

Fairfax County 2018 MS4 Program Plan and Annual Report

Appendix R15

Wet Weather Screening Report

VSMP Permit Number VA0088587
9-28-2018

The wet weather sites began monitoring during reporting period 2017, trends will be evaluated in the future when sufficient data has been gathered.

Site Name	Dominant Land Use	Event #	Date of Storm	Site Set-up	Most Recent Storm Event Prior to Collection	Rainfall Amount (inch)	Rain Event Length (hrs)	Sampler Program Length (hrs)	Analytical Results (event mean concentration)																
									Alkalinity (mg/L)	Cd (mg/L)	COD (mg/L)	Cr (mg/L)	Cu (mg/L)	Hardness (mg/L)	TKN (mg/L)	Pb (mg/L)	Ni (mg/L)	NO ³ +NO ² (mg/L)	Ortho-P (mg/L)	P (mg/L)	TPH (mg/L)	TSS (mg/L)	Zn (mg/L)	pH	Sp. Cond. (mS/cm)
Patrick Henry Dr.	Commercial	1	7/28/2017	12:30	7/23/2017	1.61	12.8	30.0	NA	<0.01	120.00	<0.02	<0.020	11.00	0.67	<0.04	<0.04	0.18	0.04	0.04	<5.6	12.00	0.027	7.56	0.056
Queensberry Ave.	Commercial	1	7/28/2017	1:15	7/23/2017	1.61	12.8	30.0	NA	<0.01	50.00	<0.02	<0.020	20.00	0.55	<0.04	<0.04	0.29	0.03	0.03	<5.6	6.50	0.053	6.81	0.044
Patrick Henry Dr.	Commercial	2	12/23/2017	12:15	12/5/2017	0.27	6.0	20.0	NA	<0.01	260.00	<0.02	0.086	180.00	3.25	<0.02	<0.04	<0.050	0.37	0.43	12.80	220.0	0.34	6.08	2.326
Queensberry Ave.	Commercial	3	10/29/2017	15:30	10/24/2017	0.97	21.0	60.0	NA	<0.01	150.00	<0.020	<0.020	20.00	0.91	<0.020	<0.040	0.28	0.06	0.13	<5.4	7.9	0.095	6.55	0.073
Patrick Henry Dr.	Commercial	4	1/12/2018	20:00	1/9/2018	0.93	24.0	30.0	NA	<0.01	160.00	<0.02	0.044	180.00	1.67	<0.02	<0.04	0.90	0.06	0.20	10.00	36.0	0.15	6.58	2.782
Queensberry Ave.	Commercial	5	2/10/2018	12:15	2/7/2018	1.78	26.0	28.0	NA	<0.01	51.00	<0.020	<0.020	60.00	1.26	<0.040	<0.040	0.96	0.08	0.14	<5.4	18.0	0.072	6.69	0.277
Patrick Henry Dr.	Commercial	6	5/22/2018	13:00	5/19/2018	0.72	2.0	8.0	NA	<0.01	81.00	0.0028	0.024	41.00	0.71	<0.02	0.0038	0.66	0.05	0.10	N/A*	8.7	0.045	6.98	0.243
Queensberry Ave.	Commercial	6	5/22/2018	14:00	5/19/2018	0.72	2.0	8.0	NA	<0.01	85.00	0.0014	0.020	23.00	1.08	<0.020	0.0021	0.44	0.03	0.40	N/A*	5.2	0.039	6.67	0.106

* TPH samples taken during the 5/22/18 storm were improperly handled by the laboratory, and so were not able to be processed.

Analyte value was greater than exceedance criterion

Follow-up actions : All storm event reports with exceedances are sent to our Industrial and High Risk Runoff (IHRR) Group for analysis. Zinc and copper are common urban pollutants, originating from roofs and vehicles. Copper can also come from cooling towers, washing activity, or from water flowing through soil such as groundwater seeps into the storm drainage system joints. Elevated copper and zinc concentrations are common in urban and suburban runoff (Davis, Shokouhian and Ni, 2001), (Pitt, Field, Lalor, & Brown, 1995). The IHRR group performed a desktop analysis and found that observed values were similar to levels commonly found in drinking water, which is an allowable discharge under the permit.

Davis, A., M. Shokouhian, and S. Ni. 2001. Loading estimates of lead, copper, cadmium, and zinc in urban runoff from specific sources. Chemosphere, 44(5), 997-1009.

Pitt, R., R. Field, M. Lalor, and M. Brow. 1995. Urban stormwater toxic pollutants: assessment, sources, and treatability. Water Environment Research, 67(3), 260-275.