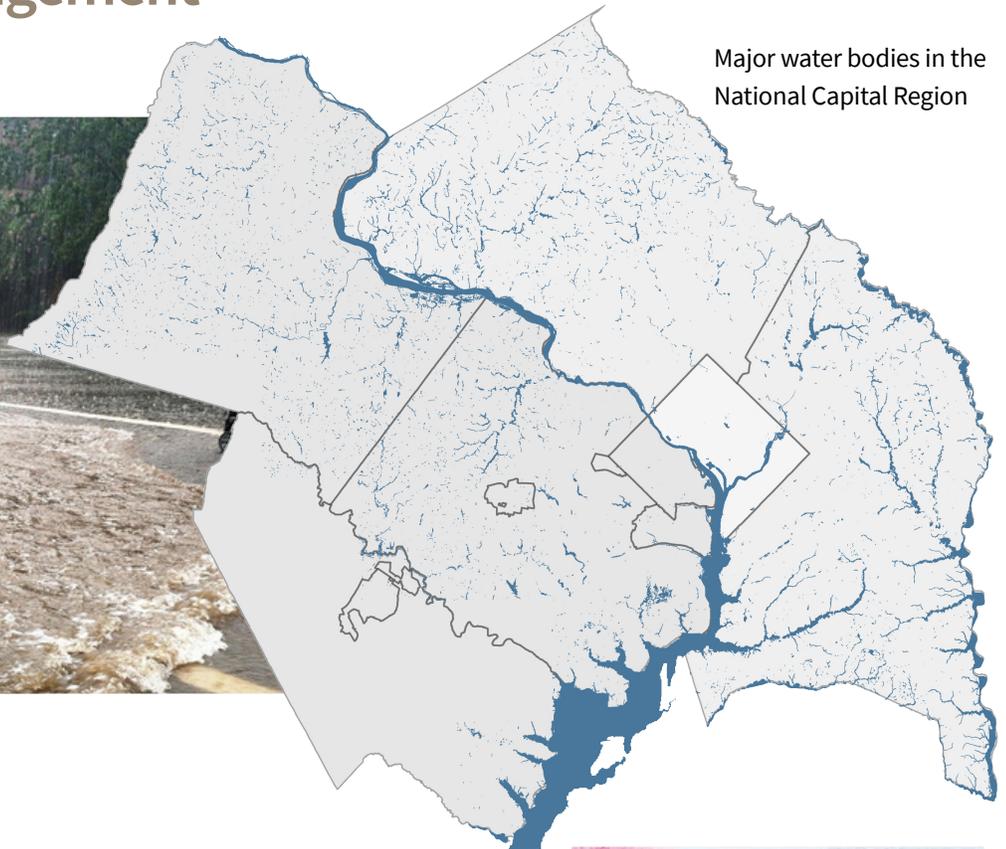


Stormwater Management



Major water bodies in the National Capital Region

Overview

Federal and local government agencies in the National Capital Region (NCR) have developed strict regulations to reduce water quality problems from stormwater runoff. The NCR features major water bodies such as the Potomac and Anacostia Rivers, Rock Creek, and their tributaries which flow to the Chesapeake Bay. Stormwater management is a key issue in the National Capital Planning Commission's (NCPC) plan review process to improve the region's water quality and reduce interior flooding. It also has implications for site design.

Federal agencies are required to meet both federal and applicable state and local stormwater requirements. NCPC reviews plans in the District of Columbia, Maryland, and Virginia. Each jurisdiction has different performance requirements to limit the quantity of stormwater that can leave a project site. At the same time, they share a similar goal of protecting and preserving both on-site and downstream water resources. In addition, all requirements provide common stormwater management practices to achieve retention requirements. This resource guide outlines the region's varied stormwater regulations and federal requirements, and explains how they relate to NCPC's review process. Identifying opportunities to integrate stormwater management practices early into the site and building design process, and using it as a landscape design tool, creates a better site plan and can help streamline NCPC's review process. This resource guide is for general information purposes, and is not a regulatory document.



Stormwater Management Technologies

Green infrastructure, low impact development, and environmental site design mimic the natural hydrologic cycle of infiltration, evaporation/transpiration, and re-use of rainfall. Some examples include bioretention areas, rain gardens, swales, porous pavement, trees, cisterns, and green roofs.

Legislation and NCPC Authorities

As shown in the chart below, there are two primary authorities for stormwater management: the Clean Water Act (CWA) and Section 438 of the Energy Independence and Security Act (EISA).

- The CWA, enacted in 1972, delegates responsibilities to each state to manage local requirements for stormwater. Compliance with local regulations stems from the CWA. As a result, the District Department of Energy and Environment (DOEE), the Maryland Department of the Environment (MDE), and the Virginia Department of Environmental Quality (VDEQ) administer local stormwater management regulations for projects located in Washington, Maryland, and Virginia, respectively.
- In 2007 Congress enacted EISA, which requires federal agencies to reduce stormwater runoff from federal projects to protect water resources. In 2009, President Obama signed Executive Order (EO) 13514 “Federal Leadership in Environmental, Energy, and Economic Performance,” calling upon all federal agencies to “lead by example” to address a wide range of environmental issues, including stormwater runoff. In 2015 this EO was revoked and replaced by EO 13693 “Planning for Federal Sustainability in the Next Decade.” EO 13693 directed federal agencies to improve agency water use efficiency and management by installing appropriate green infrastructure features on federally owned property. In 2018, President Trump issued EO 13834 “Efficient Federal Operations.” Referencing the requirements of EISA, this order requires federal agencies to reduce potable and non-potable water consumption and comply with stormwater management requirements.

Federal Requirements

Section 438 of the Energy Independence and Security Act

Congress enacted EISA in recognition that stormwater runoff in urban and developing areas is one of the leading sources of water pollution in the United States. The intent of this legislation is to require federal agencies to maintain or restore pre-development site hydrology to the maximum extent technically feasible during the development or re-development process. Federal agencies can comply with EISA by using a variety of stormwater management practices, including green infrastructure or low impact development. For additional information on Section 438 of EISA and for a copy of the technical guidance, see: <https://www.epa.gov/nps/stormwater-management-federal-facilities-under-section-438-energy-independence-and-security-act>.

The retention volume required under EISA is often more stringent than local requirements. Unlike local regulations, there is no regulatory agency that reviews EISA compliance, so each agency is independently responsible for ensuring compliance. EISA is self-regulating and relies on a project’s professional engineer to review the final design and construction documents.

Federal Requirements

Regulations	Guidelines	Stormwater Review Trigger (Land Disturbance)	Project Types	Off Site Retention Allowed?	Stormwater Retention Volume Standard	Quantity Control Requirements Detention Standards
Section 438 of the Energy Independence and Security Act of 2007	2009 technical guidance on implementing the stormwater runoff requirements for federal projects under Section 438 of the EISA	≥ 5,000 SF	1. Development 2. Redevelopment	No, retention volume must be provided using on-site management practices	1.7” (95th percentile rainfall event)	2- and 10-year frequency (EPA)

Each federal agency has an individual responsibility to comply with CWA, EISA, and EO 13834. By complying with local regulations, federal agencies are complying with the CWA. NCPC facilitates compliance by ensuring federal agencies are working with the appropriate regulatory agencies.

Section 438 Implementation Process

1. Determine Applicability Requirement:

Apply to all federal projects with a footprint greater than 5,000 square feet.

2. Establish Design Objective:

Maintain or restore pre-development hydrology

OPTIONS

1. Total volume of rainfall from 95th percentile storm is to be managed on-site.
2. Determine pre-development hydrology based on site-specific conditions and local meteorology by using continuous simulation modeling techniques, published data, studies, or other established tools. Determine water volume to be managed on-site.

Design water volume to be retained.

3. Evaluate Design Options

Meet design objective to the maximum extent technically feasible (METF).

Design water volume to be retained

TYPICAL ON-SITE DESIGN OPTIONS

- Bio-retention areas
- Permeable pavements
- Cisterns/recycling
- Green roofs

Use any combination of on-site options to achieve the design objective to the METF.

Document site-specific constraints, for example:

- Retaining stormwater on-site would adversely impact receiving water flows.
- Site has shallow bedrock, contaminated soils, high ground water, underground facilities or utilities.
- Soil infiltration capacity is limited.
- Site is too small to infiltrate significant volume.
- Non-potable water demand (for irrigation, toilets, wash water, etc.) is too small to warrant water harvesting and reuse systems.
- Structural, plumbing, or other modifications to existing buildings to manage stormwater are infeasible.
- State or local requirements restrict water harvesting.
- State or local requirements restrict the use of green infrastructure/low impact development.

4. Make Selection

Selected on-site design options

- Remaining water volume?
- off-site options (optional)
- Selected off-site design options

5. Finalize Design and Estimate Cost

The Clean Water Act

The CWA includes provisions that regulate the discharge of pollutants into waters of the United States, a term defined largely by case law. For stormwater management, the two most important provisions are the National Pollutant Discharge Elimination System Stormwater Program (NPDES) and Impaired Waters Total Maximum Daily Load (TMDL). State regulations generally integrate requirements of NPDES and TMDL permits.



When several stormwater management regulations apply, applicants should use the most stringent set of regulations.

Local Stormwater Management Regulations

In addition to federal regulations, applicants must comply with the applicable state stormwater rules based on the project location. Projects in Washington, DC, Maryland, or Virginia must comply with stormwater management regulations administered either by the DDOE, MDE, or VDEQ, respectively. Applicants should work with the relevant permitting agency, depending on the project location, to determine applicable local stormwater regulations. Links to each agency are located under applicant resources.

How does NCPC review overlap with local and federal stormwater management requirements?

In early project stages, including the environmental compliance process and concept design review, NCPC staff encourages applicants to identify opportunities to integrate stormwater management practices into the landscape and building design to address local and federal requirements. In review of preliminary submissions, NCPC staff will confirm that the applicant is devising a stormwater management approach and has begun working with the applicable permitting agency (DOEE, MDE, or VEDQ) based on the project location. At final approval, NCPC expects a more detailed stormwater management plan with general concurrence from the permitting agency. See the NCPC Submission Guidelines for more information on stormwater management requirements for each stage of project review.

With respect to federal standards, NCPC requires a technical memo explaining how the project meets Section 438/EISA requirements to the maximum extent technically feasible, and what kind of low impact design practices are implemented.

Applicant Resources

State of Maryland, Maryland Department of the Environment <https://mde.maryland.gov/Pages/index.aspx>

The Commonwealth of Virginia, Virginia Department of Environmental Quality <https://www.deq.virginia.gov/>

District Department of Energy and Environment <https://doee.dc.gov/>

Federal Regulations

Stormwater Rule: Stormwater Management for Federal Facilities under Section 438 of the Energy Independence and Security Act <https://www.epa.gov/nps/stormwater-management-federal-facilities-under-section-438-energy-independence-and-security-act>

Design Guidance: Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act <https://www.epa.gov/sites/production/files/2015-09/documents/eisa-438.pdf>

Submission Guidelines: <https://www.ncpc.gov/review/guidelines/>