



# 43 Parliament/ 281 Front St. E. TR3 Data Centre

Issues Identification

February 26<sup>th</sup>, 2020

Proponent: Equinix  
Design Team: WZMH Architects  
Review Stage: Issues Identification

# Project Description & Background

TR3 Data Centre

Proponent: Equinix

Design Team: WZMH Architects

Review Stage: Issues Identification

## Background

- Represents phase 2 of the 43A Parliament St and 281 Front St East property
- The subject site was City-owned, then swapped via expropriation for First Parliament lands across Parliament Street in 2012
- The existing SPA application for a data centre on First Parliament site was then transferred to the subject property in the land swap
- The existing 5-storey TR2 data centre was Council (zoning)- and SPA-approved in 2012

## TR2 Design Review Panel History

Sept. 2012 Conceptual Design

Oct. 2012 Conceptual Design

Dec. 2012 Design Development – Full Support

## TR3 Description

- This application (TR3) proposes an expansion northward from the existing TR2 data centre with a connection via a second floor bridge over a vehicular access driveway
- Proposes shared entrance with TR2 with no new entry at grade

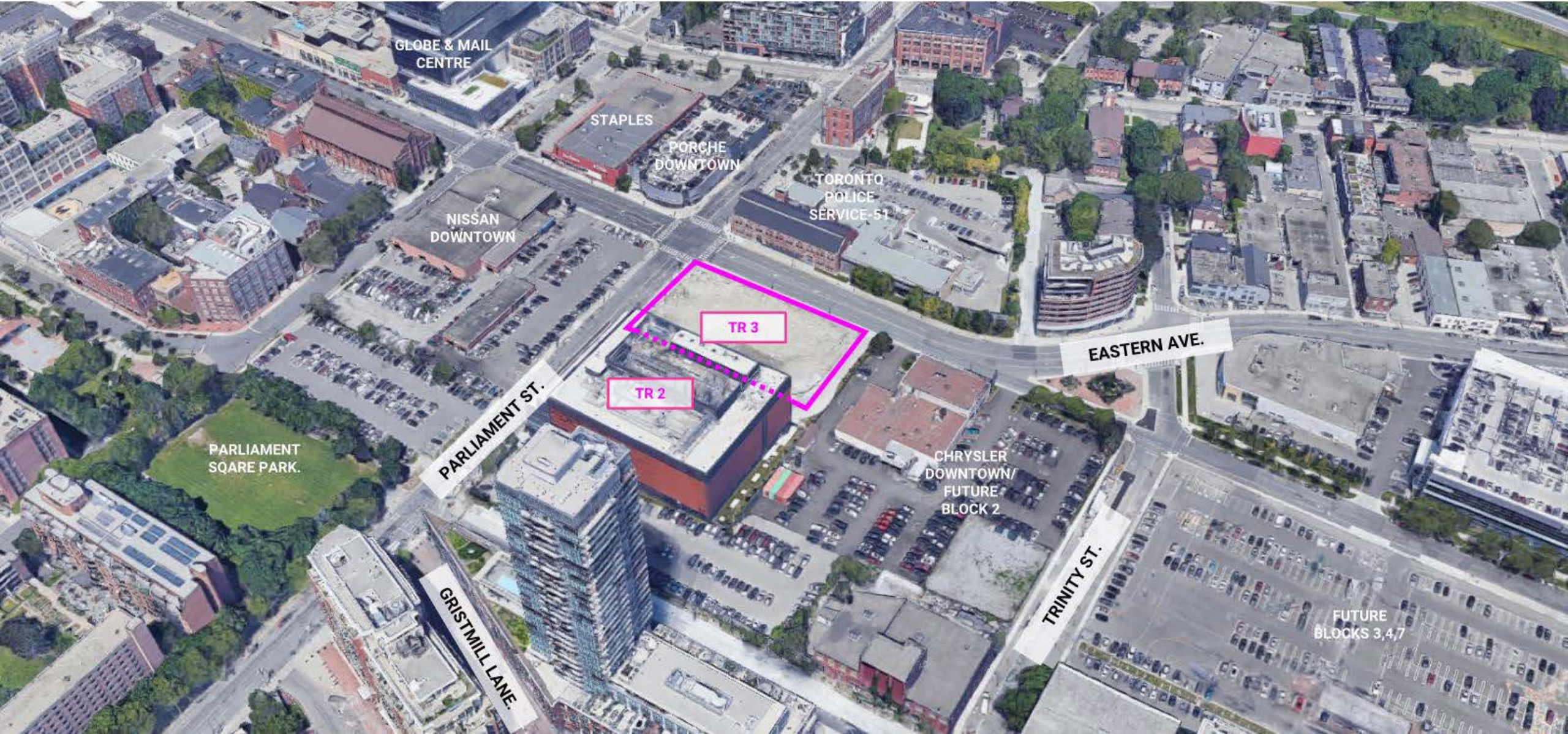
# Existing Site Context

## TR3 Data Centre

Proponent: Equinix

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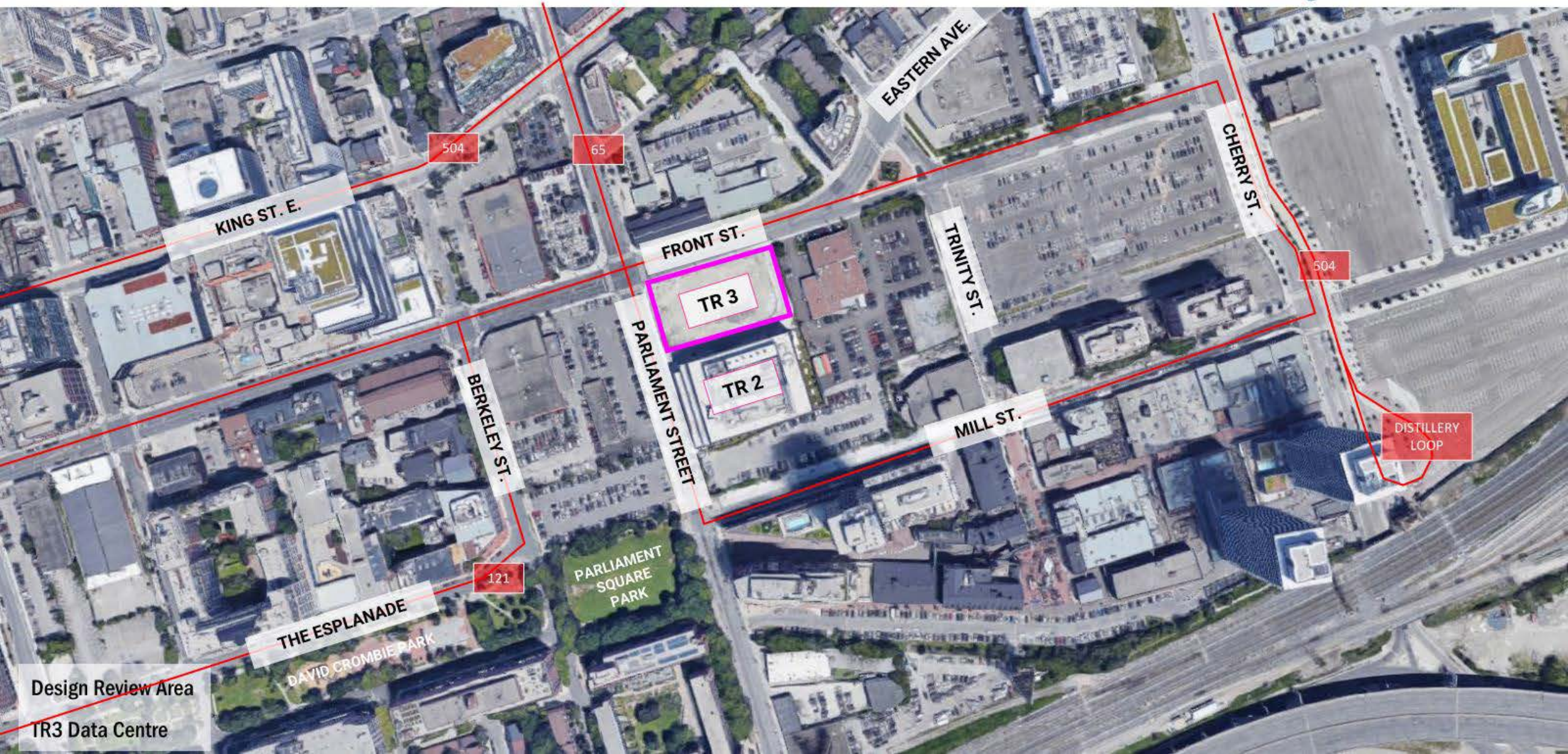
# Existing Site Context

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Review Stage: Issues Identification



Design Review Area

TR3 Data Centre

# Policy Context– Central Waterfront Secondary Plan

TR3 Data Centre

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## D21\_A NEW BEGINNING FOR THE WEST DON LANDS

The West Don Lands will be redeveloped into diverse mixed-use communities. These communities will capitalize on their strategic downtown location, the synergy created by the simultaneous development of the Port Lands and their historic roots as part of the original town of York, as well as the Don River's new environmental health.

### Creating Dynamic and Diverse New Communities

(P32) New development will be located...and massed to **protect view corridors...and frame...the public realm...**

(P33) A **balance of places to live and work** will contribute to the...vitality of new waterfront communities

### Building a Network of Spectacular Waterfront Parks

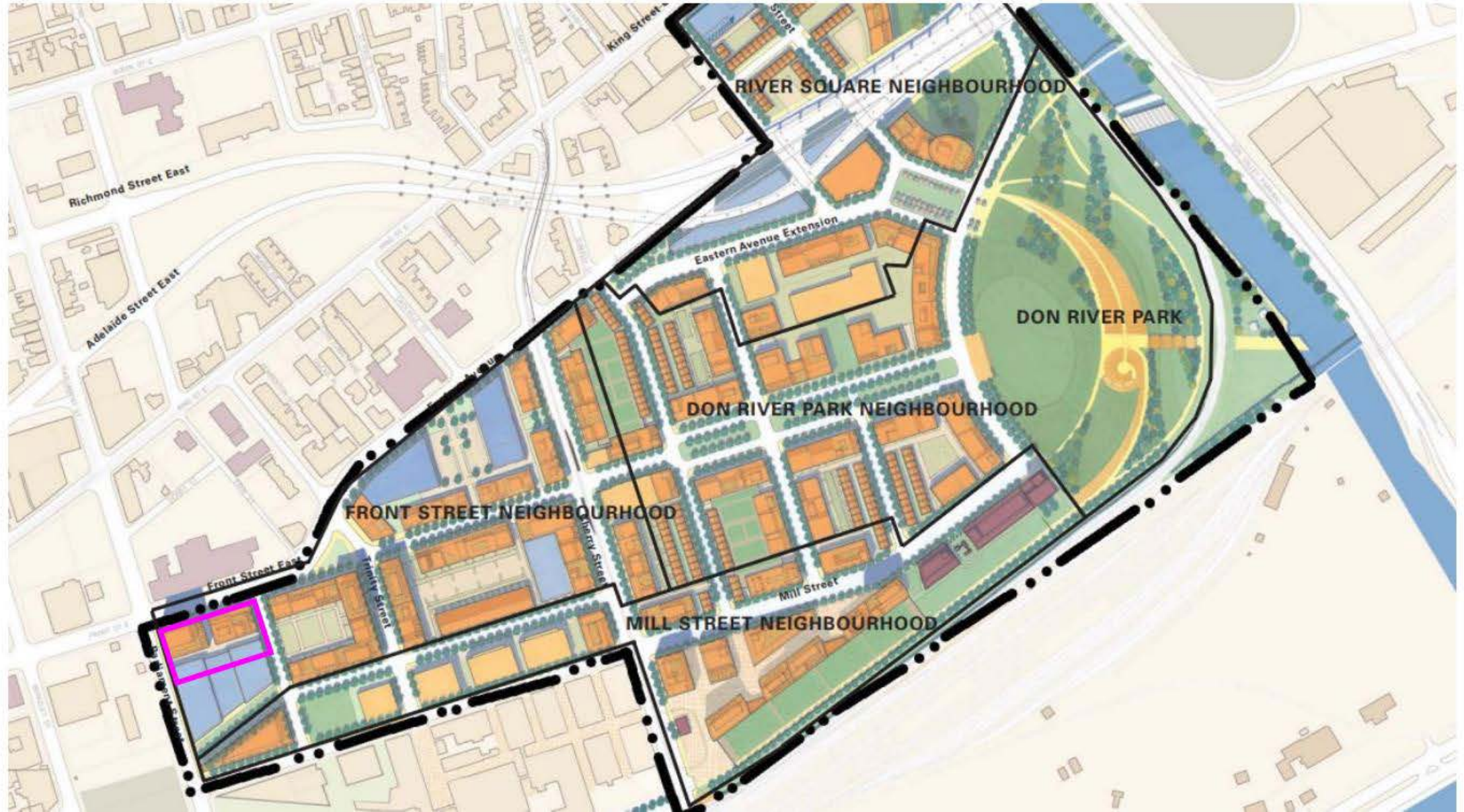
(P10) The **design of the public realm** will be of a standard of excellence...of the great city waterfronts...

(P11) The public realm will be defined by a coherent framework of **streets, parks...buildings...walkways...**

# West Don Lands Precinct Plan 2005

## Precinct Context

TR3 Data Centre  
Proponent: Equinix  
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Review Stage: Issues Identification



# West Don Lands Built Form

## Precinct Block Plan 2006

TR3 Data Centre

Proponent: Equinix

Design Team: WZMH Architects

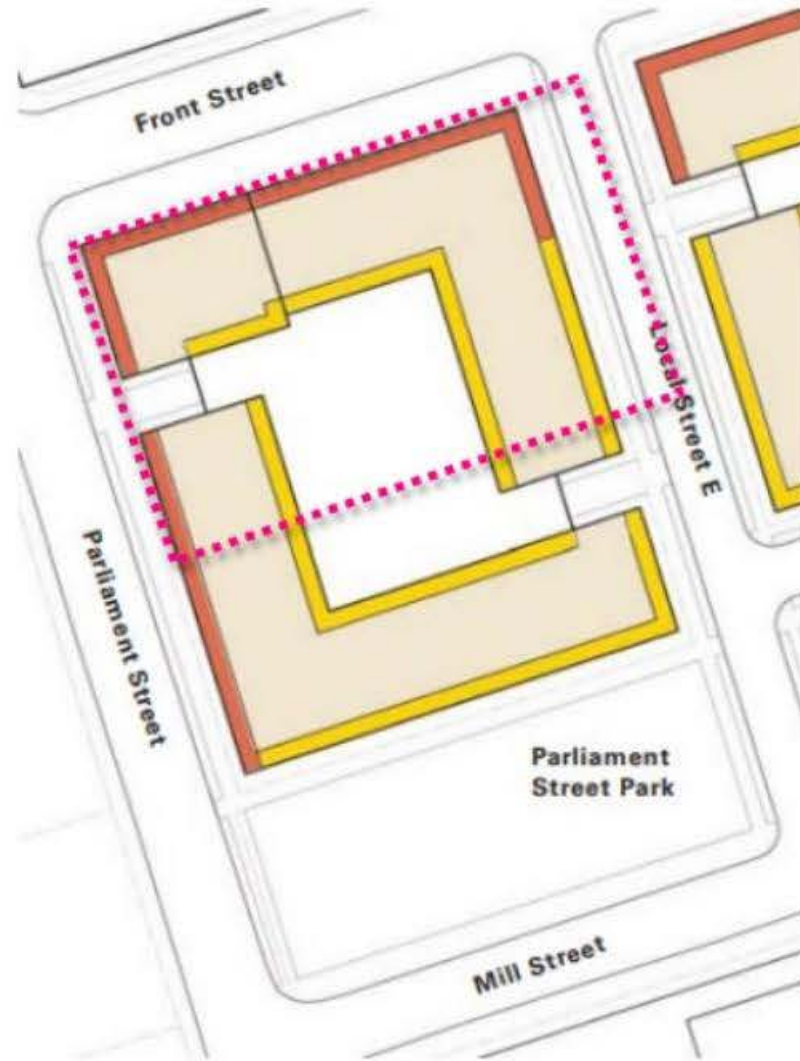
Review Stage: Issues Identification



# Frontages, Setbacks, Heights and Stepbacks

## Precinct Block Plan 2006

TR3 Data Centre  
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### FRONTAGES AND GROUND FLOOR USES

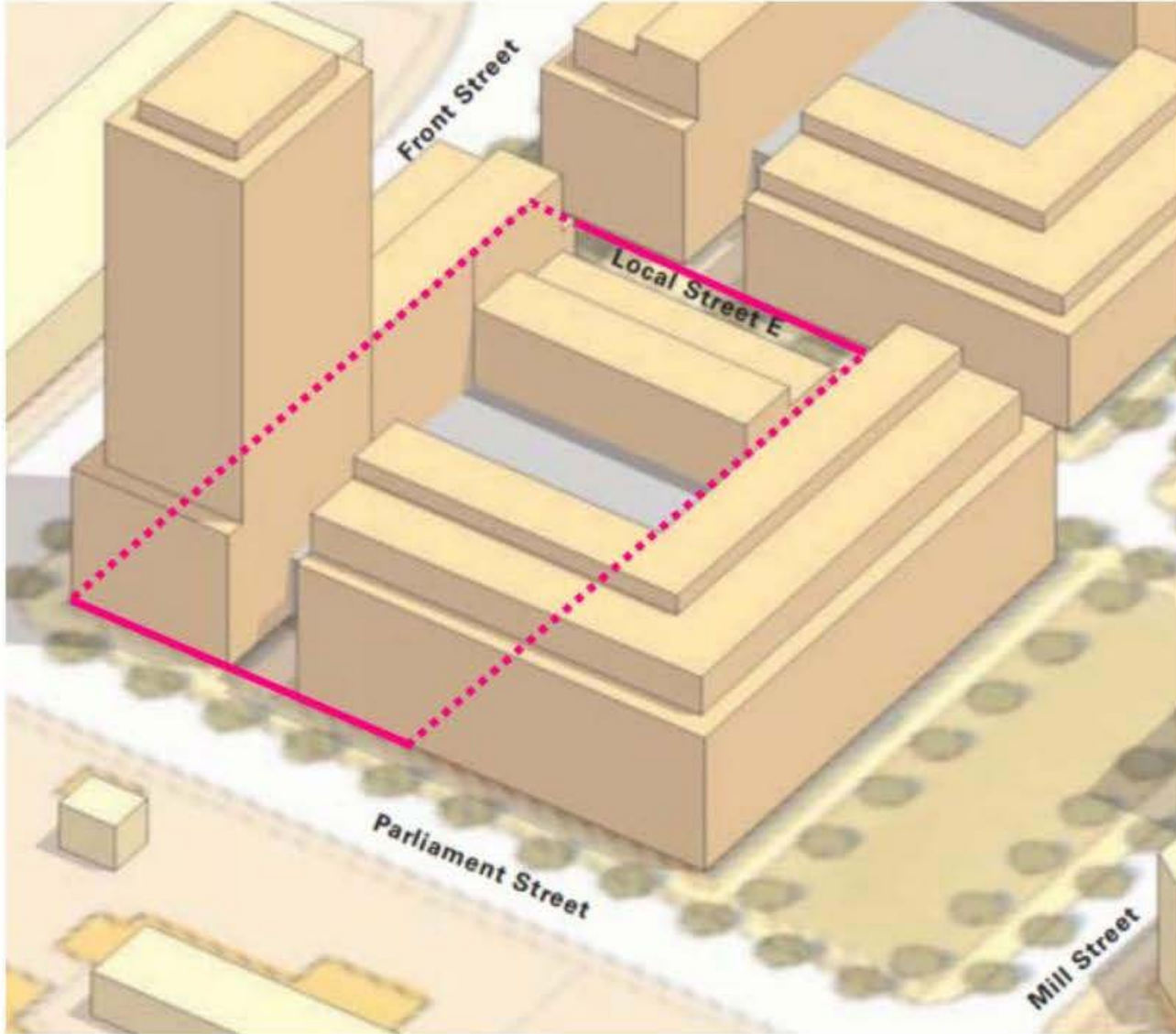
Front and Parliament Streets will be lined with active uses on the ground floor in order to continue the pattern of the existing fabric of the City. Local Street E and Parliament Street Park will be lined with residences.

- ACTIVE USE FRONTAGE ZONE
- RESIDENTIAL FRONTAGE ZONE



# Massing

Precinct Block Plan 2006

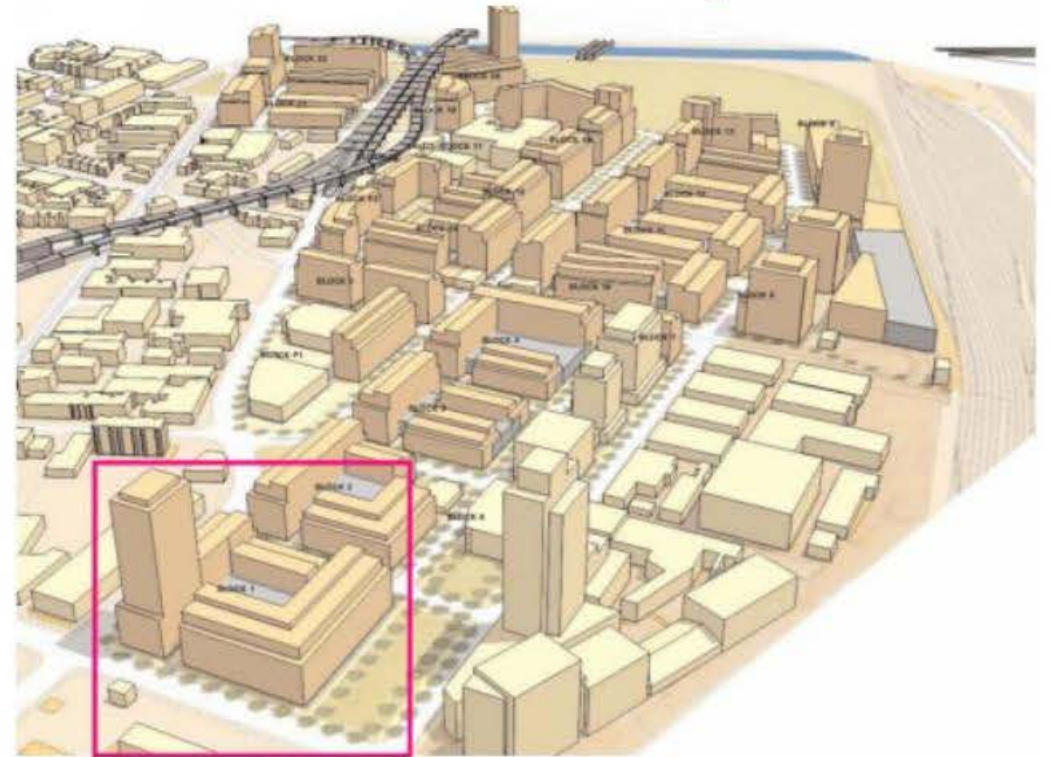


# TR3 Data Centre

Proponent: Equinix

Design Team: WZMH Architects

Review Stage: Issues Identification



# TR2 Data Centre

Dec. 2012 Design Review Panel

# TR3 Data Centre

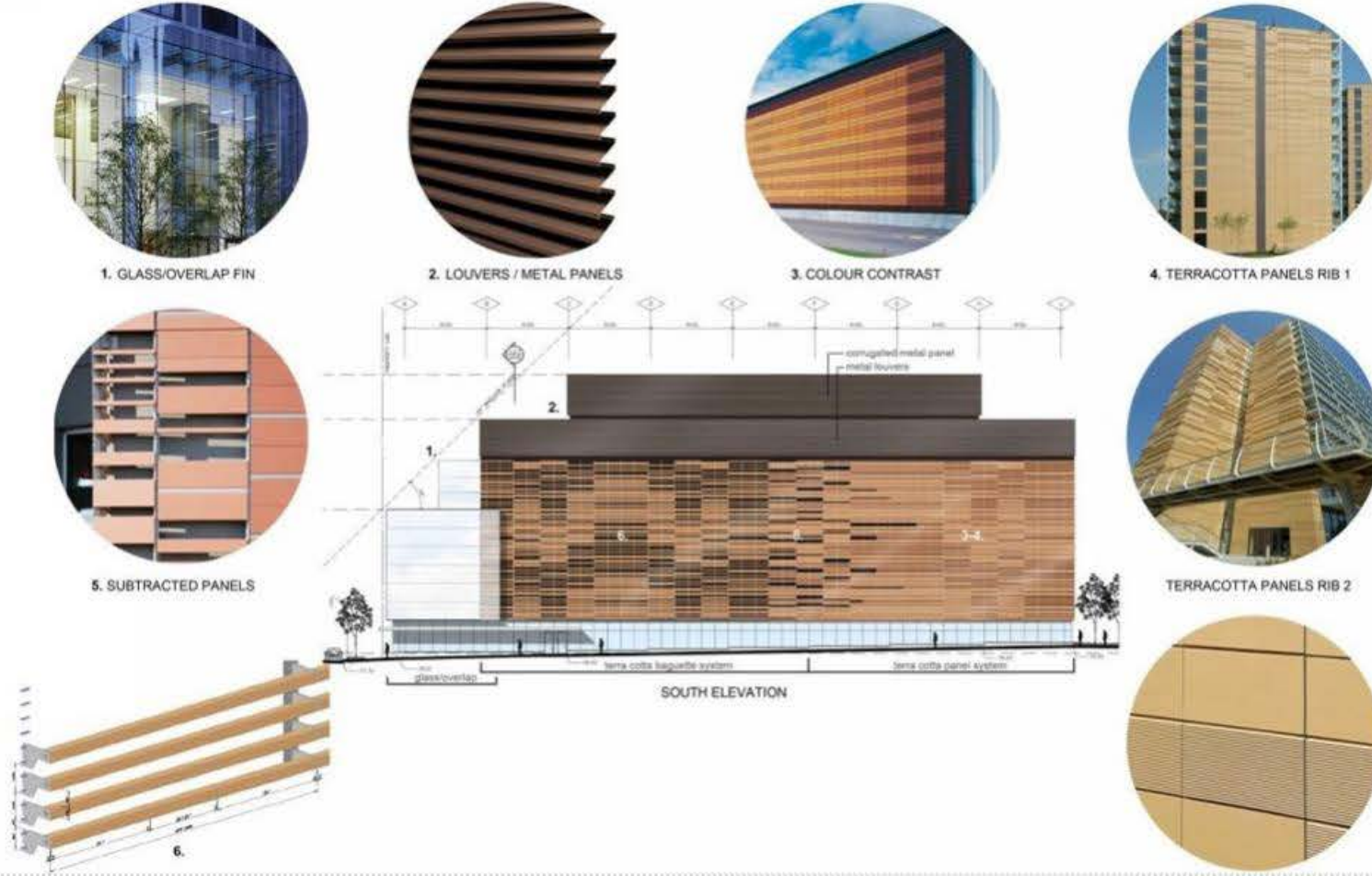
Proponent: Equinix

Design Team: WZMH Architects

Review Stage: Issues Identification

Proponent Team:  
WZMH Architects  
Equinix

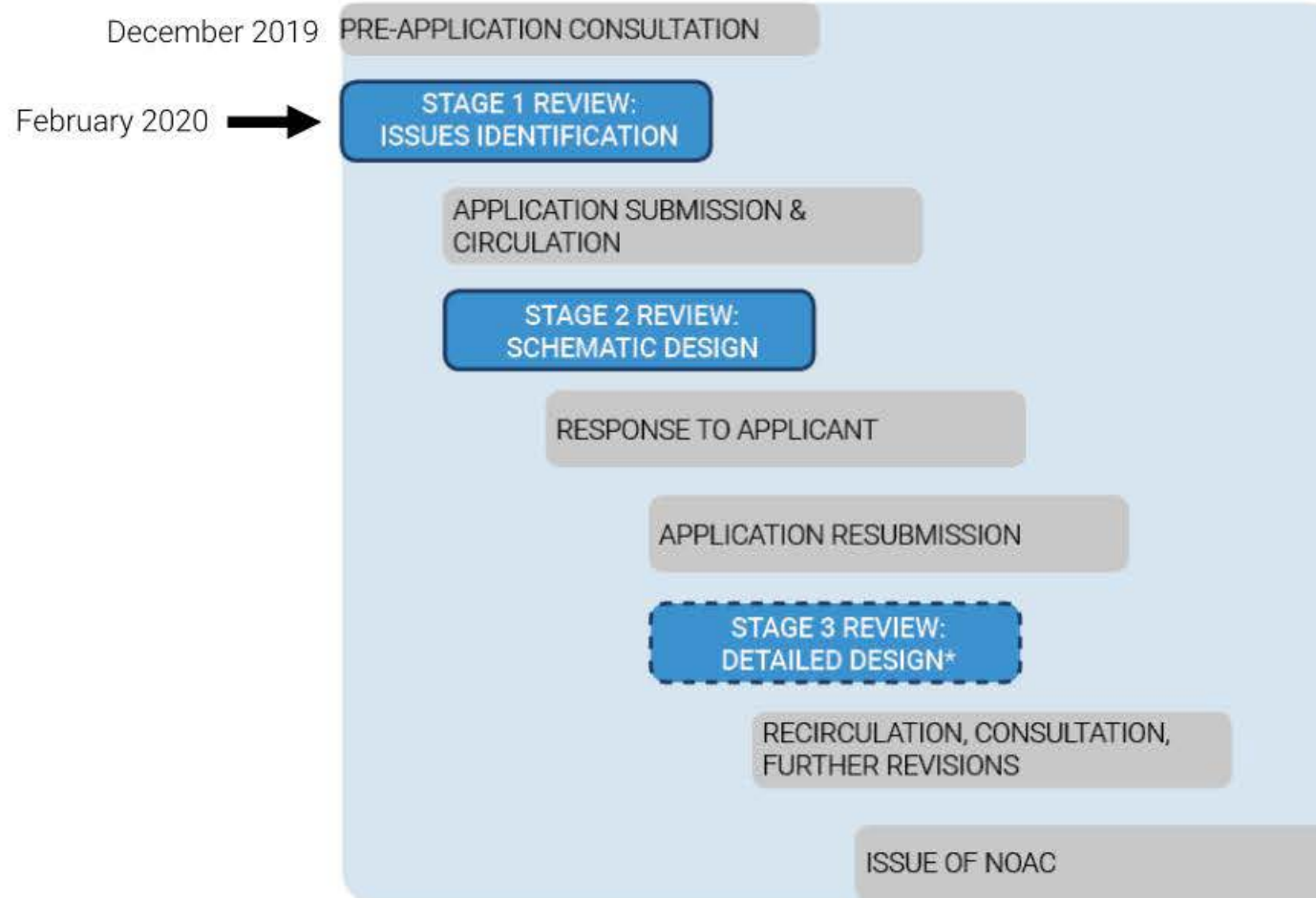
Vote: Unanimous Support



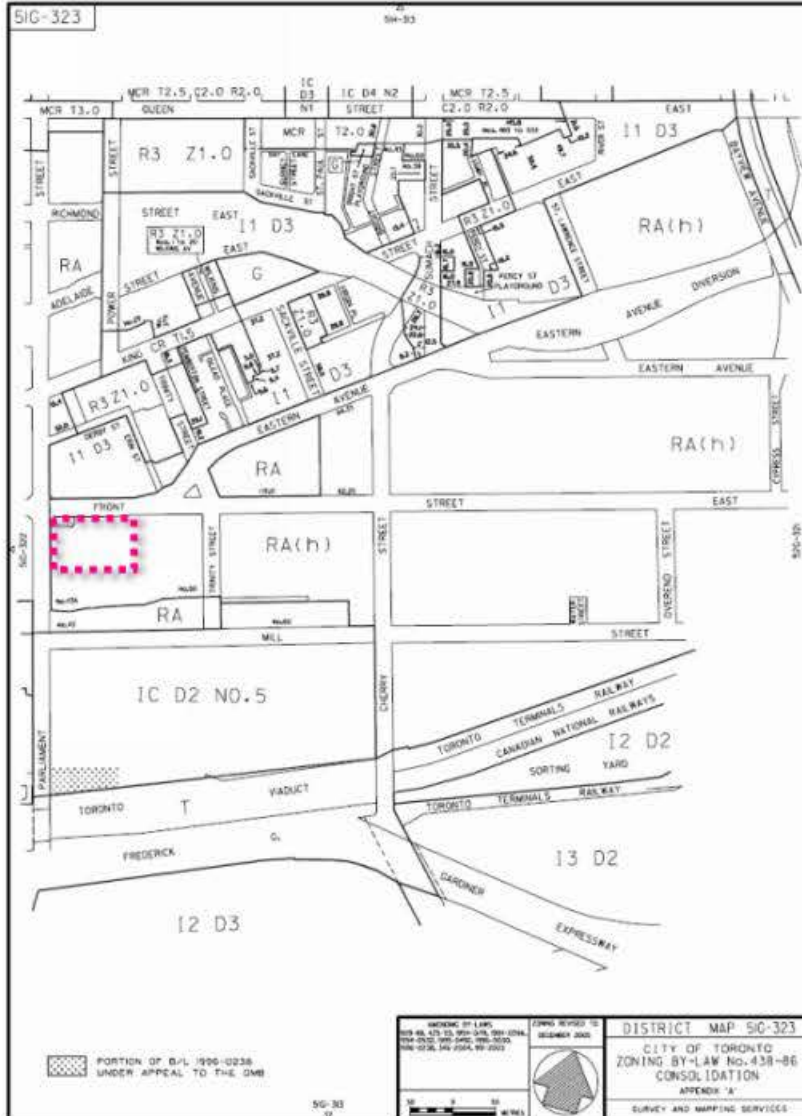
# DRP Stream 1: Private land – Site Plan Approval

## Project Approval Stage

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# Zoning



## RA (h)

Maximum height: 26 metres

Maximum height at the lot line: 16 metres with angular plane requirements along Front Street East and Parliament Street

Data processing establishments are allowed in RA zone  
Required Setbacks: 7.5 metres from the side and rear lot lines

Former Zoning By-Law 438-86 – Map 51G-323

# Areas for Panel Consideration

## City Planning Issues

TR3 Data Centre

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### 1. Transportation Infrastructure:

- Will there be any impact on this site resulting from the construction of the Ontario Line and the potential Corktown Station?

### 2. Public Realm:

- Are the frontages along Front Street East and Parliament Street sufficiently activated?
- Is cantilevering the building appropriate along Front Street East?
- What should be interface between the building and the laneway to the east?
- Does this provide an appropriate gateway into the West Don Lands?
- How does this building interact with the new First Parliament site to the west?

# Areas for Panel Consideration

## Waterfront Toronto

TR3 Data Centre  
Proponent: Equinix  
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### Site Context

- Are there other site context parameters to consider in the design of a data centre on this site?

### Public Realm

- Does the Panel have any recommendations on the design of the ground floor, building frontages on Parliament, Front, and the laneway?
- Have the ground floor animation strategy and bridge connection been well considered?
- Does the Panel have any recommendations on the proposed exterior design strategy for the building in relation to TR2?

### Sustainability

- Does the Panel support the Proponent's proposed sustainability strategies and targets?
- Are there other sustainable strategies that should be considered?

# TR3 - 43 Parliament Street

Waterfront Toronto Design Review Panel

February 26, 2020

DRAFT



EQUINIX

WZMH ARCHITECTS

1. Project Introduction
2. Site & Context Analysis
3. Site Response / Design Approach
4. Sustainability Objectives

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# 1. Project Introduction

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## **What is a Co-location Centre?**

Equinix's co-location centres provide equipment, space, bandwidth, power, cooling and physical security for the server, storage and networking equipment of digital business.



## **What is a Co-location Centre?**

Co-location centres also support and enhance digital business by providing access to ecosystems where major networks, enterprises and business partners interconnect and collaborate.

## Co-location centres & Toronto's Economic Health

As more businesses embrace digital technologies, co-location centres are increasingly important to Toronto economic health.

The Official Plan identifies infrastructure – including advanced information and communications networks – as critical to Toronto's competitive edge for supporting key clusters that bring new wealth to the region.

Inside Equinix's TR2 at 45 Parliament  
WZMH Architects



**The world's largest urban innovation hub**  
A powerhouse for AI and other tech start-ups

Top-tier data centres in the core will ensure that Toronto continues to attract the top tech companies, including those providing services to the financial service industries, AI and IoT, and is ready to support new opportunities such as Sidewalk Labs.

**Discovery District**

**Toronto's Financial District**

**TR2 (existing) and TR3 (proposed)**  
Critical facilities for supporting Toronto's tech industries

**TR1 - 151 Front Street West**  
Canada's key telco hub, connecting Canadian businesses to the world

**Sidewalk Labs Quayside**

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## Co-location centres as a sensitive land use

- Mixed uses create security concerns and operational risks (e.g. flooding, vibration);
- High cooling requirements typically result in larger-than-normal penthouses;
- Sensitive HVAC systems, high cooling requirements and security needs require a low window-to-wall ratio.



## 2. Site & Context Analysis

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# Existing context



King Street East

504 Street Car

George Brown College

Globe & Mail Centre

Trinity Grounds

Eastern Avenue

504 Street Car

Consumers Gas Company

Front Street East

Site

Cherry Street

Sherbourne Street

Canadian Stage

St. Lawrence Community Rec Centre

TR2 Data Centre

Market Lane School

Parliament Street

The Esplanade

Mill Street

David Crombie Park

Parliament Square Park

Princess Street Park

Distillery District





Looking north along Parliament Street. The area is characterized by automotive uses with some heritage buildings and new development.



Intersection of Parliament and Front, looking north.



Consumers' Gas Co. Station A (1898) is a Part IV-designated building. It was rehabilitated in the early 2000s for use as TPS 51 Division.



Southwest corner of Parliament and Front is the First Parliament site, a future park & community use.

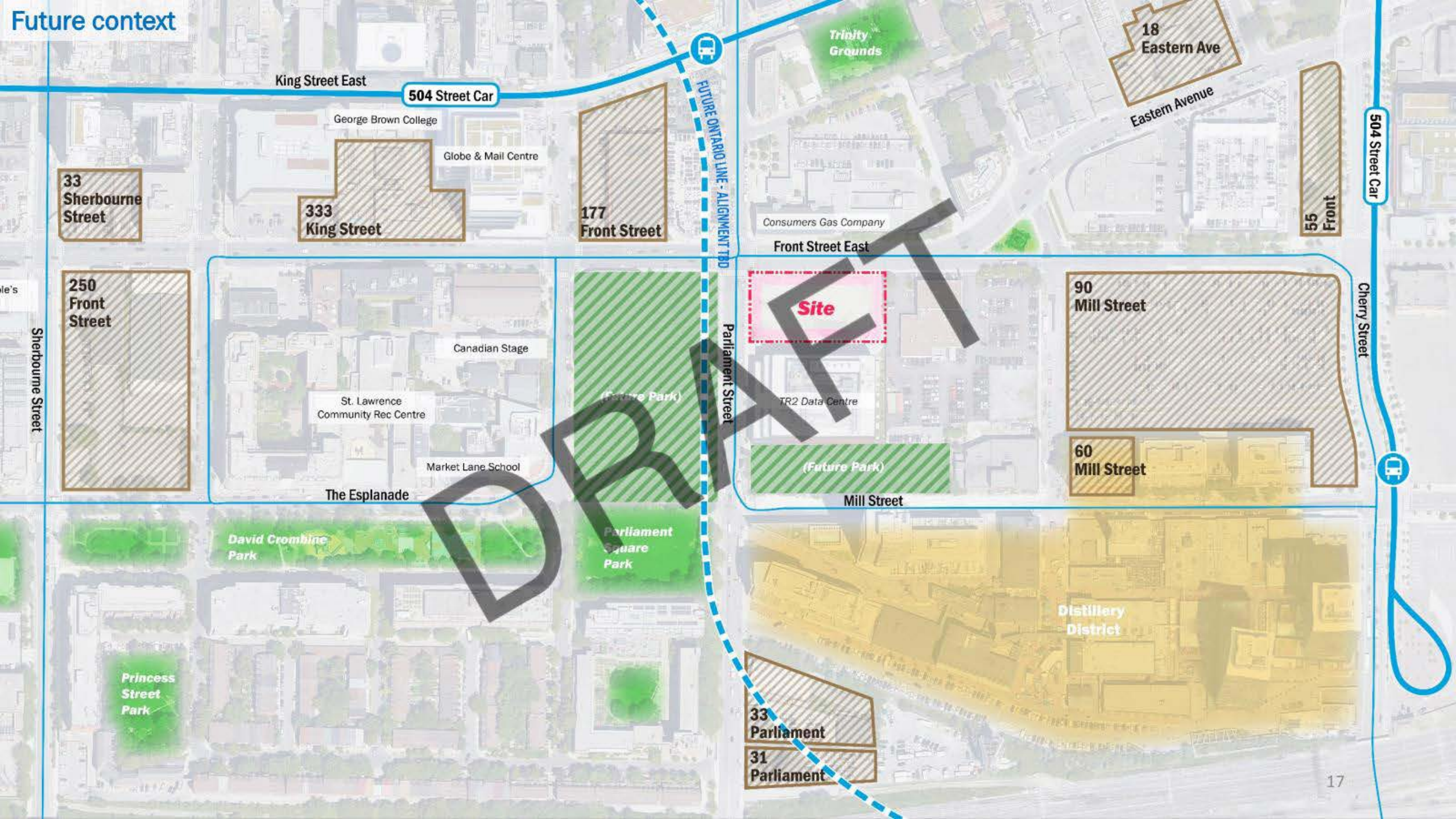


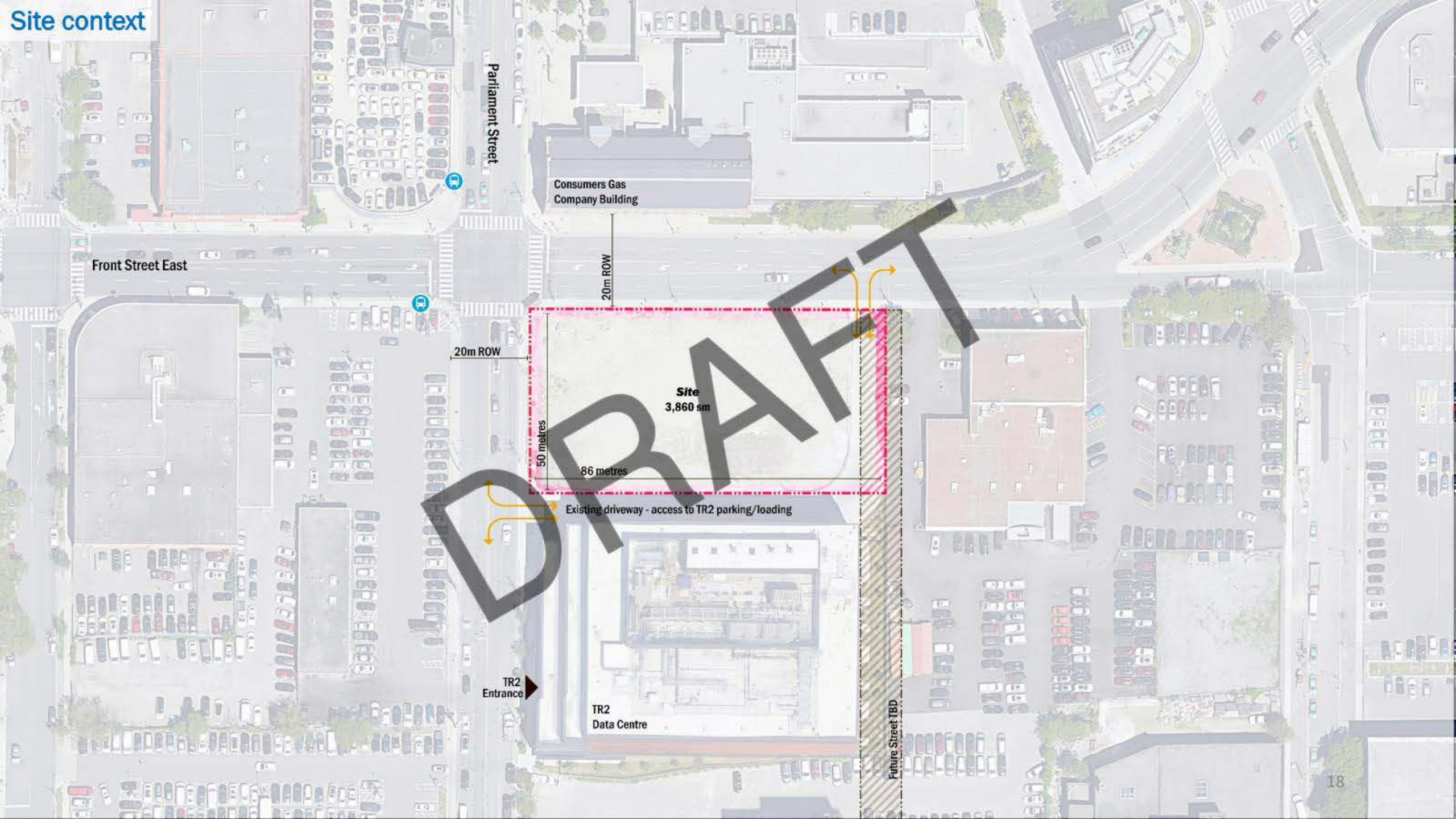
Looking west along Front, from the intersection of Front and Parliament.



Recent development in the Distillery District, south of the site.

# Future context





Parliament Street

Front Street East

Consumers Gas Company Building

20m ROW

20m ROW

Site  
3,860 sm

50 metres

86 metres

Existing driveway - access to TR2 parking/loading

TR2 Entrance

TR2 Data Centre

Future Street TBD

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Looking southeast towards the site.



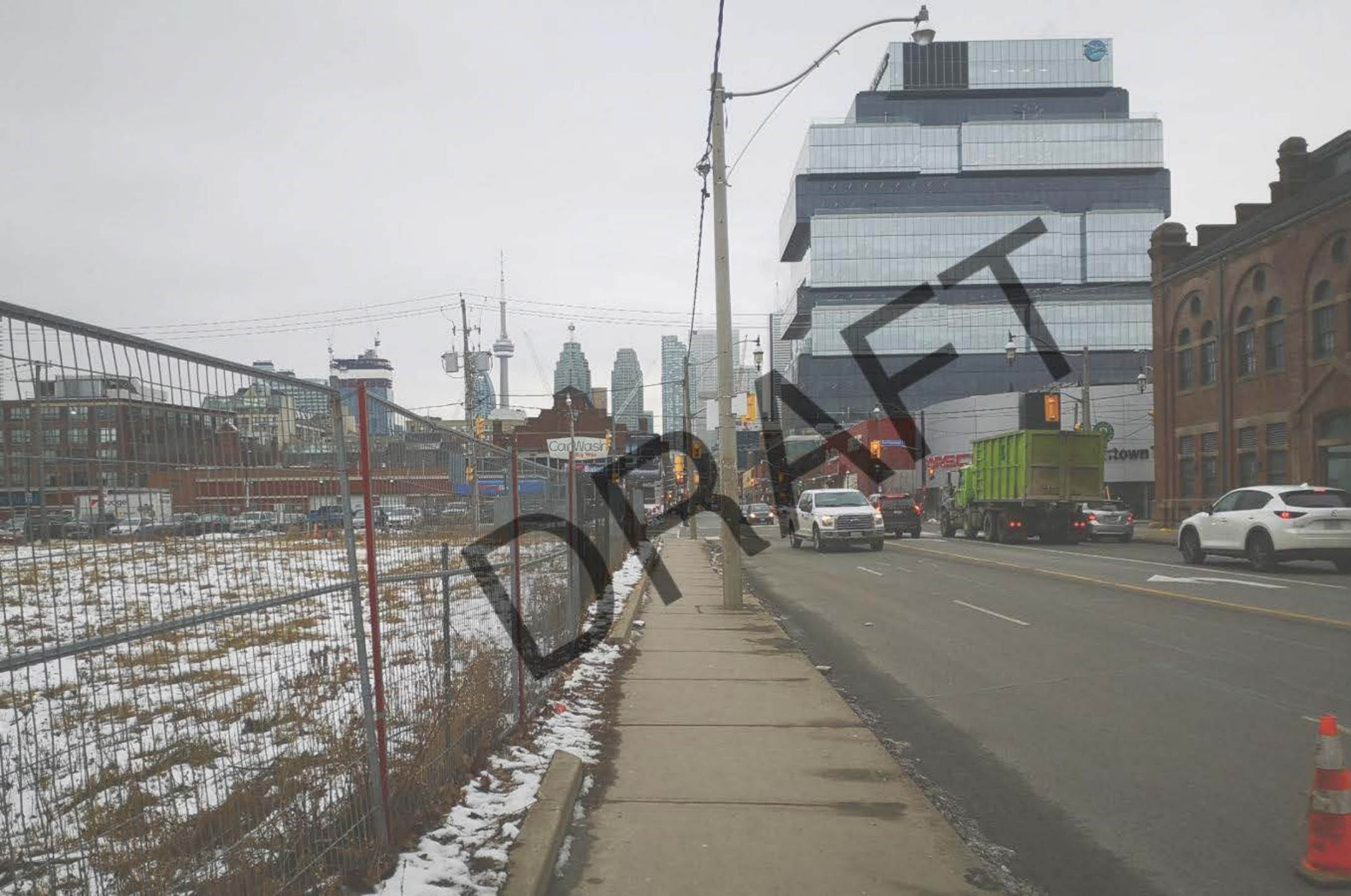
Looking east across Parliament towards the site.



A private lane across the site provides access to TR2.



A private lane across the site provides access to TR2.



Looking west towards Globe and Mail Centre and Downtown Toronto.



Existing public realm conditions along Parliament.

### 3. Site Response / Design Approach

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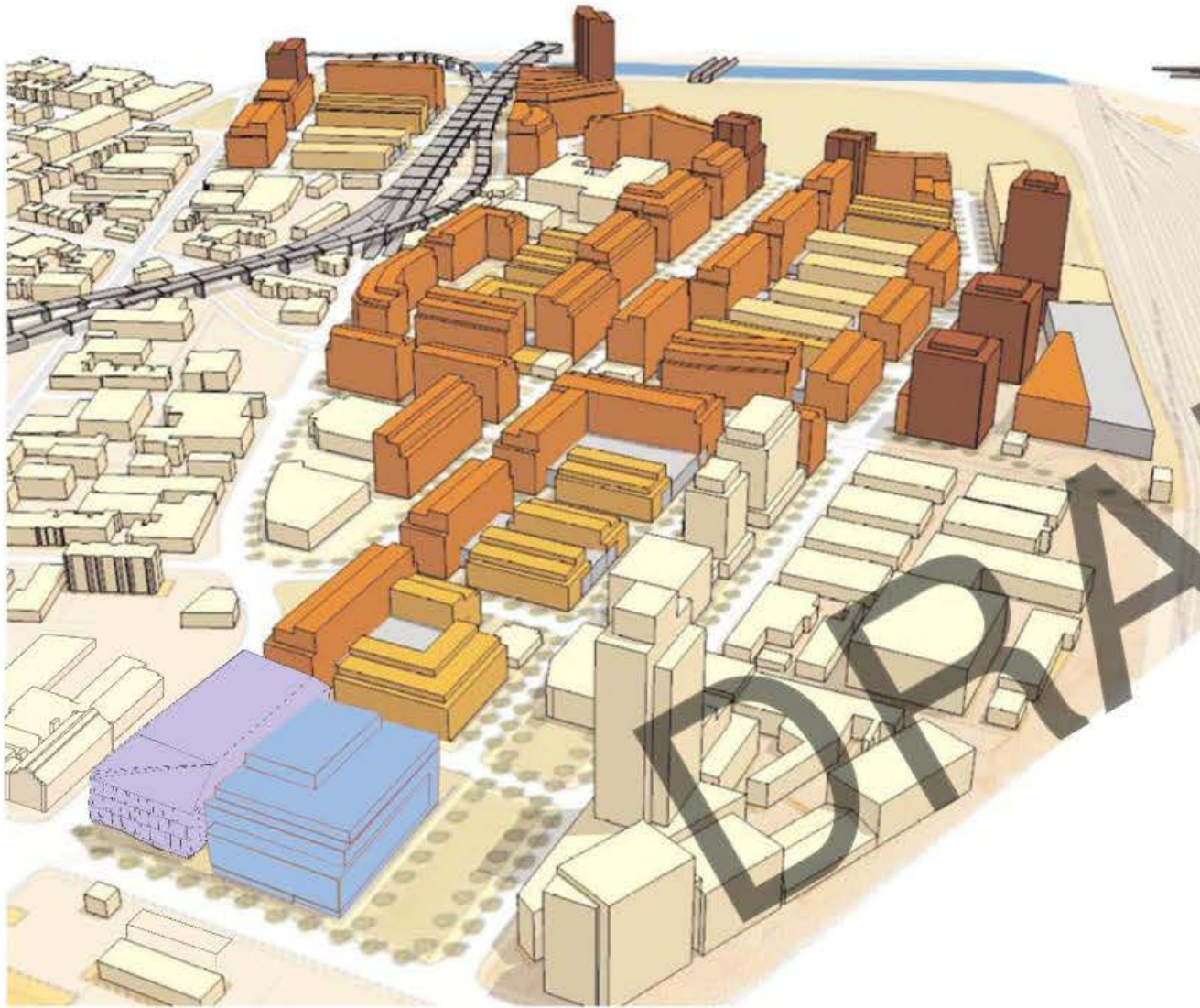
# Preliminary Directions



## Recap of initial meeting (January 9, 2019)

City / Waterfront Toronto staff noted that:

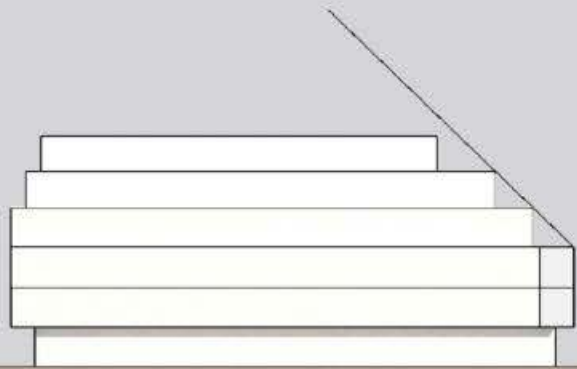
- Treatment of corner of Front Street and Parliament Street would be key (potential for POPS)
- Building should be designed with “three faces” since a future north-south road is planned through the block
- Animation of the ground floor along Parliament Street and Front Street would be important
- Enough boulevard space should be provided for proper tree planting
- Sustainable design (green roofs, stormwater management) etc. would be a key consideration
- There was some concern for option which showed a bridge link over service lane.



West Don Lands Precinct Plan – Overall Massing (with TR2 & TR3)

- TOWNHOUSES
- SMALL APARTMENT BUILDINGS
- LARGE APARTMENT BUILDINGS
- TOWER
- PROPOSED TR3
- TR2

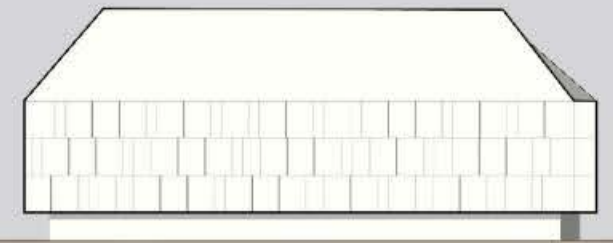
**PROPOSED CONTEXT**



STEPPED FORM



SIMPLIFIED FORM



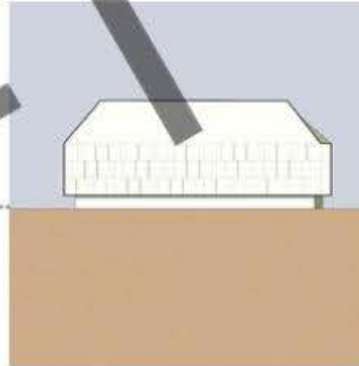
SCULPTED FORM

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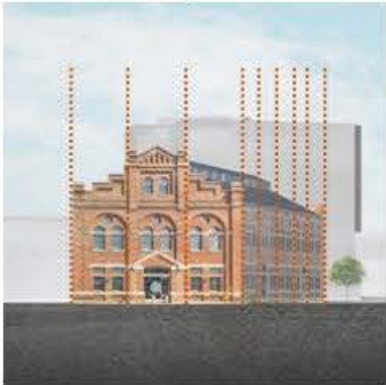
FRONT STREET



MATERIALITY



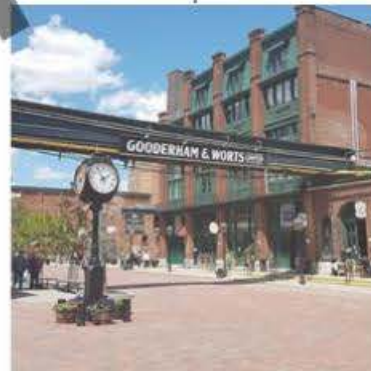
SCULPTED FORM



ADAPTIBILITY



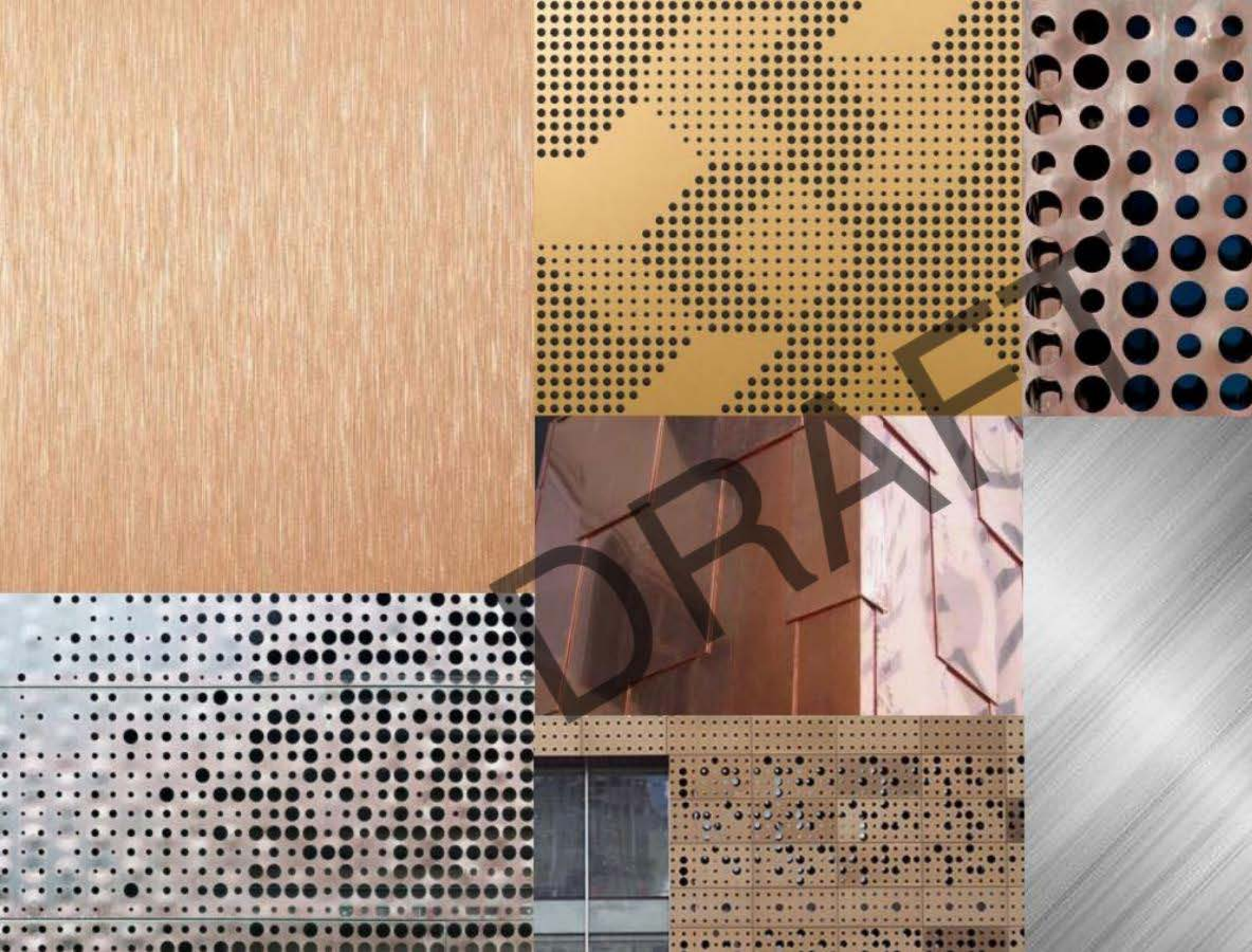
PERMANENT EXHIBIT



HISTORICAL CONTEXT



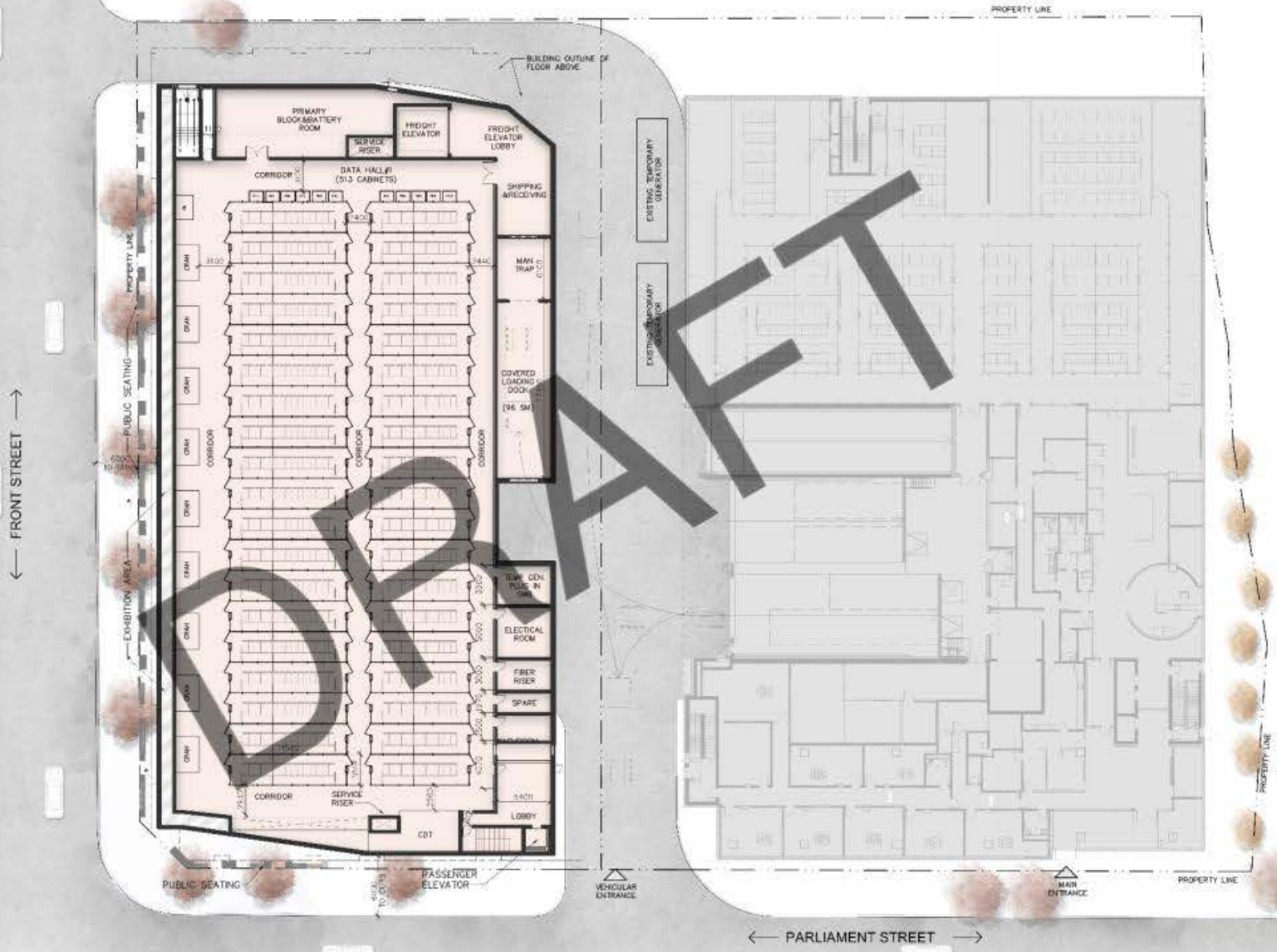
REFLECTION





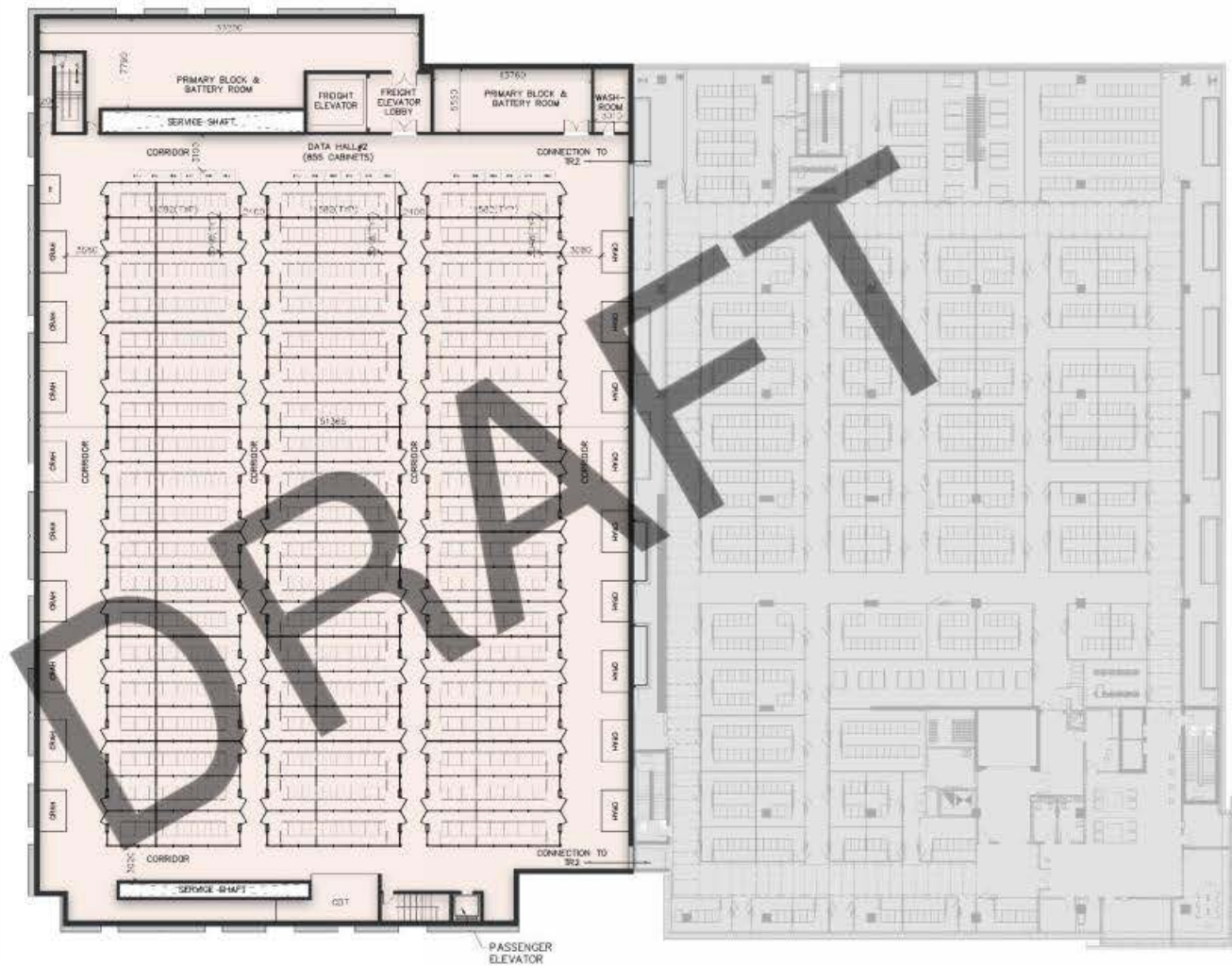
**LIGHTING**



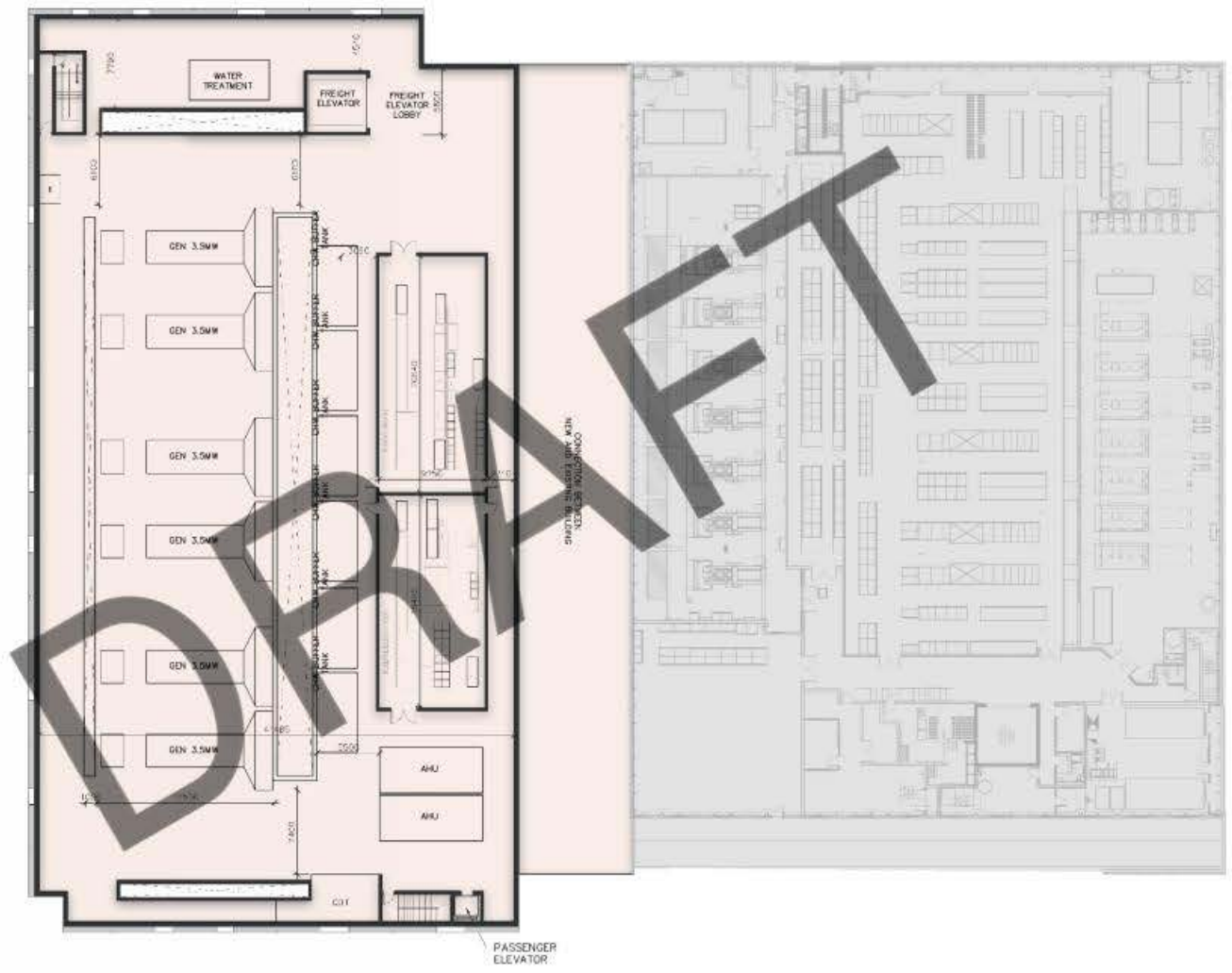


GROUND FLOOR PLAN

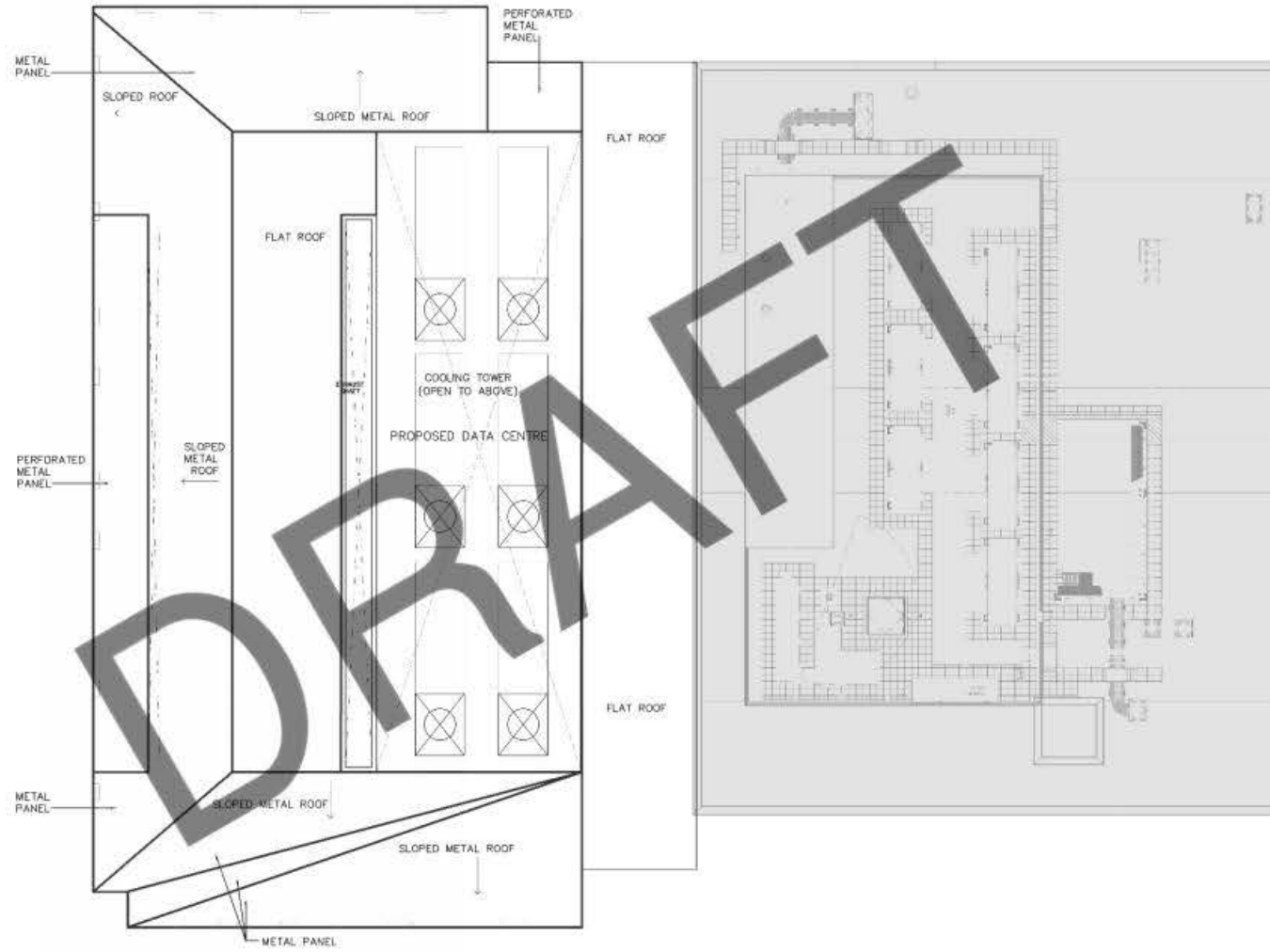




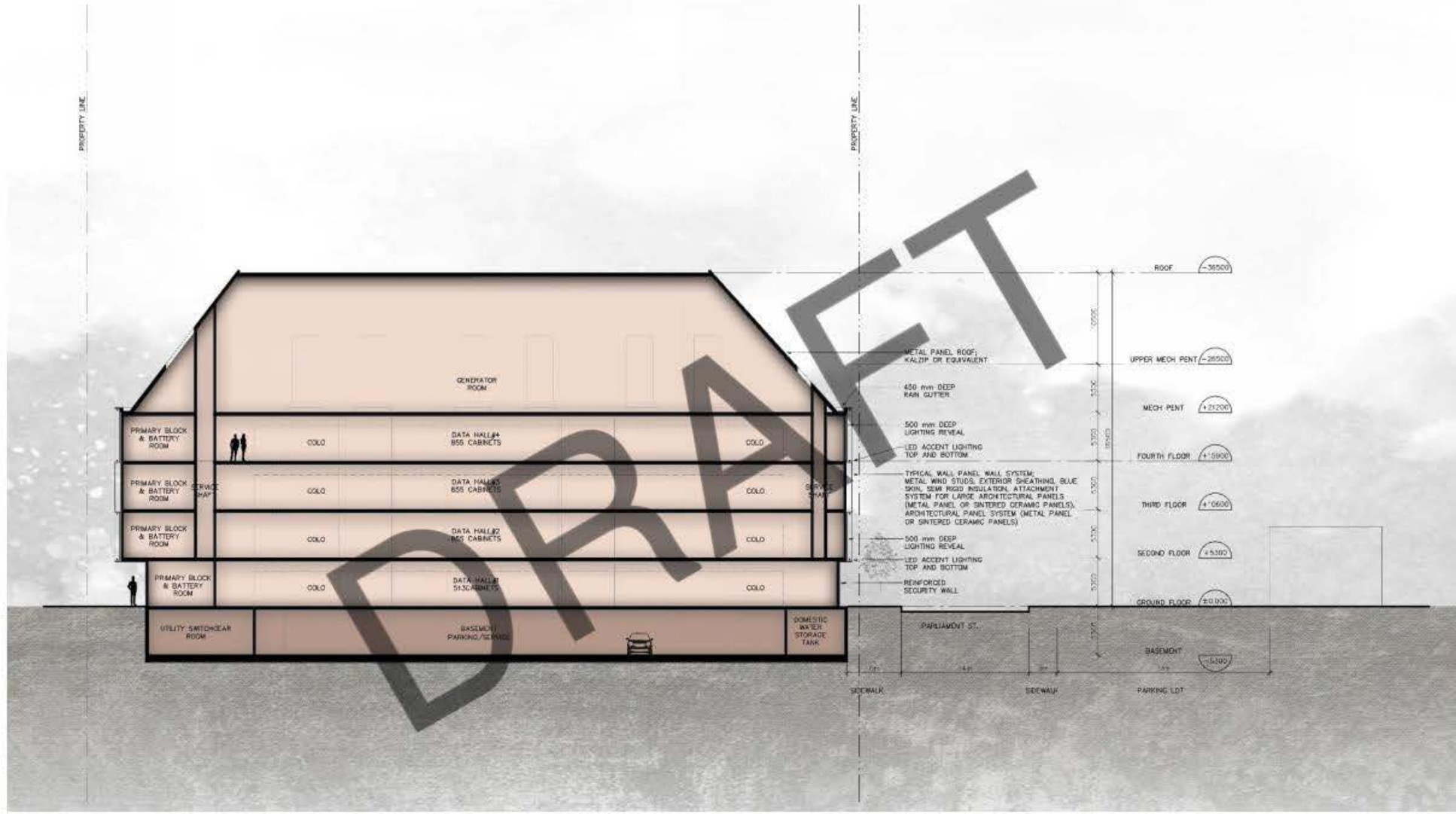
**SECOND TO FOURTH FLOOR PLAN**



**MECHANICAL PENTHOUSE FLOOR PLAN**







**BUILDING SECTION**



METAL ROOF — LOW IRON STRUCTURAL GLASS (EXHIBITION AREA) — METAL PANEL OR SINTERED CERAMIC PANEL — RECESSED LIGHTING ACCENT

42785  
52785

**WEST ELEVATION**

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- METAL ROOF
- LOW IRON STRUCTURAL GLASS (EXHIBITION AREA)
- METAL PANEL OR SINTERED CERAMIC PANEL
- PERFORATED METAL PANEL
- RECESSED LIGHTING ACCENT

80120

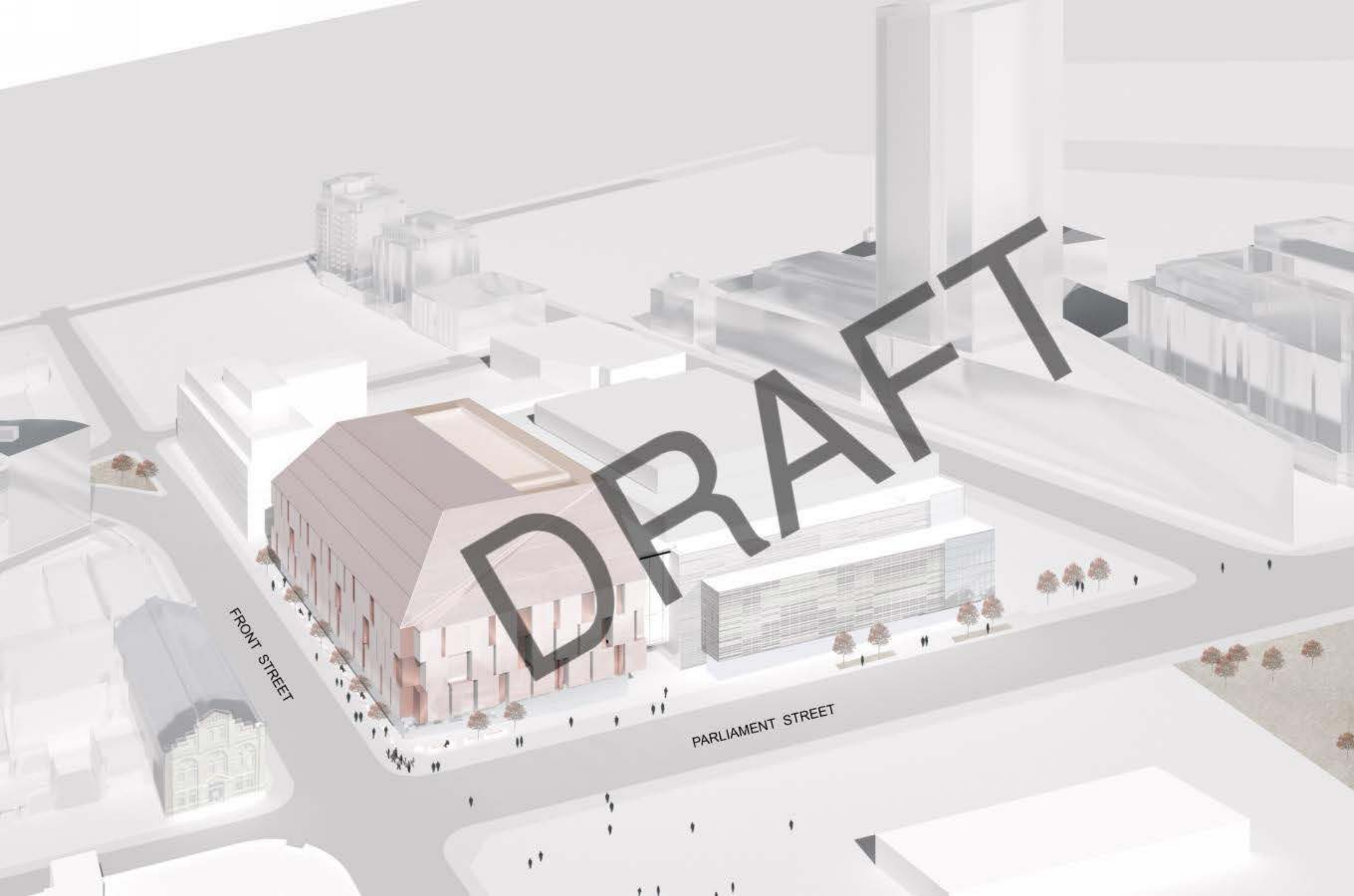
**NORTH ELEVATION**

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METAL ROOF  
LOW IRON STRUCTURAL GLASS  
(EXHIBITION AREA)  
42785  
52785  
METAL PANEL OR  
SINTERED CERAMIC  
PANEL  
RECESSED  
LIGHTING  
ACCENT  
SIDEWALK  
FRONT STREET

EAST ELEVATION

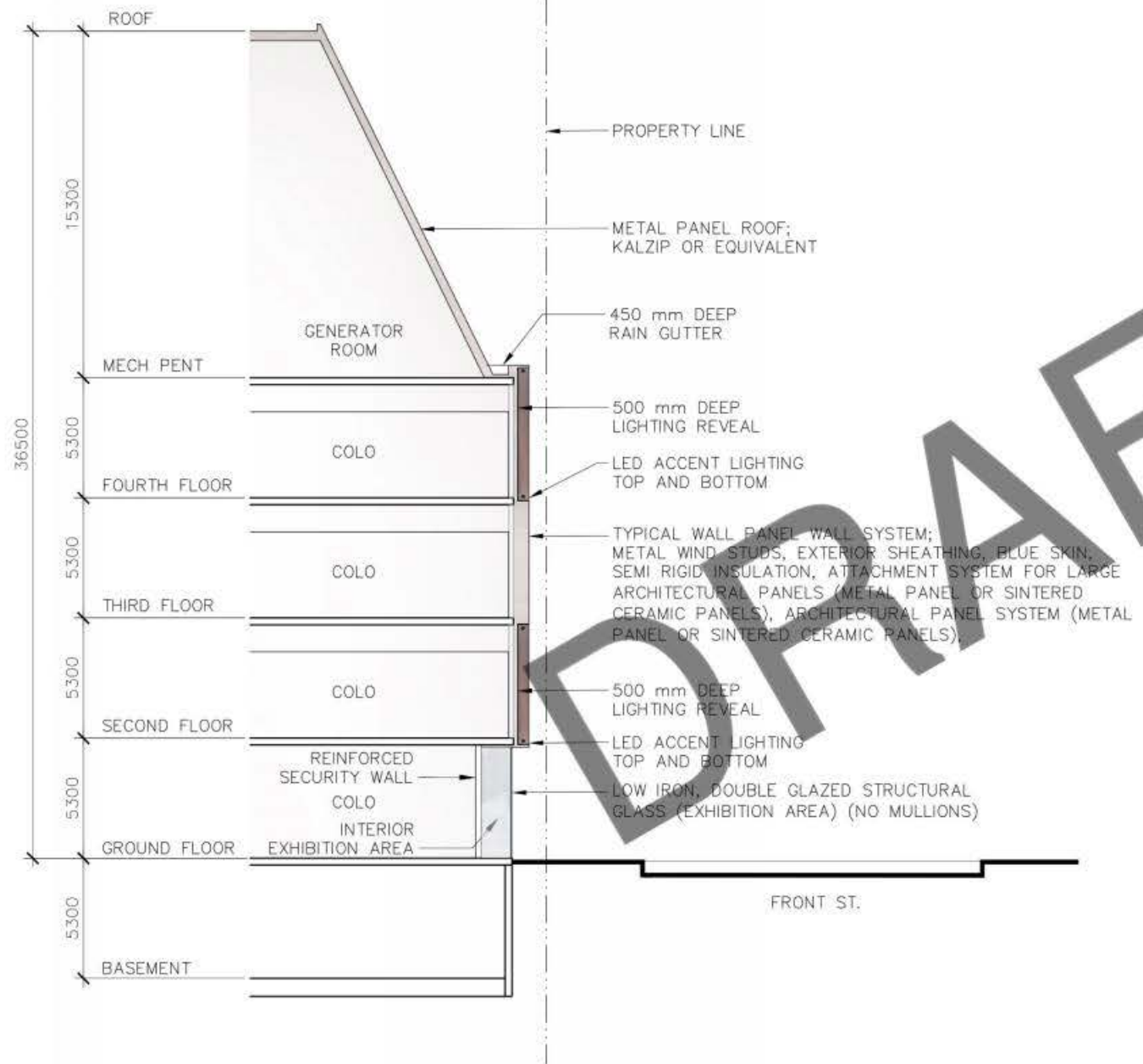




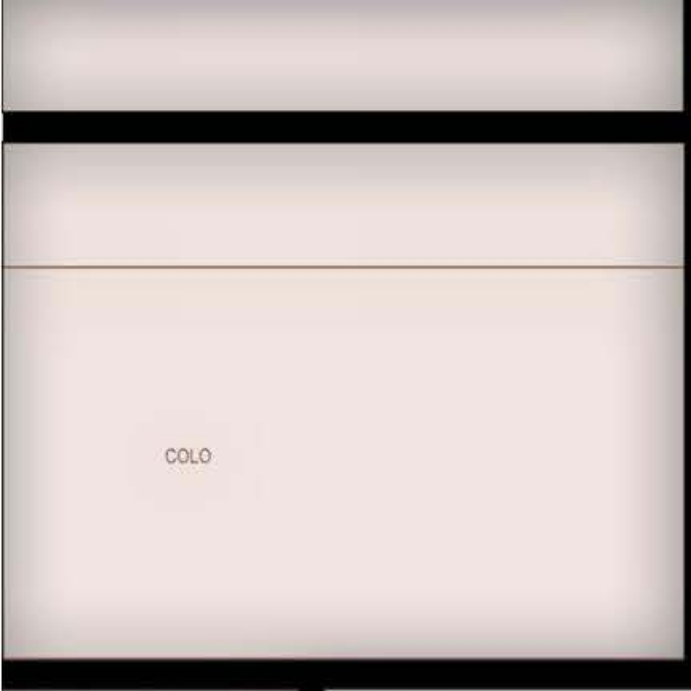
FRONT STREET

PARLIAMENT STREET

**AERIAL VIEW**



**PARTIAL BUILDING SECTION**



COLO



COLO



PERMANENT  
EXHIBITION  
AREA



PROPERTY LINE

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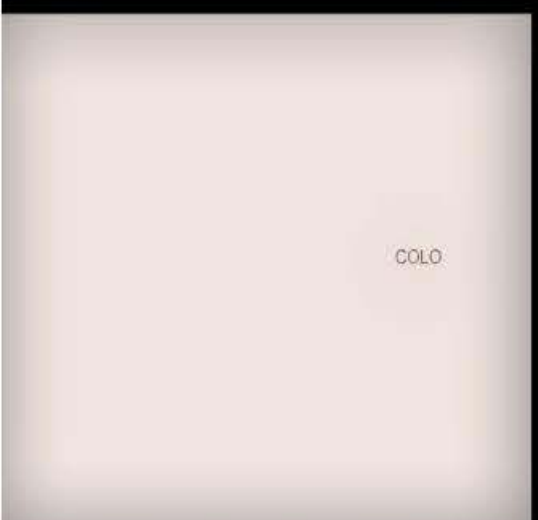
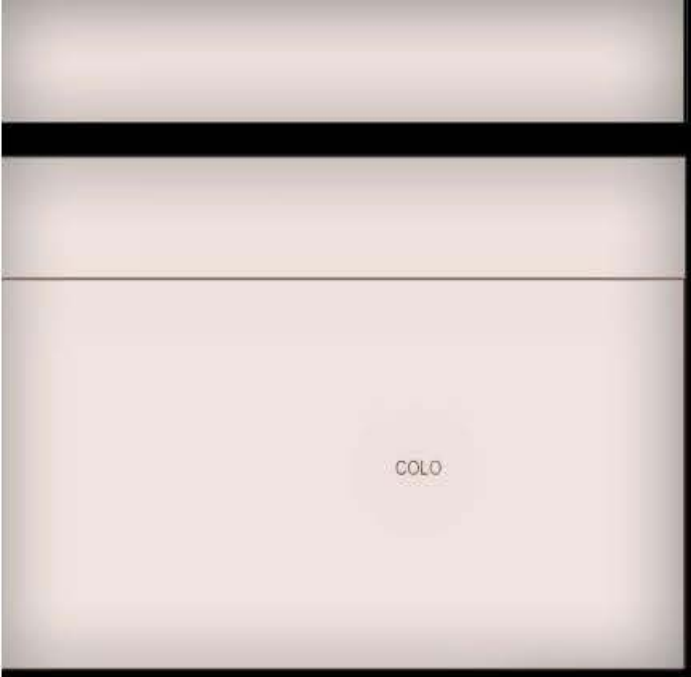


1800



PARLIAMENT STREET

6000



**FRONT ST.  
URBAN REALM**

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**FRONT STREET LOOKING EAST**



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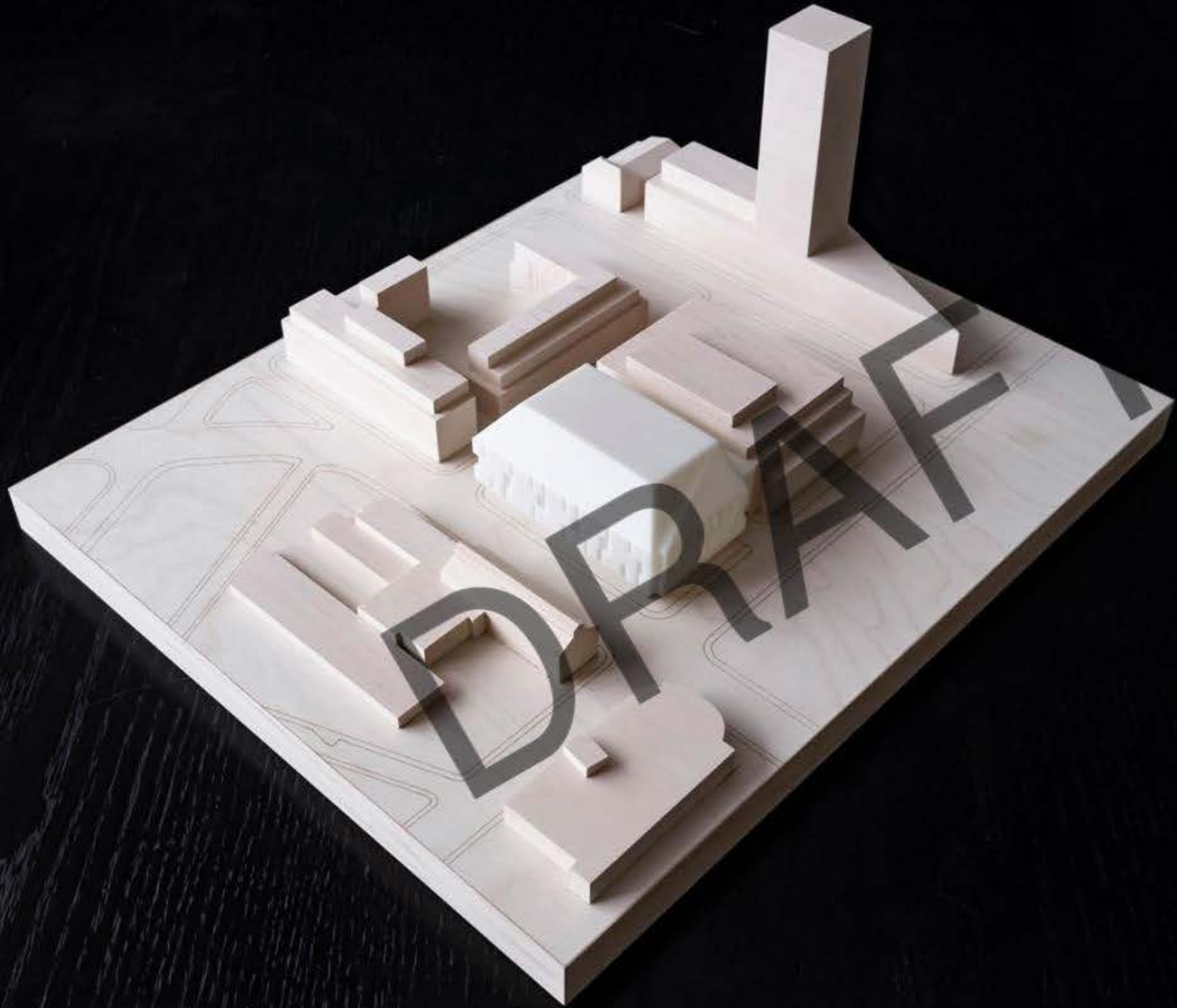
**FRONT STREET LOOKING WEST**

**PARLIAMENT STREET LOOKING NORTH**

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**NORTH EAST CORNER**



**NORTH WEST CORNER**



**SOUTH WEST CORNER**

DRAAFT



FRONT STREET

## 4. Sustainability Objectives

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## Equinix's Sustainability Achievements

1. 100% clean and renewable energy goal announced in 2015 (56% renewable achieved at end of 2016)
2. Achieved a record 90% of worldwide energy consumption powered by renewables in 2018.
3. 71% absolute carbon reduction since 2015\*
4. Actively creating a work environment where every employee can confidently say “I’m safe, I belong, and I matter”.

## **Sustainability strategies being investigated for TR3**

### **Location & Transportation**

- Reduced parking footprint
- Electrical Vehicle Infrastructure

### **Sustainable Site**

- Use of a joint facility
- Heat Island Reduction: “Cool” metal roof (high solar reflectance, low thermal emittance)

### **Water Minimization Strategies**

- Plumbing fixtures will be selected with the highest rating to minimize water usage in the building.
- Cooling tower’s make up water system will be designed to achieve minimum 6 cycles of concentration.

### **Mechanical**

- Mechanical equipment with high efficiency in the range of operation will be selected.
- Cooling system consisting of seven water cooled centrifugal chillers that serve the CRAs, ACUs and MAUs.
- A waterside economizer will be utilized on cooling towers to decrease chiller use during optimal outdoor temperatures.
- In the data halls a partial hot aisle containment is planned to prevent mixing of hot and cold air and increase the efficiency of the cooling system.
- The proposed MUA utilize economizers to precool air in summer and preheat air in winter.

### **Electrical**

- Lighting control is planned for the data hall.
- Metering and branch circuit monitoring will be coordinated with the controls design to ensure efficiency of building systems.