

**SECTION 13 16 60
EXTERIOR SPRAY SHOWERS**

PART 1 GENERAL

1.01 REFERENCE STANDARDS

- A. ASSE 1013 - Performance Requirements for Reduced Pressure Principle Backflow Prevention Assemblies; 2021.
- B. PDI-WH 201 - Water Hammer Arresters; 2017.
- C. PS 1 - Structural Plywood; 2023.

1.02 SECTION INCLUDES

- A. Exterior Spray Showers and Related Equipment.

1.03 GENERAL

- A. The Contractor shall furnish all labor, materials, equipment, and perform all necessary operations relative to installing the spray components and related equipment, including all excavation, backfilling, concrete footings, sand, hardware, fasteners, hangers, fittings, drainage pipes and fittings, nozzles, piping, valves, booster pump (as required) accessories and finishes in accordance with the drawings and specifications. The installation shall be in accordance with the manufacturer's instructions. The installation shall be accomplished by skilled work personnel and all work shall be monitored by the Housing Authority Inspector. All electrical installations (as needed) for this work shall be performed under the supervision of a Licensed Electrician. All plumbing installations for this work shall be performed under the supervision of a Licensed Plumber.
- B. The Contractor, Plumbing Subcontractor and Electrical Subcontractor shall follow and file all required permits and procedures for their respective construction, water supply and electrical hook ups. All work shall be performed in accordance with the most current applicable New York City Codes and must be appropriately inspected. The Contractor shall be held completely responsible that all work is in compliance. All spray structural units shall fully conform to National Plumbing Code and Americans with Disabilities Act. All material and welds shall be cadmium and lead free.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Sequencing: Ensure that utility connections are achieved in an orderly and expeditious manner.

1.05 SUBMITTALS

- A. See Section 01 33 00 – Submittal Procedures, for submittal procedures.
- B. Product Data: Provide manufacturer's specifications and descriptive literature, installation instructions, and maintenance information.
- C. Shop Drawings: Indicate plans for each unit or groups of units, elevations with model number, overall dimensions; construction, and anchorage details.
- D. Samples: Submit two sets of manufacturer's available colors for metal furnishings.

PART 2 PRODUCTS

2.01 SPRAY SHOWER AND COMPONENTS

- A. Spray showers shall be manufactured by: Most Dependable Fountains, Inc. 5705 Commander Drive, Arlington, TN 38002-0587 phone 901.867.0039 Representative is Bob Beachum phone 901.237.9265 email robert@beachumrec.com Color of the spray showers shall be : As Determined. One (1) additional metered valve for each Spray Shower unit shall be included.
 - 1. Spray Shower model names and numbers shall be from the following:
 - a. MDF 530 SMSS - Stainless Steel All Sports Mister with Carrier
 - b. MDF 515 SMSS - Stainless Steel Misting Tower with 6" Carrier
 - c. MDF PT-1 SMSS - Stainless Steel Play Tower 1 with Carrier

- d. MDF PT-2 SMSS - Stainless Steel Play Tower 2 with Carrier, the Nozzle for this Model shall be Brass as per the Manufacturer.
 - e. MDF PT-3 SMSS - Stainless Steel Play Tower 3 with Carrier
 - f. MDF PS 1 SMSS - Stainless Steel Play Spray 1 with Carrier
 - g. MDF 545 SMSS - Stainless Steel Funtime Shower with Carrier
 - 1) Concrete for footing shall conform to the Concrete Specifications in this contract. The concrete footing (as per the Manufacturer) shall be fully covered with the indicated pavement material, without blocking the Access Door of the Spray Shower.
 - (a) All new piping shall be rigid copper of sizes shown on the Drawings. Substitutions of smaller sizes will not be permitted. If sizes shown on the Drawings are not available in specified material, the Contractor shall furnish the next larger size at no increase in the contract price.
2. Backflow Preventer (RPZ) shall be the type already approved by the New York City Department of Environmental Protection.
- a. Reduced-Pressure-Principle Backflow Preventers-Lead Free
 - 1) Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - (a) Ames Co.
 - (b) Conbraco Industries, Inc.
 - (c) FEBCO; SPX Valves & Controls.
 - (d) Flomatic Corporation.
 - (e) Watts Industries, Inc.; Water Products Div.
 - (f) Zurn Plumbing Products Group; Wilkins Div.
 - 2) Standard: ASSE 1013.
 - 3) Operation: Continuous-pressure applications.
 - 4) Pressure Loss: 12 psig maximum, through middle 1/3 of flow range.
 - 5) Body and shutoffs shall construct using Lead Free cast copper silicon alloy materials. Lead Free reduced pressure zone assembly shall comply with state codes and standards, where applicable, requiring reduce lead content.
 - 6) There shall be no threads or screws in the waterway exposed to line fluids
 - 7) Configuration: Designed for horizontal, straight through flow.
 - 8) Accessories:
 - (a) The assembly shall also include two resilient isolation valves, four resilient seated test cocks.
 - (b) Air-Gap Fitting: ASME A112.1.2, matching backflow-preventer connection.
3. Solenoid valve shall be the Rain Bird PEB- Inline Industrial Irrigation Valve or equal. Size of solenoid valve shall be determined by size of "K" copper piping called for on Contract Drawings, 1" minimum.
4. Shut-off Valve (gate valve): Gate Valves 2" and under, shall be lead-free bronze gate valve, Model number- T-113-LF Threaded by Nibco, Inc, phone 800.234.0227 or equal. Size of gate valve shall be determined by size of "K" copper piping called for on Contract Drawings, 1" minimum.
5. Drain Valve (ball valve): Drain Valve (hose bibb) shall be a ½" bronze ball valve, two piece body, full port, with ¾ inch hose connection. Valve shall be either the Apollo Model 78-103-01, the Nibco Model T-585-70-HC or equal. Size of ball valve shall be determined by size of "K" copper piping called for on Contract Drawings, 1" minimum.
6. Water Hammer Arrestor: The Water Hammer Arrestor shall be the piston type, as manufactured by Watts Drainage Products, model LF15M2-DR series, size to be determined in accordance with PDI-WH 201 (most current revision) or equal.
7. Timer (electromechanical time switch with 24 hour dial) shall be Catalog No. 1101 (1100 Series) as manufactured by: Tork Electromechanical Controls, a division of NSI Industries,

Telephone 877.268.3700 or equal. The timer shall be located in the building in an area indicated on the Drawings. A lock shall be provided by the Contractor to fit the Timer.

8. Y-Strainer: The Y-Strainer shall be Stay Flow strainer model YBT Bronze Y Strainer as manufactured by Flexi Craft Industries, 2323 West Hubbard Street, Chicago, IL 60612 phone 312.4284750 or equal. Y Strainer shall be for water with stainless steel screen. Strainer shall be sized for piping.
9. Pipe Fittings and Joints: The main line pipe and fittings shall be "K" copper. Contractor shall insure that proper slope is consistently applied to all piping to ensure positive gravity assisted drainage of the entire system. All piping and fittings shall be brazed and meet all applicable codes. The Contractor shall install all necessary piping in general accordance with the plan, however the Authority reserves the right to change the routing, or depth of pipe. Foreign materials shall be prevented from entering the system during installation. Immediately prior to assembling, all pipes, valves and fittings shall be cleaned. All unattached ends of pipe, fittings, and valves shall be plugged and capped pending attachment of additional pipe or fittings. All lines shall be thoroughly flushed prior to attachment of terminal fittings. All piping shall be laid with a sufficient slope, minimum one half percent (.5%) to drain for winterization. Special care shall be taken to ensure that all backfill material is free of damaging debris and piping is well supported while back filling occurs. All interior pipes in unheated spaces shall be insulated with 1 inch thick foam insulation material properly installed. All piping shall be installed min. four (4) feet below grade at the façade of the building and then pitching upward to the water feature (unless this is not possible) surrounded by a six-inch (6") envelope of sand to ensure protection.
 - (a) Copper Pipe: Copper pipe shall be rigid hard temper type "K" copper tubing in straight lengths meetings ASTM specification B88-09. Copper tubing and fittings are to be supplied from gate valves on the water supply lines to the hose bibb.
 - (b) Fittings: Fittings shall be approved red brass class "A" thread less type, containing no less than 85% copper adaptable for copper tubing. Brazing joint fillings shall be wrought copper or bronze in accordance with ANSI B16.22.
 - (c) Joints: Joints between copper tubing and threaded pipe shall be made of brass adapter fittings properly brazed to tubing. Joints shall be made by brazing.
 - (d) All valves, unless otherwise specified, shall be of 125 psi working steam pressure class.
 - (e) If the building that is the source of the water supply line is 6 stories tall or less, a booster pump shall be provided and installed by the Contractor or sub-contractor. The booster pump shall be installed on the new interior water supply line, between the water hammer arrestor and the RPZ. The booster pump shall be the Scala 2 3-45 A, multistage centrifugal booster, product number 98562818 manufactured by Grundfos. The ports on this pump are 1", so a step-down from the required 1 ½" pipe will be necessary and a step-up back to the 1 ½" pipe will also be required. The local distributor for this booster pump is Hayes Pump, Inc. Fairfield NJ, phone 973.808.0606, attn: Bryan Williams, bwilliams@hayespump.com phone 973.808.0606 ext. 263, cell 908.472.7316, direct line 973.852.6663

PART 3 EXECUTION

3.01 INSTALLATION

- A. All Spray Showers and appurtenances shall be installed as per manufacturer's recommendations. Spray Showers shall be installed on a 5' diameter, 4" thick concrete pad which shall be fully covered with the indicated pavement materials, without blocking the Access Door of the Spray Shower.
- B. The Contractor shall furnish and install everything required for the complete installation of the spray components. All installations shall be in accordance with the rules and regulations of all

governing authorities. At the completion of work, all parts of the installation shall be thoroughly cleaned. All equipment, pipe, valves and fittings shall be clean of grease, metal cuttings and sludge, which may have accumulated in the system before testing.

- C. An authorized representative of the spray shower manufacturer must inspect and approve the completed equipment installation. Approval shall be indicated by completing and signing the Document of Acceptance, which will then be submitted to the Contract Inspector. A copy of the Document of Acceptance shall also be sent to the Office of Design, Landscape Architecture Group. The spray shower will not be accepted by the spray shower manufacturer or the Housing Authority until both are satisfied with the installation. The Document of Acceptance shall state the exact location of the installation and must state that the spray shower installation is functioning as designed and intended, that all settings, valves, timers, and appurtenances are in complete and proper working order. No additional compensation will be granted for any corrective work.
- D. Warranty: All spray shower components shall carry a minimum warranty of two (2) years on all workmanship and materials. The Manufacturer or the Local Representative shall conduct a short training class for the Superintendent and the Maintenance Staff to acquaint them with the spray components, including winterization and nozzle care. This class shall be arranged between the Contractor, the Development Staff and the Spray Shower Manufacturer/Local Representative
- E. All spray components shall be installed in accordance with the manufacturer's specifications. The Contractor shall use extreme care when installing the spray components. Protective wrapping shall be left intact throughout installation and be removed upon completion. They shall be installed in accurate location, square, centered, plumb and at elevation required relative to finished grades and on footings as shown on the plans. Minor adjustments may be made by adjusting leveling nuts and bolts on anchor plate.
- F. All testing of, and the Document of Acceptance for, the Spray Showers shall be deemed included in the bid price. Acknowledgement of passing the test and inspection shall be included in the Document of Acceptance generated and completed by the manufacturer's representative. Information and format for the Document of Acceptance is included below.

END OF SECTION

- A. Document of Acceptance
 - 1. Local Representative for Spray Shower Manufacturer -
 - 2. Name:
 - 3. Name of Company:
 - 4. Address:
 - 5. Telephone:
 - 6. Fax:
 - 7. Date of Inspection:
 - 8. For: New York City Housing Authority
 - 9. Contract Number:
 - 10. Development:
 - 11. Contractor's Name:
 - 12. Company Name:
 - 13. Address:
 - 14. Telephone Number:
 - 15. A mechanical and electrical inspection has been made of the following spray shower equipment:
 - 16. Model Number Location
 - 17. Comments
 - 18. The equipment has been installed per contract documents and per manufacturer's instructions and specifications. The equipment is in complete working order as designed and intended.

19. Inspected by:
20. _____
21. (Manufacturer's representative)
22. (print name and sign)
23. This document shall be generated and printed on the letterhead of the manufacturer's representative. It shall be filled out by the representative and submitted as outlined.