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 ARCH/ENGR, 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 ARCH/ENGR DOES NOT RELIEVE THE CONTRACTOR FROM PROVIDING THE CURRENT MODEL NUMBERS, TYPE, & FEATURES OF ALL EQUIPMENT'S & 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 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 RTUs, 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, DDC CONTROLS, ETC. IS INCLUDED IN THIS SCOPE OF WORK. PROVIDE SERVICE REPORT FOR EACH VISIT.
16. PROVIDE FIRE DAMPERS/ACCESS DOORS AT ALL DUCT PENETRATIONS THROUGH CORRIDORS, SLABS AND OTHER RATED PARTITIONS, IRRESPECTIVE OF WHETHER IT IS INDICATED ON THE DRAWINGS OR NOT.
17. PROVIDE FIRE STOPPING AROUND ALL OPENINGS FOR DUCT, PIPING, CONDUIT, ETC. PENETRATIONS THROUGH CORRIDORS, SLABS AND OTHER RATED PARTITIONS.
18. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR ALL DEMOLITION AND RESTORATION OF AREAS OF MECHANICAL REMOVALS.
19. CONTRACTOR IS RESPONSIBLE FOR PROVIDING DUMPSTER/CONTAINER SERVICES AND LABOR TO KEEP THE BUILDING FREE OF DEBRIS.
20. CONTRACTOR TO PROVIDE TWO (2) SEPARATE TRAINING SESSIONS (FOUR WEEKS APART) ON PROPER OPERATION & TROUBLESHOOTING OF NEW HVAC SYSTEM & CONTROLS.
21. 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.
22. 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.
23. 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 & SPECIFICATION SECTION 011200 - SPECIAL PROVISIONS FOR CONTRACTORS' RESPONSIBILITIES.
2. CORE DRILLING SHALL BE PERFORMED BY EACH INDIVIDUAL PRIME CONTRACT. REFER TO SPECIFICATION SECTION 011200 - SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION. 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. VERIFY 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. VERIFY IN FIELD.
6. EACH INDIVIDUAL PRIME CONTRACTOR IS REQUIRED TO PATCH (TO MATCH EXISTING), IMMEDIATELY AFTER REMOVAL, ALL OPENINGS WHERE EXISTING EQUIPMENT, PIPES, ETC. ARE BEING REMOVED. SEAL OPENING WITH 2 HOUR FIRE BARRIER CAULK. SEE GENERAL LOCATIONS ON MECHANICAL DEMOLITION PLANS. SEE SPECIFICATION SECTION 011200 - SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.

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 (SOLID W/ 1" THICK 3-LBS DENSITY INSULATION).
- 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).
- FIRE DAMPER: GREENHECK MAKE, MODEL FD-150 TYPE B (BLADE OUT OF AIRSTREAM), 1-1/2 HR RATED (UNLESS OTHERWISE NOTED) UL-555 LABELED DAMPER W/ STANDARD FRAME (OR APPROVED EQUAL). PROVIDE WW/ A RETAINING ANGLE & ACCESS DOOR.

AIR DEVICES:

- CD - TITUS MAKE, MODEL TMS (12"x12" OR 24"x24" MODULE W/ ROUND NECK, STEEL CONSTRUCTION).
- RG - TITUS MAKE, MODEL TMS (12"x12" OR 24"x24" MODULE W/ ROUND NECK, STEEL CONSTRUCTION).
- SR - TITUS MAKE, MODEL 300RS, STEEL CONSTRUCTION.
- SG - 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:

- HOT WATER PIPING SHALL BE HARD COPPER TYPE "L" W/ SOLDERED FITTINGS. PROVIDE DIELECTRIC FITTINGS FOR CONNECTION OF DISSIMILAR 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.

INSULATION:

- ALL DUCTWORK (SA, RA, OA, ETC.) SHALL BE INSULATED W/ EXTERNAL DUCT INSULATION, UNLESS OTHERWISE NOTED ON DRAWINGS.
- EXTERNAL DUCTWORK INSULATION: NEW DUCTWORK SHALL BE INSULATED WITH A MINIMUM OF R-6 (2" THICK, MIN. 1LB. DENSITY) FIBERGLASS DUCT INSULATION PER THE REQUIREMENTS OF IECC 2015, WITH REINFORCED FOIL FACED FLAME RESISTANT VAPOR BARRIER, ADHERE TO DUCT W/ SEALED LAPS AND TAPED JOINTS.
- INTERNALLY LINED DUCT: 1" THICK, MIN. 2 LB. DENSITY RIGID INSULATION ADHERED TO DUCT. DUCTS WIDER THAN 12" TO HAVE WELDED PINS AND WASHERS. DUCT DIMENSIONS AS INDICATED ARE CLEAR INSIDE DUCT DIMENSIONS.

  NOTES:
  1. ALL SUPPLY & RETURN AIR DUCTWORK SHALL BE INTERNALLY LINED FOR A MIN. OF 25' TO AND FROM ANY RTU OR AHU.
  2. ALL SUPPLY AIR DUCTWORK SHALL BE INTERNALLY LINED FOR A MINIMUM OF 15' DOWNSTREAM OF ALL HVAC BOXES.
- 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

= ROUND SUPPLY AIR CEILING DIFFUSER (CD) WITH NECK SIZE AND AND CFM INDICATED ON PLANS.

= 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

W" x D" = INDICATES HARD DUCT WITH INTERNAL LINING (DIMENSIONS ARE INSIDE CLEAR WIDTH & DEPTH).

W" x D" = INDICATES HARD DUCT (DIMENSIONS ARE INSIDE CLEAR WIDTH & DEPTH).

= DUCT TURN UP (SUPPLY, RETURN, EXHAUST)

= DUCT TURN DOWN (SUPPLY, RETURN, EXHAUST)

DSD/AD = DUCT SMOKE DETECTOR WITH ACCESS DOOR

FD/AD = FIRE DAMPER WITH ACCESS DOOR

FD/SD/AD = COMBINATION FIRE & SMOKE DAMPER WITH ACCESS DOOR

VD = VOLUME DAMPER

BDD = BACK DRAFT DAMPER

= UNDERCUT DOOR

= INDICATES NEW ROOM THERMOSTAT

CLASSROOM 201 = ROOM NAME ROOM NUMBER

1 = REVISION

= PIPE TURN UP

= PIPE TURN DOWN

OR = BALL VALVE

= CHECK VALVE

= UNION

= PRESSURE GAUGE

= TEMPERATURE GAUGE

= STRAINER

= CONTROL VALVE

= OS&Y VALVE

ABBREVIATIONS

&	=	AND		IAQ	=	INDOOR AIR QUALITY	
@	=	AT		ID	=	INSIDE DIAMETER (DIM)	
Ø	=	DIAMETER OR ROUND		IN	=	INCH	
(E)	=	EXISTING		INFO	=	INFORMATION	
(N)	=	NEW		LAT	=	LEAVING AIR TEMPERATURE	
AC	=	AIR CONDITIONING UNIT					
ACC	=	AIR-COOLED CONDENSING		LDB	=	LEAVING DRY BULB	
				LWB	=	LEAVING WET BULB	
AD	=	ACCESS DOOR		LWT	=	LEAVING WATER TEMPERATURE	
ADD'L	=	ADDITIONAL					
AFF	=	ABOVE FINISHED FLOOR					
ALC	=	AUTOMATED LOGIC CONTROL		MAX	=	MAXIMUM	
				MC	=	MECHANICAL CONTRACTOR	
ALT	=	ALTERNATE					
ALUM	=	ALUMINUM		MECH	=	MECHANICAL	
APPROX	=	APPROXIMATE		MFR	=	MANUFACTURER	
AS	=	AIR SEPARATOR		MIN	=	MINIMUM	
BC	=	BLOWER COIL		NK	=	NECK SIZE	
BDD	=	BACK DRAFT DAMPER		NTS	=	NOT TO SCALE	
BLDG	=	BUILDING					
BMS	=	BUILDING MANAGEMENT SYSTEM		OA	=	OUTSIDE AIR	
				OD	=	OUTSIDE DIAMETER	
CD	=	CEILING DIFFUSER		PC	=	PLUMBING CONTRACTOR	
CFM	=	CUBIC FEET PER MINUTE					
CLG	=	CEILING		RA	=	RETURN AIR	
CO	=	CLEANOUT		RAR	=	RETURN AIR REGISTER	
CP	=	CONDENSATE DRAIN PUMP		RG	=	RETURN GRILLE	
				RM	=	ROOM	
CV	=	CONVECTOR		RTU	=	ROOFTOP HVAC UNIT	
DDC	=	DIRECT DIGITAL CONTROL		SA	=	SUPPLY AIR	
				SAD	=	SUPPLY AIR DIFFUSER	
DIA	=	DIAMETER		SAR	=	SUPPLY AIR REGISTER	
DN	=	DOWN		SD	=	SMOKE DAMPER	
DWG	=	DRAWING		SG	=	RETURN AIR SIDE GRILLE	
				SPEC	=	SPECIFICATION	
EA	=	EXHAUST AIR		SR	=	SUPPLY AIR SIDE REGISTER	
EAR	=	EXHAUST AIR REGISTER					
EAT	=	ENTERING AIR TEMPERATURE		SS	=	STAINLESS STEEL	
EC	=	ELECTRICAL CONTRACTOR		TG	=	TRANSFER AIR GRILLE	
				TYP	=	TYPICAL	
EF	=	EXHAUST FAN		UH	=	UNIT HEATER	
ET	=	EXPANSION TANK		UV	=	UNIT VENTILATOR	
EXIST	=	EXISTING					
EWT	=	ENTERING WATER TEMPERATURE		VD	=	VOLUME DAMPER	
				VFD	=	VARIABLE FREQUENCY DRIVE	
FAI	=	FRESH AIR INTAKE					
FC	=	FLEXIBLE CONNECTION		VIF	=	VERIFY IN FIELD	
FCU	=	FAN COIL UNIT		VRF	=	VARIABLE REFRIGERANT FLOW	
FD	=	FIRE DAMPER					
FTR	=	FINED TUBE RADIATION/BASEBOARD		W/	=	WITH	
				WMS	=	WIRE MESH SCREEN	
GC	=	GENERAL CONTRACTOR					
HTP	=	HEAT TRANSFER PACKAGE					
HVAC	=	HEAT/VENTILATION/AIR CONDITIONING					
HWH	=	HOT WATER HEATER					

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Checked	
Drawn	IM/MAM

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MECHANICAL NOTES

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