ENVISIONING A NEW PARK FOR LAKE ARBOR

SITE ANALYSIS + PRELIMINARY CONCEPTS

MAHAN RYKIEL
LANDSCAPE ARCHITECTURE
URBAN DESIGN & PLANNING

Parks & Recreation
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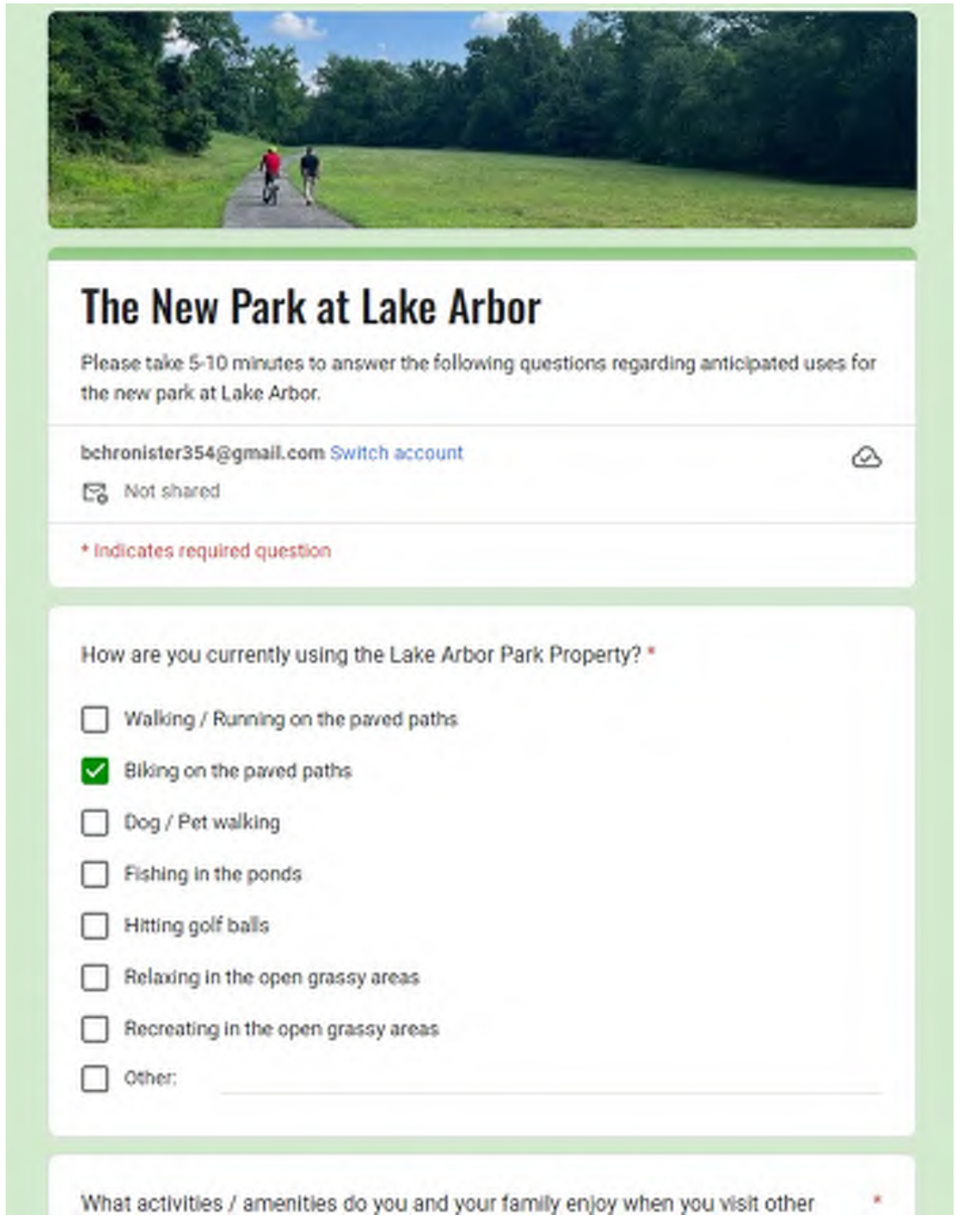
JUNE 5TH, 2024

Reminder: Take the Survey!

https://forms.gle/tskjbiXXvuTgVF7J6

Please Complete by **Monday, June 17th!**



Agenda

- Purpose of the Master Plan & Preliminary Planning Tasks
- Process Timeline Overview
- Meeting 1 Recap (03/21)
- What We heard
- Site Analysis
- Overall Habitat Restoration Concepts
- Active Use/Recreation Concepts
- Open Discussion

Purpose of the Master Plan

To provide a vision and accompanying strategic approach for the future utilization of and stewardship for the new park at Lake Arbor that will:

- Guide short- and long-term improvements
- Protect and enhance the parks natural resources
- Develop new recreational amenities
- Provide for sustainable management practices

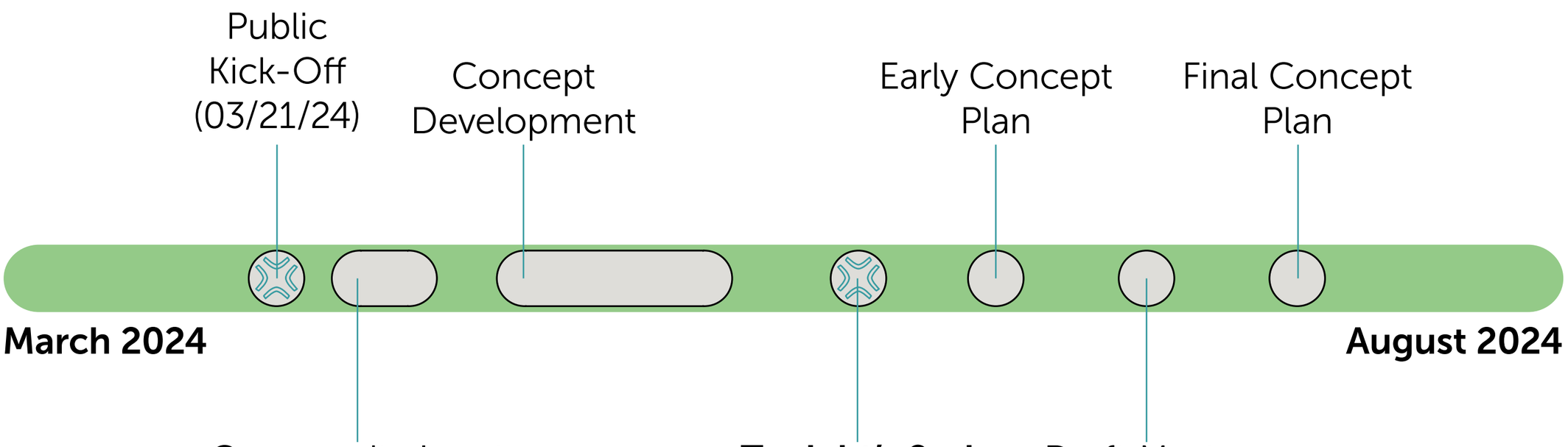
Preliminary Planning Objectives

- Engage the community and create education opportunities
- Assess existing infrastructure (sinkholes) and potential remedies and costs
- Investigate possibilities for the two existing ponds in consult with the County (DPIE)
- Evaluate recreational amenities and associated considerations (parking, staffing, long-term maintenance, etc.)
- Maximize tree planting and habitat creation to minimize mowing maintenance burden, and engage the community as tree ambassadors and caretakers

The major park emphasis will involve tree planting, meadow creation, and limited appropriate recreational development focused on trails and compatible recreational amenities in a safe and well-maintained environment.

Balancing Stewardship and Recreation

Master Planning Process Timeline



Meeting #1 Recap

- Site Overview/Context
- Current Site Issues
- Purpose of Master Plan
- Preliminary Planning Objectives
- Process Overview
- Preliminary Program Elements
- Engagement Exercise & Open Discussion

What We Heard

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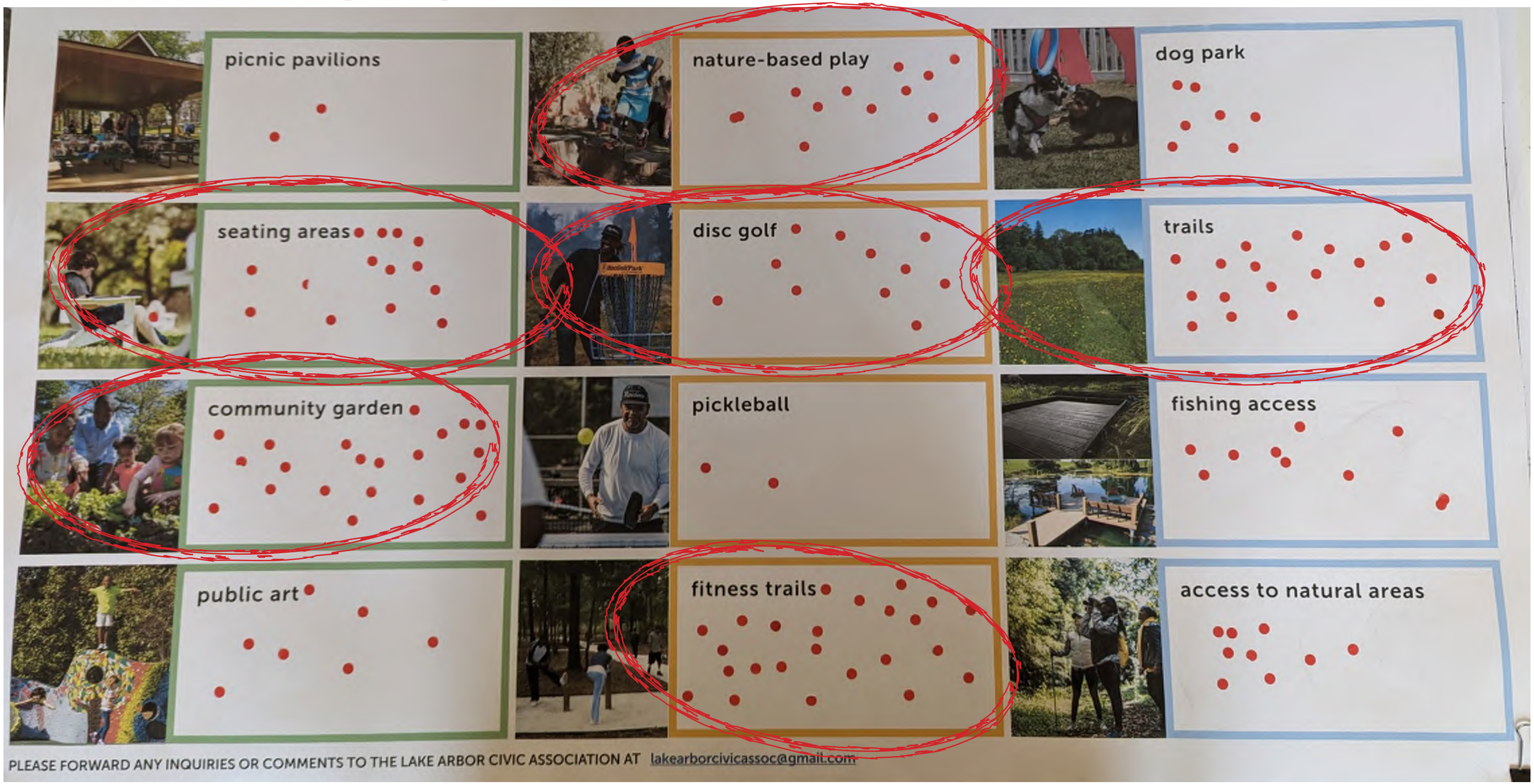
What We Heard



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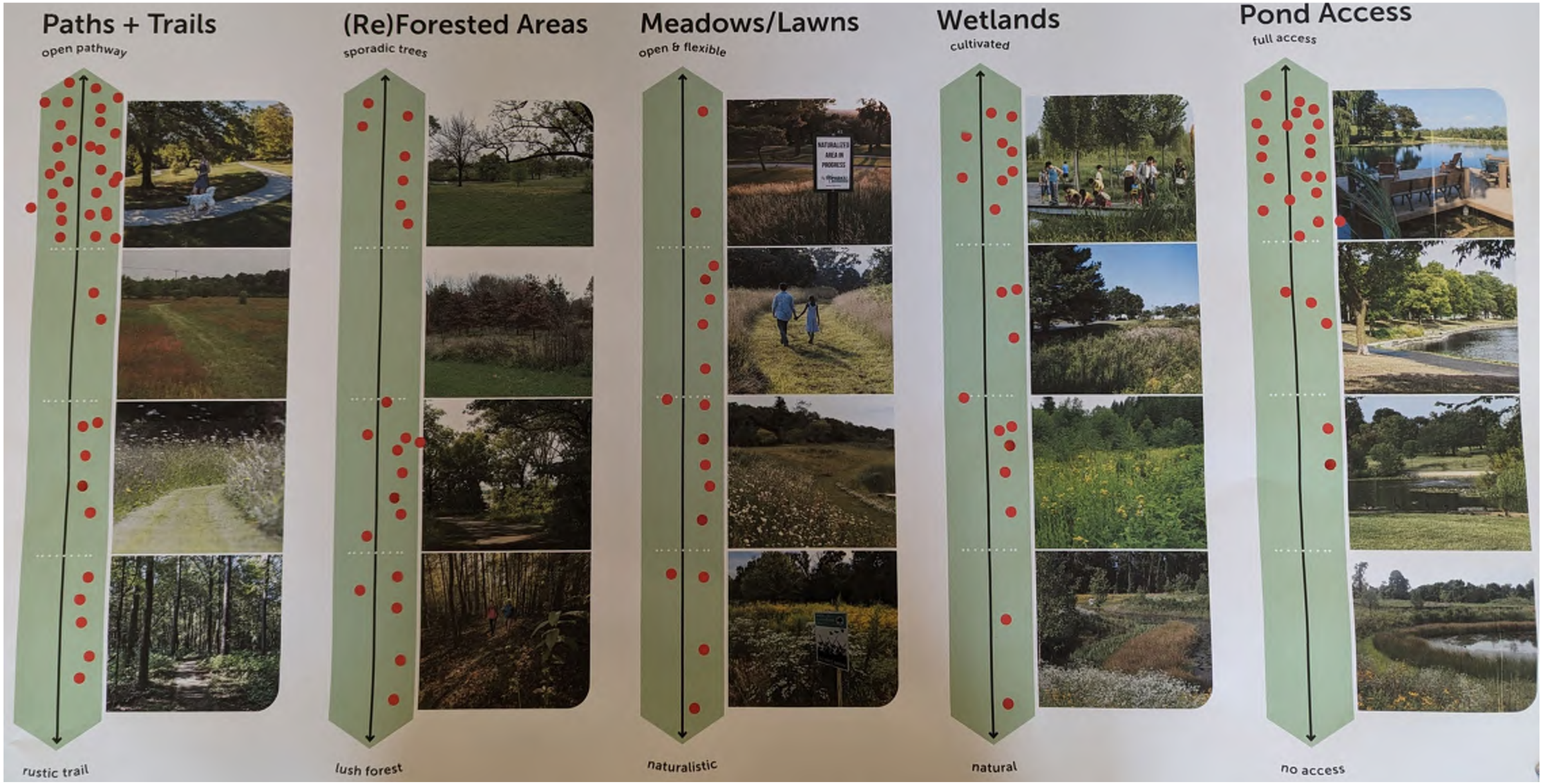
What We Heard



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What We Heard

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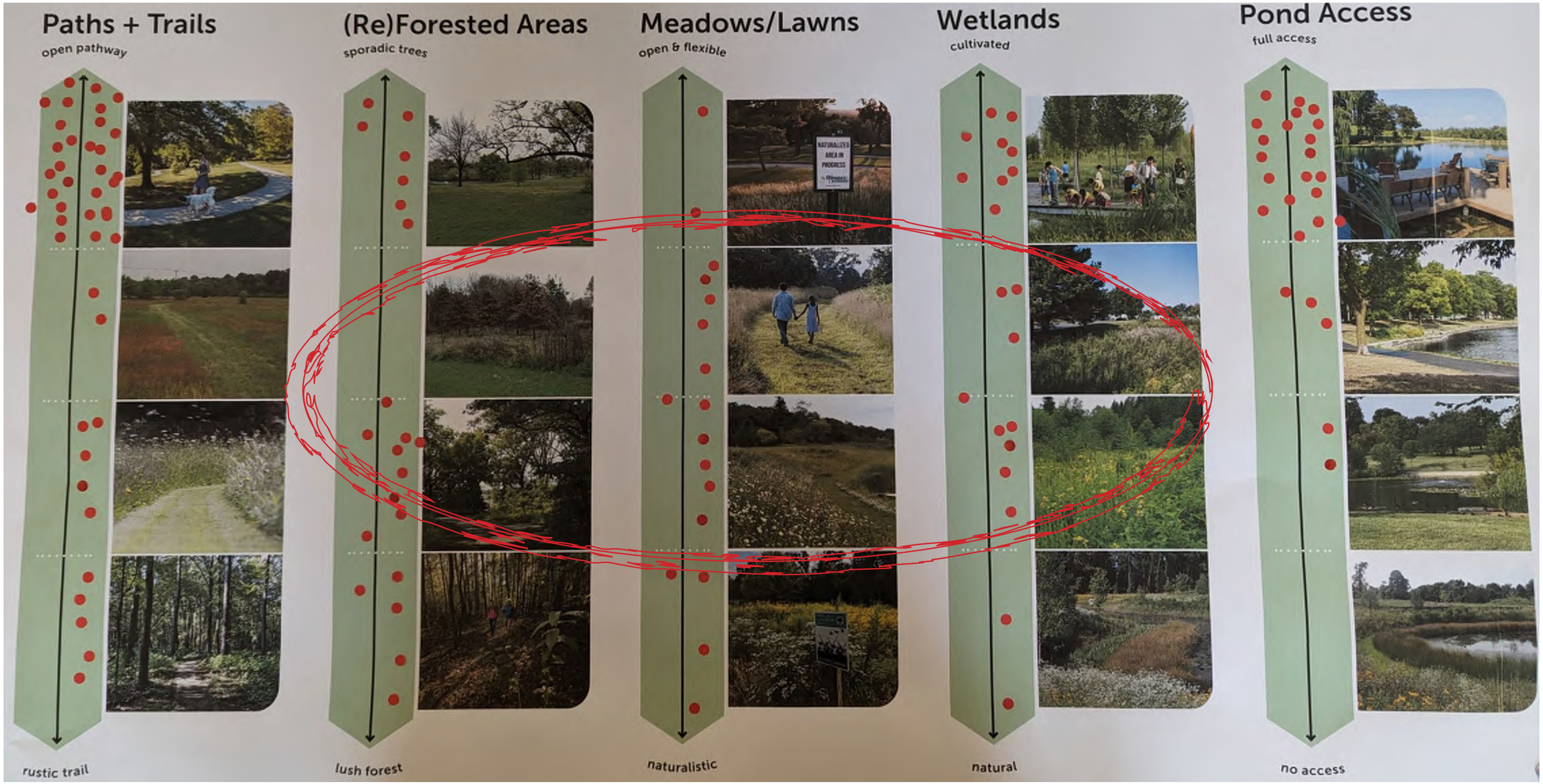
What We Heard



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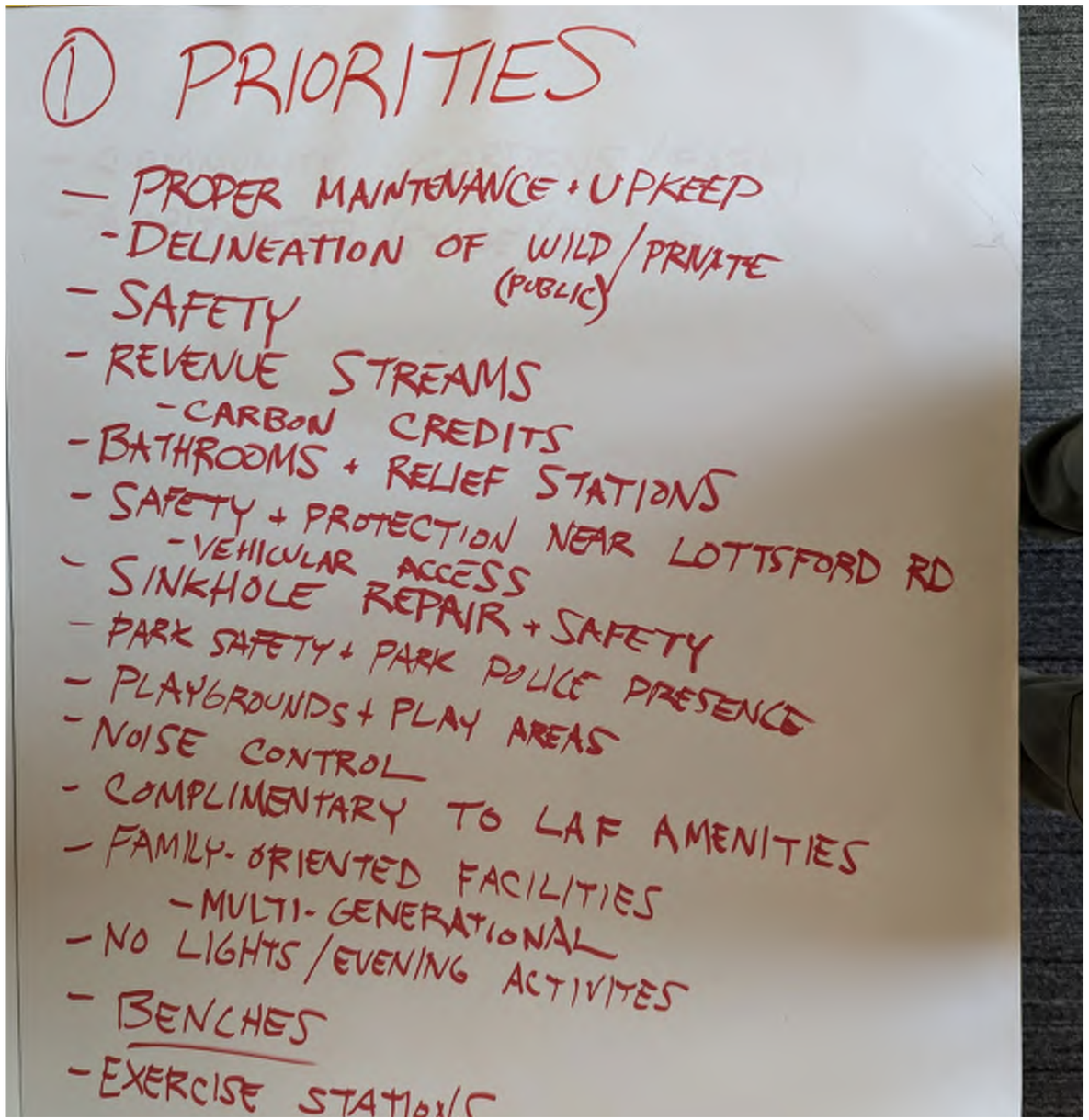
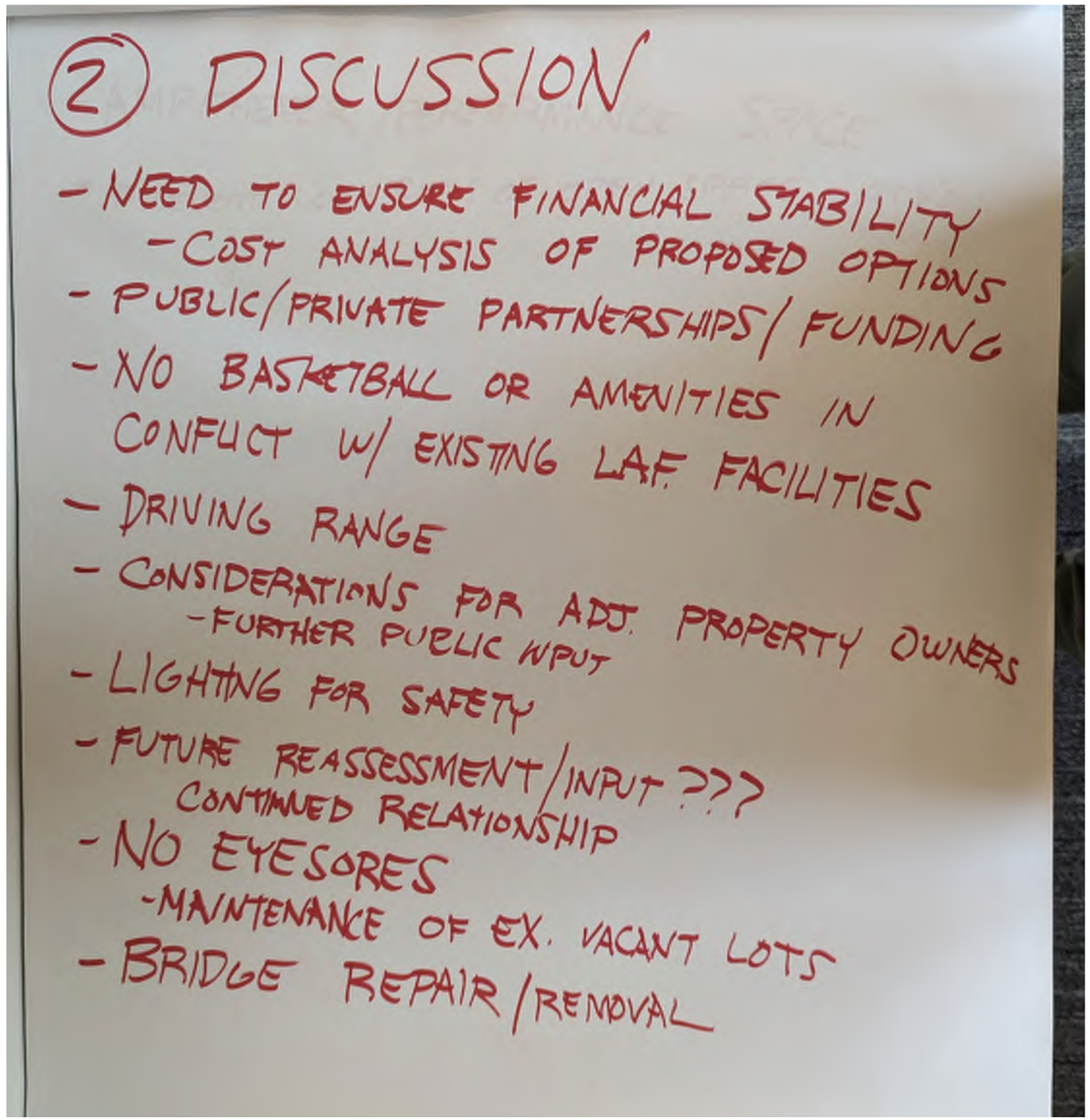
What We Heard





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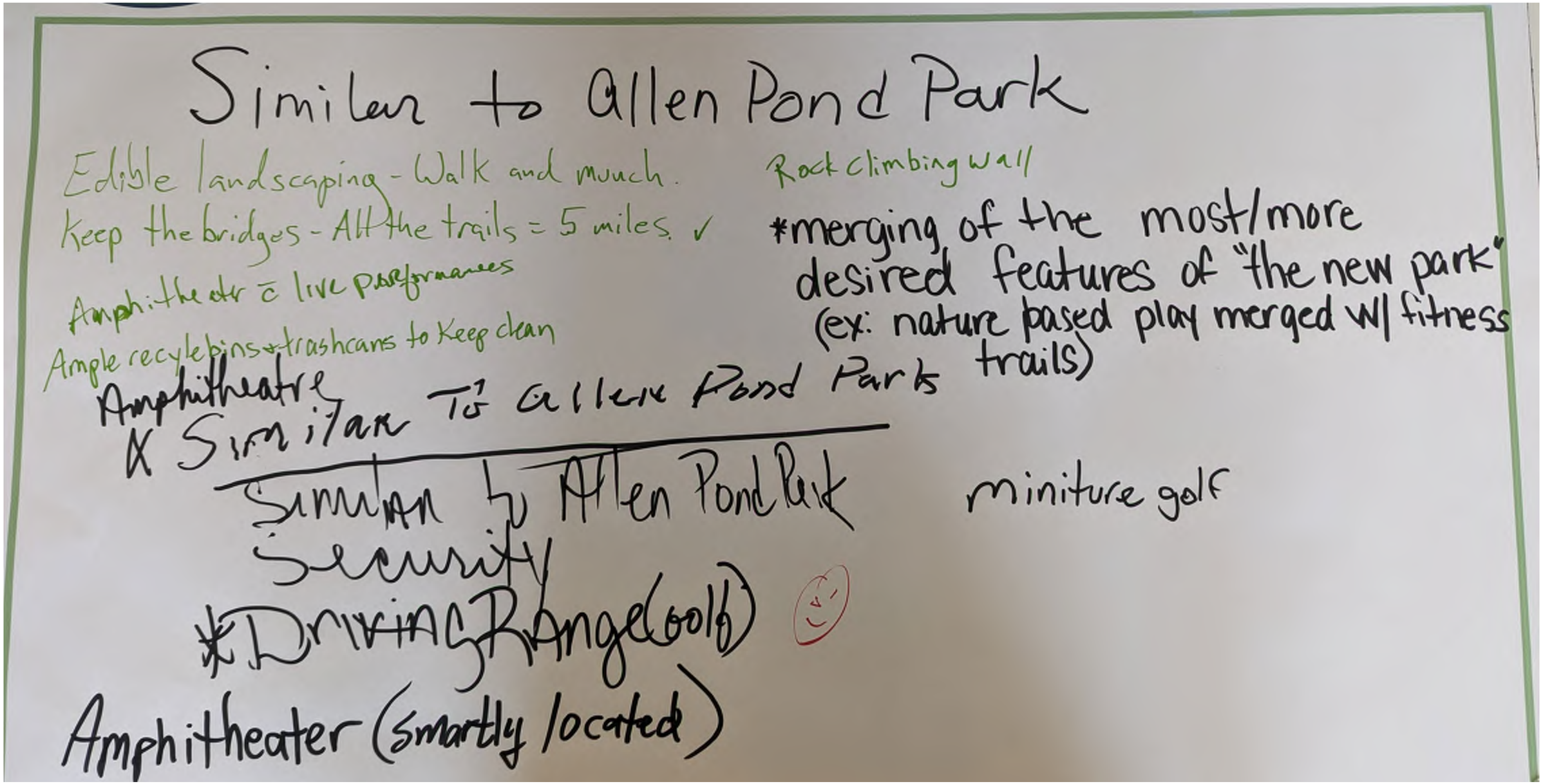
What We Heard

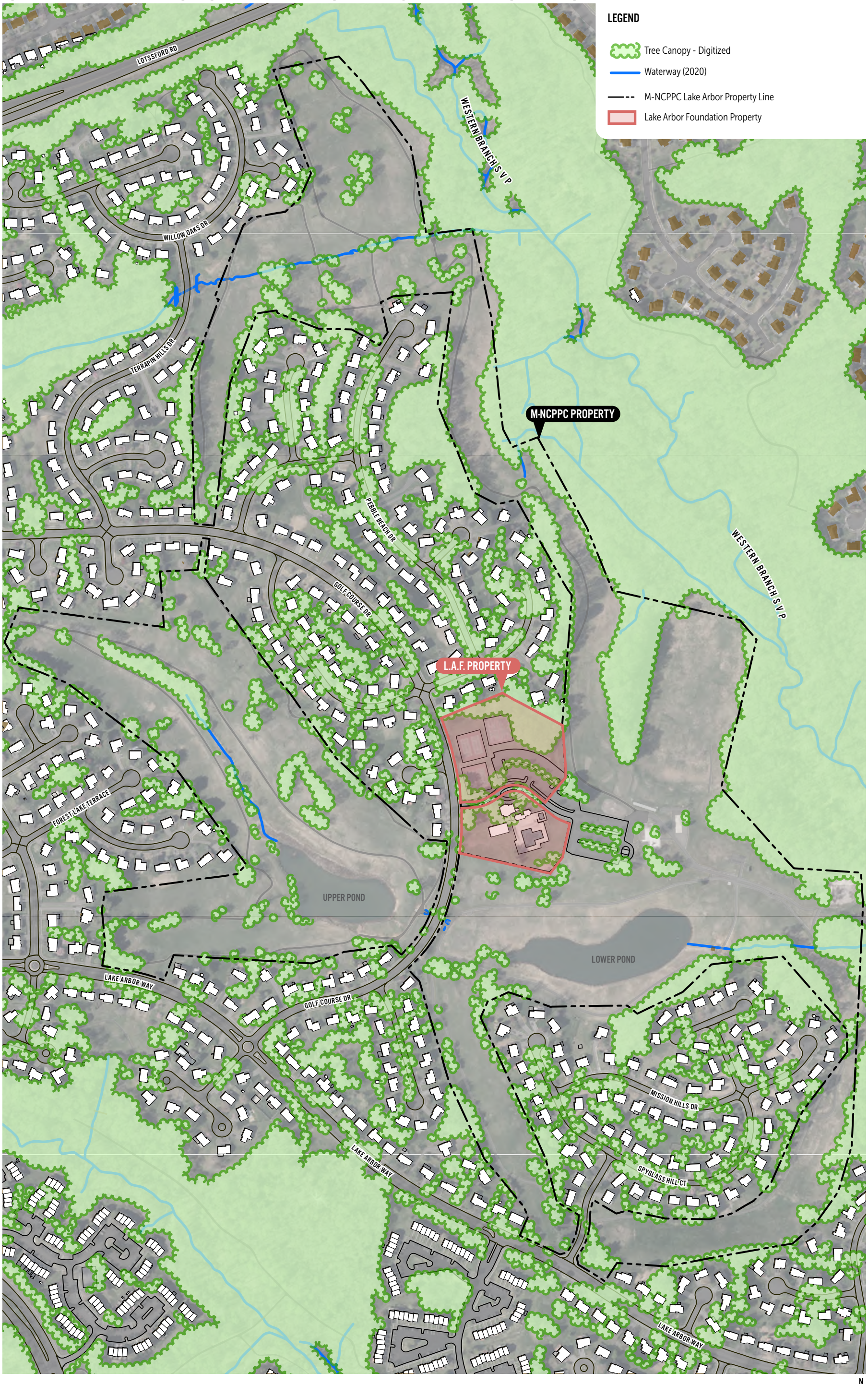


Preliminary Program

- Trails
- Fitness Stations
- Nature Play / Playgrounds
- Pond Access / Fishing
- Community Gardens
- Dog Park
- Amphitheater / Performance Space
- Disc Golf
- Restroom
- Seating Areas
- Pavilions

SITE ANALYSIS

SITE ANALYSIS | EXISTING TREE CANOPY



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SITE ANALYSIS | EXISTING TREE CANOPY

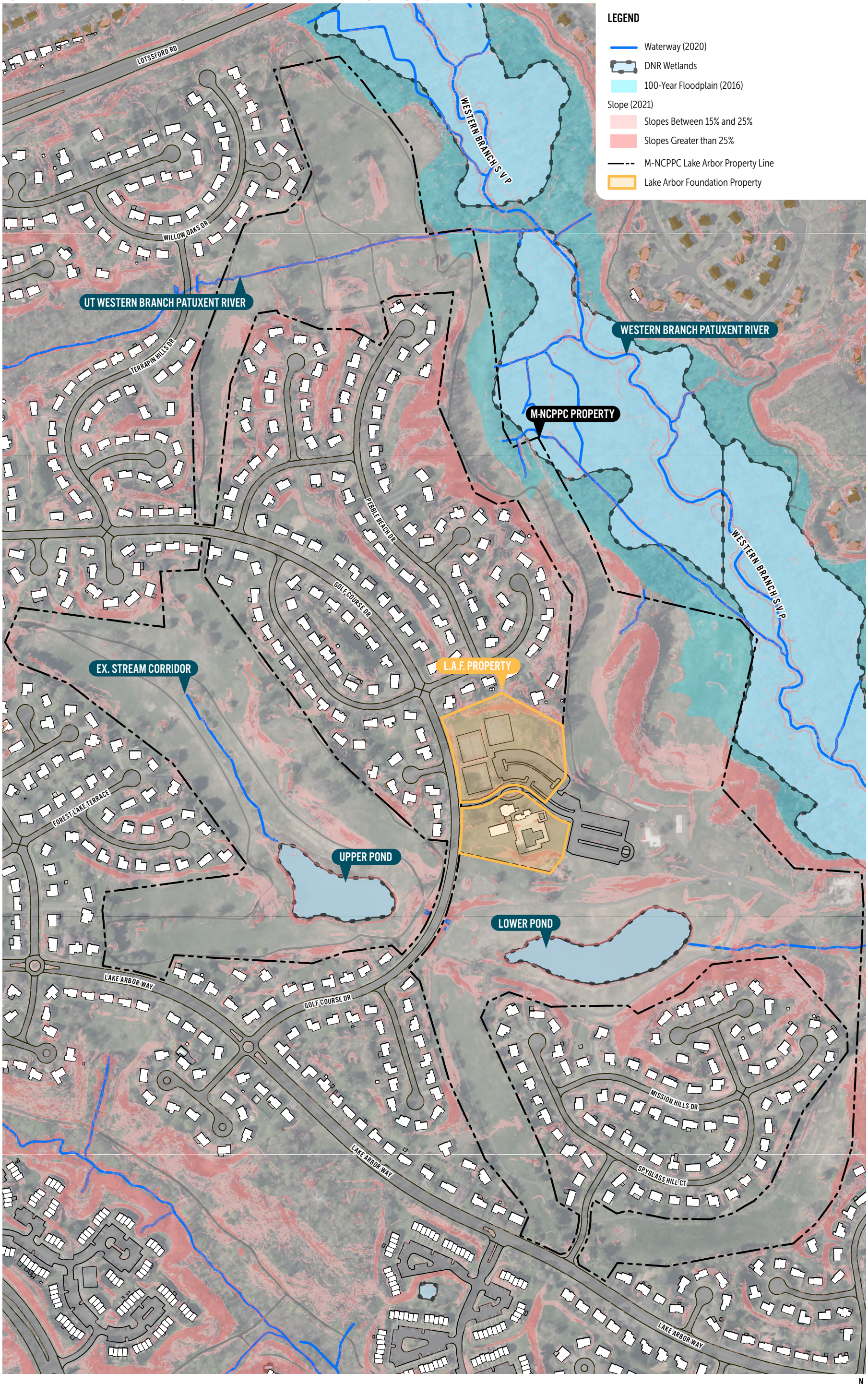
LAKE ARBOR GOLF COURSE REUSE PLAN

2024.06.05

0' 200' 400'

N

SITE ANALYSIS | HYDROLOGY



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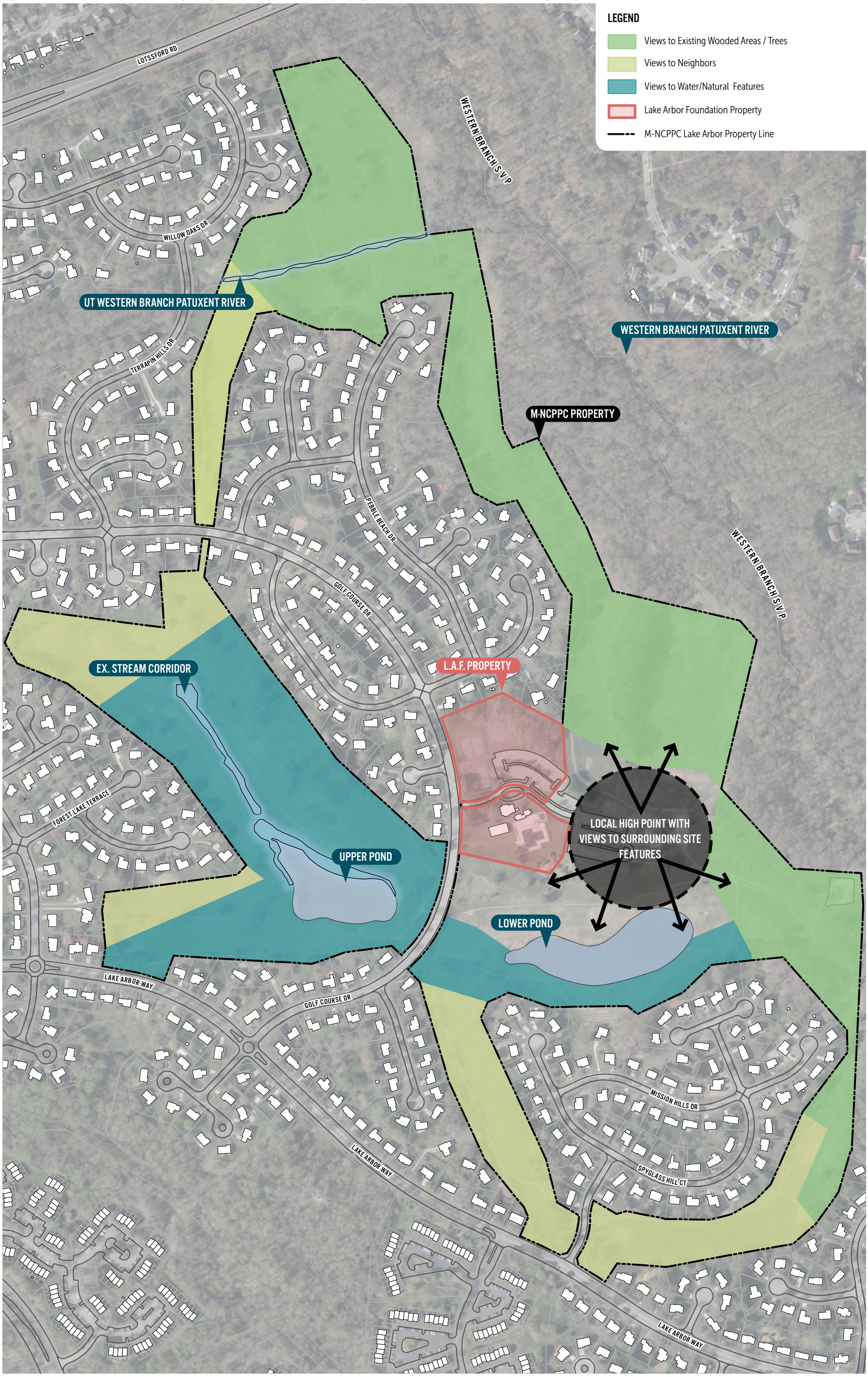
SITE ANALYSIS | HYDROLOGY
LAKE ARBOR GOLF COURSE REUSE PLAN
2024.06.05

0' 200' 400' N

SITE ANALYSIS | VIEWSHED ANALYSIS



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SITE ANALYSIS | VIEWSHED ANALYSIS
LAKE ARBOR GOLF COURSE REUSE PLAN
2024.06.05

0' 200' 400'

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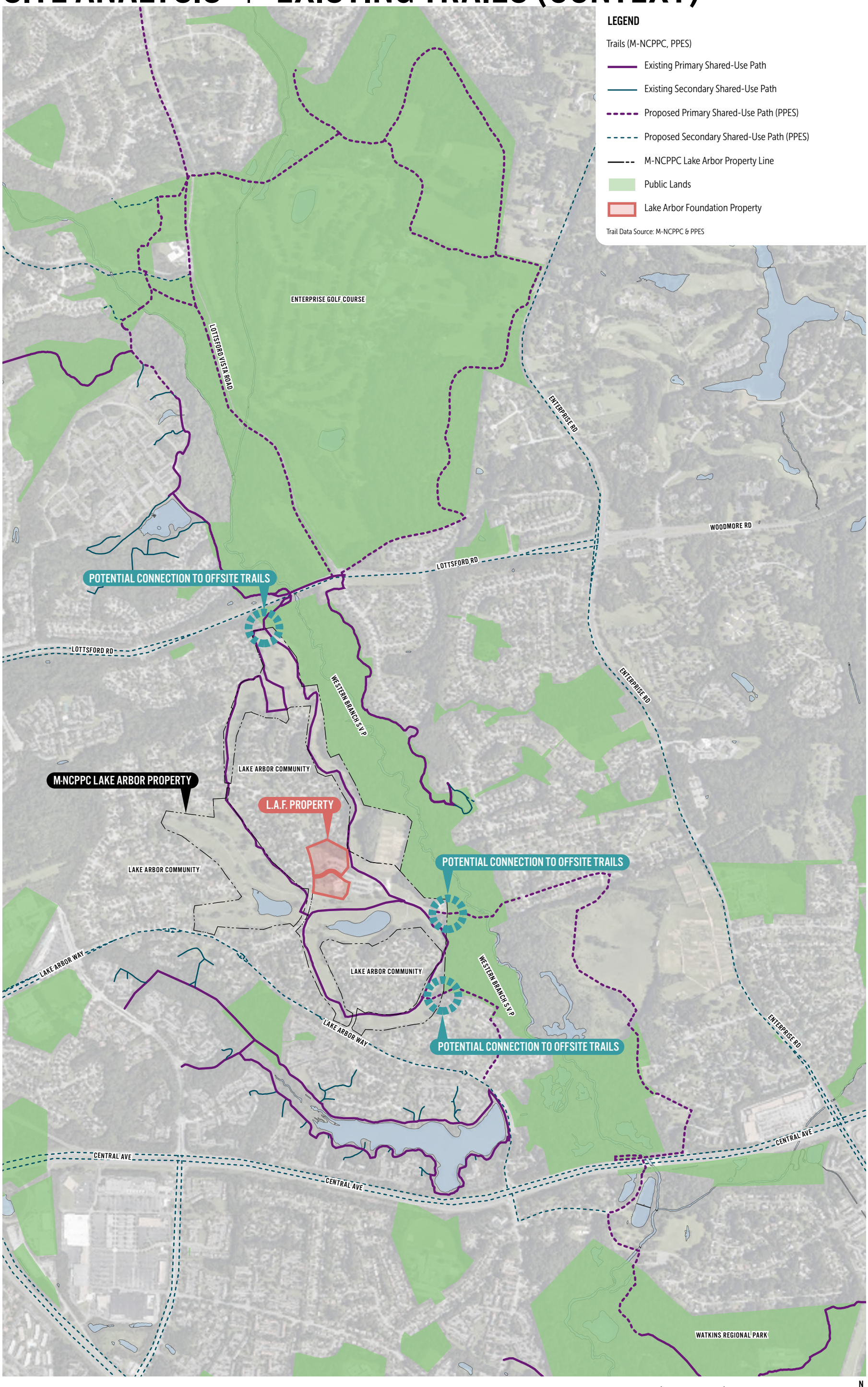
SITE ANALYSIS | EXISTING TRAILS (CONTEXT)



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SITE ANALYSIS | EXISTING TRAILS (CONTEXT)

LAKE ARBOR GOLF COURSE REUSE PLAN

2024.06.05

0' 600' 1200'

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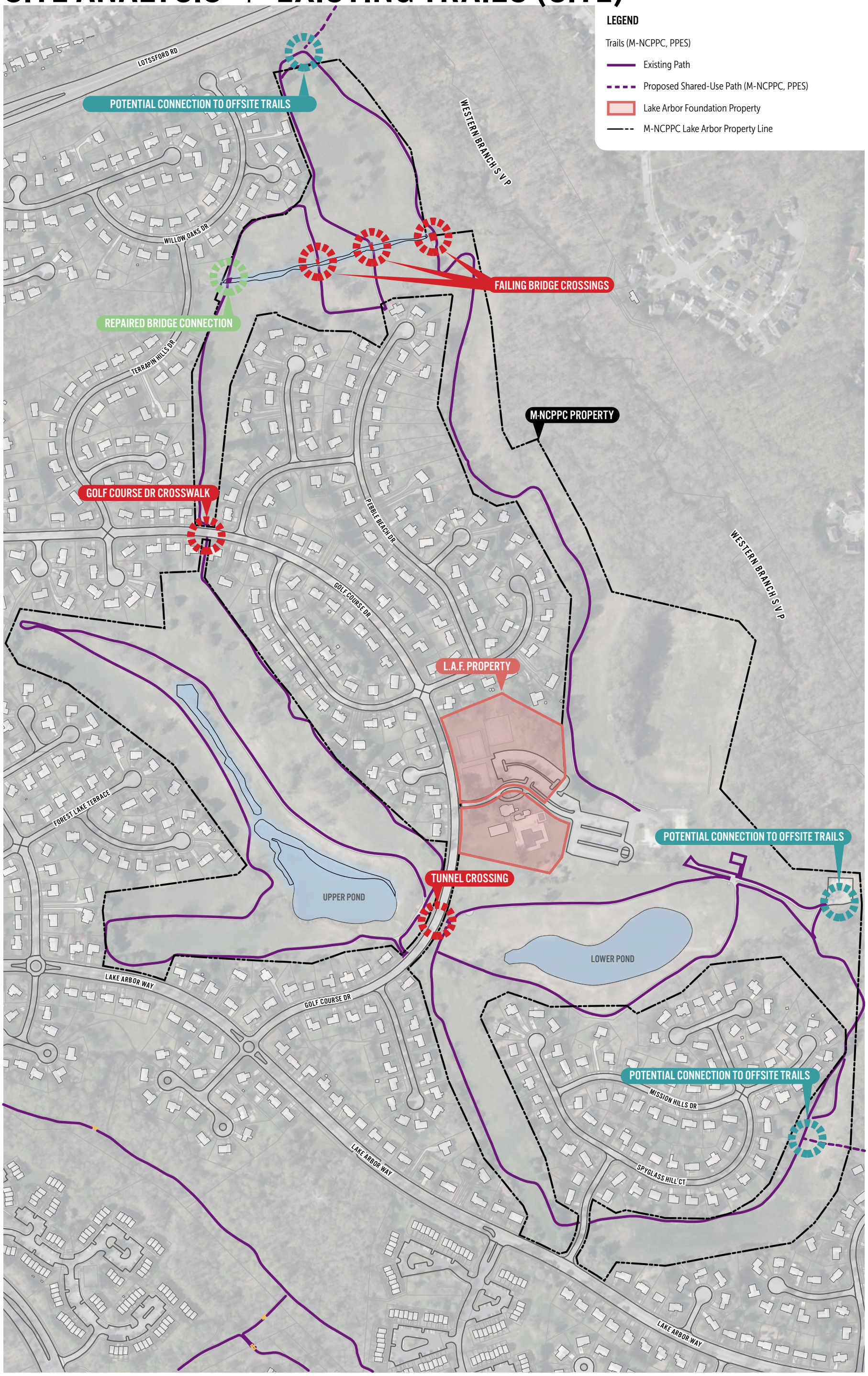
SITE ANALYSIS | EXISTING TRAILS (SITE)



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SITE ANALYSIS | EXISTING TRAILS (SITE)
LAKE ARBOR GOLF COURSE REUSE PLAN
2024.06.05

0' 200' 400'

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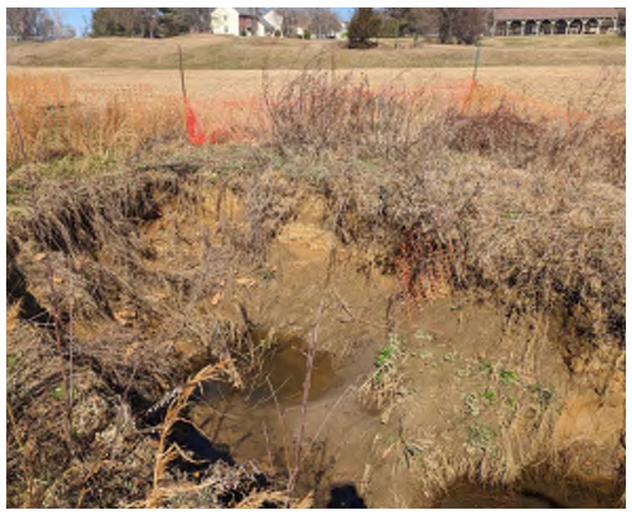
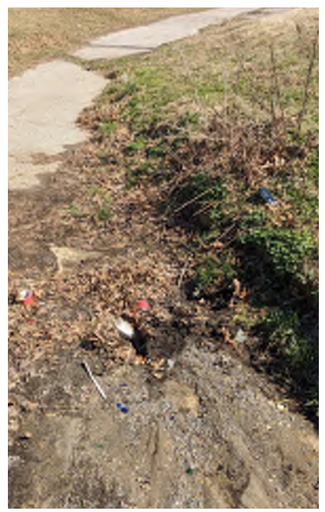
Existing Infrastructure

Repairs and Deferred Maintenance





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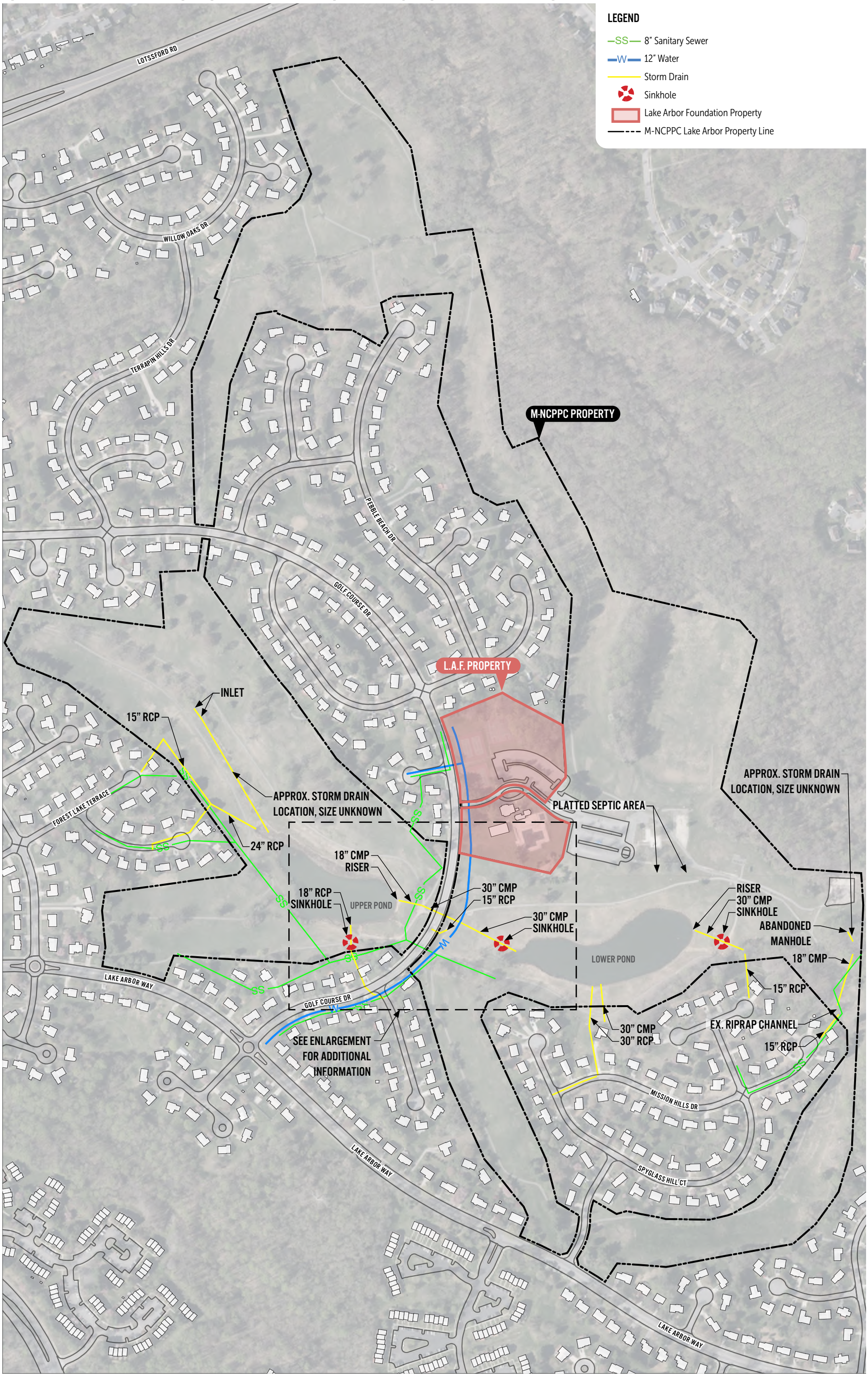
SITE ANALYSIS | EXISTING UTILITIES



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SITE ANALYSIS | EXISTING UTILITIES

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2024.06.05

0' 200' 400' N

SITE ANALYSIS | EXISTING UTILITIES

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SITE ANALYSIS | EXISTING UTILITIES
LAKE ARBOR GOLF COURSE REUSE PLAN
2024.06.05

0' 100' 200'

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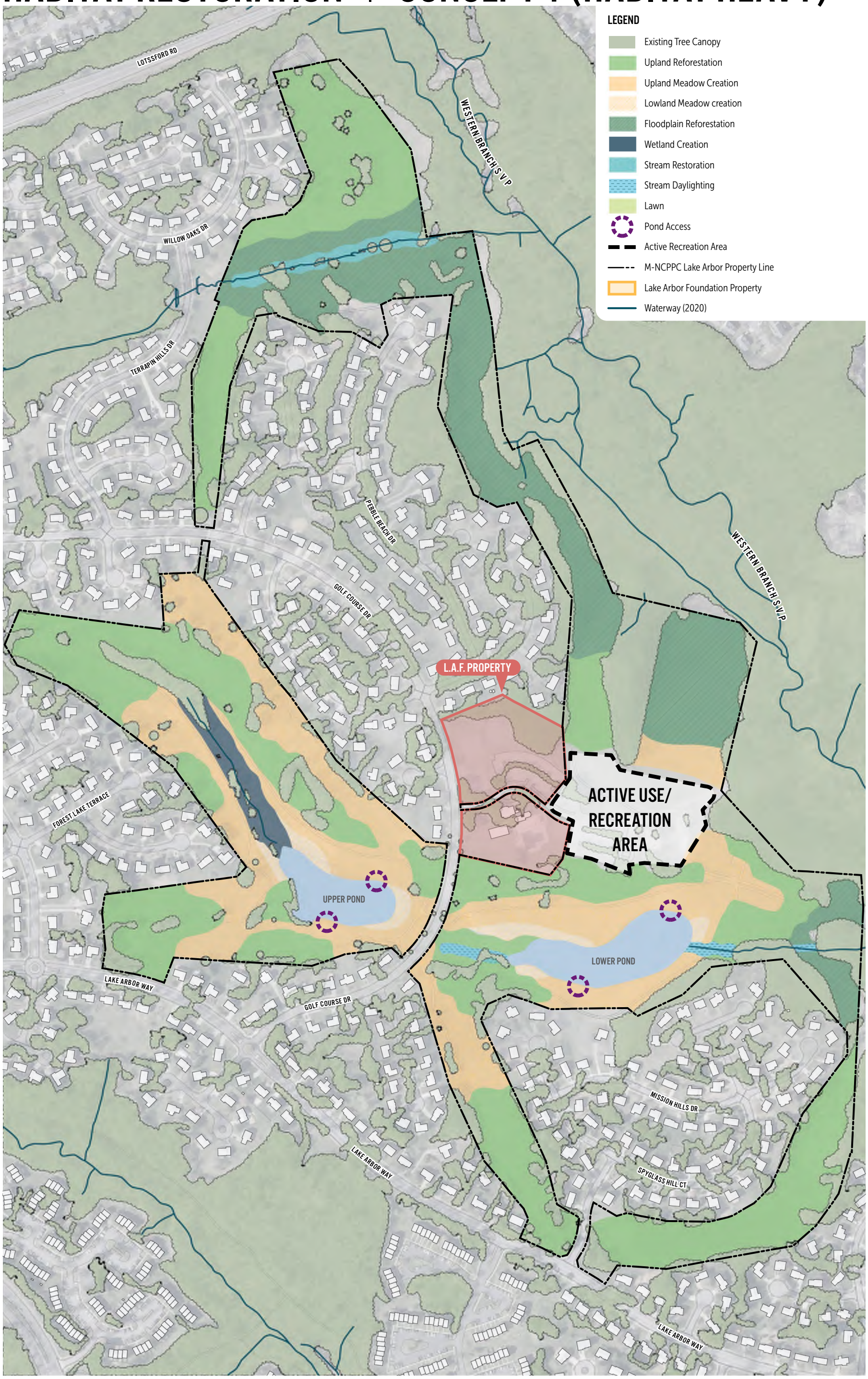
HABITAT RESTORATION CONCEPTS

HABITAT RESTORATION | CONCEPT 1 (HABITAT HEAVY)



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HABITAT RESTORATION | CONCEPT 1
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2024.06.05

0' 200' 400'

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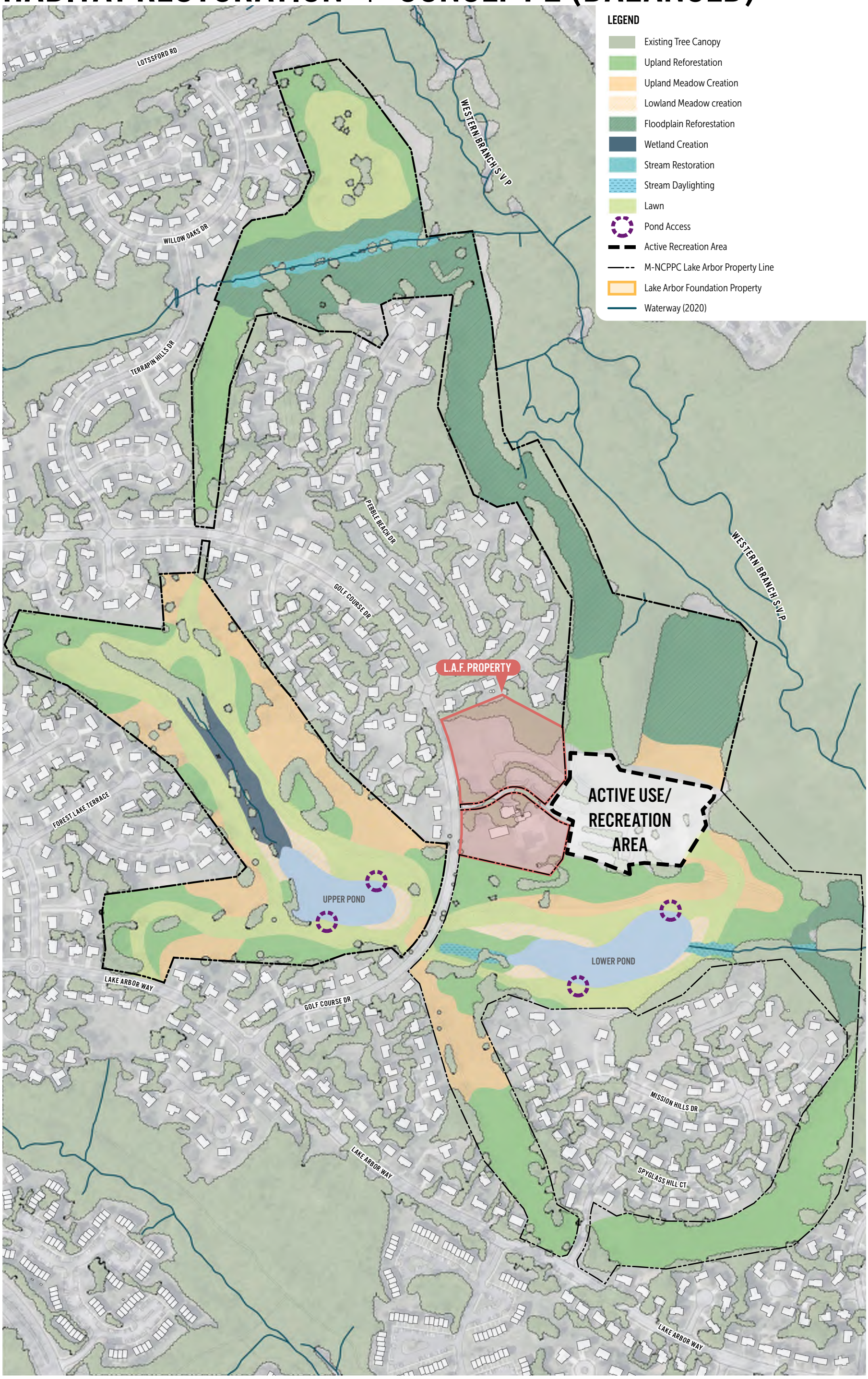
HABITAT RESTORATION | CONCEPT 2 (BALANCED)



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HABITAT RESTORATION | CONCEPT 2
LAKE ARBOR GOLF COURSE REUSE PLAN
2024.06.05

0' 200' 400'

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FLOODPLAIN REFORESTATION

Forested floodplains provide a multitude of benefits to the landscape, including reduced erosion, resiliency against flooding, and improved water quality. Forested floodplains result in healthier streams.

EXAMPLE PLANTINGS

American sycamore *Platanus occidentalis*	Large shade tree, often chosen in urban areas for its eye-catching bark and air-purifying abilities.
Pin oak *Quercus palustris*	Large, fast-growing trees whose acorns provide food for a variety of bird species.
Red Maple *Acer rubrum*	Hardy tree that is resistant to deer-browsing. Provides nesting habitat for a number of bird species and sports bright red foliage in the fall.
River birch *Betula nigra*	Fast-growing shade tree, helps lend color to winter landscapes with its unique and attractive bark.
Sweetbay magnolia *Magnolia virginiana*	Small, evergreen trees that provide food and nesting material for songbirds. Grows fragrant, white flowers that bloom throughout the summer.
Winterberry holly *Ilex verticillata*	Small tree or shrub with brightly colored berries that last through the winter. Provides food for birds.
Spicebush *Lindera benzoin*	Medium sized shrub that blooms yellow flowers and red berries. Acts as an early source of nectar for butterflies and hosts the Spicebush Swallowtail butterfly.
Little bluestem *Schizachyrium scoparium*	Ornamental native grass with blue-green leaf color. Host to several butterfly species.
Broom sedge *Andropogon virginicus*	Native grass that helps prevent erosion.


American sycamore

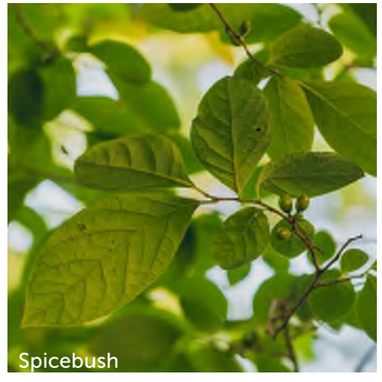

Pin oak


Red maple


River birch


Sweetbay magnolia


Winterberry holly


Spicebush


Little bluestem

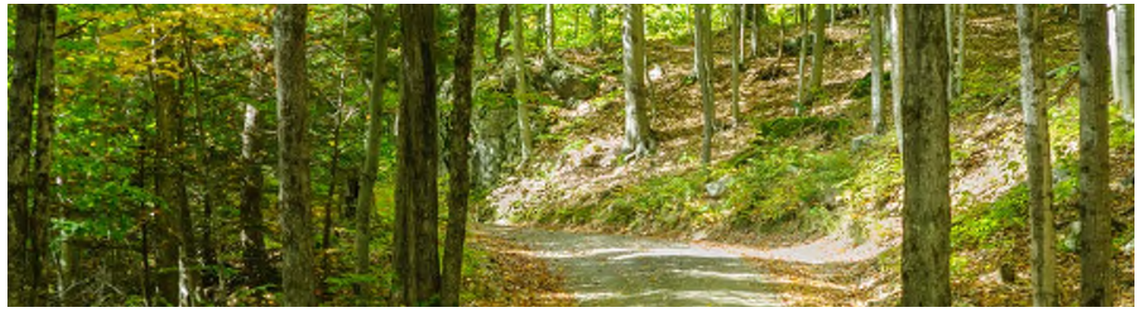

Broom sedge

UPLAND REFORESTATION

Forests provide many benefits to the communities around them. They clean the air, provide shade, reduce the spread of invasive species, and have been demonstrated to improve physical and mental well-being.

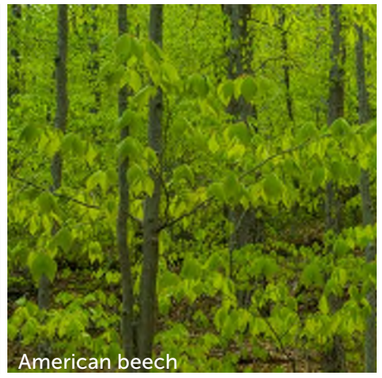
EXAMPLE PLANTINGS

Red oak *Quercus rubra*	Large, fast-growing trees that stabilize the landscape and provide canopy cover. Hardy against drought conditions.
Tulip poplar *Liriodendron tulipifera*	Large, fast-growing trees that thrive in bright sunlight and provide cover for understory trees. Blooms bright yellow flowers in the spring and hosts the Tiger Swallowtail butterfly.
American beech *Fagus grandifolia*	Large understory trees with attractive light bark. Shades and cools the air below with it's dense foliage.
Pignut hickory *Carya glabra*	Medium sized tree that provides shade and food for birds and squirrels.
Flowering dogwood *Cornus florida*	Small understory tree with bright red berries in the late summer and early fall and attractive flowers that bloom in the spring.
Arrowwood viburnum *Viburnum dentatum*	Attractive shrub with white flowers, blue berries, and dense foliage. Commonly chosen for landscaping.
Mountain laurel *Kalmia latifolia*	Evergreen shrub with crooked, architectural stems. Blooms white or pink flowers in the spring.
Lowbush blueberry *Vaccinium angustifolium*	Low-growing shrub with attractive growing patten and edible berries.
Witch-hazel *Hamamelis virginiana*	Large shrub or tree with unique, bright yellow flowers that bloom in the autumn.




Red oak


Tulip poplar


American beech

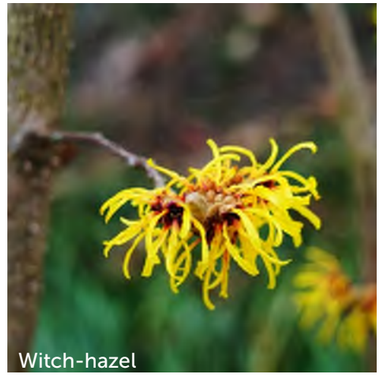

Pignut hickory


Flowering dogwood


Arrowwood viburnum


Mountain laurel


Lowbush blueberry

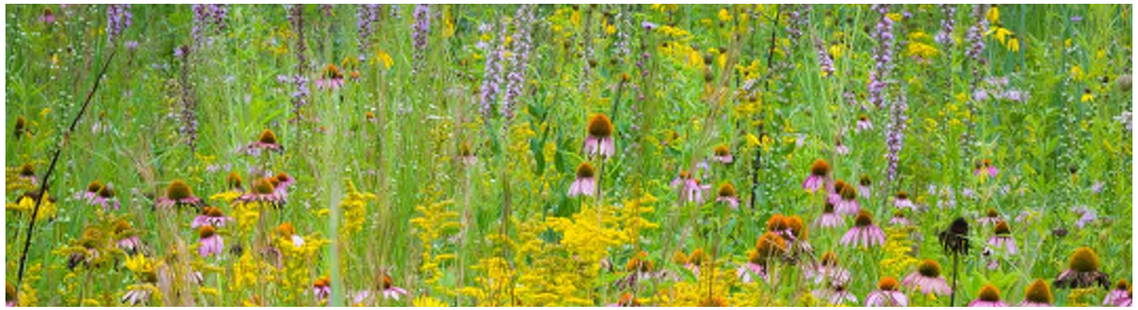

Witch-hazel

UPLAND AND LOWLAND MEADOW

Native meadows provide an array of benefits to the local ecosystem, including supporting local songbird populations and hosting many species of butterfly. Meadows also have a robust root system, which improves groundwater filtration and improves soil quality. While meadows are dominated by grasses, they also include wildflowers that improve the aesthetic of the landscape while reducing maintenance costs.

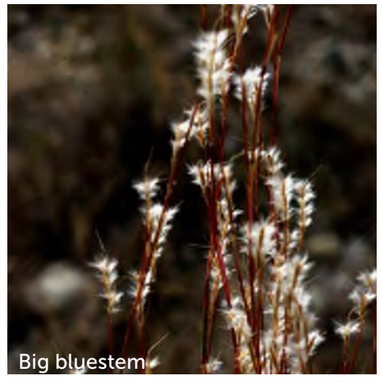
EXAMPLE PLANTINGS

Blackeyed susan *Rudbeckia hirta*	Official state flower of Maryland. Long-lasting blooms that provide color during late summer.
Cardinal flower *Lobelia cardinalis*	Bright red blossoms that are visually striking. Provide late summer bloom and height to borders. Attracts hummingbirds and butterflies.
Big bluestem *Andropogon gerardii*	Tall prairie grass that displays several color shades throughout the season. Provides erosion control and is deer resistant.
Switchgrass *Panicum virgatum*	Prairie grass that has small, teardrop-shaped flower seeds that appear in summer with purplish-reddish tips. Resistant to disease and ideal for areas prone to erosion.
Prairie dropseed *Sporobolus heterolepis*	Prairie grass that provides food for butterflies. Drought tolerant and has decorative seed heads in the fall and winter.
Joe-Pye weed *Eutrochium fistulosum*	Large perennial with strong root system that stabilizes the soil. Provides food for an array of butterflies.
Butterfly milkweed *Asclepias tuberosa*	Perennial with attractive orange blooms. Provides food for hummingbirds and butterflies, including the Monarch butterfly.
Wrinkleleaf goldenrod *Solidago rugosa*	Large perennial with bright yellow flowering stems.
Indian grass *Sorghastrum nutans*	Native, drought-tolerant grass often used in landscaping.




Blackeyed susan


Cardinal flower


Big bluestem


Switchgrass


Prairie dropseed


Joe-Pye weed


Butterfly milkweed


Wrinkleleaf goldenrod


Indian grass

STREAM RESTORATION AND DAYLIGHTING


Existing site conditions


Example buried stream

EXISTING SITE CONDITIONS

Currently, streams at Lake Arbor Golf Course are incised or buried, which increases the risk of:

- **Erosion,** resulting from poor bank stability
- **Sinkholes,** occurring when underground stream pipes corrode and leak
- **Flooding,** as piped or incised streams can't accommodate storm events


DOEE Broad Branch Daylighting Project, 2020. Consturcted 2014.

PROJECT GOALS

Project goals include:

- **Stream widening**
- **Stream restoration**
- **Floodplain connection**

Buried streams will be daylighted and incised streams will be restored. Restoring original flow patterns will reduce erosion and flooding and can reduce sinkholes.


WSSC Environmental Clearinghouse, Cabin John Watershed, 2017

WHY RESTORE STREAMS?

Restored streams not only improve the aesthetic of a landscape, they also reduce the risk of flooding. Restored streams can handle influxes of water from storm events because they are designed to slow the flow of water and accommodate large volumes of water. They also don't pose the same risks as incised or buried streams, such as sinkholes and erosion.

WHAT ARE BURIED STREAMS?

Buried streams are streams that have been redirected to flow through pipes underground. They are no longer visible from the surface and are restricted to the confines of the pipe channel.

WHAT IS STREAM 'DAYLIGHTING'?

'Daylighting' a stream is the process of bringing a buried stream back to the surface and restoring it to natural conditions.

WETLAND CREATION

Wetlands are highly productive ecosystems, which means they provide a host of benefits to the surrounding community:

- **Reduced risk of flooding** – Wetlands naturally collect floodwater and slowly release it, which helps prevent flooding in upland areas.
- **Improved water quality** – Surface water runoff is filtered through wetlands, which uptake pollutants, sediment, and other contaminants. This leads to cleaner groundwater and surface water.
- **Erosion control** – Wetlands mitigate flash flooding and stabilize the soil with healthy root systems. Vegetation cover prevents soil from being washed away.
- **Aesthetics** – Wetlands provide habitat for a variety of unique plant species, many of which bloom throughout the spring and summer.


Big Pipe Creek Wetland Restoration Project, 2022

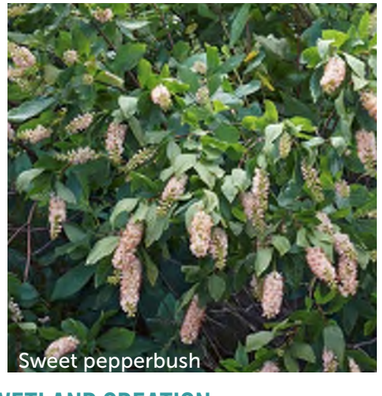
EXAMPLE PLANTINGS

Soft rush *Juncus effusus*	Small, clumping rush with deep root system that stabilizes the soil and purifies water.
Northern blue flag *Iris versicolor*	Native iris with showy purple flowers that bloom throughout the summer.
Swamp azalea *Rhododendron viscosum*	Popular landscaping shrub that tolerates wet conditions. Blooms white flowers throughout the summer.
Sweet pepperbush *Clethra alnifolia*	Flowering shrub that provides nectar to hummingbirds and butterflies.
Silky dogwood *Cornus amomum*	Large shrub with white flowers and blue berries that hosts the azure butterfly and provides food for a variety of bird species.
Sweetgum *Liquidambar styraciflua*	Fast growing tree that is tolerant of wet soil conditions. Popular for use in landscaping.


Soft rush


Northern blue flag


Swamp azalea


Sweet pepperbush


Silky dogwood


Sweetgum

ACTIVE USE / RECREATION CONCEPTS

ACTIVE USE / RECREATION AREA | EXISTING IMPERVIOUS SURFACE

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ACTIVE USE / RECREATION AREA | EXISTING IMPERVIOUS SURFACE

LAKE ARBOR GOLF COURSE REUSE PLAN

2024.06.05

0' 50' 100' 200'

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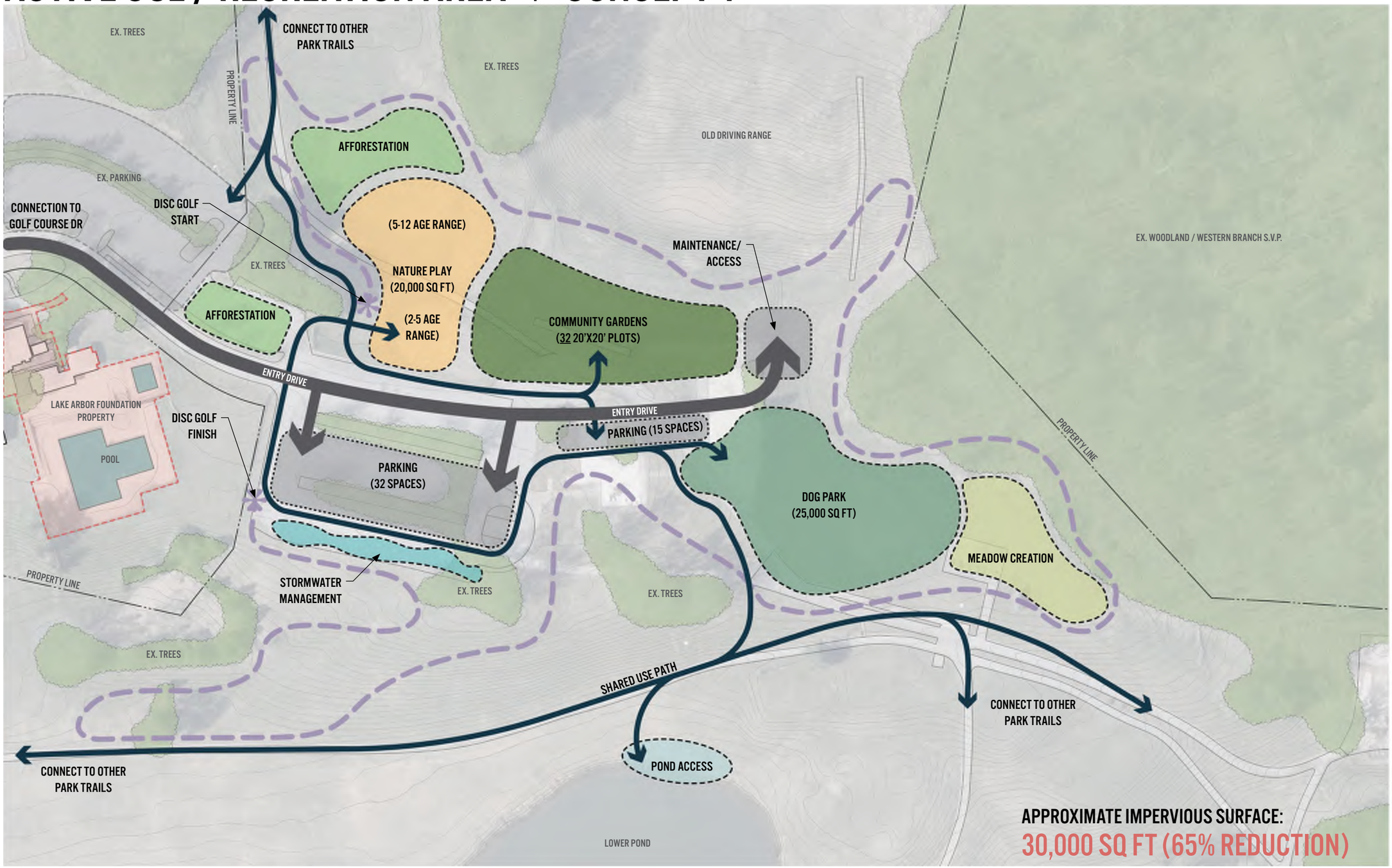
ACTIVE USE / RECREATION AREA | CONCEPT 1



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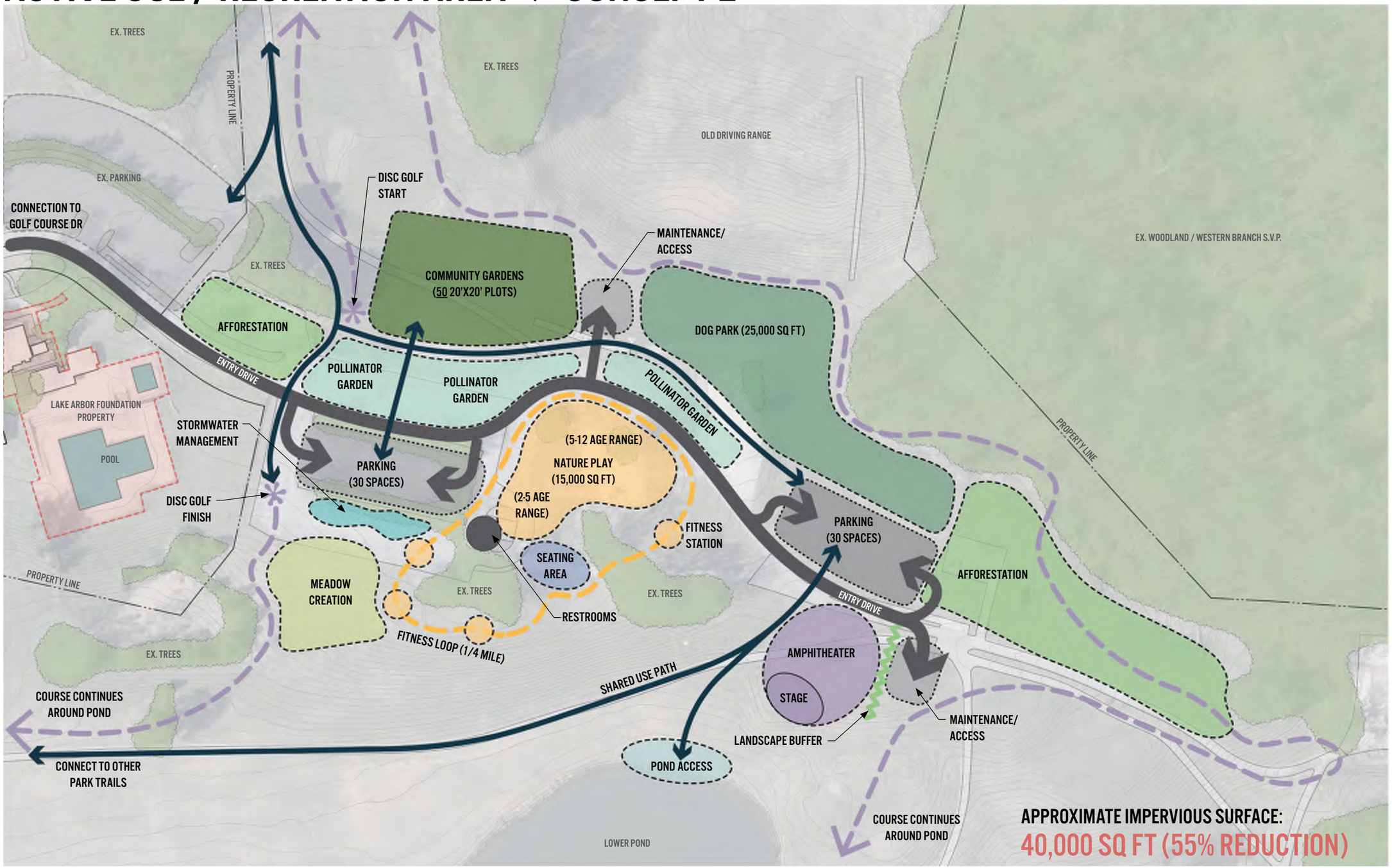
ACTIVE USE / RECREATION AREA | CONCEPT 1

LAKE ARBOR GOLF COURSE REUSE PLAN

2024.06.05

0' 50' 100' 200' N

ACTIVE USE / RECREATION AREA | CONCEPT 2



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ACTIVE USE / RECREATION AREA | CONCEPT 2

LAKE ARBOR GOLF COURSE REUSE PLAN

2024.06.05

0' 50' 100' 200'

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OPEN DISCUSSION

Reminder: Please Complete the Survey by **Monday, June 17th!**

https://forms.gle/tskjbiXXvuTgVF7J6

THANK YOU!

PLEASE SEND ALL INQUIRIES AND COMMENTS TO THE LAKE ARBOR CIVIC ASSOCIATION AT

lakearborcivicassoc@gmail.com

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