

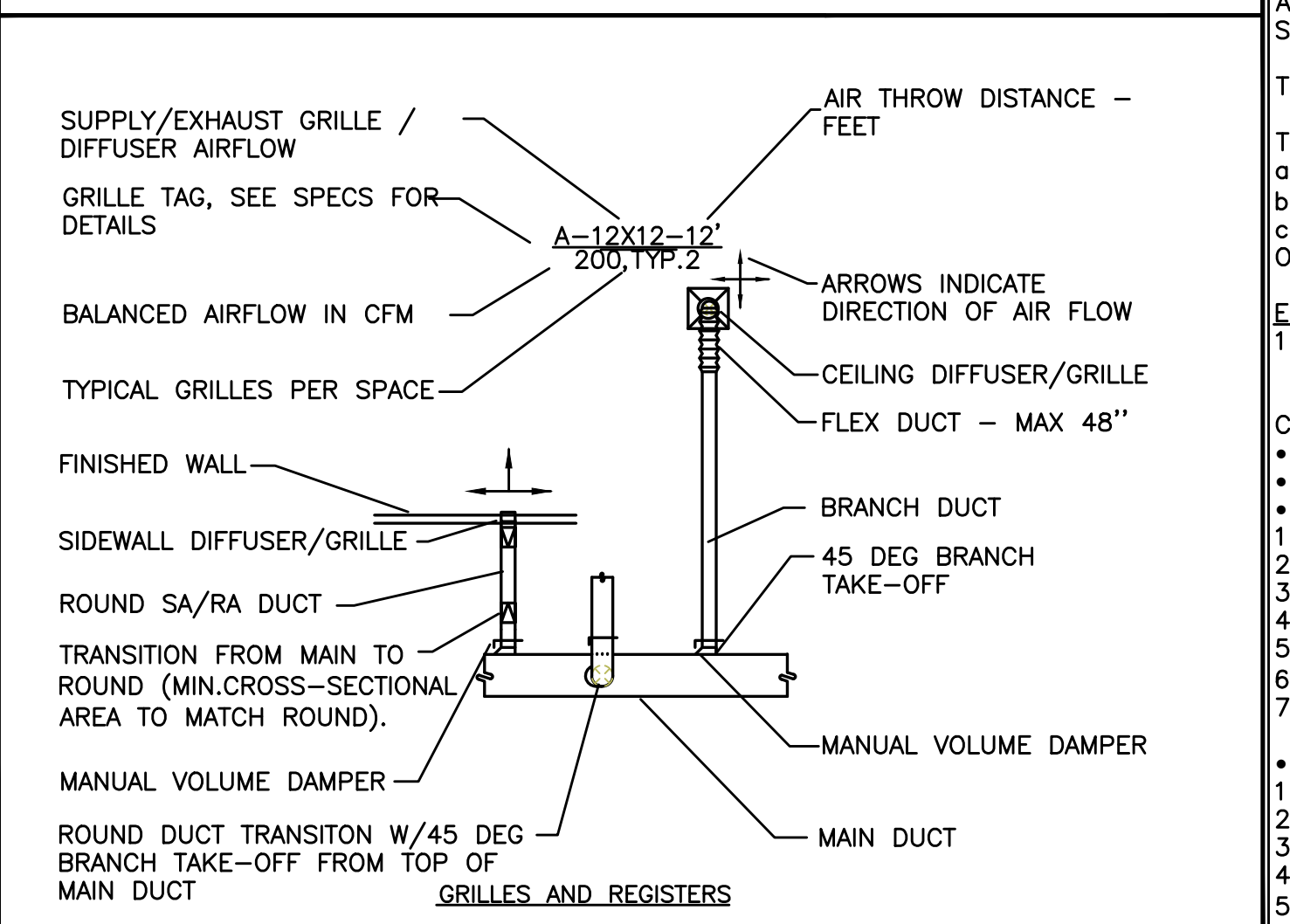
MECHANICAL LEGEND

	SUPPLY AIR DIFFUSER	AFF	ABOVE FINISH FLOOR
	RETURN AIR DIFFUSER	AHU	AIR HANDLING UNIT
	EXHAUST AIR DIFFUSER	B/D	BOTTOM OF DUCT
	DIRECTIONAL AIR FLOW	BHP	BRAKE HORSEPOWER
	MANUAL VOLUME DAMPER	BTU	BRITISH THERMAL UNITS
	SUPPLY/OUTSIDE AIR DUCT UP & DOWN	CFM	CUBIC FEET PER MINUTE
	RETURN AIR DUCT UP & DOWN	CONT.	CONTINUATION
	EXHAUST AIR DUCT UP & DOWN	CR	CRACKS
	DEMOLISH	DA	DIAMETER
	EXISTING	DB	ENTERING DRY BULB TEMPERATURE
	CONNECT TO EXISTING	EWB	ENTERING WET BULB TEMPERATURE
	THERMOSTAT	EWT	ENTERING WATER TEMPERATURE
	TEMPERATURE SENSOR	FF	FINISH FLOOR
	NOTE	F.O.B.	FLAT ON BOTTOM
	EQUIPMENT DESIGNATOR	FRM	FEET PER MINUTE
	GATE VALVE/SHUT-OFF VALVE SEE SPECS	FPS	FEET PER SECOND
	CHECK VALVE	FT.	FEET / FOOT
	BALANCING VALVE	GAUG.	GAUGE
	FLOW CONTROL/LIMITING VALVE	GA	GREASE EXHAUST AIR DUCT
	THERMOMETER	GPM	GALLONS PER MINUTE
	DIRECTION OF FLOW	H	HEIGHT
	PUMP	HP	HORSEPOWER
	STRAINER W/DRAIN VALVE	I.D.	INSIDE DIAMETER
	PRESSURE GAUGE	IN.	INCHES
	PETE'S PLUG	LBS.	POUNDS
	DOUBLE CHECK ASSEMBLY	LDB	LEAVING DRY BULB
	PRESSURE REDUCING VALVE	LWB	LEAVING WET BULB
	UNION	LWT	LEAVING WATER TEMPERATURE
	2-WAY CONTROL VALVE	MA	MAKE UP AIR
	3-WAY CONTROL VALVE	MAX.	MAXIMUM
	TRIPLE DUTY VALVE	MBH	THOUSANDS OF BTUs PER HOUR
	CAP	MD	MOTORIZED DAMPER
	MOTORIZED DAMPER	MN	MINIMUM
	BALL/SHUT-OFF VALVE(SEE SPECS)	MVD	MANUAL VOLUME DAMPER
	FIRE DAMPER	NC	NOISE CRITERIA
	FIRE / SMOKE DAMPER	N.C.	NORMALLY CLOSED
	SMOKE DAMPER	N.M.	NOT IN MECHANICAL
	FAN MOTOR	N.O.	NORMALLY OPEN
	EQUIPMENT MAINTENANCE CLEARANCE AND ACCESS	OSA	OUTSIDE AIR PERSON
	(E) EXISTING	P.S.I.	POUNDS PER SQUARE INCH
	(D) DEMOLISH	P/T	PRESSURE / TEMPERATURE
	(G) NATURAL GAS	R.A.	RETURN AIR
	(CD) CONDENSATE DRAIN	REC'D	REQUIRED
	RF TWO OR THREE REFRIGERANT	REQ'D	REQUIRED
	(HWS) HEATING WATER SUPPLY	S.A.	SUPPLY AIR
	(HWR) HEATING WATER RETURN	S.P.	STATIC PRESSURE
	(CHWS) CHILLED WATER SUPPLY	SQ.	SQUARE
	(CHWR) CHILLED WATER RETURN	S.P.	STATIC PRESSURE
	EQUIPMENT MAINTENANCE CLEARANCE AND ACCESS	TEMP.	TEMPERATURE
	EQUIPMENT MAINTENANCE CLEARANCE AND ACCESS	TYP.	TYPICAL
	EQUIPMENT MAINTENANCE CLEARANCE AND ACCESS	VAV	VARIABLE AIR VOLUME
	EQUIPMENT MAINTENANCE CLEARANCE AND ACCESS	W	WIDTH
	EQUIPMENT MAINTENANCE CLEARANCE AND ACCESS	WB	WET BULB
	EQUIPMENT MAINTENANCE CLEARANCE AND ACCESS	WPD	WATER PRESSURE DROP
	EQUIPMENT MAINTENANCE CLEARANCE AND ACCESS	Ø	DIAMETER

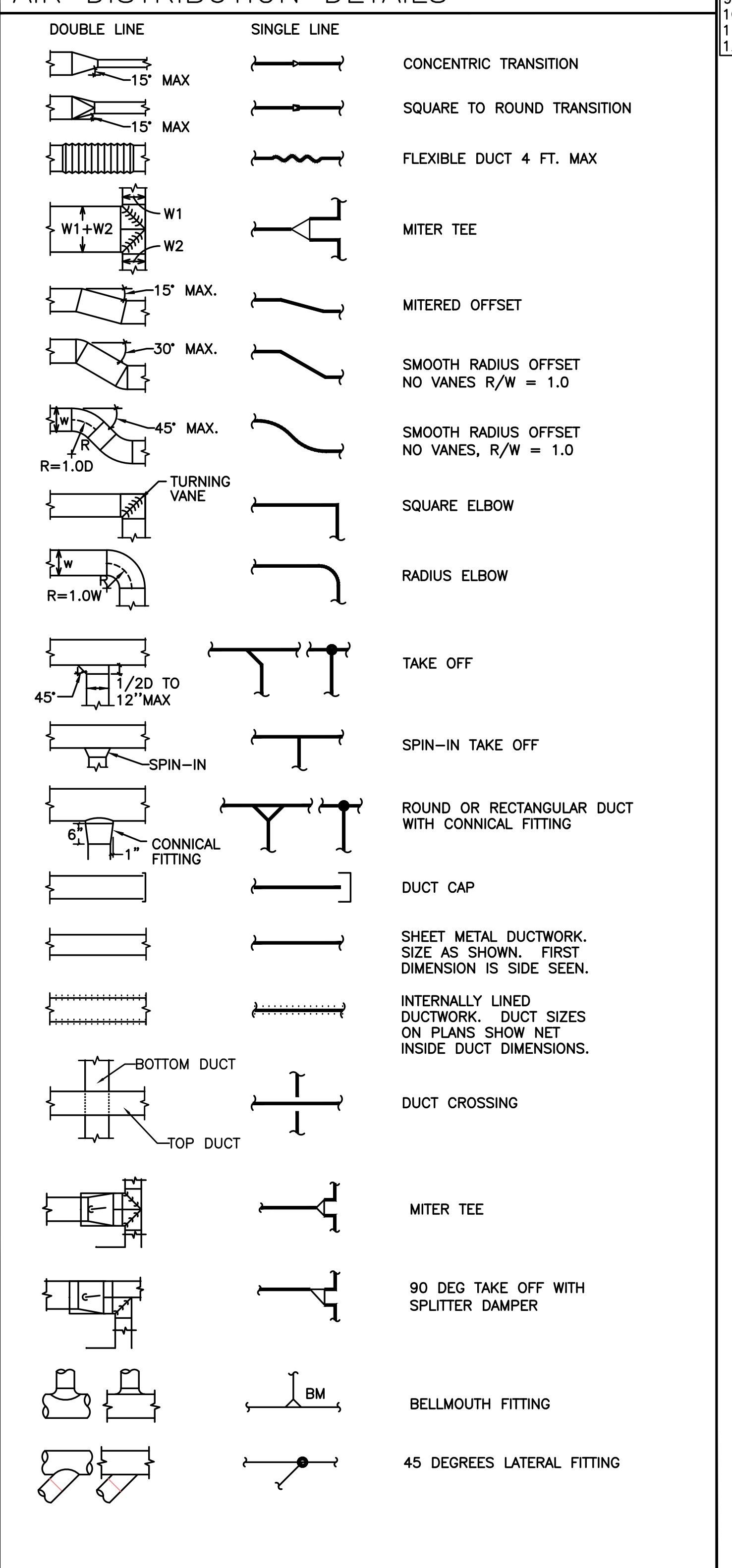
MECHANICAL GENERAL NOTES

- THE DRAWINGS ARE DIAGRAMMATIC. PROVIDE ALL MATERIAL (NEW AND UNDAMAGED) AND LABOR FOR A COMPLETE AND OPERABLE SYSTEM. VERIFY ALL BUILDING MEASUREMENTS DIMENSIONS AND EQUIPMENT LOCATIONS BEFORE PROCEEDING WITH ANY OF THE WORK.
- VERIFY ALL EXISTING CONDITIONS RELATIVE TO THE SCOPE OF WORK. REPORT DISCREPANCIES BACK TO THE ENGINEER.
- VERIFY INDICATED (E) DUCTWORK/PPIPE SIZES PRIOR TO RECONNECTING NEW EQUIPMENT. EQUIPMENT SHALL NOT BE CONNECTED TO EXISTING DUCT/PIPE OF SMALLER DIAMETER THAN NEW DUCT/PIPE. REPORT DISCREPANCIES BACK TO ENGINEER.
- DO NOT FABRICATE EQUIPMENT SUPPORTS/BASES W/O CONFIRMING SPACE EXISTS AND THE BUILDING ATTACHMENT POINTS.
- REFER TO THE MECHANICAL SPECIFICATIONS FOR MATERIALS, EQUIPMENT, AND ADDITIONAL CONSTRUCTION INSTRUCTIONS NOT COVERED BY THESE PLANS.
- ALL INSTALLATIONS SHALL COMPLY WITH APPLICABLE FEDERAL AND STATE CODES INCLUDING, 2019 OREGON STRUCTURAL SPECIALTY CODE (OSSC) INCLUDING APPENDIX N FOR OREGON FIRE CODE REGULATIONS, 2021 OREGON PLUMBING SPECIALTY CODE (OPSC), 2019 OREGON MECHANICAL SPECIALTY CODE (OMSC), 2021 OREGON ENERGY EFFICIENCY SPECIALTY CODE (OESC)-BASED ON ASHRAE 90.1-2019, AND NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), WHERE TWO CODES DIFFER THE MORE STRICT OF THE TWO SHALL BE FOLLOWED.
- OBTAIN ALL NECESSARY PERMITS AND INSPECTIONS REQUIRED BY THE GOVERNING AUTHORITIES HAVING JURISDICTION. SUBMIT ALL CERTIFICATES PRIOR TO ACCEPTANCE.
- COORDINATE ALL MECHANICAL AND CONTROL WORK WITH GENERAL CONTRACTOR, CONTROL CONTRACTOR, ELECTRICAL AND ARCHITECTURAL.
- COORDINATE OTHER TRADES FOR PATCH/REPAIR OF WALLS WHERE EXISTING SENSORS ARE REMOVED OR MODIFIED.
- PATCH & REPAIR WALLS / FLOORS / CEILING WHERE OLD DUCTWORK/PIPES HAVE BEEN REMOVED TO MATCH EXISTING FINISHES.
- COORDINATE WITH OTHER CRAFTS AS REQUIRED TO COMPLETE WORK IN ACCORDANCE WITH CONSTRUCTION SCHEDULE.
- PROVIDE OWNER INSTRUCTION BY QUALIFIED PERSONNEL ON EQUIPMENT AND SYSTEMS AT OWNER'S REQUEST.
- ALL DUCTWORK SHALL BE GALVANIZED STEEL, UNLESS OTHERWISE INDICATED, CONFORMING TO LATEST SMACNA, ASHRAE, OMSC, NFPA, AND UL STANDARDS.
- MANUFACTURERS AND MODEL NUMBERS LISTED IN THE EQUIPMENT SCHEDULES ARE THE BASIS OF DESIGN.
- CUT WALLS FOR PROPER EQUIPMENT, DUCT OR PIPE INSTALLATION. FILL HOLES WHICH ARE CUT OVERSIZED FOR A TIGHT FIT AROUND OBJECTS PASSING THROUGH.
- PROVIDE UL LISTED FIRESTOP SYSTEM TO MAINTAIN THE CODE REQUIRED F AND T RATING OF THE CONSTRUCTION ASSEMBLY AT A DUCT/PIPE PENETRATION THROUGH A RATED BUILDING CONSTRUCTION.
- INSTALL LABELS ON ALL MECHANICAL EQUIPMENT. SEE SPECIFICATIONS FOR CRITERIA.
- CONTROLS AND WIRING SHALL MEET ALL ELECTRICAL REQUIREMENTS OF APPLICABLE ELECTRICAL SPECIFICATIONS AND REQUIREMENTS OF OWNER, BUILDING OFFICIALS AND EQUIPMENT SUPPLIERS OF EQUIPMENT INSTALLED ON PROJECT.
- ELECTRIC MOTORS SHALL HAVE BUILT-IN THERMAL OVERLOAD PROTECTION OR BE PROTECTED EXTERNALLY WITH SEPARATE THERMAL OVERLOAD DEVICES, WITH LOW-VOLTAGE RELEASE OR LOCK OUT AS REQUIRED.
- ALL NEW EQUIPMENT, PIPING, CONDUIT, AND DUCTWORK SHALL BE INSTALLED PER CURRENT SEISMIC CODE REQUIREMENTS.
- PROVIDE LOW LEAK AUTOMATIC DAMPERS ON OUTSIDE AIR, EXHAUST AIR AND RELIEF AIR CONTROL DAMPERS WHERE THESE ARE INDICATED.

AIR DISTRIBUTION DETAILS



AIR DISTRIBUTION DETAILS



SYSTEM COMMISSIONING-VERIFICATION AND TESTING REQUIREMENTS:

ASHRAE 90.1-2019 REQUIREMENTS SECTION 4.2.5 THROUGH 4.2.5.3

THE OWNER OR GC SHALL PROCURE A COMMISSIONING PROVIDER THAT MEETS ONE OF THE FOLLOWING:

- A THIRD PARTY ENTITY NOT ASSOCIATED WITH THE BUILDING PROJECT
- AN OWNER'S QUALIFIED EMPLOYEE.
- AN INDIVIDUAL ASSOCIATED WITH THE DESIGN FIRM, BUT NOT DIRECTLY ASSOCIATED WITH THE DESIGN OR INSTALLATION OF THE BUILDING SYSTEMS.

EXCEPTIONS:

- BUILDING IS LESS THAN 10,000 SQ FT

CONTRACTOR RESPONSIBILITIES:

- THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING ALL THE REQUIREMENTS OF ASHRAE 90.1-2019.
- THE GENERAL CONTRACTOR OR OWNER SHALL HIRE AND UTILIZE AN APPROVED CX AGENT
- THE CX AGENT SHALL:
 - PREPARE A CX PLAN.
 - OVERSEE THE TAB MEASUREMENTS
 - CONDUCT THE PR-FUNCTIONAL & FUNCTIONAL TESTS
 - PREPARE THE PRELIMINARY CX REPORT
 - REVIEW THE TAB REPORT
 - REVIEW THE O&M'S
 - PREPARE THE SYSTEMS MANUALS

SYSTEMS REQUIRED TO BE COMMISSIONED:

- SERVICE WATER HEATERS
- MIXING VALVES & RECIRO SYSTEMS
- ROOFTOP UNIT - HALLWAY VENTILATION
- SPLIT SYSTEM FAN COILS
- PTHP'S (SAMPLE SELECTION).
- DWELLING UNIT EXHAUST FANS (SAMPLE SELECTION).
- LIGHTING CONTROL SYSTEMS
- OCCUPANCY SENSORS
- EMERGENCY POWER SYSTEMS (GENERATOR)
- THERMOSTAT OPERATIONS AND SET POINTS
- FIRE PIP 7 BBO TIMERS AND AUTO-SHUT OFF
- FIRE PUMP AND DOMESTIC WATER BOOSTER PUMP.

MECHANICAL SHEET INDEX

- M0.01 MECHANICAL LEGENDS & SCHEDULES
- M2.01 BUILDING 2 - LEVEL 1 - MECH PLAN
- M2.02 BUILDING 2 - LEVEL 2 - MECH PLAN
- M2.03 BUILDING 2 - LEVEL 3 - MECH PLAN
- M2.04 BUILDING 2 - LEVEL 4 - MECH PLAN
- M2.05 BUILDING 2 - LEVEL 5 - MECH PLAN
- M2.06 BUILDING 2 - ATTIC - MECH PLAN
- M2.07 BUILDING 2 - ROOF - MECH PLAN
- M6.01 MECHANICAL DETAILS
- M6.02 MECHANICAL DETAILS

3.2 DUCTWORK INSULATION

- Ductwork: Insulate the following:
 - All supply and return ductwork in systems routed in unconditioned spaces or exposed to the outside conditions.
 - All outside air intake ducts.
 - All ductwork required to be insulated by code.
 - The last 5' of duct work connected to a furnace or exhaust termination.
- Insulation Thickness: Select board and blanket insulation of thickness required to provide the following installed R-value:
 - All heating or cooling system supply and return ducts located on the exterior of the insulated building envelope, including vent attics, and all outside air intake ducts, R-8.
 - All heating and cooling system supply and return ducts located in unconditioned spaces within the building insulation envelope, R-5.
 - All heating and cooling system supply ducts located in conditioned spaces and where exposed in unfinished spaces or concealed from view in finished spaces, R-3.1. Exposed ductwork in finished spaces shall not be externally insulated.
 - Ducts located within or below concrete slabs on grade, R-4.
- Fittings: Install with wire, straps, and duct adhesive as required. To prevent sagging on all rectangular or square ducts over 24" w install Greenweld or equal welding pins on the bottom. Maximum spacing 18" on center in both directions.
- Installation: Applied with butt joints, all seams sealed with vapor seal mastic or taped with 2" wide vapor-proof, pressure-sensitive Seal all penetrations with vapor barrier adhesive.
- Internally Lined Ductwork: Where internally lined ductwork is indicated on the Drawings and/or specified, no exterior insulation is required. Select duct lining to provide the required R-value. Carefully lap the ends of the exterior insulation a minimum of 6" past interior insulation unless otherwise shown. Seal the end of vapor barrier jacket to the duct with mastic where the vapor barrier is required.
 - Line Supply and Return ducts for 10' on intake and discharge of fan.
 - Line Supply ducts routed in vertical shafts directly below RTUs

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ERV SCHEDULE

MARK NUMBER	ERV
SYSTEM	DWELLING UNITS
CFM	65/105
ESP, IN.W.C.	0.4
MOTOR H.P.	-
ECM	YES
FILTER	2" MERV 8
CFM	65/105
ESP, IN.W.C.	0.4
MOTOR H.P.	-
ECM	YES
FILTER	2" MERV 8
SUMMER DESIGN TEMPERATURE DB/W, °F	88/66
WINTER DESIGN TEMPERATURE DB °F	24
MINIMUM SUMMER EFFECTIVENESS	65%
MINIMUM WINTER EFFECTIVENESS	71%
ELECTRICAL (V/PH)	120/1
AMPS	0.9
WATTS	103
BASIS OF DESIGN: BROAN	ERV100S
NOTES:	1.2

- PROVIDE UNIT WITH MOTORIZED OSA AND EXHAUST DAMPERS. INTERLOCK DAMPERS WITH FAN OPERATION.
- INSTALL IN DWELLING UNITS WITH 500 SF FLOOR AREA OR GREATER.

EXHAUST FANS

MARK NUMBER	EF 1	EF 2	EF 3	EF 4	EF 5	EF 6	EF 7	EF 8	EF 9	TF
TYPE	CEILING CABINET	CEILING CABINET	CEILING CABINET	CEILING CABINET	CEILING CABINET	CEILING CABINET	CEILING CABINET	CEILING CABINET	ROOF DIRECT DRIVE	CEILING CABINET
SYSTEM	STUDIO	RESTROOM	JANITOR	FIRE & WATER	DOG WASH	BIKE	1ST FLOOR TRASH	TRASH VESTIBULE	TRASH CHUTE	CORRIDOR
CFM	30/80	100	100	200	100	300	200	100	400	300
TOTAL SP. (IN H2O)	0.20	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.5	0.125
RPM	1062/1146	1250	1250	740	1250	2500	740	1250	1567	2500
TIP SPEED (FPM)	NA	---	---	---	---	---	---	---	4463	---
MOTOR WATTS OR HP	5/11.7 W	100 W	100 W	127 W	100 W	135 W	127 W	100 W	1/10 HP	135 W
CONTROLLED BY	**	T-STAT	LIGHTS	CONTINUOUS	LIGHTS	HUMIDISTAT	CONTINUOUS	CONTINUOUS	CONTINUOUS	CONTINUOUS
INTERLOCK WITH	MOTION SENSOR	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
FAN SPEED CONTROLLER	YES	NO	NO	YES	NO	YES	YES	NO	NO	YES
WHEEL TYPE	BI	FC	FC	BI	FC	BI	BI	FC	FC	BI
BACK DRAFT DAMPER	YES	GRAVITY	GRAVITY	GRAVITY	GRAVITY	GRAVITY	GRAVITY	GRAVITY	GRAVITY	GRAVITY
ISOLATION	RUBBER	RUBBER	RUBBER	RUBBER	RUBBER	RUBBER	RUBBER	RUBBER	RUBBER	RUBBER
DESIGN WEIGHT (LBS)	25	25	25	25	25	25	25	25	35	25
MAX. SONES	0.3/0.6	1.5	1.5	1.7	1.5	4.5	1.7	1.5	7.8	4.5
MAX AMPS - *(MCA/MOCP)	1.3	1.3	1.3	1.8	1.3	1.34	1.8	1.3	1.38(2/15)	1.34
POWER (VOLTS/PHASE/Hz) - *	120/1/60	120/60/1	120/60/1	120/60/1	120/60/1	120/60/1	120/60/1	120/60/1	120/60/1	120/60/1
BASIS OF DESIGN:	PANASONIC * FV-05-11VKS12	BROAN L100	BROAN L100	BROAN L200	BROAN L100	GREENHECK SP-A390	BROAN L200	BROAN L100	GREENHECK CUE-090-VG	GREENHECK SP-A390

- * FAN TO RUN AT LOW SPEED CONTINUOUSLY, AND INCREASE TO HIGH SPEED UPON ACTIVATION OF THE MOTION SENSOR.
- ** FAN TO INCLUDE LIGHTS, MOTION SENSOR AND MULTI-SPEED CONTROL W/ TIME DELAY. COORDINATE LIGHT OPTION W/ ARCHITECT.
- *** ELECTRICAL DATA LISTED FOR REFERENCE ONLY, COORDINATE WITH ELECTRICAL DEIGN BUILD CONTRACTOR FOR VOLTAGE AND PHASE REQUIREMENTS

ROOFTOP HVAC UNITS

MARK NUMBER	RTU-1 6 TON
SYSTEM	CORRIDORS
TYPE	GAS PACK
DISCHARGE	VERTICAL
TOTAL CFM	2400
ECONOMIZER	NO
MIN. OSA	2400
MAX OSA (FULL OCCUPANCY)	-
CO2 CONTROL	-
EXTERNAL SP. (H2O)	0.7
TOTAL SP. (H2O)	1.2
RPM	2418
WHEEL TYPE / SIZE	135 / 23
MOTOR BHP:	1.39
POWER EXH FAN/ACCESSORY	NO
MIN FILTER SIZE	16x20x2
FILTER TYPE	THROW AWAY
GAS INPUT/OUTPUT (MBH)	150/120
EFF. (AFUE)	81
STAGES/TYPE	1
TOTAL CLG. (TONS)	6
SENSIBLE CLG. (MBH)	80
ENT. EVAP AIR TEMP (DB/WB)	80/67
LVR. EVAP AIR TEMP (DB/WB)	58.5/57.5
AMBIENT AIR (°F)	-
EER/EER	12/14
REFRIGERANT	R410A
REFRIGERANT CHARGE	-
DESIGN WEIGHT (LBS.)	867
SMOKE DETECTOR (SUPPLY DUCT)	YES
SPRING ISOLATION ROOF CURB	YES
CONVENIENCE OUTLET - ALWAYS POWERED	-
VOLTAGE/PHASE - ***	208/3
MCA/MOCP - ***	34/50
BASIS OF DESIGN - CARRIER MODEL	48HCTD07A24S

INDOOR UNITS - SPLIT SYSTEM HEAT PUMP*

MARK NUMBER	FC-1 9 MBH ***	FC-2 12 MBH
SYSTEM	1ST FLOOR COMMON AREAS	CO-WORKING ROOM
TYPE	DUCTED	WALL MOUNT
COOLING CAPACITY (BTU)	32810	12000
HEATING CAPACITY (BTU)	30710	12000
AUXILIARY HEAT (KW)	10	N/A
TOTAL SUPPLY CFM	1150	382
OSA CFM	-	N/A
EXTERNAL SP. (H2O)	0.25	-
MOTOR HP	1/3	-
VOLTS/PHASE**	208/1	208/1
MCA/MOCP**	45.5/60	-
WEIGHT	135	23
BASIS OF DESIGN	CARRIER FM423600AL	CARRIER 40MAHQ12XA3
INDOOR UNIT	HP-1 3 TON	HP-2 1 TON

- * - PROVIDE ALL UNITS THAT CANNOT BE DRAINED BY GRAVITY WITH CONDENSATE PUMP, ROUTE ALL CONDENSATE LINES HIDDEN WITHIN STRUCTURE TO AN APPROVED LOCATION PROVIDED BY THE PLUMBER.
- ** - ELECTRICAL DATA LISTED FOR REFERENCE ONLY, COORDINATE WITH ELECTRICAL DESIGN BUILD CONTRACTOR FOR VOLTAGE AND PHASE REQUIREMENTS. ELECTRICAL CONTRACTOR RESPONSIBLE FOR SIZING ALL CONDUCTORS & OVERCURRENT PROTECTION. VERIFY WITH EQUIPMENT SUBMITTALS FOR EQUIPMENT ELECTRICAL REQUIREMENTS
- *** - ELECTRIC HEAT MODEL NUMBER EH3-108, 10KW 240V ELECTRIC HEAT WITH CIRCUIT BREAKER, ACCESS PANEL FOR INDOOR UNIT, MODEL # KFAP0201C0V.

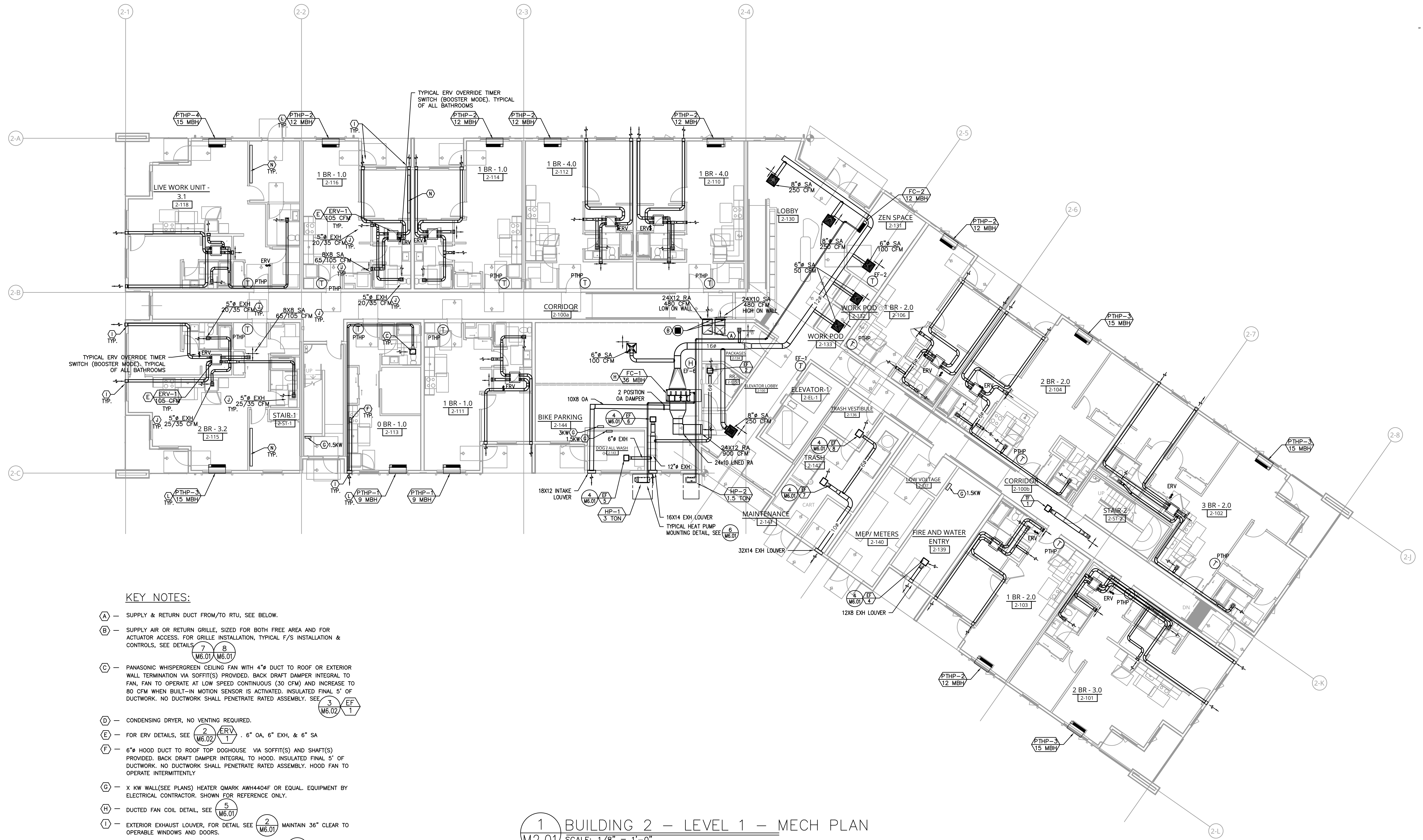
OUTDOOR UNITS - SPLIT SYSTEM HEAT PUMP

MARK NUMBER	HP-1 3 TON	HP-2 1 TON
SYSTEM	1ST FLOOR COMMON AREAS	CO-WORKING ROOM
TYPE	AIR-COOLED	AIR-COOLED
COOLING CAPACITY (BTU)	32810	12000
HEATING CAPACITY (BTU)	30710	12000
EFFICIENCY SEER/EER	14.0/11.0	14/25.5
EFFICIENCY HSPF/COP	8.5/3.82	13.0/3.81
REFRIGERANT	R410A	R410A
REFRIGERANT CHARGE	-	2.6 LBS.
MAX OPERATING TEMPS	-	86°F
MAX PIPING LENGTH	-	82
MAX PIPING HEIGHT	-	32
VOLTS-PHASE	208/1	208/1
MCA/MOP	18.3/30	16/25
COMPRESSOR	-	-
WEIGHT (LBS)	170	74
BASIS OF DESIGN	CARRIER 25HC436AP03	CARRIER 38MARB012XA3

- ** - ELECTRICAL DATA LISTED FOR REFERENCE ONLY, COORDINATE WITH ELECTRICAL DESIGN BUILD CONTRACTOR FOR VOLTAGE AND PHASE REQUIREMENTS. ELECTRICAL CONTRACTOR RESPONSIBLE FOR SIZING ALL CONDUCTORS & OVERCURRENT PROTECTION. VERIFY WITH EQUIPMENT SUBMITTALS FOR EQUIPMENT ELECTRICAL REQUIREMENTS

PORTABLE TERMINAL HEAT PUMP UNIT

MARK NUMBER	PTH-1 9 MB
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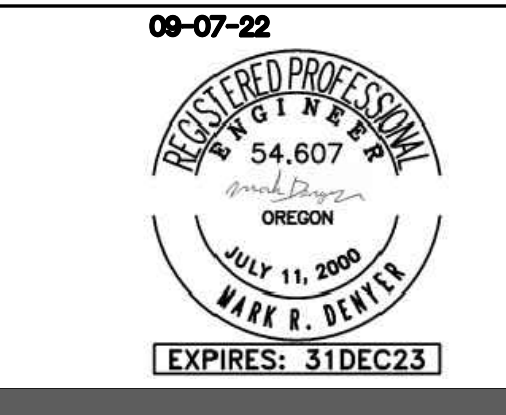
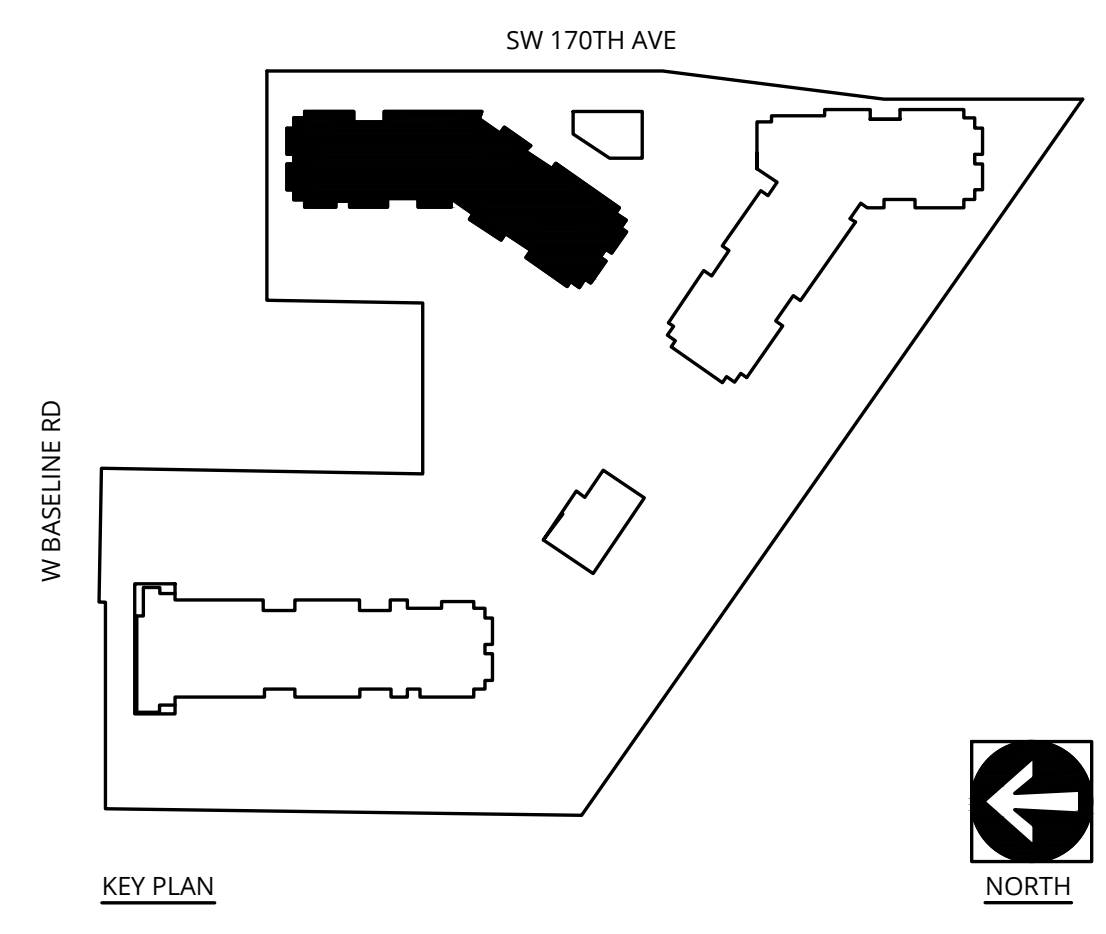
KEY NOTES:

- (A) — SUPPLY & RETURN DUCT FROM/TO RTU, SEE BELOW.
- (B) — SUPPLY AIR OR RETURN GRILLE, SIZED FOR BOTH FREE AREA AND FOR ACTUATOR ACCESS. FOR GRILLE INSTALLATION, TYPICAL F/S INSTALLATION & CONTROLS, SEE DETAILS 7 8 M6.01 M6.01
- (C) — PANASONIC WHISPERGREEN CEILING FAN WITH 4" DUCT TO ROOF OR EXTERIOR WALL TERMINATION VIA SOFFIT(S) PROVIDED. BACK DRAFT DAMPER INTEGRAL TO FAN, FAN TO OPERATE AT LOW SPEED CONTINUOUS (30 CFM) AND INCREASE TO 80 CFM WHEN BUILT-IN MOTION SENSOR IS ACTIVATED. INSULATED FINAL 5' OF DUCTWORK. NO DUCTWORK SHALL PENETRATE RATED ASSEMBLY. SEE 3 M6.02 EF 1
- (D) — CONDENSING DRYER, NO VENTING REQUIRED.
- (E) — FOR ERV DETAILS, SEE 2 M6.02 ERV 1, 6" OA, 6" EXH, & 6" SA
- (F) — 6" HOOD DUCT TO ROOF TOP DOGHOUSE VIA SOFFIT(S) AND SHAFT(S) PROVIDED. BACK DRAFT DAMPER INTEGRAL TO HOOD. INSULATED FINAL 5' OF DUCTWORK. NO DUCTWORK SHALL PENETRATE RATED ASSEMBLY. HOOD FAN TO OPERATE INTERMITTENTLY.
- (G) — X KW WALL(SEE PLANS) HEATER QMARK AWH4404F OR EQUAL EQUIPMENT BY ELECTRICAL CONTRACTOR. SHOWN FOR REFERENCE ONLY.
- (H) — DUCTED FAN COIL DETAIL, SEE 5 M6.01
- (I) — EXTERIOR EXHAUST LOUVER, FOR DETAIL SEE 2 M6.01 MAINTAIN 36" CLEAR TO OPERABLE WINDOWS AND DOORS.
- (J) — SUPPLY/EXHAUST FOR ERV, CFM AND GRILLE SIZE SEE 3 M6.02
- (K) — FIRE PENETRATION DETAILS, SEE 1 M6.02
- (L) — PTHP (PACKAGED TERMINAL HEAT PUMP) WITH FACTORY WALL SLEEVE, CONDENSATE DRAIN KIT, AND 43X16 ALUMINUM ARCHITECTURAL GRILLE AT EXTERIOR. INSTALL DRAIN KIT, CONDENSATE DRAIN KIT, PLUMBING CONTRACTOR TO MAKE CONNECTION AT DRAIN KIT AND CONTINUE DRAIN LINE TO AN APPROVED LOCATION. SEE 3 M6.01
- (M) — REFRIGERANT LINE SETS FROM CONDENSING UNITS TO FAN COILS ON LEVEL 1.
- (N) — COVE STYLE WALL HEATERS FOR LIVING UNITS, 1125 W (94" LONG) FOR 1&2 BEDROOM LIVING UNITS. INSTALL AT 90" AFF.

1 BUILDING 2 — LEVEL 1 — MECH PLAN
M2.01 SCALE: 1/8" = 1'-0"

SHAFT DUCT SIZES					
FLOOR	SUPPLY AIR	CFM	RETURN AIR	CFM	UNIT
ATTIC	24 X 24	3000	24 X 24	3000	RTU-1&2
5TH	24 X 24	3000	24 X 24	3000	RTU-1&2
4TH	24 X 24	2400	20 X 24	2400	RTU-1&2
3RD	24 X 24	1800	20 X 24	1800	RTU-1&2
2ND	24 X 24	1200	16 X 24	1200	RTU-1&2
1ST	24 X 24	600	16 X 24	600	RTU-1&2

VENTILATION CALCULATIONS:
 ALL DWELLING UNITS ARE VENTILATED BY MECHANICAL VENTILATION WITH ERV'S, (SIZED PER ASHRAE 62.2).
 HALLWAYS ARE VENTILATED BY RTU'S SIZED TO EXCEED THE MINIMUM 0.06 CFM/SQ FT REQUIREMENT.
 SEE VENTILATION SCHEDULES FOR OTHER UNITS.



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ELMONICA STATION APARTMENTS BUILDING 2
 SW 170TH AND W BASELINE
 REMBOLD PROPERTIES

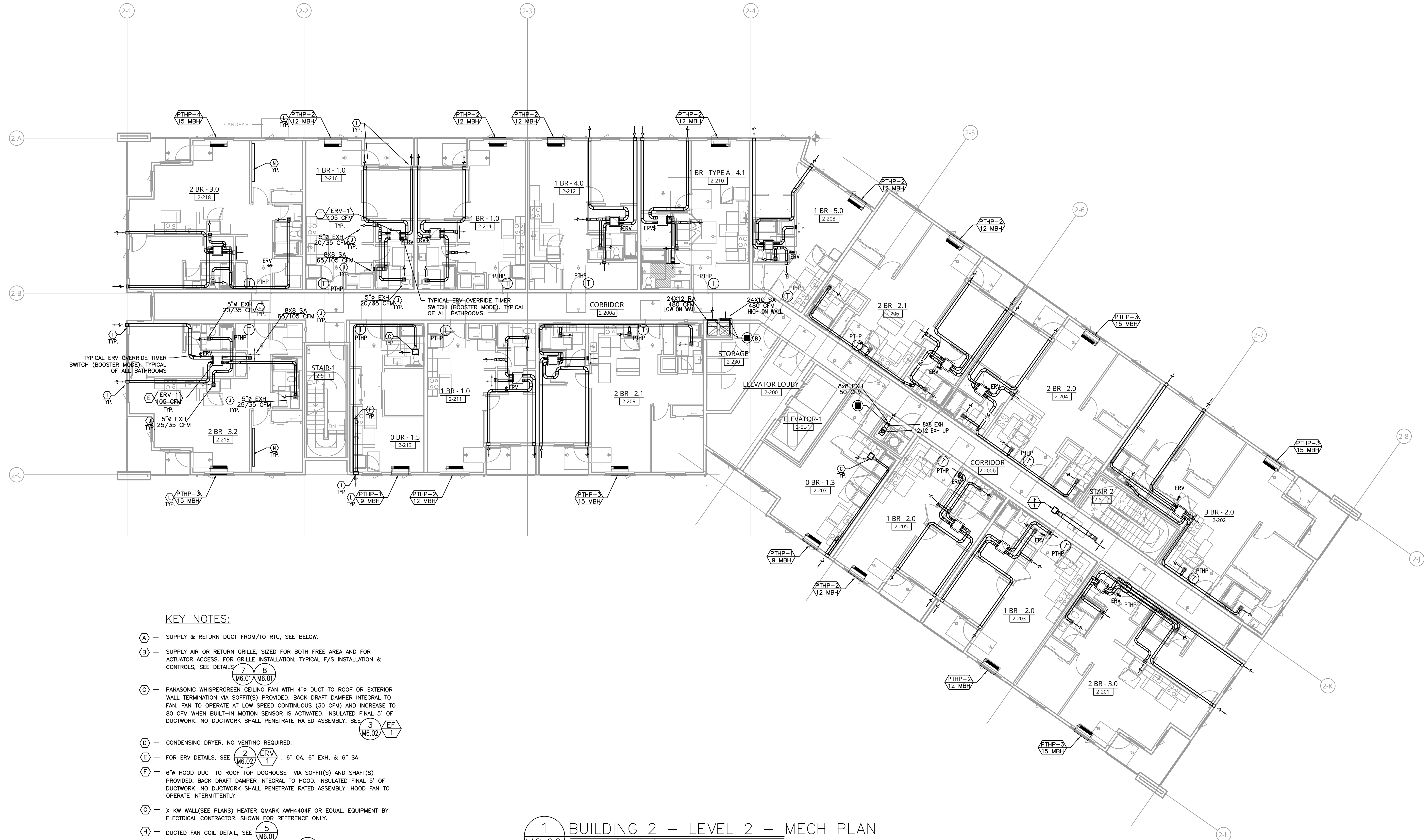
REVISION	DATE	REASON FOR ISSUE

MECHANICAL PLAN - LEVEL 1

PERMIT SET

DATE: 09/23/2022 PROJECT NUMBER: 215390

M2.01-2



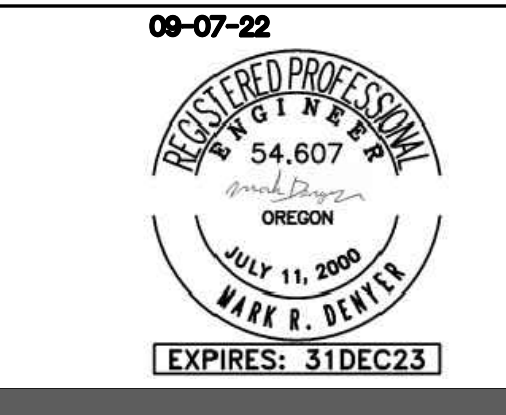
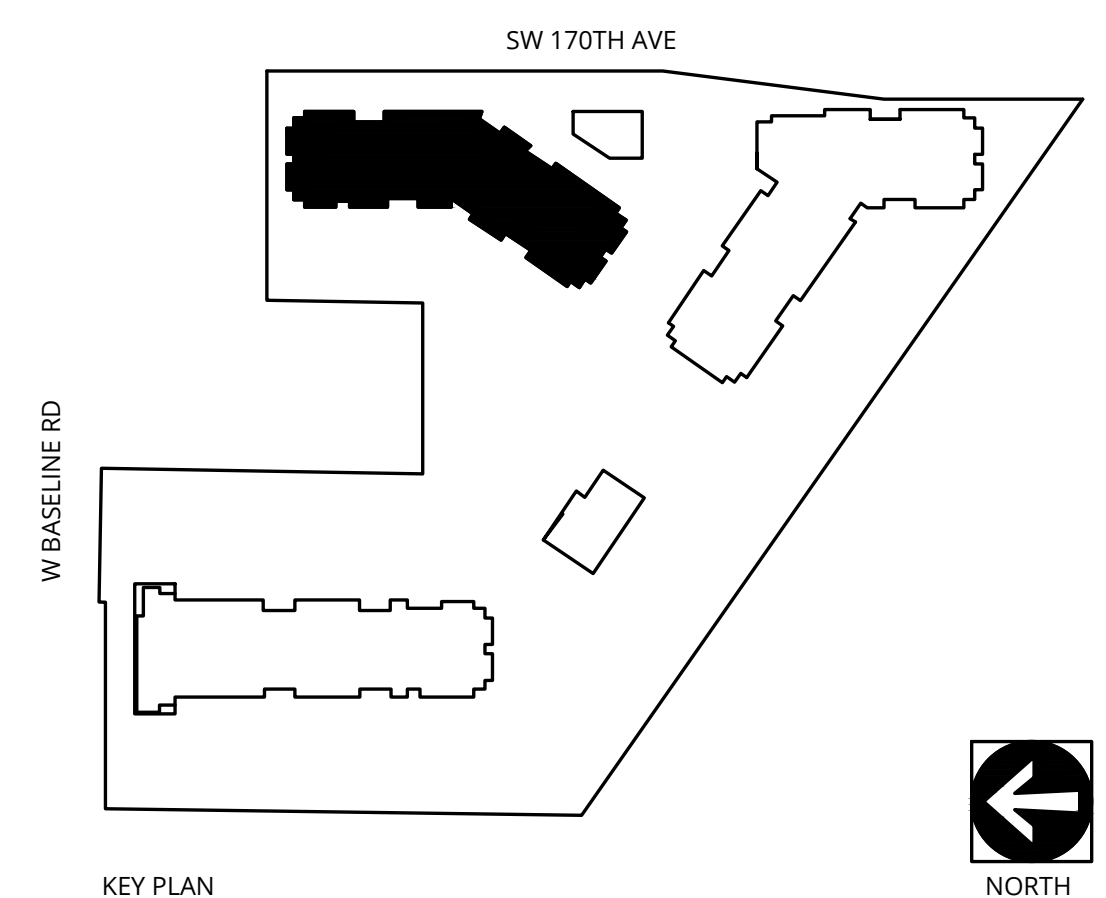
KEY NOTES:

- (A) - SUPPLY & RETURN DUCT FROM/TO RTU, SEE BELOW.
- (B) - SUPPLY AIR OR RETURN GRILLE, SIZED FOR BOTH FREE AREA AND FOR ACTUATOR ACCESS. FOR GRILLE INSTALLATION, TYPICAL F/S INSTALLATION & CONTROLS, SEE DETAILS (M6.01) (M6.02).
- (C) - PANASONIC WHISPERGREEN CEILING FAN WITH 4" DUCT TO ROOF OR EXTERIOR WALL TERMINATION VIA SOFFIT(S) PROVIDED. BACK DRAFT DAMPER INTEGRAL TO FAN. FAN TO OPERATE AT LOW SPEED CONTINUOUS (30 CFM) AND INCREASE TO 80 CFM WHEN BUILT-IN MOTION SENSOR IS ACTIVATED. INSULATED FINAL 5' OF DUCTWORK. NO DUCTWORK SHALL PENETRATE RATED ASSEMBLY. SEE (M6.02) (M6.01) (M6.03) (M6.04) (M6.05) (M6.06) (M6.07) (M6.08) (M6.09) (M6.10) (M6.11) (M6.12) (M6.13) (M6.14) (M6.15) (M6.16) (M6.17) (M6.18) (M6.19) (M6.20) (M6.21) (M6.22) (M6.23) (M6.24) (M6.25) (M6.26) (M6.27) (M6.28) (M6.29) (M6.30) (M6.31) (M6.32) (M6.33) (M6.34) (M6.35) (M6.36) (M6.37) (M6.38) (M6.39) (M6.40) (M6.41) (M6.42) (M6.43) (M6.44) (M6.45) (M6.46) (M6.47) (M6.48) (M6.49) (M6.50) (M6.51) (M6.52) (M6.53) (M6.54) (M6.55) (M6.56) (M6.57) (M6.58) (M6.59) (M6.60) (M6.61) (M6.62) (M6.63) (M6.64) (M6.65) (M6.66) (M6.67) (M6.68) (M6.69) (M6.70) (M6.71) (M6.72) (M6.73) (M6.74) (M6.75) (M6.76) (M6.77) (M6.78) (M6.79) (M6.80) (M6.81) (M6.82) (M6.83) (M6.84) (M6.85) (M6.86) (M6.87) (M6.88) (M6.89) (M6.90) (M6.91) (M6.92) (M6.93) (M6.94) (M6.95) (M6.96) (M6.97) (M6.98) (M6.99) (M6.100).
- (D) - CONDENSING DRYER, NO VENTING REQUIRED.
- (E) - FOR ERV DETAILS, SEE (M6.02) (M6.01) (M6.03) (M6.04) (M6.05) (M6.06) (M6.07) (M6.08) (M6.09) (M6.10) (M6.11) (M6.12) (M6.13) (M6.14) (M6.15) (M6.16) (M6.17) (M6.18) (M6.19) (M6.20) (M6.21) (M6.22) (M6.23) (M6.24) (M6.25) (M6.26) (M6.27) (M6.28) (M6.29) (M6.30) (M6.31) (M6.32) (M6.33) (M6.34) (M6.35) (M6.36) (M6.37) (M6.38) (M6.39) (M6.40) (M6.41) (M6.42) (M6.43) (M6.44) (M6.45) (M6.46) (M6.47) (M6.48) (M6.49) (M6.50) (M6.51) (M6.52) (M6.53) (M6.54) (M6.55) (M6.56) (M6.57) (M6.58) (M6.59) (M6.60) (M6.61) (M6.62) (M6.63) (M6.64) (M6.65) (M6.66) (M6.67) (M6.68) (M6.69) (M6.70) (M6.71) (M6.72) (M6.73) (M6.74) (M6.75) (M6.76) (M6.77) (M6.78) (M6.79) (M6.80) (M6.81) (M6.82) (M6.83) (M6.84) (M6.85) (M6.86) (M6.87) (M6.88) (M6.89) (M6.90) (M6.91) (M6.92) (M6.93) (M6.94) (M6.95) (M6.96) (M6.97) (M6.98) (M6.99) (M6.100).
- (F) - 6" HOOD DUCT TO ROOF TOP DOGHOUSE VIA SOFFIT(S) AND SHAFT(S) PROVIDED. BACK DRAFT DAMPER INTEGRAL TO HOOD. INSULATED FINAL 5' OF DUCTWORK. NO DUCTWORK SHALL PENETRATE RATED ASSEMBLY. HOOD FAN TO OPERATE INTERMITTENTLY.
- (G) - X KW WALL(SEE PLANS) HEATER QMARK AWH4404F OR EQUAL EQUIPMENT BY ELECTRICAL CONTRACTOR. SHOWN FOR REFERENCE ONLY.
- (H) - DUCTED FAN COIL DETAIL, SEE (M6.01) (M6.02) (M6.03) (M6.04) (M6.05) (M6.06) (M6.07) (M6.08) (M6.09) (M6.10) (M6.11) (M6.12) (M6.13) (M6.14) (M6.15) (M6.16) (M6.17) (M6.18) (M6.19) (M6.20) (M6.21) (M6.22) (M6.23) (M6.24) (M6.25) (M6.26) (M6.27) (M6.28) (M6.29) (M6.30) (M6.31) (M6.32) (M6.33) (M6.34) (M6.35) (M6.36) (M6.37) (M6.38) (M6.39) (M6.40) (M6.41) (M6.42) (M6.43) (M6.44) (M6.45) (M6.46) (M6.47) (M6.48) (M6.49) (M6.50) (M6.51) (M6.52) (M6.53) (M6.54) (M6.55) (M6.56) (M6.57) (M6.58) (M6.59) (M6.60) (M6.61) (M6.62) (M6.63) (M6.64) (M6.65) (M6.66) (M6.67) (M6.68) (M6.69) (M6.70) (M6.71) (M6.72) (M6.73) (M6.74) (M6.75) (M6.76) (M6.77) (M6.78) (M6.79) (M6.80) (M6.81) (M6.82) (M6.83) (M6.84) (M6.85) (M6.86) (M6.87) (M6.88) (M6.89) (M6.90) (M6.91) (M6.92) (M6.93) (M6.94) (M6.95) (M6.96) (M6.97) (M6.98) (M6.99) (M6.100).
- (I) - EXTERIOR EXHAUST LOUVER, FOR DETAIL SEE (M6.01) (M6.02) (M6.03) (M6.04) (M6.05) (M6.06) (M6.07) (M6.08) (M6.09) (M6.10) (M6.11) (M6.12) (M6.13) (M6.14) (M6.15) (M6.16) (M6.17) (M6.18) (M6.19) (M6.20) (M6.21) (M6.22) (M6.23) (M6.24) (M6.25) (M6.26) (M6.27) (M6.28) (M6.29) (M6.30) (M6.31) (M6.32) (M6.33) (M6.34) (M6.35) (M6.36) (M6.37) (M6.38) (M6.39) (M6.40) (M6.41) (M6.42) (M6.43) (M6.44) (M6.45) (M6.46) (M6.47) (M6.48) (M6.49) (M6.50) (M6.51) (M6.52) (M6.53) (M6.54) (M6.55) (M6.56) (M6.57) (M6.58) (M6.59) (M6.60) (M6.61) (M6.62) (M6.63) (M6.64) (M6.65) (M6.66) (M6.67) (M6.68) (M6.69) (M6.70) (M6.71) (M6.72) (M6.73) (M6.74) (M6.75) (M6.76) (M6.77) (M6.78) (M6.79) (M6.80) (M6.81) (M6.82) (M6.83) (M6.84) (M6.85) (M6.86) (M6.87) (M6.88) (M6.89) (M6.90) (M6.91) (M6.92) (M6.93) (M6.94) (M6.95) (M6.96) (M6.97) (M6.98) (M6.99) (M6.100).
- (J) - SUPPLY/EXHAUST FOR ERV, CFM AND GRILLE SIZE SEE (M6.02) (M6.01) (M6.03) (M6.04) (M6.05) (M6.06) (M6.07) (M6.08) (M6.09) (M6.10) (M6.11) (M6.12) (M6.13) (M6.14) (M6.15) (M6.16) (M6.17) (M6.18) (M6.19) (M6.20) (M6.21) (M6.22) (M6.23) (M6.24) (M6.25) (M6.26) (M6.27) (M6.28) (M6.29) (M6.30) (M6.31) (M6.32) (M6.33) (M6.34) (M6.35) (M6.36) (M6.37) (M6.38) (M6.39) (M6.40) (M6.41) (M6.42) (M6.43) (M6.44) (M6.45) (M6.46) (M6.47) (M6.48) (M6.49) (M6.50) (M6.51) (M6.52) (M6.53) (M6.54) (M6.55) (M6.56) (M6.57) (M6.58) (M6.59) (M6.60) (M6.61) (M6.62) (M6.63) (M6.64) (M6.65) (M6.66) (M6.67) (M6.68) (M6.69) (M6.70) (M6.71) (M6.72) (M6.73) (M6.74) (M6.75) (M6.76) (M6.77) (M6.78) (M6.79) (M6.80) (M6.81) (M6.82) (M6.83) (M6.84) (M6.85) (M6.86) (M6.87) (M6.88) (M6.89) (M6.90) (M6.91) (M6.92) (M6.93) (M6.94) (M6.95) (M6.96) (M6.97) (M6.98) (M6.99) (M6.100).
- (K) - FIRE PENETRATION DETAILS, SEE (M6.01) (M6.02) (M6.03) (M6.04) (M6.05) (M6.06) (M6.07) (M6.08) (M6.09) (M6.10) (M6.11) (M6.12) (M6.13) (M6.14) (M6.15) (M6.16) (M6.17) (M6.18) (M6.19) (M6.20) (M6.21) (M6.22) (M6.23) (M6.24) (M6.25) (M6.26) (M6.27) (M6.28) (M6.29) (M6.30) (M6.31) (M6.32) (M6.33) (M6.34) (M6.35) (M6.36) (M6.37) (M6.38) (M6.39) (M6.40) (M6.41) (M6.42) (M6.43) (M6.44) (M6.45) (M6.46) (M6.47) (M6.48) (M6.49) (M6.50) (M6.51) (M6.52) (M6.53) (M6.54) (M6.55) (M6.56) (M6.57) (M6.58) (M6.59) (M6.60) (M6.61) (M6.62) (M6.63) (M6.64) (M6.65) (M6.66) (M6.67) (M6.68) (M6.69) (M6.70) (M6.71) (M6.72) (M6.73) (M6.74) (M6.75) (M6.76) (M6.77) (M6.78) (M6.79) (M6.80) (M6.81) (M6.82) (M6.83) (M6.84) (M6.85) (M6.86) (M6.87) (M6.88) (M6.89) (M6.90) (M6.91) (M6.92) (M6.93) (M6.94) (M6.95) (M6.96) (M6.97) (M6.98) (M6.99) (M6.100).
- (L) - PTHP (PACKAGED TERMINAL HEAT PUMP) WITH FACTORY WALL SLEEVE, CONDENSATE DRAIN KIT, AND 42X16 ALUMINUM ARCHITECTURAL GRILLE AT EXTERIOR. INSTALL GRAVITY CONDENSATE DRAIN KIT, PLUMBING CONTRACTOR TO MAKE CONNECTION AT DRAIN KIT AND CONTINUE DRAIN LINE TO AN APPROVED LOCATION. SEE (M6.01) (M6.02) (M6.03) (M6.04) (M6.05) (M6.06) (M6.07) (M6.08) (M6.09) (M6.10) (M6.11) (M6.12) (M6.13) (M6.14) (M6.15) (M6.16) (M6.17) (M6.18) (M6.19) (M6.20) (M6.21) (M6.22) (M6.23) (M6.24) (M6.25) (M6.26) (M6.27) (M6.28) (M6.29) (M6.30) (M6.31) (M6.32) (M6.33) (M6.34) (M6.35) (M6.36) (M6.37) (M6.38) (M6.39) (M6.40) (M6.41) (M6.42) (M6.43) (M6.44) (M6.45) (M6.46) (M6.47) (M6.48) (M6.49) (M6.50) (M6.51) (M6.52) (M6.53) (M6.54) (M6.55) (M6.56) (M6.57) (M6.58) (M6.59) (M6.60) (M6.61) (M6.62) (M6.63) (M6.64) (M6.65) (M6.66) (M6.67) (M6.68) (M6.69) (M6.70) (M6.71) (M6.72) (M6.73) (M6.74) (M6.75) (M6.76) (M6.77) (M6.78) (M6.79) (M6.80) (M6.81) (M6.82) (M6.83) (M6.84) (M6.85) (M6.86) (M6.87) (M6.88) (M6.89) (M6.90) (M6.91) (M6.92) (M6.93) (M6.94) (M6.95) (M6.96) (M6.97) (M6.98) (M6.99) (M6.100).
- (M) - REFRIGERANT LINE SETS FROM CONDENSING UNITS TO FAN COILS ON LEVEL 1.
- (N) - COVE STYLE WALL HEATERS FOR LIVING UNITS, 1125 W (94" LONG) FOR 1&2 BEDROOM LIVING UNITS. INSTALL AT 90" AFF.

1 BUILDING 2 - LEVEL 2 - MECH PLAN
 M2.02 SCALE: 1/8" = 1'-0"

FLOOR	SUPPLY AIR	CFM	RETURN AIR	CFM	UNIT
ATTIC	24 X 24	3000	24 X 24	3000	RTU-1&2
5TH	24 X 24	3000	24 X 24	3000	RTU-1&2
4TH	24 X 24	2400	20 X 24	2400	RTU-1&2
3RD	24 X 24	1800	20 X 24	1800	RTU-1&2
2ND	24 X 24	1200	16 X 24	1200	RTU-1&2
1ST	24 X 24	600	16 X 24	600	RTU-1&2

VENTILATION CALCULATIONS:
 ALL DWELLING UNITS ARE VENTILATED BY MECHANICAL VENTILATION WITH ERV'S, (SIZED PER ASHRAE 62.2).
 HALLWAYS ARE VENTILATED BY RTU'S SIZED TO EXCEED THE MINIMUM 0.06 CFM/SQ FT REQUIREMENT.
 SEE VENTILATION SCHEDULES FOR OTHER UNITS.



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ELMONICA STATION APARTMENTS BUILDING 2
 SW 170TH AND W BASELINE
 REMBOLD PROPERTIES

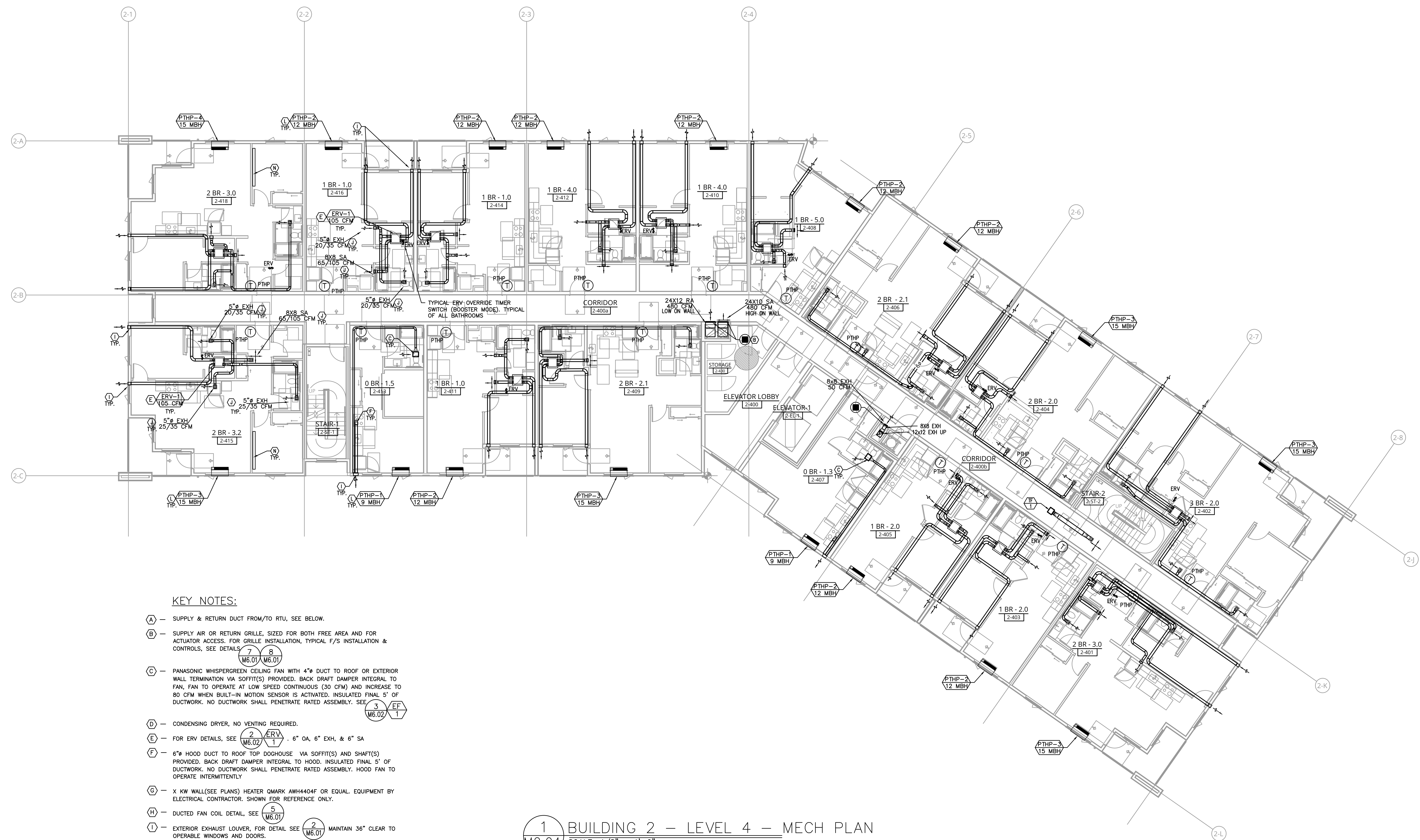
REVISION	DATE	REASON FOR ISSUE

MECHANICAL PLAN - LEVEL 2

PERMIT SET

DATE: 09/23/2022 PROJECT NUMBER: 215390

M2.02-2



KEY NOTES:

- (A) - SUPPLY & RETURN DUCT FROM/TO RTU, SEE BELOW.
- (B) - SUPPLY AIR OR RETURN GRILLE, SIZED FOR BOTH FREE AREA AND FOR ACTUATOR ACCESS. FOR GRILLE INSTALLATION, TYPICAL F/S INSTALLATION & CONTROLS, SEE DETAILS. 7 8
- (C) - PANASONIC WHISPERGREEN CEILING FAN WITH 4" DUCT TO ROOF OR EXTERIOR WALL TERMINATION VIA SOFFIT(S) PROVIDED. BACK DRAFT DAMPER INTEGRAL TO FAN. FAN TO OPERATE AT LOW SPEED CONTINUOUS (30 CFM) AND INCREASE TO 80 CFM WHEN BUILT-IN MOTION SENSOR IS ACTIVATED. INSULATED FINAL 5' OF DUCTWORK. NO DUCTWORK SHALL PENETRATE RATED ASSEMBLY. SEE 3 EF 1
- (D) - CONDENSING DRYER, NO VENTING REQUIRED.
- (E) - FOR ERV DETAILS, SEE 2 ERV 1 . 6" OA, 6" EXH, & 6" SA
- (F) - 6" HOOD DUCT TO ROOF TOP DOGHOUSE VIA SOFFIT(S) AND SHAFT(S) PROVIDED. BACK DRAFT DAMPER INTEGRAL TO HOOD. INSULATED FINAL 9' OF DUCTWORK. NO DUCTWORK SHALL PENETRATE RATED ASSEMBLY. HOOD FAN TO OPERATE INTERMITTENTLY.
- (G) - X KW WALL(SEE PLANS) HEATER QMARK ANH4404F OR EQUAL. EQUIPMENT BY ELECTRICAL CONTRACTOR. SHOWN FOR REFERENCE ONLY.
- (H) - DUCTED FAN COIL DETAIL, SEE 5 M6.01
- (I) - EXTERIOR EXHAUST LOUVER, FOR DETAIL SEE 2 M6.01 MAINTAIN 36" CLEAR TO OPERABLE WINDOWS AND DOORS.
- (J) - SUPPLY/EXHAUST FOR ERV, CFM AND GRILLE SIZE SEE 3 M6.02
- (K) - FIRE PENETRATION DETAILS, SEE 1 M6.02
- (L) - PTHP (PACKAGED TERMINAL HEAT PUMP) WITH FACTORY WALL SLEEVE, CONDENSATE DRAIN KIT, AND 42X16 ALUMINUM ARCHITECTURAL GRILLE AT EXTERIOR. INSTALL GRAVITY CONDENSATE DRAIN KIT, PLUMBING CONTRACTOR TO MAKE CONNECTION AT DRAIN KIT AND CONTINUE DRAIN LINE TO AN APPROVED LOCATION. SEE 3 M6.01
- (M) - REFRIGERANT LINE SETS FROM CONDENSING UNITS TO FAN COILS ON LEVEL 1.
- (N) - COVE STYLE WALL HEATERS FOR LIVING UNITS, 1125 W (94" LONG) FOR 1&2 BEDROOM LIVING UNITS. INSTALL AT 90" AFF.

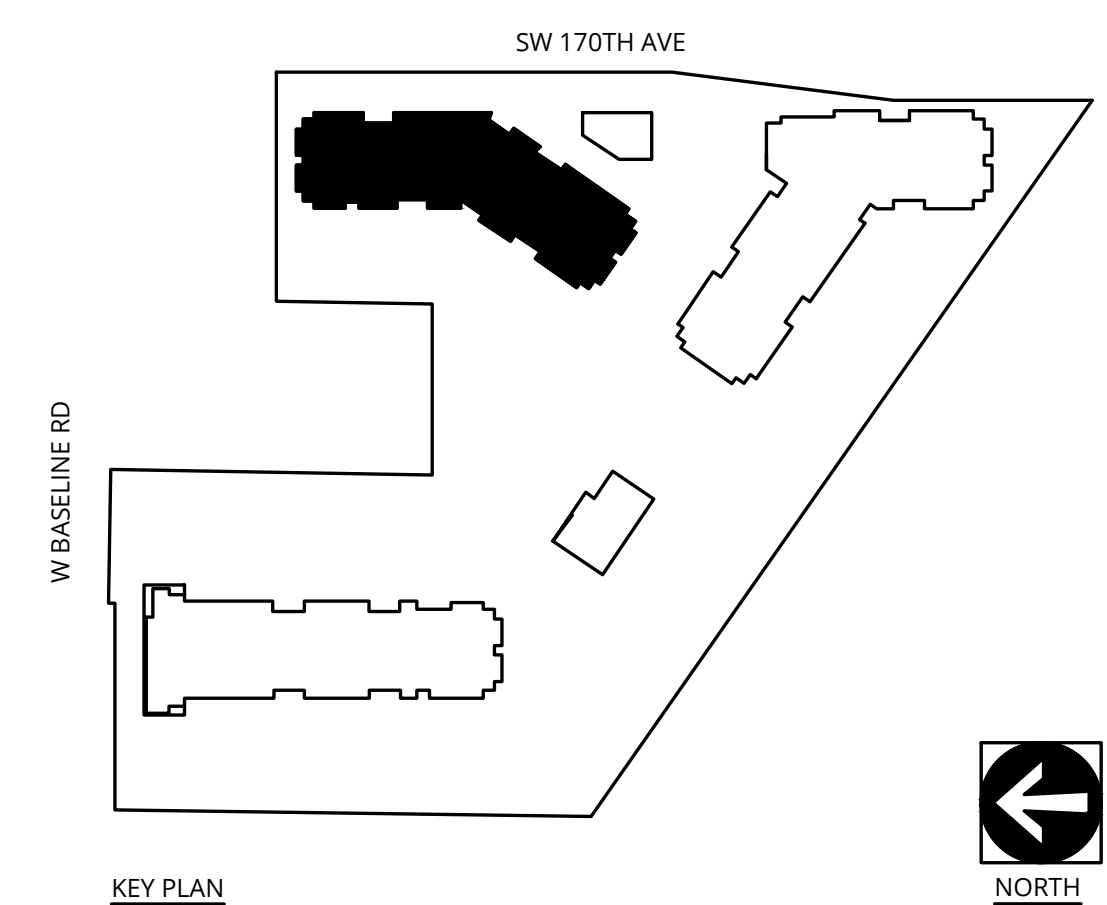
1 BUILDING 2 -- LEVEL 4 -- MECH PLAN
M2.04 SCALE: 1/8" = 1'-0"

FLOOR	SUPPLY AIR	CFM	RETURN AIR	CFM	UNIT
ATTIC	24 X 24	3000	24 X 24	3000	RTU-1&2
5TH	24 X 24	3000	24 X 24	3000	RTU-1&2
4TH	24 X 24	2400	20 X 24	2400	RTU-1&2
3RD	24 X 24	1800	20 X 24	1800	RTU-1&2
2ND	24 X 24	1200	16 X 24	1200	RTU-1&2
1ST	24 X 24	600	16 X 24	600	RTU-1&2

VENTILATION CALCULATIONS:

ALL DWELLING UNITS ARE VENTILATED BY MECHANICAL VENTILATION WITH ERV'S, (SIZED PER ASHRAE 62.2).
 HALLWAYS ARE VENTILATED BY RTU'S SIZED TO EXCEED THE MINIMUM 0.06 CFM/SQ FT REQUIREMENT.

SEE VENTILATION SCHEDULES FOR OTHER UNITS.



09-07-22

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JACOBS

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F
A
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ELMONICA STATION APARTMENTS BUILDING 2
 SW 170TH AND W BASELINE
 REMBOLD PROPERTIES

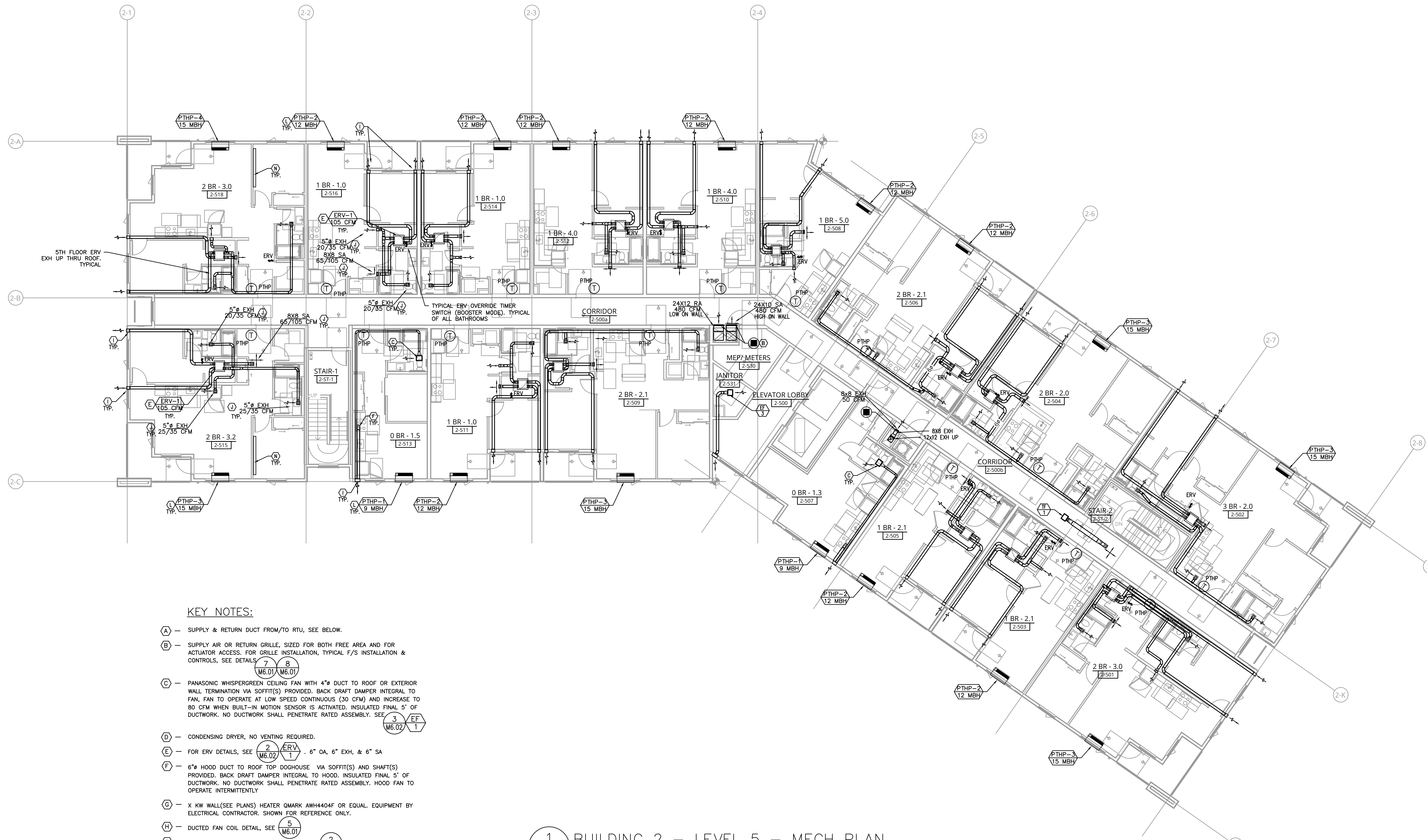
REVISION	DATE	REASON FOR ISSUE

MECHANICAL PLAN - LEVEL 4

PERMIT SET

DATE: 09/23/2022 PROJECT NUMBER: 215390

M2.04-2



KEY NOTES:

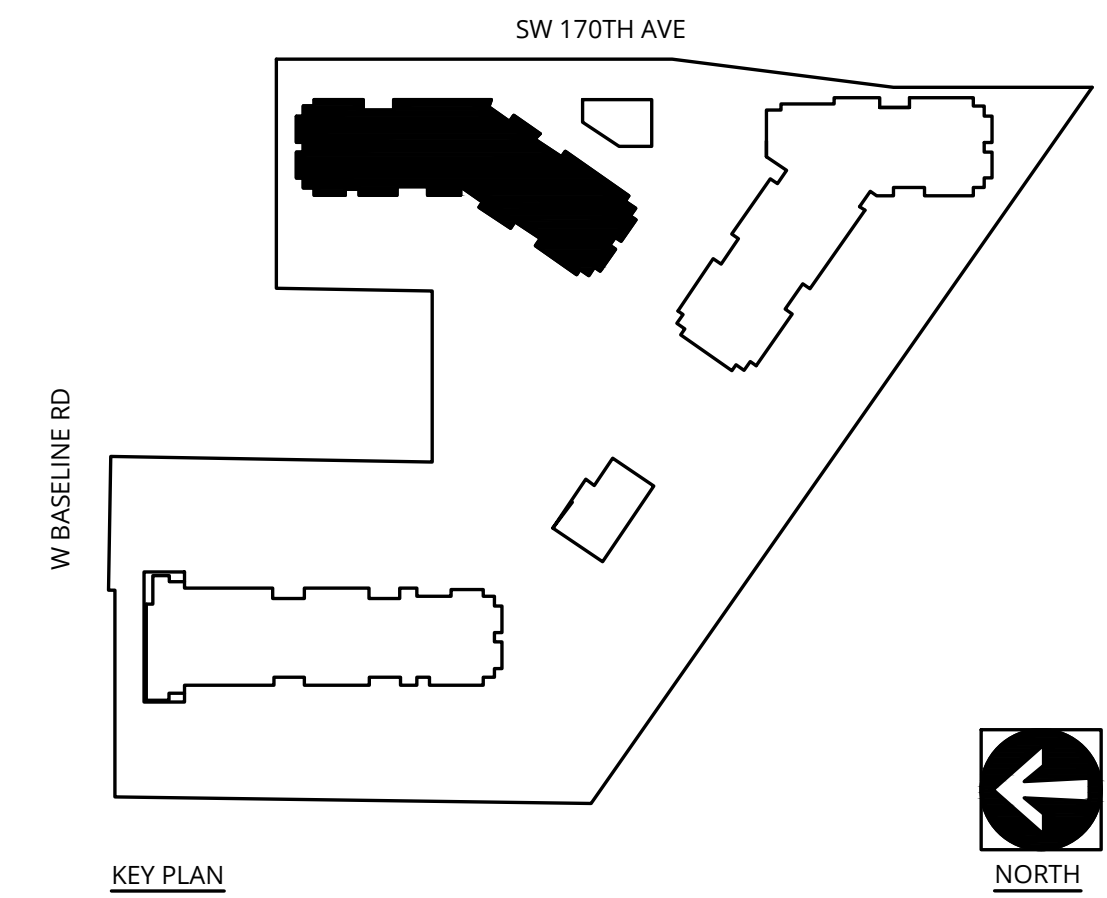
- (A) - SUPPLY & RETURN DUCT FROM/TO RTU. SEE BELOW.
- (B) - SUPPLY AIR OR RETURN GRILLE, SIZED FOR BOTH FREE AREA AND FOR ACTUATOR ACCESS. FOR GRILLE INSTALLATION, TYPICAL F/S INSTALLATION & CONTROLS, SEE DETAILS ⁷ ⁸ _{M6.01} _{M6.01}
- (C) - PANASONIC WHISPERGREEN CEILING FAN WITH 4" DUCT TO ROOF OR EXTERIOR WALL. TERMINATION VIA SOFFIT(S) PROVIDED. BACK DRAFT DAMPER INTEGRAL TO FAN. FAN TO OPERATE AT LOW SPEED CONTINUOUS (30 CFM) AND INCREASE TO 80 CFM WHEN BUILT-IN MOTION SENSOR IS ACTIVATED. INSULATED FINAL 5' OF DUCTWORK. NO DUCTWORK SHALL PENETRATE RATED ASSEMBLY. SEE ³ _{M6.02} _{EF} ₁
- (D) - CONDENSING DRYER, NO VENTING REQUIRED.
- (E) - FOR ERV DETAILS, SEE ² _{M6.02} _{ERV} ₁. 6" OA, 6" EXH, & 6" SA
- (F) - 6" HOOD DUCT TO ROOF TOP DOGHOUSE VIA SOFFIT(S) AND SHAFT(S) PROVIDED. BACK DRAFT DAMPER INTEGRAL TO HOOD. INSULATED FINAL 5' OF DUCTWORK. NO DUCTWORK SHALL PENETRATE RATED ASSEMBLY. HOOD FAN TO OPERATE INTERMITTENTLY.
- (G) - X KW WALL(SEE PLANS) HEATER QMARK AWH4404F OR EQUAL. EQUIPMENT BY ELECTRICAL CONTRACTOR. SHOWN FOR REFERENCE ONLY.
- (H) - DUCTED FAN COIL DETAIL. SEE ⁵ _{M6.01}
- (I) - EXTERIOR EXHAUST LOUVER, FOR DETAIL SEE ² _{M6.01}. MAINTAIN 36" CLEAR TO OPERABLE WINDOWS AND DOORS.
- (J) - SUPPLY/EXHAUST FOR ERV, CFM AND GRILLE SIZE SEE ³ _{M6.02}
- (K) - FIRE PENETRATION DETAILS, SEE ¹ _{M6.02}
- (L) - PTHP (PACKAGED TERMINAL HEAT PUMP) WITH FACTORY WALL SLEEVE, CONDENSATE DRAIN KIT, AND 42X16 ALUMINUM ARCHITECTURAL GRILLE AT EXTERIOR. INSTALL GRAVITY CONDENSATE DRAIN KIT, PLUMBING CONTRACTOR TO MAKE CONNECTION AT DRAIN KIT AND CONTINUE DRAIN LINE TO AN APPROVED LOCATION. SEE ³ _{M6.01}
- (M) - REFRIGERANT LINE SETS FROM CONDENSING UNITS TO FAN COILS ON LEVEL 1.
- (N) - COVE STYLE WALL HEATERS FOR LIVING UNITS, 1125 W (94" LONG) FOR 1&2 BEDROOM LIVING UNITS. INSTALL AT 90° AFF.

1 BUILDING 2 - LEVEL 5 - MECH PLAN
 M2.05 SCALE: 1/8" = 1'-0"

SHAFT DUCT SIZES

FLOOR	SUPPLY AIR	CFM	RETURN AIR	CFM	UNIT
ATTIC	24 X 24	3000	24 X 24	3000	RTU-1&2
5TH	24 X 24	3000	24 X 24	3000	RTU-1&2
4TH	24 X 24	2400	20 X 24	2400	RTU-1&2
3RD	24 X 24	1800	20 X 24	1800	RTU-1&2
2ND	24 X 24	1200	16 X 24	1200	RTU-1&2
1ST	24 X 24	600	16 X 24	600	RTU-1&2

VENTILATION CALCULATIONS:
 ALL DWELLING UNITS ARE VENTILATED BY MECHANICAL VENTILATION WITH ERV'S, (SIZED PER ASHRAE 62.2).
 HALLWAYS ARE VENTILATED BY RTU'S SIZED TO EXCEED THE MINIMUM 0.06 CFM/SQ FT REQUIREMENT.
 SEE VENTILATION SCHEDULES FOR OTHER UNITS.



09-07-22

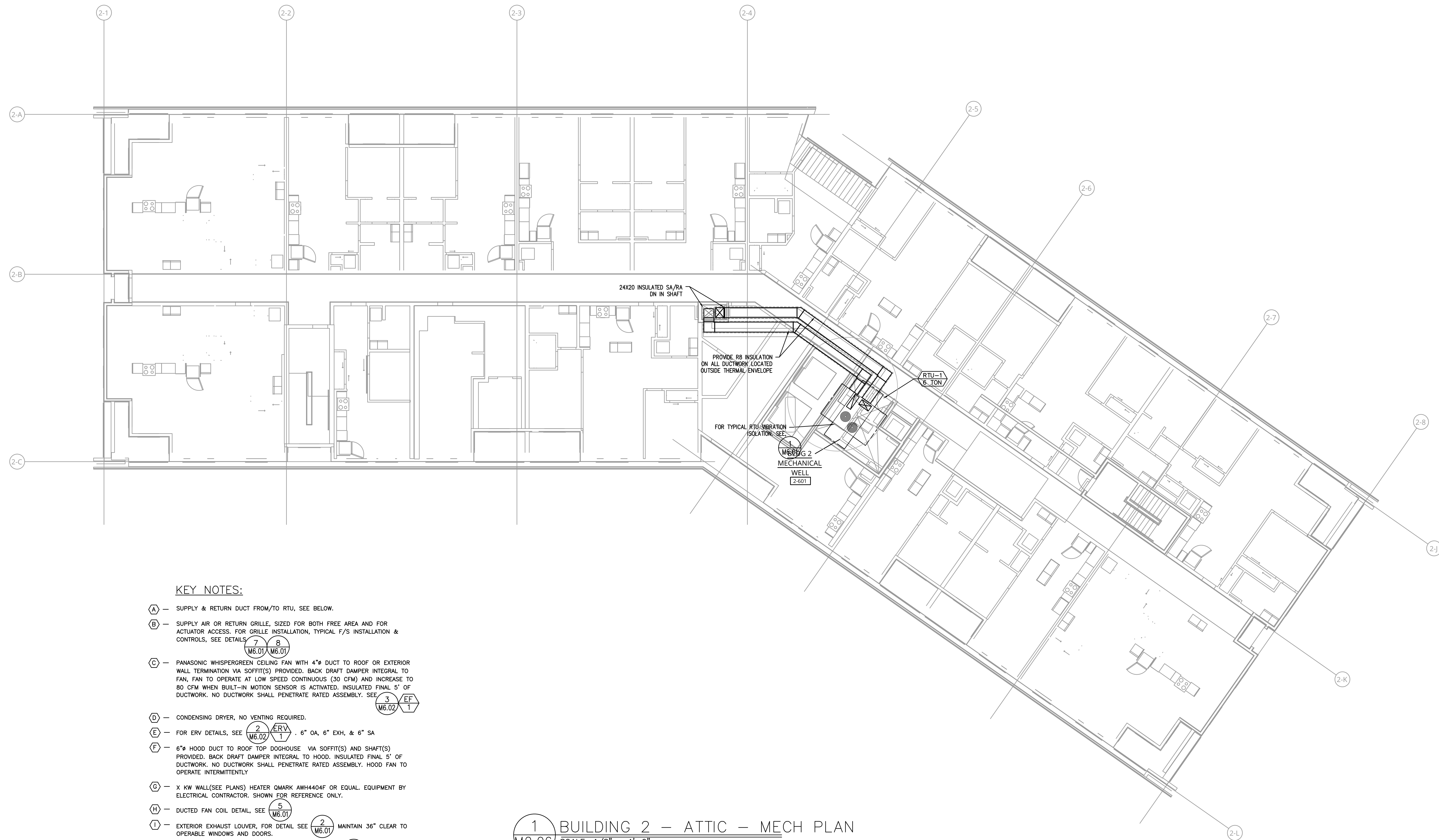
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ELMONICA STATION APARTMENTS BUILDING 2
 SW 170TH AND W BASELINE
 REMBOLD PROPERTIES

REVISION	DATE	REASON FOR ISSUE

MECHANICAL PLAN - LEVEL 5
 PERMIT SET
 DATE: 09/23/2022 PROJECT NUMBER: 215390
M2.05-2



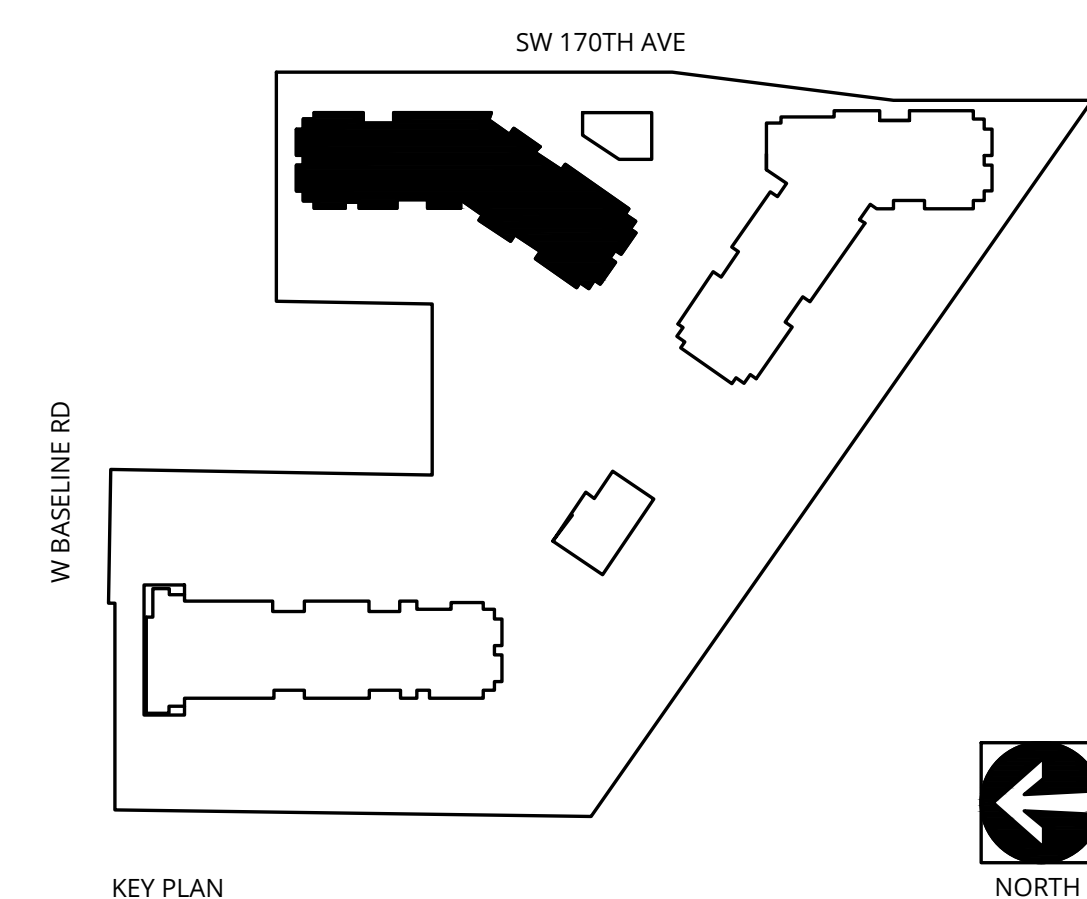
KEY NOTES:

- (A) — SUPPLY & RETURN DUCT FROM/TO RTU, SEE BELOW.
- (B) — SUPPLY AIR OR RETURN GRILLE, SIZED FOR BOTH FREE AREA AND FOR ACTUATOR ACCESS. FOR GRILLE INSTALLATION, TYPICAL F/S INSTALLATION & CONTROLS, SEE DETAILS. 7 R M6.01
- (C) — PANASONIC WHISPERGREEN CEILING FAN WITH 4" DUCT TO ROOF OR EXTERIOR WALL TERMINATION VIA SOFFIT(S) PROVIDED. BACK DRAFT DAMPER INTEGRAL TO FAN. FAN TO OPERATE AT LOW SPEED CONTINUOUS (30 CFM) AND INCREASE TO 80 CFM WHEN BUILT-IN MOTION SENSOR IS ACTIVATED. INSULATED FINAL 5' OF DUCTWORK. NO DUCTWORK SHALL PENETRATE RATED ASSEMBLY. SEE 3 M6.02 EF 1
- (D) — CONDENSING DRYER, NO VENTING REQUIRED.
- (E) — FOR ERV DETAILS, SEE 2 M6.02 ERV 1 . 6" OA, 6" EXH, & 6" SA
- (F) — 6" HOOD DUCT TO ROOF TOP DOGHOUSE VIA SOFFIT(S) AND SHAFT(S) PROVIDED. BACK DRAFT DAMPER INTEGRAL TO HOOD. INSULATED FINAL 5' OF DUCTWORK. NO DUCTWORK SHALL PENETRATE RATED ASSEMBLY. HOOD FAN TO OPERATE INTERMITTENTLY.
- (G) — X KW WALL(SEE PLANS) HEATER QMARK AWH4404F OR EQUAL. EQUIPMENT BY ELECTRICAL CONTRACTOR. SHOWN FOR REFERENCE ONLY.
- (H) — DUCTED FAN COIL DETAIL, SEE 5 M6.01
- (I) — EXTERIOR EXHAUST LOUVER, FOR DETAIL SEE 2 M6.01 MAINTAIN 36" CLEAR TO OPERABLE WINDOWS AND DOORS.
- (J) — SUPPLY/EXHAUST FOR ERV, CFM AND GRILLE SIZE SEE 3 M6.02
- (K) — FIRE PENETRATION DETAILS, SEE 1 M6.02
- (L) — PTHP (PACKAGED TERMINAL HEAT PUMP) WITH FACTORY WALL SLEEVE, CONDENSATE DRAIN KIT, AND 42X16 ALUMINUM ARCHITECTURAL GRILLE AT EXTERIOR. INSTALL GRAVITY CONDENSATE DRAIN KIT, PLUMBING CONTRACTOR TO MAKE CONNECTION AT DRAIN KIT AND CONTINUE DRAIN LINE TO AN APPROVED LOCATION. SEE 3 M6.01
- (M) — REFRIGERANT LINE SETS FROM CONDENSING UNITS TO FAN COILS ON LEVEL 1.
- (N) — COVE STYLE WALL HEATERS FOR LIVING UNITS, 1125 W (94" LONG) FOR 1&2 BEDROOM LIVING UNITS. INSTALL AT 90° AFF.

1 BUILDING 2 — ATTIC — MECH PLAN
M2.06 SCALE: 1/8" = 1'-0"

SHAFT DUCT SIZES					
FLOOR	SUPPLY AIR	CFM	RETURN AIR	CFM	UNIT
ATTIC	24 X 24	3000	24 X 24	3000	RTU-1&2
5TH	24 X 24	3000	24 X 24	3000	RTU-1&2
4TH	24 X 24	2400	20 X 24	2400	RTU-1&2
3RD	24 X 24	1800	20 X 24	1800	RTU-1&2
2ND	24 X 24	1200	16 X 24	1200	RTU-1&2
1ST	24 X 24	600	16 X 24	600	RTU-1&2

VENTILATION CALCULATIONS:
 ALL DWELLING UNITS ARE VENTILATED BY MECHANICAL VENTILATION WITH ERV'S, (SIZED PER ASHRAE 62.2).
 HALLWAYS ARE VENTILATED BY RTU'S SIZED TO EXCEED THE MINIMUM 0.06 CFM/SQ FT REQUIREMENT.
 SEE VENTILATION SCHEDULES FOR OTHER UNITS.



09-07-22

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ELMONICA STATION APARTMENTS BUILDING 2
 SW 170TH AND W BASELINE
 REMBOLD PROPERTIES

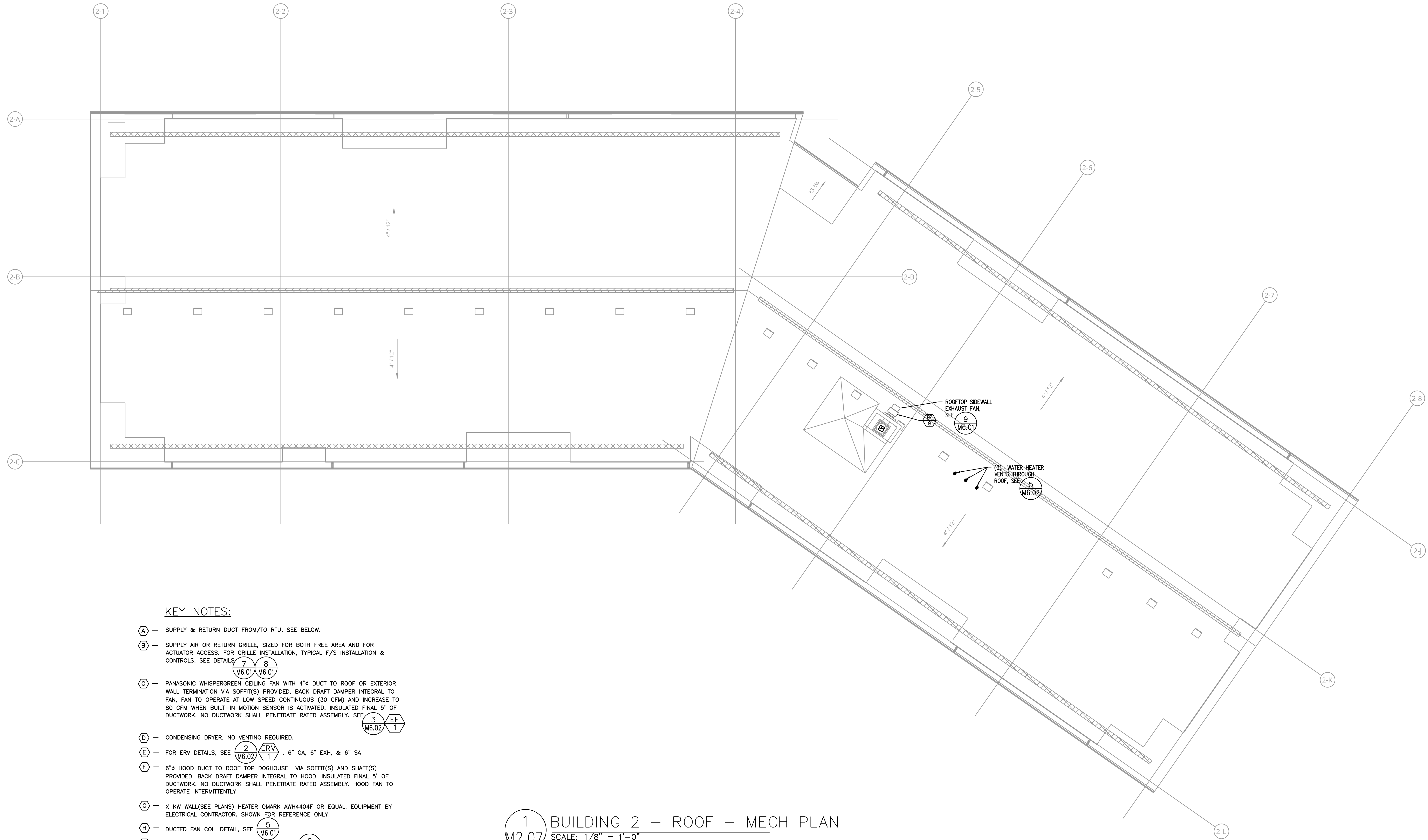
REVISION	DATE	REASON FOR ISSUE

MECHANICAL ATTIC PLAN

PERMIT SET

DATE: 09/23/2022 PROJECT NUMBER: 215390

M2.06-2



KEY NOTES:

- (A) - SUPPLY & RETURN DUCT FROM/TO RTU, SEE BELOW.
- (B) - SUPPLY AIR OR RETURN GRILLE, SIZED FOR BOTH FREE AREA AND FOR ACTUATOR ACCESS. FOR GRILLE INSTALLATION, TYPICAL F/S INSTALLATION & CONTROLS, SEE DETAILS (7) (M6.01) (8) (M6.01)
- (C) - PANASONIC WHISPERGREEN CEILING FAN WITH 4" DUCT TO ROOF OR EXTERIOR WALL TERMINATION VIA SOFFIT(S) PROVIDED. BACK DRAFT DAMPER INTEGRAL TO FAN. FAN TO OPERATE AT LOW SPEED CONTINUOUS (30 CFM) AND INCREASE TO 80 CFM WHEN BUILT-IN MOTION SENSOR IS ACTIVATED. INSULATED FINAL 5' OF DUCTWORK. NO DUCTWORK SHALL PENETRATE RATED ASSEMBLY. SEE (3) (EF) (1) (M6.02)
- (D) - CONDENSING DRYER, NO VENTING REQUIRED.
- (E) - FOR ERV DETAILS, SEE (2) (ERV) (1) (M6.02), 6" OA, 6" EXH, & 6" SA
- (F) - 6" HOOD DUCT TO ROOF TOP DOGHOUSE VIA SOFFIT(S) AND SHAFT(S) PROVIDED. BACK DRAFT DAMPER INTEGRAL TO HOOD. INSULATED FINAL 5' OF DUCTWORK. NO DUCTWORK SHALL PENETRATE RATED ASSEMBLY. HOOD FAN TO OPERATE INTERMITTENTLY.
- (G) - X KW WALL(SEE PLANS) HEATER QMARK AMH4404F OR EQUAL EQUIPMENT BY ELECTRICAL CONTRACTOR. SHOWN FOR REFERENCE ONLY.
- (H) - DUCTED FAN COIL DETAIL, SEE (5) (M6.01)
- (I) - EXTERIOR EXHAUST LOUVER, FOR DETAIL SEE (2) (M6.01) MAINTAIN 36" CLEAR TO OPERABLE WINDOWS AND DOORS.
- (J) - SUPPLY/EXHAUST FOR ERV, CFM AND GRILLE SIZE SEE (3) (M6.02)
- (K) - FIRE PENETRATION DETAILS, SEE (1) (M6.02)
- (L) - PTHP (PACKAGED TERMINAL HEAT PUMP) WITH FACTORY WALL SLEEVE, CONDENSATE DRAIN KIT, AND 42X16 ALUMINUM ARCHITECTURAL GRILLE AT EXTERIOR. INSTALL GRAVITY CONDENSATE DRAIN KIT, PLUMBING CONTRACTOR TO MAKE CONNECTION AT DRAIN KIT AND CONTINUE DRAIN LINE TO AN APPROVED LOCATION. SEE (3) (M6.01)
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- (N) - COVE STYLE WALL HEATERS FOR LIVING UNITS, 1125 W (94" LONG) FOR 1&2 BEDROOM LIVING UNITS. INSTALL AT 90" AFF.

1 BUILDING 2 - ROOF - MECH PLAN
 M2.07 SCALE: 1/8" = 1'-0"

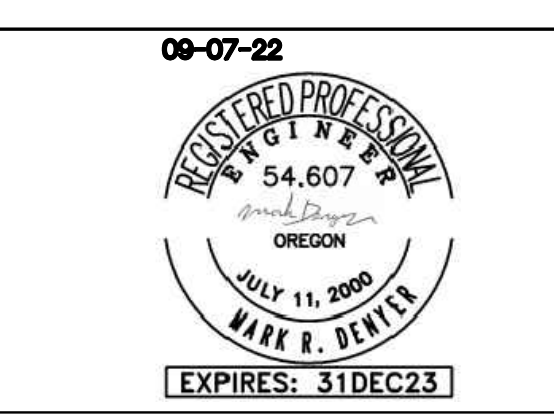
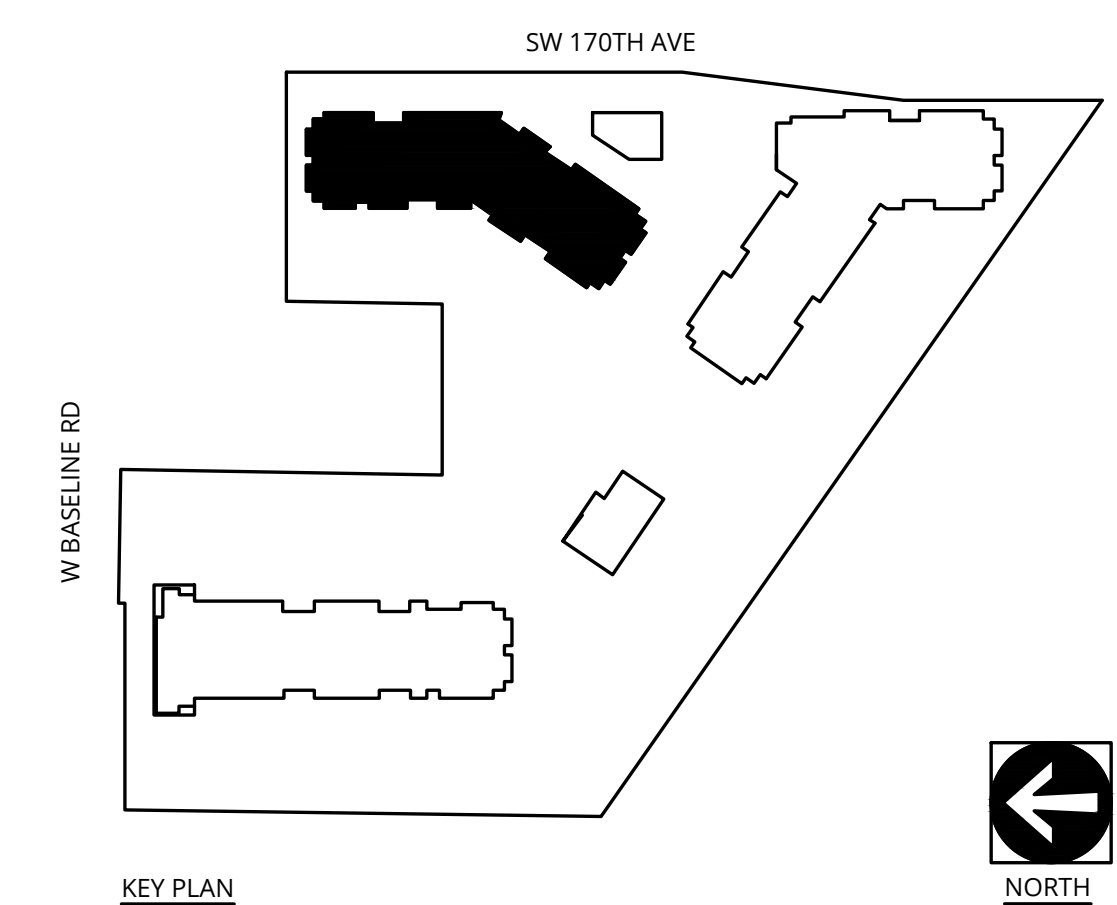
SHAFT DUCT SIZES					
FLOOR	SUPPLY AIR	CFM	RETURN AIR	CFM	UNIT
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5TH	24 X 24	3000	24 X 24	3000	RTU-1&2
4TH	24 X 24	2400	20 X 24	2400	RTU-1&2
3RD	24 X 24	1800	20 X 24	1800	RTU-1&2
2ND	24 X 24	1200	16 X 24	1200	RTU-1&2
1ST	24 X 24	600	16 X 24	600	RTU-1&2

VENTILATION CALCULATIONS:

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HALLWAYS ARE VENTILATED BY RTU'S SIZED TO EXCEED THE MINIMUM 0.06 CFM/SQ FT REQUIREMENT.

SEE VENTILATION SCHEDULES FOR OTHER UNITS.



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ELMONICA STATION APARTMENTS BUILDING 2
 SW 170TH AND W BASELINE
 REMBOLD PROPERTIES

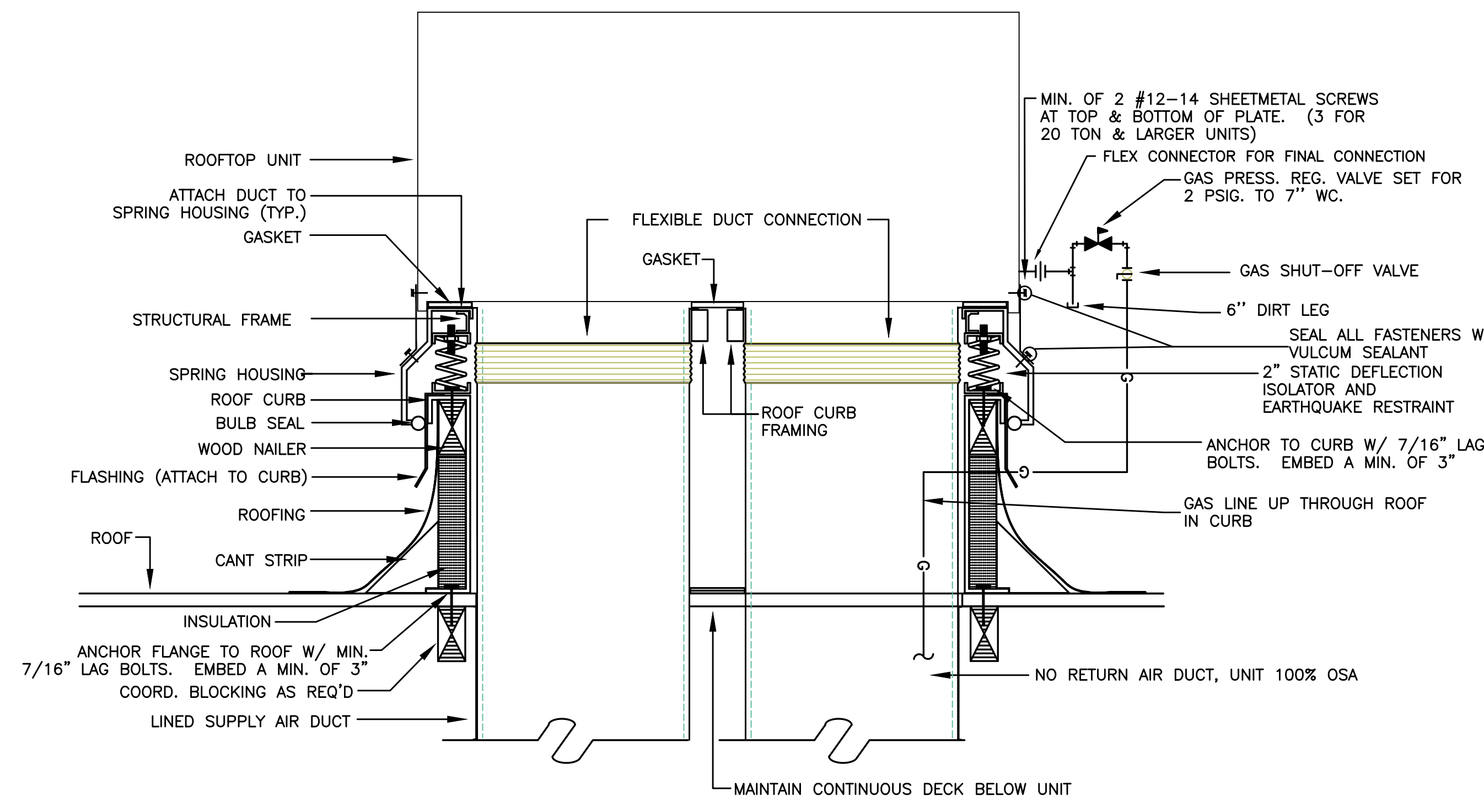
REVISION	DATE	REASON FOR ISSUE

MECHANICAL ROOF PLAN

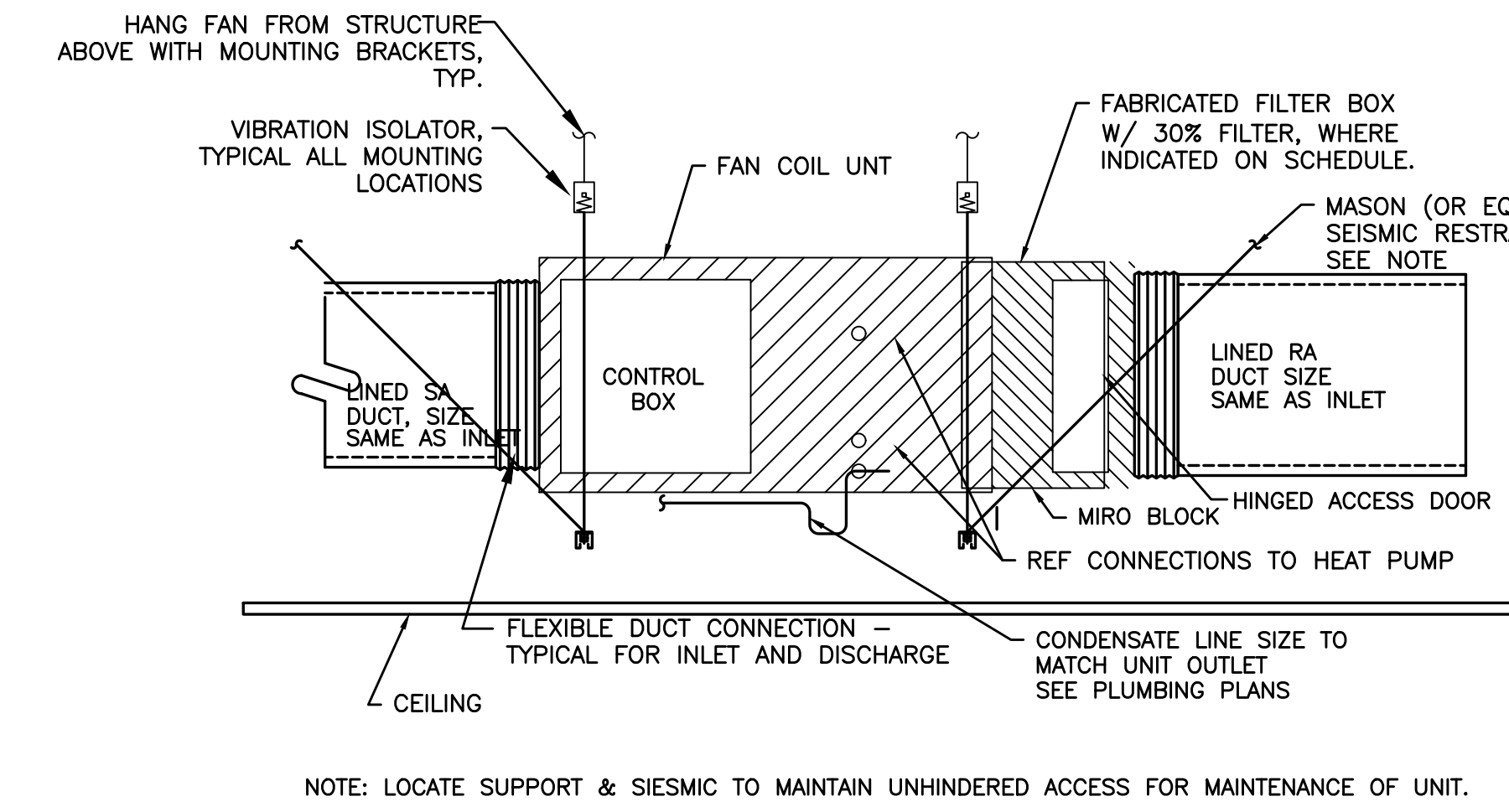
PERMIT SET

DATE: 09/23/2022 PROJECT NUMBER: 215390

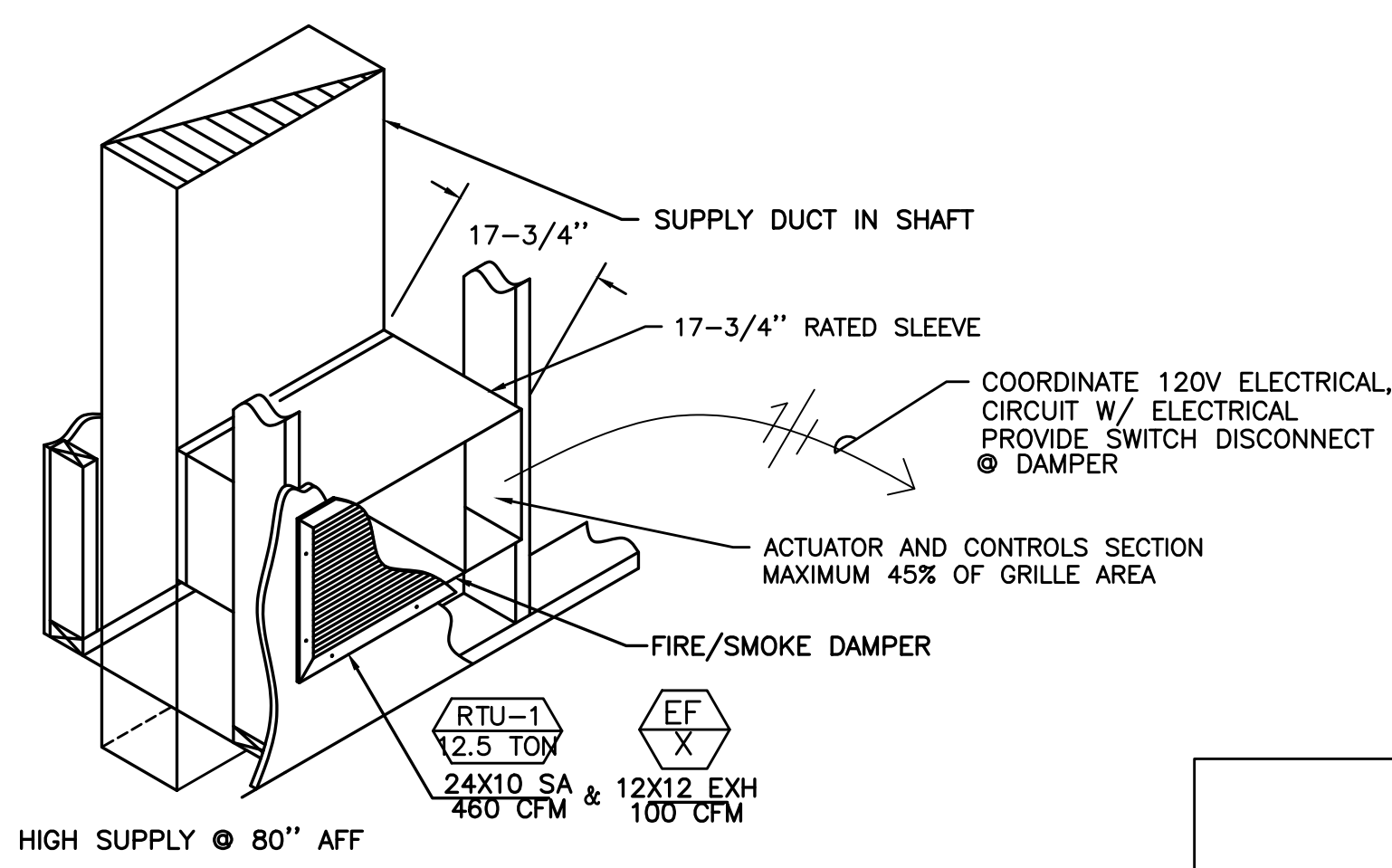
M2.07-2



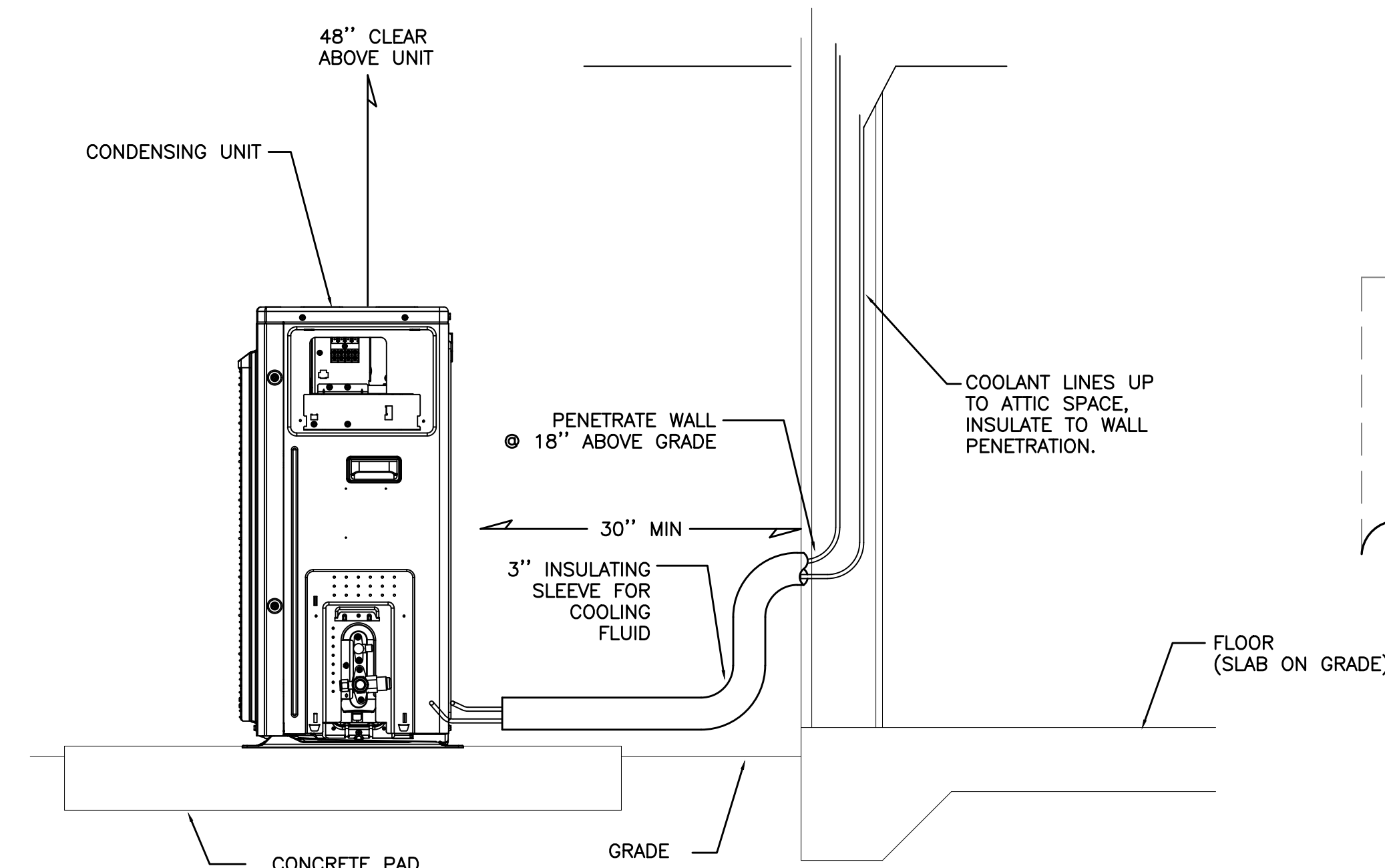
1 ROOF TOP UNIT W/ VIBRATION ISOLATION CURB
SCALE: DETAIL



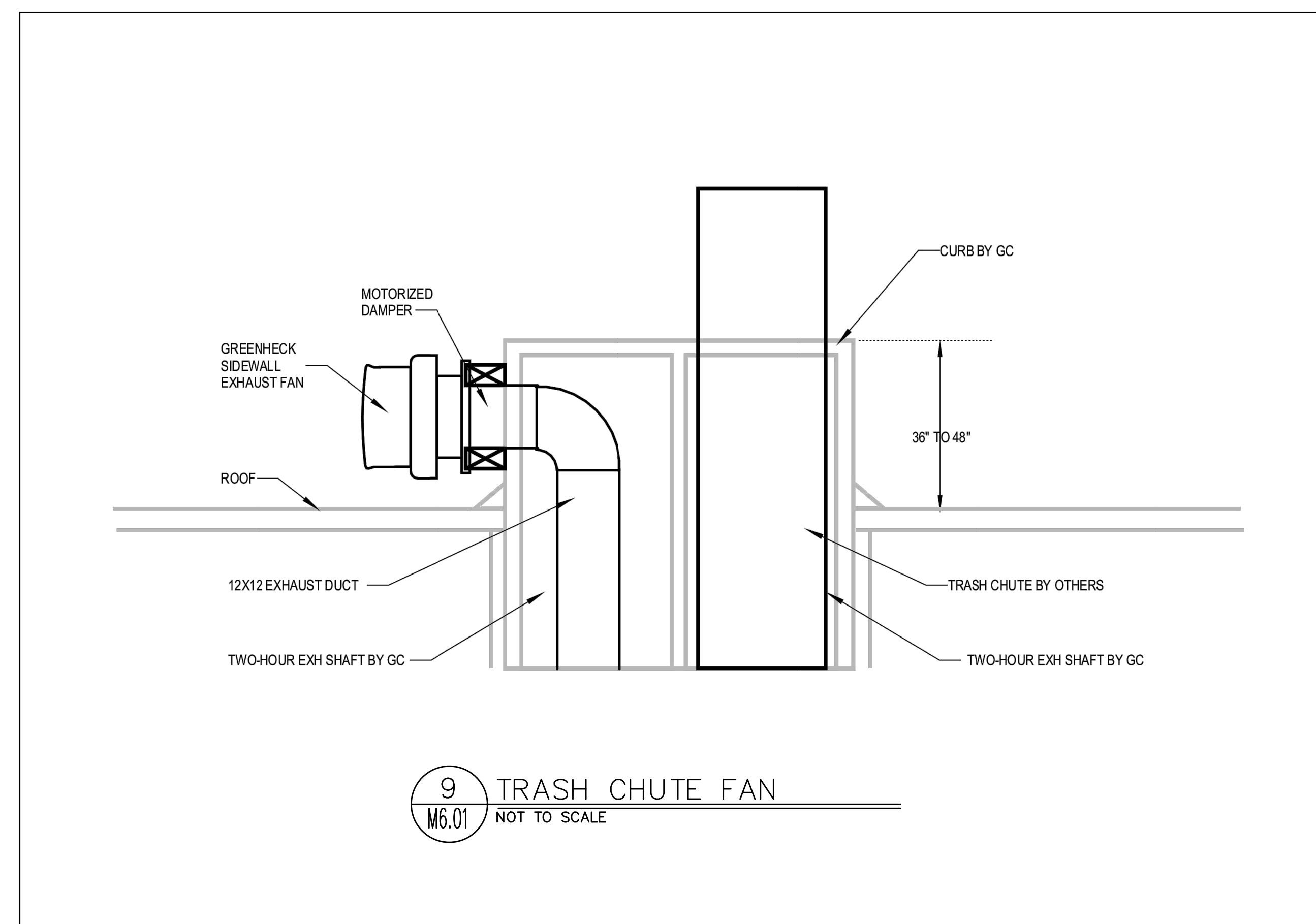
5 DUCTED FAN COIL
SCALE: DETAIL



8 HIGH SUPPLY W/ FIRE/SMOKE DAMPER
SCALE: DETAIL



6 TYP. CONDENSER INSTALLATION
SCALE: DETAIL



9 TRASH CHUTE FAN
SCALE: DETAIL

GREENHECK ESU-153

Thinline Louver
Thinline Blade

Application and Design
ESU-153 is a thinline stationary louver commonly used for interior or exterior applications where high free area and low airflow resistance is required. The narrow depth makes this product ideal for installation into curtainwalls, windows, or as air conditioning grilles.

Standard Construction
Frame Heavy gauge aluminum, 1 1/2 in. x 0.003 in. nominal wall thickness
Blades Thinline style, heavy gauge aluminum, 0.050 in. nominal wall thickness, positioned at 30° angles on approximately 1/4 in. centers

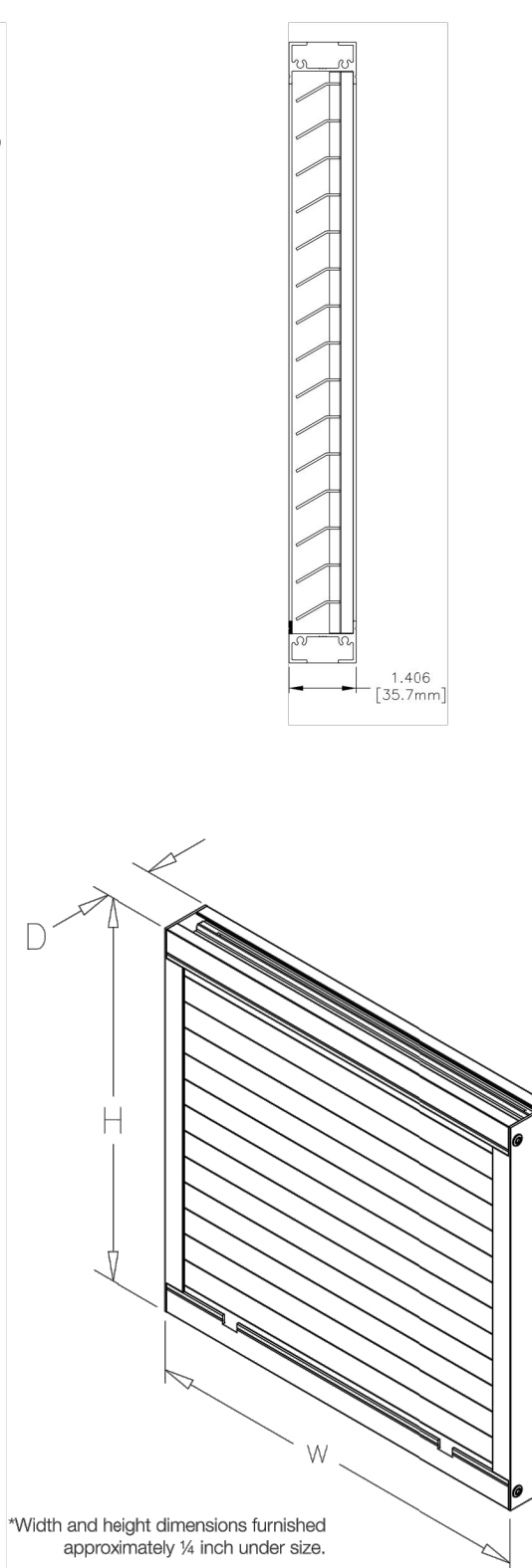
Construction Mechanically fastened
Bredscreen004 in. x 0.051 flattened expanded aluminum in removable frame, inside mount (pat)

Finish Mill
Minimum Size 13 1/2 in. W x 10 in. H (without flange)
13 1/2 in. W x 12 in. H (with flange)

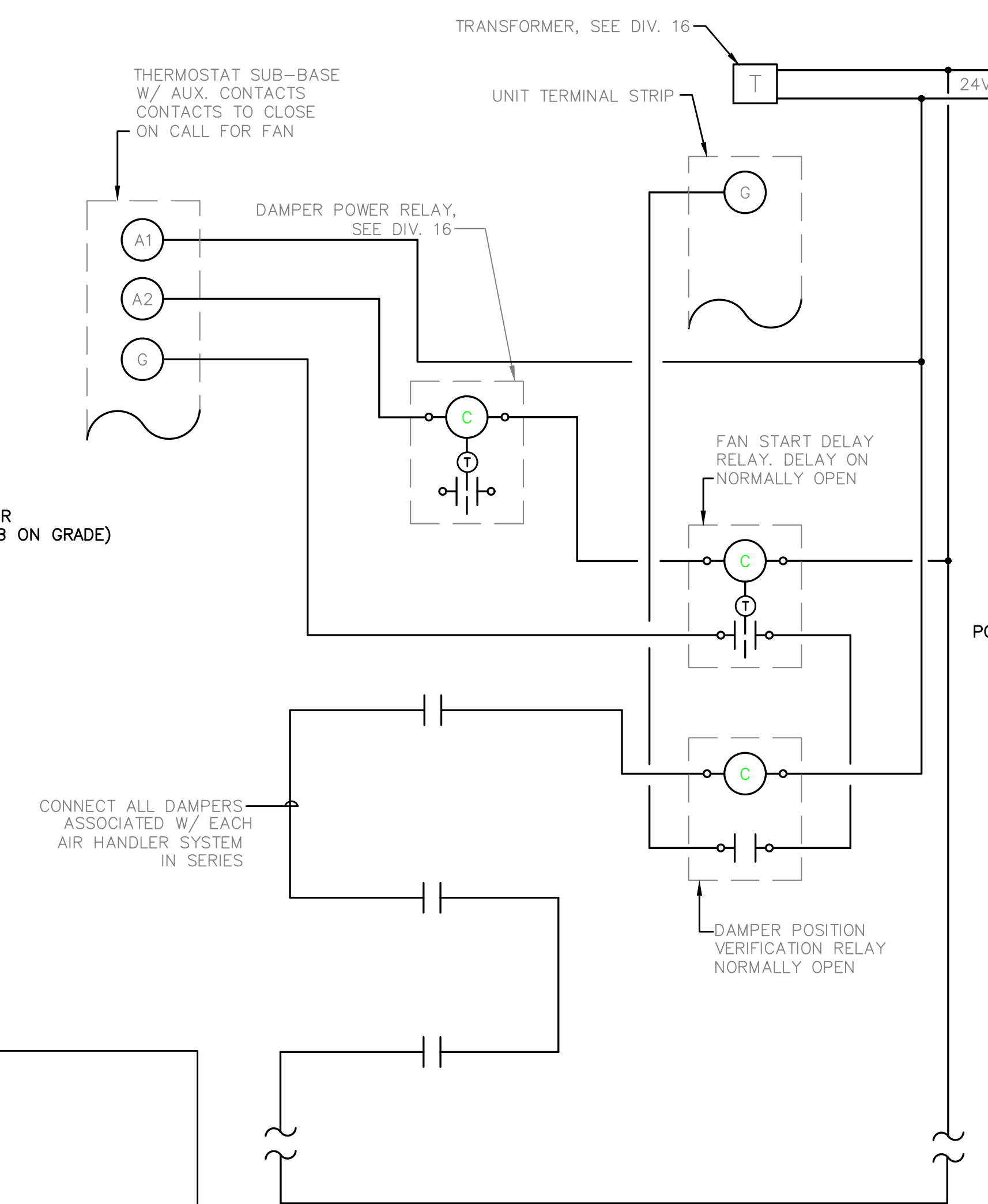
Maximum Single Section Size 96 in. W x 48 in. H

Options (at additional cost)

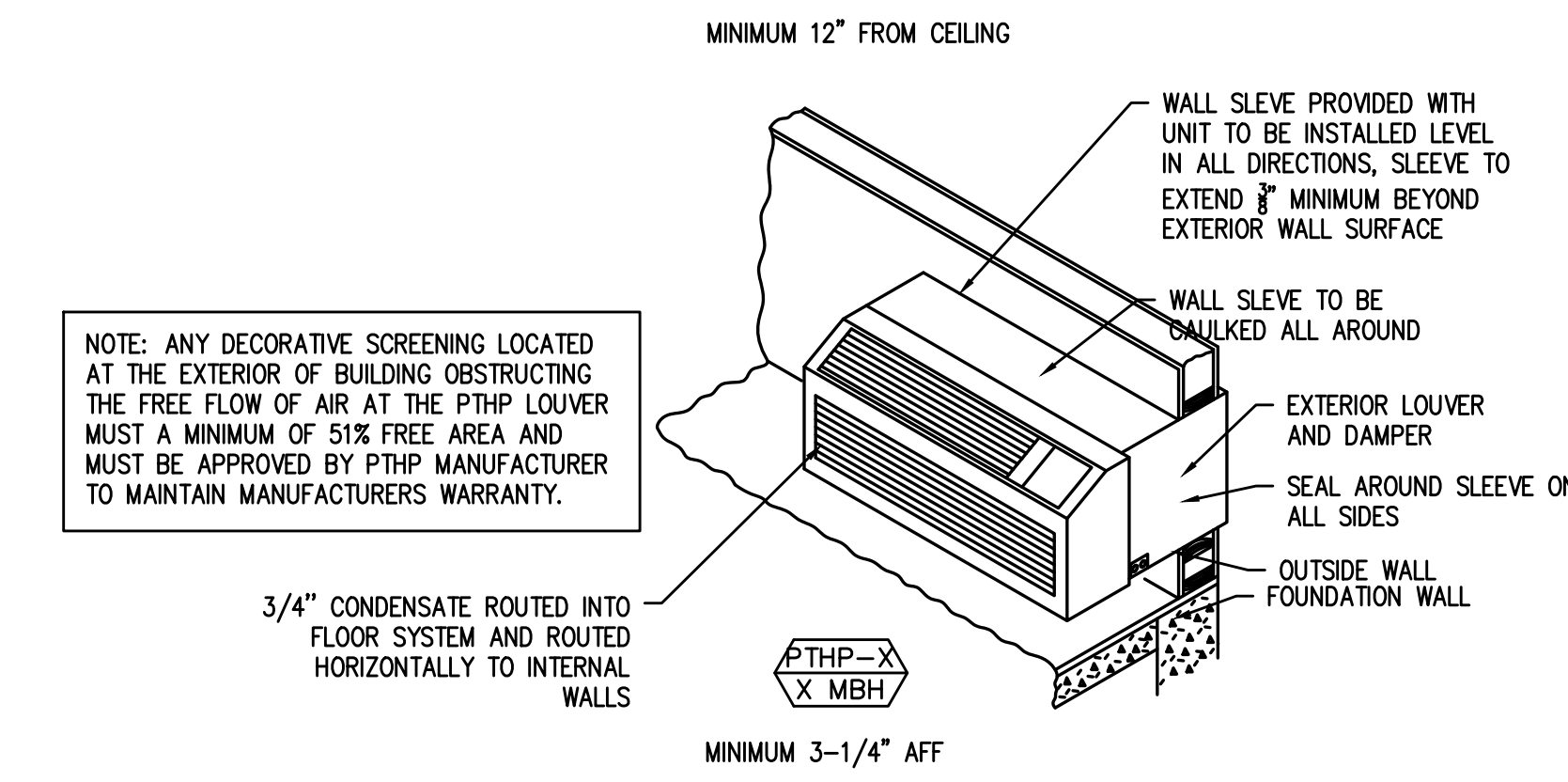
- A variety of bird and insect screens
- Anchor brackets
- Extended sill
- Flanged frame
- Glazing adaptor
- A variety of architectural finishes including:
Kynar paint
Baked enamel paint
Clear anodize
Integral color anodize



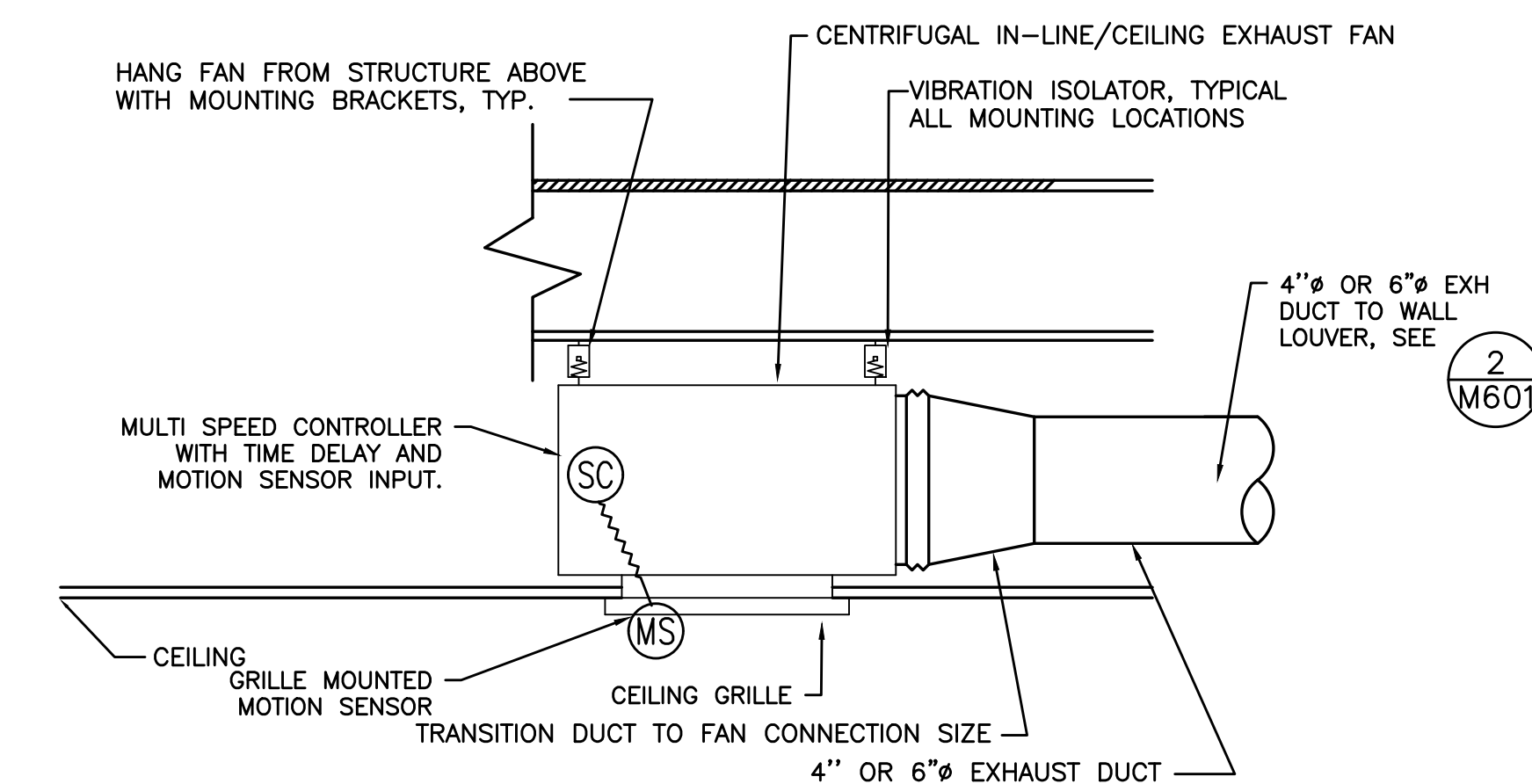
2 SIDEWALL EXHAUST TERMINATION
SCALE: DETAIL



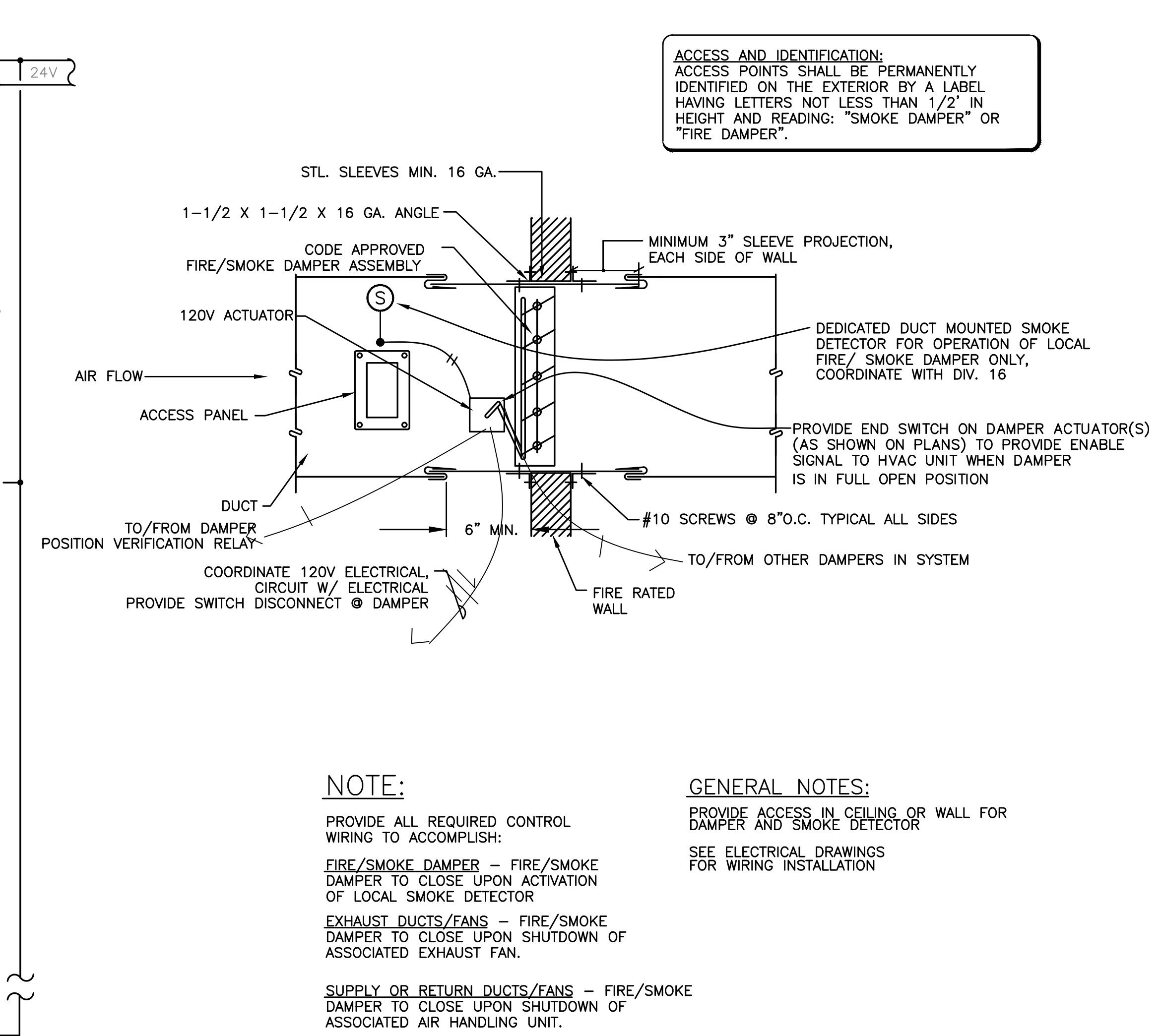
7 FIRE/SMOKE DAMPER W/SMOKE DETECTOR
SCALE: DETAIL



3 TYPICAL PTHP DETAIL
SCALE: DETAIL



4 CEILING EXHAUST FAN
SCALE: DETAIL

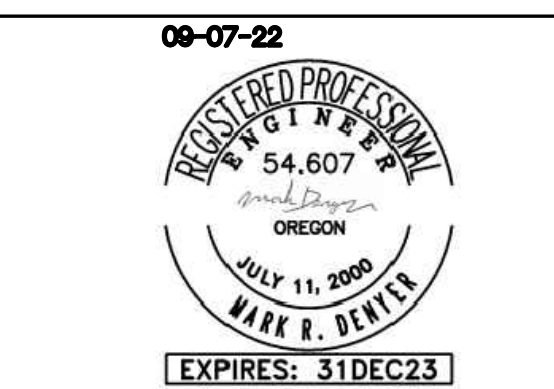
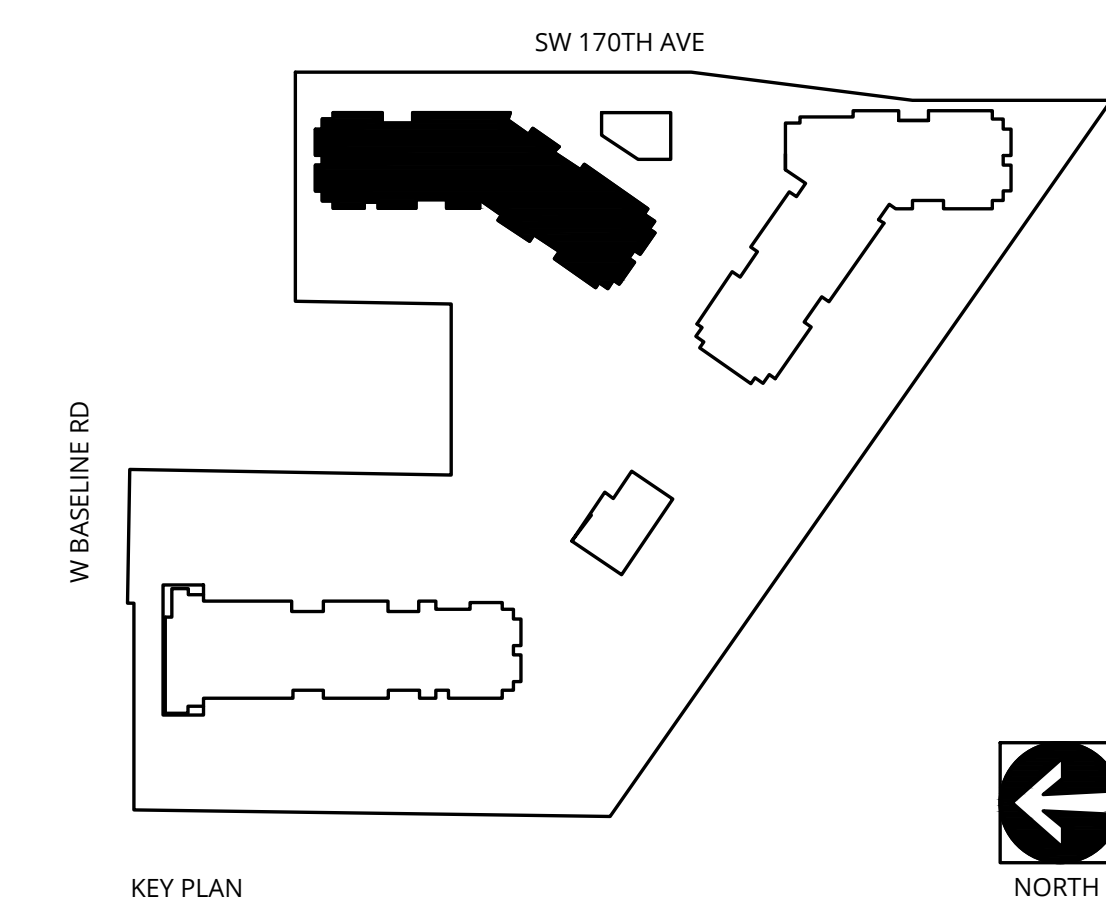


NOTE:

- PROVIDE ALL REQUIRED CONTROL WIRING TO ACCOMPLISH:
- FIRE/SMOKE DAMPER - FIRE/SMOKE DAMPER TO CLOSE UPON ACTIVATION OF LOCAL SMOKE DETECTOR
- EXHAUST DUCTS/FANS - FIRE/SMOKE DAMPER TO CLOSE UPON SHUTDOWN OF ASSOCIATED EXHAUST FAN.
- SUPPLY OR RETURN DUCTS/FANS - FIRE/SMOKE DAMPER TO CLOSE UPON SHUTDOWN OF ASSOCIATED AIR HANDLING UNIT.

GENERAL NOTES:

- PROVIDE ACCESS IN CEILING OR WALL FOR DAMPER AND SMOKE DETECTOR
- SEE ELECTRICAL DRAWINGS FOR WIRING INSTALLATION



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ELMONICA STATION APARTMENTS BUILDING 2
SW 170TH AND W BASELINE

REVISION	DATE	REASON FOR ISSUE

MECHANICAL
DETAILS

PERMIT SET

DATE: 09/23/2022 PROJECT NUMBER: 215390

M6.01-2

System No. WL-7018

UL LISTED
ANSI/UL 1479 (ASTM E814) CANULC S115
F Rating — 2-H FT Rating — 1-1/2-H T Rating — 1/2-H FT Rating — 2-H FT Rating — 2-H FT Rating — 1-1/2-H

SECTION A-A

1. Wall Assembly — The 2 hr fire-rated gypsum wallboard/wall assembly shall be constructed of the materials and in the manner specified in the individual UL1000, UL400, UL400 or UL400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
 A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nominal 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC.
 B. Gypsum Board — Two layers of non-fire rated gypsum wallboard shall be specified in the individual Wall and Partition Design No. Max diam of opening is 9 in. (229 mm).
 2. Metallic Sleeve — Cylindrical sleeve fabricated from min 0.016 in. (0.40 mm) thick (No. 20 gauge) galv steel sheet steel and having a min 2 in. (51 mm) lap along the longitudinal seam. Length of sleeve to be 18 in. (457 mm) less than thickness of wall. Sleeve to be installed by rolling the sheet metal to a diam smaller than the through opening, inserting the coil through the openings and releasing the coil to let it uncoil against the circular cutouts in the gypsum wallboard layers.

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System No. WL-7018

3. Steel Duct — Nom 6 in. (152 mm) diam (or smaller) No. 20 gauge (or heavier) galv steel duct to be installed concentrically within the firestop system. Duct to be rigidly supported on both sides of the wall assembly.
 4. Pipe Covering — Nom 1 in. (25 mm) thick hollow cylindrical heavy density (3.5 pcf or 58 kg/m³) glass fiber units jacketed on the outside with an aramid jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with tape supplied with the product. The annular space between the insulated pipe and the steel sleeve shall be 0 in. (point contact) to max 1 in. (25 mm).
 5. Fire and Smoke Material — Sealant — Min 1/16 in. (2 mm) depth of sealant applied within the annulus, flush with each surface of the wall assembly. At the point contact location between insulated pipe and wall, a min 1/2 in. (13 mm) diam bead of sealant shall be applied on both surfaces of wall, lapping 1/4 in. (6 mm) beyond the periphery of the opening.
 HILL CONSTRUCTION CHEMICALS, DIV. OF HILL, TL, INC. — FSI-ONE Sealant of FSI-ONE MAX Intumescent Sealant
 *Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

NOTE: PROVIDE ALL REQUIRED CONTROL WIRING TO ACCOMPLISH: FIRE/SMOKE DAMPER — FIRE/SMOKE DAMPER TO CLOSE UPON ACTIVATION OF LOCAL SMOKE DETECTOR EXHAUST DUCTS/FANS — FIRE/SMOKE DAMPER TO CLOSE UPON SHUTDOWN OF ASSOCIATED AIR HANDLING UNIT.

GENERAL NOTES: PROVIDE ACCESS IN CEILING OR WALL FOR DAMPER AND SMOKE DETECTOR. SEE ELECTRICAL DRAWINGS FOR WIRING INSTALLATION.

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BROAN® ERV100 Part No. ERV100S

65-105 CFM (0.4 in. w.g.)

Product description: The ERV100 is equipped with 2 high static pressure blowers and is factory balanced. Once installed, the ERV100 will remain balanced within a 10% total difference between the exhaust and supply (airflow) when the static pressure difference between the exhaust and the supply remains below 0.2 in. w.g. No balancing dampers are required when this condition is met.

Filters:
 - 2 washable filters, 20 PPH
 - MERV 8 optional filters, part V21030.

Defrosting system: Unit performs a negative defrost during 10 minutes every 20 minutes when outdoor temperature is below 14°F, and 10 minutes every 10 minutes below 4°F.

Energy Recovery Core: Material: Polymerized paper Type: Cross flow Warranty: 5 years

Options:
 - Broan VTYK Tandem transition (requires an additional backdraft damper, not included)
 - Broan V80W 20-minute push-button control
 - Broan ERV Single-Function Control, V80V (Dry contact standby switch)
 - Broan 69W Single-Function Control, White (Dry contact standby switch)
 - Broan 61M black exhaust roof cap 6" with backdraft damper and bird screen
 - Broan 843BL black exhaust wall cap 6" with backdraft damper and bird screen
 - Broan 641 aluminum exhaust wall cap 6"
 - Broan 61M aluminum inlet wall cap 6" with bird screen
 - Broan CV6G electric inlet grille 6"
 - Broan CV6 mounting sleeve for inlet grille CV6G
 - Broan CV6S sleeve with 6" backdraft damper

Requirements and standards:
 - Complies with the IEQ 2 requirements regulating the installation of Energy Recovery Ventilators;
 - HV certified;
 - Airflow and energy recovery performance tested in accordance with CSA C439 standard.

REPAIRS AND MAINTENANCE: All parts requiring maintenance can be removed in less than 5 minutes allowing easy access for repairs. The PSC motors are permanently lubricated.

WARRANTY: The BROAN® ERV100 is protected by a 5-year warranty on parts only. The energy recovery core is covered by a 5-year warranty, with the original proof of purchase.

Noise level: 0.4 sone @ 105 cfm at grille with 5' of flexible ducting (tested in accordance with ISO 5136 and HVA 915).

Specifications:
 Model: Broan ERV100
 Part number: ERV100S
 Total assembled weight including packaging: 40 lb.
 Insulated round ports: 6" diameter
 Built-in magnetic backdraft damper to close outdoor fresh air supply when the unit is turned off

Energy recovery core:
 - Type: cross flow
 - Media membrane: Polymerized paper with aluminum
 Core filters: 2 washable filters 20 PPH
 Optional MERV 8 filter, part no. V21030
 Housing material: galvanized steel 22 ga
 Door and door frame material: White pre-painted steel 20 ga
 Insulation material: Molded Expanded polystyrene, UL certified for Energy recovery ventilators requirements
 Supply and exhaust blower motors:
 - PSC motors
 - Protection type: Thermally protected
 - Lock rotor electronic detection stops unit if motors failed
 Installation brackets: included with the unit, allow attic, flush to ceiling and under-ceiling installations. Unit must be installed with the door facing upward or downward. No vertical installation allowed.

Unit electrical characteristics:
 - Power cord: 2P with 3-wire plug
 Volts: 120
 Frequency: 60 Hz
 Amperes: 0.9
 Watts: 103
 Low voltage connections for optional controls energized by unit

Dimensions:

REPAIRS AND MAINTENANCE: All parts requiring maintenance can be removed in less than 5 minutes allowing easy access for repairs. The PSC motors are permanently lubricated.

WARRANTY: The BROAN® ERV100 is protected by a 5-year warranty on parts only. The energy recovery core is covered by a 5-year warranty, with the original proof of purchase.

1 FIRE PENETRATION DETAIL — 5" OR 6" DUCTS

WhisperGreenSelect

Specification Submittal Data / Panasonic Ventilation Fan

Description: Customizable Ventilation Fan shall be one ceiling mounted rated for continuous use. Fan shall be ENERGY STAR® rated and certified for use in residential applications. Fan shall be UL listed and certified for use in residential applications. Fan shall be UL listed and certified for use in residential applications.

Motor/Blowers:
 - Continuous duty blower motor technology tested for continuous use.
 - Fan ventilation rates shall be manually adjustable to 50-100 CFM.
 - Power saving shall be 100 watts/60 Hz.
 - Fan shall be UL listed for bathroom enclosures when used with a GFC protected circuit and used in enclosed ceiling (Type ICL).
 - Fan equipped with a thermal cut-off fan.

Warranty:
 - All Parts: 5 Years from original purchase date.
 - DC Motor: 5 Years from original purchase date.

Architectural Specifications:
 - Customizable ventilation fan shall be ceiling mount. ENERGY STAR® rated fan with multi-speed control (3, 20-100 CFM, 10 CFM increments) that shall be built-in with a single or dual speed fan and controlled by a wall switch. Motor Sensor Plug-In™ module or Condensation Sensor Plug-In™ module. Features a built-in speed selector. Speed selector shall be 10 CFM and increments shall be 10 CFM. Fan shall be UL listed for bathroom enclosures when used with a GFC protected circuit. Fan shall be UL listed for bathroom enclosures when used with a GFC protected circuit. Fan can be used to comply with ASHRAE 62.2 (IEQ). ENERGY STAR VAP. GFC Protected. California Title 24 and WVC Ventilation Code.

DC Motor Technology:
 - When fan senses static pressure, its speed is automatically increased to ensure that the desired CFM is not compromised, which allows the fan to perform its rated.

For complete installation instructions visit us.panasonic.com/ventfans

Model	Quantity	Comments	Projects
			Location:
			Architect:
			Engineer:
			Contractor:
			Submitted by:
			Date:

WhisperGreenSelect

Plug 'N Play™ Modules

Plug 'N Play™ modules provide up to two additional features (multi-speed is already built-in to FV05-11VK1S1). Select from Motion Sensor, Condensation Sensor and LED Light Logic.

FV-VS1VK1: Multi-Speed with Time Delay - N/A for this Fan, already built-in.
 Always you to select the proper CFM settings to satisfy ASHRAE 62.2 continuous ventilation requirements. The fan runs continuously at a set point lower level (50, 100 CFM, 10 CFM increments), then defaults to a maximum level of operation (50, 100 CFM) when the wall switch is turned on, or when the motion sensor or Condensation Sensor module is activated. A High/Low delay timer returns the fan to the pre-set CFM level after a period of time by the user.

FV-MSVK1: Motion Sensor
 Automatically activates when someone enters the room. Once the settings have been applied, the fan becomes truly automatic. The module also activates a 20-minute delay off timer for the fan.

FV-CSVK1: Condensation Sensor
 Helps control bathroom condensation to prevent mold and mildew. Sensor technology detects relative humidity and temperature to anticipate dew point, automatically turning the fan on to control humidity. Built-in Relative Humidity (RH) sensitivity adjustment enables fine tuning for moist conditions and for satisfying California requirements. When the condensation sensor is used in conjunction with multi-speed functionality, the fan will also up to high speed when the condensation sensor detects moisture in the room. This module also activates a 20-minute delay of time for the fan.

FV-LLVK1: LED Light Logic
 A photocell automatically turns on the 1-watt LED night light when darkness is sensed in the room. High/Low brightness switch enables you to fine tune the photocell to work in conjunction with the darkness level of your bathroom. This module also activates an automatic 20-minute delay of time for the fan.

Performance Curve 4" or 6" duct

DC Motor Technology:
 - When fan senses static pressure, its speed is automatically increased to ensure that the desired CFM is not compromised, which allows the fan to perform its rated.

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Panasonic Eco Solutions Company of North America
 Eco Products Division
 2016 Most Efficient Product Award

Combining with an AHU

Recommended configurations:
 Option 1: When the distribution of fresh air from the ERV is connected to the return of an AHU (such as in the image below), the static pressure when the fresh air from the ERV enters the AHU return ducting must be below 0.15 in. w.g. to ensure proper functioning of the built-in fresh air damper. If return duct static pressure exceeds the 0.15 in. w.g. threshold, an indirect connection combined with a supplemental return grille or "T" connection with the conditioned space should be used. See the User and Installer guide for more details.

Energy performance ERV100

Supply Temperature	Net Flow	Power Consumed	Sensible Recovery Efficiency	Adjusted Sensible Recovery Efficiency	Apparent Sensible Effectiveness	Latent Recovery	Moisture Recovery	Total Recovery Efficiency	Adjusted Total Recovery Efficiency
75	64	46	65	62	62	45	48	51	
65	64	46	64	61	61	45	48	51	
55	106	103	64	61	61	35	38	41	
32	64	46	64	61	61	35	38	41	
32	106	103	67	63	67	42			

Ventilation performance

Note: In high speed, account for an increase in static pressure of approximately 0.2 in. w.g. when installed with the Broan VTYK Tandem transition, depending on insulation.

Mode and RH Adjustable Controls Location

Remove the door to access the MCOD and RH adjustable controls.

Relative humidity limit
 The ERV100 monitors the outdoor air conditions (temperature and humidity level) every 10 minutes with a built-in sensor. When the outdoor conditions are above the set limits, the unit will limit the ventilation to 10 minutes per hour and come back to its previous setting when the conditions get back to the set limit. The accepted RH limit varies in function of the outdoor conditions and can be adjusted to 4-different positions.

Position	Description	Relative humidity limit is deactivated.	Relative humidity limit is deactivated.	Relative humidity limit is deactivated.
OFF	Relative humidity limit is deactivated.			
+	Higher relative humidity limit.	Up to 60%	Up to 60%	Up to 60%
N	Factory set relative humidity limit.	Up to 50%	Up to 50%	Up to 50%
-	Lower relative humidity limit.	Up to 30%	Up to 30%	Up to 30%

* The RH limit of distributed air is calculated at 75°F.
 ** When the outdoor temperature is equal or above 75°F, the maximum relative humidity level accepted is higher considering that the air conditioning will partly dehumidify the incoming fresh air after its distributed and mixed with the conditioned indoor air.

Control ventilation modes

Position	Mode	Description
SB	Standby	Unit is off. Unit can be activated in high speed by the VB20W 20-minute push-button control, if applicable. Unit works 20 minutes per hour in low speed. Unit can be activated in high speed by the VB20W 20-minute push-button control, if applicable.
1	Low Speed	Unit runs at 65 cfm. Unit can be activated in high speed by VB20W 20-minute push-button control, if applicable.
2	High Speed	Unit runs at 105 cfm. Unit can be activated in high speed by the VB20W 20-minute push-button control, if applicable.

Optional controls wiring
 - Broan VB20W 20-minute push-button control: Activates 105 cfm speed in all ventilation modes (recommended when the unit exhausts from a bathroom).
 - Dry contact standby switch (Broan 69W and 69V): Unit remains powered on, but is put in Standby mode when the switch is turned on.

2 BATHROOM UNITS

BATHROOM(S)	SUPPLY	KITCHEN
6X6 EXH 20/35 CFM	6X6 EXH 20/35 CFM	6X6 EXH 25/40 CFM

1 BATHROOM UNITS

BATHROOM(S)	SUPPLY	KITCHEN
6X6 EXH 30/50 CFM	8X8 SA 65/105 CFM	6X6 EXH 35/55 CFM

3 BATH FAN SUBMITTAL

NOT TO SCALE

5" x 6" EXHAUST DUCT MATERIAL: MINIMUM OF 26 GAGE SHEET METAL
 6" x 6" SUPPLY DUCT MATERIAL: MINIMUM OF 26 GAGE SHEET METAL
 26 GUAGE SHEET METAL BOX FOR...
 FIXED 6X6 GRILLE FOR EXHAUST
 FIXED 8X8 GRILLE FOR SUPPLY
 3" PVC GAS VENT
 3" COMBUSTION AIR VENT

5 CONCENTRIC GAS VENT

DETAIL

2 ERV SUBMITTAL/DETAILS

DETAIL

FULL SIZE INTEGRAL ACCESS PANEL FOR ERV S-100 UNIT ACCESS DOOR IS ALSO CEILING ACCESS PANEL. UNIT INSTALLED IN A NON-RATED CEILING. ACCESS DOOR CONTAINS FAN CUT-OFF SWITCH (FAN DISCONNECT) TO ALLOW SERVICE OF ERV.

4 CEILING SUPPLY/EXHAUST — DWELLING UNITS

NOT TO SCALE

5 CONCENTRIC GAS VENT

DETAIL

09-07-22

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ELMONICA STATION APARTMENTS BUILDING 2
 SW 170TH AND W BASELINE

REMBOLD PROPERTIES

REVISION	DATE	REASON FOR ISSUE

MECHANICAL DETAILS

PERMIT SET

DATE: 09/23/2022 PROJECT NUMBER: 215390

M6.02-2