

Red Hill Waste Mangement Facility Eastern Metropolitan Regional Council

Weather Data

April 2025

Table 1.1: Site Details

Site Location:	Red Hill
Latitude:	
Longitude:	

Table 1.2: SILO Rainfall Data (mm)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Annual	Percentile	
1972	0	0	0	32	33	127	175	190	54	55	2	2	676	11%	
1973	0	0	0	0	0	0	0	0	0	0	0	0	0	2%	
1974	0	0	0	4	32	33	127	175	190	54	55	2	2	676	11%
1975	16	1	0	65	110	208	246	169	193	73	16	0	1,096	96%	
1976	1	17	0	80	202	119	280	190	82	87	27	1	1,035	92%	
1977	0	0	22	43	118	165	235	97	78	45	18	9	829	43%	
1978	34	34	1	80	103	74	90	150	78	50	63	9	765	28%	
1979	10	6	4	7	110	74	90	229	82	83	9	0	656	9%	
1980	6	34	4	29	127	197	268	31	130	47	29	21	923	70%	
1981	0	7	2	60	110	122	54	40	55	7	67	15	7	677	15%
1982	1	12	7	97	96	186	184	159	92	64	26	15	950	77%	
1983	0	19	10	32	192	219	184	185	81	53	41	6	1,022	91%	
1984	75	5	15	0	57	208	157	136	89	35	5	12	794	36%	
1985	5	17	4	23	33	268	149	169	130	15	77	24	909	66%	
1986	2	5	53	56	182	111	97	126	108	37	72	14	862	55%	
1987	0	3	10	39	47	103	166	195	57	28	35	9	693	17%	
1988	1	100	32	3	144	186	175	140	48	53	24	0	906	64%	
1989	1	0	20	60	96	219	184	81	64	30	44	31	830	45%	
1990	1	0	12	56	127	243	166	126	112	61	55	7	966	81%	
1991	16	24	4	42	127	56	175	85	92	101	6	12	737	25%	
1992	150	64	85	65	63	81	194	135	89	70	16	12	1,003	89%	
1993	0	24	4	60	103	294	235	140	113	53	59	54	1,138	98%	
1994	12	64	24	29	75	219	141	223	74	37	77	11	965	83%	
1995	0	52	7	23	88	103	157	164	130	45	20	5	793	34%	
1996	1	0	2	2	127	146	166	97	61	15	11	0	626	6%	
1997	0	19	6	11	162	136	245	101	71	101	41	5	898	60%	
1998	4	0	18	69	18	235	145	162	61	63	23	1	1,064	94%	
1999	1	15	32	18	82	146	110	180	96	50	12	0	741	26%	
2000	4	0	32	15	88	165	97	201	125	47	11	16	801	40%	
2001	41	6	0	118	165	118	150	125	112	1	1	1	1,013	68%	
2002	87	0	32	75	33	146	268	180	70	9	29	0	930	72%	
2003	3	4	4	9	110	35	224	140	125	37	18	5	715	21%	
2004	12	2	2	56	69	186	166	89	77	74	35	3	770	30%	
2005	3	7	45	86	88	88	197	166	159	139	26	38	994	79%	
2006	1	3	1	9	111	197	110	201	51	61	48	3	794	38%	
2007	0	2	42	20	182	294	67	113	139	87	26	16	987	85%	
2008	45	21	5	36	47	50	125	212	96	42	27	9	715	23%	
2009	27	6	17	80	75	81	214	159	117	58	3	21	859	53%	
2010	0	41	10	129	88	179	245	31	89	50	77	11	945	75%	
2011	1	15	14	11	63	197	166	180	134	12	51	0	843	51%	
2012	0	1	32	23	96	50	149	64	40	24	12	17	507	4%	
2013	27	0	45	26	47	155	204	174	139	67	55	50	989	87%	
2014	54	26	0	51	47	231	35	150	112	15	82	28	831	47%	
2015	10	11	11	110	23	133	206	204	40	813	49%				
2016	0	0	4	32	153	119	149	131	108	37	38	1	771	32%	
2017	4	38	29	65	69	81	117	113	61	28	20	26	650	8%	
2018	37	4	57	70	103	111	141	169	78	64	14	21	868	58%	
2019	59	94	49	0	82	45	204	201	100	50	5	43	931	74%	
2020	81	1	2	26	82	165	175	234	37	61	2	3	868	57%	
2021	10	0	4	43	26	243	103	150	45	37	29	8	693	19%	
2022	1	26	19	18	111	155	78	126	108	10	133	19	805	42%	
2023	4	38	38	36	88	111	304	81	71	120	6	6	902	62%	
Average	0	7	8	47	96	105	166	223	89	45	35	3	820		
	0	41	55.7	25.6	207.5	132.6	47.6	84.7	14.5	8	0				

Table 1.3: SILO Pan Evaporation Data (mm)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Annual
1972	290	279	214	133	100	54	63	68	92	154	243	290	1,591
1973	0	0	0	0	0	0	0	0	0	0	0	0	0
1974	294	279	214	133	100	54	63	68	92	154	243	290	1,591
1975	308	235	215	115	75	48	49	61	88	126	205	259	1,783
1976	332	148	215	108	111	52	59	66	84	142	172	185	1,907
1977	284	281	206	104	78	60	62	72	100	125	181	281	1,833
1978	274	253	209	122	79	54	67	68	86	147	192	259	1,810
1979	285	255	199	117	74	60	64	65	73	105	166	211	1,816
1980	279	230	223	142	88	55	60	74	89	180	234	270	1,522
1981	296	247	217	119	95	48	61	68	91	159	187	301	1,889
1982	322	244	221	104	77	60	65	73	95	144	182	248	1,826
1983	327	250	229	123	111	58	61	82	94	142	179	252	1,907
1984	253	260	216	142	72	60	64	69	91	159	210	241	1,836
1985	315	200	241	133	87	64	58	76	93	160	206	231	1,865
1986	319	298	179	136	69	57	63	64	94	144	194	229	1,843
1987	290	282	228	134	99	52	55	70	101	159	206	239	1,914
1988	319	190	180	129	66	54	48	57	79	124	196	252	1,692
1989	257	254	182	110	66	48	47	64	105	146	185	240	1,703
1990	263	278	221	131	74	61	59	71	91	175	206	251	1,834
1991	267	221	226	129	77	46	47	71	85	120	208	235	1,731
1992	240	198	164	111	62	47	53	66	89	120	185	245	1,540
1993	290	241	195	138	71	56	51	69	87	148	171	237	1,757
1994	274	184	159	116	68	61	52	63	89	148	190	264	1,676
1995	292	244	192	110	76	55	60	69	94	132	174	289	1,786
1996	297	229	223	154	69	53	55	73	112	168	231	309	1,908
1997	320	275	233	131	83	58	59	75	89	160	188	256	1,929
1998	311	299	228	147	102	64	69	66	98	148	187	261	1,982
1999	325	227	204	111	75	49	60	70	89	167	190	288	1,857
2000	301	261	222	124	84	61	46	68	110	176	254	1,890	1,890
2001	283	259	189	145	69	56	60	75	91	149	225	283	1,885
2002	238	248	193	125	79	63	64	71	99	173	216	289	1,856
2003	262	216	134	114	74	68	68	68	90	151	203	276	1,786
2004	279	257	211	120	81	55	56	73	101	150	225	285	1,893
2005	301	218	209	114	85	54	51	68	96	157	215	257	1,824
2006	285	213	214	124	79	68	64	69	102	170	217	293	1,856
2007	293	228	186	115	79	52	54	66	92	125	198	218	1,706
2008	235	208	207	106	79	60	55	75	102	172	204	278	1,781
2009	261	215	222	115	69	64	65	62	92	144	243	248	1,800
2010	309	257	212	107	88	58	58	74	82	107	188	238	1,803
2011	279	239	198	148	99	55	55	63	88	157	202	291	1,874
2012	315	242	211	117	79	49	50	73	121	182	237	268	1,942
2013	275	266	244	152	90	62	57	78	99	166	206	269	1,914
2014	298	230	232	123	77	56	57	74	110	169	195	251	1,869
2015	278	256	175	116	72	54	59	72	93	157	236	284	1,852
2016	307	273	215	129	99	51	58	66	106	168	199	281	1,930
2017	306	226	195	117	85	63	62	75	122	175	232	280	1,930
2018	260	264	205	102	66	51	59	68	87	145	231	274	1,817
2019	292	199	183	131	83	68	65	78	116	165	249	276	1,904
2020	286	216	125	114	125	101	53	108	145	110	170	146	1,866

Table 2.1: Total Leachate Generation (m3)

Generation Scenario	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
90th Percentile	0	519	283	887	5,268	6,012	5,059	5,073	2,229	1,444	1,123	159	28,054
50th Percentile	33	409	373	299	1,732	5,394	4,557	4,930	3,687	324	1,405	0	23,143
Maximum	0	0	0	0	0	0	0	0	0	0	0	0	0
Average	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 2.2: Individual Leachate Generation (m3)

Generation Scenario	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
GO Processing Area													
90th Percentile Rainfall	0	519	283	887	5,268	6,012	5,059	5,073	2,229	1,444	1,123	159	28,054
50th Percentile Rainfall	33	409	373	299	1,732	5,394	4,557	4,930	3,687	324	1,405	0	23,143
Average Rainfall													0
Maximum Rainfall													0

Table 2.3: Key Leachate Generation Parameters

Aspect	Value
Vegetated Areas (m2)	0
Gravel Hardstand (m2)	0
Sealed Hardstand (m2)	27,450
Vegetated Areas Runoff Coefficient	0
Gravel Hardstand Coefficient	0
Sealed Hardstand Coefficient	1.0
Contingency	0

Table 3.1: Pond Design Characteristics

Aspect	Pond 1	L5
W (m)	26	
L (m)	100	
h (m)	2.5	
Side Slope (1:V)	3	
Freeboard (m)	0.5	
Evaporation Depth (m)	1.666667	0
Base Width (m)	11	0
Base Length (m)	85	0
Operational Width (m)	23	0
Operational Length (m)	97	0
Evaporation Width (m)	16	0
Evaporation Length (m)	90	0
Pond Catchment Area (m ²)	2,600	3,058
Pond Evaporation Area (m ²)	1,440	2,010
Operational Capacity (m ³)	3,118	6,119
Total Capacity (m ³)	4,325	9,912

Table 4.1: Water Balance Inputs

Aspect	Value
Runoff Coefficient	1
Evaporation Coefficient	0.7

Table 4.2: Rainfall Scenario Inputs

Year	Rainfall
1	90th Percentile
2	50th Percentile

Table 4.3: Leachate Inputs

Pond	% of Leachate in Pond
Pond 1	100%
L5	0%

Table 4.4: Storm Check Inputs

Aspect	Value
Storm Event Duration	24 hour
Storm Event AEP	1:20
Storm Event Rainfall (mm)	108

Table 4.5: Cumulative Water Balance

Year	Month	Pond 1	L5
1	Jan	0	0
1	Feb	316	0
1	Mar	395	0
1	Apr	1,242	0
1	May	6,897	4,209
1	Jun	13,420	7,111
1	Jul	18,896	5,954
1	Aug	24,367	5,920
1	Sep	26,712	2,462
1	Oct	28,150	1,437
1	Nov	29,199	1,049
1	Dec	29,119	0
2	Jan	28,874	0
2	Feb	29,081	0
2	Mar	29,290	91
2	Apr	29,468	178
2	May	31,264	1,849
2	Jun	37,113	6,372
2	Jul	42,046	5,363
2	Aug	47,379	5,794
2	Sep	51,326	4,233
2	Oct	51,522	196
2	Nov	52,858	1,335
2	Dec	52,565	0

Table 4.6: Storm Check

Year	Month	Pond 1	L5
1	Jan	281	330
1	Feb	597	330
1	Mar	676	330
1	Apr	1,523	330
1	May	7,178	4,539
1	Jun	13,700	7,442
1	Jul	19,177	6,285
1	Aug	24,647	6,250
1	Sep	26,993	2,793
1	Oct	28,430	1,768
1	Nov	29,479	1,379
1	Dec	29,400	330
2	Jan	29,155	330
2	Feb	29,362	330
2	Mar	29,571	421
2	Apr	29,749	509
2	May	31,545	2,179
2	Jun	37,394	6,702
2	Jul	42,327	5,694
2	Aug	47,660	6,124
2	Sep	51,607	4,563
2	Oct	51,803	527
2	Nov	53,138	1,666
2	Dec	52,846	330

Table 4.7: Monthly Pumping Required

Year	Month	Pond 1
1	Jan	0
1	Feb	0
1	Mar	0
1	Apr	0
1	May	3,779
1	Jun	6,523
1	Jul	5,477
1	Aug	5,470
1	Sep	2,346
1	Oct	1,437
1	Nov	1,049
1	Dec	0
2	Jan	0
2	Feb	0
2	Mar	91
2	Apr	178
2	May	1,796
2	Jun	5,849
2	Jul	4,933
2	Aug	5,333
2	Sep	3,947
2	Oct	196
2	Nov	1,335
2	Dec	0

Table 4.5: Net Water Balance

Year	Month	Pond 1	L5
1	Jan	0	0
1	Feb	316	0
1	Mar	395	0
1	Apr	1,242	0
1	May	3,118	4,209
1	Jun	3,118	7,111
1	Jul	3,118	5,954
1	Aug	3,118	5,920
1	Sep	3,118	2,462
1	Oct	3,118	1,437
1	Nov	3,118	1,049
1	Dec	3,038	0
2	Jan	2,794	0
2	Feb	3,000	0
2	Mar	3,118	91
2	Apr	3,118	178
2	May	3,118	1,849
2	Jun	3,118	6,372
2	Jul	3,118	5,363
2	Aug	3,118	5,794
2	Sep	3,118	4,233
2	Oct	3,118	196
2	Nov	3,118	1,335
2	Dec	2,825	0