



# Randolph Woods Nature Preserve

## MASTER SITE PLAN

**Public Meeting # 2 – May 6<sup>th</sup>, 2020**

## **MASTER PLAN VISION STATEMENT**

**“The Randolph Woods Nature Preserve aspires to be a vital part of Malvern’s park system, provide nature based passive recreation and community activity, while promoting natural resource conservation, land stewardship, and related education.”**

# Meeting Agenda

- Introductions
- Project Schedule
- Public Meeting #1 Summary (1/22/20)
- Public Opinion Survey Results
- Site Inventory & Analysis
- Randolph Woods Preliminary Concepts A & B
- Preliminary Conclusions & Recommendations
- Next Steps



# Project Team

## Simone Collins Landscape Architecture

- Peter Simone, RLA, FASLA
- Sarah Leeper, RLA, ASLA
- Joe Wallace, ASLA

## Comprehensive Land Services

- Patrick Fasano, Forester

## Applied Ecological Services

- Michael McGraw, Wildlife Biologist



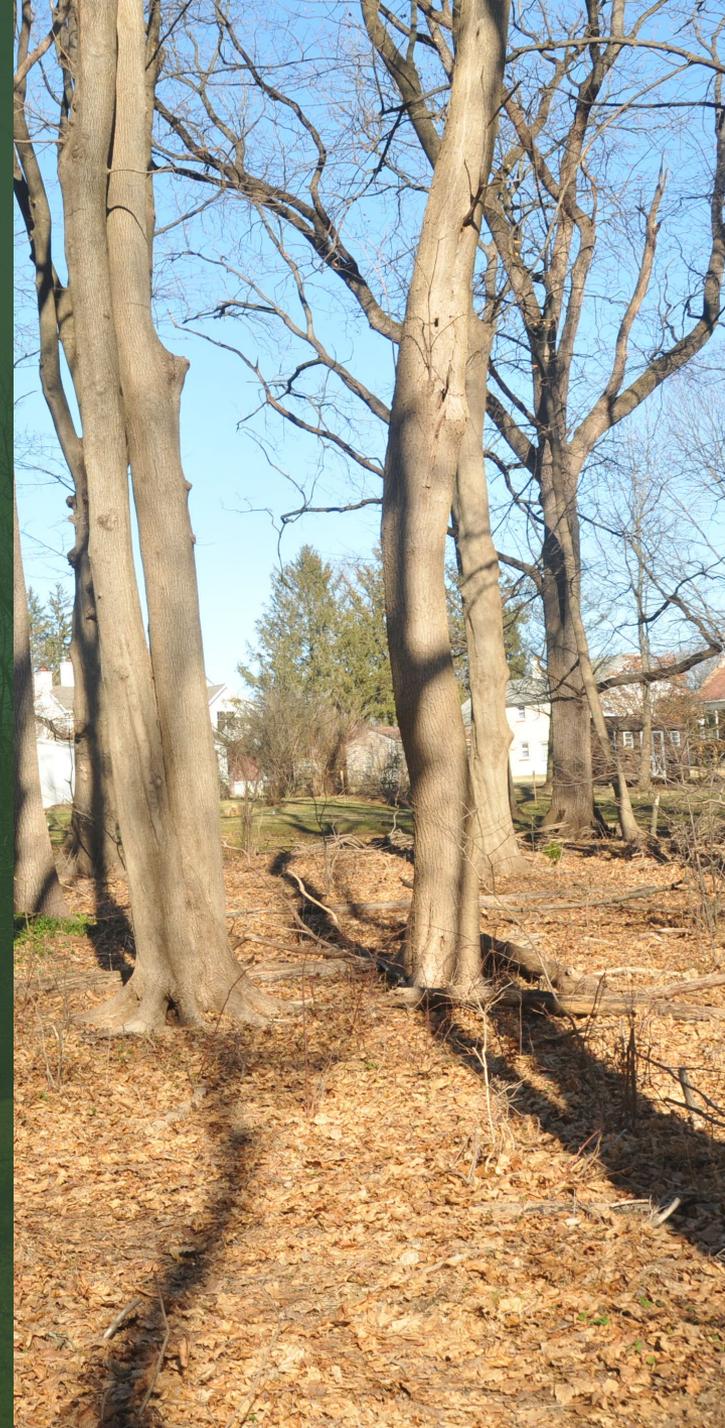
# Master Plan Committee

## Committee:

- Mark Niemiec, Chair
- Brian Walker, Vice-Chair
- Christopher Bashore, Secretary
- Helise Bichesfsky-Reilly, D.O.
- Joe Bones
- John Butow
- Brian Hamilton
- John Meisel
- Brendan Phillips
- Barbara Rutz
- Zoe Warner, Ph.D.

## Professional Guidance:

- Andrew Kirkpatrick, Willistown Conservation Trust, Director of Stewardship

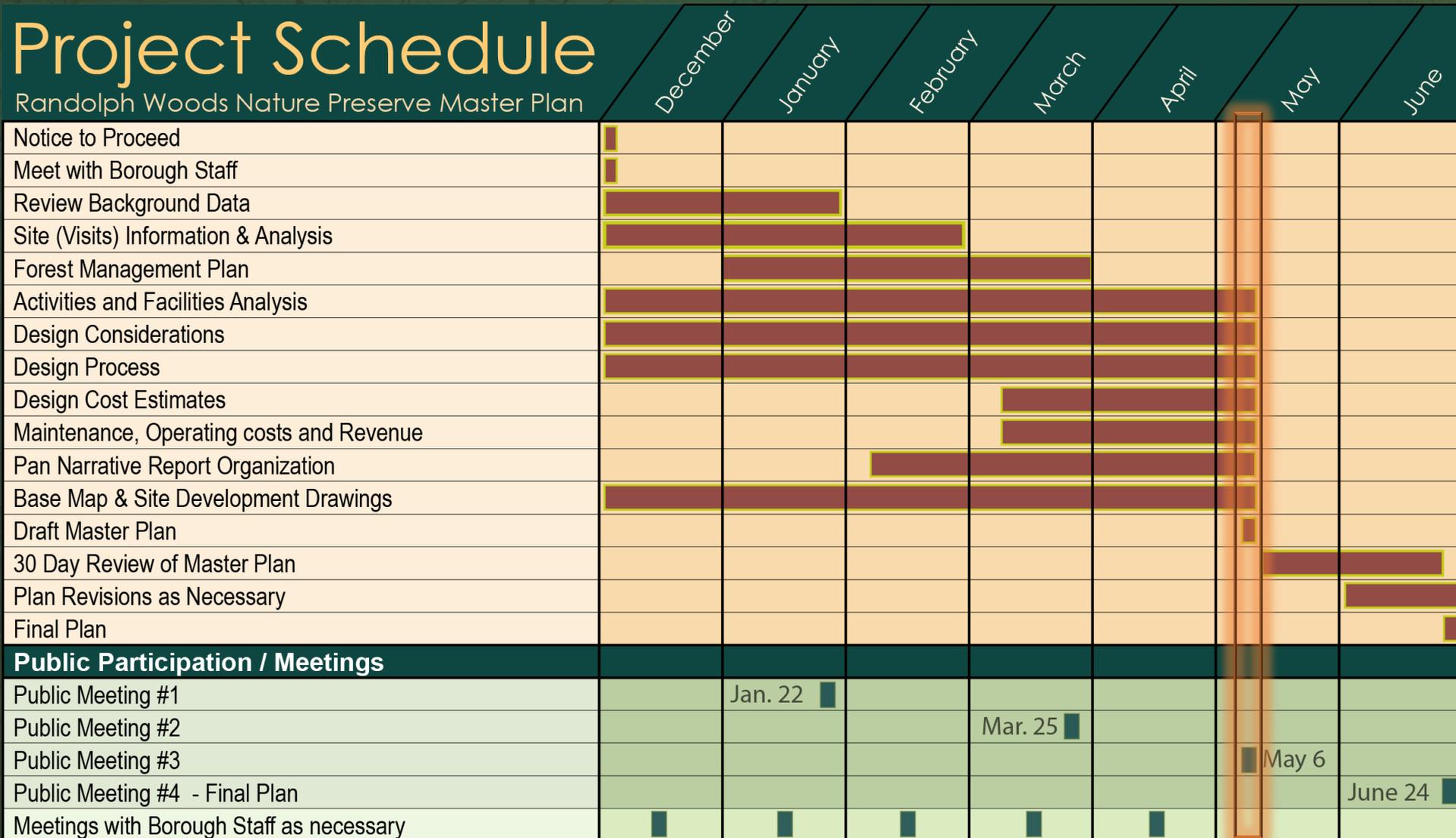


# **ROLE OF THE MASTER PLAN COMMITTEE IN REGARD TO EXISTING CONSERVATION EASEMENT AND BOROUGH PARK USE ORDINANCES**

*The Master Plan Committee is working within the existing framework of the existing Randolph Woods Preserve Conservation Easement as developed by the Willistown Conservation Trust and as per existing Borough Park Use Ordinances.*

# Project Schedule

Randolph Woods Nature Preserve Master Plan



We are at the second meeting on May 6 due to the Covid-19 crisis. The Draft Plan presentation now will take place on June 24.





**Public Meeting #1 (Jan. 22<sup>nd</sup>)**

# Public Meeting #1

- 40 Attendees

- Meeting Minutes Can Be Found at:

[http://www.malvern.org/wp-content/uploads/2017/06/Randolph-Woods-Nature-Preserve\\_PM1-NOTES\\_2.pdf](http://www.malvern.org/wp-content/uploads/2017/06/Randolph-Woods-Nature-Preserve_PM1-NOTES_2.pdf)



## Brainstorming Session Notes: Public Meeting #1

### GOALS

### FACTS

### CONCEPTS

### PARTNERS

- **Create preserve master plan**
- **Protect and enhance natural resources**
- **Improve water quality**
- **Make Randolph Woods a night sky preserve**
- **Consider how preserve uses affect natural resources**
- **Preserve open space across Borough**
- **Get more kids to play in the woods**

## Brainstorming Session Notes: Public Meeting #1

GOALS

FACTS

CONCEPTS

PARTNERS

- Large open space in the Borough
- Entry to Randolph Woods by public works is not attractive
- The forest / canopy is not healthy and in decline
- Malvern is walkable
- Randolph Woods is a regional park
- Second bridge trail has steep slope
- Steep Topography
- Deer eating understory
- 43 Acres
- Current trail locations are unclear
- Many invasives in forest
- Dogs must be leashed
- Many people are moving to Malvern.

## Brainstorming Session Notes: Public Meeting #1

GOALS

FACTS

CONCEPTS

PARTNERS

- Address stormwater runoff from parking area
- Make biking as safe as possible
- Avoid blanket 'no biking' policy
- Fix forest health
- Make Randolph Woods accessible for kids
- Celebrate water of Ruth Run
- Encourage borough-wide biking
- Educate the broader biking community
- Focus funding on 38 acres in easement
- Trails to have minimal ecological impact
- More trash cans
- Need better signage for walkers / bikers
- Walking trails
- Biking trails

## Brainstorming Session Notes: Public Meeting #1

### GOALS

### FACTS

### CONCEPTS

### PARTNERS

- Restrooms
- Pavilions with educational elements
- Section of the woods / trails just for biking
- Remove invasives
- More benches in general
- No lighting in Randolph Woods
- More benches at the two bridges
- Bat boxes
- Unpaved trail into park
- Community to help with trail maintenance
- Dog park
- Nighttime park activities
- Butterfly garden
- Wetland boardwalk

## Brainstorming Session Notes: Public Meeting #1

GOALS

FACTS

CONCEPTS

PARTNERS

- Water fountains for water bottle filling
- Integrate pump house for water bottle filling station
- Develop sprinkler or irrigation system for plants not doing well
- Trail markers for bikers and walkers
- Bird house / bluebird houses
- Use ADA laws to improve site access
- Fix steep trail currently in drainageway
- Better park surveillance

## Brainstorming Session Notes: Public Meeting #1

GOALS

FACTS

CONCEPTS

PARTNERS

- **Great Valley Mountain Bike Club**
- **Willistown Conservation Trust**
- **Crum Creek Watershed Association**
- **Local Schools**
- **Malvern Arts**
- **Bluebird Society**



# Public Opinion Survey

# Public Opinion Survey

- Simone Collins prepared a 21-question survey learn about current conditions and potential futures uses within Randolph Woods
- 379 survey responses have been received

General Demographic

1. What is the name of the municipality you live in?

2. How many years have you lived in your current municipality?  
0-5      6-10      11-29      30+  
                 

3. What is your age?  
>12      13-18      19-24      25-44      45-65      65+  
                             

4. How many people currently live in your household?  
1      2      3      4      5      6+  
                             

5. Please indicate how many people of each age group currently live in your household?

	1	2	3	4+	NA
Children under the age of 5 years	<input type="radio"/>				
Children ages 6-12 years	<input type="radio"/>				
Children ages 13-18 years	<input type="radio"/>				
Adults ages 19-64 years	<input type="radio"/>				
Adults 65+ years	<input type="radio"/>				

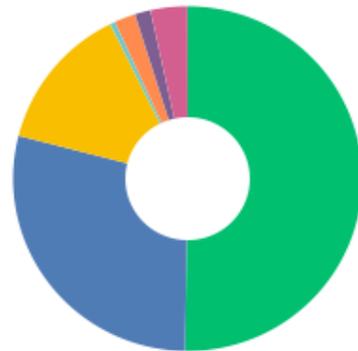
- Hiking
- Picnic
- Walking and jogging
- Birding / Wildlife Studies
- Special Event

Survey Link:

[www.surveymonkey.com/r/randolphwoods](http://www.surveymonkey.com/r/randolphwoods)

# Public Opinion Survey

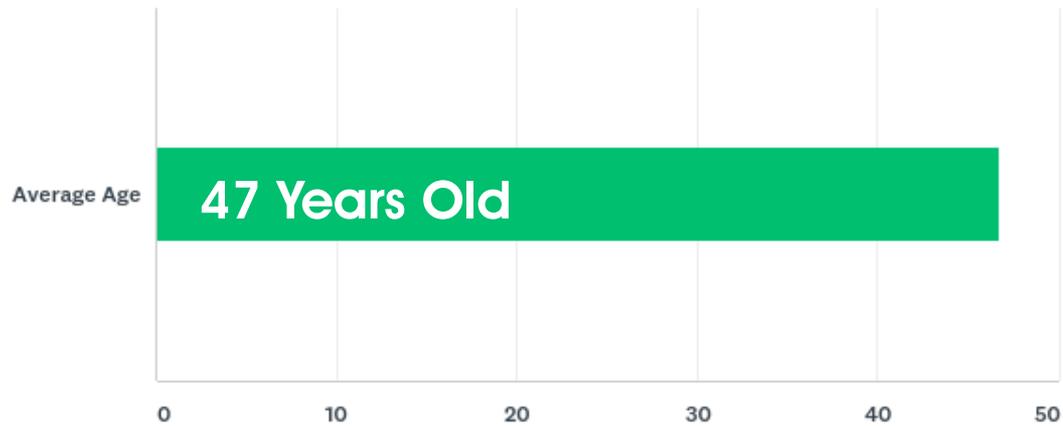
Q1 What is the name of the municipality you live in?



■ Malvern Borough   ■ Willistown Township   ■ East Whiteland Township  
■ Easttown Township   ■ Tredyffrin Township   ■ East Goshen Township  
■ Other (please specify):

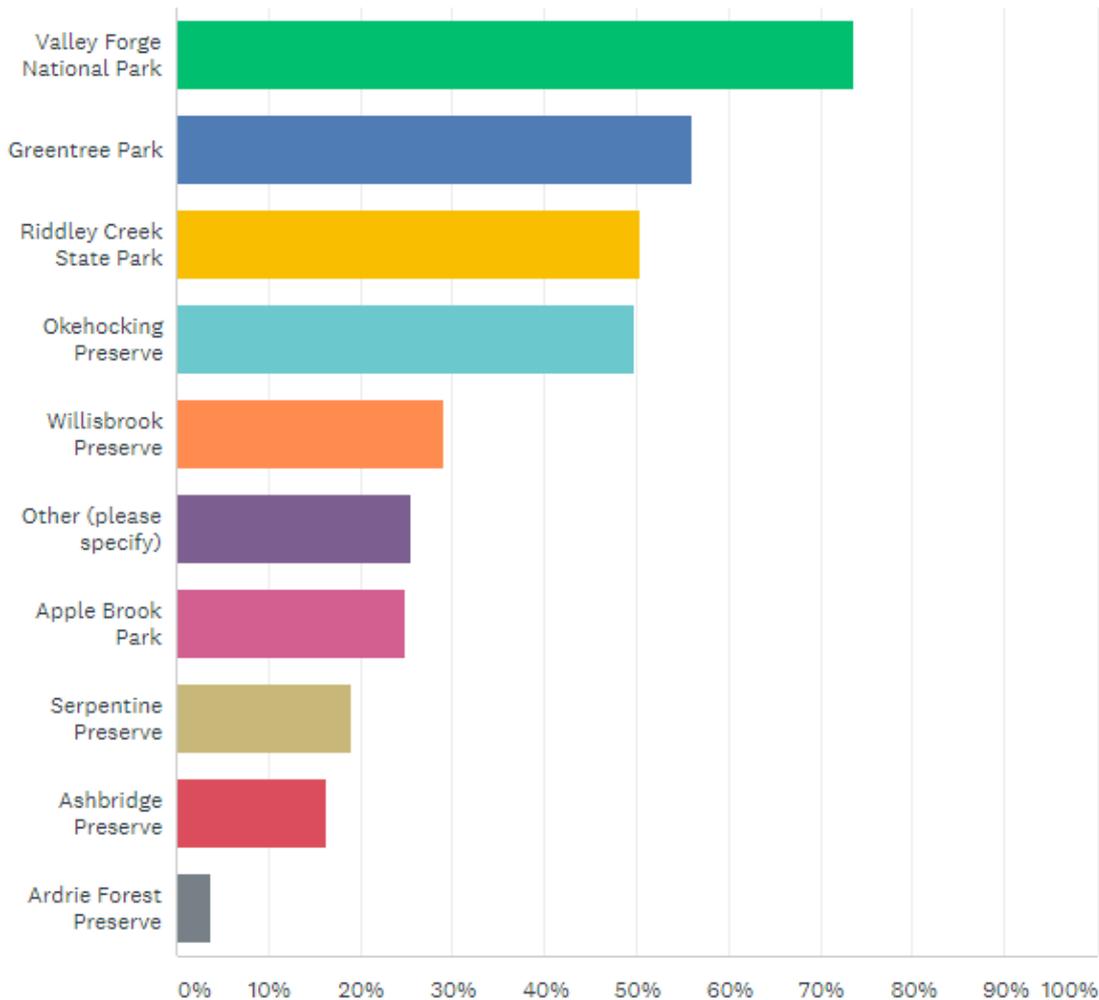
# Public Opinion Survey

Q3 What is your age?



# Public Opinion Survey

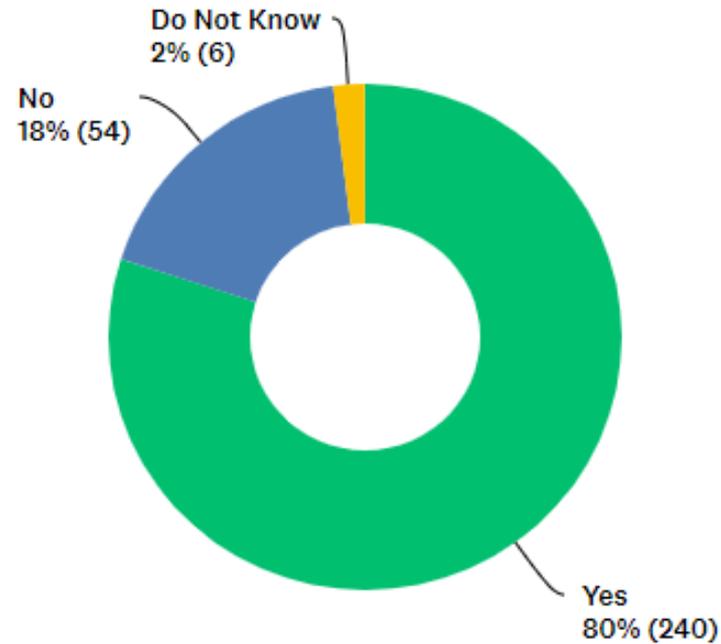
Q6 In the past 12 months have you or a member of your household visited any of the following regional preserves or parks? (Check all that apply.)



# Public Opinion Survey

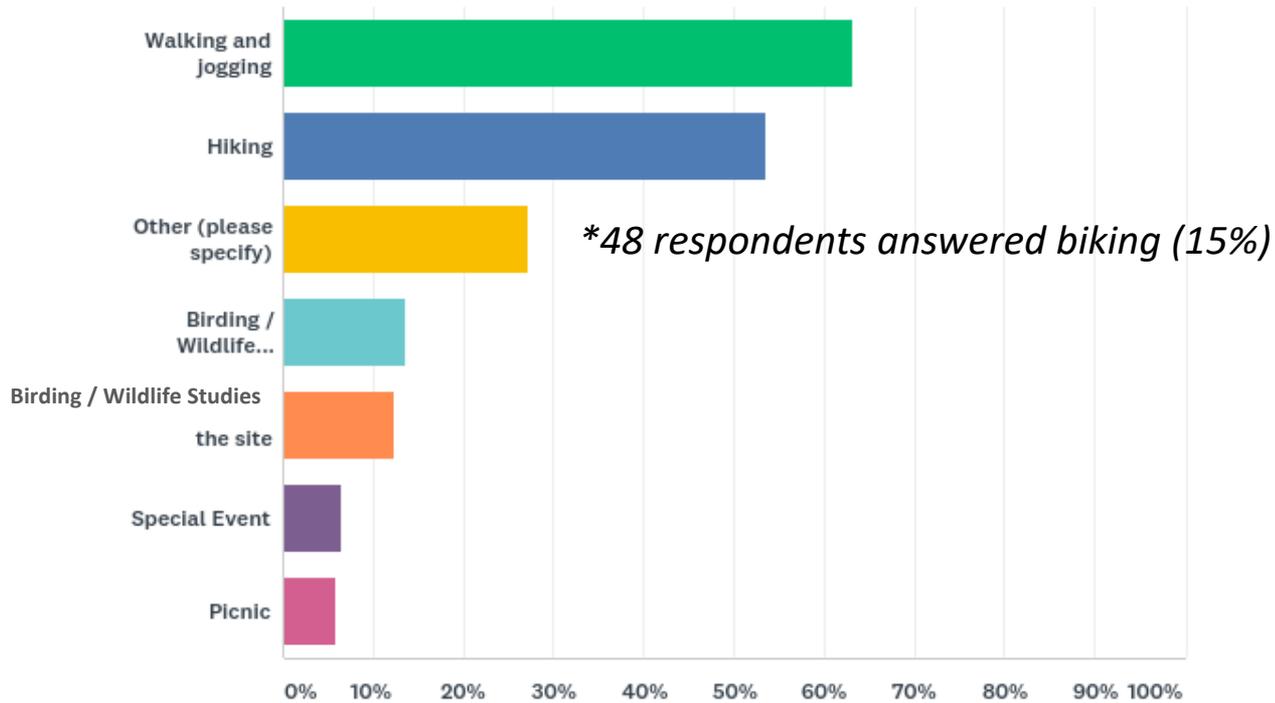
In the past 12 months, has any member of your household visited Randolph Woods Nature Preserve?

Answered: 300 Skipped: 79



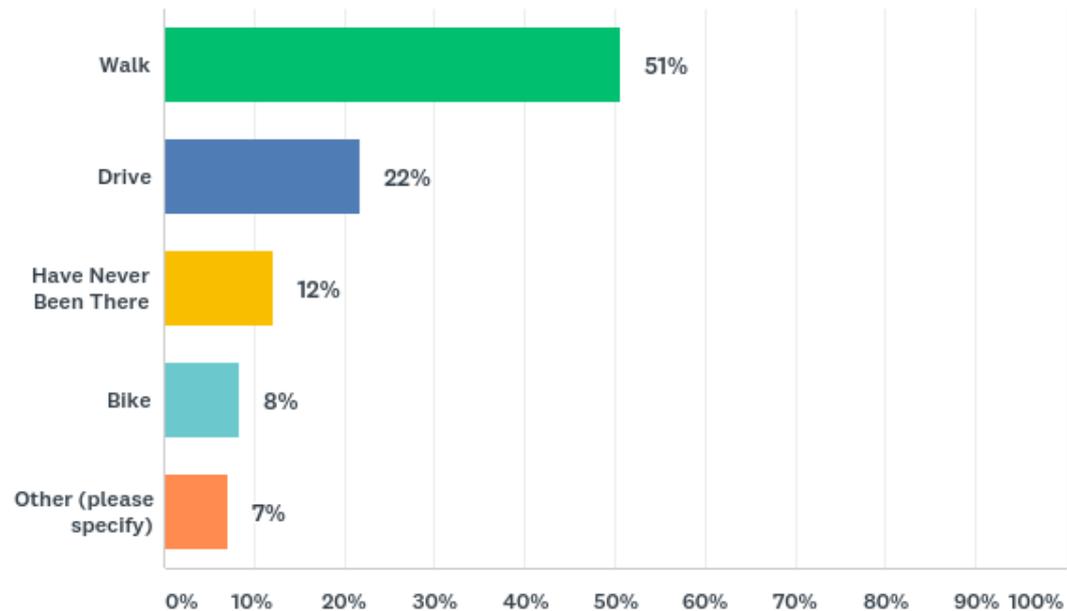
# Public Opinion Survey

Q8 Please select the primary activities you and members of your household participated in at Randolph Woods Nature Preserve? (Check all that apply.)



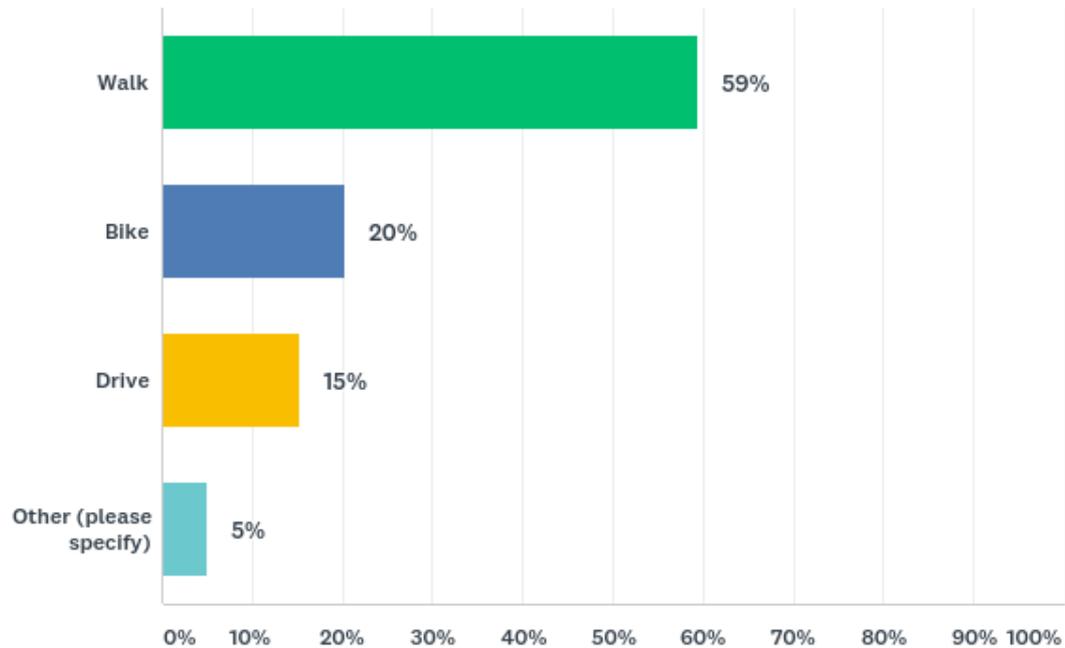
# Public Opinion Survey

Q9 When visiting Randolph Woods Nature Preserve how do you get there?



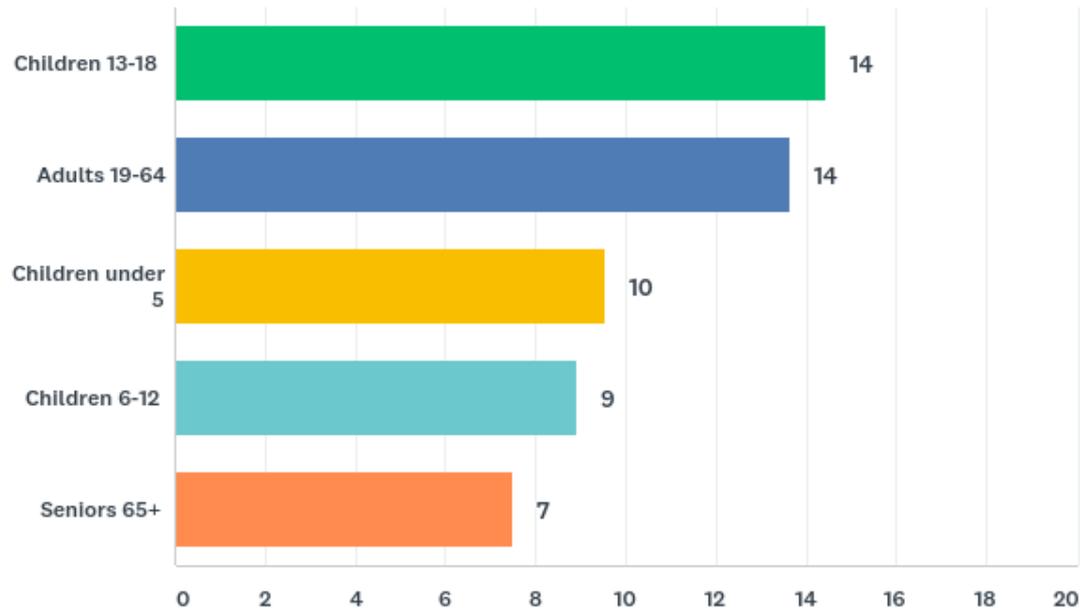
# Public Opinion Survey

Q10 How would you prefer to travel to Randolph Woods Nature Preserve?



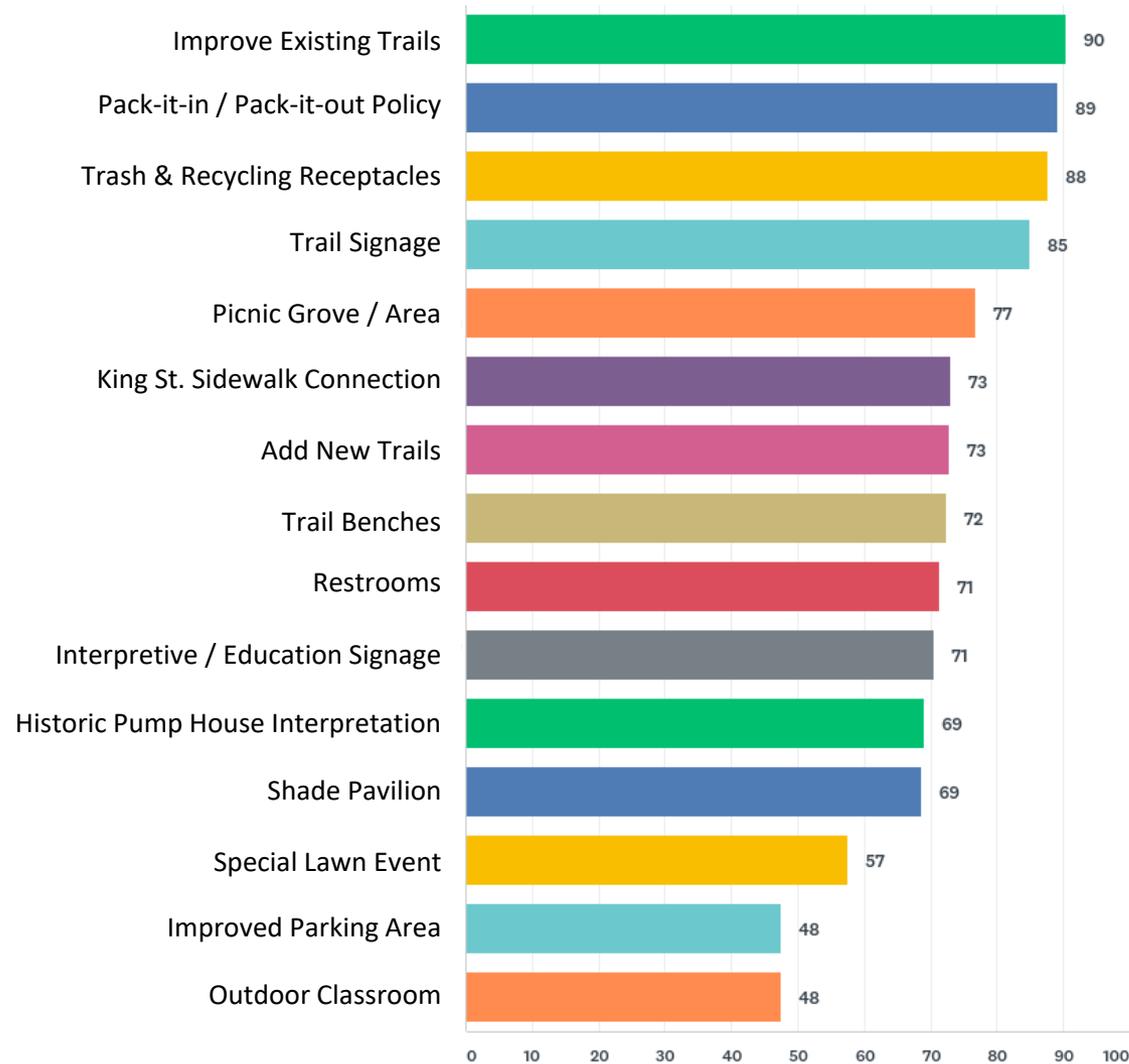
# Public Opinion Survey

Q11 Thinking about members of your household who are in the age groups below, How many trips in total have the members of your household made to Randolph Woods Nature Preserve in the past 12 months? Note, If you and your 10 year old son visited that is one check in Adults 19-64 row and a second check in Children 6-12 row.



# Public Opinion Survey

Q13 Specifically regarding the master plan for Randolph Woods Nature Preserve, which new or additional facilities and activities do you think should be considered?



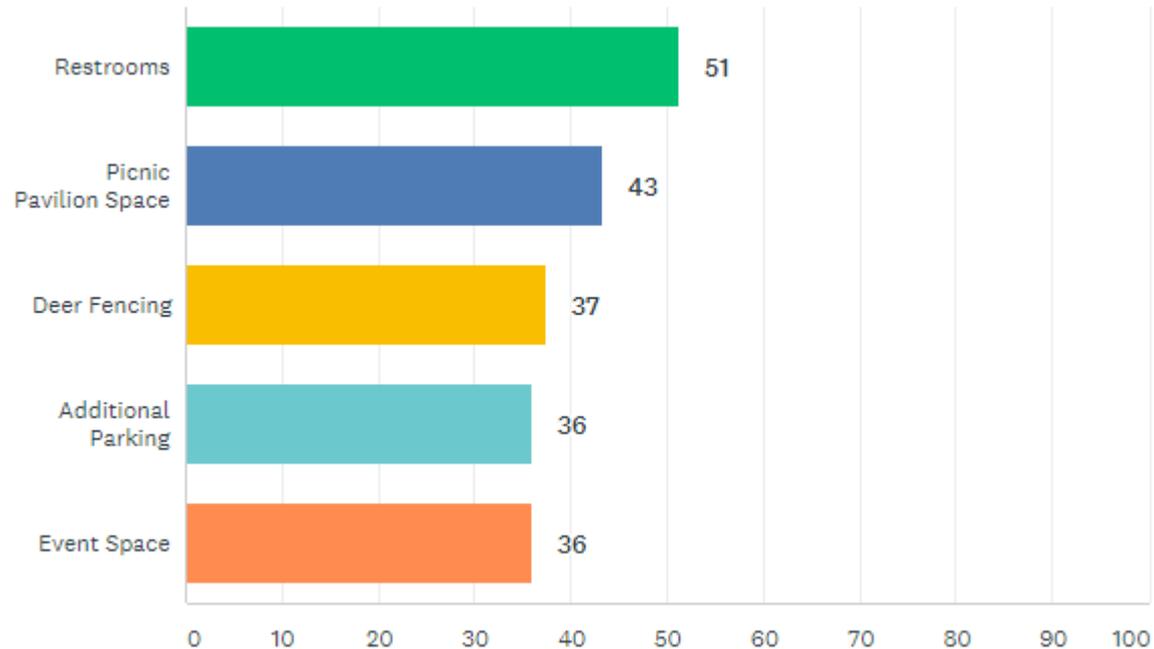
# Public Opinion Survey

Q14 In regards to Randolph Woods Nature Preserve which of the following ecologically-driven facilities and activities should be considered for the park?



# Public Opinion Survey

Q15 In general, how important do you feel the following amenities / facilities are for a better and more comfortable experience at Randolph Woods Nature Preserve?



# Public Opinion Survey

*The 'word cloud' below represents the words most often used to answer the question: "What do you like most about Randolph Woods Nature Preserve?" The larger the font, the more popular the response.*

fact preserve feel woods right open space park paved close secluded  
natural nice area great walk go quiet small trails  
house nature trees peaceful Quiet place s kids borough stream  
Malvern love



# Site Inventory & Analysis

# Existing Conditions & Analysis

Our team ecologists and forester are just compiling data and recommendations.

The site is in a highly degraded condition and will not regenerate sustainably without significant intervention and management.



## Existing Conditions

- Contour 2'
- Stream
- Sensitive Area
- Parcel Line
- Bridge
- Sidewalk
- Road
- Building
- Areas Outside Conservation Easement
- Municipal Boundary
- Existing Trail
- Headwater Protection Area
- Dominant Invasive Plant / Limited Understory (typical)
- Trails in Poor Location / Condition

# Existing Conditions & Analysis

## Forest Management – Analysis



### Existing Conditions

- Contour 2'
- Stream
- Sensitive Area
- Parcel Line
- Bridge
- Sidewalk
- Road
- Building
- Areas Outside Conservation Easement
- Municipal Boundary
- Existing Trail
- Management Unit 1: White Pines
- Management Unit 2: Smaller Diameter Hardwoods / Open Woodland Areas
- Management Unit 3: Mature Hardwood (Poplar)
- Management Unit 4: Water Resource Protection Area - Hydric Soils / Wetlands / Headwater / Stream Buffers

# Existing Conditions & Analysis

The Public Works facility on Ruthland Avenue is integral to the operations of the Borough. However, while it is well maintained, its general appearance detracts from Randolph Woods Nature Preserve.

The garage building on the east side of the road has similar appearance. The Borough leases the land to Comcast who constructed the existing brick building. The office building's appearance could also use some basic landscape improvements.



# Existing Conditions & Analysis

There is a 30,000 SF unused parcel on E. First Ave. It is overgrown with volunteer vegetation and presents an opportunity for some type of future use.

Obvious options include of Preserve / Recreational use or use by the Public Works operation. E. First Ave is presently closed to public vehicles and is one-way west toward Ruthland Ave. Several new residences have been constructed on Ruthland and back onto this parcel. This parcel is not subject to the Conservation Easement.



# Existing Conditions & Analysis

The Preserve trails are in relatively good condition. The outer loop trail located in the southern part of the site is located in a drainage swale and is eroded. This will only get worse in its current location, and these sections of trail should be relocated.

There are many rogue trails that originate from bordering residential properties. These are unnecessary, detract from the woodland experience and should be removed.

The trail system makes this resources available and observable to the community.



# Existing Conditions & Analysis

The Randolph Woods Forest is in a severe state of decline. While there are individual larger hardwood specimen trees, softwoods are rapidly deteriorating. The forest understory is filling (or has been filled) with invasive understory species.

The native understory has been virtually destroyed by deer browsing and replaced by many invasive and non-native species.

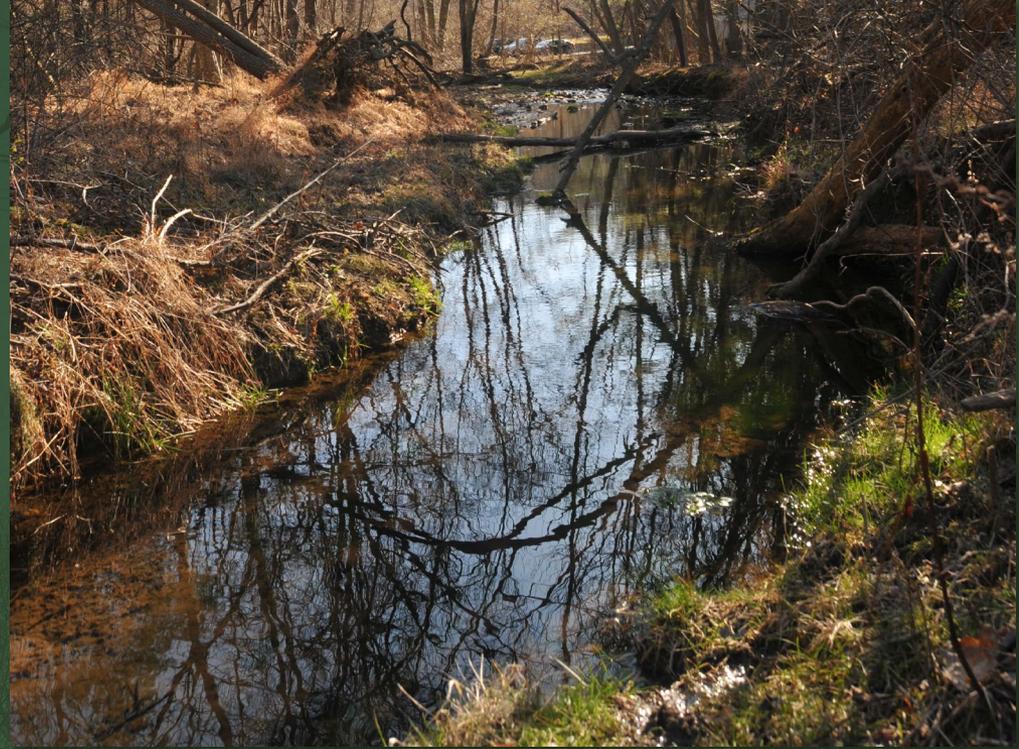
The Preserve will continue to decline without massive intervention and stewardship.



# Existing Conditions & Analysis

The headwaters area of the Preserve is likely the healthiest area in the Preserve, albeit in the context of a severely compromised forest.

There are some native species present (although there are an abundance of invasives). The supply of water seeping from the earth appears to remain constant, based on both observation and anecdotal information. The upper areas of the headwaters (behind Public Works and below E. First Ave) need much more attention toward protecting this resource.



# Existing Conditions & Analysis

## Randolph Woods Forest Analysis

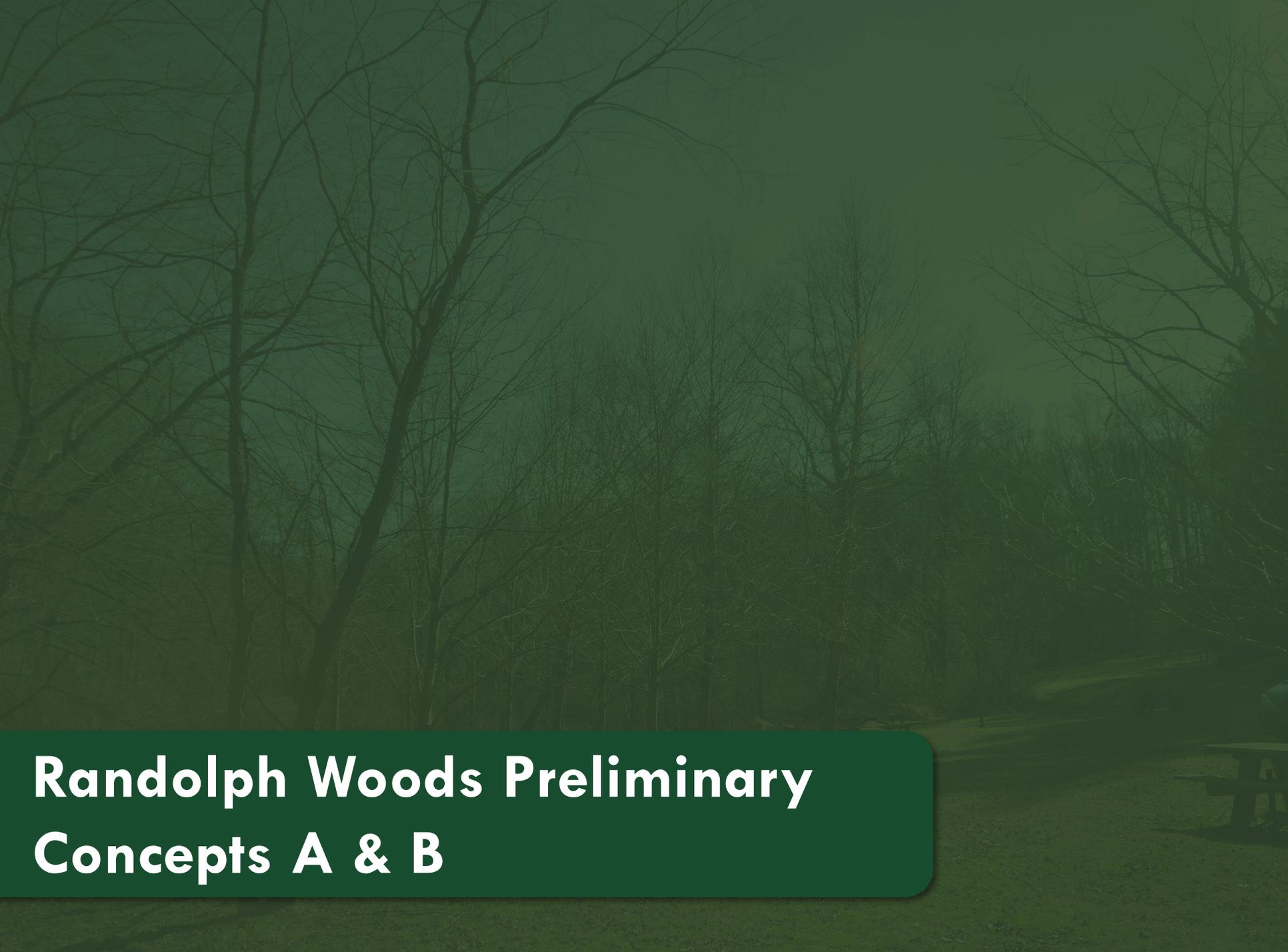
- Significant invasive shrubs here.
- This Preserve would be a good candidate for a deer enclosure fence
- There are remnant spring ephemerals in the mature hardwood forest but very few. With very little understory growth there must be deer management or exclusion to reintroduce/reestablish any shrub, understory, or mid-canopy tree strata – deer exclusion or APHIS targeted hunt to reduce population.
- If not, recommend planting clusters that are fenced in (~ 50ft diameter) containing a density of native trees, shrubs, and forest herbaceous seeds)

# Existing Conditions & Analysis

## Hydrology & Stormwater Management:

Two primary stormwater feeds are causing significant erosion and nutrient input into the headwater wetlands on site.

- Stormwater interventions are critical to protect the remaining/intact healthy wetland ecosystem that has been encroached upon (time is of the essence)
- Complete control / removal of the encroaching Phragmites coming in from the residential drainage is the priority invasive plant removal action
- Dying and overstocked spruce trees in there area should be logged/removed and this area can be a highly visible and robust planting/restoration area (upland transition to the stormwater feeds and associated wetlands
- Wetlands contain suitable bog turtle habitat well within the known range of this species (potential for technical support from USFWS) and there will be permitting and seasonal curtailments on activities in this wetland and adjacent habitats.



# **Randolph Woods Preliminary Concepts A & B**

# Concept A

## Trails & Paths:

- Ruthland Ave Sidewalk: **.3 mi**
- ADA loop trail: **.35 mi**
- Pedestrian Trails (Includes perimeter and through trails): **1.35 mi**
- 3 new ADA bridges

**TOTAL: 2 MILES of TRAILS**

**Reduced intrusions into proposed restored interior habitats**



North



## Existing Conditions

- Contour 2'
- Stream
- Sensitive Area
- Headwater Protection Area
- Parcel Line
- Sidewalk
- Trail
- Road
- Building
- Areas Outside Conservation Easement
- Municipal Boundary

## Proposed

- Pedestrian / Hiking Trail
- ADA Trail
- Sidewalk
- Pedestrian Bridge
- Boardwalk
- Structure
- Stormwater BMP

# Concept B

## Trails & Paths:

- Ruthland Ave Sidewalk: **.3 mi**
- ADA loop trail: **.35 mi**
- Pedestrian Trails (Includes perimeter and through trails): **2.15 mi**
- 3 new ADA bridges

**TOTAL: 2.8 MILES of TRAILS**

Trails system similar to existing. Trade off is more access for more compromised habitats.



Existing Conditions	Proposed
Contour 2'	Pedestrian / Hiking Trail
Stream	ADA Trail
Sensitive Area	Sidewalk
Headwater Protection Area	Pedestrian Bridge
Parcel Line	Boardwalk
Sidewalk	Structure
Trail	Stormwater BMP
Road	
Building	
Areas Outside Conservation Easement	
Municipal Boundary	

# Concept A & B

## Shared Features

- Wetland boardwalks along Ruth Run (for environmental education, scenic views)
- Stormwater BMP's (best management practices) recommended in headwater protection areas
- Stand-alone restroom near pump house with two unisex fixtures
- 25 foot wooded privacy buffer along Willistown Township residents
- Driveway ends at existing parking area
- 400 SF pavilion in picnic area south of parking
- Bird boxes and bat boxes

A

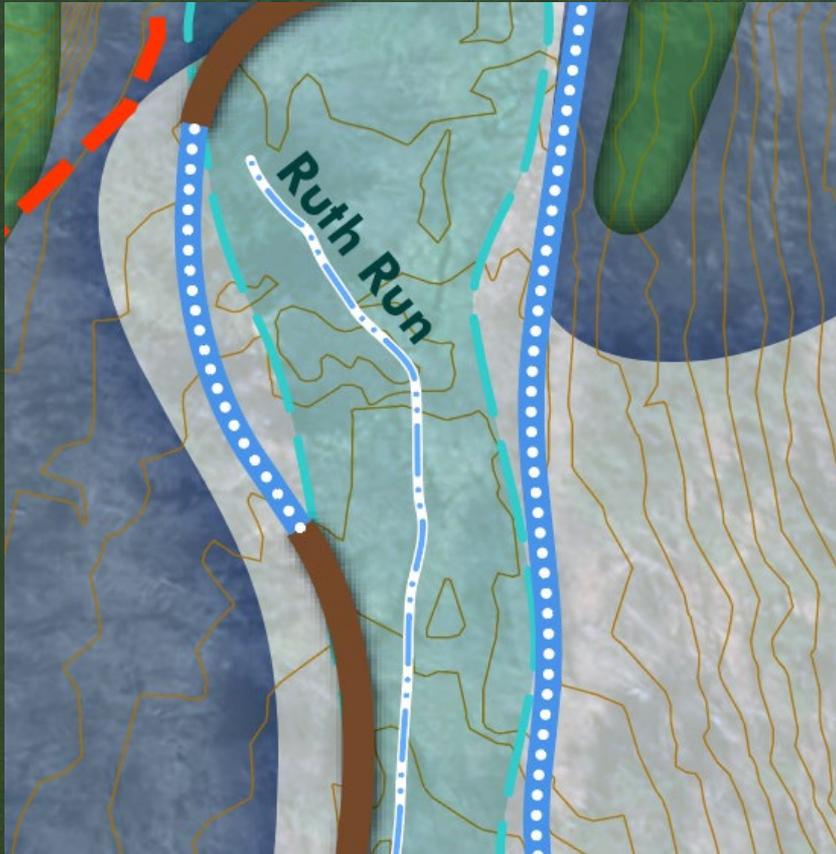


B



# ADA Loop Trail

- Loop trail that meets Americans with Disabilities Act (ADA) requirements – enables accessibility for all users.



# On-Leash Dog Walking Permit

- **As forest health is a top priority, a non-fee user permit system can be used to register dog walkers in Randolph Woods:**
  - Dogs can potentially damage ecological areas in Randolph Woods.
  - Permit system would require signing and adherence to Randolph Woods rules and guidelines.
  - A permit system for any user group can stipulate mandatory volunteer service in Randolph Woods (i.e. Trail cleanup / maintenance, stewardship, removal of invasive plants)



# Sidewalk

- Essential pedestrian infrastructure
- Both concepts propose sidewalk connections between King St. and Randolph Woods along Ruthland Avenue.



# Pedestrian Walking / Hiking Trail

Many existing trails in Randolph Woods are in decent shape / location. New and improved trails can implement the following sustainable trail techniques:

- Improved / proposed trails to follow a curvilinear route that matches the terrain. Trails should be designed so that water will flow across and not along the trail (which would lead to erosion).
- Outsloping: An outsloped tread is one that is lower on the outside or downhill side of the trail than it is on the inside or bankside. Outsloping lets water sheet across the trail naturally. The tread should be outsloped at least 5 percent.



# Pedestrian Walking / Hiking Trail

- Grade reversals or water dips: these are short sections of trail that change from climbing to descending, and then return to climbing. This reversal shortens the water flow path and enhances trail drainage.
- Waterbars: can be constructed on the trails – they are built rock structures or placed logs; hikers step over it. Waterbars catch and divert water off of trail



# Foot Bridges

- The existing approaches to the bridges are not ADA accessible
- The bridges constrict the flow of the stream during flood events.
- New foot bridges (3) could become keynote structures in the park.



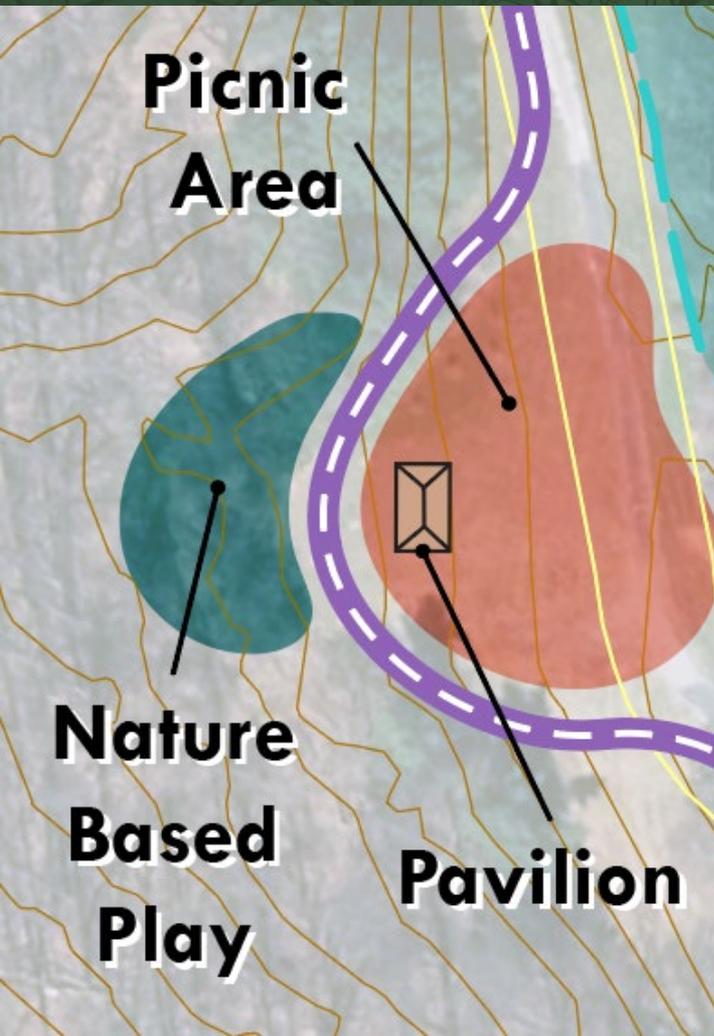
# Boardwalks

- Boardwalks provide ways to allow access into environmental sensitive areas for educational purposes
- Additionally when properly constructed, boardwalks create a low maintenance ADA accessible trail
- Both concepts recommend boardwalks along Ruth Run.



# Pavilion

- The Conservation Easement provides for a 400 square foot Pavilion. This structure can pick up on the historic roof line of the pump house.



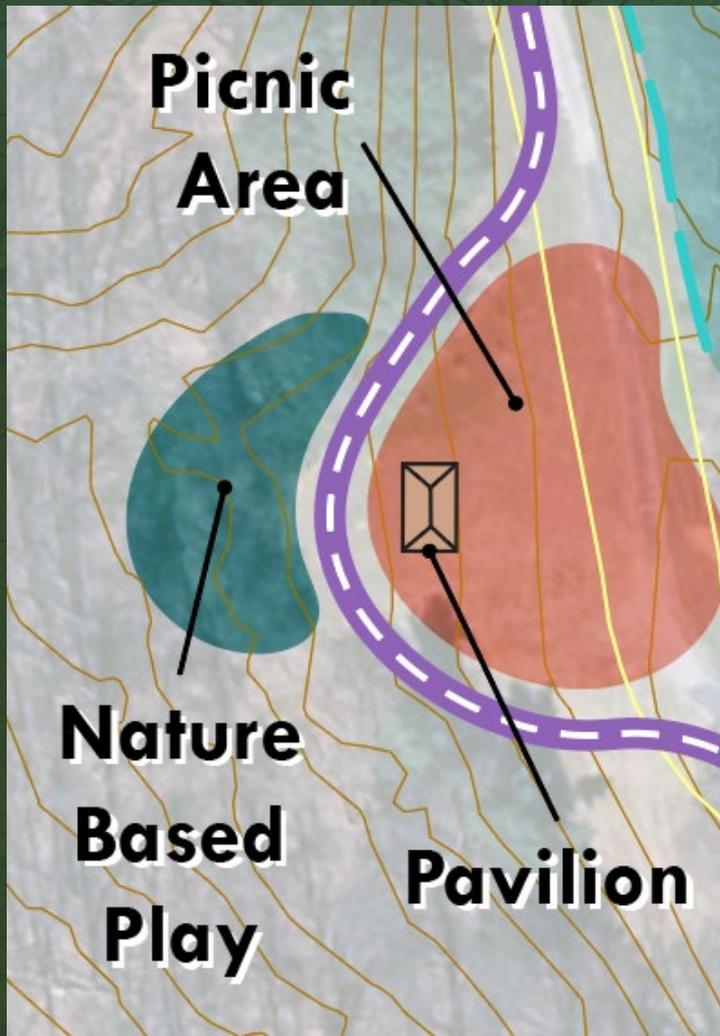
# Nature - Based Play

- Play space incorporates natural elements for physical, educational, and social benefits
- Can vary from primitive found elements to more 'manufactured/built play equipment'



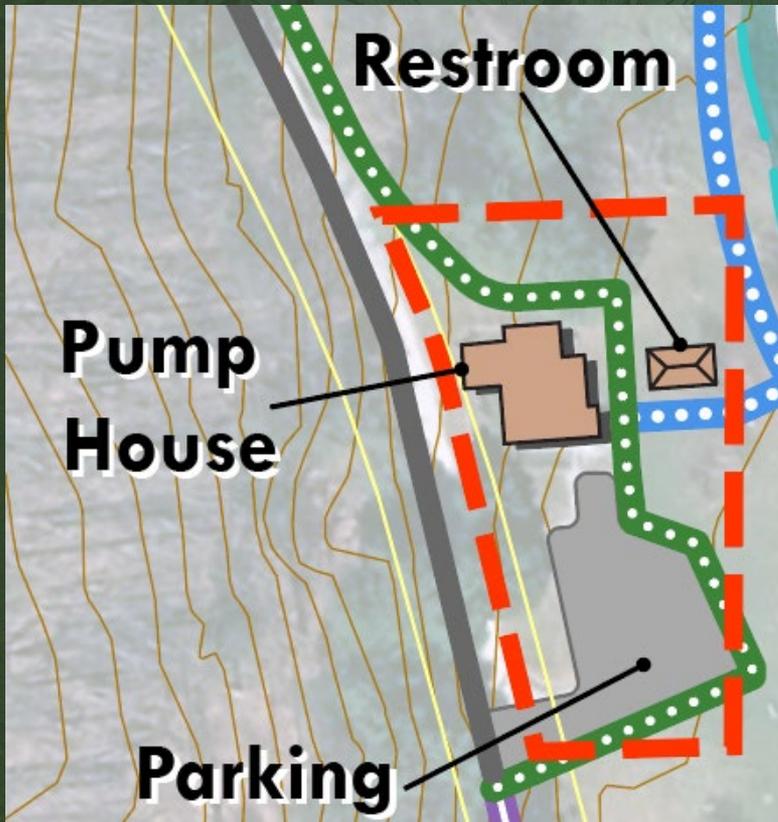
# Picnic Area

- Space for picnicking, can be used for small gatherings.



# Restrooms

- Concepts A and B recommend a stand alone restroom structure with two unisex fixtures.



# Signage

- New signage can be immediately implemented to educate visitors about the importance of preservation of the on-going efforts to rescue the forest and protect the headwaters and to delineate areas for specific user groups.



# Deer Fencing

- Deer have browsed much of Randolph Woods understory, and is a major factor in poor forest health.
- Fencing can keep out deer populations, allowing understory trees to grow and mature.



Tyler Arboretum deer fence

# Bird & Bat Boxes

- Bird boxes and bat boxes can provide additional habitat as well as opportunities for wildlife viewing.

Bird Box



Bat Box



# Meadows

- Interesting Views
- Wildlife / Pollinator Habitat
- Stormwater BMP
- Reduce maintenance/mowing
- Reduce noise



# Pump House

- *What are possible uses for this structure?*



# Options for the Pumphouse

Not suitable for adaptive reuse for a bathroom. Recommend a separate bathroom be built. More economical and easier to maintain. Budget cost: \$125,000.

- 1. Renovate.** Renovate so that this is usable building. The structure is 1150 square feet. Redevelopment costs can be reasonable estimated at a minimum of \$350/SF. This results in a renovation cost of at least \$400,000 Can this be justified in context of the needs and costs to protect the forest and headwaters resources? Also, what are the uses of this building that would justify this cost?
- 2. Modify.** Partially demolish the walls, roof to remain to create an open air pavilion structure.
- 3. Demolish.** Demolish most of the structure and leave the foundation walls up to a height of about 3 feet. Interpret the historic use and spring that remains in the building. May or may not wish to add a new roof that over the foundation (but not attached to it). (Precedent of a similar use is Franklin Court which uses a analogous technique to display the home of Benjamin Franklin).
- 4. Wait.** "Mothball" the structure for the time being. Revisit in the future. Use now for equipment storage?

***\*Note: The utility pole next to the pump house formerly had a large electrical transformer on the pole. Recommend conducting soil tests in the vicinity of the pole to test for the presence of any PCBs.***

# 1<sup>st</sup> Avenue Parcel Alternatives

- **Alternative A:** Playground as primary use
- **Alternative B:** Shared use between playground and pump track
- **Alternative C:** Pump track as primary use
- **Alternative D:** Use for Public Works storage



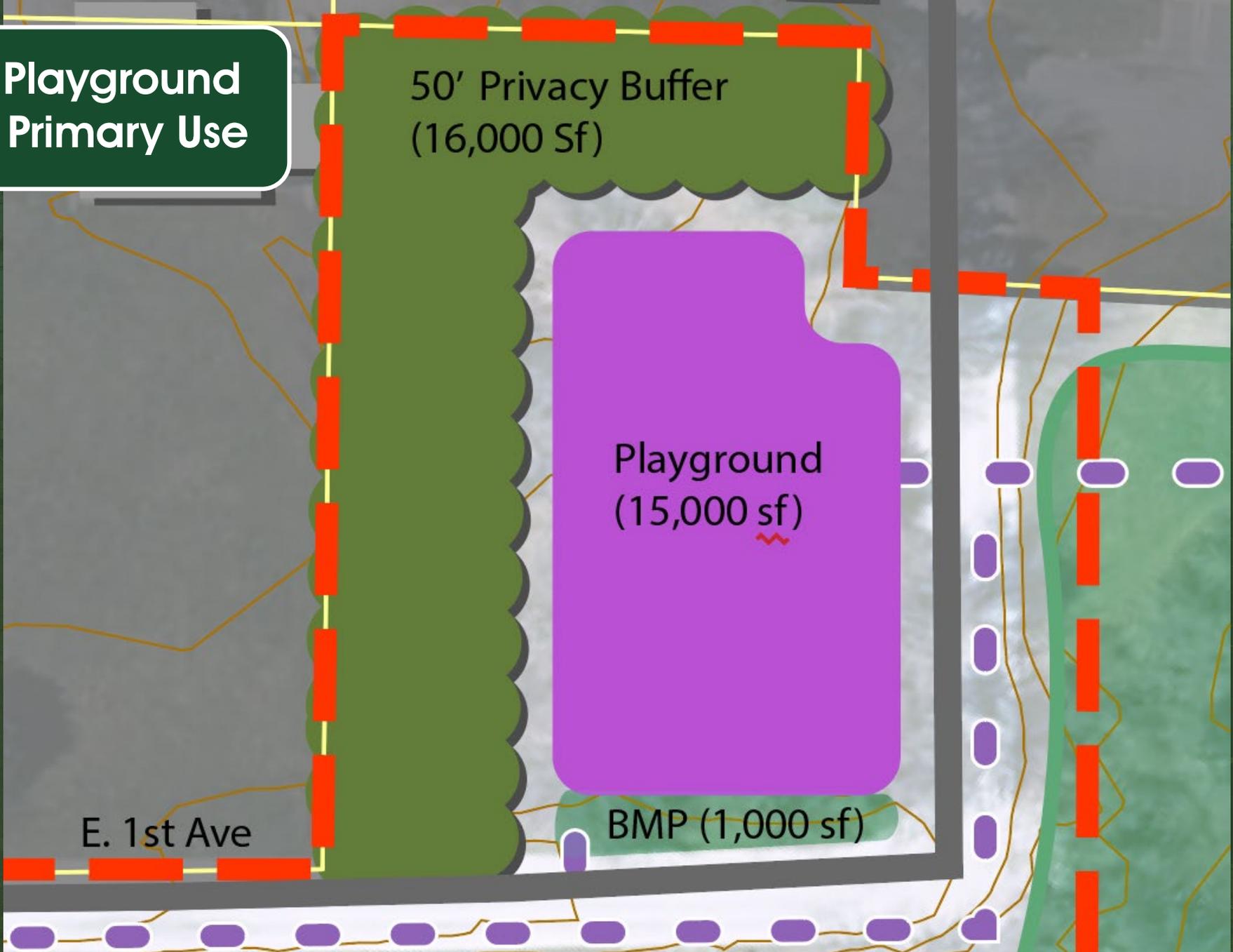
# A. Playground As Primary Use

50' Privacy Buffer  
(16,000 Sf)

Playground  
(15,000 sf)

BMP (1,000 sf)

E. 1st Ave



**B. Shared use  
between  
playground and  
pump track**

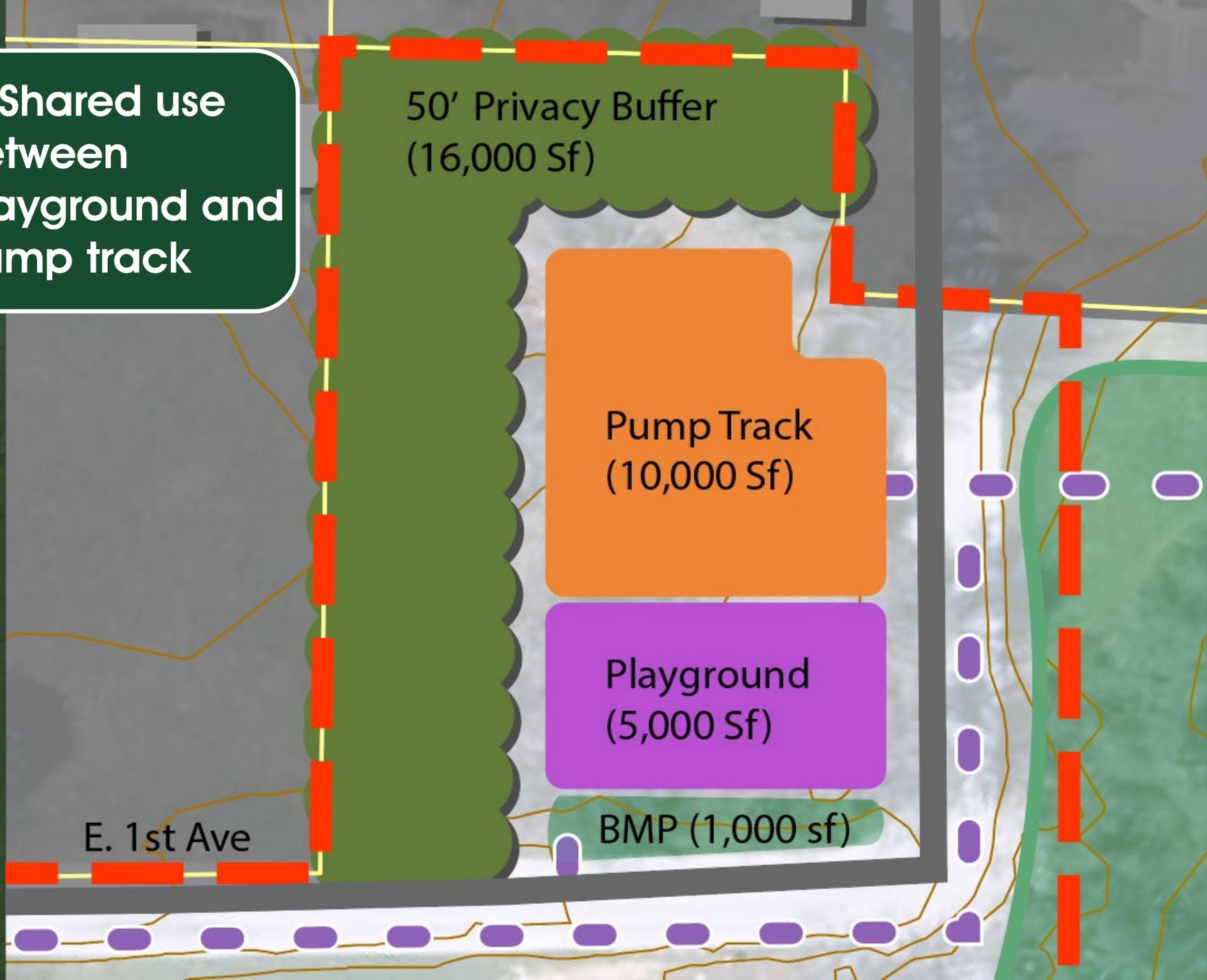
50' Privacy Buffer  
(16,000 Sf)

Pump Track  
(10,000 Sf)

Playground  
(5,000 Sf)

BMP (1,000 sf)

E. 1st Ave



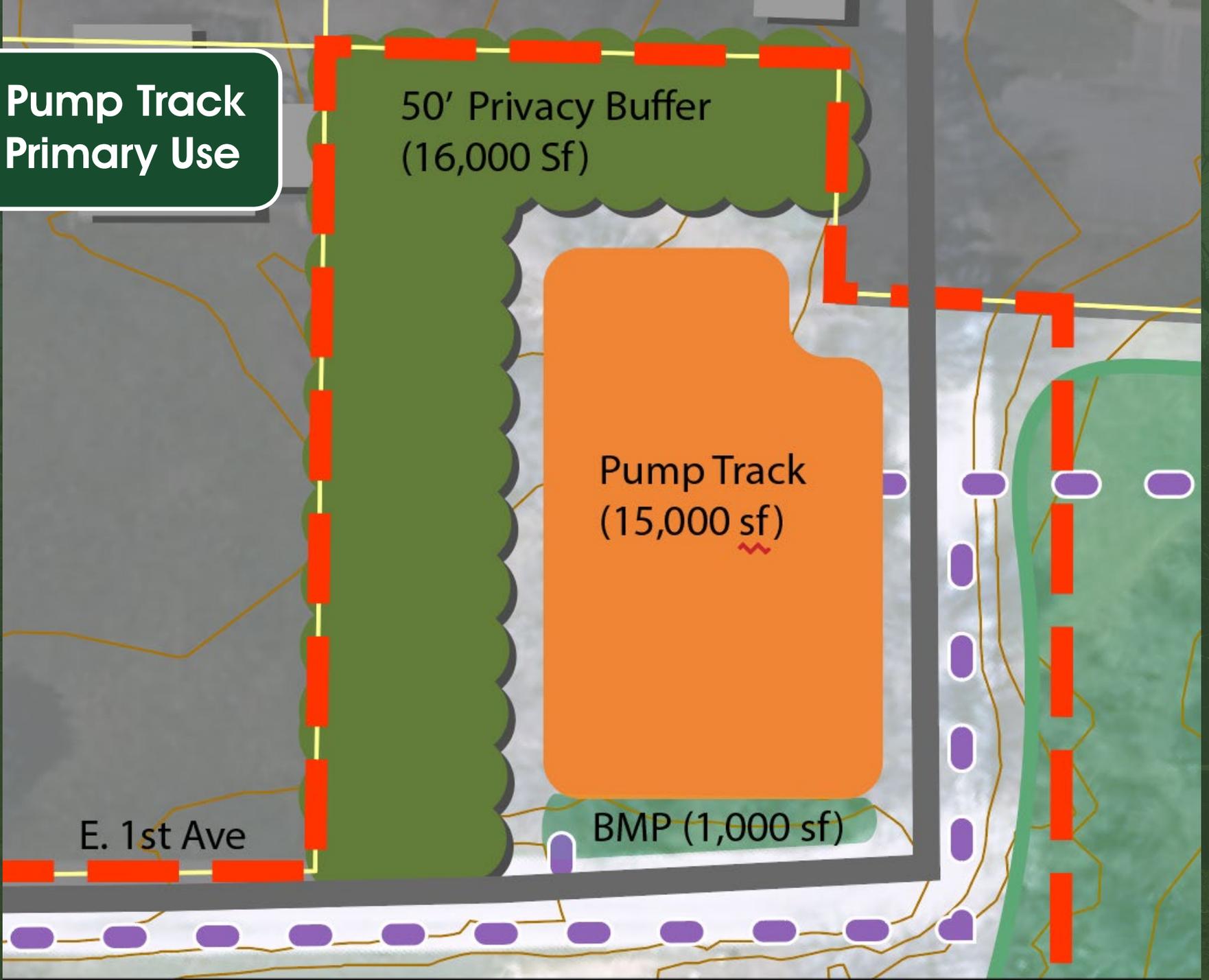
# C. Pump Track As Primary Use

50' Privacy Buffer  
(16,000 Sf)

Pump Track  
(15,000 sf)

BMP (1,000 sf)

E. 1st Ave



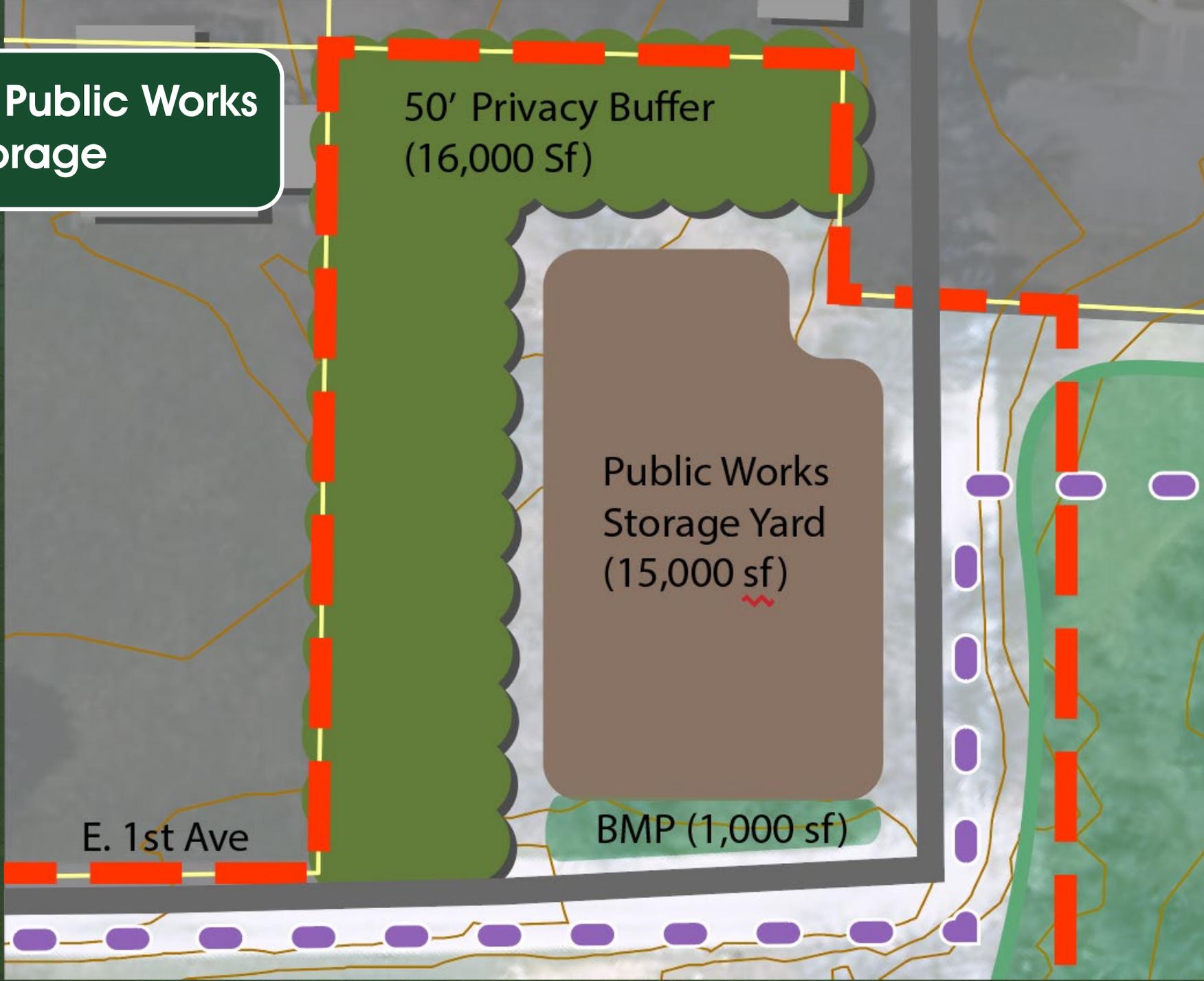
# D. Public Works Storage

50' Privacy Buffer  
(16,000 Sf)

Public Works  
Storage Yard  
(15,000 sf)

BMP (1,000 sf)

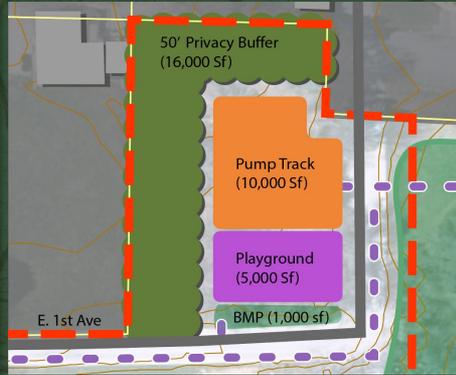
E. 1st Ave



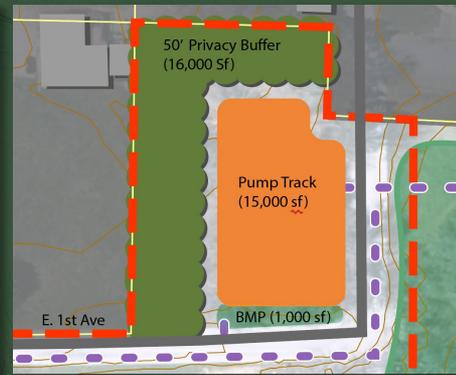
# 1<sup>ST</sup> AVENUE PARCEL ALTERNATIVES



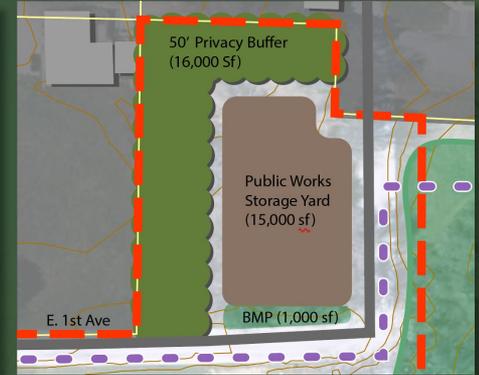
A



B



C



D

All uses possible. Which use or uses serves the community best?

# Pump Track

- Used by mountain bikers for training focused on developing upper body strength.
- Vary in size from neighborhood scale of 5,000 to 10,000 SF to regional scale of 10,000 - 20,000 SF



# Playgrounds

- Tot area
- Grade school area
- Continuous safety surface



# Public Works Storage Bins

- Move public works storage away from entrance to Randolph Woods



# Preliminary conclusions & Recommendations summary:

The Preserve forest is in critical condition. The forest cover is important to protecting the headwaters. Immediate / Initial efforts should be focused on forest restoration toward developing a healthy ecosystem. Toward that goal, the following is recommended:

- Enlist an army volunteers from as many user / interest groups as possible to start on a process of invasives removal and natives plantings;
- Concurrent elimination/mitigation of deer browsing through deer exclusion fencing (partial or entire) or culls;
- Dying and overstocked spruce trees in there area should be logged/removed;
- Complete control / removal of the encroaching Phragmites coming in from the residential drainage;
- Focus funding and grant efforts on forest resource management and restoration;

# Preliminary conclusions & Recommendations summary (continued):

The Preserve forest is in critical condition. The forest cover is important to protecting the headwaters. Immediate / Initial efforts should be focused on forest restoration toward developing a healthy ecosystem. Toward that goal, the following is recommended:

- Immediate interpretive/educational signage to advise community of these efforts;
- Volunteers can also be used for trail rerouting and repairs supplemented by Public Works support;
- Redevelop vacant E. First Ave parcel for desired use. Consider “separating” this parcel as a “park” for funding / grant purposes.
- New restroom is a priority improvement;
- Pumphouse becomes low priority improvement

# Discussion & Questions



**A.**

**B.**

# Next Steps

- Receive Feedback on today's preliminary concepts
- SC Concept Refinement & Assemble Draft Plan Report
- Please Complete Public Opinion Survey and Share the Link with Friends & Neighbors:

[www.surveymonkey.com/r/randolphwoods](http://www.surveymonkey.com/r/randolphwoods)

