
MARYLAND ENVIRONMENTAL SITE DESIGN SURVEY

COUNTY RESPONSES

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INTRODUCTION

Community & Environmental Defense Services (CEDS) has been conducting workshops throughout Maryland on the new Environmental Site Design (ESD) requirements. A wide range of people have attended the workshops, including federal, state, county and municipal officials. A number of these officials have expressed concern with ESD. CEDS views ESD as critical to gaining the benefits of growth but without the excessive aquatic resource impacts seen in the past. CEDS posted a brief survey online in hopes of compiling the views of County officials on the pros and cons of ESD. It is our hope that the survey results will help in some small way to further the discussions of how to resolve issues which add unnecessarily to project cost and review time while maximizing the aquatic resource benefits of ESD. A similar survey has been conducted among engineers and other professional who offer ESD consulting services.

SURVEY METHOD

The Maryland Department of the Environment (MDE) provided a listing of county officials responsible for the review of ESD plans. We asked these 23 officials to take a brief, five-question survey posted at: <http://www.surveymonkey.com/s/ESD-CountySurvey>.

RESULTS

Responses were received from 17 of the 23 counties: Anne Arundel County, Calvert County, Carroll County, Cecil County, Charles County, Dorchester County, Frederick County, Garrett County, Harford County, Howard County, Kent County, Montgomery County, Queen Anne's County, Saint Mary's County, Somerset County, Wicomico County, and Worcester County.

Following are the survey results. Attachments lettered A to E, follow the results summary presented below. Each attachment contains the verbatim responses to one of the questions. An attempt was made to group the responses into categories. This categorization is the only effort made to characterize responses. It seems more beneficial at this point in the evolution of ESD to present the responses unvarnished. Since many responses touched on more than one topic, they may appear under multiple categories.

Have you seen a significant difference in review times with ESD plans when compared to those designed in accordance to the original 2000 Maryland Stormwater Design Manual?

The answer to this question was an overwhelming Yes. In fact, 88% of the County officials said review times have increased with ESD, though a number also described the increase as small. The increased review time was most commonly attributed to the additional plan(s) required by ESD along with the learning curve.

Additional comments regarding this question were provided by all of the officials. These comments were grouped into the following categories: Additional Plans & Increased Number of Devices Adds to Review Time (8); Review Time Increased Due to Helping Staff & Applicants Understand the New Regulations (5); Hesitancy Over Abandonment Of Pre-ESD Plans (1); Lack of Training By MDE Has Increased Review Time (1); and Other Comments (2).

What is the greatest frustration you've experienced thus far with ESD?

All 17 officials responded to this question. The responses were grouped into the following categories: Insufficient Training-Guidance from MDE (5); Educating Applicants (5); Applicant Resistance (3); Rural Application of ESD (2); No Frustrations (2); and ESD Defects (1).

What do you see as the greatest benefits of ESD?

Again, all 17 officials responded to this question. The responses to this question were grouped into the following categories: Improved Environmental Quality (9); Planning for Stormwater at Start of Development Process (3); Fewer Ponds (4); Reduced Costs (1); and Greater Flexibility (1).

Redevelopment offers the possibility of improving the quality of many urban waterways through retrofits designed to treat runoff from existing impervious surfaces. Of course increasing the amount of impervious area treated raises redevelopment costs. Are there any incentives or other approaches that could accelerate retrofits by off-setting these costs?

All but one of the County officials responded to this question. The responses to this question were grouped into the following categories: Tax Incentives (4); Fee-In-Lieu (2); Stormwater Utility (2); Cost-Savings With Redevelopment (1); Few Redevelopment Projects (1); Fee Reduction & Accelerated Review (1); Modify Redevelopment Rule (1); and Other Thoughts (3).

Are there any other thoughts you'd like to add?

Ten of the County officials offered additional thoughts on ESD. The responses to this question were grouped into the following categories: ESD Should Be Given Time To Work (4); Inspection & Maintenance Cost Concern (2); More MDE Training Needed (2); ESD vs. TR-55 (1); and No Additional Comments (2).

Verbatim Responses to Question 2: Have you seen a significant difference in review times with ESD plans when compared to those designed in accordance to the original 2000 Maryland Stormwater Design Manual?

Review Time Increased Due to Help Staff & Applicants Understanding New Regulations

Lack of familiarity with new regulations.

Educating contractors on the changes and 3 phase review process.

Learning curve for both designers and regulators. In addition to need for 3 plan types

Increase in time associated with the three phases of submittals: Concept, Preliminary, and Final.

Review time is a little longer now, but should be reduced as applicants get used to new requirements.

Additional Plans & Increased Number of Devices Adds to Review Time

The number reviews because of concept plans, swm site development plans, and swm final plans. Also because of the number of devices needed to meet ESD.

Increase in time associated with the three phases of submittals: Concept, Preliminary, and Final

The concept stage has added time, although the time is well spent and beneficial for the developer and design engineer to be on the same page as the reviewer.

Because of the three tiered review process, initial plan submittals are much less complete than they were in the past, so extra submittals i.e. reviews are required.

Additional time for submittals to adjust to new regulation requirements. Additional sketch plan step that was not previously required.

The total design/review time may increase on some projects due to the 3 step process, but wasted engineering time should decrease.

Longer review time is due to additional plan now required.

Three plans are now required; formerly two.

Hesitancy Over Abandonment Of Pre-ESD Plans

Projects that were in the review pipeline when the regs took effect and are trying to comply with the new regs but are reluctant to really start over again. They want to save as much of their site plans as possible so the back and forth with staff is causing delays.

Lack of Training By MDE Has Increased Review Time

No training by MDE for the new requirements. It's learn as you go.

Other Comments

Commercial and Industrial Plans take more time while Residential Plans are about the same. Trying to apply as many ESD techniques as "practical" on a dense site takes judgement and good judgement takes time.

For now it's a new process and methodology. I'm expecting that as we become more familiar with the methods it will ultimately be faster review.

Verbatim Responses to Question 3: What is the greatest frustration you've experienced thus far with ESD?

Insufficient Training-Guidance from MDE

Delay in receipt from MDE of detailed example applications until well after new regulations were implemented.

The amount of training provided by MDE.

Lack of guidance and real life examples from MDE. Too much open for interpretation.

Lack of clarification on what to consider as the site area for ESD purposes, which can have a great impact on Pe.

Learning curve in understanding impact of regulations.

Too early to tell. Designers are trying to figure out how to comply with the three-step process.

Differences of opinions on new standards.

Educating Applicants

Additional time required helping applicants get used to new BMPs and clarifying what MDE wants. But our county has been doing nonstructural BMPs for ten years so its not a big problem.

Educating contractors on the changes and 3 phase review process.

How to apply to small building additions and partially developed sites.

ESD Defects

The math does not seem to work

Applicant Resistance

Designers not wanting or not being able to fully "embrace" the new regulations. Most want to give the new regs lip service by just using gravel wetlands or other structural devices to replace ponds, then calculating the PE and saying they are done. Obviously what needs to be done is starting from scratch, going through the 3 step process of maintaining existing hydrology ,protecting environmental features, and conserving soils with the highest infiltration rates. We're still getting alot of push back from the consultants who design the projects, more so than the applicants. Owner just wants his/her project approved and if they can save money in the process (which in most cases we can demonstrate) , then they are happy.

The County released updated design standards incorporating ESD (including checklists) - frustration has been in the design engineer's lack of complete plans.

Engineers submitting incomplete narratives that demonstrate that they have not considered all the prescribed ESD planning techniques.

Rural Application of ESD

Redevelopment. Many commercial and industrial sites are on private well and septic systems. These sites can be fully developed and have no room to expand and not meet the state's new 40% impervious threshold due to septic and well setback requirements.

Learning curve in understanding impact of regulations. How to deal with rural large lot development under ESD.

No Frustrations

None

none

Verbatim Responses to Question 4: What do you see as the greatest benefits of ESD?

Improved Environmental Quality

Environmental benefit of reduced pollutant runoff.

ESD gets the engineer to look at the down stream impacts associated with th project.

Over time, if implemented properly, it will result in site plans and subdivisions that will more fully protect environmental features much more so than what has been done as a rule in the past. These processes will also hopefully eliminate the costs of piping /curb and gutter, as well as the concentrated flows and thermal pollution generated by the use of structural devices, most notably ponds.

Water quality. Reduction nitrogen and phosphorus.

If the practices are installed correctly and maintained, it will improve water quality.

Should result in better water quality.

Conservation of resources; less clearance and less expense. Applicants have been seeing a savings.

In theory, water quality improvements and additional management systems.

More infiltration at the source and additional at source control in general, which should enhance environmental benefits.

Reduced Costs

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Conservation of resources; less clearance and less expense. Applicants have been seeing a savings.

Fewer Ponds

No Large ponds to do Tri-Annual inspections on. Micro-scale practices work for most sites.

Eliminates large stormwater management ponds that are not always maintained properly.

We had already mandated the use of nonstructural practices to reduce the number of SWM facilities that the county had to own and maintain. This just applies that mandate to all properties.

No big ponds anymore. Can use land better to account for impervious areas.

Greater Flexibility

Additional options to meet environmental regulations regarding land development

Planning for Stormwater at Start of Development Process

Planning for SWM up-front in the development process.

Making designers think more critically about how their site fits into the surrounding environment efficiently, rather than shoe-horning in buildings and ponds.

Better coordination with planning and zoning upfront. Increased consideration of stormwater impacts on site layout at the beginning of planning instead of the end.

Verbatim Responses to Question 5: Redevelopment offers the possibility of improving the quality of many urban waterways through retrofits designed to treat runoff from existing impervious surfaces. Of course increasing the amount of impervious area treated raises redevelopment costs. Are there any incentives or other approaches that could accelerate retrofits by off-setting these costs?

Fee-In-Lieu

Local jurisdictions should develop a list of offsite water quality improvement projects that could be funded by a fee-in-lieu collected from developers. This would make redevelopment more attractive by removing the design and construction costs and time involved and would mean that perhaps none of the redevelopment site would have to be devoted to ESD practices.

Off-site retrofit projects at sites with high impacts to water ways, which can be banked for redevelopment projects.

Cost-Savings With Redevelopment

Redevelopment is a reduction in costs due to the fact the controls are for only a portion of the site verses an entire new site. That can mean up to 50% savings for redevelopment verses new development.

Few Redevelopment Projects

Frederick County has not seen many sites that meet the criteria of redevelopment (existing 40\$ impervious).

Tax Incentives

The County and State may want to look at some kind of tax break associated with redevelopment and the reduction of pollutants coming off the site.

There could potentially be property tax incentives offered for redevelopment in our Town Center areas.

The state could give a tax credit for the cost of installation of any new Stormwater credit practices.

Tax benefits for removal of impervious surfaces and retrofits.

Fee Reduction & Accelerated Review

We have provided review fee and storm drain fee reductions and credits for doing more than the minimum requirement for swm, or for contributing to a capital project that may be providing a more comprehensive stream restoration project in the watershed. This applies to both redevelopment and new development. We also instituted a reduction in the 3 step process and

accelerated review times for redevelopment projects that are on sites that are fully developed with impervious surfaces, and/or are in the county growth centers (3 town centers). We had included in our proposed program a system of assessing fees on NEW impervious surfaces as a way to discourage installation of new impervious surfaces and to encourage redevelopment as well as the use of porous pavement and living roof systems. This was unfortunately amended out of our code during the Council deliberation process. Perhaps it can be revisited in the future.

Stormwater Utility

We had included in our proposed program a system of assessing fees on NEW impervious surfaces as a way to discourage installation of new impervious surfaces and to encourage redevelopment as well as the use of porous pavement and living roof systems. This was unfortunately amended out of our code during the Council deliberation process. Perhaps it can be revisited in the future.

Pay into a SWM utility.

Fee At Recordation

We charge a fee at plat recordation for homeowner association BMP inspection and maintenance. Local political climate would make a utility difficult to enact.

Modify Redevelopment Rule

Change the 40% rule to 40% of developable land

Other Thoughts

Our County standards are more stringent than MDE's.

We aren't offering incentives yet, but are strongly urging redevelopment.

Better site design and layout can offset these costs.

Don't know. We have managed to accommodate required SWM controls on all sites.

None

Verbatim Responses to Question 6: Are there any other thoughts you'd like to add?

Inspection & Maintenance Cost Concern

Personnel costs to properly inspect and enforce maintenance on ESD practices will be high. Local jurisdictions will not add staff or raise taxes to fund this work effort. Over time, constructed practices will be removed by property owners without knowledge of the local jurisdiction. How can this situation be avoided?

Concerned with the amount of inspections that will be required for all the additional devices.

More MDE Training Needed

I would like to see more training coming from MDE to help the Counties who are struggling with the new requirements.

Would like MDE to provide traing programs. Need a long term evaluation of program to see what works the best and what doesn't.

ESD Should Be Given Time To Work

This approach will take time to refine and work through the bugs. There already has been and will continue to be a push to go back to the "old way". These new processes must be given time to work and be implemented on new projects (as opposed to revising projects in the current review pipeline) before any reconsideration of the regulations are contemplated. I am confident it will work, if given a chance and if jurisdictions take a balanced, fair, and even handed approach to their implementation strategies and decision making. Regulators and applicants must look at both sides of the issues, as well as look at short and long term costs (both financial and environmental costs) when making decisions,

So far, the transition has been relatively smooth, but the engineers and the review agencies are both enduring the same learning curve, so I expect that before long ESD will become routine. I have also noticed that the configuration of sites has not changed significantly; I am not sure if this was the intent of the State or not, but is is something I have observed. Comparing a site submitted in April 2010 to one submitted in June 2010, you would be hard pressed to tell the difference.

We all need to be better stewards of this planet.

Needed improvements in water quality for the Bay justify these requirements. It will take some experience and time to adjust to the changes and find economical ways to address development and improved water quality.

Comfortable with ESD because we've been doing nonstructural practices for ten years.

ESD vs. TR-55

From an implementation standpoint I looked at different scenarios and saw how the smaller your area of disturbance the larger the ESD volume. I spoke to MDE about this before they released their latest guidance. The guidance says we should calculate using Option 1 (smallest volume). this is shown in their first example, which uses the entire lot area (not the disturbed area) as the site area. By the way, Page 5.19 says that ESD_v must be provided for the entire LOD, not the entire lot area as shown in Example 1.

I believe the reason the equation obtains a smaller volume for a larger area of disturbance is because the ESD_v equation $R_v * P_e * A / 12$ uses 2 components (R_v and P_e) that vary with the impervious area ratio. They both are reduced when I reduces. When they are multiplied together, this results in a smaller volume.

To magnify the problem, try this one: An 18 acre parcel on C soils is developed with 18 - 1/4 acre lots (38% impervious area ratio) on 8 acres. The balance is kept wooded. So we use the disturbed area of 8 acres, an R_v of 0.39, and P_e of 1.8". $ESD_v = 1.8 * 0.39 * 8 / 12 = 0.47$ ac-ft. Now clear an additional 10 acres of trees for a park that uses minimal impervious areas. Now $I=17%$, $P_e=1"$, so $R_v=0.20$, then $ESD_v = 1 * .2 * 18 / 12$, or 0.3 ac -ft., which is much less.

MDE has said each area (home and park) would be treated separately, thus calculated separately the ESD_v would be a bit greater. But the point is, if we evenly distribute the same impervious area over a larger disturbed area, the ESD_v will decrease. So turning more woods into grass(both pervious) results in a smaller ESD_v , and that's what the argument will be with the designers.

Another point is that micro-bioretenion must now only hold 75% of the entire ESD_v above and below the media. Before, 75% of the WQ_v had to be held above the media. So the change in the design also results in less volume being held. In some cases this could result in less volume being held than the prior WQ_v only design.

No Additional Comments

No.

None