
Summary Final Report

Delaware Stormwater Program Review

U.S. Environmental Protection Agency
Region III
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List of Abbreviations and Acronyms

Abbreviation or Acronym	Corresponding Term
BMP	best management practice
CCR	certified construction reviewer
C&D Canal	Chesapeake and Delaware Canal
CWA	Clean Water Act
CERG	Compliance and Enforcement Response Guide
CDs	conservation districts
DEN	Delaware Environmental Navigator Database
DNREC	Department of Natural Resources and Environmental Control
DeIDOT	Delaware Department of Transportation
DW	Division of Water
DWS	Division of Watershed Stewardship
EPA	[United States] Environmental Protection Agency
ESC	erosion and sediment control
FY	fiscal year
FTE	full-time equivalent
GPS	global positioning system
IDDE	illicit discharge detection and elimination
KCD	Kent Conservation District
LA	load allocation
MEP	maximum extent practicable
MCMs	Minimum Control Measures
MS4	municipal separate storm sewer system
NPDES	National Pollutant Discharge Elimination System
NCCD	New Castle Conservation District
NCC	New Castle County
NCC DLU	New Castle County Department of Land Use
NCC SS	New Castle County Special Services
NOI	notice of intent

List of Abbreviations and Acronyms

Abbreviation or Acronym	Corresponding Term
NOT	notice of termination
NOV	notice of violation
PQRs	permit quality reviews
PE	Professional Engineer
SSMP	sediment and stormwater management plan
SRF	state review framework
SWMP	stormwater management plan
SWP	Stormwater Plan
SWPP&MP	Stormwater Pollution Prevention and Management Program
SWPPP	Stormwater Pollution Prevention Plan
SWDS	[DNREC, Division of Water] Surface Water Discharges Section
SCD	Sussex Conservation District
TMDL	total maximum daily load
TSS	total suspended solids
WLA	waste load allocation

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1. Executive Summary

The U.S. Environmental Protection Agency (EPA) Region III, with assistance from PG Environmental, LLC (PG), conducted a review of the Delaware Department of Natural Resources and Environmental Control's (DNREC) construction, municipal separate storm sewer system (MS4), and industrial stormwater programs on November 5, 2012 and November 7–9, 2012.

The team found several positive attributes about Delaware's stormwater programs. Chief among the attributes is that staff value the purposes of the programs they administer and are largely seasoned employees. Further, they make significant efforts to develop and maintain positive relationships with partner organizations such as delegated agencies. Given the geographic size and population densities in the state, DNREC personnel are able to effectively perform their oversight functions and show a presence in the field.

DNREC is currently working to update its state sediment and stormwater regulations to incorporate new requirements, a job that has been seven years in the making. The new regulations will be more robust and at the forefront of national efforts to reduce runoff for annualized storm events at the 95th percentile. DNREC has sought input from a broad community to build on lessons learned and capture state-of-the-art practices in revising its regulations.

Staff of DNREC's stormwater programs have developed data management systems that are creating program efficiencies. The programs also allow for electronic submission of Notices of Intent (NOIs) and electronic communications between the state and the regulated community. As a result, the databases are becoming repositories for key permitting and enforcement data, which minimizes file room requirements and the chances for misplaced or lost data.

Delaware's regulatory requirements for contractor certification and certified construction reviewers (CCRs) are extremely effective approaches for educating regulated parties of their requirements and informing them of state-of-art compliance methods. The programs also create consistency in how DNREC implements its sediment and stormwater program. Additionally, the training programs that support the above noted certifications are exemplary in content. The 3 ½ day CCR training program especially receives accolades from stormwater experts and practitioners both inside and outside the state.

In addition to the many virtues of Delaware's stormwater programs, the review team also recognized a few limitations. The most significant concern is that DNREC is authorizing coverage under the administratively extended construction stormwater and industrial stormwater general permits. The CWA regulations and associated policy do not authorize such actions. (DNREC promulgated final revised sediment and stormwater regulations/general permit on July 18, 2013, with an effective date of January 1, 2014. Final updates to the industrial stormwater regulations/permit are not expected until the end of the state's fiscal year (FY) 2015.¹

¹ Unless otherwise noted, use of the term "fiscal year" throughout this report refers to Delaware's fiscal year, which is July 1 to June 30.

Most of DNREC's MS4 permits are the original permits developed in the 1990s. DNREC is currently updating one of the Phase I permits and plans to use that as a template for updating the Phase II permits. The review team would prefer to see some of this work occurring simultaneously, given the length of time it takes to develop the permits. (Subsequent to the onsite review, DNREC issued the revised Phase I permit on May 7, 2013 and has drafted a revised Phase II MS4 general permit.)

All programs, particularly the three conservation districts (CDs), report that they are significantly short on funding. This means many of them are stretched thin on staff and cannot perform functions as well as they would like. Additionally, the lack of funding means that CDs' personnel are unable to participate in training and conference opportunities.

2. Purpose of Review and Approach

In this section of the report, the review team briefly summarizes the purpose of the state program review and the approach followed.

2.1 Purpose of EPA's Review

EPA conducts periodic reviews of state programs as part of its oversight responsibilities under the Clean Water Act (CWA) (33 U.S.C. § 1251 et seq.). The Agency assesses the enforcement aspects of a state's CWA program under a process called the State Review Framework (SRF). It evaluates the technical and administrative aspects of the National Pollutant Discharge Elimination System (NPDES) program via periodic permit quality reviews (PQRs). These reviews tie into EPA's assessment of work plans submitted by states in order to receive annual CWA section 106 grant funding (subject to congressional appropriations). In general, stormwater is not a significantly featured element of SRF reviews or PQRs. EPA Region III aims to reverse this trend by more fully integrating stormwater into its review processes over time. Toward that end, the region has initiated reviews of stormwater programs in each of its states. The region performed reviews in Pennsylvania and Virginia in 2011, in Maryland and Delaware in 2012, and in West Virginia in early 2013. This report describes the observations associated with the recent DNREC review.

2.2 Review Approach

Members of the program review team included the following:

- **EPA Region III Review Team Members:** Andy Dinsmore, Liz Ottinger, Ingrid Hopkins, and Kaitlin McCann
- **PG Review Team Members:** Jan McGoldrick and Brittany Hale

In advance of the onsite review, the team forwarded DNREC a copy of the questionnaire / checklist it would be using onsite (Appendix A). The team did not request that DNREC staff complete the questionnaire prior to the onsite meetings as it did in Pennsylvania, Virginia, and Maryland. The thought with the former reviews was that review team members would be better able to prepare and likely reduce onsite review time if they had responses to questions in advance. Existing workloads, however, made it difficult for the states to provide responses quickly enough for review team members to make use of the information. The team therefore changed course in Delaware. As an alternative, the review team members developed a document request list (Appendix B), which identified basic items the team needed in advance versus what it would need onsite. Also in advance, the review team gathered information pertaining to questionnaire items from DNREC's Web site and the Department's completed 2008 NPDES Permitting Authority Questionnaire (USEPA 2008). The goal of these efforts was to reduce state time in preparing for the review.

Review team members met with program staff of DNREC on November 5, 2012 and November 7–9, 2012. The team met with staff of the New Castle County Department of Land Use (NCC DLU), the New Castle County Special Services (NCC SS), the City of Newark, and the New Castle Conservation District (NCCD) on November 7, 2012. The team met with the staff of the

Sussex Conservation District (SCD) on November 8, 2012 and the staff of the Kent Conservation District (KCD) on November 9, 2012. Appendix C provides lists of review team members, DNREC staff, and CD staff who participated in each day of the review.

In general, the evaluation of operations at DNREC consisted of two parts: an interview of stormwater program staff and a brief review of stormwater program files, including general permits, permittee inventories (universe lists), and compliance and enforcement documents. An objective of the file review was to determine whether DNREC is properly issuing permits, conducting compliance inspections and other reviews, performing enforcement duties where required and documenting activities based on the state's stormwater program regulations and standard NPDES program procedures. The remainder of this report provides details from the interviews and file reviews.

3. Items Applicable to Delaware's Three Stormwater Programs

In this section of the document, the review team briefly summarizes background material pertinent to DNREC's stormwater programs. Issues pertinent to individual stormwater programs are highlighted in Sections 4–6.

3.1 Federal and State Authorities

EPA authorized Delaware to administer the CWA's NPDES program in 1974. It further authorized Delaware to administer an NPDES general permits program in 1992. As previously noted, DNREC is the agency currently responsible for implementation of the NPDES program in Delaware. DNREC's office is located in Dover; it does not have regional offices.

The current federal stormwater requirements were framed by amendments to the CWA in 1987 (Water Quality Act of 1987 [P.L. 100-4]). The amendments allowed for different conceptual classifications of stormwater discharges and various permit mechanisms for regulating them (Franzetti, N.D.). In 1990 and 1999, EPA issued regulations in response to the 1987 amendments (55 FR 47990, November 16, 1990) and (64 FR 68843, December 8, 1999). Those rulemakings are referred to as EPA's Phase I and II stormwater rules, respectively. In general, the Phase I rule requires permits for MS4s for medium and large communities (those with populations greater than 100,000), departments of transportation serving those communities, construction sites with land disturbance of five acres or more, and industries in 10 industrial categories. In general, the Phase II rule requires stormwater controls for smaller MS4s, smaller construction sites (1-5 acres), and other industries discharging stormwater (Franzetti, N.D.). Water quality professionals typically refer to the federal stormwater regulations based on the category of dischargers affected: (1) construction-related entities, (2) MS4s, and (3) industries. EPA Region III has organized its review of state stormwater programs and this report accordingly.

In general, Delaware's authorities for administering the CWA stormwater programs and the state's sediment and erosion control law are contained in Title 7, Chapters 40 and 60 of the Delaware Code (7 Del.C. Ch.40 and Ch.60). Delaware's sediment and stormwater regulations were enacted in 1991.

3.2 Organizational Structure

DNREC is divided into three offices: Office of the Secretary, Office of Environmental Protection, and Office of Natural Resources. The Division of Water (DW), located within the Office of Environmental Protection, and the Division of Watershed Stewardship (DWS), located within the Office of Natural Resources, are the entities most involved in the stormwater program management and permitting processes. See Appendix D for DNREC organizational charts.

DW administers most of the state's water quality programs, including those for surface water, groundwater, drinking water, wetlands and subaqueous lands, and laboratory certification. The division administers the state's NPDES program. The division's Surface Water Discharges Section (SDWS) issues permits for stormwater discharge (industrial and MS4), as well as industrial and municipal wastewater treatment system discharges into surface waters of the state. In addition, SDWS issues NPDES permits for aquatic pesticide application, NPDES permits for concentrated animal feeding operations, permits for wastewater facility construction, and permits

for biosolid/sludge management activities. SDWS also performs all compliance, inspection, and enforcement activities relative to the permits it has issued.²

DWS is responsible for promoting coastal, urban, and agricultural land use practices that protect water quality and public health. Its CWA activities include development of water quality standards, section 305(b) watershed assessment reports, section 303(d) lists (i.e., lists of impaired waters), and total maximum daily loads (TMDLs).³ The division also assesses/monitors wetlands, develops best management practices (BMPs) to restore streams and wetlands, and administers the state’s CWA nonpoint-source pollution program. Through its Drainage and Stormwater Section, the division administers the state’s sediment and stormwater management program. Specifically, the state and its delegates review and approve stormwater management engineering plans, inspect sediment control operations during construction, inspect permanent stormwater facilities once construction is completed, provide guidance, training, and education on stormwater management and control techniques (DNREC 2013b).

3.3 Program Resources

Table 3–1 shows Delaware’s annual NPDES and stormwater operating budgets for state FYs 2005–2010 as reported by DNREC in response to EPA’s 2008 NPDES Permitting Authority Questionnaire.⁴ DNREC’s NPDES operating budget increased each year except in 2007 and 2010 where it decreased by 8 and 39.5 percent, respectively. Although the stormwater operating budget increased modestly the other three years between 2005 and 2009, it likely experienced a considerable decrease in 2010 given the decrease in the NPDES operating budget. In fact, the FY 2010 NPDES operating budget was lower than the stormwater program operating budget in any of the fiscal years for which it was shown.

Table 3–1. Delaware’s Annual NPDES and Stormwater Operating Budgets FYs 2005–2010

	Operating Budgets FYs 2005–2010 (stormwater budget as percent of NPDES budget)					
	2005	2006	2007	2008	2009	2010
NPDES Budget	\$1,045,400	\$1,102,800	\$1,020,500	\$1,101,700	\$1,129,100	\$683,106
Stormwater Operating Budget (construction,* municipal, and industrial)	\$689,833 (66%)	\$713,117 (65%)	\$725,567 (71%)	\$752,125 (69%)	\$775,008 (69%)	Not provided

*Ten percent of the construction stormwater operating budget is derived through permit fees.
Source: USEPA 2008.

² Subsequent to the onsite review, SDWS has reorganized. A copy of the revised organization chart is located at the end of Appendix D.

³ CWA section 305(b) requires approved NPDES states to prepare biennial reports reporting on the health of all waters of the state. Historically, states used these reports to prepare their biennial CWA section 303(d) lists of impaired waters. Now these two reporting processes are integrated. The CWA also requires approved NPDES states to develop TMDLs for impaired waters, thereby establishing a “pollutant budget” for impaired waterways.

⁴ DW and DWS sections have their own operating budgets. It is time consuming to parse the stormwater-specific data and then aggregate it across sections/divisions to produce the numbers shown in Table 3–1. The review team, therefore, did not require DNREC to produce Table 3–1 data for state FYs 2010 and 2011.

Table 3–2 shows the program areas to which DNREC allocated its FY 2009 stormwater operating budget, and Table 3–3 shows the average number of full time equivalents (FTEs) per stormwater program area for the same time period.

Table 3–2. Allocation of DNREC’s FY 2009 Stormwater Operating Budget by Program Area

Activity	Allocation of Budget by Program Activity	Proportion of Total Budget Allocated
Management/administration	\$116,251.20	15%
Regulation/rule/policy development	\$141,950.40	18%
Permitting	\$185,051.20	24%
Construction site inspections/enforcement	\$240,800.00	31%
Industrial site inspections/enforcement	\$26,102.40	3%
MS4 inspections/enforcements/audits	\$13,051.40	2%
Outreach	\$51,801.60	7%
Total	\$775,008.20*	100%

*DNREC’s FY 2010 NPDES budget was reduced 39.5 percent from FY 2009 levels (Table 3–1). Stormwater operating budgets were impacted accordingly.

Source: USEPA 2008.

Table 3–3. DNREC Average FTEs by Stormwater Program Area, FYs 2005–2009

Program Activity	Average No. FTEs	Percent of Total
Management/administration	1.65	23.6%
Regulation/rule/policy development	1.55	22.1%
Permitting	1.25	17.9%
Construction site inspections and enforcement	1.75	25.0%
Industrial site inspections/enforcement	0.25	3.6%
MS4 inspections/enforcement/audits	0.10	1.4%
State and federal construction plan reviews	0.45	6.4%
Total	7*	100%

*DNREC’s FY 2010 NPDES budget was reduced 39.5 percent from FY 2009 levels (Table 3–1). Stormwater operating budgets were impacted accordingly.

Source: USEPA 2008.

During FYs 2005–2009, DNREC allocated, on average, the majority of its stormwater operating budget to its sediment and construction program (31 percent of budget and 31.4 percent of FTEs), followed by permitting activities (24 percent of budget and 17.9 percent of FTEs), regulation and policy development (18 percent of budget and 22.1 percent of FTEs), and program management/administration (23.6 percent of budget and 23.6 percent of FTEs). On average for the five-year period, DNREC spent 3 percent and 2 percent of its annual budget on industrial and MS4 inspections/enforcement/audits, respectively. During the recent review, DW and DWS staff said that in spite of the 39.5 percent decrease in the state’s overall NPDES budget in FY 2010, DNREC was able to add an additional FTE to support more frequent inspections of industrial stormwater permittees located in the Chesapeake Bay Watershed.

3.4 Data Systems Used to Support Delaware's Stormwater Programs

DNREC's stormwater programs each use various databases to track permittees and compliance with program requirements. Some of these systems are built on the framework of the Department's Environmental Navigator (DEN) database; they are separate tables within the system. DNREC defines DEN as "a dynamic database...that brings together core environmental information into one place where it is easily accessible to those within DNREC and the public." (DNREC 2013c) DEN contains information on permittees, such as applicable programs, inspections, violations, and enforcement actions. DW also uses a Microsoft Access database to track NPDES permitting and inspection data. Further details regarding these systems are discussed in sections 4–6 of this report.

3.5 Compliance and Enforcement Procedures and Tools

DNREC's principles, policies and procedures for compliance and enforcement activities are specified in a department-wide document called the Compliance Enforcement Response Guide (CERG). The purpose of the CERG is "to enhance the fairness, consistency, predictability, deterrence value and efficiency of the DNREC enforcement process." (DNREC 2002) The document contains chapters on policy considerations; the department's approach to compliance assurance, inspections, and information requests; determining the appropriate response to violations; general enforcement procedures; classification of priority cases; administrative and civil penalty calculations; environmental improvement projects associated with enforcement actions; and administrative proceedings.

DNREC enforcement philosophy is this: "Appropriate enforcement action means that the mechanism used by DNREC to achieve compliance is proportional to the alleged violation, reflective of the facility's compliance history, and protective of human health and the environment. In addition, an appropriate enforcement action, which may include a civil penalty and recovery of economic benefit, sends a message of deterrence to the regulated community." (DNREC 2002)

Like other states, DNREC aims to minimize opportunities for compliance problems by providing adequate outreach and education. Additionally, it aims to resolve violations that do not pose a significant threat to the environment through informal activities such as warning letters, meetings, and telephone communications. However, when the violations pose a risk to public health or a significant threat to the environment, DNREC engages in more formal enforcement activities, such as those summarized Table 3–4.

Table 3–4. DNREC Enforcement Tools

Tools	
Informal Enforcement	
Deficiency or Warning Letters	Telephone Communications
Notices of Violation	Letters of Agreement
Post-inspection Conferences	Other Informal Meetings
Formal Enforcement	
Notices of Conciliation	Administrative Orders
Consent Orders	Formal Hearings
Settlement Agreements	Cease and Desist Order Proceedings
Civil and Criminal Suits	Judicial Decrees

Source: DNREC 2002.

A copy of DNREC’s CERG is provided in Appendix E.

3.6 File Review

The review team examined a random sample of general and individual permit files as well as compliance and enforcement files for all three stormwater programs. The review team found the files to be, in general, complete, well organized, and easily accessible.

3.7 Training, Outreach, and Education

Staff in each of Delaware’s stormwater programs receive training, although some expressed the desire for more time to participate. This problem is likely a capacity issue. DWS staff and representatives of the delegated agencies conduct the state’s CCR training program. DWS staff members prepare and deliver the majority of the course. Team members have received positive feedback on this program from stormwater practitioners both inside and outside of Delaware.

DW and DWS provide education and outreach services to their respective regulated communities and the general public via the materials developed and placed on their Web sites and through the inspection process (by providing technical assistance). DWS also provides the CCR training mentioned above in addition to quarterly Blue Card training for construction contractors.

4. Observations and Recommendations—Construction Stormwater Program

This section of the report contains the review team’s observations of Delaware’s construction stormwater program (also referred to as Delaware’s sediment and stormwater management program). Where appropriate, recommendations are also provided.

4.1 Program Background and Delegation

DNREC is responsible for administering the state’s sediment and stormwater management program (7 Del.C. Ch.40 and DNREC, Reg. No. 5101). CDs, counties, municipalities, and state agencies may seek delegation of up to four program elements within their geographic boundaries: (1) stormwater management plan approval, (2) inspections during construction, (3) post-construction inspections, and (4) education and training. Table 4–1 identifies the agencies with delegated authority and their respective coverage areas, program FTEs, and sources of program income.

Table 4–1. Delegated Sediment and Stormwater Management Agencies in Delaware

DNREC, Division of Watershed Stewardship, Sediment and Stormwater Program
<i>Administration of all aspects of state program. Plan review and inspection of state and federal projects statewide</i>
DeIDOT*
<i>DeIDOT rights-of-way statewide</i>
Kent County
<i>Kent Conservation District—Private and local government projects in Kent County. The majority of the CD’s stormwater budget comes from fees charged for review of plans, construction inspections, and maintenance inspections. Some additional discretionary funding is provided by the County to work on drainage issues.</i>
New Castle County
Unincorporated Areas
Department of Land Use (NCC DLU)
<i>Plan review and approval and construction review for private and local government</i>
Department of Special Services (DSS)
<i>Maintenance review for private and local government projects. The CD is funded through a fee schedule, which includes a long-term stormwater maintenance fee for new developments.</i>
Incorporated Areas
New Castle Conservation District (NCCD)
<i>Private and local government projects in all of Arden, Ardencroft, Ardentown, Bellefonte, Delaware City, Elsmere, New Castle, Newport, Odessa, and Townsend.</i>
City of Newark
<i>Private and local government projects in the City of Newark</i>
City of Wilmington
<i>Private and local government projects in the City of Wilmington</i>
Town of Middletown
<i>Private and local government projects in Town of Middletown</i>
Sussex County
Sussex Conservation District
<i>Private and local government projects in Sussex County. The CD covers its plan review, inspection, and maintenance activities, in part, through a fee program; it is currently reviewing a proposal to raise its fees. The annual budget is generally allocated as follows: 35 percent for plan review, 45 percent for inspections, 15 percent for maintenance, and 5 percent for program management and administration.</i>

*DeIDOT = Delaware Department of Transportation

Source: DNREC 2013d.

DWS staff said the local agencies have been delegated authority for program elements 1–3. DNREC addresses the training and outreach component through its Blue Card CCR training. These programs are discussed in section 4.7. Delegated entities are therefore responsible for maintaining their own data systems; reviewing sediment and stormwater management plans (SSMPs); and performing active and post-construction inspections. DNREC maintains the list of active and inactive permittees and is responsible for enforcement activities under state law. Delegated agencies, however, can initiate enforcement actions relative to their own ordinances.

DNREC authorizes delegation for periods up to three years. Local agencies must reapply for delegation on a triennial basis. Local agencies must have standards that are as stringent as those of the state. They must submit their applications on or before January 1 of the year immediately preceding the fiscal year for which delegation or renewal of delegation is sought. All initial delegation determinations are subject to public review and comment. Section 4.8 discusses DNREC’s oversight activities with respect to delegated authorities.

Delaware’s sediment and stormwater management law authorizes local jurisdictions to charge fees to cover program costs if the entities do not already receive state general or local revenues for such purposes. A local jurisdiction may create a stormwater utility via ordinance and, in turn, sub-delegate some program elements to it. Finally, by statute, DNREC may assess a plan review and inspection fee that does not exceed \$80 per disturbed acre per project. As noted in section 3.3, approximately 10 percent of DNREC’s operating budget for the construction stormwater program is derived through fees.

Observation/Recommendation: 4-1. The effectiveness of a CD-delegated program can be hampered if the local governmental authorities with whom the CD must work do not have similar stormwater management philosophies. Lack of political will and support can impede the CD’s ability to enforce requirements on developers/permittees. Perhaps DNREC could encourage state legislators to reach out to local officials and sway viewpoints in this area.

Since early 2007, DNREC has been in the process of revising its sediment and stormwater regulations. The department proposed initial changes in February 2012; held a public hearing on the modifications in March 2012; and met with stakeholders to address comments and concerns thereafter. DNREC published revised regulations with supporting documentation in April 2013. The Department held a public hearing on the proposal on April 23. DNREC took public comments on the proposal up to May 8, 2013 (DNREC 2013f). (On July 8, 2013, DNREC issued final regulations with an effective date of January 1, 2014.⁵ The discussion section of the final rule indicates that DNREC has extended the time to obtain plan approval from 12 months to 18 months. It also has changed the compliance criteria for redevelopment to 30 percent reduction in effective imperviousness from the proposed 50 percent reduction. The regulations streamline the plan review process and include current BMPs as recognized by experts in the environmental community. Finally, DNREC prepared a Technical Guidance Document to support and explain the regulation.) The review team’s discussion of DNREC’s regulations generally pertains to the previous regulations unless otherwise noted.

⁵ <http://regulations.delaware.gov/register/august2013/final/17%20DE%20Reg%20240%2008-01-13.htm>.

4.2 Facility Universe

Delaware’s sediment and stormwater management requirements are pertinent to residential, commercial, industrial, or institutional projects that will disturb 5,000 square feet of land or more. In general, agricultural land management practices and emergency projects are exempt from the requirements. Responsible parties are required to submit SSMPs,⁶ or an application for a waiver, to the appropriate plan review authority. They are also required to submit a *Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity Under a NPDES General Permit*⁷ to DNREC. In general, Delaware does not issue individual NPDES permits for construction stormwater discharges. However, if an entity already has an NPDES permit for its wastewater or other discharges, DNREC can modify the individual permit to cover stormwater discharges associated with construction activities. An applicant can also request coverage under an individual permit rather than the general permit. DNREC and its delegates generally identify non-filers via complaints or reports from other local government or state field personnel.

As of the date of the review, Delaware had approximately 2,799 active NOIs. Table 4–2 provides the breakout of the NOIs by delegated agency. The numbers were derived by counting active projects in DNREC’s online NOI database (DNREC 2013e). It is possible that some of the projects counted have been actually completed but have not yet filed a Notice of Termination (NOT). A DWS manager noted during the recent review that the number of NOIs received has decreased in recent years as the national economy and state economy has worsened. The statement was confirmed by representatives of the delegated agencies with whom the review team met. For example, NCCD staff said they had not had a new construction project in approximately four years due to the economic downturn.

Table 4–2. Number of Active NOIs

Agency	NOIs
DNREC	279*
DelDOT	72
KCD	617
NCCD	26
NCC DLU	609
SCD	1,043
City of Newark	75
City of Wilmington	35
Town of Middletown	43
Total	2,799

*DNREC NOIs by County: Kent=73, New Castle=133, and Sussex=73.

Source: DNREC 2013e.

⁶ An SSMP is Delaware’s version of what some other states call a Stormwater Pollution Prevention Plan (or SWPPP). DNREC has developed a Standard Plan that smaller projects can use in lieu of developing a SSMP.

⁷ DNREC “permits by regulation.” That is, its general permit is contained in the regulation. Those covered are issued a letter notifying them of their coverage and pointing them to the specific regulations.

4.3 Permitting Activities

The permitting process begins when the owner/developer or homebuilder (whoever will have operational control) submits an SSMP, or a separate waiver application, to the appropriate plan approval agency and submits an NOI with the applicable fee (\$195) to DNREC. Delaware's regulations note that, "The approved sediment and stormwater management plan shall serve as the basis for water quantity and water quality control on all subsequent construction." Section 4.4 discusses the content of plans and the plan review process. The general permit itself requires full implementation of the SSMP, requirements for keeping the plan current, and consequences for failing to prepare or amend a plan.

DNREC makes its NOI and its other sediment and stormwater materials available electronically at <http://www.dnrec.delaware.gov/swc/Pages/SedimentStormwater.aspx>. DNREC's current general permit⁸ was last amended on February 11, 2006 and was administratively extended in 2011. DWS personnel reported that the general permit will likely be revised after the regulatory revision process is completed. If changes to the permit are significant, DNREC might require currently active projects to re-sign an NOI.

Observation 4-2. The review team found the Sediment and Stormwater Management Program Web page to be user-friendly and to contain the guidance and forms necessary to aid general permit applicants. The team also recognizes DWS's efforts to create program efficiencies by enabling NOIs to be submitted and maintained electronically. DWS has also shifted to electronic correspondence with permittees, thereby enhancing its record retention capabilities.

Observation 4-3. DNREC is encouraged to revise its general permit/regulations as soon as possible. The CWA limits the length of NPDES permits to five years. While it is acceptable to administratively extend a permit for existing covered entities, it is not acceptable to authorize coverage to new individuals. (DNREC DWS has promulgated final revised regulations/general permit on July 18, 2013, with an effective date of January 1, 2014.)

The general permit states that the effective coverage date for a specific project is when DNREC receives the associated NOI. The coverage is terminated when the appropriate plan approval agency receives a completed NOT and determines that: (1) all items and conditions of the approved SSMP have been satisfied, (2) as-built documentation verifies that the permanent stormwater management measures have been constructed in accordance with the approved SSMP, and (3) final stabilization at the site has been achieved. Before approving an NOT on private and local government projects, DNREC contacts the appropriate delegated agency to ensure that the owner has met the above-mentioned NOT requirements.

General permit criteria include the requirement to (1) develop and implement an approved SSMP, (2) have a Blue Card holder onsite at all times, (3) have a CCR if the project is in excess of 50 acres or is otherwise required to have one by the plan approval agency, (4) perform weekly

⁸ DNREC's general permit includes two parts: Part One is oriented toward industries with stormwater discharges, while Part Two is focused on discharges associated with construction activity.

self-inspections (or have the CCR perform), (5) maintain a weekly monitoring log, (6) notify the appropriate inspection agency of the stages of construction as outlined on the approved SSMP, (7) make the site available for inspection, and (8) maintain the site in accordance with the approved SSMP. A plan approval agency can impose more restrictive conditions upon a general permit approval. Those requirements, however, are subject to public review and comment and, finally, DNREC review and approval.

DNREC allows copermittees on the general permit at no additional charge; however, the original NOI holder has the burden to bring them forward (by completing a Copermittee Application Form). Delaware's regulations do not allow for any project to be closed out until all construction is completed. If the project is a large subdivision, the original developer's work can end before all lots are completed. Developers often want to close out (i.e., submit an NOT) and leave remaining responsibilities to copermittees. Given that the regulations do not allow for this, some developers simply disappear from projects sites. This leaves the project open because an NOT has not been filed. It can be time consuming for DNREC or its delegates to contact developers and cajole them into completing an NOT once they have left a site.

Observation/Recommendation 4-4. A possible solution to the above problem might be to impose an annual fee on the original permit holder until such time that the project is completed and the NOT is submitted. Other states have had better luck getting NOTs submitted once they initiated annual fees. The review team further supports DWS's plan to include NOT requirements in the approval letters to better ensure reading by the developer. DWS also said they would continue covering NOT requirements during pre-construction meetings.

DNREC requires the original developer to be the permittee. Subsequent owners must be copermittees and could include homebuilders, individual lot owners, and individual pad developers. Both the original owner and any subsequent owners must sign an agreement regarding long-term maintenance of stormwater controls on the site. DNREC does not collect or see those agreements, however. This can pose a problem if the original permit holder has disappeared.

Observation/Recommendation 4-5. The review team suggests that DWS require submission of the signed agreement along with the copermittee application form. DNREC could possibly scan the agreement and link it to the permittee's file.

Unlike the original permit holder, copermittees can terminate their coverage on a project once they have completed the work they were designated to do (e.g., completed xyz lots). Instead of filing an NOT, they complete a Notice of Termination of Shared Operational Control form, which is available on the DWS Web site.

A Transfer of Authorization form, which is available on the DWS Web site, must be completed when control for a project or property is transferred. An example of a transfer of control is when the original landowner transfers all control of a project to another person, such as a lessee or general contractor. An example of a transfer of property is when the original landowner gets a SSMP approved and sells the whole project to a developer.

4.4 Plan Review Activities

As noted previously, the permitting and plan review process begins with the submission of an SSMP (or standard plan) to the appropriate plan approval agency and the NOI to DNREC. The delegated entities with whom the review team met said they do not approve any plan for which an NOI has not been submitted. They verify NOI submissions by querying DNREC’s NOI database.

DWS has created Tax Ditch and Agricultural Structure Standard Plan templates. Individuals with projects of this nature are able to submit the appropriate standard plan to obtain coverage under the NPDES general permit for construction activities.

Observation 4–6. Creation of standard plans for routine or typical construction projects is a useful means to reduce permittee burden.

Local jurisdictions may not issue a grading or building permit for a property until the SSMP is approved. The developer or owner must certify when submitting the plan that clearing, grading, construction, or development will be accomplished in accordance with the plan and by personnel with state-issued Certificates of Training. (This latter topic is discussed under section 4.7 below.) Plans and design reports are to be signed by a qualified design professional.

SSMP approval means that the plan is consistent with state erosion and sediment control (ESC) and stormwater management requirements or is consistent with local ordinances in delegated areas. Approved plans are valid for three years from the date of approval unless specifically extended or renewed by the appropriate plan approval agency. The latter have 30 calendar days to complete a review and notify the applicant. If they cannot meet this deadline, they must inform the applicant when a decision will be made. In no case, can the extended period exceed an additional 30 days.

The SSMPs are to include placement and other details of temporary and permanent stabilization (see sidebar). All plans are to comply with Delaware’s ESC Handbook and approved supplements. Construction is to be sequenced and described and shown on all plans. The sequence of construction is to include at a minimum: (1) clearing and grubbing for those areas necessary for installation of perimeter controls, (2) construction of perimeter controls, (3) remaining clearing and grubbing, (4) road grading, (5) grading for the remainder of the site, (6) utility installation and determination of whether storm drains will be used or blocked until after completion of construction; (7) final grading, landscaping or stabilization, and (8) removal of sediment controls.

<p>DNREC Requirements for Temporary and Permanent Stabilization</p> <p>Permanent or temporary stabilization is to be completed within 14 calendar days following soil disturbance or re-disturbance. Stabilization applies to the surface of all perimeter sediment controls, topsoil stockpiles, and all other disturbed or graded areas on the project site. The requirements do not include those areas shown on the SSMP that are being used for materials storage or those areas where actual earth moving activities are currently being performed.</p> <p>Source: DNREC, Reg. No. 5101.</p>

Delaware’s regulations limit clearing to 20 acres. Grading of a second 20-acre section may not proceed until temporary or permanent stabilization of the first 20-acre section is accomplished. DWS staff said the revised regulations may propose that any project greater than 20 acres be designed based on a two-year bare earth condition.

The post-construction stormwater management requirements call for designs for four regulatory storm events: manage a 2-inch rainfall (which occur approximately once every six months) up to the first 1-inch of runoff and design to 2-, 10-, and 100-year storms when above the Chesapeake and Delaware Canal (C&D Canal) and to 2- and 10-year storms when below the C&D Canal. The regulations also specify the hierarchy of BMPs to use and require an 80 percent reduction in total suspended solids (TSS). DWS personnel said DNREC will likely propose design to three regulatory storm events: a 1-year resource protection event, a 10-year conveyance event, and a 100-year flooding event. The resource protection event will be equivalent to the annualized runoff for all storms up to the 1-year storm event, approximately 2.7 inches of rainfall. Rather than TSS reduction, the regulations will require achievement of a runoff reduction performance standard.

Under the current regulations, the 2-, 10-, and 100-year storm events above the C&D Canal are to always be analyzed for pre-development and post-development conditions. The goal is to match post-development peak discharges to pre-development peak discharges. This approach is to be used for all sites. DWS staff said DNREC will likely require analysis of pre-development conditions on an “as needed” basis for the 10- and 100-year storm events. The performance standard will be based on “no adverse impact,” and management options will vary depending on location within the watershed.

DWS staff said they will revise the Delaware ESC Handbook to address regulatory changes and issue new post-construction stormwater BMP standards and specifications. The revised ESC Handbook will include additional details in such areas as compost filter logs, flocculation, concrete washout, and concrete mixing operations. Some of the new compliance options being considered are listed in Table 4–3 below.

Table 4-3. Potential New SWMP BMPs (Compliance Options)

• Infiltration	• Sheet flow to open space
• Bioretention	• Detention practices
• Permeable pavement	• Filtering practices
• Vegetated roofs	• Constructed wetlands
• Rainwater harvesting	• Wet ponds
• Restoration practices	• Soil amendments
• Rooftop disconnection	• Proprietary practices
• Vegetated channels	• Source controls

DWS has recently instituted changes to enable a more expedited plan review and approval process. DWS’s approach involves three steps: (1) project application meeting, (2) preliminary SSMP review, and (3) SSMP submission. The up-front involvement with developers enables all parties to streamline their activities with respect to SSMP development and review. DWS has further enhanced its activities in this area by sending comments on plans electronically.

4.5 Data Management Activities

DWS uses a few databases to track activities related to construction stormwater permittees. The first is the NOI database. DNREC records information from NOIs, NOTs, and other program forms into this database. Once an NOT is verified, the project is listed as inactive and appears in red in the database. Key database fields are accessible from DWS's Web site. Some of the delegated agency representatives with whom the review team met said they search the NOI database before signing any SSMP. The NOI database was first developed and used in approximately 2001.

Another key database DWS uses is called Mud Tracker. DNREC, KCD, and SCD use this system to track information on all active and inactive construction projects. The NCCD uses its own data system. DWS personnel see Mud Tracker as creating greater program efficiencies because it replaces individual project databases (i.e., those used by DNREC staff and those used by various CD staff). Mud Tracker is used to collect such information as dates when plans are received and comments provided, dates of pre-plan and pre-construction meetings, inspection dates, and receipt of CCR reports. Mud Tracker was also designed to collect information on stormwater BMPs, including their GPS (global positioning system) locations. The database can be queried and information can be extracted for key data fields, such as stormwater BMPs in the Chesapeake Bay Watershed.

DWS uses a separate database to track drainage and stormwater concerns. Staff said they receive a fair number of complaints each year. The database requires the user to record the complaint and its resolution (if one is obtained).

The NOI and Mud Tracker databases are separate tables within DEN, the department-wide database that combines core environmental data for use by DNREC officials and the public. Mud Tracker, however, is not accessible to the public.

NCC DLU's system is called HANSEN; the name is based on the underlying software. NCC DLU has been using the system since 1998 to store inspection reports. In addition to inspection reports, the system includes the state sediment and stormwater management code and regulations. NCC DLU staff said that HANSEN has been so intensively customized that they cannot upgrade to a newer version without losing key features.

Observation 4–7. The inclusion of stormwater BMPs and GPS locations in Mud Tracker will likely be a useful long-term resource to DWS. The use of Mud Tracker by DWS and the CDs further enhances the system.

4.6 Compliance and Enforcement Activities

In this section, the review team discusses DNREC's inspections and enforcement actions and those of its delegated agencies.

4.6.1 Inspections

The DWS inspector visits state and federal sites at least once a month. The inspector prioritizes the sites that will be inspected according to site activity levels. If a project is moving quickly, the inspector will spend more time there to ensure compliance and provide technical guidance if needed. DWS staff said they conduct more inspections in the areas of the state that discharge to the Chesapeake Bay because they have received additional resources from EPA for those activities. The regulations authorize DNREC to conduct inspections of private and local government projects if requested to do so by the applicable delegated agency and in response to complaints. The numbers of inspections in this latter category vary but are generally not overly significant.

Each delegated agency implements the program a little differently. For example, representatives of the City of Newark told reviewers that they prioritize annual inspections based on concerns of safety, potential for failing, performance to date, aesthetics, and functionality. City inspectors rely on the CCRs to conduct inspections of projects during the construction phases. The City, however, performs all post-construction inspections. See section 4.7 for background on DNREC's CCR program.

Several of the delegated agencies said they require pre-application, pre-construction, and other meetings in advance of construction to hopefully ward off compliance problems during construction. The NCC DLU conducts a pre-construction meeting with all pertinent parties once a developer is approved for coverage under the general permit. They use the pre-construction meeting to ensure the developers understand requirements and how they should be managing sediment and stormwater during and after construction. Once construction begins, NCC DLU inspectors visit the site weekly or more frequently, depending on the scope of the project. NCC SS has a vigorous post-construction program however, NCCD stated they are unable to perform the post-construction inspections as well as they would like due to lack of funding..

Sussex County code requires the CD to conduct stormwater reviews of construction projects. The SCD has two full-time inspectors and one person dedicated to plan review. Applicants with new projects contact the CD to schedule a pre-application meeting. SCD representatives told the review team that this is an understood step by developers and their associated design consultants. The step enables SCD to see projects at a conceptual stage and provides them an opportunity to provide technical advice, if necessary. During the pre-application meeting SCD personnel provide guidance and invite relevant agency representatives to do the same. Comments and guidance are provided in such areas as soil type, water quality, drainage types, and recommended green technologies. After the pre-application meeting and completion of the sediment and stormwater management design, the project is formally submitted to SCD for review. Once SCD approves SSMPs, developers must go to the county for final recordation and/or a builder permit.

The SCD requires a pre-construction meeting prior to initiating site work. A perimeter inspection is required and upon approval of controls, the CD notifies the contractor that it can proceed. The SCD performs, at a minimum, weekly inspections during the construction phase. Once construction is completed and stabilization has occurred, SCD inspectors conduct a post-construction inspection. Once the project is approved for closeout and an NOT has been submitted to DNREC, the site is handed over to the owner. The owner is responsible for

coordinating future maintenance inspections. SCD staff said they average between 250 and 300 inspections per month, and district inspectors performed approximately 3,000 inspections in 2011.

Sussex County has a lot of agriculture-related construction projects. The SCD helps builders develop conservation plans (or SSMPs) for these projects. Sussex County requires owners or developers of a chicken house that is disturbing more than one acre of land to submit an NOI.

SCD personnel informed reviewers that they would like to perform maintenance inspections on completed sites; however, they do not have the funding to do so. Program income is derived through application fees. Due to decreased construction activity in recent years, program funding has decreased. Staff reductions have occurred as a result. Construction activity in the poultry sector, however, may increase in the near future, with a considerable number being located in Sussex County. If this occurs, the SCD would likely need to increase its inspection capacity beyond the present.

KCD requires pre-application meetings with developers. This gives CD staff the opportunity to review sketch plans. KCD invites representatives of other agencies that will be involved in the project, such as DelDOT, to the pre-application meeting. The purpose of these meetings is to identify and resolve stormwater issues before the developer considers the plan “set in stone.”

Developers submit their SSMP to the KCD after addressing items discussed during the pre-application meeting. KCD requires developers to pay a plan review fee. If the KCD has to review a set of plans more than three times before it is approved, it charges developers an additional fee. Copies of approved plans are sent to the county and other involved agencies such as DelDOT. KCD also provides the county with a letter of “No Objection” prior to final recordation of the land/project.

KCD inspects every project at least monthly; however, this frequency may increase depending on the nature of the project. KCD charges one-time fees for plan review; the rates are based on acreage. KCD conducts perimeter inspections when a project is getting ready to close to make sure that it has been built according to plan. The district conducts the final construction phase inspection when the project is at the 70 percent build-out phase. Developers must continue to have CCR inspections performed and to submit the results to KCD. KCD inspectors use the state’s inspection checklist on laptops while in the field; they email the inspection report to the owner/developer once they return to the office. When a project is completed and is turned over to the owner or homeowner’s association, KCD categorizes the project as being in “maintenance” mode. At this point, KCD’s urban conservationist performs a post-construction maintenance inspection. The inspector does not typically follow up on minor problems identified during the post-construction inspections. The inspector will make additional visits to the site if more significant issues were identified during the post-construction inspection.

For residential subdivisions, KCD inspects and signs off on every lot as if each was a standalone project. KCD inspectors perform inspections of the yard, grading, and drainage. They place a sticker on the electrical panel of the structure once the post-construction inspection is performed.

KCD staff told reviewers they like the mechanism DeIDOT uses to ensure proper completion of projects. DeIDOT holds “bonds” for projects that will be connected to DeIDOT roads. (In Kent County, 95 percent of subdivisions have public streets.) Once a developer demonstrates successful achievement of 70 percent of the build-out, DeIDOT returns the bond and takes responsibility for road maintenance.

4.6.2 Enforcement Actions

Refer to section 3.5 for lists of typical DNREC enforcement actions. Under the construction stormwater program, DNREC can pursue criminal action as a penalty. It can seek Administrative penalties for violations of the general permit and associated conditions. DWS personnel reported that they do not have to take many enforcement actions. They believe that their frequent visits to sites enable them to address issues before they become major compliance problems. Staff do, however, have the regulatory authority to take enforcement action on repeated or significant violations. DWS staff reported that they issued six NOVs in 2011 and one in 2012.

Delegated entities address violations in accordance with their respective ordinances. They employ a variety of options at their disposal, which might include withholding building or occupancy permits and issuance of Stop Work Orders. A delegated agency has the option of referring a project to DNREC for enforcement under the state sediment and stormwater management regulations.

NCC DLU has implemented a re-inspection policy to bolster their compliance and enforcement program. The policy gives a developer one chance to correct an identified issue. If the issue has not been corrected by the time of re-inspection, NCC DLU issues a re-inspection fee: \$50 for the first re-inspection, \$250 for the second, and \$500 thereafter. NCC DLU staff said that after they implemented the re-inspection policy, compliance increased from 65 to 95 percent.

City of Newark representatives told reviewers they are able to issue Stop Work Orders, and they have occasionally used this authority in the past. They also have the authority to hold up occupancy permits for the owner.

SCD issues verbal warnings when it identifies minor violations. The inspectors document the violations and associated corrective actions in their inspection reports. The same actions occur for more severe or repeat violations. The SCD, however, also provides responsible parties with written notification of the violations identified, immediately withholds permits, and possibly refers the violation(s) to DNREC. Developers typically comply when stoppages in construction occur or when restrictions to inhabit or use the property are made.

SCD staff reported that their base program used to consist of four inspectors with one inspector devoted entirely to maintenance inspections. That number, however, has decreased to two in recent years due to retirements and decreases in operating budgets.

The first non-formal action a KCD inspector takes is to issue a verbal warning while at the site; the problem and the verbal warning are documented on the inspection report. The developer is given a timeframe in which to remedy the problem. The KCD inspector returns to the site to perform a follow-up inspection. If the violation is still present, the KCD inspector works with

county staff to restrict lot permits (if the violation is on a site in a subdivision). Developers tend to address violations at this stage. If not, KCD will issue a formal NOV and require a meeting with the developer to discuss resolution of the violation. KCD staff said they use the threat of referring the problem to DNREC as a means to encourage compliance, which usually works. In situations where a developer has started construction prior to the pre-construction meeting and violations are found, KCD refers the case to DNREC.

4.7 Training, Education, and Outreach

In this section, the review team outlines some of the training, education, and outreach activities pursued by DNREC in relation to its construction stormwater program.

4.7.1 DNREC Contractor Certification (Blue Card) Training

Delaware's sediment and stormwater management regulations require every job site to have at least one person onsite at all times who has taken DNREC's Contractor Certification course ("Blue Card"). DNREC offers the course on a quarterly basis at a cost of \$60 per session, which includes the course book. Each course is five hours in length. DWS maintains a list of Blue Card holders on its Web site; the list includes the card holder name, phone number, and certification date. DWS staff said they currently have 1,000 plus Blue Card holders.

DWS staff design and update the course content, deliver the training, and manage logistics and card holder lists.

Observation/Recommendation 4–8. The review team commends DNREC on its regulatory requirements and program for Blue Card training. The team, however, suggests DNREC consider requiring refresher training for card carriers at reasonable intervals. This would enable DNREC to impart new information on regulations as well as practices in the sediment and stormwater management fields. This could become more critical in watersheds with TMDLs, such as the Chesapeake Bay. Upon review of a draft version of this report, DNREC staff said they conducted a refresher training course in 2006 and intend to conduct another soon. DNREC, however, did not indicate a specific timeframe for the future training event.

4.7.2 DNREC Certified Construction Reviewer Training

Delaware's sediment and stormwater management regulations require certain projects to have weekly reviews conducted by a CCR or certified private inspector. DNREC provides the certification training on an annual basis. To receive certification, participants must take part in all three days of the course and the half-day field trip and successfully complete a written exam. Each certification period is five years. The course is designed to provide participants with detailed information on ESC and stormwater management practices. Beyond those interested in serving as CCRs, the course is open to government, engineering, contracting, and land development professionals who work in the ESC and stormwater management fields. DWS maintains a listing of current CCRs (also called "Gold Card holders") similar in content to the Blue Card Listing on its Web site. DWS staff estimated that they have 1,000 current Gold Card holders.

DNREC also conducts a CCR recertification course for those CCRs whose certifications are due to expire. The one-day course highlights relevant changes in state law or regulations and newer approaches to stormwater management. The course can only be taken by those holding a current CCR certification; the participant must attend the full course to be recertified.

Observation 4–9. Again, the review team commends DNREC for its CCR requirements and the substantive certification training program it provides. The review team fully supports DNREC’s plans to develop a policy wherein it will revoke certifications for CCRs whose reports do not match with other site reports. (CCR reports are sent to the applicable plan review authority where inspectors review and compare them to their own reports for consistency.) Obviously, the policy will only be effective if a viable framework exists in which to implement and enforce it.

4.7.3 DWS Staff Training

All DWS staff involved in the sediment and stormwater management program conduct the CCR training course. DWS’s plan reviewers are professional engineers (PEs). New staff also receive on-the-job training by senior staff. DWS staff aim to attend conferences in their respective disciplines as program budgets allows.

4.7.4 DNREC Training and Outreach to Regulated Community

Beyond the Blue Card and CCR training programs, DWS meets annually with delegated agencies to update them on topics such as potential regulatory changes and new BMPs. The local agencies use these meetings to inform DWS of program highlights and challenges.

DWS maintains a Sediment and Stormwater List serve. In general, the vehicle is used to transmit monthly updates on activities pertinent to the program. The January 2013 list serve included announcements on the 2013 Blue Card class dates, a list of CCR course dates for 2013, status of state sediment control and stormwater management regulation revisions, and a link of special interest (Chesapeake Bay Program Expert Panel on Stream Restoration).

The DWS Web site provides links to multiple resources such as Laws, Regulations and Policies; Certification Information; CCR Resources; NPDES Construction Permit Information; ESC Handbook; Applications; Checklists; Engineering and Plan Review Processes and Materials; Green Technology BMPs; Delaware Urban Runoff Management Model; and Special Projects and Reports (e.g., Stormwater Pond Maintenance Assistance, Stormwater Watershed Reports, Storm Drain Marking Program, and others).

4.7.5 Training, Education, and Outreach of Delegated Entities

The majority of the delegated agencies enable their staff to attend the state-sponsored Blue and Gold Card courses as well as training provided by outside parties. They also provide outreach materials to landowners and others on ESC and stormwater management. Some, such as the SCD, conduct tours for legislators to educate local government officials of the importance of sediment control and stormwater management. Several of the delegated CDs and municipalities noted that staff attend national or regional meetings of the International Erosion Control Association. They also enroll in stormwater training provided annually by the University of Delaware.

4.8. Oversight of Delegated Authorities

Delaware's sediment and stormwater law enables DNREC to delegate program authority to interested CDs, state agencies, and local agencies for periods of no more than three years. Local agencies must reapply for delegation in the year preceding the delegation's expiration. DNREC uses a multi-pronged approach to reviewing local agencies prior to making re-delegation decisions. The first step involves sending a questionnaire to the local agency to complete.

After reviewing questionnaire responses, and other data, DWS staff conduct onsite interviews with key staff of the local agency seeking re-delegation. DWS staff also conduct inspections of a random sample of local construction projects to ascertain the quality of the agency's oversight. DWS managers discuss concerns about local agency programs with representatives of those programs after the review as well as on an ongoing basis. Given the small size of the state, DWS staff are able to meet or otherwise communicate regularly with local agency personnel. DNREC notifies a local agency of its re-delegation decision via letter. DNREC DWS has the ability to revoke or suspend delegation.

DWS staff said they did not do the inspection of construction sites when performing triennial reviews in 2012 due to their regulatory revision efforts.

Observation 4–10. Representatives of the delegated agencies with whom the review team met universally commented on their positive working relationship with DNREC staff. The team sensed mutual respect and recognition of shared program responsibilities amongst the parties. Sometimes the relationships can be positive because the state is not putting any pressure on local agencies to enhance their programs. The team did not observe this to be the case in Delaware. DWS representatives appear to be clear and direct with local agencies but work with them on an ongoing basis to address issues as they arise.

4.9 Program Strengths Cited

DWS staff cited their Blue Card and CCR training requirements to be key strengths of the program. DWS has received positive feedback from stormwater experts and practitioners outside the state on the content of their program. DWS personnel believe their regulations to be well thought out; therefore they are practicable and adaptable from an implementation standpoint. CD staff cited their pre-application and pre-construction meetings as positive activities. The meetings enable them to provide technical assistance and address issues before they become significant. CD staff report that the regulated community responds favorably to the meetings as well.

4.10 Program Challenges Cited

DWS representatives said that one of the most difficult challenges is enforcement of post-construction stormwater management requirements. Another challenge is ensuring consistency in program implementation throughout the state. This is difficult when some municipalities have more authority under their ordinances than others do, or when some municipalities have local political support for their program and others do not.

CD staff reported that it can be challenging to remain current with BMPs. When training opportunities are limited, CD staff are especially reliant on DNREC for support in this area. NCCD commented that they are struggling to devise cost-effective strategies for retrofitting communities with stormwater management controls. These are important issues in areas where little space remains for construction. Local agency representatives also said they would like guidance on achieving stormwater-related WLAs or LAs under TMDLs.

Observation/Recommendation 4-11. The review team encourages DNREC to work with MS4s and delegated agencies in determining effective stormwater management strategies in a retrofit environment. DNREC might also consider helping communities devise approaches for addressing stormwater-related WLAs or LAs.

5. Observations and Recommendations—MS4 Stormwater Program

This section of the report contains the review team’s observations regarding Delaware’s MS4 stormwater program. Please note that the team’s observations are limited because program positions were vacant at the time of the onsite review.

5.1 Program Background and Authorities

DW staff administer DNREC’s MS4 program under the program authorities shown in the sidebar. After reviewing this report, DW reported having two FTEs for the program: a Section Manager to administer the program and an Environmental Scientist to serve as technical leader for the program. The staff positions were filled in February 2013. At the time of the review, there were no hires to support the MS4 program. DW personnel are responsible for the following functions with regard to the MS4 program:

MS4 Program Authorities
Federal: CWA 402, 33 U.S.C. §1251
State: 7 Del.C. Ch. 60

- Identify and notify entities requiring permit coverage.
- Review NOIs and individual permit applications.
- Write and issue individual Phase I and individual or general Phase II MS4 permits.
- Develop guidance to facilitate MS4s in achieving permit requirements.
- Review Phase I and Phase II annual reports.
- Perform periodic audits of MS4 programs.
- Provide oversight/feedback to local governments in the form of compliance assistance and informal enforcement actions.
- Undertake formal enforcement actions where necessary.

5.2 Facility Universe

At the time of the review, Delaware had one Phase I and three Phase II MS4s, for a total of four (Table 5–1). The Phase I permit is a joint permit among New Castle County (NCC), the Delaware Department of Transportation (DelDOT),⁹ and the 11 jurisdictions listed in Table 5–1 (referred to as NCC permit). The Phase II permits are for DelDOT (Kent County), City of Dover, and City of Newark. The MS4s’ coverage area is approximately 25 percent of Delaware’s total land area, about 313,000 acres. The Town of Middletown and City of Wilmington have requested to become Phase II permittees under their own permits, as opposed to co-permittees on the Phase I permit. As required, the Phase I MS4 permit is an individual permit. The permits for the Phase II MS4s are also individual; the state does not currently have a general MS4 permit, but is in the process of writing one for the Phase II MS4s.

⁹ DelDOT mainly owns the large arteries in Kent and Sussex Counties, whereas it owns most of the roads in New Castle County.

Table 5–1. Delaware’s Phase I and II MS4s

County	Permit Type	Permittee(s)	Permit Effective Date	Permit Expiration Date
Kent	Phase II	DelDOT Urbanized area of Kent County (Dover)	7/1/03	6/30/08
	Phase II	City of Dover (Kent Co.)	9/1/03	8/31/08
New Castle	Phase I	NCC Department of Special Services DelDOT Town of Bellefonte City of Delaware City Town of Elsmere Town of Middletown ¹ Town of Newport City of New Castle City of Wilmington	5/1/01 & EPA Consent Decree effective 12/14/01 ²	4/30/06 ²
New Castle continued	Phase II	City of Newark University of Delaware ³	7/1/2003	6/30/08
Sussex	Phase II	DelDOT Urbanized area of Sussex County (Delmar) ⁴	--	--

¹ DNREC has noted after reading a draft of this report that it has notified Middletown that it is required to submit an NOI for MS4 coverage by the end of August 2013. DNREC issued an interim, individual Phase II MS4 permit for Middletown on October 30, 2013. This permit will expire on October 29, 2014.

² DNREC issued a revised Phase I permit on May 7, 2013. The new permit will expire on May 6, 2018.

³Currently, the University of Delaware complies on a volunteer basis with the requirements of Newark’s Phase II MS4 permit. The University has requested to be a copermitttee on Newark’s revised/reissued permit.

⁴ DNREC reported after reading a draft of this report that at the time of the review there were no urbanized areas identified in Sussex County requiring MS4 permit coverage. DNREC, however, stated that the situation has changed given the results of the 2010 federal Census. The new urbanized area(s) will fall under DNREC’s new MS4 Phase II general permit once it is finalized.

5.3 Permitting Activities

DNREC has administratively extended the individual permits for each of its MS4s for periods of 5–6½ years (see Table 5–1). DNREC has been negotiating the conditions of a new Phase I permit with New Castle County for several years. Once the public comment period closes for the next draft, the permit will be issued. (DNREC finalized and issued the Phase I permit on May 7, 2013. They have subsequently drafted a Phase II MS4 general permit using language from the newly issued Phase I permit. DNREC has submitted a draft of the Phase II MS4 general permit to EPA and is awaiting comments.)

5.3.1 Phase I Permit Components

The current Phase I permit spells out the roles and responsibilities of the copermitttees and the legal authorities each is required to have. It further requires the copermitttees to comply with narrative discharge limitations, to implement a comprehensive Storm Water Pollution Prevention and Management Program (SWPP&MP), to conduct compliance monitoring, and to submit a joint annual report.

The SWPP&MP is to specify how copermittees will:

- Operate and maintain MS4 system and any structural controls incorporated into the system to the maximum extent practicable (MEP) (see sidebar).
- Use a comprehensive master planning process to develop, implement, and enforce controls to reduce the discharge of pollutants from areas of new development and significant redevelopment (see sidebar) after construction is completed.
- Operate and maintain roadways.
- Assess and minimize the discharge of pollutants related to the application of pesticides, herbicides, and fertilizers.
- Implement an ongoing program to detect illicit discharges and improper disposal of contaminants into the storm sewer.
- Implement a program to prevent, contain, and respond to spills that may discharge into the MS4.
- Implement a program to identify, monitor, and control pollutants in stormwater discharges to the MS4 from “high risk” industrial or commercial facilities.

Key DNREC MS4 Permit Definitions

“Maximum extent practicable or MEP” means a level of performance that reflects the best effort possible after taking into consideration cost, feasibility, existing technology and logistics in light of overall facility operations or project purposes.

“Significant redevelopment” means:

- An activity that substantially degrades the character and/or increases the volume of stormwater runoff.
- Any reconstruction, rehabilitation, addition or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the start of construction of the improvements.
- Any construction or alteration that increases the number of travel lanes on an existing roadway; any construction or alteration that reclaims for public use previously abandoned bridges or roadway alignments.
- Any capital improvement budgeted in the DeIDOT System Expansion budget as authorized in the Annual Bond and Capital Improvements Act that has such effects.

Source: DNREC 2001.

- Implement a program to reduce the discharge of pollutants from construction sites.
- Implement a public education program covering specific measures.
- Implement a dry and wet weather monitoring program and an industrial and high risk runoff monitoring program.
- Conduct an annual review of the current SWPP&MP in conjunction with preparation of an annual report, the components of which are outlined in the permit.
- Implement specific components of the SWPP&MP within specified time periods.

At the time of the review, the proposed draft “new” permit for NCC contained requirements requiring the copermitees to achieve WLAs with applicable TMDLs.¹⁰ DNREC representatives, however, stated that NCC has objected to the requirement because it cannot achieve the WLAs. DNREC was still in negotiations with NCC at the time of the review. (After reviewing a draft of this report, DNREC noted that it had finalized and issued the Phase I permit. Moreover, the permit addresses TMDLs and associated WLAs.)

5.3.2 Phase II Permit Components

The Phase II permits require permittees to develop a comprehensive stormwater management program (SWMP) that will prohibit discharges other than stormwater into the MS4, reduce discharges of pollutants from or through the MS4 to the MEP, protect water quality, and satisfy federal and state water quality requirements and standards. The SWMPs are to include the six MCMs,¹¹ and all elements of the SWMP are to be implemented by the end of the permit term (about 2008 for most, if not all, of the Phase II permittees). The Phase II permits do not include monitoring requirements; however, permittees are required to prepare and submit annual reports, the contents of which are specified in the permit.

5.4 Plan Review Activities

As noted in the previous section, the Phase I copermitees are required to develop and maintain a SWPP&MP, and the Phase II permittees are required to develop and maintain a SWMP. DNREC evaluates these plans prior to issuing permits and then again during a program audit. DNREC conducts an audit of each of its MS4s once each permit cycle (once every 5 years). Although the permits have been administratively extended, DNREC has treated the extension period as a new permit period in terms of conducting audits (Goodrow 2013). Section 5.8 of this report includes further information on DNREC’s audit process.

5.5 Data Management Activities

The review team did not discuss data management issues as they pertain to the MS4 program with DNREC officials. The only relevant comment made is that DNREC has required its MS4s to submit their annual reports electronically since 2010.

5.6 Compliance and Enforcement Activities

The review team did not discuss compliance and enforcement activities under the MS4 program with DNREC staff.

¹⁰ The CWA requires NPDES authorities to develop a TMDL for each pollutant *causing* a water body to be impaired or threatened. This means that the water body is not meeting water quality standards, which are designed to protect the integrity of the water resource and public health and welfare. A TMDL is the maximum amount of a pollutant allowed to a water body in order for a water quality standard to be met, taking into account both anthropogenic and natural background sources of the pollutant. A TMDL allocates the proportion of the total load that must be reduced among point and nonpoint sources in the water body. Point sources are assigned WLAs, and nonpoint sources are assigned LAs.

¹¹ The six MCMs are (1) public education and outreach, (2) public participation and involvement, (3) IDDE, (4) construction site stormwater runoff control, (5) post construction stormwater runoff control, (6) pollution prevention and good housekeeping.

5.7 Training, Outreach, and Education

The review team did not discuss this topic with DNREC staff. Three DNREC staff did attend a December 2012 MS4 inspector training held by EPA in Harrisburg, Pennsylvania.

5.8 Oversight of Delegated Authorities

As previously discussed, DNREC DW conducts audits of its Phase I and II MS4s once every permit cycle. DNREC DW asks its permittees to complete a questionnaire to initiate the process. DNREC DW evaluates the submitted information along with data from the permittee's latest annual reports. DNREC then conducts an onsite inspection of the MS4 program and visits a random sample of construction sites to assess compliance with state and local ESC requirements. Theoretically, DNREC uses the findings to develop the next permit. If it has concerns about implementation of SWPP&MP components, it can address those concerns by including compliance schedules in the next permit. In a response to a follow-up question following the review, a DW staff member said that as far as the audits go, DNREC treats the administrative extension period as though it were a new permit term (Goodrow 2013). In other words, it continues to conduct an audit once every five years.

5.9 Program Strengths Cited

Observation 5–1. DNREC DW staff did not offer comments in this area, but the review team did notice the results of MS4 inspections were documented in the MS4 files reviewed. The team also observed the MS4 files to be well organized

5.10 Program Challenges Cited

DNREC DW representatives stated that a major challenge of the program relates to timely issuance of new permits. It is a cumbersome process to negotiate permit conditions with the municipalities, yet the dialog is critical to avoid later delays through legal confrontations. DW's efforts in this area have been further hampered by staff vacancies in the program.

Observation 5–2. As part of the file review process, the team observed that DNREC DW had conducted inspections of all of its MS4s. The team, however, did not see documentation that any credible enforcement actions had been taken in response to identified areas of noncompliance. The team requests clarification on this item.

6. Observations and Recommendations—Industrial Stormwater Program

The review team summarizes its observations of Delaware’s industrial stormwater program in this section of the report.

6.1 Program Background and Authorities

DW’s Surface Water Discharges Section is responsible for developing and issuing DNREC’s NPDES permits for industrial stormwater. DW has approximately 1.25 permitting FTEs and 2 inspection FTEs. DNREC authority for implementing the program includes the CWA (U.S.C. 1251 et. seq.) and Chapter 60 (Environmental Control) of the Delaware Code (7 Del.C. Ch. 60).

DNREC provides coverage for stormwater discharges from new and existing facilities engaging in industrial activities under 7 Del. Admin. C. §7201-9.1 of the State of Delaware *Regulations Governing the Control of Water Pollution* (the Regulations). Section 9.1 of the regulations contains, “The General Permit Program, Subsection 1—Regulations Governing Storm Water Discharges Associated with Industrial Activities”. Coverage is applicable to stormwater discharged to waters of the state or MS4s. DNREC’s current general permit¹² was last amended on February 11, 2006 and was administratively extended in 2011.

Observation 6-1. DNREC DW is encouraged to revise its regulations/general permit as soon as possible. The CWA limits the length of NPDES permits to five years. While it is acceptable to administratively extend a permit for existing covered entities, it is not acceptable to authorize coverage to new individuals under an expired permit. (Following review of a draft version of this report, DW staff reported that they had developed revised regulations/general permit. This material is presently under internal review. DW staff said they anticipate completing revisions to the regulations/general permit by the end of FY 2014.)

Facilities with individual NPDES permits for industrial wastewater discharges can seek coverage under the stormwater general permit if the entity’s individual permit does not include stormwater discharge requirements. All applicants may seek coverage under an individual NPDES permit for their combined discharges. DNREC can require individual permits when it has determined that an industrial activity is a significant contributor of a pollutant to stormwater runoff; the discharges of pollutants would cause or contribute to an exceedance of any applicable state water quality standard; or the discharges would cause or contribute to degradation or loss of designated beneficial uses of the receiving waters.

¹² DNREC’s general permit includes two parts: Part One is oriented toward industries with stormwater discharges, while Part Two is focused on discharges associated with construction activity.

6.2 Facility Universe

At the time of the review, SWDS staff reported having approximately 360 active general permittees. Of this number, approximately 99 (28 percent) had No Exposure certifications. SWDS does not maintain an exact accounting of the individual NPDES permittees that have a stormwater component to their permits. The state's universe of individual NPDES permits at the time of the review was 21 majors and 29 minors (including MS4 permittees) (Davis 2013). Documentation provided by DW during the review shows the state's NPDES permit backlog at 24 (48 percent of the total permit universe) (DNREC 2012).

Number of Industrial Stormwater General Permittees in Delaware

360
(99 with No Exposure certifications)

Observation/Recommendation 6-2. EPA considers NPDES permits that are “administratively continued” to be “backlogged permits.” EPA requires the amount of backlogged NPDES permits for major and minor facilities to be no more than 10 percent each calendar year. DNREC’s numbers are well above this threshold. The review team suggests that DNREC develop a schedule outlining how it will resolve the backlog if it has not already done so. (After reviewing a draft version of this report, DNREC reported that it has developed a backlog reduction strategy to significantly reduce its NPDES permit backlog over the next two years. The Department anticipates decreasing its permit backlog to 12 permits (25 percent of the total permit universe) by the end of FY 2014 and to 6 permits (13 percent of the total permit universe) by the end of FY 2015.)

6.3 Permitting Activities

Facilities seeking coverage under the general industrial stormwater permit must submit an NOI. The content of the NOI is contained in the permit and includes a subset of items from NPDES individual permit application form 2F (e.g., name of owner; name of facility and address; latitude and longitude of the facility; SIC codes representing the principal products or activities of the facility; a brief description of the type of industrial activities conducted and products manufactured; name of the receiving waters or MS4; and a signed certification statement).

Those persons who want to certify that a condition of “no exposure” exists at their facility must submit a “No Exposure” Certification Form. DNREC requires a facility operator to submit the NOI or “No Exposure” Certification Form if the facility is owned by one person but operated by another. If ownership changes, the new owner of the facility must submit a new NOI or new “No Exposure” Certification Form. DNREC issues letters acknowledging an applicant’s coverage under the general permit.¹³

The general permit requires visual, benchmark, and compliance monitoring with numeric effluent limitations. The specifics depend on the types of industrial activities generating stormwater runoff from the facility. Visual monitoring is to be conducted on a quarterly basis, while analytical monitoring is to be performed semi-annually. DNREC provides some

¹³ DNREC “permits by regulation.” That is, its general permit is contained in regulation. Those covered are issued a letter notifying them of their coverage and pointing them to the specific regulations.

opportunities for monitoring waivers, such as adverse climatic conditions, inactive or unstaffed facilities, or discharges are below benchmark monitoring concentration values.

Applicants for individual permits are required to submit the appropriate NPDES application forms (Forms 1 and 2F) to DNREC. Applicants are covered under the general permit until authorization for coverage under an individual permit has been issued.

6.4 Plan Review Activities

Most applicants for coverage under the general permit are first required to develop a Stormwater Plan (SWP) and submit it to DNREC DW along with the NOI. The general permit specifies the content of the SWP (see sidebar next page). Applicants must specify the name, address and contact information for the individual who will be directly responsible for developing, implementing, maintaining, and revising the SWP on the NOI.

DW permit writers review the SWPs prior to authorizing general permit coverage. The team, however, did not discuss the extent of DW’s review of these plans.

DW has developed a generalized SWP that the regulated community can adapt to their needs. This document is available on DW’s website at <http://www.dnrec.delaware.gov/wr/Information/SWDInfo/Pages/SWDSStormWater.aspx>.

Observation 6–3. The review team found DW’s Web pages associated with the industrial stormwater general permit program and NPDES permit programs to be user-friendly and to contain information of value to the regulated community and public.

6.5 Data Management Activities

DW tracks its permitting activities on a Microsoft Access database called the SWDS Permitting Database (or “The Database”). Portions of this database are tied into DEN, which and can communicate with EPA’s Integrated Compliance Information System–NPDES system. DW has made several improvements to the database since 2010. For example, it has created GIS layers to track sites on a geographic locational basis. DW now stores all permit-related files on the system, which has created considerable program efficiencies.

- **Observation 6–4.** DW staff were readily able to produce lists of individual and general NPDES permittees from the SWDS Permitting Database. They also were able to quickly provide reports on the number of inspections performed by type as well as reports on the number and type of enforcement actions taken over specific time periods. (As a side note,

SWP Contents
<ul style="list-style-type: none"> • Facility Identification • Facility Description • Facility Map • Inventory of Industrial Materials • Inventory of Spills and Leaks • Good Housekeeping Practices • Preventive Maintenance Program • Spill Prevention and Response Measures • Exposure Minimization Program • Erosion Control Practices • BMPs • Salt Storage Management • Management of Runoff • Off-site Vehicle Tracking • Routine Inspections • Comprehensive Site Evaluations • Secondary Containment Inspections • Monitoring Data • Training • Non-stormwater Certification • Facility Security • Water Priority Chemical Requirements (where applicable)

subsequent to the review, the team accessed DEN in the hopes of pulling up a list of active and expired NPDES permittees only to find the information outdated. Therefore, the information that is accessible by the public is old.)

6.6 Compliance and Enforcement Activities

In this section of the report, the review team summarizes DNREC’s compliance and enforcement activities associated with its industrial stormwater program. Consult section 3.5 of this report for a review of DNREC’s enforcement tools.

6.6.1 Inspections

DW has two inspectors each of whom conducts annual inspections (compliance evaluation inspections) of major industrial facilities and biennial inspections of minors. Within this framework, the inspectors visit those facilities with the least current inspection date. The DW inspectors use a state-adapted EPA inspection checklist to cover the stormwater portion of reviews. They complete inspection reports upon returning to the office and send them electronically to the reviewed facility.

DW staff told reviewers that they conduct both announced and unannounced inspections (reconnaissance inspections). Inspectors visit sites they are concerned about more frequently than other locations. DW maintains a facility “watch” list for this purpose. Inspectors are more apt to conduct reconnaissance inspections of larger rather than smaller facilities. For example, they tend to conduct reconnaissance inspections of refineries because of their potential to cause environmental and public health impacts if something goes wrong.

DW also has two industrial stormwater inspectors each of whom inspects industrial facilities that obtain NPDES coverage under the General Industrial Stormwater Permit. DW inspects these facilities at least once per permit term; however, it is DW policy to inspect NOI facilities once every three years. As noted previously, EPA has provided grant funding for one inspector under its Chesapeake Bay Program. One of the grant conditions is that this inspector perform inspections at all facilities in the Chesapeake Bay Watershed annually. DW SWDS has an inspection prioritization tool that assists inspectors in determining which facility they should inspect next based on such factors as: inspection frequency requirement, date of last inspection, and facility classification (i.e., either NOI or no exposure).

Table 6–1 summarizes the number of inspections, by type of inspection, DW performed of industrial stormwater general permittees in federal FYs 2011 and 2012.¹⁴ Overall, DW doubled the number of inspections it performed between 2011 and 2012. (DNREC DW provided revised numbers subsequent to the review. The updated table is provided in Appendix F.)

Table 6–1. Number of DNREC Inspections of Industrial Stormwater General Permittees in Federal Fiscal Years 2011 and 2012*

¹⁴ The federal fiscal year is October 1 to September 30.

Inspection Type	Compliant		Non-Compliant		N/A**		Totals		
	2011	2012	2011	2012	2011	2012	2011	2012	Two Years
No Exposure									
Follow-up Inspection	0	4	0	0	0	0	0	4	4
Full Inspection	27	66	0	4	0	0	27	70	97
Partial Inspection	1	0	0	0	3	0	4	0	4
Technical Assistance	0	0	0	0	1	16	1	16	17
Subtotal	28	70	0	4	4	16	32	90	122
NOI									
Follow-up Inspection	2	13	0	2	0	3	2	18	20
Full Inspection	49	35	13	20	0	1	62	56	118
Partial Inspection	4	0	3	0	2	2	9	2	11
Technical Assistance	0	0	0	2	4	36	4	38	42
Subtotal	55	48	16	24	6	42	77	114	191
Total Inspections	83	118	16	28	10	58	109	204	313

*The federal fiscal year is October 1 to September 30.

**N/A = Not Applicable

Table 6–2 provides a summary of the number of NPDES industrial inspections DW performed in federal FYs 2011 and 2012. Again, note that the inspection numbers are for all NPDES permittees, not just those with a stormwater component. (DNREC DW provided revised numbers subsequent to the review. The updated table is provided in Appendix F.)

Table 6–2. Number of DNREC Inspections of NPDES Individual Permittees in Federal FY 2011*

	Permit Universe	Compliant	Non-Compliant	Total Inspections
Majors	20	46	13	59
Minors	26	23	14	37
Totals	46	69	27	96

*The table does not distinguish between types of inspections (e.g., routine, follow-up, etc.). Given that the inspection numbers are higher than the permit universe suggests that some facilities were inspected more than once during the year.

6.6.2 Enforcement

The enforcement actions associated with inspections include verbal warnings, issuance of a Manager’s Deficiency Letter with or without a follow-up inspection, a Manager’s Deficiency Warning Letter, and an NOV. These are followed by more significant actions such as a penalty assessment. See section 3.5 for a list of DNREC’s enforcement mechanisms.

Table 6–3 summarizes the number of enforcement actions DW undertook in federal FYs 2011 and 2012 in relation to industrial stormwater general permittees. Table 6–4 shows similar information for individual industrial permittees in federal FY 2011 only. (DNREC DW provided revised numbers subsequent to the review. The updated tables are provided in Appendix F.)

Table 6-3. Number of DNREC Enforcement Actions, Industrial Stormwater General Permittees, Federal FYs 2011 and 2012

Inspection-Related Compliance Actions	2011	2012	Totals
Verbal Warning	4	4	8
Manager's Deficiency Letter	4	9	13
Manager's Deficiency Letter (No Follow-up)	2	18	20
Manager's Deficiency Warning Letter	3	0	3
NOV	0	2	2
Total Actions	13	33	46
Compliance Actions Not Associated with an Inspection			
Verbal Warning	1	0	1
NOV	0	1	1
Formal Penalty Assessment	0	0	0
Total Actions	1	1	2

Table 6-4. Number of DNREC Enforcement Actions, Individual Permittees, Federal FY 2011

Inspection-Related Compliance Actions	2011
Verbal Warning	5
Manager's Deficiency Letter	0
Manager's Deficiency Letter (No Follow-up)	0
Manager's Deficiency Warning Letter	16
NOV	1
Totals	22
Compliance Actions Not Associated with an Inspection	
NOV	2
Formal Penalty Assessment	2
Totals	4

DW staff said that until recently, many of the facilities discharging to the Chesapeake Bay were found to not be performing their required monitoring and did not have SWPs. DNREC subsequently focused in on these facilities to bring them into compliance. DW staff said 50 of the 55 problem facilities have been brought into compliance as a result of the focused efforts.

DNREC achieved compliance primarily through the inspection process. To date, the Department has issued an NOV to one of the problem facilities.

Observation 6–5. The team admires DW’s inspection strategy for industrial stormwater general permittees operating without SWPs and failing to address permit monitoring requirements. The return compliance rate DW realized is testament to the value of the increased program effort. However, the fact that facilities were identified without SWPs suggests that DNREC’s process of requiring a SWP to be submitted along with NOIs broke down or the facilities misplaced their SWPs after submitting them. In addition, the apparent lack of penalty actions is concerning and seems to discount the deterrence effect that stronger action can play in compliance and enforcement.

(DNREC provided the following clarifications regarding the above observation after reading a draft of this report:

- “At the time of the review, the requirement to submit the SWP with the NOI had only been in practice for two years. Therefore, facilities that submitted NOIs prior to that time may not have submitted their SWPs in conjunction with NOI submittal.”
- “DNREC in most cases was able to achieve compliance prior to proceeding to a Secretary Order and penalty. In the example cited, all but one facility came into compliance after being issued a manager’s deficiency warning letter; the one facility that did not come into compliance proceeded to an NOV [sic] and DNREC is pursuing further enforcement and penalty.”)

6.7 Training, Education, and Outreach

Senior inspectors mentor new inspectors and provide them with on-the-job training. New personnel are also supported in taking inspector training courses offered through EPA’s National Environmental Training Institute and operator certification courses through the Delaware Technical Community College

6.8 Oversight of Delegated Authorities

This topic is not relevant to the NPDES industrial stormwater program and was, therefore, not discussed.

6.9 Program Strengths Cited

DW staff said the SWDS Permitting Database is a strength to the program because it has streamlined the office’s tracking, record-keeping, and reporting activities. DW staff also said the geographically small size of the state enables them to visit/inspect more sites than might be possible in a geographically larger state.

6.10 Program Challenges Cited

The program challenges mentioned during the review included the lack of time for DW staff to receive training / participate in conferences and the lack of resources to follow-up with facilities where the inspection process has identified concerns.

7. Summary of Observations and Recommendations

Listed below are the primary observations and recommendations resulting from the evaluation of Delaware's stormwater programs. For more specific information pertaining to each comment, please refer to the cited sections of the report. Please note that not all observations have recommendations.

- Lack of political will and support can impede a CD's ability to enforce requirements on developers/permittees. Perhaps DNREC could encourage state legislators to reach out to local officials and sway viewpoints in this area when necessary. (*Observation/Recommendation 4-1, section 4.1, "Program Background and Delegation"*)
- DWS's Web pages are user-friendly and contain information of relevance to the regulated community. DWS has also created program efficiencies by allowing NOIs to be submitted electronically and communicating electronically with permittees. (*Observation 4-2, section 4.3, "Permitting Activities"*)
- DNREC is encouraged to revise its general permit/regulations as soon as possible. The CWA limits the length of NPDES permits to five years. While it is acceptable to administratively extend a permit for existing covered entities, it is not acceptable to authorize coverage to new individuals. (*Observation/Recommendation 4-3, section 4.3, "Permitting Activities"*) (Subsequent to the review, DNREC DWS issued a revised general permit/regulations on July 18, 2013, with an effective date of January 1, 2014.)
- The review team supports DWS's efforts to ensure the submission of NOTs under the sediment and stormwater management program. The team suggests DNREC institute an annual fee for general permit holders until such time that an NOT is received. Other NPDES states have improved their NOT submission rates considerably after instituting an annual fee. (*Observation/Recommendation 4-4, section 4.3, "Permitting Activities"*)
- The team recommends DWS consider requiring original and subsequent landowners to submit their signed agreements regarding long-term maintenance of stormwater controls to DNREC DWS. This might provide the Department with some recourse if the original owner disappears from a site. (*Observation/Recommendation 4-5, section 4.3, "Permitting Activities"*)
- DWS's development of standard plans for typical construction projects related to tax ditches and agricultural structures provides a service and reduces burden to the regulated community. (*Observation 4-6, section 4.4, "Plan Review Activities"*)
- The inclusion of stormwater BMPs and GPS locations in Mud Tracker will likely be a useful resource to DWS over the long-term. The use of Mud Tracker by DWS and the CDs further enhances the system. (*Observation 4-7, section 4.4, "Plan Review Activities"*)
- The team is highly supportive of DNREC's Blue Card requirements and associated training program. One suggestion is to consider requiring refresher courses at reasonable intervals.

This would provide DNREC an opportunity to impart “lessons learned” and new technical data portions of the regulated community. (*Observation/Recommendation 4–8, section 4.7, “Training, Education, and Outreach”*) (DNREC DWS staff informed the review team subsequent to the onsite review that the department conducted refresher training in 2006 and intends to sponsor additional refresher training soon, although a specific timeframe was not noted.)

- DNREC’s CCR Card requirements and associated training program are exemplary. Both the Blue and Gold Card programs help ensure consistent application of sediment and stormwater controls throughout the state. The team finds the recertification requirements appealing; hence, the team’s recommendation with respect to Blue Card training above. DWS current considerations to implement a policy to revoke certifications if CCR reports do not jibe with state or local agency inspection reports suggests the Department and local agencies are communicating well and the Department is being proactive in addressing identified concerns. (*Observation 4–9, section 4.7, “Training, Education, and Outreach”*)
- DNREC DWS is to be commended on the positive working relationship it has established with the delegated agencies under the sediment and stormwater management program while remaining firm regarding program requirements. This is not always an easy balance to strike. The team was not able to observe whether a reasonable balance such as this exists between DNREC DW and its MS4s. Those relationships can often be a greater challenge to states. (*Observation 4–10, section 4.8, “Oversight of Delegated Authorities”*)
- The review team encourages DNREC to work with MS4s and delegated agencies in determining effective stormwater management strategies in a retro-fit environment. The team also heard calls for assistance in devising approaches for addressing stormwater WLAs or LAs on a community basis. (*Observation/Recommendation 4–11, section 4.10, “Program Challenges Cited”*)
- At the time of the onsite review, DNREC DW had conducted inspections of all of its MS4s. The team observed these reviews to be well documented in the division’s files. The team also noted the MS4 file structure to be well organized. (Observation 5–1. “Program Strengths Cited”) The team, however, was unable to determine from the files whether DNREC DW had taken any credible enforcement actions in response to compliance problems identified during the inspections. The team requests clarification in this area. (*Observation 5–2, section 5.10, “Program Challenges Cited”*)
- DNREC DW is encouraged to revise its general permit/regulations for stormwater associated with industrial activities as soon as possible. The CWA limits the length of NPDES permits to five years. Although it is acceptable to administratively extend a permit for existing covered entities, it is not acceptable to authorize coverage to new individuals under an expired permit. (*Observation 6–1, section 6.1, “Program Background and Authorities”*) (After reviewing a draft version of this report, DW staff reported that a revised general permit/regulations was currently under internal review. The division anticipates completing revisions to the permit/regulations by the end of FY 2014.)

- EPA considers NPDES permits that are “administratively continued” to be “backlogged permits.” EPA requires the amount of backlogged NPDES permits for major and minor facilities to be no more than 10 percent each calendar year. DNREC’s numbers are well above this threshold. The review team suggests that DNREC DW develop a schedule outlining how it will resolve the backlog if it has not already done so. (*Observation/Recommendation 6–2, section 6.2, “Facility Universe”*) (DW staff reported in response to reading a draft version of this report that they have developed a backlog reduction strategy to significantly reduce the NPDES permit backlog over the next two years. DW anticipates decreasing its permit backlog to 12 permits, or 25 percent of the total permit universe, by the end of FY 2014. DW anticipates decreasing its permit backlog to 6 permits, or 13 percent of the total permit universe, by the end of FY 2015.)
- DW’s Web pages associated with the industrial stormwater general permit program and NPDES permit programs are user-friendly and contain information of value to the regulated community and public. (*Observation 6–3, section 6.4, “Plan Review Activities”*)
- DW’s SWDS Permitting Database is a useful tool that enables staff to answer key permitting and compliance questions in a timely manner. DW readily provided the team with a variety of lists from this program during the review for specific timeframes, such as number and type of inspections performed for categories of NPDES permits, an inspection schedule showing days left until permit expiration date, and number and types of compliance actions taken DW. (*Observation 6–4, section 6.5, “Data Management Activities”*) (As a side note, subsequent to the review, the team accessed DEN in the hopes of pulling up a list of active and expired NPDES permittees only to find the information outdated. Therefore, the information that is accessible by the public is old.)
- The review team admires DW’s efforts through the inspection process to hone in on industrial stormwater general permit holders operating without SWPs and not meeting their monitoring requirements in the Chesapeake Bay Watershed. DW was able to bring about compliance with the majority of the permittees by the effort, which demonstrates the value of onsite contact with permit holders. The team, however, is interested in knowing whether compliance has been achieved with the five remaining facilities mentioned during the review and whether any formal enforcement actions were taken to promote compliance (*Observation 6–5, section 6.6, “Compliance and Enforcement Activities”*) (DW staff reported after reviewing a draft version of this report that the requirement to submit a SWP with the NOI had only been in practice for two years. Therefore, facilities submitting NOIs prior to that time may not have submitted their SWPs in conjunction with NOI submittal. DW staff did not provide specific numbers of entities in this category. DW staff further reported that they were able to achieve compliance prior to proceeding to an Order and penalty. They noted that all but one of the five facilities came into compliance after being issued a manager’s deficiency warning letter; the one facility that did not come into compliance proceeded to an NOV. DNREC is currently pursuing further enforcement and penalty.)

8. References

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9. Appendices

Appendix A—Copy of Program Review Questionnaire

Appendix B—Document Request List

Appendix C—Attendance Lists for Various Review Meetings

Appendix D—DNREC Organization Charts

Appendix E—DNREC Compliance Enforcement Response Guide

Appendix F— Revised Inspection and Enforcement Data for DNREC's Industrial Stormwater Program, Federal Fiscal Years 2011 and 2012