



Fairfax County, Virginia

Piney Run at Lake Werowance Stream Restoration

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Section 1. Project Overview

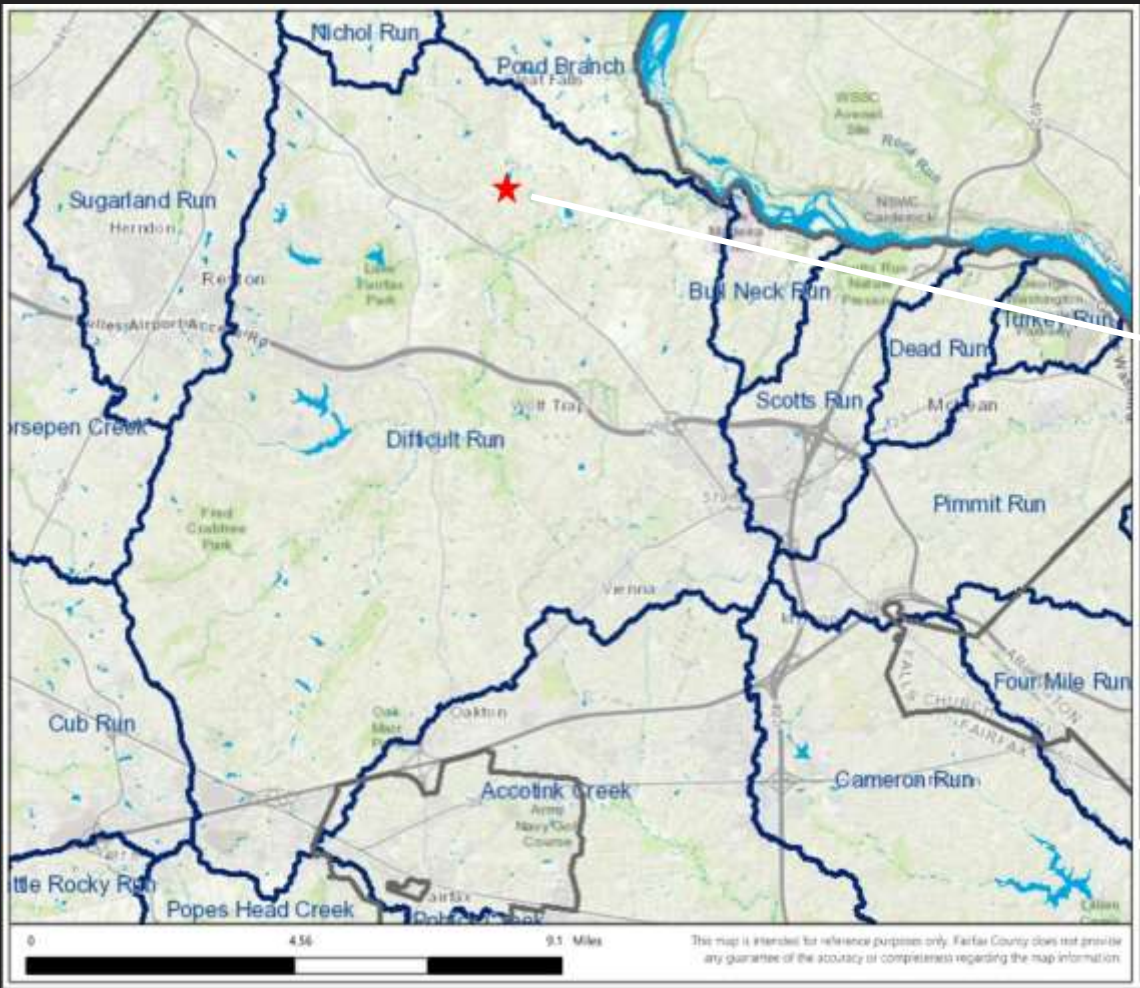
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Fairfax County, VA

- Area: 400 square miles
- Population: 1.3 million
- Land Use
 - Residential 88%
 - Commercial 5%
 - Industrial 2%
 - Open Space 4%
 - Other 1%
- Watersheds: 30
- Perennial Streams: 750+ miles
- Funding: Stormwater Service District
- MS4 Phase I

Vicinity Map: Piney Run at Lake Werowance



Fairfax County, Virginia



3,376 LF: stream & wetland restoration

Dam Breach: Piney Run at Lake Werowance



2011 (pre- dam breach)



2019 (post- dam breach)



Project Goals & Benefits

Piney Run at Lake Werowance

Improve watershed conditions and reduce downstream impacts through:

- Improve water quality
- Stabilize the channel
 - Reduce erosion
 - Protect vegetation
- Restore native vegetation & riparian buffer
- Connect and enhance wetlands within former lakebed





Section 2. Conditions Overview

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Upper Reach: Piney Run at Lake Werowance





Former Lakebed: Piney Run at Lake Werowance





Conversion of lakebed to interconnected stream & wetland system

- Construct meandering stable stream system that provides hydrology to complex wetland network
- Construct network of functional floodplain wetlands and open water features throughout lakebed



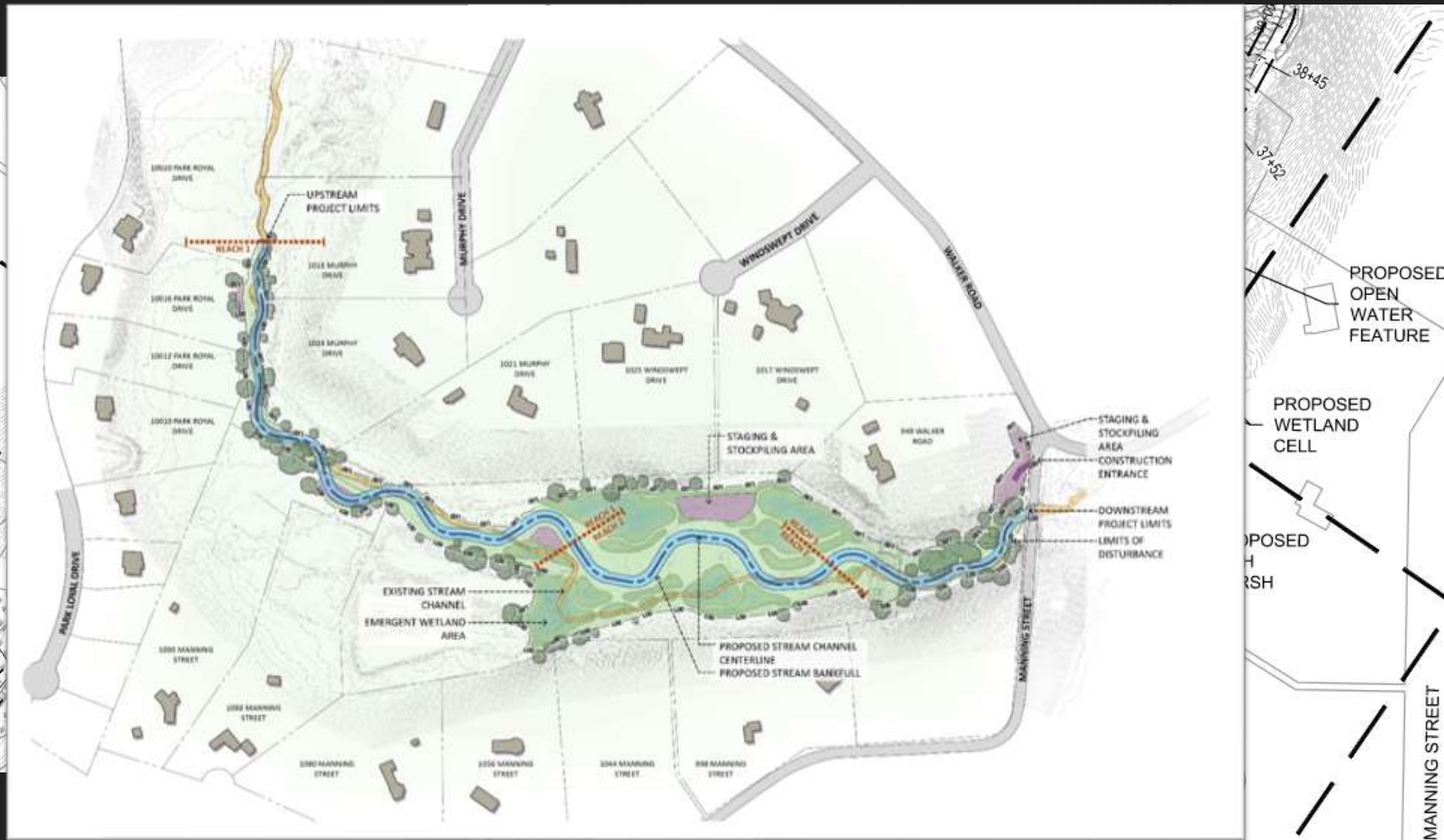
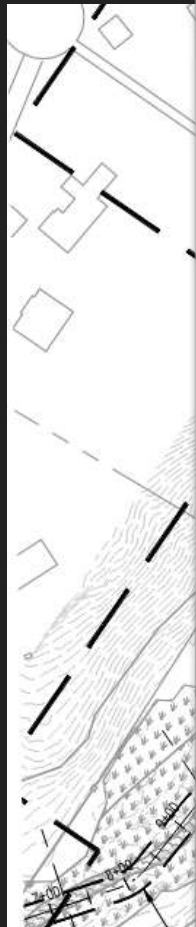


Section 3. Process and Challenges

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Stream Alignment & Reaches





Unique Challenges

Pedestrian bridge

Deposition in lakebed

Doing More with Less - “Sod” Bank Stabilization

Nucleated Plantings (but not implemented here)

Soil pH Parameters and Vegetation Establishment

Sourcing of the Plant Materials

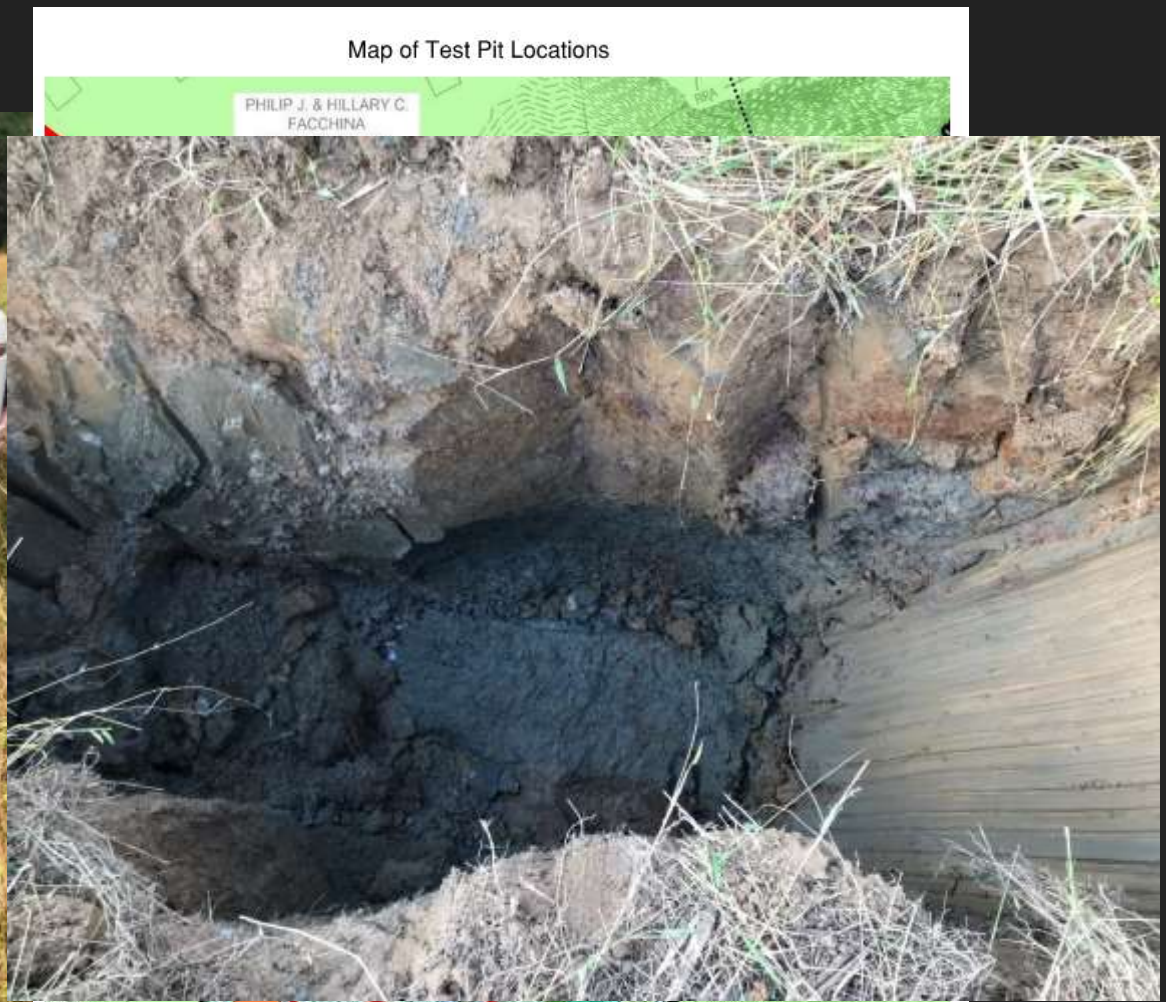
Non-Native Invasive (NNI) Vegetation



Pedestrian Bridge



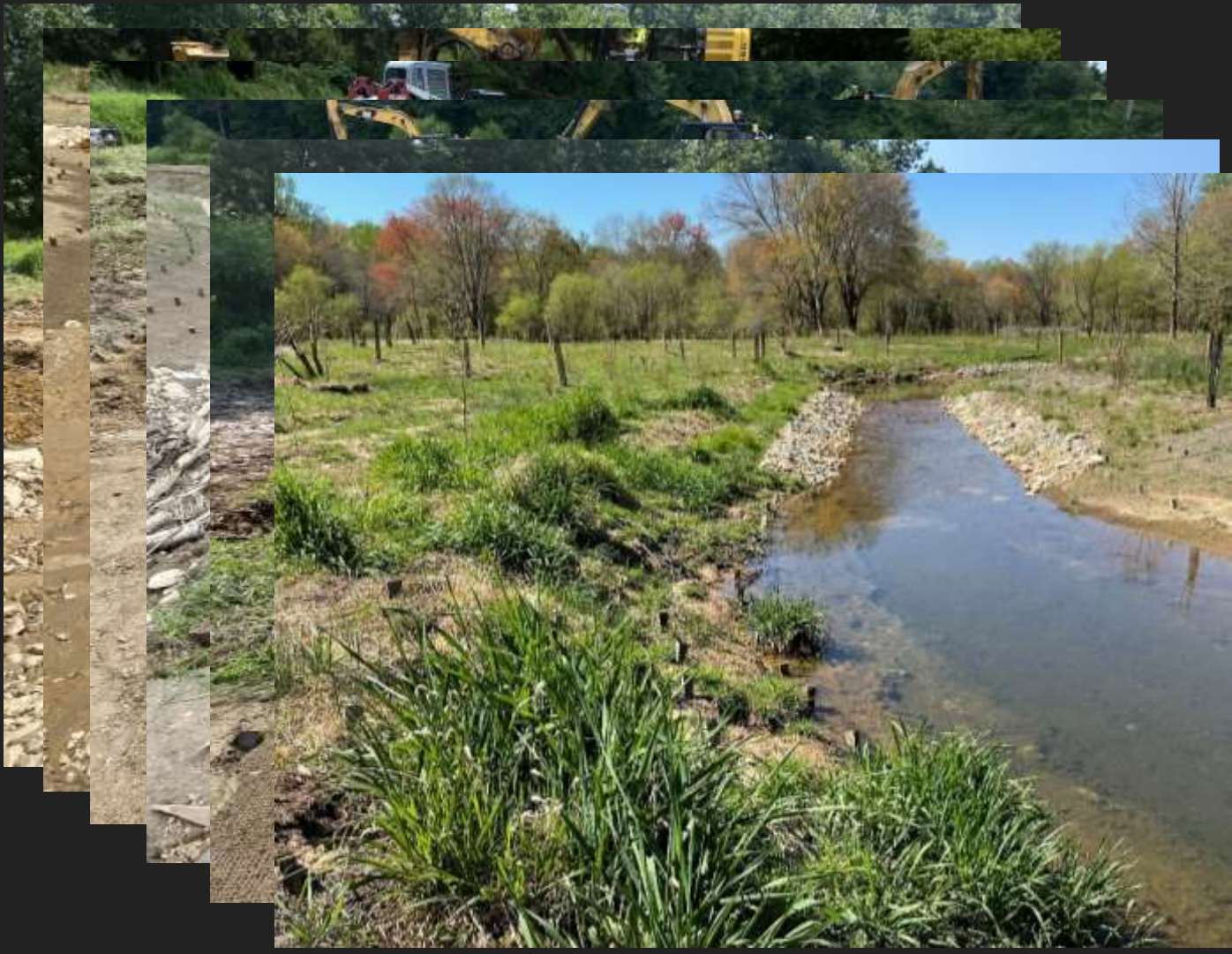
Soil Deposits in Lakebed



Map of Test Pit Locations
PHILIP J. & HILLARY C. FACCHINA

10/3/2019 Test Pits
10/4/2019 Test Pits

Sod Bank Stabilization





Soil pH Parameters and Vegetation Establishment





Plant Sourcing



NNI Vegetation

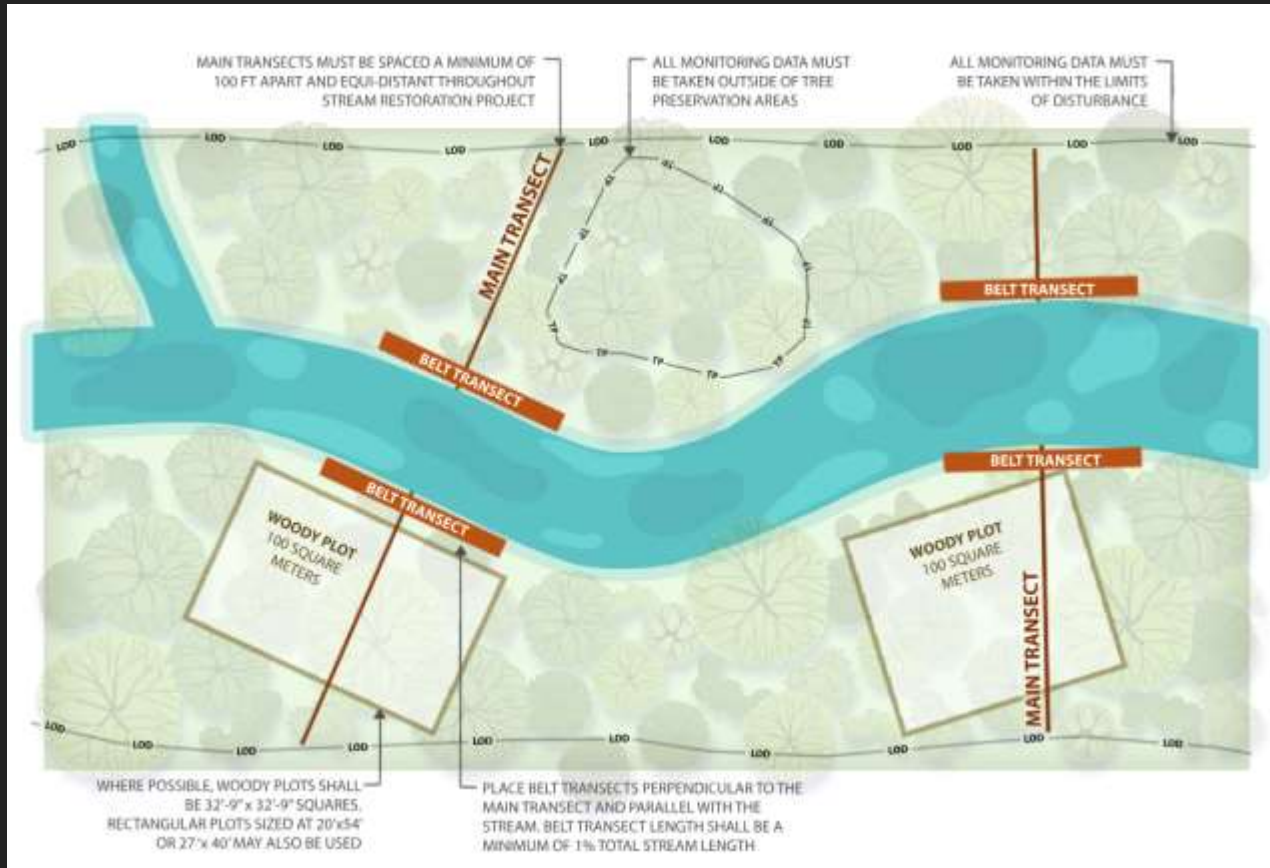
Virginia Invasive Plant Species List

Scientific Name	Common Name	Virginia Invasiveness Rank	REGION		
			Mountain	Piedmont	Coastal
 <i>Ailanthus altissima</i>	Tree-of-heaven	High	•	•	•
<i>Alliaria petiolata</i>	Garlic Mustard	High	•	•	•
<i>Alternanthera philoxeroides</i>	Alligator-weed	High			•
<i>Angelopsis brevipedunculata</i>	Porcelain-berry	High		•	•
<i>Carex kobomugi</i>	Japanese Sand Sedge	High			•
<i>Celastrus orbiculatus</i>	Oriental Bittersweet	High	•	•	•
<i>Centaurea stoebe</i> ssp. <i>micranthos</i>	Spotted Knapweed	High	•	•	•
<i>Cirsium arvense</i>	Canada Thistle	High	•	•	•
<i>Dioscorea polystachys</i>	Cinnamon Vine	High	•	•	•
<i>Elaeagnus umbellata</i>	Autumn Olive	High	•	•	•
<i>Euonymus alatus</i>	Winged Euonymus	High	•	•	
<i>Ficaria verna</i>	Lesser Celandine	High		•	•
<i>Hydrilla verticillata</i>	Hydrilla	High	•	•	•
<i>Iris pseudacorus</i>	Yellow Flag	High	•	•	•
<i>Lespedeza cultrata</i>	Chinese Lespedeza	High	•	•	•
<i>Ligustrum sinense</i>	Chinese Privet	High	•	•	•
<i>Lonicera japonica</i>	Japanese Honeysuckle	High	•	•	•
<i>Lonicera maackii</i>	Amur Honeysuckle	High	•	•	•
<i>Lonicera morrowii</i>	Morrow's Honeysuckle	High	•	•	
<i>Lythrum salicaria</i>	Purple Loosestrife	High	•	•	•
<i>Microstegium vimineum</i>	Japanese Stiltgrass	High	•	•	•
<i>Murdannia koisak</i>	Marsh Dewflower	High		•	•





Ensuring Long-Term Success



GENERAL SITE INFORMATION		ASSET ID: PINEY RUN AT LAKE WEROWANCE		PWMP# #: DF82-0017			
SITE ADDRESS (Nearest Address):		949 Walker Road Great Falls, VA 22066		PROJECT COMPLETION: June 2023 CONSTRUCTION COMPLETION: March 2023			
LANDOWNER(S): Lake Werowance Inc, multiple private properties				TOTAL STREAM LENGTH: 4308 LF			
SITE ACREAGE (LIMITS OF DISTURBANCE): 12.28 acres				TOTAL STREAM RESTORATION LENGTH: 3266 LF			
STREAM STATISTICS – PINEY RUN AT LAKE WEROWANCE							
REACH ID	STATION	STREAM TYPE (PRE)	STREAM TYPE (POST)	AVERAGE SLOPE (POST)	RIFFLE BANKFULL AREA (ft)	W/D RATIO	BANKFULL MAX POOL DEPTH (ft)
Upper Reach 1	9+25 – 14+01	E4	C4	0.0053	55.72	12.0	8.5
Reach 1	14+01 – 26+39	E4	C4	0.0053	58.5	18.0	6.2
Reach 2	26+39 – 35+84	C4, E4	C4	0.0023	59.1	18.0	6.2
Reach 3	35+84 – 43 +11	D4, E4	C4	0.0055	83.8	18.0	8.6
PROJECT DESCRIPTION/NOTES							





We support the
NATIONAL STREAM RESTORATION CONFERENCE
ECOSYSTEM RESTORATION
2023-2024



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