Utility 2.0 Option Rate Comparisons **Attachment 6**

Water Utility

Features and Costs by Option

Project Category	Projects	0	1	November 28, 2017 Revised Proposal Modified Option 1	2	October 6, 2015 City Council Direction Option 3	4
Water Supply *Projects to increase water supply through direct supplement and augmentation of groundwater basins*	Recycled Water Phase 1 w/ estimated annual yield	600 AF	600 AF	**600 AF**	600 AF	**600 AF**	600 AF
	Recycled Water Phase 2 w/ estimated annual yield	-	2,800 AF	-	2,800 AF	**2,800 AF**	2,800 AF
	Santa Ana River Rubber Dam - Off-Stream Recharge w/ estimated annual yield	-	500 AF	-	2,000 AF	**2,000 AF**	2,000 AF
	Seven Oaks Dam - Enhanced Recharge w/ estimated annual yield	1,000 AF	1,000 AF	**1,000 AF**	1,000 AF	**1,000 AF**	1,000 AF
	Santa Ana River Rubber Dam - In Stream Recharge w/ estimated annual yield	-	-	-	1,000 AF	**1,000 AF**	1,000 AF
	Recycled Water - Arlington Avenue Reach w/ estimated annual yield	-	-	-	1,600 AF	**1,600 AF**	1,600 AF
	Seven Oaks Dam Active Recharge Project w/ estimated annual yield	-	-	-	-	**3,000 AF**	3,000 AF
	Local stormwater capture projects, various locations w/ estimated annual yield	-	-	-	-	**2,500 AF**	2,500 AF
Water Supply 10-year costs		$22,716,258	$39,369,645	**$23,853,254**	$71,870,473	**$96,558,109**	$96,558,109
Water Treatment *Water treatment plants to ensure safe, clean water supply.*	John W. North Filter Replacement	Partial Replacement of filters.	✓	**Partial Replacement of filters.**	✓	✓	✓
	North Waterman Treatment Plant	-	-	-	✓	✓	✓
	Gage Canal Irrigation Water Treatment Facility	-	-	-	-	-	✓
Water Treatment 10-year costs		$1,800,000	$3,039,852	**$1,675,142**	$19,747,853	**$19,747,853**	$33,389,920
Well Projects *Water supply wells in Riverside and San Bernardino groundwater basins.*	Well Rehabilitation frequency	1 Well Rehabs Annually	3 to 5 Well Rehabs Annually	**3 to 5 Well Rehabs Annually**	3 to 5 Well Rehabs Annually	**3 to 5 Well Rehabs Annually**	3 to 5 Well Rehabs Annually
	Drinking water well replacements frequency	1 Well Every Other Year	1 Well Every Other Year	**1 Well Every Other Year**	1 Well Every Other Year	**1 Well Every Other Year**	1 Well Every Other Year
	Irrigation well replacement frequency	-	-	**1 Well Every Five Years**	-	**1 Well Every Five Years**	1 Well Every Five Year
Well Projects 10-year costs		$20,000,000	$23,583,464	**$30,988,044 (A)**	$23,583,464	**$28,777,033**	$28,777,033

(A) cost increases since 2015 estimate.

Water Utility

Features and Costs by Option

Project Category	Projects	0	1	November 28, 2017 Revised Proposal Modified Option 1	2	October 6, 2015 City Council Direction Option 3	4
Transmission Pipelines	Minor rehabilitation and capitalized maintenance	Reduced Maintenance	✓	✓	✓	✓	✓
	Techite Pipeline Replacement and Upsizing	-	-	✓	✓	✓	✓
	Industrial Booster Station transmission feeder pipeline	-	-	✓	✓	✓	✓
Arterial pipelines 16" to 72" diameter for water supply from San Bernardino and Riverside basins and in system transmission	Park Avenue Transmission Main Replacement and upsizing (Begin project in Modified Option 2)	-	-	✓	-	✓	✓
	Victoria Avenue Transmission Main Replacement and upsizing	-	-	-	-	✓	✓
	New Emtman Transmission Main	-	-	-	-	-	✓
	Ross Transmission Main Replacement and Upsizing	-	-	-	-	-	✓
	Additional Transmission Main Replacement and Upsizing	-	-	-	-	-	✓
Transmission 10-year costs		$5,600,000	$6,660,822	**$53,146,674**	$36,542,222	**$77,338,312**	$111,876,154
Distribution Pipelines	Numerous (hundreds) of minor rehabilitation and capitalized maintenance service calls	✓	✓	✓	✓	✓	✓
Neighborhood pipelines 6" to 12" diameter for water service and fire fighting	Distribution pipeline replacement - annual mileage and estimated replacement cycle (Ramp-up to 130-yr replacement cycle in Modified Option 2)	5.6 Miles Annually (150-yr RC)	6.5 Miles Annually (130-yr RC)	**Average of 4.7 Miles Annually (180-yr RC); Increase to 6.5 Miles Annually at 10 years (130-yr RC)**	8.5 Miles Annually (100-yr RC)	**8.5 Miles Annually (100-yr RC)**	11.5 Miles Annually (75-yr RC)
Distribution Pipeline 10-year costs		$102,198,543	$134,223,354	**$109,895,470**	$153,208,977	**$153,208,977**	$181,691,170

Water Utility

Features and Costs by Option

Project Category	Projects	0	1	November 28, 2017 Revised Proposal Modified Option 1	2	October 6, 2015 City Council Direction Option 3	4
Distribution Facilities *Water distribution and distribution network edge equipment to deliver and meter water throughout system*	Pump station minor rehabilitation and capitalized maintenance	✓	✓	✓	✓	✓	✓
	Pressure control station minor rehabilitation and capitalized maintenance	✓	✓	✓	✓	✓	✓
	Water meter replacement and large meter rehabilitation	✓	✓	✓	✓	✓	✓
	Polk/Magnolia Pressure control station replacement	-	✓	✓	✓	✓	✓
	Canyon Crest Booster Station Replacement and relocation	-	✓	✓	✓	✓	✓
	Crest Booster Station Replacement and relocation	-	✓	✓	✓	✓	✓
Distribution Facilities 10-year costs		$11,900,000	$18,801,954	**$18,696,167**	$18,801,954	**$18,801,954**	$18,801,954
Reservoir Projects *System storage for emergency, operational and system efficiency improvements*	Minor rehabilitation and capitalized maintenance (2-year deferral in Modified Option 2)	Reduced Maintenance	✓	✓	✓	✓	✓
Reservoir 10-year costs		$2,500,000	$3,976,819	**$2,439,591**	$3,976,819	**$3,976,819**	$3,976,819

Water Utility							
		Features and Costs by Option					
Project Category	**Projects**	**0**	**1**	**November 28, 2017 Revised Proposal Modified Option 1**	**2**	**October 6, 2015 City Council Direction Option 3**	**4**
System Automation *Technology, security and system automation tools and applications to improve cyber security and overall efficiency.*	Operational Technology planning, management, and cyber & physical security improvements	✓	✓	✓	✓	✓	✓
	Contact Center Interactive Voice Response System and Customer Web					✓	✓
	Central Stores Warehouse Inventory System		✓	✓	✓	✓	✓
	Geographic Information System replacement	✓	✓	✓	✓	✓	✓
	Mobile applications to support Work Management System, Customer Relationship Management system, inspection, outage management system and GIS applications			✓	✓	✓	✓
	Operational Data Management System and business analytics to support data integration and reporting (KPI dashboarding)			✓	✓	✓	✓
	Network Communications Systems to improve communication backbone and improve system functionality, efficiency and cybersecurity		✓	✓	✓	✓	✓
	Land-Mobile Radio system to improve office to field and field to field communication to support worker safety and emergency response		✓	✓	✓	✓	✓
	Advanced Metering Infrastructure and Meter Data Management System to integrate AMI data and support customer facing applications and web integration of CIS (Commercial only for Options 0 through 2. Modified Option 2 includes funding for Residential Projects.)	✓	✓	✓	✓	✓	✓
	Automated Vehicle Locating to improve fleet efficiency and support worker/crew locations for safety and outage management efficiencies.					✓	✓
	Distribution Automation System			✓	✓	✓	✓
	Supervisory Control and Data Acquisition (SCADA) to improve system automation, efficiency and cyber security.	✓	✓	✓	✓	✓	✓
System Automation 10 year costs		$16,515,500	$19,792,809	**$38,227,912**	$36,049,640	**$43,117,887**	$43,117,887
Total		$183,230,301	$249,448,719	**$278,922,254**	$363,781,402	**$441,526,944**	$518,189,046