

**Vermont Department of Environmental Conservation**

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*Agency of Natural Resources*

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11/15/2022

Mitchel Cypes, Development Review Coordinator/Dennis Place, Development Review Board Chair  
Town Hall, 3rd Floor  
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Hinesburg, VT 05461  
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dplace@hinesburg.org

RE: Hinesburg Center II Application – Comments on Additional Hydraulic Information 10/4/2022 and discussions during 10/4/2022 and 11/1/2022 DRB Meetings

Dear Mitch & Dennis,

Thank you for providing the additional details from the consultant and the DRB meeting recordings from 10/4 and 11/1. Apologies for not having myself or a representative from the Rivers Program available for the 10/4 meeting when the floodplain concerns were discussed. I will plan on attending the meeting this evening if there are any follow up questions.

We appreciate the opportunity to review the additional modeling details provided by the applicant, though our concerns remain consistent with the previous letter dated 9/22/2022 in regards to floodplain impacts proposed by the project. We recommend that in order for the project to meet the No Undue Adverse Impact criteria and other criteria (Sections 6.2, 6.5.1) for the municipal review, the Town request that the applicant provide a hydraulic model that includes the site at full build out accounting for anticipated site conditions that demonstrates no more than 0.1' increase throughout the regulated floodplain under base flood conditions. The model should encompass any proposed new infrastructure, culverts, abutments, pedestrian bridge, stormwater treatment, fill areas, etc. to ensure that at full build out under the anticipated site conditions, new or existing development will not be adversely impacted by base flood flows.

The Hinesburg Center II – Additional Hydraulic Information dated October 4, 2022 submitted as supporting information for the 10/4 hearing states that at least one of the cross sections (1875) demonstrates a maximum of 0.22' rise in the base flood water surface elevation, and smaller increases are present in several cross sections upstream and downstream as a result of the fill associated with the proposed HCII development and crossing structure(s). These demonstrated increases are above the threshold that the Rivers Program would consider “no undue adverse impact” under the Town’s regulations and/or state jurisdiction, and also above the threshold typically applied in No Adverse Impact (NAI) Standards in other NFIP participating communities. NAI is generally defined as increases under 0.1' are considered de minimis because that is the scale at which BFEs are reported by FEMA. The Town does not specifically define “no undue adverse impact” in the zoning regulations so that is at the DRB’s

interpretation. For reference, there are resources on the overall concept and application of NAI Standard at the [Association of State Floodplain Managers \(ASFPM\) Resources Center](https://www.floods.org/resource-center/nai-no-adverse-impact-floodplain-management/).  
<https://www.floods.org/resource-center/nai-no-adverse-impact-floodplain-management/>

From an overall floodplain management perspective, we believe NAI to be especially important in this landscape mainly due to the existing development and public safety risks present in a Town setting. The 0.22' or 2.5-to-3-inch rise in flood heights would be added on top of the current, existing BFE (post-construction of HCI). The current, existing BFE is higher than the FEMA published BFE because of the floodplain impacts realized by the fill used to construct HCI. Additionally, updated (2014) hydrologic methodology used to estimate flood flows in the FIS suggest that Patrick Brook may experience *larger base flood discharges* than is modeled in the FEMA FIS/FIRMs. The current model is not based on these suggested larger discharges so may not accurately represent current flood conditions at the site. Further, my understanding is there is some uncertainty with how stormwater discharges will affect base flood water levels across the floodplain. Given the known high-water table and poorly draining soils this could adversely affect current flooding conditions at the base flood and even during smaller, increased flow events potentially impacting localized areas on a more frequent basis for longer periods of time. Based on the information above, the current hydraulic model showing 0.22' rise may represent a best-case flood scenario but does not represent a conservative approach or contain a built in safety factor for higher flows, future impacts of climate change, or other uncertainties associated with large development projects not able to be captured in the modeling.

Residents have voiced concerns during recent meetings that they are seeing patterns of flooding around the project area different than what the FEMA FIRM suggests and changing over time. These observations appear consistent with the available information reviewed which makes it all the more important to ensure that there is no undue adverse impact on the existing development or increased public risk and strain on emergency services/Town resources during a flood event.

The additional information provided by the applicant on 10/4 does not address our concerns outlined in the 9/22/2022 comments with regard to floodplain impacts. In the Rivers Program professional opinion, we recommend the Town request a hydraulic model for the project that demonstrates no more than 0.1' rise in base flood elevations and assurances that the existing development will not be adversely impacted. If the applicant is unable to provide a model demonstrating no adverse impact, the DRB may want to request that the project footprint be reconfigured to minimize impact and incorporate greater flood storage and conveyance. We do understand the Town's desire to accommodate development in this area and believe that there is a path forward with this project through careful planning w/ regard to water resources.

Any future applications will be reviewed in accordance with 24 V.S.A. § 4424 and Section 6.13.2 (1) of the Town of Hinesburg Zoning Regulations. Please let me know if you have any questions or would like to discuss further. I'm available by phone at (802) 490-6154 or email me at [kyle.medash@vermont.gov](mailto:kyle.medash@vermont.gov).

Sincerely,

Handwritten signature of Kyle Medash in black ink.

Kyle Medash  
Western Floodplain Manager  
VT DEC Rivers Program

cc (email): Alex Weinhagen, Director of Planning & Zoning  
Rebecca Pfeiffer, State NFIP Coordinator, VTDEC  
Rob Evans, Rivers Program Manager, VTDEC