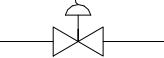
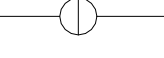

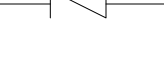
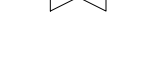
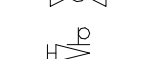


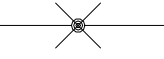


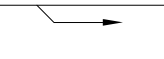

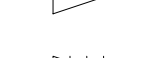

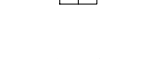





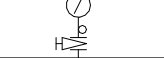

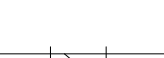


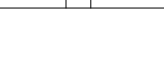


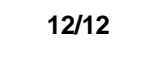
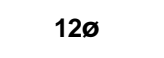
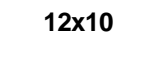



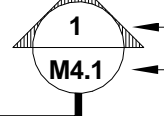
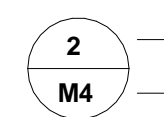
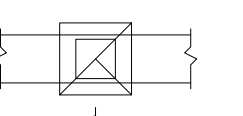
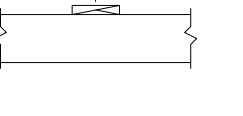
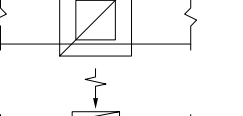
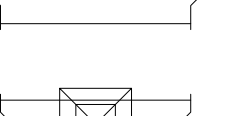
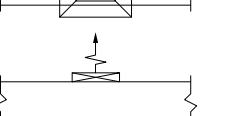
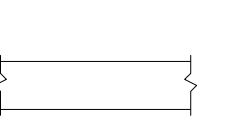

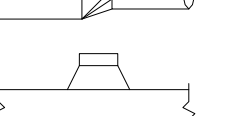
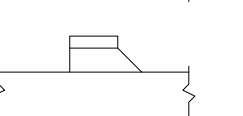
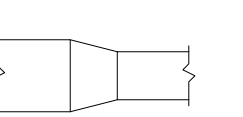
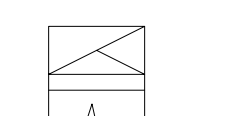
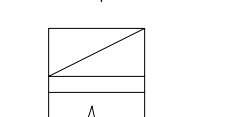
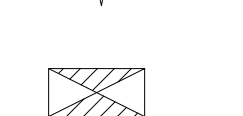

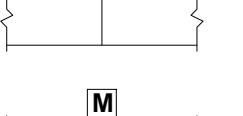

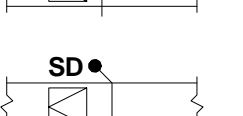
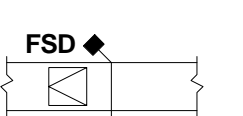
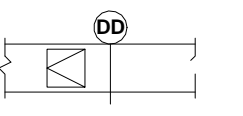
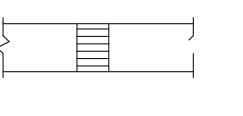
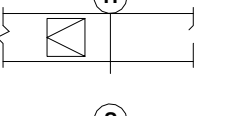
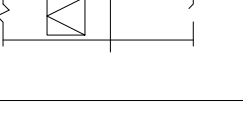
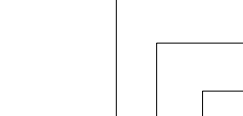
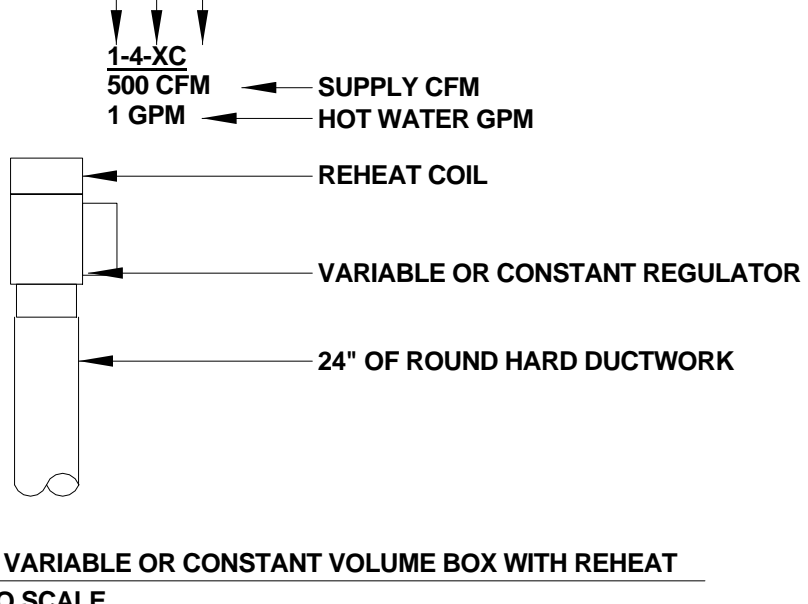
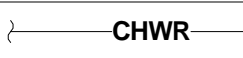
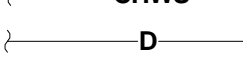
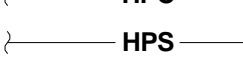
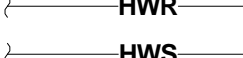
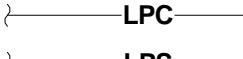







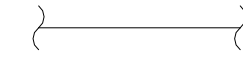


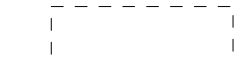



VALVES	
	AUTOMATIC CONTROL VALVE
	BALL VALVE
	BUTTERFLY VALVE
	CHECK VALVE
	GATE VALVE
	GLOBE VALVE
	PLUG VALVE WITH PRESSURE GAUGE CONNECTION ONLY
	THREE WAY VALVE
ACCESSORIES	
	ANCHOR POINT
	CONCENTRIC REDUCER
	DIRECTION OF FLOW
	DIRECTION OF SLOPE
	DRAIN POINT OF PIPE
	ECCENTRIC REDUCER
	FLOW CONTROL DEVICE
	AUTOMATIC FLOW LIMITING DEVICE (SEE SPECS)
	FLOW SWITCH
	MEDIUM PRESSURE DRIP ASSEMBLY
	LOW PRESSURE DRIP ASSEMBLY
	MANUAL AIR VENT POINT ON PIPE LINE PRESSURE RELIEF VALVE
	PIPE DOWN
	PIPE UP
	PRESSURE GAGE WITH COCK
	REDUCED PRESSURE BACKFLOW PREVENTER
	STRAINER
	THERMOMETER WITH WELL
	THERMOMETER WELL AND CAP ONLY
	UNION
MISCELLANEOUS	
	DIRECTION OF AIR FLOW ARROW AND CFM
	DUCT SYMBOL: FLAT OVAL
	DUCT SYMBOL: ROUND
	DUCT SYMBOL: RECTANGULAR
	EMERGENCY STOP SWITCH
	HUMIDISTAT
	THERMOSTAT
	SECTION NUMBER DRAWING NUMBER WHERE SECTION IS LOCATED
	DETAIL NUMBER DRAWING NUMBER WHERE SHOWN

DUCTWORK	
DOUBLE LINE	DESCRIPTION
	CEILING EXHAUST GRILLE/ REGISTER (SEE SCH)
	SIDEWALL EXHAUST REGISTER (SEE SCH)
	CEILING RETURN GRILLE/ REGISTER (SEE SCH)
	SIDEWALL RETURN REGISTER (SEE SCH)
	CEILING SUPPLY DIFFUSER/ REGISTER (SEE SCH)
	SIDEWALL SUPPLY REGISTER (SEE SCH)
	DUCTWORK W/O DUCTLINER
	SQUARE TO ROUND/ OVAL TRANSITION
	CONICAL TAKEOFF
	MITERED TAKEOFF
	RECTANGULAR DUCT TRANSITION
	EXHAUST DUCT UP SUPPLY AND RETURN SIMILAR
	RETURN DUCT DOWN SUPPLY AND EXHAUST SIMILAR
	SUPPLY DUCT UP THROUGH ROOF RETURN AND EXHAUST SIMILAR
EQUIPMENT	
DOUBLE LINE	DESCRIPTION
	MANUAL DAMPER
	MOTOR OPERATED DAMPER WITH ACCESS DOOR
	FIRE DAMPER WITH ACCESS DOOR
	SMOKE DAMPER WITH ACCESS DOOR
	COMBINATION FIRE/SMOKE DAMPER WITH ACCESS DOOR
	DUCT MOUNTED SMOKE DETECTOR WITH ACCESS DOOR
	AIR FLOW MONITORING STATION
	DUCT MOUNTED HUMIDISTAT WITH ACCESS DOOR
	DUCT MOUNTED STATIC PRESSURE SENSOR WITH ACCESS DOOR
	

PIPING	
	CHILLED WATER RETURN
	CHILLED WATER SUPPLY
	DRAIN
	HIGH PRESSURE STEAM SUPPLY
	HIGH PRESSURE STEAM CONDENSATE
	HOT WATER RETURN
	HOT WATER SUPPLY
	LOW PRESSURE STEAM CONDENSATE
	LOW PRESSURE STEAM SUPPLY
	PUMPED CONDENSATE

LEGEND	
	CONNECT TO EXISTING
	EXISTING PIPING TO REMAIN
	NEW PIPING
	EXISTING DUCT TO REMAIN
	NEW DUCTWORK
	EXISTING EQUIPMENT TO REMAIN
	NEW EQUIPMENT

- GENERAL NOTES**
- ALL DUCTS, PIPE, AND EQUIPMENT SHALL BE Laterally RESTRAINED TO COMPLY WITH THE NORTH CAROLINA BUILDING CODE. PROVIDE FOR SEISMIC DESIGN CLASS "D."
 - BEFORE FABRICATING ANY SHEET METAL DUCTWORK, COORDINATE LOCATION AND SIZE WITH SPRINKLER & PLUMBING PIPING, CONDUITS, LIGHT FIXTURES, STRUCTURAL ETC. PLANS ARE SCHEMATIC AND ARE NOT SHOP DRAWINGS. SUBMIT DUCTWORK COORDINATION DRAWINGS, AS SPECIFIED.
 - BEFORE SUBMITTING SHOP DRAWINGS, COORDINATE VOLTAGES AVAILABLE FOR MECHANICAL EQUIPMENT AND PROVISION OF ALL STARTERS AND DISCONNECT SWITCHES WITH CONTRACTOR.
 - CONTRACTOR SHALL MAKE PROVISIONS FOR PROVIDING A CONDENSATE DRAIN TRAP A MINIMUM OF 4" DEEP OR 1/2" PLUS THE STATIC PRESSURE OF THE UNIT SUPPLY FAN.
 - ALL EQUIPMENT SHALL BE U.L. LISTED.
 - FIRE AND SMOKE DAMPERS SHALL BE INSTALLED IN COMPLETE ACCORDANCE WITH THE MFR'S, U.L. LISTING AND INSTALLATION INSTRUCTIONS. FIRE AND SMOKE DAMPERS SHALL HAVE SPECIFIC U.L. LISTING FOR THE CONSTRUCTION IN WHICH THEY ARE INSTALLED. PROVIDE DYNAMIC FIRE DAMPERS.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH OTHER TRADES TO ELIMINATE CONFLICT WITH OTHER TRADES. ANY WORK INSTALLED BY THE CONTRACTOR THAT RESULTS IN CONFLICT, DUE TO LACK OF COORDINATION BETWEEN TRADES, SHALL BE CHANGED AS DIRECTED BY THE ARCHITECT/ENGINEER WITHOUT ADDITIONAL COMPENSATION TO THE CONTRACTOR.
 - SMOKE DETECTORS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. PROVIDE DUCT ACCESS DOOR AT EACH DETECTOR. INSTALL DETECTORS IN COMPLETE ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
 - CONTRACTOR SHALL COORDINATE EXACT HEIGHT OF ROOF CURB WITH NEW ROOF INSTALLATION REQUIREMENTS.
 - CONTRACTOR SHALL COORDINATE ROUTING OF DUCTWORK TO ENSURE DUCTWORK DOES NOT PASS OVER ELECTRICAL PANELS.
 - THE DRAWINGS SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES. THE SCALE, WHEN INDICATED IS INTENDED FOR GENERAL REFERENCE ONLY.
 - LEAVE A MINIMUM CLEARANCE OF 2 INCHES ABOVE DUCTS INSTALLED IN RATED PARTITIONS TO ALLOW SPACE FOR THE CONTRACTOR TO SEAL THE WALL ABOVE THE DUCTS. DO NOT INSTALL FLEXIBLE DUCT THROUGH RATED WALLS, BARRIERS OR PARTITIONS.
 - PROVIDE REMOVABLE ACCESS DOORS AT ALL MOTOR OPERATED DAMPERS, FIRE DAMPERS, SMOKE DAMPERS, DUCT COILS, SMOKE DETECTORS, AND SIMILAR ITEMS REQUIRING MAINTENANCE OR ADJUSTMENT.

ABBREVIATIONS

Ø	ROUND, DIAMETER OR PHASE	F	FAHRENHEIT	OA	OUTSIDE AIR
#	POUNDS OR NUMBER	F&T	FLOAT AND THERMOSTATIC	OC	ON CENTER
ABV.CLG.	ABOVE CEILING	F.D.	FLOOR DRAIN	OD	OUTSIDE DIAMETER
ACU-1	AIR CONDITIONING UNIT & TAG	FACP	FIRE ALARM CONTROL PANEL	OPNG	OPENING
ACHR	AIR CHANGES PER HOUR	FC	FLOW CONTROLLER	PLBG	PLUMBING
AD	ACCESS DOOR	FCU-1	FAN COIL UNIT & TAG	PRS	PRESSURE REDUCING STATION
AFF	ABOVE FINISHED FLOOR	FCV	FLOW CONTROL VALVE	PRV	PRESSURE REDUCING VALVE
AFLD	AUTOMATIC FLOW LIMITING DEVICE	FD	FIRE DAMPER	PSI	POUNDS PER SQUARE INCH
AFMS	AIR FLOW MONITORING STATION	FLEX	FLEX	PSIA	POUNDS PER SQUARE INCH ABSOLUTE
ALUM	ALUMINUM	FLG	FLANGE	PSIG	POUNDS PER SQUARE INCH GAGE
AMCA	AIR MOVEMENT AND CONTROL ASSOCIATION	FP	FIRE PROTECTION	PVC	POLYVINYL CHLORIDE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	FPC	FIRE PROTECTION CONTRACTOR	QTY	QUANTITY
AP	ANCHOR POINT	FPM	FEET PER MINUTE	RA	RETURN AIR
APPROX	APPROXIMATE	FPS	FEET PER SECOND	RCP	REFLECTED CEILING PLAN
ARCH	ARCHITECTURAL	FS	FLOW SWITCH/SENSOR	RECIRC	RECIRCULATING
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATING, AND AIR CONDITIONING ENGINEERS	FSD	COMBINATION FIRE/SMOKE DAMPER	RD	ROUND
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS	FT	FEET	REINF	REINFORCING
AUTO	AUTOMATIC	FTL	FILTER	REQD	REQUIRED
BDD	BACKDRAFT DAMPER	FV	FLOW VALVE	REV	REVISION
BFP	BACKFLOW PREVENTER	GA	GAGE	RH	RELATIVE HUMIDITY
BHP	BRAKE HORSEPOWER	GAL	GALLON(S)	RM	ROOM
BTU	BRITISH THERMAL UNIT	GALV	GALVANIZED	RPM	REVOLUTIONS PER MINUTE
BTUH	BRITISH THERMAL UNIT PER HOUR	GP	GUIDE POINT	SA	SUPPLY AIR
BV	BUTTERFLY VALVE	GPM	GALLONS PER MINUTE	SCFM	STANDARD CUBIC FEET PER MINUTE
C	CONSTANT VOLUME	HORIZ	HORIZONTAL	SCH	SCHEDULE
CC	COOLING COIL	HP	HORSEPOWER	SD	SMOKE DAMPER
CFH	CUBIC FEET PER HOUR	HR	HOUR	SECT	SECTION
CLG	CEILING	HTG	HEATING	SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
CONC	CONCRETE	HVAC	HEATING, VENTILATING, AND AIR CONDITIONING	SP	STATIC PRESSURE
CONN	CONNECTION	IB	INVERTED BUCKET	SPEC	SPECIFICATION
CONT	CONTINUATION	ID	INSIDE DIAMETER	SPR	SPRINKLER
CONST	CONSTRUCTION	IN	INCH	SQ	SQUARE
CONTR	CONTRACTOR	INSUL	INSULATED	SR	SUPPLY REGISTER
COORD	COORDINATE	INV	INVERT	SS	SAFETY SWITCH
COTR	CONTRACTING OFFICER TECHNICAL REPRESENTATIVE	KW	KILOWATT	S/S	STAINLESS STEEL
CP-1	CONDENSATE PUMP & TAG	LAT	LEAVING AIR TEMPERATURE	STL	STEEL
CTR	CENTER	LB/HR	POUNDS PER HOUR	STM	STEAM
CU	COPPER	LF	LINEAR FEET	STRUCT	STRUCTURAL
CU.FT.	CUBIC FEET	LWT	LEAVING WATER TEMPERATURE	SYM	SYMBOL OR SYMMETRICAL
CU.YD.	CUBIC YARD	LP	LOW PRESSURE	SYS	SYSTEM
CW	COLD WATER (DOMESTIC)	MAV	MANUAL AIR VENT	T/D	TRANSFER DUCT
Dø	DRY BULB TEMPERATURE	MAX	MAXIMUM	TAB	TEST, ADJUST, BALANCE
DB	DECIBELS	MBH	BTUH x 1000	THRU	THROUGH
DD	DUCT MOUNTED SMOKE DETECTOR	MD	MANUAL DAMPER	TS	TEMPERATURE SENSOR
DEG(°)	DEGREE(S)	MECH	MECHANICAL	T*STAT	THERMOSTAT
DN	DOWN	MFG	MANUFACTURING	TYP	TYPICAL
DP	DRAIN POINT	MFR	MANUFACTURER	UL	UNDERWRITER'S LABORATORIES
Dp	DEWPOINT TEMPERATURE	MIN	MINIMUM	UON	UNLESS OTHERWISE NOTED
DPR	DAMPER	MOD	MOTOR OPERATED DAMPER	V	VARIABLE VOLUME
DTF	DOWN THRU FLOOR	MRS	MOTOR RATED SWITCH	VERT	VERTICAL
DWG	DRAWING	MTD	MOUNTED	VFD	VARIABLE FREQUENCY DRIVE
DWV	DRAIN, WASTE, AND VENT	NC	NORMALLY CLOSED	VLV	VALVE
EA	EXHAUST AIR	NEC	NATIONAL ELECTRIC CODE	VOL	VOLUME
EAT	ENTERING AIR TEMPERATURE	NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION	VS	VARIABLE SPEED
EDB	ENTERING DRY BULB	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION	VSD	VARIABLE SPEED DRIVE
EF-1	EXHAUST FAN & TAG	NIC	NOT IN CONTRACT	W	WATTS
EFF	EFFICIENCY	NO	NORMALLY OPEN	Wb	WET BULB TEMPERATURE
EJ	EXPANSION JOINT	NO.	NUMBER	WG	WATER GAGE
EL	ELEVATION	NPSH	NET POSITIVE SUCTION HEAD	WP	WEATHER PROOF
ELEC	ELECTRICAL	NTS	NOT TO SCALE		
EQ	EQUAL				
EQUIP	EQUIPMENT				
ER	EXHAUST REGISTER				
ESP	EXTERNAL STATIC PRESSURE				
EWB	ENTERING WET BULB				
EWT	ENTERING WATER TEMPERATURE				
E or EX.	EXISTING				
EXH	EXHAUST				

NOT ALL ALL ABBREVIATIONS SHOWN IN THIS LIST WERE UTILIZED FOR THIS PROJECT.

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COLEJENEST & STONE, P.A.
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Charlotte, North Carolina 28202
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Project

VAMC Salisbury Building 11 - Additions & Renovations

City, State
Salisbury, NC

VA Contract Number
VA246-12-C-0089

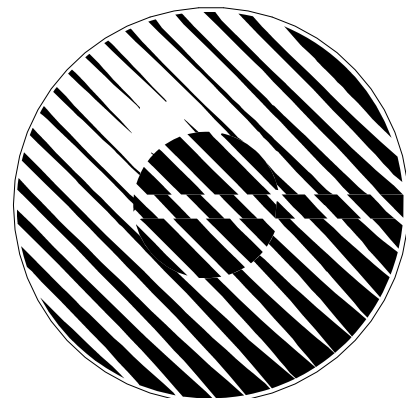
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CONSTRUCTION

Item	Date	Description
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Drawn By SMN
Checked By GAT

Seal / Signature



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Sheet Title

MECHANICAL - NOTES, LEGENDS AND SYMBOLS

Date

December 29, 2015

Sheet Number

M-001

SEQUENCE OF OPERATIONS FOR HVAC CONTROLS

AHU SEQUENCE

GENERAL - THE SCHEDULING PROGRAM AUTOMATICALLY INDEXES THE VAV BOXES AND AIR HANDLING UNIT AHU TO EITHER THE "OCCUPIED" OR "UNOCCUPIED" MODE. WHEN THE AHU IS INDEXED TO THE "OCCUPIED" MODE, IT OPERATES CONTINUOUSLY AS DESCRIBED BELOW AND THE ZONE THERMOSTATS ON ITS VAV BOXES MAINTAIN THEIR "OCCUPIED" HEATING AND COOLING SETPOINTS. WHEN THE AHU IS INDEXED TO THE "UNOCCUPIED" MODE, THE AHU SHUTS DOWN UNLESS ZONE TEMPERATURE FOR ANY ASSOCIATED VAV EXCEEDS ITS "UNOCCUPIED" HEATING SETPOINT OF 60 DEGREES (ADJUSTABLE) OR ITS "UNOCCUPIED" COOLING SETPOINT OF 80 DEGREES (ADJUSTABLE). WHEN THIS OCCURS, THE AHU STARTS AND RUNS UNTIL ALL ZONES ARE SATISFIED. DURING THE "UNOCCUPIED" MODE, AN OVERRIDE PUSHBUTTON ON EACH THERMOSTAT ALLOWS THAT VAV BOX AND ITS AHU TO BE RETURNED TO NORMAL. "OCCUPIED" OPERATION FOR A PRESET PERIOD OF 120 MINUTES (ADJUSTABLE). THE "UNOCCUPIED" HEATING AND COOLING SETPOINTS, THE PUSHBUTTON OVERRIDE TIME, AND THE "OCCUPIED" SETPOINT ADJUSTMENT LIMITS ON THE VAV THERMOSTATS ADJUSTABLE ON THE GRAPHICS INTERFACE WITHIN THE BAS.

FAN CONTROL AND SAFETIES - ON AHU STARTUP, THE SUPPLY AND EXHAUST FANS START THROUGH THE VFD AT MINIMUM SPEED AND RAMP-UP AS REQUIRED TO MAINTAIN SUPPLY DUCT PRESSURE SETPOINT. THE EXHAUST FAN SHALL OPERATE TO MAINTAIN AIRFLOW CALCULATED UTILIZING AN OFFSET AIRFLOW VALUE. THIS VALUE SHALL BE CALCULATED BY THE TEST AND BALANCE CONTRACTOR AT THE OCCURRENCE OF THE INITIAL TEST AND BALANCE. THE VALUE FOR THE OFFSET AIRFLOW SHALL BE DETERMINED USING THE EXHAUST VALVE OF THE PORTION OF THE BUILDING SERVED BY THE UNIT AS A STARTING POINT AND INCREASING THE AIRFLOW VALUE THEREBY REDUCING THE RETURN AIRFLOW UNTIL THE BUILDING OPERATES AT A SATISFACTORY POSITIVE PRESSURE. ONCE THE VALUE IS DETERMINED, THEN THE EXHAUST FAN AIRFLOW SHALL BE MAINTAINED AT THIS OFFSET AIRFLOW VALUE WITH RESPECT TO THE SUPPLY AIRFLOW THROUGHOUT THE OPERATING RANGE. CURRENT SWITCHES SHALL INPUT THE STATUS OF EACH FAN TO CONTROLLER AHU FOR READOUT. AN ALARM IS GENERATED IF A FAN FAILS TO OPERATE WHEN COMMANDED TO RUN. WHEN THE SUPPLY FAN IS OPERATING A CURRENT SWITCH ACTIVATES AND THE AHU CONTROLS OPERATE AS DESCRIBED BELOW. WHEN THE SUPPLY FAN SHUTS DOWN, ALL VALVES AND DAMPERS GO TO THEIR NORMAL POSITIONS WITH THE OUTSIDE DAMPERS CLOSED, THE RETURN DAMPER OPEN, THE STEAM VALVE OPEN, AND THE CHILLED WATER VALVE CLOSED. ALSO, THE EXHAUST FAN SHUTS DOWN AND THE RETURN DAMPER CLOSSES.

THE AHU SHALL SHUTDOWN AND AN ALARM SHALL BE COMMUNICATED TO THE CONTROLLER IF ANY OF THE FOLLOWING SAFETY CONTROLS ACTIVATE:

- 1) A MANUALLY RESET HIGH PRESSURE SWITCH ON THE SUPPLY FAN TRIPS
- 2) A MANUALLY RESET FREEZESTAT AT THE COOLING COIL INLET TRIPS
- 3) A FIRE ALARM SYSTEM RELAY ACTIVATES

A DIFFERENTIAL PRESSURE SWITCH SHALL GENERATE A MAINTENANCE ALARM IF PRESSURE DROP ACROSS THE FILTERS EXCEEDS THE SETPOINT OF THE SWITCH.

SUPPLY DUCT PRESSURE CONTROL - A PRESSURE TRANSMITTER SHALL BE LOCATED IN THE SUPPLY DUCT AND CONTROLLER AHU MODULATE THE SPEED OF THE SUPPLY FAN AS REQUIRED TO MAINTAIN THE SUPPLY AIR STATIC PRESSURE SETPOINT. UPON A DECREASE IN DUCT PRESSURE BELOW SETPOINT, THE SPEED OF THE SUPPLY FAN SHALL BE INCREASED. THE SETPOINT IS OPTIMIZED ONCE EVERY 15 MINUTES BY A CALCULATION IN THE CONTROLLER WHICH MONITORS THE POSITION OF THE FLOW DAMPERS ON ANY ASSOCIATED VAV BOX WHICH IS OPERATING IN THE "OCCUPIED" OR "UNOCCUPIED" MODE. WHEN THE CALCULATION RUNS AND ANY DAMPER IS >80% OPEN, THE STATIC PRESSURE SETPOINT IS INCREMENTED UPWARD BY +0.10" W.C., UNLESS THE FAN IS ALREADY RUNNING AT ITS MAXIMUM SPEED. WHEN THE CALCULATION RUNS AND ALL DAMPERS ARE <80% OPEN, THE STATIC PRESSURE SETPOINT IS DECREMENTED DOWNWARD BY -0.10" W.C., UNLESS THE FAN IS ALREADY RUNNING AT ITS MINIMUM SPEED. THE RESET OF THE SETPOINT IS LIMITED IN SOFTWARE TO 0.5" W.C. MINIMUM AND 3.0" W.C. MAXIMUM (ADJUSTABLE). ON STARTUP OF THE SUPPLY FAN, THE SETPOINT IS INITIALLY SET TO THE MAXIMUM LIMIT AND THEN THE CALCULATION BEGINS TO RESET THE SETPOINT TO THE OPTIMUM VALUE. THE MAXIMUM SETPOINT LIMIT, THE MINIMUM SETPOINT LIMIT, THE INCREMENT & DECREMENT AMOUNT, THE UPPER & LOWER DAMPER POSITIONS TO INCREASE OR DECREASE THE SETPOINT, AND THE FREQUENCY OF THE CALCULATION SHALL EACH BE ADJUSTABLE ON A DETAIL PAGE OF THE AHU GRAPHIC WITHIN THE BAS. THIS GRAPHIC PAGE SHALL ALSO DISPLAY THE ACTUAL STATIC PRESSURE, THE CALCULATED SETPOINT, AND THE CURRENT POSITION OF EACH VAV BOX DAMPER. IN ADDITION, THIS GRAPHIC SHALL "HIGHLIGHT" THE TERMINAL BOX BEING USED TO INCREMENT OR DECREMENT THE SETPOINT. AN ENABLE/DISABLE EXPOINT TO INCLUDE OR EXCLUDE EACH BOX IN THE CALCULATION IS PROVIDED. A MASTER ENABLE/DISABLE POINT SHALL BE PROVIDED FOR THE OPTIMIZATION CALCULATION. IF IT IS DISABLED, THE SETPOINT GOES TO THE MAXIMUM SETPOINT VALUE.

OA FLOW MODE CONTROL - AN OUTSIDE AIR FLOW STATION AND A SUPPLY AIR FLOW STATION ON THE UNIT INPUT FLOW SIGNALS TO THE UNIT CONTROLLER FOR READOUT AND CONTROL. THE AIR HANDLING UNIT TO DETERMINE IF THE UNIT SHOULD OPERATE ON THE "MIN OA" MODE OR THE "ECONOMIZER" MODE AS DESCRIBED BELOW.

WHEN THE AHU FIRST STARTS, IT INITIALLY OPERATES IN THE "NORMAL" MODE. IN THIS MODE THE MINIMUM OUTSIDE AIR DAMPER IS OPEN AND THE EXHAUST FAN IS SET TO ITS MINIMUM FLOW. EITHER THE HEATING VALVE OR CHILLED WATER VALVE SHALL MODULATE FOR TEMPERATURE CONTROL.

WHEN THE AHU REQUIRES MORE OUTSIDE AIR THAN ITS MINIMUM OUTSIDE AIR FLOW TO MAINTAIN ITS SUPPLY AIR TEMPERATURE CONDITIONS BASED ON COMPARISON OF OUTSIDE AIR AND RETURN AIR ENTHALPY (AS DESCRIBED BELOW) THEN "ECONOMIZER" MODE SHALL BE INITIATED IN THIS MODE THE POWERED EXHAUST FAN SHALL INCREASE TO A MAX FLOW AND THE ECONOMIZER OUTSIDE AIR DAMPER SHALL MODULATE OPEN.

WHEN OUTSIDE AIR ENTHALPY EXCEEDS RETURN AIR ENTHALPY, THE AIR HANDLING UNIT SHALL BE SWITCHED BACK TO THE "NORMAL" MODE. THE ECONOMIZER OUTSIDE AIR DAMPER SHALL MODULATE CLOSED AND THE POWERED EXHAUST FAN SHALL BE REDUCE TO A MINIMUM SPEED. WHEN OUTSIDE AIR ENTHALPY AGAIN FALLS BELOW RETURN AIR ENTHALPY, THE UNIT SWITCHES BACK TO THE "ECONOMIZER" MODE AS DESCRIBED ABOVE.

SPACE PRESSURE CONTROL - SPACE PRESSURE CONTROL SHALL BE ACCOMPLISHED THROUGH AN AIRFLOW TRACKING UTILIZING AN OFFSET AIRFLOW FOR EXHAUST FAN CONTROL. THIS SEQUENCE IS DESCRIBED ABOVE.

"OCCUPIED" TEMPERATURE CONTROL - DURING THE "OCCUPIED" MODE, SENSOR IN SUPPLY AIR AND CONTROLLER AHU MODULATE HEATING VALVE AND THE CHILLED WATER VALVE IN SEQUENCE AS REQUIRED TO MAINTAIN THE SUPPLY AIR SETPOINT. THE INITIAL SETPOINT IS 55 DEGREES; HOWEVER, THE CONTROLLER GRADUALLY RESETS THE SUPPLY SETPOINT FROM 55 TO 60 DEGREES AS OUTSIDE AIR TEMPERATURE FALLS FROM 45 DEGREES TO 20 DEGREES. THE RESET PARAMETERS ARE ALL ADJUSTABLE FROM THE UNIT GRAPHIC.

REGARDLESS OF THE OPERATING MODE OF THE AHU, THE LOW LIMIT SENSOR AT THE HEATING COIL DISCHARGE OF THE UNIT AND CONTROLLER AHU FUNCTION AS A LOW LIMIT BY OVERCALLING THE SUPPLY AIR SIGNAL AND MODULATING HEATING VALVE OPEN AS REQUIRED TO PREVENT AIR TEMPERATURE ENTERING THE COOLING COIL FROM FALLING BELOW 50 DEGREES (ADJUSTABLE) UNTIL SUPPLY SENSOR DOWNSTREAM OF THE SUPPLY CAN TAKE CONTROL.

WHEN THE UNIT FIRST SWITCHES TO THE "OCCUPIED" MODE AND RETURN AIR TEMPERATURE AT THE AHU IS LESS THAN THE WARM-UP SETPOINT OF 70 DEGREES (ADJUSTABLE), THE POWERED EXHAUST FAN SHALL REMAIN OFF AND OUTSIDE AIR DAMPERS SHALL CLOSE UNTIL SETPOINT IS ACHIEVED. REHEAT COILS ON THE VAV BOXES THEN HEAT UNTIL RETURN AIR TEMPERATURE RISES ABOVE THIS SETPOINT. WHEN RETURN AIR ON THE UNIT RISES ABOVE THE SETPOINT, THE UNIT GOES TO THE "NORMAL" MODE WITH ERU RUNNING AND THE UNIT BEGINS TO MAINTAIN THE SUPPLY AIR SETPOINT AS DESCRIBED ABOVE.

"UNOCCUPIED" TEMPERATURE CONTROL - DURING THE "UNOCCUPIED" MODE, IF THE UNIT STARTS FOR LOW LIMIT OPERATION, RETURN AIR TEMPERATURE WILL BE BELOW THE WARM UP SETPOINT OF 70 DEGREES AND COOLING WILL BE LOCKED OUT WHILE THE UNIT RUNS AND THE REHEAT COILS ON THE VAV BOXES WILL PROVIDE HEATING. HOWEVER, IF THE SUPPLY FAN STARTS FOR HIGH LIMIT OPERATION, THE UNIT OPERATES ON 100% RETURN AIR AND THE CONTROLLER MAINTAINS THE SUPPLY AIR SETPOINT BY MODULATING THE CHILLED WATER VALVE TO ALLOW INDIVIDUAL VAV BOXES TO COOL.

FIRE ALARM - IF THE FIRE ALARM SYSTEM GOES INTO ALARM, AN ALARM IS INPUT TO THE AHU CONTROLLER AND BOTH FANS STOP AND ALL DAMPERS CLOSE. WHEN THE FIRE ALARM SYSTEM IS RESET, THE FANS ARE AGAIN ALLOWED TO RUN. ONCE ALL DISCHARGE AND RETURN DAMPERS ARE POWERED OPEN, IF SUPPLY DUCT STATIC PRESSURE EXCEEDS THE SETPOINT OF A MANUAL RESET HIGH PRESSURE SWITCH, AN ALARM IS INPUT TO THE CONTROLLER AND ONLY THE SUPPLY FAN STOPS. WHEN IT IS RESET, THE SUPPLY FAN IS AGAIN ALLOWED TO RUN.

FREEZE PROTECTION - IF FREEZESTAT LL-1 AT THE INLET TO THE COOLING COIL TRIPS, AN ALARM IS INPUT TO CONTROLLER AHU. THIS CAUSES THE HEATING COIL VALVE CV-HC TO GO 100% OPEN REGARDLESS OF WHETHER THE UNIT FAN IS RUNNING. WHEN THE FREEZESTAT IS RESET, THE HEATING VALVE IS AGAIN CONTROLLED AS DESCRIBED ABOVE.

END OF SECTION

SEQUENCE OF OPERATIONS FOR HVAC CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATIONS SECTIONS, APPLY TO THIS SECTION. OTHER SECTIONS OF THE SPECIFICATION APPLY TO THIS SECTION AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW AND INCORPORATE THE ENTIRE SPECIFICATION INTO THE SCOPE OF WORK.

1.2 SUMMARY

A. THIS SECTION INCLUDES CONTROL SEQUENCES FOR HVAC SYSTEMS, SUBSYSTEMS, AND EQUIPMENT.

1.3 DEFINITIONS

A. DDC: DIRECT DIGITAL CONTROL.

B. VAV: VARIABLE AIR VOLUME.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 SEQUENCE OF OPERATION

A. VAV TERMINALS

1. THE VAV DDC CONTROLLER SHALL MODULATE THE SUPPLY AIR DAMPER AND THE HOT WATER REHEAT IN SEQUENCE AS REQUIRED TO MAINTAIN TEMPERATURE SET-POINT.
2. A CUSTOMER ADJUSTABLE DEAD BAND SHALL BE PROVIDED IN THE BAS, BETWEEN HEATING AND COOLING MODES.
3. COOLING MODE: UPON RECEIPT OF SIGNAL FROM ROOM TEMPERATURE SENSOR CALLING FOR COOLING, THE SUPPLY AIR DAMPER SHALL MODULATE OPEN UP TO 100%, AS REQUIRED, TO SATISFY ROOM TEMPERATURE SET POINT. ONCE COOLING SETPOINT IS SATISFIED, THE SUPPLY AIR DAMPER SHALL BEGIN TO MODULATE CLOSED. WHEN COOLING SET POINT REMAINS SATISFIED, THE SUPPLY AIR DAMPER SHALL CONTINUE TO MODULATE CLOSED UNTIL IT REACHES MINIMUM FLOW (VENTILATION RATE).
4. HEATING MODE: UPON RECEIPT OF A SIGNAL FROM ROOM TEMPERATURE SENSOR CALLING FOR HEAT, THE SUPPLY AIR DAMPER SHALL MOVE TO 50% OF MAXIMUM FLOW, AND THE HOT WATER REHEAT CONTROL VALVE SHALL MODULATE OPEN. IF THE ROOM TEMPERATURE SENSOR REMAINS UNSATISFIED THE SUPPLY AIR DAMPER SHALL MODULATE OPEN TO 100% MAXIMUM FLOW. ONCE THE ROOM TEMPERATURE SENSOR IS SATISFIED THE SUPPLY AIR DAMPER SHALL BEGIN TO MODULATE CLOSED UNTIL 50% OF MAXIMUM FLOW IS REACHED. IF THE ROOM SENSOR REMAINS SATISFIED, THE HOT WATER REHEAT CONTROL VALVE SHALL MODULATE CLOSED.

B. EXHAUST FANS SHALL HAVE THE CAPABILITY OF BEING STARTED AND STOPPED BY THE BAS. UNDER NORMAL OPERATION, THE EXHAUST FANS SHALL BE CONTROLLED AS FOLLOWS:

3.2 POINT SCHEDULE MATRIX - NO SUMMARY

A. THE CONTRACTOR SHALL COLLABORATE WITH THE OWNER DIRECTLY TO DETERMINE THE OWNER'S PREFERENCE FOR NAMING CONVENTIONS, ETC. BEFORE ENTERING THE DATA IN TO THE SYSTEM.

3.3 START-UP AND COMMISSIONING

A. WHEN INSTALLATION OF THE SYSTEM IS COMPLETE, CALIBRATE EQUIPMENT AND VERIFY TRANSMISSION MEDIA OPERATION BEFORE THE SYSTEM IS PLACED ON-LINE. ALL TESTING, CALIBRATING, ADJUSTING AND FINAL FIELD TESTS SHALL BE COMPLETED BY THE INSTALLER. VERIFY THAT ALL SYSTEMS ARE OPERABLE FROM LOCAL CONTROLS IN THE SPECIFIED FAILURE MODE UPON PANEL FAILURE OR LOSS OF POWER.

B. PROVIDE ANY RECOMMENDATION FOR SYSTEM MODIFICATION IN WRITING TO OWNER. DO NOT MAKE ANY SYSTEM MODIFICATION, INCLUDING OPERATING PARAMETERS AND CONTROL SETTINGS, WITHOUT PRIOR APPROVAL OF OWNER.

3.4 TRAINING

A. THE CONTRACTOR SHALL PROVIDE FACTORY TRAINED INSTRUCTOR TO GIVE FULL INSTRUCTION TO DESIGNATED PERSONNEL IN THE OPERATION OF THE SYSTEM INSTALLED. INSTRUCTORS SHALL BE THOROUGHLY FAMILIAR WITH ALL ASPECTS OF THE SUBJECT MATTER THEY ARE TO TEACH. THE CONTRACTOR SHALL PROVIDE ALL STUDENTS WITH A STUDENT BINDER CONTAINING PRODUCT SPECIFIC TRAINING MODULES FOR THE SYSTEM INSTALLED. ALL TRAINING SHALL BE HELD DURING NORMAL WORKING HOURS OF 8:00 AM TO 4:30 PM WEEKDAYS.

B. PROVIDE 16 HOURS OF TRAINING FOR OWNER'S DESIGNATED OPERATING PERSONNEL. TRAINING SHALL INCLUDE:

1. EXPLANATION OF DRAWINGS, OPERATIONS AND MAINTENANCE MANUALS.
 2. WALK-THROUGH OF THE JOB TO LOCATE CONTROL COMPONENTS.
 3. OPERATOR WORKSTATION AND PERIPHERALS.
 4. DDC CONTROLLER AND ASC OPERATION/FUNCTION.
 5. OPERATOR CONTROL FUNCTIONS INCLUDING GRAPHIC GENERATION AND FIELD PANEL PROGRAMMING.
 6. OPERATION OF PORTABLE OPERATOR'S TERMINAL.
 7. EXPLANATION OF ADJUSTMENT, CALIBRATION AND REPLACEMENT PROCEDURES.
 8. STUDENT BINDER WITH TRAINING MODULES.
- C. SINCE THE OWNER MAY REQUIRE PERSONNEL TO HAVE MORE COMPREHENSIVE UNDERSTANDING OF THE HARDWARE AND SOFTWARE, ADDITIONAL TRAINING MUST BE AVAILABLE FROM THE CONTRACTOR. IF SUCH TRAINING IS REQUIRED BY THE OWNER, IT WILL BE CONTRACTED AT A LATER DATE.

END OF SECTION

ROOF TOP UNIT SCHEDULE								
SYSTEM NO.	RTU-1A	RTU-1B	RTU-1C	RTU-2A	RTU-2B	RTU-2C	RTU-2D	
LOCATION	AREA A ROOF	AREA A ROOF	AREA B ROOF	AREA B ROOF	AREA C ROOF	AREA C ROOF	AREA C ROOF	
SERVES	1ST FLOOR	1ST FLOOR	1ST FLOOR	1ST FLOOR	1ST FLOOR	1ST FLOOR	1ST FLOOR	
TYPE UNIT	PERFORMANCE CLIMATE CHANGER (CSAA) VAV ROOF TOP UNIT	PERFORMANCE CLIMATE CHANGER (CSAA) VAV ROOF TOP UNIT	PERFORMANCE CLIMATE CHANGER (CSAA) VAV ROOF TOP UNIT	PERFORMANCE CLIMATE CHANGER (CSAA) VAV ROOF TOP UNIT	PERFORMANCE CLIMATE CHANGER (CSAA) VAV ROOF TOP UNIT	PERFORMANCE CLIMATE CHANGER (CSAA) VAV ROOF TOP UNIT	PERFORMANCE CLIMATE CHANGER (CSAA) VAV ROOF TOP UNIT	
SYSTEM TYPE	VARIABLE VOLUME	VARIABLE VOLUME	VARIABLE VOLUME	VARIABLE VOLUME	VARIABLE VOLUME	VARIABLE VOLUME	VARIABLE VOLUME	
OUTSIDE AIR (CFM) VENT/ECONOMIZER	9103850	10754550	30259300	418510,000	8053500	10504500	15606600	
TOTAL CFM (MAX/MIN)	2940910	34751075	93005815	10,0005815	3500910	45001075	66001560	
TOTAL EXTERNAL STATIC PRESSURE (IN WG)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
WHEEL DIAMETER	10	12	18	18	10	12	18	
RPM APPROX.	1200	1050	600	600	1200	1050	650	
TYPE DRIVE	BELT	BELT	BELT	BELT	BELT	BELT	BELT	
HP MIN/VOL/TPH/PHZ	2/208/30/60	2/208/30/60	2/208/30/60	2/208/30/60	2/208/30/60	2/208/30/60	2/208/30/60	
TYPE FAN	FORWARD CURVED	FORWARD CURVED	FORWARD CURVED	FORWARD CURVED	FORWARD CURVED	FORWARD CURVED	FORWARD CURVED	
ARRANGEMENT	DRAW-THROUGH	DRAW-THROUGH	DRAW-THROUGH	DRAW-THROUGH	DRAW-THROUGH	DRAW-THROUGH	DRAW-THROUGH	
VSD	YES	YES	YES	YES	YES	YES	YES	
REMARKS:								
EXHAUST FANS	FILTER TYPE	ANGLED	ANGLED	ANGLED	ANGLED	ANGLED	ANGLED	
	FILTER MINIMUM EFFICIENCY	MERV 8	MERV 8	MERV 8	MERV 8	MERV 8	MERV 8	
	FILTER AREA (SQUARE FEET)	11.11	13.89	33.33	33.33	11.11	13.89	
	FILTER PRESSURE DROP (INWG)	0.590	0.594	0.574	0.574	0.590	0.594	
PREFILTER	REMARKS:							
	TOTAL CFM	3850	4550	9300	10,000	3500	4500	
	TOTAL LOAD (MBH)	141.96	167.77	368.73	368.73	141.96	167.77	
	EAT/LAT (°F)	45/79	45/79	45/79	45/79	45/79	45/79	
HEATING COIL	TYPE COIL	STEAM	STEAM	STEAM	STEAM	STEAM	STEAM	
	ROWS MIN.	1	1	1	1	1	1	
	FINS PER FOOT MIN.	43	42	43	43	43	42	
	SQ. FT. FACE AREA	6.50	8.17	17.00	17.00	6.50	8.17	
COOLING COIL	FACE VELOCITY MAX. (FPS)	592	557	588	588	592	557	
	STEAM PSI	15	15	15	15	15	15	
	STEAM MHR @ 15PSI	145	170	370	370	145	170	
	AIR PRESSURE DROP (IN H2O)	0.107	0.092	0.105	0.105	0.107	0.092	
HEATING COIL	REMARKS:							
	TOTAL CFM	3850	4550	9300	10,000	3500	4500	
	TOTAL LOAD (MBH)	183.60	192.90	420.00	420.00	183.60	192.00	
	SENSIBLE LOAD (MBH)	122	133	289	289	122	133	
COOLING COIL	E.A.T. D.B./W.B. (°F)	80/67	80/67	80/67	80/67	80/67	80/67	
	L.A.T. D.B./W.B. (°F)	51/51	53/53	53/53	53/53	51/51	53/53	
	TYPE COIL	CHILLED WATER	CHILLED WATER	CHILLED WATER	CHILLED WATER	CHILLED WATER	CHILLED WATER	
	ROWS MIN.	8	6	6	6	8	6	
SUPPLY FAN	FINS PER FOOT MIN.	130	126	108	108	130	126	
	SQ. FT. FACE AREA MIN.	7.99	9.98	20.81	20.81	7.99	9.98	
	FACE VELOCITY MAX. (FPS)	482	456	481	481	482	456	
	E.W.T. °F	42	42	42	42	42	42	
FINAL FILTER	L.W.T. °F	58	58	58	58	58	58	
	GPM AT 16°F DT	23	24	52	52	23	24	
	AIR PRESSURE (IN WG)	0.894	0.603	0.627	0.627	0.884	0.603	
	WATER PRESSURE DROP (FEET WG)	4.76	4.75	11.96	11.96	4.76	4.75	
SUPPLY FAN	REMARKS:							
	TOTAL CFM (DESIGN/CONNECTED)	3850/3500	4550/4135	9300/8435	10,000/9095	3500/3085	4500/4030	
	TOTAL EXTERNAL STATIC PRESSURE (IN W.G.)	2.5	2.5	2.5	2.5	2.5	2.5	
	WHEEL DIAMETER MIN. (in.)	12	12	20	20	12	12	
FINAL FILTER	RPM APPROX.	3200	1800	1900	1900	3200	1800	
	TYPE DRIVE	BELT	BELT	BELT	BELT	BELT	BELT	
	HP MIN/VOL/TPH/PHZ	7.5/208/30/60	7.5/208/30/60	20/208/30/60	20/208/30/60	7.5/208/30/60	7.5/208/30/60	
	TYPE FAN	AIRFOIL	AIRFOIL	AIRFOIL	AIRFOIL	AIRFOIL	AIRFOIL	
ACCESS.	ARRANGEMENT	DRAW-THROUGH	DRAW-THROUGH	DRAW-THROUGH	DRAW-THROUGH	DRAW-THROUGH	DRAW-THROUGH	
	VSD	YES	YES	YES	YES	YES	YES	
	REMARKS:							
	PREFILTER MIN. EFF.	MERV 8	MERV 8	MERV 8	MERV 8	MERV 8	MERV 8	
ACCESS.	PREFILTER TYPE	2" PLEATED	2" PLEATED	2" PLEATED	2" PLEATED	2" PLEATED	2" PLEATED	
	PREFILTER AREA - SQ FT.	8	8.67	8.67	8.67	8	8.67	
	FINAL FILTER MIN. EFF.	MERV 15	MERV 15	MERV 15	MERV 15	MERV 15	MERV 15	
	FINAL FILTER TYPE	CARTRIDGE	CARTRIDGE	CARTRIDGE	CARTRIDGE	CARTRIDGE	CARTRIDGE	
ACCESS.	FINAL FILTER AREA - SQ FT.	8.00	8.67	8.67	8.67	8.00	8.67	
	ACCESS SECTION W/AD	YES	YES	YES	YES	YES	YES	
	SUPPORT BASE	YES	YES	YES	YES	YES	YES	
	REMARKS:							
ACCESS.	VIBRATION ISOLATORS	YES	YES	YES	YES	YES	YES	
	MIXING SECTION W/AD	YES	YES	YES	YES	YES	YES	
	MOTOR OPER. SMOKE DAMPERS	YES	YES	YES	YES	YES	YES	
	RETURN AIR PLENUM W/AD	NO	NO	NO	NO	NO	NO	
ACCESS.	DISCHARGE AIR PLENUM W/AD	YES	YES	YES	YES	YES	YES	
	ECONOMIZER	YES	YES	YES	YES	YES	YES	
	REMARKS:							



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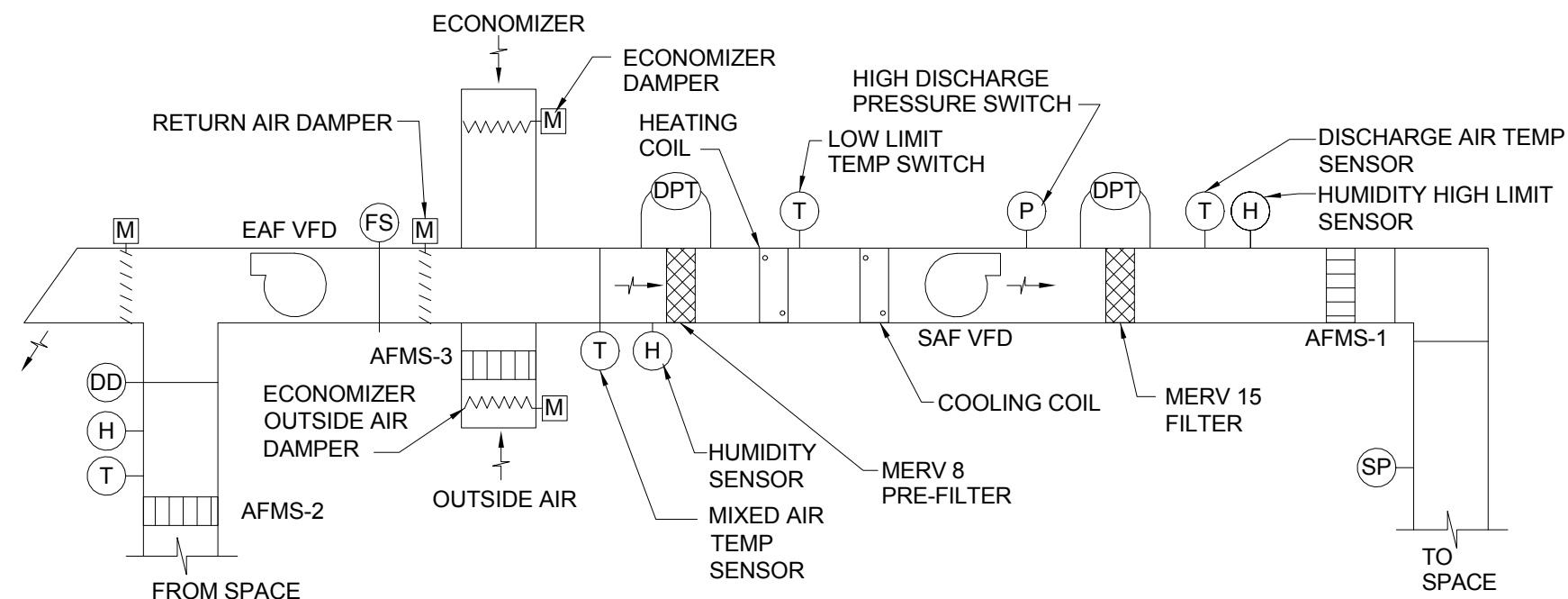
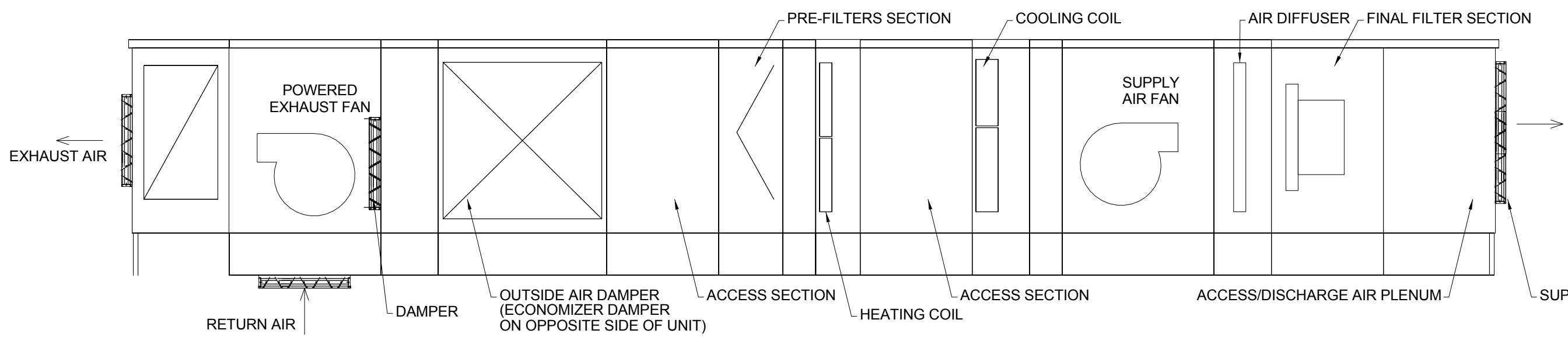
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Project

VAMC Salisbury
Building 11 - Additions
& Renovations

TERMINAL UNIT SCHEDULE																
TERMINAL NO.	CFM			UNIT SIZE	AIR RUNOUT SIZE	E.A.T. (°F)	HEATING L.A.T. (°F)	MINIMUM OPERATING PD (in.wg)	GPM	ROWS	MBH	E.W.T. (°F)	L.W.T. (°F)	WATER PRESSURE DROP(FT)	WATER RUNOUT SIZE	ROOM NUMBER AND NAME
	MAX.	MIN.	REHEAT													
1-1-1V	NOT USED															
1-1-2V	200	100	-	6	6	55	-	0.08	-	-	-	-	-	-	-	ELEC A124
1-1-3C	NOT USED															
1-1-4V	200	100	100	6	6	55	100	0.08	0.49	1	4.77	180	160	0.15	3/4"	LIBRARY A119, DEN A120
1-1-5V	130	75	75	6	6	55	100	0.04	0.45	1 HC	4.43	180	160	0.13	3/4"	STAFF WORK AREA A114
1-1-6V	125	75	75	6	6	55	100	0.03	0.41	1	3.95	180	160	0.11	3/4"	OFFICE AT (2) A112
1-1-7V	350	175	175	8	8	55	100	0.09	0.91	1 HC	8.84	180	160	0.51	3/4"	RESIDENT ROOM A108, RESIDENT BATHROOM A110
1-1-8V	745	375	375	12	12	55	100	0.1	2	1 HC	19.5	180	160	3.04	3/4"	RESIDENT ROOM A102, RESIDENT BATHROOM A104, RESIDENT ROOM A106
1-1-9V	785	395	395	12	12	55	100	0.11	2.07	1 HC	20.15	180	160	3.2	3/4"	RESIDENT ROOM A103, RESIDENT BATHROOM A105, RESIDENT ROOM A107
1-1-10V	555	280	280	10	10	55	100	0.11	1.45	1 HC	14.13	180	160	1.43	3/4"	RESIDENT ROOM A109, RESIDENT BATHROOM A111, RESIDENT ROOM A113
1-1-11V	300	150	150	8	8	55	100	0.07	0.82	1 HC	8.00	180	160	0.44	3/4"	CORRIDOR A101
1-1-12V	340	170	170	8	8	55	100	0.09	0.89	1 HC	8.68	180	160	0.5	3/4"	TELECOM A115
1-1-13V	350	175	175	8	8	55	100	0.09	0.91	1 HC	8.84	180	160	0.51	3/4"	NURSE MGR B106, OFFICE B107
1-1-14V	300	300	300	8	8	55	100	0.07	1.78	1 HC	12.97	180	160	1.47	3/4"	VESTIBULE A131
1-1-15V	2380	1385	1385	16	16	55	100	0.28	3.78	1 HC	46.1	180	160	2.82	3/4"	PANTRY B116, KITCHEN B114
1-1-16V	1250	625	625	14	14	55	100	0.11	3.83	1	27.99	180	160	2.65	3/4"	DINING B117
1-1-17V	1250	625	625	14	14	55	100	0.11	3.83	1	27.99	180	160	2.65	3/4"	DINING B117
1-1-18V	300	150	150	8	8	55	100	0.07	0.82	1 HC	8.00	180	160	0.44	3/4"	CORRIDOR B101, CORRIDOR B102
1-1-19V	200	100	100	6	6	55	100	0.08	0.49	1	4.77	180	160	0.15	3/4"	OFFICE DR B140
1-1-20C	165	165	165	6	6	55	100	0.06	0.93	1 HC	7.67	180	160	0.4	3/4"	OFFICE PA B125, EXAM B124
1-1-21V	300	150	150	8	8	55	100	0.06	0.73	1	7.09	180	160	0.36	3/4"	CORRIDOR B103
1-1-22C	225	225	225	6	6	55	100	0.16	1.15	2	14.08	180	160	0.25	3/4"	EXAM B141
2-1-23V	220	110	110	6	6	55	100	0.1	0.4	1 HC	5.22	180	160	0.1	3/4"	STAFF WORK AREA B126
2-1-24C	135	135	135	4	4	55	100	0.03	0.67	1	5.92	180	160	0.24	3/4"	MEDS B127
1-1-25C	525	525	525	10	10	55	100	0.1	2.95	1 HC	21.57	180	160	4.38	3/4"	RECEPTION B145, SHOWER B144
2-1-26V	300	150	150	8	8	55	100	0.07	0.82	1 HC	8.00	180	160	0.44	3/4"	FAMILY ROOM B150
2-1-27V	300	150	150	8	8	55	100	0.07	0.82	1 HC	8.00	180	160	0.44	3/4"	FAMILY ROOM B151
2-1-28V	300	150	150	8	8	55	100	0.07	0.82	1 HC	8.00	180	160	0.44	3/4"	PEDS FAMILY ROOM B152
2-1-29V	1320	660	660	16	16	55	100	0.11	3.48	1 HC	33.96	180	160	2.45	3/4"	CONFERENCE B160
2-1-30V	630	315	315	10	10	55	100	0.13	1.56	1 HC	15.21	180	160	1.61	3/4"	WAITING B146
2-1-31V	325	160	160	8	8	55	100	0.07	0.76	1	7.39	180	160	0.39	3/4"	STORAGE B163, OFFICE SW B164, OFFICE SW B165
2-1-32V	410	205	205	8	8	55	100	0.12	1.00	1 HC	9.75	180	160	0.60	3/4"	OFFICE SW B167, OFFICE SW B166
2-1-33V	535	270	270	10	10	55	100	0.1	1.42	1 HC	13.81	180	160	1.38	3/4"	RESIDENT ROOM C108, RESIDENT BATHROOM C110, RESIDENT ROOM C112
2-1-34V	745	370	370	12	12	55	100	0.1	1.98	1 HC	19.33	180	160	3	3/4"	RESIDENT ROOM C106, RESIDENT BATHROOM C104, RESIDENT ROOM C102
2-1-35V	775	390	390	12	12	55	100	0.11	2.05	1 HC	19.99	180	160	3.16	3/4"	RESIDENT ROOM C103, RESIDENT BATHROOM C105, RESIDENT ROOM C107
2-1-36V	390	195	195	8	8	55	100	0.11	0.97	1 HC	9.46	180	160	0.57	3/4"	RESIDENT ROOM C109, RESIDENT BATHROOM C111
2-1-37V	300	150	150	8	8	55	100	0.07	0.82	1 HC	8.00	180	160	0.44	3/4"	CORRIDOR C101
2-1-38V	340	170	170	8	8	55	100	0.08	0.79	1	7.67	180	160	0.41	3/4"	TELECOM C114
2-1-39V	205	100	100	6	6	55	100	0.08	0.49	1	4.77	180	160	0.15	3/4"	STAFF WORK AREA C117, OFFICE AT (2)C113
2-1-40V	200	100	100	6	6	55	100	0.08	0.49	1	4.77	180	160	0.15	3/4"	LIBRARY C119, DEN C120
2-1-41C	130	130	130	6	6	55	100	0.04	0.78	1 HC	5.72	180	160	0.31	3/4"	SOILED UTILITY & LINEN C122, CLEAN SUPPLY C123
2-1-42V	680	0	N/A	10	10	55	N/A	0.01	N/A	N/A	N/A	N/A	N/A	N/A	3/4"	ELEC C124
2-1-43V	610	305	305	10	10	55	100	0.13	1.53	1 HC	14.91	180	160	1.56	3/4"	RESIDENT ROOM C126, RESIDENT BATHROOM C128, RESIDENT ROOM C130
2-1-44V	550	275	275	10	10	55	100	0.11	1.43	1 HC	13.97	180	160	1.41	3/4"	RESIDENT ROOM C129, RESIDENT BATHROOM C127, RESIDENT ROOM C125
2-1-45V	300	150	150	8	8	55	100	0.07	0.82	1 HC	8.00	180	160	0.44	3/4"	CORRIDOR C121
2-1-46V	345	175	175	8	8	55	100	0.09	0.91	1 HC	8.84	180	160	0.51	3/4"	VESTIBULE C131, CLEAN LINEN C149
GENERAL NOTES																
1. BOXES SHALL HAVE PIPE CONNECTIONS ON SAME SIDE AND BE FOR SOLDERED FITTINGS.																
2. COIL AND BOX SIZE MAY BE INCREASED TO MEET REQUIRED CONDITIONS; BUT SHALL NOT BE DECREASED FROM SIZE SHOWN.																
3. BOXES SHALL BE SET FOR MAXIMUM CFM SHOWN ON PLANS.																
4. DUCT CONNECTIONS TO BOXES SHALL BE SAME SIZE AS BOX INLET UNLESS SHOWN OTHERWISE.																
5. MAXIMUM WATER PRESSURE DROP SHALL BE 4 FEET.																
6. VARIABLE VOLUME BOXES SHALL OPERATE DOWN TO 50% OF MAXIMUM FLOW.																
7. CONSTANT VOLUME BOXES SHALL BE THE SAME BOX USED FOR VARIABLE VOLUME BOX EXCEPT CFM SHALL BE LOCKED AT CAPACITY SHOWN. BOX SHALL NOT OPERATE AS VARIABLE VOLUME.																
8. CONTROLS SHALL BE DDC PROVIDED BY CONTROLS CONTRACTOR AND INSTALLED BY BOX MANUFACTURER.																
9. BASIS OF DESIGN SHALL BE SINGLE DUCT VARIABLE VOLUME TERMINAL UNITS.																
10. MAXIMUM NC LEVEL OF 30 ON ALL BOXES. PROVIDE SOUND ATTENUATOR AS REQUIRED.																
11. PROVIDE DIFFERENTIAL AIRFLOW SWITCH.																
12. "HC" DEPICTS TERMINAL BOXES THAT SHALL BE SUPPLIED WITH HIGH CAPACITY COILS.																

TERMINAL UNIT SCHEDULE																	
TERMINAL NO.	CFM			UNIT SIZE	AIR RUNOUT SIZE	E.A.T. (°F)	HEATING L.A.T. (°F)	MINIMUM OPERATING PD (in.wg)	GPM	ROWS	MBH	E.W.T. (°F)	L.W.T. (°F)	WATER PRESSURE DROP(FT)	WATER RUNOUT SIZE	ROOM NUMBER AND NAME	
	MAX.	MIN.	REHEAT														
2-1-47V	400	200	200	8	8	55	100	0.12	1.00	1 HC	9.61	180	160	0.58	3/4"	RESIDENT ROOM C154, RESIDENT BATHROOM C153	
2-1-48V	570	285	285	10	10	55	100	0.11	1.47	1 HC	14.45	180	160	1.46	3/4"	RESIDENT ROOM C156, RESIDENT BATHROOM C158, RESIDENT ROOM C160	
2-1-49V	605	300	300	10	10	55	100	0.12	1.51	1 HC	14.76	180	160	1.53	3/4"	RESIDENT ROOM C162, RESIDENT BATHROOM C164, RESIDENT ROOM C166	
2-1-50V	580	290	290	10	10	55	100	0.12	1.48	1 HC	14.45	180	160	1.48	3/4"	RESIDENT ROOM C165, RESIDENT BATHROOM C163, RESIDENT ROOM C161	
2-1-51V	500	250	250	10	10	55	100	0.09	1.35	1 HC	13.15	180	160	1.28	3/4"	RESIDENT ROOM C159, RESIDENT BATHROOM C157, RESIDENT ROOM C155	
2-1-52V	300	150	150	8	8	55	100	0.07	0.82	1 HC	8.00	180	160	0.44	3/4"	CORRIDOR C167	
2-1-53V	210	105	105	6	6	55	100	0.09	0.50	1	4.92	180	160	0.15	3/4"	OFFICE 151	
2-1-54V	750	375	375	12	12	55	100	0.11	2.00	1 HC	19.5	180	160	3.04	3/4"	LIVING ROOM C134, LAUNDRY C135	
2-1-55V	300	150	150	8	8	55	100	0.07	0.82	1 HC	8.00	180	160	0.44	3/4"	NUTRITION C133	
2-1-56V	380	180	180	8	8	55	100	0.1	0.92	1 HC	9.00	180	160	0.53	3/4"	RESIDENT ROOM C140, RESIDENT BATHROOM C138	
2-1-57V	760	380	380	12	12	55	100	0.11	2.02	1 HC	19.66	180	160	3.08	3/4"	RESIDENT ROOM C142, RESIDENT BATHROOM C144, RESIDENT ROOM C146	
2-1-58V	735	370	370	12	12	55	100	0.1	1.98	1 HC	19.33	180	160	3	3/4"	RESIDENT ROOM C147, RESIDENT BATHROOM C145, RESIDENT ROOM C143	
2-1-59V	470	235	235	8	8	55	100	0.15	1.09	1 HC	10.60	180	160	0.68	3/4"	RESIDENT ROOM C141, RESIDENT BATHROOM C139, RESIDENT ROOM C137	
2-1-60V	300	150	150	8	8	55	100	0.07	0.82	1 HC	8.00	180	160	0.44	3/4"	CORRIDOR 148	
2-1-61V	255	130	130	6	6	55	100	0.13	0.58	1	5.63	180	160	0.19	3/4"	STAFF BREAK B157, STORAGE B156	
2-1-62V	270	135	135	6	6	55	100	0.16	0.70	1HC	6.50	180	160	0.24	3/4"	FITNESS CENTER B155	
2-1-63V	360	180	180	8	8	55	100	0.1	0.92	1 HC	9.00	180	160	0.53	3/4"	GROUP B154	
2-1-64V	360	180	180	8	8	55	100	0.1	0.92	1 HC	9.00	180	160	0.53	3/4"	GROUP B153	
2-1-65V	640	320	320	10	10	55	100	0.14	1.57	1 HC	15.36	180	160	1.63	3/4"	CORRIDOR B105	
2-1-66V	195	100	100	6	6	55	100	0.07	0.49	1	4.77	180	160	0.15	3/4"	WOMENS LOUNGE B138	
2-1-67V	100	50	50	4	4	55	100	0.02	0.31	1	2.99	180	160	0.07	3/4"	CODE SUPPLY B129	
2-1-68V	680	0	N/A	10	10	55	N/A	0.01	N/A	N/A	N/A	N/A	N/A	N/A	3/4"	ELEC B130	
2-1-69V	230	115	115	6	6	55	100	0.12	0.6	1 HC	5.89	180	160	0.2	3/4"	OFFICE MANAGER B123	
2-1-70V	255	130	130	6	6	55	100	0.14	0.65	1 HC	6.37	180	160	0.23	3/4"	SMALL GROUP B122	
2-1-71C	100	100	100	6	6	55	100	0.03	0.55	1 HC	5.38	180	160	0.18	3/4"	VESTIBULE B121	
2-1-72V	495	250	250	10	10	55	100	0.09	1.35	1 HC	13.15	180	160	1.28	3/4"	ADMIT NURSE B118, OFFICE B120	
1-1-73V	360	180	180	8	8	55	100	0.1	0.92	1 HC	9.00	180	160	0.53	3/4"	BREAK B113	
1-1-74V	360	180	180	8	8	55	100	0.1	0.92	1 HC	9.00	180	160	0.53	3/4"	GROUP B110	
1-1-75V	360	180	180	8	8	55	100	0.1	0.92	1 HC	9.00	180	160	0.53	3/4"	GROUP B109	
1-1-76V	410	205	205	8	8	55	100	0.12	1	1 HC	9.75	180	160	0.6	3/4"	REC B108	
1-1-77V	515	260	260	10	10	55	100	0.1	1.38	1 HC	13.48	180	160	1.33	3/4"	RESIDENT ROOM A137, RESIDENT BATHROOM A139, RESIDENT ROOM A141	
1-1-78V	770	385	385	12	12	55	100	0.11	2.03	1 HC	19.83	180	160	3.12	3/4"	RESIDENT ROOM A143, RESIDENT BATHROOM A145, RESIDENT ROOM A147	
1-1-79V	745	375	375	12	12	55	100	0.1	2	1 HC	19.5	180	160	3.04	3/4"	RESIDENT ROOM A146, RESIDENT BATHROOM A144, RESIDENT ROOM A142	
1-1-80V	425	215	215	8	8	55	100	0.13	1.03	1 HC	10.04	180	160	0.62	3/4"	RESIDENT ROOM A140, RESIDENT BATHROOM A138	
1-1-81V	300	150	150	8	8	55	100	0.07	0.82	1 HC	8.00	180	160	0.44	3/4"	CORRIDOR A148	
1-1-82V	300	150	150	8	8	55	100	0.07	0.82	1 HC	8.00	180	160	0.44	3/4"	LAUNDRY A135	
1-1-83V	750	375	375	12	12	55	100	0.11	2	1 HC	19.5	180	160	3.04	3/4"	LIVING ROOM A134, NUTRITION A133	
1-1-84C	NOT USED																
1-1-85V	NOT USED																
1-1-86V	NOT USED																
1-1-87V	NOT USED																
1-1-88V	NOT USED																
1-1-89V	NOT USED																
1-1-90V	NOT USED																
1-1-91V	NOT USED																
1-1-92V	NOT USED																
1-1-93V	NOT USED																
2-1-94V	225	115	115	6	6	55	100	0.11	0.60	1HC	5.89	180	160	0.20	3/4"	OFFICE C152	



LEGEND		
AFMS - AIR FLOW MONITORING STATION	DPS - DIFFERENTIAL PRESSURE SENSOR	HXEAF - HEAT EXCHANGER EXHAUST AIR FAN
DD - DUCT DETECTOR	H - HUMIDITY SENSOR	HXOAF - HEAT EXCHANGER OUTSIDE AIR FAN
FS - FIRE STAT	SP - STATIC PRESSURE SENSOR	SAF - SUPPLY AIR FAN
P - HIGH DISCHARGE PRESSURE SWITCH	T - TEMPERATURE SENSOR	RAF - RETURN AIR FAN
VFD - VARIABLE FREQUENCY DRIVE	GEAF - GENERAL EXHAUST AIR FAN	

SIDEWALL RETURN REGISTER		
SYMBOL	SIZE	TYPE
1 CFM	0-110 CFM 8"x4"	LOUVERED RETURN SIDEWALL FIXED LOUVER (45° DEFLECTION) 3/4" SPACING (STEEL CONSTRUCTION)
2 CFM	111-250 CFM 10"x8"	LOUVERED RETURN SIDEWALL FIXED LOUVER (45° DEFLECTION) 3/4" SPACING (STEEL CONSTRUCTION)
3 CFM	251-480 CFM 14"x10"	LOUVERED RETURN SIDEWALL FIXED LOUVER (45° DEFLECTION) 3/4" SPACING (STEEL CONSTRUCTION)
4 CFM	481-650 CFM 18"x12"	LOUVERED RETURN SIDEWALL FIXED LOUVER (45° DEFLECTION) 3/4" SPACING (STEEL CONSTRUCTION)
5 CFM	651-835 CFM 20"x14"	LOUVERED RETURN SIDEWALL FIXED LOUVER (45° DEFLECTION) 3/4" SPACING (STEEL CONSTRUCTION)
6 CFM	836-1400 CFM 24"x18"	LOUVERED RETURN SIDEWALL FIXED LOUVER (45° DEFLECTION) 3/4" SPACING (STEEL CONSTRUCTION)
SEE ARCHITECTURAL CEILING PLAN FOR PROPER FRAME STYLE.		

HEAT TRANSFER PACKAGE SCHEDULE

UNIT NUMBER	MINIMUM CAPACITY BTU/HR	TUBE SIDE		GPM MINIMUM	MAX. P.D. PSI	SHELL SIDE STEAM PSI. & #/HR	HEAT EXCHANGER MODEL NO.	PUMPS			PUMP SIZE	LOCATION	REMARKS
		E.W.T. °F	L.W.T. °F					GPM	FT. HEAD	HP			
HTP-1	1,200,000	160	180	120	1.4	15/1,221	WS-1002-200-1	(2) @ 120	55' EACH	3	3"x1½"x8"	CRAWLSPACE	
NOTES: 1. PACKAGE TO INCLUDE DUPLEX PACKAGED CONDENSATE PUMPS (2 @ ½ HP), AIR SEPARATOR WITH STRAINER, HIGH CAPACITY AUTOMATIC AIR VENT, STEAM CONTROL VALVE, COMBINATION PRV AND PRV WITH FAST FILL ½" MAKE UP LINE, STEAM TRAP, STEAM PRESSURE RELIEF VALVE, BLADDER TYPE EXPANSION TANK, CONTROL PANEL WITH VFD'S AND DISCONNECTS.													

FAN SCHEDULE

FAN NO.	SERVICES	LOCATION	CFM	FAN RPM	EXTERNAL STATIC PRESS. IN W.G.	FAN WHEEL TYPE	MOTOR HP/VOLTPHASE	DRIVE TYPE	FAN TYPE	CONTROL SWITCH & INTERLOCK TYPE	MODEL	STARTER	DISC. SW.
EF-1	NOT USED												
EF-2	NOT USED												
EF-3	GROUND FLOOR EXHAUST	ROOF	1,680	1,614	1.5	BACKWARD INCLINED	1 / 208V / 3 ø	BELT	ROOF MOUNTED CENTRIFUGAL	CONSTANT	GREENHECK GB-141-10	EC	EC
EF-4	NOT USED												
EF-5	CRAWL SPACE EXHAUST	CRAWL SPACE 3	115	2,850	0.6	FORWARD CURVE	61W / 115V / 1 ø	DIRECT	INLINE EXHAUST FAN	INTERLOCKED WITH HUMIDISTAT	FANTECH FR-140	N/A	EC
EF-6	1ST FLOOR GENERAL EXHAUST	ROOF	750	1,990	0.5	BACKWARD INCLINED	¾ / 115V/1 ø	BELT	ROOF MOUNTED CENTRIFUGAL	CONSTANT	GREENHECK GB-101HP-3	EC	EC
EF-7	1ST FLOOR GENERAL EXHAUST	ROOF	685	2,007	0.7	BACKWARD INCLINED	¾ / 115V/1 ø	BELT	ROOF MOUNTED CENTRIFUGAL	CONSTANT	GREENHECK GB-101HP-3	EC	EC
EF-8	1ST FLOOR GENERAL EXHAUST	ROOF	1,435	1,227	0.7	BACKWARD INCLINED	¾ / 115V/1 ø	BELT	ROOF MOUNTED CENTRIFUGAL	CONSTANT	GREENHECK GB-161HP-5	EC	EC
EF-9	1ST FLOOR GENERAL EXHAUST	ROOF	140	1,221	0.5	BACKWARD INCLINED	¾ / 115V/1 ø	BELT	ROOF MOUNTED CENTRIFUGAL	CONSTANT	GREENHECK G-097-VG	EC	EC
EF-10	1ST FLOOR GENERAL EXHAUST	ROOF	410	1,397	0.5	BACKWARD INCLINED	¾ / 115V/1 ø	BELT	ROOF MOUNTED CENTRIFUGAL	CONSTANT	GREENHECK GB-101HP-4	EC	EC
EF-11	1ST FLOOR GENERAL EXHAUST	ROOF	960	1,131	0.5	BACKWARD INCLINED	¾ / 115V/1 ø	BELT	ROOF MOUNTED CENTRIFUGAL	CONSTANT	GREENHECK GB-121-4	EC	EC
EF-12	1ST FLOOR GENERAL EXHAUST	ROOF	1,430	1,083	0.4	BACKWARD INCLINED	¾ / 115V/1 ø	BELT	ROOF MOUNTED CENTRIFUGAL	CONSTANT	GREENHECK GB-161HP-3	EC	EC
EF-13	1ST FLOOR GENERAL EXHAUST	ROOF	760	2,009	0.5	BACKWARD INCLINED	¾ / 115V/1 ø	BELT	ROOF MOUNTED CENTRIFUGAL	CONSTANT	GREENHECK GB-101HP-3	EC	EC
EF-14	1ST FLOOR GENERAL EXHAUST	ROOF	810	2,231	0.7	BACKWARD INCLINED	¾ / 115V/1 ø	BELT	ROOF MOUNTED CENTRIFUGAL	CONSTANT	GREENHECK GB-101HP-5	EC	EC
EF-15	1ST FLOOR GENERAL EXHAUST	ROOF	680	1,704	0.3	BACKWARD INCLINED	¾ / 115V/1 ø	BELT	ROOF MOUNTED CENTRIFUGAL	CONSTANT	GREENHECK GB-101HP-4	EC	EC
EF-16	1ST FLOOR GENERAL EXHAUST	ROOF	1,265	1,089	0.6	BACKWARD INCLINED	¾ / 115V/1 ø	BELT	ROOF MOUNTED CENTRIFUGAL	CONSTANT	GREENHECK GB-161HP-5	EC	EC
NOTES: 1. PROVIDE BACKDRAFT DAMPER, BIRD SCREEN AND ROOF CURB (FOR ROOF MOUNTED FANS). 2. PROVIDE VIBRATION ISOLATORS, SEE SPECIFICATIONS. 3. COORDINATE HEIGHT OF ROOF CURB WITH ROOFING CONTRACTOR 4. BASIS OF DESIGN PER FAN: EF-1 AND EF-2 - GREENHECK TB-CA-SL20-75, EF-3 - GREENHECK GB-141-10, EF-4 AND EF-5 - FANTECH FR-140.													

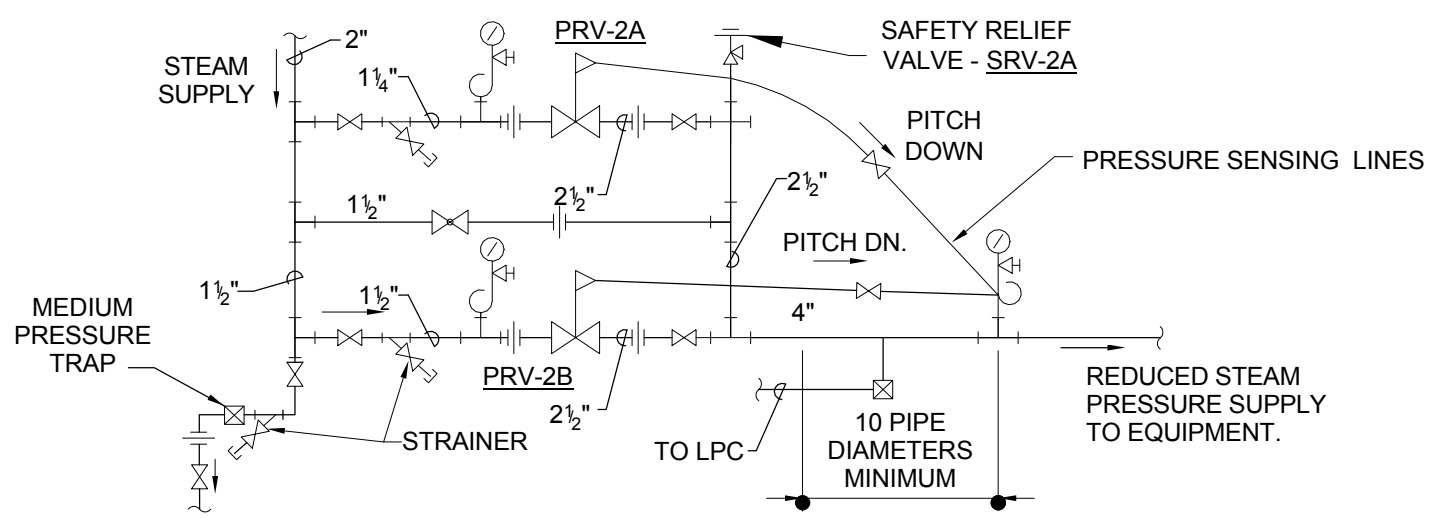
PERFORATED RETURN REGISTERS		
SYMBOL	REGISTER SIZE 24"x24"	TYPE
1 CFM	0-135 CFM 6" ROUND NECK	PERFORATED FACE RETURN AIR CEILING DIFFUSER (STEEL CONSTRUCTION)
2 CFM	136-210 CFM 8" ROUND NECK	PERFORATED FACE RETURN AIR CEILING DIFFUSER (STEEL CONSTRUCTION)
3 CFM	211-325 CFM 10" ROUND NECK	PERFORATED FACE RETURN AIR CEILING DIFFUSER (STEEL CONSTRUCTION)
4 CFM	326-475 CFM 12" ROUND NECK	PERFORATED FACE RETURN AIR CEILING DIFFUSER (STEEL CONSTRUCTION)
5 CFM	476-650 CFM 14" ROUND NECK	PERFORATED FACE RETURN AIR CEILING DIFFUSER (STEEL CONSTRUCTION)
6 CFM	651-840 CFM 16" ROUND NECK	PERFORATED FACE RETURN AIR CEILING DIFFUSER (STEEL CONSTRUCTION)
7 CFM	841-2000 CFM 22"x22" NECK	PERFORATED FACE RETURN AIR CEILING DIFFUSER (STEEL CONSTRUCTION)
NOTES: 1. SEE ARCHITECTURAL CEILING PLAN FOR PROPER FRAME STYLE. 2. GRILLES LOCATED IN HARD CEILING AREAS SHALL BE PROVIDED WITH SURFACE MOUNTED FRAMES.		

PERFORATED EXHAUST REGISTERS		
SYMBOL	REGISTER SIZE 24"x24"	TYPE
A CFM	0-135 CFM 6" ROUND NECK	PERFORATED FACE EXHAUST AIR CEILING DIFFUSER (STEEL CONSTRUCTION)
B CFM	136-210 CFM 8" ROUND NECK	PERFORATED FACE EXHAUST AIR CEILING DIFFUSER (STEEL CONSTRUCTION)
C CFM	211-325 CFM 10" ROUND NECK	PERFORATED FACE EXHAUST AIR CEILING DIFFUSER (STEEL CONSTRUCTION)
D CFM	326-475 CFM 12" ROUND NECK	PERFORATED FACE EXHAUST AIR CEILING DIFFUSER (STEEL CONSTRUCTION)
E CFM	476-650 CFM 14" ROUND NECK	PERFORATED FACE EXHAUST AIR CEILING DIFFUSER (STEEL CONSTRUCTION)
F CFM	651-840 CFM 16" ROUND NECK	PERFORATED FACE EXHAUST AIR CEILING DIFFUSER (STEEL CONSTRUCTION)
G CFM	841-2000 CFM 22"x22" NECK	PERFORATED FACE EXHAUST AIR CEILING DIFFUSER (STEEL CONSTRUCTION)
H CFM	12"x12" REGISTER 0-135 CFM 6" NECK	PERFORATED FACE EXHAUST AIR CEILING DIFFUSER (STEEL CONSTRUCTION)
NOTES: 1. SEE ARCHITECTURAL CEILING PLAN FOR PROPER FRAME STYLE. 2. REGISTERS LOCATED IN HARD CEILING AREAS SHALL BE PROVIDED WITH SURFACE MOUNTED FRAMES.		

LOUVERED SUPPLY DIFFUSER		
SYMBOL	CFM RANGE, FACE SIZE, & NECK SIZE TYPICAL MODULE SIZE - 24"x24"	TYPE
1 CFM	0-135 CFM 6"x6" FACE 6" NECK	LOUVERED FACE DIRECTIONAL DIFFUSERS (STEEL CONSTRUCTION)
2 CFM	136-210 CFM 9"x9" FACE 8" NECK	LOUVERED FACE DIRECTIONAL DIFFUSERS (STEEL CONSTRUCTION)
3 CFM	211-325 CFM 12"x12" FACE 10" NECK	LOUVERED FACE DIRECTIONAL DIFFUSERS (STEEL CONSTRUCTION)
4 CFM	326-475 CFM 12"x12" FACE 12" NECK	LOUVERED FACE DIRECTIONAL DIFFUSERS (STEEL CONSTRUCTION)
5 CFM	476-650 CFM 15"x15" FACE 14" NECK	LOUVERED FACE DIRECTIONAL DIFFUSERS (STEEL CONSTRUCTION)
6 CFM	650-840 CFM 18"x18" FACE 16" NECK	LOUVERED FACE DIRECTIONAL DIFFUSERS (STEEL CONSTRUCTION)
7 CFM	841-1125 CFM 18"x18" FACE & NECK	LOUVERED FACE DIRECTIONAL DIFFUSERS (STEEL CONSTRUCTION)
NOTES: 1. SEE ARCHITECTURAL CEILING PLAN FOR PROPER FRAME STYLE. 2. DIFFUSERS LOCATED IN HARD CEILING AREAS SHALL BE PROVIDED WITH SURFACE MOUNTED FRAMES. 3. PROVIDE ROUND NECK ADAPTER.		

SIDEWALL SUPPLY REGISTER		
SYMBOL	CFM RANGE & MODULE SIZE	TYPE
1 CFM	0-225 CFM 10"x6"	LOUVERED SUPPLY SIDEWALL DOUBLE DEFLECTION 3/4" SPACING (STEEL CONSTRUCTION)
2 CFM	226-450 CFM 12"x10"	LOUVERED SUPPLY SIDEWALL DOUBLE DEFLECTION 3/4" SPACING (STEEL CONSTRUCTION)
3 CFM	451-700 CFM 18"x12"	LOUVERED SUPPLY SIDEWALL DOUBLE DEFLECTION 3/4" SPACING (STEEL CONSTRUCTION)
4 CFM	701-900 CFM 24"x12"	LOUVERED SUPPLY SIDEWALL DOUBLE DEFLECTION 3/4" SPACING (STEEL CONSTRUCTION)
5 CFM	901-1180 CFM 30"x12"	LOUVERED SUPPLY SIDEWALL DOUBLE DEFLECTION 3/4" SPACING (STEEL CONSTRUCTION)
6 CFM	1181-1350 CFM 36"x12"	LOUVERED SUPPLY SIDEWALL DOUBLE DEFLECTION 3/4" SPACING (STEEL CONSTRUCTION)
SEE ARCHITECTURAL CEILING PLAN FOR PROPER FRAME STYLE.		

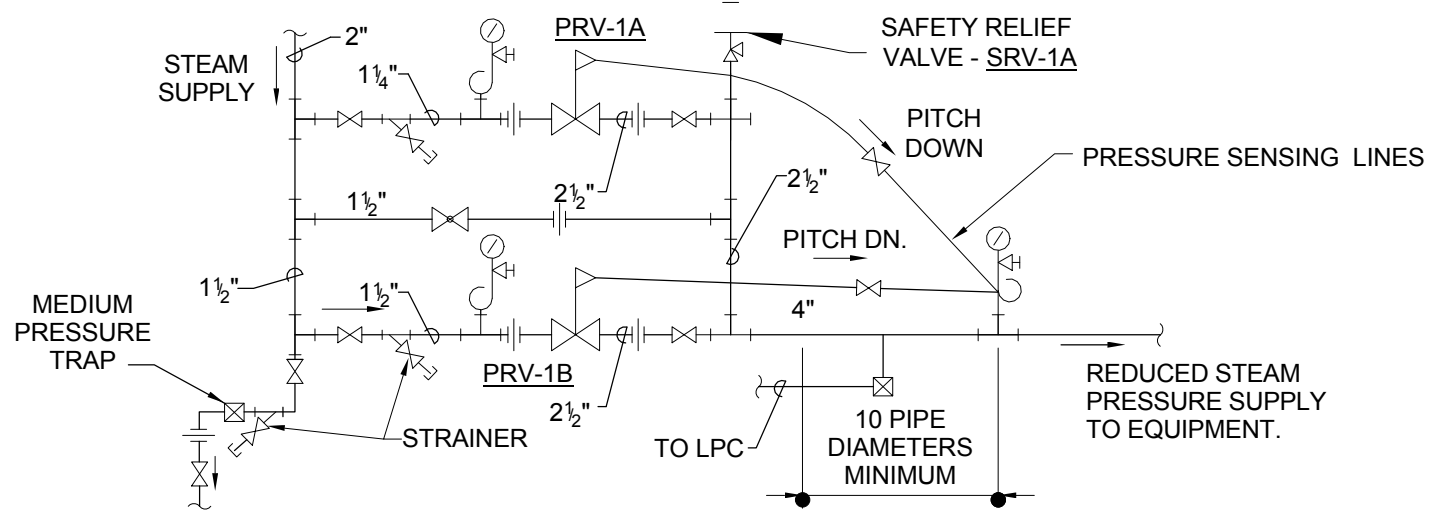
SIDEWALL EXHAUST REGISTER		
SYMBOL	SIZE	TYPE
A CFM	0-110 CFM 8"x4"	LOUVERED EXHAUST SIDEWALL FIXED LOUVER (45° DEFLECTION) 3/4" SPACING (STEEL CONSTRUCTION)
B CFM	111-250 CFM 10"x6"	LOUVERED EXHAUST SIDEWALL FIXED LOUVER (45° DEFLECTION) 3/4" SPACING (STEEL CONSTRUCTION)
C CFM	251-480 CFM 14"x8"	LOUVERED EXHAUST SIDEWALL FIXED LOUVER (45° DEFLECTION) 3/4" SPACING (STEEL CONSTRUCTION)
D CFM	481-650 CFM 18"x10"	LOUVERED EXHAUST SIDEWALL FIXED LOUVER (45° DEFLECTION) 3/4" SPACING (STEEL CONSTRUCTION)
E CFM	651-835 CFM 18"x12"	LOUVERED EXHAUST SIDEWALL FIXED LOUVER (45° DEFLECTION) 3/4" SPACING (STEEL CONSTRUCTION)
F CFM	836-1400 CFM 24"x18"	LOUVERED EXHAUST SIDEWALL FIXED LOUVER (45° DEFLECTION) 3/4" SPACING (STEEL CONSTRUCTION)
SEE ARCHITECTURAL CEILING PLAN FOR PROPER FRAME STYLE.		



PRESSURE REDUCING VALVE STATION SCHEDULE							
PRV-#	ENTERING PRESSURE (psi)	LEAVING PRESSURE (psi)	STEAM CAPACITY (LBS/HR)	VALVE SIZE (in)	PORT TYPE	SAFETY RELIEF VALVE	
						SRV-#	DISCHARGE PRESSURE (psi)
PRV-2A	100	15	1,200	1-1/4"	NORMAL	SRV-2A	20
PRV-2B	100	15	2,500	1-1/2"	FULL	SRV-2A	20
NOTES: 1. PROVIDE ORIFICE TYPE FLOW METER UPSTREAM OF PIPE FLOW AS REQUIRED. 2. GATE VALVES SHOULD BE FULLY OPEN TO PROVIDE UNRESTRICTED FLOW. 3. PROVIDE PILOT OPERATED REGULATORS. 4. PROVIDE DRIP PAN ELBOW FROM SRV-1A. OUTLET SIZE OF SRV-1A SHALL MATCH INLET OF DRIP PAN ELBOW. 5. SIZING VARIES BY MANUFACTURER. PERFORMANCE SHALL BE VERIFIED.							

STEAM PRESSURE REDUCING VALVE STATION (CRAWL SPACE)

2



PRESSURE REDUCING VALVE STATION SCHEDULE							
PRV-#	ENTERING PRESSURE (psi)	LEAVING PRESSURE (psi)	STEAM CAPACITY (LBS/HR)	VALVE SIZE (in)	PORT TYPE	SAFETY RELIEF VALVE	
						SRV-#	DISCHARGE PRESSURE (psi)
PRV-1A	100	15	1,080	1-1/4"	NORMAL	SRV-1A	20
PRV-1B	100	15	2,120	1-1/2"	FULL	SRV-1A	20
NOTES: 1. PROVIDE ORIFICE TYPE FLOW METER UPSTREAM OF PIPE FLOW AS REQUIRED. 2. GATE VALVES SHOULD BE FULLY OPEN TO PROVIDE UNRESTRICTED FLOW. 3. PROVIDE PILOT OPERATED REGULATORS. 4. PROVIDE DRIP PAN ELBOW FROM SRV-1A. OUTLET SIZE OF SRV-1A SHALL MATCH INLET OF DRIP PAN ELBOW. 5. SIZING VARIES BY MANUFACTURER. PERFORMANCE SHALL BE VERIFIED.							

STEAM PRESSURE REDUCING VALVE STATION (CRAWL SPACE)

1



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Project

VAMC Salisbury Building 11 - Additions & Renovations

City, State
Salisbury, NC

VA Contract Number
VA246-12-C-0089

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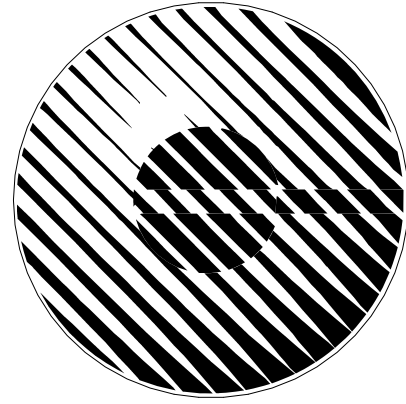
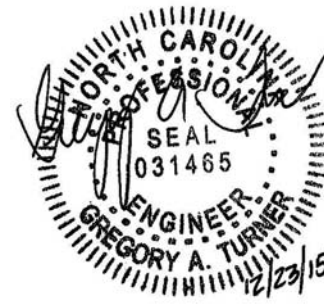
CONSTRUCTION

Item	Date	Description
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MECHANICAL - SCHEDULES

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Sheet Number

M-002B



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Project

VAMC Salisbury Building 11 - Additions & Renovations

City/State
Salisbury, NC

VA Contract Number

VA246-12-C-0089

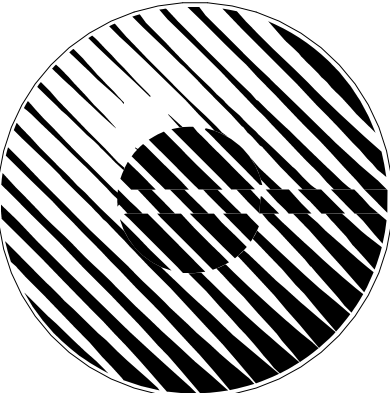
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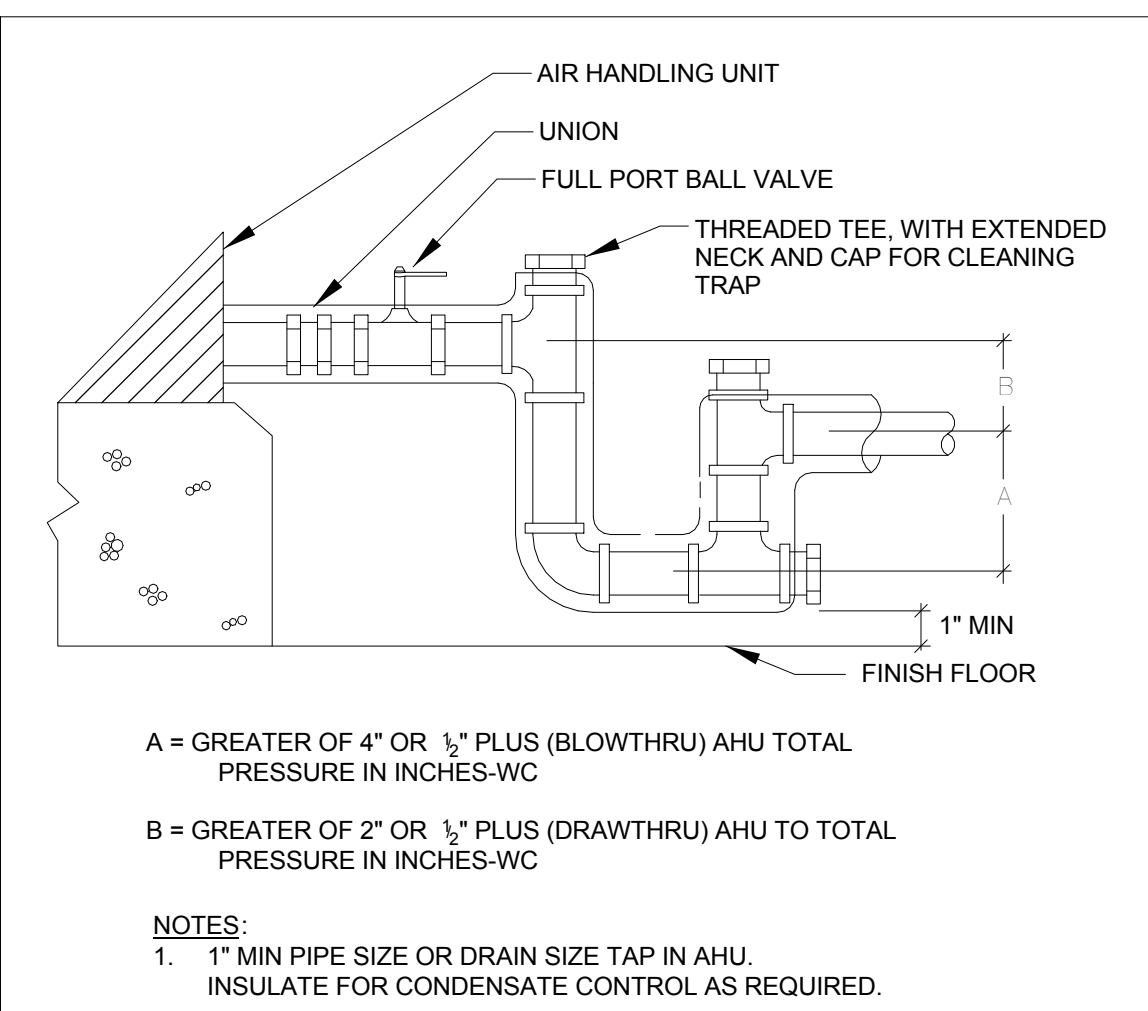
MECHANICAL - DETAILS

Date

December 29, 2015

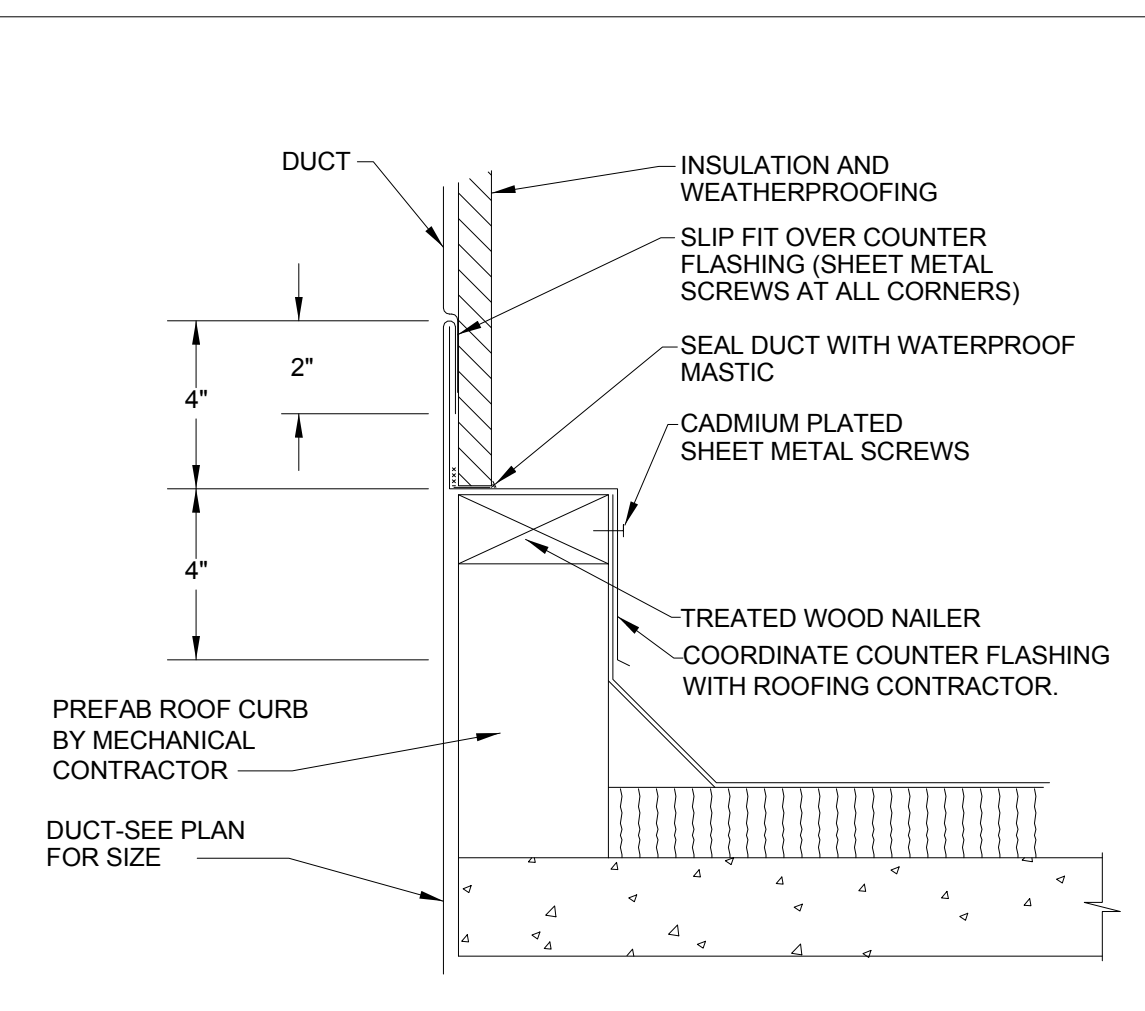
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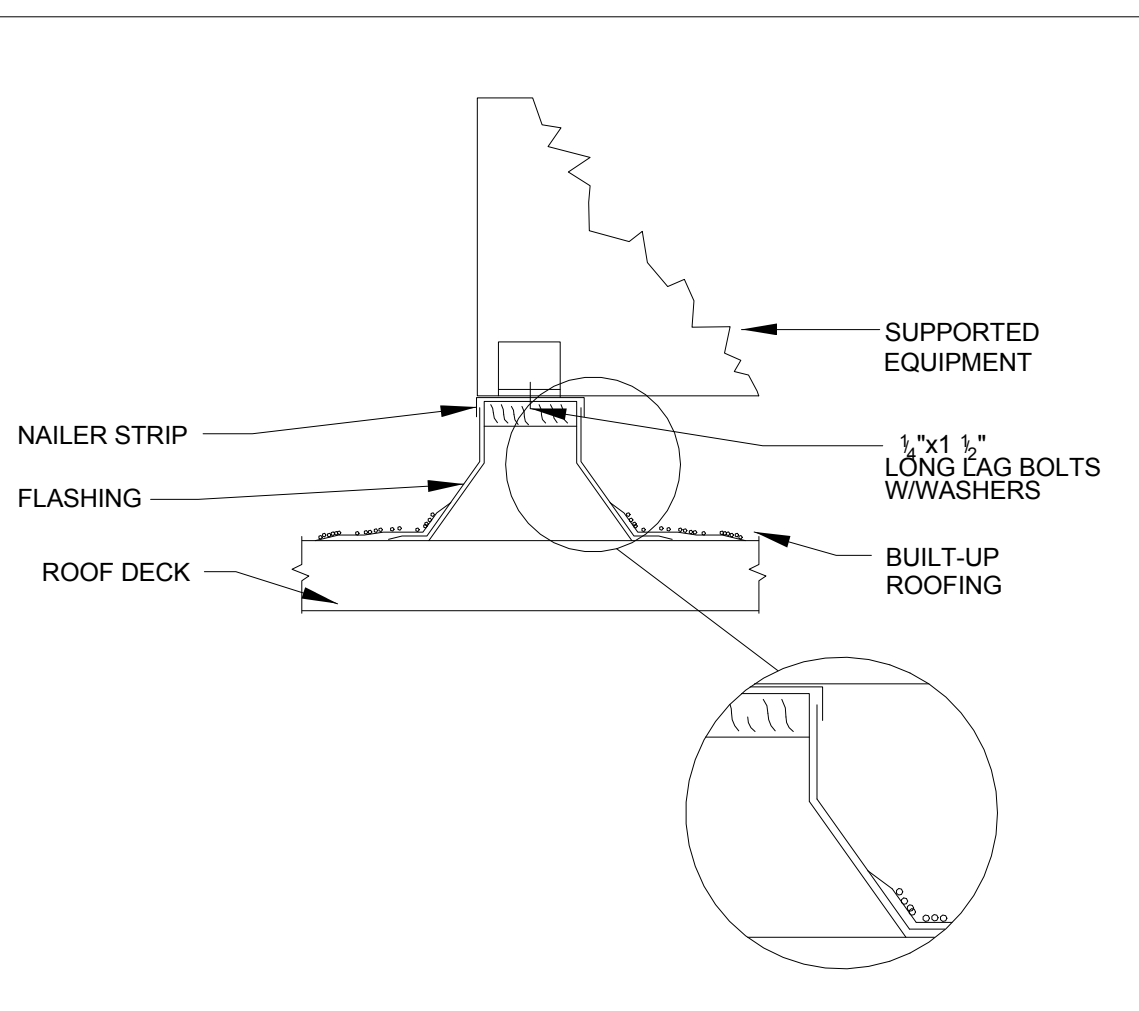
CONDENSATE DRAIN TRAP

19



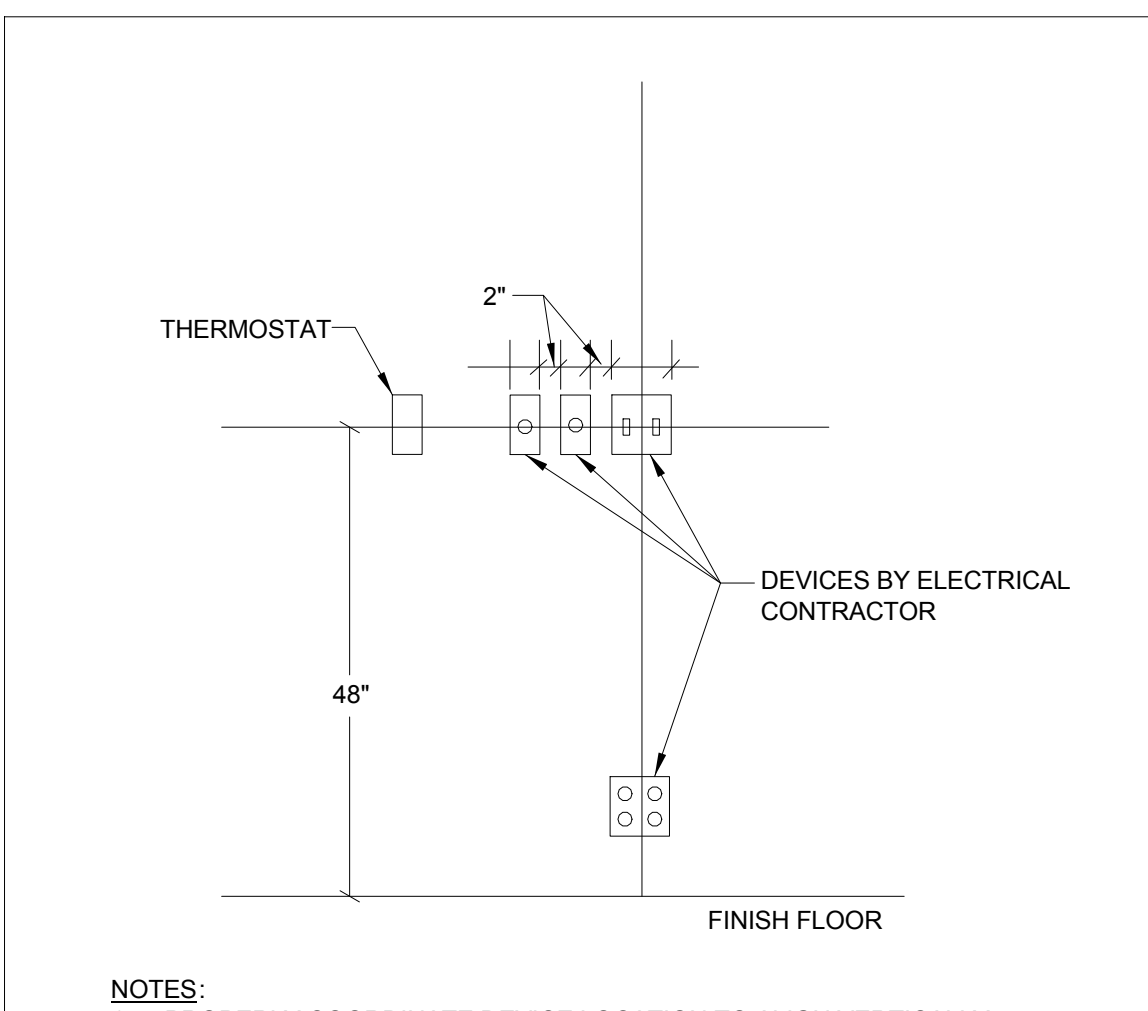
DUCT THRU ROOF

16



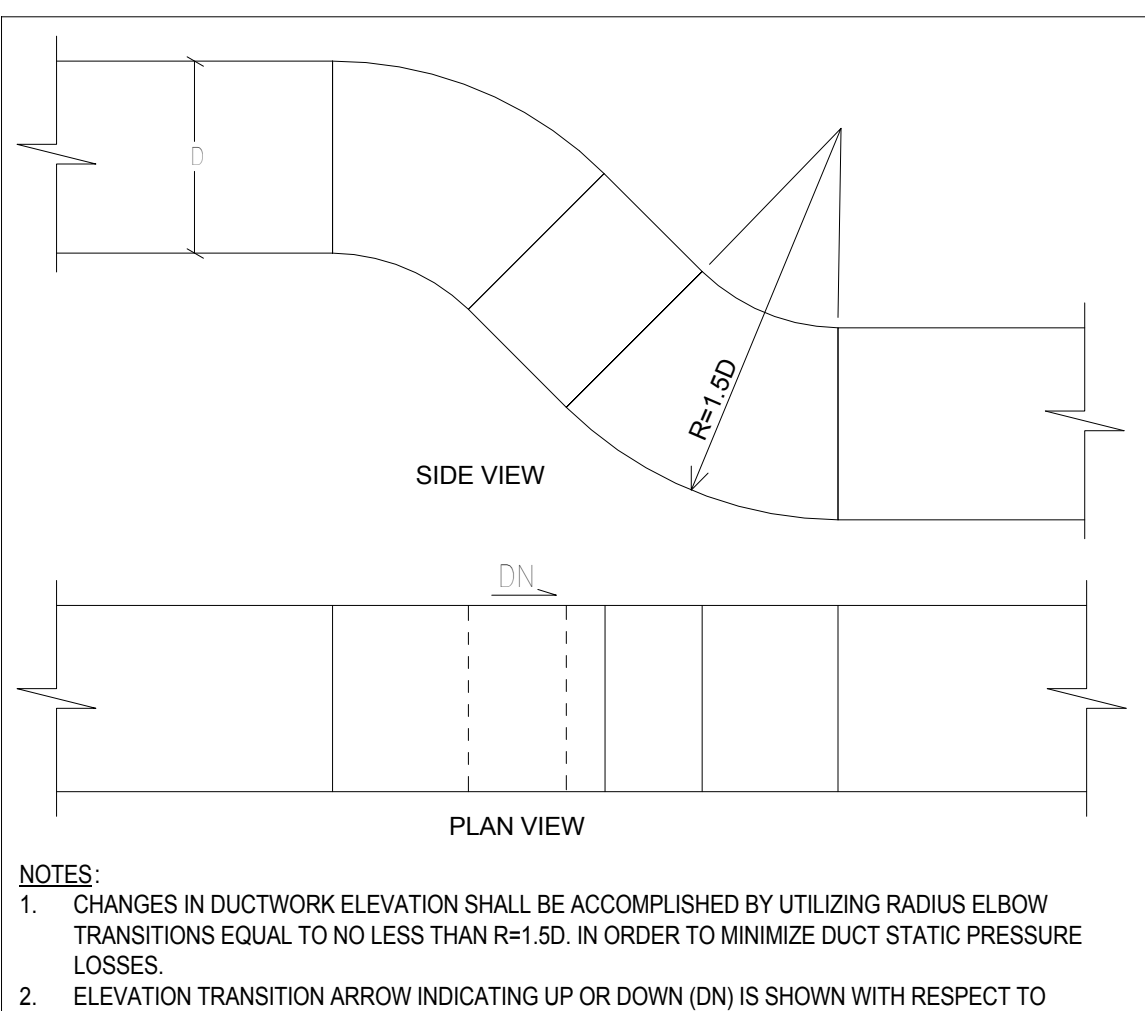
EQUIPMENT SUPPORT ON ROOF

12



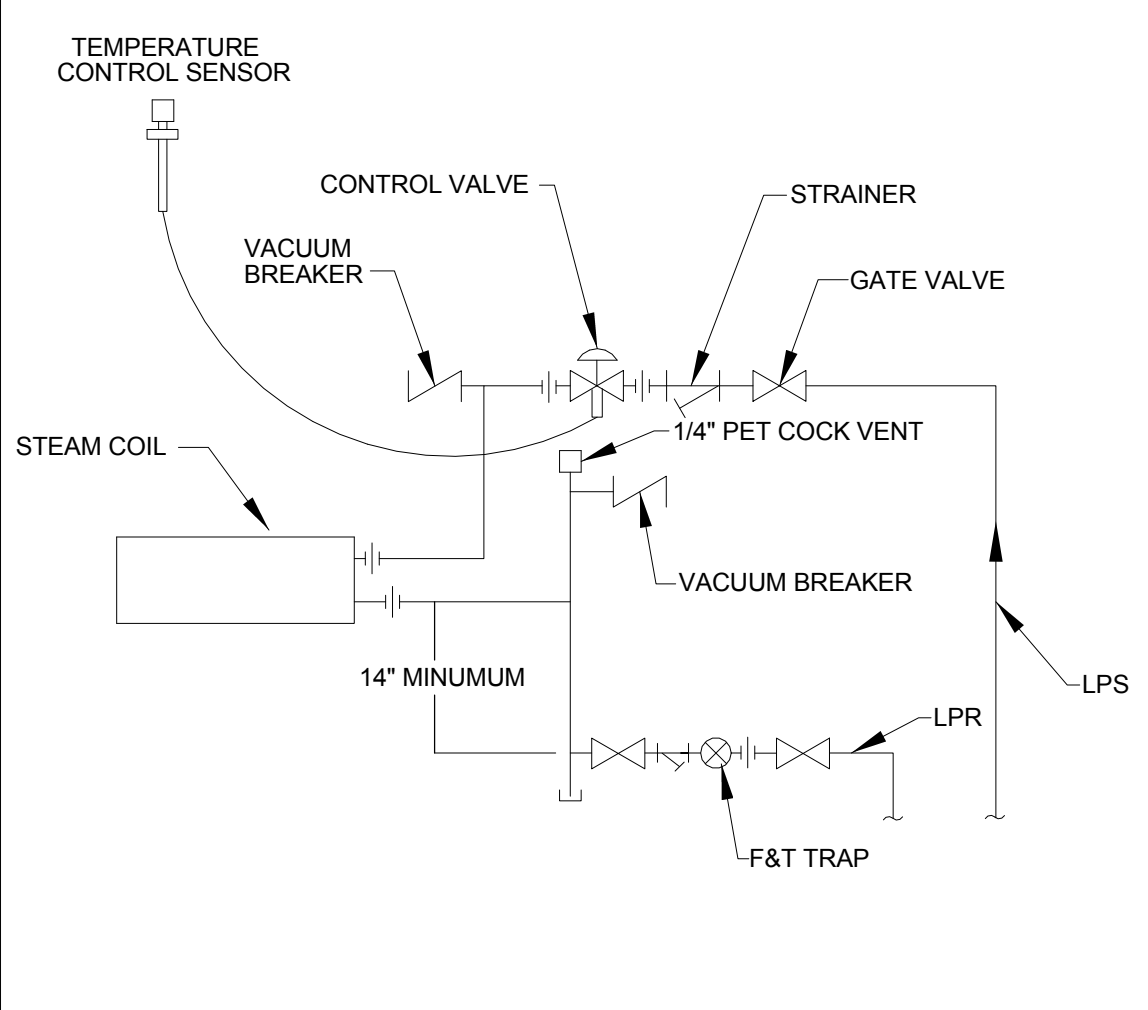
THERMOSTAT ALIGNMENT

8



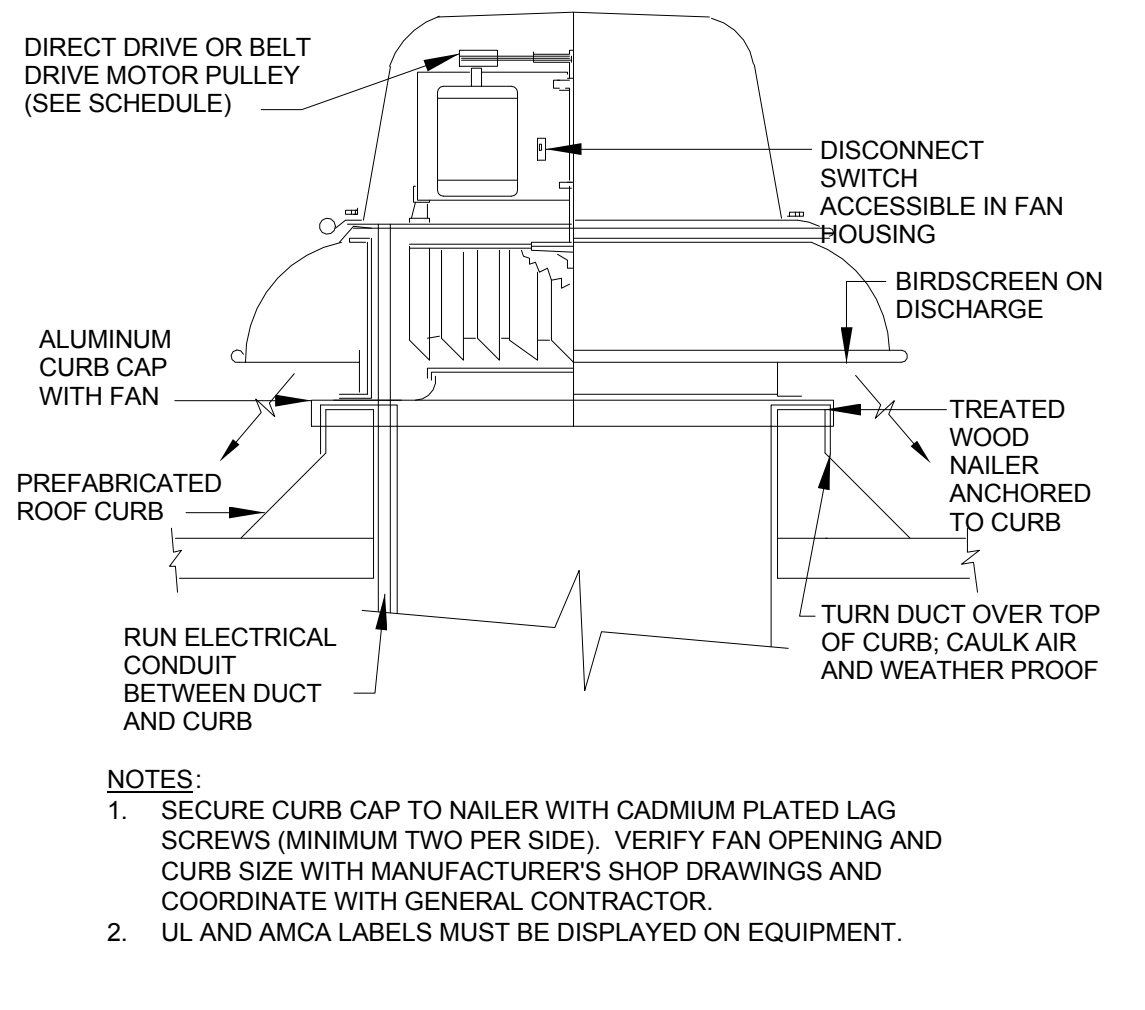
ELEVATION CHANGE - OGEE TRANSITION DETAIL

4



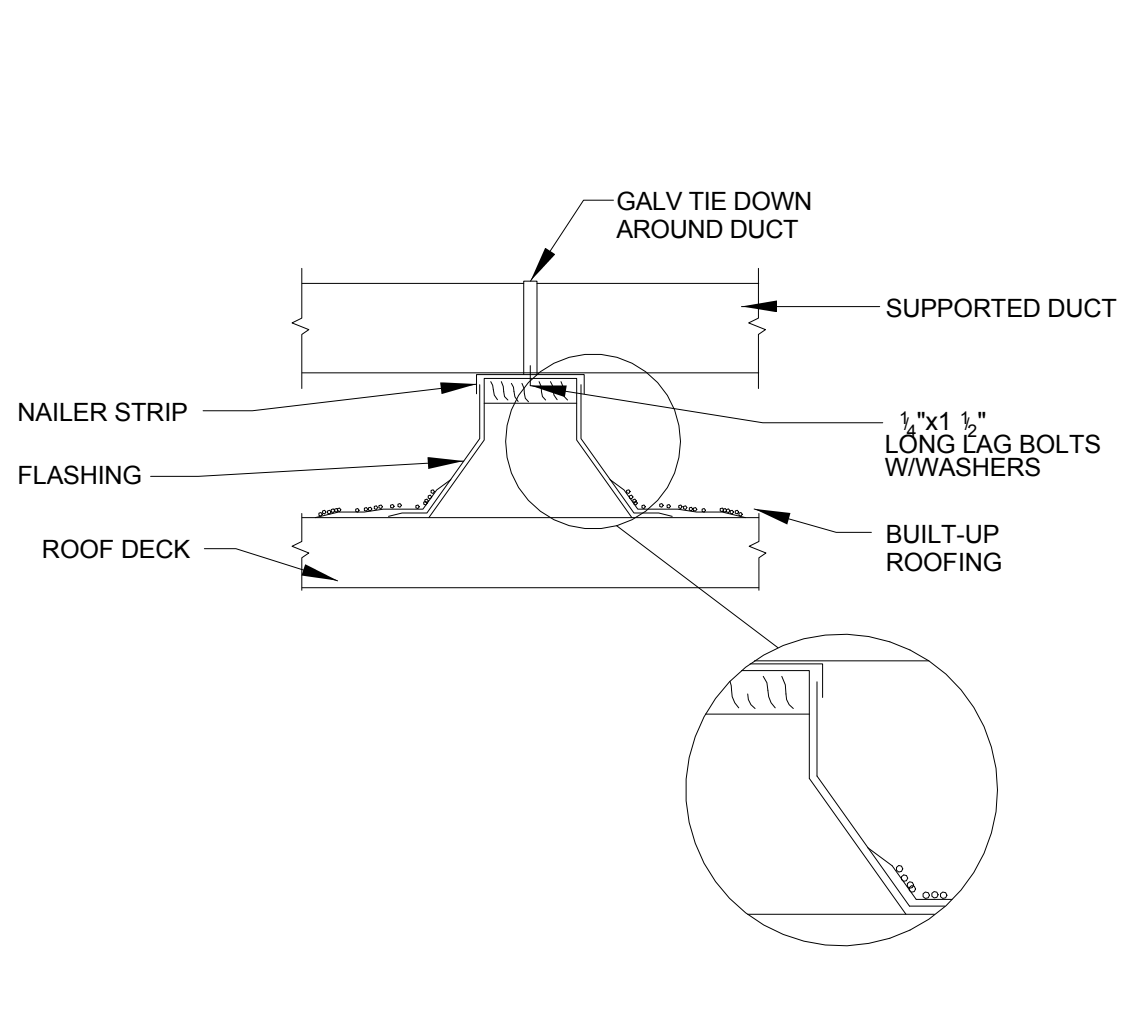
STEAM COIL PIPING

18



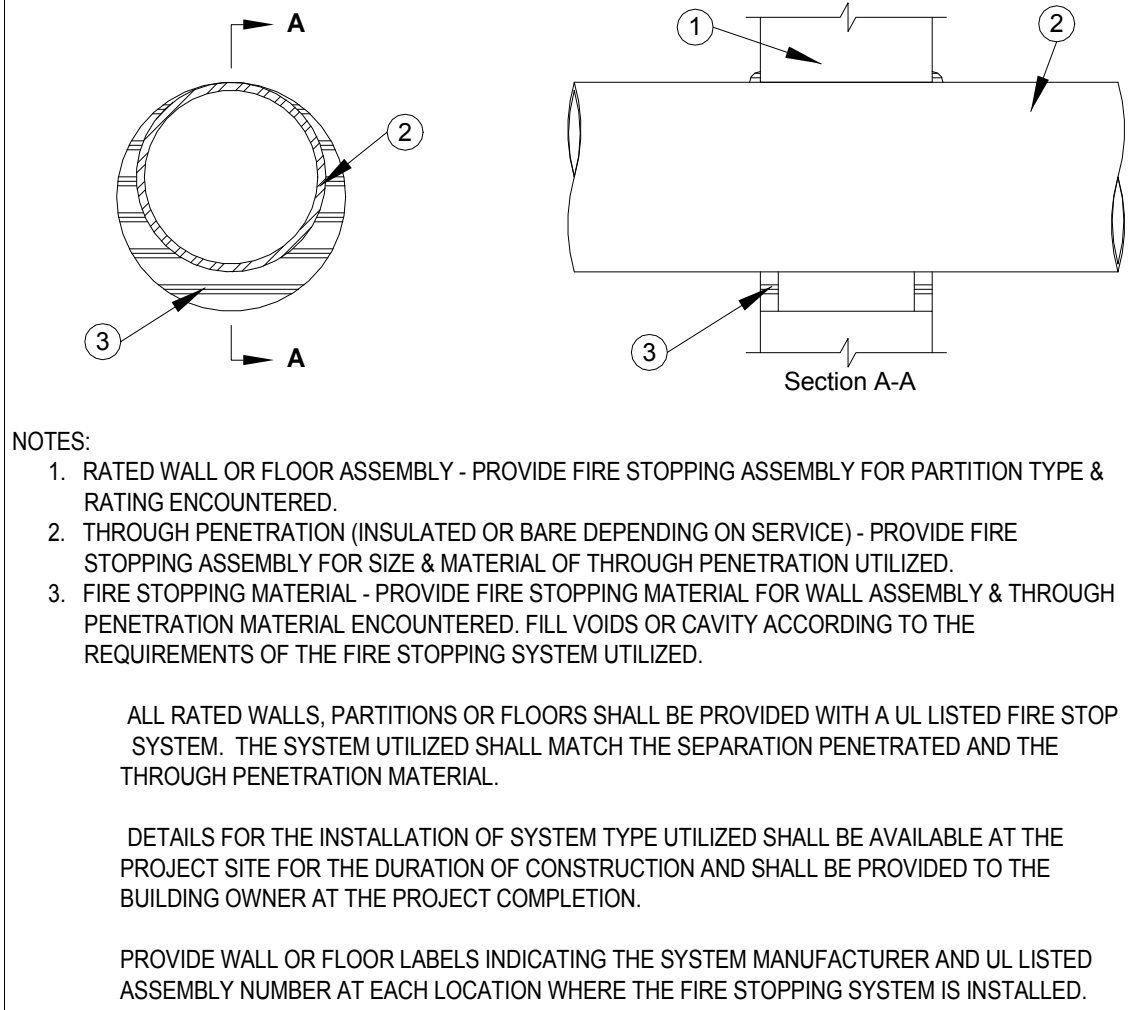
DOWNBLAST EXHAUST FAN

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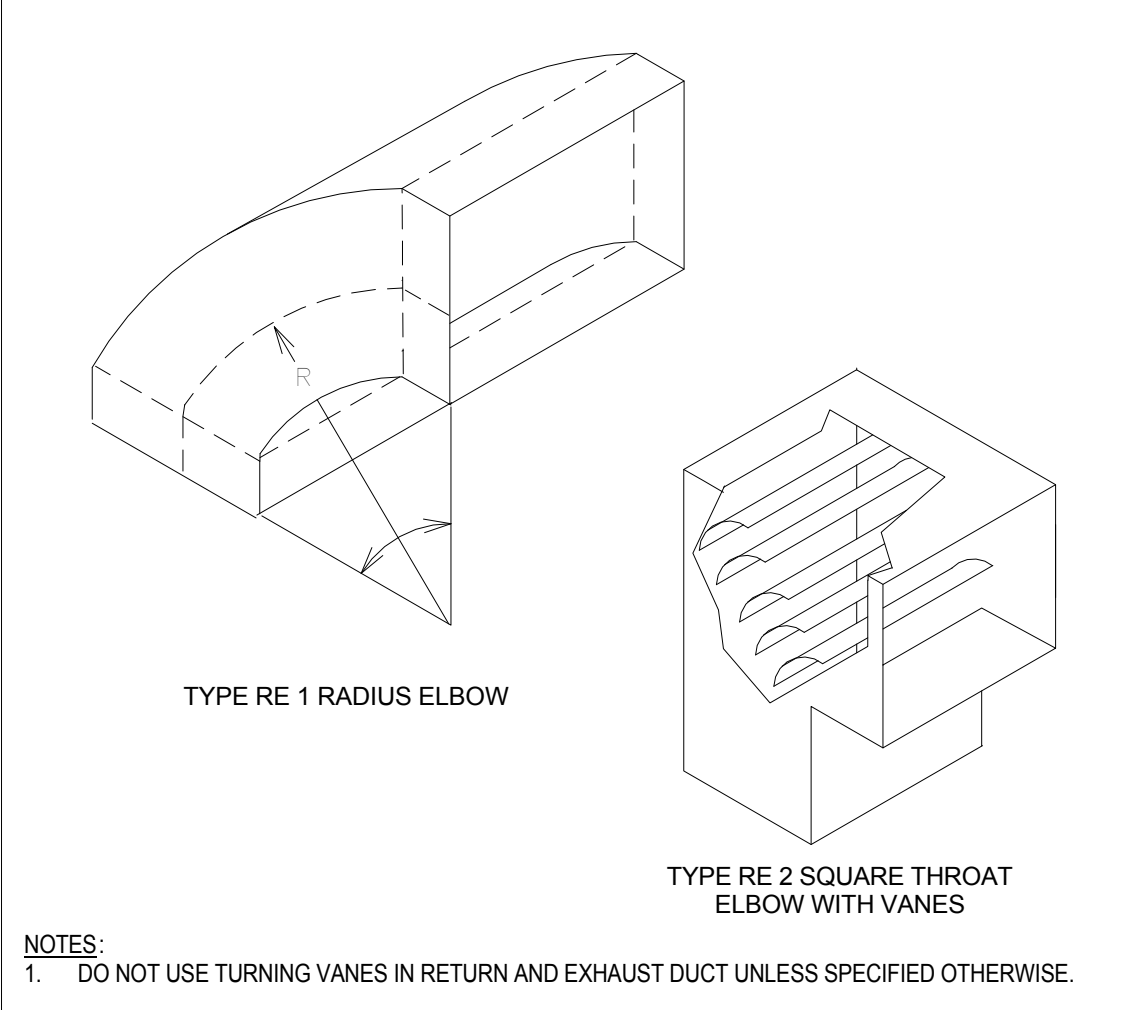
DUCT SUPPORT ON ROOF

11



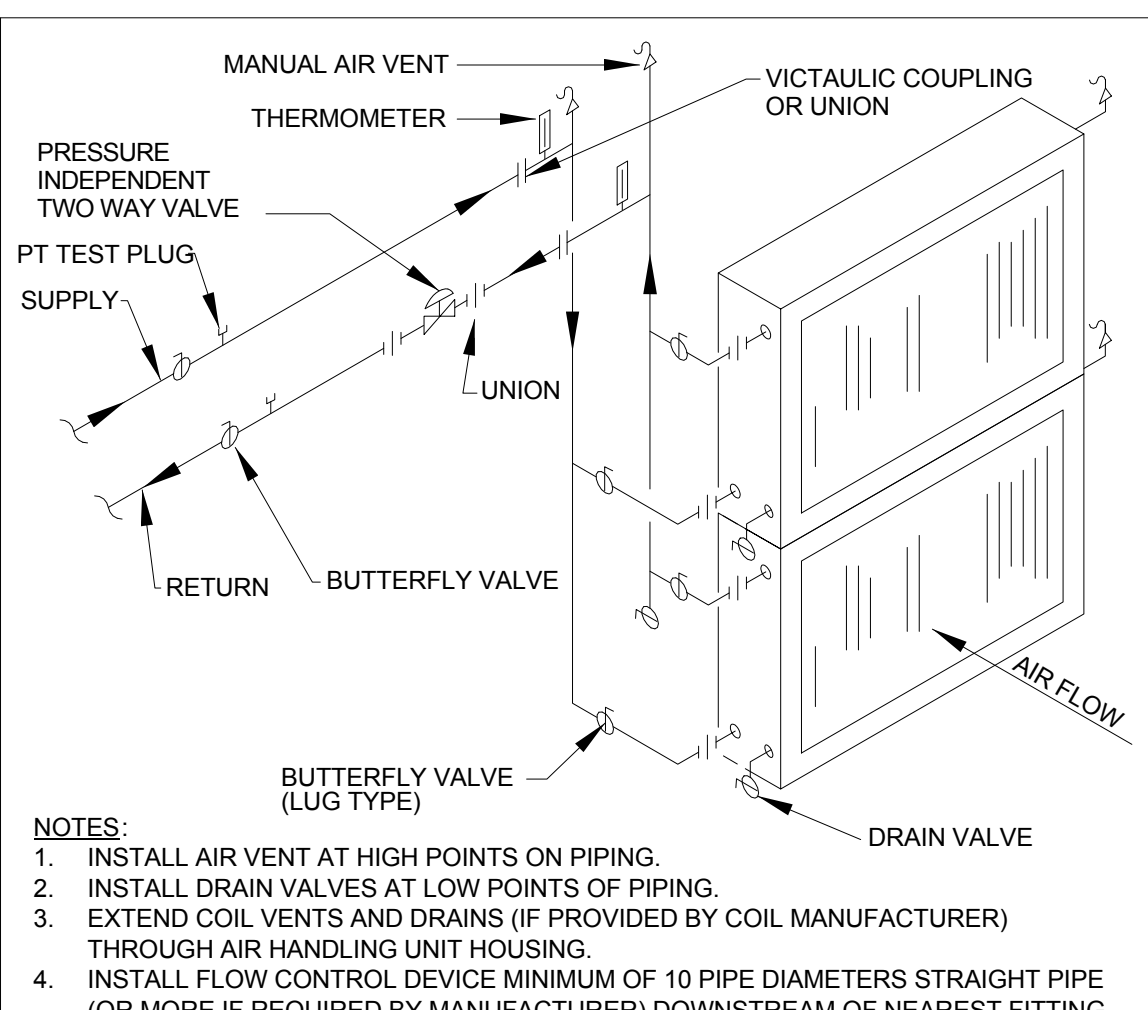
THROUGH PENETRATION FIRESTOP SYSTEM (PROVIDE UL LISTED SYSTEM)

7



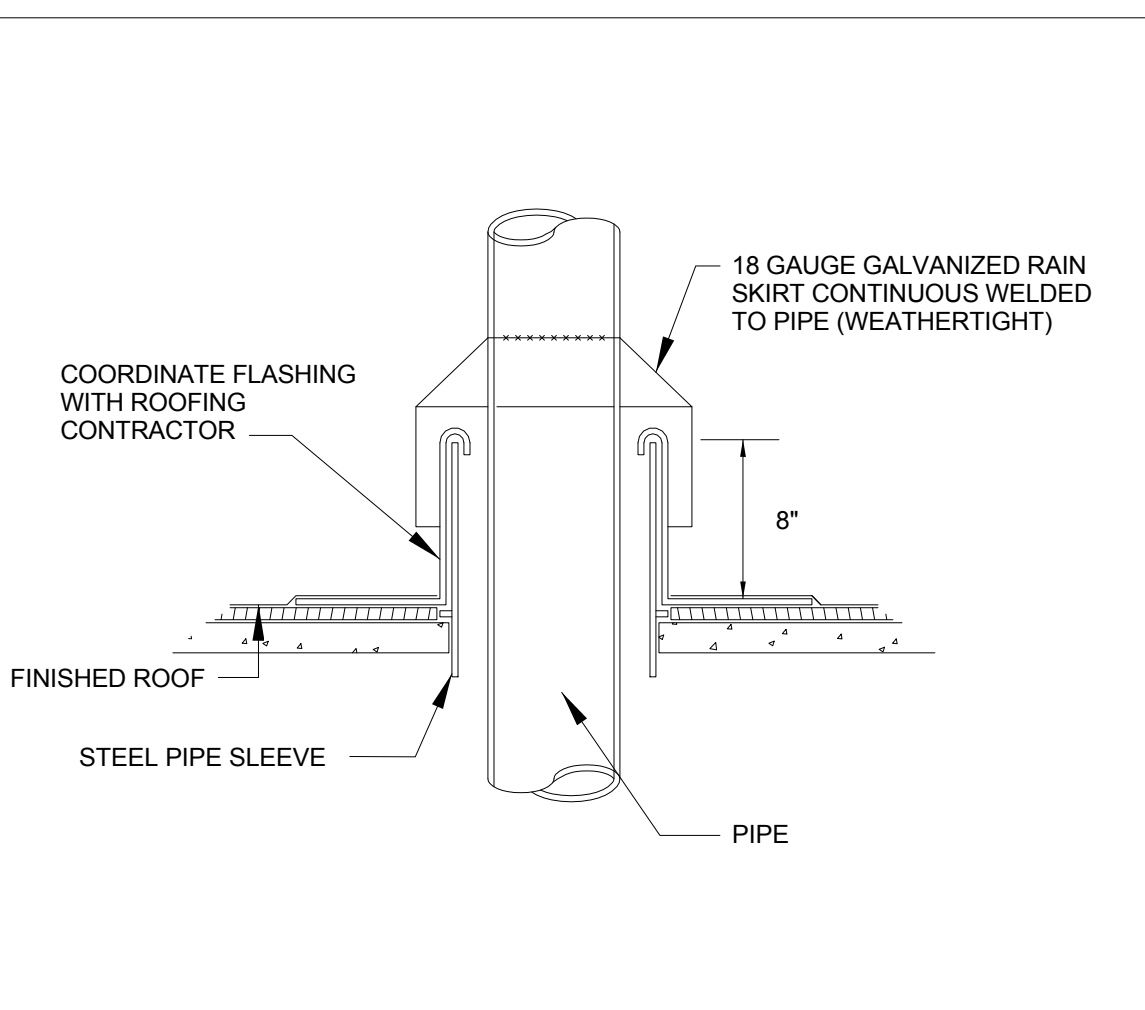
RECTANGULAR SHEETMETAL ELBOWS

3



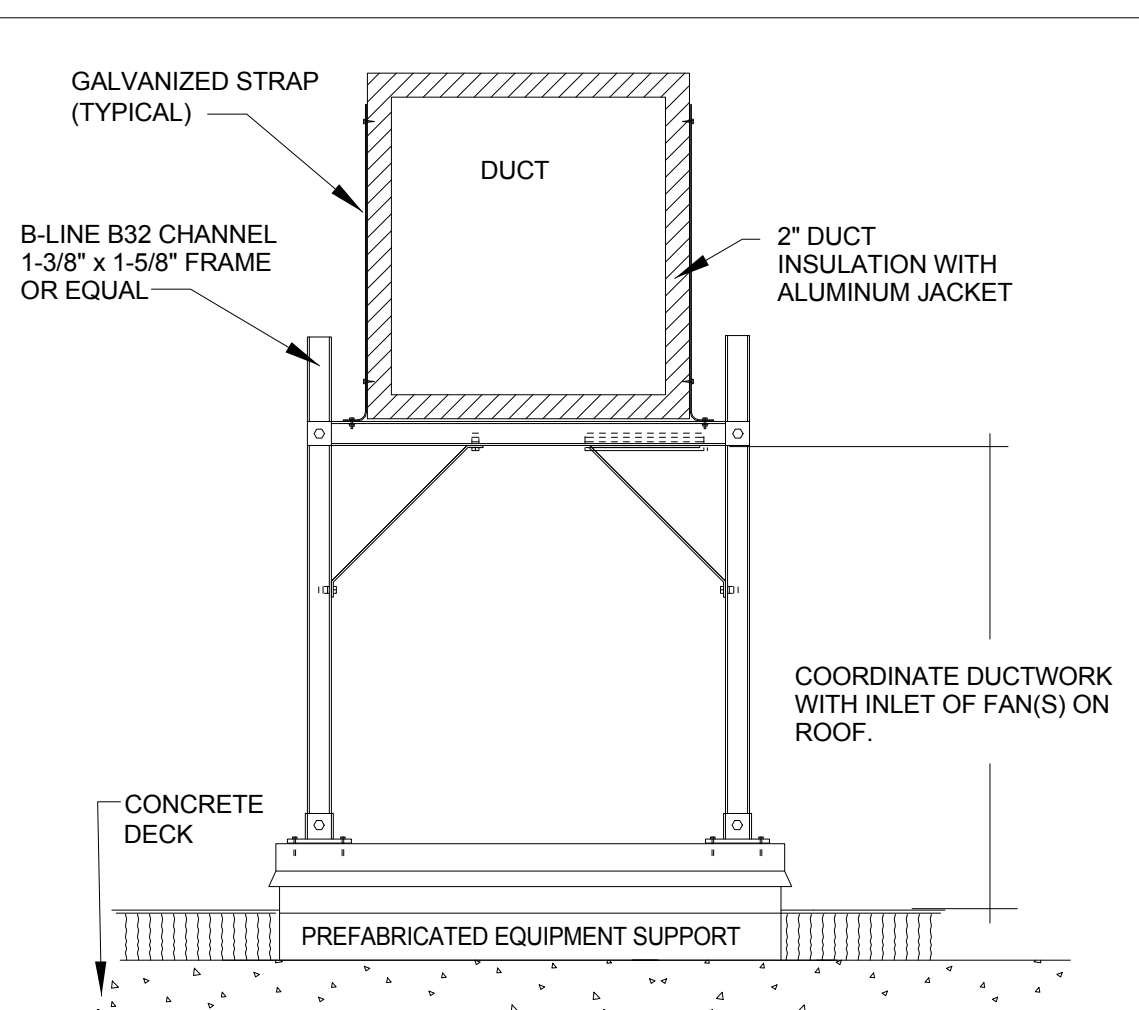
STACKED CHILLED WATER COIL PIPING

17



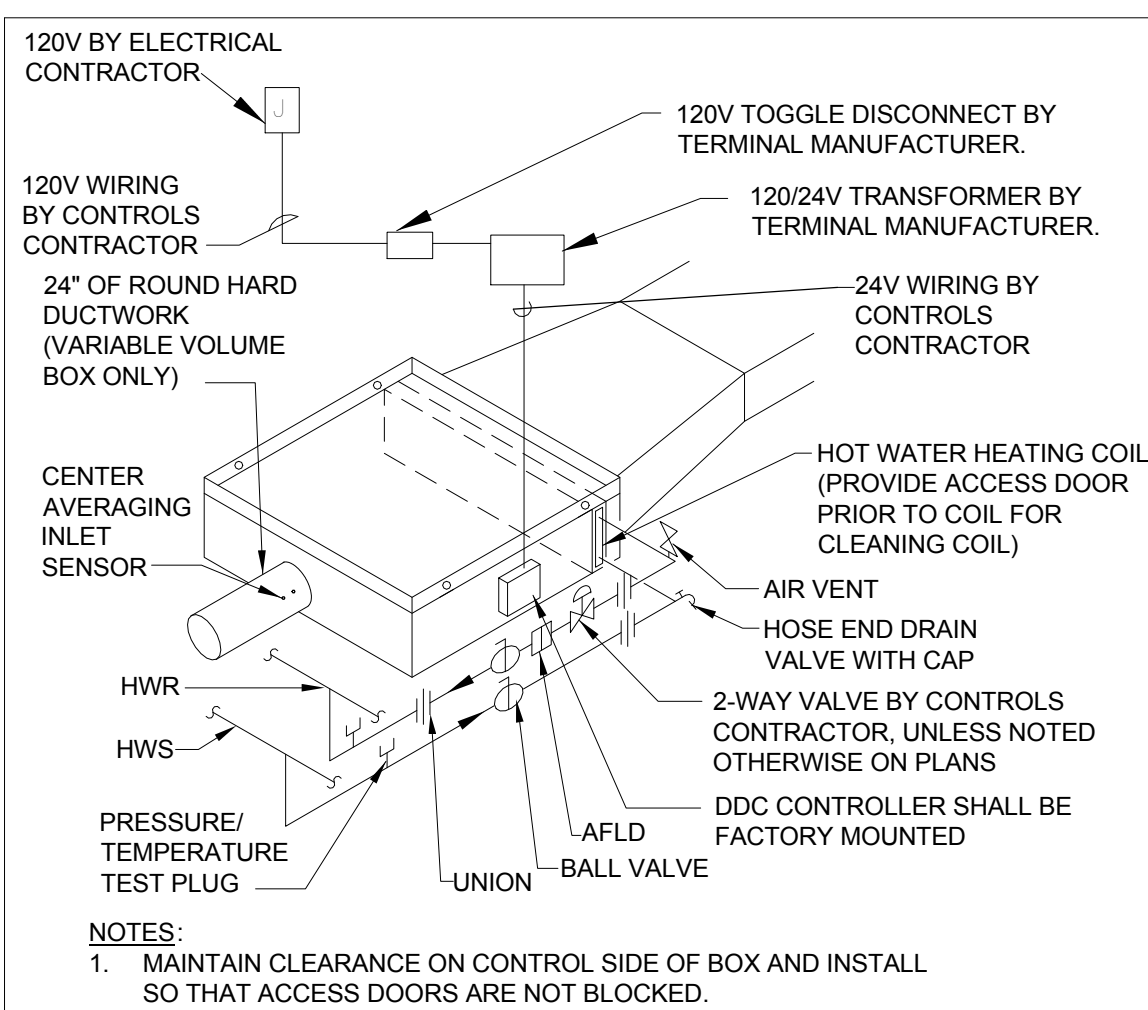
PIPE THROUGH ROOF

14



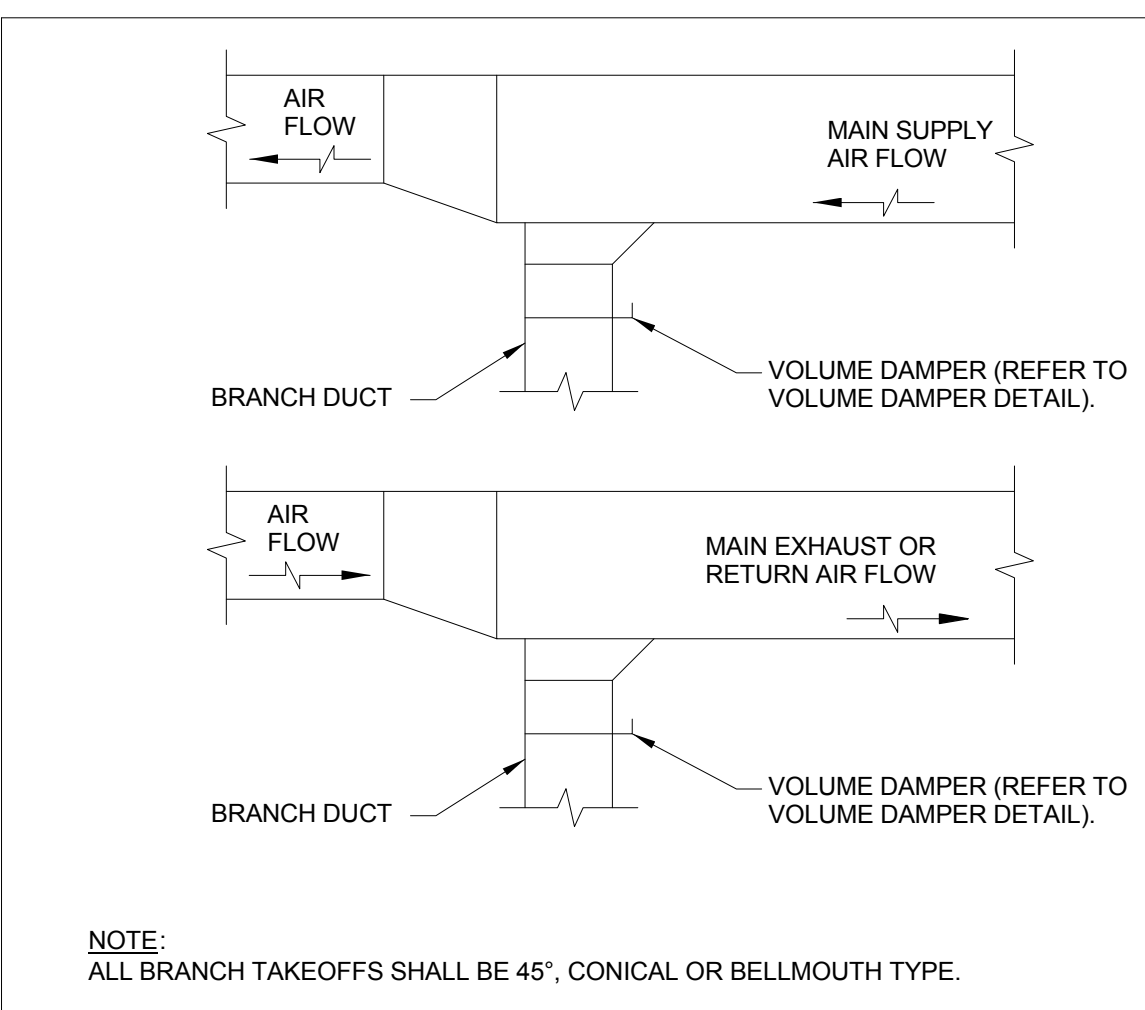
DUCT SUPPORT ABOVE ROOF

10



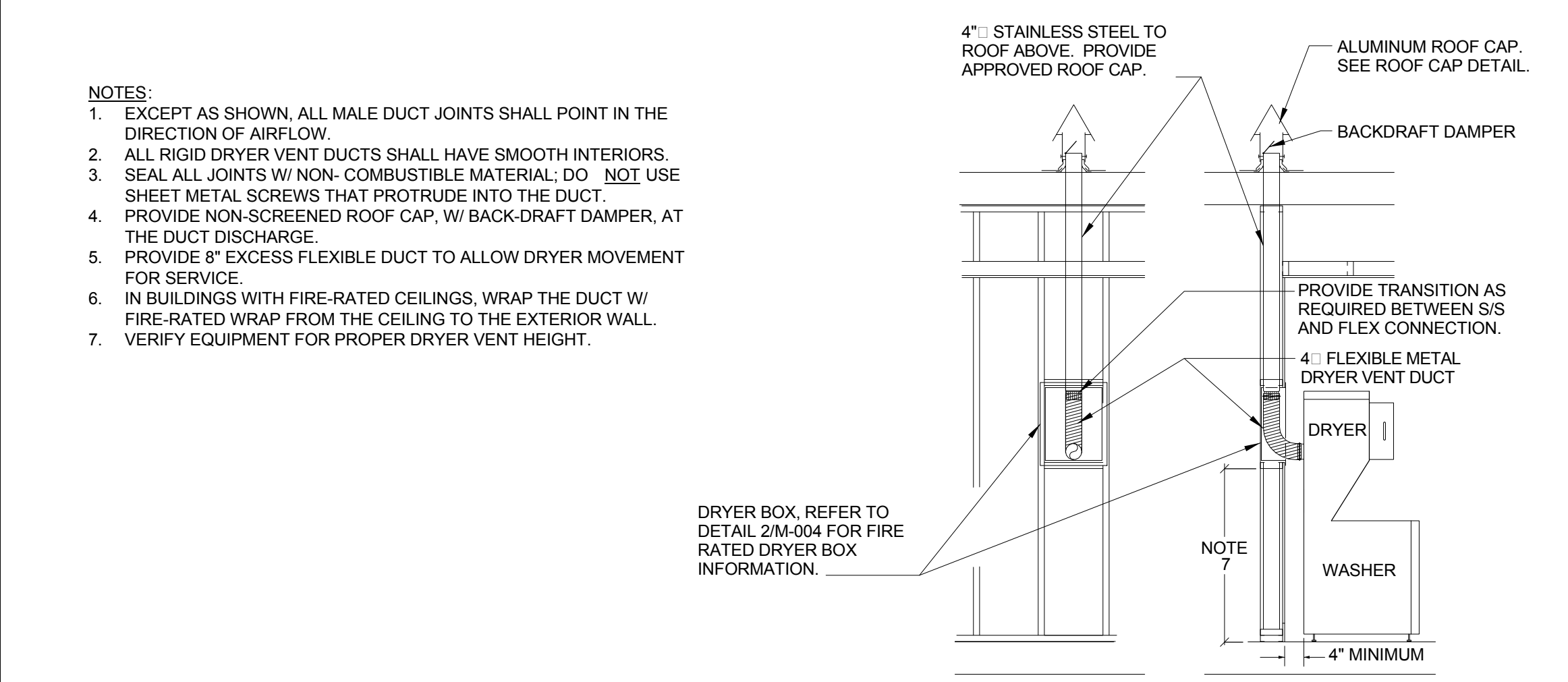
VARIABLE OR CONSTANT VOLUME TERMINAL UNIT WITH REHEAT

6



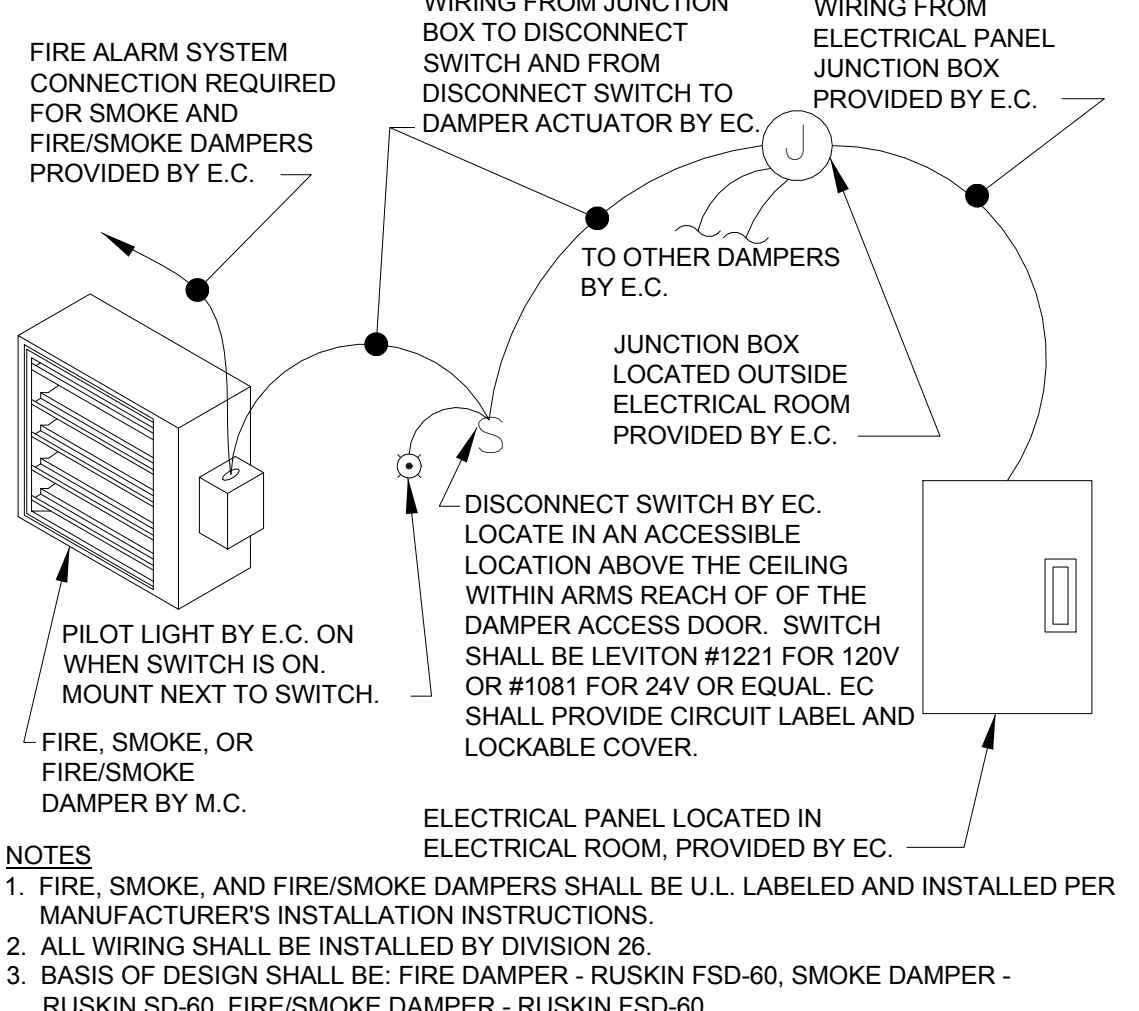
BRANCH DUCTWORK TAKEOFFS

2



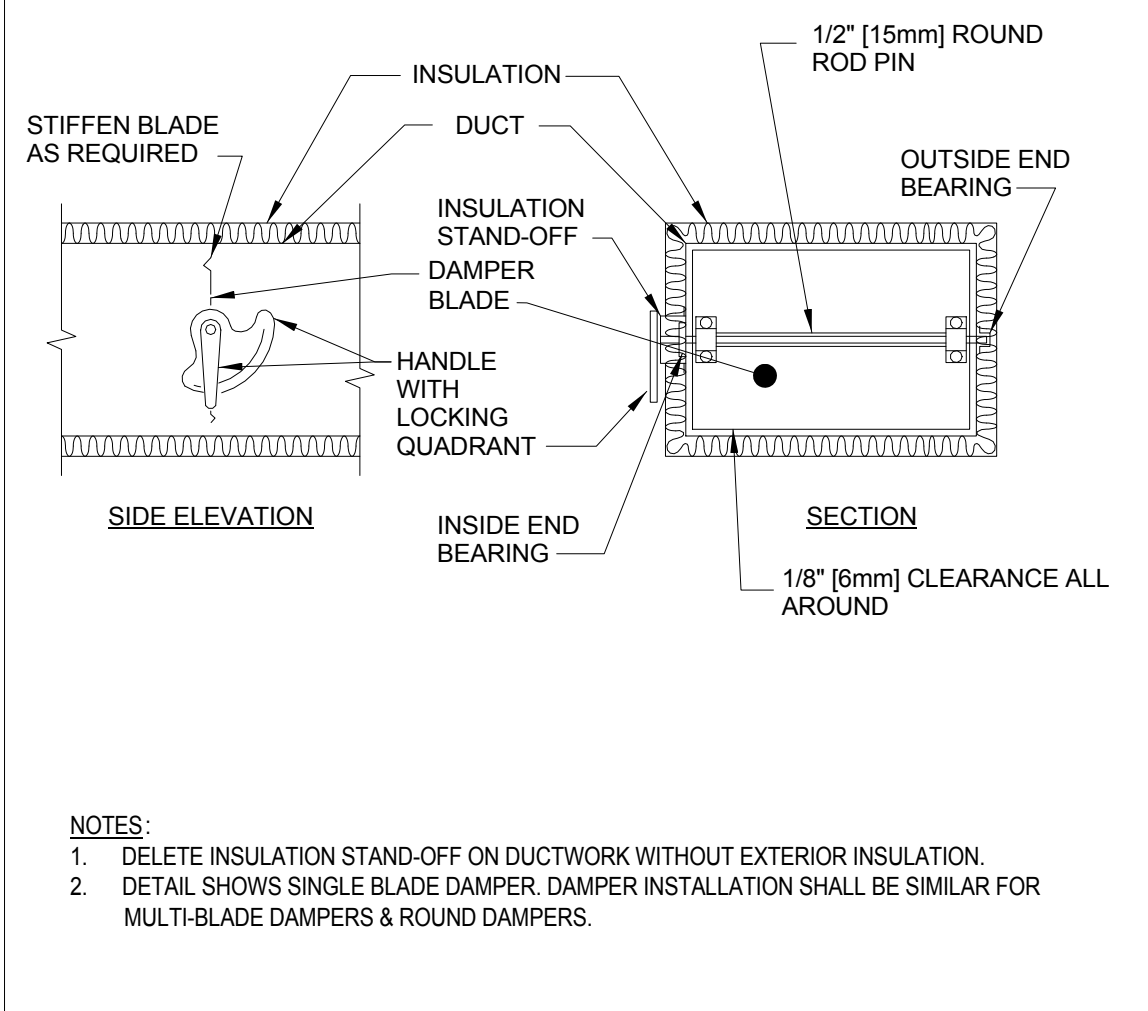
DRYER EXHAUST DETAIL

13



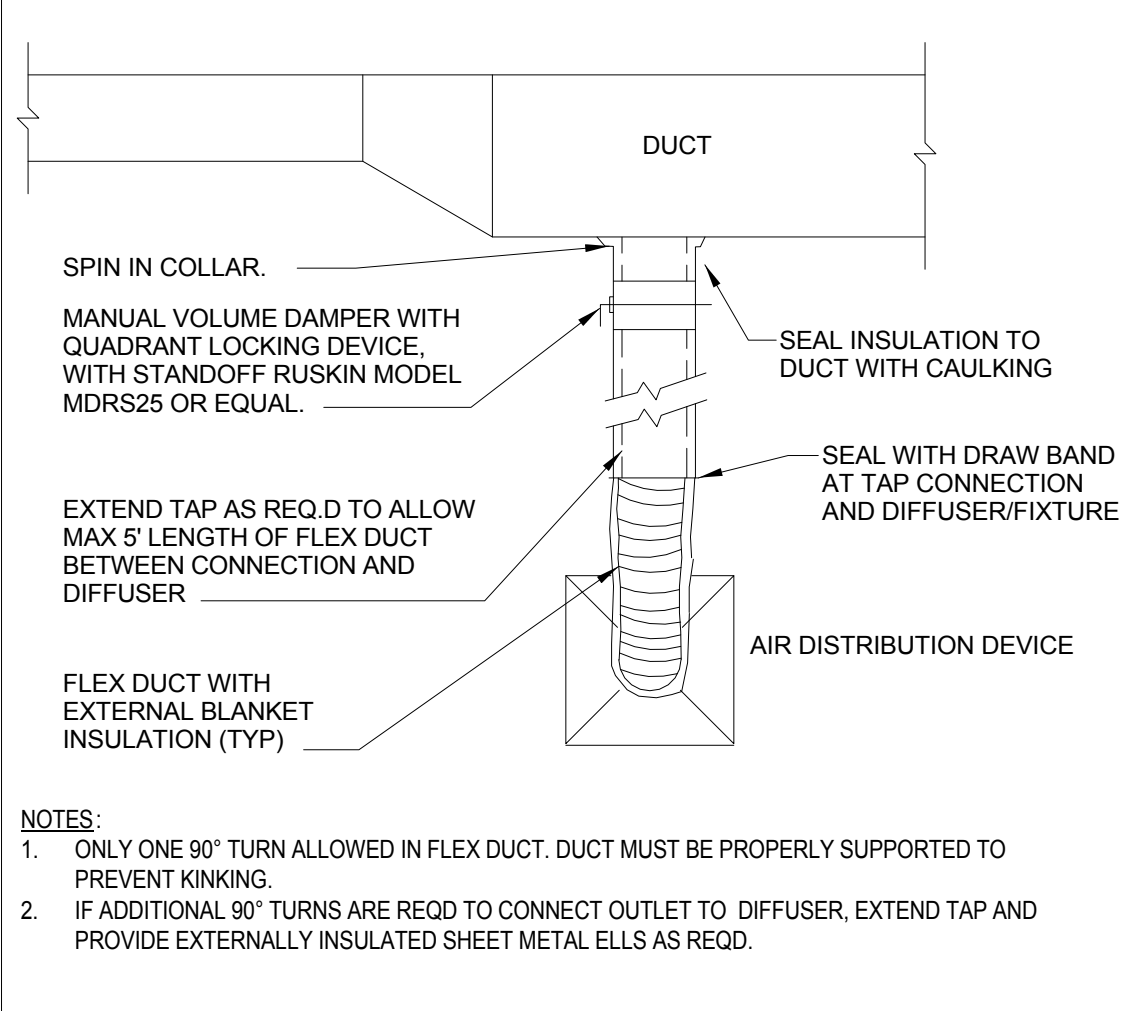
FIRE, SMOKE, & FIRE/SMOKE DAMPER WIRING DETAIL

9



VOLUME DAMPER DETAIL

5



CONNECTIONS BETWEEN LOW PRESSURE DUCT AND AIR DISTRIBUTION DEVICE

1



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Project

VAMC Salisbury Building 11 - Additions & Renovations

City, State
Salisbury, NC

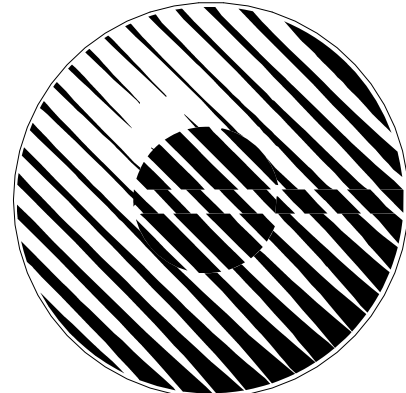
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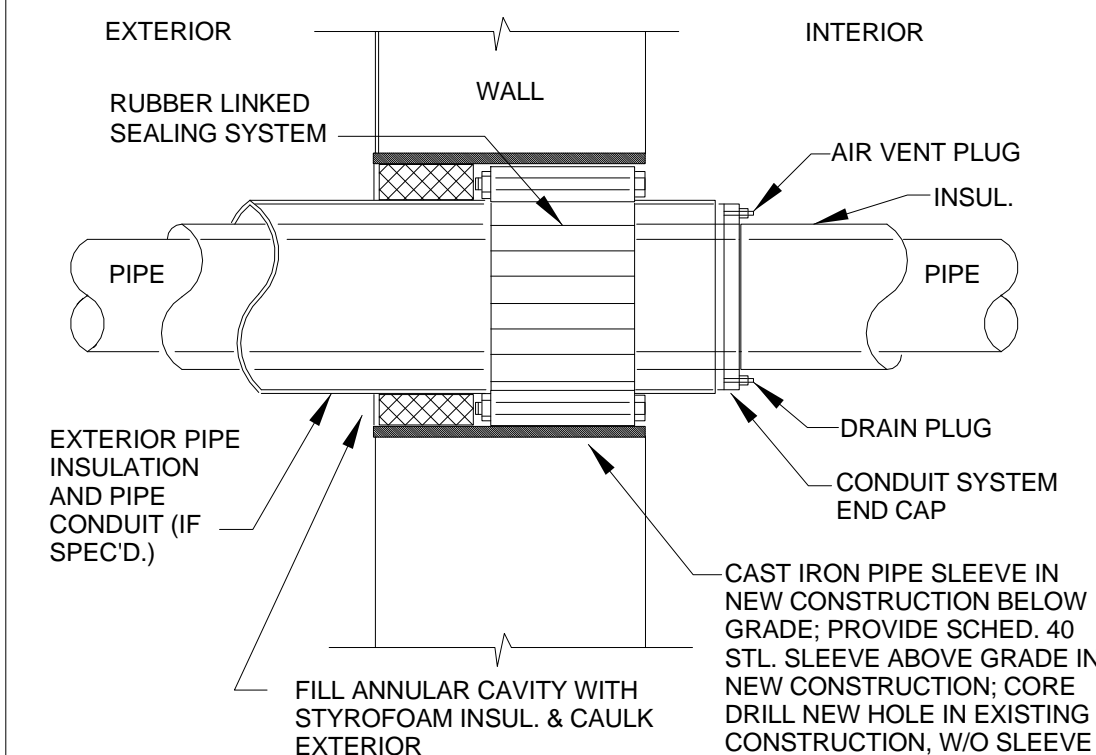
MECHANICAL - DETAILS

Date

December 29, 2015

Sheet Number

M-004

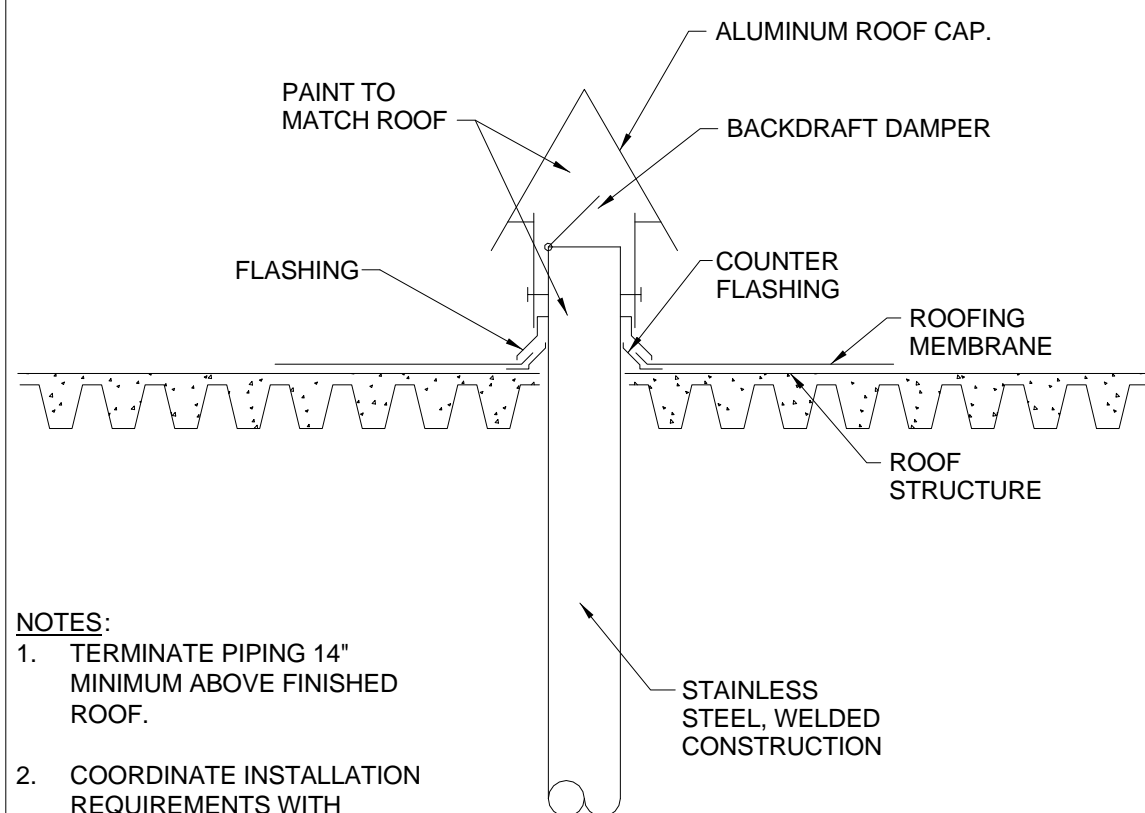


- NOTES:
1. DELETE INSULATION AT EXTERIOR WALL PENETRATIONS.
2. LINKED SEALING SYSTEM ON STEAM AND CONDENSATE SERVICE SHALL BE RATED FOR 350°F.

PIPE CONDUIT SYSTEM THRU EXTERIOR WALL

NTS

4

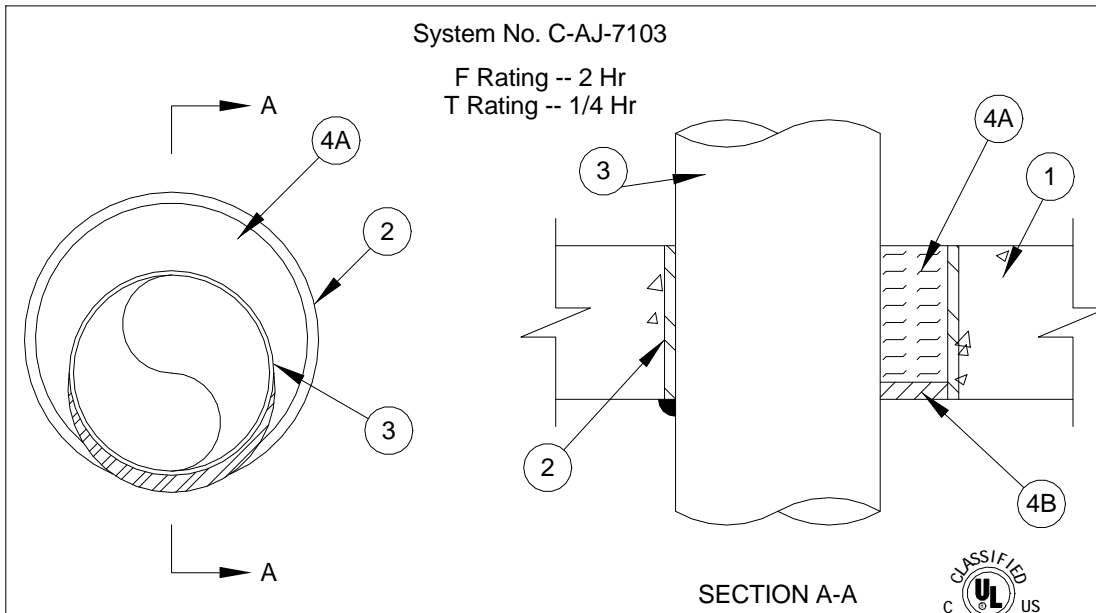


- NOTES:
1. TERMINATE PIPING 14" MINIMUM ABOVE FINISHED ROOF.
2. COORDINATE INSTALLATION REQUIREMENTS WITH GENERAL CONTRACTOR AND ROOFING CONTRACTOR.

ROOF CAP

NTS

3

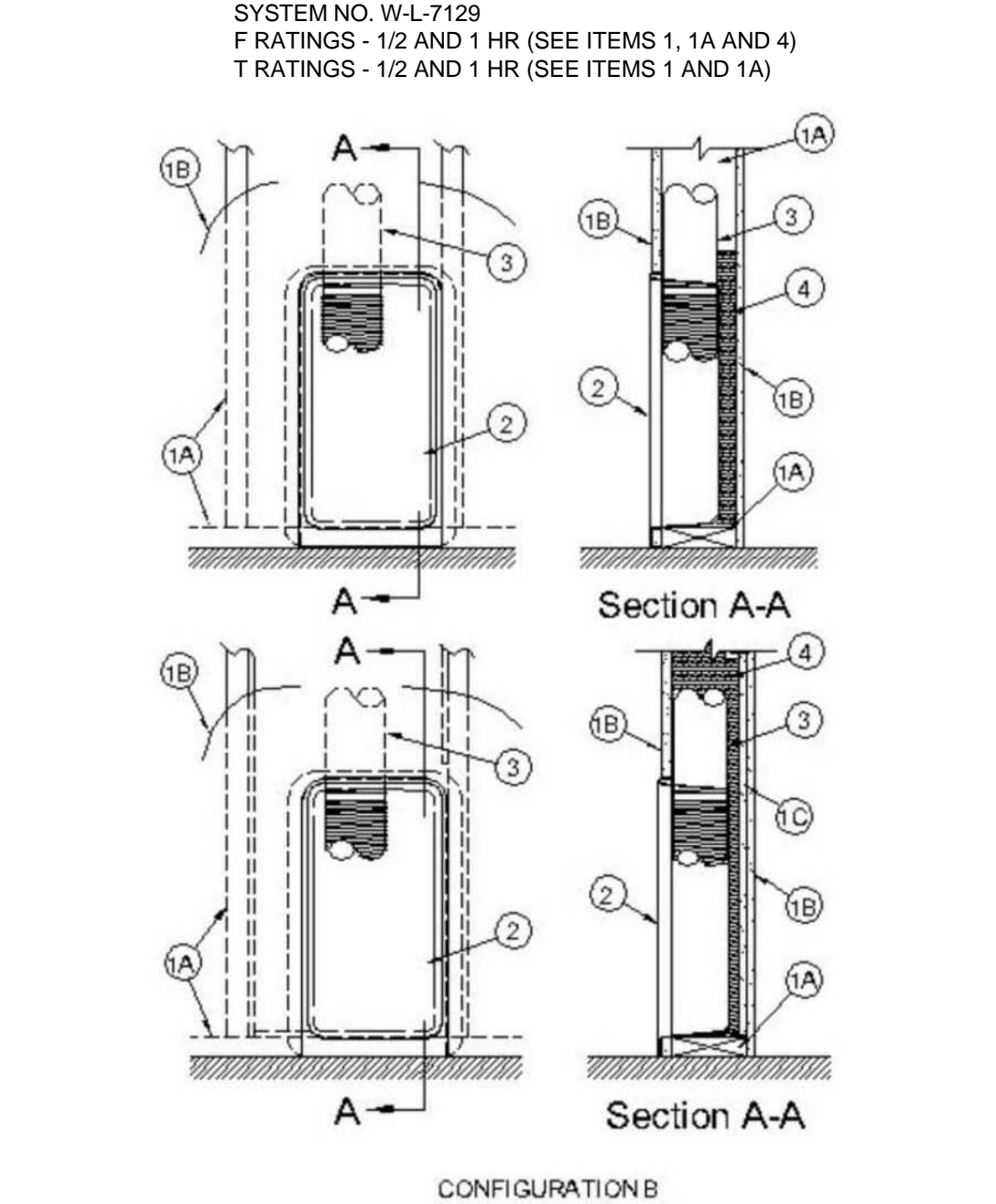


- NOTES:
1. FLOOR OR WALL ASSEMBLY - MIN 4-1/2 IN. (114 MM) THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF OR 1600-2400 KG/M3) CONCRETE. FLOOR MAY ALSO BE CONSTRUCTED OF ANY MIN 6 IN. THICK UL CLASSIFIED HOLLOW-CORE PRECAST CONCRETE UNITS. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS. MAX DIAM OF OPENING IS 8 IN. (203 MM). MAX DIAM OF OPENING IN FLOORS CONSTRUCTED OF HOLLOW-CORE PRECAST CONCRETE UNITS IS 7 IN. (178 MM).
SEE CONCRETE BLOCKS (CAZT) AND PRECAST CONCRETE UNITS (CFTV) CATEGORIES IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.
2. STEEL SLEEVE (OPTIONAL) - NOM 8 IN. (203 MM) DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE SLEEVE CAST OR GROUTED INTO FLOOR OR WALL ASSEMBLY. FLUSH WITH BOTH SURFACES OF FLOOR OR WALL.
3. STEEL VENT DUCT - NOM 6 IN. (152 MM) DIAM (OR SMALLER) NO. 28 GAUGE (OR HEAVIER) GALV STEEL DUCT. ONE DUCT TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE SHALL BE MIN 0 IN. (0 MM) POINT CONTACT) TO MAX 2 IN. (51 MM), DUCT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY.
4. FIRESTOP SYSTEM - THE FIRESTOP SYSTEM SHALL CONSIST OF THE FOLLOWING:
A. PACKING MATERIAL - MIN 4 IN. (102 MM) THICKNESS OF MIN 4 PCF (64 KG/M3) MINERAL WOOL BATT INSULATION FIRMLY PACKED INTO OPENING AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM BOTTOM OR TOP SURFACE OF FLOOR OR FROM BOTH SURFACES OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.
B. FILL VOID OR CAVITY MATERIAL - MIN 1/2 IN. (13 MM) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS. FLUSH WITH BOTTOM OR TOP SURFACE OF FLOOR OR WITH BOTH SURFACES OF WALL. A MIN 1/2 IN. (13 MM) DIAM BEAD OF CAULK SHALL BE APPLIED AT THE POINT CONTACT LOCATION BETWEEN PIPE AND SLEEVE/CONCRETE.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC. - FS ONE SEALANT
*BEARING THE UL CLASSIFICATION MARK

DUCT PENETRATION THROUGH FIRESTOP SYSTEM (PROVIDE UL LISTED SYSTEM)

NTS

2



1. WALL ASSEMBLY - CONFIGURATION A - THE FIRE-RATED GYPSUM BOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
A. STUDS - WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF MIN NOM 2 BY 6 IN. (51 BY 102 MM) LUMBER SPACED 16 IN. (406 MM) OC. STEEL STUDS TO BE MIN 6 IN. (152.4 MM) WIDE AND SPACED MAX 24 IN. (610 MM) OC.
B. GYPSUM BOARD - ONE LAYER OF NOM 5/8 IN. (16 MM) THICK GYPSUM BOARD, AS SPECIFIED IN THE INDIVIDUAL WALL AND PARTITION DESIGN.

THE HOURLY F AND T RATING OF THE FIRESTOP SYSTEM FOR CONFIGURATION A IS 1/2 HR.

- 1A. WALL ASSEMBLY - CONFIGURATION B - THE FIRE-RATED GYPSUM BOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
A. STUDS - WALL FRAMING TO CONSIST OF WOOD STUDS. WOOD STUDS TO CONSIST OF MIN NOM 2 BY 6 IN. (51 BY 102 MM) LUMBER SPACED 16 IN. (406 MM) OC.
B. GYPSUM BOARD - ONE LAYER OF NOM 5/8 IN. (16 MM) THICK GYPSUM BOARD, AS SPECIFIED IN THE INDIVIDUAL WALL AND PARTITION DESIGN.
C. GYPSUM BOARD - AN ADDITIONAL LAYER OF GYPSUM BOARD SHALL BE CUT TO FIT ID OF STUD CAVITY AND INSTALLED FLUSH WITH EDGE OF STUDS ON NON-PENETRATED FACE OF WALL. ADDITIONAL LAYER OF GYPSUM BOARD TO BE ATTACHED TO MIN 1 BY 2 IN. (25 BY 51 MM) WOOD NAILING STRIPS WITH FASTENERS SPACED MAX 18 IN. (457 MM) OC AROUND PERIPHERY OF BOARD. NAILING STRIPS TO BE SECURED TO WOOD STUDS AND PLATES WITH FASTENERS SPACED MAX 18 IN. (457 MM) OC. NAILING STRIPS MAY BE DISCONTINUOUS AND TERMINATE MAX 1 IN. (25 MM) FROM VENT DUCT AND CABINET INTERFACES WITH PLATES AND STUDS.

THE HOURLY F AND T RATING OF THE FIRESTOP SYSTEM FOR CONFIGURATION B IS EQUAL TO 1 HR (CONFIGURATION B SHALL BE USED IN THIS APPLICATION)

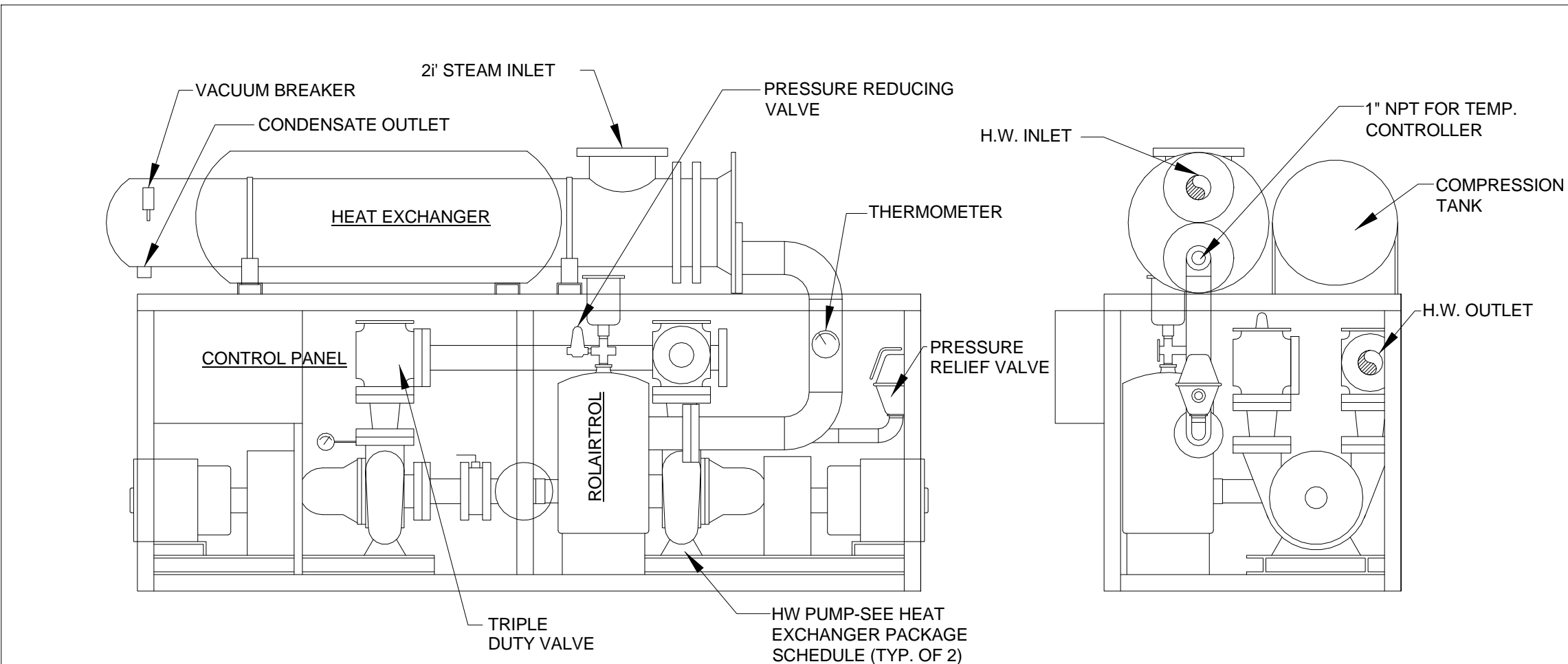
2. CABINET - RECESSED FIXTURE INTENDED FOR DRYER APPLIANCE EXHAUST DUCT INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS IN ONE SIDE OF WALL ASSEMBLY. CUTOFF IN GYPSUM BOARD FOR TOP EXHAUST DEVICE IS 18-1/4 BY 9-1/2 IN. (464 BY 241 MM). CUTOFF IN GYPSUM BOARD FOR BOTTOM EXHAUST DUCT IS 16 BY 14 IN. (406 BY 356 MM). MAX GAP BETWEEN CABINET AND GYPSUM BOARD AROUND PERIPHERY OF CUTOFF SHALL BE 1/8 IN. (3.2 MM). AS AN OPTION, GAP MAY BE SEALED WITH UL CLASSIFIED SEALANT OR CAULK (SEE FILL VOID OR CAVITY MATERIAL (XHHW) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS) OR DRYWALL COMPOUND.
3. STEEL VENT DUCT - NOM 4 IN. (102 MM) DIAM BY MIN 26 GAUGE RIGID STEEL DRYER DUCT FRICITION FITTED INTO TOP OR BOTTOM OPENING OF THE CABINET (ITEM 2) FOR PURPOSES OF VENTING TO THE EXTERIOR. VENT DUCT TO BE ROUTED ENTIRELY WITHIN FIRE RATED CONSTRUCTION FROM THE CABINET TO THE EXTERIOR OF THE BUILDING. VENT DUCT TO BE FIRESTOPPED IN ACCORDANCE WITH AN APPROPRIATE F-A-7000, F-C-7000 OR F-E-7000 SERIES FIRESTOP SYSTEM WHERE IT PASSES THROUGH THE TOP PLATE OR SOLE PLATE OF THE CHASE WALL IN WHICH IT IS ROUTED.
4. INSULATION - THE SPACES BETWEEN THE SIDES OF THE CABINET AND THE STUDS AND THE SPACE IMMEDIATELY ABOVE THE CABINET ARE TO BE TIGHTLY PACKED WITH GLASS FIBER BATT OR MINERAL WOOL BATT INSULATION. FOR FIRESTOP SYSTEMS WITH 1 HR F RATING, THE ENTIRE STUD CAVITY CONTAINING THE CABINET SHALL BE FILLED WITH MIN #18 GLASS FIBER BATT INSULATION OR MINERAL WOOL INSULATION WITH ADDITIONAL PIECES OF INSULATION APPLIED AS NEEDED TO COMPLETELY FILL ALL VOIDS AROUND THE CABINET AND VENT DUCT TO THE FULL DEPTH OF THE STUD CAVITY.

*BEARING THE UL CLASSIFICATION MARK

DRYER BOX FIRESTOP SYSTEM (PROVIDE UL LISTED SYSTEM)

NTS

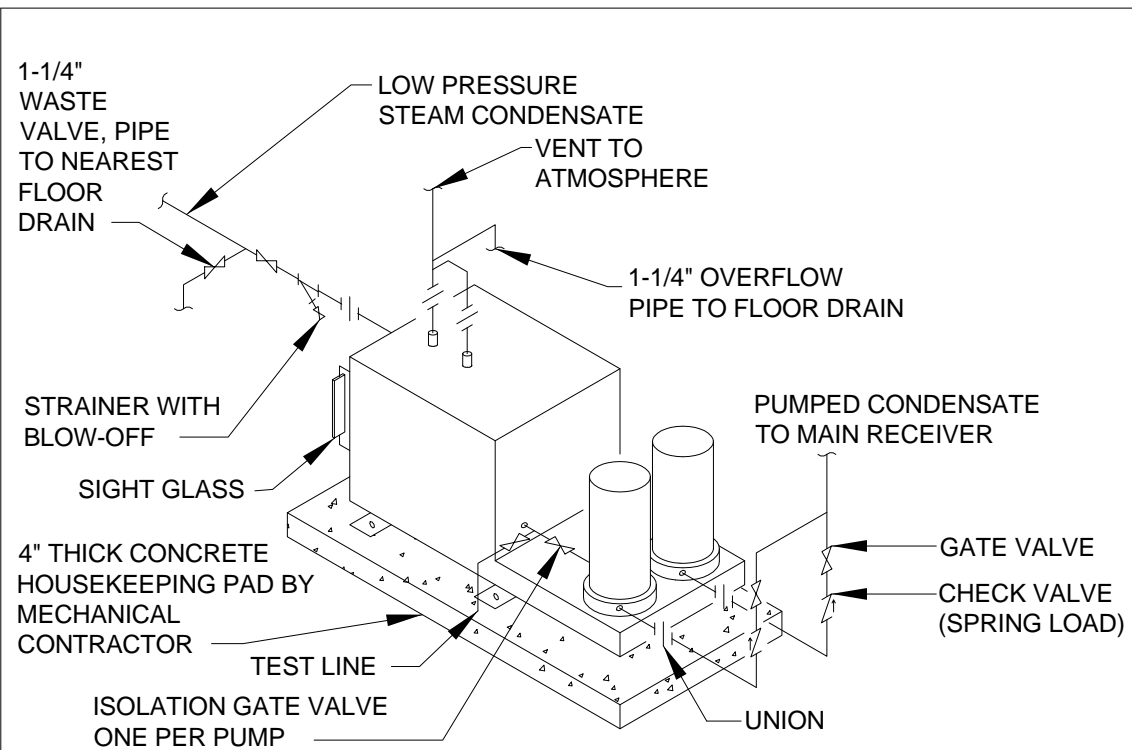
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HEAT TRANSFER PACKAGE

NTS

7

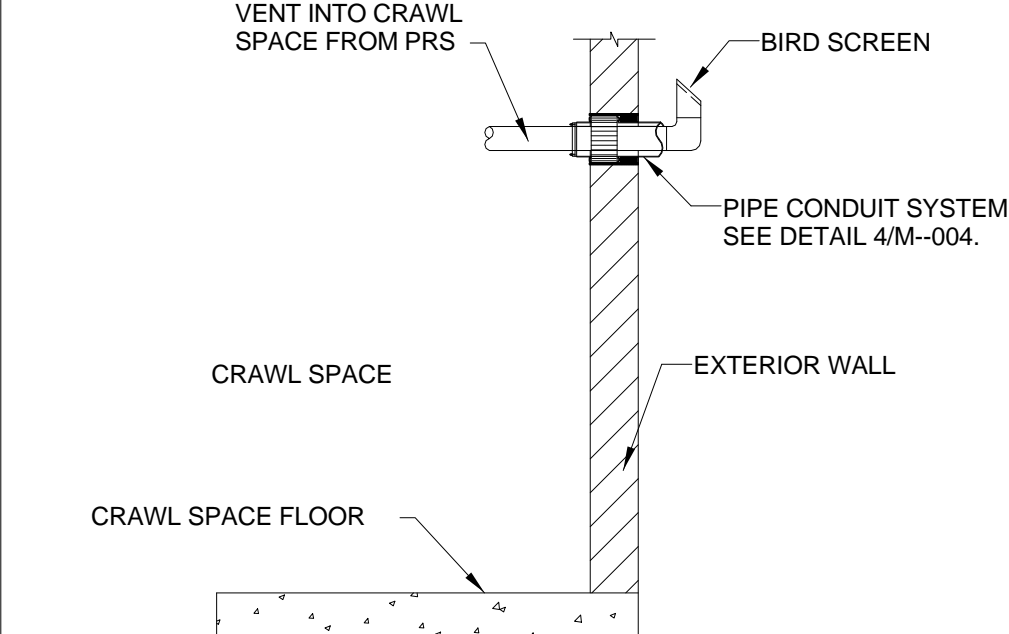


- NOTES:
1. PROVIDE PUMP SUCTION ISOLATION GATE VALVES, MECHANICAL ALTERNATOR, FLOAT SWITCH, SIGHT GLASS, AND DISCHARGE CHECK VALVES.
2. PROVIDE CONTROL PANEL INCLUDING NEMA 1 ENCLOSURE, DISCONNECTS, STARTERS W/OVERLOADS, PUMP RUN AND POWER ON LIGHTS, CONTROLLER WITH MECHANICAL ALTERNATOR.

CONDENSATE RECEIVER

NTS

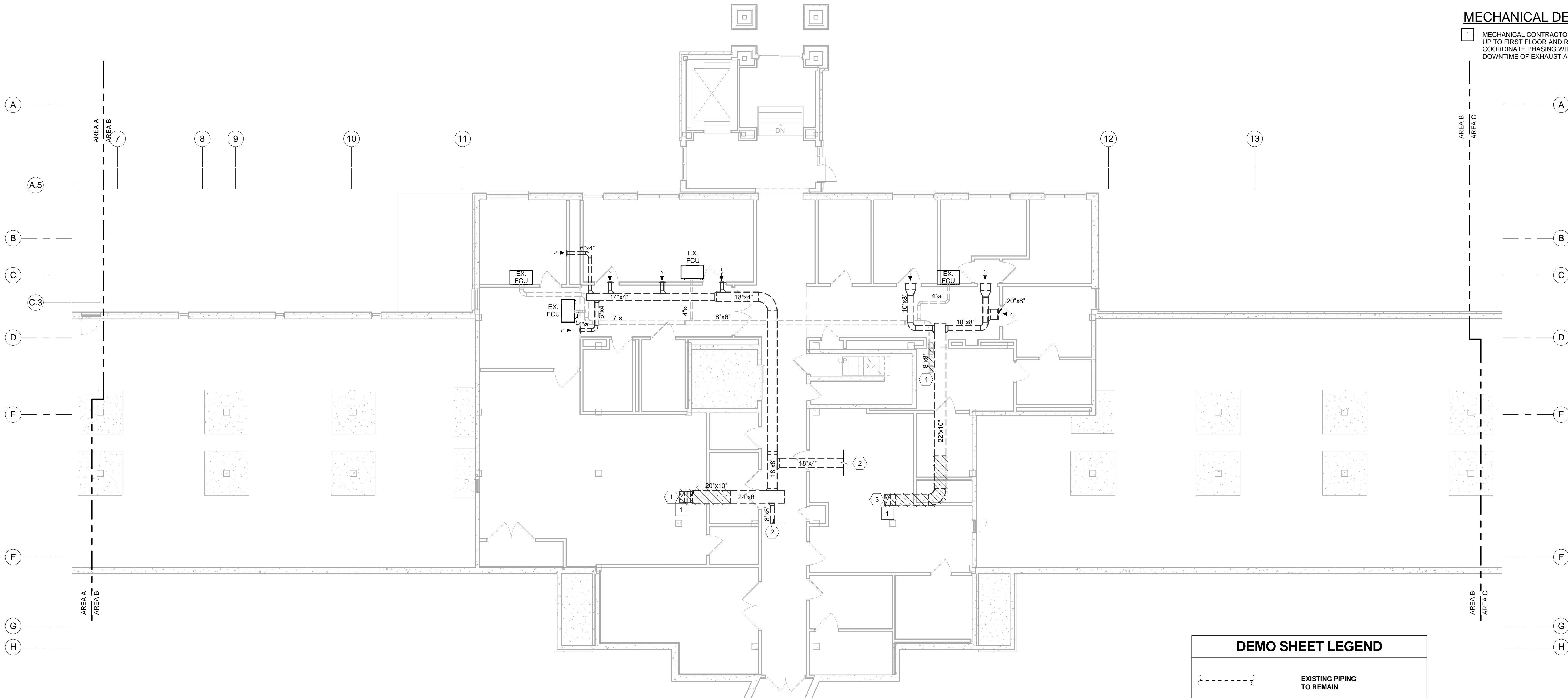
6



VENT THROUGH WALL

NTS

5



1 MECHANICAL - PARTIAL GROUND FLOOR - DEMOLITION - DUCTWORK AREA B
1/8" = 1'-0"

GENERAL SHEET NOTES

- A. THE DRAWINGS SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES. THE SCALE, WHEN INDICATED IS INTENDED FOR GENERAL REFERENCE ONLY.
- B. SHUTDOWNS SHALL BE COORDINATED AND APPROVED THROUGH THE OWNERS REPRESENTATIVE AND WILL REQUIRE ADVANCE NOTICE OF ONE WEEK. THIS TIME LENGTH MAY BE LONGER OR SHORTER FOR SOME SHUTDOWNS AND SHALL BE AT THE OWNERS DISCRETION.
- C. ANY EXISTING PIPE OR DUCT INSULATION THAT IS DAMAGED DURING CONSTRUCTION SHALL BE REMOVED AND REPLACED WITH NEW INSULATION TO MATCH ADJACENT INSULATION AND COVERING.
- D. CONSTRUCTION DEBRIS SHALL BE REMOVED DAILY.
- E. CONTRACTOR SHALL RELOCATE EXISTING EQUIPMENT TO REMAIN AS REQUIRED TO COORDINATE INSTALLATION OF NEW WORK.
- F. EXISTING MECHANICAL EQUIPMENT SHOWN HATCHED SHALL BE REMOVED BY CONTRACTOR.

MECHANICAL EXISTING KEYED NOTES

- 1 EXISTING 20"x10" EXHAUST AIR DUCT UP TO FIRST FLOOR.
- 2 EXISTING EXHAUST AIR DUCT CONTINUES OUTSIDE SCOPE OF WORK.
- 3 EXISTING 22"x10" EXHAUST AIR DUCT UP TO FIRST FLOOR.
- 4 EXISTING 8"x8" OUTSIDE AIR DUCT UP TO FIRST FLOOR.

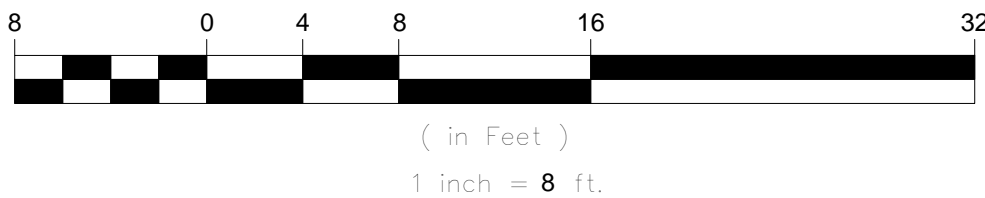
MECHANICAL DEMOLITION KEYED NOTES

- 1 MECHANICAL CONTRACTOR SHALL REMOVE EXISTING EXHAUST DUCT UP TO FIRST FLOOR AND ROUTE AS INDICATED ON SHEET M-100B. COORDINATE PHASING WITH GENERAL CONTRACTOR TO MINIMIZE DOWNTIME OF EXHAUST AIR SYSTEM.

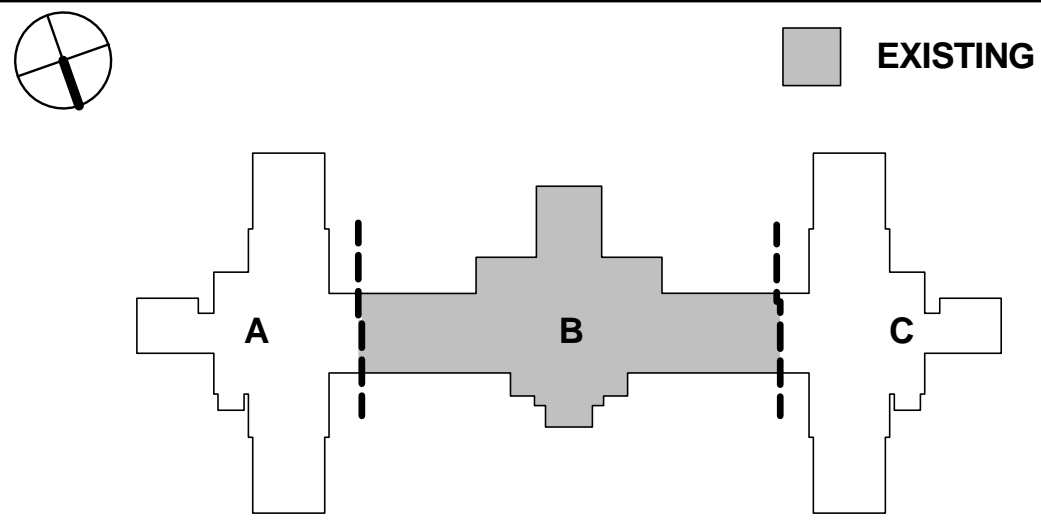
DEMO SHEET LEGEND

- {-----} EXISTING PIPING TO REMAIN
- ////// EXISTING PIPING TO BE REMOVED
- EXISTING DUCT TO REMAIN
- ////// EXISTING DUCT TO BE REMOVED
- EXISTING EQUIPMENT TO REMAIN
- ////// EXISTING EQUIPMENT TO BE REMOVED

GRAPHIC SCALE



KEY PLAN



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Project

VAMC Salisbury Building 11 - Additions & Renovations

City, State
Salisbury, NC

VA Contract Number
VA246-12-C-0089

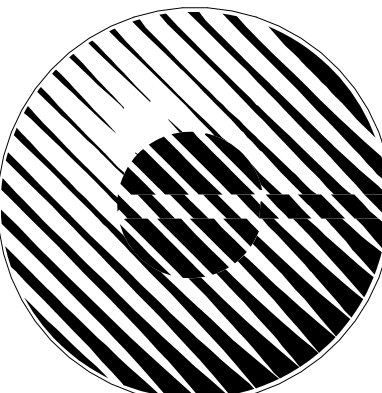
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CONSTRUCTION

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Sheet Title

MECHANICAL - PARTIAL GROUND FLOOR - DEMOLITION - DUCTWORK

Date

December 29, 2015

Sheet Number

MD-010B



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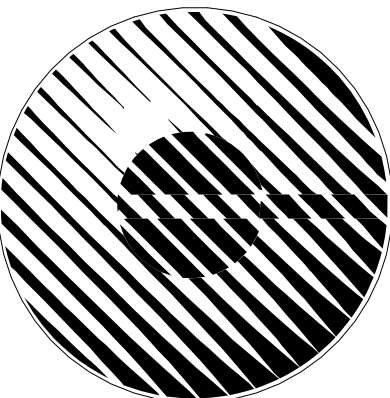
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Sheet Title

MECHANICAL - PARTIAL GROUND FLOOR - DEMOLITION - PIPING AREA A

Date

December 29, 2015

Sheet Number

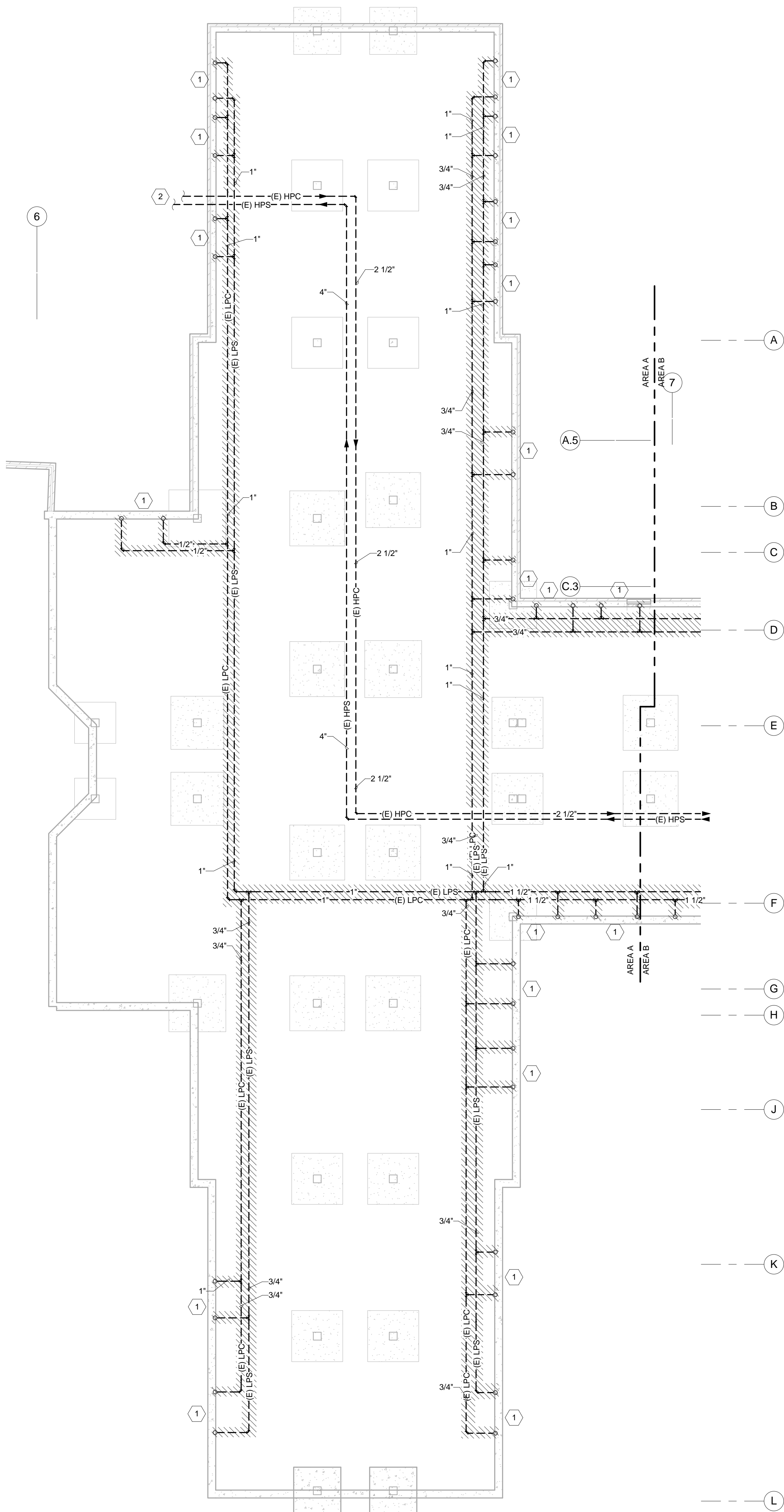
MD-011A

GENERAL SHEET NOTES

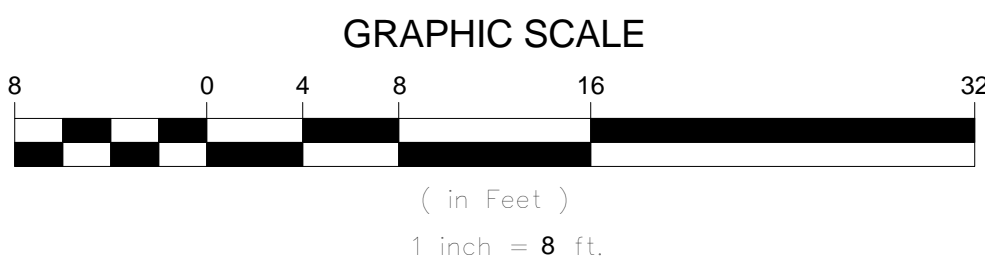
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- EXISTING MECHANICAL EQUIPMENT SHOWN HATCHED SHALL BE REMOVED BY CONTRACTOR.

MECHANICAL EXISTING KEYED NOTES

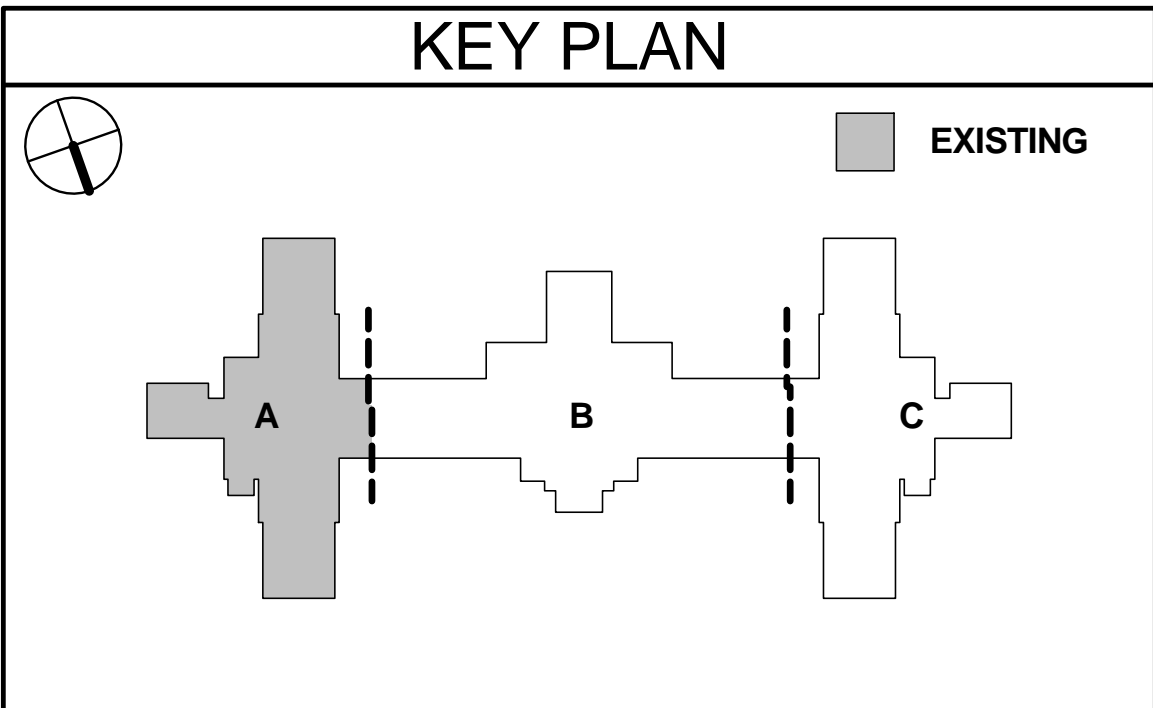
- 1 EXISTING 1/2" LPC AND LPS UP TO FIRST FLOOR.
2 EXISTING 4" HPS AND 2-1/2" HPC CONTINUES UNDERGROUND OUTSIDE SCOPE OF WORK



1 MECHANICAL - PARTIAL GROUND FLOOR - DEMOLITION - PIPING AREA A
1/8" = 1'-0"



DEMO SHEET LEGEND	
	EXISTING PIPING TO REMAIN
	EXISTING PIPING TO BE REMOVED
	EXISTING DUCT TO REMAIN
	EXISTING DUCT TO BE REMOVED
	EXISTING EQUIPMENT TO REMAIN
	EXISTING EQUIPMENT TO BE REMOVED





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City, State
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VA Contract Number
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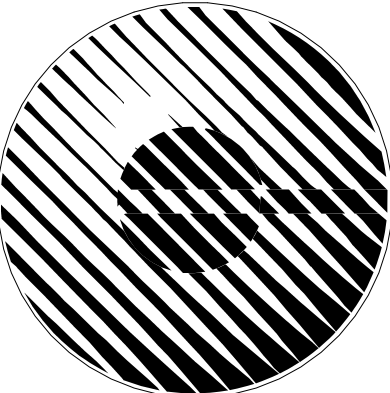
CONSTRUCTION

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Sheet Title

**MECHANICAL - PARTIAL
GROUND FLOOR -
DEMOLITION - PIPING
AREA B**

Date

December 29, 2015

Sheet Number

MD-011B

DEMO SHEET LEGEND

	EXISTING PIPING TO REMAIN
	EXISTING PIPING TO BE REMOVED
	EXISTING DUCT TO REMAIN
	EXISTING DUCT TO BE REMOVED
	EXISTING EQUIPMENT TO REMAIN
	EXISTING EQUIPMENT TO BE REMOVED

GENERAL SHEET NOTES

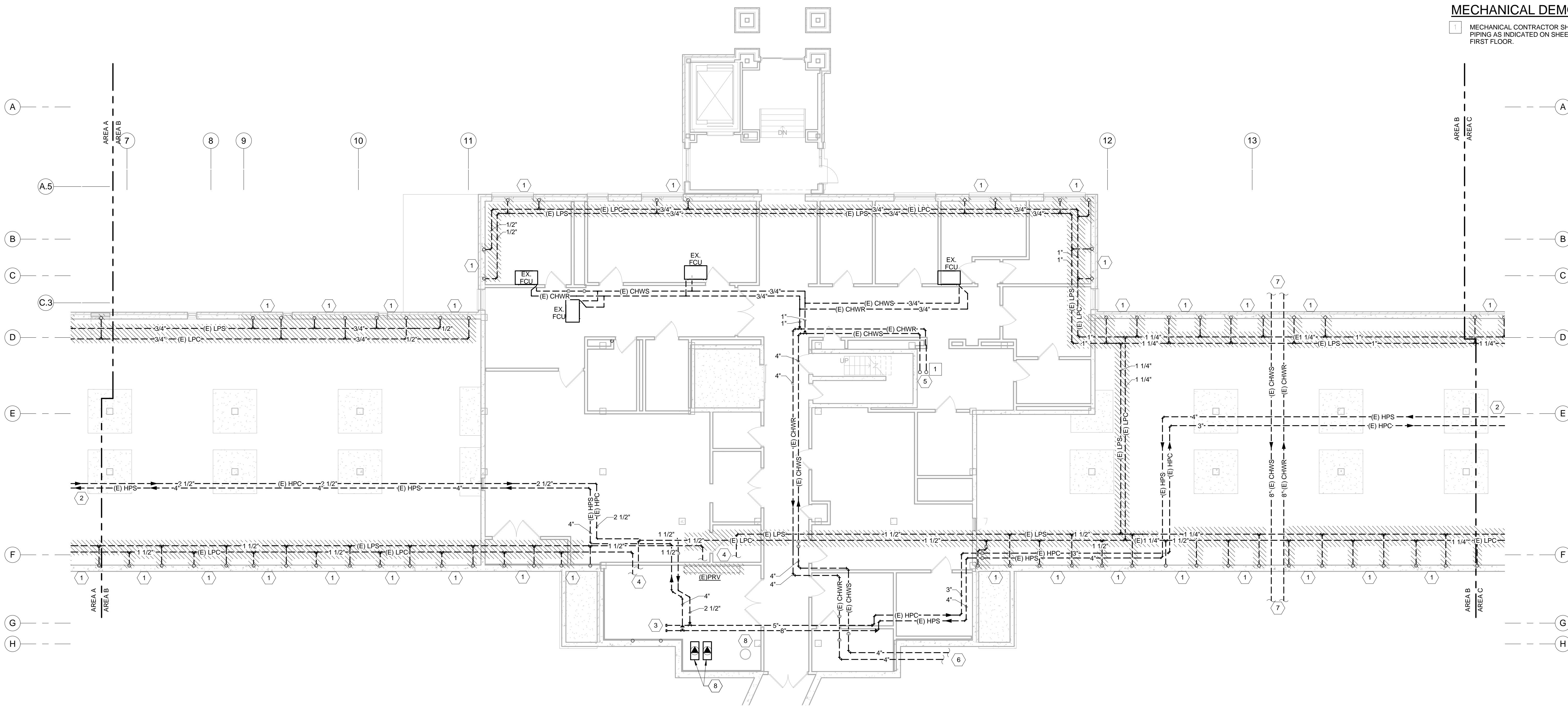
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MECHANICAL EXISTING KEYED NOTES

- EXISTING 1/2" LPC AND LPS UP TO FIRST FLOOR.
- EXISTING 4" HPS AND 2-1/2" HPC CONTINUES OUTSIDE SCOPE OF WORK
- EXISTING HPS AND HPC PIPING CAPPED.
- EXISTING LPS AND LPC PIPING CONTINUES TO EXISTING MECHANICAL ROOM.
- EXISTING 4" CHWS AND CHWR UP TO FIRST LOOR.
- EXISTING 4" CHWS AND CHWR CONTINUES UNDERGROUND CONNECTING TO EXISTING 8" CHWS AND CHWR UNDERGROUND.
- EXISTING 8" CHWS AND CHWR CONTINUES UNDERGROUND OUTSIDE SCOPE OF WORK.
- EXISTING PLUMBING EQUIPMENT.

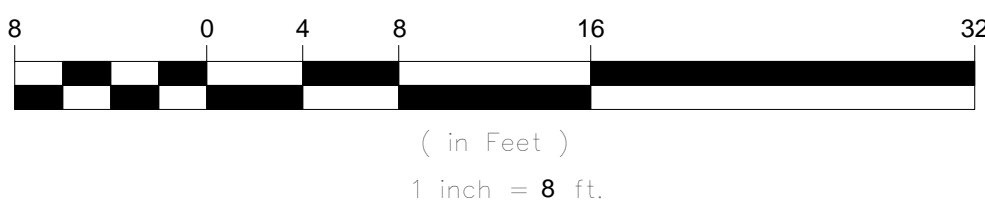
MECHANICAL DEMOLITION KEYED NOTES

- MECHANICAL CONTRACTOR SHALL RELOCATE EXISTING 4" CHILLED WATER PIPING AS INDICATED ON SHEET M-011B INTO NEW CHASE LOCATED ON FIRST FLOOR.

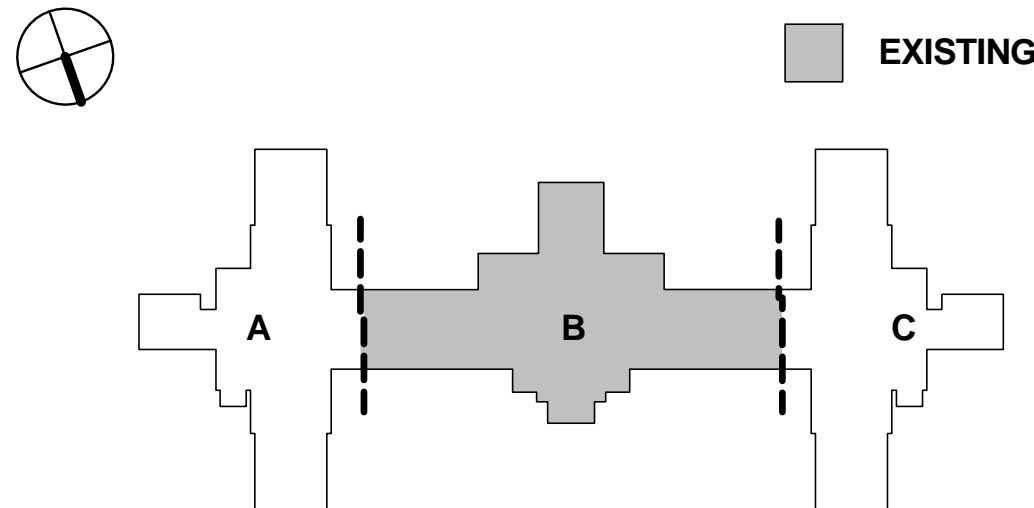


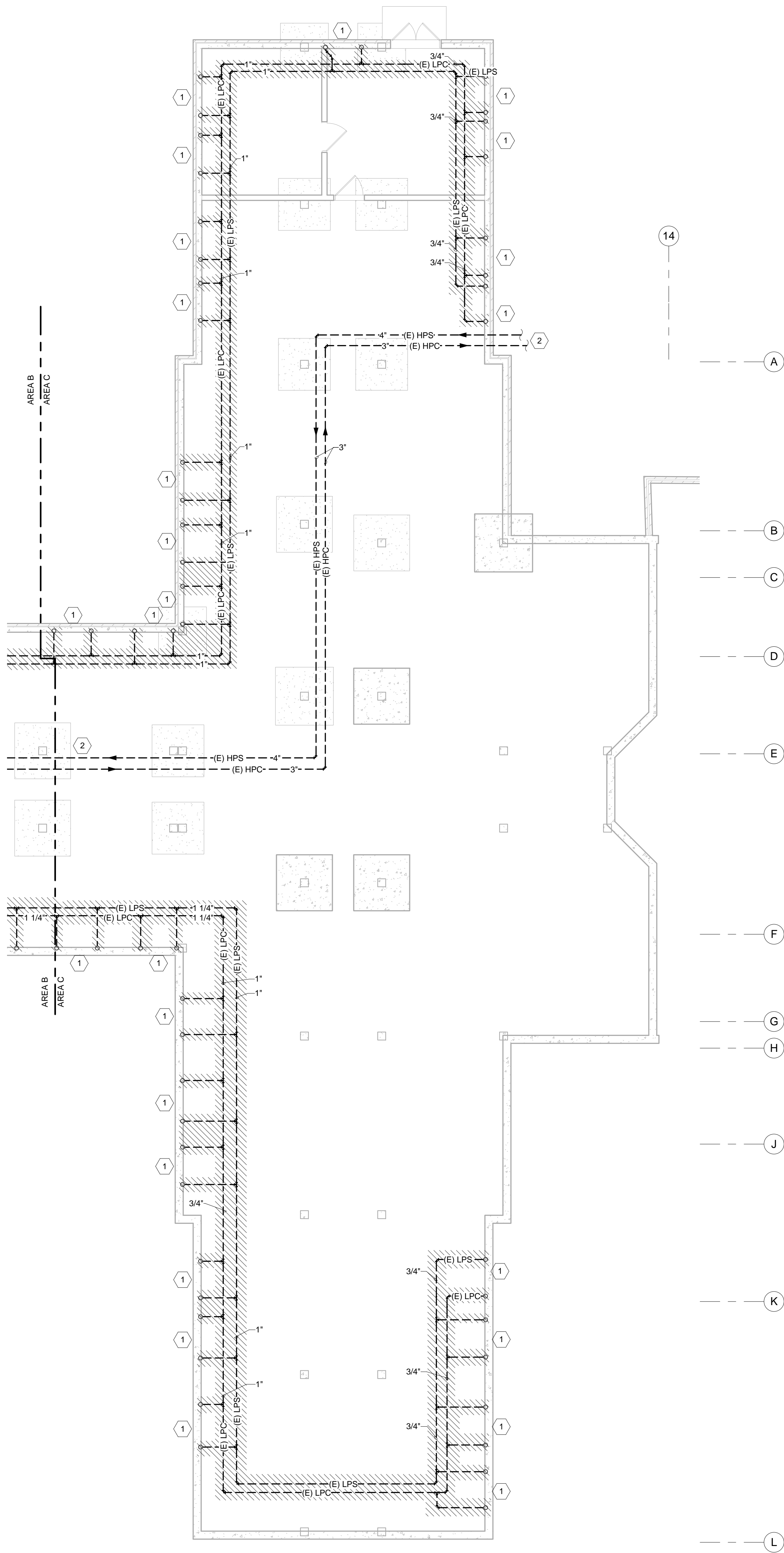
1 MECHANICAL - PARTIAL GROUND FLOOR - DEMOLITION - PIPING AREA C
1/8" = 1'-0"

GRAPHIC SCALE

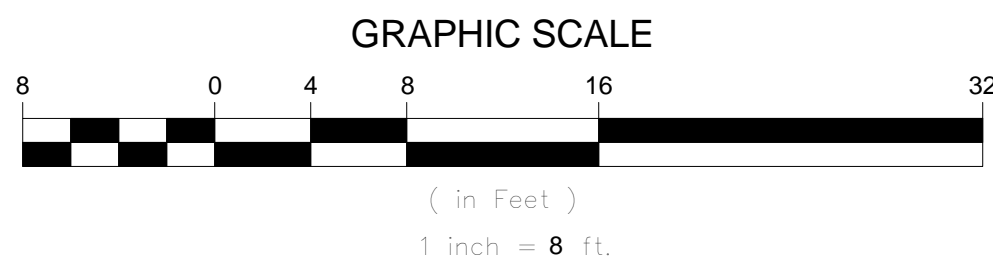


KEY PLAN





1 MECHANICAL - PARTIAL GROUND FLOOR - DEMOLITION - PIPING AREA C
1/8" = 1'-0"



GENERAL SHEET NOTES

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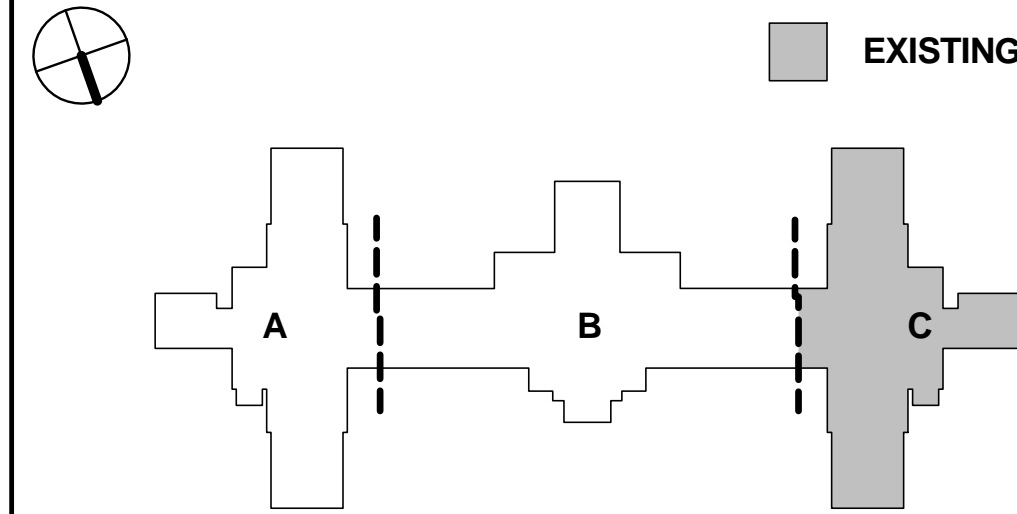
MECHANICAL EXISTING KEYED NOTES

- EXISTING 1/2" LPC AND LPS UP TO FIRST FLOOR.
- EXISTING 4" HPS AND 2-1/2" HPC CONTINUES OUTSIDE SCOPE OF WORK

DEMO SHEET LEGEND

- | | |
|--|----------------------------------|
| | EXISTING PIPING TO REMAIN |
| | EXISTING PIPING TO BE REMOVED |
| | EXISTING DUCT TO REMAIN |
| | EXISTING DUCT TO BE REMOVED |
| | EXISTING EQUIPMENT TO REMAIN |
| | EXISTING EQUIPMENT TO BE REMOVED |

KEY PLAN



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Project

VAMC Salisbury Building 11 - Additions & Renovations

City, State
Salisbury, NC

VA Contract Number
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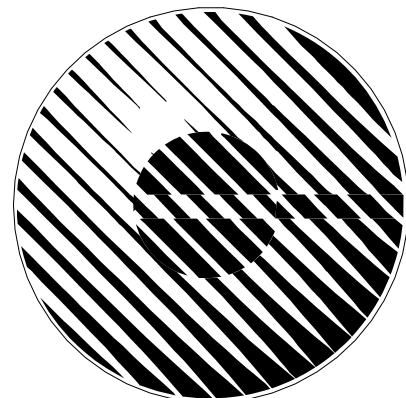
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Sheet Title

MECHANICAL - PARTIAL GROUND FLOOR - DEMOLITION - PIPING AREA C

Date December 29, 2015

Sheet Number

MD-011C



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VAMC Salisbury Building 11 - Additions & Renovations

City, State
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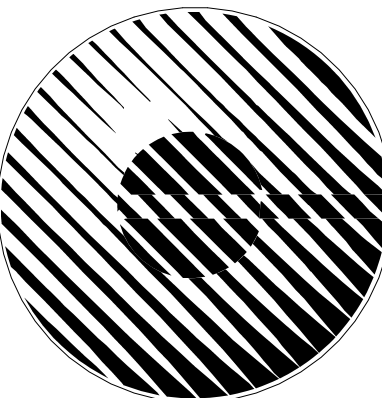
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Sheet Title

MECHANICAL - PARTIAL FIRST FLOOR - DEMOLITION - DUCTWORK AREA A

Date

December 29, 2015

Sheet Number

MD-100A

GENERAL SHEET NOTES

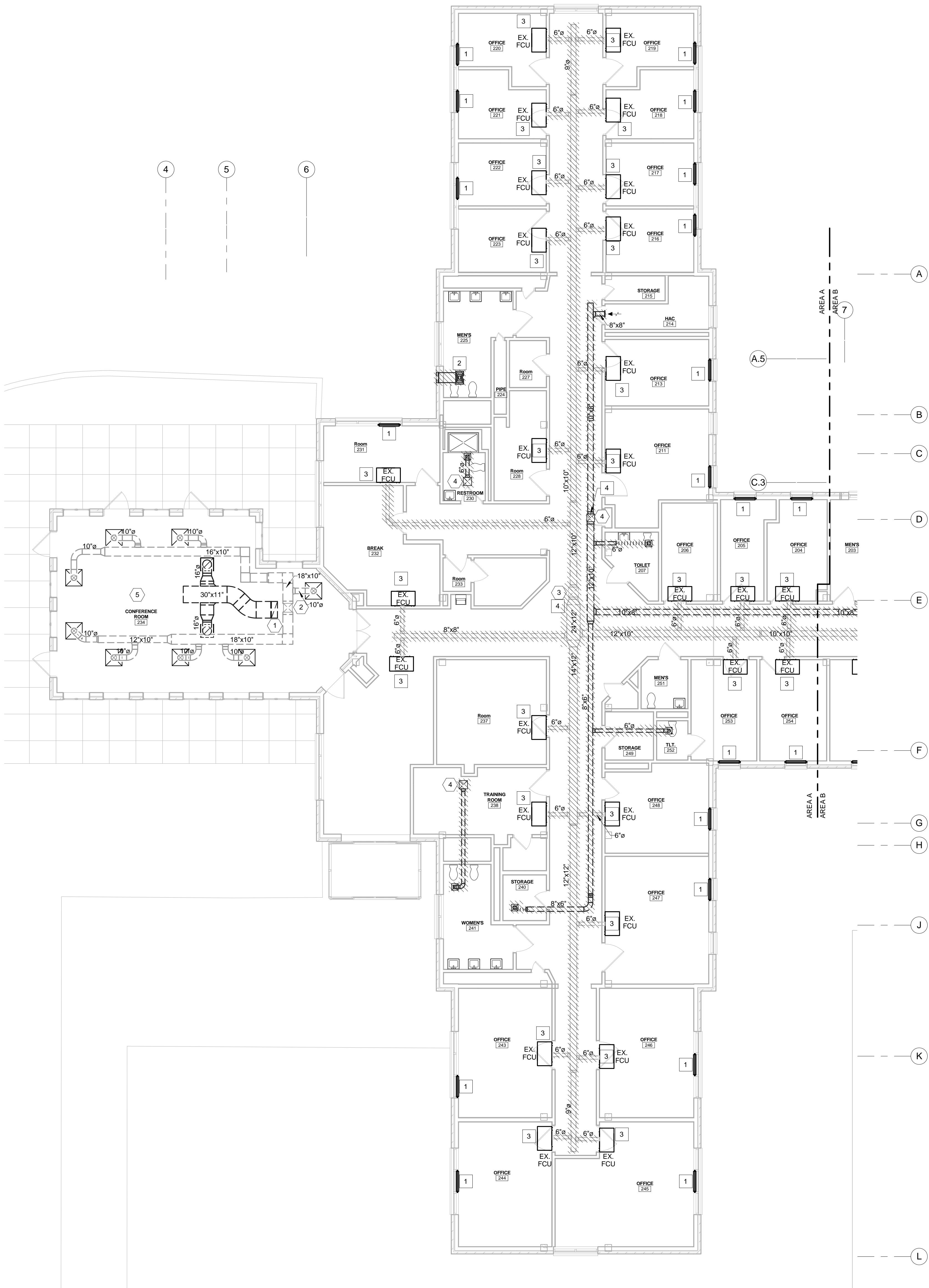
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MECHANICAL DEMOLITION KEYED NOTES

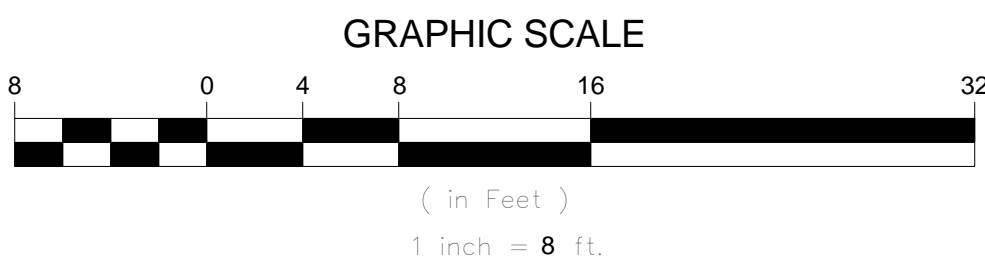
- EXISTING STEAM CONVECTOR UNIT TO BE DEMOLISHED. COORDINATE WITH GENERAL CONTRACTOR WALL PATCHING FOR EXISTING UNIT REMOVED.
- EXISTING EXHAUST FAN LOCATED IN CEILING SHALL BE DEMOLISHED. DEMOLISH AND PATCH EXISTING PENETRATION TO EXTERIOR OF BUILDING.
- EXISTING FAN COIL UNIT TO BE REMOVED.
- COORDINATE WITH GENERAL CONTRACTOR PATCHING OF ROOF FOR REMOVED DUCT PENETRATION.

MECHANICAL EXISTING KEYED NOTES

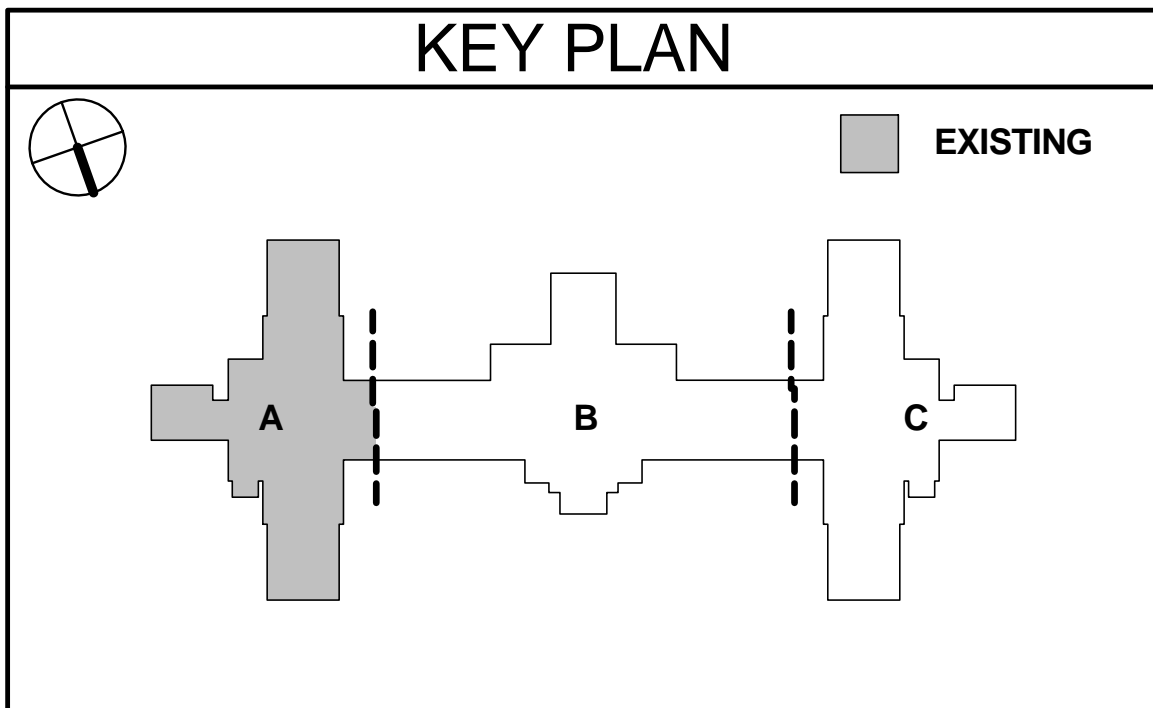
- EXISTING 30"x11" RETURN AIR DUCT UP TO EXISTING RTU ON ROOF.
- EXISTING 16"x16" SUPPLY AIR DUCT UP TO EXISTING RTU ON ROOF.
- EXISTING 18"x18" OUTSIDE AIR DUCT UP TO EXISTING RTU ON ROOF.
- EXISTING EXHAUST DUCT UP TO EXISTING EXHAUST FAN ON ROOF.
- DUCTWORK LAYOUT SIMILAR FOR MD-100C.



1 MECHANICAL - PARTIAL FIRST FLOOR - DEMOLITION - DUCTWORK AREA A
1/8" = 1'-0"



DEMO SHEET LEGEND	
	EXISTING PIPING TO REMAIN
	EXISTING PIPING TO BE REMOVED
	EXISTING DUCT TO REMAIN
	EXISTING DUCT TO BE REMOVED
	EXISTING EQUIPMENT TO REMAIN
	EXISTING EQUIPMENT TO BE REMOVED





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Project

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City, State
Salisbury, NC

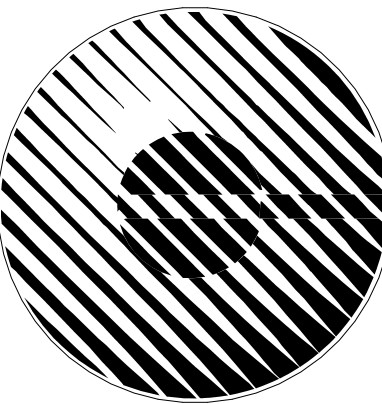
VA Contract Number
VA246-12-C-0089

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704 531 3000
704 531 3001 FAX
Firm License Number: F-0674

Sheet Title

MECHANICAL - PARTIAL FIRST FLOOR - DEMOLITION - DUCTWORK AREA B

Date

December 29, 2015

Sheet Number

MD-100B

GENERAL SHEET NOTES

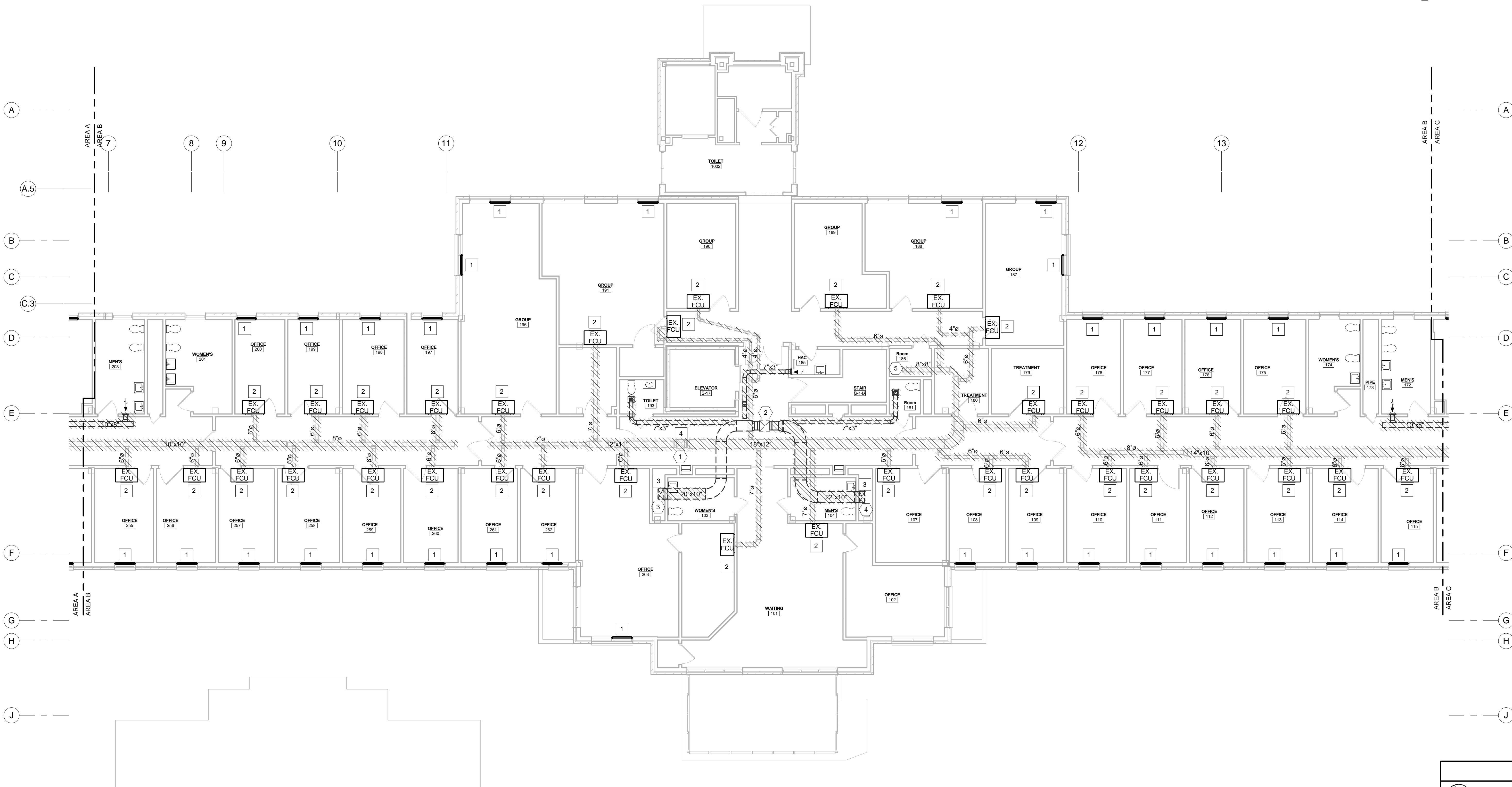
- THE DRAWINGS SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES. THE SCALE, WHEN INDICATED IS INTENDED FOR GENERAL REFERENCE ONLY.
- SHUTDOWNS SHALL BE COORDINATED AND APPROVED THROUGH THE OWNERS REPRESENTATIVE AND WILL REQUIRE ADVANCE NOTICE OF ONE WEEK. THIS TIME LENGTH MAY BE LONGER OR SHORTER FOR SOME SHUTDOWNS AND SHALL BE AT THE OWNERS DISCRETION.
- ANY EXISTING PIPE OR DUCT INSULATION THAT IS DAMAGED DURING CONSTRUCTION SHALL BE REMOVED AND REPLACED WITH NEW INSULATION TO MATCH ADJACENT INSULATION AND COVERING.
- CONSTRUCTION DEBRIS SHALL BE REMOVED DAILY.
- CONTRACTOR SHALL RELOCATE EXISTING EQUIPMENT TO REMAIN AS REQUIRED TO COORDINATE INSTALLATION OF NEW WORK.
- EXISTING MECHANICAL EQUIPMENT SHOWN HATCHED SHALL BE REMOVED BY CONTRACTOR.

MECHANICAL DEMOLITION KEYED NOTES

- EXISTING STEAM CONVECTOR UNIT TO BE DEMOLISHED. COORDINATE WITH GENERAL CONTRACTOR WALL PATCHING FOR EXISTING UNIT REMOVED.
- EXISTING FAN COIL UNIT TO BE REMOVED.
- MECHANICAL CONTRACTOR SHALL RE-ROUTE EXHAUST DUCT AS INDICATED ON SHEET M-100B. COORDINATE WITH GENERAL CONTRACTOR TO MINIMIZE DOWNTIME OF EXHAUST SYSTEM SERVING GROUND FLOOR.
- COORDINATE WITH GENERAL CONTRACTOR PATCHING OF ROOF FOR REMOVED DUCT PENETRATION.

MECHANICAL EXISTING KEYED NOTES

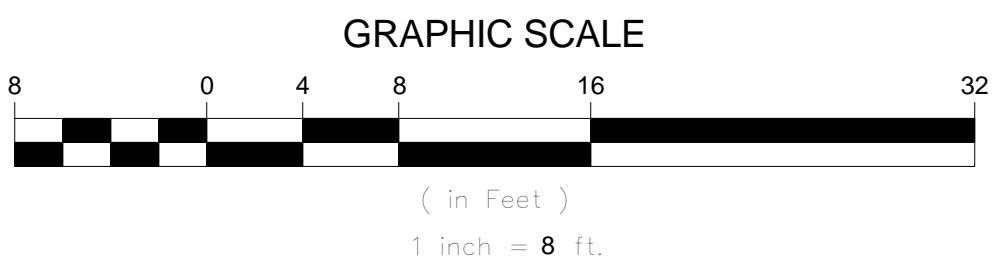
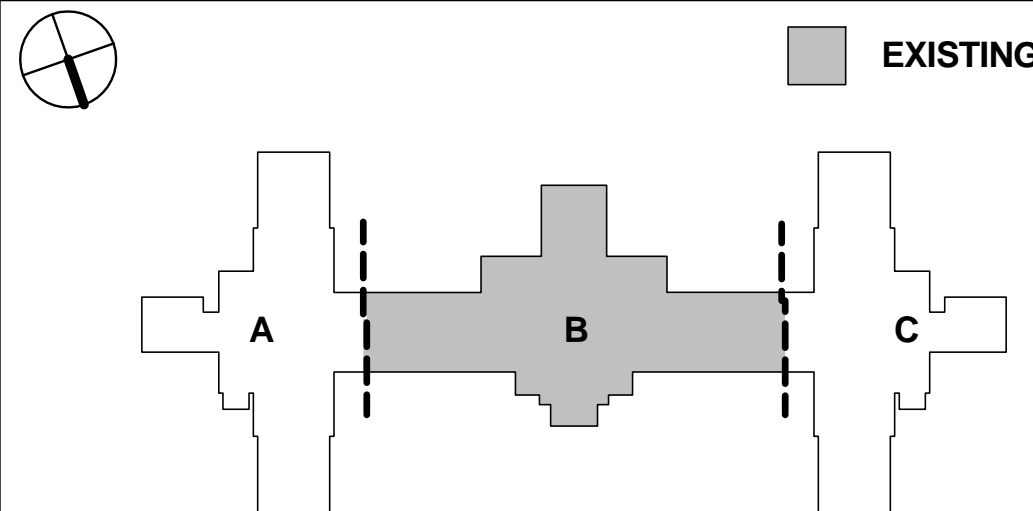
- EXISTING 18"x18" OUTSIDE AIR DUCT UP TO EXISTING RTU ON ROOF.
- EXISTING EXHAUST DUCT UP TO EXISTING EXHAUST FAN ON ROOF.
- EXISTING 20"x10" EXHAUST AIR DUCT DOWN TO GROUND FLOOR.
- EXISTING 22"x10" EXHAUST AIR DUCT DOWN TO GROUND FLOOR.
- EXISTING 8"x8" OUTSIDE AIR DUCT DOWN TO GROUND FLOOR.



DEMO SHEET LEGEND

- | | |
|--|----------------------------------|
| | EXISTING PIPING TO REMAIN |
| | EXISTING PIPING TO BE REMOVED |
| | EXISTING DUCT TO REMAIN |
| | EXISTING DUCT TO BE REMOVED |
| | EXISTING EQUIPMENT TO REMAIN |
| | EXISTING EQUIPMENT TO BE REMOVED |

KEY PLAN



1 MECHANICAL - PARTIAL FIRST FLOOR - DEMOLITION - DUCTWORK AREA B
1/8" = 1'-0"



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704.376.7851 FAX

Project

VAMC Salisbury Building 11 - Additions & Renovations

City, State
Salisbury, NC

VA Contract Number
VA246-12-C-0089

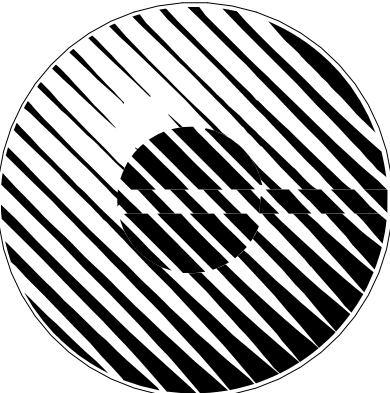
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Sheet Title

**MECHANICAL - PARTIAL
FIRST FLOOR -
DEMOLITION -
DUCTWORK AREA C**

Date December 29, 2015

Sheet Number

MD-100C

GENERAL SHEET NOTES

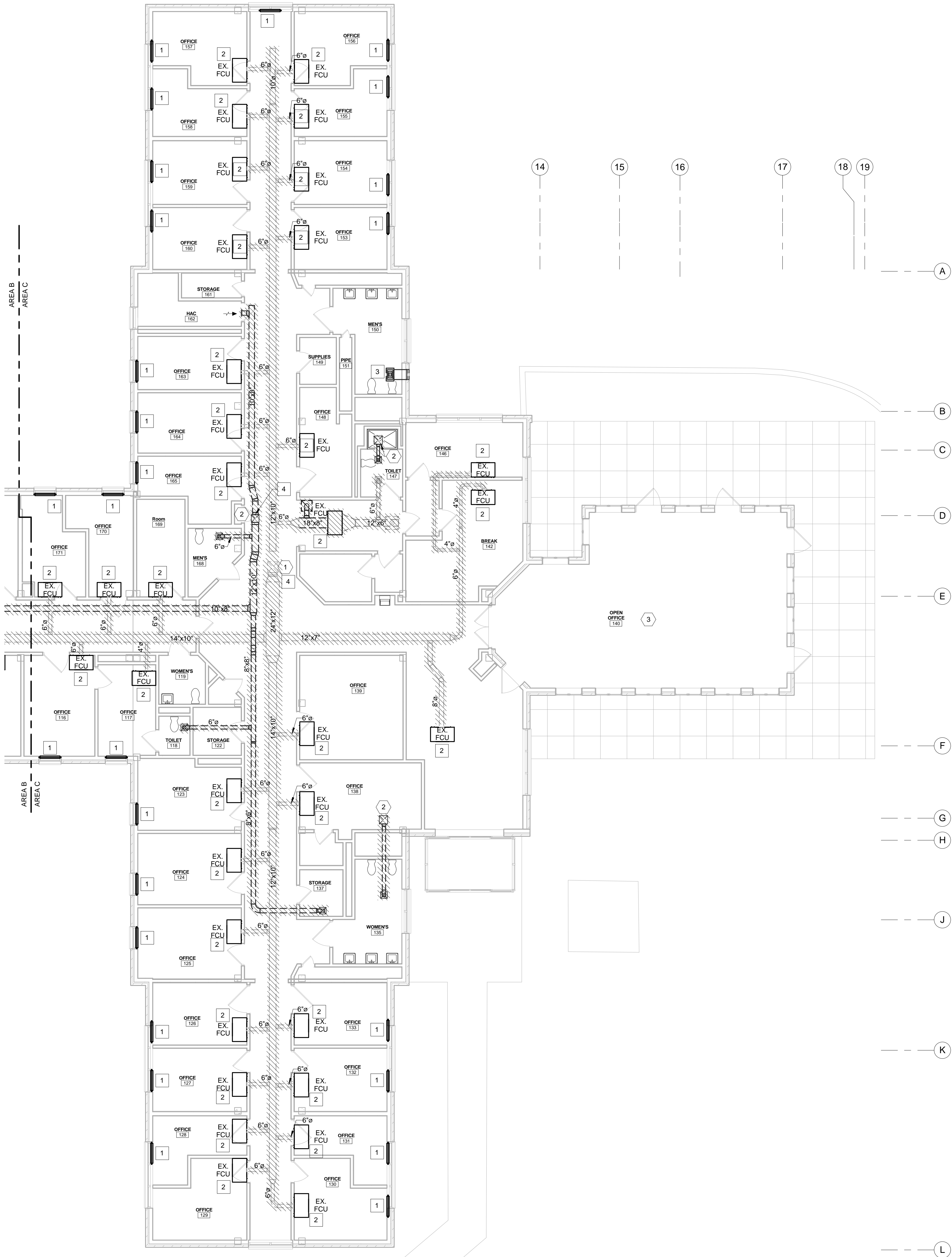
- A. THE DRAWINGS SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES. THE SCALE, WHEN INDICATED IS INTENDED FOR GENERAL REFERENCE ONLY.
- B. SHUTDOWNS SHALL BE COORDINATED AND APPROVED THROUGH THE OWNERS REPRESENTATIVE AND WILL REQUIRE ADVANCE NOTICE OF ONE WEEK. THIS TIME LENGTH MAY BE LONGER OR SHORTER FOR SOME SHUTDOWNS AND SHALL BE AT THE OWNERS DISCRETION.
- C. ANY EXISTING PIPE OR DUCT INSULATION THAT IS DAMAGED DURING CONSTRUCTION SHALL BE REMOVED AND REPLACED WITH NEW INSULATION TO MATCH ADJACENT INSULATION AND COVERING.
- D. CONSTRUCTION DEBRIS SHALL BE REMOVED DAILY.
- E. CONTRACTOR SHALL RELOCATE EXISTING EQUIPMENT TO REMAIN AS REQUIRED TO COORDINATE INSTALLATION OF NEW WORK.
- F. EXISTING MECHANICAL EQUIPMENT SHOWN HATCHED SHALL BE REMOVED BY CONTRACTOR.

MECHANICAL DEMOLITION KEYED NOTES

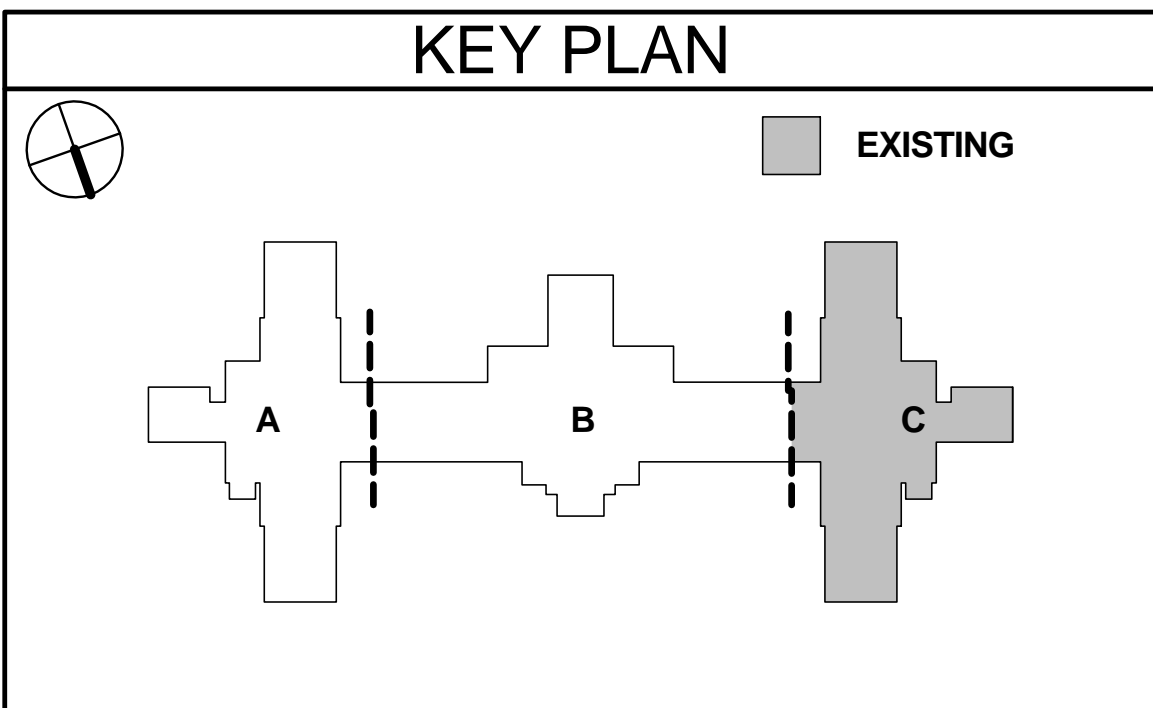
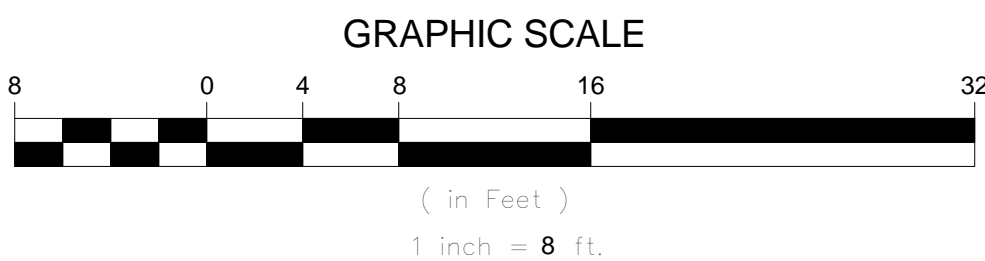
- 1 EXISTING STEAM CONVECTOR UNIT TO BE DEMOLISHED.
- 2 EXISTING FAN COIL UNIT TO BE REMOVED.
- 3 EXISTING EXHAUST FAN LOCATED IN CEILING SHALL BE DEMOLISHED. DEMOLISH AND PATCH EXISTING PENETRATION TO EXTERIOR OF BUILDING.
- 4 COORDINATE WITH GENERAL CONTRACTOR PATCHING OF ROOF FOR REMOVED DUCT PENETRATIONS.

MECHANICAL EXISTING KEYED NOTES

- 1 EXISTING 18"x18" OUTSIDE AIR DUCT UP TO EXISTING RTU ON ROOF.
- 2 EXISTING EXHAUST DUCT UP TO EXISTING EXHAUST FAN ON ROOF.
- 3 EXISTING DUCTWORK IN THIS AREA TO BE REMOVED. FOR DUCT LAYOUT REFER TO MD-100A. IF DE-DUCT ALTERNATE #4 IS ACCEPTED NO DEMOLITION TO OCCUR THIS AREA



1 MECHANICAL - PARTIAL FIRST FLOOR - DEMOLITION - DUCTWORK AREA C
1/8" = 1'-0"





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Project

VAMC Salisbury Building 11 - Additions & Renovations

City, State
Salisbury, NC

VA Contract Number
VA246-12-C-0089

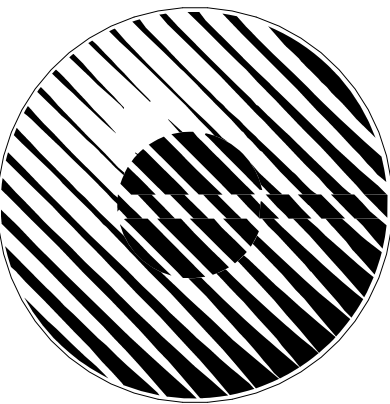
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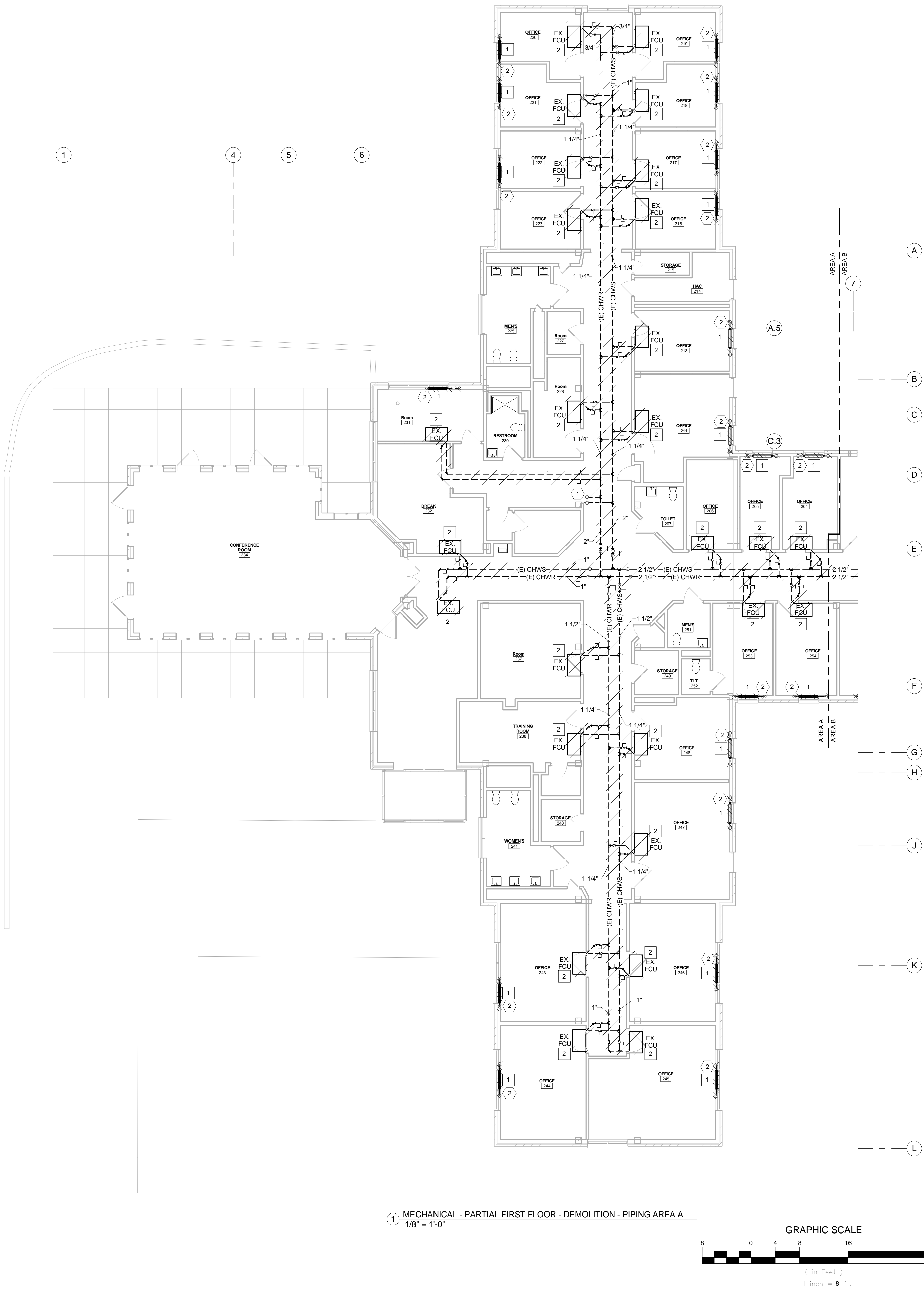
**MECHANICAL - PARTIAL
FIRST FLOOR -
DEMOLITION - PIPING
AREA A**

Date

December 29, 2015

Sheet Number

MD-101A



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MECHANICAL DEMOLITION KEYED NOTES

- EXISTING STEAM CONVECTOR UNIT, LPS AND LPC PIPING TO BE DEMOLISHED.
- EXISTING FAN COIL UNITS TO BE REMOVED.

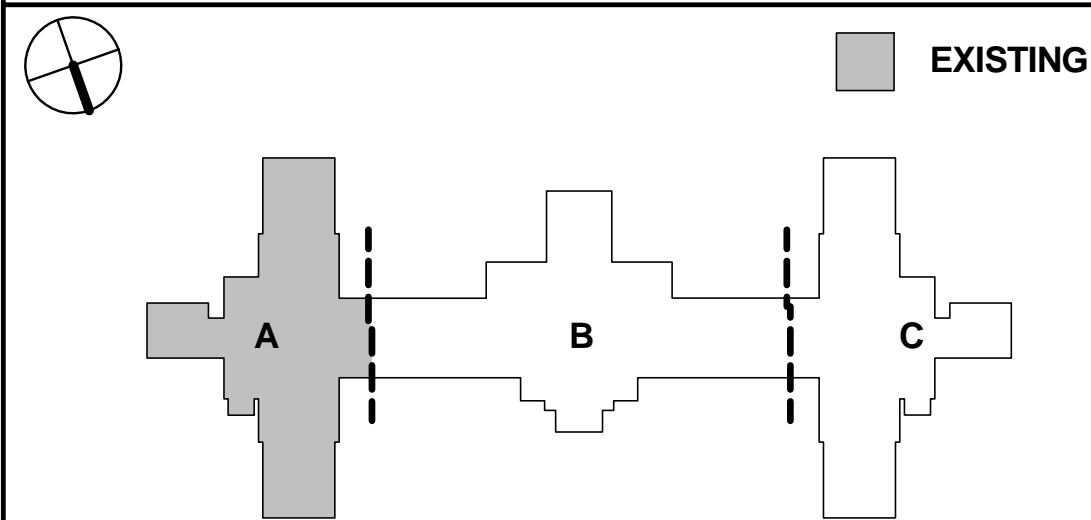
MECHANICAL EXISTING KEYED NOTES

- EXISTING 1-1/4" CHWS AND CHWR UP TO EXISTING RTU ON ROOF.
- EXISTING LPS FROM GROUND FLOOR.

DEMO SHEET LEGEND

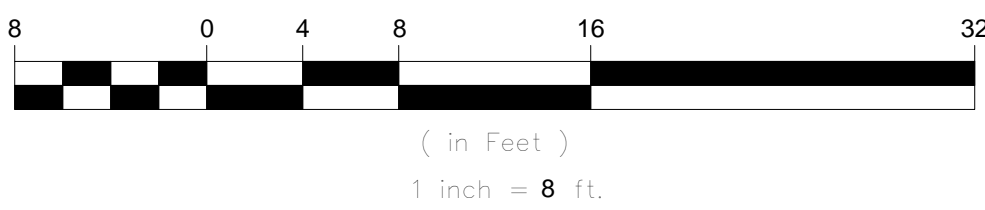
- | | |
|--|----------------------------------|
| | EXISTING PIPING TO REMAIN |
| | EXISTING PIPING TO BE REMOVED |
| | EXISTING DUCT TO REMAIN |
| | EXISTING DUCT TO BE REMOVED |
| | EXISTING EQUIPMENT TO REMAIN |
| | EXISTING EQUIPMENT TO BE REMOVED |

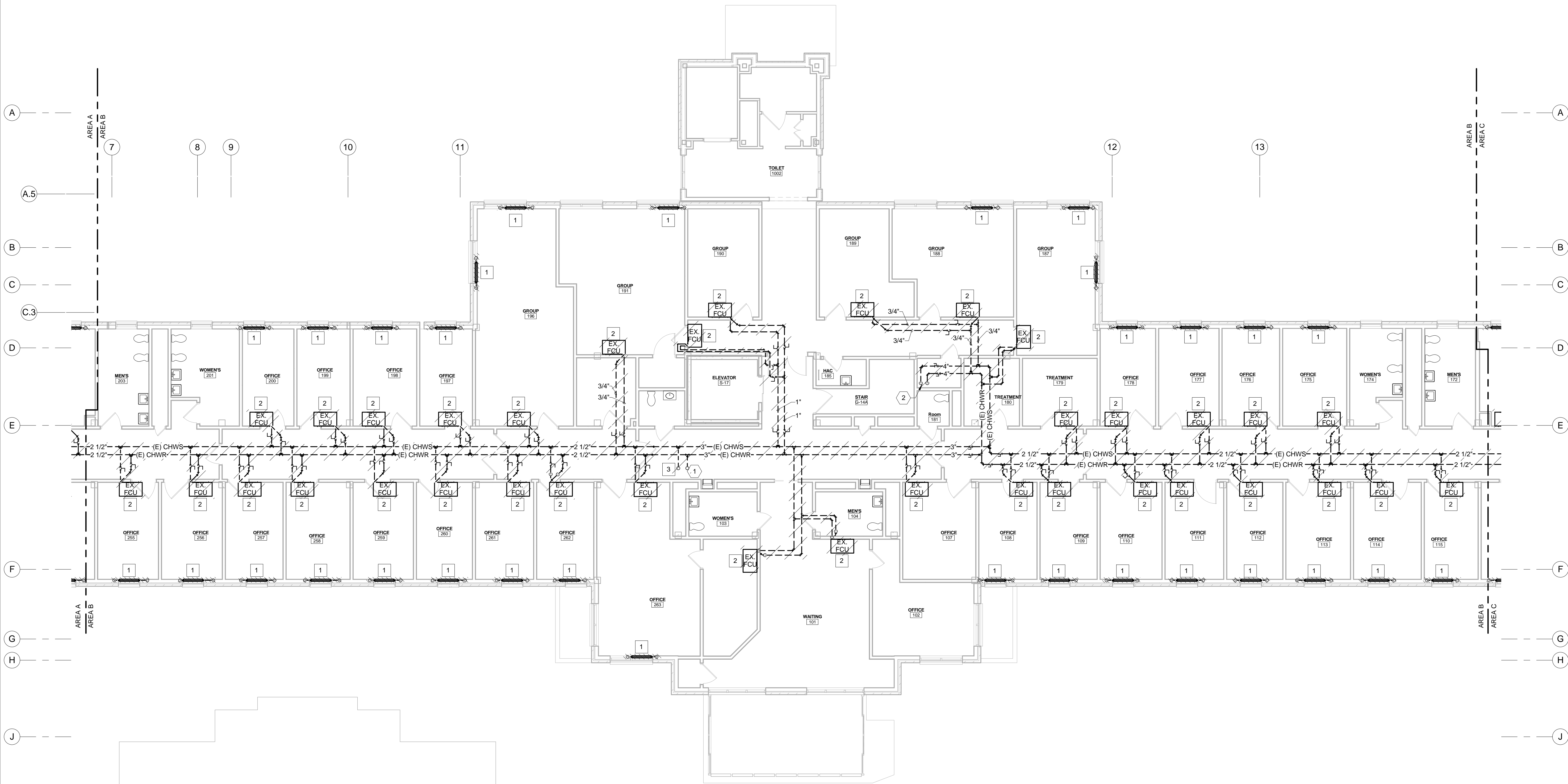
KEY PLAN



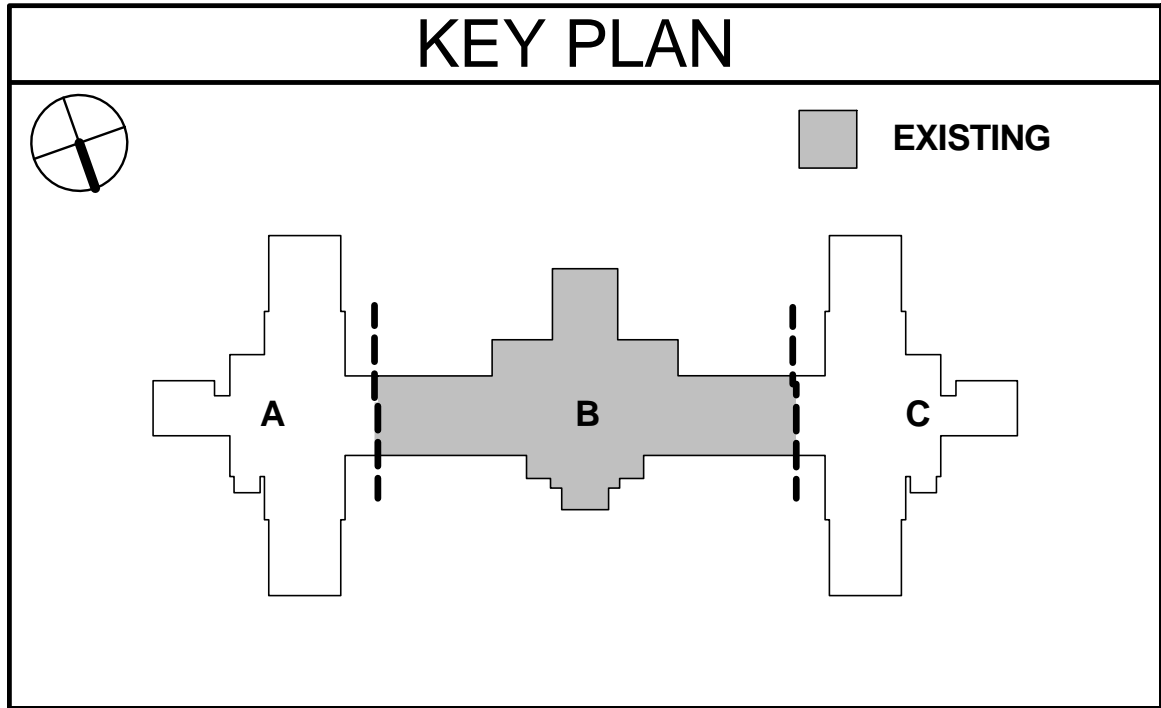
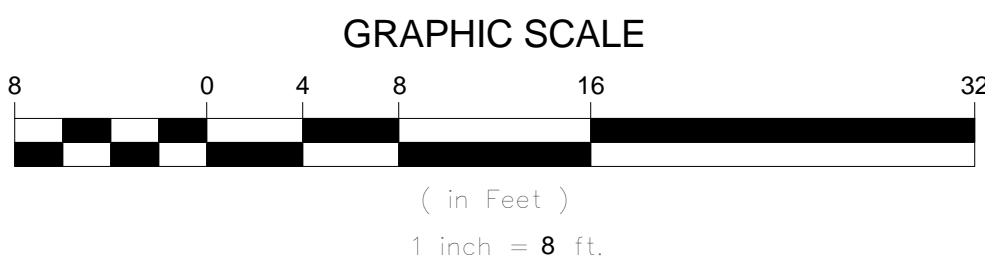
1 MECHANICAL - PARTIAL FIRST FLOOR - DEMOLITION - PIPING AREA A
1/8" = 1'-0"

GRAPHIC SCALE





1 MECHANICAL - PARTIAL FIRST FLOOR - DEMOLITION - PIPING AREA B
1/8" = 1'-0"



GENERAL SHEET NOTES

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MECHANICAL DEMOLITION KEYED NOTES

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- EXISTING FAN COIL UNITS TO BE REMOVED.
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MECHANICAL EXISTING KEYED NOTES

- EXISTING 1-1/4" CHWS AND CHWR UP TO EXISTING RTU ON ROOF.
- EXISTING 4" CHWS AND CHWR DOWN TO GROUND FLOOR.



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704.376.7851 FAX

Project

VAMC Salisbury Building 11 - Additions & Renovations

City, State
Salisbury, NC

VA Contract Number
VA246-12-C-0089

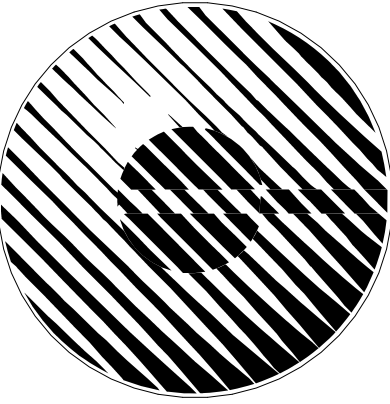
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Sheet Title

MECHANICAL - PARTIAL FIRST FLOOR - DEMOLITION - PIPING AREA B

Date

December 29, 2015

Sheet Number

MD-101B



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City, State
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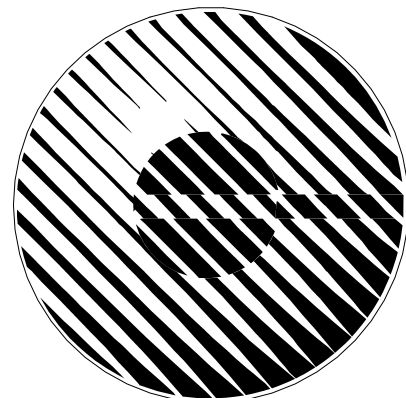
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Sheet Title

MECHANICAL - PARTIAL FIRST FLOOR - DEMOLITION - PIPING AREA C

Date

December 29, 2015

Sheet Number

MD-101C

GENERAL SHEET NOTES

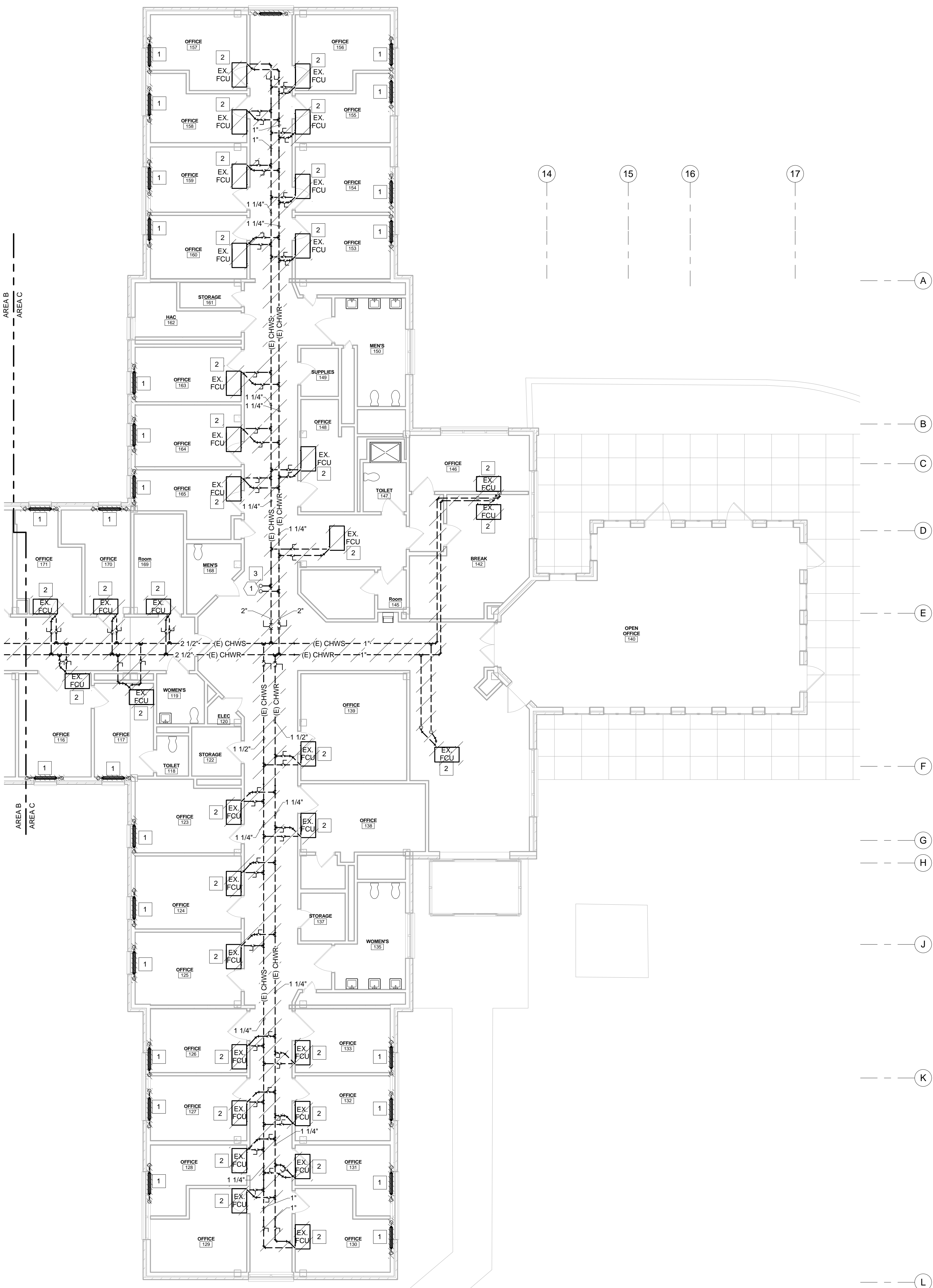
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- EXISTING MECHANICAL EQUIPMENT SHOWN HATCHED SHALL BE REMOVED BY CONTRACTOR.

MECHANICAL DEMOLITION KEYED NOTES

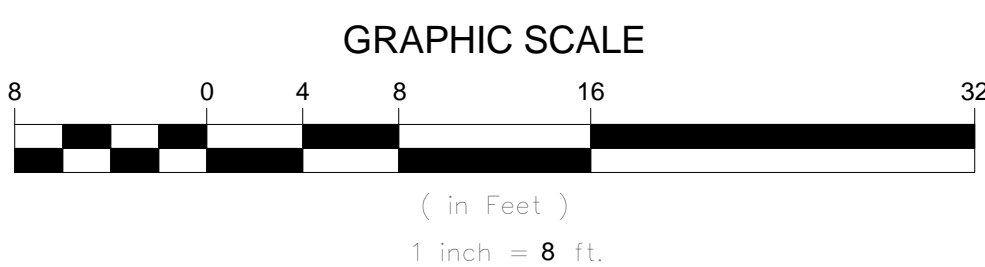
- EXISTING STEAM CONVECTOR UNIT, LPS AND LPC PIPING TO BE DEMOLISHED.
- EXISTING FAN COIL UNITS TO BE REMOVED.
- COORDINATE WITH GENERAL CONTRACTOR PATCHING OF ROOF FOR REMOVED PIPING PENETRATION.

MECHANICAL EXISTING KEYED NOTES

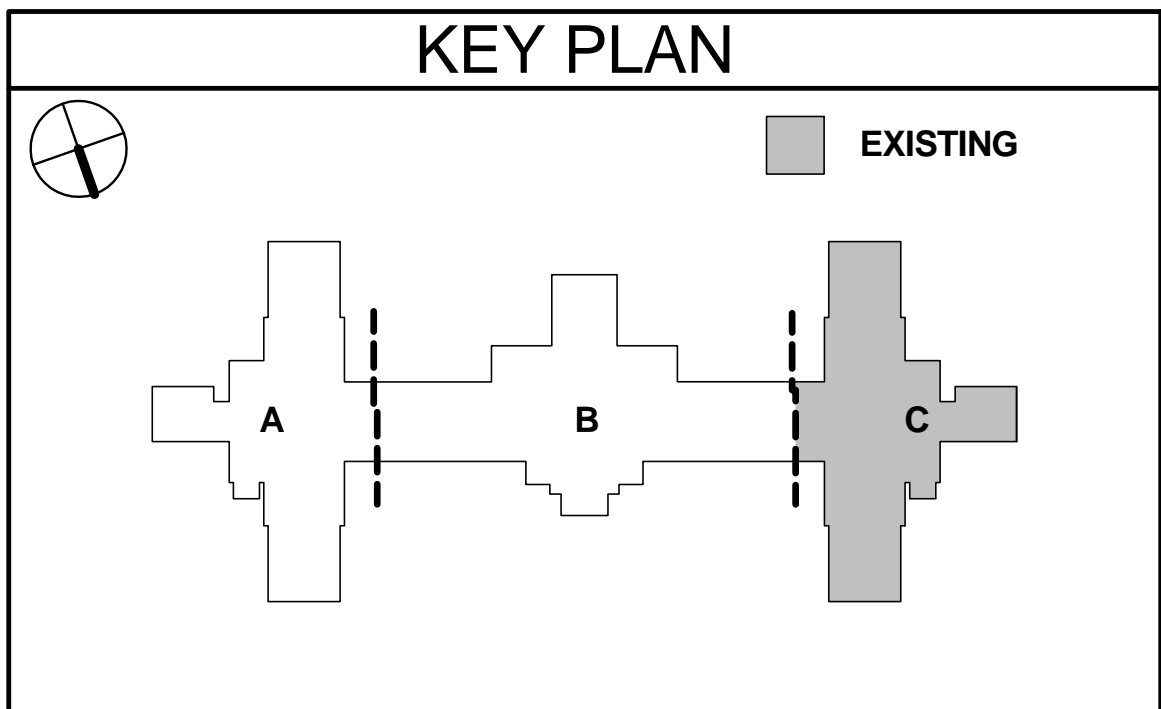
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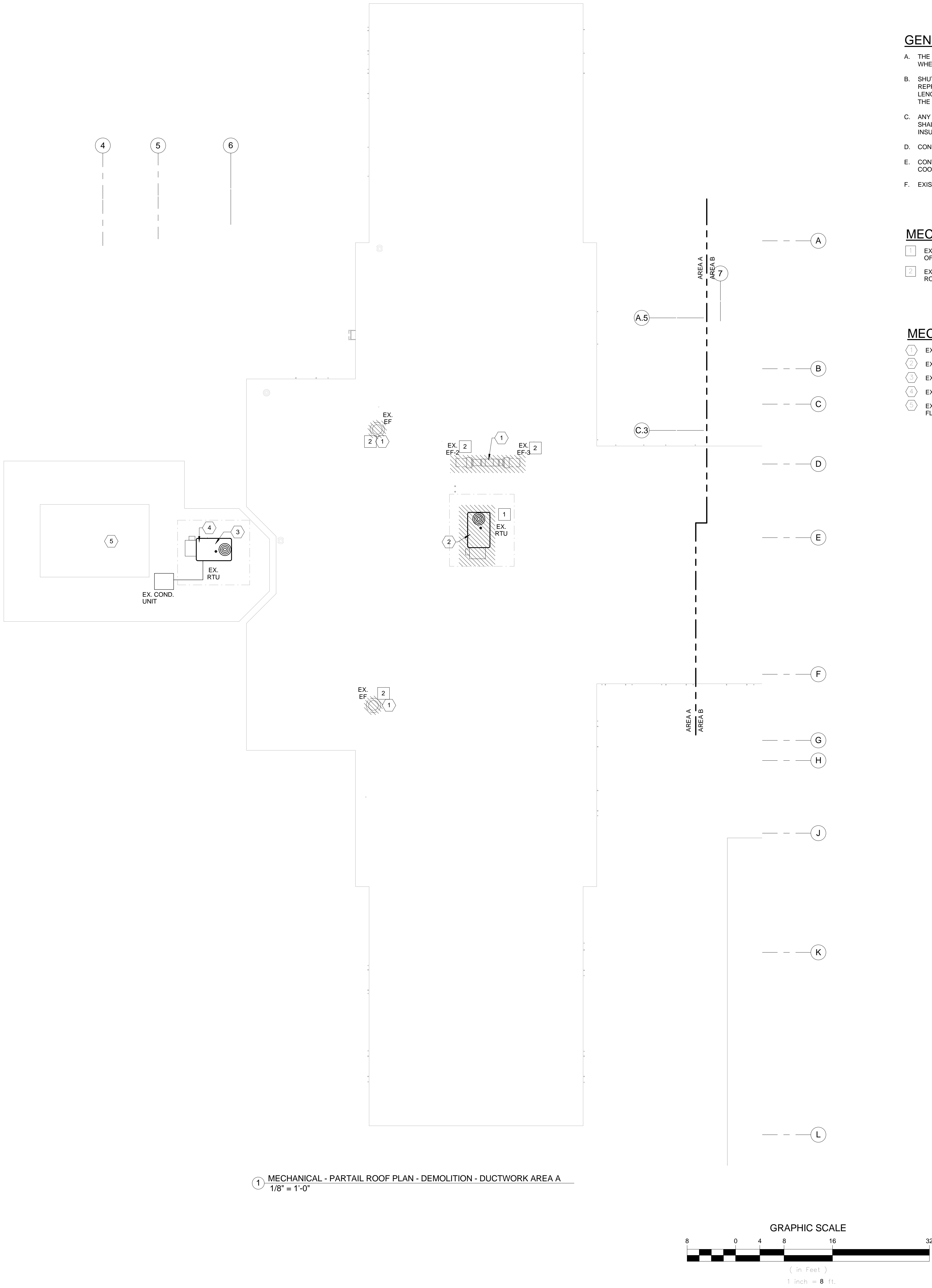


1 MECHANICAL - PARTIAL FIRST FLOOR - DEMOLITION - PIPING AREA C
1/8" = 1'-0"



DEMO SHEET LEGEND	
	EXISTING PIPING TO REMAIN
	EXISTING PIPING TO BE REMOVED
	EXISTING DUCT TO REMAIN
	EXISTING DUCT TO BE REMOVED
	EXISTING EQUIPMENT TO REMAIN
	EXISTING EQUIPMENT TO BE REMOVED





GENERAL SHEET NOTES

- A. THE DRAWINGS SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES. THE SCALE, WHEN INDICATED IS INTENDED FOR GENERAL REFERENCE ONLY.
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MECHANICAL DEMOLITION KEYED NOTES

- 1 EXISTING ROOF TOP UNIT TO BE DEMOLISHED. COORDINATE PATCHING OF ROOF WITH GENERAL CONTRACTOR.
- 2 EXISTING EXHAUST FAN TO BE DEMOLISHED. COORDINATE PATCHING OF ROOF WITH GENERAL CONTRACTOR.

MECHANICAL EXISTING KEYED NOTES

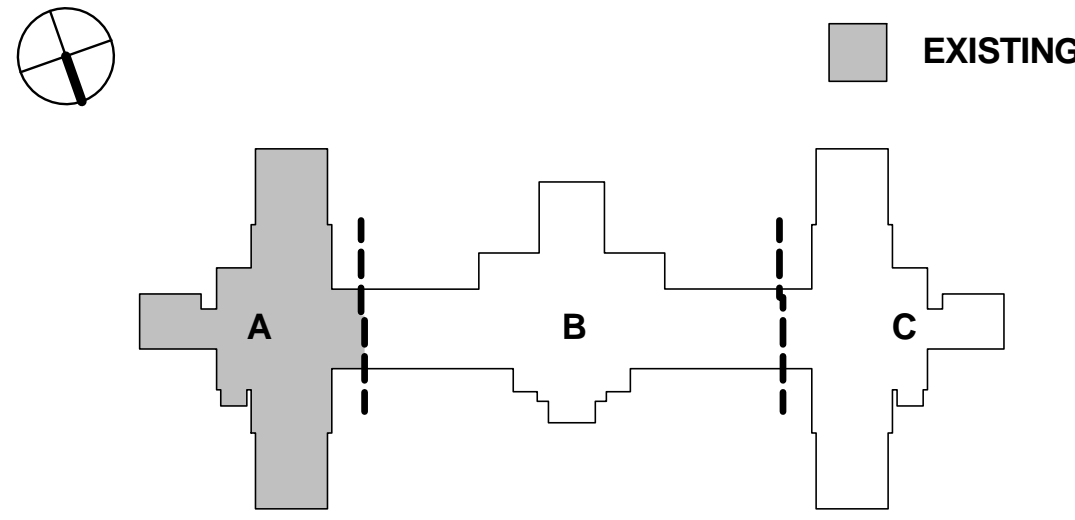
- 1 EXISTING EXHAUST AIR DUCT DOWN TO FIRST FLOOR.
- 2 EXISTING OUTSIDE AIR DUCT DOWN TO FIRST FLOOR.
- 3 EXISTING SUPPLY AIR DUCT DOWN TO FIRST FLOOR.
- 4 EXISTING RETURN AIR DUCT DOWN TO FIRST FLOOR.
- 5 EXISTING SKYLITE. DUCTWORK INDICATED HERE LOCATED ON FIRST FLOOR.

DEMO SHEET LEGEND

- EXISTING PIPING TO REMAIN
- EXISTING PIPING TO BE REMOVED
- EXISTING DUCT TO REMAIN
- EXISTING DUCT TO BE REMOVED
- EXISTING EQUIPMENT TO REMAIN
- EXISTING EQUIPMENT TO BE REMOVED

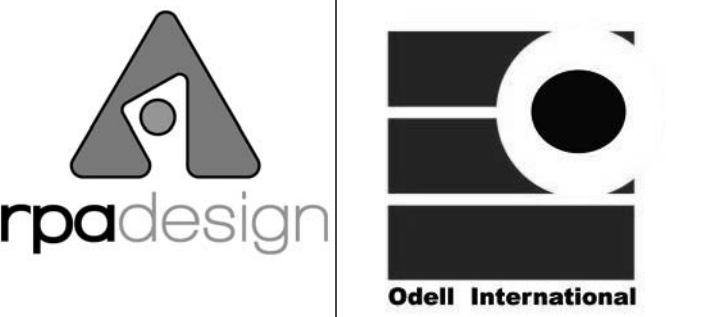
Mech - Demo Sheet Legend
12" = 1'-0"

KEY PLAN





Architect of Record Program Manager



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Charlotte, NC 28210	Huntersville, NC 28078
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Project

**VAMC Salisbury
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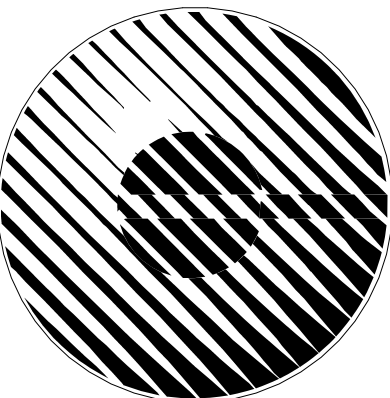
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Sheet Title

**MECHANICAL - PARTIAL
ROOF PLAN -
DEMOLITION AREA B**

Date December 29, 2015

Sheet Number

MD-200B

GENERAL SHEET NOTES

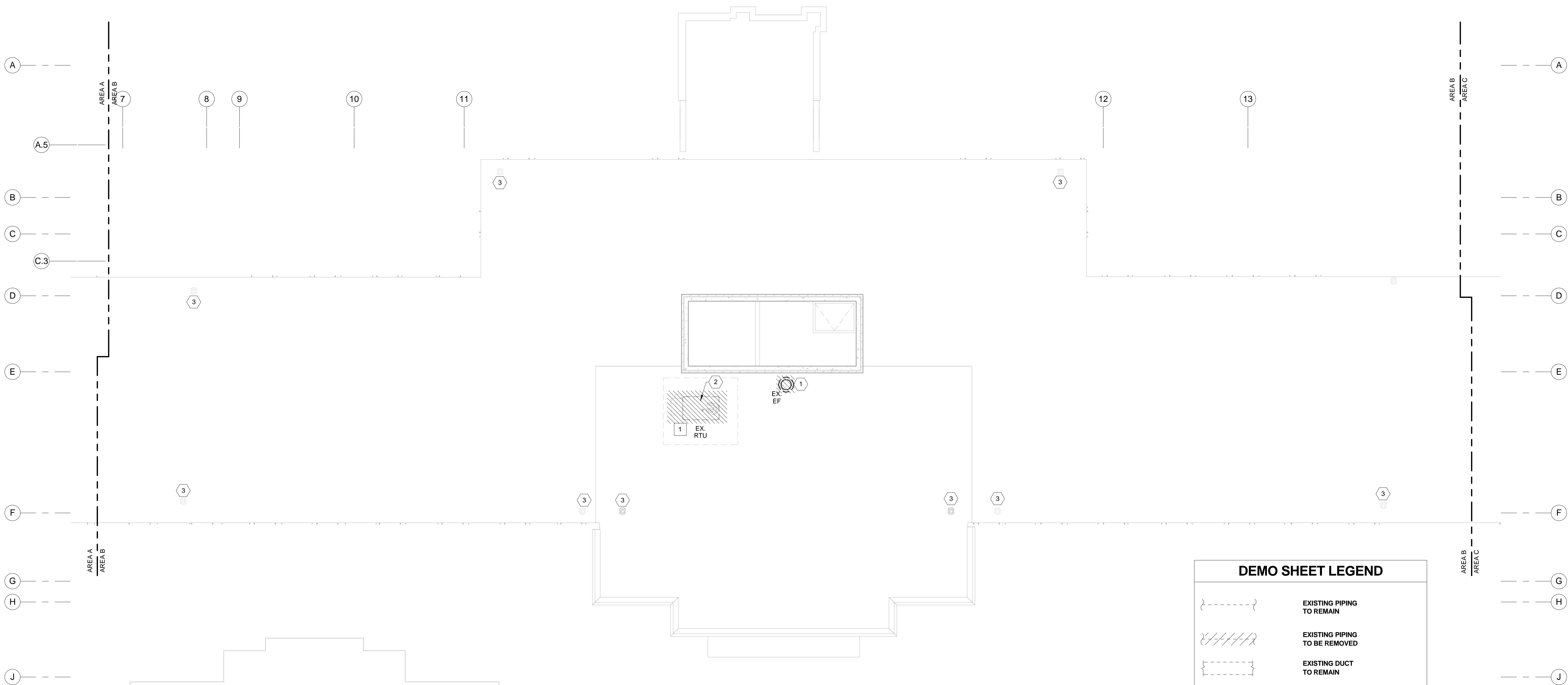
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- F. EXISTING MECHANICAL EQUIPMENT SHOWN HATCHED SHALL BE REMOVED BY CONTRACTOR.

MECHANICAL DEMOLITION KEYED NOTES







- EXISTING ROOF TOP UNIT TO BE DEMOLISHED. COORDINATE PATCHING OF ROOF WITH GENERAL CONTRACTOR.

MECHANICAL EXISTING KEYED NOTES

- 1 EXISTING EXHAUST AIR DUCT DOWN TO FIRST FLOOR.
- 2 EXISTING OUTSIDE AIR DUCT DOWN TO FIRST FLOOR.
- 3 EXISTING ROOF DRAIN.



DEMO SHEET LEGEND

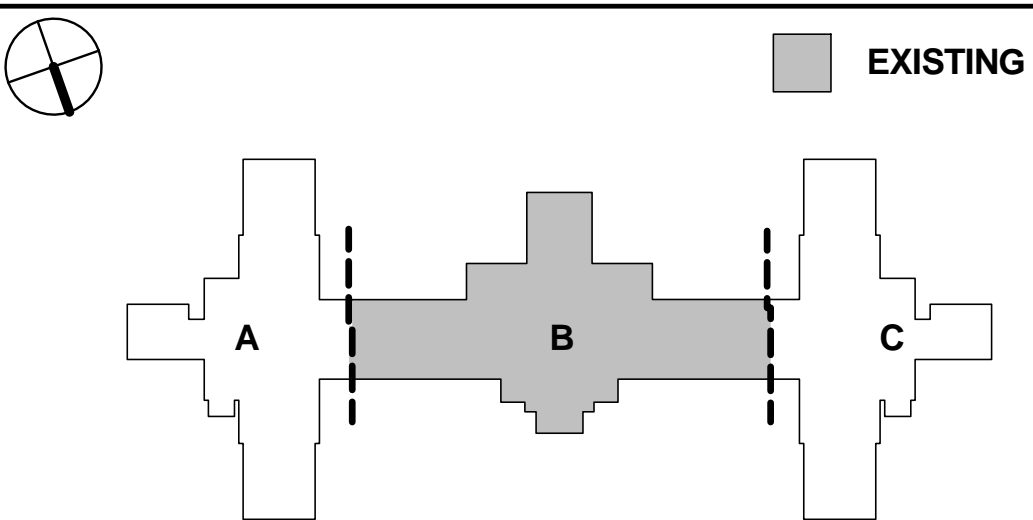
- | | |
|---|-------------------------------------|
|  | EXISTING PIPING
TO REMAIN |
|  | EXISTING PIPING
TO BE REMOVED |
|  | EXISTING DUCT
TO REMAIN |
|  | EXISTING DUCT
TO BE REMOVED |
|  | EXISTING EQUIPMENT
TO REMAIN |
|  | EXISTING EQUIPMENT
TO BE REMOVED |

GRAPHIC SCALE



(in Feet)
1 inch = **8** ft.

KEY PLAN



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Project

VAMC Salisbury Building 11 - Additions & Renovations

City, State
Salisbury, NC

VA Contract Number
VA246-12-C-0089

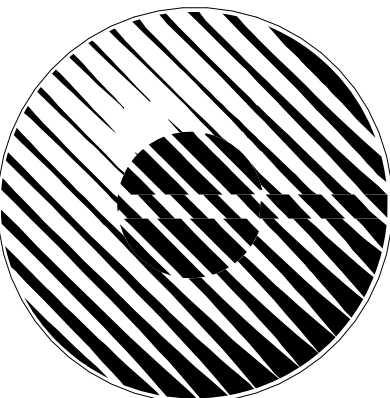
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Sheet Title

MECHANICAL - PARTIAL ROOF PLAN - DEMOLITION AREA C

Date

December 29, 2015

Sheet Number

MD-200C

GENERAL SHEET NOTES

- THE DRAWINGS SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES. THE SCALE, WHEN INDICATED IS INTENDED FOR GENERAL REFERENCE ONLY.
- SHUTDOWNS SHALL BE COORDINATED AND APPROVED THROUGH THE OWNERS REPRESENTATIVE AND WILL REQUIRE ADVANCE NOTICE OF ONE WEEK. THIS TIME LENGTH MAY BE LONGER OR SHORTER FOR SOME SHUTDOWNS AND SHALL BE AT THE OWNERS DISCRETION.
- ANY EXISTING PIPE OR DUCT INSULATION THAT IS DAMAGED DURING CONSTRUCTION SHALL BE REMOVED AND REPLACED WITH NEW INSULATION TO MATCH ADJACENT INSULATION AND COVERING.
- CONSTRUCTION DEBRIS SHALL BE REMOVED DAILY.
- CONTRACTOR SHALL RELOCATE EXISTING EQUIPMENT TO REMAIN AS REQUIRED TO COORDINATE INSTALLATION OF NEW WORK.
- EXISTING MECHANICAL EQUIPMENT SHOWN HATCHED SHALL BE REMOVED BY CONTRACTOR.

MECHANICAL DEMOLITION KEYED NOTES

- EXISTING ROOF TOP UNIT TO BE DEMOLISHED. COORDINATE PATCHING OF ROOF WITH GENERAL CONTRACTOR.
- EXISTING EXHAUST FAN TO BE DEMOLISHED. COORDINATE PATCHING OF ROOF WITH GENERAL CONTRACTOR.
- EXISTING CONDENSING UNIT TO BE DEMOLISHED.
- REMOVE DEMO FROM AREA IF DE-DUCT ALTERNATE #4 IS ACCEPTED.

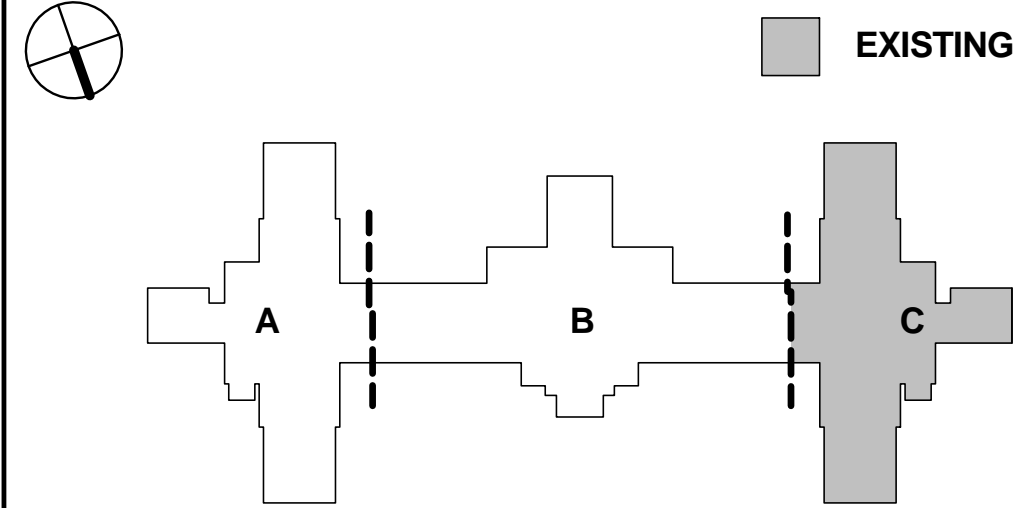
MECHANICAL EXISTING KEYED NOTES

- EXISTING EXHAUST AIR DUCT DOWN TO FIRST FLOOR.
- EXISTING OUTSIDE AIR DUCT DOWN TO FIRST FLOOR.
- EXISTING SKYLIGHT.

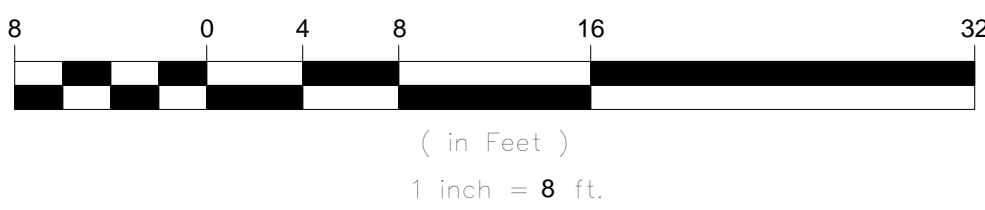
DEMO SHEET LEGEND

- | | |
|--|-------------------------------------|
| | EXISTING PIPING
TO REMAIN |
| | EXISTING PIPING
TO BE REMOVED |
| | EXISTING DUCT
TO REMAIN |
| | EXISTING DUCT
TO BE REMOVED |
| | EXISTING EQUIPMENT
TO REMAIN |
| | EXISTING EQUIPMENT
TO BE REMOVED |

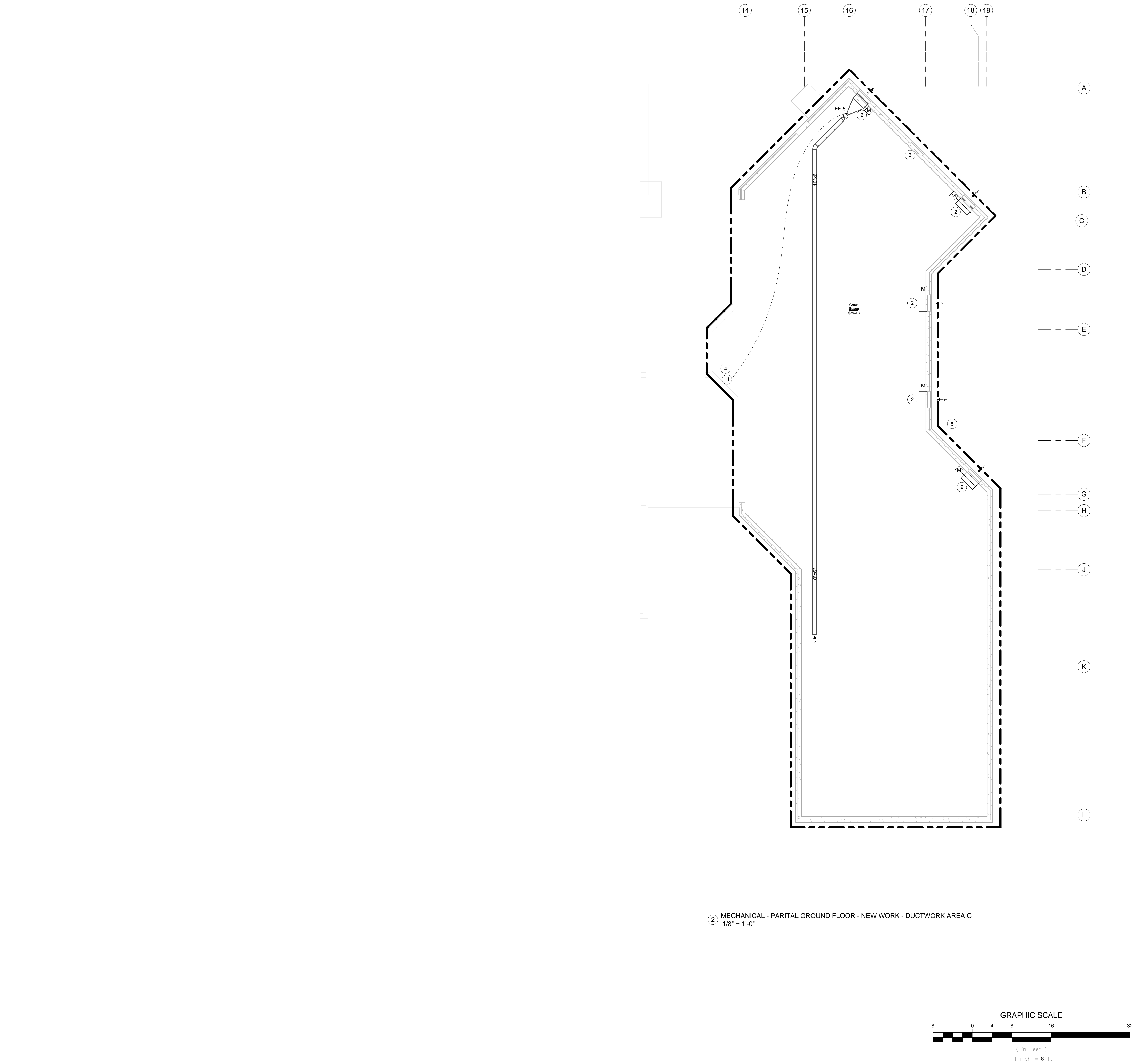
KEY PLAN



GRAPHIC SCALE



1 MECHANICAL - PARTIAL ROOF PLAN - DEMOLITION - DUCTWORK AREA C
1/8" = 1'-0"



GENERAL SHEET NOTES

- ALL DUCTS, PIPE, AND EQUIPMENT SHALL BE Laterally RESTRAINED TO COMPLY WITH THE NORTH CAROLINA BUILDING CODE. PROVIDE FOR SEISMIC DESIGN CLASS "D."
- BEFORE FABRICATING ANY SHEET METAL DUCTWORK, COORDINATE LOCATION AND SIZE WITH SPRINKLER & PLUMBING PIPING, CONDUITS, LIGHT FIXTURES, STRUCTURAL, ETC. PLANS ARE SCHEMATIC AND ARE NOT SHOP DRAWINGS. SUBMIT DUCTWORK COORDINATION DRAWINGS, AS SPECIFIED.
- ALL EQUIPMENT SHALL BE U.L. LISTED.
- FIRE AND SMOKE DAMPERS SHALL BE INSTALLED IN COMPLETE ACCORDANCE WITH THE MANUFACTURER'S U.L. LISTING AND INSTALLATION INSTRUCTIONS. FIRE AND SMOKE DAMPERS SHALL HAVE SPECIFIC U.L. LISTING FOR THE CONSTRUCTION IN WHICH THEY ARE INSTALLED. PROVIDE DYNAMIC FIRE DAMPERS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH OTHER TRADES TO ELIMINATE CONFLICT WITH OTHER TRADES. ANY WORK INSTALLED BY THIS CONTRACTOR THAT RESULTS IN CONFLICT, DUE TO LACK OF COORDINATION BETWEEN TRADES, SHALL BE CHANGED AS DIRECTED BY THE ARCHITECT/ENGINEER WITHOUT ADDITIONAL COMPENSATION TO THE CONTRACTOR.
- CONTRACTOR SHALL COORDINATE ROUTING OF DUCTWORK TO ENSURE DUCTWORK DOES NOT PASS OVER ELECTRICAL PANELS.
- ALL SHUTDOWNS SHALL BE COORDINATED AND APPROVED THROUGH THE OWNERS REPRESENTATIVE AND WILL REQUIRE ADVANCE NOTICE OF ONE WEEK. THIS TIME LENGTH MAY BE LONGER OR SHORTER FOR SOME SHUTDOWNS AND SHALL BE AT THE OWNERS DISCRETION.
- PROVIDE REMOVABLE ACCESS DOORS AT ALL MOTOR OPERATED DAMPERS, FIRE DAMPERS, SMOKE DAMPERS, DUCT COILS, SMOKE DETECTORS, AND SIMILAR ITEMS REQUIRING MAINTENANCE OR ADJUSTMENT.
- REFER TO MECHANICAL EXHAUST FAN SCHEDULES FOR EXHAUST FAN PERFORMANCE.

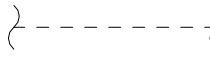
MECHANICAL KEYED NOTES

- NOT USED
- NEW 18"x40" LOUVER PROVIDED BY OTHERS. CONTRACTOR SHALL PROVIDE 12"x6" DUCTWORK ATTACHED TO LOUVER AND INSTALL MOTORIZED OPERATED DAMPER AS INDICATED.
- CONTRACTOR SHALL BLANK OFF LOUVER.
- PROVIDE NEW HUMIDISTAT TO BE CONNECTED TO NEW EF-5. UPON HUMIDITY LEVELS REACHING 60% RH OR ABOVE, FAN SHALL BE ENERGIZED AND MOTORIZED OPERATED DAMPERS LOCATED IN GRAVEL SPACE SHALL OPEN.
- EQUIPMENT SHALL BE REMOVED IF DEDUCT ALTERNATE 4 IS APPROVED.

SHEET LEGEND



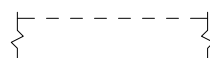
CONNECT TO EXISTING



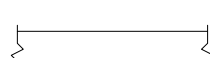
EXISTING PIPING TO REMAIN



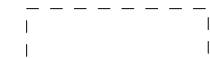
NEW PIPING



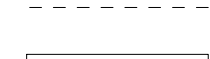
EXISTING DUCT TO REMAIN



NEW DUCTWORK

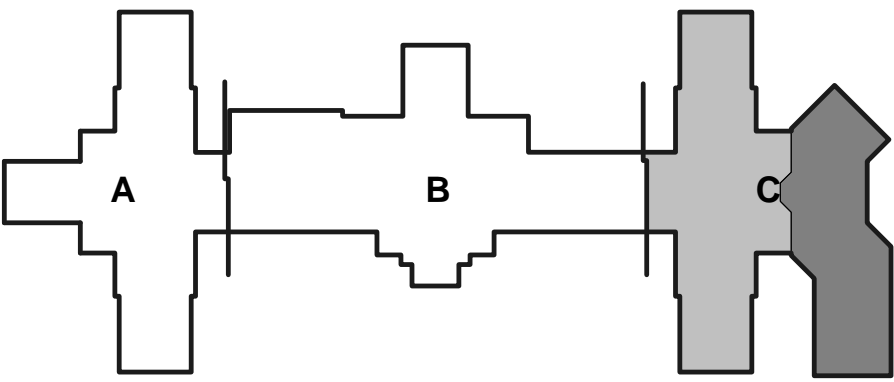


EXISTING EQUIPMENT TO REMAIN



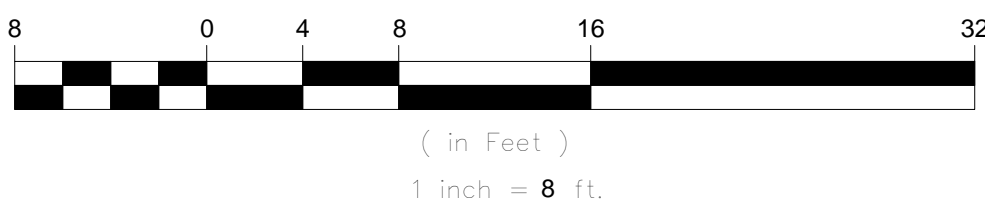
NEW EQUIPMENT

KEY PLAN



② MECHANICAL - PARTIAL GROUND FLOOR - NEW WORK - DUCTWORK AREA C
1/8" = 1'-0"

GRAPHIC SCALE



Department of
Veterans Affairs

Architect of Record

Program Manager



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Project

VAMC Salisbury Building 11 - Additions & Renovations

City, State
Salisbury, NC

VA Contract Number
VA246-12-C-0089

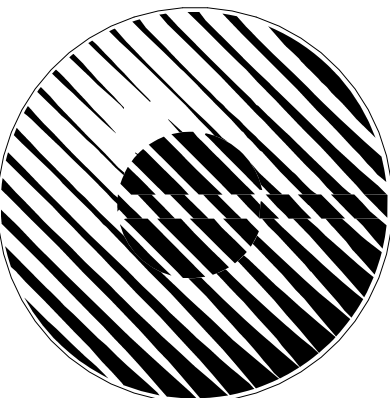
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Sheet Title

MECHANICAL - PARTIAL GROUND FLOOR - NEW WORK - DUCTWORK AREA C

Date

December 29, 2015

Sheet Number

M-010

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Project

**VAMC Salisbury
Building 11 - Additions
& Renovations**

City, State
Salisbury, NC

VA Contract Number
VA246-12-C-0089

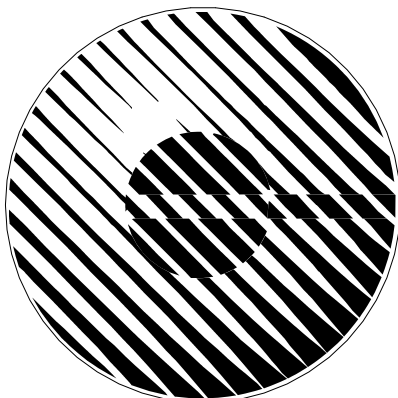
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Sheet Title

**MECHANICAL - PARTIAL
GROUND FLOOR - NEW
WORK - PIPING AREA B**

Date

December 29, 2015

Sheet Number

M-011B

GENERAL SHEET NOTES

- ALL DUCTS, PIPE, AND EQUIPMENT SHALL BE Laterally RESTRAINED TO COMPLY WITH THE NORTH CAROLINA BUILDING CODE. PROVIDE FOR SEISMIC DESIGN CLASS "D".
- ALL EQUIPMENT SHALL BE U.L. LISTED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH OTHER TRADES TO ELIMINATE CONFLICT WITH OTHER TRADES. ANY WORK INSTALLED BY THIS CONTRACTOR THAT RESULTS IN CONFLICT, DUE TO LACK OF COORDINATION BETWEEN TRADES, SHALL BE CHANGED AS DIRECTED BY THE ARCHITECT/ENGINEER WITHOUT ADDITIONAL COMPENSATION TO THE CONTRACTOR.
- CONTRACTOR SHALL COORDINATE ROUTING OF PIPING TO ENSURE PIPING DOES NOT PASS OVER ELECTRICAL PANELS.
- ALL SHUTDOWNS SHALL BE COORDINATED AND APPROVED THROUGH THE OWNERS REPRESENTATIVE AND WILL REQUIRE ADVANCE NOTICE OF ONE WEEK. THIS TIME LENGTH MAY BE LONGER OR SHORTER FOR SOME SHUTDOWNS AND SHALL BE AT THE OWNERS DISCRETION.
- ALL EXISTING CONTROLS COMPONENTS AND CONTROLS WIRING WITHIN THE LIMITS OF CONSTRUCTION SHALL REMAIN. IF COMPONENTS NEED TO BE REMOVED DURING CONSTRUCTION IN THIS AREA TO FACILITATE THE INSTALLATION OF NEW WORK, THEN THE COMPONENTS SHALL BE REINSTALLED TO A FUNCTIONAL CONDITION BEFORE PROJECT COMPLETION.
- REFER TO MECHANICAL TERMINAL UNIT SCHEDULES FOR TERMINAL UNIT GPM.
- REFER TO DETAIL 6/M-003 FOR PIPING CONFIGURATION TO TERMINAL UNITS.
- CONTRACTOR SHALL PROVIDE F&T TRAPS FOR ALL VERTICAL ELEVATION CHANGES.

MECHANICAL KEYED NOTES

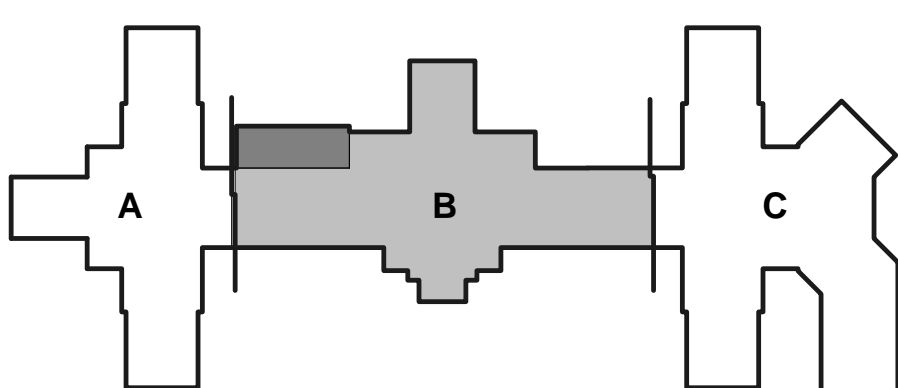
- NEW 4" CHWS AND CHWR CONTINUES TO FIRST FLOOR. REFER TO SHEET M-010B FOR CONTINUATION.
- 2" LPC SHALL BE ROUTED TO (E)STEAM CONDENSATE PUMP LOCATED IN PUMP PIT IN EXISTING MECHANICAL ROOM.
- NEW PIPING CONTINUES TO NEW HTP-1 LOCATED IN CRAWL SPACE. REFER TO SHEET M-011C FOR CONTINUATION.
- NEW 3" HWS AND HWR CONTINUES TO FIRST FLOOR. REFER TO SHEET M-010B FOR CONTINUATION.
- NEW 3" LPS AND 1-1/2" LPC CONTINUES TO FIRST FLOOR. REFER TO SHEET M-010B FOR CONTINUATION.
- MECHANICAL CONTRACTOR SHALL ROUTE NEW 4" LPS TO NEW WATER HEATER PROVIDED PLUMBING CONTRACTOR. DESIGN LOAD REQUIREMENTS ARE 3,700 #/HR AT 15 PSI PER UNIT. PROVIDE STEAM TRAPS AND ROUTE CONDENSATE BACK TO EXISTING CONDENSATE PUMP AS REQUIRED.

SHEET LEGEND

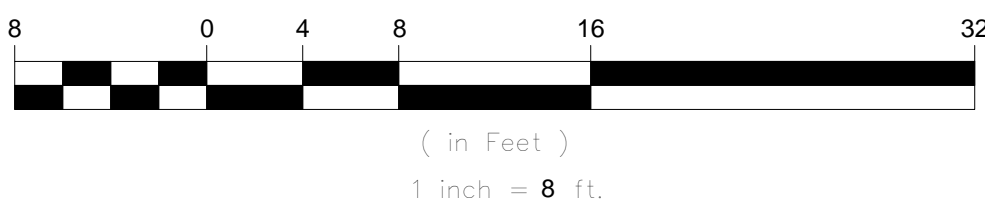
- CONNECT TO EXISTING
- EXISTING PIPING TO REMAIN
- NEW PIPING
- EXISTING DUCT TO REMAIN
- NEW DUCTWORK
- EXISTING EQUIPMENT TO REMAIN
- NEW EQUIPMENT

KEY PLAN

EXISTING NEW



GRAPHIC SCALE



1 MECHANICAL - PARTIAL GROUND FLOOR - NEW WORK - PIPING AREA B
1/8" = 1'-0"



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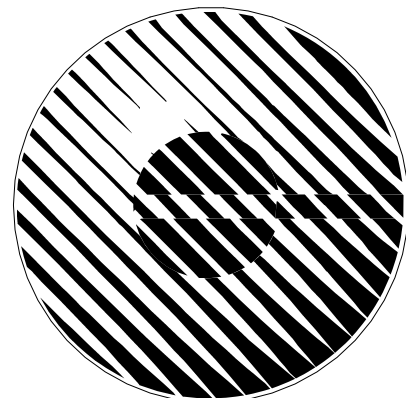
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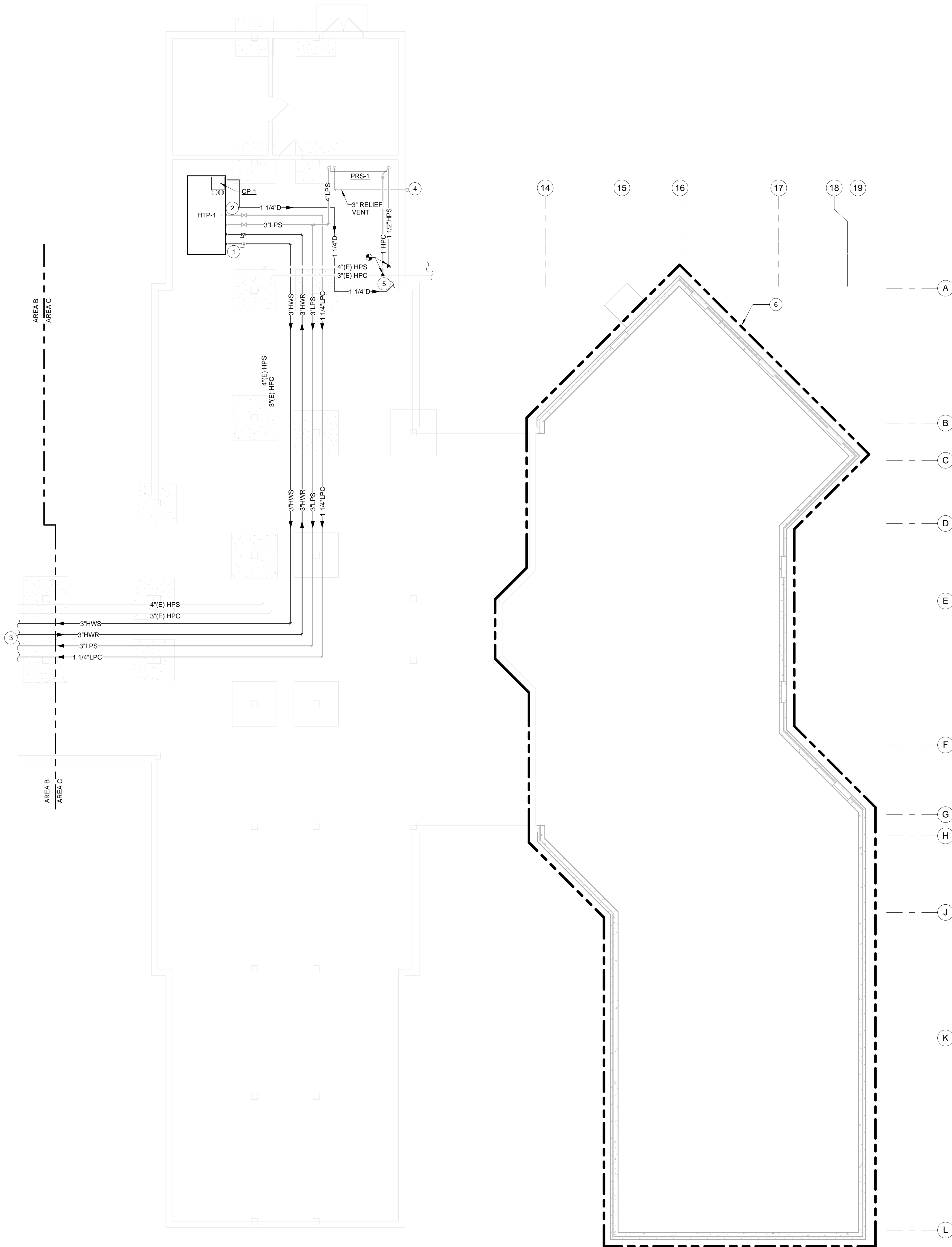
**MECHANICAL - PARTIAL
GROUND FLOOR - NEW
WORK - PIPING AREA C**

Date

December 29, 2015

Sheet Number

M-011C



GENERAL SHEET NOTES

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- ALL EQUIPMENT SHALL BE U.L. LISTED.
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- CONTRACTOR SHALL COORDINATE ROUTING OF PIPING TO ENSURE PIPING DOES NOT PASS OVER ELECTRICAL PANELS.
- ALL SHUTDOWNS SHALL BE COORDINATED AND APPROVED THROUGH THE OWNERS REPRESENTATIVE AND WILL REQUIRE ADVANCE NOTICE OF ONE WEEK. THIS TIME LENGTH MAY BE LONGER OR SHORTER FOR SOME SHUTDOWNS AND SHALL BE AT THE OWNERS DISCRETION.
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- REFER TO DETAIL 1/M-002B.
- CONTRACTOR SHALL PROVIDE F&T TRAPS FOR ALL VERTICAL ELEVATION CHANGES.

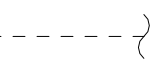
MECHANICAL KEYED NOTES

- NEW 3" HWS AND HWR SHALL SERVE NEW TERMINAL UNITS ON FIRST FLOOR AND ROOF TOP UNITS ON ROOF.
- NEW LPS AND LPC FROM NEW PRS-1, SERVING HTP-1.
- PIPING CONTINUES TO SHEET M-011B.
- NEW 3" STEAM RELIEF VENT TO OUTDOORS. REFER TO DETAIL 5/M-004.
- NEW 1-1/4" OVERFLOW CONDENSATE DRAIN SHALL BE ROUTED TO HUB DRAIN PROVIDED BY PLUMBING CONTRACTOR. REFER TO PLUMBING DRAWINGS FOR PLACEMENT OF HUB DRAIN.
- AREA TO BE REMOVED AS PART OF DEDUCT ALTERNATE #4.

SHEET LEGEND



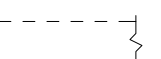
CONNECT TO EXISTING



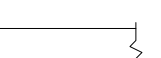
EXISTING PIPING TO REMAIN



NEW PIPING



EXISTING DUCT TO REMAIN



NEW DUCTWORK



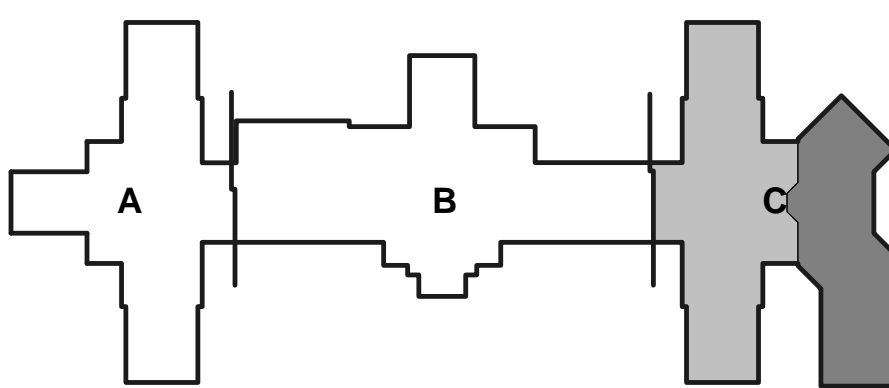
EXISTING EQUIPMENT TO REMAIN



NEW EQUIPMENT

KEY PLAN

EXISTING NEW

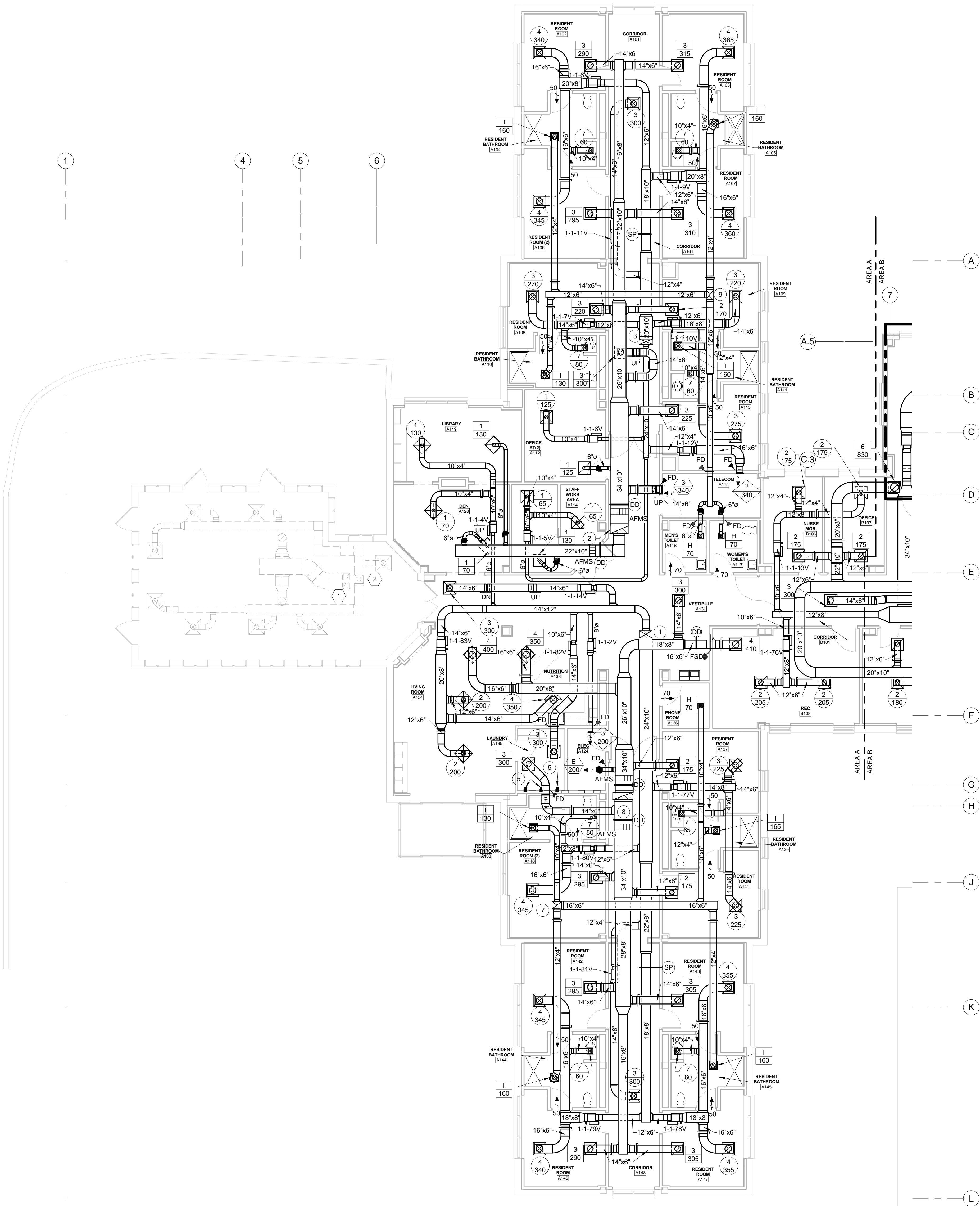


GRAPHIC SCALE



1 inch = 8 ft.

1 MECHANICAL - PARTIAL GROUND FLOOR - NEW WORK - PIPING AREA C
1/8" = 1'-0"



1 MECHANICAL - PARTIAL FRIST FLOOR - NEW WORK - DUCTWORK AREA A
1/8" = 1'-0"

GENERAL SHEET NOTES

- ALL DUCTS, PIPE, AND EQUIPMENT SHALL BE LATERALLY RESTRAINED TO COMPLY WITH THE NORTH CAROLINA BUILDING CODE. PROVIDE FOR SEISMIC DESIGN CLASS "D."
- BEFORE FABRICATING ANY SHEET METAL DUCTWORK, COORDINATE LOCATION AND SIZE WITH SPRINKLER & PLUMBING PIPING, CONDUITS, LIGHT FIXTURES, STRUCTURAL, ETC. PLANS ARE SCHEMATIC AND ARE NOT SHOP DRAWINGS. SUBMIT DUCTWORK COORDINATION DRAWINGS, AS SPECIFIED.
- ALL EQUIPMENT SHALL BE U.L. LISTED.
- FIRE AND SMOKE DAMPERS SHALL BE INSTALLED IN COMPLETE ACCORDANCE WITH THE MANUFACTURER'S U.L. LISTING AND INSTALLATION INSTRUCTIONS. FIRE AND SMOKE DAMPERS SHALL HAVE SPECIFIC U.L. LISTING FOR THE CONSTRUCTION IN WHICH THEY ARE INSTALLED. PROVIDE DYNAMIC FIRE DAMPERS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH OTHER TRADES TO ELIMINATE CONFLICT WITH OTHER TRADES. ANY WORK INSTALLED BY THIS CONTRACTOR THAT RESULTS IN CONFLICT, DUE TO LACK OF COORDINATION BETWEEN TRADES, SHALL BE CHANGED AS DIRECTED BY THE ARCHITECT/ENGINEER WITHOUT ADDITIONAL COMPENSATION TO THE CONTRACTOR.
- CONTRACTOR SHALL COORDINATE ROUTING OF DUCTWORK TO ENSURE DUCTWORK DOES NOT PASS OVER ELECTRICAL PANELS.
- ALL SHUTDOWNS SHALL BE COORDINATED AND APPROVED THROUGH THE OWNERS REPRESENTATIVE AND WILL REQUIRE ADVANCE NOTICE OF ONE WEEK. THIS TIME LENGTH MAY BE LONGER OR SHORTER FOR SOME SHUTDOWNS AND SHALL BE AT THE OWNERS DISCRETION.
- LEAVE A MINIMUM CLEARANCE OF 2 INCHES ABOVE DUCTS INSTALLED IN RATED PARTITIONS TO ALLOW SPACE FOR THE GENERAL CONTRACTOR TO SEAL THE WALL ABOVE THE DUCTS. DO NOT INSTALL FLEXIBLE DUCT THROUGH RATED WALLS, BARRIERS OR PARTITIONS.
- PROVIDE REMOVABLE ACCESS DOORS AT ALL MOTOR OPERATED DAMPERS, FIRE DAMPERS, SMOKE DAMPERS, DUCT COILS, SMOKE DETECTORS, AND SIMILAR ITEMS REQUIRING MAINTENANCE OR ADJUSTMENT.
- ALL EXISTING FIRE, FIRE/SMOKE, AND SMOKE DAMPERS WITHIN THE LIMITS OF CONSTRUCTION AND BORDERING THE LIMITS OF CONSTRUCTION FOR THIS PROJECT, SHALL BE TESTED FOR FUNCTIONALITY AND SHALL BE CHECKED FOR PROPER INSTALLATION. ALL INSUFFICIENCIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND DESIGN TEAM PRIOR TO PROJECT COMPLETION.
- ALL EXISTING POWERED FIRE, FIRE/SMOKE, AND SMOKE DAMPERS WITHIN THE LIMITS OF CONSTRUCTION AND BORDERING THE LIMITS OF CONSTRUCTION FOR THIS PROJECT, SHALL BE CHECKED TO ENSURE THAT A LOCAL DISCONNECT IS PROVIDED FOR EACH. IF A LOCAL DISCONNECT IS NOT CURRENTLY PROVIDED THEN NEW SHALL BE INSTALLED.
- ALL EXISTING CONTROLS COMPONENTS AND CONTROLS WIRING WITHIN THE LIMITS OF CONSTRUCTION SHALL REMAIN. IF COMPONENTS NEED TO BE REMOVED DURING CONSTRUCTION IN THIS AREA TO FACILITATE THE INSTALLATION OF NEW WORK, THEN THE COMPONENTS SHALL BE REINSTALLED TO A FUNCTIONAL CONDITION BEFORE PROJECT COMPLETION.
- REFER TO MECHANICAL TERMINAL UNIT SCHEDULES FOR TERMINAL UNIT AIRFLOWS.

MECHANICAL KEYED NOTES

- NEW 24"x14" SUPPLY AIR PENETRATION UP TO ROOF. REFER TO SHEET M-200A FOR CONTINUATION.
- NEW 34"x14" RETURN AIR PENETRATION UP TO RTU-1A. REFER TO SHEET M-200A FOR CONTINUATION.
- NEW 26"x10" SUPPLY AIR PENETRATION UP TO ROOF. REFER TO SHEET M-200A FOR CONTINUATION.
- NOT USED
- NEW 4" STAINLESS STEEL DRYER EXHAUST DUCT UP TO ROOF. REFER TO DETAIL 13M-003 FOR FIRE RATED DRYER BOX DETAIL. REFER TO SHEET M-200A FOR CONTINUATION.
- NOT USED
- NEW 18"x14" EXHAUST AIR PENETRATION UP TO EE-7. REFER TO SHEET M-200A FOR CONTINUATION.
- NEW 38"x14" RETURN AIR PENETRATION UP TO RTU-1B. REFER TO SHEET M-200A FOR CONTINUATION.
- NEW 18"x14" EXHAUST AIR PENETRATION UP TO EE-6. REFER TO SHEET M-200A FOR CONTINUATION.

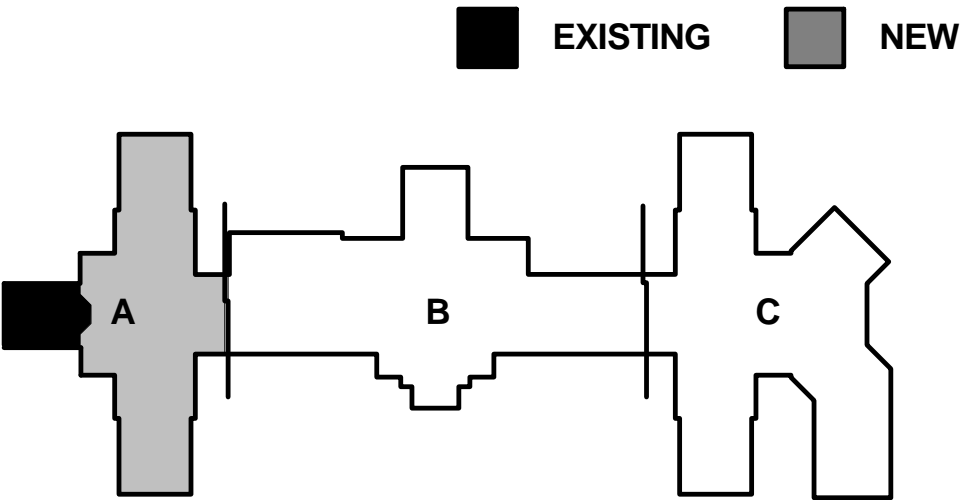
MECHANICAL EXISTING KEYED NOTES

- EXISTING 30"x11" RETURN AIR DUCT UP TO EXISTING RTU ON ROOF.
- EXISTING 18"x16" SUPPLY AIR DUCT UP TO EXISTING RTU ON ROOF.

SHEET LEGEND

- CONNECT TO EXISTING
- EXISTING PIPING TO REMAIN
- NEW PIPING
- EXISTING DUCT TO REMAIN
- NEW DUCTWORK
- EXISTING EQUIPMENT TO REMAIN
- NEW EQUIPMENT

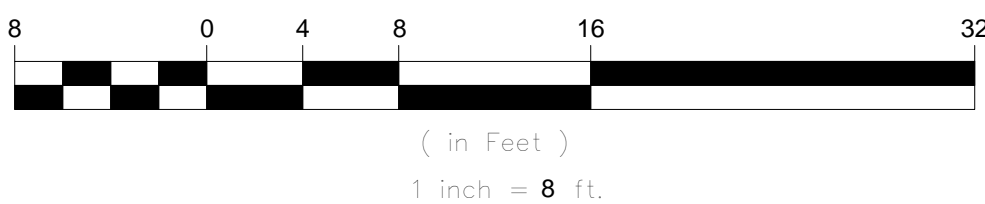
KEY PLAN



LIFE SAFETY LEGEND

- 1 HOUR FIRE RATED BARRIER
- 2 HOUR FIRE RATED BARRIER
- 1 HOUR SMOKE BARRIER

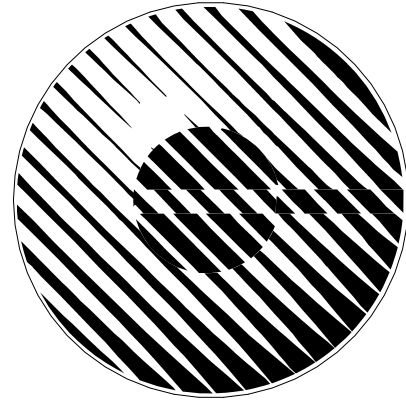
GRAPHIC SCALE



VAMC Salisbury Building 11 - Additions & Renovations

CONSTRUCTION

Item	Date	Description
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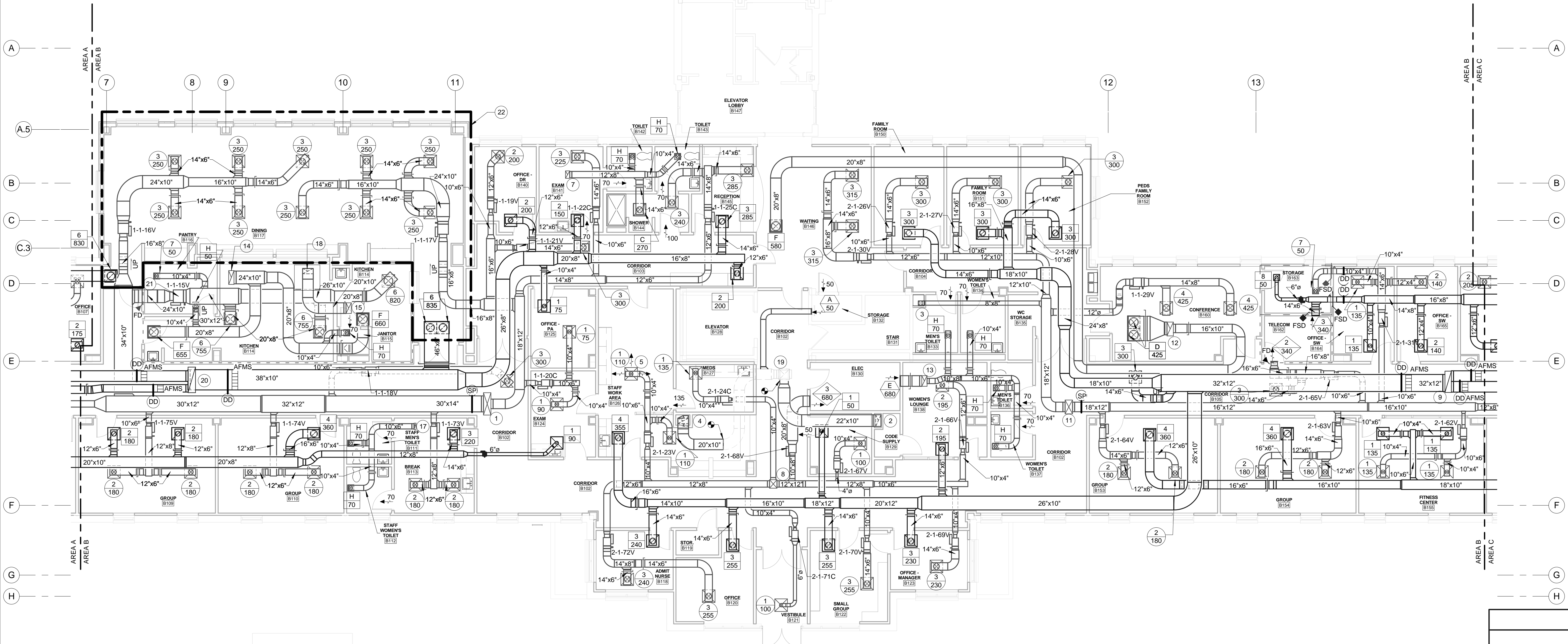
MECHANICAL - PARTIAL FIRST FLOOR - NEW WORK - DUCTWORK AREA A

GENERAL SHEET NOTES

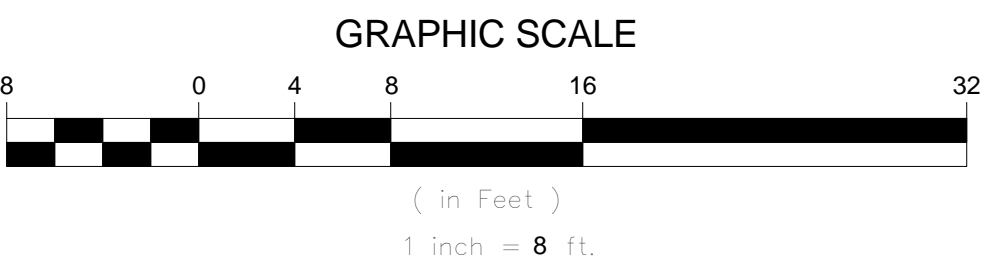
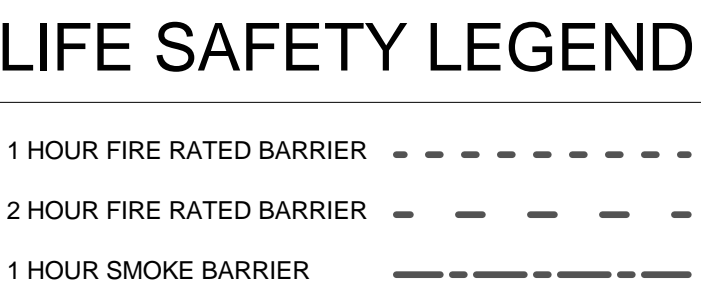
- A. ALL DUCTS, PIPE, AND EQUIPMENT SHALL BE Laterally RESTRAINED TO COMPLY WITH THE NORTH CAROLINA BUILDING CODE. PROVIDE FOR SEISMIC DESIGN CLASS 1D.
- B. BEFORE FABRICATING ANY SHEET METAL DUCTWORK, COORDINATE LOCATION AND SIZE WITH SPRINKLER & PLUMBING PIPING, CONDUITS, LIGHT FIXTURES, STRUCTURAL, ETC. PLANS ARE SCHEMATIC AND ARE NOT SHOP DRAWINGS. SUBMIT DUCTWORK COORDINATION DRAWINGS, AS SPECIFIED.
- C. ALL EQUIPMENT SHALL BE U.L. LISTED.
- D. FIRE AND SMOKE DAMPERS SHALL BE INSTALLED IN COMPLETE ACCORDANCE WITH THE MANUFACTURER'S U.L. LISTING AND INSTALLATION INSTRUCTIONS. FIRE AND SMOKE DAMPERS SHALL HAVE SPECIFIC U.L. LISTING FOR THE CONSTRUCTION IN WHICH THEY ARE INSTALLED. PROVIDE DYNAMIC FIRE DAMPERS.
- E. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH OTHER TRADES TO ELIMINATE CONFLICT WITH OTHER TRADES. ANY WORK INSTALLED BY THIS CONTRACTOR THAT RESULTS IN CONFLICT, DUE TO LACK OF COORDINATION BETWEEN TRADES, SHALL BE CHANGED AS DIRECTED BY THE ARCHITECT/ENGINEER WITHOUT ADDITIONAL COMPENSATION TO THE CONTRACTOR.
- F. CONTRACTOR SHALL COORDINATE ROUTING OF DUCTWORK TO ENSURE DUCTWORK DOES NOT PASS OVER ELECTRICAL PANELS.
- G. ALL SHUTDOWNS SHALL BE COORDINATED AND APPROVED THROUGH THE OWNERS REPRESENTATIVE AND WILL REQUIRE ADVANCE NOTICE OF ONE WEEK. THIS TIME LENGTH MAY BE LONGER OR SHORTER FOR SOME SHUTDOWNS AND SHALL BE AT THE OWNERS DISCRETION.
- H. LEAVE A MINIMUM CLEARANCE OF 2 INCHES ABOVE DUCTS INSTALLED IN RATED PARTITIONS TO ALLOW SPACE FOR THE GENERAL CONTRACTOR TO SEAL THE WALL ABOVE THE DUCTS. DO NOT INSTALL FLEXIBLE DUCT THROUGH RATED WALLS, BARRIERS OR PARTITIONS.
- I. PROVIDE REMOVABLE ACCESS DOORS AT ALL MOTOR OPERATED DAMPERS, FIRE DAMPERS, SMOKE DAMPERS, DUCT COILS, SMOKE DETECTORS, AND SIMILAR ITEMS REQUIRING MAINTENANCE OR ADJUSTMENT.
- J. ALL EXISTING FIRE, FIRE/SMOKE, AND SMOKE DAMPERS WITHIN THE LIMITS OF CONSTRUCTION AND BORDERING THE LIMITS OF CONSTRUCTION FOR THIS PROJECT, SHALL BE TESTED FOR FUNCTIONALITY AND SHALL BE CHECKED FOR PROPER INSTALLATION. ALL INSUFFICIENCIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND DESIGN TEAM PRIOR TO PROJECT COMPLETION.
- K. ALL EXISTING POWERED FIRE, FIRE/SMOKE, AND SMOKE DAMPERS WITHIN THE LIMITS OF CONSTRUCTION AND BORDERING THE LIMITS OF CONSTRUCTION FOR THIS PROJECT, SHALL BE CHECKED TO ENSURE THAT A LOCAL DISCONNECT IS PROVIDED FOR EACH. IF A LOCAL DISCONNECT IS NOT CURRENTLY PROVIDED THEN NEW SHALL BE INSTALLED.
- L. ALL EXISTING CONTROLS COMPONENTS AND CONTROLS WIRING WITHIN THE LIMITS OF CONSTRUCTION SHALL REMAIN. IF COMPONENTS NEED TO BE REMOVED DURING CONSTRUCTION IN THIS AREA TO FACILITATE THE INSTALLATION OF NEW WORK, THEN THE COMPONENTS SHALL BE REINSTALLED TO A FUNCTIONAL CONDITION BEFORE PROJECT COMPLETION.
- M. REFER TO MECHANICAL TERMINAL UNIT SCHEDULES FOR TERMINAL UNIT AIRFLOWS.

MECHANICAL KEYED NOTES

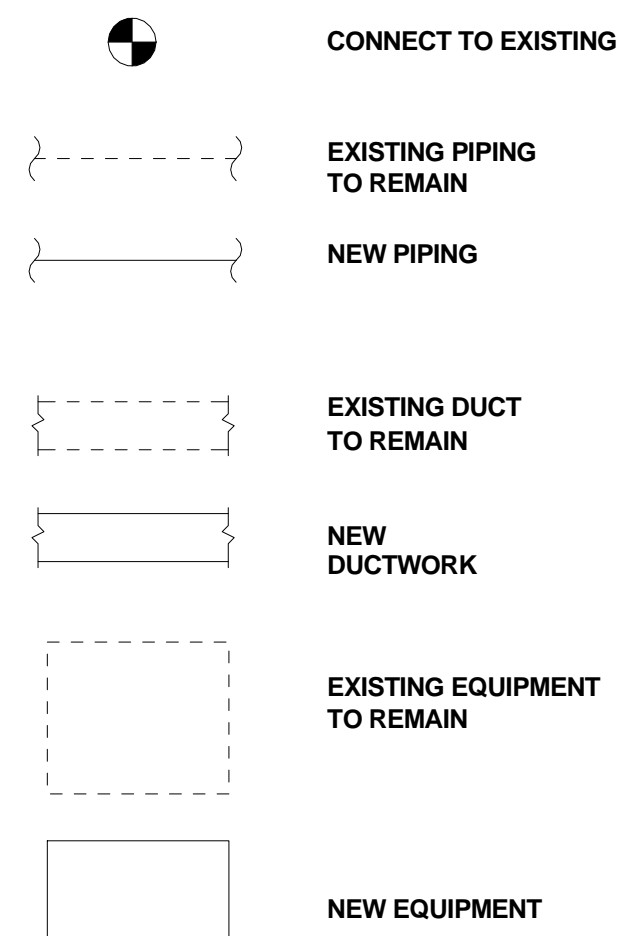
- 1 NEW 42"x14" SUPPLY AIR PENETRATION UP TO ROOF. REFER TO SHEET M-200B FOR CONTINUATION.
- 2 NEW 22"x10" EXHAUST AIR PENETRATION DOWN TO GROUND FLOOR. CONTRACTOR SHALL ROUTE NEW EXHAUST DUCT FROM NEW LOCATION ON GROUND FLOOR TO EXISTING MAIN. REFER TO MD-010B FOR EXISTING EXHAUST DUCT ROUTING.
- 3 NEW 8"x8" SUPPLY AIR PENETRATION DOWN TO GROUND FLOOR.
- 4 NEW 20"x10" EXHAUST AIR PENETRATION DOWN TO GROUND FLOOR. CONTRACTOR SHALL ROUTE NEW EXHAUST DUCT FROM NEW LOCATION ON GROUND FLOOR TO EXISTING MAIN. REFER TO MD-010B FOR EXISTING EXHAUST DUCT ROUTING.
- 5 PROVIDE SUPPLY AIR DIFFUSER WITH 3-WAY DISTRIBUTION AS INDICATED.
- 6 NOT USED
- 7 NEW 14"x6" EXHAUST AIR PENETRATION UP TO EF-10. REFER TO SHEET M-200B FOR CONTINUATION.
- 8 NEW 16"x14" SUPPLY AIR PENETRATION UP TO ROOF. REFER TO SHEET M-200B FOR CONTINUATION.
- 9 NEW 40"x12" RETURN AIR PENETRATION UP TO RTU-2A. REFER TO SHEET M-200B FOR CONTINUATION.
- 10 NOT USED
- 11 NEW 26"x14" SUPPLY AIR PENETRATION UP TO ROOF. REFER TO SHEET M-200B FOR CONTINUATION.
- 12 NEW 26"x12" EXHAUST AIR PENETRATION UP TO EF-12. REFER TO SHEET M-200B FOR CONTINUATION.
- 13 NEW 20"x10" EXHAUST AIR PENETRATION UP TO EF-11. REFER TO SHEET M-200B FOR CONTINUATION.
- 14 NEW 26"x10" EXHAUST AIR PENETRATION UP TO EF-8. REFER TO SHEET M-200B FOR CONTINUATION.
- 15 NEW 20"x10" EXHAUST AIR PENETRATION UP TO KEF-1 PROVIDE BY OTHERS LOCATED ON ROOF. REFER TO SHEET M-200B FOR CONTINUATION.
- 16 NEW 24"x10" RETURN AIR PENETRATION UP TO RTU-1C. REFER TO SHEET M-200B FOR CONTINUATION.
- 17 NEW 12"x4" EXHAUST AIR PENETRATION UP TO EF-9. REFER TO SHEET M-200B FOR CONTINUATION.
- 18 NEW 2'x4" KITCHEN HOOD PROVIDED BY OWNER. NEW 20"x10" EXHAUST AIR DUCT SHALL BE CONSTRUCTED OF STAINLESS STEEL AND SHALL SLOPE FROM KEF-1 TO HOOD.
- 19 EXISTING 20"x20" EXHAUST AIR DUCT UP TO NEW EF-3. REFER TO SHEET M-200B FOR CONTINUATION.
- 20 NEW 48"x14" RETURN AIR PENETRATION UP TO RTU-1C. REFER TO SHEET M-200A FOR CONTINUATION.
- 21 CONTROLS CONTRACTOR SHALL INTERLOCK VAV WITH KEF, SO THAT VAV IS AT MAX AIRFLOW WHEN FAN IS OPERATING, AND AT MIN AIRFLOW WHEN FAN IS OFF. VAV SHALL BE CAPABLE OF HEATING THROUGH ENTIRE AIRFLOW RANGE.
- 22 TERMINAL UNITS 1-1-17V AND 1-1-16V SHALL BE REMOVED AND SUPPLY AND RETURN DUCTWORK CAPPED IF DE-DUCT ALTERNATE 1 IS ACCEPTED.



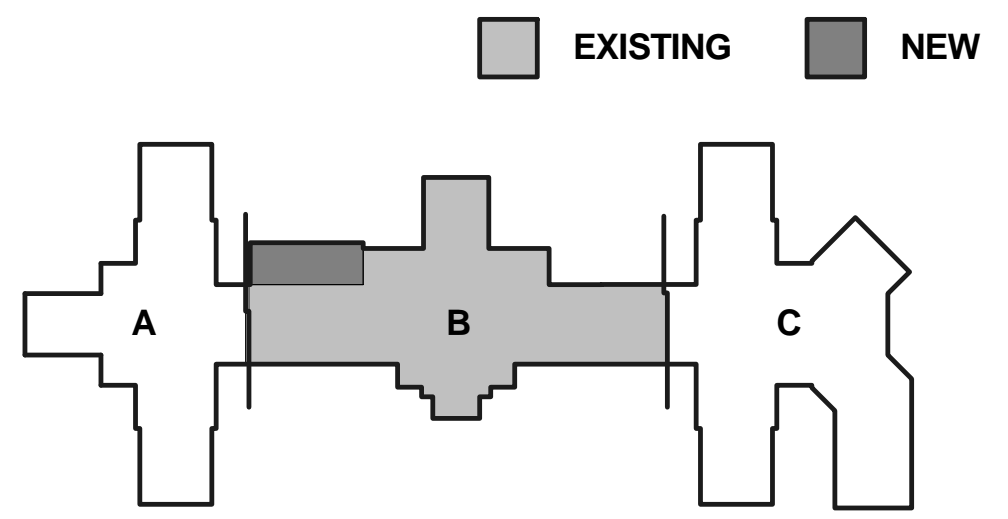
1 MECHANICAL - PARTIAL FRIST FLOOR - NEW WORK - DUCTWORK AREA B
1/8" = 1'-0"



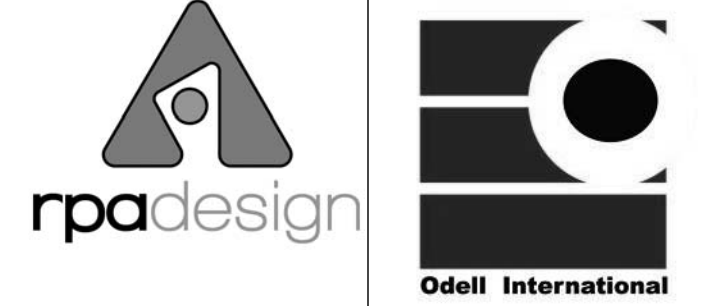
SHEET LEGEND



KEY PLAN



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Project
**VAMC Salisbury
Building 11 - Additions
& Renovations**

City, State
Salisbury, NC

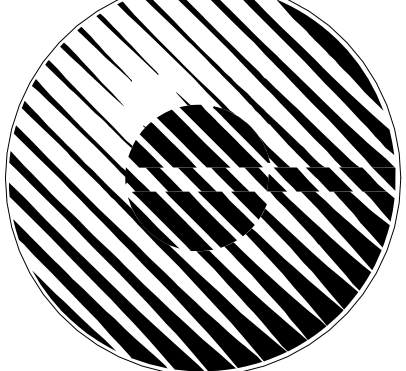
VA Contract Number
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Sheet Title
**MECHANICAL - PARTIAL
FIRST FLOOR - NEW
WORK - DUCTWORK
AREA B**

Date December 29, 2015

Sheet Number

M-100B



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Project

VAMC Salisbury Building 11 - Additions & Renovations

City, State
Salisbury, NC

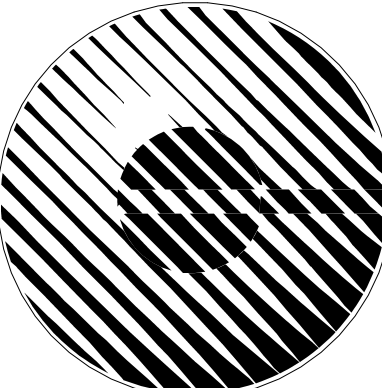
VA Contract Number
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Sheet Title

MECHANICAL - PARTIAL FIRST FLOOR - NEW WORK - DUCTWORK AREA C

Date

December 29, 2015

Sheet Number

M-100C

GENERAL SHEET NOTES

- ALL DUCTS, PIPE, AND EQUIPMENT SHALL BE Laterally RESTRAINED TO COMPLY WITH THE NORTH CAROLINA BUILDING CODE. PROVIDE FOR SEISMIC DESIGN CLASS "D."
- BEFORE FABRICATING ANY SHEET METAL DUCTWORK, COORDINATE LOCATION AND SIZE WITH SPRINKLER & PLUMBING PIPING, CONDUITS, LIGHT FIXTURES, STRUCTURAL, ETC. PLANS ARE SCHEMATIC AND ARE NOT SHOP DRAWINGS. SUBMIT DUCTWORK COORDINATION DRAWINGS, AS SPECIFIED.
- ALL EQUIPMENT SHALL BE U.L. LISTED.
- FIRE AND SMOKE DAMPERS SHALL BE INSTALLED IN COMPLETE ACCORDANCE WITH THE MANUFACTURER'S U.L. LISTING AND INSTALLATION INSTRUCTIONS. FIRE AND SMOKE DAMPERS SHALL HAVE SPECIFIC U.L. LISTING FOR THE CONSTRUCTION IN WHICH THEY ARE INSTALLED. PROVIDE DYNAMIC FIRE DAMPERS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH OTHER TRADES TO ELIMINATE CONFLICT WITH OTHER TRADES. ANY WORK INSTALLED BY THIS CONTRACTOR THAT RESULTS IN CONFLICT, DUE TO LACK OF COORDINATION BETWEEN TRADES, SHALL BE CHANGED AS DIRECTED BY THE ARCHITECT/ENGINEER WITHOUT ADDITIONAL COMPENSATION TO THE CONTRACTOR.
- CONTRACTOR SHALL COORDINATE ROUTING OF DUCTWORK TO ENSURE DUCTWORK DOES NOT PASS OVER ELECTRICAL PANELS.
- ALL SHUTDOWNS SHALL BE COORDINATED AND APPROVED THROUGH THE OWNERS REPRESENTATIVE AND WILL REQUIRE ADVANCE NOTICE OF ONE WEEK. THIS TIME LENGTH MAY BE LONGER OR SHORTER FOR SOME SHUTDOWNS AND SHALL BE AT THE OWNERS DISCRETION.
- LEAVE A MINIMUM CLEARANCE OF 2 INCHES ABOVE DUCTS INSTALLED IN RATED PARTITIONS TO ALLOW SPACE FOR THE GENERAL CONTRACTOR TO SEAL THE WALL ABOVE THE DUCTS. DO NOT INSTALL FLEXIBLE DUCT THROUGH RATED WALLS, BARRIERS OR PARTITIONS.
- PROVIDE REMOVABLE ACCESS DOORS AT ALL MOTOR OPERATED DAMPERS, FIRE DAMPERS, SMOKE DAMPERS, DUCT COILS, SMOKE DETECTORS, AND SIMILAR ITEMS REQUIRING MAINTENANCE OR ADJUSTMENT.
- ALL EXISTING FIRE, FIRE/SMOKE, AND SMOKE DAMPERS WITHIN THE LIMITS OF CONSTRUCTION AND BORDERING THE LIMITS OF CONSTRUCTION FOR THIS PROJECT, SHALL BE TESTED FOR FUNCTIONALITY AND SHALL BE CHECKED FOR PROPER INSTALLATION. ALL INSUFFICIENCIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND DESIGN TEAM PRIOR TO PROJECT COMPLETION.
- ALL EXISTING POWERED FIRE, FIRE/SMOKE, AND SMOKE DAMPERS WITHIN THE LIMITS OF CONSTRUCTION AND BORDERING THE LIMITS OF CONSTRUCTION FOR THIS PROJECT, SHALL BE CHECKED TO ENSURE THAT A LOCAL DISCONNECT IS PROVIDED FOR EACH. IF A LOCAL DISCONNECT IS NOT CURRENTLY PROVIDED THEN NEW SHALL BE INSTALLED.
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- REFER TO MECHANICAL TERMINAL UNIT SCHEDULES FOR TERMINAL UNIT AIRFLOWS.

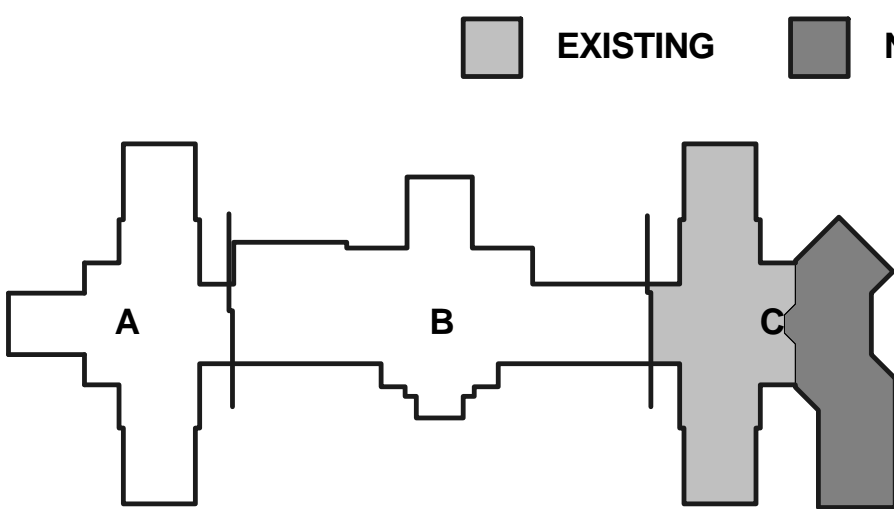
MECHANICAL KEYED NOTES

- NEW 28"x12" SUPPLY AIR PENETRATION UP TO ROOF. REFER TO SHEET M-200C FOR CONTINUATION.
- NEW 40"x14" RETURN AIR PENETRATION UP TO RTU-2D. REFER TO SHEET M-200C FOR CONTINUATION.
- NEW 42"x10" RETURN AIR PENETRATION UP TO RTU-2B. REFER TO SHEET M-200C FOR CONTINUATION.
- NEW 38"x12" SUPPLY AIR PENETRATION UP TO ROOF. REFER TO SHEET M-200C FOR CONTINUATION.
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- NEW 22"x14" EXHAUST AIR PENETRATION UP TO EE-14. REFER TO SHEET M-200C FOR CONTINUATION.
- NEW 24"x10" EXHAUST AIR PENETRATION UP TO EE-16. REFER TO SHEET M-200C FOR CONTINUATION.
- NEW 20"x8" EXHAUST AIR PENETRATION UP TO EE-15. REFER TO SHEET M-200C FOR CONTINUATION.
- NEW 18"x14" EXHAUST AIR PENETRATION UP TO EE-13. REFER TO SHEET M-200C FOR CONTINUATION.
- NEW 4" STAINLESS STEEL DRYER EXHAUST DUCT UP TO ROOF. REFER TO DETAIL 13M-003 FOR FIRE RATED DRYER BOX DETAIL. REFER TO SHEET M-200C FOR CONTINUATION.
- EQUIPMENT SHALL BE REMOVED IF DE-DUCT ALTERNATE 4 OR DE-DUCT ALTERNATE 3 IS APPROVED.
- NEW 26"x10" SUPPLY AIR PENETRATION UP TO ROOF. REFER TO SHEET M-200C FOR CONTINUATION.
- REMOVE TERMINAL UNITS 2-1-50V, 2-1-49V, AND CAP ASSOCIATED SUPPLY, RETURN AND EXHAUST DUCTWORK THIS AREA IF DE-DUCT ALTERNATE #2 IS ACCEPTED.

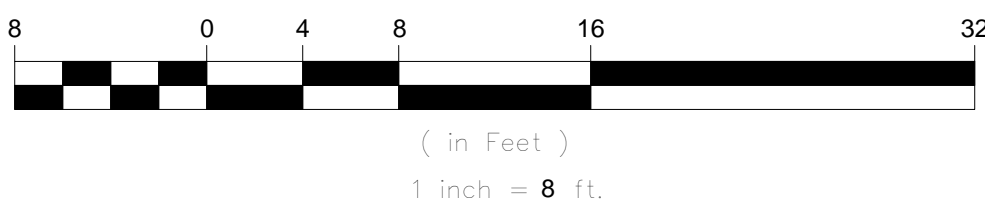
SHEET LEGEND

- CONNECT TO EXISTING
- EXISTING PIPING TO REMAIN
- NEW PIPING
- EXISTING DUCT TO REMAIN
- NEW DUCTWORK
- EXISTING EQUIPMENT TO REMAIN
- NEW EQUIPMENT

KEY PLAN



GRAPHIC SCALE



1 MECHANICAL - PARTIAL FRIST FLOOR - NEW WORK - DUCTWORK AREA C
1/8" = 1'-0"



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Project

VAMC Salisbury Building 11 - Additions & Renovations

City, State
Salisbury, NC

VA Contract Number
VA246-12-C-0089

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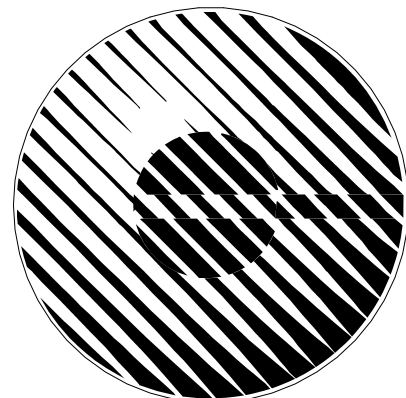
CONSTRUCTION

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Sheet Title

MECHANICAL - PARTIAL FIRST FLOOR - NEW WORK - PIPING AREA A

Date

December 29, 2015

Sheet Number

M-101A

GENERAL SHEET NOTES

- ALL DUCTS, PIPE, AND EQUIPMENT SHALL BE LATERALLY RESTRAINED TO COMPLY WITH THE NORTH CAROLINA BUILDING CODE. PROVIDE FOR SEISMIC DESIGN CLASS "D."
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- CONTRACTOR SHALL COORDINATE ROUTING OF PIPING TO ENSURE PIPING DOES NOT PASS OVER ELECTRICAL PANELS.
- ALL SHUTDOWNS SHALL BE COORDINATED AND APPROVED THROUGH THE OWNERS REPRESENTATIVE AND WILL REQUIRE ADVANCE NOTICE OF ONE WEEK. THIS TIME LENGTH MAY BE LONGER OR SHORTER FOR SOME SHUTDOWNS AND SHALL BE AT THE OWNERS DISCRETION.
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- REFER TO MECHANICAL TERMINAL UNIT SCHEDULES FOR TERMINAL UNIT GPM.
- REFER TO DETAIL 6M-003 FOR PIPING CONFIGURATION TO TERMINAL UNITS.
- CONTRACTOR SHALL PROVIDE F&T TRAPS FOR ALL VERTICAL ELEVATION CHANGES.

MECHANICAL KEYED NOTES

- NEW 2" CHILLED WATER AND 1-1/4" STEAM PIPING UP TO RTU-1A. REFER TO DETAIL SHEET FOR PIPING CONFIGURATION TO COIL.
- NEW 2" CHILLED WATER AND 1-1/4" STEAM PIPING UP TO RTU-1B. REFER TO DETAIL SHEET FOR PIPING CONFIGURATION TO COIL.
- PROVIDE NEW AFLD. SET TO 1.0 GPM.
- END OF MAIN DIRT LEG. LOCATED ABOVE FINISHED CEILING.

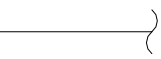
SHEET LEGEND



CONNECT TO EXISTING



EXISTING PIPING
TO REMAIN



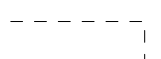
NEW PIPING



EXISTING DUCT
TO REMAIN



NEW
DUCTWORK



EXISTING EQUIPMENT
TO REMAIN



NEW EQUIPMENT

KEY PLAN



EXISTING



NEW

LIFE SAFETY LEGEND

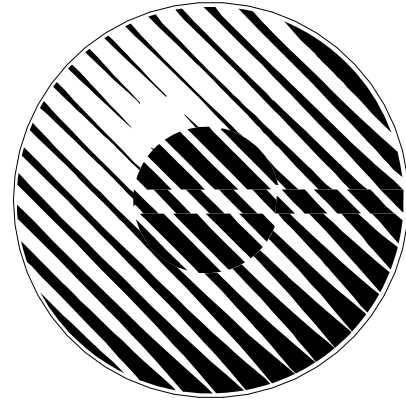
- 1 HOUR FIRE RATED BARRIER - - - - -
2 HOUR FIRE RATED BARRIER - - - - -
1 HOUR SMOKE BARRIER - - - - -

GRAPHIC SCALE



1 inch = 8 ft.

1 MECHANICAL - PARTIAL FIRST FLOOR - NEW WORK - PIPING AREA A
1/8" = 1'-0"



Firm License Number: F-0674

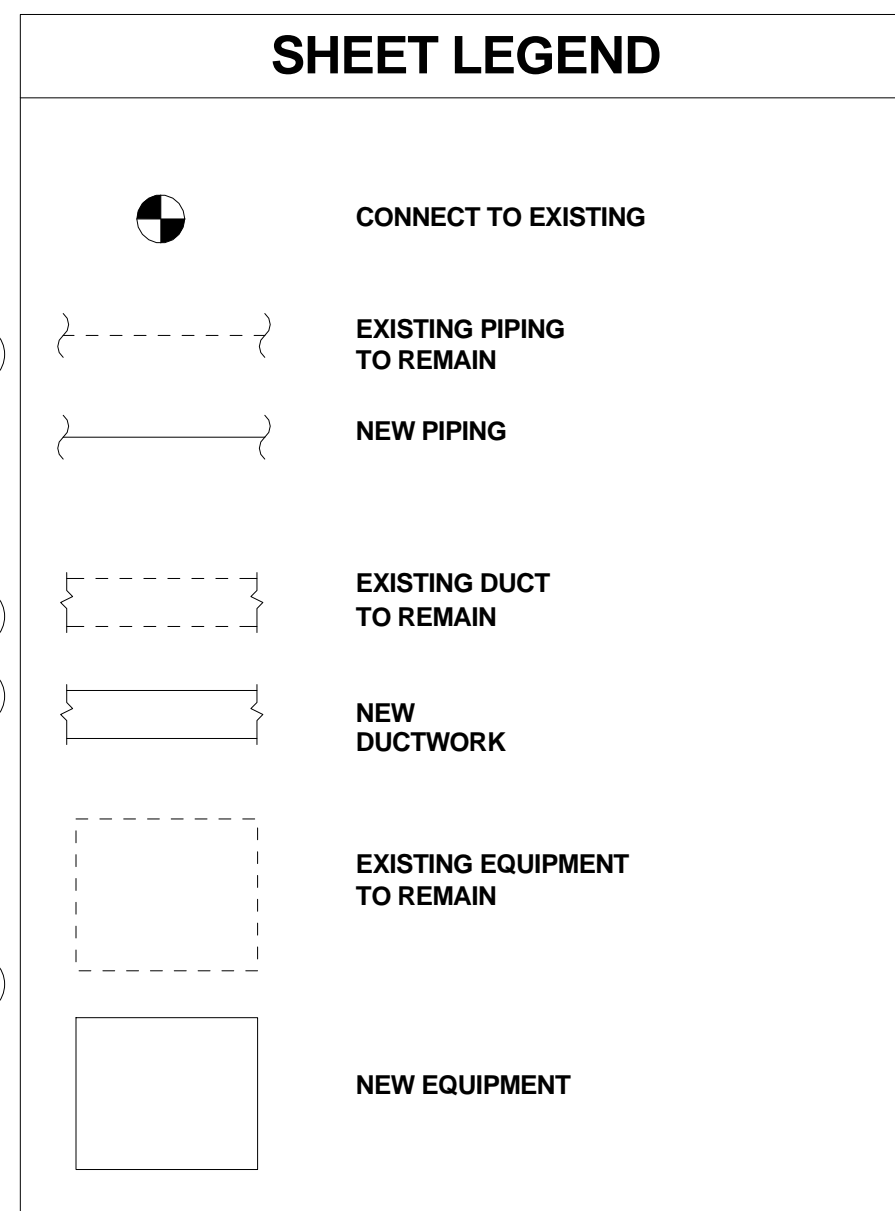
WORK - PIPING AREA B

Sheet Number

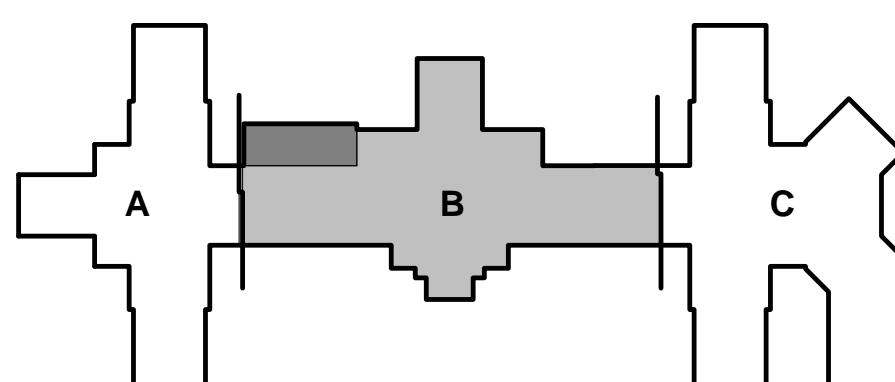
M-101B

- A. ALL DUCTS, PIPE AND EQUIPMENT SHALL BE LATERALLY RESTRAINED TO COMPLY WITH THE NORTH CAROLINA BUILDING CODE. PROVIDE FOR SEISMIC DESIGN CLASS "D."
- C. ALL EQUIPMENT SHALL BE U.L. LISTED.
- E. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH OTHER TRADES TO ELIMINATE CONFLICT WITH OTHER TRADES. ANY WORK INSTALLED BY THIS CONTRACTOR THAT RESULTS IN CONFLICT, DUE TO LACK OF COORDINATION BETWEEN TRADES, SHALL BE CHANGED AS DIRECTED BY THE ARCHITECT/ENGINEER WITHOUT ADDITIONAL COMPENSATION TO THE CONTRACTOR.
- F. CONTRACTOR SHALL COORDINATE ROUTING OF PIPING TO ENSURE PIPING DOES NOT PASS OVER ELECTRICAL PANELS.
- G. ALL SHUTDOWNS SHALL BE COORDINATED AND APPROVED THROUGH THE OWNERS REPRESENTATIVE AND REQUIRE ADVANCE NOTICE OF ONE WEEK. THIS TIME LENGTH MAY BE LONGER OR SHORTER FOR SOME SHUTDOWNS AND SHALL BE AT THE OWNERS DISCRETION.
- I. ALL EXISTING CONTROLS/COMPONENTS AND CONTROLS WIRING WITHIN THE LIMITS OF CONSTRUCTION SHALL REMAIN. IF COMPONENTS NEED TO BE REMOVED DURING CONSTRUCTION IN THIS AREA TO FACILITATE THE INSTALLATION OF NEW WORK, THE COMPONENTS SHALL BE RE-INSTALLED TO A FUNCTIONAL CONDITION BEFORE PROJECT COMPLETION.
- M. REFER TO MECHANICAL TERMINAL UNIT SCHEDULES FOR TERMINAL UNIT GPM.
- N. REFER TO DETAIL 6M-003 FOR PIPING CONFIGURATION TO TERMINAL UNITS.
- O. CONTRACTOR SHALL PROVIDE F&T TRAPS FOR ALL VERTICAL EVAPORATION CHANGES

- ① NEW 3" HWS AND 3" HWR DOWN TO GROUND FLOOR. REFER TO SHEET M-011B FOR CONTINUATION.
- ② NEW 2-1/2" LPS AND 1-1/2" LPC FROM GROUND FLOOR. REFER TO SHEET M-011B FOR CONTINUATION.
- ③ NEW 5" CHWS AND CHWR FROM GROUND FLOOR. REFER TO SHEET M-011B FOR CONTINUATION.
- ④ NEW 3" CHILLED WATER AND 1-1/2" STEAM PIPING UP TO RTU-1C. REFER TO DETAIL SHEET FOR PIPING CONFIGURATION TO COLL.
- ⑤ NEW 3" CHILLED WATER AND 1-1/2" STEAM PIPING UP TO RTU-2A. REFER TO DETAIL SHEET FOR PIPING CONFIGURATION TO COLL.

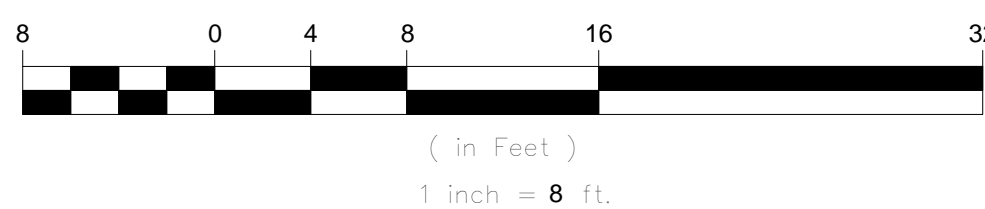


☐ EXISTING ☐ NEW



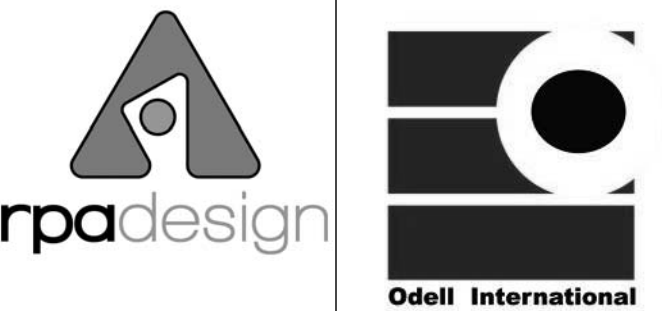
1 HOUR FIRE RATED BARRIER - - - - -
2 HOUR FIRE RATED BARRIER - - - - -
1 HOUR SMOKE BARRIER - - - - -

GRAPHIC SCALE



1 MECHANICAL - PARTIAL FRIST FLOOR - NEW WORK - PIPING AREA B
1/8" = 1'-0"

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Project

VAMC Salisbury Building 11 - Additions & Renovations

City, State
Salisbury, NC

VA Contract Number
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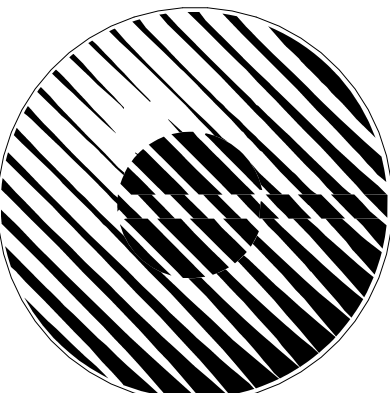
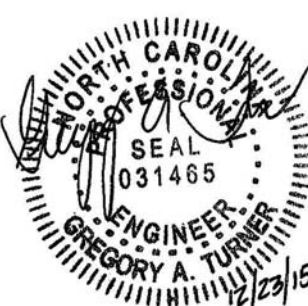
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Sheet Title

MECHANICAL - PARTIAL FIRST FLOOR - NEW WORK - PIPING AREA C

Date December 29, 2015

Sheet Number

M-101C

GENERAL SHEET NOTES

- ALL DUCTS, PIPE, AND EQUIPMENT SHALL BE LATERALLY RESTRAINED TO COMPLY WITH THE NORTH CAROLINA BUILDING CODE. PROVIDE FOR SEISMIC DESIGN CLASS 'D.'
- ALL EQUIPMENT SHALL BE U.L. LISTED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH OTHER TRADES TO ELIMINATE CONFLICT WITH OTHER TRADES. ANY WORK INSTALLED BY THIS CONTRACTOR THAT RESULTS IN CONFLICT, DUE TO LACK OF COORDINATION BETWEEN TRADES, SHALL BE CHANGED AS DIRECTED BY THE ARCHITECT/ENGINEER WITHOUT ADDITIONAL COMPENSATION TO THE CONTRACTOR.
- CONTRACTOR SHALL COORDINATE ROUTING OF PIPING TO ENSURE PIPING DOES NOT PASS OVER ELECTRICAL PANELS.
- ALL SHUTDOWNS SHALL BE COORDINATED AND APPROVED THROUGH THE OWNERS REPRESENTATIVE AND WILL REQUIRE ADVANCE NOTICE OF ONE WEEK. THIS TIME LENGTH MAY BE LONGER OR SHORTER FOR SOME SHUTDOWNS AND SHALL BE AT THE OWNERS DISCRETION.
- ALL EXISTING CONTROLS COMPONENTS AND CONTROLS WIRING WITHIN THE LIMITS OF CONSTRUCTION SHALL REMAIN. IF COMPONENTS NEED TO BE REMOVED DURING CONSTRUCTION IN THIS AREA TO FACILITATE THE INSTALLATION OF NEW WORK, THEN THE COMPONENTS SHALL BE REINSTALLED TO A FUNCTIONAL CONDITION BEFORE PROJECT COMPLETION.
- REFER TO MECHANICAL TERMINAL UNIT SCHEDULES FOR TERMINAL UNIT GPM.
- REFER TO DETAIL 6/M-003 FOR PIPING CONFIGURATION TO TERMINAL UNITS.
- CONTRACTOR SHALL PROVIDE F&T TRAPS FOR ALL VERTICAL ELEVATION CHANGES.

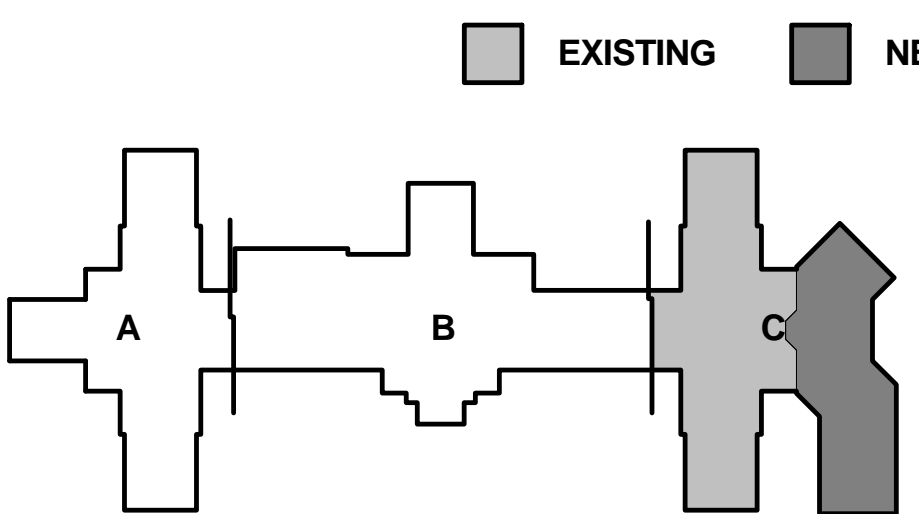
MECHANICAL KEYED NOTES

- NOT USED
- DIRT LEG, LOCATED ABOVE FINISHED CEILING.
- PROVIDE F&T TRAP AT ELEVATION CHANGE.
- PROVIDE NEW AFLD. SET TO 1.0 GPM.
- AREA TO BE REMOVED AS PART OF DEDUCT ALTERNATE #4.
- NEW 2" CHILLED WATER AND 1-1/4" STEAM PIPING UP TO RTU-2B. REFER TO DETAIL SHEET FOR PIPING CONFIGURATION TO COIL.
- NEW 2" CHILLED WATER AND 1-1/4" STEAM PIPING UP TO RTU-2C. REFER TO DETAIL SHEET FOR PIPING CONFIGURATION TO COIL.
- NEW 2-1/2" CHILLED WATER AND 1-1/4" STEAM PIPING UP TO RTU-2D. REFER TO DETAIL SHEET FOR PIPING CONFIGURATION TO COIL.
- REMOVE TERMINALS UNIT 2-1-30V, 2-1-49V AND CAP ASSOCIATED PIPING THIS AREA IF DE-DUCT ALTERNATE #2 IS ACCEPTED.

SHEET LEGEND

- CONNECT TO EXISTING
- EXISTING PIPING TO REMAIN
- NEW PIPING
- EXISTING DUCT TO REMAIN
- NEW DUCTWORK
- EXISTING EQUIPMENT TO REMAIN
- NEW EQUIPMENT

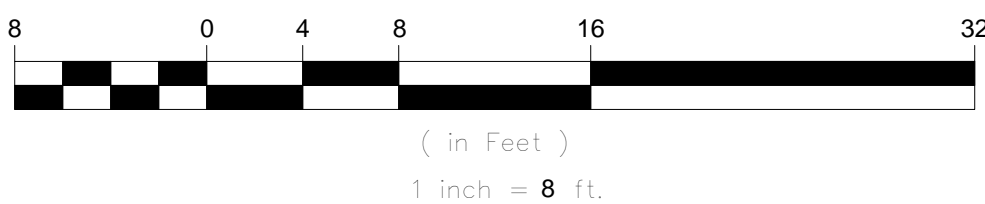
KEY PLAN



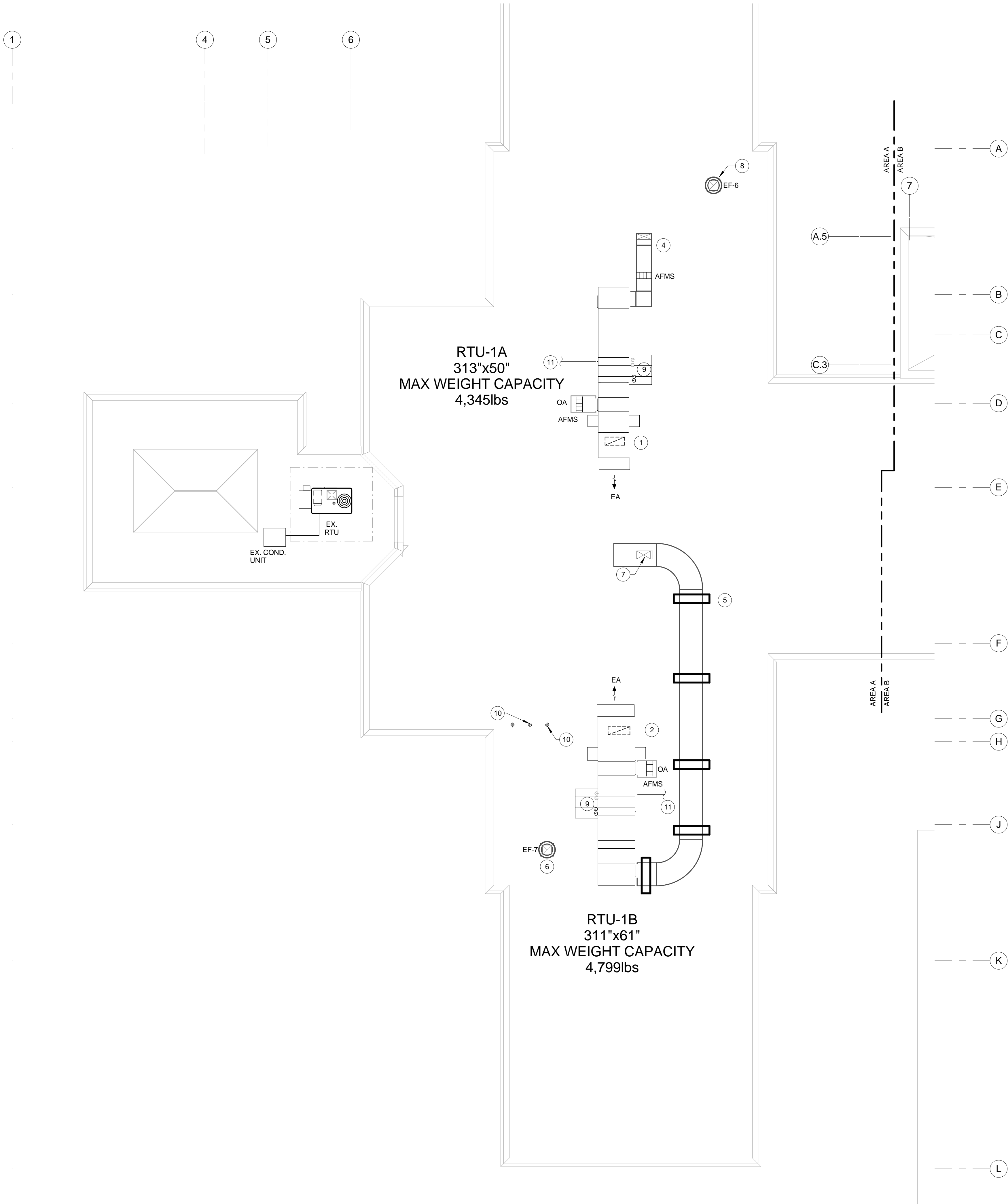
LIFE SAFETY LEGEND

- 1 HOUR FIRE RATED BARRIER
- 2 HOUR FIRE RATED BARRIER
- 1 HOUR SMOKE BARRIER

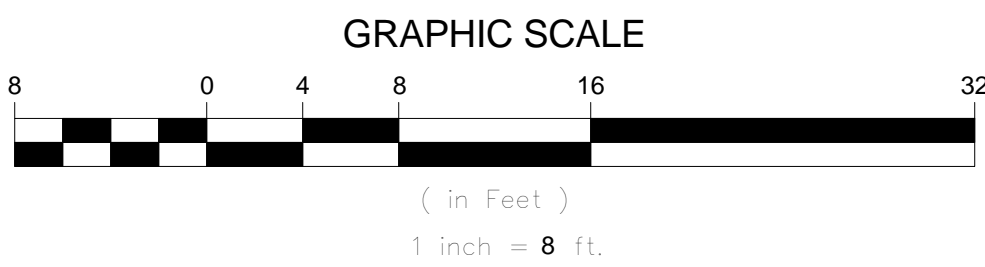
GRAPHIC SCALE



MECHANICAL - PARTIAL FIRST FLOOR - NEW WORK - PIPING AREA C
1/8" = 1'-0"



1 MECHANICAL - PARTIAL ROOF PLAN - NEW WORK AREA A
1/8" = 1'-0"



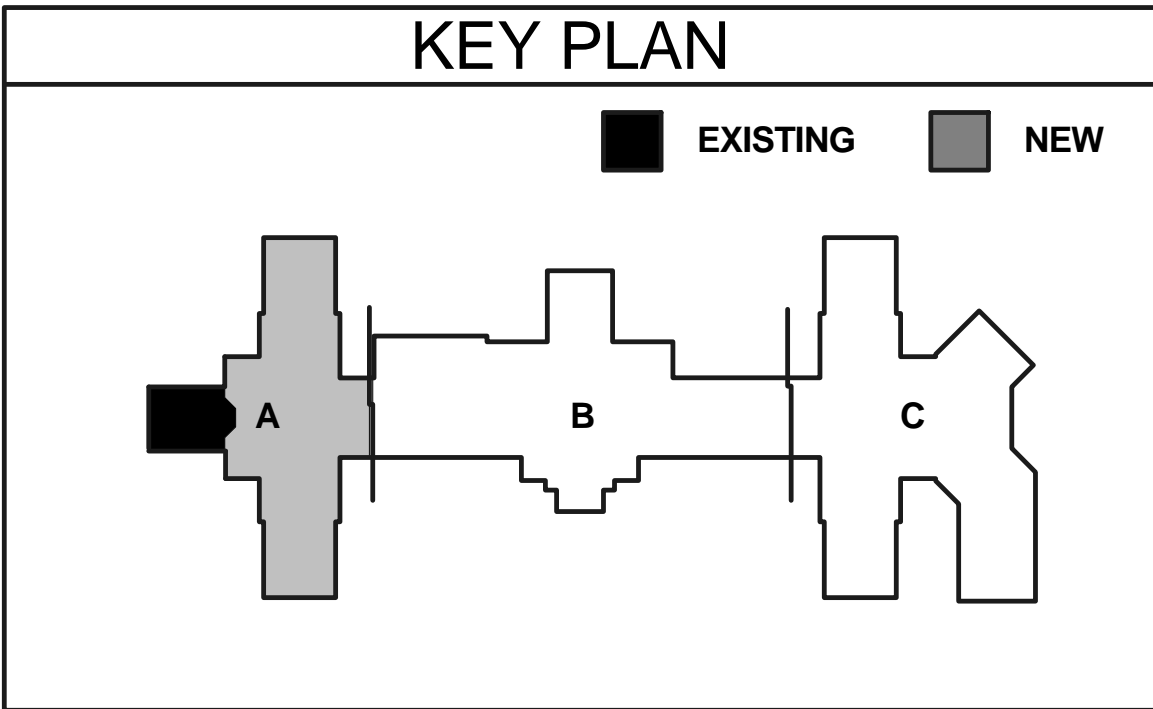
GENERAL SHEET NOTES

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- BEFORE FABRICATING ANY SHEET METAL DUCTWORK, COORDINATE LOCATION AND SIZE WITH SPRINKLER & PLUMBING PIPING, CONDUITS, LIGHT FIXTURES, STRUCTURAL, ETC. PLANS ARE SCHEMATIC AND ARE NOT SHOP DRAWINGS. SUBMIT DUCTWORK COORDINATION DRAWINGS, AS SPECIFIED.
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- CONTRACTOR SHALL COORDINATE ROUTING OF DUCTWORK TO ENSURE DUCTWORK DOES NOT PASS OVER ELECTRICAL PANELS.
- ALL SHUTDOWNS SHALL BE COORDINATED AND APPROVED THROUGH THE OWNERS REPRESENTATIVE AND WILL REQUIRE ADVANCE NOTICE OF ONE WEEK. THIS TIME LENGTH MAY BE LONGER OR SHORTER FOR SOME SHUTDOWNS AND SHALL BE AT THE OWNERS DISCRETION.
- LEAVE A MINIMUM CLEARANCE OF 2 INCHES ABOVE DUCTS INSTALLED IN RATED PARTITIONS TO ALLOW SPACE FOR THE GENERAL CONTRACTOR TO SEAL THE WALL ABOVE THE DUCTS. DO NOT INSTALL FLEXIBLE DUCT THROUGH RATED WALLS, BARRIERS OR PARTITIONS.
- PROVIDE REMOVABLE ACCESS DOORS AT ALL MOTOR OPERATED DAMPERS, FIRE DAMPERS, SMOKE DAMPERS, DUCT COILS, SMOKE DETECTORS, AND SIMILAR ITEMS REQUIRING MAINTENANCE OR ADJUSTMENT.
- REFER TO DETAIL 17M-003 FOR PIPING CONFIGURATION TO CHILLED WATER COIL. REFER TO DETAIL 18M-003 FOR PIPING CONFIGURATION TO STEAM COIL.
- REFER TO CONTROL SCHEMATIC AND EQUIPMENT SCHEDULES FOR AIRFLOWS TO RTUS.
- PROVIDE DUCT SUPPORTS ON ROOF.

MECHANICAL KEYED NOTES

- NEW 34"x14" RETURN AIR DUCT DOWN TO FIRST FLOOR. REFER TO SHEET M-100A FOR CONTINUATION.
- NEW 38"x14" RETURN AIR DUCT DOWN TO FIRST FLOOR. REFER TO SHEET M-100A FOR CONTINUATION.
- NOT USED
- NEW 26"x10" SUPPLY AIR DUCT DOWN TO FIRST FLOOR. REFER TO SHEET M-100A FOR CONTINUATION.
- TYPICAL DUCT SUPPORT ON ROOF.
- NEW EXHAUST AIR DUCT DOWN TO FIRST FLOOR. REFER TO SHEET M-100A FOR CONTINUATION.
- NOT USED
- NEW EXHAUST AIR DUCT DOWN TO FIRST FLOOR. REFER TO SHEET M-100A FOR CONTINUATION.
- PIPING OUTDOOR ENCLOSURE.
- NEW 4" STAINLESS STEEL DRYER EXHAUST DUCT DOWN TO FIRST FLOOR LAUNDRY ROOM. REFER TO DETAIL 3M-004 FOR ROOF CAP DETAIL. REFER TO SHEET M-100A FOR CONTINUATION.
- ROUTE NEW 2" CONDENSATE DRAIN FROM RTU TO NEAREST ROOF DRAIN. PROVIDE 4" AIR GAP.

SHEET LEGEND	
	CONNECT TO EXISTING
	EXISTING PIPING TO REMAIN
	NEW PIPING
	EXISTING DUCT TO REMAIN
	NEW DUCTWORK
	EXISTING EQUIPMENT TO REMAIN
	NEW EQUIPMENT



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Project

VAMC Salisbury Building 11 - Additions & Renovations

City, State
Salisbury, NC

VA Contract Number

VA246-12-C-0089

Issued For

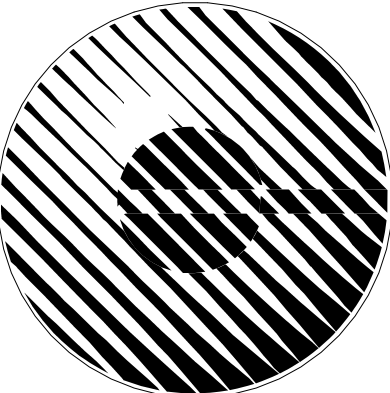
CONSTRUCTION

Item	Date	Description
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Sheet Title

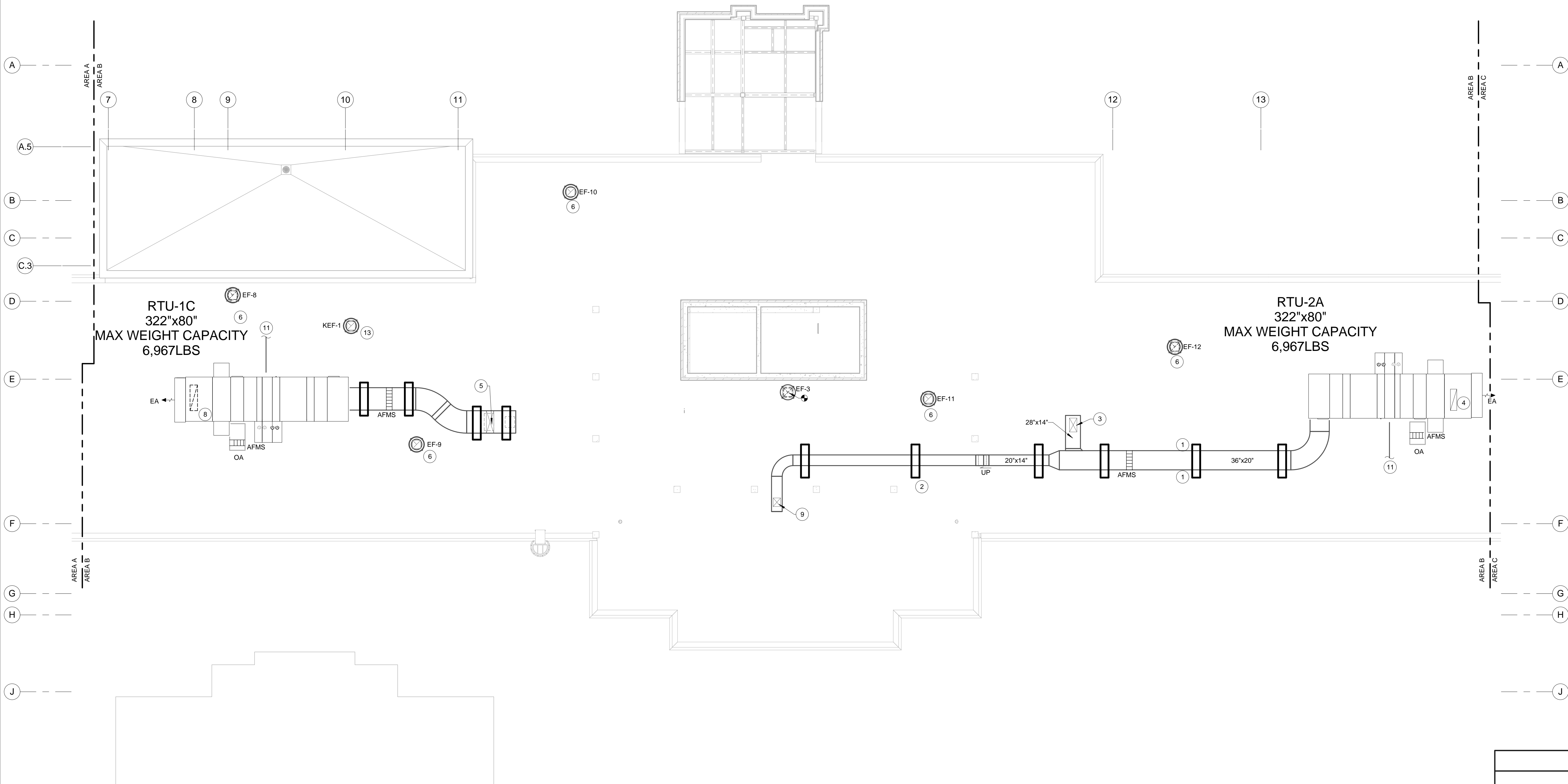
MECHANICAL - PARTIAL ROOF PLAN - NEW WORK AREA A

Date

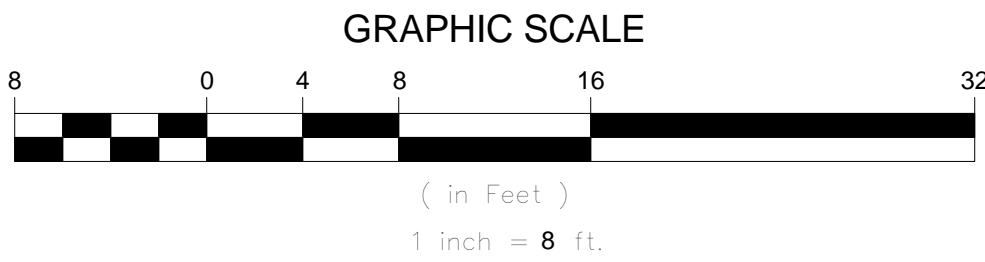
December 29, 2015

Sheet Number

M-200A



1 MECHANICAL - PARTIAL ROOF PLAN - NEW WORK AREA B
1/8" = 1'-0"



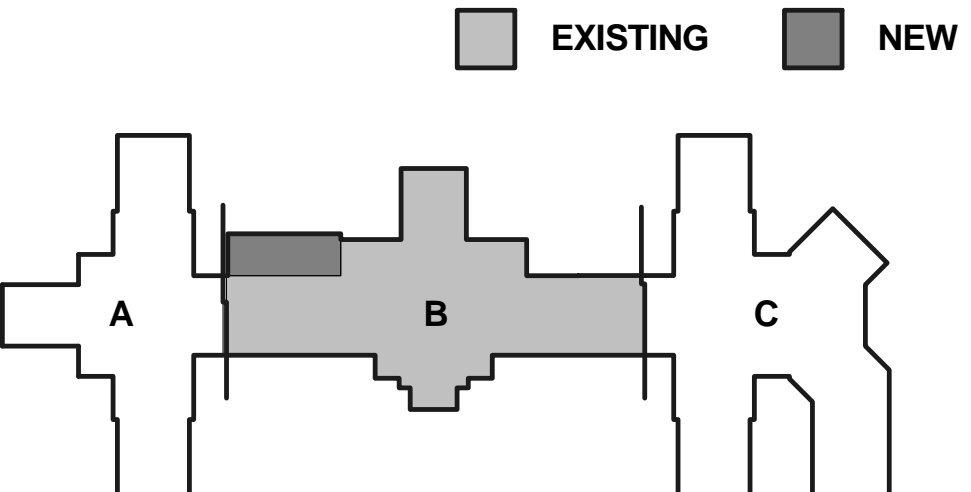
- ### MECHANICAL KEYED NOTES
- CONTRACTOR SHALL PROVIDE BRIDGE FOR ROOF ACCESS OVER STACKED DUCTWORK.
 - TYPICAL DUCT SUPPORT ON ROOF.
 - NEW 26"x14" SUPPLY AIR DUCT DOWN TO FIRST FLOOR. REFER TO SHEET M-100B FOR CONTINUATION.
 - NEW 40"x12" RETURN AIR DUCT DOWN TO FIRST FLOOR. REFER TO SHEET M-100B FOR CONTINUATION.
 - NEW 42"x14" SUPPLY AIR DUCT DOWN TO FIRST FLOOR. REFER TO SHEET M-100B FOR CONTINUATION.
 - NEW EXHAUST AIR DUCT DOWN TO FIRST FLOOR. REFER TO SHEET M-100B FOR CONTINUATION.
 - NOT USED
 - NEW 48"x14" RETURN AIR DUCT DOWN TO FIRST FLOOR. REFER TO SHEET M-100B FOR CONTINUATION.
 - NEW 16"x14" SUPPLY AIR DUCT DOWN TO FIRST FLOOR. REFER TO SHEET M-100B FOR CONTINUATION.
 - NOT USED
 - ROUTE NEW 2" CONDENSATE DRAIN FROM RTU TO NEAREST ROOF DRAIN. PROVIDE 4" AIR GAP.
 - NOT USED
 - NEW KITCHEN HOOD EXHAUST FAN. PROVIDED BY OTHERS AND INSTALLED BY MECHANICAL CONTRACTOR.
 - NEW EXHAUST FAN EF-3. REFER TO SHEET M-100B FOR CONTINUATION.

- ### GENERAL SHEET NOTES
- ALL DUCTS, PIPE, AND EQUIPMENT SHALL BE Laterally RESTRAINED TO COMPLY WITH THE NORTH CAROLINA BUILDING CODE. PROVIDE FOR SEISMIC DESIGN CLASS "D."
 - BEFORE FABRICATING ANY SHEET METAL DUCTWORK, COORDINATE LOCATION AND SIZE WITH SPRINKLER & PLUMBING PIPING, CONDUITS, LIGHT FIXTURES, STRUCTURAL, ETC. PLANS ARE SCHEMATIC AND ARE NOT SHOP DRAWINGS. SUBMIT DUCTWORK COORDINATION DRAWINGS, AS SPECIFIED.
 - ALL EQUIPMENT SHALL BE U.L. LISTED.
 - FIRE AND SMOKE DAMPERS SHALL BE INSTALLED IN COMPLETE ACCORDANCE WITH THE MANUFACTURER'S U.L. LISTING AND INSTALLATION INSTRUCTIONS. FIRE AND SMOKE DAMPERS SHALL HAVE SPECIFIC U.L. LISTING FOR THE CONSTRUCTION IN WHICH THEY ARE INSTALLED. PROVIDE DYNAMIC FIRE DAMPERS.
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 - ALL SHUTDOWNS SHALL BE COORDINATED AND APPROVED THROUGH THE OWNERS REPRESENTATIVE AND WILL REQUIRE ADVANCE NOTICE OF ONE WEEK. THIS TIME LENGTH MAY BE LONGER OR SHORTER FOR SOME SHUTDOWNS AND SHALL BE AT THE OWNERS DISCRETION.
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 - PROVIDE REMOVABLE ACCESS DOORS AT ALL MOTOR OPERATED DAMPERS, FIRE DAMPERS, SMOKE DAMPERS, DUCT COILS, SMOKE DETECTORS, AND SIMILAR ITEMS REQUIRING MAINTENANCE OR ADJUSTMENT.
 - REFER TO DETAIL 17M-003 FOR PIPING CONFIGURATION TO CHILLED WATER COIL. REFER TO DETAIL 18M-003 FOR PIPING CONFIGURATION TO STEAM COIL.
 - REFER TO CONTROL SCHEMATIC AND EQUIPMENT SCHEDULES FOR AIRFLOWS TO RTU'S.
 - PROVIDE DUCT SUPPORTS ON ROOF.

SHEET LEGEND

- CONNECT TO EXISTING
- EXISTING PIPING TO REMAIN
- NEW PIPING
- EXISTING DUCT TO REMAIN
- NEW DUCTWORK
- EXISTING EQUIPMENT TO REMAIN
- NEW EQUIPMENT

KEY PLAN



Architect of Record

Program Manager



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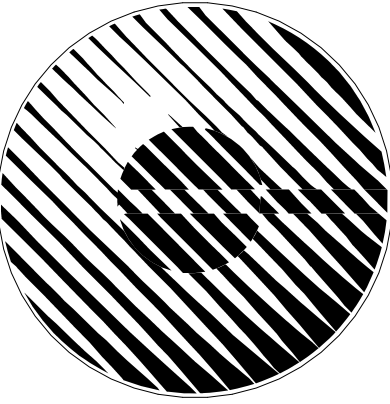
CONSTRUCTION

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Sheet Title

MECHANICAL - PARTIAL ROOF PLAN - NEW WORK AREA B

Date

December 29, 2015

Sheet Number

M-200B



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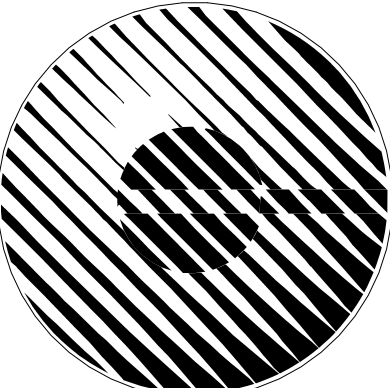
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CONSTRUCTION

Item	Date	Description
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Seal / Signature



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Sheet Title

MECHANICAL - PARTIAL ROOF PLAN - NEW WORK AREA C

Date December 29, 2015

Sheet Number

M-200C

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- CONTRACTOR SHALL COORDINATE ROUTING OF DUCTWORK TO ENSURE DUCTWORK DOES NOT PASS OVER ELECTRICAL PANELS.
- ALL SHUTDOWNS SHALL BE COORDINATED AND APPROVED THROUGH THE OWNERS REPRESENTATIVE AND WILL REQUIRE ADVANCE NOTICE OF ONE WEEK. THIS TIME LENGTH MAY BE LONGER OR SHORTER FOR SOME SHUTDOWNS AND SHALL BE AT THE OWNERS DISCRETION.
- LEAVE A MINIMUM CLEARANCE OF 2 INCHES ABOVE DUCTS INSTALLED IN RATED PARTITIONS TO ALLOW SPACE FOR THE GENERAL CONTRACTOR TO SEAL THE WALL ABOVE THE DUCTS. DO NOT INSTALL FLEXIBLE DUCT THROUGH RATED WALLS, BARRIERS OR PARTITIONS.
- PROVIDE REMOVABLE ACCESS DOORS AT ALL MOTOR OPERATED DAMPERS, FIRE DAMPERS, SMOKE DAMPERS, DUCT COILS, SMOKE DETECTORS, AND SIMILAR ITEMS REQUIRING MAINTENANCE OR ADJUSTMENT.
- REFER TO DETAIL 17M-003 FOR PIPING CONFIGURATION TO CHILLED WATER COIL. REFER TO DETAIL 18M-003 FOR PIPING CONFIGURATION TO STEAM COIL.
- REFER TO CONTROL SCHEMATIC AND EQUIPMENT SCHEDULES FOR AIRFLOWS TO RTUs.
- PROVIDE DUCT SUPPORTS ON ROOF.

MECHANICAL KEYED NOTES

- NEW 26"x10" SUPPLY AIR DUCT DOWN TO FIRST FLOOR. REFER TO SHEET M-100C FOR CONTINUATION.
- NEW EXHAUST AIR DUCT DOWN TO FIRST FLOOR. REFER TO SHEET M-100C FOR CONTINUATION.
- NEW 30"x12" SUPPLY AIR DUCT DOWN TO FIRST FLOOR. REFER TO SHEET M-100C FOR CONTINUATION.
- NEW 42"x10" RETURN AIR DUCT DOWN TO FIRST FLOOR. REFER TO SHEET M-100C FOR CONTINUATION.
- NOT USED
- NEW 28"x12" SUPPLY AIR DUCT DOWN TO FIRST FLOOR. REFER TO SHEET M-100C FOR CONTINUATION.
- NEW 38"x14" RETURN AIR DUCT DOWN TO FIRST FLOOR. REFER TO SHEET M-100C FOR CONTINUATION.
- NOT USED
- NEW 40"x14" RETURN AIR DUCT DOWN TO FIRST FLOOR. REFER TO SHEET M-100C FOR CONTINUATION.
- PIPING OUTDOOR ENCLOSURE.
- NEW 4" STAINLESS STEEL DRYER EXHAUST DUCT DOWN TO FIRST FLOOR LAUNDRY ROOM. REFER TO DETAIL 3M-004 FOR ROOF CAP DETAIL. REFER TO SHEET M-100C FOR CONTINUATION.
- NOT USED
- ROUTE NEW 2" CONDENSATE DRAIN FROM RTU TO NEAREST ROOF DRAIN. PROVIDE 4" AIR GAP.
- AREA TO BE REMOVED FROM SCOPE OF PROJECT IF DE-DUCT ALTERNATE #4 IS ACCEPTED.

SHEET LEGEND



CONNECT TO EXISTING



EXISTING PIPING TO REMAIN



NEW PIPING



EXISTING DUCT TO REMAIN



NEW DUCTWORK



EXISTING EQUIPMENT TO REMAIN



NEW EQUIPMENT

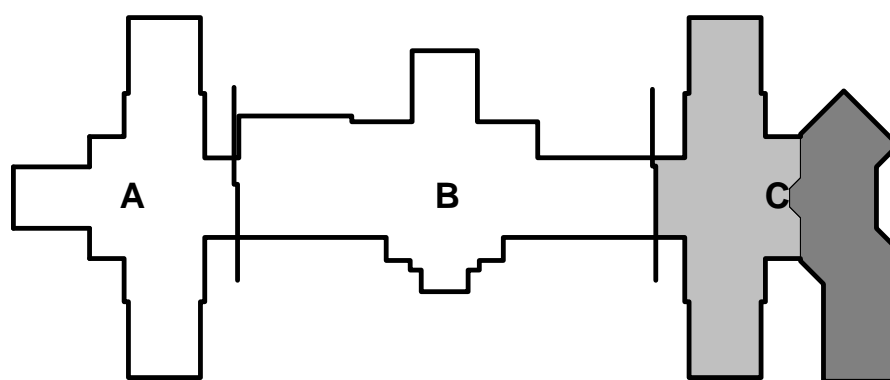
KEY PLAN



EXISTING



NEW



GRAPHIC SCALE



1 inch = 8 ft.

1 MECHANICAL - PARTIAL ROOF PLAN - NEW WORK AREA C
1/8" = 1'-0"