

TO: Amy Sheldon, Landslide Natural Resource Planning

FROM: Roy Schiff and Brian Cote, Milone & MacBroom

RE: Response to Comments – Middlebury River Flood Mitigation Project

DATE: February 27, 2018

MMI #: 5032-02

The following is a response to comments received from the New Haven River Anglers on February 8, 2018 and February 12, 2018 about the Preliminary Design Plans for the Middlebury River Flood Mitigation Project. Comments received via email are copied here in italics for context. Responses follow the arrows (>>>).

Some people voiced concerns about sediment management and ongoing “rolling” of yellow machines in the river.

>>>The Town, design team, Vermont DEC, Vermont DFW, and Vermont Emergency Management that have been involved in this project on varying levels share this concern and have come up with a design to minimize both construction impacts and the frequency of repeat work.

What or whom determines just what and when a 1-3 year flood is actually taken place? Who determines removal (seems a bit nebulous).

>>>Specific thresholds triggering sediment removal have been established based on the modeling. These sediment removal limits are now in the plan set (See DE-1). Local reference elevations such as rebar rods or nails will be set for easy elevation determination in the future. The Town will monitor the elevations of the chute inlets.

It is my hope the bridge abutment “clean-up” will be done during optimal flows to help mitigate impacts to the biota community!! I trust the flood chutes and removal of any aggradation is done always according to the mentioned caveat to stay out of the mainstream as much as possible. (happy to see it was mentioned in the plan).

>>>The river cleanout is only proposed during low flows when the water is several feet below the excavation areas (See DE-1). The only impact will be the crossing that will be made of river gravel from the excavation area.

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>>>Perhaps some large wood jams could be created in off-main channel areas using wood cleaned out from the chute entrances? VT Fish and Wildlife knows about the project and thus could be a good place to start.

First of all, there should be a more clearly defined explanation for what triggers sediment removal going forward. What constitutes a major flood? What is the specific threshold for additional work in the river?

>>>Sheet DE-1 now contains the detailed threshold levels where sediment buildup begins to increase risk due to increased flood levels and increased flood velocity that can lead to more erosion of the Ossie Road berm. These levels will be evaluated by the town at local elevation reference points (driven rebar or nails).

What is the notification process when additional work is proposed? Who decides what triggers additional work?

>>>We do not know the notification process that the Town will use, but permits will still be required from both Vermont DEC and US Army Corps. Clearly the Town will notify landowners, if they have not already called the Town, to discuss using existing access points. DEC, DFW, and Army Corps will reapprove sediment management and likely compare current monitoring data to thresholds on the plans. We suspect that future maintenance may not be required at all areas at one time.

Second, some of the flood chutes are directly adjacent to eroding banks. For example, the channel across from Goodros that pushes up against the Anderson's property where they have already lost a significant amount of land is severely unstable. Shouldn't there be additional work done at the toe of that bank to provide some stability? What about other sections?

>>>We are aware of the tall unstable banks. These are not being addressed to control project costs and because other areas have been identified to be more of a priority in terms of risk reduction.

Third, there is no mention of habitat improvement and restoration that will be needed as a result of instream work. The operators can make an effort to minimize impacts, but we're still talking about running heavy machinery directly in the river and removing countless truckloads of cobble over time.

>>>River impacts should be low as excavators will only touch native channel bed while the crossing is being built from native river stone. Only then will trucks start to roll at high

frequency but that will be above the existing river bed. The impact area is the base of the haul road in the channel. All of the excavation will take place in dry flood chutes and the top of sediment bars. There will be no habitat recovery needed other than the careful removal of the last foot of the base of the haul road in the channel. This approach is different than the flood recovery following Tropical Storm Irene where the sediment removal took place directly in the wet channel and had severe impacts to instream habitat. That damaging work required extensive habitat recovery. The proposed work is different and will not require instream habitat restoration.

Lastly, this feels like a series of short-term fixes rather than a comprehensive longterm plan.

>>>The only true long-term plan in this area is to move the Village. That said, the sediment management is a longer term plan. This fix feels a little less satisfying than armoring and playing defense, but can be viewed as less impactful since we are not removing vegetation or impacting near bank and riparian habitat. Through geomorphic assessment and sediment transport modeling at several high risk project sites, the state has evolved its thinking about alluvial fan areas that are sediment rich and very hazardous that some level of sediment removal is justified. The July 1, 2017 flood illustrated that in one moderate flood the channel can be filled with sediment and wood and threaten property and infrastructure. The channel does not have access to its wide alluvial valley and thus will never be able to move such a large amount of bedload out of the system to Otter Creek. Managing sediment is a low-impact way to help the river move material since we are not yet willing to move the Village of East Middlebury.