

# Mayfield Concept Plan Approval

## Quarterly Stormwater Monitoring Report

September 2015

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 Figure1 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
pH	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

The first round of stormwater sampling was conducted in September 2015. This first 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
pH	pH unit	6.53	6.78	6.92	6.89	7.00	7.10
TSS	mg/L	6	41	5	9	34	87
Dissolved Oxygen	mg/L	8.2	8.6	8.8	8.3	8.6	8.4
Total Nitrogen (calc)	µg/L	960	190	1300	2700	2800	1900
Oil and Grease	mg/L	<5	<5	<5	11	<5	<5
Filterable Reactive Phosphate	µg/L	22.0	17	21	<5	<5	<5
Biological Oxygen Demand	mg/L	<5	<5	<5	<5	<5	<5

**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	37.0	31	29	40	26	26
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	3.0	4	2	3	3	4
Total Lead	µg/L	<1	1	<1	<1	2	4
Total Manganese	µg/L	25.0	94	11	10	23	54
Total Nickel	µg/L	1.0	1	<1	<1	<1	2
Total Selenium	µg/L	<1	<1	<1	<1	<1	<1
Total Zinc	µg/L	<5	10	7	9	10	33
Total Mercury	mg/L	0.10	<0.1	<0.1	<0.1	<0.1	<0.1