GENERAL MECHANICAL NOTES

APPLICABLE TO ALL DRAWINGS

1. THE HVAC CONTRACTOR SHALL INVESTIGATE AVAILABLE SPACE FOR ALL EQUIPMENT IN CEILINGS BEFORE SUBMISSION OF SHOP DRAWINGS.
2. ADEQUATE SIZE ACCESS PANELS SHALL BE FURNISHED AND INSTALLED FOR ALL EQUIPMENT REQUIRING SERVICE, MAINTENANCE AND REPLACEMENT FOR THE BALANCING OF VALVES AND FOR THE OPERATION OF HVAC SYSTEMS AS PER THE SPECIFICATIONS.
3. DUCT SIZES INDICATED ON THE DRAWINGS ARE TO BE NET FREE AREA. ALL DUCTWORK SHALL BE CONSTRUCTED, INSTALLED AND SEALED (CLASS A), PER THE LATEST SMACNA REQUIREMENTS.
4. PARTICULAR ATTENTION SHOULD BE PAID TO ADDITIONAL NOTES SHOWN ON THE INDIVIDUAL DRAWINGS.
5. THE DUCTWORK AND PIPING SYSTEMS SHOWN ON THE DRAWINGS ARE SHOWN DIAGRAMMATICALLY WITHOUT EVERY OFFSET AND TRANSITION REQUIRED TO INSTALL THE WORK. OBVIOUS OFFSETS AND TRANSITIONS, AS RELATED TO HVAC, ARE SHOWN WHERE POSSIBLE WITHOUT AFFECTING THE CLARITY OF THE DRAWINGS.
6. ALL PIPING AND DUCTWORK SHALL BE RUN ABOVE THE CEILINGS UNLESS NOTED OTHERWISE.
7. ALL THERMOSTATS TO BE MOUNTED ABOVE LIGHT SWITCHES ON SAME CENTERLINE, 4'-0" ABOVE FINISHED FLOOR WHERE APPLICABLE, OR OTHERWISE NOTED. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION.
8. ALL MATERIALS INSTALLED IN THIS WORK SHALL BE NEW UNLESS SPECIFICALLY NOTED FOR RE-USE.
9. ALL WORK PERFORMED SHALL BE GUARANTEED FREE FROM DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE BY THE OWNER, UNLESS SUCH DEFECTS ARE CLEARLY THE RESULT OF MISUSE OF EQUIPMENT BY PERSONS NOT UNDER THE CONTROL OF THE CONTRACTOR.
10. THE HVAC CONTRACTOR SHALL OBTAIN INSTALLATION INSTRUCTIONS ON EACH PIECE OF EQUIPMENT TO BE FURNISHED WHICH THE HVAC CONTRACTOR IS REQUIRED TO INSTALL OR TO WHICH FINAL CONNECTIONS ARE TO BE MADE UNDER THE HVAC CONTRACT. THE HVAC CONTRACTOR SHALL INSTALL AND MAKE FINAL CONNECTIONS PER THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS. THE CONTRACTOR SHALL DEMONSTRATE TO THE OWNER THAT THE INSTALLED EQUIPMENT OPERATES AS DESIGNED.
11. ALL WORK UNDER THIS SECTION SHALL BE COORDINATED WITH ALL OTHER TRADES BEFORE INSTALLATION IS MADE.
12. COORDINATE ALL MOTORS, STARTERS, DISCONNECT AND SMOKE DETECTOR REQUIREMENTS WITH ELECTRICAL SUBCONTRACTOR FOR ALL EQUIPMENT REQUIRING SAME.
13. ALL HVAC EQUIPMENT SHALL BE INSTALLED, COORDINATED WITH ALL TRADES, IN SUCH A WAY SO THAT LIGHTS, CONDUITS, SPRINKLERS, SUPPLY AND/OR DRAIN PIPING DO NOT BLOCK ACCESS TO UNITS AND RELATED ACCESSORIES.
14. THE HVAC CONTRACTOR SHALL FURNISH ALL SUPPORT STEEL REQUIRED FOR THE INSTALLATION OF HVAC EQUIPMENT, UNLESS OTHERWISE INDICATED.
15. THE HVAC CONTRACTOR SHALL FIELD MEASURE ALL DUCT RUNS PRIOR TO FABRICATING DUCTWORK. FURNISH AND INSTALL ALL DUCT TRANSITIONS, ELBOWS, FITTINGS AND OFFSETS REQUIRED TO ACCOMMODATE FIELD CONDITIONS.
16. THE HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RIGGING AND STAGING REQUIRED FOR THE INSTALLATION OF THE HVAC SYSTEMS.
17. HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SHEETMETAL TRANSITIONS AT AIR TERMINAL UNITS, FANS, COILS AND OTHER SIMILAR HVAC EQUIPMENT.
18. HVAC EQUIPMENT WITH FANS TO BE PROVIDED WITH FLEXIBLE CONNECTIONS ON INLET AND DISCHARGE OF FAN TO DUCTWORK.

SHEETMETAL

- SUPPLY AIR DUCT TURN TOWARD
- SUPPLY AIR DUCT TURN AWAY
- RETURN / EXH. AIR DUCT TURN TOWARD
- RETURN / EXH. DUCT TURN AWAY
- MOTORIZED DAMPER (M)
- GRAPHIC BREAK &/OR CONTINUATION OF DUCT OR PIPING
- SUPPLY DIFFUSER OR GRILLE
- RETURN/EXHAUST REGISTER OR GRILLE
- DUCT MOUNTED SMOKE DETECTOR FURNISHED AND WIRED UNDER SECTION 16000 INSTALLED UNDER SECTION 15500 (S)
- EXISTING DUCTWORK AND/OR EQUIP. TO BE REMOVED
- DUCT REMOVED AND HOLE BLANKED OFF

ABBREVIATIONS

AHU	AIR HANDLING UNIT
AP	ACCESS PANEL
ATC	AUTOMATIC TEMPERATURE CONTROL CONTRACTOR
CFM	CUBIC FEET PER MINUTE
DB	DRY BULB TEMP. DEGREES F.
E	EXHAUST AIR DEVICE
EAT	ENTERING AIR TEMP. DEGREES F.
EC	ELECTRICAL CONTRACTOR
EWT	ENTERING WATER TEMP. DEGREES F.
GC	GENERAL CONTRACTOR (HVAC CONTRACTOR)
GPM	GALLONS PER MINUTE
HVAC	HEATING, VENTILATING & AIR CONDITIONING CONTRACTOR
LAT	LEAVING AIR TEMP. DEGREES F.
LWT	LEAVING WATER TEMP. DEGREES F.
MAX	MAXIMUM
MIN	MINIMUM
OA	OUTSIDE AIR
PD	PRESSURE DROP (FEET OF WATER)
R	RETURN AIR DEVICE
RF	RETURN FAN
RH	REHEAT COIL
S	SUPPLY AIR DEVICE
VFD	VARIABLE FREQUENCY DRIVE
WB	WET BULB TEMP. DEGREES F.

GENERAL

- EQUIPMENT DESIGNATION
- (T) THERMOSTAT – MOUNT 48" A.F.F.
- (SP) STATIC PRESSURE SENSOR
- (T)P PROGRAMMABLE THERMOSTAT
- CONNECT TO EXISTING

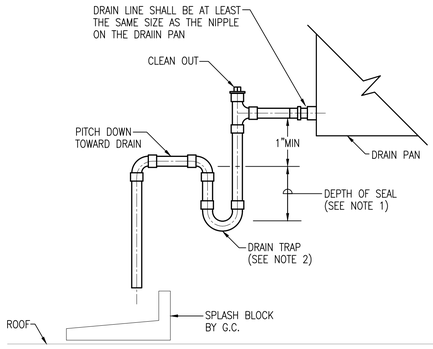
VALVES

- GAS COCK
- PIPE TURN AWAY
- PIPE TURN TOWARDS
- UNION

PIPING

- G GAS LINE
- D DRAIN
- PITCH DOWN IN DIRECTION OF ARROW
- DIRECTION OF FLOW
- PIPE STUB UP TO UNIT ON FLOOR ABOVE

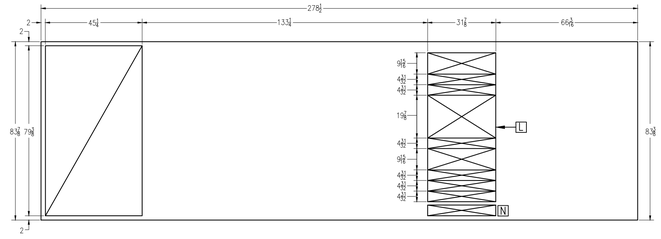
DRAWING LIST



NOTE:
1. THE DEPTH OF THE SEAL SHALL BE A MINIMUM OF THE ROOFTOP AIR HANDLING UNIT'S TOTAL STATIC PRESSURE IN INCHES OF WATER PLUS 3".
2. MANUALLY PRIME FILL TRAP PRIOR TO START-UP OF UNIT.

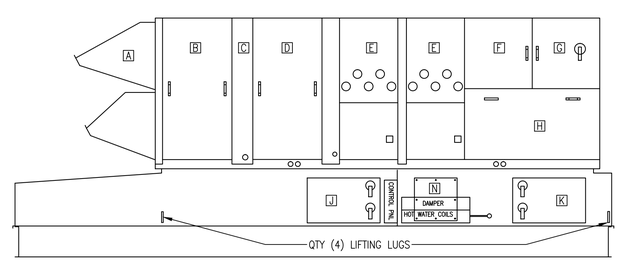
ROOFTOP AIR HANDLING UNIT COOLING COIL DRAIN TRAP DETAIL

N.T.S.

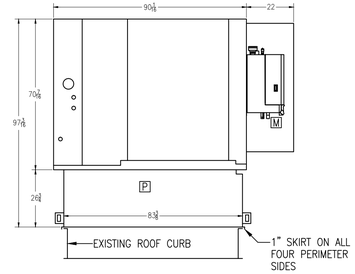


FOOTPRINT VIEW

- A ECONOMIZER SECTION
- B FILTER SECTION
- C COOLING SECTION
- D SUPPLY FAN SECTION
- E MAIN HEAT SECTION
- F CONTROL PANEL
- G DISCONNECT SWITCH
- H COMPRESSOR SECTION
- J ZONE CONTROL PANEL
- K DAMPER/VAV CONTROL ACCESS SECTION
- L MULTIZONE SECTION
- M BOILER ENCLOSURE/GAS AND CONDENSATE CONN.
- N THROUGH THE BASE ELECTRICAL CONNECTIONS
- P HOT WATER PIPING / VALVE ACCESS



SIDE VIEW



END VIEW

ESTIMATED UNIT WEIGHTS: 8814 LBS
REQUIRED CLEARANCES AROUND UNIT: 6 FEET

ROOFTOP AIR HANDLING UNIT DETAIL (RTU-4)

N.T.S.

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RTU Replacement
Arlington, MA

Notes:

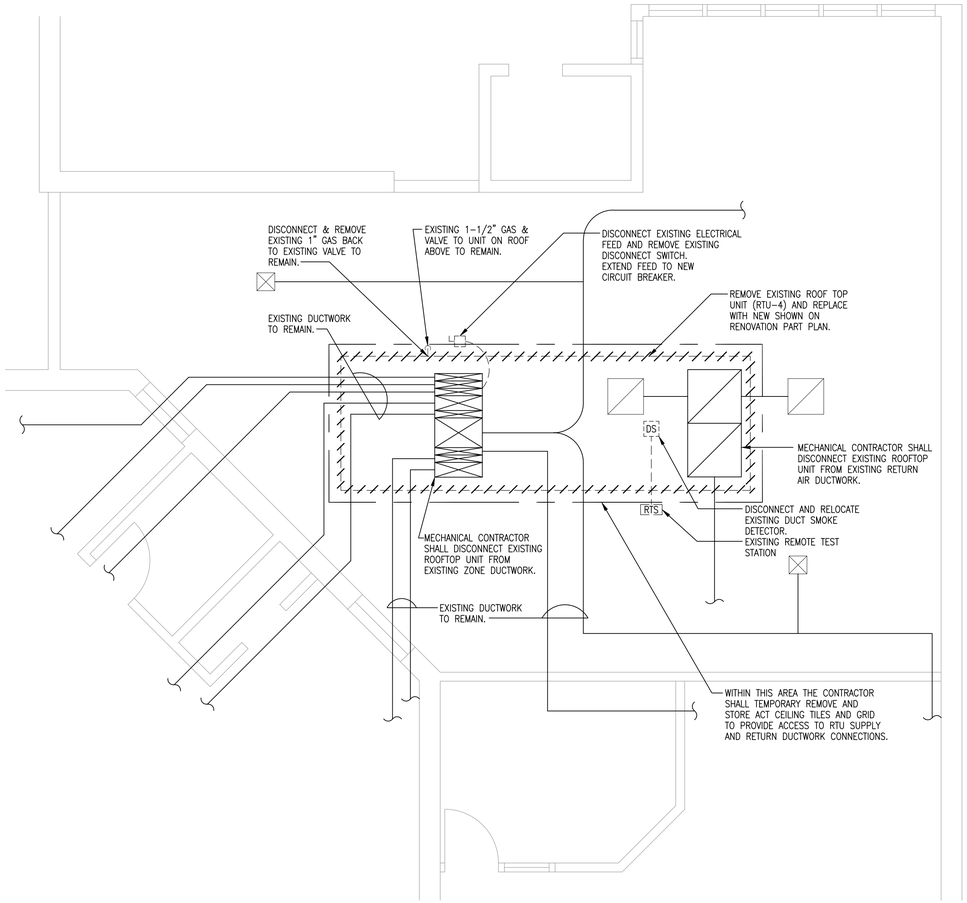
North Arrow

Keyplan

Drawing Name:
MECHANICAL DETAILS, LEGEND & GENERAL NOTES

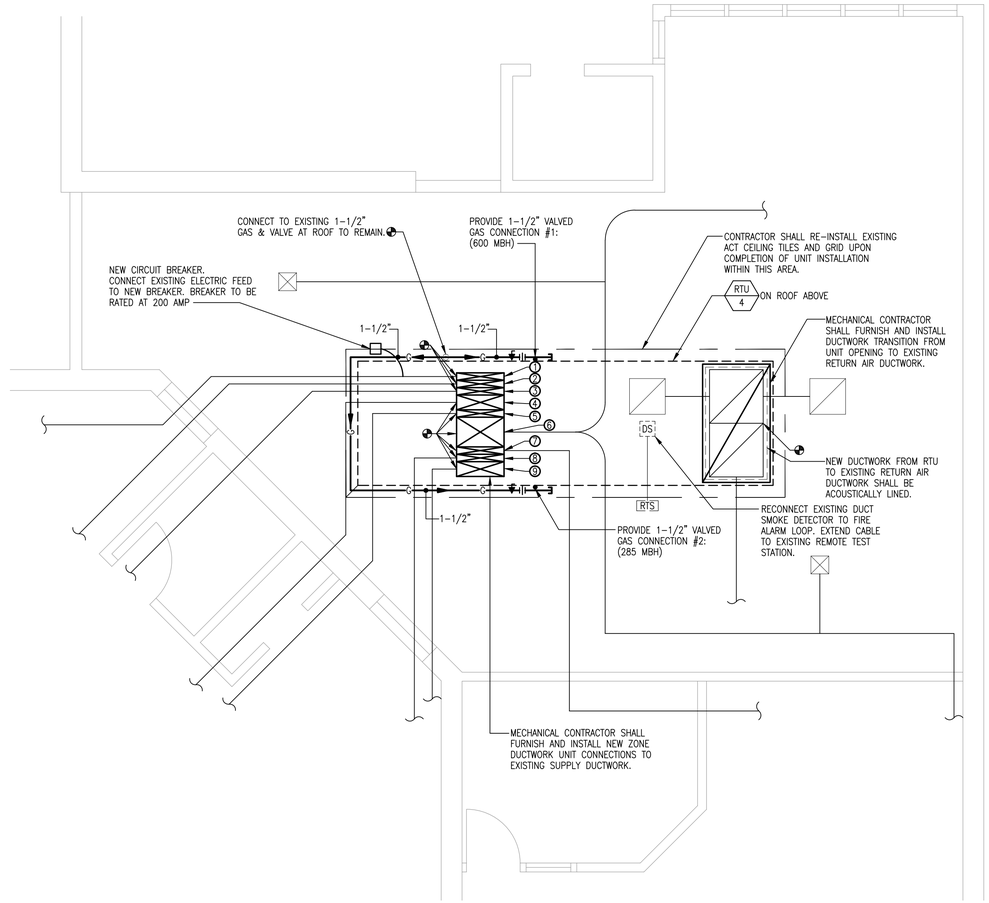
Scale:	NONE
Job No.:	1GV-209
Drawn By:	JAJ
Date:	June 27, 2018

Drawing Number: **ME-1**



DEMOLITION PLAN

SCALE: 1/4"=1'-0"



RENOVATION PLAN

SCALE: 1/4"=1'-0"

MULTIZONE INDIVIDUAL ZONE SCHEDULE

TAG#	ZONE	DAMPER BLADE COUNT	DUCT LENGTH (IN.)	DUCT WIDTH (IN.)	MAXIMUM AIRFLOW (CFM)	MINIMUM AIRFLOW (CFM)	HEATING MAX AIRFLOW 100% (CFM)	ZONE VELOCITY (FPM)	COIL EAT (°F)	COIL LAT (°F)	REHEAT CAPACITY (MBH)	COIL FLOW (GPM)	NOTES
	MZU-1	4.97											
(1)	ZONE 01	1	31.87	4.97	600	60	600	545	55	95	26.0	2.60	
(2)	ZONE 02	1	31.87	4.97	650	65	650	591	55	95	28.2	2.82	EXISTING ZONE THERMOSTATS, WHICH CONTROL ZONE DAMPERS 1 THROUGH 9 SHALL BE REPLACED WITH NEW DDC THERMOSTATS TO CONTROL NEW ZONE DAMPERS AND ZONE REHEAT COILS.
(3)	ZONE 03	1	31.87	4.97	530	53	530	482	55	95	23.0	2.30	
(4)	ZONE 04	2	31.87	9.94	740	74	740	336	55	95	32.1	3.21	
(5)	ZONE 05	1	31.87	4.97	450	45	450	409	55	95	19.5	1.95	
(6)	ZONE 06	4	31.87	19.88	3290	329	3290	748	55	95	142.8	14.28	
(7)	ZONE 07	1	31.87	4.97	500	50	500	455	55	95	21.7	2.17	
(8)	ZONE 08	1	31.87	4.97	800	80	800	727	55	95	34.7	3.47	
(9)	ZONE 09	2	31.87	9.94	900	90	900	409	55	95	39.1	3.91	
		14		69.58	8460						367.2	36.72	

(2) 199 MBH INPUT @ 95% EFF

PACKAGED MULTI-ZONE ROOFTOP UNIT SCHEDULE

ITEM	MFG'R	MODEL	SERVICE	CFM		SUPPLY FAN DATA					EXH. FAN HP	COOLING COIL DATA						CONDENSER FAN DATA		AMBIENT DATA	COMPRESSOR DATA			FILTER DATA		GAS FURNACE HEATING DATA				ELECTRICAL DATA					REMARKS
				SUP. AIR	O.A. (MIN.)	E.S.P. ("WC)	H.P.	RPM	DRIVE	TYPE		MBH TOTAL	MBH SENS	EAT DB	EAT WB	LAT DB	LAT WB	QTY.	HP (EA)	REFRIG.	DESIGN OA DB/WB	QTY.	TYPE	RLA EA.	TYPE	THICK	MBH INPUT	MBH OUTPUT	EAT	LAT	MCA	V	ø	Hz	MOCP	
RTU-4	TRANE	YCD330	ADMIN.	8,460	2,115	1.4"	7.5	1,760	BELT	FC	2 @ 1.0	301.34	223.37	80°F	66°F	58.15°F	55.14°F	3	1.1	R410A	91°F/73°F	3	SCROLL	–	MERV 13	4"	600	480	48.0°F	100.7°F	158.53	208	3	60	200	(1)

(1) UNIT SHALL BE PROVIDED WITH PACKAGED DDC CONTROLS, HOT WATER REHEAT SECTION AND POWERED EXHAUST FAN FOR ECONOMIZER OPERATION. REFER TO SPECIFICATION FOR ADDITIONAL REQUIREMENTS.

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OTTOSON MIDDLE SCHOOL

RTU Replacement
Arlington, MA

Notes:

North Arrow

Keyplan

Drawing Name:

MECHANICAL DEMOLITION & RENOVATION PLANS

Scale: As Noted
Job No: 1GV-209
Drawn By: JAJ
Date: June 27, 2018

Drawing Number:

ME-2