

Appendix 3.12 Detailed Calculations of Odour Emissions

Source	Emission Factors		Parameters	
	Mitigated OU/s			
Odour Control Unit 1 Enclosed Facilities: Untreated Sewage Holding Tank		4.6694E+01	Emission Height, (m) Diameter of the stack, (m) Stack velocity, (m/s) Mitigation %	2.0 provided by the Engineer 0.15 provided by the Engineer 8.00 provided by the Engineer 95.0 provided by the Engineer
	OU/s	3.8129E+02	Measured Odour Concentration (OU/m ² /s) Surface Area (m ²) Correction factor, Cf	Maximum odour concentration, OU/m ² is measured at sewage treatment facilities at Stonecutter Island STW 42 odour emission facilities - provided by the Engineer 1.31 Temperature correction factor
	OU/s	5.7193E+01	Measured Odour Concentration (OU/m ² /s) Surface Area (m ²) Correction factor, Cf	Maximum odour concentration, OU/m ² is measured at sewage treatment facilities at Stonecutter Island STW 6.93 Stonecutter Island STW 6.3 odour emission facilities - provided by the Engineer 1.31 Temperature correction factor
Membrane Bioreactor Tank	OU/s	6.8904E+01	Measured Odour Concentration (OU/m ² /s) Surface Area (m ²) Correction factor, Cf	Maximum odour concentration, OU/m ² is measured at sewage treatment facilities at Stonecutter Island STW 6.93 Stonecutter Island STW 7.59 odour emission facilities - provided by the Engineer 1.31 Temperature correction factor
	OU/s	2.9958E+01	Measured Odour Concentration (OU/m ² /s) Surface Area (m ²) Correction factor, Cf	Maximum odour concentration, OU/m ² is measured at sewage treatment facilities at Stonecutter Island STW 6.93 Stonecutter Island STW 3.3 odour emission facilities - provided by the Engineer 1.31 Temperature correction factor
Effluent Storage Tank	OU/s	2.5782E+02	Measured Odour Concentration (OU/m ² /s) Surface Area (m ²) Correction factor, Cf	Maximum odour concentration, OU/m ² is measured at sewage treatment facilities at Stonecutter Island STW 6.93 Stonecutter Island STW 28.4 odour emission facilities - provided by the Engineer 1.31 Temperature correction factor
	OU/s	1.3872E+02	Measured Odour Concentration (OU/m ² /s) Surface Area (m ²) Correction factor, Cf	calculated using mean value of odour concentration, OU/m ² is measured at fresh dewatered sludge at Stonecutter Island STW 20.17 dewatered sludge at Stonecutter Island STW 5.25 odour emission facilities - provided by the Engineer 1.31 Temperature correction factor
Odour Control Unit 2 Enclosed Facilities: Reception Hall	Mitigated OU/s	8.5610E+01	Emission Height, (m) Diameter of the stack, (m) Stack velocity, (m/s) Mitigation %	10.0 provided by the Engineer 0.70 provided by the Engineer 8.00 provided by the Engineer 95.0 provided by the Engineer
	OU/s	1.7122E+03	Measured Odour Concentration (OU/m ² /s) Surface Area (m ²) Correction factor, Cf	calculated using mean value of odour concentration, OU/m ² is measured at fresh dewatered sludge at Stonecutter Island STW 20.17 dewatered sludge at Stonecutter Island STW 64.8 odour emission facilities - provided by the Engineer 1.31 Temperature correction factor