

Mayfield Concept Plan Approval

Quarterly Stormwater Monitoring Report

November 2017

In accordance with Schedule 3 Condition 2.21 d of the Mayfield Concept Approval, PON has developed a Stormwater Management Strategy for the site.

To support the strategy PON conducts an ongoing site wide monitoring program to confirm that the site continues to meet the commitments and requirements of the Concept Plan Approval. Sampling is undertaken on a quarterly basis at the downstream extent of the site drainage infrastructure prior to discharge into the Eastern and Western drains. There are a total of six sampling locations, see Figure 1 below:

Figure 1: Mayfield Site Water Quality Monitoring Locations



Analytes that are to be monitored at each sample location are detailed in Table 1 below:

Table 1: Analytes for Stormwater

Pollutant	Unit of Measure	Frequency Sampling Method		
Total suspended solids	mg/L	Quarterly	Grab sample during rainfall event	
рН	pH units	Quarterly	Grab sample during rainfall event	
Nitrogen (total)	ug/L	Quarterly	Grab sample during rainfall event	
Oil and grease	mg/L	Quarterly	Grab sample during rainfall event	
Phosphate	ug/L	Quarterly	Grab sample during rainfall event	



BOD	mg/L	Quarterly	Grab sample during rainfall event
Dissolved oxygen	mg/L	Quarterly	Grab sample during rainfall event
Heavy metals (comprehensive suite)	ug/L	Annually	Grab sample during rainfall event

Stormwater sampling was conducted in November 2017. This round included all of those analytes that are required to be monitored quarterly and also the comprehensive suite of metals that are only required to be monitored annually.

Results are presented Tables 2 & 3 below; Table 2 details results for those analytes to be monitored quarterly, Table 3 provides the results for the suite of heavy metals that are to be monitored annually.

Table 2: Results for quarterly suite of analytes

	Units	ED1	ED2	ED3	WD1	WD2	WD3
рН	pH unit	6.79	7.03	6.97	6.69	6.70	6.67
TSS	mg/L	14	7	6	12	10	11
Dissolved Oxygen	mg/L	6	6	5.8	3.8	5.7	6.1
Total Nitrogen (calc)	μg/L	800	1000	800	700	400	200
Oil and Grease	mg/L	87	<8	<8	<8	<8	<8
Filterable Reactive Phosphate	μg/L	730	130	70	120	120	90
Biological Oxygen Demand	mg/L	4	4	3	<2	<2	<2

Table 3: Results for annual suite of heavy metals

	Units	ED1	ED2	ED3	WD1	WD2	WD3
Total Beryllium	μg/L	<1	<1	<1	<1	<1	<1
Total Boron	μg/L	<50	<50	<50	<50	<50	<50
Total Cadmium	μg/L	<0.1	<0.1	0.1	<0.1	<0.1	<0.1
Total Chromium	μg/L	<1	<1	<1	<1	<1	<1
Total Cobalt	μg/L	<1	<1	<1	<1	<1	<1
Total Copper	μg/L	2	3	3	3	3	3
Total Lead	μg/L	<1	2	<1	<1	<1	<1
Total Manganese	μg/L	18	8	4	130	100	94
Total Nickel	μg/L	<1	2	<1	2	1	<1
Total Selenium	μg/L	<10	<10	<10	<10	<10	<10
Total Zinc	μg/L	16	11	21	7	10	11
Total Mercury	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001