

Polk County Supplemental Water Supply Plan

Cost Estimator-A

Total Water Supply = 0 MGD-AADD
 District Funded 50% (Y/N)= N Input Y or N

	Well Depth (ft)	Quantity	Unit	Capital Cost	O&M Cost
1 Water Production Wells					
1.1 Water Production Wells (2")	0	1	depth,ft	\$0	
1.2 Water Production Wells (4")	0	1	depth,ft	\$0	
1.3 Water Production Wells (6")	0	1	depth,ft	\$0	
1.4 Water Production Wells (8")	0	1	depth,ft	\$0	
1.5 Water Production Wells (10")	0	1	depth,ft	\$0	
1.6 Water Production Wells (12")	0	1	depth,ft	\$0	
1.7 Water Production Wells (16")	0	1	depth,ft	\$0	
1.8 Water Production Wells (18")	0	1	depth,ft	\$0	
1.9 Water Production Wells (24")	0	1	depth,ft	\$0	
		Subtotal=		\$0	
	Capacity	Quantity	Unit	Capital Cost	O&M Cost
2 Raw Water Pumping System					
2.1 Groundwater Pumping System	0	1	mgd	\$0	\$0
2.2 Surface Water Pumping System	0	1	mgd	\$0	\$0
3 High-Rate Flocculation/Clarification	0	1	mgd	\$0	\$0
4 Chemical Feed and Storage					
4.1 Ammonia	0	1	mgd	\$0	\$0
4.2 Antiscalant	0	1	mgd	\$0	\$0
4.3 Caustic	0	1	mgd	\$0	\$0
4.4 Ferric Sulfate	0	1	mgd	\$0	\$0
4.5 Hydrofluosilicic Acid	0	1	mgd	\$0	\$0
4.6 Polymer	0	1	mgd	\$0	\$0
4.7 PAC	0	1	mgd	\$0	\$0
4.8 Sodium Hypochlorite	0	1	mgd	\$0	\$0
4.9 Sulfuric Acid	0	1	mgd	\$0	\$0
4.10 Typical Chemical Building	0	1	ft ²	\$0	\$0
5 Deep Bed Filters	0	1	mgd	\$0	\$0
6 Lime Softening System	0	1	mgd	\$0	\$0
7 Residuals Handling	0	1	mgd	\$0	\$0
8 Membrane Treatment System					
8.1 Membrane Softening (Nanofiltration)	0	1	mgd	\$0	\$0
8.2 Seawater Reverse Osmosis Membranes	0	1	mgd	\$0	\$0
8.3 Brackish Water Reverse Osmosis Membranes (750 mg/L TDS)	0	1	mgd	\$0	\$0
8.4 Brackish Water Reverse Osmosis Membranes (1,120 mg/L TDS)	0	1	mgd	\$0	\$0
8.5 Brackish Water Reverse Osmosis Membranes (1,500 mg/L TDS)	0	1	mgd	\$0	\$0
8.6 Brackish Water Reverse Osmosis Membranes (3,000 mg/L TDS)	0	1	mgd	\$0	\$0
8.7 Brackish Water Reverse Osmosis Membranes (8,000 mg/L TDS)	0	1	mgd	\$0	\$0
9 MF/UF Membrane Filtration System	0	1	mgd	\$0	\$0
10 Aeration for Groundwater Systems					
10.1 Cascading Aerators	0	1	mgd-mdd	\$0	
10.2 Perforated Tray Aerators	0	1	mgd	\$0	
11 Chlorine Disinfection System	0	1	mgd	\$0	\$0
12 Chloramine Disinfection System	0	1	mgd	\$0	\$0
13 UV Disinfection System	0	1	mgd	\$0	\$0
14 Ozone Disinfection System	0	1	mgd	\$0	\$0
15 Granular Activated Carbon (GAC) Filters	0	1	mgd	\$0	\$0
16 Transfer Pumping System	0	1	mgd	\$0	\$0
17 High Service Pumping System	0	1	mgd	\$0	\$0
18 Clearwell	0	1	mgd	\$0	
19 Operations Building & Laboratory	0	1	MDPC, mgd	\$0	
20 Reservoir	0	1	Mgal	\$0	\$0
21 Ground Storage Tanks	0	1	Mgal	\$0	
22 Treated Water Aquifer Storage Recovery (ASR) Systems	0	1	mgd	\$0	\$0
23 Booster Pump Station	0	1	mgd	\$0	\$0
24 Seawater Desalination Plant Co-Located with a Power Plant	0	1	MDPC, mgd	\$0	\$0
25 Seawater Desalination Plant	0	1	MDPC, mgd	\$0	\$0
25.1 Intake Construction OPC and Maintenance	0	1	MDPC, mgd	\$0	\$0
25.2 Outfall Construction OPC and Maintenance	0	1	MDPC, mgd	\$0	\$0
26 Modifications to an Existing Wastewater Treatment Plant					
26.1 Modifications to Meet Public Access for Reuse	0	1	mgd	\$0	\$0
27 Reclaimed Water Storage Ponds	0	1	Mgal	\$0	\$0
28 Rapid Infiltration Basin System	0	1	mgd	\$0	\$0
29 Injection Well System	0	1	mgd	\$0	\$0
		Subtotal=		\$0	\$0
30 Construction Markup					
30.1 Contingencies (20%)		20%		\$0	\$0
30.2 Engineering, Legal & Admin (20%)		20%		\$0	\$0
30.3 Contractor's Overhead and Profit (15%)		15%		\$0	\$0
30.4 Mobilization/Demobilization (5%)		5%		\$0	\$0
		Subtotal=		\$0	\$0



Total Water Supply = 0 MGD-AADD

	Distance (ft)	Unit Cost	Unit	Capital Cost	O&M Cost
31 Piping²					
31.1 (4") Polyvinyl Chloride Pipe	0	\$75	ft	\$0	
31.1 (6") Polyvinyl Chloride Pipe	0	\$85	ft	\$0	
31.1 (8") Polyvinyl Chloride Pipe	0	\$95	ft	\$0	
31.1 (10") Polyvinyl Chloride Pipe	0	\$105	ft	\$0	
31.2 (12") Polyvinyl Chloride Pipe	0	\$115	ft	\$0	
31.3 (14") Polyvinyl Chloride Pipe	0	\$117	ft	\$0	
31.4 (16") Polyvinyl Chloride Pipe	0	\$120	ft	\$0	
31.5 (18") Polyvinyl Chloride Pipe	0	\$199	ft	\$0	
31.6 (20") Polyvinyl Chloride Pipe	0	\$201	ft	\$0	
31.7 (24") Polyvinyl Chloride Pipe	0	\$221	ft	\$0	
31.8 (30") Ductile Iron Pipe	0	\$383	ft	\$0	
31.9 (36") Ductile Iron Pipe	0	\$430	ft	\$0	
31.10 (42") Ductile Iron Pipe	0	\$478	ft	\$0	
31.11 (48") Ductile Iron Pipe	0	\$526	ft	\$0	
31.12 (54") Ductile Iron Pipe	0	\$573	ft	\$0	
31.13 (60") Steel Pipe	0	\$733	ft	\$0	
31.14 (66") Steel Pipe	0	\$793	ft	\$0	
31.15 (72") Steel Pipe	0	\$981	ft	\$0	
31.16 (78") Steel Pipe	0	\$1,053	ft	\$0	
31.17 (84") Steel Pipe	0	\$1,122	ft	\$0	
31.18 (90") Steel Pipe	0	\$1,193	ft	\$0	
31.19 (96") Steel Pipe	0	\$1,263	ft	\$0	
32 Valves					
32.1 (4") Resilient gate Valves	0	\$600	# Valves	\$0	
32.1 (6") Resilient gate Valves	0	\$1,000	# Valves	\$0	
32.1 (8") Resilient gate Valves	0	\$1,400	# Valves	\$0	
32.1 (10") Resilient gate Valves	0	\$1,800	# Valves	\$0	
32.2 (12") Resilient gate Valves	0	\$2,200	# Valves	\$0	
32.3 (14") Resilient gate Valves	0	\$5,400	# Valves	\$0	
32.4 (16") Resilient gate Valves	0	\$7,000	# Valves	\$0	
32.5 (18") Resilient gate Valves	0	\$11,200	# Valves	\$0	
32.6 (20") Resilient gate Valves	0	\$13,900	# Valves	\$0	
32.7 (24") Resilient gate Valves	0	\$19,600	# Valves	\$0	
32.8 (30") Resilient gate Valves	0	\$33,900	# Valves	\$0	
32.9 (36") Resilient gate Valves	0	\$43,100	# Valves	\$0	
32.10 (42") Butterfly Valves	0	\$25,900	# Valves	\$0	
32.11 (48") Butterfly Valves	0	\$35,000	# Valves	\$0	
32.12 (54") Butterfly Valves	0	\$54,800	# Valves	\$0	
32.13 (60") Butterfly Valves	0	\$72,450	# Valves	\$0	
32.14 (66") Butterfly Valves	0	\$81,200	# Valves	\$0	
32.15 (72") Butterfly Valves	0	\$91,000	# Valves	\$0	
32.16 (78") Butterfly Valves	0	\$98,000	# Valves	\$0	
32.17 (84") Butterfly Valves	0	\$112,000	# Valves	\$0	
32.18 (90") Butterfly Valves	0	\$126,000	# Valves	\$0	
32.19 (96") Butterfly Valves	0	\$140,000	# Valves	\$0	
33 Pipe & Valving Construction Markup					
33.1 Contingencies (20%)		20%		\$0	
33.2 Engineering, Legal & Admin (20%)		20%		\$0	
33.3 Contractor's Overhead and Profit (15%)		15%		\$0	
33. Mobilization/Demobilization (5%)		5%		\$0	
			Subtotal=	\$0	
Total Capital Costs= \$0					
Present Worth Per Year Capital Costs = \$0					
Estimated First Year O&M Costs = \$0					
Total First Year Costs (Capital + O&M) = \$0					
Total Unit Costs (\$/Kgal) = Error					
Potential District Funding (@ 50%)= \$0					
Total Capital Costs w/ District Funding = \$0					
Present Worth Per Year Capital Costs w/ District Funding = \$0					
Estimated First Year O&M Costs = \$0					
Total First Year Costs (Capital w/ District Funding + O&M) = \$0					
Total Unit Costs w/ District Funding (\$/Kgal) = Error					

Note: Information is based on "Engineering Assistance in Updating Information on Water Supply and Reuse System Component Costs" by Black & Veatch prepared for the SJRWMD
 Piping cost were only considered necessary if the projects piping is greater than 5 miles.
 Total Payment Period is 30 yrs; Interest Rate is 5.5%

