**SECTION 22 4000**

**PLUMBING FIXTURES**

**PART 1 GENERAL**

1. DESCRIPTION
   1. All work specified in this section is governed by the Common Work Results for Plumbing Section 22 0500.
   2. This Section 22 4000 and the accompanying drawings cover the provisions of all labor, fixtures, equipment, appliances and materials, and performing all operations in connection with the construction and installation of the plumbing fixtures and trim as specified herein and as shown.
   3. All finishes shall be as selected by the Architect. Where the Architect does not have a preference, finishes shall be in accordance with this specification.
   4. All exposed piping, valves, stops, P-traps, etc. shall be chrome-plated. Also, all exposed piping penetrations through walls, floors or ceilings shall be provided with chrome-plated cast brass escutcheons.
   5. All P-traps shall be minimum 17-gauge brass.
   6. All exposed P-traps subject to contact, such as those below wall-mounted or counter-mounted lavatories, shall be provided with insulated covers as required.
   7. All exposed supply stops for hot water, such as those below wall-mounted or counter-mounted lavatories, shall be provided with insulated covers as required. Where there are hot and cold water supply stops together, cold water supply stops shall match insulated cover of hot water supply stop.
   8. Flush valves shall have non-hold open feature, vacuum breakers and cover cap on angle-type stop.
   9. Provide all final connections to all equipment and fixtures furnished by Owner.
   10. Unless otherwise specified in an individual fixture description, all enameled cast-iron and porcelain fixtures shall be white.
   11. All lavatories and other hand-washing fixtures shall be provided and installed with ASSE 1070 point-of-use mixing valve on the hot water connection. Mixing valve shall be set to provide no more than 110°F hot water.
2. INTENT
   1. It is the intent of this Section of the specifications to provide complete, operable, adjusted, clean plumbing fixtures as shown and specified, which are free of leaks, noise, air, vibration and waterflow fluctuations.
3. BASIS OF DESIGN
   1. The basis of design is as outlined for each fixture in the 2.0 PRODUCTS subsection. Any proposed substitutions shall be proven equal in all respects to the equipment specified as the basis of design.
4. ACCEPTABLE MANUFACTURERS
   1. Acceptable fixture manufacturers for each type of fixture shall be listed as an approved manufacturer per Landmarks Construction Appendix A – Product Selection.

**PART 2 PRODUCTS**

1. Refer to architectural drawings for all plumbing fixture specifications.

**PART 3 EXECUTION**

1. INSTALLATION
   1. Units shall be installed as indicated and in conformance with the manufacturer's recommendations. Coordinate the actual units to be provided with all trades.
   2. All plumbing fixtures shall be free of leaks, provided completely finished, trimmed, adjusted, cleaned and ready for use. They shall be properly secured to the structure by the use of thru-bolting, backplates, carriers, expansion shields (for floor mounting only) or toggle bolts.
   3. Wall hung fixtures supported on chair carriers shall be bolted to the floor slab. Carefully coordinate space requirements and fixture mounting height requirements with supports being furnished.
   4. Fixtures supported with wall hangers on masonry chase walls shall be fastened to the wall with not less than 3/8" bolts which shall pass through the wall and through a 1/4" x 4" wide steel backplate on the unfinished chase wall side.
   5. Where fixtures are hung on single masonry walls without a pipe chase behind, they shall be mounted with 3/8" toggle bolts.
   6. Fixtures on steel stud walls shall have a 1/4" x 4" wide steel backplate wired with 1/16" steel wire to the studs. Bolts not less than 3/8" shall secure the fixtures through the fixture hanger and the backplate.
   7. All mounting holes provided in fixtures shall be used for support. In addition to the main hangers, 1/4" toggle bolts shall secure the bottom of all wall hung fixtures at each drilling provided for this purpose.
   8. Mount wall-hung fixtures at the heights indicated on the Architectural Drawings or as prescribed by local code. Special attention is called to the installation requirements of the ANSI Handicap Code.
   9. \*\*Prefabricated shower and tub enclosures shall be provided with appropriate blocking to comply with FHA Design Guidelines and Accessibility Code.
2. CLEANING AND ADJUSTMENT
   1. The units shall be cleaned, tested and field-adjusted to provide optimum flow and drainage. Specific attention is called to adjustment of automatic flush valves and faucets for empirical conditions.
   2. All flush valves, diaphragms, strainers, aerators, etc. shall be fully cleaned after all piping and fixture flushing.

**END OF SECTION**