APPENDIX A – UGA STANDARD DETAILS
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**Note 1:** This sheet intended for small renovation projects.

**Fume Hood Replacement**

The University of Georgia

Engineering Department - Facilities Management Division

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11 53 13-A

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INITIAL FOR UGA STANDARDS: 05/01/2023

1 Added Note 1: 07/30/2024
DE-IONIZED WATER INSTALLATION DETAIL

NOTES:

1. ALL CONNECTOR FITTINGS SHALL BE WITH THREADED CONNECTIONS WITH O-RINGS. COMPRESSION FITTINGS ARE NOT ALLOWED.

2. LEAK DETECTION MODULE SHALL BE SERIES 100 LEAK-DETECTOR, OR APPROVED EQUAL, FOR LARGE DISTRIBUTED SYSTEMS. AUTOMATIC FLOW LIMITING DEVICES MAY BE REQUIRED IN PLACE OF LEAK DETECTION (PROVIDE PLC/LOGIC SYSTEM OR SIMILAR).

3. FLOOR DRAINS SHALL BE REQUIRED FOR INSTALLATIONS NOT IN NEW BUILDING, BUT FOR RENOVATIONS SHALL BE CONSIDERED ON A CASE-BY-CASE SCENARIO.

4. PRV SHALL BE BRASS CONSTRUCTION (WAFI'S OR APPROVED EQUAL).

5. GFCI RECEPTACLE SHALL BE REQUIRED WHEN NECESSARY AS REQUIRED TO MEET CODE.

6. ALL SHOWN RIGID PIPE ( COPPER, STAINLESS STEEL, OR POLYPROPYLENE) SHALL BE INSTALLED BY A PROFESSIONAL PLUMBER (FND OR A PLUMBING CONTRACTOR).

7. ALL INSTALLATIONS MUST BE APPROVED BY FND, DEPENDING UPON LOCATION RELATIVE TO SENSITIVE EQUIPMENT (ELECTRICAL ROOMS, RESEARCH EQUIPMENT, ETC.). REQUIREMENTS MAY VARY.

8. ANY PIPING DISTRIBUTION BEYOND THE FINAL FILTER SHALL BE STAINLESS STEEL OR HEAT-FUSED POLYPROPYLENE AND SHALL BE PROPERLY SUPPORTED WITH PIPE HANGERS, SADDLES, PIPING CLAMPS, ETC., UNLESS THE END SOURCE IS DIRECTLY ADJACENT TO THE DI TANKS, THEN POLYETHYLENE TUBING IS ACCEPTABLE.
EXTERNAL DUCT WRAP INSULATION

EXTERNALLY INSULATED DUCT

WRAP VAPOR-PROOF FACING BEYOND POLYISOCYANURATE BOARD AND TAPE SECURELY.

POLYISOCYANURATE BOARD INSULATION, SAME THICKNESS AS FLEXIBLE DUCT WRAP INSULATION

TRAPEZE HANGER INSULATION DETAIL

NO SCALE
NOTES:

1. ALL SUPPLY AND RETURN HEADERS TO BE FULL SIZE FROM MAIN (SEE PLANS FOR PIPE SIZE).

2. ALL HORIZONTAL CONNECTIONS TO COILS FROM VERTICAL HEADERS TO BE SIZE OF COIL CONNECTIONS.

3. ALL COMPONENTS, INCLUDING DRAIN VALVE ADAPTER CAPS, TO BE RATED FOR FULL SYSTEM OPERATING PRESSURE.

4. CIRCUIT SETTER SHALL BE TOUR AND ANDERSON, MODEL STAD, OR APPROVED EQUAL.

5. INSTALL CONTROL VALVE PACKAGE IN HORIZONTAL PIPE RUN AS REQUIRED TO FACILITATE COIL REMOVAL.

A.H.U. COIL PIPING DETAIL — SINGLE COIL
SCHEMATIC ONLY
A.H.U. COIL PIPING DETAIL — MULTIPLE COILS

Schematic Only

NOTES:

1. ALL SUPPLY AND RETURN HEADERS TO BE FULL SIZE FROM MAIN (SEE PLANS FOR PIPE SIZE).
2. ALL HORIZONTAL CONNECTIONS TO COILS FROM VERTICAL HEADERS TO BE SIZE OF COIL CONNECTIONS.
3. ALL COMPONENTS, INCLUDING DRAIN VALVE ADAPTER CAPS, TO BE RATED FOR FULL SYSTEM OPERATING PRESSURE.
4. CIRCUIT SETTER SHALL BE TURNO AND ANDERSON, MODEL STAD, OR APPROVED EQUAL.
5. INSTALL CONTROL VALVE PACKAGE IN HORIZONTAL PIPE RUN AS REQUIRED TO FACILITATE COIL REMOVAL.

AIR FLOW

PRESURE GAUGE (TYP.)

THERMOMETER (TYP.)

2-WAY CONTROL VALVE UNION (TYP.)

Calibrated Circuit Setter (TYP.)

PETE'S PLUG (TYP.) FOR SHUT-OFF

BALL VALVE (TYP.)

Filter With Blow Down Valve

CAPPED HOSE ADAPTER

WHEN 3-WAY VALVE IS ALLOWED

1" BALL VALVE WITH CAPPED HOSE ADAPTER (TYP.)

UNION CLEAR OF COIL (TYP. OF 4)

10" LONG DIRT LEG (TYP.)

A.H.U. COIL PIPING DETAIL — MULTIPLE COILS

Schematic Only
NOTES:
1. ALL SUPPLY AND RETURN HEADERS TO BE FULL SIZE FROM MAIN (SEE PLANS FOR PIPE SIZE).
2. ALL HORIZONTAL CONNECTIONS TO COILS FROM VERTICAL HEADERS TO BE SIZE OF COIL CONNECTIONS.
3. ALL COMPONENTS, INCLUDING ORAN VALVE ADAPTER CAPS, TO BE RATED FOR FULL SYSTEM OPERATING PRESSURE.
4. CIRCUIT SETTER SHALL BE TORU AND ANDERSON, MODEL STAG, OR APPROVED EQUAL.
5. INSTALL CONTROL VALVE PACKAGE IN HORIZONTAL PIPE RUN AS REQUIRED TO FACILITATE COIL REMOVAL.

LOOP PUMP SEQUENCE OF OPERATION:
1. WHEN THE OUTSIDE AIR TEMPERATURE DROPS BELOW 50° F (ADJ.), THE LOOP PUMP SHALL BE ENERGIZED.
2. THE TWO-WAY CONTROL VALVE SHALL MODULATE AS REQUIRED TO MAINTAIN 55° F SUPPLY AIR DISCHARGE TEMPERATURE.
3. THE LOOP PUMP SHALL SHUT OFF WHEN THE OUTSIDE AIR TEMPERATURE RISES ABOVE 52° F (ADJ.).
4. DESIGNER NOTE: LOOP PUMP SEQUENCE OF OPERATION TO BE INCLUDED IN AIR HANDLING UNIT SEQUENCE OF OPERATION.

A.H.U. COIL PIPING DETAIL:
HOT WATER COIL WITH LOOP PUMP & 2-WAY VALVE
SCHEMATIC ONLY
FAN COIL UNIT & TERMINAL UNIT COIL PIPING DETAIL
2-WAY VALVE CONFIGURATION
(Schemaic Only)

FAN COIL UNIT & TERMINAL UNIT COIL PIPING DETAIL
3-WAY VALVE CONFIGURATION
(Schemaic Only)

NOTES:
1. ARRANGE ALL PIPING TO ALLOW REMOVAL OF COIL.
2. PIPING SHOWN IS DIAGRAMMATIC.
3. ALL COMPONENTS, INCLUDING DRAIN VALVE ADAPTER CAPS, TO BE RATED FOR FULL SYSTEM OPERATING PRESSURE.
4. CIRCUIT SETTERS SHALL BE TOUR AND ANDERSON, MODEL STAD, OR APPROVED EQUAL.
NOTE 1: 3 Victaulic couplings in series may be used in lieu of stainless steel braided isolators.
AUTOMATIC AIR VENT DETAIL

NOTES:
1. VENT ALL HIGH POINTS AS INDICATED ABOVE.
PIPE TO FLOOR OR INDIRECT DRAIN, FULL SIZE OF CONNECTION

BALL VALVE (TYP.)

1/2" x 4" NIPPLE

FULL PIPE SIZE

DIRECTION OF FLOW

MANUAL AIR VENT DETAIL
SCALE: NONE

NOTES:
1. VENT ALL HIGH POINTS AS INDICATED ABOVE.
NOTES:

1. IDENTIFY ALL "TIE DOWNS" INCLUDING ON STRAIGHT RUNS OF PIPE WITH 4" WIDE PLASTIC ADHESIVE BANDS TAPED ALL AROUND AND MARKED "VAPOR PROOFED TO PIPE". PROVIDE TIE-DOWNS EVERY 21 FEET ON STRAIGHT RUNS OF PIPE.

2. DO NOT DAMAGE VAPOR BARRIER/TIE DOWNS ON EXISTING WORK WHEN ADDING NEW WORK. REPAIR ANY DAMAGE DONE.

3. PROVIDE INSULATION ON ALL INSTRUMENTS, VALVES, PROBES, PETE'S PLUGS, TO PREVENT CONDENSATION/DRIPPING. INSULATION MAY BE "ARMAFLEX" OR OTHER APPROVED FLEXIBLE CELLULAR INSULATION FIXED WITH MANUFACTURER'S APPROVED ADHESIVE OR "NO DRIP" TAPE NEATLY APPLIED. THE CELLULAR INSULATION SHALL BE FORCED INTO A "CUP" OF SUITABLE DIAMETER TO FIT OVER THE VALVE, PROBE, ETC., AND TAPED TO THE SURFACE OF THE PIPE INSULATION.

CONTINUE SPECIFIED INSULATION ACROSS VALVE, FITTING

3" DE-PIPE DIAMETER

VAPOR BARRIER MASTIC COATING

"TIEDOWN/SEAL OFF TO PIPE WITH MASTIC GLASS FABRIC

INSULATION TIE DOWN AT FLANGES, VALVES & UNIONS COLD PIPING

6 X D
MIN, 18" NOTE 1 (TYP.)

SEAL OFF EQUIPMENT CLEAN MASTIC OFF SURROUNDING SURFACES OTHER THAN INSULATION.

"TIEDOWN/SEAL OFF TO PIPE WITH MASTIC GLASS FABRIC

GLUED JOINTS

CELLULAR INSULATION

TAPE ALL AROUND

VAPOR PROOFING

SEE NOTE 3 (TYP.)

VALVE CLUSTER INSULATION

PIPE INSULATION

INSULATION TIE DOWN/SEAL OFF POINTS FOR CHILLED WATER PIPE DETAIL

SCALE: NONE
NOTE:
1. WHERE EXTERNAL DUCT WRAP INSULATION IS UTILIZED, POLYISOCYANURATE BOARD INSULATION WILL BE USED AT BETWEEN SUPPORT AND DUCT WITH SAME THICKNESS AS EXTERNAL DUCT WRAP INSULATION.
2. WRAP VAPOR-PROOF FACING BEYOND POLYISOCYANURATE BOARD INSULATION AND TAPE SECURELY.
3. ONE HALF-ROUND MAY BE USED IF DUCT RETAINS ITS SHAPE.

DUCT HANGER SUPPORT DETAIL
NO SCALE
12"Ø TRANSITE DUCTWORK

FILL SPACE BETWEEN TRANSITE DUCTWORK AND STAINLESS STEEL DUCTWORK WITH VULKUM CAULK OR MP-1 SEALANT.

12"Ø STAINLESS STEEL DUCTWORK

10"Ø STAINLESS STEEL DUCTWORK

DETAIL OF CONNECTION OF TRANSITE DUCTWORK AND STAINLESS STEEL DUCTWORK

SCALE: NONE
SECURE FLEXIBLE DUCT TO METAL DUCT & DIFFUSER WITH STAINLESS STEEL SCREW AND CLAMP

INSULATED SUPPLY DUCT
U.L. LISTED CLASS 1 AIR DUCT CONNECTOR WITH STANDOFF BRACKET AND BALANCING DAMPER

DIFFUSER NECK
CEILING

DIFFUSER; SIZE AS NOTED ON PLANS

INSULATED FLEXIBLE DUCT; INSIDE DIAMETER AS NOTED ON PLANS. MAXIMUM LENGTH 5'-0".

SUPPORT FLEXIBLE DUCT TO MAXIMIZE FREE AREA AT 90° ELBOW (STRAP AROUND FLEXIBLE DUCT)

SCREW AND CLAMP (TYP.)
DIFFUSER NECK

DIFFUSER; SIZE AS NOTED ON PLANS

SECURE FLEXIBLE DUCT TO METAL DUCT WITH STAINLESS STEEL SCREW AND CLAMP

SUPPLY DUCT
CEILING

U.L. LISTED CLASS 1 AIR DUCT CONNECTOR WITH STANDOFF BRACKET AND BALANCING DAMPER

DIFFUSER CONNECTION DETAIL
SCALE: NONE
**Electrical Equipment ID Tags**

**26 00 00-A**

07/30/2024

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**GENERAL NOTES (THIS DETAIL ONLY):**

1. ATTACH ID. NAMEPLATE PERMANENTLY TO ELECTRICAL PANELBOARD DOOR, EQUIPMENT (DISCONNECT, ENCLOSED CB, MOTOR CONTROLLER/STARTER, PANEL, TRANSFORMER, VFD, ETC.) OUTER FACE WITH PERMANENT, WATERPROOF WELDING OR EPONYX.
2. ID. NAMEPLATES SHALL BE BLACK BACKGROUND FOR NORMAL POWER, RED BACKGROUND FOR EMERGENCY POWER, & HAVE WHITE 1/4" HIGH BLOCK LETTERING.
3. SIZE WIDTH AS REQUIRED TO SHOW ALL REQUIRED INFORMATION.
4. SEE ELECTRICAL SPECIFICATION SECTION "26102" FOR ADDITIONAL ELECTRICAL IDENTIFICATION INFORMATION.
5. UPPER PLATE APPLIES TO SWGR/SWGB MANS & PANELBOARDS, MIDDLE PLATE APPLIES TO EQUIPMENT (DISC, ENCLOSED CB, MOTOR CONTROLLER/STARTER, CONTROL PANEL, TRANSFORMER, VFD), WIREWAY/SUITE, ETC.), & LOWER PLATES APPLY TO SWGR, SWGB, OR LARGE DISTRIBUTION PANELS' (5/8" BODA) INDIVIDUAL CIRCUIT BREAKERS, & MOTOR RATED SWITCHES.
6. BLOG. INTERIOR ID. PLATE SHALL BE MADE FROM HIGH-IMPACT RESISTANT ABS (ACRYLONITRILE BUTADIENE STYRENE) OR PHENOLIC PLASTIC MIN. 1/16" THICK.
7. BLOG. EXTERIOR ID. PLATE SHALL BE MADE FROM UV RESISTANT HIGH-IMPACT RESISTANT ABS (ACRYLONITRILE BUTADIENE STYRENE) PLASTIC OR PHENOLIC MIN. 1/16" THICK, OR MIN. 1/16" THICK S.S. w/ ETCHED BLOCK LETTERING.
8. INSTALL DRY-TYPE TRANSFORMER NAMEPLATES SHALL HANG FROM BOTH INCOMING PNL & OUTGOING SEC. SIDE CONDUCTORS WITH MIN. 1/8" NYLON TIE STRAPS. INSTALL MIN. 6" AWAY FROM TRANSFORMER ENCLOSURE TO AVOID MELTING OF PLASTIC OR PHENOLIC PLATE.
1. ALL VALVES IN VAULTS SHALL BE ACCESSIBLE. VALVES MAY BE ON RISER (TYP.).
2. PROVIDE 3/4" VENT TO DISCHARGE DOWNWARD AS SHOWN FOR GLAND SEAL.
3. INSTALL 3/4" VENT TO DISCHARGE DOWNWARD AS SHOWN FOR GLAND SEAL.
4. ALL VALVES SHALL BE ACCESSIBLE. VALVES MAY BE ON RISER (TYP.).
5. STEAM VAULT COVER WITH VENTED OPENING - ISOMETRIC
6. PROVIDE SCHEDULE 80 COPPER PIPE (NOT PVC) PIPING FOR DRAIN CONDENSATE ENTIRE RUN TO STORM DRAIN.
7. PROVIDE HOT WATER AND STEAM PIPING FOR DRAIN PIPING (NOT PVC) PIPING FOR DRAIN CONDENSATE ENTIRE RUN TO STORM DRAIN.
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15. PROVIDE SCHEDULE 80 COPPER PIPE (NOT PVC) PIPING FOR DRAIN CONDENSATE ENTIRE RUN TO STORM DRAIN.
1. PROVIDE DRIP LEG WITH DIAMETER OF 2 PIPE SIZES LESS THAN STEAM PIPE BUT NOT LESS THAN 6" DIAMETER AND CONNECT WITH WELD-O-LET ISOLATION VALVES ON TRAPS’ ASSEMBLY SHALL BE GATE VALVES. BALL VALVES ARE NOT PERMITTED.

2. WHERE SPACE DOES NOT ALLOW DRAIN INSTALLATION ON BOTTOM OF DRIP LEG, DRAIN MAY BE INSTALLED ALTERNATIVELY ON SIDE OF DRIP LEG.

3. INSULATE STEAM TRAP STATION WITH REMOVABLE BLANKET PER SPECIFICATIONS SECTION 23 22 16.

4. FOR STEAM PIPING 6" AND BELOW, USE SAME DIAMETER DRIP LEG AND USE TEE CONNECTION FOR DRIP LEG. FOR STEAM PIPING GREATER THAN 6" MIN.

5. STAINLESS STEEL 6" VT. INSULATION IS REQUIRED FOR 6" HIGH PRESSURE STEAM AND CONDENSATE HEATING PIPING ONLY.

GENERAL NOTES:

1) THESE DETAILS ARE FOR REFERENCE ONLY AND ARE INTENDED TO CONVEY UGA’S PREFERENCES AND EXPECTATIONS. THE DESIGN CONSULTANT WILL BE EXPECTED TO CREATE THEIR OWN ENHANCED DRAWINGS AND DETAILS APPROPRIATE FOR THE SITE AND CONDITIONS. ADDITIONAL OR MODIFIED DETAILS SHOWN IN THESE DRAWINGS ARE NOT PREFERRED OR REQUIRED. BLOWDOWN VALVES SHOULD BE USED PER PLANS.

2) STANCE-ON SUPPORTS INSULATED PIPES TO PROTECT INSULATION FROM DAMAGE. "SIMILAR VENT SIZES" SHOWN IN THESE DRAWINGS ARE NOT PREFERRED OR REQUIRED. TEE CONNECTIONS SHOWN ARE TO BE REVIEWED. FOR STEAM AND CONDENSATE HEATING PIPING, 3/4" STEEL PIPING IS PREFERRED. STEAM & CONDENSATE HEATING PIPING SPECIFIES. AS FINAL DETAILS, THE PREFERRED SOURCES TO BE SUPPLIED ARE STEAM AND STEAM PIPING SPECIFICATIONS.

Rungs 12" on Centers

3/8" x 2-1/2" Side Rails

Pre-Punched 9/16" Dia. Holes for Wall Brackets

Provide Extendable Center Post or Extendable Handrails

Brackets to be mounted to concrete wall w/ 5/8" Dia. Expansion Bolts (4 Required)

Integral Feet to be bolted to floor w/ 5/8" Dia. Expansion Bolt (2 per ladder required)

NOTES:

1. Ladder to be hot-dipped galvanized steel.
2. Ladder shall be of type IVG-100 Vault Ladder with extendable handrails or equal.

Ladder to be extendable ladder (not just center post) shall rise to top of vented lid opening.

Provide extendable center post or extendable handrails.

Steady none

Ladder to be extendable ladder (not just center post) shall rise to top of vented lid opening.

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