

IDENTIFICATION

DESIGN & INSTALLATION

1. General

- a. Equipment identification information is required on "as-built" drawing submittals.
- b. When adding equipment within an existing building the drawings shall use the same numbering scheme as the existing building and use the next number in the equipment series. Using equipment number xyz-1 must be avoided. Coordinate with the Owner.
- c. Equipment tags shall match work order naming.
- d. See WUSM Project Manager for Building acronyms.

2. Design

- a. Identification samples to be submitted to WUSM facilities for review.
- b. All labeling locations to be reviewed with WUSM facilities prior to ceiling installation.
- c. All thermostats shall be labeled with equipment controlled. Equipment labeling shall have building 3 digit code at the beginning and equipment per the identification charts following.
- d. All VAV boxes shall have labeling on ceiling below where equipment is located. Label shall match equipment tag on drawings or as directed by WUSM.
- e. Label gas zone shut off valve boxes.
- f. All air vents in piping shall have labeling on ceiling below where vent is located.
- g. Provide labeling at all fume hoods with exhaust fan it is connected to. Label shall be located on the top of the face of the hood.

3. Equipment Identification

- a. All major equipment items (i.e., chillers, air handling units, fans, terminal units, pumps, boilers, etc.) shall be identified with appropriately sized nameplates permanently attached to the respective equipment.
- b. Small equipment items (i.e., in-line pumps, pot feeders, etc.) shall be identified with brass valve tags, see requirements for valve tags and chains.
- c. Interior equipment nameplates shall be 1/16" thick two-ply acrylic plastic 2-1/2" x 1" size minimum with black letters on a white background on ceiling grid. Tag size shall be appropriate for equipment name, letters shall be a minimum of 1/8" high.
- d. Exterior equipment shall be labeled with sticker with black letters and yellow background.
- e. The following legend shall be used:

Building Abbreviation(example)	Building (example)
MCD	McDonnell Medical Sciences Bldg
Equipment	Identification
Air Handling Unit	XXXAHU

(3 digit building abbreviation at the beginning, Typical all identification tags)

Air Dryer	AD
Air Cooled Condenser	ACC
Back Flow Preventer	BFP
Boiler	B
Booster Pump	BP
Chiller	CHL
Chilled Water Pump	CWP
Climate Room	CR
Condensate Pump	CONP
Constant Volume Box	CV
Control Air Compressor	CA
Cooling Tower	CT
DI Water System	DI
DI Water Pump	DIP
Domestic Cold Water Pump	DCP
Domestic Hot Water Heater	DHH
Domestic Hot Water Pump	DHP
Drinking Fountain	DF
DX Unit	DX
Elevator	ELV
Emergency Generator	EMG
Emergency Eyewash & Shower Wash	EW
Exhaust Fan	EXF

Fan Coil Unit	FC
Fire System	FS
Fire Pump	FP
Fume Hood	FH
Heat Exchanger	HE
Heating Water Pump	HWP
Jockey Fire Pump	JFP
Lab Air Compressor	LA
Pre-Heat Pump	PHP
Reclaim Pump	RCP
Re-Heat Pump	RHP
Return Fan or Relief Fan	RF
Reverse Osmosis Unit	ROU
Rooftop Unit	RTU
Steam System	STS
Steam Condensate Receiver	CRU
Steam Trap	ST
Still	STL
Sump Pump	SUMP
Supply Fan	SF
Transformer	TRF
Unit Heater	UH
Variable Air Volume Box	VAV
Vacuum Pump	VCP

Variable Frequency Drive VFD

Water Treatment WT

Note: All above Equipment Names and Abbreviations should have a building code prefix.
Example: An Air Handling Unit for the Genome Data Center would be ...GDCAHU1...

The equipment number shall be a number 1 if it is the first kind of that equipment in the building. Otherwise, continue numbering with the next number in order for the building.

4. Piping Identification

- a. The following schedule shall govern label types for each application:

Location	Type
All Other than listed below	I
Mechanical Rooms	II
Exterior/Outdoors	III
Underground - Metallic	IV
Underground - Non-Metallic	V

- Type I- Vinyl pressure sensitive tape color coded and lettered for label of service. Flow direction shall be separately labeled with 2" wide pressure sensitive tape. The flow arrow band shall overlap the service label to secure it in place and shall not be less than two complete wraps around the pipe.
- Type II - Semi-rigid plastic, pre-formed to fit curvature of pipe or pipe insulation, color coded and imprinted with media identification and flow direction. Available in varied sizes for pipe diameter, wording and inclusion of arrow.
- Type III –UV resistant, Non-vinyl markers specifically design for outdoor use.
- Type IV- Continuous 6" wide x 0.004" polyethylene film, color coded, and imprinted for type of utility buried below located in the same trench as the piping and/or utility and positioned approximately 12" above the top of the utility.
- Type V- Continuous 6" wide x 0.035 metallic detection tape, color coded and imprinted for type of utility buried below located in the same trench as the piping and/or utility and positioned approximately 12" above the top of the utility.

- b. Markers shall be installed in clear view; located at not more than twenty-five foot (25') intervals on straight runs at all branch locations; and located on each side of penetrations of the building structure and non-accessible enclosures.
- c. The following legend, color, and lettering shall be used for above ground and indoor piping:

Service and Legend	Color of Field	Letters
<u>Materials Inherently Hazardous:</u>		
Natural Gas	Yellow	Black
Acid Waste	Yellow	Black
High Press. Compressed Air (over 90 psig)	Yellow	Black
Boiler Slowdown	Yellow	Black
Boiler Feed water	Yellow	Black
Fuel Oil	Yellow	Black
Hot Water Supply	Yellow	Black
Hot Water Return	Yellow	Black
Low Pressure Steam	Yellow	Black
Low Pressure Steam Condensate	Yellow	Black
Medium Pressure Steam	Yellow	Black
Medium Pressure Steam Condensate	Yellow	Black
High Pressure Steam	Yellow	Black
High Pressure Steam Condensate	Yellow	Black
Pumped Condensate	Yellow	Black
Refrigerant Domestic Hot	Yellow	Black
Water Domestic Hot Water	Yellow	Black
Return Waste	Yellow	Black
Vent	Yellow	Black

Materials of Inherently Low Hazard:

Chilled Water Supply	Green	White
Chilled Water Return	Green	White
Cold Water	Green	White
Condenser Water Supply	Green	White
Condenser Water Return	Green	White
Drain	Green	White
Roof Drain	Green	White

Fire Quenching Materials:

Sprinkler - Fire	Red	White
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- d. The following legend, color, and lettering shall be used for below ground piping:

Service	Color	Legend
Sewer	Green	Caution Buried Sewer
Potable Water	Blue	Caution Buried Water
Non-potable Fire (S. 40)	Purple	Caution Buried Reclaimed Water
Natural Gas	Yellow	Caution Buried Gas
Fuel Oil	Yellow	Caution Buried Fuel
Steam	Yellow	Caution Buried Utility Line
Chilled Water	Purple	Caution Buried Reclaimed Water
Condenser Water	Purple	Caution Buried Reclaimed Water
Heating Water	Purple	Caution Buried Reclaimed Water
Condensate	Purple	Caution Buried Reclaimed Water

Irrigation Water

Purple

Caution Buried Reclaimed Water

5. DUCTWORK IDENTIFICATION

- a. Verify extents of project with project manager to confirm extents of labeling.
- b. Supply, return and exhaust ductwork uninsulated or insulated, exposed or concealed, shall be identified as specified herein, except for exposed ductwork in finished areas.
- c. Markers shall be installed in clear view; installed on both sides of the duct; run parallel to the ductwork; located at not more than twenty-five foot (25') intervals on straight runs at all branch locations; and located on each side of penetrations of the building structure and non-accessible enclosures.
- d. Markers shall be pressure sensitive vinyl tape labeled for service (supply, return, exhaust) and direction of airflow. Minimum size shall be 2" high x 8" long.
 - Label exhaust as: General exhaust, Lab Hood exhaust, BSL3 exhaust, hazardous radioisotope exhaust.
 1. Label radioisotope discharge on roof as "Hazardous radioisotope exhaust".
 2. Provide labeling at roof doors where entering onto a roof with hazardous exhaust discharge.
 - Label supply dual duct as Hot deck supply and Cold deck supply where applicable.
 - Label supply, return with AHU serving ducts and Label exhaust with exhaust fan serving duct.
- e. Supply, return, exhaust and outdoor air ductwork labels shall be blue with white letters. Outdoor air ductwork labels shall be blue with white letters have an "air" or "outdoor air" legend.
- f. Hazardous exhaust air ductwork labels shall be yellow with black letters.
- g. All BSL3 equipment, duct, etc. shall be labeled that serves a BSL3 space. Label to read, "BSL3 equipment, do not modify without notifying facilities".

END OF SECTION

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