

ENGINEER'S LIST OF APPROVED ITEMS

POTABLE WATER SYSTEM

General

1. All products must be NSF 61 approved for potable water service
2. All products with brass or bronze must be lead free
3. Advanced written approval from the City Engineer is required to use "Approved Equal" products.

1. Fire Hydrant

- a. Use: an active fire protection measure.
- b. Specifications – All areas
 - i. Maximum distance from fire hydrant to all sides of structure:
 - 1. Commercial: 450 feet (300 foot supply, 150 foot hose)
 - 2. Residential: 650 feet (500 foot supply, 150 foot hose)
 - ii. Color:
 - 1. Body: “Cotati Green” to match existing City fire hydrants.
 - 2. Top/Nozzle Caps: Reflective paint color to match NFPA 291 designation, as follows:
 - a. Light Blue: 1,500 gpm or greater (Class AA)
 - b. Green: 1,000 – 1,499 gpm (Class A)
 - c. Orange: 500 – 999 gpm (Class B)
 - d. Red: Less than 500 gpm (Class C)
 - iii. Testing: All hydrants shall be flow tested in a manner acceptable to the City, including collection of static and residual system pressures.
- c. Approved Products

CLOW F75	Residential (one 4½-inch and one 2½-inch outlets)
CLOW F76	Commercial (one 4½-inch and two 2½-inch outlets)
Approved Equal	

2. Tracing Wire

- d. Use: to assist in locating pipes and service lines after they have been buried in the ground.
- e. Specifications
 - iv. TWHN solid core
 - v. Blue
 - vi. Insulated copper wire #14
 - vii. Fasten to pipe
 - viii. UL listed, CSA Certified
- f. Approved Products
 - Pro-Trace
 - Approved Equal

3. Tracing Wire Service Splice

- a. Use: Splicing the copper service tracer wire into the water main copper tracer wire
- b. Split Nut Specifications
 - i. High strength bronze alloy split nut with copper pressure bar
 - ii. Sized to accommodate splice of two 14 AWG wires
 - iii. UL listed, CSA Certified
- c. Splice Protector Specifications
 - i. Clamshell-like outer plastic closure to encapsulate the splice
 - ii. UL Approved
 - iii. Specifically designed for electrical applications up to 600 volts or equivalent by providing a permanent water tight seal.
- d. Approved Products – Split Nut
 - Grainger 6CYZ5
 - Approved Equal
- e. Approved Products – Splice Protector
 - UraSeal ES200SV
 - Approved Equal

4. Water Service Line

- a. Use: Customer water service line from water main
- b. Specifications – HPDE Only
 - i. Blue
 - ii. AWWA C901 / ASTM D2737
 - iii. PE4710 High Density Polyethylene (HDPE)
 - iv. SDR 9 (250 psi pressure class)

- v. Copper Tube Size (CTS)
- c. Approved Products – HPDE Only
 - Performance Pipe Driscoplex 5100 Ultraline
 - Centennial CenCore
 - Approved Equal

5. Water Service Insert (HDPE Service Only)

- a. Use: Insert for connections on both ends of HDPE water service lines
- b. Specifications
 - i. Stainless Steel
- c. Approved Products
 - A.Y. McDonald 6133T
 - Approved Equal

6. Tapping Service Saddle

- a. Use: Tap for customer water service line
- b. Specifications
 - i. Female Iron Pipe Thread (FIPT)
 - ii. 200 psi working pressure
 - iii. Sealed EPDM O-ring outlet
 - iv. Brass or bronze body / flattened silicon bronze double straps **(ACP/DIP ONLY)**
 - v. Brass or bronze body / 304L stainless steel double straps **(C900 ONLY)**
- c. Approved Products – ACP/DIP Only
 - Mueller BR2B
 - Jones J-979
 - Ford 202B
 - Approved Equal

d. Approved Products – C-900 Only

- Mueller BR2S
- Jones J-969
- Ford 202BSD
- Approved Equal

7. Ball Corporation Valves

- f. Use: Customer water service line shut off at water main
- g. Specifications
 - i. Male Iron Pipe Thread (MIPT) for Service Saddle
 - ii. Copper Tube Size (CTS) Compression Connection for *new* water services

- iii. Copper Tube Size (CTS) Pack Joint Connection for *retrofit* water services
- iv. 100 psi working pressure
- v. ANSI/AWWA C800
- vi. Brass alloy body (ASTM B62)
- h. Approved Products
 - Mueller B-25028
 - Approved Equal

8. Angle Meter Ball Valves

- g. Use: Customer water service shut off on both sides of water meter
- h. Specifications
 - i. Copper Tube Size (CTS) Compression Connection for water service
 - ii. Female Iron Pipe Thread (FIPT) for house side connection
 - iii. Meter swivel nut for meter connections
 - iv. 100 psi working pressure
 - v. ANSI/AWWA C800
 - vi. Brass alloy body (ASTM B62)
- i. Approved Products – Street Side
 - Mueller B-24258
 - Jones J-1963WSG
 - Approved Equal
- a. Approved Products – House Side
 - Mueller B-24265
 - Jones J-1966W
 - Approved Equal

9. Meter Boxes and Covers

- a. Use: Vault to access angle meter stops and customer meters
- b. Specifications
 - i. High density reinforced concrete box
 - ii. Non-settling shoulders
 - iii. Reinforce concrete lid with Probe Hole (Non-Traffic Only)
 - iv. Polypropylene face: ASTM D1693
 - v. Steel Checker Plate Cover, 6-inch round self-closing reading lid (Traffic Only)
- c. Approved Products – Boxes (3/4" Meter)
 - Old Castle Precast B12Box (Christy)
 - Approved Equal

d. Approved Products – Boxes (1" Meter)

Old Castle Precast B16Box (Christy)
Approved Equal

e. Approved Products – Lids (3/4" Meter)

Old Castle Precast B12P / B12-61G (Traffic)
Approved Equal

f. Approved Products – Lids (1" Meter)

Old Castle Precast N16RP / B16-61G (Traffic)
Approved Equal

1. U Branch Connection

- a. Use: Yoke to split service at property line for 2 customer meters
- b. Specifications
 - i. Copper Tube Size (CTS) Compression Connection for water service
 - ii. Male Iron Pipe Thread (MIPT) for meter connection
 - iii. Bronze / Brass
- c. Approved Products

Mueller H-15363
Approved Equal

2. Angle Meter Ball Valves

- a. See Standard 863, House Side

1. Air/Vacuum Relief Valve

- a. Use: Release air, break vacuum on water main line
- b. Specifications
 - i. Solid cylindrical HDPE floats
 - ii. Barrel: Stainless Steel AISI 304L
 - iii. Top/Bottom Flange: Stainless Steel AISI 304
 - iv. National Pipe Thread (NPT) screwed inlet/outlet
 - v. Minimum pressure rating: 276 psi
- c. Approved Products

Vent-o-mat RBX-1621
Approved Equal

2. Angle Ball Valve – Inlet to Air/Vacuum Relief Valve

- a. Use: Shut off for air/vacuum relief valve at utility vault
- b. Specifications
 - i. Copper Tube Size (CTS) Compression Connection for water service
 - ii. Female Iron Pipe Thread (FIPT) for air/vacuum valve
 - iii. 100 psi working pressure
 - iv. ANSI/AWWA C800
 - v. Brass alloy body (ASTM B62)
- c. Approved Products

Mueller B-24274
Approved Equal

3. Tracing Wire Service

- a. See Engineering approved Standard 863 for details.

4. Tracing Wire Service Splice

- b. See Engineering approved Standard 863 for details.

5. Water Service Line

- a. See Engineering approved Standard 863 for details.

6. Water Service Insert (HDPE Service Only)

- b. See Engineering approved Standard 863 for details.

7. Ball Corporation Valves – Mainline shutoff

- a. See Engineering approved Standard 863 for details.

ENGINEER'S LIST OF APPROVED ITEMS

SANITARY SEWER SYSTEM

General

1. Advanced written approval from the City Engineer is required to use "Approved Equal" products.

1. Cover and Frame

- a. Use: Secure access for sanitary sewer mainhole
- b. Specifications
 - i. Ductile iron, ASTM A536
 - ii. Hinged Lid with Sanitary Sewer Badge
 - iii. AASHTO H-20 load rated
 - iv. Elastomeric seating gasket
 - v. Slip resistant, ASTM C1028
 - vi. Hinge infiltration plug, closed pick holes
- c. Approved Products

CertainTeed Pamrex
Approved Equal

2. Grade Rings

- a. Use: Adjust manhole frame to street grade
- b. Specifications
 - i. Injection molded HDPE, ASTM D4976
 - ii. AASHTO H-20 load rated
- c. Approved Products

LadTech, Inc LadTech Adjusting Rings
Approved Equal

3. Expanding Adhesive Sealant

- a. Use: Water sealant between cone/grade ring and grade ring/manhole frame
- b. Specifications
 - i. Single component, closed cell, hydrophobic polyurethane
 - ii. Water activated
 - iii. Expanding foam to fill voids
 - iv. Designed for sanitary sewer environment
- c. Approved Products

Seal Guard, Inc XSeal
Approved Equal

4. Adhesive Tape Wrap

- a. Use: Water sealant for horizontal concrete and HDPE grade ring joints
- b. Specifications
 - i. Pre-formed, cold-applied, self adhesive pipe wrap

- ii. Elastomer and resin bonded to a woven highly puncture-resistant polymer
- iii. Adhesive impregnated with an integrated primer
- iv. Thickness: 50 mil ± 2 mils
- v. Conforms to ASTM C209
- c. Approved Products
 - Tapecoat Chase Tapecoat M50 RC
 - Approved Equal

5. Manhole Base, Barrel, and Cone Structure

- a. Use: Manhole structural components to access sanitary sewer system
- b. Specifications
 - i. Reinforced precast concrete, ASTM C478
 - ii. Conforms to type V cement, ASTM C150
 - iii. Cast in pipe to manhole connectors
 - iv. Match incoming pipe material
 - v. Loading: AASHTO H-20, soil, groundwater.
- c. Approved Products
 - Old Castle Precast
 - Jensen Precast
 - Cook Concrete Products
 - Pirahana Pipe

6. Manhole Interior Coating

- a. Use: Protective coating to reduce groundwater infiltration and corrosion
- b. Specifications
 - i. Concrete coating for sanitary sewer environment
- c. Approved Products
 - XYPEX XYPEX Concentrate
 - BASF Tegraproof
 - Approved Equal

7. Pipe to Manhole Connectors

- a. Use: Connection for sanitary sewer pipe to manhole
- b. Specifications
 - i. Flexible watertight connector, ASTM C923
 - ii. Integrally cast in manhole base or barrel, as applicable
 - iii. Nitrile or equivalent if groundwater contamination

c. Approved Products

A-Lok Products	A-Lok X-Cel Compression Connector
Approved Equal	

8. Manhole Joint Sealing Compound

a. Use: Apply two continuous rings at manhole horizontal joints to seal for water

b. Specifications

- i. Low permeability water sealant for horizontal joints
- ii. Conform to ASTM C990
- iii. Designed for sanitary sewer environment
- iv. Pre-formed, cold applied, adhesive rope-like butyl rubber gasket

c. Approved Products

Henry Company	RU 106 – RUBR-NEK LTM
Hamilton Kent	Kent Seal No. 2
Approved Equal	

9. Manhole Interior Patch Material

a. Use: Repair interior, horizontal joints, interior lifting rings

b. Specifications

- vi. Non-shrink
- vii. Non-metallic
- viii. Designed for sanitary sewer environment

c. Approved Products

XYPEX	Xypex patch and plug
Sika Corp	SIKA Set Mortar
Approved Equal	

10. Transition Couplings

a. Use: Slip coupling to protect sewer pipe material transitions from differential settlement at manholes

b. Specifications

- i. 304 Stainless steel hardware
- ii. Nitrile or equivalent if groundwater contamination
- iii. Designed for sanitary sewer environment

c. Approved Products

Romac	501
Approved Equal	

