

County Response to Field Report-January 15, 2021:

County staff appreciates this opportunity to offer the information and clarifications below after review of Dr. Field's report and assessment of the Donaldson Run Tributary B project.

An important overarching consideration is that the County has a long-term stewardship and accountability role for this project. Tributary B is a heavily disturbed and impacted stream, with critical infrastructure at risk. The stress on the system from urbanization is so severe that risk mitigation, reliability, and resiliency are the necessary goals of the project.

We rely on approaches and techniques for heavily damaged urban streams accepted in the region and beyond by both design professionals and the regulatory community. The use of wood, as proposed by Dr. Field, in a high energy and confined stream valley like Tributary B, with critical public infrastructure threatened, carries substantial risk and uncertainty. It is an untested approach in this setting.

The following summarizes the main specific comments on Dr. Field's report:

- There is a critical need to protect the existing 30-inch watermain. Installation of stone structures, raising the stream elevation and shifting the stream channel will protect this infrastructure while still providing for a project that is resilient over the long-term. Dr. Field's assessment does not provide an alternative that would meet the County's requirements for long-term risk reduction and stability in this section of stream. A 2020 stream survey documented the substantial bank erosion that has occurred in the valley over the past decade, especially in the portions of the stream where the water main is closest and most at risk.*
- The project will not require bringing in offsite soil material. To make way for the rock structures and streambed cobble material that will provide stability and resiliency, the engineer's estimate is that some soil will be removed from the valley.*
- The project strictly limits disturbance of the steep valley slopes.*
- The hydraulic modeling of the design shows reduced stream energy and flow velocities in the re-designed channel that will provide greater resiliency to flooding events. This outcome is a main design objective.*
- In the lower section below the pedestrian bridge, the last two meander bends are unstable. The 2020 survey documented further bank erosion in these bends. If left unrestored, they are expected to erode more rapidly once the upstream banks are stable and eroded sediment is no longer accumulating in these bends. Multiple mature trees have been lost in this area from erosion, and the current alignment and connection with Tributary A are unsustainable. The County's approach is to restore stability to this section for the long-term, rather than risk failure and have to return in the future and cause further disturbance for repairs.*

- *Historical photos and plans for the abandoned Yorktown Boulevard extension show the Tributary B alignment in the 1950s with a meandering pattern.*

Approaches to urban stream resiliency continue to evolve. Although Tributary B is proceeding to construction, County staff are interested in hearing more from Dr. Field and other interested stakeholders, alongside the experts we work with in the region, to discuss the development of new techniques and how they might apply to future stream projects.

Residents are encouraged to check the project website for more information and options to connect with County staff.

<https://projects.arlingtonva.us/projects/donaldson-run-stream-restoration-tributary-b/>

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