City of Goodyear

Approved Materials List
for Water Production

Materials Testing and Inclusion Procedures

Manufacturers who would like materials considered for the approved materials list shall:

1. Comply with all the design criteria set forth for the approved materials.
2. Supply, at the manufacturer's expense, the materials to be tested. (Quantity to be determined by the City of Goodyear Water Resources Department)

Once the materials have been received, the Water Resources Department will visually inspect materials for defects and compliance with all City standards. The Water Resources Department will install or oversee the installation of all materials in the production-treatment system or other test sites as determined to be in the best interest of the City. Materials will be tested and evaluated for a minimum of one year, commencing on the date of installation. Evaluations will include but are not limited to:

1. Ease of installation.
2. Availability of parts.
3. Operational issues.
4. Quality of manufactured materials.
5. Number of moving parts.
6. Reliability of service.

If the materials supplied fails at any time during the one year testing period, the testing will be concluded immediately. If the materials successfully complete the testing period, Public Works will recommend the product to be included in the City of Goodyear Approved Materials List.

The Approved Materials List will be updated annually at the first of each year. New Manufactures and Models that have been approved by the City for inclusion on the list will be added at that time.

A maximum number of manufacturers will be approved for each category. Once a category has been satisfied, manufacturers successfully completing the test requirements will be added to a Pending Approved Materials list. Pending materials will be listed sequentially according to successful completion of testing. Materials presently on the Approved Materials List may be omitted from the list due to:

1. a change in service/availability.
2. a change in product design.
3. bankruptcy.
4. consistent product failure.
5. any reasons deemed appropriate by the Water Resources Staff.

If an approved material is taken off the list for any of the above reasons, the first pending material will be added to the list.

Water Production and Treatment Facilities Materials

Fire Hydrants (4 Manufacturers)

Manufacture	Model
Mueller	Super Centurion
American Flow Control	Waterous Pacer WB-67-250
Clow	Medallion F2545
Kennedy	Guardian K81D

Requirements

Meet AWWA Standard C502
UL 246 approved
Dry barrel hydrant
Preference will be given to hydrants manufactured and assembled in the United States
Method of lubrication shall be food grade oil or grease
Operating nut shall be 1-1/2 inches pentagon (standard)
Hose and pumper threads (male) shall be brass and field replaceable
Threads shall be "National Standard"
Direction of opening shall be counterclockwise (left)
Inlet connection shall be mechanical joint
Shall include "traffic flange"
Size of hydrant valve opening shall be 5-1/4 inches
2 hose nozzles (2-1/2 inches) and 1 pumper nozzle (4-1/2 inches)
All public hydrants shall be painted yellow.
All private hydrants shall be painted red.

Fire Hydrant Grade Adjustments

Requirements

Extensions shall **not** be used to reach finish grade for **new** fire hydrant installations.

Manufacture	Model
Assured Flow Sales	Grade Loc

Where the finish grade around an **existing** fire hydrant is changed, an extension kit, installed per the manufacturer's specifications, may be used.

Only one extension may be used per hydrant. The extension kit must be manufactured by the original fire hydrant manufacturer. No after market parts are allowed.

Backflow and Cross-Connection Devices

Requirements

Refer to the approved assemblies list published by the USC Foundation for Cross-Connection Control and Hydraulic Research for backflow prevention and cross-connection devices and assemblies that are approved for use in the City.

Valves (8 Manufacturers)

Gate Valves (5 Manufacturers)

Manufacture	Model
American Flow Control	AFC 2500-1
Clow	Style 2638 or 2639
M&H	Style 7000
Kennedy	Style 7000
Mueller	Series 2361 or 2362

Requirements

Meet AWWA Standards C515 and C550
NSF 61 approved
UL 262 approved
Valves body shall be ductile iron and meet or exceed reduced wall standards
Valve wedge shall be fully encapsulated with nitrite rubber
Valves shall be epoxy-coated inside and out
Stem o-rings shall be replaceable with the valve fully open at rated working pressure
Direction of open shall be counterclockwise (left)
All fasteners shall be stainless steal
Preference will be given to gate valves manufactured and assembled in the United States

Note: The above requirements also apply to OS&Y and NOS&Y valves utilized in water production pumping stations.

Butterfly Valves (5 Manufacturers)

1. Butterfly valves are required on distribution mains larger than 16 inches.
2. Butterfly valves are required on all above ground lines 8" and larger that are installed at well sites and pump stations.

Manufacture	Model
Clow	Series 4500 or 1450
Mueller	Lineseal III
Kennedy	Series 4500 or 1450
M&H	Series 4500 or 1450
Grinnell	Series 8000
Keystone	No Preference

* All valves require hand wheels

Requirements

Meet AWWA Standards C504 and C550
NSF 61 approved
UL approved
The valve disc shall be fully encapsulated in nitrite rubber
Valves shall be epoxy coated inside and out
All fasteners shall be stainless steal
Direction of open shall be counterclockwise (left)
Preference will be given to butterfly valves manufactured and assembled in the United States
Disk rotation to be 90 degrees with open/close indicator on gear box
Valves shall have a positioning indicator and shall be motorized actuator compatible

Pressure Reducing, Sustaining and Altitude Valves (1 Manufactuer)

Manufacture	Model
CLA-VAL	No. 92-01, 50-01, and 650-01

Requirements

Ductile iron body
Diaphragm type, class 150
Epoxy coated inside and out
Tested at a minimum pressure of 175 psi
150 lb flanged ends

Air/Vacuum Release Valves (2 Manufacturers)

Manufacture	Model
ARI	No. D-040 - Comb. air valve "Barak", D-025
ARI	No. D-060-C - Comb. air valve (high flow)
ARI	No. D-025
Crispin	UL-10 1" Air relief Valve
Crispin	UL-20 2" Air Relief Valve

Water Meters (4 Manufacturers)

***Note - Appropriate make, model, and manufacturer is to be determined by the Water Resources Department. All meters are supplied by Water Resources.**

Positive Displacement Meters 3/4" - 2"

Manufacture	Model
Sensus	SR 2
Neptune	T-10

Turbo Meters 1-1/2" - 8"

Manufacture	Model
Sensus	W-Series
Neptune	HP-Turbine

Compound Meters 3" - 6"

Manufacture	Model
Sensus	SRH
Neptune	Tru/Flow

Fireline Fire Service Meters 6"

Manufacture	Model
Sensus	Compact Fireline w/ULFM Strainer

Detector Check Meters

Manufacture	Model
Neptune	T-10

Magnetic Meters

Manufacture	Model
Endress & Hauser	No Preference
Ultra - Mag	No Preference

Meter Reading Devices

Radio Read (1 Manufacturer)

Manufacture	Model
Sensus	520 Touch Coupler MXU

Touch Read (1 Manufacturer)

Manufacture	Model
Sensus	TRPL

Water Boxes

3/4" - 2" Meter Boxes

Pre-cast concrete meter boxes
Steel lid with a 1-7/8" pre-drilled hole
A #2 meter box shall be used for 3/4" and 1" water meters
A #4 meter box shall be used for 1-1/2" and 2" water meters and Air Relief Valves (ARV)

3" and above Meter and underground PRV's to be installed in a vault.

A pre-cast concrete vault with aluminum lids is required per City Standard Detail G-3313

Valve Boxes - Installed per M.A.G. Detail 391-1 Type A with cast iron frame and cover with concrete collar.

8" Concrete Riser Material
8" PVC C-900 Riser Material

Water Service Parts

Water Mains

Requirements
All water mains shall be Ductile Iron Pipe
Meet AWWA Standard
Class 250 minimum for mains less than 24 inch in diameter
Class 200 for mains 24 inch and larger in diameter

Water Services

Requirements
Minimum size service line is 1"
Services 2" and smaller require Type "K" soft seamless annealed copper
Services 3" and larger require ductile iron pipe

Water Service Saddles (3 Manufacturers)

Manufacture	Model
Ford	Style 202B
AY McDonald	3826
Mueller	BR2B

Requirements
Meet AWWA Standard C800
Double strap brass saddle
Thread shall be female iron pipe

Corporation Stops (3 Manufacturers)

Manufacture	Model
Ford	FB1100-TA
AY McDonald	4104B-22
Mueller	P25028-10

Requirements
Meet AWWA Standard C800
Inlet threads shall be iron pipe
Shall utilize a ball valve
The outlet shall utilize a compression style pack joint with a set screw

Meter Valves/Curb Stops (3 Manufacturers)

Manufacture	Model
Ford	BFA43-777W, BA43-444W
AY McDonald	4602B-22
Mueller	P-24258, P-24276

Requirements

Meet AWWA Standard C800
Angle stop ball valve with 90 degree Tee Head rotation
Padlock wings
The inlet shall utilize a compression style pack joint with set screw
1" curb stops shall have a swivel meter coupling to allow for meter installation
2" curb stops shall be flanged, have elongated bolt holes allowing for either 2" and 1 1/2" meters, and allow for drop in rubber gaskets

Well Site and Pump Station Equipment

Chlorination Equipment (2 Manufacturers)

Manufacture	Model
Hammonds	HTS-XX (Actual model number will be determined by required flow from site)
Fiberglass Building	WFS 1012

Well and Booster Pumps (3 Manufacturers)

Manufacture	Model
Goulds	Water Lubricated and Submersible
National	Water Lubricated and Submersible
American Turbine	Water Lubricated and Submersible

Chemical Fee Pumps/Motor (Set) (2 Manufacturers)

Manufacture	Model
Pulsa Feeder pump	25HJ
Baldor Motor	IDWNM3546T

Well Motors (2 Manufacturers)

Manufacture	Model
US Motors	High Efficiency
Baldoor	No Preference

Variable Frequency Drives (VFD) (3 Manufacturers)

Type	Manufacture	Model
R.O.	ABB Drive	No Preference
Deep Wells	Allen Bradley	Rockwell
	Toshiba	No Preference
Boosters	Safetronics	No Preference
	Altivar	Square D

Pump Shaft / Seals (2 Manufacturers)

Manufacture	Model
Chesterton Seals	155-10 Pat. Full mechanical seal
John crane Seals	Model based on shaft size

Pump and motor shaft shall be solid, with copuler and keyway
The diameter shall be 1-1/2 inch.

Well Air Compressors (2 Manufacturers)

Manufacture	Model
Ingersol Rand	2475X5 Food grade oil lubricated
Champion	BE-2B-2-3 Food grade oil lubricated

Use these models aunless application by design requires larger model.

Instrumentation

Process Logic Controler (PLC) (1 Manufacturer)

Manufacture	Model
Allen-Bradley	L32E Compact Logix

Human Machine Interface (HMI) (1 Manufacturer)

Manufacture	Model
Allen-Bradley	Panel View Plus 1000 , 10.4-inch screen

Turbidity Meter (1 Manufacturer)

Manufacture	Model
HACH	1720E Display Se100

Nitrate Analyzer (1 Manufacturer)

Manufacture	Model
HACH	FSPUVNitrate Display Se100

Chlorine Analyze (1 Manufacturer)

Manufacture	Model
HACH	Total/Free - CL17

pH Meter (1 Manufacturer)

Manufacture	Model
FoxBoro	870ITPH-FWFNZ- Sensor 871-1F-3

Conductivity Meter (1 Manufacturer)

Manufacture	Model
FoxBoro	870ITEC-FXFNZ

Tank Level Indicator (1 Manufacturer)

Manufacture	Model
Siemens	Multi Ranger 100

Pressure Transmitters (1 Manufacturer)

Manufacture	Model
FoxBoro	870IT I/A Series

Miscellaneous Materials

Tapping Sleeves (0 Manufacturers)

Manufacture
Under Review

Requirements

Meet AWWA Standard C207

Full Circle Repair Clamps (3 Manufacturers)

Manufacture	Model
Romac	SS1, SL1
Ford (Single Band)	F1
Smith-Blair	221, 226, 229, 238

Flex Couplings (3 Manufacturers)

Manufacture	Model
Romac	XR-501 Extended Range
Ford	FC2W Transition Coupling
Total Piping Solutions	HyMax 2000 Series

Flange Coupling Adapters (3 Manufacturers)

Manufacture	Model
Smith-Blaire	912
Romac	FC400, FCA 501
Ford	FFCA

Restrained Joints Mechanical Style (4 Manufacturers)

Manufacture	Model
EBBA Iron	1100 (Mega Lug)
Romac	Roma Grip
Ford	UFR 1400
Star Pipe Products	Stargrip Series 3000

Restrained Joints Gasket Style (4 Manufacturers)

Manufacture	Model
U.S. Pipe	Field Lock Gasket

Retro Reflective Pavement Markers (2 Manufacturers)

Manufacture	Model
Fire Lite Amerace	No Preference
Signal Products Division	No Preference

Electronic Locators (1 Manufacturer)

Manufacture	Model
3m	1403-XR (passive)
3m	1423-XR/ID (ID marker as water)

Note: Passive (non-programmable 1403-XR) locators are to be used on straight lengths of pipe only. Non-passive (programmable 1423-XR/ID) locators are to be used and programmed at any change in direction. See C.O.G. standard details.

Requirements

Self leveling
Operate at frequency 145.7 KHz
Operate at bury depth of at least 4 feet

Debris Caps (1 Manufacturer)

Manufacture	Model
SW Services Inc.	DC825 w/3M EMF 1413 Locating Coil

Requirements

Hollow member having a cylindrical outer surface
Flexible skirt that provides an outward seal
Rated to 50 pounds at a loading rate of 1 inch / minute
Molded per General Electric ABS #HIM 4500
Retaining prong for locating coil
3m locating device

Automatic Flushing Devices (1 Manufacturer)

Manufacture	Model
Kupferle	9800-WC Eclipse

Requirements

All fittings must be brass
Built-in sampling port

WATER QUALITY SAMPLING STATION (1 Manufacturer)

Manufacture	Model
Water Plus Co.	301W

Requirements

Koraleen XLT Sampling Station
Flush mounted lock
Sample valve stainless steel, ball valve 1/2" x 3/8" 800 psi.
Flush mounted gem cam lock with tubular key. All units are keyed alike.
The sampling station shall be 4 feet tall and 6 inches in diameter.