Regulatory Flexibility Analysis and Impact Statement Form

For Proposed New and Amended Regulations Affecting Small Businesses or Individuals

Introduction

Beginning January 1, 2016, agencies submitting proposed new or amended regulations that affect small businesses or individuals are required, under the new Regulatory Transparency and Accountability Acts of 2015 (see 80 Del. Laws, c. 112 and 113), to submit a Regulatory Flexibility Analysis (RFA) and a Regulatory Impact Statement (RIS) with the proposed regulation to the Registrar of Regulations (see **29 Del.C. Ch. 104**).

This RFA and RIS form is intended to benefit the small businesses and individuals impacted by proposed regulations by ensuring a reasonable level of consistency in the formatting of RFAs and RISs across different agencies and regulations.

State agencies proposing new or amended regulations that are substantially likely to impose additional costs or burdens on small businesses[1] or individuals[2] must submit a Regulatory Flexibility Analysis (RFA) **and** a Regulatory Impact Statement (RIS) to the Registrar of Regulations, with the proposed regulation. For agencies proposing amendments to existing regulations, the promulgating agency shall only be required to complete the RFA and RIS for the proposed amended portion of the existing regulation, and not for the entire existing regulation.

What is a Regulatory Flexibility Analysis (RFA)?

In each RFA, an agency must consider, where applicable, lawful, feasible and desirable, specific methods of reducing the burdens of the regulation on individuals and/or small businesses, including: (1) establishing less stringent requirements and deadlines; (2) establishing performance standards to replace design standards; (3) exempting individuals and small businesses from all or part of the regulation; and (4) examining other ways to accomplish the regulation's purpose, while minimizing the impact upon individuals and/or small businesses.

What is a Regulatory Impact Statement (RIS)?

Among other things, each RIS must (1) describe the purpose of the regulation; (2) identify the individuals and/or small businesses subject to it; (3) provide an estimate of the potential costs of compliance; and (4) describe any less intrusive or less costly alternative methods of achieving the purpose of the regulation. In addition, the Act further enhances transparency by requiring the Registrar of Regulations to transmit regulatory impact statements to the appropriate standing committee of the General Assembly.

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[1] "Small business" means any not-for-profit enterprise, sheltered workshop or business enterprise which is engaged in any phase of manufacturing, agricultural production or personal service, regardless of the form of its organization, when such enterprise or workshop employs fewer than 50 persons, has gross receipts of less than $10,000,000 and is not owned, operated or controlled by another business enterprise.

[2] "Individual" means any natural person, including any sole proprietorship. The term "individual" does not include any natural person affected by a regulation in his/her capacity as an officer, director, or employee of an organization that is not a "small business"; *e.g.* the CEO of a large business.

Agencies, Boards, and Commissions: please fill out this form when proposing new or amended regulations for the purpose of informing the public and business community. All proposed regulations, even if an exemption applies, must have this form attached when submitting to the Registrar of Regulations.

Date 8/13/2018 Agency DNREC Division/Office Watershed Stewardship

Contact Name Elaine Webb

Contact Email (or mailing address for comments) elaine.webb@state.de.us

Regulation # 5101 Title Sediment and Stormwater Regulations

Exemptions

◯ *Exemption A*: This proposed regulation is **not subject to Chapter 104, Title 29 of the Delaware Code**, because it will not apply to small businesses or individuals at all.

◯ *Exemption B*: The agency, board, or commission is exempt from completing the RFA and Impact Statement due to the nature of the proposed regulation.

Choose the reason for exemption:

◯ *B1*. This proposed regulation is not substantially likely to impose additional costs or burdens upon individuals and/or small businesses. Explain this conclusion:

◯ *B2.* This is an emergency regulation pursuant to **29 Del.C. §10119**.

◯ *B3.* This proposed regulation is exempt from the procedural requirements of the Administrative Procedures Act, **29 Del.C. §10113(b)**. Choose which reason:

◯ *B3a*. Descriptions of agency organization, operations and procedures for obtaining information

◯ *B3b*. Rules of practice and procedure used by the agency

◯ *B3c*. Delegations of authority to subordinates

◯ *B3d*. Nonsubstantive changes in existing regulations to alter style or form or to correct technical errors

◯ *B3e*. Amendments to existing regulations to make them consistent with changes in basic law but which do not otherwise alter the substance of the regulations

◯ *B3f*. Codifications of existing agency or judicial principles of decision derived from previous decisions and rulings

☐ *B4*. This proposed regulation defines standard of conduct or qualifications of individuals applying for licensure or as licensed professionals. Identify which professional license or professional qualification this would apply to:

☐ *B5*. Regulations that are required by federal law and/or have already complied with the federal Regulatory Flexibility Act, 5 U.S.C. § 601 et seq. (*If this is checked, the agency, board, or commission shall cite the federal law, regulation, directive, or guidance strictly mandating such state regulation and shall attach any applicable Federal RFA related to the regulation, if available. Attach the Federal RFA statement to this form, or provide the URL)*:

End of Exemption Section

Regulatory Flexibility Analysis

State agencies, boards, and commissions proposing to adopt or amend a regulation that is substantially likely to impose additional costs or burdens upon individuals and/or small businesses shall consider, where **applicable, lawful, feasible and desirable**, the following methods of reducing the additional costs and burdens of proposed regulations **on individuals and small businesses**:

1. The establishment of less stringent compliance or reporting requirements;
2. The establishment of less stringent schedules or deadlines for compliance or reporting requirements;
3. The consolidation or simplification of compliance or reporting requirements;
4. The establishment of performance standards to replace design or operational standards required in the proposed regulation;
5. The exemption of certain individuals or small businesses from all or part of the requirements contained in the proposed regulation; and
6. Such other alternative regulatory methods that will accomplish the objectives of the proposed regulation while minimizing the adverse impact upon individuals and small businesses.

Explain whether each of the above methods would be applicable, lawful, feasible, and desirable to reduce the costs or burdens of the proposed regulation:

1. Please see attachment.
2. Please see attachment.
3. Please see attachment.
4. Please see attachment.
5. Please see attachment.
6. Please see attachment.

If the above RFA section does not address each of the six methods and there is not an exemption that applies, explain why the agency, board, or commission decided it was not applicable, lawful, feasible, and desirable to complete the RFA section above:

Not applicable.

End of Regulatory Flexibility Analysis Section

Regulatory Impact Statement

Any agency, board, or commission that proposes to adopt or amend a regulation that is substantially likely to impose additional costs or burdens upon individuals and/or small businesses must submit the below Regulatory Impact Statement (RIS).

- Reference the statutory provision that allows for the adoption or amendment of the regulation and the statutory provisions that address the subject matter of the regulation. In addition, provide the URL to the specific section of the Delaware Code to allow the public easy access to view the provision.
    - Statutory Citation: 7 Del. C. Ch. 40
    - URL: http://delcode.delaware.gov/title7/c040/index.shtml
    - Subject Matter Statutory Citation: N/A
    - URL: N/A
- Describe the purpose of the proposed regulation (what is the need for the proposed regulation?):

Please see attachment.

- What are the anticipated benefits of the proposed regulation? (Describe the benefits that are expected to accrue as a result of the implemented regulation). Please quantify such benefits, as feasible:

Please see attachment.

- Identify the types of individuals and/or small businesses that would be subject to compliance under the regulation:

Please see attachment.

- Provide a **good-faith estimate** of the potential cost of compliance for individuals and/or small businesses, which at minimum shall include the projected reporting, recordkeeping, and other administrative costs required to comply with the proposed regulation. Use the below space for a free-text response (*Cost Estimate Option 1*) or, use the questionnaire below to guide the response (*Cost Estimate Option 2*):

Cost Estimate Option 1:

Please see attachment.

	Cost Estimate Option 2	**Yes**	**No**	**Unknown**
1	Is this regulation being proposed to implement a state or federal program that provides funds to Delaware? See attachment	◉	○	○
2	If this regulation is not implemented, will individuals, businesses, or programs lose federal funding? See attachment	◉	○	○
3	Does this regulation implement a plan that has already been approved by the federal government, after an opportunity for public comment? See attachment	○	◉	○
4	Does this regulation follow industry standards and best practices?	◉	○	○
5	Are there potential costs in not establishing these standards?	◉	○	○
6	Does the regulation require capital costs (building costs, material costs, upgrades to property or structures, retrofitting of systems, *etc*.)?	◉	○	○
7	Does the regulation require additional recurring costs on small businesses or individuals?	◉	○	○
8	Does the regulation impose additional administrative burden for a small business or individual?	◉	○	○
8a	If answering yes to #8, is it ongoing reporting or one time? (Choose answer) ◉ Ongoing ○ One Time ○ Unknown			
8b	If answering yes to #8, generally, how much administrative effort will be required to comply with the regulation? ○ Large Amount ○ Small Amount ◉ Unknown			
9	Does the regulation require new or changed record keeping that will create new processes or change processes already in place for small businesses or individuals?	◉	○	○

	Cost Estimate Option 2 (continued)	Yes	No	Unknown
10	Would a small businesses or individual be required to hire an outside professional to comply with the proposed regulation (such as an attorney, accountant, tax advisor, environmental consultant, engineering firm, etc.)?	◉	○	○
10a	If answering yes to #10, estimate how many hours an outside professional may be needed to assist Varies dependng on size and complexity of proposed projects.			
10b	If answering yes to #10, will a small business or individual be required to retain the services of the outside professional on an ongoing basis? See attachment	◉	○	○
11	Does the regulation require small businesses to purchase goods or services that are unusual or not commercially reasonable? See attachment	◉	○	○
12	Does the regulation require that small businesses exceed commercially reasonable data storage and transmission standards?	○	◉	○
13	Will small businesses have to hire additional employees in order to comply with the proposed regulation?	○	◉	○
14	Does the regulation require small businesses to cooperate with audits, inspections, or other regulatory enforcement activities?	◉	○	○
15	Does the regulation have the effect of creating additional licenses, taxes and/or fees for small businesses?	◉	○	○
16	Does the regulation require small businesses to obtain additional education to keep up to date with regulatory requirements?	◉	○	○
17	Please further explain any additional costs or burdens, which at a minimum shall include the projected reporting, recordkeeping, and other administrative costs required to comply with the proposed regulation. Please see attachment			

- Provide a description of any less intrusive or less costly alternative methods of achieving the purpose of the proposed regulation, and why these methods were not preferred to a regulation:

Please see attachment

- *(Optional)* Estimate the amount of agency, board, or commission staff hours it took to prepare this RFA and RIS statement:

Please see attachment

- *(Optional)* Agencies are encouraged to list trade or industry groups, small businesses, or other stakeholders such as currently regulated parties that were consulted by the agency, board, or commission in preparing this RFA and RIS. The agency, board, or commission is further encouraged to send them a copy of the RFA and RIS upon completion:

Please see attachment

End of Regulatory Impact Statement Section

Agency Regulatory Statement Attachment

Revisions to Delaware Sediment and Stormwater Regulations

Delaware Department of Natural Resources and Environmental Control

Sediment and Stormwater Program

May 21, 2018

Introduction

The Regulatory Flexibility Act is found in Title 29 – State Government, Part X – General Regulations for State Agencies, Chapter 104, of the Delaware State Code. The Office of the Registrar of Regulations published the document "Guidelines for Agency Regulatory Statements Required under the Regulatory Flexibility Act" on December 1, 2015. The Introduction in the Guidelines states in part:

> "Beginning January 1, 2016, agencies submitting proposed new or amended regulations that affect small businesses or individuals are required, under the new Regulatory Transparency and Accountability Acts of 2015 (see 80 Del. Laws, c. 112 and 113), to submit a Regulatory Flexibility Analysis (RFA) and a Regulatory Impact Statement (RIS) with the proposed regulation to the Registrar of Regulations (see 29 Del.C. Ch. 104). For agencies proposing amendments to existing regulations, the promulgating agency shall only be required to complete the RFA and RIS for the proposed amended portion of the existing regulation, and not for the entire existing regulation.

The Delaware Sediment and Stormwater Regulations ("Regulations") were first promulgated in 1991. Under these provisions, all land disturbing activity greater than 5,000 square feet is required to operate under a plan that encompasses temporary erosion and sediment control during construction as well as permanent stormwater management controls for both water quantity and water quality. The basis for stormwater management design at that time was peak rates of runoff, typically expressed as a quantity per unit of time, such as cubic feet per second.

Following a series of damaging storm events, Governor Ruth Ann Minner signed Executive Order number 62 in 2004 which established a Task Force on Surface Water Management. The Task Force submitted its final report to the Governor on April 1, 2005. Among its major recommendations was the following:

> "Design and engineering standards at the State level should be strengthened through a revision to the Sediment and Stormwater Regulations. Minimum standards should address volume management, conveyance adequacy, pollutant loadings, floodplain management, strict standards for operation and maintenance of structures and management areas. No opting out of standards should be allowed unless pursuant to specific local land use regulations (i.e. re-development). (Recommendation #9 (approved 3/17/05))."

The Regulations had been amended in April 2005 to encourage the use of *green technology* BMPs (best management practices) or those practices that achieve stormwater management objectives by applying the principles of filtration, infiltration and storage while minimizing reliance on structural components. The

Regulations at that time continued the use of flow rate as the basis for stormwater quantity management. They were further amended in October 2006 by legislative action to include volume control as well utilizing methods such as infiltration and recharge where feasible for certain watersheds in New Castle County so as not to increase flood elevations downstream. Volume control was required to the maximum extent practicable (MEP) for all storm events up to the 100-year storm in these watersheds and there were provisions to ensure no increase in flood elevations if volume reduction was not feasible.

The Sediment and Stormwater Program promulgated revisions to the Regulations in 2013, with an effective date of January 1, 2014. These revisions were largely based on the October 2006 revisions expanded on a State-wide basis. A companion Technical Document was also prepared at this time. The 2014 regulations satisfied the recommendation noted above from the Governor's Task Force regarding volume management by mandating management of the "Resource Protection Volume" or the volume generated by the runoff from a storm having an annual probability of occurrence of 99% (i.e., the one-year storm event).

A Superior Court decision of October 7, 2015 invalidated the 2014 Regulations on procedural grounds because the accompanying Technical Document referenced by the Regulations was not published in the State Register in accordance with Administrative Procedure Act (APA) requirements. This decision was reaffirmed by a Supreme Court decision on April 15, 2016. The Start Action Notice for this regulatory revision was filed in October 2015.

The RAC and its subcommittees met regularly from November 2015 through May 2016 and at the June 1, 2016 meeting the RAC recommended regulations for submittal to the State Registrar of Regulations for publication. The regulations were submitted by the Department for publication in the July 2016 Register of Regulations. However, that proposed regulation submittal was withdrawn prior to publication.

Concurrently with the RAC effort, the 148th General Assembly took several legislative actions related to **Title 7, Ch. 40** (the Delaware Sediment & Stormwater Law). The most significant of these was **Senate Bill 253**, signed into law by Gov. Markell on June 24, 2016, which included several provisions. The most notable provision to the regulatory development process, SB 253 allowed additional time for the RAC to thoroughly discuss all of the necessary revisions and amendments to the Sediment and Stormwater Regulations by eliminating the 180 day expiration of the Emergency Regulations.

In addition, SB253 included the following:

- Exempted residential land disturbing activity less than 1 acre from the stormwater management requirements of the regulations.
- Directed the Department to develop standard plans for Ag Structures that disturb 10 acres or less and precludes them from having to complete a detailed plan.
- Stormwater discharges into tidal areas/waters that are non-erosive are not subject to the quantity management provisions of the regulation, including volume reduction. They continue to be subject to the water quality provisions.
- Allowed alternative method to calculate the RPv volume based on 1" of runoff.
- Allowed applicants to use the modified language or continue under the 2016 Emergency Regulations, at the discretion of the applicant.
- Allowed applicants to use additional BMPs that are deemed to be functionally equivalent to the Post-Construction Stormwater BMP Standards & Specifications that were published with the 2016 Emergency Regulations.
- Extended the approval period for Sediment and Stormwater Plans from 3 years to 5 years.

- Extended the re-delegation period from 3 years to 5 years.

A second legislative action was taken under House Bill 194, signed into law by Gov. Markell on August 10, 2016, which exempted linear utility projects with a maximum disturbed width of 30 feet and maximum disturbed area of 1 acre from post-construction stormwater management requirements.

Immediately following SB253 and HB194, the RAC met to make recommendations for regulatory components to address the specific items of those bills. A thorough review of the BMP Standards and Specifications and other elements of the regulations as determined by the RAC members has continued with bi-weekly to weekly subcommittee meetings since October 2016.

The Regulation revisions being proposed at this time are meant to correct the procedural flaw as determined by Superior and Supreme Courts by incorporating portions of the Technical Document as part of the regulation. Numerous revisions to the Regulations and Technical Document are also being proposed.

This RFA and RIS have been prepared using the format established by the Regulatory Flexibility Act and the Guidance document. **It is important to note that the "Existing Regulations" for the purposes of the RFA and RIS are the 2014 version.**

Background

The Sediment and Stormwater Regulations contain four areas that have an effect on individuals and small businesses: Sediment and Stormwater Management Plans, Standard Plans, Certified Construction Reviewer Reports, and Post Construction Maintenance.

Sediment and Stormwater Management Plans

A Sediment and Stormwater Management Plan (or Detailed Plan) is required to be developed prior to the onset of any land disturbing activity that exceeds 5,000 square feet of disturbance. The minimum land disturbance threshold for compliance with the Regulations has not been altered with the proposed revisions. Furthermore, land disturbance associated with tilling the ground to plant a crop remains exempt from the Regulations when the agricultural producer has a soil and water conservation plan in place for that activity. Construction of agricultural structures is not exempt but Standard Plans have been developed for construction of agricultural structures.

Standard Plans

For straightforward projects, such as residential construction, non-residential construction of less than an acre disturbance including redevelopment sites with one acre or less of disturbed area, minor linear utility disturbances, agricultural structure construction including poultry house construction, tax ditch maintenance, stormwater facility maintenance, demolition, BMP construction and retrofit, minor bridge and culvert construction, and sidewalk, trail or other linear impervious surfaces that meet the Standard Plan criteria, a detailed Sediment and Stormwater Management plan is not required. The Standard Plan eliminates the cost of detailed plan development for those individuals and small businesses that meet Standard Plan criteria.

The proposed revisions require both erosion and sediment control and stormwater management for agricultural construction projects but through the use of Standard Plans. This is due in large part to a change in the poultry industry related to production practices. Previously, poultry houses were usually

supplemental to other agricultural uses on larger parcels of land. Presently, poultry houses are often standalone operations on smaller parcels devoted solely to poultry production. The hydrologic impact from larger operations on smaller parcels is much greater which necessitates stormwater management.

Certified Construction Reviewer Reports

All construction sites greater than one acre are required to conduct weekly self-inspections. However, some construction sites, based on the size and type of the project, will require third party Certified Construction Reviewer (CCR) to perform weekly reviews of the construction site and complete a report for the owner and approval agency. The CCR performs under the direction of a Delaware registered Professional Engineer (P.E.). Reviews must be completed weekly as long as construction is ongoing. The requirement for a third party CCR has changed under these proposed revisions. Therefore there may be a potential increase in cost to affected parties. However, these costs would be offset by better compliance with no additional measures. As noted above, the types of projects which qualify for Standard Plans has been expanded. Projects that meet Standard Plan criteria do not require a third party CCR during construction, thus eliminating the third party CCR cost for construction of such projects.

Post Construction Maintenance

Once the construction project is complete, monitoring and maintenance of permanent stormwater management facilities is the responsibility of the owner. Some BMPs such as sheet flow to turf filter strips require no maintenance other than regular mowing that would be completed anyway. The owner is charged with conduction of regular maintenance reviews of stormwater management BMPs. However, Delegated Agencies throughout the State perform regular inspections of these facilities which often lead to reports and subsequent corrective actions.

Consultation with Stakeholders

The Department convened a Regulatory Advisory Committee (RAC) as part of the regulatory revision effort that produced the revisions to the Regulations that became effective January 1, 2014. This Committee met nine times and various subcommittees met 37 times prior to adoption of the 2014 Regulations. Each meeting took approximately two hours equating to almost 100 hours of committee time.

The RAC as well as Technical and Policies and Procedures Subcommittees each made up of industry representatives and regulated groups was reconvened in November 2015 and met as follows to review the proposed revisions to the regulations:

November 10, 2015 – RAC
January 6, 2016 – RAC
January 27, 2016 – Policies and Procedures Subcommittee
January 28, 2016 – Economic Impacts Subcommittee
February 3, 2016 – RAC
February 10, 2016 – Technical Subcommittee
February 18, 2016 – Urban Considerations Subcommittee
February 24, 2016 – Technical Subcommittee
March 2, 2016 – RAC
April 6, 2016 – RAC
April 21, 2016 – Technical Subcommittee
April 25, 2016 – Technical Subcommittee
May 4, 2016 – RAC

May 12, 2016 – Technical Subcommittee
May 18, 2016 – RAC
May 25, 2016 – Policies and Procedures Subcommittee
June 1, 2016 – RAC
June 22, 2016 – Policies and Procedures Subcommittee
July 13, 2016 – RAC
July 27, 2016 – Technical Subcommittee
August 3, 2016 – Policies and Procedures Subcommittee
August 3, 2016 – RAC
September 7, 2016 – RAC
September 14, 2016 – Technical Subcommittee
October 12, 2016 – RAC
November 9, 2016 – RAC
November 16, 2016 – Technical Subcommittee
November 30, 2016 – Technical Subcommittee
December 14, 2016 – Technical Subcommittee
January 11, 2017 – Technical Subcommittee
January 25, 2017 – Technical Subcommittee
February 8, 2017 – Technical Subcommittee
February 22, 2017 – RAC
March 8, 2017 – Technical Subcommittee
March 29, 2017 – Technical Subcommittee
April 12, 2017 – Technical Subcommittee
April 19, 2017 – Technical Subcommittee
May 10, 2017 – Technical Subcommittee
May 24, 2017 – Technical Subcommittee
June 7, 2017 – Technical Subcommittee
June 21, 2017 – Technical Subcommittee
July 5, 2017 – Technical Subcommittee
July 19, 2017 – Technical Subcommittee
August 2, 2017 – Technical Subcommittee
August 16, 2017 – RAC
August 30, 2017 – Technical Subcommittee
September 13, 2017 – Technical Subcommittee
September 20, 2017 – RAC
October 11, 2017 – Technical Subcommittee
October 25, 2017 – Technical Subcommittee
November 8, 2017 – Technical Subcommittee
November 22, 2017 – Technical Subcommittee
December 6 – 2017 – Technical Subcommittee
December 13, 2017 – RAC
December 20, 2017 – Technical Subcommittee
January 3, 2018 – Technical Subcommittee
January 17, 2018 – Technical Subcommittee
January 24, 2018 – Technical Subcommittee
February 7, 2018 – Policies and Procedures Subcommittee
February 14, 2018 – Technical Subcommittee
February 21, 2018 – Technical Subcommittee
February 28, 2018 – RAC
March 7, 2018 – Technical Subcommittee
March 14, 2018 – Technical Subcommittee

March 21, 2018 – RAC
March 28, 2018 – Technical Subcommittee
April 4, 2018 – Technical Subcommittee
April 12, 2018 – RAC Section 5Subcommittee
April 18, 2018 – Technical Subcommittee
April 25, 2018 – RAC
May 2, 2018 – Technical Subcommittee
May 2, 2018 – RAC Section 7 Subcommittee
May 9, 2018 – RAC
May 16, 2018 – Technical Subcommittee
May 23, 2018 – RAC

Each meeting was three hours long equating to over 200 hours of committee time since from November 2015 through May 2018. The number of attendees at each meeting prior to adoption of the 2014 Regulations as well as the 2015-2018 activities has averaged 30 to 35 at full RAC meetings and 10 to 15 at subcommittee meetings.

Following SB253 giving more time to review the proposed revisions, the RAC charged the Technical Subcommittee with thorough review of the Post Construction Stormwater BMP Standards and Specifications. The Technical Subcommittee established a schedule to meet biweekly and met for three hours at each meeting for a total of 126 hours:

July 2016 through December 2016 – 6 meetings
2017 – 23 meetings
2018 – 15 meetings

In addition, the RAC charged the Policies and Procedures subcommittee with looking at offset provisions for the proposed regulations. The Policies and Procedures subcommittee met on the following dates to look at Offsets for a total of 18 hours:

June 22, 2016
August 3, 2016
November 2, 2017
November 13, 2017
November 30, 2017
December 12, 2017
January 18, 2018
February 7, 2018

Finally, since the SB253 extension to the emergency regulation timeline, the full RAC has met on the following dates for a total of 39 hours to discuss and review the proposed changes to the regulations and any proposed amendments to the regulations.

July 13, 2016
August 3, 2016
September 7, 2016
October 12, 2016
November 9, 2016
February 22, 2017
September 20, 2017

December 13, 2017
February 28, 2018
March 21, 2018
April 25, 2018
May 9, 2018
May 23, 2018

All told, under SAN 2015-10, since November 2015, 234 hours have been devoted to public meetings where the RAC and Department staff has accepted public comment for consideration in the revisions to the regulations and proposed amendments.

Regulatory Flexibility Analysis

The Regulatory Flexibility Analysis (RFA) is comprised of methods for reducing the additional costs and burdens of proposed regulations on individuals and small businesses in six areas. Areas to be addressed are indicated with ***bold italicized*** text.

(1) The establishment of less stringent compliance or reporting requirements.

Standard Plans

The proposed revisions allow for compliance under a Standard Plan in lieu of developing a detailed Sediment and Stormwater Management plan for straightforward projects, such as residential construction, non-residential construction of less than an acre disturbance including redevelopment sites with one acre or less of disturbed area, minor linear utility disturbances, agricultural structure construction including poultry house construction, tax ditch maintenance, stormwater facility maintenance, demolition, BMP construction and retrofit, minor bridge and culvert construction, and sidewalk, trail or other linear impervious surfaces that meet the Standard Plan criteria. The Standard Plan eliminates the cost of detailed plan development for those individuals and small businesses that meet Standard Plan criteria. The time necessary to gain approval is generally shorter using the Standard Plan option, which is most often an economic benefit to the owner. In addition, projects that meet Standard Plan criteria also do not require a CCR during construction, eliminating the CCR cost for construction of the project.

Hydrologic and Hydraulic Calculations

The proposed revisions allow developers to either reduce the runoff of the Resource Protection Event volume (RPv) or treat an equivalent amount using water quality controls such as wet ponds. In addition, quantity management can be eliminated completely if analysis shows stormwater detention creates a greater adverse impact than releasing the discharge due to the location of a site in its watershed. An alternative computational method has been developed to provide options in showing compliance with RPv.

Offsets

The proposed revisions include provisions to allow for the use offsets as an alternative to full or partial compliance. Options include Stormwater Management Offsets including, but not limited to, trading, banking, fee-in-lieu, or other similar program and "Stormwater Management Offset District" which is an organization established to administer stormwater management offsets established under Department authorization. A stormwater management offset can be used as an alternative method to full or partial compliance with one or both of the Resource Protection Event (RPv) requirements and the Conveyance Event (Cv) and Flooding Event (Fv) requirements.

(2) The establishment of less stringent schedules or deadlines for compliance or reporting requirements.

Not applicable. Neither the Existing Regulations nor the proposed revisions include mandatory schedules or deadlines. Any schedules or deadlines are set by the applicant / developer.

(3) The consolidation or simplification of compliance or reporting requirements.

The 2014 Regulations required a three-step approval process. The proposed revisions specify a three-step process or two-step process on a case-by-case basis.

(4) The establishment of performance standards to replace design or operational standards required in the proposed regulation.

Under the proposed revisions, there are no performance standards.

Furthermore, Standard Plans establish applicability criteria and conditions that can be met by straightforward projects to preclude the need to develop a site-specific detailed Sediment and Stormwater Plan for compliance.

(5) The exemption of certain individuals or small businesses from all or part of the requirements contained in the proposed regulation.

The proposed revisions continue to exempt agricultural land management practices and developments or construction that disturbs less than 5,000 square feet. The proposed revisions clarify conditions for both but do not substantively change the exemptions.

The standard plan conditions for residential construction disturbing less than one acre contains no post construction stormwater management requirement and only requires adherence to the Standard Detail for Minor Development from the Delaware Erosion and Sediment Control Handbook.

(6) Such other alternative regulatory methods that will accomplish the objectives of the proposed regulation while minimizing the adverse impact upon individuals and small businesses.

The proposed revisions have been vetted through extensive input from a Regulatory Advisory Committee (RAC) of various stakeholders, including several representing the interests of both individuals and small businesses. The proposed revisions minimize the impact on individuals and small businesses to the extent practicable while allowing the Department to carry out its statutory obligations to protect the State's soil and water resources under Title 7, Ch. 40.

Regulatory Impact Statements

A Regulatory Impact Statement (RIS) is required from any agency, board, or commission that proposes to adopt or amend a regulation that is substantially likely to impose additional costs or burdens upon individuals and/or small businesses.

Areas to be addressed are indicated with ***bold italicized*** text.

(1) A specific reference to the statutory provision which allows for the adoption or amendment of the rule or regulation and the statutory provisions which address the subject matter of the rule or regulation.

o Statutory Citation: 7 Del. C. Ch. 40
o URL: http://delcode.delaware.gov/title7/c040/index.shtml
o Subject Matter Statutory Citation: N/A
o URL: N/A

(2) A description of the purpose of the regulation.

The Finding of Fact in the General Provisions of the proposed regulations state:

> "Erosion and sedimentation and delivery of other nonpoint source pollutants such as nutrients through stormwater runoff continue to present serious problems throughout the State.
>
> The removal of a stable ground cover in conjunction with the decrease in the infiltration capability of soils resulting from the creation of additional impervious areas such as roads and parking lots has accelerated the process of soil erosion and sediment deposition and nonpoint source runoff of other pollutants resulting in pollution of waters of the State. This damages domestic, agricultural, industrial, recreational, fish and wildlife and other resource uses.
>
> Accelerated stormwater runoff increases flood flows and velocities, contributes to erosion, sedimentation and degradation of water quality, overtaxes the carrying capacity of streams and storm sewers, greatly increases the cost of public facilities in carrying and controlling stormwater, undermines floodplain management and flood control efforts in downstream communities, reduces groundwater recharge, and threatens public health, welfare and safety."

Furthermore, the purpose is explained in the General Provisions as follows:

> "The intent of this regulation is to enhance and extend the present erosion and sediment control activities and programs of the State for both rural and urban lands and to provide for control and management of stormwater runoff consistent with sound water and land use practices. These activities will reduce, to the maximum extent practicable, adverse effects of stormwater runoff on the water and lands of the State."

(3) Description of the anticipated benefits of the proposed regulation.

In September 2011, the Water Resources Agency at the University of Delaware (UDWRA) released the document "Economic Value of Stormwater in Delaware" in final draft form. It notes that three historic storms flooded Delaware in 2003 and 2004 causing $90 million in damages (Tropical Storm Henri, $46 million damages, Tropical Storm Isabel, $40 million damages, and Tropical Storm Jeanne, $4 million damages). These storms were one of the primary reasons for Governor Minner's Task Force. Citing the Water Environment Research Foundation, it further explained that green stormwater practices can provide the following benefits to Delaware:

- Higher property values (increased sales, higher sale/resale prices, shorter on-market time)
- Increased tax revenue
- Decreased flood damage that increases property values in the 100-year floodplain
- Public infrastructure cost savings through reduced size of stormwater pipes and culverts
- Reduced pollution and water treatment costs
- Improved water quality
- Increased tourism and recreation

The UDWRA study estimated the economic value of green stormwater management including water quality and flood control benefits in Delaware at approximately $1 billion a year.

(4) An identification of the individuals and/or small businesses that would be subject to compliance under the regulation.

The proposed revisions represent no new groups of individuals or small businesses that will be regulated. The Existing Regulations require post construction stormwater management and erosion and sediment control during construction for individual residential construction and agricultural structure construction. While compliance requirements have been modified, the impact to individual homeowners and small businesses such as agricultural producers is minimized by development of standard plan criteria for activities typically undertaken by those individuals and small businesses, including construction of individual residential projects and agricultural structures including poultry house construction.

The types of individuals and / or small businesses (as well as large businesses) that are affected by both the Existing Regulations and the proposed revisions include land owners (current as well as future such as Home Owner Associations (HOAs) if applicable), developers, contractors, and consultants (land planners, surveyors, engineers, landscape architects, etc.).

It is noted that approximately 85% of projects approved by DNREC and the Delegated Agencies were able to use the Standard Plan process. It is not practical to research this activity and determine which projects were initiated and / or managed by individuals or small businesses.

(5) A good-faith estimate by the agency of the potential cost of compliance for individuals and/or small businesses, which at minimum shall include the projected reporting, recordkeeping, and other administrative costs required to comply with the proposed regulation.

See Cost Estimate Option 2 response with these notes from Questionnaire (page 8 of RFA / RIS Form)

Item 1: Is this regulation being proposed to implement a state or federal program that provides funds to Delaware?

Response: The proposed revisions implement, in part, programs described in Delaware's Chesapeake Bay Watershed Implementation Plan (WIP) and EPA's General Permit for Stormwater Discharges Associated with Construction Activities (commonly known as Construction General Permit or CGP). Regarding the Chesapeake WIP, it is noted that EPA has the authority to increase its regulatory oversight or enforcement in states that do not meet their plan goals. Delaware's Notice of Intent (NOI) for Storm Water Discharges Associated With Construction Activity Under a NPDES General Permit is modeled after EPA's Construction General Permit.

Item 2: If this regulation is not implemented, will individuals, businesses, or programs lose federal funding?

Response: Funding provided to the Department from EPA for implementation of Chesapeake Bay Watershed WIP initiatives and CGP funding will be in jeopardy if the regulation is not implemented in a way that is approved by EPA.

Item 3: Does this regulation implement a plan that has already been approved by the federal government, after an opportunity for public comment?

Response: No.

Item 10b: Will a small business or individual be required to retain the services of the outside professional on an ongoing basis?

Response: The proposed revisions continue the requirements for a CCR to be present during construction phase activities, not after construction is complete. The ongoing basis would only occur during the construction phase. The requirement for a third party CCR has changed under these proposed revisions. Therefore there may be a potential increase in cost to affected parties. However, these costs would be offset by better compliance and no additional measures. It is noted that a third party CCR is not needed for projects designed under the Standard Plan process.

Item 11: Does the regulation require small businesses to purchase goods or services that are unusual or not commercially reasonable?

Response:
The proposed revisions continue the requirements for a CCR to be present during construction phase activities. The requirement for a third party CCR has changed under these proposed revisions. Therefore there may be a potential increase in cost to affected parties. However, these costs would be offset by better compliance and no additional measures. It is noted that a third party CCR is not needed for projects designed under the Standard Plan process.

Item 17: Please further explain any additional costs or burdens, which at a minimum shall include the projected reporting, recordkeeping, and other administrative costs required to comply with the proposed regulation.

Response: Compliance costs are considered in four categories: property values, design and permitting, construction, and maintenance.

Property values

Values of properties being planned for development are dependent on the type and amount of development that could occur. Local zoning codes generally dictate aspects of development. State regulations, however, can also be a factor. While the Existing Regulations may have made it more difficult to develop challenging sites with physical constraints, the proposed revisions have reversed that trend.

In a paper published by the Economics Department at Brown University in 2014, it was presented that land use regulations can affect land values in three ways: 1) an own-lot effect, which reflects the cost of regulatory constraints on how land is used; 2) external effect, which reflects the value of regulatory constraints on the use of nearby land; and 3) supply effect, which measures the effect of regulatory constraints on the supply of developable land.

The authors note that one effect of land-use regulation is to decrease land values by restricting how a landowner develops their own land. For example, permit requirements may cause delays that increase financing or design costs, and building codes may increase construction costs. Each of these constraints impacts land values by affecting how landowners use their property. The external effect of land-use regulations describes how restrictions on nearby lands create costs or

benefits for other landowners. Open-space requirements, for instance, may increase the value of the landscape for nearby property owners. Another possibility is that land-use regulations restrict the supply of land that is available for development, what is called the supply effect.

The analysis indicated that the supply effect or the increase in land prices due to restrictions in the supply of developable land is neutral as property buyers are made worse off by the same amount that sellers gain; offsetting each other in terms of overall welfare. However, when evaluating the total welfare effects of land-use regulations in the context of own-lot and external effects of regulations, the authors said the results are "striking" as they found a clear decrease in land values in more heavily regulated municipalities. They also found a steep decline in the share of land developed in more regulated municipalities and the own-lot effect of land-use regulations is clearly negative.

The 2014 Regulations lessened the reliance on larger wet or dry ponds in favor of more dispersed BMPs. This could result in more land being made available for development if less is needed for stormwater management features. Some RAC members noted that they can often sell properties adjacent to wet ponds at a premium. Under the current proposal, wet ponds achieving 48 hours of detention can meet full RPv compliance. The proposed revisions allow flexibility in providing stormwater management features such that there is not an over-reliance on any one method and flexibility to implement the best type of BMP for the land type and development type.

Design and Permitting

Because of all the variables involved, including site parameters such as groundwater table, soil permeability, topography, watershed location, and development type, as well as the many design options offered, it is not possible to quantify the cost of developing a project. It has been noted by the regulated community that the plan review requirements in the Existing Regulations resulted in the need for additional fees for professionals in regards to design and permitting. Furthermore, the three-step review process necessitated additional meetings with not just those in the private sector but public sector review agencies as well. The proposed revisions include a two-step review process in certain instances when initially approved by the review agency at the project application meeting. The proposed revisions also eliminate the preparation of a Stormwater Assessment Report by the Department or Delegated Agency which was a requirement under the 2014 Regulations.

The costs are considered below for detailed Sediment and Stormwater Plans and Standard Plans, as well as training provided by the Department.

<u>Sediment and Stormwater Plans (Detailed Plans)</u>

For sites that require a detailed plan, implementation of the plan will vary depending upon the site conditions and design approach taken by the design professional. The runoff reduction requirements in the proposed revisions are based upon site characteristics and will differ site to site. Runoff reduction requirements, which include a 48-hour detention option, for each site will be the basis for the BMPs designed for construction on the site. BMP design will be in accordance with the BMP Standards and Specifications contained within the proposed revisions. If the downstream condition is not adequate to convey the design storms (Conveyance (or 10-year), and Flooding (or 100-year)), additional storage must be provided onsite or the downstream condition improved, at a cost to the developer. This developer cost in construction of BMPs on sites that have restrictions will reduce the future public costs to improve drainage infrastructure.

Detailed Sediment and Stormwater Management plans are required to be developed by design professionals licensed in the State of Delaware. There is a design and consulting cost association with development of the plan. The cost is dependent upon the size of the project and complexity of the design. The requirement to develop a plan has not changed with the proposed revisions.

Standard Plans

Straightforward projects, such as residential construction, non-residential construction of less than an acre disturbance including redevelopment sites with one acre or less of disturbed area, minor linear utility disturbances, agricultural structure construction including poultry house construction, tax ditch maintenance, stormwater facility maintenance, demolition, BMP construction and retrofit, minor bridge and culvert construction, and sidewalk, trail or other linear impervious surfaces that meet the Standard Plan criteria, will be required to implement the construction site stormwater controls necessary during construction to prevent a discharge of sediment or other pollutants during construction. This is unchanged from previous Regulations.

Standard Plan criteria have been developed for certain categories of projects that are subject to the requirements of the Delaware Sediment and Stormwater Regulations. Several Standard Plan categories apply to individuals and small businesses. The Standard Plan criteria have been developed for those individuals and small businesses that by the nature of their development types are expected to have the most minor impact on stormwater quantity and quality. There is no additional consulting cost associated with developing the Standard Plan if the proposed construction meets the Standard Plan criteria.

Agricultural producers constructing agricultural structures where the disturbed area exceeds 5,000 square feet are not exempt from the regulations and are required to have a plan. Standard Plan criteria have been established for agricultural producers constructing agricultural structures. Construction of agricultural structures when the disturbance exceeds 1.0 ac requires a detailed plan in order to conform to Federal NPDES Construction Site Stormwater discharge requirements.

If a site meets the Standard Plan criteria for agricultural structure construction, Conservation Districts have the ability to offer technical assistance to agricultural producers that are cooperators. A cooperator is a landowner that receives technical assistance from the Conservation District and agrees to implement BMPs recommended by the Conservation District. Conservation Districts can develop these plans for construction site stormwater management at a low cost to cover Conservation District expenses. All agricultural producers meeting Standard Plan criteria will have the opportunity to work with Conservation Districts for technical assistance in developing a plan. This assistance allows agricultural producers to comply at the lowest cost to the producer.

Individuals and small businesses constructing poultry houses may comply with the requirements through the Standard Plan for Poultry House Construction developed by the Department. This standard plan uses a conservative stormwater storage area sizing approach that is additive dependent upon the number of poultry house structures being developed. This standard plan does not preclude the need for a consultant to develop a plan but it does simplify the stormwater sizing and computations needed to be submitted for approval of the plan.

There are legal and consulting costs associated with developing the Sediment and Stormwater Plan for approval prior to construction. The legal and consulting costs are expected to remain and are not expected to be significantly affected by the proposed revisions.

The flexibility in design options offered in the proposed revisions makes some sites, including those that cannot meet the infiltration-based runoff reduction requirements and redevelopment projects, less expensive to develop under these regulations than under previous regulations. There are sites that may not be able to comply with runoff reduction requirements due to site conditions. Those sites are offered an option for construction of water quality features such as a wet pond having 48-hours of detention or an offset option for compliance.

Training

The Sediment and Stormwater Program will continue offering training for design professionals to aid in the understanding of the proposed revisions. The Sediment and Stormwater Program Staff has offered no-cost training to the regulated community for the last several years to lessen the costs to the private sector in learning about the Regulations. In 2015, the training was adjusted to provide more design examples. A summary of attendees follows:

Training	**Attendees**	**Contact Hours**
Level 1 (2013-14)	299	1,495
Level 2 (2014)	160	800
Level 3 (2014)	110	550
Designer Training (2015)	156	1,560
Total (2013-2015)	675	4,155

Construction

Existing Regulations and Proposed Revisions

Since each site is different, it is very difficult to derive typical construction costs for any given BMP. All regulations involve a cost for implementing the plan, including construction and maintenance costs. Those same construction and maintenance costs are expected to remain unchanged with the proposed revisions to the regulations. The proposed revisions continue the requirements for a CCR to be present during construction phase activities. The requirement for a third party CCR has changed under these proposed revisions. Therefore there may be a potential increase in cost to affected parties. However, these costs would be offset by better compliance and no additional measures. It is noted that a third party CCR is not needed for projects designed under the Standard Plan process.

Post construction stormwater goals for Standard Plan projects are met through implementation and maintenance of non-structural stormwater best management practices (BMPs) such as impervious disconnection, re-establishing vegetation following construction as filter strips, and in some cases constructing swales, rain gardens, and planting trees. Implementation of non-structural stormwater BMPs is not expected to add to the overall construction cost. There is an anticipated cost savings associated with fewer infrastructure elements as a result of disconnecting the runoff using these BMPs.

Implementation cost of Standard Plan elements will be from non-structural stormwater management BMPs such as impervious disconnection, re-establishing vegetation following construction, and in some cases constructing swales, rain gardens, and possibly planting trees. These types of low impact BMPs are less costly to construct and maintain than structural

measures such as ponds and pipes. Impervious disconnection and re-vegetation are BMPs that are implemented Standard Plan projects already without establishing a requirement.

Individuals acting as their own general contractor for single residential lot construction and meeting the Standard Plan criteria will not be required to construct stormwater management improvements on their lot beyond impervious disconnection. They will not be required to construct any on-lot controls that would not being required in a subdivision having an overall stormwater management plan. Therefore, competition in the marketplace is not affected.

Costs and Benefits

The University of Maryland Center for Environmental Science (UMCES) published (in draft final report) the document "Costs of Stormwater Management Practices in Maryland Counties" in October 2011. It includes construction cost estimates comprised of pre-construction costs (design, surveying, permitting, etc.) and construction costs but does not include land costs. The total cost as well as annualized costs (based on 20-year period) for some of the more common BMPs used in Delaware is shown below:

Stormwater BMP	**Initial Project Costs per Acre of Impervious Area Treated**	
	Total Costs	**Annualized Costs**
Wet Ponds and Wetlands (New)	$24,115	$1,621
Wet Ponds and Wetlands (Retrofit)	$63,998	$4,302
Dry Detention Ponds (New)	$39,000	$2,621
Dry Extended Detention Ponds (New)	$39,000	$2,621
Dry Extended Detention Ponds (Retrofit)	$67,500	$4,537
Infiltration Practices w/o Sand, Veg. (New)	$58,450	$3,929
Infiltration Practices w/ Sand, Veg. (New)	$61,250	$4,117
Filtering Practices (Sand, above ground)	$49,000	$3,294
Filtering Practices (Sand, below ground)	$56,000	$3,764
Urban Stream Restoration	$64,500	$4,335
Bioretention (New - Suburban)	$46,875	$3,151
Bioretention (Retrofit - Highly Urban)	$183,750	$12,351
Vegetated Open Channels	$24,000	$1,613
Bioswale (New)	$42,000	$2,823

The Existing Regulations required management of the Resource Protection Volume or RPv on site which necessitated the use of infiltrating BMPs, which could cost approximately $60,000 per impervious acre treated, or bioretention practices, which could cost about $47,000 per impervious acre treated. In instances where site conditions were not conducive to infiltration, offsets were the only option for owners or developers. The proposed revisions include the use of water quality BMPs to meet RPv requirements and broaden the offset options available. Therefore, project costs resulting from the existing Regulations are anticipated to be mitigated by the proposed revisions which allow the use of extended detention to meet RPv requirements.

A further literature search resulted in findings by various organizations which show, again in generalities, that green infrastructure approaches may be less expensive to construct than more traditional infrastructure and offer multiple benefits.

In the 2007 research document "Reducing Stormwater Costs through Low Impact Development (LID) Strategies and Practices", the Environmental Protection Agency (EPA) summarized 17 case studies of developments that includes LID practices and concluded that applying LID techniques can reduce project costs and improve environmental performance. It stated "in most cases, LID practices were shown to be both fiscally and environmentally beneficial to communities. In a few cases, LID project costs were higher than those for conventional stormwater management practices. However, in the vast majority of cases, significant savings were realized due to reduced costs for site grading and preparation, stormwater infrastructure, site paving, and landscaping. Total capital cost savings ranged from 15 to 80 percent when LID methods were used, with a few exceptions in which LID project costs were higher than conventional stormwater management costs."

Similarly, in the document "Forging the Link: Linking the Economic Benefits of Low Impact Development and Community Decisions", a consortium comprised of the Nonpoint Education for Municipal Officials (NEMO), Coastal Training Programs (CTP), Sea Grant Coastal Community Development Specialists, Cooperative Extension Agents, and National Estuary Program (NEP) Staffs coordinated by the University of New Hampshire (UNH) found "LID designs are also economically beneficial and more cost-effective as compared to conventional stormwater controls. LID is commonly misperceived as only adding expense to a project; however, this perspective fails to acknowledge the broader benefits that can be observed in terms of whole project costs for new construction, and in some instances, increased life-cycle benefits as well. By combining both gray (traditional) and a green (LID) approaches, the added expense of LID are offset by the reductions in other traditional practices such as curb and gutter or detention ponds."

Also, the National Association of Homebuilders offer a Powerpoint presentation entitled "Environmental Educational Module Series: Stormwater Regulation" dated August 2014. It noted that the use of Low Impact Development methods could reduce development costs by citing two examples:

> *Sherwood, Arkansas*: Gap Creek subdivision included 23.5 acres of open, buffered natural drainage areas and traffic-calming circles that allowed the developer to reduce street widths. The lots sold for $3,000 more and cost $4,800 less to develop than comparable conventional lots. The LID design required less land for stormwater control features, which allowed the developer to create and sell 17 additional lots.
>
> *Naperville, Illinois***:** Developers at the 55-acre Tellabs corporate campus preserved much of the site's natural drainage features and topography, reducing grading and earthwork costs. They used bioswales and other infiltration techniques in parking lots to manage stormwater. They maximized the amount of natural areas, eliminating the need for irrigation systems and lowering maintenance costs when compared to turf grass. Total LID project costs were $461,510 less than a conventional design would have been.

It is recognized that neither of these examples is close to Delaware. Therefore, the paper entitled "Pembroke Woods: Lessons Learned in the Design and Construction of an LID Subdivision" prepared by Ecosite, Inc, of Columbia, Maryland, is also being cited. Pembroke Woods is a ½ acre residential lot development located in northern Frederick County, Maryland, and was the first subdivision designed and constructed using the LID Design Manual developed by Prince George's County, Maryland. It was originally designed in the early 1990's as a ¼-acre lot conventional subdivision with 97 lots, two stormwater management ponds and closed section streets. Most of the wooded site would have been required to be cleared. When

redesigned as an LID subdivision, it exhibited and benefited from the win / win attributes of the LID process which include:

1. The use of LID allowed the site design to eliminate the use of two stormwater management ponds which had been envisioned in an earlier concept plan for the site which reduced infrastructure costs of roughly $200,000.
2. In place of the ponds, 2.5 acres of undisturbed open space and wetlands were preserved which resulted in a considerable savings in wetlands mitigation impacts.
3. The site plan gained two additional lots increasing the 43 acre site yield from 68 to 70 lots. This added roughly $90,000 in additional value to the project.
4. Extensive use of site fingerprinting technique, an elemental LID design feature, and a green building design feature, allowed the site design to preserve approximately 50% of the site in undisturbed wooded condition. This reduced the clearing and grubbing costs by $160,000.
5. The site fingerprinting process also substantially reduced the overall site grading costs, but this savings was not calculated.
6. Approximately 3000 linear feet of roads were converted from an urban road section to a rural road. This design feature replaced curb & gutter with grass bio- swales , a savings in construction costs of $60,000.

As cited previously, in September 2011, the Water Resources Agency at the University of Delaware (UDWRA) released the document "Economic Value of Stormwater in Delaware" in final draft form. It notes that three historic storms flooded Delaware in 2003 and 2004 causing $90 million in damages (Tropical Storm Henri, $46 million damages, Tropical Storm Isabel, $40 million damages, and Tropical Storm Jeanne, $4 million damages). These storms were one of the primary reasons for Governor Minner's Task Force. Citing the Water Environment Research Foundation, it further explained that green stormwater practices can provide the following benefits to Delaware:

- Higher property values (increased sales, higher sale/resale prices, shorter on-market time)
- Increased tax revenue
- Decreased flood damage that increases property values in the 100-year floodplain
- Public infrastructure cost savings through reduced size of stormwater pipes and culverts
- Reduced pollution and water treatment costs
- Improved water quality
- Increased tourism and recreation

The UDWRA study estimated the economic value of green stormwater management including water quality and flood control benefits in Delaware at approximately $1 billion a year.

Certified Construction Reviewer Reports

For those sites that require a third party Certified Construction Reviewer (CCR) to perform weekly reviews of the construction site and complete a report for the owner and approval agency, the weekly cost is approximately $500.00. The required reporting by CCRs on sites that require them has not changed. Furthermore, more projects now qualify for Standard Plans meaning that they do not require a CCR. Therefore, the cost of conducting CCR reporting on sites is not expected to change with the proposed revisions.

Maintenance

Similar to construction costs, maintenance costs, typically borne by an HOA or business owner, are equally difficult to estimate.

The UMCES study again offers a good starting point. It includes annual maintenance costs comprised of routine (grass cutting, debris removal, etc.) and intermittent (every three to five years) costs. These costs for some of the more common BMPs used in Delaware are provided below:

Stormwater BMP	Routine and Intermittent Maintenance Costs		
	Annual Routine Maintenance	Average Annual Intermittent Maintenance	Total Annual Maintenance Costs
Wet Ponds and Wetlands (New)	$371	$371	$742
Wet Ponds and Wetlands (Retrofit)	$371	$371	$742
Dry Detention Ponds (New)	$600	$600	$1,200
Dry Extended Detention Ponds (New)	$600	$600	$1,200
Dry Extended Detention Ponds (Retrofit)	$600	$600	$1,200
Infiltration Practices w/o Sand, Veg. (New)	$418	$418	$835
Infiltration Practices w/ Sand, Veg. (New)	$438	$438	$875
Filtering Practices (Sand, above ground)	$700	$700	$1,400
Filtering Practices (Sand, below ground)	$800	$800	$1,600
Urban Stream Restoration	$0	$860	$860
Bioretention (New - Suburban)	$750	$750	$1,500
Bioretention (Retrofit - Highly Urban)	$750	$750	$1,500
Vegetated Open Channels	$400	$200	$600
Bioswale (New)	$600	$300	$900

Thus, the HOA associated with a subdivision having five bioswales, for example, could be anticipated to incur costs on the order of $4,500 annually (5 x $900). These costs would likely be divided by the number of homes in the subdivision.

In March, 2014, Kent County, in conjunction with the Kent Conservation District, established the Kent County Stormwater Maintenance District, a Countywide but noncontiguous district that enables it to maintain privately-owned BMPs for a fee. The County performed an analysis of existing BMPs and the number of homes in those subdivisions and found the cost per lot to perform maintenance varies significantly. The County chose to establish a single fee throughout the County and determined that $28 per lot per year would be sufficient. The District is still in its initial stage but initial indications are that the fee should be adequate. Over 39 subdivisions have either joined the District or are in process.

For comparison, New Castle County personnel have performed a similar exercise but based its assessment on a sampling of about two dozen communities with a variety of BMPs, numbers of lots, and lot sizes. Based on this exercise, New Castle County believes a maintenance cost of $140 per lot per year or more may be more appropriate, but found, as did Kent County, a wide inconsistency in costs. It should be noted that New Castle County's estimated fee does not account for major sediment removal or structural repairs as these tasks are already budgeted for and provided through the County's "stormwater amnesty program" for residential communities that register annually and remain in good standing. Also, New Castle County's estimated fee

includes costs for services not included in the Kent County fee including grass cutting, invasive and algae control, vegetation management and soil amendments.

Both the Kent County and New Castle County efforts are the result of HOAs seeking public funds for maintenance activities. As development continues and redevelopment occurs, there will likely be added pressure on elected officials to find funds to partially offset or wholly fund these maintenance costs.

(6) A description of any less intrusive or less costly alternative methods of achieving the purpose of the proposed regulation, to the extent such methods are not otherwise described herein.

Under the Federal Clean Water Act, the State of Delaware is required to meet water quality goals. The Delaware Sediment and Stormwater Regulations are in place to help the state meet water quality improvement initiatives from developing urban lands. Failure to implement or enforce the state regulations could lead to increased enforcement by EPA for the same projects.

Setting lesser standards for one or more groups, as has been done for the following, may lead to other regulated groups requesting lesser standards:

- Homebuilders in the case of residential construction,
- Developers of non-residential construction of less than an acre disturbance and demolition,
- Utility companies having minor linear disturbances,
- Farmers with agricultural structure construction,
- Tax ditch managers with tax ditch maintenance,
- Homeowners associations and owners with stormwater facility maintenance, and BMP construction and retrofit,
- DelDOT and Drainage Program with minor bridge and culvert construction, and
- DelDOT and Division of Parks and Recreation with sidewalk, trail or other linear impervious surfaces.

All requests for lesser standards are expected to require evaluations by staff. The expected cost to the state would be in the staff time to review, and possibly in a loss of ground in achieving water quality goals.

The result of exempting or setting lesser standards of compliance for individuals or small businesses is expected to be an impact to stormwater water quantity and quality. The size of the business does not necessarily correlate to the impact from stormwater runoff both during and following construction. Exempting projects or setting lesser standards for managing water quantity can compound to an increase in flooding. Likewise, lesser requirements or exemptions from water quality management can have an adverse effect on our water resources. That can lead to increased drinking water treatment costs or have a detrimental effect on tourism dollars.

Standard Plan criteria have been developed for certain categories of projects, which may apply to individuals and small businesses. As long as those sites meet the criteria established, a design professional will not be required to develop a detailed plan, resulting in a consulting cost savings as well as a time savings. Non-structural stormwater BMPs can be established on the site and ponds or other structural BMPs will not need to be constructed on the site resulting in construction cost savings and future maintenance cost savings. Finally, a CCR will not be required for Standard Plan projects, resulting in a construction review cost savings.

Within the proposed revisions, alternative compliance options offer the regulated community flexibility in the way that they may comply with the Delaware Sediment and Stormwater Regulations. The proposed revisions include the minimum required elements for stormwater BMPs and the Post Construction Stormwater BMP Standards and Specifications provides both those required elements and technical guidance to design professionals in designing those BMPs.

Optional ***Estimate the amount of agency, board, or commission staff hours it took to prepare this RFA and RIS statement.***

This document took approximately twenty hours to prepare.

Optional ***Agencies are encouraged to list trade or industry groups, small businesses, or other stakeholders such as currently regulated parties that were consulted by the agency, board, or commission in preparing this RFA and RIS. The agency, board, or commission is further encouraged to send them a copy of the RFA and RIS upon completion.***

The RAC included representatives from the following groups or organizations:

- Delaware Association of Surveyors
- Water Infrastructure Advisory Council
- Delaware Contractors' Association
- Board of Landscape Architecture
- Department of Justice
- DelDOT
- New Castle County
- Office of State Planning Coordination
- David G. Horsey & Sons
- American Council of Engineering Companies – Delaware
- Secretary Designee – Land Development Consultant
- Kent County
- Delaware League of Local Governments
- Delaware Association of Realtors
- Sussex County
- Committee of 100
- DNREC Secretary's Office
- Homebuilders Association of Delaware
- Secretary Designee – Land Developer
- Delaware Nature Society
- Delaware Association of Conservation Districts

Additionally, each of the subcommittees has had numerous interested parties attending all meetings. All attendees were afforded the opportunity to not only comment but to be active participants in the conversations and deliberations.