Reviewing Stormwater Management in Site Design: A Guide for Planning Board Members

Version 1 - 2014

Lower Hudson Coalition of
Conservation Districts

ABOUT THIS GUIDE

Planning board members have an important role in making sure new development projects manage stormwater well to avoid creating flooding or pollution on the site or elsewhere in the community. This guide will:

- Help planning board members understand their authority and responsibilities in reviewing the stormwater management aspects of site plan and subdivision applications
- Provide a quick reference guide to the 2010 Stormwater Design Manual to allow planning board members to access the parts that most apply to their work
- Suggest strategies for more efficient and predictable stormwater design review
- List recommendations for reviewing a SWPPP

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This document was prepared for the Hudson River Estuary Program, New York State Department of Environmental Conservation, with support from the New York State Environmental Protection Fund, in cooperation with the New England Interstate Water Pollution Control Commission. The viewpoints expressed here do not necessarily represent those of NEIWPCC or NYSDEC, nor does mention of trade names, commercial products, or causes constitute endorsement or recommendation for use.

This guide is meant to provide background and ideas for planning board members. Because programs and requirements change periodically, municipalities should always consult official state resources for rules and regulations.

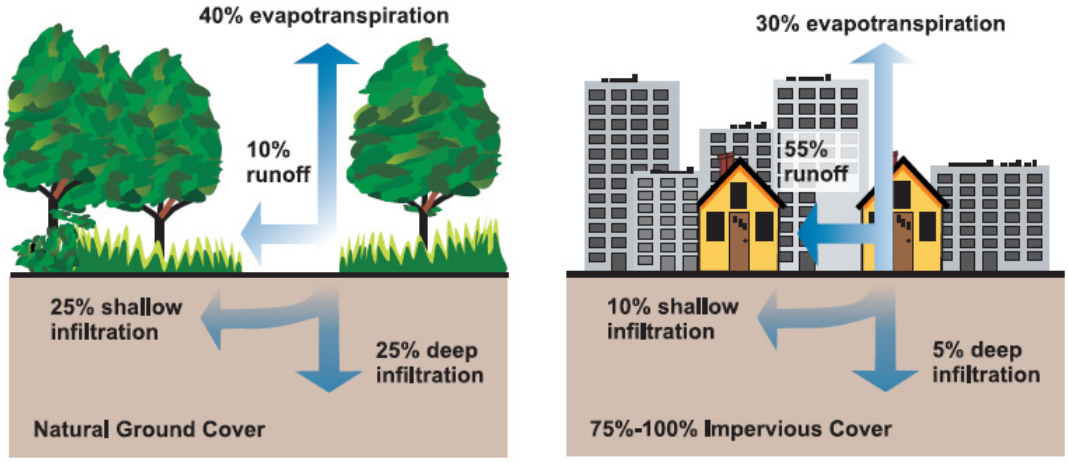
Key to Acronyms:

MS4 - Municipal Separate Storm Sewer System
NYSDEC - New York State Department of Environmental Conservation
RRv - Runoff Reduction Volume
SEQRA - State Environmental Quality Review Act
SMO - Stormwater Management Officer
SMP - Stormwater Management Practice
SWPPP - Stormwater Pollution Prevention Plan
WQv - Water Quality Volume

Roles and Responsibilities in Stormwater Design Review

Stormwater Management in Construction Projects

Stormwater is water than flows over the land after rain or snowfall. During construction projects, stormwater can pick up and transport loose, disturbed sediment and other construction site pollutants and carry these materials to streams, lakes and rivers. After a new project is built, new hard surfaces and landscape changes can lead to increased runoff for years to come. This long-term runoff can carry everyday pollutants like oils, bacteria and fertilizers to downstream waters. Pollutants like these can degrade wildlife habitat and endanger drinking water sources. Increased runoff can also cause flooding or erosion in rivers, streams, lakes and wetlands downstream and can prevent adequate groundwater recharge. Good stormwater management can lessen these impacts.



In a natural system, most rain water soaks in (infiltrates). Development can create hard (impervious) surfaces that cause rain water to quickly run off a site.

Stormwater management during construction is often called "erosion and sediment control." It is focused on controlling runoff and stabilizing soils to prevent disturbed soils from washing downstream into waterbodies.

Long-term stormwater management measures can be incorporated into projects to control the quality and quantity of stormwater runoff for decades to come. Because the focus is managing stormwater after the project is built, these are called "post-construction" practices.

Stormwater Pollution Prevention Plan (SWPPP)

A SWPPP is a Stormwater Pollution Prevention Plan — a site-specific strategy for stormwater management on a project site. Under New York State's 2010 General Permit, construction activities involving soil disturbance of one acre or more typically require a SWPPP. (There are cases when a SWPPP is required for smaller projects. Read the General Permit or check with your municipality's Stormwater Management Officer for details.)
>Link: SPDES General Permit for Stormwater Discharge from Construction Activity

A SWPPP always includes an Erosion and Sediment Control Plan for management of stormwater during construction.

In many cases, a SWPPP also includes post-construction stormwater controls. That is the part planning boards typically get involved in reviewing.

Post-construction Stormwater Management

Post-construction stormwater practices manage stormwater over the long term, but their design and maintenance needs to be carefully considered and designed before construction, during the project planning process.

The overall layout of the site is an important component of stormwater management. Natural features on the site can provide natural stormwater management. For example, forests can infiltrate stormwater, and wetlands can store runoff. Preserving the functions of natural areas is the first step in effective stormwater design. Laying out the site with an eye to minimizing impervious surfaces also reduces the runoff that must be managed. After setting aside natural areas and minimizing impervious surfaces, there are on-site stormwater management practices like rain gardens, bioretention areas and porous pavement systems that can be added.

"Green infrastructure" refers to an approach to stormwater management that emphasizes capturing, slowing and infiltrating rainwater where it falls, rather than moving it quickly off the site or into detention areas. Green infrastructure harnesses the ability of soils and vegetation to treat stormwater. The green infrastructure approach is effective at managing both the quantity and quality of runoff over the long term. Because it relies on site layout and multiple small practices, green infrastructure must be incorporated into the design process from the early stages.

Post-construction stormwater management, using a green infrastructure approach, is a required part of the SWPPP for most commercial, multi-family, institutional and industrial projects that disturb at least 1 acre of land.

Residential projects typically need a full SWPPP if they disturb greater than 5 acres, but there are cases in which a residential project between 1 and 5 acres needs a SWPPP. See Appendix B of the General Permit for details.

The NYS Stormwater Management Design Manual provides guidelines for the post-construction stormwater management aspects of the SWPPP. More information about the manual is in the next section of this guide.

In a few watersheds with water quality impairments, post-construction plans must meet enhanced phosphorus removal standards. This applies in: the Croton Lake Watershed, the Onondaga Lake Watershed, the Greenwood Lake Watershed and the Oscawana Lake Watershed.

Municipal Responsibilities

New York State has requirements for stormwater management that require some municipalities to take on the role of ensuring compliance within their boundaries. The sections below on MS4 responsibilities explain those requirements.

Municipalities can also take other steps to manage stormwater. Whether or not a community is an MS4, the planning board can evaluate stormwater management within a site plan. Some municipalities have local regulations that apply to stormwater management as well.

Are you an MS4?

Municipal Separate Storm Sewer System (MS4) communities have extra stormwater responsibility because of their population density. The U.S. Environmental Protection agency determines which areas qualify based on census data.

Maps on NYSDEC's website provide MS4 boundaries. Note that in municipalities where only a portion of the land area qualifies, construction activities in the entire municipality are regulated.
>Link: MS4 Toolbox with links to maps

Each MS4 designates a Stormwater Management Officer (SMO) to manage the MS4 program. The program includes six minimum control measures that MS4s must employ to manage stormwater. Construction site runoff control and post-construction runoff control are two of those measures.

SWPPP Review in an MS4

In an MS4, the municipality is responsible for reviewing, approving and ensuring compliance with the SWPPP for all construction projects that require a SWPPP. If the Planning Board is reviewing a proposed site plan, subdivision or special use permit, they can and should participate in reviewing the SWPPP and making recommendations to the SMO.

The "Stormwater Management Guidance Manual for Local Officials" provides the following recommendations:

Review of Stormwater Pollution Prevention Plans: "It is the responsibility of applicants for local land use permits to prepare a SWPPP and submit the SWPPP for local government review… **The SWPPP should be submitted and reviewed as part of the application** for a subdivision, site plan, special use permit, erosion control permit, or other local approval for a land development project."

Recommended process: "The municipality's Stormwater Management Officer will forward the SWPPP to the appropriate municipal board, who will then **include the SWPPP in its public review processes** already prescribed in zoning, subdivision and/or site plan law." (NYS DEC & NYS DOS, September 2004, pg. 34)

>Link: Stormwater Management Guidance Manual (Note that some elements of this manual are out of date.)

It used to be common for the stormwater management aspects of site and subdivision planning to be added on at the end of the design process. However, the new focus on green infrastructure involves site planning as a key element of stormwater management. **Stormwater management can no longer be simply added on to the end of a design process; it must be integrated throughout.**

Planning boards can and should play a key role in reviewing the site planning process described in the SWPPP. In addition to an engineering consultant, some municipalities retain planners or landscape architects through escrow to assist with this review.

Stormwater management should be integrated into site planning from the beginning of the site design process.

SWPPP Review in a Non-MS4

Stormwater management requirements are the same in non-MS4 communities, but the review is different. In non-MS4 areas, applicants must still prepare a SWPPP, but the municipality does not sign off on it. After preparing the SWPPP, applicants self certify in the Notice of Intent to be covered under the General Permit. NYSDEC only reviews these SWPPPs under limited circumstances.

Planning boards in non-MS4 areas are encouraged to request a copy of the SWPPP as part of their site plan or subdivision review. While they do not have to provide approval on an official form, the non-

MS4 community does have a responsibility and a right to review the SWPPP and provide comments as well as to approve stormwater practices, especially if the practices are being turned over to the municipality upon project completion.

The consequences of poor stormwater planning, such as flooding and erosion, will affect residents of the community, so it is within the planning board's purview to consider the SWPPP as part of its overall project review.

Local Responsibilities: Know Your Code

Municipalities have the ability to regulate stormwater within their municipal codes. MS4s must have certain stormwater regulations in their municipal code. Whether or not a municipality is an MS4, it may have other stormwater-related code provisions, perhaps to protect streams, aquifers or reservoirs.

In addition to state requirements, it's important to know what regulations are in your municipal code. Even if your municipality is not an MS4, you still have authority and responsibility for enforcing the standards in your code.

Also be aware that your municipality has the ability to change its code if it wishes to institute heightened regulation of stormwater.

Stormwater and SEQRA

Stormwater issues play a role in the SEQRA process. Concerns about exacerbating flooding or degrading natural resources may require consideration through SEQRA. There are specific questions on the Environmental Assessment Form that relate to stormwater management.

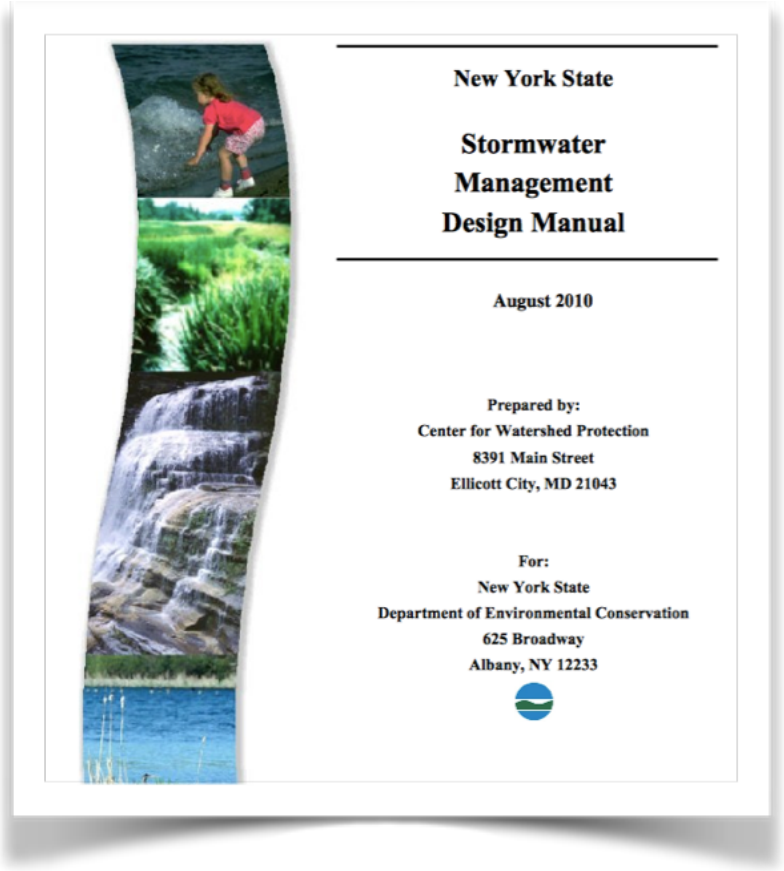
The SWPPP approval process does not take the place of normal SEQRA review of all environmental impacts of a project.

Smaller Projects

Planning boards often review projects that disturb smaller amounts of land and do not require a full SWPPP with post-construction stormwater management. In the absence of a specific state or municipal law regulating stormwater impacts, the planning board can still evaluate stormwater impacts and request mitigation measures if necessary. The board always has a role to play in ensuring new development does not adversely impact the community's natural resources.

If impacts from smaller projects are a frequent concern, the municipality can consider implementing additional regulations beyond those required by the state.

2010 Stormwater Management Design Manual



Overview

The NYS Stormwater Management Design Manual provides guidelines for the post-construction stormwater management aspects of the SWPPP. The 2010 edition significantly changed the protocol for stormwater design to favor preservation of natural areas and use of green infrastructure techniques.

The full manual is on the NYSDEC website. You can view it on-line or print. It's a large document, so consider reviewing it on-line and only printing sections you will use frequently.
>Link: NYS Stormwater Management Design Manual

The following sections highlight parts of the manual that are most useful to Planning Board members' work. Even if you choose to leave the deep analysis of runoff calculations to your engineering consultant, awareness of these sections will allow you to provide sound management of SWPPP review.

Chapter 3: Stormwater Management Planning

Chapter 3 presents the site planning process that is expected of applicants. It is a new protocol introduced in 2010.

Section 3.1 lays out the *required* 5-step site planning process (pg. 3-1):

1. site planning to **preserve natural features** and **reduce impervious cover**,
2. calculation of the water quality volume for the site,
3. incorporation of **green infrastructure techniques** and standard Stormwater Management Practices (SMPs) with Runoff Reduction Volume (RRv) capacity,
4. use of **standard SMPs**, where applicable, to treat the portion of water quality volume not addressed by green infrastructure techniques and standard SMPs with RRv capacity, and
5. design of volume and peak rate control practices where required.

What are WQv and RRv? Water Quality Volume (WQv) is a measure of the amount of water quality treatment required for a project based upon the amount of impervious area created and the amount of runoff produced during small, high frequency storm events. Runoff Reduction Volume (RRv) is a measure of how much runoff will be removed from the site through infiltration into soil, evaporation, or evapotranspiration through vegetation. The goal is to make RRv equal WQv.

The overall message of the 5-step planning process is: Site planning is the primary way to minimize the amount of runoff resulting from development. Once existing natural areas have been preserved, the designer should calculate the amount of runoff expected, and then add practices that reduce that runoff (green infrastructure or standard SMPs with RRv capacity). Detailed descriptions of the "green infrastructure techniques" (or practices) mentioned in step 3 are provided in Chapter 5.

Preserving natural areas like this stream corridor should be the first step in site planning.

Section 3.2 focuses in more detail on site planning techniques (pg. 3-3):

1. **Avoiding the Impacts** - Avoid or minimize disturbance by preserving natural features and using conservation design techniques
2. **Reducing the Impacts** - Reduce the impacts of development by reducing impervious cover
3. **Managing the Impacts** - Manage the impacts by using natural features and runoff reduction practices to slow down the runoff, promote infiltration and evapo-transpiration, and consequently minimizing the need for the structural "end-of-pipe" practices

This graphic from Dutchess County's "Greenway Connections" illustrates how a subdivision can be designed to avoid impacts to natural features (stream, mature woodlands, prime soils) while reducing impervious surface (shorter road).

Preserving the most valuable natural areas can require looking beyond the site borders. Applicants should identify important resources on the site and in surrounding areas and evaluate the connections between them. For example, uplands on the site can be a vital part of a stream corridor, even if the stream itself is off the site.

Section 3.5 covers maintenance of stormwater practices (pg. 3-12). Options are presented for acceptable maintenance agreements. The need for an Operation and Maintenance section in each SWPPP is emphasized.

Section 3.6 provides specifics on the 5-step process introduced in Section 3.1. Page 3-18 provides a handy flow chart. Note that before engineered practices are introduced, the applicant must conserve natural areas and reduce impervious cover.

Chapter 3 take-away messages:

- Stormwater management should not be an afterthought.
- Sites should be planned from the beginning to preserve natural areas and minimize stormwater impacts.
- SWPPPs must demonstrate that the applicant followed the required site planning process.

Chapter 4: Unified Stormwater Sizing Criteria

Chapter 4 covers the basic calculations required for the design of all stormwater practices to meet state requirements. This includes calculations for WQv, RRv, Channel Protection Volume (CPv) and peak rate of runoff during large storm events.

Section 4.3 explains Runoff Reduction Volume (RRv) and defines the goal of managing 100% of the calculated Water Quality Volume (WQv):

> "Runoff reduction shall be achieved by infiltration, groundwater recharge, reuse, recycle, evaporation/evapotranspiration of 100 percent of the post-development water quality volumes to replicate pre-development hydrology…" (pg. 4-4)

This section then sets out the alternate requirements if 100% of the runoff reduction requirement cannot be met. Key language:

> "Projects that cannot meet 100% of runoff reduction requirement must provide a justification that evaluates each of the green infrastructure planning and reduction techniques, presented in chapter 5, and identify the specific limitations of the site according to which application of this criterion is technically infeasible. Implementation of green infrastructure cannot be considered infeasible unless physical constraints, hydraulic conditions, soil testing, existing and proposed slopes (detailed contour), or other existing technical limitations are objectively documented. A determination that application of none of the runoff reduction options is feasible may not be based on: The cost of implementation measures; or Lack of space for required footprint of the practice." (pg. 4-5)

Please note that the Stormwater Management Design Manual is undergoing revision and this language may change.

If the stormwater management practices proposed do not achieve the goal of making RRv equal to WQv, it is the responsibility of the designer to modify the development to increase the amount of RRv provided (i.e., by providing additional stormwater management practices) or reduce the amount of WQv required (i.e., by reducing the amount of impervious surface proposed). Alternatively, if the designer can provide an acceptable justification for why it is not possible to make RRv equal WQv, it is in the municipality's discretion to allow the "minimum RRv" to be provided. The minimum RRv is a smaller value that is calculated based upon the amount of impervious surface proposed and the existing soil conditions on the project site. If the municipality accepts the justification to provide only the minimum RRv, the portion of the WQv that is not reduced must be treated with a practice from Chapter 6 (ponds, wetlands, filters, open channels).

Board members should understand that although green infrastructure practices can provide water quality treatment and reduce the peak rate of runoff from a proposed project, other types of structural practices, such as detention ponds, will often be required to manage the runoff from large storms. Projects must ensure that the peak flow rate after construction is the same or less than it was prior to construction. Practices such as detention ponds work like bathtubs, allowing runoff to enter quickly and accumulate until it can be released slowly through a small opening designed to match the flow

rates that existed prior to development. The size of these practices can be significantly reduced through green infrastructure design but often cannot be completely eliminated due to limitations of site soils and other factors.

Chapter 4 **Take-away messages:**

- Applicants must make a genuine effort to reduce the runoff volume resulting from development.
- Green infrastructure practices are effective at water quality treatment for small, frequent storms.
- Cost and lack of space are not acceptable reasons to not meet runoff reduction goals.
- In MS4s, if the goal of treating 100% WQv through RRv cannot be met, it is up to the municipality to determine if the justification for not meeting this goal is sufficient or if additional project changes are required.
- Larger structural practices may be needed to mitigate flow rates during large storms.

Chapter 5: Green Infrastructure Practices

Chapter 5 provides a very readable introduction to each green infrastructure technique and practice. It is organized in sections that reflect the planning process. This chapter starts with a planning process for green infrastructure and finishes with specific techniques.

Section 5.1 introduces preservation of natural features as the first step in planning:

- 5.1.1: Preservation of Undisturbed Areas
- 5.1.2: Preservation of Buffers
- 5.1.3: Reduction of Clearing and Grading
- 5.1.4: Locating Development in Less Sensitive Areas
- 5.1.5: Open Space Design
- 5.1.6: Soil Restoration

Note the headings "Typical Perceived Obstacles and Realities"under each practice. These are helpful to address common myths and excuses.

Section 5.2 identifies opportunities to reduce impervious cover:

- 5.2.1: Roadway Reduction
- 5.2.2: Sidewalk Reduction
- 5.3.3: Driveway Reduction
- 5.2.4: Cul-de-sac Reduction
- 5.2.5: Building Footprint Reduction
- 6.2.6: Parking Reduction

Section 5.3 describes each green infrastructure technique in detail, including filter strips, rain gardens, rain barrels, permeable pavement, etc. The manual includes helpful description and illustrations, and is a great resource for understanding the opportunities and limitations of each practice.

Green infrastructure practices like this rain garden capture and treat rain water near where it falls.

Chapter 6: Performance Criteria

Chapter 6 covers standard stormwater management practices like stormwater ponds and wetlands. Some of these practices can reduce runoff (bioretention, infiltration and dry swale practices), but they are primarily used to treat collected runoff. In general, these practices should be added after green infrastructure options have been exhausted.

Bioretention systems collect stormwater, filter it, and release it slowly to reduce peak flows.

Chapter 9: Redevelopment Projects

Chapter 9 covers redevelopment projects. It provides alternate standards for redevelopment in existing developed areas.

Redevelopment is generally favored by communities and can be beneficial from an environmental standpoint. Redevelopment of derelict sites can help protect natural areas elsewhere in the community and reduce the need to create new impervious surface.

Site constraints may make it difficult to meet the normal stormwater standards, so the goal is to achieve an improvement over the current runoff pattern.

Please note that the Stormwater Management Design Manual is undergoing revision and this chapter may change.

Appendix E

This appendix contains two helpful checklists that can be used by municipalities to help ensure that they have the information they need to ascertain whether stormwater requirements are met:

- Example Checklist for Preliminary/Concept Stormwater Management Plan Preparation and Review
- Example Checklist for Final Stormwater Management Plan Preparation and Review

If your municipality would benefit from checklists to ensure that stormwater information is provided in proposals, consider these samples.

Appendix H

This appendix has a detailed list of recommended plant species for each practice type. This list of all-native species are selected specifically for our New York climate.

Landscaping with native species provides habitat for wildlife. Native species are well-adapted to the local climate and often require less watering.

Strategies for Smoother Stormwater Review

The following are some proactive steps that planning boards can take to make stormwater review more efficient and predictable:

Gather data in advance

Help applicants know which natural areas are most important to conserve by gathering and mapping these areas on a town-wide or watershed-wide basis in advance. This data may be compiled in a municipality's Open Space Inventory or Natural Resource Inventory or in the Natural Resources section of the local comprehensive plan.

A basic Natural Resource Inventory can be compiled using general but widely available information about natural resources. Detailed studies can also be undertaken to map high quality habitats, undocumented wetlands and streams, connected wildlife corridors, aquifer recharge areas and other features of interest. Contact the Hudson River Estuary Program's Biodiversity team for assistance.
>Link: Hudson River Estuary Program

If your municipality has a conservation advisory council, they can be a helpful partner in gathering and documenting this information.

Consider designating especially valuable areas as Critical Environmental Areas.
>Link: Critical Environmental Areas

Know which water quality issues matter most

You can evaluate stormwater plans better if you know what water issues are most troublesome in your area. The first step is to identify waterbodies in your community and learn about the watersheds within your boundaries. Note that land within your municipality may be part of a watershed that flows into a waterbody outside your borders.

The Hudson River Watershed Alliance's watershed mapping may help. Their website also has a directory of watershed groups. If there is a local watershed group in your area, see if they have a watershed management plan or other planning tools.
>Link: Hudson River Watershed Alliance

Find out which pollutants are top concerns in your local waterways using the state's Waterbody Inventory and consult local sources for details.
>Link: Lower Hudson River Basin Waterbody Inventory

For many river cities, Combined Sewer Overflows (CSOs) are an issue. If they are, then reducing peak flow of runoff is especially important. Different SWPPP requirements may also exist in CSO areas as they are regulated differently.
>Link: Combined Sewer Overflow Maps

Learning about groundwater resources can also be helpful. Infiltration practices may not be appropriate over drinking water aquifers or other sensitive groundwater resources.

Using this information, you can establish local stormwater goals that will guide review of SWPPPs.

Conduct pre-application meetings

If your planning board holds pre-application meetings, be sure to incorporate stormwater into the early discussion. Pre-app meetings can be used to:

- Ensure that applicants are aware of natural resources of particular local importance when they plan their sites — sensitive habitats, wetlands, contiguous forests, aquifer recharge areas, etc.
- Ensure that applicants are aware of local stormwater management goals — protecting drinking water supplies, addressing pollutants of concern, not exacerbating flooding, reducing the load on CSO sewersheds, etc.
- Ensure that applicants know which state and local stormwater regulations apply.
- Let applicants know that your municipality expects stormwater management to be part of the design process, not added at the end.

Familiarize yourself with SWPPPs

Grab a few recent SWPPPs from your SMO, planning board chair or municipal engineer and get to know the materials they contain. Look for sections that demonstrate the site planning steps. The applicant may include sections called “site characteristics” or “site planning.”

Look for documentation that the planning process from Chapter 3 has been followed, especially preservation of natural features and reduction of impervious cover. Consider whether the documentation is adequate. Look at the practices selected and how they are shown on drawings.

Learn to respect soils

Many green infrastructure practices rely on infiltrating water into the ground. This will only work if the underlying soils are suitable. Sandy and gravelly soils usually infiltrate well. Silt and clay may not.

You can explore soil maps at the USDA Web Soil Survey.
>Link: USDA Web Soil Survey

To use the site:

1. Search for your site
2. Define an AOI (area of interest)
3. Go to the Soil Map tab to view soils
4. Click on a soil name
5. Scroll down to Properties and Qualities and look for the Natural Drainage Class

Well drained soils will support rain gardens and other infiltration practices best. Be careful if infiltration practices are proposed on poorly drained soils. They may need underdrains to work effectively.

Note that soil maps are only precise to about 2 acres and may not be useful on small sites or in urban areas. Field testing is usually performed since infiltration can vary within a site.

Think about maintenance

After a project is built, the stormwater practices must be maintained for decades to come. Green infrastructure practices may require periodic maintenance which must be kept up in order for the practices to work.

For every project with a full SWPPP, an Operations and Maintenance (O&M) plan must be provided to the municipality. In some cases, the municipality takes over responsibility for maintenance. This is often the case in subdivisions. The municipality may wish to create a drainage district to fund ongoing maintenance by trained personnel or contractors.

If practices are not being turned over, the responsible party must be identified in the O&M plan. It is important to determine whether your municipality has an enforcement protocol, and if not, to establish one. MS4s have a responsibility to ensure that practices in their municipality are adequately maintained at the appropriate frequency.

Note that although maintenance should be considered when selecting practices, maintenance should not become an excuse for limiting the use of green infrastructure. (See Manual Section 3.5)

Consider code modifications

Sometimes municipalities find that there are aspects of their municipal code that are standing in the way of maximum green infrastructure use. If this is the case in your community, you can consider making changes to your code to allow greater flexibility or remove barriers to green infrastructure.

For example, parking requirements and street width standards may be incompatible with minimizing impervious cover. Requirements for curbs or parking lot features may make it difficult to incorporate green infrastructure, and prohibition of flat roofs can prevent the use of green roofs. If you find that

outdated standards are getting in the way of optimum stormwater design, the following resources may be helpful in making changes.

The NYSDEC's Code and Ordinance Worksheet is a helpful resource.
>Link: Code & Ordinance Worksheet

The Albany County Stormwater Coalition conducted an inventory of municipal codes recently and developed a helpful scorecard.
>Link: Albany County Stormwater Scorecard

Increase your familiarity with green infrastructure

The more you know about green infrastructure, the easier it is to review.

Consider taking a self-guided tour of local green infrastructure projects using the Hudson River Estuary Program's directory.
>Link: Listing of Green Infrastructure Projects

Do some research on the multiple benefits green infrastructure practices can provide — pervious pavement may be less icy, trees cool buildings while absorbing stormwater, etc.
>Link: NRDC's "Green Edge" Report

Know where to go for help!

Your County Soil & Water Conservation District
>Link: Directory

Your local Cornell Cooperative Extension
>Link: Directory

Your DEC Regional Office
>Link: Directory

Reviewing a SWPPP

Equipped with these tools, you're ready to review a SWPPP. Here are some suggestions:

Consider the location of the site within a watershed. What stream, lake, wetland or drainage system does it flow into? Are there particular water quality concerns or flooding issues that should be considered in that watershed?

Look for evidence that the planning process from Chapter 3 was conducted.

- Were natural areas preserved? Looking at the site in a landscape or watershed context, are the most important natural areas preserved?
- Was an effort made to reduce impervious cover? Do you have suggestions for further impervious cover reduction?

When reviewing stormwater management practices, use Chapters 5 and 6. Ask questions if you aren't confident in the practice selection.

- Has runoff from all impervious cover been directed to a green infrastructure practice?
- Are the soils appropriate for the practices selected?

See if the goal of making RRv match WQv has been achieved. If not, see if there is a legitimate justification. Consider how this will affect neighboring properties and water resources including streams and wetlands.

Look for the maintenance plan. Is there an O&M strategy? Who will be responsible for maintenance?

Remember that planning board members have an important role to play in ensuring that stormwater management plans provide the best protection for current and future members of your community. We hope this guide has provided the basic knowledge you need to ask helpful questions and advocate for stormwater management that will protect your community's natural resources and residents' property well into the future.