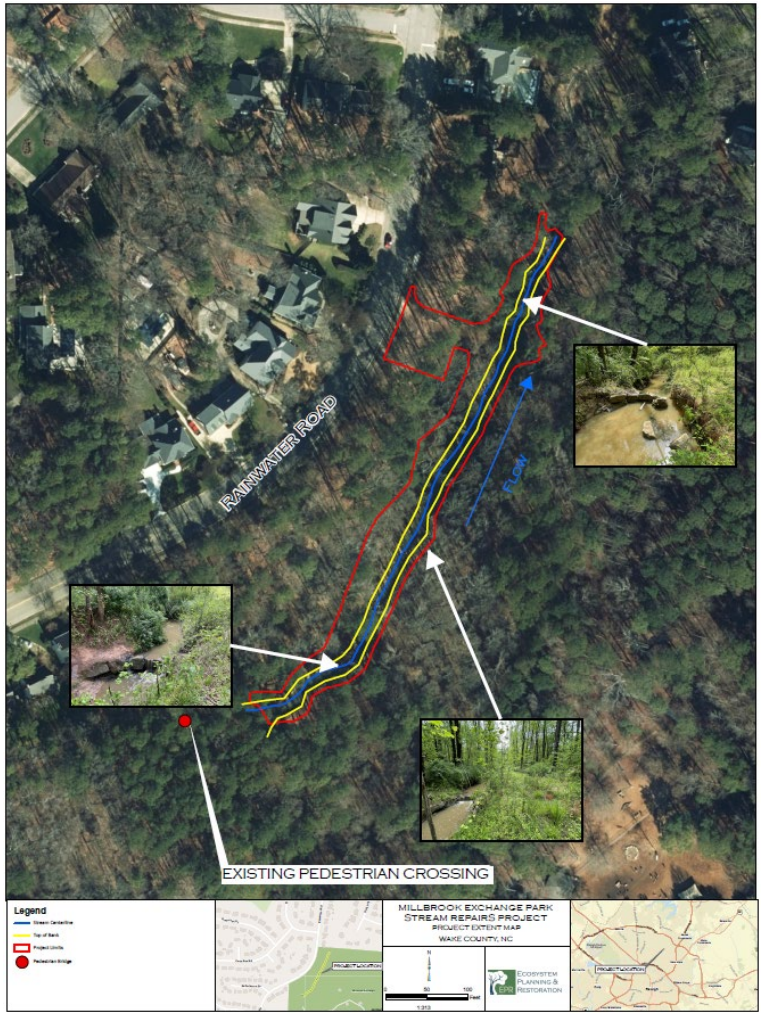
Millbrook Exchange Park Stream Repairs Project

May 11, 2023 Public Meeting

EPR Ecosystem Planning & Restoration

Project Location



Project History

Background: In 2019, an innovative technique using in-stream boulder structures was implemented to reduce stream erosion at Millbrook Exchange Park and prevent pollution from flowing into Perry Creek. After the project was completed, heavy rainfall and increased streamflow damaged the structures and stream banks.

Post-construction in-stream structure 2019

Damaged in-stream structure 2023

Project Goals

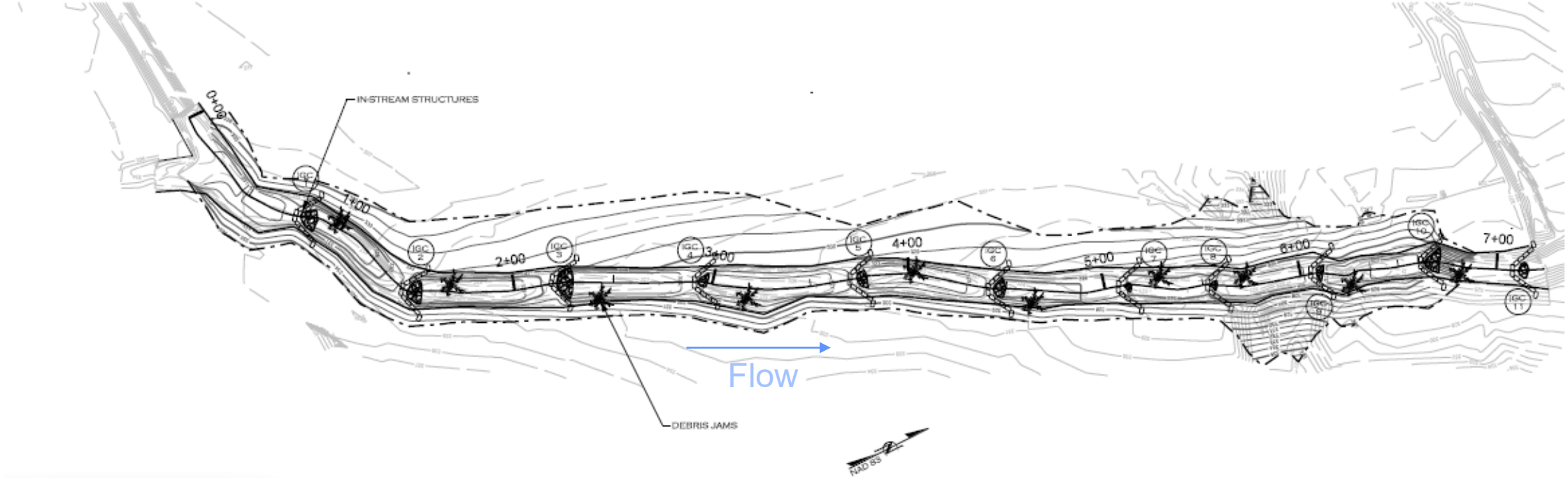
(1) Repair damage caused to the structures which will help reduce the amount of sediment downstream.
(2) Transform the energy and flow of the stream.
(3) Help prevent erosion along the streambank.



Damaged in-stream structures 2021

Stream Repair Plan

The Millbrook Exchange Park Stream Repair Project will include repairing existing in-stream structures and grading a floodplain along the left bank of the stream. Debris jams will be installed to make use of any trees being removed as part of the grading process.



Anticipated Schedule

Milestone	Estimated Completion
Final Design & Permitting	May – June 2023
Construction Bidding and Contractor Selection	July - August 2023
Construction	September - December 2023
1 – Year Warranty Period	Throughout 2024

Project Repair Costs

Phase	Estimated Cost
Study, Design, Permitting	$115,000.00
Construction Estimate	$225,000.00
Total Cost	**$340,000.00**

Tree Maturity

Trees planted at the site will require time to reach maturity, anywhere from 10 years for fast growing species, such as the River Birch and Sycamore, or up to 30 years for slow growing hardwoods such as Oaks and Hickories. A variety of species and sizes will be specified for planting.

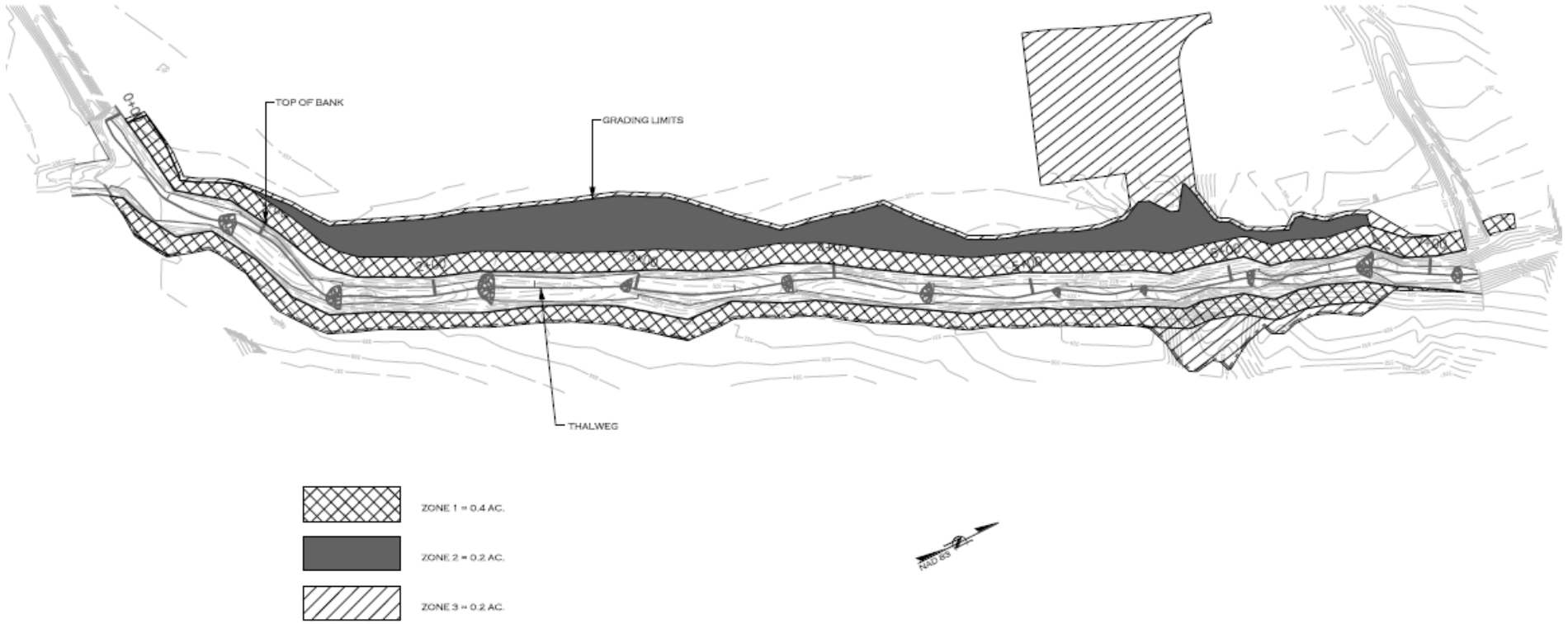
Tree maturity post-construction planting in 2019

Tree maturity after four years in 2023

Tree Planting Areas

Vegetation will be planted in three different zones:

- Zone 1 (Streambanks) : Seedlings and livestakes for immediate bank stabilization.
- Zone 2 (Floodplain Bench) : Riparian seed mix and trees for water quality benefits.
- Zone 3 (Upland area) : Upland area seed mix and trees for wildlife habitat.



Riparian Area Tree Options

Red Maple

Swamp Chestnut Oak

Sycamore

River Birch

Willow Oak

American Elm

Persimmon

Swamp White Oak

Upland Area Tree Options

Bitternut Hickory

Pignut Hickory

Mockernut Hickory

Flowering Dogwood

American Holly

Tulip Poplar

Upland Area Tree Options – cont.

Southern Red Oak

Chestnut Oak

Black Gum

Loblolly Pine

White Oak

Thank you for Attending

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For more information on this project, go to:
https://raleighnc.gov/projects/millbrook-exchange-park-stream-project

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