

Port Lands Flood Protection & Enabling Infrastructure Design Review Submission

Phase 2B

18 April 2018

Michael Van Valkenburgh Associates, Inc.
Landscape Architects

Project Feedback

Design Review Panel (01/24)

- Landscape ecology and **the connection of the river to the lake** could become part of **Toronto's signature identity**.
- Continue to **develop** the spatial, conceptual and programmatic **connectivity between the new naturalized river and** the larger ecological and spatial condition coming down through **the Don Valley**. Link those two more strongly.
- Keep developing the **river as a catalytic concept**.
- Tie programming and river armouring.
- **Investigate further** the work completed for TOcore regarding **what type of park programming Toronto needs more of**.
- Focus on **nature play** as much as conventional playscapes.
- Incorporate **alternative play** experiences for adults.
- Unique opportunity to juxtapose hard and soft edges.
- Think about the **opportunities for stormwater runoff**.
- The operations and maintenance strategy needs to be resolved.

Parks, Forestry & Recreation (Director)

- Multi-use, flexible spaces are needed most.
- **Parks for people** is ultimate goal.

Waterfront Toronto

- The **role of the river in the Park experience** needs to be developed.
- **Over articulation** of River Valley Park feels at odds with the river.

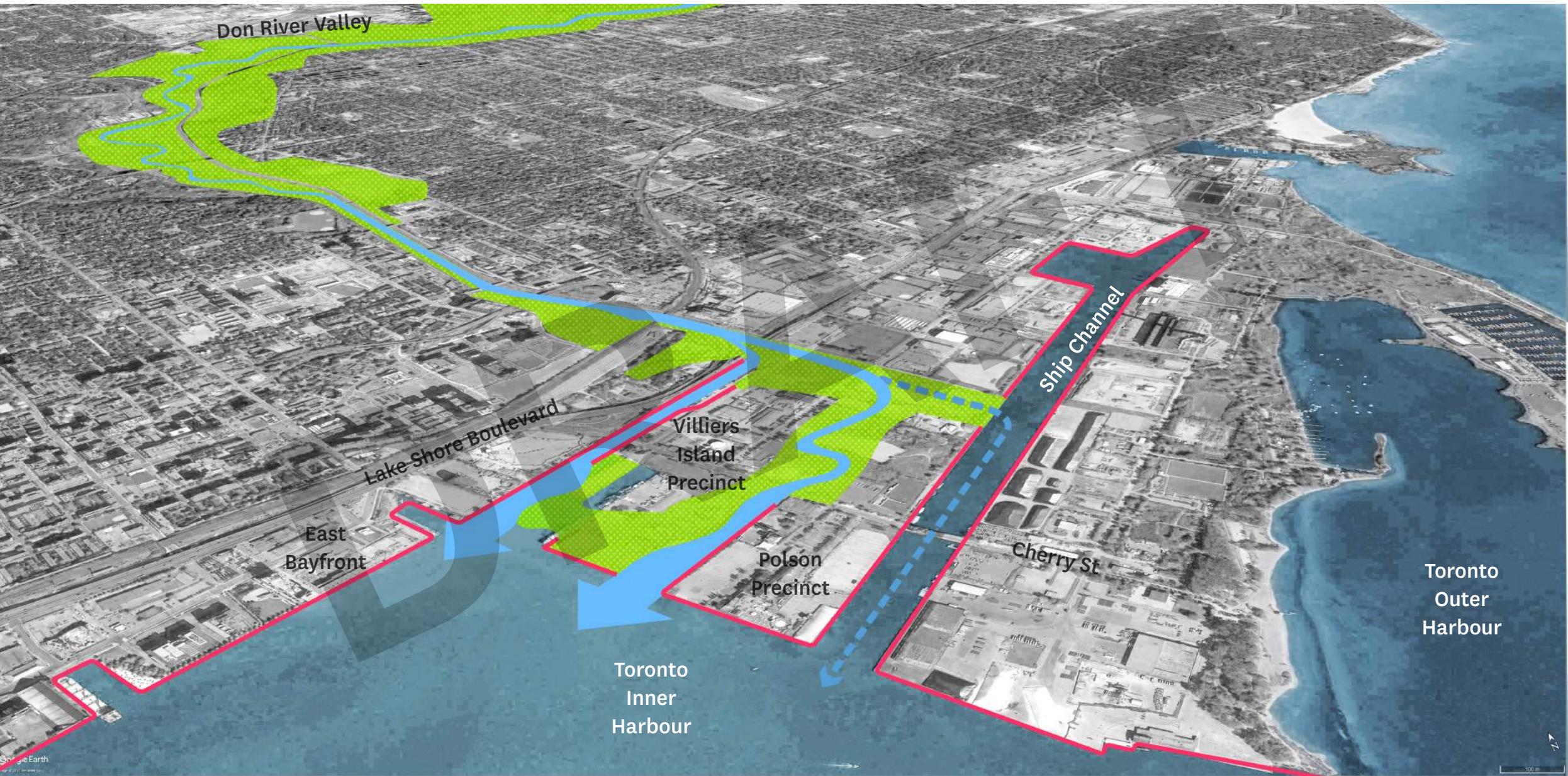
SAC

- **Water access** and watercraft storage.
- Youth/school group campsites.
- **Flexibility of spaces** to accommodate economic diverse population.
- Recognition of First Nations.
- Universal access.
- Retaining industrial heritage.
- **Protection of habitat and limiting access to naturalized areas**.
- Integrated transportation solutions.

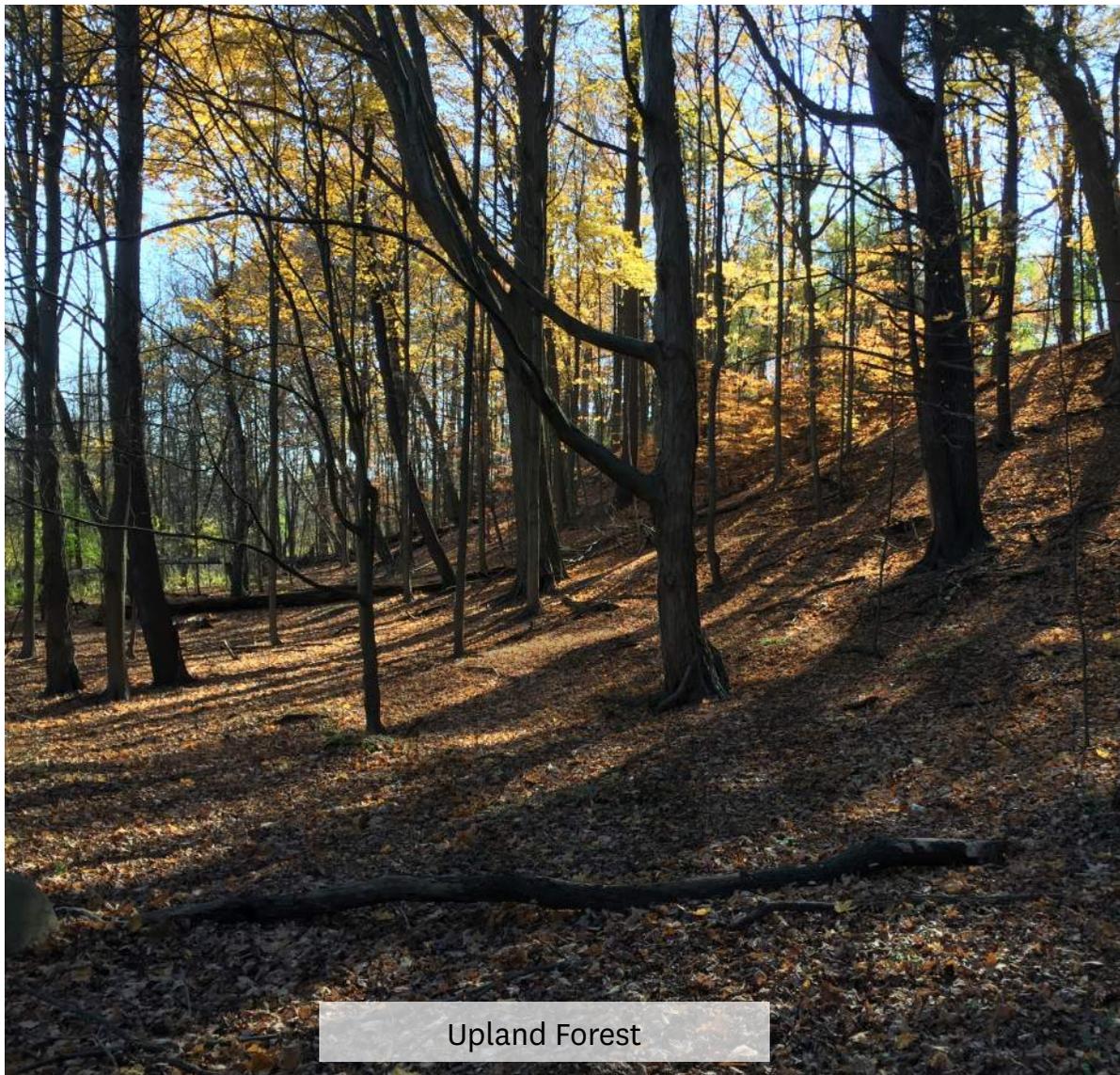
Community (Survey + Consultation)

- **Integrate the natural and the urban**.
- **Maximize naturalization opportunities (immersive nature)** and ensure connections for wildlife.
- Consider a mix of hardscaping (e.g. public squares for gathering, plazas) and natural green space.
- **Vibrancy/animation, especially along the water's edge**.
- Facilitate public water activities and connections/**access to the water**.
- Create active transportation/recreational opportunities
- Connection to surrounding neighbourhoods and the broader waterfront park system.
- Accessibility by transit and multiple modes.
- Accessibility for diverse groups of people.
- Integrate history through preserving local heritage and culture (adaptive reuse, art.)
- **Create views of the inner harbour and city**.
- Maintenance.
- **All season use**.

Bringing The Don River Valley to the City



Valley Frame



Upland Forest



Duffin's Creek

Urban Frame



High Park,
Toronto, ON

Bloor Street West

Parkside Drive

Roncesvalles
Village

Bloor West
Village

Grenadier
Pond

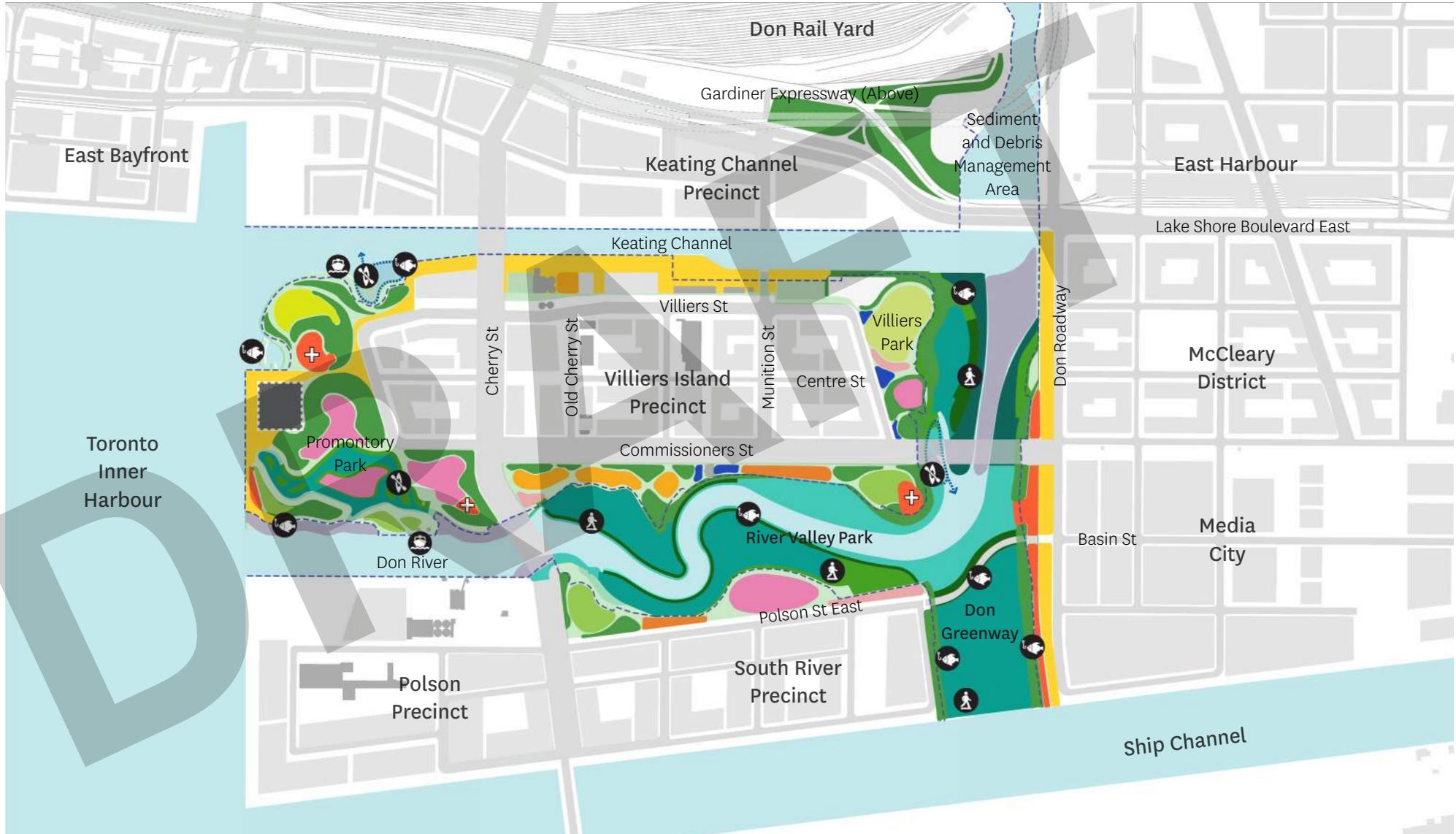
West
Pond

The Queensway

Gardiner Expressway

Landscape Program Distribution - 22 January 2018

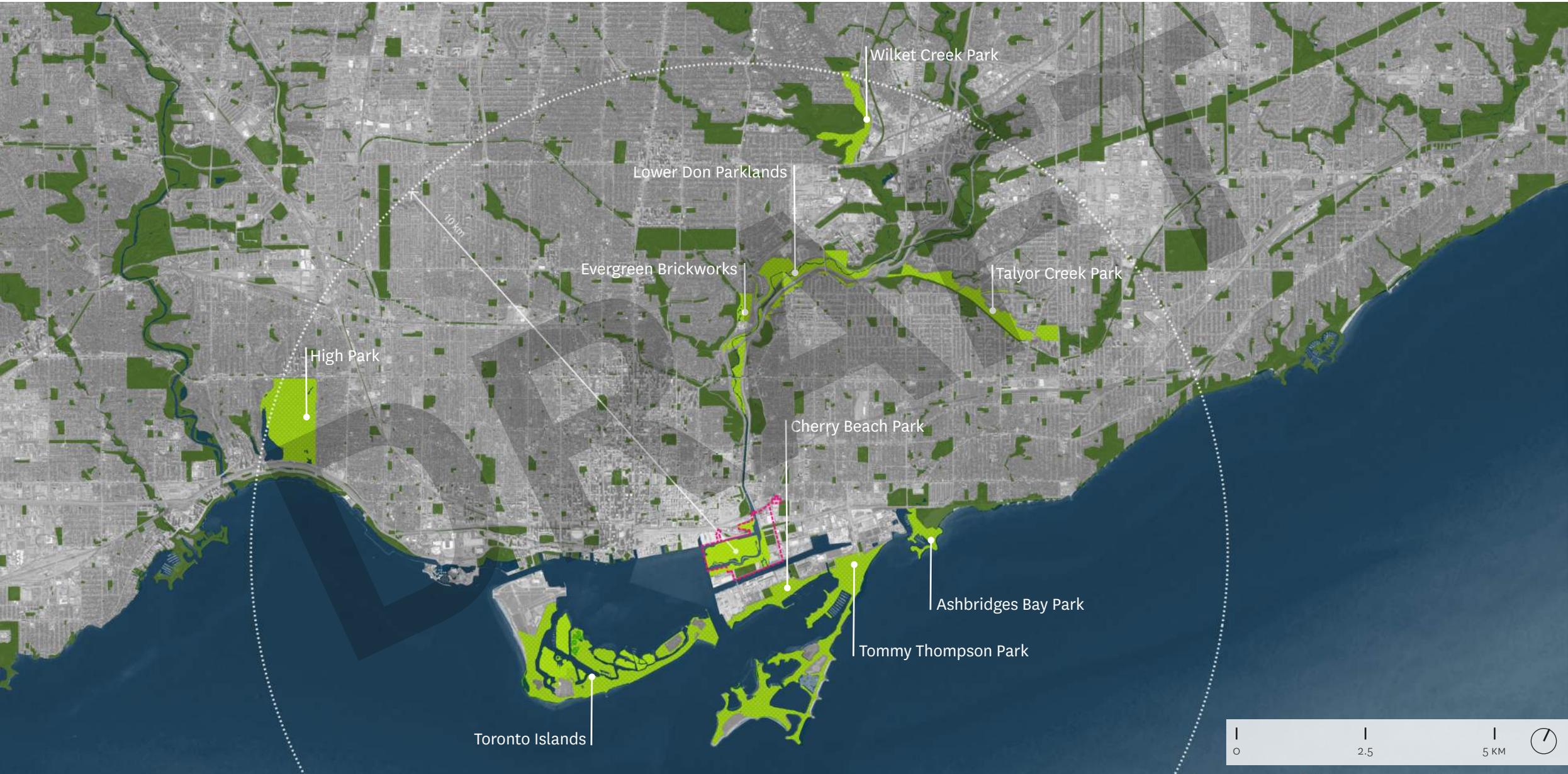
-  Flexible Program
-  Playscape
-  Court Sports
-  Dog Park
-  Overlook
-  Picnic Terrace
-  Urban Promenade
-  Plaza
-  Event Lawn
-  Passive Use Lawn
-  Multi-Use Field
-  Rocky Harbour Edge
-  Riverine Wetland
-  Levee Wetland
-  Wooded Upland
-  Fishing Node
-  Water Taxi Landing
-  Nature Exploration
-  Water Access



The Genius of the Olmsted and Vaux Urban Park Framework at Central Park



Toronto's Large Urban Parks



River as a Catalytic Concept

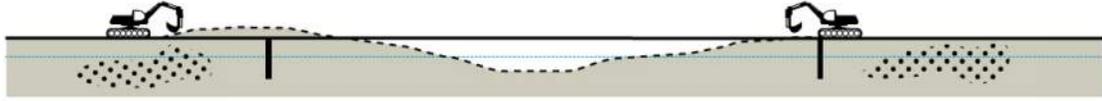


A Collection of Parks - January 2018

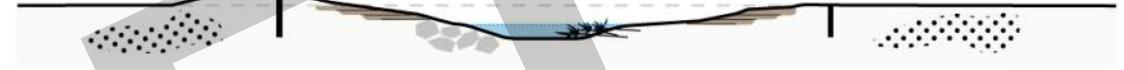


A River Park - April 2018

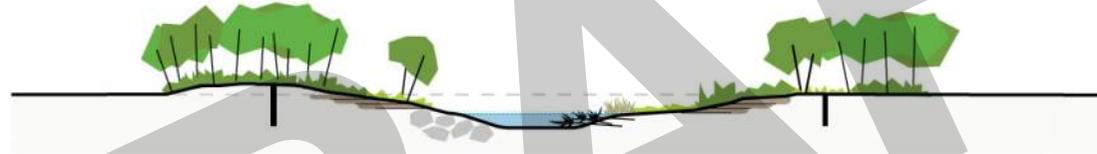
Constructing an Urban River Park



1. Earthworks + Remediation



2. Engineering + Armoring



3. Systems Ecologies

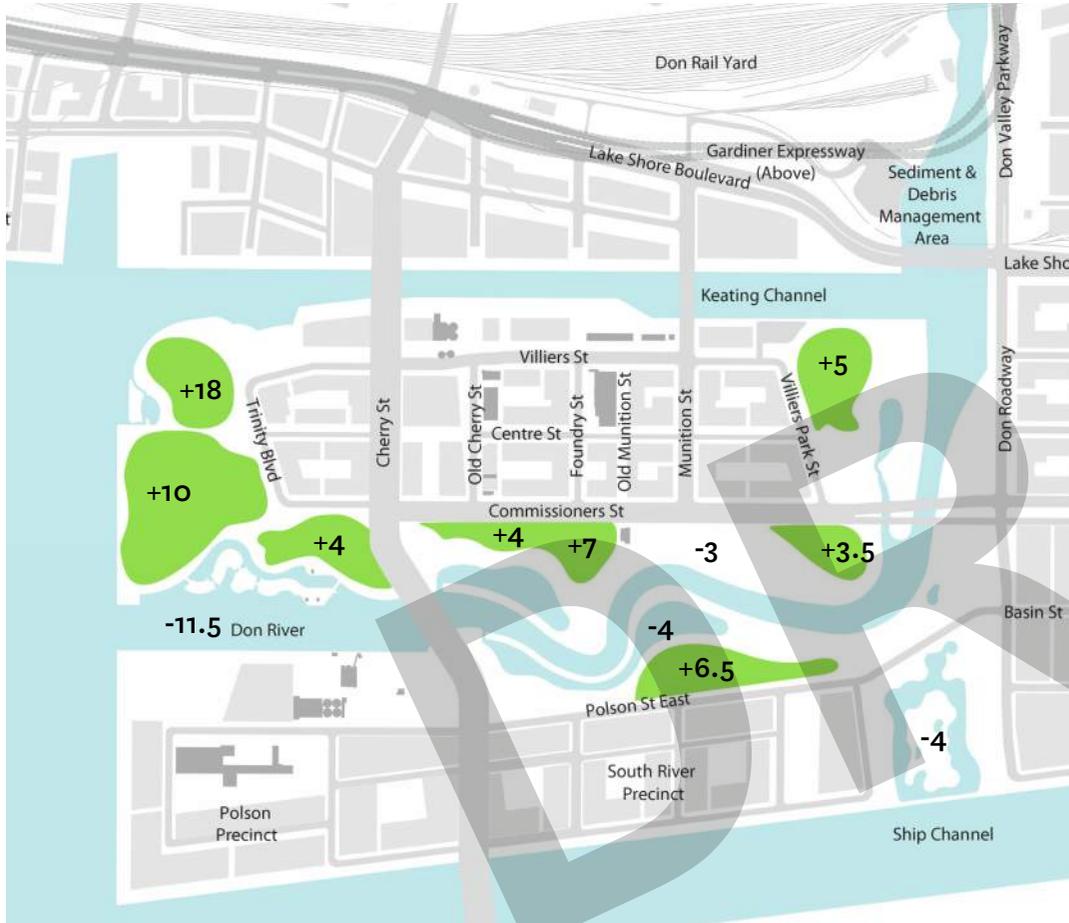


4. Human Landscapes (Program)

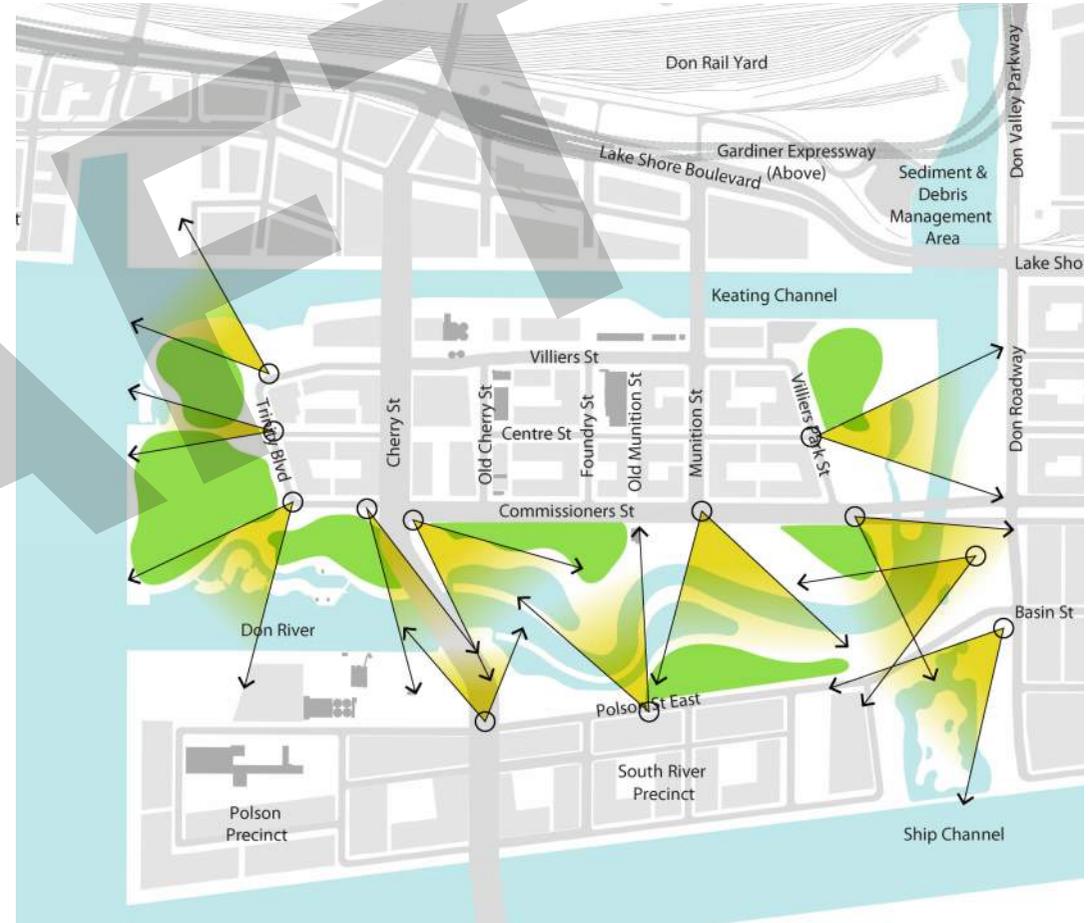


5. Urban Massing

Park Porosity and Urban Connection



Banking Contaminated Soil in Landforms



Curating Waterfront Views between Landforms

River Ecological Design - January 2018

-  Parkland
-  Terrestrial Habitat
-  Lake-Connected Wetland Habitat
-  Levee System Wetland Habitat
-  Aquatic Habitat



Plant Communities



Aquatic



Submergent Marsh



Emergent Marsh



Meadow Marsh



Thicket Swamp



Floodplain Forest



Upland Forest

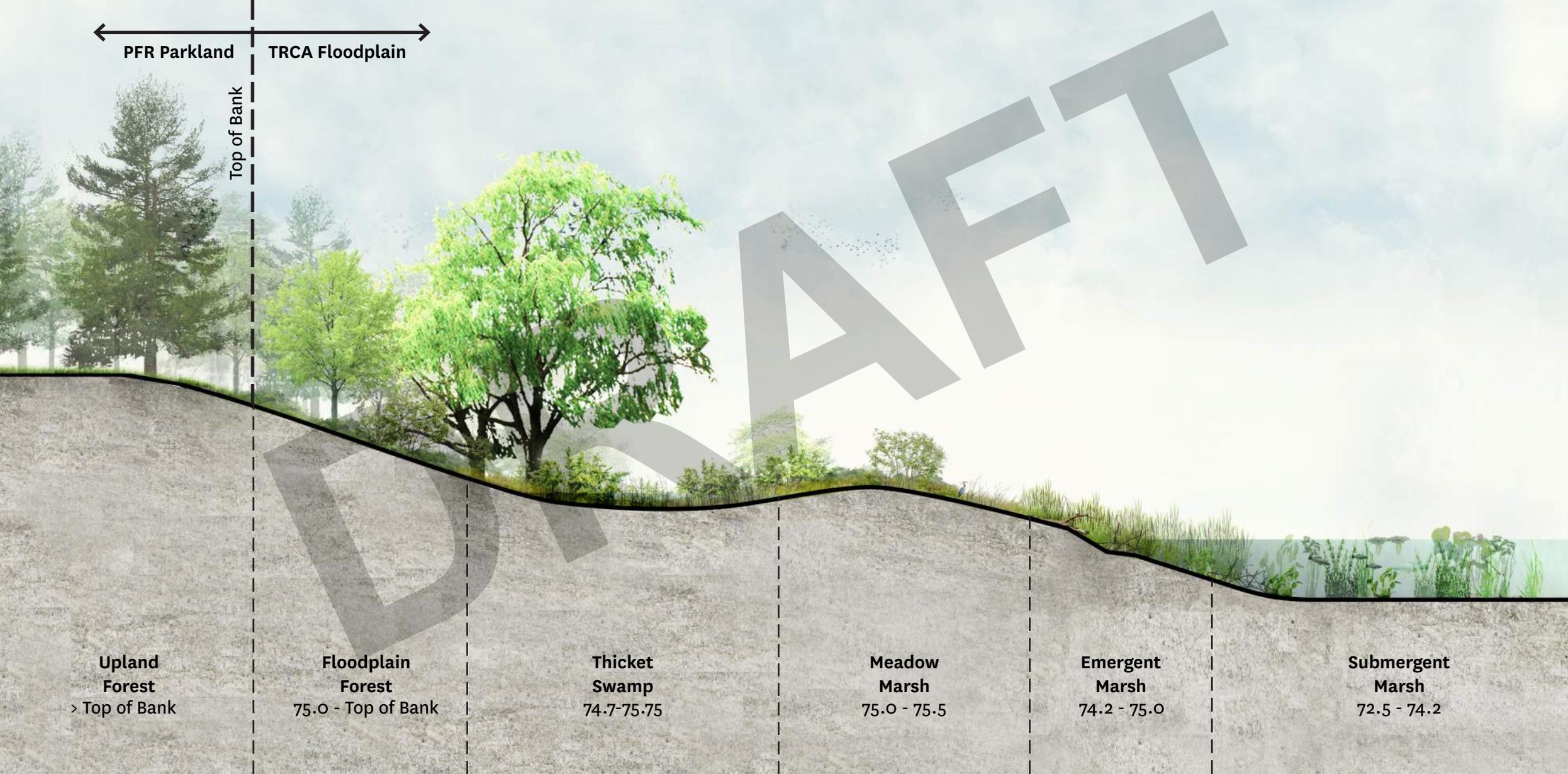


Planted Armour Stone



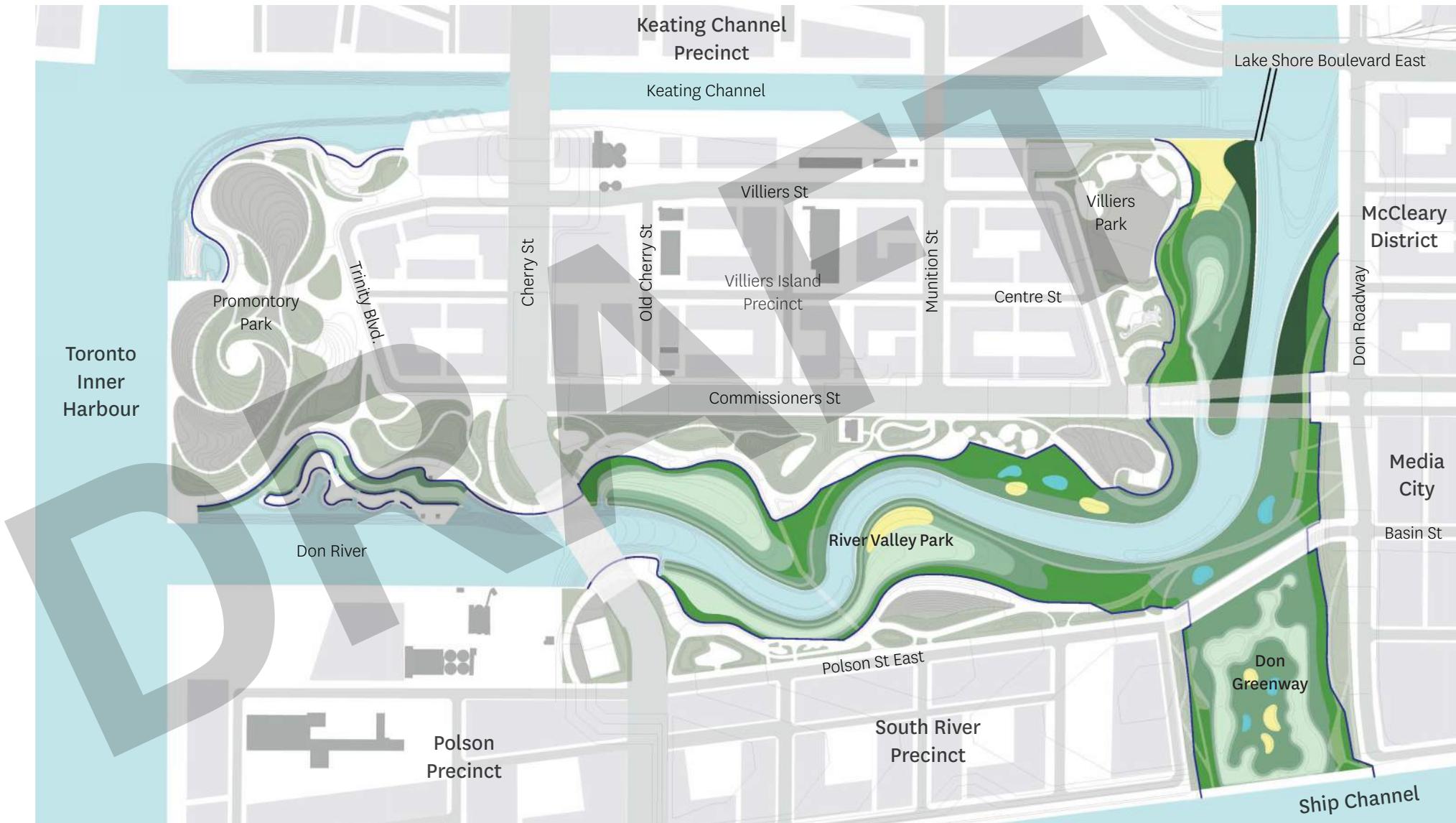
Vernal Pool

Plant Communities - Typical River Cross Section



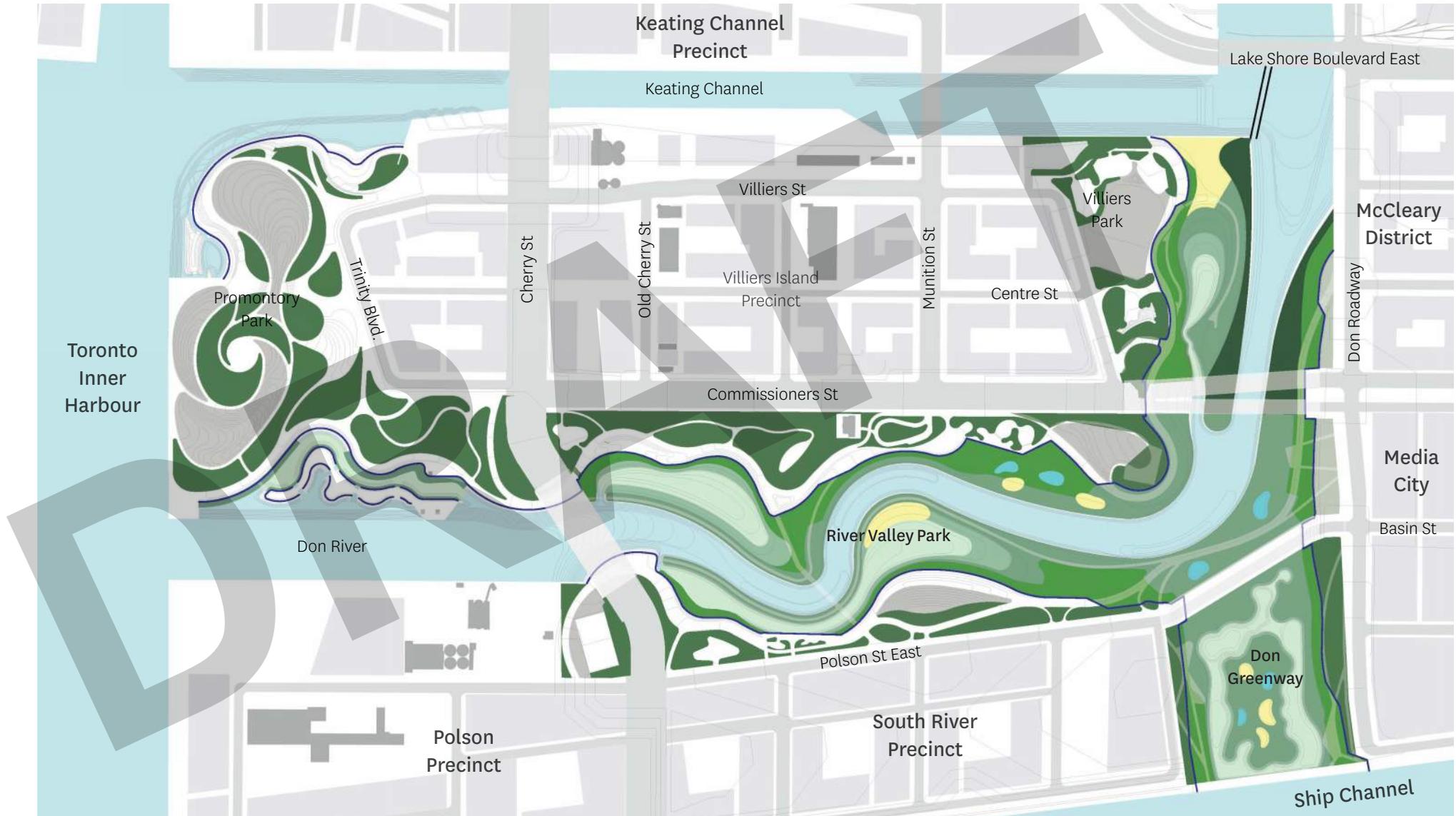
River Ecological Design - April 2018

- Submergent Marsh:
72.5 - 74.2
- Emergent Marsh:
74.2 - 75.0
- Meadow Marsh:
75 - 75.50
- Thicket Swamp:
74.7 - 75.75
- Floodplain Forest:
75.0 - TOB
- Upland Forest:
> TOB
- Planted Armour Stone
- Vernal Pool
- Top of Bank (TOB)

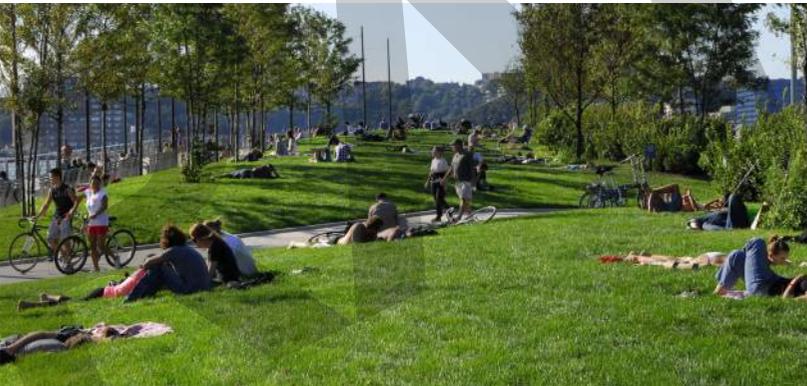


Bringing the River to the City - April 2018

- Submergent Marsh:
72.5 - 74.2
- Emergent Marsh:
74.2 - 75.0
- Meadow Marsh:
75 - 75.50
- Thicket Swamp:
74.7 - 75.75
- Floodplain Forest:
75.0 - TOB
- Upland Forest:
> TOB
- Planted Armour Stone
- Vernal Pool
- Top of Bank (TOB)



Diverse Programming within The Landscape Framework



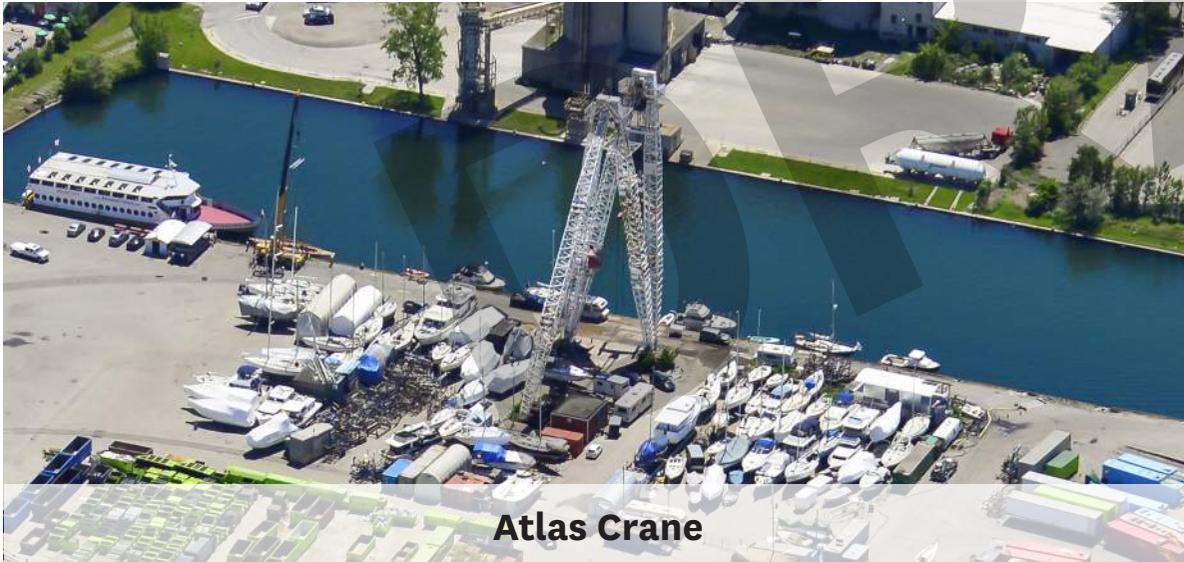
Integration of Heritage Structures



Harbour Commissioners Storage Buildings



Fire Hall No. 30



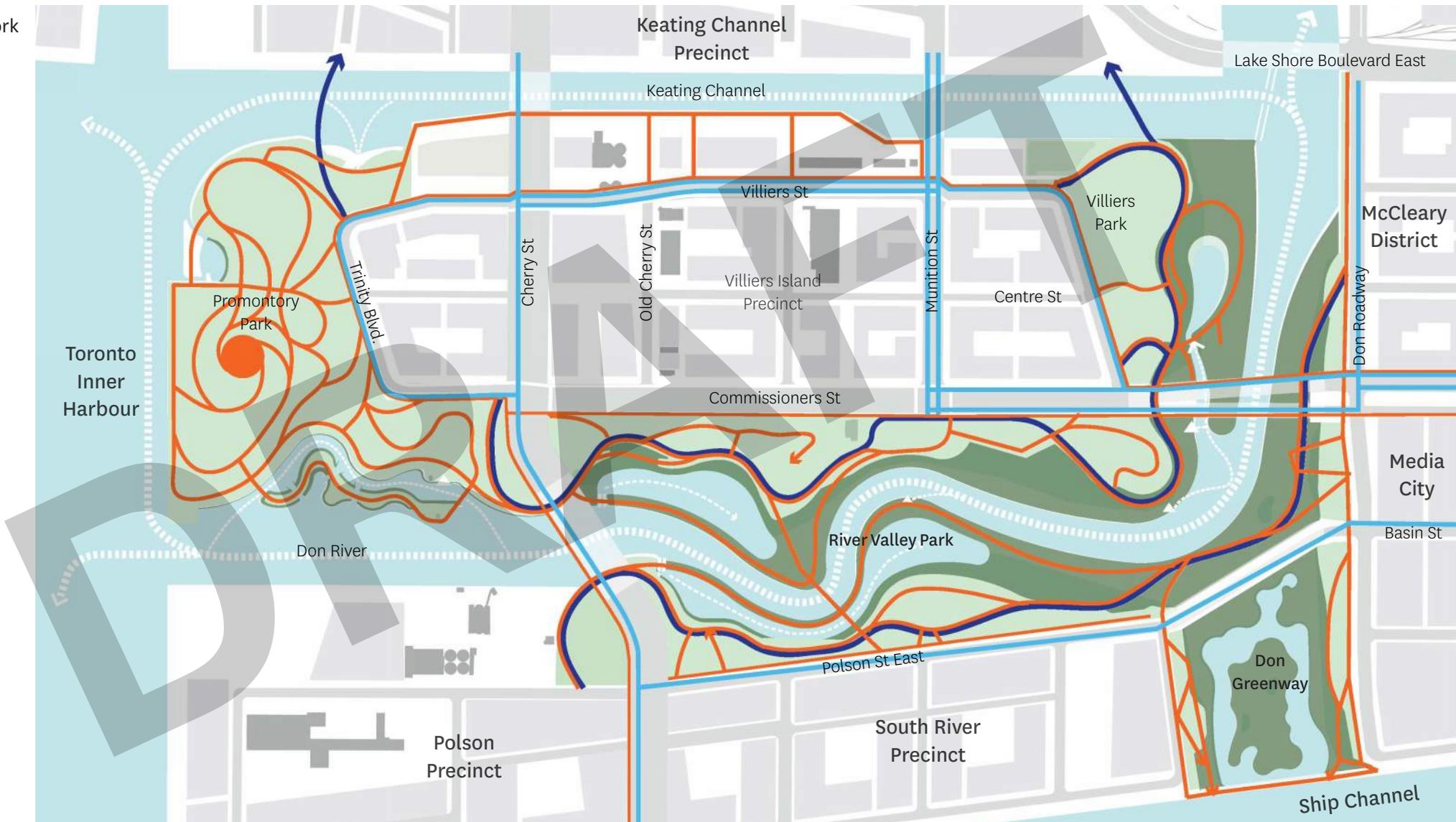
Atlas Crane



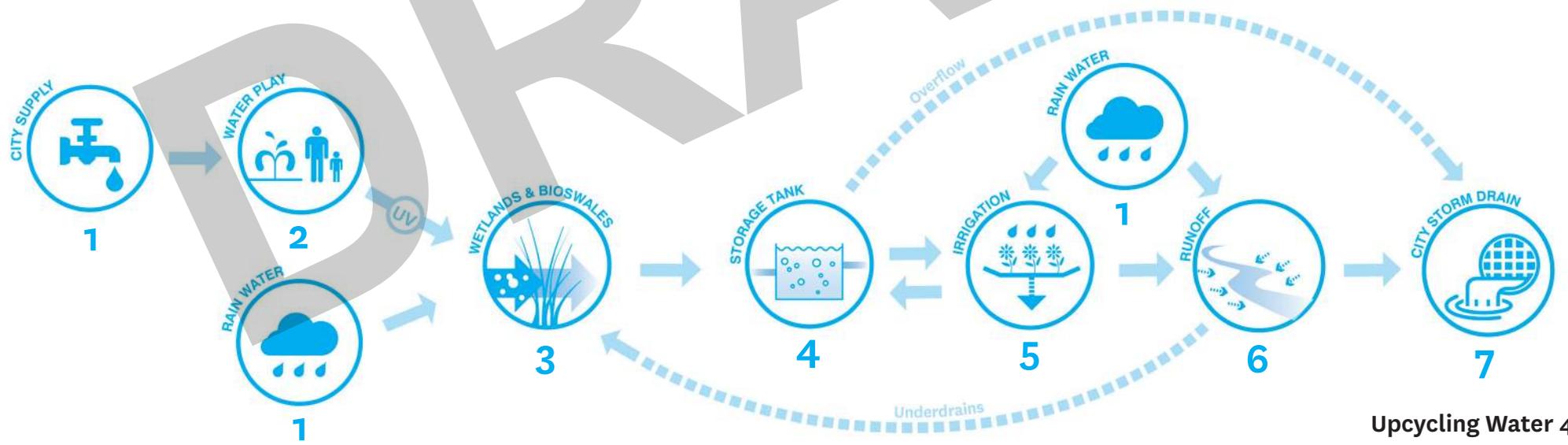
MT-35 Commemoration

A Choreographed Circulation Network

- Commuter Bicycle Network
- Pedestrian Circulation
- Multi-Use Park Path
- Water Circuit



A Sustainable Approach to Water Management



A Park for People



River as an Engineered System

River Performance Criteria



Corner Marsh, Duffins Creek (photo TRCA)

- Flood conveyance
- Contiguous riparian corridor
- Native vegetation establishment
- Habitat complexity
- Analogous topography and bathymetry
- Support diverse species assemblages

Performance criteria are guided by:

- DMNP EA Recommendations
- Analog idea for geomorphology, hydraulics, and ecology
- Analytical approaches

Design Considerations



Queen Street 1905



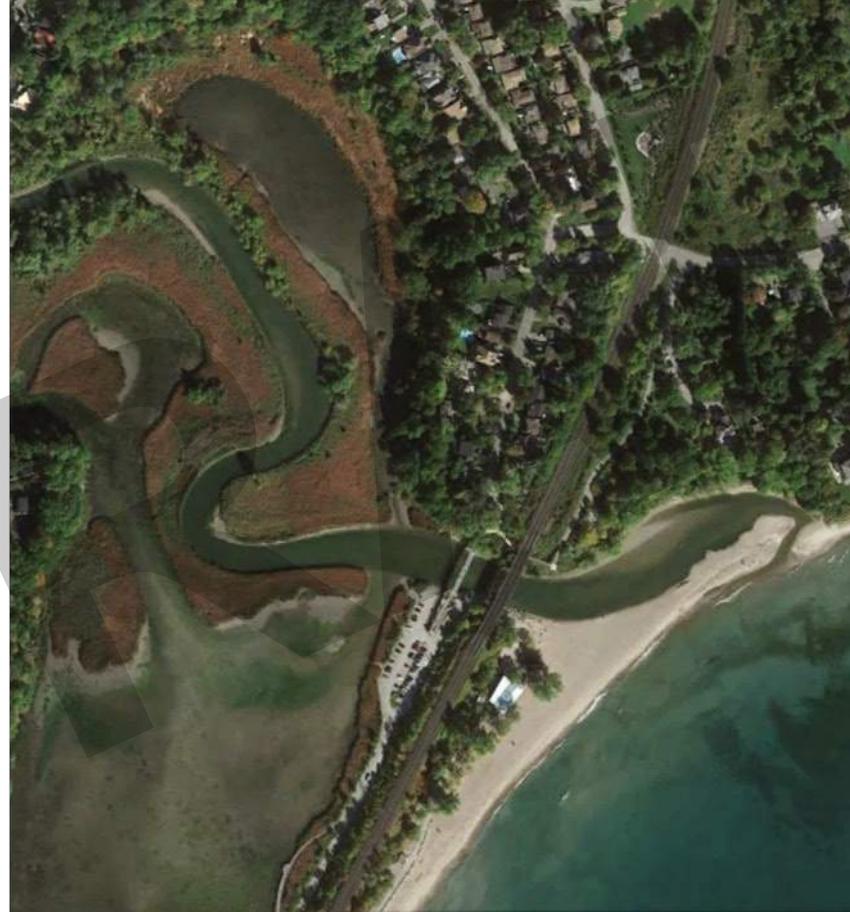
Riverdale 1910

- Flood capacity
- Immobile channel form under regulatory flood
- Urban estuary hydrology and hydraulics
- Sediment management
- Integration with waterfront
- Recreation use/park programming
- Public safety
- Sustainability

Geomorphic Design



Humber River



Rouge River

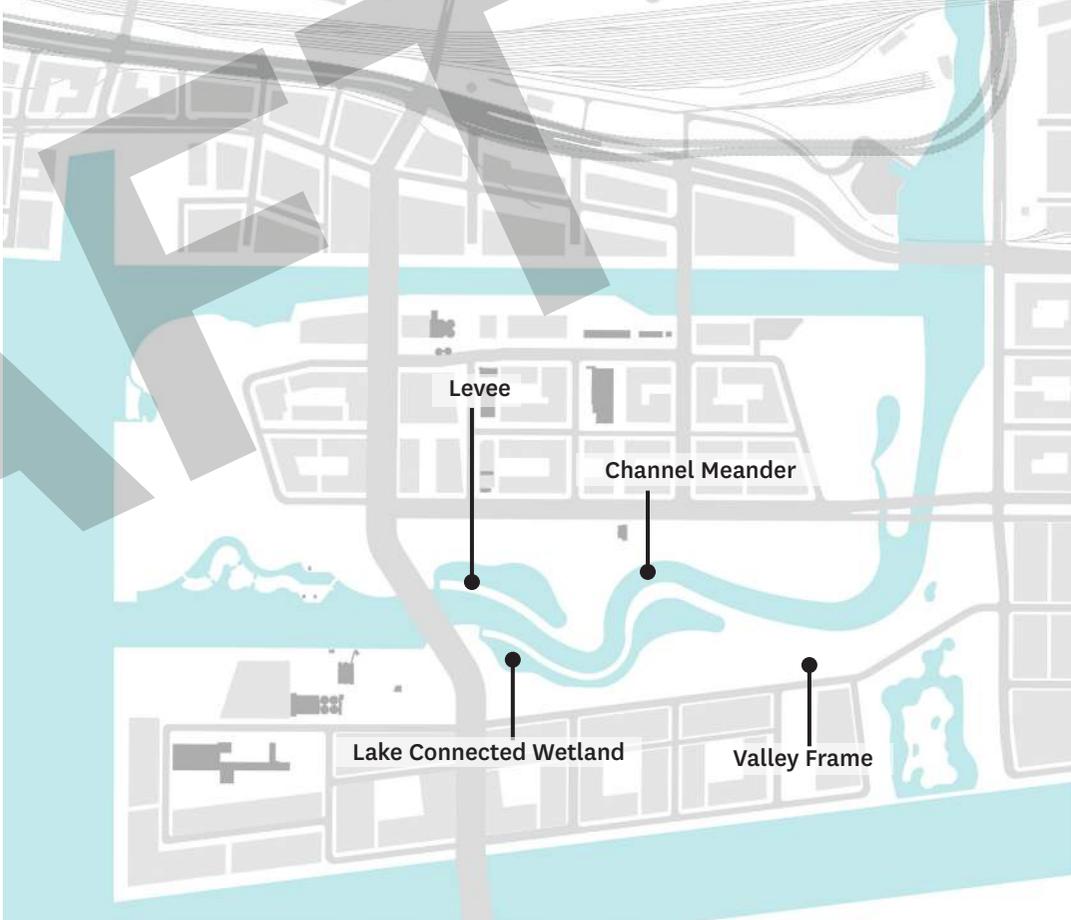
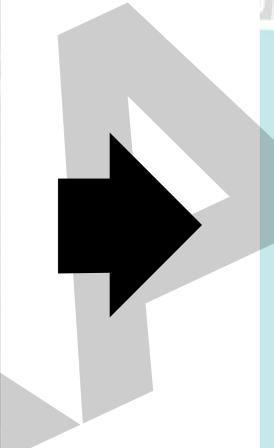


Duffins Creek

Identified Design Forms



Rouge River

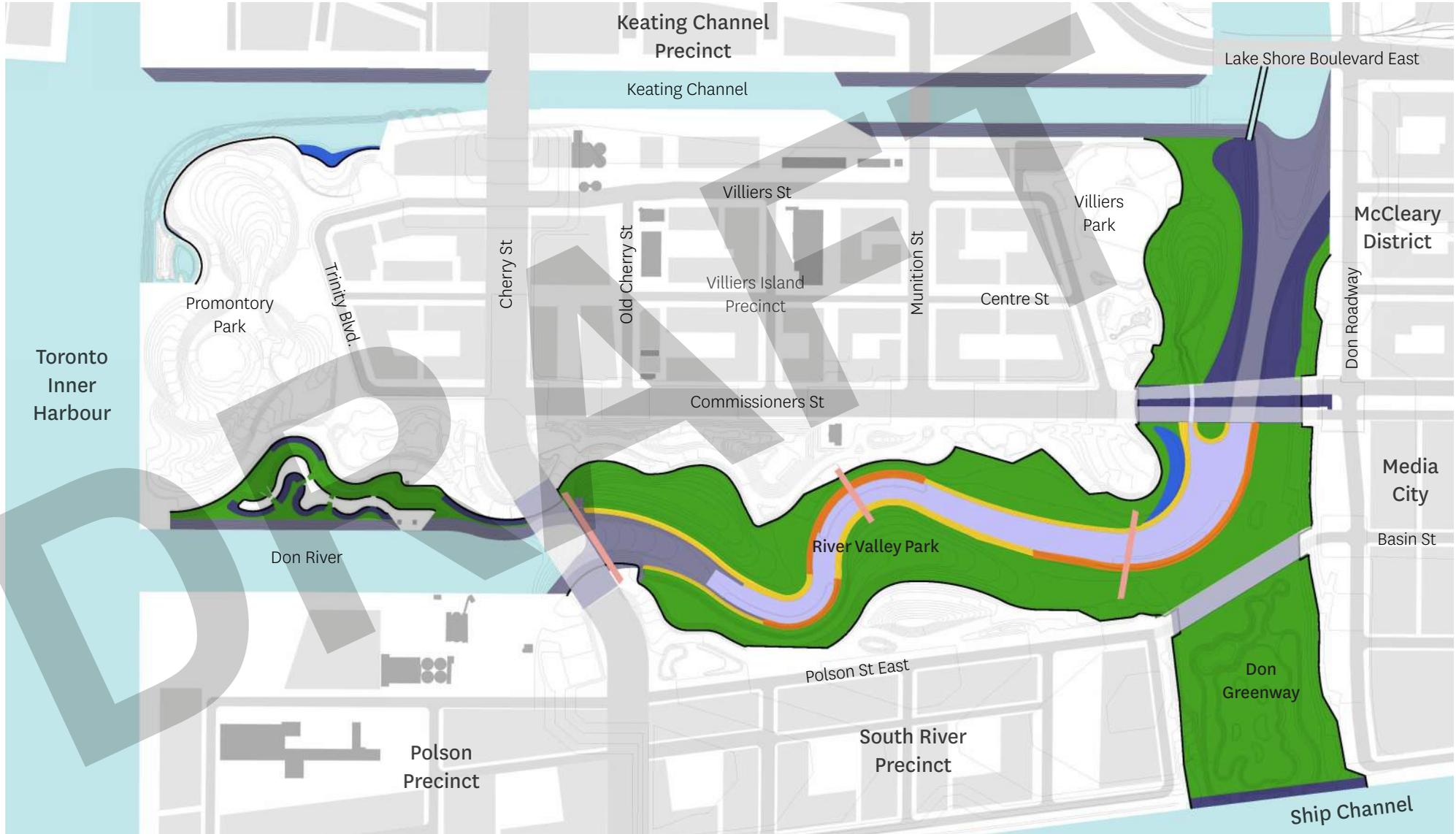


Lower Don Mouth



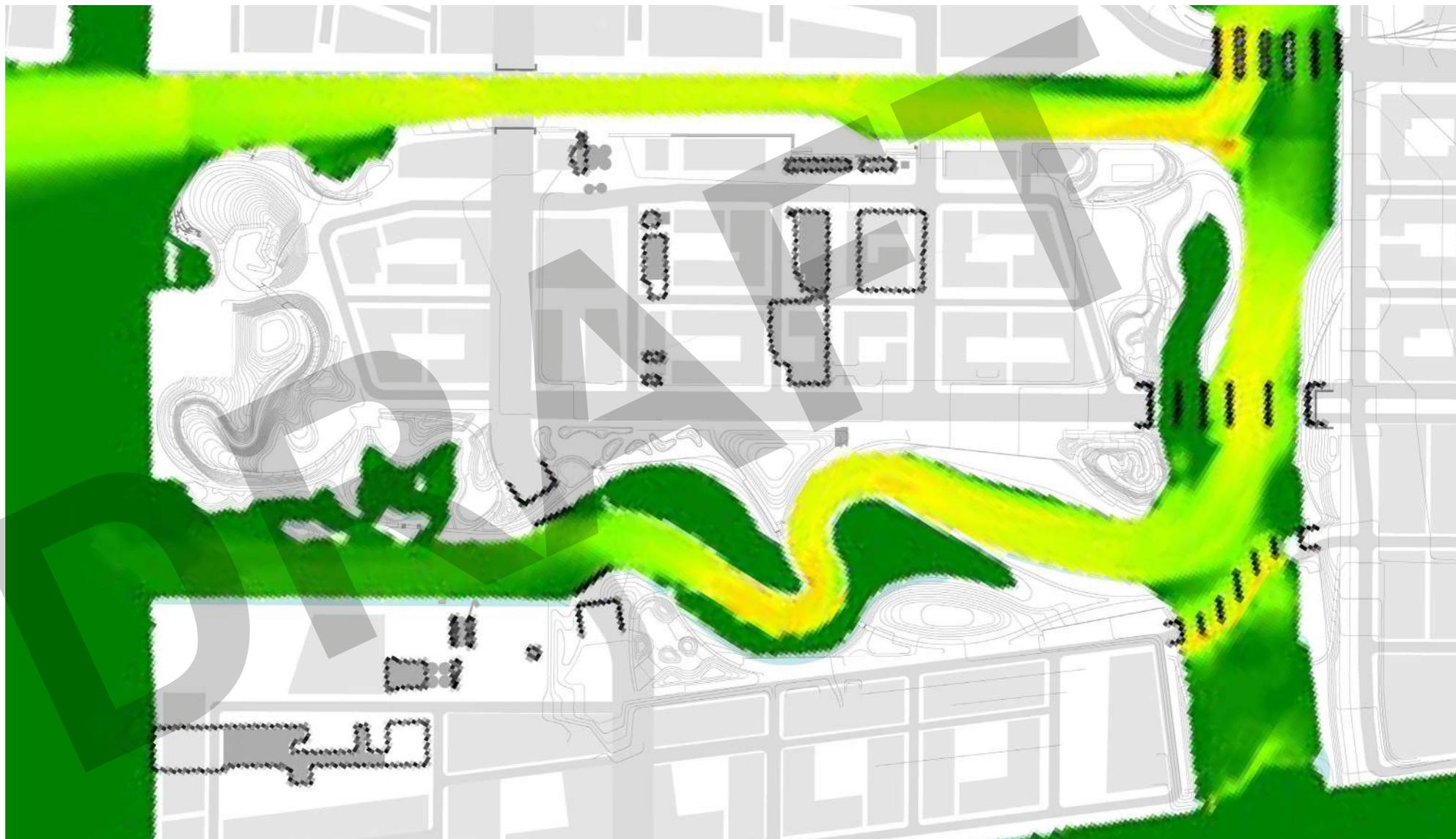
River Stabilization - April 2018

- Open Water
- Floodplain Planting
- Bioengineered Bank (FES)
- Crib Wall
- Point Bar
- Stone Armour - In Water
- Stone Armour - Exposed
- Riverbed Material
- Buried Grade Control Structure
- Top of Bank (TOB)



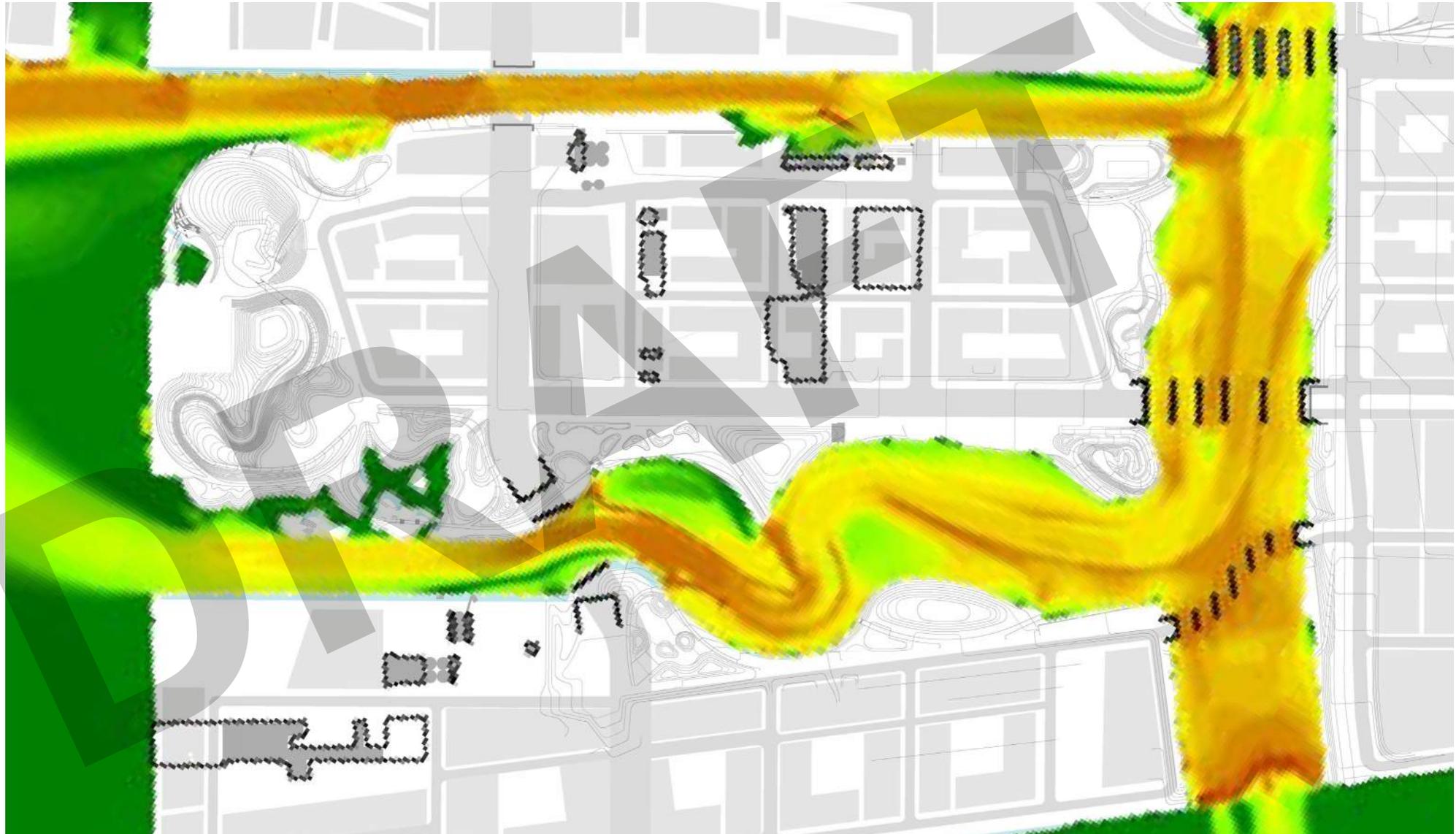
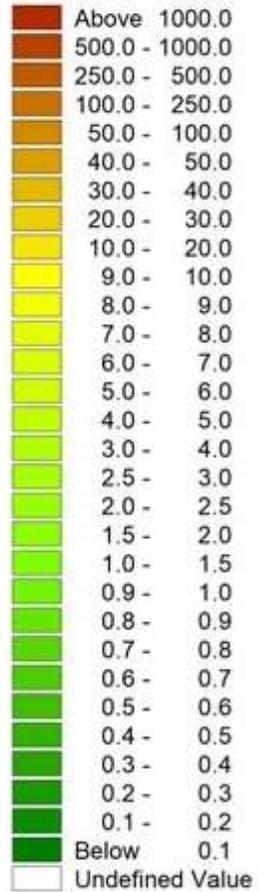
Shear Stress 100 Year Event

Bed shearstress [N/m²]



Shear Stress Regional Event

Bed shearstress [N/m²]



River Stabilization Strategies



Fabric Encapsulated Soil and Gravel Lifts



Floodplain Planting



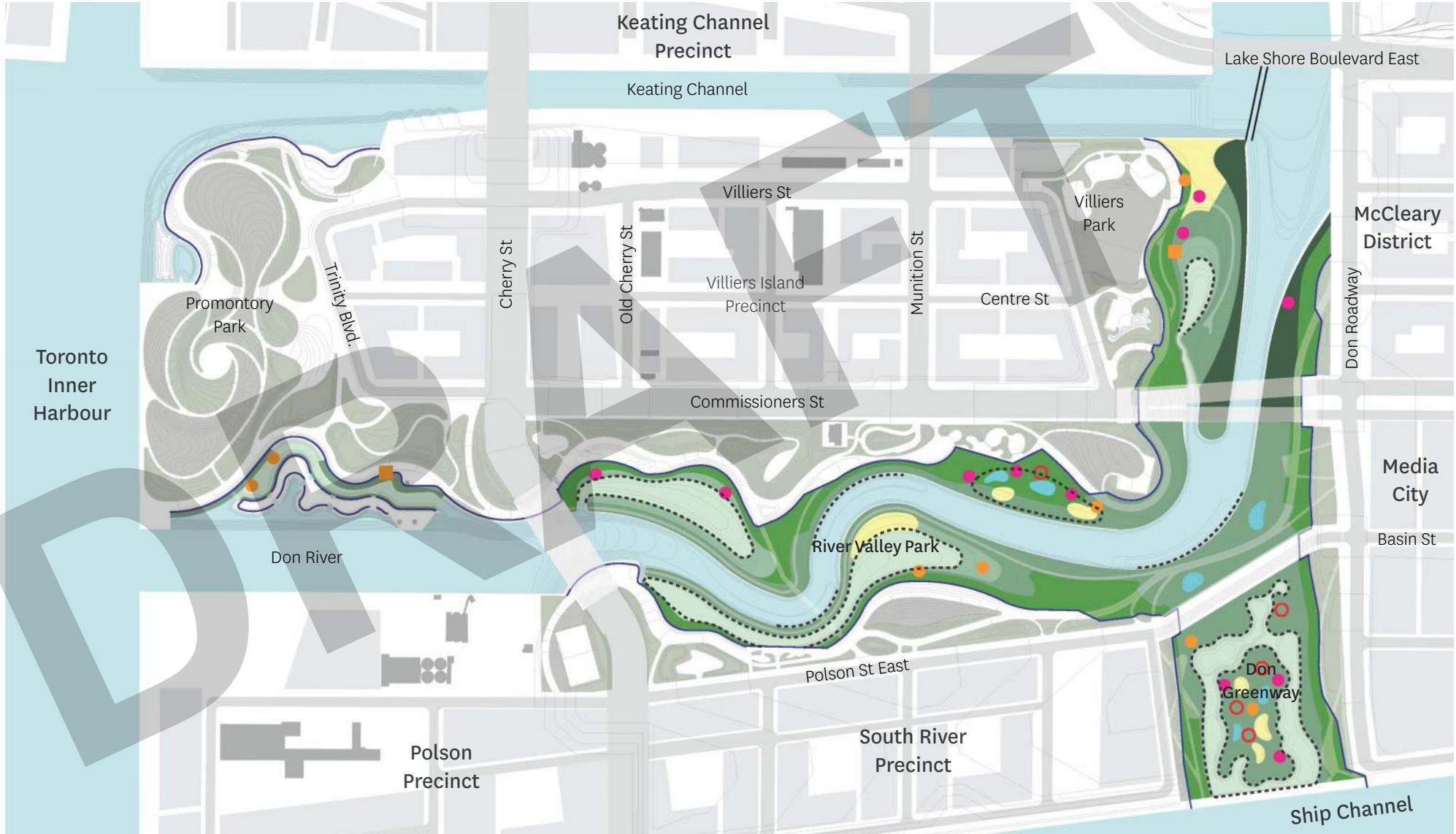
Anchored Wood



Planted Stone Armour

River Valley Habitat - April 2018

- Submergent Marsh:
72.5 - 74.2
- Emergent Marsh:
74.2 - 75.0
- Meadow Marsh:
75 - 75.50
- Thicket Swamp:
74.7 - 75.75
- Floodplain Forest:
75.0 - TOB
- Upland Forest:
> TOB
- Planted Armour Stone
- Vernal Pool
- Nest Boxes
- Turtle Bank Habitat
- Anchored Wood Habitat
- Nesting Platform
- Bird Houses
- Top of Bank (TOB)

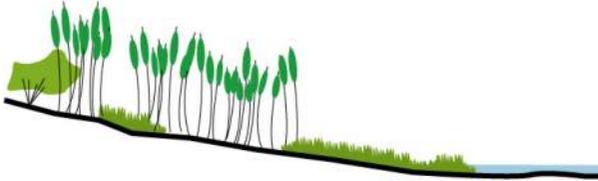


Plant Communities - Emergent Marsh



Plant Communities - Emergent Marsh

Typical Section



Faunal Community



Painted Turtle

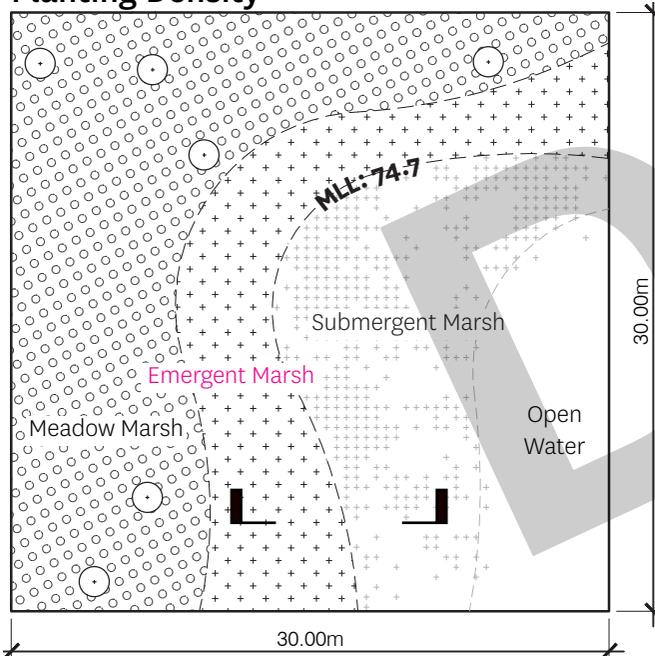


Marsh Hawk



Mallard

Planting Density



Emergent Marsh:
El: 74.7 - 75.0
Plants: grasses
and broadleaved
flowering plants -
less than 25% woody
species. Plants
spaced 30 cm O.C.



Common Yellowthroat



Red-winged Blackbird



Swamp Sparrow

Plant Communities - Floodplain Forest

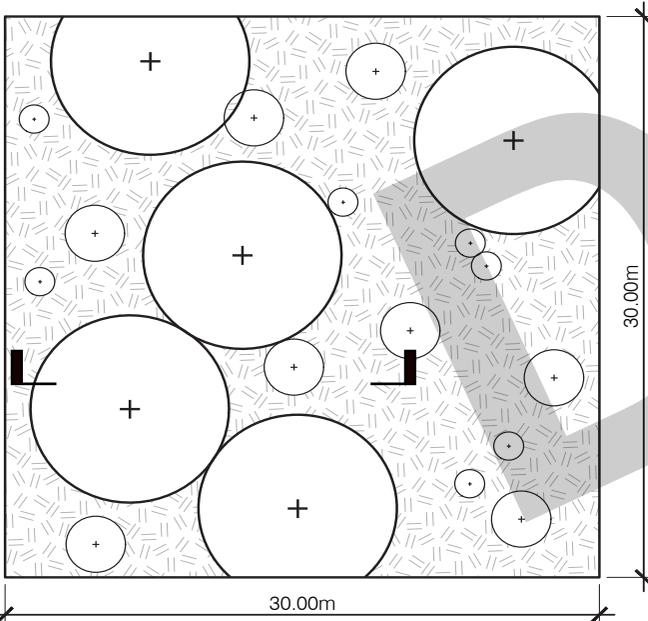


Plant Communities - Floodplain Forest

Typical Section



Planting Density



Faunal Community



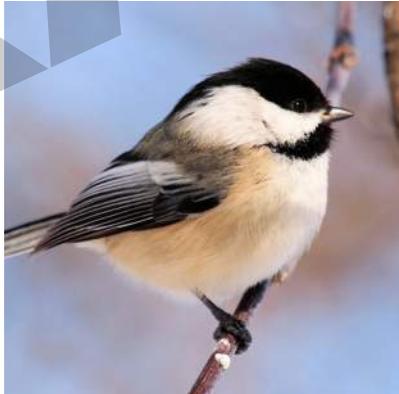
Yellow Spotted Salamander



Big Brown Bat



Black Squirrel



Black-capped Chickadee



Long-tailed Weasel

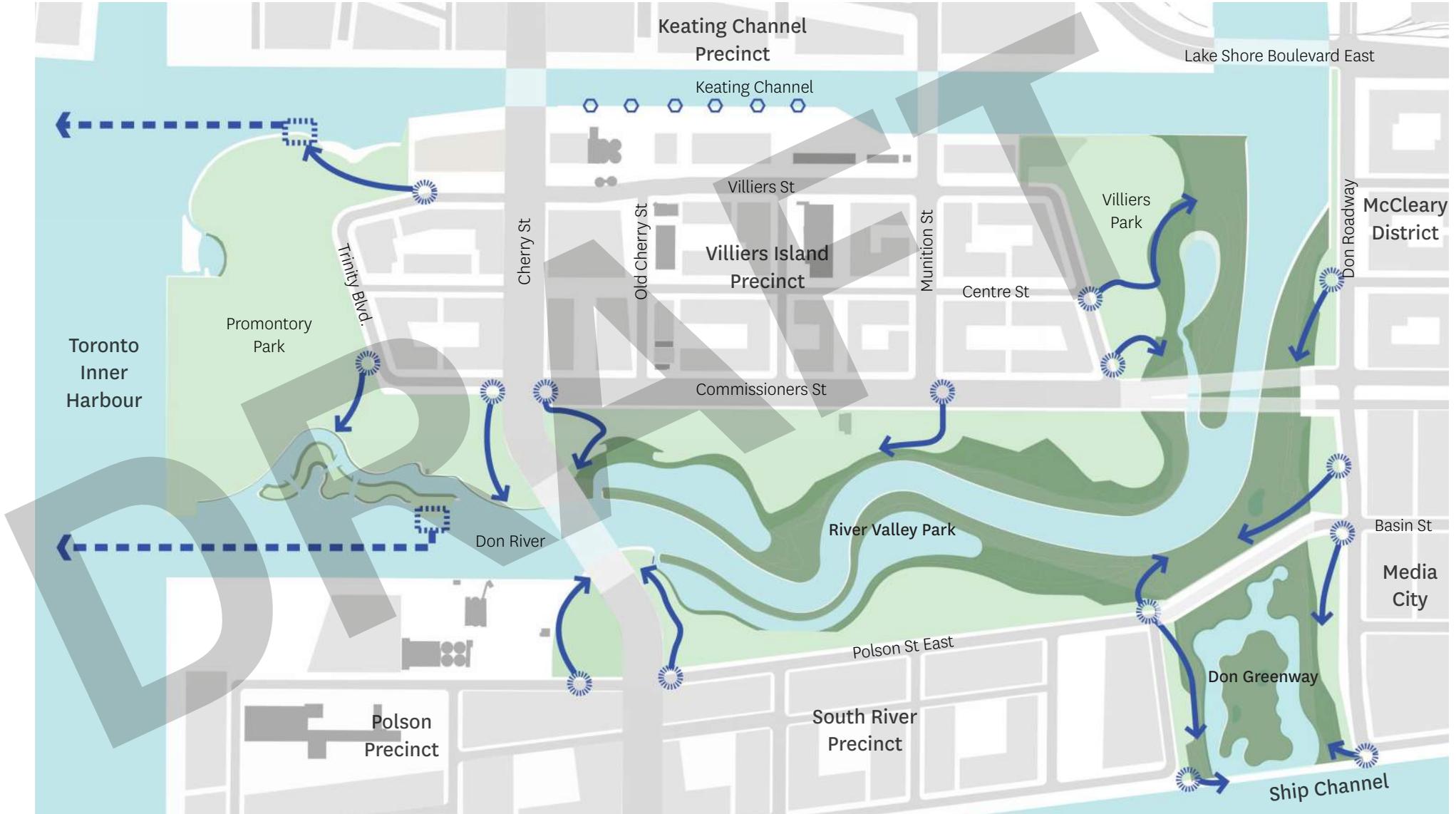


Blue Jay

River as Park Framework

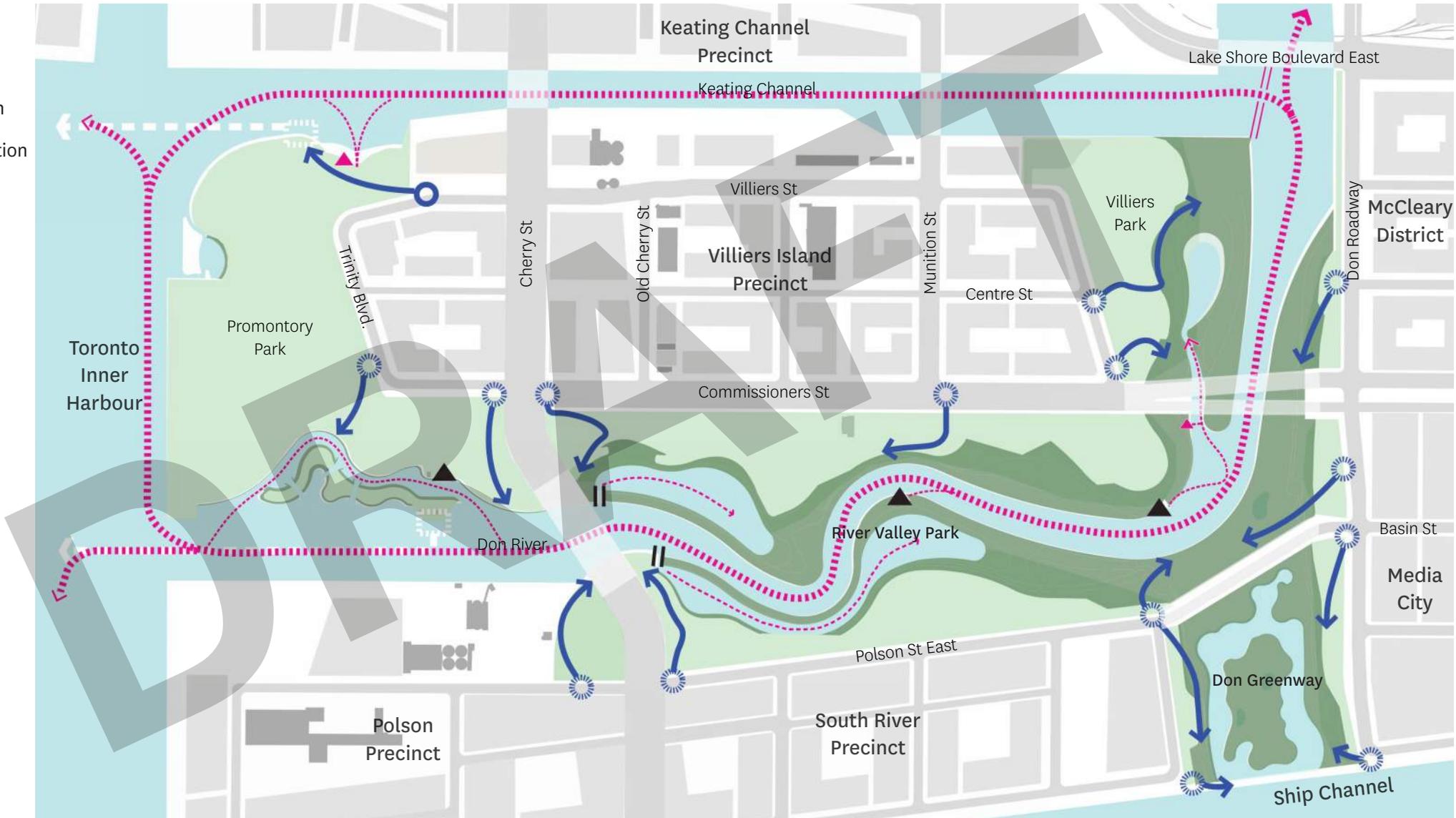
Access to the River's Edge

- Path To Water
- ☀ Circulation Node
- ⋮ Water Taxi Stop
- ➡ Water Taxi Circulation
- ⬡ Watercraft Mooring



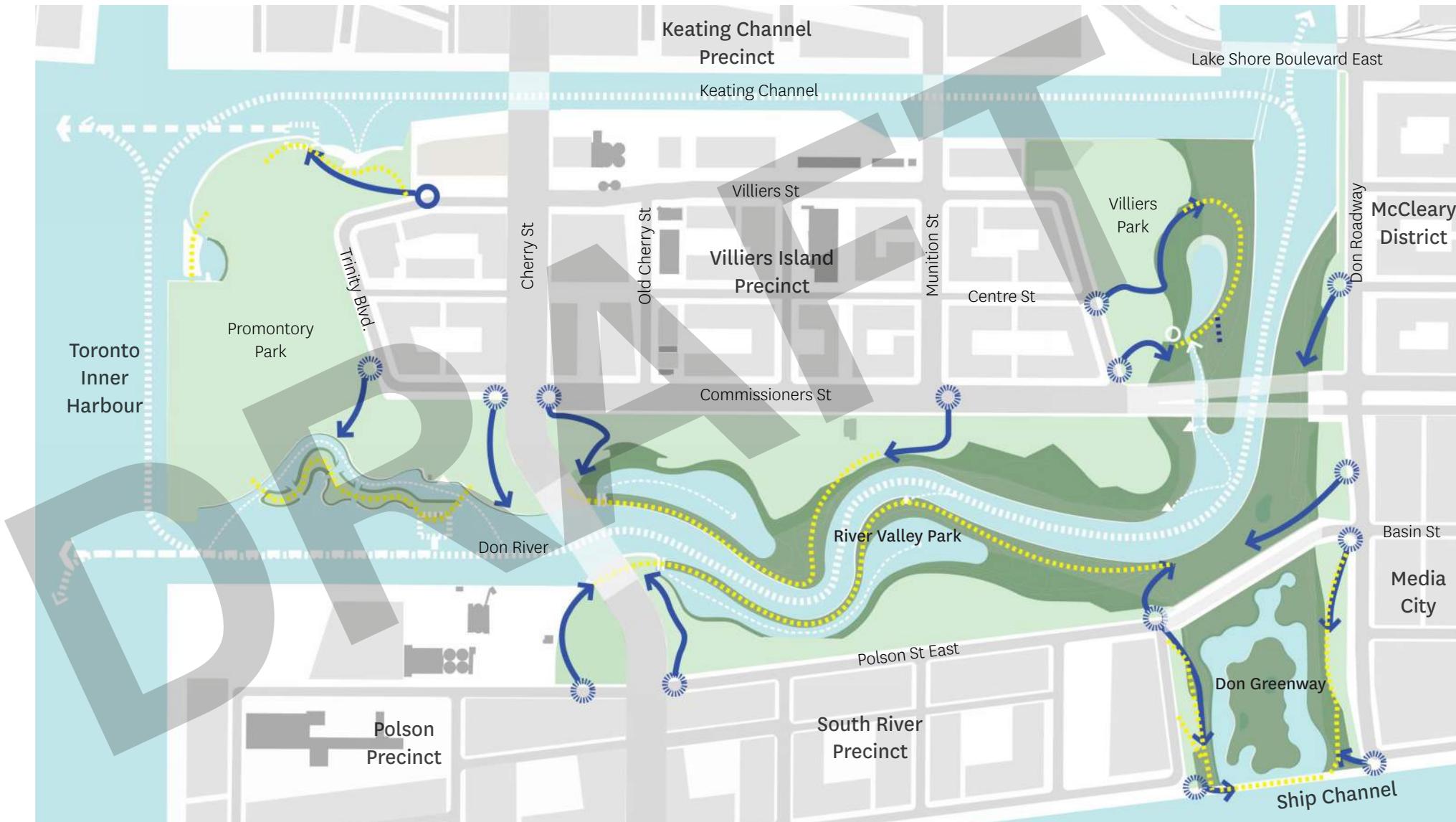
Water Circuit

-  Path To Water
-  Circulation Node
-  Primary Kayak Circulation
-  Secondary Kayak Circulation
-  Formal Kayak Launch
-  Informal Kayak Launch
-  Portage



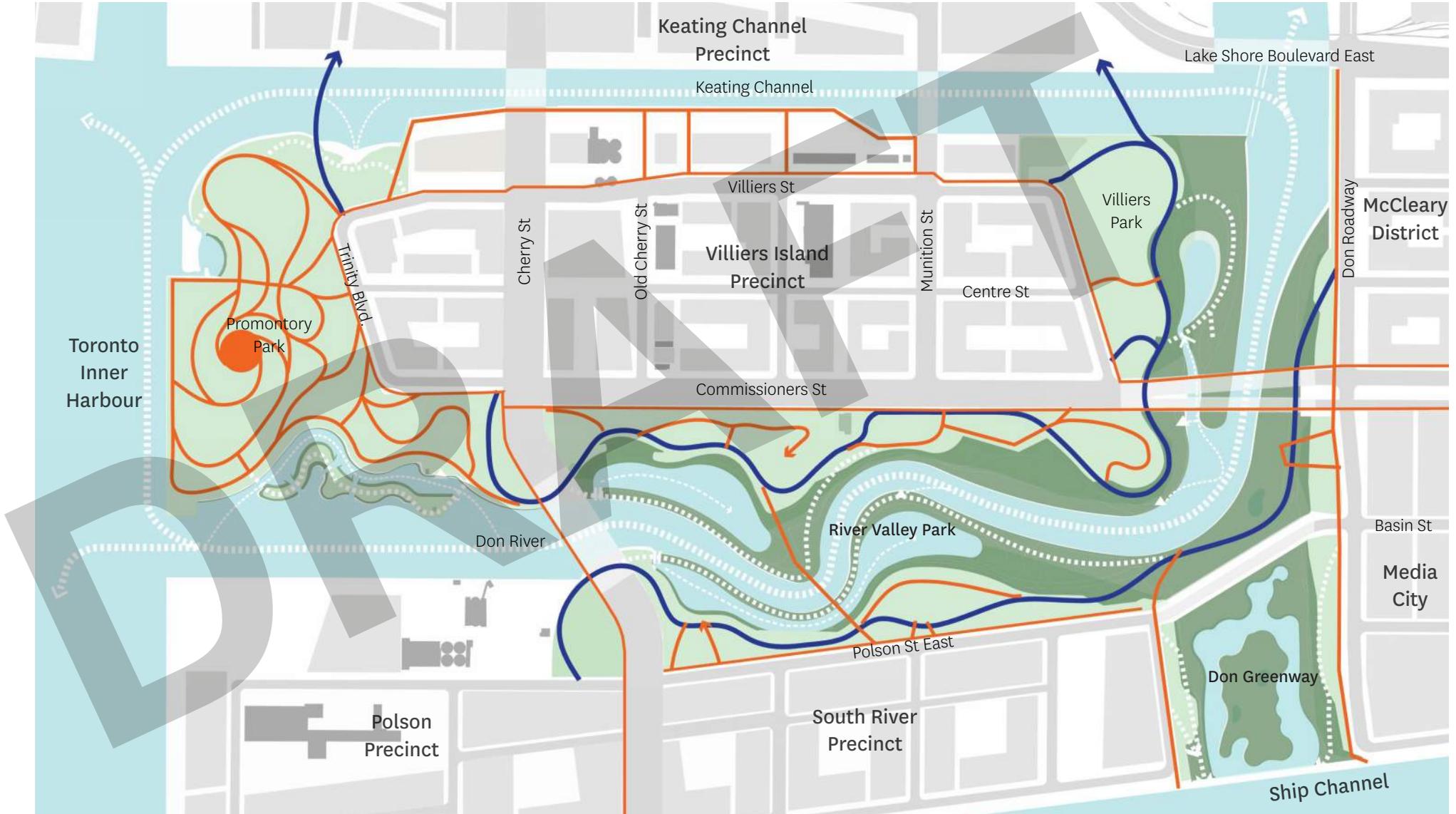
River's Edge Trail

-  Path To Water
-  Circulation Node
-  River's Edge Path



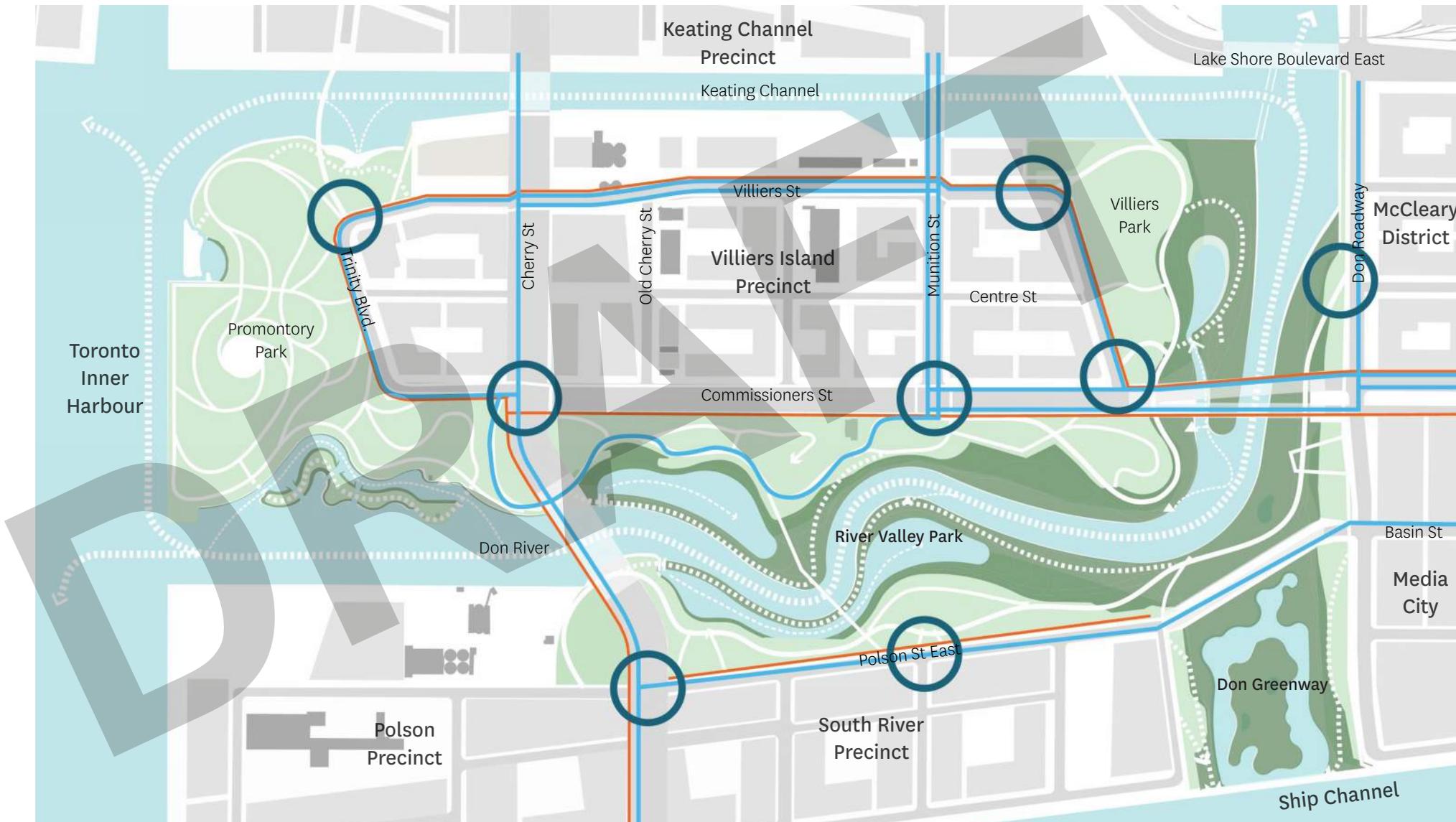
Upland's Path Network

- Multi-Use Park Path
- Park Path



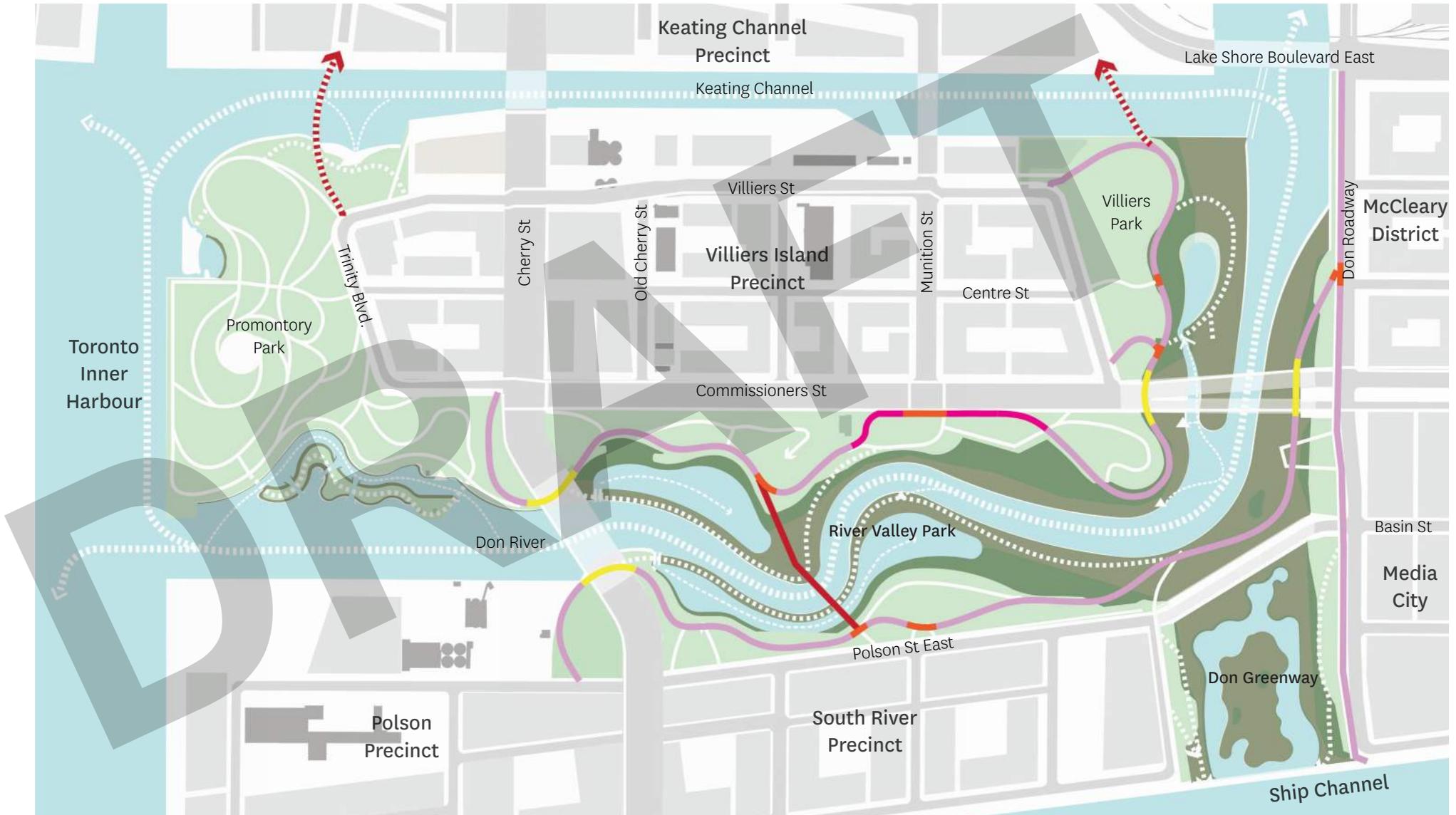
Urban Thresholds for Multi-Use Park Path

- Threshold
- Commuter Bike Lane
- Sidewalk

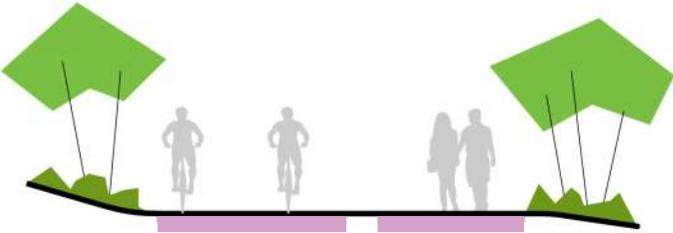


Multi-Use Park Path System

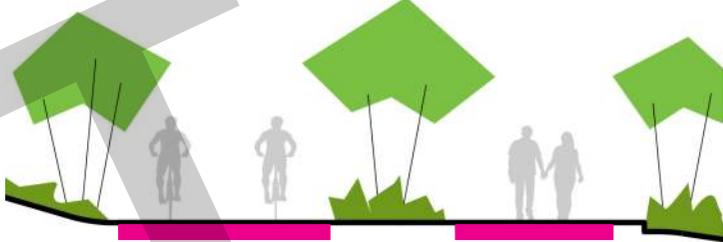
- Commuter Bike Network
- Standard Multi-use Trail
- Separated Bike Trail
- Under-Bridge Buffer
- Shared Bridge
- Transition Zone



Multi-Use Park Path Typologies



Standard Multi-Use Trail



Separated Bike Trail



Under-Bridge Buffer

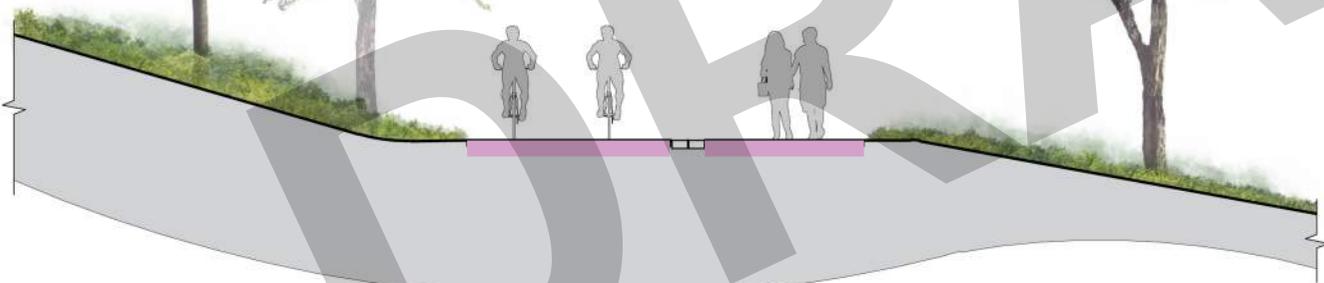
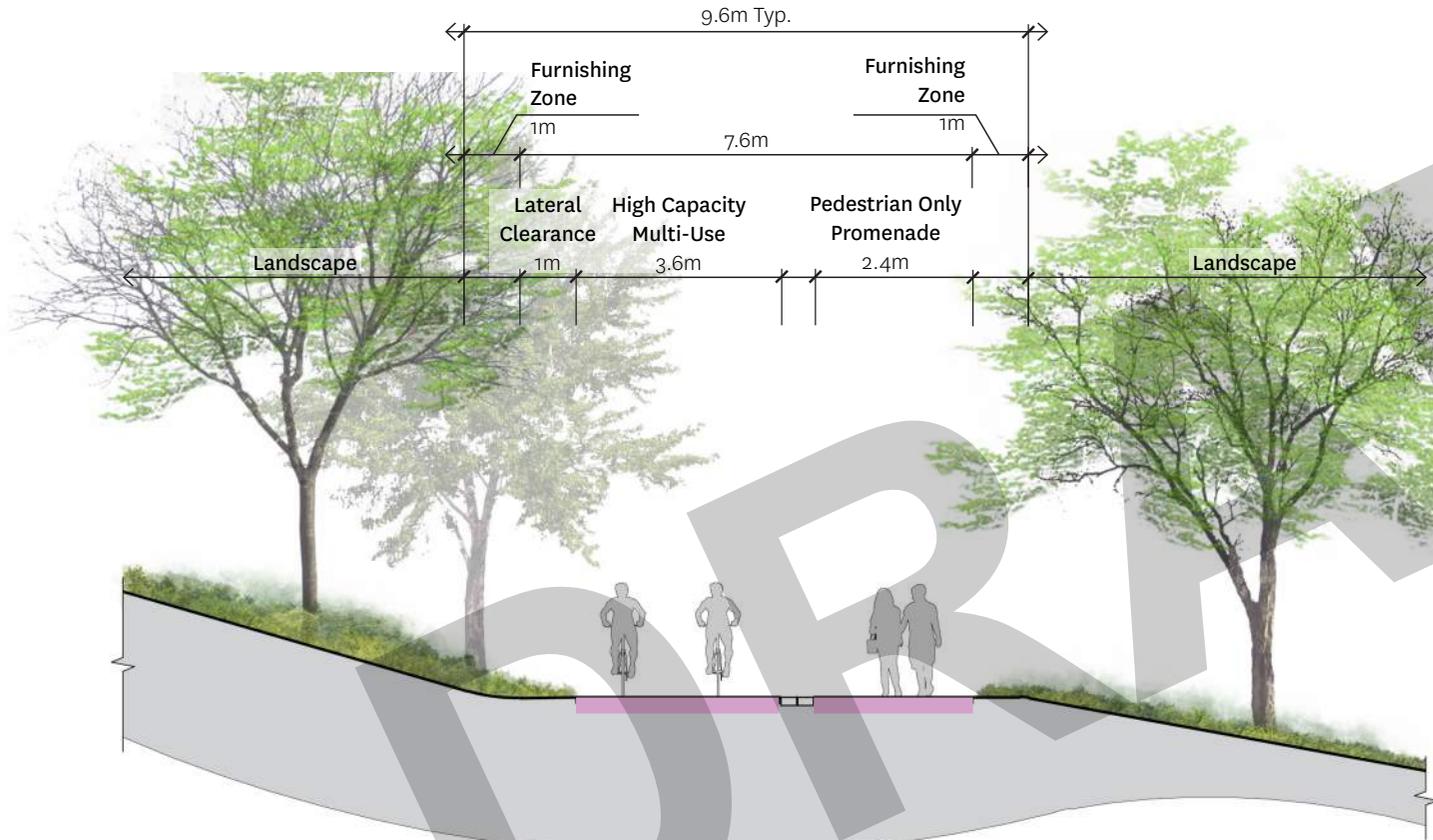


Shared Bridge



Transition Zone

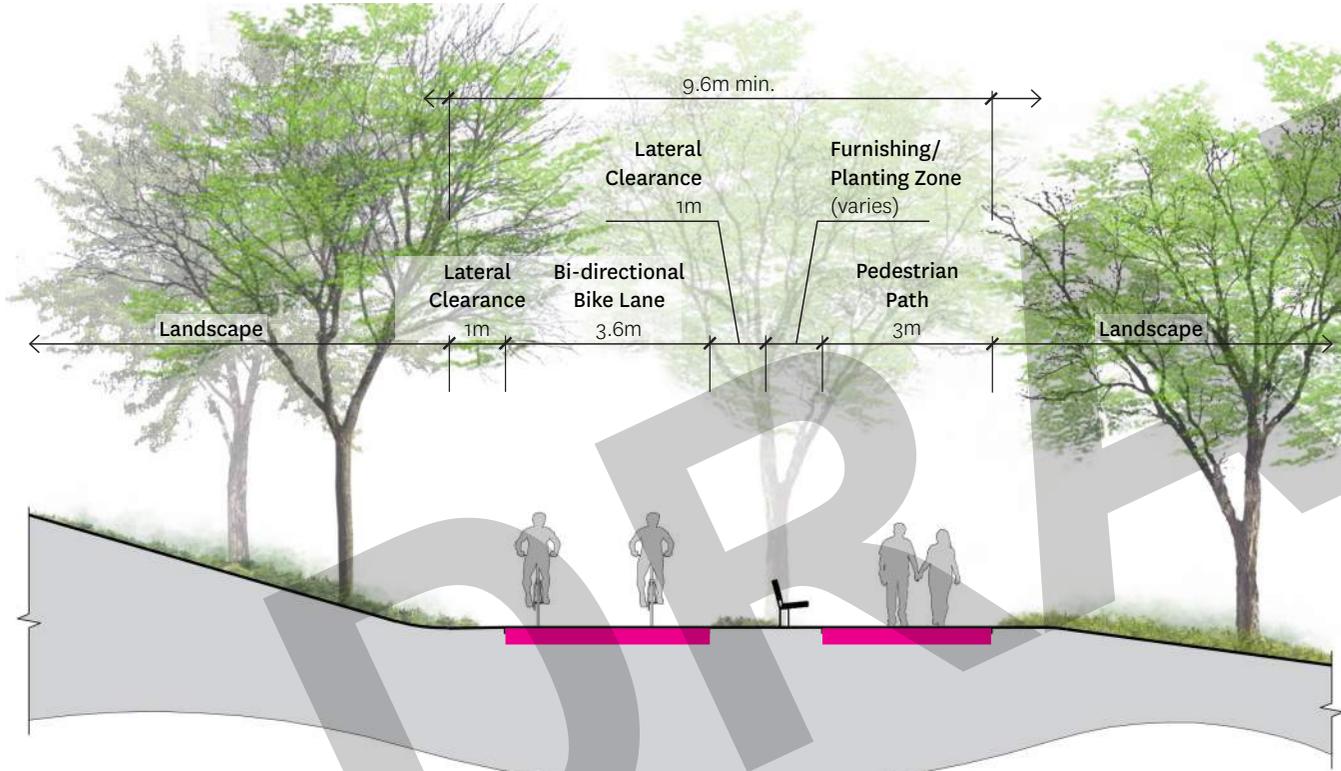
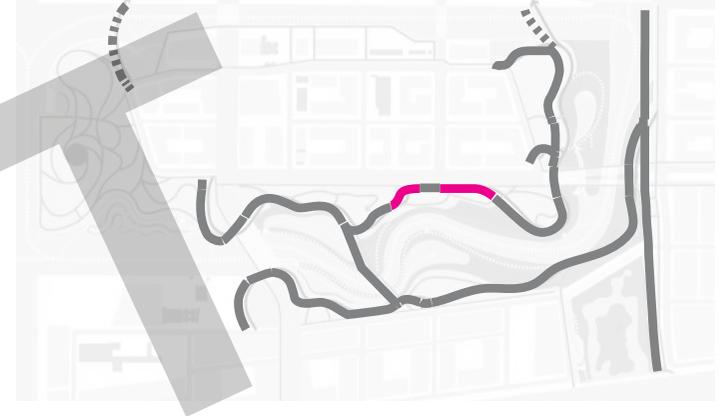
Type 1: Standard Multi-Use Park Path



0 1 2M



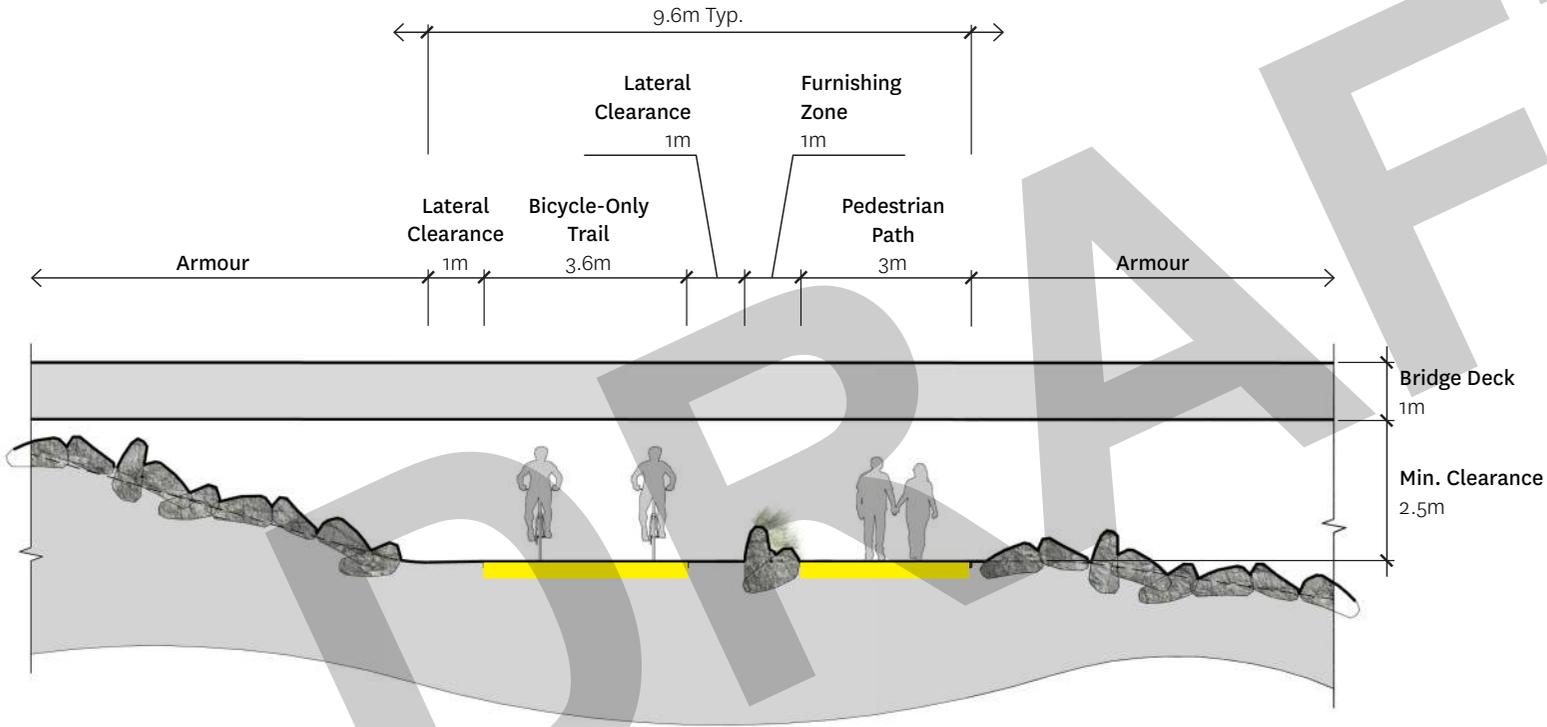
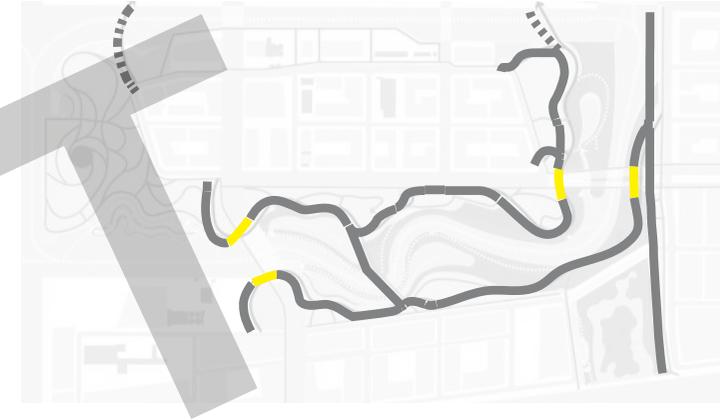
Type 2: Separated Bike and Pedestrian Paths



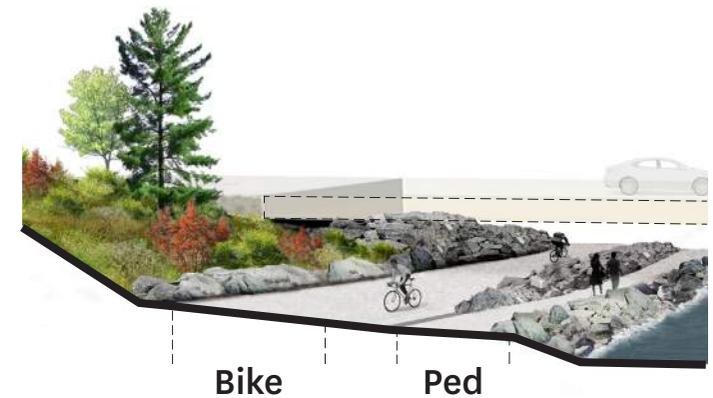
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0 1 2M



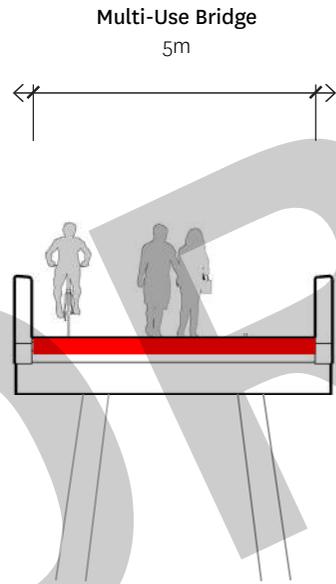
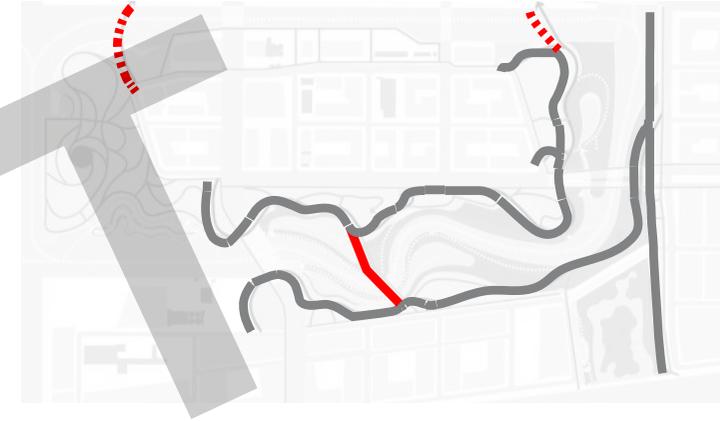
Type 3: Under-Bridge Buffer



0 1 2M



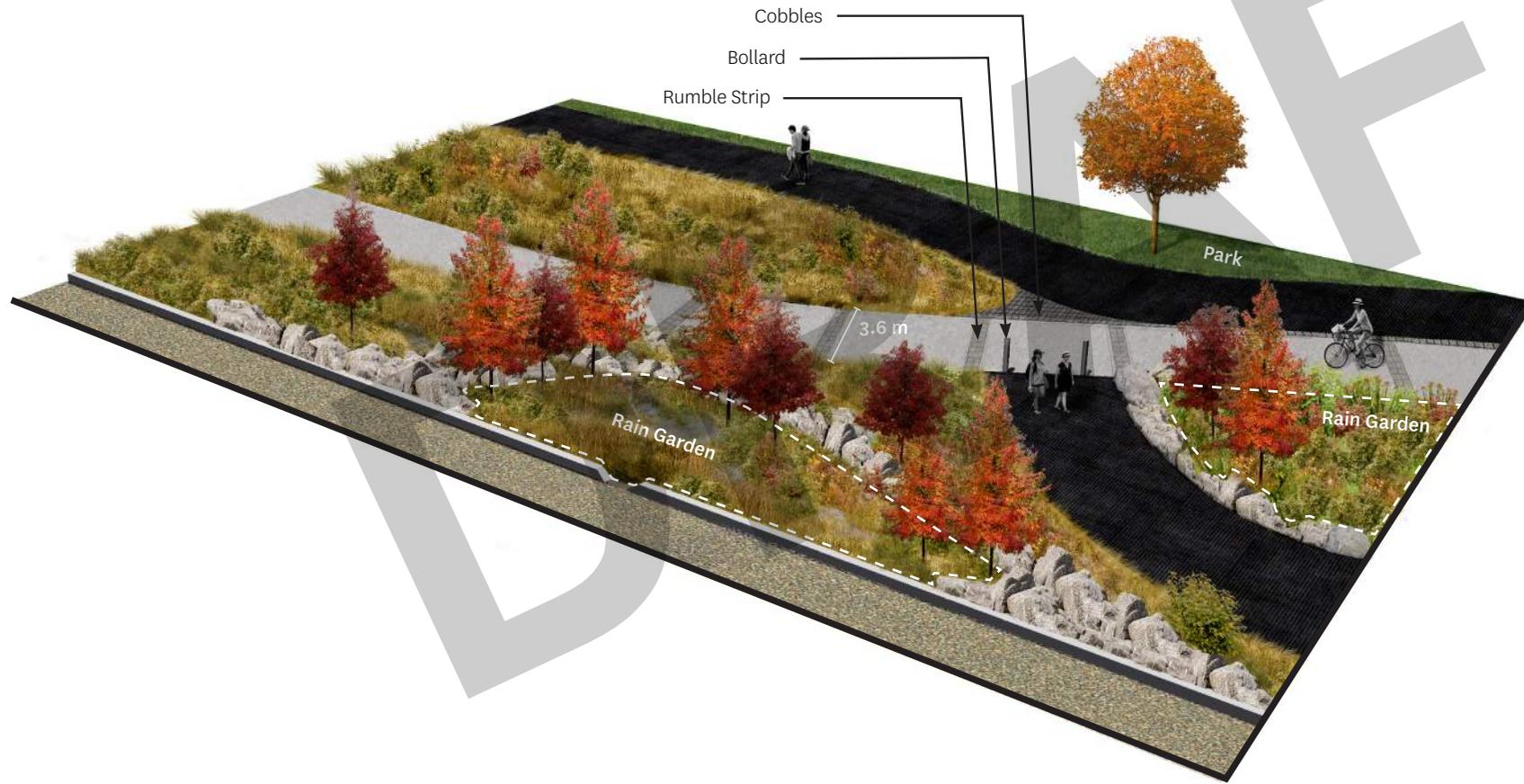
Type 4: Shared Park Bridge



0 1 2M



Type 5: Transition Zone



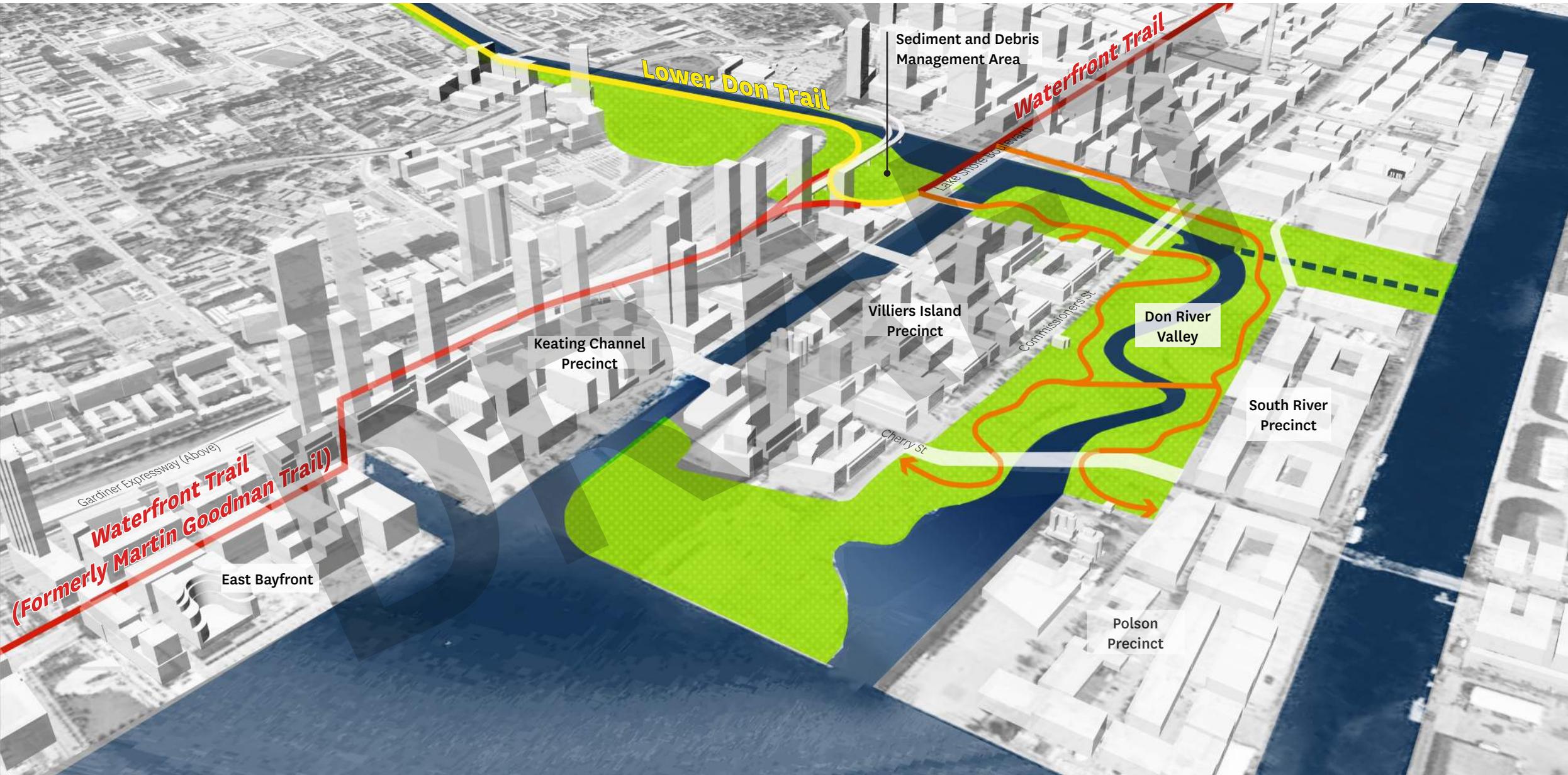
DRAFT

River as Urban Catalyst

Full Vision Rendered Plan - April 2018



Sediment and Debris Management Area - Don River Valley Connectivity



Sediment and Debris Management Area - Character



Don River Valley Bike Trail



Gardiner Expressway



Dredging Activities

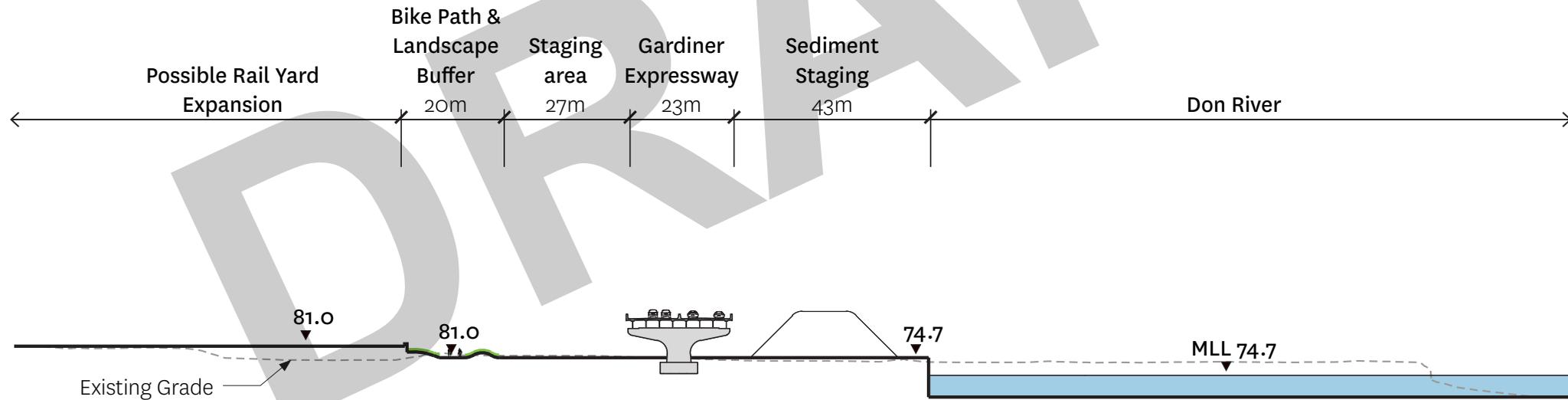
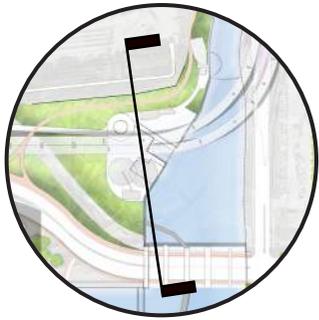


Sediment Dewatering

Sediment and Debris Management Area



Sediment and Debris Management Area - Section



Villiers Park



Keating Channel

Pedestrian Bridge

Don River

Villiers Street

Park Operations and Maintenance Facility

Basketball Courts

Riverine Wetland

Multi-use Field

Stone Amphitheatre

Boat House

Multi-use Path

Villiers Island Precinct

Centre Street

Kayak Launch

Munition Street

Villiers Park Street

Don Roadway

Don Roadway Park

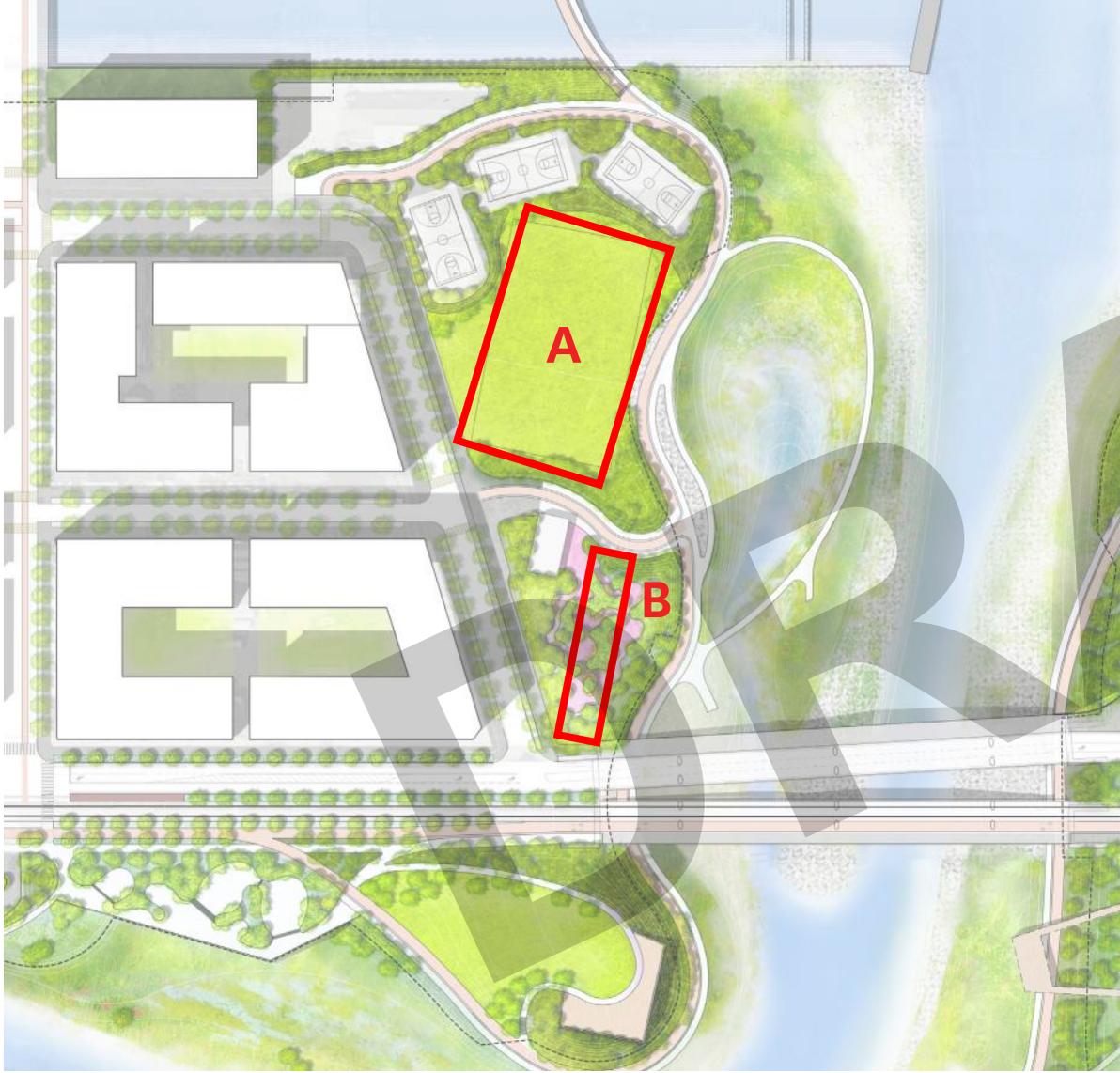
Commissioners Street

Commissioners Street Bridge

Neighbourhood Playscape



Villiers Park - Scale Comparison



A. Cherry Beach Sports Fields, Toronto, ON (8,800 m²)



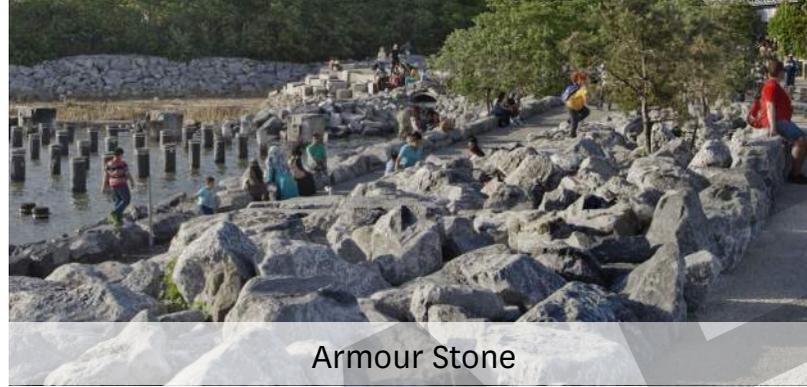
B. Regent Park Playground, Toronto, ON (2,100 m²)



Villiers Park - Character



Neighbourhood Playscape



Armour Stone



Rain Garden



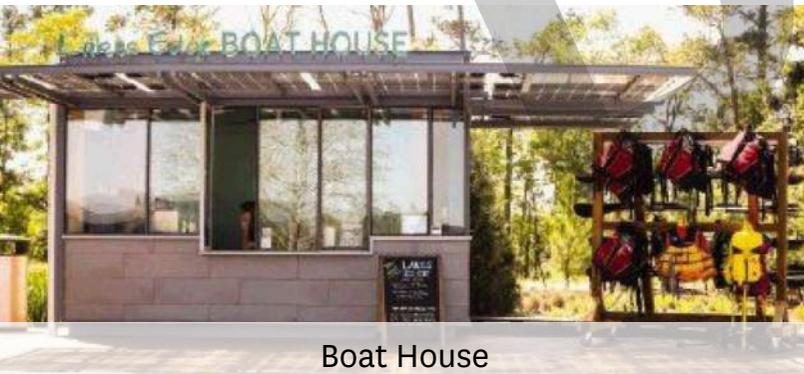
Wetland



Multi-Use Field



Kayak Launch



Boat House

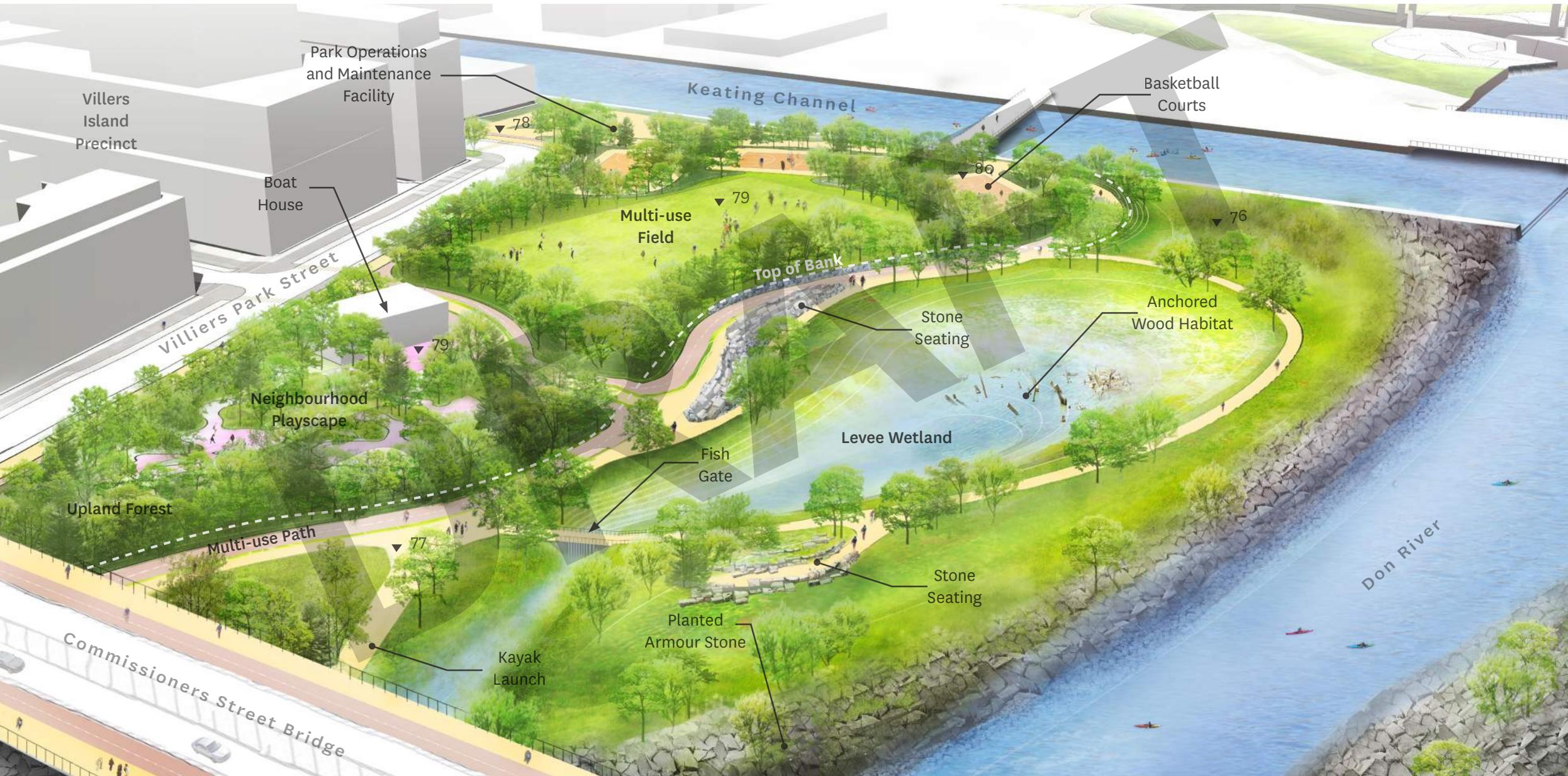


Basketball

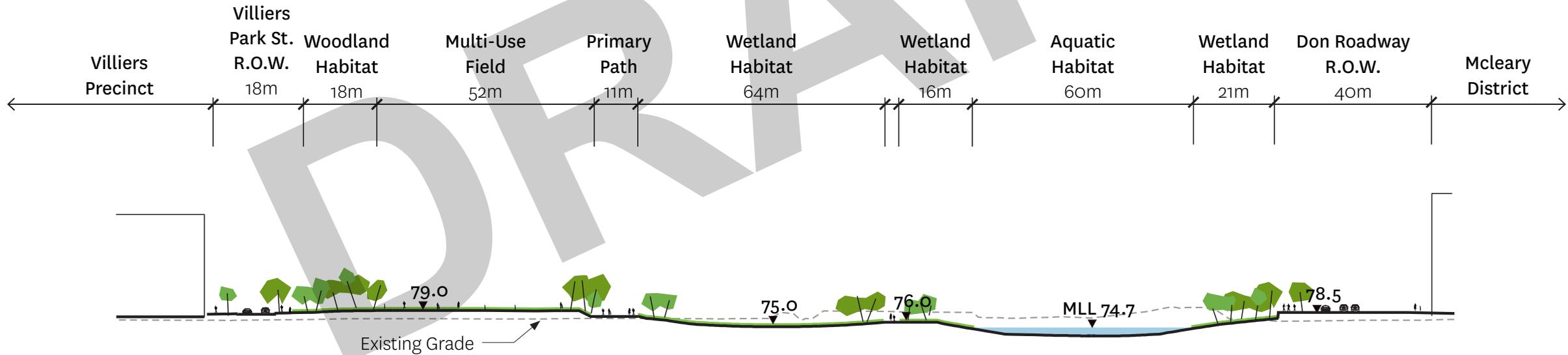


Winter Program

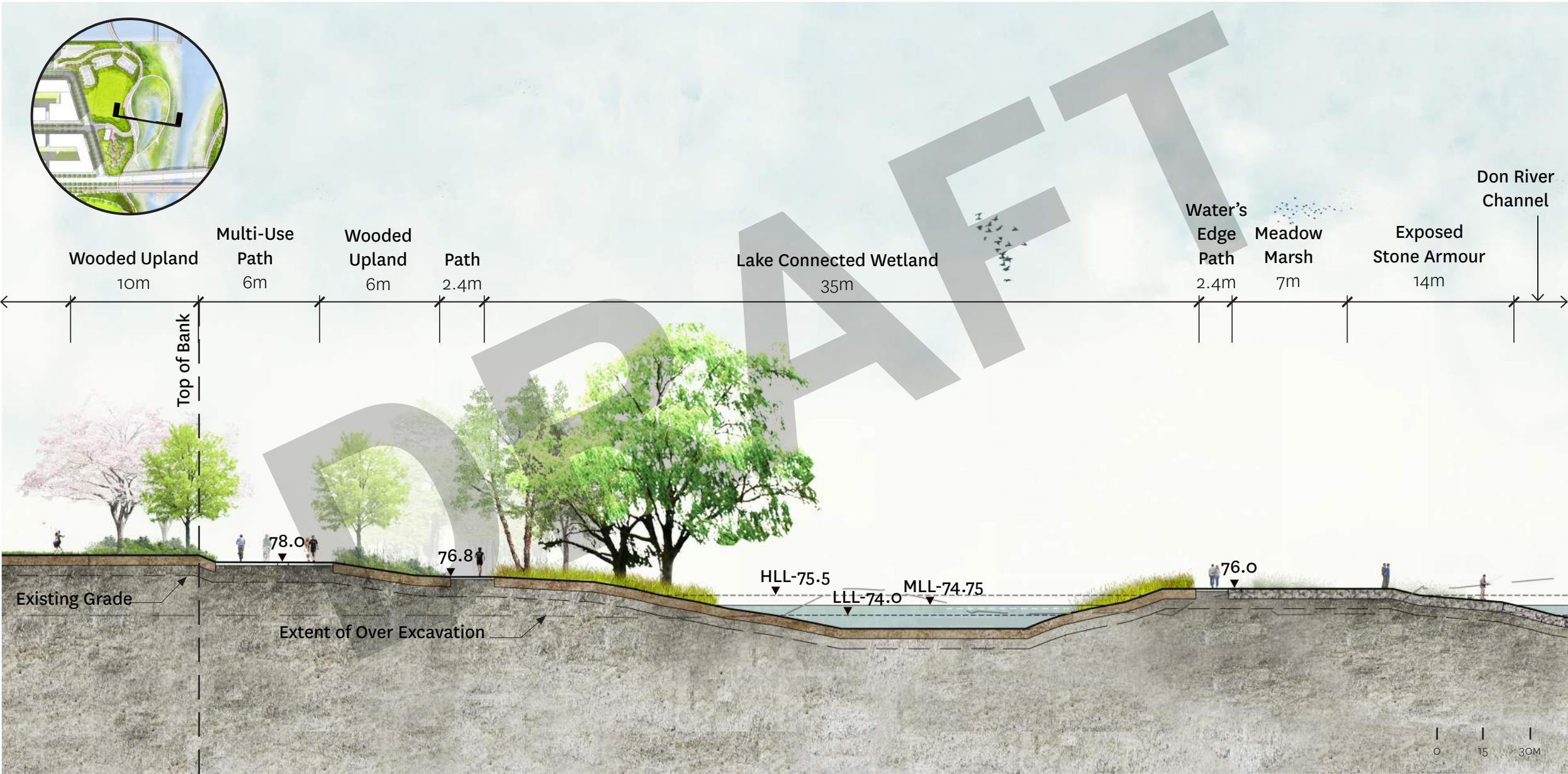
Villiers Park - Axonometric View



Villiers Park - Section

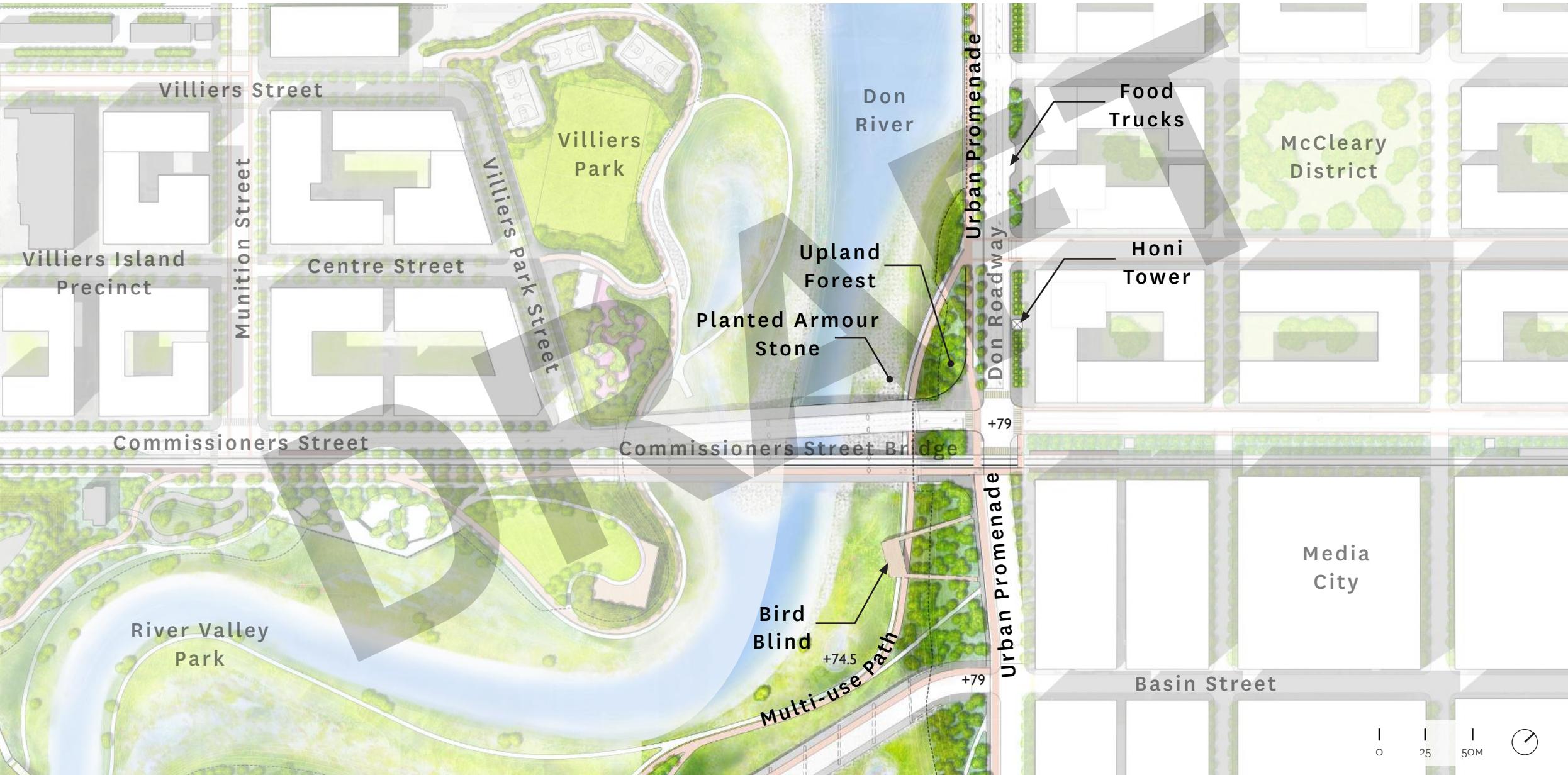


Villiers Park - Section Detail

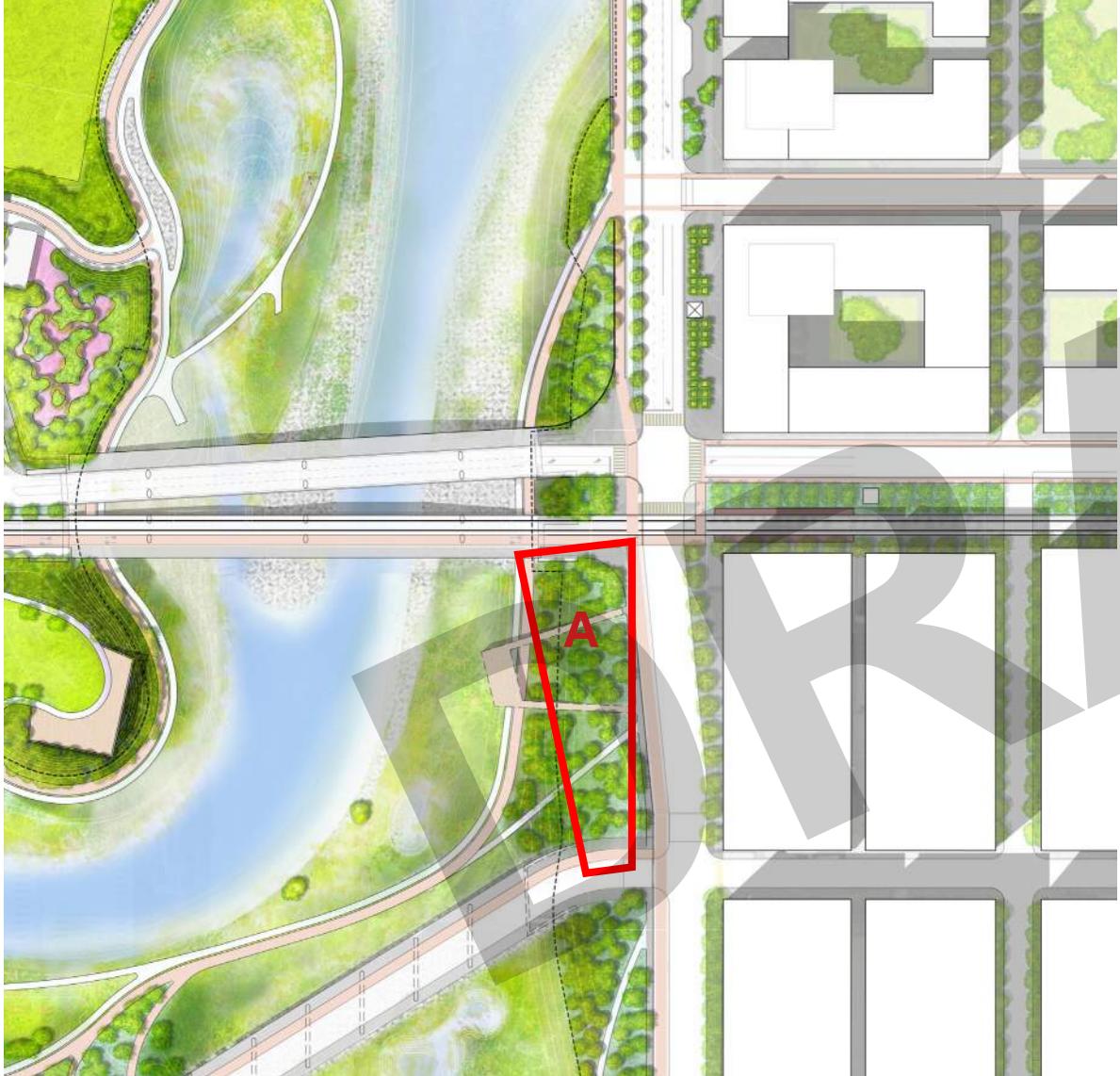




Don Roadway Park and Ice Management Area



Don Roadway Park and Ice Management Area - Scale Comparison



A. HTO Park East Whisky Beach / Beach Edge, Toronto, ON (3,300 m²)



Don Roadway Park and Ice Management Area - Character



Urban Promenade



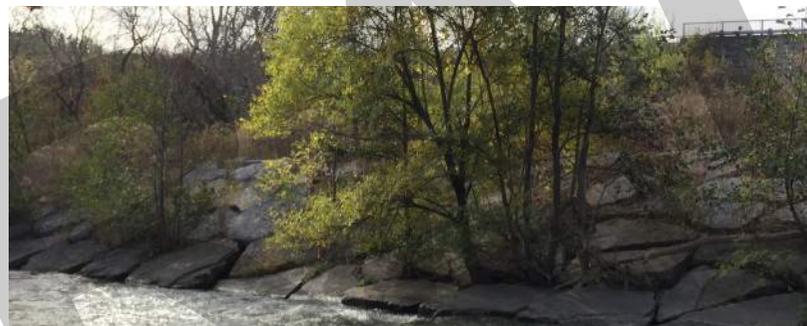
HONI Towers



Bird Blind



Food Trucks



Planted Armour Stone



Dock Wall



Wooded Upland

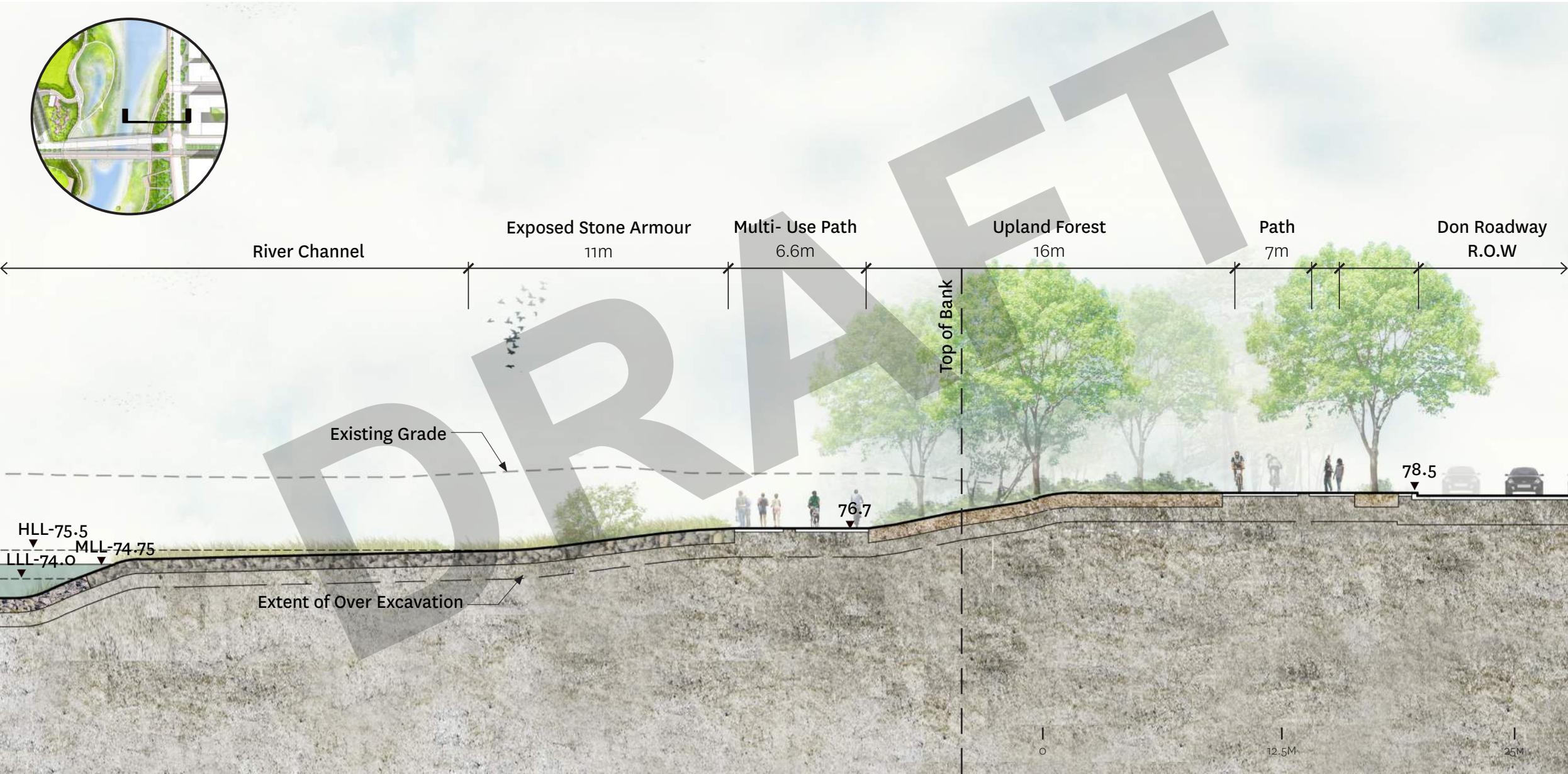


Wetland



Bike Path

Don Roadway Park and Ice Management Area - Section Detail





Don Greenway



River Valley Park

Don River

Media City

Basin Street

Basin Street Bridge

+79

Marsh Overlook

+71

+72.50

Polson Street East

Don Roadway

Marsh Overlook

South River Precinct

Levee Wetland

+75.5

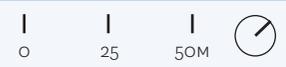
+72.50

+76

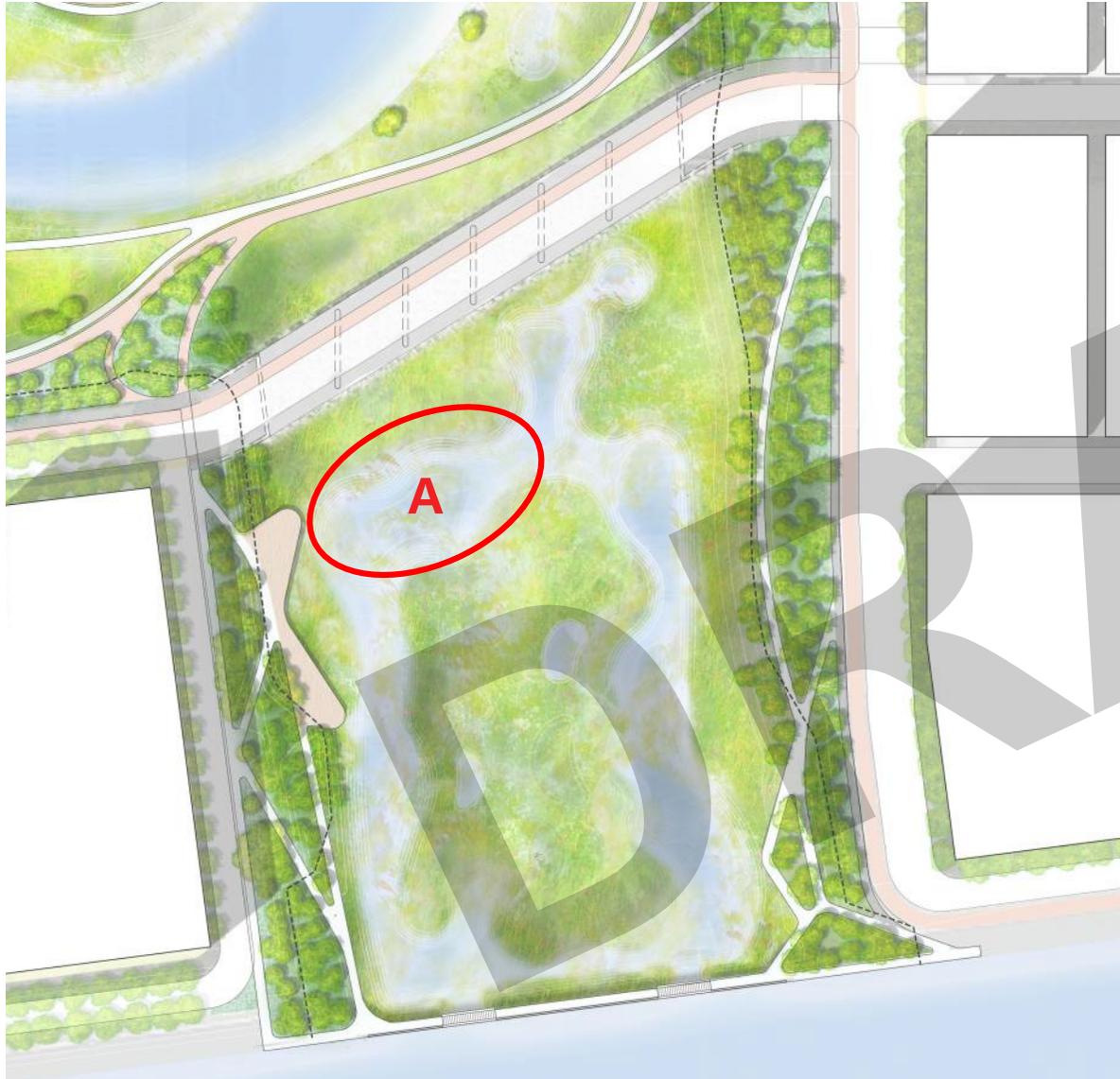
Fishing Dockwall

Fish Gate

Ship Channel



Don Greenway - Scale Comparison



A. Corktown Common Marsh, Toronto, ON (2,000 m²)



Don Greenway - Character



Fishing Node



Dockwalls



Bird Watching



Turtle Habitat



Gravel Bar



Ice Fishing



Wooded Upland

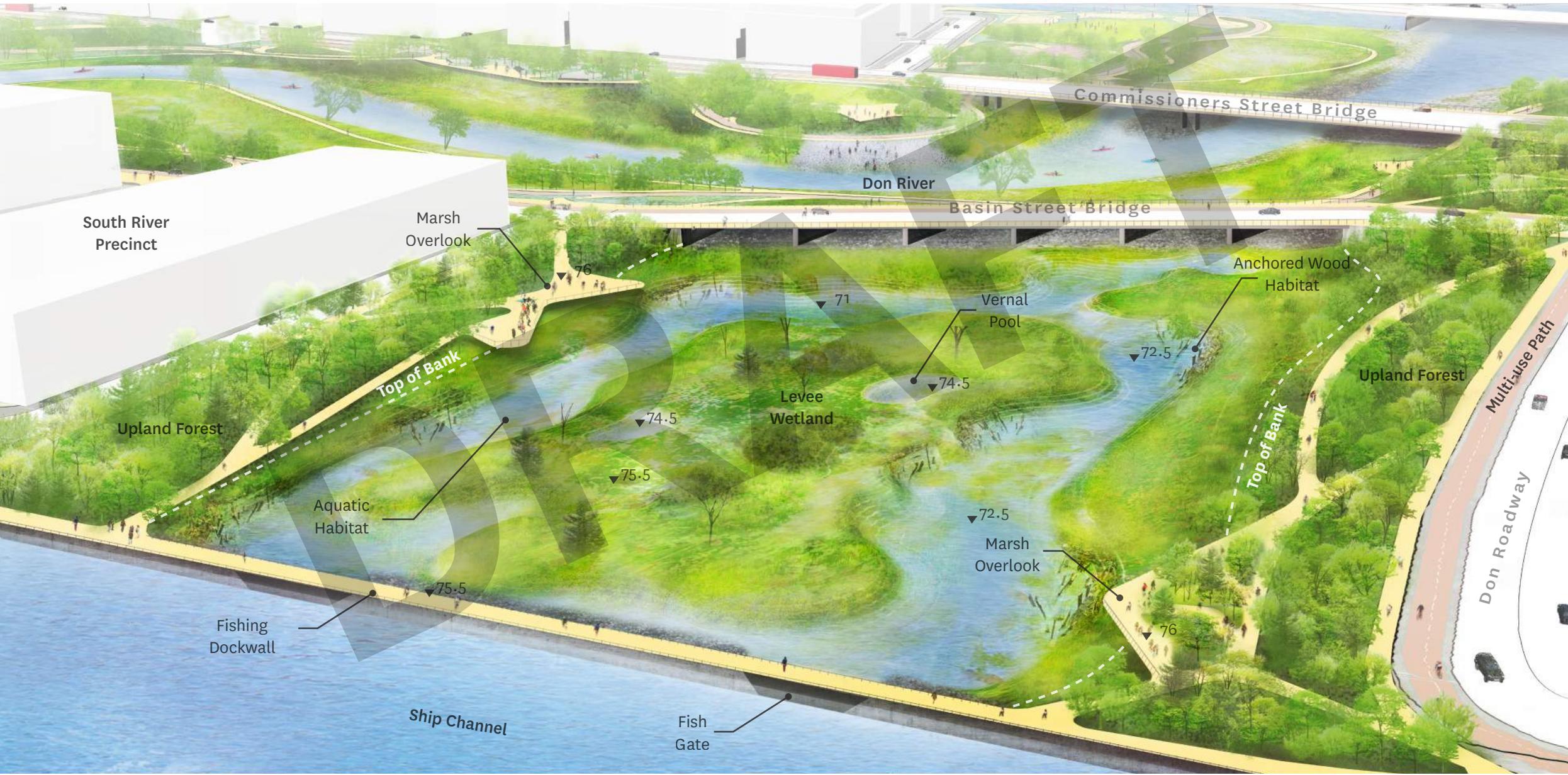


Boardwalk

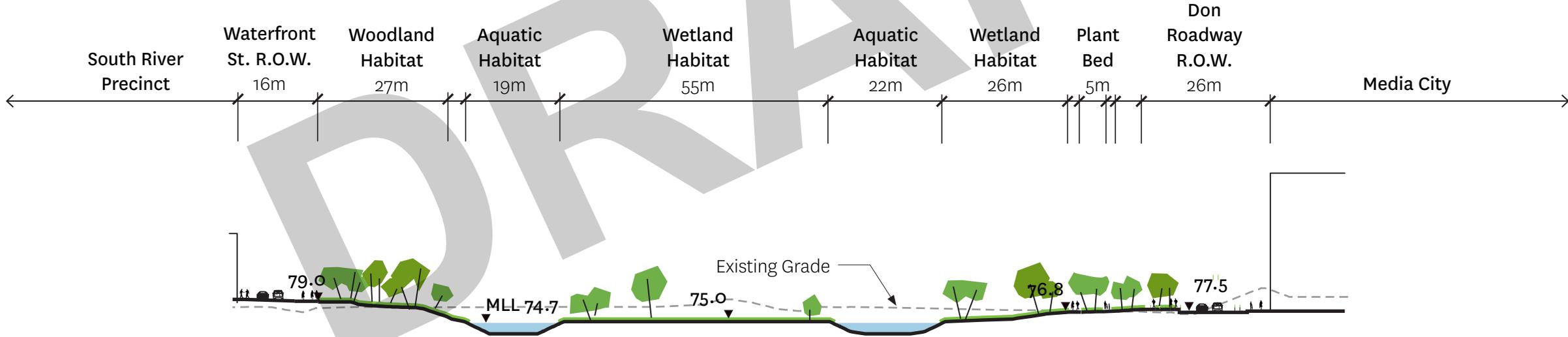


Wetland

Don Greenway - Axonometric View



Don Greenway - Section



Don Greenway - Section Detail





River Valley Park



Villiers Island Precinct

Dogs Off Leash Area

Nature Play

Fire Hall #30

Picnic Terrace

Passive Use Lawn

Promontory Park

+77.5

+80.5

+84.5

+89

+81.5

+74.5

Levee Wetland

+73

Multi-use Path
Pedestrian Bridge

Lake Connected Wetland

Overlook

Polson Slip

Levee Wetland

+73

+75.5

+83

+80

Multi-use Path

Basin Street Bridge

Multi-use Field

+81

Passive Use Lawn

Dogs Off Leash Area

South River Precinct

Picnic Terrace

Don Greenway

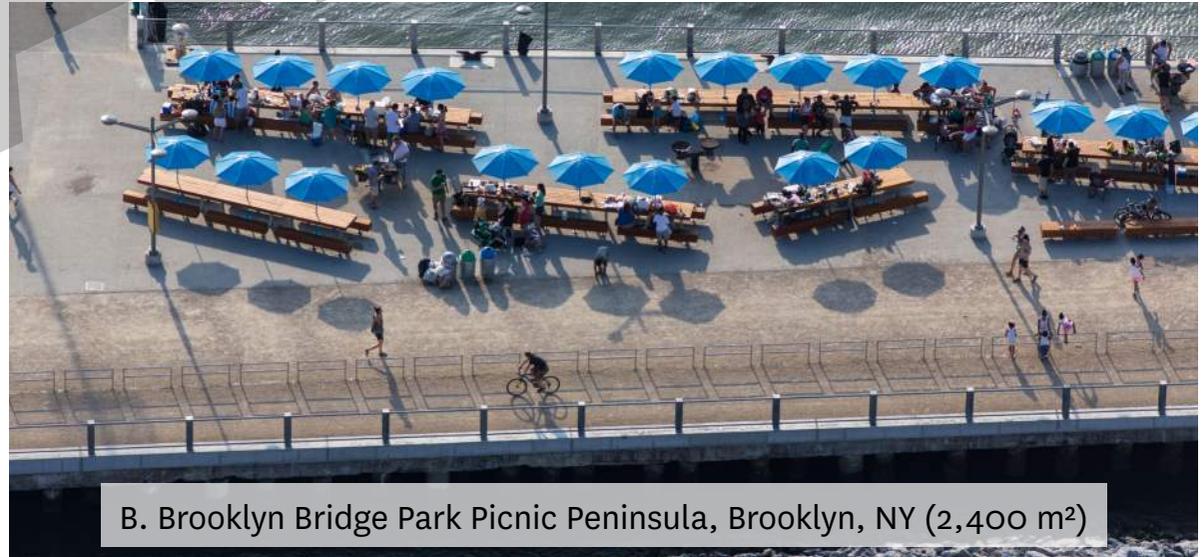
Polson Precinct



River Valley Park North - Scale Comparison

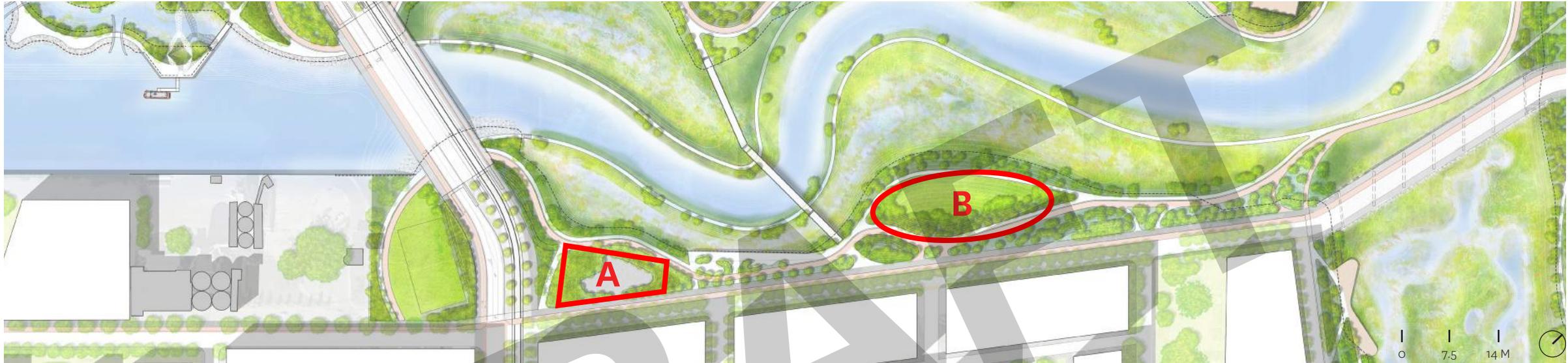


A. Maggie Daley Park Nature Playscape, Chicago, IL (4,000 m²)



B. Brooklyn Bridge Park Picnic Peninsula, Brooklyn, NY (2,400 m²)

River Valley Park South - Scale Comparison



Orphan's Green Dog Park, Toronto, ON (2,000 m²)



B. Sherbourne Common, Toronto, ON (4,000 m²)

River Valley Park - Character



River Valley Park - Character



Outdoor Education Areas



Water's Edge Trail



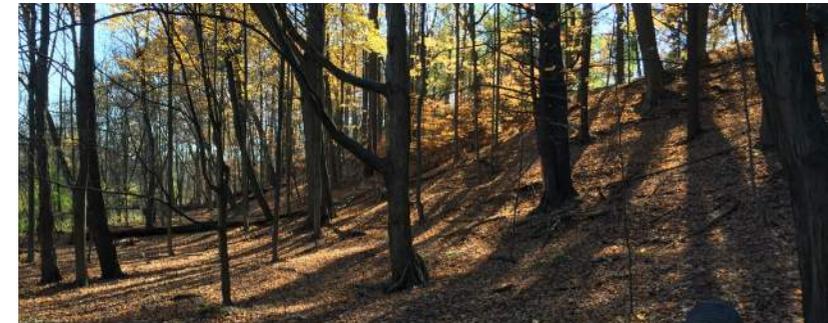
Cross Country Skiing



Fishing Node



Picnic Terrace



Wooded Upland



Passive Use Lawn



Overlook

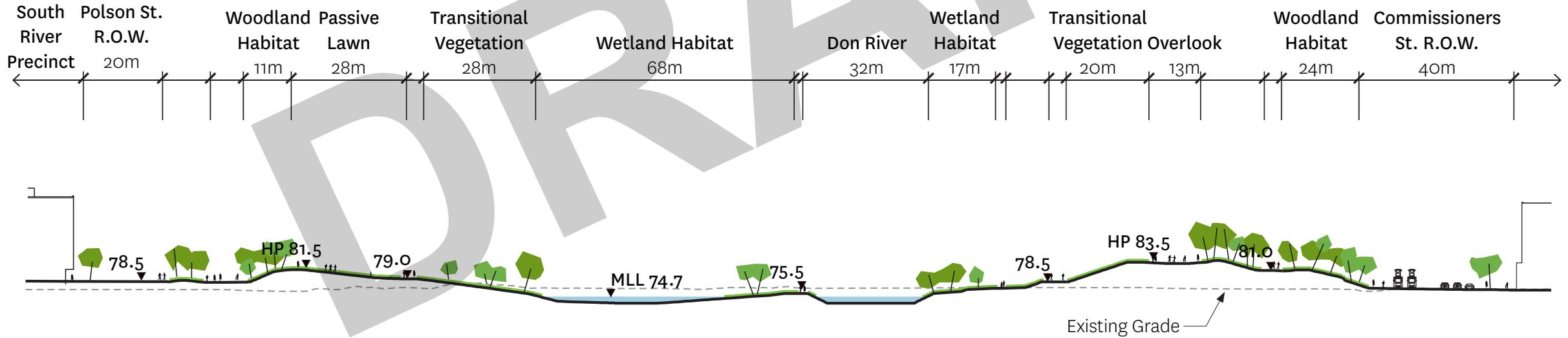
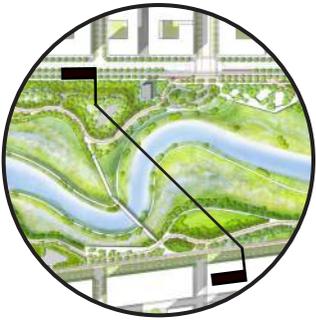


Levee Wetland

River Valley Park - Axonometric View



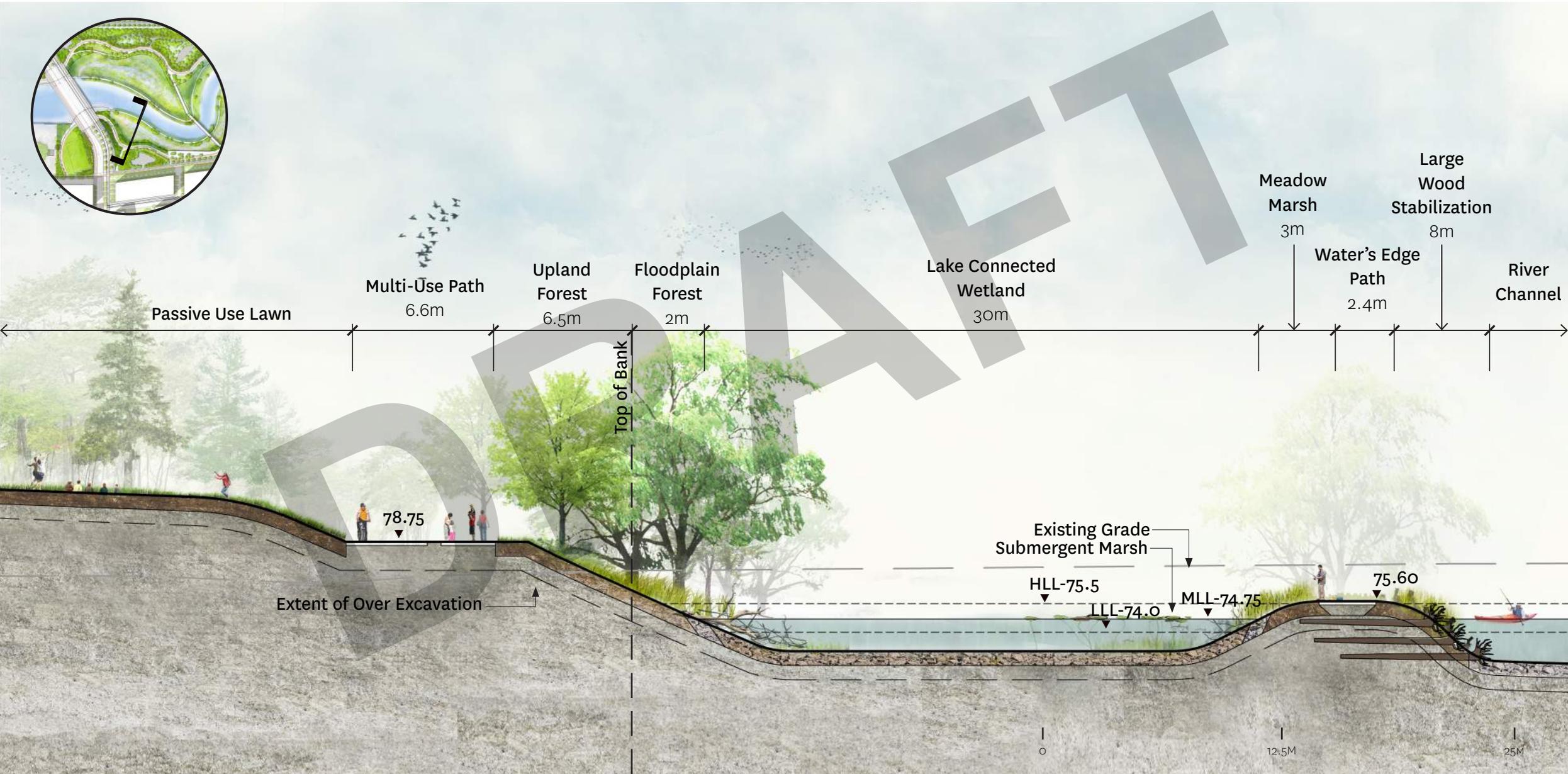
River Valley Park - Section



River Valley Park - Water's Edge Trail

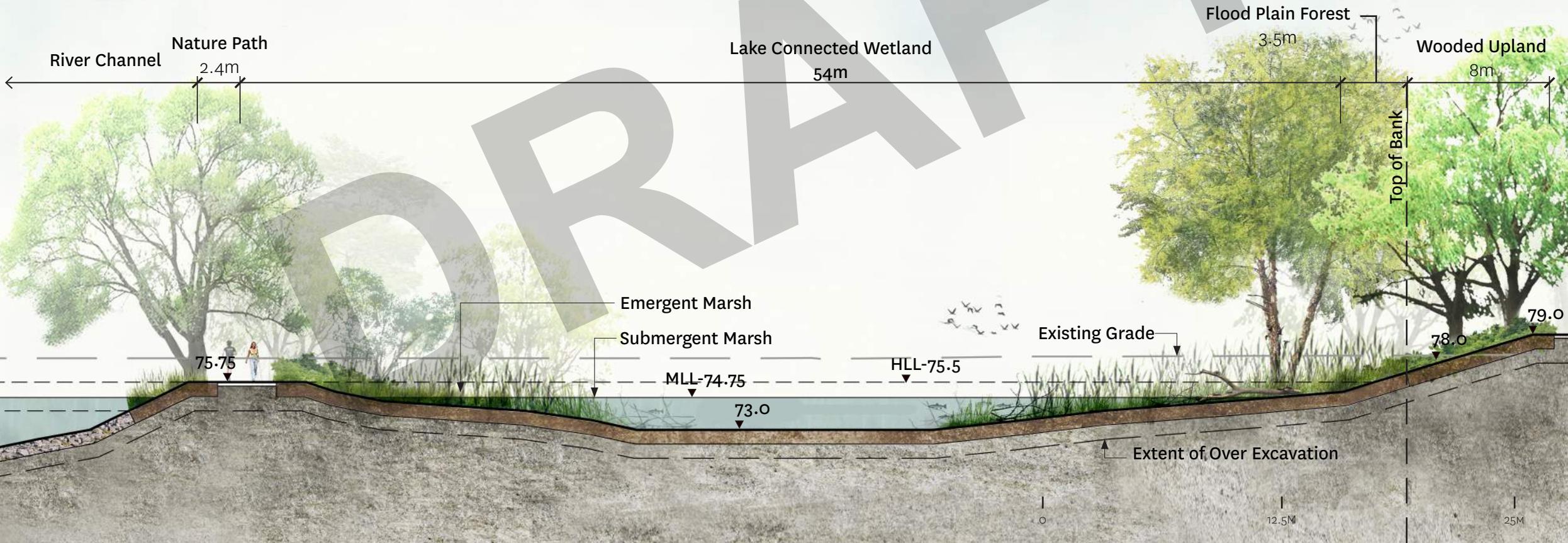


River Valley Park - Section Detail





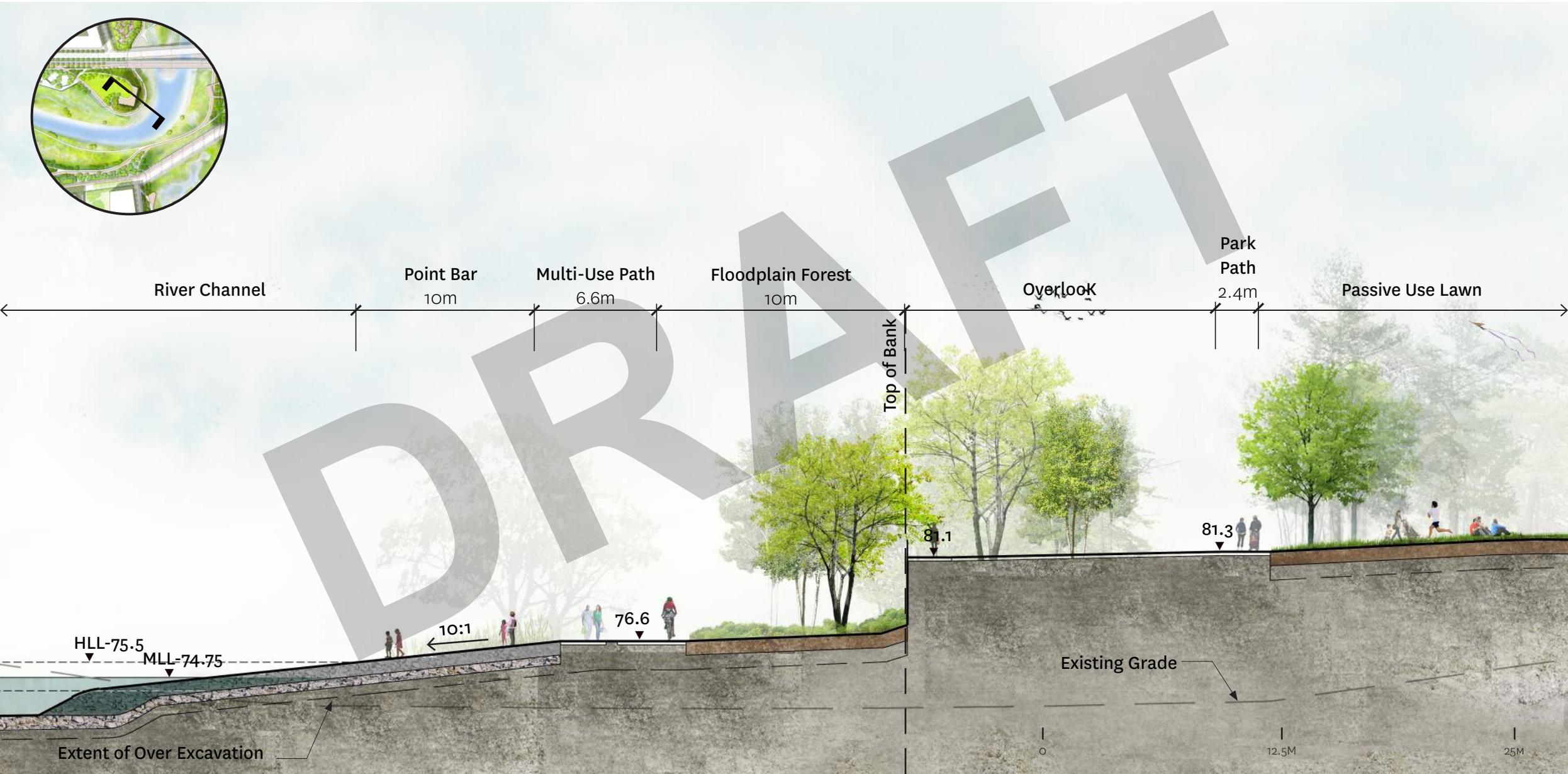
River Valley Park - Section Detail



River Valley Park - Point Bar



River Valley Park - Section Detail



River Valley Park - Section Detail



River Channel

Lake Connected Wetland
49m

Picnic Terrace

Fabric Encapsulated
Soil Lift

Existing Grade
Meadow Marsh

Floodplain Forest

Vernal Pool

Proposed Dockwall

Top of Bank

HLL-75.5

MLL-74.75

73.0

76.0

78.75

Extent of Over Excavation

0

12.5M

25M



FET

Promontory Park



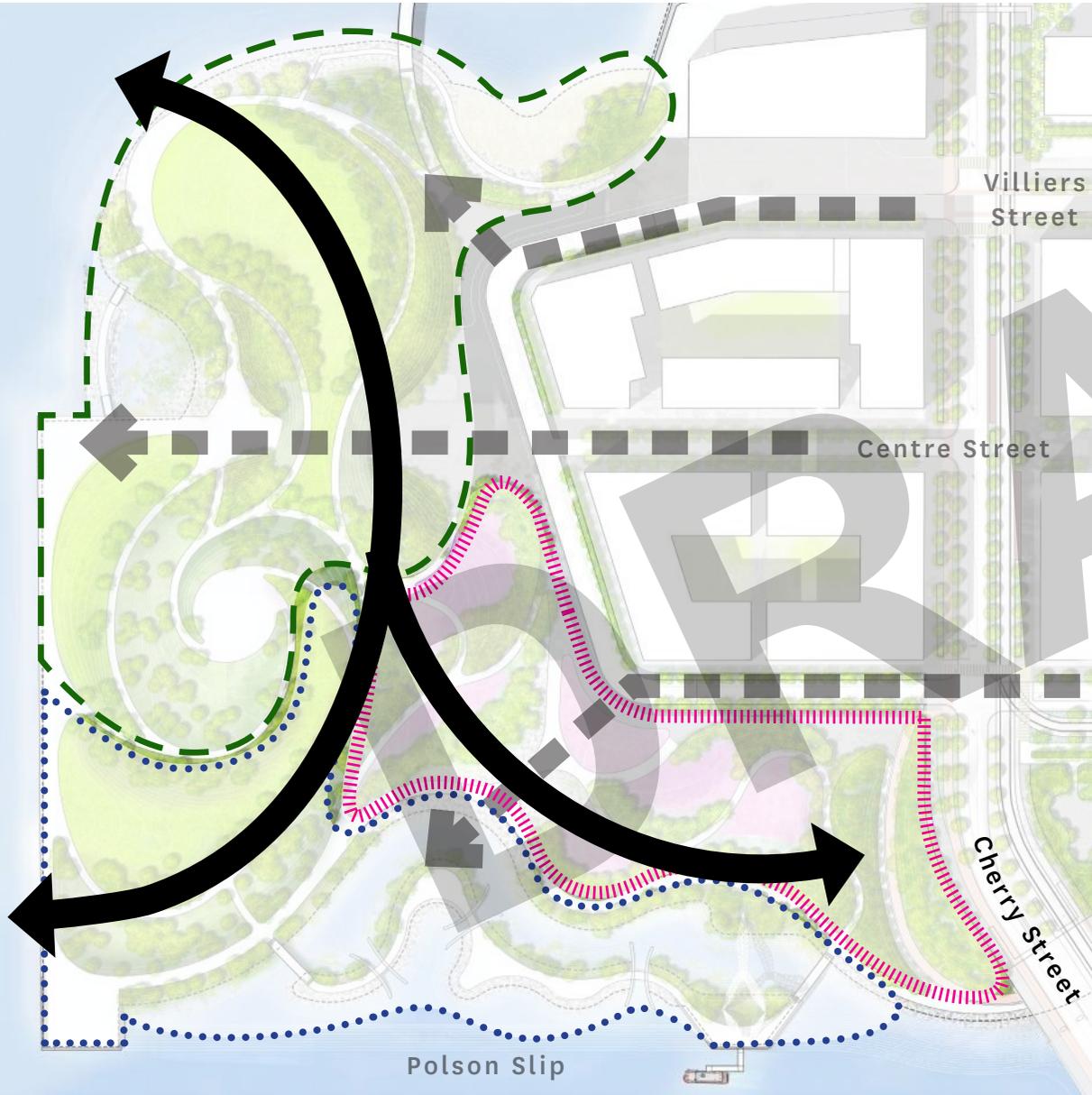
Promontory Park - Entrance Sequences



Promontory Park - Recreation Areas

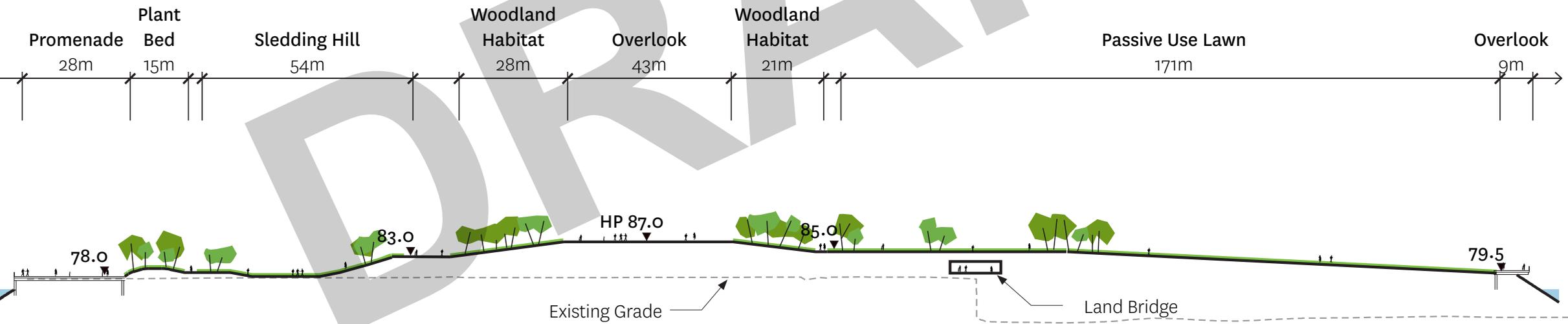


Promontory Park - Spine Connector



Park Over the Highway - St. Louis Gateway Arch Park

Promontory Park - Spine Connector Section



Promontory Park North - Scale Comparison



0 15 30 M



A. Brooklyn Bridge Park Event Lawn, Brooklyn, NY (3,600 m²)



B. Spadina Quay Wetland, Toronto, ON (1,500 m²)

Promontory Park North - Character



Wooded Upland



Harbour Overlook



Event Lawn



City Overlook



Entry Plaza



Rain Garden



Habitat Cove

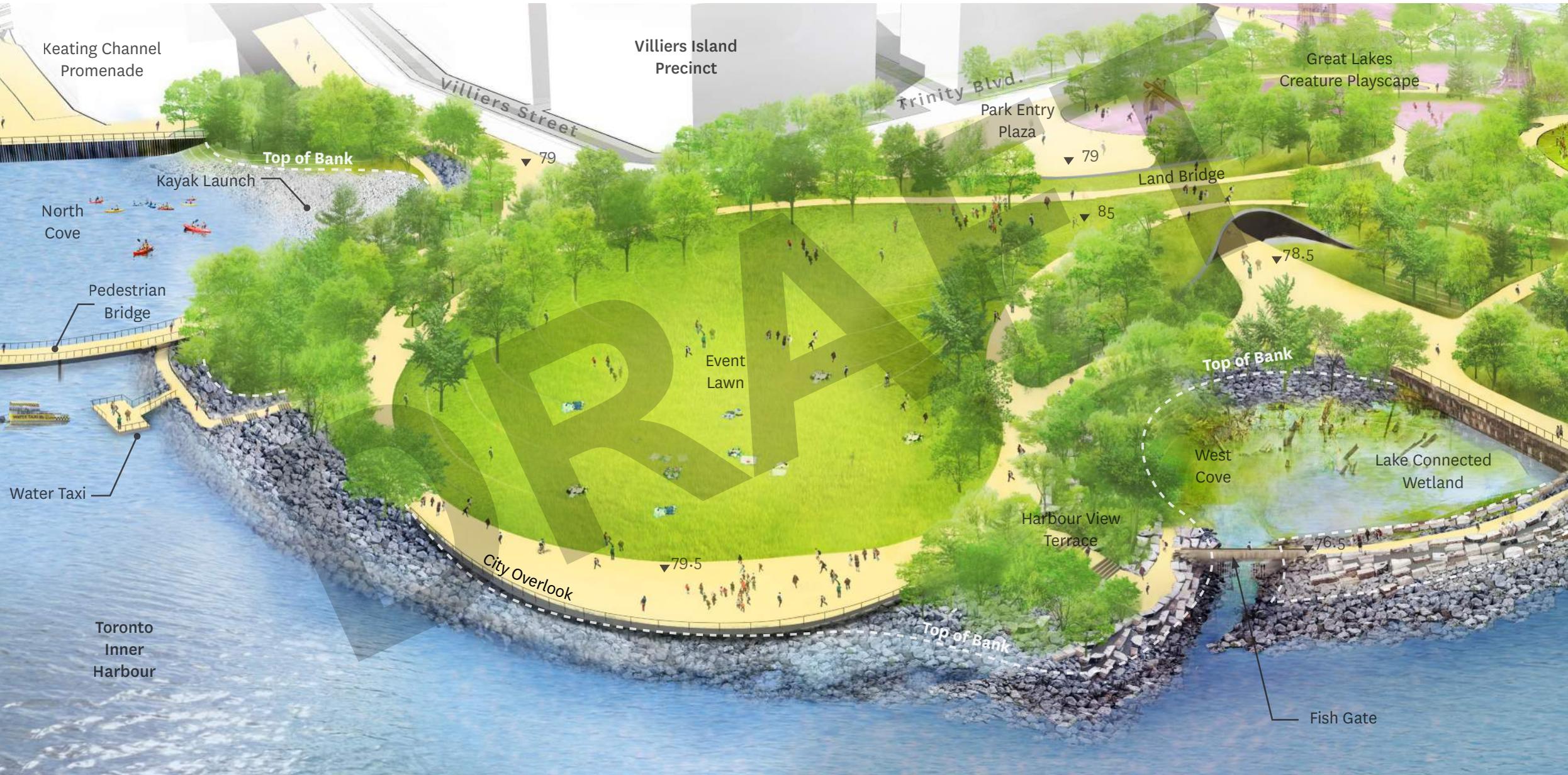


Gravel Beach / Kayak Launch

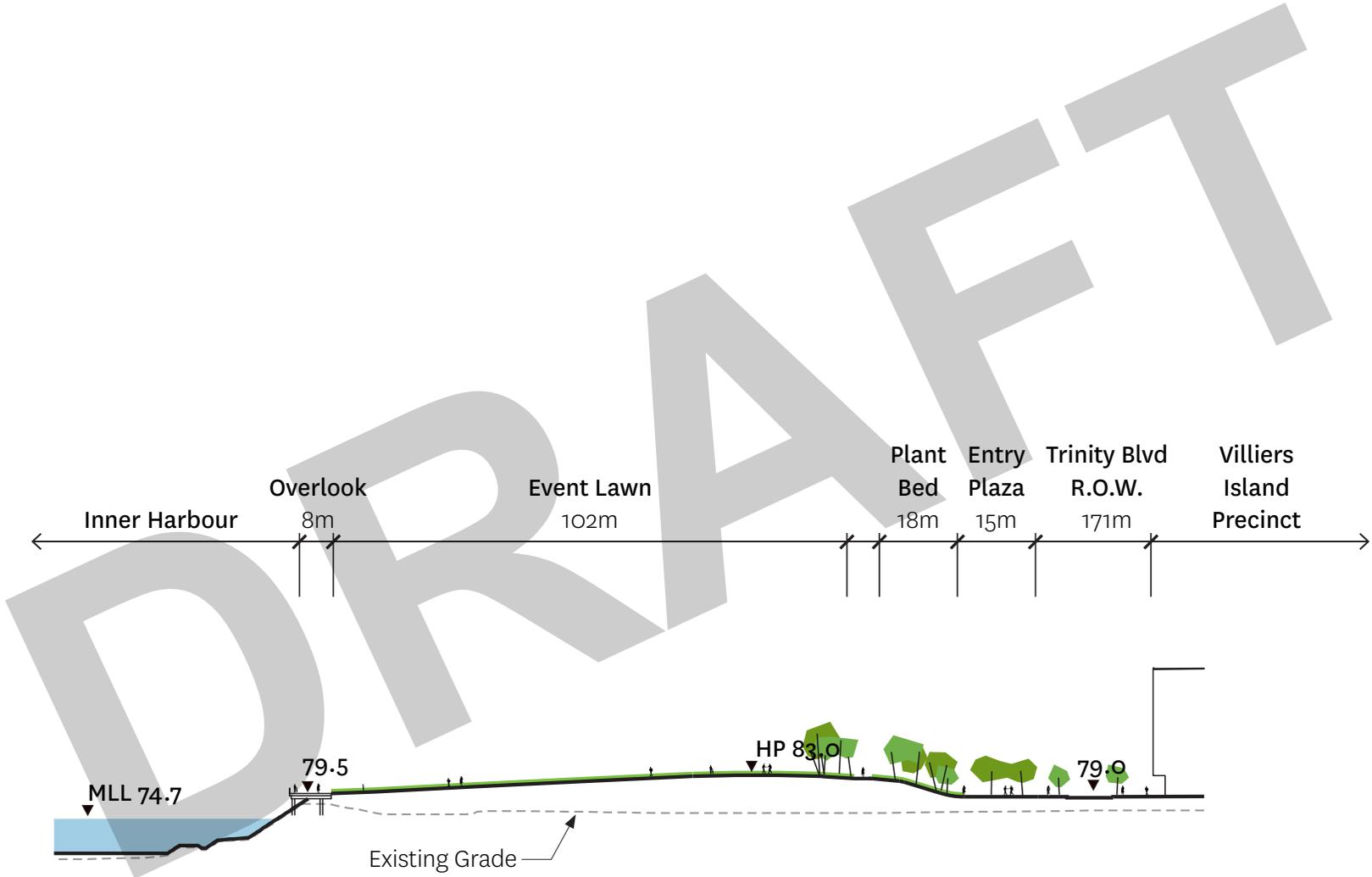
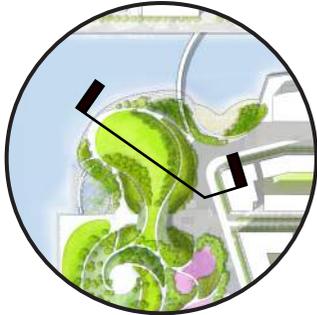


Fishing Node

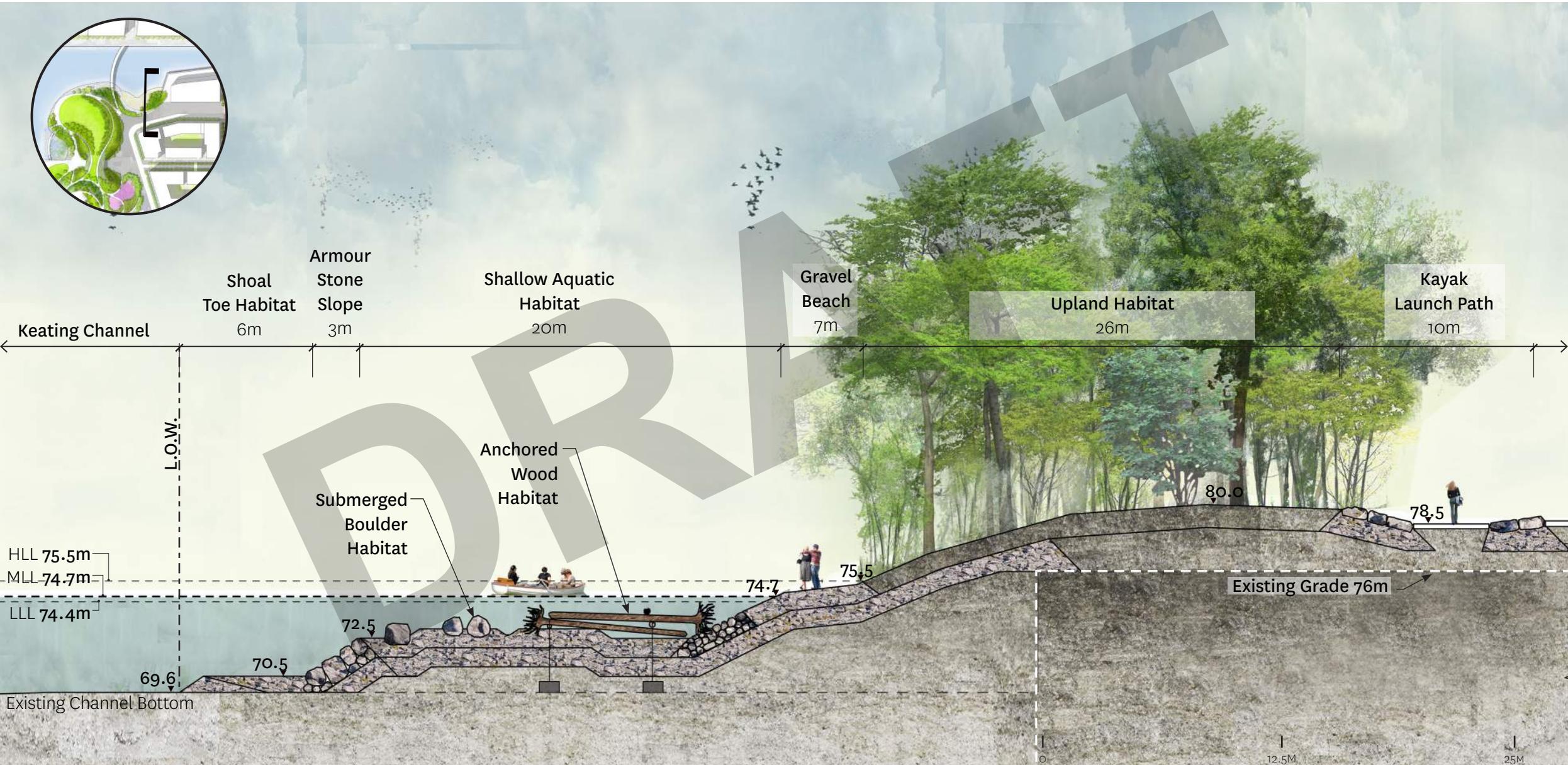
Promontory Park North - Axonometric View



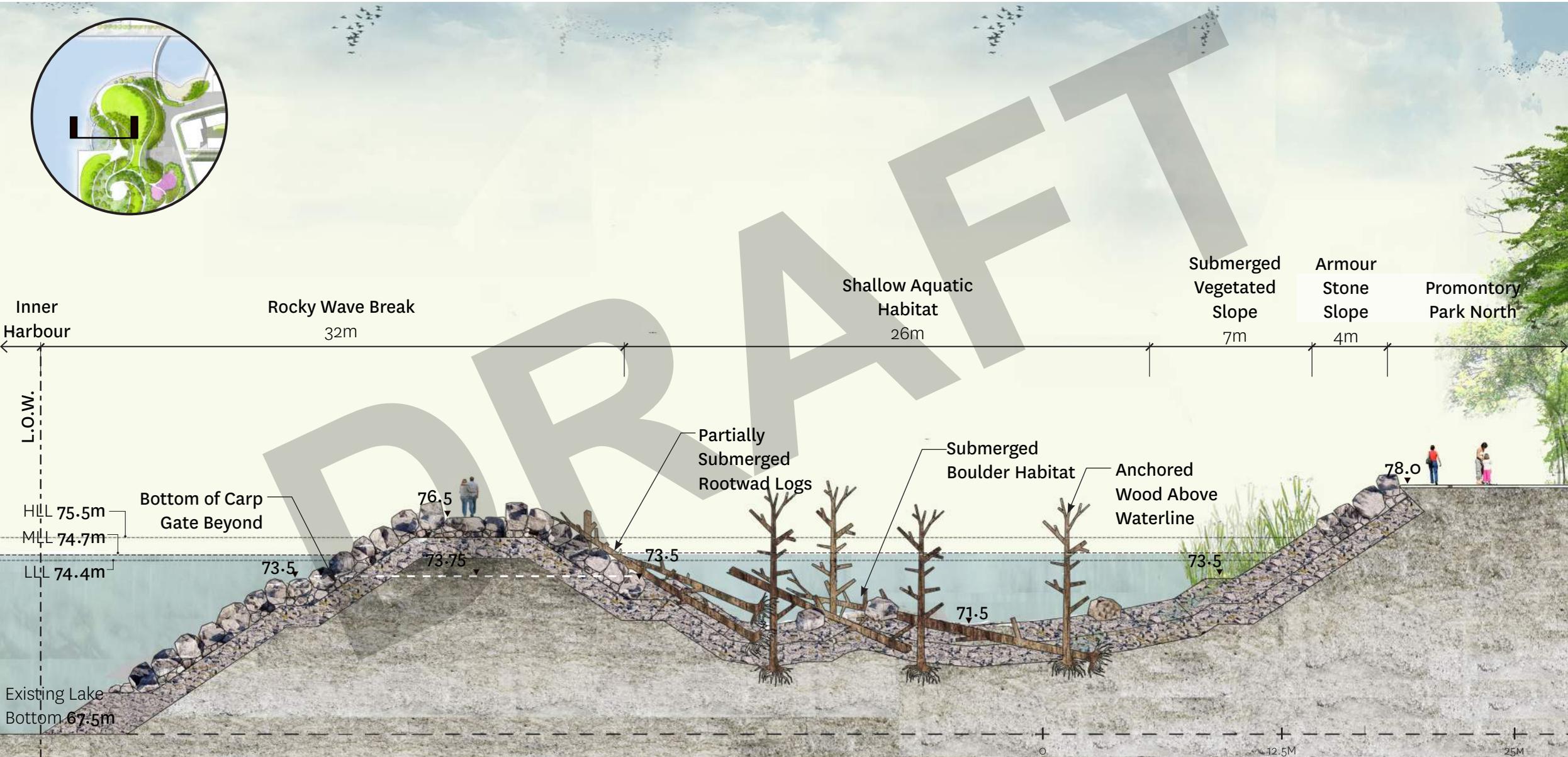
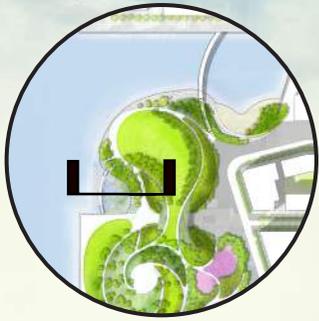
Promontory Park North - Section



Promontory Park North - Section Detail 1

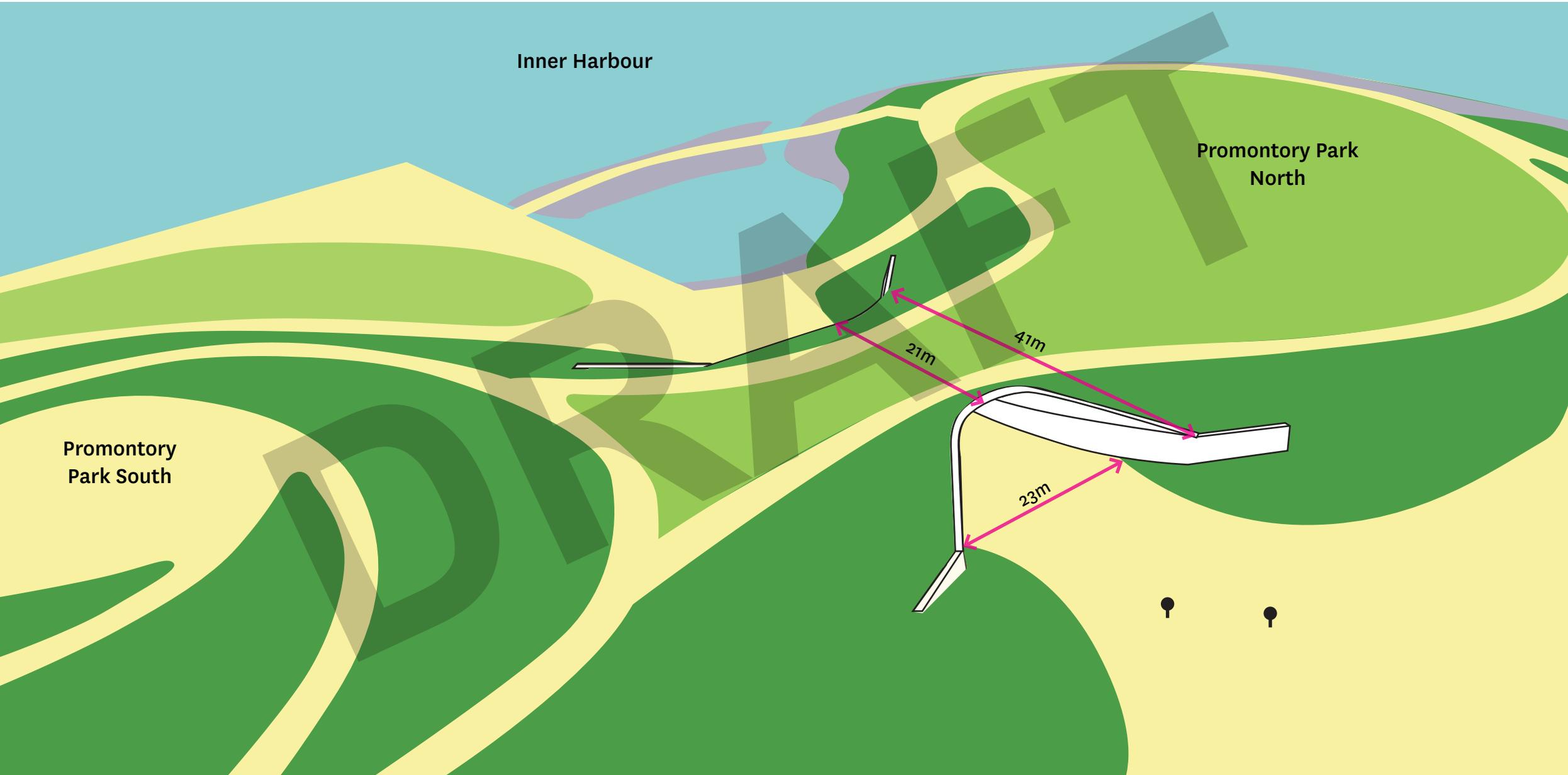


Promontory Park North - Section Detail 2





Promontory Park Land Bridge - Axon



Inner Harbour

Promontory Park North

Promontory Park South

Promontory Park Land Bridge



Netherlands

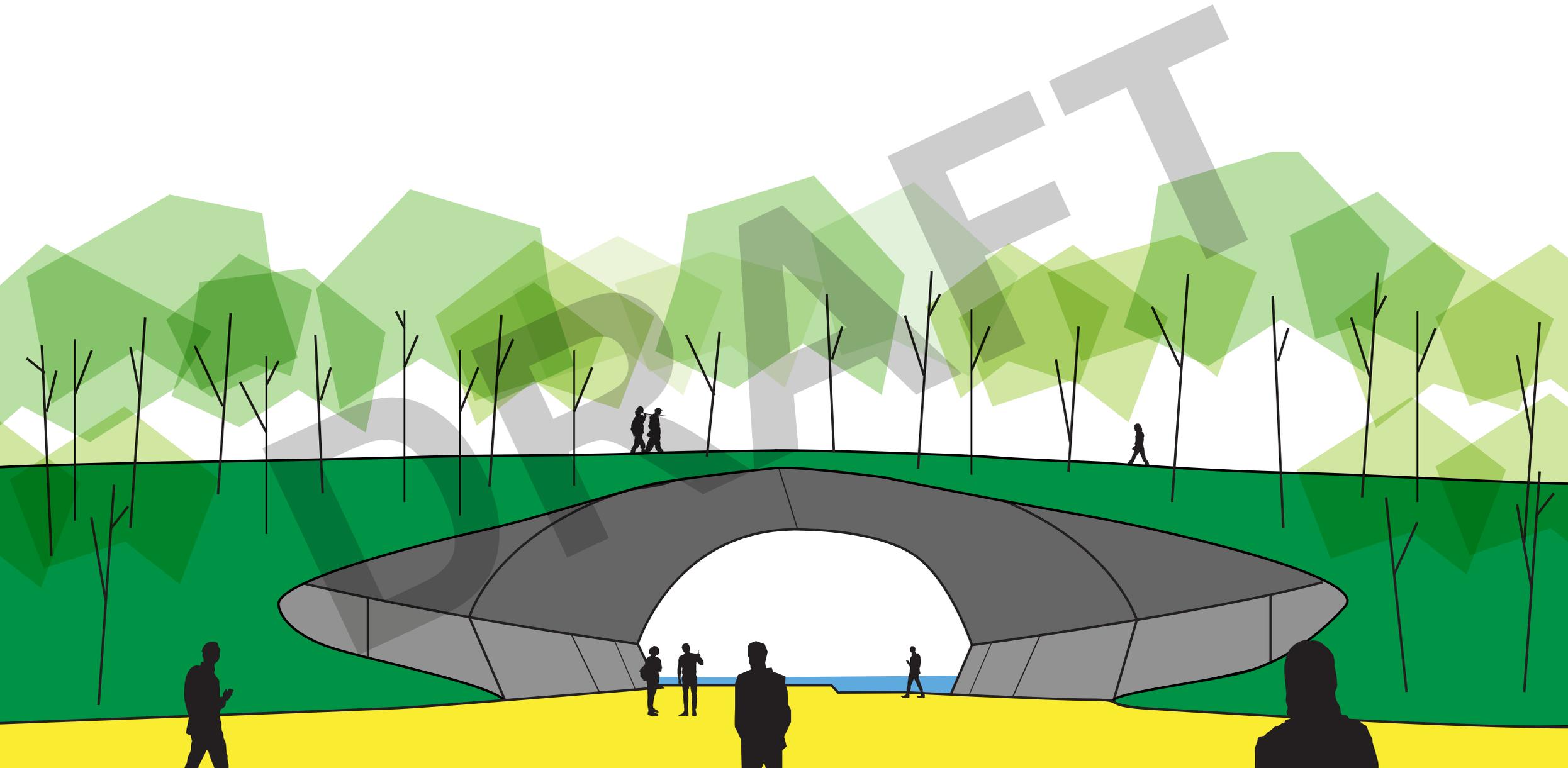


Washington Square Park

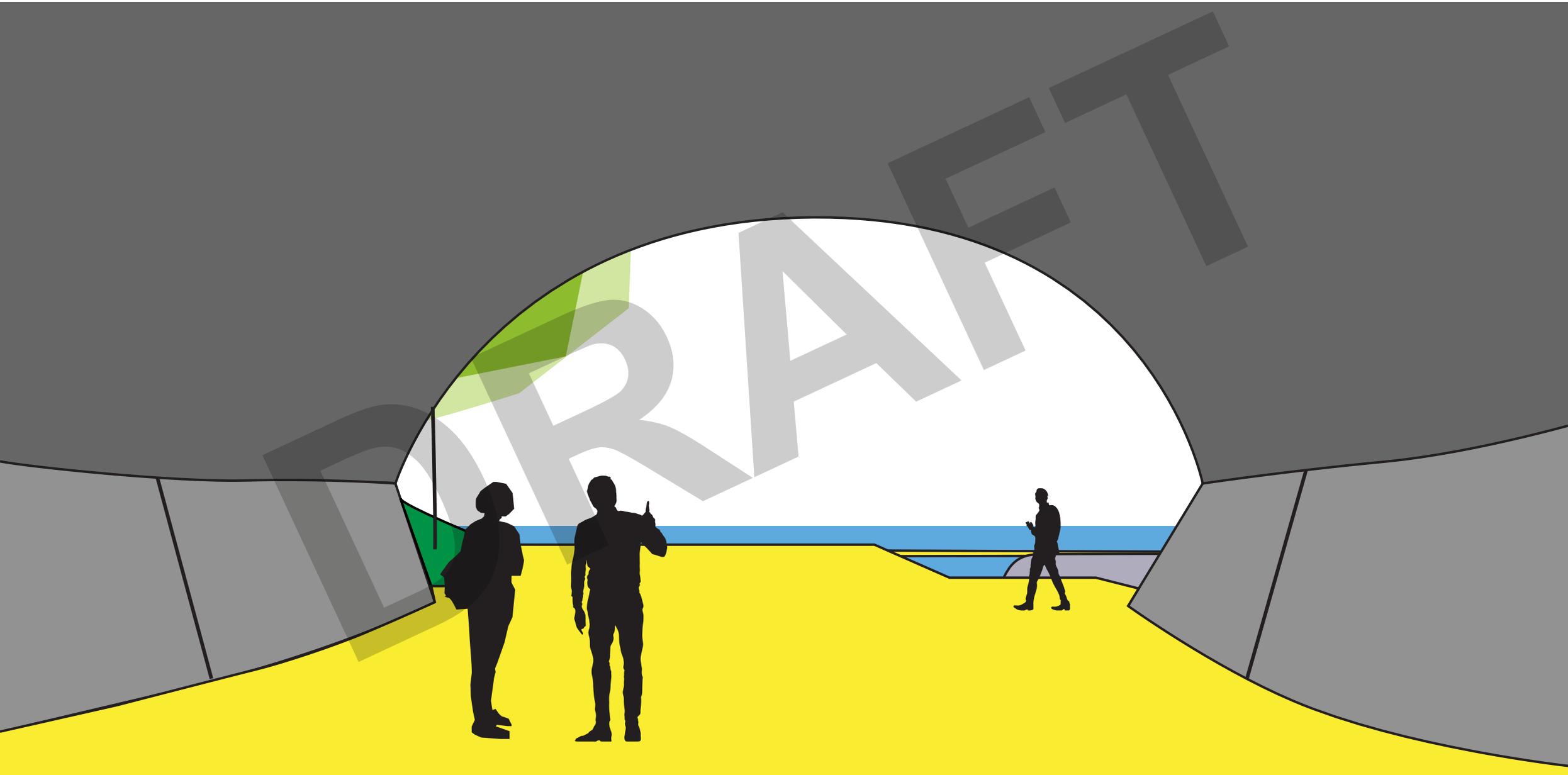
Promontory Park Land Bridge Sequence - View From Centre Street



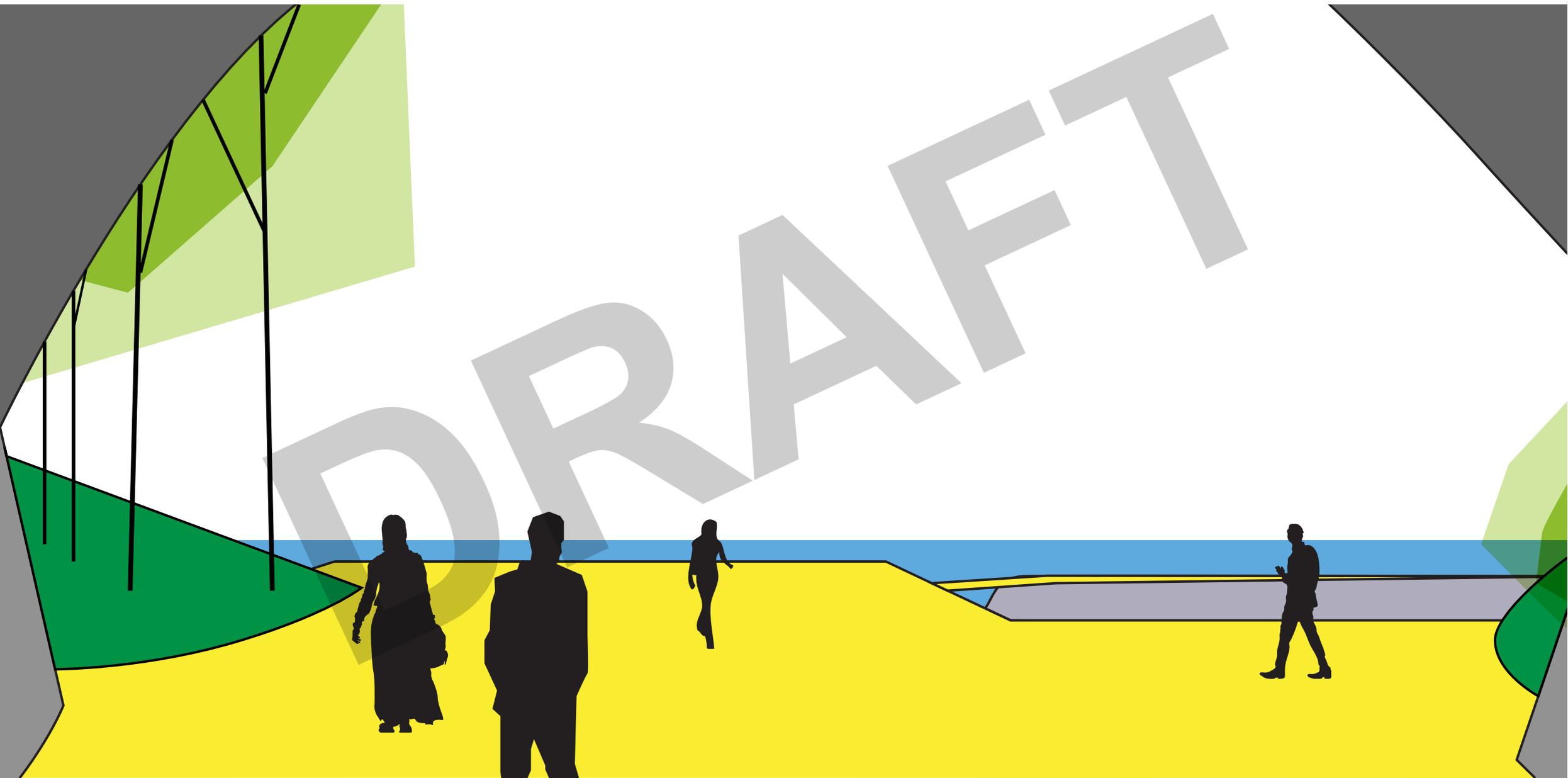
Promontory Park Land Bridge Sequence - View From Park Entry Plaza



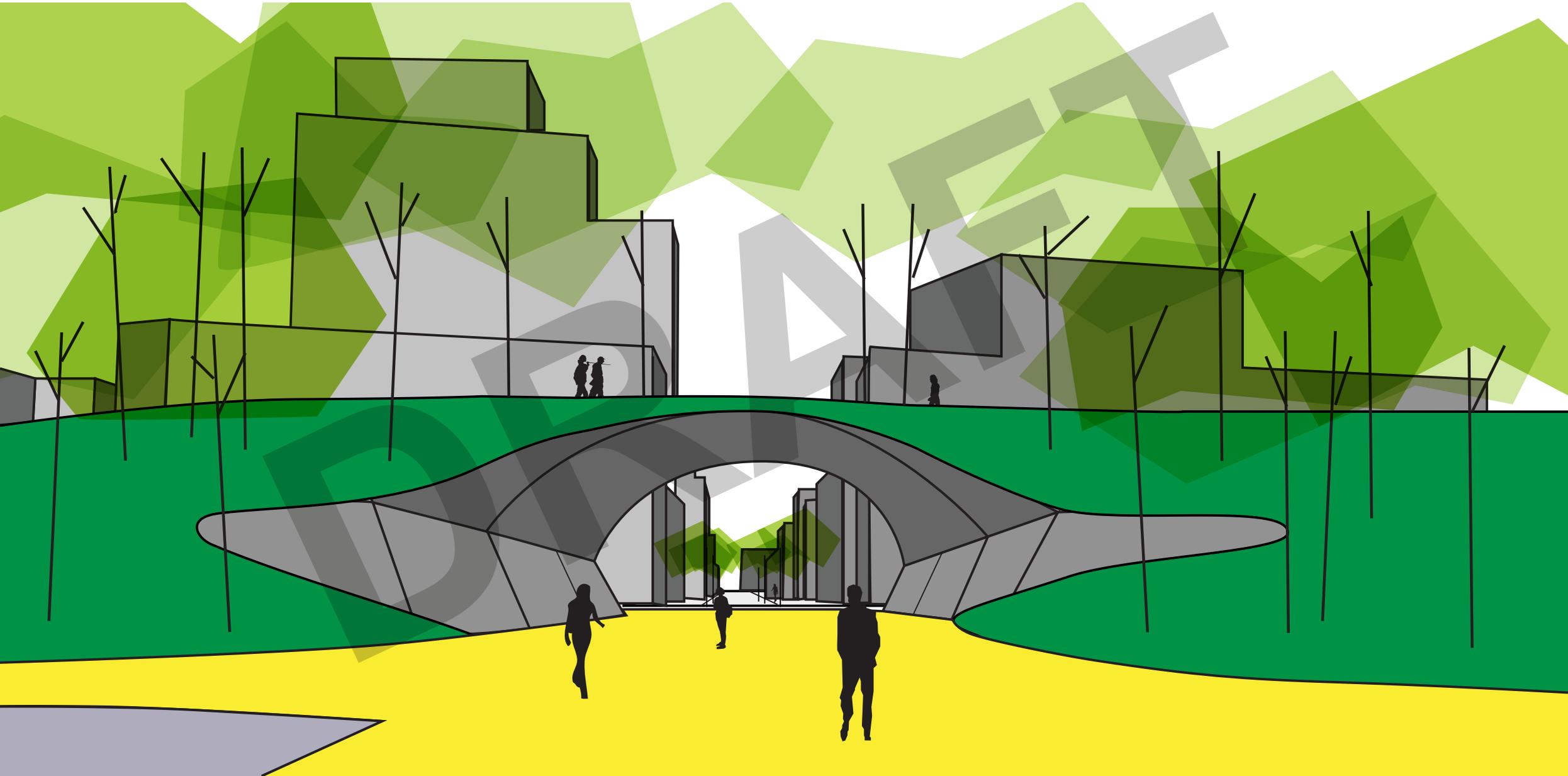
Promontory Park Land Bridge Sequence - View At Bridge Interior



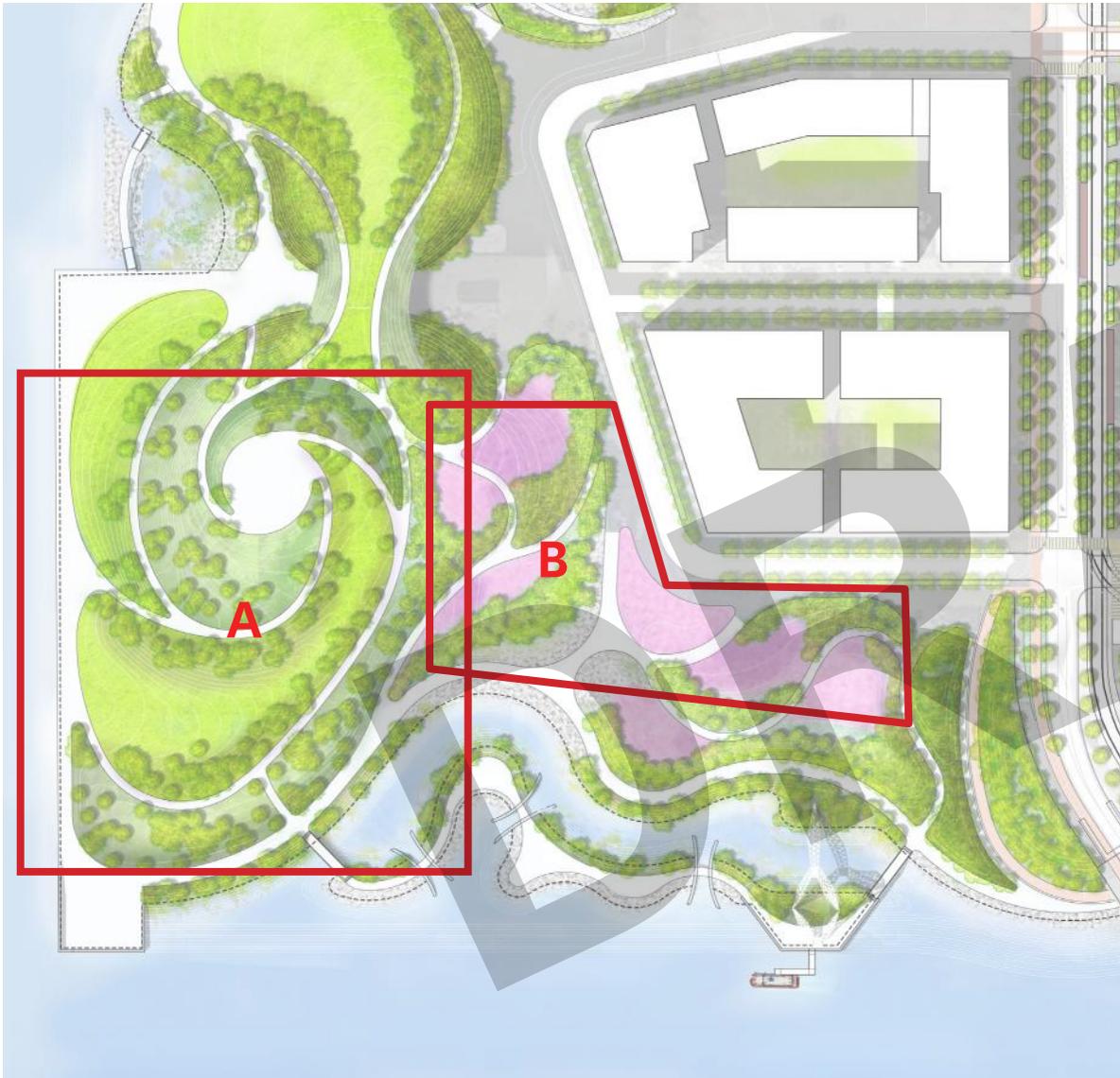
Promontory Park Land Bridge Sequence - View Towards Toronto Inner Harbour



Promontory Park Land Bridge Sequence - View Towards Villers Island Precinct



Promontory Park South - Scale Comparison



A. Riverdale Park West Sledding Hill, Toronto, ON (30,000 m²)



B. Maggie Daley Park Playscape, Chicago, IL (12,400 m²)



Promontory Park South - Character



Wooded Upland



Construction Play



Canoe Cove



Sledding



Prospect Overlook



Great Lakes Creature Play



Water's Edge Promenade



Passive Use-Lawn



MT-35 Commemoration

Promontory Park South - Character



Retaining and Integrating Industrial History



MT-35 Commemoration Studies



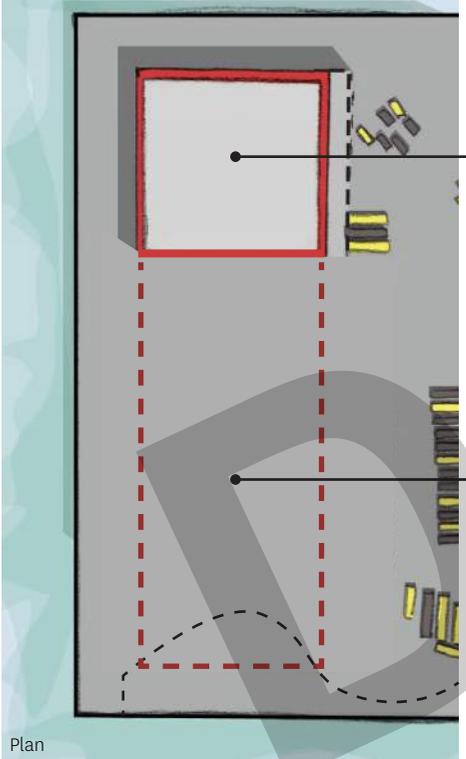
Section



Section



Section

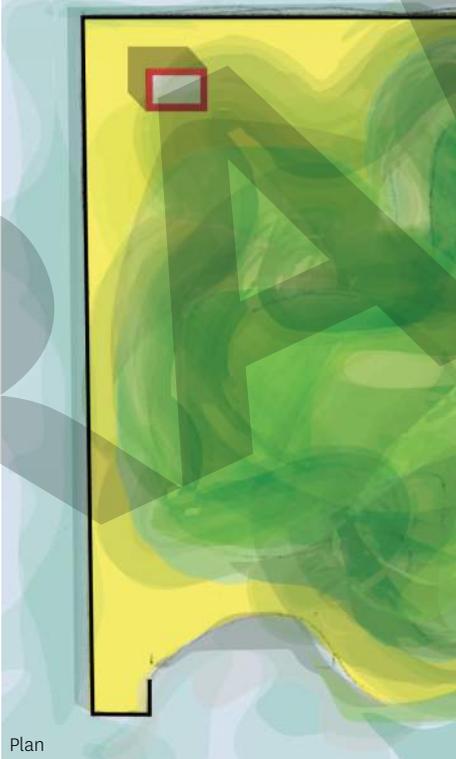


Structurally Compromised

Extent Removed

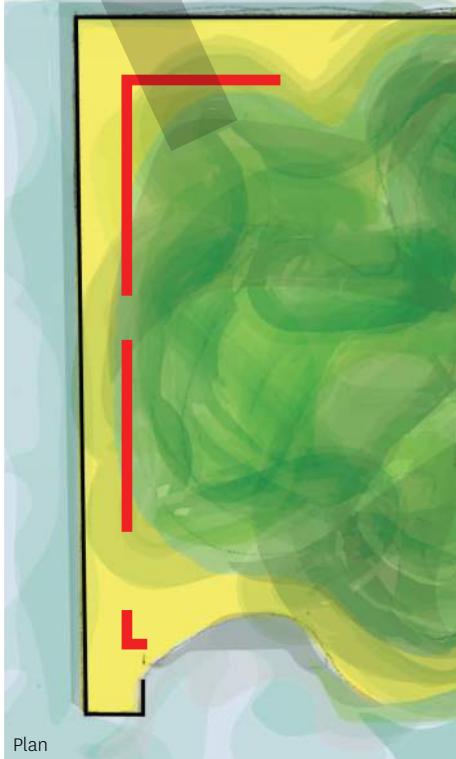
Plan

EXISTING CONDITION +
Structural Removal



Plan

SELECTIVE REPURPOSE +
Indoor Programming



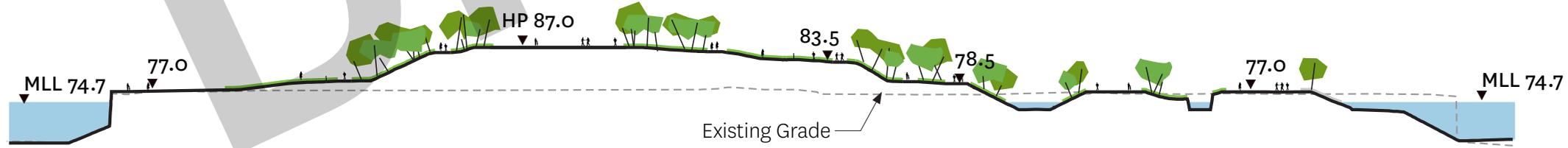
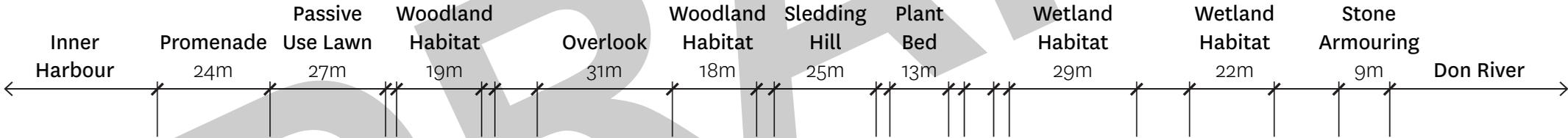
Plan

DISASSEMBLY +
Material Reuse and Parkland

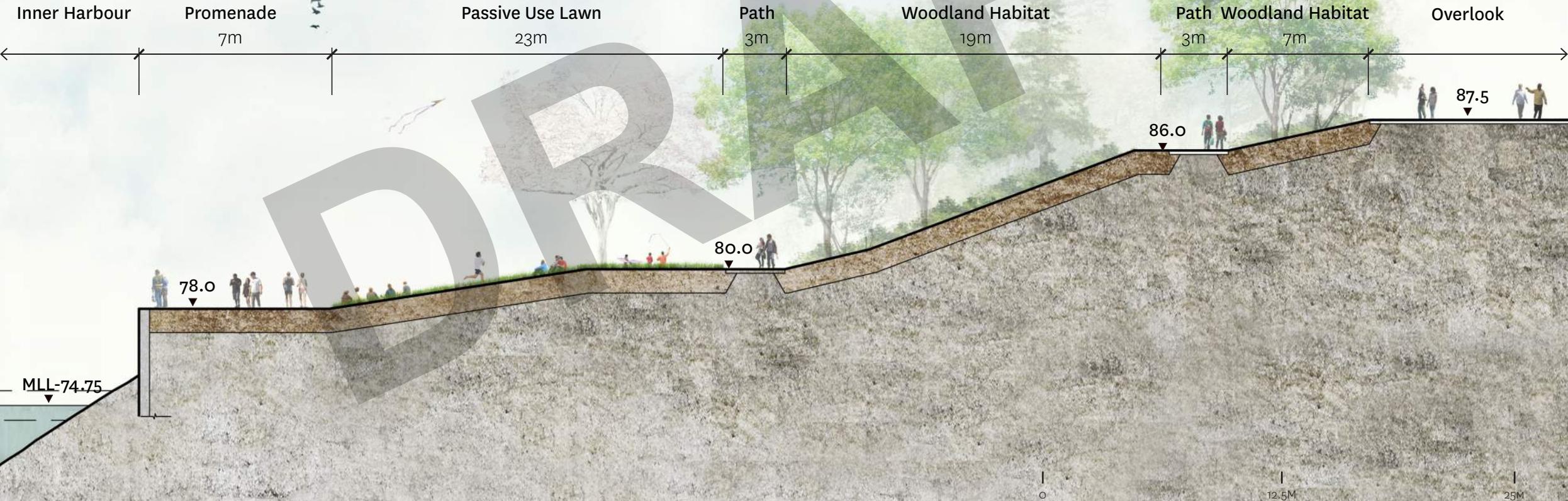
Promontory Park South - Axonometric View



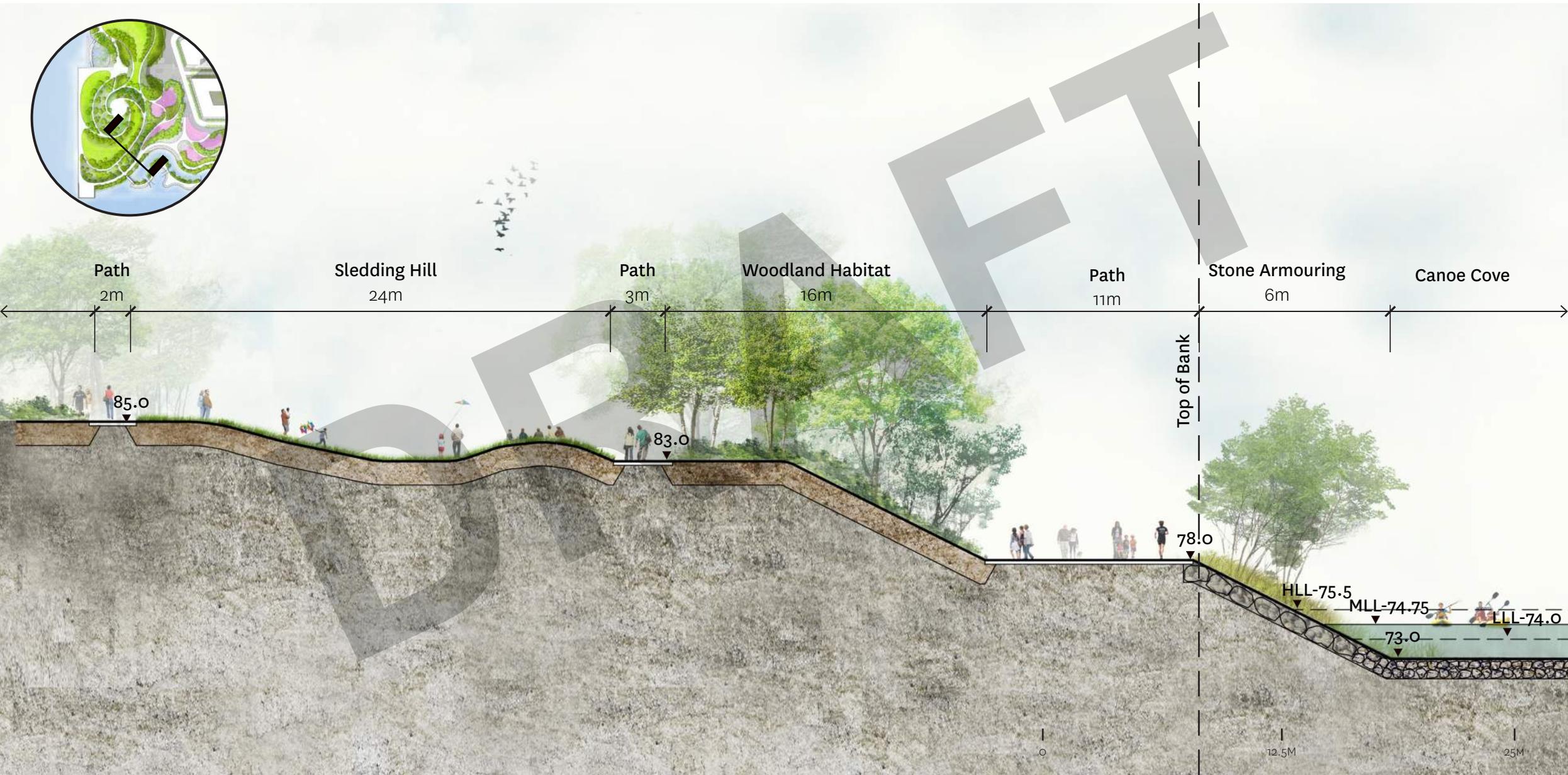
Promontory Park South - Section



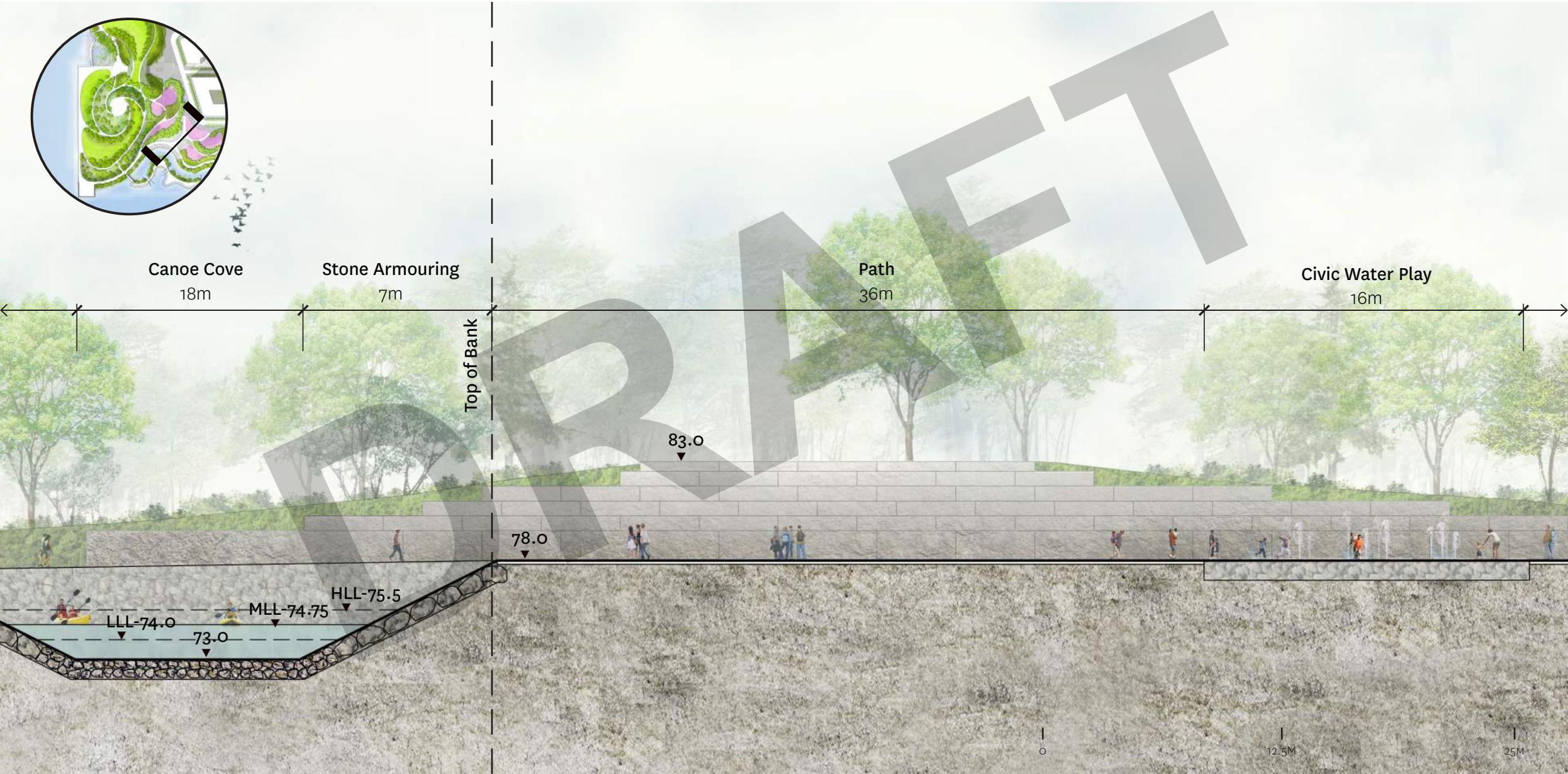
Promontory Park South - Section Detail 1



Promontory Park South - Section Detail 2



Promontory Park South - Section Detail 3



Canoe Cove
18m

Stone Armouring
7m

Path
36m

Civic Water Play
16m

Top of Bank

83.0

78.0

LLL-74.0

MLL-74.75

HLL-75.5

73.0

0

12.5M

25M



