PART 1 - GENERAL

1.01 Toilet rooms and utility rooms to have floor drains at lowest point.

1.02 Utilize Exposed Flushometers.

1.03 Utilize wall hung toilet room fixtures. Urinals for handicapped may be wall type.

1.04 White water closets, lavatories, and urinals unless approved in advance by Facilities Services.

1.05 Hose Bibbs/Wall Hydrants.

A. Building Exteriors: Install recessed freeze proof 1-inch hose bibs w/ ¾ inch hose connections on exterior building walls to provide an outside water source. Provide a minimum of one bib per side of building, maximum of 150 LF between bibs. Provide isolation valve in supply piping and label within 15 feet of hose bib. Pitch pipe from valve to drain. Provide/locate bibs to minimize attached hoses crossing pedestrian walkways.

B. Roofs: Provide one exterior freeze proof hose bib per 20,000 square feet of roof area. Locate on or in penthouse or other appropriate location.

1.06 Provide wall hung, ADA approved stainless steel drinking fountains, dual height for both ADA and standard access. Provide water chillers only on approval by FS/DDC Project Manager and place on timer to shut them off during building unoccupied mode. Allow for bottle filling stations at the drinking fountains.

1.07 Water hammer arresters: PDI certified. Isolation valves not required if fixture or group of fixtures are suitably isolated.

1.08 Flushometer valves: automatic infrared sensor type in high use areas. Battery operated valves (120 volt hard wired not allowed). Back up flush buttons for all water closets and urinals. May be manual oscillating handle type in low use areas.

1.09 Lavatory fixture supports must be installed to allow “Zero” deflection. Coordinate specific design with FS/DDC.

1.10 Provide softened and/or filtered water upstream of water coolers. UAF preferred centralized softening and filtering located in a mechanical space.

1.11 Provide local floor drain located near emergency shower in each lab.

1.12 Specify for contractor to provide one spare of each type faucet, flushometer, and filter.
PART 2 - PRODUCTS

2.01 Acceptable manufacturers - Base all designs on latest models similar to below:

A. Fixtures - general:
   2. Kohler.
   3. Crane.
   4. Mansfield floor mounted flush tank in student residences only.

B. Flush valves:
   2. Flushometer Valve Body: Sloan Royal (Basis of Design), Zurn, Delany
      a. Sloan Model 110, Zurn Z6000, or Delany 402 for Water Closets
      b. Sloan Model 186, Zurn 6003, or Delany 451 for Urinals
      c. No alternate brands, No substitutions allowed

1. Automatic Operators:
   a. Sloan Royal Optima Exposed Battery Powered Sensor Activated, SMOOTH
   b. Zurn Exposed ZER6000-CPM, Sensor Operated Battery Powered
   c. Delany Flushboy Ultra SideArm Exposed Battery Powered Sensor Activated
   d. No alternate brands, No substitutions allowed

C. Water closet seats:
   1. Church.
   2. Bemis.
   3. Olsonite.

D. Fixture carriers:
2. Zurn.

3. Wade.

E. Fixture trim:

1. Moen.

2. Chicago Faucet.

F. Mixing valves (pressure balanced):

1. Bradley.

2. Powers.

3. Symmons.

G. Electric water coolers:

1. Halsey Taylor.

2. Haws.

3. Oasis.

4. Elkay.

H. Faucets:

1. Lab and classroom sinks: Chicago, Water Saver, or TS Brass. No alternate brands, No substitutions allowed. Refer to Division 11 for further laboratory faucet requirements.

2. Lavatory and kitchen: Single handle, cartridge type commercial series with metal body:
   a. Moen Single Handle with 1225 Cartridge, Commercial Series
   b. Chicago
   c. Symmons
   d. No Alternate Brands, No Substitutions

Utilize a pressure balancing mixing valve upstream of shower valve to temper water to 120 degrees F.

a. Moen Single Handle with 1222 Cartridge, Commercial Series or Moen approved series with the correct cartridge.

b. Chicago

c. Symmons

d. No Alternate Brands, No Substitutions

4. Janitor and service sinks:
   a. Chicago with XT Cartridge such as 1100 or 897 with smooth chrome finish
   b. Moen commercial m-Dura 8232
   c. Symmons Service Sink S-2490
   d. No alternate brands, No substitutions allowed.

5. Hands free faucet, battery operated:
   a. Sloan Optima EBF-187 with Sloan BDT
   b. Zurn Z6915 TMV-1
   c. Symmons Ultra-Sense S-6800 with Symmons Model 7-210-CK
   d. No Alternate Brands, No Substitutions allowed.
   e. Provide laminar flow aerators

2.02 Water closet - wall mounted:

A. Fixture: wall hung siphon jet vitreous china closet bowl, with elongated bowl rim, 1-1/2 inch spud, china bolt caps.

C. Seat: Solid white plastic, open front, extended back, brass bolts, without cover.

D. Floor mounted carrier: adjustable cast iron frame, integral drain hub and vent, adjustable spud. Lugs for floor attachment, threaded fixture studs with nuts and washers. Wall mounted, stud grabber fixture supports not allowed. (Note: Where fixture is mounted beyond the manufacturer recommended distance from the carrier, installation must include additional support elements as provided by the carrier manufacturer, not field
2.03 Water closet (floor).

A. Fixture: Floor mounted. Siphon jet vitreous china elongated bowl & vitreous china flush tank.

B. Flush valve assembly: with ball cock/flapper flush assembly, supply tube and stop valve.

C. Seat: Solid white plastic, open front, extended back, brass bolts, with or without cover depending on application.

2.04 Urinal:

A. Fixture: vitreous china, wall hung, siphon jet urinal with shields, integral trap, 3/4 inch top spud, steel supporting hanger, 14 inch depth.

B. Floor mounted carrier: cast iron and steel frame with tubular legs, lugs for floor and wall attachment, threaded fixture studs for fixture hanger, bearing studs.

2.05 Lavatory – counter mounted:

A. Fixture: vitreous china self-rimming counter top lavatory, 20 inch X 17 inch oval, 4 inch centers for trim, front overflow, seal of putty, caulking, or concealed vinyl gasket. Solid surface may be used on approval by the FS DDC Project Manager

B. Trim: chrome plated combination supply fitting waste, water economy aerator, single lever handle, pop-up drain for residential. Grid drains for public.

2.06 Lavatory - wall hung:

A. Fixture: Vitreous china, wall hung, size as appropriate, 4 inch centers for trim, overflow.

B. Trim: chrome plated combination supply fitting with waste, water economy aerator, single lever handle. Pop-up drains for residential, grid drains for public.

2.07 Sink:

A. Fixture: single compartment size as appropriate, 18 gauge thick, Type 18-8 stainless steel, self-rimming with undercoating, ledgeback drilled for trim.

B. Trim: chrome plated brass supply with swing spout, water economy aerator, single lever handle; chrome plated 17 gauge brass P-trap and arm with escutcheon, 3-1/2 inch crumb cup and stainless steel drain.
2.08 Shower:

A. Provide 2 inch drains with stainless steel strainers integral with base provided by Division 10 Compartments and Cubicles.

B. See Section 10150 for receptors and for compartment walls.

C. Shower valve (and Mixing valve when required) and shower head:

1. Rotary shower valve: chrome plated with memory stop, pressure balanced & adjustable limit stops and integral stop valves. See Faucet product specifications above.

2. Shower head: chrome plated with 2 ½ GPM flow restrictor.

D. ADA accessories: where designated with in-line vacuum breaker with wall and hand held shower head with minimum 69 inch flexible stainless steel hose, wall connection with flange and two hooks.

2.09 Electric water cooler - ADA:

A. Fixture: ARI 1010; ADA accessible, wall mounted electric water cooler with stainless steel top and grille, recessed chiller, elevated anti-squirt bubbler with stream guard, automatic stream regulator, mounting bracket, refrigerated with integral air cooled condenser; capacity of 8 gph of 50° F water with inlet at 80° F and room temperature of 80° F, 1/5 hp compressor.

B. Provide for bottle filling as required. Specify filtration mounted in an adjacent mechanical space, not in the cooler.

2.10 Electric water cooler - Recessed:

A. Fixture: ARI 1010; Fully recessed electric water cooler with stainless steel top and grille, recessed chiller, elevated anti-squirt bubbler with stream guard, automatic stream regulator, mounting bracket, refrigerated with integral air cooled condenser; capacity of 8 gph of 50° F water with inlet at 80° F and room temperature of 80° F, 1/5 hp compressor.

B. Provide for bottle filling as required. Specify filtration mounted in an adjacent mechanical space, not in the cooler.

2.11 Janitor mop sink:

A. Fixture: 30 x 30 x 10 inch high heat molded resin/stone basin, floor mounted, with one inch wide shoulders, stainless steel strainer. Stainless steel basin may also be accepted
subject to project manager approval.

B. Trim: exposed wall type supply with cross handles, spout wall brace, vacuum breaker, hose end spout, strainers, eccentric adjustable inlets, integral screwdriver stops with covering caps and adjustable threaded wall flanges; 2-1/2 feet of ½ inch diameter plain end reinforced plastic hose, hose clamp, mop hanger. See Faucet product specifications above.

2.12 Counter mount sinks:

A. Fixture: Single compartment, 18 gauge, 18 - 8 stainless steel, self rimming, 20 x 17 x 4½ - 6½ inch outside dimensions, ADA compliant, satin finish, radius corners.

B. Trim: chrome plated brass supply with swing spout, water economy aerator, single lever handle; chrome plated 17 gauge brass P-trap and arm with escutcheon, 3-1/2 inch crumb cup and stainless steel drain. See Faucet product specifications above.

2.13 Sink:

A. Fixture: single compartment 15 x 15 x 6 inch outside dimensions, 18 gauge thick, Type 302 stainless steel, self-rimming with undercoating, ledgeback drilled for trim.

B. Trim: chrome plated brass supply with swing spout, water economy aerator, single lever handle; chrome plated 17 gauge brass P-trap and arm with escutcheon, 3-1/2 inch crumb cup and stainless steel drain. See Faucet product specifications above.

2.14 Service sink:

A. Fixture: 22 x 18 x 12 inch deep, porcelain enameled (inside only) cast iron roll-rim sink, with 9 inch high back, concealed hanger, chrome plated strainer, cast iron P-trap with adjustable floor flange.

B. Trim: exposed wall type supply with lever handles, vacuum breaker, hose end spout, strainers, eccentric adjustable inlets, integral screwdriver stops with covering caps and adjustable threaded wall flanges; 5 feet of ½ inch diameter plain end reinforced plastic hose, hose clamp, mop hanger. See Faucet product specifications above.

2.15 Emergency Eyewash and/or Shower:

A. Overhead shower mount. Flush mounted with ceiling tile if possible. Standalone wall mounted, recessed or surface unit. Countertop or sink mounted units allowed on a case by case basis, review with UAF EHSR&M.

B. Provide tempering valves, preferably having multiple eyewash/showers on one tempering valve.
B. Guardian, HAWS, or Water Saver Faucet Co, no substitutes, no alternate brands.

C. Provide floor drain in the vicinity of the shower and in locations where discharged water easily and directly flows to the drain.

2.16 Eyewash:

A. Sprays with cover caps.

B. Valve: Individual tempering valve or a water tempering station for serving multiple eyewash stations.

C. Redundant sensors fail safe.

D. Circulating pump for multiple eyewash stations manifolded off of a single water tempering station.

E. Maintain code compliant (adjustable) water temp within 5 seconds of opening safety device valve.

F. Install with integral safety shower in most locations. Recessed or semi-recessed, Guardian, HAWS, or Water Saver Co, no substitutes, no alternate brands.

2.17 Hose Bibb/Wall Hydrants

A. Provide 3/4 inch CW supply to each bib and integral vacuum breaker, Jay R Smith, Series 5509, or equal.

2.18 Floor Drains:

A. Plywood floors:

1. Cast Iron body with wide floor flange. Jay R. Smith DX 3212, or similar, with appropriate features and threaded to hubless adapter.

B. Concrete Floors:

1. Cast Iron body. Jay R. Smith 2005, or similar, with appropriate features

2.19 Trap Primers:

A. Flush valve trap primers are preferred in some applications as are automatic trap primers. Coordinate project specific trap primer applications with FS/DDC during design.
2.20 Supply Stops & Supply Tubes:

A. Quarter turn supply stops with fixed handle operators

B. Supply tubes in visible locations: Chrome plated brass tubes installed in a neat and workman like manner.

C. Supply tubes in concealed locations (behind casework doors): Stainless steel braided flexible tubes are acceptable in addition to above.

PART 3 - EXECUTION

3.01 Provide backflow preventers at all laboratory plumbing and all faucets with hose thread connections.

3.02 Provide accessible isolation valves for services to each isolated fixture or battery of plumbing fixtures.

3.03 Provide trap primers with isolation valves. Install on walls in mechanical spaces, and behind wall-mounted access doors in public spaces. Indicate size of access doors on Drawings. In some instances above accessible ceilings is acceptable. Coordinate application with FS/DDC and Division 8 during design.

3.04 For projects where multiple emergency eyewash/showers are installed, specifically in research labs, provide flow alarms on the tempered water loop to indicate flow either by device or by zone of devices. Connect the alarm to a local strobe light in the nearest public corridor. Connect flow alarm to Building Management System. The intent of this practice is to allow for monitoring of water flowing during an actual emergency:

A. Providing early indication to UAF Fire and Police so EMS can be activated, especially in the case of a late night event.

B. Providing Facilities early indication of water flowing in a laboratory or mechanical room where flooding may occur

C. Providing indication of a water flow in the event of a malicious activation

D. Providing records of testing.

END OF SECTION