

SECTION 01005

**APPROVED PRODUCTS LISTING - WATER AND WASTEWATER SYSTEMS
CITY OF IRVING, TEXAS**

ALL WATER SYSTEM PRODUCTS TO CONFORM WITH THE “REDUCTION OF LEAD IN DRINKING WATER ACT”. (See end of section for lead free definition)

• **ADA TRUNCATED DOMES**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|------|---------------------|---|---|
| | City Specifications | 1. Pavestone 2. StrongGo 3. Armortile | Terra Cotta in color Terra Cotta in color Colonial Red in color |

• **AUTOMATIC FLUSHING DEVICES**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|------|---------------------|---------------------------------------|------------------------|
| 2" | City Specifications | 1. Mueller HG1-A-BL-2-BRN-018-LPLG | |

• **BOLTS, COR-TEN**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|------|-----------------|----------------|------------------------|
| | AWWA C111 | 1. NSS | None |

• **BOLTS, DUCTILE**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|------|-----------------|--|------------------------|
| | AWWA C111 | 1. Ductile Durabolt 2. Ductile Flangeloc Durabolt | None |

• **BUSHINGS, BRASS**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|-----------------------------|---------------------|--------------------|------------------------|
| 1" x 3/4" to 2" x 2-1/2" | City Specifications | 1. Merit 2. Lee | None |

• **CHEMICALS**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|------|---------------------|---------------------------------|------------------------|
| | City Specifications | 1. Procreate concrete additives | None |

- **CLAMPS, FULL CIRCLE REPAIR**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|------------|---------------------|--|------------------------|
| 4" to 12" | City Specifications | 1. Ford 2. Smith-Blair 3. JCM 131 4. Muller | All Stainless Steel |
| 12" to 24" | | 5. Ford 6. Smith-Blair 7. Muller 8. JCM | |

- **CLAMPS, EXTENDED RANGE REPAIR**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|-----------|--|---|------------------------|
| 4" to 14" | City Specifications (All clamps must be type 304 stainless steel) | 1. Smith-Blair 2. Ford 3. Mueller 4. JCM | None |

- **CLAMPS, SPLIT CIRCLE REPAIR**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|------------|----------------------------|-------------------------------------|------------------------|
| 1/2" to 3" | AWWA & City Specifications | 1. Smith-Blair 2. Ford 3. JCM | All Stainless Steel |

- **COATINGS (CONCRETE EXTERIOR)**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|------|---------------------|--------------------------------|------------------------|
| N/A | City Specifications | 1. Thorocoat 2. Tenemecrete | None |

- **COATINGS (STEEL EXTERIOR)**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|---------------------|--|--|------------------------|
| Water tank exterior | Water Tank AWWA D102 & City Specifications | 1. Tenemec: Primer 37-77 Topcoat 23 series 2. Valspar: Primer 13 F28 Topcoat 12 series 3. Acro: Primer 1122 Topcoat 2214 4. Cook: Primer 391 N142 Topcoat 801 5. Kop-Coat: Primer 662 Topcoat 500 | None |

- **COATINGS (STEEL INTERIOR)**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|---------------------|--|---|------------------------|
| Water tank interior | Water Tank AWWA D102 & City Specifications | <ol style="list-style-type: none"> 1. Tenemec Series 20: Primer 20-1255 Topcoat 20-2000 2. Valspar: Primer 78-D-7 Topcoat 78-W-3 3. Acro: Primer 4460 Topcoat 4460 4. American Primer: Primer 395 Topcoat 395 5. Cook: Primer 920 W965 6. Kop-Coat 340 Primer 7. Kop-Coat Super Hi Grade | None |

- **FIRE HYDRANT**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|--------|---------------------------------|--|--|
| 5 1/4" | AWWA C502 & City Specifications | <ol style="list-style-type: none"> 1. Mueller A423 Super Centurion 250 2. American Flow WB 67 "Pacer" 3. Kennedy Guardian | None (3) Epoxy coating inside shoe. |

NOTE: "IRVING" stencil required on all makes.

- **FIRE HYDRANT - METER**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|------|---------------------|--|------------------------|
| 3" | City Specifications | <ol style="list-style-type: none"> 1. Kent ABB 2. Neptune 3. Sensus | None |

- **FIRE HYDRANT - VALVE SEAT**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|------|-----------------|---|------------------------|
| | | <ol style="list-style-type: none"> 1. Polyvalve 2. Manufacture's Standard | None |

- **FITTINGS, ANCHORED**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|-----------|--|----------------|------------------------|
| 4" to 12" | AWWA C153/ ANSI A21.53, AWWA C104/ ANSI A21.4 | 1. GRADELOK | None |

• **FITTINGS, BRASS**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|------------|--|--|--|
| 3/4" to 2" | AWWA C800 ASTM B-62 & City Specifications | 1. Mueller 2. Ford 3. Cambridge Brass 4. A.Y. McDonald Mfg. Co. 5. Jones Brass | None 3. Full port 3/4" & 1" angle meter stops not approved. |

• **FITTINGS, CROSSLINKED POLYETHYLENE (PEX)**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|------------|--|--------------------|---|
| 3/4" to 2" | AWWA C800 AWWA C904 ASTM F876 NSF/ANSI 14 & 61 ASTM F2657 (1 YR) ASTM F2023 | 1. Rehau Municipex | Blue in Color; Continuous ASTM B1010 12 AWG insulated copper-clad steel tracer wire required |

• **FITTINGS, CAST IRON & DUCTILE IRON**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|-----------|--|---|--|
| 3" to 24" | AWWA C110, C104, C111, C153 & City Specifications | 1. Tyler/Union 2. Sigma 3. Star Pipe Products | All fittings shall be manufactured in the United States. |

• **FITTINGS, CONCRETE PRESSURE PIPE**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|-------|--------------------------------------|---|------------------------|
| ≥ 10" | AWWA C301 (PCCP) AWWA C303 (RCCP) | 1. Thompson Pipe Group 2. RangeLine Tapping Services | |

• **FITTINGS, POLYVINYL CHLORIDE (WASTEWATER ONLY)**

| SIZE (PIPE SPEC) | REFERENCE FITTING SPEC | APPROVED MODEL / MANUFACTURERS | MODIFICATIONS REQUIRED |
|---------------------------|---|---|--|
| 4" TO 15" (ASTM D3034) | SDR 35 / SDR 26, ASTM F477, ASTM D3212, ASTM F1336, NSF/ANSI 14 | 1. MULTI FITTINGS 2. NAPCO 3. GPK PRODUCTS 4. SPECIFIED FITTINGS | ALL FITTINGS MUST BE GASKETED & DOMINANTLY GREEN OR WHITE IN COLOR TRENCH TOUGH PLUS G-SERIES (SDR-35 IPS) H-SERIES (SDR-26 IPS) |

| | | | |
|------------------------------------|--|---|--|
| 18" TO 36" (ASTM F679) | PS 46 / PS 115, ASTM F477, ASTM F3212, ASTM F1336, NSF/ANSI 14 | 1. MULTI FITTINGS 2. NAPCO 3. GPK PRODUCTS 4. SPECIFIED FITTINGS | TRENCH TOUGH PLUS G-SERIES (PS 46 IPS) H-SERIES (PS 115 IPS) |
| 4" TO 12" (ASTM D2241) | SDR 26 ASTM F477 ASTM D3212 ASTM F1336 | 1. MULTI FITTINGS 2. NAPCO 3. GPK PRODUCTS 4. SPECIFIED FITTINGS | CYCLETOUGH (IPS) T-SERIES (IPS) |
| 4" AND LARGER (AWWA C900) | DR 25 / DR 18 AWWA C900 AWWA C907 ASTM F477 NSF/ANSI 14 | 1. MULTI FITTINGS 2. NAPCO 3. GPK PRODUCTS 4. SPECIFIED FITTINGS | SEWER BRUTE (CIOD) C-SERIES (CIOD) |

• **FITTINGS, STEEL WATER PIPE**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|-------|-----------------|----------------------------------|------------------------|
| ≥ 12" | AWWA C200 | 1. RangeLine Tapping Services | None |

• **FITTINGS, THREADED BRASS (ELLS, NIPPLES, TEES, ETC.)**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|--------------|------------------------|--|------------------------|
| 3/4" to 2" | City Specifications | 1. Merit 2. Matco Norca 3. Lee | None |
| 1-1/2" to 2" | City Specifications | 4. New Haven 5. Midland 6. Cowtown | None |

• **FLANGED ADAPTERS (FLANGED JOINT RESTRAINT)**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|-----------|--|-----------------------------------|------------------------|
| 4" to 24" | ASTM A536, ANSI/AWWA C115/A21.15 | 1. Megaflange (EBAA Iron Inc.) | External PE wrap |

• **FLANGED COUPLING ADAPTERS**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|-----------|---|--|------------------------|
| 4" to 12" | ASTM A536-71, ASTM D2000, 3BA715, AWWA C111-64 | 1. Ford-Ringwej 2. Romac-FCA501 3. Smith Blair 912 4. JCM - 301 | Romacote Required |

• **FLEXIBLE COUPLING ADAPTERS**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|-----------|---------------------|---|------------------------|
| 3" to 12" | City Specifications | 1. Pipe Conx 2. Mission Rubber 3. Fernco 4. Dallas Specialty 5. NDS | None |
| 6" to 12" | | 6. Hymax 2000 Series (part number 860-56-****-16) | |

• **FLEXIBLE EXPANSION JOINTS**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|-----------|-----------------------|-------------------------------|------------------------|
| 4" to 36" | AWWA/ANSI C153/A21.53 | 1. Flex-Tend (EBAA Iron Inc.) | External PE wrap |

• **MANHOLE ENCAPSULATION**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|------|---------------------|---------------------|------------------------|
| | City Specifications | 1. CCI - WrapidSeal | None |

• **MANHOLE INSERTS**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|------|---------------------|----------------------------------|------------------------|
| | City Specifications | 1. Parson Plastics 2. Knutson | None |

• **MANHOLE REHAB MATERIAL**

| BASE/BUILD UP MATERIAL | | | |
|------------------------|-----------------|----------------------------|------------------------|
| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
| N/A | MS2A, MS2C | 1. Strong Seal 2. QuadX | None |

| PROTECTION LAYER | | | |
|------------------|---------------------|---|------------------------|
| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
| N/A | City Specifications | 1. Standard Epoxy 4553 2. Chesterton ARC 791 3. Warren Environmental 301-14 | |

| MULTI-LAYER SYSTEM | | | |
|--------------------|---------------------|------------------|------------------------|
| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
| N/A | City Specifications | 1. Spectrashield | None |

• **MANHOLE FRAMES & COVERS**

All F&Cs shall meet the “Made In USA” standard.

All F&Cs shall meet a minimum HS25 traffic rating.

The City of Irving Logo shall be centered on and molded into all wastewater covers.

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|---------------------|-----------------------------|---|---|
| <i>METALLIC</i> | | | |
| 30" | TCEQ CH. 217 AASHTO M306 | 1. Bass & Hayes VRM-30 2. East Jordan Iron Works 3. Tyler/Union 4. Neenah Foundry R-1274 | |
| <i>NON-METALLIC</i> | | | |
| 30" | TCEQ CH. 217 | 5. CAP ONE ® - 30 | 2 Paddle Locks; 5/8" Xylan Coated Grade 316 SS Hex Head Bolts; & embeded magnet for locate. |

• **MANHOLES (FIBERGLASS)**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|-----------------|--|---|------------------------|
| 4' dia & larger | ASTM D3753-05, C581, D2584, D695, D1790, & AASHTO HS20 | 1. HOBAS 2. Containment Solutions 3. Associated Fiberglass Engineers 4. L.F. Manufacturing | None |

• **MANHOLES (PRECAST CONCRETE)**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|-----------------|--|---|------------------------|
| 4' dia & larger | ASTM C-76 OR C-478 & City Specifications | 1. Hanson/Forterra 2. American Insustrial Precast Products 3. Hydro Conduit 4. Concrete Products, Inc. 5. Del Zotto Products of Texas, Inc. 6. The Turner Company 7. Tyler Products | |

• **MANHOLES (POLYMER CONCRETE)**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|-----------------|--|---------------------------------|------------------------|
| 4' dia & larger | ASTM D3753-05, C581, D2584, D695, D1790, & AASHTO HS20 | 1. Armorock 2. US Composites | None |

- **MANHOLES (POLYVINYL CHLORIDE)**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|--------------------|---------------------------------|---|------------------------|
| 4' dia & larger | ASTM C1244-11, ASTM D3753-12 | 1. Construction Product Marketing (Predl PVC Composite Manhole) | None |

- **METER BOX**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|--------------|---------------------|--|--|
| 5/8" to 3/4" | City Specifications | 1. OldCastle Christy B09 2. Bass & Hays CMB36 B09 | Lid from DFW Plastics, Part # DFW36C-AF1MAT SMALL |
| 1" to 2" | | 3. Oldcastle Christy B65 4. Bass & Hays CMB65 B65 | Lid from DFW Plastics, Part # DFW65C-AF1MAT SMALL |

- **METER BOX – TRAFFIC RATED**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|--------------|---|----------------------|--|
| 5/8" to 3/4" | City Specifications & Standard Details | 1. DFW Plastics 1324 | Lid from DFW Plastics, Part # DFW1324WBC-18-AF1MA |
| 1" to 2" | | 2. DFW Plastics 1730 | Lid from DFW Plastics, Part # DFW1730WBC-18-AF1MA |

- **METER LOOPS**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|------------|------------------------|---|------------------------|
| 3/4" to 1" | City Specifications | 1. Ford 2. Mueller 3. A.Y. McDondald Mfg. Co. | None |

- **METER RESETERS**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|--------------|------------------------|-----------------------|------------------------|
| 3/4" to 2" | City Specifications | 1. Ford 2. Mueller | None |
| 1 1/2" to 2" | | 3. MacDonald | |

- **METER, WATER**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|------------|------------------------|----------------|---|
| 3/4" to 2" | City Specifications | 1. Badger | All meters must have ITRON TERW--1300-202, 100W remote read radios installed. |

• **METER, WATER COMBINATION FIRE/DOMESTIC**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|-----------|---------------------|--|--|
| 4" to 6" | City Specifications | 1. Neptune Protectus III S 2. Neptune Protectus III | All meters must have ITRON TERW--1300-202, 100W remote read radios installed with 25' pigtail. All nuts and bolts to be stainless steel. |
| 4" to 12" | | 3. Sensus OMNI Fireline (F ²) 4. Badger | |

• **METER, WATER DOMESTIC**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|-----------|---------------------|--|--|
| 4" to 6" | City Specifications | 1. Neptune Tru/Flo | All meters must have ITRON TERW--1300-202, 100W remote read radios installed with 25' pigtail. All nuts and bolts to be stainless steel. |
| 4" to 12" | | 2. Sensus OMNI T ² 3. Sensus OMNI C ² | |

• **PIPE, WASTEWATER**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|------------|---------------------------------------|---|---|
| 4" to 16" | SDR-26 PVC, ASTM D2241, Class 160 PVC | 1. JM Eagle 2. Vinyl Tech 3. Certainteed 4. Cresline(4"-8") 5. NAPCO 6. PipeLife Jet Stream 7. Royal Pipe 8. Diamond Plastic | Green in color |
| 4" to 15" | SDR-35 PVC, ASTM D3034, | 9. JM Eagle 10. Vinyl Tech 11. NAPCO 12. Cresline(4"-12") 13. Pipelife Jet Stream 14. Rooyal Pipe 15. Diamond Plastic | Green in color |
| 4" to 48" | AWWA C111, C115 & C151 | 14. ACIPCO | Ductile Iron Pipe only allowed with written approval. Polybond <i>Plus</i> interior lining. |
| 18" to 48" | ASTM D1784, D2412, F679, | 15. JM Eagle "Perma-Loc" 16. NAPCO 17. Vinyl Tech(18"-24") 18. PipeLife Jet Stream 19. Diamond Plastic | Green in color |
| 12" to 96" | SN46, SN72, ASTM D3262, D4161 & D2412 | 20. Hobas Pipe USA, Inc. 21. Flowtite – USCPS, LLC. | None |

• **PIPE, WASTEWATER (LINER)**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|---------------|---|--|---|
| 6" and larger | ASTM F1216, ASTM F1504, F1947 Fold And Form" pipe | 1. Insituform 2. Miller Pipeline "Ex 3. Source One Environmental 4. Perma-Liner | Temperature Monitoring System by Pipeline Renewal Technologies Required for 24" and larger (Zia Systems or VeriCure) |

• **PIPE SPACERS (ENCASED PIPELINES)**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|---------------|------------------------|---|--|
| 4" and larger | City Specifications | 1. Raci Spacers North America, Inc. 2. Cascade Waterworks Mfg.Co. Style CCS, all stainless steel 3. Advance Products & Systems Model SSI, stainless steel 4. Advance Products & Systems Model CI, Polyethylene 5. Pipeline Seal & Insulator, Inc. S8G-2, stainless steel 6. BWM Company Model SS | 1. For PVC pipe only 4. For PVC pipe only |

• **PIPE, WATER**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|------------|---|--|--|
| 4" to 12" | AWWA C900 PVC Class 305 DR 14 Class 235 DR 18 | 1. JM Eagle 2. NAPCO 3. Diamond Plastics 4. Certainteed 5. Vinyl Tech 6. Plastic Trends 7. PipeLife Jet Stream | Blue in color |
| 6" to 12" | AWWA C909 PVC Class 235 Class 305 | 8. JM Eagle | Blue in color |
| 14" to 24" | AWWA C900 PVC Class 235 DR 18 | 9. JM Eagle 10. NAPCO 11. Diamond Plastics 12. Certainteed(16" only) 13. Vinyl Tech 14. Plastic Trends | Blue in color |
| ≥ 10" | AWWA C301 (PCCP) AWWA C303 (RCCP) | 15. Thompson Pipe Group | |
| >4" | AWWA C151 DIP, C111 & C104 Class 150 to 350 | 16. American 17. US Pipe | DIP only allowed with written approval from City Engineer |

• **PRESSURE TYPE VACUUM BREAKERS**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|---------------|-------------------------------|--|--|
| 1/2" to 2" | AWWA C510-89, AWWA C511-89 | 1. Conbraco 4050302 to 4050802 2. Wilkins 720A 3. Febco 765 | |
| 3/4" | | 4. Rainbird 075 | |
| 3/4" to 1" | | 5. Toro PVB | |
| 3/4" to 2" | | 6. Watts 800 | |
| 1" | | 7. Rainbird 100 | |
| 1 1/4" | | 8. Rainbird PVB | |
| 1 1/2" | | 9. Rainbird PVB 150 | |
| 2" | | 10. Febco 775 11. Rainbird PVB 200 | (10) Air Inlet for use only with approved double check valve assembly. |
| 2 1/2" to 10" | | 12. Cla-Val Model 27 | |
| 3/4" and 1" | | 13. Febco 745 | |

• **REDUCED PRESSURE PRINCIPLE ASSEMBLIES**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|----------------|-------------------------------|---|------------------------|
| 1/4" to 2" | AWWA C510-89 AWWA C5110-89 | 1. Wilkins 975XL 2. Conbraco 40-204-02 40-208-02 | |
| 3/4" to 3" | | 3. Watts 009 | |
| 3/4" and 1" | | 4. Conbraco 40-204-205-A2 (Replaceable Seats) 5. Conbraco 40-204-A2Z(U) | |
| 3/4" to 1 1/2" | | 6. Cla-Val RP-2 | |
| 3/4" to 2" | | 7. Badger #1 8. 9. Flomatic RPZ | |
| 3/4" to 4" | | 10. Watts 909 11. Rainbird RPA-075 12. Orion BRP 13. Febco 825Y | |
| 3/4" to 6" | | 14. Wilkins 575 | |
| 1 1/2" to 10" | | 15. Febco 825 | |

| | | |
|---------------|---|--|
| 2" to 10" | 16. Cla-Val RP-1 | (15.) Must be equipped with OS & Y shutoff valves if used on a fire sprinkler system |
| 2 1/2" to 6" | 17. Ames 4000SS 18. Febco 880V | (16.) Must be equipped with OS & Y shutoff valves if used on a fire sprinkler system |
| 2 1/2" to 8" | 19. Febco 880 | |
| 2 1/2" to 10" | 20. Conbraco 40-20-A-C 21. Hersey 6CM 22. Wilkins 975XL | (20.) Must be equipped with OS & Y shutoff valve is used on a fire sprinkler system |
| 3" to 10" | 23. ITT Lawler RZ | |
| 4" | 24. Febco 860 | |
| 4" to 10" | 25. Mueller H9506 | (25.) Must be equipped with OS & Y shutoff valve if used on a fire sprinkler system |
| 6" to 10" | 28. Rainbird RPA-075 29. Watts 909 30. Febco 825Y | |

• **RESTRAINERS FOR CIP AND DIP**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|-----------|---------------------------------------|---|------------------------|
| 4" to 12" | ANSI B16.1, ASTM A536 ANSI 4140 | 1. UNIFLANGE Series 200 400, 420, (cast and D.I.P) | |
| 3" to 48" | | 2. EBAA Iron Inc. Series 1100 3. Romagrip | Romabond Required |
| 4" to 24" | | 4. MJ Field Lok DI | |

• **RESTRAINERS FOR PVC**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|-----------|---------------------------|---|------------------------|
| 3" to 24" | UNI-B-13, ASTM A536-80 | 1. Megalug (EBAA Iron Inc), Series 2000PV, 2000PEC, 2000SV 2. Romagrip | Romabond Required |
| 4" to 12" | | 3. MJ Field Lok PV | |
| 4" to 24" | ANSI B16.1, 4140 | 4. Uniflange 1500C | |

- **RETAINER GLANDS**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|-----------|---------------------|----------------|------------------------|
| 4" to 12" | City Specifications | 1. Tyler/Union | None |

- **SERVICE SADDLES ALL STAINLESS BAND TYPE**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|-----------|---------------------|---|------------------------|
| 4" to 12" | City Specifications | 1. Romac 305, 306 2. JCM 133, 502 3. Ford FS313 | None |

- **SERVICE SADDLES, DOUBLE STRAP**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|--------------------------------|--|---|--|
| 6" > O.D. >3/4" tap size | AWWA C800 ASTM B-62 ASTM A-98 City Specifications | 1. Mueller BR2B Series 2. Ford 202B Series 3. Romac 202B Series | All bronze/brass or bronze/brass saddle with stainless steel straps, on all makes. |

- **SERVICE SADDLES, SINGLE STRAP**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|-------------------------|--|---|--------------------------|
| 2" to 4" O.D. 1" tap | AWWA C800 ASTM B-62 ASTM A-98 City Specifications | 1. JCM 405 2. Ford 3. James Jones J-996 | Includes sizes 2" to 12" |

- **STREET LIGHT FOUNDATIONS**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|----------|-----------------------------------|---|---|
| 24" O.D. | City Specifications ASTM A-615 | 1. OLDCASTLE 1801400, 1801500, 1801700 | Concrete 5,000psi @ 28 days Grade 60 rebar |

- **WASTEWATER CLEANOUTS**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|----------------|--------------------------------------|---|------------------------|
| 4" residential | ASTM F913 ASTM 3212 ASTM D3034 | 1. Stan Roberts CIG-1504 Stan Roberts ATL-404 2. Bass & Hays No. 404 Bass & Hays No. 339 | With locking lid |

• **WASTEWATER DEGREASER**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|------|---------------------|---|------------------------|
| N/A | City Specifications | <ol style="list-style-type: none"> 1. Citrosolv - Oxford Chemical Co. 2. Explode - Viking Labs, Inc. 3. Grease-B-Gone - State Chemical Mfg. Co. 4. Citra Solve W – K&L Supply 5. Citro-Solv. – V&D Supply 6. Formula P-88 – Selig 7. Citra Solve – K&L Supply 8. BioCOPE – BioCOPE Inc. 9. DryLet - DryLet, LLC, Inc. 10. Mircro-Solve – Biotech Industries | None |

• **WASTEWATER DEODORANT**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|------|---------------------|--|------------------------|
| N/A | City Specifications | <ol style="list-style-type: none"> 1. Citrusan 2. Zep-O-Ban 3. Cherry Memories – K&L Supply 4. Dubois Lake Charge – Dubois 5. Selg-Lemon Breez – Selig 6. Sewer Sweet – Allen’s Specialty Shop 7. HB – 140 Banish Cherry – H&B Industries | None |

• **WASTEWATER DIGESTER**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|------|---------------------|--|------------------------|
| N/A | City Specifications | <ol style="list-style-type: none"> 1. Sanfax 222 2. Red Hot – K&L Supply 3. Seer Blaster – Allen’s Specialty Shop 4. Sewer Cleaner – V&D Supply 5. Rout-R-Out – Last Group Ent. | None |

• **WASTEWATER LATERAL CONNECTION AND LINING (TRENCHLESS)**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|------|-----------------|--|------------------------|
| N/A | ASTM F-1216 | <ol style="list-style-type: none"> 1. LMK Technologies 2. BLD Services “Service Connection Seal + Lateral” | None |

• **VALVES, BUTTERFLY**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|------------|---------------------------------------|--|---|
| 12" to 48" | AWWA C504, C550 & City Specifications | 1. Mueller 2. M & H 3. Kennedy 4. Pratt-Groundhog 5. Val-Matic | Internal epoxy coating (extra cost on all makes.) (5.) Only for above ground and vault installation with changeable seats. |
| 24" to 48" | AWWA C504 & City Specs | 6. Crispin K-Flo Series 47 | (6.) Only for above ground and vault installation with changeable seats |

• **VALVES, CHECK & DETECTOR CHECK**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|-----------|----------------------------|---|---|
| 4" to 12" | AWWA & City Specifications | 1. Mueller 2. American Darling 3. Kennedy 4. Hersey 5. Ames | None (5a) Steel check valves must be epoxy coated. |

• **VALVES, CHECK BRASS**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|------------|-----------------|----------------|------------------------|
| 3/4" to 2" | ASTM CDA | 1. NIBCO | None |

• **VALVES, CONTROL**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|-----------|------------------------|--|----------------------------|
| 4" to 30" | Project Specifications | 1. Ross 2. CLA-VAL 3. Golden-Anderson 4. APCO 5. Muesco 6. Singer | Per Project Specifications |

• **VALVES, DOUBLE CHECK VALVE ASSEMBLIES**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|----------------|----------------------------|------------------------------------|------------------------|
| 1/2" to 2 1/2" | AWWA C510-89, AWWA C511-89 | 1. Conbraco 4010302 to 4010802 | |
| 3/4" | | 2. ITT Lawler DC-3 | |
| 3/4" to 1" | | 3. Watts 007MIQT 4. Febco 805YR | |
| 3/4" to 1 1/2" | | 5. CLA-VAL D2 | |
| 3/4" to 2" | | 6. Rain Bird DCA-075 to 200 | |

| | | |
|---------------|--------------------------------------|---|
| | 7. Flomatic DCV | |
| | 8. Conbraco 40-104-A2T to 40-108-A2T | |
| | 9. Wilkins 550 & 950XL | |
| | 10. Hersey FDC | |
| 3/4" to 3" | 11. Watts 007 & 009 | |
| 3/4" to 4" | 12. Orion BDC | |
| 3/4" to 10" | 13. Febco 805 & 805Y | 13.) 805 Must be equipped with OS&Y shut off valves if used on a fire sprinkler system. |
| | 14. Watts 709 | 14.) Must be equipped with OS&Y shut off valves if used on a fire sprinkler system. |
| | 15. Wilkins 950 | |
| 1" to 10" | 16. Cla-Val D | 16.) Must be equipped with OS&Y shut-off valves if used on a fire sprinkler system. |
| 1 1/4" to 2" | 17. Buckner 24102 to 24104 | |
| 2" to 6" | 18. Hersey F-72 | |
| 2" to 10" | 19. Hersey #1 | |
| 2 1/2" to 6" | 20. Ames 2000-SS-DCA | 20.) Must be equipped with OS&Y shut-off valves if used on a fire sprinkler system. |
| 2 1/2" to 10" | 21. Febco 805YD | |
| 3" to 6" | 22. Wilkins 550 | 22.) Must be equipped with OS&Y shut-off valves if used on a fire sprinkler system. |
| 3" to 8" | 23. Rain Bird DCA-250-800 | |
| 3" to 10" | 24. Conbraco 40-100-10A-C | 24.) Must be equipped with OS&Y shut-off valves if used on a fire sprinkler system. |
| | 25. Hersey #2 | |
| 4" to 6" | 26. Febco 850, 870 | |
| | 27. Hersey E-1 | |
| 4" to 8" | 28. Kennedy B-1 | |
| 4" to 10" | 29. Ames 2000-DCA | 29.) Must be equipped with OS&Y shut off valves if used on a fire sprinkler system. |
| | 30. Viking A-1 | |
| | 31. Kennedy B-2 | |
| | 32. Mueller H9505 | 32.) Must be equipped with OS&Y shut off valves if used on a fire sprinkler system. |

• **VALVES, DOUBLE CHECK VALVES DETECTOR ASSEMBLIES**

| SIZE | REFERENCE SPECS | MAKES APPROVED | MODIFICATIONS REQUIRED |
|---------------|-------------------------------|---|------------------------|
| 2 1/2" to 6" | AWWA C510-89, AWWA C511-89 | 1. Ames 3000-SS-DCDA 2. Apollo DCDA 4SG-600 | |
| 2 1/2" to 10" | | 3. Wilkins 950DA 4. Watts 757DCDA | |
| 3" | | 5. Watts 007DCDA | |
| 3" to 10" | | 6. Watts 709DCDA 7. Hersey DDC-II 8. Febco 806, 806YD | |
| 4" | | 9. Conbraco 40-60A-03 | |
| 4" to 6" | | 10. Febco 856 | |
| 4" to 8" | | 11. Febco 876 | |
| 4" to 10" | | 12. Cla-Val Model 16 13. Ames 3000-DCDA | |
| 6" | | 14. Conbraco 40-60C-03 | |
| 8" | | 15. Conbraco 40-60E-03 | |
| 10" | | 16. Conbraco 40-60G-03 | |

For the purpose of these Specifications, the term 'lead free' means-

- A. Not containing more than 0.2 percent lead when used with respect to solder and flux; and
- B. Not more than a weighted average of 0.25 percent lead when used with respect to the wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures.

The weighted average lead content of a pipe, pipe fitting, plumbing fitting, or fixture shall be calculated by using the following formula: For each wetted component, the percentage of lead in the component shall be multiplied by the ratio of the wetted surface area of that component to the total wetted surface area of the entire product to arrive at the weighted percentage of lead of the component. The weighted percentage of lead of each wetted component shall be added together, and the sum of these weighted percentages shall constitute the weighted average lead content of the product. The lead content of the material used to produce wetted components shall be used to determine compliance. For lead content of materials that are provided as a range, the maximum content of the range shall be used.

END OF SECTION