



## UTILITY APPROVED PRODUCT LIST

FEB 2020

Category				Submittal	Potable Water	Reclaimed Water	Wastewater	Manufacturer	Model Number	Notes	
<b>Piping</b>	Pressurized PVC AWWA C900-16	Standard Push-On Joint	4" and Larger	✓	✓	✓	JM Eagle	Blue Brute (C900)/ Big Blue (C905)	<p style="text-align: center;">Pipe size 14" shall only be used with prior written approval by Manatee County All PVC pipe shall be color-coded per service application</p> <p style="text-align: center;"><b>Potable/Reclaimed Water:</b> Pipe sizes 4" - 12": Pressure Class 235, DR 18, Ductile Iron Pipe Size (DIPS), AWWA C900-16 Shall have EPDM rubber gaskets with the letters "EPDM" factory embossed or etched into the gasket Pipe and gaskets for potable water shall be NSF61 certified</p> <p style="text-align: center;"><b>Wastewater:</b> Pipe sizes 4" - 36": Pressure Class 235, DR 18, DIPS, AWWA C900-16</p> <p style="text-align: center;"><b>Self-Restrained Push-On Joint:</b> All self-restrained push-on joint pipe shall be field checked for proper engagement per manufacturer's recommendations Pipe shall have weather-resistant, min. 6 mil thick, 4" wide, solid red PVC marking tape around bell</p> <p style="text-align: center;"><u>RieberLok:</u> Gaskets shall only be used on PVC C900-16 pipe <u>Bulldog Restraint:</u> Gaskets shall only be factory applied to Diamond Plastic "Lok 21" and JM Eagle "Eagle Loc 900" Pipe</p>		
				✓	✓	✓	Diamond Plastics Corp.	C900/Trans-21			
				✓	✓	✓	North American Pipe Corp.	C900/IB			
				✓	✓	✓	National Pipe & Plastics	Dura-Blue C900			
				✓	✓	✓	Sanderson Pipe	C900			
	Self-Restrained Push-On Joint	4" - 24"	✓	✓	✓	Bulldog Restraint	Bulldog Gasket				
		4" - 12"	✓	✓	✓	RieberLok	RieberLok Gasket				
	Gravity Sewer PVC	4" - 15"			✓	✓	✓	JM Eagle		Ring-Tite Gravity Sewer	<p style="text-align: center;">Pipe size 14" shall only be used with prior written approval by Manatee County</p> <p style="text-align: center;">Push-on joints shall use elastomeric gaskets in accordance with ASTM D3212 Pipe shall be color coded green for sewer applications</p> <p style="text-align: center;">Pipe sizes 4" - 15": Pipe Stiffness 115, SDR 26, ASTM D3034</p>
					✓	✓	✓	Diamond Plastics Corp.		Sani-21	
					✓	✓	✓	North American Pipe Corp.		ASTM D3034/IB	
✓					✓	✓	National Pipe & Plastics	Sewer ASTM D3034/F679			
✓					✓	✓	Sanderson Pipe	ASTM D3034/IB			
18" - 54"					✓	✓	✓	JM Eagle	Big Blue (C905)		
					✓	✓	✓	Diamond Plastics Corp.	C900/Trans-21		
					✓	✓	✓	North American Pipe Corp.	C900/IB		
					✓	✓	✓	National Pipe & Plastics	Dura-Blue C900		

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Piping	HDPE	For Mains	4" and Larger	✓	✓	✓	JM Eagle	HDPE (DIPS) Pressure Pipe	Pressure Class 200, PE4710, Ductile Iron Pipe Size (DIPS), DR 11, AWWA C906 Min. Cell Classification per ASTM D3350 shall be 445574  Pipe sizes 3" and 14" shall only be used with prior written approval by Manatee County All HDPE pipe must have color coded striping on 3-sides (120 degree apart) per service application  <b>Potable/Reclaimed Water:</b> For pipe sizes 4" - 12" Pipe sizes 16" and larger shall only be used with prior written approval by Manatee County Pipe for potable water shall be NSF61 certified  <b>Wastewater:</b> For pipe sizes 4" - 36"	
				✓	✓	✓	WL Plastics	PE 4710 (DIPS)		
				✓	✓	✓	GF Central Plastics	Design-Flow PE100/PE4710		
				✓	✓	✓	Performance Pipe	DriscoPlex 4000		
				✓	✓	✓	Endot	PE 4710 (DIPS)		
				✓	✓	✓	Charter Plastics	PE 4710 - Blue/Lavender/ Green Stripe		
	PE	For Services	2" and Smaller	✓	✓		Endot	Endopure	Pressure Class 250, PE4710, Copper Tube Size (CTS), SDR 9, AWWA C901 Min. Cell Classification per ASTM D3350 shall be 445574 Tubing shall be fully color coded blue for potable water or purple for reclaimed water services Tubing for potable water shall be NSF61 certified Butt-Fusion or CTS brass connections shall be used	
				✓	✓		ADS	Polyflex		
				✓			Charter Plastics	4710 - CTS Tubing		
	PEX			✓	✓		Rehau	Municipex	Pressure Class 200, PEXa 3306, Copper Tube Size (CTS), SDR 9, AWWA C904 Tubing shall be fully color coded blue for potable water or purple for reclaimed water services Tubing for potable water shall be NSF61 certified Butt-Fusion or CTS brass connections shall be used	

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Category				Submittal	Potable Water	Reclaimed Water	Wastewater	Manufacturer	Model Number	Notes
<b>Piping</b>	Ductile Iron AWWA C150/C151	Flanged Joint	4" and Larger	✓	✓	✓	American Cast Iron Pipe Company	Flanged Joint	<p style="text-align: center;"><b>Pipe Ratings:</b> Aboveground Installation: Flanged Joint, 250 PSI, Special Class 53 Buried Installation: Mechanical Joint, 350 PSI for 4" - 16", 250 PSI for 18" and larger</p> <p style="text-align: center;">Pipe size 14" shall only be used with prior written approval by Manatee County</p> <p style="text-align: center;"><b>Potable/Reclaimed Water:</b> For pipe sizes 4" and larger <u>Interior Coating:</u> Std. thickness cement lining per AWWA C104 <u>Exterior Coating:</u> Buried pipe shall have a std. 1-mil asphaltic coating per AWWA C151; aboveground pipe shall have a factory-applied epoxy primer <u>For uncontaminated soils:</u> Shall have EPDM rubber gaskets with the letters "EPDM" factory embossed and/or etched into gasket <u>For contaminated soils:</u> Shall have NBR or FKM rubber gasket Refer to Manatee County Public Works Utility Standards Section 1.4.2.F for gasket material details Pipe and gaskets for potable water shall be NSF61 certified</p> <p style="text-align: center;"><b>Wastewater:</b> <u>For force mains:</u> Pipe sizes 36" and larger <u>For lift station aboveground valve and metering assemblies:</u> Pipe sizes 4" and larger Holiday-free factory certification per ASTM G62, Method B (High-Voltage) shall be provided for the interior coating at the point of delivery <u>Interior Coating:</u> Green, factory applied dry film thickness 40-mil Tnemec Series 431 Perma-Shield PL or Permax CTF coating <u>Exterior Coating:</u> Buried pipe shall have a std. 1-mil asphaltic coating per AWWA C151; aboveground pipe shall have a factory-applied epoxy primer</p> <p style="text-align: center;"><b>Self-Restrained Push-On Joint:</b> All self-restrained push-on joint pipe shall have weather-resistant, min. 6 mil thick, 4" wide, solid red PVC marking tape around bell</p>	
				✓	✓	✓	McWane Ductile	Flanged Joint		
				✓	✓	✓	U.S. Pipe	Flanged Joint		
		Standard Push-On Joint		✓	✓	✓	American Cast Iron Pipe Company	Fastite Joint		
				✓	✓	✓	McWane Ductile	Tyton Joint		
				✓	✓	✓	U.S. Pipe	Tyton Joint		
		Self-Restrained Push-On Joint		4" - 24"	✓	✓	✓	American Cast Iron Pipe Company		Fastite Joint w/ Amarillo Fast-Grip Gasket (4" - 24")
					✓	✓	✓			Lok-Ring Joint (54" - 64")
					✓	✓	✓			Flex-Ring Joint (4" - 54")
	4" - 36"		✓	✓	✓	McWane Ductile	Tyton Joint w/ Sure Stop 350 Gasket (4" - 24")			
			✓	✓	✓		TR Flex Joint (4" - 36")			
			✓	✓	✓		U.S. Pipe	Tyton Joint w/ Field Lok 350 Gasket (4" - 16")		
	✓	✓	✓	HP Lok Joint (30" - 64")						
	✓	✓	✓	TR Flex Joint (4" - 36")						

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Piping	Pressurized PVC ASTM D2241	3" and Smaller	✓	✓		JM Eagle	Ring-Tite	<p><u>Shall only be used for potable/reclaimed water service casings under pavement</u></p> <p>Casing shall be color-coded per service application Pressure Class 200, SDR 21, Iron Pipe Size (IPS), ASTM D2241</p>
			✓	✓		Diamond Plastics Corp.	D2241	
			✓	✓		North American Pipe Corp.	ASTM D2241/IB	
			✓	✓		National Pipe & Plastics	Dura-Flow SDR Series	
	Pressurized Sch. 80 PVC ASTM D1785	2" and Smaller			✓	North American Pipe Corp. Products	-	<p><u>Shall only be used for grinder pump stations</u></p> <p>Iron Pipe Size (IPS), ASTM D1785 Only for working pressures up to 125 psi</p>
					✓	JM Eagle Products	-	
					✓	GF Central Plastics Products	-	
					✓	Charlotte Pipe Products	-	
					✓	Harrison Plastic Products	-	
	Fiberglass	Centrifugally Cast			✓	Hobas Products	-	<p><u>Shall only be used for slip lining existing gravity sewer main</u></p> <p>Bell and Spigot shall meet requirements of ASTM D3262 O-ring or profile type elastomeric gasket shall meet requirements of ASTM F477</p>
Filament Wound				✓	Flowtite Products	-		

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Category			Submittal	Potable Water	Reclaimed Water	Wastewater	Manufacturer	Model Number	Notes
<b>Fittings</b>	Ductile Iron AWWA C110/C153	For Pressurized PVC C900-16 and DI Pipe	✓	✓	✓	-	Sigma Corp. Products	-	<p style="text-align: center;"><b><u>Mechanical Joint Fittings (Buried Installations Only):</u></b>  <u>4" - 16"</u>: 350 psi pressure rating  <u>18" and larger</u>: 250 psi pressure rating</p> <p style="text-align: center;"><b><u>Flanged Fittings (Aboveground Installations Only):</u></b>  <u>All sizes</u>: 250 psi pressure rating</p> <p><u>For buried installations</u>: T-bolts, bolts, tie rods, nuts, washers, etc. shall be High Strength, Low Alloy Steel conforming to AWWA C111/ANSI A21.11-17 or ASTM A242. Hardware referenced above shall be coated with a blue fluoropolymer coating (Xylan 1424, FluoroKote #1 or AFT-PTFE-Blue). Alternatively, hardware shall be 316 SS.</p> <p style="text-align: center;"><u>For aboveground installations</u>: T-bolts, bolts, tie rods, nuts, washers, etc. shall be 316 SS</p> <p style="text-align: center;"><b><u>Potable/Reclaimed Water:</u></b>  <u>Interior Coating</u>: Double the std. thickness cement lining per AWWA C104  <u>Exterior Coating</u>: Buried fittings shall have a std. 1-mil asphaltic coating per AWWA C110/C153; aboveground fittings shall have a factory-applied epoxy primer  <u>For uncontaminated soils</u>: Shall have EPDM rubber gaskets with the letters "EPDM" embossed and/or etched into gasket  <u>For contaminated soils</u>: Shall have NBR or FKM rubber gasket            Refer to Manatee County Public Works Utility Standards Section 1.4.2.F for gasket material details            Fittings and gaskets for potable water shall be NSF61 certified</p> <p style="text-align: center;"><b><u>Wastewater:</u></b>            Holiday-free factory certification per ASTM G62, Method B (High-Voltage) shall be provided for the interior coating at the point of delivery  <u>Interior Coating</u>: Green, factory applied dry film thickness 40-mil Tnemec Series 431 Perma-Shield PL or Permox CTF coating  <u>Exterior Coating</u>: Buried fittings shall have a std. 1-mil asphaltic coating per AWWA C110/C153; aboveground fittings shall have a factory-applied epoxy primer</p>
			✓	✓	✓	-	Star Pipe Products	-	
			✓	✓	✓	-	Infact Corp.	Flex T-2/T-3	
			✓	✓	✓	-	SIP Industries Products	-	
			✓	✓	✓	-	Tyler/Union Products	-	

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Category		Submittal	Potable Water	Reclaimed Water	Wastewater	Manufacturer	Model Number	Notes	
Fittings	Molded HDPE	For HDPE AWWA C906 Pipe	✓			GF Central Plastics Products	-	<u>Shall only be used in lift stations</u>  Refer to Manatee County Public Works Utility Standards Detail US-19  Pressure Class 200, PE4710, Ductile Iron Pipe Size (DIPS), DR 11, AWWA C906 Min. Cell Classification per ASTM D3350 shall be 445574 Fittings shall be fused per manufacturer's recommendations	
			✓			Charter Plastics Products	-		
			✓			Performance Pipe Products	-		
			✓			Specified Fittings Products	-		
			✓			Integrity Fusion Products	-		
	Molded PVC	For Pressurized PVC AWWA C900-16 Pipe	✓			NACO	Pressure Gasketed Fittings	<u>Shall only be used for P-traps and drop manholes</u>  All fittings shall be connected via water-tight push-on joints using elastomeric gaskets per ASTM D3139 rated for pressurized PVC pipe  DR 18, AWWA C900-16/C907	
			✓			Harrington Corp	C900 Fittings		
			✓			Multi Fittings Corp.	C900/C905 Fittings		
			✓			North American Pipe Corp	C-Series		
			✓			Specified Fittings	C900 Fittings		
		Molded PVC	For Gravity Sewer PVC AWWA C900-16 Pipe (18" and Larger)	✓			Harrington Corp	C900 Fittings	<u>Shall only be used for drop manholes</u>  All fittings shall be connected via water-tight push-on joints using elastomeric gaskets per ASTM D3212 rated for gravity sewer PVC pipe  DR 25, AWWA C900-16/C907
				✓			Multi-Fittings Corp.	C900/C907 Fittings	
				✓			North American Pipe Corp.	N-Series	
			For Gravity Sewer PVC ASTM D3034 Pipe (4" - 15")	✓			Harrington Corp.	SDR 26 Fittings	<u>Shall only be used for sewer laterals and drop manholes</u>  All fittings shall be connected via water-tight push-on joints using elastomeric gaskets per ASTM D3212 rated for gravity sewer PVC pipe  SDR 26, ASTM D3034
				✓			Multi Fittings Corp.	Trench Tough Plus	
		✓			Tigre-ADS USA	SDR 26 Gasketed			
		✓			North American Pipe Corp.	G-Series			

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<b>External Thrust Restraint Devices</b>  PVC AWWA C900-16 (4" - 12")	<u>Pipe to Pipe Connectors</u>	Split-Casing Restraint	✓	✓	✓	Ford Meter Box Co.	Series UFR1390 (DI, PVC) (4" - 12")	<p style="text-align: center;"><u>All sizes:</u> 235 psi rating</p> <p><u>For buried installations:</u> T-bolts, tie rods, nuts, washers, etc. shall be High Strength, Low Alloy Steel conforming to AWWA C111/ANSI A21.11-17 or ASTM A242.            Side clamping bolts shall be medium carbon steel per SAE J429 Grade 5/ASTM A449            Side clamping nuts shall be medium carbon steel per SAE J995 Grade 2/ASTM A449            Hardware referenced above shall be coated with a blue fluoropolymer coating (Xylan 1424, FluoroKote #1, or AFT-PTFE-Blue).            Alternatively, hardware shall be 316 SS.</p> <p><u>For aboveground installations:</u> T-bolts, tie rods, nuts, washers, etc. shall be 316 SS            Side clamping bolts shall be min. 316 SS per ASTM A193 Grade B8M, Class 2            Side clamping nuts shall be min. 316 SS per ASTM A194 Grade 8M, Class 1</p> <p><b><u>Restraint devices shall have the following factory applied high performance coatings:</u></b>            Star Pipe Products: Starbond System            Sigma Corp.: CORRSafe System            EBAA Iron: MEGA-BOND System            Ford Meter Box Co.: Armorguard E-Coat System            SIP Industries: EZ Shield System</p> <p style="text-align: center;"><b><u>Potable/Reclaimed Water:</u></b></p> <p><u>For uncontaminated soils:</u> Shall have EPDM rubber gaskets with the letters "EPDM" factory embossed and/or etched into gasket  <u>For contaminated soils:</u> Shall have NBR or FKM rubber gasket            Refer to Manatee County Public Works Utility Standards Section 1.4.2.F for gasket material details</p>
			✓	✓	✓	EBAA Iron	Series 1900 (4" - 12")	
			✓	✓	✓	Star Pipe Products	PVC Series 1100G2C (4" - 12")	
			✓	✓	✓	Sigma Corp.	PV-LOK Series D-PWP (DI, PVC) (4" - 12")	
			✓	✓	✓	Star Pipe Products	PVC Stargrip Series 4100P (4" - 12")	
			✓	✓	✓	Sigma Corp.	ONE-LOK Series SLCEH (4" - 12")	
	<u>Pipe to MJ Fittings Connectors</u>	Split-Casing Restraint	✓	✓	✓	Star Pipe Products	PVC Series 1000G2 (DI, PVC) (4" - 12")	
			✓	✓	✓	Sigma Corp.	PV-LOK Series PWM-C (4" - 12")	
		Wedge-Action Restraint	✓	✓	✓	EBAA Iron	Series 2000PV (4" - 12")	
			✓	✓	✓	Star Pipe Products	PVC Stargrip Series 4000 (HDPE, PVC) (4" - 12")	
			✓	✓	✓	SIP Industries	EZ Grip Series EZPVCP (4" - 12")	
			✓	✓	✓	Ford Meter Box Co.	Series UFR1500 (4" - 12")	
	✓	✓	✓	Sigma Corp.	ONE-LOK Series D-SLCE (4" - 12")			
	<u>Pipe to PVC Fittings Connectors</u>	Split-Casing Restraint	✓	✓	✓	EBAA Iron	Series 2600 (4" - 12")	
			✓	✓	✓	Star Pipe Products	Series 1200G2C (4" - 12")	
			✓	✓	✓	SIP Industries	Series PTPFC (4" - 12")	
✓			✓	✓	Sigma Corp.	PV-LOK Series PWPF (4" - 12")		

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<b>External Thrust Restraint Devices</b>	PVC AWWA C900-16 (14" - 36")	<u>Pipe to Pipe</u> Connectors	Split-Casing Restraint	✓	✓	✓	Star Pipe Products	Series 1100C (14" - 36")	<p style="text-align: center;"><u>All sizes:</u> 235 psi rating</p> <p><u>For buried installations:</u> T-bolts, tie rods, nuts, washers, etc. shall be High Strength, Low Alloy Steel conforming to AWWA C111/ANSI A21.11-17 or ASTM A242. Side clamping bolts shall be medium carbon steel per SAE J429 Grade 5/ASTM A449 Side clamping nut shall be medium carbon steel per SAE J995 Grade 2/ASTM A449 Hardware referenced above shall be coated with a blue fluoropolymer coating (Xylan 1424, FluoroKote #1, or AFT-PTFE-Blue). Alternatively, hardware shall be 316 SS.</p> <p><u>For aboveground installations:</u> T-bolts, tie rods, nuts, washers, etc. shall be 316 SS Side clamping bolts shall be min. 316 SS per ASTM A193 Grade B8M, Class 2 Side clamping nuts shall be min. 316 SS per ASTM A194 Grade 8M, Class 1</p> <p><b><u>Restraint devices shall have the following factory applied high performance coatings:</u></b> Star Pipe Products: Starbond System Sigma Corp.: CORRSafe System EBAA Iron: MEGA-BOND System Ford Meter Box Co.: Armorguard E-Coat System SIP Industries: EZ Shield System</p> <p style="text-align: center;"><b><u>Potable/Reclaimed Water:</u></b></p> <p><u>For uncontaminated soils:</u> Shall have EPDM rubber gaskets with the letters "EPDM" factory embossed and/or etched into gasket <u>For contaminated soils:</u> Shall have NBR or FKM rubber gasket Refer to Manatee County Public Works Utility Standards Section 1.4.2.F for gasket material details</p>	
				✓	✓	✓	Ford Meter Box Co.	Series UFR1390 (DI, PVC) (14" - 36")		
				✓	✓	✓	Sigma Corp.	PV-LOK Series D-PWP (DI, PVC) (14" - 36")		
		Wedge-Action Restraint	✓	✓	✓	EBAA Iron	Megalug Series 2800 (14" - 16")			
			✓	✓	✓	Star Pipe Products	PVC Stargrip Series 4400 (14" - 20")			
		<u>Pipe to MJ</u> Fittings Connectors	Split-Casing Restraint	✓	✓	✓	Star Pipe Products	Series 1000C (14" - 36")		
	✓			✓	✓	Sigma Corp.	PV-LOK Series D-PWM (14" - 24")			
	Wedge-Action Restraint		✓	✓	✓	EBAA Iron	Series 2000PV (HDPE, PVC) (14" - 16", 24")			
			✓	✓	✓	Star Pipe Products	PVC Stargrip Series 4000 (HDPE, PVC) (14" - 36")			
			✓	✓	✓	SIP Industries	EZ Grip Series EZPVCP (14" - 36")			
			✓	✓	✓	Ford Meter Box Co.	Series UFR1500 (14" - 36")			
			✓	✓	✓	Sigma Corp.	ONE-LOK Series D-SLCE (HDPE, PVC) (24" - 36")			
	<u>Pipe to PVC</u> Fittings Connectors	Split-Casing Restraint	✓	✓	✓	Sigma Corp.	PV-LOK Series PWPf (14" - 24")			

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External Thrust Restraint Devices	HDPE AWWA C906	<u>Pipe to</u> <u>MJ/Flanged</u> <u>Fittings</u> <u>Connectors</u>	Back-Up Rings	✓	✓	✓	Integrity Fusion Products	-	<p style="text-align: center;">All restrained joints shall be designed for HDPE Pipe conforming to AWWA C906 and Ductile Iron Pipe Size (DIPS) Dimensions</p> <p style="text-align: center;"><u>For aboveground installations:</u> Back-up rings shall be 316 stainless steel Shall have 200 PSI pressure rating T-bolts, tie rods, nuts, washers, etc. shall be 316 SS</p> <p style="text-align: center;"><u>For buried installations:</u> Mechanical joint solid glands shall be ductile iron ASTM A536, Grade 65-45-12 Shall be Pressure Class 350 per AWWA C153 T-bolts, tie rods, nuts, washers, etc. shall be High Strength, Low Alloy Steel conforming to AWWA C111/ANSI A21.11-17 or ASTM A242.</p> <p style="text-align: center;">Hardware referenced above shall be coated with a blue fluoropolymer coating (Xylan 1424, FluoroKote #1, or AFT-PTFE-Blue). Alternatively, hardware shall be 316 SS.</p> <p style="text-align: center;"><b><u>Restraint devices shall have the following factory applied high performance coatings:</u></b> Sigma Corp.: CORRSafe System SIP Industries: EZ Shield System Integrity Fusion Products: Manufacturer's Fusion Bonded Epoxy System</p> <p style="text-align: center;"><b><u>Potable/Reclaimed Water:</u></b> <u>For uncontaminated soils:</u> Shall have EPDM rubber gaskets with the letters "EPDM" factory embossed and/or etched into gasket</p> <p style="text-align: center;"><u>For contaminated soils:</u> Shall have NBR or FKM rubber gasket Refer to Manatee County Public Works Utility Standards Section 1.4.2.F for gasket material details</p>	
				✓	✓	✓	Improved Piping Products	Model SS-SDR		
				✓	✓	✓	Specified Fittings Products	-		
			Mechanical Joint Glands	✓	✓	✓	Sigma Corp. Products	-		
				✓	✓	✓	Integrity Fusion Products	-		
				✓	✓	✓	SIP Industries Products	-		



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External Thrust Restraint Devices	Ductile Iron Pipe AWWA C150 & C151	Pipe to Pipe Connectors	Split-Casing Restraint	✓	✓	✓	EBAA Iron	Series 1500TD (4" - 12")	<p style="text-align: center;"><u>Pipe sizes 2" - 16":</u> 350 psi rating <u>Pipe sizes 18" and larger:</u> 250 psi rating</p> <p><u>For buried installations:</u> T-bolts, tie rods, nuts, washers, etc. shall be High Strength, Low Alloy Steel conforming to AWWA C111/ANSI A21.11-17 or ASTM A242. Side clamping bolts shall be medium carbon steel per SAE J429 Grade 5/ASTM A449 Side clamping nuts shall be medium carbon steel per SAE J995 Grade 2/ASTM A449 Hardware referenced above shall be coated with a blue fluoropolymer coating (Xylan 1424, FluoroKote #1, or AFT-PTFE-Blue). Alternatively, hardware shall be 316 SS.</p> <p><u>For aboveground installations:</u> T-bolts, tie rods, nuts, washers, etc. shall be 316 SS Side clamping bolts shall be min. 316 SS per ASTM A193 Grade B8M, Class 2 Side clamping nuts shall be min. 316 SS per ASTM A194 Grade 8M, Class 1</p> <p><b><u>Restraint devices shall have the following factory applied high performance coatings:</u></b> Star Pipe Products: Starbond System Sigma Corp.: CORRSAFE System EBAA Iron: MEGA-BOND System Ford Meter Box Co.: Armorguard E-Coat System SIP Industries: EZ Shield System</p> <p style="text-align: center;"><b><u>Potable/Reclaimed Water:</u></b> <u>For uncontaminated soils:</u> Shall have EPDM rubber gaskets with the letters "EPDM" factory embossed and/or etched into gasket <u>For contaminated soils:</u> Shall have NBR or FKM rubber gasket Refer to Manatee County Public Works Utility Standards Section 1.4.2.F for gasket material details</p> <p><b><u>MJ Fitting to MJ Fitting Connectors in Potable/Reclaimed Water:</u></b> <u>Interior Coating:</u> Std. thickness cement lining per AWWA C104 <u>Exterior Coating:</u> Std. 1-mil asphaltic coating per AWWA C110/C153</p> <p><b><u>MJ Fitting to MJ Fitting Connectors in Wastewater:</u></b> Holiday-free factory certification per ASTM G62, Method A (Low-Voltage) shall be provided for the interior coating at the point of delivery <u>Interior Coating:</u> Green, factory applied dry film thickness 40-mil Tnemec Series 431 Perma-Shield PL or Permax CTF coating <u>Exterior Coating:</u> Std. 1-mil asphaltic coating per AWWA C151</p>	
				✓	✓	✓	Star Pipe Products	Stargrip Series 3100S (3" - 48")		
				✓	✓	✓	Sigma Corp.	ONE-LOK Series SSLDH (4" - 36")		
			Wedge-Action Restraint	✓	✓	✓	EBAA Iron	Series 1700 (4" - 48")		
				✓	✓	✓	Star Pipe Products	Stargrip Series 3100P (4" - 48")		
				✓	✓	✓	Sigma Corp.	ONE-LOK Series SLDEH (4" - 36")		
		Pipe to MJ Fittings Connectors	Split-Casing Restraint	✓	✓	✓	EBAA Iron	Series 1100SD (4" - 48")		
				✓	✓	✓	Star Pipe Products	Split Stargrip Series 3000S (4" - 48")		
				✓	✓	✓	Sigma Corp.	ONE-LOK Series SSLDH (4" - 36")		
			Wedge-Action Restraint	✓	✓	✓	EBAA Iron	Series 1100 (4" - 48")		
				✓	✓	✓	Star Pipe Products	Stargrip Series 3000 (4" - 48")		
				✓	✓	✓	SIP Industries	EZ Grip Series EZDP (DI, PVC) (3" - 48")		
				✓	✓	✓	Ford Meter Box Co.	UFR1400-DA-x-RB-I (3" -36")		
				✓	✓	✓	Sigma Corp.	ONE-LOK Series D-SLDE (4" - 48")		
				MJ Fitting to MJ Fitting Connectors	✓	✓	✓	Star Pipe Products		Series 100 (3" - 36")
		✓	✓		✓	SIP Industries	MJ x MJ Adapter (3" - 12")			
		✓	✓		✓	Infact Corp.	Foster Adapter (3" - 36")			

Contractor shall check/mark which product is intended to be used in the submittal box. If multiple manufacturers are to be used, each manufacturer shall be marked.



## UTILITY APPROVED PRODUCT LIST

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Category		Submittal	Potable Water	Reclaimed Water	Wastewater	Manufacturer	Model Number	Notes
<b>Plain End Couplings</b>	Gravity Sewer PVC ASTM D3034 Plain End to Plain End Couplings	4" - 12"	✓	✓	✓	Fernco Products	Series 5000 RC	Shall be reinforced with 316 SS clamp band, bolts, and nuts Shear band shall be min. 304 SS
	Dissimilar Pipe Materials Plain End to Plain End Couplings	2" - 12"	✓	✓	✓	Romac	Macro	<p><u>For buried installations:</u> T-bolts, bolts, tie rods, nuts, washers, etc. shall be High Strength, Low Alloy Steel conforming to AWWA C111/ANSI A21.11-17 or ASTM A242. Hardware referenced above shall be coated with a blue fluoropolymer coating (Xylan 1424, FluoroKote #1, or AFT-PTFE-Blue). Alternatively, hardware shall be 316 SS.</p> <p><u>For aboveground installations:</u> T-bolts, bolts, tie rods, nuts, washers, etc. shall be 316 SS</p> <p style="text-align: center;"><b><u>Couplings shall have the following factory applied high performance coatings:</u></b></p> <p style="text-align: center;">Romac: Romacoat System Krausz: Factory std. min. 14 mil fusion bonded epoxy EBAA Iron: MEGA-BOND System</p> <p>Holiday-free factory certification per ASTM G62, Method A (Low-Voltage) shall be provided for the interior coating at the point of delivery</p> <p style="text-align: center;"><b><u>Potable/Reclaimed Water:</u></b></p> <p style="text-align: center;">Couplings and gaskets for potable water shall be NSF61 certified</p> <p><u>For uncontaminated soils:</u> Shall have EPDM rubber gaskets with the letters "EPDM" factory embossed and/or etched into gasket</p> <p style="text-align: center;"><u>For contaminated soils:</u> Shall have NBR or FKM rubber gasket</p> <p style="text-align: center;">Refer to Manatee County Public Works Utility Standards Section 1.4.2.F for gasket material details</p>
		2" - 12"	✓	✓	✓	Krausz	Hymax 2 Coupling (Series 860)	
		4" - 48"	✓	✓	✓	EBAA Iron	Mega-Coupling Series 3800	

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## UTILITY APPROVED PRODUCT LIST

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Category		Submittal	Potable Water	Reclaimed Water	Wastewater	Manufacturer	Model Number	Notes
Flange and Mechanical Joint Adapters	HDPE AWWA C906 Flange and Mechanical Joint Adapters	✓	✓	✓	✓	Charter Plastics Products	-	Pressure Class 200, PE4710, Ductile Iron Pipe Size (DIPS), DR 11, AWWA C906 Min. Cell Classification per ASTM D3350 shall be 445574 Adapters shall be thermal butt fused per manufacturer's recommendations Flange adapters shall use 316 SS back-up rings Mechanical joint adapters shall use ductile iron glands  <b>Potable/Reclaimed Water:</b> <u>For uncontaminated soils:</u> Shall have EPDM rubber gaskets with the letters "EPDM" factory embossed and/or etched into gasket  <u>For contaminated soils:</u> Shall have NBR or FKM rubber gasket Refer to Manatee County Public Works Utility Standards Section 1.4.2.F for gasket material details
		✓	✓	✓	✓	Improved Piping Products	-	
		✓	✓	✓	✓	Integrity Fusion Products	-	
		✓	✓	✓	✓	Performance Pipe Products	-	
	Pressurized PVC AWWA C900-16 Flange Adapters	4" - 20"	✓	✓	✓	EBA Iron	Megaflange Series 2100 (DI, PVC)	<b>PVC Flange Adapter:</b> <u>Pipe sizes 4"-36":</u> 235 psi rating  <b>DIP Flange Adapter:</b> <u>Pipe sizes 2"-16":</u> 350 psi rating <u>Pipe sizes 18" and larger:</u> 250 psi rating  <u>For aboveground installations:</u> T-bolts, bolts, tie rods, nuts, washers, etc. shall be 316 SS  <b>Flange adapters shall have the following factory applied high performance coatings:</b> Star Pipe Products: Starbond System Sigma Corp.: CORRSafe System EBAA Iron: MEGA-BOND System Ford Meter Box Co.: Armorguard E-Coat System  <b>Potable/Reclaimed Water:</b> Flange adapters and gaskets for potable water shall be NSF61 certified Shall have EPDM rubber gaskets with the letters "EPDM" factory embossed and/or etched into gasket
		3" - 36"	✓	✓	✓	Sigma Corp.	Sigmaflange SFA Series CP	
		4" - 20"	✓	✓	✓	Star Pipe Products	Super Flange Series 7200 (DI, PVC)	
		3" - 36"	✓	✓	✓		Starflange Series 4200	
	DIP AWWA C110 Flange Adapters	2" - 12"	✓	✓	✓	Ford Meter Box Co.	Series 420	
		3" - 20"	✓	✓	✓	EBA Iron	Megaflange Series 2100 (DI, PVC)	
			✓	✓	✓	Star Pipe Products	Super Flange Series 7200 (DI, PVC)	
		All sizes except 18"	✓	✓	✓		Starflange Series 3200	
All sizes except 18"		✓	✓	✓	Sigma Corp.	Sigmaflange SFA Series DP		

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## UTILITY APPROVED PRODUCT LIST

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Category		Submittal	Potable Water	Reclaimed Water	Wastewater	Manufacturer	Model Number	Notes	
Valves	Air Release Valves		✓	✓	✓	GA Industries	Fig-929	Min. inlet size shall be 2" Shall have manufacturer's anti-corrosion option Orifice, float, linkage, and hardware shall be 316 SS The seal shall be made of Buna N elastomer Shall have internal and external NSF-61 certified 2-part epoxy, min. 6 mils DFT	
			✓	✓	✓	H-TEC	Model 986-SS	<u>For waterway and canal crossings only</u> Min. inlet size shall be 2" Body, bolts, nuts, and washers shall be 316 SS The seal shall be made of Buna N elastomer	
	Privately-Owned		✓			-	-	Any privately-owned backflow prevention assembly that is approved by the University of Southern California (USC), with the exception of Wilkins 375XL (3/4" and 1"), Watts LF009QT (3/4" and 1"), and Ames LF4000B (3/4" and 1"), will be accepted by Manatee County  County-Owned approved models are also acceptable	
	Backflow Prevention Assembly	County-Owned	2-1/2" - 12"	✓			Wilkins (Zurn)	350DA	Double Check Valve Assembly w/ Meter
				✓				375DA	Reduced Pressure Zone Assembly w/ Meter
				✓				375DA-OS&Y	Reduced Pressure Zone Assembly w/ Meter (OS&Y)
				✓			Ames	2000SS	Double Check Valve Assembly
				✓				3000SS	Double Check Valve Assembly w/ Meter
				✓				4000SS	Reduced Pressure Zone Assembly
			County-Owned	1/2" - 2"	✓			5000SS	Reduced Pressure Zone Assembly w/ Meter
		✓					Apollo Valves	RPLF-4A Series	Reduced Pressure Zone Assembly
		✓					Wilkins (Zurn)	975XL2	Reduced Pressure Zone Assembly
		✓					Watts	Model LF007 Series	Double Check Valve Assembly
		✓			Model 909 Series	Reduced Pressure Zone Assembly			
		Pressure Relief Valves		✓			Apollo Valves	16LF-202	For use with backflow prevention assemblies
	Ball Valves		✓	✓	✓	FNW	Fig. 200A	<u>For use with ARV</u> Body, cap, stem, and ball shall be 316 SS/CF8M Min. Cold-Working Pressure shall be 1000 PSI	
			✓	✓	✓	Apollo Valves	Model 76F		
	Automatic Flushing Systems	On Ground Discharge	✓			Mueller	Hydro-Guard HG-1	Shall only be used with prior written approval from Manatee County Design considerations shall minimally include site drainage patterns, cross connection prevention, grounding, dichlorination requirements, and discharge permits	
		Pipe Discharge	✓				Hydro-Guard HG-2		



## UTILITY APPROVED PRODUCT LIST

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Category				Submittal	Potable Water	Reclaimed Water	Wastewater	Manufacturer	Model Number	Notes		
Valves	Corporation Stops	For Copper Pipe and HDPE Tubing	All joints made to CTS size HDPE tubing shall use 304 SS insert stiffeners	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Ford Meter Box Co.	FB1000-x-NL	Pack Joint x AWWA Taper Thread (3/4" - 2")		
				FB1000-x-G-NL	Grip Joint Compression x AWWA Taper Thread (3/4" - 2")							
				FB1000-x-Q-NL	Quick Joint Compression x AWWA Taper Thread (3/4" - 2")							
				FB1100-x-NL	Pack Joint x MIP Thread (3/4" - 2")							
				FB1100-x-G-NL	Grip Joint Compression x MIP Thread (3/4" - 2")							
				A.Y. McDonald	74704B-22	Pack Joint x MIP Thread (3/4" - 2")						
					74701B-22	Pack Joint x AWWA Taper Thread (3/4" - 2")						
					74701BQ	Quick Joint Compression x AWWA Taper Thread (3/4" - 2")						
					74704BQ	Quick Joint Compression x MIP Thread (3/4" - 2")						
					74701BG	Grip Joint Compression x AWWA Taper Thread (3/4" - 2")						
		For Copper Pipe Only				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Ford Meter Box Co.	FB600-x-NL	Flare x AWWA Taper Thread (3/4" - 2")
											FB700-x-NL	Flare x MIP Thread (3/4" - 2")
										A.Y. McDonald	74704B	Flare x MIP Thread (3/4" - 2")
											74701B	Flare x AWWA Taper Thread (3/4" - 2")
											74704BG	Grip Joint Compression x MIP Thread (3/4" - 2")
	For Stainless Steel Pipe Only				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Ford Meter Box Co.	FB1600-x-NL	FIP Thread x AWWA Taper Thread (3/4" - 2")	
										FB1700-x-NL	FIP Thread x MIP Thread (3/4" - 2")	
									A.Y. McDonald	73149B	FIP Thread x MIP Thread (3/4" - 2")	
										73148B	FIP Thread x AWWA Taper Thread (3/4" - 2")	
	Curb Stops	For Copper Pipe and HDPE Tubing	All joints made to CTS size HDPE tubing shall use 304 SS insert stiffeners		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Mueller	P25170N	Pack Joint x FIP Thread (3/4" - 2")	
										G25170N	Grip Joint Compression x FIP Thread (3/4" - 2")	
									Ford Meter Box Co.	B41-xxxW-NL	Pack Joint x FIP Thread (3/4" - 2")	
										B41-xxxW-G-NL	Grip Joint Compression x FIP Thread (3/4" - 2")	
									A.Y. McDonald	76100W-22	Compression x Compression (3/4" - 2")	
										76100WT	Pack Joint x Pack Joint (3/4" - 2")	
										76102WG	Compression x FIP Thread (3/4" - 2")	
										76107T	Compression x MIP Thread (3/4" - 2")	
		76107-22	Pack Joint x MIP Thread (3/4" - 2")									
		For Stainless Steel Pipe Only				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Mueller	P25170N	Pack Joint x FIP Thread (1/2" - 2")
B20200N											FIP Thread x FIP Thread (1/2" - 2")	
B20242N											MIP Thread x FIP Thread (1/2" - 2")	
Ford Meter Box Co.										B51-xxxW-NL	Pack Joint x FIP Thread (1/2" - 2")	
										B11-xxxW-NL	FIP Thread x FIP Thread (1/2" - 2")	
										B81-xxxW-NL	MIP Thread x FIP Thread (1/2" - 2")	
A.Y. McDonald	76107	FIP Thread x MIP Thread (3/4" - 2")										
	76107WP	MIP Thread x MIP Thread (3/4" - 2")										
	76102W-44	PVC (DIOD) Compression x FIP Thread (3/4" - 2")										
	76101W	FIP Thread x FIP Thread (3/4" - 2")										

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## UTILITY APPROVED PRODUCT LIST

Category			Submittal	Potable Water	Reclaimed Water	Wastewater	Manufacturer	Model Number	Notes
<b>Valves</b>	Gate Valves	Flange x Flange (NRS)	3" - 54"	✓	✓	✓	American Flow Control	Series 2500 FL x FL	<p style="text-align: center;"><u>All sizes:</u> min. 250 psi rating</p> <p style="text-align: center;"><u>Gate Valves larger than 2":</u> Shall be resilient seated valves conforming to AWWA C515</p> <p style="text-align: center;"><u>2" Gate Valves:</u> Shall be resilient seated valves conforming to applicable requirements of AWWA C509 or C515</p> <p style="text-align: center;">Body and bonnet shall be ductile iron</p> <p style="text-align: center;">Buried valves shall have external nuts, bolts, washers, etc. be min. 304 SS</p> <p style="text-align: center;">Buried valves shall have min. 304 SS stems</p> <p style="text-align: center;">Aboveground valves shall have external nuts, bolts, washers, etc. be 316 SS</p> <p style="text-align: center;">Aboveground valves shall have 316 SS stems</p> <p style="text-align: center;">Stem nut shall be bronze/copper</p> <p style="text-align: center;">Wedge shall be ductile iron fully encapsulated in EPDM rubber with the letters "EPDM" factory embossed and/or etched into the wedge</p> <p style="text-align: center;">Valves shall have factory applied, min. 8 mils DFT fusion bonded epoxy coating on the interior and exterior</p> <p style="text-align: center;">Holiday-free factory certification per ASTM G62, Method A (Low-Voltage) shall be provided for the interior coating at the point of delivery</p> <p style="text-align: center;">Valves 16" and larger shall be equipped with manufacturer-standard heavy duty gear type actuators with 2" square AWWA operating nut or handwheel</p> <p style="text-align: center;">Gearbox shall be externally adjustable, totally enclosed to prevent water infiltration, and conform to ISO 9001 standards</p> <p style="text-align: center;">Vertical installation shall use spur-type gear</p> <p style="text-align: center;">Horizontal installation shall use bevel-type gear</p> <p style="text-align: center;">All horizontally-installed gate valves shall require flush line with valving</p> <p style="text-align: center;"><b><u>Potable/Reclaimed Water:</u></b></p> <p style="text-align: center;">Aboveground gate valves shall be Outside Stem &amp; Yoke (OS&amp;Y) type</p> <p style="text-align: center;"><b><u>Wastewater:</u></b></p> <p style="text-align: center;">Valves shall only be installed vertically</p> <p style="text-align: center;"><u>For Force Mains:</u> Gate valves only allowed for sizes 24" and larger</p> <p style="text-align: center;">Refer to Plug Valve Section for Force Mains sizes 20" and smaller</p> <p style="text-align: center;"><u>For Lift Stations:</u> Gate valves allowed for sizes 3" and larger</p> <p style="text-align: center;">Aboveground valve assembly gate valves shall be Non-Rising Stem (NRS) type</p> <p style="text-align: center;"><b><u>Valves 16" and larger shall come with torque-limiting device with torque trip limits preset at factory:</u></b></p> <p style="text-align: center;"><b><u>Kennedy Valves:</u></b></p> <p style="text-align: center;">16": 250 lb-ft, 18" - 54": 450 lb-ft</p> <p style="text-align: center;"><b><u>American Flow Control Valves:</u></b></p> <p style="text-align: center;">16" - 20": 250 lb-ft, 24": 300 lb-ft, 30" - 54": 500 lb-ft</p> <p style="text-align: center;"><b><u>Clow Valves:</u></b></p> <p style="text-align: center;">16": 250 lb-ft, 18" - 54": 450 lb-ft</p> <p style="text-align: center;"><b><u>Mueller Valves:</u></b></p> <p style="text-align: center;">16" - 24": 100 lb-ft, 30" - 36": 200 lb-ft, 42" - 54": 350 lb-ft</p>
			4" - 54"	✓	✓	✓	Kennedy	Model KS-RW/2638 FL x FL	
			4" - 54"	✓	✓	✓	Mueller	Model A-2361 FL x FL	
			4" - 48"	✓	✓	✓	Clow	Model 2638 FL x FL	
		Flange x Flange (OS & Y)	3" - 54"	✓	✓	✓	American Flow Control	Series 2500 FL x FL (OS & Y)	
			4" - 54"	✓	✓	✓	Kennedy	Model KS-RW/2638 FL x FL (OS & Y)	
			4" - 54"	✓	✓	✓	Mueller	Model A-2361 FL x FL (OS & Y)	
			4" - 24"	✓	✓	✓	Clow	Model 2638 FL x FL (OS & Y)	
		Mechanical Joint x Mechanical Joint	4" - 48"	✓	✓	✓	American Flow Control	Series 2500 MJ x MJ	
				✓	✓	✓	Mueller	Model A-2361 MJ x MJ	
				✓	✓	✓	Kennedy	Model KS-RW/2638 MJ x MJ	
				✓	✓	✓	Clow	Model 2638 MJ x MJ	
		Threaded x Threaded	2"	✓	✓	✓	American Flow Control	Series 2500 FIP x FIP	
				✓	✓	✓	Clow	Model 2639	

Category		Submittal	Potable Water	Reclaimed Water	Wastewater	Manufacturer	Model Number	Notes		
Valves	Hydrants	✓	✓			AVK	Series 2780	<p>Shall be nostalgic-style, dry barrel conforming to AWWA C502 and be UL/FM certified Main valve shall be faced or covered with EPDM elastomer with the letters "EPDM" factory embossed and/or etched into the rubber</p> <p>Shall have one 5-inch Storz connection and two 2-1/2 inch hose nozzles All external nuts, bolts, washers, etc. shall be 316 SS Upper and lower stem rod shall be min. 304 SS</p> <p><u>Hydrant Elbow:</u> Shall have a fusion bonded epoxy coating on the interior and exterior <u>Stand Pipe:</u> Shall have std. thickness cement lining on the interior and 1 mil asphaltic coating on the exterior; Alternatively it shall have a fusion bonded epoxy coating on the interior and exterior</p> <p><u>Aboveground parts shall have an external UV-resistant top coat of min. 4 mils DFT as follows:</u> Kennedy: Ken-Guard TGIC Polyester Mueller: Amercoat 370 AVK: Sherwin Williams Acrolon 218 HS Polyurethane Clow: TGIC Polyester Super Coat American Flow Control: Axalta Imron 3.5 HG+ Polyurethane</p>		
		✓	✓			Mueller	Super Centurion 250			
		✓	✓			Kennedy	K81D Guardian			
		✓	✓			Clow	Medallion			
		✓	✓			American Flow Control	Darling B-84-B-5			
	Insertion Valves	4" - 12"	✓	✓			TEAM	InsertValve	<p>Shall be resilient seated valves conforming to AWWA C515 All nuts, bolts, washers, etc. and non-rising stem shall be min. 304 SS</p> <p>Wedge shall be ductile iron fully encapsulated in EPDM rubber with the letters "EPDM" factory embossed and/or etched into the wedge</p> <p>Valves shall have factory applied, min. 8 mils DFT fusion bonded epoxy coating on the interior and exterior</p>	
	Check Valves	Flapper Disk	2" - 48"	✓	✓			Valmatic	Series 500ABF	<p><u>All sizes:</u> min. 250 psi rating</p> <p>Check valve shall be lead free, ductile iron construction conforming to NSF 61 Shall be equipped with min. 17-4 SS seat position indicator and bronze backflow actuator</p> <p>Disk shall be fully encapsulated in EPDM rubber with the letters "EPDM" factory embossed and/or etched into the disk All external bolts, nuts, washers, etc. shall be min. 304 SS All aboveground bolts, nuts, washers, etc. shall be 316 SS</p> <p>Valve shall have factory-applied, min. 8 mils DFT fusion bonded epoxy coating on the interior and exterior Holiday-free factory certification per ASTM G62, Method A (Low-Voltage) shall be provided for the interior coating at the point of delivery</p>
			2" - 24"	✓	✓			Pratt	RD Series	
			3" - 16"	✓	✓			American Cast Iron Pipe Company	Series 2100	
		Lever & Weight						AVK	Series 41	
							American Flow Control	Series 52		
							Kennedy	106 LW		
						1106 LW				
					Mueller	Series 8001				
						No. A-2600-6-01				
								<p><u>2" - 12":</u> min. 175 psi rating <u>14" - 30":</u> min. 150 psi rating</p> <p>Check valve shall be flanged with ductile iron/cast iron body and bronze mounted single disk conforming to AWWA C508 Shall have bronze seat and body rings Hinge pins shall be extended bronze or 316 SS All aboveground bolts, nuts, washers, etc. shall be 316 SS</p> <p>Valves shall have factory applied, min. 12 mils DFT fusion bonded epoxy coating on the interior and exterior Holiday-free factory certification per ASTM G62, Method A (Low-Voltage) shall be provided for the interior coating at the point of delivery</p>		



## UTILITY APPROVED PRODUCT LIST

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Category		Submittal	Potable Water	Reclaimed Water	Wastewater	Manufacturer	Model Number	Notes			
<b>Valves</b>	Combination Pressure Reducing and Pressure Sustaining		✓	✓	✓	Cla-Val Company	8" Model 52-01	Pressure sustaining and check valve shall be pilot operated diaphragm actuated valve with cast iron body, bronze trim, and 125-lb flanges Pilot system shall consist of two direct acting, adjustable, spring loaded diaphragm valves Pilot control valves shall be cast brass with min. 304 SS trim			
			✓	✓	✓	Singer	8" Model A106-RPS				
			✓	✓	✓	Watts	8" Model LFF116-52				
	Plug Valves		2"	✓	✓	✓	Pratt	Series 611A/613A	<p>Plug valves shall be 100% circular port, non-lubricated, eccentric type</p> <p>Shall be installed with the shaft laying horizontally so that the seat rests on the top portion of body when open</p> <p>Shall shut off bubble tight bidirectionally when pressure tested at 175 PSI for 3"-12" and 150 PSI for 14" and larger</p> <p>Valve body, bonnet, and gland shall be ASTM A126 cast iron or ASTM A526 Grade 65-45-12 ductile iron per AWWA C517</p> <p>Plug shall be ASTM A-526 Grade 65-45-12 ductile iron per AWWA C517</p> <p>Plug shall be fully vulcanized with nitrile (Buna N) rubber with a min. peel strength of 75 PSI per ASTM D429, method B</p> <p>Top and bottom bearings shall be 316 SS</p> <p>All external nuts, bolts, washers, etc. shall be min. 304 SS</p> <p>Valve shall be equipped with manufacturer-standard worm gear type actuators with 2" square AWWA operating nut</p> <p>Gearbox shall be externally adjustable, totally enclosed to prevent water infiltration, and conform to ISO 9001 standards</p> <p>Gearbox bearings shall be oil impregnated bronze or hardened steel</p> <p>Gearbox worm gear shall be hardened steel or ductile iron ASTM A536 Class 65-45-12</p> <p>Gearbox shaft shall be hardened steel</p> <p><u>2":</u> Valve seat shall have an overlay of min. 16 mils DFT high solids epoxy</p> <p>Shall only be allowed at grinder pump stations</p> <p><u>3" and larger:</u> Valve seat shall have a welded-in overlay of at least 95% pure nickel</p> <p style="text-align: center;"><b><u>Refer to Gate Valve Section for applications larger than 20"</u></b></p> <p style="text-align: center;"><b><u>Valves shall come with torque-limiting device with torque trip limits preset at factory:</u></b></p> <p style="text-align: center;">3" - 6": 150 ft-lb</p> <p style="text-align: center;">8" - 20": 180 ft-lb</p> <p>All valves shall have internal and external min. 16 mils DFT high solids epoxy coating</p> <p>Holiday-free factory certification per ASTM G62, Method A (Low-Voltage) shall be provided for the interior coating at the point of delivery</p>		
					3" - 12"	✓		✓		✓	Series 600FP/601FP
					2"	✓	✓	✓		Milliken	Series 611A/613A
					3" - 12"	✓	✓	✓			Series 600F/601F
					2"	✓	✓	✓		GA Industries	Figure 517-T
					3" - 20"	✓	✓	✓			Figure 517 Eco-Centric
	Torque Limiting Device		Trip Torque Limit: 25-250 lb-ft	✓	✓	✓	Aunspach Controls	Model D86-250	<p>Torque limits shall be preset at factory (See gate/plug valve section for torque limits)</p> <p>Permanently mount overtorque protector on the valve operating nut</p> <p>All hardware shall be min. 304 SSS</p> <p>Shall have min. 8 mils DFT fusion bonded epoxy on the interior and exterior</p> <p>Torque set point shall be engraved on the torque limiting device</p>		
Trip Torque Limit: 251-500 lb-ft			✓	✓	✓	Model D86-500					
Valve Extension Stem			✓	✓	✓	Mueller Co.	-	Extension stems and hardware shall be min. 304 SS			
			✓	✓	✓	CS3 Waterworks	-				
			✓	✓	✓	GPM Fab	-				

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## UTILITY APPROVED PRODUCT LIST

FEB 2020

Category		Submittal	Potable Water	Reclaimed Water	Wastewater	Manufacturer	Model Number	Notes
Valves	Tapping Valves	✓	✓	✓	✓	American Flow Control	Series 2500 FL x MJ	<p style="text-align: center;">Shall be resilient seated valves conforming to AWWA C515 Shall be furnished with an alignment lip All external nuts, bolts, washers, etc. and non-rising stem shall be min. 304 SS Wedge shall be ductile iron fully encapsulated in EPDM rubber with the letters "EPDM" factory embossed and/or etched into the wedge</p> <p style="text-align: center;">Valves shall have factory applied min. 8 mils DFT fusion bonded epoxy coating on the interior and exterior Holiday-free factory certification per ASTM G62, Method A (Low-Voltage) shall be provided for the interior coating at the point of delivery Valve 16" and larger shall be equipped with manufacturer-standard heavy duty gear type actuators with 2" square AWWA operating nut Gearbox shall be externally adjustable, totally enclosed to prevent water infiltration, and conform to ISO 9001 standards Vertical installation shall use spur-type gear Horizontal installation shall use bevel-type gear</p> <p style="text-align: center;"><b><u>Wastewater:</u></b> Valves shall only be installed vertically</p> <p style="text-align: center;"><b><u>Tapping valves 16" and larger shall come with torque-limiting device with torque trip limits preset at factory:</u></b> Refer to Gate Valve section for trip limits</p>
		✓	✓	✓	✓	Kennedy	Model KS-RW/2638 FL x MJ	
		✓	✓	✓	✓	Mueller	Model T-2361 FL X MJ	
		✓	✓	✓	✓	Clow	Series 2638 FL x MJ	
Tapping Sleeves	HDPE	✓	✓	✓	✓	JCM Industries	Model 6452/6459 (HDPE)	<p style="text-align: center;">Sleeve and straps shall be 316 SS T-bolts, bolts, tie rods, nuts, washers, etc. shall be 316 SS Shall have 3/4" 316 SS test plug</p> <p style="text-align: center;"><b><u>Potable/Reclaimed Water:</u></b> Must hold 180 PSI for one hour Tapping sleeve and gaskets for potable water shall be NSF61 certified <u>For uncontaminated soils:</u> Shall have min. 1/8" thick EPDM full face gasket Shall have EPDM rubber wrap around gasket The letters "EPDM" and company logo shall be factory stamped with white ink on full face gasket The letters "EPDM" and company logo shall be factory stamped with white ink on the wrap around gasket Alternatively, the letters "EPDM" shall be factory embossed and/or etched on the exterior shell of the tapping sleeve if wrap around gasket does not have the EPDM designation <u>For contaminated soils:</u> Shall have NBR or FKM rubber gasket Refer to Manatee County Public Works Utility Standards Section 1.4.2.F for gasket material details</p> <p style="text-align: center;"><b><u>Wastewater:</u></b> Must hold 150 PSI for one hour Shall have min. 1/8" thick full face gasket</p>
		✓	✓	✓	✓	Ford Meter Box Co.	FTSSP-xxx-x-MAN	
		✓	✓	✓	✓		STS423-H	
	PVC, Ductile Iron, Steel, AC	✓	✓	✓	✓	Romac	STS420 (316 SS)	
		✓	✓	✓	✓	Romac	STS420 (316 SS)	
		✓	✓	✓	✓	Ford Meter Box Co.	FTSS-xxxx-x-MAN	
		✓	✓	✓	✓	Cascade Waterworks	Series CST-EX (316 SS)	
		✓	✓	✓	✓	PowerSeal	Series 3490 (316 SS)	
✓	✓	✓	✓	JCM Industries	Model 6452/6459			

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## UTILITY APPROVED PRODUCT LIST

FEB 2020

Category		Submittal	Potable Water	Reclaimed Water	Wastewater	Manufacturer	Model Number	Notes	
Service Saddles	HDPE	4" - 12"	✓	✓	✓	Romac	STS423T-H	<p style="text-align: center;"><b>Potable/Reclaimed Water:</b> Must hold 180 PSI for one hour Saddle body shall be made of red brass, alloy 85-5-5-5 or min. 304 SS Saddle strap shall be made of silicon bronze or min. 304 SS T-bolts, bolts, tie rods, nuts, washers, etc. shall be red brass, alloy 85-5-5-5 or min. 304 SS Service saddle and gasket shall be NSF61 certified for potable water</p> <p style="text-align: center;"><u>For uncontaminated soils:</u> Shall have EPDM rubber gasket The letters "EPDM" and company logo shall be factory stamped with white ink on gasket Alternatively, the letters "EPDM" shall be factory embossed and/or etched on the exterior saddle body</p> <p style="text-align: center;"><u>For contaminated soils:</u> Shall have NBR or FKM rubber gasket Refer to Manatee County Public Works Utility Standards Section 1.4.2.F for gasket material details</p> <p style="text-align: center;"><b>Wastewater:</b> Must hold 150 PSI for one hour Saddle body and extra wide strap shall be 316 SS T-bolts, bolts, tie rods, nuts, washers, etc. shall be 316 SS</p>	
		2" - 12"	✓	✓	✓	Ford Meter Box Co.	FSP313-xxx-TAP-EPDM		
		10" - 18"	✓	✓	✓		FSP323-xxx-TAP-EPDM		
		20" - 34"	✓	✓	✓		FSP333-xxx-TAP-EPDM		
		2" - 3"	✓	✓	✓		FS313W-xxx-TAP-EPDM		
	4" - 16"	✓	✓	✓	Romac		202BS (Double Bolt)		
	6" - 12"	✓	✓	✓		Model STS420T			
	6" - 42"	✓	✓	✓		Model STS420T (316 SS)			
	PVC, Ductile Iron, Steel, AC		3" - 54"	✓	✓	✓	JCM Industries		Model 6438
			3" - 54"	✓	✓	✓			Model 438
			2" - 12"	✓	✓	✓			Model 502
			4" - 12"	✓	✓	✓	Ford Meter Box Co.		202B (DI and AC only)
			4" - 12"	✓	✓	✓			202BS
			4" - 30"	✓	✓	✓			202BSD
			2" - 12"	✓	✓	✓			FS313-xxx-TAP-MAN
			4" - 18"	✓	✓	✓			FS323-xxx-TAP-MAN
			20" - 30"	✓	✓	✓			FS333-xxx-TAP-MAN
			2" - 12"	✓	✓	✓			FS313-xxx-TAP-EPDM
			4" - 18"	✓	✓	✓			FS323-xxx-TAP-EPDM
			20" - 30"	✓	✓	✓			FS333-xxx-TAP-EPDM

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## UTILITY APPROVED PRODUCT LIST

FEB 2020

Category		Submittal	Potable Water	Reclaimed Water	Wastewater	Manufacturer	Model Number	Notes		
<b>Jack and Bore Devices</b>	Casing Spacers	Metallic	✓	✓	✓	BWM Company	Model BWM-SS-8	<p><b>Metallic Casing Spacers:</b>            Bolts, nuts, washers, etc. shall be 316 SS            Shell/band shall be min. 14 gauge 304 SS            Risers shall be min. 10 gauge 304 SS            Each shell section shall have a hardness of Durometer "A" 85-90 and be lined with a min. thickness of 0.090" of ribbed PVC extrusion, EPDM, glass reinforced polymer, or ultra high molecular weight polyethylene.</p>		
			✓	✓	✓		Model BWM-SS-12			
			✓	✓	✓	Advanced Products & Systems, Inc.	Model SS18			
			✓	✓	✓		Model SSI12			
			✓	✓	✓	CCI Pipeline Systems	Model CSS-8			
			✓	✓	✓		Model CSS-12			
			✓	✓	✓	Cascade Waterworks	Series CCS 8"			
			✓	✓	✓		Series CCS 12"			
	Non-Metallic	✓	✓	✓	RACI Products	-	<p><b>Non-Metallic Casing Spacers:</b>            Shall be constructed of non-metallic virgin polypropylene or HDPE            Shall be sized/spaced per manufacturer's recommendations</p>			
		✓	✓	✓	GPT Industries	Ranger II				
	End Seals			✓	✓	✓	BWM Company		Model BWM-PO	<p style="text-align: center;">Shell/band shall be min. 14 gauge 304 SS</p>
				✓	✓	✓			Model BWM-WR	
				✓	✓	✓	Advanced Products & Systems, Inc.		Model AC	
				✓	✓	✓			Model AM	
✓				✓	✓	Model AZ				
✓				✓	✓	Model AW				
✓				✓	✓	CCI Pipeline Systems	Model ESC			
✓				✓	✓		Model ESW			
✓				✓	✓	Cascade Waterworks	Model CCES			
✓				✓	✓	GPT Industries Products	-			



## UTILITY APPROVED PRODUCT LIST

FEB 2020

Category		Submittal	Potable Water	Reclaimed Water	Wastewater	Manufacturer	Model Number	Notes	
Asset Protection/Locators	Tracer Wire	✓	✓	✓		Proline Safety	Pro-Trace HF-CSS	<p style="text-align: center;">To be used for <u>open cut installations</u></p> <p style="text-align: center;">Solid #10 gauge, high strength, copper clad steel wire (Min. 448 PSI break load)</p> <p style="text-align: center;">Min. 30-mils polyethylene insulation</p> <p style="text-align: center;">Color coded blue for water, purple for reclaimed water, or green for sanitary sewer</p>	
		✓	✓	✓		Copperhead Industries	1030-HS		
		✓	✓	✓		Proline Safety	Pro-Trace HDD-CSS		
		✓	✓	✓		Copperhead Industries	1045-EHS		
	Tracer Wire Connection	✓	✓	✓		Dryconn	King 6 Blue	-	
		✓	✓	✓			Direct Bury Lug Aqua		
	Tracer Wire Boxes	Non-traffic rated	✓	✓	✓	Copperhead Industries	Model LD14*TP	<p>Shaft size shall be min. 2-1/2" I.D. and 15" length</p> <p>Rim shall be ABS plastic with cast iron lid</p>	
			✓	✓	✓	Bingham & Taylor	Model P202CNG		
		Traffic-rated	✓	✓	✓	Copperhead Industries	Model RB14*TP		<p>Tracer wire box shall be encased in a 6" concrete square, 6" in depth</p> <p>Shaft size shall be min. 2-1/2" I.D. and 14-1/2" length</p> <p>Rim and lid shall be cast iron</p>
			✓	✓	✓	Bingham & Taylor	Model P2B202CNGHVY15SPB		
	Path Marking Tape		✓				7613XR	<p>All underground pipe shall have electronically detectable path marking tape made of polyethylene, minimum 6" wide and 6 mils thick</p> <p>The tape shall have embedded detectable markers spaced every 8 feet along the warning tape</p> <p>The tape shall be color coded blue for potable water, purple for reclaimed water, or green for sanitary sewer</p> <p>Shall be marked "CAUTION _____ LINE BURIED BELOW"</p>	
				✓		3M	7618XR		
							7614XR		
Polyethylene Encasement Tubing		✓	✓	✓	T. Christy's Enterprises	-	<p>Shall be min. 8 mil thick, low density polyethylene tubing conforming to AWWA C105</p> <p>Shall be color coded blue for potable water, purple for reclaimed water, and green for sanitary sewer</p>		
		✓	✓	✓	AA Thread	-			
		✓	✓	✓	Trumbull	-			



## UTILITY APPROVED PRODUCT LIST

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Category	Submittal	Potable Water	Reclaimed Water	Wastewater	Manufacturer	Model Number	Notes
Valve Boxes					Pro Select	Series PSVB 461 - 664	<p style="text-align: center;">Assembly shall be cast iron screw type boxes &amp; lids Alternatively, HDPE boxes shall be two-piece adjustable, min. 1/4-inch thick wall, w/ cast iron lid Bottom Barrel shall be 5-1/4 inches inside diameter, with a flanged bottom Lids shall have color coded tops with the lettering "WATER" or "SEWER"</p> <p style="text-align: center;"><b>Roadway Applications:</b> Shall use heavy duty, min. 24 lbs cast iron drop-type lid</p> <p style="text-align: center;"><b>Reclaimed Water:</b> Shall have square 9" x 9" lid labeled "Reclaimed Water" Shall be colored purple</p>
					Tyler Union	Series 6500/6850/6860	
					East Jordan Company Products	Series 8550	
						6800045 (Roadway)	
						6800073 (Roadway)	
					Sigma Corp./Russell Pipe Company Products	Series VB261 - VB268	
						Series VB630	
					Star Pipe Products	Series VB-0001/VB-0002	
						Series VB-0005/VB-0006	
						Series VB-0023	
Box Alignment Rings				Boxlok Products	Model 3 & 4	Contractor is responsible for verifying alignment ring model number will properly fit valve model	
<b>Air Release Valve Enclosure</b>				Allied Molded Products	ARVC-2439	All enclosures shall comply with Manatee County standard detail for shape and size 24" square by 39" tall fiberglass enclosure with a hasp for a padlock Shall have polyester infused aggregate protective coating color coded per application	
<b>Service Lateral Clean Out Lid</b>				US Foundry	USF 7621	Clean out lid shall have the letter "S" engraved and pick holes	
<b>Meter Boxes</b>				SIP Industries	6423-WNL	Non-locking, colored blue for potable water	
					6423-WL	Locking, colored blue for potable water	
					6423-RWNL	Non-locking, colored purple for reclaimed water	
					6423-RWL	Locking, colored purple for reclaimed water	
<b>Meter Resetters</b>				Ford Meter Box Co.	VB 42-7W (5/8" X 3/4")	<p style="text-align: center;">Shall conform to AWWA C800 Meter resetters shall have padlock wing on angle ball valve Riser Height shall be 7 inch</p>	
					VB 43-7W (3/4")		
					VB 44-7W (1")		
				A.Y. McDonald	718-207WX (5/8" X 3/4")		
				Mueller Co.	B-24118		
<b>Water Sample Stations</b>				Safety Guard	Model B.O.S.S.	Bacteriological sample station with built in flush system Shall be installed with UV-protected enclosure	

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## UTILITY APPROVED PRODUCT LIST

FEB 2020

Category		Submittal	Potable Water	Reclaimed Water	Wastewater	Manufacturer	Model Number	Notes	
Manholes	Precast Polymer Concrete Manholes				✓	US Composite Pipe	-	<p><b><u>Manholes shall be made of precast polymer concrete in the following applications:</u></b></p> <ul style="list-style-type: none"> <li>• Manholes receiving force main flow and the next two (2) downstream manholes</li> <li>• Manholes upstream of a lift station (Refer to Manatee County Public Works Utility Standards detail US-17A)</li> <li>• Manholes that have turbulent opposing flows (Refer to Manatee County Public Works Utility Standards detail US-3)                             <ul style="list-style-type: none"> <li>• Manholes with 12-inch and greater gravity sewer pipes</li> <li>• Outside drop manholes</li> </ul> </li> </ul> <p style="text-align: center;">Refer to Manatee County Public Works Utility Standards Section 1.13 for details</p> <p style="text-align: center;">Manholes shall be furnished with an approved heavy duty composite frame &amp; lid Frame &amp; lid shall have min. three (3) 316 SS locking bolts Refer to Frame &amp; Lids section of this Approved Product List for approved manufacturers</p>	
					✓	Armorock	-		
	Precast Concrete Manholes					✓	-	-	<p>Precast concrete manholes shall be installed for all applications <u>except</u> where a polymer concrete manhole is required as identified in the Precast Polymer Concrete Manholes section</p> <p style="text-align: center;">Refer to Manatee County Public Works Utility Standards Section 1.12 for details</p> <p style="text-align: center;">Only premade O-ring gaskets shall be allowed for joint connection Ramnek or similar products shall not be an acceptable method of joint connection</p>
	Flexible Pipe Connectors	Cast-In Boot (New Construction Only)				✓	A-Lok Products	Z-Lok	<p style="text-align: center;">Must meet ASTM C923</p> <p><b><u>Contractor shall grout the annular space between the pipe and wall penetration per manufacturer's recommendations with the following:</u></b></p> <p style="text-align: center;"><u>Polymer Concrete Manholes:</u> Sauereisen 165/Sikadur 42 Epoxy/ArmorRock Grout <u>Precast Concrete Manholes:</u> Avanti Multi-Grout AV-202/AV-118</p> <p style="text-align: center;"><b><u>Cast-In Boot:</u></b> Shall have external take down clamp and hardware made of 316 SS</p> <p style="text-align: center;"><b><u>Jack-In Boot:</u></b> Shall have external take down clamp and hardware made of 316 SS Shall have internal expansion band and hardware made of min. 304 SS</p>
						✓	Trelleborg	Series 706	
						✓	Press-Seal Corp.	Cast-A-Seal Series	
		Jack-In Boot (Existing Construction Only)				✓	Trelleborg	Kor-N-Seal Series 106/206/406	
						✓	Press-Seal Corp.	PSX Direct Drive	
						✓	Hamilton Kent	Tylox MIB Series	
	Rainwater Inserts	Stainless Steel				✓	SSI Sealing Systems	304 SS	
					✓	Rowland	InflowShield		
Plastic					✓	USSI	TPO Inflow Defender Max		

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## UTILITY APPROVED PRODUCT LIST

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Category		Submittal	Potable Water	Reclaimed Water	Wastewater	Manufacturer	Model Number	Notes	
Manholes	Standard				✓	U.S. Foundry	USF 170-CE-1	Shall be used for <u>precast concrete manholes</u> Lids be marked with the letters: "MANATEE COUNTY", "SANITARY SEWER", AND "YEAR"	
	Rim Elevation below Floodplain				✓	U.S. Foundry	USF 170-CE-BWT	Shall be used for <u>precast concrete manholes with lids that are located at less than the flood plain elevations</u> as specified in the Manatee County Public Works Utility Standards Section 1.12.12 Shall have gasketed seals Shall have min. three (3) 316 SS locking bolts	
					✓	Pamrex	Pamtight		
	ARV Manholes with < 44" From Top of Pipe to Cover		✓	✓	✓		Pamrex	Pamrex 32"	Shall be used for <u>ARV hinged manholes with less than 44" from top of pipe to cover</u> In roadways, the lid shall open in the direction opposite of incoming traffic
			✓	✓	✓		U.S. Foundry	USF 324-UT-LOC	
	Heavy Duty Composite					✓	Composite Access Products	CAP ONE	Shall be used with all <u>precast polymer concrete manholes</u> Must have "MANATEE COUNTY", "SANITARY SEWER", AND "YEAR" formed/molded Shall have min. three (3) 316 SS locking bolts
						✓	Trumbull	Model 367	
						✓	Aquatechnology Group	ATG-2400	
	Grade Adjustment Ring Adhesives					✓	Henry	Ram-Nek RN101	Butyl rubber sealant strips shall be used to seal grade adjustment rings to manhole cone Min. 3" wide x 1/2" thick
						✓	Martin Asphalt	Evergrip 990	
	External Joint Wrap	Heat Shrink-Wrap				✓	GPT Industries	Riser-Wrap	<b>To be used on Bell and Spigot or Tongue and Groove Smooth Wall Manhole Joints:</b> A min. of eighteen (18) inches wide heat shrinkable joint wrap shall be centered over all new manhole joints including chimney to manhole frame section
						✓	CCI Pipeline Systems	WrapidSeal	
		Non-Shrink Wrap					✓	GPT Industries	
						✓	Henry	Rubr-Nek RU116	
	Polymer Grout					✓	Armorock	ArmorRock Grout	Non-shrink, polymer grout shall be used for grouting applications in precast polymer concrete manholes including wall penetrations and adjusting benches
						✓	Sauereisen	No. 165	
						✓	Sikadur	No. 42	
	Grout					✓	Avanti	Multi-Grout AV-202/AV-118	Shall be used for grouting applications in precast concrete manholes including wall penetrations and adjusting benches
Internal Joint Sealants	Bell and Spigot Manhole Joints				✓	Henry	Ram-Nek RN101	Butyl rubber sealant strips shall be applied to the interior of bell and spigot manhole joints per manufacturer's recommendations Min. 3" wide x 1/2" thick	
					✓	Martin Asphalt	Evergrip 990		
					✓	ConSeal	CS102		
	Tongue and Groove Smooth Wall Manhole Joints					✓	Chemlink	M-1	A bead of sealant shall be applied to the interior of tongue and groove smooth wall manhole joints per manufacturer's recommendations Min. 3/4" wide x 1/2" thick
					✓	Adeka	UltraSeal P-201		
Protective Liners (Rehabilitation)					✓	Raven Lining Systems	Raven 405	Liners shall only be used with written approval from Manatee County to rehabilitate existing manhole concrete surfaces Liners shall be installed per manufacturer's recommendations	
					✓	GML Coatings	Green Monster		

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FEB 2020

Category		Submittal	Potable Water	Reclaimed Water	Wastewater	Manufacturer	Model Number	Notes	
Lift Stations	Electrical	Site Lighting				Regent	Model EQ300M1	Min. 6000 lumens LED	
		Level Switches and Sensors				MDI Products	-	Float switch	
						Connery Manufacturing	-	Float switch	
						Data Flow Systems (DFS)	TCU Bubbler Unit - TBU360	Bubbler transducer unit mounted shall be mounted inside the control panel Shall have 1/2" Sch. 80 PVC bubbler pipe routed to the wet well Bottom elevation of bubbler pipe shall be 6" above the pump's volute center Installation is required to be done by Data Flow Systems	
						McCrometer	Ultra Mag Model UM06	Shall be used for lift stations that re-pump sewage flows (directly or indirectly) from other lift stations	
	Flow Meters								
	Mechanical	Submersible Pumps	Satellite			ABS	-	Refer to Manatee County Public Works Utility Standards Section 1.14 for details Pumps shall have oil-filled cooling system	
						Barnes	-		
						Crane	Sithe Series		
						Hydromatic	-		
			Master			Hydromatic			
						Flygt	-		
		Diesel Backup Pumps	Pumps			Godwin Pumps	-		Refer to Manatee County Public Works Utility Standards Section 1.14 for details
			Cooling System Fluid			Prestone Products	-		
						Zerex Products	-		
Protective Coating					Carboline	Bitumastic 300M	Pump/Engine enclosures shall have a coal tar epoxy coating, min. 16 mils DFT, for all metal surfaces coming in contact with concrete or grout		
			Tnemec	46H-413	Alternatively, a 1/32-inch neoprene gasket between any metal surface and the concrete or masonry shall be used. Gasket shall be installed along the entire perimeter of the metallic surface, not just the fastening hardware.				
			Sherwin Williams	SherGlass FF	Fuel tank/skid base shall have haze grey, two coats of min. 12-15 mils DFT on top of a stripe coat over all welds, crevices, edges and sharp angles				

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## UTILITY APPROVED PRODUCT LIST

FEB 2020

Category		Submittal	Potable Water	Reclaimed Water	Wastewater	Manufacturer	Model Number	Notes
Lift Stations	Structural	Lift Station Wetwell			✓	US Composite Pipe	-	All lift station wetwells shall be made of precast polymer concrete Refer to Manatee County Public Works Utility Standards Section 1.13 for details
					✓	Armorock	-	
		Drop Bowl			✓	Reliner/Duran Products	-	If required, shall be installed per Manatee County Standard Details
		Horizontal Support Channels (For Control Panels Only)			✓	Unistrut Products	-	Min. 1-5/8", 12 gauge solid min. 304 SS channels, attached with 3/8" min. 304 SS all thread rod with min. 304 SS flat washers and nuts Refer to Manatee County Public Works Utility Standards details
					✓	BLine Products	-	
		U-Bolt Clamps			✓	ZSI Inc.	Alpha Series	Riser pipes shall be attached to riser pipe brackets by cushioned 316 stainless steel U-bolt clamps and nylon insert locknuts Thermoplastic cushion shall be resistant to Hydrogen Sulfide gas
		Pump Mounting Systems			✓	Barney's Pumps	-	All systems shall be of the front loading slide rail type BPIU All rail and mounting hardware shall be 316 SS
		Lift Station Towers			✓	Rohn	Series RG-25	For heights under 20 feet
					✓		Series RG-45	For heights 20 feet or above
		Aluminum Access Covers			✓	U.S. Foundry Products	-	Shall be aluminum have min. load rating of 300 PSF All hardware, hinges, and locking hasp shall be 316 SS Covers shall be equipped with a locking staple or bar for use with a padlock Edges in contact with concrete shall have 2 coats of bitumastic epoxy, 16 mils total DFT  <b>For Duplex Stations:</b> 4" Base Elbow Wetwell: hatch shall be minimum 36" x 48" 6" Base Elbow Wetwell (8' Dia. Wetwell): hatch shall be minimum 42" x 60"
					✓	Bilco Products	-	
					✓	Halliday Products	-	



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Category		Submittal	Potable Water	Reclaimed Water	Wastewater	Manufacturer	Model Number	Notes
Lift Stations	Surface Protection	Protective Insert Liners		✓	GU Florida	FRP GU Liner	<p style="text-align: center;">Liners shall only be used with written approval from Manatee County Liners shall be installed per manufacturer's recommendations</p> <p style="text-align: center;">Sealant, adhesive, and bonding agent products shall be compatible with liner material</p> <p style="text-align: center;">FRP liners shall be fabricated with premium grade isophthalic polyester resin, fiberglass chopped strand, woven roving and continuous reinforcements Sand filler shall not be permitted in the FRP laminate</p>	
		Protective Liners (Rehabilitation)		✓	Raven Lining Systems	Raven 405	Liners shall only be used with prior written approval from Manatee County to rehabilitate existing lift station concrete surfaces Liners shall be installed per manufacturer's recommendations	
				✓	GML Coatings	Green Monster		
				✓	CCI Spectrum	SpectraShield		
				✓	Sauereisen Products	210T & 210GL (MC Light Brown Formula)		
		Polymer Grout		✓	Armorock	ArmorRock Grout	Non-shrink, polymer grout shall be used for grouting applications in polymer concrete lift stations including wall penetrations	
				✓	Sauereisen	No. 165		
				✓	Sikadur	No. 42		
		Grout Applications		✓	Avanti	Multi-Grout AV-202/AV-118	Shall be used for grouting applications in precast concrete lift stations including wall penetrations	
		Coating		Valve Vault Interior	✓	Tnemecc	Series 69 Hi-Build Epoxy Coating	Interior surfaces of existing vaults shall have two (2) coats of min. 8 mils DFT each
	Exposed Concrete			✓	FLR Paints, Inc.	H&C Silicone Acrylic Concrete Stain, Patio Green	Exterior surfaces of valve vaults, wetwells, and valve assembly pads exposed above grade shall have at least two (2) coats of min. 8 mils DFT each	
	Exposed Valve Assembly			✓	Rustoleum	Series 7538	Aboveground valve assembly & piping shall be painted Hunter Green per manufacturer's recommendations	
	Internal Joint Sealants		Bell and Spigot Wetwell Joints	✓	Henry	Ram-Nek RN101	Butyl rubber sealant strips shall be applied to the interior of bell and spigot wetwell joints per manufacturer's recommendations Min. 3" wide x 1/2" thick	
				✓	Martin Asphalt	Evergrip 990		
✓				ConSeal	CS102			
Tongue and Groove Smooth Wall Wetwell Joints			✓	Chemlink	M-1	A bead of sealant shall be applied to the interior of tongue and groove smooth wall wetwell joints per manufacturer's recommendations Min. 3/4" wide x 1/2" thick		
			✓	Adeka	UltraSeal P-201			

Contractor shall check/mark which product is intended to be used in the submittal box. If multiple manufacturers are to be used, each manufacturer shall be marked.