Section 15103 – CHECK VALVES

1. SCOPE. This section covers check valves.

2. GENERAL.

2.01. General Equipment Stipulations. The General Equipment Stipulations shall apply to all equipment furnished under this section.

2.02. Number Plates. A number plate shall be provided for each valve covered by this section which has been assigned a number on the drawings. Each number plate shall be installed on or adjacent to the applicable valve. Number plates shall be aluminum which engraved letters at least ¾ inch in height. Letters shall be painted black after fabrication. Number plates shall be attached to valves in a manner acceptable to the Engineer.

2.03. Length Tolerance. Unless otherwise specified, the actual length of valves shall be within 1/16 inch (plus or minus) of the specified or theoretical length.

2.04. Ends. Unless otherwise indicated on the drawings, flange diameter and drilling shall conform to ANSI/ASME B16.1, Class 125, or ANSI/ASME B16.5, Class 150. Push-on and mechanical joints shall conform to ANSI/AWWA C111/A21.11. Wafer style valves shall be designed for installation between ANSI Class 125 flanges.

2.05. Unions. A union or flanged connection shall be provided within 2 feet of each threaded end valve unless the valve can be easily removed from the piping.

2.06. Shop Painting. All ferrous metal surfaces of valves and accessories, both interior and exterior, shall be shop painted for corrosion protection. The valve manufacturer's standard paint will be acceptable provided it is functionally equivalent to the specified paint and is compatible with the field painting specified in the painting section.

a. Materials.

Asphalt Varnish	Fed Spec TT-C-494.
Coal Tar	Kop-Coat "Bitumastic Super Service Black", Tnemec "46-449 Heavy-Duty Black", or Valspar "35-J-10 Hi-Build Bituminous Coating".
Epoxy	
For Liquid Service	Cook "920-W-965 Epicon-MW HB Epoxy", Kop-Coat "Hi-Gard

	Epoxy", Tnemec "Series 20 Pota-Pox", or Valspar "78-W-3B Val-Chem Hi-Build Tank Epoxy".
Rust-Inhibitive Primer	Cook "391-N-167 Barrier Primer", Kop-Coat "340 Gold Primer", Tnemec "37-77 Chem-Prime", or Valspar "13-R-28 Chromox Primer".
Rust-Preventive Compound	Houghton "Rust Veto 344", Rust-Oleum "R-9" or equal.

b. Surfaces to be Painted.

Unfinished Surfaces

Interior Surfaces	Asphalt varnish (two coats) or epoxy.
Exterior Surfaces of Valves to be Buried, Submerged, or Located in Manholes or Valve Vaults	Asphalt varnish or coal tar.
Exterior Surfaces All Other Valves	Rust-inhibitive primer.
Polished or Machined Surfaces	Rust-preventive compound.
Actuators and Accessories	Rust-inhibitive primer.

3. CHECK VALVES. Check valves for 6 inch and larger sewage pump discharge piping shall be of the unobstructed waterway, quick closing, spring-loaded, horizontal swing type with iron body, flanged ends, and bronze trim. Hinge pins shall be stainless steel with both ends extending through bronze-bushed bearings and outside stuffing boxes with grease lubricated packing or O-ring seals. Flanges shall be flat faced with ANSI-ASME B16.1, Class 125 diameter and drilling. Increasing check valves shall be American Flow Control "52SC" or M&H "Style 3259-02". Equal end size check valves shall be American Flow Control "52SC", M&H "Style 259-02", or Mueller "A2600-6-02".

Unless otherwise specified, all 2-1/2 inch and larger check valves in water, or other liquid piping shall be Class 125 horizontal swing type with iron body and flanged ends. All seats, seat rings, pins, bushings, and other parts subject to wear shall be bronze. Flanges shall be flat faced with ANSI/ASME B16.1, Class 125 diameter and drilling. Swing check valves shall be Milwaukee "F-2974", Stockham "G-931", or Walworth "Fig 8928F".

Check valves 2 inches and smaller in water, sludge, or other liquid piping shall be Class 125 or higher, all bronze, Y-pattern, regrinding, horizontal swing type. Threaded end valves shall be Stockham "B-321" or Walworth "Fig 3406". Soldered end valves shall be Nibco "S-413-B" or Walworth "Fig 3046SJ".

Check valves in PVC piping shall be PVC ball check valves with Viton seats and seals and flanged ends, and shall be Hayward Plastics Products "Ball Check Valve" or Nibco "Chemtrol True Union Ball Check Valve".

4. DRAWINGS AND DATA. Complete specifications, data, and catalog cuts or drawings covering the items furnished under this section shall be submitted in accordance with the submittals section.

Drawings and data submitted shall include complete connection and schematic wiring diagrams for all electric actuators and controls.

End of Section