

PARTIAL DEMO PLAN (LOWER LEVEL)
 SCALE: 1/8" = 1'-0"

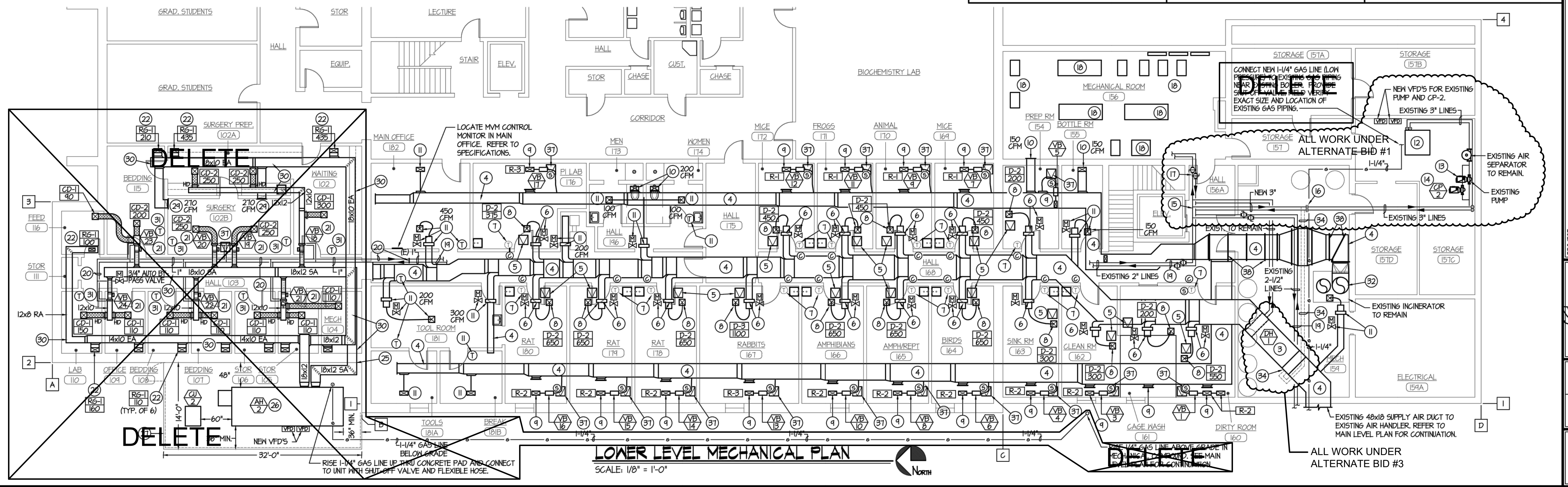
MAIN LEVEL MECHANICAL PLAN
 SCALE: 1/8" = 1'-0"

PLAN NOTES:

- EXISTING AIR HANDLER TO REMAIN. LOCK INLET VANES ON EXISTING FAN OPEN. REPLACE EXISTING 20 HP FAN MOTOR WITH NEW 25 HP MOTOR AND PROVIDE NEW VFD CONTROL FOR NEW MOTOR. FIELD VERIFY EXISTING CONDITIONS AND LOCATE VFD CLOSE TO MOTORS AND POWER SUPPLY. REPLACE EXISTING DX COOLING COIL WITH NEW AS SPECIFIED.
- DISCONNECT AND REMOVE EXISTING CONDENSING UNIT. OWNER TO CAPTURE AND STORE ALL EXISTING R-22 REFRIGERANT. COORDINATE WORK SCHEDULE WITH OWNER. PROVIDE AND INSTALL NEW CONDENSING UNIT AS SPECIFIED WITH 410A REFR. CONTRACTOR TO FIELD VERIFY CONDITIONS AND SIZE OF EXISTING REFRIGERANT SYSTEM AND PROVIDE REFRIGERANT AS REQUIRED.
- DISCONNECT AND REMOVE EXISTING DUCT DISPERSION TUBES. PROVIDE AND INSTALL NEW DUCT DISPERSION TUBES AS SPECIFIED. PROVIDE NEW DUCT TRANSITIONS AS REQUIRED. FIELD VERIFY EXISTING CONDITIONS. SEE DETAIL ON SHEET M3.
- EXISTING DUCTWORK TO REMAIN. PROTECT DURING CONSTRUCTION AND MAKE MODIFICATIONS AS NOTED.
- REMOVE AND REPLACE EXISTING CEILING ACCESS WITH NEW 24x24 ACCESS DOOR EQUAL TO BEST ACCESS DOORS BA-MDS. FIELD VERIFY EXACT LOCATION AND SIZE. UTILIZE ACCESS TO INSTALL NEW EQUIPMENT AND DUCTWORK. FINISH AND PREP FOR PAINTING.
- EXISTING VAV BOX, DUCTWORK AND COIL TO REMAIN. PROTECT DURING CONSTRUCTION. REPLACE EXISTING 3/4" 3-WAY MIXING VALVE WITH NEW 3/4" 2-POSITION VALVE. CAP EXISTING BY-PASS LINE. REPLACE EXISTING BOX CONTROLS WITH NEW ANTEC. FAZE' CONTROLLER AND MOUNT ON EXISTING DAMPER BOX. INTERLOCK WITH ALL NEW AND EXISTING EQUIPMENT AND SENSORS. REFER TO SHEET M3 FOR TYPICAL VAV BOX CONTROL SCHEMATIC.
- REMOVE EXISTING WALL MOUNTED ROOM CONTROL AND INSTALL STAINLESS STEEL BLANK COVER. PROVIDE NEW ROOM CONTROL AS SPECIFIED. MOUNT ON OUTSIDE HALLWAY. (REFER TO SPECIFICATIONS.)
- REMOVE AND REPLACE EXISTING CEILING GRILLE WITH NEW AS SPECIFIED. CONNECT TO EXISTING DUCTWORK ABOVE CEILING. FIELD VERIFY EXACT SIZES AND LOCATIONS OF EXISTING GRILLES AND DUCTWORK.
- REMOVE EXISTING EXHAUST GRILLE AND CAP BRANCH DUCT AT TAKE-OFF. PROVIDE NEW EXHAUST GRILLE AS SPECIFIED. CONNECT FLEXIBLE DUCT TO NEW GRILLE AND CONNECT TO NEW AIR CONTROL DAMPER FOR EXHAUST AIR ABOVE CEILING. MOUNT NEW SENSOR WITH HUMIDISTAT IN RETURN AIR DUCT. LOCATE SENSOR OUT OF WASH-DOWN SPRAY RADIUS. PROVIDE NEW SPIN-IN FITTINGS AS REQUIRED FOR CONNECTION OF NEW FLEXIBLE DUCT TO EXISTING MAIN TRUNK DUCT. BALANCE CONTROL DAMPER AND GRILLE TO CFM AS INDICATED ON PLANS.
- EXISTING EXHAUST GRILLE AND DUCTWORK TO REMAIN. BALANCE TO CFM AS INDICATED.
- EXISTING CONTROL BOX, THERMOSTAT AND CEILING DIFFUSERS ARE TO REMAIN. PROTECT DURING CONSTRUCTION. REPLACE EXISTING SENSOR WITH NEW JCI SENSOR. RE-BALANCE EXISTING DIFFUSERS TO CFM AS INDICATED.
- EXISTING BOILER TO REMAIN. RE-PIPE EXISTING BOILER TO CONNECT TO EXISTING HOT WATER SUPPLY AND RETURN LINES FEEDING THE ANIMAL CARE FACILITY. FIELD VERIFY EXISTING CONDITIONS AND MAKE ALL PIPING MODIFICATIONS REQUIRED FOR NEW SYSTEM CONNECTION.
- EXISTING IN-LINE PUMP TO REMAIN. INCREASE IMPELLER SIZE AS REQUIRED TO RE-BALANCE EXISTING PUMP TO 146 GPM FLOW AT 35' HEAD. PROVIDE NEW VFD CONTROLLER. (SEE ELECTRICAL DRAWINGS.)
- PROVIDE AND INSTALL NEW HOT WATER CIRCULATING PUMP AS SECONDARY PUMP. PROVIDE NEW PIPING FOR NEW PUMP. SEE BOILER PIPING DIAGRAM ON SHEET M2 FOR CONNECTION OF NEW PUMP TO EXISTING BOILER SYSTEM. PROVIDE NEW VFD CONTROLLER. (SEE ELECTRICAL DRAWINGS.)
- CONNECT NEW 3" HOT WATER SUPPLY AND RETURN LINES TO EXISTING CORRESPONDING LINES. FIELD VERIFY EXACT SIZE AND LOCATION OF PIPING.
- DISRUPT EXISTING 3" HOT WATER SUPPLY AND RETURN LINES TO EXISTING HEAT COIL IN DUCT. RE-ROUTE THRU MECHANICAL ROOM TO CONNECT TO EXISTING 3" HOT WATER PIPING ABOVE HALLWAY CEILING. FIELD VERIFY EXACT SIZE AND LOCATION OF EXISTING PIPING. REMOVE ALL UNUSED PIPING AND HANGERS.
- PROVIDE NEW SHUT-OFF VALVES IN EXISTING 3" HWG AND HWR LINES ABOVE CEILING. LOCK IN CLOSED POSITION. FIELD VERIFY EXACT LOCATION EXACT SIZE AND LOCATION OF EXISTING PIPING.
- ALL EXISTING EQUIPMENT, PIPING, CONTROLS, ETC. IN THIS ROOM TO REMAIN UNLESS NOTED OTHERWISE. FIELD VERIFY EXISTING CONDITIONS AND PROTECT DURING CONSTRUCTION.
- DISRUPT EXISTING 3" HOT WATER SUPPLY AND RETURN PIPING TO REMAIN UNLESS NOTED OTHERWISE. FIELD VERIFY EXACT SIZES AND LOCATIONS OF EXISTING PIPING AND PROTECT DURING CONSTRUCTION.
- CONNECT NEW 1" HWG AND HWR PIPING TO EXISTING 1" LINES (OR LARGER) ABOVE CEILING. EXTEND NEW PIPING THRU EXISTING CONCRETE WALL AND CONNECT TO NEW VAV BOXES AS SHOWN. REFER TO VAV PIPING DETAIL ON SHEET M2 FOR TYPICAL PIPING CONNECTION TO VAV COIL.
- PROVIDE AND INSTALL NEW SINGLE DUCT CONTROL BOX WITH RE-HEAT COIL AS SPECIFIED. MOUNT ABOVE EXISTING CEILING IN ACCESSIBLE LOCATION. CONNECT CONTROL BOX TO NEW DUCTWORK. PIPING AND WALL MOUNTED CONTROL AS SHOWN. REFER TO VAV PIPING DETAIL ON SHEET M2 FOR TYPICAL SUPPORT AND PIPING CONNECTIONS. RUN DUCTWORK TO NEW DIFFUSERS AS SHOWN.
- PROVIDE AND INSTALL RETURN AIR GRILLE AS SPECIFIED IN EXISTING CEILING. CONNECT TO NEW RETURN DUCT. BALANCE TO CFM AS INDICATED.
- DISCONNECT AND REMOVE EXISTING FAN COIL UNIT AND ALL ASSOCIATED PIPING. REMOVE ALL EXISTING DUCTWORK IN THIS SUITE. FIELD VERIFY EXISTING CONDITIONS INCLUDING SIZE AND LOCATION OF EXISTING DUCTWORK.
- DISCONNECT AND REMOVE EXISTING CONDENSING UNIT AND CONCRETE PAD. CAPTURE ALL R-22 REFRIGERANT AS REQUIRED BY CODE AND DELIVER TO OWNER. FIELD VERIFY EXISTING CONDITIONS.
- REMOVE EXISTING LOUVER FROM WALL. EXTEND NEW 18x12 THRU EXISTING WALL AND RUN NEW EQUIPMENT AS SHOWN. CUT EXISTING CONCRETE WALL AS REQUIRED TO INSTALL DUCT. PROVIDE SHEET METAL FLANGE AND DUCTWORK AND SEAL WATER TIGHT. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS. SEAL ALL WALL PENETRATIONS WATER TIGHT WHERE PIPING AND/OR DUCTWORK HAS BEEN REMOVED.
- PROVIDE AND INSTALL NEW OUTSIDE AIR HANDLER AS SPECIFIED. IN TO HAVE VFD DRIVE CONTROL FOR VAV SYSTEM. REFER TO SPECIFICATIONS.
- PROVIDE NEW 6" THICK CONCRETE SLAB UNDER NEW EQUIPMENT WITH 48" CLEARANCE ALL AROUND NEW EQUIPMENT. PROVIDE 8'-0" HIGH CHAIN LINK FENCE AROUND PERIMETER OF SLAB WITH 36" WIDE ACCESS GATE NEXT TO BUILDING. SEE DETAILS ON SHEET M2.
- DISCONNECT AND REMOVE EXISTING EXHAUST DUCT UP EXTERIOR WALL AND ON ROOF.
- EXISTING EXHAUST GRILLE NEAR FLOOR TO REMAIN. EXISTING DUCT IN WALL TO REMAIN. CONNECT EXISTING DUCT TO NEW EXHAUST DUCT BEING INSTALLED AS SHOWN. FIELD VERIFY EXACT SIZES AND LOCATIONS OF EXISTING EXHAUST DUCTS IN WALL.
- PROVIDE AND INSTALL ALL NEW DUCTWORK ABOVE CEILING IN THIS SUITE UNLESS NOTED OTHERWISE. ALL EXISTING DUCTWORK ASSOCIATED WITH FLOOR ABOVE TO REMAIN. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS. DISCONNECT AND REMOVE ANY EXISTING DUCTWORK FOUND AND CAP AT WALLS.
- DISCONNECT AND REMOVE EXISTING CONTROLS. PROVIDE AND INSTALL NEW WALL MOUNTED JCI SENSOR AS SPECIFIED. CONNECT TO NEW EXHAUST FAN ON ROOF. CORRESPONDING VAV BOX AND TO BUILDING CONTROL SYSTEM.
- REPLACE EXISTING 30x30 EXHAUST DUCT WITH NEW 32" DUCT. RISE NEW DUCT THRU EXISTING ROOF AND CONNECT TO NEW EXHAUST FAN ON ROOF. ENLARGE EXISTING OPENING IN ROOF AS NECESSARY AND SEAL WATER TIGHT AROUND NEW DUCT.
- DISCONNECT AND REMOVE EXISTING EXHAUST FAN ON ROOF. PROVIDE AND INSTALL NEW EXHAUST FAN AS SPECIFIED. PROVIDE NEW DUCT TRANSITION AS REQUIRED TO CONNECT EXISTING DUCT TO NEW EXHAUST FAN. PROVIDE VFD ON FAN FOR CONTROL AND INTERLOCK WITH EXISTING AIR HANDLER #1 LOCATED AT GRADE LEVEL. MODIFY EXISTING ROOF CURB AS REQUIRED FOR NEW EQUIPMENT. PROVIDE DISCHARGE NOZZLE FOR REQUIRED PLUME HEIGHT.
- DISCONNECT AND REMOVE EXISTING HOT WATER HEATING COIL IN 48x18 DUCT. PROVIDE NEW SECTION OF DUCT AS REQUIRED AND SEAL AIR TIGHT. REMOVE EXISTING HOT WATER PIPING AS SHOWN. FIELD VERIFY EXACT SIZES AND LOCATIONS OF EXISTING PIPING.
- DISCONNECT AND REMOVE EXISTING VAV BOX, RE-HEAT COIL, AND EXISTING HOT WATER PIPING FROM ABOVE CEILING. FIELD VERIFY EXISTING CONDITIONS AND LOCATIONS OF EXISTING EQUIPMENT AND PIPING. THIS SUITE TO HAVE ALL NEW EQUIPMENT, DUCTWORK, PIPING AND CONTROLS UNLESS NOTED OTHERWISE.
- DISCONNECT AND REMOVE EXISTING EXHAUST FAN FROM ROOF. SEAL EXISTING ROOF CURB WATER TIGHT. REMOVE EXISTING DUCT.
- PROVIDE AND INSTALL NEW 24x24 CEILING ACCESS DOOR EQUAL TO BEST ACCESS DOORS BA-MDS. CUT AND PATCH EXISTING CEILING AS REQUIRED FOR INSTALLATION. FINISH AND PREP FOR PAINTING.
- PROVIDE NEW 14 GAUGE SHEET METAL ANGLE SUPPORT ALL ROUND EXISTING DUCTWORK TO PREVENT GANNING. SPACE SUPPORTS AT 36" O.C.

CONTRACTOR OPTION:
 (A) CONTRACTOR TO VERIFY EXISTING CONDITION OF REFRIGERANT PIPING. IF PIPING IS FOUND TO BE IN GOOD CONDITION WITH NO LEAKS, CONTRACTOR CAN RE-USE EXISTING PIPING INSTEAD OF INSTALLING NEW PIPING. IF EXISTING PIPING IS RE-USED, CONTRACTOR MUST CLEAN AND PURGE LINES USING R410A CLEANING BEFORE NEW R410A REFRIGERANT IS INSTALLED AND NEW CONDENSING UNITS AND COILS CONNECTED. EXISTING LINES MUST HOLD PRESSURE AND DISCHARGE INTEGRITY THROUGHOUT SYSTEM.

NOTES:
 1- CONTRACTOR TO PROVIDE (3) FULL BOXES OF 24"x48" ACUSTICAL TILE (60 TOTAL TILES) TO REPLACE (60) EXISTING ACUSTICAL TILE. (60) TILES IN SUITE 102A. (60) TILES TO BE DELIVERED TO OWNER EQUAL TO ARMSTRONG 169A.
 2- OWNER WILL FURNISH AND DO ALL TOUCHUP PAINTING FOR EQUIPMENT, WALLS AND CEILING AS REQUIRED. CONTRACTOR TO COORDINATE WITH OWNER AREAS WHICH WOULD BE INCLUDED.



LOWER LEVEL MECHANICAL PLAN
 SCALE: 1/8" = 1'-0"

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HVAC UPGRADE FOR: DPW PROJECT # 19243
ISU LIFE SCIENCE BUILDING
 ANIMAL CARE FACILITY
 POCATELLO, IDAHO

MECHANICAL PLANS

PROJECT: ISU LIFE SCIENCE BUILDING ANIMAL CARE FACILITY
 SHEET TITLE: MECHANICAL PLANS
 SHEET: M.1
 OF: FIVE

PROFESSIONAL ENGINEER REGISTERED
 Dwayne Sudweeks
 1/5/14
 STATE OF IDAHO
 DWAYNE C. SUDWEEKS

DRN BY: M. JENSEN
 JOB NO: 14013
 O.D. BY: D. SUDWEEKS
 DATE: JULY 2014