



# Gardiner East

Design Development

May 16, 2018

# Project Description and Background

1. This is the Gardiner Public Realm project's third time presenting to the DRP, previously for issues identification, and schematic design of the overall vision, and today seeking approval for design development of the south side of Lake Shore Boulevard between Jarvis and Cherry St.
2. Recommendations of the Gardiner Expressway and Lake Shore Boulevard East Reconfiguration Environmental Assessment and Integrated Urban Design Study (EA), included public realm improvements as part of the Hybrid 3 configuration undertaking. The following improvements were defined in the EA:
  - Corridor-wide Design Elements
  - Pedestrian Network and Cycling Connections
  - Open Space/Linear Greenway
  - Public Realm, Public Art and Animation
  - Streetscaping
  - Intersection Improvements

## Gardiner EA Approval

### **Gardiner EA was approved on Nov. 27, 2017**

- Undertaking includes Lake Shore Boulevard Public Realm improvements

#### Approval Conditions :

- **Public Realm Phasing & Implementation Plan within 1 year**
- **Improvements to pedestrian/cycling network**
- **Stormwater Management – enhanced sediment removal**
- Compliance Monitoring Program
- Compliance reporting (annual)
- Complaint Protocol
- Reporting timelines /10 year approval lifespan

## Policy Context – Central Waterfront Secondary Plan

### Removing Barriers / Making Connections

**A1\_REDESIGNING THE GARDINER CORRIDOR** - The elevated Gardiner Expressway is a major physical barrier that cuts off the city from the waterfront. To ensure the success of a redesigned Gardiner corridor, funding for major improvements to the road system and GO Transit/TTC services including Union Station must be in place.

**A3\_LAKE SHORE BOULEVARD, AN URBAN WATERFRONT AVENUE** Lake Shore Boulevard will be transformed into an urban avenue through the Central Waterfront to accommodate its function as an arterial road. The new boulevard will be generously landscaped; will maximize the opportunities for pedestrian crossings through frequent intersections with streets connecting into the downtown core; and will provide ample room for commuter cycling and pedestrians.

(P7) Physical connections between the Central Waterfront, the downtown core and adjacent neighbourhoods will be enhanced through **high-quality urban design and landscaping on the north/south connector streets**.

(P8) Railway underpasses will be transformed into **more pedestrian-friendly corridors**.

### Promoting a Clean and Green Environment

(P21) Pedestrian and cycling routes will be **safe, attractive, comfortable and generously landscaped**.

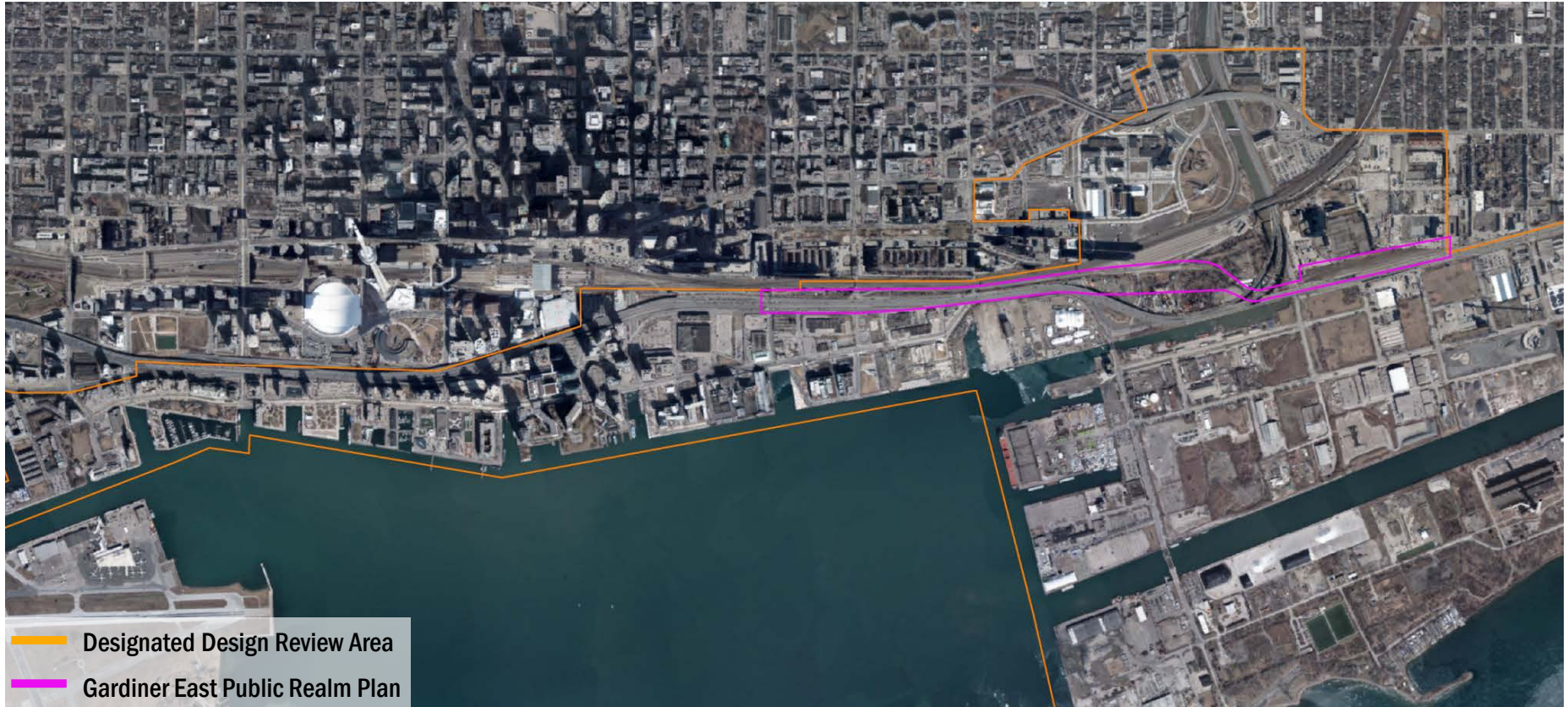
# Site Context

## Gardiner East Public Realm Plan

Proponent: City of Toronto / Waterfront Toronto

Design Team: Dillon Consulting, West 8

Review Stage: Design Development



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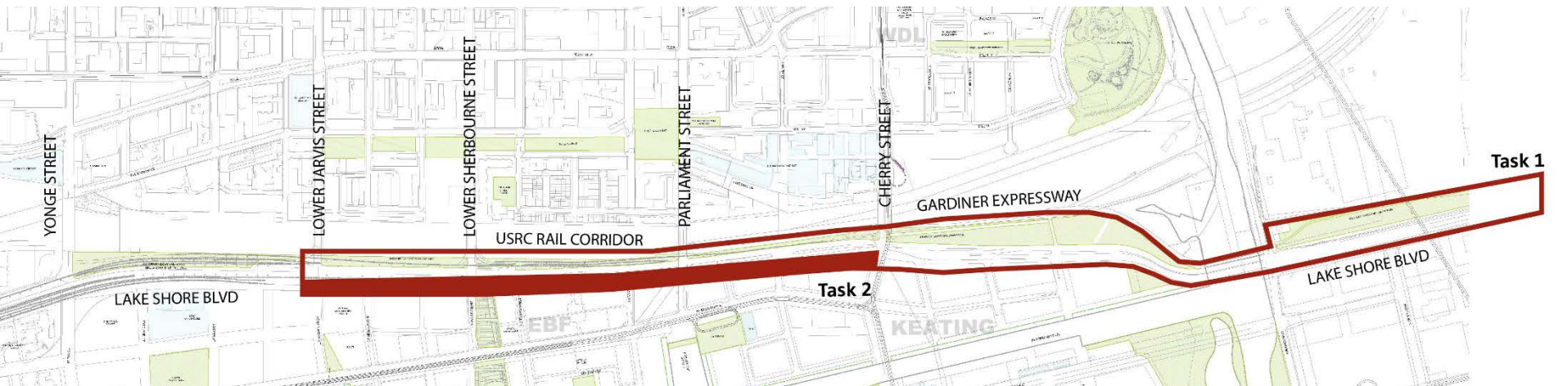
## Scope of Work

Dillon Consulting and West 8 have been retained to advance conceptual public realm improvements :

- Lake Shore Boulevard streetscape
- Bicycle network
- Linear public space
- Improvements to intersections

**Task 1 :** Define Gardiner Corridor Framework Plan and implementation phasing strategy for Lake Shore Boulevard between Jarvis to Leslie Street.

**Task 2:** Complete 100% design of south sidewalk and eastbound lanes of Lake Shore Boulevard (LSB) between Jarvis and Cherry Street.



# Coordination with other projects

## GARDINER PUBLIC REALM PROJECT COMPONENTS:

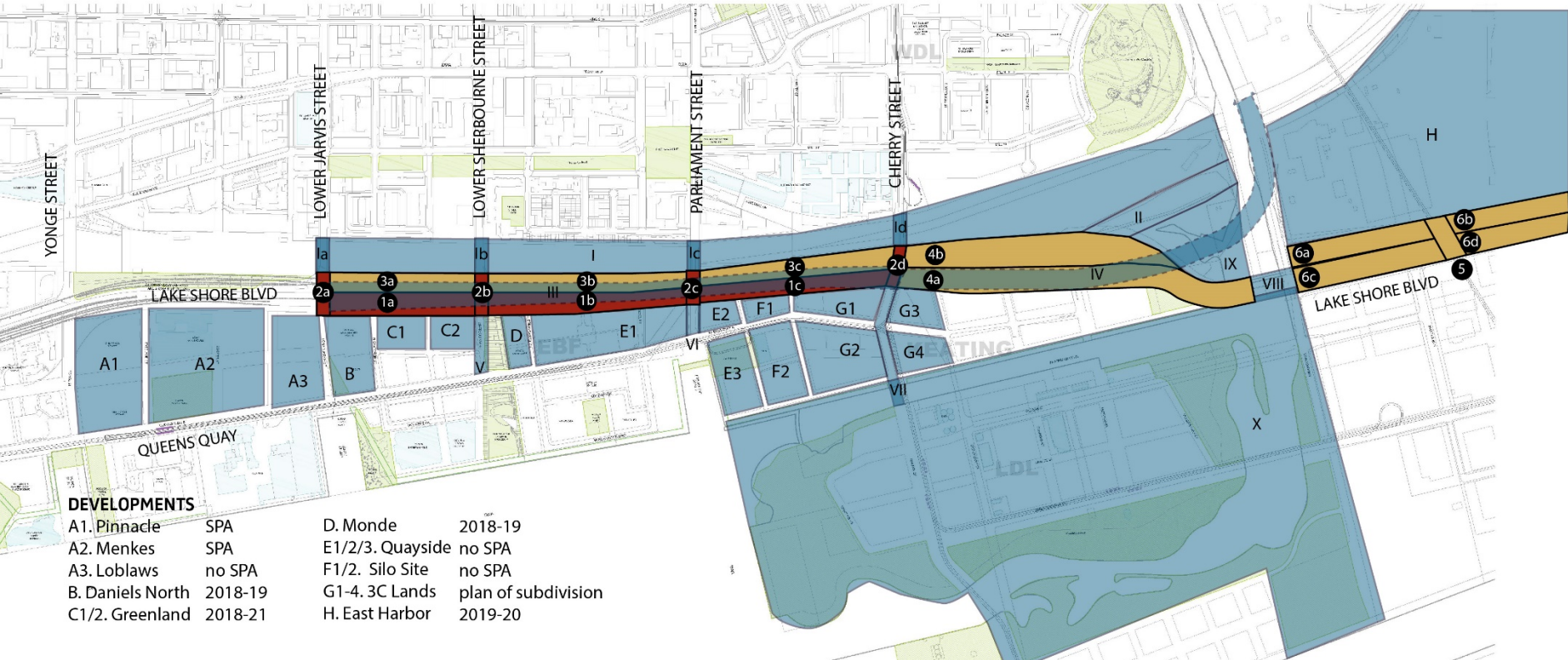
1. Lake Shore Boulevard South Side (Jarvis to Cherry St.) 2018-20
2. North-South Connections and intersections at 2018-21  
Jarvis, Sherbourne, Parliament, Cherry St.
3. Lake Shore Boulevard North Side (Jarvis to Cherry St.) 2020-21
4. North Keating Frontage (Cherry St. to Don River) 2021-25
5. Broadview Intersection 2021-25
6. Unilever Frontage 2021-25

## METROLINX INFRASTRUCTURE PROJECTS:

- I. USRC East Enhancements 2019-21
- 1a. Jarvis Underpass 2019-20
- 1b. Sherbourne Underpass 2020-21
- 1c. Parliament Underpass 2019-20
- 1d. Cherry Underpass 2020-21
- II. Wilson Rail Yard unknown

## CITY INFRASTRUCTURE PROJECTS:

- III. Gardiner Redecking (Jarvis to Cherry) 2018-2020
- IV. Gardiner Expressway Hybrid 3 2021-25
- V. Sherbourne St. Realignment 2019
- VI. Parliament St. Realignment 2018-21
- VII. Cherry St. Realignment & Bridge 2019-20
- VIII. Lake Shore Bridge 2020-22
- IX. Sediment Basin 2020-21
- X. Port Lands Flood Protection & Enabling Infrastructure 2018-2024



## DEVELOPMENTS

- |                  |         |                  |                     |
|------------------|---------|------------------|---------------------|
| A1. Pinnacle     | SPA     | D. Monde         | 2018-19             |
| A2. Menkes       | SPA     | E1/2/3. Quayside | no SPA              |
| A3. Loblaws      | no SPA  | F1/2. Silo Site  | no SPA              |
| B. Daniels North | 2018-19 | G1-4. 3C Lands   | plan of subdivision |
| C1/2. Greenland  | 2018-21 | H. East Harbor   | 2019-20             |

# Coordination with Metrolinx USRC East Enhancements



1. Metrolinx is undertaking the USRC East enhancements to support Smart Track and RER work which includes:
  - Track expansions
  - Bridge extensions at Jarvis, Sherbourne, Parliament, and Cherry Streets to accommodate new tracks
  - Wilson Yard expansion (for train storage)
2. The TPAP process (expedited EA process for transit) commenced on April 19<sup>th</sup>, aiming for completion on August 16<sup>th</sup>, 2018.
3. Metrolinx has hired AECOM to develop public realm improvements to the north side of the rail corridor, in consultation with the adjacent communities as part of the TPAP.
4. Metrolinx has committed to a separate parallel study of pedestrian and cycling connections in the precinct to establish opportunities for new and improved connections.

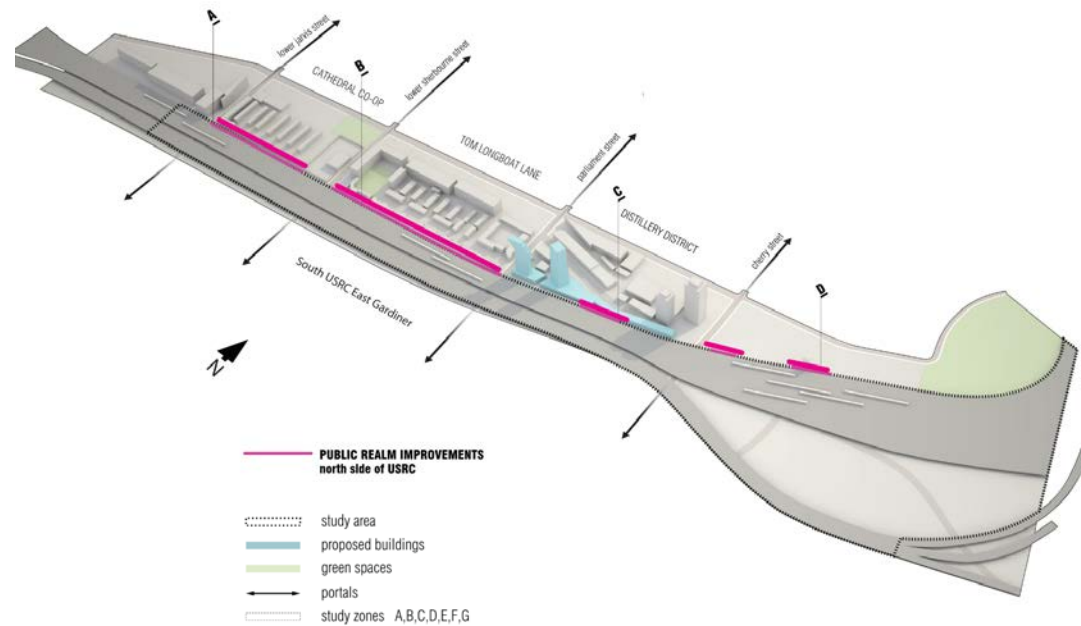
This study will be done in consultation with the City and WT, and local community stakeholders.



## Coordination with Metrolinx USRC East Enhancements

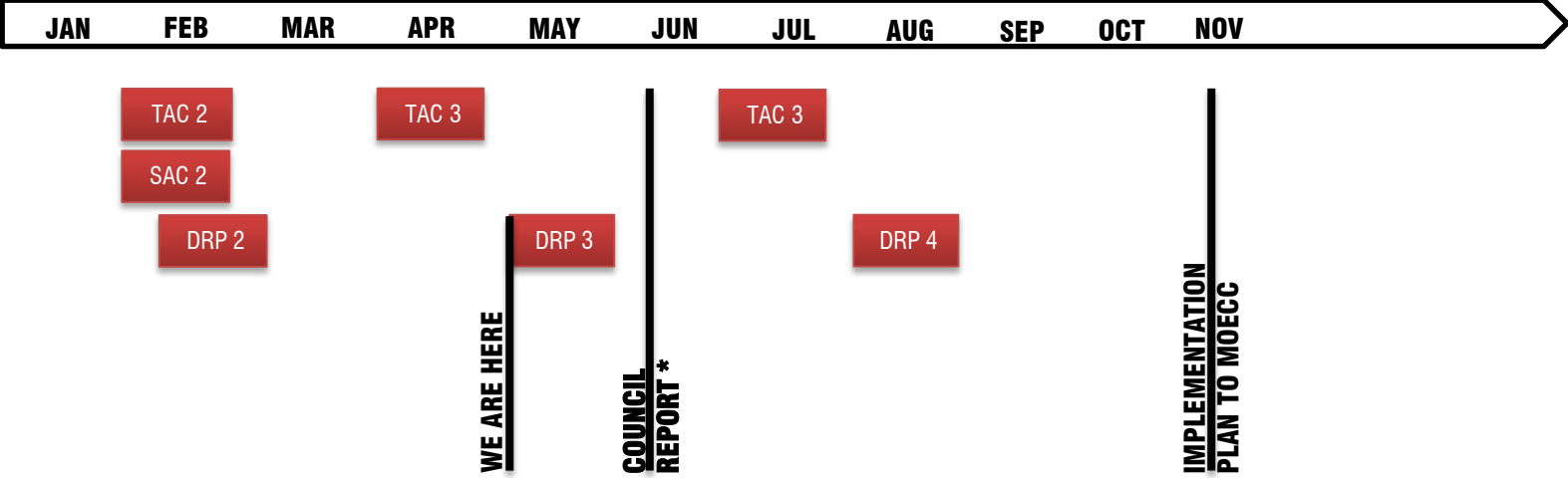
We have shared our Gardiner Public Realm design with Metrolinx through several coordination meetings, and continue to seek alignment on:

- Bridge configurations, abutments and wing wall locations and treatment at underpasses
- Retaining wall locations and treatment
- Interim and ultimate solutions to the 'pinch-point' between Parliament and Cherry Street
- Access driveway locations to minimize impacts on intersections and North – South continuity
- Lower Don Trail connectivity with Lake Shore trail in coordination with Wilson Yard expansion and Sediment Management Area
- Consistency of design language to create a coherent vision on both sides of the corridor



# Project Schedule

2018



Gardiner Corridor Framework Plan

Phase 1 100% design south side of LSB

\* Council Report will include a summary of the corridor vision and a strategy for its implementation, as well as 60% Design of the South Side LSB, to ensure the public realm scope is included with the Gardiner Re-decking work

### Key comments from City Staff:

1. Pedestrian access should not be eliminated from the north side
2. Separated bike & pedestrian trails preferred wherever possible, short sections of multiuse trail acceptable at areas of constraint
3. Need to resolve space constraint on the north side between Parliament and Cherry Street
4. Unimpeded inspection access for underside of Gardiner structure required

### Key comments from Community Stakeholders:

1. Need for improved intersection design and North-South connections between existing neighborhoods and the Waterfront across Rail Corridor & Gardiner
2. Aspirations for programming elements along the corridor(i.e. off-leash dog park, skate park etc.)
3. Separated bike & pedestrian trails preferred

## DRP Comments at Schematic Design

- The overall vision of transitioning from gritty to natural is good and clear
- Continue to engage Metrolinx in conversations about the north-south connections
- More detail is needed on how the intersections are going to look, feel and function
- Overlay the proposed design onto the existing conditions of Lake Shore
- The relationship of the public realm to future development on the south side of Lake Shore is important
- Consider integrating public art into the design
- The stormwater management should be built into the overall scheme
- Further refinement of the materiality and species selection is required

## Topics for Panel Consideration

We need your feedback on:

1. South side Lake Shore Boulevard Design Development
2. Gardiner Corridor Vision Updates
3. Intersection Design

With particular focus on:

- Perceived safety, aesthetics, and comfort of separated multi-use trail in north side landscape, and approach to constrained areas
- Landscape strategy for managing stormwater
- Low maintenance planting strategy
- Lighting strategy

# GARDINER EAST PUBLIC REALM STUDY

## DESIGN PROGRESS PRESENTATION

for WATERFRONT TORONTO May 16th, 2018



**WEST 8**

# **DESIGN PROGRESS PRESENTATION**

- 1. EXISTING GARDINER**
- 2. SOUTH SIDE DESIGN, COHESIVE + SIMPLE**
- 3. IMPROVING STORMWATER MANAGEMENT**
- 4. OPPORTUNITIES FOR CONNECTIVITY, IMPROVE THE INTERSECTION**
- 5. ASPIRATIONS FOR THE NORTH SIDE VISION**



# 1. THE EXISTING GARDINER





St. Lawrence Market

Esplanade

Distillery District

Sugar Beach

Sherbourne Common

LOWER JARVIS ST.

LOWER SHERBOURNE ST.

PARLIAMENT ST.

EAST BAYFRONT

QUAYSIDE

CHERRY ST.

The Water's Edge Promenade

Portlands

Cherry Beach

Tommy Thompson Park

Underpass Park

Corktown Common

The Don Valley

# GARDINER EAST EXPRESSWAY

DRAFT



# THE SPEED OF THE CAR



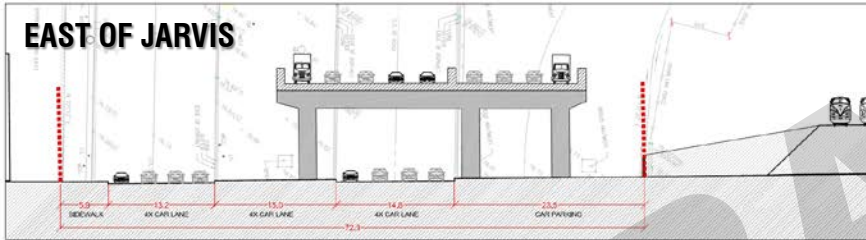
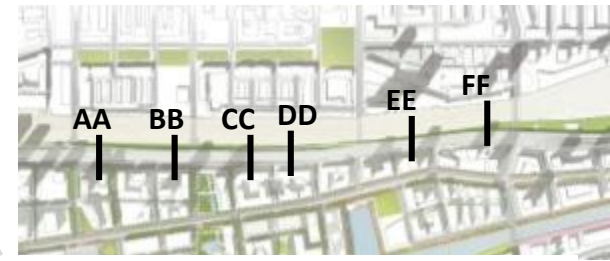
X Toronto, Ontario

# TRANSLATES TO BELOW DECK

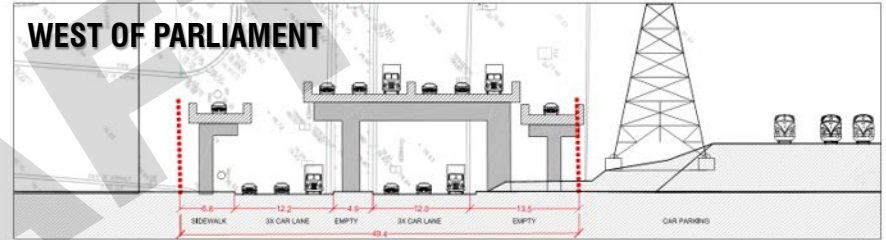


# CURRENT SITUATION

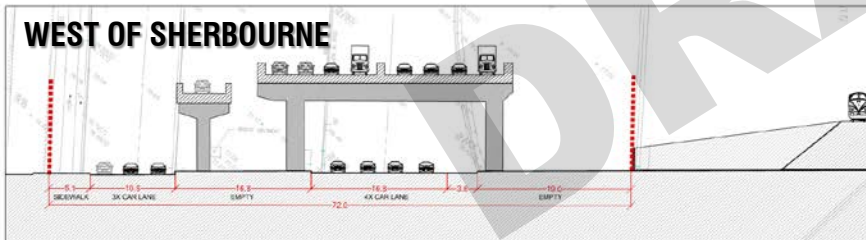
## IMBALANCE OF THE PEDESTRIAN AND THE CAR + VARIETY OF CONDITIONS ALONG CORRIDOR



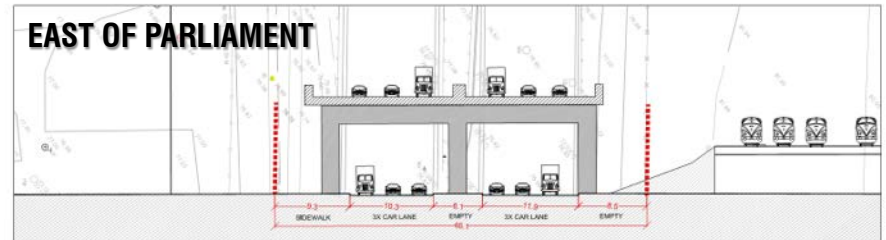
SECTION AA' Scale 1.200



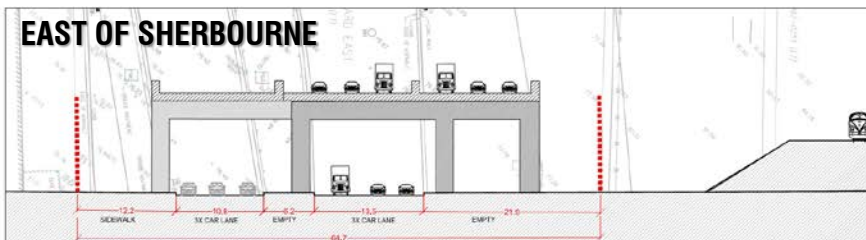
SECTION DD' Scale 1.200



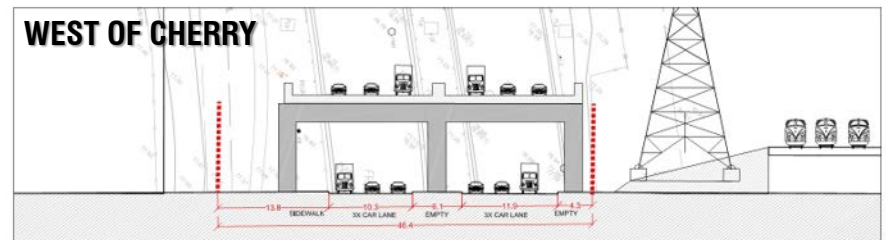
SECTION BB' Scale 1.200



SECTION EE' Scale 1.200



SECTION CC' Scale 1.200



SECTION FF' Scale 1.200

# EXISTING CONDITIONS

Lower Jarvis - Sherbourne Street (looking west)



# EXISTING CONDITIONS

Lower Sherbourne - Parliament Street  
(looking west)



# EXISTING CONDITIONS

Parliament to Cherry Street  
(looking west)





# EXISTING CONDITIONS

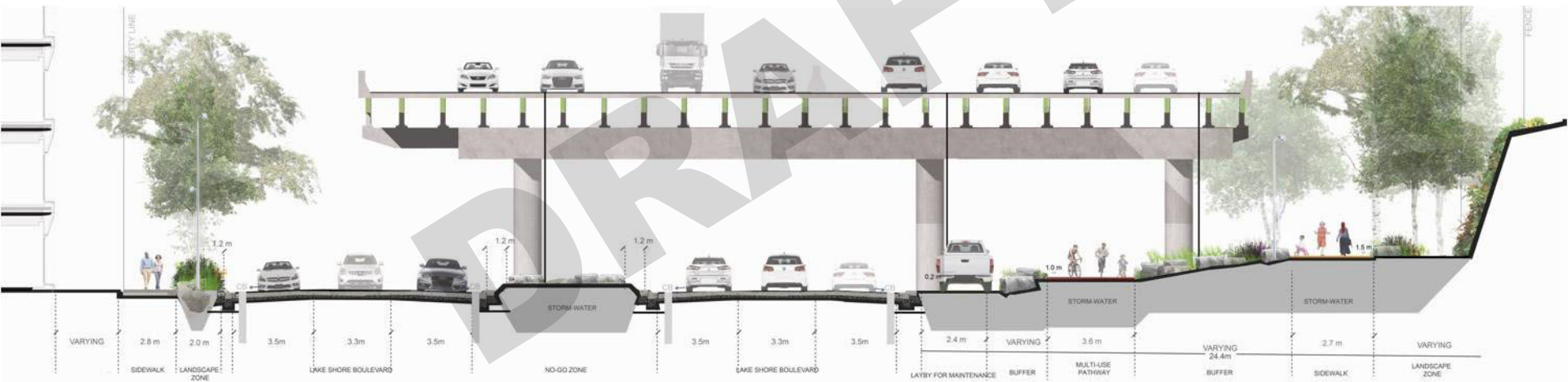
Pinch point west of Cherry St.  
(looking west)



# TOWARDS A MULTIMODAL CORRIDOR: RE-BALANCING THE PEDESTRIAN REALM ON THE LAKESHORE



# TOWARDS AN URBAN BOULEVARD: ESTABLISHING A CONTINUOUS LANDSCAPE IDENTITY



# TOWARDS AN URBAN BOULEVARD: ESTABLISHING A CONTINUOUS LANDSCAPE IDENTITY





# 2. SOUTH SIDE DESIGN

## COHESIVE + SIMPLE IDENTITY

**TYPICAL SOUTH SIDE**

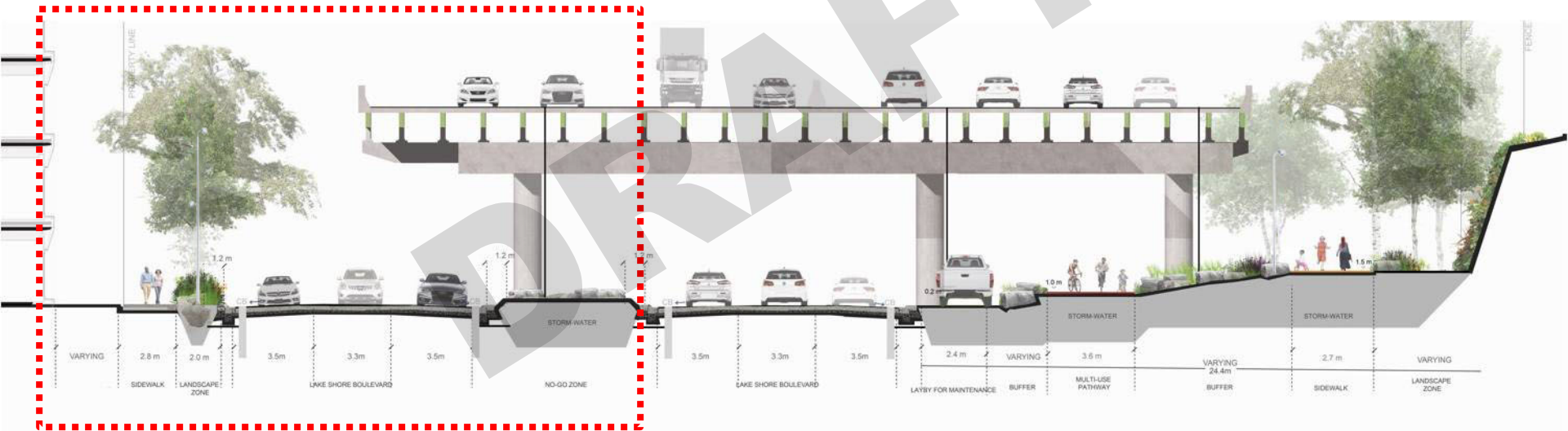
**REALIGNMENT**

**ROBUST MATERIALS**

**RESILIENT + DIVERSE PLANTING**



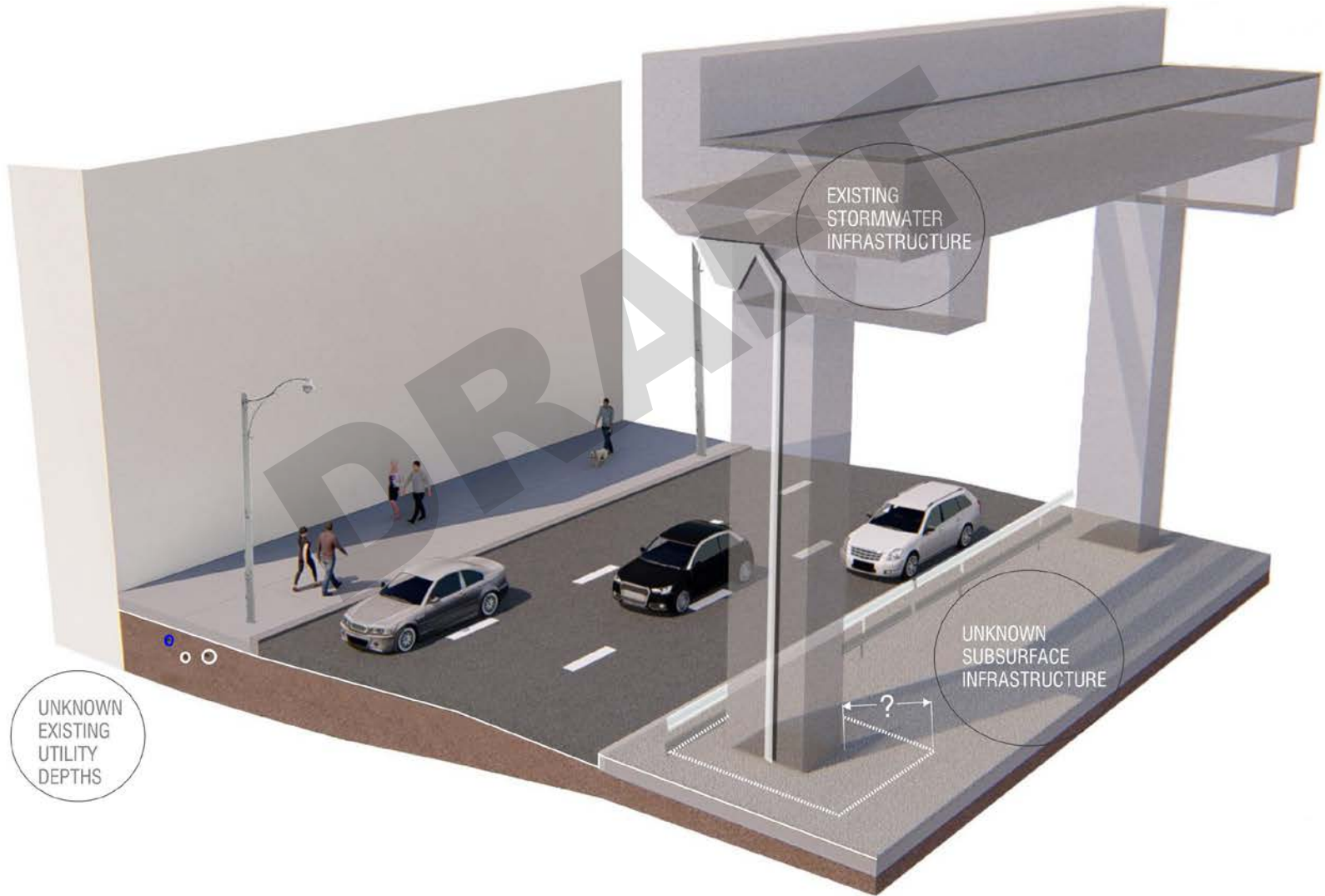
# TOWARDS AN URBAN BOULEVARD: ESTABLISHING A CONTINUOUS LANDSCAPE IDENTITY



**SOUTH SIDE**  
*CURRENT SCOPE*

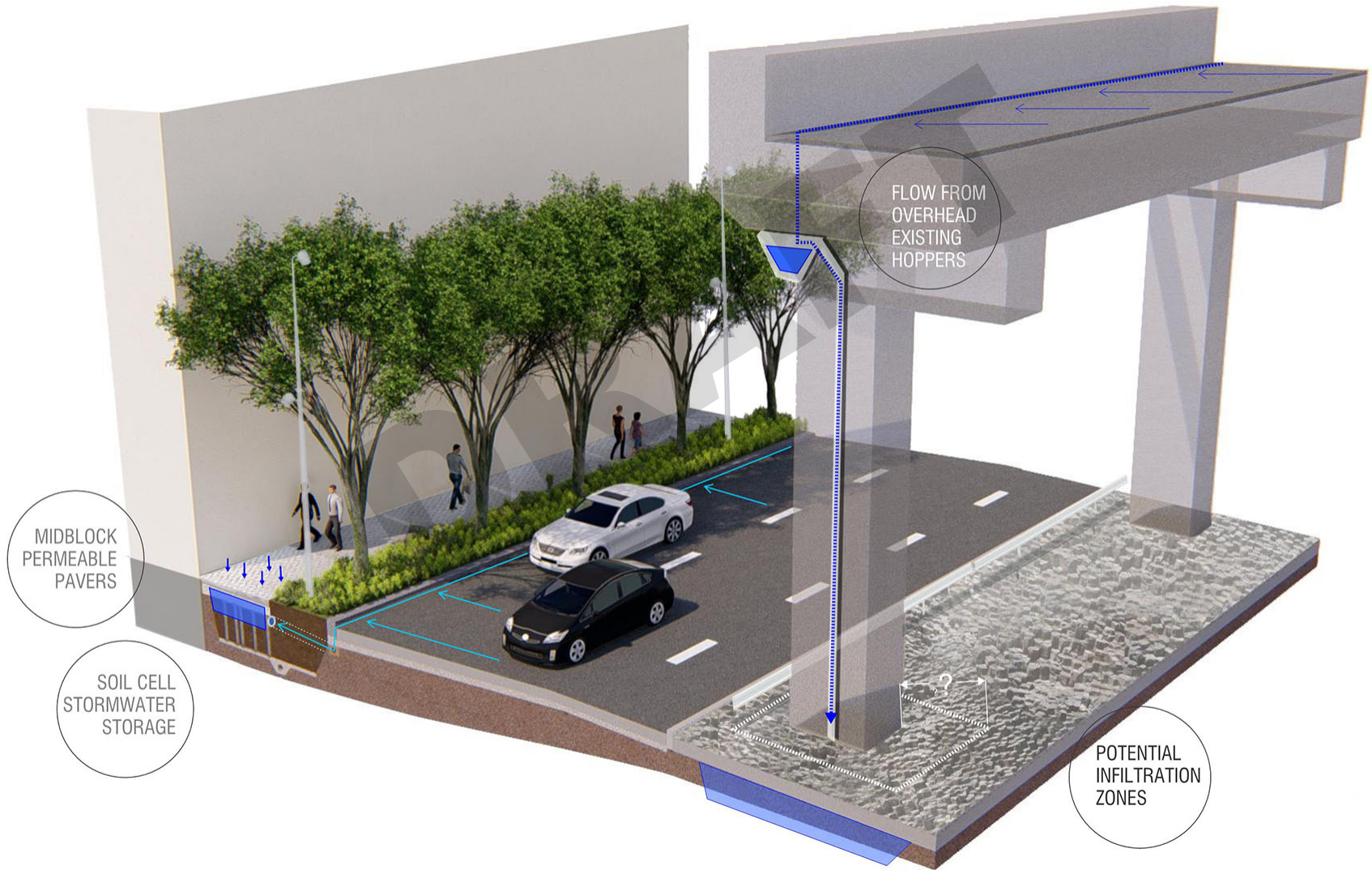
**NORTH SIDE**  
*FULL VISION*

# EXISTING SOUTH SIDE CONDITIONS



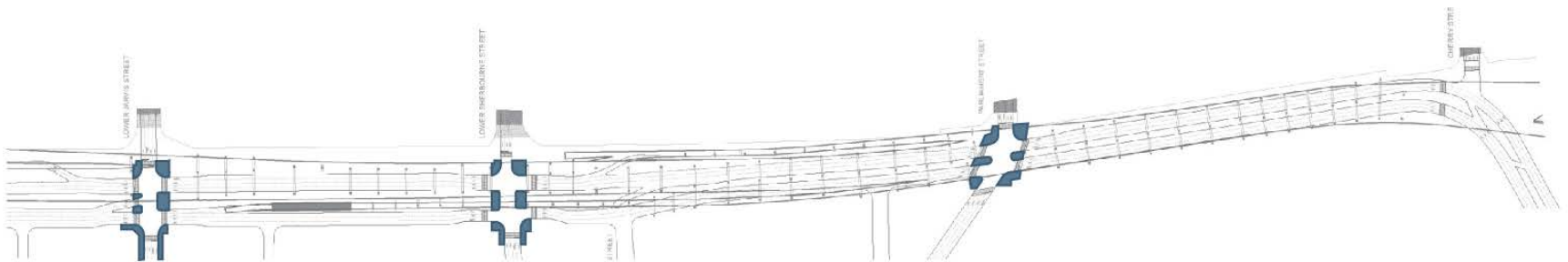


# PROPOSED SOUTH SIDE IMPROVEMENTS



# SOUTH SIDE ROBUST MATERIALS

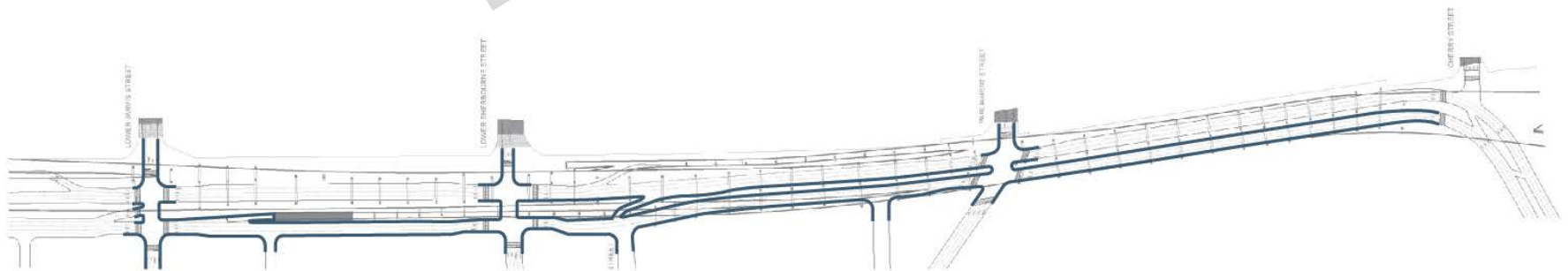
## CAST IN PLACE CONCRETE



**EXTENT**

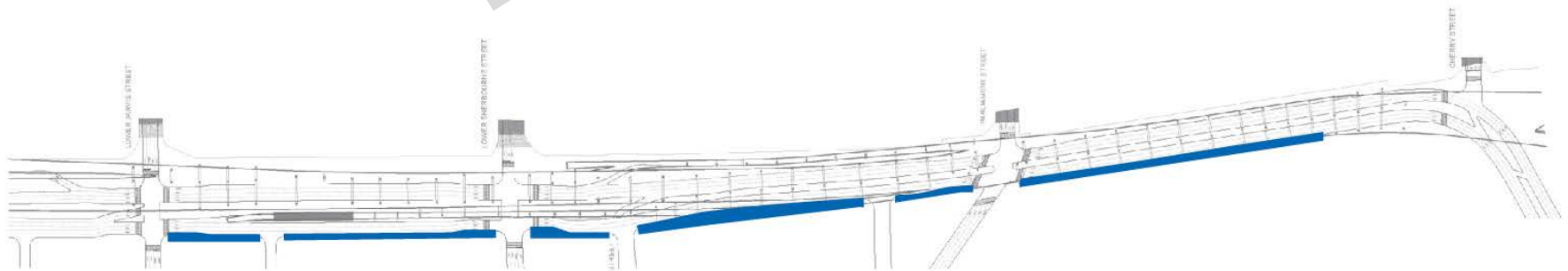
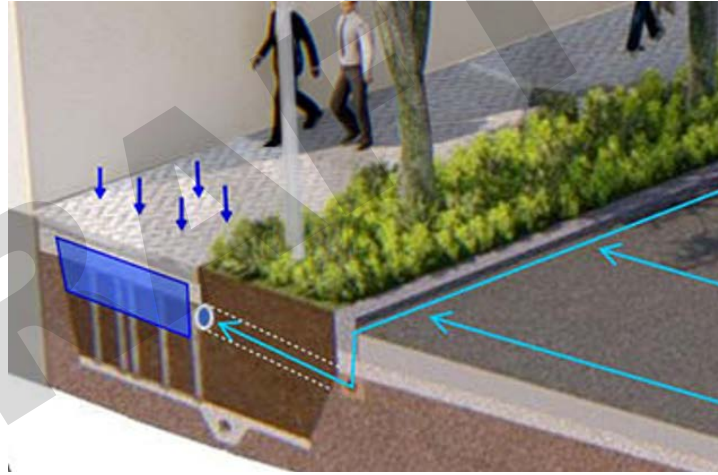
# SOUTH SIDE ROBUST MATERIALS

## GRANITE CURBS



**EXTENT**

# SOUTH SIDE STORMWATER MANAGEMENT



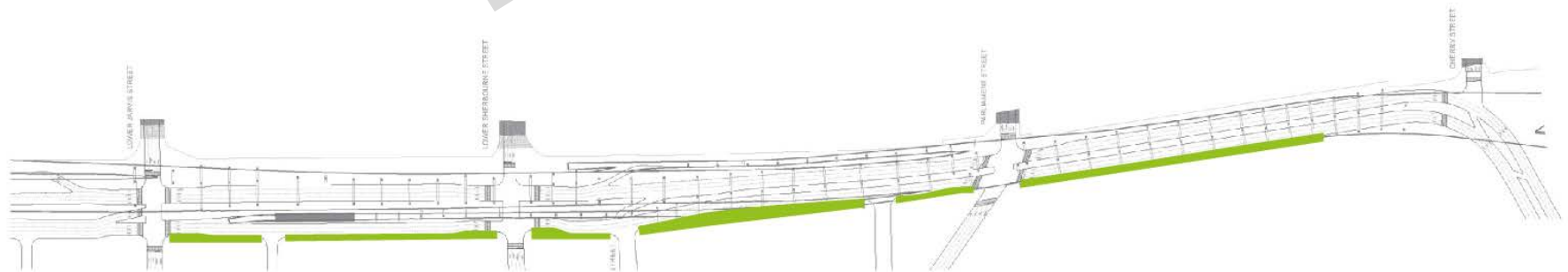
**EXTENT**

# SOUTH SIDE RESILIENT PLANTING

SALT TOLERANT NATIVE PERENNIALS TO FILTER, RETAIN, SOFTEN THE EDGE



A variety of low maintenance native species known for their filtration and remediation properties.



**EXTENT**

# SOUTH SIDE RESILIENT PLANTING

## DIVERSE TREE SPECIES



### **WEST TO EAST ELM + OAK**

***Quercus rubra***

***Quercus meuhlenbergii***

***Quercus macrocarpa***

***Ulmus Americana 'Valley Forge'***

***Ulmus American 'Princeton'***

***Ulmus japonica***

***Ulmus X 'Homestead'***

### **VARIETY AT THE INTERSECTIONS**

***Acer species***

***Pinus sylvestris***

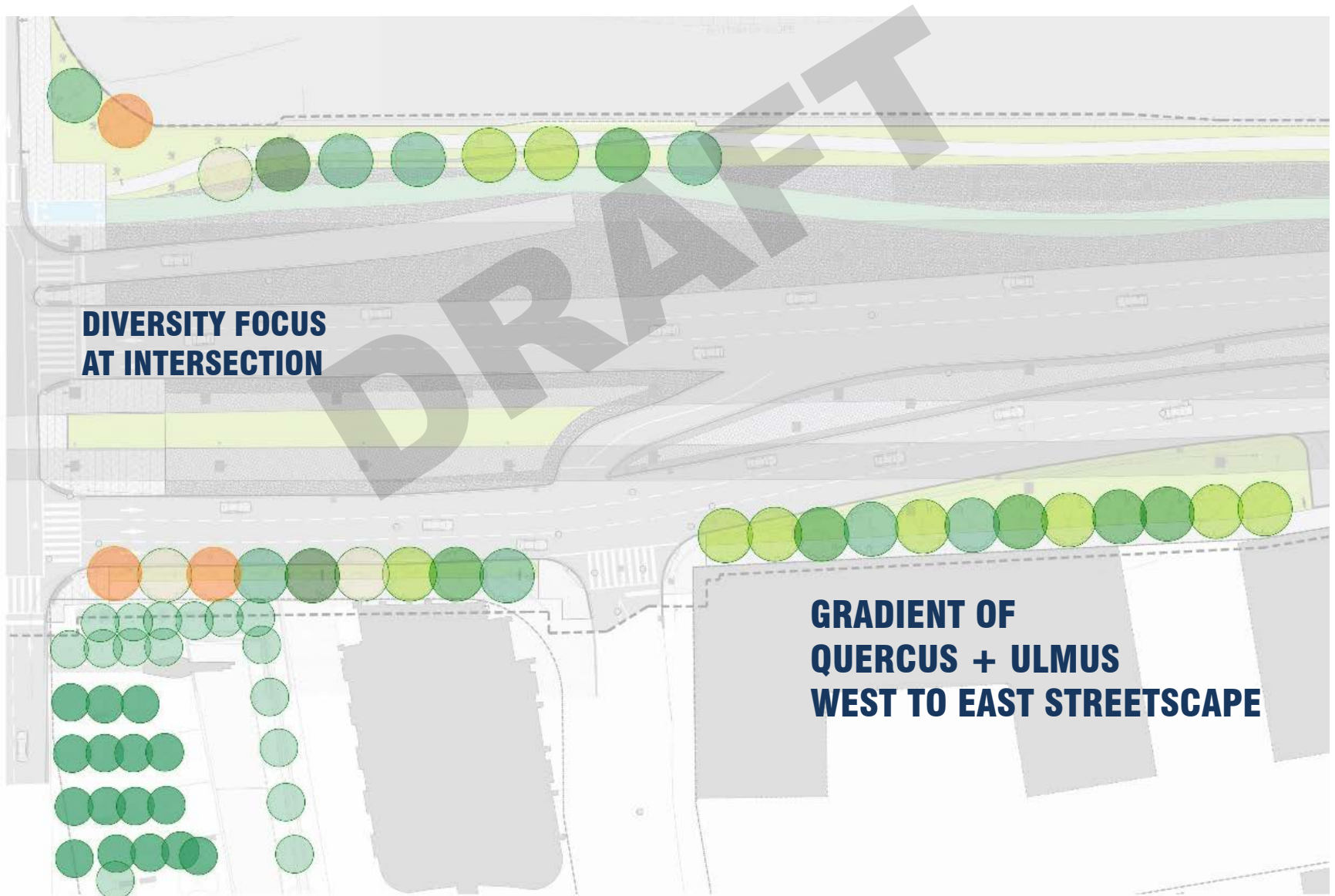
***Gleditsia triacanthos***

**++**

**+**

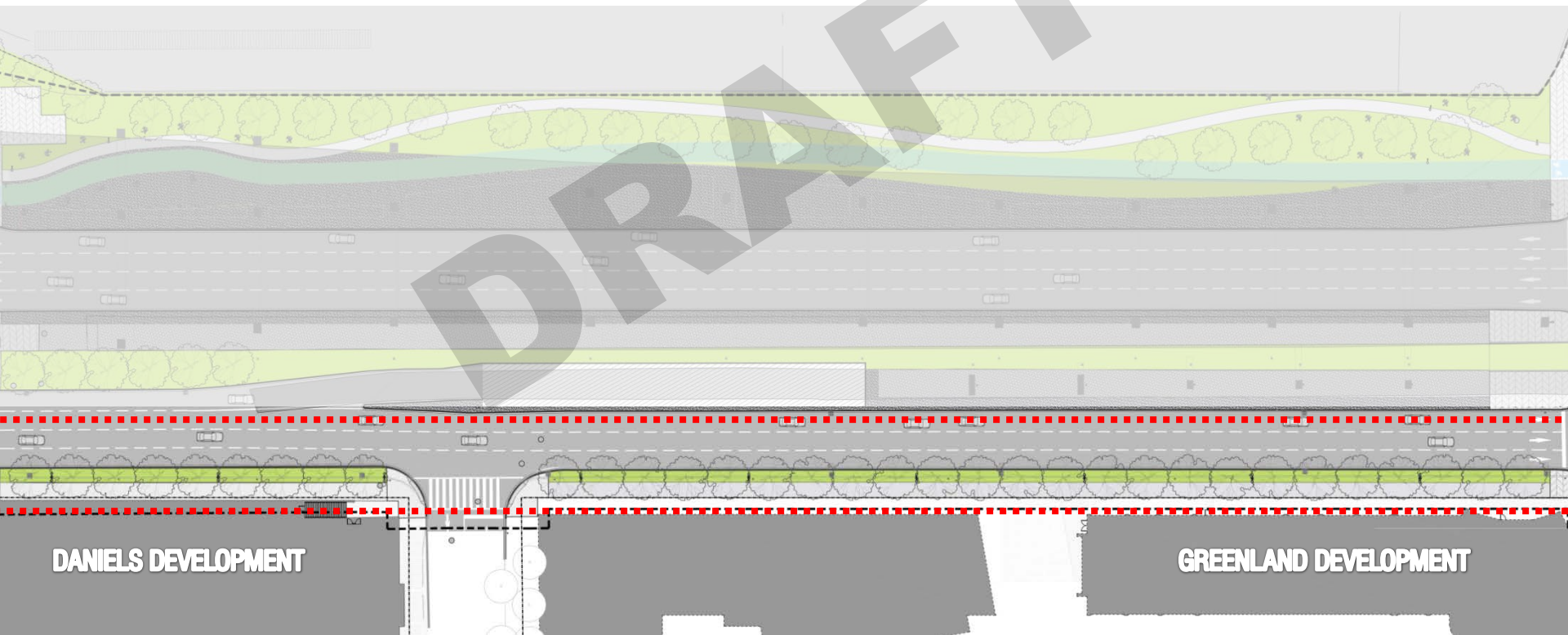
# RESILIENT TREE PLANTING

## DIVERSITY AT THE INTERSECTIONS



# WEST TO EAST: COHESIVE + SIMPLE

**BETWEEN JARVIS + SHERBOURNE**  
***THE TYPICAL***

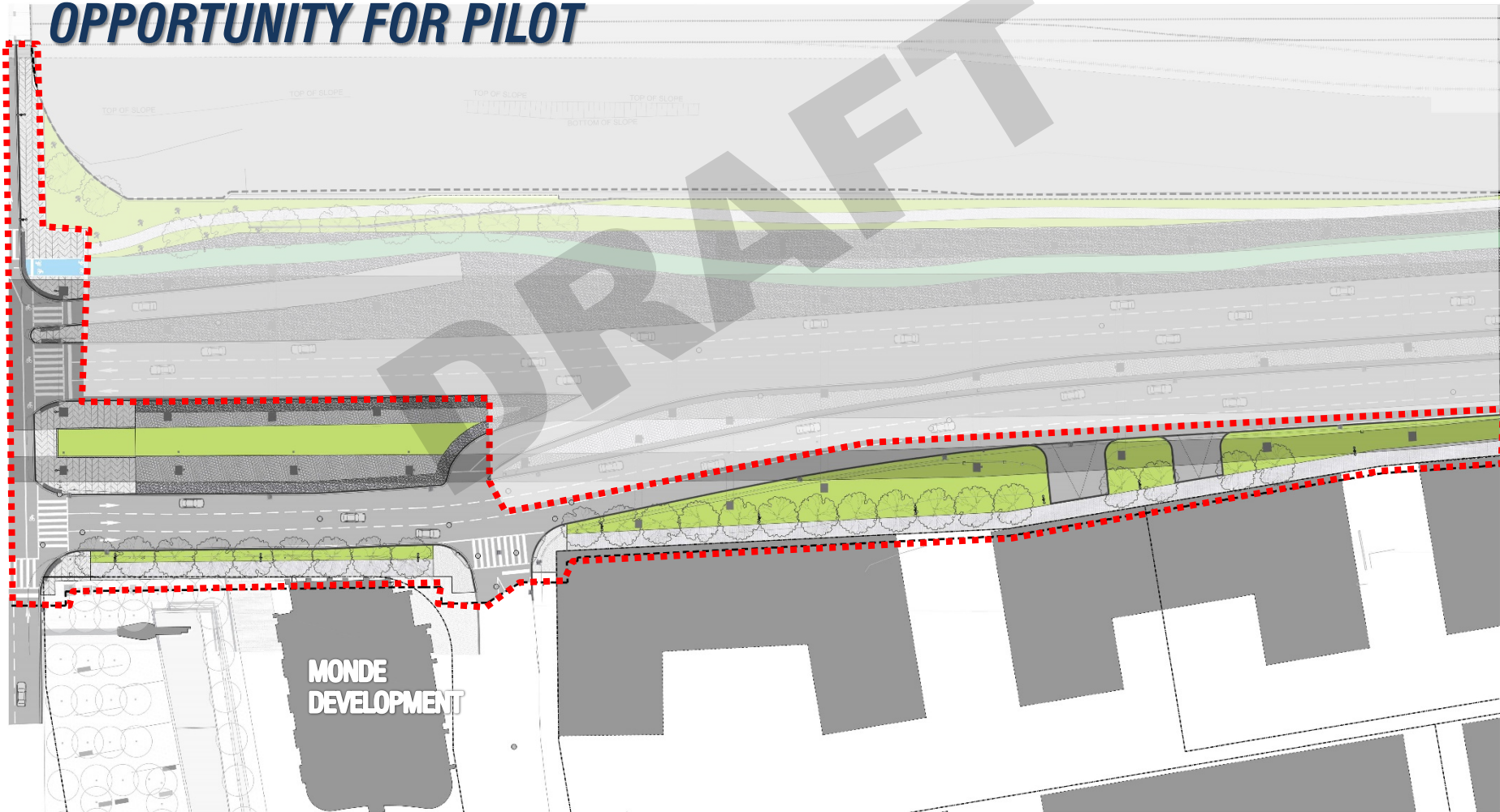


..... **SOUTH SIDE SCOPE**



# WEST TO EAST: COHESIVE + SIMPLE

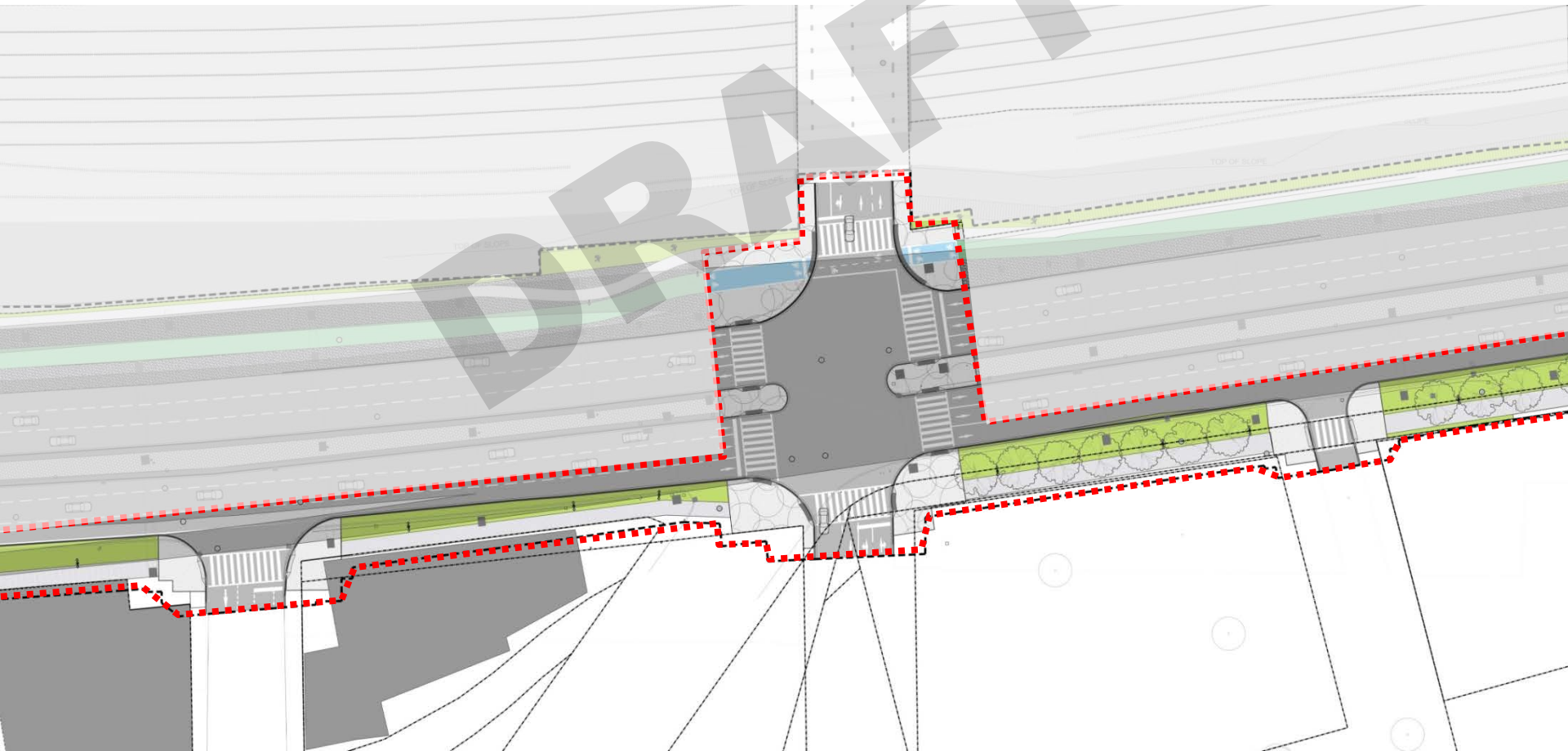
## AT SHERBOURNE TO BONNYCASTLE *OPPORTUNITY FOR PILOT*



..... SOUTH SIDE SCOPE

# WEST TO EAST: COHESIVE + SIMPLE

AT BONNYCASTLE AND PARLIAMENT  
*THE TYPICAL*

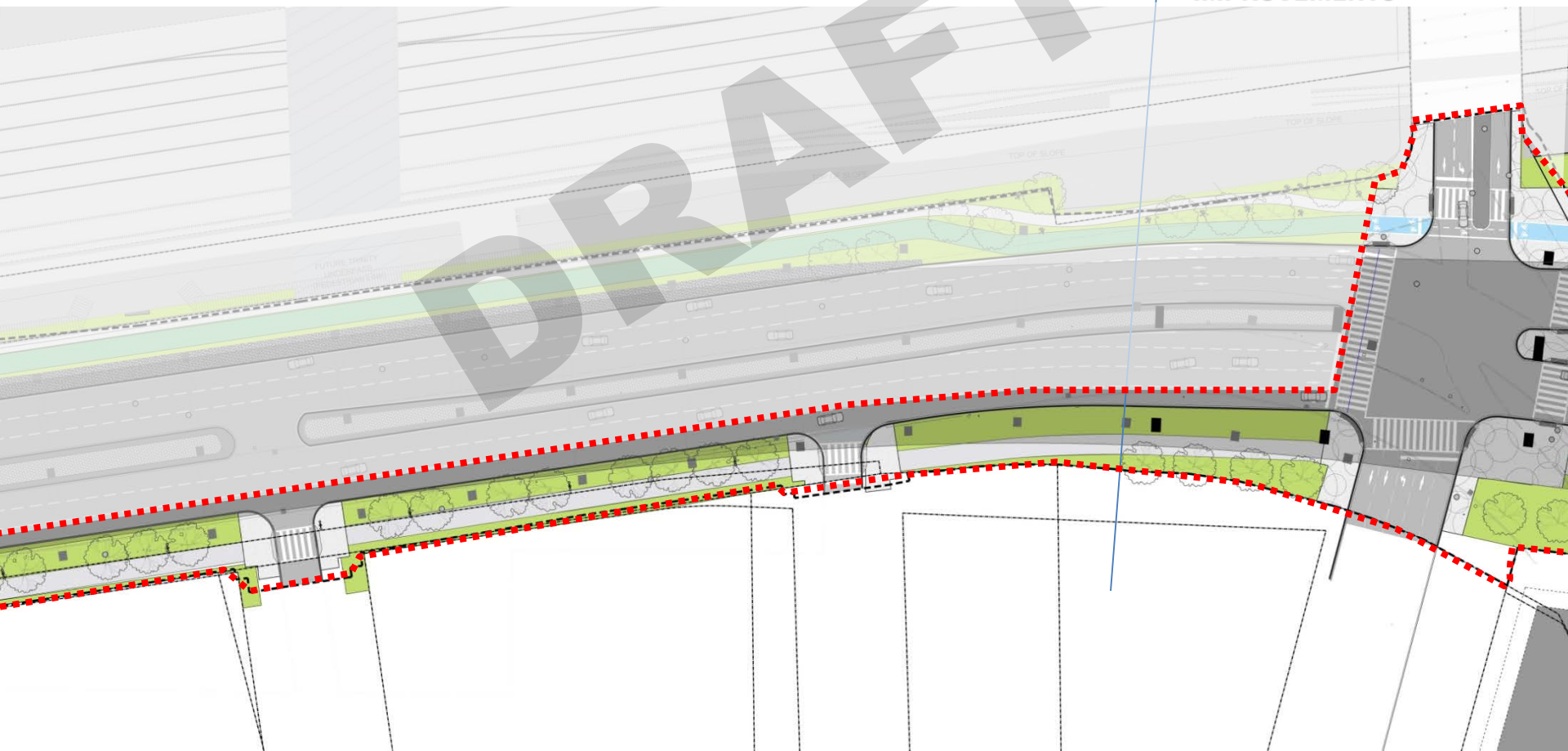


..... SOUTH SIDE SCOPE

# WEST TO EAST: COHESIVE + SIMPLE

**BETWEEN PARLIAMENT TO CHERRY**  
*THE TYPICAL*

**FUTURE GARDINER  
IMPROVEMENTS** →



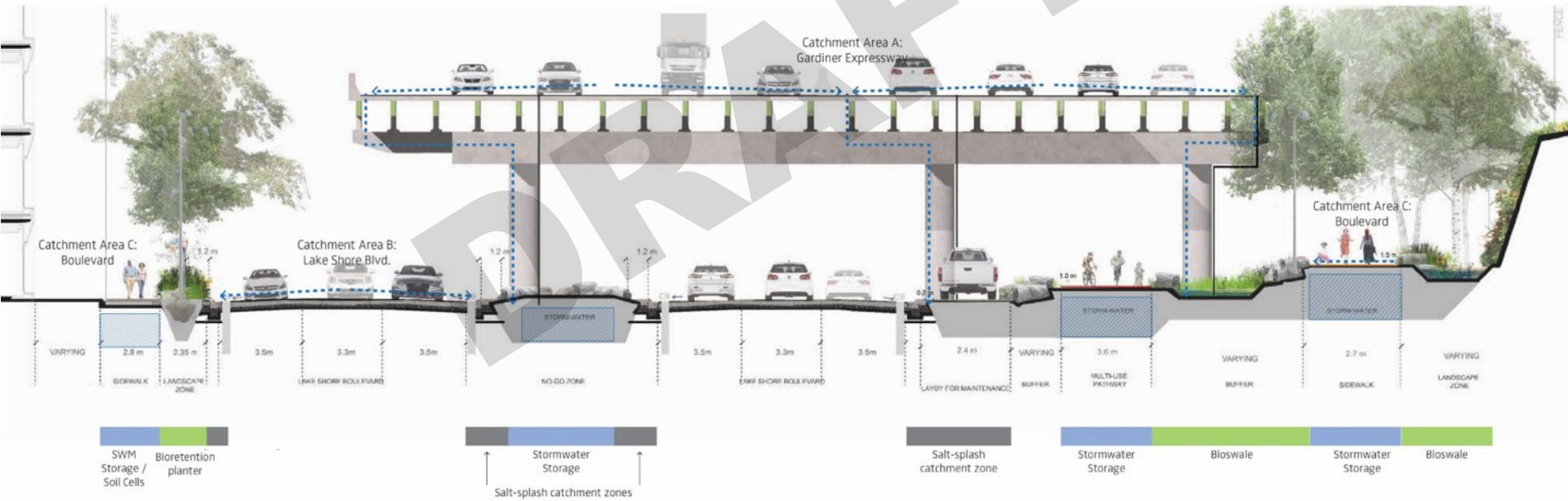
..... **SOUTH SIDE SCOPE**



# 3. IMPROVING STORM WATER MANAGEMENT

# SLOW DOWN FLOWS + IMPROVE QUALITY

## MAKE WATER/HYDROLOGY VISIBLE TO PUBLIC



## EXISTING CONDITIONS

- Areas of localized ponding
- Multiple sources of runoff
  - Gardiner Discharge
  - Road right-of-way (ROW)
  - Properties to the south of study area
  - Median between Lakeshore East and West



# SITE CONSTRAINTS

Main factors influencing SWM options:

- High ground water table (on average 2.0 m)
- Contaminated Soils (mostly Compact Fill, some Coal Tar contamination)
- Location of utilities within the ROW and road median
- Location/availability of storm sewers
- Limited space in RoW
- Significant volume of runoff to be managed
- High salt content of roadway runoff

## RECOMMENDED SOLUTIONS

SWM measures implemented in three sections based on:

- Exposed Road vs. beneath Gardiner Structure
- Location of discharge from Gardiner (bents/downspouts from Gardiner)

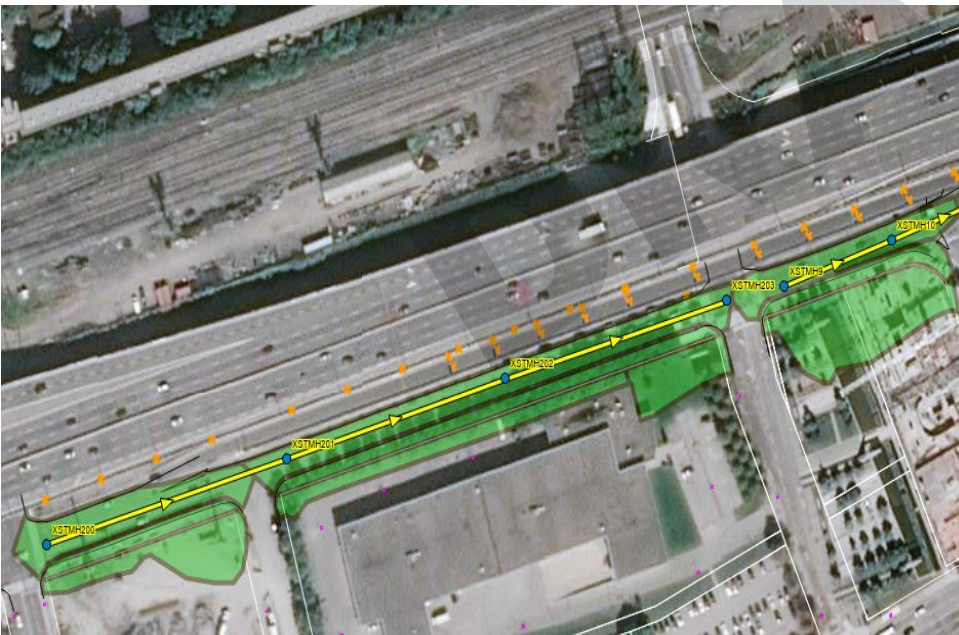
Three Main Sections

- Section 1: Jarvis to Bonnycastle
- Section 2: Bonnycastle to Parliament
- Section 3: Parliament to Cherry

External Areas assumed to meet City of Toronto WWFMG for water quantity control under future conditions



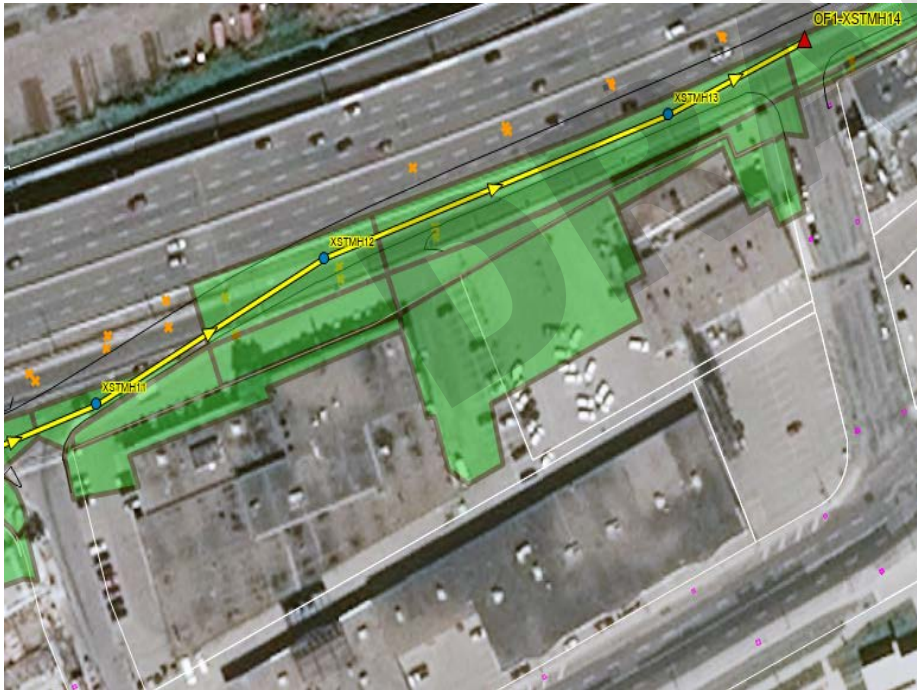
# Section 1: Jarvis St. to Bonnycastle St



## Section characteristics:

- Exposed Road (Lake Shore)
- Gardiner discharge to north side
- Proposed upgrades:
- Narrower road width
- Wider boulevard with LIDs

## Section 2: Bonnycastle St. to Parliament St.



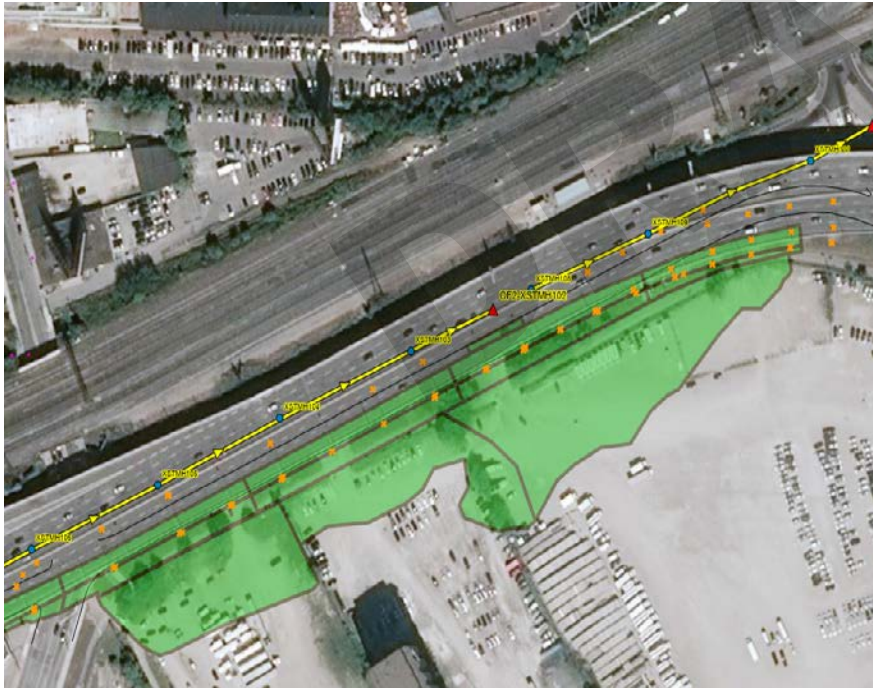
### Section characteristics:

- Roadway beneath Gardiner deck
- Partial Gardiner discharge to boulevard on south side\*

### Proposed upgrades:

- Narrower road width
- Wider boulevard with LIDs
- Landscape areas in median between Gardiner east and west

## Section 3: Parliament St. to Cherry St



### Section characteristics:

- Roadway beneath Gardiner deck
- Significant Gardiner discharge to boulevard on south side\*

### Proposed upgrades:

- Narrower road width
- Wider boulevard with LIDs

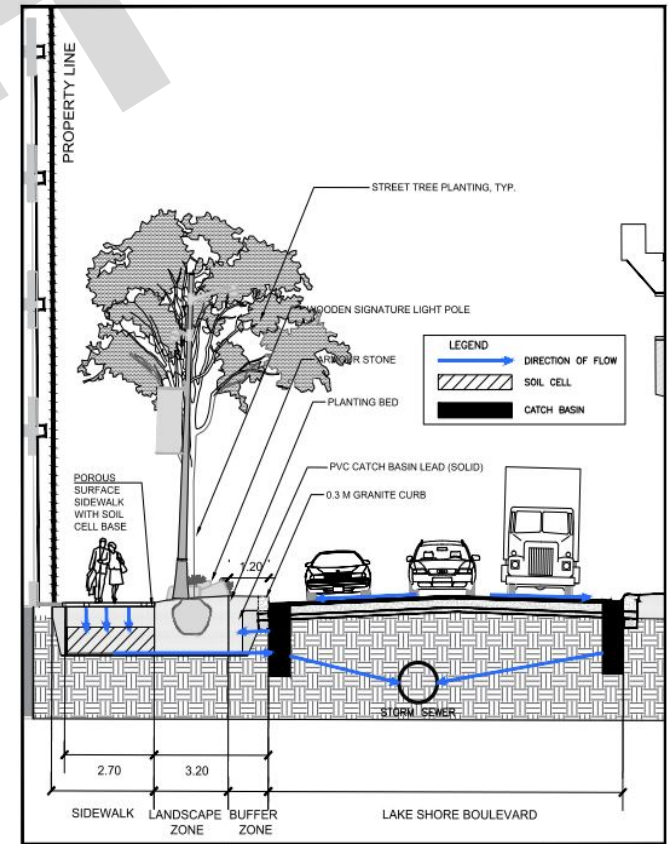
# Recommended Measures

## Proposed LIDs

- Permeable pavement with soil cells and underdrain
- Landscaped area (with engineered soil media/soil cells)
- Impermeable liners to prevent GW seepage

## Commentary:

- Gardiner downspouts directed to planters/soils cells in Section 2 (partial) and Section 3
- Reduces runoff peak and attenuates flow discharge to sewer
- Can manage minor storms for road and boulevard





# 4. OPPORTUNITIES FOR CONNECTIVITY IMPROVE THE INTERSECTIONS

# CONNECTIVITY + POTENTIAL



UNDER GARDINER PUBLIC REALM SITE

LOWER JARVIS ST.

LOWER SHERBOURNE ST.

PARLIAMENT ST.

CHERRY ST.

# GATEWAYS TO THE WATERFRONT

INVEST IN THE INTERSECTIONS



JARVIS



SHERBOURNE

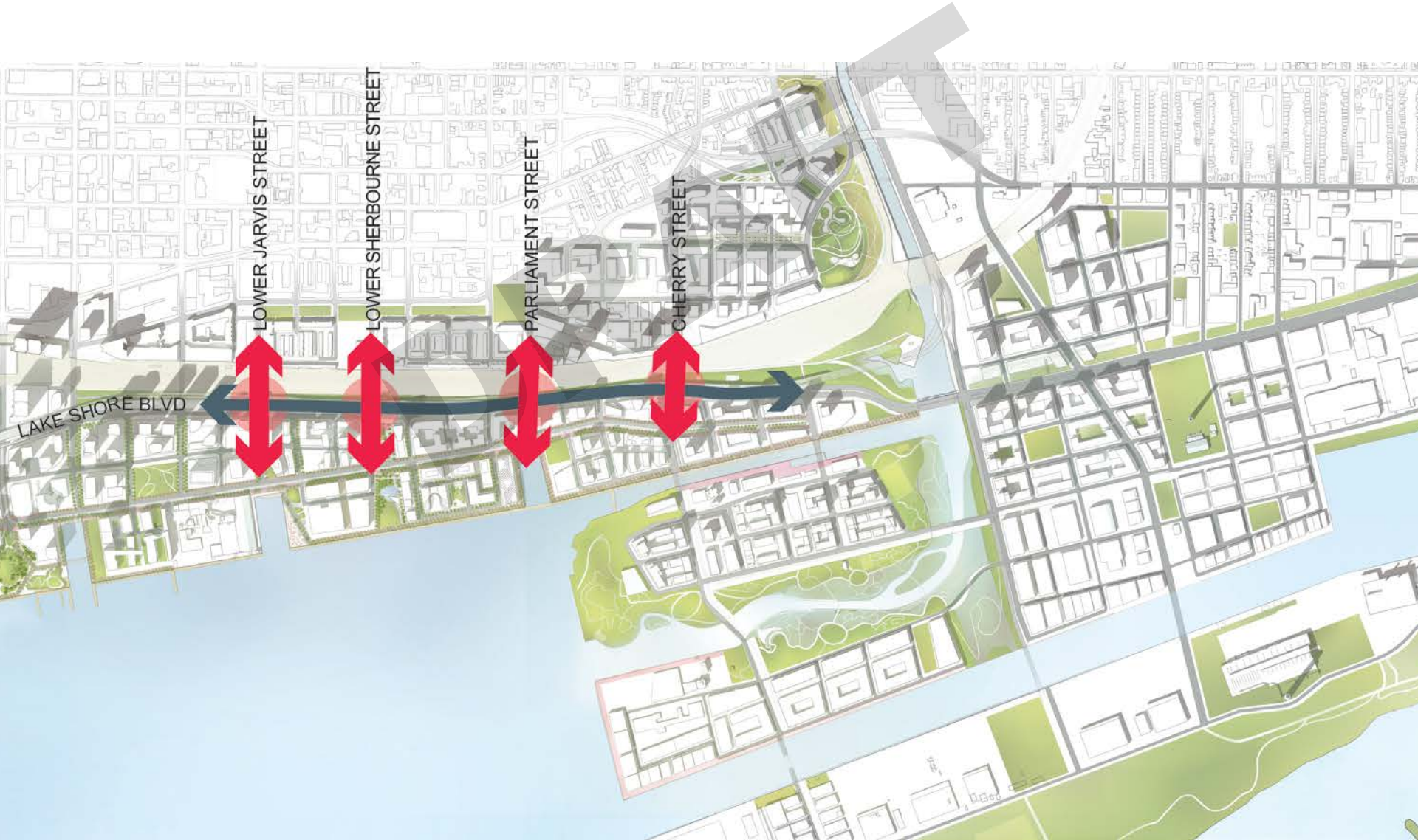


PARLIAMENT



CHERRY

# NORTH SOUTH CONNECTIONS





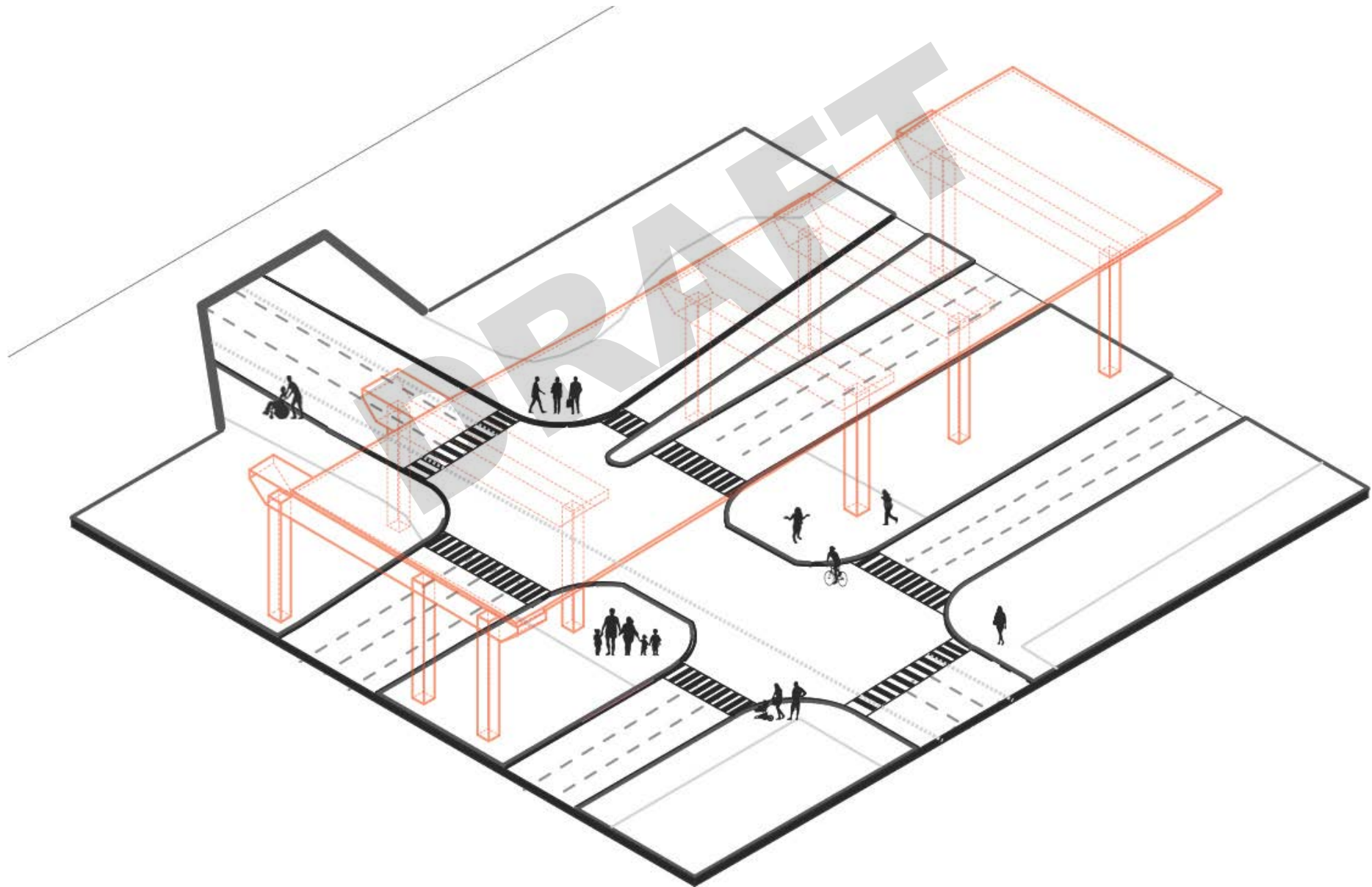
# THE LONELY PEDESTRIAN



# THE SAFE PEDESTRIAN



# EXISTING INTERSECTION

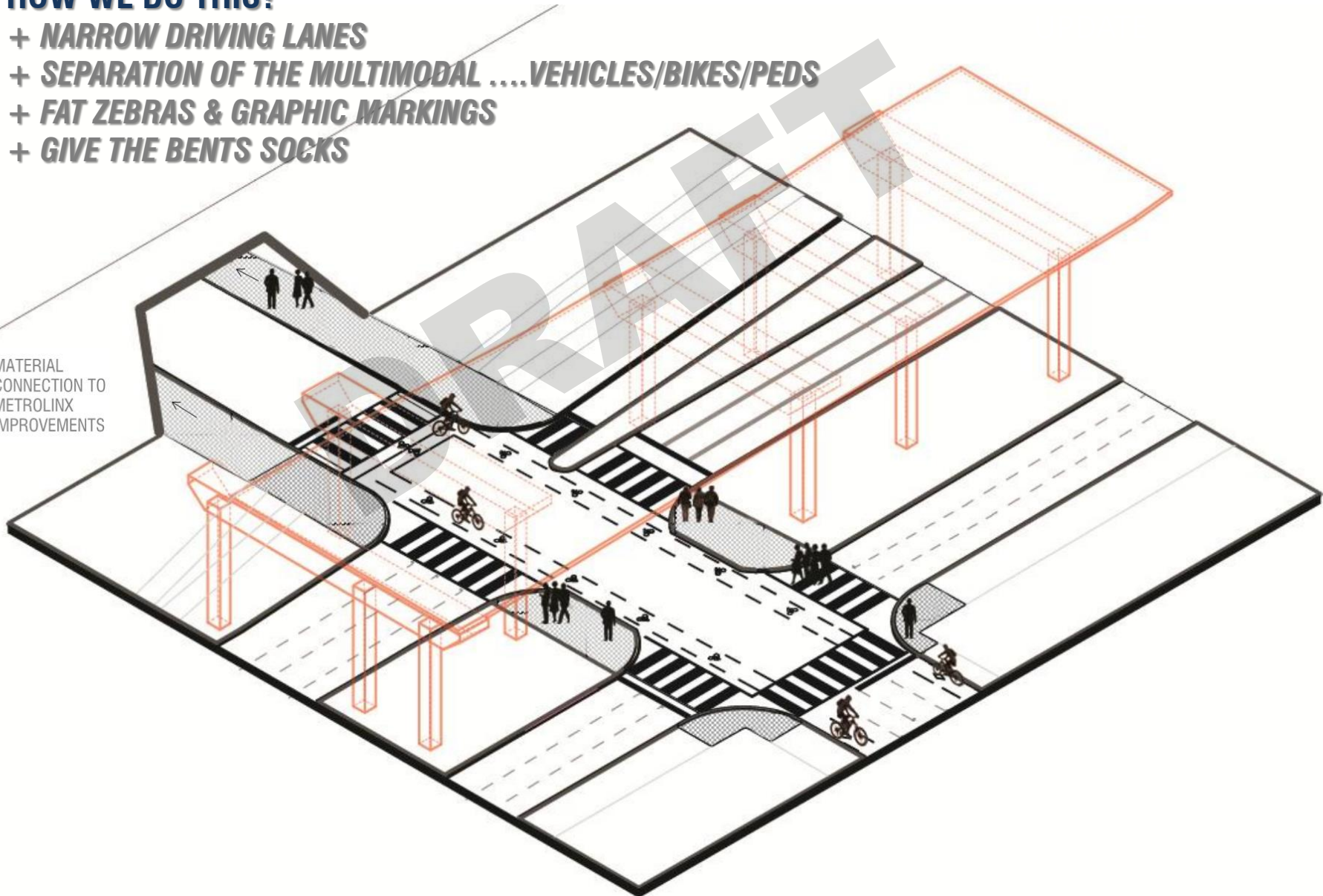


# ORGANIZED INTERSECTION

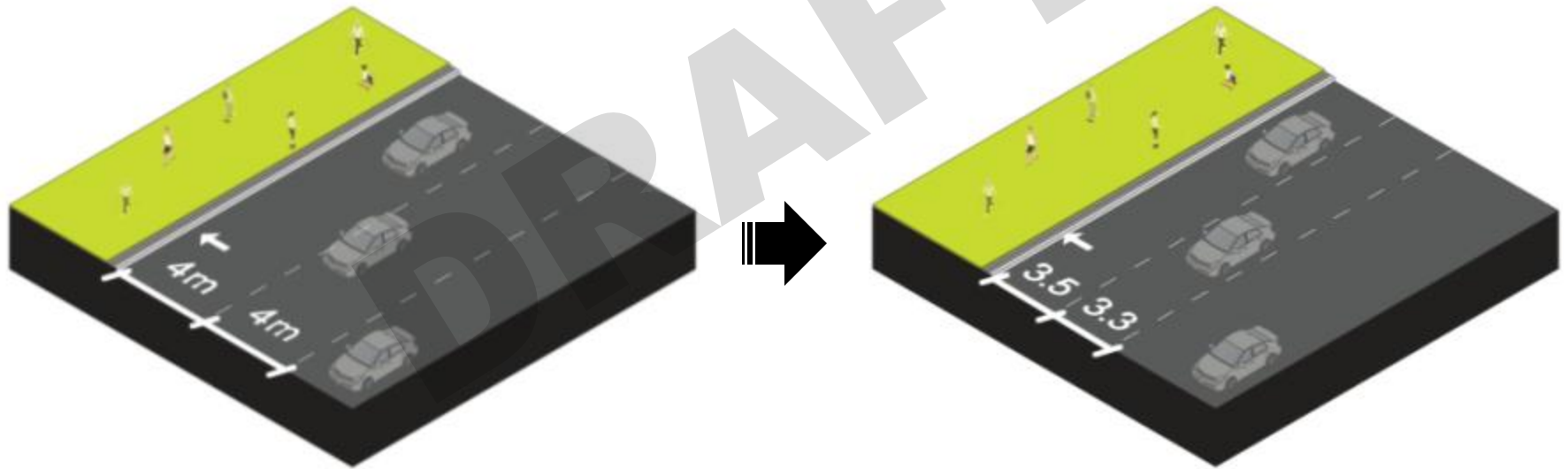
## HOW WE DO THIS?

- + *NARROW DRIVING LANES*
- + *SEPARATION OF THE MULTIMODAL ....VEHICLES/BIKES/PEDS*
- + *FAT ZEBRAS & GRAPHIC MARKINGS*
- + *GIVE THE BENTS SOCKS*

MATERIAL  
CONNECTION TO  
METROLINX  
IMPROVEMENTS



# NARROW THE DRIVING LANES



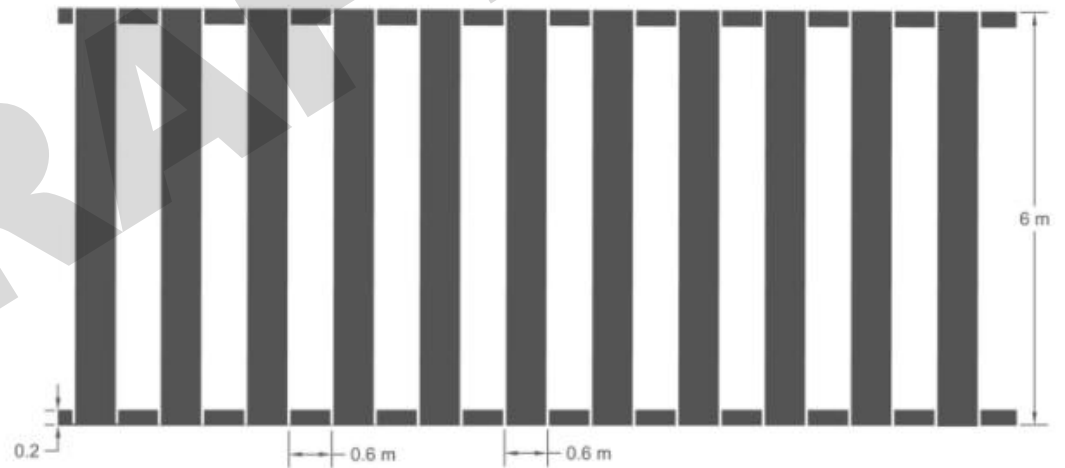
Creating more public space by reducing the lane width to 3,50m on turning lanes, and 3.3m on through lanes

# SEPARATE GRADES OF VEHICULAR, CYCLING + PEDESTRIAN AREAS

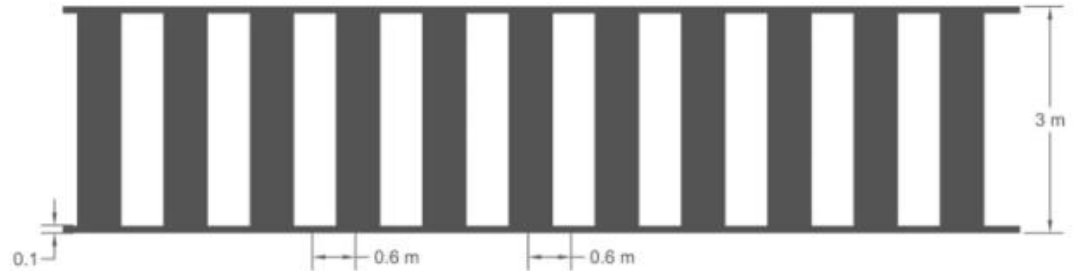


# FAT ZEBRAS & MARKINGS

*THERMOPLASTIC*



**EXTENDED**



**TYPICAL**

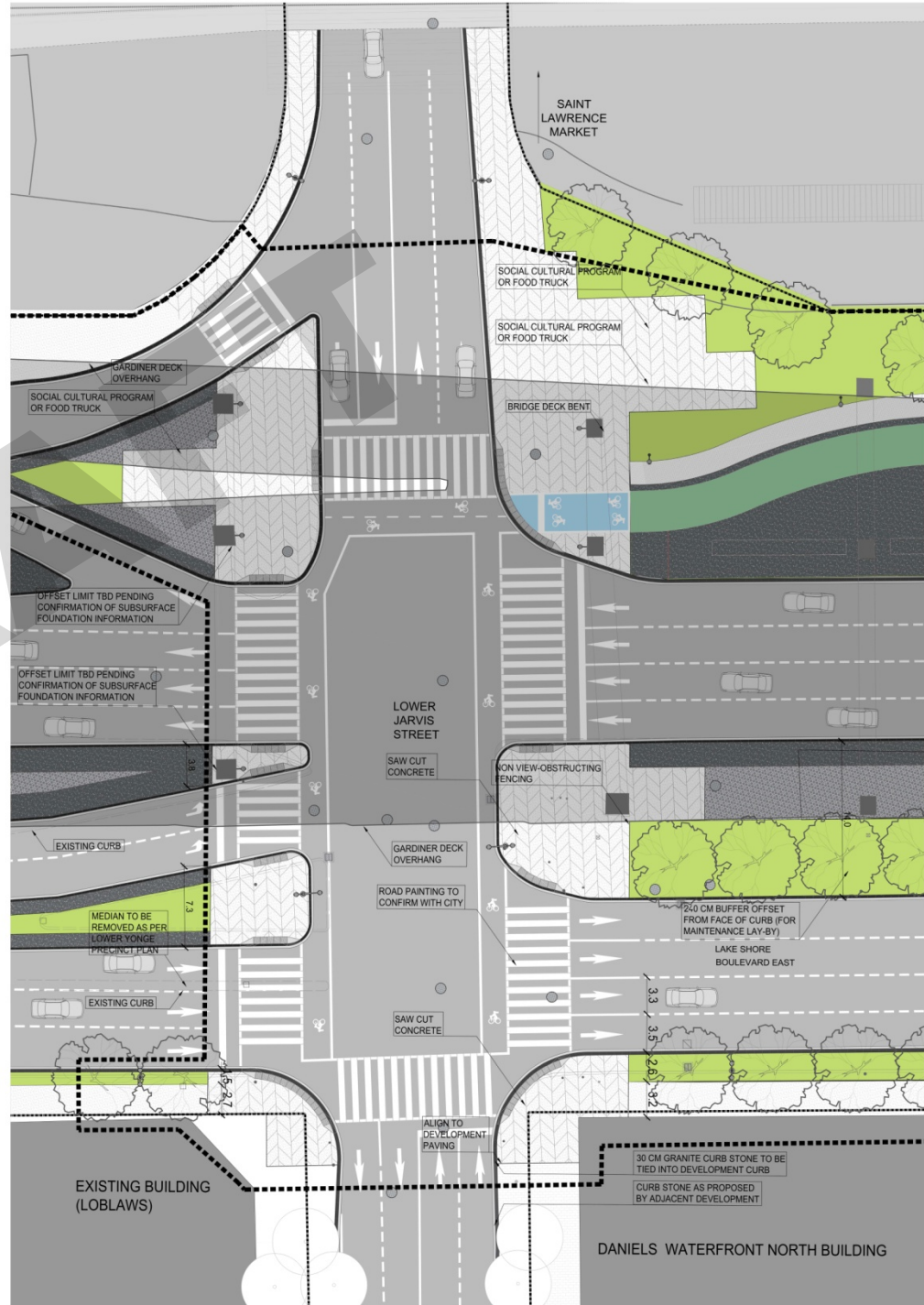
# GIVE THE BENTS SOCKS





# LOWER JARVIS ST. INTERSECTION PLAN

DR



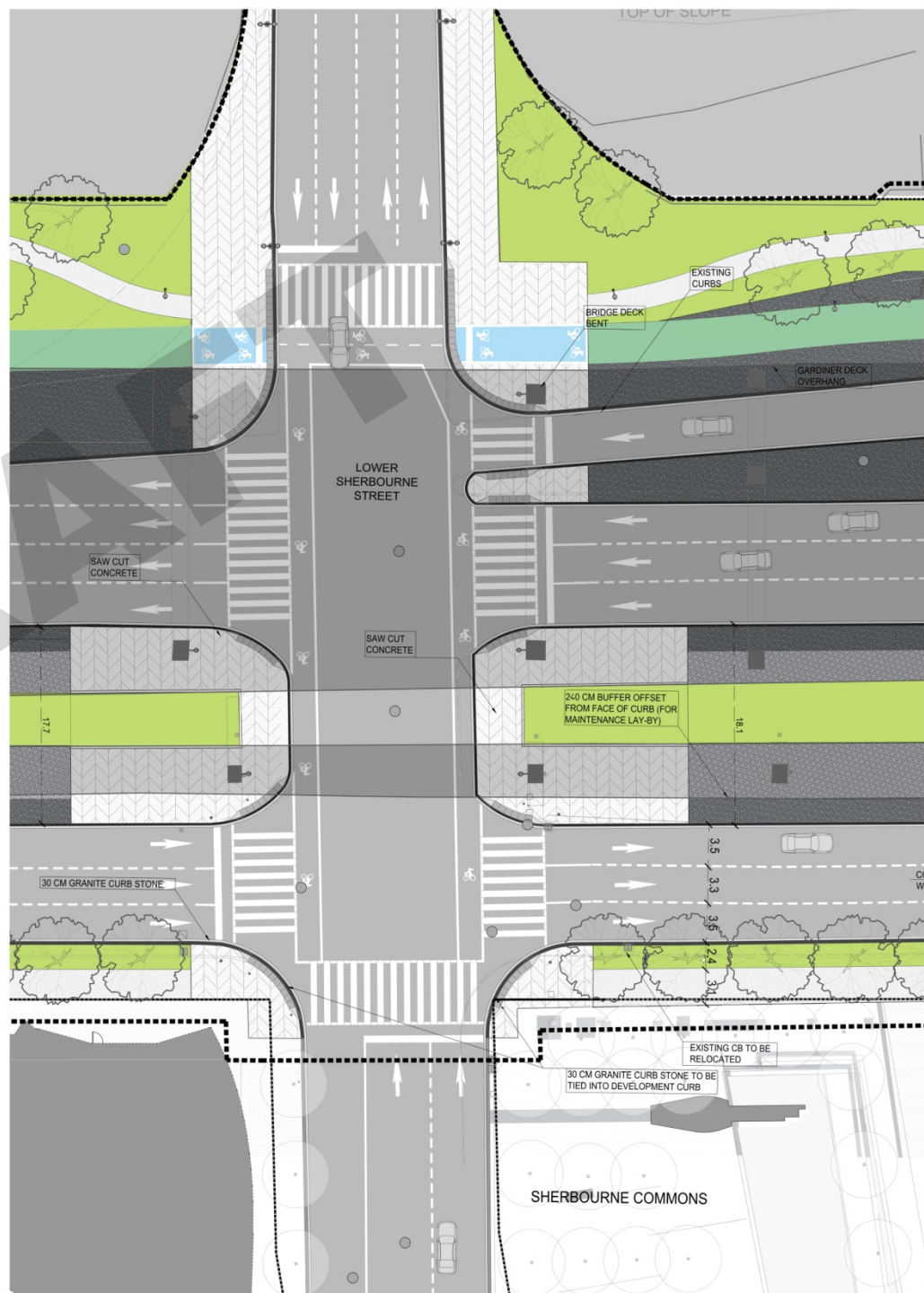
# LOWER JARVIS ST.

LOOKING SOUTH FROM METROLINX BERM



# LOWER SHERBOURNE ST. INTERSECTION PLAN

DR

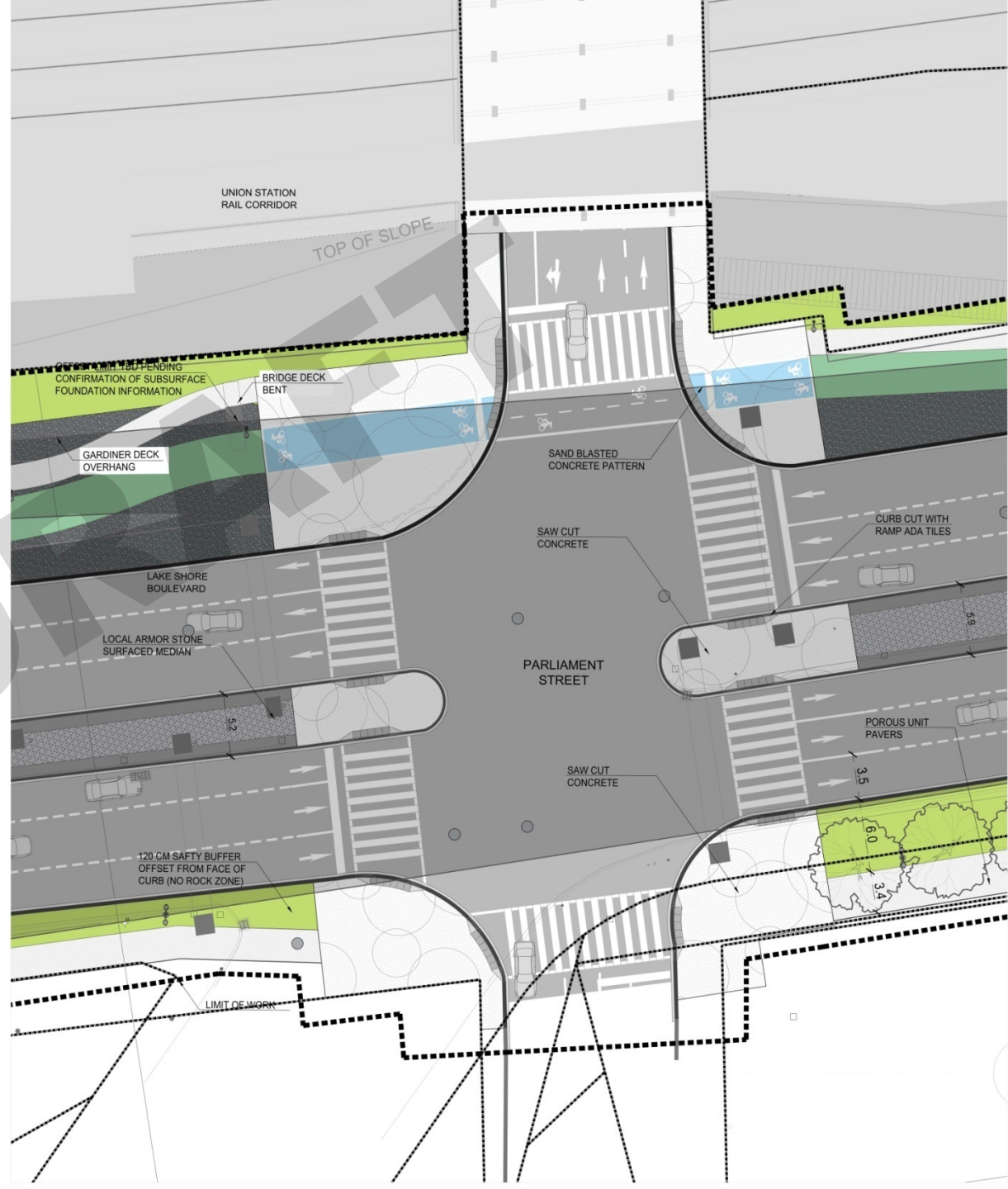


# LOWER SHERBOURNE ST.

CLEARLY MARKED CYCLIST AND PEDESTRIAN CROSSING



# PARLIAMENT ST. INTERSECTION PLAN



# PARLIAMENT ST.



# CHERRY ST.

## INTERSECTION PLAN OPTION 2 NO TRAM + TREES

 Coordination underway with MVVA alignment

DRAFT



# CHERRY ST.

## BIRDSEYE VIEW OF INTERSECTION





# THE PINCH POINT AT CHERRY



EXISTING CONDITION

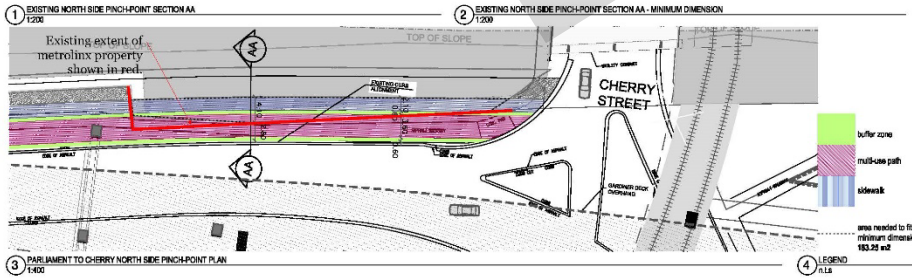
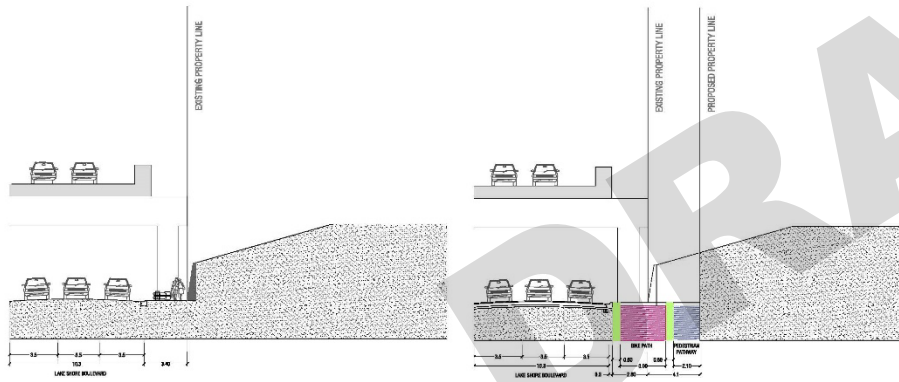


EXISTING BIN WALL

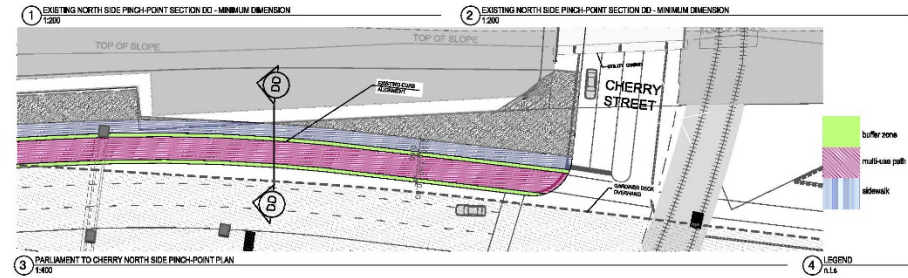
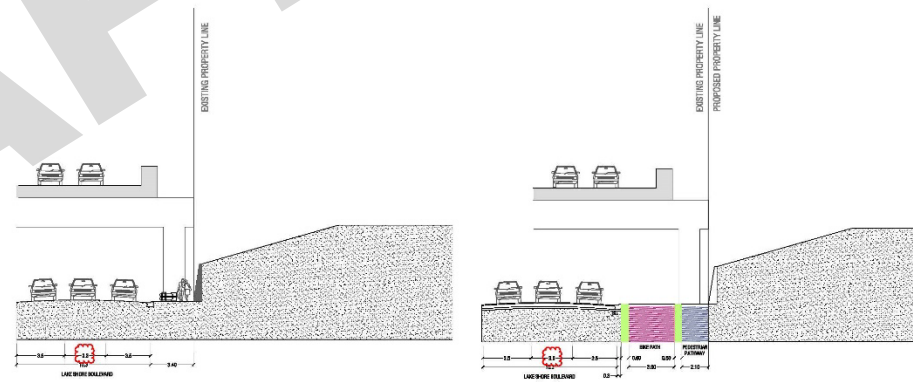
PROPOSED SCHEME ASSUMES ORTHAGONAL ROADWAY RE-ALIGNMENT + PROPERTY NEGOTIATION

# THE PINCH POINT AT CHERRY

## EXISTING INTERSECTION



## PROPOSED MODIFICATION



# **BIN WALL BACKDROP**

## **EVER GREEN VINE PLANTING**



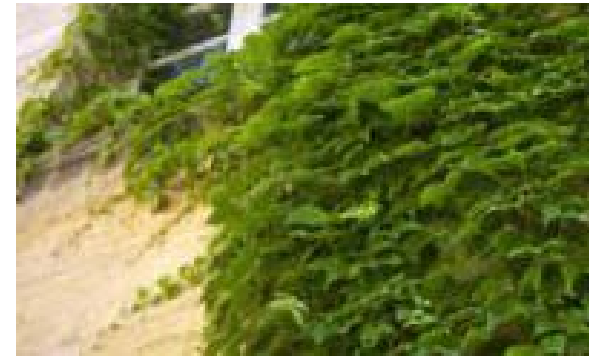
Existing Bin Wall



Evergreen Vines growing up the bin wall will act as the backdrop for the landscape.



Big Leaf Winter creeper



Virginia Creeper



# 5. ASPIRATIONS FOR THE NORTH SIDE VISION

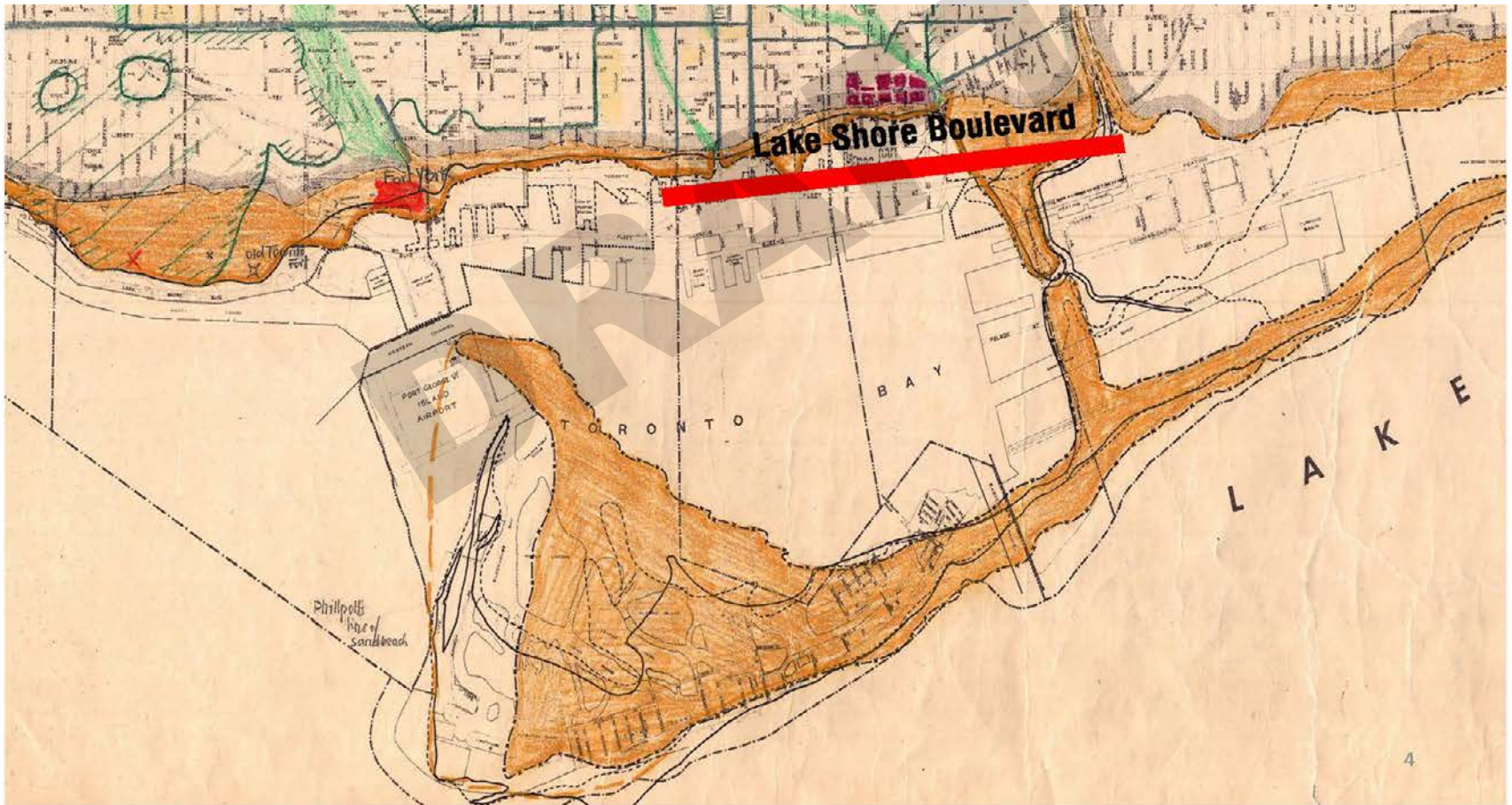
# LAKE SHORE BOULEVARD

THE FORGOTTEN LAKESHORE



# LAKE SHORE BOULEVARD

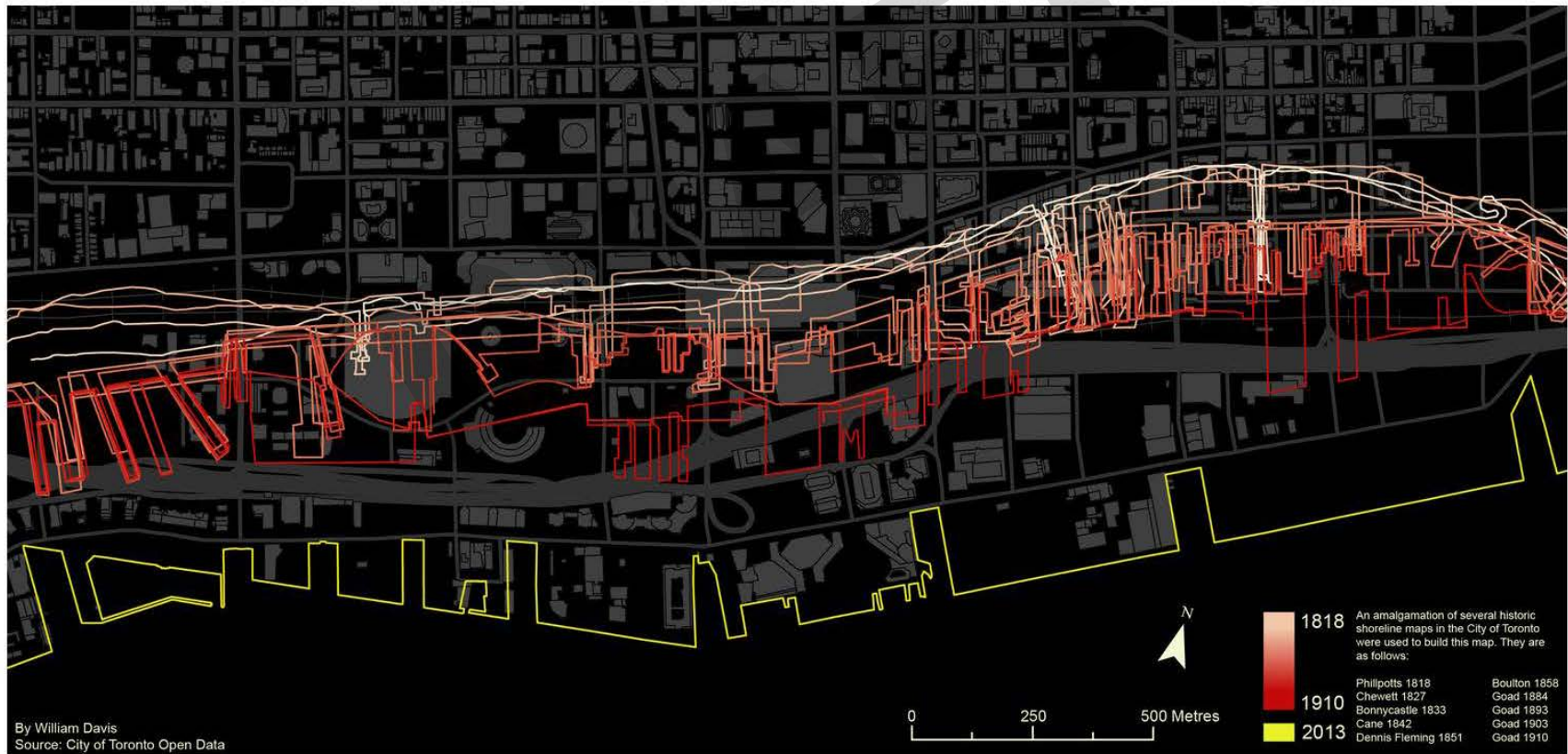
THE FORGOTTEN LAKESHORE



# LAKE SHORE BOULEVARD

THE FORGOTTEN LAKESHORE

SPATIALLY DOCUMENTING A SHORELINE HISTORY



# PRECEDENT

CULTURAL PROGRAM UNDER VIADUCT, EINDHOVEN THE NETHERLANDS





# MOVEABLE PIER STRUCTURES

TORONTO WARF INSPIRED PROGRAM - LOWER JARVIS ST.



# LOWER JARVIS ST.

WINTER BIRDS EYE VIEW OF INTERSECTION



# ILLUMINATION

## CAMPFIRE AMBIENCE



# CAST IRON TREE STUMPS

CAMPFIRE AMBIENCE



# ILLUMINATION

NEW CANADIAN NORDIC CATENARIES



# ILLUMINATION

## NEW CANADIAN NORDIC CATENARIES



CATERNARY ILLUMINATIONS UNIQUE TO EACH INTERSECTION - LEADING NORTH/SOUTH



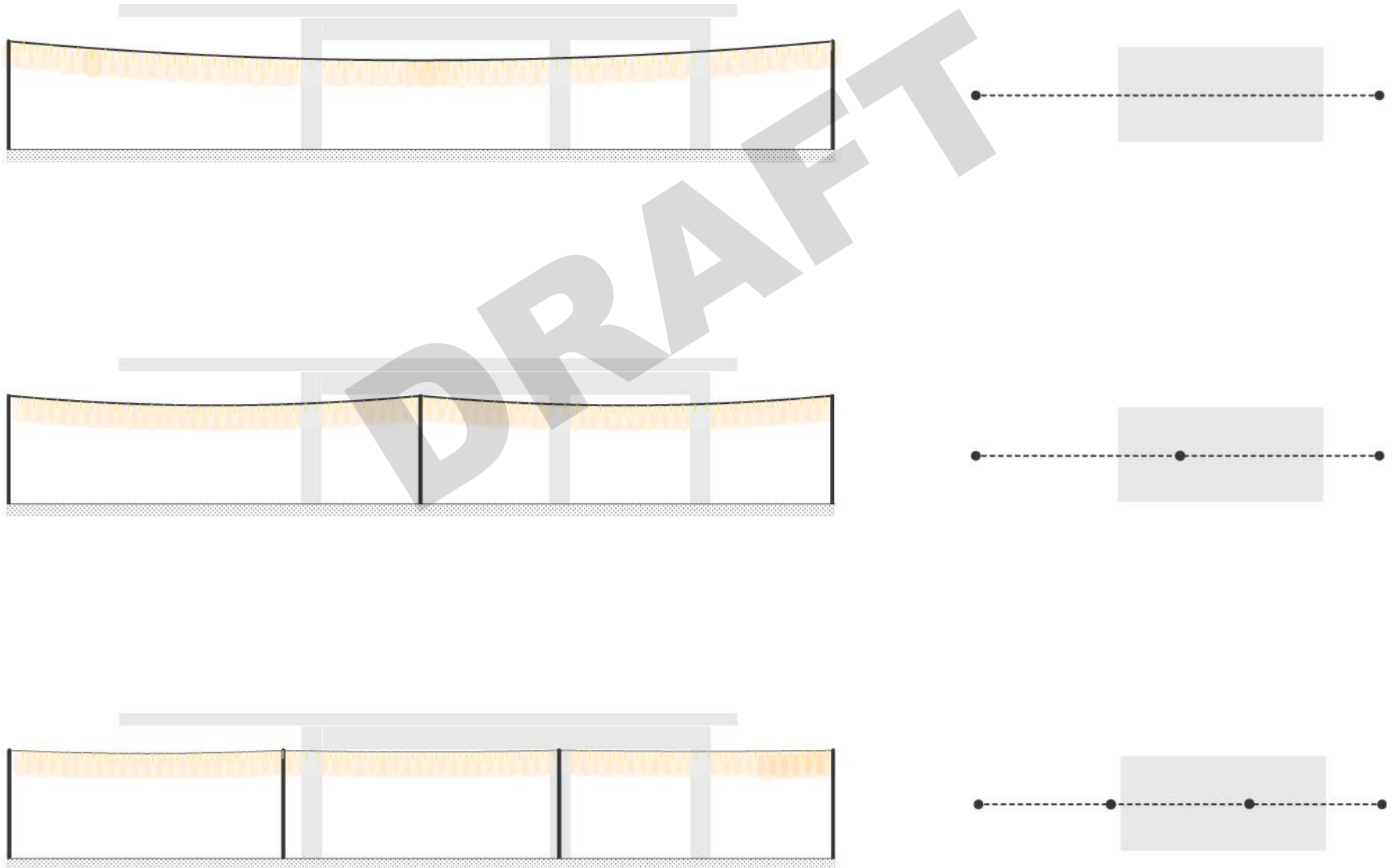
REFLECTIVE ILLUMINATION AT BENTS



LIGHT COLUMNS

# ARMATURE

POTENTIAL CONFIGURATION OF POLE STRUCTURE FOR ICICLE LIGHTING



# LOWER JARVIS ST.

LOOKING NORTHWEST





# LOWER SHERBOURNE ST.

CIRCULAR LIGHTING GUIDING PEDESTRIANS NORTH TO SOUTH



# LOWER SHERBOURNE ST.

CIRCULAR LIGHTING GUIDING PEDESTRIANS NORTH TO SOUTH



# CHERRY ST.

## ASPIRATIONAL ICICLE LIGHTING



# CHERRY ST.

WINTER BIRDSEYE VIEW



THANK YOU



**WEST 8**  
Urban Design & Landscape Architecture