

DOAN BROOK RESTORATION

NEAR HORSESHOE LAKE PARK

30% DESIGN PRESENTATION
PUBLIC FORUM #4
JULY 15, 2024

neorsd.org/DoanBrook

PROJECT UPDATES, PRESENTATION RECORDINGS, FAQ AND MORE!

AGENDA

1 Stream Restoration

- Tree inventory
- Sediment management, earthwork, & grading
- Wetland filters & floodplain access

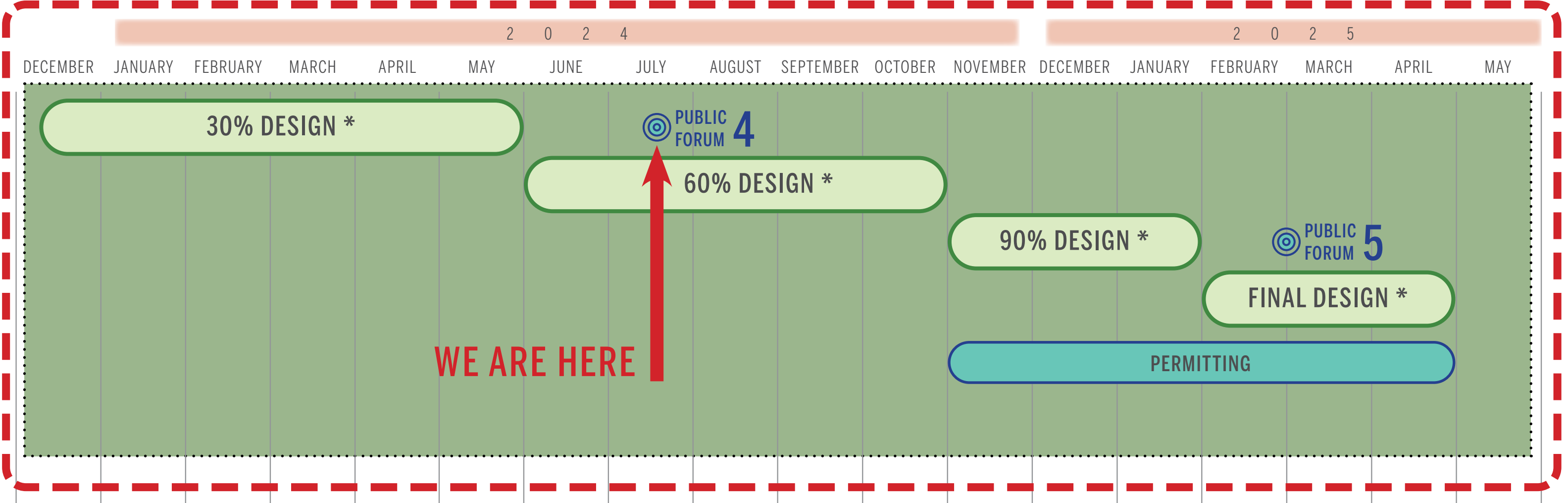
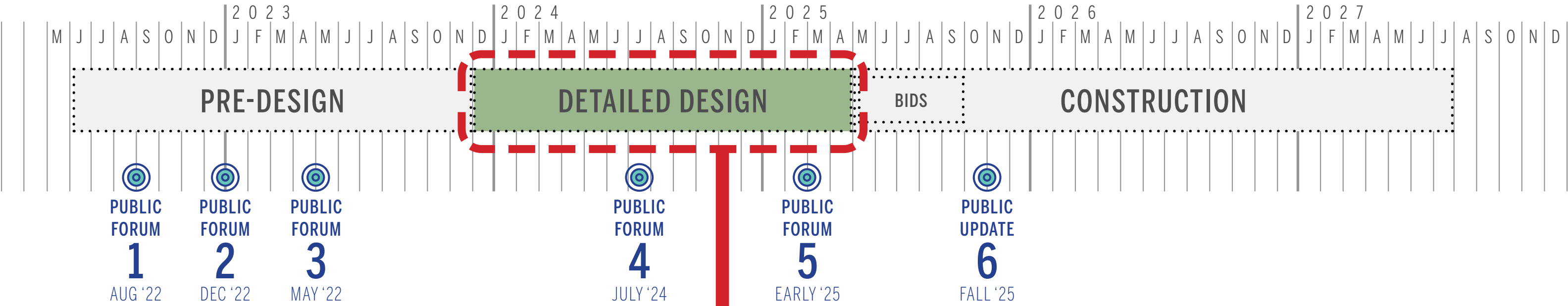
2 Park Integration

- Circulation
- Landscape typologies
- Park amenities

3 Estimate of Probable Construction Costs

4 Next Steps

PROJECT SCHEDULE



* DETAILED DESIGN TASKS FOR DISTRICT SCOPE AND CITIES (LANDSCAPE INTEGRATION) SCOPE RUN CONCURRENT TO EACH OTHER *

IN THE MEETING WITH YOU TONIGHT

STIMSON

Landscape Architecture & Stakeholder Engagement



GLEN VALENTINE
PRINCIPAL
LANDSCAPE INTEGRATION LEADER



MATT LANGAN
TECHNICAL DIRECTOR
PROJECT MANAGER



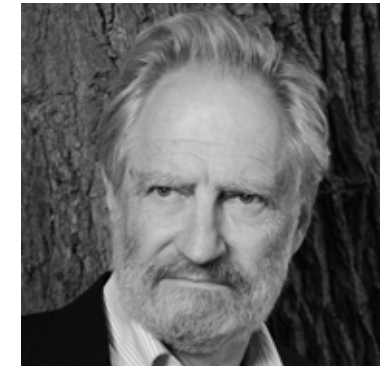
CAMILA CAMPOS HERRERA
ASSOCIATE | LANDSCAPE ARCHITECT



CECILIA HUBER
LANDSCAPE ARCHITECT



JUSTIN HAILEY
LANDSCAPE DESIGNER

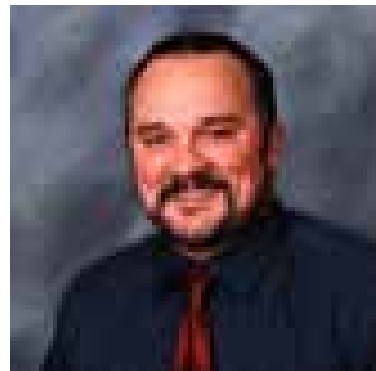


ROY LARICK
ARCHEOLOGY, NATURAL HISTORY,
AND

Key Advisor

AECOM

Dam Removal & Sediment Mgmt.



STEVE WALKER
GEO-ENVIRONMENTAL PROJECT MGR.
DAM REMOVAL LEADER



BRIAN MASTIN
SEDIMENT PRACTICE LEADER
SEDIMENT MANAGEMENT LEADER



VIK GAUTAM
GEOTECHNICAL PRACTICE LEADER



DREW BROWNING
ENVIRONMENTAL ENGINEER

GPD Group + EnviroScience

Stream Restoration



IVAN VALENTIC
SENIOR PROJECT MANAGER
DEPUTY PROJECT MANAGER



JOE LANNI
RESTORATION GROUP MANAGER

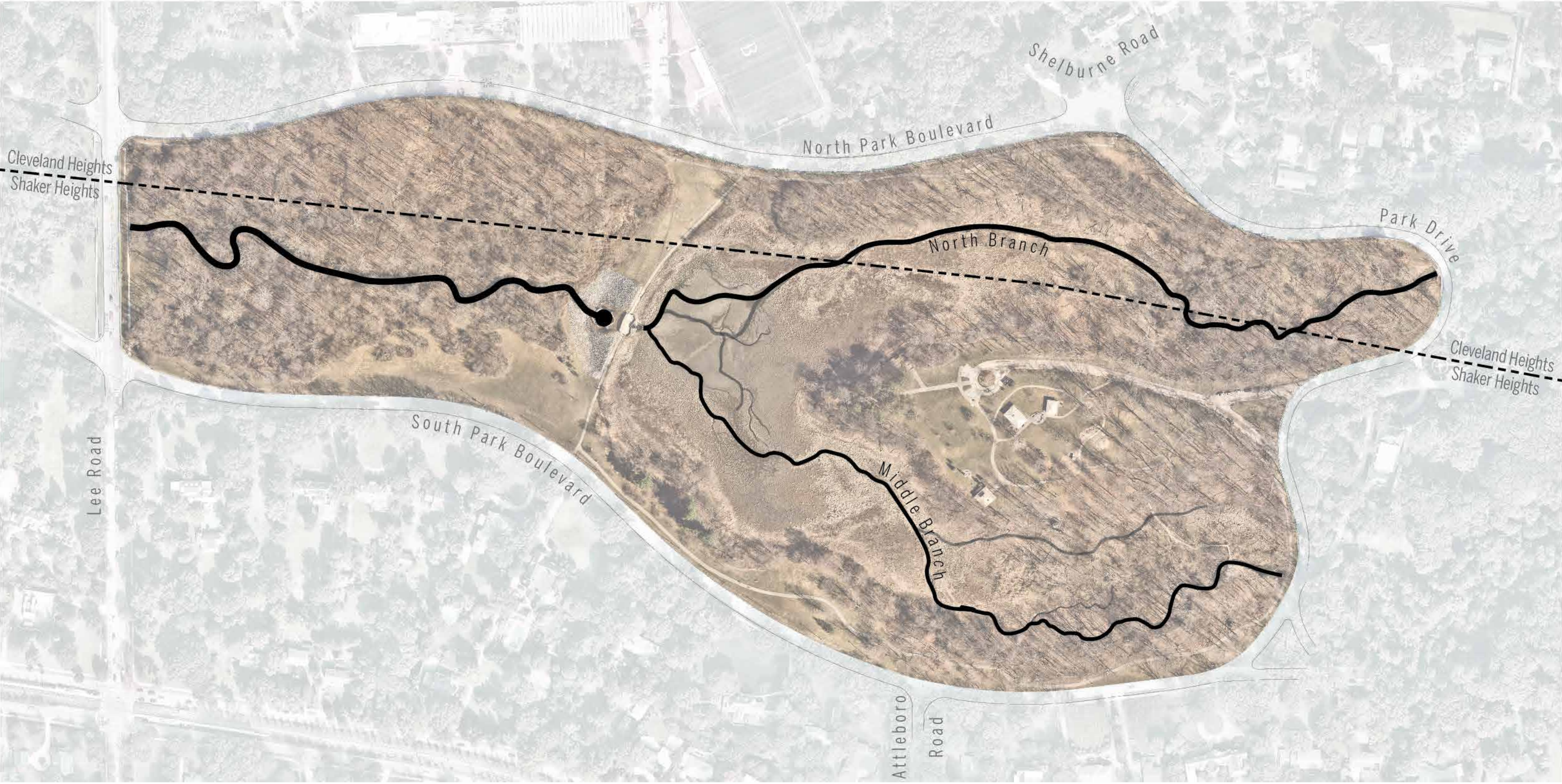


JESSE RUFENER
RESTORATION GROUP MANAGER

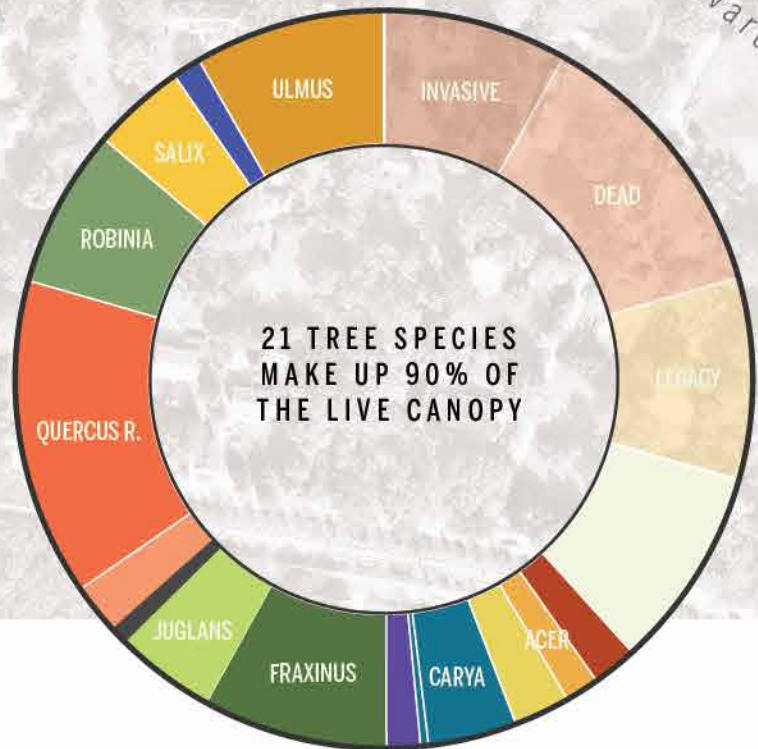
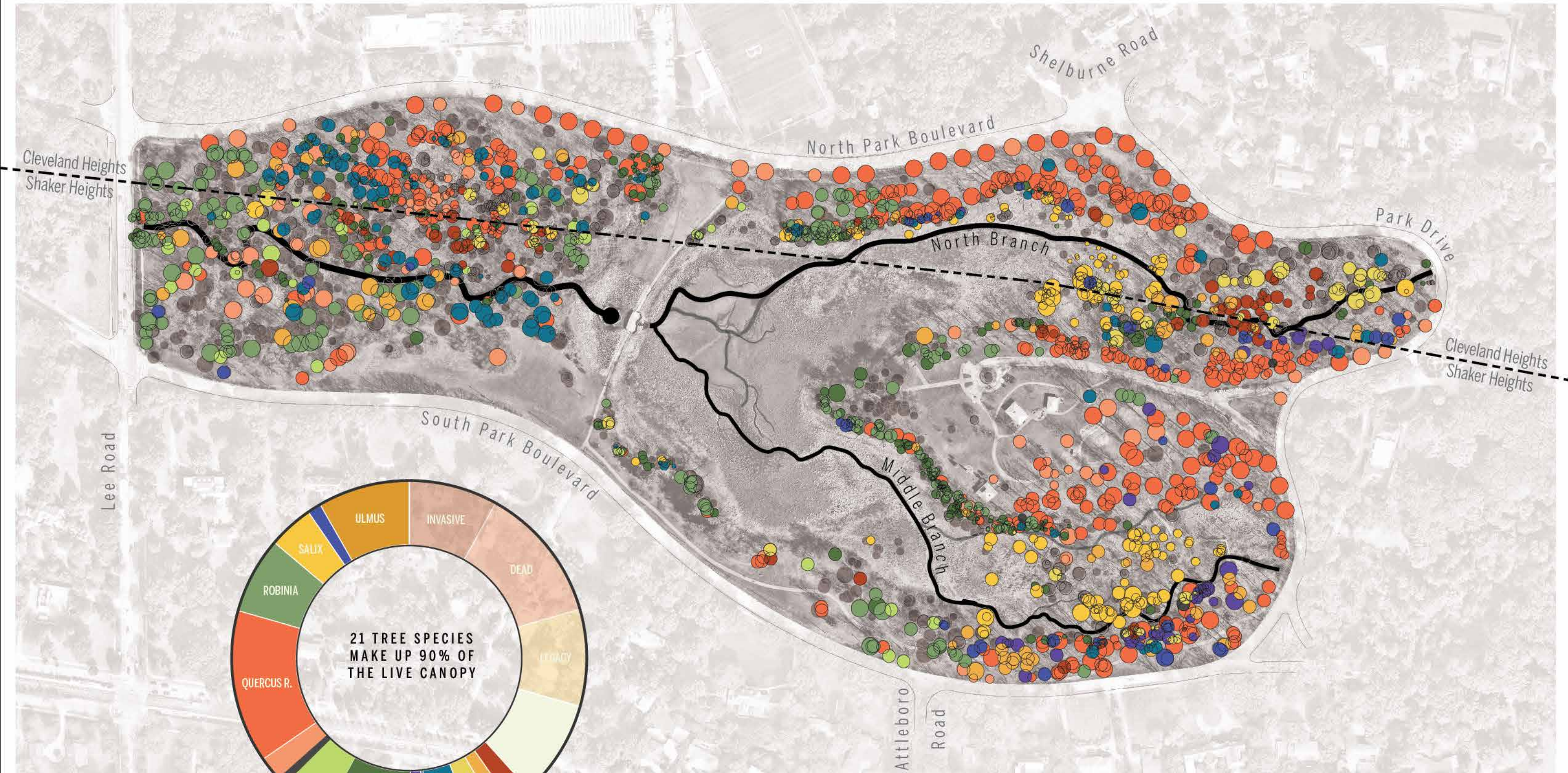


JULIE BINGHAM, CERP
RESTORATION GROUP MANAGER
STREAM RESTORATION LEADER

EXISTING CONDITIONS



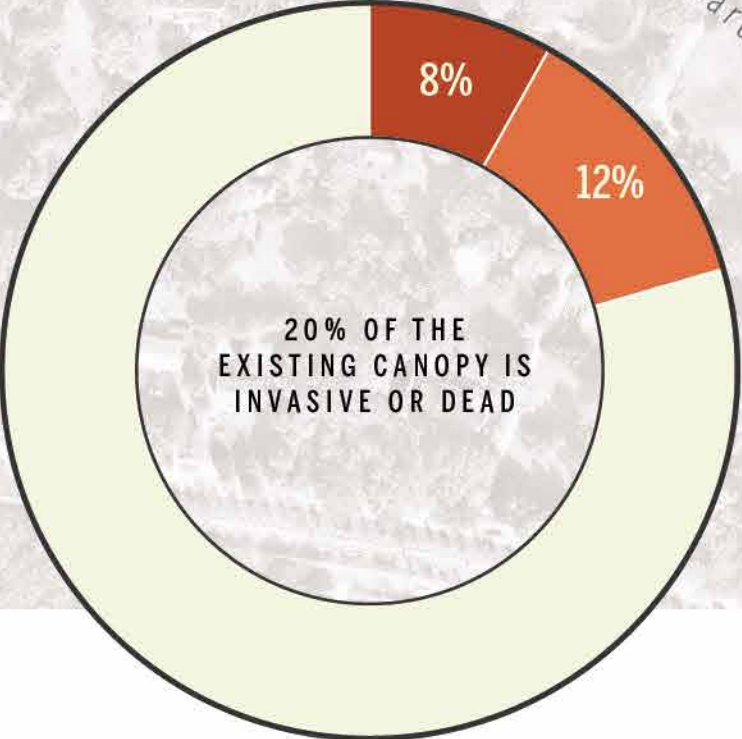
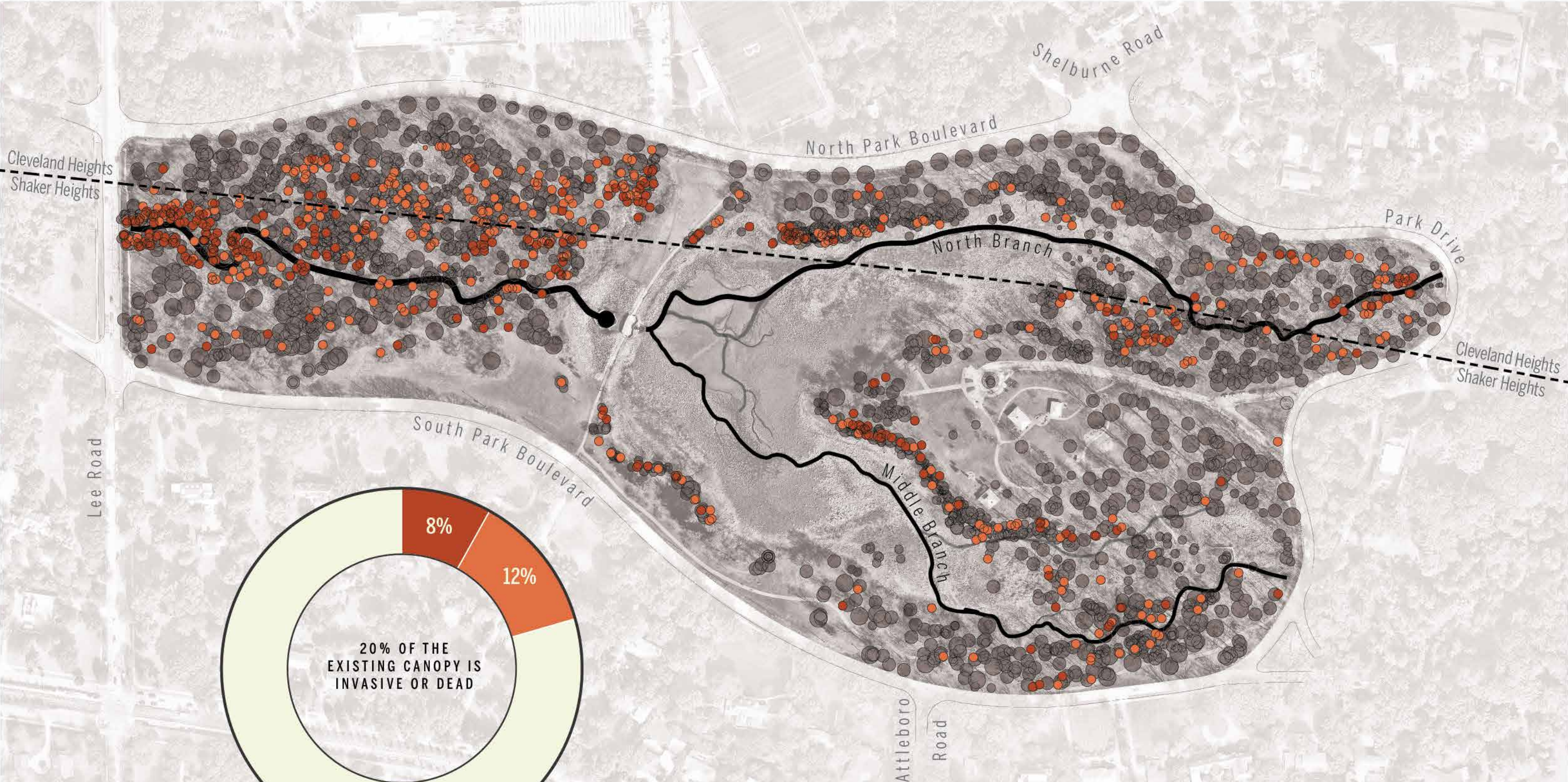
TREE INVENTORY



Nearly 3,000 trees surveyed

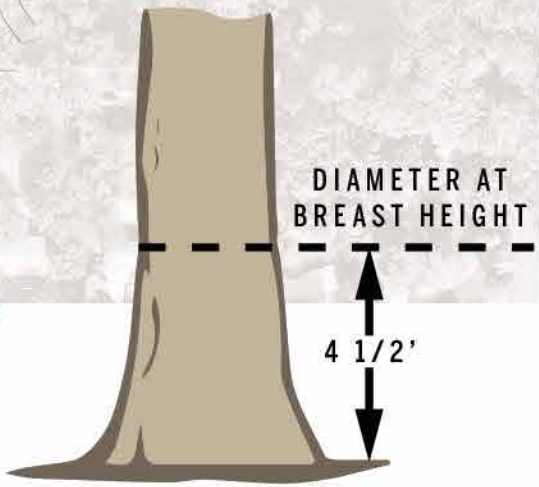
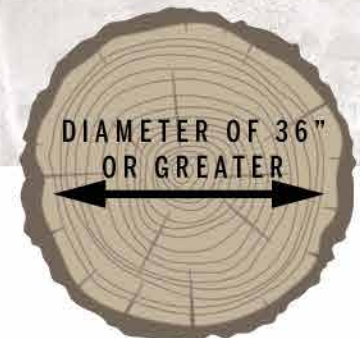
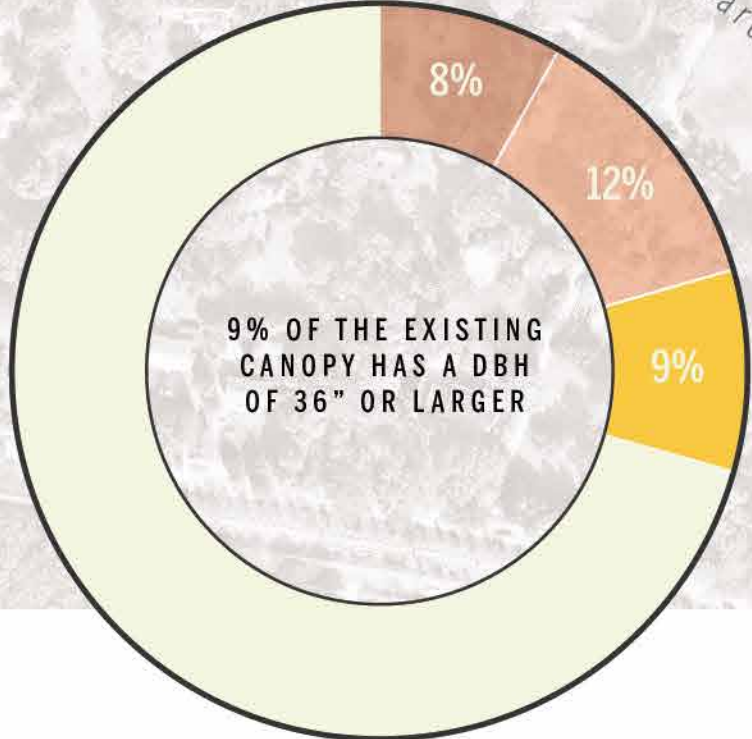
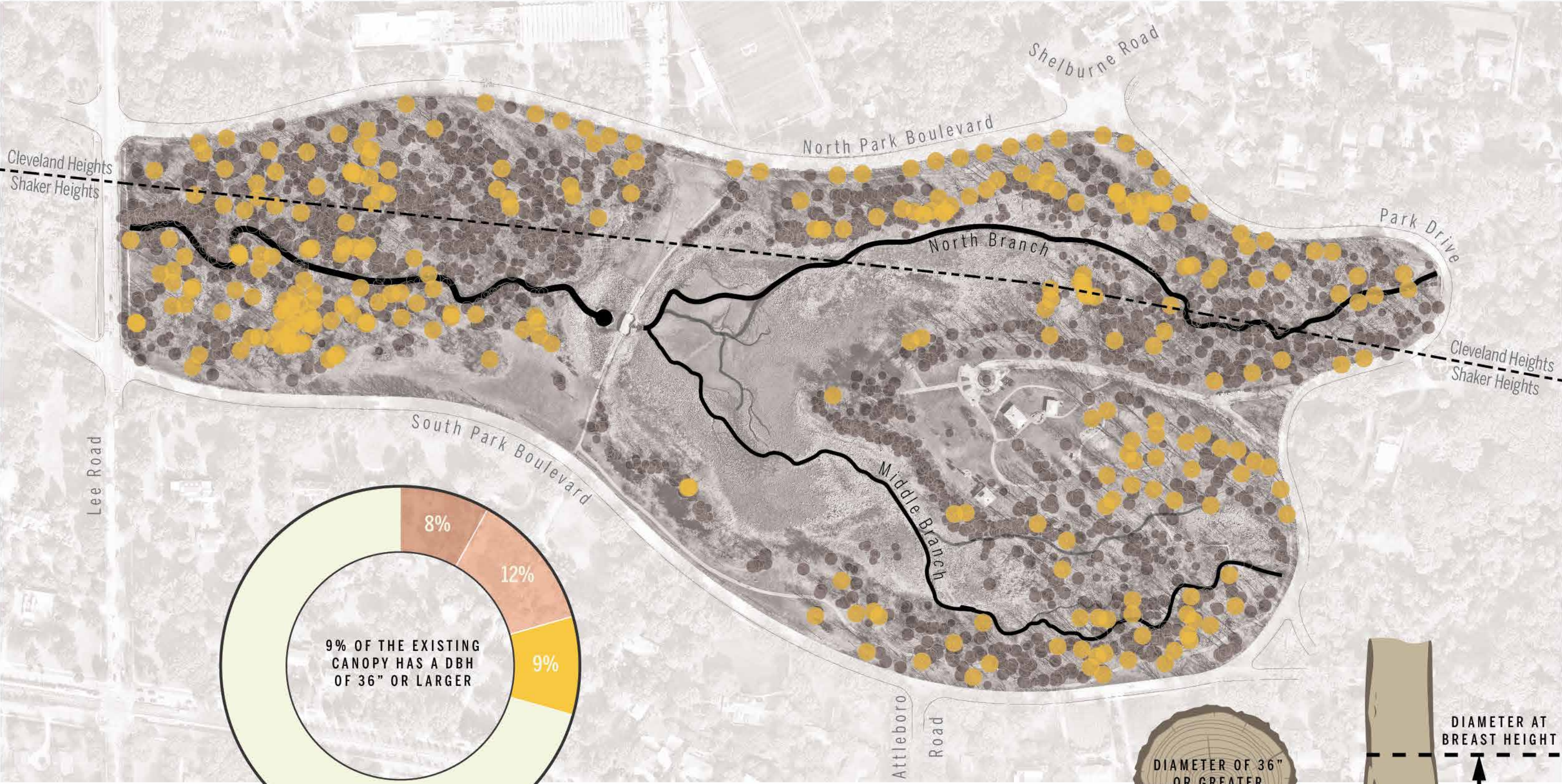
- *ACER RUBRUM*
- *ACER SACCHARINUM*
- *ACER SACCHARUM*
- *CARYA CORDIFORMIS*
- *CARYA OVATA*
- *FAGUS GRANDIFOLIA*
- *FRAXINUS AMERICANA*
- *FRAXINUS PENNSYLVANICA*
- *JUGLANS CINEREA*
- *JUGLANS NIGRA*
- *OSTRYA VIRGINIANA*
- *PLATANUS OCCIDENTALIS*
- *QUERCUS ALBA*
- *QUERCUS ELLIPSOIDALIS*
- *QUERCUS RUBRA*
- *SALIX GLAUCOSERICA*
- *SALIX LUCIDA*
- *SALIX NIGRA*
- *TILIA AMERICANA / CORDATA*
- *ULMUS AMERICANA*

TREE INVENTORY | INVASIVE OR DEAD TREES

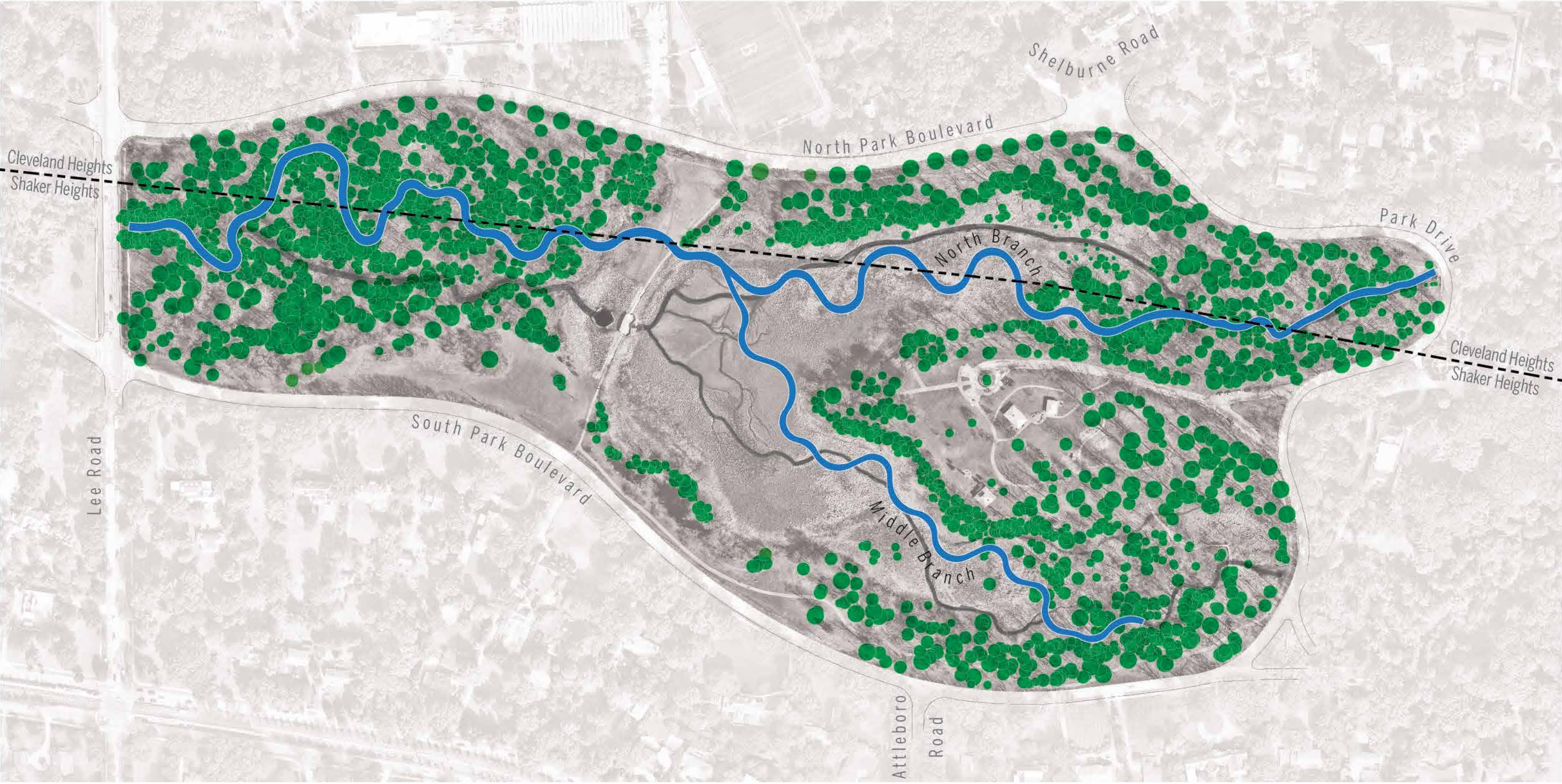


- *Acer platanoides*
- *Evodia daniellii*
- *Prunus avium*
- *Ailanthus altissima*
- *Frangula alnus*
- *Pyrus calleryana*
- *Alnus glutinosa*
- *Lonicera maackii*
- *Rhamnus cathartica*
- *Euonymus europaeus*
- *Morus alba*
- *Viburnum sieboldii*

TREE INVENTORY | LEGACY TREES

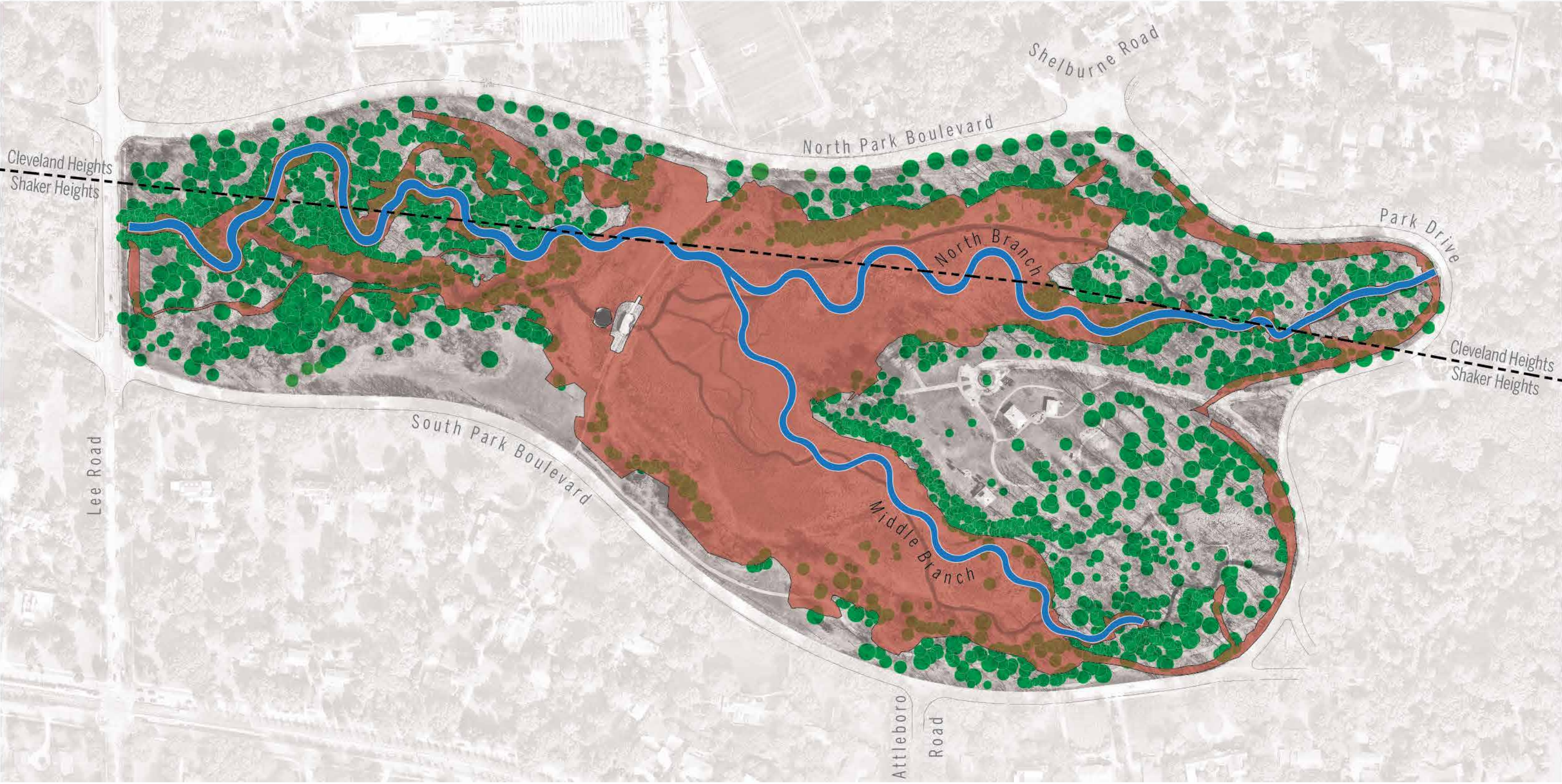


STREAM ALIGNMENT



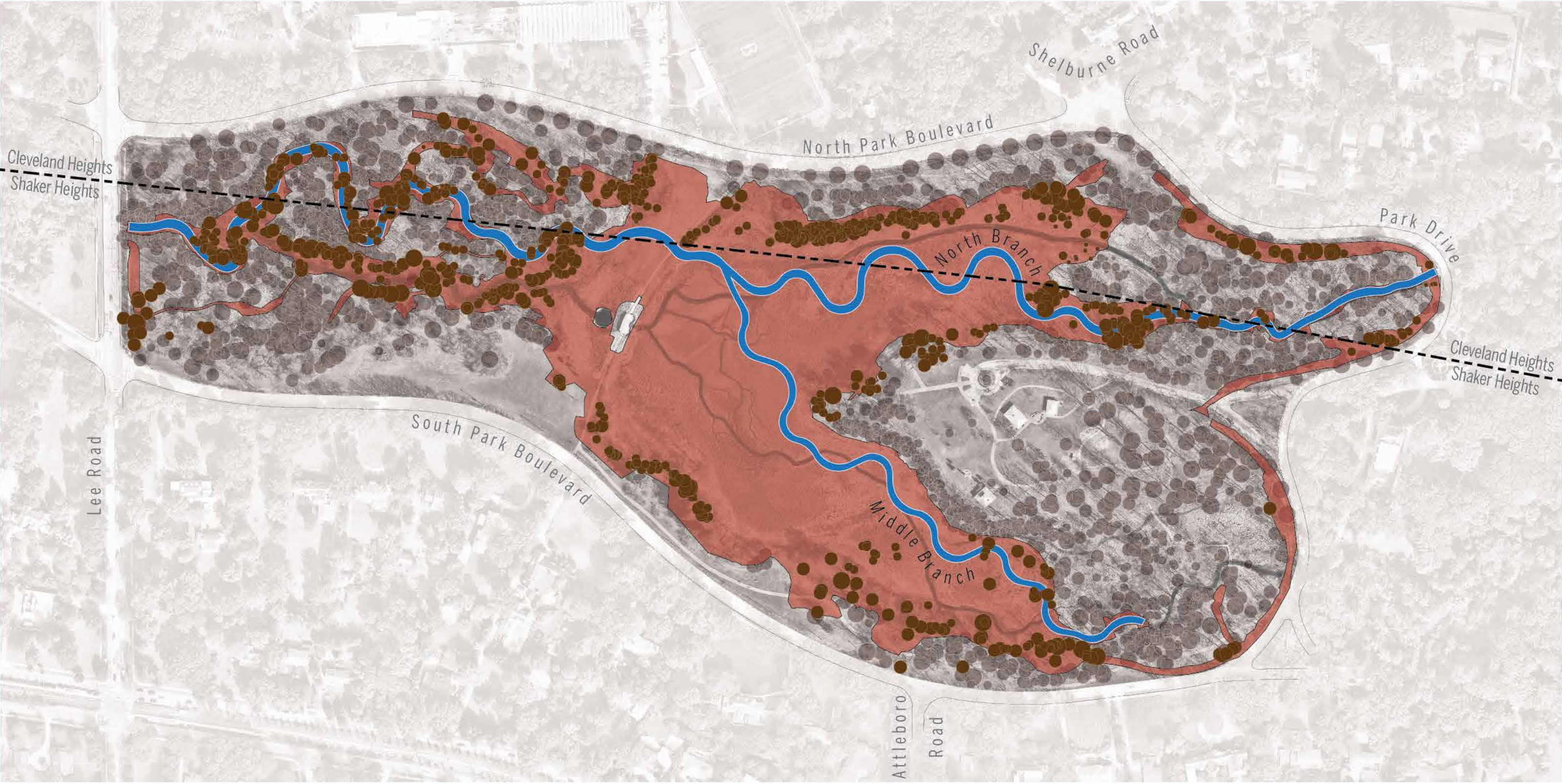
 PROPOSED STREAM ALIGNMENT

STREAM ALIGNMENT | EARTHWORK EXTENTS



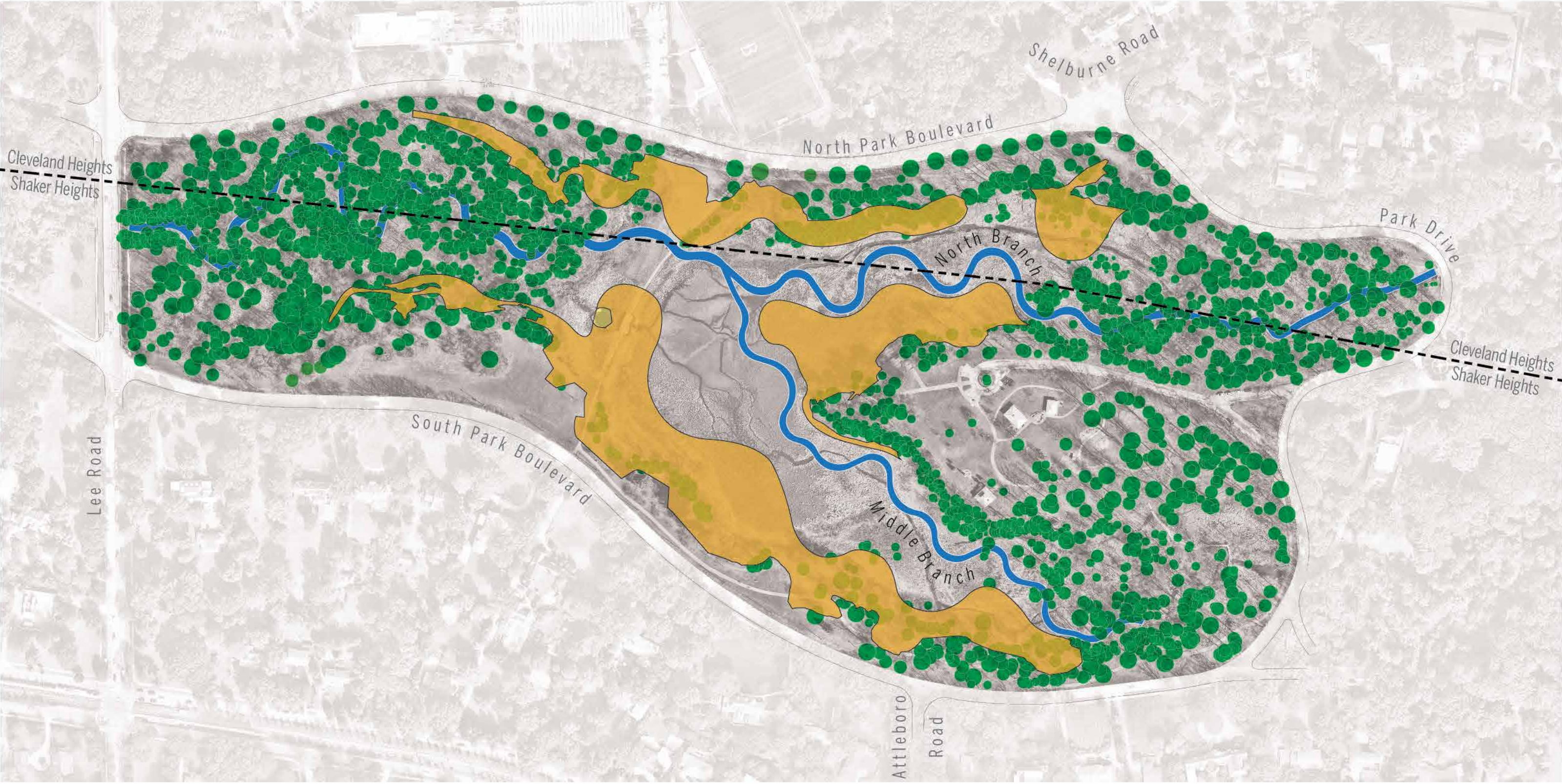
-  PROPOSED STREAM ALIGNMENT
-  LIMITS OF PROJECT RE-GRADING

STREAM ALIGNMENT | TREE REMOVALS



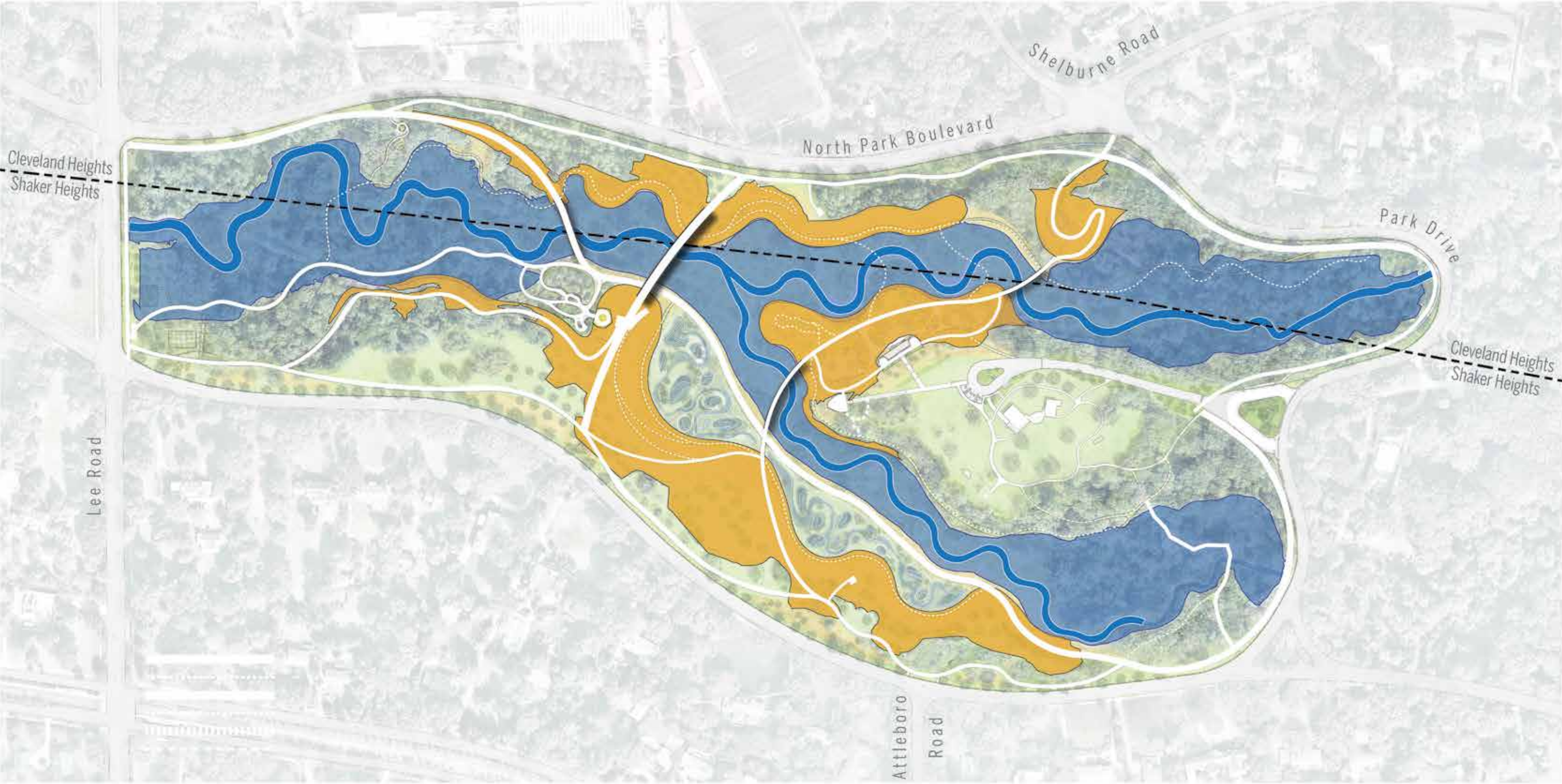
-  PROPOSED STREAM ALIGNMENT
-  LIMITS OF PROJECT RE-GRADING
-  REQUIRED TREE REMOVALS




STREAM ALIGNMENT | LANDFORM CREATION



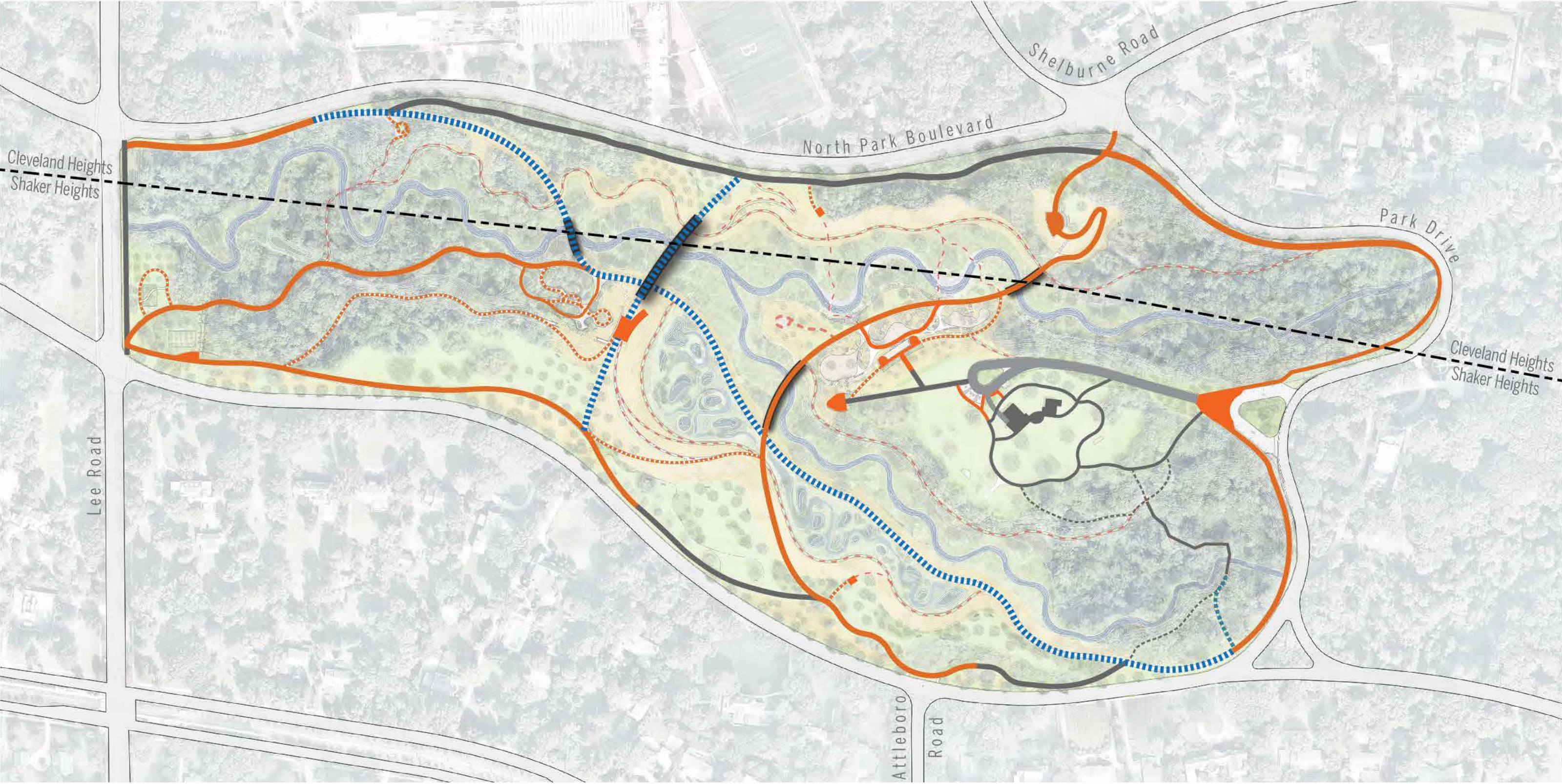
-  PROPOSED STREAM ALIGNMENT
-  PROPOSED LANDFORM CREATION

STREAM ALIGNMENT | FLOODPLAIN ACCESS



-  PROPOSED STREAM ALIGNMENT
-  PROPOSED FLOODPLAIN
-  PROPOSED LANDFORM CREATION

LANDSCAPE INTEGRATION PLAN | POTENTIAL PARK CIRCULATION



- DISTRICT-FUNDED PRIMARY CIRCULATION paved/accessible
- CITIES-FUNDED PRIMARY CIRCULATION paved/accessible
- CITIES-FUNDED SECONDARY CIRCULATION paved/accessible
- TERTIARY CIRCULATION lawn / dirt trails
- EXISTING WALK TO REMAIN paved/accessible

*EXTENT OF PARK CIRCULATION WILL BE SUBJECT TO AVAILABILITY OF CITIES FUNDING

LANDSCAPE INTEGRATION PLAN



PARK HYDROLOGY | TYPICAL SUMMER RAINSHOWERS

(LESS THAN 1 INCH OF RAIN IN A 24-HOUR PERIOD)



PARK HYDROLOGY | 1-YEAR STORM EVENT

(1.98 INCHES OF RAIN IN A 24-HOUR PERIOD)



PARK HYDROLOGY | 10-YEAR STORM EVENT

(3.46 INCHES OF RAIN IN A 24-HOUR PERIOD)

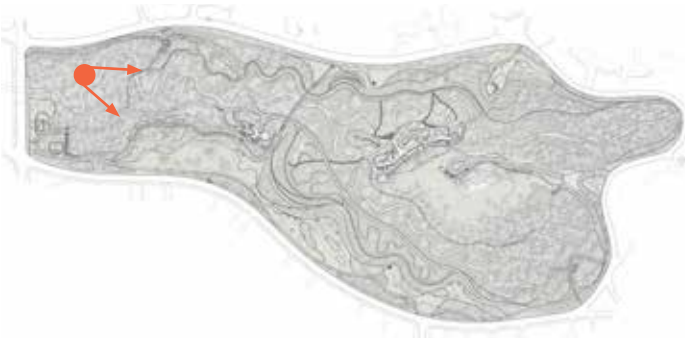


PARK HYDROLOGY | 100-YEAR STORM EVENT

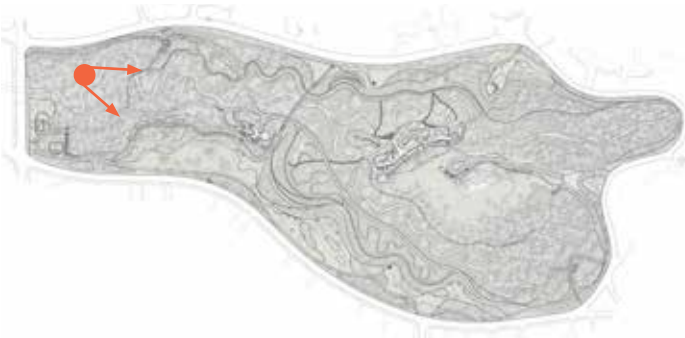
(5.38 INCHES OF RAIN IN A 24-HOUR PERIOD)



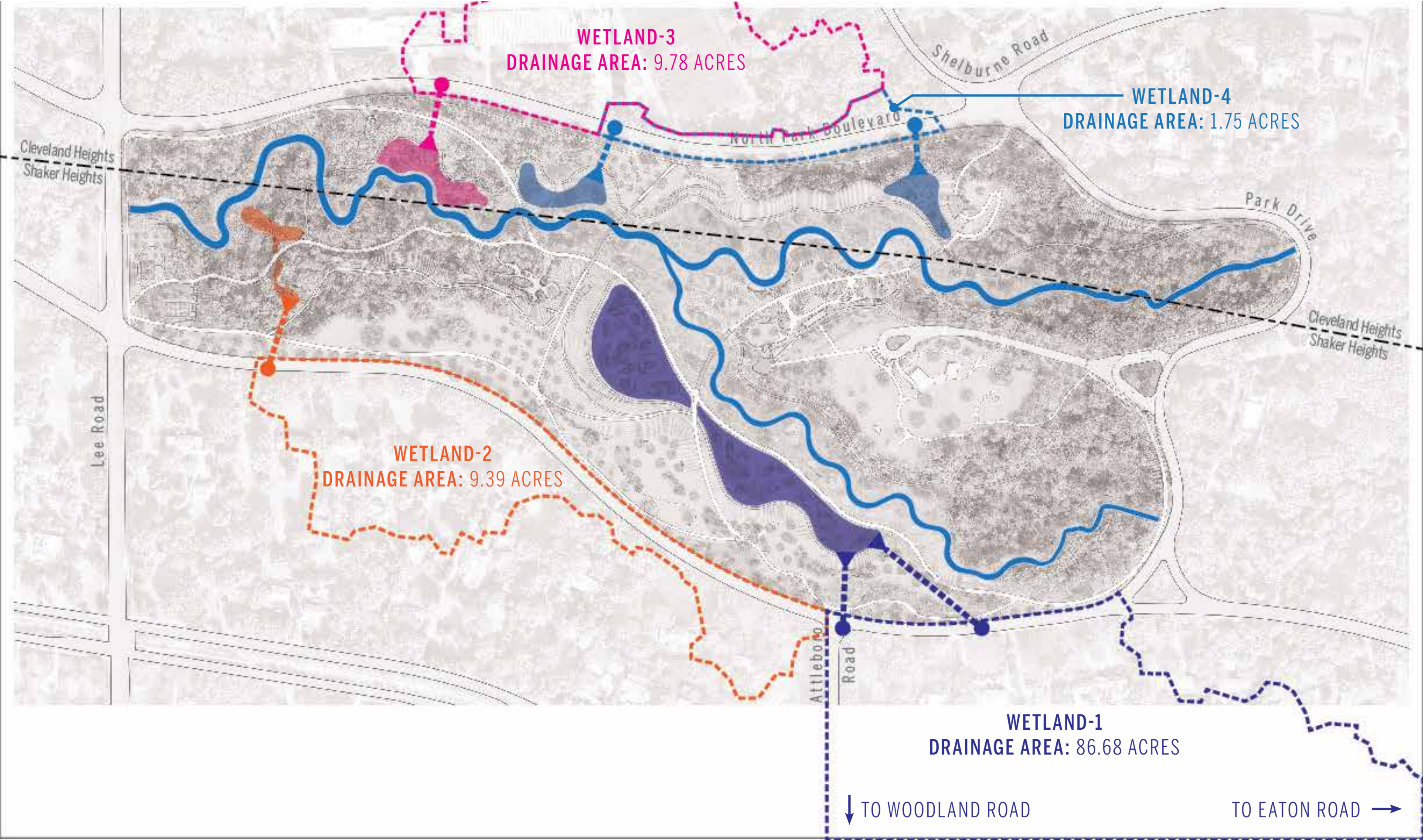
PARK HYDROLOGY | POTENTIAL PARK CIRCULATION



PARK HYDROLOGY | POTENTIAL PARK CIRCULATION



PARK HYDROLOGY | WETLAND FILTERS



PARK HYDROLOGY | TYPICAL SUMMER RAINSHOWERS

(LESS THAN 1 INCH OF RAIN IN A 24-HOUR PERIOD)



PARK HYDROLOGY | 1-YEAR STORM EVENT

(1.98 INCHES OF RAIN IN A 24-HOUR PERIOD)



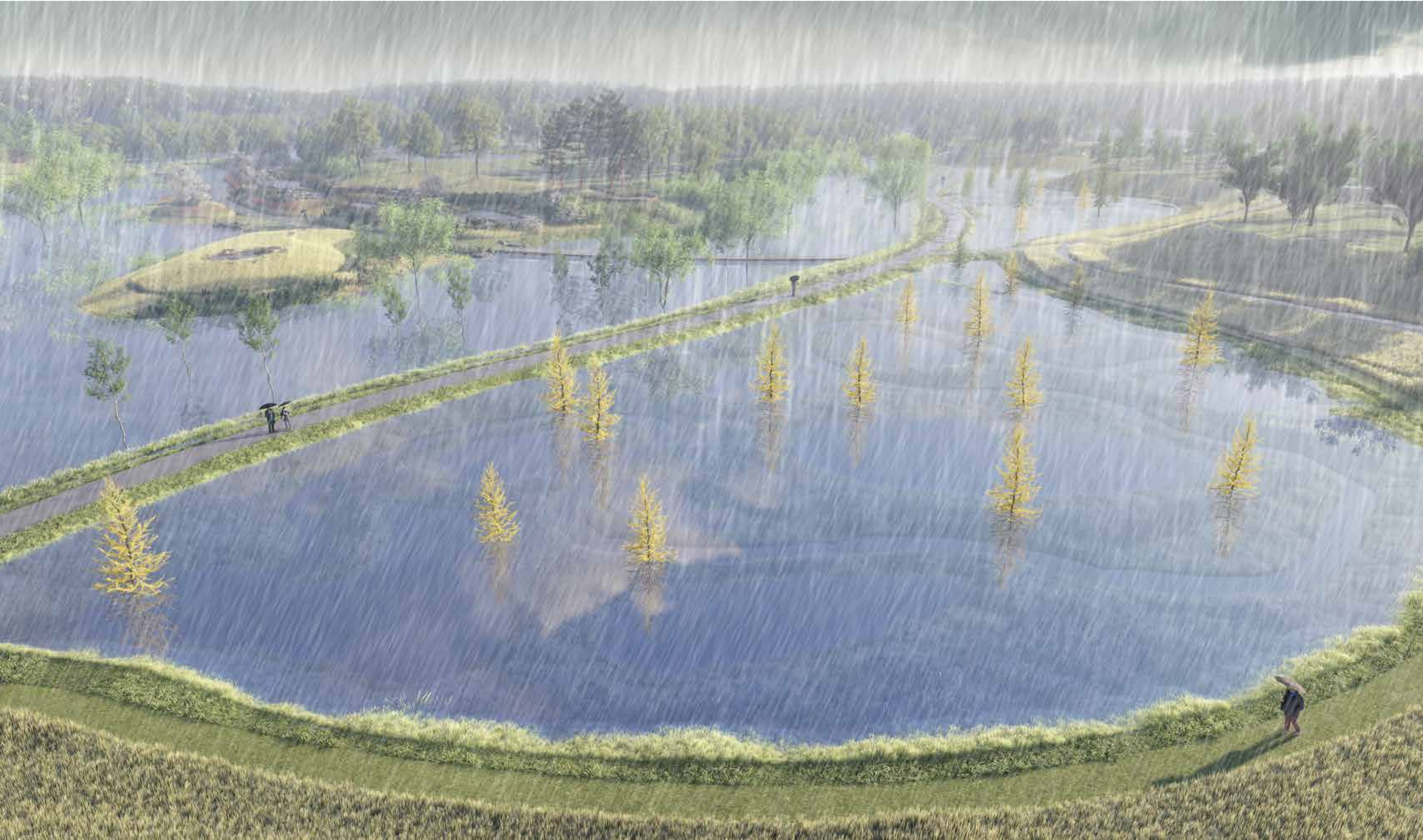
PARK HYDROLOGY | 10-YEAR STORM EVENT

(3.46 INCHES OF RAIN IN A 24-HOUR PERIOD)



PARK HYDROLOGY | 100-YEAR STORM EVENT

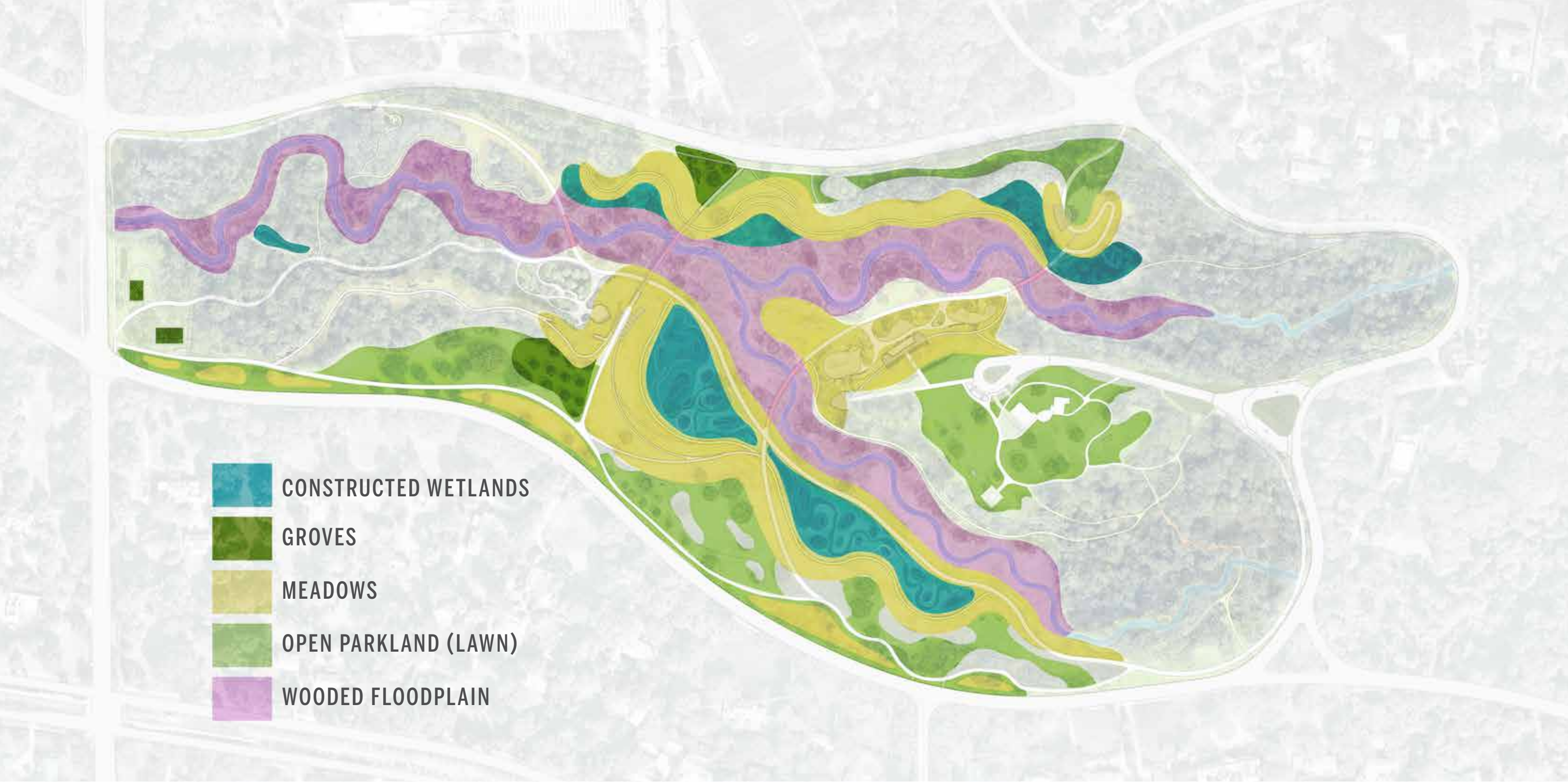
(5.38 INCHES OF RAIN IN A 24-HOUR PERIOD)



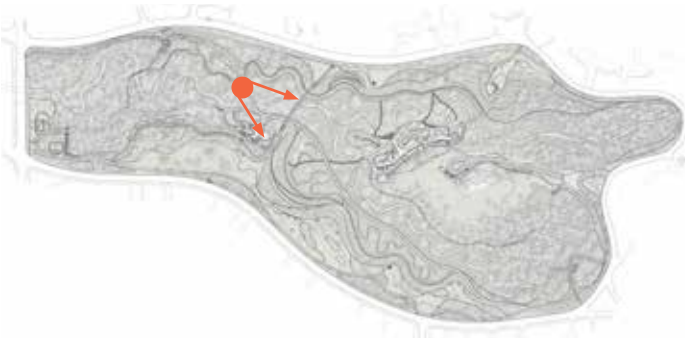
LANDSCAPE INTEGRATION PLAN



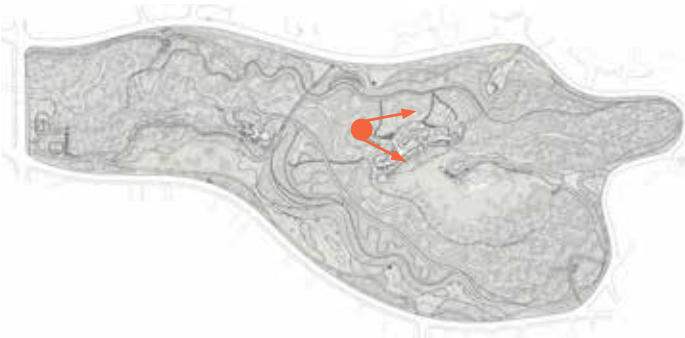
LANDSCAPE INTEGRATION PLAN | LANDSCAPE TYPOLOGIES



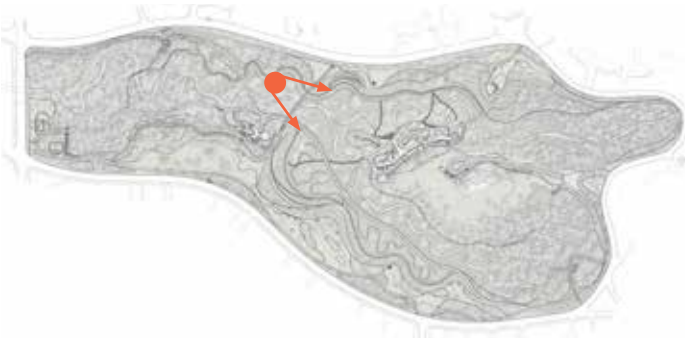
LANDSCAPE INTEGRATION PLAN | RESTORED RIPARIAN CORRIDOR



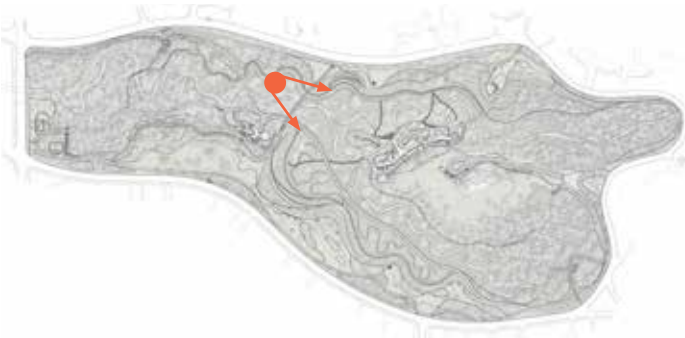
LANDSCAPE INTEGRATION PLAN | RESTORED RIPARIAN CORRIDOR



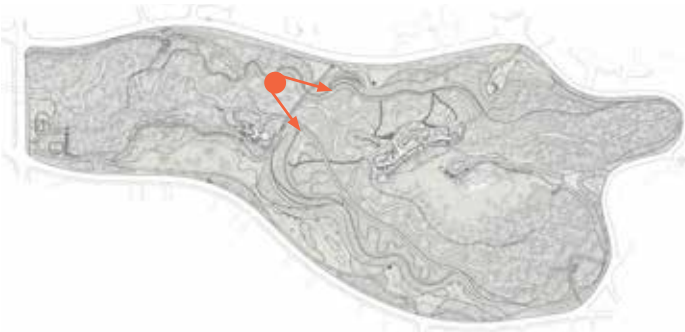
LANDSCAPE INTEGRATION PLAN | RESTORED RIPARIAN CORRIDOR: 1-5YR



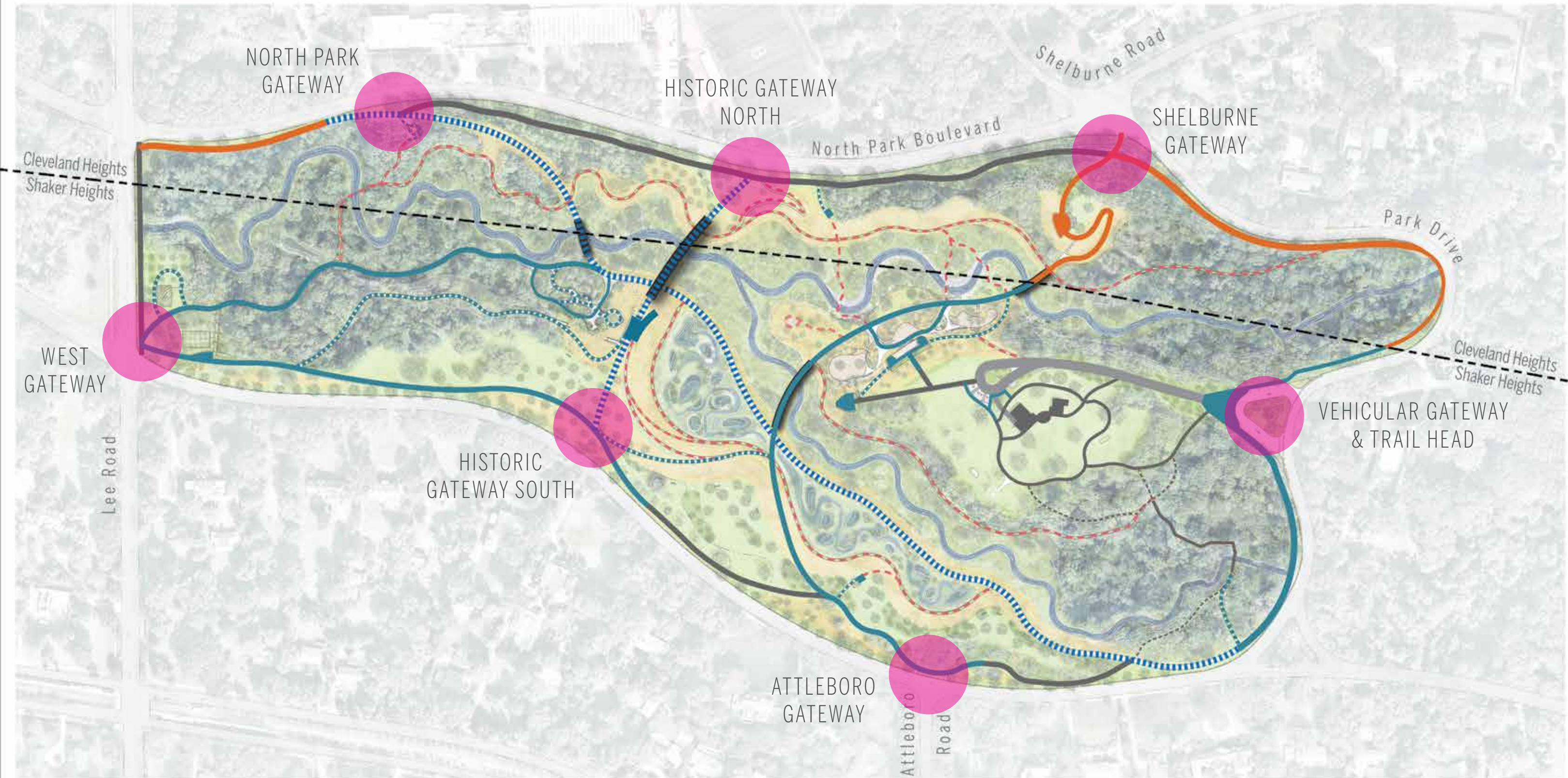
LANDSCAPE INTEGRATION PLAN | RESTORED RIPARIAN CORRIDOR: 20YR



LANDSCAPE INTEGRATION PLAN | RESTORED RIPARIAN CORRIDOR: 40YR

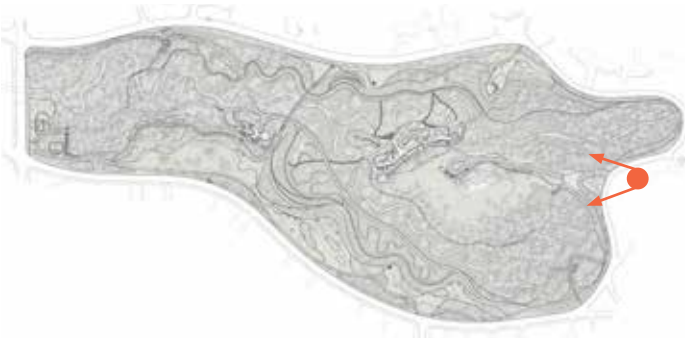


LANDSCAPE INTEGRATION PLAN | POTENTIAL PARK GATEWAYS



*EXTENT OF PARK GATEWAYS WILL BE SUBJECT TO AVAILABILITY OF CITIES FUNDING

LANDSCAPE INTEGRATION PLAN | PARK GATEWAYS



LANDSCAPE INTEGRATION PLAN | PARK GATEWAYS

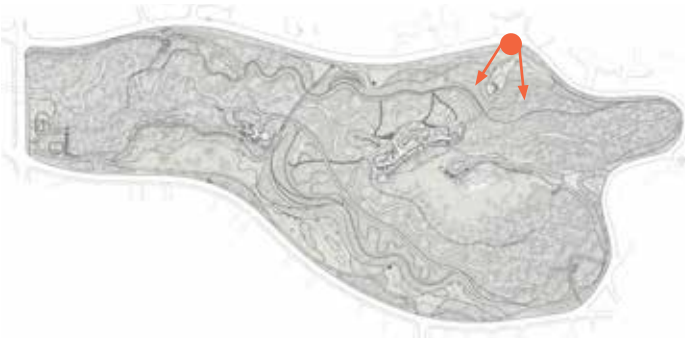


LANDSCAPE INTEGRATION PLAN | POTENTIAL PARK AMENITIES

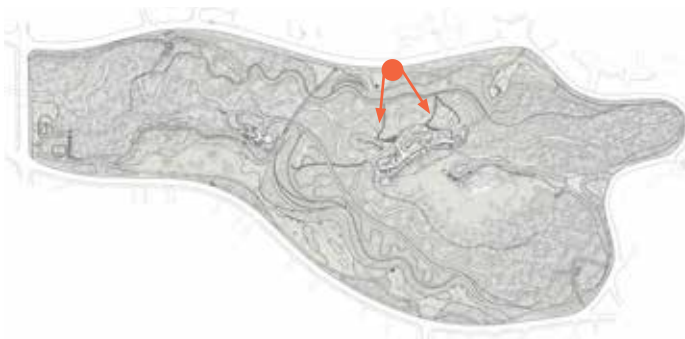


*EXTENT OF PARK AMENITIES WILL BE SUBJECT TO AVAILABILITY OF CITIES FUNDING

LANDSCAPE INTEGRATION PLAN | SHELburnE GATEWAY BROOK OVERLOOK



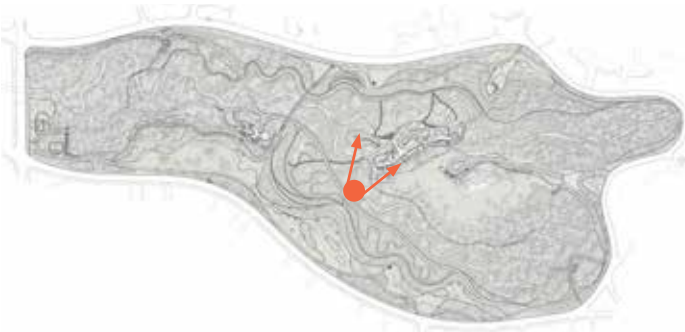
LANDSCAPE INTEGRATION PLAN | NATURE PLAY OVERVIEW



LANDSCAPE INTEGRATION PLAN | RESTORED BEACH AND NATURE PLAY



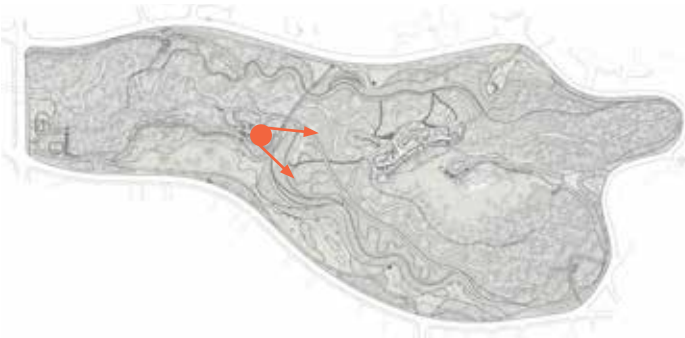
LANDSCAPE INTEGRATION PLAN | NATURE PLAY



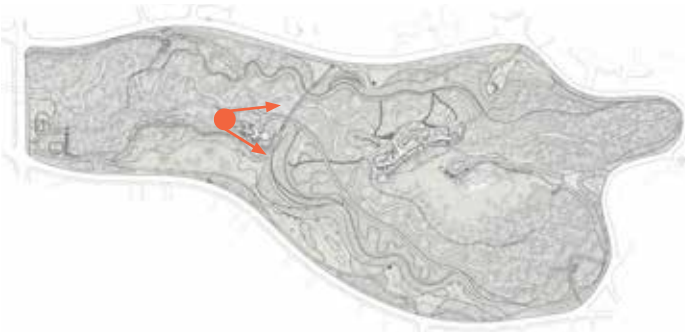
LANDSCAPE INTEGRATION PLAN | HILLSIDE SEATING & POLLINATOR GARDEN



LANDSCAPE INTEGRATION PLAN | WETLAND OBSERVATION TERRACE



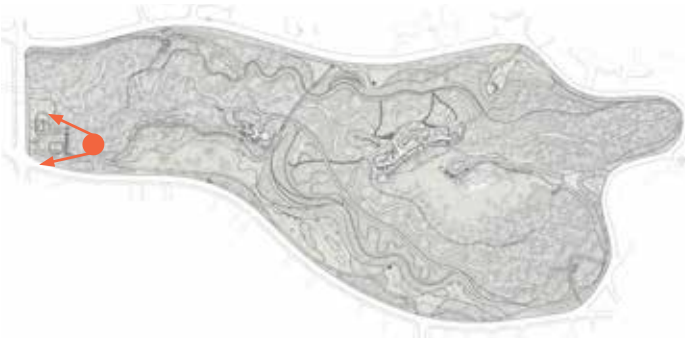
LANDSCAPE INTEGRATION PLAN | SENSORY GARDEN



LANDSCAPE INTEGRATION PLAN | OUTDOOR CLASSROOM



LANDSCAPE INTEGRATION PLAN | SHAKER INTERPRETIVE TRAIL



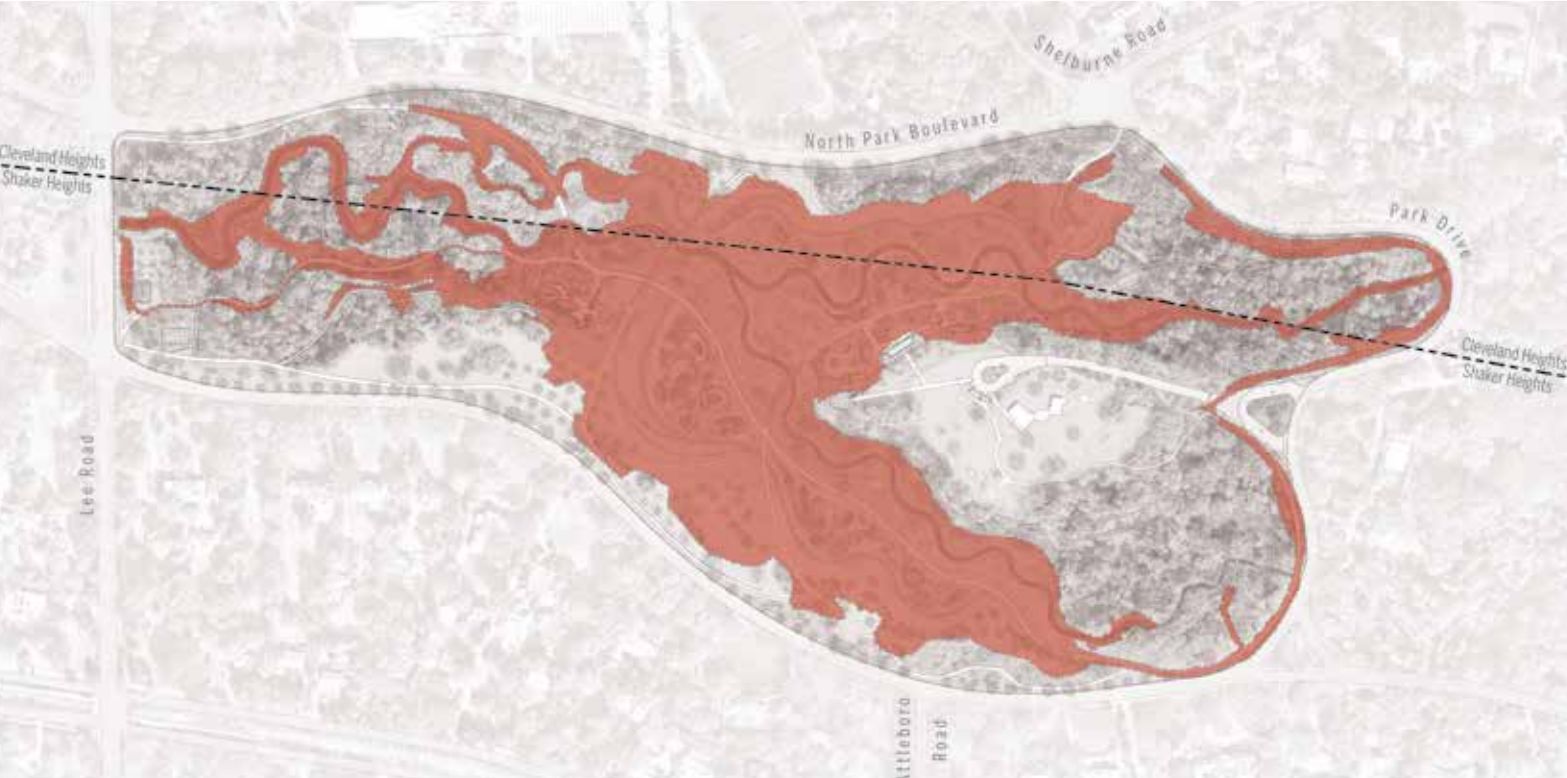
OPINION OF PROBABLE CONSTRUCTION COSTS: DISTRICT | PRE-DESIGN VS. 30% DESIGN

BID ITEM GROUP	PRE-DESIGN	30% DESIGN	CHANGE
DEMO	\$ 460,000	\$ 849,800	\$ 389,800
EARTHWORK	\$ 9,900,000	\$ 14,030,000	\$ 4,130,000
BANK STABILIZATION / CHANNEL WORK	\$ 1,945,000	\$ 2,346,500	\$ 401,500
EROSION CONTROL	\$ 992,000	\$ 549,000	\$ (443,000)
STORM SEWER	\$ 100,000	\$ 151,600	\$ 51,600
SANITARY SEWER	N/A	\$ 250,000	\$ 250,000
STRUCTURAL	\$ 1,000,000	\$ 1,212,000	\$ 212,000
ROADWAY / TRAILS	\$ 557,000	\$ 349,000	\$ (208,000)
LANDSCAPING	\$ 1,500,000	\$ 1,880,000	\$ 380,000
CONSTRUCTION ACCESS	\$ 1,900,000	\$ 1,107,500	\$ (792,500)
MISCELLANEOUS	\$ 1,545,000	\$ 1,798,820	\$ 253,820
GROUP SUBTOTALS	\$ 19,899,000	\$ 24,524,220	\$ 4,625,220
CONTINGENCY (30% FOR PRE-DESIGN, 20% NOW)	\$ 5,969,700	\$ 4,904,844	\$ (1,064,856)
GENERAL ALLOWANCE (10% OF GROUP SUBTOTAL)	\$ 1,989,900	\$ 2,452,422	\$ 462,522
SPECIFIC ALLOWANCES	\$ 800,000	\$ 800,000	\$ -
NEORSD TOTAL	\$ 28,658,600	\$ 32,681,486	\$ 4,022,886

OPINION OF PROBABLE CONSTRUCTION COSTS: CITIES | PRE-DESIGN VS. 30% DESIGN

BID ITEM GROUP	PRE-DESIGN	30% DESIGN	CHANGE
DEMO	\$ 475,750	\$ 172,517	\$ (303,233)
EARTHWORK	\$ 1,037,100	\$ -	\$ (1,037,100)
EROSION CONTROL	\$ -	\$ 140,000	\$ 140,000
ROADWAY / TRAILS	\$ 1,525,365	\$ 2,279,130	\$ 753,765
LANDSCAPING	\$ 619,500	\$ 1,066,060	\$ 446,560
LANDSCAPE INTEGRATION ELEMENTS	\$ 1,354,812	\$ 1,256,000	\$ (98,812)
HARDSCAPE	\$ 560,500	\$ 551,628	\$ (8,873)
MISCELLANEOUS	\$ 977,842	\$ 273,627	\$ (704,215)
GROUP SUBTOTALS	\$ 6,550,869	\$ 5,738,602	\$ (812,268)
CONTINGENCY (30% FOR PRE-DESIGN, 20% NOW)	\$ 1,965,261	\$ 1,147,720	\$ (817,540)
GENERAL ALLOWANCE (10% OF GROUP SUBTOTAL)	\$ -	\$ 573,860	\$ 573,860
CITIES TOTAL	\$ 8,516,130	\$ 7,460,182	\$ (1,055,948)

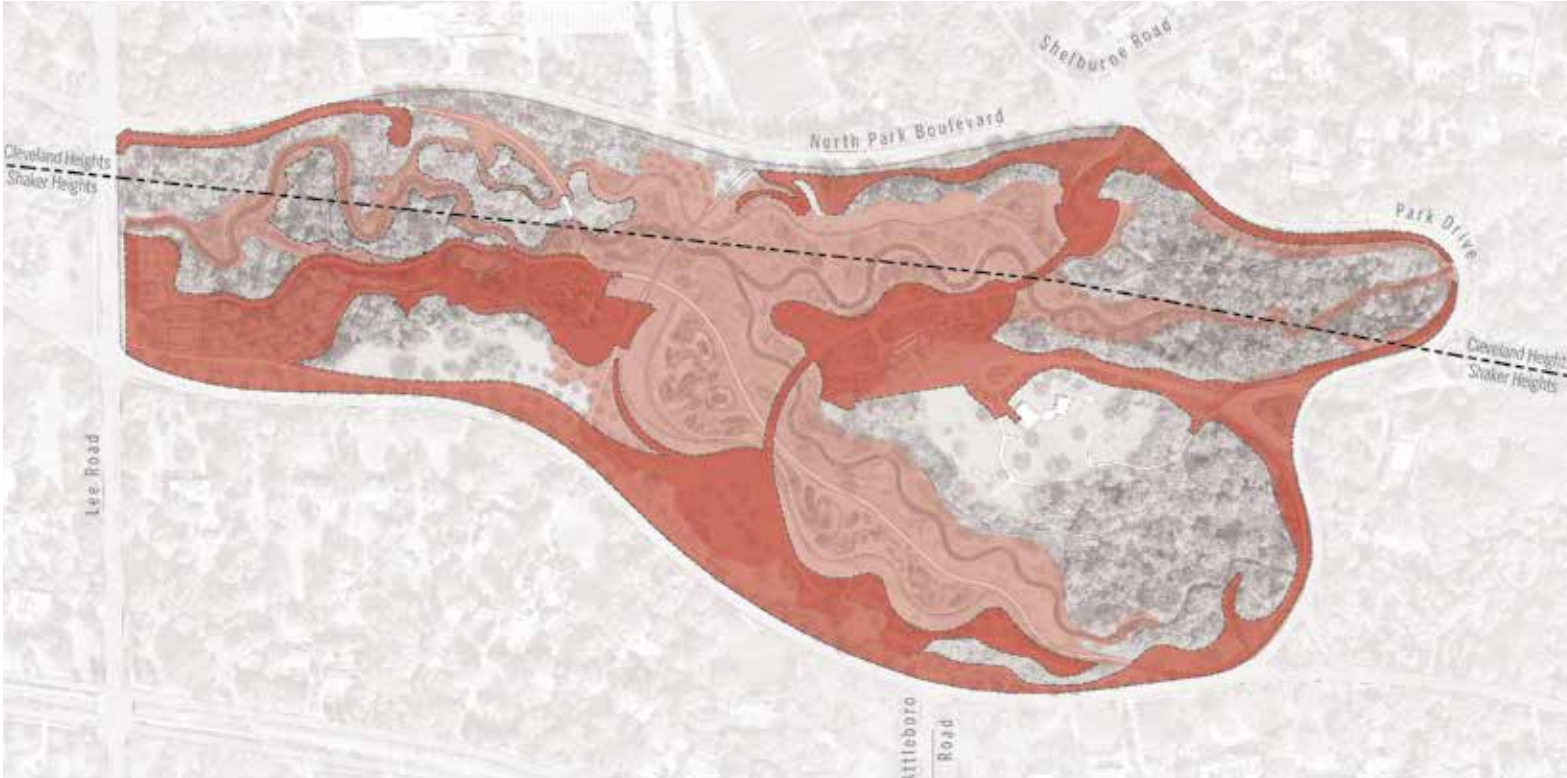
OPINION OF PROBABLE CONSTRUCTION COSTS | 30% DESIGN



DISTRICT LIMIT OF WORK
+/- 55 ACRES

\$32,681,486

\$594,209 / ACRE
\$13.65 / SF



CITIES LIMIT OF WORK
+/- 14 ACRES

\$7,460,182

\$532,870 / ACRE
\$12.25 / SF

NEXT STEPS

- **TUESDAY, JULY 16 - PUBLIC FORUM #4 OPEN HOUSE**
 - Shaker Heights Public Library (16500 Van Aken Blvd.)
 - No registration required
 - 11am - 1pm in the Boulevard & Fernway Rooms
 - 5pm - 7pm in the Boulevard & Fernway Rooms
- **SPRING 2025 - PUBLIC FORUM #5**