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CONTACT: MARK DENTER/ROB CONNELL

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DEVELOPMENT 4.26.2016

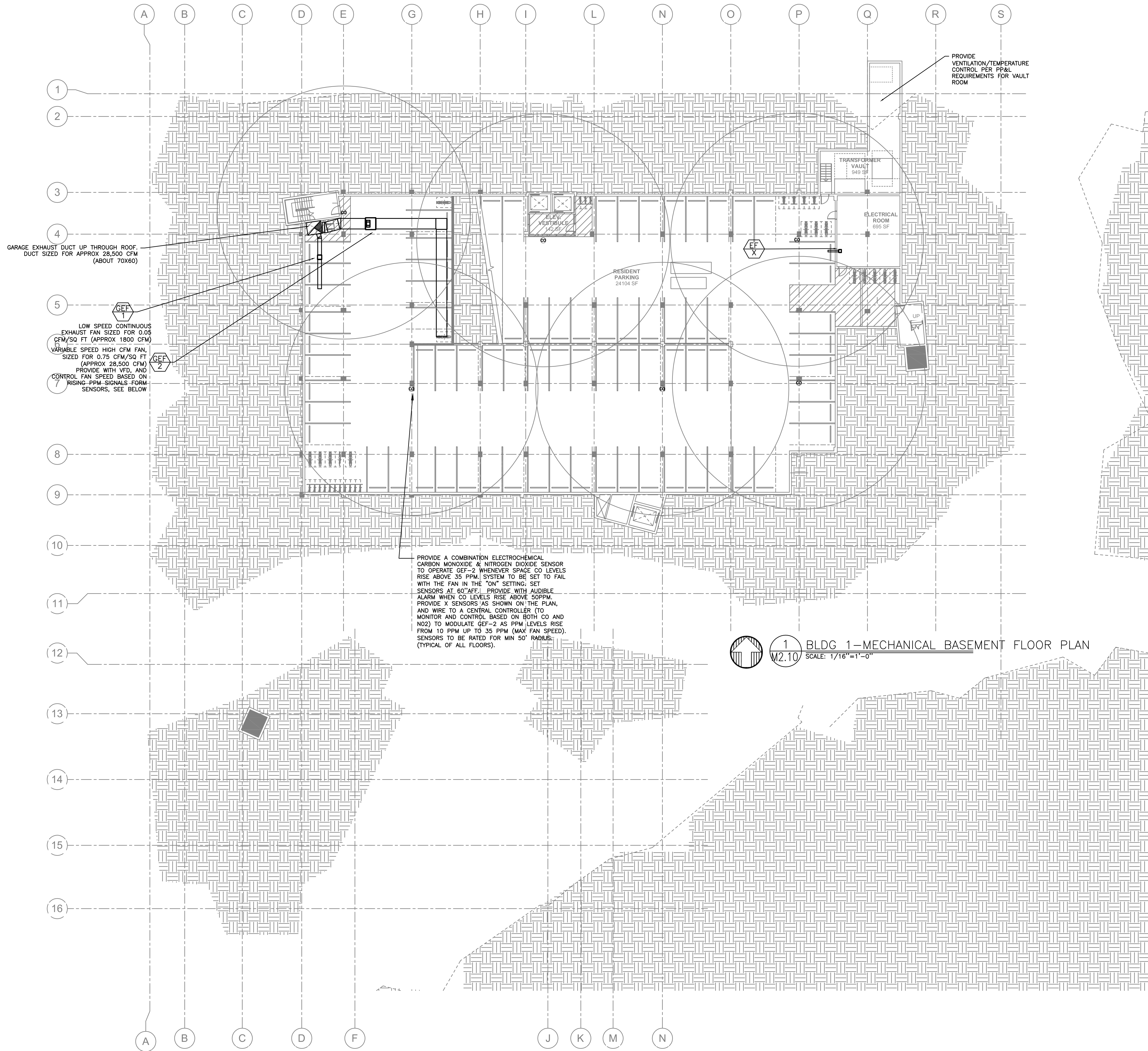
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1 BLDG 1-MECHANICAL BASEMENT FLOOR PLAN
M2.10 SCALE: 1/16"=1'-0"

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sheet title:
BLDG 1 -
BASEMENT
LEVEL 01 FLOOR
PLAN

sheet no.:
M2.10B1



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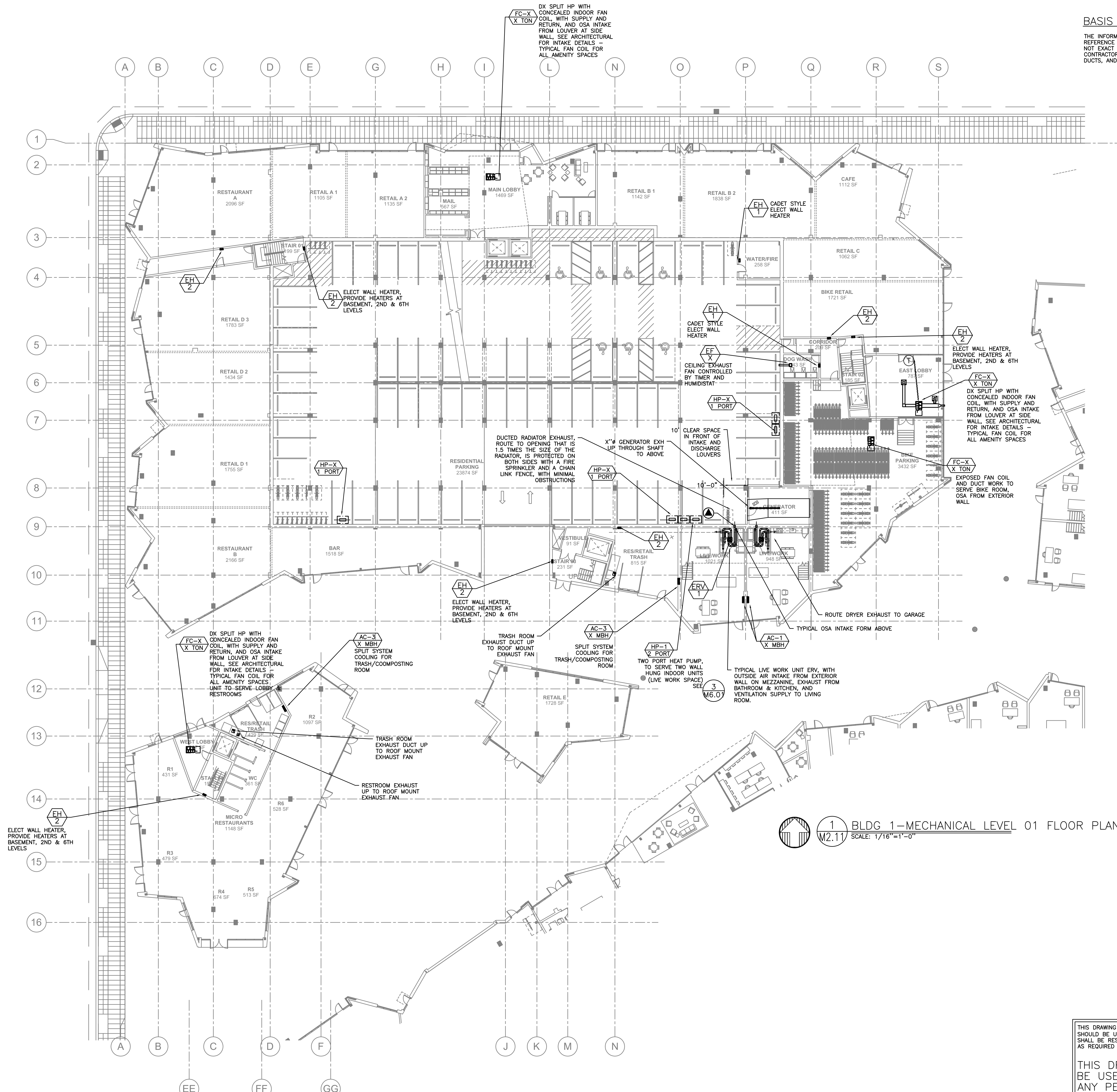
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1 BLDG 1-MECHANICAL LEVEL 01 FLOOR PLAN
SCALE: 1/16"=1'-0"

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BLDG 1 -
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LEVEL 01 FLOOR
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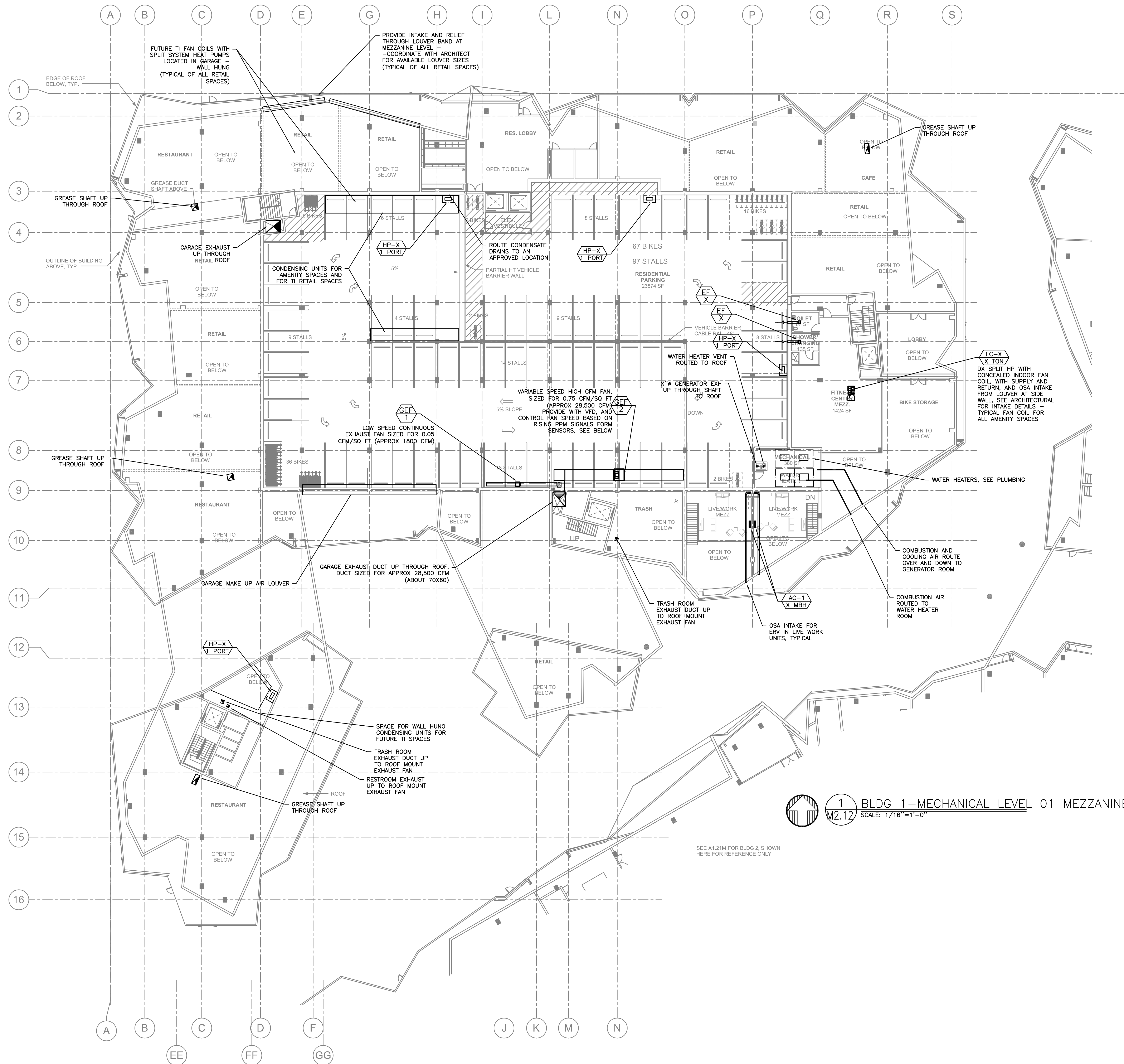
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1 BLDG 1—MECHANICAL LEVEL 01 MEZZANINE FLOOR PLAN
M2.12 SCALE: 1/16"=1'-0"

SEE A1.21M FOR BLDG 2, SHOWN
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BLDG 1 -
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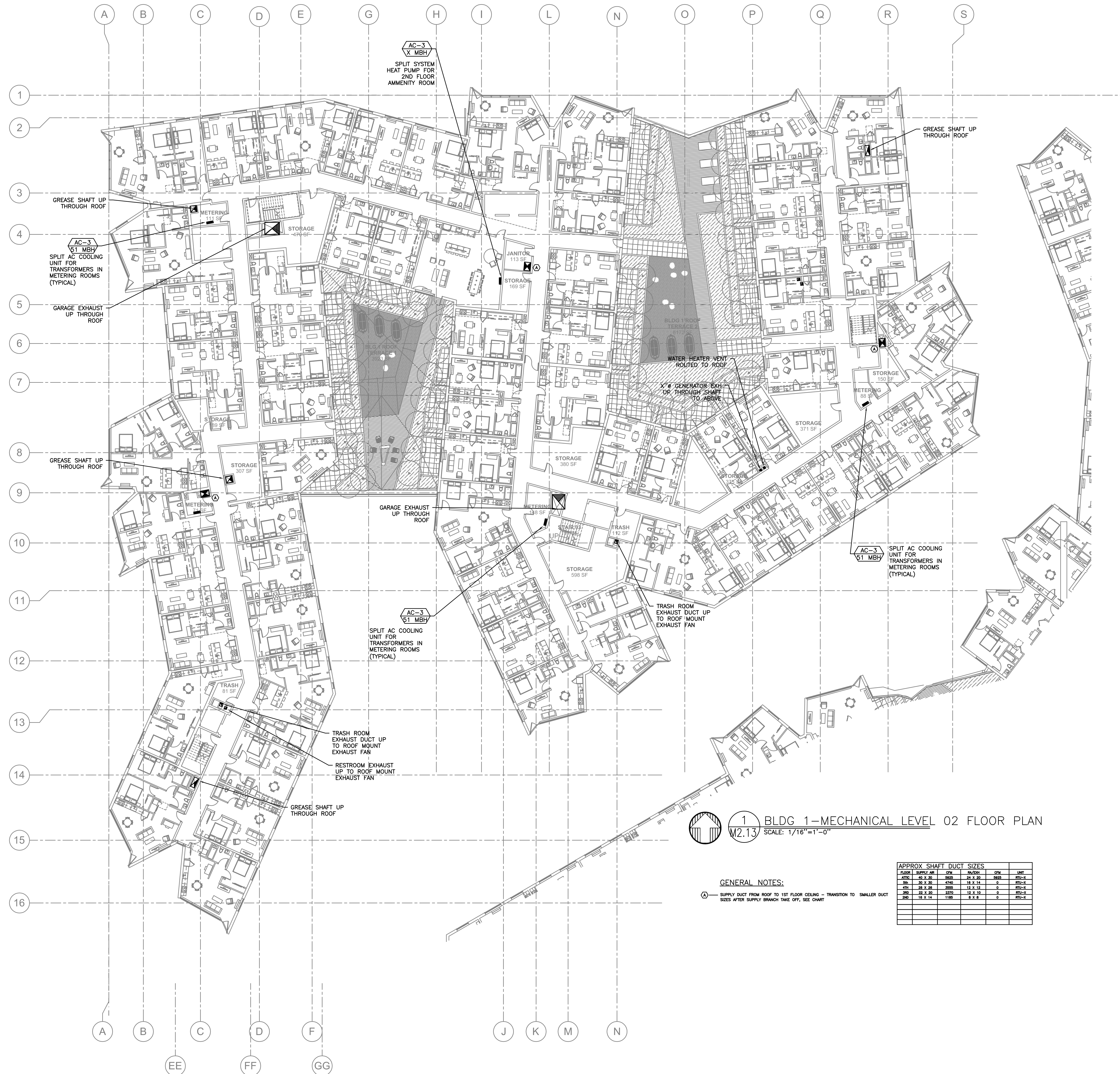
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1 BLDG 1-MECHANICAL LEVEL 02 FLOOR PLAN
M2.13 SCALE: 1/16"=1'-0"

FLOOR	SUPPLY AIR	CFM	RAV/201	CFM	UNIT
0TH	40 X 36	2920	24 X 20	5950	RTU-1
1ST	30 X 30	4740	18 X 14	0	RTU-1
2ND	24 X 24	3050	12 X 12	0	RTU-1
3RD	24 X 24	3120	12 X 12	0	RTU-1
4TH	18 X 14	1180	8 X 6	0	RTU-1

GENERAL NOTES:
A SUPPLY DUCT FROM ROOF TO 1ST FLOOR CEILING - TRANSITION TO SMALLER DUCT SIZES AFTER SUPPLY BRANCH TAKE OFF, SEE CHART

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BLDG 1 -
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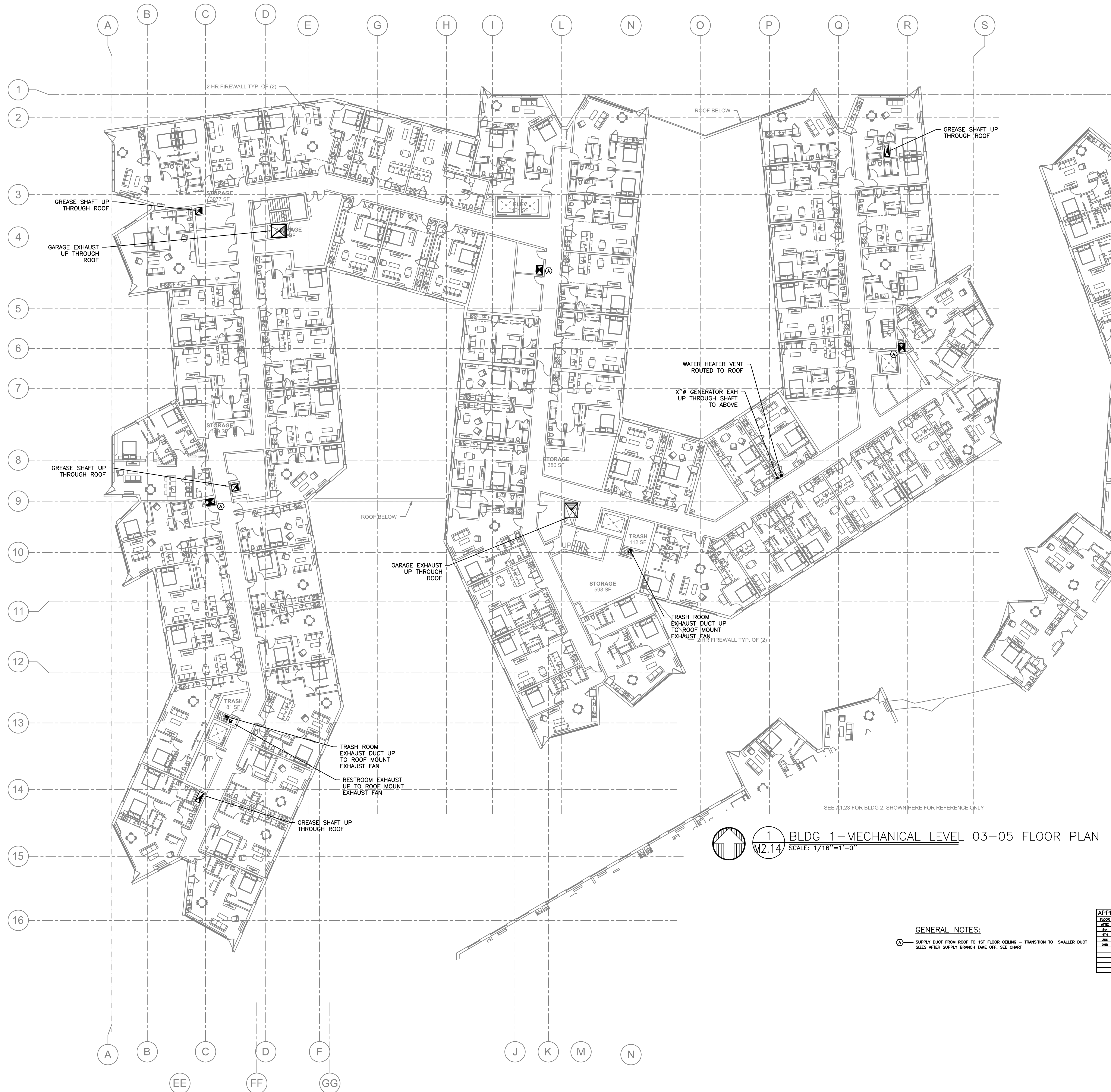
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1 BLDG 1—MECHANICAL LEVEL 03—05 FLOOR PLAN
M2.14 SCALE: 1/16"=1'-0"

GENERAL NOTES:

⊙ SUPPLY DUCT FROM ROOF TO 1ST FLOOR CEILING - TRANSITION TO SMALLER DUCT SIZES AFTER SUPPLY BRANCH TAKE OFF, SEE CHART

FLOOR	Supply Air	CFM	Supply	Return	Unit
4TH	40 x 20	9000	16 x 20	24x24	RTU-X
5th	30 x 20	6750	16 x 14	0	RTU-X
6th	24 x 20	5400	12 x 18	0	RTU-X
7th	24 x 20	5400	12 x 18	0	RTU-X
8th	18 x 14	3900	8 x 8	0	RTU-X

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BLDG 1 -
PLUMBING
LEVEL 03-06
FLOOR PLAN

sheet no.:
M2.14B1



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1 BLDG 1-6th FLOOR PLAN
SCALE: 1/16"=1'-0"

GENERAL NOTES:

Supply duct from roof to 1st floor ceiling - transition to smaller duct sizes after supply branch take off, see chart

FLOOR	SHOULDER	DN	SIZE	DN	UNIT
4TH	40 X 30	20	24 X 20	10/8	RTU-1
3RD	36 X 30	18	24 X 20	10/8	RTU-2
2ND	36 X 30	18	18 X 18	0	RTU-3
1ST	24 X 20	12	18 X 18	0	RTU-4
ROOF	18 X 12	12	18 X 18	0	RTU-5

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sheet title:
BLDG 1 -
PLUMBING
ROOF
PLAN

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M2.15B1



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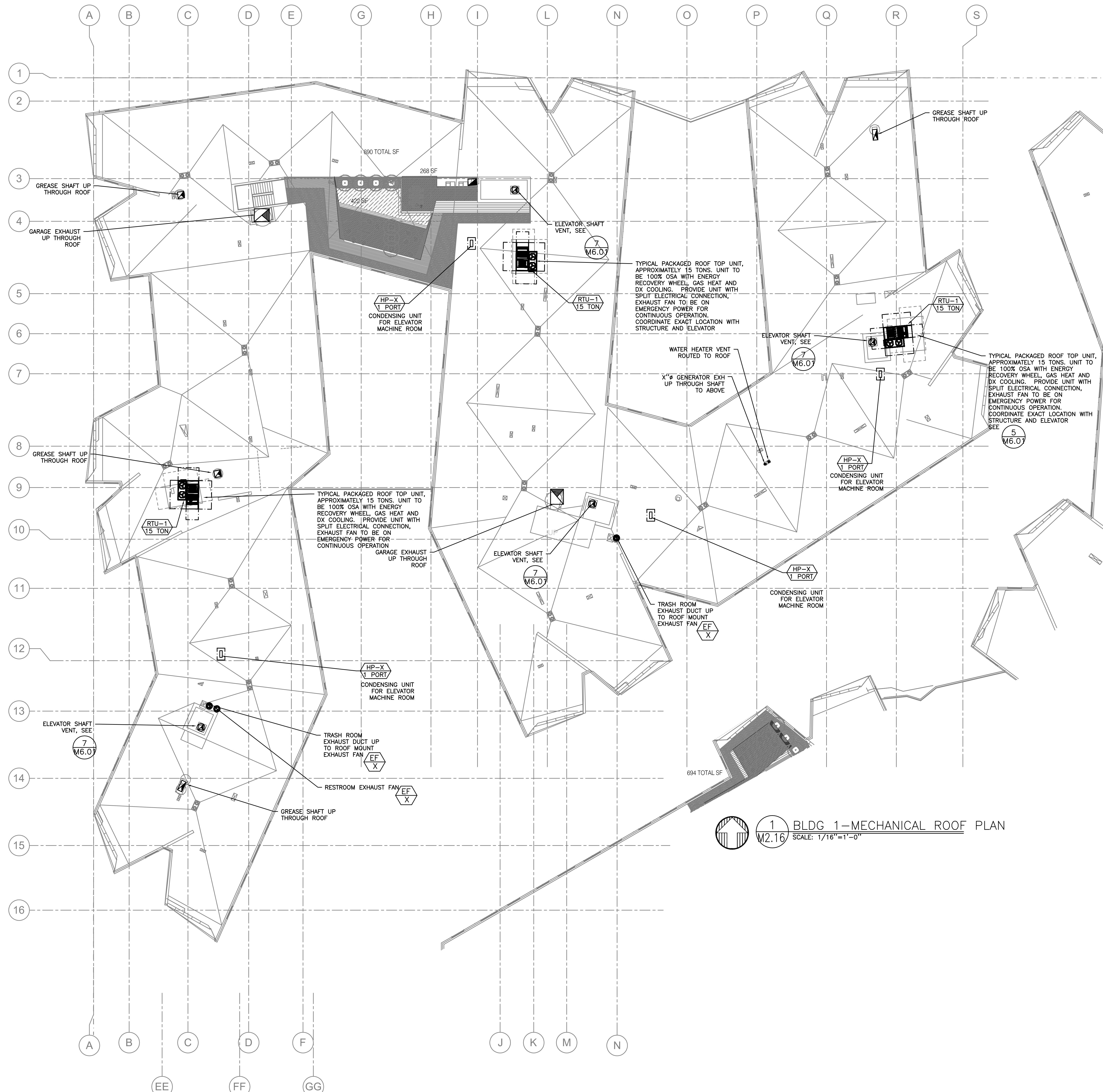
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BLDG 1 -
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PLAN

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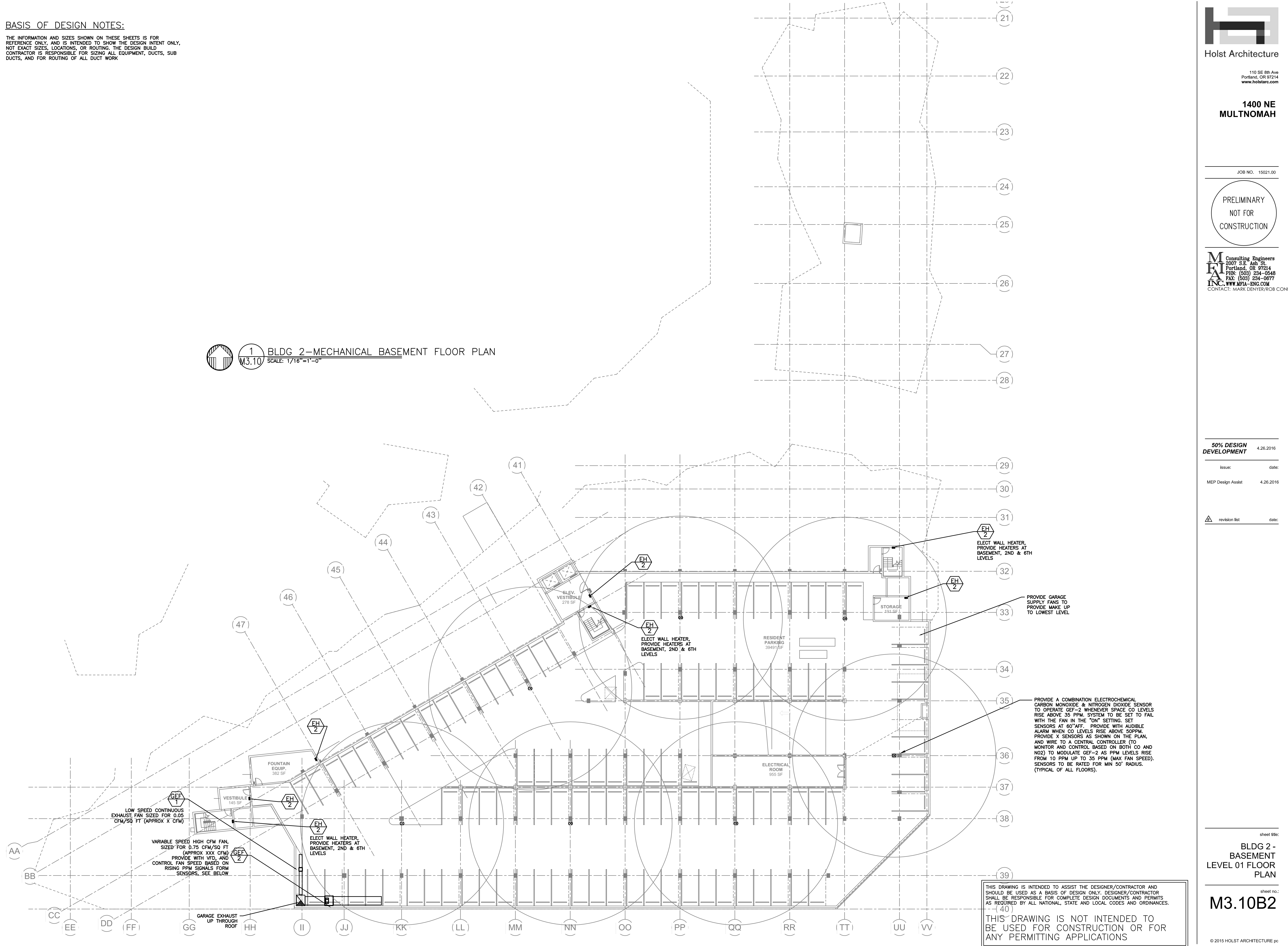
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1 BLDG 2-MECHANICAL BASEMENT FLOOR PLAN
M3.10 SCALE: 1/16"=1'-0"



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BLDG 2 - BASEMENT LEVEL 01 FLOOR PLAN

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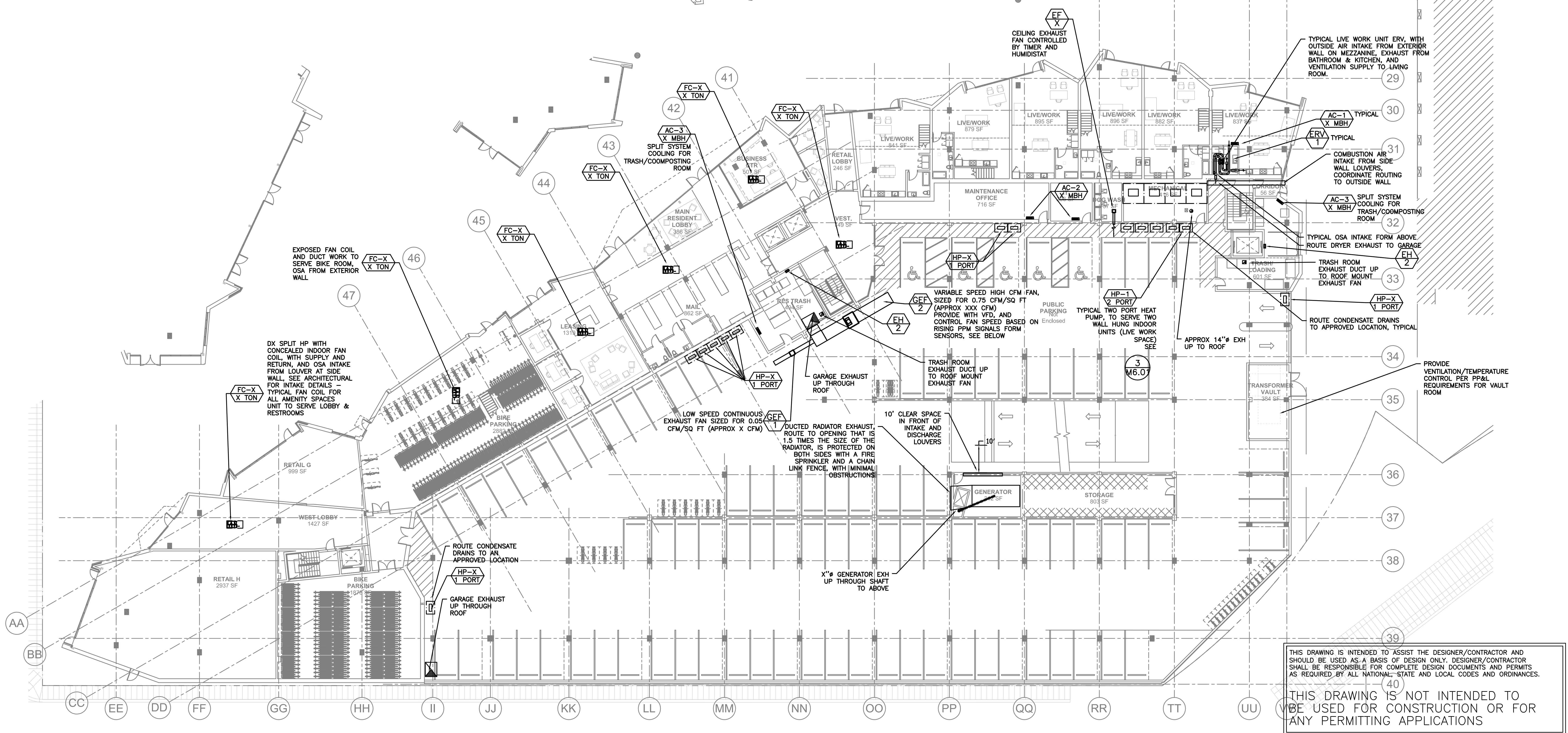
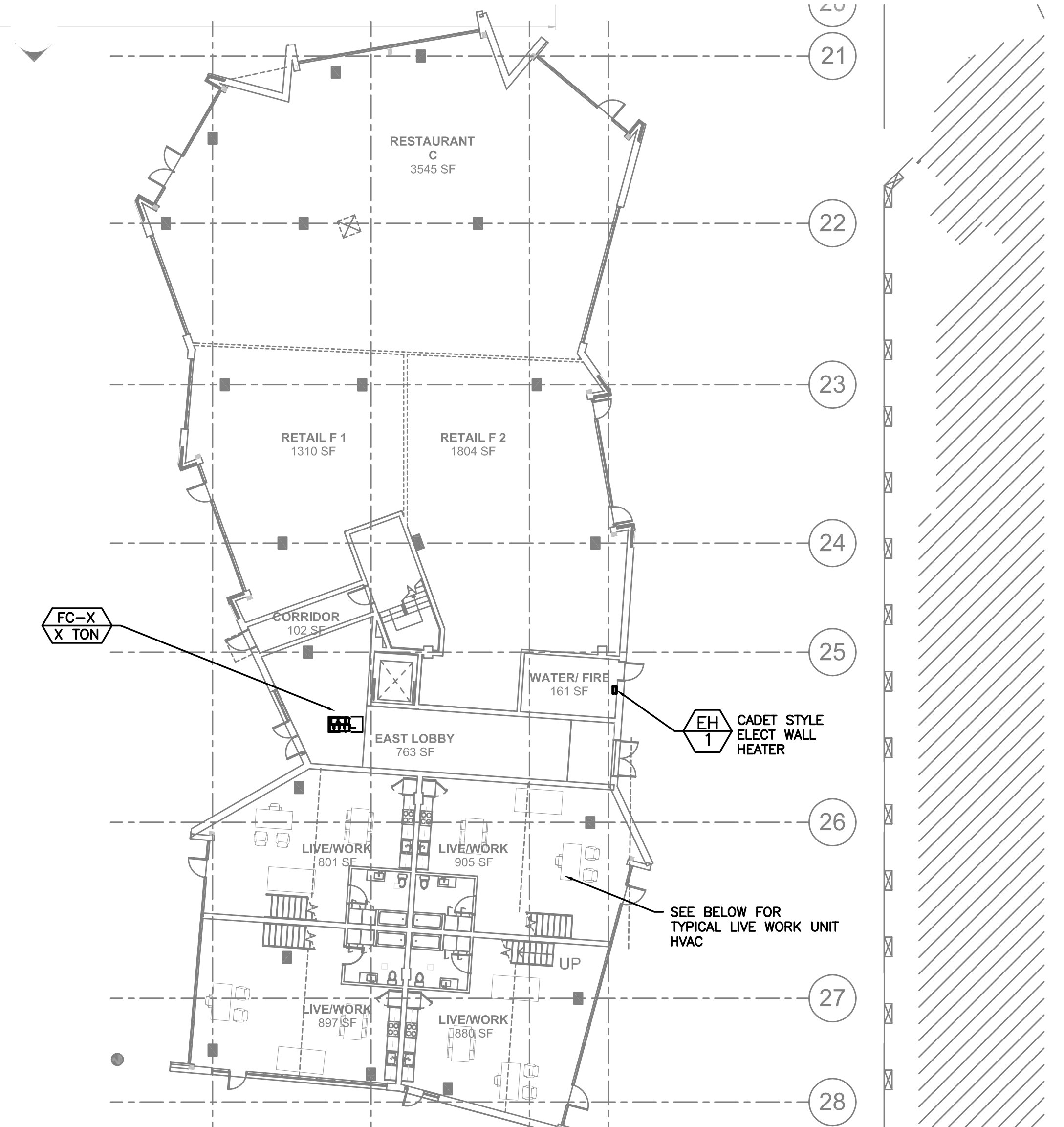
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1 BLDG 2-MECHANICAL LEVEL 01 FLOOR PLAN
SCALE: 1/16"=1'-0"



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BLDG 2 - PLUMBING LEVEL 01 FLOOR PLAN

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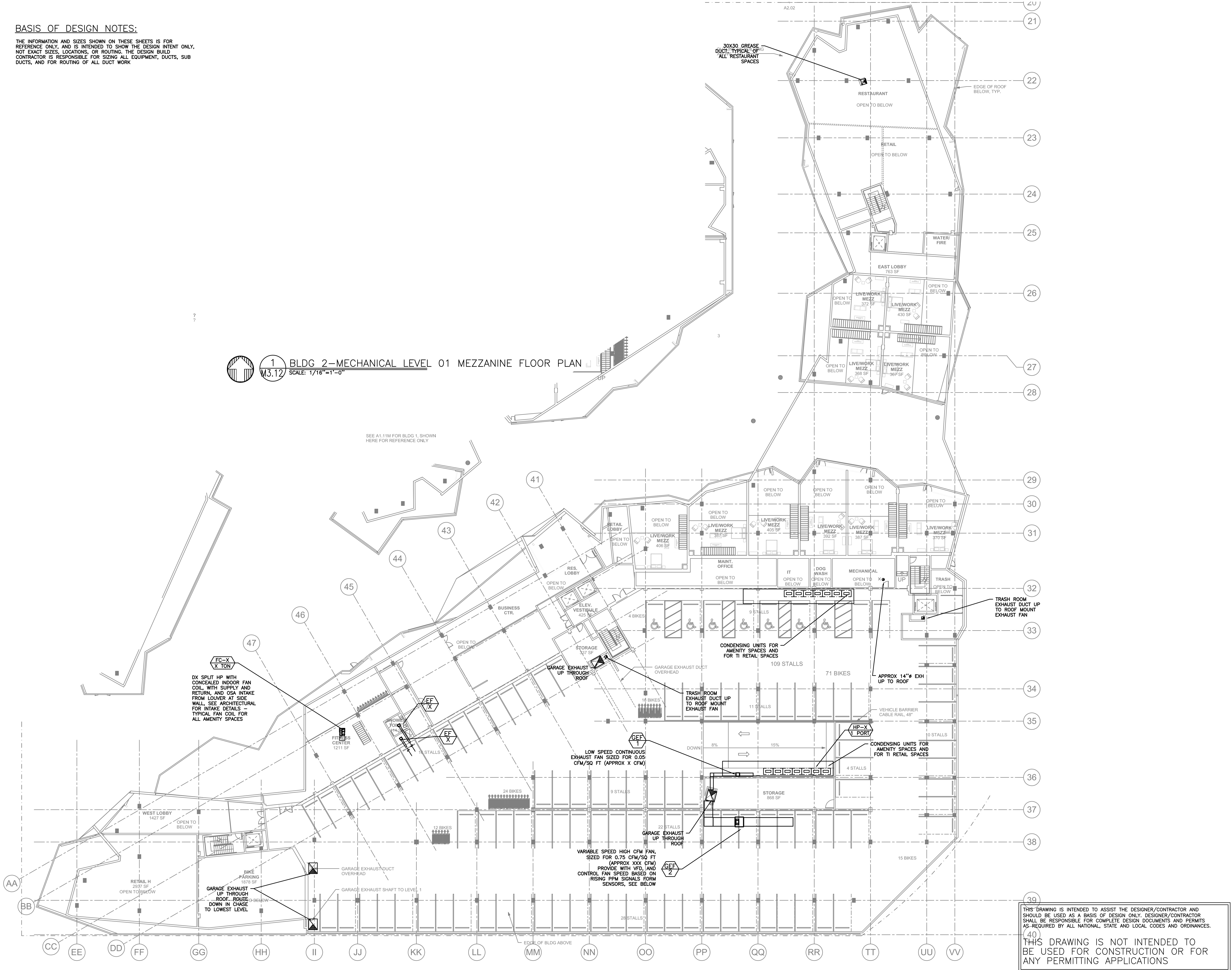
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1 BLDG 2—MECHANICAL LEVEL 01 MEZZANINE FLOOR PLAN
M3.12 SCALE: 1/16"=1'-0"



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**BLDG 2 -
PLUMBING
LEVEL 01
MEZZANINE FLOOR
PLAN**
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M3.12B2

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GENERAL NOTES:

④ SUPPLY DUCT FROM ROOF TO 1ST FLOOR CEILING - TRANSITION TO SMALLER DUCT SIZES AFTER SUPPLY BRANCH TAKE OFF, SEE CHART

FLOOR	SUPPLY AIR	CFM	RA/200	CFM	UNIT
ROOF	60 X 20	3600	18 X 10	3600	MD-X
2ND	20 X 20	4740	18 X 14	0	MD-X
3RD	20 X 20	3600	18 X 14	0	MD-X
4TH	20 X 20	3370	18 X 10	0	MD-X
5TH	18 X 14	1180	8 X 8	0	MD-X

1 BLDG 2-MECHANICAL LEVEL 02 FLOOR PLAN
M3.13 SCALE: 1/16"=1'-0"



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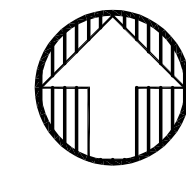
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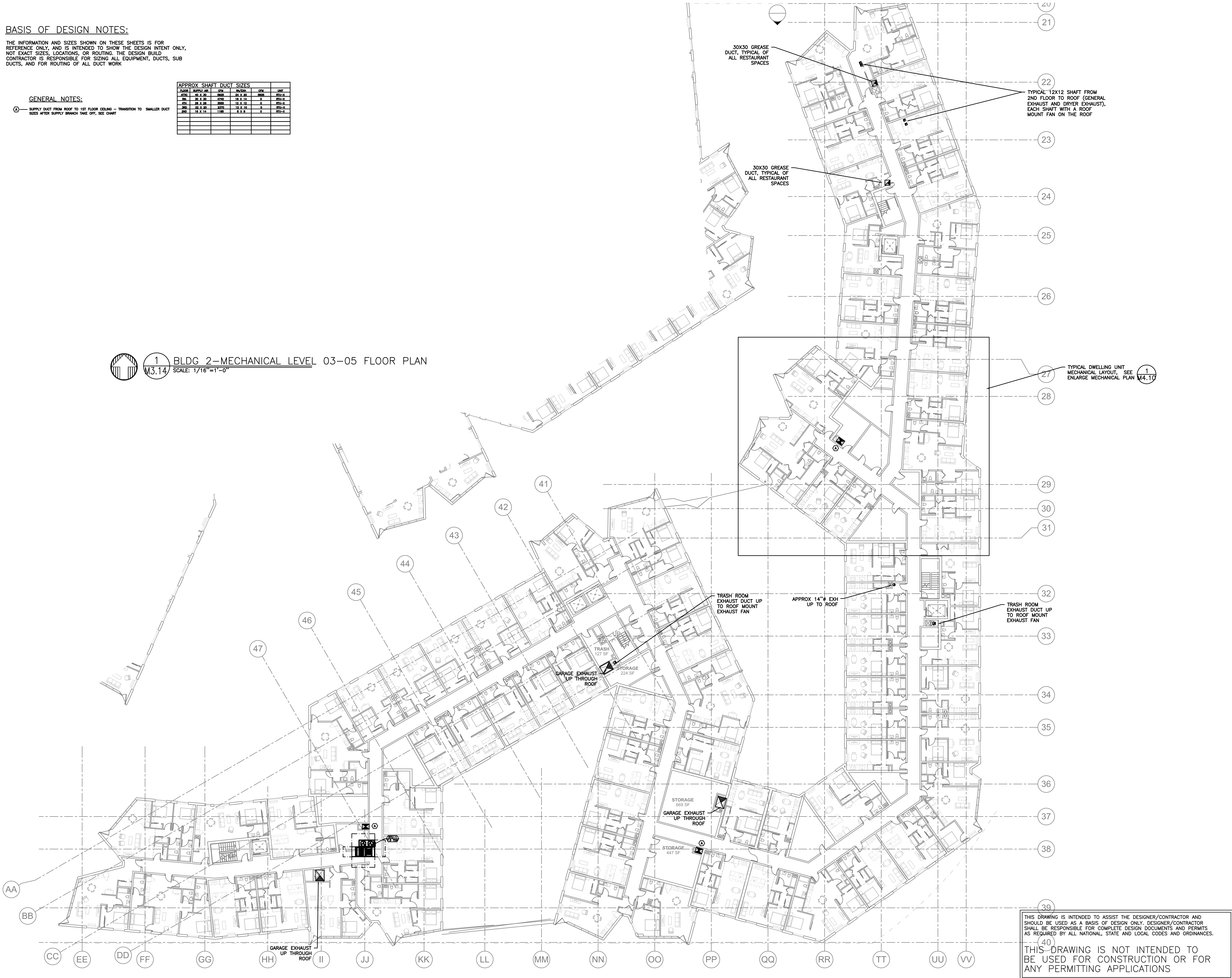
APPROX SHAFT DUCT SIZES				
FLOOR	SUPPLY AIR	CFM	EXHAUST	UNIT
03	40 X 30	4000	24 X 30	RTU-2
04	30 X 20	2500	18 X 18	RTU-2
05	30 X 20	2000	18 X 18	RTU-2
06	24 X 18	1500	12 X 12	RTU-2
07	18 X 14	1100	8 X 8	RTU-2

GENERAL NOTES:

Supply duct from roof to 1st floor ceiling - transition to smaller duct sizes after supply branch take off, see chart



1 BLDG 2—MECHANICAL LEVEL 03-05 FLOOR PLAN
M3.14 SCALE: 1/16"=1'-0"



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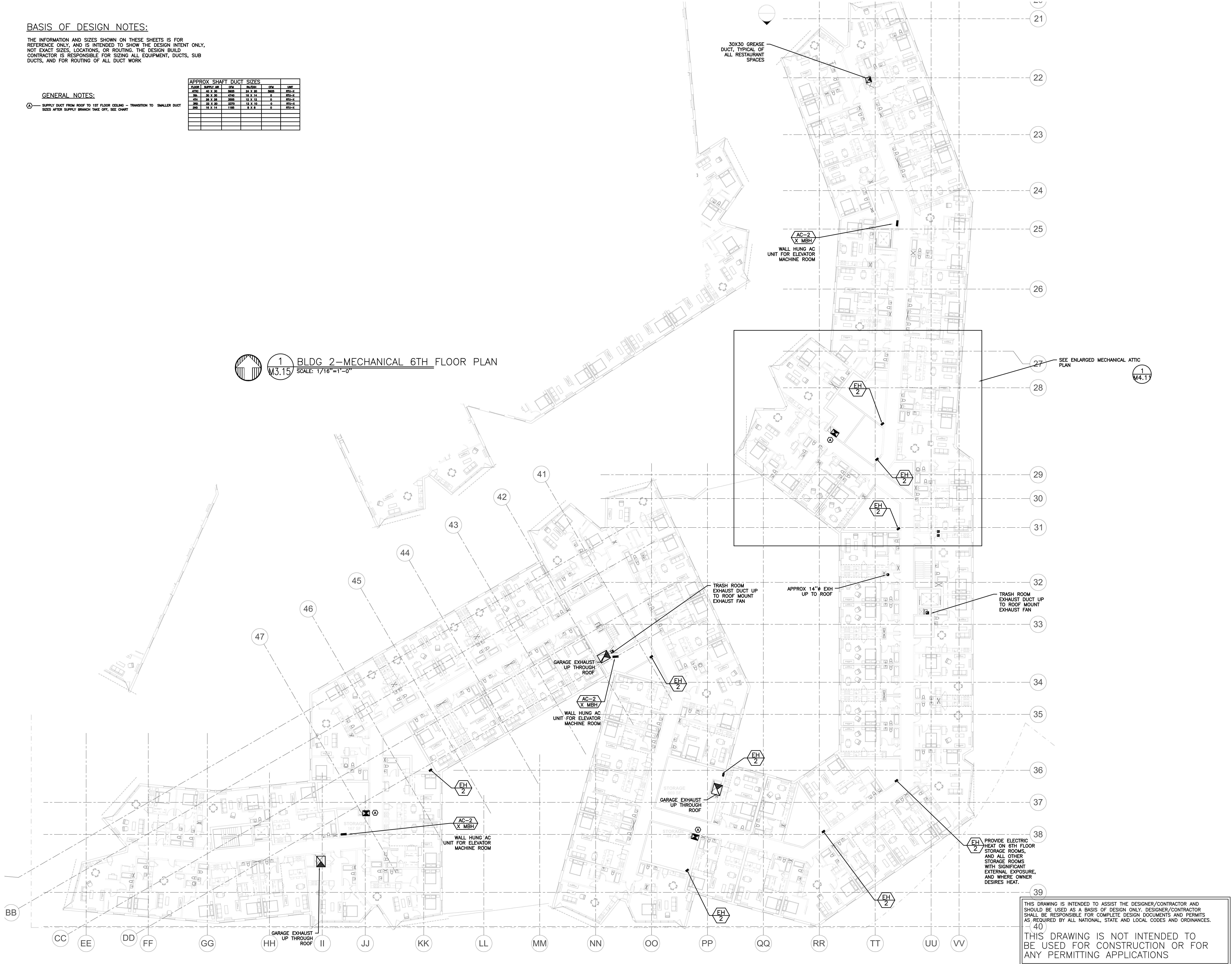
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FLOOR	SUPPLY AIR	CFM	IN/OUT	CFM	UNIT
6TH	18 X 20	2000	18 X 20	0	EH-2
6TH	18 X 20	2000	18 X 14	0	EH-2
6TH	18 X 20	2000	18 X 14	0	EH-2
6TH	18 X 20	2000	14 X 10	0	EH-2
6TH	18 X 14	1100	8 X 8	0	EH-2

GENERAL NOTES:

① SUPPLY DUCT FROM ROOF TO 1ST FLOOR CEILING - TRANSITION TO SMALLER DUCT SIZES AFTER SUPPLY BRANCH TAKE OFF. SEE CHART

1 BLDG 2-MECHANICAL 6TH FLOOR PLAN
 M3.15 SCALE: 1/16"=1'-0"



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BLDG 2 - PLUMBING ROOF PLAN

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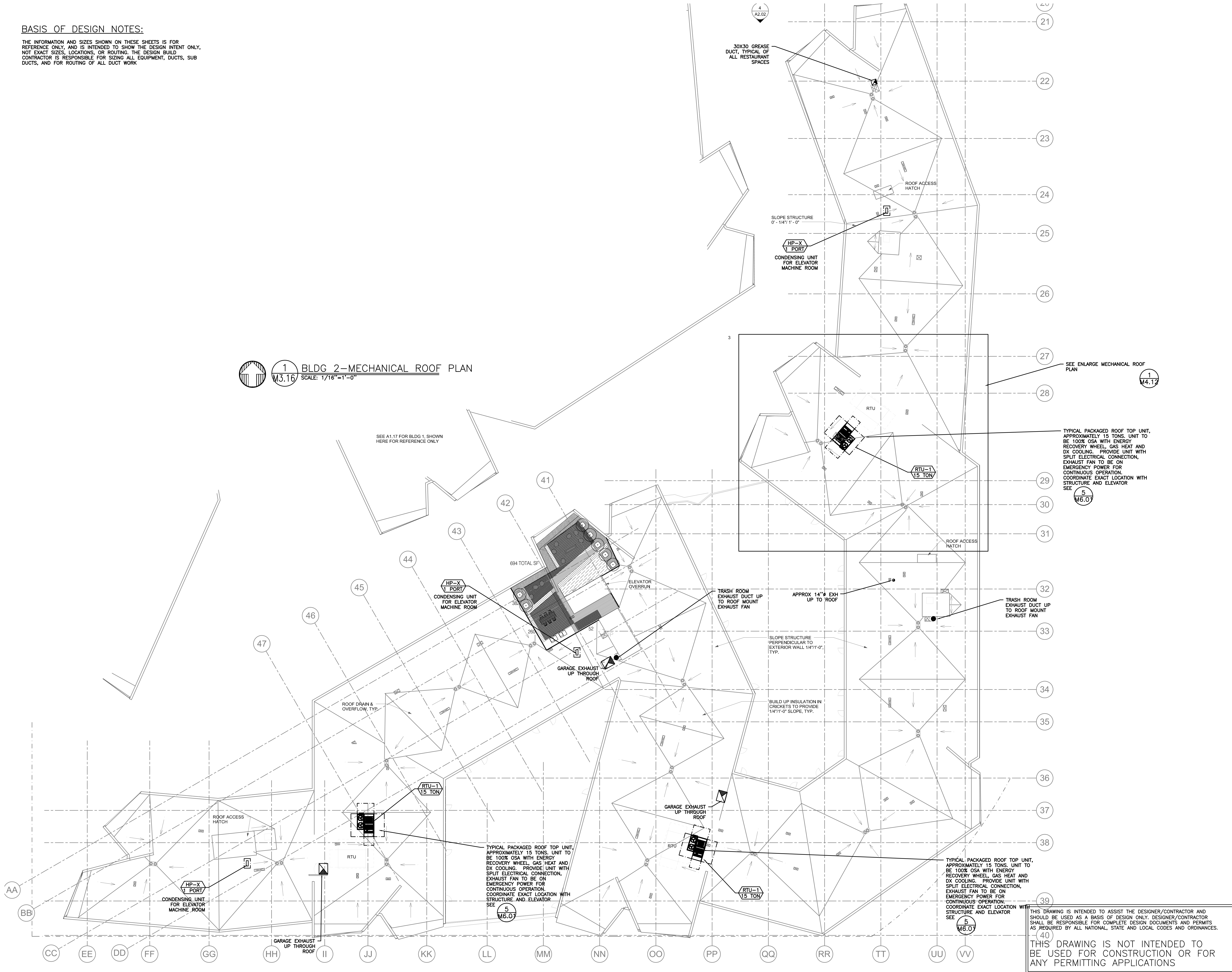
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1 BLDG 2—MECHANICAL ROOF PLAN
M3.16 SCALE: 1/16"=1'-0"



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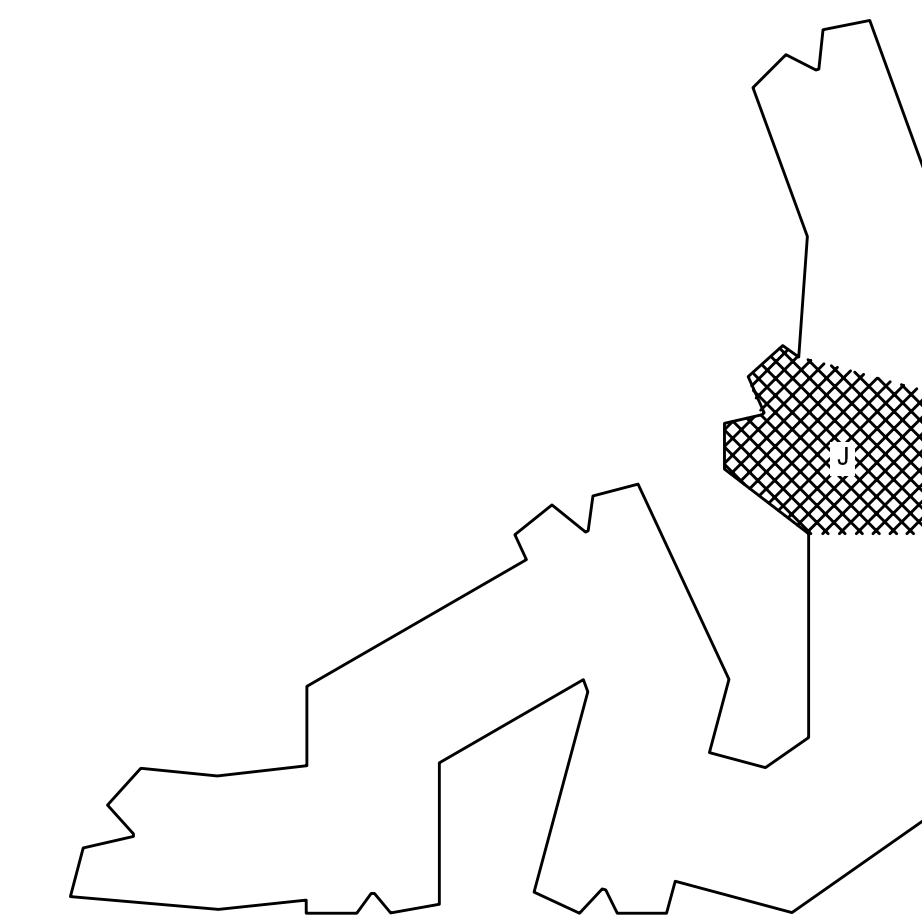
PLAN NOTES:

- PACKAGED TERMINAL HEAT PUMP (PTHP) - DESIGN BUILD CONTRACTOR TO SIZE EACH UNIT, AND COORDINATE WITH ELECTRICAL CONTRACTOR, AND WITH PLUMBER FOR CONDENSATE DRAINS. COORDINATE GRILLE STYLE WITH ARCHITECT (UNIT TO BE MOUNTED FLUSH ON THE OUTSIDE SKIN OF THE BUILDING). PROVIDE 3.5 KW HEAT ON 14 MBH UNITS, AND 2.5 KW HEAT ON ALL OTHERS.
- COVE HEATER - 750 W - 59" LENGTH, SEE ARCHITECTURAL FOR EXACT MOUNTING LOCATIONS AND LENGTHS, DESIGN BUILD CONTRACTOR TO SIZE UNIT, AND COORDINATE WITH ELECTRICAL.

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BLDG 2 KEY PLAN



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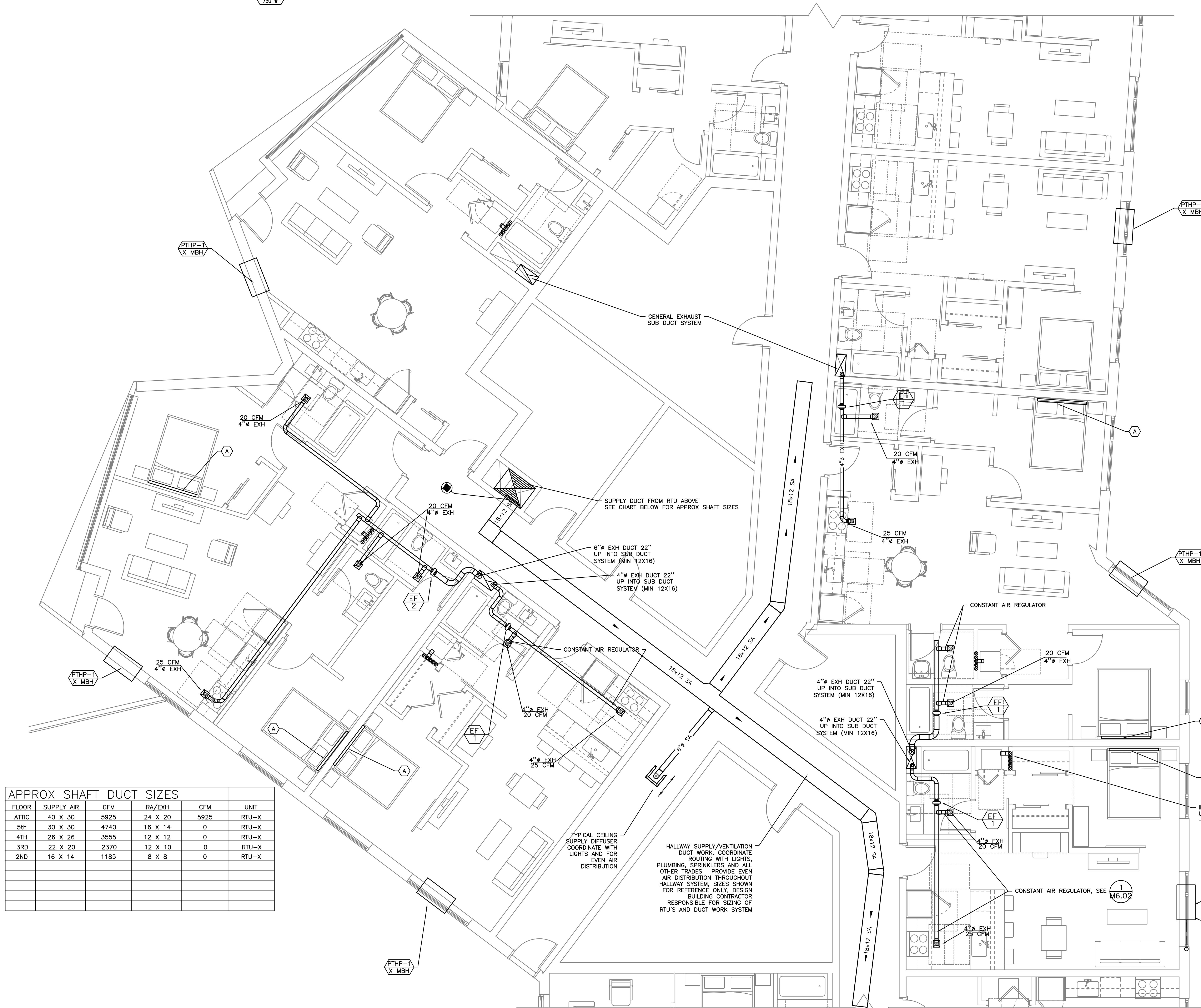
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FLOOR	SUPPLY AIR	CFM	RA/EXH	CFM	UNIT
ATTIC	40 X 30	5925	24 X 20	5925	RTU-X
5th	30 X 30	4740	16 X 14	0	RTU-X
4TH	26 X 26	3555	12 X 12	0	RTU-X
3RD	22 X 20	2370	12 X 10	0	RTU-X
2ND	16 X 14	1185	8 X 8	0	RTU-X



1 ENLARGED MECHANICAL PLAN
M4.10 SCALE: 1/4" = 1'-0"

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ENLARGED MECHANICAL UNIT PLANS

M4.10



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ENLARGED
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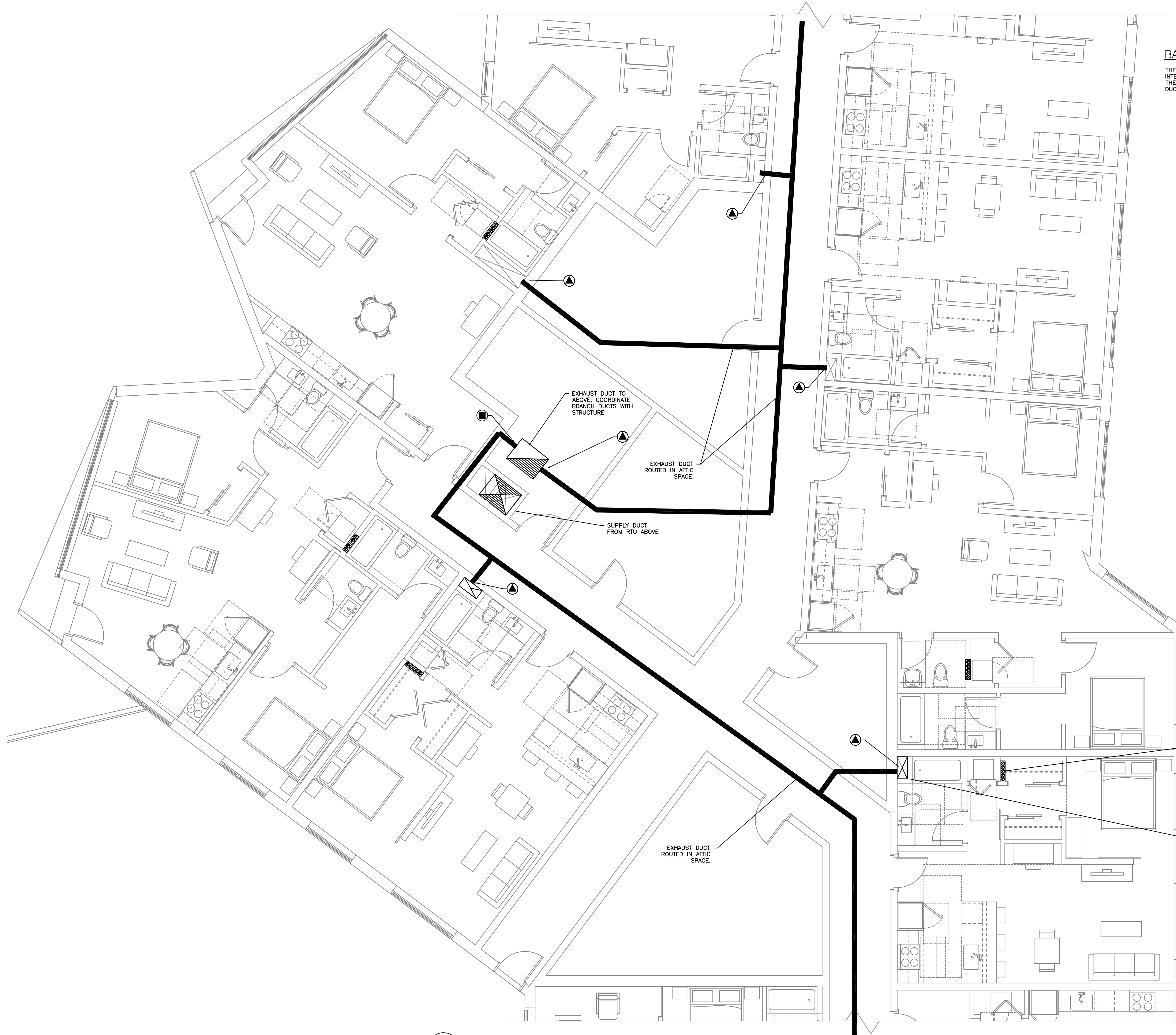
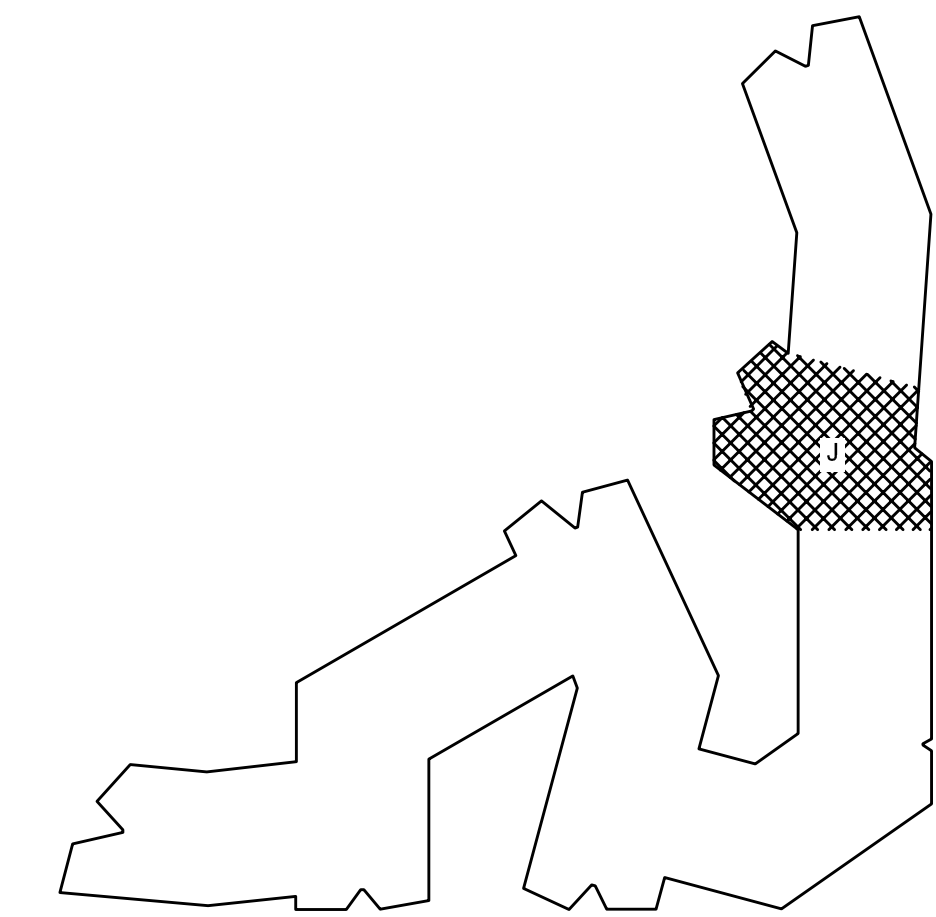
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BLDG 2 KEY PLAN



EXHAUST DUCT TO ABOVE, COORDINATE BRANCH DUCTS WITH STRUCTURE

EXHAUST DUCT ROUTED IN ATTIC SPACE,

SUPPLY DUCT FROM RTU ABOVE

EXHAUST DUCT ROUTED IN ATTIC SPACE,

TYPICAL DRYER DUCTS UP IN WALL AND THROUGH ROOF HEAD

ROUTE EACH SUB DUCT BATHROOM EXHAUST THROUGH ATTIC, AND BACK TO HEAT RECOVERY UNIT ON THE ROOF. CONTRACTOR RESPONSIBLE FOR ALL SIZING AND ROUTING

1 ENLARGED MECHANICAL ATTIC PLAN
SCALE: 1/4" = 1'-0"

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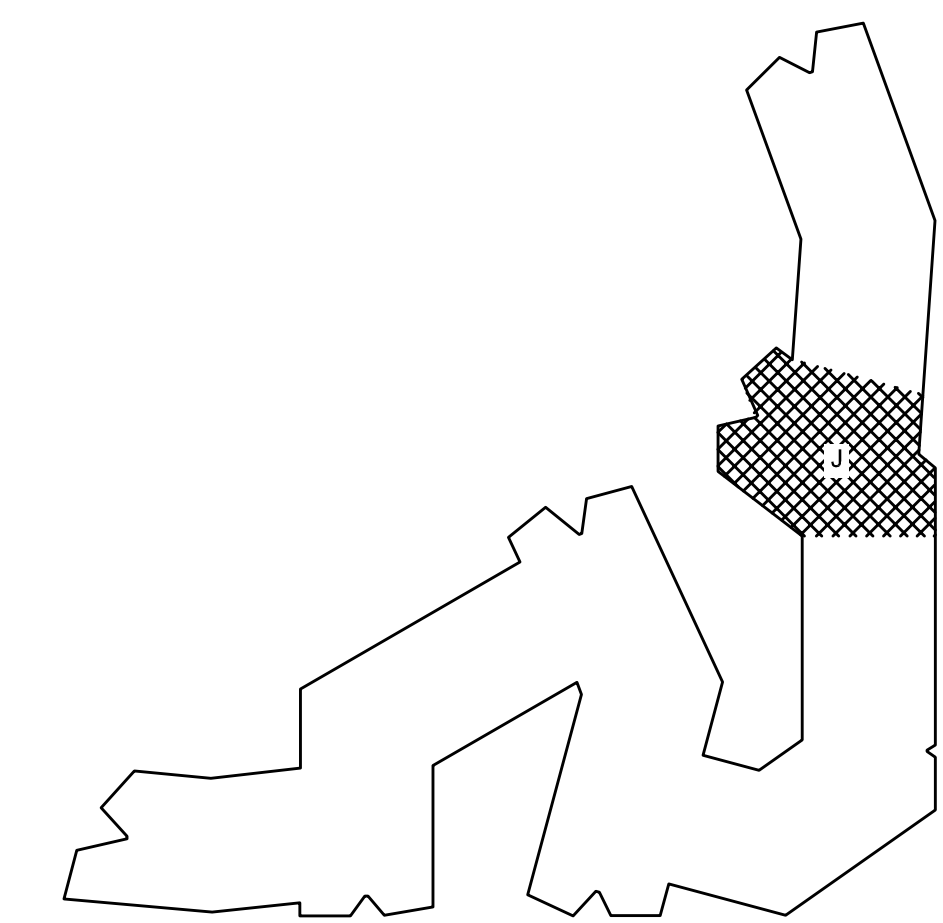
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BLDG 2 KEY PLAN



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1 ENLARGED MECHANICAL ROOF PLAN
SCALE: 1/4" = 1'-0"

ROOF ACCESS
HATCH

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MECHANICAL LEGEND

Table with two columns: Symbol and Description. Includes items like SUPPLY AIR DIFFUSER, RETURN AIR GRILLE, EXHAUST AIR GRILLE, PERFORATED RETURN AIR PANEL, DIRECTIONAL AIR FLOW, MANUAL VOLUME DAMPER, etc.

PACKAGE HP-ERV UNIT

Table with columns: MARK NUMBER, SYSTEM, TYPE, SUPPLY FAN, EXHAUST FAN, HEATING, HEAT PUMP-HEAT-COOL, HEAT WHEEL, and BASIS OF DESIGN. Includes details like RTU-1/15 TOTU, BUILDING 1 & 2, CV ENERGY RECOVERY UNIT, etc.

PACKAGED TERMINAL HEAT PUMP

Table with columns: MARK NUMBER, TYPE, SYSTEM, NOMINAL COOLING CAPACITY (BTUH), HEATING CAPACITY (BTUH), etc. Includes details like PTHP-1/8 MBH, THRU-THE-WALL HEAT PUMP, etc.

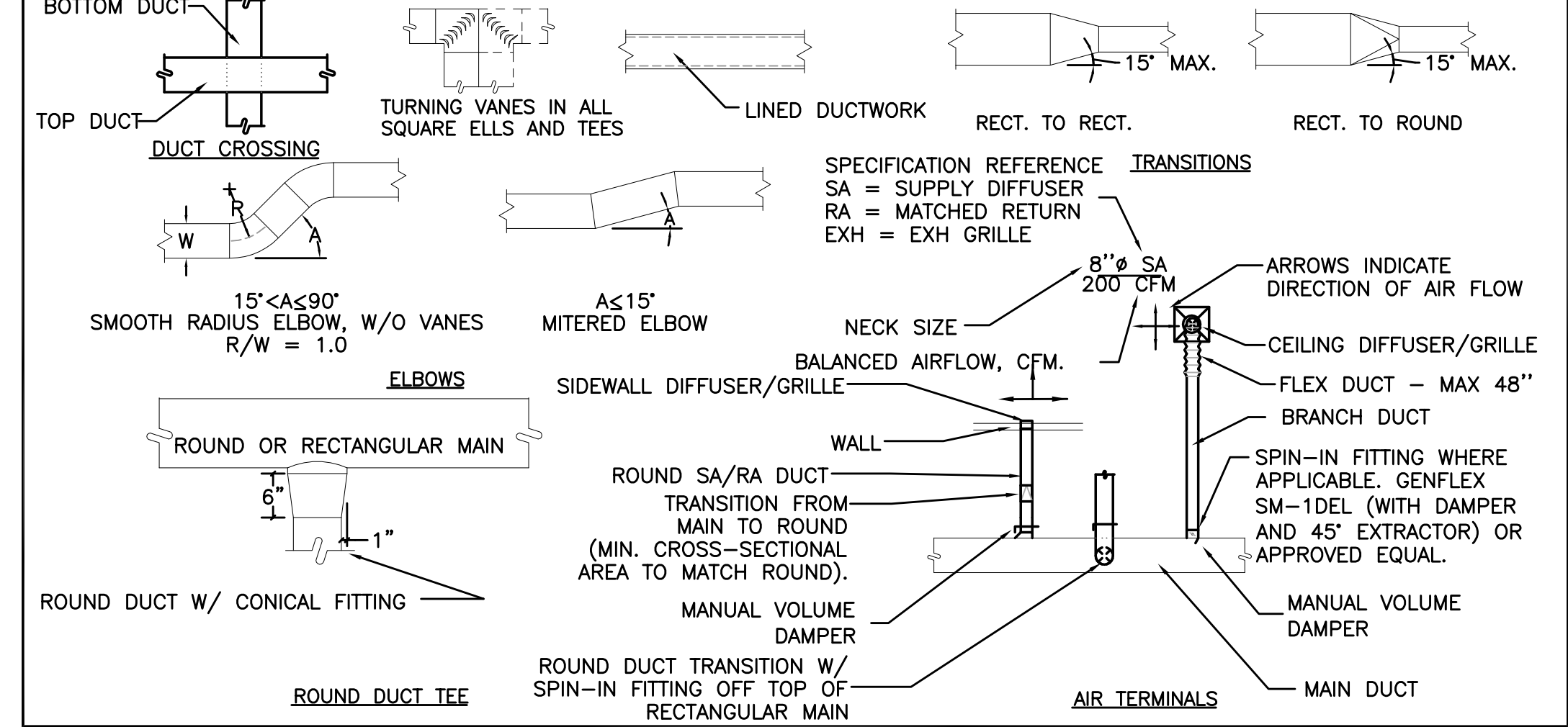
* - VENTILATION PROVIDED BY OPERABLE WINDOWS (WINDOWS HAVE GREATER THAN 4% OPERABLE AREA).

EXHAUST FANS

Table with columns: MARK NUMBER, TYPE, SYSTEM, CFM, TOTAL SP. (IN H2O), RPM, TIP SPEED (FPM), MOTOR WATTS OR HP, etc. Includes details like EF X, EF 1, EF 2, GEF 1, GEF 2, etc.

* - FAN TO RUN AT LOW SPEED CONTINUOUSLY, AND INCREASE TO HIGH SPEED UPON ACTIVATION OF THE MOTION SENSOR.
** - GARAGE FANS TO BE ON EMERGENCY POWER DUE TO GENERATOR DISCHARGE TO PARKING GARAGE.

AIR DISTRIBUTION DETAILS



INDOOR UNITS - **

Table with columns: MARK NUMBER, SYSTEM GROUND FLOOR, TYPE, EFFICIENCY, NOMINAL COOLING CAPACITY, HEATING CAPACITY, etc. Includes details like AC-1, AC-2, AC-3, FC-1, HP-1, HP-2, HP-3, HP-4.

** - PROVIDE ALL UNITS THAT CANNOT BE DRAINED BY GRAVITY WITH A CONDENSATE PUMP. ROUTE CONDENSATE DRAINS FROM EACH UNIT TO FLOOR DRAINS SHOWN ON PLUMBING PLANS. KEEP ALL CONDENSATE DRAINS HIDDEN WITHIN STRUCTURE AS MUCH AS POSSIBLE. COORDINATE ALL CONDENSATE LINES WITH ARCHITECT PRIOR TO INSTALLATION.

ENERGY RECOVERY VENTILATOR (ERV)

Table with columns: MARK NUMBER, TYPE, SYSTEM, CFM, TOTAL SP. (IN H2O), TEMP EFFICIENCY %, etc. Includes details like ERV 1, STATIC PLATE ENTHALPY, 1ST DWELLING, etc.

ELECTRIC WALL HEATER

Table with columns: MARK NUMBER, TYPE, SYSTEM, VOLTS/PHASE, MCA, MOP, ELECT HEAT KW, HEAT CAPACITY (MBH), etc. Includes details like EH-1, EH-2, FAN COIL, etc.

ELECTRIC COVE HEATER

Table with columns: MARK NUMBER, TYPE, SYSTEM, VOLTS/PHASE, MCA, MOP, ELECT HEAT KW, HEAT CAPACITY (MBH), etc. Includes details like CH-1, COVE HEATER, DWELLING UNITS, etc.

OUTDOOR UNITS - SPLIT SYSTEM HEAT PUMP *

Table with columns: MARK NUMBER, SYSTEM, TYPE, NORMAL COOLING CAPACITY, NORMAL HEATING CAPACITY, EFFICIENCY SEER/EER, etc. Includes details like HP-1, HP-2, HP-3, HP-4, 2-PORT HEAT PUMP, etc.

* - OUTDOOR UNITS TO BE MOUNTED ON WALL HUNG SUPPORTS IN THE PARKING GARAGE, OR ON THE ROOF FOR TOP FLOOR UNITS.

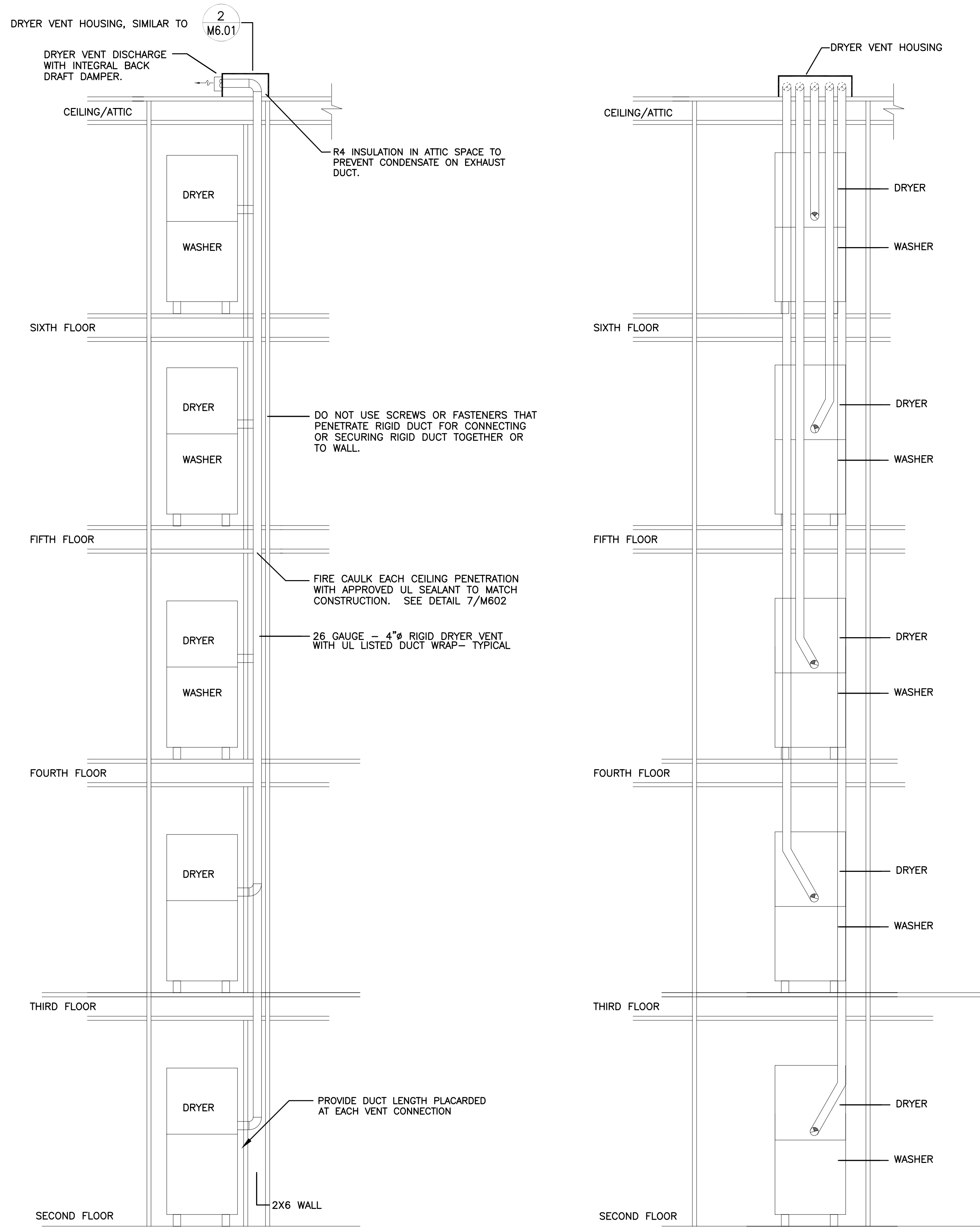
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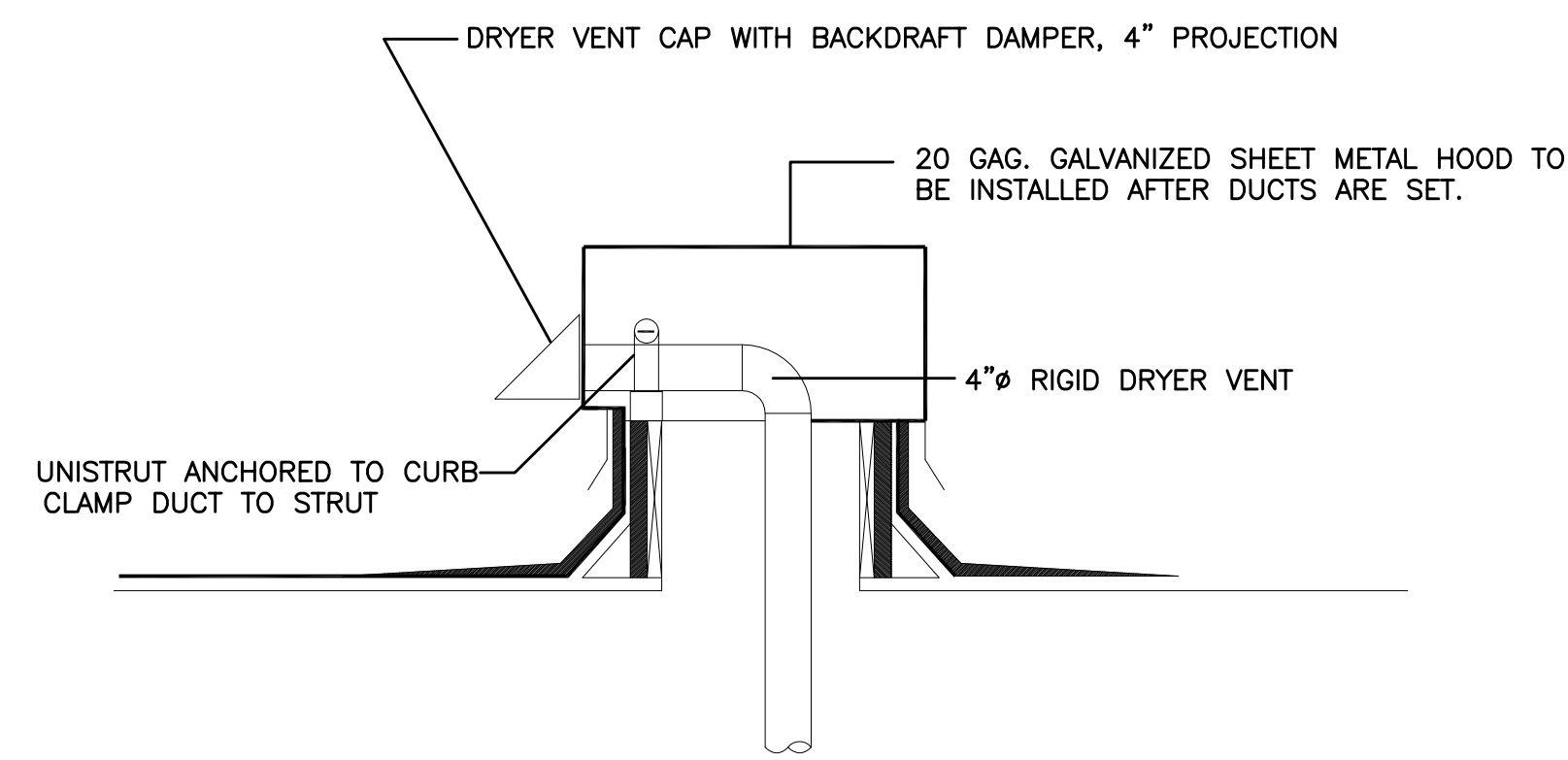
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MECHANICAL SCHEDULES

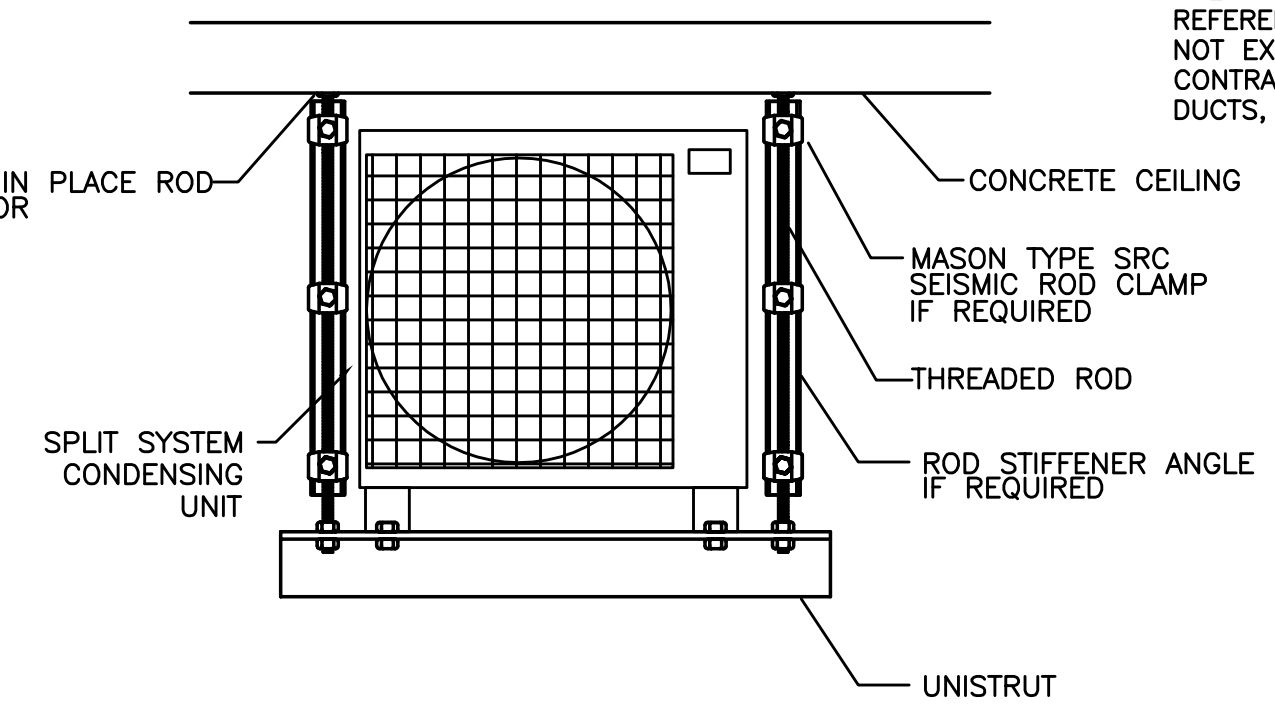
M6.00



1 TYPICAL DRYER VENT SCHEMATIC TO ROOF
M6.01 NOT TO SCALE



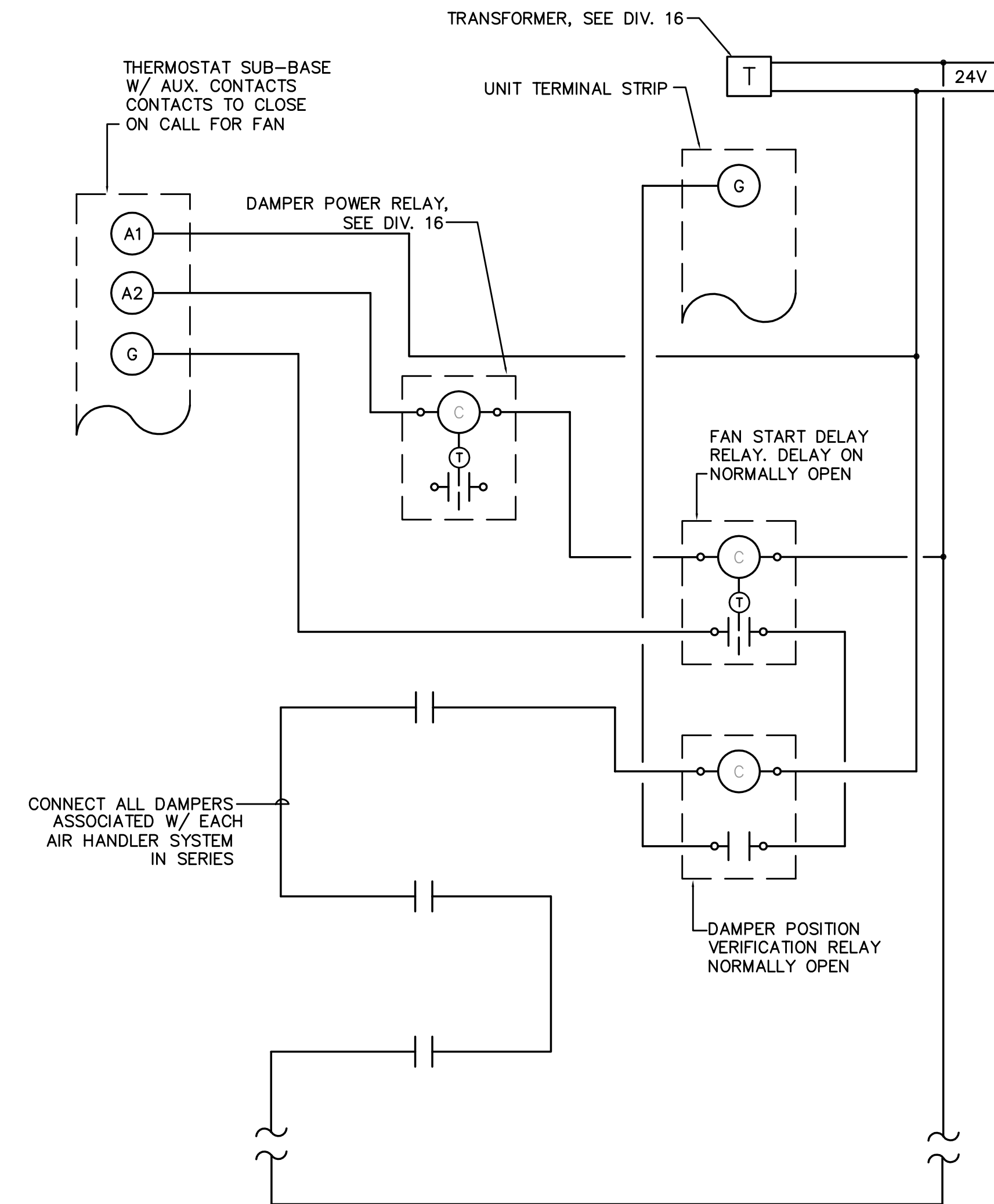
2 TYPICAL ROOFTOP DRYER VENT OUTLET
M6.01 NOT TO SCALE



3 TYPICAL SPLIT SYSTEM DETAIL
M6.01 NOT TO SCALE

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1 TYPICAL FIRE/SMOKE DAMPER W/SMOKE DETECTOR
M6.01 NOT TO SCALE

NOTE:

PROVIDE ALL REQUIRED CONTROL WIRING TO ACCOMPLISH:

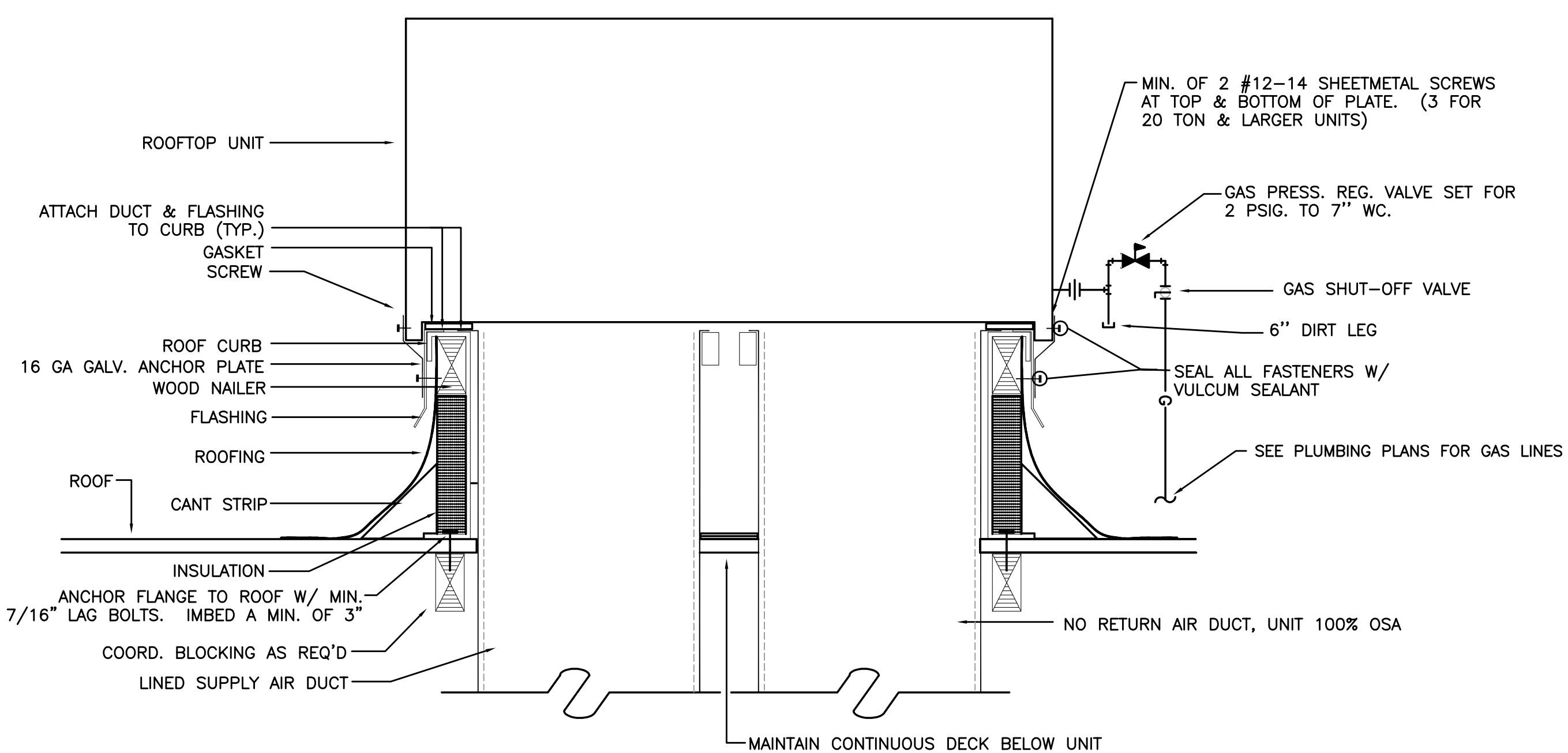
FIRE/SMOKE DAMPER - FIRE/SMOKE DAMPER TO CLOSE UPON ACTIVATION OF LOCAL SMOKE DETECTOR

EXHAUST DUCTS/FANS - FIRE/SMOKE DAMPER TO CLOSE UPON SHUTDOWN OF ASSOCIATED EXHAUST FAN.

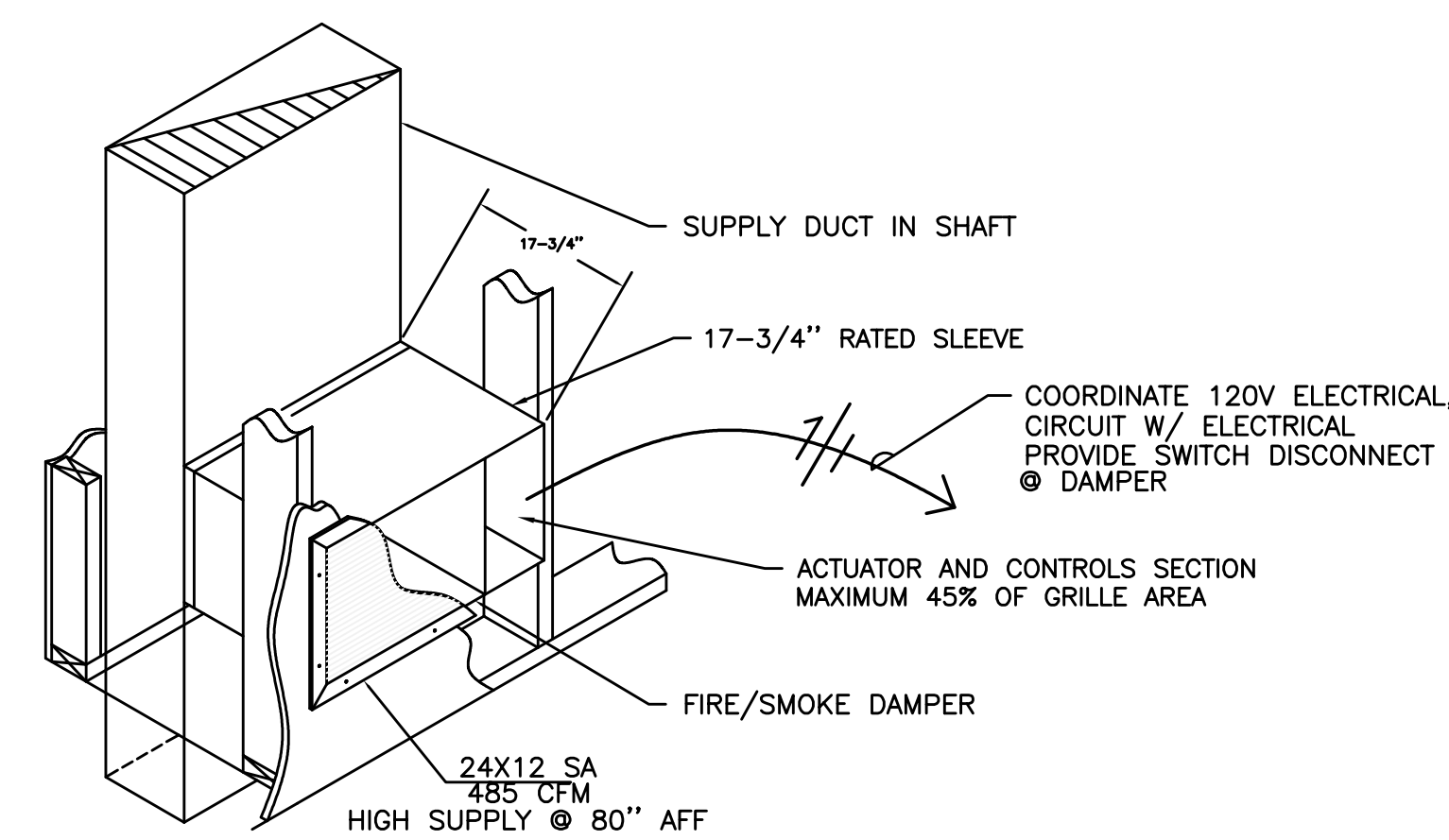
SUPPLY OR RETURN DUCTS/FANS - FIRE/SMOKE DAMPER TO CLOSE UPON SHUTDOWN OF ASSOCIATED AIR HANDLING UNIT.

GENERAL NOTES:

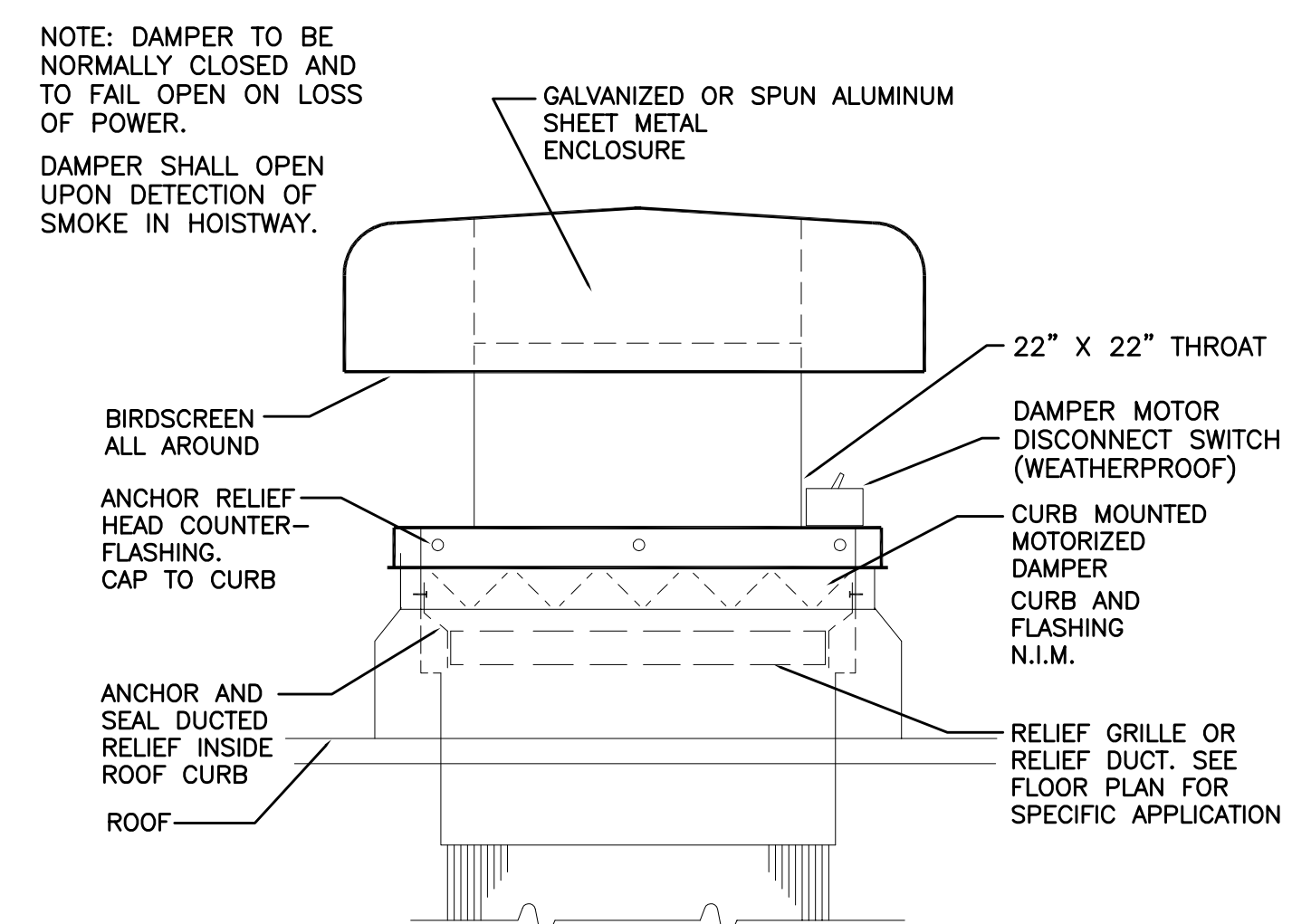
PROVIDE ACCESS IN CEILING OR WALL FOR DAMPER AND SMOKE DETECTOR
SEE ELECTRICAL DRAWINGS FOR WIRING INSTALLATION



5 TYPICAL ROOF TOP UNIT W/ CURB
M6.01 SCALE: DETAIL



6 TYPICAL HIGH SUPPLY W/ FIRE/SMOKE DAMPER
M6.01 SCALE: DETAIL



7 TYPICAL ELEVATOR SHAFT RELIEF VENT
M6.01 NOT TO SCALE

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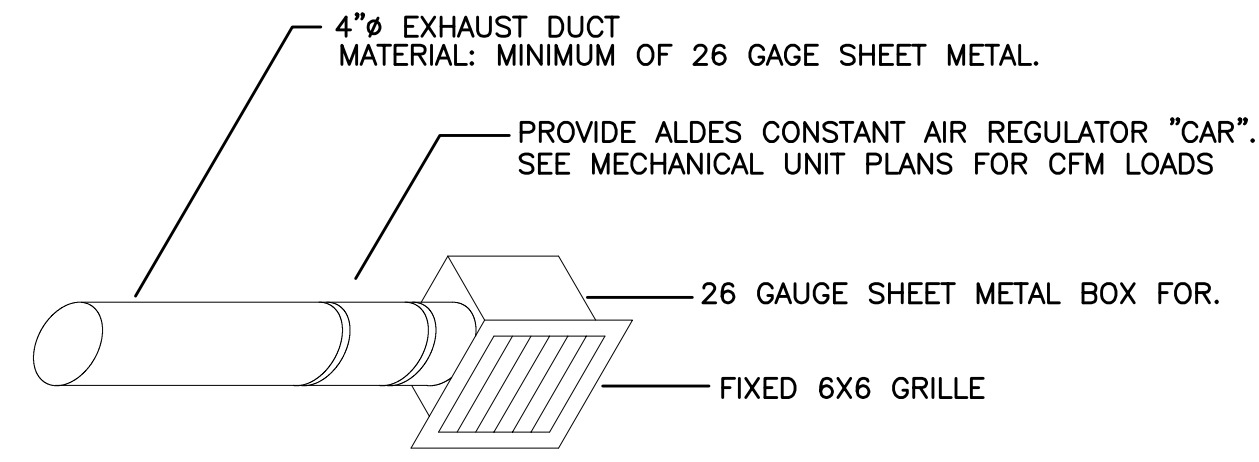
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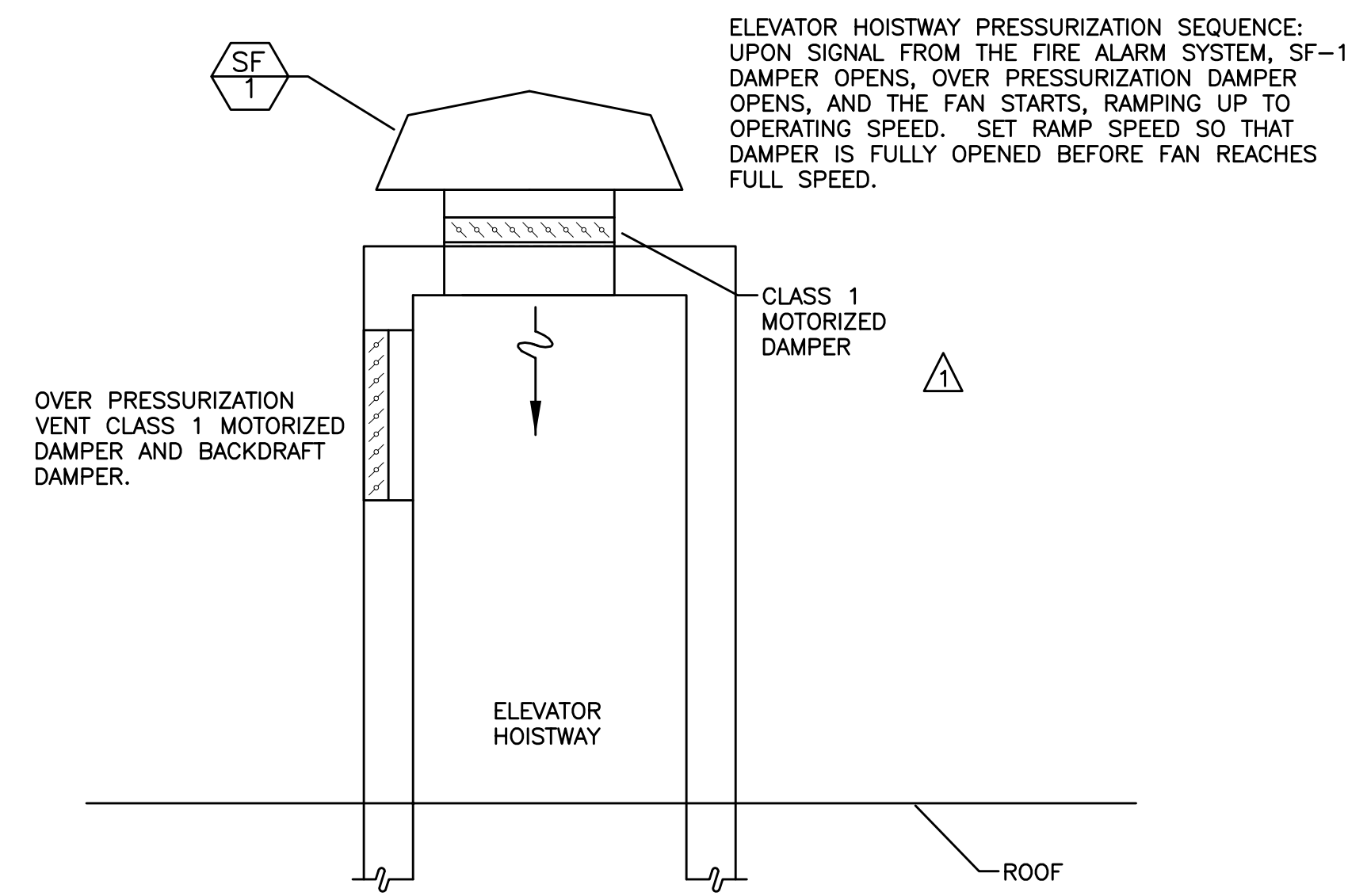
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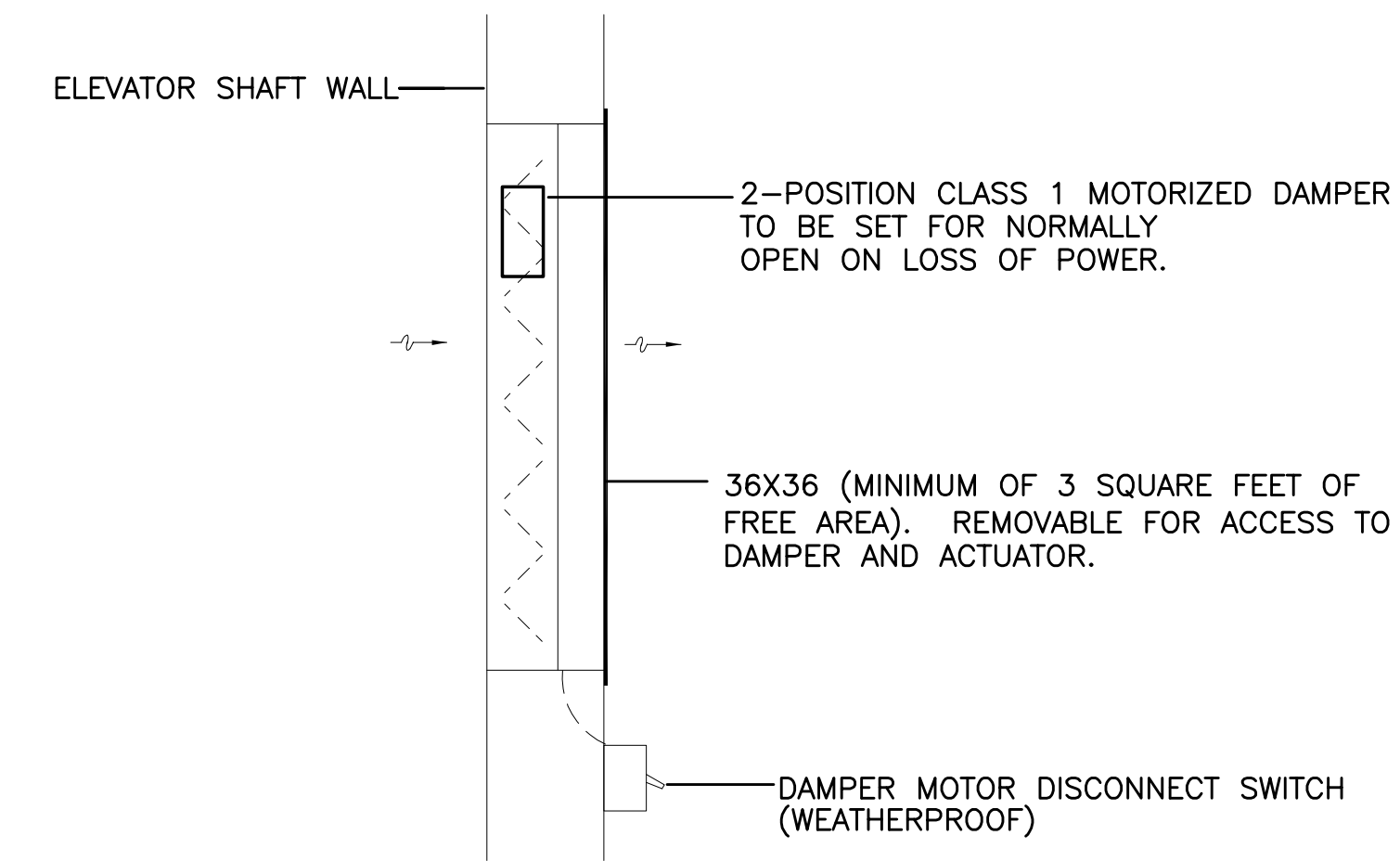
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1 CONSTANT AIR REGULATOR (CAR) - CEILING
M6.02 NOT TO SCALE

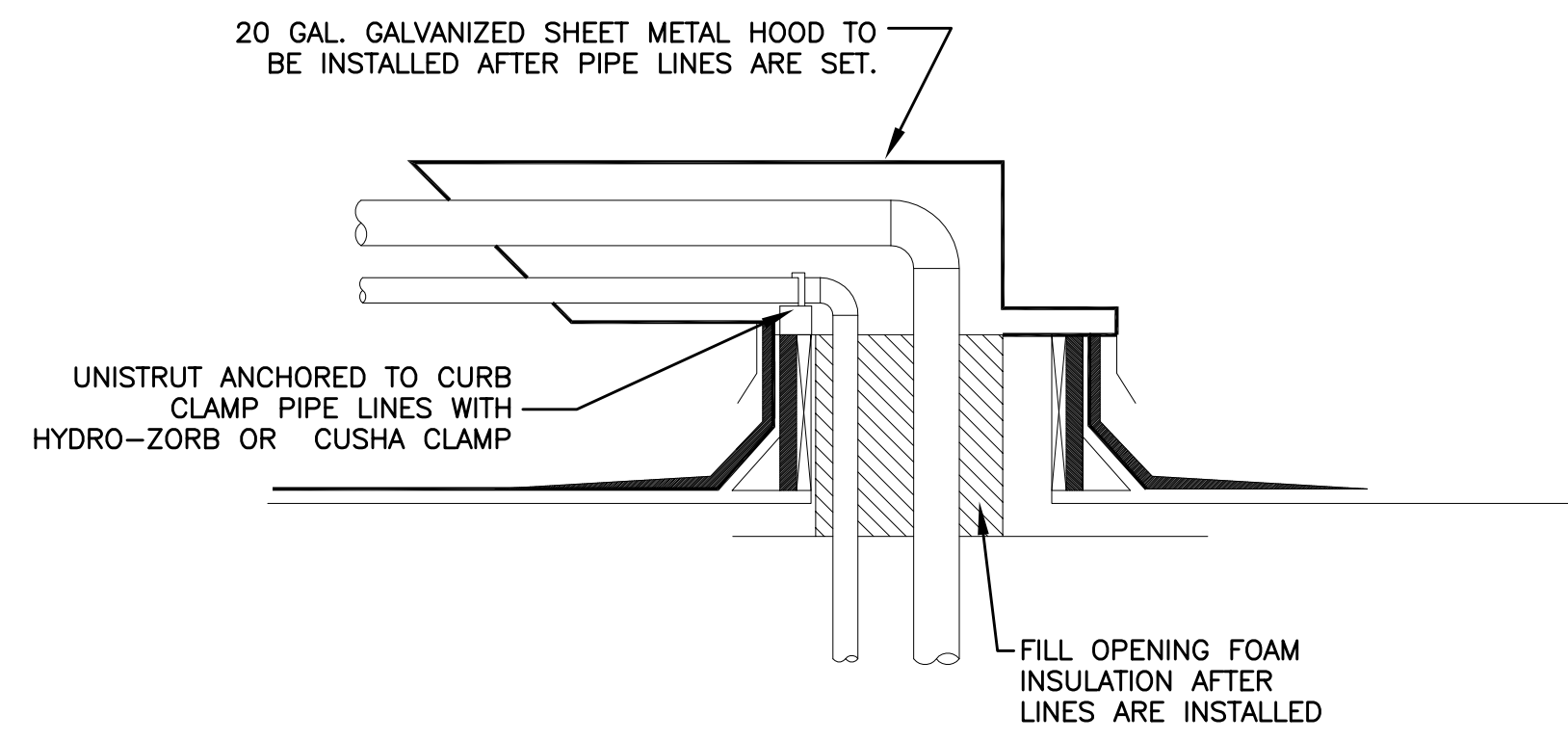


2 TYPICAL ELEVATOR PRESSURIZATION FAN
M6.02 NOT TO SCALE

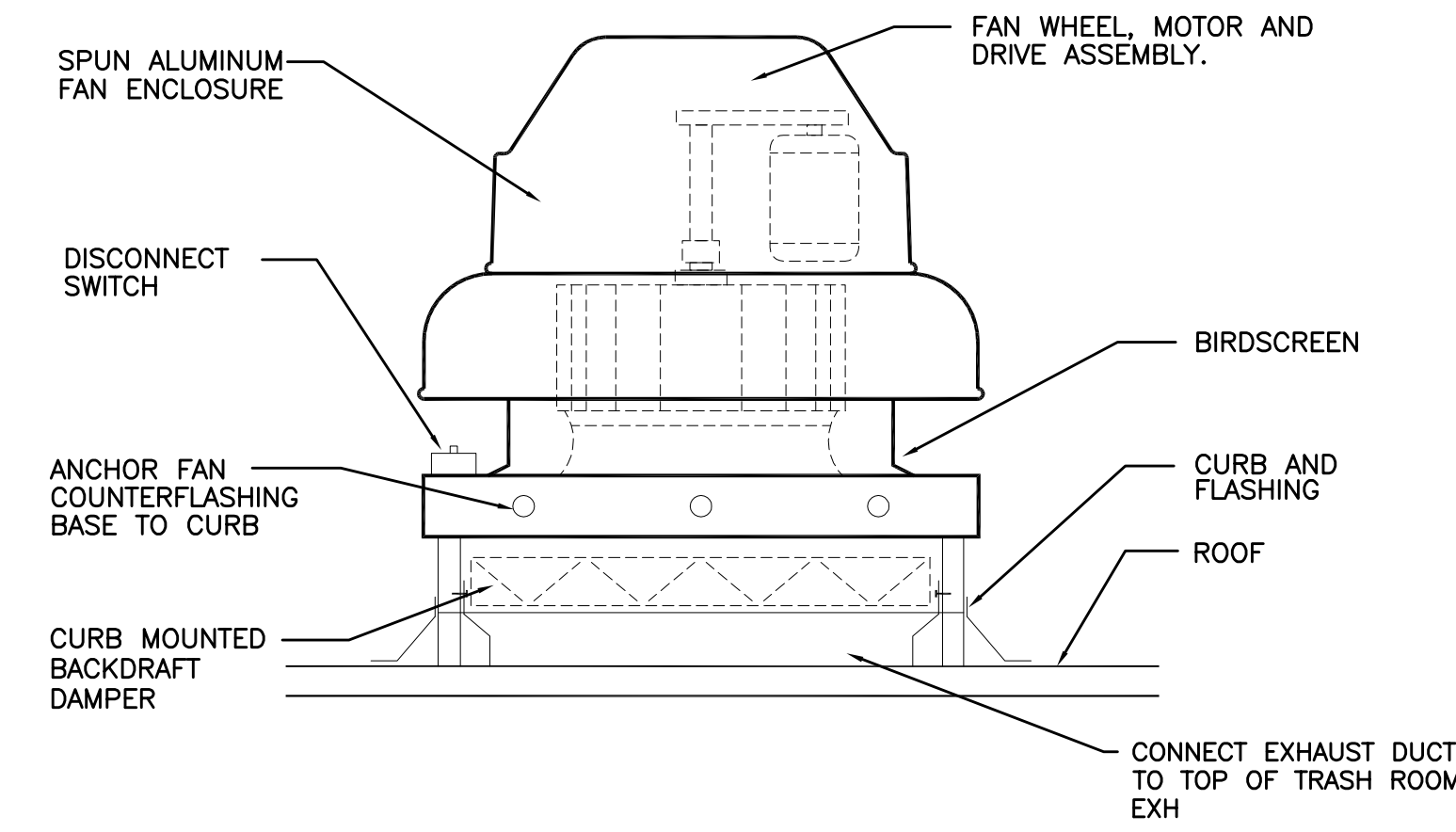


OPERATING NOTE:
DAMPER TO BE NORMALLY CLOSED AND FAIL OPEN ON LOSS OF POWER.
DAMPER SHALL OPEN ON DETECTION OF SMOKE IN HOISTWAY.

3 TYPICAL ELEVATOR SHAFT RELIEF VENT
M6.02 NOT TO SCALE



4 TYPICAL REFRIGERANT ROOF PENETRATIONS
M6.02 DETAIL



5 TYPICAL ROOF EXHAUST FAN
M6.02 DETAIL



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