

Stormwater Manual Peer Review

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Assignment Overview

- Project Purpose
- Have a qualified engineering consultant perform an evaluation of the Stormwater Manual to make findings & recommendations as to potential manual updates.
- Project Scope
- Technical Review including Comparative Assessment to other municipalities
- Environmental & Economic Trending Assessment
- Findings and Recommendations
- Project Approach
- Technical study with broad stakeholder input throughout the project duration
- Project Timeline
- December 2022 through June 2023 (6-month duration)



Findings

- Local government regulations can be more stringent than State and Federal regulations.
 - Drivers include the need for better flood control, impaired waters, TMDLs, and NPDES permit requirements.
 - Portions of the Pinellas County's Stormwater Manual are more stringent than surrounding jurisdictions' regulations, including but not limiting to nitrogen and phosphorus treatment requirements.
 - The Manual is aligned with the County's overarching strategic goal of practicing superior environmental stewardship.
- There has been a slower rate of development in Pinellas County relative to other local counties.
 - This trend appeared before 2017.
 - Due in part to the built-out nature of Pinellas and associated higher land costs.
- Developer stakeholders identify the high cost of stormwater improvements as a significant issue.
 - Labor, material, and other development-related costs have also increased.
- Water quality trends include a mix of positive, negative, and neutral changes.
 - Multiple jurisdictions have differing regulations for development within the same basin.
 - Other variable factors such as local precipitations.
 - Regulations follow best practices for quality enhancements.
 - Goal of the County is to be a model community for other jurisdictions to enhance the regional water quality.



Recommendation Categories

- Exemptions: Allowing specific sites to bypass certain standards
- Flexibilities: Customizing criteria for diverse site conditions
- Incentives: Incentivizing low-impact and high-performance design with cost offsets
- Technical Updates: Modifying regulations based on review and stakeholder input.
- Adaptive Feedback Process: Establishing an approach for updating the Stormwater Manual in response to evolving economic, environmental, and technological factors.

Implementation Strategy Immediate	Code Update	Future (Further Research)	
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Menu of Recommendations

Exemptions

- Exemption for Reduction in Impervious Area
- Exemption for Single-Family, Duplex, or Triplex

Flexibilities

- Administrative Reduction for Nutrient Removal (Large Sites)
- Compensatory Treatment & Payment-in-Lieu (Water Quality Credit Program)

Incentives

- Administrative reduction for Large Sites with Enhanced Landscaping
- Density and Intensity Bonus Performance-Based Incentive
- Parking Reduction Performance-Based Incentive
- Private Stormwater Facility Retrofit & Enhancement

Technical Updates

- Small Site / Large Site Criteria
- * Exfiltration Vaults and Chamber Design Standards
- Vertical Wall Requirements
- Stormwater Management System Area Definitions
- Discharge into County Systems
- Infiltration in Routing Modeling
- Adaptive Feedback Process
- Voluntary Feedback in Review Process
- Third Party Review
- Review and update of the Stormwater Manual



Exemptions



Exemption for Reduction in Impervious Area

Sites less than one acre will qualify for a treatment requirement exemption if:

- **Reducing the existing impervious area** by at least 10%.
- Presumptive treatment criteria of 0.5" for dry ponds and 1" for wet ponds over the entire site are provided.
- The design includes elements of green infrastructure, with sufficient integration being determined by a straightforward, points-based assessment system.



Single-Family, Duplex, or Triplex residential developments are exempt from stormwater treatment and attenuation standards unless:

- They are part of a larger plan of development, OR
- They exceed a revised threshold of impervious area (to be determined based on further analysis), OR
- The impervious area exceeds 25% of the site acreage for sites larger than one acre.

Flexibilities

Administrative Adjustments for large sites:

- Up to 10% reduction in nutrient removal
- Applicant must demonstrate that on-site improvements impose a significant financial burden
- It shall be no less than net improvement.

For situations where it is not possible or feasible to provide water quality treatment within the site, we recommend:

- Treatment of an equivalent amount of similar land use within the same watershed basin.
- And/Or; Payment-in-lieu (Water Quality Credit Program) of providing the improvements necessary to treat an equivalent amount of similar land use within the same basin may be allowed. All sums collected shall be placed in a stormwater utility fund.



Incentives

Administrative reduction for Large Sites with Enhanced Landscaping

Large Sites are eligible for up to a 20% **administrative decrease** in stormwater treatment (based on nutrient loading, not percentages) if they meet both of the following criteria:

- Provide an additional 20% plantings above landscape code minimum with plans that contribute to stormwater treatment, AND
- The design includes elements of green infrastructure, with sufficient integration being determined by a straightforward, points-based assessment system. These may include:
 - Pervious pavement, Rain gardens, Tree wells, Bioswales, Rainwater harvesting, Living Shorelines, etc.

Note: Treatment required shall be no less than net improvement

Parking Reduction Performance-Based Incentive.

Large Sites are eligible if:

- They meet 55/80 requirements
- They are not receiving administrative adjustments or waivers
- The design includes elements of green infrastructure, with sufficient integration being determined by a straightforward, points-based assessment system.

Reduction of mandated parking spaces by up to 10%

- This does not apply to ADA spaces
- Percent reduced from base parking requirements, not based on the amount required with other reductions from code.

Density and Intensity Bonus Performance-Based Incentive.

Sliding scale up to a to-be-determined maximum increase in residential density (units/acre) and commercial intensity (FAR) based on stormwater treatment performance metric. Small and Large Sites are eligible if:

- They meet 55/80 requirements
- They are not receiving administrative adjustments or waivers

Example: Stormwater quality threshold exceeded by 5% would result in a 5% density or intensity bonus.

Explore grants and other funding mechanisms to allow for the retrofit of existing privately owned stormwater improvement.

Examples:

- Center for Watershed Protection & Center County 2019_A Guide to Retrofitting Stormwater Ponds on Private Lands.pdf
- Stormwater Grants Stormwater (phila.gov)
- Innovative Stormwater Retrofits | DOEE (dc.gov)



Technical Updates

For Small Sites (One acre or smaller), we recommend:

- Demonstrate a net improvement or meet a minimum of presumptive criteria, whichever is greater.
- The design includes elements of green infrastructure, with sufficient integration being determined by a straightforward, points-based assessment system.

For Large Sites (Larger than one acre), we recommend:

- Maintaining the requirement to meet 55/80 or a 10% reduction in predevelopment conditions, whichever is greater
- No change proposed for large sites



- The engineer must submit a material report on the proposed stone material.
- When utilizing an underground exfiltration system, inspections are required every two years.

Reduction in Site Acreage allowed for Rational Method from 10 to 5 acres.

• Encourage the use of stormwater routing software to improve the model's accuracy.

Discharge into County Systems.

Require projects to comply with Stormwater Manual standards when they directly discharge into a County stormwater system. Prevents regulations applying to sites that do not directly discharge into County systems.

Vertical Wall Requirements for Retention/Detention Facilities.

Increase the allowable portion of retention/detention facilities that are allowed for vertical side walls or slopes steeper than 3:1 up to 80% and a minimum of 20' maintenance access

- Must include adequate fall & barrier protection
- Must provide safe means of ingress and egress for facility maintenance and inspection
- Must provide maintenance plan identifying access

Define the areas exempt from stormwater treatment criteria identified in the Stormwater Manual as Master Stormwater Management System areas :

- Lealman
- Sawgrass
- Downtown Palm Harbor

Include a link to a web map that is updated with boundaries

Add definitions to the manual for direct and indirect discharge.

It should be in line with the state definition.

Infiltration in Routing Modeling

- Percolation can be used in attenuation routing models but shall be reduced by 10 percent for each foot the water table rises above the elevation 10 feet below the bottom of the basin or bottom of the drain field.
- After adjustment for water table elevation, the maximum allowable percolation rate is 1.0 feet/hour.
- DRI test should not be done during the dry season



Adaptive Feedback Process

Incorporate Voluntary Feedback in Review Process.

- Request voluntary information on stormwater-related development costs from developers.
- Maintain and monitor the County email address dedicated to Stormwater Manual feedback and include the email on appropriate stormwater documents and County webpages.
- Establish feedback methods in the review process, including the ability to submit suggestions and recommendations.

Review and update of the Stormwater Manual:

- Establish a regular interval (five years or sooner if needed) for review and update of the Stormwater Manual
- Establish a set of clear and measurable metrics that can be used to evaluate the effectiveness of the Stormwater Manual.
- New technologies, methods, and innovations in stormwater management should be explored and incorporated as appropriate.

Contract third-party to review staff and development community feedback and regulations on a defined schedule.



Proposed Implementation Strategies | Next Steps



Immediate implementation via administrative policy update(s) is appropriate for specific strategies



Incorporation into the Stormwater Manual via a land development code update is appropriate for most strategies



- Active monitoring and feedback loop
- Questions and clarifications

