

GENERAL NOTES	
1.	ALL WORK SHALL CONFORM TO THE LATEST EDITIONS OF THE NEW YORK STATE ENERGY CODE, INTERNATIONAL MECHANICAL CODE, ASHRAE GUIDELINES, SMACNA, COUNTY GUIDELINES, NEC, NATIONAL STANDARD PLUMBING CODE, AND ALL OTHER APPLICABLE CODES, ORDINANCES, ETC. FOR NEW YORK STATE AND THE LOCAL AUTHORITY HAVING JURISDICTION.
2.	CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE SITE AND FAMILIARIZING HIMSELF WITH THE EXISTING CONDITIONS AND SCOPE OF THE WORK PRIOR TO SUBMITTING BIDS AND COMMENCING WORK, AND INCLUDE ALL SUCH NECESSARY WORK BASED ON THIS SITE FAMILIARIZATION IN THIS BID.
3.	CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL SAFE WORKING CONDITIONS AND SHALL OBSERVE ALL SAFETY REQUIREMENTS ESTABLISHED BY JURISDICTIONAL AGENCIES AND THE OWNER, WHERE CONFLICTS EXIST, THE MORE STRINGENT REQUIREMENT SHALL APPLY. CARE SHALL BE EXERCISED TO AVOID ENDANGERING PERSONNEL OR STRUCTURES.
4.	CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION METHODS, PROCEDURES AND JOB SITE CONDITIONS INCLUDING SAFETY. CONSTRUCTION SHALL BE PERFORMED IN SUCH A MANNER TO PROTECT WORKMEN, OCCUPANTS AND THE PUBLIC FROM INJURY AND ADJOINING PROPERTY SHALL BE PROTECTED FROM DAMAGE BY USE OF SCAFFOLDING, UNDERPINNING OR OTHER APPROVED METHOD. THE CONTRACTOR SHALL REPAIR ANY AND ALL DAMAGE CAUSED DURING OR RESULTING FROM HIS OPERATIONS IN KIND TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST TO THE OWNER.
5.	CONTRACTOR SHALL MAINTAIN THE JOB SITE IN A CLEAN, DEBRIS FREE CONDITION, THE DUST RESULTING FROM REMOVALS SHALL BE CONTROLLED SO AS TO PREVENT ITS SPREAD TO OCCUPIED PORTIONS OF THE BUILDING AND TO AVOID CREATION OF A NUISANCE IN THE SURROUNDING AREA.
6.	CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED PERMITS, FEES, APPROVALS, ETC. PRIOR TO COMMENCING WORK AND SHALL SECURE CERTIFICATE OF OCCUPANCY UPON COMPLETION OF WORK.
7.	CONTRACTOR SHALL BE RESPONSIBLE TO DISPOSE OF ALL DEMOLISHED MATERIAL OFF SITE IN AN APPROVED MANNER. THE OWNER SHALL BE CONSULTED PRIOR TO DISPOSAL OF ANY SALVAGED OR EXCESS MATERIALS AT THE COMPLETION OF THE PROJECT.
8.	UPON COMPLETION OF WORK, ALL EXCESS MATERIAL, DEBRIS, ETC. SHALL BE REMOVED AND THE WORK AREA SHALL BE LEFT CLEAN TO THE OWNER'S SATISFACTION.
9.	ALL WORK SHALL BE SCHEDULED IN COMPLIANCE WITH THE OWNER'S REQUIREMENTS FOR THE USE OF THE EXISTING FACILITY.
10.	CONTRACTOR SHALL FURNISH ALL EQUIPMENT THAT MAY BE REQUIRED TO PERFORM THE WORK INDICATED IN A SAFE AND ORDERLY MANNER, AND AS NECESSARY FOR A PROPER OPERATIONAL SYSTEM.
11.	CONTRACTOR SHALL BE RESPONSIBLE FOR THE RELOCATION AND TEMPORARY SUPPORT OF ANY UTILITIES ENCOUNTERED DURING THE COURSE OF HIS WORK AND TO ENSURE THE OWNER'S FACILITY TO BE OPERATIONAL.
12.	CONTRACTOR SHALL REVIEW DRAWINGS AND FIELD VERIFY ALL DIMENSIONS, CONDITIONS AND ELEVATIONS PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES AND ADDRESS ALL QUESTIONS TO ENGINEER PRIOR TO COMMENCING WORK.
13.	CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING, PATCHING, FILLING AND CLEANING UPON COMPLETION OF WORK.
14.	CONTRACTOR SHALL NOT SCALE DRAWINGS FOR DIMENSIONS. ALL WRITTEN OR DIMENSIONED INFORMATION TAKES PRECEDENCE OVER THE DRAWING.
15.	CONTRACTOR SHALL SUBMIT, WHERE REQUIRED BY THE ARCHITECT, SHOP DRAWINGS AND SUBMITTALS FOR APPROVAL PRIOR TO THE START OF FABRICATION OF THOSE ITEMS. THIS INCLUDES ALL EQUIPMENT, SCHEMATIC DUCTWORK AND PIPING LAYOUT, ETC. CONTRACTOR IS RESPONSIBLE FOR ENSURING ALL EQUIPMENT ETC WILL FIT (WITH PROPER MAINTENANCE CLEARANCES) AT ALL LOCATIONS. REVIEW OF SHOP DRAWINGS/SUBMITTALS BY THE ARCHITECT DOES NOT RELIEVE THE CONTRACTOR FROM PROVIDING THE CURRENT MODEL NUMBERS, TYPE, & FEATURES OF ALL EQUIPMENTS & MATERIALS.
16.	THE CONTRACTOR SHALL PROVIDE THE OWNER AND ENGINEER WITH CERTIFICATES OF INSURANCE PRIOR TO STARTING THE WORK.
17.	THE CONTRACTOR SHALL BE RESPONSIBLE FOR SHORING AND BRACING OF EXISTING STRUCTURES AS NEEDED TO COMPLETE THE NEW WORK.
18.	ALL MANUFACTURER'S MATERIALS, COMPONENTS, FASTENERS, ASSEMBLIES, ETC. SHALL BE HANDLED AND INSTALLED IN ACCORDANCE TO WITH MANUFACTURERS INSTRUCTIONS AND RECOMMENDATIONS, WHERE BRAND NAMES AND MANUFACTURED PRODUCTS ARE CALLED FOR, APPROVED EQUALS WHICH MEET APPLICABLE STANDARDS AND SPECIFICATIONS MAY BE SUBSTITUTED WITH WRITTEN PERMISSION OF THE ENGINEER AND THE OWNER. WHENEVER BRAND NAMES OR SPECIFIC PRODUCT SYSTEMS ARE INDICATED IT SHALL BE CLEARLY UNDERSTOOD THAT SUCH IDENTIFICATION IS FOR THE PURPOSE OF ILLUSTRATING THE TYPE OF PRODUCT AND DEGREE OF QUALITY DESIRED. SUCH IDENTIFICATION IN NO WAY PRECLUDES THE CONTRACTOR FROM USING PRODUCTS OF OTHER MANUFACTURERS WHICH CAN BE SHOWN IN ADVANCE TO BE OF LIKE AND OF EQUAL OR BETTER QUALITY.
19.	ALL CHANGES SHALL BE REQUESTED IN WRITING AND MAY ONLY BE APPROVED IN WRITING BY THE ARCHITECT AND THE OWNER PRIOR TO ANY CHANGES BEING MADE.
20.	THE ARCHITECT/ENGINEER HAS THE RIGHT TO REJECT ANY PORTION OF WORK THAT IS POORLY INSTALLED, DOES NOT MEET INDUSTRY STANDARD, UNAUTHORIZED, OR WORK DONE CONTRARY TO THE INTENT OF THE CONTRACT DOCUMENTS. SUCH WORK SHALL BE REPLACED, REPAIRED OR REMOVED AT THE CONTRACTOR'S EXPENSE.
21.	CONTRACTOR SHALL GUARANTEE ALL HIS WORK AND THE WORK OF HIS SUBCONTRACTORS FOR A PERIOD OF TWO (2) YEARS AFTER RECEIVING FINAL ACCEPTANCE AND DO ALL REPAIR WORK AND REPLACEMENT AS NECESSARY DURING THAT PERIOD AT THE CONTRACTOR'S EXPENSE.
22.	IN NO EVENT SHALL STRUCTURAL MEMBERS BE CUT OR DRILLED WITHOUT THE WRITTEN APPROVAL OF A LICENSED STRUCTURAL ENGINEER.
23.	CONTRACTOR SHALL PROVIDE SAFE AND SANITARY CONDITIONS WHERE DEMOLITION AND WRECKING OPERATIONS ARE BEING CARRIED ON. WORK SHALL BE EXECUTED IN SUCH A MANNER THAT HAZARD FROM FIRE, POSSIBILITY OF INJURY, DANGER TO HEALTH AND CONDITIONS WHICH MAY CONSTITUTE A PUBLIC NUISANCE SHALL BE MINIMIZED.
24.	ENGINEER/OWNER MAY ASK THE CONTRACTOR TO PROVIDE DETAILED SHOP DRAWINGS & SUBMITTALS OF ANY/ALL PARTS OF THIS PROJECT WHICH THE ENGINEER/OWNER DEEMS NECESSARY FOR.

HVAC GENERAL NOTES	
1.	PROCURE AND PAY ALL NECESSARY PERMITS AND LICENSES REQUIRED TO CARRY OUT THE WORK SHOWN. OBTAIN AND PAY FOR ALL FEES.
2.	COMPLY WITH ALL FEDERAL STATE AND MUNICIPAL LAWS AND CODES, ORDINANCES, RULES AND REGULATIONS OF HEALTH, PUBLIC OR OTHER AUTHORITIES CONTROLLING OR LIMITING THE METHODS, MATERIALS TO BE USED OR ACTIONS OF THOSE EMPLOYED.
3.	GUARANTEE HVAC SYSTEM FOR A PERIOD OF TWO (2) YEARS FROM OWNER'S ACCEPTANCE TO BE FREE FROM DEFECTS AND REPAIR OR REPLACE, AT NO COST TO OWNER, FAILURES OR DEFECTS.
4.	MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL HIS DEBRIS.
5.	BALANCE HVAC SYSTEM TO QUANTITIES INDICATED. CONTRACTOR TO SUBMIT FOUR (4) SETS OF AIR, WATER AND UNIT BALANCING REPORT TO ENGINEER/OWNER PRIOR TO FINAL ACCEPTANCE OF THE SYSTEM.
6.	BIDDERS FOR THIS WORK SHALL VISIT THE PREMISES AND CAREFULLY EXAMINE ALL EXISTING CONDITIONS BEFORE SUBMITTING BIDS. NOT ALL EXISTING CONDITIONS HAVE BEEN IDENTIFIED ON DRAWINGS. CONTRACTOR SHALL NOTIFY ENGINEER OF ALL DISCREPANCIES PRIOR TO SUBMITTING BID.
7.	ALL BIDDERS SHALL ALSO FAMILIARIZE THEMSELVES WITH THE MEANS OF ENTRANCE AND EXIT AT THE PROPERTY AND ALL OTHER INFORMATION NECESSARY TO PROPERLY CARRY OUT THE WORK.
8.	THE CONTRACTOR SHALL, WITH THE APPROVAL OF THE ENGINEER AND WITHOUT ADDITIONAL COST TO THE OWNER, MAKE ALL NECESSARY CHANGES OR MODIFICATIONS TO LOCATIONS AS MAY BE NECESSARY TO SUIT REQUIREMENTS AND CONDITIONS FOR THE PROPER AND CONVENIENTLY ACCESSIBLE LOCATIONS OF ALL PARTS OF EACH SYSTEM.
9.	SMALL DETAILS ARE NOT USUALLY SHOWN OR SPECIFIED BUT NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OR WORK SHALL BE FURNISHED AND INSTALLED AT NO ADDITIONAL COST.
10.	THE CONTRACTOR SHALL NOTE THAT ALL SERVICE CONNECTIONS MAY NOT BE SHOWN IN TRUE POSITIONS. EACH BIDDER IS CAUTIONED, THEREFORE, TO VERIFY SAME WITH FIELD CONDITIONS.
11.	CONTRACTOR SHALL CHECK FOR INTERFERENCE AND VERIFY ALL DIMENSIONS PRIOR TO FABRICATION OR INSTALLATION OF PIPING AND DUCTWORK.
12.	IF AN ITEM OF EQUIPMENT OTHER THAN THE ITEM(S) SPECIFIED IS APPROVED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ADDITIONAL COST ARISING OUT OF ADDITIONAL OR CHANGED GENERAL CONSTRUCTION AND MECHANICAL WORK REQUIRED TO ACCOMMODATE THE SUBSTITUTED EQUIPMENT.
13.	ALL EQUIPMENT INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURERS DIRECTIONS AND RECOMMENDATIONS.
14.	PROVIDE TWO (2) SETS OF SPARE FILTERS FOR THE INSTALLED MAU, AC UNITS, & OTHER EQUIPMENT.
15.	PROVIDE TWO-YEAR PREVENTIVE & REGULAR MAINTENANCE SERVICE FOR ALL INSTALLED HVAC/MECHANICAL SYSTEM. THIS INCLUDES A MINIMUM OF TWO (2) PERIODIC SERVICE VISITS ANNUALLY TO INSPECT, TEST & CHECK ALL COMPONENTS OF HVAC UNITS AND ANY ADDITIONAL VISITS REQUIRED IF ANY HVAC UNIT FAILS. ALL NECESSARY BELT ALIGNMENTS, PROPER REFRIGERANT CHARGE, PROPER OPERATIONS OF ALL DAMPERS, CONTROLS, ETC. IS INCLUDED IN THIS SCOPE OF WORK.
16.	PROVIDE FIRE STOPPING AROUND ALL OPENINGS FOR DUCT, PIPING, CONDUIT, ETC. PENETRATIONS THROUGH CORRIDORS, SLABS AND OTHER RATED PARTITIONS.
17.	MECHANICAL CONTRACTOR IS RESPONSIBLE FOR ALL DEMOLITION AND RESTORATION OF AREAS OF MECHANICAL REMOVALS.
18.	CONTRACTOR IS RESPONSIBLE FOR PROVIDING DUMPSTER/CONTAINER SERVICES AND LABOR TO KEEP THE BUILDING FREE OF DEBRIS.
19.	CONTRACTOR TO PROVIDE TWO (2) SEPARATE TRAINING SESSIONS (FOUR WEEKS APART) ON PROPER OPERATION & TROUBLESHOOTING OF NEW HVAC SYSTEM & CONTROLS.
20.	CONTRACTOR TO NOTE THAT BOTH DWGS. & SPECS. ARE COLLECTIVELY A PART OF BID REQUIREMENTS. IN CASE OF ANY DIFFERENCES BETWEEN VARIOUS DWGS. OR BETWEEN DWGS. & SPECS., THE MOST STRINGENT REQUIREMENT WILL PREVAIL.
21.	CONTRACTOR TO SUBMIT FOUR (4) SETS OF OPERATION & MAINTENANCE MANUALS, INCLUDING A SUMMARY SHEET OF ALL EQUIPMENT MANUFACTURERS/MODEL'S/SERIAL #'S. SHOP DRAWING SUBMITTALS, WARRANTY INFORMATION, O&M MANUALS, PROJECT INFORMATION, CONTACT DETAILS & AS-BUILT DRAWINGS.
22.	CONTRACTOR TO PROVIDE FOUR (4) SETS AND AN ELECTRONIC COPY OF AS-BUILT DRAWINGS OF THE ENTIRE SYSTEM.

GENERAL CONSTRUCTION NOTES	
1.	REFER TO "MULTIPLE PRIME CONTRACT NOTES" ON DWG. A1.00 & SPECIFICATIONS FOR CONTRACTORS' RESPONSIBILITIES.
2.	GC IS RESPONSIBLE TO CORE DRILL ALL WALLS, FLOORS, CEILING, ROOF ETC. FOR ALL PIPE & DUCT PENETRATIONS. SEAL OPENING WITH 2-HOUR FIRE BARRIER CAULK. SEE DRAWINGS FOR APPROXIMATE LOCATIONS OF PIPES, DUCT, ETC.
3.	GC TO REFER TO MECHANICAL DRAWINGS FOR PAINTING, FURNISHING AND INSTALLING ACCESS PANELS, CUTOUT LOCATIONS, ETC.
4.	EC SHALL BE RESPONSIBLE FOR REMOVING & RELOCATING EXISTING ELECTRICAL, FIRE ALARM DEVICES, ETC., TO ACCOMMODATE INSTALLATION OF NEW HVAC EQUIPMENT, PIPING & DUCTWORK. CHECK IN FIELD.
5.	GC SHALL REMOVE EXISTING CEILING TILES AND CEILING GRID TO ACCOMMODATE THE INSTALLATION OF NEW UNITS, PIPING & DUCTWORK. RE-INSTALL ALL CEILING TILES BACK TO MATCH EXISTING. REMOVE & REPLACE ALL DAMAGED TILES & CEILING GRID. CHECK IN FIELD.

HVAC MATERIALS	
EQUIPMENT:	
• REFER TO SCHEDULES FOR UNIT MANUFACTURER, SIZE, AND CAPACITY DATA.	
DUCTWORK:	
• INDOOR AIR DUCTWORK, EXCEPT AS INDICATED BELOW, SHALL BE GALVANIZED STEEL CONSTRUCTION. WEIGHTS AND CONSTRUCTION DETAIL SHALL BE IN ACCORDANCE WITH THE LATEST ASHRAE GUIDE AND/OR SMACNA STANDARDS. MIN. 24 GAUGE DUCTWORK SHALL BE USED FOR THE PROJECT.	
• OUTDOOR AIR INTAKE DUCTWORK SHALL BE ALUMINUM CONSTRUCTION CLASS "A" SEALED.	
• ALL ROUND DUCTWORK SHALL BE DOUBLE-WALL SPIRAL DUCTWORK	
• FLEXIBLE DUCTWORK: SHALL NOT EXCEED FOUR (4) FEET IN LENGTH. FOR ANY HORIZONTAL FLEX DUCT BRANCH TO A CEILING DIFFUSER, FURNISH A 90° BRACE TO MAINTAIN A LONG RADIUS ELBOW TO THE DIFFUSER (TITUS MAKE, MODEL "FLEXRIGHT" OR APPROVAL EQUAL MANUFACTURERS).	
AIR DEVICES:	
• SD - TITUS MAKE, MODEL 250 (12"x12" OR AS NOTED, STEEL CONSTRUCTION).	
• EG - TITUS MAKE, MODEL 350RL STEEL CONSTRUCTION.	
NOTES:	
1. ALL CEILING DIFFUSERS LOCATED IN GYPSUM BOARD AND/OR CONCEALED SPLINE CEILINGS SHALL BE PROVIDED WITH FRAME TYPE FOR SURFACE MOUNTING.	
2. PROVIDE FACTORY INSTALLED 90° BLANK-OFF PLATE(S) IN ALL 2 AND 3 WAY DIFFUSERS.	
3. COLOR OF NEW AIR INLETS & OUTLETS SHALL MATCH THE CEILING COLOR.	
4. NC RATING OF ALL CDS SHALL NOT EXCEED 20. NC RATING OF ALL RARs/EARs SHALL NOT EXCEED 22.	
PIPING:	
• REFRIGERANT PIPING SHALL BE HARD COPPER TYPE "K" WITH BRAZED FITTINGS.	
• CONDENSATE DRAIN PIPING SHALL BE HARD COPPER TYPE "L" WITH WROUGHT COPPER SOLDERED FITTINGS. REFER TO PLUMBING DRAWINGS.	
NOTES:	
1. ALL SUPPLY AIR DUCTWORK SHALL BE INTERNALLY LINED FOR A MINIMUM OF 15' DOWNSTREAM OF ALL FCU OR AS NOTED ON THE DRAWINGS.	
• DUCT INSULATION NOTE: PROVIDE A MINIMUM 6" OVERLAP WHERE INTERNAL INSULATION ENDS AND EXTERNAL INSULATION BEGINS.	
• FRESH AIR INTAKE AND EXPOSED DUCT: 1" THICK, MIN. 2 LB. DENSITY RIGID FIBERGLASS DUCT INSULATION WITH FOIL FACING VAPOR BARRIER FASTENED WITH WELDED CLIPS, CEMENTED JOINTS WITH ALUMINUM TAPE.	
• HEATING PIPING INSULATION: REFER TO SPEC. SECTION FOR PIPE INSULATION REQUIREMENTS.	
• INTERIOR REFRIGERANT SUCTION & HOT GAS BYPASS PIPING SHALL BE INSULATED WITH 1" THICK FLEXIBLE ELASTOMERIC INSULATION (AP ARMAFLEX BLACK LAPSEAL OR APPROVED EQUAL).	
• EXTERIOR REFRIGERANT SUCTION, LIQUID & HOT GAS BYPASS PIPING SHALL BE INSULATED WITH 1" THICK FLEXIBLE ELASTOMERIC INSULATION (AP ARMAFLEX BLACK LAPSEAL OR APPROVED EQUAL) & BE PROVIDED WITH MIN. 30 MIL PVC FIELD APPLIED JACKETS.	
• CONDENSATE DRAIN PIPING SHALL BE INSULATED WITH 1" THICK FLEXIBLE ELASTOMERIC INSULATION (AP ARMAFLEX BLACK LAPSEAL OR APPROVED EQUAL). REFER TO PLUMBING DRAWINGS.	

SYMBOLS		NOT TO SCALE
	=	4-WAY SUPPLY AIR CEILING DIFFUSER (SAD) WITH NECK SIZE AND AND CFM INDICATED ON PLANS.
	=	RETURN AIR REGISTER (RAR) WITH NECK SIZE AND CFM INDICATED ON PLANS.
	=	EXHAUST AIR REGISTER (EAR) WITH NECK SIZE AND CFM INDICATED ON PLANS.
	=	SUPPLY AIR CEILING REGISTER/GRILLE (SAR) WITH NECK SIZE AND CFM INDICATED ON PLANS.
	=	RETURN AIR REGISTER (RAR) WITH NECK SIZE AND CFM INDICATED ON PLAN
	=	POINT OF CONNECTION OF NEW PIPING/DUCTWORK TO EXISTING
	=	POINT OF DISCONNECTION OF NEW PIPING/DUCTWORK TO EXISTING
	=	INDICATES HARD DUCT WITH INTERNAL LINING (DIMENSIONS ARE INSIDE CLEAR WIDTH & DEPTH).
	=	INDICATES HARD DUCT (DIMENSIONS ARE INSIDE CLEAR WIDTH & DEPTH).
	=	DUCT TURN UP (SUPPLY, RETURN, EXHAUST)
	=	DUCT TURN DOWN (SUPPLY, RETURN, EXHAUST)
	=	DUCT SMOKE DETECTOR WITH ACCESS DOOR
	=	FIRE/DAMPER WITH ACCESS DOOR
	=	VOLUME DAMPER
	=	BACK DRAFT DAMPER
	=	INDICATES NEW ROOM THERMOSTAT
	=	ROOM NAME ROOM NUMBER
	=	REVISION
	=	PIPE TURN UP
	=	PIPE TURN DOWN

ABBREVIATIONS					
&	=	AND	IAQ	=	INDOOR AIR QUALITY
@	=	AT	ID	=	INSIDE DIAMETER (DIM)
Ø	=	DIAMETER OR ROUND	IN	=	INCH
(E)	=	EXISTING	INFO	=	INFORMATION
(N)	=	NEW	KMA	=	KITCHEN MAKEUP AIR
AC	=	AIR CONDITIONING UNIT	KMC	=	KITCHEN MECHANICAL CONTRACTOR
ACC	=	AIR COOLED	KX	=	KITCHEN EXHAUST
AD	=	ACCESS DOOR	LAT	=	LEAVING AIR TEMPERATURE
ADDL	=	ADDITIONAL	LDB	=	LEAVING DRY BULB
AFF	=	ABOVE FINISHED FLOOR	LSD	=	LINEAR SLOT DIFFUSER
ALC	=	AUTOMATED LOGIC CONTROL	LWB	=	LEAVING WET BULB
ALT	=	ALTERNATE	LWT	=	LEAVING WATER TEMPERATURE
ALUM	=	ALUMINUM	MAX	=	MAXIMUM
AS	=	AIR SEPARATOR	MC	=	MECHANICAL CONTRACTOR
BDD	=	BACK DRAFT DAMPER	MECH	=	MECHANICAL MANUFACTURER
BLDG	=	BUILDING	MFR	=	MINIMUM
BMS	=	BUILDING MANAGEMENT SYSTEM	MIN	=	MINIMUM
CD	=	CEILING DIFFUSER	OA	=	OUTSIDE AIR
CFM	=	CUBIC FEET PER MINUTE	OD	=	OUTSIDE DIAMETER
CLG	=	CEILING	PC	=	PLUMBING CONTRACTOR
CO	=	CLEANOUT	RA	=	RETURN AIR
CP	=	CONDENSATE DRAIN PUMP	RAR	=	RETURN AIR REGISTER
CV	=	CONVECTOR	RG	=	RETURN GRILLE
DDC	=	DIRECT DIGITAL CONTROL	RM	=	ROOM
DIA	=	DIAMETER	RTU	=	ROOFTOP HVAC UNIT
DN	=	DOWN	SA	=	SUPPLY AIR
DSD	=	DUCT SMOKE DETECTOR	SAD	=	SUPPLY AIR DIFFUSER
DWG	=	DRAWING	SAR	=	SUPPLY AIR REGISTER
EA	=	EHAUST AIR	SD	=	SMOKE DAMPER
EAR	=	EXHAUST AIR REGISTER	SPEC	=	SPECIFICATION
EAT	=	ENTERING AIR TEMPERATURE	SR	=	SUPPLY AIR SIDE REGISTER
EC	=	ELECTRICAL CONTRACTOR	SS	=	STAINLESS STEEL
EF	=	EXHAUST FAN	TG	=	TRANSFER AIR GRILLE
ENCL	=	ENCLOSURE	TYP	=	TYPICAL
ET	=	EXPANSION TANK	UH	=	UNIT HEATER
EXIST	=	EXISTING	UV	=	UNIT VENTILATOR
EWT	=	ENTERING WATER TEMPERATURE	VD	=	VOLUME DAMPER
FAI	=	FRESH AIR INTAKE	VDF	=	VARIABLE FREQUENCY DRIVE
FC	=	FLEXIBLE CONNECTION	VERT	=	VERTICAL
FCU	=	FAN COIL UNIT	VIF	=	VERIFY IN FIELD
FD	=	FIRE DAMPER	VRF	=	VARIABLE REFRIGERANT FLOW
FLR	=	FLOOR	W/	=	WITH
FTR	=	FINED TUBE RADIATION/BASEBOARD	WMS	=	WIRE MESH SCREEN
GC	=	GENERAL CONTRACTOR			
HORIZ	=	HORIZONTAL			
HVAC	=	HEAT/VENTILATION/AIR CONDITIONING			
HWH	=	HOT WATER HEATER			

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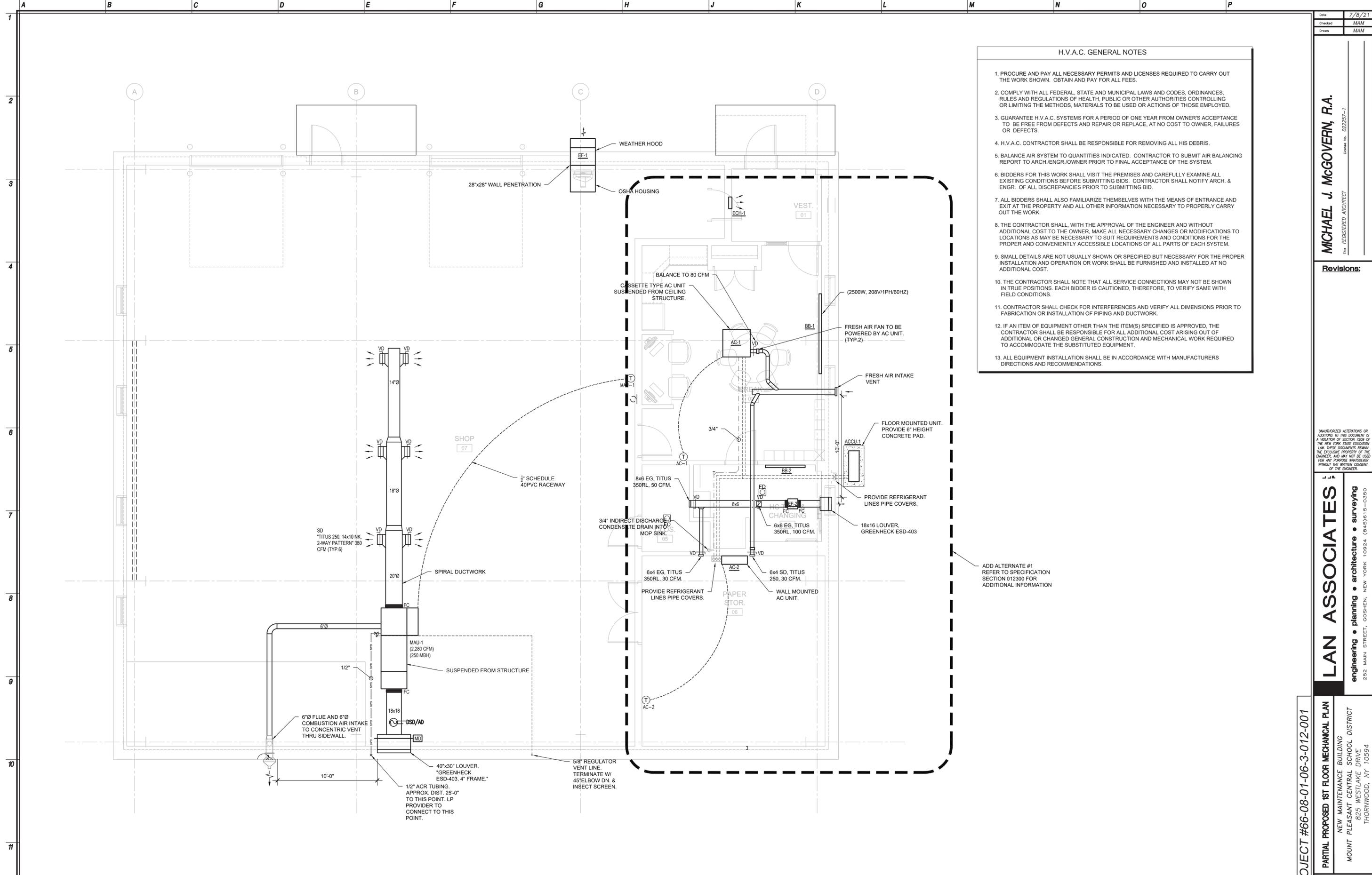
Revisions:

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SED PROJECT #66-08-01-06-3-012-001

MECHANICAL GEN. NOTES, LEGEND & ABBREV.
 NEW MAINTENANCE BUILDING
 MOUNT PLEASANT CENTRAL SCHOOL DISTRICT
 825 WESTLAKE DRIVE
 THORNWOOD, NY 10594



- H.V.A.C. GENERAL NOTES**
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 2. COMPLY WITH ALL FEDERAL, STATE AND MUNICIPAL LAWS AND CODES, ORDINANCES, RULES AND REGULATIONS OF HEALTH, PUBLIC OR OTHER AUTHORITIES CONTROLLING OR LIMITING THE METHODS, MATERIALS TO BE USED OR ACTIONS OF THOSE EMPLOYED.
 3. GUARANTEE H.V.A.C. SYSTEMS FOR A PERIOD OF ONE YEAR FROM OWNER'S ACCEPTANCE TO BE FREE FROM DEFECTS AND REPAIR OR REPLACE, AT NO COST TO OWNER, FAILURES OR DEFECTS.
 4. H.V.A.C. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL HIS DEBRIS.
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 13. ALL EQUIPMENT INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURERS DIRECTIONS AND RECOMMENDATIONS.

2 Proposed 1st Floor Mechanical Plan
M2.01 1/4" = 1'-0"



Date	7/8/21
Checked	MAM
Drawn	MAM

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Revisions:

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SED PROJECT #66-08-01-06-3-012-001

PARTIAL PROPOSED 1ST FLOOR MECHANICAL PLAN
NEW MAINTENANCE BUILDING
MOUNT PLEASANT CENTRAL SCHOOL DISTRICT
825 WESTLAKE DRIVE
THORNWOOD, NY 10594

Job No. 4.1449.02
File No. 4144902M001

M2.01

PROPANE GAS FIRED MAKEUP AIR UNIT SCHEDULE

MARK No.	CFM	MIN. O.A.	SUPPLY HP	ESP IN.	HEATING MBH INPUT	HEATING MBH OUTPUT	EAT/LAT (°F)	ELECTRIC DATA VOLTS/PH/Hz	MCA	MOP	A.F.U.E. %	LP GAS PRESS. MAX/MIN W.C.	UNIT WEIGHT (LBS)	MODEL & MANUFACTURER	REMARKS
MAU-1	2,280	2,280	1.5	0.75	250	200	7 / 87.5	208/3/60	9.6	15	81	14"10"	890	IGX-109-H12J GREENHECK	INDIRECT GAS FURNACE, SUSPENDED W/ SPRING VIBRATION ISOLATORS, S.S. HEAT EXCHANGER, SMOKE DETECTOR, FILTER RACK, 13:1 TURNDOWN MODULATION, PRESSURE REGULATOR, VALVES, NEMA 3R DISCONNECT SWITCH, THERMOSTAT, THERMOSTAT W/ LOCKING COVER. INTERLOCK UNIT W/ EF-1

ELECTRIC RESISTANCE CABINET/UNIT HEATER SCHEDULE (TRANE AS STANDARD)

TAG No.	LOCATION	SA (CFM)	HEATING KW	HEATING MBH	ELECTRIC DATA VOLT/PH/Hz	MODEL & MANUFACTURER	WEIGHT (LBS)	DIMENSIONS (W x H x D) (IN.)	REMARKS
ECH-1	VESTIBULE/ENTRANCE	175	2.0	6.8	208/1/60	UHAA-021ATAD TRANE	27	14 x 19 x 4	WALL-RECESSED CABINET HEATER. SEE NOTES.

NOTES:
 1. PROVIDE HEAVY-DUTY LOUVERED GRILLE, BUILT-IN TAMPER RESISTANT THERMOSTAT & DISCONNECT SWITCH & FAN DELAY SWITCH FOR ECH-1.
 2. PROVIDE W/ DOUBLE POLE LINE BREAK THERMOSTAT WITH OFF OPTION.
 3. ECH-1 UNIT COLOR TO BE SELECTED BY OWNER.
 4. PROVIDE DDC CONTROLS & CONNECT TO NEW BMS.

EXHAUST FAN SCHEDULE (GREENHECK AS STANDARD)

TAG No.	SYSTEM SERVED	LOCATION	CFM	STATIC PRESSURE LOSS (IN)	BHP	MHP	RPM	ELECTRIC DATA VOLT/PH/Hz	DIMENSIONS (DIA. x H) (IN)	APPROX. UNIT WEIGHT (LBS)	MODEL & MANUFACTURER	INLET SONES	REMARKS
EF-1	MAINT. SHOP	WALL	2,280	0.52	0.54	3/4	1200	208/1/60	30 X 30	200	SBE-1H20-7 GREENHECK	21	NOTES 1,2,3,4 & 9.
EF-2	BATH/JAN./STORAGE	PLENUM	180	0.2	0.03	1/30	1550	120/1/60	12Wx13Lx12H	30	SQ-70-VG GREENHECK	1.9	NOTES 4,5,6,7, & 8.

NOTES:
 1. PROVIDE SHORT WALL HOUSING W/ OSHA PROTECTIVE GUARD.
 2. PROVIDE 90 DEGREE WEATHER HOOD W/ 0.5 WELDED WIRE BIRDSCREEN.
 3. FAN SHALL INTERLOCK WITH MAU-1.
 4. PROVIDE SWITCH NEMA1, TOGGLE, & JUNCTION BOX.
 5. PROVIDE FAN WITH BACK-DRAFT DAMPER.
 6. PROVIDE HANGING ISOLATORS.
 7. PROVIDE SPEED CONTROLLER (PSC).
 8. FAN TO RUN CONTINUOUSLY AND CONTROLLED BY A SWITCH LOCATED IN JANITOR'S CLOSET.
 9. THIS FAN IS INCLUDED IN THE BASE BID.

VENTILATION SCHEDULE

Room Name	Floor Area (Sq. Ft.)	Required O.A. per Sq. Ft.	Required O.A. For Space	No. of People	Required O.A. per Person	Required OA For Occupants	Total Min. O.A. Required (CFM)	Zone Air Distribution Effectiveness	Zone Min. O.A. Required (CFM)	Design		Remarks
										O.A. (CFM)	E.A. (CFM)	
MAINTENANCE SHOP	3,020	-	-	-	-	-	-	-	-	2,280	2,280	0.75/SF
BREAK ROOM	357	0.06	21	8	5	40	60	0.8	77	80		
BATHROOM	95	-	-	-	-	-	-	-	-	100		50CFM/FIXT.
JANITOR'S CLOSET	45	-	-	-	-	-	-	-	-	50		
PAPER STORAGE	395	0.06	24	-	-	24	24	0.8	30	30		
TOTAL	3,913		45	8		40	85			2,390	2,460	

ELECTRIC BASEBOARD SCHEDULE

MARK No.	WATTS	LENGTH	ELECTRIC DATA VOLT - PH - Hz	MODEL & MANUFACTURER	REMARKS
BB-1	2500	8'-0"	208-1-60	QMKC25408W QMARK	FLOOR MOUNTED W/ FRONT & BACK ENCLOSURE PANELS & WALL MOUNTED THERMOSTAT.
BB-2	1000	4'-0"	120-1-60	QMKC2514W QMARK	FLOOR MOUNTED W/ FRONT & BACK ENCLOSURE PANELS & WALL MOUNTED THERMOSTAT.

NOTE: BB-1 AND BB2 ARE TO BE INCLUDED IN ADD ALTERNATE #1. SEE SPECIFICATION SECTION 012300 FOR ADDITIONAL INFORMATION.

DUCTLESS SPLIT INDOOR AC/HEAT PUMP UNIT SCHEDULE (DAIKIN AS STANDARD)

TAG No.	AREA SERVED	AIR FLOW (CFM)	COOLING		HEATING	MODEL & MANUFACTURER	ELECTRIC DATA		REFRIGERANT TYPE	APPROX DIMENSION L x W x H (IN)	APPROX WEIGHT (LBS)	REMARKS	
			TBMH	SBMH	MBH		VOLT/PH/Hz	MCA					MOP
AC-1	BREAK ROOM	1,180	34	29.6	41.5	FTFQ36PVJU DAIKIN	208/1/60	1.4	15	R-410A	33 X 33 X 11	66	CLG.-RECESSED HEAT PUMP UNIT. SEE NOTES.
AC-2	PAPER STORAGE	280	8.9	8	11.1	FXAQ09PVJU DAIKIN	208/1/60	0.3	15	R-410A	31 X 9 X 11	27	WALL MOUNTED HEAT PUMP UNIT. SEE NOTES.

NOTES:
 1. PROVIDE W/ WALL-MOUNTING PLATE. REMOTE CONTROLLER FOR EACH UNIT.
 2. PROVIDE CONDENSATE PUMP. PUMP TO BE POWERED BY AC UNIT.
 3. PROVIDE AC-1 & AC-2 W/ FAN FRESH AIR KIT. FAN TO BE POWERED BY AC UNIT.
 4. PROVIDE PROPER REFRIGERANT CHARGING FOR ALL UNITS.
 5. AC-1 & AC-2 ARE INCLUDED IN ADD ALTERNATE #1 - REFER TO SPECIFICATION SECTION 012300.

OUTDOOR AIR-COOLED CONDENSING UNIT SCHEDULE (DAIKIN AS STANDARD)

TAG No.	LOCATION	UNIT SERVED	COOLING OPERATING TEMP (°F)	HEATING OPERATING TEMP (°F)	NOMINAL COOLING (MBH)	NOMINAL HEATING (MBH)	MODEL & MANUFACTURER	ELECTRICAL VOLT/PH/Hz	COMPRESSOR NO.	COND FAN NO.	MCA	MOP	REFRIGERANT TYPE	APPROX DIMENSIONS W x D x H (IN)	APPROX WEIGHT (LBS)	SEER	REMARKS
ACCU-1	GROUND	AC-1&2	14 TO 115	5 TO 60	40.3	37.5	RXTQ36TAVJ9 DAIKIN	208/1/60	1	1	16.5	25	R-410A	37 x 12 x 40	175	18	SEE NOTES

NOTES:
 1. ELECTRICAL SUBCONTRACTOR SHALL FURNISH & INSTALL NEMA 3R DISCONNECT SWITCH & GFI CONVENIENCE OUTLET FOR EACH UNIT. REFER TO ELECTRICAL DRAWINGS.
 2. PROVIDE W/ LOW AMBIENT CONTROL FOR ACCU-1
 3. PROVIDE UNIT W/ WIND BAFFLE.
 4. ACCU-1 IS INCLUDED IN ADD ALTERNATE #1. REFER TO SPECIFICATION SECTION 012300 FOR ADDITIONAL INFORMATION.

Date: 7/8/21
 Checked: MAM
 Drawn: MAM

MICHAEL J. MCGOVERN, P.A.
 LICENSE NO. 022257-1
 THE REGISTERED ARCHITECT

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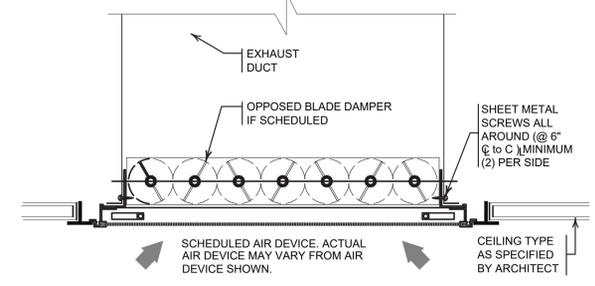
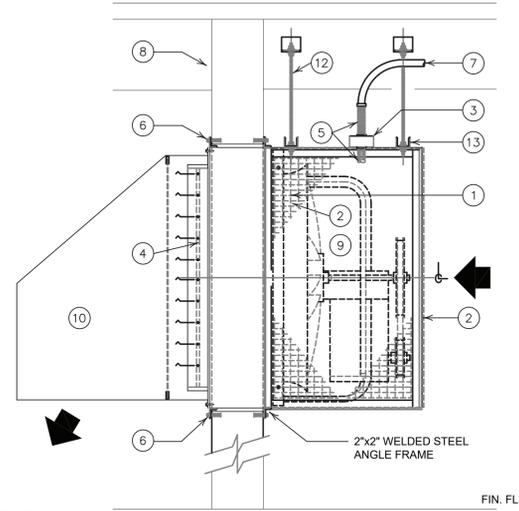
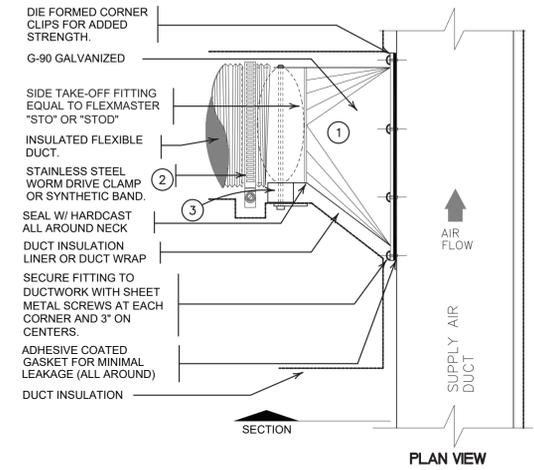
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SED PROJECT #66-08-01-06-3-012-001

MECHANICAL SCHEDULES
 NEW MAINTENANCE BUILDING
 MOUNT PLEASANT CENTRAL SCHOOL DISTRICT
 825 WESTLAKE DRIVE
 THORNWOOD, NY 10594

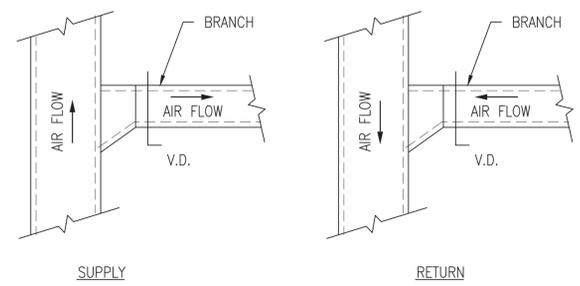
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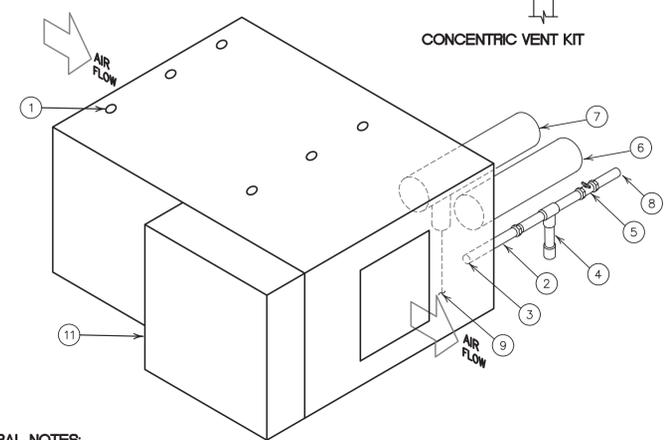
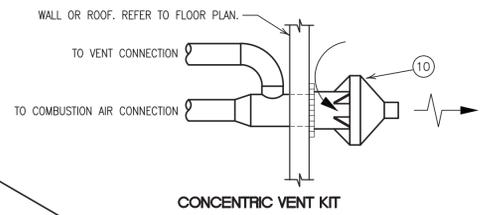


- NOTES:**
1. RETURN/EXHAUST AIR GRILLE SHALL BE INSTALLED SUCH THAT THE FACE OF THE GRILLE IS FLUSH WITH CEILING.
 2. REFER TO DIFFUSER SCHEDULE FOR ADDITIONAL INFORMATION.
 3. REFER TO ARCHITECTURAL DRAWING FOR CEILING TYPE AND CONSTRUCTION DETAILS.

3 DUCTED EXHAUST AIR GRILLE DETAIL
NOT TO SCALE



4 DUCT / DIFFUSER TAKE OFF DETAIL
NOT TO SCALE

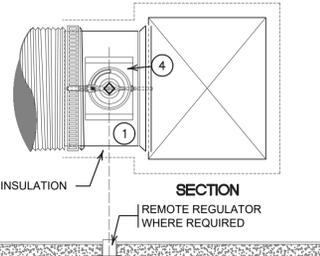


- GENERAL NOTES:**
1. CONSULT LOCAL CODE AUTHORITIES FOR SPECIFIC REQUIREMENTS.
- KEYED NOTES:**
- 1 3/8" - 16 FEMALE THREAD ALL SUSPENSION POINTS.
 - 2 PIPE NIPPLE EXTENDING OUTSIDE THE CABINET.
 - 3 TO GAS VALVE (INSIDE CABINET).
 - 4 12" DRIP LEG.
 - 5 MANUAL SHUTOFF VALVE.
 - 6 6" GALVANIZED DUCT COMBUSTION AIR CONNECTION.
 - 7 6" SCHE. 40 PVC VENT CONNECTION.
 - 8 FROM GAS SUPPLY (PROPANE GAS)
 - 9 CONDENSATE DRAIN TEE. INSTALL 1/2" DRAIN TRAP. PIPE TO FLOOR DRAIN OR OTHER INDIRECT SAN. CONNECTION
 - 10 VENT/COMBUSTION AIR KIT WERE SPECIFIED.
 - 11 CONTROL PANEL.

8 MAU INSTALLATION DETAIL
NOT TO SCALE - SCHEMATIC ONLY

GENERAL NOTE:

1. WHERE REGULATORS ARE REQUIRED IN NON-ACCESSIBLE LOCATIONS, PROVIDE ACCESS DOORS OR YOUNG OR EQUAL EXTENSION RODS, COUPLINGS, 90° GEAR DRIVES, ETC., AS REQUIRED, & YOUNG 301 OR APPROVED EQUAL FLUSH MOUNTED REMOTE REGULATOR AS DIRECTED BY ARCHITECT.



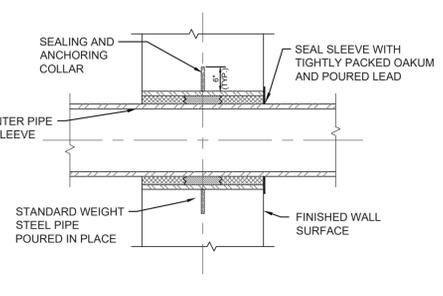
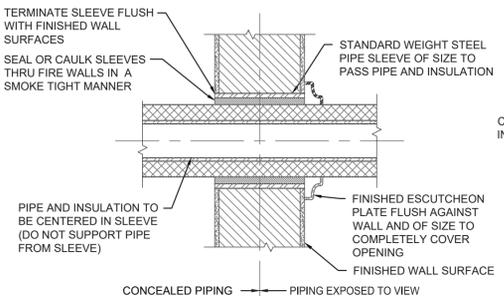
- NOTES:**
- 1 PROVIDE SQUARE TO ROUND TAP WHERE FLEXIBLE DUCT SIZE EXCEED DIMENSION OF RECTANGULAR DUCT.
 - 2 EXTEND INSULATION AND OUTER JACKET OVER THE SECURE CLAMP/BAND AND TAPE DOWN TO SLEEVE/COLLAR TO MAINTAIN VAPOR BARRIER INTEGRITY. (TYPICAL)
 - 3 PROVIDE DAMPER IF TAP SERVES AN AIR DISTRIBUTION DEVICE.
 - 4 RIGID ROUND DAMPERS SHALL BE "FLEXMASTER" SLBO RAISED PLATFORM.

1 ROUND TAP DETAIL
NOT TO SCALE

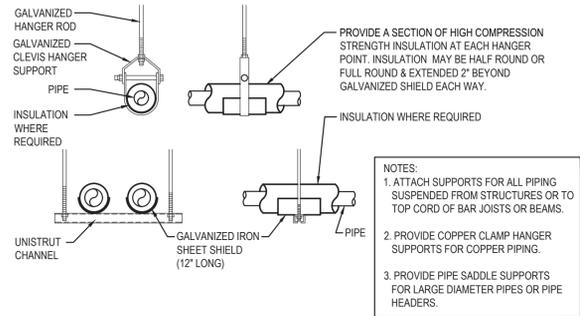
NOTES:

- 1 FAN - AIR FLOW DIRECTION AND CONFIGURATION SHALL BE AS SPECIFIED.
- 2 SHORT WALL HOUSING W/ OSHA PROTECTIVE GUARD
- 3 JUNCTION BOX - W/ RUBBER GROMMET AT PLENUM PENETRATION).
- 4 BAROMETRIC BACK DRAFT
- 5 FLEXIBLE CONDUIT
- 6 LAG SCREWS @ 6" C TO C.
- 7 1/2" SCHEDULE 40 PVC CONDUIT
- 8 STRUCTURE - REFER TO ARCHITECTURAL DRAWINGS.
- 9 REMOVABLE ACCESS PANEL - LOCATED ON MOTOR SIDE.
- 10 90° WEATHERHOOD
- 12 1/2" ALL THREADED RODS ATTACHED TO BUILDING STRUCTURE IN AN APPROVED MANNER.
- 13 3"x2" CHANNEL SUPPORT ATTACHED TO WIRE GUARD FRAME. (FOR FAN WITH MOTORS IN EXCESS OF 70 lbs.)

2 WALL MOUNTED PROPELLER FAN INSTALLATION DETAIL
N.T.S.

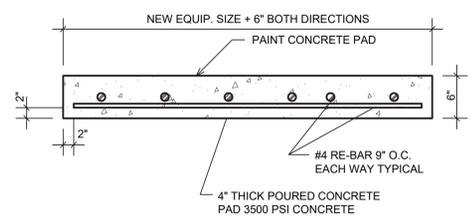


5 PIPE SLEEVES THRU WALL DETAILS
NOT TO SCALE



- NOTES:**
1. ATTACH SUPPORTS FOR ALL PIPING SUSPENDED FROM STRUCTURES OR TO TOP CORD OF BAR JOISTS OR BEAMS.
 2. PROVIDE COPPER CLAMP HANGER SUPPORTS FOR COPPER PIPING.
 3. PROVIDE PIPE SADDLE SUPPORTS FOR LARGE DIAMETER PIPES OR PIPE HEADERS.

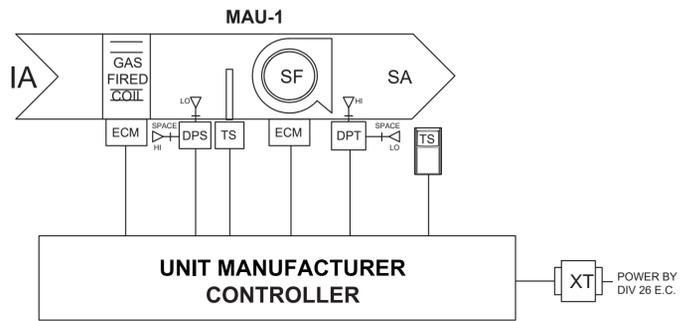
6 PIPE SUPPORT HANGERS
NOT TO SCALE



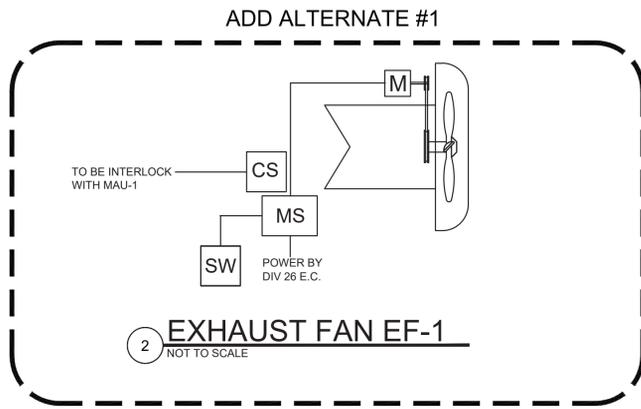
7 CONCRETE PAD DETAIL
NOT TO SCALE - SCHEMATIC ONLY

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J.J.B. LAN ASSOCIATES engineering • planning • architecture • surveying 252 MAIN STREET, GOSHEN, NEW YORK 10924 (845)815-0350	
MECHANICAL DETAILS NEW MAINTENANCE BUILDING MOUNT PLEASANT CENTRAL SCHOOL DISTRICT 825 WESTLAKE DRIVE THORNWOOD, NY 10594	
Job No. 4.1449.02	
File No. 4144902M001	
M6.02	

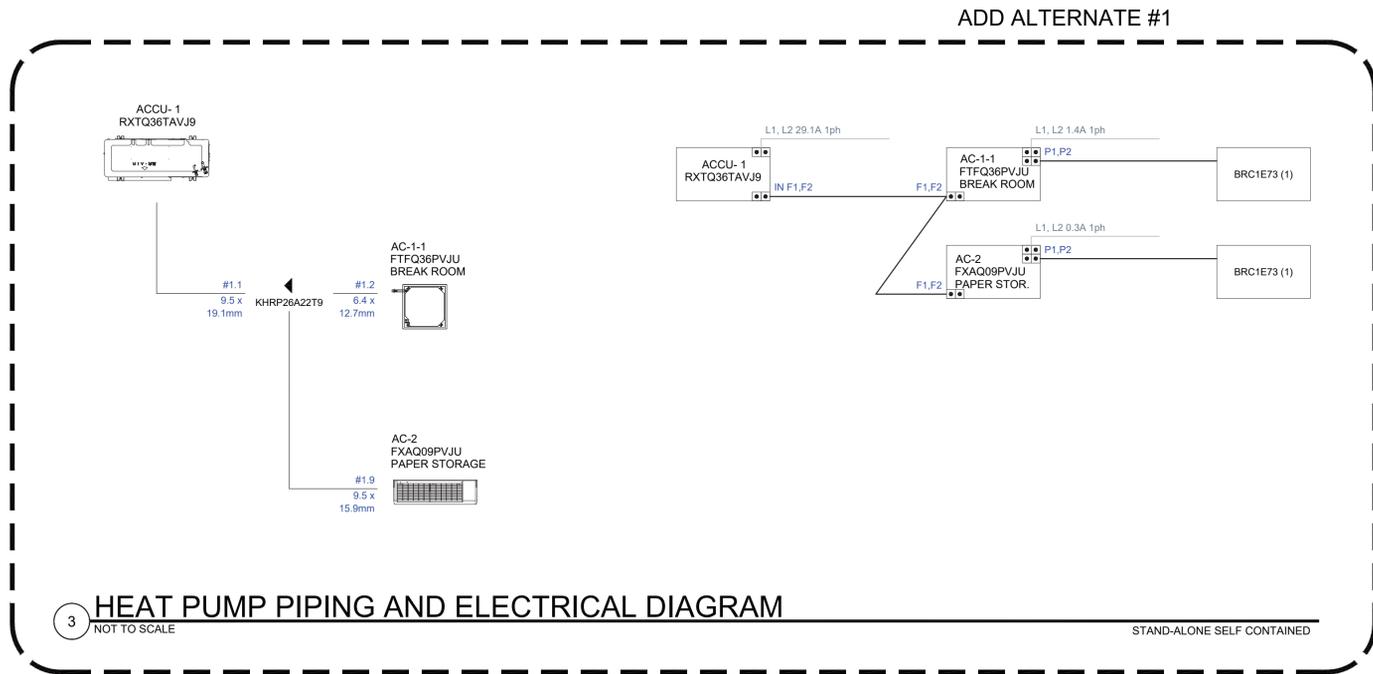
SED PROJECT #66-08-01-06-3-012-001



1 MAKEUP AIR UNIT (MAU-1) CONTROLLER
NOT TO SCALE STAND-ALONE SELF CONTAINED



2 EXHAUST FAN EF-1
NOT TO SCALE



3 HEAT PUMP PIPING AND ELECTRICAL DIAGRAM
NOT TO SCALE STAND-ALONE SELF CONTAINED

ATC DETAIL LEGEND		NOT TO SCALE	
AQ	AQUASTAT (SPDT)	SHIELDED CABLE - 2 CONDUCTOR - PLENUM RATED #18 AWG MINIMUM) ATC CONTRACTOR SHALL SIZE CONTROL & POWER WIRING (# CONDUCTORS, #AWG, LENGTH, ETC.)	
AFS	AIR FLOW STATION (ANALOG)		
FS	FLOW SWITCH (DIGITAL)	ES	END SWITCH (SPST)
A	CONTROL ACTUATOR CONTROL DAMPER OR VALVE	RH	RELATIVE HUMIDITY SENSOR
DPS	DIFFERENTIAL PRESSURE SWITCH (SPDT)	CO	CARBON-MONOXIDE SENSOR
DPT	DIFFERENTIAL PRESSURE TRANSDUCER (ANALOG)	CO2	CARBON-DIOXIDE SENSOR
IAQ	INDOOR AIR QUALITY	SW	WALL-MOUNTED SWITCH
MS	MAGNETIC STARTER	TS	TEMPERATURE SENSOR (PROBE/IMMERSION)
VFD	VARIABLE FREQUENCY DRIVE	TS	TEMPERATURE SENSOR (AVERAGING)
R	CONTROL RELAY (24VAC-SPDT)	LLS	LOW-LIMIT TEMPERATURE SWITCH (SPDT)
CT	CURRENT TRANSDUCER (ANALOG)	SD	SMOKE DETECTOR (DUCT)
CS	CURRENT SWITCH (DIGITAL)	TC	THERMOSTAT SWITCH (SPDT)
		XFMR	120/24VAC TRANSFORMER

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SED PROJECT #66-08-01-06-3-012-001
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