

Questions and Answers About New LDA/SWM Permit Requirements

Schedule

Timeline: When will this go into effect? How will projects already in the system be treated? Can I start using these new templates sooner? When can I see the details? The new program changes will take effect for plans submitted on or after September 13, 2021. If an LDA permit was submitted prior to September 13, 2021, the plan will be reviewed under the existing requirements. The templates and standard plans will be available in July, 2021 and training sessions will be provided.

The rollout of the updated LDA 2.0 program is underway. County staff have hosted several focus group meetings with engineers to introduce the program changes and receive feedback.

- March 26, 2021: Notice to Industry sent to the contractor/builder community.
- April 23, 2021: Public meeting on the new program requirements.
- May 25, 2021: Training on the new compliance worksheet
- July, 2021: Templates and standardized plan materials and guidance manual updates will be available and posted.
- September 13, 2021: New program requirements will take effect.
- After 12-18 months, staff will plan for a program review, including gathering customer and other feedback, and will identify whether to recommend any modifications to the program.

Design materials: What kind of materials will be available to help us? The County will offer several training sessions and provide standard plans, templates, spreadsheets and updated Guidance Manual materials in July 2021.

Is this optional or mandated? These new requirements are mandated under the County's existing authority of the Stormwater Ordinance (Chapter 60). State stormwater *quantity* performance standards will now be required for single family development projects, in addition to the stormwater *quality* performance standards currently required.

LDA 2.0 will also offer an 'alternative compliance option' to the State stormwater quantity requirements that will be more feasible and effective in most cases and less onerous for the homeowner responsible for maintaining stormwater management facilities. This option will offer standardized plan templates to shorten the time for plan review and approval, avoid complicated engineering and detention system design (including the potential use of pumps for outflow), as well as prevent likely conflicts between detention systems and trees, other landscaping, and utilities on tight lots.

Design and Permitting

What is the 'alternative compliance option' for stormwater quantity and quality? For stormwater quantity, detention of three (3) inches of runoff from increased impervious surfaces for the site, or increased impervious surfaces within the portion of the site that drains to downhill properties, whichever is larger. For vacant lots, the requirement is detention of 1.7 inches of runoff from post-

development impervious surfaces (the 95th percentile storm event), with the same ‘whichever larger’ provision.

Stormwater quality requirements under the ‘alternative compliance option’ will be capped at 75 percent of the State standard.

Will these changes bring review time down? Fairfax County INF 1st review is typically completed 2-3 weeks following the initial submission. The program update will include standard plans and templates that are intended to simplify plan preparation time as well as reduce review time.

Do I have to detain all of the three (3) inches of increased runoff in a detention tank? No. The detention tank is required for the portion of the property that drains through other properties before reaching the public storm drain system or right-of-way. At least half of the required detention volume must be managed through tanks.

What other tools can I use to meet the detention requirements? The familiar stormwater quality compliance tools of planter boxes, micro-bioretenion, and permeable paving also provide credit towards the required detention volume. For planter boxes and micro-bioretenion, the ponding volume will be credited, with a 25% bonus if located downstream from a tank. And, both tools can be sized for up to twice the required water quality volume to provide extra detention storage. For permeable paving, 50 percent of the reservoir storage volume will be credited.

Are dry wells still included? Yes, both detention tanks and planter boxes will drain to dry wells on the property.

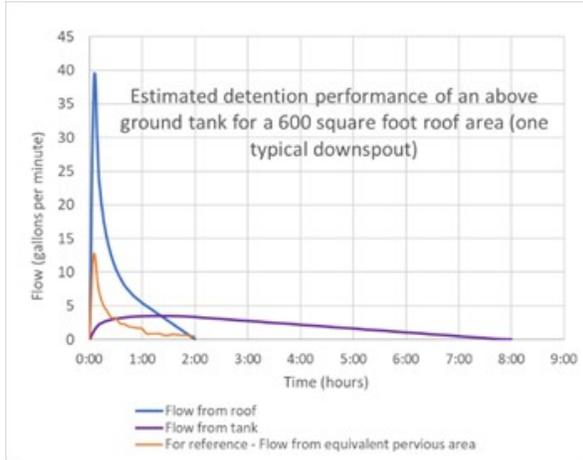
What will a typical new build look like? A ‘typical’ single family home LDA project includes three (3) planter boxes and a permeable driveway. Depending upon the impervious surface increase in the drainage area to downhill properties, an LDA 2.0 project could include two (2) planter boxes, one (1) to two (2) detention tanks, and a permeable driveway. Drywells are required in both scenarios downstream of planter boxes and tanks.

If adequate detention is provided, will purchase of nutrient credits be an option, since they are allowed in many other local jurisdictions? Arlington’s ordinance allows for offsite stormwater quality compliance options within Arlington to ensure that the benefits of stormwater quality mitigation accrue to the Arlington community and environment.

What input did you consider in developing the new LDA 2.0 program? The County Board provided direction to upgrade the LDA program in the fall of 2018. To prepare for the upgrade, staff conducted an initial survey in 2019 that collected responses from approximately 80 builders and engineers. The survey identified faster review times as the highest priority improvement to the review process. The survey also collected responses from approximately 200 property owners living adjacent to new homes, and the majority of respondents said the County was not doing enough to control off-lot runoff.

During 2020 and early 2021, staff conducted focused conversations with engineering firms that prepare a large volume of single-family home LDA permit plans. Staff made a number of adjustments to the LDA 2.0 performance requirements to increase flexibility, feasibility, and clarity. Staff also consulted with the Center for Watershed Protection, a firm that has extensively on Virginia and DC stormwater regulations. Staff also gathered feedback and input from an inter-departmental working group.

Gravity Detention Tanks



Why require detention tanks? These tools will be able to handle very intense rainfall and release it slowly over a period of hours. This ‘slow it down, soak it in’ approach will provide more robust and reliable protection for downhill properties from increased runoff from new homes.

At the outset of the program, the requirement is above ground tanks so that the homeowner does not have a costly confined space inspection and maintenance requirement. The County may consider partially buried (e.g., daylighted) tanks where lot topography still allows for gravity release.

How can we source detention tanks? There are many different commercially available models of tanks available that drain via gravity. Search ‘rainwater tanks.’

What options exist for screening so the tank is not so visible? Similar to other utilities (e.g., HVAC systems, propane tanks, etc.), gravity detention tanks can be screened with wood fencing, lattice, and/or plantings. Some models could be installed and stored under a deck or porch.





What zoning setbacks will apply to tanks? The same [zoning requirements](#) as currently apply for planter boxes will apply for detention tanks.

- If located in a side yard, the tank could be a narrower, 'slimline' configuration. Examples (not an endorsement of a particular vendor) include:
http://www.conservationtechnology.com/rainwater_storage_rainbox.html
<https://bushmanusa.com/products/slim-line-tanks>
<https://www.plastic-mart.com/category/39/doorway-water-tanks>
- Or, a tank could be set inside a planter box – or the planter box itself configured as the tank
- Or, the tank could be located in the rear yard, where there is more room for various configurations.

What are the safety and structural requirements for the tank? Could it fall over? Installation is required to follow manufacturer specifications, which cover appropriate structural considerations, including a level base and securing the tank. Also, the same [building code requirements](#) as currently apply for planter boxes will apply to detention tanks.

What if homeowners wish to hold onto some of the water for use in the garden? The tank should be installed according to manufacturer specifications for permit approvals. Designs that include rainwater capture for gardening may be included with the permit submittal. Also, if the homeowner wishes to make modifications, they should contact us after installation and permit approval at stormwaterinspection@arlingtonva.us.

How much runoff will be captured and stored? Tanks may be sized for up to three (3) inches from the contributing drainage area. This cap is to prevent over-concentration of runoff from a single location on the property. Typical tank sizes could range from 300 to 750 gallons, although there could be some situations where large impervious surface increases could require larger tank capacities.

Will it be a source of mosquitoes? A combination of the inflow screen and the release of water from the tank over several hours will discourage mosquito breeding. Property owners could also easily add mosquito dunks to the tanks for any small residual water below the outflow point. The Asian Tiger mosquito is in fact a small container breeder and there are many potential sources of breeding conditions on most private properties that owners should prioritize for weekly inspection and emptying.

How will the tank work? The plan templates will provide these details and will be shared for review soon. As a general summary, the tank will include a control valve at the outflow with the specified orifice diameter and then an overflow pipe. The control valve and overflow pipe will both connect to a dry well, like the current stormwater planter outflow configuration. The drywell completes the intended ‘slow it down, soak it in’ sequence, facilitating absorption of runoff into the soil.

The compliance spreadsheet performs all of the tank computations, including specifying a release rate no greater than 4.5 gallons per minute and a minimum orifice size of 3/8 inches to guide the required capacity.

What about exceptions? A new ‘maximum feasible’ standard applies for stormwater quality requirements. There will not be exceptions for stormwater quantity requirements at this time. The exceptions criteria for stormwater quality are as follows:

- Treatment of all roof runoff as well as use of permeable paving material for driveway and patio¹ areas; and,
- Capping the proposed impervious area at the median impervious footprint of new homes² for specific lot size categories, as shown in the table below.

If both conditions are met, an applicant will be deemed to have demonstrated that situation is not ‘self-imposed or self-created’ by the desire to build a larger home than what is typical.

Lot size (SF)	Impervious cover limit for exception consideration
≤6,000	42
6,001 to 8,000	40
8,001 to 10,000	36
10,001 to 15,000	34
15,001 to 20,000	30
>20,000	29

Soil Remediation

Why is soil remediation needed, and will it really help?

Recent post-construction analysis of soil permeability found that new home soils were 10 times more compacted than existing home soils. Rebuilding the soil profile with amendment and de-compaction has been demonstrated to be very effective at increasing the soil’s underlying capacity to absorb rainfall and stormwater as well as provide a much better growing medium for the homeowners’ grass, trees, and other plants.

What will be the new requirements for soil remediation – how much compost will be required, how deep? The soil profile re-building requirement requires incorporation of four (4) inches of compost with a backhoe to a depth of two (2) feet.

¹ Generally, using permeable paving for narrow walkways is not very feasible. However, for projects that propose significant walkway footprints, a case-by-case evaluation will be made.

² Based on approved LDA records.

How large an area is required and how far from the foundation of structures will soil remediation begin to avoid water problems in the house? Areas that may be excluded include: within 10’ of the foundation, in tree protection areas (including where root matting is used), and where existing utility conflicts may prevent digging. The upcoming dialogue with the building community will be used to gather further input to refine these conditions.

Tree Preservation

How will stormwater credits be calculated for preserving trees? The stormwater quantity credits for trees are ‘right sized’ to account for the limitations of trees in mitigating heavy rainfall, including being capped at 10 percent of the total detention requirements. The credits are as follows:

Trees, with diameter for existing trees	Detention credit per tree (cf)
New	3.0
6-12"	6.0
13-24"	20.0
>24"	30.0

How will existing trees be counted? Existing trees will be counted as ‘forested’ land cover in the stormwater compliance calculations for a two (2) year window prior to the LDA permit application, as determined by GIS analysis. This new policy adds to several existing policies that together provide a fair balance for the building community. For example, applicants can also take credit for impervious surfaces removed from a site within five (5) years prior to LDA permit application.

What Else is the County Doing to Help Detain Stormwater?

The County knows where the drainage issues are located. Why doesn’t the County simply install more inlets/improvements and associated easements rather than these micro-solutions?

The County is making [significant investments in the County infrastructure system](#) to reduce flood risk and reduce water pollution. The new LDA 2.0 requirements complement at the lot scale the significant County investments being made at the system and watershed scale to increase flood resiliency.

Even areas that do not experience system-wide capacity issues and heavy flooding still have lot-to-lot drainage issues. The County has received complaints about lot-to-lot runoff and drainage from every watershed and every neighborhood.

The County is pushing the cost of upgrading its stormwater infrastructure onto homeowners and developers. Is the County willing to subsidize these costs in the form of permit cost reductions or tax relief?

The requirements for stormwater management for single family home projects only manage the new runoff created by the home project. The County is making [significant investments in the County](#)

[infrastructure system](#) to reduce flood risk and reduce water pollution. The new LDA 2.0 requirements complement at the lot scale the significant County investments being made at the system and watershed scale to increase overall flood resiliency.

The number one concern heard by the County from developers and builders was permit approval timeframe. As such, the County prioritized developing templates and standardized plans to allow for expedited review times under the alternative compliance option.

What is the current maximum impervious coverage? Is the County recommending any changes to impervious coverage requirements, or addressing the increase in hardscape with patios?

The new program will address the future addition of impervious surfaces (e.g., large patios) after issuance of a certificate of occupancy (CO). A recent sampling of projects found this is occurring frequently. To make it easy and cost-effective for future owners who wish to add features like patios after occupancy, an opportunity will be offered with the SFD LDA permit to include design and mitigation measures to account for these future features.