



January 31, 2014

Mr. Joe Colangelo, Town Administrator
Municipal Project Manager
Town of Hinesburg
10632 Route 116
Hinesburg, Vermont 05461

RE: Hinesburg STP Bike (54)

Dear Joe:

We are writing as a follow up to the December 16, 2013 Selectboard meeting at which the above referenced project was presented to the Board. This project was initially presented as a 5' wide concrete sidewalk along and adjacent to Route 116, from the intersection with Commerce Street to the intersection with Riggs Road, an approximately 1,000' stretch. A bridge across Patrick Brook was included on those plans, including cast-in-place concrete abutments, but the remainder was shown as a sidewalk built essentially at existing ground level to minimize cuts and fills and their associated easements required from the two involved property owners.

During the discussion of the project at the Selectboard meeting, a comment/request was raised by a Selectboard member as to whether we had investigated the use of a boardwalk along the route to reduce environmental impacts and permitting issues. As we discussed at that meeting, we have been gathering data comparing the permitting impacts, design costs and construction costs as they relate to the project. Our information has come from various contractors working on some of our projects, as well as those who have built other projects recently in Chittenden County.

We started our investigations by contacting the State of Vermont Wetlands Office and the U.S. Army Corps of Engineers office. A boardwalk is an allowed use under the Vermont Wetland Rules, thereby eliminating the need for a Wetland Permit from that office. If the boardwalk is constructed on driven or screwed-in piles, the Corps of Engineers does not consider it to be an impact, therefore a General Permit would not be required from that office. The Corps would place the restriction that the piles must be driven or screwed-in, i.e. no holes may be dug or drilled, since they would consider any excavated material to be fill thereby triggering their jurisdiction.

We have discussed this option with the Town of Hinesburg Planning and Zoning Office. The Town Development Review Board (DRB) is required to review this project to determine the effects of the project on the floodway and floodplain. Alex thought that the DRB would have an easier time approving the boardwalk than the sidewalk since the impacts to both the floodplain and floodway would be significantly less. Although we have not sought an official determination, and can't without a set of plans, Padraic Monks from the State of Vermont Stormwater Section stated that he thought that the boardwalk would not trigger any stormwater permitting.

As noted above, to allow the project to avoid the permits mentioned above, the piles would need to be driven or screwed-in. The bridge would still be constructed, but instead of cast-in-place concrete abutments, there would be some other pile based method to support the bridge. Designing the project as a boardwalk would increase the tasks for the structural engineer on our team to design the boardwalk itself and the piling system. We have spoken with several structural engineers regarding this approach. They estimate that their design costs from sketches through contract documents would be roughly \$8,000 - \$10,000. This price would be at least partially offset by savings from our contract as far as our design and permitting costs.

If the entire project is constructed as a boardwalk it may be able to be constructed within the existing and proposed easements from Jolley and Wind NRG by snaking between the two large trees near Patrick Brook. This has not been field verified yet, and may not be worth trying if the two owners are willing to alter their easements.

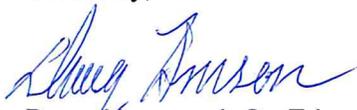
From a construction cost standpoint, we have arrived at the following. Based on unit bid prices we have seen in the past year, a 5' wide concrete sidewalk with its associated gravel base costs approximately \$40 per square foot. Based on a 5' wide by 1,000 foot long sidewalk, this would mean that the concrete sidewalk portion of the project would cost approximately \$200,000. This estimated cost does not include any landscaping, traffic signs or other incidental costs of the project since these other costs could be incurred either way.

Regarding boardwalk construction costs, we have examined the bid tabulation for the Tilley Drive path in South Burlington, which was bid in 2009. That path starts at the south end of Tilley Drive as a paved path, crosses a stream via a ten foot wide boardwalk and then ends on Community Drive as a paved path. The low bid for that project was substantially lower than the other four bids. Throwing out the low bid and averaging the other four bids for the boardwalk items the cost of that boardwalk was approximately \$77 per square foot.

Rocky Martin has expressed some concerns about long term maintenance of the boardwalk, and indicated that he would ask that a boardwalk not be required to be plowed in the winter for fear of damage to the decking. We have no experience in maintenance of this type of facility, and so cannot offer an opinion on the maintenance costs of either construction method.

Please feel free to contact me if you have any questions. If you have none, please feel free to pass this analysis on to the Selectboard and VTrans for their review. I will make myself available to present these options to the Selectboard at another meeting whenever that could be scheduled so that we can get this project back on track.

Sincerely,



Doug Henson, L.S., E.I.
Vice President / Project Manager