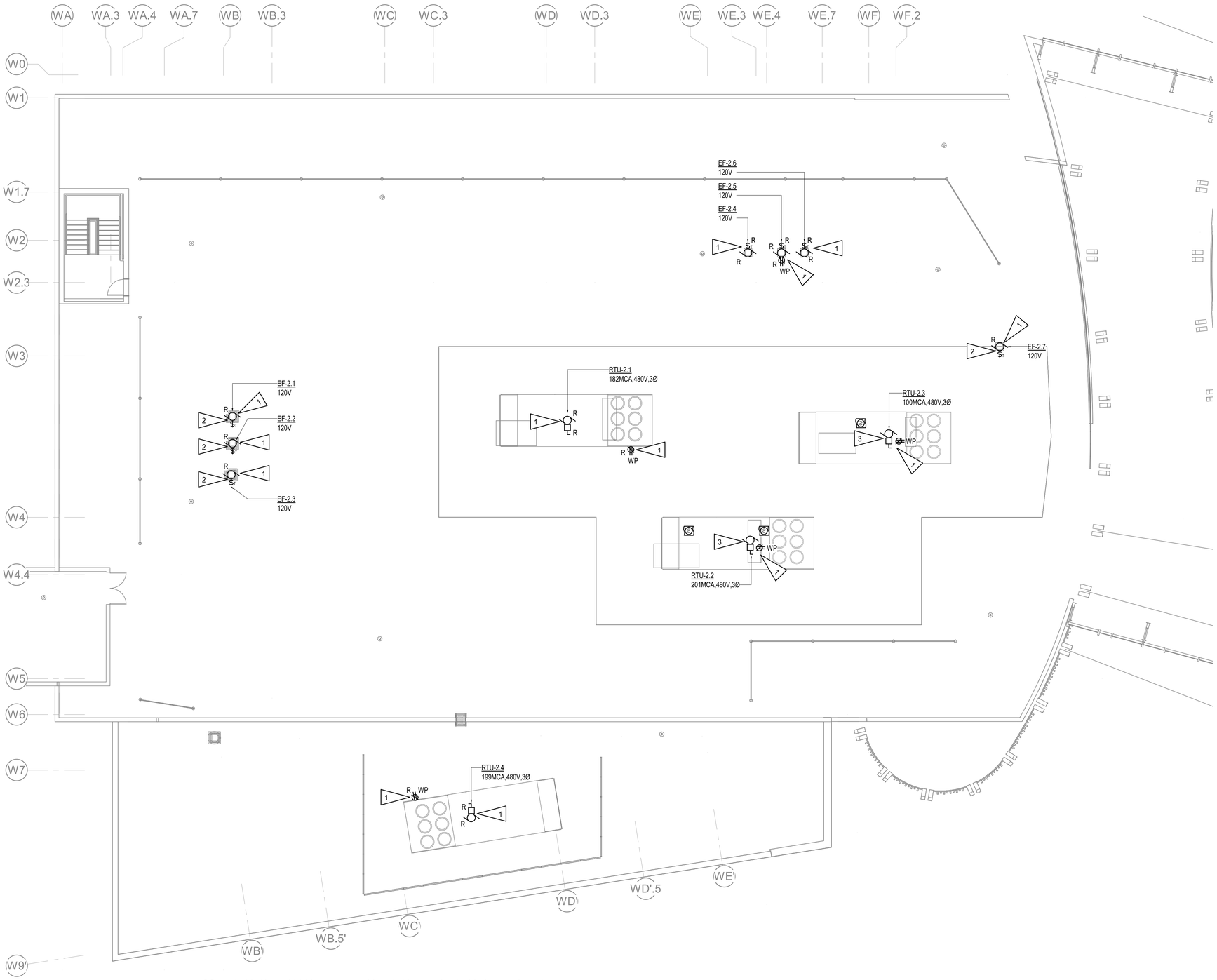
#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	MAY 11, 2026
DRAWN	CSZ,NVF,AWK
REVIEWED	SB

SHEET NAME
PCC1 - ROOF - ELECTRICAL REMODEL PLAN

SHEET NO.
E113

FULL-SCALE AT 30X42



1 PCC2 - ROOF - ELECTRICAL REMODEL PLAN
1/8" = 1'-0"

GENERAL NOTES:

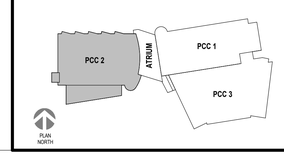
A. SEE SHEET E112 FOR GENERAL NOTES.

B. RELIEF FAN DISCONNECTS PROVIDED INTEGRAL TO UNITS.

SHEET NOTES:

1. PROVIDE CONNECTION TO SALVAGED FEEDER. EXTEND FEEDER AS NEEDED FOR A COMPLETE INSTALLATION.
2. PROVIDE LOCAL DISCONNECT TO MEET NEC CODE.
3. PROVIDE CONNECTION TO NEW UNIT FROM SALVAGED FEEDER. EXTEND FEEDER AS NEEDED FOR A COMPLETE INSTALLATION. DISCONNECT PROVIDED BY MECHANICAL.

KEY PLAN



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SOUTHCENTRAL FOUNDATION

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65% DESIGN DEVELOPMENT - REVISION 1

ANCHORAGE, ALASKA

REVISION SCHEDULE

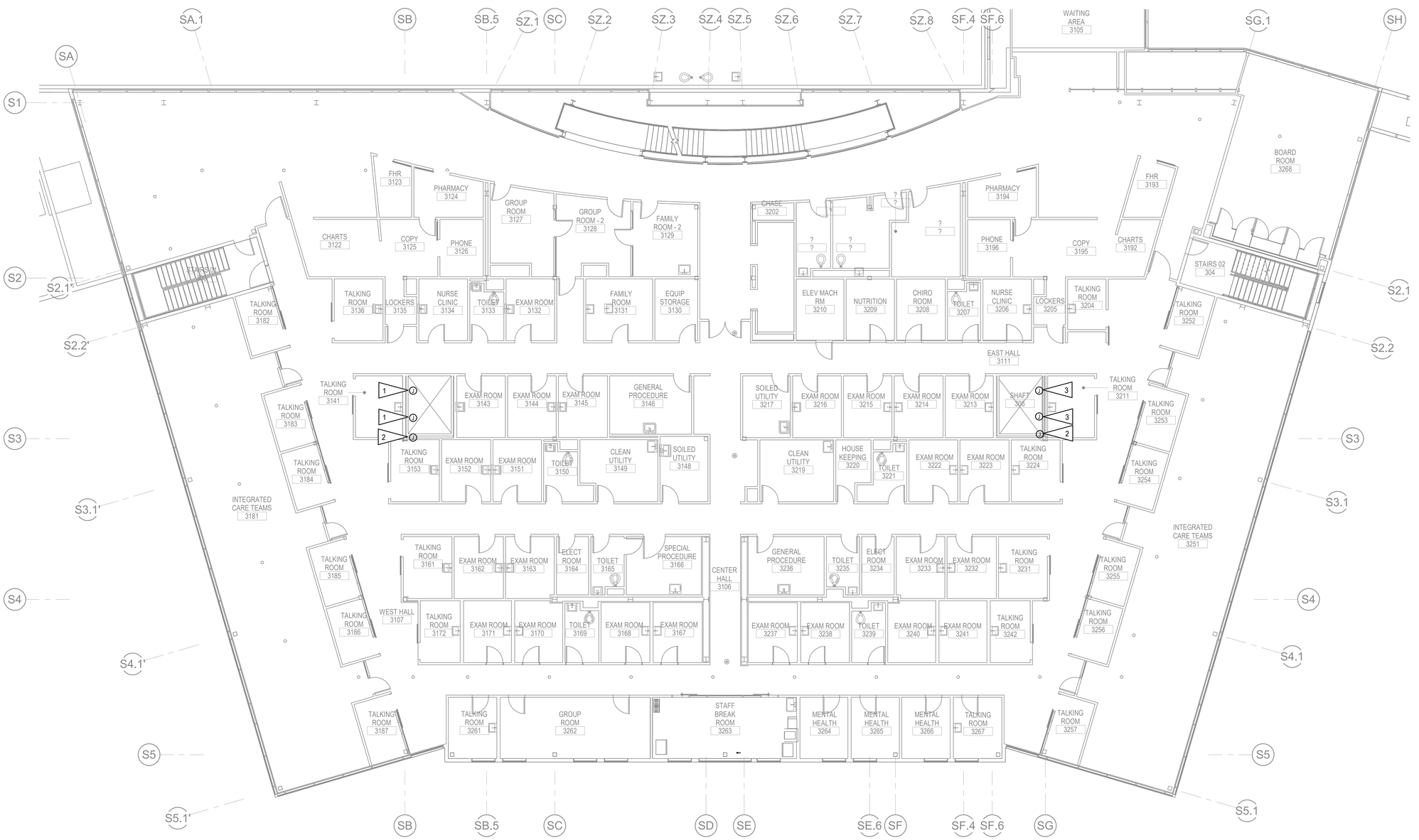
#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	MAY 11, 2026
DRAWN	CSZ,NVF,AWK
REVIEWED	SB

SHEET NAME
PCC2 - ROOF - ELECTRICAL REMODEL PLAN

SHEET NO.
E123

FULL-SCALE AT 30X42



1 PCC3 - LEVEL 3 - ELECTRICAL REMODEL PLAN
1/8" = 1'-0"

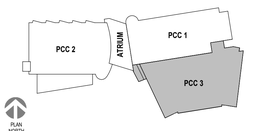
GENERAL NOTES:

A. SEE SHEET E112 FOR GENERAL NOTES.

SHEET NOTES:

1. LOCATED ON 1ST FLOOR: JUNCTION BOX FOR MOTOR OPERATED FIRE SMOKE DAMPER. IF NOT PRESENT, PROVIDE POWER FROM CLOSEST AVAILABLE CIRCUIT. COORDINATE WITH MECHANICAL FOR EXACT LOCATION.
2. LOCATED ON 2ND FLOOR: JUNCTION BOX FOR MOTOR OPERATED FIRE SMOKE DAMPER. IF NOT PRESENT, PROVIDE POWER FROM CLOSEST AVAILABLE CIRCUIT. COORDINATE WITH MECHANICAL FOR EXACT LOCATION.
3. LOCATED ON 3RD FLOOR: JUNCTION BOX FOR MOTOR OPERATED FIRE SMOKE DAMPER. IF NOT PRESENT, PROVIDE POWER FROM CLOSEST AVAILABLE CIRCUIT. COORDINATE WITH MECHANICAL FOR EXACT LOCATION.

KEY PLAN



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SOUTHCENTRAL FOUNDATION

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DATE	MAY 11, 2026
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REVIEWED	SB

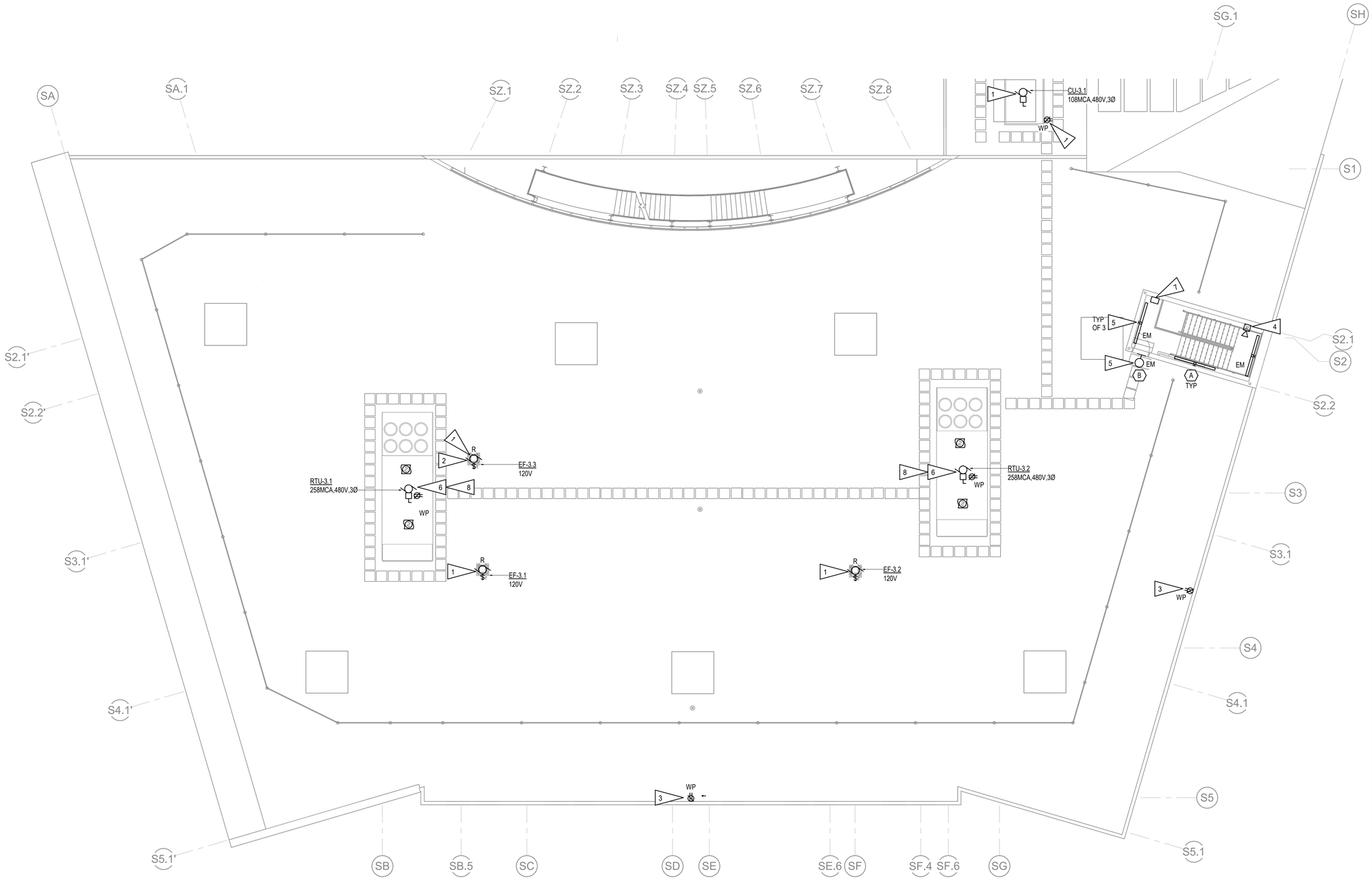
SHEET NAME

PCC3 - LEVEL 3 - ELECTRICAL REMODEL PLAN

SHEET NO.

E132

FULL-SCALE AT 30X42"



1 PCC3 - ROOF - ELECTRICAL REMODEL PLAN
1/8" = 1'-0"

GENERAL NOTES:

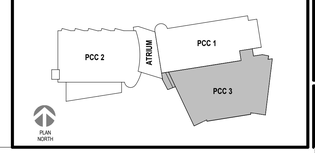
A. SEE SHEET E112 FOR GENERAL NOTES.

B. RELIEF FAN DISCONNECTS PROVIDED INTEGRAL TO UNITS.

SHEET NOTES:

1. PROVIDE CONNECTION TO SALVAGED FEEDER. EXTEND FEEDER AS NEEDED FOR A COMPLETE INSTALLATION.
2. PROVIDE LOCAL DISCONNECT TO MEET NEC CODE.
3. PROVIDE CONNECTION TO SALVAGED FEEDER. EXTEND FEEDER AS NEEDED FOR A COMPLETE INSTALLATION. PROVIDE WEATHERPROOF COVER.
4. PROVIDE CONNECTION TO EXISTING FIRE ALARM CIRCUIT IN STAIRWELL BELOW.
5. CONNECT LIGHT TO NEARBY EXISTING LIGHTING CIRCUIT.
6. BASE BID: PROVIDE CONNECTION TO REINSTALLED EQUIPMENT FROM SALVAGED FEEDER. EXTEND FEEDER AS NEEDED FOR A COMPLETE INSTALLATION. **DEDUCTIVE ALTERNATE M3-1:** PROVIDE CONNECTION TO NEW EQUIPMENT FROM SALVAGED FEEDER. EXTEND FEEDER AS NEEDED FOR A COMPLETE INSTALLATION.
7. WALL-MOUNTED EMERGENCY INVERTER, TYPE 'INV', FOR LIGHTING FIXTURES IN STAIRWELL. PROVIDE CONNECTION TO UNSWITCHED LEG OF LOCAL LIGHTING CIRCUIT.
8. REPLACE EXISTING BREAKER FEEDING UNIT WITH NEW 250A, 3-POLE BREAKER. NEW BREAKER SHALL BE COMPATIBLE WITH AND LISTED FOR USE IN THE EXISTING PANEL AND SHALL HAVE A SHORT CIRCUIT AIC RATING TO MATCH THE LOWEST RATED EXISTING DEVICE IN THE PANEL.

KEY PLAN



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SOUTHCENTRAL FOUNDATION
YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES
65% DESIGN DEVELOPMENT - REVISION 1
ANCHORAGE, ALASKA

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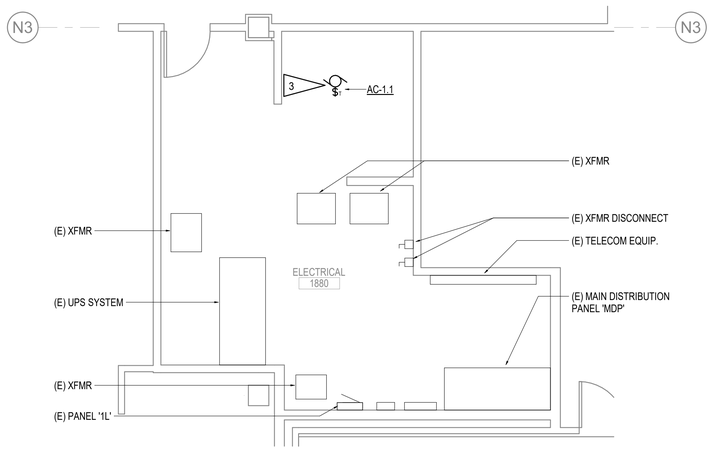
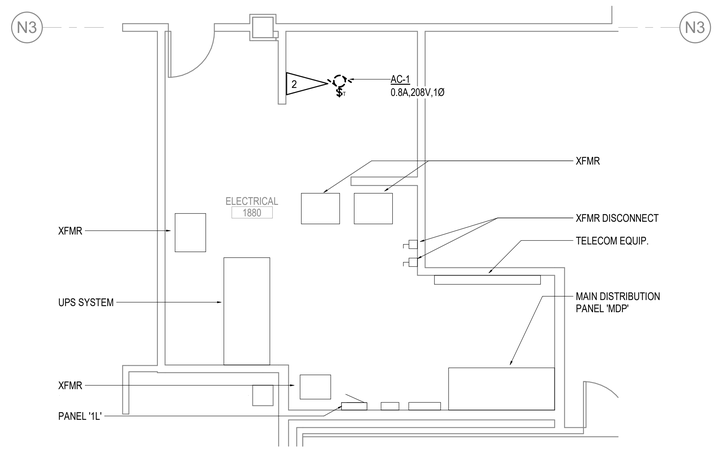
SHEET NAME
PCC3 - ROOF - ELECTRICAL REMODEL PLAN

SHEET NO.
E133

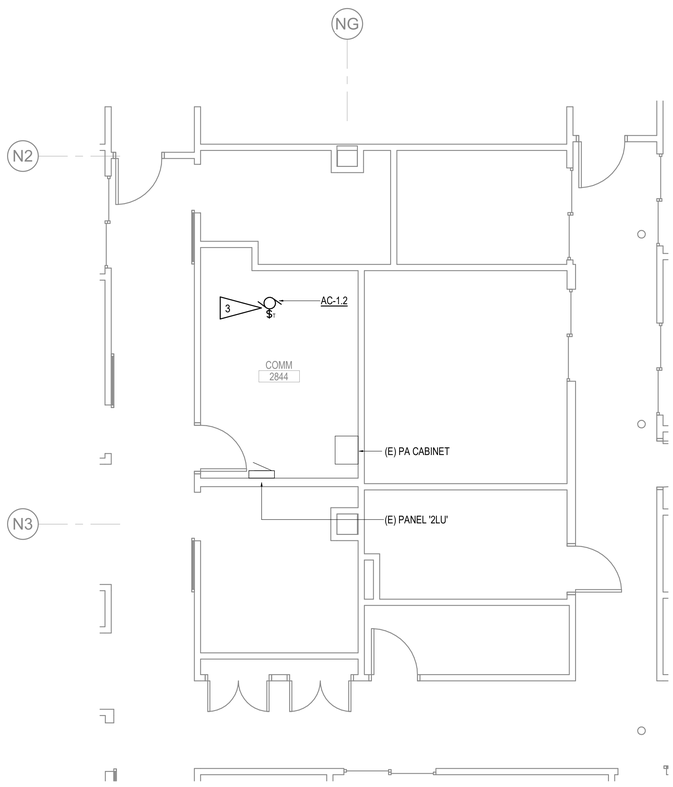
FULL-SCALE AT 30X42



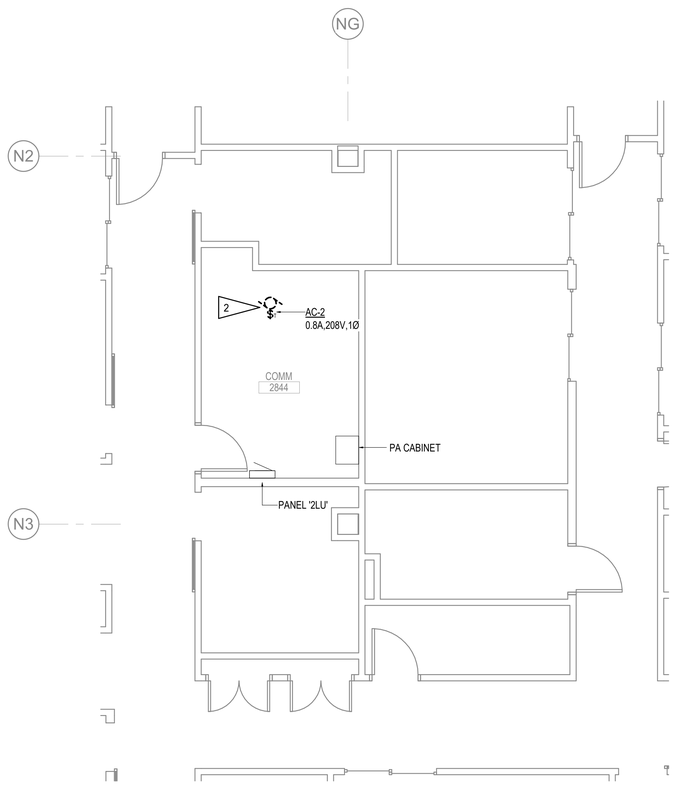
3 PCC1 - ELEC 1864 - ELECTRICAL REMODEL PLAN
1/4" = 1'-0"



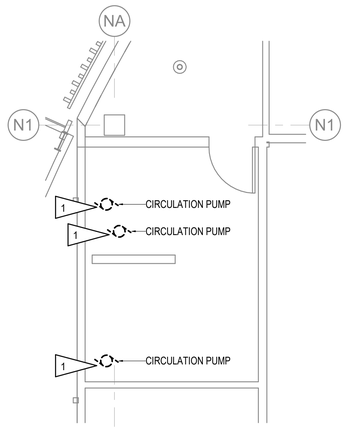
4 PCC1 - ELEC 1864 - ELECTRICAL DEMOLITION PLAN
1/4" = 1'-0"



1 PCC1 - COMM 2855 - ELECTRICAL REMODEL PLAN
1/4" = 1'-0"



2 PCC1 - COMM 2855 - ELECTRICAL DEMOLITION PLAN
1/4" = 1'-0"



5 PCC1 - FIRST FLOOR ENLARGED DEMOLITION PLAN
1/4" = 1'-0"

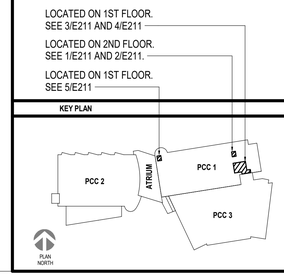
GENERAL NOTES:

A. SEE SHEET E013 FOR GENERAL NOTES THAT APPLY TO DEMOLITION.

B. SEE SHEET E112 FOR GENERAL NOTES THAT APPLY TO REMODEL.

SHEET NOTES:

1. DEMOLISH EQUIPMENT IN IT'S ENTIRETY. DEMOLISH POWER FEEDER BACK TO SOURCE. LABEL CIRCUIT BREAKER AS 'SPARE'.
2. **BASE BID:** DEMOLISH EQUIPMENT. SALVAGE POWER FEEDER FOR REUSE WITH NEW EQUIPMENT. DISCONNECT FROM CU-1.1 AND CU-1.2. SEE 1/E013. **DEDUCTIVE ALTERNATE M 1-3:** NO WORK REQUIRED.
3. **BASE BID:** PROVIDE CONNECTION TO SALVAGED FEEDER. EXTEND FEEDER AS NEEDED FOR A COMPLETE INSTALLATION. PROVIDE CONNECTION TO CU-1.1 AND CU-1.2. UNIT IS POWERED FROM ITS CU UNIT. SEE 1/E113. **DEDUCTIVE ALTERNATE M 1-3:** NO WORK REQUIRED.



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CERTIFICATE OF AUTHORIZATION NO.: # 119231
NORTHFORM ARCHITECTURE LLC.

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7033 EAST TUDOR ROAD
ANCHORAGE, ALASKA 99507

SOUTHCENTRAL FOUNDATION
YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES
65% DESIGN DEVELOPMENT - REVISION 1
ANCHORAGE, ALASKA

REVISION SCHEDULE

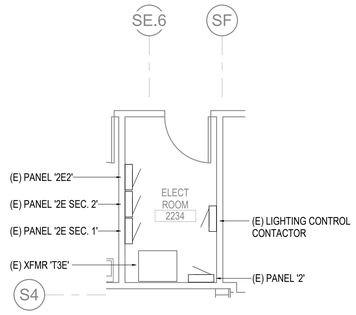
#	DESCRIPTION	DATE

JOB NO.	M5052
DATE	MAY 11, 2026
DRAWN	CSZ,NVF,AWK
REVIEWED	SB

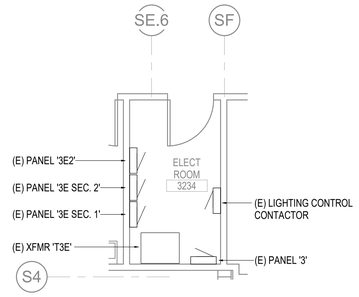
SHEET NAME
PCC1 - ENLARGED PLANS - ELECTRICAL PLANS

SHEET NO.
E211

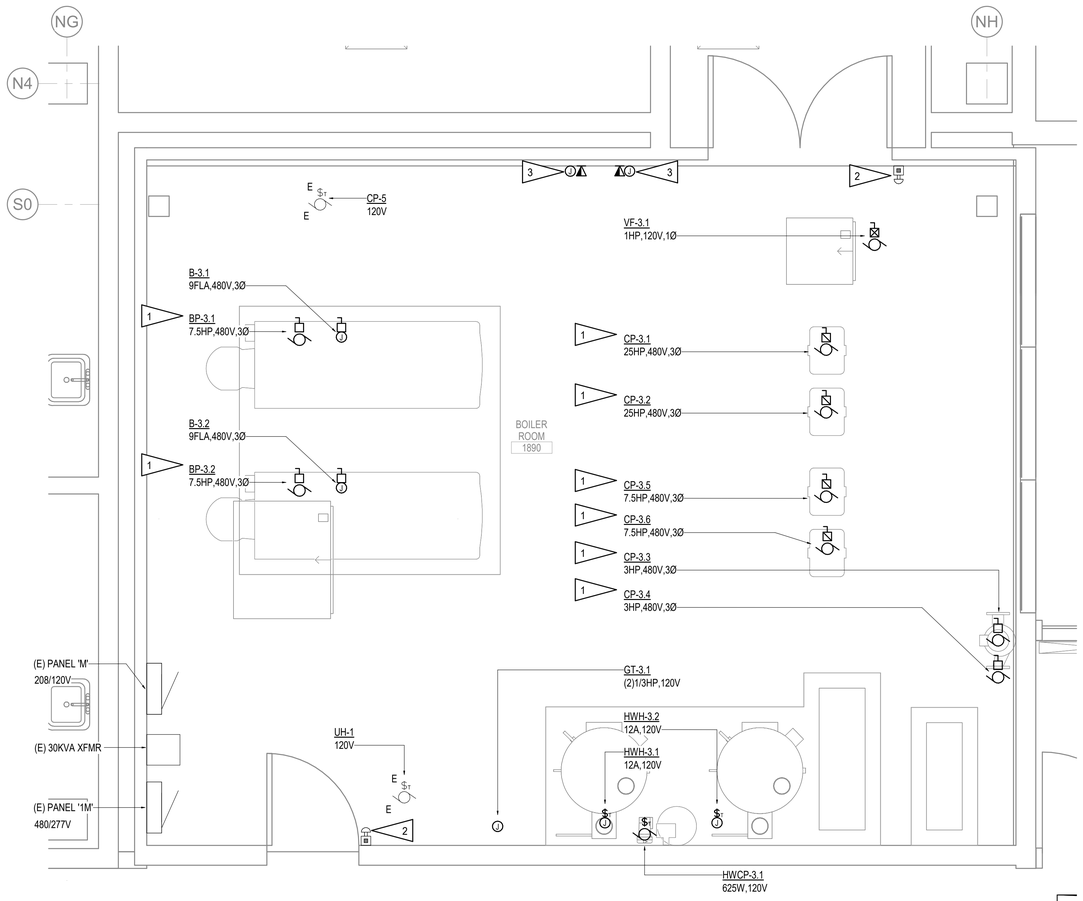
FULL-SCALE AT 30X42



2 PCC3 - ELEC 2234- ELECTRICAL REMODEL PLAN
1/4" = 1'-0"



3 PCC3 - ELEC 3234- ELECTRICAL REMODEL PLAN
1/4" = 1'-0"



1 PCC3 - BOILER ROOM - REMODEL PLAN
1/2" = 1'-0"

GENERAL NOTES:

A. SEE SHEET E013 FOR GENERAL NOTES.

B. VFDS SHOWN ON 1/E231 ARE PROVIDED BY MECHANICAL.

C. SEE SHEET E112 FOR GENERAL NOTES THAT APPLY TO REMODEL.

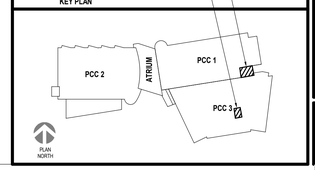
SHEET NOTES:

1. MOTOR PROVIDED WITH INTEGRAL VFD FOR CONTROL AND OVERLOAD PROTECTION.
2. EXISTING BOILER SHUT DOWN BUTTON TO SHUNT TRIP POWER TO BOILERS.
3. REUSE SALVAGED POWER FEED FOR NEW DDC PANELS. AND PROVIDE DATA CONNECTION TO DDC PANEL. ROUTE BACK TO CLOSEST TELECOM ROOM.

LOCATED ON 1ST FLOOR. SEE 1/E231 AND 2/E231

LOCATED ON 1ST & 2ND FLOOR. SEE 3/E231 AND 4/E231

KEY PLAN



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REVIEWED	SB

SHEET NAME
PCC3 - ENLARGED PLANS - ELECTRICAL PLANS

SHEET NO.
E231

FULL-SCALE AT 30X42

GENERAL NOTES:

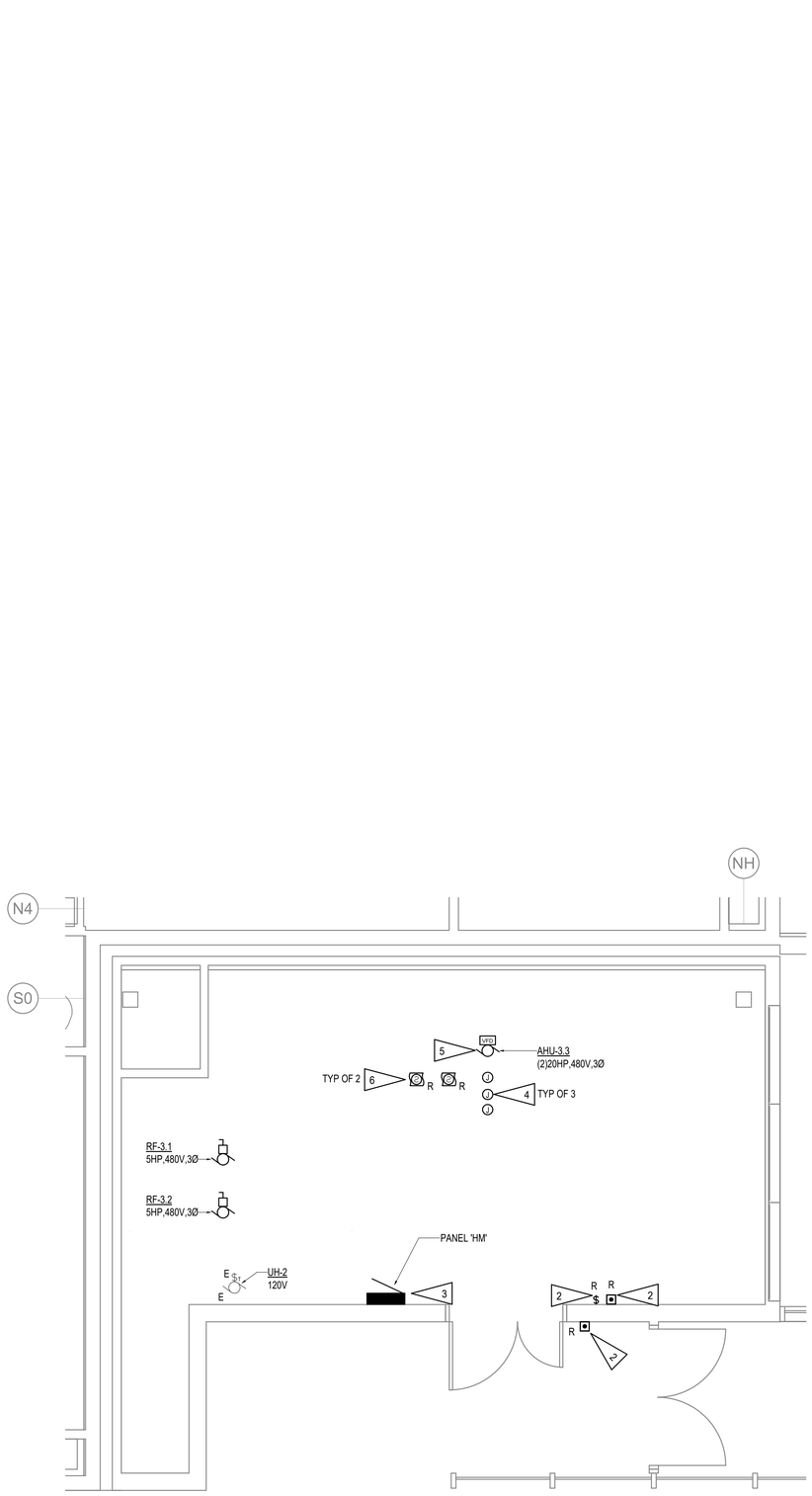
A. SEE SHEET E013 FOR GENERAL NOTES THAT APPLY TO DEMOLITION.

B. SEE SHEET E112 FOR GENERAL NOTES THAT APPLY TO REMODEL.

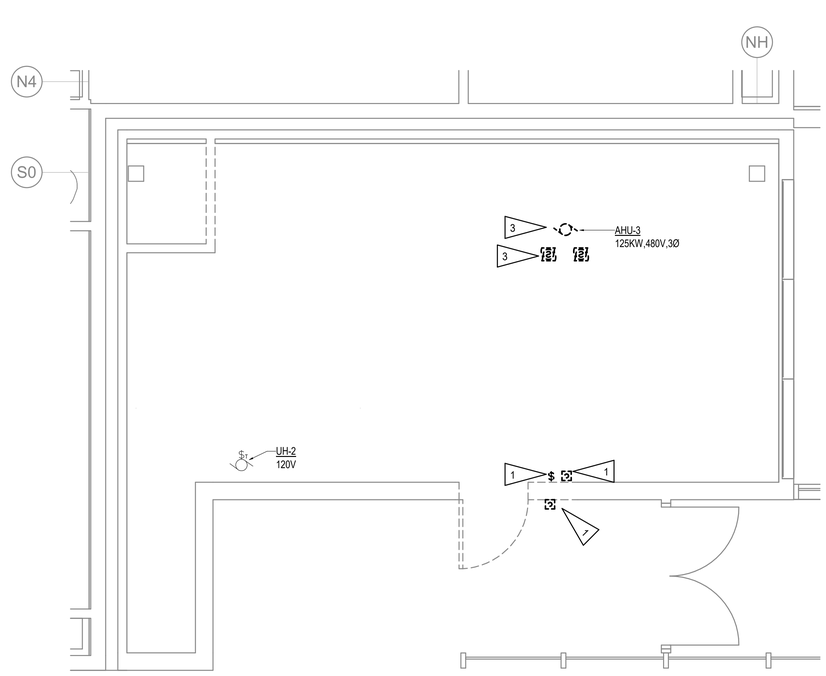
C. RELIEF FAN DISCONNECTS PROVIDED BY MECHANICAL, INSTALLED BY ELECTRICAL. COORDINATE WITH MECHANICAL FOR DISCONNECT LOCATIONS PRIOR TO ROUGH-IN.

SHEET NOTES: <#>

1. REMOVED AND SALVAGE FOR RELOCATION IN NEW WORK.
2. INSTALL SALVAGED EQUIPMENT.
3. SALVAGE EXISTING FEEDER TO DEMOLISHED AHU TO REFEED NEW PANEL. PROVIDE CONDUCTORS, CONDUIT AND BOXES AS REQUIRED TO EXTEND TO PANEL LOCATION. SALVAGE DUCT DETECTORS FOR REUSE IN NEW AIR HANDLER.
4. JUNCTION BOXES FOR CONNECTION TO AIR HANDLER UV LIGHTING, TASK LIGHTING, AND RECEPTACLE. FIELD COORDINATE EXACT CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT PROVIDED.
5. AIR HANDLER VFD'S PROVIDED AND INSTALLED BY MECHANICAL CONTROLS CONTRACTOR.
6. EXTEND AND RECONNECT RELOCATED DUCT DETECTORS TO EXISTING CIRCUIT. PROVIDE CONDUIT, WIRE, AND JUNCTION BOXES AS REQUIRED.



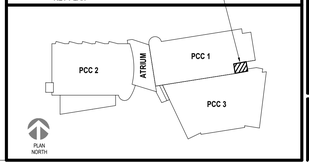
1 PCC3 - FAN ROOM - ELECTRICAL REMODEL PLAN
3/8" = 1'-0"



2 PCC3 - FAN ROOM - ELECTRICAL DEMOLITION PLAN
3/8" = 1'-0"

LOCATED ON 2ND FLOOR
SEE 1/E232 AND 2/E232

KEY PLAN



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SOUTHCENTRAL FOUNDATION

YAGHELI SHESH QENQ'A ROOF REPLACEMENT & MECHANICAL UPGRADES

65% DESIGN DEVELOPMENT - REVISION 1

ANCHORAGE, ALASKA

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REVIEWED	SB

SHEET NAME
PCC3 - FAN ROOM - ELECTRICAL PLANS

SHEET NO.
E233

FULL-SCALE AT 30X42"