



March 23, 2016

Ref: 57634.00

Scott Gustin, AICP, CFM  
Senior Planner  
Department of Planning and Zoning  
City Hall, 149 Church Street  
Burlington, VT 05401

Re: Application to Amend Zoning Permit #14-1181CA/CU – Burlington Bike Path Rehabilitation Phase 1

Dear Scott:

On behalf of Burlington Parks, Recreation & Waterfront (“Applicant” or “BPRW”), VHB has prepared the enclosed application for an amendment to Zoning Permit #14-1181CA/CU, issued July 2, 2014 for Phase 1 of construction for the Burlington Bike Path Rehabilitation Project (“Project”). This amendment application addresses Project activities within the Riparian and Littoral Conservation Zone (“Riparian Zone”) and the Special Flood Hazard Area (“SFHA”) pursuant to Section 4.5.4 of the City’s zoning ordinance. The original 2014 application for the subject Zoning Permit did not include provisions relative to these two components of the Natural Resource Protection Overlay District (“NR District”) because the scope of shoreline reconstruction and other activities within the Riparian Zone and SFHA had not been fully developed at that time. This amendment request applies to Phase 1B of the overall Project, which is generally bounded by the Urban Reserve through the entrance to North Beach Park.

This application includes the following materials, which have also been provided electronically on the enclosed thumb drive:

- Signed Basic Zoning Permit Application Form;
- Signed City Erosion Prevention and Sediment Control Plan (“EPSC”) Form;
- Burlington Bike Path Rehabilitation Project – Phase 1B Plan Set (includes plan set for existing and proposed conditions, erosion prevention and sediment control, revegetation);
- Select Plan Sheets depicting Project activities within the NR District; and
- Site Location Map.

### **Project Description**

The overall Project encompasses the entire length of the Burlington Bike Path; roughly 7.9 miles from Austin Drive to the Winooski River Bridge. The Applicant was granted prior approval for Phase 1 construction, from Perkins Pier through North Beach through Zoning Permit #14-1181CA/CU. Phase 1a construction was completed in the summer of 2015 and included

approximately 1.70 miles of path rehabilitation from Perkins Pier through Waterfront Park. Phase 1b, slated

40 IDX Drive, Building 100  
Suite 200

**Engineers | Scientists | Planners | Designers**

South Burlington, Vermont 05403

P 802.497.6100

F 802.495.5130



for construction in summer of 2016 will run through the Urban Reserve to North Beach. This request serves to amend the existing permit for activities within the two Natural Resource Districts noted above, as well as to review the inclusion of three “pause place” locations into the Project design, one at Texaco Beach, the second proximate to the north end of the existing dog park, , and the third proximate to the deep water access. The proposed pause places have been included in the final design to enhance the user experience on this heavily traveled portion of the Bike Path and offer designated locations for information kiosks, fitness equipment, and lake access. There have been no other substantial changes in the Project design since the original application for Zoning Permit #14-1181CA/CU.

### **Proposed Activities by NR District**

#### Special Flood Hazard Area

Proposed Project construction within the SFHA is generally minimal, and is largely limited to the replacement of existing shoreline revetments. The Federal Emergency Management Agency (“FEMA”) defines a base flood elevation of 102 feet NAVD88 for Lake Champlain, and as such all Project activities which are proposed below that elevation are the subject of this permit amendment application. In summary, Project construction which is proposed in the SFHA would total approximately 300 cubic yards of fill and include the following, which correspond with identified station numbers on the enclosed Site Plans:

1. **Revetment Reconstruction:** reconstruction of the stone shoreline revetment in three distinct areas that have been compromised by storm damage, specifically from STN155+94 to STN157+50, STN157+50 to Sta162+00, and STN163+45 to STN165.13 (see Photograph 1).
2. **Shoreline Stabilization:** involves a less intensive stabilization of the shoreline in the area between STN 155+94 and STN 157+50 where shoreline recession is occurring at the top of a course of stone armoring, at its interface with the adjoining, vegetated surface of the Urban Reserve (see Photograph 2).
3. **Pause Place:** construction of a staircase as a “pause place” for bike path users to exit the path to access the shoreline and lake edge (STN152+90).

For these activities, only approximately 19 cubic yards of fill for construction of the stairs for the southern pause place located approximately at Station 152+90, represents the addition of new material placed in the SFHA. The other work within the SFHA is the reconstruction of existing shoreline revetments and shoreline stabilization. For revetment reconstruction, the eroded sections of the revetment will be reconstructed in a manner similar to their original construction; will not extend any farther lakeward than their original footprint, and will tie into the adjoining and intact revetment such that the finished elevation is consistent with prior conditions. The lowest elevation for the extent of revetment reconstruction within the SFHA, as depicted on the enclosed typical cross section, is approximately 92.9 feet NAVD88.

For shoreline stabilization, a relatively thin course of rock will be placed to stabilize the exposed and receding erosional scarp at the top of the stone armoring (+/-104' NAVD88) and will extend to +/-98.5' NAVD88. This application will fill in areas that have slumped and eroded due to wave activity, and will approximate the prior limits of the shoreline armoring. It is possible that this activity will result in the addition of new fill to this area, however most of that new material would be above the base flood elevation (102' NAVD88) to stabilize the receding shoreline at the very top of the armoring.



**Photograph 1.** Representative view of compromised stone revetment in Urban Reserve.  
Intact revetment visible in background (Date: 6/1/14)



**Photograph 2.** View of shoreline just south of jetty in Urban Reserve.  
Actively eroding and receding shoreline can be seen at the top of the armor, photo left (Date: 3/16/16).



The proposed application of new stone will avoid impinging on the relatively granular beach that has developed just south of where the jetty ties into the shoreline and will be conducted in a manner that limits the removal of trees from the area as depicted on sheet 5 and 6 of the enclosed Site Plans.

Based on the limited volume of new fill proposed for the pause place relative to the overall SFHA area and the fact that revetment reconstruction and shoreline stabilization are activities that restore a prior condition, VHB believes that Project activities within the SFHA represent an insignificant decrease in the amount of floodplain storage and that compensatory storage is not required for this Project.

#### Riparian and Littoral Zone

Because of the realignment of the Bike Path in the Urban Reserve as described in the original application for Zoning Permit #14-1181CA/CU, the Project will necessarily include a number of activities within the Riparian Zone, defined in the City's Zoning ordinance as the area extending 250 feet laterally from the shoreline elevation of 100 feet above sea level. The Project components that would occur within the Riparian Zone include the following, which can generally be framed into the City's Zoning ordinance requirements in Section 4.5.4(c) to address erosion prevention and sediment control ("EPSC"), stormwater management, and the removal of woody vegetation:

- Removal of the existing bike path surface, and reconstruction and realignment of a portion of bike path into an 11 foot wide bituminous surface with 2 foot gravel shoulders for a total length of approximately 0.73 mile within the Riparian Zone. This includes areas both within the Urban Reserve and north to the end of Phase 1B (though this latter section in
- Reconstruction of revetments and shoreline stabilization along approximately 273 linear feet of shoreline (described previously);
- Tree cutting of up to approximately 52 trees that are greater than approximately 8 inches diameter at breast height ("DBH"), as well as shrubs and woody brush, which represents only approximately 0.95 acre of tree canopy cover removal;
- Permanent removal of approximately 0.67 acre (29,185 square feet) of existing impervious surface (bituminous pavement and concrete), followed by the placement of topsoil, seeding and woody vegetation planting;

#### *Erosion Prevention and Sediment Control*

There is an EPSC Plan for Phase 1B which has been prepared consistent with the Department of Environmental Conservation ("DEC") Construction General Permit 3-9020, Part 4.1(C) and Appendix B of GP 3-9020 as guidance. The EPSC Plan was prepared in conformance with the most recent edition of the *Vermont Standards and Specifications for Erosion Prevention and Sediment Control* (2006, Amended 2008). The total area of proposed earth disturbance associated with these activities is 9.0 acres. The EPSC Plan that has been prepared for the Project includes: (1) an existing conditions site plan with existing topography; (2) an EPSC Plan with an overlay of major Project components, including proposed grading, infrastructure, and EPSC measures; and (3) a final stabilization plan. In addition to other information, the EPSC Plan provides the contractor with specific instruction for construction and stabilization activities during the regular construction seasons. The EPSC Plan also provides the contractor with information specific to EPSC measures to be installed if construction activities are occurring within 50 feet of water resource areas (e.g., streams and wetlands). Lastly, the EPSC Plan provides the contractor with instructions to be followed in



anticipation of rainfall and/or thaw events in order to minimize the potential for erosion and, in turn, maintain sediment on-site to the extent feasible.

The Project will submit to the DEC Stormwater Program an application for coverage under General Permit 3-9020. In addition, BPRW has signed a City of Burlington EPSC Plan form, enclosed, which is subject to review and approval by the City Department of Public Works, Stormwater Management.

### *Stormwater Management*

The project qualifies for consideration under the Stormwater Procedure for Public Linear Transportation Projects as a project involving relatively minor changes in the location of impervious surfaces. Under existing conditions, stormwater from 2.54 impervious acres runs off to adjacent pervious areas via sheet flow. The Project includes 1.87 acres of redeveloped impervious surfaces, largely for reconstruction of the bike path itself. The Project will result in 1.25 acres of impervious surfaces where pervious surfaces previously existed, which as a linear project is included in the redeveloped acreage above. Overall, the Project will result in a net reduction of 0.67 acres of impervious surface. Compared to existing conditions, this represents a 26 percent reduction, which can be interpreted to mean that natural stormwater infiltration would be enhanced following as a result of the Project. Proposed impervious surface conditions are shown on the Jurisdictional Areas figures, included in the Project's Individual Permit to Discharge Stormwater ("INDS") to be submitted for State approval following City review and approval. During extreme storm events, excess stormwater runoff from the Project's impervious surfaces that does not infiltrate to groundwater on adjacent vegetated surfaces will overflow towards Lake Champlain, considered S/N 001 for the purposes of the INDS application. The proposed Phase 1B construction occurs in one subwatershed; Subwatershed 1, which includes the entire Project area from just south of Lake Street to North Beach within the City limits of Burlington.

Because the land surrounding the Project has sufficient adjacent vegetated, pervious surfaces and the orientation of the Project poses a challenging scenario for the design of traditional stormwater treatment, no constructed stormwater management practices are proposed for Phase 1B. One single cross culvert is proposed at approximately Station 155+95 to alleviate the potential for ponding of excess runoff from pervious surfaces adjacent to the path, which would direct precipitation runoff generally west towards the Lake. The proposed redevelopment project has been designed to meet the applicable criteria of the Vermont Stormwater Management Manual ("VSMM"), which includes only Water Quality (WQv).

### *Vegetation Clearing*

Proposed woody vegetation cutting, as depicted on the enclosed Site Plans, has been minimized to only what is necessary for Phase 1B construction and safe operation of equipment during construction. Tree cutting has been further limited within each cutting area to conserve mature and maturing trees, with proposed cutting concentrated to clumps of saplings and shrubs where possible. In order to assess any potential impact to threatened and endangered bat species, the Project conducted outreach to the Vermont Department of Fish and Wildlife ("FWD") regarding the extent and location of proposed tree clearing. The FWD confirmed that they have no concern regarding impacts to protected bat species or their summer roosting habitat from the Project's proposed tree clearing.<sup>1</sup> In order to mitigate for tree cutting

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<sup>1</sup> Bennett, Alyssa, Small Mammal Biologist, Vermont Fish and Wildlife Department. January 29, 2016, personal communication.



and as part of the overall Project's aesthetic plan and EPSC measures summarized above, revegetation in the form of seeding of all areas of disturbed ground surface, including areas where impervious surfaces will be removed, is proposed. Re-establishment of woody cover is also included and is shown on the enclosed Site Plans. Woody vegetation planting will not always occur where it has been cleared, but rather will concentrate reforestation measures to areas that have been determined by the City's arborist. The tree and shrub planting would install 150 trees and another 160 shrubs within the Project's Phase 1B extent, which represents a net gain in woody vegetation post-construction of the Project when compared to the necessary tree cutting for construction.

### **Conditional Use Review Standards**

Because the new proposed alignment of the Bike Path will intersect the Riparian Zone, the Applicant hereby agrees to conform to the requirements listed in Section 4.5.4 (c) 4. of the Zoning Ordinance. Furthermore, because of these proposed activities within an NR Overlay District, the Applicant understands that this Application is subject to review and approval pursuant to the Conditional Use review provisions of Article 3. A response to Section 3.5.6 (a) 1-5 is provided below.

#### Capacity of Existing or Planned Community Facilities

The Project will have no undue adverse effect on existing or planned community facilities. By its nature, the Bike Path rehabilitation will encourage community recreation and appreciation of the waterfront area and promote healthy lifestyles.

#### Character of the Area

The realignment of the Bike Path in the UR represents passive use of a publically accessible open space, consistent with Section 4.4.7 of the Zoning Ordinance. The Applicant believes the proposed realignment of the Bike Path in the UR is consistent with Section 4.4.7. (c) 4), which allows for the following conditionally permitted use:

*Existing public recreational paths and railroad facilities and their necessary maintenance.*

#### Traffic on Roads and Highways

It is not anticipated that the Project will result in any increased traffic demand such that an undue adverse effect would occur. Though the improvements will likely attract more visitors to the Bike Path, this would occur gradually over time.

#### City Bylaws and City and State Ordinance

The Project will be constructed and operated in accordance with all applicable City Bylaws and City and State Ordinance.

#### The Utilization of Renewable Energy Resources

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Generally speaking, the Bike Path is not a consumptive use of energy. Accordingly, there is little opportunity for employing renewable energy resources.

We appreciate your assisting in reviewing this application and look forward to the opportunity to discuss the Project before the Conservation Board (April 4, 2016) and Development Review Board (April 19, 2016).

Sincerely,

A handwritten signature in blue ink, appearing to read "B. Ketterling", is written over a light blue horizontal line.

Brad Ketterling  
Senior Environmental Scientist

DBK/CAF/jkw

Cc: Jesse Bridges, Director and Harbormaster, Burlington Parks, Recreation & Waterfront