

STORMWATER PROGRAM UPDATES

May 26, 2026



Stormwater Improvement Plan (SWIP) Update



Background

- Original SWIP was developed in 2017
 - Identified potential practices to meet the 2018 and 2023 Chesapeake Bay targets
- 2024 Update
 - Identify potential practices to meet 2028 Chesapeake Bay target
 - Identify potential practices to meet local TMDL targets and establish a potential implementation timeline
 - Identify quantity concerns

SWIP Update Process



- Reviewed 2017 Chesapeake Bay SWIP & potential BMP list
- Identified additional BMPs to meet local TMDLs
- Prioritized BMPs
- Develop project cost estimates
- Develop local TMDL implementation timelines
- High priority BMPs to meet Chesapeake Bay TMDL
 - Field visits
 - Conceptual designs
- Review stormwater utility fee
- Conduct public engagement
- Research water quantity programs

Examples of BMPs



Street Sweeping



Storm Drain Cleaning



Stream Restoration



Bioretention/
Bioswale



Bioretention/Bioswale



Wetlands



Wet Pond



Filter Strip



Bioretention/
Bioswale

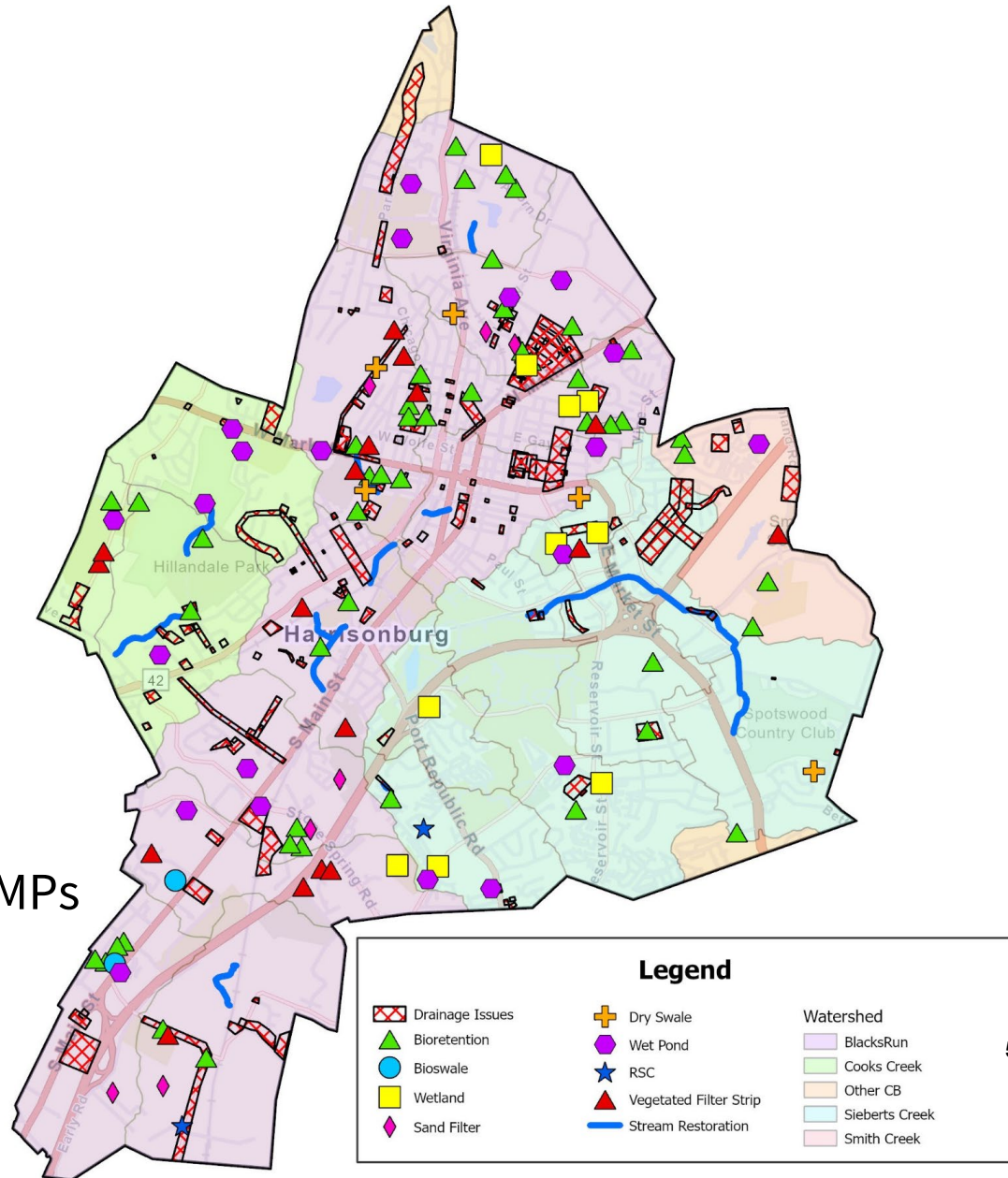


Tree Planting



BMP Overview

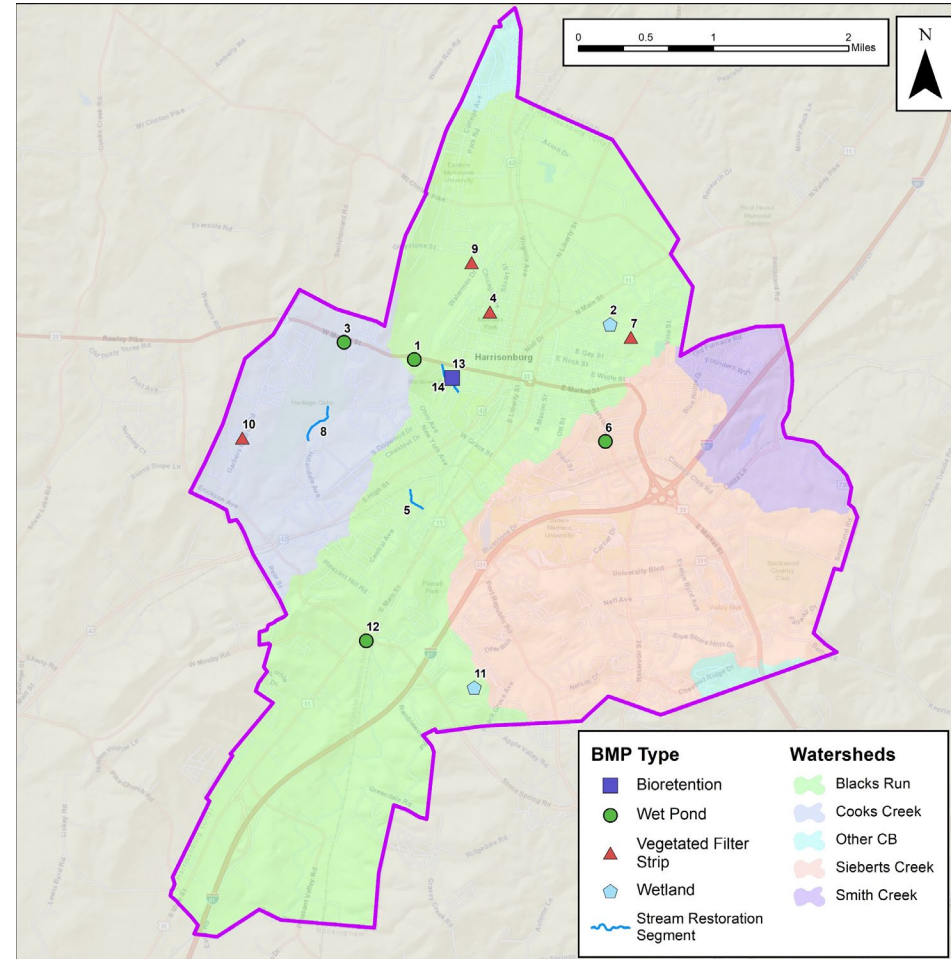
- BMPs from 2017 Study
 - 7 stream restoration
 - 15 new BMPs
 - 2 BMP retrofits
- BMPs from 2024 Study
 - 4 stream restoration
 - 27 wet ponds/wetlands
 - 47 bioretention
 - 22 other BMP types
 - 32 BMPs retrofit existing BMPs



Priority BMPs and Locations



Map ID	BMP Type	Watershed
1	Wet Pond (Retrofit)	Blacks Run
2	Wetland (Retrofit)	Blacks Run
3	Wet Pond (Retrofit)	Cooks Creek
4	Veg Filter Strip	Blacks Run
5	Stream Restoration	Blacks Run
6	Wet Pond (Retrofit)	Sieberts Creek
7	Veg Filter Strip	Blacks Run
8	Stream Restoration	Cooks Creek
9	Veg Filter Strip	Blacks Run
10	Veg Filter Strip	Cooks Creek
11	Wetland (Retrofit)	Blacks Run
12	Wet Pond (Retrofit)	Blacks Run
13	Bioretention (Retrofit)	Blacks Run
14	Stream Restoration	Blacks Run



Public Engagement Overview

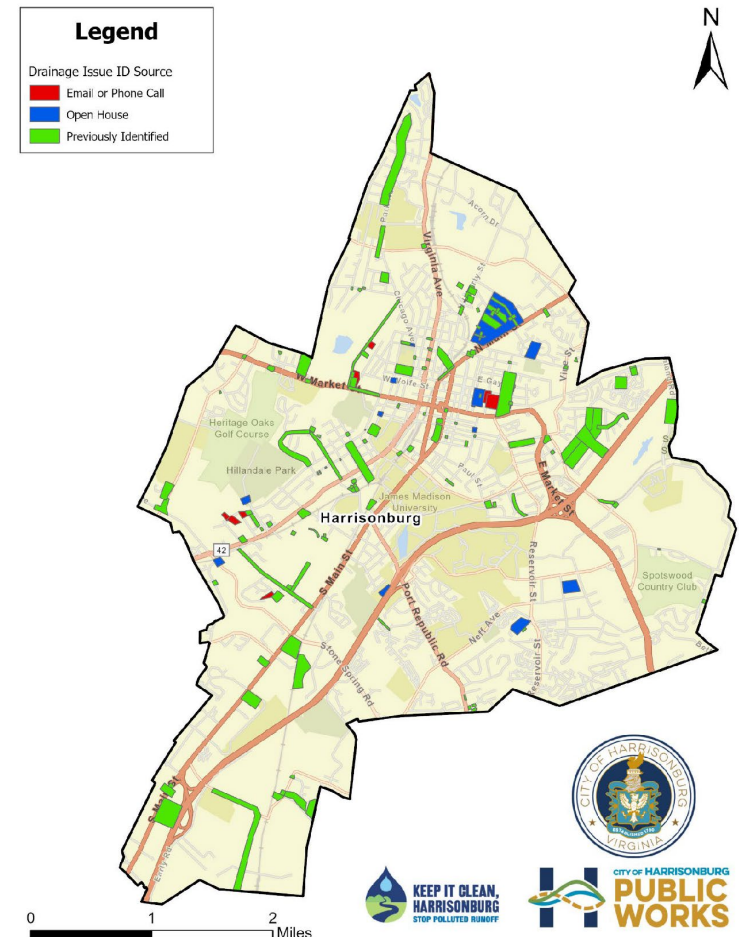


- Public survey
- Two open house sessions in May 2024
- Public meeting in October 2024
- Provided materials in eight languages: Arabic, English, Kurdish (Sorani), Russian, Spanish, Swahili, Tigrinya, and Ukrainian
- Gathered feedback about the City's stormwater quality and quantity plans and learn about the community's concerns

Locations of Concern/ Drainage Complaints

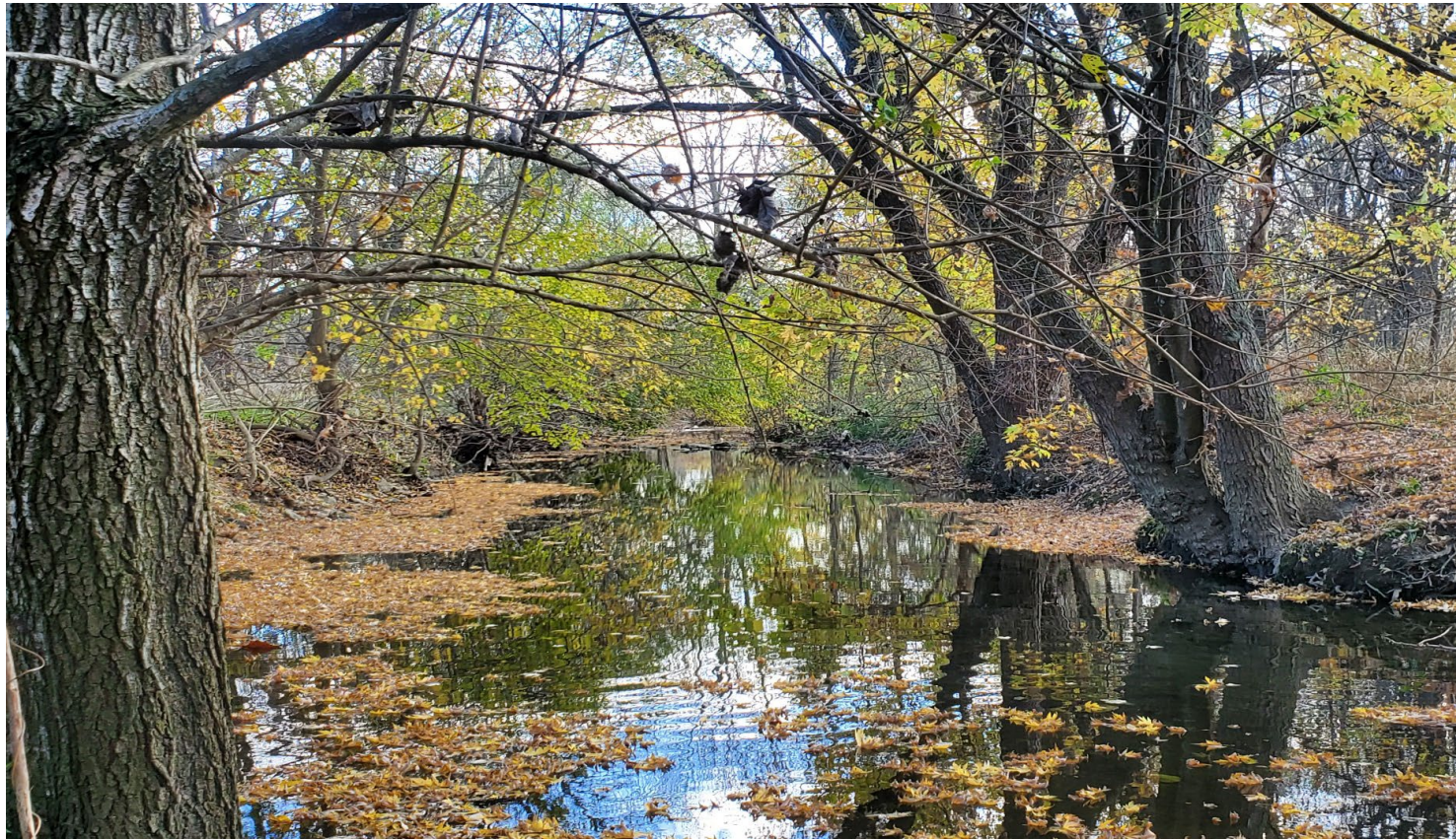


- Public feedback to identify areas of concern
- City received numerous emails and phone calls following the May 6, 2024 storm event
- Map displays drainage issues identified





Blacks Run & Cooks Creek TMDL Update



TMDL Development Background



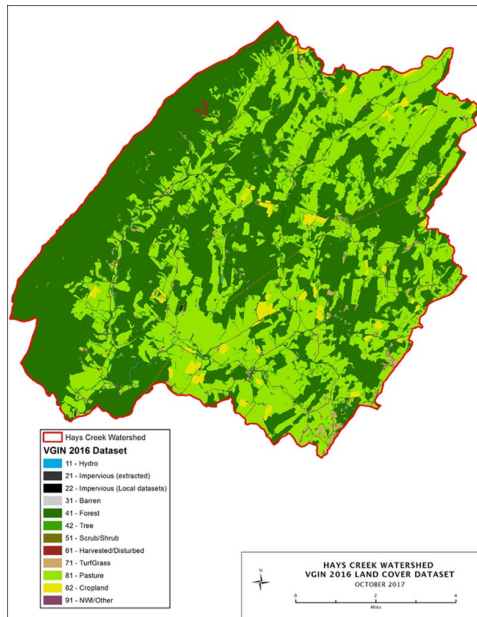
- 1998: Blacks Run listed as impaired stream
- 2002: TMDL developed for Blacks Run and Cooks Creek
- 2006: TMDL Implementation Plan was created
- 2019: DEQ revised the TMDL to assign a Waste Load Allocation (WLA) to the City of Harrisonburg
- 2026: Per MS4 permit requirements, the City developed an Action Plan by May 1, 2026 to describe how we intend to meet the WLA
 - Action Plan was submitted to DEQ in April 2026 and is pending review

Reference Watershed



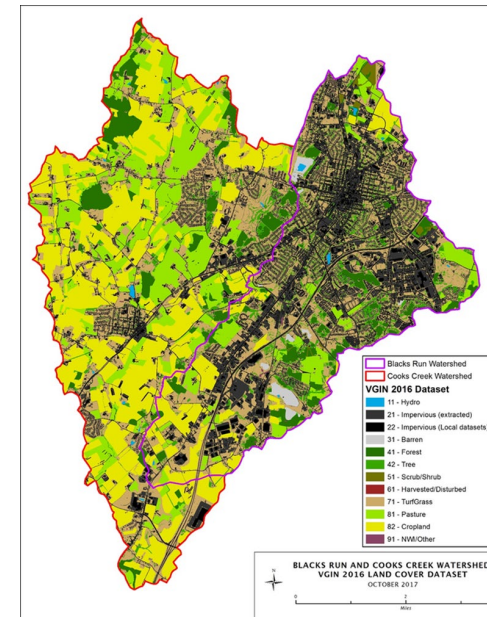
Hays Creek

- 690 acres of developed/urban land cover (1.4% of watershed)



Blacks Run & Cooks Creek

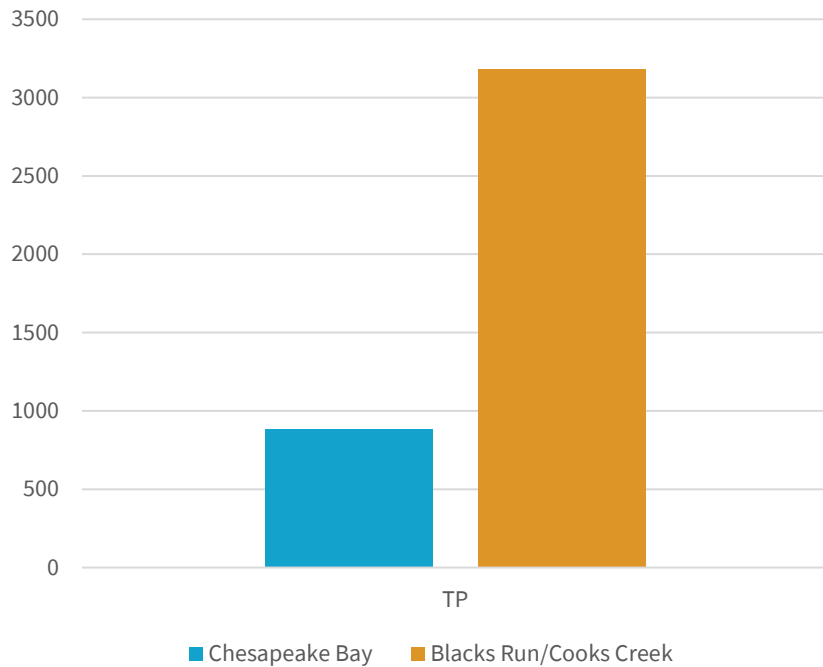
- 6,750 acres as developed/urban land cover (51% of watershed)



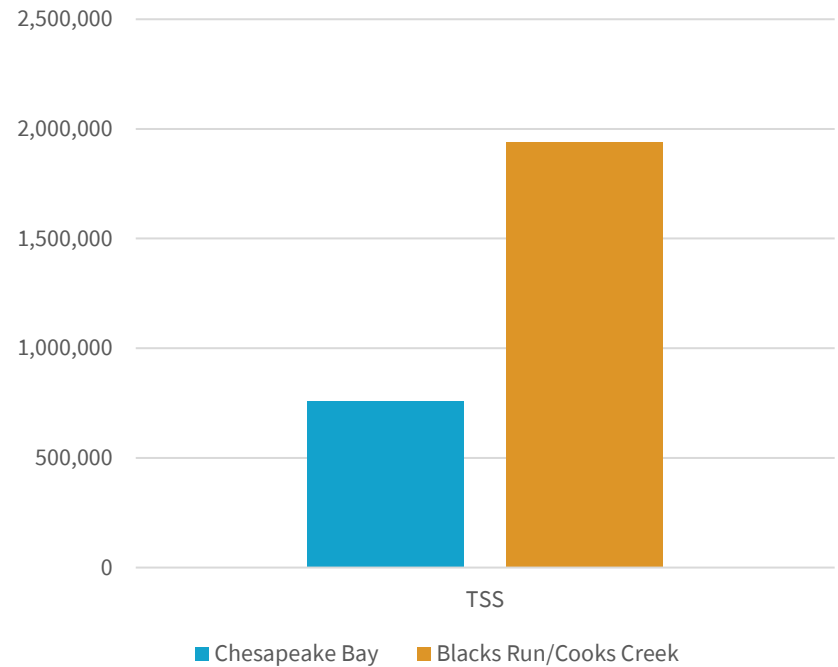
Pollutant Reduction Targets



Phosphorus Target Comparison



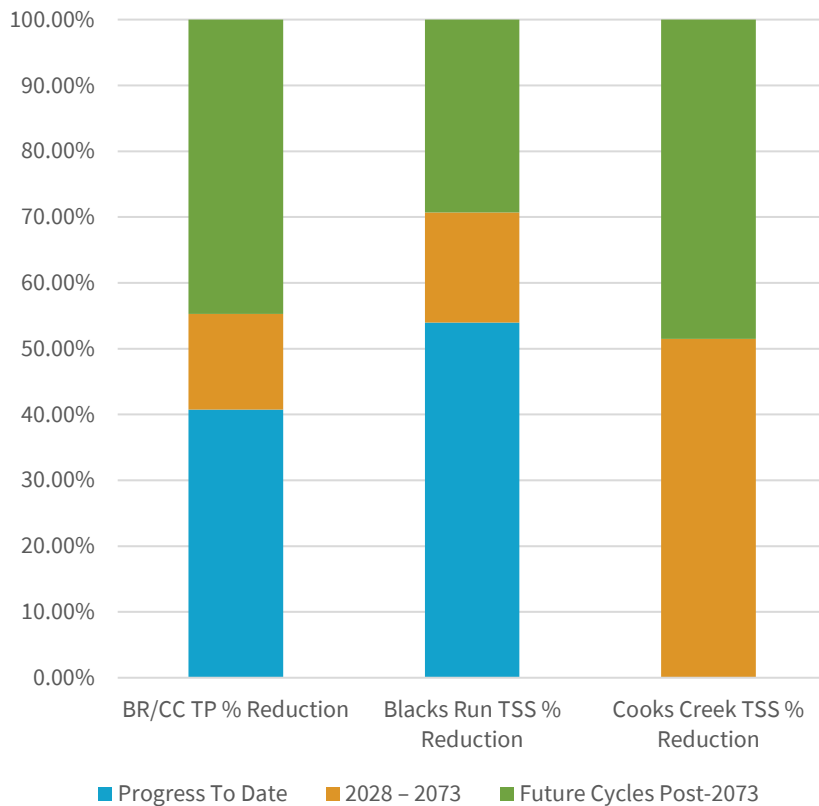
Sediment Target Comparison



Progress and Phased Targets



Local TMDL % Reductions



- Proposed Plan
 - Rolling schedule through 2073
 - Uses 5-year implementation targets
 - Allows adjustment as projects, funding, and site conditions change
- Full compliance will require work beyond 2073
- Costs and site constraints limit project pace
- Plan focuses on practicable progress



HCPS Stormwater MOU





HCPS Stormwater MOU

2023-2028 MS4 Permit Changes

- City owned BMP maintenance schedules must follow a pre-determined timeline based on priority definitions
- HEC and HCPS are covered under City's MS4 permit
- HPW staff conduct annual inspections of all City owned BMP

Department	BMPs
City Schools	20
Fire Department	3
HEC	2
Parks and Recreation	8
Public Utilities	5
Public Works	46
HDPT	3
Grand Total	87



HCPS Stormwater MOU

Low Priority

- Minor issues that do not immediately affect the functionality or efficiency of the BMP
- Issues that typically can be resolved during routine maintenance without requiring specialized intervention
- Examples: Minor sediment accumulation, small amounts of debris or litter, slight erosion in non-critical areas, vegetation that needs minor maintenance, small patches of bare soil needing reseeding, loose or missing grates or covers, faded signage that is still readable
- Timeline for Action: Within 12 months



HCPS Stormwater MOU

Moderate Priority

- Issues that may begin to impact the BMP's performance if not addressed in a timely manner.
- Problems that require more attention than routine maintenance but do not pose an immediate threat.
- Examples: Moderate sediment build-up affecting flow, vegetation overgrowth impacting water flow or access, clogged inlets or outlets that reduce flow efficiency, noticeable erosion that could worsen if left unattended, invasive species starting to establish
- Timeline for Action: 1 – 6 months



HCPS Stormwater MOU

Critical Priority

- Critical issues that significantly affect the BMP's performance or pose a risk to public safety and the environment.
- Problems that require immediate attention and potential involvement of specialized personnel or contractors.
- Examples: Severe erosion or structural damage, significant sedimentation blocking water flow, contamination or pollutant discharge, malfunctioning critical components that compromise BMP operation, structural failure or major cracks in critical areas, significant invasive species presence, undermined or collapsed embankments, sinkholes
- Timeline for Action: 1 – 3 months



HCPS Stormwater MOU

HCPS BMP Maintenance Problems

- ~50% of HCPS BMPs were built under the old quantity only regulations (1990s/early 2000s)
- Historically maintenance on HCPS BMPs has been limited and many BMPs now look more like small patches of forests
- ~50% of HCPS BMPs are identified as needing moderate or critical priority repairs
- HCPS lacks maintenance staff and equipment needed for BMP maintenance- not their area of expertise

HCPS BMP Maintenance Proposed Solution

- HPW can manage staff and equipment needed for BMP maintenance
- Meeting local TMDL requirements where it's advantageous to have HPW staff evaluate the potential to upsize BMPs while doing repairs



HCPS Stormwater MOU

MOU Items

- HCPS contributes financially to support the City maintaining stormwater infrastructure located on HCPS property
- HCPS allows access for inspecting and maintaining stormwater infrastructure
- HPW will identify potential opportunities for upsizing or building new BMPs to meet TMDL requirements. HCPS will work with the City to allow construction when land is not being utilized otherwise
- HPW will perform non-routine maintenance items (e.g. regrading, replacing pipes)
- HCPS will continue routine maintenance item (e.g. mowing)