

Caughlin Ranch Irrigation Study



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One Team. Infinite Solutions



Background:

- The Homeowner's Association spends up to \$400,000 on TMWA water every year.
- The Homeowner's Association has rights to 163.9 acre-feet of water for irrigation and aesthetic purposes.
- Could water from the Steamboat Ditch be used economically for irrigating portions of the common area?

Purpose of the Phase 1 Feasibility Study:

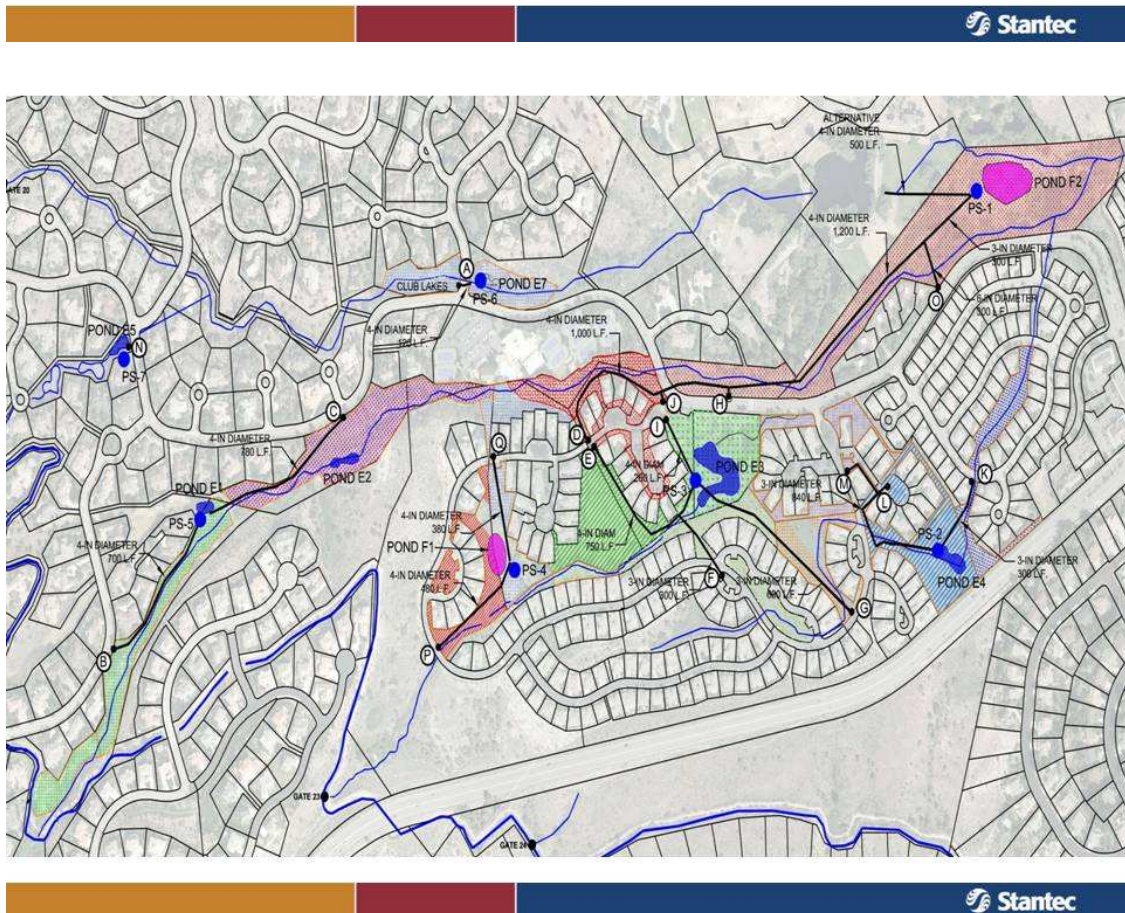
- At a planning level, what are the options?
- What are the order of magnitude costs?
- What are the potential savings?
- What are the primary implementation issues?

Options Considered:

- Storage Reservoirs, new + enlarge existing
- Off-site Storage
- Direct Supply from Steamboat Ditch
- Consolidated Irrigation Zones
 - Currently 17 Service Connections

Recommended Option:

- Combine up to 17 service connections into 7 pump zones
- Enlarge / Improve 5 existing ponds
- Construct 2 new ponds
- More flexible irrigation schedule



Estimated Capital Costs:

- Order of magnitude construction costs = \$340,000 for all 7 pump zones
- Pond improvements, approx. \$35,000 (by HOA)
- Other cost factors to consider:
 - Engineering - \$10,000 Phase 1, \$14,000 Phase 2
 - Water rights permitting, legal - \$9,211
 - Contingency, \$40,000
- Total capital cost = \$450,000

Estimated Annual Savings:

- Annual TMWA costs = \$180,000 (based on 2009 metered usage)
- Other cost factors to consider include:
 - TMWA standby service, to be determined
 - Pumping costs, approx. \$20,000
 - New O&M efforts, approx. \$5,000
- Net savings = \$140,000 +/-
- Approximate 3.5 year payback on investment

Next Steps:

- Consider moving forward with Phase 2
 - Design one pilot pump system for Zone 3
 - Planning level construction cost estimate = \$80,000
 - Planning level savings estimate = \$35,000
- Results of Phase 2 Design / Study will be available ahead of September budget meeting
 - More complete estimate of costs and savings
 - Reduce unknowns and financial risks

Suggested Schedule:

- Phase 2 Results, September 2011
- Install Pilot Pump System, Winter 2011/2012
- Operate New System and Validate Savings, Summer 2012
- Phase 3 Decision (Remaining 6 Areas), September 2012