REVISED WATER BALANCE - SMITH RANCH
REVISION DATE JUNE 2016 (Rev 4)

Year			1 2017	2 2018	3 2019	4 2020	5 2021	6 2022	7 2023	8 2024	9 2025	10 2026	11 2027	12 2028	13 2029	14 2030	15 2031	16 2032	17 2033	18 2034	19 2035	20 2036	21 2037	22 2038	23 2039	24 2040	25 2041	26 2042	27 2043	28 2044	29 2045	30 2046	31 2047	32 2048	33 2049	34 2050	35 2051	36 2052	37 2053	38 2054	39 2055	40 2056
PRODUCTION FLOWS																																										
Resin processing water requirements																																										
Disposal capacity needed (24 hours) gpm			26.9	26.7	25.7	25.2	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
CPP / SR1 Water Balance																																										
Total CPP / SR1 Production Flow (gpm)			3675	2944	2359	1855	1478	846	678	545	428	342	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total CPP / SR1 Production Bleed (gpm)			18.4	14.7	11.8	9.3	7.4	4.2	3.4	2.7	2.1	1.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Satellite SR-2 Water Balance																																										
Total SR-2 Production Flow (gpm)			3927	3328	2882	2449	2081	1735	1474	1190	1012	830	705	599	478	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total SR-2 Production Bleed (gpm)			19.6	16.6	14.4	12.2	10.4	8.7	7.4	6	5.1	4.2	3.5	3	2.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Smith Ranch Production Flow (gpm)			7602	6272	5241	4304	3559	2581	2152	1735	1440	1172	705	599	478	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Production Bleed (gpm)			38	31.3	26.2	21.5	17.8	12.9	10.8	8.7	7.2	5.9	3.5	3	2.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Control Bleed (gpm)			50	50	50	50	50	50	50	50	50	50	50	50	50	50	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25

RESTORATION FLOWS

	PV with Flair (Kgals)	GWS PV to finish																																								
CPP	62,841,000	0																																								
MU-1 (gals RO)	62,841	0	0																																							
GWS (gals)			0																																							
Total Disposal (gals)			0																																							
			85307160	59821320	34335480	8849640	0	0																																		
CPP/SR-1	110,793,000	110793000	734323200	582302400	430281600	278260800	126240000	2040090																																		
MU-2 (gals RO)	110,793	1	306	306	306	306	306	250																																		
GWS (gals)			51	51	51	51	51	42																																		
Total Disposal (gals)			54	54	54	54	54	44																																		
								148171924.7	122686085	97200245	71714405	46228565	20742725	0	0	0																										
SR-1	152,836,000	152836000						1194867200	1042846400	890825600	738804800	586784000	434763200	282742400	130721600	0																										
MU-3/3 Ext. (gals RO)	152,836	1						56	306	306	306	306	306	306	306	306																										
GWS (gals)								9	51	51	51	51	51	51	51	51																										
Total Disposal (gals)								10	54	54	54	54	54	54	54	54																										
			39635456.47	7736513	0	0																																				
SR-1	119,224,000	71534400	405845600	215571200	25296800	0																																				
MU-4/4A (gals RO)	119,224	0.6	383	383	383	191																																				
GWS (gals)			64	64	64	32																																				
Total Disposal (gals)			68	68	68	34																																				
						115114068.2	76802021	38489974	177927	0	0																															
SR-2	137,435,000	137435000				966337600	737809600	509281600	280753600	101905600	0																															
MU-15 (gals RO)	137,435	1				268	460	460	460	360	250																															
GWS (gals)						45	77	77	77	60	42																															
Total Disposal (gals)						47	81	81	81	64	44																															
										44344294.12	26854012	0	0																													
SR-1/CPP	52,673,000	52673000								371704000	2673760000	38448000	0																													
MU-15A (gals RO)	52,673	1								100	210	460	100																													
GWS (gals)										17	35	77	17																													
Total Disposal (gals)										18	37	81	18																													
																	62986160	37500320	12014480	0	0																						
SR-1/CPP	88,472,000	88472000															555755200	403734400	251713600	99692800	0																						
MU-7 (gals RO)	88,472	1															306	306	306	306	306																						
GWS (gals)																	51	51	51	51	51																						
Total Disposal (gals)																	54	54	54	54	54																						
												106402658.8	87246635	68090612	48934588	29778565	10622541	0	0	0																							
SR-2	136,386,000	136386000										912240000	797976000	683712000	569448000	455184000	340920000	226656000	112392000	0																							
MU-9 (gals RO)	136,386	1										360	230	230	230	230	230	230	230	230																							
GWS (gals)												60	39	39	39	39	39	39	39	39																							
Total Disposal (gals)												64	41	41	41	41	41	41	41	41																							
													1712919976.5	1521235953	1329779929	1138323906	946867882	755511859	404480007	5384155	0																						
SR-2	190,448,000	190448000											1409320000	1295056000	1180792000	1066528000	952264000	838000000	628847200	419694400	0																						
MU-10 (gals RO)	190,448	1											230	230	230	230	230	230	421	421	883																						
GWS (gals)													39	39	39	39	39	39	71	71	148																						
Total Disposal (gals)													41	41	41	41	41	41	74	74	156																						
																			24658343.53	0	0																						
SR-2	56,474,000	56474000																	262014400	72236800	0																						
MU-10 Ext. (gals RO)	56,474	1																	382	382	150																						
GWS (gals)																			64	64	25																						
Total Disposal (gals)																			67	67	26																						
Total Restoration Disposal SRH (gpm)			**135**	**135**	**135**	**150**	**150**	**150**	**150**	**150**	**150**	**150**	**150**	**150**	**150**	**150**	**150**	**150**	**150**	**263**	**263**	**203**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Installed RO Capacity (gpm) (feed)

Current (gpm)	Future (gpm)
200	
200	
250	
250	
100	
	250
	250
	250
1000	750

Deep Disposal Well Capacity (gpm)	**Permitted**	**Current**																																								
DDW #1	**150**	**59**	59	57.23	55.51	53.85	52.23	50.67	49.15	47.67	46.24	44.85	43.51	42.20	40.94	39.71	38.52	37.36	36.24	35.15	34.10	33.08	32.08	31.12	30.19	29.28	28.40	27.55	26.72	25.92	25.15	24.39	23.66	22.95	22.26	21.59	20.95	20.32	19.71	19.12	18.54	17.99
DDW #2	**158**	**0**	65	63.05	61.16	59.32	57.54	55.82	54.14	52.52	50.94	49.42	47.93	46.49	45.10	43.75	42.43	41.16	39.93	38.73	37.57	36.44	35.35	34.29	33.26	32.26	31.29	30.35	29.44	28.56	27.70	26.87	26.07	25.28	24.52	23.79	23.08	22.38	21.71	21.06	20.43	19.82
DDW #10	**126**	**12**	12	11.64	11.29	10.95	10.62	10.30	10.00	9.70	9.40	9.12	8.85	8.58	8.33	8.08	7.83	7.60	7.37	7.15	6.94	6.73	6.53	6.33	6.14	5.96	5.78	5.60	5.44	5.27	5.11	4.96	4.81	4.67	4.53	4.39	4.26	4.13	4.01	3.89	3.77	3.66
DDW #6	**105**	**36**	36	34.92	33.87	32.86	31.87	30.91	29.99	29.09	28.21	27.37	26.55	25.75	24.98	24.23	23.50	22.80	22.11	21.45	20.81	20.18	19.58	18.99	18.42	17.87	17.33	16.81	16.31	15.82	15.34	14.88	14.44	14.00	13.58	13.18	12.78	12.40	12.02	11.66	11.31	10.97
DDW #7 (Fut)	**100**	**15**	0	15	14.55	14.11	13.69	13.28	12.88	12.49	12.12	11.76	11.40	11.06	10.73	10.41	10.10	9.79	9.50	9.21	8.94	8.67	8.41	8.16	7.91	7.67	7.44	7.22	7.00	6.79	6.59	6.39	6.20	6.02	5.83	5.66	5.49	5.33	5.17	5.01	4.86	4.71
Reynolds Ranch Deep Well	**100**	**12**	12	11.22	10.49	9.81	9.17	8.58	8.32	8.07	7.83	7.59	7.36	7.14	6.93	6.72	6.52	6.32	6.13	5.95	5.77	5.60	5.43	5.27	5.11	4.96	4.81	4.66	4.52	4.39	4.26	4.13	4.00	3.88	3.77	3.65	3.55	3.44	3.34	3.24	3.14	3.04
Pipeline to HUP		**0**	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pipeline to HUP - Additional flow based on capacity		**100**	64	75	75	75	75	75	75	80	85	85	85	85	85	85	85	90	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
Pipeline Total																																										
Total Available		234	248	268.06	261.88	255.90	250.13	244.56	239.47	239.54	239.75	235.11	230.60	226.24	222.00	217.89	213.90	215.04	321.28	317.65	314.12	310.69	307.37	304.15	301.03	298.00	295.06	292.20	289.44	286.75	284.15	281.63	279.18	276.80	274.50	272.26	270.10	267.99	265.95	263.98	262.06	260.19
Smith Ranch CPP Elutions			26.9	26.7	25.7	25.2	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Total Production Bleed (gpm)			38	31.3	26.2	21.5	17.8	12.9	10.8	8.7	7.2	5.9	3.5	3	2.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water from Reynolds Ranch (to HUP)			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Control Bleed (gpm)			50	50	50	50	50	50	50	50	50	50	50	50	40	40	40	40	40	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	0	0	0	0	0
Total Restoration Disposal SRH (gpm)			135	135	135	150	150	150	150	150	150	150	150	150	150	150	150	150	150	263	263	203	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Disposal Required (gpm)			250	243	237	247	243	238	236	234	232	231	229	228	218	215	215	215	215	308	308	248	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	25	25	25	25	25

REVISED WATER BALANCE - HIGHLAND
REVISION DATE JUNE 2016 (Rev 4)

Year			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
			2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
PRODUCTION FLOWS																						
Total Production Flow (gpm)			3986	3252	2765	2258	1615	1329	1087	923	0	0	0	0	0	0	0	0	0	0	0	0
Total Production Bleed (gpm)			39.9	32.5	27.7	22.6	16.2	13.3	10.9	9.2	0	0	0	0	0	0	0	0	0	0	0	0
Misc. GWS			20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	0	0
Control Bleed (gpm)			30	30	30	30	30	30	30	30	30	20	20	20	20	20	20	20	20	20	0	0
RESTORATION FLOWS																						
	PV With Flair (Kgal)	GWS PV to Finish																				
			0	0																		
SAT 2	**84,828,000**	0	35148000	0																		
MU C (gal) (RO)	84,828	0	100	100																		
GWS (gal)			17	17																		
Total Disposal (gal)			18	18																		
			0	0	0																	
SAT 2	**32,311,000**	0	39782000	14942000	0																	
MU D (gal) (RO)	32,311	0	50	50	50																	
GWS (gal)			8	8	8																	
Total Disposal (gal)			9	9	9																	
			0	0																		
SAT 2	**19,235,000**	0	13630000	0																		
MU D Ext. (gal) (RO)	19,235	0	50	50																		
GWS (gal)			8	8																		
Total Disposal (gal)			9	9																		
			40545776.47	35548552.94	23805077.65	7897249.412	0	0	0	0												
SAT 2	**91,086,000**	45,543,000	516708000	486900000	416851200	321962400	227073600	132184800	37296000	0												
MU E (gal) (RO)	91,086	1	60	60	141	191	191	191	191	80												
GWS (gal)			10	10	24	32	32	32	32	13												
Total Disposal (gal)			11	11	25	34	34	34	34	14												
			85872776.47	80875552.94	64967724.71	49059896.47	33152068.24	17244240	1336411.765	0												
SAT2	**90,870,000**	90,870,000	569934000	540126000	445237200	350348400	255459600	160570800	65682000	0												
MU H(gal) (RO)	90,870	1	60	60	191	191	191	191	191	150												
GWS (gal)			10	10	32	32	32	32	32	25												
Total Disposal (gal)			11	11	34	34	34	34	34	26												
			79788776.47	74791552.94	58883724.71	42975896.47	27068068.24	11160240	0	0												
SAT 2	**84,786,000**	84,786,000	648480000	618672000	523783200	428894400	334005600	239116800	144228000	0												
MU I (gal)(RO)	84,786	1	60	60	191	191	191	191	191	344												
GWS (gal)			10	10	32	32	32	32	32	58												
Total Disposal (gal)			11	11	34	34	34	34	34	61												
SAT3	**232,906,000**	232,906,000					220163080	207420160	194677240	181934320	173605614.1	140290790.6	106975967.1	73661143.53	40346320	7031496.471	0	0				
MUF(gal)(RO)	232,906	1					1787237600	1711227200	1635216800	1559206400	1509526400	1310806400	1112086400	913366400	714646400	515926400	317206400	0				
GWS (gal)							153	153	153	153	100	400	400	400	400	400	400	639				
Total Disposal (gal)							26	26	26	26	17	67	67	67	67	67	67	107				
							27	27	27	27	18	71	71	71	71	71	71	113				
SAT 3	**66,817,000**	66,817,000					54074080	41331160	28588240	15845320	7516614.118	0	0	0								
MU J (gal)(RO)	66,817	1					458525600	382515200	306504800	230494400	180814400	104804000	28793600	0								
GWS (gal)							153	153	153	153	100	153	153	153								
Total Disposal (gal)							26	26	26	26	17	26	26	26								
							27	27	27	27	18	27	27	27								
SAT 3	**84,214,000**	84,214,000									76634877.65	63059087.06	49483296.47	35907505.88	16001898.82	0	0	0				
MU K (gal)(RO)	84,214	1									628503200	547524800	466546400	385568000	266832800	148097600	29362400	0				
GWS (gal)											91	163	163	163	239	239	239	239				
Total Disposal (gal)											15	27	27	27	40	40	40	40				
											16	29	29	29	42	42	42	42				
SAT 3	**78,568,000**	78,568,000									70988877.65	57413087.06	43837296.47	30261505.88	10355898.82	0	0					
MU K North (gal)(RO)	78,568	1									583335200	502356800	421378400	340400000	221664800	102929600	0					
GWS (gal)											91	163	163	163	239	239	239					
Total Disposal (gal)											15	27	27	27	40	40	40					
											16	29	29	29	42	42	42					
Total Restoration Disposal (gpm)			75	75	112	112	172	172	172	173	75	172	172	172	172	172	172	172	0	0	0	0
Restoration Flow From Smith Ranch (gpm)			64	75	75	75	75	75	75	80	85	85	85	85	85	85	85	90	200	200	200	200

Year	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056
PRODUCTION FLOWS																				
Total Production Flow (gpm)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Production Bleed (gpm)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Misc. GWS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Control Bleed (gpm)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RESTORATION FLOWS																				
Total Restoration Disposal (gpm)	172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Restoration Flow From Smith Ranch (gpm)	90	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200

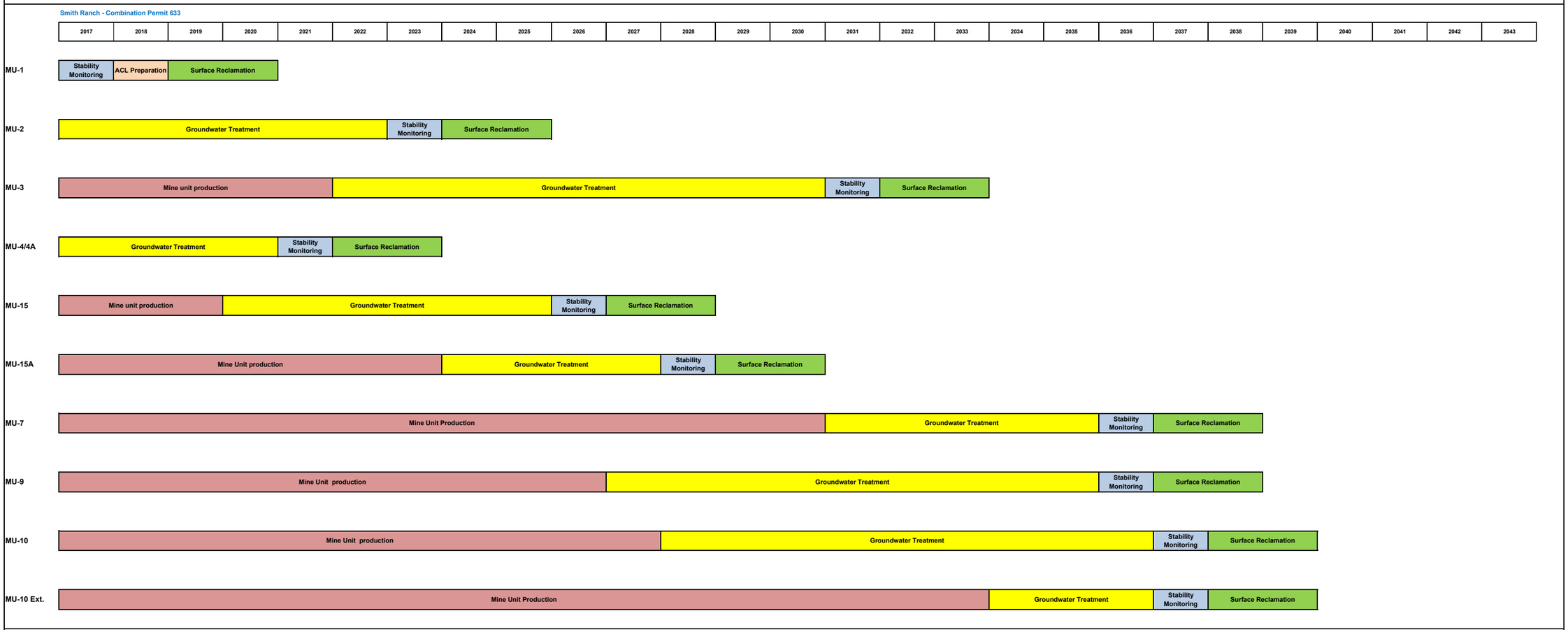
Installed RO Capacity (gpm) (feed)	**Current (gpm)**	**Feed (Future)**
	200	
	200	
	100	
	250	
	250	
	250	
	1250	

Deep Disposal Well Capacity (gpm)	**Permitted**	**Current**																				
Morton 1-20 (gpm)	**147**	**25**	25	24.25	23.52	22.82	22.13	21.47	20.82	20.20	19.59	19.01	18.44	17.88	17.35	16.83	16.32	15.83	15.36	14.90	14.45	14.02
DDW 9 (gpm)	**158**	**30**	30	29.10	28.23	27.38	26.56	25.76	24.99	24.24	23.51	22.81	22.12	21.46	20.82	20.19	19.59	19.00	18.43	17.87	17.34	16.82
Volman 33-27 (gpm)	**105**	**60**	60	58.20	56.45	54.76	53.12	51.52	49.98	48.48	47.02	45.61	44.25	42.92	41.63	40.38	39.17	38.00	36.86	35.75	34.68	33.64
PSR2 Evaporation (gpm)		**20**	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Irrigator Circle 2 (gpm)		**120**	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
Irrigator Circle 1 (gpm)		**0**	0	40	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
Total Available		**255**	255	291.55	328.20	324.96	321.81	318.75	315.79	312.92	310.13	307.43	304.80	302.26	299.79	297.40	295.08	292.82	290.64	288.52	286.46	284.47
Total Production Bleed (gpm)			39.9	32.5	27.7	22.6	16.2	13.3	10.9	9.2	0	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous GWS (gpm)			20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	0	0
Control Bleed (gpm)			30	30	30	30	30	30	30	30	30	20	20	20	20	20	20	20	20	20	0	0
Total Restoration Disposal (gpm)			75	75	112	112	172	172	172	173	75	172	172	172	172	172	172	172	0	0	0	0
Total Disposal Required (gpm)			164	157	190	185	239	236	233	232	125	212	212	212	212	212	212	212	40	40	0	0
Water from Smith Ranch (gpm)			64	75	75	75	75	75	75	80	85	85	85	85	85	85	85	90	200	200	200	200

Deep Disposal Well Capacity (gpm)	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Morton 1-20 (gpm)	13.59	13.19	12.79	12.41	12.04	11.67	11.32	10.98	10.65	10.34	10.03	9.72	9.43	9.15	8.88	8.61	8.35	8.10	7.86	7.62
DDW 9 (gpm)	16.31	15.82	15.35	14.89	14.44	14.01	13.59	13.18	12.79	12.40	12.03	11.67	11.32	10.98	10.65	10.33	10.02	9.72	9.43	9.15
Volman 33-27 (gpm)	32.63	31.65	30.70	29.78	28.89	28.02	27.18	26.36	25.57	24.80	24.06	23.34	22.64	21.96	21.30	20.66	20.04	19.44	18.86	18.29
PSR2 Evaporation (gpm)	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Irrigator Circle 2 (gpm)	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
Irrigator Circle 1 (gpm)	80	80	80	80	70	70	70	70	70	70	70	70	70	70	70	70	0	0	0	0
Total Available	282.54	280.66	278.84	277.08	265.36	263.70	262.09	260.53	259.01	257.54	256.12	254.73	253.39	252.09	250.83	249.60	178.41	177.26	176.14	175.06
Total Production Bleed (gpm)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous GWS (gpm)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Control Bleed (gpm)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Restoration Disposal (gpm)	172	172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Disposal Required (gpm)	212	212	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Water from Smith Ranch (gpm)	90	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200

ATTACHMENT 1

UPDATED RESTORATION SCHEDULE - Revised June 15, 2016

Smith Ranch/Highland Project

Combination Permit 633