eki environment & water

Planning Assistance for Wastewater and Recycled Water System for Southern California Development



\$50,000			
\$45,000	1		Purestream - 33 Dwelling Unit Purestream - 50 Dwelling Unit Marestan Stoble - 17 Dwelling Unit
\$43,000			 A Magelian Mobile - 83 Dwelling Unit K 66 2-MOD - 25 Dwelling Unit
\$35,000			GE 2-MOD - 50 Dwelling Unit Magelian MIBBR - 17 Dwelling Unit Magelian MIBBR - 50 Dwelling Unit
530,000	(X		Biobarrier - 20 Owelling Unit Biobarrier - 40 Owelling Unit
2 523,000			+ Pull-Scale MBR Plant (0.2 mpd) Trendine
0 123,000	•		
\$15,000			Erler & Kalinowski, Inc.
\$33,000		•	Conceptual Wastewate Treatment Capital Costs Pe Dwelling Unit as a Function of
\$5,000			System Siz
50	0 100 200 800 400 500 Ascensimals Number of Deathing Units	800 700	April 201 800 EKI A50043.3 Figure 2

EKI assisted a major developer with evaluating options for wastewater and recycled water systems for a new, large-scale development in an agricultural area of Southern California. As part of this work, EKI reviewed existing planning and engineering documents and evaluated the feasibility of providing recycled water suitable for unrestricted reuse to the community. Among other issues, EKI investigated the feasibility of discharging disinfected, tertiary-treated wastewater into an on-site lake for seasonal recycled water storage.

After the timing for the proposed project was changed, EKI performed a feasibility evaluation of options for interim wastewater treatment processes that would still provide recycled water suitable for unrestricted reuse, but on a very small scale, such as for a single hotel. Due to the uncertain development timeline, the evaluation particularly focused on options that would be modular and easily expandable over time. EKI evaluated various factors including cost, footprint, recycled water quality, expandability, transportability, and aesthetics. For the cost evaluation, EKI summarized the costs as a function of system size to graphically show the relative cost-effectiveness of each option.

As part of the larger project, EKI prepared a detailed water demand study for the project, projecting indoor and outdoor water demands for the proposed project based on expected land uses. EKI also conducted a sustainable yield assessment for the local groundwater basin.