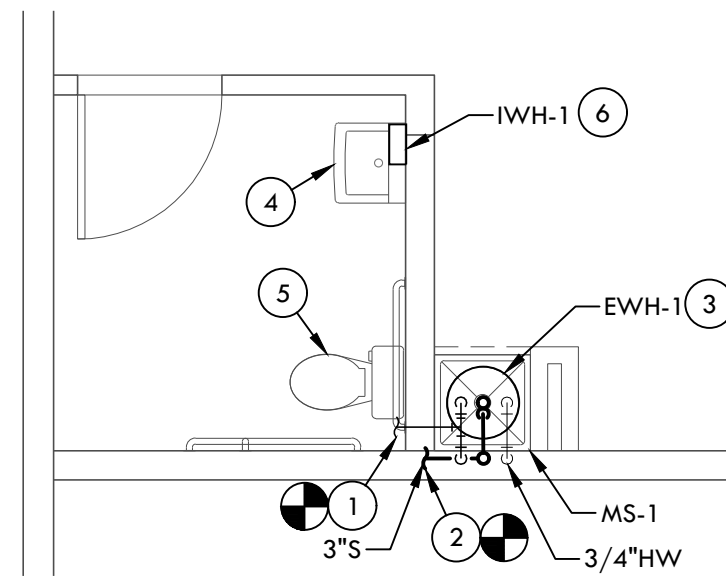


- ALL OF THE MECHANICAL WORK IS NOT NECESSARILY SHOWN OR NOTED ON THESE DRAWINGS. THE CONTRACTORS SHALL VISIT THE JOB SITE AND VERIFY ALL EXISTING CONDITIONS RELATED TO THEIR WORK BEFORE BIDDING. NOTIFY THE OWNER OF ANY DISCREPANCIES. THOSE ITEMS NOT SHOWN OR NOTED BUT WHICH ARE DEEMED NECESSARY FOR REMOVAL OR RELOCATION BY OWNER'S REPRESENTATIVE SHALL BE PART OF THIS CONTRACT.
- THE SUBMISSION OF PROPOSALS SHALL BE CONSIDERED EVIDENCE THAT THE CONTRACTORS HAVE VISITED THE SITE. NO EXTRA PAYMENTS WILL BE ALLOWED THESE CONTRACTORS CLAIMS FOR EXTRA WORK MADE NECESSARY BY THEIR FAILURE TO VISIT THE SITE.
- GUARANTEE ALL EQUIPMENT AND MATERIAL INSTALLED UNDER THIS CONTRACT TO BE FREE FROM DEFECTS FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE AND REPAIR OR REPLACE WITHOUT COST TO THE OWNER ANY EQUIPMENT WHICH IS DEFECTIVE, OR IMPROPERLY INSTALLED. IN ADDITION, ASSUME FULL RESPONSIBILITY FOR ANY DAMAGE TO THE BUILDING AND ITS CONTENTS OR OTHER EQUIPMENT CAUSED BY DEFECTS OR IMPROPER INSTALLATION OF EQUIPMENT OR MATERIALS INSTALLED UNDER THIS PORTION OF THE WORK.
- ALL WORK SHALL BE COMPLETED AND INSTALLED ACCORDING TO STATE AND OR LOCAL CODES, AND ALL LANDLORD CRITERIA.
- PAY FOR ALL REQUIRED PERMITS AND INSPECTIONS AND PROVIDE A CERTIFICATE OF INSPECTION.
- REVIEW ALL LANDLORD REQUIREMENTS AND INSTALL ALL MATERIALS AND EQUIPMENT AS DIRECTED BY THE LANDLORD'S REPRESENTATIVE AND AS REQUIRED BY THE LEASE DOCUMENTS. VERIFY THE REQUIREMENTS BEFORE SUBMITTING A BID.
- VERIFY THE SIZE, LOCATION AND CONDITION OF THE EXISTING DUCTWORK, EQUIPMENT AND CONTROLS THAT ARE TO REMAIN. NOTIFY THE OWNER OF ANY DISCREPANCIES. REPLACE EXISTING COMPONENTS IF INADEQUATE FOR THE NEW REQUIREMENTS OR INOPERABLE. COORDINATE REPLACEMENT COMPONENT SPECIFICATIONS WITH THE LANDLORD'S FIELD REPRESENTATIVE.
- FIVE (5) COPIES OF ALL SHOP OR EQUIPMENT DRAWINGS SHALL BE SUBMITTED TO THE OWNER. THESE DRAWINGS SHALL BE CLEARLY MARKED INDICATING WHICH ITEMS ARE TO BE SUPPLIED AND SHALL STATE CAPACITIES, SIZES, REQUIRED INSPECTION LABELS AND GENERAL DESCRIPTION OF ALL EQUIPMENT AND FIXTURES.
- ALL AIR INTAKES AND EXHAUSTS NEED TO BE SEPARATED BY A MINIMUM OF 10'-0".
- NO COMPONENTS MAY BE ABANDONED IN PLACE WITHOUT PERMISSION FROM THE OWNER. ALL COMPONENTS THAT ARE NOT REUSED MUST BE REMOVED.
- VERIFY ALL CLEARANCES AROUND NEW AND EXISTING EQUIPMENT.

KEYNOTE SYMBOLS: (1), (2), (X)

- CONNECT 3/4" CW TO EXISTING CW IN THIS AREA. FIELD VERIFY EXACT LOCATION, MATERIAL, AND ELEVATION OF EXISTING CW.
- CONNECT 3" SANITARY FROM SERVICE SINK INTO EXISTING SANITARY IN THIS AREA. PROVIDE 2" VENT AND CONNECT TO EXISTING VENT LINE IN THIS AREA. FIELD VERIFY EXACT LOCATION, INVERT, AND MATERIAL OF EXISTING SANITARY BEFORE START OF WORK.
- NEW ELECTRIC WATER HEATER TO BE MOUNTED ON SHELF ABOVE SERVICE SINK. ROUTE T&P VALVE AND DRAIN PAN TO SERVICE SINK BELOW. PROVIDE WITH AIR GAP PER CODE. WATER HEATER PLATFORM TO BE MOUNTED TO PROVIDE 5' OF CLEARANCE BETWEEN PLATFORM AND SERVICE SINK.
- RELOCATE EXISTING LAVATORY AND ASSOCIATED PROVISIONS TO LOCATION SHOWN ON PLAN. CLEAN AND REPAIR AS NEEDED.
- EXISTING FIXTURE TO REMAIN. FIELD VERIFY EXISTING CONDITIONS. CLEAN AND REPAIR AS NEEDED.
- REPLACED EXISTING FIXTURE WITH NEW FIXTURE. CONNECT NEW FIXTURE TO EXISTING CONNECTIONS.



KEYNOTE SYMBOLS: (1), (2), (X)

- RELOCATE EXISTING THERMOSTAT TO LOCATION SHOWN. INSTALL AT 48" AFF. FIELD VERIFY EXACT LOCATION.
- FURNISH AND INSTALL GALVANIZED STEEL DUCTWORK. REFER TO SPECIFICATIONS FOR INSULATION REQUIREMENTS.
- EXTEND 26"x12" RETURN AIR DUCT DOWN INTO OPEN SPACE BELOW DECK AS SHOWN.
- PROVIDE 12"x12" OPENING ON TOP OF DUCT AND COVER WITH 1/2"x1/2" GALVANIZED HARDWARE CLOTH. PROVIDE MINIMUM OF 4" FREE FROM OBSTRUCTIONS ABOVE OPENING FOR RETURN AIR PATH.
- PROVIDE 20"x18" OPENING ON TOP OF DUCT AND COVER WITH 1/2"x1/2" GALVANIZED HARDWARE CLOTH. PROVIDE MINIMUM OF 4" FREE FROM OBSTRUCTIONS ABOVE OPENING FOR RETURN AIR PATH.
- PROVIDE 24"x24" OPENING ON TOP OF DUCT AND COVER WITH 1/2"x1/2" GALVANIZED HARDWARE CLOTH. PROVIDE MINIMUM OF 8" FREE FROM OBSTRUCTIONS ABOVE OPENING FOR RETURN AIR PATH.
- EXISTING ROOFTOP UNIT TO REMAIN. BALANCE SUPPLY AIR TO 2200 CFM, OUTDOOR AIR TO 340 CFM, AND RETURN AIR TO 1860 CFM. REFURBISH AND SERVICE TO FULL AND COMPLETE OPERATION. FIELD VERIFY EXACT LOCATION.
- EXISTING ROOFTOP UNIT TO REMAIN. BALANCE SUPPLY AIR TO 1800 CFM, OUTDOOR AIR TO 340 CFM, AND RETURN AIR TO 1460 CFM. REFURBISH AND SERVICE TO FULL AND COMPLETE OPERATION. FIELD VERIFY EXACT LOCATION.
- NEW EXHAUST FAN PER SCHEDULE. INSTALL IN LOCATION OF EXISTING FAN AND CONNECT TO EXISTING EXHAUST DUCTWORK OF ADEQUATE SIZE.
- EXISTING SUPPLY DIFFUSER TO REMAIN. BALANCE TO 50 CFM.

5 GENERAL NOTES

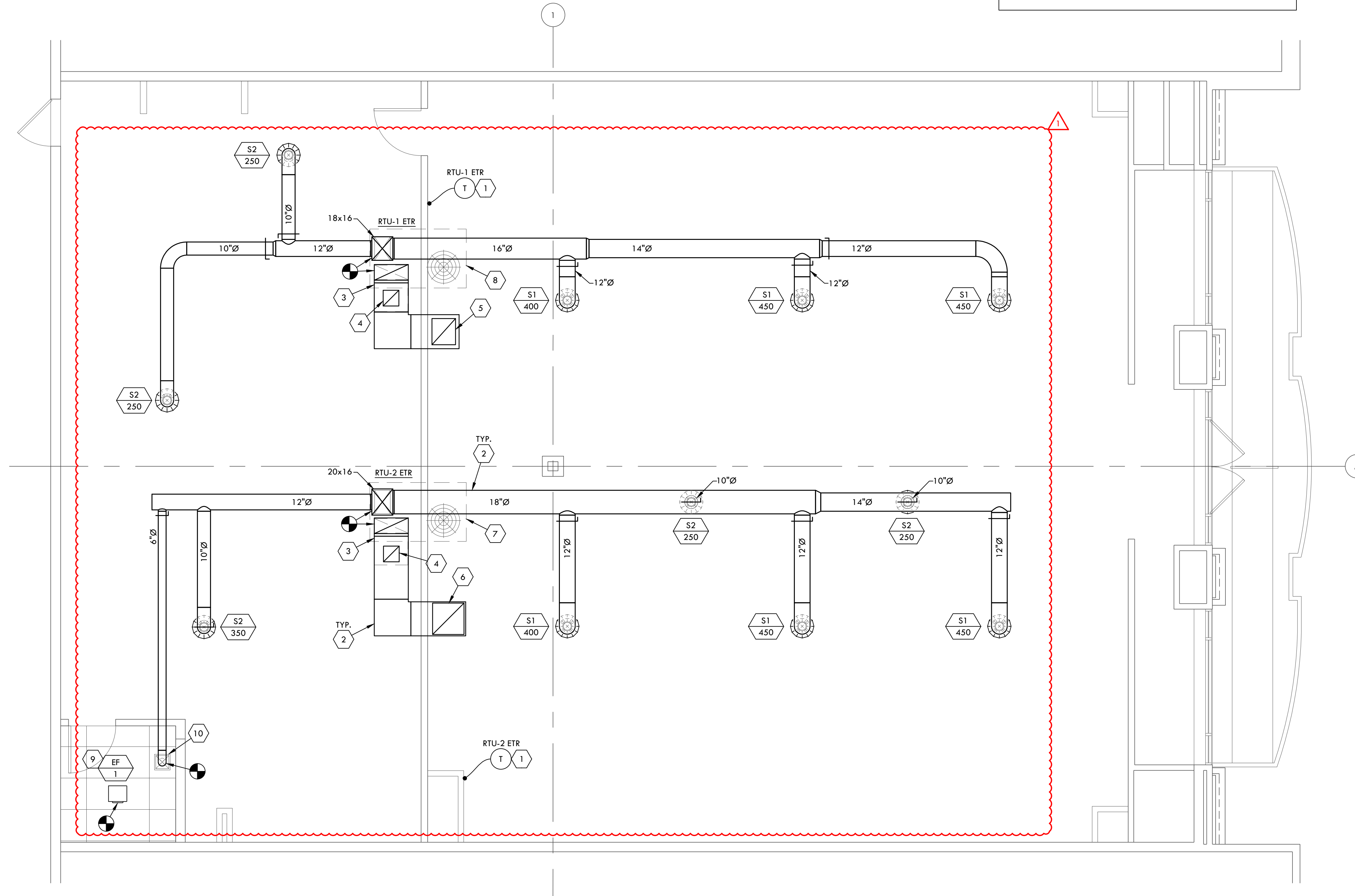
4 PLUMBING KEY NOTES

3 PLUMBING PLAN
SCALE: 1/4" = 1'-0"

2 MECHANICAL KEY NOTES

ALL HVAC EQUIPMENT AND CONTROLS MUST BE LOCATED FOR PROPER ACCESS FOR MAINTENANCE AND REPAIR, WHETHER INSTALLATION IS EXISTING OR NEW. EXISTING EQUIPMENT AND CONTROLS SHALL BE RELOCATED BY THIS CONTRACTOR IF REQUIRED.

NOTE: EXISTING CONDITIONS WERE TAKEN FROM SITE VISITS AND MAY NOT REFLECT EXACT "AS-BUILT" CONDITIONS. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO SUBMITTING FINAL BIDS. CONTRACTOR SHALL CAREFULLY COORDINATE NEW WORK AND DEMOLITION WITH ALL OTHER DISCIPLINES AND EXISTING CONDITIONS.



- ROOF EQUIPMENT, INCLUDING BUT NOT LIMITED TO HVAC EQUIPMENT, KITCHEN EQUIPMENT, DUCTS, AND PIPING SHALL BE SHOWN ON A ROOF PLAN TO BE INCLUDED IN TENANT'S DRAWINGS SUBMISSION. SUCH EQUIPMENT SHALL NOT BE VISIBLE FROM THE RING ROAD, LOCATED WITHIN THE DESIGNATED ROOF AREA OF THE PREMISES AND MINIMUM OF 5'-0" FROM THE VERTICAL PLANE OF ANY DEMISING PARTITION LOCATED. EQUIPMENT SCREENS OR SCREEN WALLS MAY BE REQUIRED AND SHALL BE APPROVED IN WRITING BY LANDLORD UNDER SEPARATE COVER. THE TENANT MUST LOCATE ANY MECHANICAL EQUIPMENT AIR INTAKE NO CLOSER THAN 10'-0" TO ANY OTHER ROOF TOP MECHANICAL EQUIPMENT INTAKE OR EXHAUST.
- IF THE TENANT INTENDS TO ADD NEW ROOFTOP MECHANICAL EQUIPMENT OR REPLACE EXISTING ROOFTOP EQUIPMENT WITH HEAVIER UNITS, THE TENANT MUST PROVIDE AT ITS SOLE EXPENSE A LICENSED STRUCTURAL ENGINEER'S REVIEW OF THE PROPOSED NEW ROOF EQUIPMENT. THE STRUCTURAL ENGINEER'S ANALYSIS MUST DEFINITELY CONCLUDE THAT THE STRUCTURE CAN SUPPORT THE WEIGHT OF THE UNIT AS IS, OR IF THE STRUCTURE CANNOT SUPPORT THE ADDITIONAL WEIGHT, THEN THE APPROPRIATE STRUCTURAL REINFORCEMENT DRAWINGS/DETAILS MUST BE SUBMITTED. STRUCTURAL DETAILS ARE TO BE SIGNED, SEALED, AND SUBMITTED TO THE LANDLORD PRIOR TO INSTALLATION FOR THEIR RECORDS BY A LICENSED STRUCTURAL ENGINEER WITH LEGALLY ACTIVE REGISTRATION IN THE STATE IN WHICH THE PROJECT IS LOCATED. IF STRUCTURAL REINFORCEMENTS ARE NEEDED, SUCH DRAWINGS MUST ALSO BE SUBMITTED TO AND APPROVED BY THE LOCAL AHJ PRIOR TO THE INSTALLATION OR MODIFICATION OF ANY ROOF TOP EQUIPMENT. LANDLORD RESERVES THE RIGHT TO HAVE A 3RD PARTY ENGINEER REVIEW TENANT'S DESIGN AND MAY REQUIRE TENANT TO PROVIDE DOCUMENTATION FROM A 3RD PARTY INSPECTOR TO VERIFY THAT STRUCTURAL INSTALLATION HAS BEEN INSTALLED PER THE STAMPED AND APPROVED DRAWINGS.
- IN CONNECTION WITH ANY ROOF TOP EQUIPMENT WORK, THE TENANT SHALL MAINTAIN PROPER ROOF DRAINAGE TO EXISTING DRAIN LOCATIONS AND PROVIDE ROOFING, FLASHING, AND WATERPROOFING FOR INSTALLATION OF NEW CURB PER LANDLORD'S CRITERIA AT TENANT'S SOLE EXPENSE.
- CONDENSATE SHALL DRAIN INTO AN INTERIOR FLOOR DRAIN OR MOP SINK WITHIN THE PREMISES OR FOLLOW THE EXISTING CONDITIONS CONDENSATE DRAIN LINE CONFIGURATION ON THE ROOF. CONSULT WITH PROPERTY'S OPERATIONS DIRECTOR FOR THE APPROVED CONDENSATE DRAIN LINE CONFIGURATION PRIOR TO START OF CONSTRUCTION.
- TENANT SHALL LABEL ALL ROOF TOP EQUIPMENT INDICATING: TENANT NAME, SPACE NUMBER, AND EQUIPMENT IDENTIFICATION (IE FELLOWS, #1700, RTU-1) PER LANDLORD'S DESIGN CRITERIA.
- EQUIPMENT THAT UTILIZES CONDENSER COILS SHALL BE EQUIPPED WITH HAIL GUARDS.
- LANDLORD REQUIRES ALL FOOD TENANTS TO INSTALL A GREASE GUARD BETWEEN ITS KITCHEN HOOD EXHAUST FAN AND THE EXISTING ROOF MATERIAL. SIMON PROPERTY GROUP REQUIRES ALL FOOD USE TENANTS TO INSTALL ONE OF TWO GREASE COLLECTION SYSTEM OPTIONS: "GREASE-GUARD G-2," MANUFACTURED BY ROOFTOP DEFENSE SYSTEMS; T: 1.800.913.7034 OR "GREASE GUTTER," MANUFACTURED BY OMNI CONTAINMENT SYSTEMS; T: 877.226.6824.
- LANDLORD REQUIRES ALL FOOD TENANTS TO INSTALL THEIR EXHAUSTS A MINIMUM OF 10FT FROM SURROUNDING INTAKES INCLUDING ADJACENT TENANT INTAKES, HOWEVER 20FT-25FT OF SEPARATION IS STRONGLY RECOMMENDED.
- ENSURE WALK PADS SURROUND NEW UNITS.
- ENSURE ALL ROOF PENETRATIONS HAVE BOOTS.
- LANDLORDS STRONGLY PREFERS USE OF ENERGY STAR PRODUCTS AND/OR EQUIPMENT WHENEVER POSSIBLE DURING TENANT BUILD OUT, WHICH CAN REDUCE ENERGY CONSUMPTION.
- FOR ADDITIONAL INFORMATION VISIT WWW.ENERGYSTAR.GOV/PRODUCTS

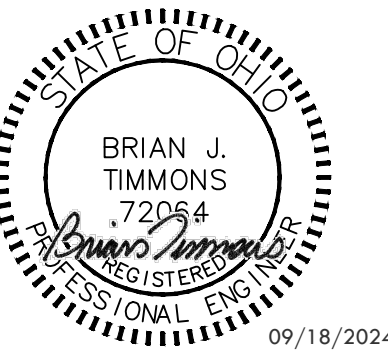
ADDRESS
VERA BRADLEY
CINCINNATI PREMIUM
OUTLETS
958 PREMIUM OUTLETS DR
MONROE, OH 45050

CLIENT
VERA BRADLEY
12400 STONERIDGE ROAD
ROANOKE, IN 46783

DESIGN PROFESSIONALS
BRETT DELMEZ, ARCHITECT
7750 MARYLAND AVE.
UNIT 50375
ST. LOUIS, MO 63105



PROFESSIONAL SEAL



DESCRIPTION	DATE	APP	DWR	APP
ORIGINAL ISSUANCE	07/30/24	TP/OGG/BC	CF/AR	
REV. Δ SITE COND. CHANGES / CONST. SET	09/18/24	TP/OGG/BC	CF/AR	

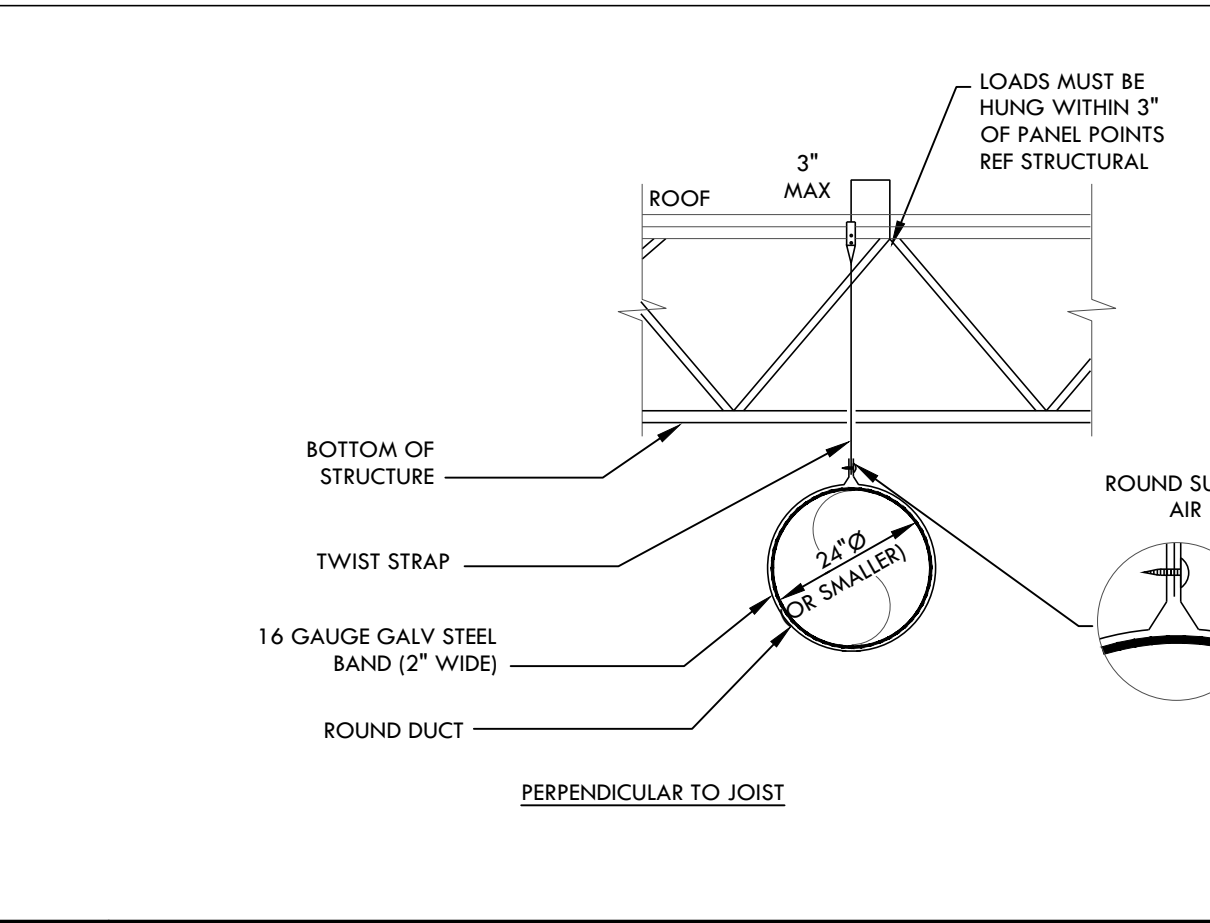
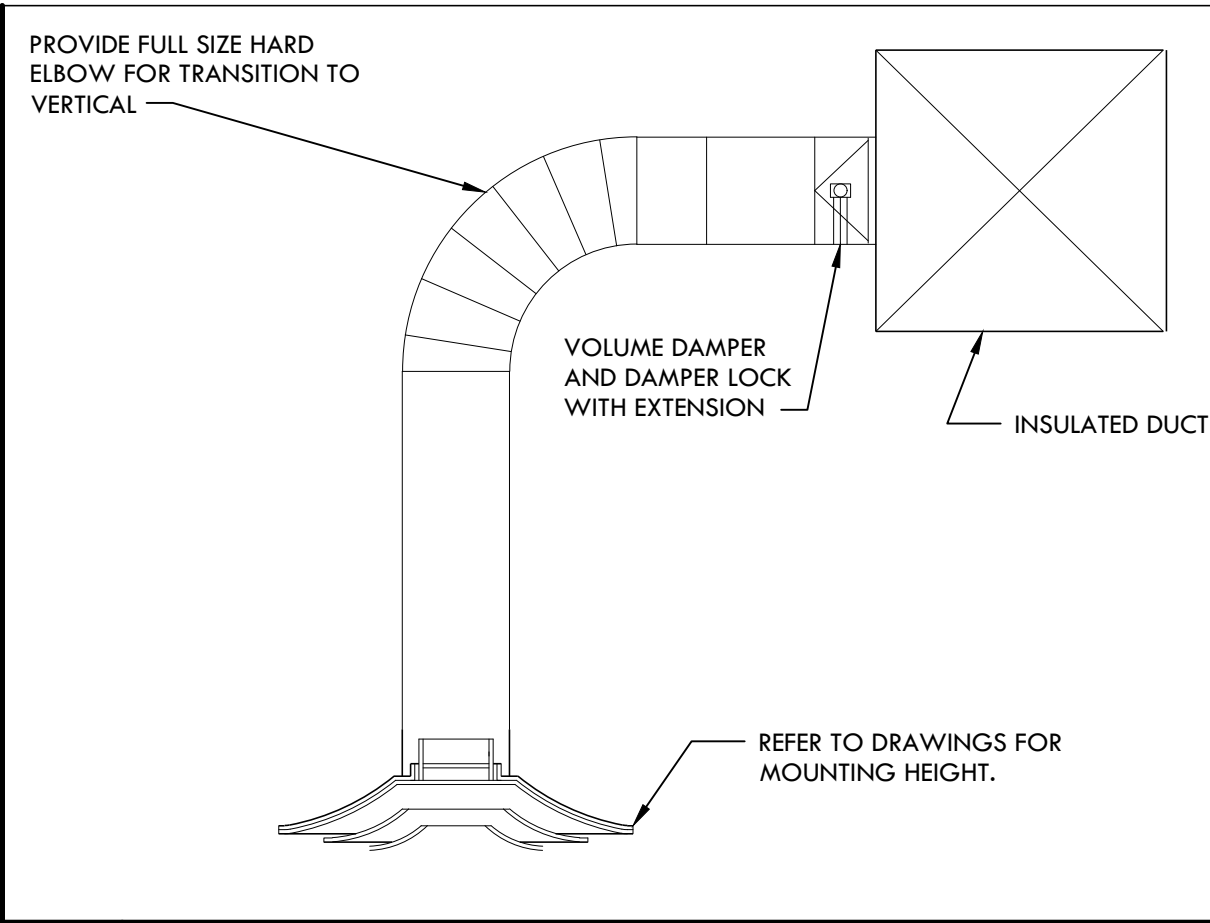
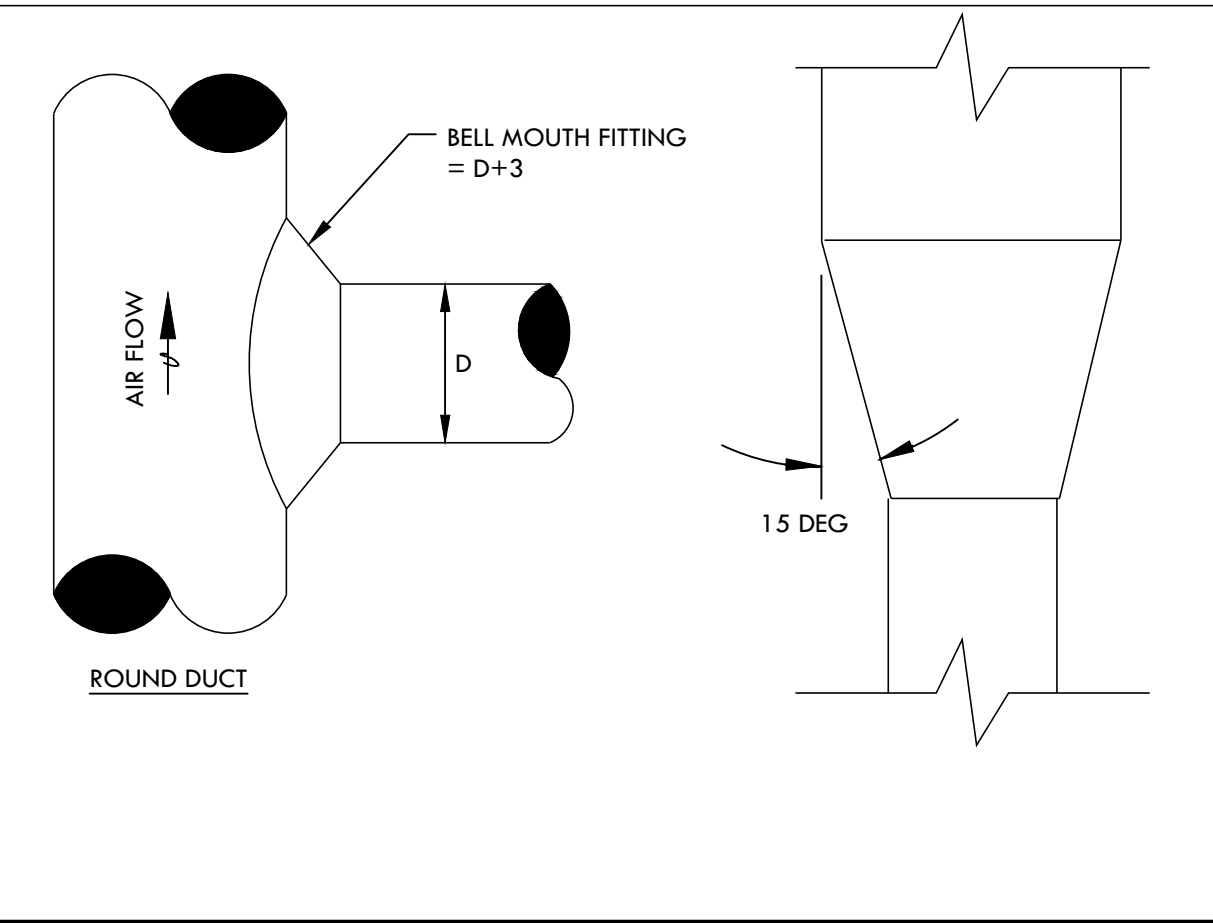
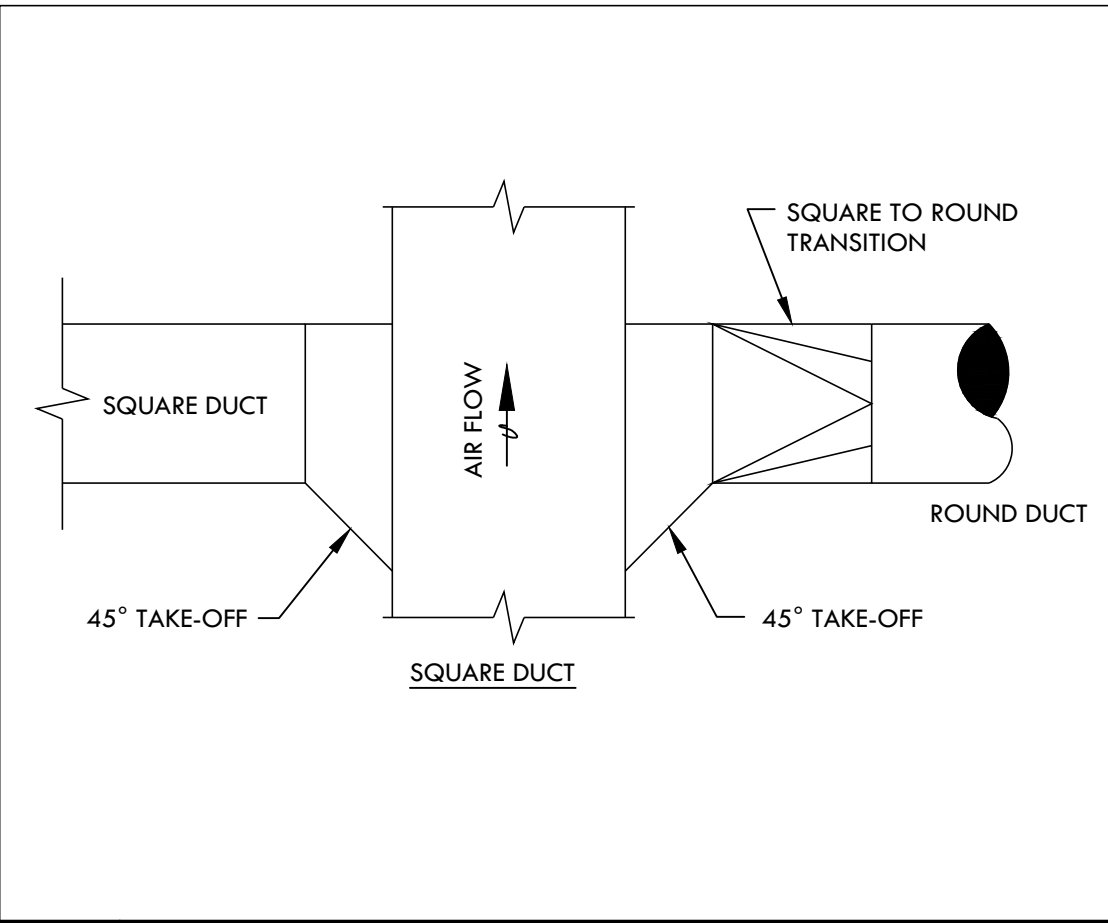
PROJECT NUMBER
24131
MECHANICAL
AND PLUMBING
PLAN

M1.0

20 MECHANICAL & PLAN
SCALE: 1/4" = 1'-0"

16 ROOF TOP EQUIPMENT COMMENTS

BME



5 BRANCH DUCT TAKEOFFS & TRANSITIONS

3 DIFFUSER DETAILS

2 ROUND DUCT HANGER ATTACHMENTS

MECHANICAL SYMBOLS LEGEND	
(T) / (S)	THERMOSTAT / SENSOR
-W-	FLEXIBLE DUCT
V	VOLUME DAMPER
FD	FIRE DAMPER
⊗	CEILING SUPPLY AIR DIFFUSER
⊙	CEILING RETURN AIR GRILLE
—	SIDEWALL AIR DIFFUSER OR GRILLE
—	NEW DUCTWORK
—	EXISTING DUCTWORK
D	CONDENSATE DRAIN
G	GAS PIPING
—	PIPE TURNING DOWN
—	PIPE TURNING UP
●	BALL VALVE
+	CONNECTION OF NEW TO EXISTING
⊥	CHECK VALVE
⊥	GAS COCK
—	STRAINER
AFF	ABOVE FINISHED FLOOR
ETR	EXISTING TO REMAIN
⊗	AIR DEVICE #
S	SUPPLY
R	RETURN
E	EXHAUST
CFM	
FIRE PROTECTION SYMBOLS LEGEND	
⊙	EXISTING SPRINKLER HEAD
●	CHROME PENDANT SPRINKLER HEAD
⊙	UPRIGHT SPRINKLER HEAD
⊙	CONCEALED SPRINKLER HEAD
⊙	SIDEWALL SPRINKLER HEAD
PLUMBING SYMBOLS LEGEND	
—	COLD WATER
—	HOT WATER
—	SANITARY DRAIN
—	SANITARY VENT
VTR	VENT THROUGH ROOF
—	PLUMBING TRAP
CO	CLEAN OUT
⊕	PRESSURE REGULATING VALVE(PRV) 50 PSI
CA	COMPRESSED AIR
FCO	FLOOR CLEAN OUT

- ALL PIPING AND HEADS SHALL BE INSTALLED PER LATEST EDITION OF NFPA 13. HEAD SPACING SHALL BE BASED UPON THE ORDINARY HAZARD SCHEDULE. ALL SPRINKLER PIPING SHALL BE SCHEDULE 40 BLACK IRON. SCHEDULE 10 PIPING IS PERMISSIBLE IF ACCEPTABLE TO THE LANDLORD. HYDRAULICALLY CALCULATE SYSTEM AND SUBMIT COPIES OF THE CALCULATIONS TO THE AUTHORITY HAVING JURISDICTION AND THE LANDLORD.
- PREPARE SHOP DRAWINGS FOR SUBMITTAL TO THE AUTHORITY HAVING JURISDICTION AND THE LANDLORD BEFORE FABRICATION.
- TWO COPIES OF THE APPROVED SHOP DRAWINGS SHALL BE SUBMITTED TO THE OWNER AND THE LANDLORD PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
- PROVIDE FOR INSPECTION TESTING AND APPROVAL BY THE AUTHORITY HAVING JURISDICTION AND THE STATE INSPECTION BUREAU AS REQUIRED.
- PROVIDE SIGNED CERTIFICATE OF COMPLETION COPIES TO BE GIVEN TO OWNER'S REPRESENTATIVE, INSURANCE REPRESENTATIVE, AND PROJECT OFFICE.
- HOLD ALL SPRINKLER LINES AS HIGH AS POSSIBLE TO MAINTAIN 18" CLEARANCE ABOVE STOCK SHELVING.
- SPRINKLER HEADS IN SALES AREA SHALL BE CONCEALED TYPE WITH WHITE COVER PLATES. UPRIGHT PENDANT HEADS SHALL BE USED IN ALL STOCKROOM AREAS, RESTROOMS WITH LAY-IN OR GYPSUM BOARD CEILINGS. SPRINKLER HEAD TEMPERATURE RATINGS SHALL BE 165°F IN SALES AND STOCK AREAS AND 212°F IN DISPLAY WINDOWS AND LIGHTING FIXTURE CANOPIES OR AS REQUIRED BY LANDLORD'S INSURANCE AGENCY AND LOCAL AUTHORITIES. SPRINKLER HEADS SHALL BE QUICK RESPONSE TYPE. ALL SEMI-RECESSED AND CONCEALED HEADS SHALL BE WHITE.
- VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS WHICH WILL AFFECT THE WORK. PROVIDE ALL REQUIRED PIPING AND OR REVISIONS TO PIPING AS NEEDED FOR A COMPLETE SPRINKLER SYSTEM WHICH IS APPROVED AND ACCEPTED BY LOCAL AUTHORITIES.
- SPRINKLER SHOP DRAWINGS UNDER SEPARATE COVER. SUPPLY SPRINKLER SHOP DRAWINGS AND APPLY TO BUILDING DEPARTMENT (REQUIRED).
- LANDLORD DESIGNATED CONTRACTOR TO PERFORM ALL SPRINKLER MODIFICATIONS. SYSTEM MODIFICATIONS SHALL BE SCHEDULED IN ADVANCE WITH THE LANDLORD'S FIELD REPRESENTATIVE. THE SPRINKLER SYSTEM SHALL BE FULLY CHARGED AND OPERATIONAL WHEN THE CONTRACTOR IS OFF THE SITE.
- ALL FIRE PROTECTION AND SPRINKLER SYSTEM WORK SHALL BE IN ACCORDANCE WITH MALL'S INSURANCE AGENCY REQUIREMENTS, NFPA, STATE, COUNTY AND LOCAL FIRE MARSHALL.
- CENTER SPRINKLER HEADS IN CEILING TILES.

GRILLE, REGISTER, AND DIFFUSER SCHEDULE

MARK	MANUFACTURER	MODEL	FACE TYPE	MOUNTING LOCATION	FACE SIZE (IN)	NOTE
S1	PRICE	RCD	ROUND	DUCT	22"Ø (12"Ø NECK)	A-D
S2	PRICE	RCD	ROUND	DUCT	22"Ø (10"Ø NECK)	A-D

NOTES:
 A. BAKED ENAMEL FINISH, WHITE. PAINT PER ARCHITECTS RECOMMENDATIONS.
 B. PROVIDE NECK FOR DUCT CONNECTION.
 C. PROVIDE NECK FOR DUCT CONNECTION.
 D. BRANCH DUCT SIZE SHALL BE SAME AS NECK SIZE UNLESS OTHERWISE SHOWN ON DRAWINGS.

FAN SCHEDULE

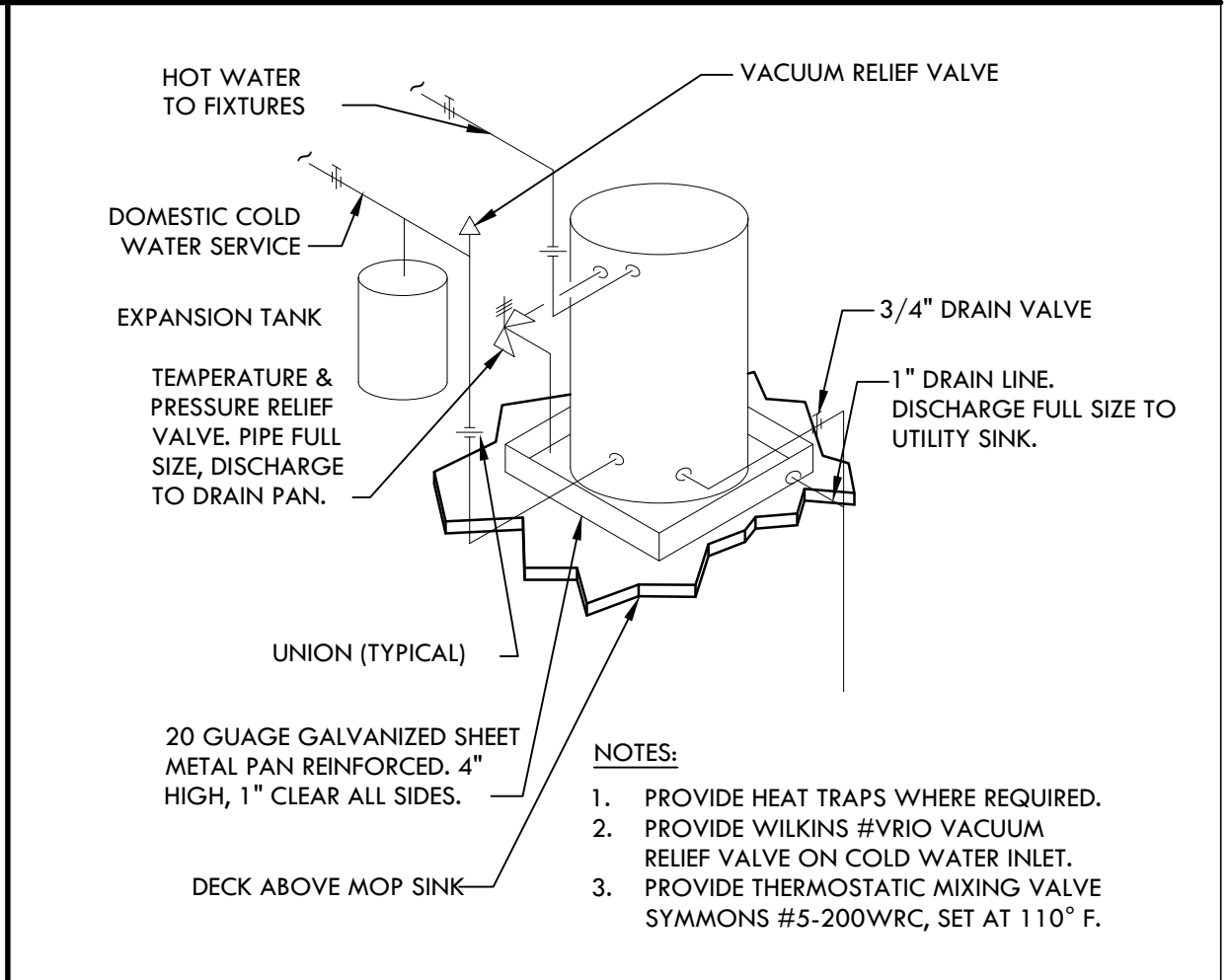
MARK	MANUFACTURER	MODEL	MOUNTING	CFM	ESP (IN)	DRIVE (BELT/DIRECT)	AMPS	ELECTRICAL VOLTS/PH	DISC. TYPE	NOTE
EF-1	BROAN	791LEDM	CEILING	85	0.25	DIRECT	0.5	120/1	SWITCH	A-D

NOTES:
 A. EXHAUST FAN SHALL BE INTERLOCKED WITH LIGHT SWITCH.
 B. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
 C. PROVIDE WITH BACK DRAFT DAMPER.
 D. CONNECTED EXHAUST DUCT MUST BE RIGID. NO FLEX DUCT ALLOWED.

PLUMBING FIXTURE SCHEDULE

TAG	MANUFACTURER	MODEL	ACCESSORIES / COMMENTS
EW-H-1	A.O. SMITH	DEL-10	10 GALLON STORAGE TANK, SINGLE ELEMENT HEATER, 3000 WATT, 12.0 F.L.A., 120/1Ø, 15 GPH RECOVERY RATE @ 80°F. PROVIDE EXPANSION TANK (ET-1) BY AMTROL MODEL ST-5
IWH-1	EEMAX	SPEX3512	INSTANTANEOUS, 3.5 KW, 30 AMPS, 120V ELECTRIC WATER HEATER INSTALLED UNDER LAVATORY FLOOR SLAB. PEX IS AN ALTERNATIVE, IF ALLOWABLE AND COMPLIANT WITH 110°F
MS-1	FIAT	FL-1	FIBERGLASS FLOOR SERVICE SINK W/ LEG SUPPORTS. 3" DRAIN, OPEN GRID STRAINER FAUCET: FIAT A-1 DECK FAUCET

NOTES:
 1. COORDINATE WITH CONSTRUCTION MANAGER FOR SUBSTITUTIONS.



6 WATER HEATER DETAIL

15 LEGEND

14 FIRE PROTECTION SPECIFICATION

13 HVAC AND PLUMBING SCHEDULES

- ANY CHANGES AND/OR UPGRADES TO TENANT'S EXISTING MECHANICAL SYSTEMS SHALL COMPLY WITH ALL CODES AND PROPERTY CRITERIA.
- NO PITCH POCKETS ARE PERMITTED ON THE ROOF FOR ANY CONDENSATE DRAINS, REFRIGERANT PIPING, POWER OR CONTROL WIRING. ALL CONNECTIONS ARE TO BE MADE INSIDE THE EQUIPMENT CURB OR THROUGH PRE-MANUFACTURED PIPING CURB.
- NOTHING IS PERMITTED TO BE ATTACHED TO, SUSPENDED FROM, OR PENETRATE LANDLORD'S STRUCTURE OR ROOF DECK. YOU MAY ATTACH, NON-DESTRUCTIVELY, TO OR SUSPEND FROM THE TOP CHORD OF THE JOIST OR THE STRUCTURAL STEEL WHICH EXISTS WITHIN THE TENANT SPACE. WHEN ATTACHING TO THE LANDLORD'S STRUCTURE, DO NOT DRILL, WELD, SCREW, OR SHOOT INTO STRUCTURE. ALTERNATIVE METHODS OF ATTACHMENT ONLY, NOTHING TO DAMAGE LANDLORD'S BASE BUILDING STRUCTURE. TENANT SHALL PROVIDE SIGNED AND SEALED STRUCTURAL DRAWINGS, BY A STRUCTURAL ENGINEER WITH LEGALLY ACTIVE REGISTRATION AS INDICATED BY ALL JURISDICTIONAL REQUIREMENTS, FOR ALL STRUCTURAL MODIFICATIONS TO THE SPACE FOR LANDLORD'S RECORDS.
- ALL PENETRATIONS TO ROOF MUST BE APPROVED BY LANDLORD. ALL RELATED ROOF WORK MUST BE DONE BY PROPERTY'S DESIGNATED ROOFING CONTRACTOR, AT TENANT'S EXPENSE. COORDINATE ALL WORK WITH PROPERTY MANAGEMENT ON SITE.
- TENANT MUST REMOVE ALL ABANDONED ROOFTOP AND/OR MECHANICAL EQUIPMENT ABOVE THE LEASED PREMISES AND WITHIN THE LEASED PREMISES, AT TENANT EXPENSE. PATCH AND REPAIR ROOF BACK TO FLUSH FINISHED INFILL AS NEEDED.
- TENANT'S GC TO LABEL ALL ROOFTOP EQUIPMENT WITH TENANT NAME, SPACE NUMBER, AND EQUIPMENT IDENTIFICATION (IE: FELLOWS, #1700, RTU-1) PER MALL SPECIFICATIONS/STANDARDS.
- ALL PIPING ON ROOF SHALL BE SUPPORTED ON PRE-MANUFACTURED PIPE SUPPORTS (DURABLOCK, OR SIMILAR) INSTALLED ON CARRY TREAD (OR SIMILAR ROOFING SLIP SHEETS), SPACED PROPERLY TO SUPPORT PIPING. TREATED WOOD SUPPORTS ARE NOT PERMITTED.
- ALL EXPOSED DUCTWORK SHALL BE SHEET METAL. FLEX DUCT MAY ONLY BE USED IN RUNS OF 5'-0" OR LESS AND ONLY PERMITTED ABOVE GRID OR DRYWALL CEILINGS. RIGID BOARD DUCTWORK CAN BE USED ABOVE GRID OR DRYWALL CEILINGS, AS WELL AS FLEX CONNECTIONS.
- AT CONCLUSION OF PROJECT, HVAC SYSTEM MUST BE TESTED AND BALANCED BY A LICENSED CONTRACTOR. COPY OF BALANCE REPORT MUST BE PROVIDED TO PROPERTY MANAGEMENT OFFICE ON-SITE.
- HVAC SYSTEM CAPACITY AT TENANT'S REQUEST BEYOND THE STANDARD LANDLORD PROVIDED 1 TON/3500F, THE TENANT ASSUMES RESPONSIBILITY TO MAINTAIN NO MORE THAN A 0.10" POSITIVE PRESSURE WITHIN THE SPACE WITH RESPECT TO AMBIENT. FAILURE TO MAINTAIN CONDITIONS BELOW THIS MAXIMUM PRESSURE MAY RESULT IN DAMAGE TO ROOFING SYSTEMS FOR WHICH THE TENANT WILL BE HELD RESPONSIBLE. THE TENANT IS ENCOURAGED TO UTILIZE A PRUDENT MEANS OF PRESSURE CONTROL IN THEIR HVAC SYSTEM DESIGN.
- IF THE TENANT PROPOSED TO REPLACE ANY OF THE EXISTING HVAC UNITS (R.T.U.'S) THE TENANT MUST FOLLOW THE CRITERIA BELOW AND SUBMIT ALL REQUESTED INFORMATION TO THE LANDLORD FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION OF THE NEW UNITS).
 SEE THE CRITERIA BELOW REGARDING RTU REPLACEMENT:
 1. PROVIDE LANDLORD WITH QUANTITY, BRAND, MODEL #, AND INSTALLED WEIGHTS FOR THE PROPOSED REPLACEMENT HVAC UNITS.
 2. PROVIDE LANDLORD WITH QUANTITY, BRAND, MODEL #, AND INSTALLED WEIGHTS FOR EXISTING UNITS.
 3. PROVIDE LANDLORD WITH WEIGHT COMPARISON FOR EXISTING VERSUS REPLACEMENT UNITS - WILL THE NEW UNITS WEIGH MORE OR LESS THAN EXISTING UNITS?

- INDICATE IF THE REPLACEMENT UNITS WILL BE INSTALLED IN SAME LOCATIONS AS EXISTING UNITS, AND ON SAME ROOF CURBS.
- INDICATE IF NEW ROOF CURB ADAPTERS WILL BE INSTALLED.
- OR INDICATE IF UNIT WILL BE INSTALLED IN NEW LOCATION SO NEW ROOF PENETRATIONS & CURBS WILL BE REQUIRED.
- WHENEVER A REPLACEMENT UNIT WEIGHS MORE THAN EXISTING UNIT, TENANT OR THEIR HVAC CONTRACTOR ARE REQUIRED TO SUBMIT WRITTEN CONFIRMATION THAT THE EXISTING ROOF STRUCTURE, TRUSSES, AND/OR ROOF FRAMING WERE DESIGNED TO CARRY HEAVIER INSTALLED WEIGHT LOAD OF NEW HVAC UNITS(S).
- WRITTEN CONFIRMATION MUST INCLUDE THE WEIGHT OF ANY APPLICABLE NEW ROOF CURBS OR CURB ADAPTERS.
- TENANT OR HVAC CONTRACTOR HAS TO PROVIDE LANDLORD WITH A WET-SIGNED & STAMPED LETTER AND CALCULATIONS FROM A LICENSED STRUCTURAL ENGINEER PRIOR TO SCHEDULING HVAC REPLACEMENT WORK. WET-SIGNED & STAMPED LETTER AND CALCULATIONS FROM A LICENSED STRUCTURAL ENGINEER MAY BE SUBMITTED TO LANDLORD VIA EMAIL.
- ALLOW ONE WEEK FOR LANDLORD TO REVIEW ABOVE INFORMATION AND TO PREPARE AN APPROVAL LETTER FOR HVAC UNIT REPLACEMENT.
- HVAC CONTRACTORS MUST CONTACT THE CENTER OFFICE A WEEK IN ADVANCE OF INSTALLATION FOR THEIR CERTIFICATE OF INSURANCE REQUIREMENTS. THEY MAY ALSO REQUIRE A COI FROM THE CRANE COMPANY.
- HVAC CONTRACTORS MUST CONTACT THE CENTER OFFICE REGARDING PROPOSED SCHEDULE & TIMING. HVAC UNIT REPLACEMENT CANNOT START UNTIL LANDLORD HAS APPROVED THE HVAC REPLACEMENT WORK IN WRITING.
- TENANT MUST USE LANDLORD'S REQUIRED ROOFER.

- ANY CHANGES AND/ OR UPGRADES TO TENANT'S EXISTING PLUMBING SYSTEMS SHALL COMPLY WITH ALL CODES AND MALL CRITERIA.
- ALL MAIN WATER LINES SHALL BE COPPER - PVC IS NOT PERMITTED. THERE SHALL BE NO PIPING JOINTS OR FITTINGS INSTALLED IN WATER PIPING BELOW THE FLOOR SLAB. PEX IS AN ALTERNATIVE, IF ALLOWABLE AND COMPLIANT WITH LOCAL CODE.
- ALL DRAIN, WASTE AND VENT PIPING AND FITTINGS ABOVE GRADE MUST BE CAST IRON PIPE. (PVC IS ACCEPTABLE IN OUR NEW CONSTRUCTION AS LONG AS IT IS NOT INSTALLED IN A RETURN AIR PLENUM.)
- PLUMBING IS NOT PERMITTED IN ANY DEMISING PARTITIONS. FUR OUT THE WALL AS NECESSARY.
- EXHAUST AND PLUMBING VENTS SHALL BE LOCATED A MINIMUM OF 10'-0" AWAY FROM ANY OUTSIDE AIR INTAKE, AND 5'-0" FROM ANY DEMISING WALL VERTICAL PLANE. ALL VENTS SHALL BE LOCATED OUTSIDE OF ANY SNOW DRIFT ZONES AS SPECIFIED ON THE CENTER'S DOCUMENTATION.
- ALL PENETRATIONS TO ROOF MUST BE APPROVED BY LANDLORD. ALL RELATED ROOF WORK MUST BE DONE BY MALL'S DESIGNATED ROOFING CONTRACTOR, AT TENANT'S EXPENSE. COORDINATE ALL WORK WITH PROPERTY MANAGEMENT ON SITE.
- ANY UNUSED PLUMBING EQUIPMENT, PIPING, ETC., WITHIN OR SERVING THE PREMISES MUST BE COMPLETELY REMOVED TO POINT OF ORIGIN. DO NOT ABANDON IN PLACE. ALL PENETRATIONS THROUGH THE ROOF SHALL BE PATCHED AND REPAIRED BY THE APPROVED ROOFING CONTRACTOR APPROVED BY PROPERTY MANAGEMENT.
- IF NOT ALREADY EXISTING, INSTALL A SHUT OFF VALVE ON DOMESTIC WATER LINE INSIDE SPACE. EXISTING SHUT OFF VALVE TO THE SPACE SHALL SERVE AS THE POINT OF SERVICE TO THE TENANT SPACE.
- ALL NEW PLUMBING (DOMESTIC WATER AND DRAIN WASTE VENT "DWV" PIPING) SHALL BE INSULATED WHERE EXPOSED OR IN PLENUM SPACES.

- TENANT IS REQUIRED TO INSTALL A WATERPROOF MEMBRANE IN ALL WET AREAS OF THE SPACE. TENANT SHALL USE A 30 MIL POLYETHYLENE CLEAVAGE MEMBRANE (EQUAL TO NOBLESEAL TS) INSTALLED PER MANUFACTURERS RECOMMENDATIONS AND ANSI A108. MEMBRANE MUST BE EXTENDED UP THE WALL A MINIMUM OF 6" OR EQUAL TO THE HEIGHT OF THE FLOOR BASE.
- TENANT'S GENERAL CONTRACTOR SHALL ADVISE THE PROPERTY MANAGEMENT TEAM PRIOR TO ANY SLAB MODIFICATIONS OR REMOVAL. TENANT GC SHALL VERIFY THAT WORK SHALL NOT CONFLICT WITH ANY EXISTING STRUCTURAL UTILITY, OR OTHER UNDER-SLAB CONDITION. (NONDESTRUCTIVE VERIFICATION MAYBE REQUIRED.) ANY DAMAGE OR DOWNTIME CAUSED BY TENANT'S WORK SHALL BE REPAIRED AND REIMBURSED AT TENANT'S EXPENSE.
- VAPOR BARRIER AND DOWELS MUST BE REVIEWED AND APPROVED BY THE PROPERTY'S OPERATION DIRECTOR PRIOR TO TRENCH CONCRETE BACK FILL WHERE THE SLAB IS SAW-CUT AND REMOVED FOR TRENCHING. LANDLORD REQUIRES TENANT'S CONTRACTOR TO INSTALL APPROPRIATE MOISTURE BARRIER (STEGO 15 MIL THICK). CONFIRM WORK WITH CENTER OPERATIONS DIRECTOR BEFORE YOU BACKFILL.
- PLEASE NOTE: SOME TENANT SUITES HAVE FURRED OUT COLUMNS WITH ACCESS PANELS TO AN EXISTING CLEAN OUT OR EXPOSED ROOF DRAIN. TENANT WILL BE REQUIRED TO ALWAYS KEEP THIS ACCESS PANEL AREA CLEAR OF OBSTRUCTIONS. REFER TO PLUMBING DRAWINGS FOR PIPE LOCATIONS. EXISTING CONDUITS, EXPOSED LOW VOLTAGE WIRING, WATER PIPES, DRAIN LINES, ETC. MAY BE INSTALLED EITHER ABOVE THE EXISTING CEILING, INSIDE THE ORIGINAL CONCRETE SLAB OR JUST BELOW THE SLAB; LANDLORD'S AS BUILT DRAWINGS MAY NOT ACCURATELY REFLECT THESE INSTALLATIONS. IT IS THE TENANT AND ITS CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATIONS OF ANY PIPE OR CONDUIT UNDER THE SLAB BY WHATEVER MEANS THE CONTRACTOR DEEMS APPROPRIATE PRIOR TO CUTTING THE SLAB. LIKEWISE, IDENTIFY ALL WIRING, CONDUITS, PIPING OR OTHER ITEMS IN THE ABOVE CEILING SPACE PRIOR TO REMOVING IT. ANY REPAIRS OR DAMAGES RESULTING FROM THE TENANT CONTRACTOR'S WORK WILL BE THAT CONTRACTOR'S RESPONSIBILITY TO REPAIR TO THE LANDLORD'S SATISFACTION.

20 MECHANICAL COMMENTS

17 PLUMBING COMMENTS

vera bradley

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PROFESSIONAL SEAL

 BRIAN J. TIMMONS
 72064
 MECHANICAL ENGINEER
 09/18/2024

DESCRIPTION
 DATE APP DWG
 07/30/24 TP/OG/BC CF/AR
 REV.Δ SITE COND. CHANGES / CONST. SET
 09/18/24 TP/OG/BC CF/AR

PROJECT NUMBER
 24131

MECHANICAL
 SCHEDULES AND
 DETAILS

M2.0

A. GENERAL CONDITIONS

- 1. DRAWINGS AND GENERAL PROVISIONS OF CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND ALL OTHER SPECIFICATION SECTIONS (IF PROVIDED AS PART OF THE CONTRACT) ARE PART OF THIS CONTRACT.
2. THE TERM "CONTRACTOR" SHALL MEAN THE "MECHANICAL CONTRACTOR HIRED TO COMPLETE THE WORK OUTLINED IN THESE PLANS AND SPECIFICATIONS" UNLESS OTHERWISE SPECIFIED.
3. THE CONTRACTOR FOR THIS WORK IS REQUIRED TO REVIEW ALL DRAWINGS FOR ALL OTHER TRADES.
4. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING ITS SUBCONTRACTORS WITH A FULL SET OF BID DOCUMENTS INCLUDING SPECIFICATIONS AND MUST COORDINATE ITS WORK AND INSPECTIONS AND THE WORK AND INSPECTIONS OF THEIR WORK WITH ALL OTHER TRADES ON SITE TO CONFORM WITH THE GENERAL CONTRACTOR'S TIME SCHEDULE.
5. BY SUBMITTING A QUOTATION OR PROPOSAL THE MECHANICAL CONTRACTOR EXPRESSLY STATES AND WARRANTS THAT: ALL DRAWINGS AND SPECIFICATIONS HAVE BEEN THOROUGHLY REVIEWED, CONTRACTOR HAS BECOME FAMILIARIZED WITH JOB SITE CONDITIONS AND IS TOTALLY QUALIFIED TO PERFORM ALL OF THE WORK REQUIRED.
6. BEFORE SUBMITTING A FINAL PROPOSAL THE CONTRACTOR SHALL EXAMINE THE SITE OF THE PROPOSED WORK TO DETERMINE THE EXISTING CONDITIONS THAT MAY AFFECT THE PROPOSAL. IF DISCREPANCIES ARE NOTED BETWEEN THE DOCUMENTS AND THE EXISTING CONDITIONS THE ARCHITECT SHALL BE NOTIFIED AND THE CONTRACTOR SHALL RECEIVE CLARIFICATION BEFORE SUBMITTING A BID. THE SUBMISSION OF A PROPOSAL SHALL INDICATE THAT ALL CHARGES AND COSTS MADE NECESSARY BY EXISTING CONDITIONS ARE INCLUDED AND THAT THE COMPLETE SYSTEM AS DESCRIBED HEREIN WILL BE FURNISHED AT THE PROPOSED COST.
7. WHEN USED, THE TERM "PROVIDED BY CONTRACTOR" SHALL BE INTERPRETED AS MEANING "FURNISHED AND INSTALLED BY CONTRACTOR" WITH THE EXCEPTION WHERE ITEMS ARE "PROVIDED BY TENANT" SHALL BE INTERPRETED AS MEANING "FURNISHED BY TENANT (INSTALLED BY CONTRACTOR)", EXCEPT WHERE NOTED OTHERWISE.

B. GENERAL REQUIREMENTS

- 1. THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, SERVICES, TOOLS, TRANSPORTATION, INCIDENTALS AND DETAILS NECESSARY TO PROVIDE COMPLETE AND FULLY FUNCTIONAL MECHANICAL SYSTEMS AS SHOWN ON THE DRAWINGS, CALLED FOR IN THE SPECIFICATIONS (IF SUPPLIED) AND AS REQUIRED BY JOB CONDITIONS. ALL WORK NOT SPECIFICALLY NOTED AS BEING BY THE LANDLORD SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR. CLOSELY COORDINATE THE ENTIRE INSTALLATION WITH LANDLORD AS REQUIRED. FIELD VERIFY THE EXACT TYPE, SIZE, LOCATION, REQUIREMENTS, ETC. OF EXISTING EQUIPMENT, PIPE AND DUCTS SERVING THE TENANT SPACE PRIOR TO SUBMISSION OF BID.
2. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO SUPPLEMENT EACH OTHER AND ANY MATERIAL OR LABOR CALLED FOR IN ONE SECTION THROUGHOUT THE DRAWINGS IS TO BE PROVIDED BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED OR NOTED OTHERWISE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE SYSTEM AS DESIGNED AND DESCRIBED ON THE DRAWINGS, UNLESS SPECIFICALLY NOTED OTHERWISE.
3. WHERE THE DRAWINGS AND / OR SPECIFICATIONS CALL FOR ITEMS WHICH EXCEED CODES OR THE LANDLORD'S TENANT CRITERIA, THE CONTRACTOR IS STILL RESPONSIBLE FOR PROVIDING THE SYSTEM AS DESIGNED AND DESCRIBED ON THE DRAWINGS, UNLESS SPECIFICALLY NOTED OTHERWISE.
4. THE CONTRACTOR SHALL OBTAIN AND COMPLY WITH DETAILED REQUIREMENTS OF LEASE EXTRACTS FROM THE LANDLORD AND TENANT.
5. COORDINATE LOCATIONS OF ALL AIR OUTLETS WITH ALL WALLS, LIGHTS, SPRINKLER HEADS, CEILING TILES AND DECORATIVE CEILING FIXTURES PRIOR TO INSTALLATION.
6. ALL MECHANICAL WORK SHALL BE INSTALLED SO AS TO BE READILY ACCESSIBLE FOR OPERATION, SERVICE, MAINTENANCE AND REPAIR. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING SUFFICIENT ACCESS TO ALL EQUIPMENT FOR SERVICE.
7. THE CONTRACTOR SHALL DO ALL CUTTING, CORE DRILLING, CHASING, OR CHANNELING AND PATCHING REQUIRED FOR ANY WORK UNDER THE CONTRACT PRIOR APPROVAL BY THE TENANT'S CONSTRUCTION MANAGER, THE MECHANICAL CONTRACTOR AND THE LANDLORD OR LANDLORD'S REPRESENTATIVE. PATCHING SHALL MATCH FINISH OF SURROUNDING AREA.

C. CODES

- 1. ALL WORK SHALL BE PERFORMED IN A NEAT AND PROFESSIONAL MANNER USING GOOD CONSTRUCTION PRACTICES. ALL WORK SHALL CONFORM TO THE LATEST EDITION OF THE LANDLORD'S CRITERIA, LOCAL AND NATIONAL CODES AND ORDINANCES, THE LATEST EDITIONS OF ASHRAE STANDARDS, THE LIFE SAFETY CODE, THE APPLICABLE BUILDING CODE, UNDERWRITERS LABORATORIES, THE NATIONAL ELECTRICAL CODE, NFPA 70, 90A and 96 and ALL OTHER APPLICABLE CODES ENFORCED BY AUTHORITIES HAVING JURISDICTION. THE CHARGES REQUIRED BY ANY APPLICABLE CODES SHALL BE INCLUDED IN THE BID. AFTER THE CONTRACT IS ISSUED, NO ADDITIONAL COST DUE TO CODE ISSUES SHALL BE REMBURSED BY THE TENANT TO THE CONTRACTOR.
2. FURNISH TO THE TENANT'S CONSTRUCTION MANAGER ALL CERTIFICATES OF INSPECTION AND FINAL INSPECTION APPROVAL AT COMPLETION OF PROJECT.

D. LICENSES, PERMITS, INSPECTIONS AND FEES

- 1. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL LICENSES, PERMITS, INSPECTIONS AND FEES REQUIRED OR RELATED TO THIS WORK.
2. FURNISH TO THE TENANT'S CONSTRUCTION MANAGER ALL CERTIFICATES OF INSPECTION AND FINAL INSPECTION APPROVAL AT COMPLETION OF PROJECT.

E. DRAWINGS

- 1. DRAWINGS (PLANS AND SPECIFICATIONS) ARE DIAGRAMMATIC AND INDICATE THE GENERAL LOCATION AND INTENT OF THE MECHANICAL SYSTEMS. BECAUSE OF THE SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO LOCATE ALL DUCT AND PIPE OFFSETS, FITTINGS AND ACCESSORIES THAT MAY BE REQUIRED. THE MECHANICAL CONTRACTOR MUST OBTAIN APPROVED CONSTRUCTION DRAWINGS FROM THE GENERAL CONTRACTOR BEFORE BEGINNING WORK.
2. THE LAYOUT SHOWN ON THE DRAWINGS IS BASED ON A PARTICULAR MAKE OF EQUIPMENT. IF ANOTHER MAKE OF EQUIPMENT IS USED WHICH REQUIRES MODIFICATION OR CHANGE OF ANY DESCRIPTION FROM THE DRAWINGS OR SPECIFICATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE AS PART OF THIS WORK, FOR MAKING ALL SUCH MODIFICATIONS AND CHANGES, INCLUDING THOSE INVOLVING OTHER TRADES WITH THE COST THEREOF INCLUDED IN THE BID. IN SUCH CASES, THE CONTRACTOR SHALL SUBMIT DRAWINGS AND SPECIFICATIONS PRIOR TO STARTING WORK SHOWING ALL SUCH MODIFICATIONS AND CHANGES. THE PROPOSAL SHALL BE SUBJECT TO THE APPROVAL OF THE TENANT'S CONSTRUCTION MANAGER.
3. EXISTING LEASE SPACE CONDITIONS

F. EXISTING LEASE SPACE CONDITIONS

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THE DEMOLITION OF EXISTING MECHANICAL WORK IN THE SPACE NOT SHOWN TO BE REUSED IN THE NEW TENANT SPACE.
2. THE CONTRACTOR SHALL KNOW AND WILL BE HELD RESPONSIBLE FOR, THE REMOVAL OF ALL EXISTING FIRE PROTECTION, PLUMBING FIXTURES, PIPING, HVAC UNITS, REFRIGERANT CAPTURE, EXHAUST FANS, DUCTWORK, ETC. AND ASSOCIATED ROOF CURBS NOT TO BE REUSED ON THIS PROJECT, UNLESS SPECIFICALLY NOTED OTHERWISE. CONTRACTOR MUST VERIFY WITH THE LANDLORD ALL PRESUMED UNLABELED EQUIPMENT, PIPES, DUCTWORK AND EQUIPMENT PRIOR TO REMOVAL. ROOF CURBS SHALL BE REMOVED AND THE ROOF PATCHED UNLESS NOTED FOR REUSE OR RECONFIGURATION ON PLANS. ROOF PATCHING SHALL BE PERFORMED AT THE CONTRACTOR'S EXPENSE BY A ROOFING CONTRACTOR APPROVED BY THE LANDLORD. ALL EXTRANEOUS ITEMS IN THE SPACE OR ON THE ROOF (ABOVE THIS SPACE) NOT APPLICABLE TO THE NEW WORK OR PART OF THE LANDLORD'S OR ANOTHER TENANT'S ACTIVE SYSTEM, MUST BE REMOVED AND ROOF/WALL/FLOOR PATCHED TO MATCH THE EXISTING STRUCTURE. EXISTING ABANDONED PIPES, DUCTS OR EQUIPMENT IN THE FLOOR, EMBEDDED IN CONCRETE OR OTHERWISE INACCESSIBLE ARE TO BE CUT OFF AND SEALED BELOW OR WITHIN FLOOR OR WALL LEVEL WHEN THEY ARE NOT REUSED IN THIS PROJECT.
3. IF REQUIRED BY THE LANDLORD OR CODES, ABANDONED PIPING AND/OR DUCTWORK MUST BE REMOVED TO POINT OF ORIGIN, CONFIRM THE EXTENT OF DEMOLITION PRIOR TO BID AND INCLUDE IN BID PROPOSAL.
4. ACTIVE LANDLORD OR OTHER TENANT SERVICES ENCOUNTERED IN WORK SHALL BE PROTECTED AND SUPPORTED. IF EXISTING SERVICES NOT ANTICIPATED REQUIRE RELOCATION, CONTACT THE TENANT'S CONSTRUCTION MANAGER IMMEDIATELY. ALL COSTS FOR REPAIR OF DAMAGES TO ACTIVE LANDLORD OR OTHER TENANT SERVICES DURING CONSTRUCTION SHALL BE PAID FOR BY THE CONTRACTOR CAUSING THE DAMAGE.
4. TENS AND MODIFICATIONS TO EXISTING LANDLORD SERVICES MUST BE DONE WITH MINIMUM INTERRUPTION OF LANDLORD OPERATION AND DURING HOURS SPECIFIED BY THE LANDLORD. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING EXACT WORKING HOURS OF THIS WORK WITH THE LANDLORD PRIOR TO SUBMITTING THEIR BID. THE CONTRACTOR SHALL INCLUDE IN THEIR BID, ALL PREMIUM TIME REQUIRED TO PERFORM MODIFICATIONS DURING OTHER THAN NORMAL WORKING HOURS. ALL SUCH WORK MUST BE COORDINATED WITH THE LANDLORD.
5. EQUIPMENT AND MATERIALS IN TRANSIT SHALL UTILIZE FREIGHT ELEVATOR OR STAIRS. SAID EQUIPMENT OR MATERIALS SHALL BE DISASSEMBLED AS REQUIRED TO MEET THE RESTRICTIONS IMPOSED BY THE BUILDING OR ITS COMPONENT CONSTRAINTS AND THEN REASSEMBLED IN THE NEW WORK AREA.
6. ALL WORK SHALL BE DONE WITH A MINIMUM OF NOISE AND DISTURBANCE TO BUSINESS ROUTINE. ALL WORK SCHEDULES SHALL BE COORDINATED WITH AND APPROVED BY, THE TENANT'S CONSTRUCTION MANAGER.

- 7. SINCE THESE ARE SECURE FLOORS, ALL DELIVERIES, WORKERS, WORK OPERATIONS, ETC., REQUIRED BY THE CONTRACTOR FOR WORK PERFORMED IN ANY AREA OR SITE BUILDING SHALL BE IN STRICT CONFORMANCE TO THE RULES AND REGULATIONS OF THE OWNER.
8. CONTRACTOR SHALL PROTECT THEIR WORK AND EQUIPMENT FROM DAMAGE, VANDALS, ETC. ANY ITEM THAT IS DAMAGED, VANDALIZED OR STOLEN PRIOR TO ACCEPTANCE OF BUILDING BY OWNER AND ARCHITECT SHALL BE REPLACED BY RESPECTIVE CONTRACTOR AT NO CHARGE TO TENANT.
9. IT IS SPECIFICALLY THE INTENTION OF THIS SPECIFICATION TO HOLD THE CONTRACTOR RESPONSIBLE FOR ALL DAMAGE DONE TO ANY EXISTING FACILITIES, EQUIPMENT, PAINTING, OR ARCHITECTURAL AND STRUCTURAL FEATURES OF THE BUILDING, BY EITHER THEIR OWN WORKMEN OR BY ANY OF THEIR SUBCONTRACTORS. THE CONTRACTOR SHALL REPAIR ANY DAMAGE DONE BY THEIR OWN WORKMEN OR SUBCONTRACTORS AND THE OWNER AT THEIR DISCRETION, MAY WITHHOLD PAYMENTS EQUAL TO THE REASONABLE COST OF THE REPAIRS.
10. THIS CONTRACTOR OR THEIR WORKMEN SHALL NOT BE PERMITTED TO USE ANY PART OF THE EXISTING BUILDING AS A SHOP WITHOUT THE APPROVAL OF THE OWNER.
11. WHERE THE WORK MAKES TEMPORARY SHUTDOWN OF SERVICES UNAVOIDABLE, THEY SHALL BE MADE AT NIGHT OR AT SUCH TIMES AS WILL CAUSE THE LEAST INTERFERENCE WITH THE ESTABLISHED OPERATING ROUTINE.
12. THIS CONTRACTOR SHALL ARRANGE THE WORK SO AS TO ASSURE THAT SERVICES WILL BE SHUT DOWN ONLY DURING THE TIME ACTUALLY REQUIRED TO MAKE THE NECESSARY CONNECTION TO THE EXISTING WORK. THIS CONTRACTOR SHALL GIVE ADEQUATE WRITTEN NOTICE IN ADVANCE TO THE OWNER OF ANY REQUIRED SHUT DOWN.
13. ALL MOTORS, FANS, CONTROLS, FIXTURES, HVAC UNIT, DUCTWORK AND OTHER EQUIPMENT FOR USE IN THIS CONTRACT SHALL BE PROTECTED BY TARPULIN OR BY BOXING AS SOON AS DELIVERED TO THE SITE AND SHALL BE KEPT CLEAN AND DRY. THE MOTORS, UNITS, FIXTURES, FANS, DUCTWORK AND MOVING PARTS SHALL BE KEPT COVERED SO AS TO ELIMINATE DIRT, DUST AND OTHER MATERIALS ENTERING THE PARTS DURING ERECTION AND CONSTRUCTION WORK ON THE BUILDING. SHOULD IT BE FOUND THAT ANY PARTS ARE DAMAGED DUE TO CARELESSNESS ON THE PART OF THE CONTRACTOR IN NOT PROVIDING PROPER PROTECTION, SUCH PART OR PARTS SHALL BE REPLACED BY THE CONTRACTOR AT THEIR OWN COST AND EXPENSE. ALL OPENINGS IN DUCTS, PIPING, CONDUITS, ETC. SHALL BE PROPERLY PROTECTED WITH TEMPORARY CAPS OR PLUGS AT ALL TIMES.

- 1. DRAWINGS (PLANS, SPECIFICATIONS AND DETAILS) ARE DIAGRAMMATIC AND INDICATE THE GENERAL LOCATION AND INTENT OF THE MECHANICAL SYSTEMS. WHERE DRAWING, EXISTING SITE CONDITIONS, SPECIFICATIONS OR OTHER TRADES CONFLICT OR ARE UNCLEAR, ADVISE THE GENERAL CONTRACTOR IN WRITING, PRIOR TO SUBMITTAL OF BID. THE GENERAL CONTRACTOR IS RESPONSIBLE TO ADVISE THE TENANT'S CONSTRUCTION MANAGER, ARCHITECT, ENGINEER, OR VARIATIONS TO THE CONTRACT DOCUMENTS PRIOR TO SUBMISSION OF BID. OTHERWISE, TENANT'S CONSTRUCTION MANAGER'S INTERPRETATION OF CONTRACT DOCUMENTS OR CONDITIONS SHALL BE FINAL WITH NO ADDITIONAL COMPENSATION PERMITTED.
2. WHERE TRADE NAMES AND MANUFACTURERS ARE USED ON THE DRAWINGS OR IN THE SPECIFICATIONS, THE EXACT EQUIPMENT SHALL BE USED AS A MINIMUM STANDARD FOR THE BASE BID. MANUFACTURERS CONSIDERED AS AN EQUIPMENT OR BETTER IN ALL ASPECTS TO THAT SPECIFIED WILL BE SUBJECT TO REVIEW IN WRITING BY THE TENANT'S CONSTRUCTION MANAGER PRIOR TO ACCEPTANCE OF BID. IF ANY UNAUTHORIZED EQUIPMENT SHALL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
3. EXAMINE DEAD LOAD AND OPERATING LOAD CONDITIONS WHEN SELECTING DEVICES. ADJUST WORK FOR PROPER ALIGNMENT AND LOADING. AVOID "GROUNDING" THE ISOLATOR.
4. CHECK HANGER ROD SIZE FOR ALLOWABLE LOADS AT THE ISOLATING DEVICE AND THE UPPER AND LOWER ATTACHMENTS TO STRUCTURES, DUCTS, EQUIPMENT, ETC.
5. CONSULT MANUFACTURER FOR APPLICATION DATA.

H. TRADE NAMES AND MANUFACTURERS

- 1. WHERE TRADE NAMES AND MANUFACTURERS ARE USED ON THE DRAWINGS OR IN THE SPECIFICATIONS, THE EXACT EQUIPMENT SHALL BE USED AS A MINIMUM STANDARD FOR THE BASE BID. MANUFACTURERS CONSIDERED AS AN EQUIPMENT OR BETTER IN ALL ASPECTS TO THAT SPECIFIED WILL BE SUBJECT TO REVIEW IN WRITING BY THE TENANT'S CONSTRUCTION MANAGER PRIOR TO ACCEPTANCE OF BID. IF ANY UNAUTHORIZED EQUIPMENT SHALL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
2. TENANT'S CONSTRUCTION MANAGER'S REVIEW OF SHOP DRAWINGS OR SCHEDULES SHALL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS, OMISSIONS OR OTHER DEFICIENCIES OR DEVIATIONS IN THE SHOP DRAWINGS FROM THE CONSTRUCTION DOCUMENTS.
3. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND / OR THEIR SUBCONTRACTORS TO FURNISH SHOP DRAWINGS AND SUBMITTALS ON ANY AND ALL EQUIPMENT, DUCT, DAMPERS, CONTROLS ETC. TO THE TENANT'S CONSTRUCTION MANAGER FOR THEIR REVIEW PRIOR TO CONSTRUCTION.

I. RECORD DRAWINGS

- 1. THE CONTRACTOR SHALL MAINTAIN ONE COPY OF DRAWINGS AND SPECIFICATIONS ON THE JOB SITE TO RECORD DEVIATIONS FROM CONTRACT DRAWINGS, SUCH AS LOCATIONS OF CONCEALED PIPING VALVES AND DUCTS, REVISIONS, ADDENDUMS AND CHANGE ORDERS, SIGNIFICANT DEVIATIONS MADE NECESSARY BY FIELD CONDITIONS, APPROVED EQUIPMENT SUBSTITUTIONS AND CONTRACTOR'S COORDINATION WITH OTHER TRADES AND EXACT ROUTING OF ALL SANITARY AND DOMESTIC WATER PIPING UNDER FLOOR.
2. AT COMPLETION OF THE PROJECT AND BEFORE FINAL APPROVAL, THE CONTRACTOR SHALL MAKE ANY FINAL CORRECTIONS TO DRAWINGS AND CERTIFY THE ACCURACY OF EACH PRINT BY SIGNATURE THEREON. THE DRAWINGS ARE TO BE TURNED OVER TO THE TENANT'S CONSTRUCTION MANAGER.
3. THE CONTRACTOR SHALL MAINTAIN ONE COPY OF DRAWINGS AND SPECIFICATIONS ON THE JOB SITE TO RECORD DEVIATIONS FROM CONTRACT DRAWINGS, SUCH AS LOCATIONS OF CONCEALED PIPING VALVES AND DUCTS, REVISIONS, ADDENDUMS AND CHANGE ORDERS, SIGNIFICANT DEVIATIONS MADE NECESSARY BY FIELD CONDITIONS, APPROVED EQUIPMENT SUBSTITUTIONS AND CONTRACTOR'S COORDINATION WITH OTHER TRADES AND EXACT ROUTING OF ALL SANITARY AND DOMESTIC WATER PIPING UNDER FLOOR.
4. EXCEPT WHERE OTHERWISE INDICATED, CONSTRUCT DUCT SYSTEMS TO 2 INCH WATER GAUGE PRESSURE CLASSIFICATION (VERIFY WHETHER RETURN OR EXHAUST DUCT IS POSITIVE OR NEGATIVE PRESSURE). PRESURE TEST DUCTS FOR LEAKAGE. REPAKE LEAKING JOINTS AND APPLY SEALANTS AS REQUIRED TO FABRICATE A SYSTEM THAT DOES NOT EXCEED 5 PERCENT LEAKAGE OR LESS AS STATED BY PRESSURE CLASS RATINGS IN SMACNA STANDARDS.
5. AS A MINIMUM, CROSSBREAK ALL FLAT SURFACES OR REINFORCE WITH A BEAD APPROXIMATELY 3/8 INCH WIDE BY 3/16 INCH DEEP ON 12 INCH CENTER TO PREVENT VIBRATIONS.
6. INSTALL RIGID ROUND AND RECTANGULAR METAL DUCT WITH SUPPORT SYSTEMS INDICATED IN SMACNA STANDARDS. NO WOOD SHALL BE USED TO SUPPORT OR BRACE DUCTS. PROVIDE WYD AND SEISMIC BRACING AS REQUIRED BY PROVINCE AND LOCAL CODES OR BY LANDLORD.
7. WHERE DUCTS PASS THROUGH ROOFS, FLOORS AND FIRE RATED PARTITIONS, PROVIDE AS MINIMUM 1-1/2 INCH BY 1-1/2 INCH BY 1/8 INCH STEEL ANGLE FRAMES AT EACH SIDE OF OPENING; THE ANGULAR SPACE BETWEEN DUCT AND ANGLE FRAMES SHALL BE CALKED WITH SILICONE SEALANT AS REQUIRED BY THE ASSEMBLY FIRE RATING. CONTRACTOR TO PROVIDE FIRE OR COMBINATION FIRE / SMOKE DAMPERS AT EACH PENETRATION WHERE REQUIRED BY CODE.
8. ALL TRAVERSE JOINTS AND SEAMS IN SUPPLY AIR DUCT SHALL BE SEALED AIR TIGHT WITH DAP CMC DUCT SEALER. JOINTS ALSO SHALL BE RIVETED OR CONNECTED WITH SHEET METAL SCREWS.
9. SOFT ELASTOMER BUTYL GASKETS WITH ADHESIVE BACKING SHALL BE USED TO SEAL FLANGED JOINTS.
10. DUCT TRANSITIONS SHALL NOT EXCEED 30 DEGREES SLOPE EXCEPT AS SPECIFICALLY NOTED OTHERWISE.

J. OPERATIONS MANUALS

- 1. ONE COPY OF EACH OPERATION AND MAINTENANCE MANUAL FOR ALL EQUIPMENT FURNISHED ON THE JOB SHALL BE PROVIDED TO THE TENANT BOUND TOGETHER IN A 3 INCH, THREE RING BINDER. THE BINDER SHALL INCLUDE BUT NOT BE LIMITED TO INSTALLATION, MAINTENANCE AND OPERATING INSTRUCTIONS, PAMPHLETS OR BROCHURES, REVIEWED SHOP DRAWINGS AND WARRANTIES OBTAINED FROM EACH MANUFACTURER OF PRINCIPAL ITEMS OF EQUIPMENT.
2. ALL SLEEVES AND OPENINGS THROUGH FIRE RATED WALLS AND/OR FLOORS SHALL BE FIRE SEALED WITH APPROVED SEALANTS RATED FOR THE APPLICATION SO AS TO MAINTAIN THE FIRE RATING OF THE ASSEMBLY. CONFORM TO THE ULL ASSEMBLY RATING OF THE FLOOR OR WALL.
3. SLEEVES IN BEARING AND MASONRY WALLS, FLOORS AND PARTITIONS SHALL BE STANDARD WEIGHT STEEL PIPE FINISHED WITH SMOOTH EDGES, FOR OTHER THAN MASONRY SETTING, THROUGH SUSPENDED CEILING OR FOR CONCEALED VERTICAL PIPING, SLEEVES SHALL BE 22 GAUGE GALVANIZED STEEL MINIMUM.
4. DUCT SLEEVES SHALL BE MINIMUM 14 GAUGE STEEL.

K. FIRE DAMPERS, SMOKE DAMPERS

- 1. THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL FIRE DAMPERS AS REQUIRED BY LANDLORD AND / OR TENANT CRITERIA AND / OR CODES HAVING JURISDICTION. ALL FIRE DAMPERS SHALL COMPLY WITH THE REQUIREMENTS OF THE BOARD OF FIRE UNDERWRITERS, THE LOCAL FIRE MARSHAL AND SHALL BE LABELED AND APPROVED BY UNDERWRITERS LABORATORIES.
2. FIRE DAMPERS SHALL HAVE THE BLADES OUT OF THE AIR STREAM AND A 165 PSIG FUSIBLE LINK.
3. PROVIDE ALL NECESSARY FRAMING AND SLEEVES FOR DAMPER MOUNTING PER UL AND CODE REQUIREMENTS.
4. PROVIDE DUCT ACCESS DOORS IN AN ACCESSIBLE LOCATION FOR ALL FIRE DAMPERS. DOOR IS TO BE 20 GAUGE GALVANIZED DOOR WITH QUICK-OPENING LATCH AND PIANO HINGE.
5. MAINTAINED BY LOCAL CODES, LANDLORD AND IF INDICATED ON DRAWINGS, PROVIDE UL555 SMOKE DAMPER WITH FIRE/HEAT/SMOKE SENSOR, REVERSIBLE MOTOR AND INTERLOCK WITH FIRE ALARM SYSTEM.

L. FLEXIBLE AIR DUCT

- 1. FLEXIBLE COLLARS SHALL BE PROVIDED IN ALL CONNECTIONS BETWEEN VIBRATING EQUIPMENT (FANS, ROOFTOP UNITS, WATER SOURCE HEAT PUMPS, AIR HANDLERS, FAN POWERED VAV BOXES, ETC) AND DUCTS OR CASINGS. ALSO PROVIDE FLEXIBLE CONNECTIONS WHERE DUCTS CROSS BUILDING EXPANSION JOINTS.
2. FLEXIBLE CONNECTIONS SHALL BE CONSTRUCTED OF NEOPRENE-COATED FLAMEPROOF FABRIC. PROVIDE ADEQUATE JOINT FLEXIBILITY TO ALLOW FOR MOVEMENT AND PREVENT THE TRANSMISSION OF VIBRATION.
3. FLEXIBLE CONNECTIONS ARE TO BE RATED FOR THE OPERATING PRESSURE OF THE SYSTEM.
4. FINAL CONNECTIONS TO EXHAUST FANS(S) SHALL BE WITH A HEAVY AIRTIGHT ACID RESISTANT FIRE RETARDANT FIBERGLASS NEOPRENE CONNECTOR, A MINIMUM OF SIX (6) INCHES IN LENGTH. THE CONNECTOR SHALL BE FASTENED TO EQUIPMENT AND DUCT WITH TWO FLEXIBLE REMOVABLE BRASS STRAPS OR ALTERNATE APPROVED METHOD.
5. THERMOSTATS
6. MOUNT THERMOSTATS 4' 0" (ADA COMPLYING), THERMOSTAT SENSORS 5' 0" ABOVE FINISHED FLOORS AND SET DATE, TIME, TEMPERATURE, ETC. TURN OVER OPERATING INSTRUCTIONS TO TENANT REPRESENTATIVE.
7. THERMOSTATS SHALL BE PROVIDED WITH KEY OPERATED SECURITY COVERS AND DESCRIPTIVE NAMEPLATES.
8. FIRE DAMPERS, SMOKE DAMPERS
9. THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL FIRE DAMPERS AS REQUIRED BY LANDLORD AND / OR TENANT CRITERIA AND / OR CODES HAVING JURISDICTION. ALL FIRE DAMPERS SHALL COMPLY WITH THE REQUIREMENTS OF THE BOARD OF FIRE UNDERWRITERS, THE LOCAL FIRE MARSHAL AND SHALL BE LABELED AND APPROVED BY UNDERWRITERS LABORATORIES.
10. FIRE DAMPERS SHALL HAVE THE BLADES OUT OF THE AIR STREAM AND A 165 PSIG FUSIBLE LINK.
11. PROVIDE ALL NECESSARY FRAMING AND SLEEVES FOR DAMPER MOUNTING PER UL AND CODE REQUIREMENTS.
12. PROVIDE DUCT ACCESS DOORS IN AN ACCESSIBLE LOCATION FOR ALL FIRE DAMPERS. DOOR IS TO BE 20 GAUGE GALVANIZED DOOR WITH QUICK-OPENING LATCH AND PIANO HINGE.
13. MAINTAINED BY LOCAL CODES, LANDLORD AND IF INDICATED ON DRAWINGS, PROVIDE UL555 SMOKE DAMPER WITH FIRE/HEAT/SMOKE SENSOR, REVERSIBLE MOTOR AND INTERLOCK WITH FIRE ALARM SYSTEM.

M. SUPPLY AND RETURN AIR TAKEOFF FITTINGS

- 1. PROVIDE ACCESS TO BALANCING DAMPER IS RESTRICTED OR IN AREAS WITH SHEET ROCK CEILINGS, YOUNG REGULATORS SHALL BE USED.
2. ALL MATERIALS REQUIRED FOR THIS WORK SHALL BE NEW, UNLISED, BEST OF ITS RESPECTIVE KINDS, AND FREE FROM DEFECTS AND OF FIRST CLASS QUALITY. BASIS OF QUALITY SHALL BE LATEST STANDARDS OF ASTM, ANSI FEDERAL SPECIFICATIONS OR OTHER ACCEPTABLE STANDARDS.
3. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR WORK UNTIL ITS COMPLETION AND FINAL ACCEPTANCE AND SHALL REPLACE ANY OF THE SAME WHICH MAY BE DAMAGED, LOST OR STOLEN WITHOUT ADDITIONAL COST TO THE OWNER.
4. THE PLUMBING CONTRACTOR SHALL GUARANTEE ALL WORK PERFORMED AND MATERIALS INSTALLED TO BE FREE FROM INHERENT DEFECTS AND SHALL KEEP IN REPAIR AND REPLACE ANY DEFECTIVE MATERIALS OF WORKMANSHIP, FREE FROM COST TO THE TENANT (OWNER) FOR A PERIOD OF ONE (1) YEAR AFTER THE OPENING FOR BUSINESS.
5. ALL WORK SHALL BE DONE ACCORDING TO THE REQUIREMENTS OF ALL APPLICABLE CODES AND LEASE CRITERIA (IF APPLICABLE) AND SHALL RECEIVE THE APPROVAL OF ALL AUTHORITIES HAVING JURISDICTION. PREPARE ALL REQUIRED DOCUMENTS, DRAWINGS AND PERFORM ALL REQUIRED TESTS AND PAY ALL REQUIRED CHARGES TO OBTAIN THESE APPROVALS.
6. CONTRACTOR SHALL BE HELD TO HAVE EXAMINED THE SITE FOR THE WORK BEFORE HAVING SUBMITTED A PROPOSAL. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR CONDITIONS FOUND DURING THE COURSE OF THE CONTRACT.
7. THIS CONTRACTOR MUST PROVIDE LANDLORD'S CONSTRUCTION REPRESENTATIVE WITH COPIES OF REQUIRED INSURANCE AND COPIES TO BE FURNISHED TO THE OWNER BEFORE COMMENCING WORK.
8. SUBMIT THREE (3) SETS OF SHOP DRAWINGS IDENTIFIED WITH PROJECT NAME OF THE FOLLOWING: (1) ELECTRIC HOT WATER HEATER (2) PLUMBING FIXTURES AND TRIM. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF PIPING LAYOUT TO THE OWNER FOR THEIR FILE.
9. THE PLUMBING CONTRACTOR IS A SUBCONTRACTOR OF THE TENANT'S GENERAL CONTRACTOR.
10. NOTCHING AND BORING OF STRUCTURAL STEEL MEMBERS IS NOT PERMITTED, WHEN HANGING FROM STRUCTURAL

N. DAMPERS

- 1. PROVIDE MANUAL LOCKING QUADRANT VOLUME CONTROL DAMPERS WITH HANDLE OPERATORS IN EACH BRANCH DUCT AND AS SHOWN ON PLANS TO FACILITATE AIR BALANCING.
2. WHERE ACCESS TO BALANCING DAMPER IS RESTRICTED OR IN AREAS WITH SHEET ROCK CEILINGS, YOUNG REGULATORS SHALL BE USED.
3. ALL RECTANGULAR DAMPERS IN OUTSIDE AIR AND RELIEF AIR DUCTS ARE TO BE OPPOSED BLADE TYPE. ALL RECTANGULAR DAMPERS IN RETURN AIR DUCTS TO BE PARALLEL BLADE TYPE. ALL OUTSIDE AIR DUCT DAMPERS MUST ALSO BE OF THE LOW LEAKAGE TYPE.
4. ALL MOTORIZED DAMPERS NOT FURNISHED WITH EQUIPMENT ARE TO BE HONEYWELL DAMPERS.
5. DIFFUSERS, GRILLES AND REGISTERS
6. PROVIDE DIFFUSERS, GRILLES AND REGISTERS AS SCHEDULED. DEVICES TO BE COMPLETE WITH FRAMES AND ALL ACCESSORIES. ALL DIFFUSERS, GRILLES AND REGISTERS IN SHEET ROCK CEILINGS TO BE PROVIDED WITH PLASTER FRAMES. FINISH TO BE COORDINATED WITH INTERIOR FINISHES.
7. INSTALL ALL AIR DEVICES AS LOCATED ON THE ARCHITECTURAL REFLECTED CEILING PLAN AND THE MECHANICAL PLAN.

O. DIFFUSERS, GRILLES AND REGISTERS

- 1. PROVIDE DIFFUSERS, GRILLES AND REGISTERS AS SCHEDULED. DEVICES TO BE COMPLETE WITH FRAMES AND ALL ACCESSORIES. ALL DIFFUSERS, GRILLES AND REGISTERS IN SHEET ROCK CEILINGS TO BE PROVIDED WITH PLASTER FRAMES. FINISH TO BE COORDINATED WITH INTERIOR FINISHES.
2. INSTALL ALL AIR DEVICES AS LOCATED ON THE ARCHITECTURAL REFLECTED CEILING PLAN AND THE MECHANICAL PLAN.

P. DUCTWORK INSULATION

- 1. ALL NEW SUPPLY AND RETURN AIR DUCTWORK WITHIN 10' OF HVAC UNIT SHALL BE ACOUSTICALLY LINED. DUCT SIZES SHOWN ON THE DRAWING ARE INTERNAL FREE AREA SIZES. INTERNAL LINER SHALL BE 1 1/2" THICK DUCT LINER EQUIVALENT TO JOHNS MANVILLE "PERMACOTE/EPIMACOSTIC" ("R VALUE" = 6.5) AND SHALL BE APPLIED TO THE DUCTWORK WITH FIRE RESISTIVE ADHESIVES AND CANNUM OR COPPER PLATED MECHANICAL FASTENERS.
2. ALL OUTSIDE AIR AND UNEXPOSED DUCTWORK WITHIN BUILDING, EXCEPT WHERE ACOUSTICALLY LINED, SHALL HAVE 2 INCH FIBERGLASS DUCT WRAP INSULATION WITH FSK FINISHED EQUIVALENT TO JOHNS MANVILLE "MICROUTE XG TYPE 75" (R VALUE" = 5.6).
3. LEADING EDGES OF DUCT INSULATION SHALL BE OVERLAPPED BY ADJOINING INSULATION FOR 6" MINIMUM AND THEN SEALED WITH FOIL VAPOR BARRIER ADHESIVE AND DUCT MASTIC SO THAT NO FIBERGLASS INSULATION IS VISIBLE.
4. ALL INSULATION ON EXISTING PIPING OR DUCTS THAT IS WETTED, DAMAGED, DISTURBED OR REMOVED SHALL BE REPLACED.
5. INSTALL INSULATION PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES. INSULATION MUST COMPLY WITH NFPA 70A.
6. ALL INSULATION SHALL HAVE A FLAME SPREAD RATING OF NOT MORE THAN 25 AND A SMOKE DEVELOPED RATING OF NO HIGHER THAN 10 WHEN TESTED IN ACCORDANCE WITH ASTM C 411 OR AS REQUIRED BY LOCAL CODES.
7. EXTERIOR SUPPLY AND RETURN DUCT INSULATION
8. SERVICE RECTANGULAR, SUPPLY-AIR AND RETURN-AIR DUCTS.
1. MATERIAL: INSULATION, 6 PSF MINIMUM AND PLAIN FINISH.
2. THICKNESS: 2 INCHES.
3. NUMBER OF LAYERS: TWO. TOTAL THICKNESS = 4"
4. VAPOR RETARDER REQUIRED. YES.
9. INORGANIC GLASS FIBERS PERFORMED AND BONDED BY THERMOSETTING RESIN. MUST COMPLY WITH ASTM C 612, TYPE 1A AND 1B.
1. KNAUF INSULATED OR APPROVED EQUIVALENT.
10. INSULATION INSTALLED OUTDOORS: FLAME SPREAD RATING OF 25 OR LESS AND SMOKE DEVELOPED RATING OF 50 OR LESS.
11. APPLY INSULATION AS FOLLOWS:
A. APPLY TWO-LAYER INSULATION WITH JOINTS TIGHTLY BUTTED AND STAGGERED AT LEAST 3 INCHES. SECURE LAYERS WITH ADHESIVE, MECHANICAL FASTENERS OR BANDING. FASTENERS SHALL BE LOCATED A MAXIMUM OF 3" FROM EACH EDGE AND NO GREATER THAN 12" APART.
B. ON EXPOSED APPLICATIONS, FINISH INSULATION WITH A SKIM COAT OF MINERAL-FIBER HYDRAULIC-SETTING CEMENT TO SURFACE OF INSTALLED INSULATION. WHEN DRY, APPLY FLOOR COAT OF LAGGING ADHESIVE AND PRESS ON ONE LAYER OF GLASS CLOTH OR TAPE. OVERLAP EDGES AT LEAST 1 INCH (25 MM). APPLY FINISH COAT OF LAGGING ADHESIVE OVER GLASS CLOTH OR TAPE. THIN THE FINISH COAT TO ACHIEVE SMOOTH FINISH. OUTDOOR JACKET: POLYURETHANE PRODUCTS, INC. "ALUMAGUARD 60" OR OEM BUILDING PRODUCTS CORP. "TLEXIAD 400".
12. SYSTEM CLEANOUT
1. UPON COMPLETION OF INSTALLATION, CLEAN ENTIRE SYSTEM BEFORE INSTALLING AIR OUTLETS. CONTRACTOR TO PROVIDE A CERTIFICATION THAT CLEANING WAS ACCOMPLISHED PRIOR TO PROJECT CLOSEOUT.
2. FILTERS MUST BE IN UNITS AT ANY TIME FANS ARE OPERATED.
13. SYSTEM TESTING, ADJUSTING AND BALANCING
1. TESTING, ADJUSTING AND BALANCING OF ALL WORK SHALL BE COMPLETED BY AN INDEPENDENT CONTRACTOR WHO IS CURRENTLY LICENSED BY THE ASSOCIATED AIR BALANCING COUNCIL (AABC) OR NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB). NO OTHER BALANCE REPORTS WILL BE REVIEWED OR ACCEPTED. ALL BALANCING WORK MUST BE COMPLETE AND DONE IN ACCORDANCE WITH THE MOST RECENT STANDARDS OF THEIR SOCIETY. PAYMENT OF ALL COSTS FOR TESTING SHALL BE MADE BY THE HVAC CONTRACTOR.
2. THE CONTRACTOR SHALL INSTALL NEW FILTERS IN ALL UNITS PRIOR TO THE AIR BALANCING. THE COMPLETE AIR BALANCE SHALL TAKE PLACE WITH OUTSIDE AIR DAMPERS IN MINIMUM POSITION.
3. BALANCE AIR AND WATER QUANTITIES TO WITHIN PLUS OR MINUS 5 PERCENT OF THAT INDICATED ON THE DRAWINGS. ANY REQUIRED CHANGES IN SHEAVES, BELTS, PULLEYS OR THE ADDITION OF DAMPERS REQUIRED TO ACHIEVE SPECIFIED FLOW RATES SHALL BE PROVIDED BY THE HVAC CONTRACTOR WITH NO ADDITIONAL COST TO THE TENANT.
4. THE BALANCE REPORT SHALL INCLUDE AS A MINIMUM THE FOLLOWING INFORMATION:
A) AABC OR NEBB CERTIFICATION NUMBER AND SIGNATURE OF BALANCING CONTRACTOR.
B) INSTRUMENTATION LIST WITH LAST CALIBRATION DATES.
C) MAKE AND MODEL NUMBERS OF ALL HVAC EQUIPMENT TESTED.
D) AIR FLOW AND STATIC PRESSURE READINGS (DISCHARGE AND SUCTION) AS MEASURED BY PITOT TUBE DUCT TRAVERSE AT THE UNITS.
E) MOTOR NAMEPLATE DATA WITH ACTUAL FIELD VOLTAGE AND AMPERAGE READINGS FOR EACH LEG.
F) MAKE AND MODEL NUMBERS OF AIR DISTRIBUTION EQUIPMENT.
G) OUTSIDE, RETURN, MIXED AND SUPPLY AIR TEMPERATURES AT FULL COOLING.
H) WATER BALANCE DATA INCLUDING GPM WITH INLET AND OUTLET TEMPERATURE AND PRESSURE READINGS.
I) MAKE AND MODEL NUMBERS OF AIR DISTRIBUTION EQUIPMENT.
K) INDEXED PLAN WITH DIFFUSER AND RETURN LOCATIONS.
5. ALL CONTROL SEQUENCES SHALL BE TESTED AND OPERATING STATUS RECORDED IN THE REPORT.
6. THREE COPIES OF THE BALANCE REPORT SHALL BE SUBMITTED THROUGH THE GENERAL CONTRACTOR TO THE TENANT'S CONSTRUCTION MANAGER FOR REVIEW AND COMMENT.
7. THE BALANCING CONTRACTOR SHALL PERFORM ALL APPLICABLE TESTING AND BALANCING FUNCTIONS REQUIRED FOR THE PROJECT. THE CONTRACTOR SHALL GUARANTEE THAT THE PREMIUM CHARGE USED FOR RECALCULATING OF AIR WILL BE OF TIGHT CONSTRUCTION AND THAT ALL SOURCES OF CONTAMINATION FROM TRAPS, SOIL STAINS, DOWNSPOUTS, VENTS, EXHAUST DISCHARGES AND OTHER SOURCES WILL BE ENCLOSED SO THAT NO CONTAMINATED AIR WILL BE RECIRCULATED.
8. PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES SHUT OFF THE HVAC SYSTEM, BLOCK OFF ALL AIR GRILLS, DIFFUSERS AND SHUT RECEIVE THE APPROVAL OF ALL AUTHORITIES HAVING JURISDICTION. OPENINGS TO ADJACENT TENANT SPACES SHALL BE COVERED WITH FILTER MEDIA TO PREVENT DUST AND OTHER AIRBORNE CONTAMINANTS FROM PASSING TO ADJOINING SPACES.
9. CONTRACTOR TO INSTALL TEMPORARY EXHAUST SYSTEM TO VENTILATE CONSTRUCTION SITE AND KEEP SITE UNDER SLIGHT NEGATIVE PRESSURE DURING ALL HOURS OF CONSTRUCTION, EVEN IF AFTER NORMAL BUSINESS HOURS.
10. CONTRACTOR TO INSTALL TEMPORARY BARRIERS TO PROTECT ADJACENT SPACES FROM DUST, PARTICULATES, VAPORS AND NOISE. WHERE TEMPORARY BARRIERS ARE INSTALLED ALWAYS MAINTAIN FIRE EXITS AND EXITWAYS. 1.1-30-06
PLUMBING SPECIFICATIONS
1. IT IS THE INTENT OF THESE SPECIFICATIONS TO PROVIDE A COMPLETE INSTALLATION FOR FINISHED WORK, TESTED AND READY FOR OPERATION. THE CONTRACTOR SHALL GUARANTEE THAT THE PROJECT SHALL BE EXECUTED IN THE BEST AND MOST THOROUGH MANNER UNDER THE DIRECTION OF AND TO THE SATISFACTION OF THE OWNER.
2. ALL MATERIALS REQUIRED FOR THIS WORK SHALL BE NEW, UNLISED, BEST OF ITS RESPECTIVE KINDS, AND FREE FROM DEFECTS AND OF FIRST CLASS QUALITY. BASIS OF QUALITY SHALL BE LATEST STANDARDS OF ASTM, ANSI FEDERAL SPECIFICATIONS OR OTHER ACCEPTABLE STANDARDS.
3. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR WORK UNTIL ITS COMPLETION AND FINAL ACCEPTANCE AND SHALL REPLACE ANY OF THE SAME WHICH MAY BE DAMAGED, LOST OR STOLEN WITHOUT ADDITIONAL COST TO THE OWNER.
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Q. TOILET EXHAUST FANS

- 1. WHERE SHOWN ON DRAWINGS PROVIDE A TOILET EXHAUST FAN COMPLETE WITH GRAVITY BACKDRIFT DAMPER. ALL DUCTWORK, ROOF OPENINGS AND CAPS NECESSARY TO PROVIDE A COMPLETE EXHAUST SYSTEM SHALL BE PROVIDED BY THE CONTRACTOR. REFER TO PLANS FOR APPLICABILITY.
2. VIBRATION ISOLATION DEVICES SHALL BE PROVIDED ALL SUPPORTS BETWEEN VIBRATING EQUIPMENT (FANS, ROOFTOP UNITS, WATER SOURCE HEAT PUMPS, AIR HANDLERS, FAN POWERED VAV BOXES, ETC) AND STRUCTURE.
3. VIBRATING EQUIPMENT HUNG FROM STRUCTURE SHALL BE ISOLATED WITH RUBBER AND SPRING DEVICES. VIBRATING EQUIPMENT SUPPORTED FROM FLOOR OR DECK SHALL BE ISOLATED WITH HOUSED SPRING MOUNT DEVICES.
4. CHECK HANGER ROD SIZE FOR ALLOWABLE LOADS AT THE ISOLATING DEVICE AND THE UPPER AND LOWER ATTACHMENTS TO STRUCTURES, DUCTS, EQUIPMENT, ETC.
5. CONSULT MANUFACTURER FOR APPLICATION DATA.

G. CURBS AND STEEL FRAMING FOR SUPPORT

- 1. THIS CONTRACTOR WILL PROVIDE ALL NECESSARY CURBS AND STEEL FRAMING REQUIRED TO INSTALL ALL HVAC EQUIPMENT. CURBS SHALL BE A MINIMUM OF 14 INCHES HIGH AND OF THE SAME MANUFACTURE AS THE EQUIPMENT SUPPORTED. INSULATE UNDER THE COMPRESSOR SECTION TO PREVENT CONDENSATION. ALL CURBS MUST BE INSTALLED SO THAT THE TOP OF CURBS ARE "DEAD" LEVEL. ALL PENETRATIONS OF EXISTING STRUCTURE SHALL BE DONE IN COMPLIANCE WITH LOCAL AND DRIVE CODES. THE TENANT'S CONSTRUCTION MANAGER SHALL VERIFY THAT THE CURBS AND STEEL FRAMING SHALL BE INSIDE THE CURB (CONDENSATE DRAIN, POWER, WIRING, CONTROL WIRING, ETC).
2. ALL OUTSIDE AIR AND UNEXPOSED DUCTWORK WITHIN BUILDING, EXCEPT WHERE ACOUSTICALLY LINED, SHALL HAVE 2 INCH FIBERGLASS DUCT WRAP INSULATION WITH FSK FINISHED EQUIVALENT TO JOHNS MANVILLE "MICROUTE XG TYPE 75" (R VALUE" = 5.6).
3. LEADING EDGES OF DUCT INSULATION SHALL BE OVERLAPPED BY ADJOINING INSULATION FOR 6" MINIMUM AND THEN SEALED WITH FOIL VAPOR BARRIER ADHESIVE AND DUCT MASTIC SO THAT NO FIBERGLASS INSULATION IS VISIBLE.
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9. INORGANIC GLASS FIBERS PERFORMED AND BONDED BY THERMOSETTING RESIN. MUST COMPLY WITH ASTM C 612, TYPE 1A AND 1B.
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B. ON EXPOSED APPLICATIONS, FINISH INSULATION WITH A SKIM COAT OF MINERAL-FIBER HYDRAULIC-SETTING CEMENT TO SURFACE OF INSTALLED INSULATION. WHEN DRY, APPLY FLOOR COAT OF LAGGING ADHESIVE AND PRESS ON ONE LAYER OF GLASS CLOTH OR TAPE. OVERLAP EDGES AT LEAST 1 INCH (25 MM). APPLY FINISH COAT OF LAGGING ADHESIVE OVER GLASS CLOTH OR TAPE. THIN THE FINISH COAT TO ACHIEVE SMOOTH FINISH. OUTDOOR JACKET: POLYURETHANE PRODUCTS, INC. "ALUMAGUARD 60" OR OEM BUILDING PRODUCTS CORP. "TLEXIAD 400".
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9.