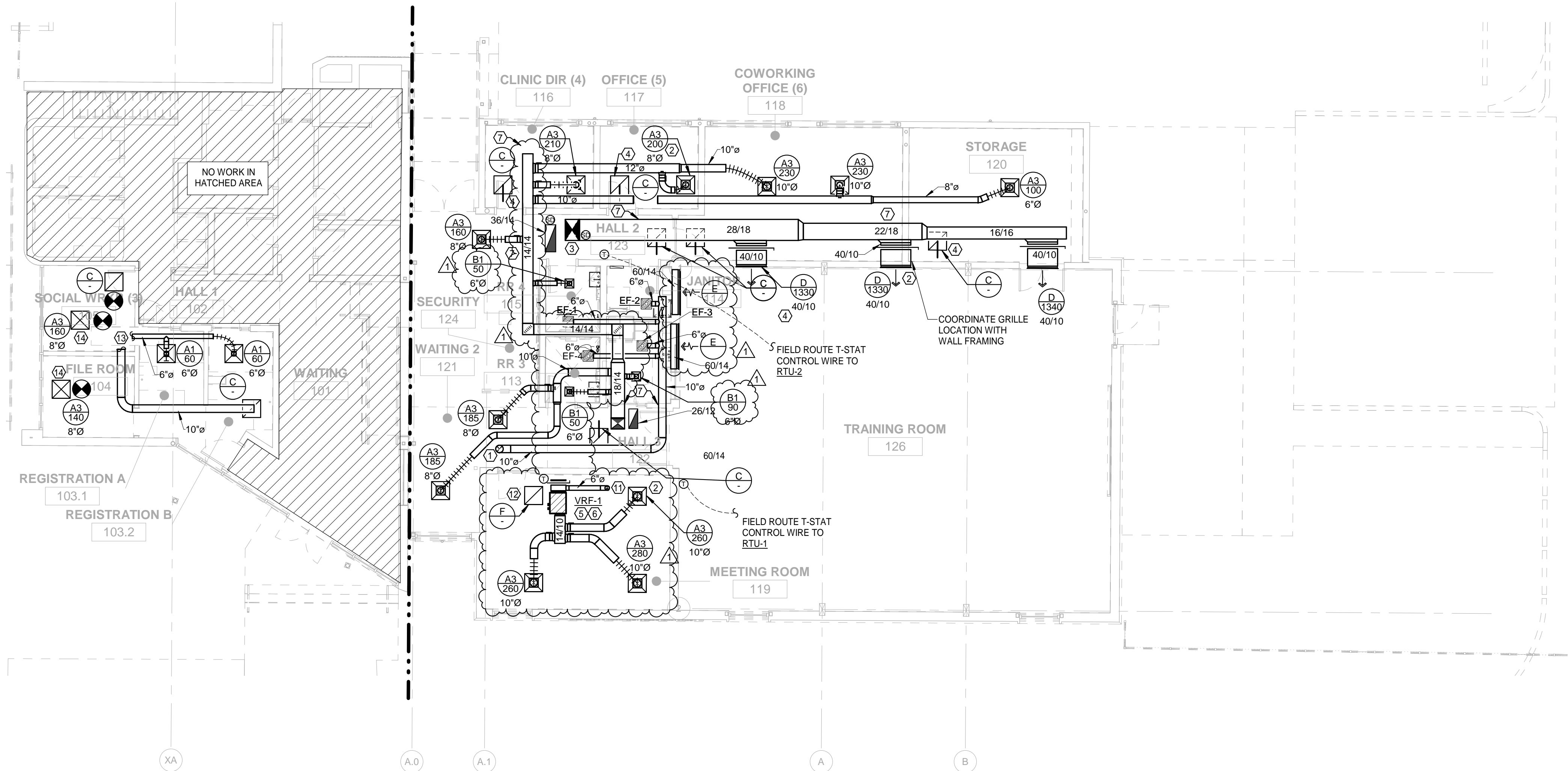


2 MECHANICAL - SECOND FLOOR & ROOF PLAN
Scale: 3/32" = 1'-0"



1 MECHANICAL - FIRST FLOOR PLAN
Scale: 1/8" = 1'-0"

MECHANICAL GENERAL NOTES

- 1) ALL DUCT SIZES SHOWN ARE INSIDE CLEAR, INCREASE ACCORDINGLY WHERE INTERIOR LINER IS SHOWN OR SPECIFIED.
- 2) COORDINATE IN THE FIELD THE EXACT LOCATION OF ALL CEILING MOUNTED GRILLES AND DIFFUSERS WITH LIGHT FIXTURES AND (ARCHITECT'S) REFLECTED CEILING PLAN.
- 3) ALL EXTERIOR BRACKETS, CLAMPS, AND HANGERS SHALL BE HOT DIPPED GALVANIZED, COAT ALL CUT ENDS AND WELDS WITH "ZRC" COLD GALVANIZING COMPOUND.
- 4) SHOP PRIME ALL MISCELLANEOUS INTERIOR BRACKETS AND HANGERS UNLESS GALVANIZED OR STAINLESS STEEL.
- 5) REFER TO ARCHITECTURAL FOR ALL SOFFIT GRILLE MOUNTING LOCATIONS.

MECHANICAL KEYED NOTES

- ① ROUTE 10"Ø EXHAUST DUCT UP TO LOW PROFILE ROOF CAP. PROVIDE GREENHECK MODEL GRSR OR APPROVED EQUAL. COORDINATE WITH ARCHITECT FOR EXACT PLACEMENT, MOUNTING HEIGHT, AND COLOR SELECTION. PROVIDE 14" ROOF CURB AS REQUIRED.
- ② COORDINATE WITH ARCHITECT FOR GRILLE COLOR SELECTIONS AND LOCATIONS. TYPICAL.
- ③ ROUTE DUCT UP TO ROOF. REFER TO 2/M111 FOR CONTINUATION.
- ④ PROVIDE RETURN AIR GRILL WITH RETURN AIR CANOPY PRICE MODEL RAC OR APPROVED FOR PLENUM RETURN AIR PATH.
- ⑤ ROUTE 3/4" INSULATED CONDENSATE DRAIN WITH AIR TRAP TO MIP SINK IN JANITOR 114.
- ⑥ PROVIDE AUXILIARY EMERGENCY DRAIN PAN WITH EMERGENCY OVER FLOW FLOAT SWITCH. PAN SHALL BE MINIMUM 4" DEEP AND SHALL EXTEND OUT FROM UNDER UNIT 6" ON ALL SIDES.
- ⑦ FIELD COORDINATE DUCT ROUTING WITH STRUCTURAL AND DUCTWORK. OFFSET AND TRANSITION AS REQUIRED FOR DUCT ROUTING.
- ⑧ PROVIDE AVCOA ROOF TOP EQUIPMENT MOUNT OR APPROVED EQUAL. MOUNT EQUIPMENT TO RACK PER MANUFACTURER'S INSTRUCTIONS.
- ⑨ ROUTE REFRIGERANT LINES THROUGH EXTERIOR WALL INSIDE TO ABOVE CEILING SPACE. FIELD ROUTE TO RESPECTIVE INDOOR UNIT VRF-1.
- ⑩ FIELD ROUTE MECHANICAL RTU CONDENSATE DRAIN LINE TO ROOFTOP STORM DRAINAGE.
- ⑪ ROUTE 6"Ø OUTSIDE AIR DUCT UP AND OVER TO EXTERIOR WALL CAP. COORDINATE WITH ARCHITECT FOR MOUNTING HEIGHT AND COLOR SELECTION. PROVIDE BROAN MODEL 643FA OR APPROVED EQUAL.
- ⑫ HINGED BACK FILTER RETURN GRILLE TO BE USED FOR VRF-1 ACCESS.
- ⑬ ROUTE NEW BRANCH DUCTS BACK TO TRUNK DUCT. FIELD COORDINATE EXACT LOCATION OF TRUNK. EXTEND NEW DUCT AS REQUIRED.
- ⑭ PROVIDE NEW POINT OF CONNECTION FOR SUPPLY AND RETURN DUCT TO EXISTING DUCT CAPPED DURING DEMOLITION PHASE.

REVISION #	DATE	ISSUE PURPOSE
1	11/4/19	ADDENDUM D

PACKAGED ROOFTOP UNIT - ELECTRIC HEAT

MARK	INDOOR AIR FAN				COOLING				ELECTRIC HEATING				ELECTRICAL			REMARKS			
	SUPPLY AIR CFM	OUTSIDE AIR CFM	EXT. STATIC PRESSURE (IN. W.C.)	HORSE POWER (BHP)	AIR TEMPERATURE (°F)			NOM. TOTAL CAPACITY (BTUH)	NOM. SENSIBLE CAPACITY (BTUH)	MINIMUM EER/SEER	NUMBER OF STAGES	ENTERING AIR TEMP. (°F)	NOMINAL CAPACITY (BTUH)	KW	NUMBER OF STAGES		MOP	MCA	VOLTAGE CHARAC.
					ENTERING DRY BULB	ENTERING WET BULB	OUTDOOR AMBIENT												
RTU-1	4,000	540	1.00	1.48	80.0	67.0	95°	120,000	90,000	11.3/13.0	2	68.0	132,725	24.0	2	140	150	230/3/60	1,2,3,4,5,6
RTU-2	1,600	125	1.25	1.05	76.42	63.97	95°	48,000	36,000	-14.0	1	68.0	47,768	14.7	1	56	60	230/3/60	1,2,3,4,7

GENERAL NOTES:
 1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES DUE TO DUCTWORK, AIR DEVICES, DAMPERS, AND DUCT MOUNTED HOT WATER COILS WHERE APPLICABLE. DIRTY FILTER AND UNIT CASING MUST BE ADDED TO EXTERNAL STATIC PRESSURE TO OBTAIN TOTAL PRESSURE LOSS. INCREASE HORSEPOWER AS REQUIRED TO MEET YOUR TOTAL PRESSURE LOSS. COORDINATE WITH ELECTRICIAN.
 2. MINIMUM RECOMMENDED CLEARANCE AROUND ROOFTOP UNIT IS 12 INCHES ON NON-SERVICE SIDES AND 30 INCHES ON SERVICE SIDES. MAINTAIN MINIMUM CLEARANCE FOR CONDENSER AIR FLOW AS RECOMMENDED BY ROOFTOP UNIT MANUFACTURER. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON ROOFTOP UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.

REMARKS:
 1. PROVIDE WITH INTEGRAL DISCONNECT SWITCH & 14" ROOF CURB.
 2. PROVIDE WITH SINGLE POINT ELECTRICAL CONNECTION.
 3. PROVIDE WITH FACTORY INSTALLED 120V NON POWERED CONVENIENCE OUTLET.
 4. PROVIDE WITH SPRING MOUNTED VIBRATION ISOLATION DAMPERS.
 5. PROVIDE WITH SMOKE IONIZATION DETECTORS IN SUPPLY AND RETURN AIR DUCT.
 6. RTU-1 BASIS OF DESIGN MANUFACTURER/ MODEL: CARRIER MODEL TC.
 7. RTU-2 BASIS OF DESIGN MANUFACTURER/ MODEL: CARRIER MODEL FC.

AS05

FAN

MARK	LOCATION	CFM	MAXIMUM RPM	EXT. STATIC PRESSURE (IN. W.C.)	HORSE POWER	VOLTAGE CHARAC.	LOCALLY SWITCHED BY	INTERLOCKED WITH	FAN TYPE	MANUFACTURER	MODEL NUMBER	REMARKS
EF-1	RR 4 129	70	1100	.25	80W	120/1/60	-	LIGHTS	CABINET	GREENHECK	SP	1,2,3
EF-2	JANITOR 128	50	1100	.25	80W	120/1/60	-	LIGHTS	CABINET	GREENHECK	SP	1,2,3
EF-3	KITCHENETTE 152	100	1100	.25	120W	120/1/60	-	LIGHTS	CABINET	GREENHECK	SP	1,2,3
EF-4	RR 3 127	70	1100	.25	80W	120/1/60	-	LIGHTS	CABINET	GREENHECK	SP	1,2,3

GENERAL NOTES:
 1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES DUE TO DUCTWORK, AIR DEVICES, DAMPERS, AND DUCT MOUNTED HOT WATER COILS WHERE APPLICABLE. DIRTY FILTER AND UNIT CASING MUST BE ADDED TO EXTERNAL STATIC PRESSURE TO OBTAIN TOTAL PRESSURE LOSS. INCREASE HORSEPOWER AS REQUIRED TO MEET YOUR TOTAL PRESSURE LOSS. COORDINATE WITH ELECTRICIAN.
 2. MINIMUM RECOMMENDED CLEARANCE AROUND UNIT IS 12 INCHES ON NON-SERVICE SIDES AND 30 INCHES ON SERVICE SIDES. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.
 3. FAN SHALL BE CENTRIFUGAL, BELT DRIVEN TYPE UNLESS OTHERWISE SCHEDULED.

REMARKS:
 1. PROVIDE WITH PREWIRED DISCONNECT AND SPEED CONTROLLER.
 1. PROVIDE WITH MANUFACTURER DECORATIVE GRILLE KIT.
 3. PROVIDE WITH MEANS OF VIBRATION ISOLATION.

AS12

1:1 MINISPLIT HEAT PUMP DUCTED FAN/COIL UNIT

MARK	FAN				COOLING				ELECTRICAL			REMARKS			
	SUPPLY AIR CFM	OUTSIDE AIR CFM	EXT. STATIC PRESSURE (IN. W.C.)	HORSE POWER	AIR TEMPERATURE (°F)			NOM. TOTAL CAPACITY (BTUH)	NOM. SENSIBLE CAPACITY (BTUH)	MINIMUM EER/SEER	NUMBER OF STAGES		MCA	MOP	VOLTAGE CHARAC.
					ENTERING DRY BULB	ENTERING WET BULB	OUTDOOR AMBIENT								
VRF-1	800	80	.25	-	-	-	24,000	18,000	12.5/18.6	1	16.9	20	230/1/60	1,2	

GENERAL NOTES:
 1. EXTERNAL STATIC PRESSURE INCLUDES LOSSES DUE TO DUCTWORK, AIR DEVICES, DAMPERS, AND DUCT MOUNTED HOT WATER COILS WHERE APPLICABLE. DIRTY FILTER AND UNIT CASING MUST BE ADDED TO EXTERNAL STATIC PRESSURE TO OBTAIN TOTAL PRESSURE LOSS. INCREASE HORSEPOWER AS REQUIRED TO MEET YOUR TOTAL PRESSURE LOSS. COORDINATE WITH ELECTRICIAN.
 2. MINIMUM RECOMMENDED CLEARANCE AROUND UNIT IS 12 INCHES ON NON-SERVICE SIDES AND 30 INCHES ON SERVICE SIDES. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.
 3. BASIS OF DESIGN MANUFACTURER/ MODEL: DAIKIN FDMQ.

REMARKS:
 PROVIDE WITH CONDENSATE LIFT PUMP. UNIT DRAWS POWER FROM CONDENSING UNIT.

AS09

DAMPER

MARK	ACTUATOR	DUTY	BLADE ACTION	MANUFACTURER	MODEL NUMBER	REMARKS
D-1	MANUAL BALANCING	UNDER 9" WIDE	N/A	N/A	N/A	SEE SMACNA CONSTRUCTION DETAILS REFERENCED "TYPICAL CONSTRUCTION DETAILS FOR LOW VELOCITY DUCTS."
D-2	MANUAL BALANCING	OVER 9" WIDE	OPPOSED	RUSKIN	MD-35	MANUAL DAMPER WITH STANDARD CONSTRUCTION FEATURES AND VENTLOCK #637 LOCKING REGULATOR.
D-3	MOTORIZED	OVER 9" WIDE	OPPOSED	RUSKIN	CD-60	LOW LEAKAGE DAMPER WITH BLADE SEALS

NOTES:
 N/A - NOT APPLICABLE

DS01

1:1 MINISPLIT HEAT PUMP CONDENSING UNIT

MARK	COOLING				HEATING				ELECTRICAL			RELATED UNIT MARK	REMARKS
	MIN. TOTAL CAPACITY (BTUH)	OUTDOOR AIR TEMP (°F)	MINIMUM EER/SEER	NUMBER OF STAGES	MIN. TOTAL CAPACITY (BTUH)	OUTDOOR AIR TEMP (°F)	COP	NUMBER OF STAGES	MCA	MOP	VOLTAGE CHARAC.		
MSCU-1	24,000	95	12.5/18.6	1	24,000	60	3.8	1	16.9	20	230/1/60	VRF-1	1,2

GENERAL NOTES:
 1. MINIMUM RECOMMENDED CLEARANCE AROUND CONDENSING UNIT IS 12 INCHES ON NON-SERVICE SIDES AND 30 INCHES ON SERVICE SIDES. MAINTAIN MINIMUM CLEARANCE FOR CONDENSER AIR FLOW AS RECOMMENDED BY UNIT MANUFACTURER. MAINTAIN MINIMUM CLEARANCE AS REQUIRED TO OPEN ACCESS AND CONTROL DOORS ON UNIT FOR SERVICE, MAINTENANCE, AND INSPECTION. MAINTAIN MINIMUM ELECTRICAL CLEARANCE AS REQUIRED BY NEC.
 2. BASIS OF DESIGN MANUFACTURER/ MODEL: DAIKIN RX24

REMARKS:
 1. PROVIDE WITH WALL MOUNTED DISCONNECT.
 2. PROVIDE WITH COIL GUARD KIT.

CS05

GRILLE

MARK	SERVICE	TYPE	DAMPER	CONSTRUCTION MATERIAL	FINISH COLOR	MANUFACTURER	MODEL NUMBER	REMARKS
A	SUPPLY AIR	DIFFUSER	-	STEEL	-	PRICE	SMD	24X24 LOUVERED FACE SUPPLY AIR DIFFUSER WITH FRAME FOR LAY IN CEILING
B	SUPPLY AIR	DIFFUSER	-	STEEL	-	PRICE	SMD	12X12 PERFORATED FACE RETURN AIR DIFFUSER WITH FRAME FOR SURFACE MOUNTING
C	RETURN AIR	DIFFUSER	-	STEEL	-	PRICE	PDDR	24X24 PERFORATED FACE RETURN AIR DIFFUSER WITH FRAME FOR LAY IN CEILING
D	SUPPLY AIR	GRILLE	-	STEEL	-	PRICE	610	LOUVERED FACE SUPPLY AIR GRILLE WITH FRAME FOR SURFACE MOUNTING
E	RETURN AIR	GRILLE	-	STEEL	-	PRICE	630	LOUVERED FACE RETURN AIR GRILLE WITH FRAME FOR SURFACE MOUNTING
F	RETURN AIR	GRILLE	-	STEEL	-	PRICE	635FF	24X24 LOUVERED FACE RETURN AIR GRILLE WITH FILTER FRAME FOR LAY IN CEILING

GENERAL NOTES:
 1. DAMPERS NOTED AS U. L. SHALL BE A "U. L." CLASSIFIED CEILING RADIATION DAMPER WITH THERMAL BLANKET.

REMARKS:
 1. COORDINATE WITH ARCHITECT FOR COLOR SELECTION.

DS02

1/14/2019 11:13:03 AM

11/04/19

SHEET SIZE: 24" x 36"

REVISION #	DATE	ISSUE PURPOSE
1	11/14/19	ADDENDUM D

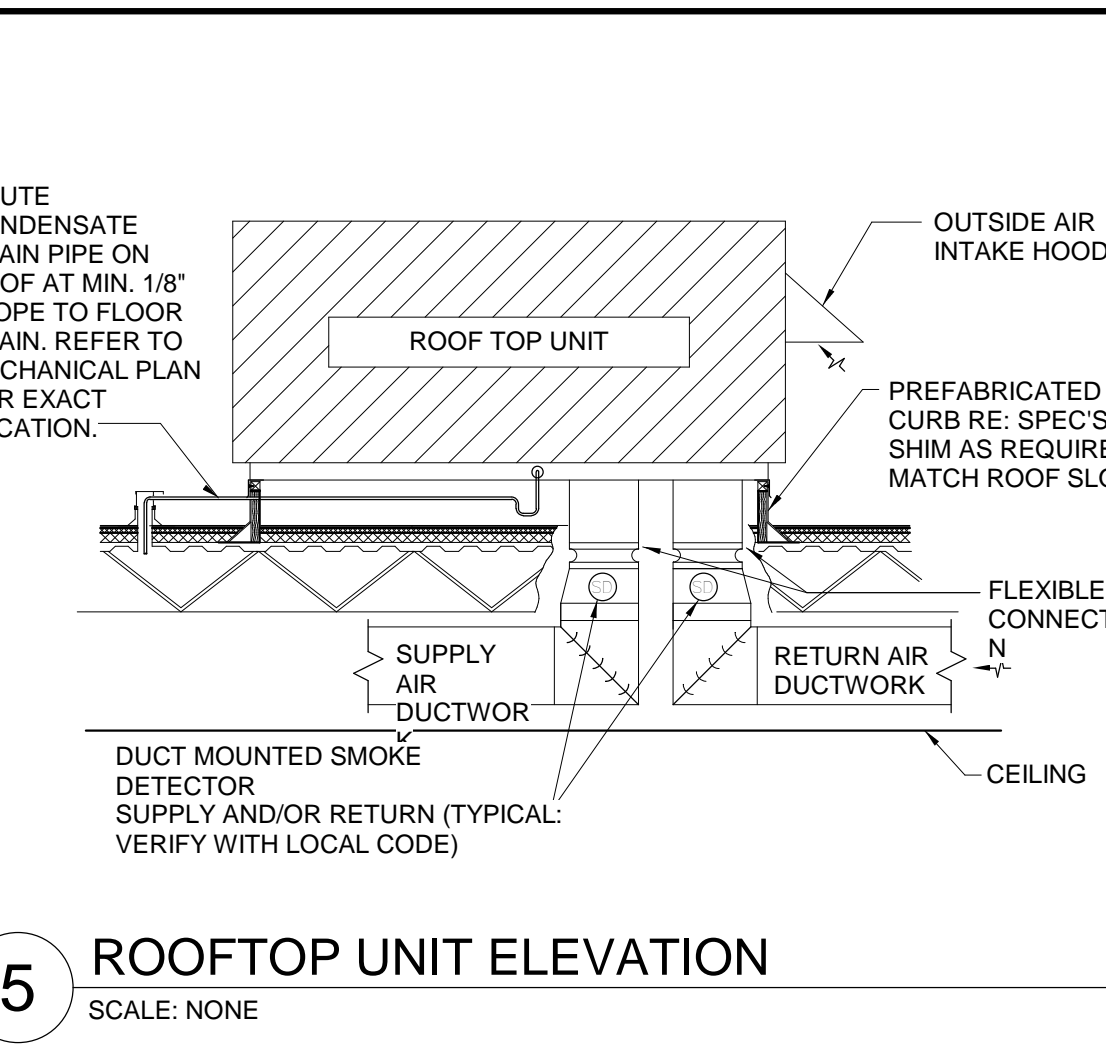
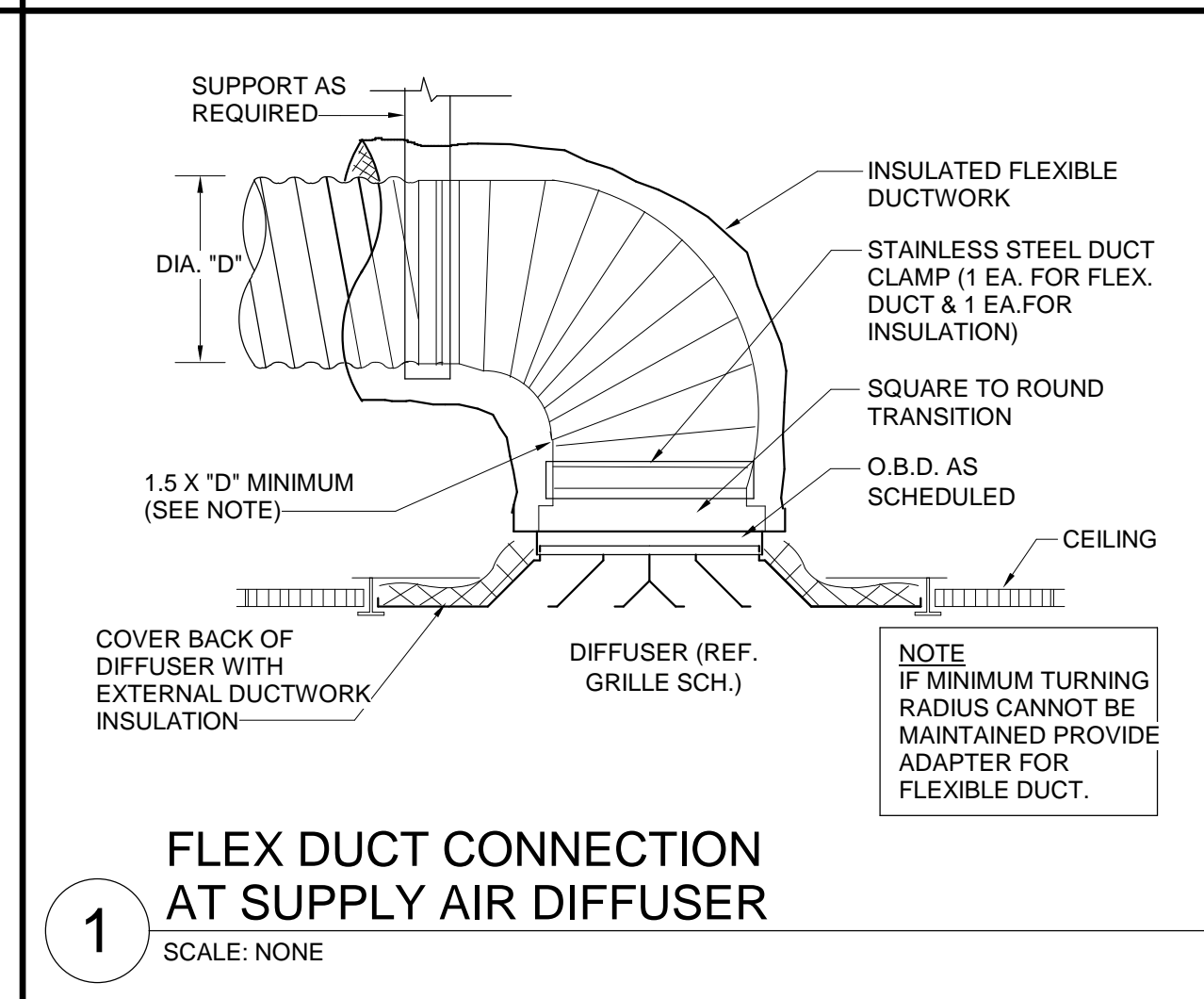
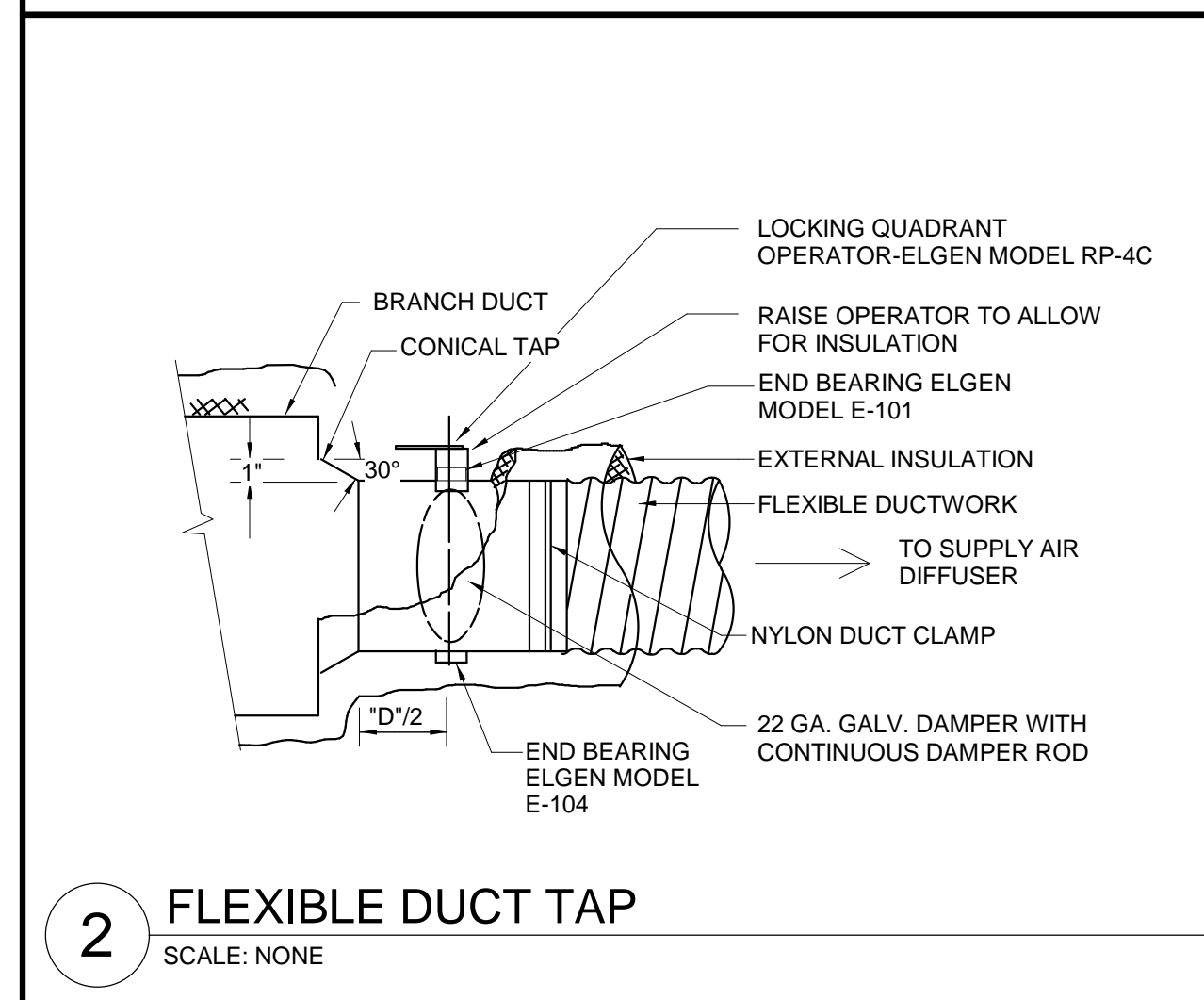
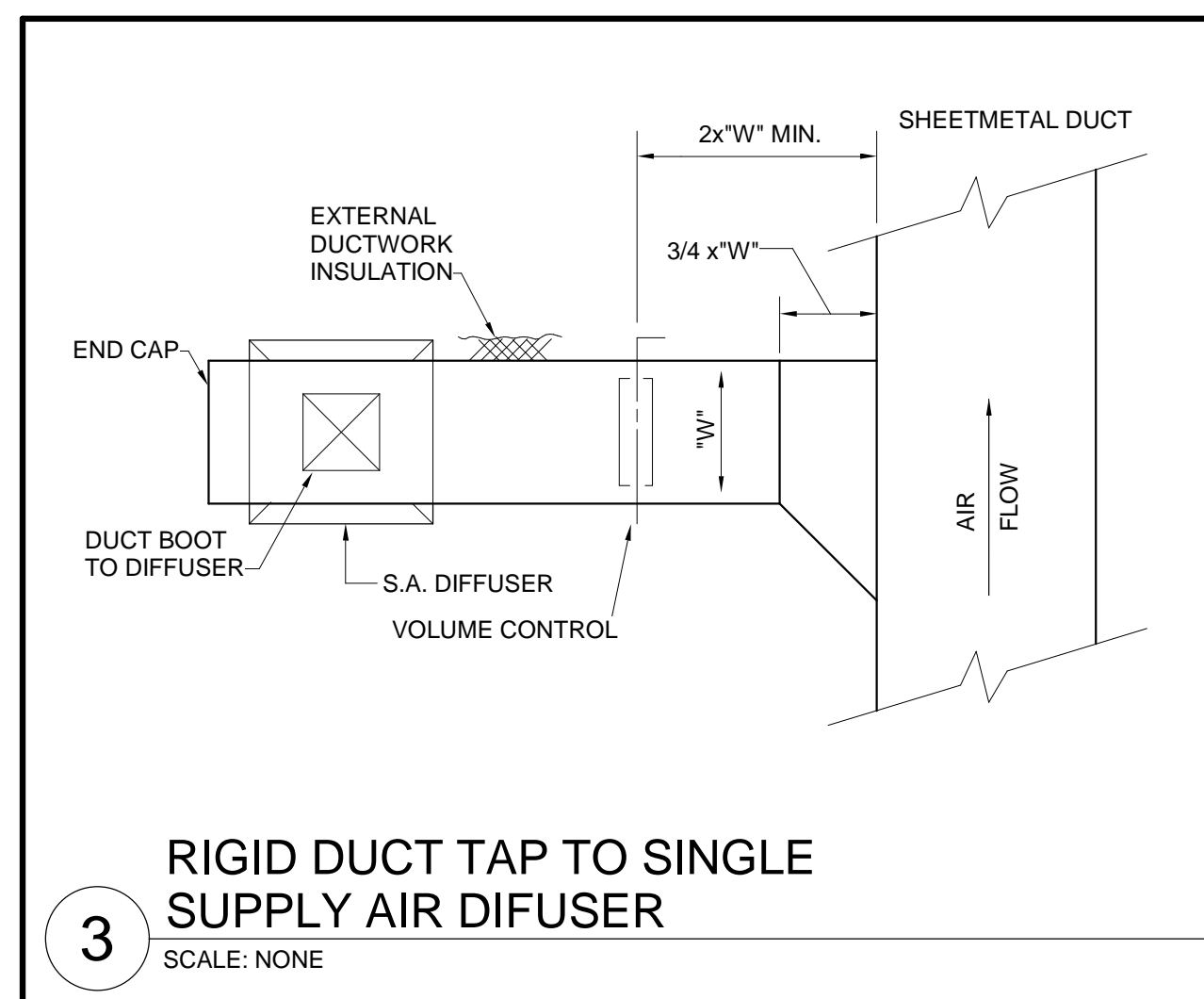
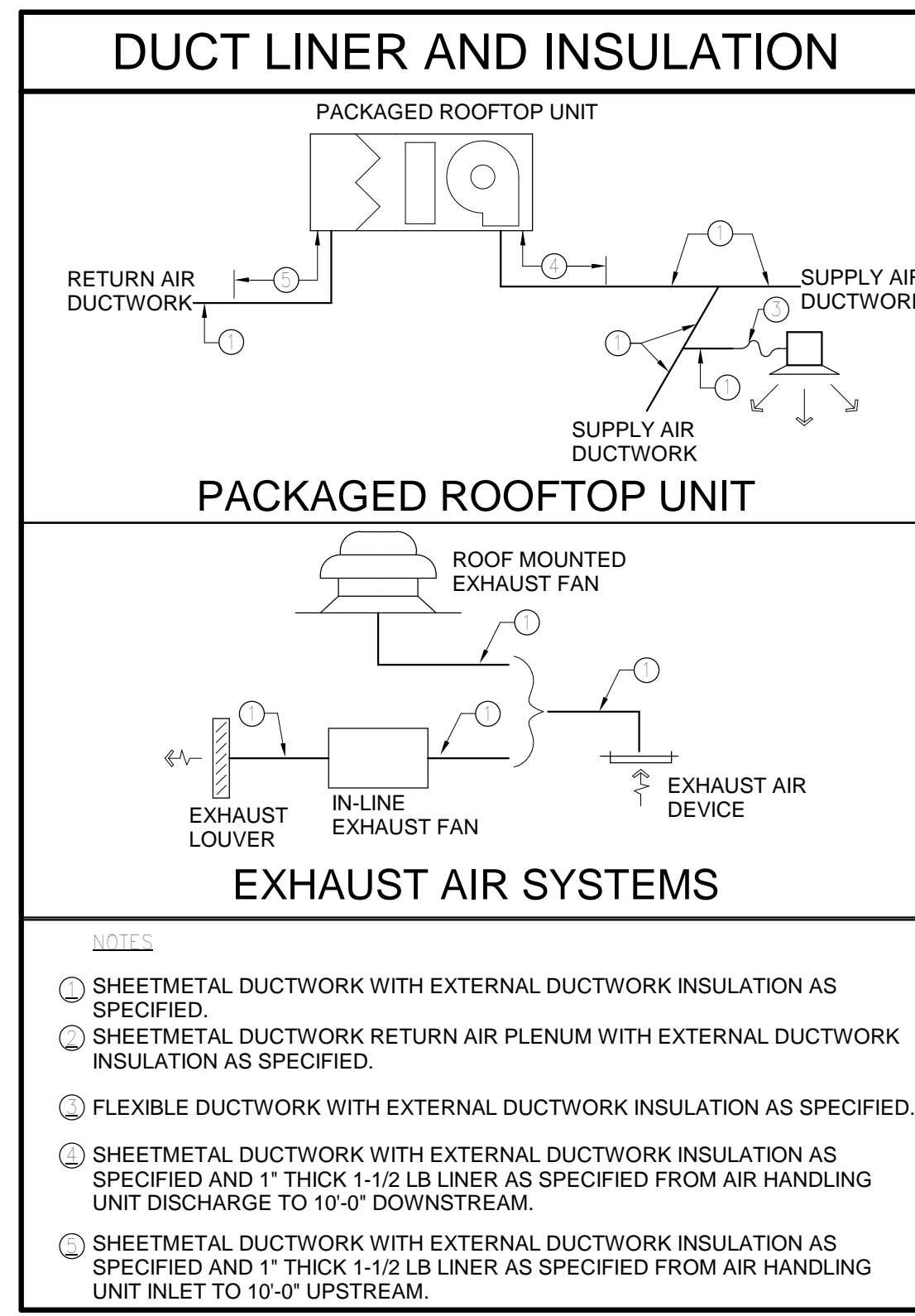
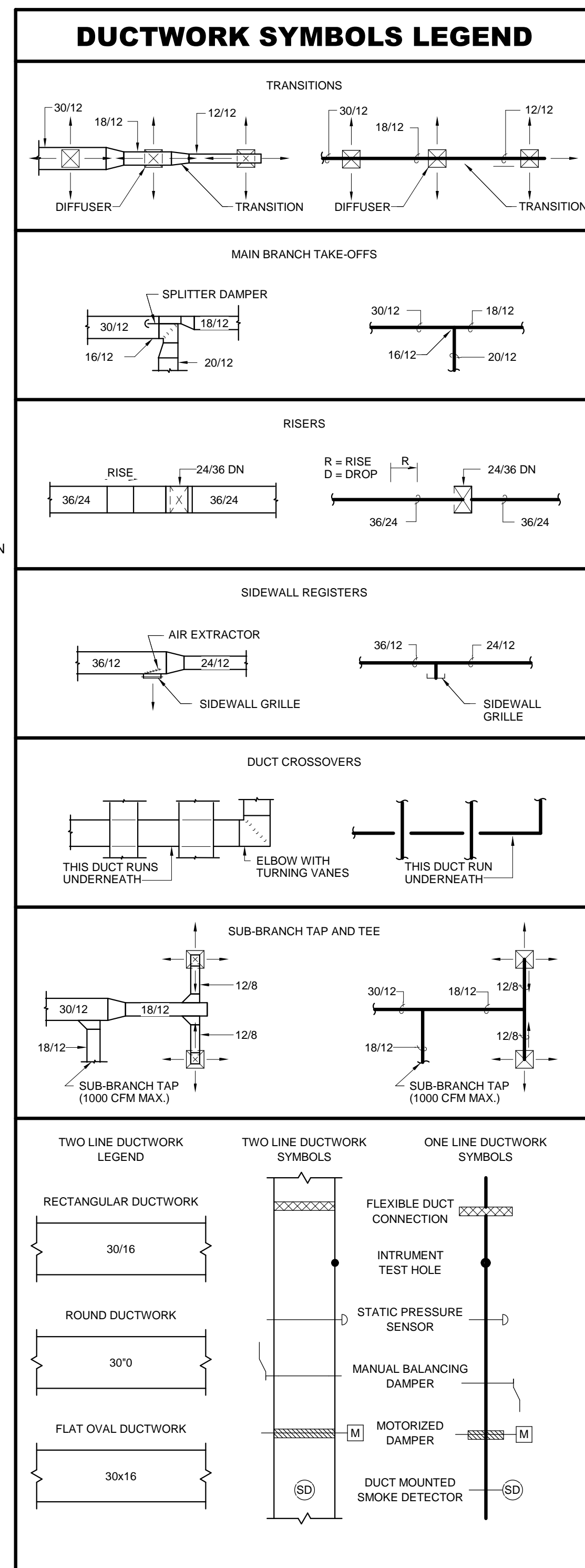
CONSTRUCTION DOCUMENTS

MECHANICAL SCHEDULES

15 OCTOBER 2019

M200

SYMBOL LEGEND	
SYMBOL	DESCRIPTION (DISREGARD ITEMS NOT SHOWN ON PLANS)
GENERAL	
	KEY NOTE TAG
	NOTE SPECIFIC TO DETAIL TAG
	REVISION TAG
	NEW EQUIPMENT
DUCTWORK	
	SUPPLY AIR DUCTWORK
	RETURN AIR AND OUTSIDE AIR DUCTWORK
	EXHAUST AIR DUCTWORK
	FLEXIBLE DUCTWORK
	SUPPLY AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	RETURN AIR AND OUTSIDE AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	EXHAUST AIR DUCTWORK THROUGH HORIZONTAL PARTITION
	FIRE DAMPER (VERTICAL)
	FIRE DAMPER (HORIZONTAL)
	SMOKE DAMPER (VERTICAL)
	SMOKE DAMPER (HORIZONTAL)
	COMBINATION FIRE & SMOKE DAMPER (VERTICAL)
	COMBINATION FIRE & SMOKE DAMPER (HORIZONTAL)
	MANUAL BALANCING DAMPER (SEE DAMPER SCHEDULE)
	MOTORIZED DAMPER (SEE DAMPER SCHEDULE)
SENSORS	
	THERMOSTAT AND TEMPERATURE SENSOR
	HUMIDISTAT
	SMOKE DETECTOR
AIR DEVICES	
	GRILLE SIZE TAG (REFER TO GRILLE SIZE LEGEND)
	SUPPLY AIR GRILLE WITH FOUR-WAY THROW
	SUPPLY AIR GRILLE WITH THREE-WAY THROW
	SUPPLY AIR GRILLE WITH TWO-WAY THROW
	SUPPLY AIR GRILLE WITH TWO-WAY CORNER THROW
	SUPPLY AIR GRILLE WITH ONE-WAY THROW
	RETURN AIR GRILLE
	RETURN AIR GRILLE WITH SOUND BOOT
	EXHAUST AIR GRILLE
	SUPPLY AIR SIDEWALL GRILLE
	RETURN AIR SIDEWALL GRILLE
	RETURN AIR OPENING ABOVE CEILING
SUBSCRIPTS AND ABBREVIATIONS	
AFF	ABOVE FINISHED FLOOR
BBS	BELOW BOTTOM OF STRUCTURE
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
CA	COMBUSTION AIR
CFM	CUBIC FEET PER MINUTE
EA	EXHAUST AIR
FFM	FEET PER MINUTE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR



BASIS OF DESIGN

THE MANUFACTURER AND MODEL NUMBER LISTED IN THE DRAWINGS OR SPECIFICATIONS ARE THE BASIS OF DESIGN. WHEN PROVIDING EQUIPMENT THAT IS NOT THE BASIS OF DESIGN, THE CONTRACTOR SHALL PROVIDE AN ITEMIZED LIST OF ALL DEVIATIONS FROM THE INFORMATION DETAILED IN BOTH THE SPECIFICATION SECTION AND SCHEDULE. ADDITIONALLY, THE EQUIPMENT MUST MEET THE PHYSICAL CONSTRAINTS OF ROOM INCLUDING COORDINATION WITH OTHER TRADES AND ALL EQUIPMENT CLEARANCES, INCLUDING OTHER TRADES. FINALLY, THE CONTRACTOR SHALL PROVIDE AT THE CONTRACTOR'S COST ANY SCOPE INCREASE AND DEDUCTIONS BASED ON THE NON-BASIS OF DESIGN EQUIPMENT FOR THE FOLLOWING MINIMUM ITEMS:

- ELECTRICAL MODIFICATIONS, INCLUDING WIRING, CONDUIT, DISCONNECTS, OVERCURRENT PROTECTION, PANELS, ETC.
- STRUCTURAL MODIFICATIONS.
- CIVIL MODIFICATIONS.
- PLUMBING MODIFICATIONS.
- DUCT AND PIPE CONNECTIONS OR ARRANGEMENTS.
- SPACE HEATING AND COOLING REQUIREMENTS.
- EXHAUST OR VENTILATION MODIFICATIONS.
- VIBRATION ISOLATION REQUIREMENTS.

REVISION #	DATE	ISSUE PURPOSE
1	11/14/19	ADDENDUM D