Appendix E

Approved Materials & Manufacturers

Toho Water Authority Approved Materials & Manufacturers

Sanitary Sewer Gravity and Force Main Materials

Sanitary Sewer Valves		
Air Release Valve Enclosures Sewer - Green	Water Plus Corp	107-G
	Hot Box Vent Guard	AVG 2036 Top, 36" Tall, GP 3232 Base
		AVG 2041 Top, 41" Tall, GP 3232 Base
	Mueller	SGE142435CGA00
Air Release Valves	ARI	D-020 - Stainless Steel
		D-025 - Stainless Steel
		D-025L - S.S., Lift Station
	H-Tec	986 - Stainless Steel
	Vent O Mat	RGX II
Check Valves	Kennedy	1106AW
	M&H	159-02A
	Mueller	A-2600-6-01B1
	GA Industries	220-U
Gate Valves	Clow	AWWA C509 or C515, Resilient Wedge, Fusion Bond Epoxy Coating
	Mueller	
	American	
Valve Box Lids	Cast Iron, Round	
Valve Box (3' - 10' of Cover)	2 Piece Cast Iron, Screw Type, No Extensions Allowed	
Valve Box (> 10' of Cover)	American	Trench Adapter
Sanitary Sewer Manholes		
Precast Polymer Manholes & Wetwells	Armorock	
	Rockhard	
Concrete Admix	Kryton International	KIM K-301R (with red dye)
	Xypex Chemical Corp	Xycrylix (with red dye)
	Xypex Chemical Corp	Admix C-1000Red (with red dye)
Manhole Frame and Cover	U.S. Foundry	USF-663-AB-MK
Manhole Inflow Barrier	USSI	HDPE Inflow Defender
Manhole Jointing Material	Henry	RN-101
		RN-103
	ConSeal	CS-102B
	Martin Asphalt Co.	Evergrip 990
Manhole External Joint Sealer	Canusa-CPS	Wrapid Seal
	Garlock	Riser Wrap
Pipe to Manhole Seal	Trelleborg	Kor-N-Seal
	Hamilton Kent	Tylox Cobra Boot
	A-Lok	Z-Lok
Sanitary Sewer Pipe & Fittings		
Mechanical Joint Fittings	Tyler Union	Protecto 401 or Permox CTF Lining Required
	U.S. Pipe – Mueller	
	American	
	Star Pipe	
	McWane	
	Sigma	
	SIP	
PVC Fittings	SDR 26 Minimum	
Pipe, PVC Force Main	Diamond Sanderson Westlake JM Eagle National Pipe	C900 / C905 DR25 Minimum 4" - 12" DR18 Minimum > 12"
Pipe, PVC Gravity	SDR 35 Minimum	
Pipe, HDPE	C906 DR17 Minimum	
PVC Bell Restraints	Tyler Union	Series 3000
	Romac	600 Series
	EBAA Iron	Tru-Dual 1500
	Ford	Uni-Flange Series 1390
	Star Pipe Products	Series 1100
	Sigma	PV-Lok Series PWP
	SIP	EZ Grip EZPVCPTP

Sanitary Sewer Pipe & Fittings (Cont'd)		
DIP Bell Restraints	Romac	600 Series
	EBAA Iron	Tru-Dual 1500TD
	Ford	Uni-Flange Series 1390
	Sigma	PV-Lok Model SLDEH
	SIP	EZ Grip EZDPTP
Mechanical Joint Restraints	Tyler Union	TufGrip
	Romac	GripRing
	EBAA Iron	Megalug
	Ford	Uni-Flange
	Star Pipe Products	StarGrip 4000
	Sigma	One-Lok
	SIP	EZ Grip EZD (DI)
		EZ Grip EZPVC (PVC)
Casing Spacers	Cascade Waterworks	Fusion Bonded Coating, 2" Runners, 12" Band
	Garlock	
	BWM Company	
	Advance Products	
	CCI Piping Systems	
Locate Tape	3M	EMS 7900-XT
Marker Tape	Metallic, 3" Minimum	
Locate Ball	3M	Extended Range Ball Marker
Locate Wire	Directional Drill: 2 - 8 Gauge, 1 Insulated Solid Copper + 1 Insulated Copper Clad Steel Core	
Sanitary Sewer Tapping Sleeves & Saddles		
Service Saddles, Stainless Steel	Ford	FS313
	JCM	502
	Smith-Blair	372
	Total Piping Solutions	T3-316
Tapping Sleeves, Full Body Stainless Steel	JCM	432
	Romac	6606BB
	Ford	FTSS
	Cascade	CST-EX
	Total Piping Solutions	Triple Tap
Lift Station Materials		
Alarm Horn	WHEELOCK	31T-115R
Alarm Light	FEDERAL SIGNAL	141ST-120-R
Alternator	MPE	025-120-13SP
Aluminum Pump-out Discharge	Coupling Co., Inc.	6" Female Cam-Lock with Dust Plug
Area Light	RuggedGrade	RG-S300WAT3
Automatic Switch Gear	Russelectric (Siemens)	RMTD Series
Check Valves	Valmatic	Swing-Flex with Jack Screw
	Clow	Swing Flex withJack Screw
	Kennedy	KenFlex with Jack Screw
Conduits wet well to panel)	Rigid Aluminum	
Control Circuit Breaker	Square D – Schneider Electric	QOU120
Control Circuit Transformer	Square D – Schneider Electric	
Control Panels (CP)	ECS	
	Stacon, Inc.	
	Unitron Controls	
Diesel Standby Pump	Thompson Pumps	
Elapse Time Meter	INTERMATIC	FWZ72K120ST
Emergency Circuit Breaker	Square D – Schneider Electric	QOU, FAL, KAL, LAL
Enclosure	Hoffman - Pentair	
	Tanco – Thomas & Betts	
Flasher	SSAC	FS-126
Floats	Roto-Float	N. C.
Fuses	Bussmann	
Generator Circuit Breaker	Square D	
Generator Receptacle	Crouse-Hinds	Male Cam-Lok, 45 Degree Panel Mount,Threaded Post
Generator Systems	Cummins	
	Caterpillar	
Geotextile Fabric	U.S. Fabrics	US 315
Ground Test Enclosure	Quazite - Hubbell	AC111817KEO

Lift Station Materials (Cont'd)		
Hand-off-auto Selector	Square D – Schneider Electric	9001-SKS
Horn Silence Button	Square D – Schneider Electric	9001-SKR-1U
Interior Panel Light	HOFFMAN	LEDA1S35
Magnetic Flow Meter	Endress-Hauser ProMag 500	Ethernet IP & 4-20 ma.
Main Circuit Breaker	Square D – Schneider Electric	QOU, FAL, KAL, LAL
Main Circuit Transformer	Square D – Schneider Electric	500SV43F
Moisture and Temperature Light	FEDERAL SIGNAL	141ST-120-R
Motor Circuit Breaker	Square D – Schneider Electric	QOU, FAL, KAL, LAL
Motor Starter - Standard	Square D – Schneider Electric	D-8536, NEMA Size 1, 2, 3
Odor Control System	Biorem	
	Evoqua	ZABOCS
Overload Heater	Square D – Schneider Electric	
Phase Monitor	MPE	001-DVM-118
Pilot Light	Square D – Schneider Electric	9001
Plug Valves	Valmatic	Full Port With Gear box and Hand Wheel
	Clow	
	Kennedy	
Pressure Gauges	Ashcroft	4" Fluid filled dial with isolator/ Range per plans
	H.O. Trerice Co.	
Radar Level Transmitter	Vega	C23
	Flow Line	LR81
Relay	Square D – Schneider Electric	750xbxrm4l-24a
	Square D – Schneider Electric	750xbxrm4l-120a
Resistor		5 watt, 2500 ohm
Run Indicator Light	Square D – Schneider Electric	9001
Safety Mat	NoTrax	Safety Stance 549 - 36”x64”
Soft Starter	Schneider Electric	ATS22
	Schneider Electric	ATS480
Submersible Pumps	Flygt (Xylem)	
	Sulzer	
	KSB	
Surge Protector	Square D – Schneider Electric	
Terminal Strips	Square D – Schneider Electric	9080
	Phoenix	UKK B3
Variable Frequency Drives (VFD)	Square D – Schneider Electric	
Wetwell Access Frames and Covers	Halliday	W2S with fall protection, slam lock, EPDM gasket and bit coating
Water & Reuse Main Materials		
Water & Reuse Main Valves		
Air Release Valve Enclosures Water -Blue Reuse - Purple	Water Plus Corp	Water - 107-B
		Reuse - 107-P
	Hot Box Vent Guard	AVG 2036 Top, 36” Tall, GP 3232 Base
		AVG 2041 Top, 41” Tall, GP 3232 Base
	Mueller	SGE142435CGA00
Air Release Valve	ARI	D-020 – Stainless Steel
		D-025 - Stainless Steel
	H-Tec	986 - Stainless Steel
	Ventomat	RBX
Pressure Reducing Valve	Ames	LF910GD
Check Valves	Kennedy	1106AW
	M&H	159-02A
	Mueller	A-2600-6-01B1
	GA Industries	220-U
Gate Valves	Clow	AWWA C509 or C515, Resilient Wedge, Fusion Bond Epoxy Coating
	Mueller	
	American	
Valve Box Lids	Cast Iron, Water - Round, Reuse - Square	
Valve Box (3' - 10' of Cover)	2 Piece Cast Iron, Screw Type, No Extensions Allowed	
Valve Box (> 10' of Cover)	American	Trench Adapter

Water & Reuse Main Tapping Sleeves		
Tapping Sleeves, Fabricated Steel	JCM	412
	Romac	FTS420 w/ Stainless Hardware
	Ford	FTSC
	Robar	6908
Tapping Sleeves, Full Body Ductile Iron Mechanical Joint	American Flow Control	2800
	Mueller	H-615
	JCM	414
Tapping Sleeves, Full body Stainless Steel	JCM	432
	Cascade	CST-EX
	Robar	6606BB
	Ford	FTSS
	Total Piping Solutions	Triple Tap
Line Stop	JCM	440 Type 3
Water & Reuse Main Pipe and Fittings		
Mechanical Joint Fittings	Tyler Union	Cement Lined
	US Pipe	
	American Ductile Iron Pipe Co.	
	Star Pipe	
	Clow	
	Sigma	
	SIP	
Pipe, Ductile Iron	American	Cement Lined
	U.S. Pipe	
	McWane	
Pipe, PVC	Diamond	C900/C905 DR18
	Sanderson	
	WestLake	
	CertainTeed	
	U.S. Pipe – Mueller	
	JM Eagle	
	National Pipe & Plastic	
	North American	
Pipe, HDPE	C906 DR11	
PVC Bell Restraints	Tyler Union	Series 3000
	Romac	600 Series
	EBAA Iron	Tru-Dual 1500
	Ford	Uni-Flange Series 1390
	Star Pipe Products	Series 1100
	Sigma	PV-Lok Series PWP
	SIP	EZ Grip EZPVCPTP
DIP Bell Restraints	Romac	600 Series
	EBAA Iron	Tru-Dual 1500TD
	Ford	Uni-Flange Series 1390
	Sigma	PV-Lok Model SLDEH
	SIP	EZ Grip EZDPTP
Mechanical Joint Restraints	Tyler Union	TufGrip
	Romac	GripRing
	EBAA Iron	Megalug
	Ford	Uni-Flange
	Star Pipe Products	StarGrip 4000
	Sigma	One-Lok
	SIP	EZ Grip EZD (DI)
		EZ Grip EZPVC (PVC)
Casing Spacers	Cascade Waterworks	Fusion Bonded Coating, 2" Runners, 12" Band
	Garlock	
	BWM Company	
	Advance Products	
	CCI Pipeline	
Locate Tape	3M	EMS 7900-XT
Marker Tape	Metallic, 3" Minimum	
Locate Wire	2 - 8 Gauge, 1 Insulated Solid Copper + 1 Insulated Copper Clad Steel Core	

Water & Reuse Main Pipe and Fittings (Cont'd)		
Fire Hydrants	Mueller	Super Centurion
	Kennedy	Guardian K-81A
		Guardian K-81D
	Waterous	Pacer 250
	Clow	Medallion
	U.S. Pipe	M94
	American Flow Control	B84B
Automatic Flushing Device	Environmental Enhancement Technologies USA	Hydro Guard HG-1
Water & Reuse Service Lines		
Polyethylene Tubing	Endot	EndoPure - Water
		EndoCore - Reuse
	ADS	Poly Flex - CTS
Corporation Stops (Pressure Tested with a Larger Overall Distribution System)	Mueller	Saddle Thread Inlet to Pack Joint Outlet, No Lead Brass, Ball Valve
	Ford	
	A.Y. McDonald	
Corporation Stops (Not Pressure Tested with a Larger Overall Distribution System)	Mueller	Saddle Thread Inlet to FIP Outlet, No Lead Brass, Ball Valve
	Ford	
	A.Y. McDonald	
Curb Stops	Mueller	Pack Joint to Swivel Meter Nut (3/4" - 1") or 2-Bolt Flange (1.5" - 2"), Padlock Wing, No Lead Brass, Ball Valve
	Ford	
	A.Y. McDonald	
Service Wye	Mueller	Pack Joint, No Lead Brass
	Ford	
	A.Y. McDonald	
Water & Reuse Service Lines (Cont'd)		
Meter Box - Potable Water, Single Meter, 3/4" & 1"	NDS	D1500-OLSB
		D1200-OLSB
Meter Box - Reuse Water, Single Meter, 3/4" & 1"	NDS	D1500-DVOLSP
		D1200-OLSP
Meter Box - Single Meter, 1.5" & 2"	DFW	DFW1730F-12-1T
		DFW1730F-18-1
Service Saddles	Ford	FC202
	Mueller	DR2S
	Smith-Blair	317
	Total Piping Solutions	T3
Service Saddles for HDPE	Smith-Blair	317, 4”- 16” Pipe
	Ford	FC202, 4”- 12” Pipe
	Romac	101N-H, 4”- 12” Pipe
	Total Piping Solutions	T3, 2” – 48” Pipe
Water & Reuse Meter and Backflow Assembly (3" And Larger)		
Potable	Neptune	Mach 10
Reuse	Neptune	Mach 10
Flanged Meter Strainer	Neptune (3" - 4")	53107, Rilsan Nylon-Coated DI
	Neptune (6" - 10")	52000, Rilsan Nylon-Coated DI
Flanged RPZ Backflow	Wilkins	X-375-OSY
	Apollo	4ALF-200-OSY
Flanged OS&Y Gate Valve Fusion Bond Epoxy Coated DI	AFC	2500, Fusion Bond Epoxy Coated DI
	Mueller	R-2361-6, Fusion Bond Epoxy Coated DI
	Kennedy	7068A, Fusion Bond Epoxy Coated DI
Flanged Fittings	Tyler Union	DI Fusion Bond Epoxy Coating
	Sigma	
	Matco Norca	
Flange Kit	Zinc plated w/ Red Rubber Gasket	
Pipe Supports	Cold Spray Galvanized	

Paint, Coatings, Ad-Mixtures and Liners		
Miscellaneous		
Concrete Admix	Kryton International	KIM K-301R (with red dye)
	Xypex Chemical Corp	C-1000 (with red dye)
	Xypex Chemical Corp	Xycrylix (with red dye)
Manhole Interior Surface Liner (Existing Structures with minimal concrete deterioration)	Sauereisen	SewerGard 210
	Raven Lining Systems	Raven 405
	CCI Spectrum	SpectraShield
	Imerys	SewperCoat
	Vortex	Aluminaliner
	GML Coatings	Green Monster Liner
	Sprayroq	Spraywall
Wet Well and Manhole Rehabilitation Coating (Existing Structures with significant concrete deterioration)	Sauereisen	F120/121 Underlayment + 210 Liner
	Raven Lining Systems, Inc.	Raven 405
	Vortex	Aluminaliner
	Sprayroq	Spraywall
	Imerys	SewperCoat
	GML Coatings	GML30-60 Underlayment + GML Primer + Green Monster Liner
Coatings for Wet Well Fittings		
Field primer	Sauereisen	Conoweld 501
	Tnemec	Zinc 90-97
Topcoat	Sauereisen	SewerGard 210GL
Coatings for Above Ground Pipe & Fittings (Water, Reuse & Sewer)		
Field primer	Metal Primer	
Topcoat	Aluminum Brush on Paint, Spray Not Permitted	
Toho Fire Hydrants	Silver	
Private Fire Hydrants	Per Hyrdrant Owner or Permitting Authority	