

**THE CITY OF HYATTSVILLE  
WATERSHED IMPLEMENTATION PLAN  
AND STORMWATER MANAGEMENT INVENTORY**



**(Northwest Branch)**

**In Accordance with the Maryland and Prince George's County Watershed  
Implementation Plans and special credit to the WIP of Annapolis, MD**

**Contents**

1. Executive Summary.....	3-5
2. Characterization of Hyattsville.....	5-6
3. Introduction.....	6-7
4. Goal for the Watershed Implementation Plan.....	7
5. Recent Accomplishments.....	7-10
6. Current Objectives.....	10-11
7. Future Project Plans.....	11-12

## Executive Summary:

Under the Clean Water Act, the United States' Environmental Protection Agency (EPA) has determined the Total Maximum Daily Load, or the pollution limit, for the Chesapeake Bay.<sup>1</sup> Once approved by the EPA, this Total Maximum Daily Load--or TMDL--reports the maximum amount of pollutants, such as nutrients and sediment, that are able to enter the water without harming the overall water quality. By 2025, D.C and the six Chesapeake Bay states<sup>2</sup>, including Maryland, are obligated under the 2009 Chesapeake Bay Protection and Restoration Executive Order<sup>3</sup> to follow the procedures outlined in their Watershed Implementation Plans, or WIPs, in order to meet their set individual water quality standard, as well as limit and ultimately prevent runoff and flooding.

The rise of global temperatures has contributed to certain variables linked to flooding, according to the Fourth National Climate Assessment<sup>4</sup>. One of the main variables includes heavier precipitation, especially in the Northeast region of the U.S. The National Oceanic and Atmospheric Administration (NOAA) has conducted additional research which supports the pattern of more frequent and intense downpours<sup>5</sup>. In order to better prepare for these conditions, and based on Hyattsville's current agenda of sustainable projects, the city has made commendable efforts to address stormwater-related issues, existing and anticipatory. One large project that this document will explore is Hyattsville's own municipal Watershed Implementation Plan for the Anacostia Watershed.

Historically, the Anacostia River has been notable. Prior to the contamination of the Anacostia, in 1608 John Smith, during his expeditions, noted the water clarity of the riverway. Since the 1700s, the Anacostia served as a central shipping port in Bladensburg and its location was utilized for industrial activity and coal gasification. Combined, these processes have contributed to high levels of pollution for the Anacostia Watershed.

With tributaries in Hyattsville, the Anacostia River runs for 8.5 miles, starting at the confluence of its Northwest and Northeast branches and ultimately empties into the Chesapeake Bay, after draining into the Potomac River. Along with the Patuxent River, the Potomac River is another source of the drinking water for Hyattsville's residents.

Impervious surfaces, such as rooftops, parking lots, and streets, act as another source

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<sup>1</sup> Passed in 1972, the Clean Water Act is a federal law that regulates the management of waters of the United States, including the amount of pollutants entering into surface waters throughout the nation

<sup>2</sup> Virginia, Maryland, Delaware, West Virginia, Pennsylvania, New York

<sup>3</sup> "Executive Order 13508-- Chesapeake Bay Protection and Restoration." *National Archives and Records Administration*, National Archives and Records Administration.

<sup>4</sup> Usgcrp. "Climate Science Special Report." *Climate Science Special Report*, science2017.globalchange.gov/

<sup>5</sup> Gleason. "National Climate Report - March 2020." *National Climatic Data Center*, [www.ncdc.noaa.gov/sotc/national/202003](http://www.ncdc.noaa.gov/sotc/national/202003).

from which trash and storm water flows and discharges into the Anacostia. In addition, there are toxins and chemicals that impair the sediment of the watershed<sup>6</sup>.

The EPA, as well as the Department of Environment (DoE) of Prince George's County, have disclosed the Total Maximum Daily Load reports, due to the Clean Water Act, in order to restore the impaired waters of the Anacostia. The TMDL is equivalent to the sum of waste load allocations from point sources<sup>7</sup> and the sum of load allocations from nonpoint sources<sup>8</sup>, such as runoff, and the total margin of safety. In 2008, the EPA approved of the data collected from the Watershed, which yielded a Total Waste Load Allocation of 119,827 lb/year, Total Load Allocation of 24,588 lb/year, and an Explicit Margin of Safety of 7705lb/year. For Hyattsville, one of the main concerns involves the Northwest Branch (NWB), which is the largest sub-watershed of the Anacostia River which also yielded 6700lb/year from one point source and 1193lb/year from another point source. The National Pollution Discharge Elimination System (NPDES) permit, through the Clean Water Act, allotted IDs for each given point source. The report, found in Figure 3, identified the main pollutant of the Anacostia to be Nitrogen, found in fecal matter. There have been recent improvements in 2018 involving the sewage system and its discharge into the watershed, with the Anacostia River Tunnel, which prevents harmful waste from entering the river before being treated. Further research has been conducted in identifying the TMDLs for the Anacostia through the DoE of Prince George's County and its County Watershed Restoration Planning; however, most recent data gathered is from 2003.

The city has also conducted studies and implemented projects in the area to prevent flooding and improve water quality. Additionally, in order for Hyattsville to remain on track with their sustainability goals, best management practices (BMPs) can be adapted from both the Maryland's Watershed Implementation Plan (WIP), as well as Prince George's County's Watershed Implementation Plan, a revised draft for Phase II of Maryland's WIP. The research within the Prince George's County's WIP<sup>9</sup> was presented on July 2, 2012 through the Department of the Environment of Prince George's County, Maryland in cooperation with the Department of Public Works and Transportation, Soil Conservation District, Health Department, National-Capital Park and Planning

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<sup>6</sup> An Addendum to the [2016 Landscape Maintenance Request for Proposal \(RFP\)](#) was presented in 2016 to eliminate the usage of potentially harmful pesticides, except when otherwise mandated by the state or in the case of a public health situation which demands otherwise

<sup>7</sup> Point sources are [defined by the EPA](#) to include contaminants that enter the environment from an easily identified and confined place, such as smokestacks, discharge pipes, and drainage ditches. Municipal wastewater treatment plants are another common source of point-source pollution. An excess of nutrients could also cause an overgrowth of algae in water sources.

<sup>8</sup> Non-point sources include runoff and may affect a larger area, due partially to the amount of impervious surfaces within that urban area. Non-point sources can include rainwater that contains oil residue from car engines, dog waste, and other trash.

<sup>9</sup> [https://mde.maryland.gov/programs/Water/TMDL/TMDLImplementation/Documents/FINAL\\_PhaseII\\_Report\\_Docs/Final\\_County\\_WIP\\_Narratives/PG\\_WIPII\\_2012.pdf](https://mde.maryland.gov/programs/Water/TMDL/TMDLImplementation/Documents/FINAL_PhaseII_Report_Docs/Final_County_WIP_Narratives/PG_WIPII_2012.pdf)

Commission, Washington Suburban Sanitary Commission, and the City of Bowie. The format of the Watershed Implementation Plan for Hyattsville, Maryland has taken influence from the work of engineering company AECOM in their 2016 report on watershed improvement for the city of Annapolis<sup>10</sup>. Accreditation to AECOM and the city of Annapolis is given for their sustainable efforts; along with Annapolis, Hyattsville would be among the first municipalities to create a working Watershed Implementation Plan and Stormwater Management Inventory.

### Characterization of Hyattsville:

Hyattsville is a city in Prince George's County, Maryland. A northeastern residential suburb of Washington, D.C., at the head of the Anacostia River. Settled about the time of the American Civil War as Hart, it was renamed at its incorporation (1886) for its founder, Christopher Clarke Hyatt.

#### Population and Square miles:

According to the Census Bureau, the city is 2.70 sq mi (7.01km<sup>2</sup>) of which 2.68 sq mi (6.94 km<sup>2</sup>) is land and 0.03 sq mi (0.07 km<sup>2</sup>) is made up of water. As of 2019, Hyattsville consists of a population of approximately 18,230 residents<sup>11</sup>. However, the 2020 Census Bureau data will be released March 31, 2021 and once disclosed will show an anticipated population increase of over 1,000 residents.

#### Soil Report:

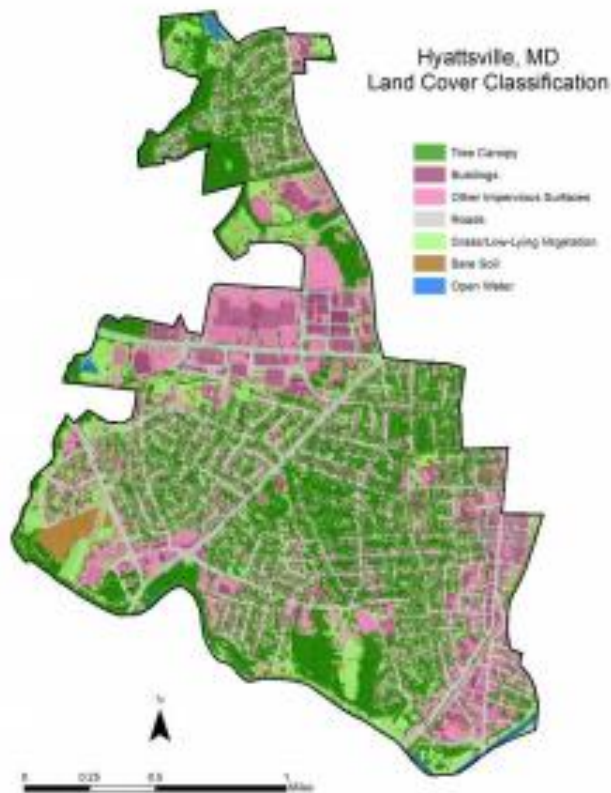
Codorus-Hatboro-Urban land complex soil, which is frequently flooded, identifies the majority of the surrounding area of the Anacostia tributaries for the Northwest and Northeast branches<sup>12</sup>.

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<sup>10</sup> <https://www.annapolis.gov/DocumentCenter/View/983/Watershed-Improvement-Plan-Final-PDF>

<sup>11</sup> <https://www2.census.gov/programs-surveys/popest/tables/2010-2019/cities/totals/SUB-IP-EST2019-ANNRES-24.xlsx>

<sup>12</sup> <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>



### Introduction:

The Stormwater Management Division of the Prince George's County's Department of the Environment prepared a National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) report<sup>13</sup> on behalf of Prince George's County that provided information on the previous fiscal year's activities relating to the County's NPDES MS4 *Individual* Permit No. 11-DP-3314. The stated report serves as a supplement to Prince George's County's NPDES MS4 2020 Annual Report<sup>12</sup>, which summarizes activities carried out by various municipalities in accordance with the NPDES *General* Permit No. 03-IM-5500 (General Permit) terms during fiscal year (FY) 2020.

The Maryland Department of the Environment (MDE) recommended that Prince George's County's municipality, excluding the City of Bowie, outline annual reports based on their progress for the county's six minimum control measures (MCM). The

<sup>13</sup>[https://www.princegeorgescountymd.gov/DocumentCenter/View/33519/PG\\_CO\\_FY2020\\_NPDES\\_MS4\\_Phase\\_II\\_Report](https://www.princegeorgescountymd.gov/DocumentCenter/View/33519/PG_CO_FY2020_NPDES_MS4_Phase_II_Report)

MCM consist of:

- Public Education and Outreach
- Public Participation and Involvement
- Illicit Discharge Detection and Elimination
- Construction Site Runoff Control
- Post-construction Runoff Control
- Pollution Prevention/good Housekeeping

### Goals for the Watershed Implementation Plan:

The overall goal of this Watershed Implementation Plan is to offer an outline on strategies to improve the waters within Hyattsville, and most specifically those of the Anacostia. Similar to the supplemental NPDES MS4 report for 2020, the WIP may give further information on projects under the MCMs, in addition to ways of accessing future progress.

The City will need to adopt a multifaceted approach that involves working with local partners as well as the incorporation of environmental site design (ESD) and a myriad of innovative and alternative BMPs and urbanized solutions such as public outreach and education.

### Recent Accomplishments:

#### Low Impact Development Study

The City of Hyattsville released, in September 2019, a Resilient Stormwater Systems Planning Study for Lower Ward I of the incorporated municipality. The targeted surveyed area includes only [Ward 1 of Hyattsville](#) (covering 168 acres and near the confluence of the Northeast and northwest branches of the Anacostia); this area is known to have most damage from flooding. According to the Low Impact Development (LID) site study, over half of the area is covered by impervious surfaces, which increases storm water runoff, from stream bank erosion, increased flooding, and worsened water quality. In addition, Stormwater runoff from facilities, such as the DPW is regulated by the State's industrial general permit. These facilities require site specific plans. Some runoff of Ward I is reduced partially due to a large portion of Hyattsville's urban tree canopies, being located in Ward I. However, the study highlights the aging and outdated infrastructure as many of



the pipes were installed in the 1960s-90s by the Washington Suburban Sanitary Commission (WSSC). Therefore, the goal of the Lower Ward I LID study was to analyze and disclose the conditions, based on infrastructure and weather, that cause drainage problems, such as flooding and decreased water quality and present an in-depth evaluation of the existing storm drain infrastructure's overall capacity and deficiencies. Identified solution sites and retrofit opportunities are given in the LID chart below.

## IDENTIFIED RETROFIT OPPORTUNITIES

id	Project name	Location	Localized Flood Reduction Benefit	Water Quality Benefit	PRIORITY	Time frame	COST ESTIMATE design + install
1	41st Place storm drain inserts	41st Pl. at Emerson; 41st Pl. at Decatur St.	Minimal	Medium	Low	Mid- to Long-term	\$10,000 - \$12,000
2	41st Street outfall protection	41st St. from 41st Pl. to Northwest Branch Trail	High	Medium	High	Short-term	\$150,000-\$250,000
3	41st Street pocket wetland	41st St. trail, near Northwest Branch Trail	Low	Medium	Medium	Short- to Mid-term	\$75,000-\$150,000
4	41st Street trail culvert	41st St. trail, adjacent to the Northwest Branch Trail	High	Low	High	Short-term	\$40,000-\$60,000
5	41st Place stream crossing	41st Pl., near Melrose Park	Low	Minimal	Low	Mid-term	\$30,000-\$50,000
6A 6B	Rhode Island Avenue   Baltimore Avenue curb improvements	Rt. 1 southbound, Braxton Pl. to 41st Pl.   Alt-Rt. 1 near Charles Armentrout Dr.	Medium	Minimal	Medium	Mid-term	SHA Project   Not Estimated
7	Rhode Island Avenue submerged gravel wetland	Rt. 1 northbound, southeast of Charles Armentrout Dr. intersection	Low	High	Medium	Mid-term	SHA Project   Not Estimated
8	Charles Armentrout bioswale	Charles Armentrout Dr. (westbound), west of 42nd Pl.	Low	Medium	Low	Long-term	\$200,000-\$400,000
9	Charles Armentrout submerged gravel wetland	Charles Armentrout Dr. at 42nd Pl.	Medium	High	High	Short-term	\$350,000 - \$380,000
10A 10B	"Green" parking lot improvements	Baltimore Ave/Alt-Rt. 1   Area between R1. 1, Charles Armentrout Dr., and 42nd Pl.	Minimal	High	Medium	Mid- to Long-term	Not estimated
11	Lower Ward 1-East residential green streets	Emerson St., Burlington Rd., & Buchanan St.	Medium	High	Low	Long-term	Not estimated
12	Development and redevelopment stormwater requirements	Study area-wide recommendation	Medium	Medium	Medium	Short-term	Not estimated
13	Storm drain inventory assessment	Study area-wide recommendation	High	Low	Medium	Short-term, Ongoing	Not estimated

Table 4. Identified retrofit opportunities

## Urban Tree Canopy Study<sup>14</sup>

<sup>14</sup> [http://www.hyattsville.org/DocumentCenter/View/5733/2020-Hyattsville-MD-UTC-Assessment-and-Change-Analysis\\_FINAL\\_20210107](http://www.hyattsville.org/DocumentCenter/View/5733/2020-Hyattsville-MD-UTC-Assessment-and-Change-Analysis_FINAL_20210107)



Davey Resource Group prepared a 2020 UTC Assessment & Change Analysis for the City of Hyattsville. The study found that “With a change in the overall canopy coverage for the city comes a change in the ecosystems benefits those trees provide” and although they did not have data on the change in level of benefits over time, Table 15 provides insight into that loss by highlighting the annual value of Hyattsville’s UTC, as of 2018.

**Table 15.** Ecosystem Benefits of the Hyattsville UTC

Ecosystem Benefits	Annual Ecosystem Benefits	
	Quantity	Value
Air: CO (carbon monoxide) removed	934 lbs	\$510
Air: NO <sub>2</sub> (nitrogen dioxide) removed	6,593 lbs	\$778
Air: O <sub>3</sub> (ozone) removed	26,358 lbs	\$17,073
Air: SO <sub>2</sub> (sulfur dioxide) removed	2,019 lbs	\$74
Air: PM <sub>10</sub> particulate matter (dust, soot, etc.) removed	5,439 lbs	\$11,707
Carbon sequestered	740 tons	\$63,085
Current stored carbon	18,579 tons	\$1,584,301
Stormwater: reduction in runoff	7,944,801 gals	\$1,350,616
Total Annual Value		\$3,028,144

## Sustainable Maryland Report

Hyattsville was certified through Sustainable Maryland in 2019 with 535 points<sup>15</sup>. The Department of Public Works has implemented a stormwater management program to implement bioretention areas and bioswales on City property. There are plans to add rain gardens to the following areas: Crittenden St. (between 40th pl and 42nd pl), Melrose Park, Heurich Park, Magruder Park (ward 2), Carrollton Terrace. In addition, in the report under the category of

<sup>15</sup> [http://sustainablemaryland.com/?type=1336777441&tx\\_sjcert\\_certification\[certification\]\[\\_identity\]=81](http://sustainablemaryland.com/?type=1336777441&tx_sjcert_certification[certification][_identity]=81)

watershed stewardship there are ongoing improvements to the Anacostia Watershed through the Anacostia Watershed Society (AWS), as well as weeding/ staking trees under the invasive removals done by volunteers from the AWS and specific progress towards preserving the AW, understory planting at Magruder, maintaining the meadows between Northwest Branch Ave. and Magruder Park, community implementing of stormwater best practice management/ bmps such as bioretention ponds in University Hills, working with UMD Terps for Change students with invasive plant removals during the Spring and Fall Semesters, and other educational opportunities in the Anacostia area on how to maintain a healthy watershed, such as boat tours of the river.

### Current Project Objectives:

Identifying and prioritizing stormwater mitigation opportunities within the city that include improving water quality, minimizing, and mitigating flood hazards, and identify opportunities for community co-benefits. Focusing on problems such as isolated low spots, undersized storm drain culverts, insufficient catch basins and neighborhoods with no stormwater infrastructure.

Provide concept designs and prioritization to identify high priority solutions that can be implemented by the City”<sup>13</sup>

- Allocation of yearly CIP budget for design of stormwater mitigation projects

Install best stormwater management practices (BMPs) on City-owned lands and within future development and redevelopment areas to the maximum extent possible, utilizing potential solutions such as bioswales, culverts, infiltration trenches, permeable pavements, and tree planting projects.

- Allocation of yearly CIP budget for Installation of stormwater mitigation projects

Continue to retrofit and upgrade old storm drain systems to county

standards. Alternative Urban BMPs

- Quarterly Routine Mechanical Street Sweeping
- Employment of City “Clean and Safe Team”. City Ambassadors here to assist residents and keep our streets Trash free.
- Installation and maintenance of Pet Waste Stations throughout the city
- Ongoing Environmental Education for staff and city residents.

### Federal, County, and Municipal Partners:

Continue to develop and maintain working relationships with local partners:

- Maryland Emergency Management Agency (MEMA),
- Federal Emergency Management Agency (FEMA)
- Department of Natural Resources (DNR)
- Department of Permitting, Inspection and Enforcement (DPIE) on Local Flooding

### Future Goals/Objectives:

Quantify existing pollutant loads using the Environmental Protection Agency-approved web based tool called the “The Chesapeake Bay Facility Assessment Scenario Tool” (BayFAST) to provide reference points for tracking City progress toward meeting the Chesapeake Bay TMDL.

Establish a set of criteria for identifying and prioritizing stormwater mitigation opportunities within the city that include improving water quality, minimizing, and mitigating flood hazards, and identify opportunities for community co-benefits.

Establish stormwater BMP reference sites within the City to measure water quality and water quantity entering and exiting the systems to gauge the ability to reduce and remove pollutants from stormwater and to evaluate the effective lifespan in highly urbanized environments.

Development and implementation of database mapping to include maintenance plans for all city BMPs.

Expand the development of outreach and education through the establishment of local partnerships:

- Potential partnerships
  - Hyattsville Horticultural Society
  - Anacostia Watershed Society
  - Casey Trees
  - Neighbors of Northwest Branch (Neighbors NWB)
- Provide MS4 Stormwater Permit Compliance Training to DPW, Police/Code

Enforcement and other pertinent staff.

- Promote the Prince George's County Rain Check Rebate Program. Conduct outreach and education to residents on implementation of stormwater management BMPs on their properties.

Development of a strategic 5 -10 year tree planting plan for stormwater mitigation ○ Train a Volunteer Tree Planting Group

Develop a Stormwater Alert System – send out reminders to residents of potentially hazardous local area flooding concerns when severe storms are anticipated.

Establish an Environmental Webpage referencing Stormwater Education/mitigation practices.

Sponsor Training of Residents to become Master Watershed Stewards through the Anacostia Watershed Society.