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	A	B	C	D	E	F	G	H	I	J	MARCHETTI CONSULTING ENGINEERS 25 HIGH RIDGE ROAD POUND RIDGE, NY 10576 PHONE: (914) 764-9011 FAX: (914) 764-9012 EMAIL: chrisda57@sbcglobal.net
1						GENERAL PROCEDURES 1. THESE SPECIFICATIONS ARE APPLICABLE TO ALL MECHANICAL DRAWINGS UNLESS NOTED OTHERWISE. 2. DESCRIPTION A. THIS PROJECT COMPRISES ALTERATIONS AND RENOVATIONS TO THE EXISTING BUILDING. THE EXISTING BUILDING IS CURRENTLY UNOCCUPIED. B. SCOPE OF WORK CONSISTS OF INSTALLATION OF MATERIALS TO BE FURNISHED UNDER THE CONTRACT DOCUMENTS AND WITHOUT LIMITING GENERALITY THEREOF CONSISTS OF FURNISHING LABOR, MATERIALS, EQUIPMENT, HOISTING, PLANT, TRANSPORTATION, RIGGING, STAGING, APPURTENANCES, AND SERVICES NECESSARY AND/OR INCIDENTAL TO PROPERLY COMPLETE ALL WORK AS SHOWN ON THE DRAWINGS AND AS DESCRIBED HEREIN. THE SCOPE OF WORK SHALL INCLUDE BUT NOT BE LIMITED TO: B.A. DEMOLITION AND REMOVAL OF ITEMS AS REQUIRED. B.B. DUCTWORK AND DUCTWORK ACCESSORIES. B.C. INSULATION OF PIPING, EQUIPMENT AND DUCTWORK. B.D. TESTING AND BALANCING B.E. CUTTING AND PATCHING B.F. SHOP DRAWINGS. B.G. AS-BUILT DRAWINGS B.H. OPERATING AND MAINTENANCE MANUALS. B.I. FULL COORDINATION WITH OTHER TRADES. B.J. WARRANTY AND GUARANTY B.K. PHASING AS REQUIRED BY OWNER, CONSTRUCTION MANAGER, GENERAL CONTRACTOR OR BUILDING MANAGEMENT B.L. PREMIUM TIME FOR WORK TO BE PERFORMED AFTER-HOURS AS REQUIRED BY BUILDING MANAGEMENT AND/OR OWNER. B.M. FILING, PERMITS, CONTROLLED INSPECTIONS. B.N. FULL TESTING AND STARTUP OF ALL SYSTEMS. 3. DEFINITIONS: THE FOLLOWING DEFINITIONS APPLY TO THIS CONTRACT A. FURNISH: THE TERM "FURNISH" MEANS TO "PURCHASE AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS." B. INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT PROJECT SITE INCLUDING THE ACTUAL "UNLOADING, UNPACKING, ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS." C. PROVIDE: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE." D. NEW: THE TERM "NEW" MEANS MANUFACTURED WITHIN THE PAST TWO YEARS AND NEVER BEFORE USED. E. REMOVE: THE TERM REMOVE MEANS TO DISCONNECT FROM ITS PRESENT POSITION, REMOVE FROM THE PREMISES AND TO DISPOSE OF IN A LEGAL MANNER." F. RELOCATE: THE TERM "RELOCATE" MEANS TO MOVE EXISTING EQUIPMENT AND ALL ACCESSORIES AS REQUIRED SAFELY AND WITHOUT DAMAGE, STORING AS NECESSARY BETWEEN DEMOLITION AND NEW CONSTRUCTION PHASES. G. SUBSTITUTIONS: "SUBSTITUTIONS" ARE REQUESTS FOR CHANGES IN PRODUCTS, MATERIALS AND METHODS OF CONSTRUCTION AS PROPOSED BY THE CONTRACTOR AFTER AWARD OF THE CONTRACT. 4. CONTRACT DOCUMENTS: DRAWINGS A. PRIOR TO SUBMISSION OF A FORMAL BID, THIS CONTRACTOR SHALL REVIEW ALL DRAWINGS OF THE ENTIRE PROJECT INCLUDING GENERAL CONSTRUCTION, DEMOLITION, ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND SPRINKLER AND SHALL INCLUDE ANY WORK REQUIRED IN THE BID WHICH IS INDICATED OR IMPLIED TO BE PERFORMED BY THIS TRADE IN OTHER SECTIONS OF THE WORK. B. PROVIDE ALL MATERIALS, EQUIPMENT AND LABOR NECESSARY TO COMPLETE THE WORK OUTLINED ON THESE CONTRACT DOCUMENTS. THE CONTRACTOR IS TO NOTE THAT THESE DOCUMENTS ARE DIAGRAMMATIC ONLY AND THAT FINAL PLACEMENT OF EQUIPMENT OR DEVICES IN THE FIELD MAY NOT DIRECTLY CORRESPOND TO THAT WHICH IS SHOWN ON THE DRAWINGS. IF A CONFLICT IN POSITIONING OCCURS THE CONTRACTOR IS TO NOTIFY THE ENGINEER IMMEDIATELY TO ASCERTAIN WHAT THE INTENT WAS BY THE DESIGN PROFESSIONAL. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID CONFLICT. IF CONFLICT OCCURS IN THE SPECIFICATIONS AND/OR ON DRAWINGS, THE MORE STRINGENT SITUATION SHALL APPLY. 5. SURVEY AND MEASUREMENTS: A. PRIOR TO SUBMITTING BID, VISIT SITE AND IDENTIFY EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT WORK TO BE PERFORMED. NO COMPENSATION WILL BE GRANTED FOR ADDITIONAL WORK CAUSED BY UNFAMILIARITY WITH SITE CONDITIONS THAT ARE VISIBLE OR READILY IDENTIFIED BY EXPERIENCED OBSERVERS. INCLUDE IN THE BID ALL DEMOLITION WORK REQUIRED. B. DO NOT SCALE DRAWINGS. SCALE INDICATED ON DRAWINGS IS FOR ESTABLISHING REFERENCE POINTS ONLY. ACTUAL FIELD CONDITIONS SHALL GOVERN ALL DIMENSIONS. C. PRIOR TO ORDERING ANY MATERIALS AND EQUIPMENT, THOROUGHLY REVIEW THE SITE CONDITIONS TO DETERMINE IF ADEQUATE CLEARANCES AND ACCESS IS ALLOWED TO INSTALL THE COMPONENTS. ORDER EQUIPMENT BROKEN DOWN AS NECESSARY TO ALLOW FOR PROPER RIGGING THROUGH THE PROJECT AREA. PROVIDE ALL NECESSARY ALTERATIONS TO THE STRUCTURE OF THE BUILDING AS NECESSARY TO RIG THE EQUIPMENT IN PLACE. D. ARRANGE INSTALLATION TO PROVIDE ACCESS TO EQUIPMENT FOR EASY MAINTENANCE AND REPAIR. 6. CODES AND STANDARDS: ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE LATEST STATE OF NEW YORK ACCEPTED VERSION OF THE FOLLOWING CODES. THE CONTRACTOR IS TO INFORM ENGINEER OF ANY EXISTING WORK OR MATERIALS WHICH VIOLATE ANY OF THE LAWS AND REGULATIONS LISTED BELOW. ANY WORK DONE BY THE CONTRACTOR CAUSING SUCH VIOLATION SHALL BE CORRECTED AT THE EXPENSE BY THIS CONTRACTOR AND AT NO EXPENSE TO THE OWNER. A. INTERNATIONAL RESIDENTIAL CODE B. INTERNATIONAL BUILDING CODE C. INTERNATIONAL PLUMBING CODE D. INTERNATIONAL MECHANICAL CODE E. NATIONAL ELECTRIC CODE (NFPA 70) F. THE LIFE SAFETY CODE (NFPA 101) 7. PERMITS AND FEES: THE CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES, OBTAIN ALL PERMITS, AND PAY ALL GOVERNMENT AND STATE SALES TAXES AND FEES WHERE APPLICABLE, AND OTHER COSTS, INCLUDING UTILITY CONNECTIONS OR EXTENSIONS IN CONNECTION WITH THE WORK. FILE ALL NECESSARY DRAWINGS, PREPARE ALL DOCUMENTS AND OBTAIN ALL NECESSARY APPROVALS OF ALL GOVERNMENTAL AND STATE DEPARTMENTS HAVING JURISDICTION. OBTAIN ALL REQUIRED CERTIFICATES OF INSPECTION FOR HIS WORK, AND DELIVER A COPY TO THE OWNER AND ENGINEER AT JOB COMPLETION. 8. SHOP DRAWINGS: A. SUBMIT NEWLY PREPARED INFORMATION, DRAWN TO ACCURATE SCALE OF 1/4"=1'-0", HIGHLIGHT, ENCIRCLE, OR OTHERWISE INDICATE DEVIATIONS FROM THE CONTRACT DOCUMENTS. DO NOT REPRODUCE CONTRACT DOCUMENTS OR COPY STANDARD INFORMATION AS THE BASIS OF SHOP DRAWINGS. STANDARD INFORMATION PREPARED WITHOUT SPECIFIC REFERENCE TO THE PROJECT IS NOT CONSIDERED SHOP DRAWINGS. B. SHOP DRAWINGS INCLUDE EQUIPMENT SUBMITTALS, FABRICATION AND INSTALLATION DRAWINGS, SETTING DIAGRAMS, SCHEDULES, PATTERNS, TEMPLATES AND SIMILAR DRAWINGS. INCLUDE THE FOLLOWING INFORMATION: a. DIMENSIONS. b. IDENTIFICATION OF PRODUCTS AND MATERIALS INCLUDED. c. COMPLIANCE WITH SPECIFIED STANDARDS AND PERFORMANCE DATA AS INDICATED. d. NOTATION OF COORDINATION REQUIREMENTS. e. NOTATION OF DIMENSIONS ESTABLISHED BY FIELD MEASUREMENT. f. SUBMIT 3 BLACK-LINE PRINTS AND 2 ADDITIONAL PRINTS WHERE REQUIRED FOR MAINTENANCE MANUALS, PLUS THE NUMBER OF PRINTS NEEDED BY THE ENGINEER FOR DISTRIBUTION. ONE PRINT WILL BE RETAINED; THE REMAINDER RETURNED. ONE OF THE PRINTS RETURNED SHALL BE MARKED-UP AND MAINTAINED AS A "RECORD DOCUMENT". g. DO NOT USE SHOP DRAWINGS WITHOUT AN APPROPRIATE FINAL STAMP INDICATING ACTION TAKEN IN CONNECTION WITH CONSTRUCTION. h. DO NOT ORDER ANY MATERIALS OR EQUIPMENT PRIOR TO RECEIVING FINAL APPROVED SHOP DRAWINGS. i. PROVIDE SUBMITTALS AS INDICATED IN SPECIFIC SPECIFICATION SECTIONS. 9. USE ADEQUATE NUMBERS OF SKILLED WORKMEN WHO ARE THOROUGHLY TRAINED AND EXPERIENCED IN THE NECESSARY CRAFTS AND WHO ARE COMPLETELY FAMILIAR WITH THE SPECIFIED REQUIREMENTS AND THE METHODS NEEDED FOR PROPER PERFORMANCE OF THE WORK. 10. THE CONTRACTOR SHALL COORDINATE ALL INTERRUPTIONS OF SERVICES AND LIMITATIONS OF ACCESS WITH THE OWNER NO LESS	THAN 2 DAYS PRIOR TO THE INTERRUPTION. 11. OPERATION AND MAINTENANCE A. UPON COMPLETION OF ALL WORK AND TESTS, THE CONTRACTOR SHALL INSTRUCT THE OWNER OR THE OWNER'S REPRESENTATIVE IN THE OPERATION, ADJUSTMENT AND MAINTENANCE OF ALL EQUIPMENT FURNISHED. THE CONTRACTOR SHALL GIVE AT LEAST SEVEN (7) DAYS NOTICE TO THE OWNER AND THE ENGINEER IN ADVANCE OF THIS PERIOD. B. THE CONTRACTOR SHALL PREPARE THREE (3) COPIES OF A COMPLETE OPERATION AND MAINTENANCE MANUAL, BOUND IN BOOKLET FORM. ORGANIZE OPERATING AND MAINTENANCE DATA INTO SUITABLE SETS OF MANAGEABLE SIZE. BIND PROPERLY INDEXED DATA IN INDIVIDUAL HEAVY-DUTY 3-RING VINYL-COVERED BINDERS, WITH POCKET FOLDERS FOR FOLDED SHEET INFORMATION AND DESIGNATION PARTITIONS WITH IDENTIFICATION TABS. MARK APPROPRIATE IDENTIFICATION ON FRONT AND SPINE OF EACH BINDER. C. OPERATION AND MAINTENANCE MANUAL SHALL INCLUDE THE FOLLOWING: a. MANUFACTURER'S PRINTED OPERATING AND MAINTENANCE PROCEDURES. b. MAINTENANCE PROCEDURES FOR ROUTINE PREVENTATIVE MAINTENANCE AND TROUBLESHOOTING. c. COPIES OF WARRANTIES. d. APPROVED SHOP DRAWINGS AND PRODUCT DATA. e. BALANCE REPORTS. f. INCLUDE IN THE MANUAL, A TABULATED EQUIPMENT SCHEDULE FOR ALL EQUIPMENT. SCHEDULE SHALL INCLUDE PERTINENT DATA SUCH AS: MAKE, MODEL NUMBER, SERIAL NUMBER, VOLTAGE, NORMAL OPERATING CURRENT, BELT SIZE, FILTER QUANTITIES AND SIZES, BEARING NUMBER, ETC. SCHEDULE SHALL INCLUDE MAINTENANCE TO BE DONE AND FREQUENCY. g. MAINTENANCE AND INSTRUCTION MANUALS SHALL BE SUBMITTED TO THE OWNER AT THE SAME TIME AS THE SEVEN (7) DAY NOTICE IS GIVEN PRIOR TO THE INSTRUCTION PERIOD. 12. AS-BUILT DRAWINGS A. PREPARE AS-BUILT DRAWINGS TO A SCALE OF 1/4"=1'-0" OR LARGER, DETAILING THE ACTUAL INSTALLATION OF MAJOR ELEMENTS, COMPONENTS, AND SYSTEMS OF MECHANICAL EQUIPMENT AND MATERIALS. WHERE SHOP DRAWINGS ARE USED, RECORD A CROSS-REFERENCE AT THE CORRESPONDING LOCATION ON THE AS-BUILT DRAWINGS. GIVE PARTICULAR ATTENTION TO CONCEALED ELEMENTS THAT WOULD BE DIFFICULT TO MEASURE AND RECORD AT A LATER DATE. B. MARK NEW INFORMATION THAT IS IMPORTANT TO THE OWNER, BUT WAS NOT SHOWN ON CONTRACT DRAWINGS OR SHOP DRAWINGS. C. NOTE RELATED CHANGE ORDER NUMBERS WHERE APPLICABLE. D. ORGANIZE AS-BUILT DRAWINGS INTO MANAGEABLE SETS, BIND WITH DURABLE PAPER COVER SHEETS, AND PRINT SUITABLE TITLES, DATES AND OTHER IDENTIFICATION ON THE COVER OF EACH SET. 13. OBTAIN IN OWNER'S NAME WRITTEN EQUIPMENT AND MATERIAL WARRANTIES OFFERED IN MANUFACTURER'S PUBLISHED PRODUCT DATA WITHOUT EXCLUSION OR LIMITATION. 14. GUARANTEE WORK OF THESE CONTRACT DOCUMENTS IN WRITING FOR NOT LESS THAN ONE (1) YEAR FROM DATE OF FINAL NOTICE OF ACCEPTANCE. REPAIR OR REPLACE DEFECTIVE MATERIALS, EQUIPMENT, WORKMANSHIP AND INSTALLATION THAT DEVELOP WITHIN THIS PERIOD, PROMPT AND TO OWNER'S SATISFACTION AND CORRECT DAMAGE CAUSED IN MAKING NECESSARY REPAIRS AND REPLACEMENTS UNDER GUARANTEE WITHIN CONTRACT PRICE. 15. THIS CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE AND OPERATION OF ALL SYSTEMS UNTIL THE FINAL ACCEPTANCE OF THE WORK. 16. ALL AIR CONDITIONING UNIT COMPRESSORS AND REFRIGERATION COMPONENTS SHALL HAVE A 5-YEAR WARRANTY. 17. SUBMIT TO THE OWNER AN OFFICIAL CERTIFICATE OF INSURANCE FOR THEIR RECORDS. MEANS AND METHODS ALL TRADES 1. INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS 2. DO NOT BURN WASTE MATERIALS. DO NOT BURY DEBRIS OR EXCESS MATERIALS ON THE OWNER'S PROPERTY. DO NOT DISCHARGE VOLATILE, HARMFUL OR DANGEROUS MATERIALS INTO DRAINAGE SYSTEMS. REMOVE AND DISPOSE OF ALL WASTE MATERIALS, PACKAGING MATERIAL, SKIDS ETC. FROM THE SITE AND DISPOSE OF IN A LAWFUL MANNER IN ACCORDANCE WITH MUNICIPAL, STATE AND FEDERAL REGULATIONS. 3. MATERIALS AND EQUIPMENT SHALL BE UL LISTED WHERE STANDARD HAS BEEN ESTABLISHED. 4. CAREFULLY INSPECT ALL BUILDING ELEMENTS PRIOR TO CUTTING OR DRILLING INTO WALL, FLOORS OR CEILINGS. PATCH AND PAINT SURFACES DISTURBED BY WORK UNDER THIS CONTRACT AS REQUIRED TO RESTORE THEM TO THEIR ORIGINAL CONDITION. 5. SCAFFOLDING, RIGGING, HOISTING: THE CONTRACTOR SHALL FURNISH ALL SCAFFOLDING, RIGGING, HOISTING AND SERVICES NECESSARY FOR ERECTION AND DELIVERY INTO THE PREMISES ANY EQUIPMENT AND APPARATUS FURNISHED UNDER THIS DIVISION. REMOVE SAME FROM PREMISES WHEN NO LONGER REQUIRED. 6. EXCAVATION AND BACKFILLING: IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE SIZES, DEPTHS, FILL AND BEDDING REQUIREMENTS AND ANY OTHER EXCAVATION WORK REQUIRED UNDER THESE SPECIFICATIONS 7. WATERPROOFING: WHERE ANY WORK PIERCES WATERPROOFING, INCLUDING WATERPROOF CONCRETE, ROOFS, EXTERIOR WALL AND FLOORS IN WET AREAS, THE METHOD OF INSTALLATION SHALL BE REVIEWED BY THE ENGINEER BEFORE WORK IS DONE. THE CONTRACTOR SHALL FURNISH ALL NECESSARY SLEEVES, CAULKING AND FLASHING REQUIRED TO MAKE OPENINGS ABSOLUTELY WATERTIGHT. 8. PROVIDE FIRESTOPPING AROUND ALL FIRE PROTECTION, PLUMBING, MECHANICAL AND ELECTRICAL PENETRATIONS THROUGH FIRE RATED PARTITIONS. PROVIDE ASBESTOS FREE FIRESTOPPING SYSTEM CAPABLE OF MAINTAINING AN EFFECTIVE BARRIER AGAINST FLAME AND GASES. SYSTEM SHALL BE UL LISTED AND COMPLY WITH ASTM E 814. 9. ACCESS DOORS SHALL BE PROVIDED IN CEILINGS, WALLS AND FLOORS AT ALL DAMPERS, VALVES, CONTROL DEVICES, AND OTHER APPARATUS AND EQUIPMENT REQUIRING PERIODIC SERVICE AND INSPECTION. COORDINATE TYPE AND LOCATION WITH ARCHITECTURAL PLANS. 10. SEISMIC RESTRAINTS SHALL BE INSTALLED AS REQUIRED PER BUILDING CODE AND FIRE SAFETY CODE. RESTRAINTS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 13 AND SMACNA STANDARDS. SUBMIT SHOP DRAWINGS INCLUDING SEISMIC CALCULATIONS WITH PROFESSIONAL ENGINEER'S SEAL FOR REVIEW BY ENGINEER. HVAC SPECIFICATIONS 1. DUCTWORK AND ACCESSORIES A. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS. THE MORE STRINGENT REQUIREMENT OF ANY CODES SHALL APPLY. B. ALL DUCTWORK AND ACCESSORIES AS ITEMIZED HERE-IN SHALL BE HOT-DIPPED GALVANIZED SHEETMETAL CONSTRUCTION WITH 60 COMMERCIAL COATING ACCORDING TO ASTM 653 AND A924, INCLUDING ALL FITTINGS AND FASTENERS AND SHALL COMPLY WITH THE LATEST EDITION OF SMACNA STANDARDS FOR 2" PRESSURE CLASS. ALL DUCTWORK DIMENSIONS SHOWN ARE INSIDE CLEAR DIMENSIONS. ALL SQUARE DUCT ELBOWS ARE TO BE INSTALLED WITH TURNING VANES. ALL RADIUS DUCT ELBOWS SHALL HAVE MINIMUM CENTER LINE RADIUS EQUAL TO 1-1/2 TIMES THE DUCT WIDTH. C. FLEXIBLE DUCT RUNOUTS SHALL NOT EXCEED 8 FEET IN LENGTH, SHALL BE PREINSULATED WITH VAPOR BARRIER, CPE INNER LINER, FACTORY FABRICATED, AND SHALL COMPLY WITH NFPA 90A AND UL 181. THE INSULATION MATERIAL SURFACE SHALL NOT BE EXPOSED TO THE AIR STREAM. FLEXIBLE DUCT RUNOUTS SHALL BE INSTALLED FULLY EXTENDED AND SUPPORTED TO MINIMIZE BENDS. FLEXIBLE DUCT SHALL BE AS MANUFACTURED BY THERMALEX, TUTTLE AND BAILEY OR APPROVED EQUAL. FLEXIBLE DUCT CONNECTORS APPROXIMATELY 6 INCHES IN LENGTH SHALL BE PROVIDED WHERE SHEET METAL CONNECTIONS ARE MADE TO AIR HANDLING EQUIPMENT. 2. DUCT ACCESS DOORS SHALL BE PROVIDED IN DUCTWORK AT ALL: A. AUTOMATIC DAMPERS, COILS, CONTROL DEVICES, AND OTHER APPARATUS REQUIRING SERVICE AND INSPECTION. B. MANUAL BALANCING DAMPERS SHALL BE PROVIDED FOR EACH DIFFUSER, GRILLE AND REGISTER, EACH BRANCH OF THE MAIN TRUNK DUCT AND AS INDICATED ON THE DRAWINGS. C. INSTALLATION OF DIFFUSERS GRILLES AND REGISTERS SHALL BE COORDINATED WITH AND SUITABLE FOR INSTALLATION IN, ON, OR FROM CEILING, WALL OR FLOORS SPECIFIED ON THE ARCHITECTURAL PLANS. THE CONTRACTOR MUST VERIFY THE CEILING OR WALL TYPES PRIOR TO ORDERING. 3. VOLUME DAMPERS: A. DAMPERS SHALL BE GALVANIZED STEEL OR SAME AS DUCT CONSTRUCTION, CONFORM TO SMACNA HVAC DUCT CONSTRUCTION STANDARDS. INSTALL WITH LEVERS ACCESSIBLE THROUGH INSULATION. SPLITTER DAMPER OR AIR EXTRACTORS ARE PROHIBITED.	4. WALL PENETRATIONS: A. SEAL OPENINGS AROUND DUCTS THROUGH WALLS WITH MINERAL WOOL OR OTHER NON-COMBUSTIBLE MATERIAL. SEAL ALL DUCT PENETRATIONS THROUGH WALLS AIRTIGHT. 5. PIPING AND FITTINGS A. CONDENSATE DRAIN : SHALL BE SCHEDULE 40 PVC WITH SOLVENT WELD FITTINGS OR TYPE L COPPER TUBING WITH 95-5 TIN-ANTIMONY SOLDER FILLER METALS. 6. INSULATION: A. INSULATION THICKNESS SHALL BE IN ACCORDANCE WITH LATEST EDITION OF THE IECC EXCEPT THAT PIPE INSULATION SHALL NOT BE LESS THAN 1" THICK AND FLEXIBLE DUCTWORK INSULATION SHALL NOT BE LESS THAN 1-1/2" THICK. ALL INSULATION MATERIALS, ADHESIVES, COATINGS, AND OTHER ACCESSORIES SHALL HAVE FLAME SPREAD RATINGS OF 25 OR LESS, AND SMOKE DEVELOPED RATINGS OF 50 OR LESS AS TESTED BY ASTM E-84 (NFPA 255) METHOD. ALL INSULATION MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA AND ASHRAE STANDARDS. B. PIPE INSULATION SHALL BE FIBERGLASS WITH VAPOR BARRIER JACKET. PROVIDE INSULATION FOR THE FOLLOWING PIPING SYSTEMS: C. INTERIOR DUCT INSULATION MATERIALS SHALL BE FLEXIBLE FIBERGLASS DUCTWORK. INSULATION WITH VAPOR BARRIER JACKET. DUCT INSULATION INSTALLED WITHIN UNCONDITIONED SPACES SHALL BE MINIMUM R-6. DUCTWORK ACOUSTIC LINING SHALL BE CELLULAR GLASS WITH FACE BONDED TO PROVIDE A SMOOTH DAMAGE RESISTANT FINISH. PROVIDE INSULATION FOR THE FOLLOWING DUCTWORK SYSTEMS: a. SUPPLY AIR DUCTWORK b. RETURN AIR DUCTWORK IN UNCONDITIONED SPACES (WHERE SPACE TEMPERATURE IS MORE THAN10 DEGREES F DIFFERENT FROM DUCT TEMPERATURE) c. OUTSIDE AIR INTAKE DUCTWORK d. OUTSIDE AIR AND EXHAUST PLENUMS AT LOUVER CONNECTIONS e. COMBUSTION AIR DUCTWORK D. EXTERIOR DUCTWORK INSULATION MATERIALS SHALL BE 3" RIGID POLYSTYRENE (R-12 MINIMUM) WITH PVC JACKETING SEALED WATER TIGHT. DUCTWORK INSULATION SHALL BE WATER TIGHT. a. SUPPLY AIR DUCTWORK b. RETURN AIR DUCTWORK c. OUTSIDE AIR INTAKE DUCTWORK d. OUTSIDE AIR AND EXHAUST PLENUMS AT LOUVER CONNECTIONS e. COMBUSTION AIR DUCTWORK 7. PIPING INSTALLATIONS A. INSTALL PIPING IN ACCORDANCE WITH ALL APPLICABLE CODES AND GOOD PRACTICES. B. INSTALL UNIONS OR FLANGES IN PIPES ADJACENT TO EACH VALVE, CONTROL DEVICE AND AT FINAL CONNECTIONS EACH PIECE OF EQUIPMENT. C. INSTALL DIELECTRIC UNIONS TO JOIN DISSIMILAR METALS. D. INSTALL AND ANCHOR PIPING TO ENSURE PROPER EXPANSION AND CONTRACTION. E. PROVIDE MANUAL AIR VENTS AT ALL HIGH POINTS AND DRAIN VALVES AT ALL LOW POINTS. F. ANCHOR PIPING TO ENSURE PROPER DIRECTION OF EXPANSION AND CONTRACTION. G. SUPPORT PIPING TO PREVENT VIBRATION OR SAGGING. PROVIDE HANGER SPACING ACCORDING TO DISTANCES LISTED IN APPLICABLE CODES AND REGULATIONS. 8. TESTING , ADJUSTING AND BALANCING A. THE MECHANICAL CONTRACTOR SHALL PROVIDE THE SERVICES OF AN INDEPENDENT TESTING, ADJUSTING, AND BALANCING (TAB) AGENCY TO PROVIDE TAB SERVICES FOR THE MECHANICAL SYSTEMS. THE TAB AGENCY SHALL BE CERTIFIED BY NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB) OR THE ASSOCIATED AIR BALANCE COUNCIL (AABC) IN THOSE TESTING AND BALANCING DISCIPLINES REQUIRED FOR THIS PROJECT. THE TAB AGENCY SHALL HAVE AT LEAST ONE PROFESSIONAL ENGINEER REGISTERED IN THE STATE IN WHICH THE SERVICES ARE TO BE PERFORMED AND CERTIFIED BY NEBB OR AABC AS A TEST AND BALANCE ENGINEER. B. PRIOR TO TESTING, ADJUSTING, AND BALANCING, THE MECHANICAL CONTRACTOR SHALL VERIFY THAT THE SYSTEMS HAVE BEEN INSTALLED AND ARE OPERATING AS SPECIFIED. APPROVED SHOP DRAWINGS, AS BUILT DRAWINGS, AND ALL OTHER DATA REQUIRED FOR EACH SYSTEM AND/OR COMPONENT TO BE TESTED SHALL BE MADE AVAILABLE AT THE JOB SITE DURING THE ENTIRE TAB EFFORT. THE OWNER SHALL BE NOTIFIED IN WRITING OF ALL EQUIPMENT, COMPONENTS, OR BALANCING DEVICES, THAT ARE DAMAGED, INCORRECTLY INSTALLED, OR MISSING, AS WELL AS ANY DESIGN DEFICIENCIES THAT WILL PREVENT PROPER TESTING, ADJUSTING, AND BALANCING. TESTING, ADJUSTING, AND BALANCING SHALL NOT COMMENCE UNTIL APPROVED BY THE OWNER. C. PERFORM TESTING AND BALANCING PROCEDURES ON EACH SYSTEM IDENTIFIED, IN ACCORDANCE WITH THE DETAILED PROCEDURES OUTLINED IN EITHER NEBB, "PROCEDURAL STANDARDS FOR TESTING, ADJUSTING, AND BALANCING OF ENVIRONMENTAL SYSTEMS" OR AABC, "NATIONAL STANDARDS FOR TOTAL SYSTEM BALANCE." THE TAB AGENCY SHALL TEST, ADJUST, AND BALANCE THE FOLLOWING MECHANICAL SYSTEMS: a. ALL AIR HANDLING EQUIPMENT b. ALL SUPPLY AIR SYSTEMS c. ALL RETURN AIR SYSTEMS d. VERIFY OPERATION OF ALL TEMPERATURE CONTROL SYSTEMS e. TEST SYSTEMS FOR PROPER SOUND AND VIBRATION LEVELS D. SUBMIT TESTING, ADJUSTING, AND BALANCING REPORTS BEARING THE SEAL AND SIGNATURE OF THE TAB PROFESSIONAL ENGINEER. PREPARE A REPORT OF RECOMMENDATIONS FOR CORRECTING UNSATISFACTORY MECHANICAL PERFORMANCES WHEN A SYSTEM CANNOT BE SUCCESSFULLY BALANCED. E. PROVIDE ALL NECESSARY CONTROL DEVICES, EQUIPMENT, MATERIALS, LABOR, WIRE AND CONDUIT TO PERFORM THE SEQUENCES OF OPERATION AS INDICATED. WIRING AND CONDUIT SHALL BE INSTALLED IN ACCORDANCE WITH DIVISION 16. ALL CONTROL WIRING INSTALLED WITHIN AIR PLENUM SPACES TO BE TEFLON COATED RATED FOR PLENUM CEILINGS.			
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THE PREMIER COLLECTION		
No.	Description	Date

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THE PREMIER COLLECTION

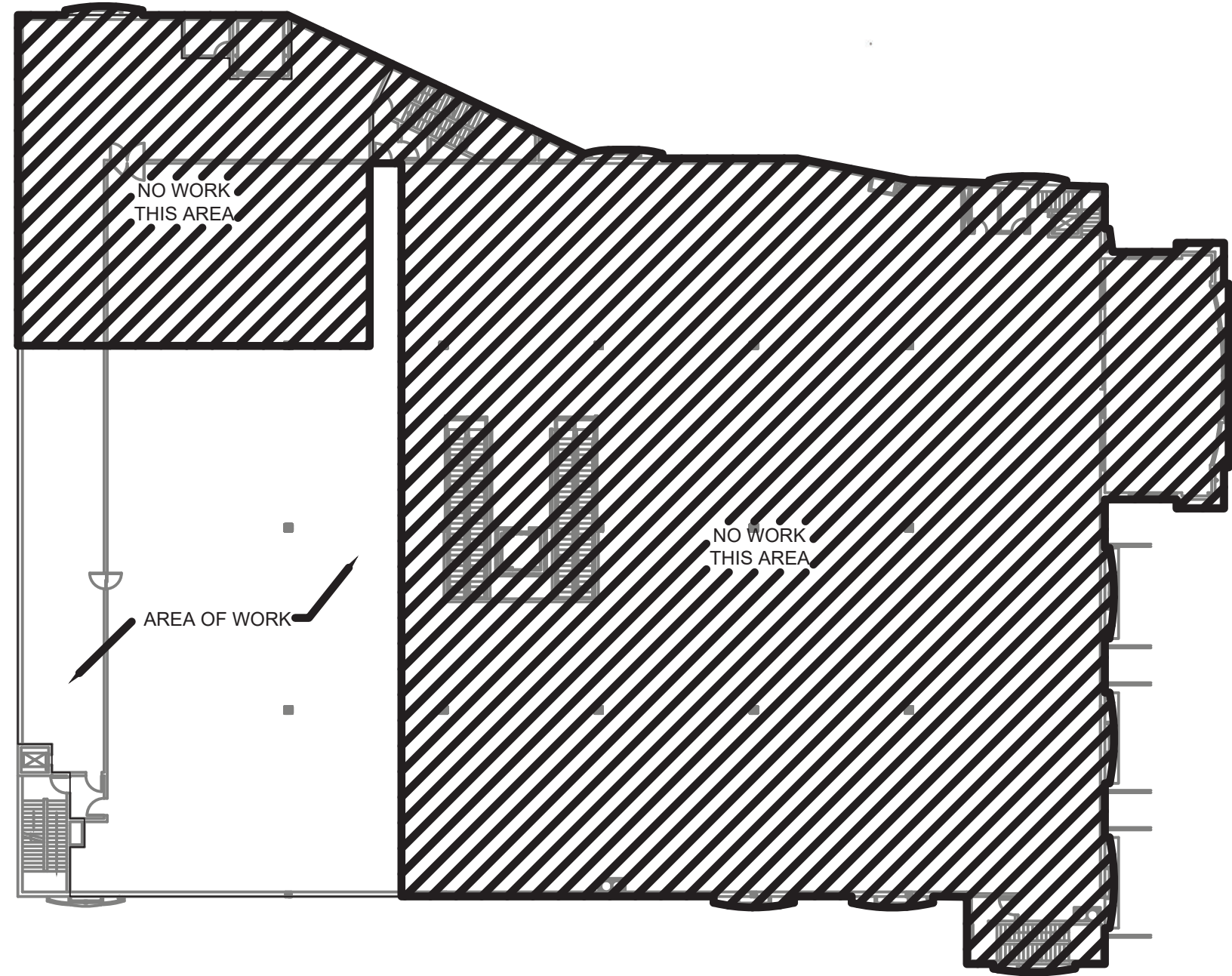
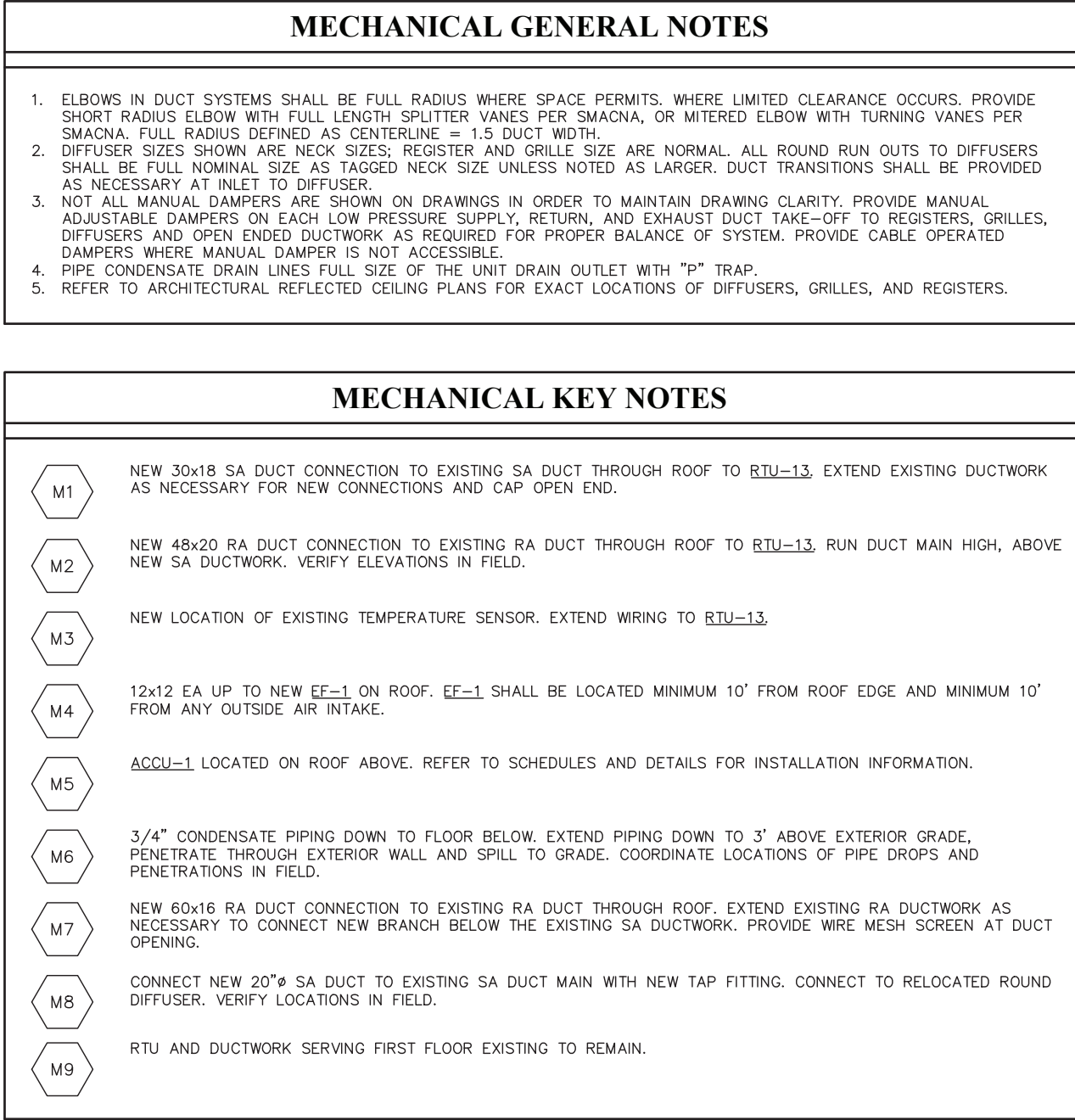
251 EAST MAIN STREET
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MECHANICAL
SPECIFICATIONS

THE PREMIER
COLLECTION

Project Number	23-12
Date	06/07/23
Drawn By	AK
Checked By	PM
Scale	As Noted

M-001



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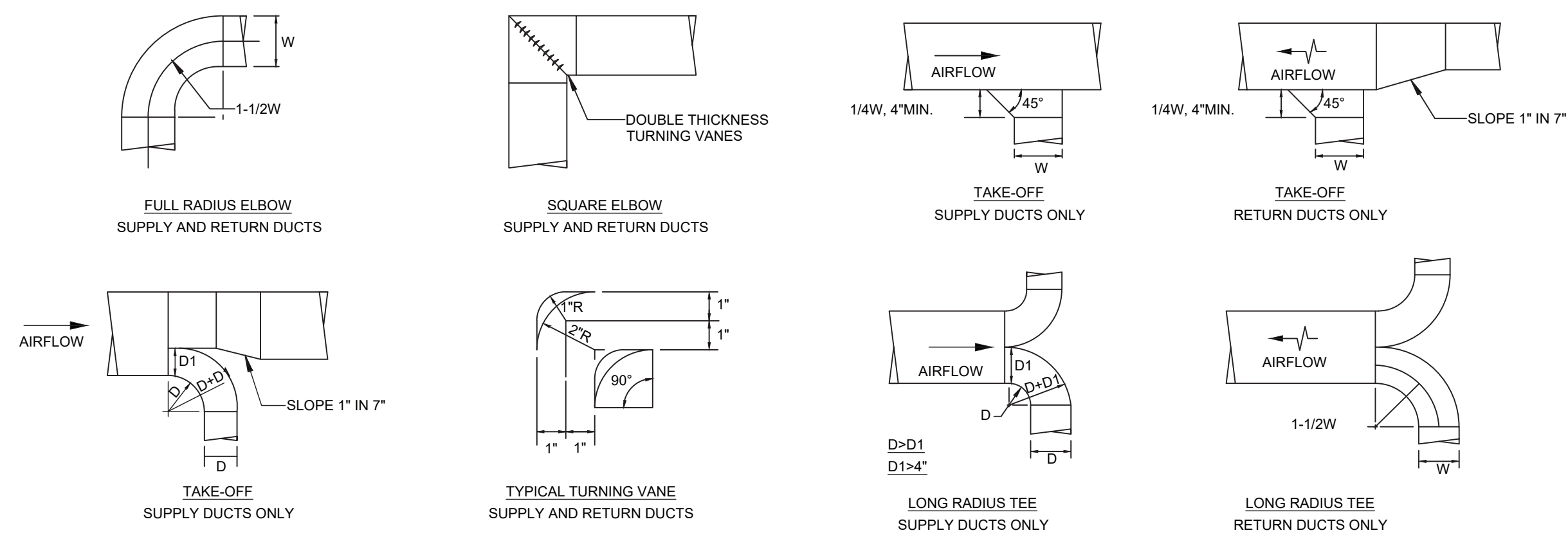
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MECHANICAL
SECOND FLOOR
PLAN

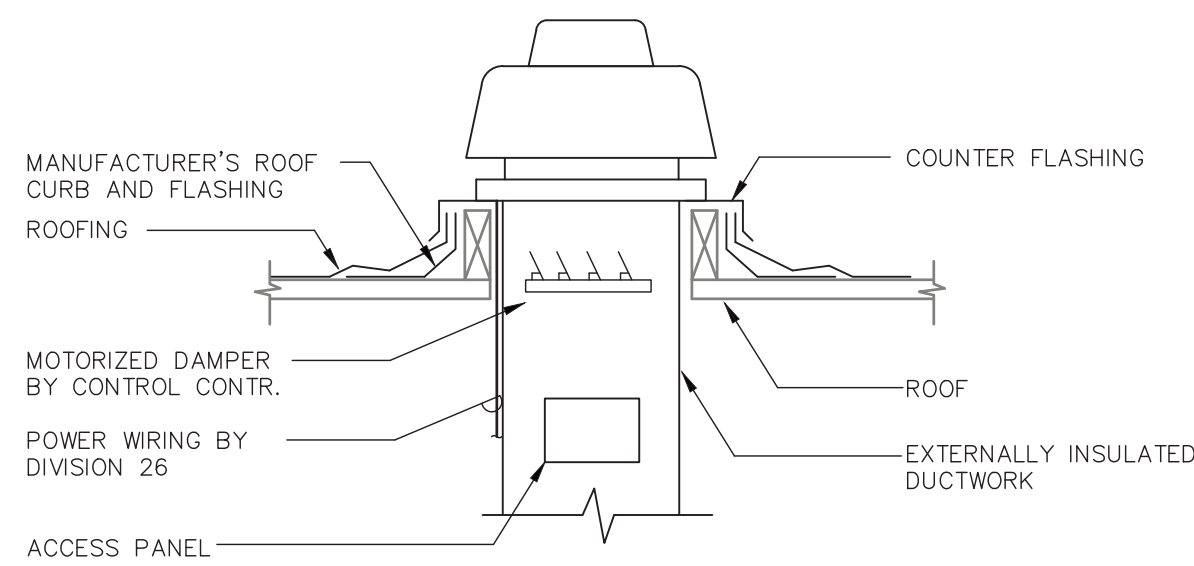
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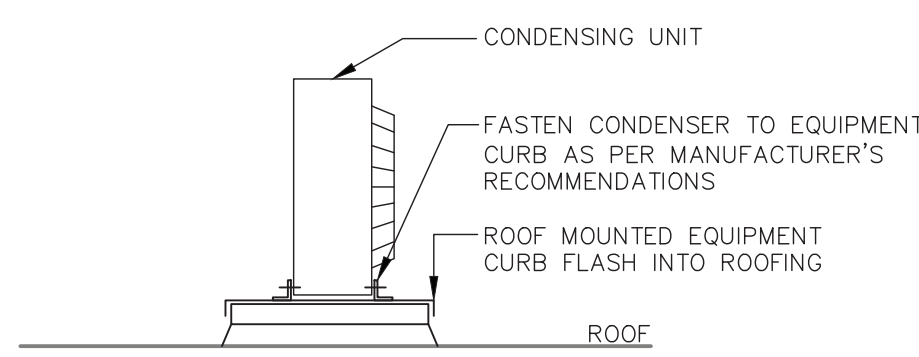
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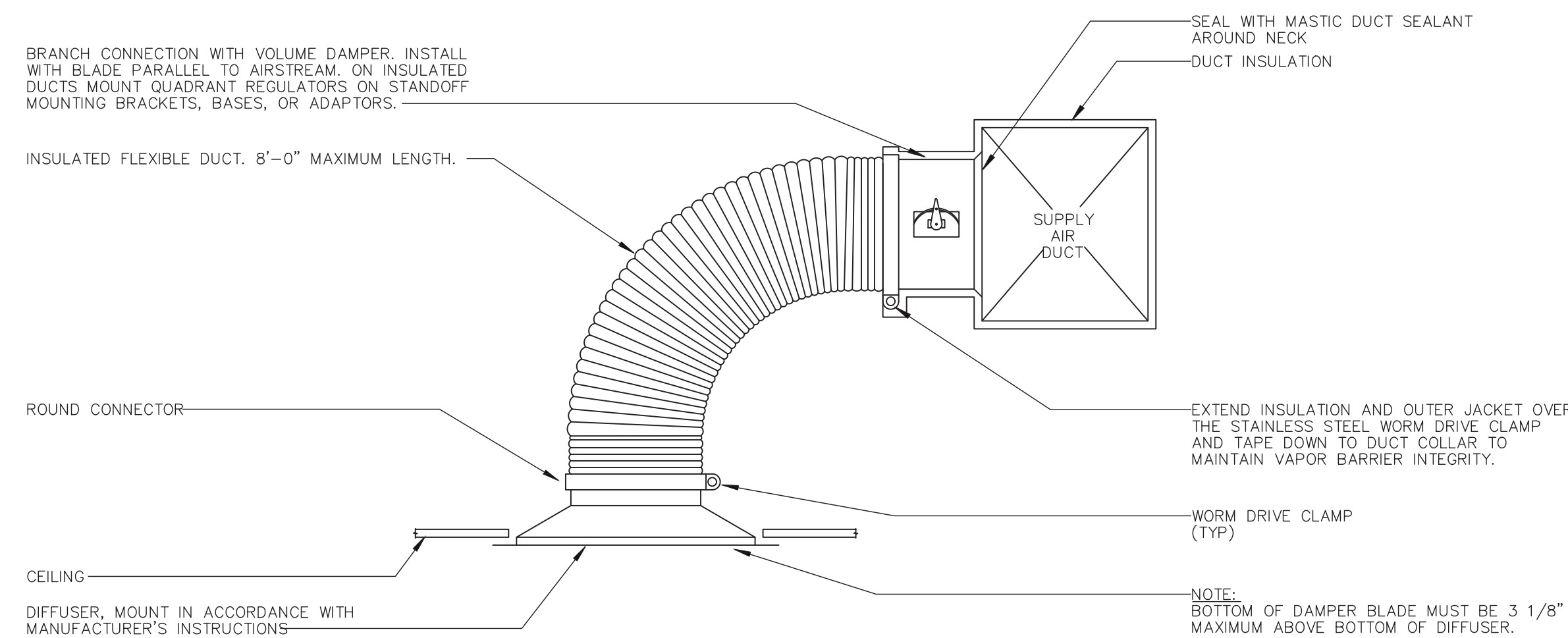
1 TYPICAL DUCT FITTING DETAILS



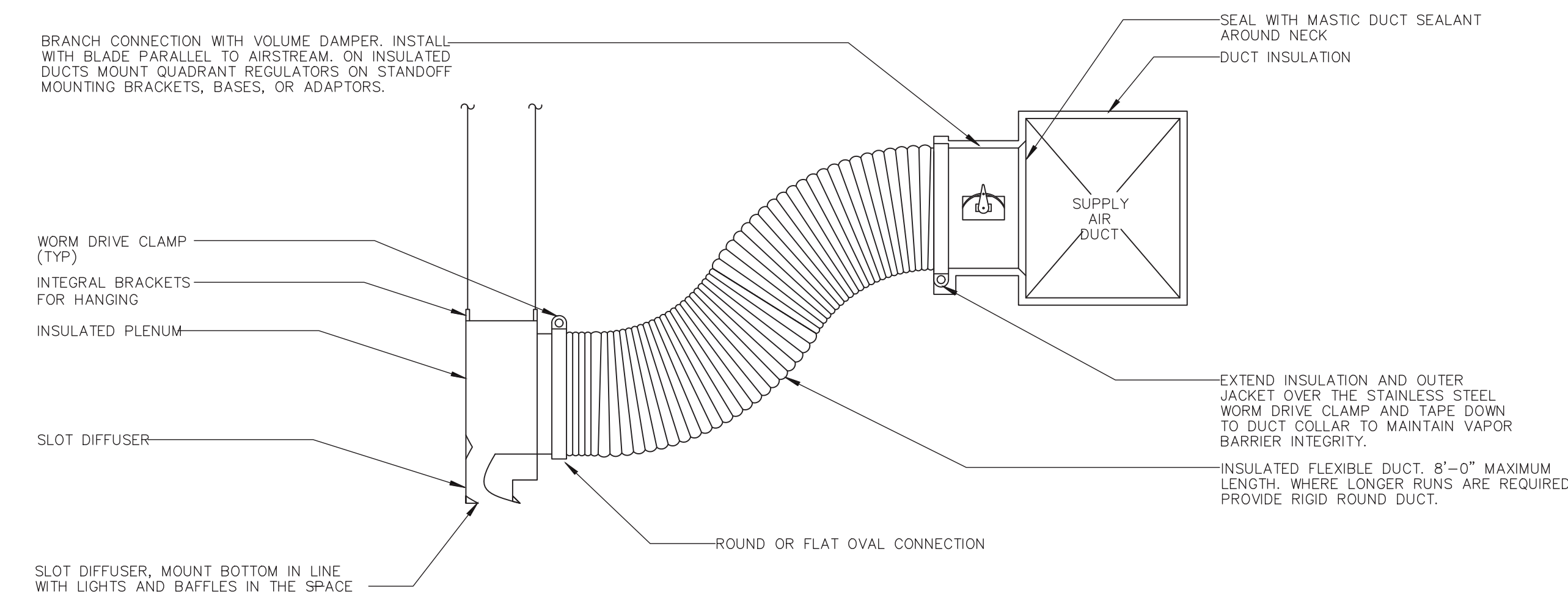
2 ROOF MOUNTED EXHAUST FAN



3 CONDENSING UNIT ROOF MOUNTING DETAIL



4 DIFFUSER WITH FLEX DUCT DETAIL



5 LINEAR SLOT DIFFUSER WITH FLEX DUCT DETAIL
SCALE: NONE

FAN SCHEDULE																		
GENERAL					PHYS.	PERFORMANCE					ELECTRICAL			REMARKS				
SYMBOL	MANUFACTURER	MODEL	LOCATION	SERVICE	WEIGHT (LBS)	CFM	SP (IN WG)	RPM	SONES	BHP	HP	VOLTS	PHASE	TYPE	RATINGS	FEATURES	INSTALL	
FE-1	COOK	100C17DEC	ROOF	BATHROOMS & JANITOR CLOSET	24	450	0.5	1,725	7.6	92 WATTS	1/4	120	1	1	ALL	ALL	ALL	
REMARKS—TYPE					REMARKS—RATINGS					REMARKS—FEATURES					REMARKS—INSTALL			
1. ROOF MOUNTED, DOWNBLAST, DIRECT DRIVE.					1. AIR PERFORMANCE CERTIFIED IN ACCORDANCE TO AMCA 210 2. SOUND PERFORMANCE CERTIFIED IN ACCORDANCE TO AMCA 300 UL LISTED					1. UNIT MOUNTED SPEED CONTROLLER					1. FAN CONTROLLED BY TIME CLOCK AND SHALL OPERATE CONTINUOUSLY ON BUILDING OCCUPANCY SCHEDULE. 2. PROVIDE ROOF CURB			

SPLIT SYSTEM AC UNIT - INDOOR AIR HANDLER SCHEDULE															
SYMBOL	MANUFACTURER	MODEL	TYPE	LOCATION	NOM. TONS	FAN	CAPACITIES		REFRIGERANT PIPING FROM CONTROLLER TO AIR HANDLER		ELECTRICAL			SOUND (dBA)	REMARKS
						CFM (LOW-HIGH)	COOLING (BTUH)	HEATING (BTUH)	LIQUID	GAS	MCA	VOLTS	PHASE		
AC-1	MITSUBISHI	PKA-A12LA	WALL	IT CLOSET	1.0	260-400	12,000	-	1/4"	1/2"	1.0	208	1	34-48	ALL
REMARKS 1. PROVIDE CONDENSATE PUMP 120V PLUG-IN TYPE AS MANUFACTURED BY SAUERMAN OR APPROVED EQUAL.															

SPLIT SYSTEM OUTDOOR UNIT SCHEDULE													
SYMBOL	MANUFACTURER	MODEL	LOCATION	NOMINAL TONS	CAPACITIES		ELECTRICAL			SOUND (dBA)	WEIGHT (LBS)	REMARKS	UNITS SERVED
					COOLING (BTUH)	HEATING (BTUH)	MCA	VOLTS	PHASE				
ACCU-1	MITSUBISHI	PUY-A12NKA7	ROOF	1.0	12,000	—	28	208	1	44	92	ALL	AC-1
REMARKS													
1. R410A REFRIGERANT. CAPACITY RATINGS AT ARI CONDITIONS. COOLING – 80° EDB, 67° EWB, 95° ODB.													
2. PROVIDE LOW AMBIENT KIT TO PROVIDE 100% CAPACITY DOWN TO -0°F.													
3. ROUTE REFRIGERANT PIPING FROM ACCU-1 TO AC-1. COORDINATE EXACT ROUTING IN FIELD. REFRIGERANT PIPE SIZE BY EQUIPMENT MANUFACTURER.													
4. MOUNT CONDENSING UNIT ON CURB.													

DIFFUSER AND REGISTER SCHEDULE							
SYMBOL	MANUFACTURER / MODEL NUMBER	DUTY	TYPE	BORDER TYPE	CONSTRUCTION		REMARKS
					FRAME	BLADES	
A	PRICE SPD SERIES	SUPPLY	DD	LAY-IN	STEEL	STEEL	1,5
B	PRICE S20 SERIES	SUPPLY	LF	SURFACE	STEEL	STEEL	2,5
C	PRICE SDS SERIES	SUPPLY	LS	—	ALUMINUM	ALUMINUM	3,4,5
D	PRICE S30 SERIES	RETURN/ EXHAUST	LF	SURFACE	STEEL	STEEL	2,5

TYPES: DD — DIRECTIONAL DIFFUSER LF — LOUVERED FAN LS — LINEAR SLOT	REGISTER/GRILLE TYPE TAG		INDICATES NECK SIZE INDICATES DESIGN CFM
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REMARKS: 1. 24x24 LAY IN PANEL 2. SURFACE MOUNTED WITH SCREWED FLANGE 3. SUSPEND DIFFUSER FROM BUILDING STRUCTURE WITH INTEGRAL BRACKETS, MANUFACTURER'S "TYPE 9" MOUNTING. 4. (2) 3/4" SLOTS; 4"-0" LENGTH AND MANUFACTURER'S SCD ENGINEERED PLENUM 5. COLOR SHALL BE WHITE UNLESS SPECIFIED BY ARCHITECT.

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THE PREMIER COLLECTION

251 EAST MAIN STREET
ELMSFORD, NY. 10523

[illegible]MECHANICAL
DETAILS AND
SCHEDULES

THE PREMIER
COLLECTION

Project Number	23-12
Date	06/07/23
Drawn By	AK
Checked By	PM
Scale	As Noted

M-500

