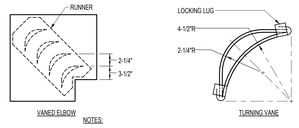
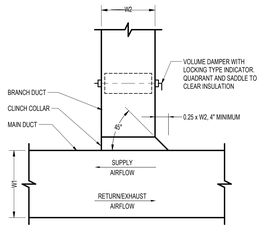


NOTES:

1. LOCKING LUGS INTERNAL WITH VANE.
2. MAXIMUM UNSUPPORTED VANE LENGTH 48".
3. RUNNER - BOLTED OR RIVETED TO ELBOW.
4. VANES SHALL BE SECURELY FASTENED TO RUNNER.
5. VANES AND RUNNER - SAME GAUGE AS ELBOW.
6. FOR DUCTS WITH EQUAL INLET AND OUTLET DIMENSIONS.

1 DOUBLE THICKNESS TURNING VANES FOR SQUARE ELBOWS

SCALE: NONE

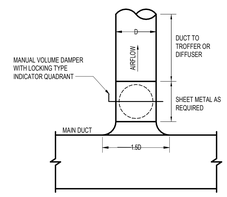


NOTES:

1. NOT TO BE USED AS A SUBSTITUTE FOR AN ELBOW.

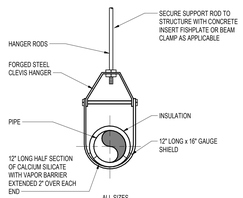
2 RECTANGULAR DUCT TAP WITH VOLUME DAMPER

SCALE: NONE



3 CIRCULAR BRANCH CONNECTION TO SINGLE OUTLET

SCALE: NONE

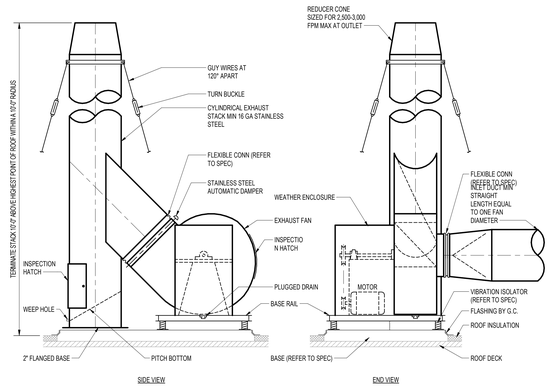


NOTES:

1. WHERE STRUCTURAL SLAB DOES NOT PERMIT INSERTS. SUPPORT PIPING FROM STRUCTURE WITH AUXILIARY STEEL IF REQUIRED.

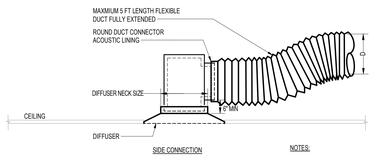
4 WATER PIPING HANGER

SCALE: NONE



5 HOOD EXHAUST FAN WITH DISCHARGE STACK

SCALE: NTS

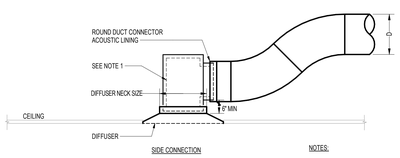


NOTES:

1. PROVIDE ELBOW SUPPORTS AND DUCT SUPPORT STRAPS, FLEX FLOW OR EQUAL.
2. FOR LAB OR HEALTHCARE APPLICATIONS, USE EXTERNAL INSULATION. FOR OTHER APPLICATIONS, USE ACOUSTICAL LINING.

6 DIFFUSER CONNECTION - FLEX DUCT

SCALE: NONE

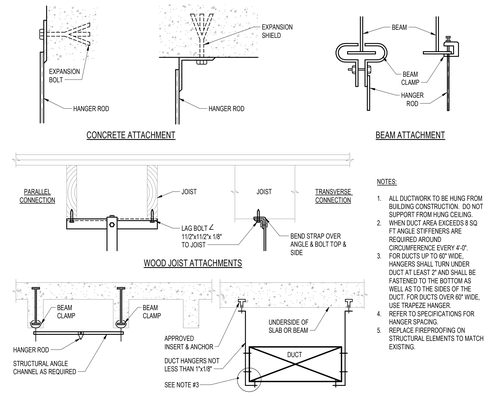


NOTES:

1. FOR LAB OR HEALTHCARE APPLICATIONS, USE EXTERNAL INSULATION. FOR OTHER APPLICATIONS, USE ACOUSTIC LINING.

7 DIFFUSER CONNECTION - RIGID DUCT

SCALE: NONE

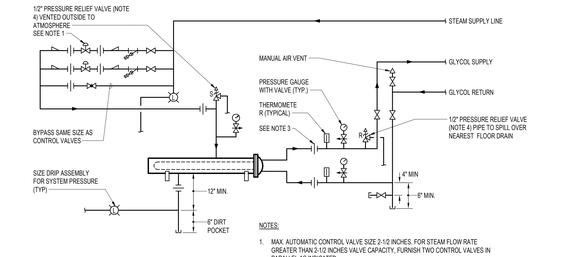


NOTES:

1. ALL DUCTWORK TO BE HUNG FROM BUILDING CONSTRUCTION. DO NOT SUPPORT FROM HUNG CEILING.
2. WHEN DUCT AREA EXCEEDS 8 SQ FT ANGLE STIFFENERS ARE REQUIRED AROUND CIRCUMFERENCE EVERY 4'-0".
3. FOR DUCTS UP TO 60" WIDE, HANGERS SHALL TURN UNDER DUCT AT LEAST 2" AND SHALL BE FASTENED TO THE BOTTOM AS WELL AS TO THE SIDES OF THE DUCT. FOR DUCTS OVER 60" WIDE, USE TRAPEZE HANGER.
4. REFER TO SPECIFICATIONS FOR HANGER SPACING.
5. REPLACE FIREPROOFING ON STRUCTURAL ELEMENTS TO MATCH EXISTING.

8 DUCT SUPPORT

SCALE: NONE

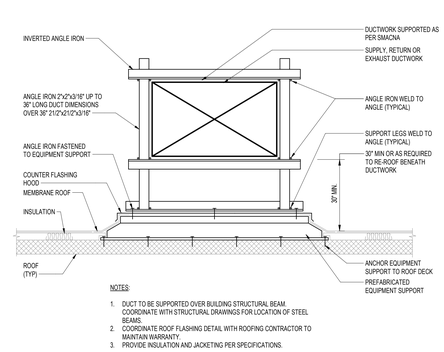


NOTES:

1. MAX. AUTOMATIC CONTROL VALVE SIZE 2-1/2 INCHES. FOR STEAM FLOW RATE GREATER THAN 2-1/2 INCHES VALVE CAPACITY, FURNISH TWO CONTROL VALVES IN PARALLEL AS INDICATED.
2. BYPASS PIPING AROUND TRAP LEG SHALL BE SAME SIZE AS TRAP.
3. PROVIDE PIPE UNIONS, FLANGES & ARRANGE WATER PIPING TO FACILITATE TUBE BUNDLE REMOVAL WITH MINIMUM DISTURBANCE TO PIPING.
4. PRESSURE RELIEF VALVE SET AT 20% OVER WORKING PRESSURE.

9 STEAM-TO-WATER/GLYCOL CONVERTOR PIPING

SCALE: NTS

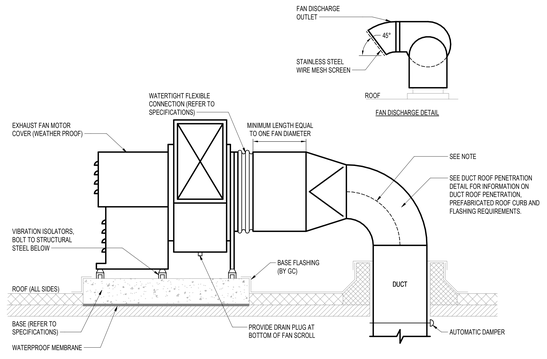


NOTES:

1. DUCT TO BE SUPPORTED OVER BUILDING STRUCTURAL BEAM. COORDINATE WITH STRUCTURAL DRAWINGS FOR LOCATION OF STEEL BEAMS.
2. COORDINATE ROOF FLASHING DETAIL WITH ROOFING CONTRACTOR TO MAINTAIN WARRANTY.
3. PROVIDE INSULATION AND JACKETING PER SPECIFICATIONS.

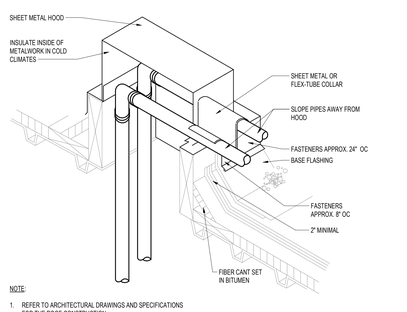
10 SUPPORT FOR ROOF MOUNTED DUCTWORK

SCALE: NONE



11 ROOF MOUNTED UTILITY FAN

SCALE: NONE

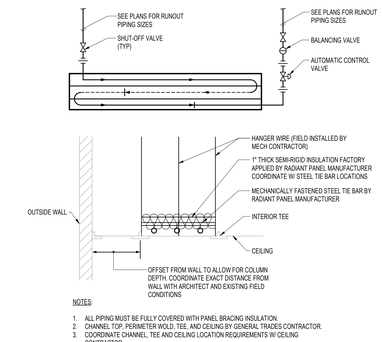


NOTE:

1. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR THE ROOF CONSTRUCTION.

12 PIPING THROUGH ROOF DECK

SCALE: NONE

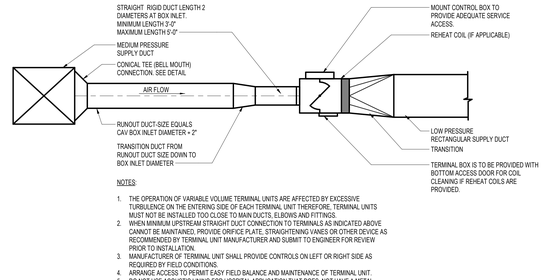


NOTES:

1. ALL PIPING MUST BE FULLY COVERED WITH PANEL BRACING INSULATION.
2. CHANNEL TOP, PERIMETER WOLD, TEE, AND CEILING BY GENERAL TRADES CONTRACTOR.
3. COORDINATE CHANNEL, TEE AND CEILING LOCATION REQUIREMENTS W/ CEILING CONTRACTOR.
4. REFER TO ARCHITECTURAL PLANS FOR LENGTHS.

13 PERIMETER RADIANT PANEL

SCALE: NONE

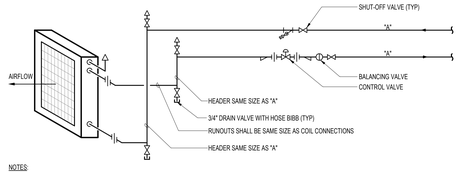


NOTES:

1. THE OPERATION OF VARIABLE VOLUME TERMINAL UNITS ARE AFFECTED BY EXCESSIVE TURBULENCE ON THE ENTERING SIDE OF EACH TERMINAL UNIT THEREFORE, TERMINAL UNITS MUST NOT BE INSTALLED TOO CLOSE TO MAIN DUCTS, ELBOWS AND FITTINGS.
2. WHEN MINIMUM UPSTREAM STRAIGHT DUCT CONNECTION TO TERMINALS AS INDICATED ABOVE CANNOT BE MAINTAINED, PROVIDE ORIFICE PLATE, STRAIGHTENING VANES OR OTHER DEVICE AS RECOMMENDED BY TERMINAL UNIT MANUFACTURER AND SUBMIT TO ENGINEER FOR REVIEW PRIOR TO INSTALLATION.
3. MANUFACTURER OF TERMINAL UNIT SHALL PROVIDE CONTROLS ON LEFT OR RIGHT SIDE AS REQUIRED BY FIELD CONDITIONS.
4. ARRANGE ACCESS TO PERMIT EASY FIELD BALANCE AND MAINTENANCE OF TERMINAL UNIT.
5. DO NOT USE ACOUSTIC LINING FOR HOSPITAL APPLICATION THAT DOES NOT HAVE A METAL INSIDE LINER.

14 TERMINAL UNIT INSTALLATION

SCALE: NONE

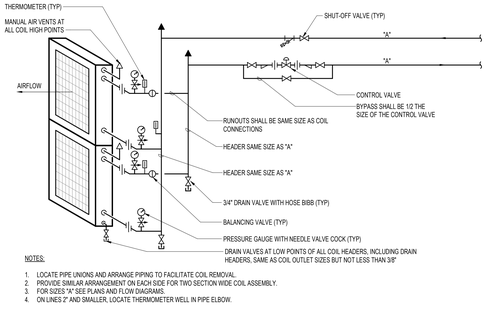


NOTES:

1. LOCATE PIPE UNIONS AND ARRANGE PIPING TO FACILITATE COIL REMOVAL.
2. PROVIDE SIMILAR ARRANGEMENT ON EACH SIDE FOR TWO SECTION WIDE COIL ASSEMBLY.
3. FOR SIZES "A" SEE PLANS AND FLOW DIAGRAMS.

15 IN-DUCT HOT WATER REHEAT COIL CONNECTIONS - ONE HIGH

SCALE: NONE

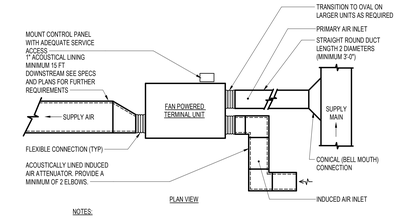


NOTES:

1. LOCATE PIPE UNIONS AND ARRANGE PIPING TO FACILITATE COIL REMOVAL.
2. PROVIDE SIMILAR ARRANGEMENT ON EACH SIDE FOR TWO SECTION WIDE COIL ASSEMBLY.
3. FOR SIZES "A" SEE PLANS AND FLOW DIAGRAMS.
4. ON LINES 2" AND SMALLER, LOCATE THERMOMETER WELL IN PIPE ELBOW.

16 HOT WATER HEATING COIL CONNECTIONS - TWO OR MORE HIGH

SCALE: NONE



NOTES:

1. ALL UNITS TO BE PROVIDED WITH VIBRATION ISOLATORS AND TO BE SUPPORTED FROM SLAB OR STRUCTURAL STEEL.
2. INSTALL TERMINAL UNITS CLEAR OF LIGHTS FOR ACCESS.
3. SEE HVAC EQUIPMENT HANGING DETAIL FOR SUPPORT.

17 FAN POWERED TERMINAL UNIT

SCALE: NTS

PERKINS + WILL
225 Franklin Street, Suite 1100
Boston, MA 02110
t 617.478.0300
f 617.478.0321
www.perkinswill.com

CLIENT

Maine Medical Center
MaineHealth

22 Bramhall Street
Portland, ME 04102

CONSULTANTS

CIVIL / LANDSCAPE ARCHITECT
Sebago Technics
75 John Roberts Road , Suite 1A, South Portland, ME 04106

STRUCTURAL ENG/ BUILDING ENVELOPE CONSULTANT
Simpson Gumpertz & Heger Inc.
41 Seyon Street, Building 1, Suite 500, Waltham, MA 02453

MEP/FP ENGINEER/ CODE
AKF Group LLC
99 Bedford Street, 2nd Floor, Boston MA 02111

CONSTRUCTION MANAGER
Turner Construction
2 Seaport Lane, Suite 200, Boston, MA 02210

ELEVATOR CONSULTANT
VDA (Van Deusen & Associates)
101 Summer Street, 4th Floor, Boston MA 02110

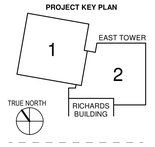
COST ESTIMATOR
D. G. Jones International
3 Baldwin Green Common,Suite 202, Woburn, MA 01801

PROJECT TITLE

East Tower 6 & 7 Addition
22 Bramhall Street
Portland, ME 04102

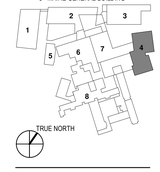
KEY PLANS

PROJECT KEY PLAN



OVERALL KEY PLAN

1 - GILMAN GARAGE
2 - CONGRESS STREET
3 - VISITOR GARAGE
4 - EAST TOWER
5 - CENTRAL UTILITY PLANT
6 - BEAN BUILDING
7 - RICHARDS BUILDING
8 - MAINE GENERAL BUILDING



CONSTRUCTION DOCUMENTS
JANUARY 26, 2018

NO	ISSUE	DATE
1	ADDENDUM NO. 1	03/22/18

Job Number	B150312-000
Drawn	TU
Checked	DPR
Approved	DPR

TITLE

MECHANICAL DETAILS

SHEET NUMBER

M00-21