



Church Street Commercial Parking Garage

February 23, 2015

**URBAN
STRATEGIES
INC.**



Read Jones Christoffersen
Consulting Engineers



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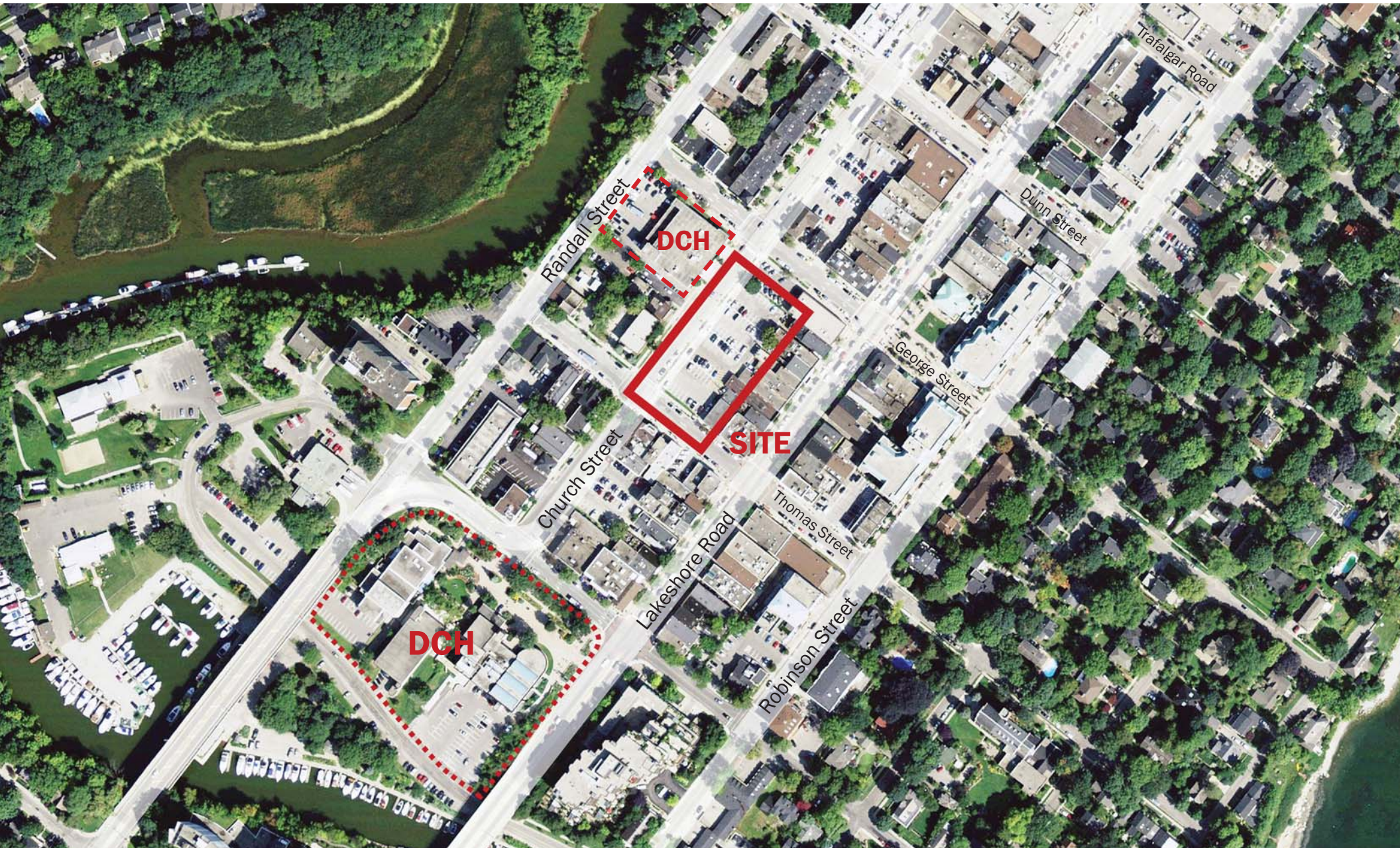
Summary for Recommended Functional Plan

Commerical Market Review

DCH Evalution Criteria

Site: Church Street Municipal Parking Lot

Location: Church Street, Between George and Thomas Streets



Church Street Parking Lot

Existing Conditions



Site: *Assumptions*

- Narrow site requires full area to deliver parking.
- Active uses can be only integrated at grade.
- Deploy maximum parking without financial commitment to purchase the CIBC site.
- Confirm site delivers necessary parking while allowing for future CIBC development expansion with knock-out basement levels.
- Provide interim replacement parking for Lakeshore Road closure.

Site: *Assumptions continued...*

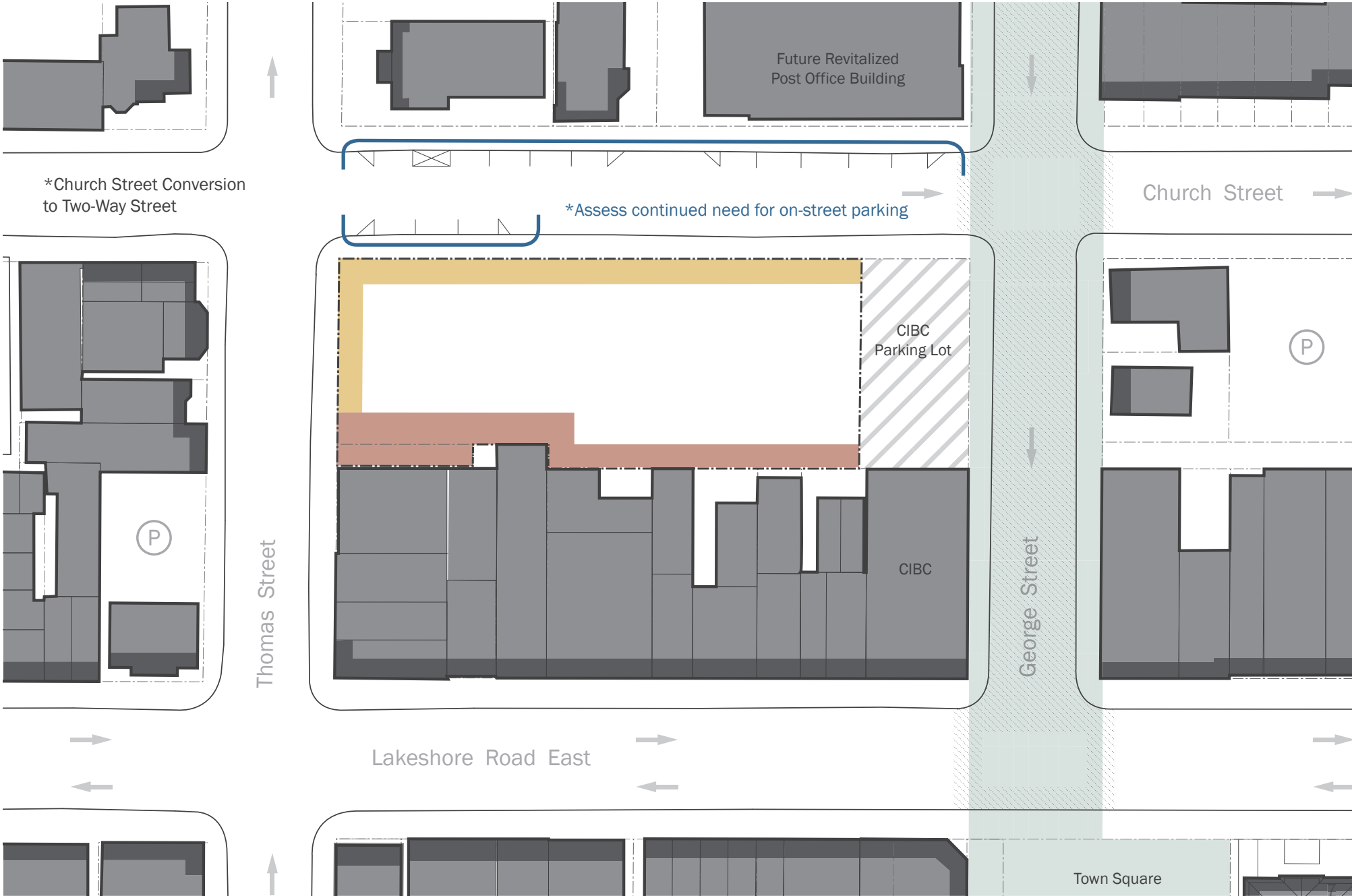
- After Lakeshore reconstruction, the parking garage will support parking yields for the DCH and Post Office renewal phase and help mitigate DCH costs.
- Parking facade and at-grade uses must contribute positively to the DCH corridor.
- Maximum height is 15 metres.
- Roof level can be used for parking and/or a green roof.

Church Street Parking Lot

Issues & Opportunities

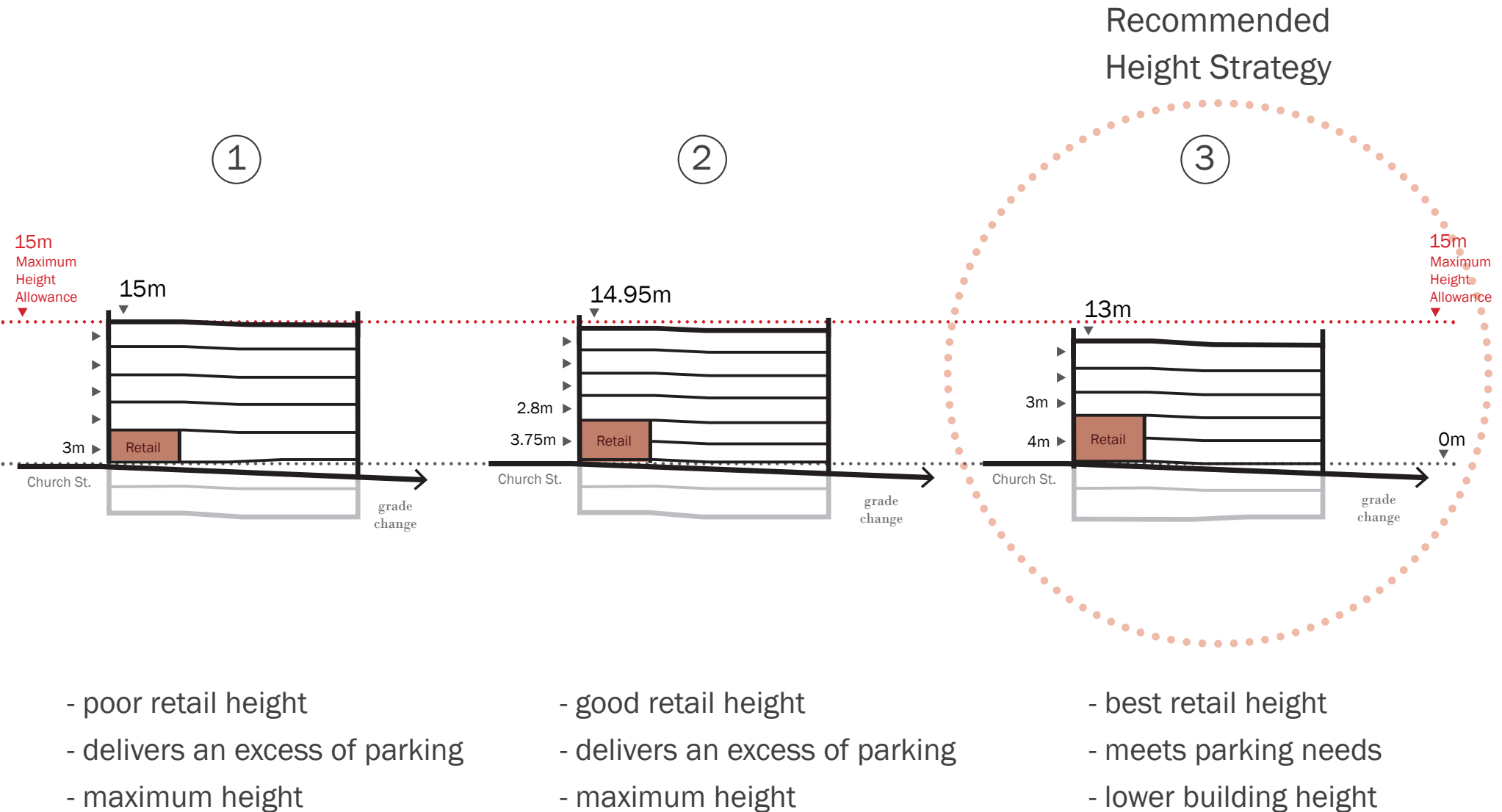
- potential street frontage
- service and setbacks
- proposed George Street improvements

- property line
- active frontage



Church Street Parking Lot

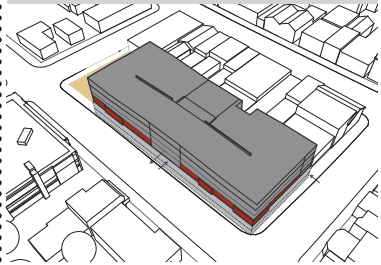
Conceptual Height Strategy



Options Overview

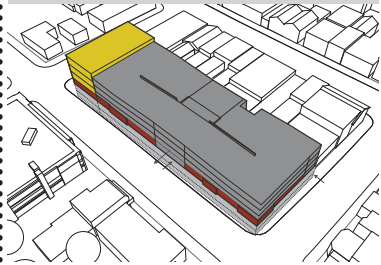
Option 1a

+ Retail at Grade



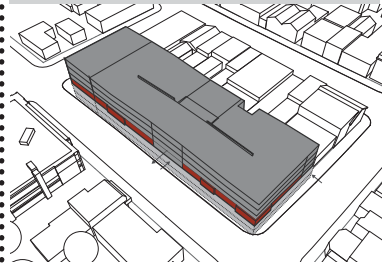
Option 1b

+ Retail, Office and Parking
Expansion



Option 1c

+ Retail and Parking
Expansion



Option 2a

+ Retail at Grade
+ Green Roof



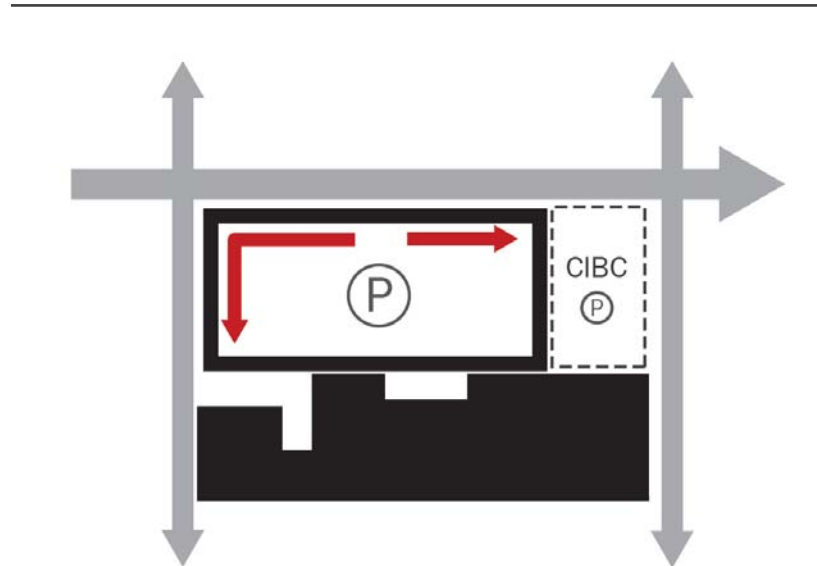
Option 2b

+ Retail, Office and Parking
Expansion



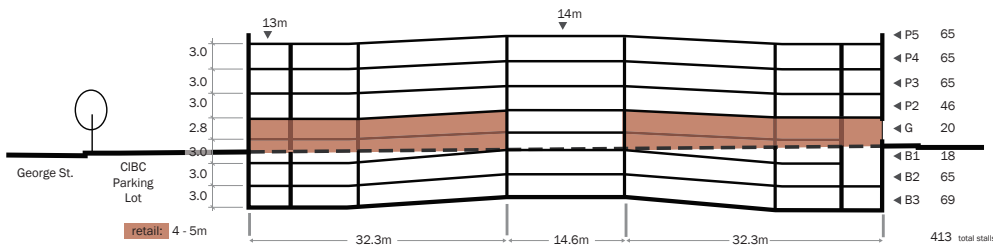
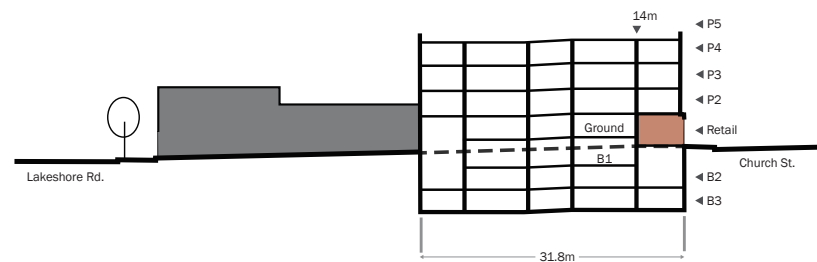
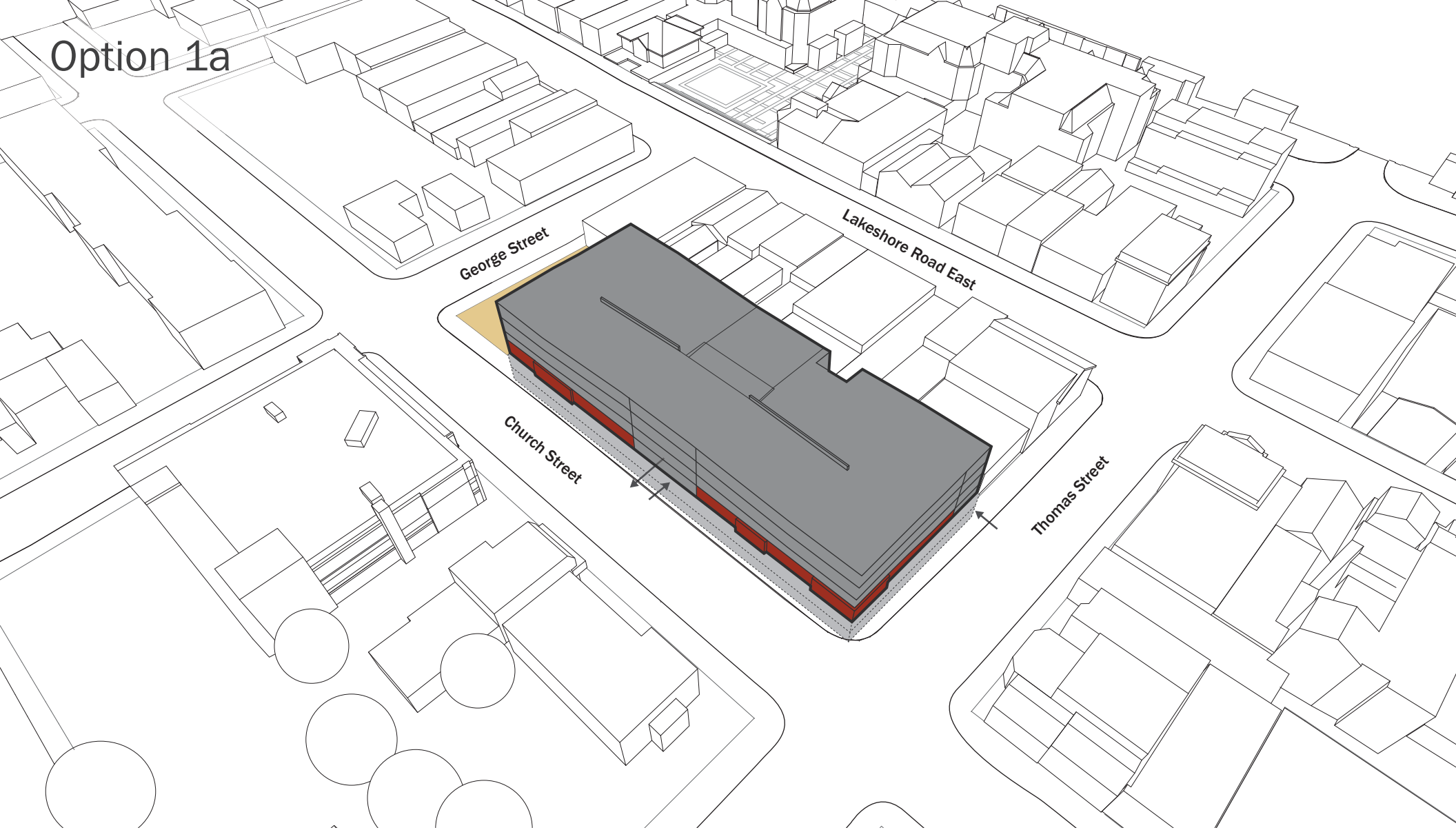
Option 1a

Maximum Parking
+ *Retail at Grade*



- Build on Municipal property only.
- Establish retail frontage on Church & Thomas Streets.
- Design structure to accomodate future private development on CIBC Lot.

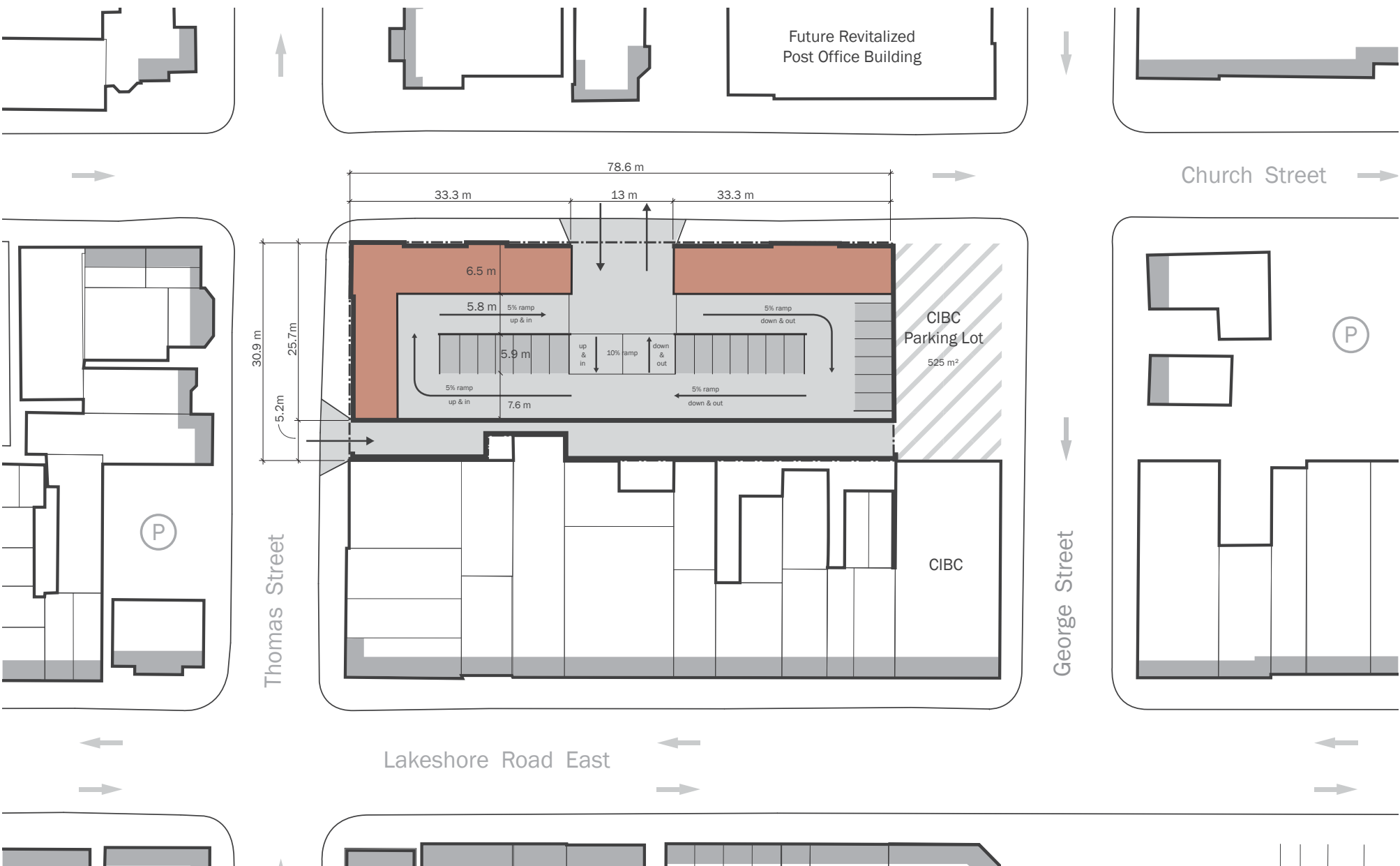
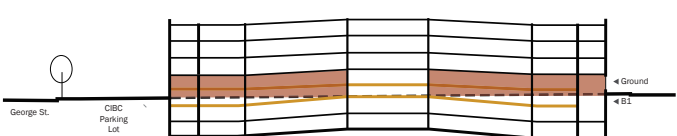
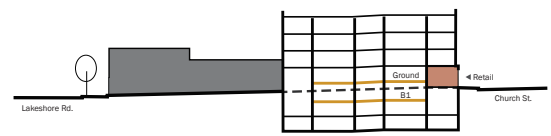
Option 1a



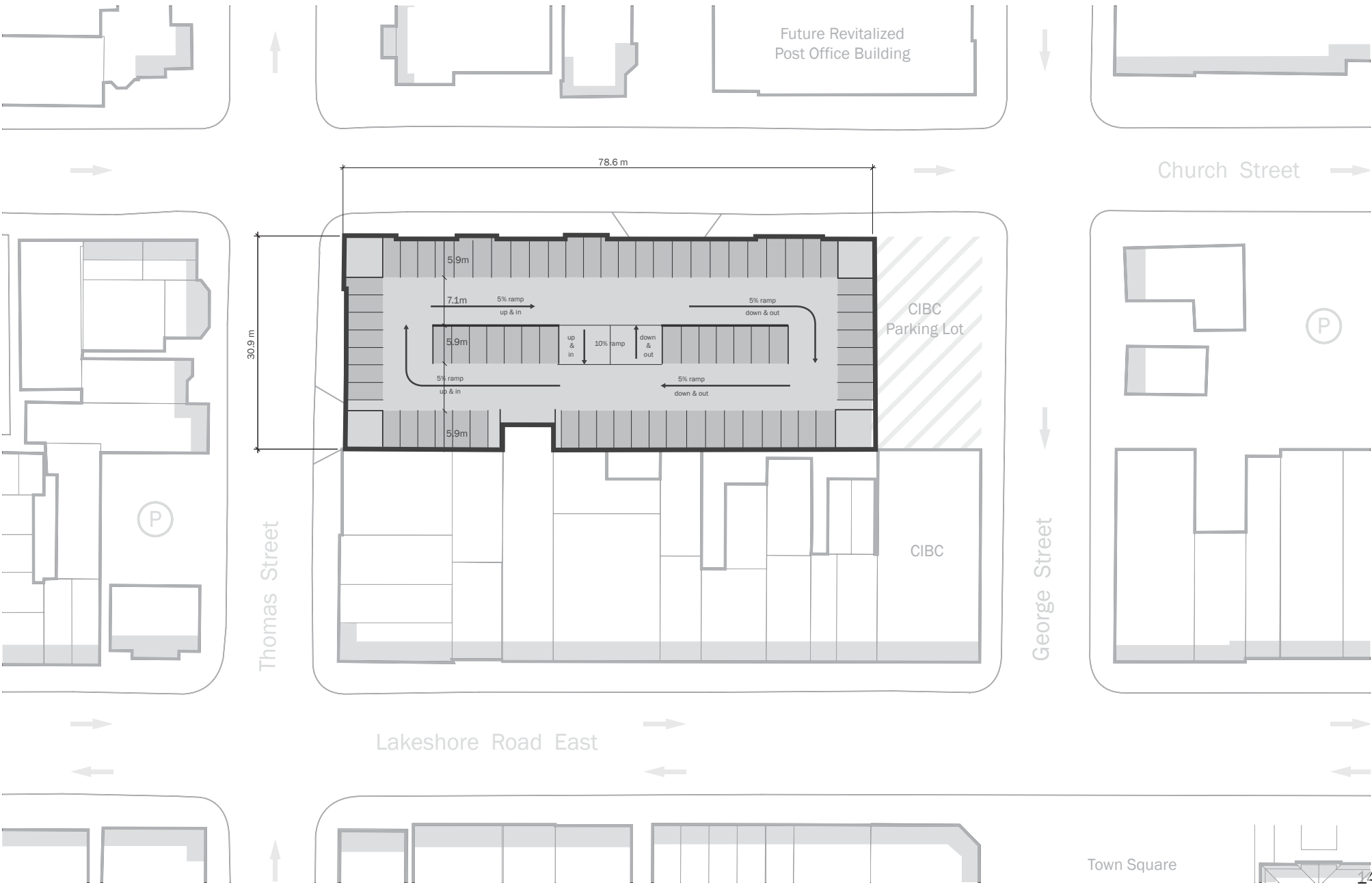
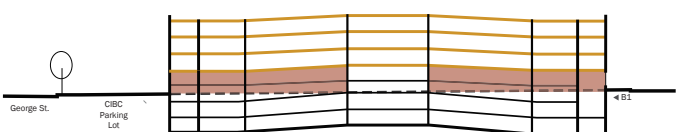
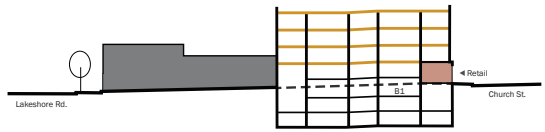
Option 1a: Calculations

Level	Parking Stalls	GFA - Parking	GFA - Retail
P5	65	2,400 m ²	-
P4	65	2,400 m ²	-
P3	65	2,400 m ²	-
P2	46	2,032 m ²	-
Ground	20	1,400 m ²	480 m ²
B1	18	1,480 m ²	-
B2	65	2,400 m ²	-
B3	69	2,400 m ²	-
TOTAL	413	16,912 m²	480 m²

Church Street Parking Lot
Option 1a - Ground Floor Plan

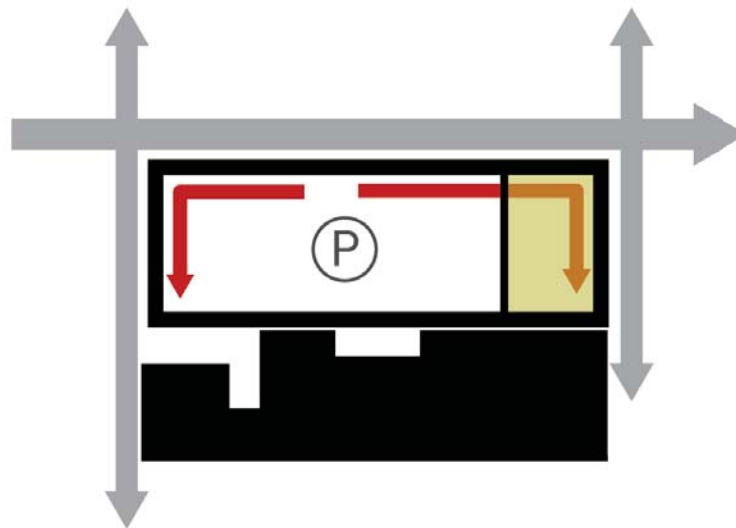


Church Street Parking Lot
Option 1a - Upper Floors Plan



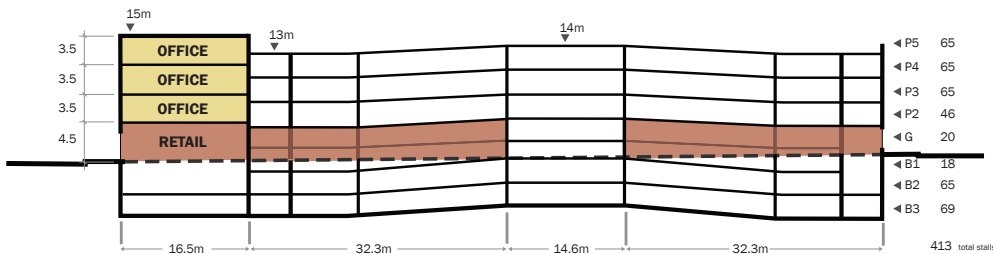
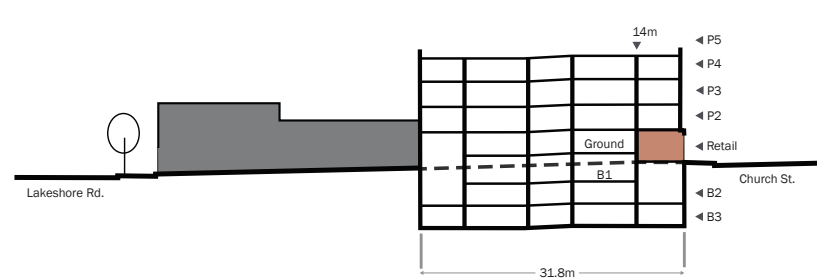
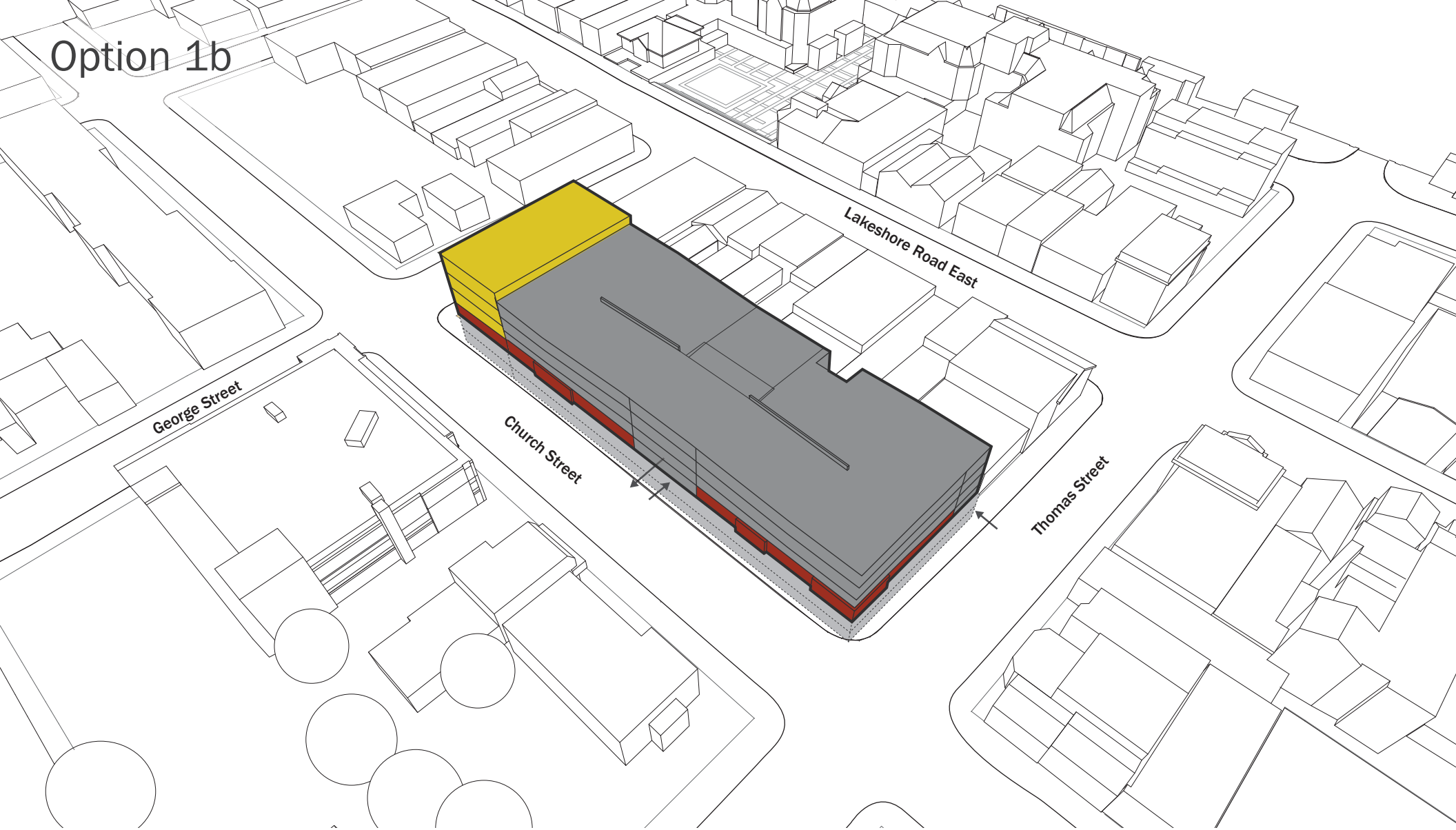
Option 1b

CIBC Parking Lot Purchase
+ *Retail, Office and Parking Expansion*



- CIBC Parking Lot is developed simultaneously alongside parking structure.
- CIBC adds corner retail in addition to 3 storeys of office space.

Option 1b



Option 1b: Calculations

Level	Parking Stalls	GFA - Parking	GFA - Retail
P5	65	2,400 m ²	-
P4	65	2,400 m ²	-
P3	65	2,400 m ²	-
P2	46	2,032 m ²	-
Ground	20	1,400 m ²	480 m ²
B1	18	1,480 m ²	-
B2	65	2,400 m ²	-
B3	69	2,400 m ²	-
TOTAL	413	16,912 m²	480 m²

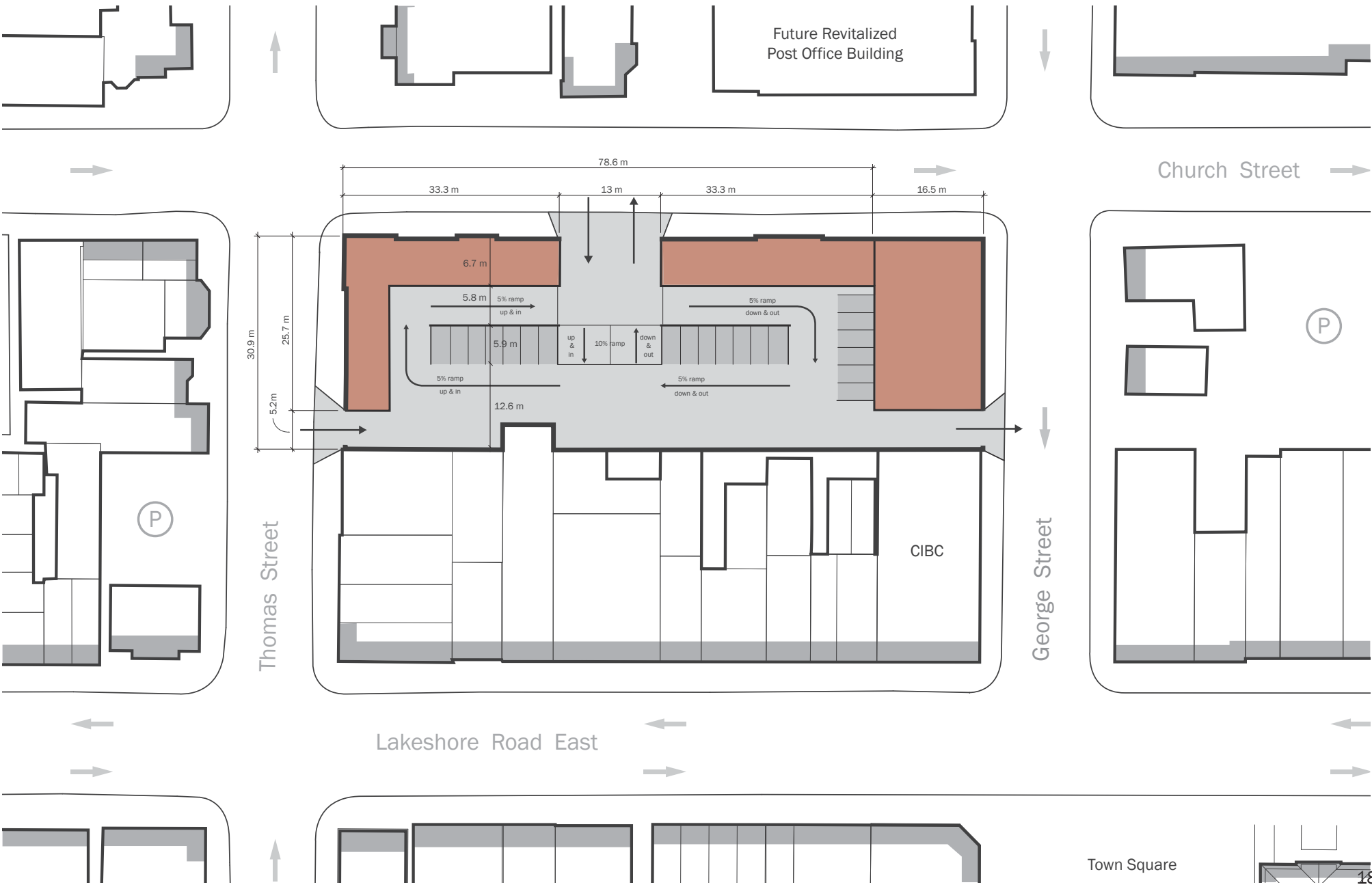
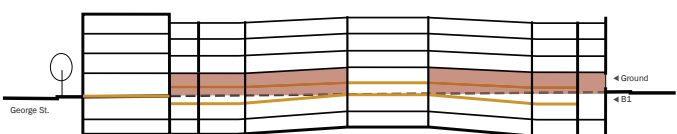
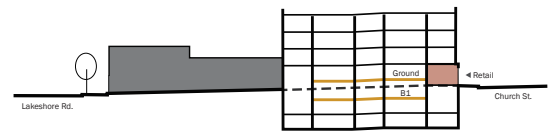
EXPANSION (CIBC Site)

Level	Parking Stalls	GFA - Parking	GFA - Retail	GFA - Office
4	-	-	-	525 m ²
3	-	-	-	525 m ²
2	-	-	-	525 m ²
Ground	-	-	525 m ²	-
B1	-	-	-	-
B2	11	525 m ²	-	-
B3	11	525 m ²	-	-
TOTAL	22	1,050 m²	525 m²	1,575 m²

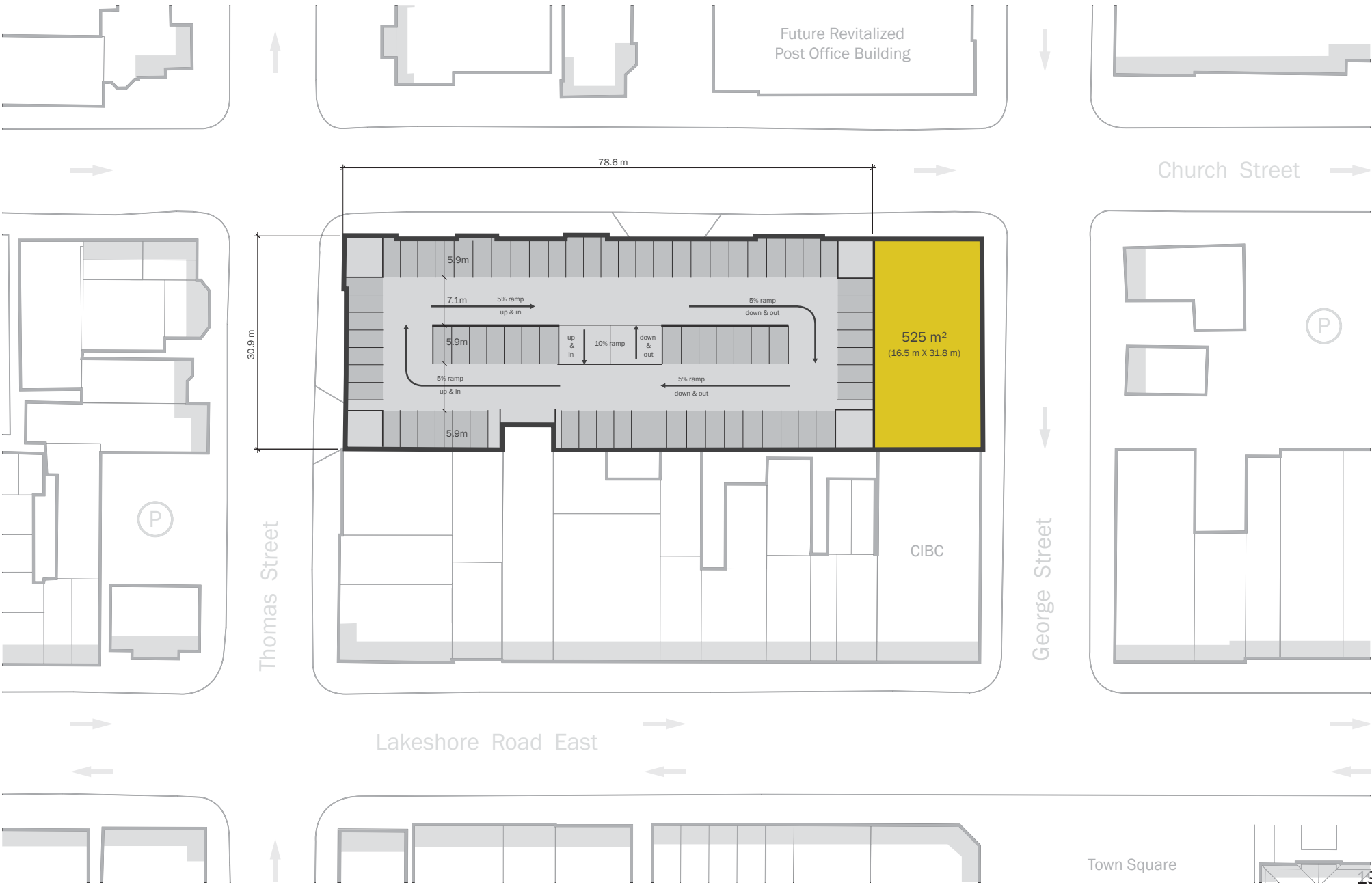
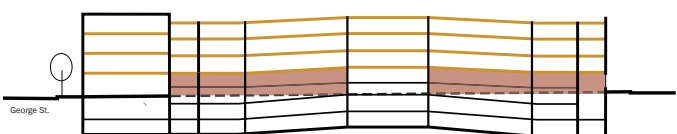
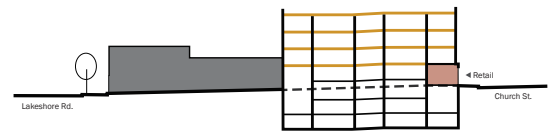
COMBINED TOTAL	435	17,962 m²	1,005 m²	1,575 m²
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Church Street Parking Lot

Option 1b - Ground Floor Plan

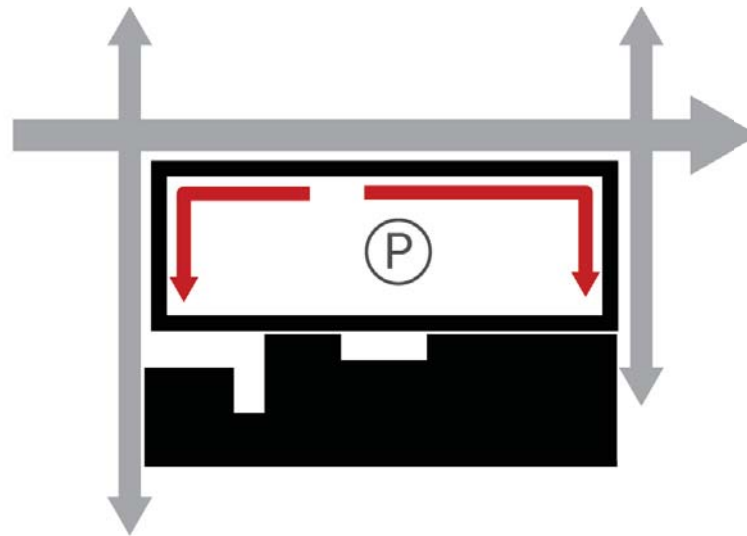


Church Street Parking Lot
Option 1b - Upper Floors Plan



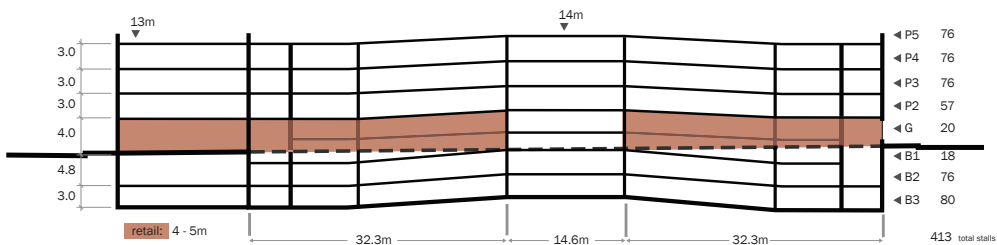
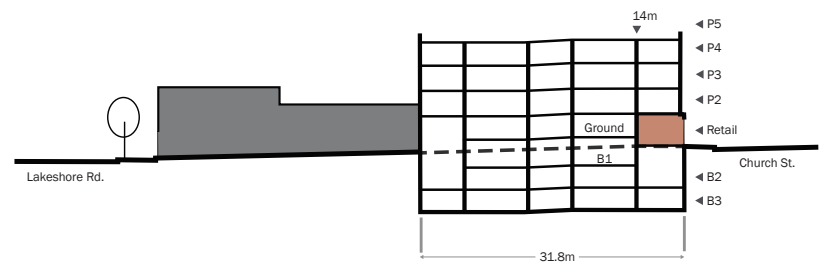
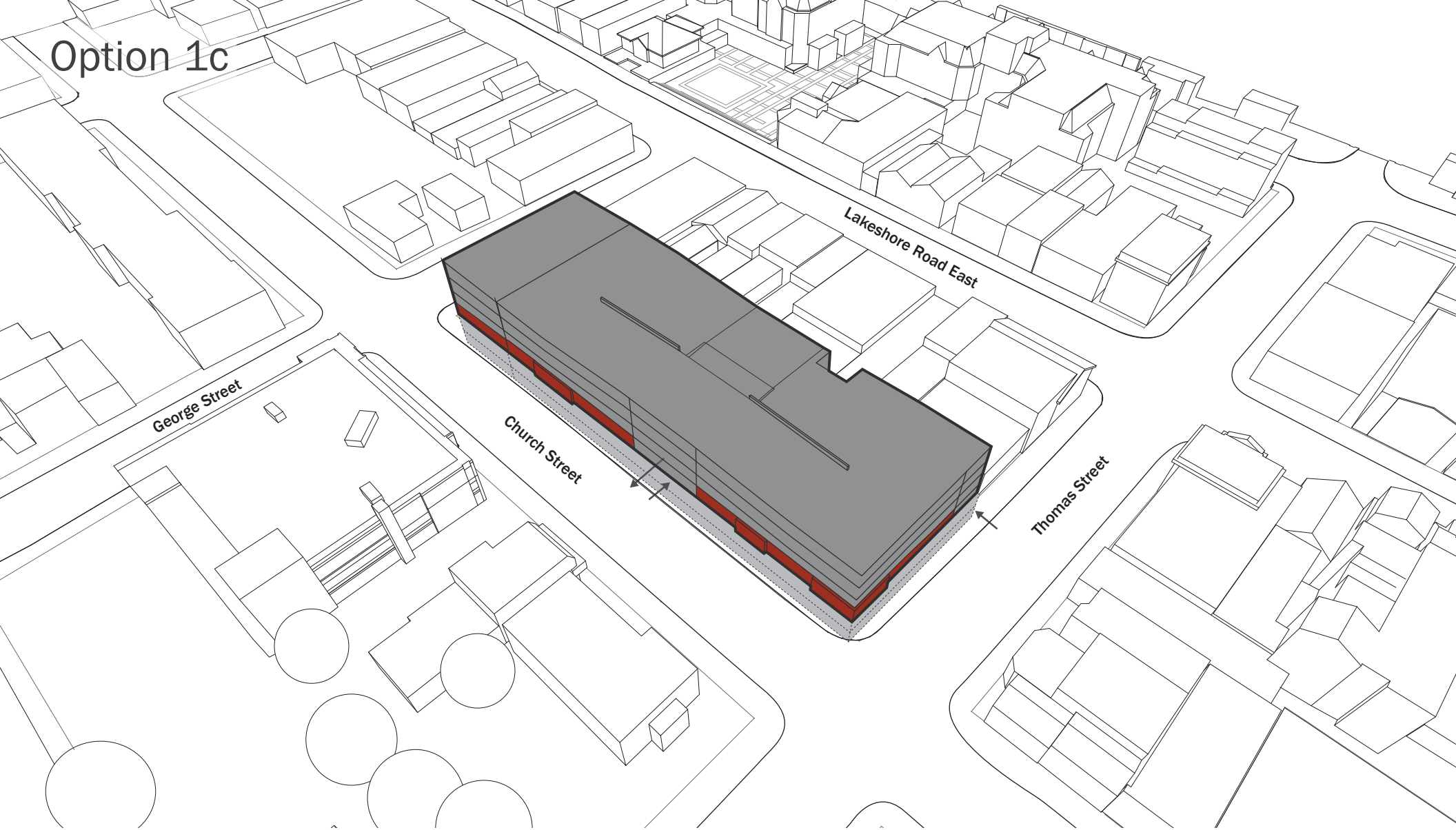
Option 1c

CIBC Parking Lot Purchase
+ *Retail and Parking Expansion*



- Purchase CIBC parking lot and provide parking structure across a combined site.
- At grade retail addition on corner of Church & George Streets.
- No office space

Option 1c



Option 1c: Calculations

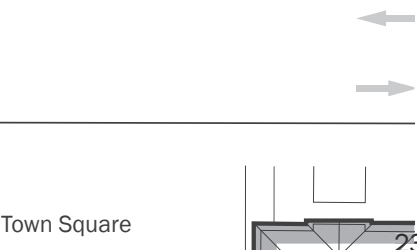
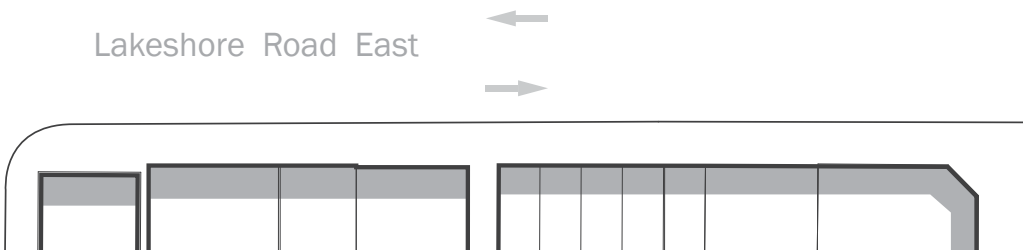
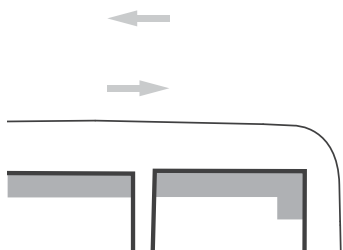
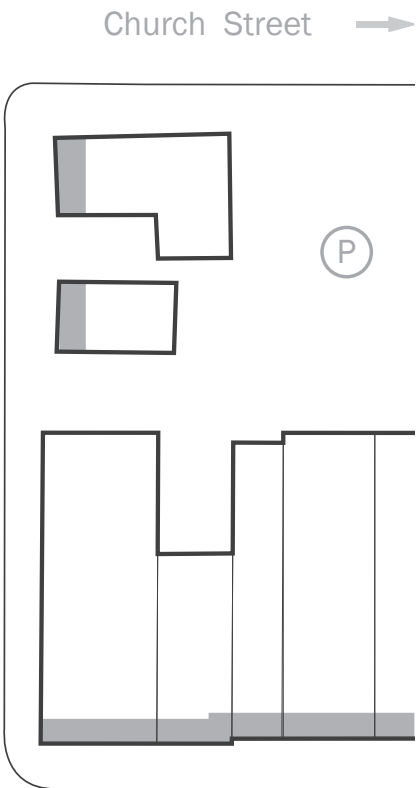
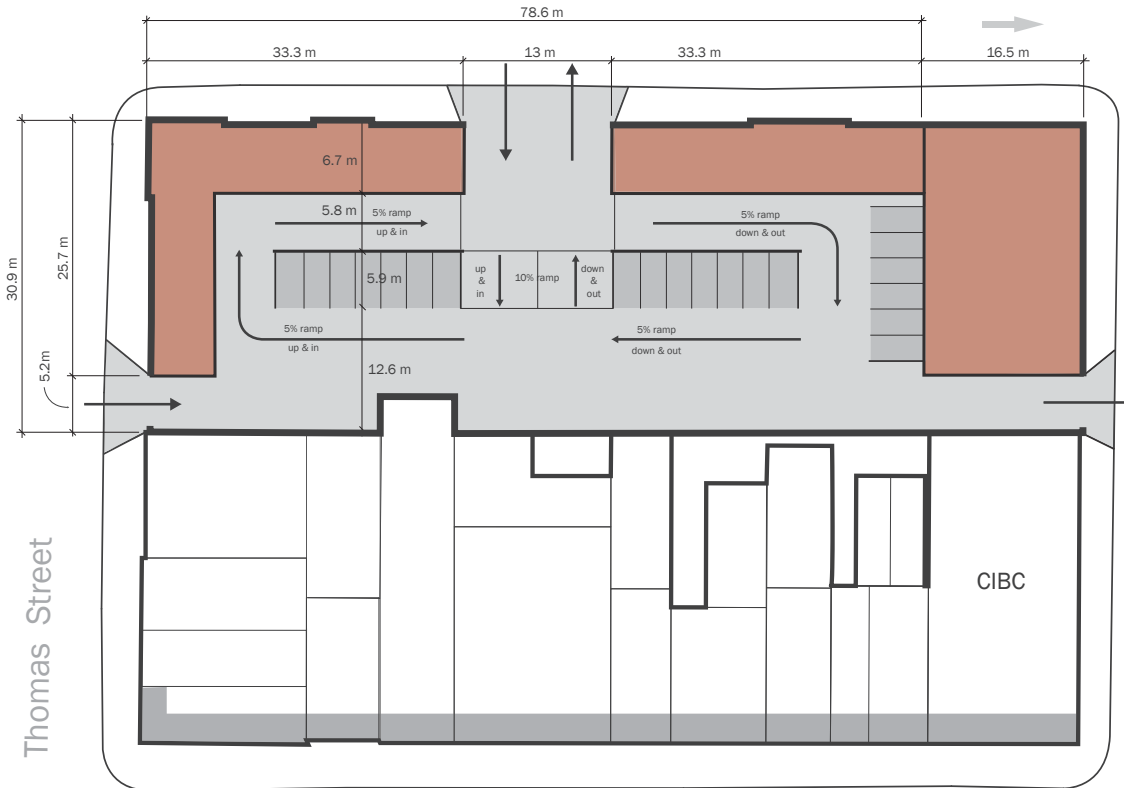
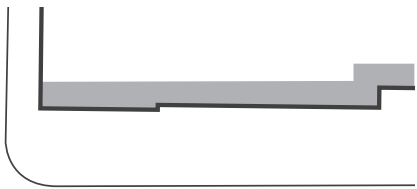
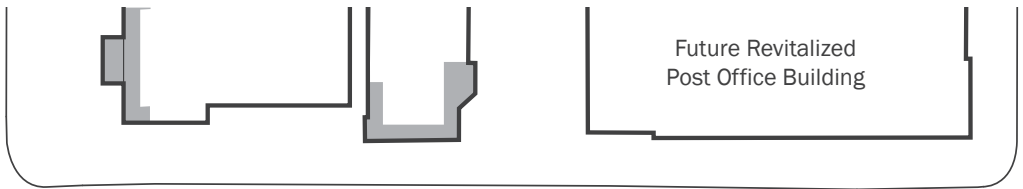
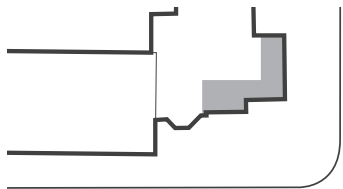
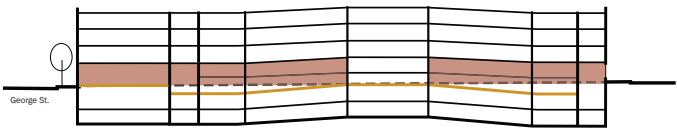
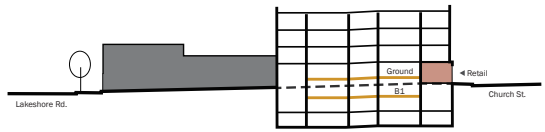
Level	Parking Stalls	GFA - Parking	GFA - Retail
P5	65	2,400 m ²	-
P4	65	2,400 m ²	-
P3	65	2,400 m ²	-
P2	46	2,032 m ²	-
Ground	20	1,400 m ²	480 m ²
B1	18	1,480 m ²	-
B2	65	2,400 m ²	-
B3	69	2,400 m ²	-
TOTAL	413	16,912 m²	480 m²

EXPANSION (CIBC Site)

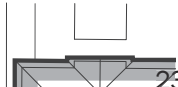
Level	Parking Stalls	GFA - Parking	GFA - Retail	GFA - Office
Roof	11	525 m ²	-	-
4	11	525 m ²	-	-
3	11	525 m ²	-	-
2	11	525 m ²	-	-
Ground	-	-	525 m ²	-
B1	-	-	-	-
B2	11	525 m ²	-	-
B3	11	525 m ²	-	-
TOTAL	66	3,150 m²	525 m²	-

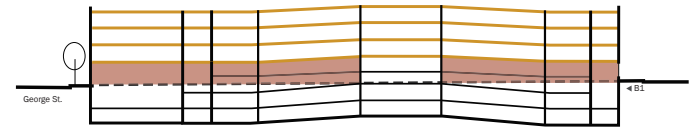
COMBINED TOTAL	479	20,062 m²	1,005 m²	-
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Church Street Parking Lot
Option 1c - Ground Floor Plan



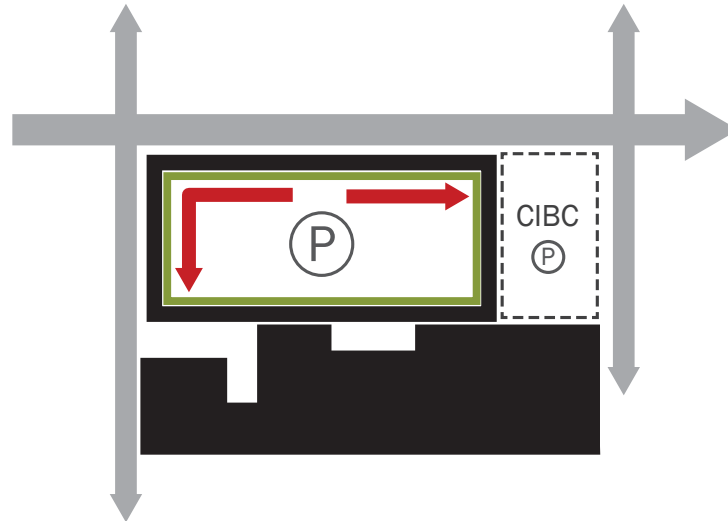
Town Square





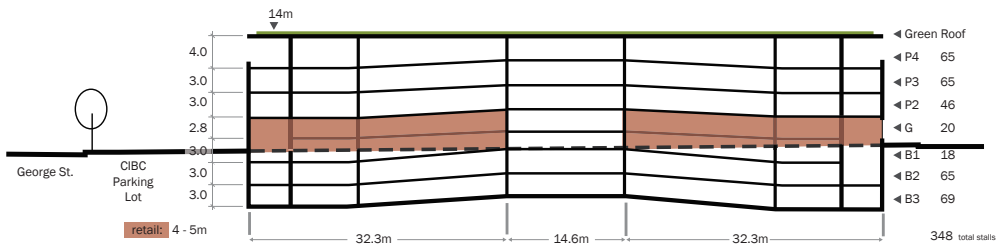
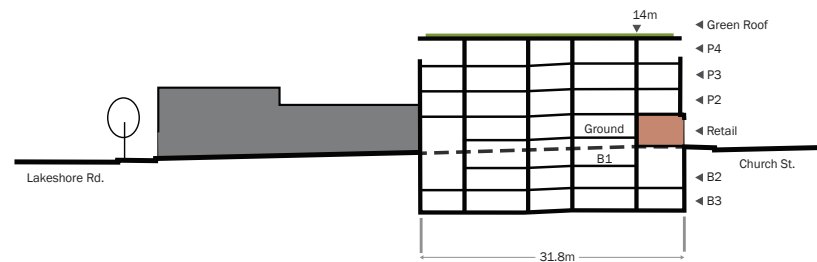
Option 2a

Maximum Parking & 'Green' Roof
+ Retail at Grade & LEED Initiatives



- Build on Municipal property only.
- Establish retail frontage on Church & Thomas Streets.
- Design structure to accomodate future private expansion onto CIBC Lot.
- LEED initiatives on roof of structure.

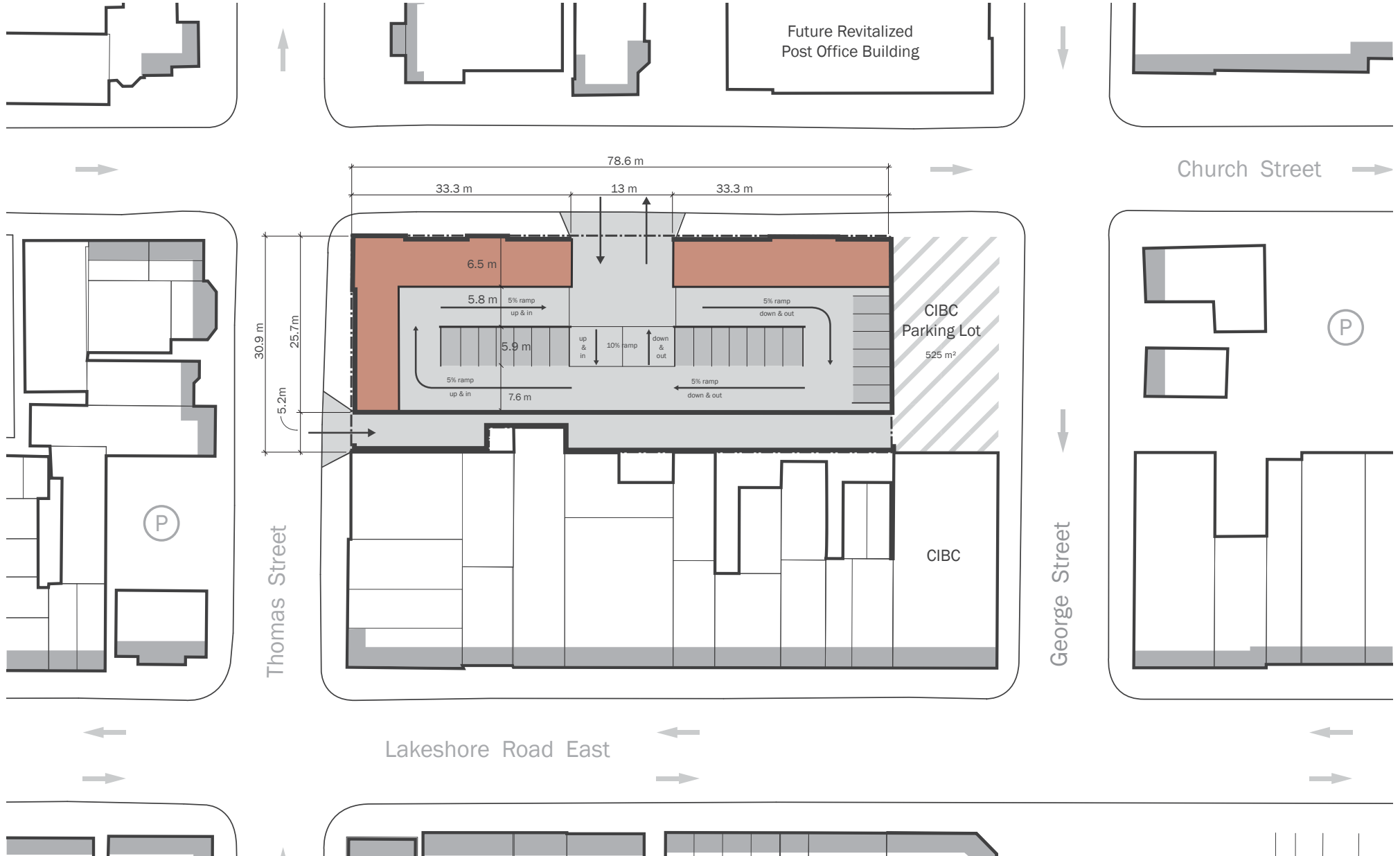
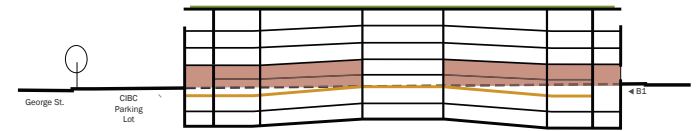
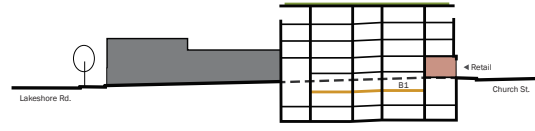
Option 2a



Option 2a: Calculations

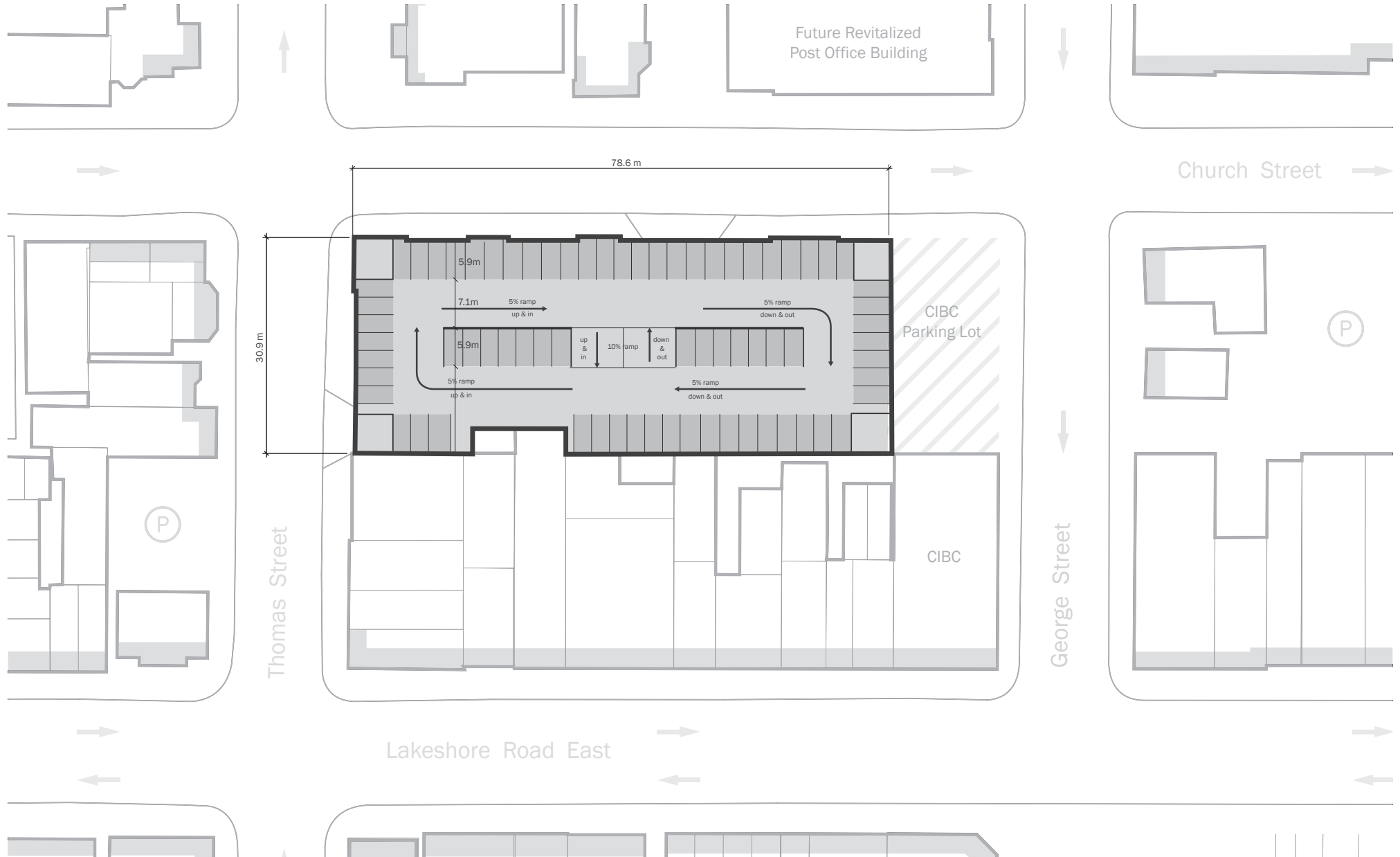
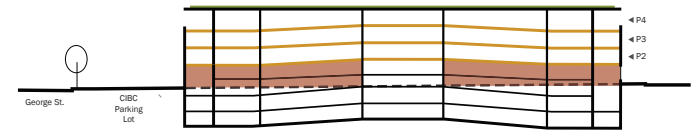
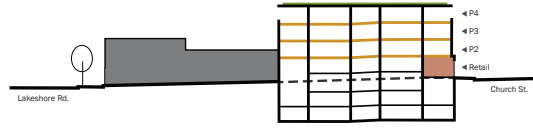
Level	Parking Stalls	GFA - Parking	GFA - Retail	GFA - Green Roof
Roof	-	-	-	2,400 m ²
P4	65	2,400 m ²	-	-
P3	65	2,400 m ²	-	-
P2	46	2,032 m ²	-	-
Ground	20	1,400 m ²	480 m ²	-
B1	18	1,480 m ²	-	-
B2	65	2,400 m ²	-	-
B3	69	2,400 m ²	-	-
TOTAL	348	14,512 m²	480 m²	2,400 m²

Church Street Parking Lot Option 2a - Basement Level (B1)



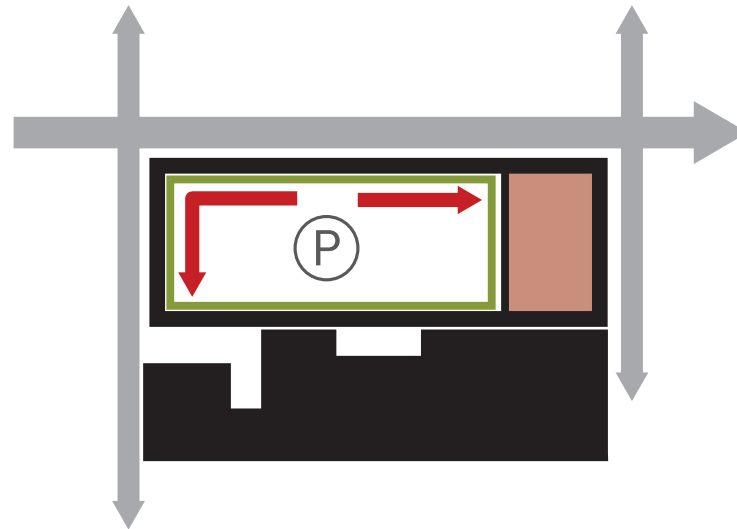
Church Street Parking Lot

Option 2a - Upper Floors Plan (P2-P4)



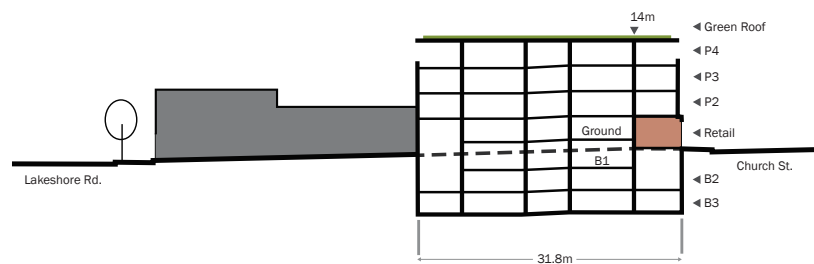
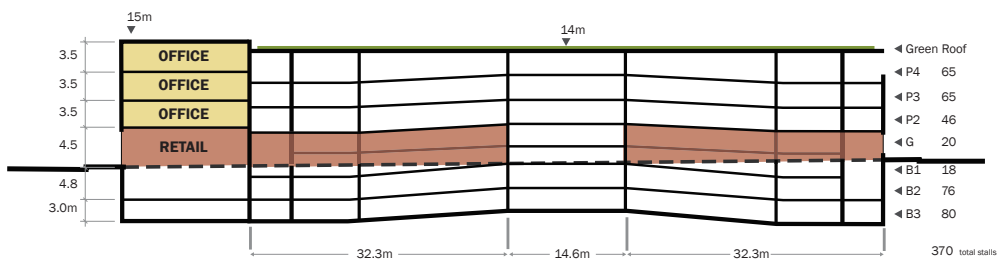
Option 2b

CIBC Parking Lot Purchase & 'Green Roof'
+ Retail, Office and Parking Expansion



- 4 storey retail/office addition onto CIBC Parking Lot.
- Retail at grade fronting Thomas, Church and George Streets.
- Below grade expansion of parking onto CIBC property.
- LEED initiatives on roof of structure.

Option 2b



Option 2b: Calculations

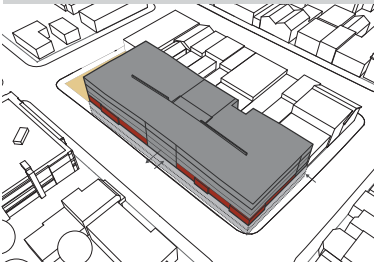
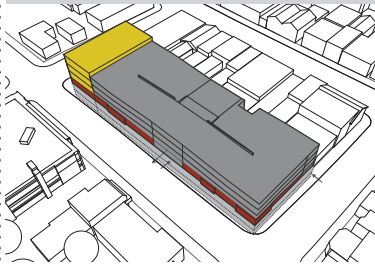
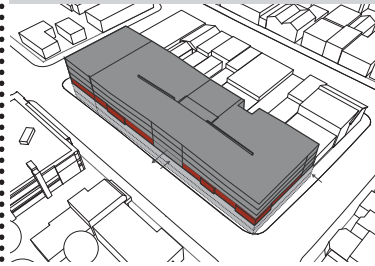

Level	Parking Stalls	GFA - Parking	GFA - Retail	GFA - Office	GFA - Green Roof
Roof	-	-	-	-	2,400 m ²
P4	65	2,400 m ²	-	-	-
P3	65	2,400 m ²	-	-	-
P2	46	2,032 m ²	-	-	-
Ground	20	1,400 m ²	480 m ²	-	-
B1	18	1,480 m ²	-	-	-
B2	65	2,400 m ²	-	-	-
B3	69	2,400 m ²	-	-	-
TOTAL	348	14,512 m²	480 m²	-	2,400 m²

EXPANSION (CIBC Site)

Level	Parking Stalls	GFA - Parking	GFA - Retail	GFA - Office
4	-	-	-	525 m ²
3	-	-	-	525 m ²
2	-	-	-	525 m ²
Ground	-	-	525 m ²	-
B1	-	-	-	-
B2	11	525 m ²	-	-
B3	11	525 m ²	-	-
TOTAL	22	1,050 m²	525 m²	1,575 m²

COMBINED TOTAL	370	15,562 m²	1,005 m²	1,575 m²	2,400 m²
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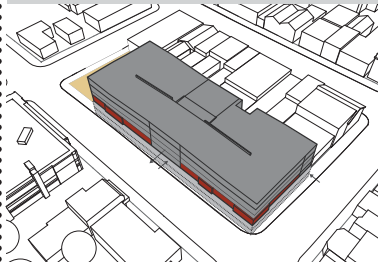
Summary Table

Option 1a	Option 1b	Option 1c	Option 2a	Option 2b
+ Retail at Grade	+ Retail, Office and Parking Expansion	+ Retail and Parking Expansion	+ Retail at Grade + Green Roof	+ Retail, Office and Parking Expansion
				
413 Parking Stalls	435 Parking Stalls	479 Parking Stalls	348 Parking Stalls	370 Parking Stalls
480 m ² Retail	1,005 m ² Retail	1,005 m ² Retail	480 m ² Retail	1,005 m ² Retail
No CIBC Aquisition	CIBC Aquisition	CIBC Aquisition	No CIBC Aquisition	CIBC Aquisition
	Large Floor Plate Retail	Large Floor Plate Retail	LEED Initiatives	Large Floor Plate Retail
	1,575 m ² Office Space			1,575 m ² Office Space
				LEED Initiatives

Evaluation

Option 1a

+ Retail at Grade



Meets Transportation
Study Criteria:

YES

Congruent with Timing of
Lakeshore Construction:

YES

Relative Costing:

MEDIUM

Fulfills DCH
Evaluation:

**Refer to Appendix for Criteria*

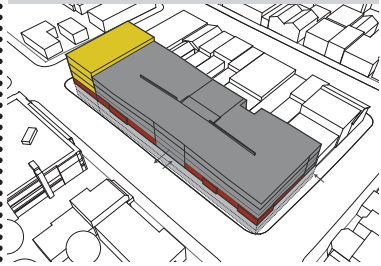
YES

Includes LEED
Initiatives:

NO

Option 1b

+ Retail, Office and Parking
Expansion



Meets Transportation
Study Criteria:

YES

Congruent with Timing of
Lakeshore Construction:

NO

Relative Costing:

HIGH

Fulfills DCH
Evaluation:

**Refer to Appendix for Criteria*

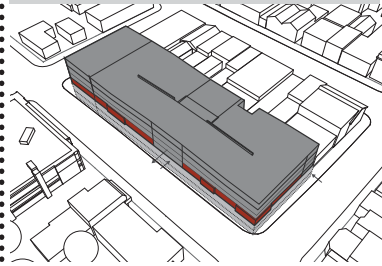
YES

Includes LEED
Initiatives:

NO

Option 1c

+ Retail and Parking Expansion



Meets Transportation
Study Criteria:

YES

Congruent with Timing of
Lakeshore Construction:

NO

Relative Costing:

HIGH

Fulfills DCH
Evaluation:

**Refer to Appendix for Criteria*

YES

Includes LEED
Initiatives:

NO

Option 2a

+ Retail at Grade
+ Green Roof



Meets Transportation
Study Criteria:

YES

Congruent with Timing of
Lakeshore Construction:

YES

Relative Costing:

LOW

Fulfills DCH
Evaluation:

**Refer to Appendix for Criteria*

YES

Includes LEED
Initiatives:

YES

Option 2b

+ Retail, Office and Parking
Expansion



Meets Transportation
Study Criteria:

YES

Congruent with Timing of
Lakeshore Construction:

NO

Relative Costing:

MEDIUM

Fulfills DCH
Evaluation:

**Refer to Appendix for Criteria*

YES

Includes LEED
Initiatives:

YES

Estimated Order of Magnitude Unit Cost

STRUCTURE

Above grade parking

Below grade parking

Green roof

Photovoltaics

Retail and Servicing

LEED Construction/Consultant Premium

**Structure estimates from RJC*

LAND

Land Acquisition

**Estimate from NBLC*

MIXED-USE DEVELOPMENT ON CIBC LOT

**Estimate from NBLC based on the Altus construction guide*

STRUCTURE

\$ 54,000 / stall

\$ 68,000 / stall

\$ 1,500,000

\$ 500,000

\$ 600,000 - 1,300,000

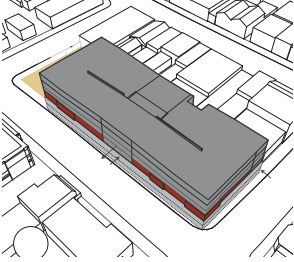
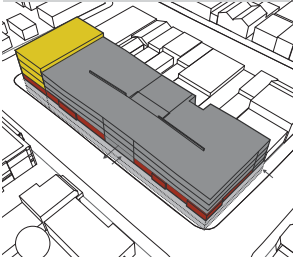
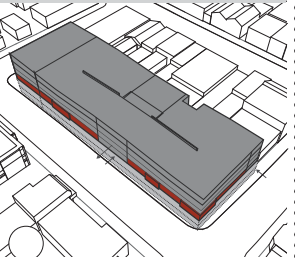


\$ 100,000

LAND

\$ 908,000 - 1,300,000

\$145/ft² - \$215/ft²
+30% soft cost allocation

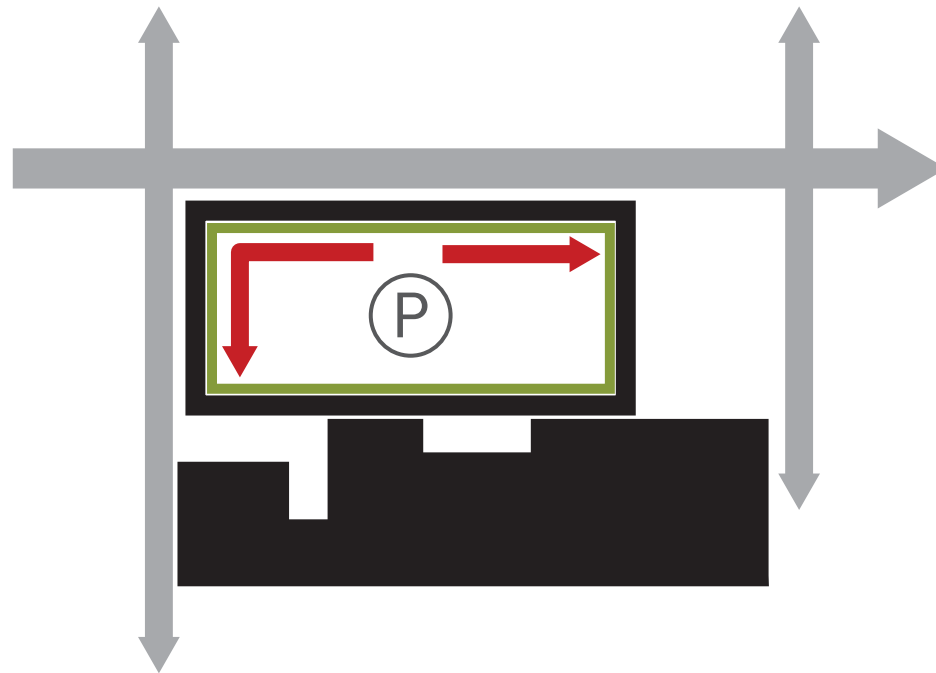
Estimated Cost Summary

Parking Structure	Option 1a	Option 1b	Option 1c		Option 2a	Option 2b
	Maximum Parking + Retail at Grade	Acquired CIBC Lot + Retail, Office and Parking Expansion	Acquired CIBC Lot + Retail and Parking Expansion		Maximum Parking + Retail at Grade + Green Roof	Acquired CIBC Lot + Retail, Office and Parking Expansion
						
8 level parking (5 above, 3 below)	\$ 25 million 413 parking stalls	\$ 27 million 435 parking stalls	\$ 30 million 479 parking stalls	7 level parking (4 above, 3 below)	\$ 23 million 348 parking stalls	\$ 25 million 370 parking stalls
5 level parking (5 above, 0 below)	\$ 15 million 261 parking stalls	\$ 15 million 261 parking stalls	\$ 17 million 305 parking stalls	4 level parking (4 above, 0 below)	\$ 13 million 196 parking stalls	\$ 13 million 196 parking stalls
Land Acquisition	N/A	\$908,000 \$1,300,000	\$908,000 \$1,300,000		N/A	\$908,000 \$1,300,000
Mixed-Use Development (CIBC Lot)	N/A	\$4,260,900 \$6,318,000	\$1,065,200 \$1,579,500		N/A	\$4,260,900 \$6,318,000
TOTAL RANGE *	\$ 25 million \$ 15 million	\$ 34.62 million \$ 22.44 million	\$ 32.88 million \$ 18.97 million		\$ 23 million \$ 13 million	\$ 32.62 million \$ 20.62 million

*High range Total estimates include the highest estimated cost for Land Acquisition and Mixed-Use Development (CIBC Lot)

Preferred Option 2a

Maximum Parking & 'Green' Roof
+ *Retail at Grade & LEED Initiatives*

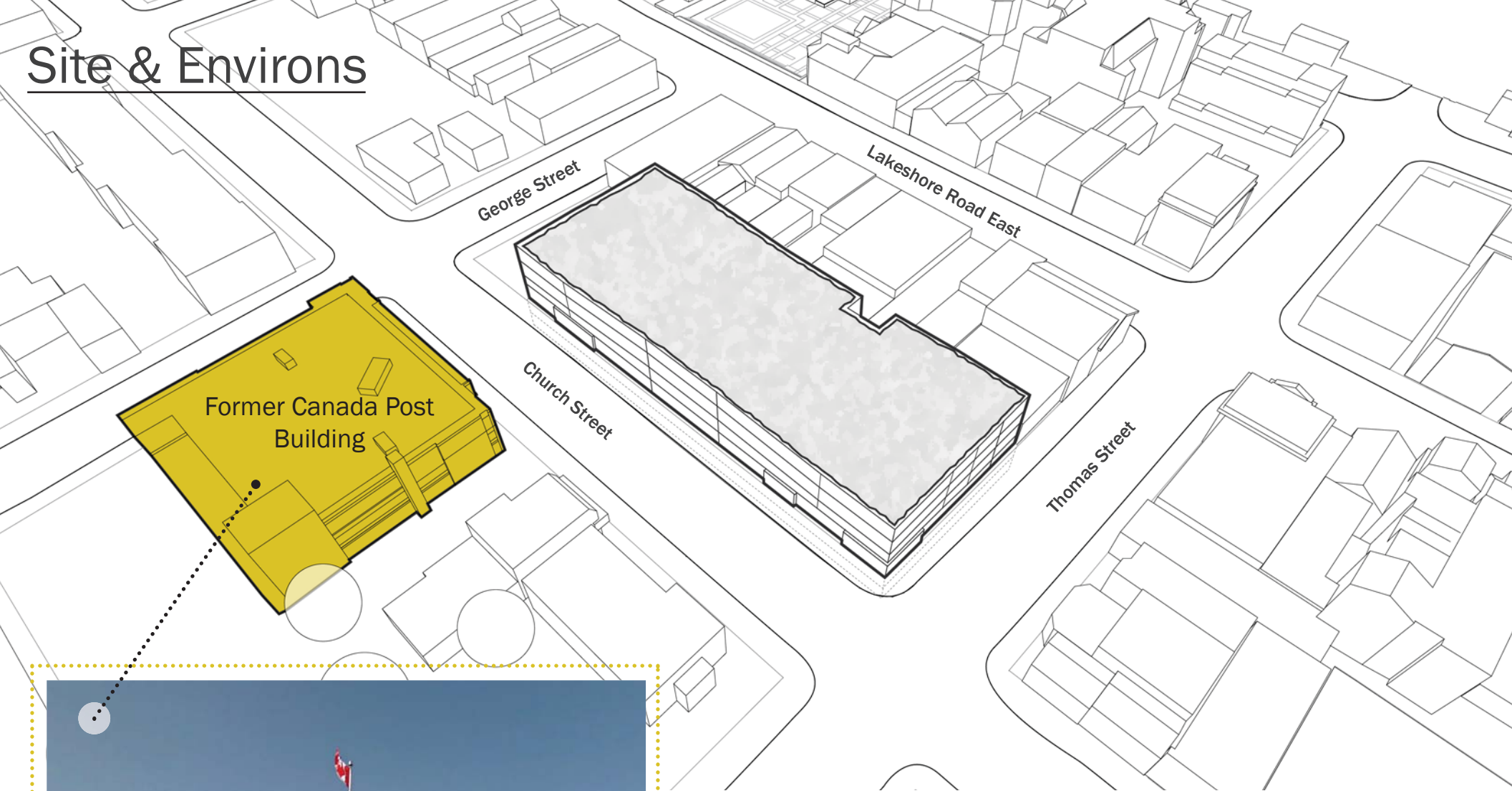


Preferred Option



- *No land acquisition of CIBC parking lot required*
- *348 Parking Stall Structure (4 levels above & 3 below ground)*
- *480 m² of at-grade Retail Space*
- *Green Roof fulfilling LEED Initiatives*

Site & Environs



Proposed cultural facility currently being considered through the Downtown Cultural Hub study.

- Former Canada Post Building

Site & Environs



Engage & Define the Street Edge

- Church Street Looking Southwest

Mixed-Use Opportunities

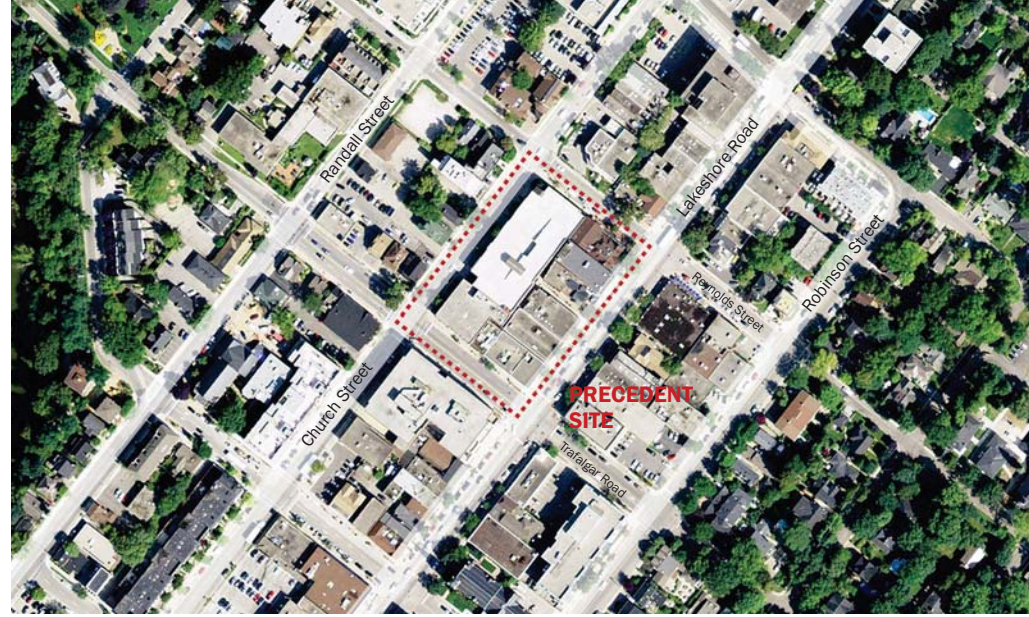


*Activate Through Mixed-Uses
& Programming*

- Kiosks for Artists and Retailers

Precedents: *Site & Structure*

Local Precedent: 300 Church Street (at Reynolds Street)



Mixed-Use Opportunities



Small Offices



- Galleries
- Studios
- Art Classrooms



Bicycle Parking & Servicing



Outdoor Cafes & Patios

Precedents: *Mixed-Use Parking Structure*

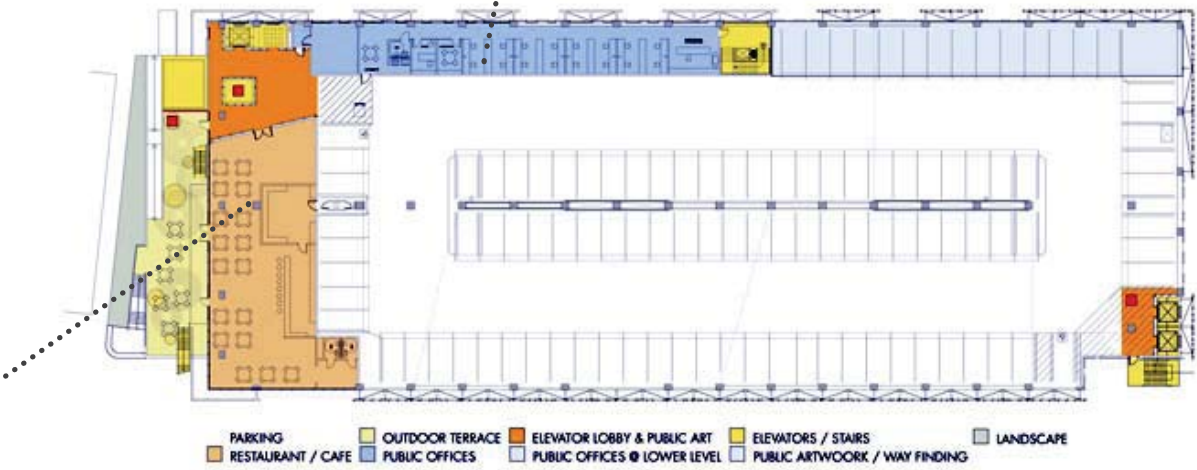
Location: Santa Monica Civic Center Parking Garage



www.moorerubleyudell.com

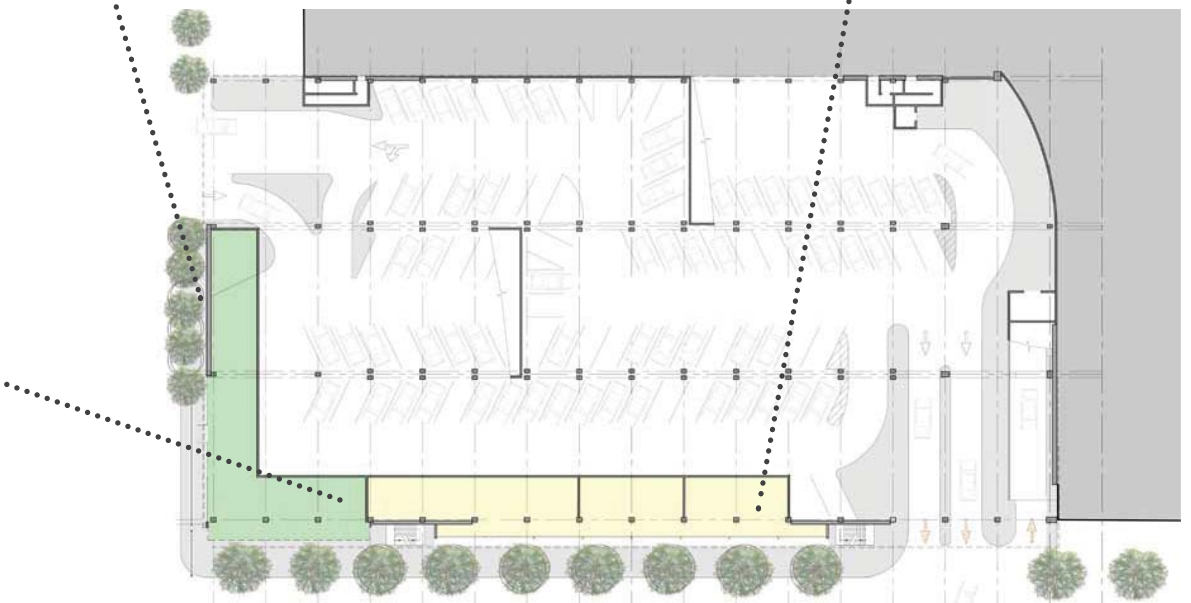


◀ Public Offices

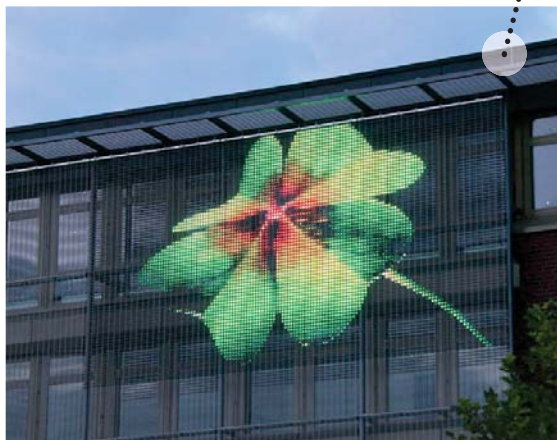
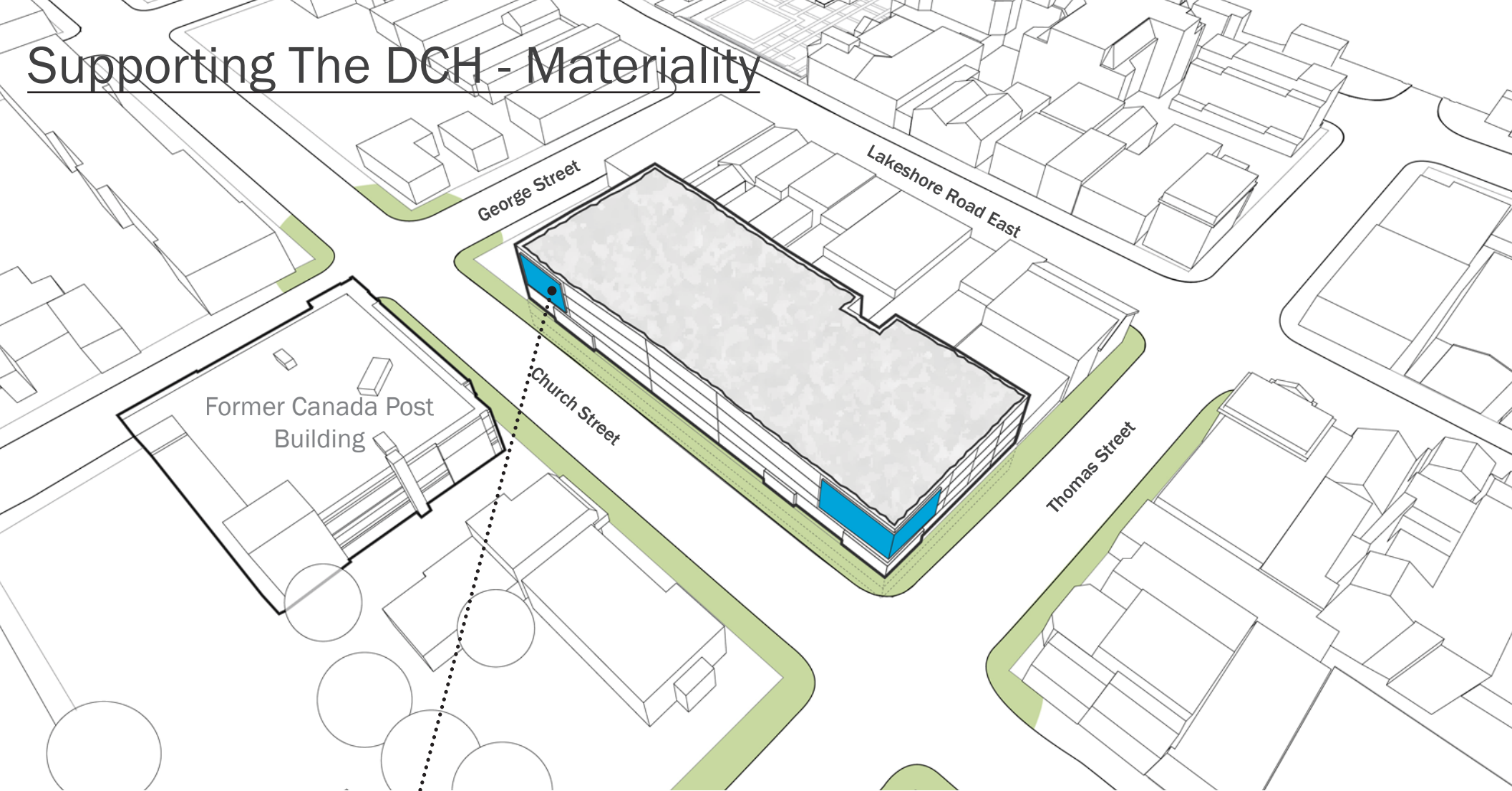


Precedents: *Mixed-Use Parking Structure*

Location: Santa Monica Place (Mall) Parking Garage



Supporting The DCH - Materiality



- Exterior Media Walls

Precedents: *Digital Media Facades*

Location: New York City Port Authority Parking Structure



www.inhabit.com/images



www.leuro.com



MediaMesh

Supporting The DCH - Materiality



Facade Variations



Elevational Study

Drawings by RJC.

Feature Wall Across from Post Office
ART / MEDIA / GREEN



Church Street Elevation



View from Old Canada Post Building.

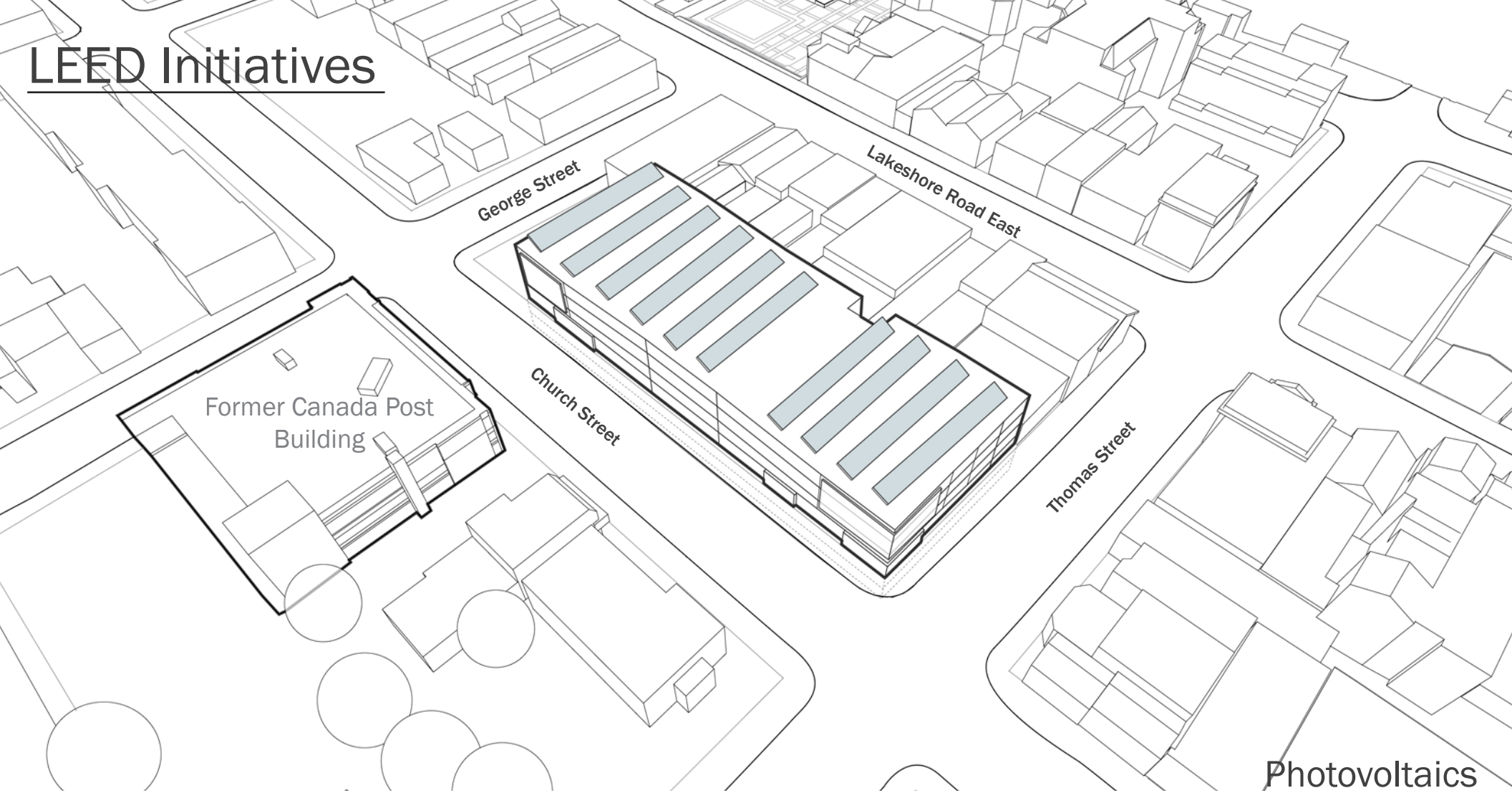
Elevational Study

Drawings by RJC.



View from Church & Thomas Streets.

LEED Initiatives



LEED Initiatives



Detail Design Qualifications

The previous layout plans of the parking garage are not detailed design plans and not fully developed. As such, at this time, the parking layout does not yet accommodate the following qualifications:

- Air ventilation shafts (which can be placed in the building corners - will impact/reduce retail space areas for below and above-grade parking ventilation);
- Barrier-Free parking stalls (will reduce total parking counts);
- Elevator and stair shafts (which can be placed in the building corners - will also reduce retail areas);
- Mechanical spaces, generator, washrooms for retail spaces (further reduction in the total parking count);
- Bicycle parking - preferably at ground floor as to not mix vehicular and bicycle traffic inside the structure as it is safer to keep these separate. This will impact ground floor retail space area if it is required inside the building.

Appendix

Summary For Recommended Functional Plan

Commercial Market Review

Downtown Cultural Hub Criteria

Summary for Recommended Functional Plan

Provided by RJC

The proportion and geometry of the property-site is quite tight for it to accommodate an efficient (low square-feet per stall) parking plan-layout.

Because of the limited north-south dimension of the site, only one and a half (but not two full) modules of right angled parking will fit. A parking layout can be said to be “efficient” when there are full and not half/ portions of modules of parking. A full module of parking has parking stalls on both sides of the drive aisle. Accommodating storage on both sides of a circulation route increases the efficiency of the average space used for storage. Since the property is just a bit too small to have two full modules of right angled parking, the option to design the layout for angled parking was also considered. In order to acquire two full width modules of angled parking stalls, the parking angle has to become quite low. At such an angle, the efficiency gained by having two full width modules is lost in the unused “triangular” floor areas that are inherent in each stall and at the end of each row of angled parking. For this property, fewer total parking stalls per floor occurs with two full modules of angled parking as compared to a design with one and half right angled modules of parking. As such, the right angled parking option is recommended.

As compared to other (larger) sites where multilevel parking has been developed, this site will have a similar and comparable cost per square foot to build but it will have an apparently higher cost per parking stall because of the high average area that is required to accommodate each parking stall. The higher average area per stall is a function of there being these one-half-modules of parking where parking stalls are accommodated on only one side of the drive aisle.

Although pretty much the same circulation system is illustrated in each of the options presented in the report. A few circulation systems were possible. The circulation system presented in each option in the report is the same as the recommended option.

Circulation systems considered : double helix; single helix; and flat plate with speed-spiral ramps. Parallel parking, right angled parking and angled parking were also considered.

A single helix structure layout where incoming and outgoing vehicles have to pass all of the (full or empty) stalls on their way in and then pass all of the same parking stalls on their way out would have near double the circulation time (and length of travel) as compared to a double helix layout. A single helix would have two way traffic in the drive aisles. It would accommodate a few more parking spaces per floor than a double helix but it would have longer circulation times to find a stall and to exit. There would be more cross overs of incoming and outgoing traffic flows at the ground floor entrance.

A double helix would have two independent inbound and outbound circulation routes. It would have half of the “in” and “out” times for incoming and outgoing vehicles (as compared to a single helix) but it would accommodate fewer cars per floor. Since it would have one way and not two way traffic in the drive aisles, it would have fewer vehicular cross overs and clearer circulation and wayfinding than the single helix or the speed-spiral ramp option.

A flat plate design would have all of the parking on near level floor surfaces. There would be a single spiral shaped “speed” ramp connecting all of the floors. With this circulation and layout there would be traffic crossovers at every floor where inbound and outbound traffic go into and out from the spiral ramp. There would be many more cross overs for this design than the others but the average entry/exit time into and out of the building would be quickest. For this design there would be a large floor area and related large construction cost devoted to the provision of the spiral ramp. Such a cost and area would not be required for the other circulation systems. This system would have a higher cost per square foot and a higher cost per stall since the circular-spiral ramp construction would be a premium on a total cost and on a unit cost basis.

For the above stated reasons, the right-angled parking double helix layout with independent inbound and outbound paths of travel is the more efficient, safer and recommended functional design for this parking development.

Downtown Cultural Hub Criteria

To contribute to an **economically successful** vibrant downtown.

To create a **cultural focus** for the town in the downtown area.

To provide facilities and infrastructure that **meet existing and future needs**.

To **protect and enhance** the natural environmental and cultural heritage of downtown.

To develop solutions that are **financially sustainable**.