



Stream Restoration Project on Unnamed Tributary of Accotink Creek

Keith Ave. east to Chain Bridge Rd. bridge

June 28, 2016



Stream Restoration

Stream restoration is the re-establishment of the general structure, function and self-sustaining behavior of a stream system.

Stream Restoration includes a broad range of measures including:

- Removal of the watershed disturbances that are causing the stream to become unstable.
- Installation of structures and vegetation to protect streambanks and provide habitat
- Reshaping or replacement of unstable stream reaches into functional streams

Benefits of Stream Restoration

- Prevent or minimize flooding
- Protect and preserve natural floodplains
- Improve and maintain ecological functions
- Create and safeguard a healthy habitat for aquatic plants and animals
- Channel the flow to prevent erosion of personal property
- Improve groundwater recharge
- Aesthetic improvements
- Improve water quality by reducing sediment, nitrogen, phosphorus and other pollutant loads
 - City will receive removal credits towards the allocated Total Maximum Daily Loads (TMDL) assigned to the City streams and creeks

Project Background

- Location: Keith Ave east to the Chain Bridge Rd. bridge. The neighborhoods impacted are Taba Cove, Rustfield and residents along Springmann Dr. and Center St.
- The 2008 Accotink Creek Stream Stability Assessment and Prioritization Plan listed this stretch under the Bank Erosion Hazard Index (BEHI) as Extreme.
- City was awarded a \$1.3 million matching Stormwater Local Assistance Fund (SLAF) Grant in 2014 from the Department of Environmental Quality (DEQ) for this project.

Existing Conditions of the Stream



Severe eroding has caused property line barriers to begin to collapse and fall into the stream. Continuous unstable erosion will lead to loss of private property.

Existing Conditions of the Stream



Tree roots are exposed where the stream is eroding, making trees and associated stream banks unstable and dangerous.

Conceptual Cross Sections of the Stream



Existing Cross Section of Stream



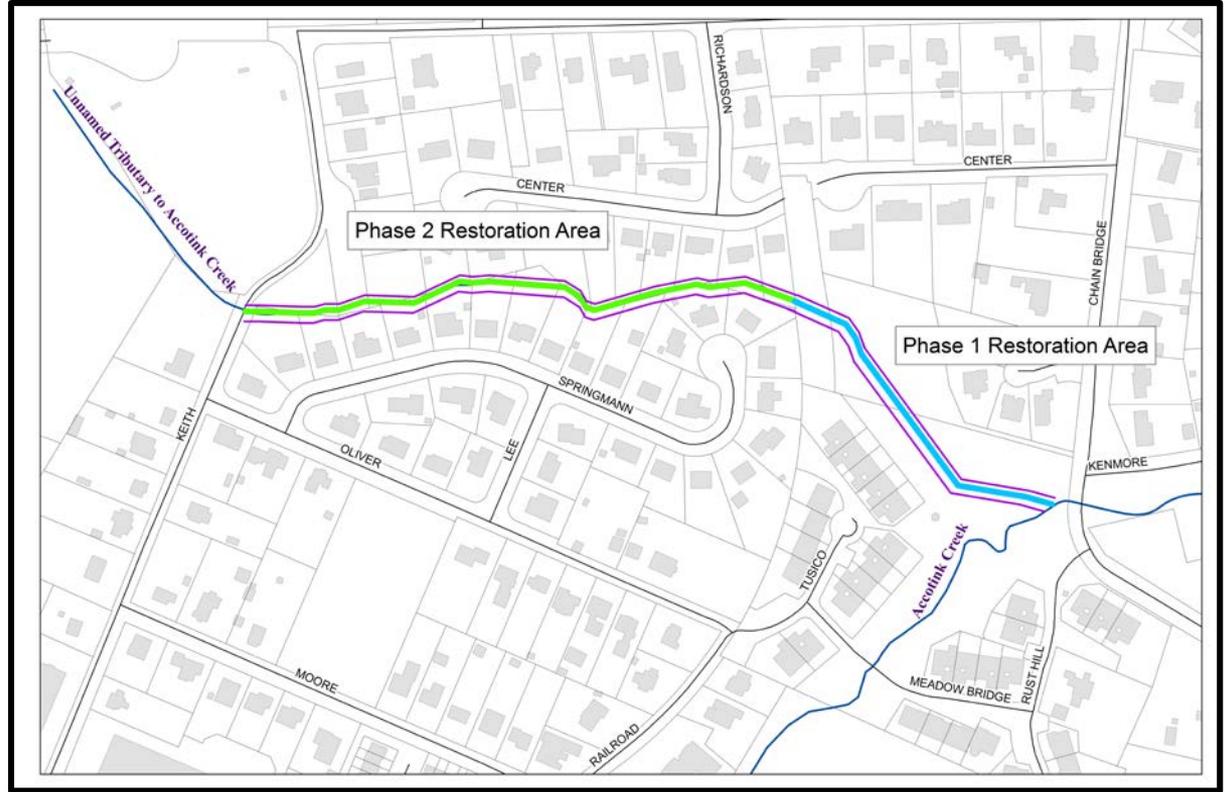
Proposed Cross Section of Stream

Project Impacts

- In-stream construction
- Construction equipment entering and exiting the stream from private property
- Removal of existing vegetation and trees in project area
 - Replanting of trees and native vegetation included in project scope
- May need temporary easements

Phase I Project Scope

Approximately 600 linear feet of full restoration of the downstream section from the Chain Bridge Rd. bridge west along the Rustfield and Taba Cove neighborhood property lines (Blue)



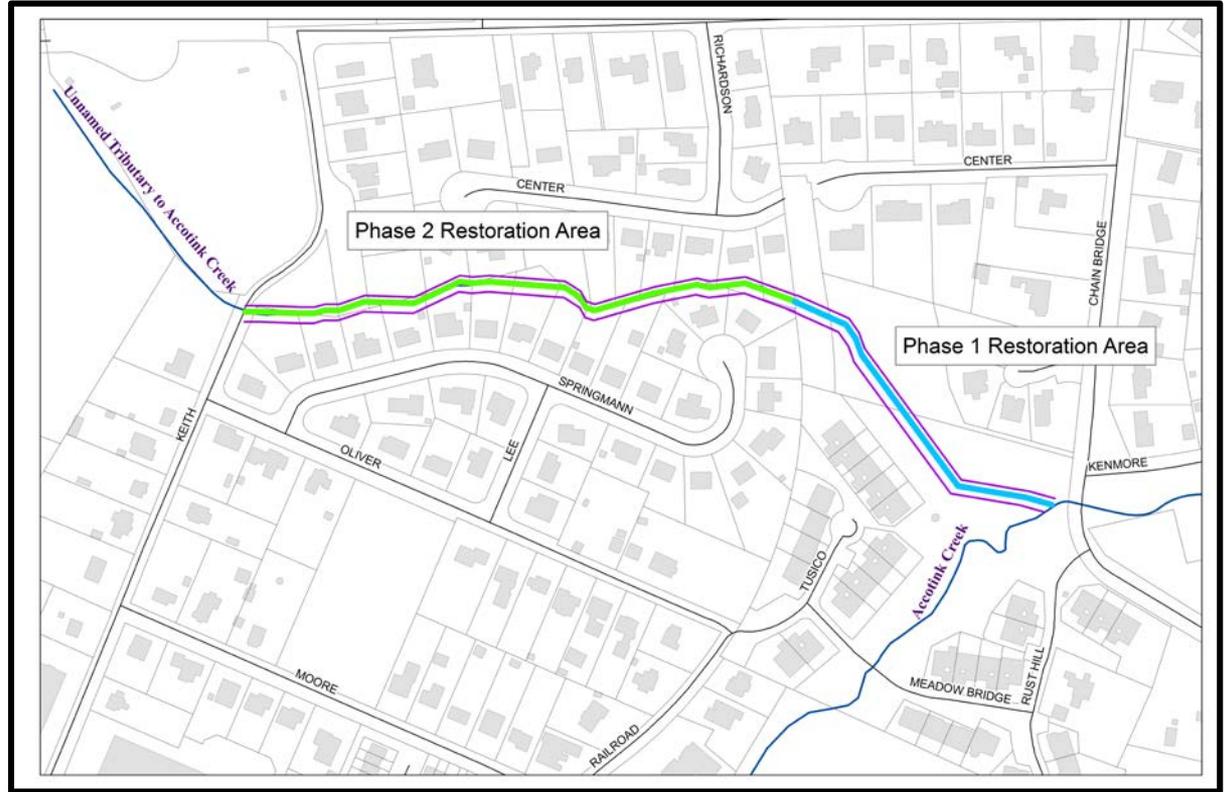
Impacts of Phase I

- Approx. 600 linear ft
- Approx. 100 ft wide project area
- Approx. 60,000 SF of private property
- Close proximity of 9 homes
- 136 trees located in project limits
- 13 dead trees



Phase II Project Scope

Approximately 1,300 linear feet of full restoration upstream from Phase I, west behind the residential homes located along Springmann Dr. and Center St., to Keith Ave. (Green)



Impacts of Phase II

- Approx. 1,300 linear ft
- Approx. 40 ft wide project area
- Approx. 52,000 SF of private property
- Close proximity of 26 homes
- Tree Survey in progress



Project Cost

- Total estimated cost of \$1.3 million
 - Includes engineering and construction costs
 - Funding Breakdown
 - \$650,000 SLAF grant
 - \$650,000 from Stormwater Fund
 - FY 16 = \$200,000
 - FY 17 = \$125,000
 - FY 18 = \$325,000 **proposed in FY18**
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- Total = \$650,000

Next Steps and Preliminary Schedule

- Finish Tree Survey- August 2016
- Prepare Preliminary Design Plans- Fall 2016
- Public Outreach meeting- Winter 2016
- Finalize Design Plans- Spring 2017
- Award Construction Contract- Summer 2017

QUESTIONS?
