

450 West Georgia Street

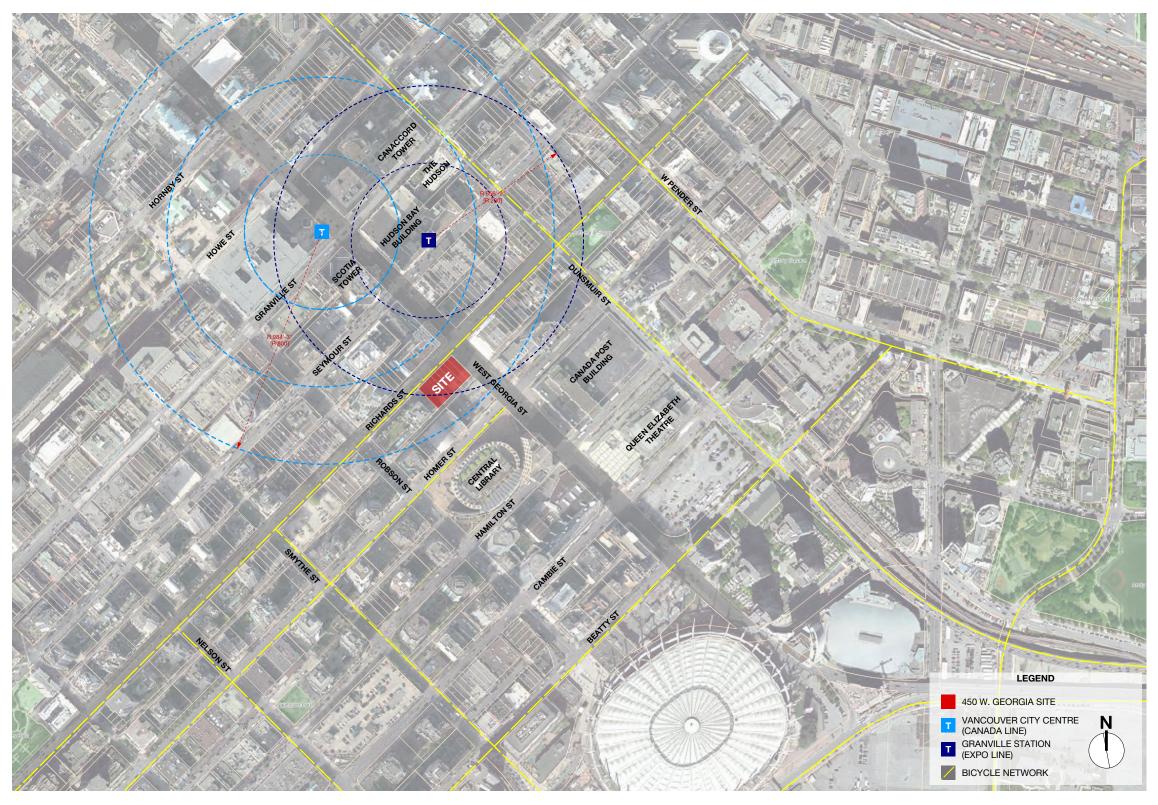
Urban Design Panel Submission

June 17, 2020





1.2 Context Plan

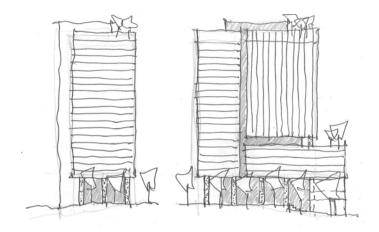


SITE LOCATION ON VANMAP AERIAL IMAGE

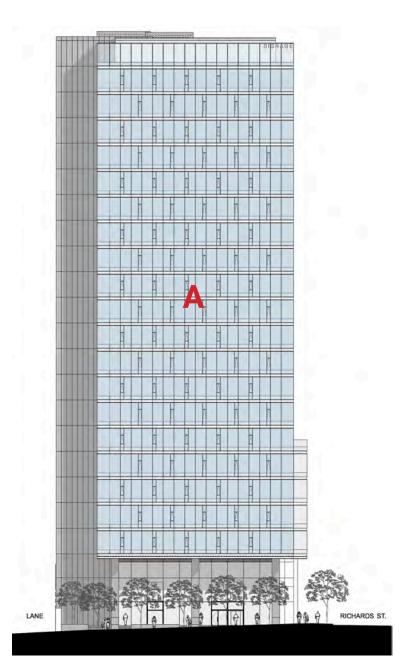
2.1 Design Rationale

Design Rationale

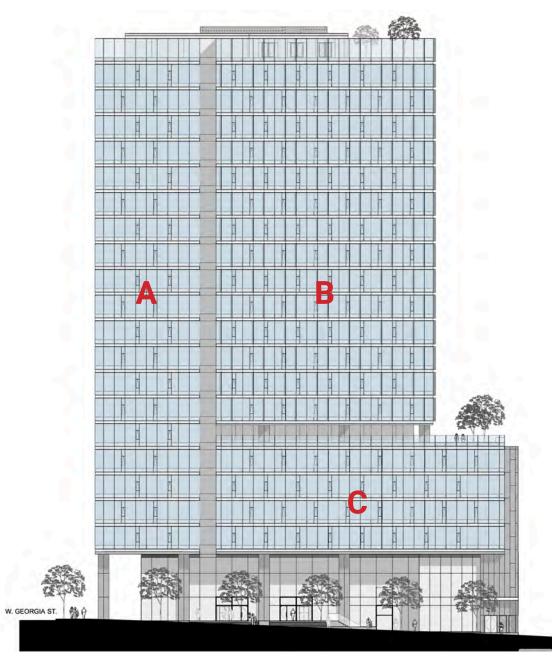
- A modern orthogonal tower form is proposed, which will allow it to sit prominently and comfortably adjacent both new and existing buildings along W. Georgia St
- The upper massing of the building sits above a recessed three-storey ground floor lobby and Privately-Owned Public Open Space (POPOS)
- The W. Georgia facade is the front face of the building and appears as a singular, slender form (volume A) sitting upon, exterior metalclad columns
- Turning the corner onto Richards St., the upper building is divided into three separate volumes, with a vertical slot that extends up the entire façade to the sky and a horizontal recess at level 8; both design features help to break down the overall massing of the building and provide a clear boundary at which facade treatments can change



CONCEPTUAL SKETCH OF PROPOSAL



W GEORGIA STREET ELEVATION

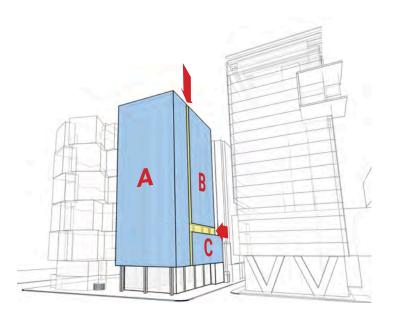


RICHARDS STREET

2.1 Design Rationale

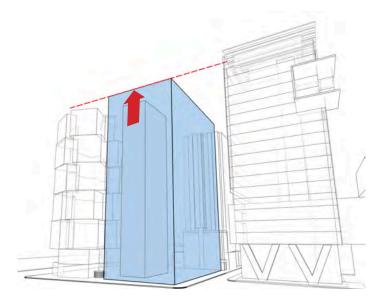


1. SITE CONTEXT



4. CARVE

Vertical and horizontal slots into the West facade (Richards St) to create 3 distinct upper volumes: W. Georgia's vertical tower form (Volume A), Richards horizontal podium form (Volume C) and the boxy upper massing (volume B).



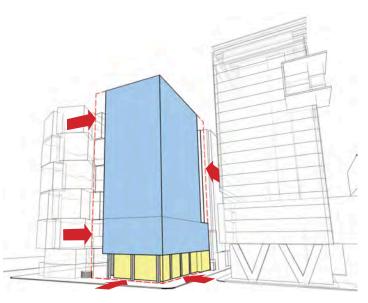
2. EXTRUDE A BOX

To the general height of Neighbouring buildings, observing Curb setback requirements.



5. PULI

Out the face of the horizontal podium (volume C) along Richards St. to break down the overall massing of this elevation; pull the glazing up past levels 8 and 23 floor slabs to form guardrails at both roof deck spaces.



3. SHAPE THE BOX

By Pulling in at the base to expose the tower structure and squeezing in two sides of the upper massing to create sufficient setbacks from the neighbouring buildings to the South and East.



6. ARTICULATE THE FACADE

With a unitized curtain wall system that integrates a horizontal metal channel at each floor slab; Operable vent windows are added in an offset pattern on all elevations; vertical louvers are positioned on volume B of the tower (east, south and west exposures) to provide exterior sun shading control and added visual depth

2.9 Renderings



VIEW FROM RICHARDS ST. LOOKING SOUTH

2.10 Model Photos



NORTH EAST VIEW



NORTH WEST VIEW (WEST GEORGIA AND RICHARDS ST.)

2.3 Form of Development

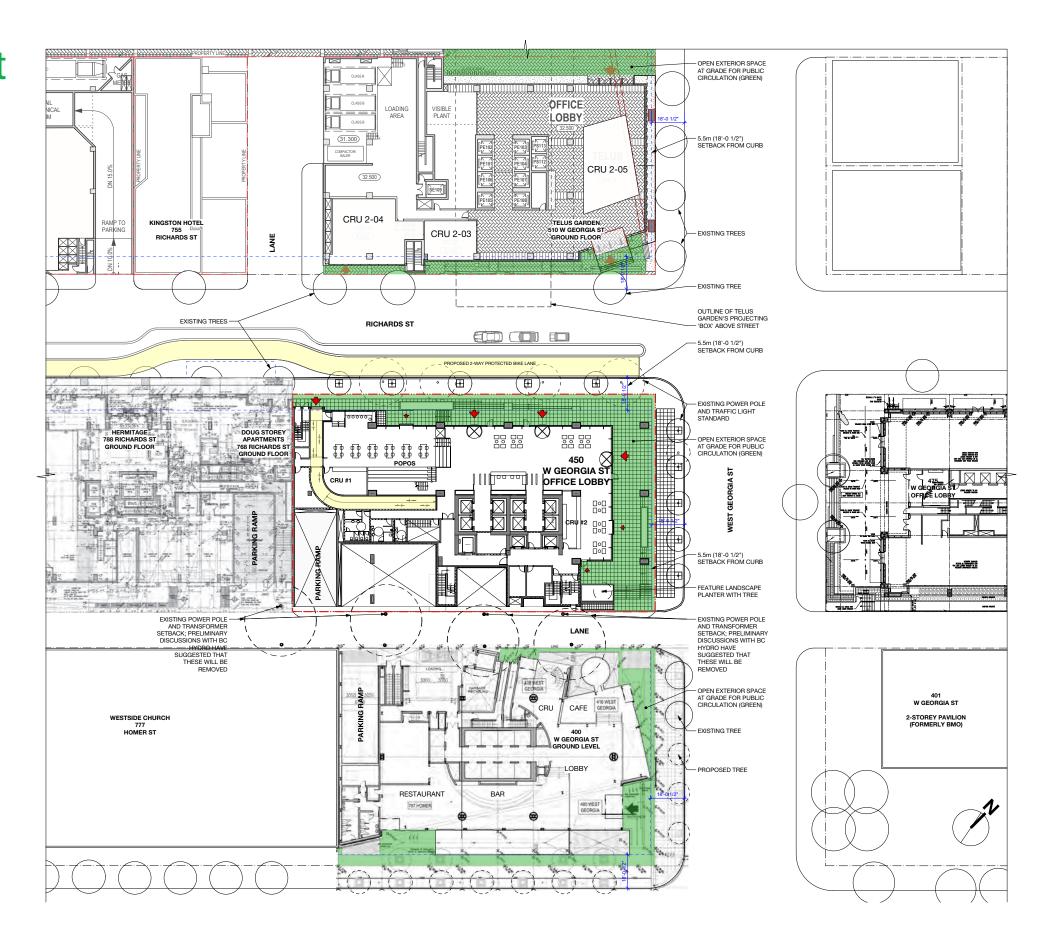
GROUND LEVEL

Public Realm

- The 3-storey volume of the entry lobby and Privately Owned Public Open Space (POPOS) is recessed from the face of the tower to provide ample covered circulation space around the building
- The generous covered entry area framed by the three columns along W. Georgia St. reinforce and augment the ceremonial nature of this primary downtown street
- Multiple pedestrian entry options on both W. Georgia St. and Richards St. allow for the complete interconnectivity of the building's interior and exterior public realm spaces
- The Privately Owned Public Open Space (POPOS) provides sitting and table areas open to the general public during weekday business hours
- A bike entrance features prominently on Richards St., where a new 2-way, separated bike lane is planned; a dedicated bike ramp leads office riders down one level to the bike storage area
- Two commercial retail units are integrated in the lobby/ POPOS space, activating both street frontages and reinforcing existing commercial patterns established by adjacent buildings
- At the lane edge along W. Georgia, the building steps in to create space for a feature landscape element at the level of the lobby, which balances with 400 W. Georgia's water feature across the lane

Curb Setback

Where the podium level of proposed development abuts the Doug Storey Apartments (768 Richards St.), the building steps 1'-11" into the curb setback zone (in plan) to create a smooth transition between buildings



2.9 Renderings

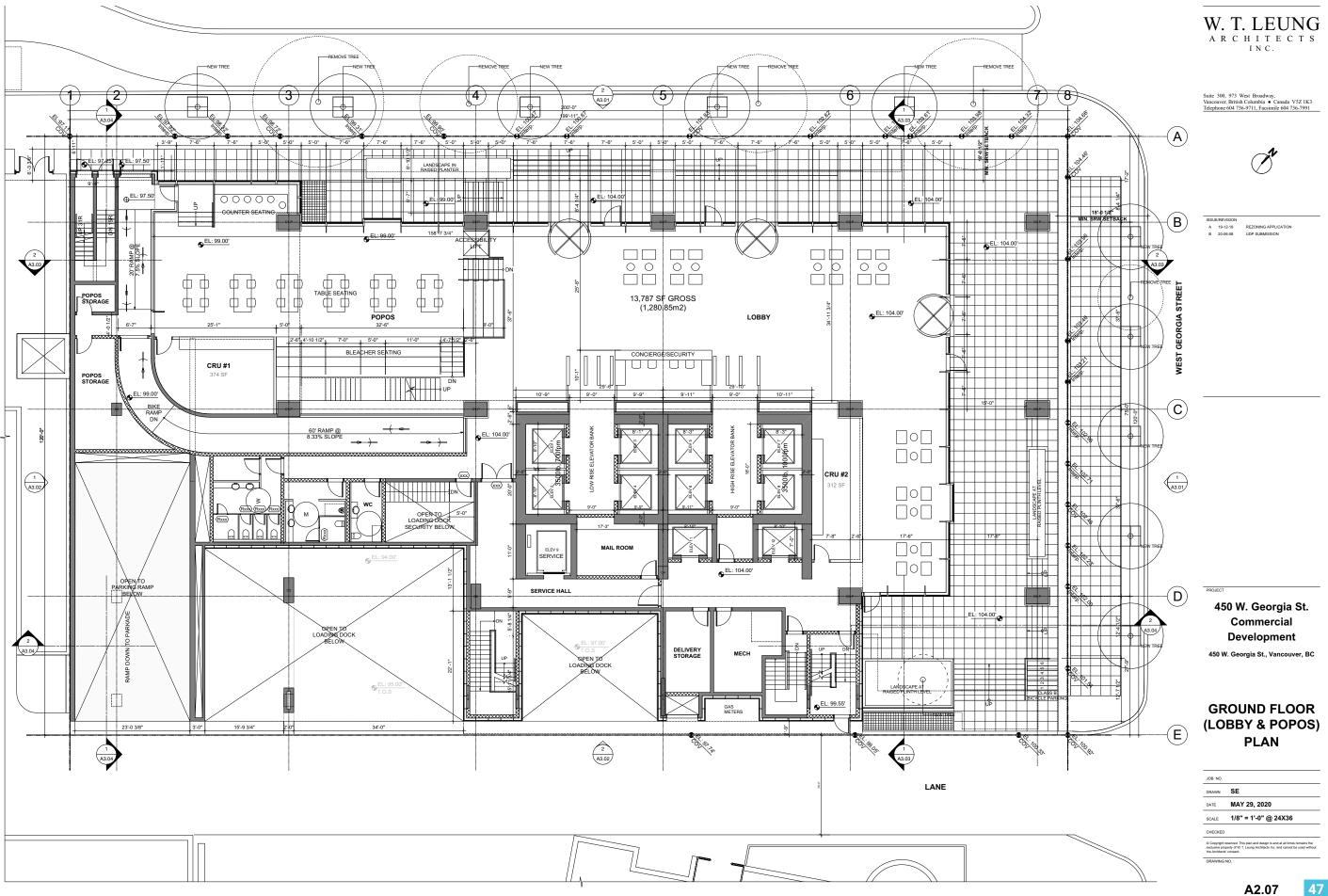


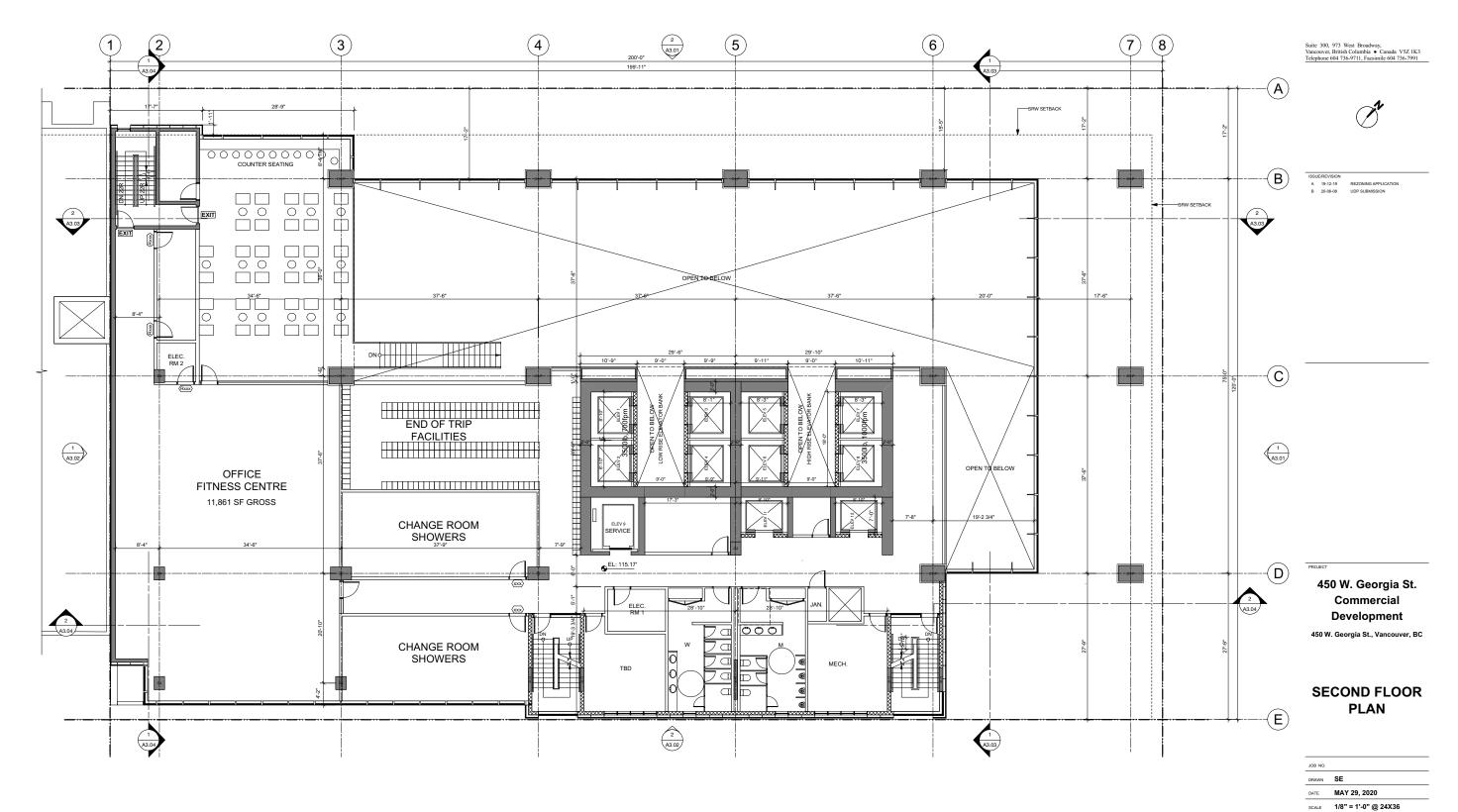
VIEW FROM NORTH SIDE OF WEST GEORGIA ST.

2.10 Model Photos

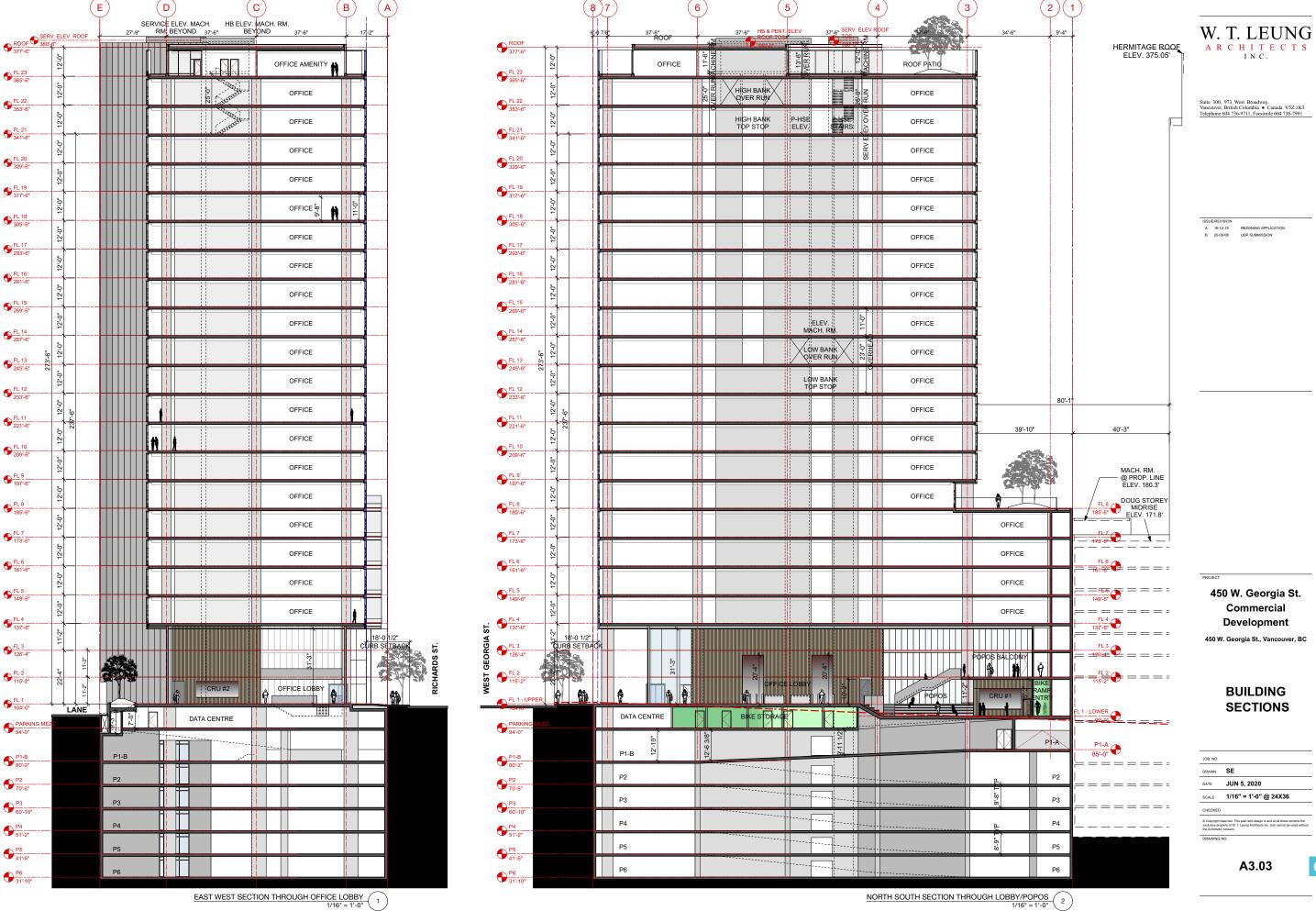


TOWER BASE DETAIL





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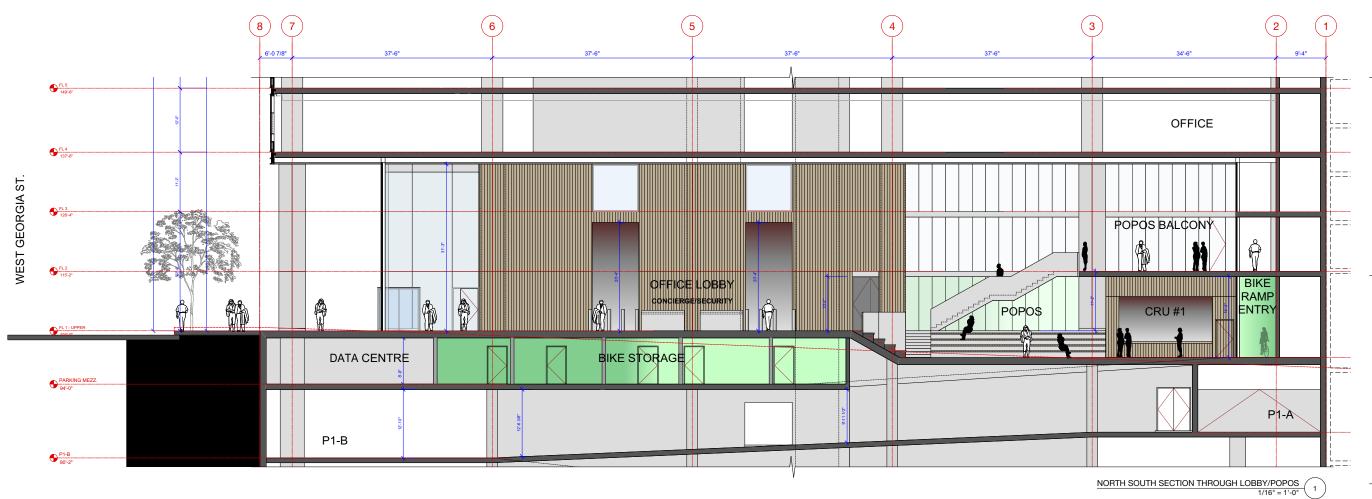


NORTH SOUTH SECTION THROUGH LOBBY/POPOS
1/16" = 1'-0"
2

67



Suite 300, 973 West Broadway, Vancouver, British Columbia • Canada V5Z 1K3 Telephone 604 736-9711, Facsimile 604 736-7991





HIGH VISIBILITY OF INTERIOR LOBBY SPACE FROM STREET



FREE-FLOWING INTERIOR SPACE WITH INFORMAL SEATING AND WOOD ACCENTS



CONNECTION TO OUTDOORS



CONTINUITY OF STONE PAVING SURFACE FROM EXTERIOR TO INTERIOR

PRECEDENT IMAGES 2

PROJECT

450 W. Georgia St. Commercial Development

450 W. Georgia St., Vancouver, BC

POPOS SECTION

JOB NO.	
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DATE	MAY 19, 2020
SCALE	REFER TO DRAWING

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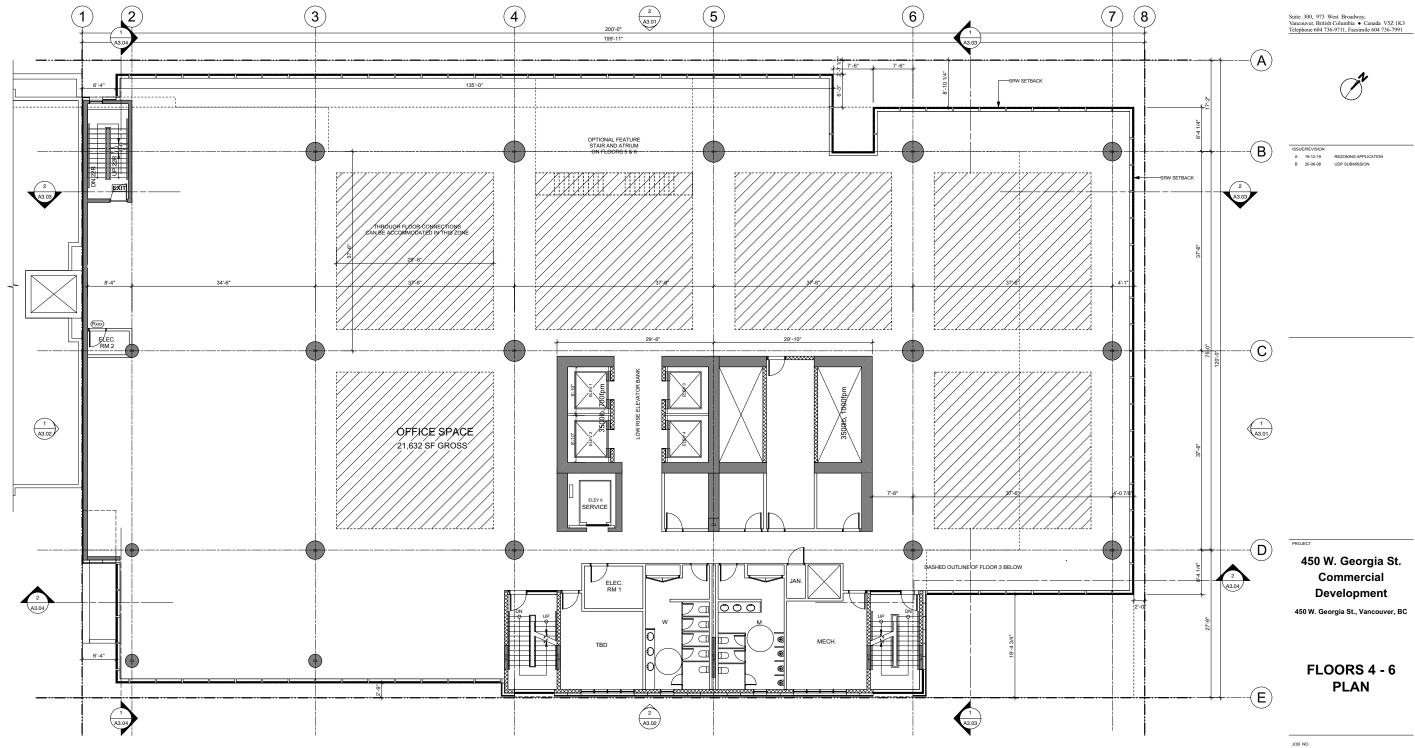
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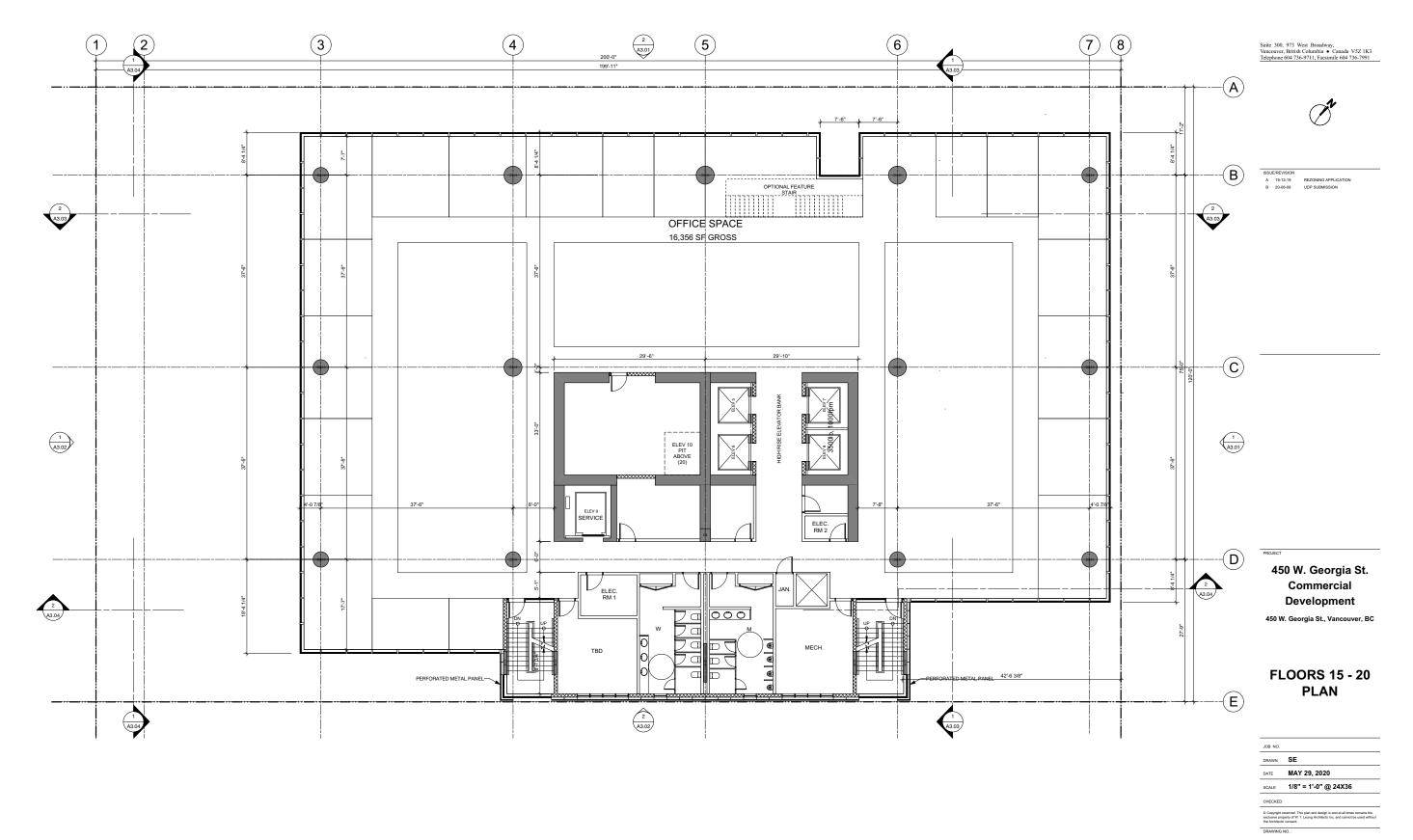
2.9 Renderings



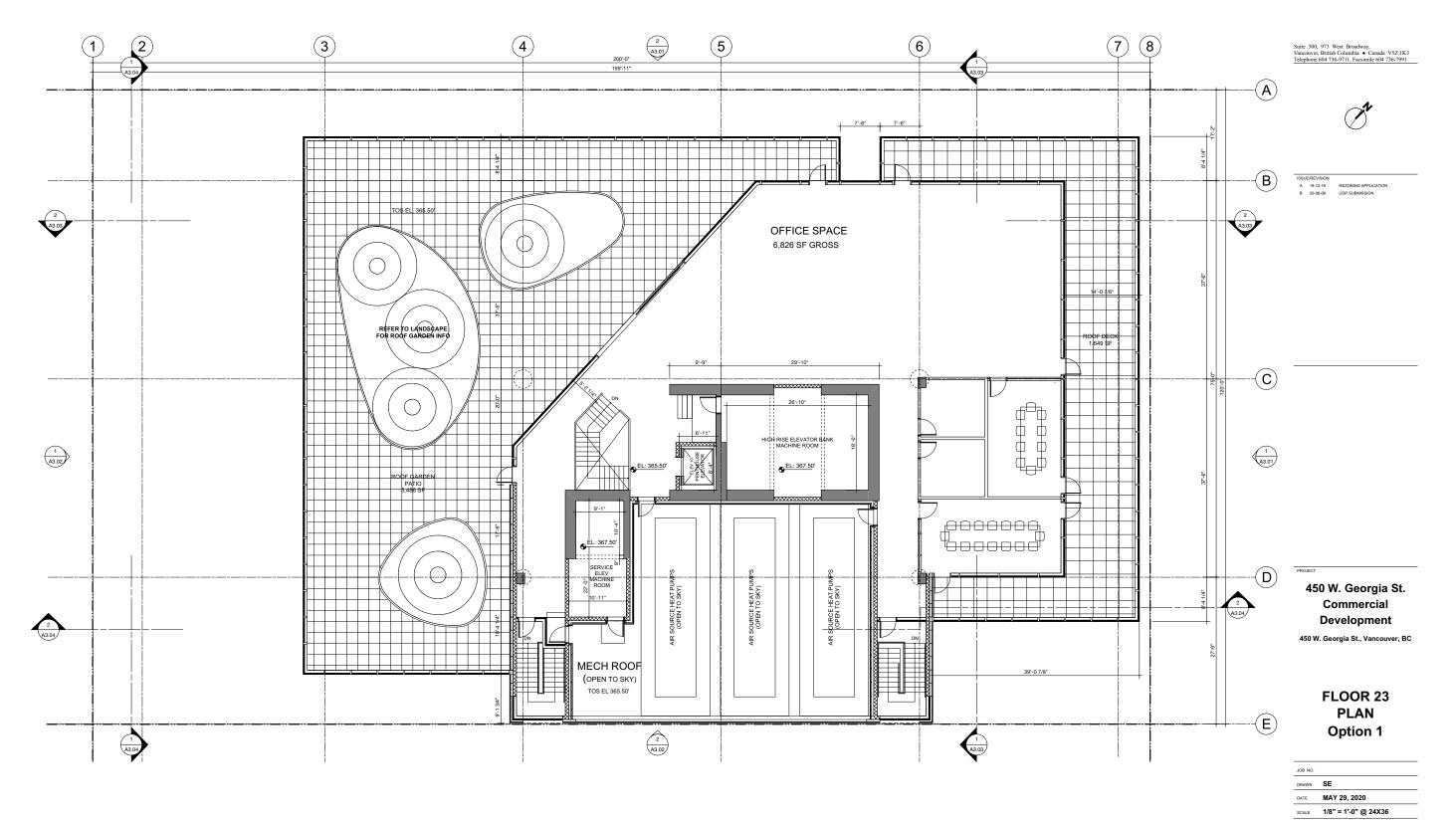
VIEW FROM WEST GEORGIA ST. AT RICHARDS ST.



DRAWN SE DATE MAY 29, 2020 SCALE 1/8" = 1'-0" @ 24X36



55



58

2.4 Sustainability

450 West Georgia St.

LEED Narrative



Prepared by Recollective Consulting **Rezoning Application** 2019-12-12

The 450 West Georgia St. project will be designed and constructed to meet the **Low Emissions Green Buildings** requirements of the **City of Vancouver Green Buildings Policy for Rezoning**. The project will be designed to achieve Gold certification under LEED for Core and Shell (CS) v4 rating system. The following narrative describes the high value sustainable design strategies that will be considered by the integrated design team and owner for the Project.

Location and Transportation

The environmental benefits of developing within dense urban areas are well established. Studies show that, for many buildings, more energy is used by occupants travelling to and from work than a building itself uses over its lifetime. This project is well served by transit with proximity to the Canada line, Expo line and numerous bus routes. Furthermore, it is within walking distance of several services and amenities and will provide a "Ride in, ride out" cycling facility safely connected to Vancouver cycling network.

Sustainable Site Strategies

Planting will feature native species to minimize maintenance and pest management. Plant selection and efficient irrigation strategies are expected to reduce watering demand.

Water Efficiency

In addition to reducing irrigation demand, water use reduction within the building will be achieved by specifying low flow fixtures. Reducing potable water use will ease the burden on municipal water supply and wastewater systems.

Energy & Atmosphere

The project will make use of a high-performance glazing system to maximize daylight and views within the floor plates while minimizing the envelope's impact on the energy consumption for the building. The following energy reduction measures will be considered for the project:

- High-performance building envelop with triple grazing windows
- Electric-based primary systems to reduce Greenhouse Gas (GHG) emissions
- Energy efficient lighting design with automation

Commissioning of mechanical and electrical systems will be considered to ensure the energy savings will remain with the project over time.

Materials & Resources

The project will make use of materials selected for durability, functionality, aesthetics and low environmental footprint. A building life-cycle impact reduction study will be conducted to inform the design and guide the building materials selection. Construction waste will be managed to divert most materials from landfill and direct to reuse and recycling.

Indoor Environmental Quality

To the extent possible in a core and shell construction, the project will aim to maximize the quality of the indoor environment for building users. The project will employ air quality management strategies right through construction. This will be coordinated through an Indoor Air Quality (IAQ) management plan and executed by the construction team. The plan will include such measures as:

- Use of low emitting finishing materials
- Thermal comfort
- Prohibiting smoking within the building and near operable windows and air intakes
- Isolating construction work that would compromise air quality

450 West Georgia St.

High Performance Curtain Wall



450 West Georgia features a bespoke curtain wall design utilizing the most advanced technology available to achieve both a well, day-lit work space *and* a highly energy-efficient facade.

While the building's primary aesthetic is that of a largely glazed façade, on closer inspection, one sees the integration of a shadow box (an extended concealed spandrel panel) at each floor which shields the view under the desk and provides excellent insulation. The glass itself still requires excellent performance to achieve the R-value targets for the project and so the units selected combine triple glazing, Argon gas fill and multiple Low-E coatings, which together give a center of glass thermal transmission of only 0.138 BTU/h.ft².F (0.783 W/m².K.) The selection of coatings is optimized for high visible light transmission and the solar heat gain coefficient (SHGC) of 0.3 balances shading for the summer and passive heat gain in the winter. The quality of light is important too; the light is neutral and natural with a color rendering index (CRI) of 97.5, where 94 is museum quality and 100 is daylight.

Thermal transmission at the perimeter of the glass is reduced by using "plastic hybrid stainless steel" warm-edge spacers, where the thermal transmission is a 1/5th of aluminum spacers, while maintaining excellent gas retention for thermal performance and unit longevity.

The framing also gets a special treatment with multiple thermal breaks. It will feature multiple (up to 4) thermal breaks per member to minimize energy loss and maximize occupant comfort. Without the effects of radiant cold, the ambient temperature of the occupied space can be lower, further reducing the energy through the façade.

On 450 West Georgia the bespoke curtain wall has operable vents with custom window sashes that nest flush into the main frames, maximizing the sight lines and minimizing thermal perimeter. The frames provide a clean aesthetic and the freedom to provide fresh air with connection to the exterior. This approach allows the façade design to simultaneously deliver on the project's wellness objective of environmental connection for its occupants and also meet the energy performance targets outlined by the City of Vancouver's Green Building Policy for Rezonings.

www.GreenFacadesLLC.com

450 West Georgia Street

2.4 Sustainability

450 West Georgia St.

LEED v4 for BD+C: Core and Shell 2019/12/12

T P U N

	1			IPc1	Integrative Process	1	
16	1	0	3	Loca	cation and Transportation		
			20	LTc1	LEED for Neighborhood Development Location	20	
2				LTc2	Sensitive Land Protection	2	
			3	LTc3	High Priority Site	3	
6				LTc4	Surrounding Density and Diverse Uses	6	
6				LTc5	Access to Quality Transit	6	
1				LTc6	Bicycle Facilities	1	
	1			LTc7	Reduced Parking Footprint	1	
1				LTc8	Green Vehicles	1	

3	8		Sustainable Sites	11
	Y		SSp1 Construction Activity Pollution Prevention	Required
	1		SSc1 Site Assessment	1
	2		SSc2 Site Development - Protect or Restore Habitat	2
	1		SSc3 Open Space	1
	3		SSc4 Rainwater Management	3
1	1		SSc5 Heat Island Reduction	2
1			SSc6 Light Pollution Reduction	1
1			SSc7 Tenant Design and Construction Guidelines	1

8	3	0	0	Water Efficiency	11
	,	/		WEp1 Outdoor Water Use Reduction	Required
	Υ			WEp2 Indoor Water Use Reduction	Required
	Υ			WEp3 Building-Level Water Metering	Required
2				WEc1 Outdoor Water Use Reduction	2
5	1			WEc2 Indoor Water Use Reduction	6
2 WEc3 Cooling Tower Water Use		2			
1				WEc4 Water Metering	1

20	3	10	0	Ener	Energy and Atmosphere		
	,	Y		EAp1	Fundamental Commissioning and Verification	Required	
	,	Y		EAp2	Minimum Energy Performance	Required	
	,	Y		EAp3	Building-Level Energy Metering	Required	
Y EAp4 Fu				EAp4	Fundamental Refrigerant Management	Required	
5		1		EAc1	Enhanced Commissioning	6	
12	2	4		EAc2	Optimize Energy Performance	18	
	1			EAc3	Advanced Energy Metering	1	
		2		EAc4	Demand Response	2	
		3		EAc5	Renewable Energy Production	3	
1				EAc6	Enhanced Refrigerant Management	1	
2				EAc7	Green Power and Carbon Offsets	2	

Targeted
Potential
Unlikely
No



5 2	3 19	3	TOTALS	Possible Points:	110
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Certified: 40 to 49 points, Silver: 50 to 59 points, Gold: 60 to 79 points, Platinum: 80 to 110

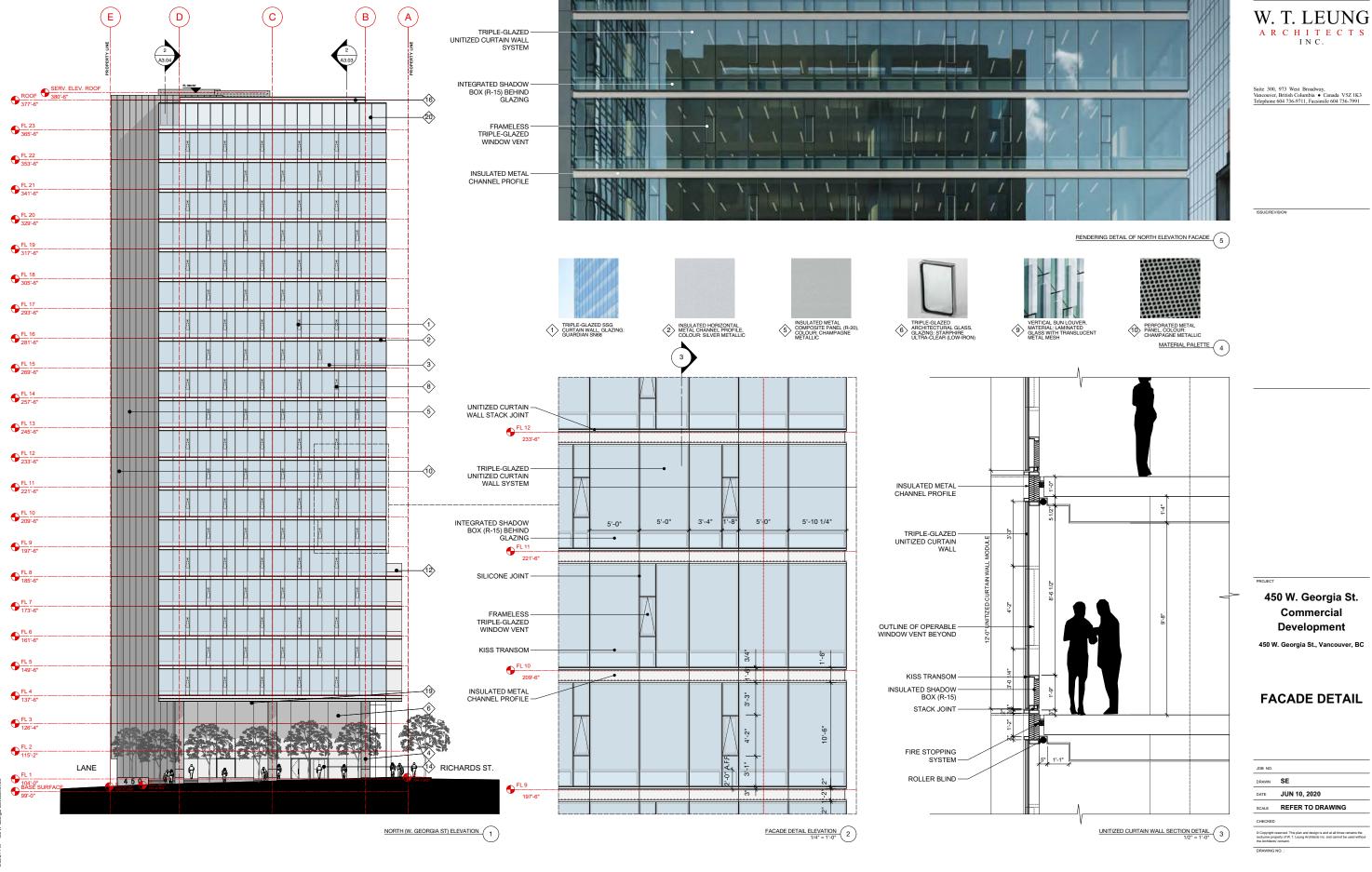
2	3	9	0	Materials and Resources	14
	'	′		MRp1 Storage and Collection of Recyclables	Required
	١	Y		MRp2 Construction and Demolition Waste Management Planning	Required
	3	3		MRc1 Building Life-Cycle Impact Reduction	6
		2		MRc2 Building Product Disclosure and Optimization - EPD	2
		2		MRc3 Building Product Disclosure and Optimization - Sourcing of Raw Mater	ia 2
		2		MRc4 Building Product Disclosure and Optimization - Material Ingredients	2
2				MRc5 Construction and Demolition Waste Management	2

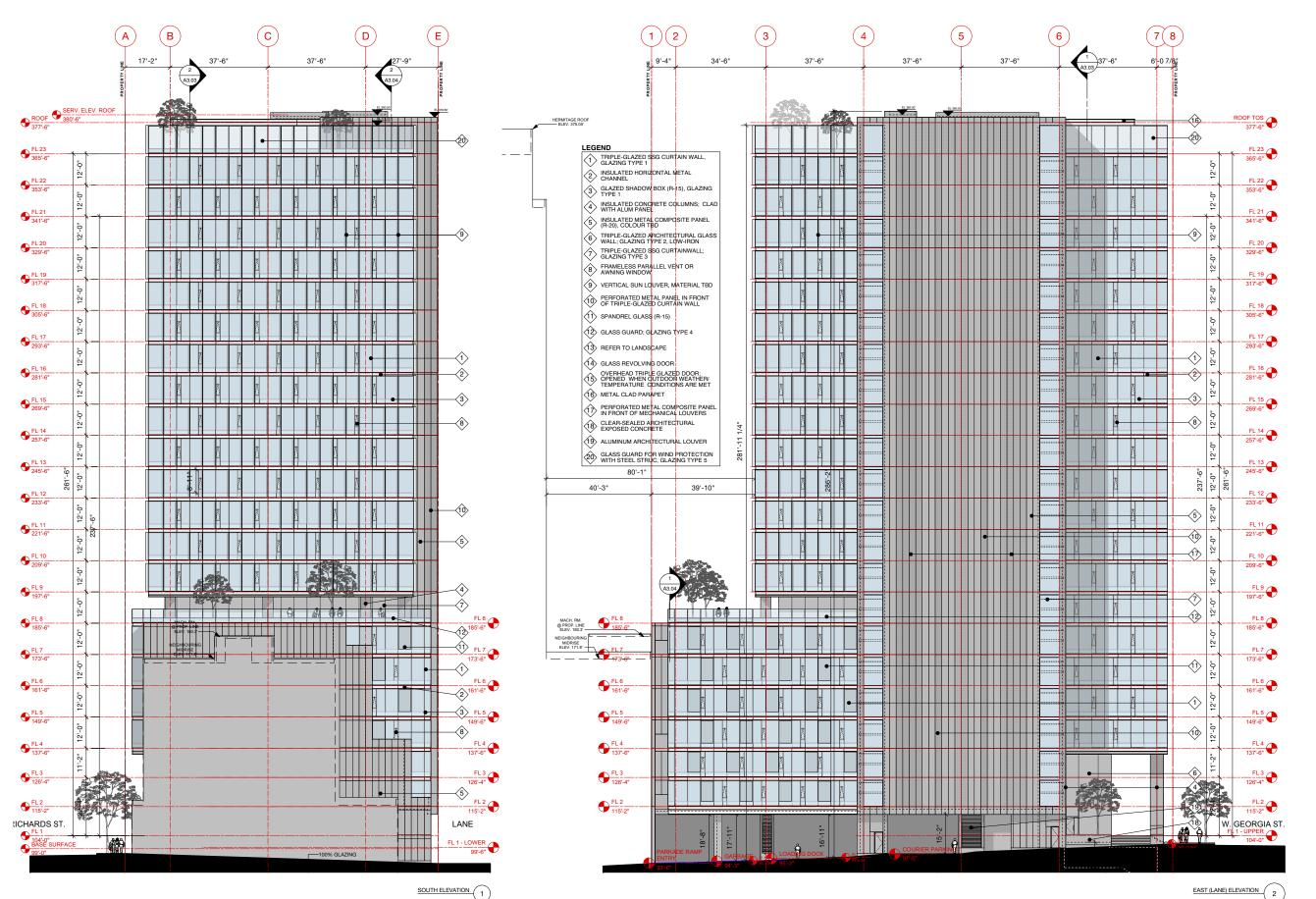
9	1	0	0	Indoor Environmental Quality	10
Y EQp1 Minimum Indoor Air Quality Performance R		Required			
	,	Y		EQp2 Environmental Tobacco Smoke Control	Required
2				EQc1 Enhanced Indoor Air Quality Strategies	2
3				EQc2 Low-Emitting Materials	3
1				EQc3 Construction Indoor Air Quality Management Plan	1
2	1			EQc4 Daylight	3
1				EQc5 Quality Views	1
1				EQc5 Quality Views	

3	3	0	0	Innovation	6
	1			IDc1 Exemplary WEc2 Indoor Water Use Reduction (55%)	1
	1			IDc2 Exemplary EQc8 Quality Views for 90% of regularly occupied area	1
1				IDc3 Low Mercury Lighting	1
1				IDc4 Green Cleaning	1
	1			IDc5 Green Exterior Maintenance	1
1				IDc6 LEED Accredited Professional	1
	1 1 1	3 3 1 1 1 1 1 1	3 3 0 1 1 1 1 1 1 1 1	3 3 0 0 1 1 1 1 1 1	1 IDc1 Exemplary WEc2 Indoor Water Use Reduction (55%) 1 IDc2 Exemplary EQc8 Quality Views for 90% of regularly occupied area 1 IDc3 Low Mercury Lighting 1 IDc4 Green Cleaning IDc5 Green Exterior Maintenance

4	0	0	0	egional Priority	
1				RPc1 Regional Priority: WEc1 - Outdoor Water Use Reduction	1
1				RPc2 Regional Priority: WEc2 - Indoor Water Use Reduction	1
1				RPc3 Regional Priority: EAc1 - Enhanced Cx	1
1				RPc4 Regional Priority: EAc2 - Optimize Energy (at least 10 points)	1

Points in this scorecard represent estimates by the project team. The team intends to design and construct the project in compliance with LEED criteria, but there is no guarantee that points listed here will be achieved. The only process which awards LEED points and subsequent certification is submission to, and review by, the Canada/US Green Building Council.





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ISSUE/REVISION

R 20.5-22 LIDE SUBMISSION DEAET

PROJECT

450 W. Georgia St. Commercial Development

450 W. Georgia St., Vancouver, BC

SOUTH & EAST ELEVATIONS

DRAWN SE

DATE MAY 21, 2020

SCALE 1/16" = 1'-0" @ 24X36

CHECKED

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2.10 Model Photos



SOUTH WEST VIEW (LOOKING NORTH UP RICHARDS ST.)



SOUTH EAST VIEW

2.9 Renderings

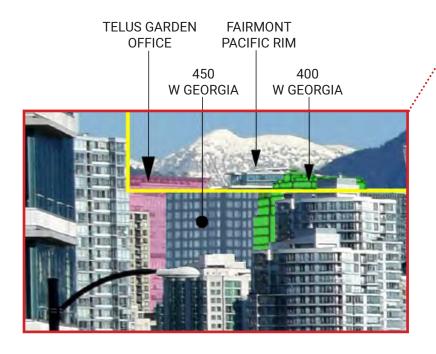


VIEW LOOKING NORTH ON RICHARDS ST. FROM FRONT OF L'HERMITAGE

2.7 View Cone 9.1 Analysis

View Cone Analysis Summary

- 450 West Georgia is a site that is largely in the view shadow of several taller downtown buildings (Telus Gardens, Canaccord Tower, the Hudson, and the Fairmont Pacific Rim); only a narrow slot of the building above Level 23 (measured 5'-8 3/4" in width as it passes through the Level 23 glass guard on the south elevation) is not in a view shadow
- The proposed building height of 286.17' (87.2m) is below the height of its immediate neighbours (510 and 400 West Georgia) and the Downtown ODP's basic maximum height for buildings in area 5 of 300' (91.4m)



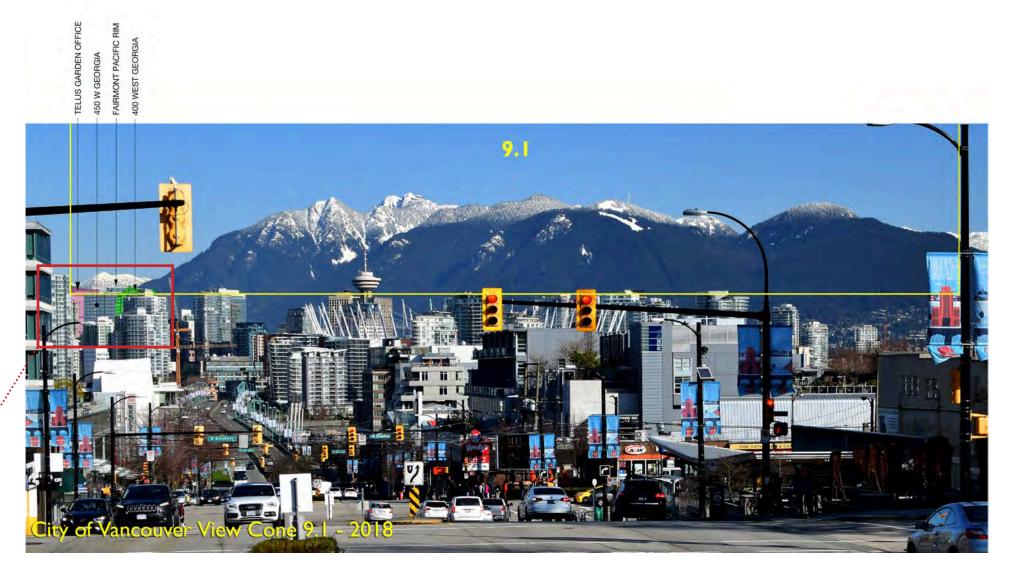


FIG. 1. PHOTO MONTAGE INCLUDING 450 W GEORGIA PROPOSAL

2.7 View Cone 9.1 Analysis

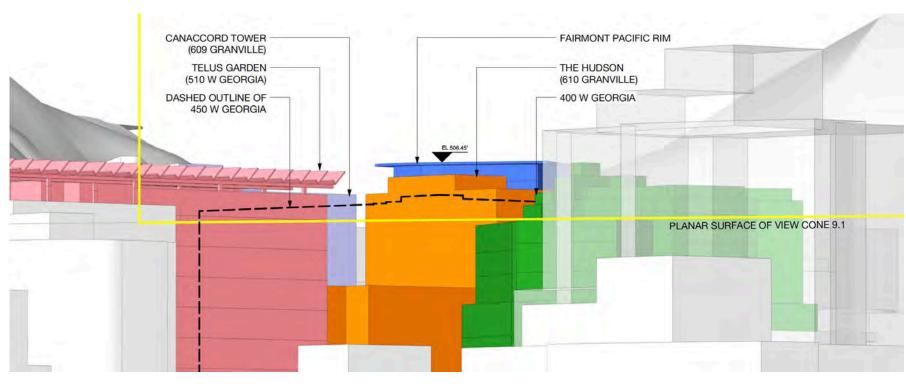


FIG. 5. LOOKING TOWARDS 450 GEORGIA SITE WITH DASHED OUTLINE OF 450 W GEORGIA

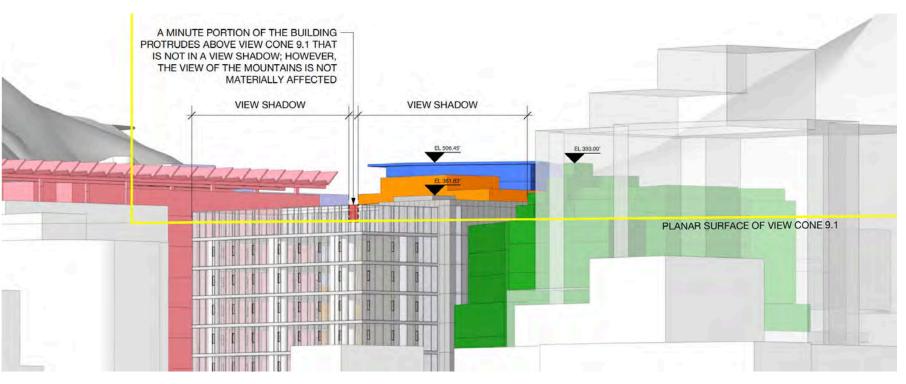
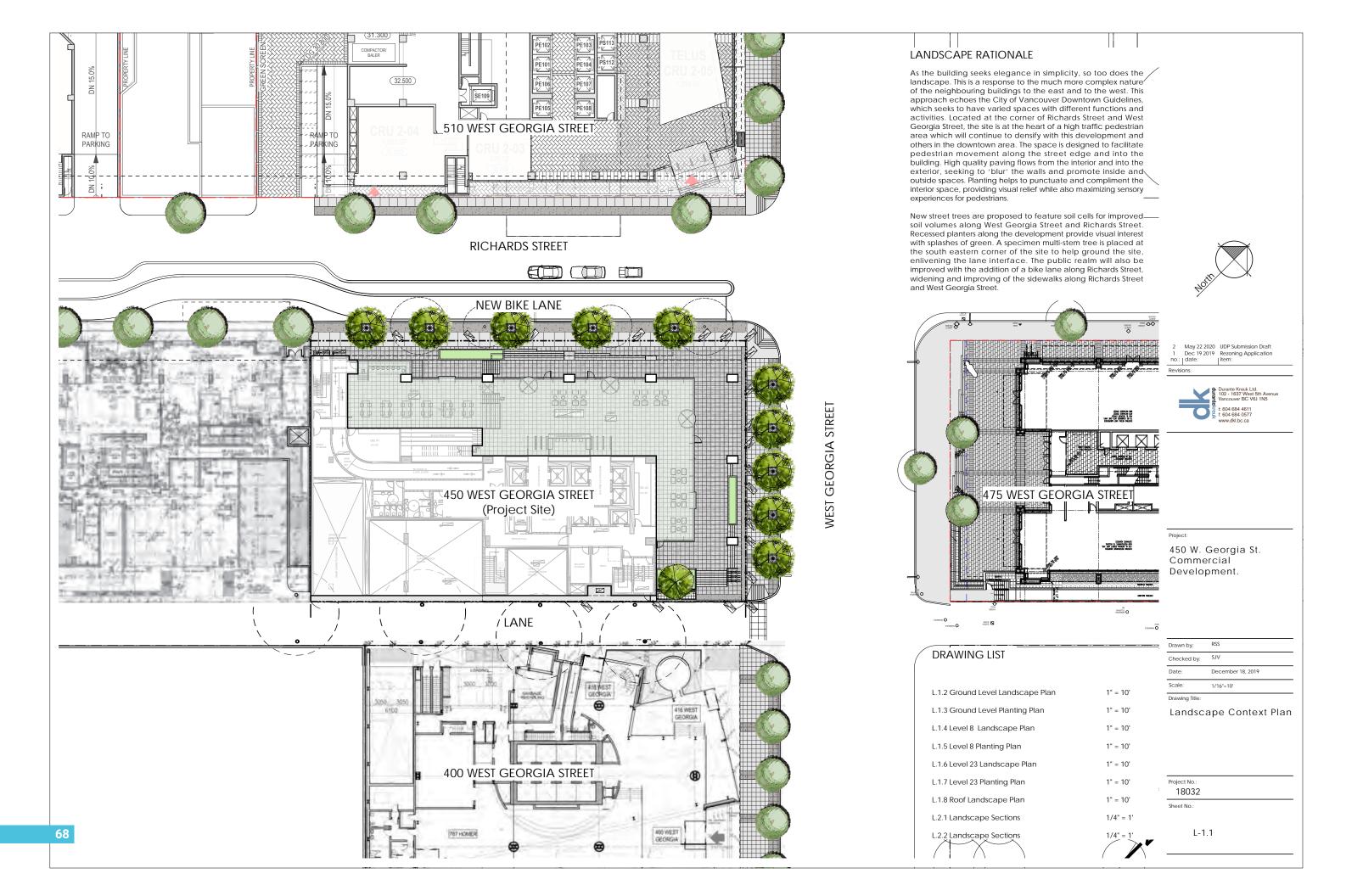
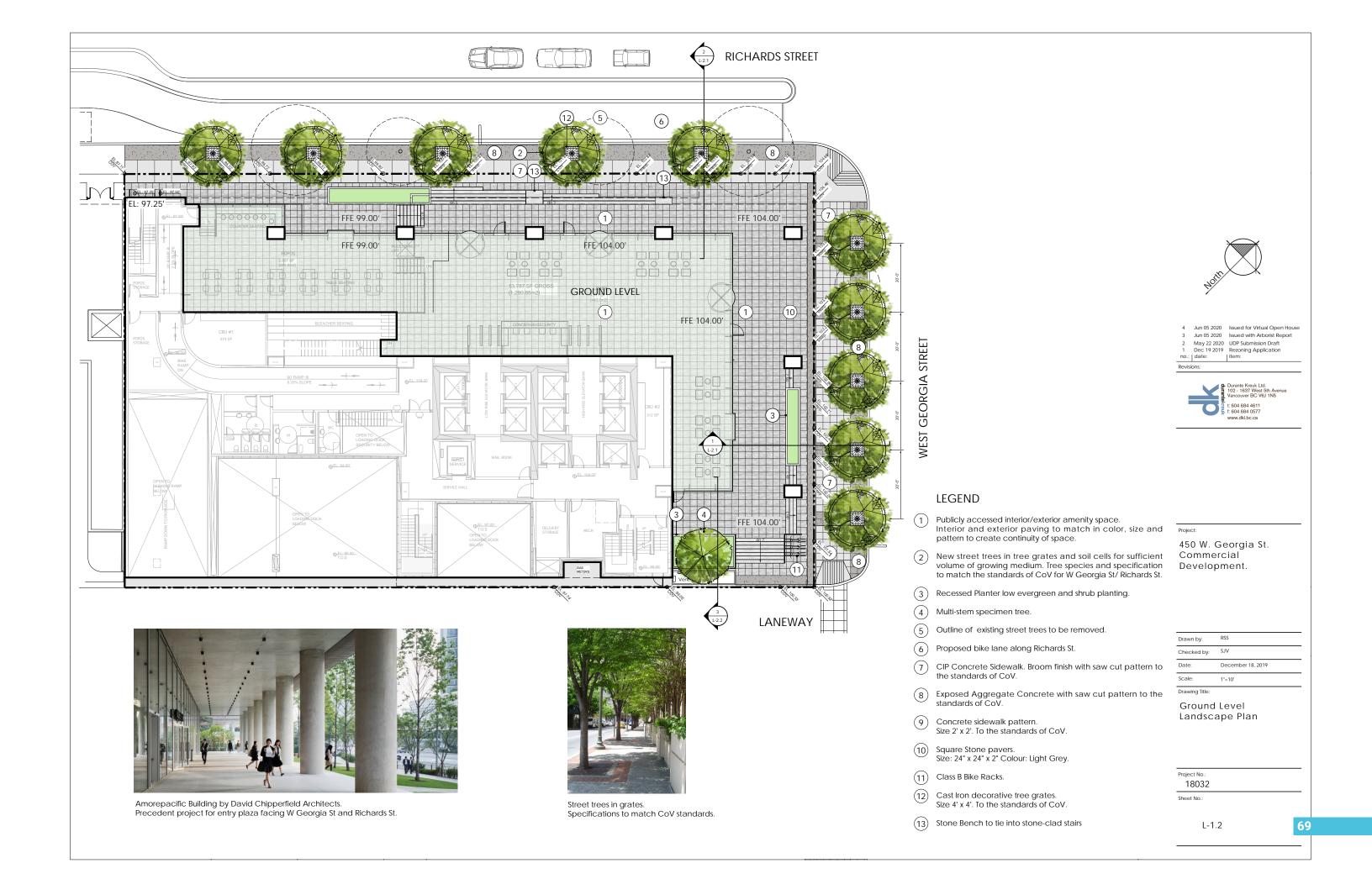


FIG. 6. LOOKING TOWARDS DOWNTOWN SITE VIEWED FROM 400M AWAY









Amorepacific Building by David Chipperfield Architects. Precedent project for earthwork on amenity podiums.

DESIGN RATIONALE

The landscape design of amenity podiums on level 8 and level 23 provides modern aesthetics of Vancouver Downtown's urban identity. This has been achieved by proposing mounded earth work in rounded forms to contrast the building's strong grid. Pacific Northwestern adaptable tree species and planting will be primarily used to reflect the character of the area and promote bird habitat.

LEGEND

- Mounded earthwork to allow for 3' of depth growing medium.
- Pacific Northwestern adaptablemulti-stem specimen tree.
- (3) Pacific Northwestern low shrub planting
- Bench. Form to follow planter curves.
- Square pavers.

 Size: 24" x 24" x 2" thk. Colour: Light Grey.
- Guardrail at roof edge.Refer to architectural documents for details.
- (7) Line of building above

Cornus nuttallii











2 May 22 2020 UDP Submission Draft 1 Dec 19 2019 Rezoning Application no.: date: litem:

Revisions:



Project:

450 W. Georgia St. Commercial Development.

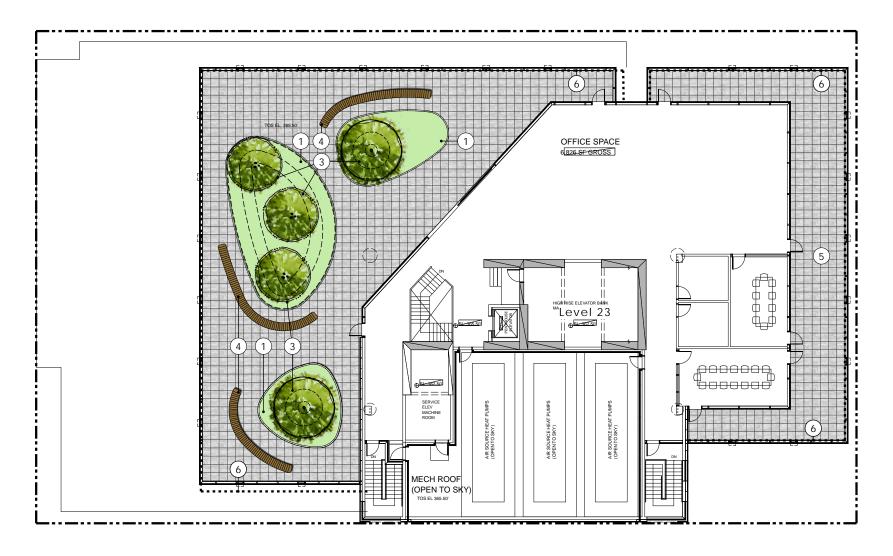
Drawn by:	RSS
Checked by:	SJV
Date:	December 18, 2019
Scale:	1"=10"

Landscape Plan. Level 8 Podium.

Project No.:
18032
Sheet No.:

L-1.4

71





Amorepacific Building by David Chipperfield Architects. Precedent project for earthwork on amenity podiums.

DESIGN RATIONALE

The landscape design of amenity podiums on level 8 and level 23 provides modern aesthetics of Vancouver Downtown's urban identity. This has been achieved by proposing mounded earth work in rounded forms to contrast the building's strong grid. Pacific Northwestern adaptable tree species and planting will be primarily used to reflect the character of the area and promote bird habitat.

LEGEND

- Mounded earthwork to allow for 3^\prime of depth growing medium.
- $\label{pacific Northwestern adaptable multi-stem specimen tree.} \\$
- Pacific Northwestern low shrub planting
- (4) Bench. Form to follow planter curves.
- Square pavers. Size: 24" x 24" x 2" thk. Colour: Light Grey.
- Guardrail at roof edge. Refer to architectural documents for details.
- (7) Line of building above

Cornus nuttallii





Gaultheria shallon







May 22 2020 UDP Submission Draft Rezoning Application item:



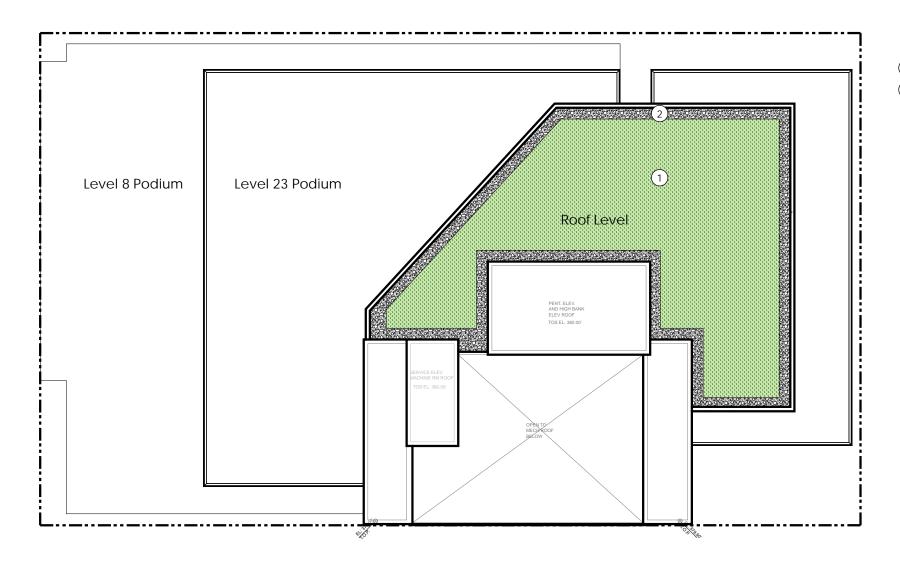
450 W. Georgia St. Commercial Development.

Drawn by:	RSS
Checked by:	VLS
Date:	December 18, 2019
Scale:	1"=10"

Landscape Plan. Level 23 Podium.

18032 Sheet No.:

L-1.6



LEGEND

- 1 Extensive green roof vegetation.
- (2) Gravel drain strip.

LANDSCAPE BIRD FRIENDLY STRATEGY:

There are several landscape measures to ensure the proposed development is Bird Friendly and contributes to the enrichment of Vancouver's urban forest.

The design is proposing 10 new street trees (replacing the existing 5 street trees), 1 onsite specimen tree on ground level, 5 trees on Level 8 podium and 5 trees on Level 23 outdoor amenity.

The proposed landscape planting incorporates canopy and habitat vertical stratification with tree and shrub planting, utilizes plants that attract birds and insects, and includes native and non-native/non-invasive plants. This is achieved by use of intensive and extensive green roof systems on level 8, level 23 and Roof.







2 May 22 2020 UDP Submission Draft 1 Dec 19 2019 Rezoning Application no.: date: item:

Revisions:



Project:

450 W. Georgia St. Commercial Development.

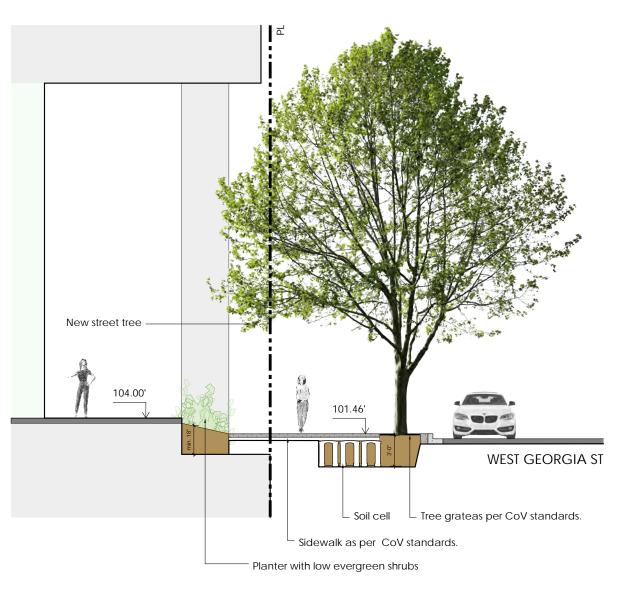
Landscape Plan.. Roof.

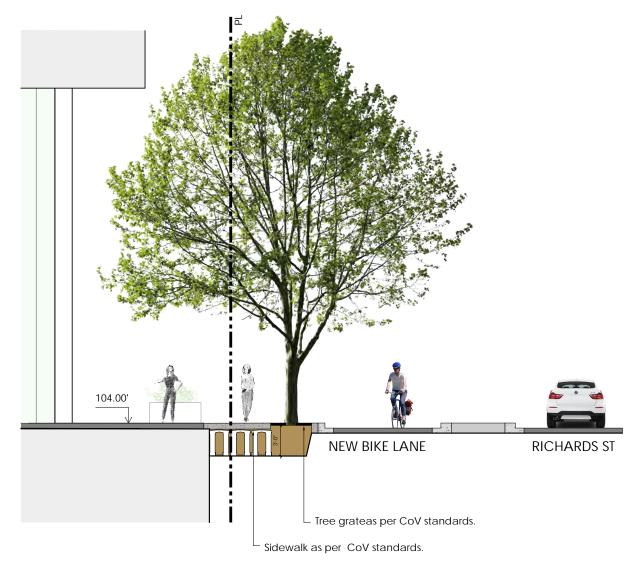
Project No.: 18032

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75





8 June 05 2020 Issued for Virtual Open House
7 May 22 2020 UDP Submission Draft
6 Dec 17 2019 Rezoning
5 Nov 25 2019 Open House
4 Oct 18 2019 Review
3 Jan 31 2019 Rezoning
2 Jan 28 2019 Concept Review
1 Dec 12 2018 Concept Review
no: | date: | Item:

Revisions:

Durante Kreuk Ltd.
102 - 1637 West 5th Avenue
103 - 1637 West 5th Avenue
104 - 105 -

Project

450 W. Georgia St. Commercial Development.

 Drawn by:
 RSS

 Checked by:
 SJV

 Date:
 April 08 2018

 Scale:
 1/8"=1"

Landscape Sections



SECTION THROUGH URBAN FRONTAGE AT GEORGIA STREET

SCALE 1/4"=1'

2 L-1.2 SECTION THROUGH URBAN FRONTAGE AT RICHARDS STREET

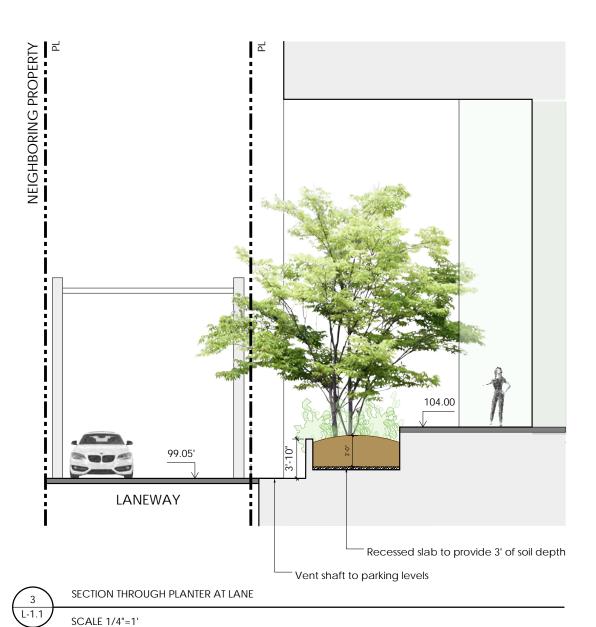
Project No.: 18032

Sheet No.:

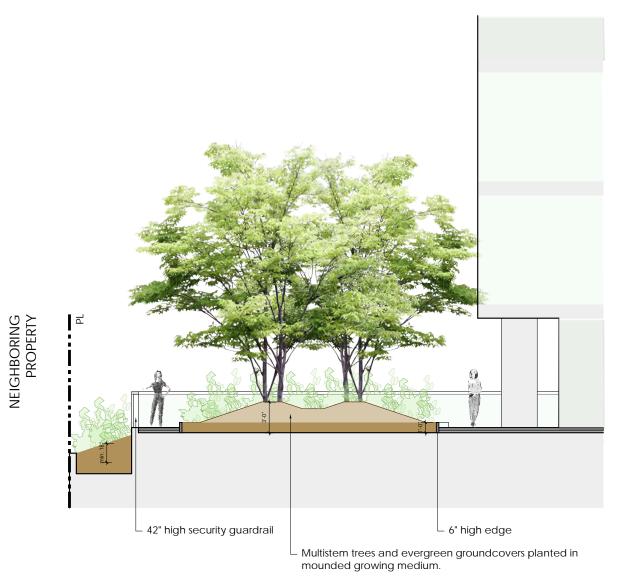
SCALE 1/4"=1'

76

L-2.1



Amorepacific Building by David Chipperfield Architects. Precedent project for earthwork on amenity podiums.



Project No.:

18032

Project:

450 W. Georgia St. Commercial Development.

April 08 2018

Landscape Sections

Checked by: SJV

Scale: Drawing Title:

SECTION THROUGH OUTDOOR AMENITY AT LEVEL 8 PODIUM

SCALE 1/4"=1'