DRAFT Table 8-2a
Project Data for Yield Enhancement Projects

Project ID	Project Combinations	Group[1]	Project	Man. Zone	Summary of Key Project Features	Potential Cost Share if Mutually Agreed?	Storm Water Recharge									Recycled Water Recharge							Imported Water Recharge							All Recharge		Additional Benefit	Production Sustainability Score[5]
							Baseline Storm Water Recharge (acre-ft/yr)	New Storm Water Recharge (acre-ft/yr)	Constructed for Regulatory Compliance?	Project Complete?	Capital Cost	Annualized Capital Cost	Annual O&M Cost	Total Annual Cost	Storm Water Recharge Unit Cost[2]	New Recycled Water Recharge (acre-ft/yr)	Recycled Water Acquisition Cost[3]	Capital Cost	Annualized Capital Cost	Annual O&M Cost	Total Annual Cost	Recycled Water Recharge Unit Cost[2]	New Imported Water Recharge (acre-ft/yr)	Imported Water Acquisition Cost[4]	Capital Cost	Annualized Capital Cost	Annual O&M Cost	Total Annual Cost	Imported Water Recharge Unit Cost[2]	Total New Storm and Supplemental Water (acre-ft/yr)	Total Unit Cost of All New Recharge		
Proposed Projects in Table 6-1 that Were Analyzed in Detail																																
1		b	Montclair Basins	1	Transfer water between Montclair Basins and deepen MC 4	N	1,188	71	N	N	$ 5,450,000	$ 354,500	$ 2,631	$ 357,131	$ 4,997	0	$ -	$ -	$ -	$ -	$ -	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -	71	$ 4,997		0
2		a	Montclair Basins	1	New drop inlet structures to MC 2 and MC 3	N	1,188	248	N	N	$ 1,500,000	$ 97,600	$ 9,132	$ 106,732	$ 430	0	$ -	$ -	$ -	$ -	$ -	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -	248	$ 430		0
3		a	Montclair Basins[6]	1	Automate inlet to MC 1	N	1,188	0	N	N	$ 50,000	$ 3,300	$ (6,000)	$ (2,700)	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -	0	$ -	333	0
4		a	Montclair Basins	1	Construct low-level drains from Basin 1 to 2 and 2 to 3	N	1,188	0	N	N	$ 790,000	$ 51,400	$ -	$ 51,400	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -	0	$ -		0
5		a	North West Upland Basin	1	Increase drainage area and basin enlargement	N	29	93	Y	N	$ 5,990,000	$ 389,700	$ 3,441	$ 393,141	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -	93	$ -		0
6		a	Princeton Basin	2	Increase drainage area	N	48	20	Y	Y	$ -	$ -	$ 745	$ 745	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -	20	$ -		0
7		b	San Sevaine[7]	2	Construct pump station, pump water from SS 5 to SS 3, and construct internal berm in SS 5	Y	1,177	642	N	N	$ 1,775,000	$ 115,500	$ 23,641	$ 139,141	$ 217	1,911	$ 372,645	$ 1,775,000	$ 115,500	$ 45,311	$ 533,456	$ 279	0	$ -	$ -	$ -	$ -	$ -	$ -	2,553	$ 263		0
8		b	San Sevaine[7]	2	Extend IEUA recycled water pipeline to SS 3 and construct internal berm in SS 5	Y	1,177	345	N	N	$ 1,140,000	$ 74,200	$ 12,719	$ 86,919	$ 252	1,911	$ 372,645	$ 1,140,000	$ 74,200	$ 45,311	$ 492,156	$ 258	0	$ -	$ -	$ -	$ -	$ -	$ -	2,256	$ 257		0
9		a	San Sevaine	2	Construct internal berms in SS 1 and SS 2 and install a gate between SS 1 and SS 2	N	1,177	0	N	N	$ 300,000	$ 19,500	$ -	$ 19,500	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -	0	$ -	259	0
10		a	San Sevaine	2	Increase CB13T capacity and power supply	N	1,177	0	N	N	$ -	$ -	$ -	$ -	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -	1,235	$ 766,935	$ 1,980,000	$ 128,800	$ 29,283	$ 925,018	$ 749	1,235	$ 749		0
11		a	Victoria Basin	2	Abandon the mid-level outlet and extend the lysimeters	Y	439	48	N	N	$ 75,000	$ 4,900	$ 1,751	$ 6,651	$ 140	120	$ 23,400	$ 75,000	$ 4,900	$ 2,845	$ 31,145	$ 260	0	$ -	$ -	$ -	$ -	$ -	$ -	168	$ 226		0
12		b	Lower Day Basin (2010 RMPU)	2	Inlet improvements, rebuilding embankment, elimination of mid-level outlet	N	395	789	N	N	$ 2,480,000	$ 161,300	$ 29,041	$ 190,341	$ 241	0	$ -	$ -	$ -	$ -	$ -	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -	789	$ 241		0
13		b	Lower Day Basin	2	Install gate on mid-level outlet	N	395	75	N	N	$ 600,000	$ 39,000	$ 2,777	$ 41,777	$ 554	0	$ -	$ -	$ -	$ -	$ -	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -	75	$ 554	32	0
14		a	Turner 2[8]	2	Raise Turner 2 spillway	N	1,226	66	N	N	$ 890,000	$ 57,900	$ 2,426	$ 60,326	$ 916	0	$ -	$ -	$ -	$ -	$ -	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -	66	$ 916		1
15		a	Ely Basin	2	Basin enlargement and increased drainage area	N	1,103	221	N	N	$ 11,620,000	$ 755,900	$ 8,122	$ 764,022	$ 3,464	0	$ -	$ -	$ -	$ -	$ -	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -	221	$ 3,464		0
16		a	Ontario Bioswale Project	2	New bioswale	N	0	8	Y	Y	$ 650,000	$ 42,300	$ 277	$ 42,577	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -	8	$ -		0
17		a	Lower San Sevaine Basin (2010 RMPU)	2	New basin	N	0	1,221	N	N	$ 16,645,000	$ 1,082,800	$ 44,947	$ 1,127,747	$ 924	500	$ 97,500	$ 16,645,000	$ 1,082,800	$ 11,855	$ 1,192,155	$ 2,384	0	$ -	$ -	$ -	$ -	$ -	$ -	1,721	$ 1,348		0
18		a	CSI Storm Water Basin	3	Deepen basin by 10 feet	N	72	81	N	N	$ 900,000	$ 58,500	$ 2,998	$ 61,498	$ 755	0	$ -	$ -	$ -	$ -	$ -	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -	81	$ 755		0
19		c	Wineville Basin (2010 RMPU)	3	Gate the low-elevation outlet, replace embankment with dam, and construct a pneumatic gate on the spillway	Y	5	2,157	N	N	$ 3,140,000	$ 204,300	$ 79,438	$ 283,738	$ 132	630	$ 122,850	$ 3,140,000	$ 204,300	$ 14,938	$ 342,088	$ 543	0	$ -	$ -	$ -	$ -	$ -	$ -	2,787	$ 225		2
20		c	Jurupa Basin	3	Inlet improvements and CB-18 turnout modifications	N	234	421	N	N	$ 1,900,000	$ 123,600	$ 15,516	$ 139,116	$ 330	0	$ -	$ -	$ -	$ -	$ -	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -	421	$ 330	890	2
21		b	RP3 Basin Improvements (2010 RMPU)	3	Inlet improvements and enlargement	N	628	406	N	N	$ 22,040,000	$ 1,433,700	$ 14,931	$ 1,448,631	$ 3,572	0	$ -	$ -	$ -	$ -	$ -	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -	406	$ 3,572		2
22		b, c	RP3 Basin Improvements[9]	3	Increase conservation storage	Y	628	137	N	N	$ 2,645,000	$ 172,100	$ 5,062	$ 177,162	$ 1,289	2,905	$ 566,475	$ 2,645,000	$ 172,100	$ 68,879	$ 807,454	$ 278	0	$ -	$ -	$ -	$ -	$ -	$ -	3,042	$ 324		2
23	Includes PID's 20,21,23	d	2013 RMPU Proposed Wineville PS to Jurupa, Expanded Jurupa PS to RP3 Basin with 2013 Proposed RP3 Improvements	3	2010 RMPU Proposed Wineville Basin Improvements, Wineville 20 cfs PS to Jurupa, Improved Jurupa Basin Inlet, 40 cfs PS to RP3 Basin with Proposed 2013 RMPU RP3	Y	867	3,166	N	N	$ 8,720,000	$ 567,200	$ 498,576	$ 1,065,776	$ 337	3,535	$ 689,325	$ 8,720,000	$ 567,200	$ 83,817	$ 1,340,342	$ 379	0	$ -	$ -	$ -	$ -	$ -	$ -	6,701	$ 359		2
24		a	Vulcan Pit[10]	3	Construct new inflow and outflow structures	Y	0	857	N	N	$ 6,130,000	$ 398,800	$ 31,548	$ 430,348	$ 502	840	$ 163,800	$ 6,130,000	$ 398,800	$ 19,917	$ 582,517	$ 693	0	$ -	$ -	$ -	$ -	$ -	$ -	1,697	$ 597		1
25		a	Sierra	3	Deepen basin by 10 feet	N	12	64	N	N	$ 1,000,000	$ 65,100	$ 2,351	$ 67,451	$ 1,056	0	$ -	$ -	$ -	$ -	$ -	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -	64	$ 1,056		1
26		a	Sultana Avenue	3	Deepen basin by 10 feet	N	89	7	N	N	$ 1,020,000	$ 66,400	$ 258	$ 66,658	$ 9,499	0	$ -	$ -	$ -	$ -	$ -	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -	7	$ 9,499		1
27		a	Declez Basin[11]	3	Reconstruct existing embankment and install a gate on the low level outlet	N	674	241	N	N	$ 4,070,000	$ 264,800	$ 8,877	$ 273,677	$ 1,135	0	$ -	$ -	$ -	$ -	$ -	$ -	0	$ -	$ -	$ -	$ -	$ -	$ -	241	$ 1,135		2
Operations and Maintenance[12]																		$ -														
28		b	Banana Basin (annual cleaning) Increased infiltration rate to 0.6 ft/day	3	Increase frequency of basin maintenance	Y	317	11	N	N			$ 3,183	$ 3,183	$ 294	130	$ 25,350	$ -	$ -	$ 38,159	$ 63,509	$ 489	0	$ -	$ -	$ -	$ -	$ -	$ -	141	$ 474		0
29		b	Banana Basin (semiannual cleanings) Increased infiltration rate to 0.72 ft/day	3	Increase frequency of basin maintenance	Y	317	31	N	N			$ 15,192	$ 15,192	$ 495	155	$ 30,225	$ -	$ -	$ 76,744	$ 106,969	$ 690	0	$ -	$ -	$ -	$ -	$ -	$ -	186	$ 658		0
30		b	Declez Basin (annual cleaning) Increased infiltration rate to 0.66 ft/day	3	Increase basin maintenance frequency	Y	674	16	N	N			$ 6,537	$ 6,537	$ 409	178	$ 34,710	$ -	$ -	$ 72,735	$ 107,445	$ 604	0	$ -	$ -	$ -	$ -	$ -	$ -	194	$ 588		0
31		b	Declez Basin (semiannual cleanings) Increased infiltration rate to 0.78 ft/day	3	Increase basin maintenance frequency	Y	674	47	N	N			$ 32,923	$ 32,923	$ 701	210	$ 40,950	$ -	$ -	$ 147,109	$ 188,059	$ 896	0	$ -	$ -	$ -	$ -	$ -	$ -	257	$ 860		0
32		b	Ely Basin (annual cleaning) Increased infiltration rate to 0.27 ft/day	2	Increase maintenance frequency	Y	1,103	44	N	N			$ 29,450	$ 29,450	$ 668	217	$ 42,315	$ -	$ -	$ 144,868	$ 187,183	$ 863	0	$ -	$ -	$ -	$ -	$ -	$ -	261	$ 830		0
33		b	Ely Basin (semiannual cleanings) Increased infiltration rate to 0.44 ft/day	2	Increase maintenance frequency	Y	1,103	128	N	N			$ 127,949	$ 127,949	$ 997	258	$ 50,310	$ -	$ -	$ 257,342	$ 307,652	$ 1,192	0	$ -	$ -	$ -	$ -	$ -	$ -	386	$ 1,128		0
34		b	Hickory Basin (annual cleaning) Increased infiltration rate to 0.44 ft/day	2	Increase frequency of basin maintenance	Y	353	7	N	N			$ 3,812	$ 3,812	$ 518	148	$ 28,860	$ -	$ -	$ 76,622	$ 105,482	$ 713	0	$ -	$ -	$ -	$ -	$ -	$ -	155	$ 703		0
35		b	Hickory Basin (semiannual cleanings) Increased infiltration rate to 0.52 ft/day	2	Increase frequency of basin maintenance	Y	353	20	N	N			$ 17,640	$ 17,640	$ 877	175	$ 34,125	$ -	$ -	$ 153,435	$ 187,560	$ 1,072	0	$ -	$ -	$ -	$ -	$ -	$ -	195	$ 1,052		0
Proposed Projects in Table 6-1 that Were Not Analyzed																																
36			Turner Expansion[13]	2	Basin improvements to the basins east of Archibald Ave and new basins adjacent to Turner 4																												
37			Upland Basin[14]	1	Construct low level drain																												
38			College Heights[15]	1	Construct internal berms to reduce seepage to the Upland basin																												
39			Lower Cucamonga Basin[16]	2	Basin enlargement for distribution																												
40			Management Zones 2 and 3 Capture, Pump and Recharge[16]	2,3	Capture water in MZ-2 and 3 basins low in the system and pump to basins higher in the system																												
41			Jurupa Basin[16]	3	Inlet improvements and basin enlargement																												
42			RP3 Basins[17]	3	Inlet improvements																												
43			Alder Basin[16]	3	Deepen basin																												

1. The project group column was created to determine the total yield from different combinations of projects. The group was determined as follows: a- the project can be standalone; b- the project is mutually exclusive; c- the project can be standalone but is also included in a multi project scenario; d- the project includes the "c" group.
2. The results of this table provide an estimate of the cost per acre-ft of recharge. These estimates are reconnaissance level (level 5) estimates and additional technical work needs to be done to assure feasibility.
3. The IEUA recycled water recharge rate was assumed to be $195 an acre-ft per Table 2-9.
4. The MWD imported water recharge rate was assumed to be untreated Tier 1 Service at a price of $621 an acre-ft per Table 2-9.
5. The production sustainability score is a tool to characterize a project's contribution to production sustainability in areas with sustainability challenges. In simple terms the score will be as follows: 0 – does not contribute to production sustainability; 1 – contributes minimally to production sustainability (a necessary but not sufficient condition of sustainability); 2 – contributes significantly to production sustainability (a necessary and sufficient condition of sustainability).
6. The automation of the inlet gate and flume data to MC 1 results in a reduction of O&M.
7. Recycled water recharge was estimated to be 630 acre-ft/yr assuming an infiltration rate of 0.10 ft/day over 30 acres.
8. The Baseline for the Turner 2 Spillway Project and the Turner Expansion includes the recharge from Turner 1, 2, 3 and 4.
9. The RWC limitation at RP3 is 12,800 acre-ft/yr.
10. Recycled water recharge based upon an estimated 0.1 ft/day infiltration at 40-acres for 7-months of operations. Actual RWC is unknown, the recharge based upon an assumed RWC at 25% with the following flows: 840 AFY Storm Water, 1,800 AFY Underflow, and Diluent Water the same at Banana Basin.
11. Recycled water recharge operations will not benefit from the increased operating level. Basin recharge footprint is constrained by surrounding geology and engineered berm. Basin is not RWC limited and will not benefit from increased SW capture or footprint.
12. Based on available information, it can be assumed that the basin infiltration can be increased 10 to 20% with annual cleaning, and 20 to 50 % with cleaning twice a year. Field data needs to be established to determine optimum cleaning frequency per basin.
13. The Turner Basin expansion project was not included because it is currently under construction.
14. The Upland Basin Project was removed by IEUA because the basin performs well and limited cleaning is needed.
15. The College Heights project does not affect stormwater recharge.
16. The projects did not pass the screening criteria and were not considered.
17. The recharged gained by the 2010 RMPU RP3 inlet improvement is comparable to the current recharge at RP3.