

Stream Management Planning Meeting Minutes

Date: April 6, 2006

Place: Cornell Cooperative Extension Phoenicia Plaza Office

Re: Sediment and Flooding issues associated with Route 214 Main Street Bridge, Phoenicia, NY

Minutes prepared by Dan Davis/Mark Vian

Attendance:	
Town of Shandaken:	Bob Cross (Supervisor), Keith Johnson (Highway Superintendent), Harry Jameson (Business owner)
NYSDOT:	Tom Story, Keith Savoury
GCSWCD:	Rene Van Schaack and Joel Dubois (Stony Clove SMP)
CCE-UC:	Jeremy Magliaro (Esopus Creek SMP)
US Army Corp:	Craig Fischenich (Esopus Creek SMP)
NYCDEP:	Mark Vian (Stony Clove SMP) and Dan Davis (Esopus Creek SMP)

On April 6, 2006 members of the Esopus Creek and Stony Clove Stream Management planning teams and NYSDOT met with Town of Shandaken representatives to discuss strategies to (1) manage the aggrading stream bed below Route 214 Main Street Bridge in Phoenicia and (2) address the related problem of flooding in Phoenicia. The following is a brief description of the meeting discussion and an outline of the agreed upon strategy.

Bob Cross has a permit from the US Army Corp NY District to remove ~1,670 cy of sediment beneath the Route 214 bridge in Phoenicia. Historically this reach had been maintained every 5 years or so by dredging up until ~13 years ago. The last time it was cleaned out there was sufficient clearance for an excavator to pass beneath the bridge. The current clearance is ~4-5 ft. There are concerns that, as the bed aggrades in this reach, Phoenicia experiences more frequent flooding.

The aggradation problem is the result of several factors: (1) Phoenicia is located on an alluvial fan at the mouth of a stream that delivers a lot of sediment – the Stony Clove creek has avulsed back and forth across the fan since deglaciation; (2) this fan is created because transport capacity of the Esopus Creek is, at times, less than that of Stony Clove and at other times backwater from Esopus Creek causes the Stony Clove to drop its bedload at the confluence (this occurs when the timing of flood flows raises the stage of the mainstem earlier than the tributary); (3) it may be that over time (according to BC since the NYS Route 28 bridge was installed) the Esopus Creek bed has aggraded and this further exacerbates the backwatering effect (4) the Stony Clove channel at the bridge may have been overwidened during previous dredging operations, and as a result, lost some of its sediment transport capacity. The flooding problem is theorized to be largely a function of the aggradation problem, but this needs to be confirmed.

Shandaken intends to remove sediment from a reach that extends somewhat above and below the bridge this summer. All recognize that since this does not address the source of the problem the next flood or two will largely fill the channel back to the current

condition. Tom Story mentioned an example of a similar problem on Route 32A where a 15 ft deep excavation was filled in after one stormwater runoff event.

The Esopus Creek and Stony Clove SMP teams recommended a combined effort to assess and address the aggradation and flooding situation by (1) understanding the sediment supply situation upstream; (2) modeling existing conditions and several management alternatives using detailed topographic survey and sediment characterization. For example, one management option that can be modeled is to narrow the channel and see if that improves transport efficiency.

To some extent the flooding issue may be addressed by dealing with the sediment transport problem. However, there are other actions to consider. Because raising the elevation of Phoenicia is not a viable option, some form of berming or bypass channels may need to be considered. When (or if) Phoenicia is sewered is an optimum time to use excavated material to construct levees/berms with "floodplain outlets" (allowing water to get back off the flooded area). Also, the proposed Riverwalk project may be integrated with this berming.

Rene VanSchaack suggested considering an alternative to berming by flood proofing specific locations known to be damaged by floods. This may be a more efficient use of money to protect the hamlet and not impose a management option on the stream that could possibly result in additional aggradation. If berms are chosen as an option then careful designing is required to not have an adverse impact on the stream process.

Proposed Strategy:

The Esopus Creek and Stony Clove SMP teams will work with the town of Shandaken to get sufficient topographic data to construct HEC models for backwater and sediment transport analyses of alternative management scenarios.

Specifically, a detailed total station topographic survey is required for (1) the Stony Clove channel from just upstream of the 214 bridge down to the confluence and (2) the Esopus Creek from the Route 28 bridge to the Bridge Street bridge. Cross section surveys should extend upstream on the Stony Clove to the bedrock control and ~3,000 downstream on Esopus Creek. Existing survey data from Delaware Engineering (1'-2' CI) can be used as a base map. Charlie Frasier (Town Planning Board) can provide necessary survey control data. Bob Cross has volunteered to provide professional support and labor on obtaining the in-stream topographic survey data. DEP and GCSWCD can assist in this effort. Craig Fischenich will take the lead on the HEC modeling work. DOT will provide historic cross section data, boring data (if available) and any past HEC analyses (if available).

The Town will also seek stormwater retrofit funds from CWC to assist in considering the integrated berm/riverwalk, stormwater management option.

With respect to the current permitted activity, the town intends to excavate sediment this season and is considering a longer, narrower option than the original plan, as this is more likely to facilitate movement of existing deposits and may forestall deposition better than the current plan.

We did not discuss timing of this effort. I propose that we seek to have the survey work done as soon as possible. It would be best if the survey work could be done before the excavation work in order to get a good baseline condition for the modeling. The two SMP teams and Bob Cross should get together by April 28th to firm up a schedule.