

Water-Energy Grant Application
Cross Valley Canal Extension Lining - Pool No. 8

Appendix 2.2 - Canal Seepage Calculations

**Kern County Water Agency
Improvement District No. 4
Cross Valley Canal Extension Lining - Pool 8
Canal Seepage Calculations**

	Kern River Runoff	SWP Allocation	Total Conveyance in CVC Pool No. 8	Total Losses in CVC Pool No. 8 ²	Canal Evaporation ¹		Direct Precipitation onto Canal ¹		Current Seepage Loss Estimate	Estimated Seepage Loss Reduction w/ Concrete Liner (80%)
Year	% of mean	%	(MG)	(MG)	(in)	(MG)	(in)	(MG)	(MG)	(MG)
2004	48%	65%	18,255	1,025	70.26	14	7.01	1.4	1,013	810
2005	169%	90%	26,813	603	64.83	12	10.23	2.0	593	474
2006	156%	100%	38,009	830	63.87	12	5.68	1.1	819	655
2007	26%	60%	13,591	776	44.79	9	0.87	0.2	768	614
2008	72%	35%	3,800	98	45.49	9	0.63	0.1	89	72
2009	63%	40%	7,545	106	10.43	2	0	0.0	0	0
2010	125%	50%	12,317	549	34.02	7	6.93	1.3	544	435
2011	201%	80%	22,991	713	58.12	11	6.34	1.2	703	563
2012	38%	65%	30,816	1,721	69.76	13	5.79	1.1	1,709	1,367
2013	22%	35%	18,844	2,189	69.47	13	3.75	0.7	2,176	1,741
Total:	-	-	192,981	8,612	-	-	-	-	8,415	6,732
Average:	92%	62%	19,298	861	53.10	10	4.72	0.91	841	673
Percent:	-	-	100%	4.5%	-	-	-	-	4.4%	

Notes:

- 1) Average Water Surface Area: 309,084 SF
- 2) Total losses based on flow measurements at Pumping Plant 7 (upstream end of reach) and water treatment plant (downstream end of reach) and considering various diversions from Pool 8.