

**SECTION 22 40 00**  
**PLUMBING FIXTURES**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

- A. Plumbing fixtures, associated trim and fittings necessary to make a complete installation from wall or floor connections to rough piping, and certain accessories.

**1.2 RELATED WORK**

- A. Sealing between fixtures and other finish surfaces: Section 07 92 00, JOINT SEALANTS.
- B. Through bolts: Section 10 21 13, TOILET COMPARTMENTS.
- C. Section 22 05 11, COMMON WORK RESULTS FOR PLUMBING.

**1.3 SUBMITTALS**

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.
- B. Submit plumbing fixture information in an assembled brochure, showing cuts and full detailed description of each fixture.

**1.4 APPLICABLE PUBLICATIONS**

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.
- B. American National Standard Institute (ANSI):  
The American Society of Mechanical Engineers (ASME):  
A112.6.1M-02(R2008).....Floor Affixed Supports for Off-the-Floor  
Plumbing Fixtures for Public Use  
A112.19.1M-08 .....Enameled Cast Iron Plumbing Fixtures  
A112.19.2M-03.....Vitreous China Plumbing Fixtures  
A112.19.3-2001(R2008)...Stainless Steel Plumbing Fixtures (Designed for  
Residential Use)
- C. American Society for Testing and Materials (ASTM):  
A276-2010 .....Stainless and Heat-Resisting Steel Bars and  
Shapes  
WW-P-541-E/GEN .....Plumbing Fixtures with Amendment 1

WARD 3D PHYSICAL THERAPY RENOVATION  
VA WNY Health Care System  
3495 Bailey Ave  
Buffalo, New York

- D. National Association of Architectural Metal Manufacturers (NAAMM): NAAMM  
AMP 500-505  
Metal Finishes Manual (1988)
- E. American Society of Sanitary Engineers (ASSE):  
1016-05.....Performance Requirements for Individual  
Thermostatic, Pressure Balancing and Combination  
Pressure Balancing and Thermostatic Control  
Valves for Individual Fixture Fittings
- F. National Sanitation Foundation (NSF)/American National Standards  
Institute (ANSI):  
61-2009 .....Drinking Water System Components-Health Effects
- G. American with Disabilities Act (A.D.A) Section 4-19.4 Exposed Pipes and  
Surfaces
- H. Environmental Protection Agency EPA PL 93-523 1974; A 1999) Safe  
Drinking Water Act.
- I. International Building Code, ICC IPBC 2009.

## **PART 2 - PRODUCTS**

### **2.1 STAINLESS STEEL**

- A. Corrosion-resistant Steel (CRS):
  - 1. Plate, Sheet and Strip: CRS flat products shall conform to chemical composition requirements of any 300 series steel specified in ASTM A276.
  - 2. Finish: Exposed surfaces shall have standard polish (ground and polished) equal to NAAMM finish Number 4.
- B. Die-cast zinc alloy products are prohibited.

### **2.2 STOPS**

- A. Provide ¼ turn IPS angle stops, straight stops or stops integral with faucet, with each compression type faucet whether specifically called for or not, including sinks in wood and metal casework, laboratory furniture and pharmacy furniture. Locate stops centrally above or below fixture in accessible location.
- B. Supply from stops not integral with faucet shall be chrome plated copper flexible tubing or flexible stainless steel with inner core of non-toxic polymer.
- C. Supply pipe from wall to valve stop shall be rigid threaded IPS copper alloy pipe, i.e. red brass pipe nipple, chrome plated where exposed.

### **2.3 ESCUTCHEONS**

- A. Heavy type, chrome plated, with set screws. Provide for piping serving plumbing fixtures and at each wall, ceiling and floor penetrations in exposed finished locations and within cabinets and millwork.

### **2.4 LAMINAR FLOW CONTROL DEVICE**

- A. Smooth, bright stainless steel or satin finish, chrome plated metal laminar flow device shall provide non-aeration, clear, coherent laminar flow that will not splash in basin. Device shall also have a flow control restrictor and have vandal resistant housing.
- B. Flow Control Restrictor:
  - 1. Capable of restricting flow from 95 ml/s to 110 ml/s (1.5 gpm to 1.7 gpm) for lavatories; 125 ml/s to 140 ml/s (2.0 gpm to 2.2 gpm) for sinks P-505 through P-520, P-524 and P-528; and 170 ml/s to 190 ml/s (2.75 gpm to 3.0 gpm) for dietary food preparation and rinse sinks or as specified.
  - 2. Compensates for pressure fluctuation maintaining flow rate specified above within 10 percent between 170 kPa and 550 kPa (25 psi and 80 psi).
  - 3. Operates by expansion and contraction, eliminates mineral/sediment build-up with self-cleaning action, and is capable of easy manual cleaning.

### **2.5 CARRIERS**

- A. ASME/ANSI A112.6.1M, with adjustable gasket faceplate chair carriers for wall hung closets with auxiliary anchor foot assembly, hanger rod support feet, and rear anchor tie down.
- B. ASME/ANSI A112.6.1M, lavatory, // chair carrier for thin wall construction // steel plate as detailed on drawing. // All lavatory chair carriers shall be capable of supporting the lavatory with a 250-pound vertical load applied at the front of the fixture.
- C. Where water closets, lavatories or sinks are installed back-to-back and carriers are specified, provide one carrier to serve both fixtures in lieu of individual carriers. The drainage fitting of the back to back carrier shall be so constructed that it prevents the discharge from one fixture from flowing into the opposite fixture.

## 2.6 WATER CLOSETS

- A. (WC-A) Water Closet: (Floor Mounted, ANSI 112.19.2M, Figure 6), elongated bowl, siphon jet 1.6 gallons per flush, floor outlet. Top of rim shall be 17 1/8 inches to 17 1/4 inches above finished floor.
1. Seat: Institutional/Industrial, extra heavy duty, chemical resistant, solid plastic, open front less cover for elongated bowls, integrally molded bumpers, concealed check hinge with stainless steel post. Seat shall be posture contoured body design. Color shall be white.
  2. Fittings and Accessories: Floor flange fittings-cast iron, Gasket-wax, bolts with chromium plated cap nuts and washers.
  3. Flush valve: Large chloramines resistant diaphragm, semi-red brass valve body, exposed chrome plated, battery powered active infra-red sensor for automatic operation with courtesy flush button for manual operation, water saver design 1.6 gallons per flush with maximum 10 percent variance, top spud connection, adjustable tailpiece, one-inch IPS screwdriver back check angle stop with vandal resistant cap, high back pressure vacuum breaker, and sweat solder adapter with cover tube and cast set screw wall flange. Set centerline of inlet 11 1/2 inches above rim. Seat bumpers shall be integral part of flush valve. Valve body, cover, tailpiece and control stop shall be in conformance with ASTM Alloy classification for semi-red brass.
- B. (WC-B) Water Closet: "Mock" non-functioning water closet for therapy use only. (Tank Type, ANSI A112.19.2M, Figure 7) domestic, elongated bowl with tank, closed coupled, flushometer tank, floor outlet. Top of rim shall be 18 inches above finished floor.
1. Seat: Domestic with cover, solid molded plastic, elongated bowl. Color shall be white.

## 2.8 BATHTUB

- A. (TUB-A) Bathtub: "Mock" non-functioning bathtub for therapy use only. Bathtub (Recessed, with Shower, Thermostatic Valve, ANSI A112.19.1M, Figure 2) enameled cast iron, slip resistant, approximately 60 inches by 30 inches and 16 inches high, recessed, wide rim.
1. Drain: Pop-up, 1 1/2 inches.
  2. Shower Installation: Wall mounted, detachable spray assembly with hand-spray and hose attached to a 30 inch chrome bar with adjustable slide, elevated vacuum breaker, supply wall connection and flange, diverter valve, over the rim tub spout, thermostatic valve.
  3. Shower Head: Plastic shower head with 60 inch length of rubber lined CRS or chrome plated brass interlocked, metal flexible hose or white

- vinyl reinforced hose connection to 1/2 inch supply, with automatic flow control device to limit discharge to not more than 2.5 gpm at 25 psi. Design showerhead to fit in palm of hand. Provide CRS or chrome plated metal wall bar with an adjustable swivel hanger for showerhead. Fasten wall bar securely to wall.
4. Valve: Type T/P combination thermostatic and pressure balancing, wall mounted shower with chrome plated metal lever type operating handle with adjustment for rough-in variation and chrome plated brass or CRS face plate. Valve body shall be any suitable copper alloy. Internal parts shall be copper, nickel alloy, CRS, or thermoplastic material. Valve inlet and outlet shall be 1/2 inch IPS. Provide external screwdriver check stops and temperature limit stops. Set stops for a maximum temperature of 105 degrees F. All exposed fasteners shall be vandal resistant. Valve shall provide a minimum of 2.5 gpm at 45 psi pressure drop.

## **2.9 LAVATORIES**

- A. Dimensions for lavatories are specified, Length by width (distance from wall) and depth.
- B. Brass components in contact with water shall contain no more than 3 percent lead content by dry weight.
- C. (LAV-A) Lavatory: (ASME/ANSI A112.19.2M, Figure 16) straight back, approximately 20 inches by 18 inches and a 4 inch maximum apron, first quality vitreous china, punched with 3 holes for faucet on 4-inch centers. Set with rim 34 inches above finished floor.
1. Faucet: Solid cast brass construction, chrome plated, gooseneck spout 4 to 5 inches above the rim, electronic sensor operated, 4-inch center set mounting, plug in transformer, thermostatic mixing valve transformer. Provide laminar flow control device.
2. Drain: Cast or wrought brass with flat grid strainer and offset tailpiece, chrome plated finish.
3. Stops: Angle type. See paragraph 2.2. Stops
4. Trap: Cast copper alloy, 1 1/2 inch by 1 1/4 inch P-trap, adjustable with connected elbow and 17 gauge tubing extension to wall. Exposed metal trap surface and connection hardware shall be chrome plated with a smooth bright finish. Set trap parallel to wall.
5. Provide cover for drain, stops and trap per A.D.A 4-19.4.

## 2.10 SINKS

- A. Dimensions for sinks and laundry tubs are specified, length by width (distance from wall) and depth.
- B. (SINK-A) Sink: (ASME/ANSI A112.19.2M, Figure 16) straight back, approximately 18 inches by 15 inches and a 4-inch maximum apron, first quality vitreous china, punched with 3 holes on 4-inch centers. Set with rim 34 inches above finished floor.
  - 1. Faucet: Brass, chrome plated, gooseneck spout with outlet 4 inches to 5 inches above rim. Electronic sensor operated, 4-inch center set mounting, battery operated electronic module, back check valves, solid brass hot/cold water mixer adjusted from top deck with barrier free design control handle and inline filter. Provide laminar flow control device. Breaking the light beam shall activate the water flow. Flow shall stop when user moves away from light beam. All connecting wiring between transformer, solenoid valve and sensor shall be cut to length with no excess hanging or wrapped up wiring allowed.
  - 2. Drain: Cast or wrought brass with flat grid strainer and offset tailpiece, chrome plated finish.
  - 3. Stops: Angle type. See paragraph 2.2. Stops
  - 4. Trap: Cast copper alloy, 1 1/2 inch by 1 1/4 inch P-trap, adjustable with connected elbow and 17 gauge tubing extension to wall. Exposed metal trap surface and connection hardware shall be chrome plated with a smooth bright finish. Set trap parallel to wall.
  - 5. Provide cover for drain, stops and trap per A.D.A 4-19.4.
- C. (SINK-B) Sink: (CRS, Single Compartment, Counter Top ASME/ANSI A112.19.2M, Sensor Controls) self rimming, back faucet ledge, approximately 15 inches by 17 inches by 8 inches deep, punched with 3 holes on 4-inch centers. Shall be minimum of 18 gauge CRS. Corners and edges shall be well rounded.
  - 1. Faucet: Brass, chrome plated, gooseneck spout with outlet 4 inches to 5 inches above rim. Electronic sensor operated, 4-inch center set mounting, battery operated electronic module, back check valves, solid brass hot/cold water mixer adjusted from top deck with barrier free design control handle and inline filter. Provide laminar flow control device. Breaking the light beam shall activate the water flow. Flow shall stop when user moves away from light beam. All connecting wiring between transformer, solenoid valve and sensor shall be cut to length with no excess hanging or wrapped up wiring allowed.

2. Supplies: 1/2-inch with 3/8-inch flexible risers, loose key stops and metal chrome plated escutcheons.
  3. Drain: Cast or wrought brass with flat grid strainer, offset tailpiece, chrome plated. Set trap parallel to wall.
  4. Trap: Cast copper alloy 1 1/2 inch P-trap with cleanout plug. Provide wall connection and escutcheon.
  5. Provide cover for drain, stops and trap per A.D.A 4-19.4.
- D. (SINK-C) Sink: Break Room Sink: (CRS, Single Compartment, Counter Top ASME/ANSI A112.19.2M, Kitchen Sinks, Figure 5) self rimming, back faucet ledge, approximately 22 inches by 20 inches by 8 inches deep, punched with 4 holes on 4-inch centers. Shall be minimum of 18 gauge CRS. Corners and edges shall be well rounded:
1. Faucet: Solid brass construction, deck mounted combination faucet with ceramic seats, 4-inch centers, removable replacement unit containing all parts subject to ware, swivel gooseneck spout with approximately 8 inches reach with spout outlet 6 inches above deck single lever handle with hose spray. Faucet shall be polished chrome plated.
  2. Supplies: 1/2-inch with 3/8-inch flexible risers, loose key stops and metal chrome plated escutcheons.
  3. Drain: Drain plug with cup strainer, stainless steel.
  4. Trap: Cast copper alloy 1 1/2 inch P-trap with cleanout plug. Provide wall connection and escutcheon.
  5. Provide cover for drain, stops and trap per A.D.A 4-19.4.

## **2.11 DISPENSER, DRINKING WATER**

- A. Standard rating conditions: 50 degrees F water with 80 degrees F inlet water temperature and 90 degrees F ambient air temperature.
- B. (EWC-A) Electric Water Cooler: Mechanically cooled, self contained, wheel chair, bubbler style fully exposed dual height stainless steel fountain, recessed in wall refrigeration system, stainless steel grille, stainless steel support arm, wall mounting box, energy efficient cooling system consisting of a hermetically sealed reciprocating type compressor, 115v, 60 Hz, single phase, fan cooled condenser, permanently lubricated fan motor. Set highest bubbler 40 inches above finished floor.

### **PART 3 - EXECUTION**

#### **3.1 INSTALLATION**

- A. Fixture Setting: Opening between fixture and floor and wall finish shall be sealed as specified under Section 07 92 00, JOINT SEALANTS.
- B. Supports and Fastening: Secure all fixtures, equipment and trimmings to partitions, walls and related finish surfaces. Exposed heads of bolts and nuts in finished rooms shall be hexagonal, polished chrome plated brass with rounded tops.
- C. Through Bolts: For free standing marble and metal stud partitions refer to Section 10 21 13, TOILET COMPARTMENTS.
- D. Toggle Bolts: For hollow masonry units, finished or unfinished.
- E. Expansion Bolts: For brick or concrete or other solid masonry. Shall be 6 mm (1/4 inch) diameter bolts, and to extend at least 76 mm (3 inches) into masonry and be fitted with loose tubing or sleeves extending into masonry. Wood plugs, fiber plugs, lead or other soft metal shields are prohibited.
- F. Power Set Fasteners: May be used for concrete walls, shall be 6 mm (1/4 inch) threaded studs, and shall extend at least 32 mm (1 1/4 inches) into wall.
- G. Tightly cover and protect fixtures and equipment against dirt, water and chemical or mechanical injury.
- H. Where water closet waste pipe has to be offset due to beam interference, provide correct and additional piping necessary to eliminate relocation of water closet.
- I. Do not use aerators on lavatories and sinks.

#### **3.2 CLEANING**

- A. At completion of all work, fixtures, exposed materials and equipment shall be thoroughly cleaned.

- - - E N D - - -