

Huntington Stormwater Utility



Stormwater Management
&
Sediment and Erosion Control Requirements
for Construction Sites

Authorized by Huntington City Code
Articles: 971, 970, 930, 935, 955,

Revised May 2019

Stormwater Management Requirements

The Huntington Stormwater Utility is regulated by the WV Department of Environmental Protection for urban stormwater discharges and is required to implement the runoff volume reduction to manage stormwater on-site. Development and re-development sites of 5,000 square feet and greater must include stormwater control practices that reduce the *volume* of stormwater discharges.

The Utility's storm sewer system is aging and in some places under capacity to receive additional storm flows. One of the Utility's mission is to reduce or remove the stormwater flows that enter its system to reduce the street flooding that occurs.

Redevelopment: Development that will result in improving by renewing, restoring, rebuilding, new construction on, any developed property that encompasses 5,000 ft² or more, and that has one of the following characteristics:

- Land that currently has an existing structure, such as buildings or houses, or
- Land that is currently covered with an impervious surface, such as a parking lot or roof, or
- Land that is currently degraded and is covered with sand, gravel, stones, or other non-vegetative covering.

Redevelopment includes resurfacing pavements and projects that don't necessarily create additional square feet of impervious surfaces.

Stormwater management is required for all development of 5,000 ft² or more, **including** projects less than 5,000 ft² that are part of a larger common plan of development or sale.

Projects that are one acre or greater must provide proof of WVDEP approval under the WV Construction Stormwater Permit.

New development and redevelopment must manage the first one inch of rainfall on-site by utilizing the *runoff volume reduction* methodology and stormwater control practices. These are practices such as Bioretention cells, porous pavements, grassed swales, amended soils, and vegetated roofs. The runoff reduction stormwater practices that you choose should be able to manage on-site the first one inch of rainfall.

This includes the runoff from all impervious areas and managed turf. You can find the specifications for these practices in the guidance manual developed by the West Virginia Department of Environmental Protection. The manual; "West Virginia Stormwater Management and Design Guidance Manual" is available on WVDEP's website. The link is here:

<http://www.dep.wv.gov/WWE/Programs/stormwater/MS4/Pages/StormwaterManagementDesignandGuidanceManual.aspx>

Some developments will meet incentive criteria and thus receive a reduction in the amount of stormwater that must be managed. If your site meets any of the following criteria, a reduction may be applied. The Utility reserves the right to require the full one inch capture on site if necessary. Especially in areas that are prone to flooding.

A reduction of 0.2 inches from the one inch runoff volume reduction standard may be applied to the following types of development:

- a) Redevelopment
- b) Brownfield redevelopment
- c) High Density (>7 units per acre)

- d) Vertical density, (Floor to Area Ratio of 2 or > 18 units per acre)
- e) Mixed use and transit oriented development (with ½ mile of transit)

Reductions may not exceed 0.75 inches. That means sites meeting four or more of the incentives will be required to manage on-site a minimum of .25 inches. It is at the discretion of the Utility to allow incentives.

Stormwater management is required for each contributing drainage area of the site. It is impermissible to oversize a stormwater structure on one portion of the site to make up for a lack of controls on another portion of the site. This will only lead to failure of that control structure.

The Utility requires that the drawings clearly depict the on-site stormwater management controls. A written narrative with calculations and a hydraulic analysis must also be submitted. The hydraulic analysis report shall include pre-development and post-development calculations, any assumptions made for the calculations, methodology used, drainage area description, and a summary of the calculations. The calculations shall be done the following storm events, in addition to the design storm: 2-yr, 10-yr, 25-yr, 50-yr, and 100-yr. If you choose to use an infiltration stormwater design, the infiltration rate of the soil must be included. Drawings and calculations must contain a Professional Engineer seal. For each stormwater control structure include a detailed description on maintenance. Submit one hard copy and one electronic copy. The Utility cannot start the review until the electronic copy of the application package is received.

Paper plans and drawings must be folded to 8.5" x 11". DO NOT SEND plans rolled into a tube.

Based on the stormwater controls that are proposed, a maintenance agreement will be developed by the Utility. The agreement must be recorded at the County Courthouse. ***A signed and recorded maintenance agreement must be submitted prior to approval.*** The maintenance agreement will describe the inspection and maintenance activities and inspection frequency for the stormwater control practices. The maintenance agreement will contain remediation action in the event the structure requires maintenance or repair. The property owner or operator must provide verification of maintenance for the approved stormwater management practices. It is important that the hydraulic function of stormwater controls be maintained and function as intended in perpetuity.

Please note: engineering reviews are conducted by a contract engineer for the Huntington Stormwater Utility. In accordance with Article 935.14 of the Huntington Stormwater Utility all costs and expenses for the review of the development project are to be borne by the owner(s) of the private facility. The Huntington Stormwater Utility will not issue an approval until these expenses are paid by the owner. Two years of cost data indicate that the engineering review costs are approximately \$1,600.00 per project. Plans that are complete and accurate will cost less.

Article 935.14 of the Huntington Stormwater Utility

(b) All costs and expenses of the Huntington Stormwater Utility incidental to the installation of private stormwater facilities, connection of a private facility to the Stormwater System, and installation of public facilities to facilitate and/or convey flows from a specific private facility to the Stormwater System, shall be borne by the owner(s) of the private facility. The amount of, and terms of payment for, these costs and expenses, shall be determined by the Huntington Stormwater Utility for such facility, in its sole discretion.

The Huntington Stormwater Utility looks forward to working with project managers and developers on their projects. If you have any questions regarding the stormwater requirements, please contact the Huntington Stormwater Utility at 304-781-1948 or 304-781-1952 or email: sherry.wilkins@huntingtonswu.com

Stormwater Management Checklist

This document contains the submission requirements and a checklist for the Huntington Stormwater Utility to review and approve the stormwater management controls on your site. There are two components to submit.

1. The Erosion and Sediment Control plan, and,
2. The Stormwater Management Plan

Stormwater management is required if you have a development project that will result in the disturbance of 5,000 square feet or greater, or the improvement or addition of 5,000 ft² of impervious surface, or a project that is less than 5,000 ft² but part of a larger common plan of development. Generally, both components are required, although some redevelopment sites may not need to obtain a sediment and erosion control permit. The two components may be submitted at the same time.

If your site is one acre or greater, the Stormwater Utility MUST receive a copy of the WVDEP approval. The approval is usually in the form of an email.

The required components must be submitted to the Huntington Stormwater Utility before construction begins. Please allow for thirty (30) days for review. Incomplete stormwater plans and narrative will result in delays for review of your project.

Erosion and Sediment Control Plan

For more details regarding Huntington's Erosion and Sediment controls go to the next section in this document.

- Application for Erosion and Sediment Control Permit.
- Applicable permit fees.
- Erosion and Sediment Control narrative and drawings. The checklist will provide you comprehensive details that describe what is to be included.
- Accompanying checklist.
- Plans shall be submitted as PDF files. Paper copies of plans are not required until the final revisions have been approved. Final revised plans must be folded to fit into an 8"x11" folder. **DO NOT SEND PLANS ROLLED IN A TUBE.**

Stormwater Management Plan

The Huntington Stormwater Utility requires that the runoff volume reduction method be utilized to *manage* and *reduce* stormwater discharges from the site. Please see the West Virginia Stormwater Management and Design Guidance Manual for specific controls. This manual can be found on WVDEP's MS4 website. For assistance in properly sizing stormwater controls, please use the West Virginia Stormwater Spreadsheet tool. To obtain a copy of the spreadsheet (Excel) please contact the Huntington Stormwater Utility. HSU will ***not*** provide engineering design for the applicant.

The checklist below is not an all-inclusive list of the details that should be included in the narrative and drawings. *To facilitate review of your project and to avoid delays the applicant must provide all the information in the checklist in the stormwater management plan.*

Narrative Report

1. A cover sheet that includes owner, developer and engineer's name, address, phone number and email addresses.
2. Brief description of the project.
3. The narrative must include a statement of who will be responsible for maintenance of the proposed stormwater management facilities.
4. The narrative must include a statement of who will own the stormwater management facilities in the event the property is sold after construction is completed.
5. Narrative that describes the stormwater controls that will be used.
6. Hydraulic analysis calculations.
7. Geotechnical report with results of soil testing.
 - a. Identify the Hydrologic Soil Group.
 - b. Identify the infiltration rate of the soil in inches per hour. ***NOTE: if no infiltration test is conducted, then the soil infiltration rate must be assumed to be 0.07" per hour, and reflected in your calculations.*
8. An explanation of how the design engineer will verify the stormwater controls were properly constructed. Note: This is not as-built drawings that observe structures after-the-fact. The construction process must be verified.
9. Printout of *spreadsheet that indicates the sizing of the stormwater controls.
10. For projects that are one acre and greater, include a copy of the WVDEP NOI approval.

Drawings

11. A cover sheet with the owner's name and contact information.
12. A drawing sheet that is solely the Stormwater Management Plan for the entire site with the appropriate legend.
13. Each contributing drainage area on the site clearly marked and the appropriate stormwater BMP that is serving that drainage area. Elevations should be clearly marked. The stormwater from all contributing drainage areas is to be managed on site with appropriate controls.
14. Detailed construction notes. Including a plant list, components of soil media mixture, methods of disposal, etc.
15. A site plan that shows the property boundaries in relation to the City right of way.
16. Plan view and profile view of stormwater controls.
17. Description of materials used in stormwater controls, if applicable. (Such as; gravel, soils, geo-membranes, etc.)
18. Planting details,
 - a. Names of plants
 - b. Number of each plant type
 - c. Location of plants.
19. Location of storm sewers and catch basins.
20. A description of the maintenance for the stormwater facilities. (The maintenance agreement will be developed by the Utility based on the stormwater controls selected for the site)
21. All drawings, calculations, and narrative must be sealed by a WV Registered Professional Engineer.

22. As-built drawings are to be submitted within sixty days of completion of the stormwater controls. As-builts are to be submitted as PDF files and one hard copy.

A PDF file of the narrative, plans and (full size) drawings are to be provided (can be sent via email) to the Huntington Stormwater Utility. Paper copies are not required until the final revised plan is approved. At that time plans and drawings must be folded to fit into an 8"x11" folder. **DO NOT SEND PLANS ROLLED IN A TUBE.**

Erosion & Sediment Control Plans, Stormwater management plans, drawings and calculations will be reviewed by Stormwater Utility staff and/or contract engineers. Once the stormwater plan has been deemed complete **please allow thirty days for this review to take place.** Stormwater approval is valid for one year from issuance date if project does not begin immediately.

If you have any questions please contact the Stormwater Utility office at 304-781-1948 or 304-781-1952.

If you wish to set up a preliminary plan review for your development, please contact the Business Services Advocate at 304-781-8348 to schedule a meeting.

*The spreadsheet is found on WVDEP's website and is to assist the designer in the proper sizing of the stormwater control structures. To obtain a copy of the spreadsheet please contact the Stormwater Utility.

Checks are to be made payable to: **Huntington Stormwater Utility**. **You can mail or drop off your application and check to our offices at 555 Seventh Avenue, Huntington, WV 25701**

Application for Stormwater Management and Sediment & Erosion Control

Note: The application form and supporting documentation must be completed in its entirety or it will be returned, and the project review may be delayed. The omission of required items may be cause for rejection or delay in the review of this submittal.

Applications, plans, drawings and calculations must be emailed in PDF format to: sherry.wilkins@huntingtonswu.com. Permit and Expense Fees can be mailed to the Huntington Stormwater Utility, PO Box 7578, Huntington, WV 25777-1931, Attn: Director. Or, hand-delivered to our offices located at 555 7th Avenue, Huntington, WV 25701. Engineering reviews will start upon receipt of a complete application.

Property Owner Information	
Legal deed-holding property owner:	
Address of property owner:	
Phone Number:	Fax:
Email:	

Project Contact	
Name:	
Address:	
Phone:	Fax:
Email:	

Project Information	
Project Name:	
Address:	
County Tax Map Number:	Parcel ID Number:
Latitude:	Longitude:
Deed Book and Page Number - Book:	Page:
Total footprint of project (SQ FT):	If one acre or greater attach WVDEP Construction Stormwater Approval letter
Existing Impervious Area (SQ FT):	Proposed Impervious Area (SQ FT):
Did you perform a soil infiltration test?	If not, assume infiltration rate of .07" per hour. (Per the WV Stormwater Mgmt Design and Guidance Manual, Appendix B)

Runoff Reduction Credits (Select all that apply)	
	Redevelopment
	Brownfield Redevelopment
	High Density (>7 units per acre)
	Vertical Density (Floor to area ratio >2, or >18 units/acre)
	Mixed use or transit-oriented development
	Total credits (0.2" each up to 0.75" max)
	Rainfall volume to manage (1" – total credits, Minimum 0.25")

Right of Entry

I, the undersigned, hereby grant the designated officer of the Huntington Stormwater Utility the right to enter my property for the purpose of pre-permit site visits, inspection and monitoring for compliance with the approved sediment and erosion control plan and stormwater management for this project.

I, the undersigned, certify that I fully understand the provisions of the Huntington Stormwater Utility stormwater Ordinances (Article 970 & 971) and will construct and maintain all approved stormwater controls in accordance with applicable Ordinances and approved stormwater plans.

I understand that a signed, notarized, and recorded stormwater facility maintenance agreement is required.

I understand that the design engineer is required to be onsite during construction of stormwater management facilities.

I will provide as-built drawings within 60 days of completion of this project.

Property Owner Signature

Date

Print Name

Stormwater Management Checklist Items

All items shall be initialed by the owner or the design engineer as included or marked as N/A. If an item is marked as N/A, provide an explanation in the "Comments" Section below.

Narrative Description
Provide a brief description of the project, including the general scope, purpose, and proposed stormwater management facilities (SMFs) on the site. Narrative can be provided in the space below or included as an attachment to this application.

Initial below	Existing Site Conditions
	Existing and proposed contours, streets, and rights of way.
	Existing utilities, sewers, and storm drainage structures and facilities.
Proposed Site Plan	
	Location of proposed manholes, inlets, catch basins, and other stormwater infrastructure
	Profiles of all proposed storm sewers, culverts and stormwater facilities (including percent grade, pipe diameters, material, lengths and invert elevations).
	Locations, details and standard drawings for all stormwater facilities. All stormwater facilities numbered for identification and reference.
	Each contributing drainage area on the site clearly marked with an appropriate stormwater management facility serving that drainage area. Elevations clearly marked.
	If stormwater management facilities require infiltration, provide geotechnical report with soil testing results including hydrologic soil group and infiltration rate. If no testing was performed, soils are assumed to be type D with an infiltration rate of 0.07" per hour.
	Planting plan (including names, quantities and locations of all plants) appropriate for the chosen stormwater facilities. (See Appendix F of the WV Stormwater Mgmt and Design Guidance Manual).
	All relevant dimensioning and notes needed for proper construction of stormwater facilities included on drawings.
	Any structural practices or facilities used that are not referenced in the WV Stormwater Mgmt and Design Guidance Manual explained and illustrated with detailed drawings.

Maintenance	
	Required maintenance activities for each stormwater facility provided on construction drawings. Indicate who will be responsible for each maintenance task. Maintenance activities are in accordance with the WV Stormwater Mgmt and Design Guidance Manual.
	A completed contract between the property owner and an appropriate landscape company or equal for ongoing maintenance.
Design Calculation	
	Pre-development and post-development runoff calculations, including assumptions made, methodology used, drainage area description and summary of calculations for the 2, 10, 25, 50 and 100-year storm events.
	Calculations showing storage volume needed to reduce post-development peak flows to pre-development levels.
	Completed water quality spreadsheet with target water treatment volume.
	Stormwater management facility sizing calculations showing storage equal to or greater than both the water quality target volume and the volume required to reduce post-development peak flows to pre-development levels. Include a breakdown of storage for each layer of the stormwater facility, where applicable.
Additional Required Notes on Drawings	
	If stormwater facilities (such as bioretention cells) are to be used as sediment ponds during construction, include the following note on the contract drawings: <i>“All sediment shall be removed from the basins and the bottom of each basin ripped to a depth of at least 18 inches prior to conversion to a stormwater management facility (Bioretention, infiltration or specific type of stormwater facility). Equipment shall not enter the basin to avoid compacting the subgrade and reducing infiltration capacity”</i> .
	The following note included on the contract drawings regarding stormwater facility installation: <i>“Prior to installation of the stormwater management facilities, the contractor shall coordinate the installation schedule with the design engineer. The design engineer must be given a minimum of one week notice prior to installation. The design engineer must be present during the installation of all layers. The design engineer must also provide a written report to the HSU certifying that the construction of the stormwater management facilities was done in accordance with the approved design.”</i>
Performance Bond and As-Built Construction Drawing Submittal	
	In some instances, a performance bond may be required. If one is required, the Utility will obtain prior to approval. The performance bond will be returned to the owner when the following items are received by HSU.
	1. Written report from the design engineer to the Huntington Stormwater Utility that the construction of the stormwater facilities was done in accordance with the approved design.
	2. As-built construction drawings for the stormwater facilities.
Comments	

Please do not provide plans that are rolled up. Plans should be folded to fit into an 8" x 10" file folder.

Expenses and fees: Sediment and Erosion Control - \$200.00,
Stormwater Management review expenses - \$1,600.00.

Checks are to be made payable to ***Huntington Stormwater Utility***

Huntington Stormwater Utility
Erosion & Sediment Control Plan Checklist

Project Name: _____ Date: _____

Address: _____

_____ Zip: _____

This checklist is provided to assist in development of the erosion and sediment control plan to be submitted with the permit application.

Section I – Sediment Control Plan Narrative

The narrative for the Sediment Control Plan (SCP) should include the following information:

1. Project Description

- _____ A. Total project area.
- _____ B. Total proposed impervious area.
- _____ C. Total proposed area to be disturbed.
- _____ D. Total volumes of proposed cuts/fill.

2. Existing Site Conditions

- _____ A. Description of the existing topography.
- _____ B. Description of the existing vegetation.
- _____ C. Description of the existing drainage.

3. Adjacent Areas

- _____ A. Description of adjacent areas which may be affected by site disturbance.

- _____ 1. Streams
- _____ 2. Lakes
- _____ 3. Wetlands
- _____ 4. Residential areas
- _____ 5. Roads
- _____ 6. Ditches, pipes,
- _____ 7. Other

- _____ B. Description of the downstream drainage path leading from the site to the receiving body of water (minimum distance of ¼ mile).

4. Critical Areas

- _____ A. Description of critical areas that are on or adjacent to the site.
- _____ B. Description of special requirements for working in or near critical areas.

5. Soils

- _____ A. Description of critical on-site soils.
 - _____ 1. Soil name(s)
 - _____ 2. Soil mapping unit
 - _____ 3. Erodibility
 - _____ 4. Settleability
 - _____ 5. Permeability
 - _____ 6. Depth
 - _____ 7. Texture
 - _____ 8. Soil structure

6. Erosion Problem Areas

- _____ A. Description of potential erosion problems on site.

7. Construction Stormwater Pollution Prevention Elements

- _____ A. Describe how each of the Construction Stormwater Pollution Prevention Elements has been address through the SCP.
- _____ B. Identify the type and location of BMPs used to satisfy the required element.
- _____ C. Written justification identifying the reason an element is not applicable to the proposal.
 - 12 Required Elements—Construction Stormwater Pollution Prevention Plan:
 - _____ 1. Mark clearing limits
 - _____ 2. Establish construction access
 - _____ 3. Install sediment controls
 - _____ 4. Stabilize soils
 - _____ 5. Protect slopes
 - _____ 6. Protect drain inlets
 - _____ 7. Convey stormwater in a non-erosive manner
 - _____ 8. Control other pollutants
 - _____ 9. Control dewatering
 - _____ 10. Maintain BMPs
 - _____ 11. Manage the project
 - _____ 12. Stabilization

8. Construction Phasing

- _____ A. Construction sequence
- _____ B. Construction phasing (if proposed)

9. Construction Schedule

- _____ A. Provide a proposed construction schedule.
- _____ B. Wet Season Construction Activities
 - _____ 1. Proposed wet season construction activities.
 - _____ 2. Proposed wet season construction restraints for environmentally sensitive/critical areas.

10. Engineering Calculations

- _____ A. Provide Design Calculations.

- _____ 1. Sediment ponds/traps
- _____ 2. Diversions
- _____ 3. Waterways
- _____ 4. Run/off/stormwater calculations

Section II – Erosion and Sediment Control Plan

The Erosion and Sediment Control Plans for your project must contain the following information:

1. General

- _____ A. Vicinity Map
- _____ B. Address, Parcel No., and Street Names labels
- _____ C. Erosion and Sediment Control Notes

2. Site Plan

- _____ A. Legal description of subject property.
- _____ B. North Arrow.
- _____ C. Indicate boundaries of existing vegetation, e.g. tree lines, pasture areas, etc.
- _____ D. Identify and label areas of potential erosion problems.
- _____ E. Identify any on-site or adjacent critical areas and associated buffers.
- _____ F. Identify FEMA base flood boundaries.
- _____ G. Show existing and proposed contours.
- _____ H. Indicate drainage basins and direction of flow for individual drainage areas.
- _____ I. Label final grade contours and identify developed condition drainage basins.
- _____ J. Delineate areas that are to be cleared and graded.
- _____ K. Show all cut and fill slopes indicating top and bottom.

3. Conveyance systems

- _____ A. Designate locations for swales, interceptor trenches, or ditches.
- _____ B. Show all temporary and permanent drainage pipes, ditches, or cut-off trenches required for erosion and sediment control.
- _____ C. Provide minimum slope and cover for all temporary pipes or call out pipe inverts.
- _____ D. Show grades, dimensions, and direction of flow in all ditches, swales, culverts and pipes.
- _____ E. Provide details for bypassing offsite runoff around disturbed areas.
- _____ F. Indicate location and outlets of any dewatering systems.

4. Location of Stormwater Management Structures

- _____ A. Identify location of any stormwater management structures.

5. Erosion and Sediment Control Measures

- _____ A. Show the locations of sediment traps(s), pond(s), pipes and structure(s).
- _____ B. Dimension pond berms widths and inside and outside pond slopes.
- _____ C. Indicate the trap/pond storage required and the depth, length, and width dimensions.
- _____ D. Provide typical section views through pond and outlet structure.
- _____ E. Provide typical details of gravel cone and standpipe, and/or other filtering devices.
- _____ F. Detail stabilization techniques for outlet/inlet.
- _____ G. Detail control/restrictor device location and details.
- _____ H. Specify mulch and/or recommended cover of berms and slopes.
- _____ I. Provide rock specifications and detail for rock check dam(s), if applicable.
- _____ J. Specify spacing for rock check dams as required.
- _____ K. Provide front and side sections of typical rock check dams.
- _____ L. Indicate the locations and provide details and specifications for silt fabric.
- _____ M. Locate the construction entrance and provide details.

6. Detailed Drawings

- _____ A. Any structural practices used that are not referenced in the Manual should be explained and illustrated with detailed drawings.

7. Other Pollutant BMPs

- _____ A. Indicate on the site plan the location of BMPs to be used for the control of pollutants other than sediments, e.g., concrete wash water.

8. Monitoring

- _____ A. Describe inspection reporting responsibility, documentation, and filing.