

October 21, 2020

Conservation Commission  
8 Newmarket Road  
Durham, NH 03824

RE: *Conditional Use Permit review for Wetland Conservation and Shoreland Protection Overlay Districts related to proposal for the Mill Plaza, described on Planning Board agendas as "review of application for site plan and conditional use for mixed use redevelopment project and activity within the wetland and shoreland overlay districts. Colonial Durham Associates, property owner. Sean McCauley, agent. Joe Persechino, Tighe & Bond, engineer. Emily Innes and Sharon Ames, Harriman, project designer. Ari Pollack, attorney. (Rick Taintor is serving as the Town's Contract Planner.) Central Business District. Map 5, Lot 1-1."*

Greetings,

The Commission will soon hear a presentation by Colonial Durham Associates regarding a Conditional Use permit application before the Planning Board for the Mill Plaza site. The site abuts College Brook, which, as you know, empties into the Oyster River, which in turn empties into Great Bay. At the forefront is the proposal's continued encroachment of a parking lot into the buffers to the brook (approximately 34 parking spaces are entirely or partially located within the wetland buffer).

College Brook has been listed for years by the NHDES Surface Water Quality Assessment Program as a waterbody impaired for chloride (typically, road salt), among other measures. In November 2017, NHDES noted that the source for the chloride impairment of College Brook is "Commercial Districts (Shopping/Office Complexes)" and "Highway/Road/Bridge Runoff (Non-construction Related)."

In addition, the report, "Mill Pond Nutrient Control Measures Final Report for the Durham, NH Mill Pond Study," prepared for the Town by Waterstone Engineering in late November 2018, notes that "Great Bay was placed on the Clean Water Act (CWA) Sec. 303(d) list of impaired and threatened waters (NHDES, 2009)." In the last decade, the Town of Durham and the University of New Hampshire have spent hundreds of thousands of dollars and hundreds of employee hours to improve the water quality of Great Bay and its estuaries. Federal permit requirements are likely to put Durham "on the hook" in the future.

You will no doubt hear that, because Mill Plaza abuts a small reach of College Brook, it is impossible to determine the degree to which the Plaza is responsible for any degradation of the Brook. Among other reasons is that UNH, over the years, has been a contributor to that degradation, whether by phosphorous from its agricultural fields or by other chemicals.

But the very presence of the large impervious surface of the Plaza (much of its 10 acres), predominantly dedicated to a parking lot with unmitigated vehicular runoff that was built closer to the brook than originally planned (or would be allowed today), and the decades-long practice of pushing salt-laden snow onto the banks of the brook, cannot be argued away as negligible factors. College Brook suffers from urbanization, and:

*"...an urban stream channel is exposed to more shear stress above the critical threshold needed to move bank and bed sediments. This usually triggers a cycle of active bank erosion and greater sediment transport in urban streams."*

The Commission must evaluate whether the Colonial Durham Associates application meets all four of the zoning ordinance's Conditional Use Permit criteria for each of the Wetland Conservation and Shoreland Protection Overlay districts. However, in advising the Planning Board, the Commission could also consider its greater charge as protector of Durham's natural resources.

This is a long document; I wish it were shorter for your sake, but I wanted it to be comprehensive, particularly for those of you unfamiliar with the site or its history.

**Topics in this letter include:**

- The zoning ordinance and the Conservation Commission
- Current conditions of vegetation in the buffer
- The proposal: Nonconforming encroachment into the Upland wetland protection buffer
- "Increased natural buffer": The 2015 Settlement Agreement, Planning Board
- The proposal: "Restoration and protection of the College Brook" (?)
- Background—early days: Who is responsible for what?
- Background—2008 to 2014
- Background—current application
  - The site plan: Deforestation and excavation of Church Hill
  - Impervious cover and small streams such as the College Brook
- Materials provided herewith
- Suggested course of action
  - When writing to the Planning Board
  - Schedule a site walk
  - Extend the review

**The zoning ordinance and the Conservation Commission**

Your primary charge will be to evaluate the application against the four specific criteria for a Conditional Use Permit pertaining to the Wetlands Conservation Overlay and to the Shoreland Protection Overlay, as detailed in the zoning ordinance, and then to advise the Planning Board of your findings.

Secondarily, according to the zoning ordinance, the Commission is also responsible for advising the Planning Board on any proposed permitted use according to Sections 175-60(B) and 175-71(B), Permitted Uses in the WCOD and SPOD, respectively. (See the ordinance for a complete list; note, a parking lot is considered a structure under the zoning ordinance.) I suggest that the Commission also consider Section 175-65(A): Natural Vegetated Buffer Strip within the Wetlands Conservation Overlay. Finally, under Section 175-76(A).

Performance Standards in the SPOD: Natural Woodland for Shoreland Development, the Commission must also weigh in, which may become relevant:

5. *Dead, diseased, or damaged trees, saplings, or ground covers may be removed with prior approval of the Conservation Commission, in consultation with the Tree Warden....*

Note: It might not be possible to discharge these secondary responsibilities until a later date, but you may wish to ask the Planning Board to advise you of conditions that would make it appropriate, e.g., the submission of a “restoration plan” for the College Brook or the approval of a proposal that includes such activities.

### **Current conditions of vegetation in the buffer**

On March 11, 2020, abutter John Hart—who has an extensive background in forestry and ecological landscape design and management—gave a presentation to the Planning Board packed with photos showing dead and damaged trees, as well as rampant invasives, within the Shoreland setback. The presentation may be viewed either on DCAT or in PDF format.

John Hart’s March 11, 2020 oral presentation may be viewed via the Planning Board “playlist” on DCAT on Demand at <<https://durham.vod.castus.tv/vod/?video=65e6bf54-0cae-4fd9-9095-cae8fb0e7d2c&nav=playlists%2Fplaylists%2FPlanning%20Board%202019%20-%202020.m3u8>> See Agenda Item #11; his presentation starts about the 1:11:40 marker.

The static version (slides only) is listed as “John Hart Presentation 3-11-20 on the Town website’s Citizen Comments page at <[https://www.ci.durham.nh.us/boc\\_planning/citizen-comments-mill-plaza-development-site-plan-cup-application](https://www.ci.durham.nh.us/boc_planning/citizen-comments-mill-plaza-development-site-plan-cup-application)>

### **The site plan: Nonconforming encroachment into the upland wetland protection buffer**

As proposed, the project would perpetuate the nonconforming (relative to today’s ordinance) encroachment of the parking lot into the upland wetland protection buffer. (Attached see the hand-colored buffer lines on the attached document showing the relevant portion of the site plan, excerpted from sheet C-102.)

The applicant believes the proposal is “grandfathered” (or “vested”) in a legal right to maintain this encroachment, presumably arguing that land use regulations regarding wetland and shoreland protection were enacted subsequent to the original construction.

However, as Rick Taintor (our Consulting Planner) wrote in coordination with Audrey Cline (our Code Enforcement Officer) in a memo dated June 8, 2020, titled “‘Grandfathering’ in the Site Plan Regulations” [emphasis added in red text]:

*...The phrase “legally established nonconforming site conditions” includes any site condition that existed prior to the adoption of a land use regulation to which the condition does not conform. This covers both conditions that are shown on approved site plans and conditions that were not subject to site plan approval at the time they were created. /.../*

*... pre-existing nonconforming conditions with respect to state or federal environmental standards could be subject to Planning Board review....*

*In reviewing a site plan, the Planning Board has three options with respect to a legally established nonconforming site condition: (1) the Board may require the nonconforming site condition to be brought into compliance with current land use (zoning and site plan) regulations, (2) the Board*

may require that the extent of nonconformity be reduced, or (3) the Board may require that the nonconformity be mitigated. *Because these are the only actions allowed by the Regulations, the Board may not simply let a nonconforming site condition remain without reduction or mitigation.*

*It should also be noted that Section 1.1.4 does not cover any site condition that did not conform to a land use regulation that applied at the time that the condition was established, nor does it apply to a site condition that does not conform to the most recent approved site plan. Such nonconforming conditions are not “legally established” and therefore have no grandfathering protection under the Site Plan Regulations. If the Town has let such conditions exist over some period of time they may be protected under the concept of “laches” (this would be determined on a case by case basis). However, a new site plan opens up such conditions for review. There is no general rule that a nonconforming site condition that is not “legally established” has any grandfathering protection, and it is likely that such a condition must be brought into compliance with existing regulations as part of a site plan approval.*

[The complete memo is listed as “Memo from Planner Regarding Grandfathering 6-8-20” at the primary page for the application, <[https://www.ci.durham.nh.us/boc\\_planning/mill-plaza-redevelopment-site-plan-cup](https://www.ci.durham.nh.us/boc_planning/mill-plaza-redevelopment-site-plan-cup)> or may be viewed directly at <[https://www.ci.durham.nh.us/sites/default/files/fileattachments/planning\\_board/page/54468/memo\\_from\\_rick\\_taintor\\_6-8-20.pdf](https://www.ci.durham.nh.us/sites/default/files/fileattachments/planning_board/page/54468/memo_from_rick_taintor_6-8-20.pdf)>]

However, historical evidence (letters from residents, Town of Durham staff memos, Planning Board memos) raises the question whether the location of the southern edge of the parking lot, i.e., adjacent to the College Brook, is indeed a “legally established nonconforming condition.” The Town Office appears to be missing copies of zoning ordinances in effect at the time of construction, which would have guided this determination.

The Commission should pay particular attention to the first and third Conditional Use criteria for the WCOD:

1. *There is no alternative location on the parcel that is outside of the SPOD that is reasonably practical for the proposed use;*
3. *The location, design, construction, and maintenance of the facilities will minimize any detrimental impact on the wetland, and mitigation activities will be undertaken to counterbalance any adverse impacts;*

While the criteria do not explicitly call out “configuration,” such as footprint size or shape, height, or proximity of two or more structures to each other, the word “design” might reasonably be seen to serve as proxy.

Colonial Durham may rest its argument on the constraint that its contractual agreement with its anchor tenant, Hannaford Supermarkets, presents on the applicant’s ability to configure and limit parking spaces as it wishes. I want to emphasize that this matter is between the applicant and its tenant.



## **“Increased natural buffer”: The 2015 Settlement Agreement, Planning Board**

The December 14, 2015 Settlement Agreement entered into between Colonial Durham Associates and the Town of Durham (via the Town Council) sets forth conditions to which the application must “substantially conform.” These conditions include the following:

- f. *The Revised Application will have **increased natural buffer** along the southern property line adjacent to the College Brook; such buffer to be maintained by the property owner in perpetuity.*

Administrator Todd Selig has stated that the above vagueness was deliberate, leaving the determination and negotiation of “increased” to the Planning Board.

While the Settlement Agreement is not in itself a matter for the Conservation Commission, I mention it as a sign that the Town Council considered the above condition important.

During the Planning Board’s public hearing meetings on the formal application (closing its third year in November), several members of the public as well as at least one member of the Planning Board\* have pointed out that were the applicant to shrink the footprint of the proposed buildings and/or reduce the amount of parking, the plan could encompass more green space and/or the development could be pulled back from the buffer.

*\*Richard Kelley: ...I think we’re making dramatic improvements to the stormwater, and while I think we’re certainly making improvements to the landscaping that exists there today, I’ve said this before and, applicants, “Dazzle us!” See if we can go back to the drawing board and do something remarkable up here. That’s certainly a degree of measure more than what we’re seeing here. And I do recognize what I’m asking, and that would be a reduction of building footprint, parking, in order to get green space. But I’m going to throw that out there and ask the applicant to look at that and report back next week whether it can be done or not. Thank you.*

*[DCAT recording of June 10, 2020 Planning Board meeting; tape marker about 3:52]*

The applicant has not answered Mr. Kelley’s question as of this writing. Nor has the Board held any discussion regarding the above requirement of the Settlement Agreement. So while the Board *could* have formally asked the applicant to address this issue, it appears that discussion will only come after the public hearing is closed, i.e., during final deliberation.

## **The proposal: “Restoration and protection of the College Brook” (?)**

The applicant’s narrative accompanying its application for “Wetland/Shoreland Buffer Conditional Use Permits” includes the following, referencing the fourth Conditional Use criterion of the zoning ordinance [emphasis added in red text]:

4. Restoration activities will leave the site, as nearly as possible, in its pre-existing condition and grade at the time of application for the CUP. **Applicant has retained a qualified consultant to suggest additional means of restoring and protecting the College Brook waterway, all of which can be done in partnership with the Town, the University and/ or interested abutters.** At a minimum, however, Applicant is improving upon the existing condition whereby unmitigated/ untreated sheet-flow runoff from paved parking areas now enters upon the buffer areas and into the waterway.

The above claim, highlighted in red, has yet to be substantiated during the Planning Board's public hearing, whether orally or in writing. There is no restoration plan as of this writing.

[The entire narrative is posted at <[https://www.ci.durham.nh.us/boc\\_planning/mill-plaza-redevelopment-site-plan-cup](https://www.ci.durham.nh.us/boc_planning/mill-plaza-redevelopment-site-plan-cup)>]

Note that the Applicant's above stormwater runoff "improvement" is *required* by the Stormwater Management standards of the Site Plan regulations. The proposal does not go "above and beyond" those standards, providing only minimum low-impact development measures across the site where greater measures could be taken (e.g., tree planter boxes).

Further examples are provided in Waterstone Engineering's 2018 "Mill Pond Nutrient Control Measures Final Report for the Durham, NH Mill Pond Study," available from Public Works.

### **Background—early days: Who is responsible for what?**

Since Colonial Durham Associates purchased, first, the Mill Plaza buildings in 1983, and second, the land in 1993, the current property owner is not responsible for the original environmental impact of the Plaza construction and interim development. That includes the unfortunate location of the southern edge of the parking lot. On October 17, 1978, Durham's Public Works Director wrote to the developer that:

5. *Due to the fact that the McAuliffe [the original engineer] plan showed the brook in the wrong location, your present engineer had to redesign the parking lot closer to the brook than was originally anticipated. The new plan shows 1 1/2 to 1 slopes on the outside edge of the parking lot, which are extremely steep and vulnerable to erosion...."*

However, **Colonial Durham Associates is responsible for decades of ongoing practices—primarily snow removal and road salt use—that are destructive to the College Brook and to the vegetative buffer** that both protects the brook and screens the abutting residential neighborhood. Damage to the flood plain raises the issues of stream channel enlargement and siltation, which has been observed over the past fifty years.

From the start, the Conservation Commission worried about the impact of the Plaza construction. On February 19, 1968, the Chairman of the Conservation Commission wrote to the Selectmen to express concern about silting-in of College Brook. The Selectmen Chair replied: "We will certainly watch developments and, should a problem arise, we will make every effort to ensure that the contractors involved take corrective steps in order to avoid any permanent damage to the normal flow of College Brook." Five years passed before that silting-in was acknowledged by the Planning Board. Minutes of the Planning Board April 2, 1973 meeting include:

#### *Findings of Fact:*

5. *Since 1968 there has been observed an increased incidence of silting in the College Brook between Mill Road and Mill Pond Road.*
6. *The land lying east of the College Brook and south of the present paved area has been without vegetative cover since mid 1971.*
7. *The landscaping [sic] plan approved along Mill Road in 1968 was developed but has been indifferently maintained.*
8. *The landscaping [sic] plan approved in 1968 for shrubs and trees along the east bank of the College Brook was never completed.*

*Conditions of Approval:*

6. *The developer shall provide plans for the provision of ground cover on currently denuded areas south and east of the developed area acceptable to the Durham Planning Board. Such plans shall include specifications not less than those outlined in Standard Specifications for Road and Bridge Construction, State of New Hampshire, Department of Public Works and Highways, 1969.*

**Background—2008 to 2014**

In 2008, the Mill Plaza Study Committee presented its final report to the Town Council. Appendix E of that document, the “College Brook Report,” was compiled pro-bono by local experts in natural resources and stream ecology. The summary of the College Brook Report notes [emphasis added in red text]:

*The extent of pavement and current drainage and snow storage practices on the Plaza property date from the previous development phase during the 1960’s, and **would not be permitted today**. Current regulations require stormwater management in upland areas. The AIA150 design process, in partnership with the expertise at the UNH Stormwater Center, provides an exciting opportunity to leverage that work with ecological restoration in lowland flood plain, wetlands, and stream corridor of College Brook, as well as providing linkages for the existing footpath network in the vicinity.*

*In summary, the redevelopment of the Mill Plaza property provides a major opportunity to:*

- (a) Minimize and then manage stormwater on site;*
- (b) Maximize the vegetated buffer between Plaza activities and College Brook;*
- (c) Integrate inviting access to a natural oasis adjacent to the Mill Plaza.*

The “College Brook Report” also states:

*Water quality along the length of the Brook is poor, and has been measured at least since 1991 (Figure 1 below and Table 2, page 4). Nitrogen levels are high. Chloride levels are very high, and the Brook was recently listed as impaired due to chloride levels by the NH Department of Environmental Services. Although some water quality parameters have improved since 1991 (BOD, DO, and phosphate in particular), chloride and nitrate levels appear to have increased.*

*The impact of the current Mill Plaza runoff is not well documented, as most historic data are available for the UNH campus only. Recent sampling by the UNH Water Resources Research Center, however, shows a large increase in nitrate concentrations between the edge of campus and the mouth of the Brook at Oyster River. **A likely source for this increased nitrate is runoff from the mall parking lot, although other sources may contribute as well.***

One might reasonably conclude that the “likely source” for the high chloride levels is also “runoff from the mall parking lot.”

[See the entire report at <<https://www.ci.durham.nh.us/planning/mill-plaza-study-2008>>]

In 2009 the Conservation Commission evaluated a Colonial Durham Associates’ Conditional Use application to the Planning Board seeking to expand parking at the site. In its letter to the Board (attached), the Commission noted, relative to the four Conditional Use criteria:

*The Commission has reservations regarding item one (1) which deals with alternative location/configuration for parking that could achieve the developer's needs while respecting the integrity of the wetlands buffer. This was SECONDED Beryl Harper and APPROVED unanimously.*

In other words, the Commission did not find that all four Conditional Use criteria were met. The Commission also expressed concern about determining the "pre-existing condition."

### **Background—current application**

In September 2014, Colonial Durham Associates submitted its initial informal application for the Mill Plaza site. The current site plan is version #9. Despite urging from the public and occasional queries from the Planning Board, the location of parking spaces and edge of pavement relative to the WCOD and SPOD buffers and College Brook has not improved.

Note that the Community Planning Consultant's Review for the Planning Board meeting for October 14, 2020 includes an estimated timeline for the Planning Board to complete its review, including:

- a) *College Brook buffer management / stream improvement plan: 12/09 or 1/13/21?*
- b) *Conservation Commission re: wetland and shoreland conditional use permit: 10/26, 11/23, 12/28*
- c) *Wetland and shoreland conditional use permit criteria: 12/09 or 1/13/21?*

### **The site plan: Deforestation and excavation of Church Hill**

The applicant proposes to locate Building C in the northeast corner of the site. To do so would require clearing and excavating. The square footage of the area at the edge of Church Hill that would be cleared, the number of mature trees thereon, and the cubic footage to be excavated, have not been quantified for the Planning Board. A sheet titled "Surface Area Treatment Plan" (page 10 of the Tighe & Bond engineering firm's document posted on the Planning Board project website as "Supporting Documentation 5-20-20), leads me to guess that it would be approximately 25 percent of the parcel.

A separate Planning Board application to clear, excavate, and construct a parking lot on Church Hill appears to be forthcoming in November. It is unfortunate that the Commission will not be able to consider the potential impacts of that adjacent development in conjunction with the Mill Plaza application, since the combined clearing and excavation would likely have a greater impact than either project independently, i.e., the whole may be greater than the sum of its parts.

Even an excellent stormwater management cannot wholly reach the goal of mimicking the ecosystem services of a forested area the loss of which it was designed to compensate for. The Center for Watershed Protection in Maryland, a resource for issues around stormwater management and impervious cover, introduces its "Making Urban Trees Count" with the note that it has "developed a water balance model to provide an improved method for quantifying the **stormwater benefits of urban tree canopy.**"

[See <<https://www.cwp.org/making-urban-trees-count/>>]

Furthermore, construction activity may have an irreversible and lasting effect on the site's ability to manage stormwater:

*"Urban soils are also profoundly modified during the construction process. The compaction of urban soils and the removal of topsoil can decrease the infiltration capacity, causing increases in runoff volumes...."*

[*"Impacts of Impervious Cover on Aquatic Systems."* Center for Watershed Protection, March 2003.]

## **Impervious cover and small streams such as the College Brook**

Center for Watershed Protection research indicates that an increase in impervious cover is correlated with doubling of flood sizes:

*"Urbanization also increases the frequency and duration of peak discharge associated with smaller flood events (i.e., one- to two-year return storms). In terms of stream channel morphology, these more frequent bankfull flows are actually much more important than large flood events in forming the channel."*

Conversely:

*"As IC [impervious cover] increases in a watershed, less groundwater infiltration is expected, which can potentially decrease stream flow during dry periods..."*

And:

*"The direct effects of stormwater pollutants on aquatic systems appears to be a function of the size of the receiving water and the initial health of the aquatic community. For example, a small urban stream receiving high stormwater pollutant concentrations would be more likely to experience impacts than a large river, which is diluted by other land uses."*

[*Impacts of Impervious Cover on Aquatic Systems: Watershed Protection Research Monograph.* Center for Watershed Protection, 2003. <<https://owl.cwp.org/mdocs-posts/impacts-of-impervious-cover-on-aquatic-systems-2003/>>]

Research findings for the indirect impacts of impervious cover on small streams such as the College Brook shows consistency of trends:

- 1) *...the impervious cover model (ICM)...predicts that most stream quality indicators decline when watershed IC exceeds 10%...*

[*Impacts of Impervious Cover on Aquatic Systems: Watershed Protection Research Monograph.* Center for Watershed Protection, 2003.]

- 2) *"There appears to be a level (between 7 and 14 percent impervious surface) at which water-quality and habitat site rankings become affected by urban characteristics such as impervious surface. This result is similar to other studies, where measures of the impervious surface area of about 10 percent have been identified as the level at which stream quality decreases."*

[Deacon, J.R., Soule, S.A., and Smith, T.E., 2005, *Effects of urbanization on stream quality at selected sites in the Seacoast region in New Hampshire, 2001-03: U.S. Geological Survey Scientific Investigations Report 2005-5103*]

- 3) *"Watershed urbanization appeared to have caused noticeable changes in the stream quality at sampled sites. Another key variable affecting stream quality was the quantity and quality of a stream buffer. Specifically, radial or stream buffers dominated by forested land appear to help maintain a better level of stream quality than radial or stream buffers*

*dominated by urban land."*

*[Deacon, J.R., Soule, S.A., and Smith, T.E., 2005, ibid.]*

Dr. Tom Lee, UNH Professor Emeritus of Natural Resources and the Environment, and Chair of the Water Testing Committee of the Oyster River Watershed Association, noted for a 2017 Oyster River High School publication:

*"Once about 10% of a watershed is covered with impervious surfaces (roads, parking lots, buildings), water quality goes down. The OR Watershed is at about 7% impervious surfaces, so land protection is so important right now."*

Note: Horsely Whitten Group, hired to conduct a peer review of the proposed stormwater management plan, noted in its June 22, 2020 Supplemental Comments:

*The proposed development will increase the impervious area by approximately 17,415 sf or 4% of the entire site.*

### **Materials provided herewith**

I provide herewith materials that I urge the Commission to review when conducting its statutory review of the application for a Conditional Use permit relative to the Wetlands Conservation and Shoreland Protection Overlays of the zoning ordinance.

Documents listed below may have been mentioned above:

1. Excerpt from Sheet C-102 of the applicant's site plan dated May 20, 2020 showing my hand-coloring of the engineer-provided buffer lines
2. Exhibit excerpted from the Tighe & Bond document posted on the Planning Board project website as "Supporting Documentation 5-20-20 (4 MB)," sheet titled "Surface Area Treatment Plan" (page 10)
3. Minutes from the Conservation Commission's October 8, 2009, meeting to review Colonial Durham Associates' parking-expansion application also viewable at <[https://www.ci.durham.nh.us/sites/default/files/fileattachments/conservation\\_commission/meeting/28291/dcc100809.pdf](https://www.ci.durham.nh.us/sites/default/files/fileattachments/conservation_commission/meeting/28291/dcc100809.pdf)>
4. Letter dated October 13, 2009 from Conservation Commission Chair Jamie Houle to the Planning Board summarizing the Commission's findings. Excerpt of note: *"Still an exact determination of what the actual 'existing condition' should be in assessing overall improvements was debated at length."* [Karen Edwards emailed me the scanned document on October 9, 2020]
5. Excerpts from my March 11, 2020 presentation to the Planning Board showing photos taken from the southern side of College Brook toward the Plaza AND recommended buffer sizes, per both the Connecticut River Joint Commission and the Buffer Options for the Bay consortium. (My follow-up letter dated March 25, 2020 is more complete, covers many of the points I make herein, and is also posted on the Citizen Comments website for the Mill Plaza project.)



6. Excerpts from the current zoning ordinance that I found relevant to the Commission's purview; my excerpts may not be comprehensive. The entire ordinance may be accessed at <<https://www.ci.durham.nh.us/planning/zoning-ordinance>>

### **Suggested course of action: When writing to the Planning Board**

I urge the Commission to include the following in its advisory communication to the Planning Board:

1. How it addressed the issue of \*pre-existing condition and grade\*—and ask the Board to do so when it, in turn, considers the Conditional Use criteria;
2. A request for a hydrological modeling of the impact of removing mature trees on, and excavation of, Church Hill related to Building C on the site plan
3. A request that the applicant provide the required NHDES Alteration of Terrain (AOT) permit "chloride mitigation plan" to Planning Board *prior* to the Board's deliberation; and
4. A request that the Planning Board require **as formal Conditions of Approval**, should it approve the application, at least the following environmentally-protective measures:
  - a) as a "Precedent Condition": evidence of an enforceable commitment (e.g., a contract with an independent third party) for (1) living shoreline/buffer management and habitat restoration—including post-construction monitoring "to verify continued water quality benefits"—for the College Brook and (2) the removal of invasive Japanese knotweed.  
Sources include:
    - ⇒ Verifying Stream Restoration Practices <<https://chesapeakestormwater.net/events/webcast-verifying-stream-restoration-practices/>>
    - ⇒ Environ Manage. 2012 Dec;50(6):1027-34. doi: 10.1007/s00267-012-9934-2. Epub 2012 Sep 9. "Invasive knotweeds are highly tolerant to salt stress."  
<<https://www.ncbi.nlm.nih.gov/pubmed/22961615>>
    - ⇒ College Brook Restoration Work Group, Mill Plaza Study Committee/AIA150, Report to the Mill Plaza Study Committee
  - b) snow removal and reduced-road-salt practices\* that preclude further degradation. The Conditions should note that the property owner:
    - ⇒ is prohibited from pushing snow onto the banks of College Brook; indeed, snow should either be removed from the site altogether or stored at a distance from the brook to be determined by subject matter experts. This practice must be enforceable by the Town of Durham;
    - ⇒ must contract solely with NHDES Green SnoPro Certified\*\* Salt Applicators for snow removal and adhere to similar best management practices for walkways.



\*NHDES states that chloride cannot be mitigated. 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.* [conversation with me on February 27, 2020; not verbatim]

\*\*NHDES website for the Green SnoPro program

<<https://www.des.nh.gov/organization/divisions/water/wmb/was/salt-reduction-initiative/salt-applicator-certification.htm>>

- c) a plan for ongoing maintenance of all stormwater mitigation measures so that they continue to function as designed

“UNH Scientists Find Urban Ecosystems ‘Evolve, Require Sustainable Management”

<<https://www.unh.edu/unhtoday/news/release/2014/09/10/unh-scientists-find-urban-ecosystems-evolve-require-sustainable-management>>

- d) a plan for stormwater management improvements greater than those required in the minimum site plan regulations to help lessen the forthcoming federal regulatory burden on Durham taxpayers and to mitigate environmental impacts to Great Bay. (The Planning Board has authority to require conditions beyond regulations if these relate specifically to the impacts of the project.)

[Please see my letter to the Planning Board dated March 25, 2020, posted online at

<[https://www.ci.durham.nh.us/boc\\_planning/citizen-comments-mill-plaza-development-site-plan-cup-application](https://www.ci.durham.nh.us/boc_planning/citizen-comments-mill-plaza-development-site-plan-cup-application)>]

### **Suggested course of action: Schedule a site walk**

In closing, I urge the Commission to conduct its own site walk for the College Brook prior to deliberation. The site walk must include viewing *from the southern edge*, i.e., from the Brookside Commons apartments property (e.g., the parking area), *toward the Plaza*.

Most residents are unaware of the Plaza parking lot’s proximity to the brook, the north bank’s steep slopes, the damaged flood plain, and the extent of vegetative damage caused by Plaza snow removal practices. (See attached photos from my March 11, 2020 presentation to the Planning Board.)

As I urged the Planning Board regarding its own yet-to-be-scheduled site walk, please make sure that the date and time of the Commission’s site walk is well publicized for residents, not just via the required legal notice.

### **Suggested course of action: Extend the review**

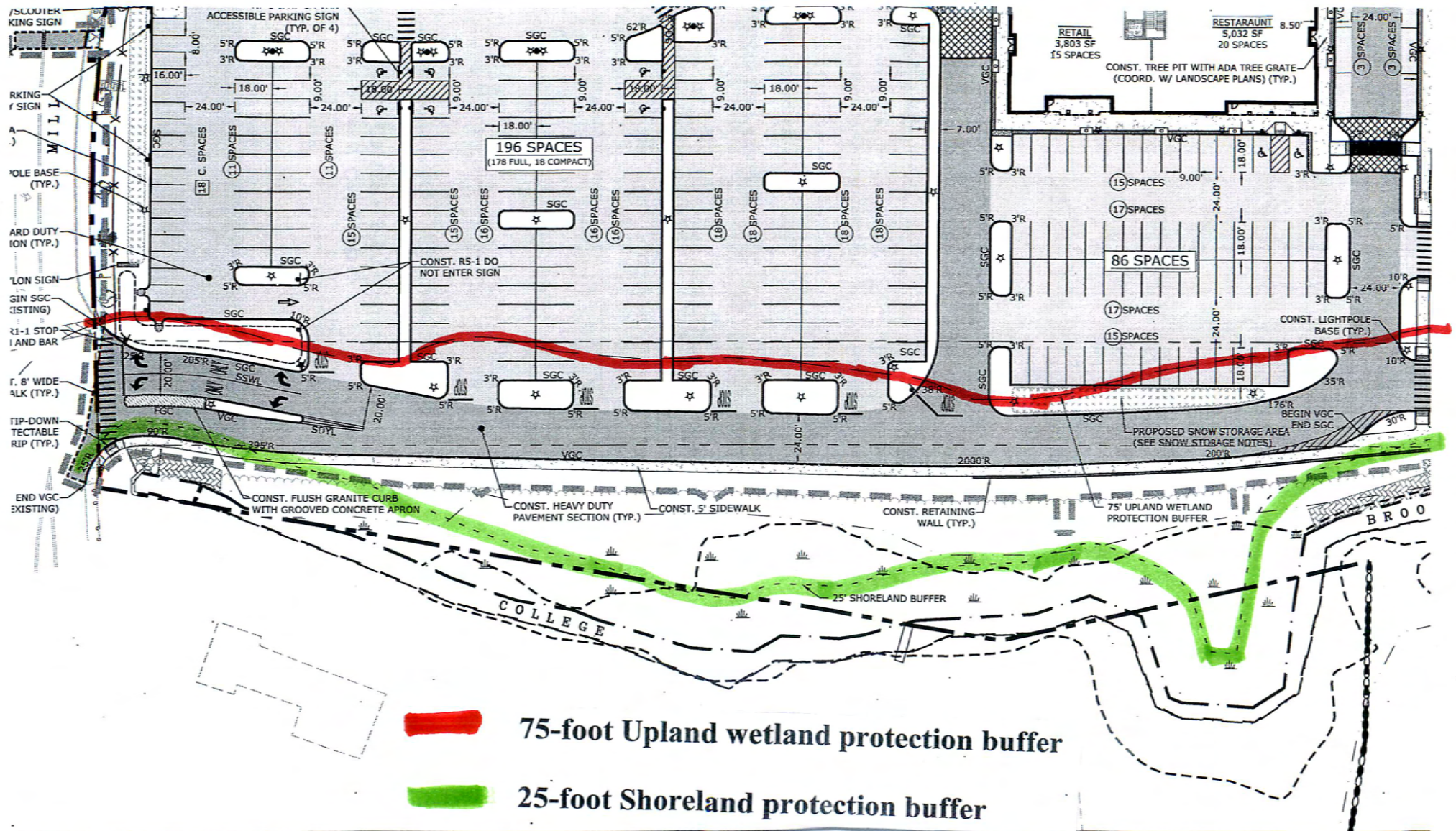
It is likely that the Commission would naturally extend its review at least to its next meeting to be able to reflect on a site walk and to “digest” the large amount of information presented, whether by the applicant or residents. I encourage you to do so.

Thank you for wading through this lengthy document and for your service to the Town.

Sincerely yours,

Robin

# Mill Plaza / Colonial Durham Associates proposal



Source: May 20, 2020 site plan, Sheet C-102 (lower left portion); lines colored by R. Mower



# Mill Plaza / Colonial Durham Associates proposal

Redev

Colonial  
Associ

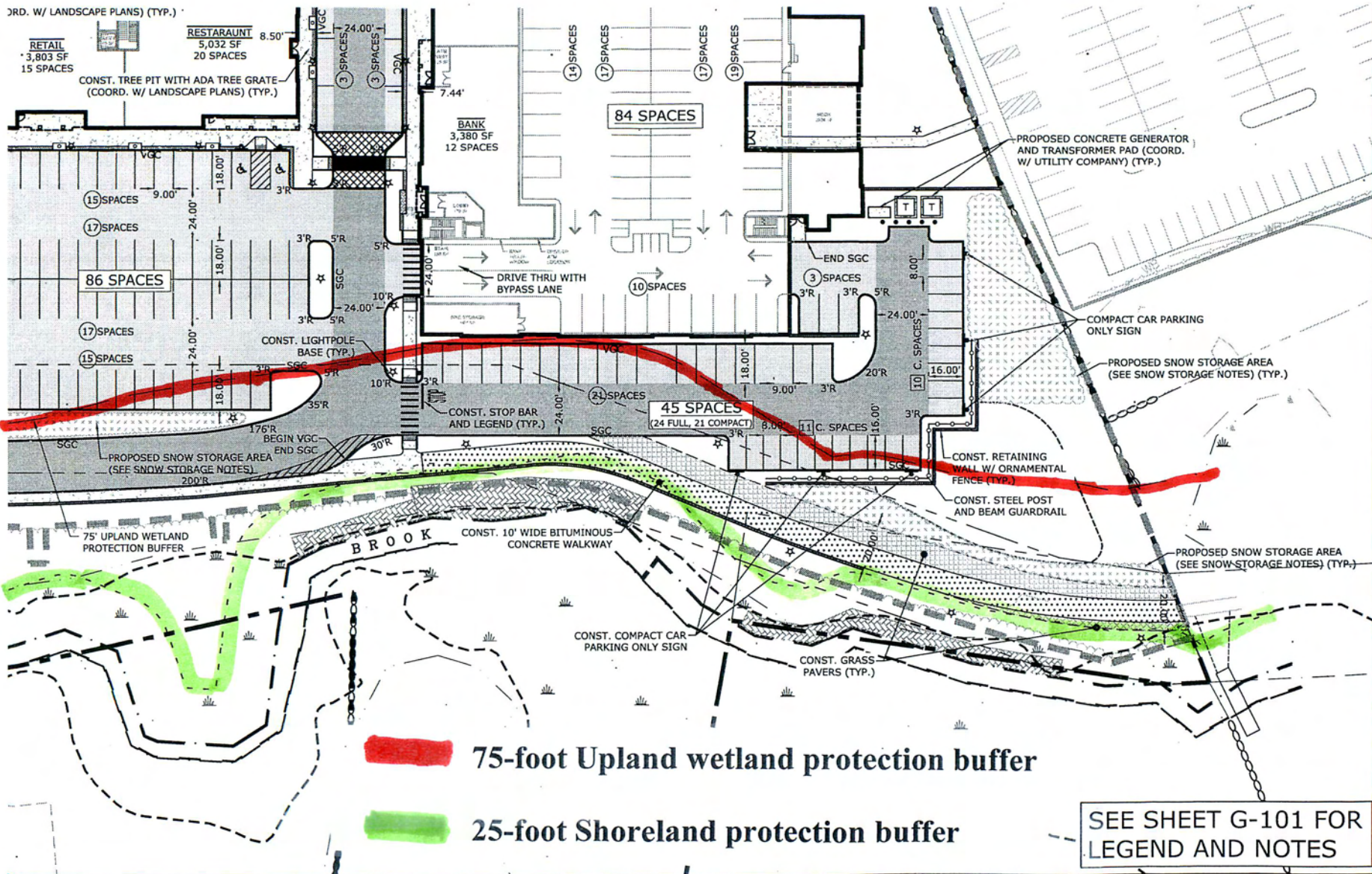
7 Mill Ro  
Durham,  
New Han

|             |           |
|-------------|-----------|
| 2           | 5/20/2020 |
| 1           | 1/2/2020  |
| MARK        | DATE      |
| PROJECT NO: |           |
| DATE:       |           |
| FILE:       | M152      |
| DRAWN BY:   |           |
| CHECKED:    |           |
| APPROVED:   |           |

S

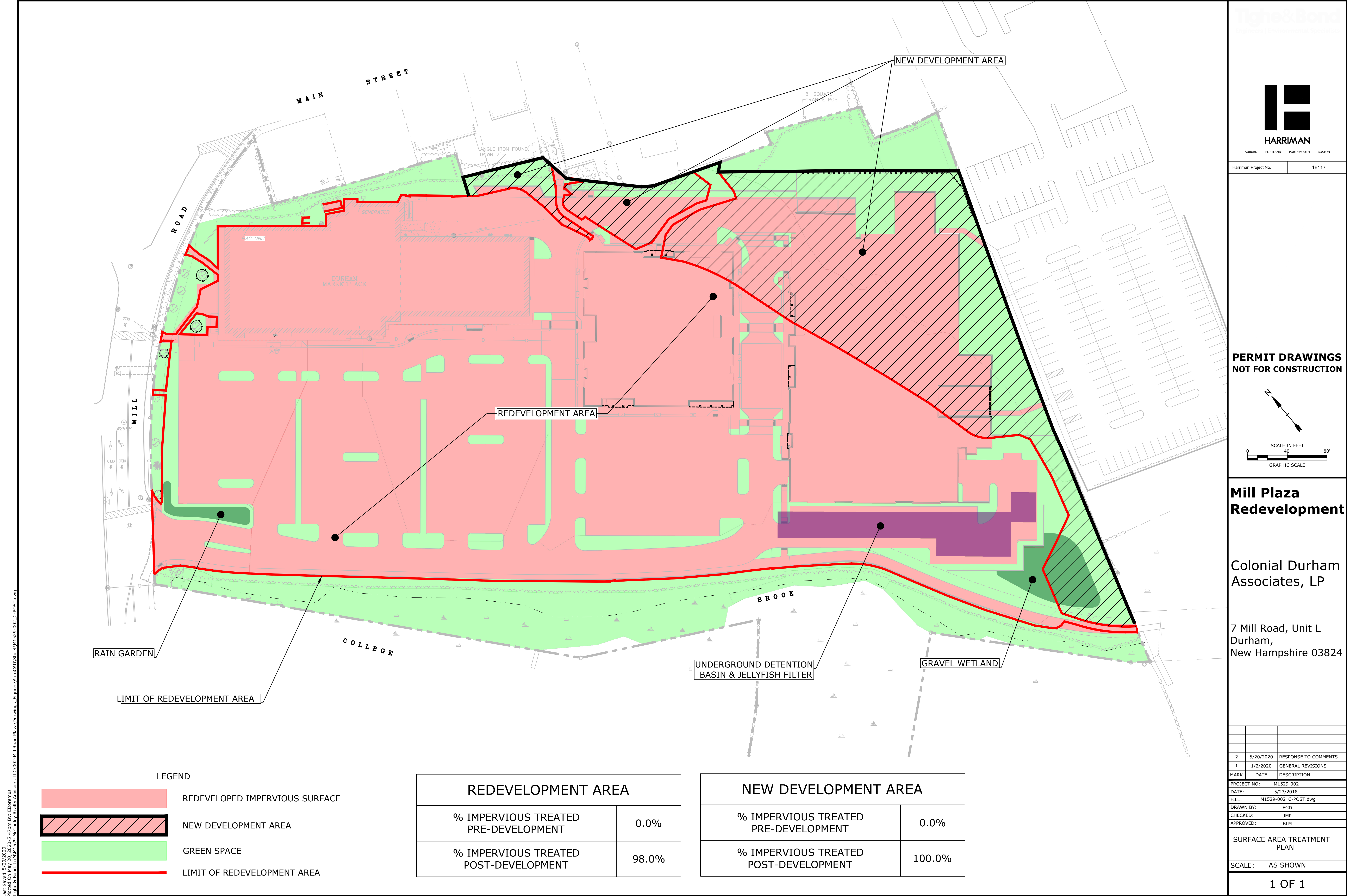
SCALE: A

(



Source: May 20, 2020 site plan, Sheet C-102 (lower right portion); lines colored by R. Mower





Plot Scale: 5/23/2018  
Printed On: May 20, 2020 5:47pm By: E.Doramus  
Title & Bond: 1:1M1529 McCauley Realty Advisors, LLC002-Mill Road Plaza Drawings- FiguresAutoCAD(SheetM1529-002\_C-POST.dwg

LEGEND

- REDEVELOPED IMPERVIOUS SURFACE
- NEW DEVELOPMENT AREA
- GREEN SPACE
- LIMIT OF REDEVELOPMENT AREA

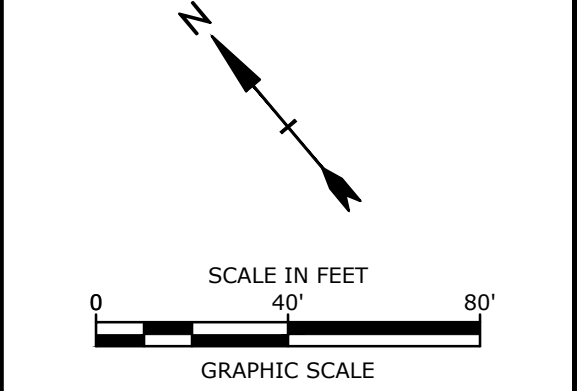
| REDEVELOPMENT AREA                    |       |
|---------------------------------------|-------|
| % IMPERVIOUS TREATED PRE-DEVELOPMENT  | 0.0%  |
| % IMPERVIOUS TREATED POST-DEVELOPMENT | 98.0% |

| NEW DEVELOPMENT AREA                  |        |
|---------------------------------------|--------|
| % IMPERVIOUS TREATED PRE-DEVELOPMENT  | 0.0%   |
| % IMPERVIOUS TREATED POST-DEVELOPMENT | 100.0% |



Harriman Project No. 16117

PERMIT DRAWINGS  
NOT FOR CONSTRUCTION



Mill Plaza  
Redevelopment

Colonial Durham  
Associates, LP

7 Mill Road, Unit L  
Durham,  
New Hampshire 03824

| 2                           | 5/20/2020 | RESPONSE TO COMMENTS |
|-----------------------------|-----------|----------------------|
| 1                           | 1/2/2020  | GENERAL REVISIONS    |
| MARK                        | DATE      | DESCRIPTION          |
| PROJECT NO:                 |           | M1529-002            |
| DATE:                       |           | 5/23/2018            |
| FILE:                       |           | M1529-002_C-POST.dwg |
| DRAWN BY:                   |           | EGD                  |
| CHECKED:                    |           | JMP                  |
| APPROVED:                   |           | BLM                  |
| SURFACE AREA TREATMENT PLAN |           |                      |
| SCALE:                      |           | AS SHOWN             |
| 1 OF 1                      |           |                      |

October 13, 2009

**Summary of Durham Conservation Commission findings with respect to the application for conditional use permits for the proposed parking lot expansion at Mill Plaza.**

**Members Present:** Jamie Houle, Beryl Harper, Jerry Needell, Stephen Roberts, Dwight Baldwin, George Thomas, Stephen Burns (alternate voting for Larry Harris – absent)

After a serious and lengthy discussion the conservation commission made the following motions regarding the permit.

On the conditional use permit required under Article XIV: The Shoreland Protection Overlay District (SPO)

Jamie Houle MOVED to have the Conservation Commission recommend to the Planning Board that the incursion into the shoreland protection overlay be allowed because the benefits of the proposal far outweigh the impacts and the standards within the zoning requirement for conditional uses in the SPO district have been met as specified in 175-72 of the zoning code. This was SECONDED by Dwight Baldwin and APPROVED unanimously.

On the conditional use permit required under Article XIII: The Wetland Conservation Overlay District (WCO)

Dwight Baldwin MOVED that the Durham Conservation Commission finds that items 2-4 of zoning ordinance 175-61 are met assuming acceptance of the current existing conditions. The Commission has reservations regarding item one (1) which deals with alternative location/configuration for parking that could achieve the developer's needs while respecting the integrity of the wetlands buffer. This was SECONDED Beryl Harper and APPROVED unanimously.

The members of the conservation commission felt obligated to include additional information on the context under which their discussions were held to make their determinations regarding this proposal. It was clear from the thoughtful debate that commission members took seriously their role as an advocate for the environment while balancing the proposed improvement to the existing condition at the time of permitting. Commission members expressed their gratitude at the developer's willingness to help mitigate some of the poor drainage control and runoff treatment around existing impervious surfaces as part of the expansion proposal, an action that this proposal did not outright require. Still an exact determination of what the actual "existing condition" should be in assessing overall improvements was debated at length. While seemingly outside of the purview of the commission's role, members felt a need to note reservations with respect to a perceived lack of attempt to honor the WCO buffer while doing little to address restoration of the wetland and wetland buffer originally altered in violation of the WCO article.

Respectfully Submitted to the Durham Planning Board

James Houle  
Conservation Commission Chair  
95 Mill Road  
Durham NH 03824

*Approved - November 12, 2009*

**DURHAM CONSERVATION COMMISSION  
Meeting Minutes of October 8, 2009  
Durham Town Office – Council Chambers  
7:00 PM**

**Members Present:** Jamie Houle, Beryl Harper, Jerry Needell, Stephen Roberts, Dwight Baldwin, George Thomas

**Alternates Present:** Stephen Burns

**Members Absent:** Larry Harris

**Alternates Absent:** Peter Smith, Ann Welsh

**Public Attendees:** Robin Mower, Don Sheehan, Tobin Farwell, James R , Michael Mengers, Deborah Hirsch Mayer, Joshua Meyrowitz, Peter Anderson, Dave Howland

**1) Call the meeting to order and acknowledge absentees and those with voting authority.**

Chairman Houle called the meeting to order at 7:00 pm and announced that Stephen Burns will be a voting member for the evening in place of Larry Harris

Amendments requested by the Chair:

Chair Houle said he had been contacted by the Lamprey River Advisory Council who said they will be here at 7:45 and will therefore need to be moved to later in the agenda. He also noted that Mike Mengers, the Durham Parks and Recreation Director will be here to present to the Commission, as well as Tobin Farwell from Farwell Engineers to present with regard to the Mill Plaza parking expansion project.

**2) Presentations:**

**a) Mike Mengers, Durham Parks and Recreation Director**

Mike Mengers introduced himself as the new Parks and Recreation Director for the Town of Durham. He noted that their offices are located in the old court house along with the ORYA. Mr. Mengers said they have been working with public works to get the court room area cleaned out in order to use it as a community gathering area. He said he had walked Wagon Hill with Beryl Harper and discussed Parks and Recreation and Conservation issues and realized there were a lot of similar goals between the groups. Mr. Mengers said he feels it is important to conserve the wilderness and natural areas in Town and wanted to speak to the group about ways Parks and Recreation and the Conservation Commission can work together. He said one thing of concern is the shoreland erosion at Wagon Hill and thought the adopt a trail committee could move the trails further away from shoreline and possibly get eagle scouts to build gazebos and lookout points to get views of the shoreland without being too close to the shoreland. Mr. Mengers said he wanted to offer his resources and told the members to feel free to contact him by email, phone, or set up an appointment.

Dwight Baldwin asked the status of the “adopt a trail” program. Mr. Mengers said that Patrick Moore and Patrick Houle are involved with this program and it is their long term goal to get a person or pair of people assigned to every trail system in town.

Beryl Harper said it is very exciting that the town has hired a Recreation Director and thanked him for taking the time to speak with the Commission.

**b. Presentation by Tobin Farwell of Farwell Engineer Services regarding the Mill Plaza proposed expansion.**

Attorney John Ratigan introduced himself as being the legal counsel representing the Durham Colonial Associates. He noted he had written a letter, dated October 1<sup>st</sup>, 2009 to the board. Attorney Ratigan said he felt the proposed project meets the criteria for the conditional use permit.

Tobin Farwell of Farwell Engineering Services said the proposed plan for the Mill Plaza is to install a drainage system consisting of 2 foot perforated pipe surrounded by stone, with a rain garden, to slow down discharge into College Brook; with a goal of improving the existing condition even with the proposed parking expansion to predevelopment conditions (assuming predevelopment conditions were woods).

Dwight Baldwin asked how the rain gardens work in the winter. Mr. Farwell responded that they may freeze in the winter, but the perforated pipe will always be there and work through the winter time.

Chair Houle and Mr. Farwell discussed the specifics of the drainage trench and rain garden, noting that the pipe will be 24”, sitting on top of 6” of ¾” stone and covered with filter media.

Stephen Burns asked how this plan compares to when the woods were still present to catch and filter the storm water. Mr. Farwell responded that this plan matches the flow as when the woods were present. The members discussed the levels of 2 year, 10 year and 25 year storms.

The members discussed the two setbacks required in this project; 25 ft setback from College Brook and 75 ft setback from the wetlands. Chair Houle noted that Durham’s zoning has specific provisions for College Brook and Pettee Brook of only 25 ft and that Planning Board Chair, Jim Campbell, advised that the wetlands on the property also require a 75 ft setback. It was noted that the wetlands had been delineated in April 2008 by NH Soils.

Stephen Roberts asked if the current proposal has any relationship with the company’s plan for future renovation of the plaza. Attorney Ratigan said the proposal is not related to the project that the owner of the plaza was seeking finance for. He said his client is still looking forward to renovating the plaza but there is no present plan to do what was recommended in the planning report. Attorney Ratigan said at this time they are attempting to address the parking constraints only.

Chairman Houle asked for public comments:

Robin Mower noted that she had sent a letter to the Commission and hoped the members had had time to read over it. She said she understands that the job of the Commission is to respond to the planning board within the set criteria, but she said the Commission may also provide additional comments to the planning board and encouraged them to do so.



Joshua Meyrowitz (7 Chesley Drive) noted that there are good points in the application in terms of dealing with storm water. He said there is a history of the neighborhood being protective of the buffer that separates the plaza from the neighborhood. Mr. Meyrowitz said he does not feel it makes sense to encroach on the wetlands buffer in order to pave the one remaining green area for 4 parking spaces. He said this is very disturbing to people in the neighborhood. Mr. Meyrowitz said he was surprised not to see Commission members at the site walk. He said he appreciates the attempts to mitigate storm water runoff, but feels the application is asking for retroactive permission for what was not allowed in 2002 which was a violation of buffer requirements. He said predevelopment conditions consisted of a wooded hillside. Mr. Meyrowitz said there are 28 additional spaces available for retail parking needs, if the rental spaces in the lot were not leased but used for retail parking, without encroaching on the wetlands.

Stephen Roberts commented that there would be more than 4 spaces affected because the aisle would be removed, thereby affecting 11 or 12 spaces.

Attorney Ratigan noted that the regulations have changed since the lot was paved and the only violation is that the paving occurred at a time when the regulations did not permit it.

Chair Houle reminded the members and the public that the time for lengthy debate is at the public hearing. He noted that the Conservation Commission can only make a recommendation to the Planning Board, the Planning Board will be charged with making the decision.

Peter Anderson (Chesley Drive) said he does not feel this proposal meets the four criteria's required for the conditional use permit. He said there has already been major soil disturbance and feels the area should be restored to preexisting conditions which would be the restoration of the hill and asked the Commission to recommend this to the Planning Board. He also noted that in both the Master Plan and the Mill Plaza study report there were recommendations to preserve the greenway in question. Mr. Anderson also expressed his opinion that additional parking is not needed in the plaza for their retail business.

Deborah Hirsch Mayer (Garden Lane) said she had sent an email to the Chair sighting a recent study discussing the positive effects of spending time in nature and urging the Commission members to support the protection of the Town's natural resources.

Chairman Houle thanked the public for their comments today and the letters that have been sent, and encouraged them to continue their efforts with the Planning Board.

### **C. Presentation of land conservation opportunities from Lamprey River Advisory Council**

David Viale of the Southeast Land Trust of New Hampshire said that 20% of his time is spent partnering with the Lamprey River Advisory Council. He noted that he is here to discuss with the Commission a potential conservation easement project with the Lamprey River Advisory Council.

Chair Houle said that he and Dwight Baldwin met with Todd Selig to discuss conservation priorities and this property was identified as a priority. He asked Mr. Viale what type of partnership the LRAC is looking for.

Mr. Viale distributed a summary sheet describing the parcel, location, and natural resource values of the Thompson Property, tax map 14, lot 8-3. He said the conservation value includes prime agricultural soils, scenic views, frontage on the Lamprey River, 1300 ft on backwater channel, benefits for protection of water quality, and tier 1 habitats (highest quality of habitat in New

*Excerpts for the Conservation Commission*

# Concerns and Requests

about the January 2, 2020  
proposed Mill Plaza site plan

Planning Board, Durham, NH  
Public hearing on CDA/Mill Plaza  
March 11, 2020  
by Robin Mower



## Tree Damage from Snow Storage . . .



Loss of  
natural  
buffer has  
been  
devastating



. . . Has Been Continuous for Decades



Damage  
to our  
common  
asset  
cannot be  
reversed

3

## View at the Top

This is  
what  
most of  
us see as  
we enter  
the  
Plaza . . .



4



## View at the Top



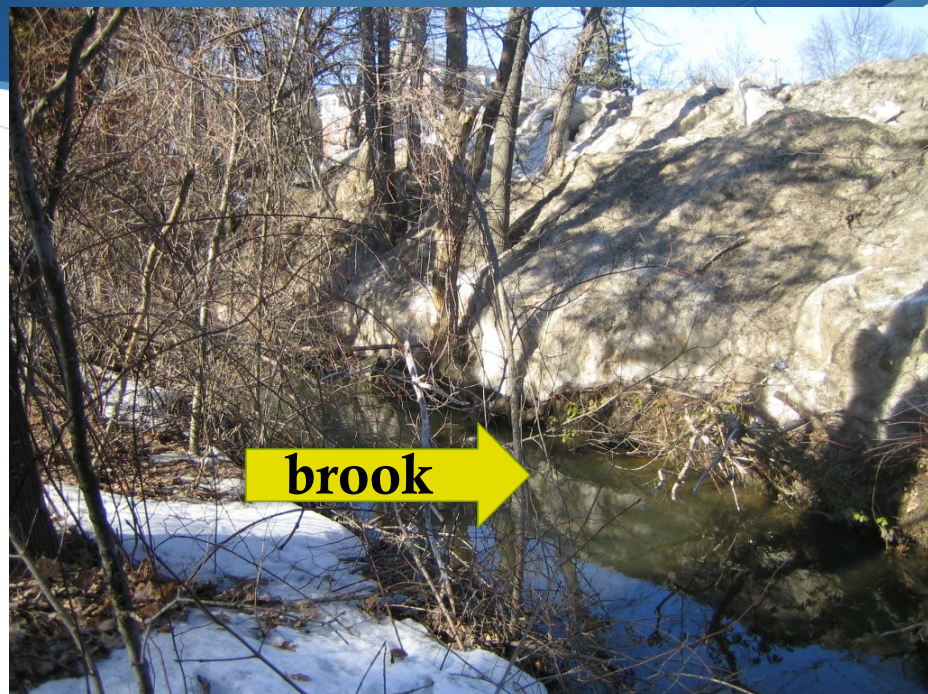
January 2016

along the  
“southerly  
edge” . . .

5

## View from the Bottom

But  
this is  
what  
lies  
below



6



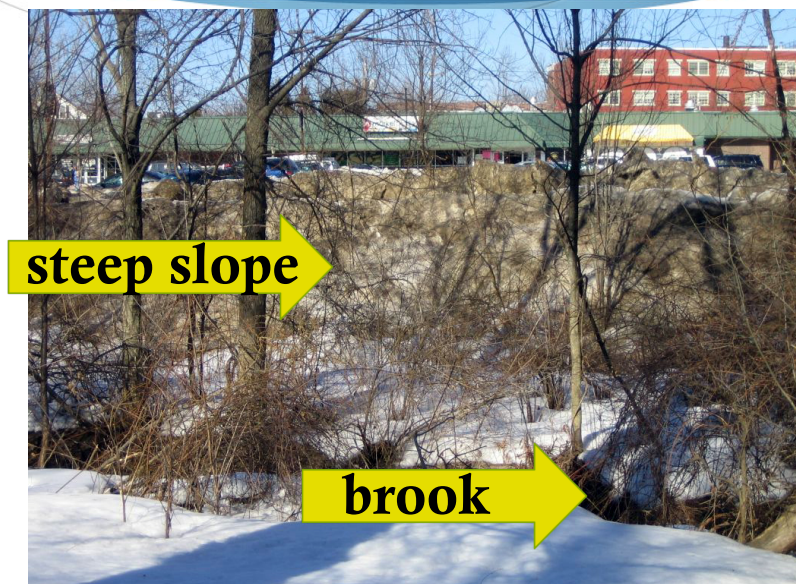
## View from the Bottom

... and  
this



7

## View from the Bottom



8

8

# Flooding: Brookside Commons Backyard

Actual  
2018  
flood



April 16, 2018

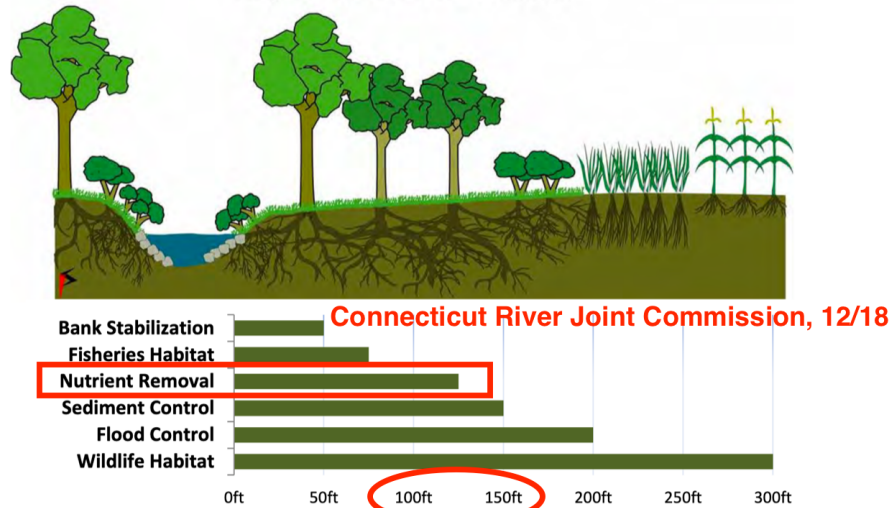


# Buffer sizes preferred #1

## HOW WIDE DO BUFFERS NEED TO BE?

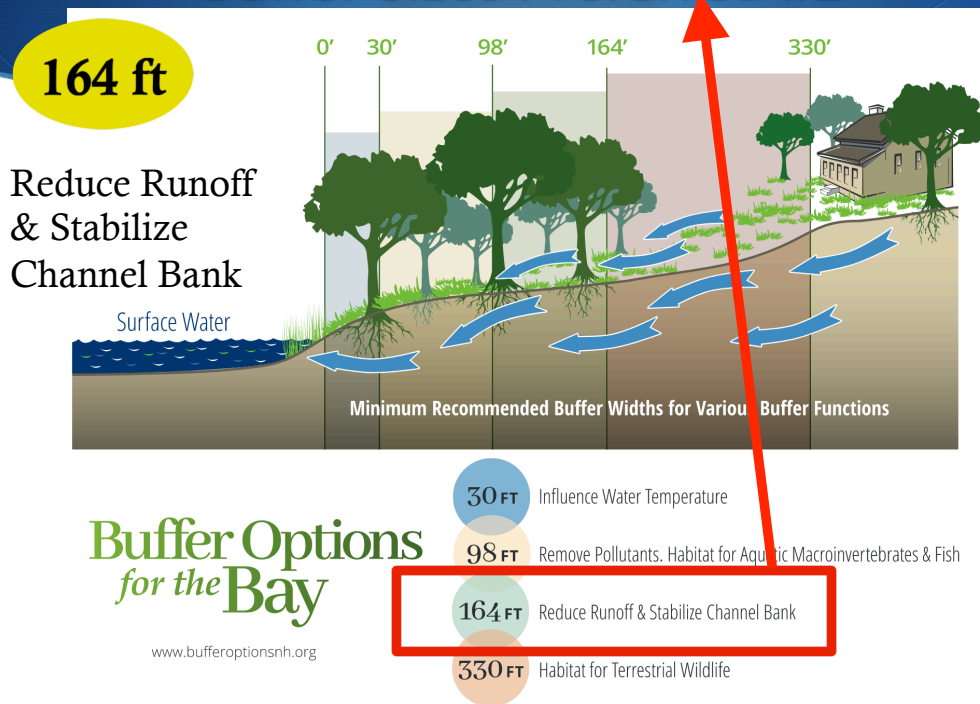
The basic bare-bones buffer is 50' from the top of the bank. You get more benefit with every foot.

### Riparian Buffer Widths



11

## Buffer Sizes Preferred #2





**For the Durham Conservation Commission**  
**THE DURHAM ZONING ORDINANCE**  
**AS ADOPTED BY THE DURHAM TOWN**  
**COUNCIL ON FEBRUARY 20, 2006**

LAST AMENDED FEBRUARY 3, 2020

[EXCERPTS PROVIDED BY ROBIN MOWER, OCTOBER 2020, AS INDICATIVE OF  
SECTIONS OF NOTE; WHERE /.../ INDICATES A GAP FROM THE ORIGINAL TEXT;  
HOWEVER, THE ORDINANCE AS APPLIES TO THE MILL PLAZA PROJECT  
(WHICH MAY DIFFER FRO THE CURRENT ORDINANCE) MAY BE SEEN AT <  
[HTTPS://WWW.CI.DURHAM.NH.US/BOC\\_PLANNING/ZONING-ORDINANCE-  
PERTAINS-MILL-PLAZA-PROJECT](https://www.ci.durham.nh.us/BOC_PLANNING/ZONING-ORDINANCE-PERTAINS-MILL-PLAZA-PROJECT)>]

**CHAPTER 175**  
**ZONING**

**PART A.    ADMINISTRATIVE PROVISIONS**

**ARTICLE I**  
**GENERAL PROVISIONS**

**175-1.    Title.**

This chapter shall be known and may be cited as the "Zoning Ordinance of the Town of Durham, New Hampshire."

**175-2.    Authority.**

This chapter is adopted pursuant to the authority granted by RSA 674:16, as amended, which provides for the local legislative body to adopt or amend a Zoning Ordinance under the Ordinance Enactment Procedure of RSA 675:2-5.

**175-3.    Purpose.**

The provisions of this chapter are intended to regulate the use of land for the purpose of protecting the public health, safety, convenience and general welfare of the residents of the Town of Durham, in accordance with RSA 674:17. This chapter is adopted in accordance with and in order to implement the Master Plan and other policies designed to promote the orderly growth of the Town of Durham. Among other purposes, this chapter is specifically adopted to preserve air and water quality; to conserve open space and agricultural resources; to encourage the installation and use of renewable energy systems and protect access to renewable energy sources; to protect natural and scenic resources from degradation; to provide for recreational needs; to protect life and property from flooding and other natural hazards; to preserve historic sites and

structures; and to ensure that development is commensurate with the character and physical limitations of the land. Further, this chapter is designed to ensure that the timing, location and nature of new development takes into account the immediate and long-range financial impacts of proposed uses and enhances the achievement of the town's economic development goals.

**175-4. Applicability.**

A. No land shall be used and no building or structure shall be erected, structurally altered, enlarged, moved, or used unless such use or activity is in conformity with the provisions of this chapter, except as provided in Section 175-5.

B. No building permit shall be issued for any proposed use, construction or activity which is not in compliance with the Zoning Ordinance of the Town of Durham.

/.../

**ARTICLE II  
DEFINITIONS**

**175-6. Meaning of Words.**

Unless otherwise expressly stated, the following terms shall, for the purpose of this chapter, have the meanings indicated in this section. Words used in the present tense include the future. The singular number includes the plural, and the plural the singular. Where terms are not defined in this section, they shall have their ordinary accepted meanings or such as the context may imply. The words "shall" and "must" are mandatory, the word "may" is permissive, and the word "should" indicates a preferred or encouraged, but not necessarily a required, course of action.

**175-7. Definitions.**

As used in this chapter, the following terms shall have the meanings indicated. The inclusion of a particular use in this section does not indicate that the use is allowed anywhere in the town of Durham; some terms are included for general reference only.

**[EXCERPTS THAT MAY BE OF INTEREST TO THE CONSERVATION COMMISSION]**

**FLOOD HAZARD OVERLAY DISTRICT** – Specific definitions pertinent to the Flood Hazard Overlay District follow:

Area Of Special Flood Hazard - The land in the floodplain within the Town of Durham subject to a one percent or greater possibility of flooding in any given year. The area is designated as Zones A and AE on the FIRM.

Base Flood - The flood level having a one-percent possibility of being equaled or exceeded in any given year.

Base Flood Elevation - The water surface elevation having a one percent possibility of being equaled or exceeded in any given year.

Basement - Any area of a building having its floor subgrade on all sides.

Building - Any structure designed or intended for the support, enclosure, shelter or protection of persons, domestic animals, chattels or property. For purposes of determining exterior measurements or footprint in order to locate the setback

line, "building" shall include all attached structures such as open or closed porches, carports, garages, balconies, stairways and other similar structures. (Also see "Structure" for floodplain management purposes.)

Development - Any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.

FEMA - The Federal Emergency Management Agency.

Flood or Flooding - A general and temporary condition of partial or complete inundation of normally dry land areas resulting from the overflow of inland or tidal waters or the unusual and rapid accumulation or runoff of surface waters from any source.

Flood Insurance Rate Map (FIRM) - The official map incorporated with this ordinance, on which the Federal Emergency Management Agency has delineated both the special flood hazard areas and the risk premium zones applicable to the community.

Flood Insurance Study - An examination, evaluation, and determination of flood hazards and if appropriate, corresponding water surface elevations, or an examination and determination of mudslide or flood-related erosion hazards.

Floodplain or Flood-Prone Area - Any land area susceptible to being inundated by water from any source. *See "flood or flooding."*

Floodproofing - Any combination of structural and nonstructural additions, changes or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

Floodway, Regulatory - The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without increasing the water surface elevation more than a designated height.

Highest Adjacent Grade - The highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

Historic Structure - Any structure that is:

- a. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
- b. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;

- c. Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or
- d. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:
  - (i) by an approved state program as determined by the Secretary of the Interior, or
  - (ii) directly by the Secretary of the Interior in states without approved programs.

Lowest Floor - The lowest floor of the lowest enclosed area, including basement. An unfinished or flood-resistant enclosure, usable solely for the parking of vehicles, building access or storage in an area other than a basement area, is not considered a building's "lowest floor," provided that such an enclosure is not built so as to render the structure in violation of the applicable nonelevation design requirements of this Chapter.

Manufactured Home - A structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For floodplain management purposes the term "manufactured home" includes park trailers, travel trailers, and other similar vehicles placed on site for greater than 180 consecutive days. This includes manufactured homes located in a manufactured home park or subdivision.

Manufactured Home Park Or Subdivision - A parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

Mean Sea Level - The National Geodetic Vertical Datum (NGVD) of 1929, North American Vertical Datum (NAVD) of 1988, or other datum to which base flood elevations shown on a community's Flood Insurance Rate Map are referenced.

New Construction - For the purposes of determining insurance rates, structures for which the "start of construction" commenced on or after the effective date of an initial FIRM or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures. For floodplain management purposes, "new construction" means structures for which the "start of construction" commenced on or after the effective date of a floodplain management regulation adopted by a community and includes any subsequent improvements to such structures.

Recreational Vehicle - A vehicle which is: (1) built on a single chassis, (2) 400 square feet or less when measured at the largest horizontal projections; (3) designed to be self-propelled or permanently towable by a light duty truck; and (4) designed primarily for use as temporary living quarters for recreational, camping, travel or seasonal use.

Special Flood Hazard Area - See "*Area of Special Flood Hazard.*"

Start Of Construction - Includes substantial improvements, and means the date the building permit was issued, provided that the actual start of construction, repair, reconstruction, placement or other improvement occurs within one hundred eighty (180) days of the permit date. The "actual start" means either the first placement of permanent construction of a structure on a site, such as the pouring of a slab or footings, the installation of piles, the construction of columns or any work beyond the stage of excavation, or the placement of manufactured housing or pre-site built housing on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or part of the main structure.

Structure (For Floodplain Management Purposes) - A walled and roofed building, including a gas or liquid storage tank, that is principally above ground, as well as a manufactured home.

Substantial Damage - Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damage condition would equal or exceed fifty (50) percent of the market value of the structure before the damage occurred.

Substantial Improvement - Any combination of repairs, reconstruction, alteration or improvements to a structure in which the cumulative cost equals or exceeds fifty percent (50%) of the market value of the structure. The market value of the structure shall be the appraised value prior to the start of the initial repair or improvement or, in the case of damage, the value of the structure prior to the damage occurring. For the purposes of this definition, "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure. The term includes structures that have incurred substantial damage, regardless of actual repair work performed. The term does not, however, include any project for improvement of a structure required to comply with existing health, sanitary or safety code specifications which are solely necessary to assure safe living conditions or any alteration of a structure listed on the National Register of Historic Places, provided that the alteration will not preclude the structure's continued designation as a "historic structure."

Violation - The failure of a structure or other development to be fully compliant with the community's flood plain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required under this ordinance is presumed to be in violation until such time as that documentation is provided.

Water Surface Elevation - The height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929, North American Vertical Datum (NAVD) of 1988, (or other datum, where specified), of floods of various magnitudes and frequencies in the floodplains.

/.../

**LANDSCAPING** – Some combination of planted, living trees, shrubs, hedges, vines, ground cover and flowers suitable for the climate, exposure and site condition. In addition, the combination or design may include earth sculpture, cobbles, bark, mulch, edgers, flower tubs, rock and such structures as fountains, pools, artworks, screens, walls, fences or benches, but such objects alone shall not meet the requirements of this provision. The selected combination of objects and plans for landscaping purposes shall be arranged in a manner compatible with the building and its surroundings. Specific definitions pertinent to landscaping, buffers, the Wetland Conservation Overlay District, and the Shoreland Protection Overlay District follow:

Damage - Includes any intentional or negligent act which will cause vegetation to decline and die within a period of five (5) years, including but not limited to such damage inflicted upon the root system by the operation of heavy machinery, the change of the natural grade above the root system or around the trunk of a tree and damages from injury or from fire inflicted on vegetation which results in or permits infection or pest infestation.

Diameter at Breast Height (DBH) - The diameter of a tree trunk at a height of four and one-half (4.5) feet.

Ground Cover - Low-growing plants, below the shrub layer, that grow to form a continuous cover over the ground, such as grasses, vinca, English ivy or like material.

Hazard Tree - Any tree that has the potential to have parts of or the entire tree fall under moderate to mild environmental changes, conditions or man-made forces.

Historic or Special-Interest Tree - A tree which has been found by the Tree Warden to be of notable interest because of its age, type, size or historic association.

Landscaped Area - That area within the boundaries of a given lot devoted to and consisting of landscaping material, including but not limited to grass, trees, shrubs, flowers, vines and other ground covers, native plant materials, planters, brick, stone, natural forms, water forms, aggregate and other landscape features; provided, however, that the use of brick, stone, aggregate or other inorganic materials shall not predominate over the use of organic plant material.

Landscape Development - Trees, shrubs, ground cover, vines, grass and other materials as listed in the definition of "landscaped area" above, installed in planting areas for the purpose of fulfilling the requirements of these regulations.

Landscaped Street Yard - The area of a lot which lies between the street right-of-way line and the actual front wall line of the building, parallel to the street, until such imaginary extensions of such front building wall line intersect the side property lines. In

determining the actual building wall of the building for the purposes of this definition, steps and unenclosed porches shall be excluded, but such building wall line shall follow and include the irregular indentations of the building. Further, for the purposes of these regulations, canopies, gas pump islands, overhangs and similar extensions will be figured as part of the "landscaped street yard." A front building wall is a building wall fronting on a street or publicly used area.

- A. On corner lots, the "landscaped street yard" shall consist of all of the area of such lot between all abutting street right-of-way lines and their corresponding actual front building wall lines, as such lines are imaginarily extended in the manner provided above.
- B. When there are multiple buildings on a lot, the "landscaped street yard" shall consist of all the area of the lot between the street right-of-way line(s) and an imaginary line beginning at one side of the property line, running parallel to the street, connecting to the front most corner of the building wall, fronting the street and nearest such side property line, then following and connecting the front most walls of all buildings fronting on the street and then extending to the other side property line, running parallel to the street. If a building has a rounded front, the front building wall corners shall be the points closest to the side boundaries.
- C. Notwithstanding all of the foregoing, on land used only for parking purposes or only as a commercial or private parking lot, the "landscaped street yard" shall consist of the area between the street right-of-way line and the back property line.

Landscaped Yard Area - The front, side and rear yard areas as established below. In defining the side and rear yard area, the property line shall replace the street right-of-way line defined in the landscaped street yard.

Maintenance (or Maintain) - In reference to landscaping, includes pruning, mulching, mowing, spraying, fertilizing, propping, bracing, treating for disease or injury, snow removal and any other similar act which promotes the life, growth, health or beauty of the landscape vegetation.

Natural Woodland Buffer - A forested area consisting of various species of trees, saplings, shrubs and ground covers in any combination and at any stage of growth.

Public Area - Includes parks, playgrounds, areas around public buildings and all other areas under the supervision and maintenance of the town.

Removal (or Removed) - Cut, sawed, pruned, girdled, felled, pushed over, buried, burned, killed, or otherwise destructively altered.

Sapling - Any woody plant which normally grows to a mature height greater than 20 feet and has a diameter less than 6 inches at a point 4-1/2 feet above the ground.

Shrub - Bushy, woody plant, usually with several permanent stems and usually not over ten (10) feet high at its maturity.

Solid Planting - A planting of evergreen trees and/or shrubs which will prevent the penetration of sight and light to a minimum height of five (5) feet.



Specimen Tree - A tree which has been determined by the judgment of the Tree Warden to be of high value because of its type, age or other professional criteria.

Tree - Any self-supporting, woody perennial plant which has a trunk diameter of two (2) inches or more when measured at a point of four and one-half (4 1/2) feet above the ground level and which normally attains an overall height of at least ten (10) feet at maturity, usually with one (1) main stem or trunk and many branches. It may appear to have several stems or trunks as in several varieties of ash and others.

Tree Warden - The person whose duties shall include the inspection of landscaping installations according to the Town of Durham performance guaranty guidelines, and to ensure that the landscaping provisions of this chapter are being carried out and installed according to the plans submitted and approved.

Vegetation - Includes a tree, plant, shrub, vine or other form of plant growth.

/.../

**REFERENCE LINE** – The regulatory limit of a surface water or wetland determined as follows:

1. For natural fresh water bodies without artificial impoundments, the natural mean high water level as determined by NHDES.
2. For artificially impounded water bodies with established flowage rights, the limit of the flowage rights and for water bodies without established flowage rights, the waterline at full pond as determined by the elevation of the spillway crest.
3. For coastal waters, the highest observable tide line, which means a line defining the furthest landward limit of tidal flow, not including storm events, which can be recognized by indicators such as the presence of a strand line of flotsam and debris, the landward margin of salt tolerant vegetation, or a physical barrier that blocks further flow of the tide.
4. For rivers and streams, the ordinary high water mark.

/.../

**SEASONAL HIGH WATER TABLE** – The highest level of the groundwater table during the wettest season of the year, usually in the spring.

/.../

**SETBACK AREA** – The section of the front, side, or rear of a lot corresponding to the area within which structures may not be placed in accordance with front, side, or rear setbacks, respectively.

/.../

**SHOREFRONTAGE** – The width of a lot bordering on a waterbody or wetland measured in a straight line between the intersections of the lot lines with the reference line.

SHORELAND PROTECTION ZONE – Encompasses all land within two hundred fifty (250) feet of the reference line of Great and Little Bays, the Oyster River, the Lamprey River, Durham Reservoir, Moat Island Pond, Johnson and Bunker Creeks, and Follett's Brook including the tidal sections of their tributary streams; and within seventy-five (75) feet of all other perennial brooks. These water bodies are designated on the Durham Shoreland Protection Zone Overlay Map, which is based on United States Geological Survey quadrangle maps covering the Town of Durham.

/.../

SPECIAL FLOOD HAZARD AREA – *See “Area of Special Flood Hazard.”*

/.../

STRUCTURE (See additional definitions immediately below.) – That which is built or constructed with a fixed location on the ground or attached to something having a fixed location on the ground. Structure includes but is not limited to a building, swimming pool, mobile home, billboard, pier, wharf, septic system, parking space/parking lot and deck. Structure does not include a minor installation such as a fence six (6) feet high or less in height, a mailbox, a flagpole, or an accessory shed.

STRUCTURE – (For Historic Overlay District purposes) Anything within the Historic Overlay District that is built or constructed with a fixed location on the ground or attached to anything with a fixed location on the ground including but not limited to buildings, fences, walls, signs, light fixtures, decks, porches, and steps.

STRUCTURED PARKING – A structure or portion of a structure that provides parking. The parking may be above or below grade, may be covered or uncovered, and may be on multiple levels. *See “Surface Parking”*

/.../

SURFACE PARKING – A parking lot or similar uncovered, single-level parking facility that provides at-grade parking that is not located within a structure.

TIMBER HARVESTING – The cutting and removal of trees from their growing site, the production of cord wood in conjunction with such harvesting, and/or the attendant operation of mobile or portable chipping mills and of cutting and skidding machinery, including the creation and use of skid trails, skid roads, and haul roads. *See Article XX*

/.../

WETLAND – An area that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soils. Wetlands include, but are not limited to, swamps, marshes, bogs, vernal pools, and similar areas.

WETLAND, NON-TIDAL – A wetland that is not subject to periodic inundation by tidal waters.

WETLAND, PRIME – A wetland designated by the Town Council in accordance with RSA 482-A:15 as having one or more of the values set forth in RSA 482-A:1 and that, because of

its size, unspoiled character, fragile condition or other relevant factors, makes it of substantial significance.

WETLAND, TIDAL – A wetland whose vegetation, hydrology, or soils are influenced by periodic inundation of tidal waters.

/.../

### **ARTICLE XIII WETLAND CONSERVATION OVERLAY DISTRICT**

#### **175-58. Purpose of the Wetland Conservation Overlay District.**

The Wetland Conservation Overlay District (WCOD) is an overlay district intended to protect the quality and functioning of wetlands throughout the Town by managing the use of the wetland and the upland buffer adjacent to the wetland in coordination with the state dredge and fill permit system. The provisions of this article are intended to:

- A. Protect the water quality of wetlands by appropriately managing stormwater runoff, siltation and sedimentation, and the construction or alteration of allowed or pre-existing buildings and structures;
- B. Minimize flooding and flood damage by preserving the flood storage capacity of wetlands;
- C. Protect wildlife and fisheries habitats and wetlands vegetation;
- D. Maintain stream flow and groundwater recharge;
- E. Conserve natural beauty and scenic quality; and
- F. Limit uses of the wetland and upland buffer to those that are consistent with the objectives listed in A-E

#### **175-59. Applicability.**

- A. The provisions of the WCOD shall apply to the following areas of the Town of Durham:

- 1. All wetlands except:

- a. isolated, non-tidal wetlands with a contiguous surface area of less than three thousand (3,000) square feet that are not vernal pools and are not associated with any surface water, natural drainage way, or other wetland, and
- b. wetlands associated with currently functioning and maintained, non-abandoned, manmade:

- ditches and swales,
- sedimentation and/or detention basins or ponds,
- agricultural and irrigation ponds and swales, and
- fire ponds, cisterns, and related facilities.

2. An upland buffer strip adjacent to each wetland subject to the provisions of this district as identified in 1. above. The width of the upland buffer strip from the reference line of the wetland shall vary with the type of wetland as follows:

- |  |          |
|--|----------|
| a. bogs, prime wetlands, and rare and exemplary wetland communities: | 150 feet |
| b. all tidal wetlands (other than those in a.):                      | 100 feet |
| c. vernal pools:   | 100 feet |
| d. all other non-tidal wetlands                                      |          |
| - in the R and RC Zones:   | 100 feet |
| - in all other zones:  | 75 feet  |

B. Wetlands are defined in 175-7 and shall be delineated by a state certified wetlands scientist on the basis of hydrophytic vegetation, hydric soils, and wetlands hydrology, in accordance with the techniques outlined in the Army Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1 (January 1987), as amended. The hydric soils component of the delineation shall be determined in accordance with Field Indicators for Identifying Hydric Soils in New England (Version 2, July 1998), published by the New England Water Pollution Control Commission, as amended.

C. The provisions of this article apply in addition to any state requirements for a dredge and fill permit or other state approval or permit. It is the intention of the Town that these provisions be coordinated with state requirements and standards but that these standards shall govern if they are more stringent than state standards.

#### **175-60. Permitted Uses in the WCOD.**

A. Notwithstanding the uses permitted in the underlying zoning district, the following uses shall be allowed without a permit in the WCOD provided that they do not alter the surface condition or configuration of the land by the addition of fill, do not obstruct or alter the natural flow or infiltration of surface water, and comply with the regulations of WCOD:

1. The planting of native or naturalized species and wetland vegetation as identified in "The United States Fish and Wildlife Service National List of Plant Species that Occur in Wetlands: New Hampshire" within a wetland and native or non-native, non-invasive vegetation in the upland buffer in conjunction with the landscaping of lot;
2. The installation and observation of monitoring wells;
3. Conservation activities;
4. Accessory agriculture subject to the performance standards of 175-65.C;
5. The removal of dead, diseased, unsafe, or fallen trees;

6. The maintenance of existing vegetation including shrubs, lawns, and fields except as provided in 175-65.A.
  7. Forestry in accordance with Performance Standard 175-65.D.
  8. A pier or dock, including the replacement or expansion of an existing pier or dock, provided the structure is approved by the appropriate state agency (Otherwise it is considered a conditional use).
  9. The maintenance of an existing pier or dock.
- B. The following uses or activities, including any necessary grading, shall be permitted in the WCOD if they are permitted in the underlying zoning district provided that the Zoning Administrator issues a permit for the activity after the Planning Board, with the advice of the Conservation Commission, determines that: a.) appropriate erosion control measures will be used, b.) any disturbed area will be restored, and c.) the activity will be conducted in a manner that minimizes any impact on the wetland:
1. The installation of private water supply wells serving a use on the lot;
  2. Water impoundments with a surface area of less than ten thousand (10,000) square feet;
  3. The installation of culverts or rock fords for existing driveways or woods roads in uplands and wetlands that are non-tidal, and are not vernal pools, prime wetlands, or rare and exemplary wetlands where the wetland impact is less than three thousand (3,000) square feet;
  4. Temporary crossings for the maintenance of utility pipes or lines or for other utility structures;
  5. Temporary coffer dams associated with the repair or replacement of existing structures;
  6. The repair or replacement of existing retaining walls;
  7. Decks with an area of less than two hundred square feet provided that they are raised above the ground in such a manner as to permit the natural flow of any surface water;
  8. The control of aquatic weeds by harvesting;
  9. The control of exotic weeds in accordance with RSA 487:17;
  10. The construction of nature trails and paths.
  11. Grading of the site where grading within the WCOD is necessary to accommodate a structure located outside of the WCOD.

#### **175-61. Conditional Uses in the WCOD.**

- A. The following uses, including any necessary grading, shall be permitted as conditional uses in the WCOD provided that the use is allowed in the underlying zoning district and a Conditional Use Permit is granted by the Planning Board in accordance with Article VII:
1. The construction of streets, roads, driveways, access ways (but not including any parking areas other than those serving single-family uses), bridge crossings, and utilities including pipelines, power lines, and transmission lines;



2. Commercial agriculture and plant nurseries within the upland buffer strip subject to the performance standards of 175-65.C;
  3. The construction of a non-residential building within the upland buffer strip in a core commercial or research/industry zoning district;
  4. Accessory structures and buildings other than those allowed as permitted uses;
  5. Outdoor recreational facilities that do not require the construction of buildings or structures.
- B. The Planning Board shall approve a Conditional Use Permit for a use in the WCOD only if it finds, with the advice of the Conservation Commission, that all of the following standards have been met in addition to the general standards for conditional uses and any performance standards for the particular use:
1. There is no alternative location on the parcel that is outside of the WCOD that is reasonably practical for the proposed use;
  2. The amount of soil disturbance will be the minimum necessary for the construction and operation of the facilities as determined by the Planning Board;
  3. The location, design, construction, and maintenance of the facilities will minimize any detrimental impact on the wetland, and mitigation activities will be undertaken to counterbalance any adverse impacts; and
  4. Restoration activities will leave the site, as nearly as possible, in its existing condition and grade at the time of application for the Conditional Use Permit.

#### **175-62. Prohibited Uses in the WCOD.**

Any use that is not identified as a permitted use in 175-60 or a conditional use in 175-61 shall be a prohibited use.

Notwithstanding this limitation, the erection of a structure or septic system on an existing lot within the Wetland Conservation Overlay District may be permitted by special exception in accordance with the provisions and standards of 175-29.B.

#### **175-63. Coordination with Other Districts**

All land within the WCOD is also subject to the provisions of an underlying zone. Where there is conflict among the provisions of the WCOD, any other applicable overlay district, and the underlying district, the most stringent or restrictive provision shall apply.

#### **175-64. Use of Wetlands in Calculating Lot Area and Density**

No areas of surface water, wetlands or areas designated as very poorly drained, poorly drained, or somewhat poorly drained soil located within the WCOD may be used to satisfy minimum lot sizes or the minimum usable area per dwelling unit requirement.

#### **175-65. Performance Standards in the WCOD.**

All buildings and structures shall be erected, altered, enlarged, or moved and all land within (or in the case of septic setbacks, below, to proximity to) the WCOD shall be used in accordance with the following performance standards:

**A. *Naturally Vegetated Buffer Strip***

A naturally vegetated buffer strip meeting the requirements of 175-75.1 of the Shoreland Protection Overlay District shall be maintained from the reference line of each wetland to the upland limit of the WCOD. Where existing buildings or structures or other site considerations preclude the maintenance of a vegetated buffer for the full width of the upland portion of the WCOD, a buffer of the maximum possible width as set forth in 175-75.1 shall be provided. No soil disturbance shall occur within fifty (50) feet of the reference line. Existing lawns within the upland buffer may be allowed to remain provided that a twenty-five (25) foot wide strip adjacent to the reference line of the wetland is not mowed and is allowed to reestablish naturally occurring vegetation. The application of fertilizers, pesticides, or herbicides within the buffer strip shall be prohibited except in conjunction with allowed agricultural activities.

**B. *Sedimentation and Erosion Control***

All activities and the use of buildings, structures, and land within the WCOD shall be designed and operated to minimize the volume and rate of stormwater runoff, the amount of erosion, and the export of sediment from the site. All activities shall be conducted in accordance with Town standards for stormwater management and Best Management Practices (BMPs) for stormwater management including but not limited to:

1. Best Management Practices to Control Nonpoint Source Pollution: A Guide for Citizens and Town Officials, NHDES, January 2004
2. Stormwater Management and Erosion and Sediment Control for Urban and Developing Areas in New Hampshire, NHDES, 1992
3. Best Management Practice for Urban Stormwater Runoff, NHDES, 1996
4. Innovative Stormwater Treatment Technologies Best Management Practices Manual, NHDES, 2002

**C. *Agricultural Activity***

No soil disturbance, manure spreading, or mowing in conjunction with either commercial agriculture or accessory agricultural activities shall occur within the wetland or within seventy-five (75) feet of the reference line of the wetland. Commercial agriculture within the WCOD shall be conducted in accordance with a management plan approved by the Strafford County Resource Conservation District as demonstrating Best Management Practices as set forth in “Manual of Best Management Practices for Agriculture” (New Hampshire Department of Agriculture, 1993) and “Best Management Wetlands Practices for Agriculture” (New Hampshire Department of Agriculture, 1993).

**D.                   *Forestry***

Any forestry activity-within the WCOD shall be in accordance with the Basal Area Law RSA 227-J:9 and shall use as guidance for best forest management practices the “Best Management Practices for Erosion Control on Timber Harvesting Operations in New Hampshire” Department of Resources and Economic Development (DRED) 2004 as amended, Best Management Practices for Forestry: Protecting New Hampshire’s Water Quality 2005 as amended, “Good Forestry in the Granite State” (DRED).

**E. *Trails***

Trails within the WCOD shall be constructed and maintained in accordance with Best Management Practices as set forth in “Best Management Practices for Erosion Control During Trail Maintenance and Construction” (DRED 1994). The use of trails within the WCOD shall be limited to non-motorized activities except when the trail is snow covered.

**F. *Septic Setbacks***

Any new septic system, leach field, or other sewage disposal system shall be set back 125 feet from the reference line of the wetland or as provided for in 175-139, whichever is greater.

The replacement of an existing septic system, leach field, or other sewage disposal system that is located within the required setback from the reference line of the wetland shall comply with the required setback unless the Health Officer/Zoning Administrator/Code Enforcement Officer determines that such a location is not physically possible due to the shape or size of the lot and soil conditions. If the Health Officer/Zoning Administrator/Code Enforcement Officer determines that a replacement system must be located within the required wetland septic system setback, the system shall be located to provide the maximum setback possible as determined by the Health Officer/Zoning Administrator/Code Enforcement Officer and shall employ the best available technology.

**175-66. Challenge to the Classification of Wetlands.**

If the classification of an area as a wetland or not as a wetland or the location of the reference line is challenged by the applicant, an abutter, a landowner, the Code Enforcement Officer, the Conservation Commission, or the Planning Board, petition shall be made, in writing, by the challenger to the Zoning Administrator. The Zoning Administrator shall engage a state certified wetlands scientist to review the wetland delineation. If the wetlands scientist determines that there is uncertainty as to the classification of an area as a wetland or the location of the reference line, the Zoning Administrator may authorize the wetlands scientist to conduct an on-site investigation. The wetlands scientist shall present evidence in written form to the Zoning Administrator, which evidence shall form the basis for the final decision. The cost for the review of the classification shall be borne by the challenger unless the Planning Board determines that the review is in the greater public interest and the cost should therefore be borne by the Town.

#### **175-67. Responsibility for Restoration of Altered Wetlands.**

Any wetland altered in violation of this article shall be restored at the expense of the violator(s), as provided by RSA 483-A:5.

#### **175-68. Local Authority and Variances.**

No approval or waiver of permits by state or federal agencies shall preempt the ability of the Planning Board or the Zoning Board of Adjustment to seek additional information or to make an independent judgment as to the acceptability of a lot or alteration of land.

### **ARTICLE XIV SHORELAND PROTECTION OVERLAY DISTRICT**

#### **175-69. Purpose.**

The Shoreland Protection Overlay District (SPOD) is an overlay district intended to protect the quality of the Town's surface waters in order to promote public health and safety, maintain wildlife habitat, and conserve and protect shoreline and upland resources. This is accomplished by maintaining and enhancing natural forests and shoreland habitat and buffers. The district is intended to implement and expand upon the provisions of the Comprehensive Shoreland Protection Act, RSA 483-B. The provisions of this article are intended to:

1. Protect the water quality of Great and Little Bays, the Oyster and Lamprey Rivers, and the Town's other surface waters by managing stormwater runoff, siltation and sedimentation, and the construction or alteration of buildings and structures in proximity to these resources;
2. Minimize the potential for the pollution of these water bodies;
3. Protect wildlife and fisheries habitats and travelways;
4. Conserve the natural beauty and scenic quality of the shoreland; and
5. Allow uses of the land adjacent to these water bodies that are consistent with these objectives.

#### **175-70. Applicability.**

The provisions of the SPOD shall apply to all land within two hundred fifty (250) feet of the reference line of Great and Little Bays, the Oyster River, the Lamprey River, Durham Reservoir, Moat Island Pond, Johnson and Bunker Creeks, and Follett's Brook including the tidal sections of their tributary streams; and within seventy-five (75) feet of all other perennial brooks. These

water bodies are designated on the Durham Shoreland Protection Overlay District Map, which is based on United States Geological Survey quadrangle maps covering the Town of Durham.

The provisions of this article apply in addition to any state requirements for shoreland areas or other state approvals or permits. It is the intention of the Town that these provisions be coordinated with state requirements and standards but that these standards shall govern if they are more stringent than state standards.

#### **175-71. Permitted Uses in the SPOD.**

A. Notwithstanding the uses permitted in the underlying zoning district, the following uses shall be allowed without a permit in the SPOD provided they do not alter the surface condition or configuration of the land, do not obstruct or alter the natural flow or infiltration of surface or ground water, and comply with the regulations of the SPOD:

1. The planting of native or naturalized species and wetland vegetation as identified in "The United States Fish and Wildlife Service National List of Plant Species that Occur in Wetlands: New Hampshire" and other native or non-native, non-invasive vegetation in conjunction with the landscaping of a lot;
2. The installation and observation of monitoring wells;
3. Conservation activities;
4. Accessory agriculture subject to the performance standards of 175-75.1. A and B;
5. The removal of dead, diseased, unsafe or fallen trees;
6. The maintenance of existing vegetation including shrubs, lawns, and fields, except as provided in 175-75.1, A.
7. Forestry in accordance with Performance Standard 175-75.1.C.
8. A pier or dock, including the replacement or expansion of an existing pier or dock, provided the structure is approved by the appropriate state agency (Otherwise it is considered a conditional use).
9. The maintenance of an existing pier or dock.

B. The following uses or activities, including any necessary grading, shall be permitted in the SPOD provided that the Zoning Administrator issues a permit for the activity after the Planning Board, with the advice of the Conservation Commission, determines that: a) appropriate erosion control measures will be used, b) any disturbed area will be restored, and c) the activity will be conducted in a manner that minimizes any impact on the shoreland:

1. The installation of private water supply wells serving a use on the lot;
2. Water impoundments with a surface area of less than ten thousand (10,000) square feet;
3. The installation of culverts or rock fords for existing driveways or woods roads in uplands;
4. Temporary crossings for the maintenance of utility pipes or lines or for other utility structures;



5. Temporary coffer dams associated with the repair or replacement of existing structures;
6. The repair or replacement of existing retaining walls;
7. The control of aquatic weeds by harvesting;
8. The control of exotic weeds in accordance with RSA 487:17;
9. The construction of nature trails and paths.
10. Grading of the site where grading within the SPOD is necessary to accommodate an allowed structure located outside of the SPOD.

**175-72. Conditional Uses in the SPOD.**

- A. The following uses, including any necessary grading, shall be permitted as conditional uses in the SPOD provided that the use is allowed in the underlying zoning district and a Conditional Use Permit is granted by the Planning Board in accordance with Article VII:
  1. The construction of streets, roads, driveways, access ways (but not including any parking areas other than those serving single-family uses), bridge crossings, and utilities including pipelines, power lines, and transmission lines;
  2. Commercial agriculture and plant nurseries subject to the performance standards of 175-75.1. A and B;
  3. The construction or expansion of a non-residential or multi-unit building or structure;
  4. Accessory buildings and structures other than those allowed as permitted uses;
  5. Outdoor recreational facilities that do not require the construction of buildings or other structures.
- B. The Planning Board shall approve a Conditional Use Permit for a use in the SPOD only if it finds, with the advice of the Conservation Commission, that all of the following standards have been met in addition to the general standards for conditional uses and any performance standards for the particular use:
  1. There is no alternative location on the parcel that is outside of the SPOD that is reasonable practical for the proposed use;
  2. The amount of soil disturbance will be the minimum necessary for the construction and operation of the facilities as determined by the Planning Board;
  3. The location, design, construction, and maintenance of the facilities will minimize any detrimental impact on the adjacent shoreland and waterbody as well as downstream waterbodies, and mitigation activities will be undertaken to counterbalance any adverse impacts, and
  4. Restoration activities will leave the site, as nearly as possible, in its pre-existing condition and grade at the time of application for the Conditional Use Permit.

**175-73. Prohibited Uses in the SPOD.**

Any use that is not identified as a permitted use in 175-71 or a conditional use in 175-72 shall be a prohibited use. Notwithstanding this limitation, the erection of a structure or septic

system on an existing lot within the SPOD may be permitted by special exception in accordance with the provisions and standards of 175-29.B.

The following uses are deemed to pose a particular threat to the water quality of the adjacent shoreland or waterbody or downstream waterbodies and are prohibited in the SPOD even if they are permitted or conditional uses in the underlying zoning district:

- a. the establishment or expansion of salt storage yards;
- b. automotive junk or salvage yards;
- c. the storage or handling of hazardous wastes;
- d. the bulk storage of chemicals, petroleum products, or hazardous materials;
- e. use of any fertilizer, pesticide, or herbicide except in conjunction with accessory or commercial agriculture as provided for in 175-75.1. B.;
- f. the processing of excavated materials;
- g. the dumping of snow or ice removed from roads or parking lots;
- h. the disposal, handling, or processing of solid wastes including transfer stations, recycling facilities, and composting facilities;
- i. animal feedlots;
- j. the disposal of septage or other liquid or leachate wastes except for an approved septic system;
- k. construction on upland slopes which exceed 15%;
- l. dumping, spreading or any other application or use of treated soils or sludge from a sewage treatment plant.

#### **175-74. Dimensional Requirements.**

All land, buildings, and structures to be used, erected, altered, enlarged, or moved within the SPOD shall be in accordance with the dimensional standards of the underlying zoning district except as modified and required by this section.

##### ***A. Shoreland Setback of Buildings and Structures***

Any new building or structure or any enlargement or modification of an existing building or structure shall be set back from the reference line of the waterbody as follows:

1. Great and Little Bays, the Oyster River, the Lamprey River, Durham Reservoir, Moat Island Pond, Johnson and Bunker Creeks, and Follett's Brook including the tidal sections of their tributaries: 125 feet
2. All other perennial streams except College Brook and

Pettee Brook:

75

feet  
College Brook  
and Pettee  
Brook:

3.

25

feet

This shoreland setback provision shall not apply to water dependent structures, nor to permitted uses that are specifically listed in 175-71, nor conditional uses that are specifically listed in 175-72 other than principal and accessory buildings and structures. Such a use shall be set back the maximum practical distance from the reference line of the waterbody as determined by the Zoning Administrator, or in the case of conditional uses, by the Planning Board in consultation with the Conservation Commission. Septic systems shall be governed by Section B. below.

#### ***B. Septic Setbacks***

Any new septic system, leach field, or other sewage disposal system shall be set back from the reference line of the waterbody as provided for in 175-139 or as follows, whichever is greater:

1. Great and Little Bays, the Oyster River, the Lamprey River, Durham Reservoir, Moat Island Pond, Johnson and Bunker Creeks, and Follett's Brook including the tidal sections of their tributaries:

125 feet

- 2.

All other  
perennial  
streams:

75

feet

The replacement of an existing septic system, leach field, or other sewage disposal system that is located within the required setback from the reference line of the waterbody shall comply with the required setback unless the Health Officer/Zoning Administrator/Code Enforcement Officer determines that such a location is not physically possible due to the shape or size of the lot and soil conditions. If the Health Officer/Zoning Administrator/Code Enforcement Officer determines that a replacement system must be located within the required shoreland septic system setback, the system shall be located to provide the maximum setback possible as determined by the Zoning

Administrator and shall employ the best available technology.

***C. Use of Shoreland in Calculating Lot Area and Density***

Land within the SPOD may be used to meet the minimum lot area, minimum lot size, or maximum density provisions of the underlying zoning.

***D. Shoreland Frontage***

Any single lot that abuts a waterbody in the SPOD shall have a minimum of two hundred (200) feet of shoreland frontage except in zoning districts where a lesser length of frontage or none is specified in the Table of Dimensions. If such a lot contains more than one dwelling unit and is served by on-site sewage disposal, the lot shall have an additional fifty (50) feet of shoreland frontage per dwelling unit.

**175-75. Coordination with Other Districts**

All land within the SPOD is also subject to the provisions of the underlying zone. Where there is conflict among the provisions of the SPOD, any other applicable overlay district, and the underlying district, the most restrictive or stringent provision shall apply.

**175-76. Performance Standards in the SPOD**

All buildings and structures shall be erected, altered, enlarged, or moved and all land within the SPOD shall be used in accordance with the following specific performance standards:

***A. Natural Woodland for Shoreland Development***

The preservation of natural shoreland vegetation is intended to stabilize banks to prevent erosion, maintain wildlife habitats, minimize pollution of the water and preserve the scenic quality of shoreline properties.

Where existing, a natural woodland buffer shall be maintained within one hundred fifty (150) feet of the reference line or for the full width of the SPOD if the district is less than one hundred fifty (150) feet in width. The purpose of this buffer shall be to protect the quality of public waters by minimizing erosion, preventing siltation and turbidity, stabilizing soils, preventing excess nutrients and chemical pollution, maintaining natural water temperatures, maintaining a healthy tree canopy and understory, preserving fish and wildlife habitat, and respecting the overall natural conditions of the protected shoreland.

Where a natural woodland buffer does not exist, a naturally vegetated buffer strip at least fifty (50) feet in width, or the full width of the SPOD if the district is less than fifty (50) feet in width, shall be maintained adjacent to the reference line. Within the buffer strip, naturally occurring vegetation shall be maintained and encouraged. No new lawn, garden, or landscape areas shall be created within the buffer strip but existing lawns may be allowed to remain provided that a twenty-five (25) foot wide

strip adjacent to the shore is not mowed and is allowed to reestablish naturally occurring vegetation.

Within the buffer, the following standards shall apply:

1. Selective cutting of trees and other vegetation other than ground cover shall be permitted provided that a healthy, well distributed stand of trees and other vegetation is maintained. No trees over six (6) inches in DBH [nineteen (19) inches in circumference] shall be cut within the natural woodland buffer. Not more than fifty (50) percent of the basal area of trees, nor more than fifty (50) percent of the total number of saplings shall be removed in any twenty (20) year period. A healthy, well distributed stand of trees, saplings, shrubs and ground covers and their living undamaged root systems shall be left in place.
2. Existing vegetation under three (3) feet in height including ground cover shall not be removed except to provide for a single point of access to the shoreline as provided for in G. below, and in case of disease as provided for in 5. below.
3. No cleared opening in the forest canopy shall be created with a projected surface area of greater than two hundred fifty (250) square feet as measured from the outer limits of the tree crown unless a building is allowed within the buffer strip. In such case, a cleared opening for the building site may be created but the cleared opening shall not extend more than twenty-five (25) feet outward from the building.
4. Stumps and their root systems which are located within fifty (50) feet of the reference line shall be left intact. The removal of stumps and roots in conjunction with beaches or docks may be permitted with the approval of the Conservation Commission based upon a determination that the removal in combination with mitigation activities will not increase the potential for erosion.
5. Dead, diseased, or damaged trees, saplings, or ground covers may be removed with prior approval of the Conservation Commission, in consultation with the Tree Warden. The stumps and root systems of the removed trees shall not be disturbed and shall remain in place. If such removal results in the creation of cleared openings, these openings shall be replanted with native species unless existing new growth is present. Dead and living trees that provide dens and nesting places for wildlife are encouraged to be preserved.
6. The application of pesticides, herbicides, and fertilizers within the buffer is prohibited except in conjunction with allowed agricultural activities. In the case of allowed agriculture, no fertilizers, pesticides, or herbicides shall be applied within seventy-five (75) feet of the reference line.



**B. *Agriculture***

In no case shall any soil disturbance or animal grazing occur within seventy-five (75) feet of the reference line. No fertilizers (including manure), pesticides, or herbicides shall be applied within seventy-five (75) feet of the reference line. Any commercial agricultural activity within the SPOD shall be conducted in accordance with a management plan approved by the Strafford County Natural Resources Conservation Service as demonstrating Best Management Practices.

**C. *Forestry***

Any forestry activity within the SPOD shall be conducted in accordance with a forest management plan prepared by a New Hampshire state licensed professional forester and shall be in accordance with the Basal Area Law RSA 227-J:9 and shall use as guidance for best forest management practices the “Best Management Practices for Erosion Control on Timber Harvesting Operations in New Hampshire” DRED 2004 as amended, Best Management Practices for Forestry: Protecting New Hampshire’s Water Quality 2005 as “Good Forestry in the Granite State” (DRED). In no case shall any harvesting or clearing, except for the removal of dead or diseased trees, occur within fifty (50) feet of the reference line. If there is conflict among the standards, the most restrictive shall apply.

**D. *Sedimentation and Erosion Control***

All activities and the use of buildings, structures, and land within the SPOD shall be designed and operated to minimize the volume and rate of stormwater runoff, the amount of erosion, and the export of sediment from the site, and to prevent the release of surface runoff across exposed mineral soils. All activities shall be carried out in accordance with a stormwater management and erosion control plan that incorporates Best Management Practices and is approved by the Strafford County Natural Resources Conservation Service.

**E. *Inspection of Nonconforming Septic Systems***

When a property with a septic system that does not conform to the setback requirements of 175-74.B is sold or otherwise transferred, the septic system shall be inspected by the Town’s Code Enforcement Officer and, if inadequate, replaced prior to the transfer of the property. If it is replaced it shall be consistent with the setback

requirements in 175-74, unless deemed by the Code Enforcement Officer to be unreasonable due to the site or soil conditions.

**F. *Access to the Shorefront***

One point of access to the shorefront may be developed on any lot. Such access shall be limited to a maximum of twenty (20) feet in width.

**G. *Docks and Piers In or Over the Water***

If otherwise permitted in the District, a maximum of ten (10) percent of the frontage of the lot on the waterbody, but no greater than fifty (50) feet of frontage may be used

for a boat dock or ramp (excluding seasonal, temporary docks or ramps). Access to the facility shall be located on soils suitable for such use and shall be designed, constructed, and maintained to minimize erosion. The facility shall comply with all applicable federal, state, and local requirements.

## **ARTICLE XV FLOOD HAZARD OVERLAY DISTRICT**

### **175-77. Applicability.**

#### **A. Purpose**

Certain areas of the Town of Durham, New Hampshire are subject to periodic flooding, causing serious damages to properties within these areas. Relief is available in the form of flood insurance as authorized by the National Flood Insurance Act of 1968. Therefore, the Town of Durham, New Hampshire has chosen to become a participating community in the National Flood Insurance Program, and agrees to comply with the requirements of the National Flood Insurance Act of 1968 (P.L. 90-488, as amended) as detailed in this Floodplain Management Ordinance.

The following regulations in this ordinance shall apply to all lands designated as special flood hazard areas by the Federal Emergency Management Agency (FEMA) in its "Flood Insurance Study for the County of Strafford, N.H." dated September 30, 2015, together with the following associated Flood Insurance Rate Map panel numbers for the Town of Durham: 33017C0314E, 33017C0315E, 33017C0318E, 33017C0320E, 33017C0340E, 33017C0376E, 33017C0377E, 33017C0378E, 33017C0379E, 33017C0381E, 33017C0383E, 33017C0385E, 33017C0405E, dated September 30, 2015, which are declared to be a part of this ordinance and are hereby incorporated by reference.

**Advisory Climate Change Risk Areas.** As a coastal community with significant waterfront property along Great Bay, Little Bay, and tidal portions of the Oyster River, the Town of Durham recognizes the future threats that climate change and projected sea level rise pose to the health, safety, and general welfare of its citizens. The Town of Durham, in its "Vulnerability Assessment of projected impacts from sea-level rise and coastal storm surge flooding" identified areas likely to be at risk to coastal flooding in the future under projections for rising sea-levels associated with global climate change. These areas may be subject to a higher likelihood of flood damage, and as base flood elevations change over time, may be added to FEMA special flood hazard areas in the future. The map titled "Advisory Climate Change Risk Areas" dated February 21, 2018 (for moderate level projected rise of 3.9 feet, as referred to on the map under Map Feature Notes) is declared to be an advisory and non-binding part of this ordinance and is hereby incorporated by reference. The Town of Durham recommends (but does not require) that landowners, homeowners, developers, and any parties seeking to build in lands designated as advisory climate change risk areas elevate proposed structures to the levels, and follow best practices, as presented herein. See subsection 175-83 C. below.

#### **B. Building Permit Required.**

All proposed development in any special flood hazard area shall require a building permit.

#### **175-78. General Design Standards.**

The Code Enforcement Officer shall review all building permit applications for new construction or substantial improvements to determine whether proposed building sites will be reasonably safe from flooding. If a proposed building site is in a flood-prone area, all new construction or substantial improvements shall be:

- A. Be designed or modified, and adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.
- B. Use flood damage-resistant materials for building components located below the base flood elevation.
- C. Be reasonably safe from flooding and be designed and constructed with methods, practices and materials that minimize flood damage.
- D. Be constructed with electrical, heating, ventilation, plumbing and air-conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

#### **175-79. Water and Sewer Systems.**

Where new or replacement water and sewer systems, including on-site systems, are proposed in special flood hazard areas, the applicant shall provide the Code Enforcement Officer with assurance that these systems will be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into floodwaters, and on-site waste-disposal systems will be located to avoid impairment to them or contamination from them during periods of flooding.

#### **175-80. Certification Records.**

The Code Enforcement Officer shall maintain for public inspection and furnish upon request any certifications of flood proofing and the as-built elevation, in relation to mean sea level, of the lowest floor, including basement, of all new or substantially improved structures and include whether or not such structures contain a basement. If the structure has been flood proofed, the as-built elevation, in relation to mean sea level, to which the structure was flood proofed must be furnished by the applicant.

#### **175-81. Review of Proposed Developments.**

The Code Enforcement Officer shall review proposed developments to assure that all necessary permits have been received from those governmental agencies from which approval is required by federal or state law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C.S. 1334. It shall be the responsibility of the applicant to certify these assurances to the Code Enforcement Officer.

#### **175-82. Watercourses.**

- A. In riverine situations, prior to the alteration or relocation of a watercourse, the applicant for such authorization shall notify the Wetlands Bureau of the New Hampshire Environmental

Services Department and submit copies of such notification to the Code Enforcement Officer, in addition to the copies required by RSA 482-A: 3. Further, the applicant shall be required to submit copies of said notification to those adjacent communities as determined by the Code Enforcement Officer, including notice of all scheduled hearings before the Wetlands Bureau.

- B. The applicant shall submit to the Code Enforcement Officer certification provided by a registered professional engineer assuring that the flood-carrying capacity of an altered or relocated watercourse can and will be maintained.
- C. Along watercourses with a designated Regulatory Floodway no encroachments, including fill, new construction, substantial improvements, and other development are allowed within the floodway unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practices that the proposed encroachment would not result in any increase in flood levels within the community during the base flood discharge.
- D. Along watercourses that have not had a regulatory floodway designated, no new construction, substantial improvements or other development, including fill, shall be permitted within Zone AE on the FIRM, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all existing and anticipated development, will not increase the water surface elevation of the base flood more than one (1) foot at any point within the community.
- E. The Code Enforcement Officer shall obtain, review, and reasonably utilize any floodway data available from Federal, State, or other sources as criteria for requiring that all development located in Zone A meet the following floodway requirement:  
"No encroachments, including fill, new construction, substantial improvements, and other development are allowed within the floodway that would result in any increase in flood levels within the community during the base flood discharge."

### **175-83. Base Flood Elevation.**

- A. In special flood hazard areas, the Code Enforcement Officer shall determine the base flood elevation in the following order of precedence according to the data available:
  - 1. In Zone AE, the Code Enforcement Officer shall refer to the elevation data provided in the community's Flood Insurance Study and accompanying FIRM.
  - 2. In Zone A, the Code Enforcement Officer shall obtain, review and reasonably utilize any base flood elevation data available from federal, state, development proposals submitted to the community (i.e., subdivisions or site approvals) or other sources.
  - 3. In Zone A where a base flood elevation is not available, the base flood-elevation shall be at least two (2) feet above the highest adjacent grade.
- B. The Code Enforcement Officer's base flood elevation determination will be used as criteria for requiring in Zones A and AE that:

1. The lowest floor of all new construction or substantial improvements of residential structures be elevated to at least two feet above the base flood elevation.
2. The lowest floor all new construction or substantial improvements of nonresidential structures be elevated to at least two feet above the base flood elevation or, together with attendant utility and sanitary facilities, shall:
  - a. Be flood proofed at least two feet above the base flood elevation so that below this elevation the structure is watertight with walls substantially impermeable to the passage of water.
  - b. Have structural components capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy.
  - c. Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting the provisions of this section.
3. All manufactured homes to be placed or substantially improved within special flood hazard areas shall be elevated on a permanent reinforced foundation such that the lowest floor of the manufactured home is at least two feet above the base flood elevation and be securely anchored to resist flotation, collapse or lateral movement. Methods of anchoring may include but are not limited to use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable state and local anchoring requirements for resisting wind forces. Fully enclosed areas below elevated manufactured homes shall comply with the requirements of Section 175-83 B.4. of this ordinance.
4. For all new construction and substantial improvements, fully enclosed areas below the lowest floor that are subject to flooding are permitted, provided that they meet the following requirements:
  - a. The enclosed area is unfinished or flood-resistant, usable solely for the parking of vehicles, building access or storage.
  - b. The floor of the enclosed area is not below grade on all sides of the structure.
  - c. They shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria:
    - (1) A minimum of two (2) openings having a total net area of not less than one (1) square inch for every square foot of enclosed area subject to flooding shall be provided.
    - (2) The bottom of all openings shall be no higher than one (1) foot above grade.
    - (3) Openings may be equipped with screens, louvers or other coverings or devices, provided that they permit the automatic entry and exit of floodwaters.

Further guidance for meeting the above requirements can be found in the FEMA “Technical Bulletin 1, Openings in Foundation Walls and Walls of Enclosures”.

5. Recreational vehicles placed on sites within Zones A and AE shall: (1) be on the site for fewer than 180 consecutive days, (2) be fully licensed and ready for highway use, or (3) meet all standards of section 175-77 of this ordinance and the elevation and anchoring requirements for “manufactured homes” in section 175-83(B)(3) of this ordinance. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions.

C. Advisory Climate Change Risk Areas.

The Town of Durham recommends (but does not require) that landowners, homeowners, developers, and other parties seeking to build on properties located in advisory climate change risk areas as designated on the Advisory Climate Change Risk Areas map, but not in a special flood hazard area, review the provisions of this chapter and apply them proactively to construction and development projects as applicable. All applicants seeking to build in these areas shall inform the Durham Building Official which standard they intend to follow. See purpose statement, above.

**Flood Elevation Determination.** In Advisory Climate Change Risk Areas where base flood elevation is not available, applicants are advised to determine the flood elevation by adding at least two feet above the highest point around the perimeter of the building footprint.