

BASBANES WETLAND CONSULTING

39 Hardy St.
Dunstable, MA 01827

Alternative Analysis for Riverfront Area 78 Mountain Rd Burlington, MA

May 9, 2023

Per 310 CMR 10.58, an alternative analysis is required for work in the Riverfront Area. The following addresses the site conditions, proposed work and conclusion that the work will not have a significant negative impact on the resource areas and that no other practicable alternative is feasible.

Property Description

The lot is a 20,130 s.f. residential lot located on Mountain Rd created in 1981. The parcel is surrounded by development including other residential and commercial properties. The subject property is presently altered in part by the parking lot at the rear of the lot, the utility easement, and by the removal of the tree canopy and understory on the lot. Approximately 25 trees, mostly Red Oak, were cut. The understory likely consisted of Choke Cherry.

The parcel is located within 200' of Little Brook, a perennial stream. Because of its small, size, location and current condition, the property does not provide any important wildlife habitat and is limited in its provision of the other interests in the Wetland Protection Act and River Act.

Proposed Work

The applicant has submitted a Notice of Intent to construct a single-family house with deck, associated driveway and grading on the property. The proposed work, excluding the infiltration beds, a total 4500 s.f. of permanent alteration, is within the Riverfront Area (total area of 19,680 s.f.). The work is limited the outer riparian zone. No work will occur in the 100' buffer zone or the 100' inner riparian zone.

The proposed work meets the requirement of the allowable alteration by being less than 5000 s.f. for lots recorded before October 6, 1997 (it was recorded in 1981).

The building envelope is very constrained due to riverfront setback, the lot size & configuration, the existing parking lot and the utility easement. The activity is limited as much as possible within the building envelope to have minimal impact on the riverfront and meet the <5000 s.f. alteration limit.

Constructed stone trenches (details provided on the site plan) will be installed to capture roof and driveway runoff and thus prevent erosion and provide water infiltration.

Two infiltration beds (details on plan) will be installed to capture runoff from the site and to meet the town stormwater management bylaw.

Plantings will be provided in the outer riparian zone as much as possible. Plant species will be limited due to the constraints of the utility easement, though all species shall be native and provide value to wildlife species. See Planting Plan document dated May 9, 2023.

Erosion control will be installed around the limit of work prior to construction and maintained until the site is fully stabilized.

The house will be serviced by town water and sewer thus allowing for less site work to occur.

Significance of the Riverfront Area

The Riverfront Area is presumed to provide the same eight interests of the Wetland Protection Act. It is presumed that a Riverfront Area provides all of the interests unless proven otherwise. In the case of the subject property,

Prevent pollution by: Filtering and trapping sediments, oils, metals, and other pollutants; and cleaning water through toxic chemical breakdown in soils and plant roots.

The property is presently devoid of vegetation due to the tree cutting, lack of understory, existing parking lot in the rear, and the easement area, which is “maintained” by the utility company.

Protection public and private water supply and groundwater supply by: Removing pollutants that are carried in runoff from nearby land uses, such as commercial areas, roadways, housing developments, and parking lots, before they reach surface water and/or groundwater; and allowing water to infiltrate to replenish groundwater supplies and maintain base flows in streams and wetlands.

The runoff from the parking lot at the rear of the lot appears to be directed into a treatment swale. The riverfront in the area of the proposed work may be limited in providing that benefit. Two infiltrations areas will be installed to capture any over site runoff and thus enhance this interest. The proposed infiltration trenches for roof and driveway further provide benefit by capturing runoff from the proposed impervious surfaces and infiltrating it to the groundwater.

Protection of fisheries and land containing shellfish by: Maintaining water quality by moderating stream temperatures, reducing erosion, and filtering sediments and pollutants, such as excess nutrients, toxins, and pathogens, before they reach rivers, and fisheries and shellfish beds that are important for recreational and commercial harvesting; and providing food sources to support the aquatic food chain.

The property has no tree canopy and understory and presently does not provide any shading to improve water quality. The lack of vegetation and the topography of the work area limits the area to provide filtering of water and sediments. It is intended to provide some plantings to restore that value to the river as much as possible.

Protection of wildlife habitat by: Providing food, shelter, and water for many plants, birds, and animals; serving as critical wildlife travel corridors, year-round and during seasonal migrations; and providing habitat for rare or endangered plants and animals.

The size of the lot and the lack of unique natural features limits this 4500 s.f. portion of the outer riparian zone from providing important wildlife habitat. The parcel is not located within a Natural Heritage Endangered Species Habitat.

Control of flooding and Prevention of Storm Damage by: Absorbing and storing water during storms and releasing the water slowly back to the river; reducing peak runoff during storms; and preventing erosion and sedimentation.

The area of proposed work in the riverfront would provide limited flood control due to the slope and rockiness of the area. It is not flat and therefore would not store and slowly

release stormwater. The infiltration trenches that will be provided will allow this to happen. The proposed planting/seeding will help prevent erosion by stabilizing soils and slowing the flow of runoff.

Alternatives

There are essentially no practicable and substantially equivalent economic alternatives for this site. Development of a legal residential lot is permissible as long as the proposed work meets the requirements set forth in MGL c 131 s 40 and the Rivers Act, Chapter 258 of the Act of 1996. Considering that the proposed project meets these requirements, the option of not developing the lot is not an economically feasible one and not preferred by the property owner.

Options that were considered for this project include:

1. Reduction in house size. This is not reasonable from a marketing standpoint. It has been reduced to be 30'x40' in size and designed to be as small as possible and yet still maintain the economic value. This size house is comparable to the existing houses in the neighborhood.
2. Changing the location of the proposed house. Because of the lot constraints relocation of the structure on the lot is not feasible either due to the site constraints, the utility easement and the parking lot.
3. Increased runoff infiltration has been provided not only for the roof and driveway, but also for overall site stormwater runoff per the town's local bylaw.
4. A planting plan, dated May 9 2023, has been provided to some restoration to riverfront area.

The project has been designed to have as little impact as possible and to replace the interests of the Act to the extent practicable. Limited restoration of altered areas will be done considering the easement constraints. Unfortunately, the inner riparian zone has already been permanently altered with the construction of the abutting house, but mitigative plantings are proposed.

It is our opinion that the work meets the regulations of the Riverfront Area and that there are no other feasible practicable or economic alternatives for a project on this lot. As proposed, the project intended to have no significant adverse impact on the resources area or the interests identified in MGL c.131 s.40.

If you have any questions, please do not hesitate to contact me at lbasbanes@gmail.com.
Thank you.

Sincerely,



Leah D. Basbanes, M.A.
Wetland Consultant/Biologist