

**From:** Dennis Brown <lakesideme@yahoo.com>  
**Sent:** Wednesday, February 27, 2019 1:18 PM  
**To:** Donna Chapman; Jarrod Maxfield; Bob Muir; Rebecca Cummings; Tim E. Nangle; Dennis Welch; Clayton Haskell  
**Cc:** Amanda L. Lessard; Rosie Hartzler; Kim White; John MacKinnon; Donald H. Gerrish; Gretchen A. Anderson  
**Subject:** Independent Review Comments  
**Attachments:** GorrillPalmerComments\_Checklist.docx

Windham Town Council,

Thank you for taking up the Independent Review issue from the Highland Lake Leadership Team (HLLT) at your meeting on February 19. I missed that item on the agenda and didn't alert fellow members of the HLLT that the issue would be considered. Amanda communicated to me the results of your discussion as well as your very appropriate amendment (thank you Dave). We surely will participate in the discussion at the March 12 public hearing.

I'm including here the discussion on the HLLT specifics of the Independent Review. In black is the HLLT recommendation, in green, the Gorrill Palmer comment, and in red the HLLT response. As Amanda has shared with you, many of the recommendations are already being done, when an independent review is performed. In the case of the project that initiated this recommendation, an independent review was requested and denied by the Town Engineer.

You will see a clear thread in the recommendations of needing the engineer to actually visit the site, and again, I'm pleased to see that the Council feels the same. While there is general agreement on the recommendations between Gorrill Palmer, there are some differences as you will see.

We very much appreciate your concerns relative to these recommendations and look forward to a healthy public discussion on March 12.

Regards,

Dennis Brown  
Chair HLLT

Hi Jon,

In our opinion the purpose of peer reviews is to catch glaring design errors that do not comply with the performance standards/ordinance requirements. A peer review generally is not intended to provide QA/QC for the design engineer/team. If professionals are preparing the plans, you have to have some extent of trust in them so you don't have to complete a full redesign of their calculations and design drawings. If all peer reviews required this level of review and checking, the peer review escrow would likely have to be higher to account for the additional review time.

This checklist was drafted by the HLA to provide enhanced third party review of projects because the current system of regulatory oversight is clearly not working. We consider this review to be a "straight face" check of design and construction elements. We fully expect that additional review time will be required, both in the office and on site.

We offer the following comments to the checklist questions;

### Windham Stormwater Management Plans Third Party Review Checklist

1. All wetlands on the site are identified and delineated.

Comment: Does this mean that a 3<sup>rd</sup> party wetland scientist would have to be retained to visit and confirm all wetland boundaries?

No, we expect that a site check by the third party reviewer should be adequate provided he/she has some familiarity with wetland science. Up until now, there is no environmental on site review of what is provided by a developer.

1. Characterization of pre- and post-construction soils is complete and accurately reflected in stormwater calculations.

Comment: We generally do this in our peer reviews by reviewing the NRCS medium intensity soil survey data that is submitted. In general the soil classification does not change for the post-construction condition. How would you know during the peer review (prior to construction) if the soil characteristics changed as a result of construction?

We don't think that it would be too much of a burden on a developer to require them to identify the type of Fill soils (where applicable) that they propose to use. For example, will it be granular well-drained soils or clayey poorly drained soils? It obviously can make a big difference in post-development hydrology.

1. Characterization of pre- and post-construction ground cover and topography is complete and accurately reflected in stormwater calculations.

Comment: This seems to indicate that the peer review process should include a site visit to field check the pre-construction ground cover and topography. This may be a

good idea, but it can be difficult to thoroughly evaluate a wooded pre-development site to confirm that it matches what is shown on the survey plan. It is impossible to check post-construction cover and topography until during construction or after construction has been completed; therefore, if changes were found during or after construction, there would have to be after the fact changes to the stormwater calculations to show the changes from what was approved. It seems impractical to check the post-construction cover and topography. That being said, we have required developers to go back to their design engineers if field changes come up that we feel will impact the stormwater design. This has often required them to go back to Maine DEP to address any changes.

If field changes can prompt a reevaluation of stormwater design, then the same should be said for other changes found during or after construction. The developer needs to know that there will be some monitoring of changes occurring during construction that could have significant impacts on post-construction hydrology. Otherwise, there is little to prevent a developer from “fudging” on the design.

1. All impermeable surfaces are accurately represented in pre- and post-construction stormwater calculations.

Comment: We generally spot check areas during our peer reviews, such as roads, parking lots, roofs, etc. to make sure they are close to what is shown in the stormwater calculations. If we were to recheck all pre and post areas it would take a fair amount of additional review time, depending on the project. Maine DEP generally requires water quality treatment maps, which identify which areas go to specific treatment BMPs as well as the areas of impervious, landscaped and developed surfaces. These maps are helpful, but they are not generally required for projects that don't require DEP review.

Sounds like the spot checks you currently employ are adequate.

1. Calculations for time of concentration accurately reflect conditions observed on the ground.

Comment: For the pre-development condition, this would require visiting the site and locating yourself on the site so you can identify where the pre-development flow paths are located and then confirming the cover conditions and ground slopes. For post conditions, we have to assume that the post cover conditions and grading shown on the plans are accurate, because the project has not been constructed yet. In most cases, the minor changes in Tc flow paths that would be made by this more detailed evaluation would likely have minimal effect on the overall outcome of the model. Yes, if the Tc changed from 30 minutes to 5 minutes, there would be a change in the peak flow, but I think it is rare that there would be that much of an error. In general, we do review the Tc paths to make sure they seem consistent with the conditions as we understand them from the plans.

We agree that a site visit to evaluate flow paths would be necessary. One of the problems with the current level of regulatory oversight is that there is little to no investigation of conditions on the ground.

1. Sheet flow through buffers is consistent with post-construction land use, topography, and ground cover.

Comment: We agree with this in general and do look at buffers closely to make sure they will function as expected. One challenge, as we have discussed, is that aerial topo generally does not reflect ground conditions very accurately. We recommend that field topo be provided in areas where stormwater BMPs are proposed. This would include surveying the entire buffer area to ensure that the contours will not result in re-concentration of flow before the flow goes through the required buffer length.

We wholeheartedly agree with your recommendation for field topo in proposed BMP areas.

1. All developed areas are included in the phosphorus export calculations.

Comment: This is where the stormwater quality treatment plan would come in helpful. We generally spot check areas to see if they match what is shown in the calculations.

Sounds like your spot checks are probably adequate.

1. Structural BMPs are appropriate for the site given topography and soils.

Comment: We agree that appropriate BMPs should be chosen based on topography and soils.

Okay

1. Pretreatment for structural BMPs is sized for annual sediment loading.

Comment: We agree. Pretreatment calculations should be included to show that they have been sized appropriately. They are generally required for projects submitted to Maine DEP.

Okay

1. Structural BMPs are designed for maintainability and longevity.

Comment: We agree. BMPs should be sited to allow for maintenance, including appropriate easements and access ways, if necessary.

Okay

1. Setbacks from streams and wetlands are adequate.

Comment: Setbacks to streams and wetlands are generally specified by Maine DEP and IF&W. DEP NRPA requires 75' setback to streams. IF&W recommends 100' setback to streams. Permits are required to encroach in those setbacks. If the Town wants more restrictive setbacks, those would have to be set by ordinance.

Okay but they need to be checked and verified during site visits. Unfortunately, most setback requirements can be minimized by a "permit by rule" application, which may

work in areas far from a great pond, but requires greater scrutiny by the town given the status of the great pond.

1. Stream channels receiving post-construction runoff from the site have been evaluated to determine whether the timing and volume of runoff will exacerbate streams already impacted by existing development.

Comment: This would require a site visit to observe the condition of the receiving channel and a determination whether additional runoff would cause additional erosion or damage to the channel. This may be a difficult call to make and may require special expertise. Also, if the receiving channel extends off the development property it may be difficult to get access.

A site visit is warranted in this case. There are plenty of case studies documenting the compounded effects of multiple developments on a stream channel. This has been generally overlooked by regulatory agencies but it should be a consideration in any watershed undergoing urbanization. The third party reviewer should be familiar with stream morphology; courses are available.

Any criteria, such as post-construction impervious area, used to establish thresholds for permitting review are checked for accuracy to ensure the appropriate regulatory reviews are performed.

Comment: Similar to items 2 and 3 above.

1. During construction, developed areas are monitored to ensure they reflect site design and that criteria such as post-construction impervious area do not exceed that allowed per the permit.

Comment: This is generally done during construction inspections; however, construction is less precise than drawing lines on a plan. For example, it is difficult to construct a road to exactly 22' wide. The width may vary by ½ inch or 1 inch on either side, but on average, it will be 22' wide.

Sounds like your inspections are adequate. The concern is that designs sometimes reflect development up to less than 1% of the threshold greater permitting levels. When such designs are presented to the Town, greater scrutiny must be taken to assure that the threshold was not crossed.

1. Construction is phased to minimize the area of exposed soil at any one time, and erosion and sediment control BMPs employed during construction are adequate for mitigating sediment in runoff from all exposed areas.

Comment: Parameters would need to be specified by ordinance to make this enforceable. A good erosion control plan (also required by Maine DEP) will have general erosion control notes noting to minimize disturbed area. It is difficult to set realistic parameters that apply to every project. For example, it may be impossible to say exposed soil must be held at 0.5 acres or less, because this may not be possible for certain projects, depending on the project characteristics (building size, topography, soils, etc). We generally see more concern with limits on exposed soil for large projects, such as a shopping mall, or large box store development. When we conduct construction inspections, we often will request additional erosion control

BMPs, or repair of BMPs to ensure the erosion control plan is implemented correctly.

We think that the expectation to minimize the area of exposed soil during construction can be set with the contractor at pre-construction meetings.

Thank you,

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