



**Comments from the Delaware Riverkeeper Network on the Proposed  
Ordinance 2013-21 COMPREHENSIVE INTEGRATED COLLEGE DEVELOPMENT  
(dated 11/11/13)**

Every redevelopment project is an opportunity – an opportunity to use best development and stormwater practices, and to put in place new requirements that will help enhance our Radnor community and undo the mistakes of the past. Villanova’s redevelopment of the parking lots is an opportunity to do just that – to use the stormwater and development knowledge Villanova publicly builds its reputation on to ensure a new project which improves community quality of life, improves water quality to better bring Radnor Township into compliance with the law, to reduce stormwater runoff volume in order to reduce downstream flooding for Radnor residents as well as those that live downstream and have been so severely harmed by Darby Creek flooding that homes and lives have been lost.

But we also have to remember that this new ordinance would not just allow changed development at Villanova, it will allow changed development at all of the college institutions in our Township and so the plans put in place have to consider the ramifications for increased development density at those location as well.

And it is important to recognize that Villanova is seeking something from Radnor, the ability to do a development project otherwise not allowed, and so Radnor Township residents need to ensure that they too benefit from this deal. Right now the proposal is very one sided, it gives Villanova the things it wants but fails to give Radnor residents what they deserve in exchange. Additional time is needed to address serious shortcomings in this proposal.

Radnor Township impacts several creeks, including the Darby and Gulph Creeks which are both impacted by the Villanova property. Radnor township lands are the headwaters for a number of creeks, including the Darby Creek – the headwaters are where a creek begins, and the health and quality of headwater streams has a direct and lasting affect on the quality and health of its receiving stream for much if not most of its length. Radnor is well aware of the history and impacts of increasing flooding and flood damages that are happening along all its streams, all of this flooding is the result of development decisions that have been made in the past and are being made today. Radnor is home to waterways identified by the state as impaired, as failing to meet the water quality standards provided in state law, therefore subjecting it to increased regulatory requirements down the road. For example, the Darby Creek below Rt 3 and the Little Darby

Creek including the portion that flows through Radnor Township are designated by the State (pursuant to federal Clean Water Act requirements) as impaired and as such will be the subject of Total Maximum Daily Load requirements in the near future which may result in legal obligations to help improve water quality flowing out of the Township to these streams. These streams are impaired as the result of stormwater runoff, habitat modifications and CSOs. While the impaired reaches of the Darby Creek are not located in Radnor Township (although the Little Darby Creek within the boundaries of Radnor is identified by the state as impaired and failing to meet state water quality standards) that does not mean it will not have obligations to help improve downstream water quality when the TMDL is issued.

And so the proposed CICD ordinance is an opportunity for Radnor Township to either make things worse or to make things better. We encourage the township to take this opportunity to make things better and to help it meet its stormwater and water quality obligations under state and federal law.

**Villanova and others should be required to follow the most up to date agency thinking on how to best management stormwater from new development and redevelopment projects.**

Given the level of flooding and flood damages experienced by Radnor Township and downstream communities it is important that institutions which take advantage of the CICD be using the best development and stormwater practices and approaches acknowledged by experts, and by state and federal regulatory agencies. Right now Radnor's stormwater ordinance is pretty weak, and frankly should be updated. Radnor's ordinance has a very loose requirement for some recharge, and then focuses on peak rate control, but fails to give the focus on volume control which agencies and experts recognize is the biggest culprit when it comes to increased flooding and flood damages. Under Radnor's ordinance requirement for infiltration all Villanova might have to do is reduce the volume of its runoff of 6,125 cu feet, this is a very small amount given the size of the site, and given the fact that today's technology allows us to easily do so much more and so much better. But from the looks of its plans, Villanova plans to take full advantage of this weak standard and instead focus its time and money on the harmful detention basin approach that allows the increased volume of runoff caused by development to be dumped directly into our creeks and directly on downstream residents and neighbors increasing both pollution and flooding harms.

Given that Villanova has received significant funding, much of it from EPA programs, to ensure the City of Philadelphia is implementing all best practices for addressing the pollution and flooding problems that result from stormwater runoff, we think it appropriate that their proposed zoning change includes a commitment to use the most up to date thinking on stormwater management out of EPA, an approach that is likely soon to become part of federal law that Radnor and others will be subject to regardless. So this approach will also allow Radnor to get out ahead of the curve legally while at the same time improving water quality and volume issues for downstream communities.

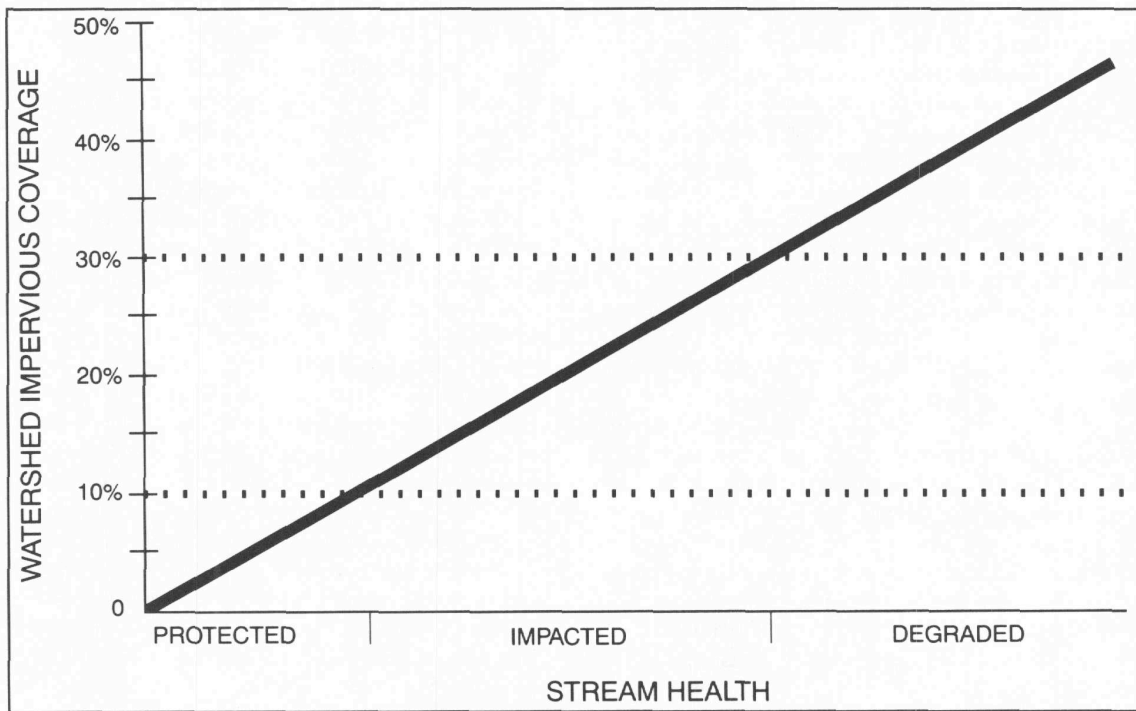
To that end, the CICD should mandate that projects built under this ordinance provision comply with the US EPA "Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act."

In the alternative, institutions that avail themselves of this ordinance should be required to apply the CG1 standard in Pennsylvania's Stormwater BMP Manual and to run its calculations assuming a pre-existing condition of meadow. In the absence of this mandate, Villanova could literally get away with not doing any volume control under Pennsylvania's Stormwater BMP Manual because of a loophole that otherwise exists for redevelopment projects.

We all recognize that Villanova is a significant source of stormwater runoff volume to our Creeks and within our communities. It is important that this and other institutional development projects within Radnor take the steps necessary to make flooding problems better by reducing their volume of contribution. The two methods proposed above will do that. What Villanova is proposing in this CICD will not. And what Villanova is proposing with their actual development plan also primarily focuses on peak rate of runoff which does not reduce the runoff volume that is the real culprit in growing flooding and flood damages in Radnor Township and that we dump on our downstream neighbors.

**Impervious Coverage Limitation is Excessive.**

The proposed impervious coverage allowance of "45% or 10% less than the existing Impervious Surface Ratio on the proposed CICD site, whichever is greater" is excessive. The science is well settled that at 30% imperviousness in a watershed streams are degraded.



*Reprinted from "Impervious Surface Coverage, the Emergence of a Key Environmental Indicator", by Chester L. Arnold Jr., and C. James Gibbons, APA Journal, Spring 1996*

While Villanova is not the whole watershed, allowing this kind of heavy density in such a concentrated area at the headwaters of streams will have direct ramifications for the streams and communities receiving its polluted and high volume runoff. 45% imperviousness is too high. 10% less than a site that is already 90% impervious (such as with the Villanova parking lots to be covered by this proposal) is massively high. Requiring a mere 10% reduction in imperviousness is a trivial reduction in this critical headwaters zone of the Darby Creek. Furthermore, given the very modest amount of volume control, being provided in the proposed Villanova stormwater management system, clearly the proposal, in contrast to a natural site condition, will continue to discharge dramatically more total volume from this site, year round, at this critical headwaters location. Therefore the ordinance needs to have a more rational approach to percent imperviousness.

Using the EPA Technical Guidance would help ensure the level of imperviousness is not allowed to overwhelm the site, the creeks or the communities by insuring proper volume control. If that approach is not embraced then the impervious cover requirement needs to be significantly reduced, something closer to 10%, which can be accomplished by using strategies such as porous paving and vegetated rooftops, by removing the 10% less than existing site conditions, and/or by including a mandate that any imperviousness over 10% be offset by the purchase and preservation of forested open space within the same sub-watershed as the construction taking place.

**The Preserved Land Obligation should be tied to impervious cover not building coverage.**

The Preserved land obligation applies if the applicant wants to increase the level of building coverage to over 30%, but that is the wrong linkage to be making. The linkage should be to the impervious coverage obligation. As written, for the Villanova site, there is no additional preservation obligation for the massive levels of imperviousness that will result with the new project, only if Villanova wants to put in place more buildings is there an additional preservation option. But a parking lot or paved area that contains no buildings is just as damaging to open space (creating increased polluted runoff, air pollution, damaged views etc) as a building, and so there is no logical reason to tie the preservation obligation to additional buildings over 30% rather than to additional impervious coverage over 30% in the CICD designated area. In addition, it is important that preserved land obligation result in natural open space that will enhance ecological, aesthetic and community values. Therefore, the preservation option should be for naturalized open space, not additional lawns which have little ecological value and are themselves significant sources of stormwater runoff.

And so, the preserved area obligation should be amended to read (suggested amendments in red, with blue text being a clarifying/contributing comment):

Requirement to Preserve Land. If the applicant wishes to increase its **Maximum Impervious** Area within the CICD to more than 30% **[for the 10% figure discussed in this comment above]**, then for each square foot of **Impervious** Area proposed exceeding in excess of 30%, the applicant shall be required to preserve two (2) square feet of open space on lands owned by the applicant. **These lands must be new open space areas, not existing areas already part of the campus, they should be primarily vegetated with native trees and shrubs, and may not be maintained as mowed lawns.**

**The buffer requirement needs to be superior than the minimal 50 ft requirement offered.**

50-foot buffers only provides a minimal amount of water quality protection in the way of shading the creek from direct sunlight and filtering some non-point pollution. A 50 foot buffer requirement does not provide a level of protection or benefit that is supported by the science, or the safekeeping of our families and homes. 50 feet will not provide the water quality or flood protection benefits that a larger buffer would. And it is troubling to me that the township would see it as appropriate to give a 200 foot buffer obligation for roads and only 50 feet for streams – particularly given that additional buffers provide substantial water quality, erosion and other benefits to a creek whereas additional buffers do nothing to enhance the functioning of a street.

Because Villanova and other institutions availing themselves of this ordinance change are going to get a significant building benefit, they need to ensure the community also gets something more and better in the deal. A buffer requirement that honors the findings of science and economic experience is a reasonable request. The science and experience demonstrate that communities receive irreplaceable benefit from minimum 100-foot buffer requirements along streams and so this is the minimum width the CICD should require.

100-foot buffers provide demonstrated pollution prevention and clean up to the waterways including those identified as being impaired under the law.

100-foot buffers protect communities from flooding by providing areas for infiltration and stormwater up-take by the vegetation and so reducing flood peaks.

100-foot buffers increase the market value of our homes – perspective buyers willingly pay more. Pennypack Park increased the market value of surrounding homes by as much as 38%.

100-foot buffers reduce the amount of tax dollars that have to be invested in cleaning up water in order to comply with regulatory requirements such as the total maximum daily load requirements that apply to streams identified as being polluted.

100-foot buffers prevent erosion of stream banks which in turn prevents pollution, protects fish, and prevents our roads and bridges from being undermined and having to be rebuilt.

No matter how you look at it, 100-foot buffers are critical. 100-foot foot buffer of native trees, shrubs and flowering plants are critical for the health and safety of our communities – and economically not only save us money but make us money. Because Radnor is in the headwaters of streams, and is the source of much of the volume causing flooding in downstream communities, a 100-foot buffer width is especially important and should be provided, based on substantial scientific evidence.

Further, if we are lucky enough that our streams become clean enough to achieve special protection water status then the mandatory buffer should increase to the 300-feet the science supports. And for those streams that have been listed by the State as impaired because they already are overloaded with pollution and degraded, a 150-foot requirement should be in place.

And it should be clearly stated that only plants native to our region should be used.

**Parking for Progress.**

There are many specific provisions for parking. What is notably absent is preferred spaces for alternate vehicles such as bicycles and all electric vehicles. There should also be a requirement for charging stations. All to encourage reduced pollution sources.

**Impact statement requirement needs supportive objective standards to be of legal value.**

The Impact statement requirement in section 3 does not provide the level of protection needed from bad proposals. It requires a look at a variety of issues but pursuant to municipal law, as long as an applicant can show they have complied with the objective standards set forth in the ordinance the project will have a right to be built. And so the ordinance needs to include a set of objective measures that articulate what it means to impact the environment and community so that failure to meet those standards results in a failure to meet the requirements of the conditional use - in other words, the impact statement is interesting but it needs to be tied to a set of specific and objective criteria that must be achieved in order to meet the requirements of the ordinance. Without this, the impact statement is an interesting exercise but does not necessarily give you the legal basis you need to say no.

Objective measures should be set for all of the areas identified as of concern in the impact statement section and should also include some more consideration of environmental issues such as a demonstration of hydrologic change in the receiving stream, impacts to wetlands or flooding, traffic ramifications, water quality implications, impacts on the ability of the community to meet MS4 or TMDL legal obligations, impacts to storm drainage, causing or contributing to erosion, noise impacts, lighting standards, tree counts/limits on cutting of trees of certain diameter, native plant standards... etc.

Respectfully,



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