Rivanna River Restoration at Riverview Park Webinar

Wednesday, August 27, 2025
6:00 PM - 7:30 PM

Rivanna Conservation Alliance
Ecosystem Services
Wolf Josey Landscape Architects
City of Charlottesville

Agenda

6:00 PM - 6:10 PM

Poll, welcome, and introductions

6:10 PM - 6:55 PM

Presentations

- **Lisa Wittenborn**, Rivanna Conservation Alliance - *Project Background and Goals*
- **Dan Frisbee**, City of Charlottesville - *City Water Resources Stewardship*
- **Kip Mumaw**, Ecosystem Services - *River and Outfall Restoration*
- **Mary Wolf**, Wolf Josey Landscape Architects - *Landscape Design*
- **Chris Gensic**, City of Charlottesville Parks and Recreation - *Park Planning and Improvement*

6:55 PM - 7:25 PM

Q&A

7:25 PM - 7:30 PM

Conclusion

Poll Results

Project Background and Goals

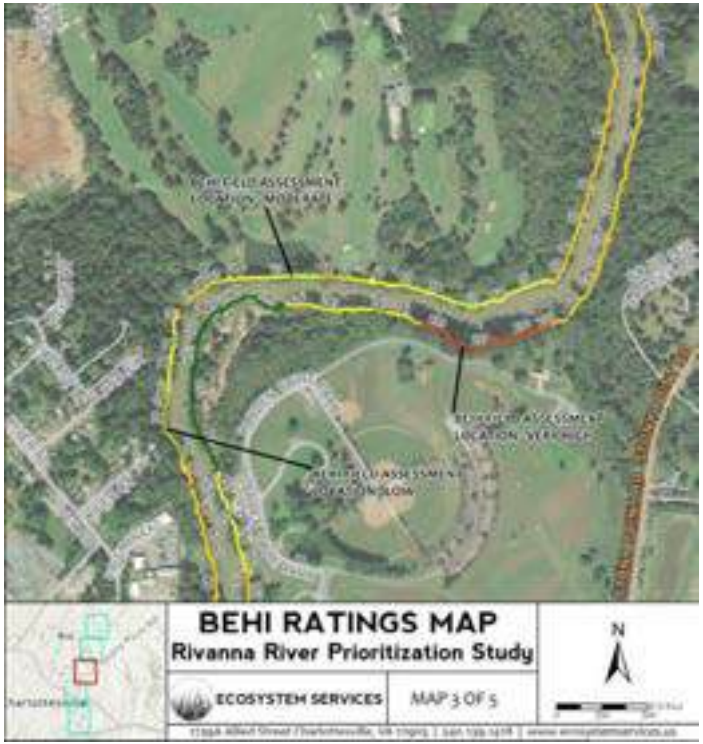
Lisa Wittenborn, Ph.D.
Executive Director

RIVANNA
CONSERVATION ALLIANCE

Project Location: Riverview Park in Charlottesville, VA

Rivanna Prioritization Study - 2019-2020

This area near Darden Towe Park required emergency repairs with riprap when erosion exposed utility lines in 2019



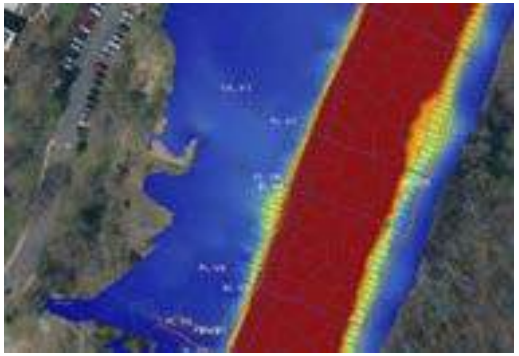
Riverview Park Selected for Potential Restoration

Project will generate significant environmental and community benefits:

- Protect the land, trees, and trails from erosion
- Reduce water pollution
- Improve opportunities for boating, wading, and observing wildlife
- Enhance habitat for birds, fish, and other wildlife
- Protect public safety and existing infrastructure

Designing the Riverview Restoration Project - 2021-2023

- Conceptual design supported by a second National Fish and Wildlife Foundation (NFWF) planning grant
- Ecosystem Services evaluated technical feasibility
- RCA engaged community to learn if a project was desired and what it should look like
- Wolf Josey pulled design concept together

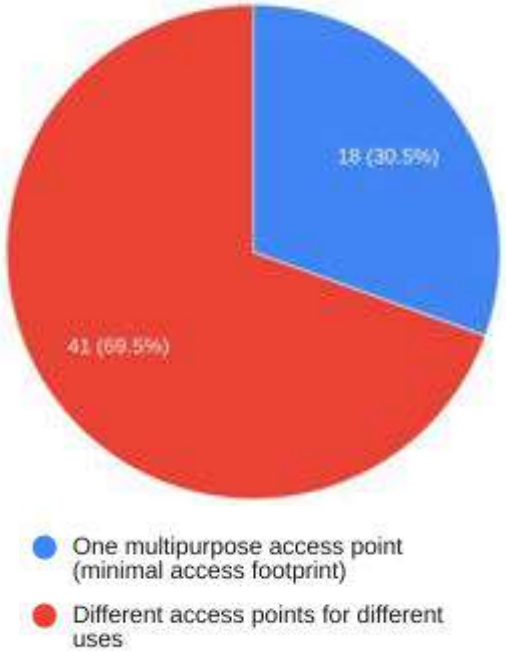


What We Learned from the Community

Collected input from >250 people: public meetings, online forms, paper forms in Park, and one-on-one conversations

- **Strong support for restoration**
- **Most important park features:** trails, safe river access, natural landscape, clean/healthy river
- **Desired improvements:** reduce erosion/stabilize banks, remove invasives and plant natives, improve river access, improve trash management, provide more education/public awareness
- **Top concerns:** tree loss, impervious surfaces near banks, invasive plant management, longevity

Example Question:
For river recreational access, which do you prefer?



Rivanna Restoration at Riverview Park

Conceptual Design

Project Funding

Project currently estimated at ~$1.4 million including design, permitting, and construction. Funding from:

- National Fish and Wildlife Foundation, with support from the U.S. Environmental Protection Agency and the Chesapeake Bay Program.
- City of Charlottesville's Stormwater Utility Fund, Office of Sustainability, and Department of Parks & Rec
- Virginia Stormwater Local Assistance Fund
- Anne & Gene Worrell Foundation
- Rivanna Water & Sewer Authority, Rivanna Trails Foundation, and RCA

City Water Resources Stewardship

Dan Frisbee
Water Resources Specialist

Charlottesville's Water Quality Drivers

- City developed largely w/out stormwater management
- Major impacts to our urban stream network
- Impaired waters => local and Chesapeake Bay TMDLs
- Municipal Separate Storm Sewer System (MS4) Phase II community
- Formal commitments to sustainability & water resources protection

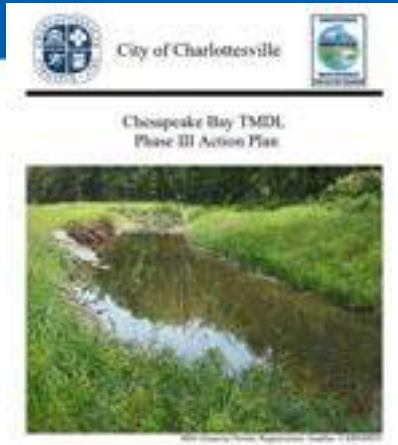
Water Resources Protection Program (WRPP)

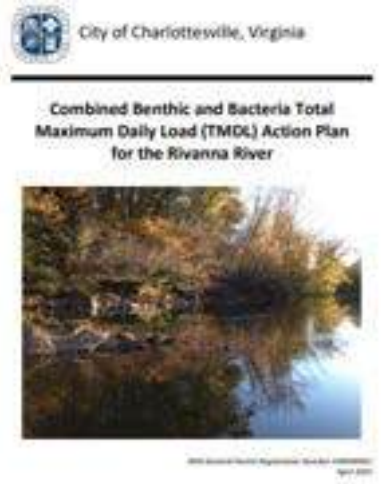
Established in 2014 and funded by the Stormwater Utility Fee

Purpose and Goals:

- Comply with federal and state stormwater regulations
- Rehabilitate the City's aging stormwater drainage system
- Address drainage and flooding problems
- Pursue environmental stewardship and water quality improvement projects

Compliance…





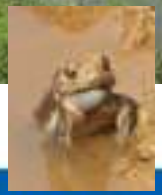
- MS4 Permit requires the City to:
  - Develop and implement a Stormwater Management Program
  - TMDL Action Plans for the Rivanna and several of its tributaries, as well as for Chesapeake Bay
    - Reductions of sediment, phosphorus, nitrogen, and bacteria

…by way of Stewardship

Green Infrastructure & Ecosystem Restoration Projects

City Hall Vegetated Roof

Azalea Park Wetlands



Schenks Branch Tributary Restoration

Project Pollutant Removal - MS4 Impact

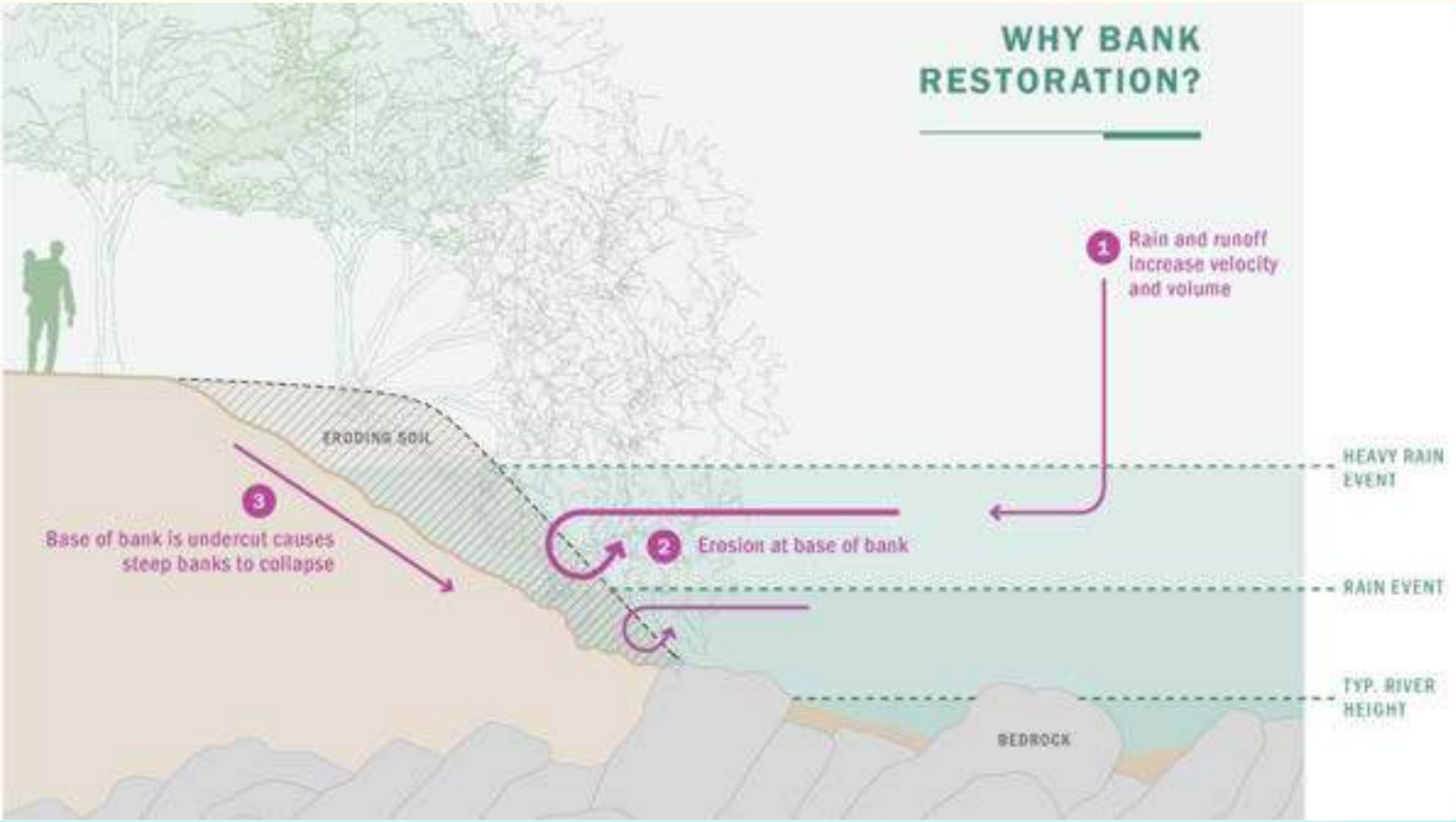
Chesapeake Bay and Rivanna River TMDLs Pollutants of Concern Reduction Requirements	
Pollutant of Concern	**Reduction Requirement (lbs/year)**
Nitrogen	3,010
Phosphorus	694
Sediment	404,055.00

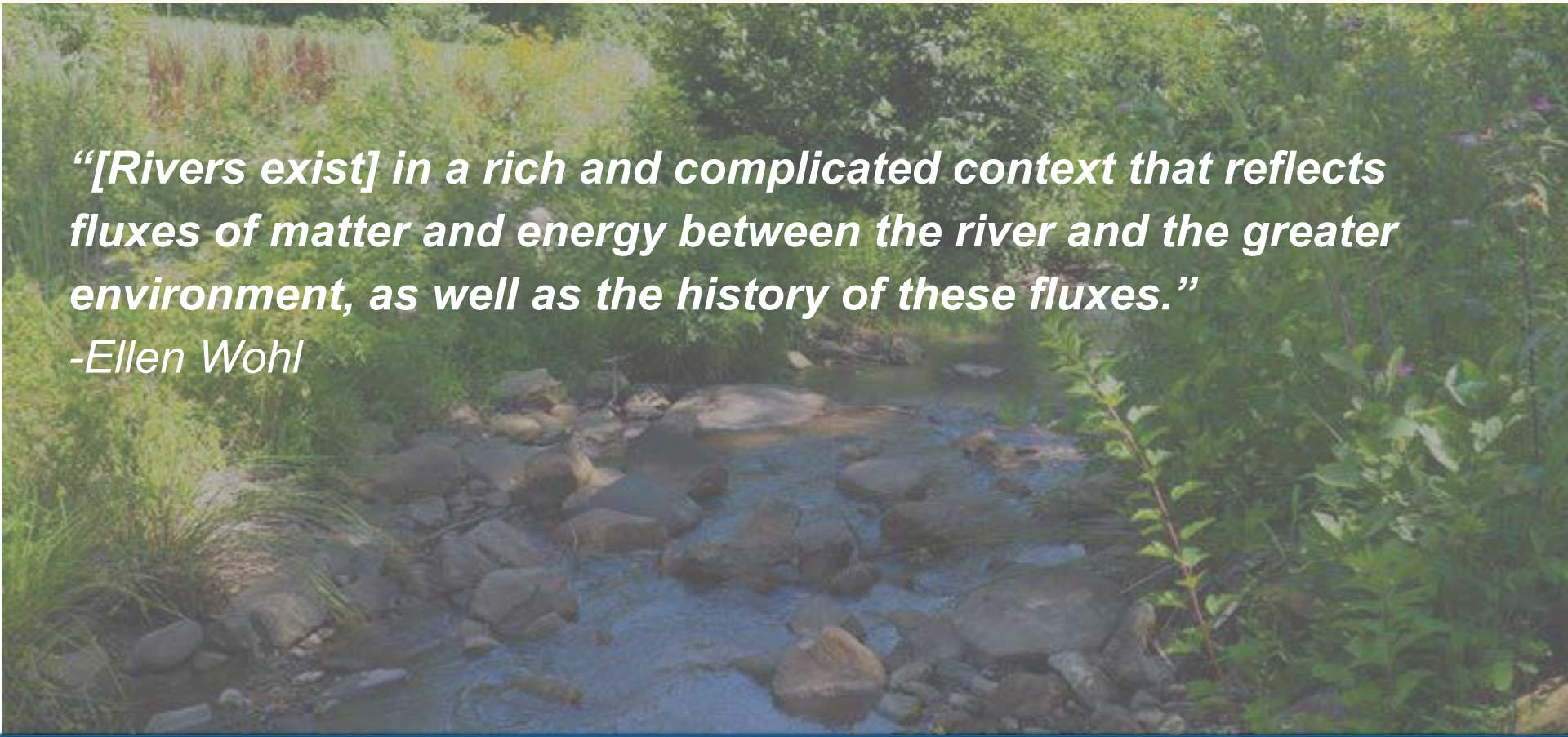
Project	N Removal Estimate (lbs/year)	P Removal Estimate (lbs/year)	TSS Removal Estimate (lbs/year)
Riverview Park	161	145	171,930
% of POC Reduction	5%	21%	43%

River & Outfall Restoration

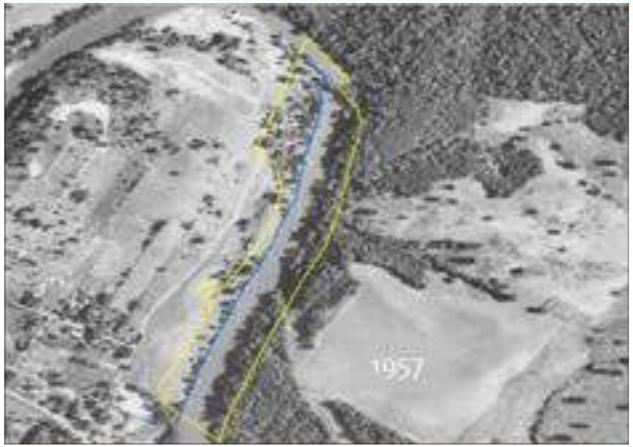
Kip Mumaw, PE
Principal Engineer

ECOSYSTEM SERVICES


WHY BANK RESTORATION?
1 Rain and runoff increase velocity and volume
ERODING SOIL
HEAVY RAIN EVENT
3 Base of bank is undercut causes steep banks to collapse
2 Erosion at base of bank
RAIN EVENT
TYP. RIVER HEIGHT
BEDROCK


“[Rivers exist] in a rich and complicated context that reflects fluxes of matter and energy between the river and the greater environment, as well as the history of these fluxes.”
-Ellen Wohl


1937


1957

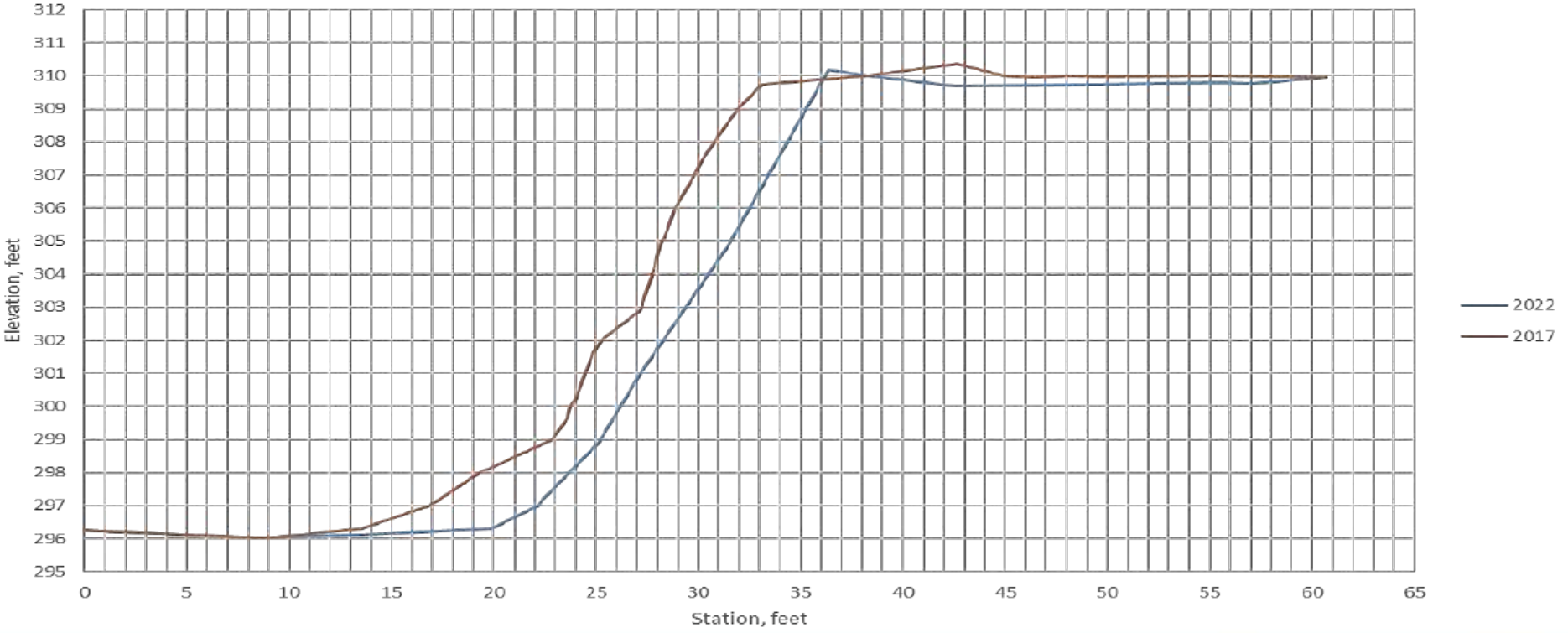

1966


1974

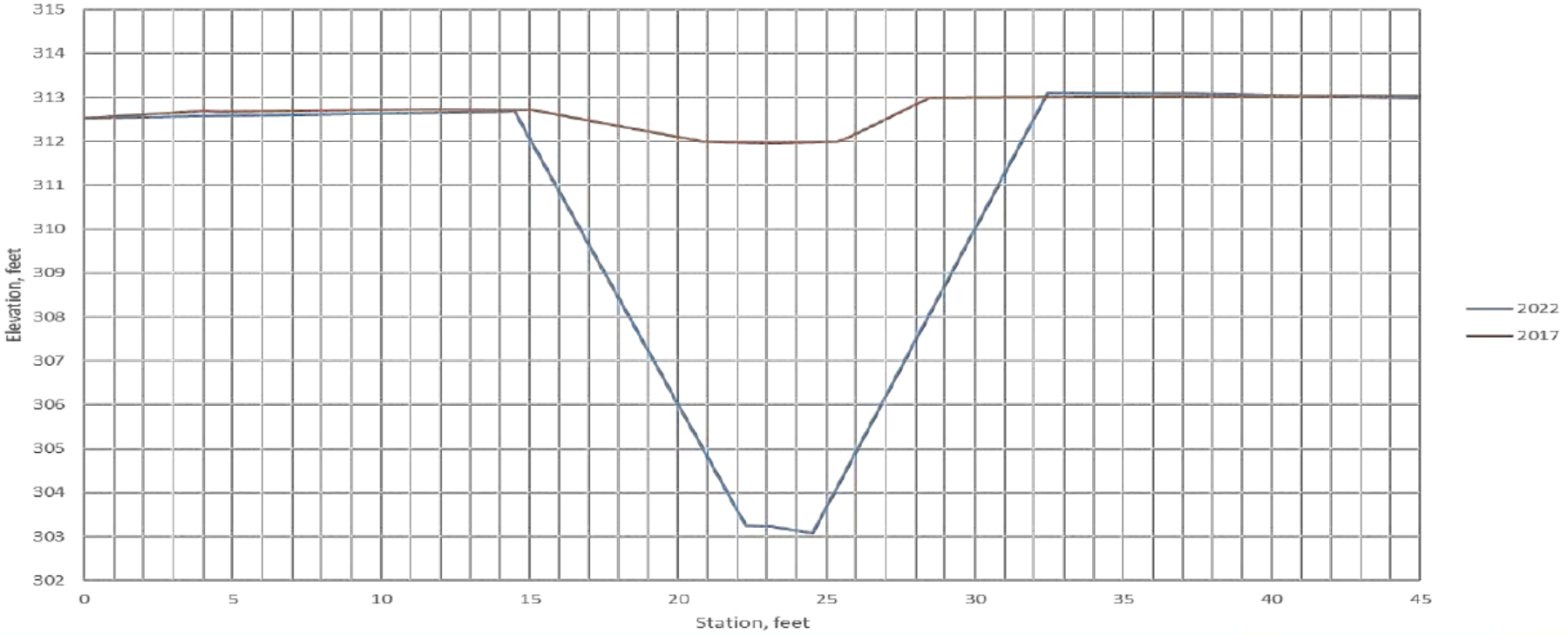

1980


1990

Riverbank Erosion (cross section view)



Outfall Erosion (cross section view)



Tree removal & planting

Trees removed: 89 trees removed

Native Planting:

- 254 trees
- 520 shrubs
- 12,859 herbaceous plugs

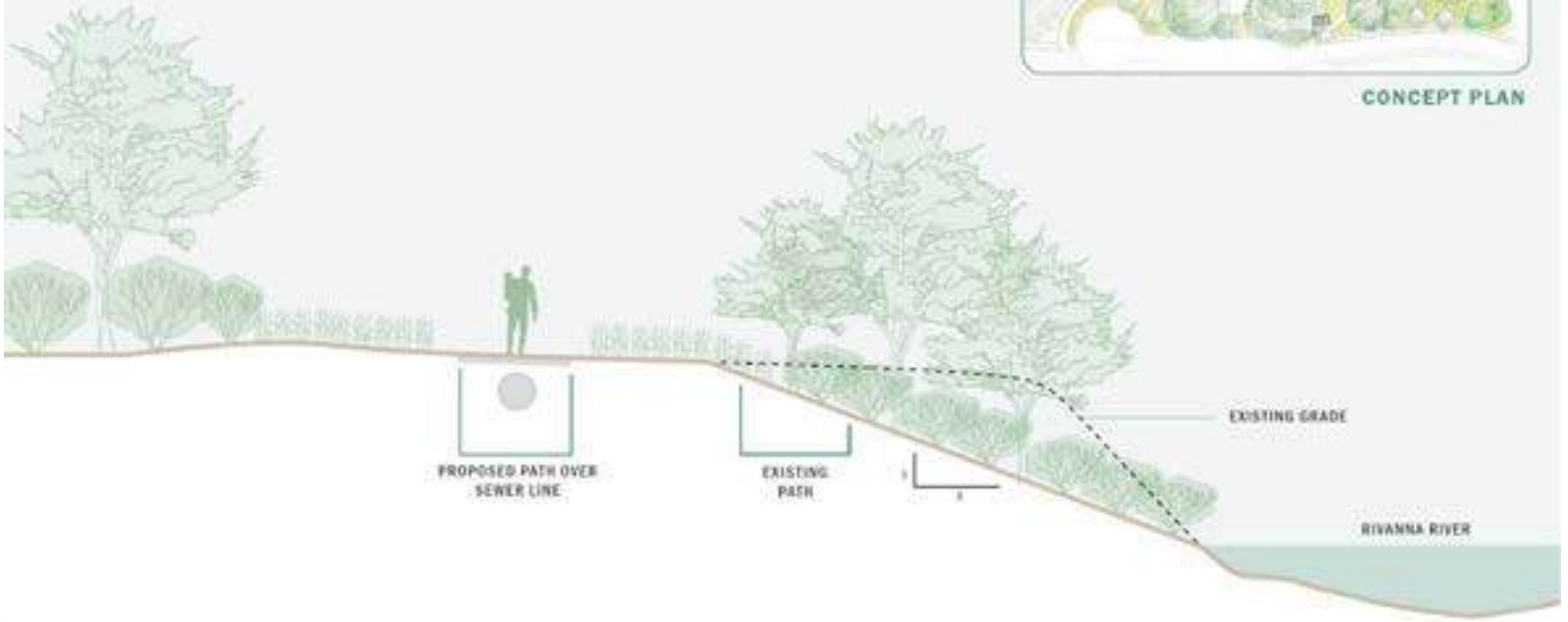
Rivanna River Restoration at Riverview Park

RIVANNA CONSERVATION ALLIANCE · ECOSYSTEM SERVICES · WOLF JOSEY landscape architects

RESTORATION SECTION

RIVANNA TRAIL AT RIVERVIEW PARK

CONCEPT PLAN



South Fork Shenandoah River

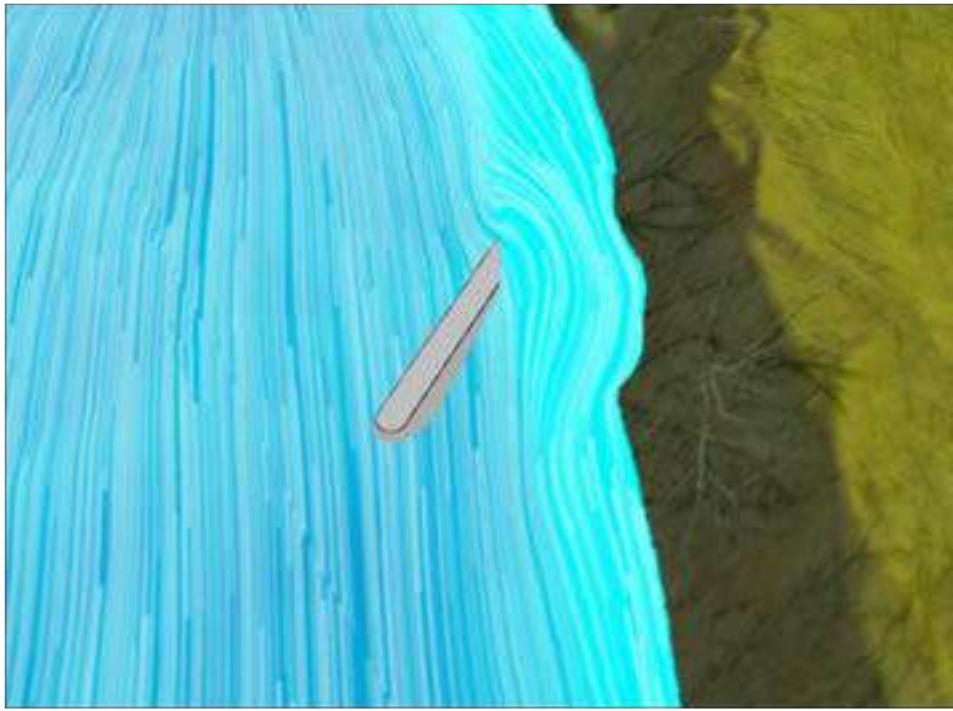
Linville Creek


PLAYGROUND
RIVANNA TRAIL
ARBORETUM ALLEE
WETLAND
BANK RESTORATION
BOULDER SEATING
OVERLOOK
BIKE TRAIL
ROCK WEIR
FLOODPLAIN BENCH
OUTFALL RESTORATION
Instream Structures
RIVANNA RIVER

South Fork Shenandoah River

Elk Shoals

Riverview Park

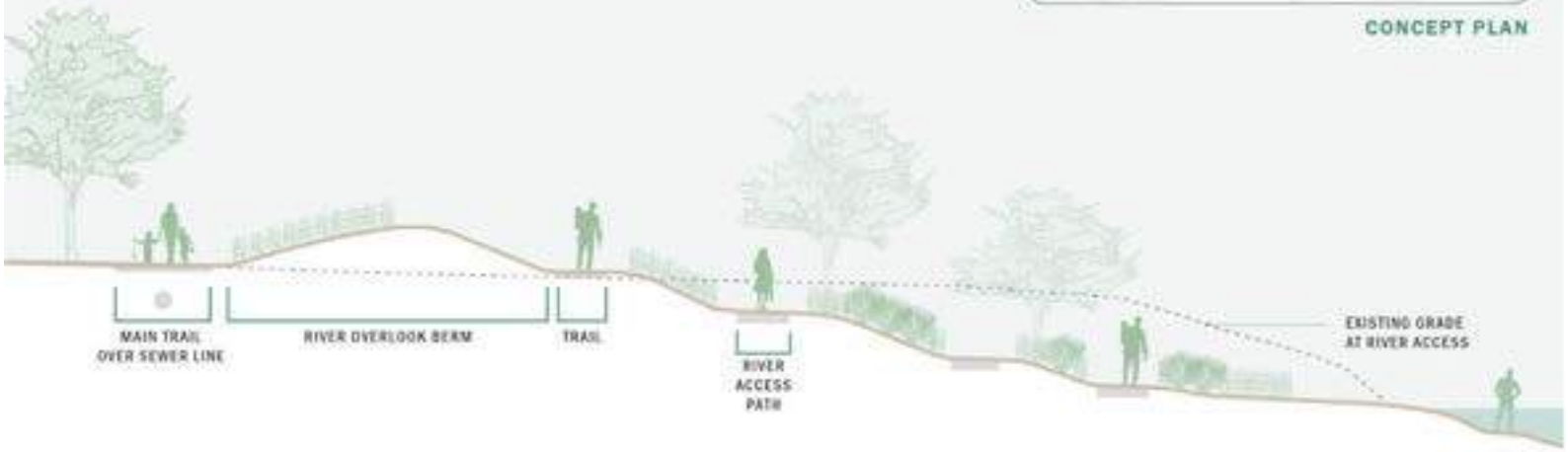



PLAYGROUND
RIVANNA TRAIL
ARBORETUM ALLEE
WETLAND
BANK RESTORATION
BOULDER SEATING
OVERLOOK
DARK TRAIL
ROCK VANE
FLOODPLAIN BENCH
OUTFALL RESTORATION
RIVANNA RIVER
Floodplain Bench

RESTORATION SECTION

ACCESS TO RIVER

CONCEPT PLAN



Tributary to Meadow Creek

Tributary to Ivy Creek


PLAYGROUND
RIVANNA TRAIL
ARBORETUM ALLEE
WETLAND
BANK RESTORATION
BOULDER SEATING
OVERLOOK
BIKE TRAIL
ROCK VANE
FLOODPLAIN BENCH
OUTFALL RESTORATION
RIVANNA RIVER
Outfall Restoration

Kilmarnock

Pine Fork Park

Bolton Branch

Landscape Design

Mary Wolf
Principal

WOLF JOSEY
landscape architects

CONCEPT PLAN

RIVERVIEW PARK DESIGN GOALS

Based on Riverview Restoration Community Input (from kiosk and online surveys + community meeting)

RESTORE THE RIVER BANK

PROVIDE ACCESS TO THE RIVER

USE NATURAL MATERIALS

PROVIDE SEATING BY WATER

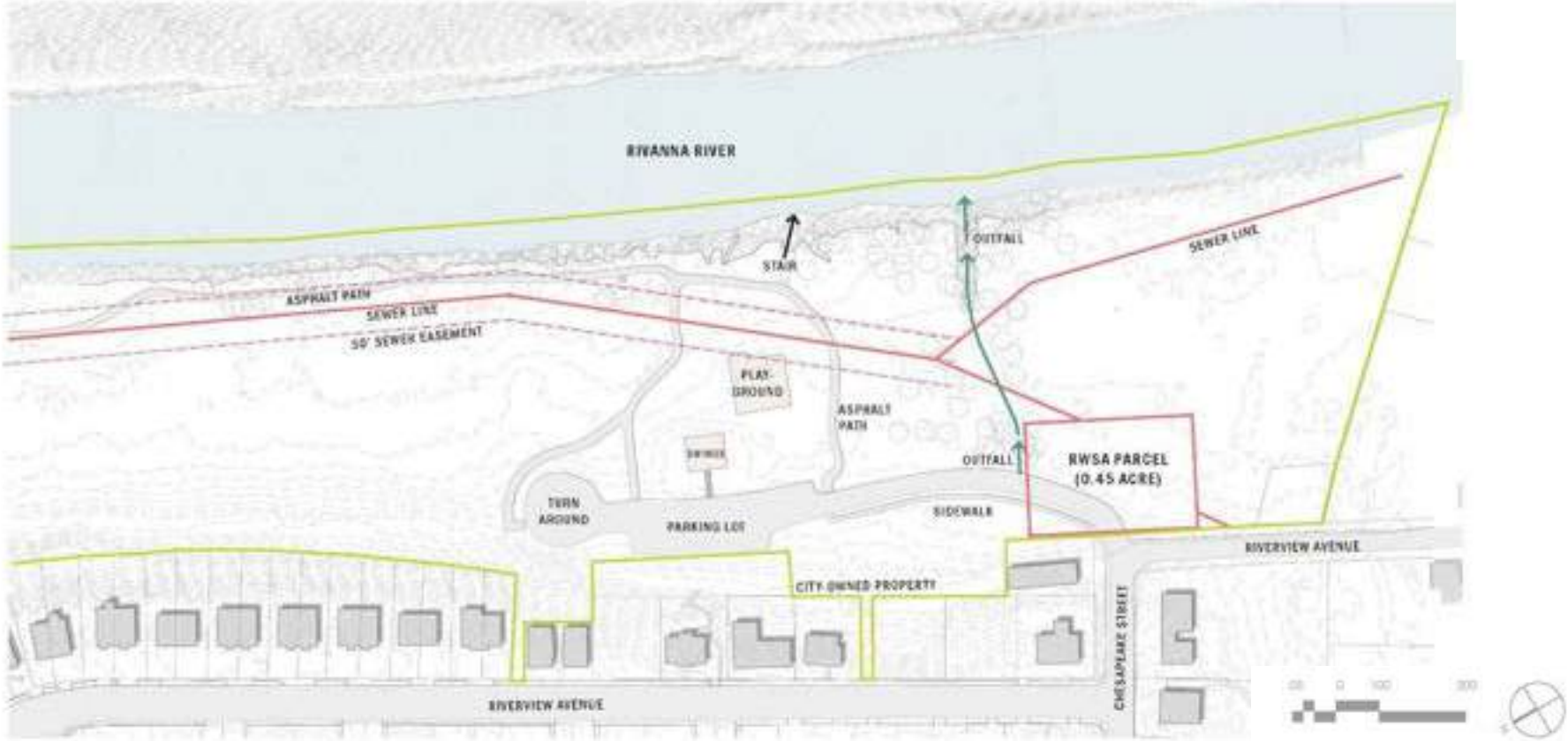
CELEBRATE RIPARIAN LANDSCAPES

IMPROVE CIRCULATION + PATHS

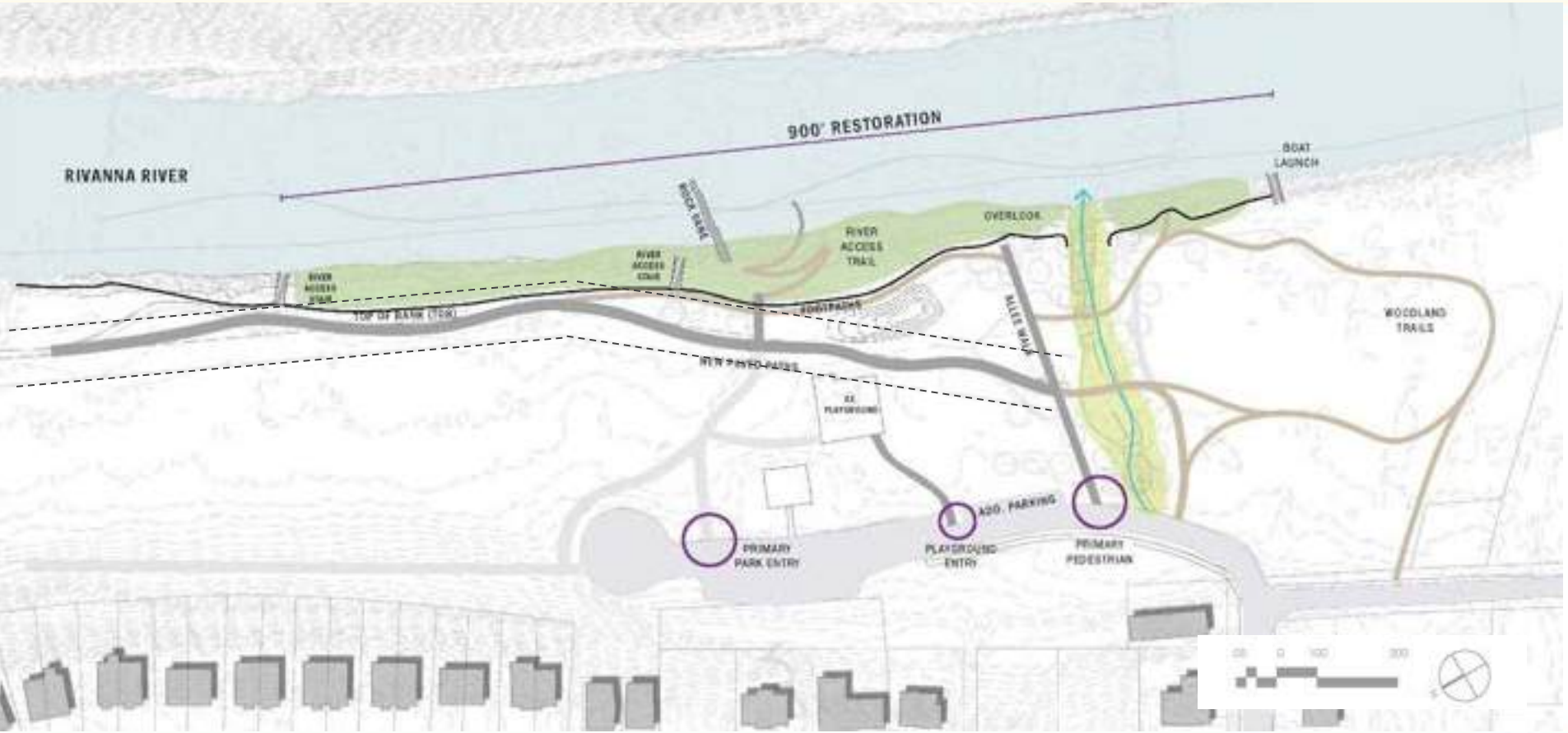
INCREASE NATIVE PLANTINGS

RIVERVIEW PARK EXISTING CONDITIONS

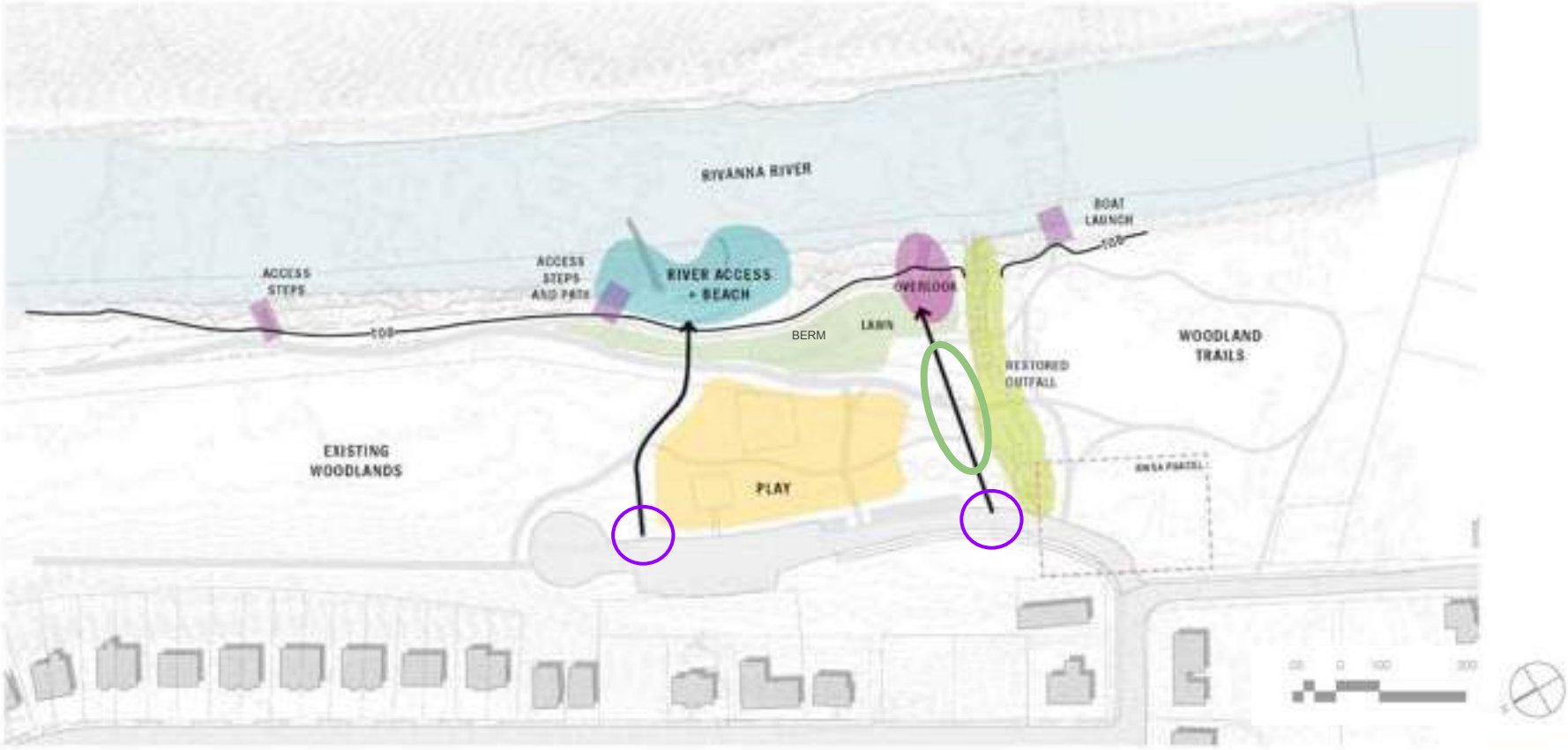
EXISTING CONDITIONS



CIRCULATION



ACTIVITY ZONES



PATH CONCEPTS

PEDESTRIAN ENTRANCES AND PATH TO RIVER

PATH THROUGH PARK

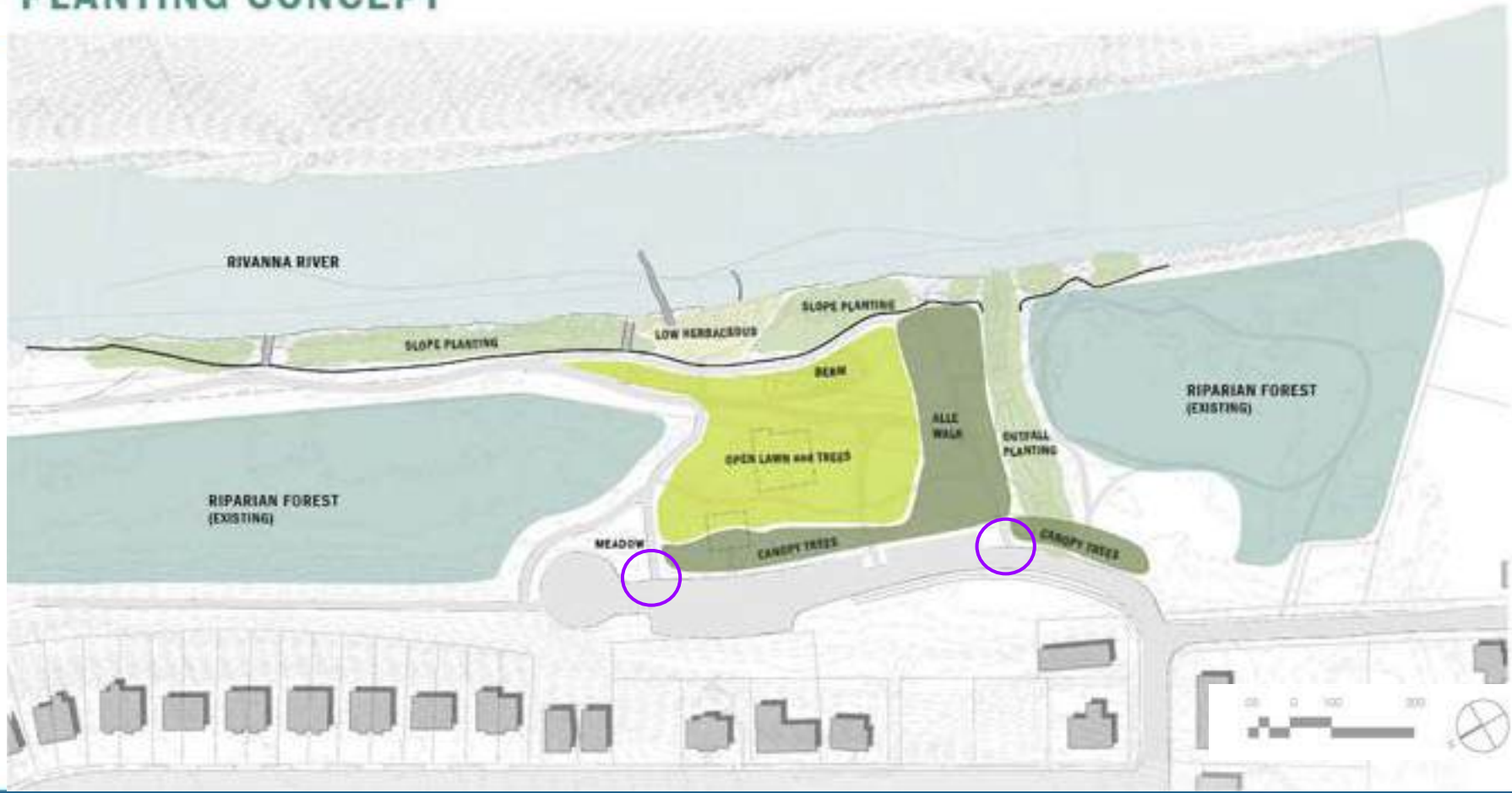
LOW BERM

NATIVE PLANTING ALONG TRAILS

NATIVE TREE ALLEE

MAIN PATH ALONG RESTORED BANK

PLANTING CONCEPT



Tree List

Quantity	Botanical Name	Common Name	Size
17	**Allee Trees**		
2	Liquidambar styraciflua	Sweetgum	2" cal. / B&B
3	Quercus bicolor	Swamp White Oak	2" cal. / B&B
3	Diospyrus virginiana	Persimmon	2" cal. / B&B
3	Ulmus americana 'Princeton'	Elm	2" cal. / B&B
2	Celtis occidentalis	Hackberry	2" cal. / B&B
4	Cercis canadensis	Redbud	2" cal. / B&B
74	**Canopy Trees**		
4	Acer saccharum	Silver Maple	1.5" cal. / B&B
2	Acer rubrum	Red Maple	1.5" cal. / B&B
10	Betula nigra	River Birch	1.5" cal. / B&B
6	Carya glabra	Pignut Hickory	1.5" cal. / B&B
5	Celtis occidentalis	Hackberry	1.5" cal. / B&B
4	Catalpa speciosa	Northern Catalpa	1.5" cal. / B&B
6	Diospyrus virginiana	Persimmon	1.5" cal. / B&B
2	Fagus grandifolia	American Beech	1.5" cal. / B&B
3	Ilex opaca	American Holly	1.5" cal. / B&B
1	Juniperus virginiana	Eastern Red Cedar	1.5" cal. / B&B
4	Liquidambar styraciflua	Sweetgum	1.5" cal. / B&B
3	Morus rubra	Red Mulberry	1.5" cal. / B&B
3	Magnolia tripetala	Umbrella Magnolia	1.5" cal. / B&B
4	Nyssa sylvatica	Black Gum	1.5" cal. / B&B
11	Platanus occidentalis	Sycamore	1.5" cal. / B&B
4	Quercus bicolor	Swamp White Oak	1.5" cal. / B&B
2	Ulmus americana 'Princeton'	Elm	1.5" cal. / B&B
15	**Reforestation Trees**		
3	Acer saccharum	Silver Maple	10 gal.
3	Carya glabra	Pignut Hickory	11 gal.
3	Celtis occidentalis	Hackberry	12 gal.
3	Nyssa sylvatica	Black Gum	13 gal.
3	Quercus bicolor	Swamp White Oak	14 gal.
58	**Understory Trees**		
25	Amelanchier arborea or canadensis	Serviceberry	10'-12' ht.
16	Asimina triloba	Pawpaw	10'-12' ht.
9	Cercis canadensis	Redbud	10'-12' ht.
8	Carpinus caroliniana	Ironwood	10'-12' ht.

TOTAL TREES: 164

* Plus 90 additional 3 gallon trees along bank restoration

Shrub and Groundcover List

257		Shrubs		
4		Cephalanthus occidentalis	Buttonbush	3 gal.
77		Hydrangea arborescens	Smooth Hydrangea	3 gal.
18		Hamamelis virginiana	Witchhazel	5 gal.
83		Ilex verticillata	Winterberry Holly	3 gal.
63		Lindera benzoin	Spicebush	3 gal.
12		Viburnum dentatum 'Christom' Blue Muffin	Arrowwood Viburnum	7 gal.
17973	**SF**	**Herbaceous**		
2660	30%	Schizachirium scoparium	Little Bluestem	5" Landscape Plug
1307	15%	Dichanthelium clandestinum	Deertongue	5" Landscape Plug
247	3%	Rudbeckia triloba	Browneyed Susan	5" Landscape Plug
247	3%	Pycnanthemum tenufolium	Narrow Leaf Mountain Mint	5" Landscape Plug
2219	25%	Elymus virginicus	Virginia Wild Rye	5" Landscape Plug
247	3%	Monarda fistulosa	Wild Bergamot	5" Landscape Plug
247	3%	Conoclinium coelestinum	Mistflower	5" Landscape Plug
1570	18%	Chasmanthium latifolium	River Oats	5" Landscape Plug
23394	**SF**	**Meadow Seed**		
8439	SF	Upland Seed Mix; See Restoration Drawings		
14955	SF	Partially Shaded Area Roadside Mix by Ernst Seeds (ERNMX-140)		

TOTAL SHRUBS: 257

* Plus 161 additional 3 gallon shrubs along bank restoration and 102 live stakes

Park Planning & Improvement

Chris Gensic
Planner - Parks & Recreation

Park Overall Plan

Pending conceptual plans for parking, access, and circulation

Public review and input throughout process

2026 budget request

New river access point for boats and trail connection to parking

Continued invasive plant control and landscape management

Project Next Steps

Expected Timeline:

- Obtain the final permits over the next few months
- Find a construction contractor late this year (formal process)
- Construction planned for late Winter to Spring 2026

Opportunities to Learn More:

- Walk and Talks in Riverview Park: September 21 and October 19, 5-6 p.m.
- Project webpage at www.rivannariver.org/rivanna-restoration