

## **CITY OF MADISON SPRING HARBOR OUTFALL REPAIR AND DREDGE PROJECTS – FREQUENTLY ASKED QUESTIONS**

*How will watershed flood solutions developed during the Spring Harbor Watershed Study impact the Spring Harbor Outfall?*

1. How will the flood solutions impact the velocity of water coming out of the Spring Harbor outfall?

The City of Madison Engineering group (the City) is currently investigating the change in water velocities at the Spring Harbor outfall structure with the proposed flood solutions. The analysis will focus on the potential changes in velocity at the discharge during different design storm events and the conditions under which those changes occur. If this analysis shows significant changes to velocity during common rainfall conditions as a result of our proposed flood solutions, the City can develop design solutions to address additional scour.

2. Will there be more sediment at the harbor?

There are many varying factors that determine the amount of sediment that deposits at the outfall of Spring Harbor.

- a. Small storm events – most of the sediment and sand that accumulates on roadways and parking lots is transported to local water bodies in small and frequent storm events. The proposed flood solution projects would not materially affect how storms of this size (generally 100% chance storm event and smaller) flow through our system. Therefore, the City would expect no significant change in either the amount of sediment transported or rate at which it is transported.
- b. Large storm events – large storm events can dislodge sediment that makes up the banks or has accumulated in the greenways (stormwater channels) themselves, especially in heavily wooded greenways. This is a result of erosive forces generated during very high rates of flow. These can be large washouts (Pheasant Branch Creek in 2018) or smaller more isolated washouts (10 cubic yards/one dump truck load) experienced in isolated places along the greenway.

In an urban area, the washouts of greenways are due to the greenway experiencing flows/velocities/shear stresses that the greenway was not designed to accommodate. In the case of the greenways feeding Spring Harbor the proposed flood solutions take this into consideration and provide design solutions to improve existing greenways and ensure that they are designed to accommodate these larger storm events.