

EQUIVALENT MATERIALS LIST

APPROVED BY: *[Signature]* 6-26-17
 LOUIS ABI-YOUNES, CITY ENGINEER 44485
 RCE DATE

RECOMMENDED: *[Signature]* 6/22/17
 DENNIS MEJA, UTILITIES ENGINEERING DIRECTOR
 RCE DATE

REV	DESCRIPTION	BY	APP'D	DATE

CITY OF ONTARIO

EQUIVALENT
MATERIALS
LIST

**HEALTH & SAFETY CODE SECTION 116875
CALIFORNIA ASSEMBLY BILL 1953 (AB-1953)**

Beginning January 1, 2010, California Assembly Bill 1953 (AB-1953) mandates that any pipe, pipe or plumbing fitting, or fixture that is introduced into commerce in California MUST be "lead free" as defined in AB-1953.

No person shall use any pipe, pipe or plumbing fitting or fixture, solder, or flux that is not lead free in the installation or repair of any public water system, except when necessary for the repairs of leaded joints of cast iron pipes, excludes service saddles, backflow preventers for non-potable services such as irrigation and industrial, and water distribution main gate valves that are two inches in diameter and above. All pipe, pipe or plumbing fittings or fixtures, solder, or flux shall be certified by an independent American National Standards Institute (ANSI) accredited third party, including, but not limited to NSF International, as being in compliance with this section.

The following Equivalent Materials List shall adhere to the requirements set forth in AB-1953.

CITY OF ONTARIO
APPROVED MATERIALS LIST FOR POTABLE WATER,
RECYCLED WATER AND SEWER FACILITIES
(JUNE 2017)

Item	Description	Manufacturer
ADAPTER, FLANGE COUPLING	Mechanical x Flange. Steel or Ductile Iron Construction without Anchor Pins, Epoxy Coated	Dresser 127 Dresser 227 Ford FCA Style Powerseal 3521 Powerseal 3528 Romac FCA501 Romac FC400 Smith-Blair 912 Smith-Blair 913
AIR/VACUUM VALVE ENCLOSURE	Min. 3/16" Thick Steel, Clam Shell Hinged Construction, Polyester Powder Coated or Polyethylene Enclosure Size As Indicated Below: 1" & 2" Air Vac Sizes Use: 18" x 30" Color: Desert Sand or Baja Beige	Pipeline Products VCDD-1624 Christy's C-WASC-1624 Pipeline Products #VCAS-1830 (18" x30")
ANODE, MAGNESIUM	High or Standard Potential Anode, Galvanized Steel Core Encased in Square Magnesium Alloy Ingot Pre-Packaged in Permeable Cotton Cloth Bag Filled with 75% Gypsum, 20% Bentonite, 5% Sodium Sulfate Mixture. Provide Ingot Weight Specified on the Approved Plans.	
AIR/VACUUM VALVE SUCTION SCREEN	For use on 1" and 2" Air/Vacuum Installations FIP Nylon Nut Style with 20 Mesh Stainless Steel Screen.	Christy VC Series McMaster-Carr 9877K52 McMaster-Carr 9877K65 Northtown Hytech
ANODE, ZINC	Pre-Packaged 6.8 Kg (15 lbs) Min. Sacrificial Anode, #12 THHN Lead Wire, for the Protection of Copper Tubing.	Hytech Pipeline Products CP-Z15
ZINC CAPS		Reliance Zinc Caps Mars Zinc Caps
ANTI-SEIZE COMPOUND	For use on Stainless Steel Bolts and Nuts	Locktite Nevr Seize

Item	Description	Manufacturer
BACKFLOW DEVICE	Reduced Pressure Principal Type Assemblies	PER LATEST EDITION OF USC - FOUNDATION FOR CROSS CONNECTION CONTROL AND HYDRAULIC RESEARCH LIST OF APPROVED BACKFLOW PREVENTION ASSEMBLIES.
BOLTS AND NUTS A307	Hex-Head Machine, Cadmium/Zinc Plated, ASTM A307, Grade A Bolts and A307 2H Heavy Hex Nuts.	
BOLTS AND NUTS A307	Hex-Head Machine, Fluoropolymer Coated, ASTM A307, Grade A Bolts and A307 2H Heavy Hex Nuts.	Tripac 2000 Blue
BONDING AGENT, EPOXY	Epoxy Resin Based Bonding Agent for Bonding New Mortar or Concrete to Existing Concrete	Sika Sikadur 32 Hi-Mod F.H. Mahoney
BUSHING INSULATING	Nylon, 1-1/4" x 1", 1-1/2" x 1", 2-1/2" x 2".	Calpico Corrosion Control Products F.H. Mahoney
CASING END SEAL	1/4" Thick Styrene Butadiene Rubber Sheet End Seal. Use 1" Wide Stainless Steel Bands. Zippered End Seals with Stainless Steel Bands May Also be Used.	Advanced Products & Systems Cascade Calpico Pipeline Seal & Insulator Powerseal Raychem
CASING SPACER	Stainless Steel Casing Spacer, Center Restrained, Position Type with PVC Liner and non-metallic Anti-friction Runners	Advance Products Systems Cascade Calpico Pipeline Seal & Insulator Powerseal Raychem
CATHODIC TEST, STATION BOX	54 Lbs Concrete Body with 12 Lb Ductile Iron Lid and Lid Ring. "CP TEST" Shall Be Cast into the Lid in 1" Letters. For Cathodic Protection Test Stations, Anode Ground Beds and Insulated Flange Test Stations.	Brooks 1-RT series Brooks NO. 36 - H.F.L. Farwest Type 1-RT J & R #10-R

Item	Description	Manufacturer
CATHODIC WELDING	For Welding Cathodic Bond Wires to Steel Pipelines	Cadweld
COATING, INTERNAL PIPE	For Coating the Internal Pipe Lining for an Insulated Flange	Aquatapoxy CCI Hydro-Pox
COATING, MASTIC	Cold Applied Coal Tar or Epoxy Based Single Component, Self-Priming, Heavy Duty Protective Exterior Coating for Buried Concrete	Carboline Bitumastic 50 Devoe Devtar 5A Polykem 938 Tnemec HB Tnemecol 46-465 HB Tneme-Tar 46H-413
COATING, Wrap TWO PART	Outer wrap.	Viscotag
CONNECTOR, TRACER WIRE	Direct Bury Silicone Filled Capsule Tube with Standard Wire Nut or Silicone Filled Wire Nut Connectors for Tracer Wire Connections	3M DBR-6 King 4 King 5 King 6
CORPORATION STOP COMPRESSION x MIP	Bronze Compression x MIP Thread Ball Valve 1" and 2" Full Opening.	Ford FB1100-Q Series Jones E-1935 Mueller P-25028N
CORPORATION STOP, MIP X MIP	Bronze MIP x MIP Thread Ball Valve 1" and 2" Full Opening	Ford FB500-4 Ford FB500-7 Jones J-1943 A. Y. McDonald 3131B Mueller B-20013 Mueller B-2969 Jones E-1935
CORPORATION STOP COMPRESSION x MIP (PE Tubing)	1" Bronze, IPS Compression x MIP Thread Ball Valve 1" Full Opening. Stainless Steel Insert/Stiffners & Restraint Screw	Mueller E-25029N Ford FB1101 Series Jones E-1936
CORPORATION STOP COMPRESSION x MIP (PE Tubing)	2" Bronze, CTS Compression x MIP Thread Ball Valve 2" Full Opening. Stainless Steel Insert/Stiffners & Restraint Screw	Mueller P-25028 Ford FB1100 Series Jones E-1935
CORPORATION STOP FIP x MIP	2" Bronze, FIP x MIP Thread Ball Valve 2" Full Opening.	Mueller B-20046 Ford FB1700 Jones J-1931 A. Y. McDonald 4104BF

Item	Description	Manufacturer
COUPLING, COMPRESSION x COMPRESSION	Three Part Compression Coupling (Both Ends) for 1" and 2" Copper Pipe	Ford C44-Q Series Jones J-2609SG A.Y. McDonald 4758Q Mueller H-15403
COUPLING, C900 PVC DEFLECTION	4" through 12" Solid PVC for Obtaining Deflection Only. Provides 5 Degree Maximum Deflection	Certainteed High Deflection (HD)
COUPLING, C900 PVC CLOSURE / REPAIR	4" through 12" Solid PVC for Closure or Repair	Certainteed Closure / Repair Couplings
COUPLING, STRAIGHT FLEXIBLE	4" and Larger, Steel or Ductile-Iron Construction, Slip x Slip, Epoxy-Coated with 304 or 316 Stainless Steel Bolts and Nuts. For use on PVC, DI, or Steel Pipe.	APAC 301 Ford FC1 Dresser 253 Powerseal 3501 Powerseal 3538 Romac 501 Smith-Blair 441 Viking Johnson MaxiFit
COUPLING TRANSITION FLEXIBLE	4" and Larger, Steel or Ductile-Iron Construction, Slip x Slip, Epoxy-Coated with 304 or 316 Stainless Steel Bolts and Nuts. For use on PVC, DI, or Steel Pipe.	APAC 311 APAC 313 Baker Ford FC2A Dresser 253 Powerseal 3501 Powerseal 3538 Romac 501 Romac XR501 Smith-Blair 413
CUSTOMER SIDE SHUT- OFF VALVE	3/4" and 1" Bronze Customer Shut-off (Ball Valve), Inlet Swivel Meter Nut x Outlet FIP Thread, Lockable Tabs, with Lever Handle.	Ford B13-332W w/ HT34 Ford B13-444W w/ HT34 Jones J-1908W A.Y. McDonald 6101MW Mueller B-24351
CUSTOMER SIDE SHUT- OFF VALVE	2" Bronze Customer Shut-off (Ball Valve), Meter Flange x Outlet FIP Thread, Lockable Tabs, with Lever Handle.	Jones J-1913F A.Y. McDonald 76101 MW-Flange Ford BF 13-777W Mueller B-24337N

Item	Description	Manufacturer
COUPLING, TRANSITION FLEXIBLE	4" and Larger, Steel or Ductile Iron Construction, Slip x Slip, Epoxy Coated with 304 or 316 Stainless Steel Bolts and Nuts. For Use on AC, PVC, DI, or Steel Pipe.	APAC 311, 313 Baker Ford FC2A Powerseal 3501, 3538 Romac 501 Smith-Blair 413 Smith-Blair 441 Viking Johnson MaxiFit
COVER, MANHOLE 30"	Manhole frame and cover shall be 30" Manhole cover shall be manufactured with the letter "S" in the center of the cover. "City of Ontario" shall also be inscribed on cover per standard drawing.	Alhambra Foundry No. A-1252-6 Southbay Foundry SBF-1252 National Cast Corp. NC-252 Famcon Pipe & Supply, PAMREX (Lock down cover)
COVER, MANHOLE 36"	Manhole frame and cover shall be 36" Manhole cover shall be manufactured with the letter "S" in the center of the cover. "City of Ontario" shall also be inscribed on cover per standard drawing.	Alhambra Foundry No. A-1251 Southbay Foundry SBF-1251 National Cast Corp. NC-251 Famcon Pipe & Supply, PAMREX (Lock down cover)
COVER, VALVE DOMESTIC WATER	Valve box lid. 6-inch diameter. Marked "WATER"	Alhambra Foundry No. A - 29606, No. A - 29608, (or equivalent)
COVER, VALVE RECYCLED WATER	Valve box lid. 8-inch diameter. Marked "RECYCLED WATER"	Alhambra Foundry No. A - 29608, (or equivalent)
ELL, BURY, DUCTILE IRON	6" x 48" Ductile Iron Bury Ells, Long Radius, Fla x MJ/PO (Use of Short Radius Bury Ells with City Approval Only)	Clow Sigma South Bay Foundry
ELL, BURY, DUCTILE IRON	6" x 16" Ductile Iron Bury Ells, Long Radius, Fla x MJ/PO (Use of Short Radius Bury Ells with City Approval Only)	Clow Sigma South Bay Foundry
ELL, FIP x COMP, 45 Deg 1/8 BEND	1" and 2" Bronze Ell, FIP x Compression for Copper Pipe	A.Y. McDonald 4747Q Mueller H-15534
ELL, FIP x COMP, 90 Deg 1/4 BEND	1" and 2" Bronze Ell, FIP x Compression for Copper Pipe	Ford L14-44Q, L14-77Q Jones J-2621 SG A.Y. McDonald 4779Q Mueller H-15533
EPOXY ADHESIVE	High-Modulus, Low Viscosity, Epoxy Resin Based Adhesive Suitable for Grouting Bolts or Dowels	Sika Sikadur 31 Sika Sikadur 35

Item	Description	Manufacturer
FIRE HYDRANT BREAK-OFF CHECK VALVE	Break-off Valves for Fire Hydrants.	Clow Valve Co. Model LBI 400A
FIRE HYDRANT, 150 PSI	6" Standard 150 PSI Wet Barrel Ductile Iron (DI) or Bronze Fire Hydrants with Eight-hole Bolt Pattern. DI Hydrants shall be Fusion Epoxy Lined.	AVK 24/70 AVK 24/90 Clow 850 (DI only) Clow 950 (DI only) Clow 2050 Clow 2060 Clow 2065 Jones J-3701 Jones J-3765 Jones J-3775 James Jones Co. J-4040B Long Beach 613 Long Beach 615
FIRE HYDRANT, 200 PSI (as required)	6" High Pressure 200 PSI Wet Barrel, Ductile Iron Fire Hydrant, With Eight-hole Bolt Pattern. DI Fusion Epoxy Lined	AVK 24/70 AVK 24/90 Clow 850 (DI only) Clow 950 (DI only)
FIRE HYDRANT, CAP	Screwed Plastic Cap Fire Hydrant Hose Ports, 2-1/2" and 4"	AVK Jones Long Beach US Pipe
FITTING, DUCTILE IRON	Flanged, Mechanical, Joint or Push-on Tees, Bends, Crosses, Reducers, Adapters, etc., for Water Lines 4" and Larger. Manufactured per AWWA C110, C111, C153. (SSB Fittings Will Not Be Permitted on C905 Pipe.)	Bachman Griffin Nappco/Sigma Pipeline Components Star Tyler SIP Industries
FITTING, CML/CMC	All Fittings constructed per latest revision of A.W.W.A. C208 meeting all City Standards. 10 Gauge Minimum Wall Thickness. Steel Pipes Used for Recycled Water Installation are to be Identified Per City Requirements.	Ameron Northwest West Coast Southland J & K Welding Levco Fab Inc.
FRAME, MONITORING	Frame & Cover for modified surveillance/monitoring facility - traffic area (shallow depth)	Alhambra Foundry No. A-1170

Item	Description	Manufacturer
GASKET	1/8" Thick Full face or ring, Aramid fiber Bound with Nitrile. No Asbestos Content	Calpico Garlock 3000 Johns-Manville Klinger 4401 Tripac 5000
GASKET	1/16" Thick, Cloth Inserted Rubber, Full Face or Ring	Calpico Coletch 2000 Garlock Johns-Manville Tripac 2000
GASKET, RUBBER RING	1/8" Thick, Rubber Ring Type, 250 PSI Maximum. For 4" Through 36" Pipe Flanges	Calpico Johns-Manville US Pipe
GATE WELL (Valve Can)	For Valve Installations: C900, DR14 Class 200 PVC Pressure Pipe. Pipe Casing Colors- Potable Water: White or Blue Recycled Water: Purple	Refer to PIPE, PVC C900 Applies to all buried valves
GATE WELL CAP 6"	Ductile or Cast Iron Lid Used for Valve Access, 6" Nominal Diameter Lid with a 6" Long Skirt and Lifting Slot. Minimum Weight 22 lbs. For use in Areas where Marked Water or Sewer	South Bay Foundry SBF B51
GROUT	Non-Shrink Cement Based-Construction Grout for Crack Repair, Flooring Mortar, Dowel Grouting, Crack Sealing and General Binding	Sika SikagROUT 212 STO Epoxy Binder CR633 STO Epoxy Gel CR635 STO N-S Grout CR732
INSULATING BLANKET	Insulating Blanket for Corrosion Interference Mitigation	McMaster-Carr
INSULATING COUPLINGS	Insulating Couplings for Corrosion Protection of Pipelines	Romac IC400 Romac IC501 Smith-Blair 416
INSULATING GASKET KIT	Insulating Gasket Kits for Corrosion Protection of Pipelines	Advanced Product Systems Calpico PSI - Gasket Seal PSI - Linebacler Farwest

Item	Description	Manufacturer
JOINT RESTRAINT ASSEMBLY	360 Degree Wedge Type Restraint System for Ductile Iron, C900 PVC, and Steel Pipe, Sizes 6" Through 24".	Ford Uniflange 1300 Series Ford Uniflange 1500 Series Sigma PV-Lok Star All-rip series 3600 EBAA Iron 1100 Series EBAA 2000 Series Romac 600 Series Smith Blair
JOINT SEALING COMPOUND, PLASTIC ROPE	For Use on Pre-cast Vault and Manhole in Grooved Joints Between Sections	Joint Sealing Compound
LADDER, VAULT	High Strength 6061-T6 Aluminum Alloy, 1" Diameter Solid Rungs and 18" Between Side Rails. Ladder to Exceed Requirements CAL OSHA Standards	Alaco, Model 560
LIGHT SWITCH, VAULT	120 Volt, 20 AMP, Single Pole, Spring Loaded with Clear Waterproof Cover	
LIGHTS, VAULT	Non-Metallic Incandescent Vapor-tight, 120 Volt, 6.0 AMP, Wall or Ceiling Mounted, with 100 Watt Bulb with Cage and Glass Protector for Bulb. Suitable for Wet Locations. Two Light Fixtures Per Vault.	
LUBRICANT, PIPE GASKET	Rubber Gasket Pipe Lubricant for Use on PVC or Ductile Iron Pipe Joints, NSF Listing Required	Christy Pro-Lube Whitlam Blue Lube JTM Products/Phoenix
MANHOLE, CONE AND SHAFT	Precast concrete manhole to ASTM C 478 and City Standards	American Pipe American Highway Products Associated Concrete B&W Precast Construction Howard Enterprises Inland Concrete Mar-Con Products Southwest Concrete Manhole Builders
METER BOX	13" x 24" Polymer Meter Box and Cover 5/8", 3/4", 1" (Purple color for recycled water)	Armorcast Box P6001868x12 w/ Cover A6001866

Item	Description	Manufacturer
METER BOX	17" x 28" Polymer Meter Box and Cover 1-1/2", 2" (Purple color for recycled water)	Armorcast Box A6001419 (SA) w/ Cover A6001420
METER, FLANGE	Bronze Meter Flanges for 1-1/2" and 2" Meters with Slotted Holes.	Ford CF Series Jones J129 A.Y. McDonald 610F
METER 5/8", 3/4", 1", 1 1/2" & 2"	Purchased through the City	Master Meter
METER, 3" & 4" 3" & 4"	Purchased through the City	Master Meter
METER 6" & 8"	Purchased through the City	Master Meter
METER STOP, ANGLE COMPRESSION X METER	1" x 3/4", 1" Bronze Angle Meter Stop (Ball Valve) with 90 Degree Lock Wing, Inlet Compression (w/ restraint nut) x Swivel	Jones E-1963W Mueller P-24258N
METER STOP, ANGLE COMPRESSION X METER	2" Bronze Angle Meter Stop (Ball Valve) with 90 Degree Lock Wing, Inlet Compression (w/ restraint nut) x Outlet Meter Flange	Jones E-1975W Mueller P-24276N
METER STOP, ANGLE COMPRESSION X METER (PE Tubing)	1" x 3/4", 1" Bronze Angle Meter Stop (Ball Valve) with 90 Degree Lock Wing, Inlet IPS Compression x Swivel Stainless Steel Insert/Stiffners & Restraint Screw	Mueller E-24259N Jones E-1962W Ford BA63- xxxW -NL AY McDonald 74602B-33
METER STOP, ANGLE COMPRESSION X METER (PE Tubing)	2" Bronze Angle Meter Stop (Ball Valve) with 90 Degree Lock Wing, Inlet CTS Compression x Outlet Meter Flange Stainless Steel Insert/Stiffners & Restraint Screw	Mueller P-24276N Jones E-1975W
MORTAR, REPAIR	Two Component, Low Shrinkage, Cement Based with High Compressive and Bonding Strength	Sika Sika Top 122, 123 STO CR 735, CR 740
NOZZLE, WELD-ON	Weld-on Nozzle with Reinforcing Pad or Collar for Connection to CMC/L Steel Pipe. ASTM A-53B 1/4" Minimum Thickness Seamless Pipe, Concrete Coated, Mortar Lined with AWWA C207 Flange Submittal Required	

Item	Description	Manufacturer
PAINT, POLYESTER POWDER	TGIC Polyester Powder For Air Vac and Water Test Station Enclosures	Tiger Dylac Series 49 Porter Paint J-Series Fuller O'Brien PF Series
PAINT, SILICONE ALKYD ENAMEL	One Component, Minimum 46% Solids (by Volume), 30% Silicone Content (by Volume), High Gloss, VOC Compliant Industrial Grade Paint.	Amteco SA-3 Silicone Poly Plus Carboline Carbocoat 30 Devoe Devshield 475 Dunn Edwards 42-53 Pittsburg Paint 97-480 Porter Porter Guard 2200 Sherwin Williams Steel Master 9500
PAINT, WATERBORNE ACRYLIC LATEX	One Component, Rapid Dry 100% Acrylic Latex Waterborne Marking Paint Meeting Cal/Trans Specification #8010-21C-30.	TMT-Pathway Waterborne Traffic Paint m2343A9 Ellis Paint Co. No. 1262 Ellis Paint Co. No. 1400
PIPE, COPPER TUBING	1" Type K Soft Seamless Rolled Tubing 2" Type K Soft Seamless Straight Lengths 1" and 2" Type K Rigid Seamless Straight Lengths	Cerro Halstead Lee Mueller Phelps-Dodge Streamline (factory plastic coated)
PIPE, POLYETHYLENE 1" TUBING (PE Tubing)	1-inch diameter polyethylene water service pipe latest revision of AWWA C901, <u>iron pipe size</u> tubing shall be rated for maximum working pressure of 200 psi, based on ASTM D2837 (Blue or Black = domestic. Purple = recycled)	Drisco ADS
PIPE, POLYETHYLENE 2" TUBING (PE Tubing)	2-inch diameter polyethylene water service pipe latest revision of AWWA C901, <u>copper tube size</u> tubing shall be rated for maximum working pressure of 200 psi, based on ASTM D2837 (Blue or Black = domestic. Purple = recycled)	Drisco
PIPE, DUCTILE IRON	For Water Lines 4" and Larger Manufactured per AWWA C111, C115, C150, C151.	American Pipe Griffin Pacific States U.S. Pipe Electrosteel USA
PIPE, PVC C900	6", 8" & 12" in diameter per latest AWWA C900 Class 200, potable white or blue, recycle purple, 6" for hydrants and gate wells	Certainteed Diamond Plastics Extrusion Technologies IPEX Johns-Manville Pacific Western VinylTech JM Eagle

Item	Description	Manufacturer
PIPE, PVC C905	For 16" Water Lines per AWWA C905, potable white or blue, recycle purple	Certainteed Diamond Plastics Extrusion Technologies IPEX Johns-Manville Pacific Western VinylTech JM Eagle
PIPE, STEEL, CEMENT-MORTAR LINED AND COATED (CML&CMC)	Steel Cylinder (CML&CMC), per AWWA M11 and City Standards. 10 Gauge Minimum Wall Thickness. Steel Pipes Used for Recycled Water Installation are to be Identified Per City Requirements.	Ameron Northwest Southland West Coast Pipe
PIPE, VCP PIPE AND FITTINGS	Extra strength Vitrified Clay Pipe (VCP) shall conform to ASTM C-700 "Specifications for Extra Strength Vitrified Clay Pipe Bell and Spigot	Gladding McBean Pacific Clay Mission Clay Building Products Co. (MCP)
PLASTIC ENCASEMENT	12-mil Thick Polyethylene Encasement Sleeve for Ductile Iron Pipe (DIP) per AWWA C105 and Recycled PVC, or CMC/L Non-Purple Water Pipe. Clear Sleeve for Potable Water, Purple Color for Recycled Water	
PLASTIC WRAP	8-mil Thick Polyethylene Encasement for Buried Fittings and Valves Clear Sleeve for Potable Water Purple Color for Recycled Water	
PRIMER, WAX TAPE	Surface Primer for Underground Application of Petrolatum Wax Tape	Denso Paste Trenton Tem-Coat
PROTECTOR POST, STEEL	4" Diameter, 0.250" Wall steel pipe Concrete Filled and painted safety yellow	
REFERENCE ELECTRODE, COPPER SULFATE	High or Standard Potential Electrode with PVC Pipe Housing Pre-Packaged in Permeable Cotton Cloth Bag Filled with 50% Gypsum/50% Powered Bentonite Mixture. Electrode Shall a Design Life of 15 Years with a Stability of +/- 5 Millivolts under a 3.0 Microampere Load. Provide Electrode with Integrally Attached #10 AWG HMW/PE Insulated Wire.	

Item	Description	Manufacturer
SEALANT	Chemical Grout for Joint Sealing	3M Scotch Seal
SEISMIC COUPLING	Flexible Expansion joints for Pipelines, Reservoirs, Pump Stations, etc.	EBAA Iron Flex-Tend Romac FlexiJoint Star Pipe Starflex 5000
SERVICE SADDLE ACP and DI PIPE	Cast Brass ASTM B62 Body with Silicone Bronze Double Straps, IP Outlet Sizes 1" and 2"	Ford 202B Jones J-979 A.Y. McDonald 3826 Mueller BR2B Series Romac 202B
SERVICE SADDLE C900 PVC PIPE	Cast Brass ASTM B62 Body with Double Stainless Steel Straps, IP Outlet Sizes 1" and 2" Installed on Pipe Sizes 4" through 12"	Jones J-969 A.Y. McDonald 3856 Mueller BR2BS Series Romac 202BS
SERVICE SADDLE FOR PVC C905 PIPE	Bronze or Brass Saddle with Stainless Steel Four Bolt Strap(s), IPT Thread Outlet for Sizes 1" and 2" Installed on Pipe Sizes 16" only	Ford 202BS Jones J-969 Mueller BR2BS Series Romac 202BS
STRONGBOX (Backflow enclosure)	Vandal Resistant Enclosure	Le Muer DPDI All-Spec Hydrocowl Hot Box
TAG, BRASS IDENTIFICATION	1" Diameter, 18 Gauge Brass with 3/16" Die Stamped Letters and Numbers, Suitable for Attachment to Cathodic protection Wires by Means of a Nylon Zip Tie.	
TAPE, OUTER WRAP	Adhesive Plastic Outer Wrap for Wax Petrolatum Tape in Underground Applications	Polyken 960 Trenton Polyply
TAPE, UTILITY	10 to 50 Mil x 2" Wide General Utility Tape for Corrosion Protection of Above and Below Ground Pipes and Fittings	3M Scotchwrap 50 3M Scotchwrap 51 Calpico Christy Northtown Polyken 900
TAPE, WARNING/ IDENTIFICATION FOR POTABLE WATER	6" wide, Warning/Identification (Metallic) Marking Tape for Buried Pipelines with continuous warning "CAUTION POTABLE WATER MAIN BURIED BELOW"	Calpico, Type 1 Line-Tec, Type B T. Christy Ent., Type 1 Terra Tape, Standard 250 Thor, Elast Tec Northtown

Item	Description	Manufacturer
TAPE, WARNING/ IDENTIFICATION FOR RECYCLED WATER	6" wide, Warning/Identification (Metallic) Marking Tape for Buried Irrigation Pipelines. Purple Color with continuous warning "CAUTION RECYCLED WATER MAIN BURIED BELOW"	Calpico, Type I Line-Tec, Type B T. Christy Ent., Type 1 Terra Tape, Standard 250 Thor, Elast Tec Northtown
TAPE, WAX ABOVEGROUND	Petroleum Saturated Synthetic Fabric Tape for Use on Aboveground Couplings, Flanges, Fittings, Etc.	Trenton # 1 Wax-Tape
TAPE, WAX UNDERGROUND	Petroleum Saturated Synthetic Fabric Tape for Use on Underground Couplings, Flanges, Fittings, Etc. Primer and Outer Wrap Required.	Densyl Tape Trenton #2 Wax-Tape
TAPPING SLEEVE FOR AC, DI, AND PVC PIPE	Fabricated Steel Tapping Sleeve for 4" Through 12" Wet Taps. Stainless Steel or Iron Body with Stainless Steel Bolts and Nuts.	Ford FTSS JCM 432 Mueller 615 Mueller 619 Powerseal 3460AS & 3490AS Romac STS-420 Smith-Blair 665
THREAD-O-LET (Weld on)	Forged Steel Threaded Half Coupling, ASTM A105. 3000#, NPT Threads.	Bonney Forge ANVIL Allied Piping Products
UTILITY BOX	Up to 4" service for manifold meter	Jensen W-300, W-500
VALVE STEM EXTENSION, STEEL	Round or Square 1-1/2" Diameter Steel Rod, Welded Construction, Hot Dipped Galvanized with Top Centering Ring and AWWA 2" Operating Nuts Top and Bottom.	Pipeline Products SX-900 South Bay Foundry E4160
VALVE, BALL WITH LOCKING TABS 3/4" & 1"	3/4" & 1" Bronze, Straight, FIP x Meter Swivel with Locking Tabs and Purple. Handle	Ford B13-332W Ford B13-444W Jones J-1 908W A.Y. McDonald 6101MW Mueller B-24351-1

Item	Description	Manufacturer
VALVE, BUTTERFLY (150 PSI)	14" and Larger, AWWA C504, Class 150B with Ductile-Iron Body. Thermosetting or Fusion Bonded Epoxy Coated and Lined. Class D or E Flange x Flange Ends.	Dezurik AWWA Mueller Lineseal III Pratt Groundhog
VALVE, BUTTERFLY (250 PSI)	14" and Larger, AWWA C504, Class 250B with Ductile-Iron Body. Thermosetting or Fusion Bonded Epoxy Coated and Lined. Class F Flange x Flange Ends.	Dezurik BAW 250 Mueller Lineseal XP 250 Pratt Groundhog
VALVE, COMBINATION AIR RELEASE & AIR/VACUUM, UP TO 2"	Single Cast Body with Stainless Steel Internal Parts, BUNA-N seats per AWWA C512, and Epoxy Coated Interior per AWWA C550. N.P.T. Threaded Inlet and Outlet. 300 PSI rated Body and Internals. Suction screen required.	APCO 143C APCO 145C Crispin UL Series Val-Matic 201 C.2 Cla-Val 33A Pratt WCV 01
VALVE, AIR RELEASE & AIR/VACUUM, LARGER THAN 2"	Single Body Style Combination Air Release and Air/Vacuum Valve. Stainless Steel Internal Parts, BUNA-N seats per AWWA C512, with Protection Hood and Epoxy Coated Interior per AWWA C550. Flanged 125# or 250# Inlet. 300 PSI Rated Body and Internals. Suction screen required.	Crispin UL Series Val-Matic 200 Series Cla-Val Series 35 Vent-O-Matic RBX Series APCO 150 Series Pratt WCV 01
VALVE, GATE, RESILIENT WEDGE	4" Through 12", Non-Rising Low Zinc Bronze or Stainless Steel Stem, Ductile-Iron Body and Bonnet, Stainless Steel Trim Bolts, Encapsulated Wedge per AWWA C509 or C515 with Epoxy Coated Interior. 250 PSI Rating. Flanged ends.	American FC, Series 2500 American R/D AVK 45 Clow 2639 F6100 Series Kennedy Ken-Seal II, KRSR Mueller 2361 M&H 4067 M&H 7067 U.S. Pipe Metroseal U.S. Pipe Metroseal 250 AFC Series 2500
VALVE, PRESSURE REDUCING	For Water Main Pressure Reducing, 4" through 16"	Ames 910/610 Series Cla-Val 90G-01 Singer 106 PR, 206 PR Watts ACV 115E Series
VALVE, PRESSURE RELIEF AND SUSTAINING	For Water Main Pressure Reducing and Sustaining, 4" through 16"	Ames 920/620 Series Cla-Val 50-01, 650-01 Singer 106 RPS, 206 RPS Watts ACV 116E Series

Item	Description	Manufacturer
VAULT, ACCESS DOOR	Vault Access Door, Dual Door Configuration, Spring Loaded and Counter Balanced, with Inset for Padlock. H-10 Parkway or H-20 Street Loading Required. Submittal Required.	Bilco Type AD-JL
VAULT, LADDER UP	Vault Ladder Extension, Retractable, 48" Extension.	Bilco Ladder-Up Pipeline Products VL-100
VAULT, PRECAST CONCRETE	For Pressure Reducing Stations, Meters Reservoir Altitude Valves, etc. Various Sizes. Precast Base, Sections and Top with Aluminum Two Leaf Access Door. Submittal Required.	J & R Eisel Brooks
WATER TEST STATION ENCLOSURE	Single Lockable Door, Powder Polyester Coated. 6" dia (ID)	Koraleen Enterprises
WIRE, CATHODIC	Stranded Copper, 600 Volt Rated Insulation, 7/64" Thick High Molecular Weight Polyethylene (HMW/PE) Insulation Jacket. Use the Wire Sizes and Insulation Jacket Colors of Wire as Required in Standard.	
WIRE, TRACER	#14 AWG Solid Copper OF Type Wire, with Cross Linked Polyethylene Insulation. White or Yellow in Color. For direct burial.	Cosberg Industries Paige Baron Northtown