

Block 1 - In-lieu recharge of regional aquifers

Table 1.1 In-lieu supplied by winter flows capital improvement needs and costs (millions of 2015\$)

Capital improvement item	Hard capital cost	Soft capital cost*	Total capital cost
In-lieu supplied by winter flows			
a. Intertie No. 1 Pipeline (City to Scotts Valley)	3.2	1.0	4.2
b. Pump Station (City to Scotts Valley) Intertie No. 1	1.1	0.3	1.4
c. Intertie Pipeline (City to Soquel Creek)	9.9	3.1	13.0
d. Tait Street Diversion Improvements	10.3	3.2	13.5
e. Graham Hill WTP Improvements	47.3	14.7	62.0
f. Extraction Wells in Scott’s Valley (4 wells)	7.2	2.2	9.4
g. Extraction Wells in Soquel Creek (4 wells)	7.2	2.2	9.4
h. Iron & Manganese Treatment (All)	4.7	1.5	6.2
i. Land Acquisition	1.2	0.4	1.6
Totals	92.1	28.6	120.7

* Soft cost includes engineering, site investigations, construction management, permitting, City contract administration and legal.

- a. Build a 1.5-mile, 12-inch diameter pipeline as sufficient to convey 2 MGD of potable water to the Scotts Valley distribution system.
- b. Construct a 1,800 GPM pump station to move water from Santa Cruz to SVWD through Intertie No. 1.
- c. Build a 4.7-mile, 16-inch diameter pipeline to convey about 2.6 MGD of potable water from Santa Cruz to the SqCWD distribution system (SqCWD’s average winter demand) and return about 2.0 MGD back to SCWD. Reduced return flow recognizes potential for lost water as well as use of some stored water by SqCWD.
- d. Improve and expand Tait Street Diversion facility to add capacity for increased flow.
- e. Improve and expand capacity at Graham Hill Water Treatment Plant to treat added flow. GHWTP would require improvements to produce more winter flow consistency, especially because winter water is more challenging to treat.
- f. Construct four new 350-GPM wells to withdraw stored water to send to SVWD. Wells receive 2 mgd for 180 days per year.
- g. Construct four new 350-GPM wells to withdraw water to send to SqCWD. Wells receive 2 mgd for 180 days per year.
- h. Include iron and manganese treatment on all eight extraction wells for parity with existing groundwater treatment needs. Necessity at these new wells will be verified during project development.
- i. Acquire land on which to locate the ASR well with adjacent treatment system – eight separate well sites, 65’x15’ footprint each.

Table 1.2 In-Lieu Recharge Using Winter Flows in millions 2015 \$s	
Estimates	In-lieu Recharge
Annual O&M costs (\$M/yr)	\$2.5
Total Annualized Cost (\$M/yr)	\$12
PV Costs (30 years) (\$M) ¹	\$276
Energy Use (MWH/MG) ²	6.6
NOTES:	
1. Discount rate = 2.5%; bond interest rate = 5.5%; interest on reserve = 3%, bond issuance cost = 3%.	
2. Existing SCWD water production requires 1.6 MWH/MG	