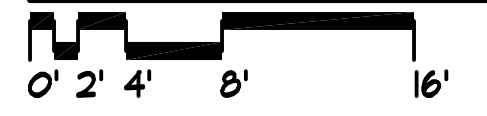


PARTIAL FIRST FLOOR PLAN - HVAC - AREA A



GENERAL NOTES

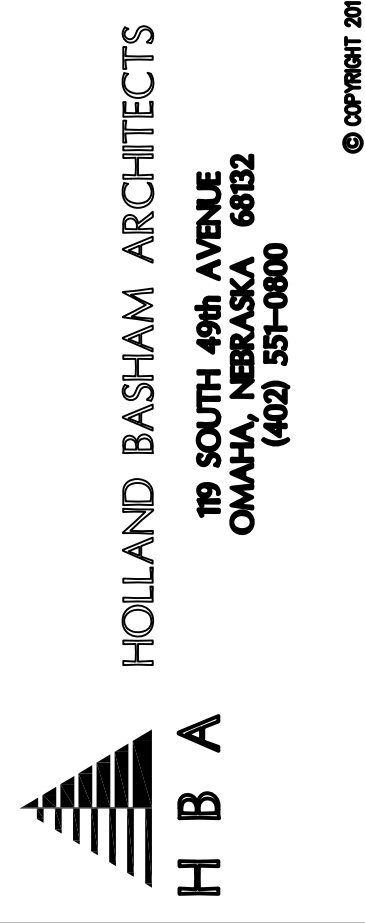
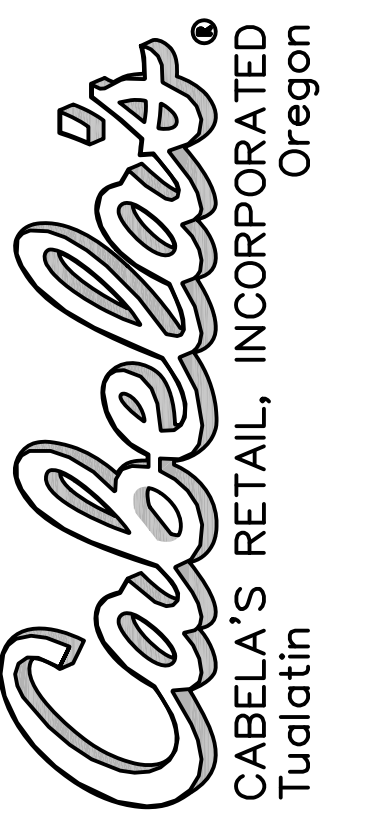
- DO NOT ROUTE DUCTWORK ABOVE ELECTRICAL PANELS. MAINTAIN ALL CODE REQUIRED CLEARANCES.
- COORDINATE ALL ROOF, WALL, AND FLOOR PENETRATIONS WITH GENERAL CONTRACTOR. SEAL PENETRATIONS OF EXTERIOR ENVELOPE WATERTIGHT. PROVIDE FIRE DAMPERS IN ALL DUCTS PENETRATING FIRE RATED WALLS. FIRE CAULK AROUND ALL PENETRATIONS THROUGH FIRE RATED WALLS.
- COORDINATE LOCATION OF DIFFUSERS, REGISTERS, AND GRILLES WITH SPRINKLERS, LIGHTS AND CEILING FIXTURES.
- UNLESS OTHERWISE NOTED, ALL SUPPLY / RETURN AIR RUNOUTS SHALL MATCH RESPECTIVE NECK SIZE. ALL RUNOUTS SHALL HAVE VOLUME DAMPERS. INSTALL ALL VOLUME DAMPERS ABOVE ACCESSIBLE CEILING OR IN OTHER ACCESSIBLE LOCATIONS.
- CONTRACTOR SHALL COORDINATE ALL DUCT ROUTING WITH ALL OTHER TRADES. CONTRACTOR SHALL PROVIDE ALL ADDITIONAL OFFSETS AND TRANSITIONS AS REQUIRED TO COMPLETE INSTALLATION AND AVOID CONFLICTS.
- MAINTAIN MANUFACTURER'S REQUIRED CLEARANCE AROUND ALL MECHANICAL EQUIPMENT TO ALLOW PROPER OPERATION AND EASY MAINTENANCE ACCESS.
- UNLESS NOTED OTHERWISE, LOCATE ALL DUCT AS HIGH AS POSSIBLE. UTILIZE JOIST SPACE AND OPEN WEBBING OF JOISTS WHEN POSSIBLE. LOCATE AIR OUTLETS SYMMETRICAL WITH ARCHITECTURAL / LIGHTING FEATURES.
- SEE DUCT FITTINGS DETAIL 5, SHEET M3.11.
- PROVIDE RETURN AIR BOOTS PER DETAIL 3, SHEET M3.12 FOR ALL GRILLES MARKED G-1 AND G-2.
- ⊙ REPRESENTS A TEMPERATURE SENSOR WITHOUT ADJUSTMENTS
  - ⊙ REPRESENTS A COMBINATION TEMPERATURE AND CO2 SENSOR
  - ⊙ REPRESENTS A THERMOSTAT WITH ADJUSTMENTS
  - ⊙ REPRESENTS A HUMIDITY SENSOR. PROVIDE COMBINATION TEMPERATURE / HUMIDITY SENSOR WHEN POSSIBLE.
- ROUGHINS FOR THERMOSTATS / TEMPERATURE SENSORS BY ELECTRICAL CONTRACTOR - SEE ELECTRICAL PLANS.
- THERMOSTAT AND TEMPERATURE SENSOR LOCATIONS ARE SHOWN FOR CLARITY. LOCATE TEMPERATURE SENSORS ADJACENT TO DOORS, ELECTRICAL DEVICES, AND OTHER BUILDING COMPONENTS. DO NOT LOCATE SENSORS IN MIDDLE OF WALLS OR BEHIND DOOR SWINGS.
- SOLID LINE INDICATES SHEET METAL DUCTWORK
  - DASHED LINE INDICATES FABRIC DUCTWORK
- SEE ARCHITECTURAL SPECIFICATION SECTION 01 5000 "TEMPORARY FACILITIES AND CONTROLS" FOR FILTRATION REQUIREMENTS DURING TEMPORARY USE OF HVAC SYSTEMS PRIOR TO BUILDING TURNOVER.

FLAG NOTES

- NOTE: FLAG NOTES ARE COMMON TO SHEETS M1.11, M1.12, M1.13, & M1.14. NOT ALL FLAG NOTES MAY BE USED ON EACH SHEET.
- DO NOT ROUTE DUCTWORK ABOVE ELECTRICAL PANELS. MAINTAIN ALL CODE REQUIRED CLEARANCES.
  - LOCATE DIFFUSER AS HIGH AS POSSIBLE IN JOIST SPACE. ROUTE ASSOCIATED S.A. RUNOUT THROUGH CEILING STRUCTURE. PROVIDE FIRE DAMPER AT PENETRATION. COORDINATE EXACT LOCATION WITH STRUCTURE. SEE SHEET M1.23 FOR CONTINUATION.
  - ROUTE R.A. DUCTWORK THROUGH JOIST STORAGE CEILING STRUCTURE. TERMINATE DUCT APPROXIMATELY 2" BELOW BOTTOM OF STRUCTURE. PROVIDE 1/2" MESH TO PROTECT DUCT OPENING. COORDINATE EXACT LOCATION WITH STRUCTURE. SEE SHEET M1.23 FOR CONTINUATION.
  - S.A. & R.A. MAINS UP. SEE SHEET M1.22 FOR CONTINUATION.
  - ELECTRIC UNIT HEATER. LOCATION SHOWN FOR CLARITY - SEE ELECTRICAL PLANS FOR EQUIPMENT SPECIFICATIONS AND EXACT LOCATION.
  - GAS FIREPLACE FLUE AND ROOF TERMINATION MATERIAL FURNISHED WITH FIREPLACE. SEE ARCHITECTURAL PLANS AND SPECIFICATIONS. FLUE AND ROOF TERMINATION INSTALLED BY MECHANICAL CONTRACTOR. INSTALL PER MANUFACTURER'S RECOMMENDATIONS, APPLICABLE CODE REQUIREMENTS, AND AUTHORITY HAVING JURISDICTION.
  - ROUTE FABRIC DUCTWORK IN JOIST SPACE. COORDINATE EXACT LOCATION WITH STRUCTURE. FABRIC DUCT AIR DISTRIBUTION SHALL BE DESIGNED BY DUCT MANUFACTURER (DUCT SOX). CENTER LINE OF DUCT LOCATED APPROXIMATELY 10'-0" ABOVE FINISHED FLOOR. EVENLY DISTRIBUTE AIRFLOW TO OCCUPIED SPACES ON BOTH SIDES OF DUCTWORK. GENERAL DUCT CONFIGURATION SHALL MATCH CONFIGURATION INDICATED ON PLAN. INSTALL FABRIC DUCT SYSTEM PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL NECESSARY SUPPORTS, FITTINGS, AND ACCESSORIES AS REQUIRED FOR A COMPLETE SYSTEM. SEE DETAILS 1 AND 3, SHEET M3.12.
  - INSTALL DUCT HEATER PER MANUFACTURER'S RECOMMENDATIONS. MAINTAIN CODE REQUIRED CLEARANCE IN FRONT OF CONTROL PANEL. SEE DETAIL 2, SHEET M3.12.
  - CENTER EXHAUST GRILLE IN COFFER SPACE. SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR DIMENSIONS.
  - LOCATE SENSOR ON COLUMN - SEE COLUMN DETAILS ON SHEET A7.05 FOR LOCATION / ELEVATION REQUIREMENTS.
  - 1610 E.A. WITH 14" x 14" SCREENED OPENING ON TOP. LOCATE DUCTWORK AS HIGH AS POSSIBLE IN ARCHERY RANGE 124 - BOTTOM OF DUCT AT APPROXIMATELY 9'-0" A.F.F. BALANCE TO 650 CFM.
  - PROVIDE HEAVY DUTY, LOCKABLE PLASTIC THERMOSTAT COVER.
  - LOCATE TRANSFER GRILLE IN JOIST SPACE AS HIGH AS POSSIBLE.
  - ROUTE E.A. DUCTWORK INTO ELECTRICAL ROOM. TERMINATE DUCT APPROXIMATELY 2" BELOW CEILING. PROVIDE 1/2" MESH TO PROTECT DUCT OPENING. PROVIDE FIRE DAMPER AT FLOOR PENETRATION.
  - TRANSITION DUCT UP INTO JOIST SPACE. ROUTE AS HIGH AS POSSIBLE.
  - TRANSITION DUCT UP INTO JOIST SPACE TO ACCOMMODATE DUCT CROSSING.
  - LOCATE DIFFUSER IN CENTER OF OPEN TRELLIS SPACE. COORDINATE WITH GENERAL CONTRACTOR.
  - ROUTE DUCT THROUGH EXTERIOR WALL INTO ATTIC SPACE ABOVE EXT VESTIBULE. TRANSITION DOWN INTO CEILING SPACE ABOVE VESTIBULE.
  - PROVIDE INSULATED MOUNTING PLATE AND HEAVY DUTY, LOCKABLE PLASTIC THERMOSTAT COVER.
  - SUPPORT INLINE EXHAUST FANS FROM STRUCTURAL STEEL. SEE DETAIL 11, M3.11. MAINTAIN ALL MANUFACTURER'S RECOMMENDED CLEARANCES.
  - INSTALL LOUVER IN CANOPY CEILING. CENTER IN COFFER SPACE.
  - SUPPORT FCU-1 FROM STRUCTURAL STEEL. SEE DETAIL 10, M3.12. MAINTAIN ALL MANUFACTURER'S RECOMMENDED CLEARANCES. COORDINATE INSTALLATION WITH AQUARIUM CONTRACTOR.
  - ROUTE REFRIGERANT PIPING TO FCU-1 AND WATER FEATURE. EVAPORATOR UNITS. FIELD VERY CLOSE TO LOCATION OF WATER FEATURE. EVAPORATOR UNITS. SIZE REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL NECESSARY REFRIGERANT SPECIALTIES AS RECOMMENDED BY THE MANUFACTURER.
  - PROVIDE TRANSFER GRILLE IN MOUNTAIN SHELL TO ALLOW AIR TRANSFER FROM THE SALES FLOOR INTO EQUIPMENT ROOM 129A. COORDINATE WITH MOUNTAIN CONTRACTOR TO LOCATE GRILLE IN LOCATION NOT EXPOSED TO CUSTOMER VIEW. TRANSFER GRILLE SHALL ACCOMMODATE 1,000 CFM.

SEISMIC DESIGN REQTS

- SEE SHEET M1.14 FOR COMPLETE NOTES.



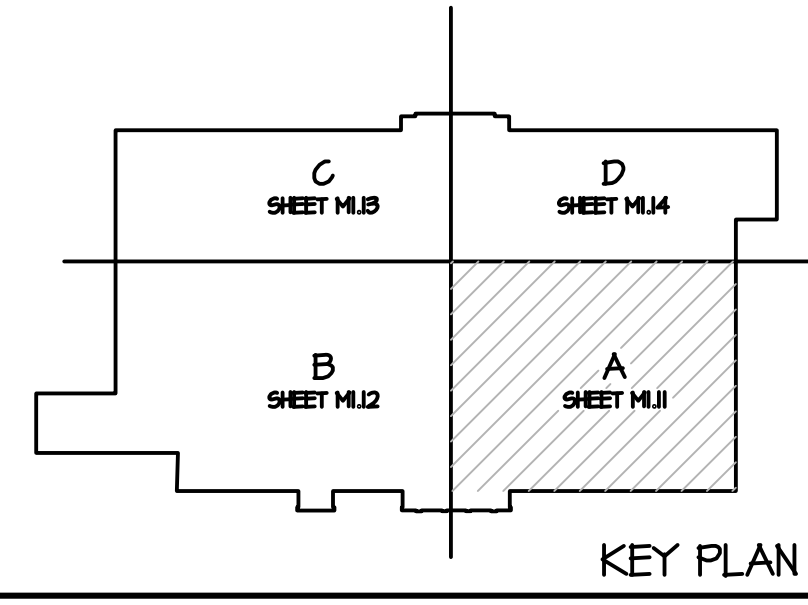
Cabela's Retail Center  
Tualatin, Oregon

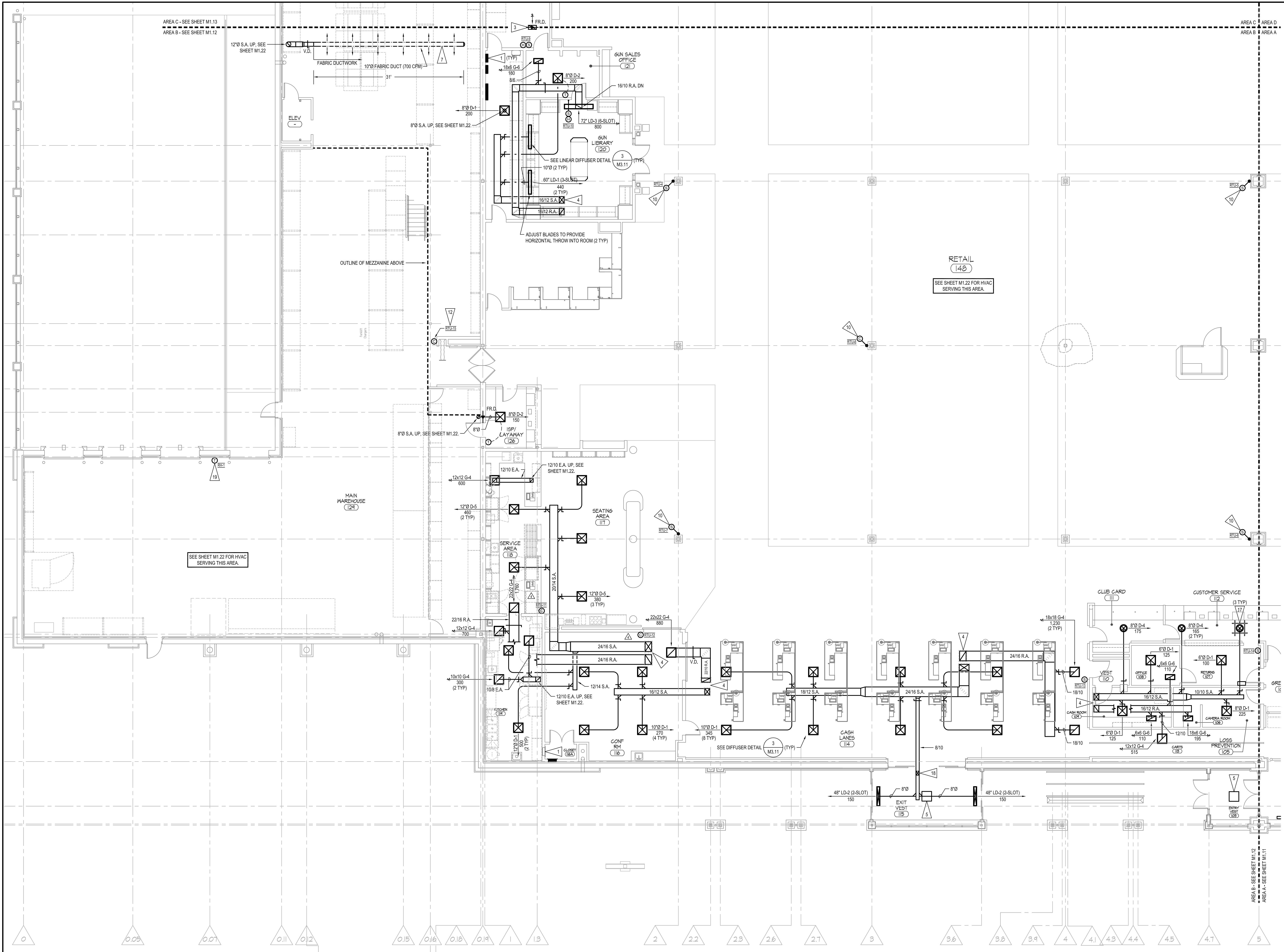


Revisions:  
Permit Issue 10-03-13  
Rev 4, CCD 2 02-06-14

Drawing Name:  
PARTIAL FIRST FLOOR PLAN - HVAC - AREA A  
Project #: 12511  
Drawn By: NWS  
Date: 06 February 2014  
Sheet Number:

M1.11





**GENERAL NOTES**

- DO NOT ROUTE DUCTWORK ABOVE ELECTRICAL PANELS. MAINTAIN ALL CODE REQUIRED CLEARANCES.
- COORDINATE ALL ROOF, WALL, AND FLOOR PENETRATIONS WITH GENERAL CONTRACTOR. SEAL PENETRATIONS OF EXTERIOR ENVELOPE WATERTIGHT. PROVIDE FIRE DAMPERS IN ALL DUCTS PENETRATING FIRE RATED WALLS. FIRE CALCULATED PENETRATIONS THROUGH FIRE RATED WALLS.
- COORDINATE LOCATION OF DIFFUSERS, REGISTERS, AND GRILLES WITH SPRINKLERS, LIGHTS AND CEILING PLANS.
- UNLESS OTHERWISE NOTED, ALL SUPPLY / RETURN AIR RUNOUTS SHALL MATCH RESPECTIVE NECK SIZE. ALL RUNOUTS SHALL HAVE VOLUME DAMPERS. INSTALL ALL VOLUME DAMPERS ABOVE ACCESSIBLE CEILING OR IN OTHER ACCESSIBLE LOCATIONS.
- CONTRACTOR SHALL COORDINATE ALL DUCT ROUTING WITH ALL OTHER TRADES. CONTRACTOR SHALL PROVIDE ALL ADDITIONAL OFFSETS AND TRANSITIONS AS REQUIRED TO COMPLETE INSTALLATION AND AVOID CONFLICTS.
- MAINTAIN MANUFACTURER'S REQUIRED CLEARANCE AROUND ALL MECHANICAL EQUIPMENT TO ALLOW PROPER OPERATION AND EASY MAINTENANCE ACCESS.
- UNLESS NOTED OTHERWISE, LOCATE ALL DUCT AS HIGH AS POSSIBLE. UTILIZE JOIST SPACE AND OPEN WEBBING OF JOISTS WHEN POSSIBLE. LOCATE AIR OUTLETS SYMMETRICAL WITH ARCHITECTURAL / LIGHTING FEATURES.
- SEE DUCT FITTINGS DETAIL 5, SHEET M3.11.
- PROVIDE RETURN AIR BOOTHS PER DETAIL 3, SHEET M3.12 FOR ALL GRILLES MARKED G-1 AND G-2.
- ⊙ REPRESENTS A TEMPERATURE SENSOR WITHOUT ADJUSTMENTS
- ⊙ REPRESENTS A COMBINATION TEMPERATURE AND CO2 SENSOR
- ⊙ REPRESENTS A THERMOSTAT WITH ADJUSTMENTS
- ⊙ REPRESENTS A HUMIDITY SENSOR (PROVIDE COMBINATION TEMPERATURE / HUMIDITY SENSOR WHEN POSSIBLE)
- ROUGH-INS FOR THERMOSTATS / TEMPERATURE SENSORS BY ELECTRICAL CONTRACTOR - SEE ELECTRICAL PLANS.
- THERMOSTAT AND TEMPERATURE SENSOR LOCATIONS ARE SHOWN FOR CLARITY. LOCATE TEMPERATURE SENSORS ADJACENT TO DOORS, ELECTRICAL DEVICES, AND OTHER BUILDING COMPONENTS. DO NOT LOCATE SENSORS IN MIDDLE OF WALLS OR BEHIND DOOR SWINGS.
- SOLID LINE INDICATES SHEET METAL DUCTWORK  
DASHED LINE INDICATES FABRIC DUCTWORK
- SEE ARCHITECTURAL SPECIFICATION SECTION 01 5000 "TEMPORARY FACILITIES AND CONTROLS" FOR FILTRATION REQUIREMENTS DURING TEMPORARY USE OF HVAC SYSTEMS PRIOR TO BUILDING TURNOVER.

**FLAG NOTES**

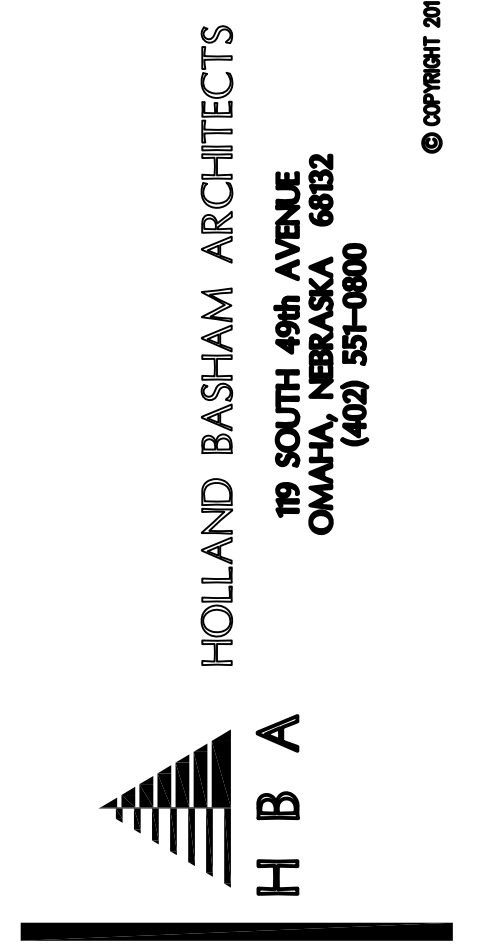
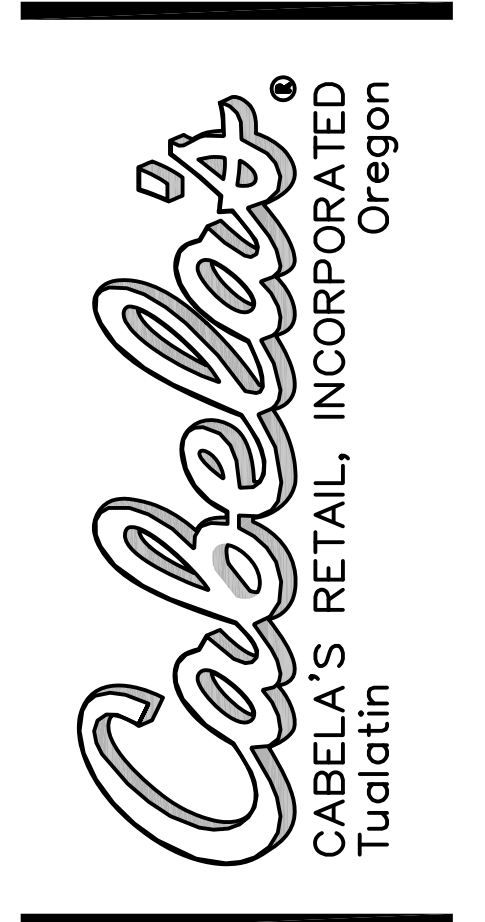
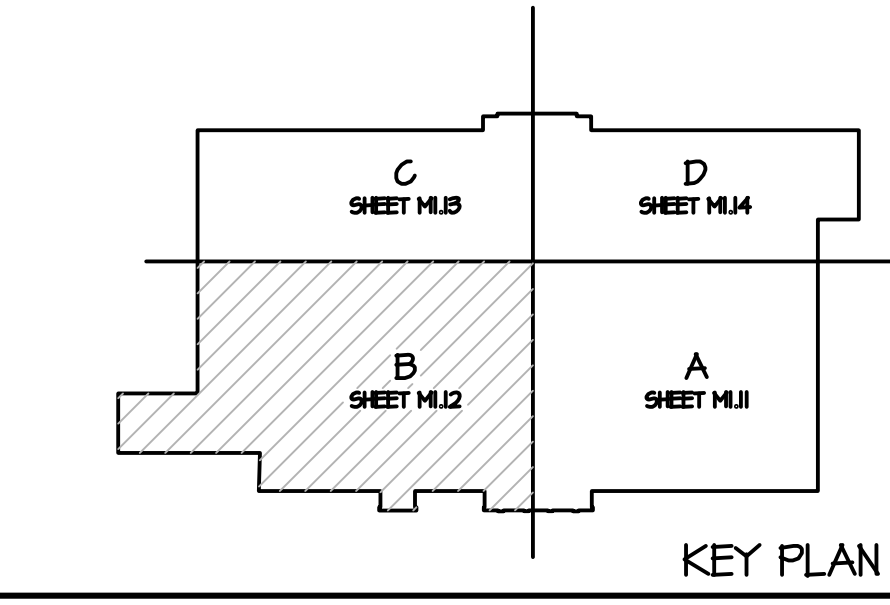
- NOTE: FLAG NOTES ARE COMMON TO SHEETS M1.11, M1.12, M1.13, & M1.14. NOT ALL FLAG NOTES MAY BE USED ON EACH SHEET.
- DO NOT ROUTE DUCTWORK ABOVE ELECTRICAL PANELS. MAINTAIN ALL CODE REQUIRED CLEARANCES.
  - LOCATE DIFFUSER AS HIGH AS POSSIBLE IN GUN STORAGE. ROUTE ASSOCIATED S.A. RUNOUT THROUGH CEILING STRUCTURE. PROVIDE FIRE DAMPER AT PENETRATION. COORDINATE EXACT LOCATION WITH STRUCTURE. SEE SHEET M1.23 FOR CONTINUATION.
  - ROUTE R.A. DUCTWORK THROUGH GUN STORAGE CEILING STRUCTURE. TERMINATE DUCT APPROXIMATELY 2" BELOW BOTTOM OF STRUCTURE. PROVIDE 1/2" MESH TO PROTECT DUCT OPENING. COORDINATE EXACT LOCATION WITH STRUCTURE. SEE SHEET M1.23 FOR CONTINUATION.
  - S.A. & R.A. MAINS UP. SEE SHEET M1.22 FOR CONTINUATION.
  - ELECTRIC UNIT HEATER. LOCATION SHOWN FOR CLARITY - SEE ELECTRICAL PLANS FOR EQUIPMENT SPECIFICATIONS AND EXACT LOCATION.
  - GAS FIREPLACE FLUE AND ROOF TERMINATION MATERIAL FURNISHED WITH FIREPLACE - SEE ARCHITECTURAL PLANS AND SPECIFICATIONS. FLUE AND ROOF TERMINATION INSTALLED BY MECHANICAL CONTRACTOR. INSTALL PER MANUFACTURER'S RECOMMENDATIONS, APPLICABLE CODE REQUIREMENTS, AND AUTHORITY HAVING JURISDICTION.
  - ROUTE FABRIC DUCTWORK IN JOIST SPACE. COORDINATE EXACT LOCATION WITH STRUCTURE. FABRIC DUCT AIR DISTRIBUTION SHALL BE DESIGNED BY DUCT MANUFACTURER (DUCT SOW). CENTER LINE OF DUCT LOCATED APPROXIMATELY 10'-9" ABOVE FINISHED FLOOR. EVENLY DISTRIBUTE AIRFLOW TO OCCUPIED SPACES ON BOTH SIDES OF DUCTWORK. GENERAL DUCT CONFIGURATION SHALL MATCH CONFIGURATION INDICATED ON PLAN. INSTALL FABRIC DUCT SYSTEM PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL NECESSARY SUPPORTS, FITTINGS, AND ACCESSORIES AS REQUIRED FOR A COMPLETE SYSTEM. SEE DETAILS 8 AND 9, SHEET M3.12.
  - INSTALL DUCT HEATER PER MANUFACTURER'S RECOMMENDATIONS. MAINTAIN CODE REQUIRED CLEARANCE IN FRONT OF CONTROL PANEL. SEE DETAIL 2, SHEET M3.12.
  - CENTER EXHAUST GRILLE IN COFFER SPACE. SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR DIMENSIONS.
  - LOCATE SENSOR ON COLUMN - SEE COLUMN DETAILS ON SHEET A7.05 FOR LOCATION / ELEVATION REQUIREMENTS.
  - 16'10" E.A. WITH 14" x 14" SCREENED OPENING ON TOP. LOCATE DUCTWORK AS HIGH AS POSSIBLE IN ARCHERY RANGE 12A - BOTTOM OF DUCT AT APPROXIMATELY 9'-7" A.F.F. BALANCE TO 650 CFM.
  - PROVIDE HEAVY DUTY, LOCKABLE PLASTIC THERMOSTAT COVER.
  - LOCATE TRANSFER GRILLE IN JOIST SPACE AS HIGH AS POSSIBLE.
  - ROUTE E.A. DUCTWORK INTO ELECTRICAL ROOM. TERMINATE DUCT APPROXIMATELY 1/2" BELOW CEILING. PROVIDE 1/2" MESH TO PROTECT DUCT OPENING. PROVIDE FIRE DAMPER AT FLOOR PENETRATION.
  - TRANSITION DUCT UP INTO JOIST SPACE. ROUTE AS HIGH AS POSSIBLE.
  - TRANSITION DUCT UP INTO JOIST SPACE TO ACCOMMODATE DUCT CROSSING.
  - LOCATE DIFFUSER IN CENTER OF OPEN TRENDS SPACE. COORDINATE WITH GENERAL CONTRACTOR.
  - ROUTE DUCT THROUGH EXTERIOR WALL INTO ATTIC SPACE ABOVE EXIT VESTIBULE. TRANSITION DOWN INTO CEILING SPACE ABOVE VESTIBULE. PROVIDE INSULATED MOUNTING PLATE AND HEAVY DUTY, LOCKABLE PLASTIC THERMOSTAT COVER.
  - SUPPORT INLINE EXHAUST FANS FROM STRUCTURAL STEEL. SEE DETAIL 11, M3.11. MAINTAIN ALL MANUFACTURER'S RECOMMENDED CLEARANCES.
  - INSTALL LOUVER IN CANOPY CEILING. CENTER IN COFFER SPACE.
  - SUPPORT FCU-1 FROM STRUCTURAL STEEL. SEE DETAIL 10, M3.12. MAINTAIN ALL MANUFACTURER'S RECOMMENDED CLEARANCES. COORDINATE INSTALLATION WITH AQUARIUM CONTRACTOR.
  - ROUTE REFRIGERANT PIPING TO FCU-1 AND WATER FEATURE EVAPORATOR UNITS. FIELD VERIFY LOCATION OF WATER FEATURE EVAPORATOR UNITS. SIZE REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL NECESSARY REFRIGERANT SPECIALTIES AS RECOMMENDED BY THE MANUFACTURER.
  - PROVIDE TRANSFER GRILLE IN MOUNTAIN SHELL TO ALLOW AIR TRANSFER FROM THE SALES FLOOR INTO EQUIPMENT ROOM 129A. COORDINATE WITH MOUNTAIN CONTRACTOR TO LOCATE GRILLE IN LOCATION NOT EXPOSED TO CUSTOMER VIEW. TRANSFER GRILLE SHALL ACCOMMODATE 1,000 CFM.

**PARTIAL FIRST FLOOR PLAN - HVAC - AREA B**



**SEISMIC DESIGN REQ'TS**

- SEE SHEET M1.14 FOR COMPLETE NOTES.



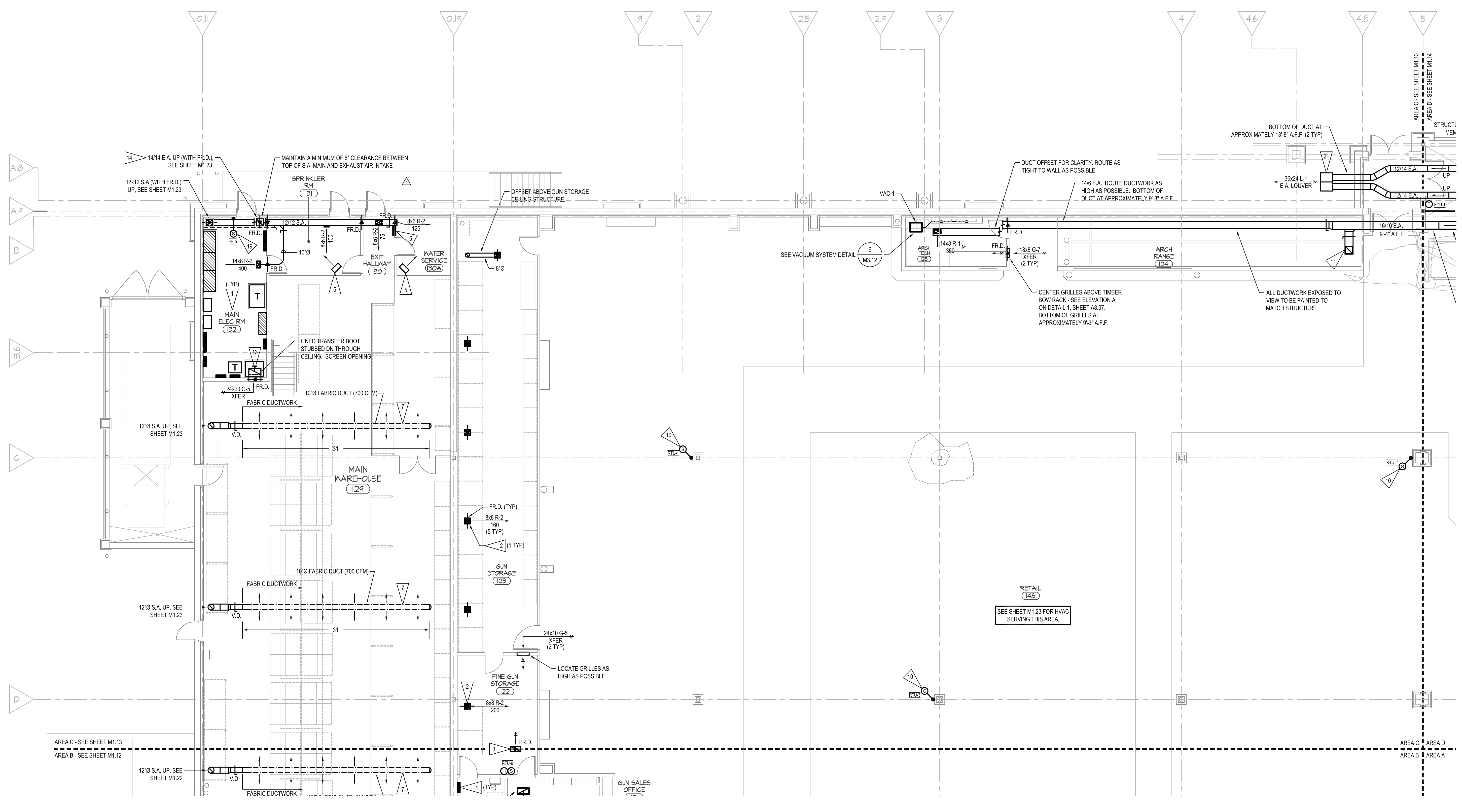
**Cabela's Retail Center**  
Tualatin, Oregon



Revisions:  
Permit Issue 10-03-13  
Rev 4, CCD 2 02-06-14

Drawing Name:  
PARTIAL FIRST FLOOR PLAN - HVAC - AREA B  
Project #: 12511  
Drawn By: NWS  
Date: 06 February 2014  
Sheet Number:

**M1.12**



**PARTIAL FIRST FLOOR PLAN - HVAC - AREA C**

0' 2' 4' 8' 16'

**GENERAL NOTES**

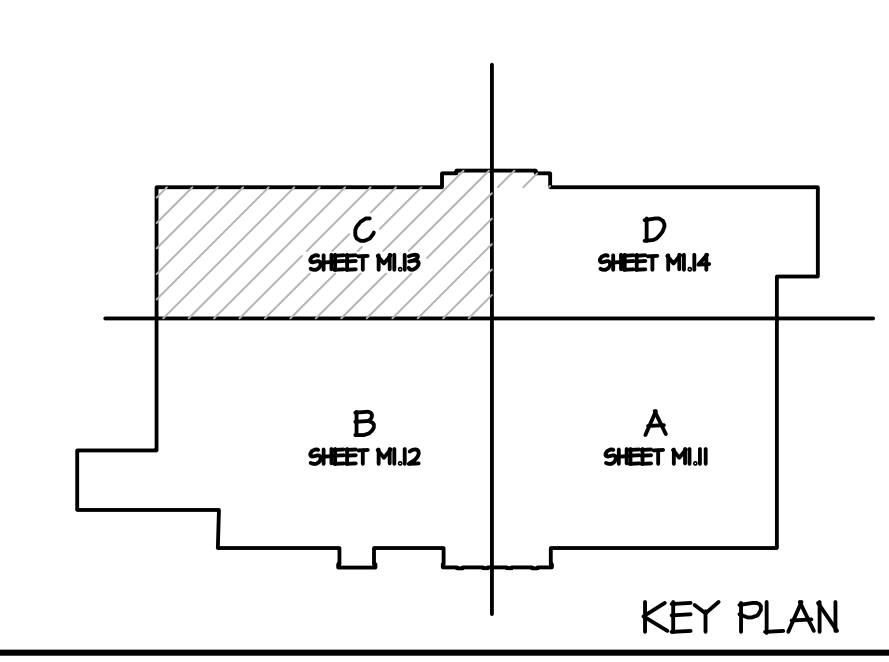
- DO NOT ROUTE DUCTWORK ABOVE ELECTRICAL PANELS. MAINTAIN ALL CODE REQUIRED CLEARANCES.
- COORDINATE ALL ROOF, WALL, AND FLOOR PENETRATIONS WITH GENERAL CONTRACTOR. SEAL PENETRATIONS OF EXTERIOR ENVELOPE WATER TIGHT. PROVIDE FIRE DAMPERS IN ALL DUCTS PENETRATING FIRE RATED WALLS. FIRE CAULK AROUND ALL PENETRATIONS THROUGH FIRE RATED WALLS.
- COORDINATE LOCATION OF DIFFUSERS, REGISTERS, AND GRILLES WITH SPRINKLERS, LIGHTS AND CEILING PLANS.
- UNLESS OTHERWISE NOTED, ALL SUPPLY / RETURN AIR RUNOUTS SHALL MATCH RESPECTIVE NECK SIZE. ALL RUNOUTS SHALL HAVE VOLUME DAMPERS. INSTALL ALL VOLUME DAMPERS ABOVE ACCESSIBLE CEILING OR IN OTHER ACCESSIBLE LOCATIONS.
- CONTRACTOR SHALL COORDINATE ALL DUCT ROUTING WITH ALL OTHER TRADES. CONTRACTOR SHALL PROVIDE ALL ADDITIONAL OFFSETS AND TRANSITIONS AS REQUIRED TO COMPLETE INSTALLATION AND AVOID CONFLICTS.
- MAINTAIN MANUFACTURER'S REQUIRED CLEARANCE AROUND ALL MECHANICAL EQUIPMENT TO ALLOW PROPER OPERATION AND EASY MAINTENANCE ACCESS.
- UNLESS NOTED OTHERWISE, LOCATE ALL DUCT AS HIGH AS POSSIBLE. UTILIZE JOIST SPACE AND OPEN WEBBING OF JOISTS WHEN POSSIBLE. LOCATE AIR OUTLETS SYMMETRICAL WITH ARCHITECTURAL / LIGHTING FEATURES.
- SEE DUCT FITTINGS DETAIL 5, SHEET M3.11.
- PROVIDE RETURN AIR BOOTS PER DETAIL 3, SHEET M3.12 FOR ALL GRILLES MARKED Q1 AND Q2.
- ⊙ REPRESENTS A TEMPERATURE SENSOR WITHOUT ADJUSTMENTS
  - ⊕ REPRESENTS A COMBINATION TEMPERATURE AND CO2 SENSOR
  - ⊖ REPRESENTS A THERMOSTAT WITH ADJUSTMENTS
  - ⊗ REPRESENTS A HUMIDITY SENSOR; PROVIDE COMBINATION TEMPERATURE / HUMIDITY SENSOR WHEN POSSIBLE.
- ROUGH-INS FOR THERMOSTATS / TEMPERATURE SENSORS BY ELECTRICAL CONTRACTOR - SEE ELECTRICAL PLANS.
- THERMOSTAT AND TEMPERATURE SENSOR LOCATIONS ARE SHOWN FOR CLARITY. LOCATE TEMPERATURE SENSORS ADJACENT TO DOORS, ELECTRICAL DEVICES, AND OTHER BUILDING COMPONENTS. DO NOT LOCATE SENSORS IN MIDDLE OF WALLS OR BEHIND DOOR SWINGS.
- SOLID LINE INDICATES SHEET METAL DUCTWORK
  - - - DASHED LINE INDICATES FABRIC DUCTWORK
- SEE ARCHITECTURAL SPECIFICATION SECTION 01 5000 "TEMPORARY FACILITIES AND CONTROLS" FOR FILTRATION REQUIREMENTS DURING TEMPORARY USE OF HVAC SYSTEMS PRIOR TO BUILDING TURNOVER.

**FLAG NOTES**

- NOTE: FLAG NOTES ARE COMMON TO SHEETS M1.11, M1.12, M1.13, & M1.14. NOT ALL FLAG NOTES MAY BE USED ON EACH SHEET.
- DO NOT ROUTE DUCTWORK ABOVE ELECTRICAL PANELS. MAINTAIN ALL CODE REQUIRED CLEARANCES.
  - LOCATE DIFFUSER AS HIGH AS POSSIBLE IN GUN STORAGE. ROUTE ASSOCIATED S.A. RUNOUT THROUGH CEILING STRUCTURE. PROVIDE FIRE DAMPER AT PENETRATION. COORDINATE EXACT LOCATION WITH STRUCTURE. SEE SHEET M1.23 FOR CONTINUATION.
  - ROUTE R.A. DUCTWORK THROUGH GUN STORAGE CEILING STRUCTURE. TERMINATE DUCT APPROXIMATELY 2' BELOW BOTTOM OF STRUCTURE. PROVIDE 1/2" MESH TO PROTECT DUCT OPENING. COORDINATE EXACT LOCATION WITH STRUCTURE. SEE SHEET M1.23 FOR CONTINUATION.
  - S.A. & R.A. MAINS UP. SEE SHEET M1.22 FOR CONTINUATION.
  - ELECTRIC UNIT HEATER. LOCATION SHOWN FOR CLARITY - SEE ELECTRICAL PLANS FOR EQUIPMENT SPECIFICATIONS AND EXACT LOCATION.
  - GAS FIREPLACE FLUE AND ROOF TERMINATION MATERIAL FURNISHED WITH FIREPLACE - SEE ARCHITECTURAL PLANS AND SPECIFICATIONS. FLUE AND ROOF TERMINATION INSTALLED BY MECHANICAL CONTRACTOR. INSTALL PER MANUFACTURER'S RECOMMENDATIONS, APPLICABLE CODE REQUIREMENTS, AND AUTHORITY HAVING JURISDICTION.
  - ROUTE FABRIC DUCTWORK IN JOIST SPACE. COORDINATE EXACT LOCATION WITH STRUCTURE. FABRIC DUCT AIR DISTRIBUTION SHALL BE DESIGNED BY DUCT MANUFACTURER DUCT SOUL. CENTER LINE OF DUCT LOCATED APPROXIMATELY 10'-6" ABOVE FINISHED FLOOR. EVENLY DISTRIBUTE AIRFLOW TO OCCUPIED SPACES ON BOTH SIDES OF DUCTWORK. GENERAL DUCT CONFIGURATION SHALL MATCH CONFIGURATION INDICATED ON PLAN. INSTALL FABRIC DUCT SYSTEM PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL NECESSARY SUPPORTS, FITTINGS, AND ACCESSORIES AS REQUIRED FOR A COMPLETE SYSTEM. SEE DETAILS 8 AND 9, SHEET M3.12.
  - INSTALL DUCT HEATER PER MANUFACTURER'S RECOMMENDATIONS. MAINTAIN CODE REQUIRED CLEARANCE IN FRONT OF CONTROL PANEL. SEE DETAIL 2, SHEET M3.12.
  - CENTER EXHAUST GRILLE IN COFFER SPACE. SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR DIMENSIONS.
  - LOCATE SENSOR ON COLUMN - SEE COLUMN DETAILS ON SHEET AT.05 FOR LOCATION / ELEVATION REQUIREMENTS.
  - 16"10 E.A. WITH 14" x 14" SCREENED OPENING ON TOP. LOCATE DUCTWORK AS HIGH AS POSSIBLE IN ARCHERY RANGE 124 - BOTTOM OF DUCT AT APPROXIMATELY 9'-7" A.F.F. BALANCE TO 1600 CFM.
  - PROVIDE HEAVY DUTY, LOCKABLE PLASTIC THERMOSTAT COVER.
  - LOCATE TRANSFER GRILLE IN JOIST SPACE AS HIGH AS POSSIBLE.
  - ROUTE E.A. DUCTWORK INTO ELECTRICAL ROOM. TERMINATE DUCT APPROXIMATELY 2' BELOW CEILING. PROVIDE 1/2" MESH TO PROTECT DUCT OPENING. PROVIDE FIRE DAMPER AT FLOOR PENETRATION.
  - TRANSITION DUCT UP INTO JOIST SPACE. ROUTE AS HIGH AS POSSIBLE.
  - TRANSITION DUCT UP INTO JOIST SPACE TO ACCOMMODATE DUCT CROSSING.
  - LOCATE DIFFUSER IN CENTER OF OPEN TRELIS SPACE. COORDINATE WITH GENERAL CONTRACTOR.
  - ROUTE DUCT THROUGH EXTERIOR WALL INTO ATTIC SPACE ABOVE EXIT VESTIBULE. TRANSITION DOWN INTO CEILING SPACE ABOVE VESTIBULE. PROVIDE INSULATED MOUNTING PLATE AND HEAVY DUTY, LOCKABLE PLASTIC THERMOSTAT COVER.
  - SUPPORT IN LINE EXHAUST FANS FROM STRUCTURAL STEEL. SEE DETAIL 11, M3.11. MAINTAIN ALL MANUFACTURER'S RECOMMENDED CLEARANCES.
  - INSTALL LOUVER IN CANOPY CEILING. CENTER IN COFFER SPACE.
  - SUPPORT FCU-1 FROM STRUCTURAL STEEL. SEE DETAIL 10, M3.12. MAINTAIN ALL MANUFACTURER'S RECOMMENDED CLEARANCES. COORDINATE INSTALLATION WITH AQUARIUM CONTRACTOR.
  - ROUTE REFRIGERANT PIPING TO FCU-1 AND WATER FEATURE. EVAPORATOR UNITS. FIELD VERIFY LOCATION OF WATER FEATURE EVAPORATOR UNITS. SIZE REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL NECESSARY REFRIGERANT SPECIALTIES AS RECOMMENDED BY THE MANUFACTURER.
  - PROVIDE TRANSFER GRILLE IN MOUNTAIN SHELL TO ALLOW AIR TRANSFER FROM THE SALES FLOOR INTO EQUIPMENT ROOM 128A. COORDINATE WITH MOUNTAIN CONTRACTOR TO LOCATE GRILLE IN LOCATION NOT EXPOSED TO CUSTOMER VIEW. TRANSFER GRILLE SHALL ACCOMMODATE 1,000 CFM.

**SEISMIC DESIGN REQ'TS**

- SEE SHEET M1.14 FOR COMPLETE NOTES.



## SEISMIC DESIGN REQUIREMENTS

- BUILDING - SEISMIC DESIGN CATEGORY D - SEE STRUCTURAL PLANS FOR ADDITIONAL SEISMIC DESIGN INFORMATION. SEE SPECIFICATION SECTION 23.0550.
- THE FOLLOWING ITEMS ARE TAKEN DIRECTLY FROM THE 2009 INTERNATIONAL BUILDING CODE AND THE AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) STANDARD 7-10. THE CONTRACTOR SHALL REFER TO THE ABOVE FOR ADDITIONAL INFORMATION, EXCEPTIONS, AND FURTHER DESCRIPTIONS. THE CONTRACTOR SHALL ADHERE TO REQUIREMENTS AND AS SUCH, SHALL BE INCLUDED WITHIN THE BID.
  - 2009 IBC, 1613.1: EVERY STRUCTURE, AND PORTION THEREOF, INCLUDING NONSTRUCTURAL COMPONENTS THAT ARE PERMANENTLY ATTACHED TO STRUCTURES AND THEIR SUPPORTS AND ATTACHMENTS, SHALL BE DESIGNED AND CONSTRUCTED TO RESIST THE EFFECTS OF EARTHQUAKE MOTIONS IN ACCORDANCE WITH ASCE 7, EXCLUDING CHAPTER 14 AND APPENDIX 11A.
  - 2009 IBC, 1709.1: CONTRACTOR RESPONSIBILITY. EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND-OR SEISMIC-FORCE-RESISTING SYSTEM, DESIGNATED SEISMIC SYSTEM OR A WIND-OR SEISMIC-RESISTING COMPONENT LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTION.
- ASCE 7-10, 13.1.3 - COMPONENT IMPORTANCE FACTOR: ALL COMPONENTS SHALL BE ASSIGNED A COMPONENT IMPORTANCE FACTOR AS INDICATED IN THIS SECTION. THE COMPONENT IMPORTANCE FACTOR,  $I_p$ , SHALL BE TAKEN AS 1.5 IF ANY OF THE FOLLOWING CONDITIONS APPLY:
  - THE COMPONENT IS REQUIRED TO FUNCTION FOR LIFE-SAFETY PURPOSES AFTER AN EARTHQUAKE, INCLUDING FIRE PROTECTION, SPRINKLER SYSTEMS AND EGRESS STAIRWAYS.
  - THE COMPONENT CONVEYS, SUPPORTS, OR OTHERWISE CONTAINS TOXIC, HIGHLY TOXIC, OR EXPLOSIVE SUBSTANCES WHERE THE QUANTITY OF THE MATERIAL EXCEEDS A THRESHOLD QUANTITY ESTABLISHED BY THE AUTHORITY HAVING JURISDICTION AND IS SUFFICIENT TO POSE A THREAT TO THE PUBLIC IF RELEASED.
  - THE COMPONENT IS IN OR ATTACHED TO A RISK CATEGORY IV STRUCTURE AND IT IS NEEDED FOR CONTINUED OPERATION OF THE FACILITY OR ITS FAILURE COULD IMPAIR THE CONTINUED OPERATION OF THE FACILITY.
  - THE COMPONENT CONVEYS, SUPPORTS, OR OTHERWISE CONTAINS HAZARDOUS SUBSTANCES AND IS ATTACHED TO A STRUCTURE OR PORTION THEREOF CLASSIFIED BY THE AUTHORITY HAVING JURISDICTION AS A HAZARDOUS OCCUPANCY.

ALL OTHER COMPONENTS SHALL BE ASSIGNED A COMPONENT IMPORTANCE FACTOR,  $I_p$ , EQUAL TO 1.0.
- ASCE 7-10, 13.1.4 - EXEMPTIONS: THE FOLLOWING NONSTRUCTURAL COMPONENTS ARE EXEMPT FROM THE REQUIREMENTS OF THIS SECTION:
 

EXEMPTION #6: MECHANICAL AND ELECTRICAL COMPONENTS IN SEISMIC DESIGN CATEGORIES D, E, OR F WHERE ALL OF THE FOLLOWING APPLY:

  - THE COMPONENT IMPORTANCE FACTOR,  $I_p$ , IS EQUAL TO 1.0.
  - THE COMPONENT IS POSITIVELY ATTACHED TO THE STRUCTURE.
  - FLEXIBLE CONNECTIONS ARE PROVIDED BETWEEN COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT; AND EITHER
    - THE COMPONENT WEIGHS 400 LBS OR LESS AND HAS A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR LEVEL; OR
    - THE COMPONENT WEIGHS 20 LBS OR LESS OR, IN THE CASE OF A DISTRIBUTED SYSTEM, 5 LBS / FT OR LESS.

BASED ON THE INFORMATION ABOVE, THE FIRE SPRINKLER SYSTEM AND NATURAL GAS SYSTEM ARE ASSIGNED A COMPONENT IMPORTANCE FACTOR,  $I_p$ , EQUAL TO 1.5. ALL OTHER SYSTEMS  $I_p$  IS EQUAL TO 1.0. CONTRACTOR SHALL VERIFY COMPONENT IMPORTANCE FACTOR DESIGNATIONS WITH AUTHORITY HAVING JURISDICTION.

REFER TO ASCE 7-10, 13.6 - MECHANICAL AND ELECTRICAL COMPONENTS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

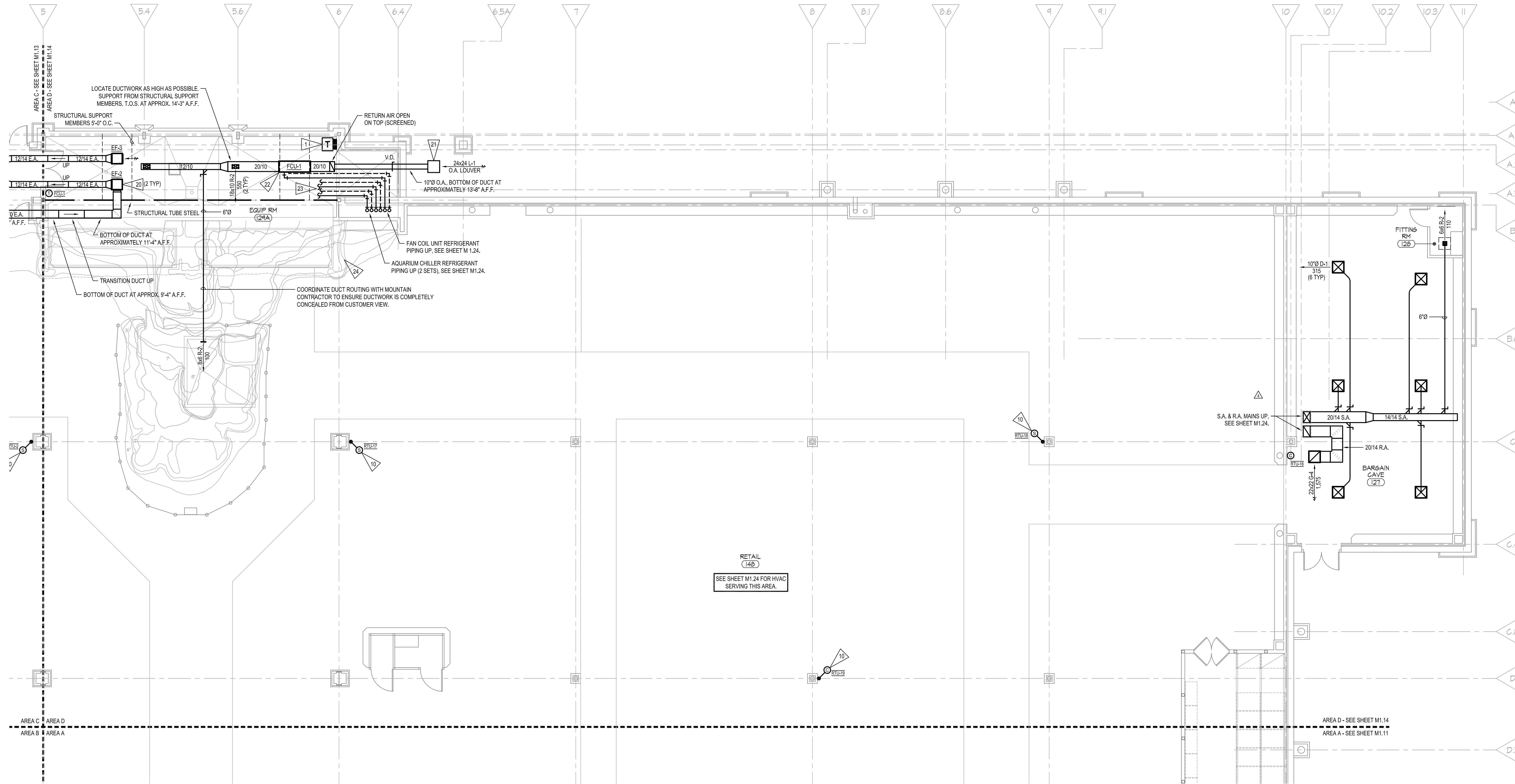
SEISMIC DESIGN SHALL MEET ALL OTHER LOCAL CODE AND AUTHORITY HAVING JURISDICTION REQUIREMENTS.

## GENERAL NOTES

- DO NOT ROUTE DUCTWORK ABOVE ELECTRICAL PANELS. MAINTAIN ALL CODE REQUIRED CLEARANCES.
- COORDINATE ALL ROOF, WALL, AND FLOOR PENETRATIONS WITH GENERAL CONTRACTOR. SEAL PENETRATIONS OF EXTERIOR ENVELOPE WATER/TIGHT. PROVIDE FIRE DAMPERS IN ALL DUCTS PENETRATING FIRE RATED WALLS. FIRE CALK AROUND ALL PENETRATIONS THROUGH FIRE RATED WALLS.
- COORDINATE LOCATION OF DIFFUSERS, REGISTERS, AND GRILLES WITH SPRINKLERS, LIGHTS AND CEILING PLANS.
- UNLESS OTHERWISE NOTED, ALL SUPPLY / RETURN AIR RUNOUTS SHALL MATCH RESPECTIVE NEAR SIZE. ALL RUNOUTS SHALL HAVE ULTRAVIOLET DAMPERS. INSTALL ALL VOLUME DAMPERS ABOVE ACCESSIBLE CEILING OR IN OTHER ACCESSIBLE LOCATIONS.
- CONTRACTOR SHALL COORDINATE ALL DUCT ROUTING WITH ALL OTHER TRADES. CONTRACTOR SHALL PROVIDE ALL ADDITIONAL OFFSETS AND TRANSITIONS AS REQUIRED TO COMPLETE INSTALLATION AND AVOID CONFLICTS.
- MAINTAIN MANUFACTURER'S REQUIRED CLEARANCE AROUND ALL MECHANICAL EQUIPMENT TO ALLOW PROPER OPERATION AND EASY MAINTENANCE ACCESS.
- UNLESS NOTED OTHERWISE, LOCATE ALL DUCT AS HIGH AS POSSIBLE. UTILIZE JOIST SPACE AND OPEN WEBBING OF JOISTS WHEN POSSIBLE. LOCATE AIR OUTLETS SYMMETRICAL WITH ARCHITECTURAL / LIGHTING FEATURES.
- SEE DUCT FITTINGS DETAIL 5, SHEET M3.11.
- PROVIDE RETURN AIR BOOTS PER DETAIL 3, SHEET M3.12 FOR ALL GRILLES MARKED S-1 AND S-2.
- ⊙ REPRESENTS A TEMPERATURE SENSOR WITHOUT ADJUSTMENTS
  - ⊙ REPRESENTS A COMBINATION TEMPERATURE AND CO2 SENSOR
  - ⊙ REPRESENTS A THERMOSTAT WITH ADJUSTMENTS
  - ⊙ REPRESENTS A HUMIDITY SENSOR. PROVIDE COMBINATION TEMPERATURE / HUMIDITY SENSOR WHEN POSSIBLE.
- ROUGH-INS FOR THERMOSTATS / TEMPERATURE SENSORS BY ELECTRICAL CONTRACTOR - SEE ELECTRICAL PLANS.
- THERMOSTAT AND TEMPERATURE SENSOR LOCATIONS ARE SHOWN FOR CLARITY. LOCATE TEMPERATURE SENSORS ADJACENT TO DOORS, ELECTRICAL DEVICES, AND OTHER BUILDING COMPONENTS. DO NOT LOCATE SENSORS IN MIDDLE OF WALLS OR BEHIND DOOR SWINGS.
- SOLID LINE INDICATES SHEET METAL DUCTWORK
  - DASHED LINE INDICATES FABRIC DUCTWORK
- SEE ARCHITECTURAL SPECIFICATION SECTION 01 5000 "TEMPORARY FACILITIES AND CONTROLS" FOR FILTRATION REQUIREMENTS DURING TEMPORARY USE OF HVAC SYSTEMS PRIOR TO BUILDING TURNOVER.

## FLAG NOTES

- NOTE: FLAG NOTES ARE COMMON TO SHEETS M1.11, M1.12, M1.13, & M1.14. NOT ALL FLAG NOTES MAY BE USED ON EACH SHEET.
- DO NOT ROUTE DUCTWORK ABOVE ELECTRICAL PANELS. MAINTAIN ALL CODE REQUIRED CLEARANCES.
  - LOCATE DIFFUSER AS HIGH AS POSSIBLE IN GUN STORAGE. ROUTE ASSOCIATED S.A. RUNOUT THROUGH CEILING STRUCTURE. PROVIDE FIRE DAMPER AT PENETRATION. COORDINATE EXACT LOCATION WITH STRUCTURE. SEE SHEET M1.23 FOR CONTINUATION.
  - ROUTE R.A. DUCTWORK THROUGH GUN STORAGE CEILING STRUCTURE. TERMINATE DUCT APPROXIMATELY 2" BELOW BOTTOM OF STRUCTURE. PROVIDE 1/2" MESH TO PROTECT DUCT OPENING. COORDINATE EXACT LOCATION WITH STRUCTURE. SEE SHEET M1.23 FOR CONTINUATION.
  - S.A. & R.A. MAINS UP. SEE SHEET M1.22 FOR CONTINUATION.
  - ELECTRIC UNIT HEATER. LOCATION SHOWN FOR CLARITY - SEE ELECTRICAL PLANS FOR EQUIPMENT SPECIFICATIONS AND EXACT LOCATION.
  - GAS FIREPLACE FLUE AND ROOF TERMINATION MATERIAL FURNISHED WITH FIREPLACE - SEE ARCHITECTURAL PLANS AND SPECIFICATIONS. FLUE AND ROOF TERMINATION INSTALLED BY MECHANICAL CONTRACTOR. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. APPLICABLE CODE REQUIREMENTS, AND AUTHORITY HAVING JURISDICTION.
  - ROUTE FABRIC DUCTWORK IN JOIST SPACE. COORDINATE EXACT LOCATION WITH STRUCTURE. FABRIC DUCT AIR DISTRIBUTION SHALL BE DESIGNED BY DUCT MANUFACTURER (DUCT SOX). CENTER LINE OF DUCT LOCATED APPROXIMATELY 10'-0" ABOVE FINISHED FLOOR. EVENLY DISTRIBUTE AIRFLOW TO OCCUPIED SPACES ON BOTH SIDES OF DUCTWORK. GENERAL DUCT CONFIGURATION SHALL MATCH CONFIGURATION INDICATED ON PLAN. INSTALL FABRIC DUCT SYSTEM PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL NECESSARY SUPPORTS, FITTINGS, AND ACCESSORIES AS REQUIRED FOR A COMPLETE SYSTEM. SEE DETAILS 8 AND 9, SHEET M3.12.
  - INSTALL DUCT HEATER PER MANUFACTURER'S RECOMMENDATIONS. MAINTAIN CODE REQUIRED CLEARANCE IN FRONT OF CONTROL PANEL. SEE DETAIL 2, SHEET M3.12.
  - CENTER EXHAUST GRILLE IN COFFER SPACE. SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR DIMENSIONS.
  - LOCATE SENSOR ON COLUMN - SEE COLUMN DETAILS ON SHEET A7.05 FOR LOCATION / ELEVATION REQUIREMENTS.
  - 16'10" E.A. WITH 14" x 14" SCREENED OPENING ON TOP. LOCATE DUCTWORK AS HIGH AS POSSIBLE IN ARCHERY RANGE 124 - BOTTOM OF DUCT AT APPROXIMATELY 9'-7" A.F.F. BALANCE TO 650 CFM.
  - PROVIDE HEAVY DUTY, LOCKABLE PLASTIC THERMOSTAT COVER.
  - LOCATE TRANSFER GRILLE IN JOIST SPACE AS HIGH AS POSSIBLE.
  - ROUTE E.A. DUCTWORK INTO ELECTRICAL ROOM. TERMINATE DUCT APPROXIMATELY 2" BELOW CEILING. PROVIDE 1/2" MESH TO PROTECT DUCT OPENING. PROVIDE FIRE DAMPER AT FLOOR PENETRATION.
  - TRANSITION DUCT UP INTO JOIST SPACE. ROUTE AS HIGH AS POSSIBLE.
  - TRANSITION DUCT UP INTO JOIST SPACE TO ACCOMMODATE DUCT CROSSING.
  - LOCATE DIFFUSER IN CENTER OF OPEN TRELIS SPACE. COORDINATE WITH GENERAL CONTRACTOR.
  - ROUTE DUCT THROUGH EXTERIOR WALL INTO ATTIC SPACE ABOVE EXIT VESTIBULE. TRANSITION DOWN INTO CEILING SPACE ABOVE VESTIBULE.
  - PROVIDE INSULATED MOUNTING PLATE AND HEAVY DUTY, LOCKABLE PLASTIC THERMOSTAT COVER.
  - SUPPORT INLINE EXHAUST FANS FROM STRUCTURAL STEEL. SEE DETAIL 11, M3.11. MAINTAIN ALL MANUFACTURER'S RECOMMENDED CLEARANCES.
  - INSTALL LOUVER IN CANOPY CEILING. CENTER IN COFFER SPACE.
  - SUPPORT FCU-1 FROM STRUCTURAL STEEL. SEE DETAIL 10, M3.12. MAINTAIN ALL MANUFACTURER'S RECOMMENDED CLEARANCES. COORDINATE INSTALLATION WITH AQUARIUM CONTRACTOR.
  - ROUTE REFRIGERANT PIPING TO FCU-1 AND WATER FEATURE. COORDINATE WITH MOUNTAIN CONTRACTOR TO LOCATE GRILLE IN LOCATION NOT EXPOSED TO CUSTOMER VIEW. TRANSFER GRILLE SHALL ACCOMMODATE 1,000 CFM.
  - PROVIDE TRANSFER GRILLE IN MOUNTAIN SHELL TO ALLOW AIR TRANSFER FROM THE SALES FLOOR INTO EQUIPMENT ROOM 129A. COORDINATE WITH MOUNTAIN CONTRACTOR TO LOCATE GRILLE IN LOCATION NOT EXPOSED TO CUSTOMER VIEW. TRANSFER GRILLE SHALL ACCOMMODATE 1,000 CFM.

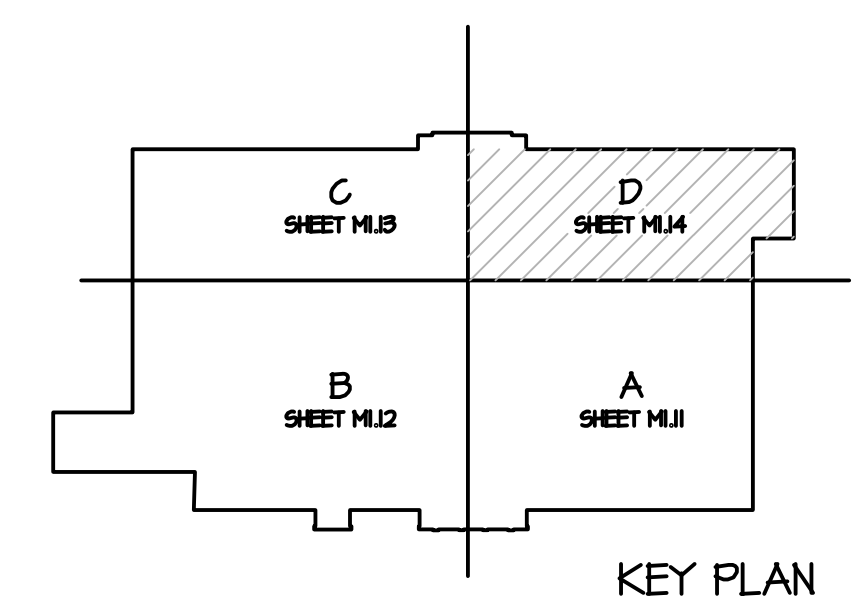


PARTIAL FIRST FLOOR PLAN - HVAC - AREA D

0' 2' 4' 8' 16'

## SEISMIC DESIGN REQ'TS

- SEE SHEET M1.14 FOR COMPLETE NOTES.



**Cabela's**  
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George M. Morrissey  
OR 0000000000  
EXPIRES 12-31-14  
02-06-14

Revisions:  
Permit Issue 10-03-13

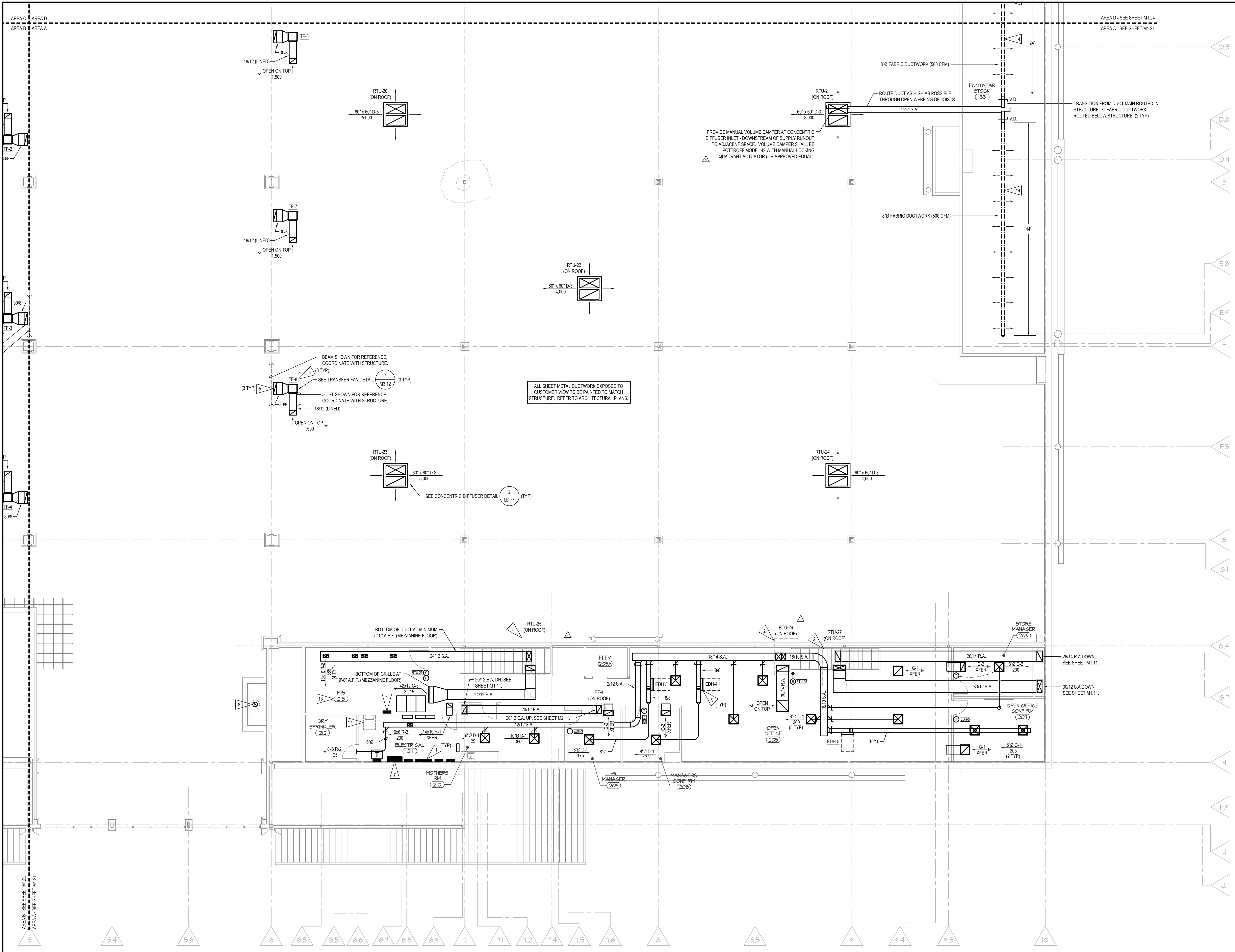
Rev 4, CCD 2 02-06-14

Drawing Name:  
PARTIAL FIRST FLOOR PLAN - HVAC - AREA D

Project #: 12511  
Drawn By: NWS  
Date: 06 February 2014

Sheet Number:

**M1.14**



**GENERAL NOTES**

- DO NOT ROUTE DUCTWORK ABOVE ELECTRICAL PANELS. MAINTAIN ALL CODE REQUIRED CLEARANCES.
- COORDINATE ALL ROOF, WALL AND FLOOR PENETRATIONS WITH GENERAL CONTRACTOR. SEAL PENETRATIONS OF EXTERIOR ENVELOPE WATER TIGHT. PROVIDE FIRE DAMPERS IN ALL DUCTS PENETRATING FIRE RATED WALLS. FIRE CALK AROUND ALL PENETRATIONS THROUGH FIRE RATED WALLS.
- COORDINATE LOCATION OF DIFFUSERS, REGISTERS, AND GRILLES WITH SPRINKLERS, LIGHTS AND CEILING PLANS.
- UNLESS OTHERWISE NOTED, ALL SUPPLY RETURN AIR RUNOUTS SHALL MATCH RESPECTIVE NECK SIZE. ALL RUNOUTS SHALL HAVE VOLUME DAMPERS. INSTALL ALL VOLUME DAMPERS ABOVE ACCESSIBLE CEILING OR IN OTHER ACCESSIBLE LOCATIONS.
- CONTRACTOR SHALL COORDINATE ALL DUCT ROUTING WITH ALL OTHER TRADES. CONTRACTOR SHALL PROVIDE ALL ADDITIONAL GREGGIES AND TRANSITIONS AS REQUIRED TO COMPLETE INSTALLATION AND AVOID CONFLICTS.
- MAINTAIN MANUFACTURER'S REQUIRED CLEARANCE AROUND ALL MECHANICAL EQUIPMENT TO ALLOW PROPER OPERATION AND EASY MAINTENANCE ACCESS.
- UNLESS NOTED OTHERWISE, LOCATE ALL DUCT AS HIGH AS POSSIBLE. UTILIZE JOIST SPACE AND OPEN WEBBING OF JOISTS WHEN POSSIBLE. LOCATE AIR OUTLETS SYMMETRICAL WITH ARCHITECTURAL LIGHTING FEATURES.
- SEE DUCT FITTINGS DETAIL 5, SHEET M3.11.
- PROVIDE RETURN AIR BOOTS PER DETAIL 3, SHEET M3.12 FOR ALL GRILLES MARKED G-1 AND G-2.
- ⊙ REPRESENTS A TEMPERATURE SENSOR WITHOUT ADJUSTMENTS
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  - ⊙ REPRESENTS A THERMOSTAT WITH ADJUSTMENTS
  - ⊙ REPRESENTS A HUMIDITY SENSOR PROVIDE COMBINATION TEMPERATURE / HUMIDITY SENSOR WHEN POSSIBLE
- ROUGH-INS FOR THERMOSTATS / TEMPERATURE SENSORS BY ELECTRICAL CONTRACTOR - SEE ELECTRICAL PLANS.
- THERMOSTAT AND TEMPERATURE SENSOR LOCATIONS ARE SHOWN FOR CLARITY. LOCATE TEMPERATURE SENSORS ADJACENT TO DOORS, ELECTRICAL DEVICES, AND OTHER BUILDING COMPONENTS. DO NOT LOCATE SENSORS IN MIDDLE OF WALLS OR BEHIND DOOR SWINGS.
- SOLID LINE INDICATES SHEET METAL DUCTWORK
  - DASHED LINE INDICATES FABRIC DUCTWORK
- SEE ARCHITECTURAL SPECIFICATION SECTION 01 5000 "TEMPORARY FACILITIES AND CONTROLS" FOR FILTRATION REQUIREMENTS DURING TEMPORARY USE OF HVAC SYSTEMS PRIOR TO BUILDING TURNOVER.

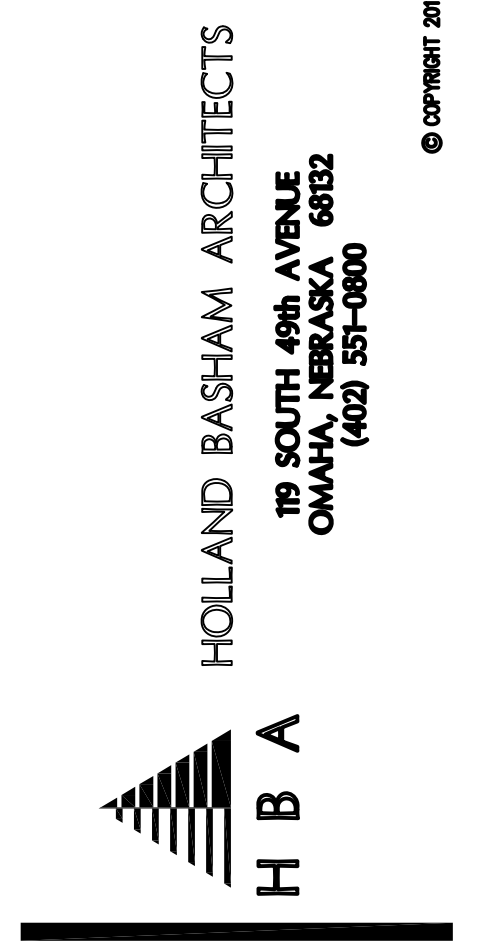
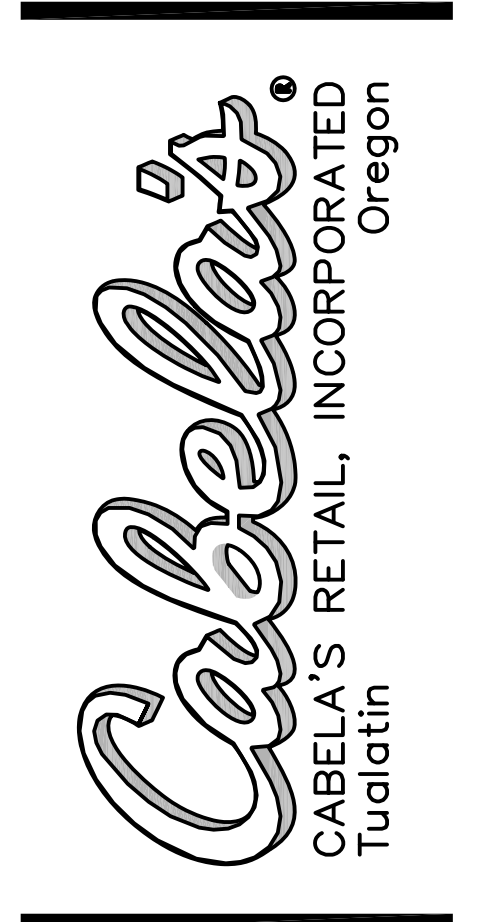
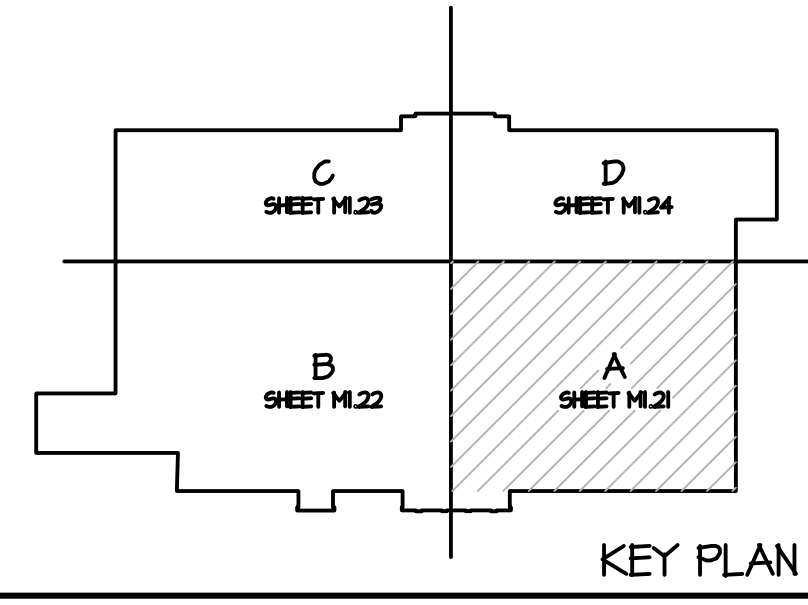
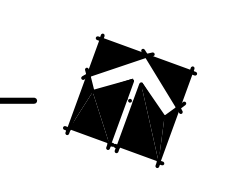
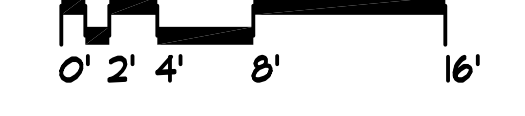
**FLAG NOTES**

- NOTE: FLAG NOTES ARE COMMON TO SHEETS M1.21, M1.22, M1.23, & M1.24. NOT ALL FLAG NOTES MAY BE USED ON EACH SHEET.
- DO NOT ROUTE DUCTWORK ABOVE ELECTRICAL PANELS. MAINTAIN ALL CODE REQUIRED CLEARANCES.
  - CONNECT S.A. AND R.A. DUCTWORK TO ROOFTOP UNIT OPENINGS. TRANSITION AS REQUIRED. VERIFY EXACT SIZE AND LOCATION OF RTU OPENINGS WITH ACTUAL UNIT PROVIDED AND STRUCTURE. SEE DETAIL 1, SHEET M3.11 FOR DUCT CONNECTION REQUIREMENTS.
  - S.A. & R.A. MANS DOWN. SEE SHEET M1.12 FOR CONTINUATION.
  - LOCATE TRANSFER FAN AS HIGH AS POSSIBLE IN JOIST SPACE - SEE DETAIL 7, SHEET M3.12 FOR ADDITIONAL INSTALLATION NOTES.
  - 308 TRANSFER DUCT UP IN SOFFIT TO VALVE LEADS - SEE DETAIL 7, SHEET M3.12 FOR ADDITIONAL INSTALLATION NOTES.
  - MAINTAIN REQUIRED CLEARANCE TO MEZZANINE LIFT GATE.
  - PROPOSED LOCATION OF TEMPERATURE CONTROL PANEL. COORDINATE EXACT LOCATION AND REQUIRED POWER CONNECTION WITH ELECTRICAL CONTRACTOR.
  - GAS FIREPLACE FLUE AND ROOF TERMINATION MATERIAL FURNISHED WITH FIREPLACE - SEE ARCHITECTURAL PLANS AND SPECIFICATIONS. FLUE AND ROOF TERMINATION INSTALLED BY MECHANICAL CONTRACTOR. INSTALL PER MANUFACTURER'S RECOMMENDATIONS, APPLICABLE CODE REQUIREMENTS, AND AUTHORITY HAVING JURISDICTION.
  - INSTALL DUCT HEATER PER MANUFACTURER'S RECOMMENDATIONS. MAINTAIN CODE REQUIRED CLEARANCE IN FRONT OF CONTROL PANEL. SEE DETAIL 2, SHEET M3.12.
  - ROUTE REFRIGERANT PIPING TO AIR-COOLED CONDENSING UNIT ON ROOF. SEE SHEET M2.11 (AC-3) OR M2.12 (AC-1 & AC-2). SIZE REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL NECESSARY REFRIGERANT SPECIALTIES AS RECOMMENDED BY THE MANUFACTURER.
  - LOCATE HIGH WALL SPLIT SYSTEM EVAPORATOR UNIT AS HIGH AS POSSIBLE. COORDINATE EXACT LOCATION WITH STRUCTURE AND EQUIPMENT. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. MAINTAIN ALL REQUIRED CLEARANCES. SEE DETAIL 4, SHEET M3.12.
  - ROUTE REFRIGERANT PIPING UP THROUGH ROOF PIPING HOOD. SEE DETAIL 7, SHEET M3.11.
  - DO NOT ROUTE OR LOCATE ANY PIPING / DUCTWORK IN OR ABOVE THE MIS ROOM WHICH DOES NOT DIRECTLY SERVE A FUNCTION IN THE MIS ROOM. ALL PIPING / DUCTWORK NOT RELATED TO THE MIS ROOM WILL BE RELOCATED AT THE CONTRACTOR'S EXPENSE.
  - ROUTE FABRIC DUCTWORK LEVEL, AS HIGH AS POSSIBLE BELOW STRUCTURE. FABRIC DUCT AIR DISTRIBUTION SHALL BE DESIGNED BY DUCT MANUFACTURER (DUCT SOX). CENTER LINE OF DUCT LOCATED APPROXIMATELY 20" ABOVE FINISHED FLOOR. DISTRIBUTE ALL AIRFLOW DOWN TO OCCUPIED SPACE. GENERAL DUCT CONFIGURATION SHALL MATCH CONFIGURATION INDICATED ON PLAN. INSTALL FABRIC DUCT SYSTEM PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL NECESSARY SUPPORTS, FITTINGS, AND ACCESSORIES AS REQUIRED FOR A COMPLETE SYSTEM. SEE DETAILS 8 AND 9, SHEET M3.12.
  - PROVIDE REFRIGERANT PIPING FROM AQUARIUM AIR-COOLED CONDENSING UNIT ON ROOF TO AQUARIUM CHILLER. PROVIDE REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL NECESSARY REFRIGERANT SPECIALTIES AS RECOMMENDED BY THE MANUFACTURER.
  - AC-1, AC-2 AND AC-3 CONTROLLED BY MANUFACTURER FURNISHED THERMOSTAT. PROVIDE DDC TEMPERATURE SENSOR FOR ALARM PURPOSES.
  - MAINTAIN REQUIRED CLEARANCE AROUND ROOF HATCH.
  - ROUTE FABRIC DUCTWORK IN JOIST SPACE. COORDINATE EXACT LOCATION WITH STRUCTURE. FABRIC DUCT AIR DISTRIBUTION SHALL BE DESIGNED BY DUCT MANUFACTURER (DUCT SOX). CENTER LINE OF DUCT LOCATED APPROXIMATELY 13-6" ABOVE FINISHED MEZZANINE FLOOR. EVENLY DISTRIBUTE AIRFLOW TO OCCUPIED SPACES ON BOTH SIDES OF DUCTWORK. GENERAL DUCT CONFIGURATION SHALL MATCH CONFIGURATION INDICATED ON PLAN. INSTALL FABRIC DUCT SYSTEM PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL NECESSARY SUPPORTS, FITTINGS, AND ACCESSORIES AS REQUIRED FOR A COMPLETE SYSTEM. SEE DETAILS 8 AND 9, SHEET M3.12.
  - TRANSITION DUCTWORK UP INTO JOIST SPACE UTILIZING 45° ELBOWS. ROUTE DUCTWORK LEVEL AS HIGH AS POSSIBLE.

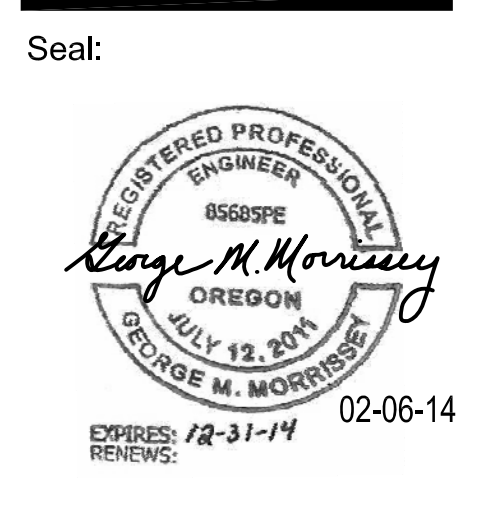
**SEISMIC DESIGN REQ'TS**

- SEE SHEET M1.14 FOR COMPLETE NOTES.

**PARTIAL MEZZANINE FLOOR PLAN - HVAC - AREA A**



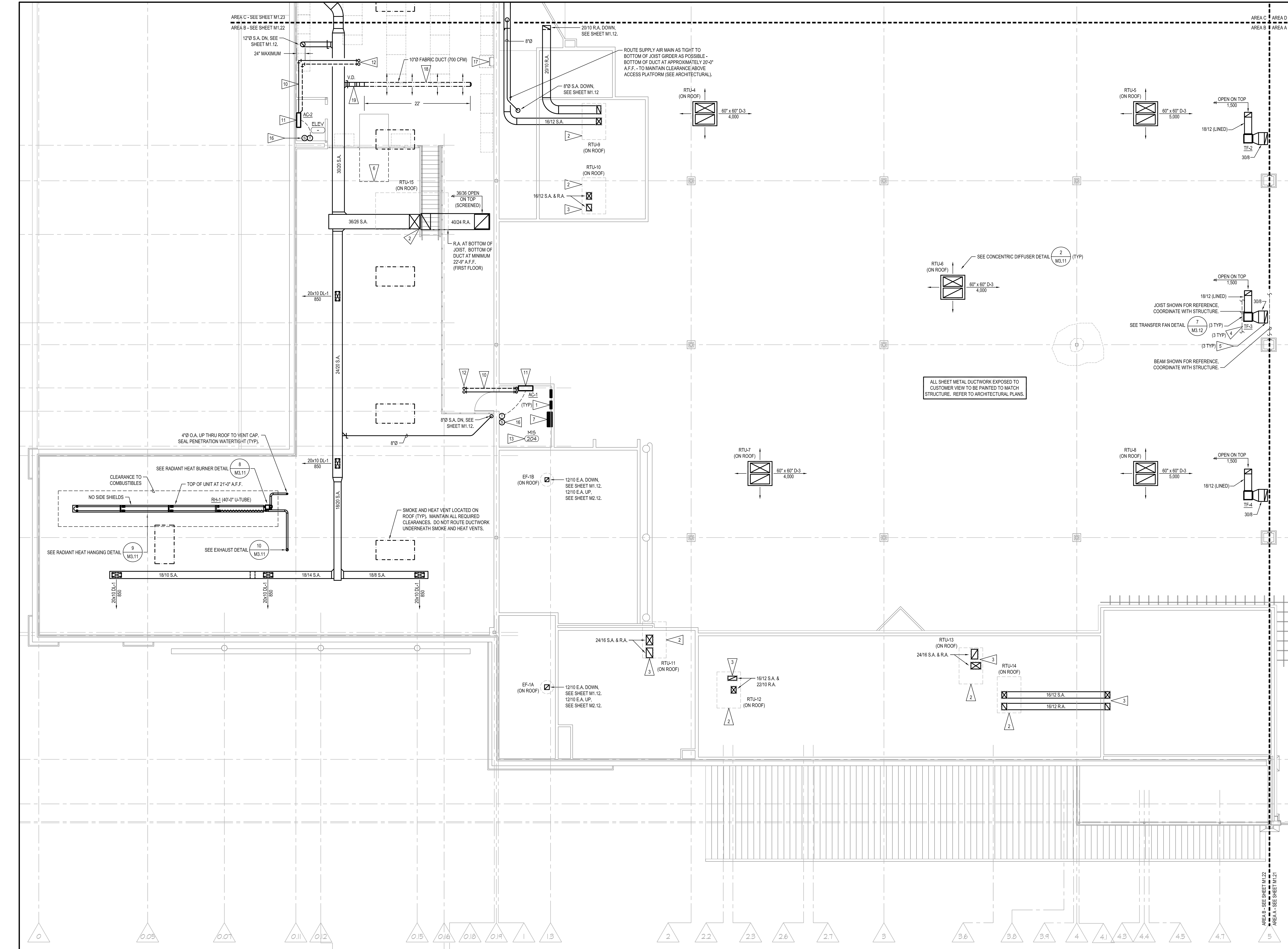
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Permit Issue 10-03-13  
Rev 4, CCD 2 02-06-14

Drawing Name:  
PARTIAL MEZZANINE FLOOR PLAN - HVAC - AREA A  
Project #: 12511  
Drawn By: NWS  
Date: 06 February 2014  
Sheet Number:

**M1.21**



### GENERAL NOTES

- DO NOT ROUTE DUCTWORK ABOVE ELECTRICAL PANELS. MAINTAIN ALL CODE REQUIRED CLEARANCES.
- COORDINATE ALL ROOF, WALL, AND FLOOR PENETRATIONS WITH GENERAL CONTRACTOR. SEAL PENETRATIONS OF EXTERIOR ENVELOPE WATER TIGHT. PROVIDE FIRE DAMPERS IN ALL DUCTS PENETRATING FIRE RATED WALLS. FIRE CAULK AROUND ALL PENETRATIONS THROUGH FIRE RATED WALLS.
- COORDINATE LOCATION OF DIFFUSERS, REGISTERS, AND GRILLES WITH SPRINKLERS, LIGHTS AND CEILING PLANS.
- UNLESS OTHERWISE NOTED, ALL SUPPLY RETURN AIR RUNOUTS SHALL MATCH RESPECTIVE NECK SIZE. ALL RUNOUTS SHALL HAVE VOLUME DAMPERS. INSTALL ALL VOLUME DAMPERS ABOVE ACCESSIBLE CEILING OR IN OTHER ACCESSIBLE LOCATIONS.
- CONTRACTOR SHALL COORDINATE ALL DUCT ROUTINGS WITH ALL OTHER TRADES. CONTRACTOR SHALL PROVIDE ALL ADDITIONAL OFFSETS AND TRANSITIONS AS REQUIRED TO COMPLETE INSTALLATION AND AVOID CONFLICTS.
- MAINTAIN MANUFACTURER'S REQUIRED CLEARANCE AROUND ALL MECHANICAL EQUIPMENT TO ALLOW PROPER OPERATION AND EASY MAINTENANCE ACCESS.
- UNLESS NOTED OTHERWISE, LOCATE ALL DUCT AS HIGH AS POSSIBLE UTILIZE JOIST SPACE AND OPEN WEBSING OF JOISTS WHEN POSSIBLE. LOCATE AIR OUTLETS SYMMETRICAL WITH ARCHITECTURAL LIGHTING FEATURES.
- SEE DUCT FITTINGS DETAIL 5, SHEET M3.11.
- PROVIDE RETURN AIR BOOTS PER DETAIL 3, SHEET M3.12 FOR ALL GRILLES MARKED G-1 AND G-2.
- ⊙ REPRESENTS A TEMPERATURE SENSOR WITHOUT ADJUSTMENTS
  - ⊙ REPRESENTS A COMBINATION TEMPERATURE AND CO2 SENSOR
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  - ⊙ REPRESENTS A HUMIDITY SENSOR PROVIDE COMBINATION TEMPERATURE / HUMIDITY SENSOR WHEN POSSIBLE.
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- THERMOSTAT AND TEMPERATURE SENSOR LOCATIONS ARE SHOWN FOR CLARITY. LOCATE TEMPERATURE SENSORS ADJACENT TO DOORS, ELECTRICAL DEVICES, AND OTHER BUILDING COMPONENTS. DO NOT LOCATE SENSORS IN MIDDLE OF WALLS OR BEHIND DOOR SWINGS.
- SOLID LINE INDICATES SHEET METAL DUCTWORK
  - DASHED LINE INDICATES FABRIC DUCTWORK
- SEE ARCHITECTURAL SPECIFICATION SECTION D1 5000 TEMPORARY FACILITIES AND CONTROLS FOR FILTRATION REQUIREMENTS DURING TEMPORARY USE OF HVAC SYSTEMS PRIOR TO BUILDING TURNOVER.

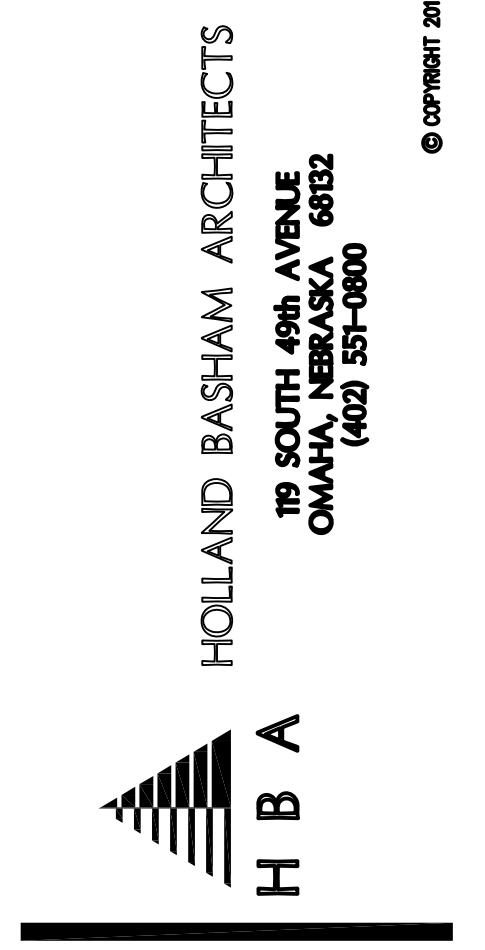
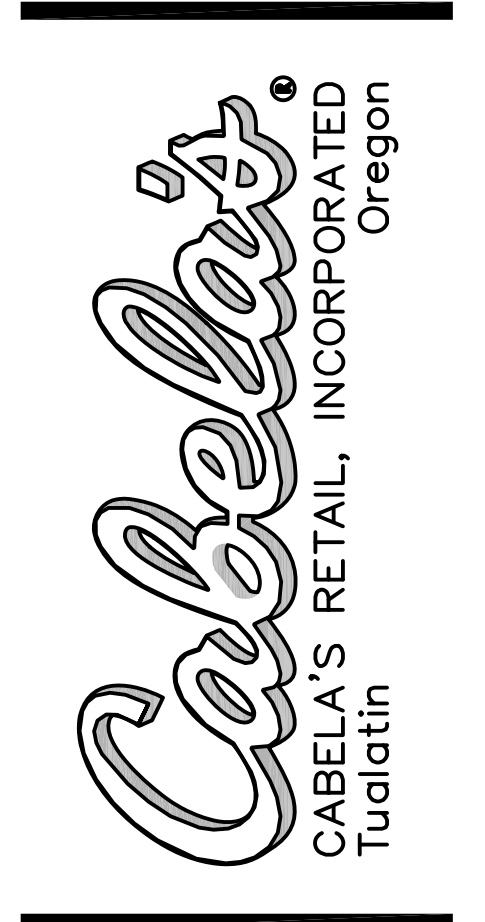
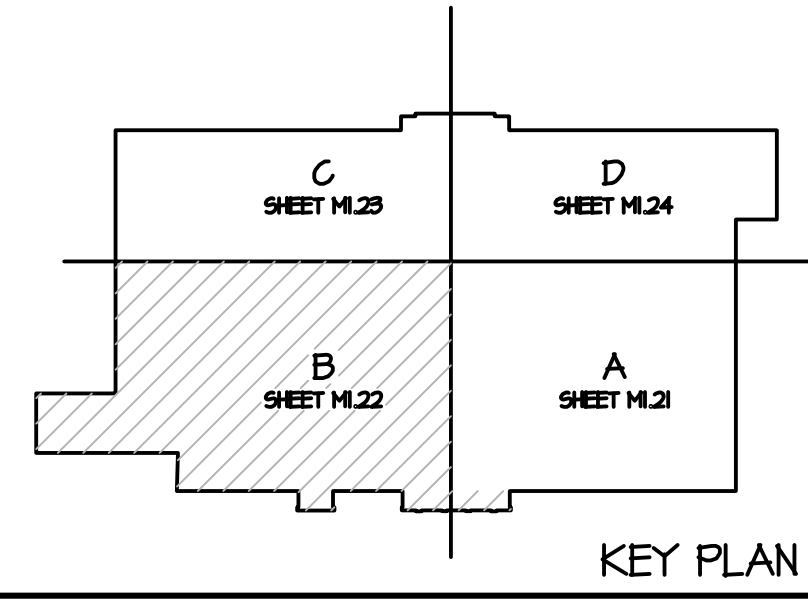
### FLAG NOTES

- NOTE: FLAG NOTES ARE COMMON TO SHEETS M1.21, M1.22, M1.23, & M1.24. NOT ALL FLAG NOTES MAY BE USED ON EACH SHEET.
- DO NOT ROUTE DUCTWORK ABOVE ELECTRICAL PANELS. MAINTAIN ALL CODE REQUIRED CLEARANCES.
  - CONNECT S.A. AND R.A. DUCTWORK TO ROOFTOP UNIT OPENINGS. TRANSITION AS REQUIRED. VERIFY EXACT SIZE AND LOCATION OF RTU OPENINGS WITH ACTUAL UNIT PROVIDED AND STRUCTURE. SEE DETAIL 1, SHEET M3.11 FOR DUCT CONNECTION REQUIREMENTS.
  - S.A. & R.A. MAINS DOWN, SEE SHEET M1.12 FOR CONTINUATION.
  - LOCATE TRANSFER FAN AS HIGH AS POSSIBLE IN JOIST SPACE - SEE DETAIL 7, SHEET M3.12 FOR INSTALLATION NOTES.
  - 308 TRANSFER DUCT UP IN SOFFIT TO JAIL TLEDGE. - SEE DETAIL 7, SHEET M3.12 FOR ADDITIONAL INSTALLATION NOTES.
  - MAINTAIN REQUIRED CLEARANCE TO MEZZANINE LIFT GATE.
  - PROPOSED LOCATION OF TEMPERATURE CONTROL PANEL. COORDINATE EXACT LOCATION AND REQUIRED POWER CONNECTION WITH ELECTRICAL CONTRACTOR.
  - GAS FIREPLACE FLUE AND ROOF TERMINATION MATERIAL FURNISHED WITH FIREPLACE - SEE ARCHITECTURAL PLANS AND SPECIFICATIONS. FLUE AND ROOF TERMINATION INSTALLED BY MECHANICAL CONTRACTOR. INSTALL PER MANUFACTURER'S RECOMMENDATIONS, APPLICABLE CODE REQUIREMENTS, AND AUTHORITY HAVING JURISDICTION.
  - INSTALL DUCT HEATER PER MANUFACTURER'S RECOMMENDATIONS. MAINTAIN CODE REQUIRED CLEARANCE IN FRONT OF CONTROL PANEL. SEE DETAIL 2, SHEET M3.12.
  - ROUTE REFRIGERANT PIPING TO AIR-COOLED CONDENSING UNIT ON ROOF. SEE SHEET M2.11 (AC-3) OR M2.12 (AC-1 & AC-2). SIZE REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL NECESSARY REFRIGERANT SPECIALTIES AS RECOMMENDED BY THE MANUFACTURER.
  - LOCATE HIGH WALL SPLIT SYSTEM EVAPORATOR UNIT AS HIGH AS POSSIBLE. COORDINATE EXACT LOCATION WITH STRUCTURE AND EQUIPMENT. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. MAINTAIN ALL REQUIRED CLEARANCES. SEE DETAIL 4, SHEET M3.12.
  - ROUTE REFRIGERANT PIPING UP THROUGH ROOF PIPING HOOD. SEE DETAIL 7, SHEET M3.11.
  - DO NOT ROUTE OR LOCATE ANY PIPING / DUCTWORK IN OR ABOVE THE MIS ROOM WHICH DOES NOT DIRECTLY SERVE A FUNCTION IN THE MIS ROOM. ALL PIPING / DUCTWORK NOT RELATED TO THE MIS ROOM WILL BE RELOCATED AT THE CONTRACTOR'S EXPENSE.
  - ROUTE FABRIC DUCTWORK LEVEL AS HIGH AS POSSIBLE BELOW STRUCTURE. FABRIC DUCT AIR DISTRIBUTION SHALL BE DESIGNED BY DUCT MANUFACTURER (DUCT BOX). CENTER LINE OF DUCT LOCATED APPROXIMATELY 20'-0" ABOVE FINISHED FLOOR. DISTRIBUTE ALL AIRFLOW DOWN TO OCCUPIED SPACE. GENERAL DUCT CONFIGURATION SHALL MATCH CONFIGURATION INDICATED ON PLAN. INSTALL FABRIC DUCT SYSTEM PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL NECESSARY SUPPORTS, FITTINGS, AND ACCESSORIES AS REQUIRED FOR A COMPLETE SYSTEM. SEE DETAILS 8 AND 9, SHEET M3.12.
  - PROVIDE REFRIGERANT PIPING FROM AQUARIUM AIR-COOLED CONDENSING UNIT ON ROOF TO AQUARIUM CHILLER. PROVIDE REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL NECESSARY REFRIGERANT SPECIALTIES AS RECOMMENDED BY THE MANUFACTURER.
  - AC-1, AC-2, AND AC-3 CONTROLLED BY MANUFACTURER FURNISHED THERMOSTAT. PROVIDE DOC TEMPERATURE SENSOR FOR ALARM PURPOSES.
  - MAINTAIN REQUIRED CLEARANCE AROUND ROOF HATCH.
  - ROUTE FABRIC DUCTWORK IN JOIST SPACE. COORDINATE EXACT LOCATION WITH STRUCTURE. FABRIC DUCT AIR DISTRIBUTION SHALL BE DESIGNED BY DUCT MANUFACTURER (DUCT BOX). CENTER LINE OF DUCT LOCATED APPROXIMATELY 13'-0" ABOVE FINISHED MEZZANINE FLOOR. EVENLY DISTRIBUTE AIRFLOW TO OCCUPIED SPACES ON BOTH SIDES OF DUCTWORK. GENERAL DUCT CONFIGURATION SHALL MATCH CONFIGURATION INDICATED ON PLAN. INSTALL FABRIC DUCT SYSTEM PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL NECESSARY SUPPORTS, FITTINGS, AND ACCESSORIES AS REQUIRED FOR A COMPLETE SYSTEM. SEE DETAILS 8 AND 9, SHEET M3.12.
  - TRANSITION DUCTWORK UP INTO JOIST SPACE UTILIZING 45° ELBOWS. ROUTE DUCTWORK LEVEL AS HIGH AS POSSIBLE.

### SEISMIC DESIGN REQ'S

- SEE SHEET M1.14 FOR COMPLETE NOTES.

### PARTIAL MEZZANINE FLOOR PLAN - HVAC - AREA B



Cabela's Retail Center  
Tualatin, Oregon

Seat:

Revisions:  
 Permit Issue 10-03-13  
 Rev 4, CCD 2 02-06-14

Drawing Name:  
 PARTIAL MEZZANINE FLOOR PLAN - HVAC - AREA B  
 Project #: 12511  
 Drawn By: NWS  
 Date: 06 February 2014  
 Sheet Number:

# M1.22

**GENERAL NOTES**

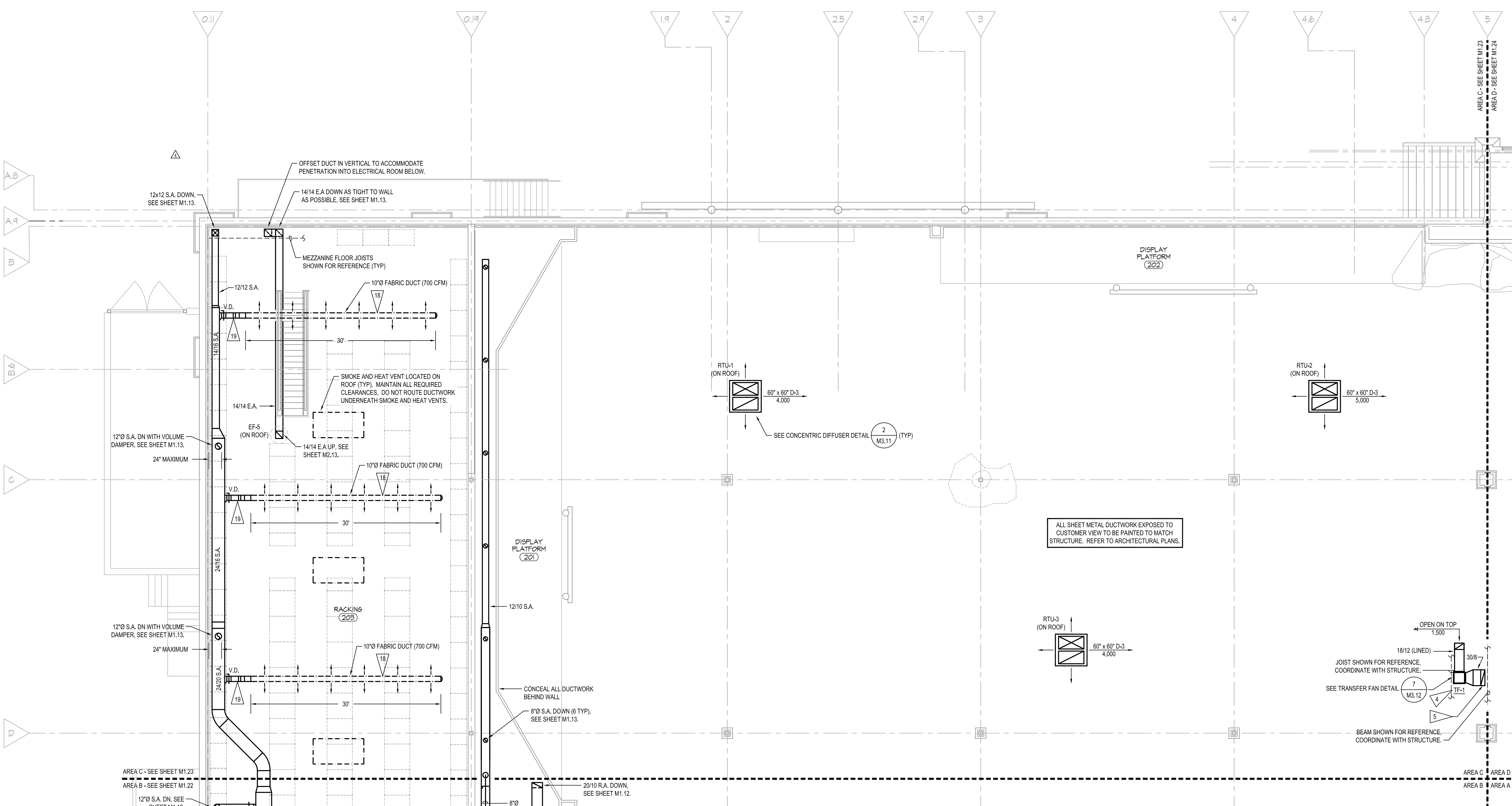
- DO NOT ROUTE DUCTWORK ABOVE ELECTRICAL PANELS. MAINTAIN ALL CODE REQUIRED CLEARANCES.
- COORDINATE ALL ROOF, WALL, AND FLOOR PENETRATIONS WITH GENERAL CONTRACTOR. SEAL PENETRATIONS OF EXTERIOR ENVELOPE WATERTIGHT. PROVIDE FIRE DAMPERS IN ALL DUCTS PENETRATING FIRE RATED WALLS. FIRE GULCH AROUND ALL PENETRATIONS THROUGH FIRE RATED WALLS.
- COORDINATE LOCATION OF DIFFUSERS, REGISTERS, AND GRILLES WITH SPRINKLERS, LIGHTS AND CEILING PLANS.
- UNLESS OTHERWISE NOTED, ALL SUPPLY / RETURN AIR RUNOUTS SHALL MATCH RESPECTIVE NECK SIZE. ALL RUNOUTS SHALL HAVE VOLUME DAMPERS. INSTALL ALL VOLUME DAMPERS ABOVE ACCESSIBLE CEILING OR IN OTHER ACCESSIBLE LOCATIONS.
- CONTRACTOR SHALL COORDINATE ALL DUCT ROUTING WITH ALL OTHER TRADES. CONTRACTOR SHALL PROVIDE ALL ADDITIONAL OFFSETS AND TRANSITIONS AS REQUIRED TO COMPLETE INSTALLATION AND AVOID CONFLICTS.
- MAINTAIN MANUFACTURER'S REQUIRED CLEARANCE AROUND ALL MECHANICAL EQUIPMENT TO ALLOW PROPER OPERATION AND EASY MAINTENANCE ACCESS.
- UNLESS NOTED OTHERWISE, LOCATE ALL DUCT AS HIGH AS POSSIBLE. UTILIZE JOIST SPACE AND OPEN WEBBING OF JOISTS WHEN POSSIBLE. LOCATE AIR OUTLETS SYMMETRICAL WITH ARCHITECTURAL / LIGHTING FEATURES.
- SEE DUCT FITTINGS DETAIL 5, SHEET M3.11.
- PROVIDE RETURN AIR BOOTS PER DETAIL 3, SHEET M3.12 FOR ALL GRILLES MARKED G1 AND G2.
- ⊙ REPRESENTS A TEMPERATURE SENSOR WITHOUT ADJUSTMENTS
- ⊙ REPRESENTS A COMBINATION TEMPERATURE AND CO2 SENSOR
- ⊙ REPRESENTS A THERMOSTAT WITH ADJUSTMENTS
- ⊙ REPRESENTS A HUMIDITY SENSOR (PROVIDE COMBINATION TEMPERATURE / HUMIDITY SENSOR WHEN POSSIBLE)
- ROUGHINS FOR THERMOSTATS / TEMPERATURE SENSORS BY ELECTRICAL CONTRACTOR - SEE ELECTRICAL PLANS.
- THERMOSTAT AND TEMPERATURE SENSOR LOCATIONS ARE SHOWN FOR CLARITY. LOCATE TEMPERATURE SENSORS ADJACENT TO DOORS, ELECTRICAL DEVICES, AND OTHER BUILDING COMPONENTS. DO NOT LOCATE SENSORS IN MIDDLE OF WALLS OR BEHIND DOOR SWINGS.
- SOLID LINE INDICATES SHEET METAL DUCTWORK  
- - - DASHED LINE INDICATES FABRIC DUCTWORK
- SEE ARCHITECTURAL SPECIFICATION SECTION 01 5000 "TEMPORARY FACILITIES AND CONTROLS" FOR FILTRATION REQUIREMENTS DURING TEMPORARY USE OF HVAC SYSTEMS PRIOR TO BUILDING TURNOVER.

**FLAG NOTES**

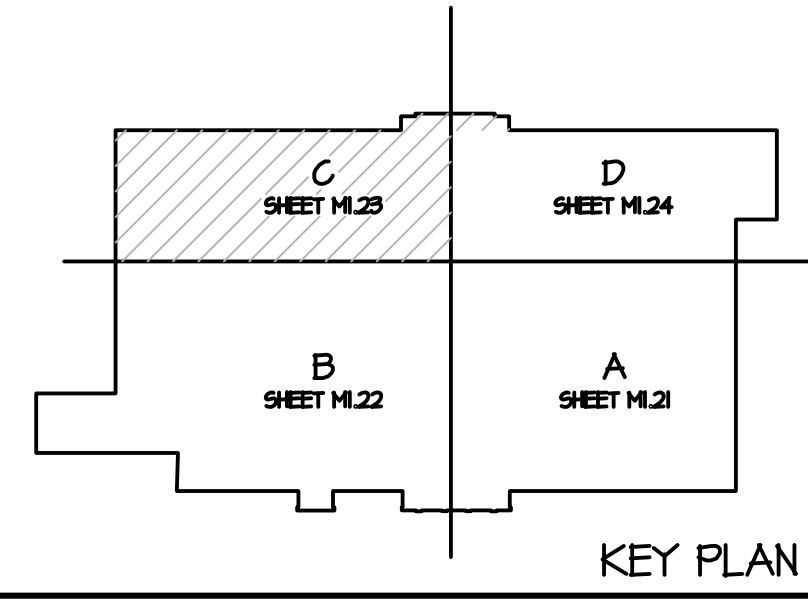
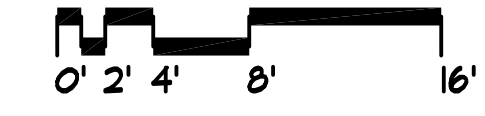
- NOTE: FLAG NOTES ARE COMMON TO SHEETS M1.21, M1.22, M1.23, & M1.24. NOT ALL FLAG NOTES MAY BE USED ON EACH SHEET.
- DO NOT ROUTE DUCTWORK ABOVE ELECTRICAL PANELS. MAINTAIN ALL CODE REQUIRED CLEARANCES.
  - CONNECT S.A. AND R.A. DUCTWORK TO ROOFTOP UNIT OPENINGS. TRANSITION AS REQUIRED. VERIFY EXACT SIZE AND LOCATION OF RTU OPENINGS WITH ACTUAL UNIT PROVIDED AND STRUCTURE. SEE DETAIL 1, SHEET M3.11 FOR DUCT CONNECTION REQUIREMENTS.
  - S.A. & R.A. MANS DOWN. SEE SHEET M1.12 FOR CONTINUATION.
  - LOCATE TRANSFER FAN AS HIGH AS POSSIBLE IN JOIST SPACE - SEE DETAIL 7, SHEET M3.12 FOR ADDITIONAL INSTALLATION NOTES.
  - 300 TRANSFER DUCT UP IN ROOFTOP TO VOLUME DAMPER - SEE DETAIL 7, SHEET M3.12 FOR ADDITIONAL INSTALLATION NOTES.
  - MAINTAIN REQUIRED CLEARANCE TO MEZZANINE LIFT GATE.
  - PROPOSED LOCATION OF TEMPERATURE CONTROL PANEL. COORDINATE EXACT LOCATION AND REQUIRED POWER CONNECTION WITH ELECTRICAL CONTRACTOR.
  - GAS FIREPLACE FLUE AND ROOF TERMINATION MATERIAL FURNISHED WITH FIREPLACE - SEE ARCHITECTURAL PLANS AND SPECIFICATIONS. FLUE AND ROOF TERMINATION INSTALLED BY MECHANICAL CONTRACTOR. INSTALL PER MANUFACTURER'S RECOMMENDATIONS, APPLICABLE CODE REQUIREMENTS, AND AUTHORITY HAVING JURISDICTION.
  - INSTALL DUCT HEATER PER MANUFACTURER'S RECOMMENDATIONS. MAINTAIN CODE REQUIRED CLEARANCE IN FRONT OF CONTROL PANEL. SEE DETAIL 2, SHEET M3.12.
  - ROUTE REFRIGERANT PIPING TO AIR-COOLED CONDENSING UNIT ON ROOF. SEE SHEET M2.11 (AC-3) OR M2.12 (AC-1 & AC-2). SIZE REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL NECESSARY REFRIGERANT SPECIALTIES AS RECOMMENDED BY THE MANUFACTURER.
  - LOCATE HIGH WALL SPLIT SYSTEM EVAPORATOR UNIT AS HIGH AS POSSIBLE. COORDINATE EXACT LOCATION WITH STRUCTURE AND EQUIPMENT. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. MAINTAIN ALL REQUIRED CLEARANCES. SEE DETAIL 4, SHEET M3.12.
  - ROUTE REFRIGERANT PIPING UP THROUGH ROOF PIPING HOOD. SEE DETAIL 7, SHEET M3.11.
  - DO NOT ROUTE OR LOCATE ANY PIPING / DUCTWORK IN OR ABOVE THE MIS ROOM WHICH DOES NOT DIRECTLY SERVE A FUNCTION IN THE MIS ROOM. ALL PIPING / DUCTWORK NOT RELATED TO THE MIS ROOM WILL BE RELOCATED AT THE CONTRACTOR'S EXPENSE.
  - ROUTE FABRIC DUCTWORK LEVEL AS HIGH AS POSSIBLE BELOW STRUCTURE. FABRIC DUCT AIR DISTRIBUTION SHALL BE DESIGNED BY DUCT MANUFACTURER (DUCT SOX). CENTER LINE OF DUCT LOCATED APPROXIMATELY 2'-0" ABOVE FINISHED FLOOR. DISTRIBUTE ALL AIRFLOW DOWN TO OCCUPIED SPACE. GENERAL DUCT CONFIGURATION SHALL MATCH CONFIGURATION INDICATED ON PLAN. INSTALL FABRIC DUCT SYSTEM PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL NECESSARY SUPPORTS, FITTINGS, AND ACCESSORIES AS REQUIRED FOR A COMPLETE SYSTEM. SEE DETAILS 8 AND 9, SHEET M3.12.
  - PROVIDE REFRIGERANT PIPING FROM AQUARIUM AIR-COOLED CONDENSING UNIT ON ROOF TO AQUARIUM CHILLER. PROVIDE REFRIGERANT PIPING FROM AIR-COOLED CONDENSING UNIT ON ROOF TO FOLLO. SIZE REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL NECESSARY REFRIGERANT SPECIALTIES AS RECOMMENDED BY THE MANUFACTURER.
  - AC-1, AC-2, AND AC-3 CONTROLLED BY MANUFACTURER FURNISHED THERMOSTAT. PROVIDE DDC TEMPERATURE SENSOR FOR ALARM PURPOSES.
  - MAINTAIN REQUIRED CLEARANCE AROUND ROOF HATCH.
  - ROUTE FABRIC DUCTWORK IN JOIST SPACE. COORDINATE EXACT LOCATION WITH STRUCTURE. FABRIC DUCT AIR DISTRIBUTION SHALL BE DESIGNED BY DUCT MANUFACTURER (DUCT SOX). CENTER LINE OF DUCT LOCATED APPROXIMATELY 13'-0" ABOVE FINISHED MEZZANINE FLOOR. EVENLY DISTRIBUTE AIRFLOW TO OCCUPIED SPACES ON BOTH SIDES OF DUCTWORK. GENERAL DUCT CONFIGURATION SHALL MATCH CONFIGURATION INDICATED ON PLAN. INSTALL FABRIC DUCT SYSTEM PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL NECESSARY SUPPORTS, FITTINGS, AND ACCESSORIES AS REQUIRED FOR A COMPLETE SYSTEM. SEE DETAILS 8 AND 9, SHEET M3.12.
  - TRANSITION DUCTWORK UP INTO JOIST SPACE UTILIZING 45° ELBOWS. ROUTE DUCTWORK LEVEL AS HIGH AS POSSIBLE.

**SEISMIC DESIGN REQ'TS**

- SEE SHEET M1.14 FOR COMPLETE NOTES.



PARTIAL MEZZANINE FLOOR PLAN - HVAC - AREA C



**GENERAL NOTES**

- DO NOT ROUTE DUCTWORK ABOVE ELECTRICAL PANELS. MAINTAIN ALL CODE REQUIRED CLEARANCES.
- COORDINATE ALL ROOF, WALL, AND FLOOR PENETRATIONS WITH GENERAL CONTRACTOR. SEAL PENETRATIONS OF EXTERIOR ENVELOPE WATERTIGHT. PROVIDE FIRE DAMPERS IN ALL DUCTS PENETRATING FIRE RATED WALLS. FIRE CAULK AROUND ALL PENETRATIONS THROUGH FIRE RATED WALLS.
- COORDINATE LOCATION OF DIFFUSERS, REGISTERS, AND GRILLES WITH SPRINKLERS, LIGHTS AND CEILING PLANS.
- UNLESS OTHERWISE NOTED, ALL SUPPLY / RETURN AIR RUNOUTS SHALL MATCH RESPECTIVE NECK SIZE. ALL RUNOUTS SHALL HAVE VOLUME DAMPERS. INSTALL ALL VOLUME DAMPERS ABOVE ACCESSIBLE CEILING OR IN OTHER ACCESSIBLE LOCATIONS.
- CONTRACTOR SHALL COORDINATE ALL DUCT ROUTING WITH ALL OTHER TRADES. CONTRACTOR SHALL PROVIDE ALL ADDITIONAL OFFSETS AND TRANSITIONS AS REQUIRED TO COMPLETE INSTALLATION AND AVOID CONFLICTS.
- MAINTAIN MANUFACTURER'S REQUIRED CLEARANCE AROUND ALL MECHANICAL EQUIPMENT TO ALLOW PROPER OPERATION AND EASY MAINTENANCE ACCESS.
- UNLESS NOTED OTHERWISE, LOCATE ALL DUCT AS HIGH AS POSSIBLE. UTILIZE JOIST SPACE AND OPEN WEBBING OF JOISTS WHEN POSSIBLE. LOCATE AIR OUTLETS SYMMETRICAL WITH ARCHITECTURAL / LIGHTING FEATURES.
- SEE DUCT FITTINGS DETAIL 5, SHEET M3.11.
- PROVIDE RETURN AIR BOOTS PER DETAIL 3, SHEET M3.12 FOR ALL GRILLES MARKED (S1) AND (S2).
- ⊙ REPRESENTS A TEMPERATURE SENSOR WITHOUT ADJUSTMENTS  
⊖ REPRESENTS A COMBINATION TEMPERATURE AND CO2 SENSOR  
⊕ REPRESENTS A THERMOSTAT WITH ADJUSTMENTS  
⊖⊕ REPRESENTS A HUMIDITY SENSOR (PROVIDE COMBINATION TEMPERATURE / HUMIDITY SENSOR WHEN POSSIBLE)
- ROUGH-INS FOR THERMOSTATS / TEMPERATURE SENSORS BY ELECTRICAL CONTRACTOR - SEE ELECTRICAL PLANS.
- THERMOSTAT AND TEMPERATURE SENSOR LOCATIONS ARE SHOWN FOR CLARITY. LOCATE TEMPERATURE SENSORS ADJACENT TO DOORS, ELECTRICAL DEVICES, AND OTHER BUILDING COMPONENTS. DO NOT LOCATE SENSORS IN MIDDLE OF WALLS OR BEHIND DOOR SWINGS.
- SOLID LINE INDICATES SHEET METAL DUCTWORK  
- - - DASHED LINE INDICATES FABRIC DUCTWORK
- SEE ARCHITECTURAL SPECIFICATION SECTION 01 5000 "TEMPORARY FACILITIES AND CONTROLS" FOR FILTRATION REQUIREMENTS DURING TEMPORARY USE OF HVAC SYSTEMS PRIOR TO BUILDING TURNOVER.

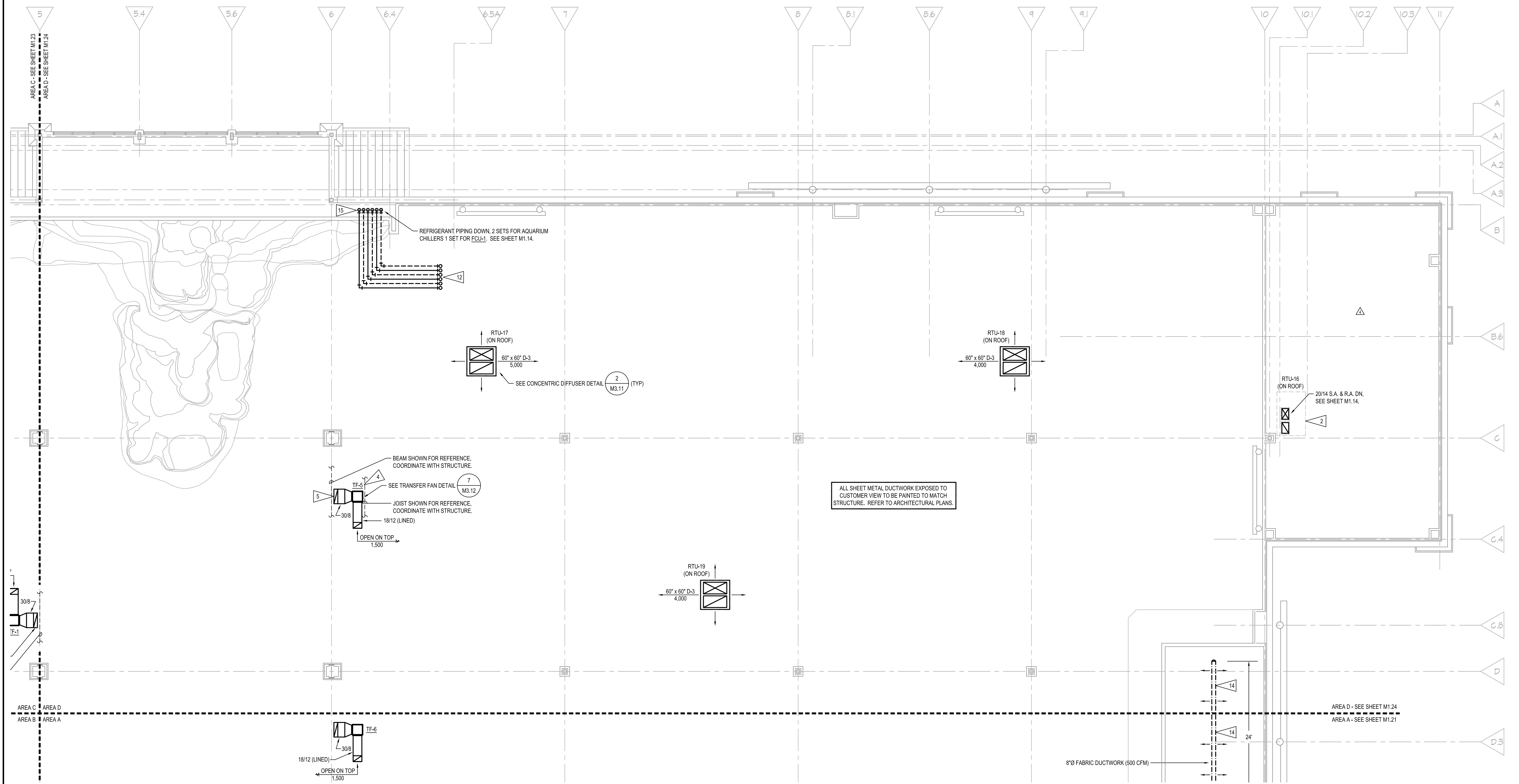
**FLAG NOTES**

NOTE: FLAG NOTES ARE COMMON TO SHEETS M1.21, M1.22, M1.23, & M1.24. NOT ALL FLAG NOTES MAY BE USED ON EACH SHEET.

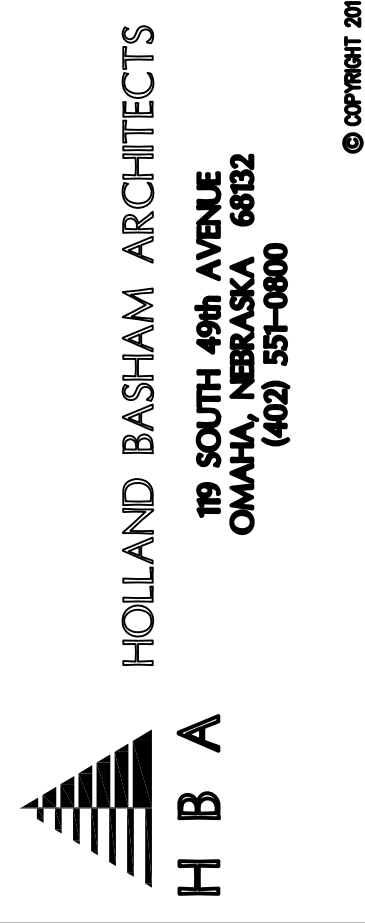
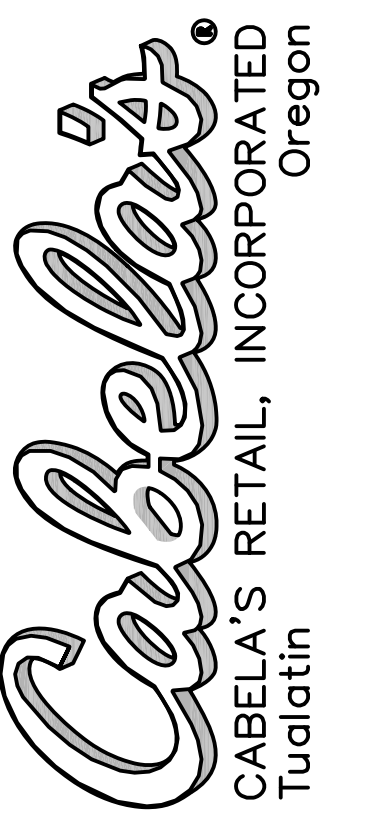
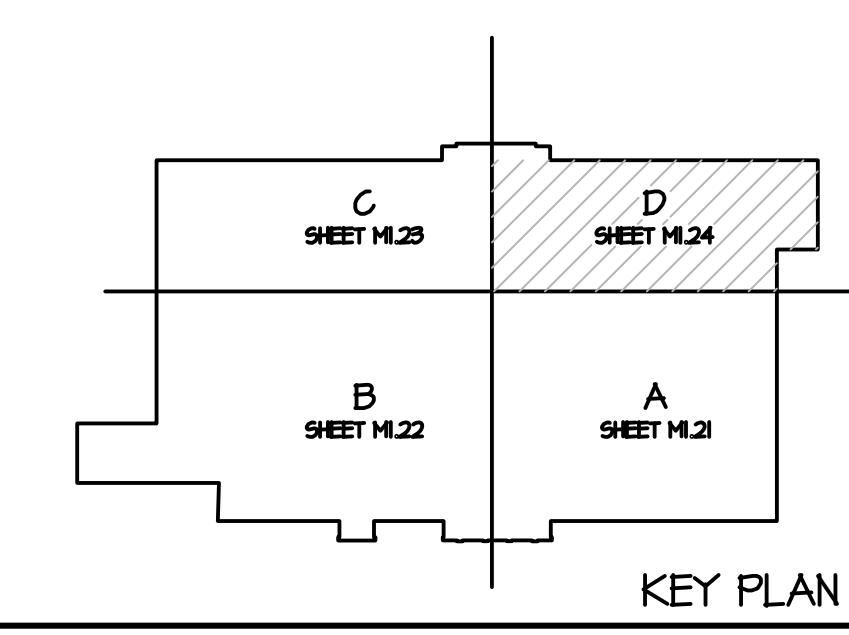
- DO NOT ROUTE DUCTWORK ABOVE ELECTRICAL PANELS. MAINTAIN ALL CODE REQUIRED CLEARANCES.
- CONNECT S.A. AND R.A. DUCTWORK TO ROOFTOP UNIT OPENINGS. TRANSITION AS REQUIRED. VERIFY EXACT SIZE AND LOCATION OF RTU OPENINGS WITH ACTUAL UNIT PROVIDED AND STRUCTURE. SEE DETAIL 1, SHEET M3.11 FOR DUCT CONNECTION REQUIREMENTS.
- S.A. & R.A. MAINS DOWN. SEE SHEET M1.12 FOR CONTINUATION.
- LOCATE TRANSFER FAN AS HIGH AS POSSIBLE IN JOIST SPACE - SEE DETAIL 7, SHEET M3.12 FOR ADDITIONAL INSTALLATION NOTES.
- 308" TRANSFER DUCT UP IN SOFFIT TO VAULT LEDGE - SEE DETAIL 7, SHEET M3.12 FOR ADDITIONAL INSTALLATION NOTES.
- MAINTAIN REQUIRED CLEARANCE TO MEZZANINE LIFT GATE.
- PROPOSED LOCATION OF TEMPERATURE CONTROL PANEL. COORDINATE EXACT LOCATION AND REQUIRED POWER CONNECTION WITH ELECTRICAL CONTRACTOR.
- GAS FIREPLACE FLUE AND ROOF TERMINATION MATERIAL FURNISHED WITH FIREPLACE - SEE ARCHITECTURAL PLANS AND SPECIFICATIONS. FLUE AND ROOF TERMINATION INSTALLED BY MECHANICAL CONTRACTOR. INSTALL PER MANUFACTURER'S RECOMMENDATIONS, APPLICABLE CODE REQUIREMENTS, AND AUTHORITY HAVING JURISDICTION.
- INSTALL DUCT HEATER PER MANUFACTURER'S RECOMMENDATIONS. MAINTAIN CODE REQUIRED CLEARANCE IN FRONT OF CONTROL PANEL. SEE DETAIL 2, SHEET M3.12.
- ROUTE REFRIGERANT PIPING TO AIR-COOLED CONDENSING UNIT ON ROOF. SEE SHEET M2.11 (AC-3) OR M2.12 (AC-1 & AC-2). SIZE REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL NECESSARY REFRIGERANT SPECIALTIES AS RECOMMENDED BY THE MANUFACTURER.
- LOCATE HIGH WALL SPLIT SYSTEM EVAPORATOR UNIT AS HIGH AS POSSIBLE. COORDINATE EXACT LOCATION WITH STRUCTURE AND EQUIPMENT. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. MAINTAIN ALL REQUIRED CLEARANCES. SEE DETAIL 4, SHEET M3.12.
- ROUTE REFRIGERANT PIPING UP THROUGH ROOF PIPING HOOD. SEE DETAIL 7, SHEET M3.11.
- DO NOT ROUTE OR LOCATE ANY PIPING / DUCTWORK IN OR ABOVE THE MIS ROOM WHICH DOES NOT DIRECTLY SERVE A FUNCTION IN THE MIS ROOM. ALL PIPING / DUCTWORK NOT RELATED TO THE MIS ROOM WILL BE RELOCATED AT THE CONTRACTOR'S EXPENSE.
- ROUTE FABRIC DUCTWORK LEVEL AS HIGH AS POSSIBLE BELOW STRUCTURE. FABRIC DUCT AIR DISTRIBUTION SHALL BE DESIGNED BY DUCT MANUFACTURER (DUCT SOX). CENTER LINE OF DUCT LOCATED APPROXIMATELY 20'-3" ABOVE FINISHED FLOOR. DISTRIBUTE ALL AIRFLOW DOWN TO OCCUPIED SPACE. GENERAL DUCT CONFIGURATION SHALL MATCH CONFIGURATION INDICATED ON PLAN. INSTALL FABRIC DUCT SYSTEM PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL NECESSARY SUPPORTS, FITTINGS, AND ACCESSORIES AS REQUIRED FOR A COMPLETE SYSTEM. SEE DETAILS 8 AND 9, SHEET M3.12.
- PROVIDE REFRIGERANT PIPING FROM AQUARIUM AIR-COOLED CONDENSING UNIT ON ROOF TO AQUARIUM CHILLER. PROVIDE REFRIGERANT PIPING FROM AIR-COOLED CONDENSING UNIT ON ROOF TO FCU-1. SIZE REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL NECESSARY REFRIGERANT SPECIALTIES AS RECOMMENDED BY THE MANUFACTURER.
- AC-1, AC-2, AND AC-3 CONTROLLED BY MANUFACTURER FURNISHED THERMOSTAT. PROVIDE DDC TEMPERATURE SENSOR FOR ALARM PURPOSES.
- MAINTAIN REQUIRED CLEARANCE AROUND ROOF HATCH.
- ROUTE FABRIC DUCTWORK IN JOIST SPACE. COORDINATE EXACT LOCATION WITH STRUCTURE. FABRIC DUCT AIR DISTRIBUTION SHALL BE DESIGNED BY DUCT MANUFACTURER (DUCT SOX). CENTER LINE OF DUCT LOCATED APPROXIMATELY 13'-4" ABOVE FINISHED MEZZANINE FLOOR. EVENLY DISTRIBUTE AIRFLOW TO OCCUPIED SPACES ON BOTH SIDES OF DUCTWORK. GENERAL DUCT CONFIGURATION SHALL MATCH CONFIGURATION INDICATED ON PLAN. INSTALL FABRIC DUCT SYSTEM PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL NECESSARY SUPPORTS, FITTINGS, AND ACCESSORIES AS REQUIRED FOR A COMPLETE SYSTEM. SEE DETAILS 8 AND 9, SHEET M3.12.
- TRANSITION DUCTWORK UP INTO JOIST SPACE UTILIZING 45° ELBOWS. ROUTE DUCTWORK LEVEL AS HIGH AS POSSIBLE.

**SEISMIC DESIGN REQ'TS**

- SEE SHEET M1.14 FOR COMPLETE NOTES.



**PARTIAL MEZZANINE FLOOR PLAN - HVAC - AREA D**



**Cabela's Retail Center**  
Tualatin, Oregon

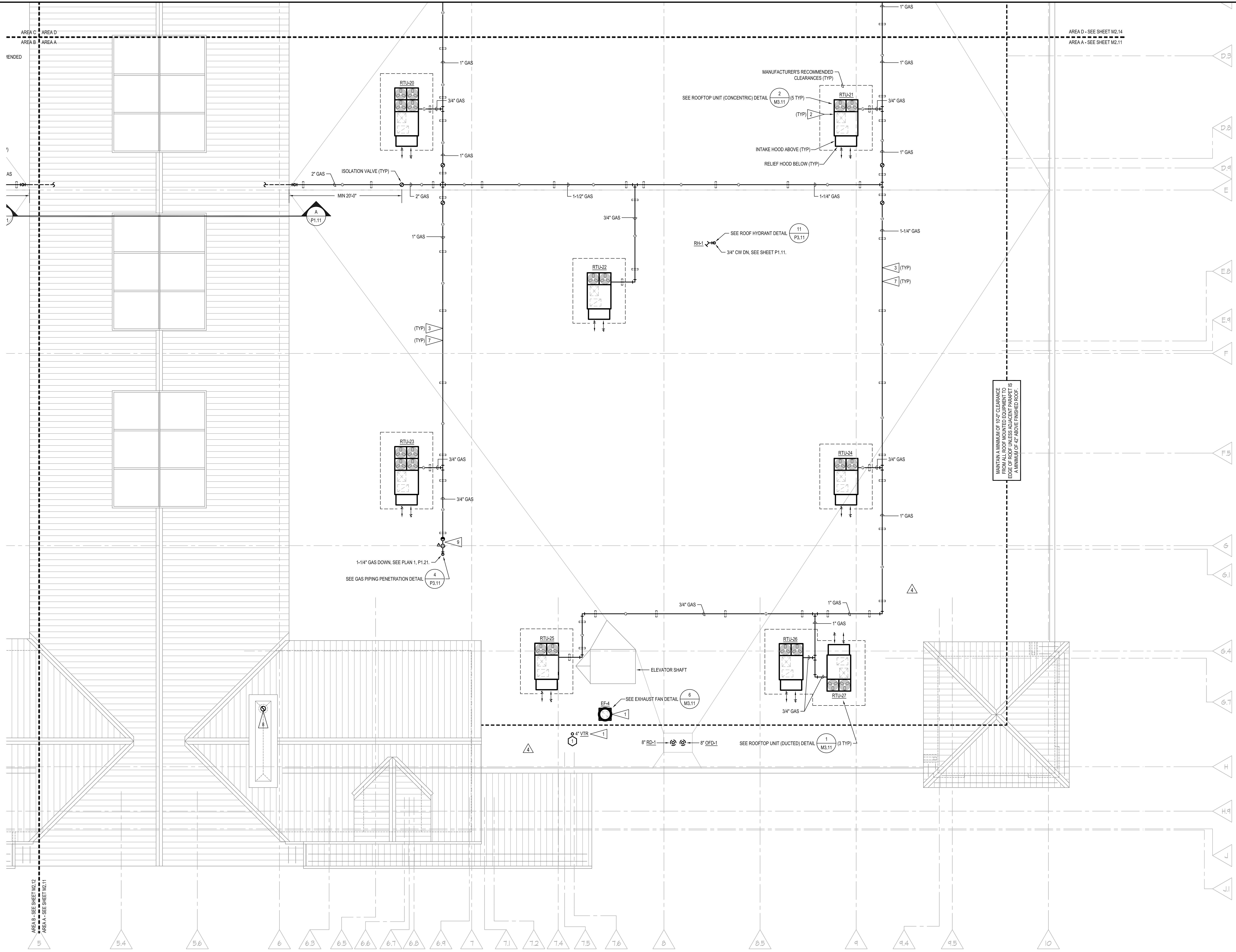


Revisions:  
Permit Issue 10-03-13  
Rev 4, CCD 2 02-06-14

Drawing Name:  
**PARTIAL MEZZANINE FLOOR PLAN - HVAC - AREA D**  
Project #: 12511  
Drawn By: NWS  
Date: 06 February 2014  
Sheet Number:

**M1.24**





**GENERAL NOTES**

- COORDINATE EXACT LOCATION OF ALL ROOF MOUNTED EQUIPMENT AND ASSOCIATED PENETRATIONS WITH STRUCTURE. GENERAL CONTRACTOR, AND ROOFING CONTRACTOR, ADJUST LOCATIONS AS REQUIRED TO ACCOMMODATE STRUCTURE. SEAL ALL PENETRATIONS WEATHER TIGHT. COORDINATE ALL LOCATIONS WITH SLOPE OF ROOF AND DRAINAGE LOCATIONS.
- LOCATE ALL EQUIPMENT AND PIPING TO ALLOW PROPER ROOF DRAINAGE. COORDINATE ALL LOCATIONS WITH SLOPE OF ROOF AND DRAINAGE LOCATIONS.
- MAINTAIN A MINIMUM OF 10'-0" CLEARANCE FROM ALL EXHAUST AND VENTS THROUGH ROOF TO FRESH AIR INTAKES OF ROOF MOUNTED EQUIPMENT.
- MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES AROUND RESPECTIVE EQUIPMENT.
- INDICATES VENT THROUGH ROOF.  
INDICATES GREASE VENT THROUGH ROOF.
- SEE ARCHITECTURAL SPECIFICATION SECTION 01 5000 "TEMPORARY FACILITIES AND CONTROLS" FOR FILTRATION REQUIREMENTS DURING TEMPORARY USE OF HVAC SYSTEMS PRIOR TO BUILDING TURNOVER.

**FLAG NOTES**

- NOTE: FLAG NOTES ARE COMMON TO SHEETS M2.11, M2.12, M2.13, & M2.14. NOT ALL FLAG NOTES MAY BE USED ON EACH SHEET.
- MAINTAIN A MINIMUM OF 10'-0" CLEARANCE FROM EXHAUST FAN / VTR TO ALL FRESH AIR INTAKES.
  - SET UNIT ON ROOF CURB PER MANUFACTURER'S INSTRUCTIONS. VERIFY EXACT LOCATION OF UNIT WITH GENERAL CONTRACTOR, STRUCTURE, AND ACTUAL ROOFTOP UNIT PROVIDED. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES.
  - GAS PIPING ON ROOF. SEISMICALLY SUPPORT GAS PIPING FROM ROOF. SUBMIT SHOP DRAWING TO AUTHORITY HAVING JURISDICTION FOR REVIEW. SEE SPECIFICATIONS FOR SPACING REQUIREMENTS - SPACING ON PLAN IS GRAPHICAL IN NATURE. COORDINATE ROUTING WITH ROOFING CONTRACTOR AND LOCATION OF ROOF MOUNTED EQUIPMENT.
  - MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES AROUND CONDENSING UNIT. SUPPORT CONDENSING UNIT ON TREATED TIMBERS. SEE DETAIL 4, SHEET M3.12 (ACCU-1, 2, 3). SIMILAR SUPPORT FOR CU-1, CU-2, AND HP-1.
  - ROUTE REFRIGERANT PIPING FROM CONDENSING UNIT TO RESPECTIVE EVAPORATOR UNIT. ROUTE INTO BUILDING THROUGH PIPING HOOD. SEE DETAIL 7, SHEET M3.11. SIZE REFRIGERANT PIPING PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL NECESSARY REFRIGERANT PIPE SPECIALTIES AS RECOMMENDED BY THE MANUFACTURER. SEE DETAIL 4, SHEET M3.12.
  - TRANSITION GAS PIPING TO ACCOMMODATE CHANGE IN ROOF ELEVATION. SUPPORT VERTICAL PIPING FROM WALL.
  - GAS PIPING ON ROOF SHALL BE PAINTED - SEE ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
  - GAS FIREPLACE FLUE AND ROOF TERMINATION MATERIAL FURNISHED WITH FIREPLACE - SEE ARCHITECTURAL PLANS AND SPECIFICATIONS. FLUE AND ROOF TERMINATION INSTALLED BY MECHANICAL CONTRACTOR. INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND APPLICABLE CODE REQUIREMENTS.
  - FIREPLACE GAS COCK, DIRT LEG, AND PRESSURE REGULATOR. UPSIZE GAS PIPING DOWNSTREAM AS INDICATED ON PLAN TO MINIMIZE PRESSURE DROP AND ACCOMMODATE RULES & REGULATIONS OF LOCAL UTILITY COMPANY.
  - MAINTAIN CLEARANCES TO ROOF HATCH.
  - SEE GAS PIPING SCHEMATIC 1, SHEET M2.14 FOR GAS PIPE ROUTING INFORMATION. DO NOT ROUTE GAS BRANCH PIPING OR MAIN GAS PIPING WITHIN 15'-0" OF HIGH VAULTED ROOF.
  - MAINTAIN A MINIMUM OF 15'-0" CLEARANCE FROM GREASE VTR TO ALL FRESH AIR INTAKES.
  - RADIANT HEATER GAS COCK, DIRT LEG, AND PRESSURE REGULATOR. UPSIZE GAS PIPING DOWNSTREAM AS INDICATED ON PLAN TO MINIMIZE PRESSURE DROP AND ACCOMMODATE RULES & REGULATIONS OF LOCAL UTILITY COMPANY.

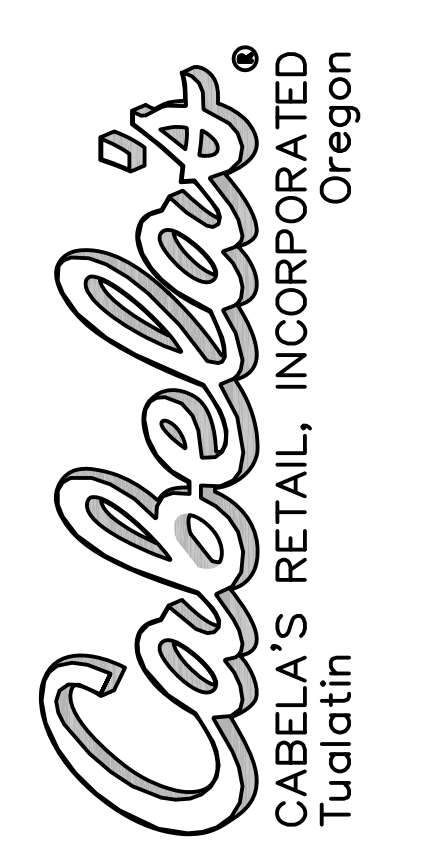
**NATURAL GAS USAGE TABLE**

EQUIPMENT TAG	INPUT CAPACITY (MBH)
RTU-1	180
RTU-2	180
RTU-3	180
RTU-4	180
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RTU-7	180
RTU-8	180
RTU-9	60
RTU-10	60
RTU-11	120
RTU-12	60
RTU-13	180
RTU-14	60
RTU-15	400
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RTU-17	180
RTU-18	180
RTU-19	180
RTU-20	180
RTU-21	180
RTU-22	180
RTU-23	180
RTU-24	180
RTU-25	120
RTU-26	180
RTU-27	180
FIREPLACE	300 (ESTIMATE)
RH-1	200
<b>TOTAL CONNECTED LOAD</b>	<b>4,960 MBH</b>

NOTE: ALL GAS PIPING IS SIZED IN ACCORDANCE WITH THE 2010 OREGON MECHANICAL SPECIALTY CODE BASED ON 2.0 PSIG NATURAL GAS SERVICE. CONTRACTOR SHALL NOTIFY ENGINEER IF UTILITY COMPANY IS UNABLE TO SUPPLY A 2.0 PSIG SERVICE PRIOR TO THE INSTALLATION OF ANY GAS DISTRIBUTION PIPING.

**SEISMIC DESIGN REQ'TS**

- SEE SHEET M1.14 FOR COMPLETE NOTES.



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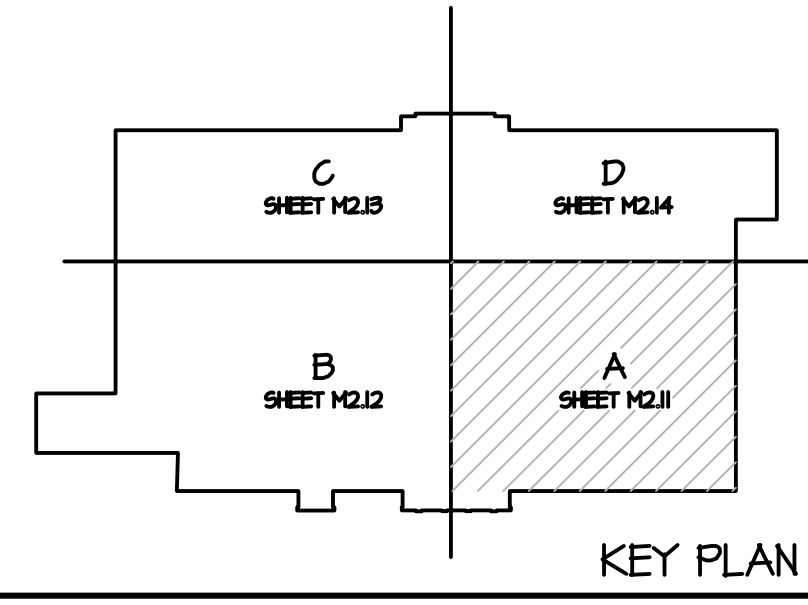
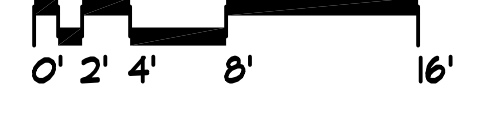
Seal:  
REGISTERED PROFESSIONAL ENGINEER  
MORRISSEY  
George M. Morrissey  
OREGON  
JULY 19, 2011  
EXPIRES 12-31-14  
RENEW:

Revisions:  
Permit Issue 10-03-13  
Rev 4, CCD 2 02-06-14

Drawing Name:  
PARTIAL ROOF PLAN  
MECHANICAL  
AREA A  
Project #: 12511  
Drawn By: NWS  
Date: 06 February 2014  
Sheet Number:

**M2.11**

PARTIAL ROOF PLAN - MECHANICAL - AREA A



AREA C - SEE SHEET M2.11  
 AREA B - SEE SHEET M2.12

### GENERAL NOTES

- COORDINATE EXACT LOCATION OF ALL ROOF MOUNTED EQUIPMENT AND ASSOCIATED PENETRATIONS WITH STRUCTURE, GENERAL CONTRACTOR, AND ROOFING CONTRACTOR. ADJUST LOCATIONS AS REQUIRED TO ACCOMMODATE STRUCTURE. SEAL ALL PENETRATIONS WEATHER TIGHT.
- LOCATE ALL EQUIPMENT AND PIPING TO ALLOW PROPER ROOF DRAINAGE. COORDINATE ALL LOCATIONS WITH SLOPE OF ROOF AND DRAINAGE LOCATIONS.
- MAINTAIN A MINIMUM OF 10'-0" CLEARANCE FROM ALL EXHAUST AND VENTS THROUGH ROOF TO FRESH AIR INTAKES OF ROOF MOUNTED EQUIPMENT.
- MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES AROUND RESPECTIVE EQUIPMENT.
- ⊕ INDICATES VENT THROUGH ROOF.
- ⊕ INDICATES GREASE VENT THROUGH ROOF.
- SEE ARCHITECTURAL SPECIFICATION SECTION 01 5000 TEMPORARY FACILITIES AND CONTROLS FOR FILTRATION REQUIREMENTS DURING TEMPORARY USE OF HVAC SYSTEMS PRIOR TO BUILDING TURNOVER.

### FLAG NOTES

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- MAINTAIN A MINIMUM OF 10'-0" CLEARANCE FROM EXHAUST FAN (VTR) TO ALL FRESH AIR INTAKES.
  - SET UNIT ON ROOF CURB PER MANUFACTURER'S INSTRUCTIONS. VERIFY EXACT LOCATION OF UNIT WITH GENERAL CONTRACTOR, STRUCTURE, AND ACTUAL ROOFTOP UNIT PROVIDED. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES.
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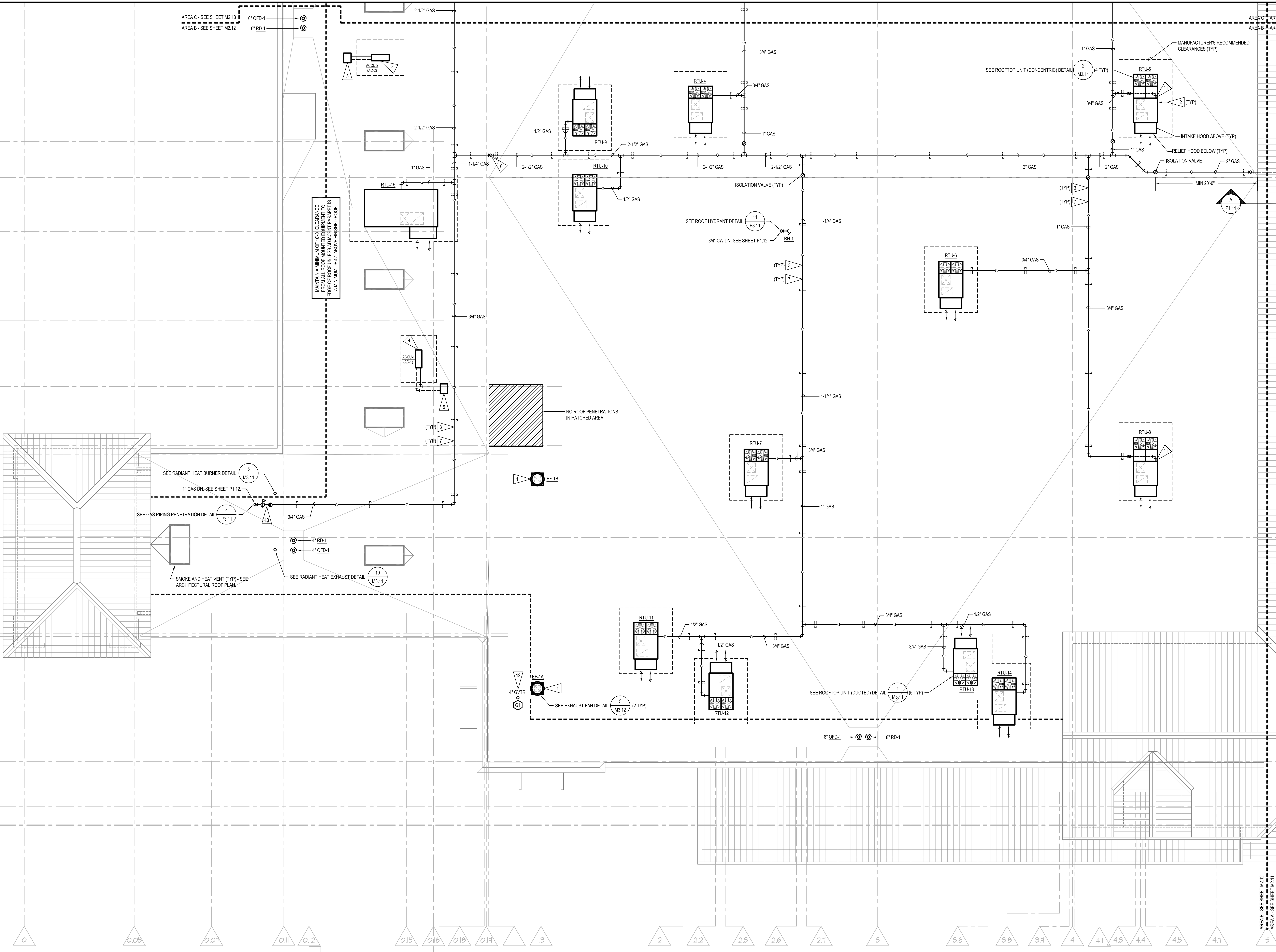
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RTU-1	180
RTU-2	180
RTU-3	180
RTU-4	180
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RTU-8	180
RTU-9	60
RTU-10	60
RTU-11	120
RTU-12	60
RTU-13	180
RTU-14	60
RTU-15	400
RTU-16	160
RTU-17	180
RTU-18	180
RTU-19	180
RTU-20	180
RTU-21	180
RTU-22	180
RTU-23	180
RTU-24	180
RTU-25	120
RTU-26	180
RTU-27	180
FIREPLACE	300 (ESTIMATE)
RH-1	200
<b>TOTAL CONNECTED LOAD</b>	<b>4,960 MBH</b>

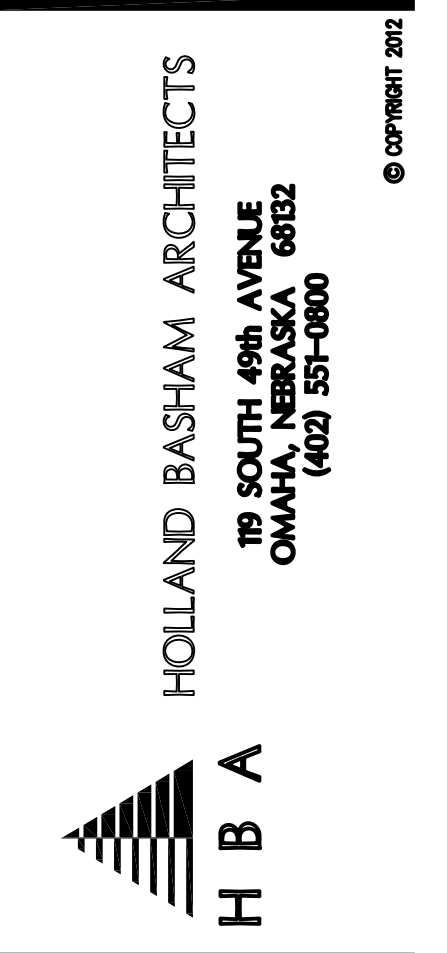
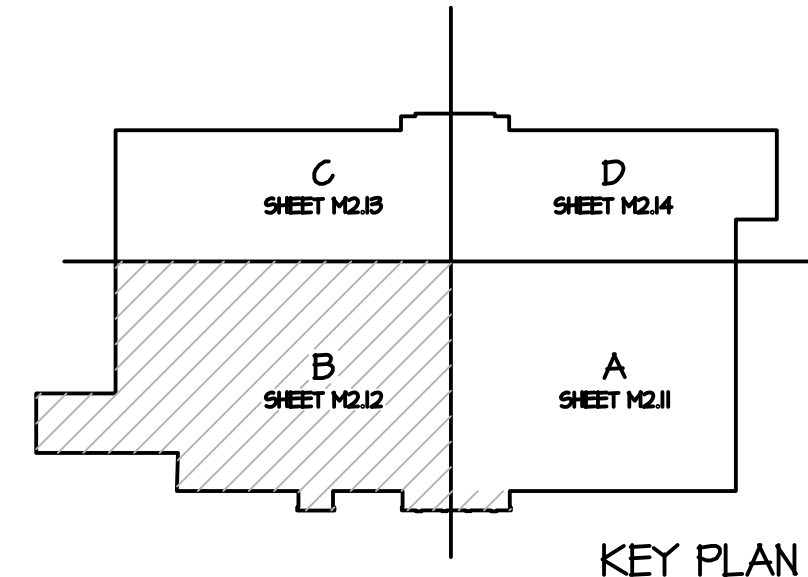
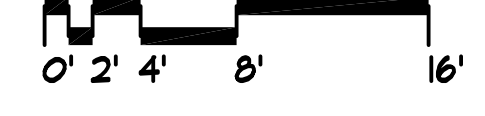
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### SEISMIC DESIGN REQTS

- SEE SHEET M1.14 FOR COMPLETE NOTES.



### PARTIAL ROOF PLAN - MECHANICAL - AREA B



Cabela's Retail Center  
 Tualatin, Oregon



Revisions:  
 Permit Issue 10-03-13

Drawing Name:  
 PARTIAL ROOF PLAN  
 MECHANICAL  
 AREA B  
 Project #: 12511  
 Drawn By: NWS  
 Date: 06 February 2014  
 Sheet Number:

# M2.12

**GENERAL NOTES**

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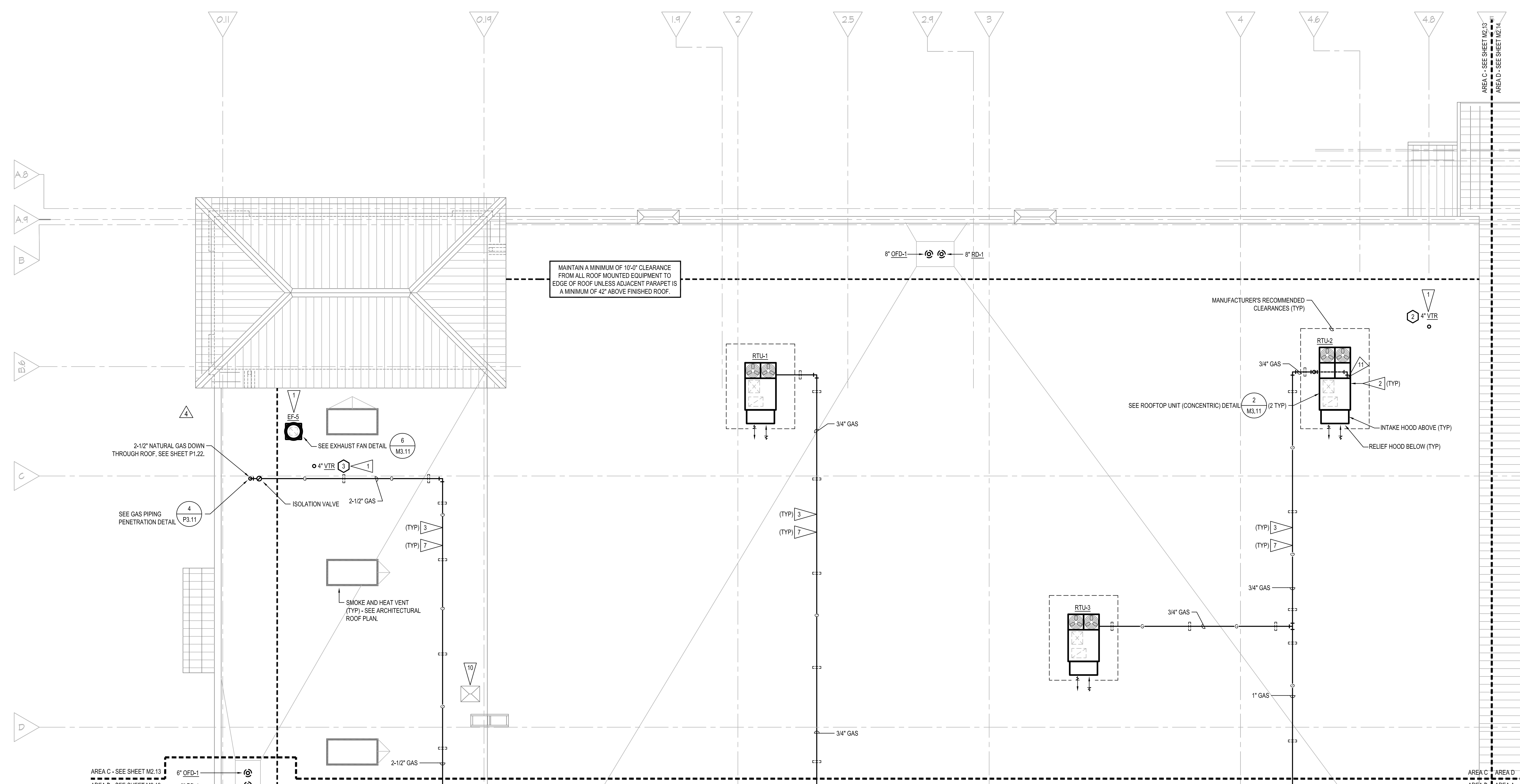
**NATURAL GAS USAGE TABLE**

EQUIPMENT TAG	INPUT CAPACITY (MBH)
RTU-1	180
RTU-2	180
RTU-3	180
RTU-4	180
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RTU-14	60
RTU-15	400
RTU-16	180
RTU-17	180
RTU-18	180
RTU-19	180
RTU-20	180
RTU-21	180
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RTU-25	120
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FIREPLACE	300 (ESTIMATE)
RH-1	200
<b>TOTAL CONNECTED LOAD</b>	<b>4,960 MBH</b>

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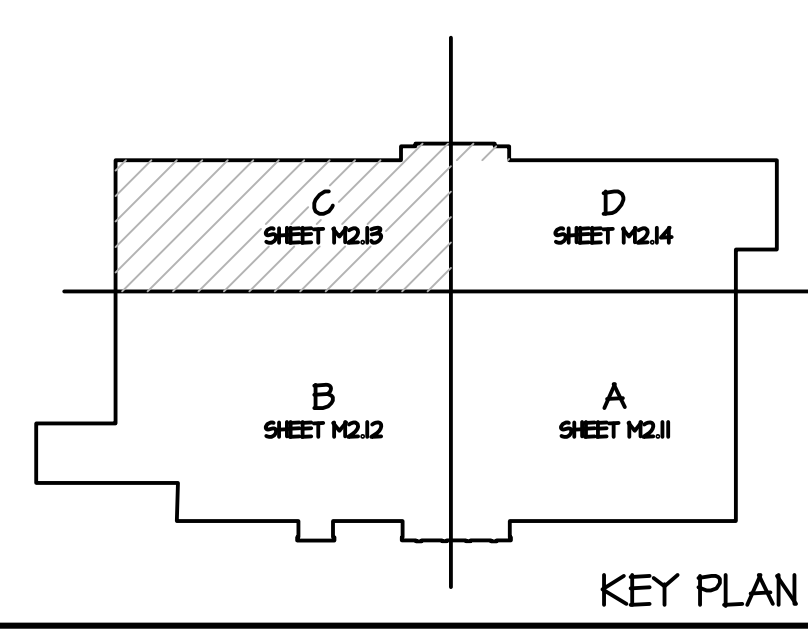
**SEISMIC DESIGN REQS**

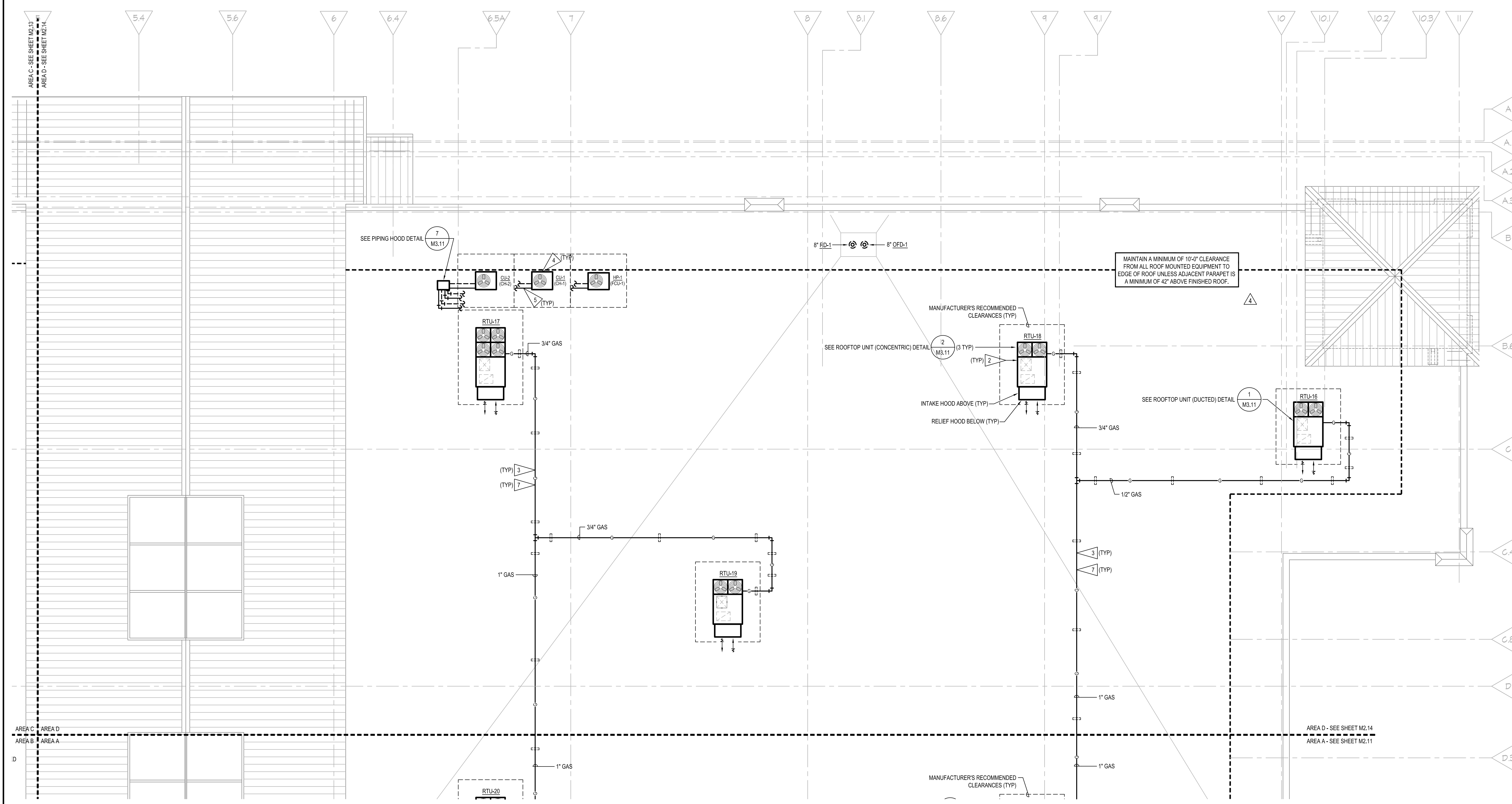
- SEE SHEET M1.14 FOR COMPLETE NOTES.



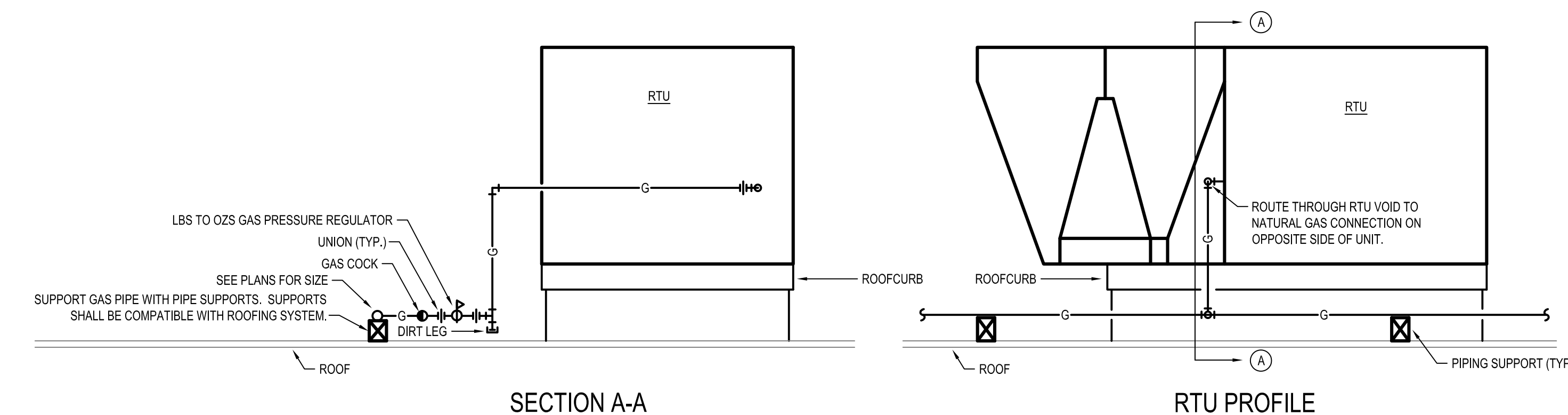
**PARTIAL ROOF PLAN - MECHANICAL - AREA C**

0' 2' 4' 8' 16'





**PARTIAL ROOF PLAN - MECHANICAL - AREA D**  
 0' 2' 4' 8' 16'



**GAS PIPING SCHEMATIC**  
 No Scale

- GENERAL NOTES**
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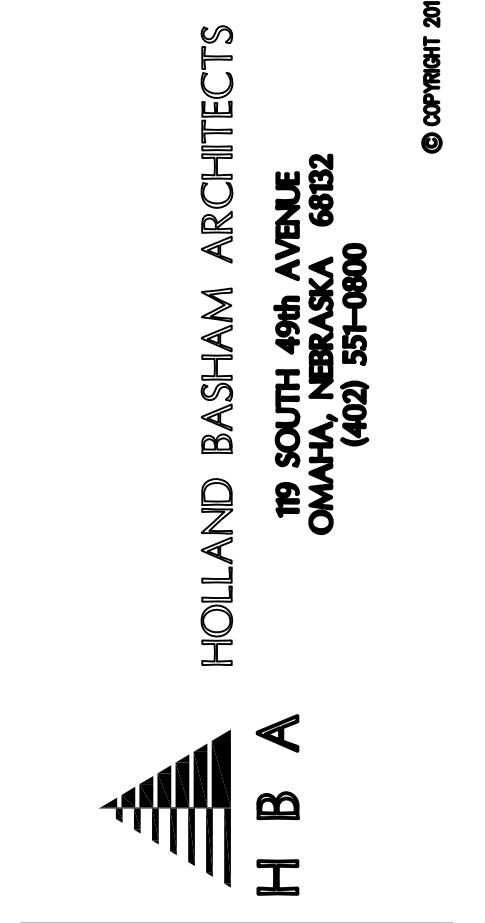
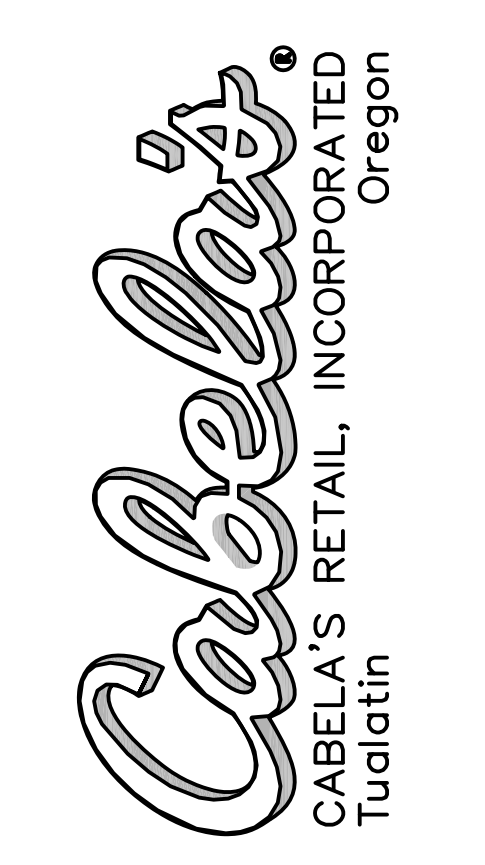
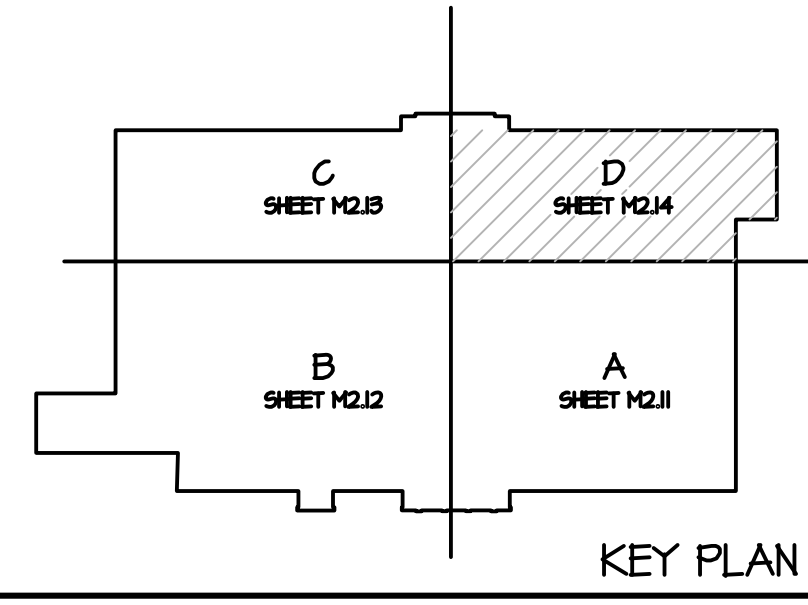
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RTU-26	180
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RH-1	200
TOTAL CONNECTED LOAD	4,980 MBH

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**SEISMIC DESIGN REQ'TS**

- SEE SHEET M1.14 FOR COMPLETE NOTES.



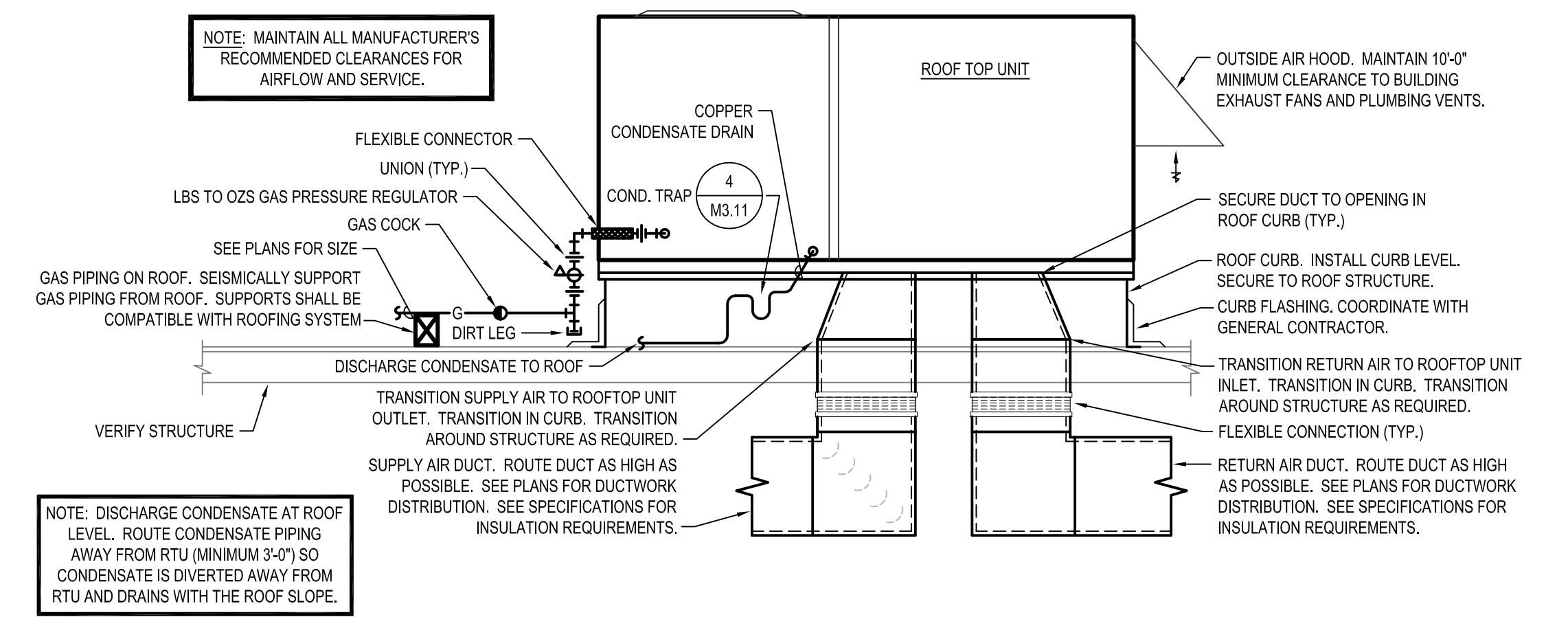
**Cabela's Retail Center**  
 Tualatin, Oregon



Revisions:  
 Permit Issue 10-03-13  
 Rev 4, CCD 2 02-06-14

Drawing Name:  
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 Project #: 12511  
 Drawn By: NWS  
 Date: 06 February 2014  
 Sheet Number:

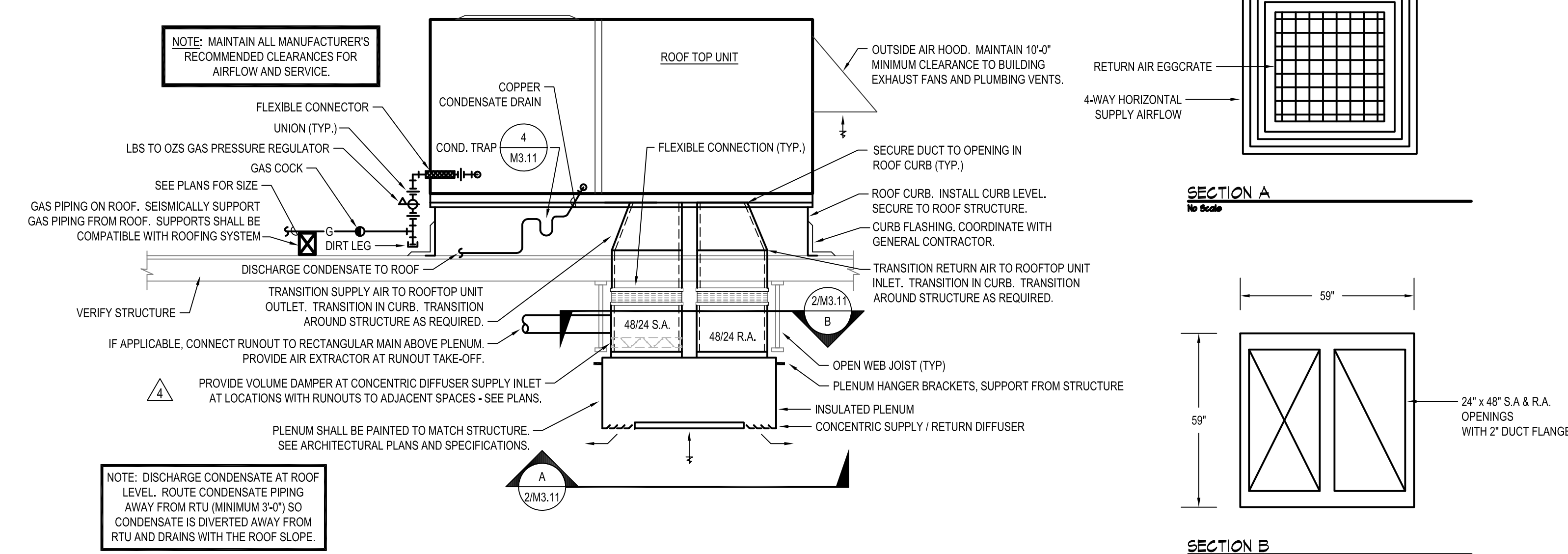
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**ROOFTOP UNIT DETAIL - DUCTED APPLICATIONS**

No Scale

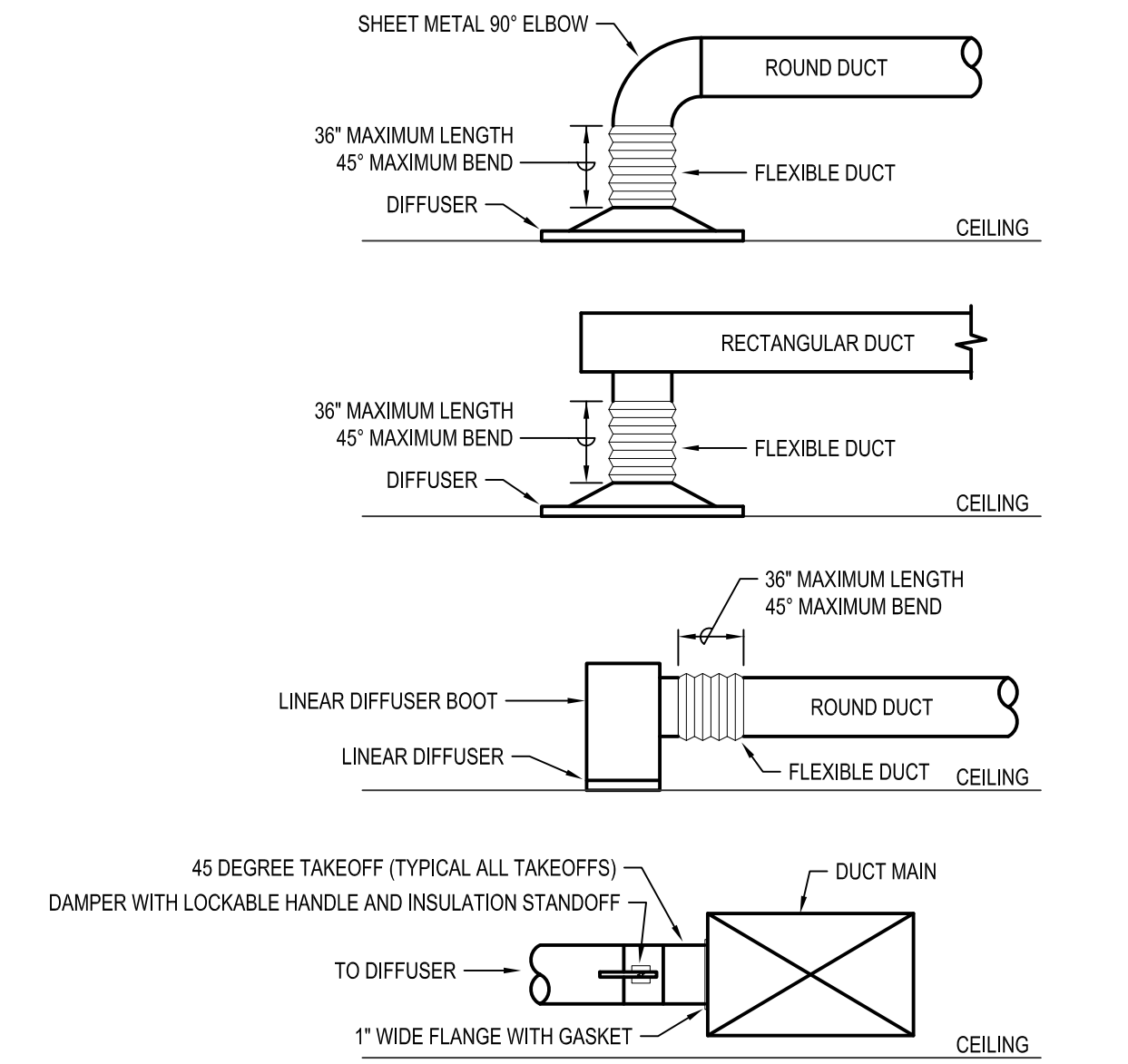
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**ROOFTOP UNIT DETAIL - CONCENTRIC DIFFUSER**

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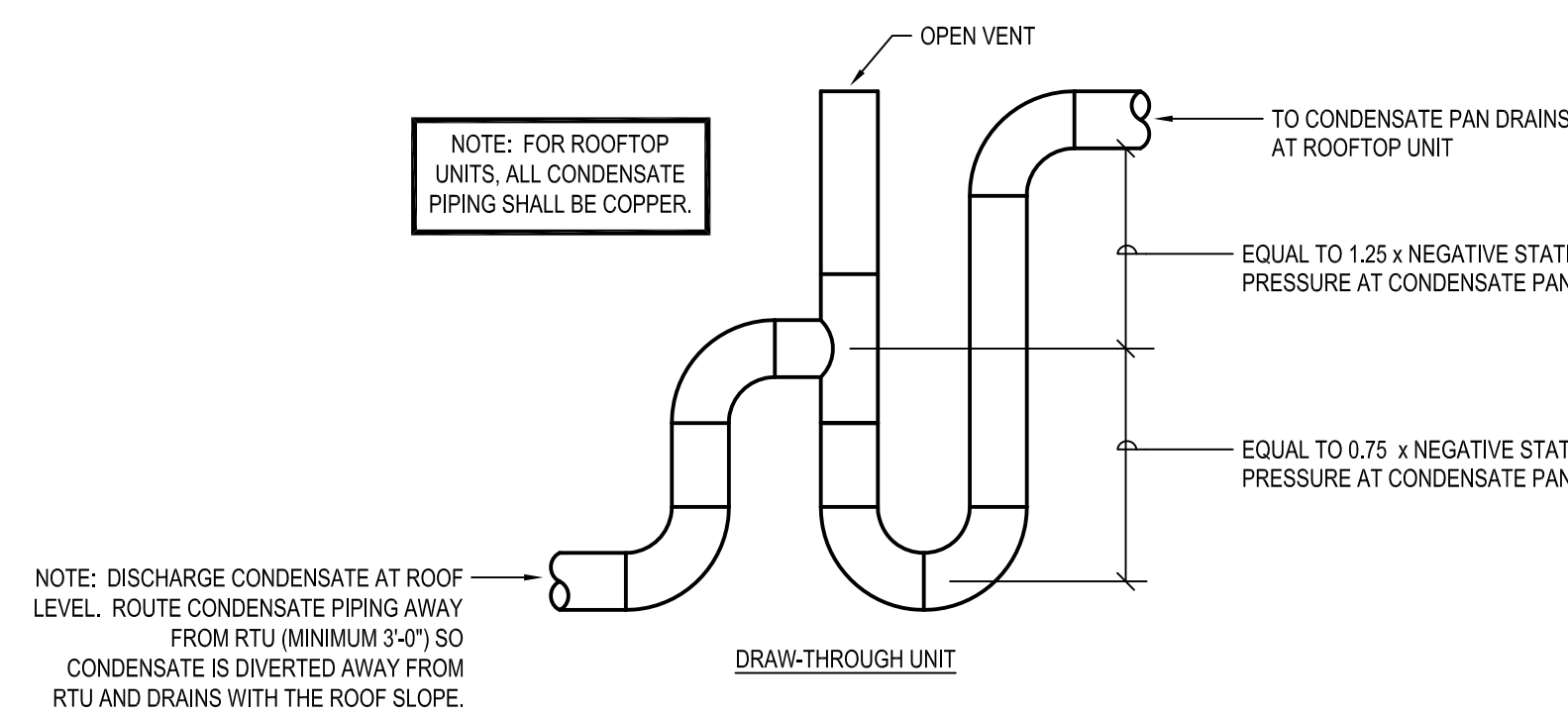
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**DIFFUSER CONNECTION DETAILS**

No Scale

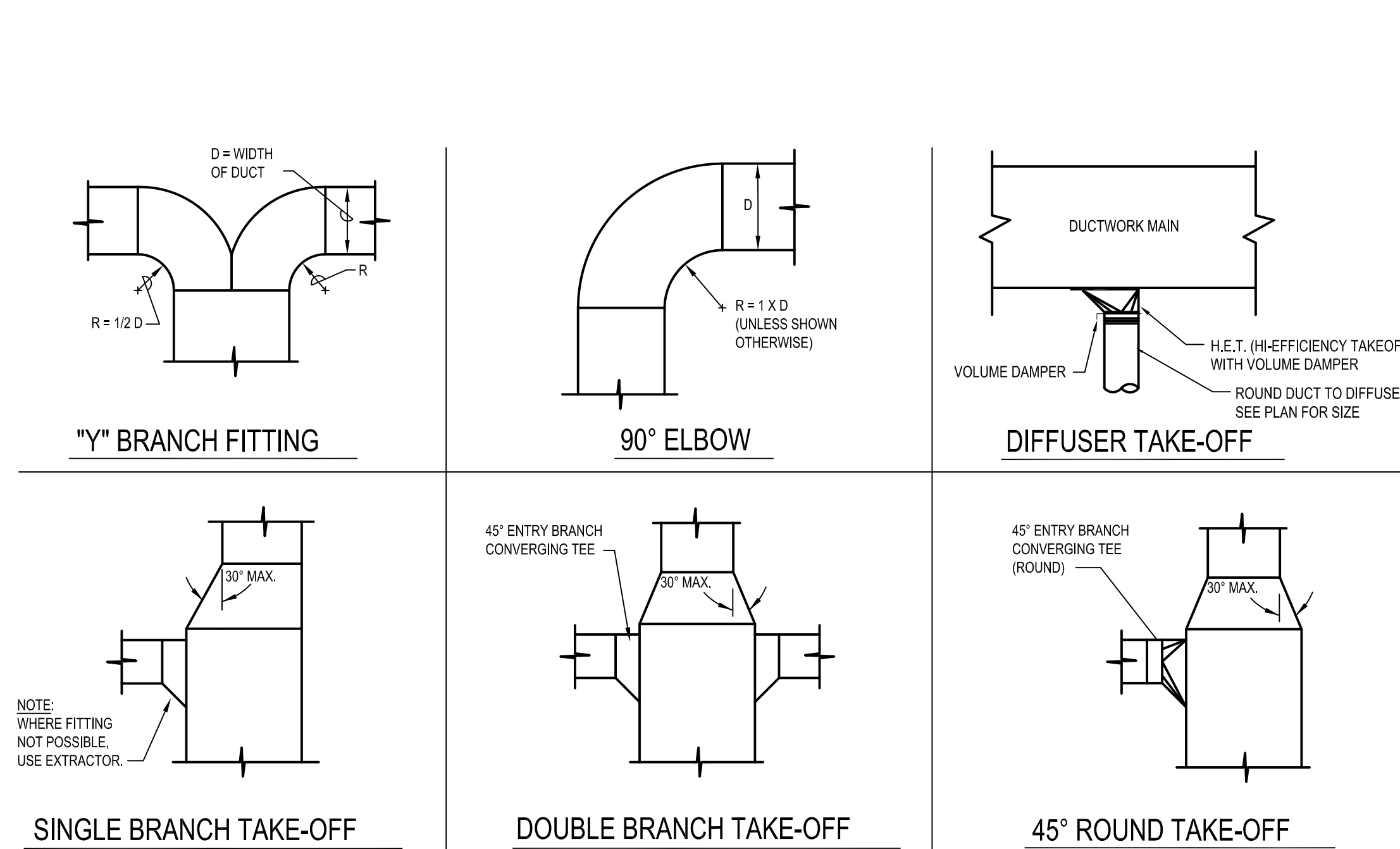
M3.11



**CONDENSATE DRAIN DETAIL**

No Scale

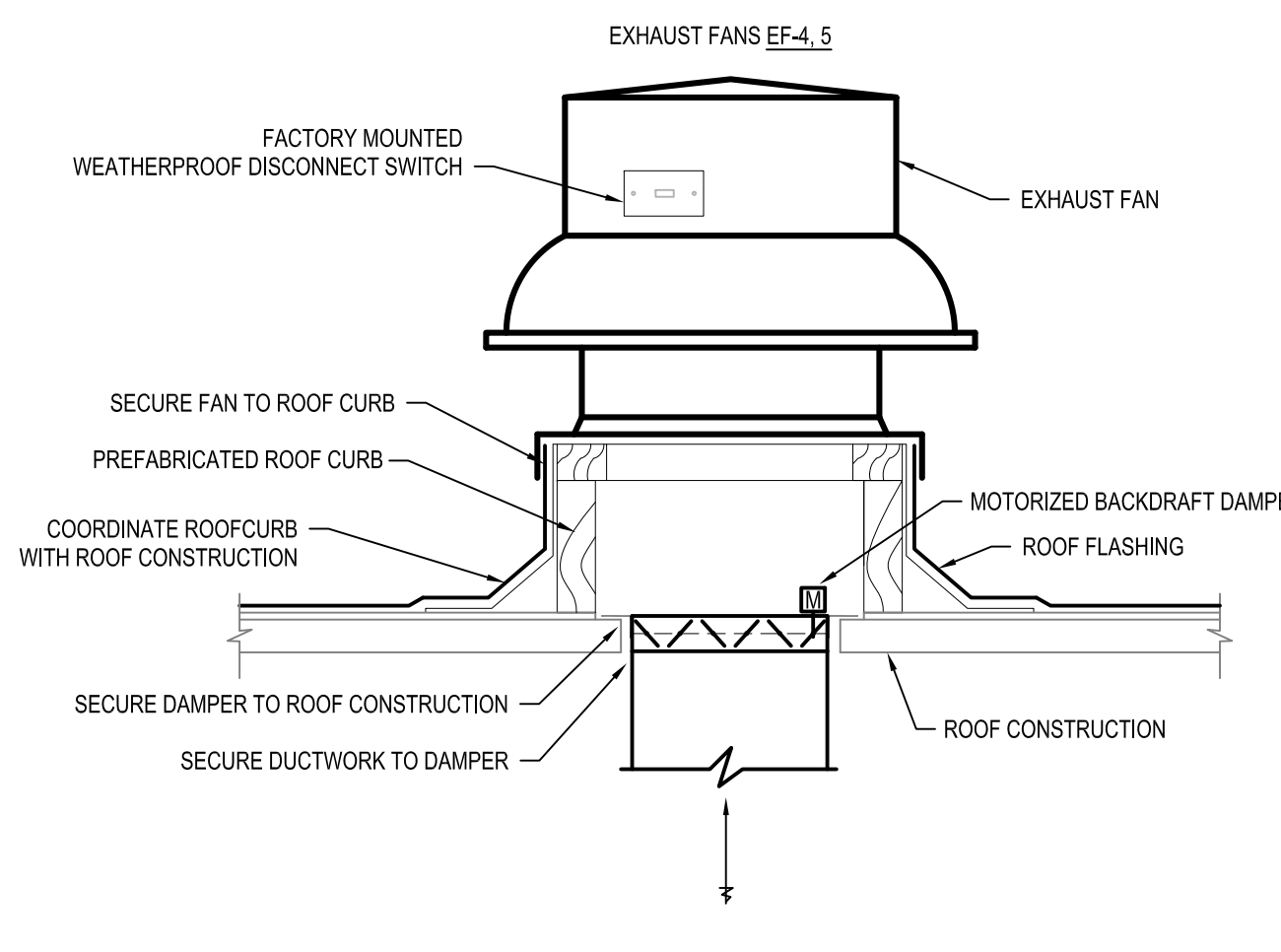
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**DUCT FITTING DETAILS**

No Scale

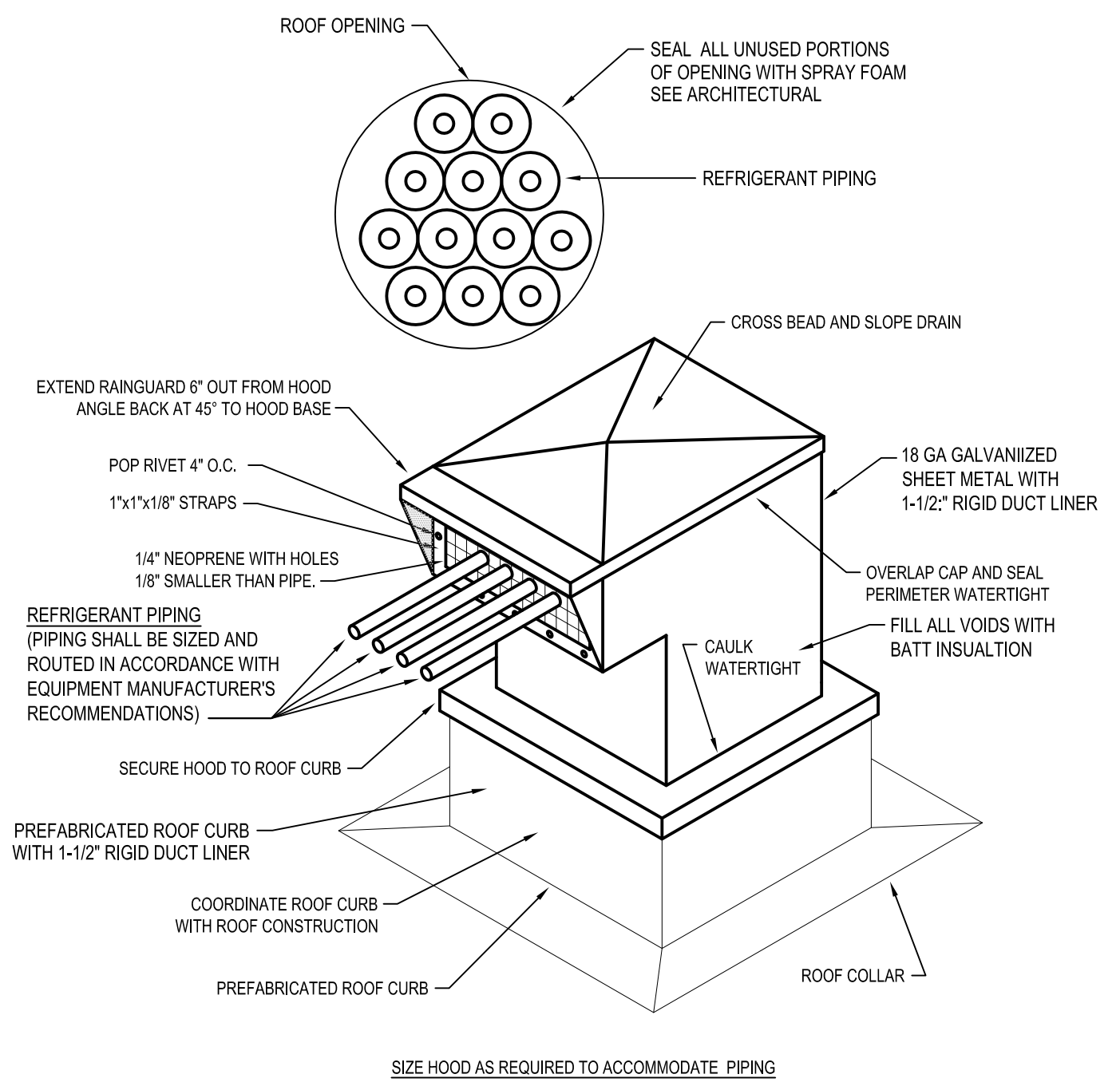
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**EXHAUST FAN DETAIL**

No Scale

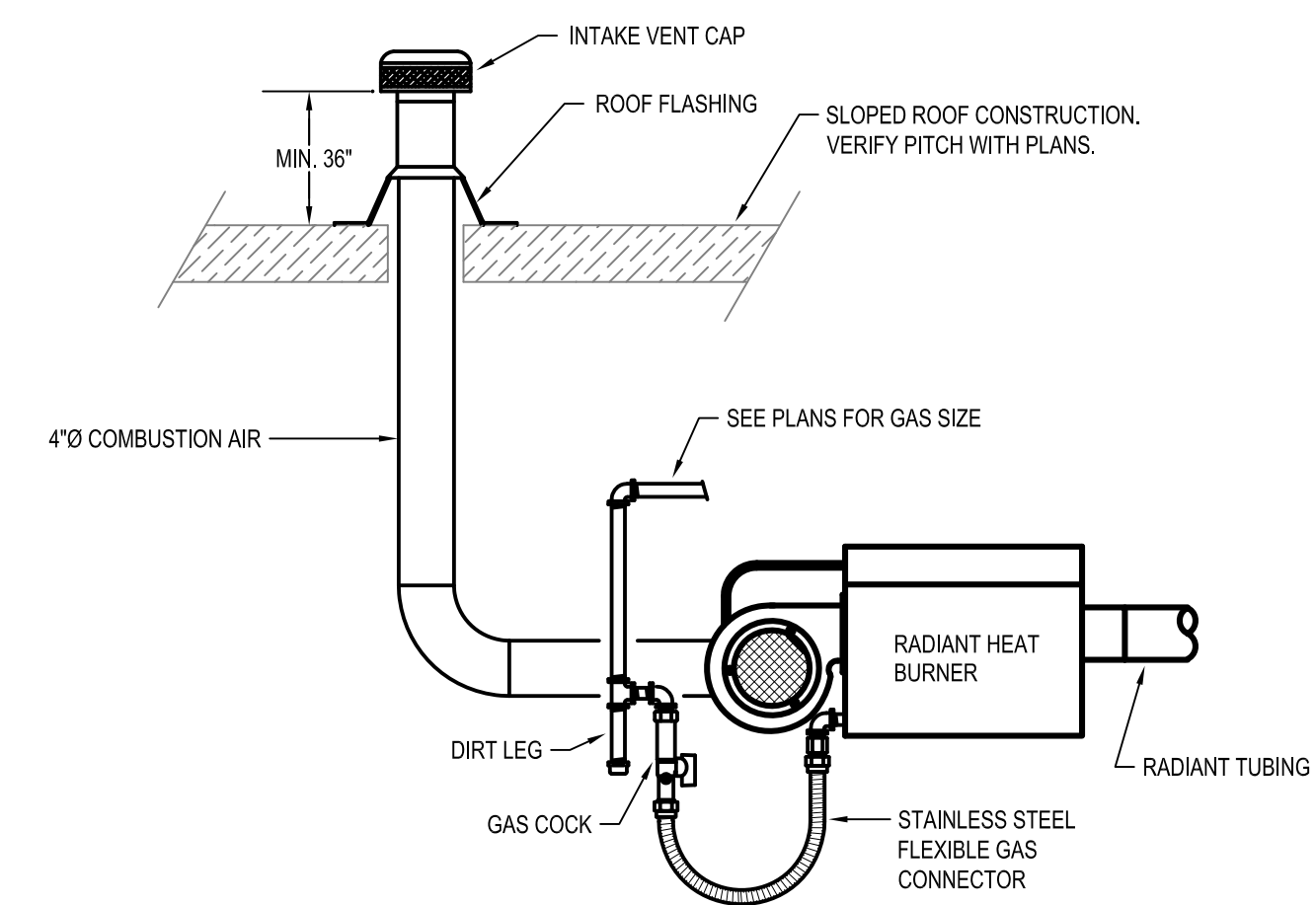
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**PIPING HOOD DETAIL**

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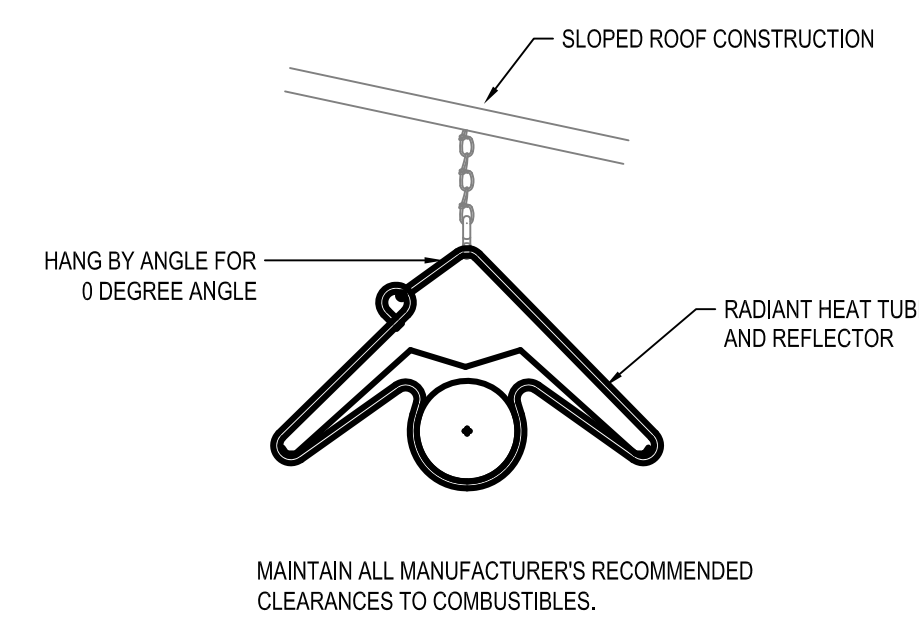
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**RADIANT HEAT BURNER DETAIL**

No Scale

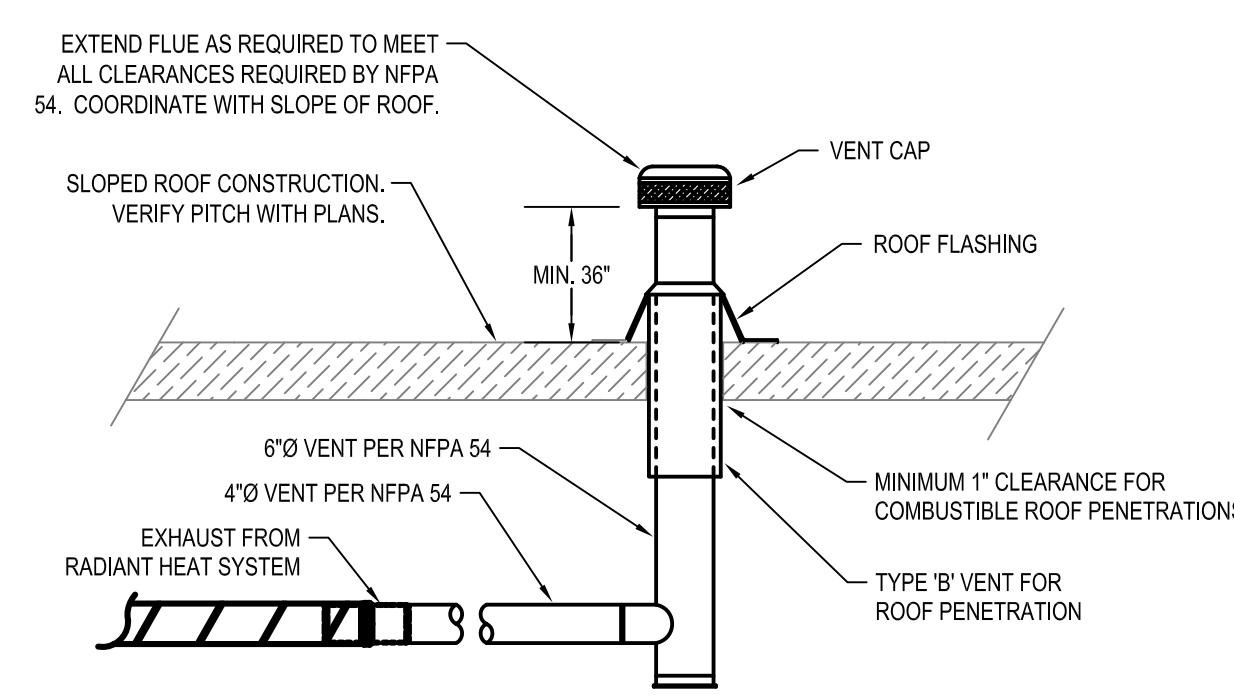
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**RADIANT HEAT HANGING DETAIL**

No Scale

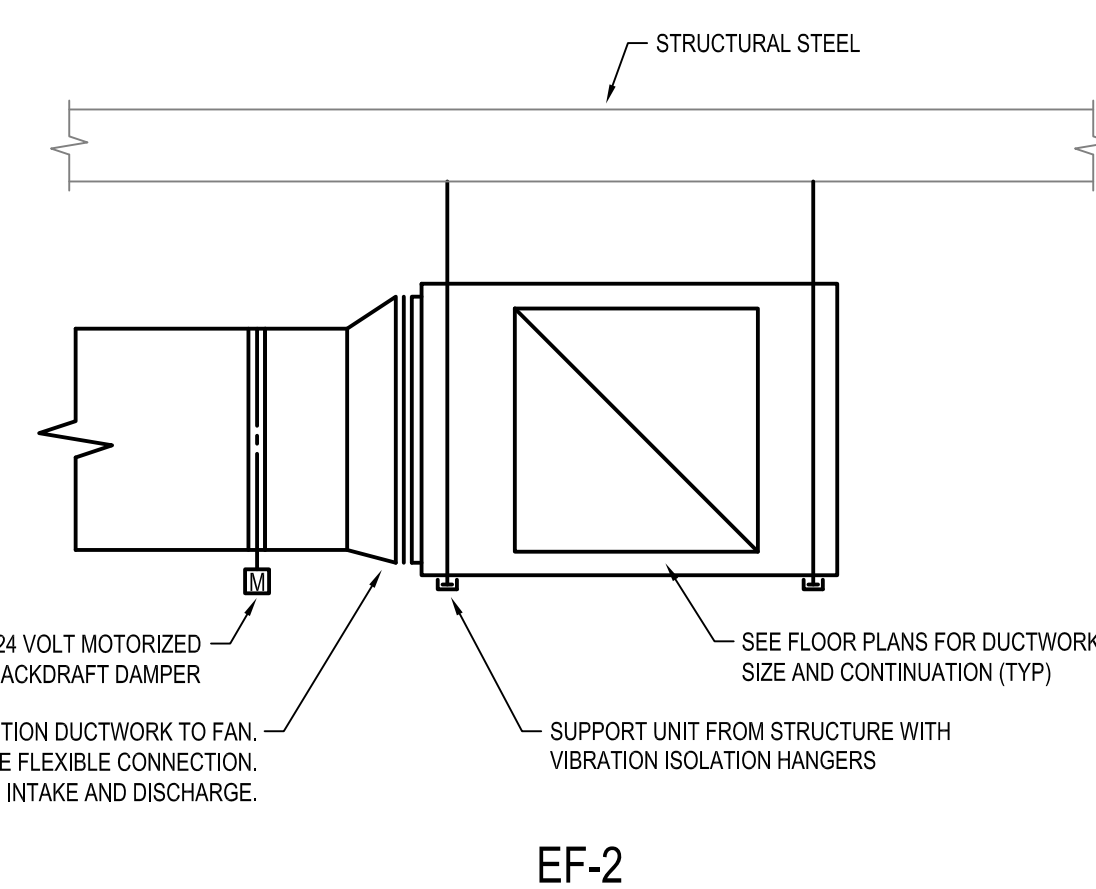
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**RADIANT HEAT EXHAUST DETAIL**

No Scale

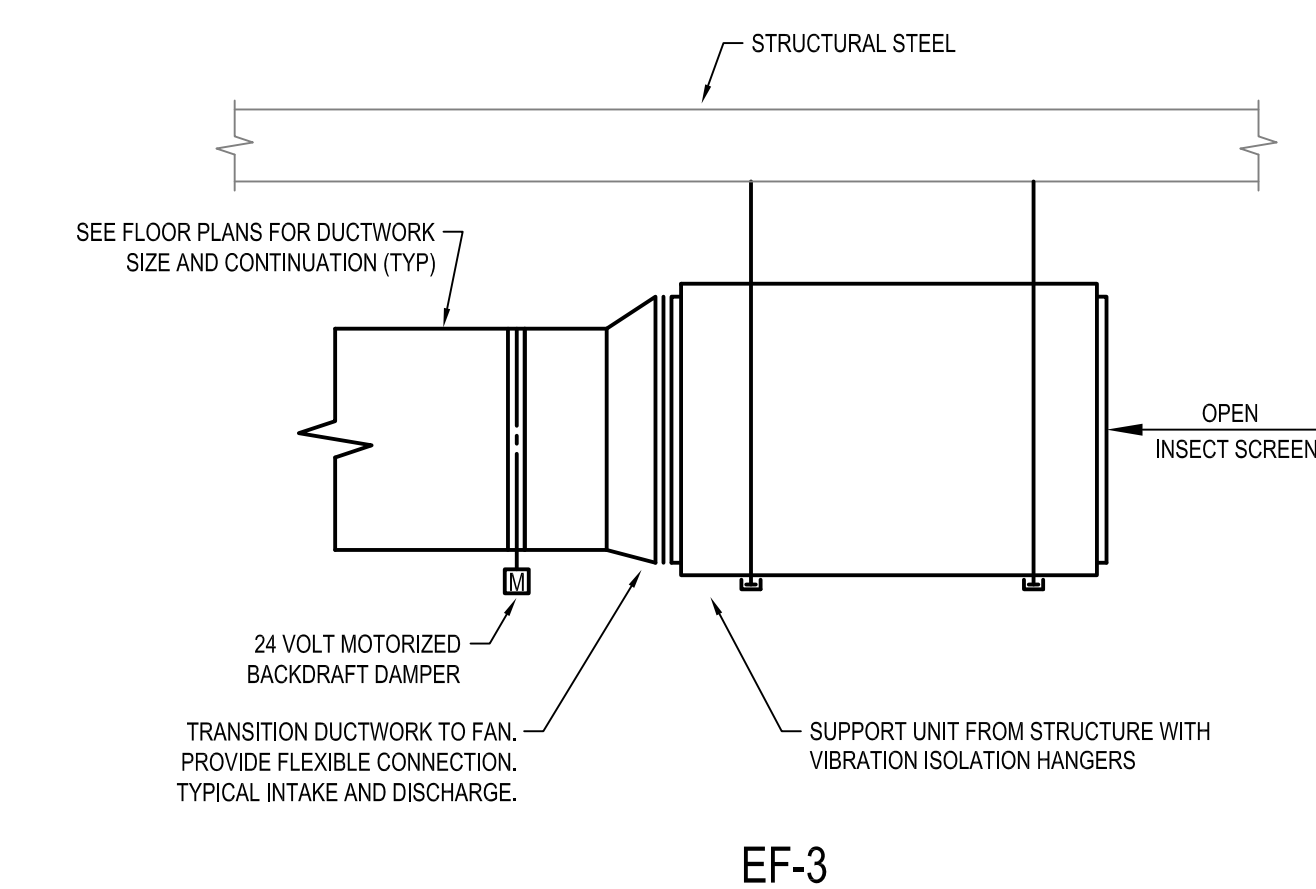
M3.11



**IN-LINE EXHAUST FAN DETAILS**

No Scale

M3.11



Seat:

REGISTERED PROFESSIONAL  
ENGINEER  
*George M. Morrissey*  
LICENSE NO. 000000000  
EXPIRES 12-31-14  
RENEWED 02-06-14

Revisions: 10-03-13

Permit Issue

Rev 4, CCD 2 02-06-14

Drawing Name:  
HVAC  
DETAILS

Project #: 12511

Drawn By: DCP

Date: 06 February 2014

Sheet Number:

**M3.11**

NOT USED  
No Scale

**ELECTRIC DUCT HEATER DETAIL**  
No Scale

**RETURN AIR BOOT DETAILS**  
No Scale

**DUCTLESS SPLIT AC UNIT DETAIL**  
No Scale

**UPBLAST EXHAUST FAN DETAIL**  
No Scale

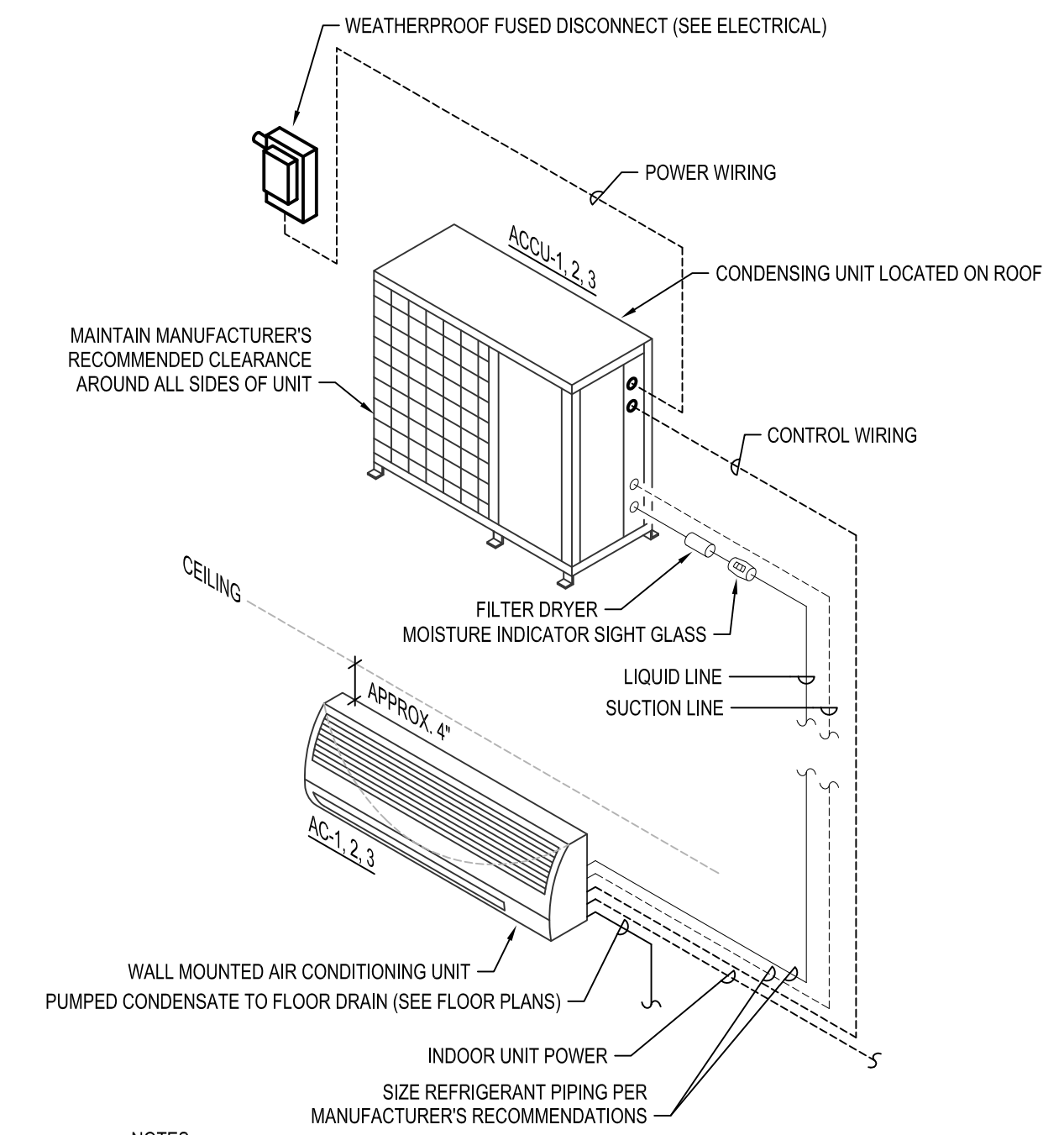
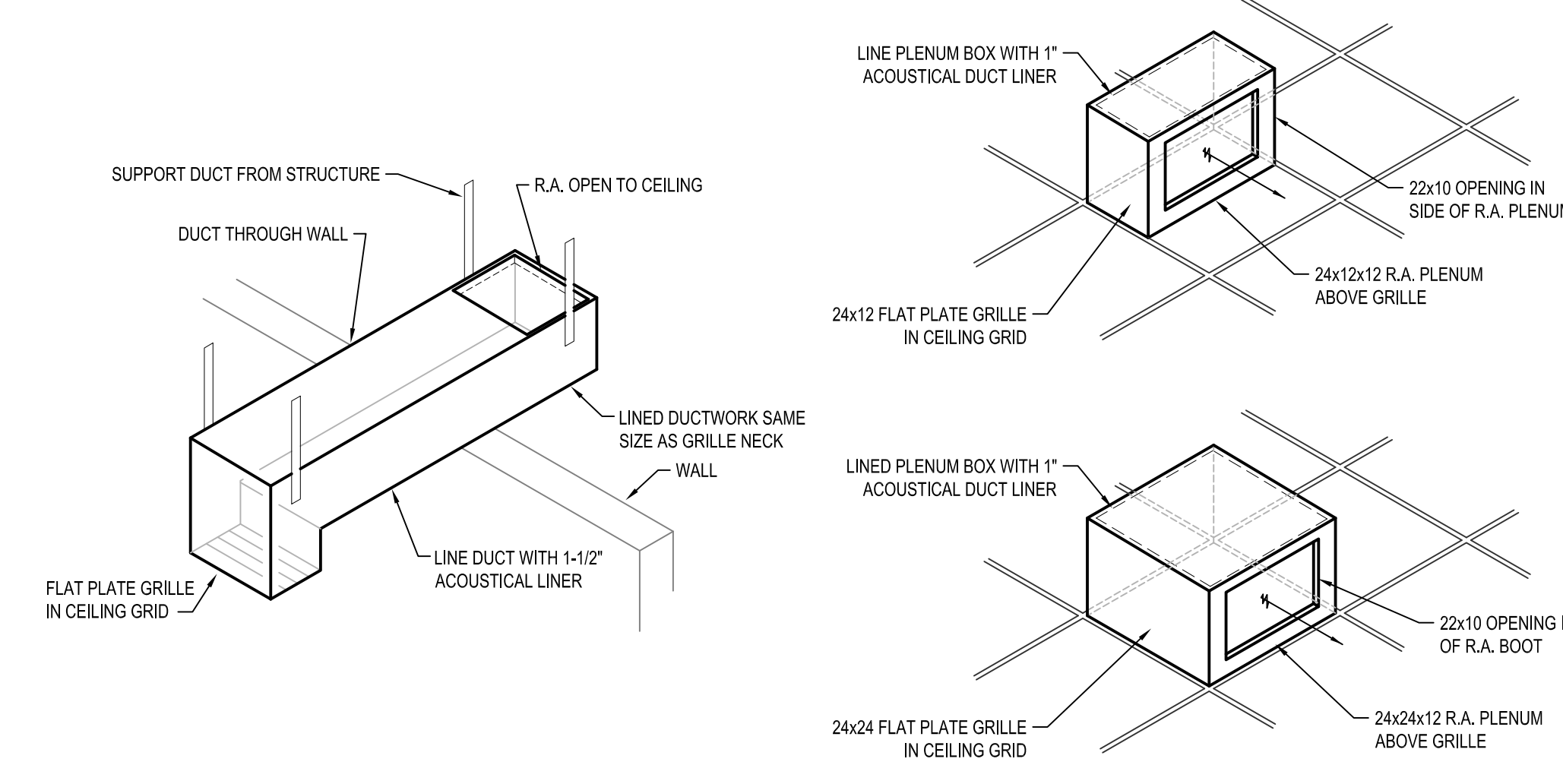
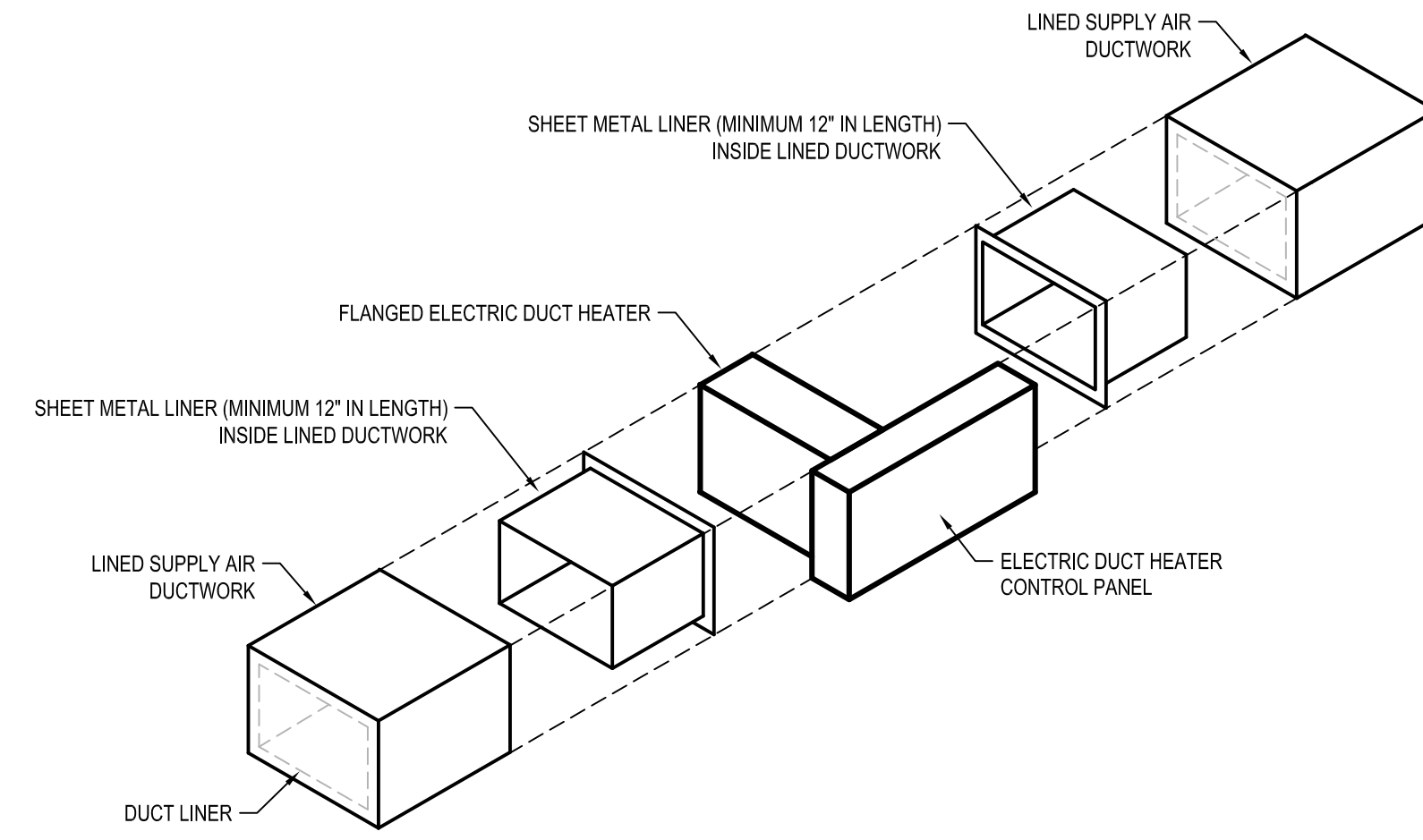
**ARCHERY VACUUM SYSTEM DETAIL**  
No Scale

**TRANSFER FAN DETAIL**  
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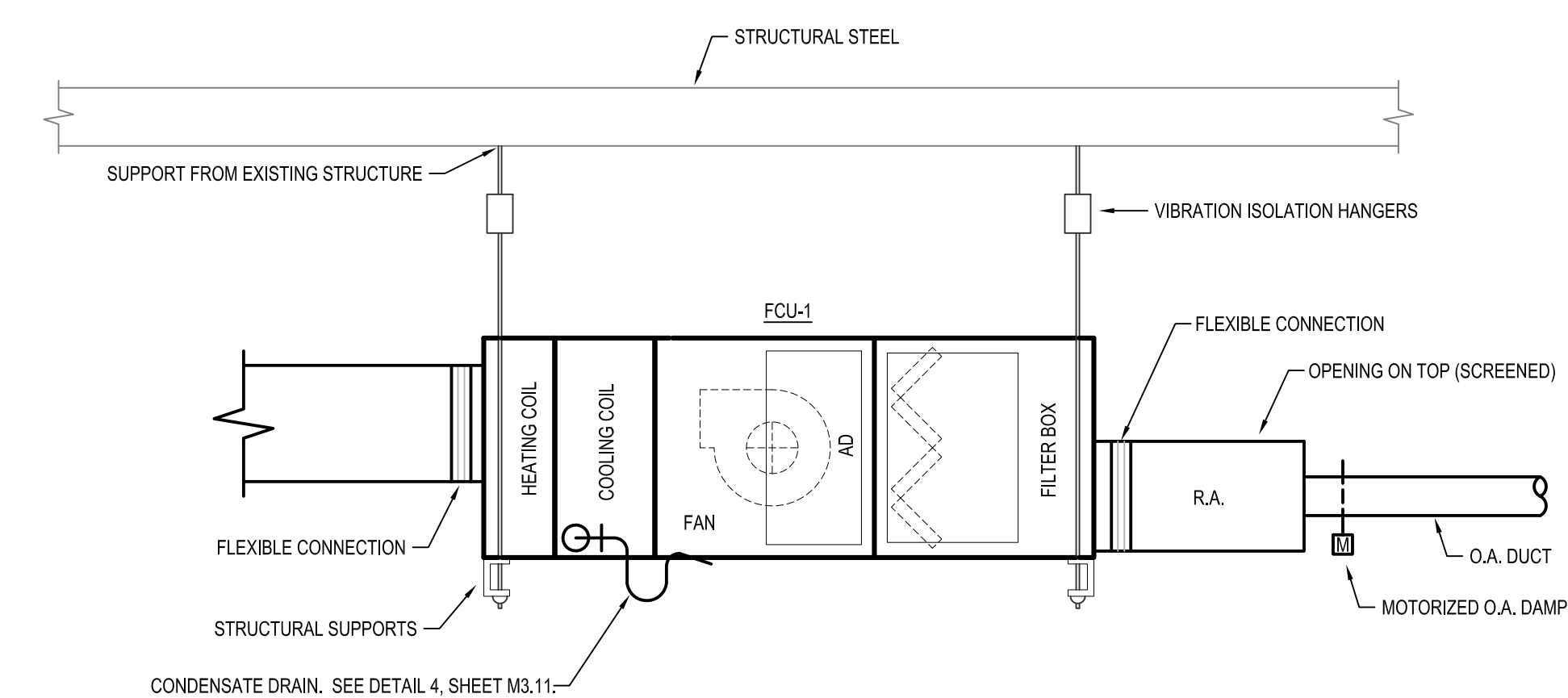
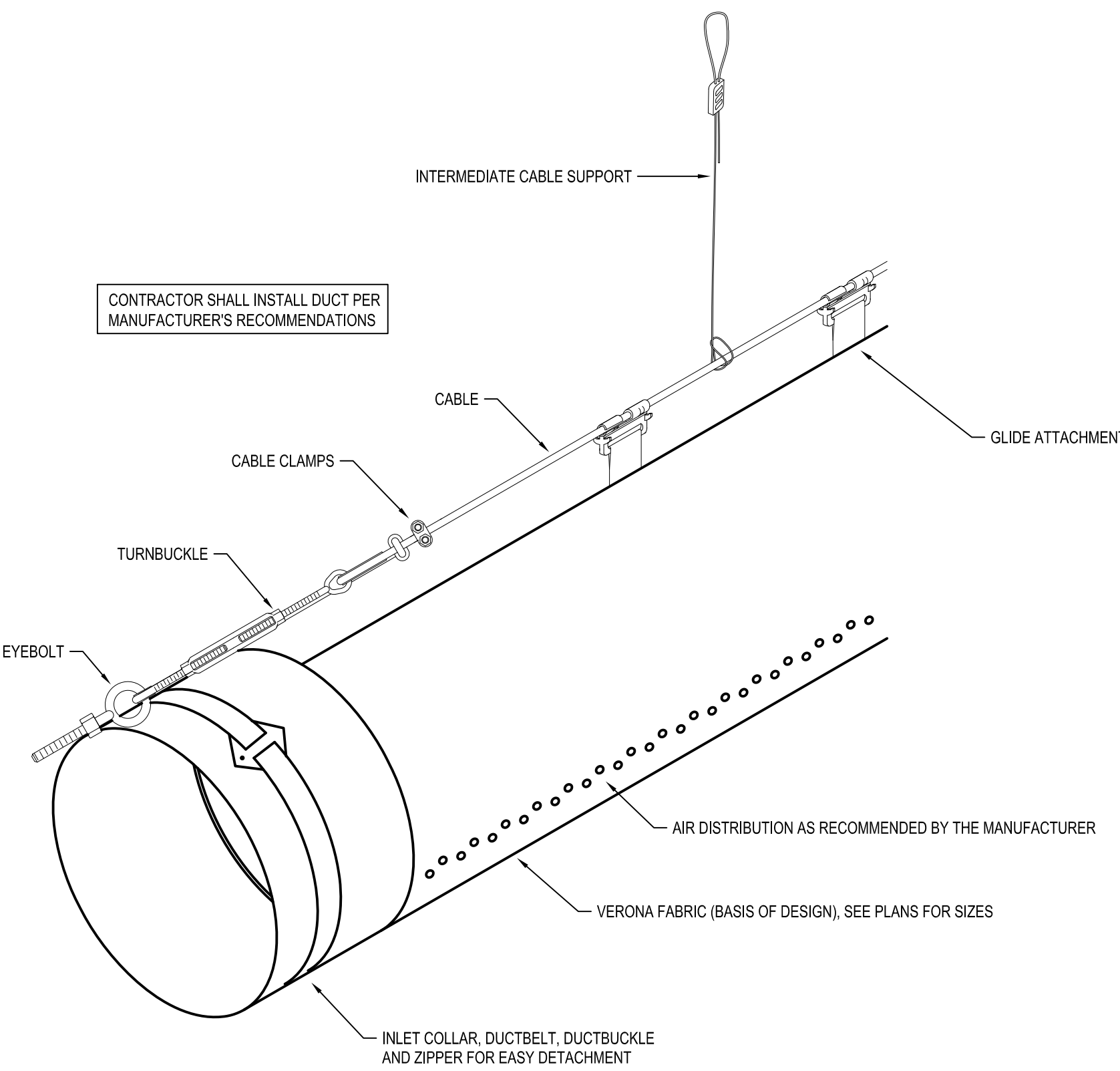
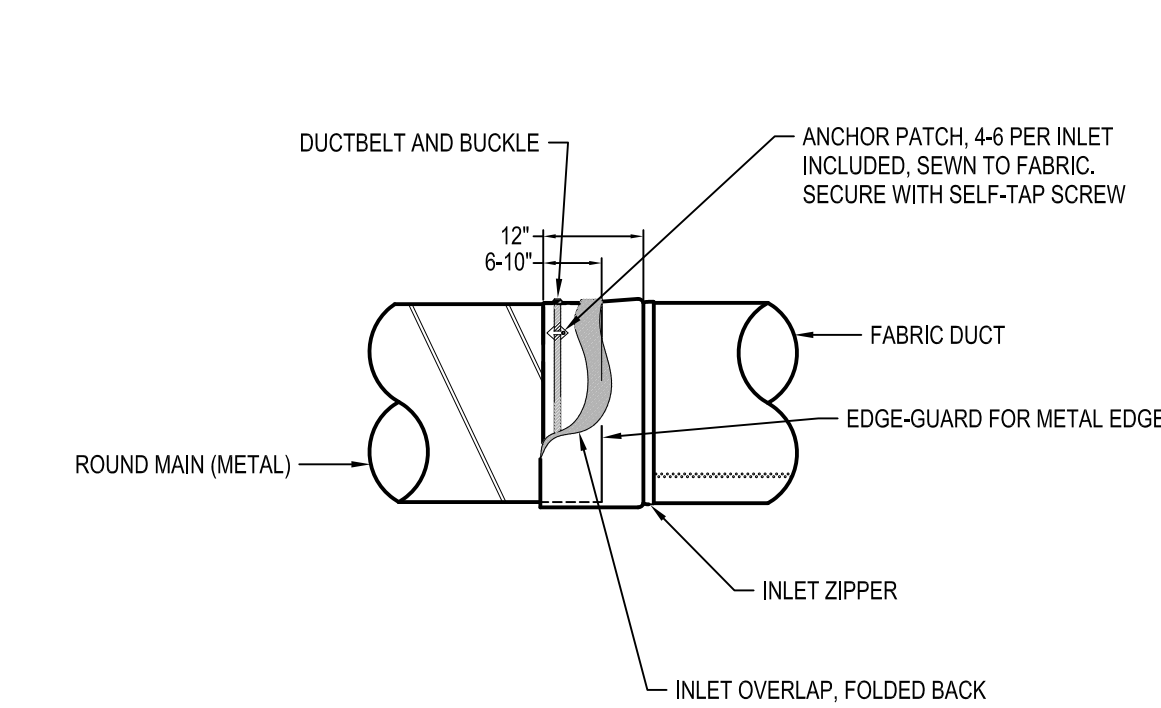
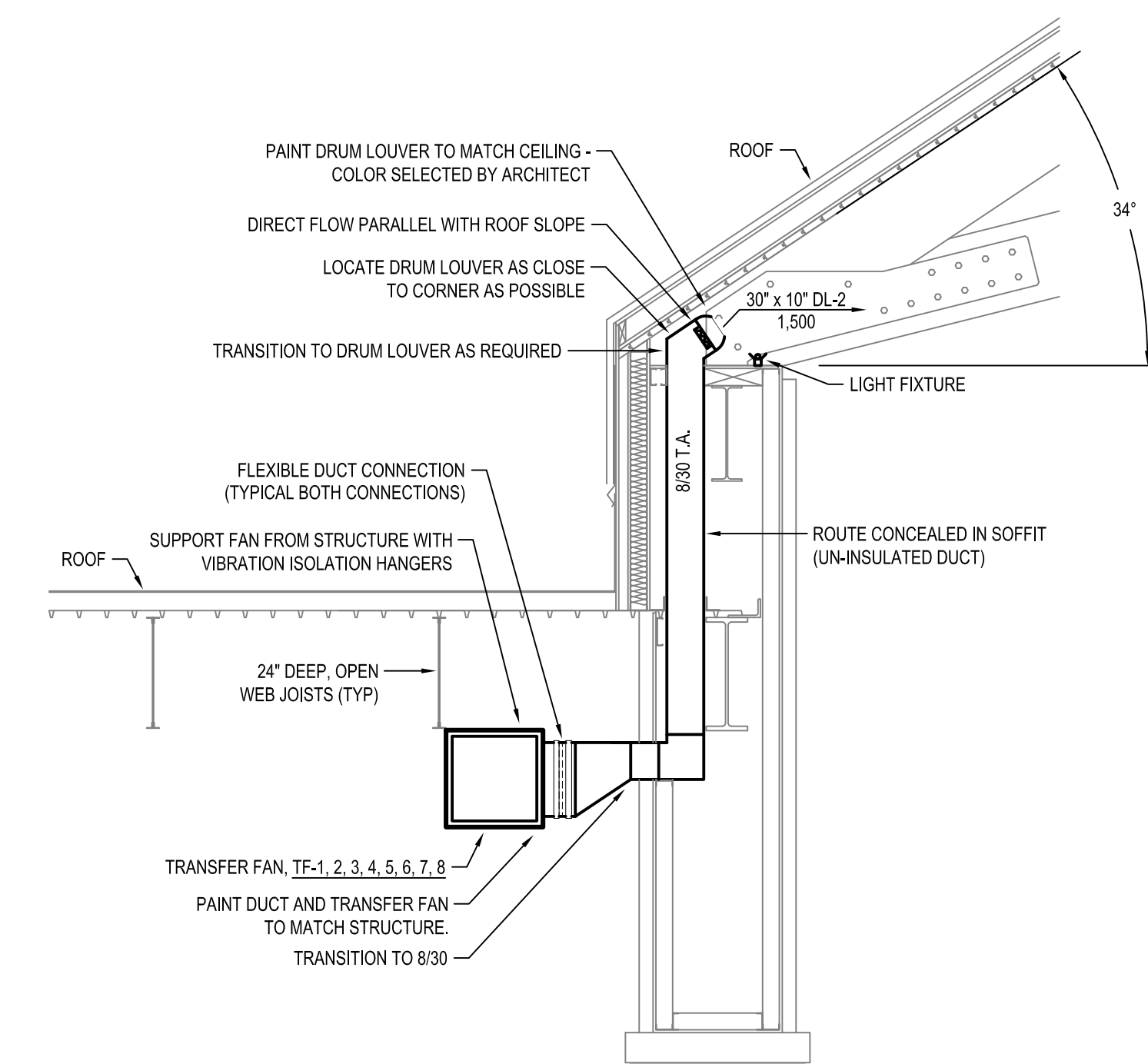
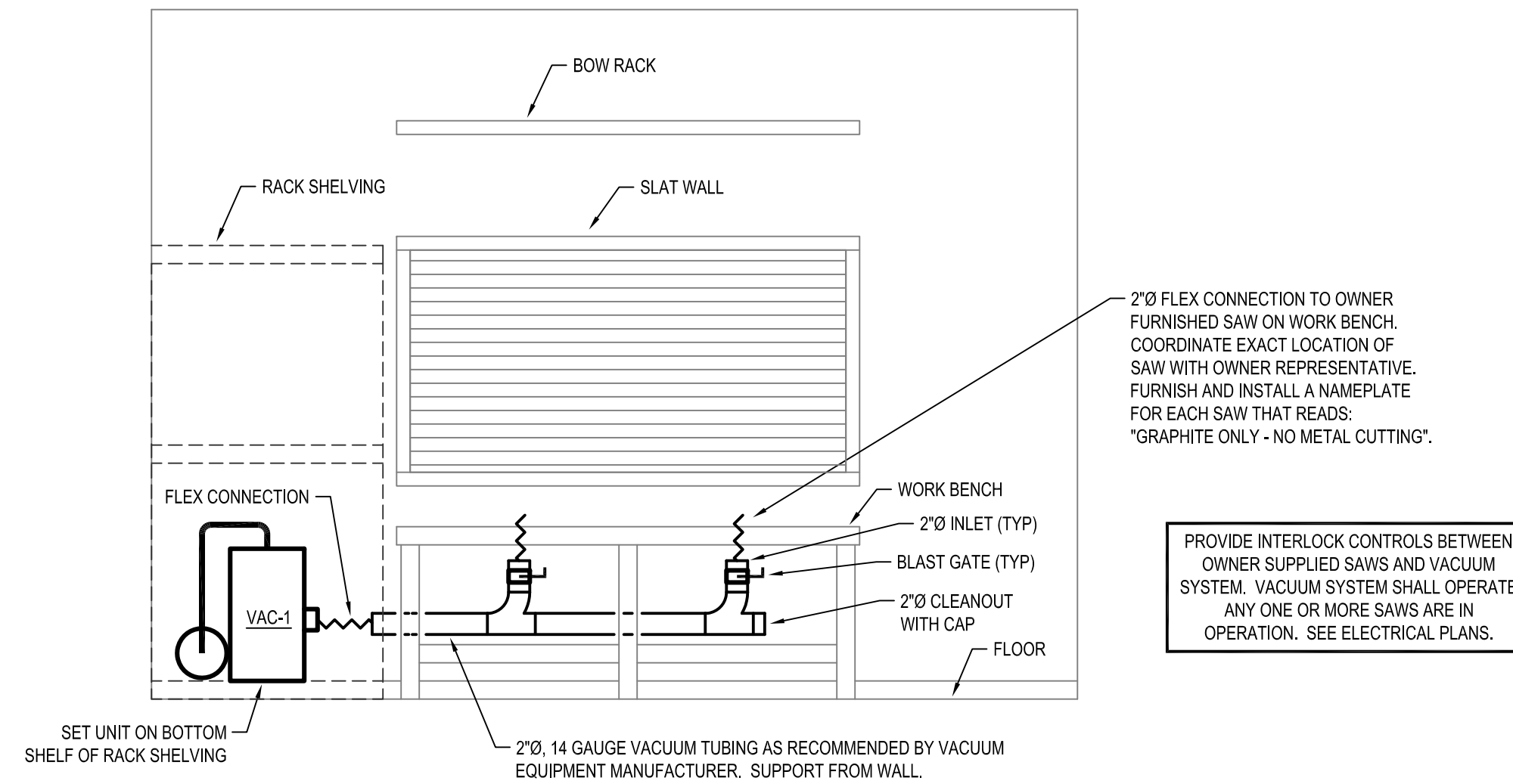
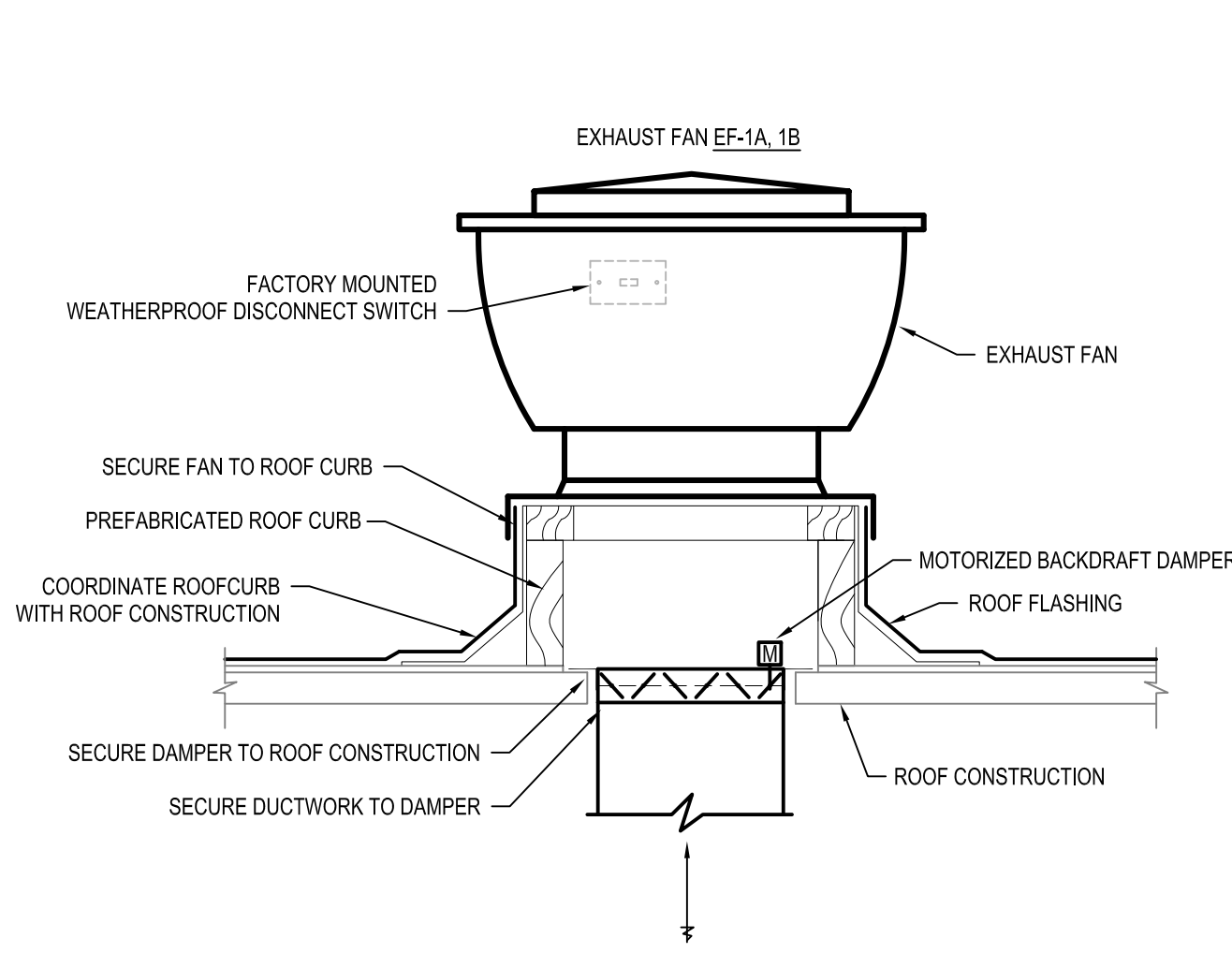
**FABRIC DUCT INLET ATTACHMENT DETAIL**  
No Scale

**FABRIC DUCT SUSPENSION DETAIL (1-ROW CABLE)**  
No Scale

**FAN COIL UNIT DETAIL**  
No Scale



- NOTES:
- 1) WIRING AND PIPING SHOWN ARE GENERAL POINTS-OF-CONNECTION GUIDES ONLY AND ARE NOT INTENDED FOR A SPECIFIC INSTALLATION. REFER TO FLOOR PLANS FOR EQUIPMENT ORIENTATION. ALSO REFER TO MANUFACTURER'S INSTALLATION MANUALS FOR SPECIFIC INSTALLATION REQUIREMENTS.
  - 2) CONDENSATE PIPING ROUTED IN CEILING PLENUMS SHALL BE COPPER AND SHALL BE INSULATED. SEE SPECIFICATIONS.
  - 3) INSULATE SUCTION LINES.



ROOFTOP UNIT SCHEDULE

Table with columns for Plan Tag, Manufacturer, Model Number, Services, Configuration, Maximum Size (L/W/H), Minimum Weight (LBS), Remarks, Total Airflow (CFM), External SP (in. W.C.), Exhaust Fan Airflow (CFM), Minimum Outside Airflow (CFM), Economizer Outside Airflow (CFM), Volts, Phase, Maximum Fuse Size (AMPS), Minimum Circuit Ampacity (MCA), Ambient Air Temperature (F), Minimum Net EER (SEER (ARI)), Nominal Capacity (Tons), Min. Net Total Cooling (MBH), Min. Net Sensible Cooling (MBH), No. of Compressors, Minimum Steps of Unloading, Type, Size, HP, Type, Size, HP, Fuel, Input, Output, Efficiency, Remarks, Accessories, Controls, Remarks.

GAS-FIRED RADIANT HEAT SCHEDULE

Table with columns for Plan Tag, Manufacturer, Model Number, Services, Configuration, Tubing Construction, Venting Type, Remarks, Fuel, Input (MBH), Output (MBH), Efficiency, Vent Connection (in), Remarks, Volts, Phase, Control Device, Motor HP, and Remarks.

MECHANICAL SYMBOLS

Table mapping symbols to descriptions for Mechanical Symbols, including typical piping, hydronic hvac piping, refrigeration piping, and hvac components.

FAN SCHEDULE

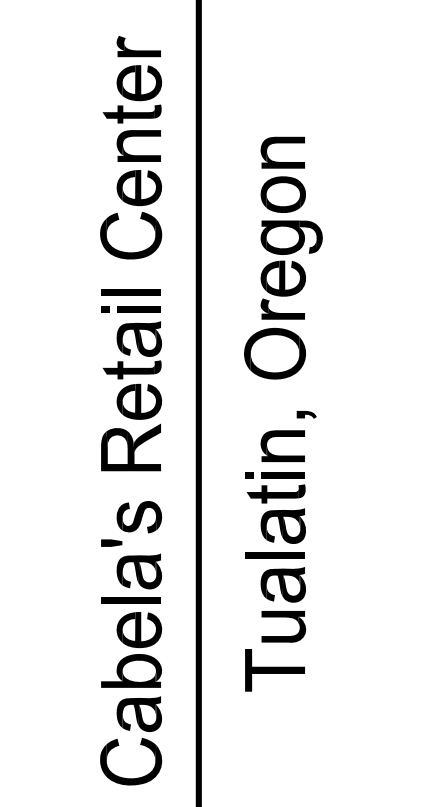
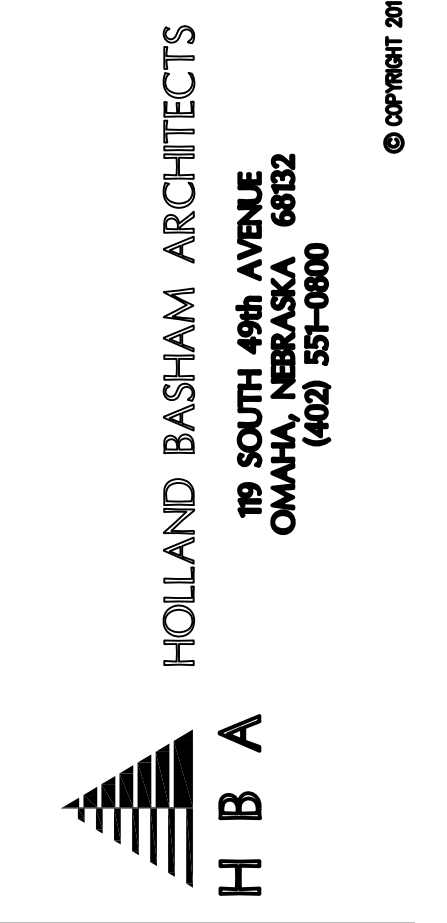
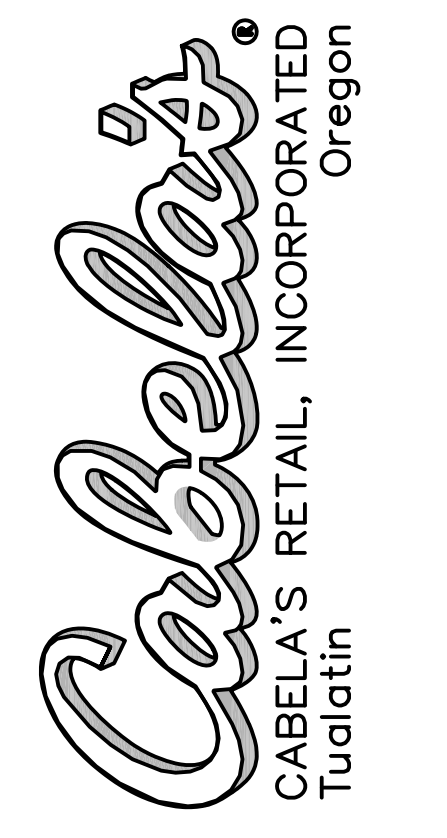
Table with columns for Plan Tag, Manufacturer, Model Number, Services, Type, Maximum Weight (LBS), Roof/Wall Opening Size, Accessories, Airflow (CFM), Total SP (in. W.C.), Class, Wheel Type, Minimum Wheel Dia., Maximum Sones, Maximum Fan RPM, Maximum Fan BHP, RPM, HP, Volts, Phase, Type, Control Device, Remarks, and Remarks.

DIFFUSER, REGISTER, GRILLE, AND LOUVER SCHEDULE

Table with columns for Plan Tag, Manufacturer, Model Number, Function, Description, Deflection, Maximum Static Pressure (in. W.G.), Construction Material, Finish, Neck Size (in), Face Size (in), Accessories, Remarks, and Remarks.

MINIMUM VENTILATION RATE CALCULATIONS

Table with columns for Equipment Description, Approx. Area (sf), Occupancy Classification, CFM per Person, CFM per sq ft, CFM Rec'd, and Min. CFM Provided.





Professional Engineer stamp for King M. Morrissey, Mechanical Engineering. Includes text: 'Revisions: Permit Issue 10-03-13', 'Rev 4, CDD 2 02-06-14', 'Drawing Name: HVAC SCHEDULES', 'Project #: 12511', 'Drawn By: DCP', 'Date: 06 February 2014', 'Sheet Number:'

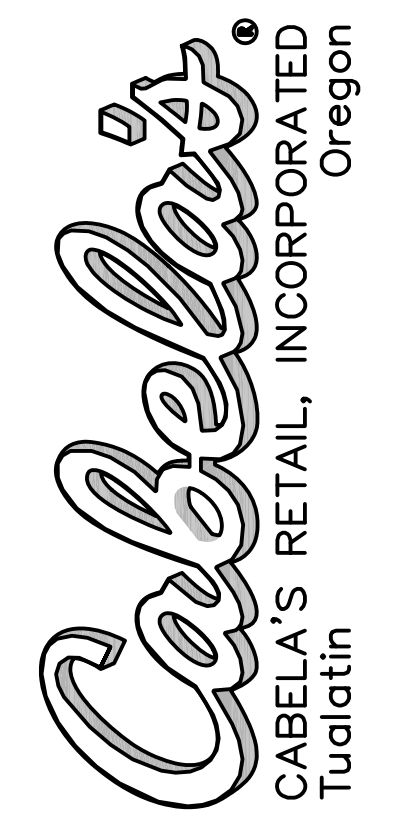
AIR-TO-AIR HEAT PUMP SCHEDULE		
PLAN TAG	HP-1	
MANUFACTURER	YORK	
MODEL NUMBER	YHJD36-S44S4	
SERVES	FCU-1	
CONFIGURATION	(1)	
MAXIMUM SIZE (LxWxH)	34" x 34" x 40"	
MAXIMUM WEIGHT (LBS.)	250	
REMARKS	(3) (4) (6)	
VOLTS	460	
PHASE	3	
MAXIMUM UNIT KW	3.12	
MAXIMUM FUSE SIZE (AMPS)	15	
MINIMUM CIRCUIT AMPACITY (MCA)	6.4	
REMARKS	(5)	
AMBIENT AIR TEMPERATURE (F)	95°F	
MINIMUM NET EER (ARI)	11.0	
NOMINAL CAPACITY (TONS)	3	
TOTAL COOLING (MBH)	35.5	
SENSIBLE COOLING (MBH)	25.7	
AMBIENT AIR TEMPERATURE (F)	47°F	
MINIMUM NET EER (ARI)	-	
MINIMUM HEATING CAPACITY (MBH)	32.5	
TYPE	R-410A	
MIN. NUMBER OF CIRCUITS	1	
REMARKS	-	
TYPE	RECIP	
QUANTITY/SIZE	1	
HP	3 TONS	
REMARKS	(2)	
TYPE	-	
QUANTITY/SIZE	-	
HP	-	
REMARKS	-	
REMARKS	(1) REMOTE OUTDOOR SPLIT SYSTEM AIR-TO-AIR HEAT PUMP. (2) PROVIDE 5 YEAR COMPRESSOR WARRANTY (3) LOW AMBIENT CONTROLS ALLOWING OPERATION DOWN TO 0°F. (4) CRANKCASE HEATER. (5) DISCONNECT BY ELECTRICAL. (6) HAIL GUARDS.	

FAN COIL UNIT (ELECTRIC HEAT) SCHEDULE		
PLAN TAG	FCU-1	
MANUFACTURER	YORK	
MODEL NUMBER	MA18CM41 (1)	
SERVES	EQUIP RM 129A	
CONFIGURATION	HORIZONTAL (6)	
MAXIMUM SIZE (LxWxH)	22" x 21" x 26" (10)	
MAXIMUM WEIGHT	250	
OUTSIDE AIRFLOW (CFM)	300	
REMARKS	(1)	
AIRFLOW (CFM)	1,200	
EXTERNAL STATIC PRESSURE (IN. W.C.)	0.75"	
MAXIMUM FAN BHP	-	
RPM	-	
HP	(5)	
VOLTS	460	
PHASE	3	
TYPE	(9)	
CONTROL DEVICE	-	
REMARKS	-	
ENTERING AIR TEMP (°F)	60	
LEAVING AIR TEMP (°F)	94.9	
TOTAL CAPACITY (BTUH)	45.2	
REMARKS	(7)	
ENTERING DB (°F)	80°F	
ENTERING WB (°F)	67°F	
LEAVING DB (°F)	60.2°F	
LEAVING WB (°F)	57.7°F	
TOTAL CAPACITY (MBH)	35.5	
SENSIBLE CAPACITY (MBH)	25.7	
REMARKS	-	
VOLTAGE/PHASE	460 / 3	
SIZE (KW)	15	
NUMBER OF STAGES	2	
KW PER STAGE	7.5	
REMARKS	(7) (8)	
REFRIGERANT TYPE	R-410A	
SATURATED SUCTION TEMP (°F)	-	
REMARKS	(2)	
FILTERS	(3)	
HUMIDIFIER	-	
CONTROLS	(4)	
REMARKS	(5)	
REMARKS	(1) MODULAR AIR HANDLING UNIT WITH DX COOLING AND ELECTRIC HEAT. (2) COOLING COIL AND AIR-TO-AIR HEAT PUMP TO MATCH AIR HANDLING UNIT. (3) 2" PLEATED DISPOSABLE FILTER OF MERV 8 MINIMUM. (4) DDC SYSTEM - SEE TEMPERATURE CONTROL SPECIFICATIONS. PROVIDE CONTROL TERMINAL STRIP. (5) HARD START KIT. (6) MULTI-POSITION MODULAR AIR HANDLER INSTALLED IN A HORIZONTAL CONFIGURATION. (7) ELECTRIC HEAT NOMINAL CAPACITY OF 15 KW. (8) FACTORY INSTALLED ELECTRIC HEAT WITH SINGLE POINT ELECTRICAL CONNECTION. DISCONNECT PROVIDED BY ELECTRICAL. 24.9 MCA. 25 AMP MOCOP AT 460 VOLT / 3 PHASE. (9) THREE SPEED MOTOR. (10) DIMENSIONS ARE FOR MODULAR AIR HANDLER UNIT ONLY. ADDITIONAL SPACE REQUIRED FOR DX COOLING AND ELECTRIC HEATING COILS.	

ELECTRIC HEATING COIL SCHEDULE						
PLAN TAG	EDH-1	EDH-2	EDH-3	EDH-4	EDH-5	
MANUFACTURER	INDEECO	INDEECO	INDEECO	INDEECO	INDEECO	
MODEL NUMBER	OUZ	OUZ	OUZ	OUZ	OUZ	
SERVES	CONFERENCE 135	SECURITY 137	OFFICE 209	CONFERENCE 208	CONFERENCE 207	
APPROXIMATE SIZE (LxWxH)	(3)	(3)	(3)	(3)	(3)	
TYPE	OPEN COIL	OPEN COIL	OPEN COIL	OPEN COIL	OPEN COIL	
MAX. FINS PER INCH	-	-	-	-	-	
REMARKS	(1) (2)	(1) (2)	(1) (2)	(1) (2)	(1) (2)	
AIRFLOW (CFM)	225	225	175	175	410	
FACE VELOCITY	(4)	(4)	(4)	(4)	(4)	
MAX. AIR PRESSURE DROP (IN. WG)	0.1"	0.1"	0.1"	0.1"	0.1"	
ENTERING AIR TEMP (°F)	70°F	70°F	70°F	70°F	70°F	
LEAVING AIR TEMP (°F)	98°F	98°F	97°F	97°F	97°F	
TOTAL CAPACITY (MBH)	6.8	6.8	5.1	5.1	11.9	
REMARKS	-	-	-	-	-	
VOLTAGE/PHASE	277 / 1	277 / 1	277 / 1	277 / 1	277 / 1	
CAPACITY (KW)	2.0	2.0	1.5	1.5	3.5	
NUMBER OF STAGES	SCR	SCR	SCR	SCR	SCR	
KW PER STAGE	-	-	-	-	-	
REMARKS	(2)	(2)	(2)	(2)	(2)	
REMARKS	(1) FLANGED ELECTRIC HEATING COIL. PROVIDE AIR FLOW SWITCH, PILOT SWITCH, SCR CONTROL, CLASS 1 CONTROL WIRING, BUILT-IN FUSES FOR EACH HEATER STAGE. DISCONNECT, THERMAL CUT-OUT, DUCT MOUNTED CONTROL PANEL, AND TERMINAL STRIP CONNECTION FOR DDC CONTROLS. (2) ELECTRIC HEAT CONTROLS SHALL INTERFACE WITH BUILDING MANAGEMENT SYSTEM. SEE SPECIFICATIONS FOR REQUIRED CONTROL FEATURES. COORDINATE INTERFACE WITH TEMPERATURE CONTROL CONTRACTOR. (3) SEE PLANS FOR DUCT SIZES. MAINTAIN MANUFACTURER'S RECOMMENDED MINIMUM SPACING INSIDE DUCT TO MINIMIZE AIR BYPASS. (4) MAINTAIN MINIMUM REQUIRED AIRFLOW VELOCITY ACCORDING TO MANUFACTURER'S RECOMMENDATION.					

MISCELLANEOUS MECHANICAL EQUIPMENT SCHEDULE (1)	
VAC-1	 <p>DESCRIPTION: CONTINUOUS DUTY REGENERATIVE VACUUM PRODUCER, TEFC 3,600 RPM HIGH EFFICIENCY MOTOR, HEAVY DUTY CLOTH FILTER, CAST ALUMINUM BLOWER AND IMPELLER, DISCHARGE FILTER SILENCER, POWDER COAT FINISH PAINT, AND 4 GALLON STORAGE TANK. MOTOR: 1 HP @ 115 VOLT, 1 PHASE PERFORMANCE: 98 CFM MAXIMUM, 50" S.P. MAXIMUM VACUUM DIMENSIONS: 24" (L) x 18" (W) x 28" (H) @ 145 LBS.</p> <p>MODEL: AMERICAN VACUUM COMPANY - ARCO 1000-S</p>
CH-1 / CU-1 & CH-2 / CU-2	 <p>DESCRIPTION: AIR-COOLED WATER CHILLER WITH REMOTE EVAPORATOR BUNDLE PERFORMANCE: MINIMUM WATER FLOW = 100 GPM, MAXIMUM WATER FLOW = 160 GPM, AIR OUTPUT = 5,670 CFM, 7.5 HP MOTOR, R-410a ELECTRICAL: 460 VOLT, 3 PHASE, 19.7 MCA, 25 MOCOP DIMENSIONS: AIR-COOLED CONDENSING UNIT (TRANE TTA900D4) = 42" x 36" x 40" EVAPORATOR BUNDLE = 34" x 20" x 60"</p> <p>MODEL: AQUA LOGIC, INC. MT-910-460-SPLT</p>
REMARKS:	(1) PICTURES OF EQUIPMENT MAY NOT INDICATE ACTUAL EQUIPMENT SPECIFIED. PICTURES ARE GRAPHICAL IN NATURE. SEE DESCRIPTION FOR ACTUAL EQUIPMENT MODEL.

SPLIT SYSTEM AIR CONDITIONER SCHEDULE			
PLAN TAG	AC-1 / ACCU-1	AC-2 / ACCU-2	
MANUFACTURER	CARRIER	CARRIER	
MODEL NUMBER	40-MVC-012	40-MVC-009	
SERVES	MIS 204	ELEV EQUIP RM	
CONFIGURATION	(1)	(1)	
MAXIMUM SIZE (LxWxH)	36" x 10" x 12"	32" x 8" x 11"	
ACCESSORIES	-	-	
REMARKS	(4) (6) (10)	(4) (6) (10)	
AIRFLOW	AIRFLOW (CFM)	365	325
MOTOR HP	-	-	
VOLTS	115	115	
PHASE	1	1	
OVERCURRENT PROTECTION	25	20	
MINIMUM CIRCUIT AMPACITY	15	12	
REMARKS	(8)	(9)	
HEATING	HEAT PUMP (MBH)	-	-
ELECTRIC COIL (KW)	-	-	
TOTAL CAPACITY (MBH)	-	-	
REMARKS	-	-	
COOLING	AMBIENT AIR DB (°F)	100°F	100°F
ENTERING AIR DBWB (°F)	80°F / 67°F	80°F / 67°F	
TOTAL CAPACITY (MBH)	12	9	
SENSIBLE CAPACITY (MBH)	-	-	
REFRIGERANT TYPE	R-410A	R-410A	
MINIMUM SEER	13	13	
REMARKS	(3) (5) (7)	(3) (5) (7)	
REMARKS	(1) HIGH-WALL DUCTLESS AIR-COOLED SPLIT SYSTEM WITH OUTDOOR REMOTE CONDENSING UNIT. (2) NOT USED. (3) CONDENSING UNIT LOCATED ON ROOF. PROVIDE ALL ADDITIONAL REFRIGERANT PIPING ACCESSORIES AS REQUIRED TO ACCOMMODATE REFRIGERANT LINE LENGTH AND CONDENSING UNIT ELEVATION (SEE PLANS). (4) PROVIDE MANUFACTURER'S REMOTE WALL MOUNTED WIRELESS THERMOSTAT. (5) PROVIDE COMPRESSOR WITH 5-YEAR WARRANTY. (6) PROVIDE WITH MANUFACTURER'S WASHABLE FILTERS. (7) PROVIDE LOW AMBIENT KIT TO ALLOW COOLING DOWN TO -20°F. (8) PROVIDE MANUFACTURER'S OUTDOOR CONDENSING UNIT MODEL 38-MVC-012. POWER FOR INDOOR UNIT TO COME OFF OF OUTDOOR UNIT. (9) PROVIDE MANUFACTURER'S OUTDOOR CONDENSING UNIT MODEL 38-MVC-009. POWER FOR INDOOR UNIT TO COME OFF OF OUTDOOR UNIT. (10) PROVIDE WITH CONDENSATE PUMP CAPABLE OF A MINIMUM OF 6 FOOT OF HEAD. PUMP RESERVE SHALL HAVE HIGH LEVEL ALARM.		



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Seat:  
REGISTERED PROFESSIONAL ENGINEER  
George M. Morrissey  
OREGON  
JULY 19, 2011  
EXPIRES 12-31-14  
02-06-14

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HVAC  
SCHEDULES  
Project #: 12511  
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