

ABBREVIATIONS

AC	AIR COMPRESSOR
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AMB	AMBIENT
APROX	APPROXIMATE
AS	AIR SEPARATOR
ATC	AUTOMATIC TEMPERATURE CONTROL
AVG	AVERAGE
AWT	AVERAGE WATER TEMPERATURE
BAS	BUILDING AUTOMATION SYSTEM
BDD	BACK DRAFT DAMPER
BFW	BOILER FEED WATER
BHP	BRAKE HORSEPOWER
BMS	BUILDING MANAGEMENT SYSTEM
BTUH	BRITISH THERMAL UNITS PER HOUR
CC	COOLING COIL
CD	CONDENSATE DRAIN
CDR	CONDENSER WATER RETURN
CDS	CONDENSER WATER SUPPLY
CFM	CUBIC FEET PER MINUTE
CFP	CHEMICAL FEED PUMPS
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CLG	CEILING
CO	CLEANOUT
CO2	CARBON DIOXIDE
COMP	COMPRESSOR
COND	CONDENSER
CONV	CONVECTOR
CP	CONDENSATE PUMP
CPU	CENTRAL PROCESSING UNIT
CT	COOLING TOWER
CU	CONDENSING UNIT
CU FT	CUBIC FEET
CUH	CABINET UNIT HEATER
CV	COEFFICIENT, VALVE FLOW
D	CONSTANT VOLUME
D	DEPTH
DB	DRY BULB TEMPERATURE
dB	DECIBEL
DEG or °	DEGREE
DIA or Ø	DIAMETER
DN	DOWN
DP	DIFFERENTIAL PRESSURE
DWG	DRAWING
DX	DIRECT EXPANSION
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EBB	ELECTRIC BASEBOARD RADIATION
EDR	EQUIVALENT DIRECT RADIATION
EF	EXHAUST FAN
EFF	EFFICIENCY
ELEC	ELECTRICAL
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
EUH	ELECTRIC UNIT HEATER
EVAP	EVAPORATOR
EWB	ENTERING WET BULB TEMPERATURE
EWT	ENTERING WATER TEMPERATURE
F	FAHRENHEIT
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FD	FLOOR DRAIN
FD/SB	FIRE DAMPER WITH INTEGRAL SECURITY BARS
FM	FLOW METER
FOB	FLAT ON BOTTOM
FOF	FUEL OIL FILL
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FOT	FLAT ON TOP
FOV	FUEL OIL VENT
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FS	FLOOR SINK
FSD	FIRE/SMOKE DAMPER
FT	FOOT OR FEET
G	GAS
GA	GAUGE
GAL	GALLONS
GND	GROUND
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GR	GRAINS
H	HEIGHT
H/C	HEATING/COOLING
HC	HEATING COIL
HD	HEAD
HP	HORSEPOWER
HPC	HIGH PRESSURE CONDENSATE
HPG	HIGH PRESSURE GAS
HPS	HIGH PRESSURE STEAM
HR	HOUR(S)
HT	HEAT
HTHW	HIGH TEMPERATURE HOT WATER
HTHWR	HIGH TEMPERATURE HOT WATER RETURN
HTHWS	HIGH TEMPERATURE HOT WATER SUPPLY
HTR	HEATER
HUM	HUMIDIFIER
HV	HEATING/VENTILATION UNIT
HW	HOT WATER
HWR	HOT WATER RETURN
HWRP	HOT WATER RETURN PUMP
HWRR	HOT WATER REVERSE RETURN
HWS	HOT WATER SUPPLY
HX	HEAT EXCHANGER
HZ	FREQUENCY (CYC. PER SEC.)
ID	INSIDE DIAMETER
IN	INCHES
IN WG	INCHES OF WATER, GAUGE (PRESS.)
IW	INDIRECT WASTE
KEF	KITCHEN EXHAUST FAN
KW	KILOWATT
L	LENGTH
LA	LABORATORY COMPRESSED AIR
LAT	LEAVING AIR TEMPERATURE
LAV	LAVATORY
LBS/HR	POUNDS PER HOUR
LF	LINEAR FEET
LPC	LOW PRESSURE CONDENSATE
LPS	LOW PRESSURE STEAM
LV	LABORATORY VACUUM
LWT	LEAVING WATER TEMPERATURE
MA	MIXED AIR
MAU	MAKE-UP AIR UNIT
MAX	MAXIMUM
MBH	BTU PER HOUR (THOUSAND)
MD	MOTORIZED DAMPER
MECH	MECHANICAL
MFR	MANUFACTURER
MH	METAL HALIDE
MIN	MINIMUM
MPC	MEDIUM PRESSURE CONDENSATE
MPS	MEDIUM PRESSURE STEAM
N2	NITROGEN
N2O	NITROUS OXIDE
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
N.T.S.	NOT TO SCALE
N/A	NOT APPLICABLE
NEC	NATIONAL ELECTRICAL CODE
NIC	NOT IN CONTRACT
OA	OUTSIDE AIR
PCD	PUMPED CONDENSATE DRAIN (COOLING)
PCR	PUMPED CONDENSATE RETURN (STEAM)
PD	PRESSURE DROP
PH or Ø	PHASE
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
RA	RETURN AIR
RG	REFRIGERANT GAS
RH	RELATIVE HUMIDITY
RHC	REHEAT COIL
RHG	REFRIGERANT HOT GAS
RL	REFRIGERANT LIQUID
RM	ROOM
RPD	REDUCED PRESSURE DEVICE
RPM	REVOLUTIONS PER MINUTE
RS	REFRIGERANT SUCTION
RTU	ROOFTOP UNIT
S&R	SUPPLY AND RETURN
SA	SUPPLY AIR
SCP	STEAM CONDENSATE PUMP
SD	SMOKE DAMPER
SP	STATIC PRESSURE
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
T'STAT	THERMOSTAT
TD	TEMPERATURE DIFFERENCE
TEMP	TEMPERATURE
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UH	UNIT HEATER
V	VOLTAGE
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VEL	VELOCITY
VFD	VARIABLE FREQUENCY DRIVE
VIF	VERIFY IN FIELD
VOL	VOLUME
W	WATT
W	WIDTH
WB	WET BULB TEMPERATURE
WP	WEATHERPROOF
WPD	WATER PRESSURE DROP
WWM	WELDED WIRE MESH

ABBREVIATIONS

HTHWR	HIGH TEMPERATURE HOT WATER RETURN
HTHWS	HIGH TEMPERATURE HOT WATER SUPPLY
HTR	HEATER
HUM	HUMIDIFIER
HV	HEATING/VENTILATION UNIT
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VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VEL	VELOCITY
VFD	VARIABLE FREQUENCY DRIVE
VIF	VERIFY IN FIELD
VOL	VOLUME
W	WATT
W	WIDTH
WB	WET BULB TEMPERATURE
WP	WEATHERPROOF
WPD	WATER PRESSURE DROP
WWM	WELDED WIRE MESH

HVAC SYMBOLS

	RECTANGULAR, FLAT OVAL OR ROUND AIR DUCT
	AIR DUCT WITH ACOUSTICAL LINING
	SUPPLY AIR DUCT UP
	SUPPLY AIR DUCT DOWN
	RETURN AIR DUCT UP
	RETURN AIR DUCT DOWN
	EXHAUST AIR DUCT UP
	EXHAUST AIR DUCT DOWN
	TURNING VANES
	ACCESS DOOR
	FLEXIBLE DUCT CONNECTION
	CEILING SUPPLY DIFFUSERS
	CEILING RETURN / EXHAUST GRILLE
	HARD DUCTED DIFFUSER OR GRILLE WITH FULL SIZE BOTTOM TAKE-OFF
	DIRECTION OF SUPPLY OR OUTDOOR AIRFLOW
	DIRECTION OF RETURN OR EXHAUST AIRFLOW
	DOOR UNDERCUT
	BACK DRAFT DAMPER
	VOLUME DAMPER
	FIRE DAMPER
	FIRE DAMPER WITH INTEGRAL SECURITY BARS
	FIRE/SMOKE DAMPER
	SMOKE DAMPER SYSTEM AND ASSOCIATED DEVICES PER SPECIFICATIONS AND MEP DETAILS
	MOTORIZED DAMPER
	HUMIDIFIER TUBE/PANEL
	SUPPLY PIPING, REFER TO ABBREVIATION LIST FOR DESIGNATION (XXX)
	RETURN PIPING, REFER TO ABBREVIATION LIST FOR DESIGNATION (XXX)
	DUCT SMOKE DETECTOR WITH REMOTE INDICATING LIGHT AND TEST SWITCH
	DUCT STATIC PRESSURE SENSOR
	DIFFERENTIAL PRESSURE SENSOR
	VARIABLE FREQUENCY DRIVE
	AIR FLOW STATION
	DUCT SOUND ATTENUATOR
	ROOM THERMOSTAT
	ROOM TEMPERATURE SENSOR
	CARBON MONOXIDE SENSOR
	CARBON DIOXIDE SENSOR
	HUMIDISTAT
	FINNED TUBE RADIATION
	FLOW METER
	VRF REMOTE CONTROL

MECHANICAL SYMBOLS NOTES:
1. ALL SYMBOLS MAY NOT BE USED.

FITTINGS AND VALVES

	BACKFLOW PREVENTER
	STRAINER OR STRAINER WITH BLOW-DOWN VALVE HOSE END, CAP AND CHAIN
	PIPE ELBOW UP OR PIPE TEE UP
	PIPE ELBOW DOWN
	PIPE TEE DOWN
	TAKEOFF FROM BOTTOM OF MAIN PIPE
	TAKEOFF FROM TOP OF MAIN PIPE
	IN-LINE EXPANSION COMPENSATOR
	PIPE ANCHOR
	COMPANION FLANGE
	PIPE CAP OR CAPPED END OF PIPE
	UNION
	PIPE GUIDES
	PUMP
	DIRECTION OF FLUID FLOW
	VALVE ON RISER
	VALVE ON DROP
	AIR VENT
	FLOW SENSOR
	2-WAY CONTROL VALVE
	3-WAY CONTROL VALVE
	BALL VALVE
	CALIBRATED BALANCING VALVE
	SHUT-OFF VALVE (SEE SPECIFICATIONS FOR APPLICATION TYPE)
	BUTTERFLY VALVE
	CHECK VALVE
	GLOBE VALVE
	GATE VALVE
	PRESSURE REDUCING VALVE
	TRIPLE DUTY VALVE
	OS&Y VALVE
	DRAIN VALVE WITH HOSE END, CAP & CHAIN OR WALL HYDRANT / HOSE BIBB
	MOTORIZED BUTTERFLY VALVE
	PRESSURE RELIEF SAFETY VALVE
	AQUASTAT
	TEMPERATURE SENSOR WITH SEPARABLE SOCKET IN IMMERSIBLE WELL
	TEMPERATURE GAUGE WITH SEPARABLE SOCKET IN IMMERSIBLE WELL
	THERMOMETER WITH SEPARABLE SOCKET IN IMMERSIBLE WELL
	PRESSURE GAUGE
	PRESSURE SENSOR WITH SIPHON (STEAM)
	FLEXIBLE CONNECTOR
DUCT SIZING	
20x12	RECTANGULAR DUCT
20/12	FLAT OVAL DUCT
20"Ø	ROUND DUCT

HVAC GENERAL NOTES

- ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH CURRENT APPLICABLE CODES, ORDINANCES, THE REGULATORY AGENCIES HAVING JURISDICTION AND THE SPECIFICATIONS. THE SPECIFICATIONS MAY EXCEED THE REQUIREMENTS OF THE CODE, IN WHICH CASE, THE SPECIFICATION MUST BE FOLLOWED.
- THE INTENT OF THESE DOCUMENTS IS FOR THE MEP TRADES TO FURNISH AND INSTALL COMPLETE MECHANICAL AND ELECTRICAL SYSTEMS. THE SPECIFIED HVAC SYSTEM SHALL BE COMPLETE IN ALL RESPECTS; OPERATIONAL, TESTED, ADJUSTED, APPROVED BY THE AUTHORITIES HAVING JURISDICTION AND READY FOR BENEFICIAL USE BY THE OWNER.
- THE TRADES SHALL OBTAIN AND REVIEW ALL CONTRACT DOCUMENTS BEFORE SUBMITTING A BID. INFORMATION IS PROVIDED ON THE VARIOUS DRAWINGS, SCHEDULES, SPECIFICATIONS AND ALL OF THE VARIOUS DOCUMENTS IN THE BIDDING PACKAGE. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY AND FORM A TOTAL PROJECT DESIGN AND INFORMATION SOURCE FOR CONSTRUCTION PURPOSES.
- THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED IN THE CONTRACT. COORDINATE LOCATIONS OF EQUIPMENT WITH OTHER TRADES BEFORE AND DURING CONSTRUCTION. ANY MODIFICATION TO THE EQUIPMENT LAYOUT, REQUIRED FOR INSTALLATION, IS TO BE PERFORMED UNDER THE CONTRACT AGREEMENT, AT NO ADDITIONAL COST. REFER TOP DETAILS, SCHEDULES AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- THE CONTRACTOR SHALL BECOME THOROUGHLY FAMILIAR WITH THE PROJECT DOCUMENTS OF ALL TRADES. THE DRAWINGS ARE DIAGRAMMATIC AND SHOW THE GENERAL ARRANGEMENT OF EQUIPMENT AND PIPING. THE CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF EQUIPMENT AND PIPING INSTALLATION WITH ALL THE TRADES BEFORE COMMENCING WORK.
- EQUIPMENT SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS, WHEN EQUIPMENT MUST BE LOCATED ABOVE AN INACCESSIBLE CEILING (GYP BOARD OR EQUIVALENT), OR BEHIND A WALL, AN APPROPRIATE ACCESS DOOR SHALL BE PROVIDED. IF AN ACCESS DOOR IS REQUIRED, IT SHALL BE OF A RATING APPROPRIATE FOR THE WALL/CEILING IN WHICH IT IS TO BE INSTALLED. THE CONTRACTOR SHALL COORDINATE LOCATIONS OF ACCESS PANELS FOR ALL VALVES AND DEVICES, REQUIRING ACCESS, WITH THE ARCHITECT, PRIOR TO INSTALLATION OF SUCH DEVICES OR OTHER APPURTENANCES.
- WHERE A CONFLICT OCCURS BETWEEN THE DOCUMENTS, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. CARRY AS PART OF THE BID THE LARGER QUANTITY AND/OR MORE EXPENSIVE ITEM(S).
- THIS CONTRACT SHALL INCLUDE ALL THE NECESSARY PIPING, FITTINGS, TRANSITIONS ETC. AS REQUIRED TO INSTALL PIPING AND EQUIPMENT. AND TO AVOID ANY CONFLICTS WITH OTHER TRADES AND THE BUILDING STRUCTURE. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY ASSUMPTIONS, OMISSIONS OR ERRORS HE MAKES AS A RESULT OF HIS FAILURE TO COORDINATE WITH OTHER TRADES OR BECOME FULLY FAMILIAR WITH THE PROJECT DOCUMENTS OF ALL TRADES.
- DO NOT INSTALL ANY PIPING OVER ELECTRICAL PANELS, TRANSFORMERS, SPECIAL EQUIPMENT, OR THROUGH ELECTRICAL ROOMS, DATA ROOMS, ELEVATOR MACHINE ROOM, STAIRWELL OR STAIRWELL WALLS THAT ARE NOT ASSOCIATED WITH OR SERVE THE RESPECTIVE ROOMS. COORDINATE THE LOCATION OF ELECTRICAL EQUIPMENT IN THE FIELD AND ADJUST AS NECESSARY.
- INSTALL SMOKE DETECTORS IN BOTH SUPPLY & RETURN AIR DUCTS FOR AIR HANDLING EQUIPMENT 2,000 CFM AND GREATER.
- PROVIDE SMOKE DAMPERS IN BOTH SUPPLY & RETURN AIR DUCTS FOR AIR HANDLING EQUIPMENT 15,000 CFM AND GREATER.
- PROVIDE SMOKE DAMPERS AND SMOKE DETECTORS AT DUCT PENETRATIONS OF SMOKE-BARRIERS, AND AT ELEVATOR SHAFT VENTS PER CODE REQUIREMENTS.
- PROVIDE FIRE DAMPERS AT DUCT PENETRATIONS OF FIRE-RATED CONSTRUCTION, INCLUDING WALLS, SHAFTS AND FLOOR PENETRATIONS. COORDINATE WITH ARCHITECTURAL DRAWINGS.
- PROVIDE AN AUTOMATIC TEMPERATURE CONTROL SYSTEM COMPLETE IN ALL REGARDS. ALL ZONES, VAV'S AND SYSTEM SHALL BE THERMOSTATICALLY CONTROLLED. REVIEW THE PLANS AND SPECIFICATIONS OF ALL MEP TRADES FOR A COMPLETE SCOPE OF THE WORK.
- PIPING SHALL BE SUPPORTED FROM STRUCTURE ABOVE. TO MAXIMIZE HEAD ROOM, INSTALL PIPING TIGHT TO BOTTOM OF BEAMS WHEN RUNNING PERPENDICULAR TO BEAM; INSTALL PIPING TIGHT TO FLOOR SLAB WHEN RUNNING PARALLEL TO BEAM; PROVIDE ALL NECESSARY FITTINGS AND TRANSITIONS.
- PROVIDE THROTTLING VALVES AND SHUT-OFF VALVES AS INDICATED IN SPECIFICATIONS IN ADDITION TO THOSE INDICATED ON THE DOCUMENTS.
- INSTALL ALL EQUIPMENT VALVES AS REQUIRED BY MANUFACTURERS INSTRUCTIONS AND RECOMMENDATIONS AND AS DETAILED.
- PROVIDE AIR VENTS AT ALL HIGH POINTS AND DRAINS AT ALL LOW POINTS.
- PROVIDE PRESSURE RELIEF DOORS FOR AIR SYSTEMS, PER THE SPECIFICATIONS.
- PROVIDE MOTORIZED DAMPERS AT ALL PERMANENT OPENINGS (EXHAUST, SUPPLY, RELIEF, O.A. INTAKES, MAKE-UP AIR, SMOKE VENTS, ETC.) EXCEPT DRYER, KITCHEN, AND FUME EXHAUST AND PROVIDE A MEANS TO CONTROL THE DAMPER OPERATION.
- ALL SUPPLY RECTANGULAR 90° ELBOWS SHALL HAVE TURNING VANES.
- PROVIDE DUCT TAKE-OFF TYPES AND VOLUME DAMPERS PER THE SPECIFICATIONS AND DUCT TAKE-OFF DETAILS ON DRAWINGS. TAKE-OFFS SHOWN ON FLOOR PLANS DO NOT REPRESENT THE SPECIFIC TYPE OF TAKE-OFF REQUIRED; CONSULT THE DETAILS AND SPECIFICATIONS.
- PROVIDE VOLUME DAMPERS ON ALL SUPPLY, EXHAUST, AND RETURN BRANCH DUCTS.
- COORDINATE AND VERIFY LOCATIONS OF ALL ITEMS REQUIRING ACCESS WITH ARCHITECT IN FIELD., INCLUDING VALVES, VOLUME DAMPERS, FIRE DAMPERS, ETC.
- ALL EQUIPMENT LOCATED ON THE ROOF THAT REQUIRES SERVICING SHALL BE LOCATED A MINIMUM 10'-0" FROM EDGE OF THE ROOF.
- ALL EXPOSED DUCTWORK SHALL BE FLAT, OVAL, OR ROUND. COORDINATE WITH ARCHITECT'S CEILING PLANS AND IDENTIFY ON DUCTWORK SHOP DRAWINGS.
- ALL DUCTWORK AND PIPING CROSSING SEISMIC JOINTS SHALL ACCOMMODATE DIFFERENTIAL MOTION. REFER TO DETAILS AND SPECIFICATIONS FOR MORE INFORMATION. SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR LOCATIONS.
- ALL THERMOSTATS LOCATED ON OUTSIDE WALL SHALL HAVE INSULATED PAD BEHIND.
- ALL MOTORIZED DAMPERS SHALL BE WIRED BY ATC CONTRACTOR, COORDINATE VOLTAGE REQUIREMENTS WITH EQUIPMENT.
- ALL TOILETS & BATHROOMS SHALL HAVE 3/4" UNDERCUT DOORS.
- ALL LOUVERS ARE SELECTED AND SCHEDULED BY ARCHITECT. LOUVER TAGS ARE SHOWN FOR COORDINATION ONLY.
- SEISMICALLY SUPPORT THE EQUIPMENT AS REQUIRED BY CODE, THE AUTHORITY HAVING JURISDICTION, AND/OR AS SPECIFIED. SUBMIT ENGINEERED INSTALLATION DETAILS PER THE SPECIFICATIONS. THE CONTRACTOR'S SEISMIC ENGINEER SHALL REVIEW THE INSTALLATION AND PROVIDE A DETAILED REPORT FOR THE RECORD.
- PROVIDE PIPE EXPANSION COMPENSATION FOR THE VARIOUS PIPING SYSTEMS. SUBMIT ENGINEERED DETAILS FOR APPROVAL AND VERIFY INSTALLATION IS IN ACCORDANCE WITH THE CODE. THE CONTRACTOR'S CONSULTING ENGINEER SHALL REVIEW THE INSTALLATION AND PROVIDE A REPORT OF THE FINDINGS.

GENERAL LINETYPES

	THICK, DARK LINES INDICATE NEW OR RELOCATED ITEMS
	THIN, LIGHT LINES INDICATE EXISTING ITEMS TO REMAIN IN PLACE AND BE REUSED
	ON DEMOLITION DRAWINGS, THICK, DASHED LINES INDICATE EXISTING ITEMS TO BE REMOVED
	POINT OF NEW TO EXISTING CONNECTION, INCLUDING TRANSITIONS

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SEAL

ISSUES & REVISIONS

SD SET	07/01/2022
DD SET	08/05/2022
PERMIT/BID SET	09/23/2022
IFC SET	03/03/2023

REV/DATE	ISSUED
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OWNER/CLIENT

CAVA

PROJECT
EDGEWATER

443 RIVER RD,
EDGEWATER, NJ 07020

DRAWING TITLE
MECHANICAL GENERAL INFORMATION

DRAWING INFORMATION
Job Number: 222068
Checked By: REP
Drawn By: SJH
DRAWING NUMBER

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DRAWING TITLE
 MECHANICAL DUCT PLAN

DRAWING INFORMATION
 Job Number: 222068
 Checked By: REP
 Drawn By: SJH
 DRAWING NUMBER

IFC/REV-1 03 / 03 / 2023

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HVAC SEQUENCE OF OPERATIONS

EXISTING PACKAGED ROOF TOP UNIT RTU-1 AND RTU-2

SCHEDULING:
 THE SYSTEM SHALL BE INDEXED BETWEEN THE WARM-UP, COOL-DOWN, OCCUPIED AND UNOCCUPIED CYCLES BY THE SPACE DIGITAL PROGRAMMABLE THERMOSTAT.

WARM-UP/COOL-DOWN CYCLE:
 IN THE WARM-UP/COOL-DOWN MODE THE SUPPLY FAN SHALL RUN, THE COMPRESSOR AND GAS HEAT SHALL OPERATE IN THEIR RESPECTIVE MODES TO MAINTAIN THE SPACE OCCUPIED HEATING OR COOLING TEMPERATURE SET POINTS. THE MOTORIZED VENTILATION SUPPLY AND BAROMETRIC EXHAUST AIR DAMPERS SHALL REMAIN CLOSED.

OCCUPIED CYCLE:
 THE SUPPLY FAN SHALL RUN CONTINUOUSLY. THE OUTSIDE AIR DAMPER SHALL OPEN TO ITS ADJUSTABLE MINIMUM POSITION.

DURING THE HEATING MODE THE DIGITAL PROGRAMMABLE SPACE THERMOSTAT SHALL CYCLE THE NATURAL GAS BURNER TO MAINTAIN THE SPACE OCCUPIED HEATING SETPOINT.

DURING THE COOLING MODE THE DIGITAL PROGRAMMABLE SPACE THERMOSTAT SHALL CYCLE THE MECHANICAL COOLING TO MAINTAIN THE SPACE COOLING TEMPERATURE SETPOINT.

UNOCCUPIED CYCLE:
 THE UNIT SHALL REMAIN OFF, THE MOTORIZED OUTDOOR AIR AND BAROMETRIC EXHAUST AIR DAMPERS SHALL REMAIN CLOSED AND THE MECHANICAL COOLING SHALL BE DISABLED. ON A CALL FOR HEATING BELOW THE UNOCCUPIED SET POINT, THE UNIT FAN SHALL CYCLE ON 100% RETURN AIR AND THE NATURAL GAS BURNER SHALL OPERATE IN THE HEATING MODE TO MAINTAIN THE UNOCCUPIED SPACE TEMPERATURE SETPOINT. MECHANICAL COOLING SHALL REMAIN OFF.

MAKE-UP AIR UNIT AND KITCHEN EXHAUST FAN:
 SEE CAPTIVE AIR DRAWINGS FOR SEQUENCE OF OPERATIONS.

AIR CURTAIN:
 SHALL BE CONTROLLED BY DOOR SWITCH.

EXHAUST FANS:
 EF-1 SHALL RUN CONTINUOUSLY WHAE BUILDING IS IN OCCUPIED CYCLE AND SHALL BE OFF WHEN BUILDING IS IN UNOCCUPIED CYCLE.
 EF-2 SHALL RUN CONTINUOUSLY.

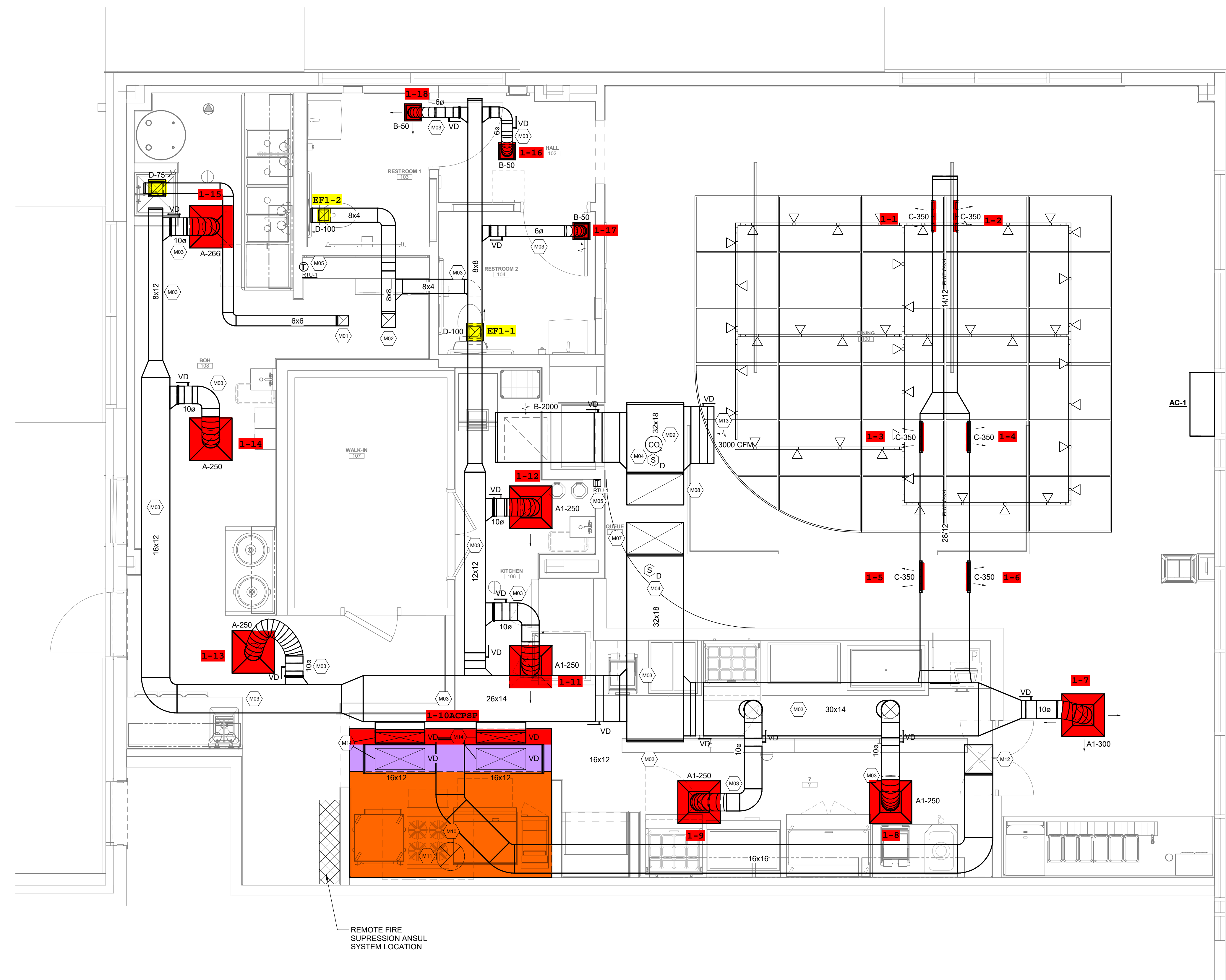
FIELD VERIFY ALL CONDITIONS

DESIGN DRAWINGS ARE SCHEMATIC AND ARE BASED ON AS-BUILT/RECORD DRAWINGS PROVIDED BY OWNER. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING OR AWARD OF CONTRACT TO INSPECT EXISTING FIELD CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE ACCURACY OF THESE PLANS AND GATHER ADDITIONAL INFORMATION NECESSARY TO PRODUCE DETAILED SHOP DRAWINGS OF THE CHANGES AND MODIFICATIONS REQUIRED TO RENOVATE THE SPACE. THIS CONTRACT SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY FOR FIELD MODIFICATIONS DUE TO EXISTING CONDITIONS.

THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT. CLARIFICATIONS MADE BY THE ARCHITECT, ENGINEER OR OWNER AFTER BIDDING WILL BE FINAL AND SHALL BE IMPLEMENTED AT CONTRACTORS COST.

BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDE IN THEIR BIDS THE COSTS FOR ALL WORK INSTALLED IN STRICT ACCORDANCE WITH GOVERNING CODES. THE PLANS AND SPECIFICATIONS NOT WITHSTANDING, THE CONTRACTOR SHALL ALERT ARCHITECT, ENGINEER OR OWNER OF ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT.

- MECHANICAL KEYNOTES**
- M01 NEW 6x6 EXHAUST DUCT UP TO EF-2 ON ROOF ABOVE.
 - M02 NEW 8x8 EXHAUST DUCT UP TO EF-1 ON ROOF ABOVE.
 - M03 INSULATE ALL SUPPLY AND RETURN DUCT ABOVE FINISHED CEILINGS. SEE SPECIFICATIONS FOR TYPE AND THICKNESS.
 - M04 PROVIDE DUCT SMOKE DETECTOR TO DE-ENERGIZE HVAC UNIT AND SIGNAL FIRE ALARM SYSTEM. FURNISHED AND WIRED BY ELECTRICAL CONTRACTOR AND INSTALLED BY MECHANICAL CONTRACTOR. REFER TO ELECTRICAL DRAWINGS FOR DETAILS.
 - M05 MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL PROGRAMMABLE THERMOSTATS WHERE INDICATED ON PLANS. PROGRAMMABLE THERMOSTATS SHALL BE AS MANUFACTURED BY HONEYWELL, Vision PRO 8000 MODEL TH8321WF1001, WITH REMOTE SENSOR, MODEL C7189R. MOUNT AND INSTALL THERMOSTAT(S)/SENSOR(S) PER MANUFACTURERS RECOMMENDATIONS AND INSTRUCTIONS. LABEL EACH THERMOSTAT AND SENSOR IDENTIFYING THE HVAC UNIT IT CONTROLS, USING BLACK ENGRAVED P/FENOLIC LABELS WITH 3/16" LETTERS.
 - M07 NEW 32x18 SUPPLY AIR DUCT UP TO RTU-1.
 - M08 NEW 32x18 RETURN AIR DUCT UP TO RTU-1.
 - M09 PROVIDE CO2 SENSOR FOR DEMAND CONTROL VENTILLATION.
 - M10 PROVIDE ACCESS HATCHES FOR CLEANING OF KITCHEN EXHAUST DUCTWORK PER CODE AND MANUFACTURERS INSTRUCTIONS. SEE DETAIL ON SHEET M401.
 - M11 16" KITCHEN EXHAUST GREASE DUCT FROM TOP OF HOOD UP TO KEF-1 ON ROOF ABOVE. MECHANICAL CONTRACTOR SHALL REFER TO CAPTIVEAIRE RECOMMENDATIONS ON HOOD SUBMITTAL FOR GREASE DUCT SPECIFICATIONS AND PROVIDE IT AS REQUIRED.
 - M12 16x16 MAKE-UP AIR DUCT UP TO MAU-1 ON ROOF ABOVE.
 - M13 32x18 OPEN ENDED LINED RETURN AIR DUCT. COVER OPEN END WITH 1/2"x1/2" WELDED WIRE MESH COVER.
 - M14 MAKEUP AIR AND SUPPLY AIR CONNECTION TO KITCHEN HOOD. SEE CAPTIVEAIRE DRAWINGS FOR MORE INFORMATION.



① **FIRST FLOOR MECHANICAL DUCT PLAN**
 3/8" = 1'-0"

SD SET	07/01/2022
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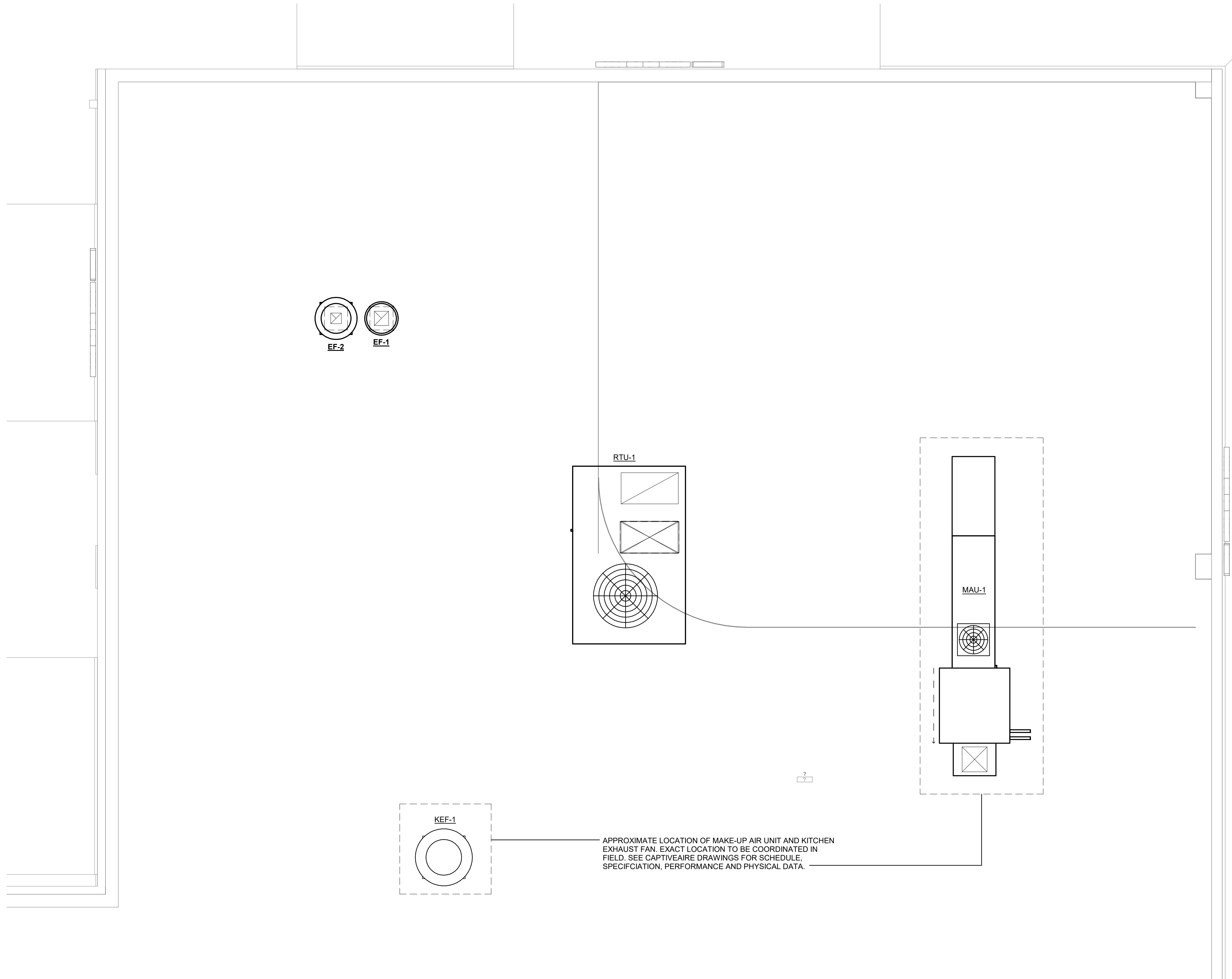
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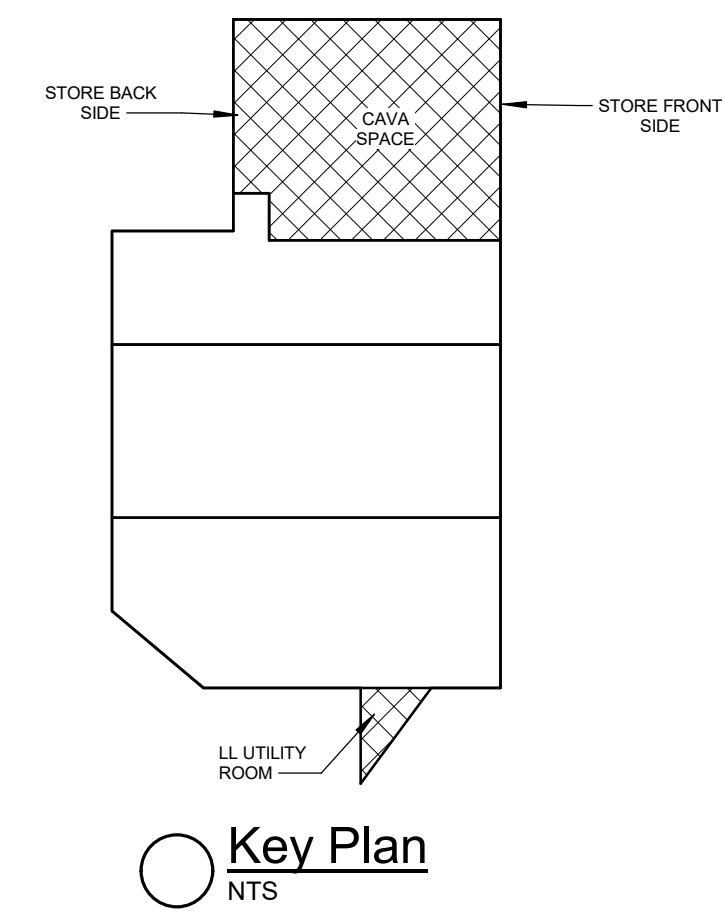
THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT. CLARIFICATIONS MADE BY THE ARCHITECT, ENGINEER OR OWNER AFTER BIDDING WILL BE FINAL AND SHALL BE IMPLEMENTED AT CONTRACTORS COST.

BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDE IN THEIR BIDS THE COSTS FOR ALL WORK INSTALLED IN STRICT ACCORDANCE WITH GOVERNING CODES, THE PLANS AND THE SPECIFICATIONS NOT WITHSTANDING. THE CONTRACTOR SHALL ALERT ARCHITECT, ENGINEER OR OWNER OF ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT.



APPROXIMATE LOCATION OF MAKE-UP AIR UNIT AND KITCHEN EXHAUST FAN. EXACT LOCATION TO BE COORDINATED IN FIELD. SEE CAPTIVEAIRE DRAWINGS FOR SCHEDULE, SPECIFICATION, PERFORMANCE AND PHYSICAL DATA.

1 ROOF MECHANICAL DUCT PLAN
3/8" = 1'-0"



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ROOFTOP UNIT SCHEDULE																																																		
TAG	MANUFACTURER	MODEL	OUTSIDE AIRFLOW MAX (CFM)	FANS SUPPLY					GAS-FIRED HEAT EXCHANGER					SOUND POWER LEVEL (db) DISCHARGE/INLET/RADIATED								EFFICIENCY		ELECTRICAL DATA			REMARKS																							
				FLOW (CFM)	ESP (in-wg)	TSP (in-wg)	QTY	POWER (hp)	RPM	INPUT (BTUH)	OUTPUT (BTUH)	STAGES	TYPE	FUEL PIPE PRESSURE (in-wg)		AIRSIDE EAT(db) (°F)	LAT(db) (°F)	THERMAL EFF (%)	63 HZ	125 HZ	250 HZ	500 HZ	1000 HZ	2000 HZ	4000 HZ	8000 HZ		SEER	IEER	MCA	MOCP	VOLT	PH																	
														MIN	MAX																																			
RTU-1	TRANE	YSJ150A3S0H**K	800	5000	1	1.78	1	3.1	1688	150,000	202,500	2	NATURAL	4	14	60	97.5	80	88	91	93	94	91	86	82	74	14	14	64 A	90 A	208 V	3																		
<p>DIX COOLING COIL</p> <table border="1"> <thead> <tr> <th rowspan="2">TAG</th> <th colspan="3">CAPACITY (Btu/h)</th> <th colspan="4">AIRSIDE</th> </tr> <tr> <th>TOTAL</th> <th>SENSIBLE</th> <th>FLOW (CFM)</th> <th>EAT(db) (°F)</th> <th>EAT(wb) (°F)</th> <th>LAT(db) (°F)</th> <th>LAT(wb) (°F)</th> </tr> </thead> <tbody> <tr> <td>RTU-1</td> <td>154,220</td> <td>118,630</td> <td>5,000</td> <td>80</td> <td>67</td> <td>60.3</td> <td>57.9</td> </tr> </tbody> </table> <p>ROOF TOP UNIT NOTES:</p> <ol style="list-style-type: none"> PROVIDE THE FOLLOWING FACTORY INSTALLED OPTIONS/ACCESSORIES FOR EACH UNIT: <ol style="list-style-type: none"> ROOFTOP UNITS SHALL BE FURNISHED WITH 3/4" INSULATION, FACTORY PRIMED AND PAINTED WITH A BAKED ENAMEL FINISH, DRAIN PANS. MINIMUM OUTSIDE AIR SETTING SHALL BE STOP LIMITED ON 0-100% MODULATING ACTUATOR FROM ECONOMIZER. FURNISH UNITS WITH COMPARATIVE ENTHALPY CONTROL ECONOMIZER CYCLE. PROVIDE FACTORY MOUNTED CONTROLLER AND SENSORS AND ADDITIONAL SENSORS FOR FIELD INSTALLATION AS INDICATED IN THE SPECIFICATIONS, ON THE SEQUENCE OF OPERATIONS AND THE SPECIFICATIONS. PROVIDE WITH SINGLE POINT POWER CONNECTION. CONTRACTOR SHALL PROVIDE 3 SETS OF EXTRA FILTERS. REFRIGERATION SYSTEM AND CONTROLS TO INCLUDE THERMOSTATIC EXPANSION VALVE, CRANKCASE HEATER, FREEZE PROTECTION THERMOSTAT LOW & HIGH PRESSURE SWITCHES. PERFORMANCE BASED ON 95°F OUTDOOR AMBIENT. PROVIDE STAINLESS STEEL HEAT EXCHANGER. PROVIDE POWER EXHAUST FAN, FIELD WIRED TO UNIT PANEL. PROVIDE HINGED ACCESS DOORS. PROVIDE UNIT MOUNTED NON-FUSED DISCONNECT SWITCH. PROVIDE CONDENSER COIL HAIL GUARD. PROVIDE PREMIUM EFFICIENCY FAN MOTOR. PROVIDE UNITS WITH ROOF CURB RECOMMENDED BY UNIT MANUFACTURER. CONTRACTOR. CURB TO HAVE INTEGRAL SUPPLY AND EXHAUST/RETURN PLENUMS AND HORIZONTAL DUCT CONNECTIONS TO ACCEPT DUCTWORK SHOWN ON THE DRAWINGS WHILE ACCOUNTING FOR ROOF INSULATION THICKNESS. PROVIDE ROOF TOP UNITS WITH MANUFACTURER RECOMMENDED 2" PLEATED (MERV 8-13) FILTERS. 																												TAG	CAPACITY (Btu/h)			AIRSIDE				TOTAL	SENSIBLE	FLOW (CFM)	EAT(db) (°F)	EAT(wb) (°F)	LAT(db) (°F)	LAT(wb) (°F)	RTU-1	154,220	118,630	5,000	80	67	60.3	57.9
TAG	CAPACITY (Btu/h)			AIRSIDE																																														
	TOTAL	SENSIBLE	FLOW (CFM)	EAT(db) (°F)	EAT(wb) (°F)	LAT(db) (°F)	LAT(wb) (°F)																																											
RTU-1	154,220	118,630	5,000	80	67	60.3	57.9																																											

AIR BALANCE SCHEDULE				
EF-1	EF-2	KITCHEN EXHAUST AIR	KITCHEN MAKE-UP AIR	OUTSIDE AIR
200	75	2,007	1,606	800
TOTAL EXHAUST		TOTAL OUTSIDE/MAKE-UP AIR		
2282		2,406		

VENTILATION AIR SCHEDULE											
OCCUPANCY CLASSIFICATION	AREA (SF) AZ	AREA OUTDOOR AIR RATE PER IMC 403.3 Ra	AREA OUTDOOR AIR	OCCUPANT DENSITY RATE PER IMC TABLE 403.3 (PEOPLE/100 ft²)	OCCUPANCY C* F/1000, Pz	OCCUPANT OUTDOOR AIR RATE PER TABLE 403.3 Rp	OCCUPANT OUTDOOR AIR RpPZ	BREATHING ZONE OUTDOOR AIR Vbz = RpPz + RaAZ	ZONE AIR DISTRIBUTION EFFECTIVENESS, Ez	ZONE OUTDOOR AIR, Voz = Vbc/Ez	SUPPLY AIR DESIGN, Vpz
DINING ROOM	841	0.18	152	7.5	6.3	7.5	48	200	0.8	250	500
CORRIDOR	39	0.06	3	-	-	-	-	-	0.8	4	100
BOH	715	0.12	72	-	-	-	-	-	0.8	90	200
										TOTAL REQUIRED VENTILATION AIR	344
										TOTAL VENTILATION AIR PROVIDED	800

ELECTRIC AIR CURTAIN SCHEDULE																
TAG	MANUFACTURER	MODEL	HEATING ELEMENTS		FAN			DIMENSIONS				ELECTRICAL DATA			REMARKS	
			QTY	POWER (KW)	POWER (hp)	MAX VELOCITY (FPM)	MAX VOLUME (CFM)	LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)	WEIGHT (LBS)	NOZZLE LENGTH (IN)	MCA	VOLT		PH
AC-1	MARS	LPV236-1E**OB	1	10	0.17	1800	900	12	36	8	35	36	0 A	208 V	3	1,2,3,4,5,6

NOTES:
 1. PROVIDE WITH ALL NECESSARY MOUNTING HARDWARE INCLUDING TANDEM MOUNTING KIT.
 2. PROVIDE WITH MANUFACTURER RECOMMENDED DOOR LIMIT SWITCH.
 3. PROVIDE WITH 120V CONTROLLER WITH ADJUSTABLE DELAY.
 4. COORDINATE WITH OWNER FOR DESIRED CONTROL SETTINGS (RECOMMEND TIME DELAY OVERLAP FOR FAN, SEASONAL USAGE ETC.).
 5. PROVIDE WITH ELECTRIC HEAT OPTION.
 6. INSTALLATION HEIGHT PER MANUFACTURER'S RECOMMENDED INSTALLATION HEIGHT.

FAN SCHEDULE															
TAG	MANUFACTURER	MODEL	SERVES	TYPE	FAN				DRIVE TYPE	MOTOR POWER HP	SOUND PRESS LEVEL (dBA)	ELECTRICAL DATA			REMARKS
					FLOW (CFM)	ESP (in-wg)	RPM	SONES				VOLT	PH		
EF-1	COOK	ACED VF 100C17DL	TOILET ROOMS	DOWNBLAST	200	0.5	1296	0.1	52	6.2	115 V	1		1,2,3,5,6	
EF-2	COOK	ACE 101C11D OR60	JANITORS CLOSET	DOWNBLAST	75	0.5	1365	DIRECT	0.3	53	6.7	115 V	1	1,2,4,5,6	

NOTES:
 1. ACCEPTABLE MANUFACTURERS COOK, GREENHECK AND ACME.
 2. FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR.
 3. FAN RUN RUNS CONTINUOUSLY IN OCCUPIED MODE.
 4. FAN RUNS CONTINUOUSLY.
 5. SOLID STATE SPEED CONTROLLER MOUNTED ON SIDE OF HOUSING.
 6. PROVIDE WITH FACTORY MOUNTED AND WIRED NEMA 3R DISCONNECT SWITCH.

GRILLES, DIFFUSERS AND REGISTERS SCHEDULE					
(BASED ON PRICE)					
SEE ARCHITECTURAL DRAWINGS FOR CEILING TYPES AND CONSTRUCTION. SIZE AND CFM INDICATED ON MECHANICAL DRAWINGS					
A - MODEL SMD DIRECTIONAL DIFFUSER, LOUVERED FACE, 4-WAY THROW (UNLESS SHOWN OTHERWISE), 24X24 MODULE SIZE, LAY-IN BORDER, STEEL CONSTRUCTION, WHITE FINISH. PROVIDE MODEL SR ADAPTER.					
A1 - MODEL SMD DIRECTIONAL DIFFUSER, LOUVERED FACE, 4-WAY THROW (UNLESS SHOWN OTHERWISE), SURFACE MOUNT FRAME, STEEL CONSTRUCTION, OPPOSED BLADE DAMPER, WHITE FINISH.					
B - MODEL 520D LOUVERED SUPPLY REGISTER, DOUBLE DEFLECTION CORE, 3/4" BLADE SPACING PARALLEL TO LONG DIMENSION, SURFACE MOUNT FRAME, STEEL CONSTRUCTION, OPPOSED BLADE DAMPER, WHITE FINISH.					
C - MODEL SDGE SPIRAL DUCT SUPPLY GRILLE, DOUBLE DEFLECTION CORE, EXTRUDED ALUMINUM CONSTRUCTION, CLEAR ANODIZED FINISH. PROVIDE OPTIONAL AIR EXTRACTOR/DAMPER.					
D - MODEL 530 RETURN/EXHAUST GRILLE, 45° FIXED LOUVERS, 3/4" BLADE SPACING, 24X24 MODULE SIZE, LAY-IN BORDER, STEEL CONSTRUCTION, WHITE FINISH.					
D1 - MODEL 530 RETURN/EXHAUST GRILLE, 45° FIXED LOUVERS, 3/4" BLADE SPACING PARALLEL TO LONG DIMENSION, SURFACE MOUNT BORDER, STEEL CONSTRUCTION, WHITE FINISH.					
CEILING SUPPLY DIFFUSER TYPE A & A1		CEILING RETURN/EXHAUST DIFFUSER TYPE B & B1		FLEXIBLE DUCT SIZE	
CFM	NECK SIZE	CFM	NECK SIZE	CFM	NECK SIZE
0 - 100	6 X 6	0 - 100	6 X 6	0 - 35	4"Ø
101 - 225	9 X 9	101 - 150	8 X 8	36 - 70	5"Ø
226 - 400	12 X 12	151 - 250	10 X 10	71 - 95	6"Ø
401 - 625	15 X 15	251 - 350	12 X 12	96 - 150	8"Ø
626 - 900	18 X 18	351 - 500	14 X 14	151 - 225	9"Ø
		501 - 650	16 X 16	226 - 275	10"Ø
		651 - 800	18 X 18	276 - 400	12"Ø
		801 - 1200	22 X 22	401 - 500	14"Ø
				501 - 700	16"Ø
				701 - 900	18"Ø
				901 - 1100	20"Ø
				1101 - 1300	22"Ø

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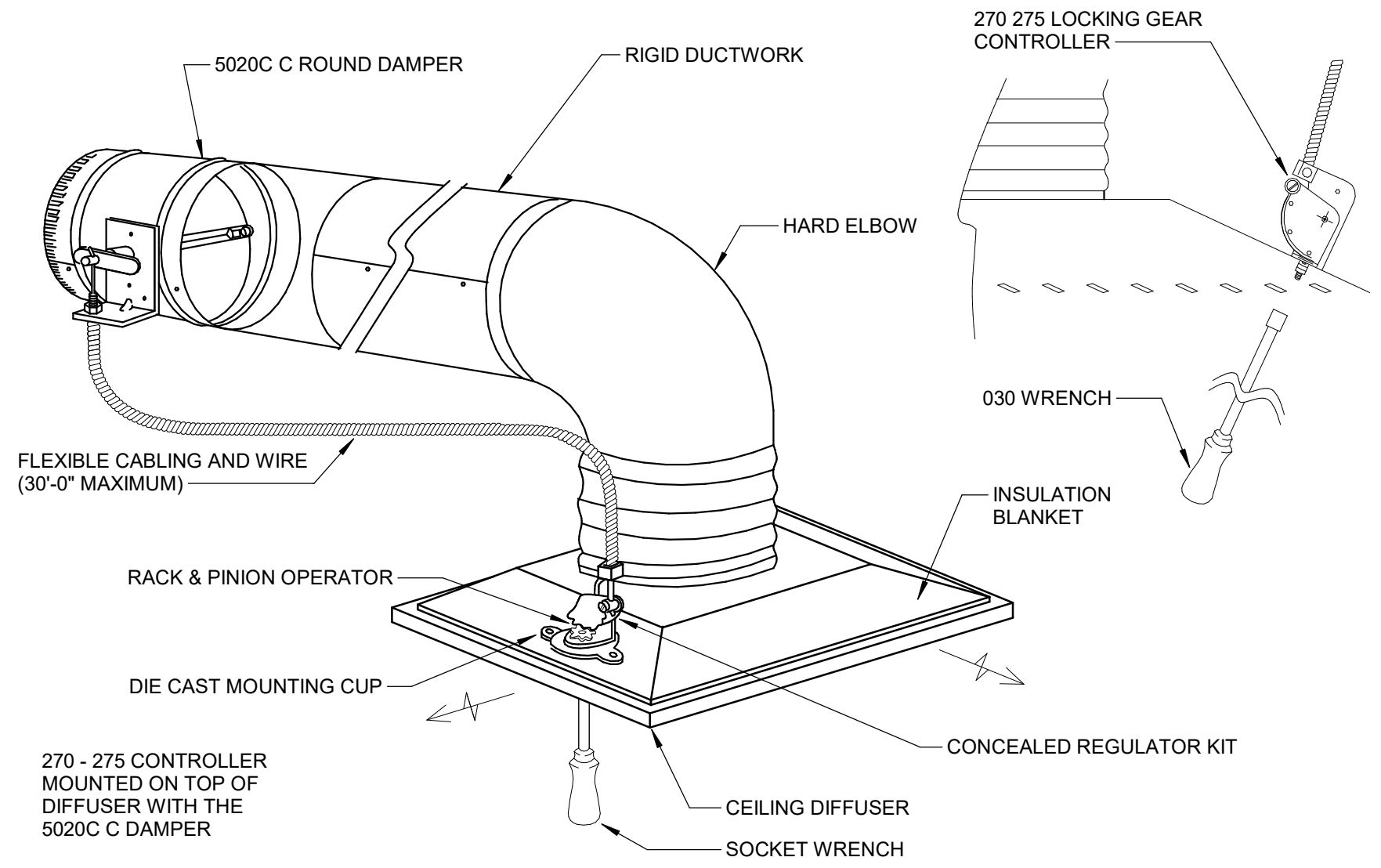
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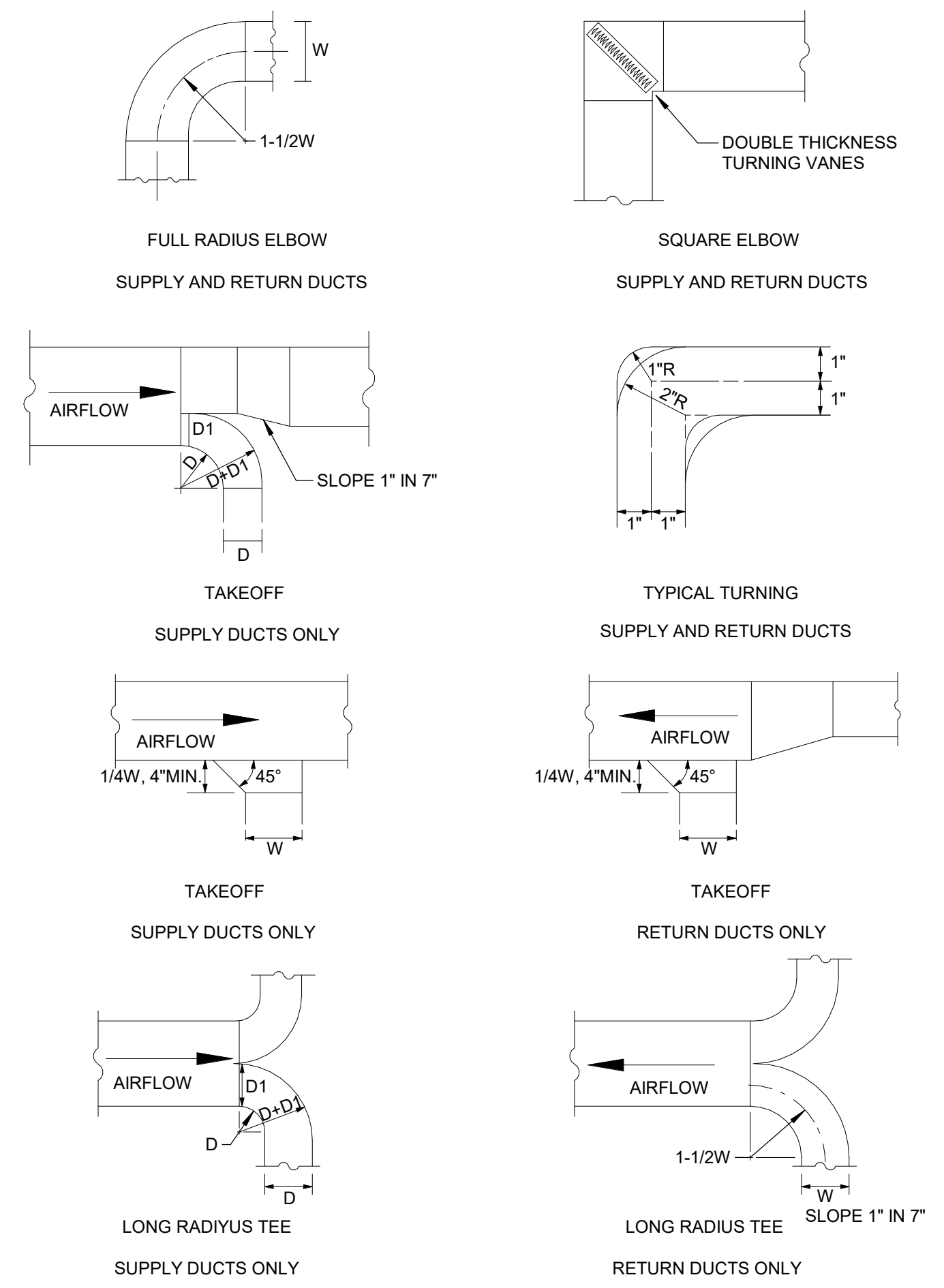
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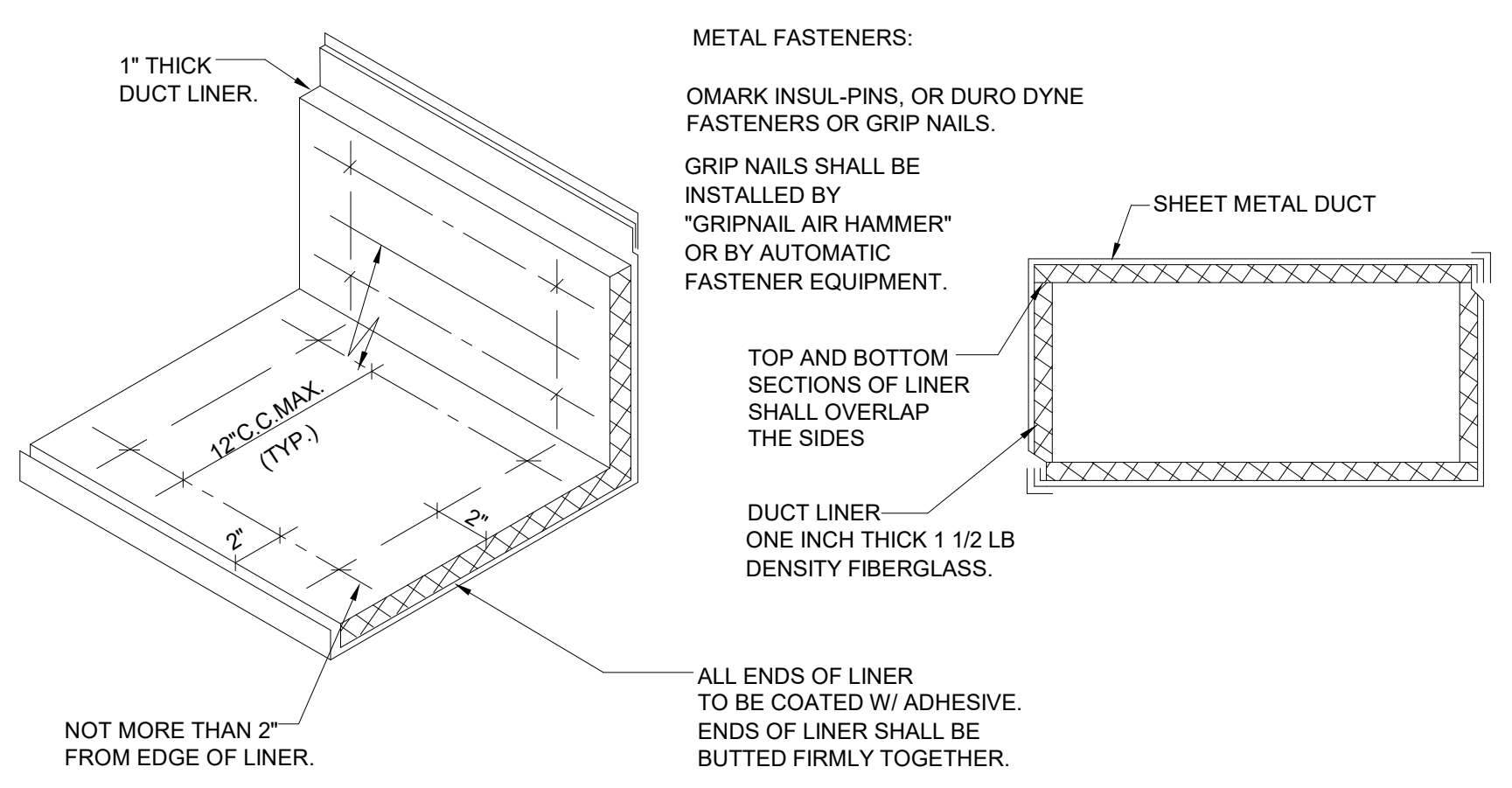


NOTE:
 1. COORDINATE EXACT LOCATION OF CEILING MOUNTED CONCEALED REGULATOR WITH ARCHITECT PRIOR TO INSTALLATION.
 2. YOUNG REGULATOR SHOULD ONLY BE USED WHERE ACCESS FOR VOLUME IS LIMITED AND CAN NOT BE DONE VIA DIFFUSER.

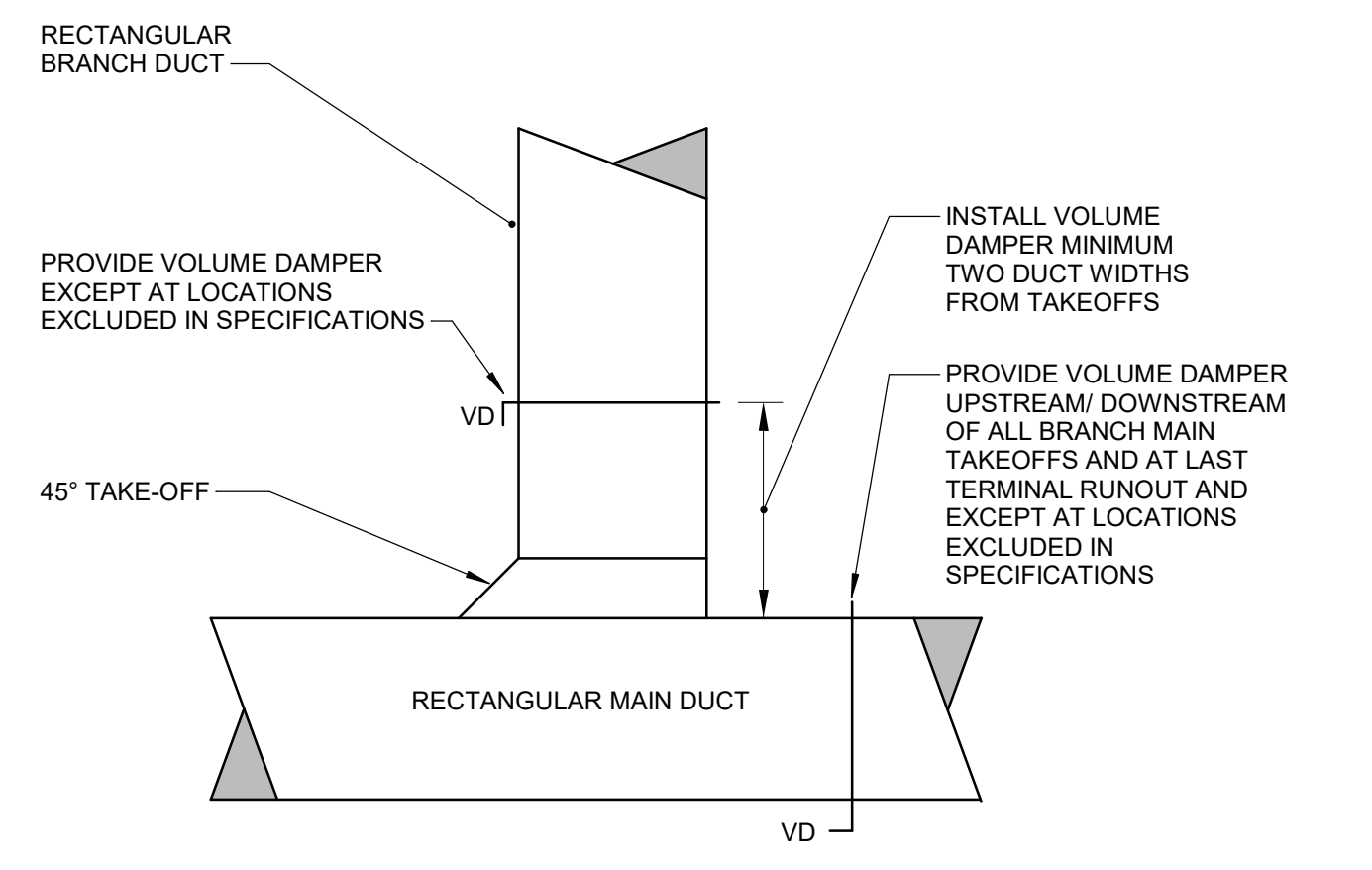
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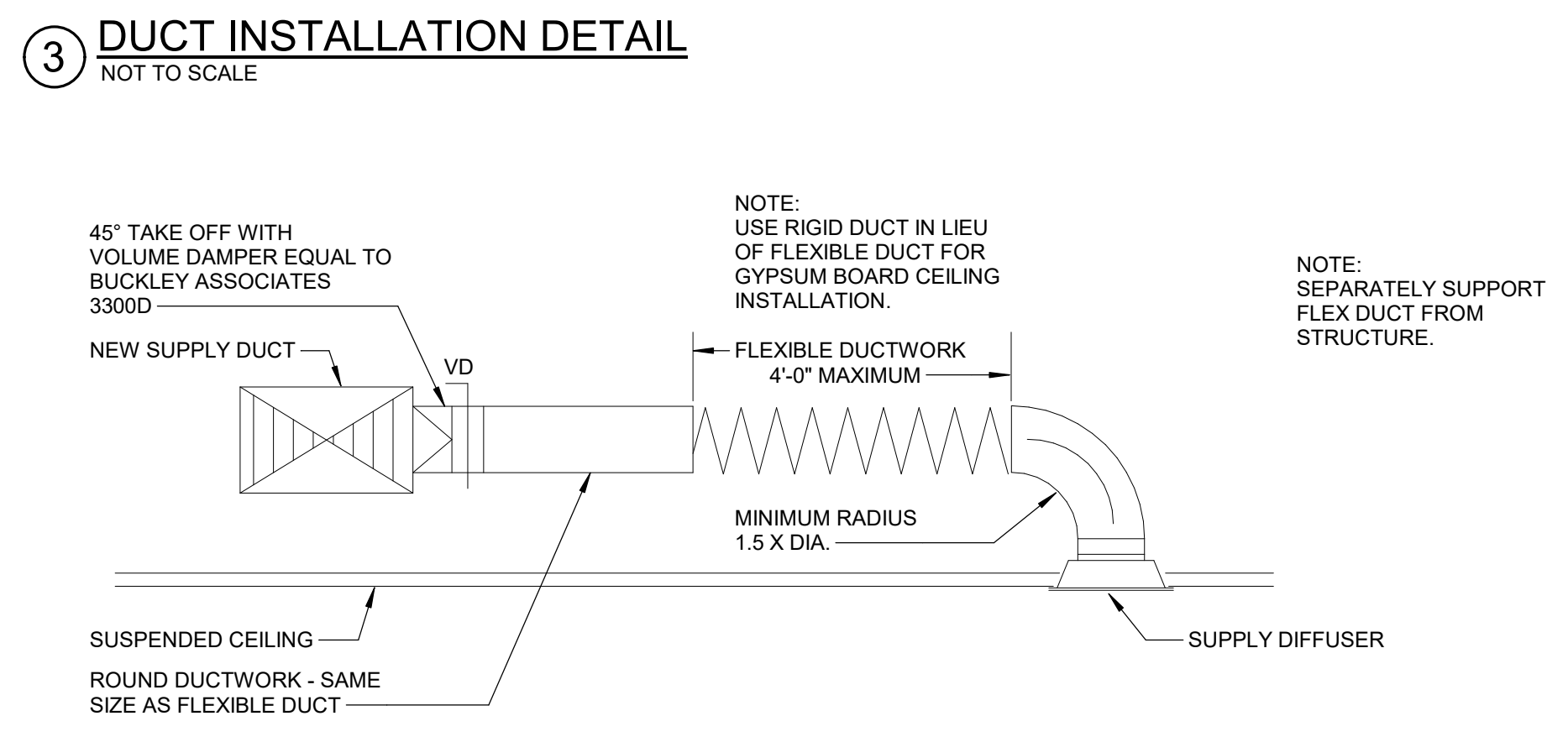
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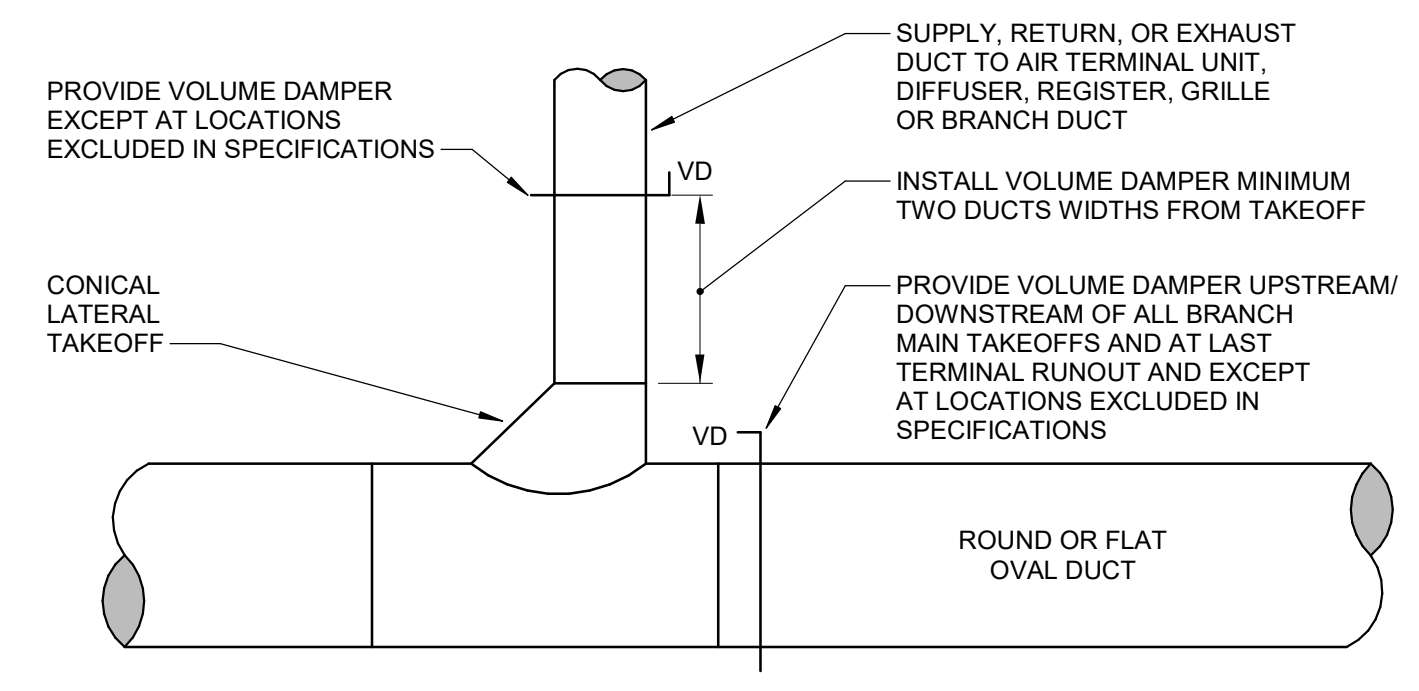
4 DUCT LINER DETAIL
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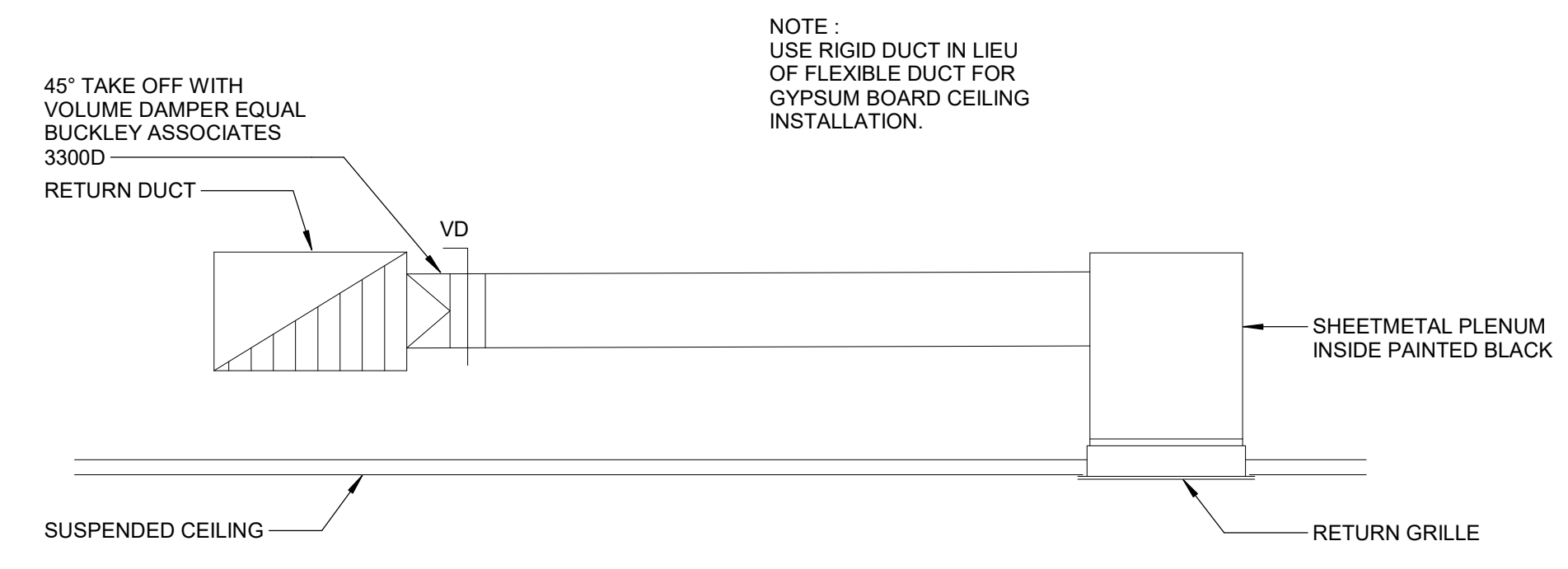
5 RECTANGULAR BRANCH TAKEOFF DETAIL
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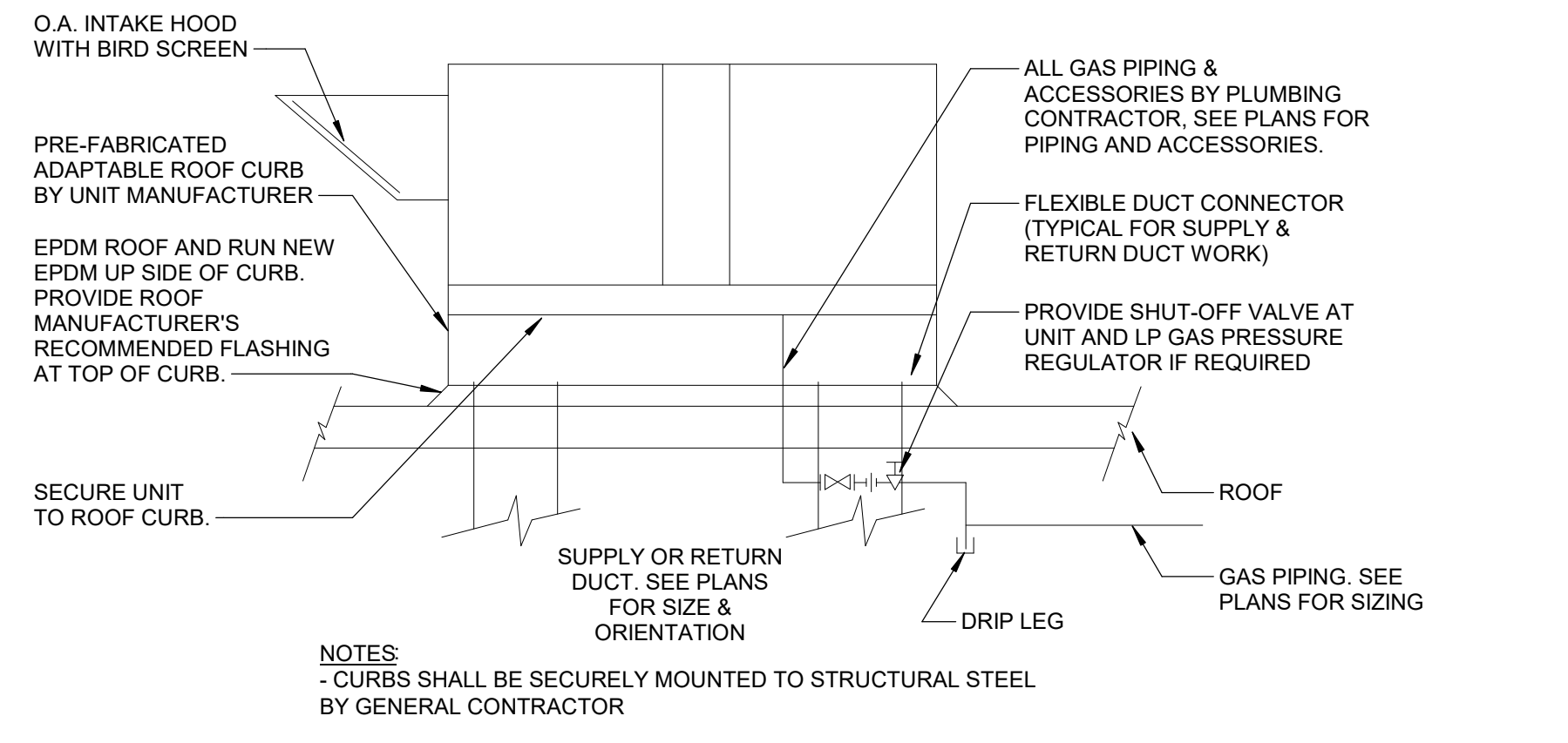
6 TYPICAL CEILING MOUNTED SUPPLY DIFFUSER DETAIL
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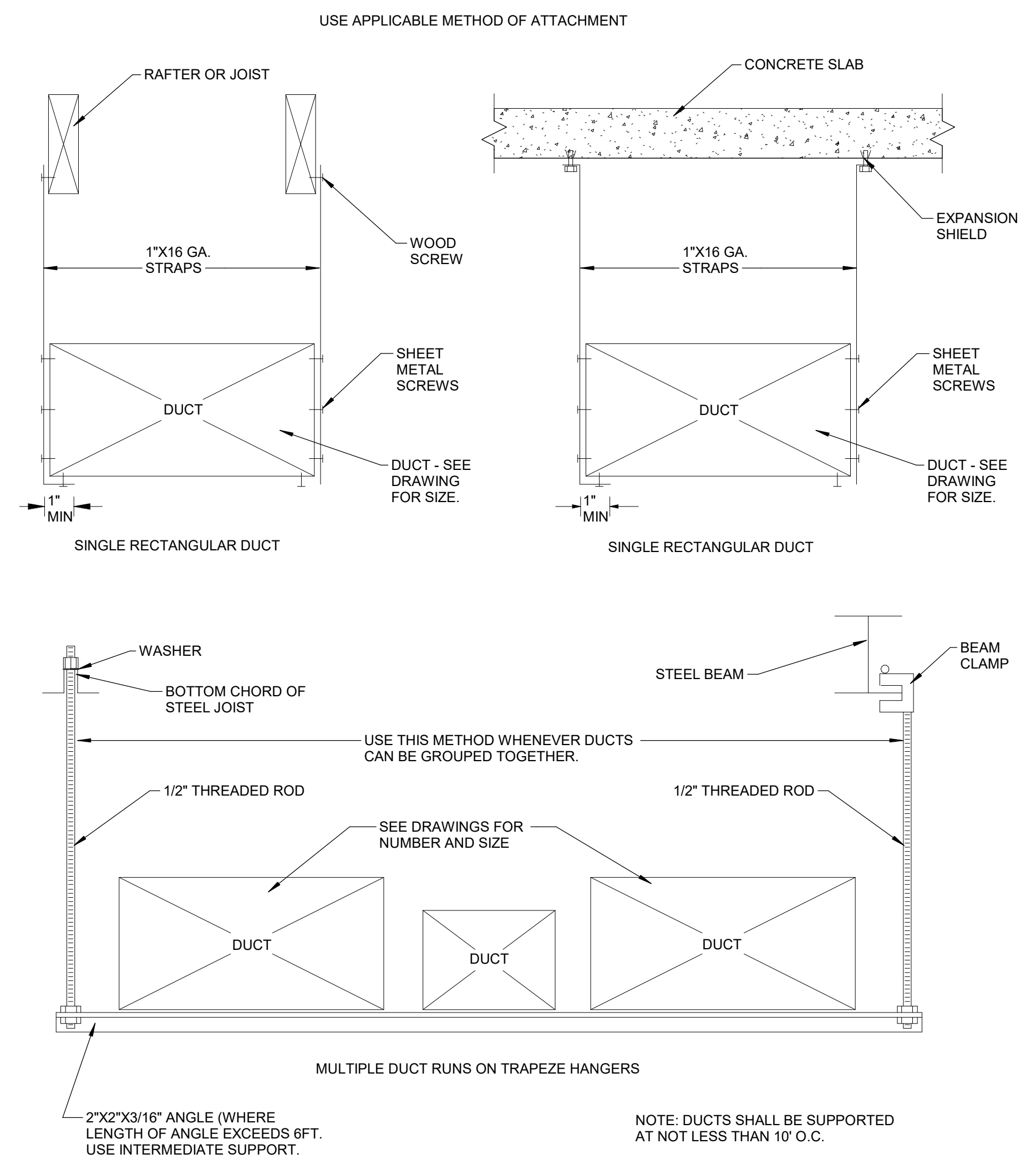
7 ROUND FLAT OVAL DUCT TAKEOFF DETAIL
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8 TYPICAL CEILING MOUNTED RETURN AIR GRILL DETAIL
 NOT TO SCALE



9 ROOF TOP UNIT DETAIL
 NTS



3 DUCT INSTALLATION DETAIL
 NOT TO SCALE

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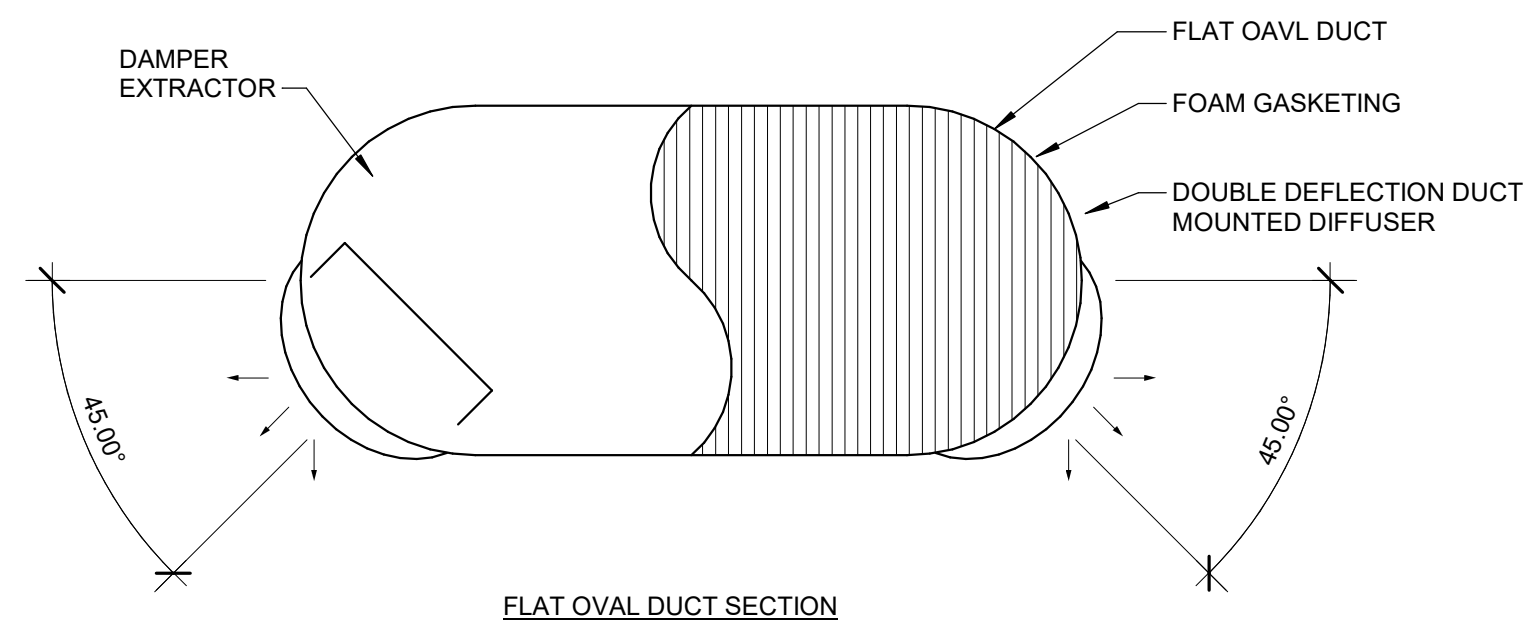
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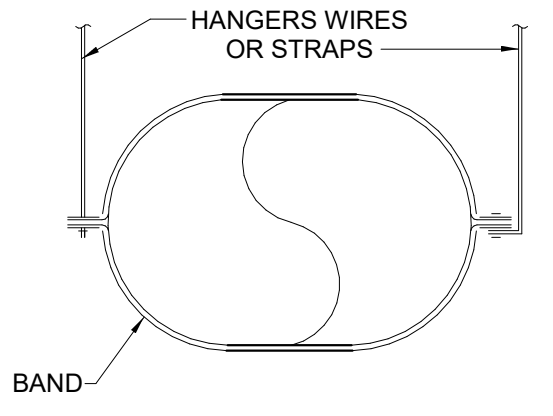
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1 FLAT OVAL DUCT SECTION
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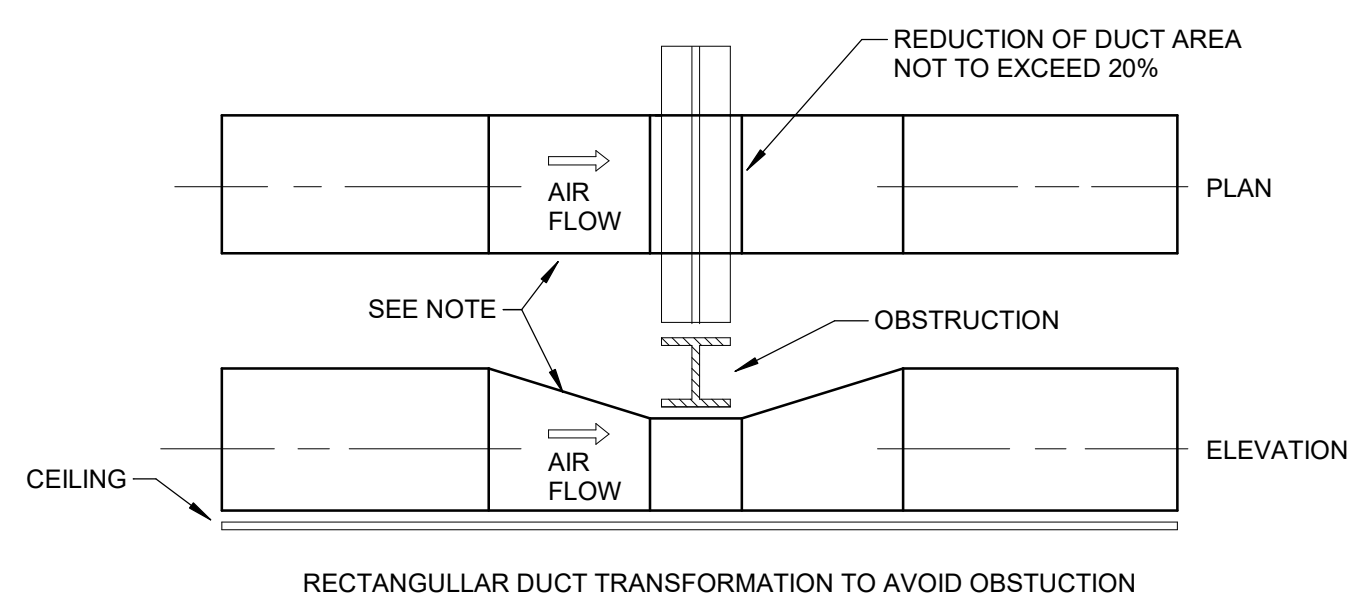
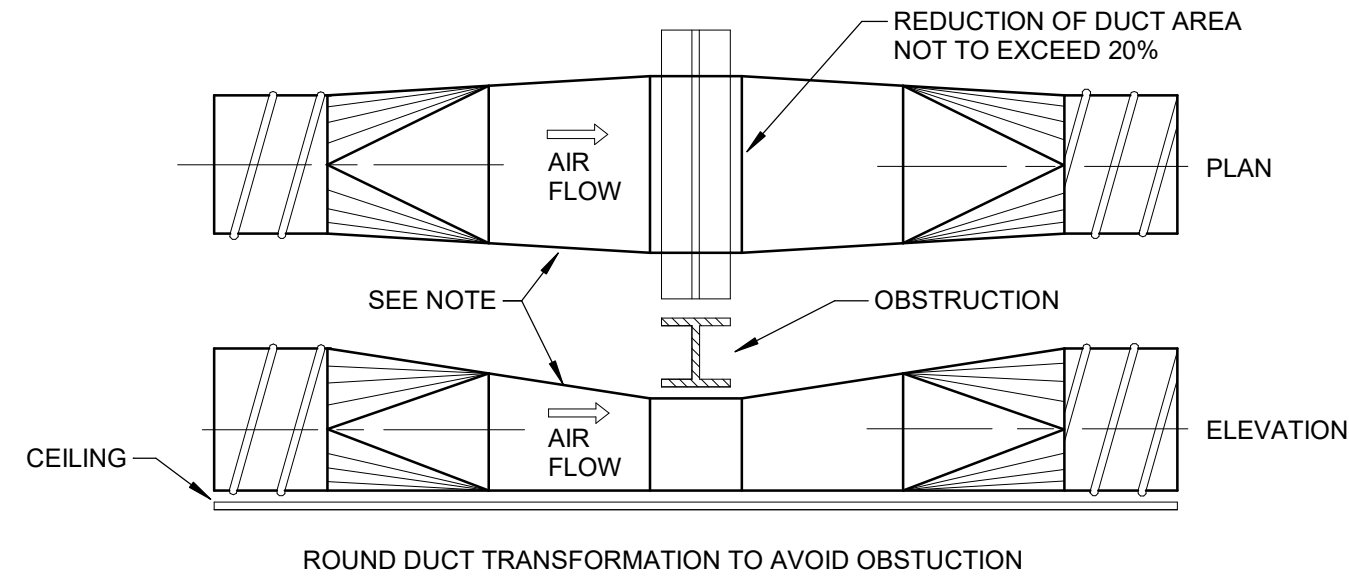
HANGERS MUST NOT DEFORM DUCT SHAPE



MINIMUM HANGER SIZES FOR FLAT OVAL DUCT			
EQUIVALENT DIA.	MAXIMUM SPACING	WIRE DIA.	STRAP
10" dn	12'	One 12 ga.	1" x 22 ga.
11-18"	12'	Two 12 ga. or One 8 ga.	1" x 22 ga.
19-24"	12'	Two 10 ga.	1" x 20 ga.
25-36"	12'	Two 8 ga.	1" x 20 ga.
37-50"	12'	→	Two 1" x 20 ga.
51-60"	12'	→	Two 1" x 18 ga.
61-84"	12'	→	Two 1" x 16 ga.

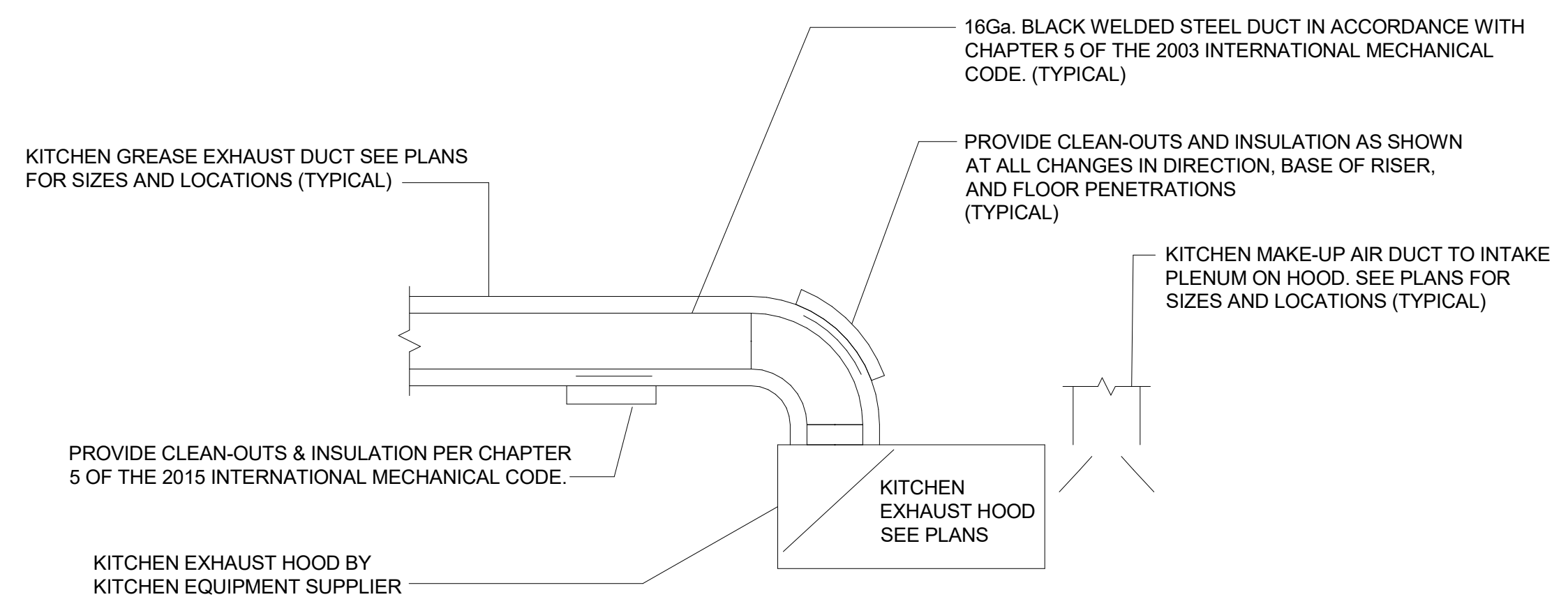
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2 TYPICAL FLAT OVAL DUCT HANGER DETAIL
NOT TO SCALE



NOTES:
- 1:7 SLOPE FOR HIGH VELOCITY
- 1:4 SLOPE FOR LOW VELOCITY

3 DUCT OBSTRUCTION TRANSFORMATION DETAILS
NOT TO SCALE



TYPICAL KITCHEN EXHAUST NOTES

- 1.) SEE PLANS FOR DUCTWORK LOCATIONS, SIZES & ROUTING.
- 2.) ENTIRE KITCHEN EXHAUST SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH UL762, NFPA 96, AND THE 2015 INTERNATIONAL MECHANICAL CODE.
- 3.) CLEAN-OUTS AND ACCESS DOORS SHALL MAINTAIN SYSTEM FIRE RESISTANCE RATING.
- 4.) INSTALLERS OF FIRE RATED DUCT WRAP SHALL BE TRAINED AND CERTIFIED AS A QUALIFIED INSTALLER BY THE MANUFACTURER.

NOTE:
CONTRACTOR SHALL PROVIDE CLEANOUTS IN EXISTING KITCHEN EXHAUST DUCTWORK AND WRAP THE DUCT AS NOTED.

4 KITCHEN EXHAUST SYSTEM DETAIL
12" = 1'-0"

SEAL

ISSUES & REVISIONS

SD SET	07/01/2022
DD SET	08/05/2022
PERMIT/BID SET	09/23/2022
IFC SET	03/03/2023

REV	DATE	ISSUED

OWNER/CLIENT

CAVA

PROJECT
EDGEWATER

443 RIVER RD,
EDGEWATER, NJ 07020

DRAWING TITLE
MECHANICAL
DETAILS

DRAWING INFORMATION
Job Number: 222068
Checked By: REP
Drawn By: SJH
DRAWING NUMBER

M
401

IFC/REV-1 03 / 03 / 2023

GENERAL

- WHEN A CONFLICT BETWEEN THE DRAWINGS, NOTES AND/OR SPECIFICATIONS OCCUR, THE MORE STRINGENT, AND/OR LARGER QUANTITY AND/OR MORE EXPENSIVE SHALL APPLY. THE REQUIREMENTS LISTED WITHIN NOTES OR SPECIFICATIONS SHALL BE REQUIRED, PROVIDED AND INSTALLED WHETHER SPECIFICALLY INDICATED ON THE DRAWINGS OR NOT.
- IT IS THE INTENTION OF THE SPECIFICATIONS AND DRAWINGS TO PROVIDE FOR FINISHED WORK, TESTED AND READY FOR OPERATION.
- ITEMS AND SERVICES NOT SHOWN ON DRAWINGS OR SPECIFICATIONS BUT REQUIRED TO RENDER THE WORK COMPLETE AND READY FOR OPERATION, SHALL BE PROVIDED WITHOUT ADDITIONAL COST.
- WORK OF THIS SECTION SHALL BE GOVERNED BY THE CONTRACT DOCUMENTS. PROVIDE MATERIALS, LABOR, EQUIPMENT AND SERVICES NECESSARY TO FURNISH, DELIVER AND INSTALL ALL WORK AS REQUIRED BY JOB CONDITIONS. WHERE A CONFLICT EXISTS BETWEEN THESE NOTES, THE DRAWINGS AND THE SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT SHALL APPLY.
- DRAWINGS ARE DIAGRAMMATIC AND INDICATE A GENERAL ARRANGEMENT OF WORK AND ARE NOT TO BE CONSIDERED SUB-CONTRACTOR DOCUMENTS. IT IS THE INTENT OF THESE DOCUMENTS TO INCLUDE THE PROVISION AND INSTALLATION OF ALL NECESSARY WORK AND MATERIALS FOR COMPLETE, OPERATIONAL AND CODE COMPLIANT SYSTEMS BY THE CONTRACTOR. GENERAL DESIGN CONCEPTS INDICATED MUST BE FOLLOWED OR BETTERED. THE BID SHALL INCLUDE OFFSETS, ADDITIONAL PIPING, VALVES AND EQUIPMENT AND COMPONENTS AS REQUIRED TO MEET CONSTRUCTION CONDITIONS FOR PROPER OPERATION. DO NOT SCALE DRAWINGS. CONSULT ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR SPACE CONDITIONS AND ADDITIONAL REQUIREMENTS. DO NOT SCALE THE DRAWINGS.
- PERFORM THE WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT GENERAL CONDITIONS AND IN COORDINATION WITH ALL OTHER TRADES. ALL WORK SHALL BE DONE IN CONFORMANCE AND PROVISIONS OF ALL APPLICABLE ADOPTED LOCAL, STATE AND FEDERAL CODES AND LAWS.
 - CODES AND STANDARDS:
 - STATE BUILDING CODE AND ALL SUPPLEMENTS
 - IBC INTERNATIONAL BUILDING CODE
 - IEBC INTERNATIONAL EXISTING BUILDING CODE
 - IMC INTERNATIONAL MECHANICAL CODE
 - IMP INTERNATIONAL PLUMBING CODE
 - IECC INTERNATIONAL ENERGY CONSERVATION CODE
 - NEC NATIONAL ELECTRICAL CODE / NFPA 70
 - NFPA NFPA-101 FIRE SAFETY CODE
 - IC/ANSI A117.1 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES
- WORK SHALL INCLUDE ALL INCIDENTALS, LABOR, MATERIALS, EQUIPMENT, APPLIANCES, SERVICES, HOISTING, SCAFFOLDING, SUPPORTS, TOOLS, CONSUMABLE ITEMS, FEES, LICENSES, AND ADMINISTRATIVE TASKS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.
- STORE MATERIALS INSIDE AND PROTECTED FROM DEBRIS, WEATHER AND MOISTURE.
- THE CONTRACTOR SHALL EXAMINE THE DRAWINGS AND SPECIFICATIONS RELATING TO THE WORK OF ALL DIVISIONS AND TRADES AND BECOME FULLY FAMILIAR AND INFORMED AS TO THE EXTENT AND CHARACTER OF WORK REQUIRED, AND ITS RELATIONSHIP TO THE REQUIREMENTS OF THIS DIVISION. INCLUDE ALL SUCH REQUIREMENTS AS PART OF THIS MECHANICAL WORK.
- BEFORE SUBMITTING A BID, THE CONTRACTOR SHALL VISIT THE SITE, AND SHALL BECOME THOROUGHLY FAMILIAR WITH ALL CONDITIONS UNDER WHICH THE WORK WILL BE INSTALLED. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY ASSUMPTIONS, OMISSIONS OR ERRORS MADE AS A RESULT OF FAILURE TO BECOME FAMILIAR WITH THE SITE AND EXISTING BUILDING AND THE CONTRACT DOCUMENTS.

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 INSPECTIONS FOR HIS WORK, AND DELIVER A COPY TO THE OWNER'S REPRESENTATIVE BEFORE REQUEST FOR ACCEPTANCE AND FINAL PAYMENT FOR THE WORK. REFER TO THE SUPPLEMENTARY GENERAL CONDITIONS FOR INFORMATION ON WAIVING OF PERMIT FEES.

ALTERATION WORK AND DEMOLITION

- ALL EQUIPMENT, DUCTWORK, PIPING, CONTROL DEVICES ETC... TO BE REMOVED, SHALL BE DISPOSED OF BY THE OWNER OR SALVAGED AS DIRECTED BY THE OWNER. EQUIPMENT, DUCTWORK, PIPING, CONTROL DEVICES, ETC. SHALL NOT BE REMOVED FROM THE PREMISES WITHOUT THE OWNERS APPROVAL. REMOVE ALL EXISTING COMPONENTS REQUIRED TO MEET THE FUNCTIONAL INTENT OF THE DESIGN DRAWINGS.
- NO DEAD ENDS SHALL BE LEFT ON ANY DUCTWORK AND PIPING SYSTEMS UPON COMPLETION OF WORK. ALL DUCTWORK AND PIPING BEING REMOVED SHALL BE PROPERLY VALVED AND CAPPED AT THE MAINS.
- ALL SYSTEMS SHALL BE LEFT IN WORKING ORDER TO THE SATISFACTION OF THE OWNER UPON COMPLETION OF ALL NEW WORK.
- CONDUCT SELECTIVE DEMOLITION WORK IN A MANNER THAT WILL MINIMIZE NEED FOR DISRUPTION OF NORMAL OPERATIONS IN OTHER AREAS OF THE BUILDING. PROVIDE MINIMUM OF 48 HOURS ADVANCE NOTICE TO OWNER OF DEMOLITION OR SYSTEM SHUTDOWN ACTIVITIES THAT WILL AFFECT NORMAL OPERATIONS IN THE BUILDING OR REQUIRE THE INTERRUPTION OF UTILITY SERVICES.
- DRAINING OF PIPING SYSTEMS: WHERE EXISTING PIPING SYSTEMS REQUIRE DRAINING OF FLUIDS FROM EQUIPMENT AND PIPING, ALL DRAINAGE SHALL BE DIRECTED BY HOSE OR PIPE TO SUITABLE, FREE FLOWING DRAINS OR SUITABLE CONTAINERS. DO NOT ALLOW EXCESSIVE FLUID/WATER BUILDUP ON FLOORS OR SITE AREA. ENSURE THAT EXISTING DRAINS ARE KEPT CLEAR OF DEBRIS TO PREVENT BLOCKAGES.
- CERTAIN ITEMS OF EXISTING EQUIPMENT AND PIPING OR DUCTWORK MAY BE INDICATED FOR REMOVAL, RELOCATION OR ABANDONMENT. ITEMS NOTED FOR REMOVAL SHALL BE DISCONNECTED AND DISPOSED OF BY THE CONTRACTOR OR TURNED OVER TO THE OWNER IF THE OWNER SO REQUESTS. IF INSTRUCTED TO DISPOSE OF ITEMS, THE CONTRACTOR SHALL REMOVE THE ITEMS FROM THE PREMISES AND DISPOSE OF THEM IN A SAFE, LEGAL AND RESPONSIBLE MANNER AND LOCATION. ITEMS NOTED FOR RELOCATION ARE INTENDED FOR REUSE IN ANOTHER LOCATION AS DESIGNATED ON THE DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE THE MATERIAL FROM ITS PRESENT LOCATION, STORE THE MATERIAL IN A SAFE PLACE, AND REINSTALL THE MATERIAL IN ITS NEW LOCATION. QUESTIONS REGARDING THE SUITABILITY OF THE MATERIAL OR EQUIPMENT SHALL BE BROUGHT, IN WRITTEN FORM, TO THE CONTRACTOR FOR HIS RESPONSIBILITY OR NECESSITY OF FURNISHING MATERIAL OR PERFORMING WORK AS REQUIRED BY THE CONTRACT DRAWINGS AND SPECIFICATIONS. VERIFY AVAILABLE SPACE PRIOR TO SUBMITTING SHOP DRAWINGS. ACCEPTANCE OF SHOP DRAWINGS SHALL NOT APPLY TO QUANTITY NOR RELIEVE CONTRACTOR OF HIS RESPONSIBILITY TO COMPLY WITH INTENT OF DRAWINGS AND SPECIFICATIONS.

COORDINATION WITH OTHER DIVISIONS

- ALL WORK SHALL BE CARRIED OUT IN CONJUNCTION WITH OTHER TRADES AND FULLY COORDINATED. WORK SHALL BE GIVEN IN ORDER THAT WORK MAY PROCEED WITH A MINIMUM OF DELAY AND INTERFERENCE. PARTICULAR EMPHASIS IS PLACED ON TIMELY INSTALLATION OF MAJOR APPARATUS AND FURNISHING OTHER CONTRACTORS, ESPECIALLY THE CONSTRUCTION MANAGER, WITH INFORMATION AS TO OPENINGS, CHASES, SLEEVES, BASES, INSERTS, EQUIPMENT LOCATIONS, PANELS, ETC., REQUIRED BY OTHER TRADES.
- THE CONTRACTORS ARE REQUIRED TO EXAMINE ALL OF THE PROJECT DRAWINGS, INCLUDING THE SITE, ARCHITECTURAL, STRUCTURAL AND THOSE OF OTHER MECHANICAL AND ELECTRICAL TRADES AND MUTUALLY ARRANGE WORK SO AS TO AVOID INTERFERENCE WITH THE WORK OF OTHER TRADES AND /OR EXISTING SYSTEMS AND EQUIPMENT. IN GENERAL, DUCTWORK, HEATING PIPING, SPRINKLER PIPING AND DRAINAGE LINES TAKE PRECEDENCE OVER WATER, GAS AND ELECTRICAL CONDUITS. THE ENGINEER SHALL MAKE FINAL DECISIONS REGARDING THE ARRANGEMENT OF WORK WHICH CANNOT BE AGREED UPON BY THE CONTRACTORS.
- WHERE THE WORK OF THE CONTRACTOR WILL BE INSTALLED IN CLOSE PROXIMITY TO OR WILL INTERFERE WITH WORK OF OTHER TRADES, THE CONTRACTORS WILL COOPERATE IN WORKING OUT SPACE CONDITIONS TO MAKE A SATISFACTORY ADJUSTMENT.
- IF THE WORK UNDER A SECTION IS INSTALLED BEFORE COORDINATING WITH OTHER DIVISIONS OR SECTIONS OR SO AS TO CAUSE INTERFERENCE WITH WORK OF OTHER SECTIONS, THE NECESSARY CHANGES TO CORRECT THE CONDITION SHALL BE MADE BY THE CONTRACTOR CAUSING THE INTERFERENCE WITHOUT EXTRA CHARGE TO THE OWNER.

SHUT DOWNS

- WHEN INSTALLATION OF A NEW SYSTEM REQUIRES THE TEMPORARY SHUTDOWN OF AN EXISTING OPERATING SYSTEM, THE CONNECTION OF THE NEW SYSTEM SHALL BE PERFORMED AT SUCH TIME AS DESIGNATED BY THE ENGINEER OR THE OWNER'S REPRESENTATIVE.
- THE ENGINEER AND THE OWNER SHALL BE NOTIFIED OF THE ESTIMATED DURATION OF THE SHUTDOWN PERIOD AT LEAST THREE (3) DAYS IN ADVANCE OF THE DATE THE WORK IS TO BE PERFORMED.
- WORK SHALL BE ARRANGED FOR CONTINUOUS PERFORMANCE WHENEVER POSSIBLE. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY LABOR, INCLUDING OVERTIME IF REQUIRED, TO ASSURE THAT EXISTING OPERATING SERVICES WILL BE SHUT DOWN ONLY DURING THE TIME ACTUALLY REQUIRED TO MAKE NECESSARY CONNECTIONS.

ELECTRICAL CONNECTIONS

- UNLESS OTHERWISE SPECIFIED, ALL WIRING SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH DIVISION 26.
- ALL POWER WIRING SHALL BE FURNISHED AND INSTALLED UNDER DIVISION 26 COMPLETE FROM POWER SOURCE TO MOTOR OR EQUIPMENT JUNCTION BOX INCLUDING POWER WIRING THROUGH THE STARTERS. ALL STARTERS NOT FACTORY MOUNTED ON EQUIPMENT SHALL BE MOUNTED UNDER THE SPECIFICATION SECTION FURNISHING THE STARTER.
- THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL TEMPERATURE CONTROL WIRING, INTERLOCK WIRING AND EQUIPMENT CONTROL WIRING FOR THE EQUIPMENT FURNISHED UNDER THIS DIVISION.
- UNLESS OTHERWISE SPECIFIED, THE MECHANICAL CONTRACTOR SHALL FURNISH STARTERS AND/OR DISCONNECTS TO THE ELECTRICAL CONTRACTOR FOR EQUIPMENT PROVIDED. THE MECHANICAL CONTRACTOR SHALL PROVIDE AND BE RESPONSIBLE FOR THE PROPER SIZED OVERLOAD HEATERS IN ALL STARTERS THAT HE FURNISHES.

SHOP DRAWINGS

- PRIOR TO DELIVERY TO THE JOBSITE AND SUFFICIENTLY IN ADVANCE TO ALLOW THOROUGH REVIEW, THE CONTRACTOR SHALL SUBMIT, FOR REVIEW, DETAILED SHOP DRAWINGS OF ALL EQUIPMENT AND MATERIAL SPECIFIED IN EACH SECTION AND COORDINATED DUCTWORK LAYOUTS. ALL DUCTWORK SHOP DRAWINGS, AUTOMATIC TEMPERATURE CONTROLS AND ALL DIAGRAMS AND RISERS SHALL BE SUBMITTED IN HARD COPY FORMAT. NO MATERIAL OR EQUIPMENT MAY BE DELIVERED TO THE JOB SITE OR INSTALLED UNTIL THE CONTRACTOR HAS RECEIVED SHOP DRAWINGS FOR THE PARTICULAR MATERIAL OR EQUIPMENT WHICH HAVE BEEN PROPERLY REVIEWED.
- SHOP DRAWINGS SHALL BE SUBMITTED WITHIN 30 DAYS AFTER AWARD OF CONTRACT BEFORE ANY MATERIAL OR EQUIPMENT IS PURCHASED. THE CONTRACTOR SHALL SUBMIT FOR REVIEW COPIES OF ALL SHOP DRAWINGS TO BE INCORPORATED IN THE MECHANICAL CONTRACT. REFER TO THE GENERAL CONDITIONS AND SUPPLEMENTARY GENERAL CONDITIONS FOR THE QUANTITY OF COPIES REQUIRED FOR SUBMISSION. WHERE QUANTITIES ARE NOT SPECIFIED, PROVIDE SEVEN (7) COPIES FOR REVIEW.
 - EQUIPMENT SHOP DRAWINGS SHALL CONTAIN FULL RANGE PERFORMANCE CURVES, GRAPHS, TABLES OR OTHER PERTINENT DATA WHICH CLEARLY INDICATES OPERATIONAL RANGE OF A GIVEN UNIT SIZE. COMPUTER GENERATED/PLOTTED CURVES OR INFORMATION, BASED SOLELY ON THE DESIGN PERFORMANCE, WILL NOT BE ACCEPTED.
 - ALL SUBMITTALS OF EQUIPMENT FURNISHED WITH MOTORS SHALL CONTAIN A COMPLETE DESCRIPTION OF THE MOTOR'S OPERATING CHARACTERISTICS (HORSEPOWER, VOLTAGE, PHASE, SERVICE FACTOR) AND THE NAMEPLATE MOTOR EFFICIENCY.
 - SHOP DRAWING SUBMITTAL SHEETS WHICH MAY SHOW ITEMS THAT ARE NOT BEING FURNISHED SHALL HAVE THOSE ITEMS CROSSED OFF IN INK TO CLEARLY INDICATE WHICH ITEMS WILL BE FURNISHED AND WHICH WILL NOT BE FURNISHED.
- ACCEPTANCE RENDERED ON SHOP DRAWINGS SHALL NOT BE CONSIDERED AS A GUARANTEE OF REQUIREMENTS OR BUILDING CONDITIONS. WHERE DRAWINGS ARE REVISED, REVIEW DOES NOT MEAN THAT DRAWINGS HAVE BEEN CHECKED IN DETAIL. SAID APPROVAL DOES NOT IN ANY WAY RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITY OR NECESSITY OF FURNISHING MATERIAL OR PERFORMING WORK AS REQUIRED BY THE CONTRACT DRAWINGS AND SPECIFICATIONS. VERIFY AVAILABLE SPACE PRIOR TO SUBMITTING SHOP DRAWINGS. ACCEPTANCE OF SHOP DRAWINGS SHALL NOT APPLY TO QUANTITY NOR RELIEVE CONTRACTOR OF HIS RESPONSIBILITY TO COMPLY WITH INTENT OF DRAWINGS AND SPECIFICATIONS.

AS-BUILT DRAWINGS

- PROVIDE A COMPLETE SET OF AS-BUILT DRAWINGS REFLECTING AS INSTALLED CONDITIONS. AS-BUILT DRAWINGS SHALL INDICATE ALL INSTALLED CONDITIONS OF SYSTEMS WITHIN THIS DISCIPLINE. DRAWINGS SHALL BE OF SIMILAR SCALE AS THE CONSTRUCTION DOCUMENTS AND INCLUDE DETAILS AS NECESSARY TO CLEARLY REFLECT THE INSTALLED CONDITION. DRAWINGS SHALL BE BOUND IN A COMPLETE AND CONSECUTIVE SET. SUPPLEMENTAL SKETCHES AND LOOSE PAPERWORK WILL NOT BE ACCEPTED AND WILL BE RETURNED FOR REVISION. THE CONTRACTOR SHALL COMPLY WITH THE ENGINEER'S COMMENTS TO PRODUCE A CLEAR AND CONCISE SET OF DRAWINGS. DRAWINGS SHALL BE SUBMITTED IN BOTH HARD COPY AND ELECTRONIC (AUTO-CAD VERSION AS REQUIRED BY THE OWNER) VERSION. NUMBER OF COPIES OF EACH AS REQUESTED BY THE OWNER.
 - INCLUDE ALL CHANGES AND AN ACCURATE RECORD, ON REPRODUCTIONS OF THE CONTRACT DRAWINGS OR APPROPRIATE SHOP DRAWINGS, OF ALL DEVIATIONS, BETWEEN THE WORK SHOWN AND THE WORK INSTALLED.
 - MAINS AND BRANCHES OF PIPING SYSTEMS, WITH VALVES AND CONTROL DEVICES LOCATED AND NUMBERED, CONCEALED UNIONS LOCATED, AND WITH ITEMS REQUIRING MAINTENANCE LOCATED (I.E. TRAPS, STRAINERS, EXPANSION COMPENSATORS, TANKS, ETC.) VALVE LOCATION DIAGRAMS, COMPLETE WITH VALVE TAG CHART.
 - EQUIPMENT LOCATIONS (EXPOSED AND CONCEALED), DIMENSIONED FROM PROMINENT BUILDING LINES.
 - APPROVED SUBSTITUTIONS, CONTRACT MODIFICATIONS, AND ACTUAL EQUIPMENT AND MATERIALS INSTALLED.
 - CONTRACT MODIFICATIONS, ACTUAL EQUIPMENT AND MATERIALS INSTALLED.
- SUBMIT FOR REVIEW BOUND SETS OF THE REQUIRED DRAWINGS, MANUALS AND OPERATING INSTRUCTIONS.
- SUBMIT A COMPLETE MAINTENANCE MANUAL OF ALL EQUIPMENT INSTALLED UNDER THIS CONTRACT.

HANGERS AND SUPPORT

- SEISMIC RESTRAINT: PROVIDE SEISMIC RESTRAINT AND EXPANSION OF ALL MECHANICAL EQUIPMENT AND SYSTEMS IN ACCORDANCE WITH STATE AND LOCAL BUILDING CODE REQUIREMENTS. SUBMIT SHOP DRAWINGS SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF THE PROJECT INDICATING ALL NECESSARY COMPONENT CUTS, PLAN LOCATIONS AND CALCULATIONS FOR A COMPLETE SYSTEM.
- PROVIDE ALL NECESSARY STRUCTURAL MEMBERS INCLUDING ADDITIONAL STRUCTURAL SUPPORT TO SUPPORT PIPING AND EQUIPMENT. HANGERS AND SUPPORTS SHALL BE OF AN APPROVED DESIGN NECESSARY TO SUPPORT DUCTWORK, PIPING EQUIPMENT AND TO KEEP IN PROPER ALIGNMENT AND PREVENT TRANSMISSION OF INJURIOUS THRUSTS AND VIBRATIONS. IN ALL CASES WHERE HANGERS, BRACKETS, ETC. ARE SUPPORTED FROM CONCRETE CONSTRUCTION, DO NOT WEAKEN CONCRETE OR PENETRATE WATERPROOFING. ALL HANGERS AND SUPPORTS SHALL BE CAPABLE OF SCREW ADJUSTMENT AFTER PIPING IS ERRECTED. HANGERS SUPPORTING PIPING EXPANDING INTO LOOPS, BENDS, AND OFFSETS SHALL BE SECURED TO THE BUILDING STRUCTURE IN SUCH A MANNER THAT HORIZONTAL ADJUSTMENT PERPENDICULAR TO THE RUN OF PIPING SUPPORTED MAY BE MADE TO ACCOMMODATE DISPLACEMENT DUE TO EXPANSION. ALL SUCH HANGERS SHALL BE FINALLY ADJUSTED BOTH IN THE VERTICAL AND HORIZONTAL DIRECTION, AS REQUIRED. HANGERS IN CONTACT WITH COPPER OR BRASS PIPE SHALL BE DIELECTRIC, COMPATIBLE WITH COPPER AND BRASS ALLOY OR PROVIDED WITH FELT SLEEVE.
- PROVIDE ADDITIONAL SUPPORT FOR DUCTWORK, PIPING AND EQUIPMENT WHEN DECK IS NOT CAPABLE OF SUPPORT.
- BEAM CLAMPS - HANGERS SUPPORTED FROM STEEL SHALL BE CENTER LOADING BEAM CLAMPS FOR HANGERS SUPPORTING PIPING 2 INCHES FOR 2-1/2 INCHES AND LARGER, I BEAM CLAMPS SHALL BE FORGED STEEL. "C" CLAMPS ARE NOT TO BE USED.
- PROVIDE AND INSTALL EXPANSION COMPENSATION FOR ALL PIPING. SUBMIT PLANS, CALCULATIONS AND EQUIPMENT DATA.

DUCTWORK

- DUCTWORK SHALL BE FABRICATED FROM HOT-DIPPED GALVANIZED STEEL SHEET CONFORMING TO ASTM A653, WITH G60 COATING. EXHAUST DUCTWORK SERVING TOILET/SHOWER SPACES SHALL BE ALUMINUM SHEET ALLOY 3003-H14, ASTM B 209, ALUMINUM CONNECTORS AND BAR STOCK: ALLOY 6061-T6 OR OF EQUIVALENT STRENGTH.
- MANUFACTURED METAL DUCTWORK AND FITTINGS SHALL BE BY LINDBA, SEMCO OR UNITED MCGILL CORP. FLAT OVAL AND ROUND DUCTS: MACHINE MADE FROM SPIRAL LOCKSEAM DUCT WITH LIGHT REINFORCING CORRUGATIONS; FITTINGS MANUFACTURED OF AT LEAST 20 GAUGES HEAVIER THAN METAL DUCT.
- FABRICATE, SUPPORT, INSTALL AND SEAL IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE, AND AS INDICATED. PROVIDE DUCT MATERIAL, GAUGES, REINFORCING AND SEALING FOR OPERATING PRESSURES DICTATED.
- INSULATED FLEXIBLE DUCTS SHALL BE FABRICATED FROM MULTIPLE LAYERS OF ALUMINUM LAMINATE SUPPORTED BY HELICALLY WOUND SPRING STEEL WIRE WITH FIBERGLASS INSULATION AND POLYETHYLENE VAPOR BARRIER. PRESSURE RATING SHALL BE 10 INCH W.G. POSITIVE AND 1.0 INCH W.G. NEGATIVE. FLEXIBLE DUCTS SHALL NOT PASS THROUGH WALLS NOR EXCEED 8 FEET IN LENGTH. SECURE TO DUCT TAP WITH CLAMP OR DRAWBAND. PROPERLY SUPPORT SO AS NOT TO SAG OR KINK.
- JOINT SEALERS AND SEALANTS SHALL BE NON-HARDENING, WATER, MILDEW AND MOLD RESISTANT. MAXIMUM FLAME SPREAD OF 25, SMOKE DEVELOPED OF 50 WHEN TESTED IN ACCORDANCE WITH ASTM E84.
- PROVIDE AIR FOIL TURNING VANES WHEN RECTANGULAR ELBOWS MUST BE USED.
- ACCESS DOORS SHALL BE PROVIDED UNDER THIS SECTION AS REQUIRED TO PROVIDE ACCESS TO FIRE AND SMOKE DAMPERS, CONTROLS, HUMIDIFIERS, COILS ALVES, ETC., WHICH ARE LOCATED IN DUCTS.
- ON ALL AIR HANDLING EQUIPMENT INCLUDING AIR HANDLERS, ERV UNITS, UTILITY AND CABINET FANS, FURNISH AND INSTALL ALL FLEXIBLE DUCT CONNECTIONS TO ISOLATE FAN VIBRATION FROM THE DUCT SYSTEM. (EXCEPTION: AIR HANDLING UNITS WITH INTERNAL FAN VIBRATION ISOLATORS AND FLEXIBLE CONNECTORS INSTALLED BETWEEN FAN AND HOUSING.)
- ACCESSORY DUCTWORK MATERIALS SUCH AS TAPES, SEALANTS, FASTENERS, ETC., SHALL COMPLY WITH NFPA 90A WITH A MAXIMUM FLAME SPREAD RATING OF 25 AND A MAXIMUM SMOKE DEVELOPED RATING OF 50, AND SHALL BE SMACNA AND UL APPROVED.

DUCTWORK INSULATION

- FACED FIBERGLASS DUCT WRAP SHALL BE APPLIED EXTERNALLY TO ALL CONCEALED DUCTS IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. DUCT WRAP TO BE 1.5 PCF DENSITY WITH K VALUE OF 0.27 AT 75 DEG F, EQUAL TO OWENS CORNING TYPE 100 OR EQUIVALENT.
- APPLY RIGID BOARD INSULATION TO ALL EXPOSED DUCTWORK AND PLENUMS, ETC., BY USING MECHANICAL WELD-TYPE PIN FASTENERS. FASTENERS SHALL BE SPOTTED NOT LESS THAN 3 INCHES FROM THE EDGE OF THE DUCT AND ON 12-INCH CENTERS THROUGHOUT THE AREA OF THE DUCT. RIGID BOARD INSULATION SHALL BE 6.0 PCF DENSITY WITH K VALUE OF 0.22 AT 75 DEG F, EQUAL TO OWENS CORNING TYPE 705 OR EQUIVALENT.
- APPLY 1" ACOUSTICAL DUCT LINER AND LINER BOARD TO THE INSIDE OF DUCTS AND PLENUMS AS SPECIFIED AND AS CALLED FOR ON DRAWINGS. ACOUSTICAL LINER SHALL BE 2.0 PCF DENSITY WITH K VALUE OF 0.26 AT 75 DEG F, EQUAL TO MANVILLE PERMACOTE LINACOUSTIC-HP OR EQUIVALENT.
- THE FOLLOWING DUCTS SHALL BE INSULATED WITH KRAFT FOIL FACED DUCT WRAP INSULATION IN SUFFICIENT THICKNESS TO MEET THE REQUIREMENTS OF THE 2015 INTERNATIONAL ENERGY CODE:
 - ALL CONCEALED SUPPLY AIR AND RETURN AIR DUCTWORK ABOVE CEILINGS WHETHER LINED OR UNLINED.
 - ALL OUTDOOR AIR DUCTWORK.
 - ALL EXHAUST DUCTWORK ON COLD SIDE OF BACKDRAFT OR MOTORIZED DAMPERS.
 - PROVIDE 1" ACOUSTICAL DUCT LINER ON FIRST 10' OF SUPPLY AIR DISCHARGE AND RETURN AIR INLET DUCTS OF ALL AIR HANDLING UNITS.

REGISTERS, GRILLES AND DIFFUSERS

- REGISTERS, GRILLES AND DIFFUSERS SHALL BE AS SCHEDULED ON THE DRAWINGS. FINISH SHALL BE AS SELECTED BY THE ARCHITECT.
- INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- CHECK LOCATIONS OF OUTLETS AND INLETS AND MAKE NECESSARY ADJUSTMENTS IN POSITION TO CONFORM WITH ARCHITECTURAL FEATURES, SYMMETRY AND LIGHTING ARRANGEMENT. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR LOCATIONS OF REGISTERS, GRILLES AND DIFFUSERS.
- INSTALL DIFFUSERS TO DUCTWORK WITH AIR TIGHT CONNECTION PAINT INSIDE OF DUCT CONNECTION TO REGISTERS AND DIFFUSERS BLACK FOR A DISTANCE OF 18" WHEREVER SHINY SHEETMETAL IS VISIBLE FROM THE OCCUPIED SPACE.
- PROVIDE BALANCING DAMPERS ON DUCT TAKE-OFFS TO DIFFUSERS, GRILLES AND REGISTERS, DESPITE WHETHER DAMPERS ARE SPECIFIED AS PART OF THE DIFFUSER, GRILLE OR REGISTER ASSEMBLY.

PIPING

- HOT WATER SUPPLY AND RETURN & CHILLED WATER SUPPLY AND RETURN
 - PIPE: SCHEDULE 40 BLACK STEEL PIPE CONFORMING TO ASTM A53, WITH WELDED, THREADED OR GROOVED JOINTS.
 - FITTINGS: ASTM A234 WROUGHT STEEL WELDING TYPE FITTINGS, ASTM B16.3 MALLEABLE IRON THREADED FITTINGS, OR GROOVED FITTINGS AND MECHANICAL COUPLINGS.
 - FITTINGS 2" AND UNDER SHALL BE THREADED, FITTINGS 2-1/2" AND OVER SHALL BE WELDED OR GROOVED.
 - PIPING 2" AND SMALLER MAY BE ASTM B88 TYPE K DRAWN COPPER WITH SOLDERED FITTINGS OR COPPER PRESS FITTINGS.
- LOW PRESSURE CONDENSATE:
 - PIPE: SCHEDULE 80 BLACK STEEL PIPE CONFORMING TO ASTM A53, WITH WELDED OR THREADED JOINTS.
 - FITTINGS: ASTM A234 WROUGHT STEEL WELDING TYPE FITTINGS OR ASTM B16.3 MALLEABLE IRON THREADED FITTINGS.
 - FITTINGS 2" AND UNDER SHALL BE THREADED, FITTINGS 2-1/2" AND OVER SHALL BE WELDED.
- PIPING INSULATION:
 - PROVIDE RIGID MOLDED, NONCOMBUSTIBLE FIBERGLASS PIPE INSULATION WITH WHITE KRAFT PAPER VAPOR BARRIER JACKET AND SELF-SEALING LAP JOINT AND BUTT STRIPS. INSULATION SHALL BE 1.5 PCF DENSITY WITH K VALUE OF 0.24 AT 75 DEG F. INSULATION SHALL BE RATED FOR OPERATING TEMPERATURES FROM 0 DEG F TO 850 DEG F AND BE EQUIVALENT TO OWENS CORNING ASJ-SSL II OR EQUIVALENT.
 - FITTINGS SHALL BE COVERED WITH FLEXIBLE FIBERGLASS INSULATION AND ZESTON PVC FITTING COVERS. INSULATION THICKNESS SHALL BE IN CONFORMANCE WITH THE INTERNATIONAL ENERGY CODE.
 - ALL INSULATION MATERIALS, INCLUDING JACKETS AND ADHESIVES, SHALL MEET THE REQUIREMENTS OF NFPA 90A, ACCORDING TO ASTM TEST E-84, NFPA 255 AND UL 723. HAVING A FLAME-SPREAD RATING OF NOT OVER 25, A SMOKE-DEVELOPED RATING OF NOT OVER 50 AND A FUEL-CONTRIBUTED RATING OF NOT OVER 50.
- PIPING INSTALLATION
 - ALL PIPE CONNECTIONS SHALL BE INSTALLED TO ALLOW FOR FREEDOM OF MOVEMENT OF THE PIPING DURING EXPANSION AND CONTRACTION WITHOUT SPRINGING. SWING JOINTS, EXPANSION LOOPS AND EXPANSION JOINTS WITH PROPER ANCHORS AND GUIDES SHALL BE PROVIDED BY THE CONTRACTOR WHERE NECESSARY AND/OR WHERE SHOWN ON THE DRAWINGS. ANCHORS AND GUIDES SHALL BE SUBJECT TO THE REVIEW OF THE ENGINEER. PAY PARTICULAR ATTENTION TO PLASTIC PIPING WITH HIGH COEFFICIENTS OF EXPANSION.
 - REMOVE SCALE AND DIRT ON INSIDE AND OUTSIDE OF PIPE BEFORE ASSEMBLY.
 - AFTER COMPLETION, FILL, CLEAN AND TREAT SYSTEM. VENT AIR FROM SYSTEM.
 - INSTALL HOT WATER AND CHILLED WATER PIPING TO ASME B31.9 REQUIREMENTS.
 - ROUTE PIPING IN AN ORDERLY MANNER, PARALLEL TO BUILDING STRUCTURE, AND MAINTAIN GRADIENT. GROUP PIPING WHENEVER PRACTICAL AT COMMON ELEVATIONS. SLEEVE PIPING PASSING THROUGH PARTITIONS, WALLS AND FLOORS. SLOPE PIPING AND ARRANGE TO DRAIN AT LOW POINTS.
 - PIPING SYSTEMS SHALL BE PERMANENTLY LABELED TO IDENTIFY FLUID INSIDE PIPES, DIRECTION OF FLUID FLOW AND APPROXIMATE WORKING PRESSURE. LABELING SYSTEM SHALL BE "OPTI-CODE" WITH "ARROWS ON A ROLL TAPE" PERMANENTLY AFFIXED TO PIPING AS MANUFACTURED BY SETON NAME PLATE CORP., OR AN ACCEPTED EQUIVALENT.
 - UNIONS ARE TO BE USED AT CONNECTIONS TO FIXTURES AND OTHER APPARATUS TO ALLOW EASY REMOVAL. PROVIDE ACCEPTABLE DIELECTRIC UNIONS OR ADAPTERS AT ALL CONNECTIONS BETWEEN FERROUS AND NON-FERROUS PIPING.
 - ANY EXPOSED, UNSULNATED PIPING LOCATED IN FINISHED AREAS WHERE PIPING PASSES THROUGH WALLS, FLOOR OR CEILING, SHALL BE CHROME-PLATED WITH CHROME-DRAINED ESCUTCHEONS.
 - PROVIDE HOSE BIB DRAINS WITH BRASS CAPS AT LOW POINTS OF PIPING RISERS FOR MECHANICAL.

PIPE HANGERS AND SUPPORTS

- ALL HANGER, SUPPORT AND ANCHOR TYPES OR MODEL NUMBERS SPECIFIED HEREIN ARE BASED ON GRINELL OR ACCEPTABLE EQUIVALENT. SUPPORTS SHALL CONFORM TO MSS-SP-69 AND ANSI B31.1. WIRE AND/OR STRAP HANGERS WILL NOT BE ACCEPTABLE.
 - ALTERNATE PIPING SUPPORT SYSTEMS MAY BE ACCEPTABLE BASED ON TYPE AND SIZE OF PIPING INSTALLED AND SUPPORT SYSTEMS EMPLOYED. STRUT SYSTEMS SUCH AS B-LINE, UNI-STRUT, SUPER STRUT, ETC. WITH INTEGRAL PIPE CLAMPING AND SUPPORTING HARDWARE OR INNOVATIVE SUPPORT PRODUCTS MAY BE ACCEPTED. SUBMIT A DRAFT SUBMITTAL TO ENGINEER PRIOR TO OFFICIAL SUBMITTAL FOR APPROVAL TO DETERMINE ACCEPTABILITY OF ALTERNATIVE SUPPORT SYSTEMS.
 - IN NO CASE SHALL PIPING BE BOTTOM OR FLOOR SUPPORTED ON THREADED ROD ONLY. A MANUFACTURED SUPPORT / BASE SHALL BE EMPLOYED WHICH IS DURABLE AND SUITABLE RESISTANT TO THE EFFECTS OF CORROSION AND MINOR IMPACT.
 - HANGERS FOR PIPE SIZES TWO (2") INCHES AND SMALLER SHALL BE LIGHT-DUTY, CLEVIS-TYPE HANGERS, #65. FOR COPPER PIPES TWO (2") INCHES AND SMALLER, USE CT-69 COPPER BAND HANGERS OR CT-65 COPPER PLATED CLEVIS.
 - HANGERS FOR PIPING OVER 2-1/2 INCHES SHALL BE GENERAL-DUTY, CLEVIS-TYPE HANGERS, #260. FOR COPPER SIZES 2-1/2 INCHES THROUGH 4 INCHES, USE CT-65. THESE HANGERS MAY BE USED FOR LARGER SIZES IN PLASTIC DRAINAGE PIPING. USE SADDLES OR INSULATION PROTECTORS FOR PLASTIC PIPE OR USE FEE & MASON FIGURE 108.
 - FOR INSULATED COLD AND/OR CHILLED WATER PIPING SYSTEMS, HANGERS HALL BE SIZED FOR THE SPECIFIED INSULATION THICKNESS. PROVIDE NO COMPRESSIBLE, FOAM-TYPE PIPE COVERING SADDLES OF THE REQUIRED THICKNESS AND A SHEET METAL HANGER SADDLE TO PREVENT CRUSHING OF INSULATION BY THE HANGER. INSULATED HOT WATER PIPING MAY BE INSTALLED WITH LINE-SIZE HANGERS. INSULATE AROUND HANGER.
 - VERTICAL RISERS SHALL BE SUPPORTED WITH RISER CLAMPS. FOR PIPES 2-1/2" AND SMALLER, USE FIGURE 261. FOR PIPES 3" THROUGH 8", USE RISER CLAMPS, FIGURE 261 WITH SHEAR LUGS WELDED TO PIPE. RISERS 10" AND LARGER, OR WHERE RISER CLAMP MUST BE HUNG FROM STRUCTURE ABOVE OR ON HIGH PRESSURE STEAM OR HIGH TEMPERATURE HOT WATER SYSTEMS USE A 4 OR 6 BOLT CLAMP, FIGURE 40.
 - UPPER ATTACHMENTS FOR PIPING IN WOOD CONSTRUCTION SHALL BE MALLEABLE IRON SIDE BEAM BRACKET, GRINNELL #202, WITH LEG BOLT INTO SIDE OF WOOD MEMBER OR APPROVED "SAMMY" TYPE SCREWS.
- REFRIGERANT PIPING**
- DRAWN (RIGID) COPPER TUBE SHALL BE TYPE ACR, R410 RATED, ASTM B280, H58 TEMPER, CLEAN, DRY AND CAPPED. FITTINGS SHALL BE ASME B16.22 WROUGHT COPPER. JOINTS SHALL BE BRAZED WITH AWS A5.8 BCUP SILVER / PHOSPHORUS / COPPER ALLOY.
 - ANNEALED (SOFT) COPPER TUBE SHALL BE TYPE ACR, R410 RATED, ASTM B280, O60 TEMPER, CLEAN, DRY AND CAPPED. FITTINGS SHALL BE ASME 16.22 WROUGHT COPPER. JOINTS SHALL BE FLARE OR BRAZED WITH AWS A5.8 BCUP SILVER / PHOSPHORUS / COPPER ALLOY.
 - INSULATION SHALL BE FLEXIBLE ELASTOMERIC. INSULATION THICKNESS SHALL BE IN CONFORMANCE WITH THE INTERNATIONAL ENERGY CODE.
 - PIPING INSTALLATION
 - INSTALL REFRIGERATION PIPING IN ACCORDANCE WITH VRF SYSTEM MANUFACTURER'S INSTRUCTIONS AND ASME B31.5.
 - ROUTE PIPING IN AN ORDERLY MANNER, PARALLEL TO BUILDING STRUCTURE, AND MAINTAIN GRADIENT. GROUP PIPING WHENEVER PRACTICAL AT COMMON ELEVATIONS. SLEEVE PIPING PASSING THROUGH PARTITIONS, WALLS AND FLOORS. SLOPE PIPING AND ARRANGE TO DRAIN AT LOW POINTS.

TESTING, ADJUSTING AND BALANCING

- AFTER COMPLETION OF THE WORK, BUT BEFORE SUBSTANTIAL COMPLETION, TEST, ADJUST AND BALANCE ALL AIR AND WATER SYSTEMS IN ACCORDANCE WITH EITHER AABC, NEBB, OR TABB STANDARDS.
- TESTING AND BALANCING CONTRACTORS SHALL BE CERTIFIED BY EITHER AABC, NEBB OR TABB.
- AIR HANDLING SYSTEMS SHALL BE BALANCED TO WITHIN PLUS OR MINUS 5 PERCENT OF DESIGN FOR SUPPLY SYSTEMS AND PLUS OR MINUS 10 PERCENT FOR RETURN AND EXHAUST SYSTEMS.
- AIR OUTLETS AND INLETS SHALL BE BALANCED TO WITHIN PLUS 10 PERCENT AND MINUS 5 PERCENT OF DESIGN TO SPACE. ADJUST OUTLETS AND INLETS IN SPACE TO WITHIN PLUS OR MINUS 10 PERCENT OF DESIGN.
- ADJUST HYDRONIC SYSTEMS TO WITHIN PLUS OR MINUS 10 PERCENT OF DESIGN.
- PERMANENTLY MARK SETTINGS OF VALVES, DAMPERS, AND OTHER ADJUSTMENT DEVICES ALLOWING SETTINGS TO BE RESTORED. SET AND LOCK MEMORY STOPS.
- SUBMIT FINAL REPORT INDICATING DESIGN VERSUS FINAL PERFORMANCE; NOTABLE CHARACTERISTICS OF THE SYSTEM; DESCRIPTION OF SYSTEMS OPERATION SEQUENCE; TEST CONDITIONS; AND A LIST OF INSTRUMENTS USED. FINAL REPORT SHALL BE SUBMITTED PRIOR TO SUBSTANTIAL COMPLETION OF THE PROJECT.

HVAC INSTRUMENTATION AND CONTROLS

- FURNISH AND INSTALL COMPLETE TEMPERATURE CONTROL FOR ALL NEW HVAC SYSTEMS.
- PROVIDE NEW CONTROL DEVICES INCLUDING TEMPERATURE SENSORS AND OTHER RELATED DEVICES FOR A COMPLETE OPERATIONAL SYSTEM PER THE SEQUENCE OF OPERATION AND INDUSTRY STANDARDS.
- MOUNT ALL CONTROLS FURNISHED AS ACCESSORIES TO EQUIPMENT AND PROVIDE ALL CONTROL WIRING REQUIRED FOR PROPER OPERATION.



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HVAC DEMOLITION GENERAL NOTES

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- THE CONTRACTOR SHALL COORDINATE AND SCHEDULE ANY DAILY INTERRUPTIONS OR SHUTDOWNS OF THE EXISTING SYSTEMS IN ADVANCE WITH OWNER'S DESIGNATED REPRESENTATIVE. THIS SHALL INCLUDE SERVICES INTERRUPTIONS, CONNECTIONS AND DISRUPTIONS EFFECTING OTHER TRADES (MECHANICAL AND ELECTRICAL). INCLUDE ALL WORK REQUIRED TO ALLOW PHASED CONSTRUCTION WHERE NECESSARY.
- DEMOLITION DRAWINGS ARE STRICTLY DIAGRAMMATIC AND SHOW GENERAL ARRANGEMENT AND APPROXIMATE LOCATION OF EXISTING MECHANICAL AND ELECTRICAL EQUIPMENT. IT IS NOT THE INTENT OF THESE DRAWINGS TO SHOW ALL EQUIPMENT, PIPING OR CONDUIT TO BE REMOVED. EQUIPMENT NOT BEING REUSED SHALL BE REMOVED, INCLUDING ALL ASSOCIATED HANGERS, SUPPORTS, PIPES, CONDUITS, WIRES, AND CONTROLS BACK TO THE POINT OF ORIGIN.
- REFER TO THE ARCHITECTURAL DEMOLITION DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS. THE FULL EXTENT OF THE DEMOLITION AND RECONSTRUCTION SCOPE OF WORK SHALL BE DETERMINED BY THE ENTIRE SET OF BID DOCUMENTS.
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- THE LOCATION OF EXISTING HVAC SYSTEM SHOWN ON FLOOR PLANS, IS BASED ON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL FIELD VERIFY PRIOR TO COMMENCEMENT OF CONSTRUCTION, EXACT QUANTITY AND LOCATION(S) OF EXISTING EQUIPMENT, PIPING, DUCTWORK, ETC. TO BE REMOVED AND ADJUST AS NECESSARY.
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FIELD VERIFY ALL CONDITIONS

DESIGN DRAWINGS ARE SCHEMATIC AND ARE BASED ON AS-BUILT/RECORD DRAWINGS PROVIDED BY OWNER. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING OR AWARD OF CONTRACT TO INSPECT EXISTING FIELD CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE ACCURACY OF THESE PLANS AND GATHER ADDITIONAL INFORMATION NECESSARY TO PRODUCE DETAILED SHOP DRAWINGS OF THE CHANGES AND MODIFICATIONS REQUIRED TO RENOVATE THE SPACE. THIS CONTRACT SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY FOR FIELD MODIFICATIONS DUE TO EXISTING CONDITIONS.

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BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDE IN THEIR BIDS THE COSTS FOR ALL WORK INSTALLED IN STRICT ACCORDANCE WITH GOVERNING CODES. THE PLANS AND SPECIFICATIONS NOT WITHSTANDING, THE CONTRACTOR SHALL ALERT ARCHITECT, ENGINEER OR OWNER OF ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT.

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OWNER/CLIENT

CAVA

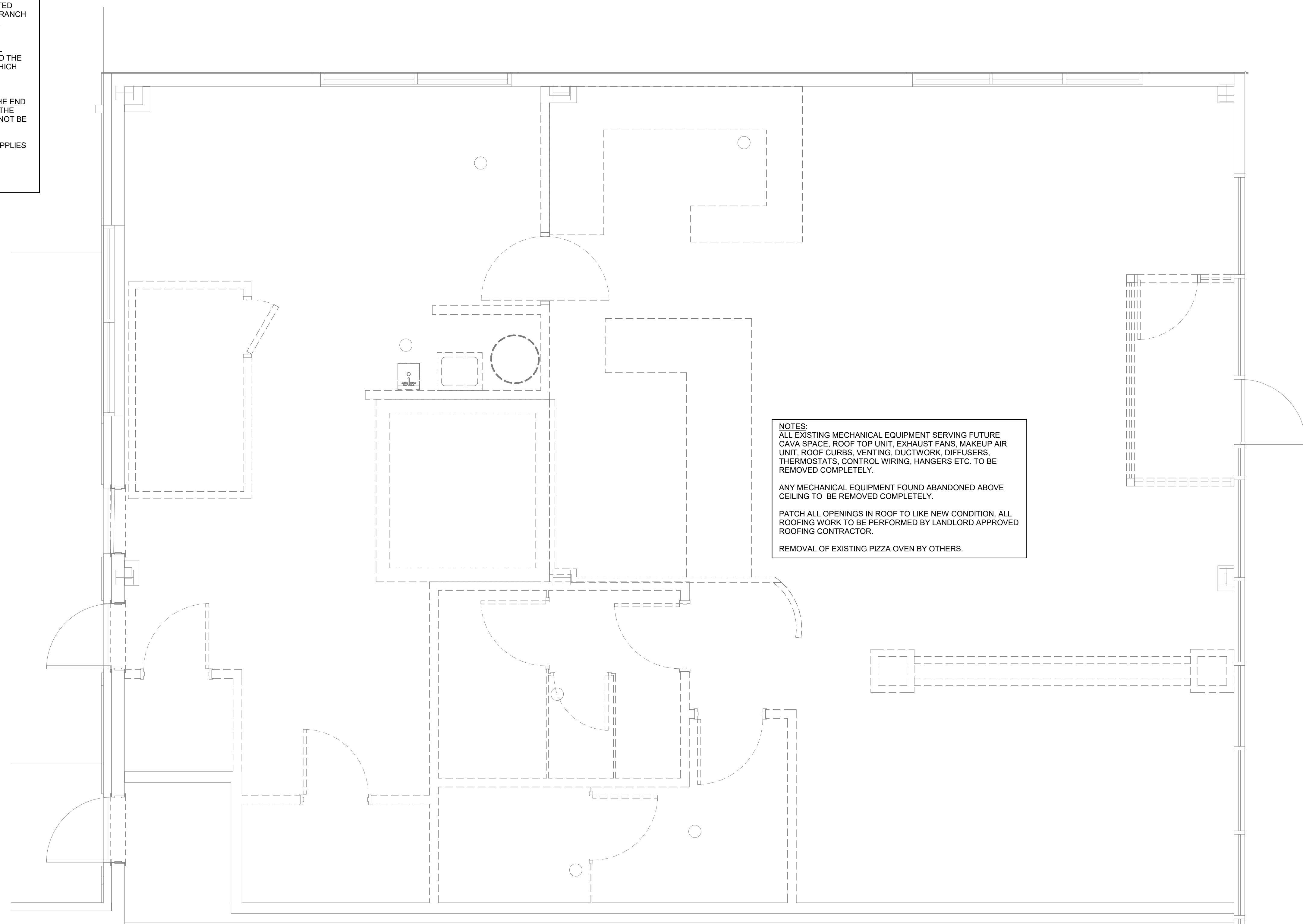
PROJECT
 EDGEWATER

443 RIVER RD,
 EDGEWATER, NJ 07020

DRAWING TITLE
 MECHANICAL
 DEMOLITION PLAN

DRAWING INFORMATION
 Job Number: 222068
 Checked By: REP
 Drawn By: SJH
 DRAWING NUMBER

MD
100



NOTES:
 ALL EXISTING MECHANICAL EQUIPMENT SERVING FUTURE CAVA SPACE, ROOF TOP UNIT, EXHAUST FANS, MAKEUP AIR UNIT, ROOF CURBS, VENTING, DUCTWORK, DIFFUSERS, THERMOSTATS, CONTROL WIRING, HANGERS ETC. TO BE REMOVED COMPLETELY.

ANY MECHANICAL EQUIPMENT FOUND ABANDONED ABOVE CEILING TO BE REMOVED COMPLETELY.

PATCH ALL OPENINGS IN ROOF TO LIKE NEW CONDITION. ALL ROOFING WORK TO BE PERFORMED BY LANDLORD APPROVED ROOFING CONTRACTOR.

REMOVAL OF EXISTING PIZZA OVEN BY OTHERS.

① FIRST FLOOR MECHANICAL DEMOLITION PLAN
 3/8" = 1'-0"

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1 ROOF MECHANICAL DEMOLITION PLAN
3/8" = 1'-0"

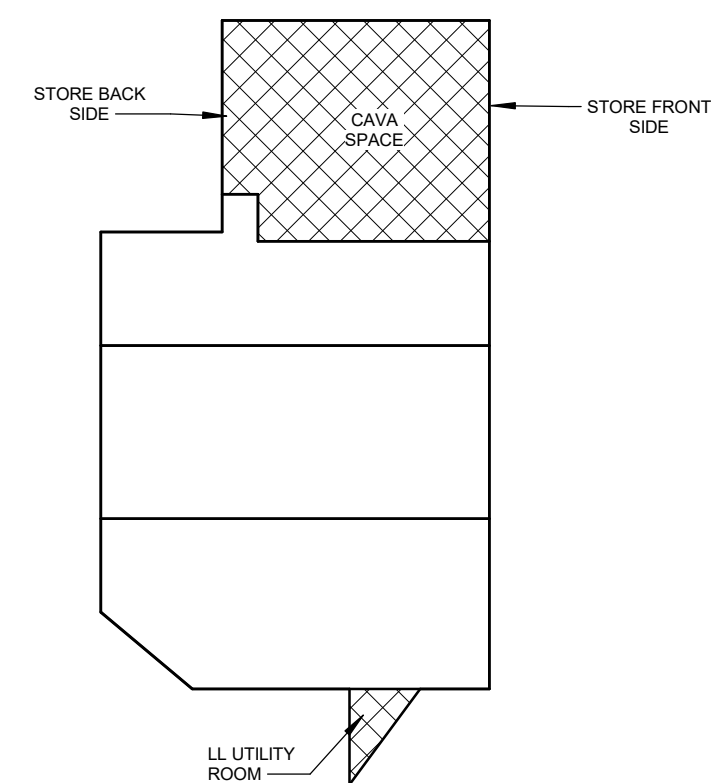
EXISTING KITCHEN EXHAUST FAN TO BE REMOVED COMPLETELY. DISCONNECT FROM ANY ELECTRICAL CONNECTIONS, REMOVE ROOF CURB. PATCH ROOF TO LIKE NEW CONDITION. ROOFING WORK TO BE DONE BY LANDLORD APPROVED ROOFING CONTRACTOR.

EXISTING MAKE-UP AIR UNIT TO BE REMOVED COMPLETELY. DISCONNECT FROM ANY ELECTRICAL, GAS CONNECTIONS. REMOVE ROOF CURB. PATCH ROOF TO LIKE NEW CONDITION. ROOFING WORK TO BE DONE BY LANDLORD APPROVED ROOFING CONTRACTOR.

EXISTING KITCHEN EXHAUST FAN TO BE REMOVED COMPLETELY. DISCONNECT FROM ANY ELECTRICAL CONNECTIONS. REMOVE ROOF CURB. PATCH ROOF TO LIKE NEW CONDITION. ROOFING WORK TO BE DONE BY LANDLORD APPROVED ROOFING CONTRACTOR.

EXISTING ROOF TOP UNIT TO BE REMOVED COMPLETELY. DISCONNECT FROM ELECTRICAL AND GAS CONNECTIONS. REMOVE ROOF CURB. TEMPORARILY PATCH EXISTING ROOF OPENING. FINAL ROOF WORK TO BE DONE WITH INSTALLATION OF NEW RTU IN SIMILAR LOCATION. ROOFING WORK TO BE DONE BY LANDLORD APPROVED ROOFING CONTRACTOR.

EXISTING KITCHEN EXHAUST FAN TO BE REMOVED COMPLETELY. DISCONNECT FROM ANY ELECTRICAL CONNECTIONS. REMOVE ROOF CURB. PATCH ROOF TO LIKE NEW CONDITION. ROOFING WORK TO BE DONE BY LANDLORD APPROVED ROOFING CONTRACTOR.



Key Plan
NTS

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PROJECT
EDGEWATER

443 RIVER RD,
EDGEWATER, NJ 07020

DRAWING TITLE
MECHANICAL
DEMOLITION ROOF
PLAN

DRAWING INFORMATION
Job Number: 222068
Checked By: REP
Drawn By: SJH
DRAWING NUMBER

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