

Rocky Branch Enhancement Project

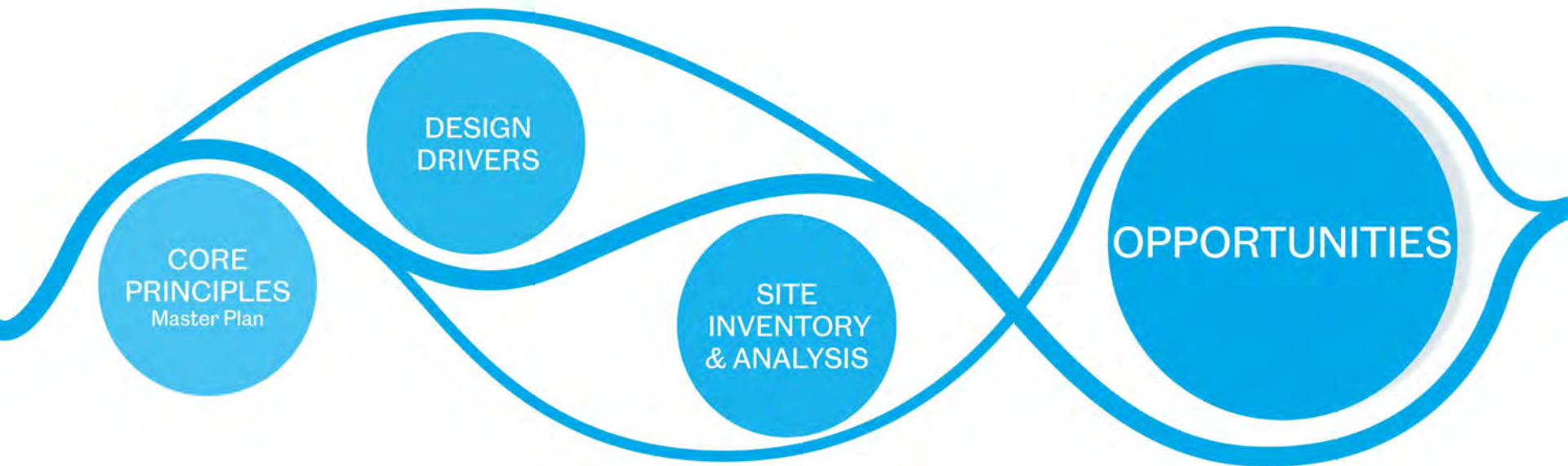


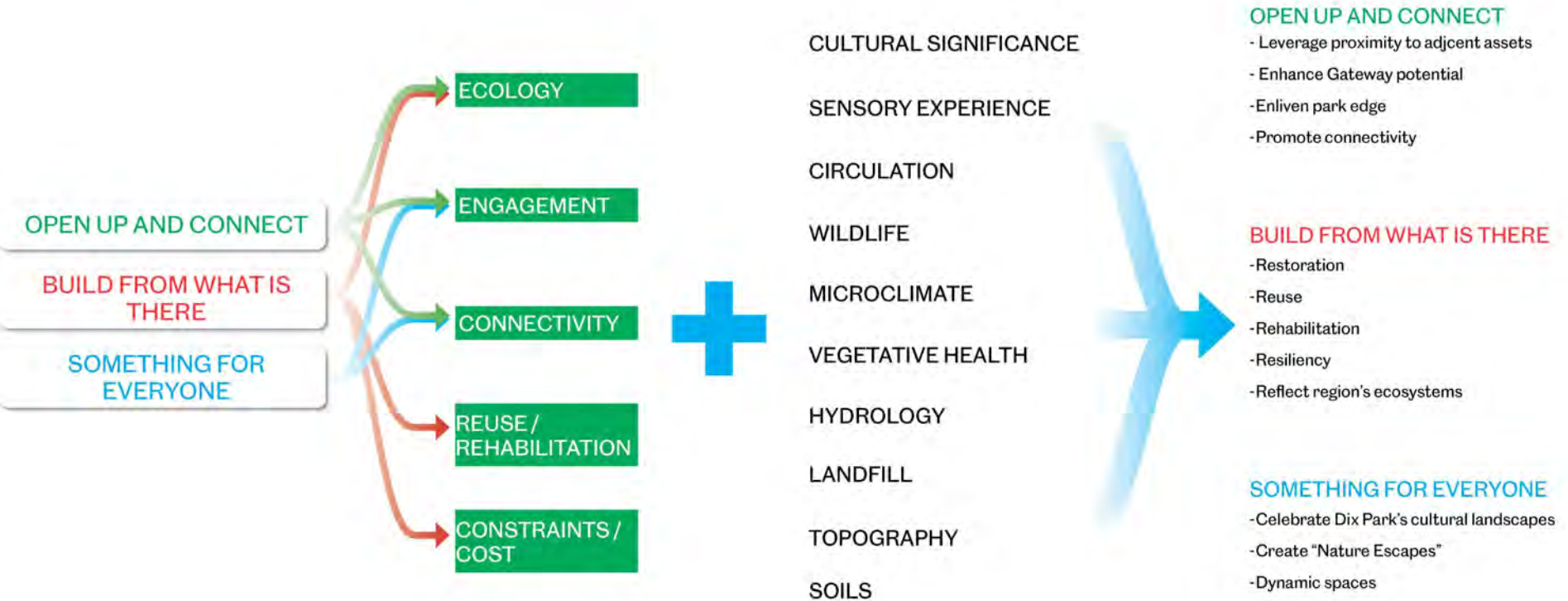
AGENDA

1. Process: Principles to Opportunities
2. Opportunities: The Synthesis
3. Featured Values and Priorities : Program & Precedents
4. Rocky Branch: In Three Reaches
5. Proposed Scenarios : Scenarios A - C, Reach 1-3
6. Proposed Scenarios : Western Boulevard Crossing

ROCKY BRANCH ENHANCEMENT PROJECT

FEASIBILITY STUDY







OPEN UP AND CONNECT



BUILD FROM WHAT IS THERE



SOMETHING FOR EVERYONE

OPEN UP AND CONNECT




BUILD FROM WHAT IS THERE



SOMETHING FOR EVERYONE



Overall Program

- 
- The map shows an aerial view of Dix Park with various colored circles overlaid. The circles are color-coded according to the legend: blue for Site Hydrology Access & Improvement Opportunities, green for Ecological & Natural Landscape Systems Opportunities, and purple for Recreation & Engagement Opportunities. The circles are of varying sizes and are distributed across the park area, with a higher concentration in the upper left and center. Some circles overlap, indicating areas where multiple program opportunities intersect.
- Site Hydrology Access & Improvement Opportunities
 - Ecological & Natural Landscape Systems Opportunities
 - Recreation & Engagement Opportunities

Site Hydrology Access & Improvement Opportunities



SYCAMORE
WETLAND

BIO-
RETENTION

GARDEN
WETLANDS

TERRACED
WETLANDS

PERCHED
WETLANDS



Ecological & Natural Landscape Systems Opportunities

PINE
SAVANNA

POLLINATOR
MEADOW

PIEDMONT
PRAIRIE

SYCAMORE
GROVE

SYCAMORE
GROVE

OAK HAMMOCK
GROVE
GLADE



Recreation & Engagement Opportunities



ACTIVITY

PICNIC

PLAY



EXERCISE
PAD

BOULDER
SCRAMBLE

EXERCISE
PAD

ART
RAMBLE

SLEDDING
HILL



Three Reaches - Delineation

Reach 1

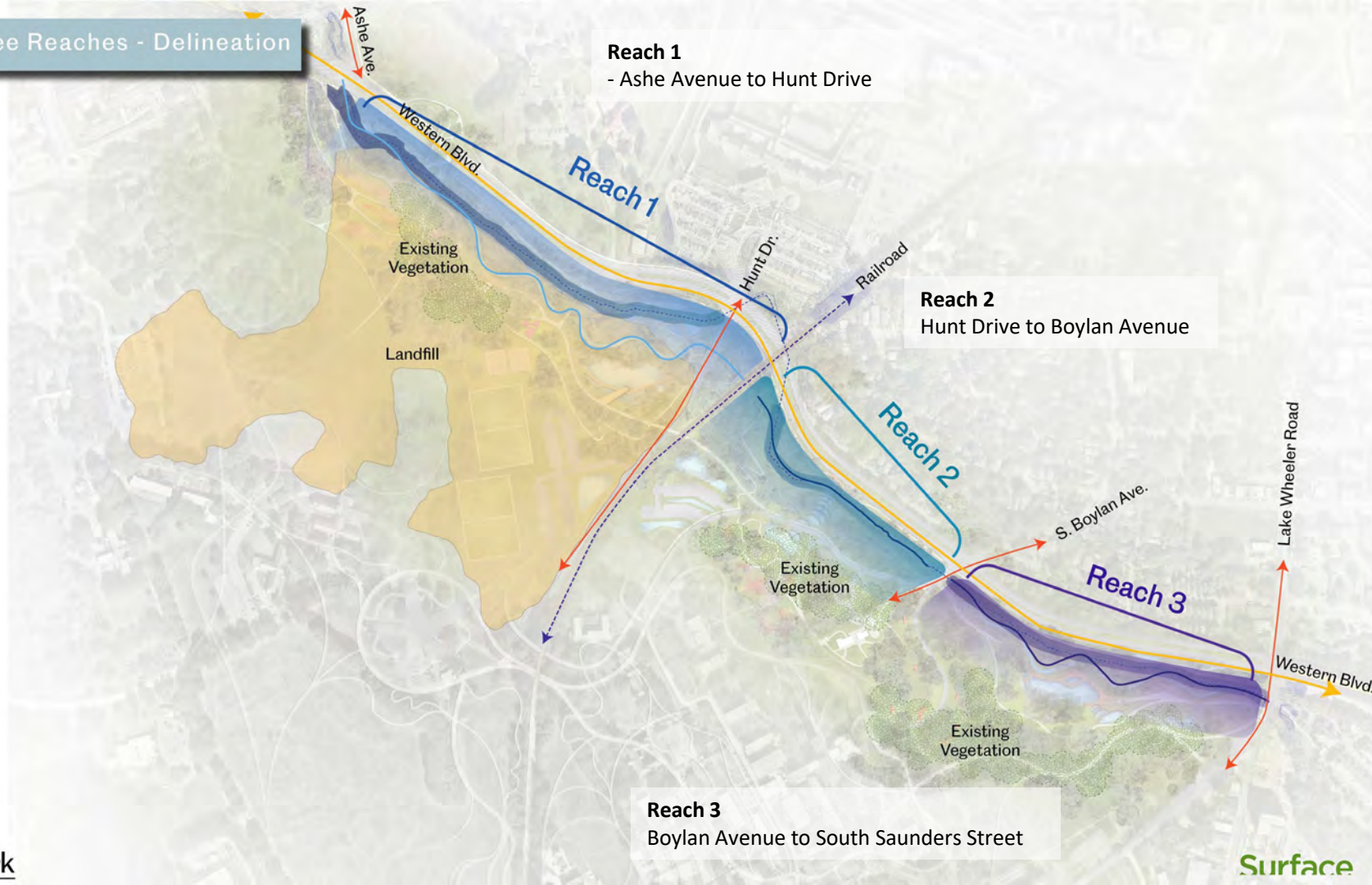
- Ashe Avenue to Hunt Drive

Reach 2

Hunt Drive to Boylan Avenue

Reach 3

Boylan Avenue to South Saunders Street



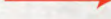





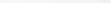


Overall Plan - Scenario A



Circulation - Scenario A

Legend

-  Vehicular Connection
-  Primary Pedestrian Connection [Multi-use Trail]
-  Secondary Pedestrian Connection
-  Boardwalk
-  Existing Greenway
-  Railroad
-  Parking
-  Activated / Programmed Space
-  Gathering Space



Stream, Stormwater, and Hydrology - Scenario A

Stream Alignment

- Optimizes alignment & maximizes stream restoration, increases stream meander
- Raises reach 1 elevation by 5'

Flood Plain Improvements

- Provides floodplain bench
- Enhances floodplain in key locations

Stormwater Management

- Maximizes stormwater management opportunities
- Provides treatment for Western Blvd & future BRT
- Creates opportunities for access and

Legend

- Proposed Wet Pond/ Wetland
- Proposed Floodplain Bench
- Proposed Stream
- Stormwater Flow
- Surface Flow
- Stream Realignment & Restoration
- Enhanced in Place

Reach 1 - Scenario A

- **Stream** – Optimal alignment and stream elevation
- **Landbridge** – Maximizes Landbridge
- **Earthwork/ Environmental** – Significant landfill impact
- **Stormwater** – Maximizes management & access
- **Circulation** – Maximizes pathways and crossings, new Hunt Drive Bridge
- **Engagement** – Maximizes overlooks & program spaces





High Point
with a View

Hillside
Meadows

Multituse
Fields

Stormwater
Wetland

Greenway

Hillside Hangout

Overlook to
Regional Ecologies

Rocky
Branch

Riparian Buffer

Stormwater
Mangement
Amenities

Greenway

Vegetated
Buffer

Western Boulevard

Greenway

Governor Morehead
School to Pullen Park

Dix Park

Surface

NOVEMBER 2023



Meadows

High Point
with a View

Multiuse
Fields

Nature Play

Boardwalk
and
Overlook

Stormwater
Wetland

Overlook

Boardwalk

Western
Boulevard

Stormwater
Wetland

Hunt Drive

Rocky
Branch

Reach 2 - Scenario A



- **Stream** – Optimal alignment & stream elevation
- **Earthwork/ Environmental** – Most significant impact
- **Stormwater** – Maximizes stormwater
- **Circulation** – Maximizes pathways & connections
- **Engagement** – Maximizes engagement and integration with adjacent program



High Point
with a View

Meadows

Stormwater
Wetland

Existing & Refined
Forest Cover

Pedestrian and
Stream Railroad
Passage

Railroad

Stormwater
Dissipation
Pools

Western
Boulevard

Stormwater
Treatment &
Parking

Tate Drive

Stormwater Dissipation
utilizing Existing
Topography

Rocky
Branch

Greenway

Remediatory
Edge

Western
Boulevard

Dix Park

Surface

Reach 3 - Scenario A



- **Stream** – Optimal alignment & stream elevation
- **Earthwork/ Environmental** – Most significant impact
- **Stormwater** – Maximizes stormwater
- **Circulation** – Maximizes pathways & connections
- **Engagement** – Maximizes engagement and access with stream



The Hospital -
Main Building

Stormwater
Wetland

Perched
Stormwater
Wetland

Stormwater
Dissipation
Pools

Secondary
Paths; Access to
Dix Edge Area

Greenway

Stabilized
Bank

Top of Bank

Rocky
Branch

Top of Bank

Boardwalk

Stormwater
Dissipation

Western
Boulevard

Dix Park



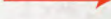

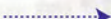



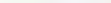
Surface NOVEMBER 2023

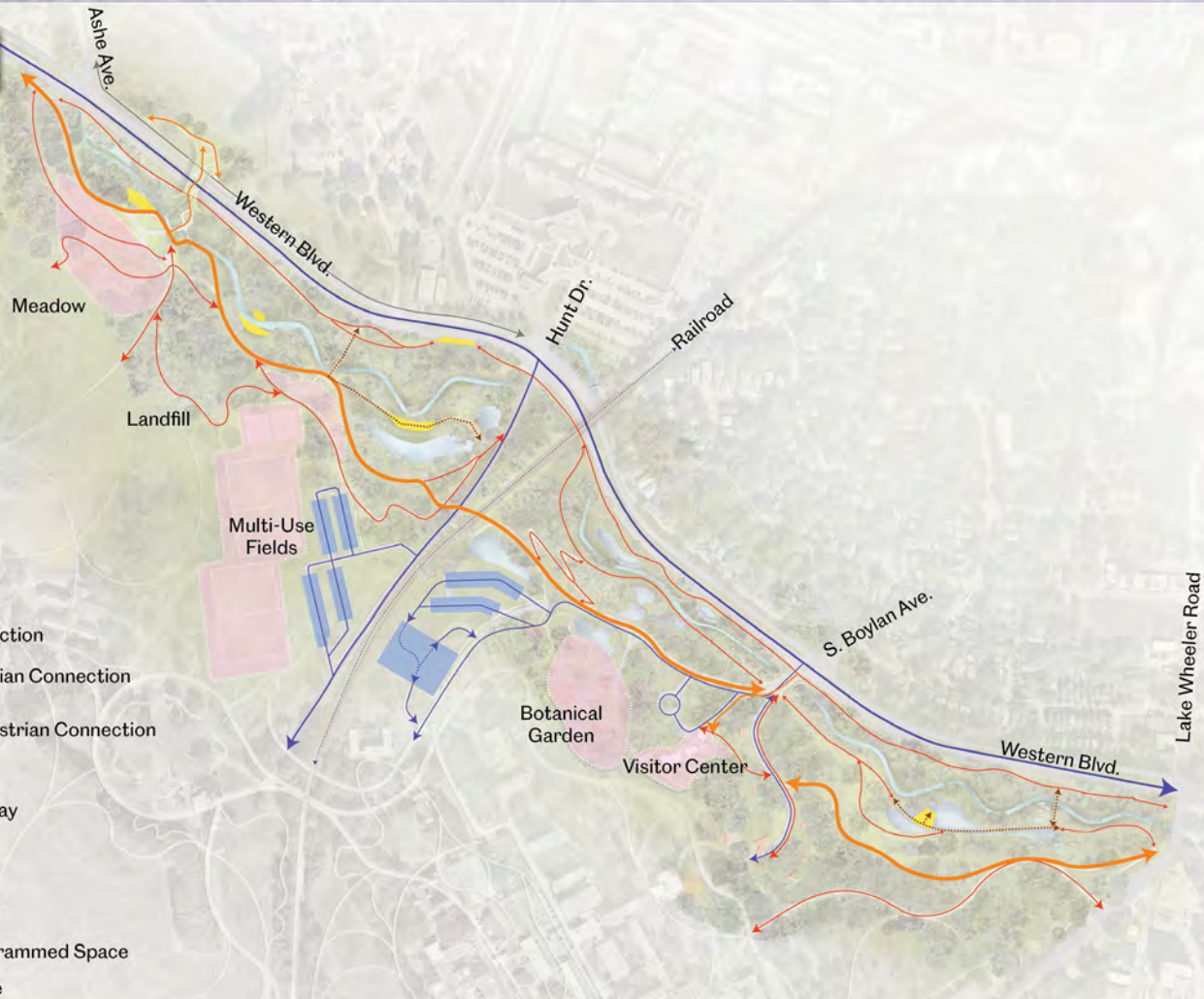
Overall Plan - Scenario B



Circulation - Scenario B

Legend

-  Vehicular Connection
-  Primary Pedestrian Connection [Multi-use Trail]
-  Secondary Pedestrian Connection
-  Boardwalk
-  Existing Greenway
-  Railroad
-  Parking
-  Activated / Programmed Space
-  Gathering Space



Stream, Stormwater, and Hydrology - Scenario B

Stream Alignment

- Slightly improves alignment, enhances stream
- Maintains existing stream elevation
- Maintains alignment at Central Prison

Flood Plain Improvements

- Provides floodplain bench
- Enhances floodplain in key locations

Stormwater Management

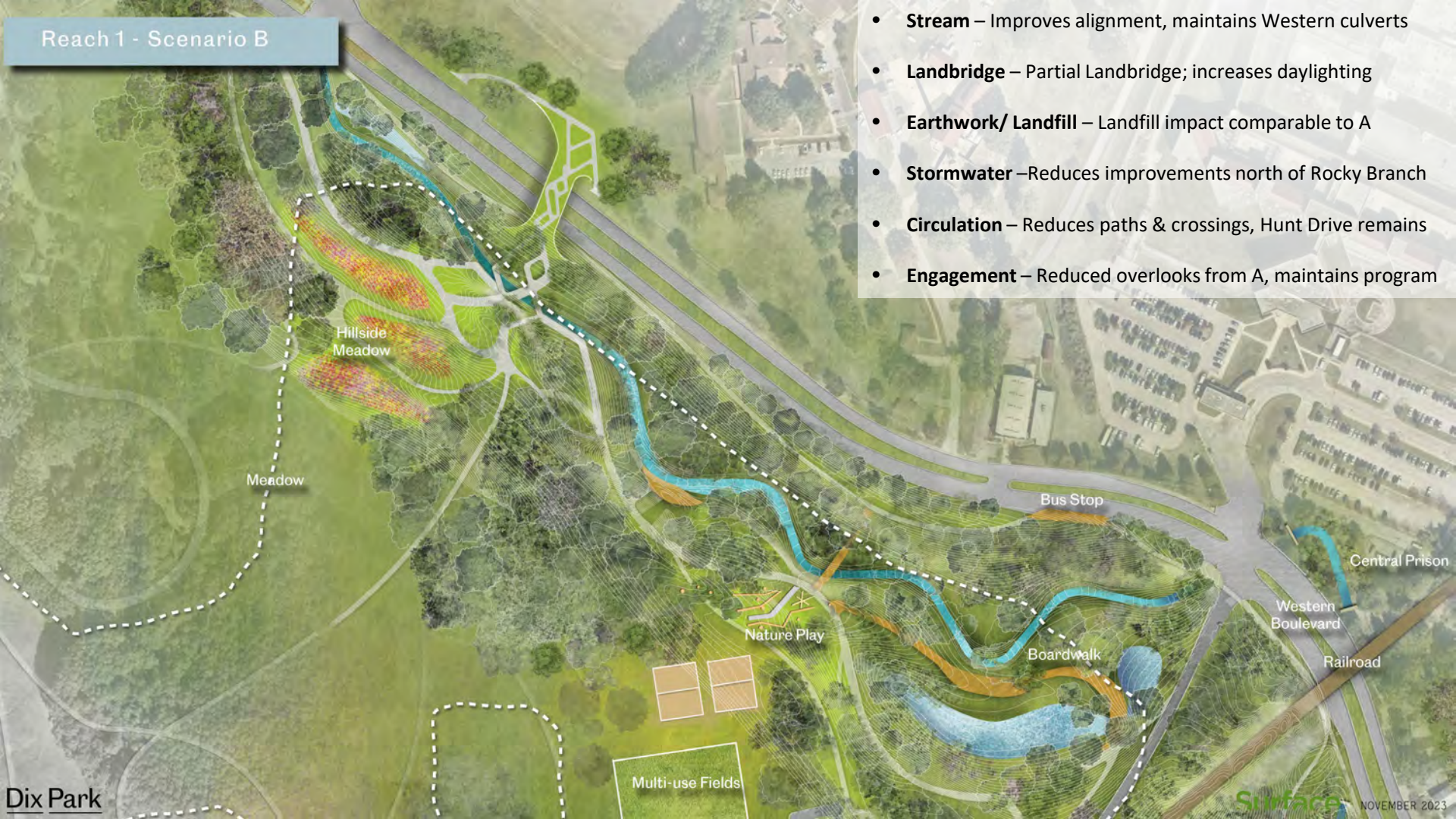
- Slightly reduces stormwater management opportunities from Scenario A

Legend

- Proposed Wet Pond/ Wetland
- Proposed Floodplain Bench
- Proposed Stream
- Stormwater Flow
- Surface Flow
- Stream Realignment & Restoration
- Enhanced in Place

Reach 1 - Scenario B

- **Stream** – Improves alignment, maintains Western culverts
- **Landbridge** – Partial Landbridge; increases daylighting
- **Earthwork/ Landfill** – Landfill impact comparable to A
- **Stormwater** – Reduces improvements north of Rocky Branch
- **Circulation** – Reduces paths & crossings, Hunt Drive remains
- **Engagement** – Reduced overlooks from A, maintains program



Reach 2 - Scenario B



- **Stream** – Maintains existing alignment, enhances
- **Earthwork/ Landfill** – Reduces impact from A
- **Stormwater** – Maintains stormwater opportunities
- **Circulation** – Reduced pathways from A
- **Engagement** – Reduces stream engagement from A

Reach 3 - Scenario B





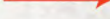

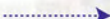



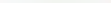
- **Stream** – Optimal alignment
- **Earthwork/ Landfill** – Slightly reduced impact from Scenario A
- **Stormwater** – Significant stormwater opportunity, slightly reduced from A
- **Circulation** – Reduced number of pathways/ connections
- **Engagement** – Reduces engagement and access from A

Overall Plan - Scenario C



Circulation - Scenario C

Legend

-  Vehicular Connection
-  Primary Pedestrian Connection [Multi-use Trail]
-  Secondary Pedestrian Connection
-  Boardwalk
-  Existing Greenway
-  Railroad
-  Parking
-  Activated / Programmed Space
-  Gathering Space

Meadow

Landfill

Multi-Use
Fields

Botanical
Garden

Visitor Center

Ashle Ave.

Western Blvd.

Hunt Dr.

Railroad

S. Boylan Ave.

Western Blvd.

Lake Wheeler Road

Stream, Stormwater, and Hydrology - Scenario C

Stream Alignment

- Slightly improves alignment, enhances stream
- Maintains existing stream elevation
- Maintains alignment at Central Prison

Flood Plain Improvements

- Provides floodplain bench
- Enhances floodplain in key locations

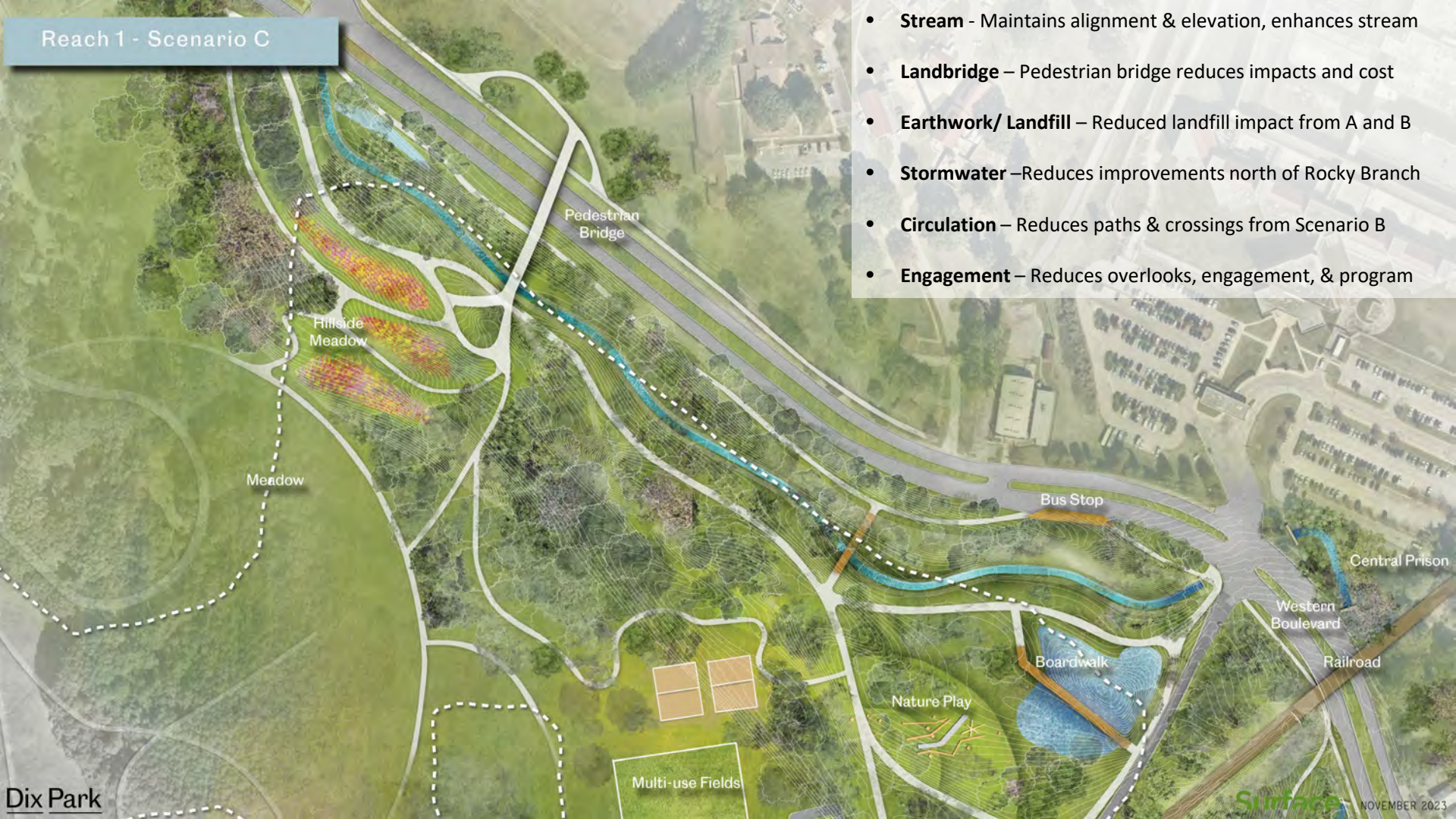
Stormwater Management

- Slightly reduces stormwater management opportunities from Scenario B

Legend

- Proposed Wet Pond/ Wetland
- Proposed Floodplain Bench
- Proposed Stream
- Stormwater Flow
- Surface Flow
- Stream Realignment & Restoration
- Enhanced in Place

Reach 1 - Scenario C



- **Stream** - Maintains alignment & elevation, enhances stream
- **Landbridge** – Pedestrian bridge reduces impacts and cost
- **Earthwork/ Landfill** – Reduced landfill impact from A and B
- **Stormwater** – Reduces improvements north of Rocky Branch
- **Circulation** – Reduces paths & crossings from Scenario B
- **Engagement** – Reduces overlooks, engagement, & program

Reach 2 - Scenario C



- **Stream** – Alignment comparable to B
- **Earthwork/ Landfill** – Slight reductions from B
- **Stormwater** – Unchanged from Scenario B
- **Circulation** – Reduced pathways from B
- **Engagement** – Unchanged from Scenario B

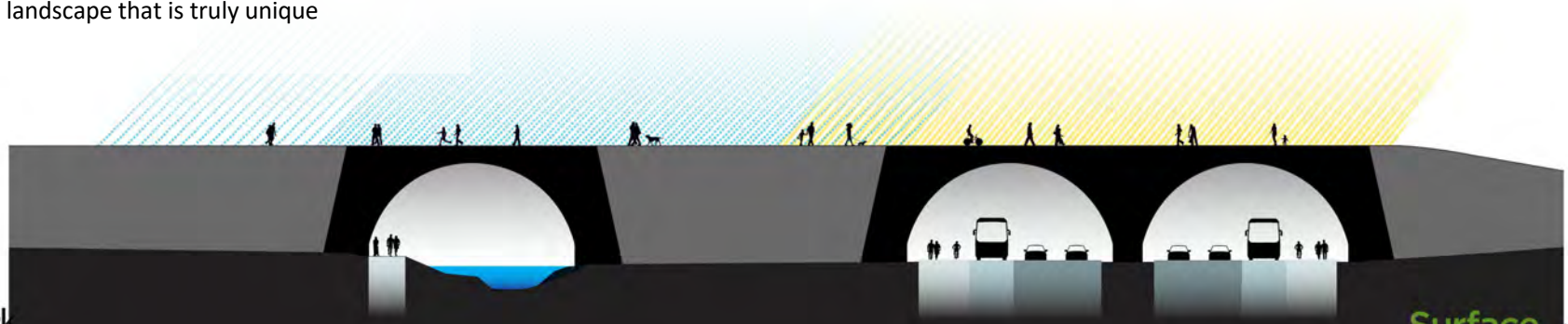
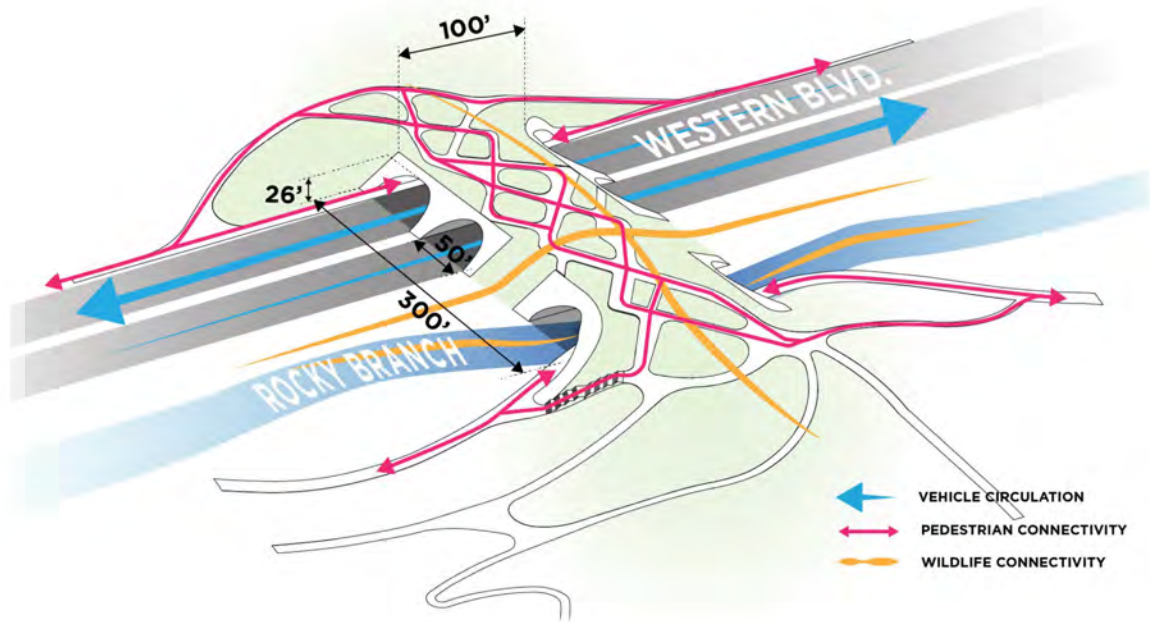
Reach 3 - Scenario C



- **Stream** – Maintains existing alignment, enhances stream & floodplain
- **Earthwork/ Landfill** – Reduces impact from Scenario B
- **Stormwater** – Significant stormwater opportunity, slightly reduced from B
- **Circulation** – Slightly reduces number of pathways from Scenario B
- **Engagement** – Consolidates engagement & access opportunities

Bridge A

- **Full Length/ Width Landbridge** This bridge design includes a 100' wide Landbridge that crosses from the south side of Rocky Branch to the north side of Western Blvd
- **Master Plan**
This bridge design is the most consistent with the vision of the Master Plan
- **Design**
This bridge design consists of three concrete arch supports and deck, deep soil media in locations to successfully sustain vegetative cover, meandering pathways that create not only circulation, but gathering spaces to make the bridge a landscape that is truly unique



Bridge B

- **Partial Landbridge & Pedestrian Bridge**

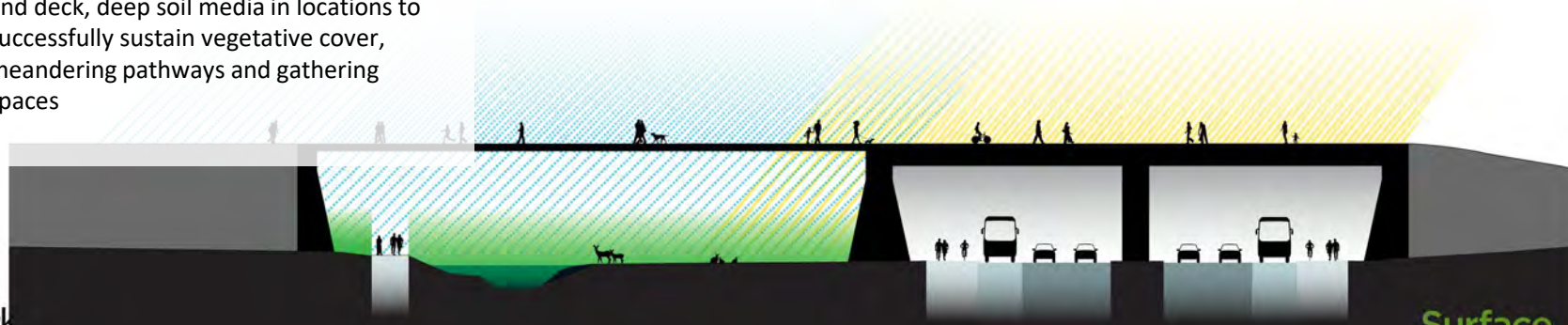
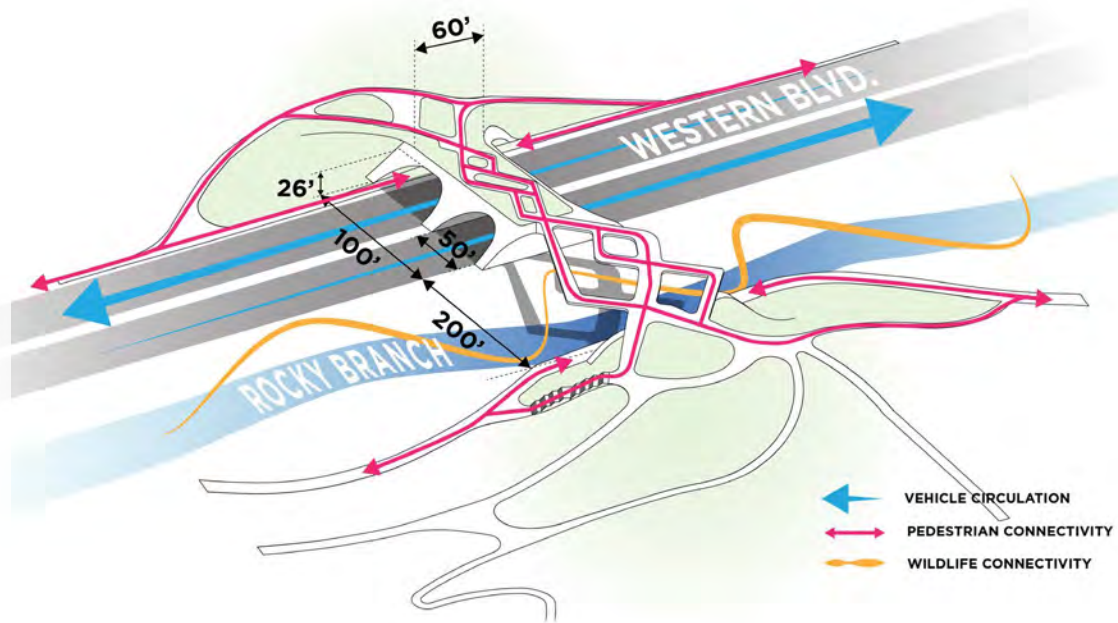
This bridge design includes a 60' wide section of landbridge crossing Western Blvd that transitions into a series of multi-tiered steel truss pedestrian bridges crossing Rocky Branch Creek

- **Master Plan**

This bridge design includes concepts that are very consistent with the vision of the Master Plan yet adapts them to design that is more porous as it crosses the creek, intending to maximize daylighting of Rocky Branch

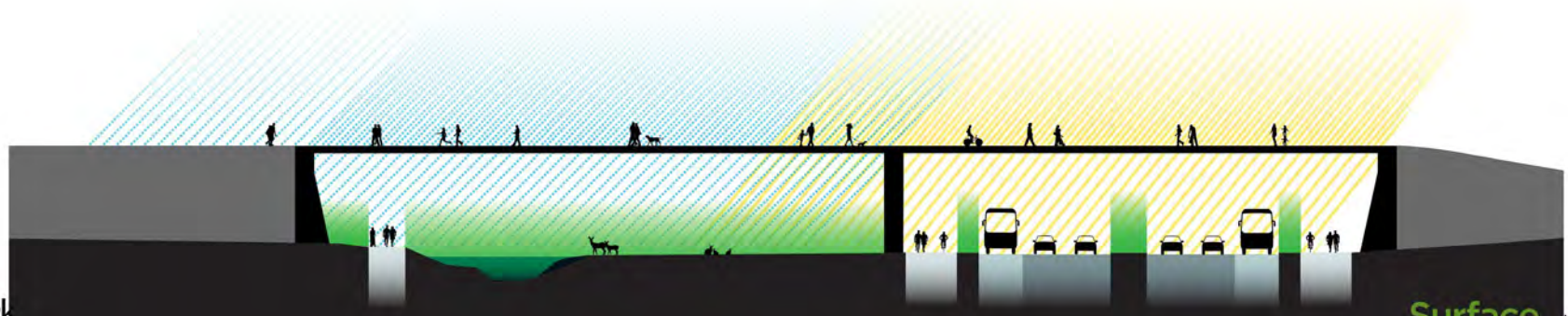
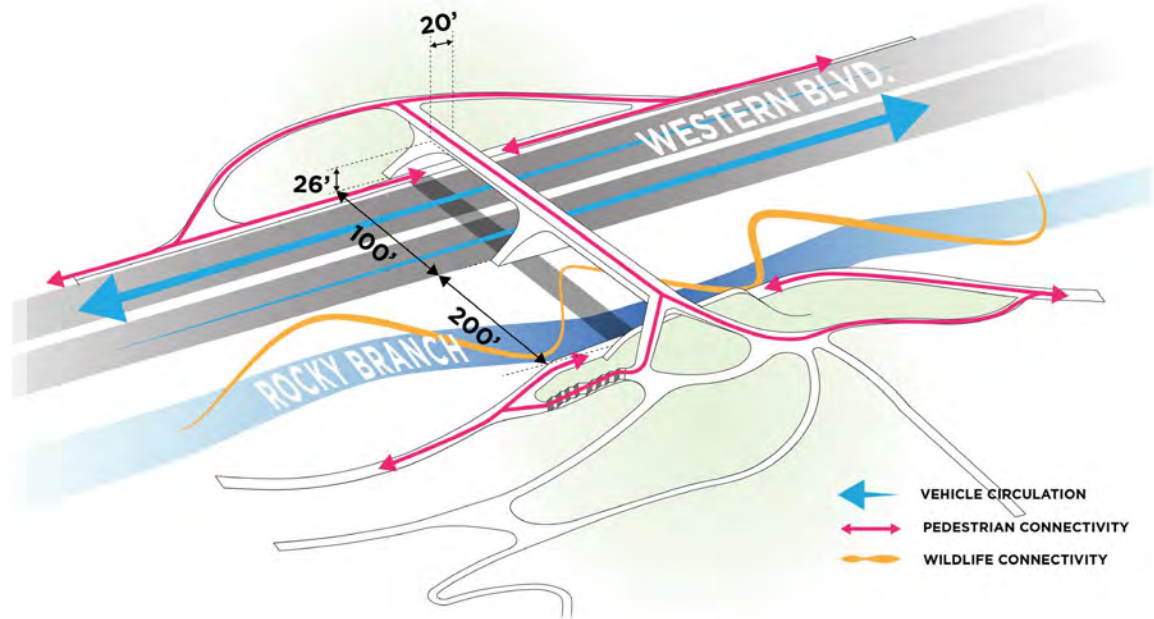
- **Design**

Consists of three concrete arch supports and deck, deep soil media in locations to successfully sustain vegetative cover, meandering pathways and gathering spaces



Bridge C

- **Full Length Pedestrian Bridge** This bridge design includes a 15-20' wide steel pedestrian bridge that crosses from the south side of Rocky Branch to the north side of Western Blvd
- **Master Plan** This bridge deviates most significantly from the vision of Master Plan. While it provides pedestrian connectivity it does not have any living bridge components
- **Design** This bridge design consists of a prefabricated steel truss bridge





Raleigh

Next Steps

How do we continue to move the Rocky Branch project forward?

- Upcoming grant applications
 - Land & Water Fund- February 15
- Discussion of priority projects and use of bond funding \$3.375M (e.g., Creek and Grove)
- Discussion of project delivery method