## **ATTACHMENT 5**

## WATER DISTRIBUTION SYSTEM STANDARD PLANS

<u>Title</u>	<b>Approved</b>
Typical System Restraint Lengths	September 2017
Harness Installation for Flange Fittings	September 2017
Harness Installation	September 2017
Concrete Anchor Blocks for Vertical Bends	September 2017
Concrete Thrust Blocks for Horizontal Bends	September 2017
Fire Hydrant and Lateral	September 2017
Pumper Connection	September 2017
Temporary Blow Off and/or Metered Connection for Mains Under Construction	September 2017
Temporary Metered Connection when Fire Flow is Required	September 2017
Permanent Blow Off	September 2017
Full Size Blow Off	September 2017
1" High Density Polyethylene Water Service Lateral for 5/8' x 3/4" or 1" Meter	September 2017
1" Copper Water Service Lateral for 5/8" x 3/4" or 1" Meter	September 2017
1-1/2" High Density Polyethylene Water Service Lateral for 1" Meter	September 2017
1-1/2" Copper Water Service Lateral for 1" Meter	September 2017
1-1/2" High Density Polyethylene Dual Water Service Lateral	September 2017
2" High Density Polyethylene Water Service Lateral for 1-1/2" or 2" Meter	September 2017
2" Copper Water Service Lateral for 1-1/2" or 2" Meter	September 2017
4" Water Service Lateral for 3" Meter	September 2017
4" Water Service Lateral for 4" Meter	September 2017
6" Water Service Lateral for 6" Meter	September 2017
Combination Water Service Stub	September 2017
Combination Water Service	September 2017
Alignment of Water Mains and Placement of Mainline Valves	September 2017
Water Main Encasement and End Seal	September 2017
Above Ground Double Check Valve Backflow Device	September 2017
Below Ground Double Check Valve Backflow Device	September 2017
Reduced Pressure Backflow Device	September 2017
Gate Valve	September 2017
	Typical System Restraint Lengths Harness Installation for Flange Fittings Harness Installation Concrete Anchor Blocks for Vertical Bends Concrete Thrust Blocks for Horizontal Bends Fire Hydrant and Lateral Pumper Connection Temporary Blow Off and/or Metered Connection for Mains Under Construction Temporary Metered Connection when Fire Flow is Required Permanent Blow Off Full Size Blow Off 1" High Density Polyethylene Water Service Lateral for 5/8" x 3/4" or 1" Meter 1" Copper Water Service Lateral for 5/8" x 3/4" or 1" Meter 1-1/2" High Density Polyethylene Water Service Lateral for 1" Meter 1-1/2" Copper Water Service Lateral for 1" Meter 1-1/2" High Density Polyethylene Dual Water Service Lateral 2" High Density Polyethylene Water Service Lateral 2" High Density Polyethylene Water Service Lateral 4" Water Service Lateral for 1-1/2" or 2" Meter 2" Copper Water Service Lateral for 1-1/2" or 2" Meter 4" Water Service Lateral for 4" Meter 6" Water Service Lateral for 4" Meter 6" Water Service Lateral for 6" Meter Combination Water Service Stub Combination Water Service Stub Combination Water Service Alignment of Water Mains and Placement of Mainline Valves Water Main Encasement and End Seal Above Ground Double Check Valve Backflow Device Below Ground Double Check Valve Backflow Device

878	Butterfly Valve and Tapping Valve	September 2017
879	Single Check Detector Assembly in Vault	September 2017
880	Double Check Detector Fire Line Backflow Assembly	September 2017
881	Pressure Reducing Valve Assembly	September 2017
882	Surge Anticipator Valve and Pressure Relief Valve	September 2017
883	Combination Air and Vacuum/ Air Release Valve	September 2017
884	Water Meter for Private Non-Residential Systems	September 2017
885	Water Meter for Private Process and Evaporative Water Lines	September 2017
886	Water Sampling Station	September 2017
887	4" Ductile Iron Multi-Service Manifold	September 2017
888	Above Ground Single Check Detector Assembly	September 2017
889	Water Service Anode	September 2017

## RECYCLED WATER SYSTEM STANDARD PLANS

Recycled water system standard plans shall be the same as the water distribution system standard plans except as noted below. In no case shall the recycled water system construction standards deviate from the City's Recycled Water System Design Standards or the City's Recycled Water User's Guide without prior approval from the Water Department Director.

Std.#	Title	RW Design Standards References	
850	Typical System Restraint Lengths	New	
851	Harness Installation for Flange Fittings	No changes	
852	Harness Installation	No changes	
853	Concrete Anchor Blocks for Vertical Bends	No changes	
854	Concrete Thrust Blocks for Horizontal Bends	No changes	
857	Fire Hydrant and Lateral/Fire Hydrant Location	Not applicable for recycled water	
858	Pumper Connection	Not applicable for recycled water	
859	Temporary Blow-off and/or Metered Connection	Metered connections shall conform to RW	
	197	Design Standards Sections IV, X and XIII	
860	Temporary Metered Connection When Fire Flow is Required	Not applicable for recycled water	
861	Permanent Blow-off	Service lateral, valve and meter box shall	
		conform to RW Design Standards Sections	
		IV, X and XIII	
862	Full Size Blow-off	Valves, pipe and meter box shall conform to	
		RW Design Standards Sections IV, IX, X and	
		XIII	
863A	1" HDPE Water Service Lateral	Service connections shall conform to RW	
		Design Standards Sections IV and X	
863B	1" Copper Water Service Lateral	Service connections shall conform to RW	
		Design Standards Sections IV and X	
863C	1-1/2" HDPE Water Service Lateral	Service connections shall conform to RW	
		Design Standards Sections IV and X	
863D	1-1/2" Copper Water Service Lateral	Service connections shall conform to RW	
		Design Standards Sections IV and X	
864	1-1/2" HDPE Dual Water Service Lateral	Not applicable for recycled water	
865A	2" HDP Water Service Lateral for 1-1/2" or 2" Meter	Service connections shall conform to RW	
		Design Standards Sections IV, IX and X	
865B	2" Copper Water Service Lateral for 1-1/2" or 2" Meter	Service connections shall conform to RW	
`-		Design Standards Sections IV, IX and X	
866	4-inch Water Service Lateral for 3-inch Meter	Service connections shall conform to RW	
		Design Standards Sections IV, IX and X	
867	4-inch Water Service Lateral for 4-inch Meter	Service connections shall conform to RW	
		Design Standards Sections IV, IX and X	
868	6-inch Water Service Lateral for 6-inch Meter	Service connections shall conform to RW	
		Design Standards Sections IV, IX and X	
	Combination Water Service Stub	Not applicable for recycled water	
870	Combination Water Service	Not applicable for recycled water	
871	Alignment of Water Mains & Placement of Mainline	Recycled water mains and valves shall	
	Valves	conform to RW Design Standards Sections VI	
		and IX	

872	Water Main Encasement & End Seal	Carrier pipe shall conform to RW Design
		Standards Section IV
874	Above Ground Double-Check Valve Backflow Device	Not applicable for recycled water
875	Below Ground Double-Check Valve Backflow Device	Not applicable for recycled water
876	Reduced-Pressure Backflow Device	Backflow devices shall conform to RW
		Design Standards Sections X and XI
877	Gate Valve	Valves shall conform to RW Design Standards
		Section IX
878	Butterfly Valve and Tapping Valve	Valves shall conform to RW Design Standards
		Sections V and IX
879	Single Detector Check Assembly in Vault	Not applicable for recycled water
880	Double-Check Detector Fire Line Backflow Assembly	Not applicable for recycled water
881	Pressure Reducing Valves	Vault cover shall be purple and labeled same
İ		as meter box cover; PRV assemblies shall
		conform to RW Design Standards Sections
		IV, V, IX, X and XII
882	Surge Anticipator Valve or Pressure Relief Valve	Not applicable for recycled water
883	Combination Air & Vacuum / Air Release Valve	Vault cover shall be purple and labeled same
		as meter box cover; valve assemblies shall
		conform to RW Design Standards Sections X
		and XIII
884	Water Meter for Private Non-residential Systems	Not applicable for recycled water
885	Water Meter for Private Process and Evaporative Lines	Not applicable for recycled water
886	Water Sampling Station	Sampling stations shall conform to RW
		Design Standards Sections IV, IX, X and XIII
887	4-inch Ductile Iron Multi-Service Manifold	Not applicable for recycled water
888	Above Ground Single Check Detector Assembly	Not applicable for recycled water
889	Water Service Anode	No changes