PART 1 - GENERAL

1.1 APPLICABLE REQUIREMENTS

A. All work to be furnished and installed under this section shall comply with all the requirements of General Conditions, Supplemental Conditions, Division 01 - General Requirements, and Section 220500 - Basic Plumbing Materials and Methods, and other Sections in Division 22 specified herein.

1.2 SCOPE

A. All work to be furnished and installed under this section shall include, but not necessarily be limited to, the installation of plumbing fixtures and trim.

1.3 RELATED WORK IN OTHER SECTIONS

A. Section 220500: Basic Plumbing Materials and Methods

B. Section 223000: Plumbing Equipment

1.4 SUBMITTALS

A. Prior to construction submit for approval all materials and equipment in accordance with Division 01. Submit manufacturer's data, colors, installation instructions, and maintenance and operating instructions for all components of this section including, but not limited to, the following:
1. Plumbing fixtures.
2. Piping specialties.
3. Toilets.
4. Urinals.
5. Lavatories.
6. Sinks.
7. Showers or tubs.
8. Drinking fountains.

B. Shop Drawings: Submit rough-in drawings. Detail dimensions, rough-in requirements, required clearances, and methods of assembly of components and anchorages. Coordinate requirements with Architectural Woodwork shop drawings specified in Division 06 for fixtures installed in countertops and cabinets. Furnish templates for use in woodwork shop.

C. Samples: Submit samples of any piece of equipment requested by Architect for review and approval.

D. Wiring Diagrams: Submit manufacturer's electrical requirements and wiring diagrams for power supply to units. Clearly differentiate between portions of wiring that are factory installed and field installed portions.

1.5 CODES AND STANDARDS

A. Uniform Plumbing Code (UPC) with State Amendments.

B. State Energy Code

C. ARI Standard 1010: “Drinking Fountains and Self-Contained Mechanically Refrigerated Drinking Water Coolers.”

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver units to the site in containers with manufacturer's stamp or label affixed.

B. Store and protect products against dirt, water, chemical, and mechanical damage. Do not install damaged products. Remove damaged products from project site.

1.7 MAINTENANCE

A. Extra Stock:
1. Furnish special wrenches and other devices necessary for servicing plumbing fixtures, flush valves, and trim to Owner’s Representative with receipt in a quantity of one device for each 10 fixtures.
2. Furnish faucet repair kits complete with all necessary washers, springs, pins, retainers, packings, o-rings, sleeves, and seats in a quantity of 1 kit for each 10 faucets.

PART 2 - PRODUCTS

2.1 GENERAL

A. Provide fixtures as specified. Fixtures in any secure or public areas shall be vandal proofed.

B. Architect/Engineer shall review and approve any substitution requested by Contractor prior to bid submittal.

C. Provide fixture as specified, acceptable manufacturers:
1. Vitreous China or Cast Iron Fixtures: American Standard, Eljer, Zurn or Kohler.
2. Stainless Steel Sinks: Elkay or Just
   a. All stainless steel is 18 gauge, type 304 unless otherwise specified.
3. Drinking Fountains: Elkay or Haws.
4. Terrazzo Service Sinks: Florestone or Stern Williams.

D. Provide faucet as specified. Acceptable manufacturers: Chicago Faucets, Zurn, Symmons, T and S or as indicated.

E. Provide thermostatic mixing valves and fixtures conforming to ASSE 1070, ASSE 1069 and ASSE 1016. Limit the maximum water temperature to 110°F for all public lavatories and 120°F for all other public fixtures served with hot water. Handle position stops and temperature mixing valves shall be used as required to limit maximum temperature to prevent scalding. Water heater thermostats shall not be considered a suitable control.

F. Provide flush valve as specified. Manufacturers: Sloan, Hydrotek or Zurn.

G. Provide commercial grade toilet seat as specified. Manufacturers: Beneke, Bemis, Church or Olsonite.

H. Provide heavy-duty cast iron commercial grade carrier as specified. Provide compact carriers where space is limited. Manufacturers: Jay R. Smith, Wade or Zurn. No plastic parts on foundry items.
1. Wall hung water closet with optional flush valve support where applicable: J.R. Smith Fig #0210 Series, #0240 Series, and #0410 Series.
2. Wall hung urinal: J.R. Smith Fig #0634-M12 or Zurn #Z-1221-58.
3. Wall hung lavatory with concealed arm carrier: J.R. Smith Fig #0700–M31.

I. Provide heavy duty commercial grade 17-gauge P-Trap and supplies with stops as specified. Provide heavy duty commercial grade lavatory supplies. Provide supplies meeting AB1953 no lead requirements. Supplies shall be 1/2"x 3/8" x 12" ground joint flexible riser with loose key angle stop with chrome plates or compression. Sink supplies shall be ½" x 12" ground joint flexible riser with loose-key angle stop with chrome plated IPS. Provide bell type escutcheons for both P-trap and supplies. Manufacturers: Zurn, Brasscraft, Chicago, McGuire or equal.
1. P-trap - Lav: McGuire C8902-DF or Zurn Z-8701.
2. P-trap - Sink: McGuire C8912-DF or ZurnZ-8702.
3. Supply for Lavatory: McGuire LFH2165LK or Zurn ZH88-XL-LK.
4. Offset supply for barrier free lavatory: McGuire 158 WC.
5. Supply for Sink: McGuire LFH2167LK or Zurn ZH8803-XL-LR.
6. Supply for Water Closet: McGuire H2169LK or Zurn ZH-8807-CR.
7. Escutcheons: McGuire WE00D Series, wrought brass, bell type.
8. Lavatory grid strainer: McGuire 155A or Zurn Z-8743.
9. Barrier-free lavatory offset grid strainer: McGuire 155WC or Zurn 8746.
10. Sink Strainer: Elkay LK-18B.

J. Insulation: provide white molded closed cell vinyl pre-fab insulation on P-Trap and on both hot and cold water supply for barrier free lavatories and sinks. Bag type insulators are not acceptable. Manufacturers: Plumberex, True-Bro, Zurn or equal.

2.2 LISTING

A. Refer to Owner’s Project Requirements for specific fixture manufacturers, model numbers and selection criteria.

PART 3 - EXECUTION

3.1 GENERAL

A. Verify all dimensions by field measurements. Verify that all plumbing fixtures may be installed in accordance with pertinent codes and regulations, the original design, and the referenced standards.

B. Examine rough-in for potable water and waste piping systems to verify actual locations of piping connections prior to installing fixtures.

C. Examine walls, floors and cabinets for suitable conditions where fixtures are to be installed.

D. Install plumbing fixtures level and plumb, in accordance with fixture manufacturer's written instructions, rough-in drawings, and pertinent codes and regulations, the original design, and the referenced standards.

E. Comply with the installation requirements of ADA with respect to plumbing fixtures for the physically handicapped.

F. Fasten plumbing fixtures securely to supports or building structure. Secure supplies behind or within wall construction to provide rigid installation.

G. Install a stop valve in an accessible location in the water connection to each fixture.

H. Install escutcheons at each wall, floor, and ceiling penetration in exposed finished locations and within cabinets and millwork.

I. Seal fixtures to walls and floors using white dap.

J. Install P-Trap tight to outlets from lavatories and shower drains to minimize the vertical water drop and related drainage noise. Test fixtures to demonstrate proper operation upon completion of installation and after units are water pressurized. Replace malfunctioning units, then retest.

K. Inspect each installed unit for damage. Replace damaged fixtures.

L. Adjust water pressure at drinking fountains, faucets, shower valves, and flush valves to provide proper flow stream.

M. Replace washers or cartridges of leaking or dripping faucets and stops.

N. Clean fixtures, trim, and strainers using manufacturer's recommended cleaning methods and materials.

O. During construction cover all installed fixtures, sinks, and water coolers with cardboard.

P. Provide flush valve and faucet support behind wall.

END OF SECTION