March 25, 2020

Planning Board
8 Newmarket Road
Durham, NH 03824

RE: *Continued Public Hearing - **Mill Plaza Redevelopment**. 7 Mill Road. Continued review of formal application for: 1) Site plan and 2) Conditional Use for mixed use redevelopment project and activity within the wetland and shoreland overlay districts. A revised general layout has been submitted for review. Colonial Durham Associates, property owner. Sean McCauley, agent. Joe Persechino, Tighe & Bond, engineer. Ari Pollack, attorney. (Rick Taintor is serving as the Town's Contract Planner.) Central Business District. Map 5, Lot 1-1.*

Greetings,

First, I wish you and your families all continued good health in this stressful time.

Second, as we all know, I am no subject-matter expert in these areas, but I think the points that I raise in this letter (many of which were addressed in my March 11 presentation) should be discussed:

A. Stormwater management plan
B. Snow removal and de-icers / chloride (road salt)
C. Impervious cover and natural buffer
D. College Brook restoration, mitigation to damage caused by Plaza operation
E. Landscaping and parking

A. Stormwater management plan

In April Talon's comments of March 5, 2020 regarding the stormwater management plan dated January 2, 2020, she wrote: "While this project is subject to an older version of Durham's regulations, the proposed stormwater design is a robust design providing both detention and multiple areas of treatment, a vast improvement on the current site which has little to none of either.…"

But let's take a closer look at that statement.

"Older version": The site plan regulations to which CDA is subject, including stormwater management standards, include those that were publicly noticed just prior to the submission of the first site plan and that were eventually approved by the Board. So we need to be clear that *nearly all standards in today's version apply*.

Subsection 15.4.2(3)a, one of the newer site plan standards, says:

(a) No person shall locate, store, discharge, or permit the discharge of any treated, untreated, or inadequately treated liquid, gaseous, or solid materials of such nature, quantity, noxiousness, toxicity, or temperature that may run off, seep, percolate, or wash into surface or groundwaters, and thus contaminate, pollute,

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harm, impair or contribute to an impairment of such waters nor to any impaired waters as listed with the New Hampshire Department of Environmental Services.

This is key to how much we ask of a stormwater management plan for this redevelopment.

With the understanding that the applicant is of course vested in the earlier version of the stormwater standards, and completely separate from the intent of the community reflected in this version of the stormwater standards, ***it is important to note that (1) this is a Conditional Use Permit application and (2) EPA permit requirements supersede Durham's site plan regulations.***

Why do we need an independent review of the proposed stormwater management plan?

As I wrote to you on January 14, "This is not the type of project on which we can afford unfulfilled promises. Dealing with vast asphalt runoff abutting an NHDES-designated impaired waterbody that frequently overflows its banks demands that many heads work toward a future-oriented, thorough solution."

In addition, as I imagine is the case for most towns our size, and perhaps even *every* town in New Hampshire, our Town Engineer was hired for a broad range of skills as a generalist—an entirely appropriate decision. It is my understanding that she is not a stormwater expert.

So I urge the Planning Board to:

1) Require an independent third-party technical review of the proposed stormwater management plan (per Site Plan Regulations, Part II., Article 5. Independent Studies and Investigations; and, no, the applicant does not get to "call the shots"):
   - Town Engineer: not a stormwater expert
   - Tighe & Bond's engineer: a professional but is paid to work within constraints as directed by the applicant
   - Complex, large, prominently located project along waterbody
   - Could suggest potentially cost-efficient more effective alternatives
   - Horsley Witten Group a potential consultant (hired by the Town in the past)

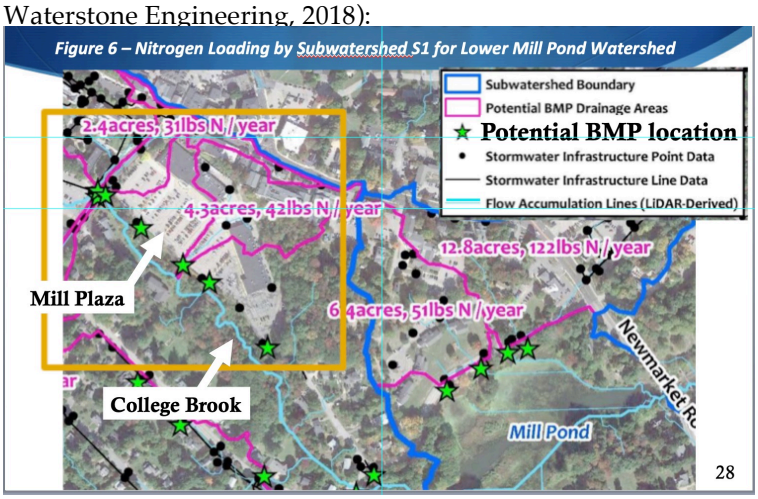
2) Ask questions that address:
   - Climate change impacts that may not be adequately predicted and incorporated: What about **Intensity, duration, frequency (IDF)**? Should "worst case" scenarios be the benchmark?
   - What would overwhelm the systems, and how frequently could that happen?
     ⇒ How bad could things get? What is at risk? What would be the impact, e.g., flooding of Chesley Drive homes?
   - Flooding potential of College Brook might be greater than suggested
     ⇒ 2017 Multi-Hazard Mitigation Plan, Town of Durham notes: "…Based on extent of the floodplain, Durham has significant flooding potential along the

Lamprey River and its tributaries in the southeast of town and along the Oyster River and its tributaries in the northwest of town above the Mill Pond Dam.…"

⇒ Historical photos and resident experiences over past decade provide evidence

- Excavation of Church Hill to allow for Building C: Is this adequately incorporated? Should it be addressed and quantified separately?
- Why not multiple treatment areas: Will the southeastern area designated for stormwater management really be adequate for the full extent of the site under all situations? (See below "Figure 6" from the Waterstone Engineering, re BMPs, i.e., best management practices.)
  - ⇒ Multiple smaller stormwater management systems may remove more nitrogen at an equivalent cost (see above Waterstone report)
  - ⇒ The plan appears not to address the western stretch of the Brook near Mill Road; an expert review might propose ways to address it
- Nutrient load to Mill Pond (thus to Great Bay), primarily phosphorous and nitrogen, promotes plant and algal growth; the redevelopment offers an opportunity help address that issue
  (see "Mill Pond Nutrient Control Measures Final Report," by Robert Roseen and Jake Sahl, WS Waterstone Engineering, November 30, 2018 <https://www.ci.durham.nh.us/sites/default/files/fileattachments/public_works/page/54315/181130_mill_pond_nutrient_control_final_report.pdf>)
  - ⇒ No, whatever is done on the Mill Plaza site will not "fix" the problem; yes, UNH must get on board. Measures initiated by the Town will set an example)
  - ⇒ Report notes: "…reductions in phosphorus inputs to College Brook will be critical in the long term to reducing phosphorus concentrations in Mill Pond."
  - ⇒ While the primary source of phosphorous and nitrogen in College Brook may indeed be the UNH agricultural fields, we must seek improvements to the ability of College Brook and its banks to filter.
  - ⇒ "Sources of phosphorus in urban runoff include plant and leaf litter, soil particles, pet waste, road salt, fertilizer, and atmospheric deposition of particles. Lawns and roads account for the greatest loading." <https://stormwater.pca.state.mn.us/index.php?title=Phosphorus_in_stormwater#Stormwater_management_for_phosphorus>
  - ⇒ Different forms of phosphorous (dissolved or particulate, organic or inorganic) have different impacts (depending on their bioavailability, e.g., to algae) and require different treatments. This is another place where expertise is needed. <https://stormwater.pca.state.mn.us/index.php?title=Phosphorus_in_stormwater#Stormwater_management_for_phosphorus>
  - ⇒ No "lawns" abut the College Brook between Mill Road and Chesley Drive; thus, any inputs to the stretch along the Mill Plaza are not subject to additions of household fertilizer (unless Brookside Commons violates Town ordinance)
  - ⇒ "….the best pathway to achieving these [phosphorous and nitrogen] reduction targets is through installation of watershed BMPs [best management practices] to limit nutrient loading." (see above Waterstone report)

⇒ Potential BMP locations stretch along the Mill Plaza parcel well to the west of the proposed stormwater management treatment site, as shown in my slide presentation on March 11 ("Figure 6 – Nitrogen Loading by Subwatershed S1 for Lower Mill Pond Watershed" included in the "Mill Pond Nutrient Control Measures Final Report" Waterstone Engineering, 2018):



3) Be proactive relative to EPA's Small MS4 and Total Nitrogen General (TNGP) Permits

- EPA permit requirements supersede our local site plan regulations (if ours are not more stringent)
- With new MS4 permit, stormwater management must address impairments to Great Bay: College Brook is a tributary to Great Bay, which is impaired for nitrogen, among other nutrients; MS4 specifically addresses these tributaries
- We do not want to be putting any more nitrogen, salt, etc., into the water than before this upgrade
- How would improvements/mitigation help us meet the new permit requirements? These criteria are only in the development stage, but common sense suggests that we have an opportunity with this project to offset future costs.

4) Coordinate public-private sharing of cost so community does not bear it all

- Proposed CDA plan (understandably) reflects maximizing development rather than minimizing the impact on the Brook

  ⇒ EPA's MS4 and TNGP permit requirements may well require taxpayer support
- General authority for cost-sharing to address stormwater pollution was granted in 2008, so the concept of "ask" is reasonable

  ⇒ via not-yet-enacted stormwater utility funds: see RSA 149-I:6-a through RSA 149-I:6-d; (See an overview from law firm Orr & Reno at <https://orr-reno.com/what-is-a-stormwater-utility-part-1-of-2/>)
- Town has leverage in working with private new development and redevelopment

5) Include low-cost low-impact-development measures, e.g., BMPs such as:

- "tree planters" that combine a tree well and catchbasin with an engineered soil that provides a growing medium and water quality filter

6) As Conditions of Approval, require:
   - Independent, third-party post-construction inspection
     ⇒ "The Planning Board may require an independent, third-party inspection and oversight of the construction of stormwater management facilities and erosion and sediment control and annual maintenance operations, at its discretion. Such independent oversight may be especially important for implementing innovative techniques such as those involving pervious pavement and gravel wetlands." (Site Plan Regs)
   - Detailed inspection on a regular basis and maintenance plan for all systems, for continued effectiveness and structural integrity, per MS4
   - Frequent lot sweeping and catch basin cleaning

B. Snow removal and de-icers / chloride (road salt)

For decades, College Brook has been on the NHDES list of waterbodies impaired for chloride. Mill Plaza is not the sole contributor, but it is a significant one.

1) Parking lot snow management typically relies on chloride-based de-icers
   - Chloride cannot be mitigated (NHDES, among other sources)
   - Ted Diers, Watershed Management Bureau Administrator, NHDES expects that climate change will result in greater use of salt
     ⇒ *With climate change we will see more storms that will be right at the ice-rain edge, whereas in the past, we had more storms that were pure snow. As we see more ice than snow, we will be using more salt. Freezing rain, with storms at that transition temperature of 30 to 34 degrees, washes salt off, so it must be reapplied.* [per my conversation on February 27, 2020; not verbatim]

2) As Conditions of Approval, require:
   - Contracting only with NHDES Green SnoPro-certified salt applicators
   - Sidewalks: How will snow removal and deicing be handled? BMPs should be the same as for other impervious surfaces.
   - Provide required NHDES AOT application's chloride mitigation plan to Planning Board prior to deliberation
   - Confirmation that snow removal and deicing plans conform with all subsections of site plan regulations Section 9.3 Snow Storage and Removal

C. Impervious cover and natural buffer

What is counted in the table on Sheet C-701 of the Plan?

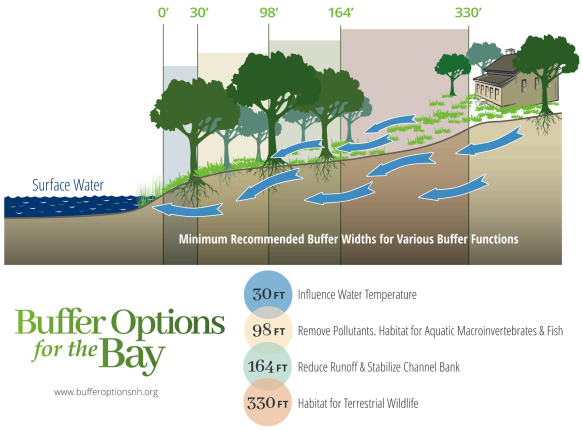
1) Why is there really only one area of decreased shoreland and wetland buffer?
   - Are the pervious parking lot islands (a good low impact development measure) included in the calculations of change to the wetland or shoreland buffers?

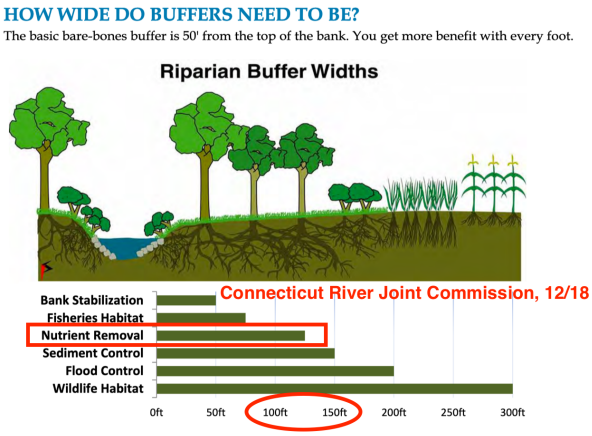
2) According to Todd Selig, the Settlement Agreement authorizes the Planning Board to negotiate "an increase." Please do so.

D. College Brook restoration, mitigation to damage caused by Plaza operation

To my recollection, no one has raised this issue recently. The current application in essence ignores it. Restoration is integrally related to natural buffer width (i.e., to the Settlement Agreement). What are the recommendations from experts?

Here are two: The Connecticut River Joint Commission recommends a minimum of 100 feet for riparian buffers to address nutrient removal. Buffer Options for the Bay <www.bufferoptionsnh.org> advises riparian buffers of 98 feet to remove pollutants and provide a healthy habitat for aquatic macroinvertebrates [organisms that lack a spine but are large enough to view with the naked eye] and fish; 164 feet to reduce runoff and stabilize channel bank; and 330 feet to provide a healthy habitat for terrestrial wildlife.





Unfortunately, between steep banks and development on either side, the College Brook cannot benefit from a wide buffer. All the more reason to take additional steps to mitigate the impacts of nutrient loading.

1) Background
   - See the 2008 report of the Mill Plaza Study Committee, particularly the College Brook Report, i.e., Appendix E ("…done pro-bono by local experts in natural resources and stream ecology") <https://www.ci.durham.nh.us/planning/other-plans-and-studies>
   - Photos shown in the Tighe & Bond Drainage Report dated January 2, 2020 show only the area of the parcel intended for use, but the parcel extends to the center of College Brook—and impacts of the Mill Plaza operation extend to the backyard of the Brookside Commons apartments: Erosion of the steep banks has been accelerated by catastrophic snow removal practices.

2) Stabilize the banks: "Soil erosion is a major contributor of phosphorus to streams. Bank erosion occurring during floods can transport a lot of phosphorous from the river banks and adjacent land into a stream, lake, or other water body." "Phosphorus and Water" <https://www.usgs.gov/special-topic/water-science-school/science/phosphorus-and-water?qt-science_center_objects=0#qt-science_center_objects>

3) Enhance and protect a community asset with values independent of effect on Great Bay and Mill Pond water quality: In a presentation on the 2009 B. Dennis Town Design charrette, Bill Dennis, noting the presence of a great blue heron at Pettee Brook, said that Durham would be the envy of towns that do not have downtown waterbodies.

4) As Conditions of Approval, require:
   - Detailed plan/evidence of enforceable commitment (e.g., a contract between CDA and independent consultants) for living shoreline/buffer management, and habitat restoration as "Precedent Condition"
   - Plan for reducing/monitoring/cleanup of litter/trash into the buffer and/or brook, e.g., outreach, partnerships, dedicated employee

5) Seek expertise from partners such as Chesapeake Stormwater Network.
   - There is no need for Durham, CDA, or Tighe & Bond to try to reinvent the wheel.
   - Grants are available for funding of expertise and implementation

D. Landscaping and parking

1) The sea of asphalt must be broken into landscaped sections, according to our site plan regulations. *No waiver should be given on this matter.*
   - "5.8.11 — Parking lots shall be broken up into smaller parking areas with landscaping features and bioretention systems. The total parking area required shall be broken into sections not to exceed forty (40) spaces unless otherwise approved by the Planning Board."

2) We need more trees than proposed. Trees are more valuable in terms of ecosystem services, durability, and require less maintenance than shrubs or perennials. Trees have proven to:
   - Slow stormwater runoff, stabilize stream bank
   - Sequester carbon
   - Clean air (filter particulate matter from vehicles)
   - Mitigate the effect of parking-lot heat island (2 –9°F), reducing power plant emissions
   - Improve human physical and mental health

3) As Conditions of Approval require the following tree planting procedures or equivalent as recommended by certified independent, third-party horticulturalist/arborist:
   - "structural sand-base" as sub-base (per R. Kelley; confirm with arborist)
   - "Tree Gators" for first two growing seasons (UNH, Lee Traffic use these to ensure trees remain well-watered)

4) Where are pedestrian walkways that safely guide customers through the parking lot?

- "5.8.12—…The design and use of islands for bioretention systems shall meet Low Impact Development (LID) best management practices. Some islands shall be used to provide pedestrian walkways."

5) Number of spaces: The Planning Board has leeway to waive parking spaces, even under the Settlement Agreement
   - If the Board determines a lower number of spaces is best for the project and the applicant agrees, the relevant portion of the Agreement could be renegotiated between the Town Council and CDA (as understood by all parties and noted publicly by former Councilor Jay Gooze at the Planning Board)
     ⇒ minutes of February 10, 2016 state: "Councilor Gooze said if for some reason it looked like the design submitted with the settlement agreement would change, it would probably need to come back to the Town Council. He said if there was design that was satisfactory to the applicant and the public, he assumed the Council would make a revision that would be satisfactory to everyone. He noted that the density couldn't change, but said other aspects of the design could change based on the settlement agreement."
   - Any constraint imposed on the applicant by a tenant is solely the applicant's concern
     ⇒ if the Planning Board cannot approve a design that incorporates such a constraint because the Board believes it neither meets land use regulations nor is in the best interest of the Town, so be it

6) Size of parking spaces:
   - recognize alternate, space-saving uses and Durham's specific demographics and the site's close proximity to a large number of prospective customers (downtown apartments, UNH dormitories, downtown family neighborhoods)
     ⇒ include sizing for compact vehicles: 8x16 feet
     ⇒ include areas for bicycle and motorized two-wheeler parking

How do we move forward with a redevelopment that everyone wants to see happen given (1) legal constraints between the Town and the applicant, (2) the need to provide an incentive for the applicant, (3) the community's desire to realize benefits beyond taxes that are suitable to this prominent central commercial location, and (4) the topographical site constraints and what we know today about how to enhance, rather than continue to harm, our environmental assets?

The community is relying on the Board to work with the applicant to improve the current plan. I, for one, understand that this will require a balance: As you are well aware, the future impacts of either doing nothing or redeveloping will be significant and long-lasting.

But let's aim higher than what has been proposed.

Sincerely yours,

— Robin Mower