

***Revisions to the  
Delaware Sediment & Stormwater Regulations***

***Technical Subcommittee Meeting  
May 5, 2010***

What have we been  
doing for the past year?

# First Working Draft of Revised Regulations

Working Draft Sediment and Stormwater Regulations: February 2009

## 1.0 General Provisions

### 1.1 Findings of Fact

1.1.1 It is determined that:  
1.1.1.1 Erosion and sedimentation continue to present serious problems throughout the State.

1.1.1.2 The removal of a stable ground cover in conjunction with the decrease in the infiltration capacity of soils resulting from the creation of additional impervious areas such as roads and parking lots has accelerated the process of soil erosion and sediment deposition resulting in pollution of waters of the State. This damages domestic, agricultural, industrial, recreational, fish and wildlife and other resource uses.

1.1.1.3 Accelerated stormwater runoff increases flood flows and velocities, contributes to erosion, sedimentation and degradation of water quality, overtaxes the carrying capacity of streams and storm sewers, greatly increases the cost of public facilities in carrying and controlling stormwater, undermines floodplain management and flood control efforts in downstream communities, reduces groundwater discharge, and threatens public health, welfare and safety.

1.1.2 The regulation of stormwater runoff from land development activities will control stormwater runoff, soil erosion and nonpoint source pollution and will mitigate the adverse effects of stormwater runoff from development and will minimize threats to public health and safety.

### 1.2 Purpose

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

### 1.3 Applicability

1.3.1 Land disturbing activities for residential, commercial, industrial, agricultural or institutional land uses that are not exempted by these regulations are subject to the requirements within. After [EFFECTIVE DATE], unless a particular activity is exempted by these regulations, a person may not disturb land without an approved Sediment and Stormwater Management Plan from the delegated agency. A Sediment and Stormwater Management Plan shall not be approved for a property unless it is consistent with the following items:

1.3.1.1 7 Del.C. Ch. 40, relating to erosion and sediment control and stormwater management, and;

1.3.1.2 These regulations, or duly adopted county or municipal ordinances that are adopted as a part of the delegation process and relate to the intent of these regulations.

1.3.1.3 7 Del.C. Ch. 60, Section 9.1.02 of the *Regulations Governing the Control of Water Pollution*, known as Special Conditions for Stormwater Discharges Associated with Construction Activities.

Regulations: February 2009

disturbing activity for which a final plat or [E DATE] shall be governed by the [E DATE] with the following exception: Plans which have been approved prior to the date that the permit or approval has not been initiated on the project date, shall be resubmitted to the delegated agency for review and approval subject to the requirements established by these regulations.

Activities are exempt from both sediment and stormwater management requirements established by these regulations.

Land disturbing activities for agricultural land management practices unless the land requires a soil and water conservation plan, or the operator of the land has refused either the development of such a plan, or to implement a soil and water conservation District. Stormwater management practices that disturb the land.

Land disturbing activities which are exempt from the requirements of the laws which provide for managing stormwater runoff. An example of this exemption would be the National Pollutant Discharge Elimination Act (NPDES) permit for the discharge of stormwater and industrial or municipal wastewater.

The Department shall ensure that all land disturbing activities comply with Parts 122, 123, and 124 of Title 16, Delaware Code. The Department shall ensure that all land disturbing activities comply with any other specific State or federal laws or regulations that apply to ensure compatibility of requirements.

Land disturbing activities for commercial forest harvesting operations that are subject to the requirements of the Department of Agriculture under 3 Del.C. Ch. 10, relating to forest management.

Land disturbing activities for which a permit, agricultural waste plan, and/or other regulatory approval is required. The delegated agency may grant a written variance from the requirements of these regulations if there are exceptional circumstances that strict adherence to the provisions of these regulations would cause unnecessary hardship or not fulfill the intent of the regulations. A variance shall be provided to the delegated agency if the applicant demonstrates that strict adherence to the provisions of the regulations would cause unnecessary hardship or not fulfill the intent of the regulations. The Department shall determine if the applicant has demonstrated a need for a variance and shall state the reasons for the request. The Department may grant a variance unless and until sufficient specific information is provided by the owner.

Emergency maintenance in nature that are necessary for the repair of roads, bridges, culverts or pipe repairs and above ground structures.

Sediment and Stormwater Regulations: February 2009

Land disturbing activities for gas utilities or public utility restoration may be exempt from the requirements of these regulations if the nature of a project may preclude prior plan review and inspection. A project would not be exempt from the requirements of these regulations if subsequent inspection may necessitate sediment control measures in accordance with the provision of these regulations. The delegated agency shall determine if the project is exempted verbally or in writing within 24 hours of the start of the activity. The delegated agency shall determine the nature of a project. As-built plans must be submitted to the delegated agency in order to obtain post-construction approval. If the project requires more than 120 days to complete, the delegated agency shall be obtained for sediment control and stormwater management activities must still comply with other State, local, or federal requirements.

### Guarantees

The delegated agency has the authority to require the applicant to provide inspection and program administration. Each applicant shall submit a Sediment and Stormwater Management Plan with the permit application, and shall pay a fee for inspection, as determined by the Department. When the Department is the delegated agency, the fee shall be \$80.00 per disturbed acre per project. The establishment of fees, not involving the cost of the delegated agency, shall be in accordance with the following items:

1.6.1.2.1 Delegation of program elements to the delegated agency and personnel commitments. If the funding that is provided through State General Fund is insufficient to cover the cost of the delegated component will not cover the cost of the delegated program.

1.6.1.2.2 In the event that one component of a stormwater management program is not funded by State or local funds, a non-refundable fee will be required from the applicant and Stormwater Management Plan. The fee will provide for the unfunded costs of management of the delegated agency, including inspection, and education and training. The fee shall be for the collection of the fee.

1.6.1.2.3 The number of needed personnel and the cost of those personnel shall be determined by the delegated agency in a specific jurisdiction in accordance with the Department. Those expenses shall include unit plan review, construction inspection and certification of permanent construction.

1.6.1.2.4 The use of Certified Construction Inspection Review and certification of permanent construction may reduce the inspection requirements.

# Collated & Organized Comments on 1<sup>st</sup> Draft

February 2009 Working Draft Comments				
Comment Date	Subsection	Comment	Commenter	Subcommittee Assignment
3/3/2009	General Comment	The three-step process outlined in this Section is overly burdensome and unnecessary for small projects and for redevelopment projects.	Ernie Sheppe, MRA	Urban Considerations / Policies & Procedures
3/3/2009	General Comment	I invite those who work on these matters on a daily basis to expand on this, as you are far more familiar with the process than I am, but as a general comment, the overall process outlined in this Section appears to be a "do loop" that will have the developer and his consultant going in circles.	Ernie Sheppe, MRA	Policies & Procedures
3/11/2009	General Comment	The stormwater impact study and associated findings report are positive additions to the pre-application meeting process. These elements will help better inform the PLUS process.	Jen Mihills, DNW	Technical
3/13/2009	General Comment	Most of Section 3 should be deleted. Bureaucratic delays and indecision already in the system are making it impossible for new businesses to respond to changing economic conditions in a timely fashion. For example, just yesterday (March 10), the Secretary of Transportation agreed that DelDOT must shorten their response times dramatically for this reason.	Rich Collins, PGA	Economic Impacts
3/13/2009	General Comment	Section 3 puts the county's lawful land use powers in a secondary position. That is not constitutionally acceptable! Land use powers are delegated to the counties and municipalities. Stormwater is a permitting process, not an approval process.	Rich Collins, PGA	Planning & Land Use
3/13/2009	General Comment	The current pre-application meetings don't work. Agencies routinely change their requirements after they've signed off on a concept. Business plans and financial arrangements have been totally disrupted because government employees can't get their act together. This was a huge complaint at the DelDOT meeting. We can't add another layer in another department that actually has veto power before the local government gets to see a project.	Rich Collins, PGA	Policies & Procedures
3/13/2009	General Comment	Why are all of the procedural steps being added to the regulations instead of outlined in a separate policy document? If it is found that the procedure needs to be changed or modified in the future, does this now mean another regulation change to change procedural steps? As Section 3.0 is written it will add and complicate the review process without adding benefit except in the limited cases.	Jared Adkins, KCD	Policies & Procedures
3/11/2009	3.1	Will the pre-application meeting be required for all projects? Many of the City's projects are redevelopment and infill and this process seems to be an extra step that could add extra time to a project. Public Works questions why can't the preliminary plans be submitted at the time of the pre-application meeting?	City of Newark Public Works	Urban Considerations / Policies & Procedures
3/13/2009	3.1	A Pre-App meeting, Conceptual Plan & Impact Study, are a waste of time and resources if the zoning is not yet approved, A Pre-App meeting, Conceptual Plan & Impact Study is a waste of time and resources if the site plan being presented is not acceptable to the County.	Sally Ford, Land Design	Planning & Land Use

# Subcommittee Meetings Held to Discuss Issues & Concerns

**Regulatory Advisory Committee (RAC) Subcommittees**

The Regulatory Advisory Committee (RAC) has chosen six subcommittees that meet separately within the RAC during the regulation revision process. These subcommittees originated to better identify needs for the revisions to Delaware's Sediment and Stormwater Regulations.

**Technical Subcommittee**  
Chair: Bruce Jones, ACEC  
Staff: Randy Greer, [Randel.greer@state.de.us](mailto:Randel.greer@state.de.us)  
Upcoming meetings: Oct. 7, 2009 (9 a.m. - Noon) [Oct 7 Agenda](#)  
DelDOT Administrative Building Fenwick Room  
[Technical subcommittee draft regulation comments](#)  
Meetings to date:  
August 5, 2009 [Agenda](#) [Meeting Notes](#)  
July 1, 2009 [Agenda](#) [Meeting Notes](#)  
June 3, 2009 [Agenda](#) [Meeting Notes](#)  
May 6, 2009 [Agenda](#) [No Meeting Notes](#)  
April 8, 2009 [Agenda](#) [Meeting Notes](#)  
Dec. 1, 2008  
June 5, 2008  
April 7, 2008  
March 17, 2008  
March 3, 2008  
Feb. 4, 2008

**Policies and Procedures Subcommittee**  
Chair: Jeff Bross, Clean Water Advisory Council  
Staff: Elaine Webb, [Elaine.Webb@state.de.us](mailto:Elaine.Webb@state.de.us)  
Upcoming meeting: To Be Determined  
[Policies and procedures draft regulation comments](#)  
Meetings to date:  
April 6, 2009 [Agenda](#) [Meeting Notes](#)  
March 20, 2008  
March 7, 2008  
Feb. 5, 2008

**Urban Considerations Subcommittee**  
Chair: Doug Seavey, Home Builders Association of Delaware  
Staff: Frank Piorko, [Frank.Piorko@state.de.us](mailto:Frank.Piorko@state.de.us)  
Upcoming meeting: To Be Determined  
[Urban considerations draft regulation comments](#)  
Meetings to date:  
April 20, 2009 [Agenda](#) [Meeting Notes](#)  
March 4, 2008  
Feb. 20, 2008  
Feb. 6, 2008

**Economic Impacts Subcommittee**  
Chair: To Be Determined  
Staff: Frank Piorko, [Frank.Piorko@state.de.us](mailto:Frank.Piorko@state.de.us)  
Upcoming meeting: To Be Determined  
[Economic impacts draft regulation comments](#)  
Meetings to date:  
April 6, 2009 [Agenda](#) [Meeting Notes](#)

**Maintenance Subcommittee**  
Chair: Jenn Volk, DNREC Division of Water Resources  
Staff: Beth Krumine, [Beth.Krumine@state.de.us](mailto:Beth.Krumine@state.de.us)  
Upcoming meeting: To Be Determined  
[Maintenance subcommittee draft regulation comments](#)  
Meetings to date:  
April 8, 2009 [Agenda](#) [Meeting Notes](#)  
March 20, 2008  
March 6, 2008  
Feb. 4, 2008

**Planning and Land Use Subcommittee**  
Chair: Lee Ann Walling, DNREC Secretary's Office  
Staff: Elaine Webb, [Elaine.Webb@state.de.us](mailto:Elaine.Webb@state.de.us)  
Upcoming meeting: To Be Determined  
[Planning and land use draft regulation comments](#)  
Meetings to date:  
April 3, 2009 [Agenda](#) [Meeting Notes](#)  
March 17, 2008  
Feb. 25, 2008  
Feb. 5, 2008

# Began Work on Technical Documents

Expanded Technical Document Outline – July 2009

## **Article 1. Sediment and Stormwater Program Background**

### **Section 1.01 [Executive Summary](#)**

### **Section 1.02 [Federal Clean Water Act Requirements](#)**

### **Section 1.03 [State Requirements](#)**

Applicability – cover exemptions (Section 1.4 of revised regs)

## **Article 2. Policies and Procedures**

### **Section 2.01 [Delegated Agencies](#)**

- A. Delegation Background and Process
- B. Required documentation  
(See Section 5.4 of current regs)
- C. Public Notice Requirements

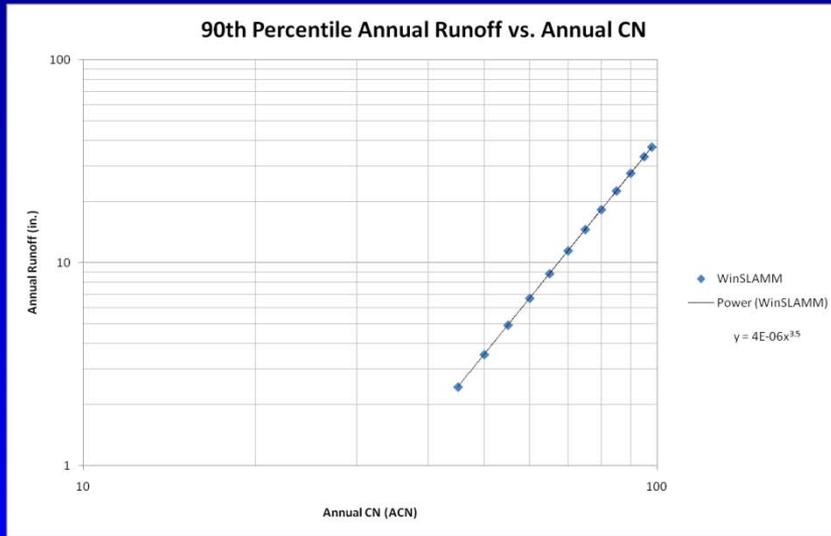
### **Section 2.02 [Plan Policies and Procedures](#)**

- A. Plans valid for 3 years (current 8.7, proposed 3.5)
- B. Grandfathering / sunseting plans

### **Section 2.03 [Fees](#)**

- A. Public review process for fee adjustments
- B. Fees-in-lieu
  - i. Process
    - a. Delegated agency develops a policy
    - b. DNREC concurrence
    - c. Public review
  - ii. Circumstances for when fee-in-lieu is applicable
    - a. Water quality, Resource Protection
    - b. Water quantity, Conveyance & Flooding
    - c. All?
- C. Financial Guarantees and Bonds
  - i. Process
    - a. Delegated agency develops a policy

# Developing Compliance Tools for Designers



PROJECT:		DURMM v2					
DRAINAGE SUBAREA ID:		BMP 1		BMP 2		BMP 3	
		Type: Downspout Disconnection	Type: Bioswale	Type: Bioretention			
<b>Step 1 - Calculate Initial Rpv</b>		Data	Data	Data			
1.1	Contributing area (ac)						
1.2	RCN from TR-55						
1.3	Runoff volume (in.)						
1.4	Max. allowable discharge (cfs)						
<b>Step 2 - Adjust for Storage</b>							
2.1	Storage volume (cu. ft.)						
2.2	Storage volume (in.)						
2.3	Runoff volume after reduction (in.)						
2.3	CN*						
<b>Step 3 - Adjust for Runoff Reduction</b>							
3.1	Annual CN (ACN)						
3.2	Annual runoff (in.)						
3.3	Runoff reduction allowance (%)						
3.4	Annual runoff after reduction (in.)						
3.5	Adjusted ACN						
<b>Step 4 - Calculate Total BMP Reduction</b>							
4.1	Total runoff reduction (in.)						
4.2	Total runoff reduction (%)						
4.3	Adjusted RCN						

# Follow-Up Meetings & Discussions with Consultant

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**Latest News**

UPCOMING EVENT:  
*From the Rooftop to the Bay: Implementing Stormwater Management Strategies in the Chesapeake Bay Watershed*  
March 9-11, 2010 (Registration Deadline is February 5, 2010)  
Stonewall Jackson Hotel in Staunton, VA

The Center's **2008 Annual Report** released - 10/29/09

*Guánica Bay Watershed Management Plan* posted - 10/29/09

*Stormwater BMPs in Virginia's James River Basin: An Assessment of Field Conditions & Programs* technical report released - 6/29/09

Coastal Stormwater Supplement to the Georgia Stormwater Management Manual released - 5/04/09

**Events**

From the Rooftop to the Bay: Implementing Stormwater Management Strategies in the Chesapeake Bay Watershed, March 9-11 at Stonewall Jackson Hotel in Staunton, VA

[view all events »](#)

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# Met with DeIDOT to Improve Coordination Between Agencies

F.Y.I.

You have some land and an idea for developing it.  
Now, where to begin at DeIDOT?

## The Plan Review Process – Who and What

### Subdivision Plan Review

Essential Information  
for DeIDOT Customers



# Monitoring Proposed Stormwater Regulations from Surrounding States

**Table 1**  
**Comparison of Current Stormwater Requirements in the Bay States**

STATE	Water Quality	Channel Protection?	Redevelopment
DC	Prevent/Reduce runoff volume from 75% One-inch event + 25% treatment Higher requirements for Anacostia (3 inches)	Not specifically, although Anacostia requirements should provide CPv	Nearly all development in City is redevelopment: Reduce runoff volume from 75% of the 1 inch rainfall event, and treat the remaining 25%
DE	Runoff reduction for all storm events up to one year design storm event (Resource Protection Event)	<b>Yes</b> , Must provide runoff reduction or detention for runoff volume from the 1 yr event. Considered part of the Resource Protection Event.	Criteria for redevelopment, infill and brownfield compliance being developed in early 2010
EPA	Runoff Volume Reduction From 95 <sup>th</sup> percentile rainfall event (1.5 to 1.9 inches in watershed)	<b>No</b> , but the 95 <sup>th</sup> percentile storm should provide some channel protection	Full runoff volume reduction for the 95 <sup>th</sup> percentile rainfall event (1.5 to 1.9 inches in watershed)
MD	Reduce runoff volume at least up to from 1 inch rainfall event and strive for 1 year event (2.6 inches)	<b>Yes</b> , first reduce, then detain runoff volume up to one-year 24 hour design storm (2.6 inches)	Reduce or treat runoff volume from 0.5 inch rainfall event
NY	Partial runoff reduction for the first inch of rainfall (20 to 50% of WQv depending on soil). Higher runoff reduction required in P-limited watersheds	<b>Yes</b> , runoff reduction and/or detention of one-year 24 hour design storm	<b>New IC:</b> Reduce or Treat Runoff Volume from 1 inch rainfall event <b>Existing IC:</b> Reduce by 25% through IC reduction, BMPs or alternative practices
PA	Runoff reduction up to the 2-year design storm event <b>or</b> Treatment/reduction and infiltration of the first 2 inches of rainfall	<b>Yes</b> , the CG-1 is presumed to provide adequate channel protection	20% WQ treatment for the site (0.2 inches)
VA	Post development TP load no more than 0.45 lbs/ac/yr using runoff reduction practices	<b>Yes</b> , 4 different criteria depending on the nature of the receiving stream channel	Reduce existing phosphorus load by 10 to 20% depending on project location and site area
WV	Provide full runoff reduction for runoff from the first inch of rainfall	<b>No</b> .	Runoff volume reduction for 0.25 to 1.0 inches of rainfall, depending on nature of redevelopment project

**Important Caveat:** This comparative summary is accurate as of January 31, 2010, but readers should be mindful that specific requirements may be more stringent or complex than shown. Please consult the individual state web links provided at the end of this handout. Also, stormwater requirements may change in the future due to pending legislative actions, legal challenges, federal or state permit requirements or as regulations proceed from draft to final stage. Local governments have the option to adopt more stringent requirements or criteria.

Source: Chesapeake Stormwater Network



# Consulted with DOJ Legal Counsel

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Eric Eidel  
Message from Attorney General

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**Media Outreach**

**The Civil Division**

## Administrative & Environmental Services Group

The Administrative & Environmental Group provides legal advice and support to 34 regulatory boards and commissions that regulate 42 professions organized under the Delaware Division of Professional Regulation. During the last year, the Administrative Deputies participated in 191 public meetings, more than 90 disciplinary and/or licensure hearings, completed 88 written board orders and drafted numerous regulations for State boards and commissions. The Environmental Deputies provide legal advice to the Department of Natural Resources and Environmental Control on matters including environmental enforcement prosecution, statutory construction, and legislative initiatives, and defend department officials and employees in litigation brought against the State. In 2008, Administrative and Environmental Deputies assisted with reviewing or drafting more than 18 legislative bills, 14 of which were passed by the General Assembly.

Notable cases include:

- On March 31, 2008, the United States Supreme Court rejected New Jersey's legal challenge to Delaware's jurisdiction over the Delaware River within the historic twelve-mile circle from New Castle. The dispute involved Delaware's efforts to preserve its fragile coastal environment and protect Delaware citizens from a potentially dangerous industrial development. The Delaware Department of Justice, along with private counsel, represented the State of Delaware.
- In late 2007, the Department helped negotiate a settlement on behalf of the Delaware Public Service Commission that strengthened oversight of the regional electric grid operator, in order to police abuses in the wholesale electric market that have led to higher retail electricity rates.
- An agreement between the Delaware Department of Natural Resources and Environmental Control (DNREC) and BP/Amoco, under which the company will perform a cleanup of its former polymer plant located in New Castle at an estimated cost of \$15-20 million.
- A settlement with International Petroleum Corporation (IPC) in a claim of natural resource damages resulting from an April, 2006 oil spill from its Wilmington facility into the Christina River. Funds from the settlement will be used by DNREC to restore or replace natural resources in the Christina River watershed and Delaware River and Bay, which were injured by the oil spill. A settlement was also negotiated with the owners of the vessel M/V Bermuda Islander that spilled oil into the Delaware River on April 25, 2006. Funds from the settlement will be used by DNREC and the federal government to restore or replace damaged natural resources in the Delaware River and Bay.
- The Department represented DNREC in the beach replenishment construction project at Bethany Beach and South Bethany Beach. The beach replenishment project enhances the beach experience, safeguards regional tourism, and protects the state's infrastructure. The Department also negotiated and coordinated with the Army Corps of Engineers and obtained the necessary beachfront easements. In return, the federal government funded 65 percent of the project costs (approximately \$17.4 million). As a result, Delaware also secured its priority for federal funding of maintenance sand nourishment projects for the next 50 years.



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# 2nd Draft in Progress

Working Second Draft Sediment and Stormwater Regulations: February-April-November 2009

1.3.1.3 7 Del. C. Ch. 60, relating to the development, utilization, and control of the land, water, underwater and air resources of the State, and, the Control of Water Pollution, Section 9.1.02 of the Regulations Governing Stormwater Discharges Associated with Construction Activities:

1.3.2 A proposed land disturbing activity for which a final plat or plan was approved prior to ~~the effective date of these regulations~~ proposed major subdivision plans, site plans, concept plans, initial stage calculation sheets, requests for service level evaluation, or requests for the effective date of these regulations for a development proposal, for the purpose of securing a letter of no objection, support facilities report, entrance location, or entrance approval, shall be governed by the regulations in effect at the time of approval with the following exception: receipt by DeDOT.

1.3.3 Where submission to DeDOT is not required prior to filing an application with the county or local government, projects for which applications have been submitted to the county or local government prior to the effective date of these regulations shall be governed by the regulations in effect at the time of submittal to the county or local government.

1.3.4 Projects which have been approved received Sediment and Stormwater Management Plan approval prior to ~~the effective date of these regulations~~ the effective date of these regulations, and where site clearing construction activity has not been initiated on the project within two-three years after the project plan approval date, shall be resubmitted to the Department or delegated agency for review and approval subject to the requirements of these regulations.

1.3.5 A project having an approved Sediment and Stormwater Management Plan where construction has not been completed, shall be subject to the sunset provisions of the county or local government. The Sediment and Stormwater Plan approval shall expire three years after the approval date, or if the approval is extended, the Sediment and Stormwater Plan approval shall expire when the county or local government sunsets that project approval.

1.4 Exemptions  
1.4.1 The following activities are exempt from both sediment control and stormwater management requirements established by these regulations:

1.4.1.1 Agricultural land management practices unless the Department or delegated agency determines that the land requires a soil and water conservation plan, and the owner or operator of the land has refused either to apply to a Conservation District for the development of such a plan, or to implement a plan developed by a Conservation District.

## Proposed New Text for 3.1 – 3.4 (41/24/12/04/14/09):

### 3.0 Plan Approval Procedures and Requirements

3.1 All projects requiring approval of a detailed Sediment and Stormwater Management Plan are subject to a three-step approval process. Step 1 of the plan approval process is ~~known as scheduling and conducting the Project project Application application Meeting meeting~~. Step 2 of the plan approval process is ~~known as submission of the Preliminary preliminary~~ Sediment and Stormwater Management Plan. Step 3 of the plan approval process is ~~known as submission of the detailed~~ Sediment and Stormwater Management Plan.

3.1.1 Approval of the Authorization is current step in the process is required prior to proceeding with from the current step to the following subsequent step in the plan approval process.

3.1.2 If significant changes, as determined by the Department or delegated agency, are proposed on the subsequent submittal from the submittal that received authorization to proceed, the owner may be required to repeat the previous step in the plan approval process.

### 3.2 Project Application Meeting

3.2.1 Unless granted prior approval by the Department or delegated agency, all owners persons subject to these regulations owners are required to hold a Project project Application application Meeting meeting with the Department or delegated agency.

3.2.2 Prior to scheduling the Project project Application application Meeting meeting, the owner applicant owner must submit a Stormwater Assessment Study to the Department or delegated agency.

3.2.3 At the Project project Application application Meeting meeting, the Stormwater Assessment Study will be reviewed and discussion of as well as potential volumes, and pollutant loads, will occur.

3.2.4 A Project project Application application Meeting meeting Discussion discussion and Agreement agreement Items items document will be developed during the meeting and signed by all attendees at the conclusion of the meeting.

3.2.5 A Stormwater Assessment Report will be completed by the Department or delegated agency based upon the Stormwater Assessment Study and Project project Application application Meeting meeting discussion. The Stormwater Assessment Report will be submitted to the local land use approval agency.

### 3.3 Preliminary Sediment and Stormwater Management Plan

3.3.1 The Preliminary preliminary Sediment and Stormwater Management Plan submittal shall include preliminary plans for the site, as well as the schematic erosion and sediment control plan, with supporting hydrologic and hydraulic calculations necessary for the Department or delegated agency to determine compliance with these regulations.

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Comment

# Timeline – 2<sup>nd</sup> Quarter 2010

- Regs 2<sup>nd</sup> Draft – mid May
- Technical Document
- RAC Meeting - May 27, 2010

# Timeline – 3rd Quarter 2010

- Legal Review
- Public Workshops
- Outreach to selected regulated groups

# Timeline – 4<sup>th</sup> Quarter 2010

- Public Hearing – October
- Register of Regulations
  - December 2010 - January 2011

# New EPA Initiatives

# ELGs for Construction & Development Industry



## Federal Register

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Tuesday,  
December 1, 2009

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**Part III**

**Environmental  
Protection Agency**

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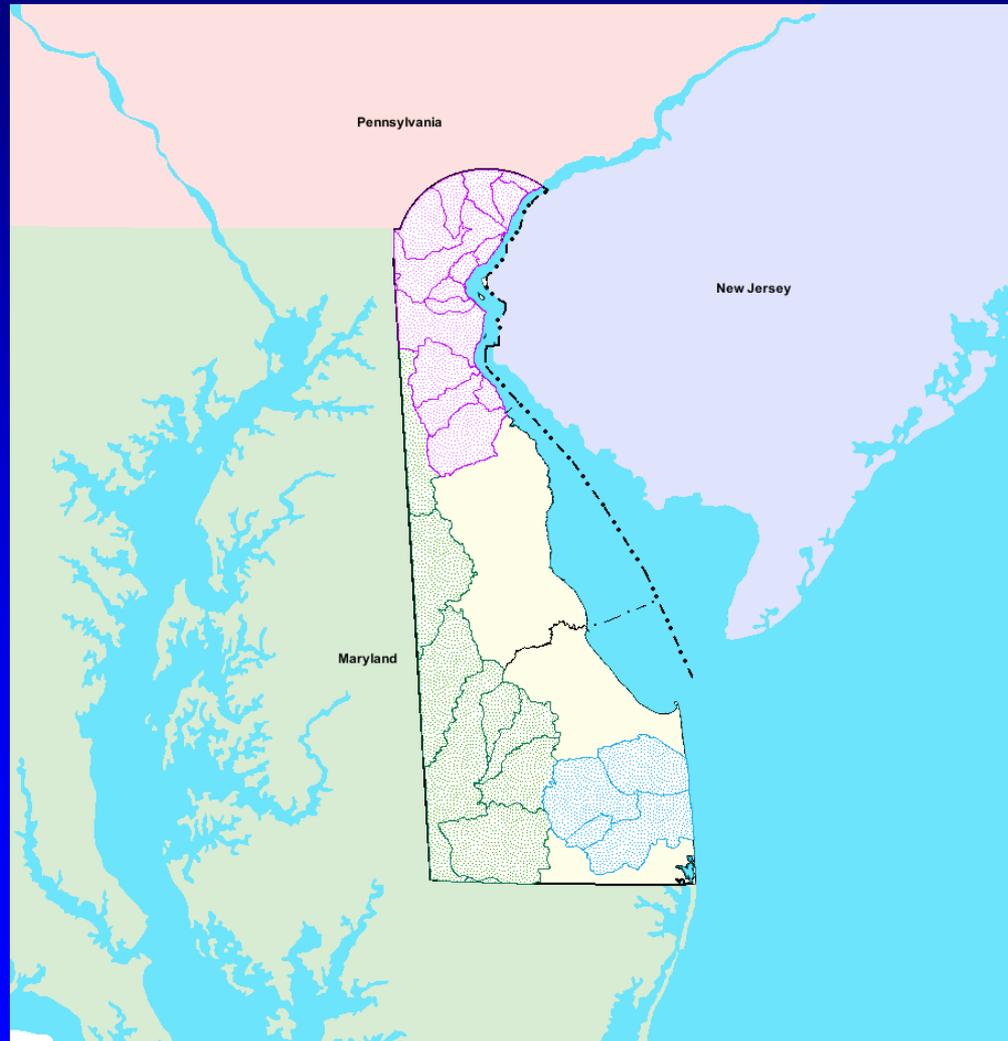
40 CFR Part 450  
Effluent Limitations Guidelines and  
Standards for the Construction and  
Development Point Source Category; Final  
Rule

# 4.0 Construction Site SWM

- Federal Rule (Feb. 1, 2010)
  - Effective on or about August 1, 2011, Numerical Effluent Limit of 280 ntu applies to all construction sites with greater than 20 acres disturbed for all storms less than the 2-YR frequency
  - 20 acre disturbance threshold will roll back to 10 acres effective Feb. 1, 2014
- Proposed Regs
  - Disturbance > 10 ac. requires engineered design based on 2-YR bare earth condition



# TMDLs



## Section 5.0 Performance Criteria for Post-Construction Stormwater Management

5.2.3.3 Additional water quality treatment BMPs shall be provided if the runoff reduction requirements of Section 5.2.3 are not sufficient to meet Total Maximum Daily Load (TMDL) requirements for the receiving water.

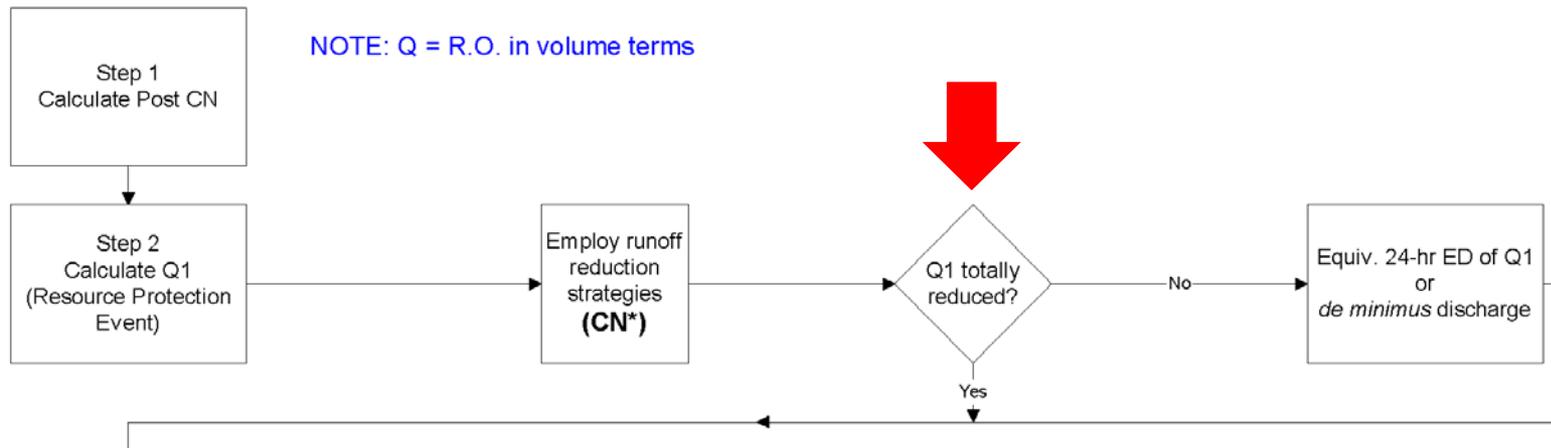
*Ref: Proposed Sediment and Stormwater Regulations, 2<sup>nd</sup> Draft*

# Questions?

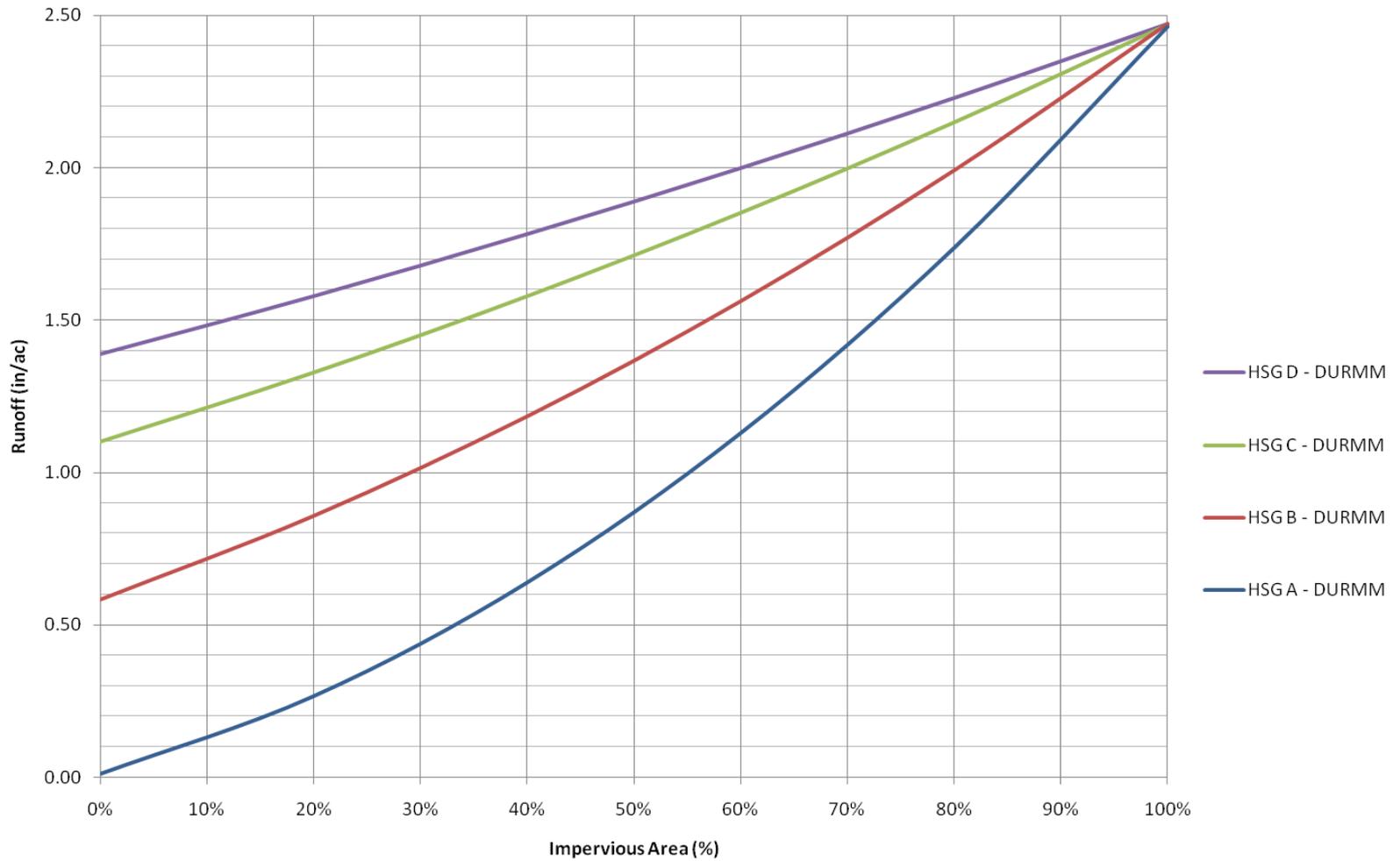


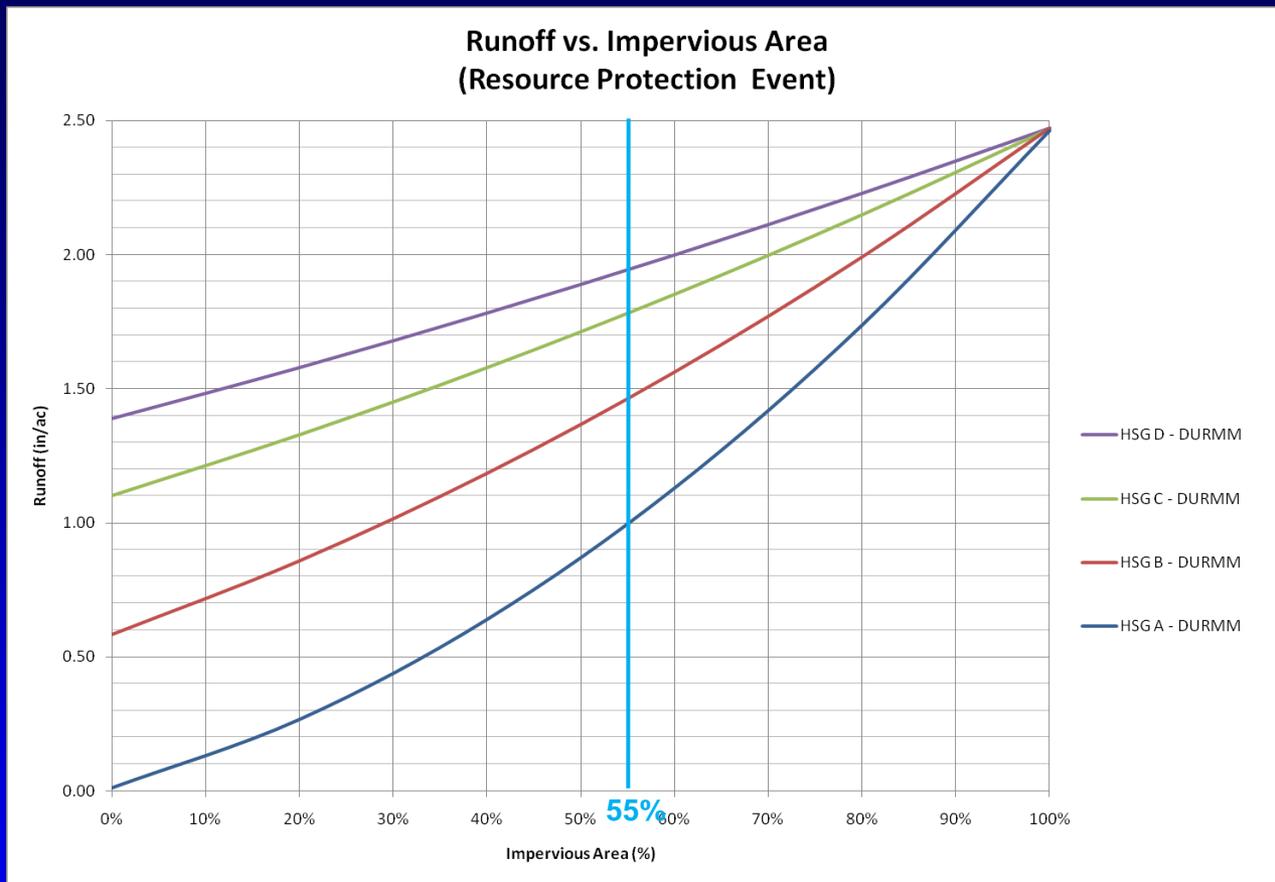
# Update on Runoff Reduction Methodology

# Resource Protection Event



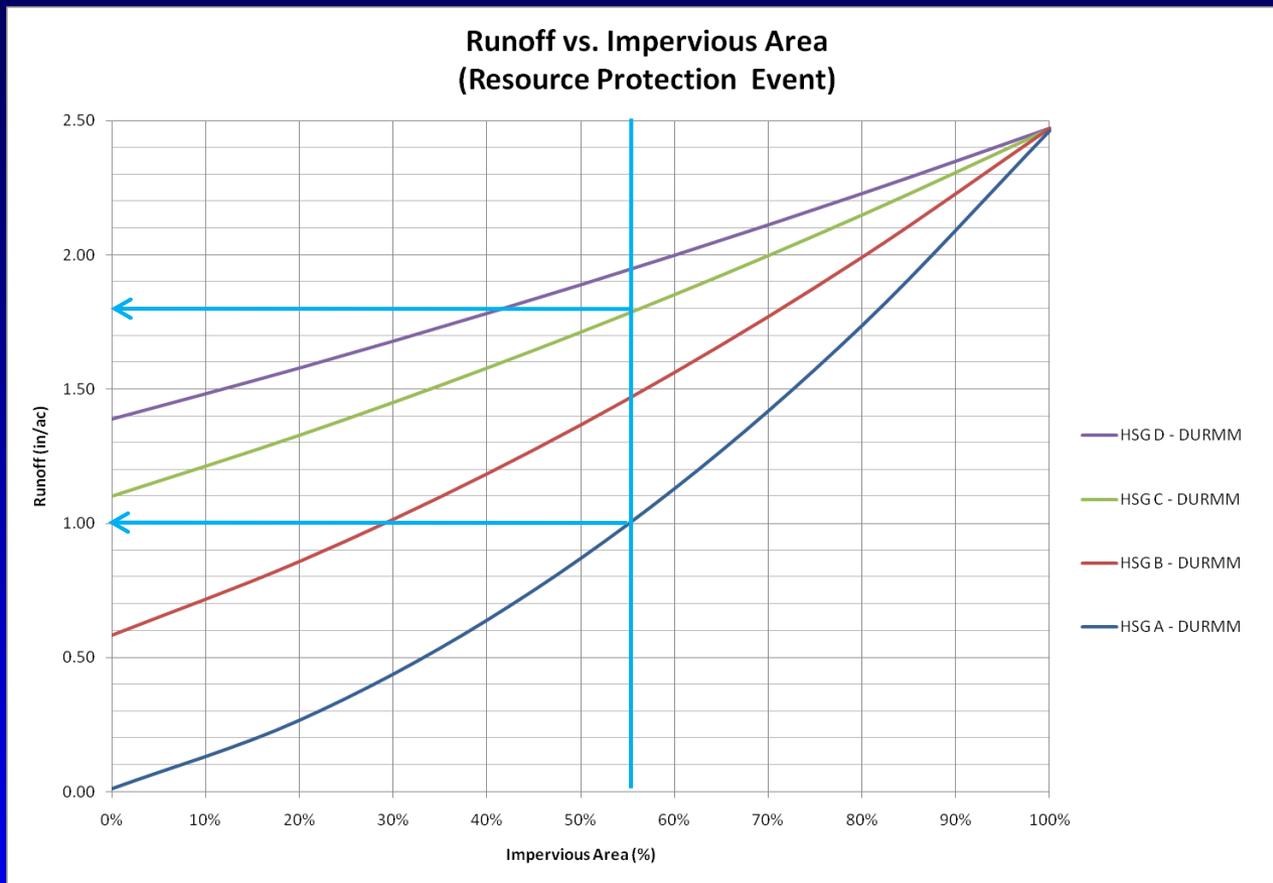
## Runoff vs. Impervious Area (Resource Protection Event)





Site 1: 55% Impervious, HSG A Soil

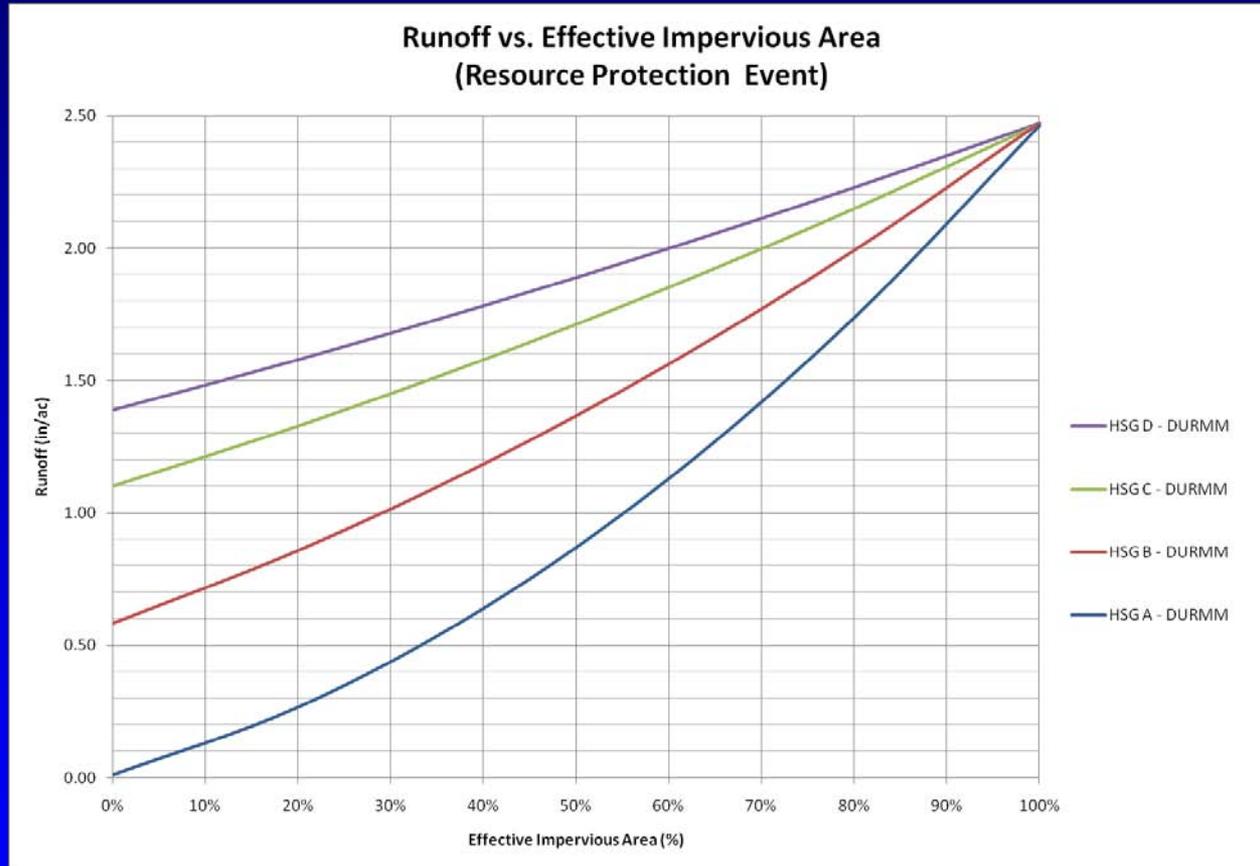
Site 2: 55% Impervious, HSG C Soil



Site 1: 55% Impervious, HSG A Soil  
 Runoff = Req'd Reduction = 100% = 1.0"

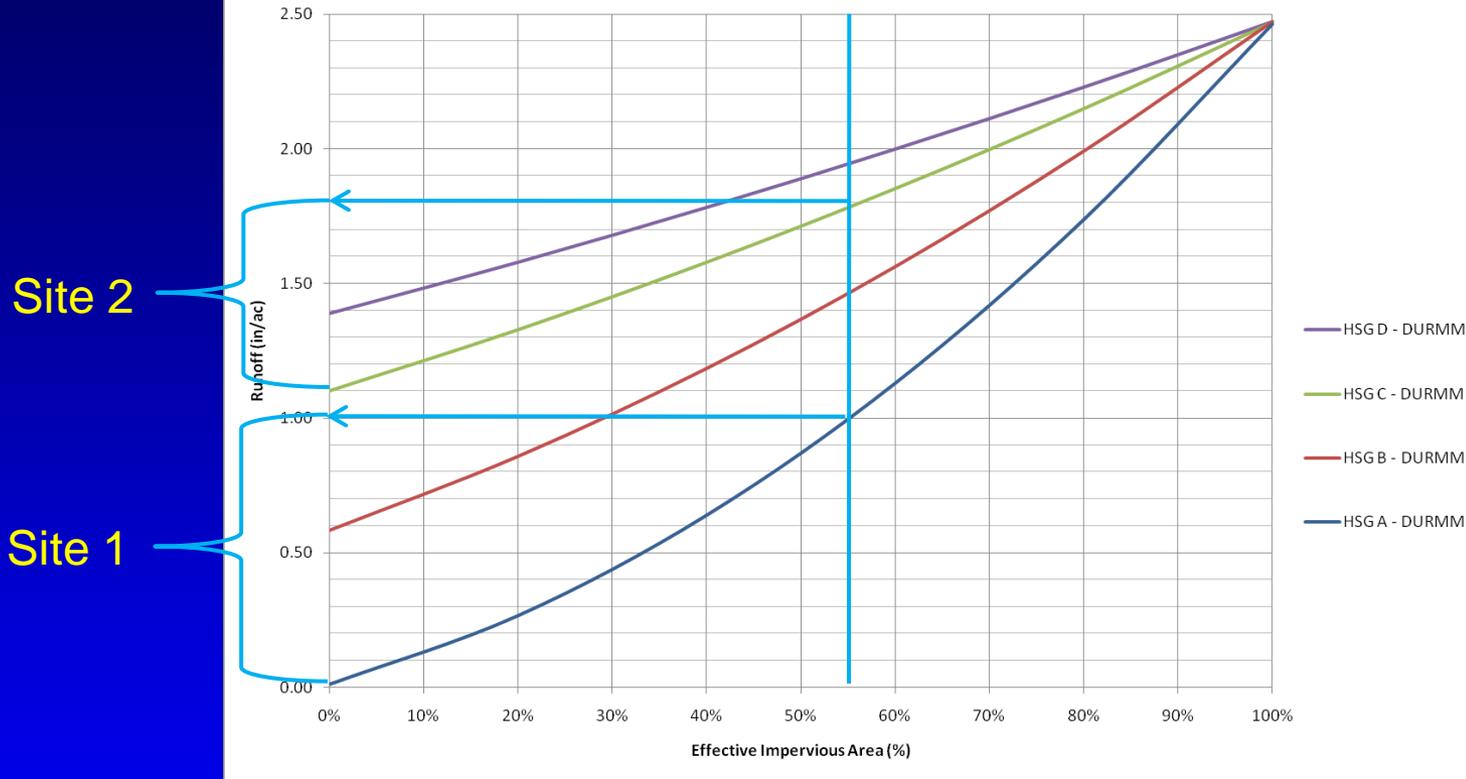
Site 2: 55% Impervious, HSG C Soil  
 Runoff = Req'd Reduction = 100% = 1.8"

# Proposed Minimum Runoff Reduction?



Equivalent 0% Effective Imperviousness

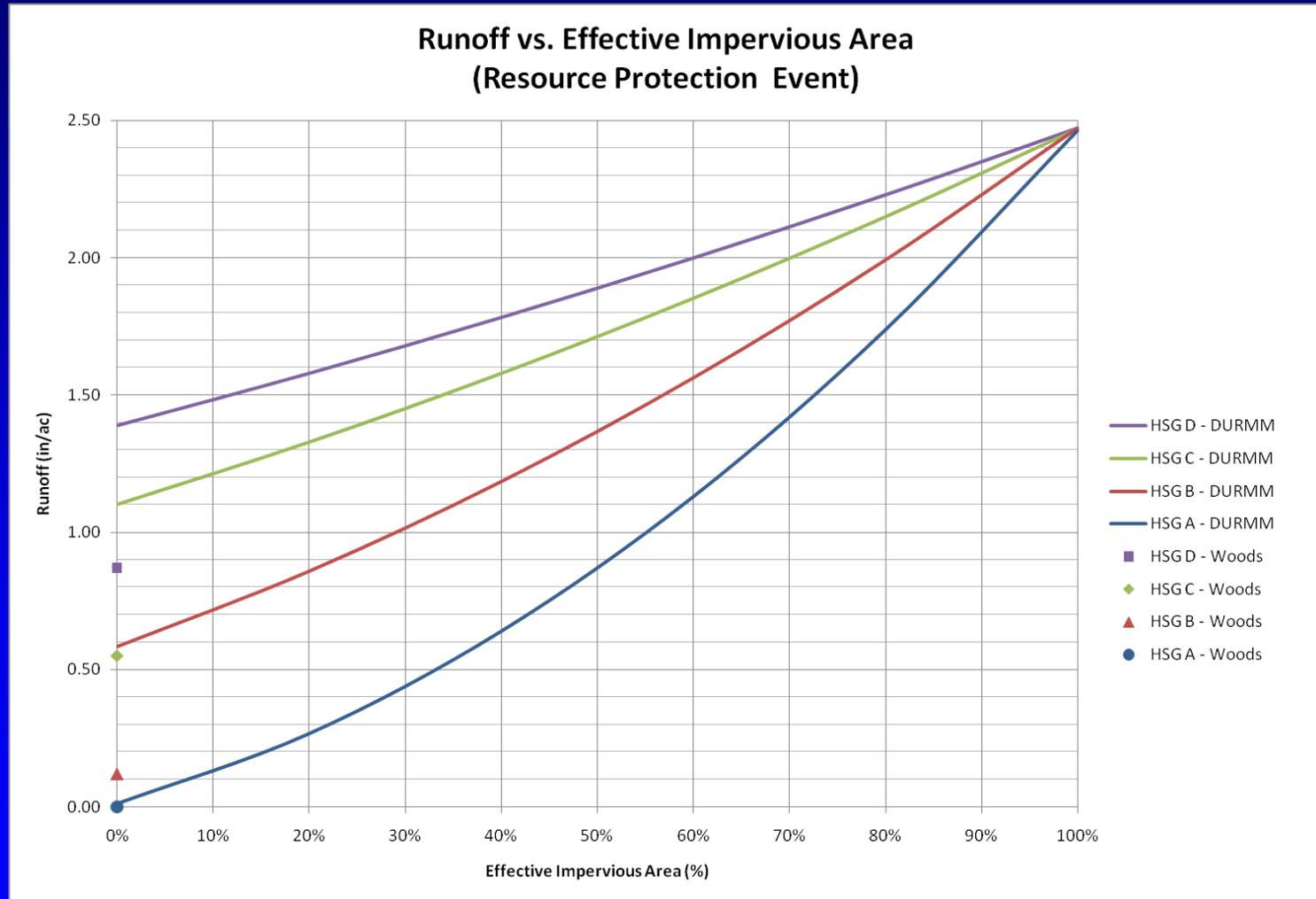
Runoff vs. Effective Impervious Area  
(Resource Protection Event)



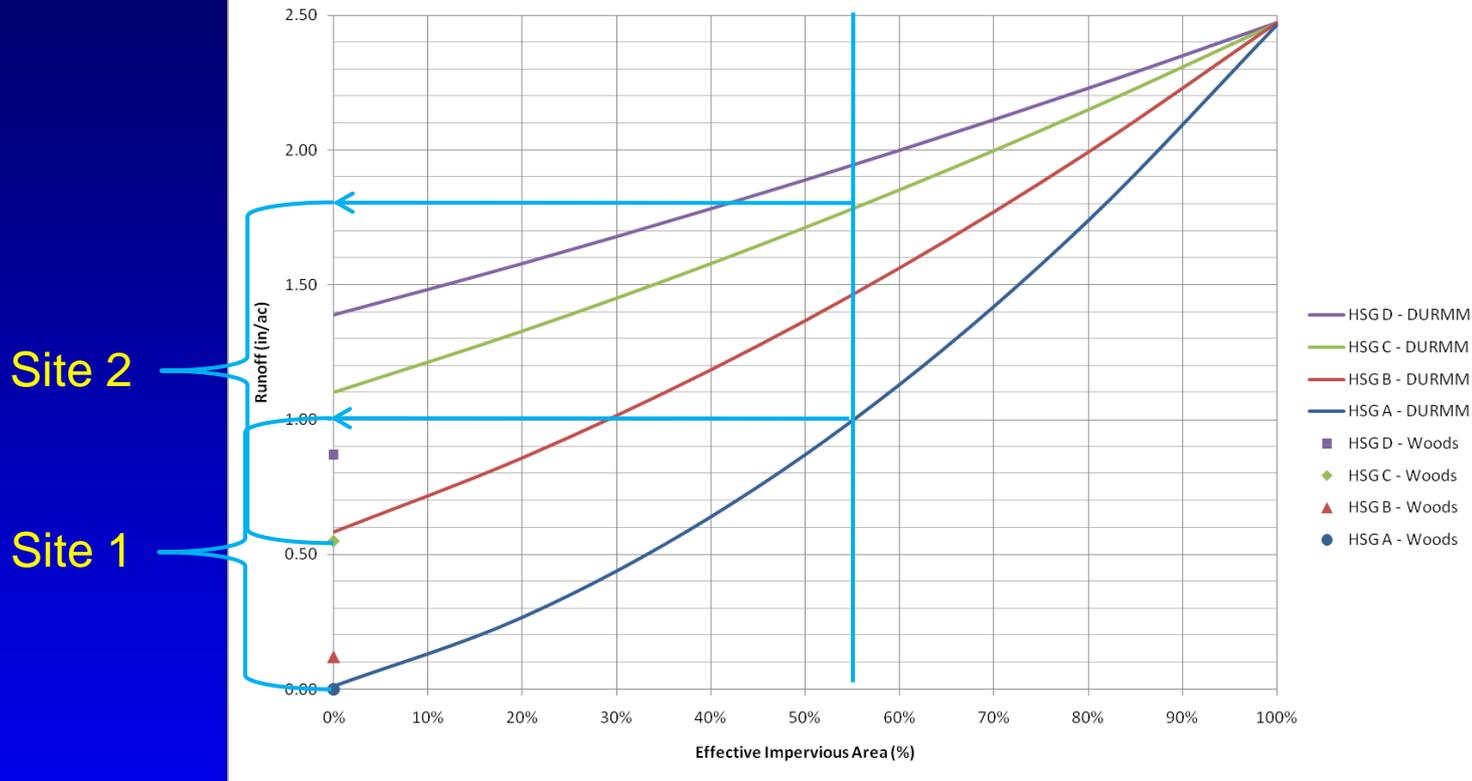
Site 1: 55% Impervious, HSG A Soil  
Runoff = 1.0"  
Minimum RR = 1.0" – 0" = 1.0" (100% Reduction)

Site 2: 55% Impervious, HSG C Soil  
Runoff 1.8"  
Minimum RR = 1.8" – 1.1" = 0.7" (38% Reduction)

# Existing Woods/Meadow?



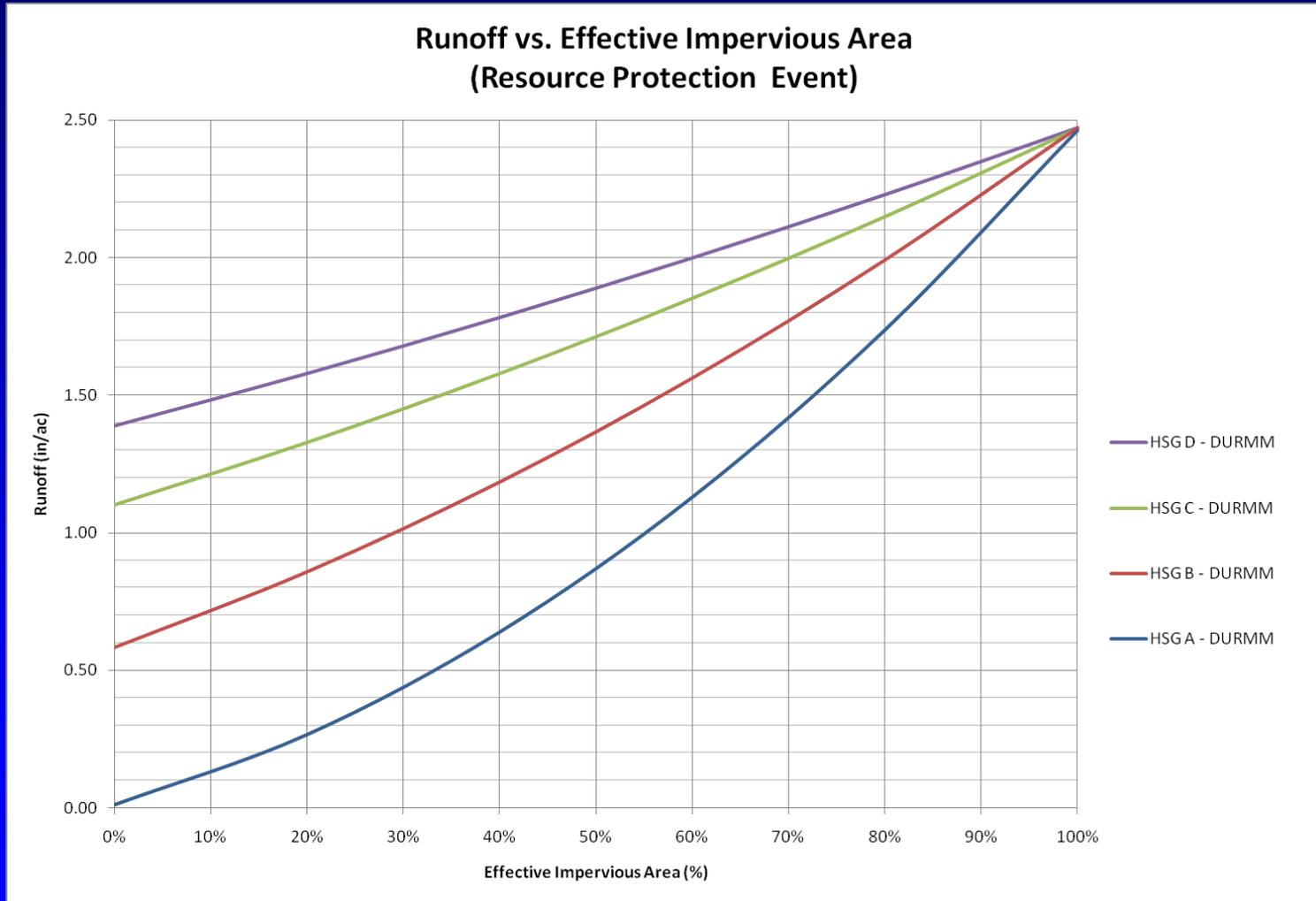
Runoff vs. Effective Impervious Area  
(Resource Protection Event)



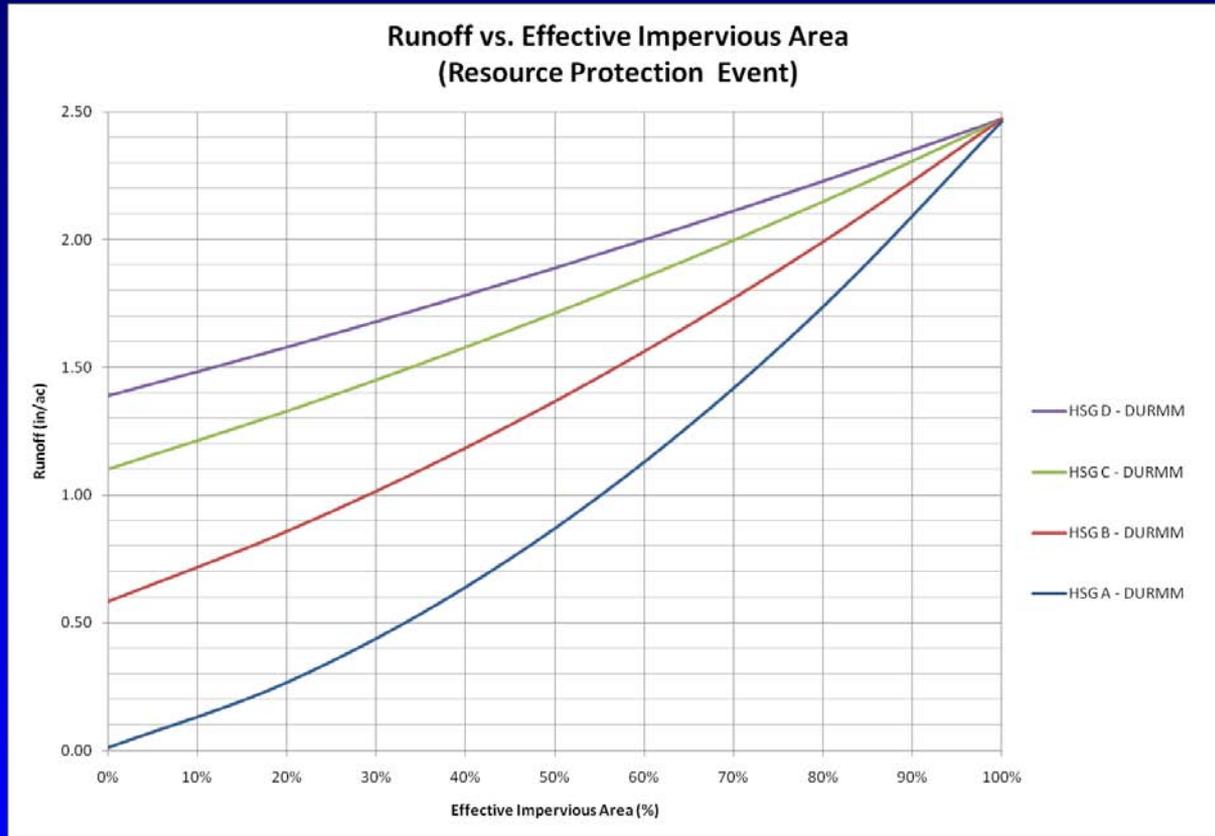
Site 1: 55% Impervious, HSG A Soil, Existing Woods  
 Runoff = 1.0"  
 Minimum RR = 1.0" – 0" = 1.0" (100% Reduction)

Site 2: 55% Impervious, HSG C Soil, Existing Woods  
 Runoff 1.8"  
 Minimum RR = 1.8" – 0.55" = 1.25" (69% Reduction)

# Redevelopment?

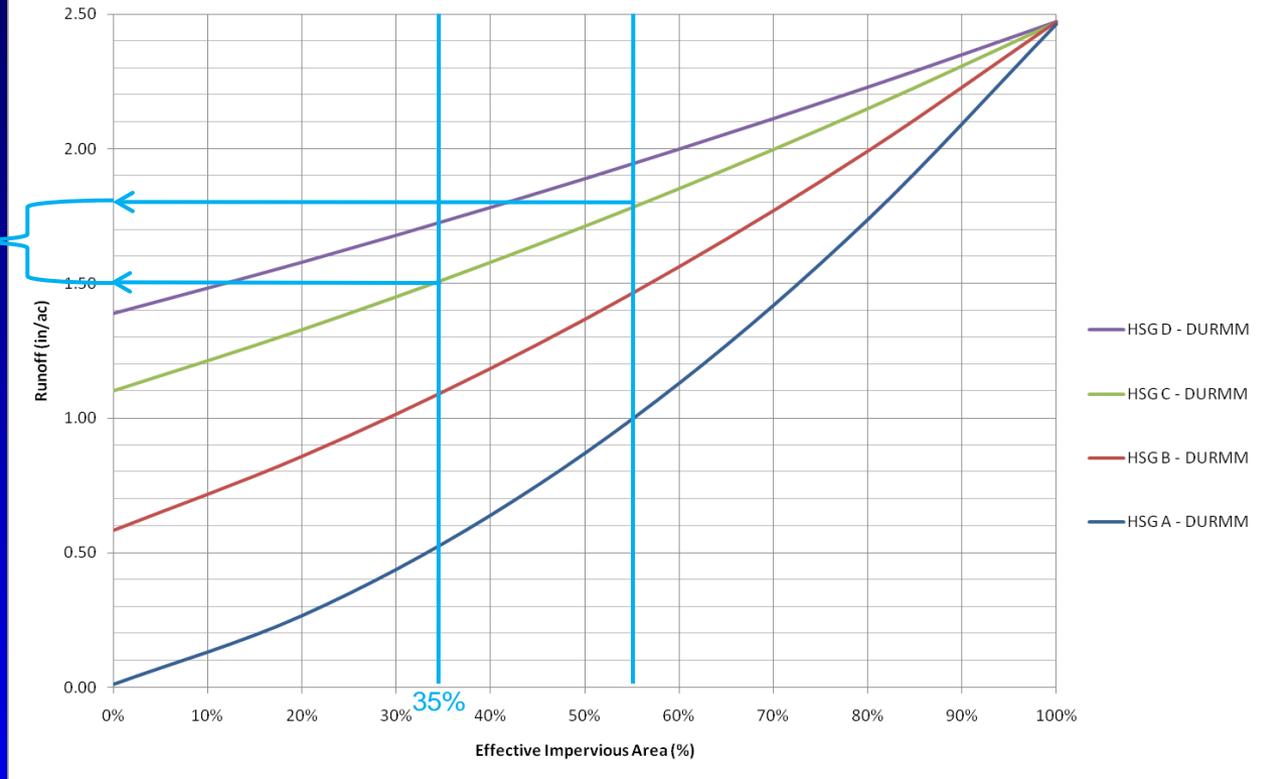


# Proposed Minimum RR for Redevelopment



20% Reduction in **Existing Effective** Imperviousness\*

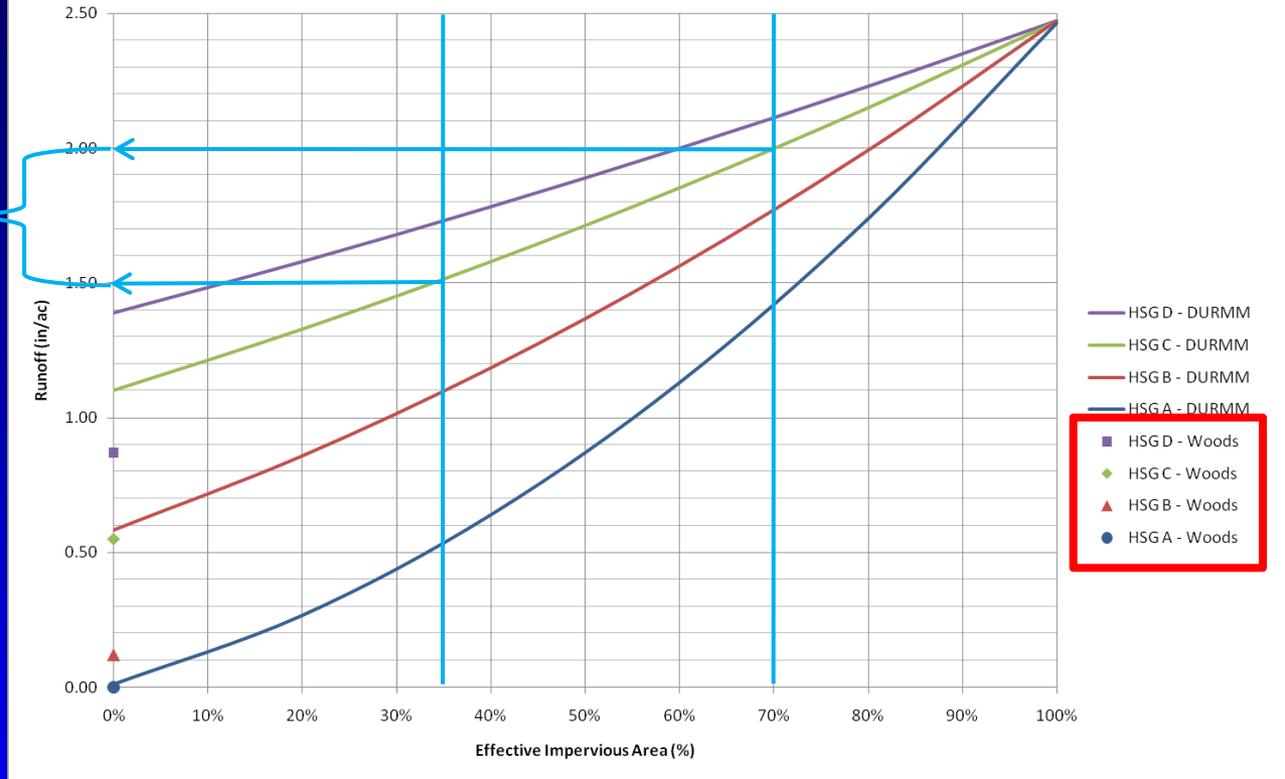
Runoff vs. Effective Impervious Area  
(Resource Protection Event)



Redev.  
Site 2

Redev. Site 2: 55% Ex. Impervious, HSG C Soil, 55% Prop. Impervious  
 Runoff = 1.8"  
 Req'd Reduction in Effective Impervious = 55% - 20% = 35%  
 Minimum RR = 1.8" - 1.5" = 0.3" (17% Reduction)

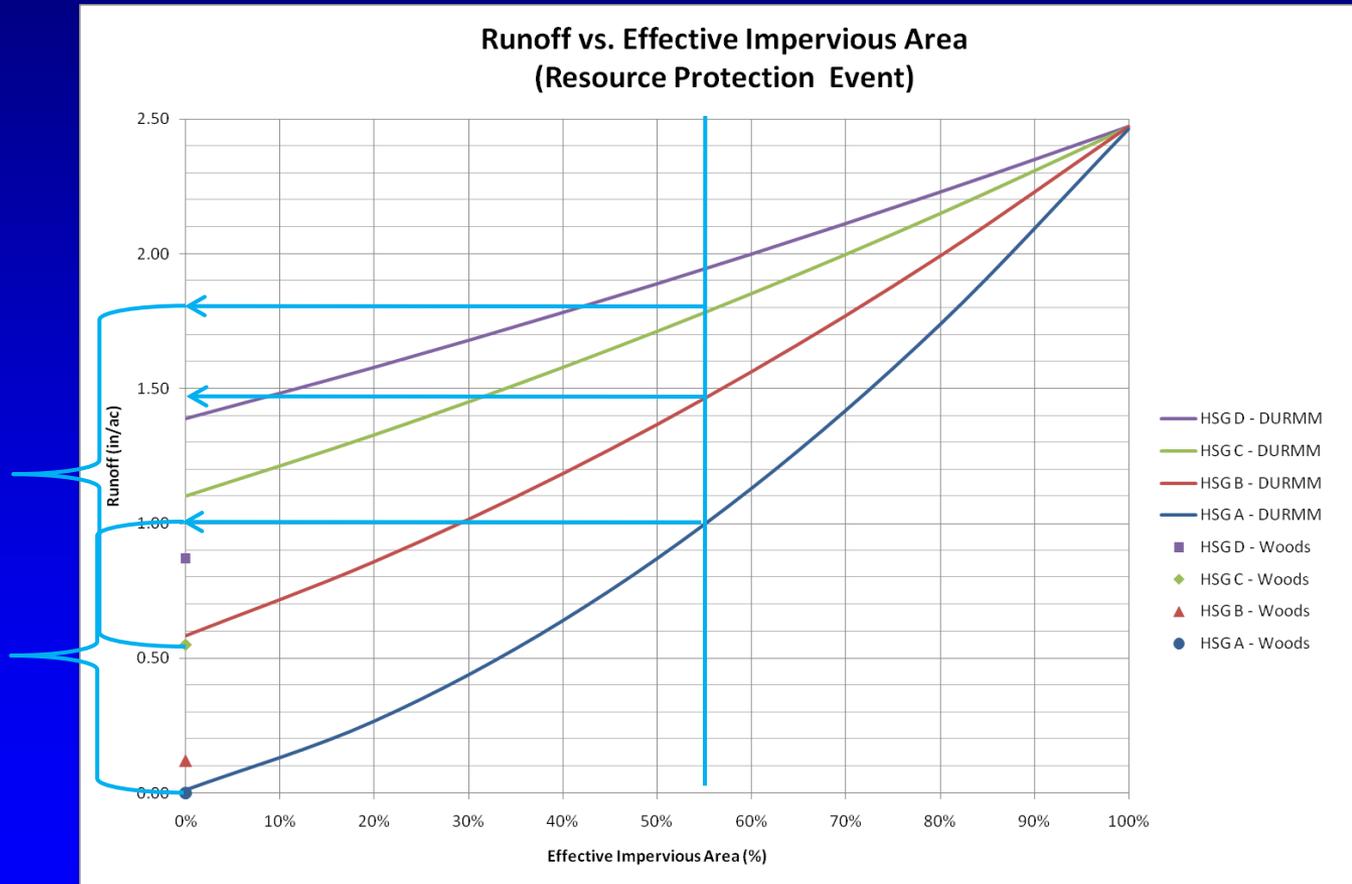
Runoff vs. Effective Impervious Area  
(Resource Protection Event)



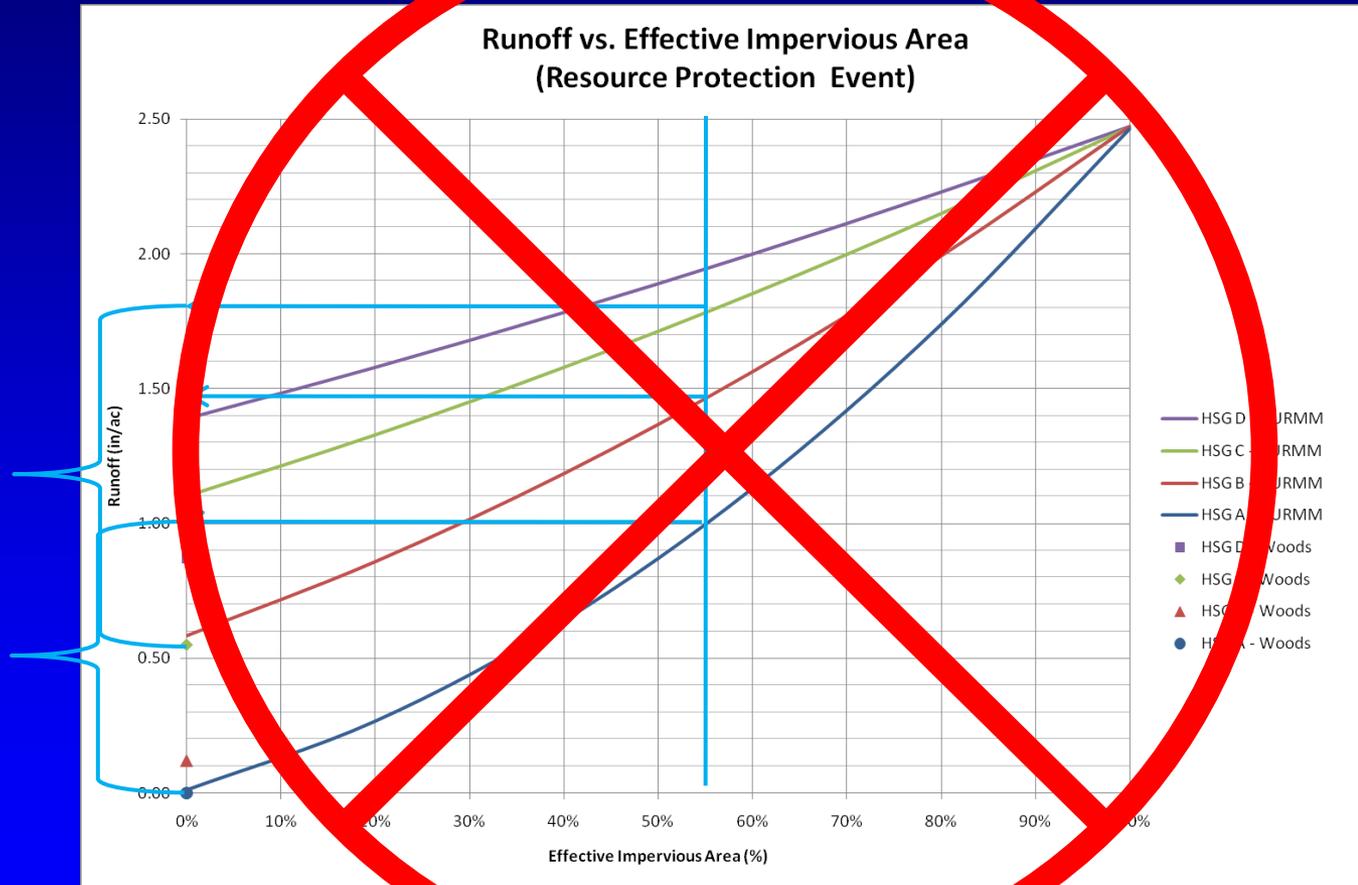
Redev.  
Site 2

Redev. Site 2: 55% Ex. Impervious, HSG C Soil, 70% Prop. Impervious  
 Runoff = 2.0"  
 Req'd Reduction in Effective Impervious = 55% - 20% = 35%  
 Minimum RR = 2.0" - 1.5" = 0.5" (25% Reduction)

# Computing Minimum RR



# Computing Minimum RR



# Computing Minimum RR: DURMM v2

PROJECT: Site 2	
DRAINAGE SUBAREA ID:	
	HSG A    HSG B    HSG C    HSG D
HSG Area Within LOD (ac)	10
Pre-Developed Woods Within LOD (ac)	
Post-Developed Impervious Area Within LOD (ac)	
Percent Impervious (%)	0%    0%    55%    0%
RPv (in/ac)	0.00    0.00    1.78    0.00
Target (in/ac)	0.00    0.00    1.10    0.00
<b>RESET</b>	
Total Subarea LOD (ac)	10.00
Weighted RPv (in/ac)	1.78
Req'd Runoff Reduction within LOD (in/ac)	0.68
Req'd Runoff Reduction within LOD (%)	38%



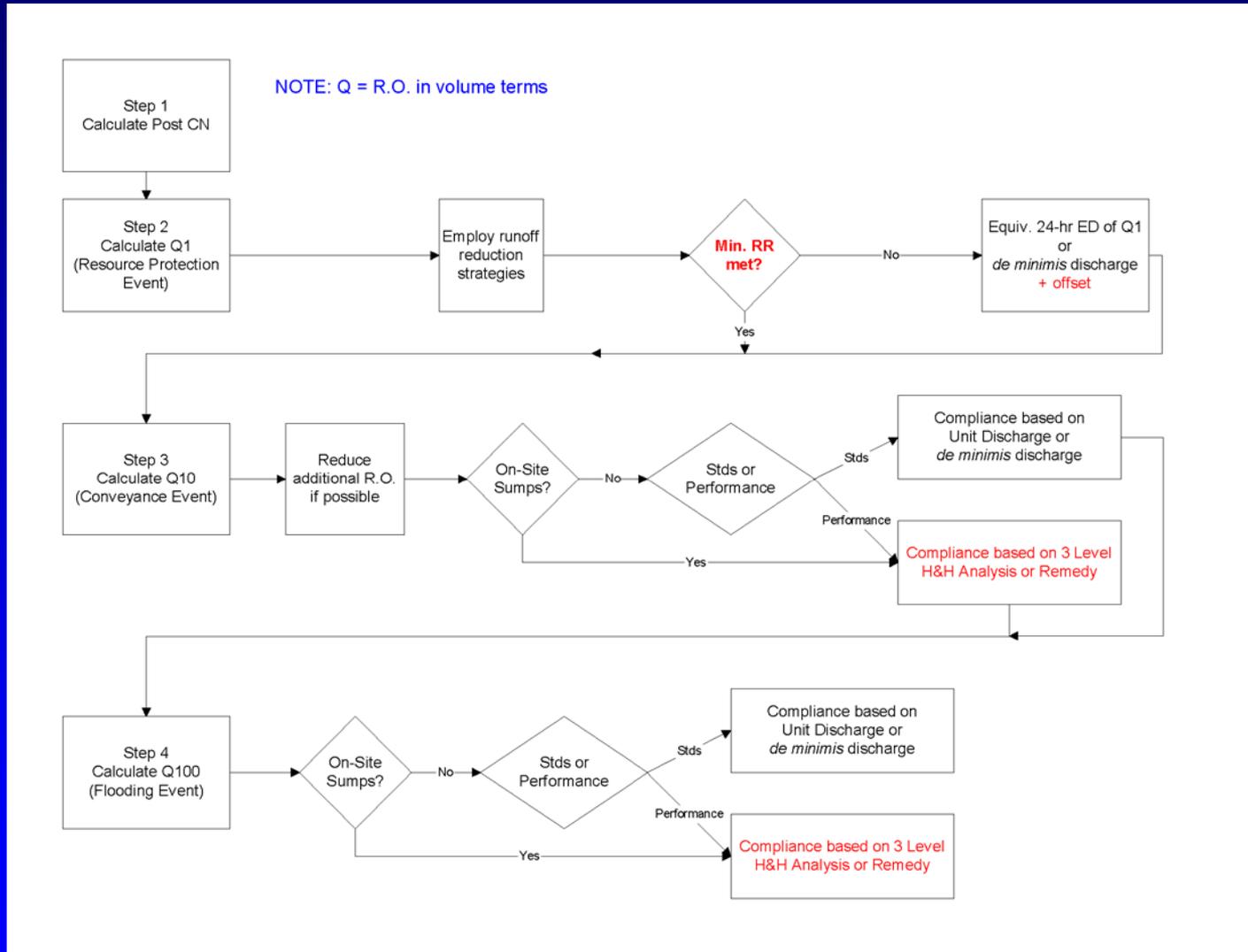
# Min. Reduction Not Feasible?

## Section 5.0 Performance Criteria for Post-Construction Stormwater Management

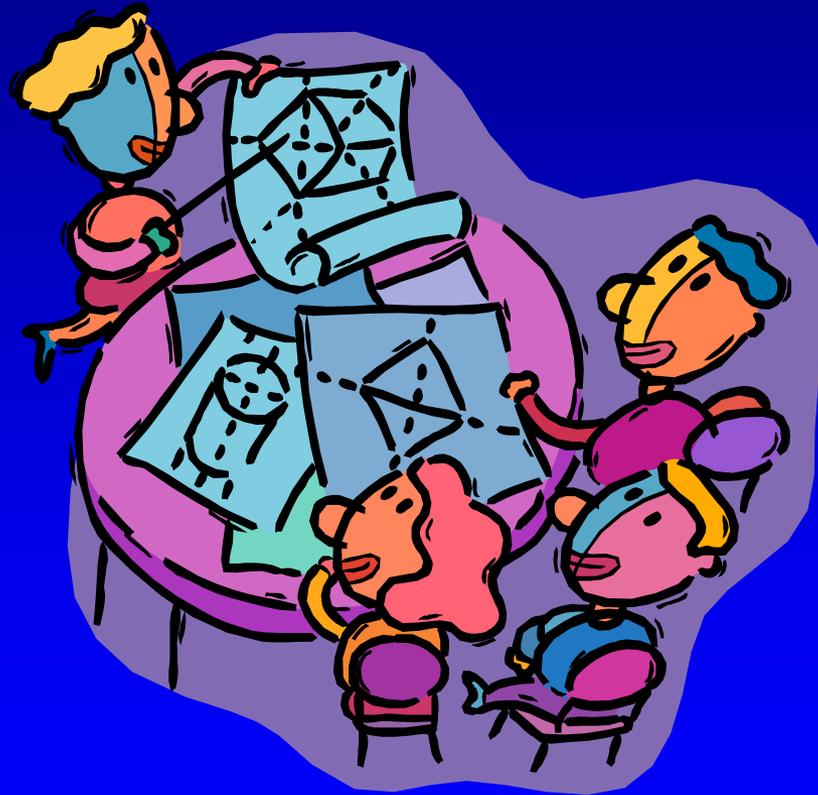
5.2.3.4 An **offset** shall be provided for any portion of the RPv that does not meet the minimum reduction requirements or that is not sufficient to meet TMDL requirements.

*Ref: Proposed Sediment and Stormwater Regulations, 2<sup>nd</sup> Draft*

# 5.0 Performance Criteria for Post-Construction SWM



# *Discussion*



# Current Regs Definition

**“As-Built Plans or Record Documents”**  
means a set of engineering or site drawings that delineate the specific approved stormwater management facility as actually constructed.

# Draft Definition

**“Record Construction Documents”**  
means a set of surveyed plans  
reflecting the as-built conditions and  
may also include supporting  
computations and specifications as  
required by the Department or the  
delegated agency.

# Dam Safety Regulations

“As-Built Drawings” or “Record Drawings” mean the approved post-construction plans;

- (1) With verification of all significant as-constructed values, dimensions, and elevations; and
- (2) Bearing the seal of the supervising engineer responsible for certifying that to the best of his/her knowledge, the construction was completed in accordance with the approved plans and specifications or with changes approved by the Department.