

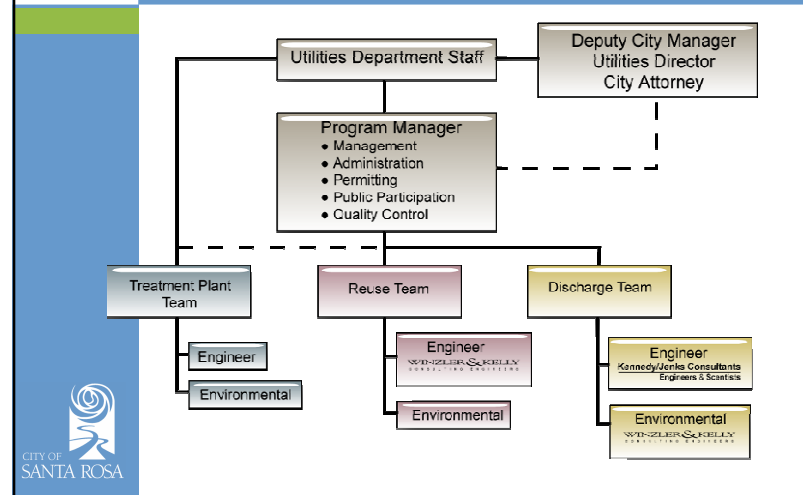


Laguna Subregional Water Reclamation Facility Incremental Recycled Water Program Improvement Master Plan

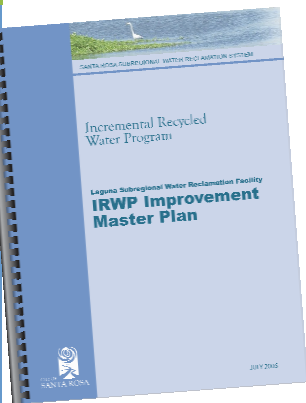
BPU Study Session
August 4, 2005



IRWP Organization



Treatment Plant Improvements Master Plan

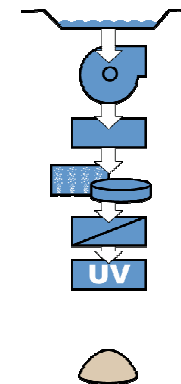


- TM L-1 – Design Hydrograph Development
- TM L-2 – Peak Flow Attenuation via Collection System Storage
- TM L-3 – Headworks Evaluation
- TM L-4 – Primary Sedimentation Basin Analyses
- TM L-5 – Filtration and UV Expansion
- TM L-6 – Wet Weather Flow Management



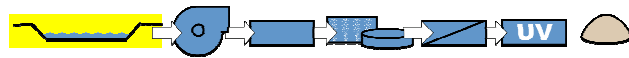
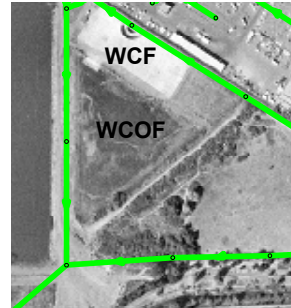
Recommended Treatment Improvements

- Collection System Storage
- Headworks
- Primary Treatment
- Secondary Treatment
- Filtration
- UV Disinfection
- Solids Handling and Treatment
- Power Generation



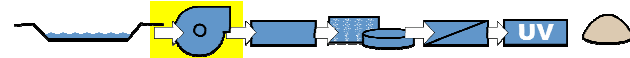
Collection System Storage
West College Pond Lining

- Attenuates peak-hour flows
- Defers expansion of headworks
- Reduces size of future headworks
- Relieves immediate pressure on emergency power



Headworks

- Reduces excessive wear on downstream equipment
- Improves reliability of operation
- Increases future peak-flow capacity



Primary Treatment

- Equalizes flow distribution between basins
- Improves solids and scum removal
- Increases future peak-flow capacity



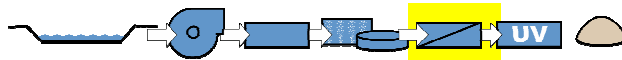
Secondary Treatment

- Increases future treatment capacity



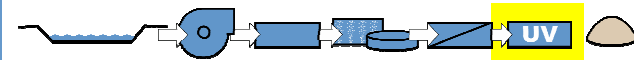
Filtration

- Maintains Title 22 filtration requirements
- Increases future treatment capacity



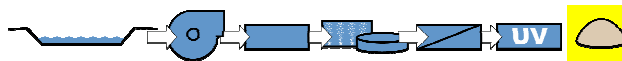
UV Disinfection

- Continues compliance with DHS UV disinfection guidelines
- Increases future treatment capacity



Solids Handling and Treatment

- Maintains reuse flexibility
- Increases future treatment capacity



Power Generation


- Prepare a Power Master Plan
- Implement near-term recommendations for emergency power
- Implement long-term recommendations for facility and emergency power



Incremental Recycled Water Program

Laguna Plant Improvements Implementation Plan (\$2004) (figures subject to change)

Recommended Improvement	Short-term (\$ million)					Intermediate (\$ million)			Long-term (\$ million)			Improvements Subtotal (\$ million)	
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014		2015
Preliminary Treatment													
West College Pond Lining			4.3										4.3
Headworks			2.0					11.4					13.4
Primary Treatment													
Primary Clarifiers and Return Pipe		0.3						7.1				6.0	13.4
Primary Sludge Pump Station								1.1				0.3	1.4
Primary Sedimentation Basin Retrofit			0.3										0.3
Secondary Treatment													
Aeration Basins											5.4	5.4	10.8
Secondary Clarifiers								4.0			3.4	3.4	10.8
RAS/WAS Pumping											0.3		0.3
Tertiary Treatment													
Filtration							14.0	14.0			5.0		33.0
UV Disinfection							6.0	6.0			6.0		18.0
Hydraulic Improvements							1.0						1.0
Solids Handling and Treatment													
Thickening													
Digestion			0.5									2.0	2.0
Dewatering			4.0									4.3	4.3
Composting		0.8											
Land Application		4.0		0.2	1.8								
Power Generation			0.2		5.9	5.9					3.3		15.3
Subtotal by Year (\$ million)	0.0	0.5	6.6	5.9	5.9	21.0	24.0	19.6	0.0	29.7	8.8	6.3	\$128.3



Incremental Recycled Water Program

Inflation Impact

- 2004 dollars: \$128 million
- Future dollars: \$179 million



Incremental Recycled Water Program

Implementation Schedule Drivers

- Flow trends
- Regulatory
 - California Toxics Rule implementation
 - Filtration rates
 - UV disinfection requirements
- Wet weather flow strategy
- Recommendations of Power Master Plan
- Funding

