

VIEW KEY

NAME → LEVEL NAME
10'-0" → HEIGHT ABOVE PROJECT 0'-0"

INDICATES DIRECTION OF TRUE NORTH
PLAN OR DETAIL NUMBER
PLAN OR DETAIL NAME

VIEW NAME
1/8" = 1'-0"
PLAN OR DETAIL SCALE

INDICATES SIMILAR DETAIL REFERENCED IN MULTIPLE LOCATIONS
DETAIL REFERRED TO BY SECTION CUT
SHEET DETAIL IS LOCATED ON → T101

LINE TYPE AND TAG KEY:
NEW WORK BY THIS CONTRACTOR (WIDE LINE)
NEW EXISTING TO BE REMOVED (SHORT DASHED PATTERN)
NEW UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN)
EXISTING TO REMAIN OR WORK BY OTHERS (NARROW LINE)
EXISTING TO BE REMOVED BY OTHERS (SHORT DASHED PATTERN)
EXISTING UNDERFLOOR OR UNDERGROUND (LONG DASHED PATTERN)
HALFTONING DOES NOT MODIFY SCOPE.

TAG-E TAGS WITH DASH 'E' INDICATES THE REFERENCED OBJECT IS EXISTING
TAG-1 UNDERLINED TEXT INDICATES ADDITIONAL INFORMATION CAN BE FOUND ELSEWHERE IN A SCHEDULE, MATERIAL LIST, OR SYMBOL LIST
INDICATES AN EXISTING SYSTEM'S POINT OF CONNECTION/REMOVAL

CONTRACTOR ABBREVIATION KEY

ABBR:	DESCRIPTION:
E.C.	ELECTRICAL CONTRACTOR
F.P.C.	FIRE PROTECTION CONTRACTOR
G.C.	GENERAL CONTRACTOR
H.C.	HEATING CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
P.C.	PLUMBING CONTRACTOR
S.C.	SECURITY CONTRACTOR
T.C.	TECHNOLOGY CONTRACTOR
T.C.C.	TEMPERATURE CONTROLS CONTRACTOR
V.C.	VENTILATION CONTRACTOR

VENTILATION SYMBOL LIST

NOT ALL SYMBOLS MAY APPLY.

SYMBOL:	DESCRIPTION:
	DIRECTION OF AIR FLOW
	FLEXIBLE DUCT
	MANUAL VOLUME DAMPER
	RISE IN DIRECTION OF AIR FLOW
	DROP IN DIRECTION OF AIR FLOW
	DUCT CAP
	DUCT DOWN
	DUCT UP
	SUPPLY/OUTSIDE AIR DUCT SECTION
	RETURN AIR DUCT SECTION
	EXHAUST/RELIEF AIR DUCT SECTION
	4-WAY DIFFUSER WITH BLANKOFF IN ONE DIRECTION
	AIR TERMINAL PROPERTIES SYMBOL SD-1 6/115 NECK SIZE/CFM
	TERMINAL AIR BOX (REFER TO SCHEDULE)
	TERMINAL AIR BOX W/REHEAT COIL (REFER TO SCHEDULE)
	FAN POWERED TERMINAL AIR BOX W/REHEAT COIL (REFER TO SCHEDULE)
	HUMIDIFIER
	OPPOSED BLADE DAMPER (REFER TO SCHEDULE)
	PARALLEL BLADE DAMPER (REFER TO SCHEDULE)
	DIFFERENTIAL PRESSURE SENSOR
	CARBON MONOXIDE SENSOR
	CARBON DIOXIDE SENSOR
	HUMIDISTAT SENSOR
	HUMIDISTAT/SENSOR (DUCT MOUNTED)
	OCCUPANCY SENSOR
	PRESSURE SENSOR/MONITOR
	PRESSURE SENSOR (DUCT MOUNTED)
	THERMOSTAT/SENSOR
	TEMPERATURE SENSOR (DUCT MOUNTED)
	THERMOSTAT/SENSOR WITH HEAVY DUTY ENCLOSURE
	AIRFLOW MEASUREMENT SYMBOL XX - AHU SYMBOL Y - SEQUENTIAL NUMBER

VENTILATION ABBREVIATION KEY

ABBR:	DESCRIPTION:
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
CFSD	CONTROL/FIRE/SMOKE DAMPER
DPG (0-2")	DIFFERENTIAL PRESSURE GAUGE (RANGE)
DPS	DIFFERENTIAL PRESSURE SWITCH
EA	EXHAUST/RELIEF AIR
ECFSD	EXISTING CONTROL FIRE SMOKE DAMPER
EPD	EXISTING FIRE DAMPER
EFS	EXISTING FIRE SMOKE DAMPER
ESD	EXISTING SMOKE DAMPER
FD	FIRE DAMPER
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FSD	FIRE/SMOKE DAMPER
MA	MIXED AIR
N.C.	NORMALLY CLOSED
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
NTS	NOT TO SCALE
OA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR
SCCR	SHORT CIRCUIT CURRENT RATING
SD	SMOKE DAMPER
TAB	TERMINAL AIR BOX
TD	TRANSFER DUCT
TYP	TYPICAL
UC-1	DOOR UNDERCUT BY OTHERS (1" TYPICAL)
UNO	UNLESS NOTED OTHERWISE

MECHANICAL RENOVATION NOTES:

- THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION, PLUMBING, VENTILATION, PIPING AND TEMPERATURE CONTROL.
- EXISTING CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD SURVEYS, EXISTING BUILDING DOCUMENTS, AND STAFF. VERIFY EXISTING CONDITIONS AND REPORT ANY CONFLICTS BEFORE PROCEEDING.
 - NOT ALL EXISTING DUCTWORK AND PIPING IS SHOWN. VERIFY EXISTING CONDITIONS BEFORE STARTING WORK. NOTIFY ENGINEER OF ANY CONFLICTS WITH NEW WORK.
 - FIELD VERIFY THE AVAILABLE CLEARANCES FOR DUCTWORK AND PIPING BEFORE FABRICATION. RISES AND DROPS MAY BE NECESSARY BECAUSE OF EXISTING FIELD CONDITIONS.
 - EACH CONTRACTOR SHALL FIELD VERIFY ACCESSIBILITY TO THE AREA OF HIS/HER WORK AND SHALL NOTIFY THE GENERAL CONTRACTOR PRIOR TO BIDDING IF OTHER UTILITIES ARE REQUIRED TO BE REMOVED OR RELOCATED TO ALLOW ACCESS TO HIS/HER AREA OF WORK.
 - EACH CONTRACTOR SHALL CUT AND PATCH ROOFS, WALLS, AND FLOORS ASSOCIATED WITH HIS WORK.
 - THE GENERAL CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF CEILING, CEILING TILES, AND CEILING GRIDS ASSOCIATED WITH AREAS OF WORK BY ALL CONTRACTORS. NOTIFY THE GENERAL CONTRACTOR OF AFFECTED AREAS PRIOR TO BIDDING.
 - WHERE EXISTING MECHANICAL SYSTEMS ARE LOCATED IN AREAS THAT CONFLICT WITH NEW EQUIPMENT, PIPING, OR DUCTWORK TO BE INSTALLED, EACH CONTRACTOR SHALL EITHER ARRANGE NEW EQUIPMENT, PIPING, OR DUCTWORK IN SUCH A FASHION THAT IT DOES NOT CONFLICT WITH EXISTING SYSTEMS, OR REWORK EXISTING MECHANICAL SYSTEMS TO ALLOW FOR INSTALLATION OF NEW EQUIPMENT, PIPING, OR DUCTWORK.
 - PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING CONSTRUCTION. MAINTAIN ACCESS TO EXISTING MECHANICAL INSTALLATIONS THAT REMAIN ACTIVE.
 - OBTAIN PERMISSION FROM OWNER BEFORE SHUTTING DOWN ANY SYSTEM FOR ANY REASON. MAINTAIN SERVICE TO ALL COMPONENTS THAT ARE TO REMAIN UNTIL NEW SYSTEMS ARE INSTALLED.
 - MAINTAIN EXISTING SYSTEM IN SERVICE UNTIL NEW SYSTEM IS COMPLETE AND READY FOR TIE IN AND SWITCHOVER. DRAIN SYSTEM ONLY TO MAKE SWITCHOVERS AND CONNECTIONS. OBTAIN PERMISSION FROM OWNER BEFORE PARTIALLY OR COMPLETELY DRAINING SYSTEM. MAKE CHANGES TO NEW SYSTEMS WITH MINIMUM OUTLINE NUMBER DESIGNATIONS ASSIGNED TO READINGS THAT MATCH THOSE USED IN THE FINAL PRE-DEMOLITION REPORT. DRAWINGS THAT ARE HAND-MARKED WITH RED INK ARE ACCEPTABLE, PROVIDED THEY ARE LEGIBLE.
 - DISCONNECT AND REMOVE MECHANICAL DEVICES AND EQUIPMENT SERVING EQUIPMENT THAT HAS BEEN REMOVED.

VENTILATION GENERAL NOTES:

- UNLESS NOTED OTHERWISE, THE SIZE OF EACH BRANCH DUCT TO A TERMINAL AIR BOX (TAB) SHALL MATCH THE INLET SIZE UNLESS THE BRANCH IS GREATER THAN FIFTEEN FEET IN LENGTH, IN WHICH CASE THE BRANCH DUCT SHALL BE SIZED AT A PRESSURE DROP OF 0.07" W.C. PER 100' OF DUCTWORK.
- UNLESS NOTED OTHERWISE, THE SIZE OF EACH BRANCH DUCT TO AN AIR TERMINAL SHALL MATCH THE INLET SIZE.
 - ALIGN TEMPERATURE SENSORS WITH LIGHT SWITCHES AND WHEN IN CLOSE PROXIMITY TO EACH OTHER.
 - PROVIDE ACCESS DOORS AT ALL DUCT MOUNTED EQUIPMENT.
 - EXISTING AIR INLET AND OUTLET CFM SHOWN ON DRAWINGS ARE FROM EXISTING DRAWINGS, AND ARE FOR REFERENCE ONLY. CONTRACTOR SHALL USE PRE-BALANCE VALUES, AND NOT EXISTING CFM SHOWN ON DRAWINGS.
 - CONTRACTOR MAY REUSE PORTIONS OF EXISTING DUCT PROVIDED SIZES AND PRESSURE CLASSES ARE CORRECT. DUCT IS THOROUGHLY CLEANED AND FREE OF DEFECTS, AND ALL TRANSVERSE JOINTS, LONGITUDINAL SEAMS, AND DUCT WALL PENETRATIONS ARE SEALED AS SPECIFIED FOR NEW DUCTWORK.

MECHANICAL GENERAL NOTES:

- THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION, PLUMBING, VENTILATION, PIPING AND TEMPERATURE CONTROL.
- DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC. ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, ETC. AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHERS WILL PERMIT.
 - DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS, AND OTHER APPROPRIATE DRAWINGS OR PHYSICALLY AT SITE. REVIEW ALL DRAWINGS, INCLUDING THOSE OF OTHER TRADES.
 - COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, CODE COMPLIANCE, AND TO VERIFY NON-INTERFERENCE WITH OTHER WORK. DO NOT FABRICATE PRIOR TO VERIFICATION OF NECESSARY CLEARANCES FOR ALL TRADES. BRING ANY INTERFERENCES OR CONFLICTS TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH FABRICATION OR EQUIPMENT ORDERS. ALL VALVES MUST BE LOCATED WITH REASONABLE ACCESS FOR SERVICE, MAINTENANCE, AND FUNCTION.
 - REVIEW SPACE REQUIREMENTS OF EQUIPMENT SPECIFIED OR SUBSTITUTED AND MAKE REASONABLE ACCOMMODATIONS IN LAYOUT AND POSITIONING TO PROVIDE PROPER ACCESS.
 - ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO COORDINATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR EXPENSE TO OTHERS.
 - EACH CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ELECTRICAL CHANGES REQUIRED FOR EQUIPMENT PROPOSED THAT DIFFERS FROM THE BASIS OF DESIGN.
 - REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY AUDIOVISUAL, AND OTHER MECHANICAL PLANS FOR EXACT LOCATIONS OF ALL CEILING MOUNTED DEVICES OTHER THAN SPRINKLERS.
 - EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO WALLS, FLOORS, CEILING, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH.
 - IN AREAS WITH DRYWALL CEILINGS COORDINATE LOCATIONS OF ACCESS PANELS WITH THE GC FOR ACCESS TO VALVES, DUCTWORK ACCESSORIES, DAMPERS, ETC. COORDINATE PANEL TYPE AND COLOR WITH ARCHITECT. NOTIFY THE GC OF THE REQUIRED ACCESS PANELS PRIOR TO BIDDING.
 - SEAL ALL FLOOR, WALL, AND ROOF PENETRATIONS AIRTIGHT WHERE CONDUITS, PIPING, AND DUCTS PENETRATE. PENETRATIONS THROUGH EXTERIOR WALLS AND ROOF SHALL BE SEALED AIRTIGHT WITH WATERPROOFING MATERIALS RECOMMENDED BY MANUFACTURER FOR OUTDOOR USE.
 - CAULK ALL PIPE AND DUCT PENETRATIONS OF FULL HEIGHT NON-FIRE RATED WALL, PARTITION, FLOOR, AND ROOF ASSEMBLIES. THIS IS ESSENTIAL TO PREVENT NOISE TRANSMISSION FROM ONE ROOM TO ANOTHER AND TO PROVIDE THE DESIRED NC LEVELS WITHIN ROOMS.
 - WHERE PIPES AND DUCTS ARE SHOWN TO PENETRATE FLOORS, PROVIDE SLEEVED OPENINGS WITH THE TOP EDGE RAISED ABOVE FLOOR SURFACE IN ACCORDANCE WITH ALL RELEVANT SPEC SECTIONS. SEAL SLEEVE PERIMETER TO BE WATERTIGHT.
 - EQUIPMENT SIZES AND SERVICE CLEARANCE REQUIREMENTS VARY AMONG DIFFERENT MANUFACTURERS. CONSULT APPROVED SHOP DRAWINGS FOR EQUIPMENT SIZES AND REQUIRED SERVICE CLEARANCES. COORDINATE WITH LAYOUT OF EQUIPMENT PADS, PIPING, DUCTWORK, ETC.
 - DO NOT BLOCK TUBE PULL OR EQUIPMENT SERVICE CLEARANCES.
 - MAINTAIN MINIMUM 3'-6" CLEARANCE IN FRONT OF ALL ELECTRICAL PANELS, MOTOR STARTERS, SWITCHES, AND DISCONNECTS.
 - PROVIDE CONCRETE EQUIPMENT PAD FOR ALL FLOOR MOUNTED EQUIPMENT. PAD SHALL EXTEND MINIMUM 6" BEYOND ALL SIDES OF EQUIPMENT.
 - DO NOT SUPPORT EQUIPMENT, PIPING, OR DUCTWORK FROM METAL DECKING OR OTHER NON-STRUCTURAL BUILDING ELEMENTS. ANCHORS EMBEDDED IN CONCRETE SHALL BE CRACKED CONCRETE APPROVED IN ACCORDANCE WITH SPECIFICATIONS.

TAB PRE-DEMOLITION NOTES:

- BEFORE ANY DEMOLITION WORK IS BEGUN A COMPLETE AIR BALANCE TEST SHALL BE PERFORMED BY THE TESTING, ADJUSTING AND BALANCING (TAB) CONTRACTOR ON EXISTING AIR HANDLERS AND EXHAUST FANS SERVING THE AREAS AFFECTED BY CONSTRUCTION. EQUIPMENT TO BE DEMOLISHED DOES NOT REQUIRE TESTING. PROVIDE AIR BALANCE TESTING ONLY ON EQUIPMENT THAT WILL CONTINUE TO BE USED TO SERVE RENOVATED AREAS AFTER THE CONSTRUCTION PHASE IS COMPLETED.
- PROVIDE DUCT TRAVERSE READINGS AT LOCATIONS DESIGNATED ON THE DRAWINGS BY THE "AIRFLOW MEASUREMENT SYMBOL". THOSE MEASUREMENTS SHALL BE INCLUDED IN THE PRE-DEMOLITION REPORT AND SHALL BE DESIGNATED WITH THE IDENTIFIER AS MARKED ON THE DRAWINGS. READINGS SHALL BE DESIGNATED WITH THE ROOM NAME AND NUMBER AS MARKED ON THE DRAWINGS. IF FLOOR PLANS DO NOT HAVE UNIQUE ROOM NAMES AND NUMBERS, TAB CONTRACTOR SHALL INCLUDE FLOOR PLAN WITH UNIQUE NUMBER DESIGNATIONS ASSIGNED TO READINGS THAT MATCH THOSE USED IN THE FINAL PRE-DEMOLITION REPORT. DRAWINGS THAT ARE HAND-MARKED WITH RED INK ARE ACCEPTABLE, PROVIDED THEY ARE LEGIBLE.
- IN THE EVENT A DUCT TRAVERSE LOCATION AS MARKED ON THIS PLAN IS INACCESSIBLE FOR MEASUREMENT, THE TAB CONTRACTOR SHALL PERFORM THE TRAVERSE AT AN ALTERNATE LOCATION OR SHALL TAKE MULTIPLE DUCT TRAVERSES AND/OR READINGS AS REQUIRED TO DETERMINE THE AIRFLOW READING WHERE THE DUCT TRAVERSE SYMBOL IS SHOWN. IN THE EVENT TRAVERSES ARE TAKEN AT ALTERNATE LOCATION(S), TAB CONTRACTOR SHALL INCLUDE A DRAWING THAT SHOWS THE LOCATIONS WHERE THE ACTUAL MEASUREMENTS WERE TAKEN.
- TAKE A DUCT STATIC PRESSURE READING AT EACH LOCATION WHERE A DUCT TRAVERSE READING IS TAKEN AND INCLUDE IN THE FINAL PRE-DEMOLITION TAB REPORT.
- TAB CONTRACTOR SHALL COMPLETE AND SUBMIT FOUR COPIES OF THE FINAL PRE-DEMOLITION REPORT WITHIN 10 WORKING DAYS AFTER THE FIELD MEASUREMENTS ARE COMPLETED. FINAL TAB REPORT SHALL BE SUBMITTED FOR REVIEW TO THE ARCHITECT/ENGINEER. TESTING SHALL INCLUDE ALL ITEMS REQUIRED IN THE SPECIFICATIONS.
- TAB CONTRACTOR SHALL PROVIDE DUCT TRAVERSE READINGS AT LOCATIONS DESIGNATED ON THE DRAWINGS BY THE "AIRFLOW MEASUREMENT SYMBOL". THOSE MEASUREMENTS SHALL BE INCLUDED IN THE POST-CONSTRUCTION REPORT AND SHALL BE DESIGNATED WITH THE IDENTIFIER AS MARKED ON THE CONSTRUCTION DRAWINGS. GRILLE AND DIFFUSER READINGS SHALL BE DESIGNATED WITH THE ROOM NAME AND NUMBER AS MARKED ON THE DRAWINGS. IF THE DRAWINGS DO NOT HAVE UNIQUE ROOM NAMES AND NUMBERS, TAB CONTRACTOR SHALL INCLUDE FLOOR PLANS WITH UNIQUE NUMBER DESIGNATIONS ASSIGNED TO TRAVERSES, GRILLES, AND DIFFUSERS THAT MATCH THOSE USED IN THE FINAL PRE-DEMOLITION REPORT. SIMILAR ROOM NAMES, NUMBERS, OR DESIGNATIONS SHALL BE USED TO SIMPLIFY THE CROSS-REFERENCING OF READINGS TAKEN BETWEEN PRE-DEMOLITION AND POST-CONSTRUCTION REPORTS.
- BALANCING CONTRACTOR SHALL PRE-BALANCE ALL EXISTING SYSTEMS TO REMAIN PER SPECIFICATION SECTION 23 05 93. BALANCE READINGS WILL BE REQUIRED AT AIR OUTLETS AND DUCT TRAVERSES TO VERIFY EXISTING AIRFLOW TO UNAFFECTED SPACES.

TAB POST-CONSTRUCTION NOTES:

- AFTER CONSTRUCTION ACTIVITIES ARE COMPLETE, TESTING, ADJUSTING (TAB) AND BALANCING CONTRACTOR SHALL REBALANCE AIR HANDLING UNITS AND EXHAUST FANS AS REQUIRED TO ACHIEVE THE NEW AIRFLOW VALUES SHOWN ON THE CONSTRUCTION DRAWINGS.
- AREAS SERVED BY THIS EQUIPMENT WHICH WERE NOT RENOVATED SHALL BE RE-BALANCED TO THE AIRFLOW RATES MEASURED BEFORE THE RENOVATION OCCURRED (REFER TO THE FINAL PRE-DEMOLITION REPORT).
- IF DUCT TRAVERSE LOCATION AS MARKED ON THE DRAWINGS IS INACCESSIBLE FOR MEASUREMENT, THE TAB CONTRACTOR SHALL PERFORM THE TRAVERSE AT AN ALTERNATE LOCATION OR SHALL TAKE MULTIPLE DUCT TRAVERSES AND/OR GRILLE READINGS AS REQUIRED TO DETERMINE THE FLOW RATE. IN THE EVENT TRAVERSES ARE TAKEN AT AN ALTERNATE LOCATION(S), TAB CONTRACTOR SHALL INCLUDE A DRAWING THAT SHOWS THE LOCATIONS WHERE THE ACTUAL MEASUREMENTS WERE TAKEN.
- A DUCT STATIC PRESSURE READING SHALL BE TAKEN AT EACH LOCATION WHERE A DUCT TRAVERSE READING IS TAKEN AND SHALL BE INCLUDED IN THE FINAL POST-CONSTRUCTION TAB REPORT.
- TAB CONTRACTOR SHALL COMPLETE AND SUBMIT COPIES OF THE FINAL POST-CONSTRUCTION TAB REPORT AS REQUIRED BY SECTION 23 05 93.
- THE FINAL POST CONSTRUCTION REPORT SHALL INCLUDE ALL ITEMS REQUIRED IN THE SPECIFICATIONS.

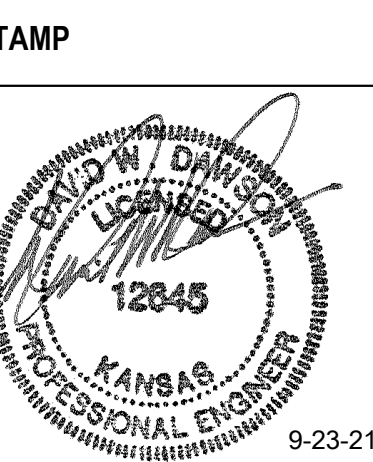
Revisions:	Date:

CONSULTANT

Engineering:
IMEG Corp.
15 Sunnen Drive, Suite 104
St. Louis, MO 63143
(314) 645-1132

ARCHITECT/ENGINEER OF RECORD

A/E:
Calvin L. Hinz Architects P.C.
3705 N. 200th Street
Elkhorn, NE 68022
(402) 291-6941



Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title
VENTILATION COVERSHEET

Approved:

Phase
BID DOCUMENTS

FULLY SPRINKLERED

Project Title
Renovate and Repair Structural, Building 4

Location
Wichita, KS

Issue Date
9/23/2021

Checked
RUSARN

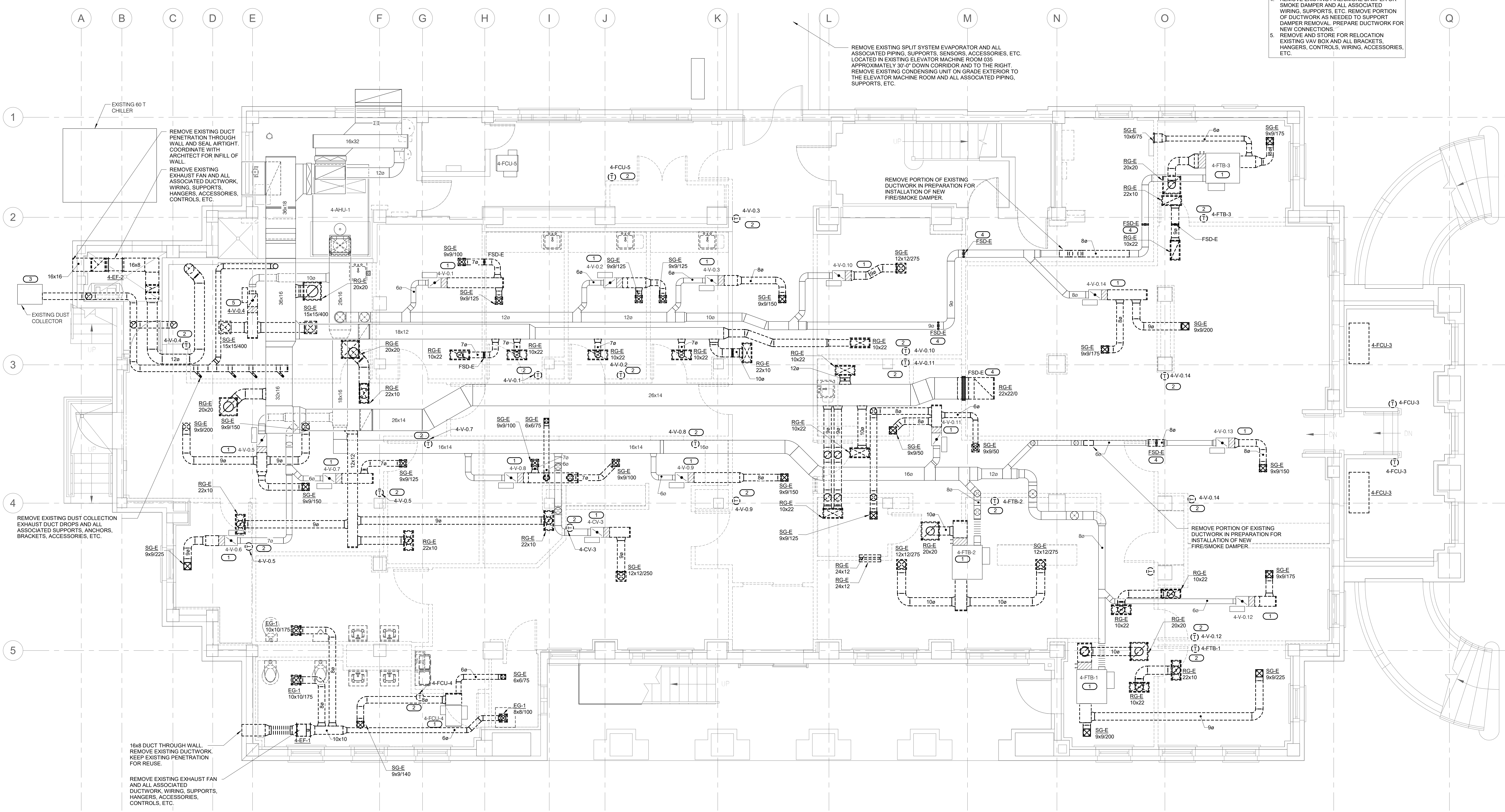
Drawn
KATDEN

Project Number
589A7-21-108

Building Number
4

Drawing Number
V-001

- KEY NOTES:**
- REMOVE EXISTING DUCTWORK, AIR DEVICES, SUPPORTS, HANGERS, ACCESSORIES, ETC. DOWNSTREAM OF EXISTING VAV OR FTB. PREPARE UNIT FOR NEW DUCTWORK CONNECTION.
 - REMOVE EXISTING THERMOSTAT AND ALL ASSOCIATED WIRING, SUPPORTS, BRACKETS, ETC.
 - REMOVE EXISTING DUST COLLECTION SYSTEM AND ALL EXISTING DUCTWORK CONNECTIONS, BRACKETS, SUPPORTS, WIRING, ETC.
 - REMOVE EXISTING FIRE/SMOKE DAMPER OR SMOKE DAMPER AND ALL ASSOCIATED WIRING, SUPPORTS, ETC. REMOVE PORTION OF DUCTWORK AS NEEDED TO SUPPORT DAMPER REMOVAL. PREPARE DUCTWORK FOR NEW CONNECTIONS.
 - REMOVE AND STORE FOR RELOCATION EXISTING VAV BOX AND ALL BRACKETS, HANGERS, CONTROLS, WIRING, ACCESSORIES, ETC.
- SHEET NOTES:**
- EXISTING CONDITIONS SHOWN ARE BASED ON INFORMATION AVAILABLE FROM EXISTING DRAWINGS AND LIMITED FIELD VERIFICATION. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING WORK.

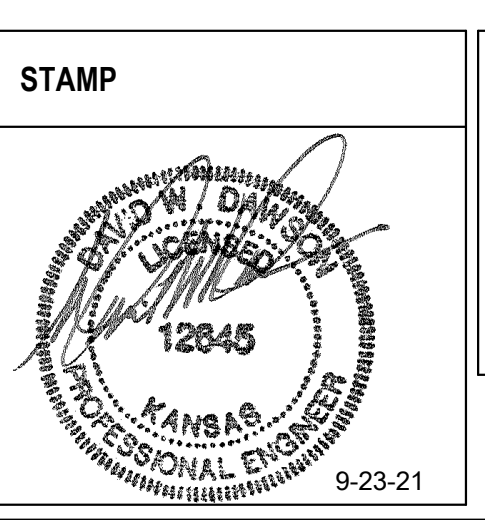


1 BASEMENT PLAN - VENTILATION DEMOLITION
1/4" = 1'-0"

Revisions:	Date:

CONSULTANT
Engineering:
 IMEG Corp.
 15 Sunnen Drive, Suite 104
 St. Louis, MO 63143
 (314) 645-1132

ARCHITECT/ENGINEER OF RECORD
A/E:
 Calvin L. Hinz Architects P.C.
 3705 N. 200th Street
 Elkhorn, NE 68022
 (402) 291-6941



Office of Construction and Facilities Management
 U.S. Department of Veterans Affairs

Drawing Title
 BASEMENT PLAN - VENTILATION DEMOLITION

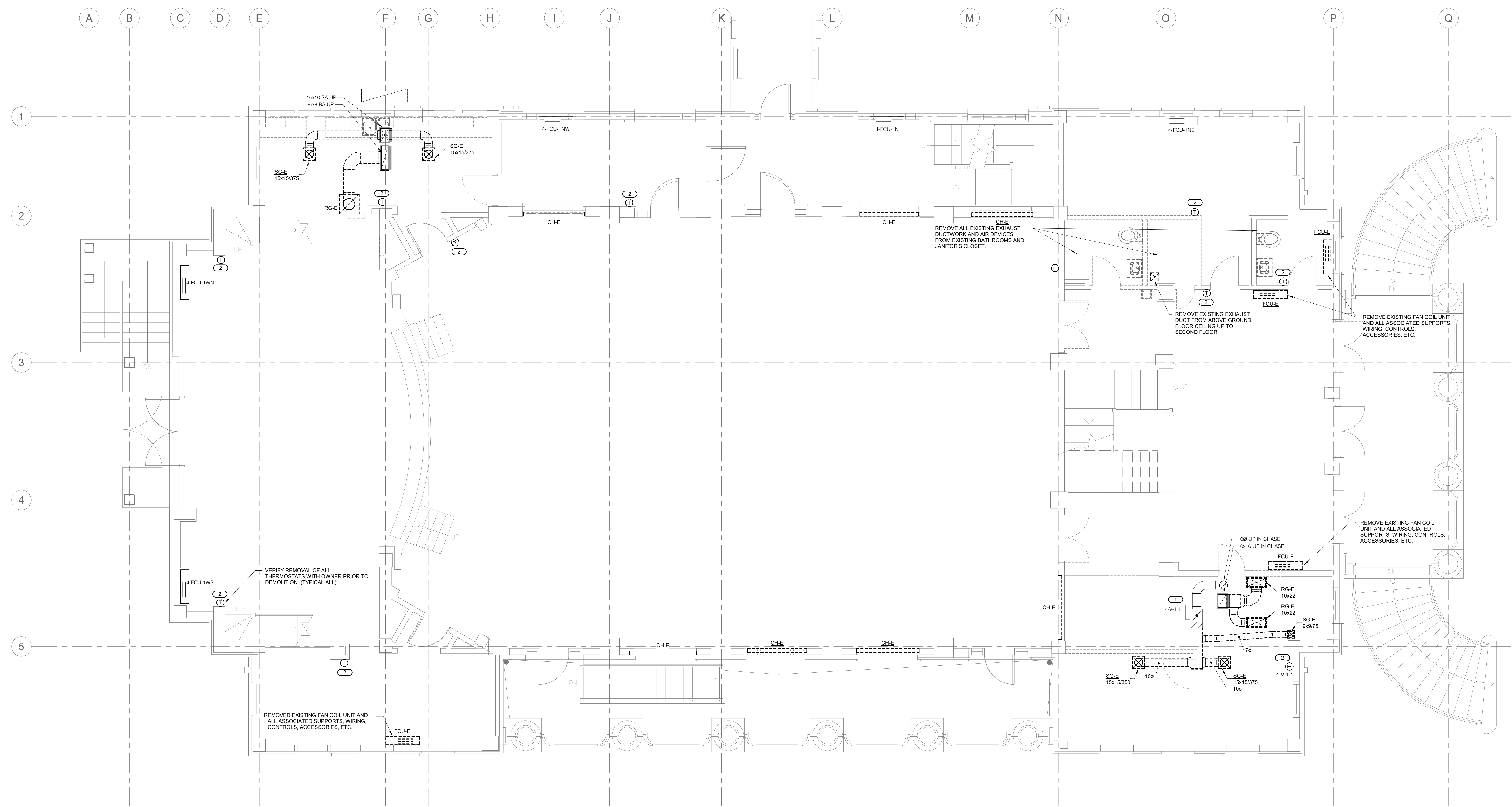
Approved:

Phase
 BID DOCUMENTS

FULLY SPRINKLERED

Project Title Renovate and Repair Structural, Building 4	Project Number 589A7-21-108
Location Wichita, KS	Building Number 4
Issue Date 9/23/2021	Checked RUSARN
Drawn KATDEN	Drawing Number VD101

- KEY NOTES:**
- REMOVE EXISTING DUCTWORK, AIR DEVICES, SUPPORTS, HANGERS, ACCESSORIES, ETC. DOWNSTREAM OF EXISTING VAV OR FTB. PREPARE UNIT FOR NEW DUCTWORK CONNECTION.
 - REMOVE EXISTING THERMOSTAT AND ALL ASSOCIATED WIRING, SUPPORTS, BRACKETS, ETC.
- SHEET NOTES:**
- EXISTING CONDITIONS SHOWN ARE BASED ON INFORMATION AVAILABLE FROM EXISTING DRAWINGS AND LIMITED FIELD VERIFICATION. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING WORK.

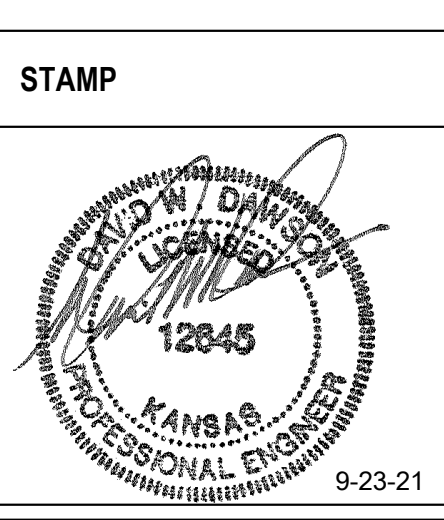


1 FIRST FLOOR PLAN - VENTILATION DEMOLITION
 1/4" = 1'-0"

Revisions:	Date:

CONSULTANT
Engineering:
 IMEG Corp.
 15 Sunnen Drive, Suite 104
 St. Louis, MO 63143
 (314) 645-1132

ARCHITECT/ENGINEER OF RECORD
A/E:
 Calvin L. Hinz Architects P.C.
 3705 N. 200th Street
 Elkhorn, NE 68022
 (402) 291-6941



Office of Construction and Facilities Management
 VA U.S. Department of Veterans Affairs

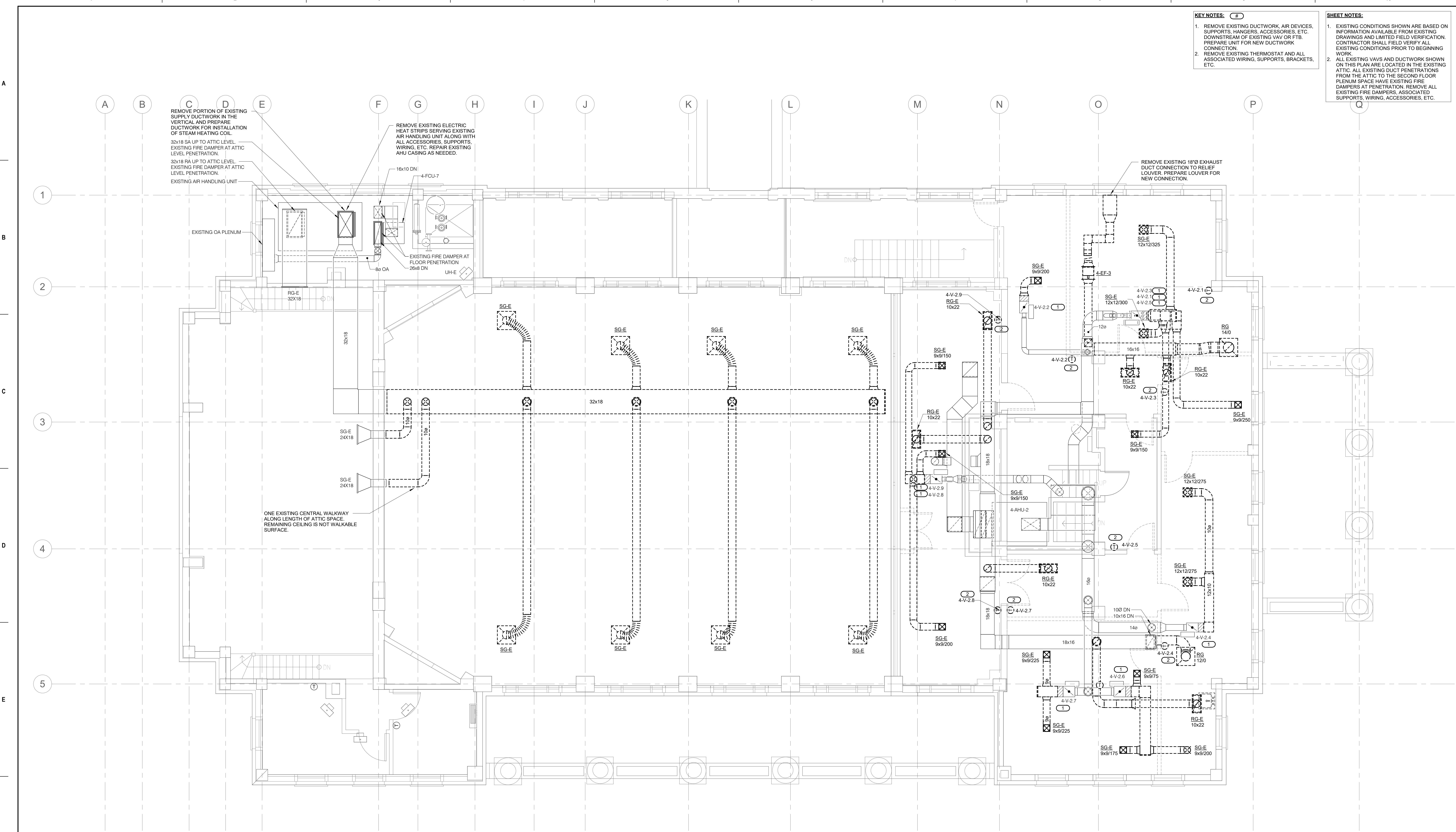
Drawing Title
 FIRST FLOOR PLAN - VENTILATION DEMOLITION
Approved:

Phase
 BID DOCUMENTS
 FULLY SPRINKLERED

Project Title
 Renovate and Repair Structural, Building 4
Location
 Wichita, KS
Issue Date
 9/23/2021
Checked
 RUSARN
Drawn
 KATDEN

Project Number
 589A7-21-108
Building Number
 4
Drawing Number
 VD102

- KEY NOTES:**
- REMOVE EXISTING DUCTWORK, AIR DEVICES, SUPPORTS, HANGERS, ACCESSORIES, ETC. DOWNSTREAM OF EXISTING VAV OR FTB. PREPARE UNIT FOR NEW DUCTWORK CONNECTION.
 - REMOVE EXISTING THERMOSTAT AND ALL ASSOCIATED WIRING, SUPPORTS, BRACKETS, ETC.
- SHEET NOTES:**
- EXISTING CONDITIONS SHOWN ARE BASED ON INFORMATION AVAILABLE FROM EXISTING DRAWINGS AND LIMITED FIELD VERIFICATION. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING WORK.
 - ALL EXISTING VAVS AND DUCTWORK SHOWN ON THIS PLAN ARE LOCATED IN THE EXISTING ATTIC. ALL EXISTING DUCT PENETRATIONS FROM THE ATTIC TO THE SECOND FLOOR PLENUM SPACE HAVE EXISTING FIRE DAMPERS AT PENETRATION. REMOVE ALL EXISTING FIRE DAMPERS, ASSOCIATED SUPPORTS, WIRING, ACCESSORIES, ETC.

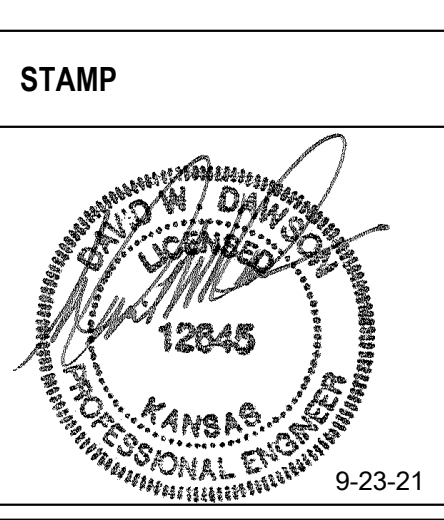



1 SECOND FLOOR PLAN - VENTILATION DEMOLITION
 1/4" = 1'-0"

Revisions:	Date:

CONSULTANT
 Engineering:
 IMEG Corp.
 15 Sunnen Drive, Suite 104
 St. Louis, MO 63143
 (314) 645-1132

ARCHITECT/ENGINEER OF RECORD
 A/E:
 Calvin L. Hinz Architects P.C.
 3705 N. 200th Street
 Elkhorn, NE 68022
 (402) 291-6941



Office of
 Construction
 and Facilities
 Management
 VA U.S. Department
 of Veterans
 Affairs

Drawing Title
**SECOND FLOOR PLAN -
 VENTILATION DEMOLITION**
 Approved:

Phase
BID DOCUMENTS
FULLY SPRINKLERED

Project Title
 Renovate and Repair Structural,
 Building 4
 Location
 Wichita, KS
 Issue Date
 9/23/2021
 Checked
 RUSARN
 Drawn
 KATDEN

Project Number
 589A7-21-108
 Building Number
 4
 Drawing Number
 VD103

SHEET NOTES:

- EXISTING CONDITIONS SHOWN ARE BASED ON INFORMATION AVAILABLE FROM EXISTING DRAWINGS AND LIMITED FIELD VERIFICATION. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING WORK.
- PROVIDE MANUAL BALANCE DAMPERS ON DUCT BRANCHES TO ALL RETURN, EXHAUST, AND SUPPLY DIFFUSERS/GRILLES. FOR SUPPLY DIFFUSERS NO DAMPER IS NECESSARY IF ONLY ONE DIFFUSER IS SERVED BY THE VAV. DAMPERS SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO THE DUCT MAIN. COORDINATE LOCATIONS FOR ACCESS PRIOR TO INSTALLATION. BALANCE RETURN TO EQUAL SUPPLY TOTAL IN EACH SPACE UNLESS NOTED OTHERWISE.

PROVIDE NEW EXTERIOR WALL PENETRATION FOR EXHAUST AIR DISCHARGE. PROVIDE 10x16 EXHAUST AIR LOUVER. DUCT TO BE INSTALLED WITH TOP OF DUCT ALIGNED WITH TOP OF LOUVER OPENING. TRANSITION BOTTOM OF DUCT TO ALIGN WITH BOTTOM OF LOUVER TO PROVIDE DRIP ANGLE. PROVIDE BIRD SCREEN ON INSIDE OF LOUVER FACE. PROVIDE REMOVABLE ACCESS PANEL IN SIDE OF DUCT.

PROVIDE NEW NOMINAL 2 TON SPLIT SYSTEM EVAPORATOR AND ASSOCIATED EXTERIOR CONDENSING UNIT TO SERVE THE NEW ELEVATOR EQUIPMENT IN EXISTING ELEVATOR MACHINE ROOM 035. PROVIDE ALL REQUIRED REFRIGERANT PIPING, CONDENSATE PIPING, SENSORS, SUPPORTS, ETC. UNIT SHALL OPERATE WITH PACKAGED CONTROLS. PROVIDE TEMPERATURE SENSOR IN THE SPACE WITH CONNECTION TO EXISTING BUILDING AUTOMATION SYSTEM. ROUTE CONDENSATE PIPING OUTSIDE THE BUILDING AND TERMINATE APPROXIMATELY 18" ABOVE GRADE. COORDINATE LOCATION OF EVAPORATOR WITH NEW ELEVATOR EQUIPMENT.

PROVIDE 2-POSITION MOTOR OPERATED DAMPER WITH FAN.

EXISTING 60 T CHILLER

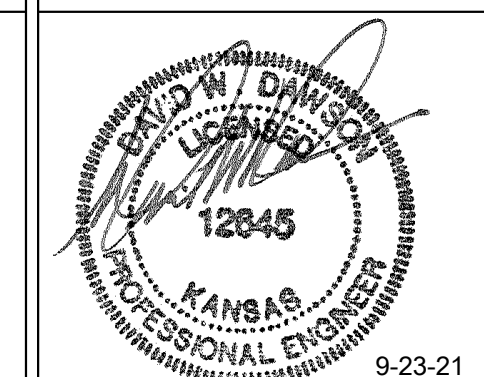
PROVIDE FIRE/SMOKE DAMPER 4FSD-4 AT FLOOR PENETRATION. COORDINATE EXACT LOCATION WITH STRUCTURE AND ARCHITECTURAL.

PROVIDE NEW DUST COLLECTION SYSTEM AT THIS LOCATION. SYSTEM SHALL BE CAMFIL FARR GS4 STANDARD WITH ISMF & X-VENT OR EQUIVALENT. UNIT SHALL HAVE MODULAR CONSTRUCTION, SOLID STATE TIMER CONTROLS, AND NEMA 4 RATED SOLENOID ENCLOSURE. COORDINATE INSTALLATION WITH ELECTRICAL CONTRACTOR. COORDINATE CONCRETE PAD WITH CIVIL AND STRUCTURAL. PROVIDE ALL NECESSARY SUPPORTS, CONTROLS WIRING, ETC. REQUIRED FOR INSTALLATION.

REUSE EXISTING 16x8 PENETRATION THROUGH EXISTING WALL FOR NEW 16x8 EXHAUST DUCT.

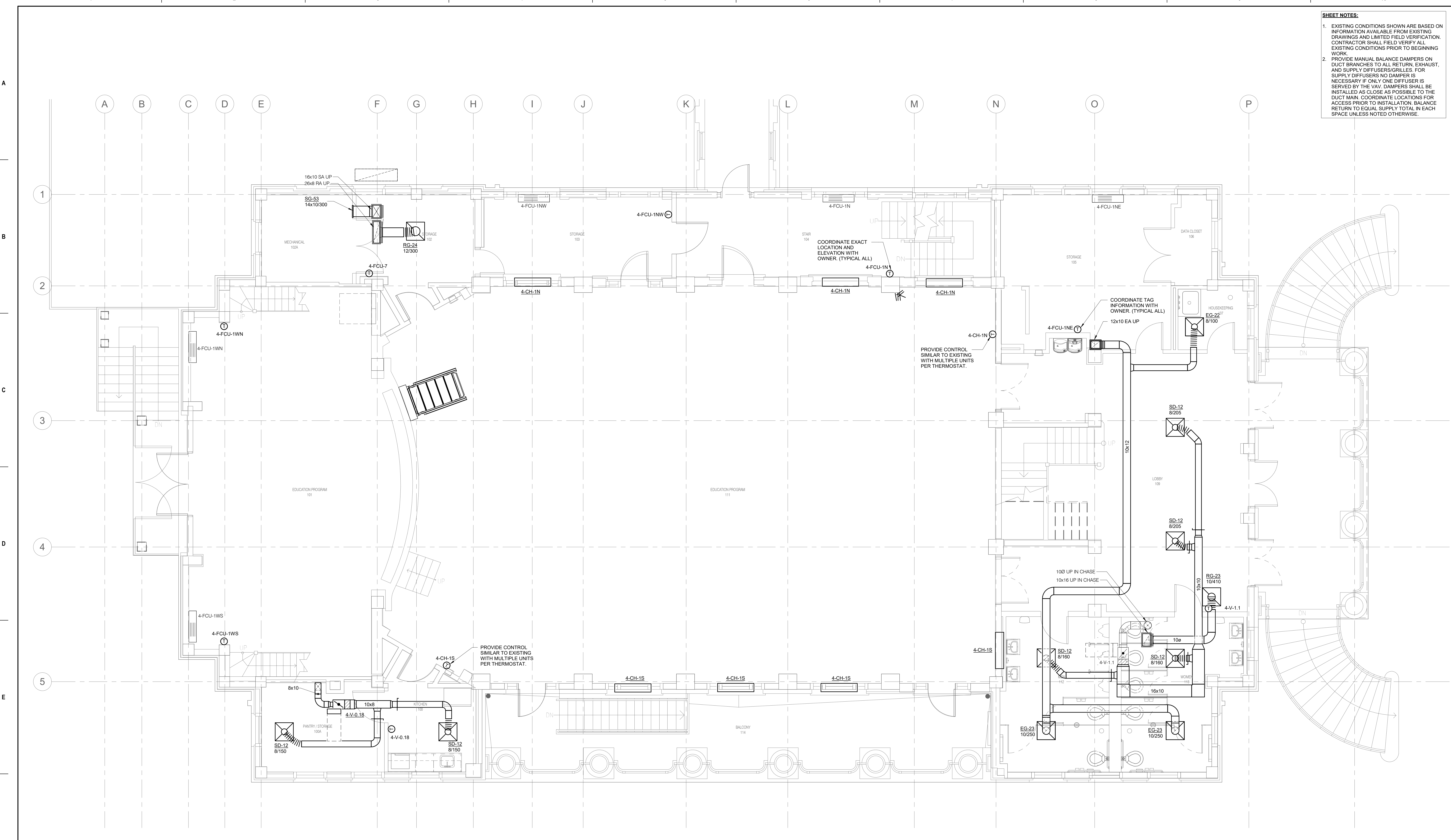
PROVIDE 6" EXHAUST DUCT DROPS THROUGH CEILING TO EACH PIECE OF EQUIPMENT AS REQUIRED. PROVIDE 6" FLEXIBLE DUCT TO RIGID 10"x4" DUCT OPENINGS. PROVIDE BALANCE DAMPERS ON EACH DROP. COORDINATE EXACT LOCATION AND FLOW WITH EQUIPMENT INSTALLATION.

1 BASEMENT PLAN - VENTILATION
1/4" = 1'-0"

CONSULTANT Engineering: IMEG Corp. 15 Sunnen Drive, Suite 104 St. Louis, MO 63143 (314) 645-1132	ARCHITECT/ENGINEER OF RECORD A/E: Calvin L. Hinz Architects P.C. 3705 N. 200th Street Elkhorn, NE 68022 (402) 291-6941	STAMP 	Office of Construction and Facilities Management VA U.S. Department of Veterans Affairs	Drawing Title BASEMENT PLAN - VENTILATION	Phase BID DOCUMENTS	Project Title Renovate and Repair Structural, Building 4	Project Number 589A7-21-108
				Approved:	FULLY SPRINKLERED	Location Wichita, KS	Issue Date 9/23/2021

SHEET NOTES:

- EXISTING CONDITIONS SHOWN ARE BASED ON INFORMATION AVAILABLE FROM EXISTING DRAWINGS AND LIMITED FIELD VERIFICATION. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING WORK.
- PROVIDE MANUAL BALANCE DAMPERS ON DUCT BRANCHES TO ALL RETURN, EXHAUST, AND SUPPLY DIFFUSERS/GRILLES. FOR SUPPLY DIFFUSERS NO DAMPER IS NECESSARY IF ONLY ONE DIFFUSER IS SERVED BY THE VAV. DAMPERS SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO THE DUCT MAIN. COORDINATE LOCATIONS FOR ACCESS PRIOR TO INSTALLATION. BALANCE RETURN TO EQUAL SUPPLY TOTAL IN EACH SPACE UNLESS NOTED OTHERWISE.

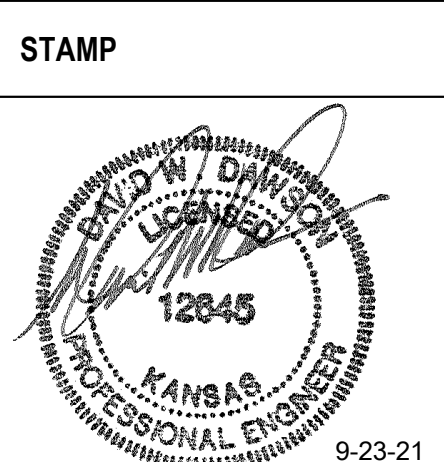


1 FIRST FLOOR PLAN - VENTILATION
1/4" = 1'-0"

Revisions:	Date:

CONSULTANT
 Engineering:
 IMEG Corp.
 15 Sunnen Drive, Suite 104
 St. Louis, MO 63143
 (314) 645-1132

ARCHITECT/ENGINEER OF RECORD
 A/E:
 Calvin L. Hinz Architects P.C.
 3705 N. 200th Street
 Elkhorn, NE 68022
 (402) 291-6941



Office of Construction and Facilities Management
 VA U.S. Department of Veterans Affairs

Drawing Title
 FIRST FLOOR PLAN - VENTILATION

Approved:

Phase
 BID DOCUMENTS

FULLY SPRINKLERED

Project Title Renovate and Repair Structural, Building 4	Project Number 589A7-21-108
Location Wichita, KS	Building Number 4
Issue Date 9/23/2021	Checked RUSARN
Drawn KATDEN	Drawing Number V-102

SHEET NOTES:

- EXISTING CONDITIONS SHOWN ARE BASED ON INFORMATION AVAILABLE FROM EXISTING DRAWINGS AND LIMITED FIELD VERIFICATION. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING WORK.
- ALL EXISTING VAVS AND DUCTWORK SHOWN ON THIS PLAN ARE LOCATED IN THE EXISTING ATTIC. ALL DUCT PENETRATIONS FROM THE ATTIC TO THE SECOND FLOOR PLENUM SPACE SHALL HAVE A NEW FIRE DAMPER. REUSE EXISTING PENETRATIONS AS MUCH AS POSSIBLE.
- PROVIDE MANUAL BALANCE DAMPERS ON DUCT BRANCHES TO ALL RETURN, EXHAUST, AND SUPPLY DIFFUSERS/GRILLES. FOR SUPPLY DIFFUSERS NO DAMPER IS NECESSARY IF ONLY ONE DIFFUSER IS SERVED BY THE VAV. DAMPERS SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO THE DUCT MAIN. COORDINATE LOCATIONS FOR ACCESS PRIOR TO INSTALLATION. BALANCE RETURN TO EQUAL SUPPLY TOTAL IN EACH SPACE UNLESS NOTED OTHERWISE.

PROVIDE NEW DUCT CONNECTIONS FOR NEW DUCT-MOUNTED STEAM HEATING COIL.
 32x18 SA UP TO ATTIC LEVEL - EXISTING FIRE DAMPER AT ATTIC LEVEL PENETRATION.
 32x18 RA UP TO ATTIC LEVEL - EXISTING FIRE DAMPER AT ATTIC LEVEL PENETRATION.
 EXISTING AIR HANDLING UNIT

PROVIDE NEW 12"Ø EXHAUST DUCT CONNECTION TO EXISTING RELIEF LOUVER. BLANK OFF UNUSED SECTIONS OF LOUVER AND SEAL AIRTIGHT. DUCT TO BE INSTALLED WITH TOP OF DUCT ALIGNED WITH TOP OF LOUVER OPENING. TRANSITION BOTTOM OF DUCT TO ALIGN WITH BOTTOM OF LOUVER TO PROVIDE DRIP ANGLE. PROVIDE BIRD SCREEN ON INSIDE OF LOUVER FACE. PROVIDE REMOVABLE ACCESS PANEL IN SIDE OF DUCT.

REBALANCE EXISTING SUPPLY GRILLES TO 375 CFM EACH

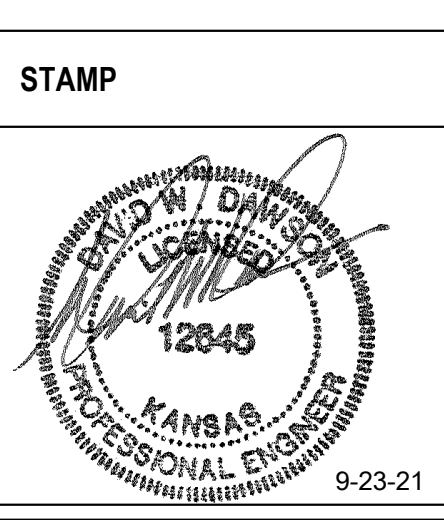
ONE EXISTING CENTRAL WALKWAY ALONG LENGTH OF ATTIC SPACE. REMAINING CEILING IS NOT WALKABLE SURFACE.

1 SECOND FLOOR PLAN - VENTILATION
 1/4" = 1'-0"

Revisions:	Date:

CONSULTANT
 Engineering:
 IMEG Corp.
 15 Sunnen Drive, Suite 104
 St. Louis, MO 63143
 (314) 645-1132

ARCHITECT/ENGINEER OF RECORD
 A/E:
 Calvin L. Hinz Architects P.C.
 3705 N. 200th Street
 Elkhorn, NE 68022
 (402) 291-6941



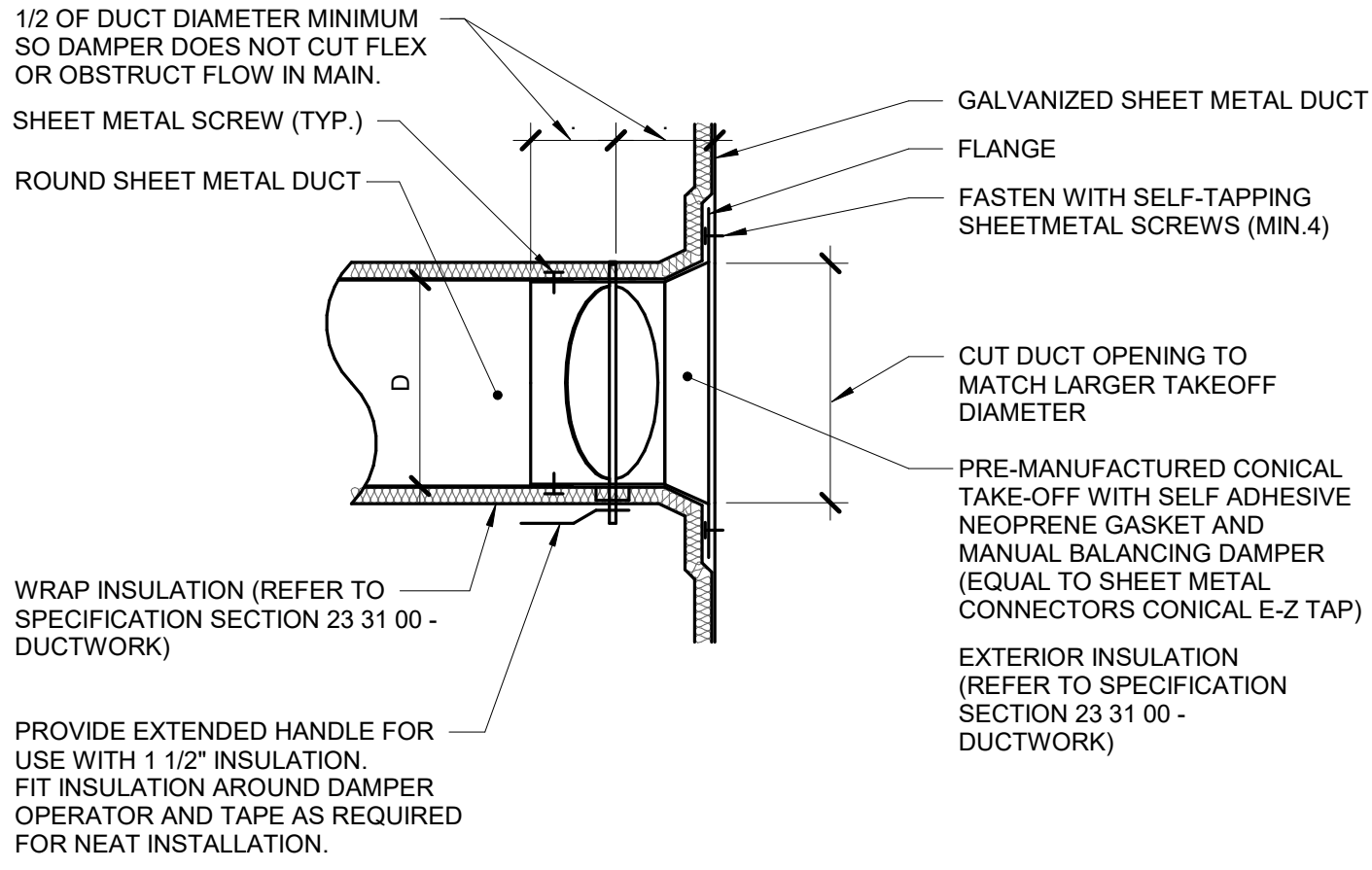
Office of Construction and Facilities Management
 VA U.S. Department of Veterans Affairs

Drawing Title
SECOND FLOOR PLAN - VENTILATION
 Approved:

Phase
BID DOCUMENTS
FULLY SPRINKLERED

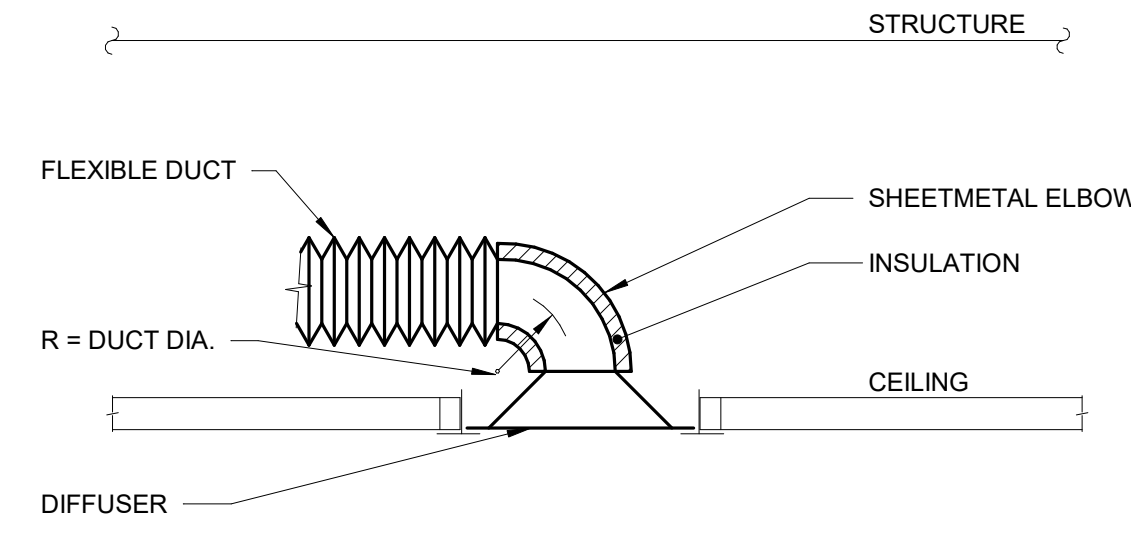
Project Title
 Renovate and Repair Structural, Building 4
 Location
 Wichita, KS
 Issue Date
 9/23/2021
 Checked
 RUSARN
 Drawn
 KATDEN

Project Number
 589A7-21-108
 Building Number
 4
 Drawing Number
 V-103



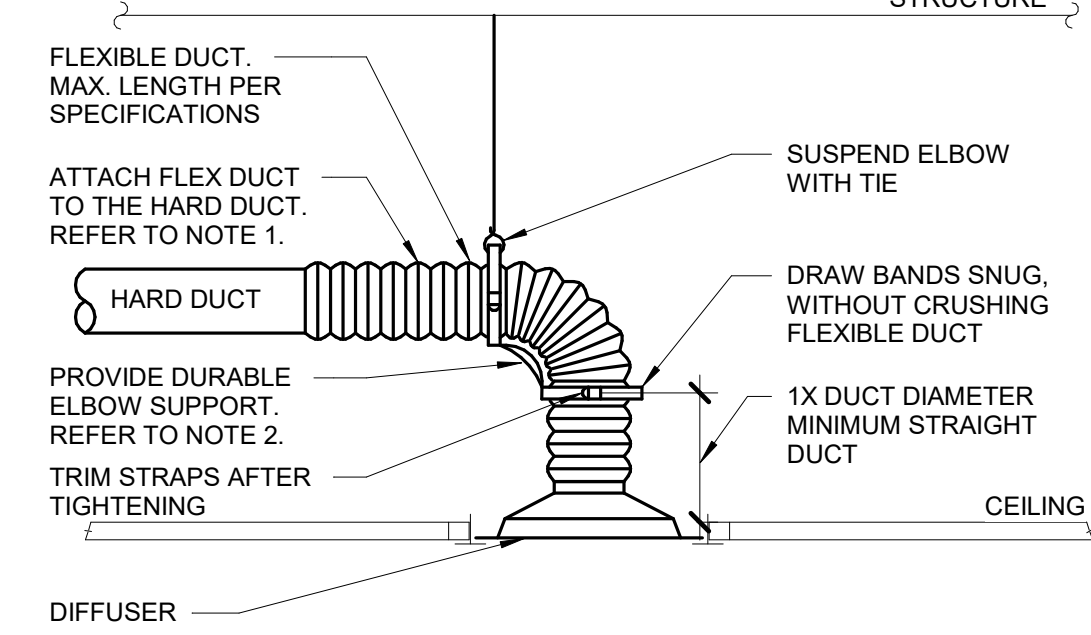
1 ROUND DUCT TAP CONNECTION (CONICAL/WAPPED)

- NO SCALE
- NOTES:**
1. THIS DETAIL APPLIES ONLY TO TAPS OFF UNLINED DUCTS.
 2. TAP DOES NOT NEED TO BE CONICAL IF THE TAP IS NOT LOCATED BETWEEN FANS AND TERMINAL AIR BOXES. DUCT IS NOT OVER 2\"/>



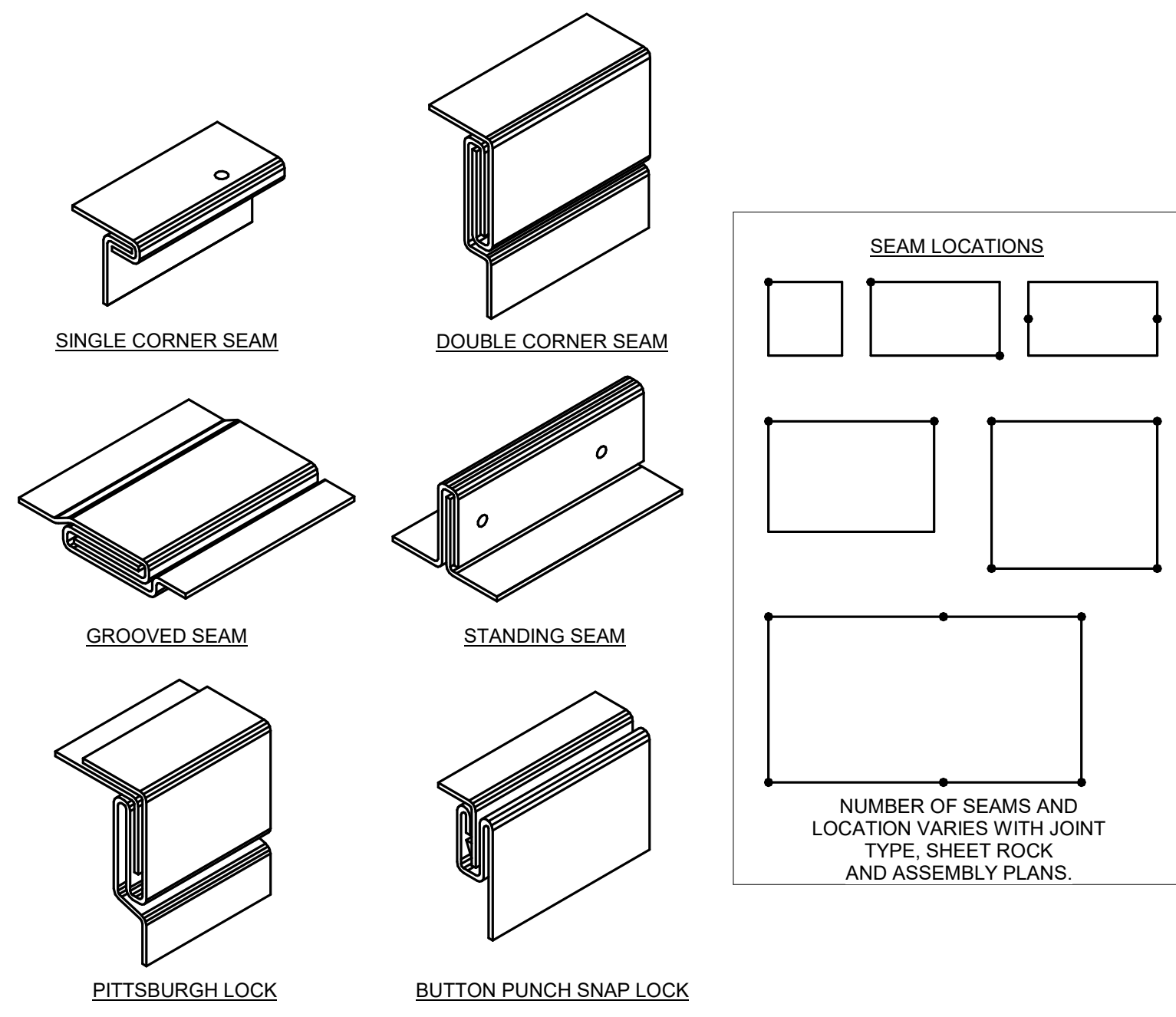
2 DIFFUSER CONNECTION DETAIL - LIMITED PLENUM SPACE INSTALLATION

- NO SCALE
- NOTES:**
1. TO ATTACH FLEX DUCT TO THE HARD DUCT, TAPE THE INNER LINER TO THE HARD DUCT THEN ATTACH WITH TWO NYLON TIE WRAPS, ONE FOR THE INNER LINER AND ONE FOR THE OUTER SHELL. FOLD THE OUTER SHELL INSIDE ITSELF SO IT HAS NEAT EDGES PRIOR TO TIE WRAPPING.
 2. "SMARTFLOW" ELBOW (WWW.HARTANDCOOLEY.COM) AND "FLEXRIGHT" (WWW.TITUS-HVAC.COM) ARE ACCEPTABLE PRODUCTS FOR DURABLE ELBOW SUPPORT.



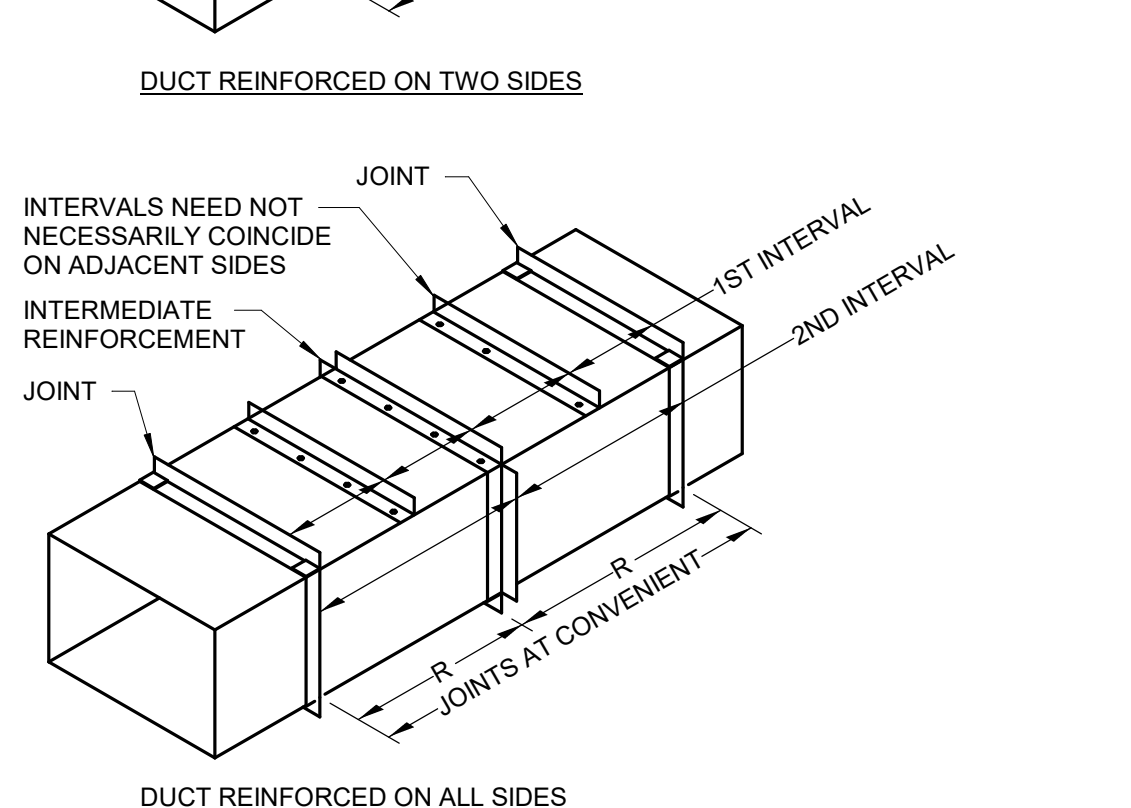
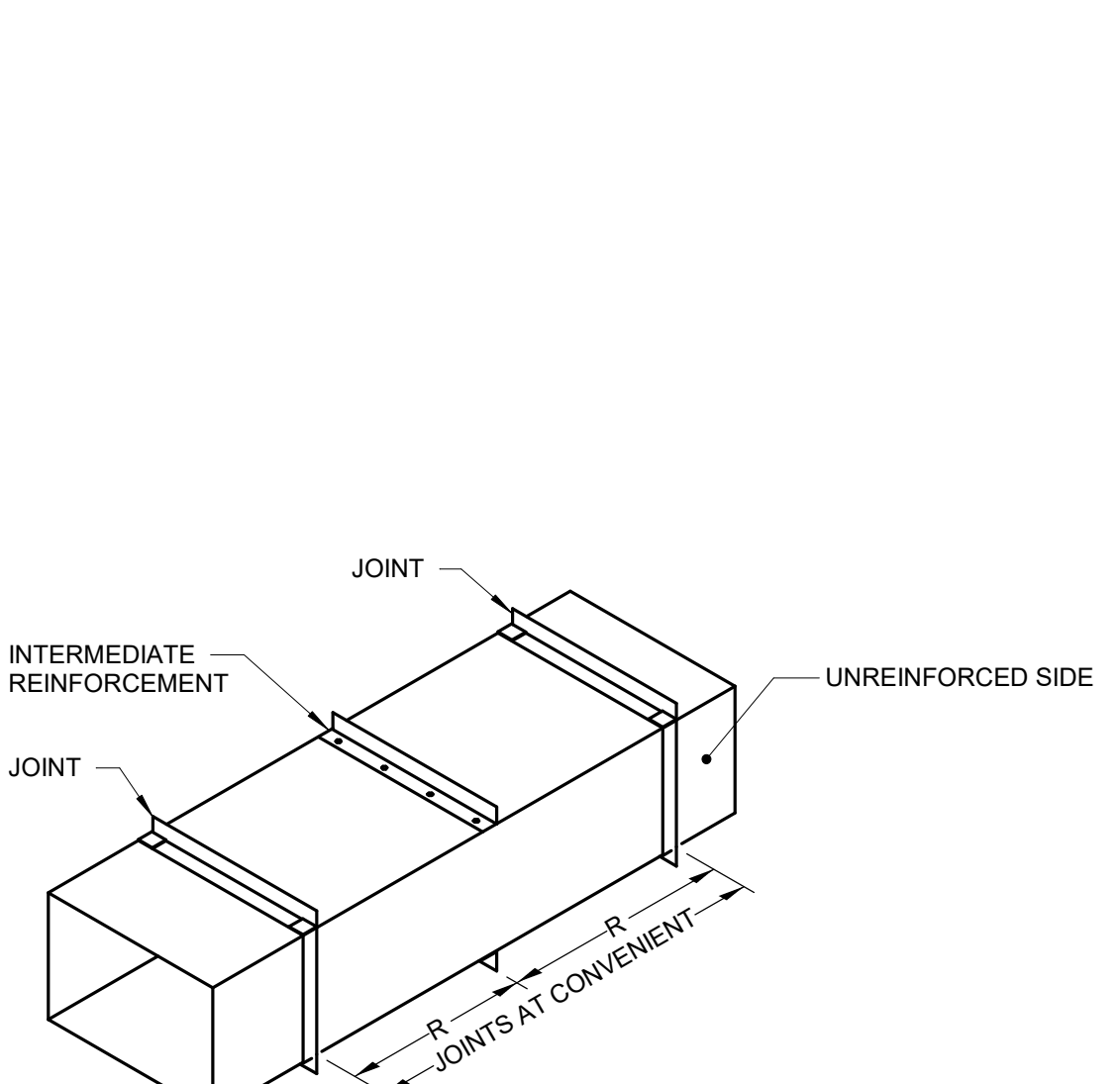
3 DIFFUSER CONNECTION DETAIL (W/ RADIUS FORMING ELBOW) - STANDARD INSTALLATION

- NO SCALE
- NOTES:**
1. TO ATTACH FLEX DUCT TO THE HARD DUCT, TAPE THE INNER LINER TO THE HARD DUCT THEN ATTACH WITH TWO NYLON TIE WRAPS, ONE FOR THE INNER LINER AND ONE FOR THE OUTER SHELL. FOLD THE OUTER SHELL INSIDE ITSELF SO IT HAS NEAT EDGES PRIOR TO TIE WRAPPING.
 2. DURABLE ELBOW SUPPORT ACCEPTABLE MANUFACTURER AND MODEL: HART AND COOLEY - SMARTFLOW, THERMAFLEX - FLEXFLOW, TITUS - FLEXRIGHT, OR APPROVED EQUAL.



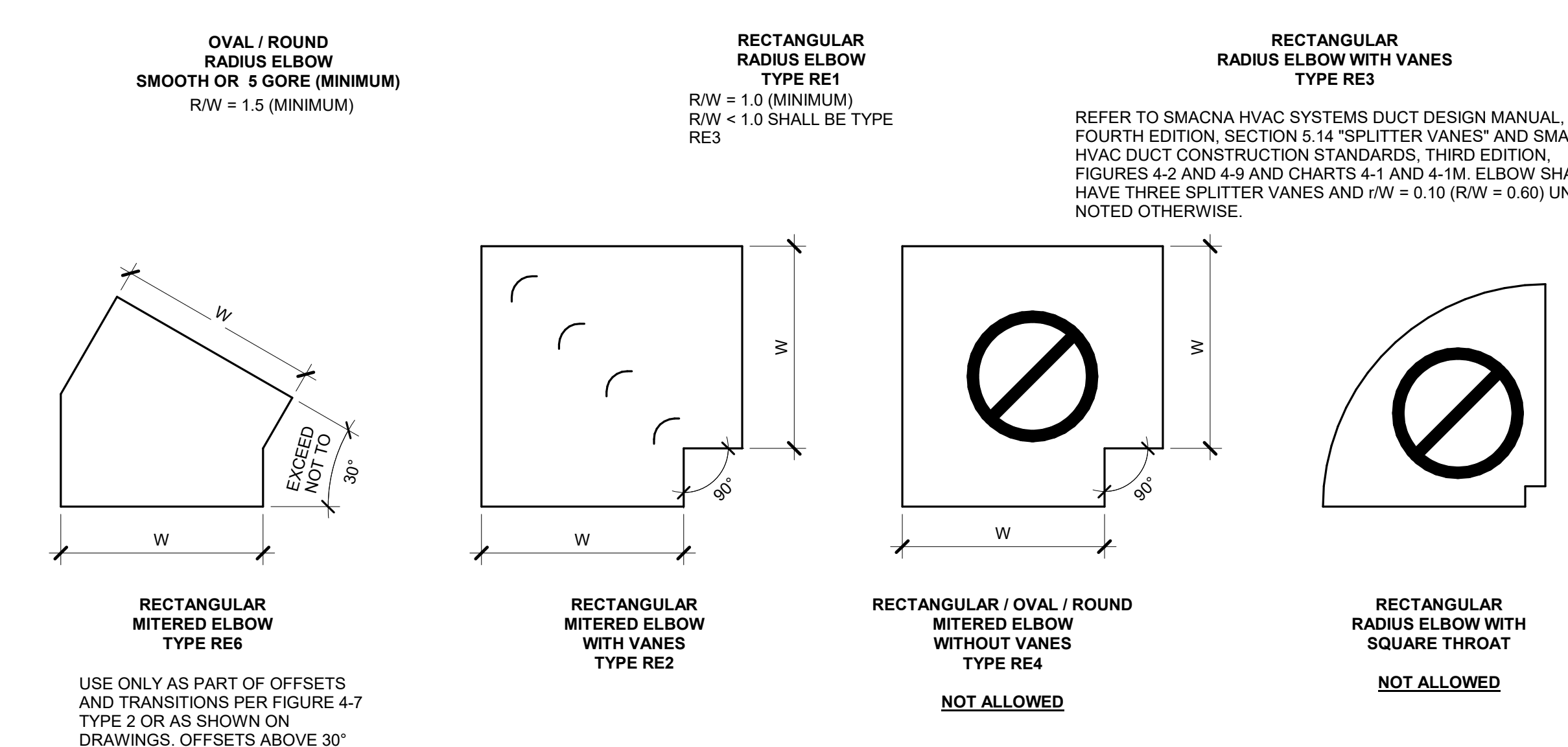
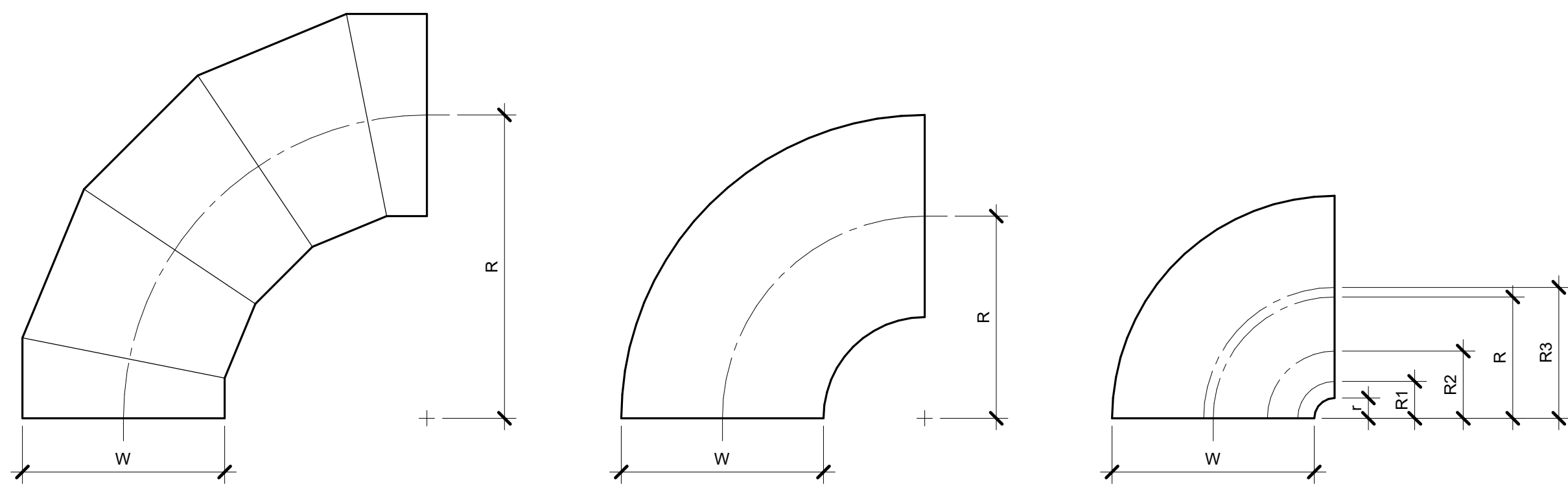
4 LONGITUDINAL SEAMS - RECTANGULAR DUCT

- NO SCALE
- NOTES:**
1. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.



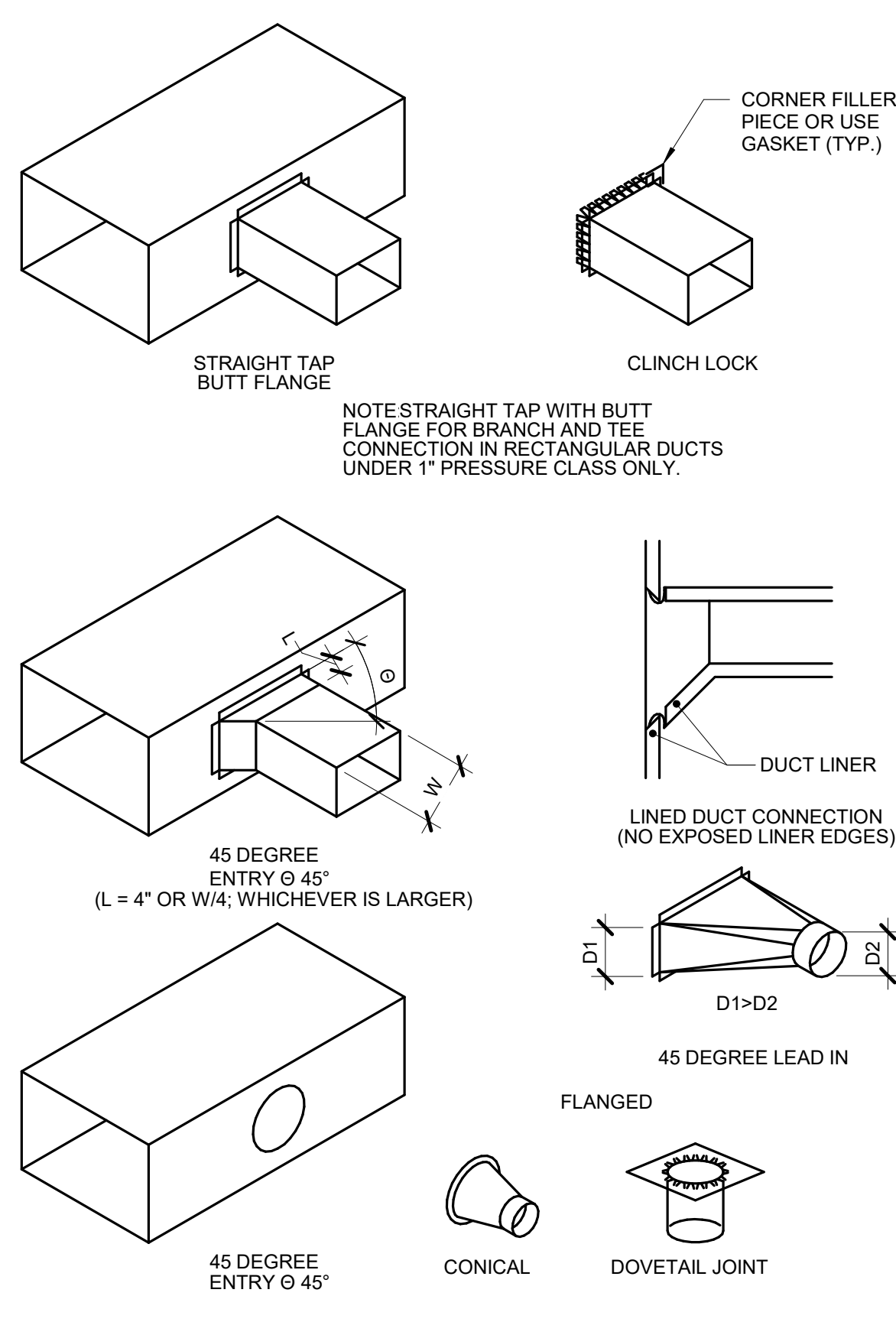
5 DUCT REINFORCEMENT DETAIL

- NO SCALE
- NOTES:**
1. 'R' IS AN ALLOWABLE REINFORCEMENT INTERVAL.
 2. TOP AND BOTTOM JOINTS MUST QUALIFY AS REINFORCEMENT.
 3. DUCT SIZES THAT ARE 10 INCHES (254 mm) AND OVER ARE 20 GAGE (1.00 mm) OR LESS, WITH MORE THAN 10 SQUARE FEET (0.93 SQUARE METERS) OF UNBRACED PANEL AREA, SHALL BE CROSSBROKEN OR BEADED UNLESS THEY ARE LINED OR EXTERNALLY INSULATED. DUCTS THAT ARE OF HEAVIER GAGE, SMALLER DIMENSIONS, AND SMALLER PANEL AREA AND THOSE THAT ARE LINED OR EXTERNALLY INSULATED ARE NOT REQUIRED TO HAVE CROSSBROKEN OR BEADING.
 4. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.



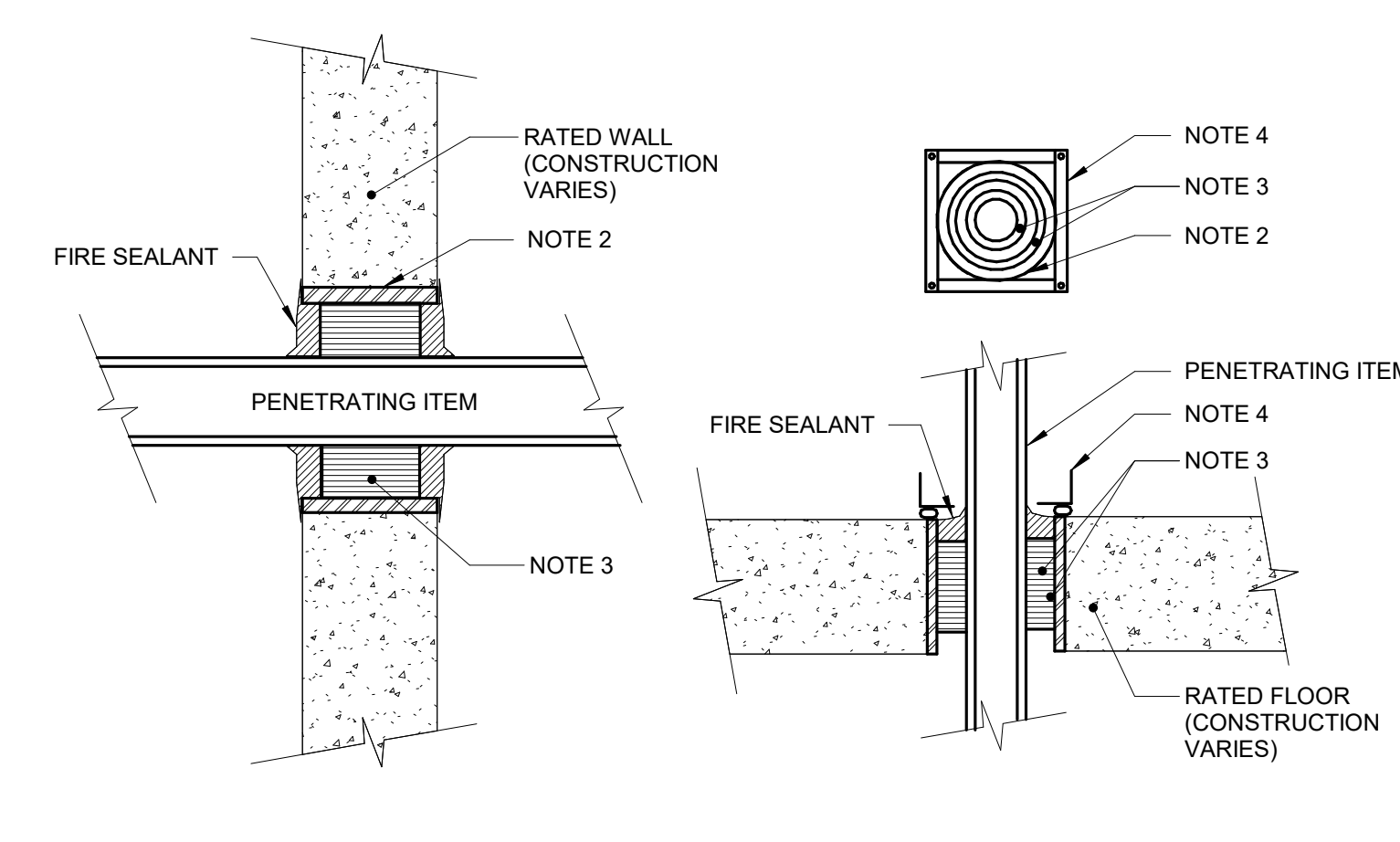
6 ELBOW CONSTRUCTION

- NO SCALE
- NOTES:**
1. BEAD, CROSSBREAK, AND REINFORCE FLAT SURFACES AS IN STRAIGHT DUCT.
 2. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
 3. DEFAULT ELBOW SHALL BE TYPE 'RE1'.
 4. ELBOW TYPES SHALL BE INSTALLED AS SHOWN AND NOT BE SUBSTITUTED WITHOUT PERMISSION. EXCEPTION: RE1 OR RE3 MAY BE SUBSTITUTED FOR RE2.



7 BRANCH CONNECTIONS

- NO SCALE
- NOTES:**
1. DO NOT USE CONNECTIONS WITH SCOOPS.
 2. FIT ALL CONNECTIONS TO AVOID VISIBLE OPENINGS AND SECURE THEM SUITABLY FOR THE PRESSURE CLASS.
 3. ADDITIONAL MECHANICAL FASTENERS ARE REQUIRED FOR 4\"/>



8 RATED FIRE BARRIER PENETRATION

- NO SCALE
- NOTES:**
1. THIS GENERAL DETAIL APPLIES TO ALL ITEMS PENETRATING FIRE RATED WALLS OR FLOORS. THE INTENT IS TO MAINTAIN THE FIRE RATING AND TO ALLOW LONGITUDINAL MOVEMENT.
 2. SCHEDULE 5 PIPE SLEEVE EMBEDDED IN WALL OR FLOOR OR SMOOTH CORE DRILL. EACH CONTRACTOR FURNISHES SLEEVE TO G.C. COORDINATES SLEEVE LOCATIONS AND DEBURS SLEEVE. G.C. BUILDS SLEEVE INTO WALL OR FLOOR ALLOWING NO GAP AROUND SLEEVE. IF SLEEVE IS NOT PROVIDED WHEN WALL OR FLOOR IS BUILT, CONTRACTOR SHALL INSTALL SLEEVE. SLEEVE SIZE SHALL ALLOW ANNUAL BACKING REQUIRED BY THE SELECTED FIRE STOP SYSTEM.
 3. INSTALL BACKING MATERIAL, SUCH AS MINERAL WOOL SAFING, AS REQUIRED FOR FIRE STOP SYSTEM. INSTALL IN ACCORDANCE WITH FIRE STOP SYSTEM APPLICATION LISTING. SECURE TO WALL OR FLOOR TO ALLOW LONGITUDINAL MOVEMENT OF PENETRATING ITEM WITHOUT MOVEMENT OF FIRE BARRIER.
 4. WATERTIGHT WELDED 1\"/>

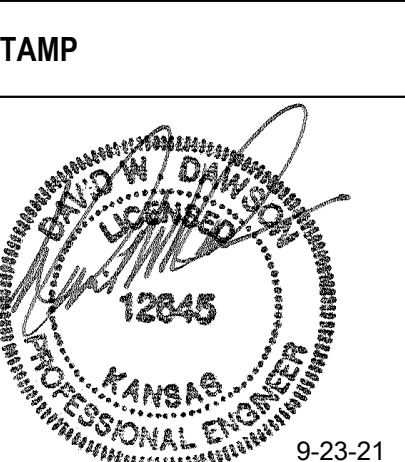
Revisions:	Date:

CONSULTANT

Engineering:
IMEG Corp.
15 Sunnen Drive, Suite 104
St. Louis, MO 63143
(314) 645-1132

ARCHITECT/ENGINEER OF RECORD

A/E:
Calvin L. Hinz Architects P.C.
3705 N. 200th Street
Elkhorn, NE 68022
(402) 291-6941



Office of Construction and Facilities Management
U.S. Department of Veterans Affairs

Drawing Title: VENTILATION DETAILS

Approved:

Phase: BID DOCUMENTS

FULLY SPRINKLERED

Project Title: Renovate and Repair Structural, Building 4

Location: Wichita, KS

Issue Date: 9/23/2021

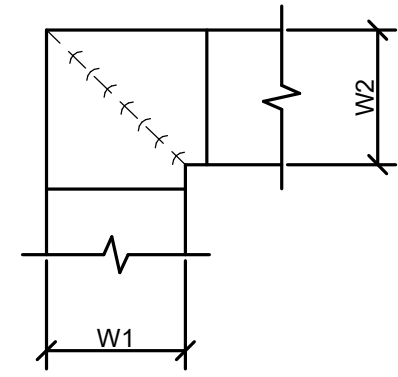
Checked: RUSARN

Drawn: KATDEN

Project Number: 589A7-21-108

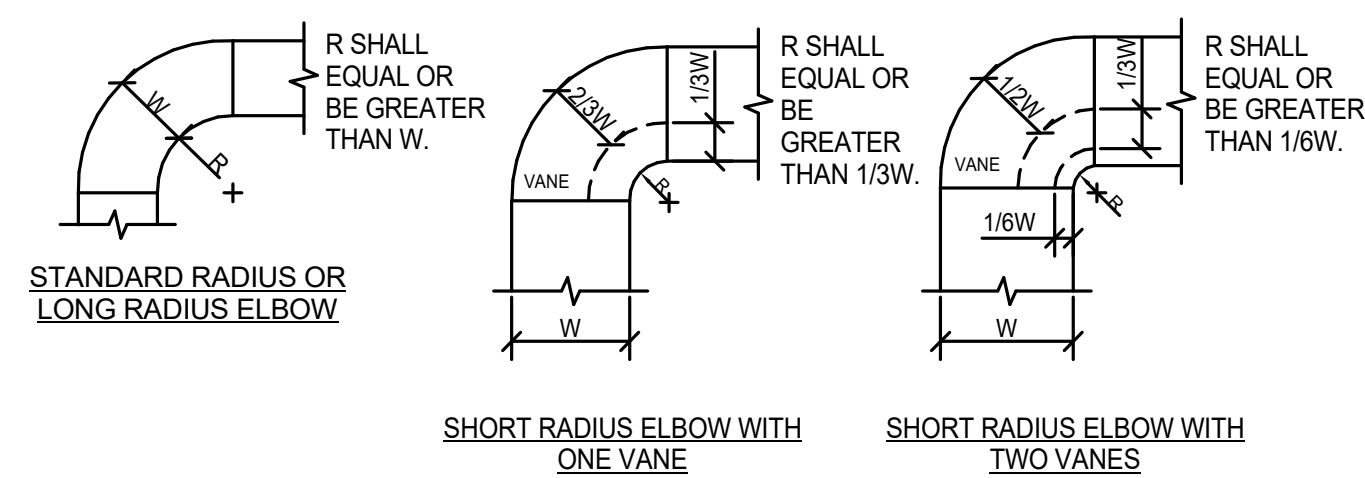
Building Number: 4

Drawing Number: V-301



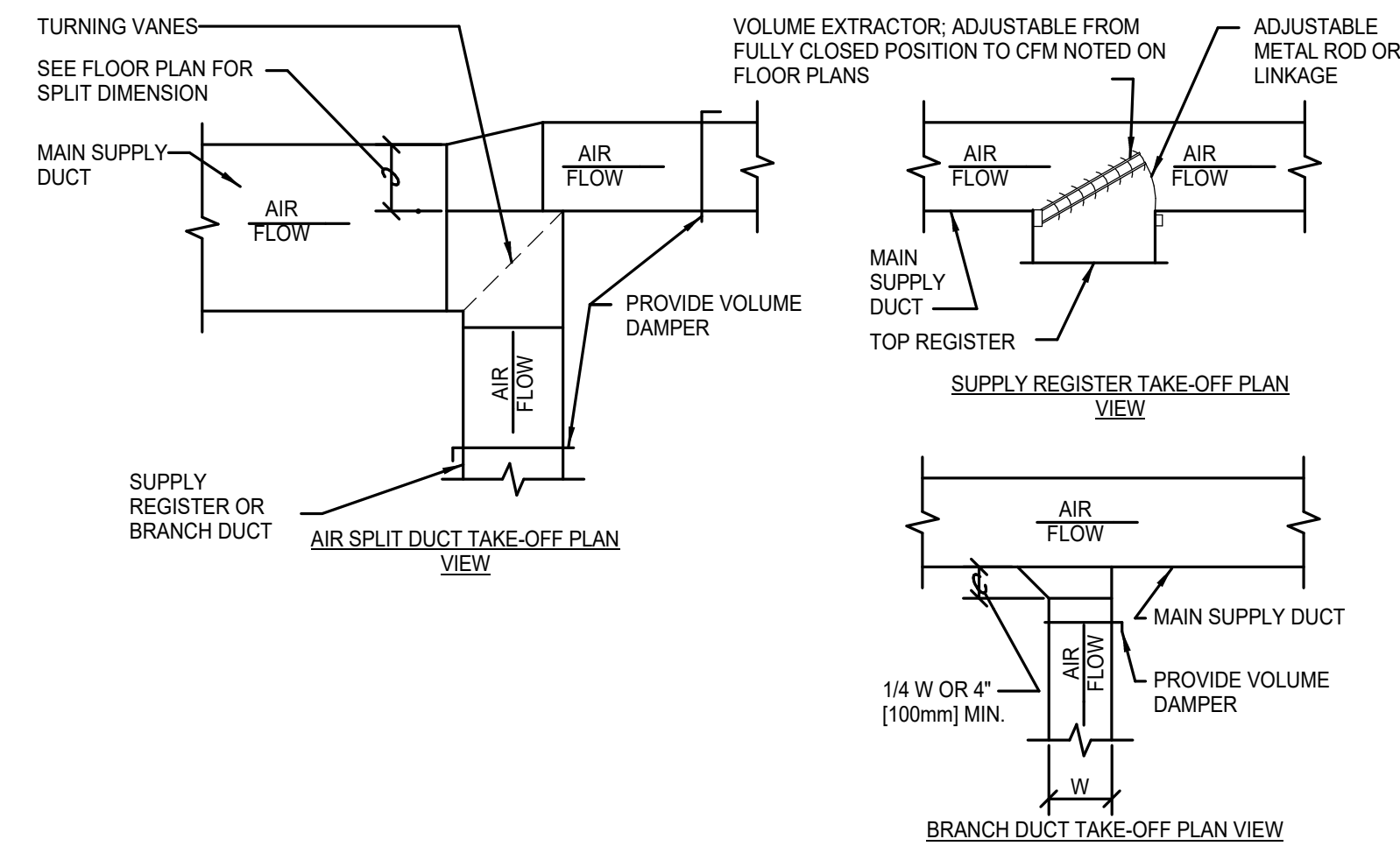
- NOTES:
1. ALL VANE ELBOWS SHALL BE CONSTRUCTED AND INSTALLED AS DETAILED BY SMACNA.
 2. WHEN W1 DOES NOT EQUAL W2, VANE SHALL BE SINGLE THICKNESS VANE TYPE REGARDLESS OF W DIMENSION.
 3. ALL SINGLE THICKNESS VANES SHALL HAVE A 2" [50mm] RADIUS, 1 1/2" [40mm] MAXIMUM SPACE BETWEEN VANES AND A 3/4" [20mm] TRAILING EDGE.
 4. WHEN W EQUALS W2 AND W1 IS GREATER THAN 20" [500mm] VANES SHALL BE DOUBLE VANE TYPE.

1 DUCTWORK SQUARE VANE ELBOWS
NTS

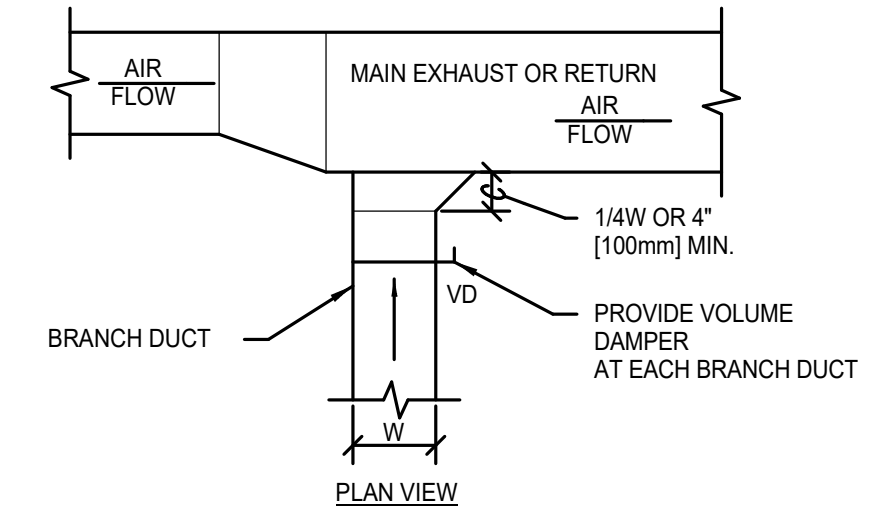


- NOTES:
1. THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND.
 2. ALL STANDARD RADIUS ELBOWS CAN BE SUBSTITUTED WITH SHORT RADIUS ELBOWS. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.

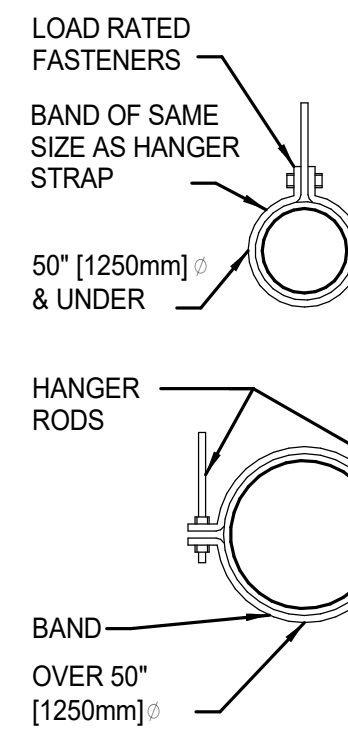
2 DUCTWORK RADIUS ELBOWS
NTS



3 SUPPLY DUCTWORK TAKE-OFFS
NTS



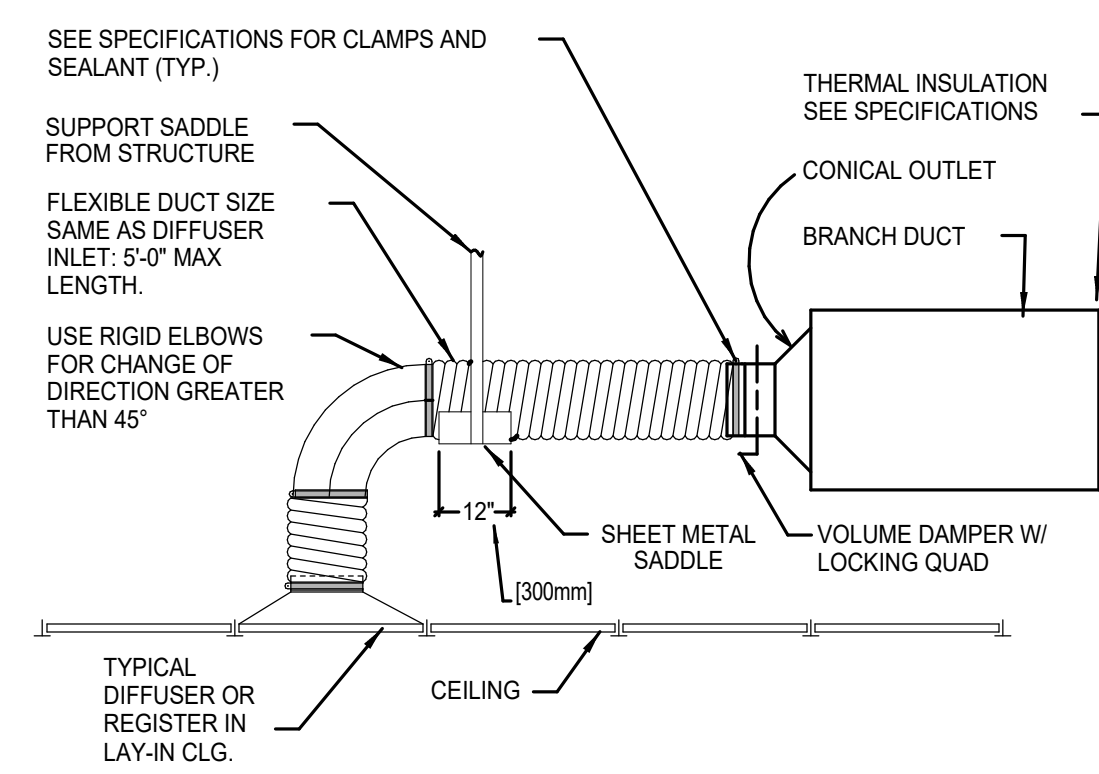
4 EXHAUST OR RETURN BRANCH DUCTWORK
NTS



HANGER STRAPS OR RODS			
MAX. DUCT IN. [mm]	QUANTITY/SIZE IN. [mm]	MAX. LOAD LBS. [kg]	MAX. SPACING IN. [mm]
26 [650]	ONE 1 [25] x 22 GA STRAP	260 [119]	144 [3600]
36 [900]	ONE 1 [25] x 18 GA STRAP	420 [190]	144 [3600]
50 [1250]	ONE 1 [25] x 16 GA STRAP	700 [317]	144 [3600]
60 [1500]	TWO 3/8 [10] RODS	1320 [598]	144 [3600]
84 [2100]	TWO 1/2 [13] RODS	2500 [1133]	144 [3600]

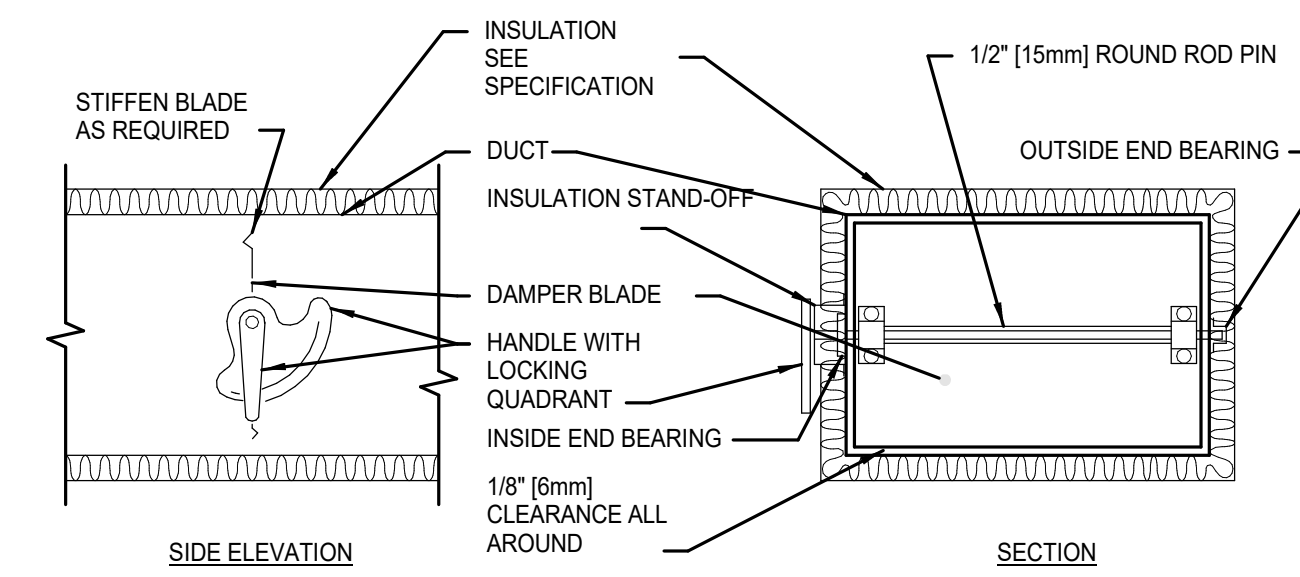
NOTE: FABULATED DATA FROM SMACNA ALLOWS FOR DUCT REINFORCING AND INSULATION, BUT NO EXTERNAL LOAD.

5 ROUND DUCT HANGERS
NTS



NOTE: THE USE OF FLEXIBLE AIR DUCT CONNECTORS ARE NOT PERMITTED FOR THE DEDICATED AHU SERVING THE SURGICAL SUITE.

6 FLEXIBLE AIR DUCT CONNECTOR
NTS



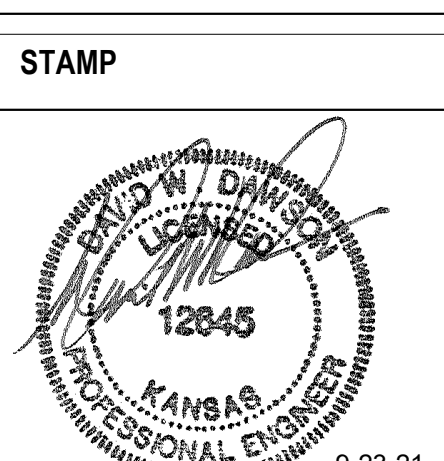
- NOTE:
1. DELETE INSULATION STAND-OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION.
 2. DETAIL SHOWS SINGLE BLADE DAMPER. DAMPER INSTALLATION SHALL BE SIMILAR FOR MULTI-BLADE DAMPERS & ROUND DAMPERS.

7 VOLUME DAMPER DETAIL
NTS

Revisions:	Date:

CONSULTANT
Engineering:
IMEG Corp.
15 Sunnen Drive, Suite 104
St. Louis, MO 63143
(314) 645-1132

ARCHITECT/ENGINEER OF RECORD
A/E:
Calvin L. Hinz Architects P.C.
3705 N. 200th Street
Elkhorn, NE 68022
(402) 291-6941



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U.S. Department of Veterans Affairs

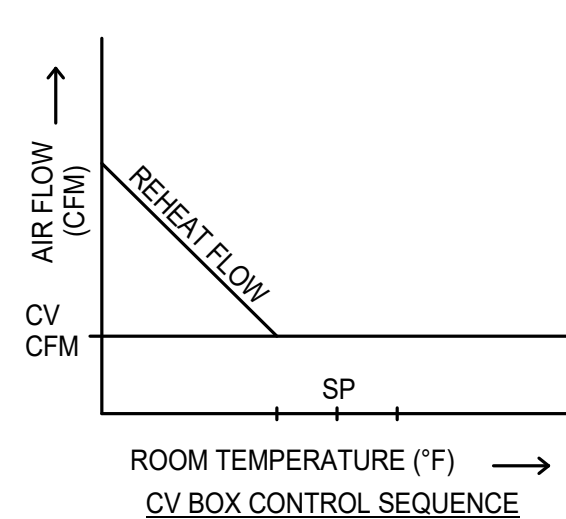
Drawing Title: VENTILATION DETAILS
Approved: _____

Phase: BID DOCUMENTS
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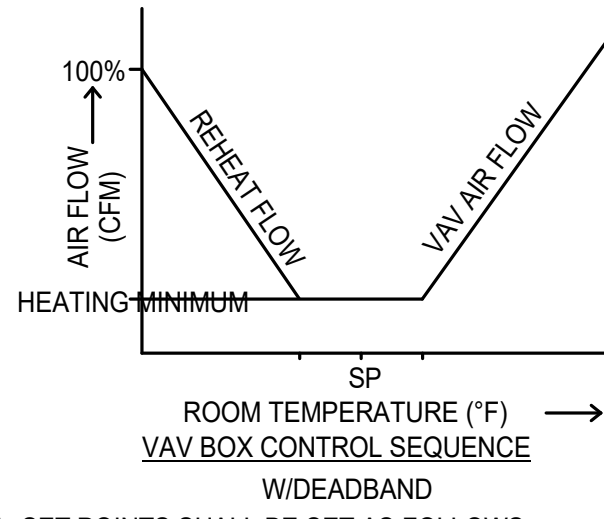
Project Title: Renovate and Repair Structural, Building 4
Location: Wichita, KS
Issue Date: 9/23/2021
Checked: RUSARN
Drawn: KATDEN

Project Number: 589A7-21-108
Building Number: 4
Drawing Number: V-302

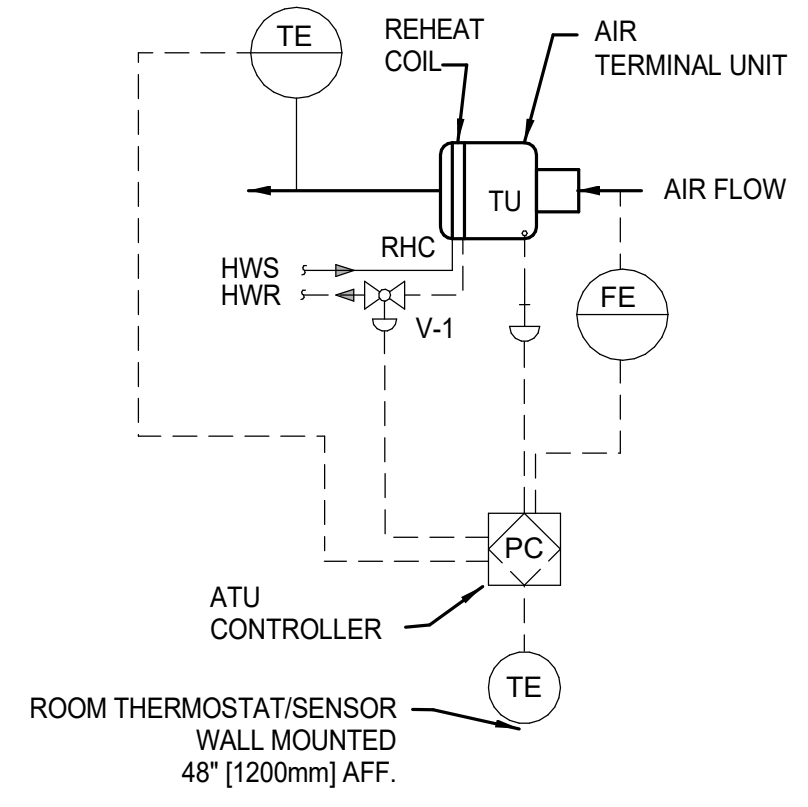
SHEET NOTES:
 1. ALL CONTROLS SHALL TIE IN TO EXISTING CAMPUS BAS.



A. SET POINTS SHALL BE SET AS FOLLOWS:
 COOLING 75° F (ADJ)
 HEATING 70° F (ADJ)
 DEADBAND OF 5° F BETWEEN HEATING AND COOLING SET POINTS WILL BE MAINTAINED
 B. UPON FALL IN SPACE TEMPERATURE BELOW SET POINT VALVE V-1 WILL MODULATE TO MAINTAIN SET POINT ± .5°. THE ADJUSTABLE TOLERANCE OF ± .5° HAS BEEN SELECTED TO PREVENT VALVE HUNTING
 C. THE REVERSE SHALL OCCUR ON RISE IN SPACE TEMPERATURE.



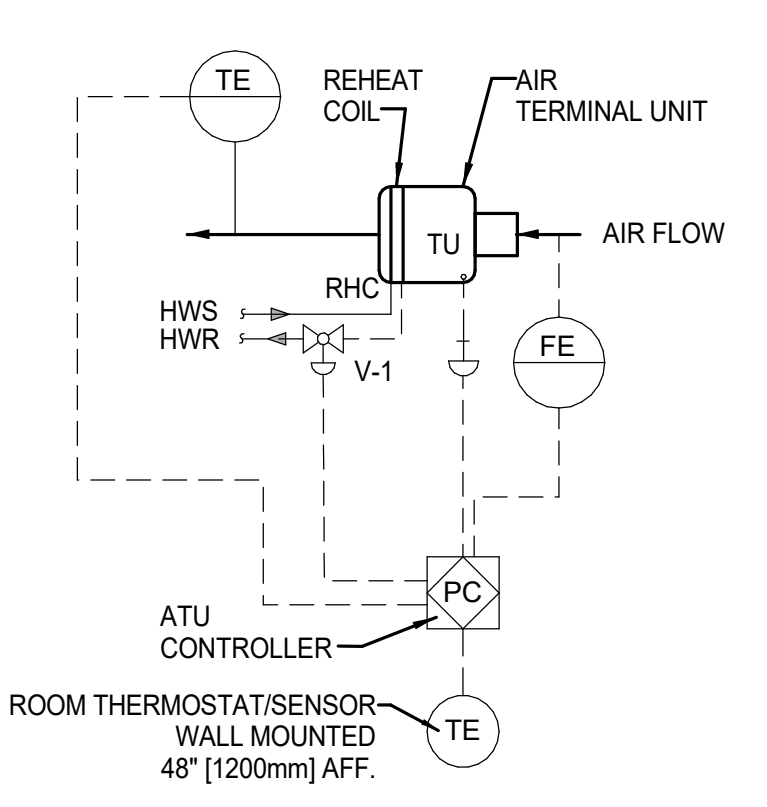
A. SET POINTS SHALL BE SET AS FOLLOWS:
 COOLING 75° F (ADJ)
 HEATING 70° F (ADJ)
 DEADBAND OF 5° F BETWEEN HEATING AND COOLING SET POINTS WILL BE MAINTAINED.
 B. UPON FALL IN SPACE TEMPERATURE THE VAV DAMPER WILL MODULATE TO MINIMUM POSITION.
 C. UPON FURTHER DROP IN SPACE TEMPERATURE VALVE V-1 WILL MODULATE TO MAINTAIN SET POINT ± .5° F. THE ADJUSTABLE TOLERANCE OF ± .5° F HAS BEEN SELECTED TO PREVENT VALVE HUNTING
 D. THE REVERSE SHALL OCCUR ON THE RISE IN SPACE TEMPERATURE.



NO SUPPLEMENTAL HEATING

1 CONSTANT VOLUME AIR TERMINAL UNIT CONTROL DIAGRAM

1
NTS

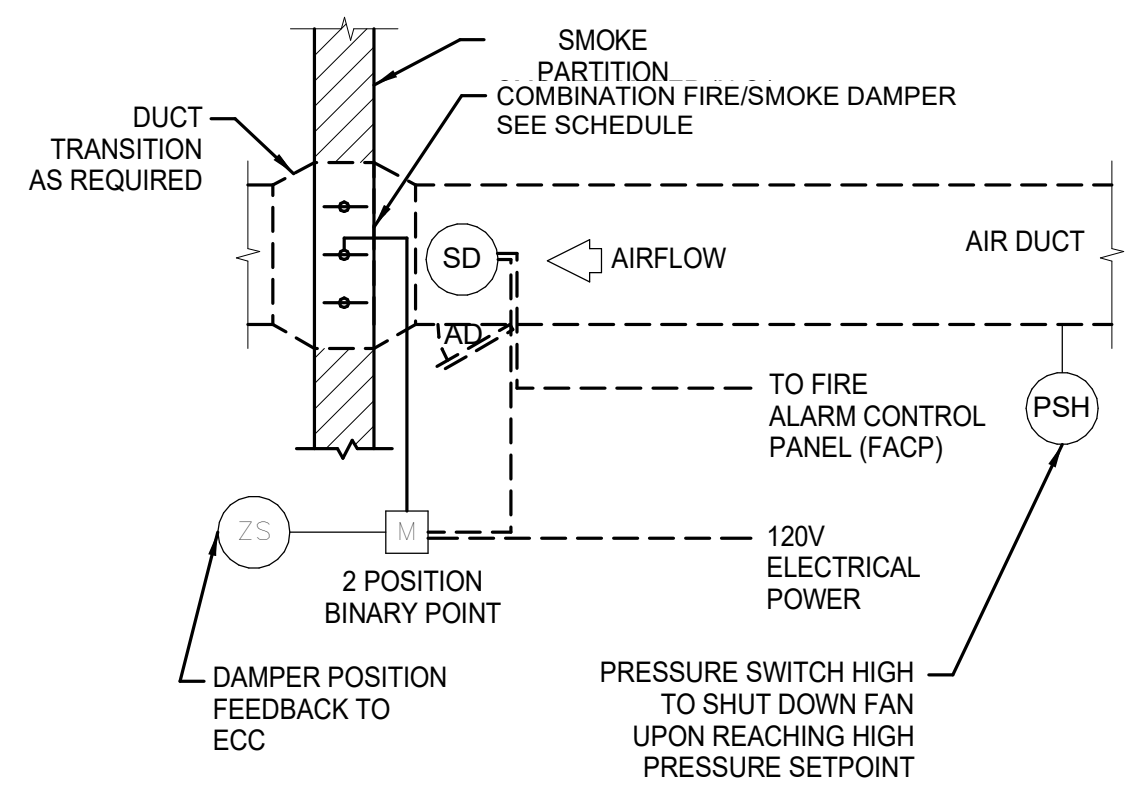


NO SUPPLEMENTAL HEATING

2 VARIABLE VOLUME AIR TERMINAL UNIT CONTROL DIAGRAM

2
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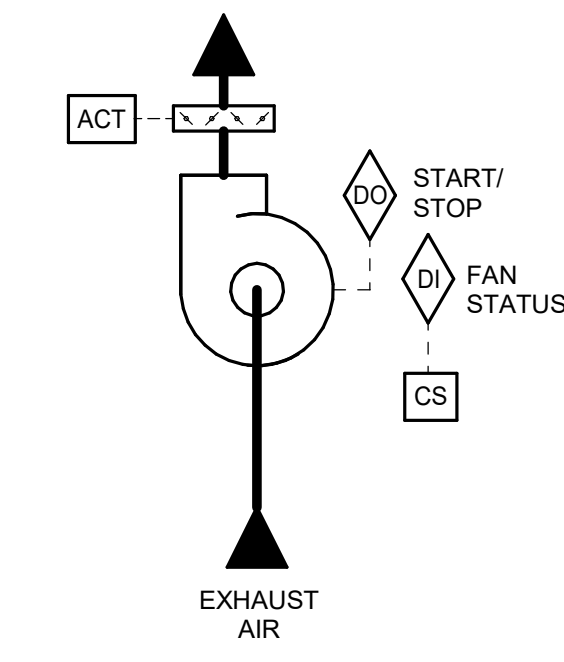
NOTE:
 BOX 4-V-0.04 SHALL INTERLOCK WITH DUST COLLECTION SYSTEM AND RAMP UP, IF OPERATING LOWER, TO MATCH CFM OF DUST COLLECTION SYSTEM WHEN SYSTEM IS IN OPERATION. COORDINATE CFM REQUIRED WITH DUST COLLECTION SYSTEM APPROVED SHOP DRAWING. CFM SHALL MATCH DUST COLLECTION SYSTEM REGARDLESS OF HEATING OR COOLING OPERATION.



NOTE:
 UPON DETECTION OF SMOKE BY THE SMOKE DETECTOR, THE COMBINATION FIRE/SMOKE DAMPER SHALL CLOSE & SEND AN ALARM TO THE ECC.

3 SMOKE DAMPER CONTROL DIAGRAM

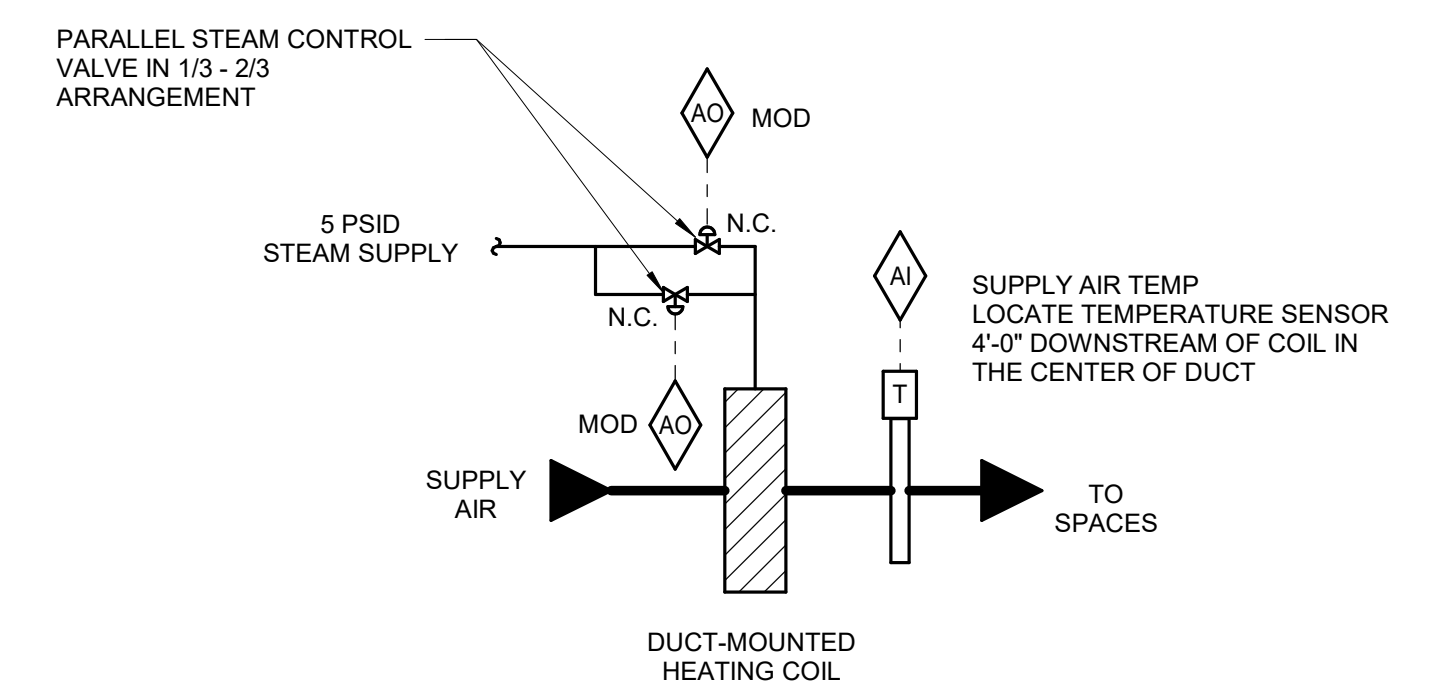
3
NTS



SEQUENCE OF OPERATION:
 EXHAUST FAN SHALL BE INTERLOCKED TO RUN CONTINUOUSLY WHEN RESPECTIVE AHU IS OPERATING.
 2-POSITION DAMPER SHALL FULLY OPEN WHEN FAN IS ENERGIZED. WHEN FAN IS DE-ENERGIZED, 2-POSITION DAMPER SHALL FULLY CLOSE.
ALARMS, INTERLOCKS AND SAFETIES:
 AN ALARM SHALL BE GENERATED AT THE FMCS OPERATOR WORKSTATION IN THE EVENT THE FMCS COMMANDS THE EXHAUST FAN TO OPERATE AND THE CURRENT SENSING RELAY DETECTS INSUFFICIENT CURRENT DRAW.

4 EXHAUST FAN CONTROL - AHU INTERLOCK - 4-EF-1 & 4-EF-2

4
NO SCALE



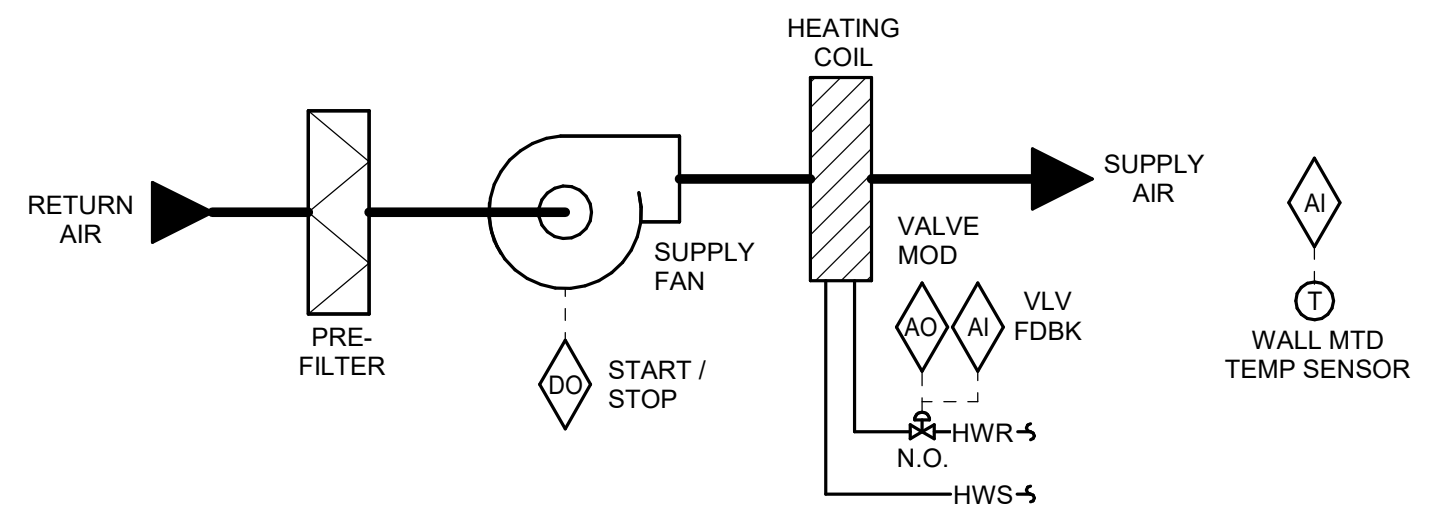
SEQUENCE OF OPERATION:
 THE STEAM CONTROL VALVES SHALL MODULATE AS REQUIRED TO MAINTAIN SYSTEM SUPPLY TEMP AS FOLLOWS:
 • THE 1/3 CAPACITY STEAM CONTROL VALVE SHALL BE MODULATED IN ORDER TO MAINTAIN THE SUPPLY TEMPERATURE. EXISTING CONTROL DISCHARGE AIR TEMPERATURE TO BE USED.
 • IF THE 1/3 CAPACITY CONTROL VALVE IS 100% OPEN AND THE COIL IS UNABLE TO MAINTAIN SETPOINT, THE 1/3 CAPACITY STEAM CONTROL VALVE SHALL CLOSE AND THE 2/3 CAPACITY STEAM CONTROL VALVE SHALL MODULATE TO MAINTAIN SETPOINT.
 • IF THE 2/3 CAPACITY CONTROL VALVE IS 100% OPEN AND IS UNABLE TO MAINTAIN SETPOINT, THE 2/3 CAPACITY CONTROL VALVE SHALL REMAIN OPEN AND THE 1/3 CAPACITY CONTROL VALVE SHALL ALSO MODULATE TO MAINTAIN SETPOINT.
 • ON A DECREASE IN LOAD, THE 2/3 CAPACITY STEAM CONTROL VALVE SHALL REMAIN OPEN AND THE 1/3 CAPACITY STEAM CONTROL VALVE SHALL MODULATE TO MAINTAIN SETPOINT IS ACHIEVED.
 • ON A FURTHER DECREASE IN LOAD, THE 1/3 CAPACITY STEAM CONTROL VALVE SHALL REMAIN SHUT AND THE 2/3 CAPACITY STEAM CONTROL VALVE SHALL MODULATE TO MAINTAIN SETPOINT IS ACHIEVED OR UNTIL IT REACHES 40% (ADJ.) OPEN.
 • IF THE 2/3 CAPACITY STEAM CONTROL VALVE REACHES 40% (ADJ.) OPEN AND SETPOINT IS STILL NOT ACHIEVED, THE 2/3 CAPACITY STEAM CONTROL VALVE SHALL CLOSE AND THE 1/3 CAPACITY STEAM CONTROL VALVE SHALL MODULATE OPEN UNTIL SETPOINT IS ACHIEVED.

STEAM CONTROL VALVE OPERATION SHALL BE ENABLED WHEN THE OUTSIDE AIR TEMPERATURE DROPS BELOW 50° F (ADJ.) CONTROLS SHALL BE DISABLED WITH THE OUTSIDE AIR TEMPERATURE RISES ABOVE 54° F (ADJ.)

ALARMS, INTERLOCKS & SAFETIES:
 FMCS SHALL INDICATE AN ALARM TO THE FMCS OPERATOR WORKSTATION IN THE EVENT THE FOLLOWING OCCUR:
 • DISCHARGE AIR TEMPERATURE IS 10° F (ADJ.) ABOVE OR BELOW SETPOINT FOR MORE THAN 10 MIN. (ADJ.)

5 DUCT MOUNTED HEATING COIL

5
NO SCALE



SEQUENCE OF OPERATION:
 THE CABINET HEATER SHALL BE FURNISHED WITH A CUSTOMER SUPPLIED TERMINAL INTERFACE.
 WHEN THE OUTDOOR AIR TEMPERATURE IS ABOVE 45° F, THE CONTROL VALVE SHALL BE CLOSED AND THE FAN SHALL STOP.
 WHEN THE OUTDOOR AIR TEMPERATURE IS BELOW 45° F, THE FMCS SHALL MODULATE THE CONTROL VALVE TO MAINTAIN SETPOINT AND THE FAN SHALL RUN CONTINUOUSLY.
ALARMS, INTERLOCKS & SAFETIES:
 • SEND AN ALARM TO THE FMCS OPERATOR INTERFACE IF SPACE TEMPERATURE FALLS 10° F (ADJ.) BELOW SETPOINT.

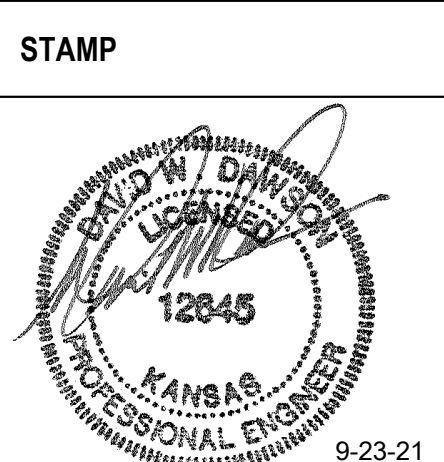
6 CABINET HEATER CONTROL - HYDRONIC

6
NO SCALE

Revisions:	Date:

CONSULTANT
 Engineering:
 IMEG Corp.
 15 Sunnen Drive, Suite 104
 St. Louis, MO 63143
 (314) 645-1132

ARCHITECT/ENGINEER OF RECORD
 A/E:
 Calvin L. Hinz Architects P.C.
 3705 N. 200th Street
 Elkhorn, NE 68022
 (402) 291-6941



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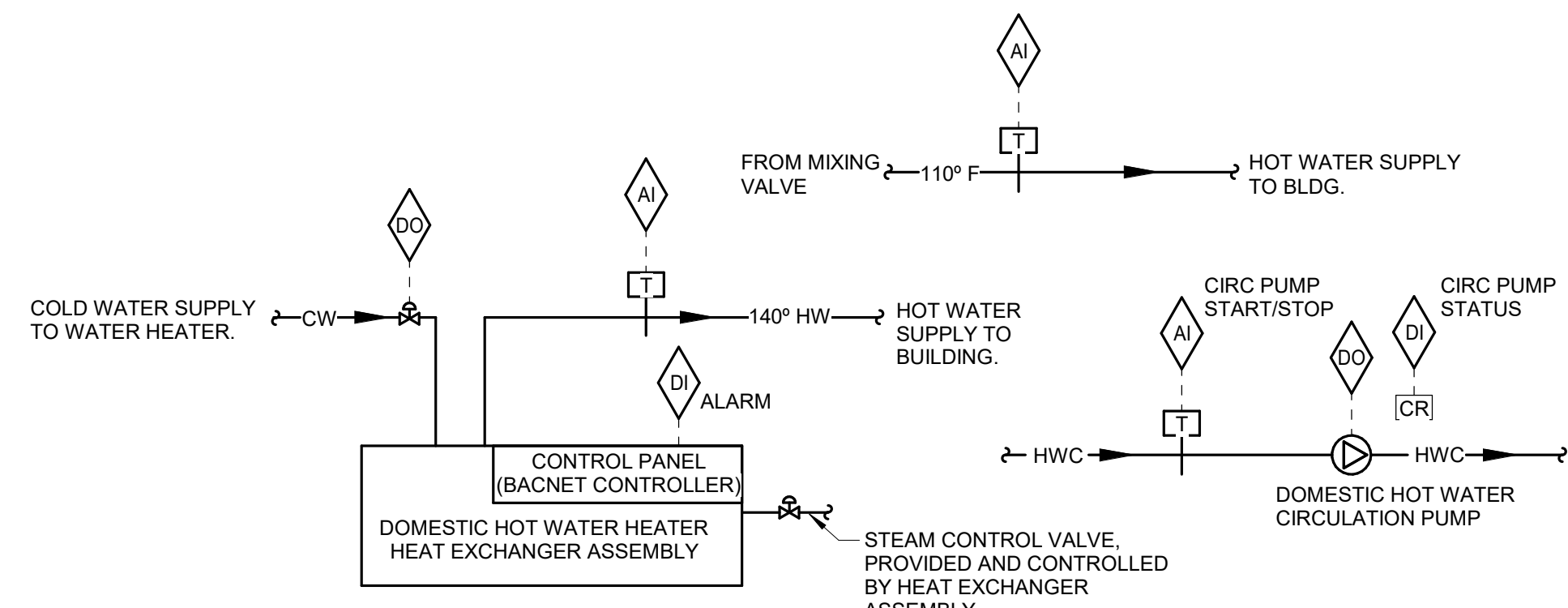
Drawing Title
VENTILATION DIAGRAMS
 Approved:

Phase
BID DOCUMENTS
FULLY SPRINKLERED

Project Title
 Renovate and Repair Structural, Building 4
 Location
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 Issue Date
 9/23/2021
 Checked
 RUSARN
 Drawn
 KATDEN

Project Number
 589A7-21-108
 Building Number
 4
 Drawing Number
 V-401

SHEET NOTES:
 1. ALL CONTROLS SHALL TIE IN TO EXISTING CAMPUS BAS.



SEQUENCE OF OPERATION:
 DOMESTIC WATER HEAT EXCHANGER ASSEMBLY CONTROL PANEL (BACNET COMPATIBLE) SHALL MODULATE THE STEAM CONTROL VALVE TO MAINTAIN 140°F (ADJ.) DOMESTIC HOT WATER.

FMCS SHALL OPEN CONTROL VALVE ON COLD WATER WHEN THE WATER HEATER IS ENERGIZED. ONE OF THE THREE CONTROL VALVES SHALL ALWAYS BE OPEN TO ALLOW THE DOMESTIC HOT WATER CIRCULATION PUMP TO OPERATE. WHEN WATER HEATER IS NOT OPERATIONAL CONTROL VALVE SHALL CLOSE.

FMCS SHALL MONITOR THE TEMPERATURE AT THE 110°F CIRCULATION PUMP. THE CIRCULATION PUMP SHALL TURN ON WHEN THE TEMPERATURE FALLS BELOW 102°F (ADJ.) AND SHALL TURN OFF WHEN THE TEMPERATURE RISES ABOVE 107°F (ADJ.)

FMCS SHALL MONITOR THE TEMPERATURE AT THE 140°F CIRCULATION PUMP. THE CIRCULATION PUMP SHALL TURN ON WHEN THE TEMPERATURE FALLS BELOW 132°F (ADJ.) AND SHALL TURN OFF WHEN THE TEMPERATURE RISES ABOVE 137°F (ADJ.)

FMCS SHALL MONITOR THE OUTPUT TEMPERATURE OF THE WATER HEATERS AND THE OUTPUT TEMPERATURE DOWNSTREAM OF THE MIXING VALVES.

FMCS SHALL MONITOR AND RECORD THE FOLLOWING INFORMATION FROM THE WATER HEATER:

- DISPLAY THE TEMPERATURES ONCE EVERY 5 MINUTE (ADJ.) TIME INTERVAL AND RECORD IN A TREND THAT MAINTAINS DATA FOR A 7 DAY (ADJ.) PERIOD. AT THE END OF THE 7 DAY (ADJ.) PERIOD THE TREND SHALL AUTOMATICALLY OVERWRITE THE EARLIEST RECORDED DATA. TREND DATA SHALL INCLUDE DATE AND TIME STAMPS. THIS INFORMATION SHALL BE ACCESSIBLE TO VIEW IN EITHER TABULAR OR GRAPHICAL FORM ON THE FMCS OPERATOR WORKSTATION.
- ONCE PER MONTH, THE FMCS SHALL RECORD THE FOLLOWING INFORMATION TO A MEMORY LOCATION ON THE FMCS OPERATOR WORKSTATION THAT IS MAINTAINED (NOT AUTOMATICALLY OVERWRITTEN)

FMCS SHALL MONITOR AND RECORD THE FOLLOWING INFORMATION FROM THE CIRCULATION PUMPS:

- TOTAL RUN TIME ON EACH PUMP SHOWN IN THE DIAGRAM. COORDINATE FINAL RECORDING, DISPLAY, AND ARCHIVING REQUIREMENTS WITH THE OWNER.

OPERATOR WORKSTATION SHALL DISPLAY PUMP CURRENT STATUS AND ALLOW OPERATOR TO ENABLE/DISABLE THE CIRCULATION PUMP FOR EITHER THE 110°F OR 140°F SYSTEM.

ALARMS, INTERLOCKS & SAFETIES:
 FMCS SHALL TIE INTO BACNET CONTROLLER AND INDICATE AN ALARM TO THE FMCS OPERATOR WORKSTATION IN THE EVENT THE FOLLOWING OCCUR:

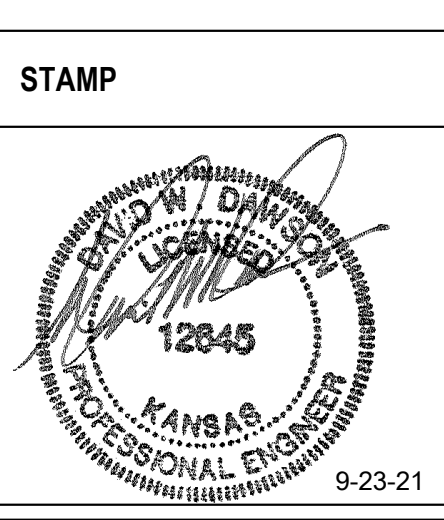
- ANY WATER HEATER INDICATES AN ALARM CONDITION.
- ANY HOT WATER CIRCULATION PUMP INDICATES AN ALARM CONDITION.
- THE LEAVING HOT WATER TEMPERATURE IS ABOVE 145°F (ADJ.) OR BELOW 135°F (ADJ.) FOR MORE THAN 5 MINUTES (ADJ.)
- THE MIXING VALVE LEAVING HOT WATER TEMPERATURE IS ABOVE 115°F (ADJ.) OR BELOW 105°F (ADJ.) FOR MORE THAN 5 MINUTES (ADJ.)

1 DOMESTIC HOT WATER CONTROL
 NO SCALE

Revisions:	Date:

CONSULTANT
 Engineering:
 IMEG Corp.
 15 Sunnen Drive, Suite 104
 St. Louis, MO 63143
 (314) 645-1132

ARCHITECT/ENGINEER OF RECORD
 A/E:
 Calvin L. Hinz Architects P.C.
 3705 N. 200th Street
 Elkhorn, NE 68022
 (402) 291-6941



Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title
VENTILATION DIAGRAMS

Approved:

Phase
BID DOCUMENTS

FULLY SPRINKLERED

Project Title
 Renovate and Repair Structural, Building 4

Location
 Wichita, KS

Issue Date
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Checked
 RUSARN

Drawn
 KATDEN

Project Number
 589A7-21-108

Building Number
 4

Drawing Number
 V-402

HVAC DESIGN DATA table with columns for DESIGN CONDITIONS, SUMMER (TEMP, WET BULB TEMP, % HUMIDITY), WINTER (TEMP, DEWPOINT TEMP, % HUMIDITY), and LOWEST AVERAGE ANNUAL DEWPOINT.

FAN SCHEDULE table with columns for MARK, LOCATION, AREA AND/OR BLDG SERVED, SYSTEM AND/OR SERVICE, AIR FLOW (CFM, L/s, IN, Pa), TSP, FAN (TYPE, WHEEL, CLASS, ARRANGEMENT, ROTATION, AND DISCHARGE), DIAMETER (IN, mm), MIN % EFF, DRIVE, FAN MAX RPM, NOMINAL POWER (BHP, HP, kW), MOTOR ELECTRICAL (PHASE, VOLT, RPM, SPEED CONTROL), CONTROL SEQUENCE, and REMARKS.

AIR DEVICE SCHEDULE (RETURN/EXHAUST) table with columns for MARK, TYPE, AIR FLOW (MIN, MAX), MAX APD, MOUNTING, PANEL/FRAME SIZE (IN x IN, mm x mm), NECK SIZE (IN, mm), NC, DAMPER, FINISH, and REMARKS.

SINGLE DUCT AIR TERMINAL UNIT SCHEDULE table with columns for MARK, LOCATION, AREA AND/OR ROOM SERVED, SYSTEM AIR HANDLING, SIZE, AIR FLOW (MAX, MIN), ADDITIONAL SOUND ATTENUATION REQUIRED, CONTROL TYPE, CONTROL SEQUENCE, REHEAT (HW, ELEC, NONE), and REMARKS.

AIR DEVICE SCHEDULE (SUPPLY) table with columns for MARK, TYPE, AIR FLOW (MIN, MAX), MAX APD, MOUNTING, PANEL/FRAME SIZE (IN x IN, mm x mm), NECK SIZE (IN, mm), NC, DAMPER, FINISH, and REMARKS.

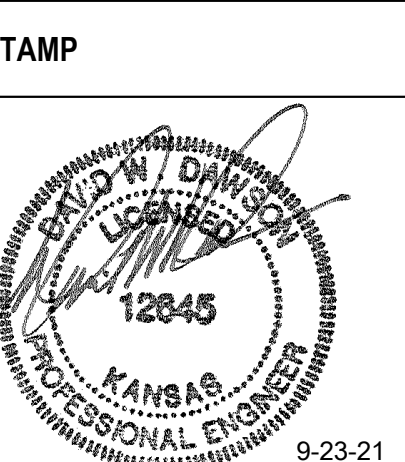
COMBINATION FIRE/SMOKE DAMPER SCHEDULE table with columns for MARK, LOCATION, FAN SYSTEM, SYSTEM AND/OR SERVICE, DUCT SIZE (IN, mm), DUCT PRESSURE CLASS (IN WG, Pa), and REMARKS.

AIR TERMINAL UNIT SIZING SCHEDULE table with columns for SIZE, MIN ALLOWABLE AIR FLOW, MAX ALLOWABLE AIR FLOW, DUCT INLET SIZE, MAX APD, MAXIMUM SOUND POWER LEVEL (Re: 10 - 12 WATTS) FOR BOX DISCHARGE AT MAXIMUM INLET DUCT STATIC, and REMARKS.

Revisions table with columns for Revisions and Date.

CONSULTANT: Engineering: IMEG Corp. 15 Sunnen Drive, Suite 104 St. Louis, MO 63143 (314) 645-1132

ARCHITECT/ENGINEER OF RECORD: A/E: Calvin L. Hinz Architects P.C. 3705 N. 200th Street Elkhorh, NE 68022 (402) 291-6941



Office of Construction and Facilities Management, U.S. Department of Veterans Affairs

Drawing Title: VENTILATION SCHEDULES, Approved: [Signature]

Phase: BID DOCUMENTS, Fully Sprinklered

Project Title: Renovate and Repair Structural, Building 4, Location: Wichita, KS, Issue Date: 9/23/2021, Checked: RUSARN, Drawn: KATDEN

Project Number: 589A7-21-108, Building Number: 4, Drawing Number: V-501

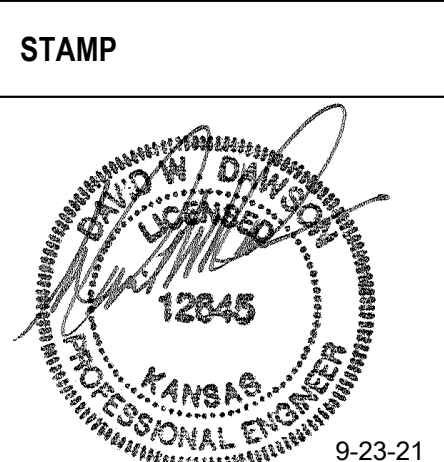
HOT WATER HEATING COIL SCHEDULE																										
MARK	LOCATION	AREA AND/OR BLDG SERVED	SYSTEM AND/OR SERVICE	APPLICATION	AIR FLOW		MAX FACE VELOCITY		APD		TEMPERATURES				TOTAL MIN CAPACITY		HOT WATER				% GLYCOL	REMARKS				
					CFM	[L/s]	FPM	[M/s]	IN WG	[Pa]	EAT		LAT		MBH	[kW]	FLOW		EWT				LWT		WPD	
												"F	[°C]	"F	[°C]			GPM	[L/s]	"F	[°C]	"F	[°C]	FT	[kPa]	
4-HC-2	WAITING 003	WAITING 003	4-CV-2	REHEAT	200	[94]	1000	[5]	0.16	[40]	55	[13]	95	[35]	9	[29]	1.9	[]	180	[82]	140		0.8	[2]	0	NOTE 1
4-HC-2.1	OPEN OFFICE 201	OPEN OFFICE 201	4-V-2.1	REHEAT	215	[100]	1000	[5]	0.24	[60]	55	[13]	95	[35]	9	[32]	1.7	[]	180	[82]	140		0.64	[2]	0	NOTE 1
4-HC-2.2	OPEN OFFICE 201	OPEN OFFICE 201	4-V-2.2	REHEAT	100	[47]	1000	[5]	0.09	[23]	55	[13]	95	[35]	4	[15]	0.6	[]	180	[82]	140		0.05	[]	0	NOTE 1
4-HC-2.3	OPEN OFFICE 201	OPEN OFFICE 201	4-V-2.3	REHEAT	100	[47]	1000	[5]	0.13	[33]	55	[13]	95	[35]	4	[15]	0.6	[]	180	[82]	140		0.05	[]	0	NOTE 1
4-HC-2.4	DIGITAL PRESS 203	DIGITAL PRESS 203	4-V-2.4	REHEAT	215	[100]	1000	[5]	0.28	[70]	55	[13]	95	[35]	9	[32]	1.4	[]	180	[82]	140		0.32	[1]	0	NOTE 1
4-HC-2.5	OPEN OFFICE 201	OPEN OFFICE 201	4-V-2.5	REHEAT	100	[47]	1000	[5]	0.06	[15]	55	[13]	95	[35]	4	[15]	0.6	[]	180	[82]	140		0.05	[]	0	NOTE 1
4-HC-2.6	STUDIO 207	STUDIO 207	4-V-2.6	REHEAT	165	[78]	1000	[5]	0.18	[45]	55	[13]	95	[35]	7	[24]	0.8	[]	180	[82]	140		0.11	[]	0	NOTE 1
4-HC-2.7	STUDIO 209	OFFICE 204	4-V-2.7	REHEAT	100	[47]	1000	[5]	0.25	[63]	55	[13]	95	[35]	4	[15]	0.7	[]	180	[82]	140		0.13	[]	0	NOTE 1
4-HC-2.8	DIGITAL PRINT AREA 206	DIGITAL PRINT AREA 206	4-V-2.8	REHEAT	130	[61]	1000	[5]	0.22	[55]	55	[13]	95	[35]	6	[19]	0.6	[]	180	[82]	140		0.1	[]	0	NOTE 1
4-HC-2.9	DIGITAL PRINT AREA 206	DIGITAL PRINT AREA 206	4-V-2.9	REHEAT	100	[47]	1000	[5]	0.06	[15]	55	[13]	95	[35]	4	[15]	0.6	[]	180	[82]	140		0.05	[]	0	NOTE 1
4-HC-1.1	WOMEN 113	WOMEN 113	4-V-1.1	REHEAT	460	[220]	1000	[5]	0.31	[78]	55	[13]	95	[35]	20	[68]	2.4	[]	180	[82]	140		1.26	[4]	0	NOTE 1
4-HC-0.01	EXAM ROOM 009	EXAM ROOM 008	4-V-0.1	REHEAT	90	[42]	1000	[5]	0.05	[13]	55	[13]	85	[30]	3	[10]	0.6	[]	180	[82]	140		0.19	[1]	0	NOTE 1
4-HC-0.02	EXAM ROOM 008	EXAM ROOM 007	4-V-0.2	REHEAT	100	[47]	1000	[5]	0.06	[15]	55	[13]	85	[30]	3	[11]	0.6	[]	180	[82]	140		0.19	[1]	0	NOTE 1
4-HC-0.03	EXAM ROOM 007	EXAM ROOM 007	4-V-0.3	REHEAT	70	[33]	1000	[5]	0.06	[15]	55	[13]	95	[35]	3	[10]	0.6	[]	180	[82]	140		0.05	[]	0	NOTE 1
4-HC-0.04	WORK ROOM 015	WORK ROOM 015	4-V-0.4	REHEAT	240	[113]	1000	[5]	0.14	[35]	55	[13]	95	[35]	9.6	[32]	0.6	[]	180	[82]	140		0.04	[]	0	NOTE 1
4-HC-0.05	CORRIDOR 010	CORRIDOR 010	4-V-0.5	REHEAT	185	[87]	1000	[5]	0.34	[85]	55	[13]	95	[35]	8	[27]	0.6	[]	180	[82]	140		0.1	[]	0	NOTE 1
4-HC-0.06	WORK ROOM 013	WORK ROOM 013	4-V-0.6	REHEAT	150	[71]	1000	[5]	0.13	[33]	55	[13]	95	[35]	6	[22]	0.6	[]	180	[82]	140		0.05	[]	0	NOTE 1
4-HC-0.07	WORK ROOM 013	OFFICE 014	4-V-0.7	REHEAT	60	[28]	1000	[5]	0.03	[8]	55	[13]	95	[35]	3	[9]	0.5	[]	180	[82]	140		0.14	[]	0	NOTE 1
4-HC-0.08	CORRIDOR 006	RECEPTION 004	4-V-0.8	REHEAT	130	[61]	1000	[5]	0.07	[18]	55	[13]	95	[35]	6	[19]	0.5	[]	180	[82]	140		0.14	[]	0	NOTE 1
4-HC-0.09	CORRIDOR 006	CORRIDOR 002	4-V-0.9	REHEAT	180	[85]	1000	[5]	0.07	[18]	55	[13]	95	[35]	8	[27]	0.6	[]	180	[82]	140		0.05	[]	0	NOTE 1
4-HC-0.10	WOMEN 016	WOMEN 016	4-V-1.0	REHEAT	65	[31]	1000	[5]	0.07	[18]	55	[13]	95	[35]	3	[10]	0.6	[]	180	[82]	140		0.19	[1]	0	NOTE 1
4-HC-0.11	MEN 017	CORRIDOR 018	4-V-1.1	REHEAT	80	[38]	1000	[5]	0.06	[15]	55	[13]	95	[35]	3	[12]	0.6	[]	180	[82]	140		0.19	[1]	0	NOTE 1
4-HC-0.12	OPEN OFFICE 027	OPEN OFFICE 027	4-V-1.2	REHEAT	185	[87]	1000	[5]	0.09	[23]	55	[13]	85	[30]	6	[20]	0.6	[]	180	[82]	140		0.05	[]	0	NOTE 1
4-HC-0.13	STORAGE/MAIL OUTS 024	STORAGE/MAIL OUTS 024	4-V-1.3	REHEAT	100	[47]	1000	[5]	0.06	[15]	55	[13]	95	[35]	4	[15]	0.6	[]	180	[82]	140		0.05	[]	0	NOTE 1
4-HC-0.14	STORAGE/MAIL OUTS 024	STORAGE/MAIL OUTS 024	4-V-1.4	REHEAT	90	[28]	1000	[5]	0.1	[25]	55	[13]	95	[35]	3	[9]	0.6	[]	180	[82]	140		0.26	[1]	0	NOTE 1
4-HC-0.15	STORAGE/MAIL OUTS 024	OFFICE 026	4-V-1.5	REHEAT	85	[40]	1000	[5]	0.1	[25]	55	[13]	95	[35]	4	[13]	0.6	[]	180	[82]	140		0.26	[1]	0	NOTE 2
4-HC-0.16	OPEN OFFICE 027	OFFICE 026	4-V-1.6	REHEAT	85	[40]	1000	[5]	0.1	[25]	55	[13]	95	[35]	4	[13]	0.6	[]	180	[82]	140		0.26	[1]	0	NOTE 2
4-HC-0.17	LOCKED STORAGE 011	LOCKED STORAGE 011	4-V-1.7	REHEAT	75	[35]	1000	[5]	0.06	[15]	55	[13]	95	[35]	3	[10]	0.6	[]	180	[82]	140		0.05	[]	0	NOTE 2
4-HC-0.18	PANTRY/STORAGE 100A	KITCHEN 100	4-V-1.8	REHEAT	300	[142]	1000	[5]	0.06	[15]	55	[13]	95	[35]	13	[44]	1.0	[]	180	[82]	140		0.32	[1]	0	NOTE 2

NOTES
 1. EXISTING HEATING WATER COIL ON EXISTING VAV BOX. REBALANCE TO SCHEDULED GPM.
 2. NEW HEATING WATER COIL ON NEW VAV BOX.

Revisions:	Date:

CONSULTANT
 Engineering:
 IMEG Corp.
 15 Sunnen Drive, Suite 104
 St. Louis, MO 63143
 (314) 645-1132

ARCHITECT/ENGINEER OF RECORD
 A/E:
 Calvin L. Hinz Architects P.C.
 3705 N. 200th Street
 Elkhorn, NE 68022
 (402) 291-6941



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