

MECHANICAL SYMBOL LIST

NOTE: This is a standard symbol list and not all items listed may be used.

Abbreviations

AFF	ABOVE FINISHED FLOOR
AD	ACCESS DOOR
AC	AIR CONDITION(ED)
AHU	AIR HANDLING UNIT
BDD	BACKDRAFT DAMPER
BFP	BACKFLOW PREVENTER
BFF	BELOW FINISHED FLOOR
B	BOILER
BHP	BRAKE HORSEPOWER
CD	CEILING DIFFUSER
CL	CENTERLINE
CV	CHECK VALVE
CH	CHILLER
COP	COEFFICIENT OF PERFORMANCE
CW	COLD WATER
CD	CONDENSATE DRAIN
CU	CONDENSING UNIT
CONT.	CONTINUATION
CT	COOLING TOWER
DB	DECIBEL
DP	DEW POINT, DIFFERENTIAL PRESSURE
DIA	DIAMETER
DX	DIRECT EXPANSION
DG	DOOR GRILLE
D	DROP
DB	DRY BULB
EFF	EFFICIENT
ELECT	ELECTRICAL
EL	ELEVATION
EER	ENERGY EFFICIENCY RATING
EAT	ENTERING AIR TEMPERATURE
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
EF	EXHAUST FAN
(E)	EXISTING
FA	FACE AREA
F	FAHRENHEIT
FC	FAN COIL
FT	FEET
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FPI	FINS PER INCH
FD	FIRE DAMPER
FC	FLEXIBLE CONNECTOR
FLA	FULL LOAD AMPS
GAL	GALLONS
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HD	HEAD
HP	HEAT PUMP
HTR	HEATER
HTG	HEATING
HP	HORSEPOWER
HWC	HOT WATER COIL
IN	INCHES
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
KW	KILOWATT
LH	LATENT HEAT
LAT	LEAVING AIR TEMPERATURE
LWT	LEAVING WATER TEMPERATURE
MW	MAKE-UP WATER
MAX	MAXIMUM
MIN	MINIMUM
MA	MIXED AIR
MS	MOTOR STARTER
MD	MOTORIZED DAMPER
MH	MOUNTING HEIGHT
(N)	NEW
NC	NOISE CRITERIA
N/A	NOT APPLICABLE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
NO.	NUMBER
OC	ON CENTER
ODB	OPPOSED BLADE DAMPER
OA	OUTSIDE AIR
OD	OUTSIDE DIAMETER
PH	PHASE
LBS.	POUNDS
PSI	POUNDS PER SQUARE INCH
PD	PRESSURE DROP
PRV	PRESSURE REDUCING VALVE
P	PUMP
QTY	QUANTITY
REF	REFRIGERANT
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
RH	RELATIVE HUMIDITY
RLD	RELIEF DAMPER
(R)	RELOCATE/RELOCATED LOCATION
RET	RETURN
RA	RETURN AIR
RPM	REVOLUTIONS PER MINUTE
R	RISE
SEER	SEASONAL ENERGY EFFICIENCY RATING
SH	SENSIBLE HEAT
SOV	SHUT OFF VALVE
SF	SQUARE FEET
SP	STATIC PRESSURE
SA	SUPPLY AIR
T, TEMP	TEMPERATURE
TD	TEMPERATURE DIFFERENCE
MBH	THOUSAND BTUS PER HOUR
TH	TOTAL HEAT
TP	TOTAL PRESSURE
UD	UNDERCUT DOOR
VAV	VARIABLE AIR VOLUME
VEL	VELOCITY
V	VOLT
VD	VOLUME DAMPER (HAND OPERATOR)
WC	WATER COLUMN
W	WATT
WB	WET BULB
WI	WITH

Dampers

	FIRE DAMPER
	FIRE/SMOKE DAMPER
	MOTORIZED DAMPER
	SMOKE DAMPER
	VOLUME DAMPER

Diffusers and Grilles

	DIFFUSER OR GRILLE IDENTIFICATION
	EXHAUST AIR
	RETURN AIR
	SUPPLY AIR

Ductwork Fittings

	ACOUSTICALLY LINED DUCT (SIZES SHOWN ARE NET INSIDE)
	BELLMOUTH
	CONCENTRIC SQUARE TO ROUND
	CONCENTRIC TRANSITION, RECTANGULAR OR ROUND
	ECCENTRIC TRANSITION, RECTANGULAR OR ROUND
	FLEXIBLE CONNECTION
	NON-SYMMETRICAL WYE
	RECTANGULAR DUCT DROP
	RECTANGULAR DUCT RISER
	RECTANGULAR MAIN WITH RECTANGULAR BRANCH
	RECTANGULAR MAIN WITH ROUND BRANCH
	RECTANGULAR OFFSET LESS THAN 15% SLOPE
	RECTANGULAR OFFSET MORE THAN 15% SLOPE
	ROUND DUCT DROP
	ROUND DUCT RISER
	ROUND DUCT WITH ROUND BRANCH
	ROUND WYE
	SYMMETRICAL WYE
	MITERED ELBOW WITH TURNING VANES
	RADIUSED ELBOW

Equipment

	CHILLER, AIR COOLED
	CHILLER, WATER COOLED
	COOLING TOWER

General

	LIMIT OF DEMOLITION
	DEMOLISH
	EXISTING WORK
	NEW WORK
	RECTANGULAR DUCT SIZING
	ROUND DUCT SIZING

Piping Fittings, Appurtenances and Equipment

	AIR SEPARATOR
	AUTOMATIC AIR VENT
	BACKFLOW PREVENTER
	CAP
	CONTINUATION
	EXPANSION JOINT
	EXPANSION LOOP
	EXPANSION TANK
	FLOW SWITCH
	HEAT EXCHANGER
	HOSE BIBB
	MANUAL AIR VENT
	PIPE BELOW GRADE
	PIPE DROP
	PIPE REMOVED IN DEMOLITION
	PIPE RISE
	PIPE TO DRAIN
	PRESSURE GAUGE WITH COCK
	PRESSURE RELIEF VALVE
	PRESSURE SENSOR
	PUMP

	SHOCK ABSORBER
	T&P RELIEF VALVE WITH PIPE TO DRAIN
	TEE DOWN ON PIPE
	TEE UP ON PIPE
	TEMPERATURE SENSOR
	TEST PORT (PETE'S PLUG OR EQUAL)
	THERMOMETER
	VENT TO ATMOSPHERE
	WATER METER

Piping Systems

	CHILLED WATER RETURN
	CHILLED WATER SUPPLY
	CONDENSER WATER RETURN
	CONDENSER WATER SUPPLY
	HEATING WATER RETURN
	HEATING WATER SUPPLY
	REFRIGERANT LIQUID
	REFRIGERANT SUCTION

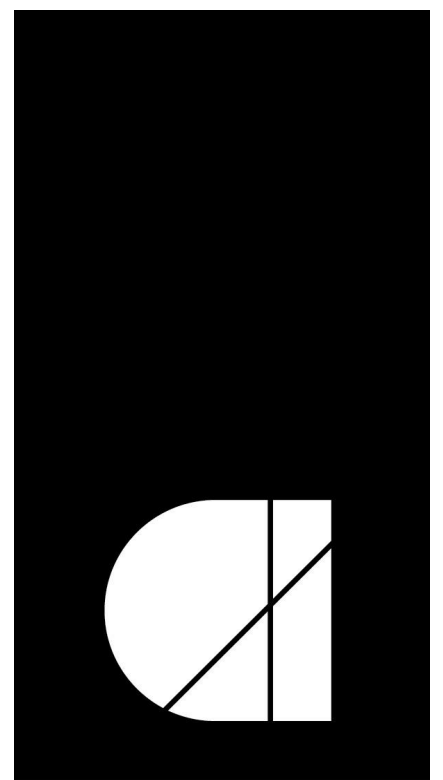
Piping Valves

	BALANCING VALVE
	CHECK VALVE
	CONTROL VALVE
	GATE VALVE
	GLOBE VALVE
	PRESSURE REDUCING VALVE
	QUARTER TURN VALVE
	VALVE, GENERAL

GENERAL MECHANICAL NOTES

- THE ENTIRE MECHANICAL SYSTEMS, INSTALLATION AND TESTING MUST BE IN COMPLIANCE TO THE LOCAL ADOPTED BUILDING CODES.
- ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AND DRAWINGS.
- IN THE EVENT OF A DISCREPANCY BETWEEN CONTRACT DRAWINGS AND SPECIFICATIONS, THE MOST STRINGENT SHALL GOVERN. ALL WORK TO BE IN ACCORDANCE WITH REQUIREMENTS OF GOVERNING STATE AND LOCAL FIRE AND BUILDING CODES, NFPA, AND OSHA. INSTALL ALL PIPING AND DUCTWORK TO AVOID ARCHITECTURAL FRAMING, STRUCTURAL MEMBERS, AND OTHER OBSTRUCTIONS. COORDINATE PIPING AND DUCTWORK LOCATION WITH ALL APPLICABLE CONTRACT DRAWINGS PRIOR TO PLACING SLEEVES IN FLOORS OR WALLS. INSTALL ALL PIPING AND DUCTWORK TO BEST SUIT FIELD CONDITIONS AND COORDINATE WITH THE INSTALLATION WORK OF OTHER TRADES. THE DRAWINGS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED TO DETERMINE EXACT LOCATIONS OF PIPING OR DUCTWORK.
- SEE ARCHITECTURAL REFLECTED CEILING PLANS TO COORDINATE EXACT DIFFUSER LOCATIONS IN FINISHED CEILING. COORDINATE DUCTWORK, PIPING WITH STRUCTURAL DRAWINGS, LIGHTING, AUDIO VISUAL AND SPRINKLER SYSTEM. PROVIDE TRANSITIONS AS REQUIRED. COORDINATE LOCATIONS OF ACCESS DOORS WITH F.D.'S, V.D.'S, SD, ETC. THE OPENING SHALL BE LARGE ENOUGH TO PERMIT MAINTENANCE AND RESETTING OF THE DEVICE.
- PROVIDE ALL MISCELLANEOUS STEEL, SPECIAL SUPPORTS AND ANCHORING FOR ALL MECHANICAL EQUIPMENT REQUIRING SUCH. REFER TO STRUCTURAL DRAWINGS.
- SEAL ALL FIRE RATED PENETRATIONS WITH FIRE RETARDANT MATERIAL AS SPECIFIED.
- THERMOSTAT APPEARANCE SHALL BE COORDINATED WITH THE ARCHITECT/OWNER(48" AFF TO TOP OF THERMOSTAT BOX).
- PROVIDE OPERATING HANDLES FOR ALL VALVES AND COCKS WITHOUT INTEGRAL OPERATORS.
- ALL BRANCH DUCTS TO AIR OUTLET SHALL BE EQUIPPED WITH DUCT VOLUME DAMPER. NO INTEGRAL OBD'S WITHIN DIFFUSERS OR REGISTER.
- DUCTS STORED ON THE CONSTRUCTION SITE SHALL BE PROTECTED AND ISOLATED FROM DUST CONTAMINATION
- AT CONTRACTOR DISCRETION HE MAY SUBSTITUTE RECTANGULAR DUCTWORK TO ROUND DUCTWORK WHERE PHYSICAL OBSTRUCTIONS DO NOT INTERFERE. THE SUBSTITUTION WILL REQUIRE THE CONTRACTOR TO COORDINATE WITH ALL OTHER TRADES. DUCT PRESSURE DROPS AND VELOCITIES MAY NOT EXCEED THAT SHOWN ON BID DOCUMENTS.
- SEE ARCHITECTURAL DOCUMENTS FOR PAINTING OF ALL EXPOSED DUCTWORK, PIPING, AIR OUTLETS, FIXTURE TRIM, AND MECHANICAL EQUIPMENT.
- UNLESS SPECIFICALLY SPECIFIED OR SHOWN OTHERWISE ALL CONSTRUCTION IS TO CONFORM TO SMACNA HVAC CONSTRUCTION STANDARDS AS A MINIMUM REQUIREMENT.
- ALL PIPING TO BE LOCATED INSIDE WALL CAVITIES OR INACCESSIBLE SPACES SHALL BE LEAK TESTED AND INSULATED WITH VAPOR BARRIER SEAL BEFORE INSTALLATION (TYPICAL).
- ALL WORK UNDER THIS DIVISION SHALL BE COORDINATED WITH OTHER TRADES.
- ALL MATERIALS AND WORKMANSHIP ARE SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT. ANY PORTION OF THE WORK FOUND TO BE DEFECTIVE SHALL BE REPLACED BY THE CONTRACTOR AS PART OF THIS CONTRACT AT NO ADDITIONAL COST TO THE OWNER.
- NOT ALL DUCT TRANSITIONS AND/OR OFFSETS ARE SHOWN. PROVIDE TRANSITIONS AND/OR OFFSETS AT NO ADDITIONAL COST TO OWNER.
- PROVIDE ALL REQUIRED MISCELLANEOUS STEEL FOR COMPLETE INSTALLATION OF SYSTEMS AND FOR SUPPORT OF DUCTWORK, PIPING, ETC. DRAWINGS ARE DIAGRAMMATIC IN NATURE AND ALL CONDITIONS SHALL BE CONTRACTOR COORDINATED AND VERIFIED FOR EXACT LOCATION AND SIZES. THE CONTRACTOR IS RESPONSIBLE TO THOROUGHLY VERIFY ALL CONDITIONS BEFORE SUBMITTING HIS BID.
- ALL SUPPLY AND RETURN AIR DUCTS AND PLENUMS SHALL BE INSULATED WITH A MINIMUM OF R-6 INSULATION WHERE LOCATED IN UNCONDITIONED SPACES.
- SUPPLY AND RETURN DUCTWORK SHALL BE SEALED AS APPROPRIATE FOR 2 INCH DUCT PRESSURE CLASSIFICATION.
- ZONE THERMOSTAT CONTROLS SHALL PROVIDE A TEMPERATURE DEADBAND OF AT LEAST 5 DEGREES F WITHIN WHICH THE SUPPLY OF HEATING AND COOLING TO THE ZONE IS CAPABLE OF BEING REDUCED TO A MINIMUM.
- ALL MECHANICAL EQUIPMENT REQUIRES PHYSICAL TAGGING PER SPECIFICATION 230553.

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Construction Documents for:
ARLINGTON COUNTY DHS GROUP HOME
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 Project: 19296-01

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Revisions	
1 Addendum No. 1	03.25.2021

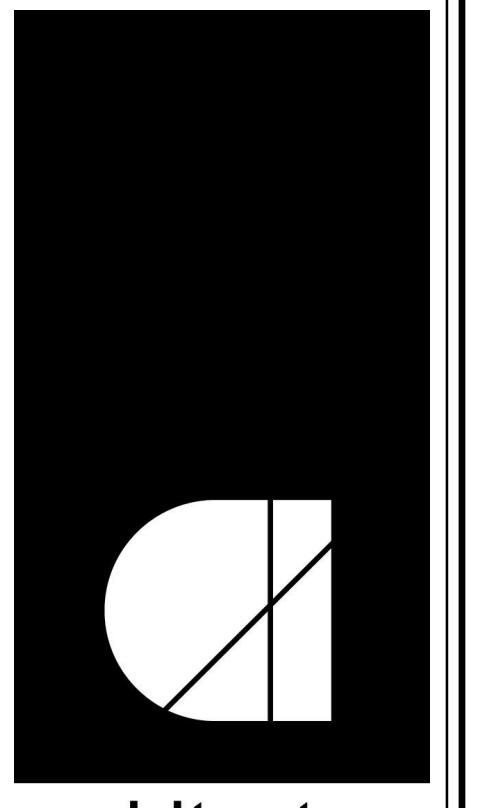
SYMBOL LIST AND GENERAL NOTES - MECHANICAL

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M001

SHEET INDEX

M001	SYMBOL LIST AND GENERAL NOTES - MECHANICAL
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M102	FLOOR PLANS - 2ND & ATTIC LEVEL - MECHANICAL
M103	MECHANICAL SITE PLAN
M601	SCHEDULES - MECHANICAL
M701	DETAILS - MECHANICAL
M702	DETAILS - MECHANICAL
M703	DETAILS - MECHANICAL
M704	DETAILS - MECHANICAL



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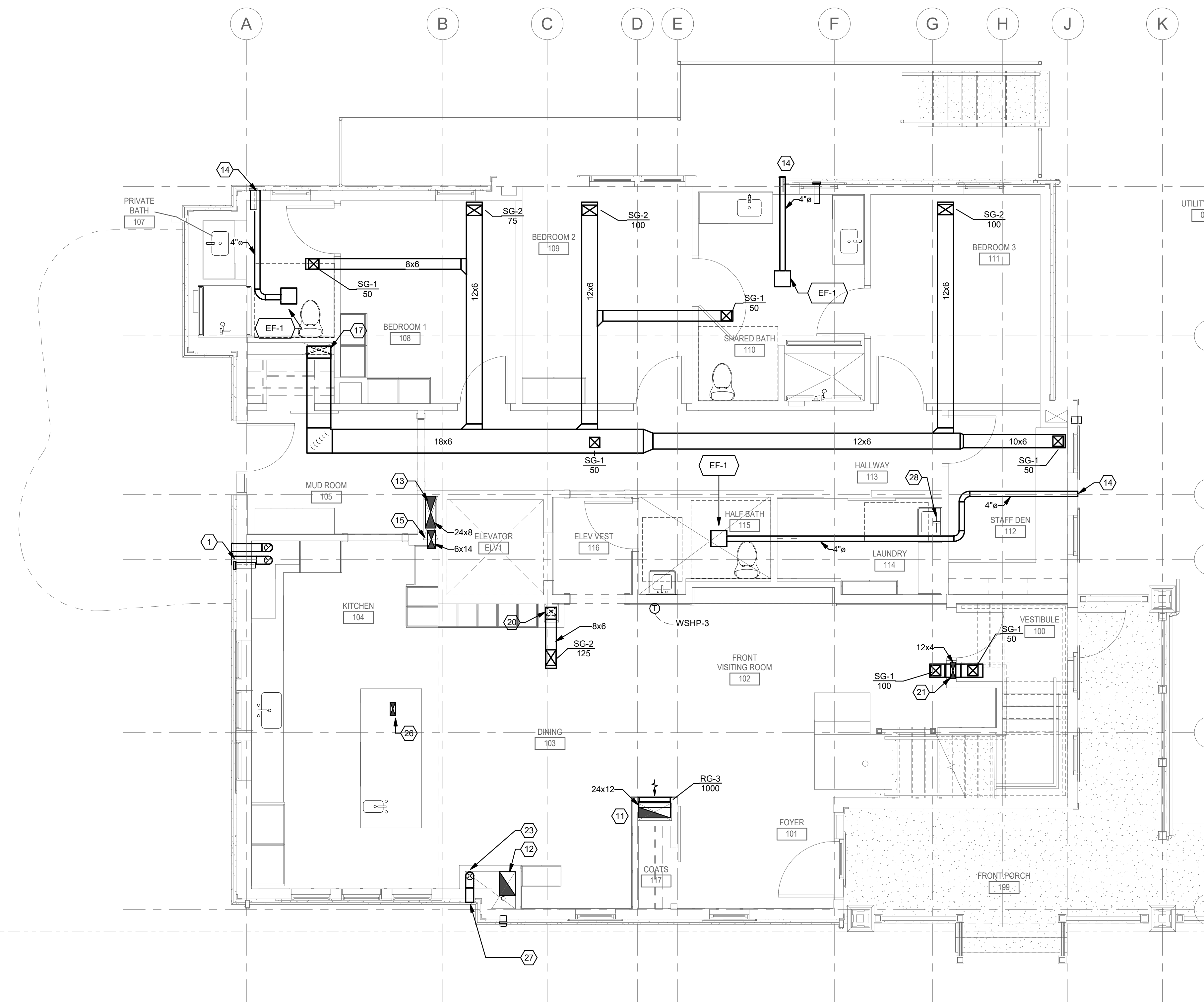
Revisions

FLOOR PLANS - BASEMENT & GROUND LEVEL - MECHANICAL

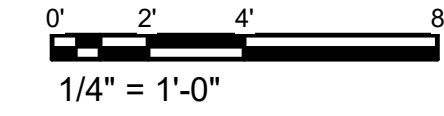
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M101

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2 GROUND LEVEL MECHANICAL PLAN - OVERALL

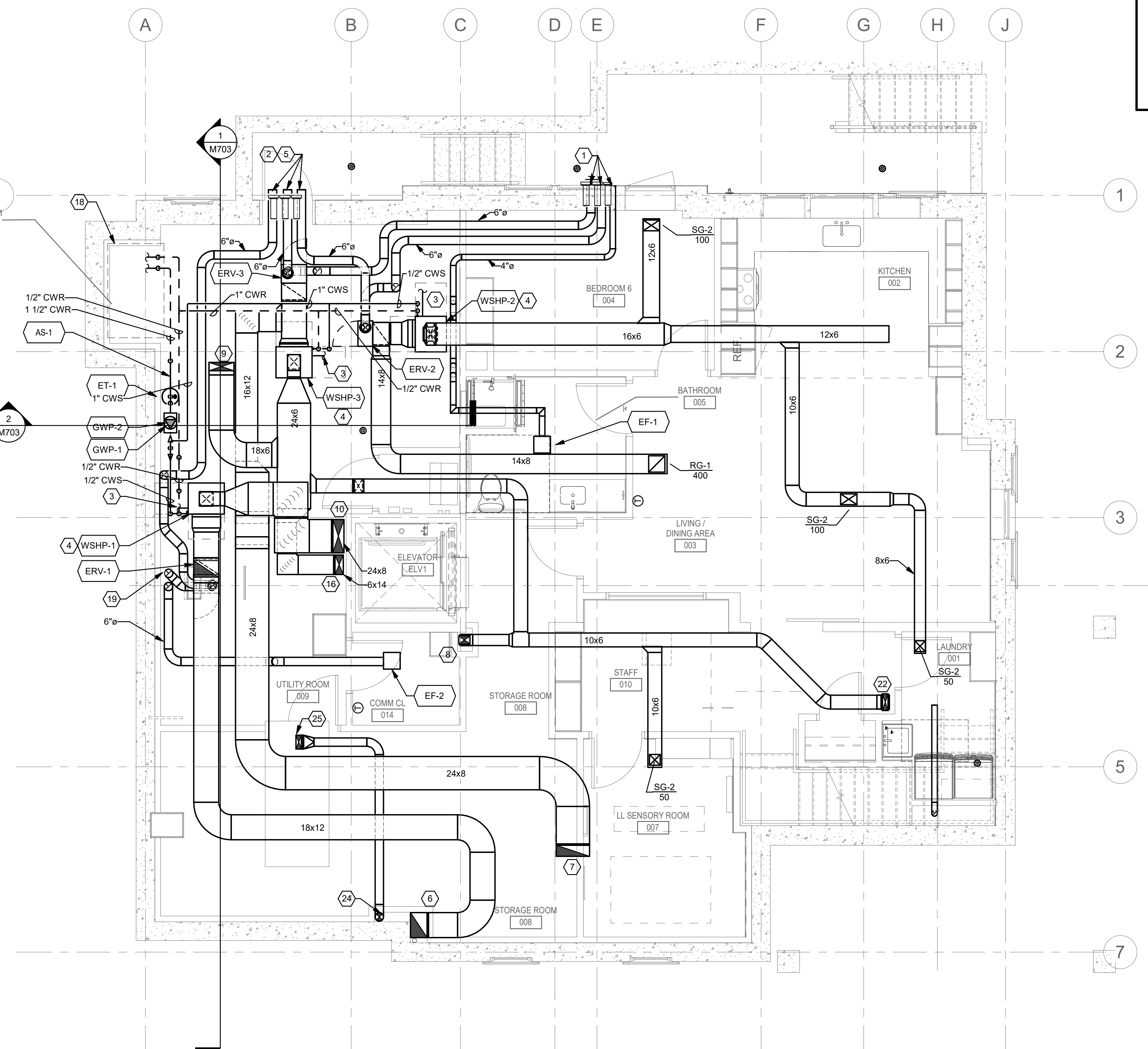


GENERAL SHEET NOTES

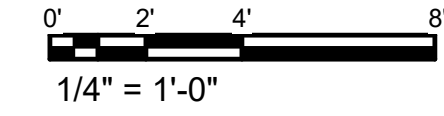
- 1 BALANCE ALL OUTSIDE AIR SUPPLY DAMPERS TO CFM'S INDICATED IN WSPH SCHEDULES.
- 2 ALL PENETRATIONS OF FIRE RATED PARTITIONS SHALL BE PROVIDED WITH FIRE DAMPERS.
- 3 UNIT CONDENSATE DRAIN SIZE TO MATCH DRAIN CONNECTION SIZE OF UNIT INSTALLED.
- 4 PROVIDE UL 500C FIRE DAMPER AT GRILLES AND DIFFUSERS LOCATED IN FIRE RATED CEILING ASSEMBLY. REFER TO DETAILS 6 & 7 ON SHEET M702.

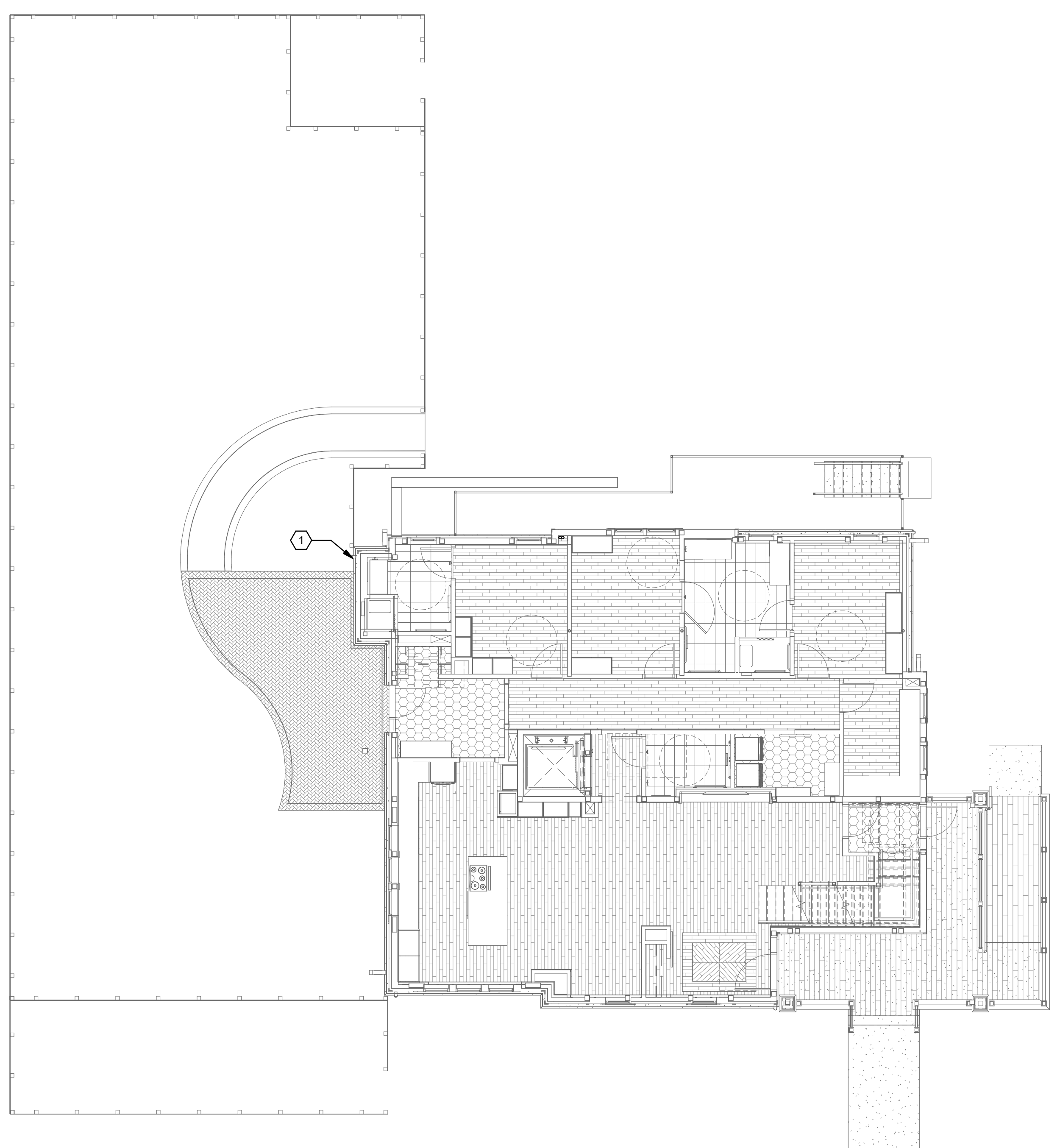
SHEET KEYNOTES

- 1 PROVIDE WITH VENT HOOD AND SCREEN.
- 2 PROVIDE WITH VENT HOOD AND SCREEN. OA INTAKE SHALL BE LOCATED MIN. OF 10 FT AWAY FROM CONTAMINANT SOURCES SUCH AS VENTS OR EXHAUSTS.
- 3 ROUTE CONDENSATE DRAINS TO NEAREST DRAIN.
- 4 PROVIDE WSPH AND INSTALL IN BASEMENT. PROVIDE WITH ALL REQUIRED ACCESSORIES, CONTROLS, WIRING, POWER, PIPING, ETC. FOR SUCCESSFUL UNIT INSTALLATION AND PROPER UNIT OPERATION.
- 5 PROVIDE 2 INCHES OF INSULATION ON OUTSIDE AIR INTAKE DUCT AND CONNECT TO RETURN AIR DUCT. PROVIDE WITH BALANCING DAMPER IN OUTSIDE AIR DUCT. TERMINATE OUTSIDE AIR DUCT IN WALL WITH VENT HOOD.
- 6 18 X 12 RETURN AIR UP TO ATTIC SPACE.
- 7 24 X 8 RETURN AIR UP TO LEVEL ONE.
- 8 10 X 6 SUPPLY AIR UP TO LEVEL ONE.
- 9 18 X6 SUPPLY AIR UP TO ATTIC SPACE.
- 10 24 X 8 SUPPLY AIR UP TO LEVEL ONE.
- 11 24 X 8 RETURN AIR DOWN TO BASEMENT.
- 12 18 X 12 RETURN AIR DOWN TO BASEMENT.
- 13 24 X 8 SUPPLY AIR DOWN TO BASEMENT.
- 14 PROVIDE EXHAUST WITH VENT HOOD.
- 15 14 X 6 SUPPLY AIR DOWN TO BASEMENT.
- 16 14 X 6 SUPPLY AIR UP TO ATTIC SPACE.
- 17 18 X 6 SUPPLY AIR DOWN TO BASEMENT.
- 18 GEOTHERMAL MANIFOLD AND MAIN PIPING EXISTING IN THIS AREA. NEW PIPING SHOWN IN THIS ROOM SHALL BE CONNECTED TO THE EXISTING SUPPLY AND RETURN GEOTHERMAL VALVED AND CAPPED CONNECTIONS.
- 19 6" DIAMETER EXHAUST DUCT UP TO FIRST FLOOR.
- 20 10 X 6 SUPPLY AIR DOWN TO BASEMENT.
- 21 12 X 4 SUPPLY AIR DOWN TO BASEMENT.
- 22 12 X 4 RETURN AIR UP TO LEVEL ONE.
- 23 6" DIAMETER DUCT DOWN TO BASEMENT.
- 24 6" DIAMETER DUCT UP TO WALL CAP ON SIDEWALL OF LEVEL 1.
- 25 4" x 10" DUCT UP TO KITCHEN DOWNDRAFT EXHAUST HOOD.
- 26 4" x 10" DUCT DOWN TO BASEMENT.
- 27 PROVIDE WITH WALL CAP AND DAMPER.

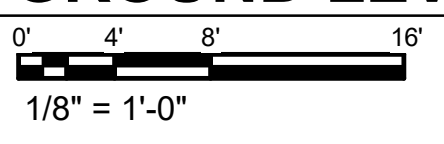


1 BASEMENT LEVEL MECHANICAL PLAN - OVERALL





1 GROUND LEVEL MECHANICAL PLAN - SITE



○ SHEET KEYNOTES

- 1 APPROXIMATE LOCATION OF GEOTHERMAL FIELD CONNECTION TO INTERNAL MANIFOLD LOCATED IN MECHANICAL ROOM. SEE DRAWING M101 VIEW 1 FOR CONTINUATION.

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MECHANICAL SITE PLAN

Scale 1/8" = 1'-0"
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M103

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