



# Chesapeake Bay Total Maximum Daily Load (TMDL) Action Plan

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*Small Municipal Separate Storm Sewer Systems General Permit  
Metropolitan Washington Airports Authority - Dulles Toll Road  
Permit Number VAR40120*

*October 2019*

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# Chesapeake Bay TMDL Action Plan

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## 1 General Provisions

### 1.1 Purpose

In accordance with the Small Municipal Separate Storm Sewer Systems (MS4) General Permit requirements, the Metropolitan Washington Airports Authority (Airports Authority) Dulles Toll Road (DTR) is required to develop and implement an Action Plan to comply with the Chesapeake Bay Total Maximum Daily Load (TMDL). As a special condition in the MS4 General Permit, the Commonwealth of Virginia in its Phase I and Phase II Chesapeake Bay TMDL Watershed Implementation Plans committed to a phased approach for MS4s, allowing MS4 operators up to three full five-year permit cycles to implement the necessary reductions.

### 1.2 Definitions

The following definitions apply to this action plan:

- “Best Management Practices (BMPs)” – Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices, including both structural and nonstructural practices, to prevent or reduce the pollution of surface waters and ground water systems
- “Pollutants of Concern (POC)” – Total nitrogen (TN), total phosphorous (TP), and total suspended solids (TSS)

### 1.3 Legal Authority

The Airports Authority will continue to utilize its Virginia Stormwater Management Program (VSMP) administrator to ensure compliance with this special condition. The Airports Authority does not plan to implement any new or modified legal authorities.

## 2 Load and Cumulative Reduction Calculations

In accordance with Part II, A.3, the table below was utilized to determine total pollutant loading necessary to reduce the POC loads from existing sources:

<i>Pollutant</i>	<i>Sub-source</i>	<i>Loading Rate (lb/ac/yr)</i>	<i>Existing Developed Lands as of 6/30/09 (ac)</i>	<i>Loading (lbs/yr)</i>	<i>MS4 Required Chesapeake Bay Total L2 Loading Rate Reduction</i>	<i>Percentage of L2 required reduction by 6/30/2023</i>	<i>40% Cumulative Reduction Required by 6/30/2023 (lb/yr)</i>	<i>Sum of 40% Cumulative Reduction (lb/yr)</i>
<b>Nitrogen</b>	Regulated Urban Impervious	16.86	379.1	6,392	9%	40%	230.1	<b>298</b>
	Regulated Urban Pervious	10.07	282.3	2,843	6%	40%	68.2	

<i>Pollutant</i>	<i>Sub-source</i>	<i>Loading Rate (lb/ac/yr)</i>	<i>Existing Developed Lands as of 6/30/09 (ac)</i>	<i>Loading (lbs/yr)</i>	<i>MS4 Required Chesapeake Bay Total L2 Loading Rate Reduction</i>	<i>Percentage of L2 required reduction by 6/30/2023</i>	<i>40% Cumulative Reduction Required by 6/30/2023 (lbs/yr)</i>	<i>Sum of 40% Cumulative Reduction (lb/yr)</i>
<b>Phosphorus</b>	Regulated Urban Impervious	1.62	379.1	614	16%	40%	39.3	<b>43</b>
	Regulated Urban Pervious	0.41	282.3	116	7.25%	40%	3.4	
<b>Total Suspended Solids</b>	Regulated Urban Impervious	1,171.32	379.1	444,047	20%	40%	35,523.8	<b>37,261</b>
	Regulated Urban Pervious	175.8	282.3	49,628	8.75%	40%	1,737	

### 3 Reductions prior to July 1, 2018

#### 3.1 Total Reductions Achieved

Under the July 1, 2013 through June 30, 2018 permit, the total reduction of each POC achieved by the Airports Authority is provided in the table below:

<b>Pollutant Reductions for POC during 2013-2018 Permit</b>			
<i>BMP</i>	<i>Reduction TN (lbs.)</i>	<i>Reduction TP (lbs.)</i>	<i>Reduction TSS (lbs.)</i>
Street Sweeping	145.2	58.2	17,430

#### 3.2 BMPs Implemented

##### Street Sweeping

The Airports Authority maintains a contract to provide street sweeping on the DTR, the table below provides the amount of material collected during each reporting period and the calculated POC reduction using the mass loading approach provided in the Guidance Memo No. 15-2005:

<b>Reporting Period</b>	<b>Pounds Collected</b>	<b>Dry Weight of Material</b>	<b>Pollutant Reduction</b>		
			<b>TN</b>	<b>TP</b>	<b>TSS</b>
<b>2013-2014</b>	22,000	15,400	38.5	15.4	4,620
<b>2014-2015</b>	21,500	15,050	37.6	15.1	4,515
<b>2015-2016</b>	19,500	13,650	34.1	13.7	4,095
<b>2016-2017</b>	10,000	7,000	17.5	7.0	2,100
<b>2017-2018</b>	10,000	7,000	17.5	7.0	2,100
<b>TOTAL</b>	<b>83,000</b>	<b>58,100</b>	<b>145.2</b>	<b>58.2</b>	<b>17,430</b>

## 4 Means and Methods to Meet Phase 2 Reductions and Schedule

### 4.1 BMPs to be Implemented

#### 4.1.1 Street Sweeping

The Airports Authority will maintain the contract to provide street sweeping on the DTR at a frequency of at least twice (2) per year. Based on totals of materials collected during the 2013-2018 Reporting Period, the Airports Authority estimates the contractor to collect approximately 15,000 pounds per year. The table below shows the estimated reduction of each POC from street sweeping per year based on the mass loading approach provided in the Guidance Memo No. 15-2005:

Estimated Pollutant Reductions for POC by Street Sweeping				
Reporting Period	Dry Weight of Material Collected	Reduction TN (lbs.)	Reduction TP (lbs.)	Reduction TSS (lbs.)
2018-2019	7,000 lbs.	17.5	7.0	2,100
2019-2020	10,500 lbs.	26.3	10.5	3,150
2020-2021	10,500 lbs.	26.3	10.5	3,150
2021-2022	10,500 lbs.	26.3	10.5	3,150
2022-2023	10,500 lbs.	26.3	10.5	3,150
<b>Total Estimated Reductions:</b>	<b>52,500 lbs.</b>	<b>122.7</b>	<b>49</b>	<b>14,700</b>

#### 4.1.2 Storm Drain Cleanings

The Airports Authority will maintain a contract for cleaning out storm drains (i.e. catch basins, drop inlets, pipes, etc.).

#### 4.1.3 Additional Credits

The Airports Authority is currently evaluating other possible sources for the additional credits necessary to meet the total reduction of each POC by the end of the permit cycle. These evaluations include surveys of streams for restoration projects and existing stormwater ponds for renovation. The Airports Authority will update this action plan as necessary when projects are selected.

### 4.2 Reduction Expected

During the 2018-2023 permit, the Airports Authority anticipates the following reductions:

Estimated Pollutant Reductions for POC per Year			
BMP	Reduction TN (lbs.)	Reduction TP (lbs.)	Reduction TSS (lbs.)
<i>Street Sweeping</i>	26.3	10.5	3,150

Estimated Pollutant Reductions for POC during Permit			
BMP	Reduction TN (lbs.)	Reduction TP (lbs.)	Reduction TSS (lbs.)
<i>Street Sweeping</i>	122.7	49	14,700

## 5 Public Comments on Draft Action Plan

The Airports Authority posted a copy of the Draft Action Plan on the website (<https://www.mwaa.com/business/building-codes-environmental-department>) on October 15, 2019. No comments were received.