
800 GRIFFITHS WAY - EAST TOWER (COMPLETE APPLICATION)
DE416399 - ZONE CD-1

AM/BM/MW/CL/LH

DEVELOPMENT PERMIT STAFF COMMITTEE MEMBERS

Present:

*J. Greer (Chair), Development Services
R. Thé, Engineering Services
L. Gayman, Real Estate Services
D. Naundorf, Social Infrastructure
T. Driessen, Park Board

Also Present:

A. Molaro, Urban Design & Development Planning
B. Mah, Development Services
C. Lau, Development Services
A. Law, Development Services

* March 13, 2013 Development Permit Staff Committee only

APPLICANT:

Francl Architecture Inc.
Attention: Scott C. Mitchell
1684 West 2nd Avenue
Vancouver, BC
V6J 1H4

PROPERTY OWNER:

Aquilini Development
200 - 510 West Hastings Street
Vancouver, BC
V6B 1L8

EXECUTIVE SUMMARY

- **Proposal:** To develop a 28-storey tower (East Tower) at the southeast corner of the existing arena, containing residential and commercial components; including renovations to the existing arena building and interconnections to the new South Tower (685 Pacific Boulevard - DE416437) for underground parking.

See Appendix A Standard Conditions

Appendix B Standard Notes and Conditions of Development Permit

Appendix C Processing Centre - Building comments

Appendix D Sustainability

Appendix E Plans and Elevations

Appendix F Applicant's Design Rationale

● **Issues:**

1. Dwelling Units including acoustic and thermal performance criteria
2. Architectural Character
3. Interim and Future Road Alignment and Public Realm

- **Urban Design Panel: SUPPORT**
-

DEVELOPMENT PERMIT STAFF COMMITTEE RECOMMENDATION: APPROVE

THAT the Board APPROVE, subject to Council's approval of the Form of Development and enactment of the CD-1 By-law, Development Application No. DE416399 as submitted, the plans and information forming a part thereof, thereby permitting the development of a 28-storey tower (East Tower) at the south east corner of the existing arena, containing residential and commercial components; including renovations to the existing arena building and interconnections to the new South Tower (685 Pacific Boulevard - DE416437) for underground parking, subject to the following conditions:

1.0 Prior to the issuance of the development permit, revised drawings and information shall be submitted, sealed and signed, to the satisfaction of the Director of Planning, clearly indicating:

1.1 compliance with the pending CD-1 by-law demonstrating:

- i. minimum of 37,319 m² of residential floor area;
- ii. 25% of dwelling units as two bedrooms; and
- iii. minimum unit size of 37 m²;

as distributed across the three proposed buildings including pending DE416258 - 89 West Georgia Street (West Tower) and DE416437 - 685 Pacific Boulevard (South Tower);

Note to Applicant: A text amendment is required to remove Section 5.4 of the CD-1 By-law requiring a minimum unit size of 37 m² in order to consider the smaller units being proposed (26 units @ 30 m² and 27 units @ 35 m²) in the South Tower (DE416437 - 685 Pacific Boulevard). The enactment agreements call for 614 dwelling units, however the Managing Director of Social Development may vary this amount based on the type, number of units provided. See also Standard Condition A.1.2.

1.2 design development to the overall architectural integration of the various components to simplify and strengthening the building's architectural character;

Note to Applicant: This could be achieved by refining the balcony enclosure framing expression (northwest façade) and refinement of the office and residential façade components including the balcony and glazing pattern treatments (south and east facades) to achieve a more disciplined pattern of building expression. The sustainability aspects of the façade expression should also be enhanced.

1.3 design development to enhance the interface of the lower portion of the tower form with the Abbott Street façade of the arena;

Note to Applicant: This could be achieved by establishing a more distinctive expression separating these two building components.

1.4 design development to the parapet to better enhance its distinct character, while complementing the upper massing treatment of the adjacent buildings;

Note to Applicant: Confirmation that the proposed building does not project into the "Cambie Street to North Shore Mountains" is required. The maximum permitted height up to the view cone is EL 103.86 m. The proposed parapet exceeds this by 0.78 m at 104.64 m. Elements such as window washing equipment or cell towers are not permitted incursions into the view cone.)

- 1.5 provision of detailed (1/4"=1'-0") partial elevations and sections of typical façade components, including balconies confirmation high quality material proposed;
- Note to Applicant:** Additional consideration should be given to passive design principles and thermally breaking the extended external slabs at balcony conditions.
- 1.6 provision of a revised acoustic and thermal comfort study confirming that the summertime internal comfort levels are in line with ASHRAE 90.1V.2007 (with windows closed) will be achieved;
- Note to Applicant:** Detailed specification and glazing recommendations is required. Provision of specification notes on the drawings confirming the glazing type to be provided that will meet the criteria. See also Recommended Condition 1.7.
- 1.7 provision of drawings clearly specifying that the building is to be constructed to meet the City's acoustical performance criteria to mitigate the impact of event noise on residential developments to achieve a target of 40-50dBC for noise levels within dwelling units during events; and
- Note to Applicant:** For this building, the summary letter (date stamped June 15, 2012) and detailed report (date stamped December 13, 2011) submitted by Brown Strachan Consultants, recommends the utilization of enclosed balconies for façades facing the Rogers Arena roof (with double glazing or operable glazing) to meet the performance criteria. Staff required the detailed specification drawings of the balcony enclosure systems and glazing recommendations, glazing area and glazing specification recommendations for each building to be noted on the Development Permit and Building Permit drawings, and confirmation of the acoustic performance prior to obtaining an Occupancy Permit. The following note to be added to the submitted drawings: "Glazing for all residential windows and doors to be specified by the project acoustic consultant in order to meet the City's 50dBC interior noise design criterion." See also Recommended Condition 1.6.
- 1.8 confirmation that the development proposal meeting LEED Gold has been registered with the Canada Green Building Council (CaGBC).
- 2.0 That the conditions set out in Appendix A be met prior to the issuance of the Development Permit.
- 3.0 That the Notes to Applicant and Conditions of the Development Permit set out in Appendix B be approved by the Board.

PROJECT INFORMATION					
Site Size/Area: irregular/18 700 m ²			Site Type: non-conforming (surrounded by streets)		
CD-1 By-law (pending)	MINIMUM / MAXIMUM	Permit Number DE411483 (West Tower)	Application DE416258 (West Tower - under review)	East Tower (DE416399)	South Tower (DE416437)
Section 4 - Uses	Cultural & Recreational, limited to Arcade, Artist Studio, Billiard Hall, Club, Fitness Centre, Hall, Museum or Archives, Rink, Stadium or Arena, Swimming Pool and Theatre	Arena (existing)	Arena (existing)	Arena (existing)	---
	Manufacturing Uses, limited to Brewing or Distilling	Brewing (existing)	Brewing (existing)	Brewing (existing)	---
	Office Uses	General Offices	General Offices (existing)	General Offices	n/a
	Retail Uses, limited to Farmers Market, Grocery or Drug Store and Retail Store	Retail Store	Retail Store (existing)	Retail Store	n/a
	Residential Uses	n/a	Residential Uses	Residential Uses	Residential Uses
Section 5 - Conditions of Use ¹	Minimum 25% of dwelling units must include 2 bedrooms	n/a	2 - studio 146 - 1 bedroom 43 - 2 bedroom <u>1</u> - 4 bedroom 192 units total 44/192 x 100% = 22.9%	0 - studio 104 - 1 bedroom 30 - 2 bedroom <u>0</u> - 3 bedroom 134 units total 30/134 x 100% = 22.4%	53 - studio 131 - 1 bedroom 82 - 2 bedroom <u>2</u> - 3 bedroom 268 units total 84/268 x 100% = 31.3%
			Total: 44 + 30 + 84 / 192 + 134 + 268 = 158 / 594 x 100% = 26.6%		
	Floor area of each dwelling unit, measured from inside of outer walls, must be at least 37 m ²	n/a	under review	n/a	26 units @ 30 m ² 27 units @ 35 m ²
Section 6 - Floor Area and Density ²	Cultural & Recreational Uses - 38 600 m ²	Arena (existing) 35 745 m ² [DE411185]	Arena (existing) (under review) 35 710 m ²	Arena (existing under DE411939/DE416258) 37 170 m ²	
	Manufacturing Uses, limited to	Brewing (existing) 160 m ²	Brewing (existing) 160 m ²	Brewing (existing)	160 m ²

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	Brewing or Distilling - 160 m ²	[DE411483]			
	Office Uses - 21 000 m ² , except that there must be a minimum of 13 000 m ²	General Office [DE411483] 20 640 m ²	General Office (under review) 9 855 m ²	General Office (West Tower-under review) 9 855 m ²	General Office (West Tower-under review) 9 855 m ²
	Retail/Service Uses - 6 560 m ²	Retail Store [DE411483] 6 534 m ²	Retail/Service (under review) 1 335 m ²	Retail Store (West Tower-under review) 1 335 m ²	Retail Store (West Tower-under review) 1 335 m ²
	Residential Uses - 37 919 m ²	n/a	Residential (under review) 12 845 m ²	Residential (West Tower - under review) 12 845 m ²	Residential (West Tower - under review) 12 845 m ²
				East Tower Total	East Tower Total
					South Tower Total
Open & Enclosed Balconies ³	Open Balcony Exclusion	n/a	Open Balcony	Open Balcony	
	<i>Sub-Area A</i> 23% (<i>South Tower</i>) 23% x 16 264 m ² = 3 741 m ²			<i>South Tower</i> Open Balcony 2 628 m ² Acoustic Balcony 460 m ² Total 3 088 m ²	
	Sub-Area B 14% (West Tower) 14% x 12 910 m ² = 1 807 m ²		West Tower (under review) Open Balcony 1 510 m ² Acoustic Balcony 300 m ² Total 1 810 m ²		
	<i>Sub-Area C</i> 10% (<i>East Tower</i>) 10% x 8 116 m ² = 812 m ²			<i>East Tower</i> Open Balcony 474 m ² Acoustic Balcony 304 m ² Total 778 m ²	
	Enclosed Balconies - 10% of total residential floor area [10% x 37 290 m ² = 3 729 m ²]	n/a	Enclosed Balcony	Enclosed Balcony	
			West Tower (under review) 650 m ²	<i>South Tower</i> West Tower (under review) 650 m ² <i>East Tower</i> Total 2 751 m ²	

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Amenity Areas ⁴	lesser of 20% of permitted floor area or 1 400 m ² [20% x 37 919 m ² = 7 584 m ²]	n/a	West Tower (under review) 440 m ²	<i>East Tower</i> 146 m ²	<i>South Tower</i> 677 m ² (including balconies)
			440 m ² (under review) + 146 m ² + 677 m ² = 1 263 m ²		
Unenclosed Outdoor Areas at grade level underneath building overhangs ⁵	1% of residential floor area [1% x 37 290 m ² = 373 m ²]	n/a	West Tower (under review) <u>?</u> m ²	<i>East Tower</i> 182 m ²	<i>South Tower</i> 685 m ²
			<u>?</u> m ² (under review) + 182 m ² + 685 m ² = <u>?</u> m ²		
Section 7 - Building Height ⁶	<i>Sub-Area A (South Tower)</i> 102.76 m View Cone 101.98 m Sub-Area B (West Tower) 105.04 m View Cone 104.72 m <i>Sub-Area C (East Tower)</i> 105.10 m View Cone 103.86 m	--- Sub-Area B West Tower 90.06 m ---	--- Sub-Area B West Tower (under review) 93.59 m Top of Mech. Room 105.60 m		<i>Sub-Area A South Tower</i> 101.87 m <i>Sub-Area C East Tower</i> *104.64 m
Section 8 - Horizontal Angle of Daylight ⁷	50° or 2 angles with a sum of 70° /24.0 m	n/a	basically complies, some minor relaxations required	basically complies, some minor relaxations required	basically complies, some minor relaxations required
Section 9 - Acoustics ⁸	report required	n/a	see note	see note	see note

¹Note on Conditions of Use: A Housing Agreement will be required to secure residential units (with a total area of 37 319 m²) as rental for the life of the building or 60 years, whichever is longer, including a 'no separate sales' and a 'no stratification' covenant, in addition to other terms and conditions (subject to review of West Tower) while ensuring that the minimum 25% 2-bedroom units are provided. The pending amended CD-1 By-law restricts the minimum size of dwelling units to 37 m². However, for secured rental, Section 10 provisions of the Zoning and Development By-law permits consideration units sizes to a lesser amount of 29.7 m², subject to the design and location of the dwelling units, having regard to the type of occupancy proposed. As secured rental occupancy is part of this consideration, staff support a text amendment to remove this by-law limitation within the pending amended CD-1 By-law. See Recommended Condition 1.1.


²Note on Floor Area & Density: Floor areas generally are within the maximum allowed subject to the reinstating of the exclusion clause for mechanical spaces located above base surface as in the original CD-1 By-law. See Standard Condition A.1.4.

³Note on Open & Enclosed Balconies: (subject to review of West Tower)

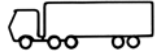

⁴Note on Amenity Areas: (subject to review of West Tower)

⁵Note on Unenclosed Outdoor Areas: The proposed unenclosed covered area exceeds the pending amended CD-1 By-law maximum. However, the proposal is generally consistent with what was anticipated at the time of rezoning. Staff support a text amendment to the pending amended CD-1 By-law to accommodate the at-grade unenclosed covered area as

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<p>proposed. See Standard Condition A.1.3.</p> <p>⁶Note on Height: The proposed parapet exceeds the view cone height limit by 0.78 m (2.5 ft.) but is still within the permitted overall height allowed under the pending amended CD-1 By-law. Staff are seeking design development to the upper parapet and require that the building height be reduced to respect the view cone height limit. See Recommended Condition 1.4.</p> <p>⁷Note on Horizontal Angle of Daylight: Staff support the minor relaxations requested.</p> <p>⁸Note on Acoustics: See Recommended Conditions 1.6 and 1.7 seek a revised acoustical consultant's report and provision of specification requirements on drawings to achieve criteria.</p>					

	Standards	Required	Proposed
Section 4.3 Parking 	<p>Parking By-law</p> <p>Section 4.3.1 Non-residential Uses - Downtown</p> <p>Except as provided in section 4.3.2 and except for water based uses which are to be in accordance with section 4.2.4.9, all non-residential uses Downtown shall provide a:</p> <p>(a) minimum of one parking space for each 145 m² of gross floor area; and</p> <p>(b) maximum of one parking space for each 115 m² of gross floor area.</p> <p>Section 4.3.6 Residential Uses including Live-Work - Downtown</p> <p>Except as provided in section 4.3.8, residential uses Downtown shall provide the lesser of:</p> <p>(a) at least one parking space for each 140 m² of gross floor area; and</p> <p>(b) one parking space for every dwelling unit.</p>	<p>Arena (Rogers) 170 spaces Stadium (BC Place) 150 spaces</p> <p><i>South Tower</i> Residential: lesser of 16 264 m² x 1 sp./140 m² = 116 spaces 268 units x 1 unit/space = 268 spaces</p> <p>Disability Spaces Residential: 268 units - 7 units = 261 units x 0.034 space/unit = 8.9 - 9 1 + 9 = 10 spaces</p> <p>Visitor Spaces: 268 units x 1 space/20 units = 13 spaces</p> <p>West Tower (under review) Non-Residential: 11 350 m² x 1 space/145 m² = 78 spaces Residential: lesser of 12 845 m² x 1 space/140 m² = 92 spaces 192 units x 1 space/unit = 192 spaces Total: 78 + 92 = 170 spaces</p> <p>Visitor Spaces: 192 units x 1 space/20 units = 10 spaces</p>	<p>Arena (Rogers) 170 spaces Stadium (BC Place) 150 spaces</p> <p><i>South Tower</i> Standard 86 spaces Small Car 28 spaces Disability 10 spaces Car Share <u>4</u> spaces Total 128 spaces</p> <p>Visitor Spaces (under Arena) 13 spaces</p> <p>West Tower (under review) Non-Residential: (under Arena) ? spaces Residential: ? spaces Total ? spaces</p> <p>Visitor Spaces (under Arena) 10 spaces</p>

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	<p>Section 4.8.4 Required Disability Parking Spaces</p> <p>Residential: 1 space/7 units + 0.034 space/unit Non-Residential: 1 space/500 m² + 0.4 space/ additional 1 000 m²</p> <p>*****</p> <p>Schedule C: CD-1 District Parking Requirements</p> <p>Parking, loading and bicycle spaces in accordance with by-law requirements on July 19, 2012 (date of Public Hearing), except that:</p> <ul style="list-style-type: none"> • a minimum of 170 parking stalls must be provided for arena use; • a minimum of one visitor parking space must be provided for each 20 residential units; and • the Director of Planning or General Manager of Engineering Services may allow for substitution of shared vehicles and shared vehicle parking spaces for required parking spaces at a ratio of 1:5, on conditions satisfactory to that City official. <p>Rezoning Report/Parking Study</p> <table border="0"> <tr><td>Existing Arena</td><td>170 spaces</td></tr> <tr><td>Office/Retail - West & East Towers</td><td>134 spaces</td></tr> <tr><td>Residential - West Tower</td><td>104 spaces</td></tr> <tr><td>Residential - East & South Towers</td><td>200 spaces</td></tr> <tr><td>Residential - Visitor Parking</td><td>31 spaces</td></tr> <tr><td>Stadium Parking</td><td><u>150</u> spaces</td></tr> <tr><td>Total</td><td>789 spaces</td></tr> </table> <p>*****</p> <p>CD-1 (311) 150 Pacific Boulevard North By-law No. 7201</p> <p>Off-Street Parking</p> <p>A minimum of 412 off-street parking spaces shall be provided, developed and maintained in accordance</p>	Existing Arena	170 spaces	Office/Retail - West & East Towers	134 spaces	Residential - West Tower	104 spaces	Residential - East & South Towers	200 spaces	Residential - Visitor Parking	31 spaces	Stadium Parking	<u>150</u> spaces	Total	789 spaces	<p>East Tower</p> <p>Non-Residential: 5 949 m² + 96 m² = 6 045 m² minimum: 6 045 m² x 1 space/145 m² = 42 spaces maximum: 6 045 m² x 1 space/115 m² = 53 spaces Residential: lesser of 8 116 m² x 1 space/140 m² = 58 spaces 134 units x 1 space/unit = 134 spaces</p> <p>minimum: 42 spaces + 58 spaces = 100 spaces maximum: 53 spaces + 58 spaces = 111 spaces</p> <p>Disability Spaces Residential: 134 units - 7 units = 127 units x 0.034 space/unit = 4.3 1 + 4 = 5 spaces Non-Residential: 5 949 m² + 96 m² = 6 045 m² 6 045 m² - 500 m² = 5 545 m² x 1 space/1 000 m² = 5.5 ~ 6 1 + 6 = 7 spaces</p> <p>Visitor Spaces: 134 units x 1 space/20 units = 7 spaces</p> <p>South & East Towers</p> <table border="0"> <tr><td>South Tower - Residential</td><td>116 spaces</td></tr> <tr><td>East Tower - Residential</td><td><u>58</u> spaces</td></tr> <tr><td>Subtotal</td><td>174 spaces</td></tr> <tr><td>East Tower - Non-Residential (min.)</td><td><u>42</u> spaces</td></tr> <tr><td>Total</td><td>216 spaces</td></tr> </table> <p>South & East Towers</p> <table border="0"> <tr><td>South Tower - Residential</td><td>116 spaces</td></tr> <tr><td>East Tower - Residential</td><td><u>58</u> spaces</td></tr> <tr><td>Subtotal</td><td>174 spaces</td></tr> <tr><td>East Tower - Non-Residential (max.)</td><td><u>53</u> spaces</td></tr> <tr><td>Total</td><td>227 spaces</td></tr> </table> <p>Visitor Spaces:</p> <table border="0"> <tr><td>South Tower</td><td>13 spaces</td></tr> <tr><td>West Tower</td><td>10 spaces</td></tr> <tr><td>East Tower</td><td><u>7</u> spaces</td></tr> </table>	South Tower - 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	with the applicable provisions of the Parking By-law. A minimum of 8 off-street loading spaces shall be provided, developed and maintained in accordance with the applicable provisions of the Parking By-law. ***** <i>South Tower</i> maximum 25% small car 225 spaces x 25% = 56 spaces <i>East Tower</i> Small Car - maximum 25% Residential 63 spaces x 25% = 15 spaces	Total 30 spaces Arena 170 spaces Stadium 150 spaces South Tower 116 spaces West Tower 170 spaces East Tower 100 spaces Total 706 spaces																																																																															
Section 5.2 Loading 	Dwelling Uses: Class A n/r Class B 1 space/100 - 299 units; 1 space/300 - 499 units Office Uses: 18 588 m ² Class A 1 space/1 000 - 7 500 m ² 2 spaces >7 500 m ² - 15 000 m ² Class B 2 space/500 m ² - 5 000 m ² 3 spaces >10 000 m ² - 28 000 m ² Retail Uses: 6 436 m ² Class A n/r Class B 1 space/465 m ² ; 1 space/any portion of next 1 860 m ² ; 1 space/additional 2 325 m ² <i>Manufacturing Uses: existing</i>	<table border="0"> <thead> <tr> <th></th> <th>Class A</th> <th>Class B</th> </tr> </thead> <tbody> <tr> <td><i>South Tower</i></td> <td></td> <td></td> </tr> <tr> <td>Dwelling Uses (268 units)</td> <td>n/r</td> <td>1</td> </tr> <tr> <td>West Tower (under review)</td> <td></td> <td></td> </tr> <tr> <td>Dwelling Uses (192 units)</td> <td>n/r</td> <td>1</td> </tr> <tr> <td>Office Uses (10 245 m²)</td> <td>2</td> <td>3</td> </tr> <tr> <td>Retail Uses (1 330 m²)</td> <td><u>n/r</u></td> <td><u>2</u></td> </tr> <tr> <td>Total</td> <td><u>2</u></td> <td><u>6</u></td> </tr> <tr> <td><i>East Tower</i></td> <td></td> <td></td> </tr> <tr> <td>Dwelling Uses (134 units)</td> <td>n/r</td> <td>1</td> </tr> <tr> <td>Office Uses (5 949 m²)</td> <td>1</td> <td>2</td> </tr> <tr> <td>Retail Uses (96 m²)</td> <td><u>n/r</u></td> <td><u>n/r</u></td> </tr> <tr> <td>Total</td> <td><u>1</u></td> <td><u>3</u></td> </tr> </tbody> </table>		Class A	Class B	<i>South Tower</i>			Dwelling Uses (268 units)	n/r	1	West Tower (under review)			Dwelling Uses (192 units)	n/r	1	Office Uses (10 245 m ²)	2	3	Retail Uses (1 330 m ²)	<u>n/r</u>	<u>2</u>	Total	<u>2</u>	<u>6</u>	<i>East Tower</i>			Dwelling Uses (134 units)	n/r	1	Office Uses (5 949 m ²)	1	2	Retail Uses (96 m ²)	<u>n/r</u>	<u>n/r</u>	Total	<u>1</u>	<u>3</u>	<table border="0"> <thead> <tr> <th></th> <th>Class A</th> <th>Class B</th> </tr> </thead> <tbody> <tr> <td><i>South Tower</i></td> <td></td> <td></td> </tr> <tr> <td>Dwelling Uses</td> <td>0</td> <td>3</td> </tr> <tr> <td>West Tower (under review)</td> <td></td> <td></td> </tr> <tr> <td>Dwelling Uses</td> <td>2</td> <td>0</td> </tr> <tr> <td>Office Uses</td> <td>?</td> <td>?</td> </tr> <tr> <td>Retail Uses</td> <td><u>n/r</u></td> <td><u>?</u></td> </tr> <tr> <td>Total</td> <td><u>2</u></td> <td><u>?</u></td> </tr> <tr> <td><i>East Tower</i></td> <td></td> <td></td> </tr> <tr> <td>Dwelling Uses</td> <td>n/r</td> <td>1?</td> </tr> <tr> <td>Office Uses</td> <td></td> <td></td> </tr> <tr> <td>Retail Uses</td> <td></td> <td></td> </tr> <tr> <td>Total</td> <td></td> <td></td> </tr> </tbody> </table>		Class A	Class B	<i>South Tower</i>			Dwelling Uses	0	3	West Tower (under review)			Dwelling Uses	2	0	Office Uses	?	?	Retail Uses	<u>n/r</u>	<u>?</u>	Total	<u>2</u>	<u>?</u>	<i>East Tower</i>			Dwelling Uses	n/r	1?	Office Uses			Retail Uses			Total		
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• **Legal Description**

Lot 221
False Creek
Plan LMP12038

• **History of Application:**

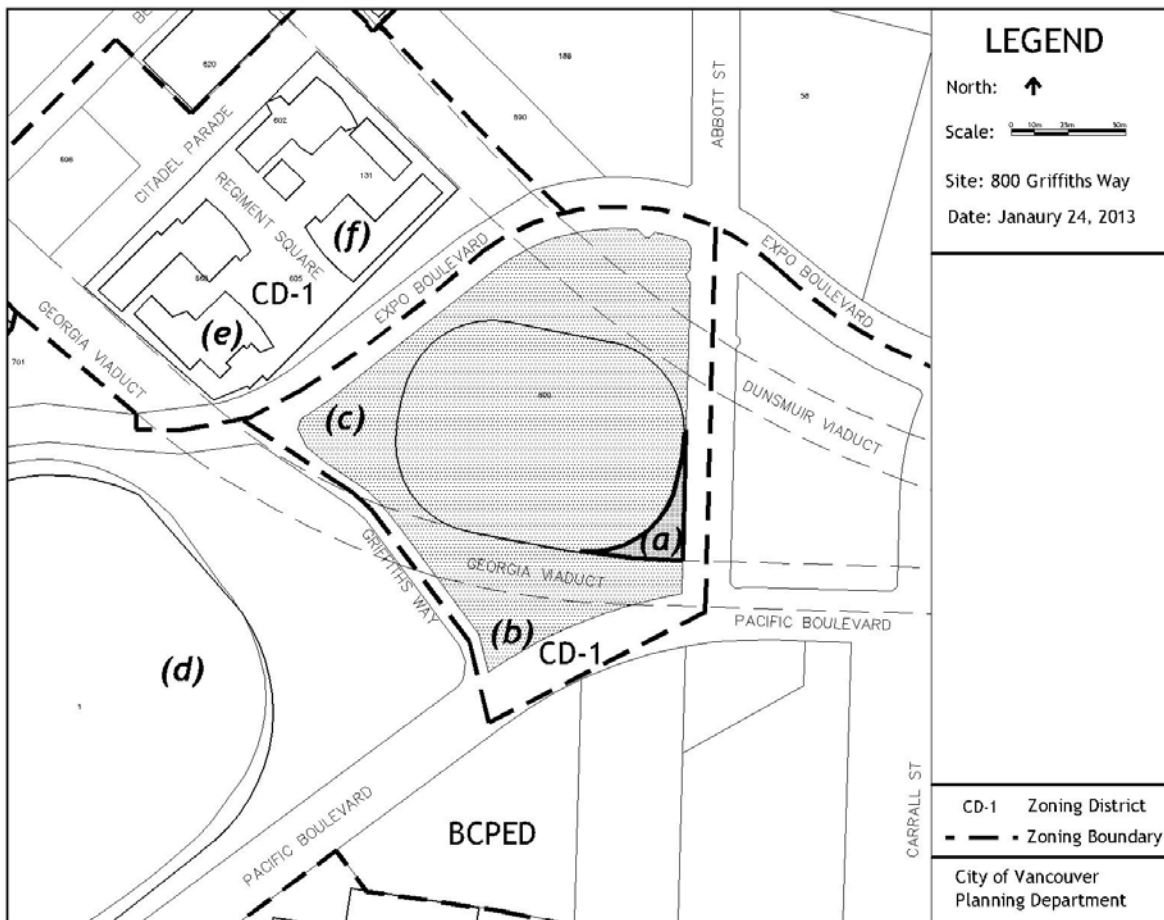
12 12 03 Complete DE submitted
13 01 30 Urban Design Panel
13 03 13 Development Permit Staff Committee
27 03 13 Development Permit Staff Committee

Note: Lot 221 will be subdivided into lots 348 & 349
(This development site being lot 348)

• **Site:** The site is bounded by Expo Boulevard, Abbott Street, Pacific Boulevard and Griffiths Way. This site contains Rogers Arena and is to also accommodate three residential towers. North of the site are high density residential towers, and the Stadium/Chinatown SkyTrain station. South of the site is vacant land and the Plaza of Nations, west of the site is BC Place Stadium and east of the site is vacant land. The Georgia and Dunsmuir viaducts and the SkyTrain guideway transverse the site.

• **Context:** Significant adjacent development includes:

- (a) 800 Griffiths Way - East Tower - proposed tower location
- (b) 685 Pacific Boulevard - South Tower - proposed under separate DE416437
- (c) 89 West Georgia Street - West Tower - office/residential tower under construction and review under DE416258
- (d) BC Place Stadium
- (e) 668 Citadel Parade - 27-storey residential tower
- (f) 131 Regiment Square - 30-storey residential tower



Background: This site was originally rezoned in 1993 to accommodate the arena, a training/fitness centre, a media centre and commercial uses on Abbott Street, and a 22-storey office building at the corner of Expo and Griffiths Way (West Tower). The site underwent a rezoning in 2012 and to accommodate residential uses in the West Tower and two additional towers located at the east corner of the site at Abbott Street and Pacific Boulevard (East Tower) and the South Tower at Griffiths Way and Pacific Boulevard.

Each of the three towers within this site are being processed as separate development applications. The West Tower, originally approved as an office building and under construction was, as part of the rezoning, granted residential use. The change of use to residential under development application DE416258 - 89 West Georgia Street was recently approved on March 28, 2013, subject to prior to conditions, some conditions of which are linked to this application. The South Tower, DE416437 - 685 Pacific Boulevard is currently being reviewed concurrently with this application. Some of the recommended conditions of this application are linked with the two other applications.

On March 12, 2013, Council recently approved a lease to Pacific Coast Arena Inc. to use the land below the Georgia Viaduct (instead of land under Griffiths Way) allow for a change to the parkade design which provides improvements to access and loading and allows services in Griffiths Way to be undisturbed.

• **Response to CD-1 By-law (pending):**

Use: The proposed uses (residential, office, retail, brewing and arena) conform to the provision of the pending CD-1 By-law.

Dwelling Units and Density: The residential use on this site are governed by the Rezoning Conditions of Enactment for a Housing Agreement securing the residential units as rental for the life of the building or 60 years, whichever is longer, including a 'no separate sales' and a 'no stratification' covenant. The Housing Agreement condition identified 614 dwelling units were to be provided with a required residential floor area of 37,319 m². However the Managing Director of Social Development may vary the number of dwelling units if the mix of units provide more family units. This application, combined with the other two buildings indicates the provision of 594 units (residential floor area of 37,290 m²) distributed across the three towers on the site, 20 units less than the identified amount and a shortfall of 29 m² of required residential floor area.

The pending CD-1 By-law restricts the minimum size of dwelling units to 37 m². This building does not propose any units less than the pending by-law minimum requirements.

The pending CD-1 By-law also requires a minimum of 25% of dwelling units to be two bedrooms. This building proposes 22.4% of the dwelling units as two bedroom, however, combined with the other towers on this site a total of 26.6% of the units are two bedrooms. While the requirement has been achieved with the three buildings being developed concurrently on the site, the percentage requirement may be affected by the the number of dwelling units ultimately being provided.

Recommended Condition 1.1 seeks compliance to achieve the required amount of residential floor area, the minimum 25% of dwelling units as two bedrooms, and minimum unit size (subject to approval of a text amendment) with the number of dwelling units and type to the satisfaction of the Managing Director of Social Development as distributed across the three proposed residential buildings.

Height: The maximum permitted height under the pending by-law for this building is 105.10 m (geodetic), but may not protrude through Council adopted view cones, which limits the geodetic height for this building to 103.86 m. The application proposes a height of 104.64 m exceeding the view cone height limit of 0.78 m. Staff are requesting the height of the building respect the view cone height limitation along with further design development to improve the architectural character of the upper

parapet as part of the overall design development recommendations. See commentary below under Architectural Character, page 15.

Density: The application proposes an unenclosed covered area that exceeds the CD-1 By-law maximum. However the proposal is generally consistent with what was anticipated at the time of rezoning. Staff support a text amendment to the CD-1 By-law to accommodate the at-grade unenclosed covered area as proposed. See Standard Condition A.1.4.

● **Response to Rezoning Conditions of Approval (East Tower)**

Rezoning Condition 12: East Tower: design development to maintain the ground level loading turntable, the recessed retail at the corner, and the minimal columns that intersect the existing stairs and public walkways.

Applicant's response: A ground level loading turntable is not provided at the East Tower now that loading access is provided underground. The retail at the corner and minimal columns remain.

Staff assessment: Subsequent to the rezoning, further design development has evolved to better accommodate the loading requirements through an alternate configuration. Access to loading has now been accommodated through the base of the South Tower, allowing for the elimination of the loading turn table. A significant public realm improvement has also been achieved through the elimination of the existing loading crossing along Pacific Boulevard. To accommodate these loading and public realm improvements the retail area has been reduced. Staff are satisfied that the resultant retail area is still viable and support the revised loading strategy.

The columns alongside the public stairs have been minimized. Staff are seeking detailed clarification that the columns will have a tapered expression emphasizing their slimmness. See Standard Condition A.1.14.

Rezoning Condition 13: All 3 Towers: design development to maintain the sustainable features conceptually shown (roof gardens, urban agriculture, parapet turbines, full-height green walls, etc.) or equivalent features of same or better value. Integrate these features into the architectural expression so that each tower has a distinct identity and character, even if designed by the same firm(s).

Applicant's response: The design of the East Tower outlined in this Development Application maintains the integrated sustainable features including green roof, urban agriculture, solar shading, district energy strategies, hydronic heat distribution and water management strategies.

Staff assessment: A communal open space that includes a roof garden, urban agriculture and includes a children's play area has been provided on the uppermost roof level.

A green wall feature is located on the Abbott Street elevation between levels 4-14, extending out over the street Right-of-Way due in part to the alignment of the existing lower portion of the building. Staff support the provision of the green wall treatment, as it contributes to overall sustainability strategy for the building, does not create floor area, and enhancing the visual quality of the building design. The green wall feature extends over the street Right-of-Way and will require an encroachment agreement. See Standard Condition A.2.3.

Rezoning Condition 14: All 3 Towers: design development to maintain and enhance the noise mitigation features shown (enclosed balconies, special double glass balconies, etc.), especially on the facades facing the arena noise source. The south and west façade of the South Tower must comply with noise criteria towards the noise source of BC Place Stadium.

Applicant's response: The west façade, of the East Tower overlooking the Arena addresses the acoustic recommendations outlined by Brown Strachan & Associates (BS&A) in the enclosed report. The application of enclosed balconies with operable windows and open balconies with operable enclosures complies with these requirements and has been confirmed by BS&A. Similarly, The North façade, of the South Tower overlooking the Arena and Viaduct addresses the acoustic recommendations with the use of enclosed balconies with operable windows & open balconies with operable enclosures and triple glazing limited to 1/3 of wall area where necessary.

Staff assessment: See commentary below under Rezoning Condition 33.

Rezoning Condition 33: Provide a report prepared by professionals in acoustic and mechanical engineering that demonstrates now using noise isolation design strategies and passive and/or mechanical cooling, the building will meet the following performance criteria:

- a) *Mitigate event noise to achieve noise levels between 40 dB and 50 dB within the units during event periods; and*
- b) *Ensure summertime internal thermal comfort levels in line with ASHRAE 90.1V.2007 (with windows closed).*

Applicant Response: Refer to acoustic reports from Brown Strachan & Associates previously submitted.

Staff Assessment: A report has been received and reviewed which outlines an approach to the building design to utilize enclosed balconies for the facades facing Rogers Arena roof in order to meet the City's interior noise design criterion. Staff are seeking detailed specification drawings of the balcony enclosure systems, glazing area and glazing specification recommendations for each building, to be noted on the Development Application and Building Application drawings, and confirmation of the acoustic performance prior to obtaining an occupancy permit. See Recommended Condition 1.7.

A thermal comfort study has been provided but has not yet been accepted. It suggests the building does not need to be air conditioned. The report contains an assumption that an internal temperature of 28 degrees Celsius in the summertime is a comfortable temperature and the applicant has been asked to clarify this assumption as it is not a value identified in ASHRAE. See Recommended Condition 1.6.

• **Sustainability:** This re-zoned site is subject to the Rezoning Policy for Greener Buildings and the Rezoning Policy for Greener Larger Sites. This site also falls under the Northeast False Creek (NEFC) Directions which calls for higher sustainability standards including being subject to an inner-City Local Employment and Procurement Agreement to ensure 10% of employment is sourced from inner-city neighborhoods.

This application is required to meet LEED Gold and to register with the Canada Green Building Council (CaGBC). The applicant has submitted a LEED checklist indicating that they will achieve LEED Gold. Staff are seeking confirmation that registration has been undertaken. See Recommended Condition 1.8.

This site is subject to the Rezoning Policy for Greener Larger Sites. The policy is designed to achieve higher sustainability outcomes on large site development through the exploration and implementation of district and renewable energy opportunities, sustainable site design, green mobility and clean vehicle strategies, sustainable rainwater management, solid waste diversion strategies and strategies

to achieve sustainable housing affordability and housing mix. Some of the outcomes of the Rezoning Policy for Greener Larger Sites have been secured through the conditions of enactment, assessment and delivery of the rezoning sustainability conditions cannot in some cases, be confirmed at the development permit stage but rather will be assessed and secured through the Building Permit stage, Occupancy stage and Post-Occupancy phases of development. The continuums of these rezoning objectives, as part of the detailed design are summarized in Appendix D.

NEFC Directions call for higher sustainability standards than previous large scale developments as an essential component of large site development through the exploration of District Energy feasibility, sustainable Site Design, Green Mobility and Clean Vehicles, rainwater management, Solid Waste Diversion, Sustainable Housing Affordability and Housing mix. These matters have been addressed either through the design of the development, or will be provided for through required plans or strategies.

For the staff assessment of the response to the sustainability rezoning conditions, see Appendix D.

- **Interim and Future Road Alignment including possible removal of the Georgia Street Viaduct:**

The application includes an interim and future plans illustrating acceptable solutions for addressing the existing and future road alignment and grade changes if the removal of the Georgia Street Viaduct occurs. As the existing road alignment and grades in proximity to the existing lower portions of this building, including the adjacent pedestrian stairs will remain, this building has negligible impacts associated with the possible road realignment and viaduct removal.

The application proposes a parking and loading structure underneath the plaza and viaducts above. Staff are recommending a number of conditions to ensure the structural integrity of the Viaducts structure but also to accommodate the removal of the viaduct, if required. See Standard Conditions A.2.5 through A.2.11.

- **Architectural Character:** The proposed building is challenged by the architectural relationships between the lower floors containing commercial uses, the upper floors containing residential uses and the integration of the building with the arena structure along Abbott Street. The Urban Design Panel recommended that further design development is needed to address the overall architectural integration of the various components by simplifying and strengthening its architectural parti. Staff believe this could be achieved through a refinement and cohesion of the architectural elements that comprise the tower expression. See Recommended Conditions 1.2 and 1.3.

Staff also are recommending design development to the parapet to better enhance its distinct character but that would also ties into the treatment of the adjacent buildings. See Recommended Condition 1.4.

- **Material Treatment:** Overall the material treatment proposed, metal panel, window wall systems and curtain wall systems are generally of high quality. Staff are seeking detailed sections and elevations confirming the composition of the high quality materials being proposed. See Recommended Condition 1.5.

- **Conclusion:** Staff believe that the application has responded to the conditions of rezoning approval, however, further detailed design work in various areas, acoustic and thermal performance clarifications are needed. Staff recommend approval with a series of conditions to address these outstanding items.

URBAN DESIGN PANEL

The Urban Design Panel reviewed this application on January 30, 2013, and provided the following comments:

EVALUATION: SUPPORT (5-4)

- **Introduction:** Anita Molaro, Development Planner, introduced the proposal. She explained that as part of the rezoning approved by Council last year, the form of development is for three towers adjacent to Rogers Arena. The massing of each tower utilizes a triangular form with broad faces oriented towards the arena. The heights of the buildings are the maximum heights permitted under the Council approved view cones and established by the CD-1 By-law.

Ms. Molaro noted that the West (89 West Georgia Street) and East Tower share a similar massing but distinct design character with triangular tower forms attached and integrated into the existing arena building. Enhanced acoustical performance is a requirement of the rezoning.

Above the existing Team Store at the corner of Pacific Boulevard and Abbott Street is a mixed use building. The lower floors will continue to serve retail and Rogers Arena event uses, while the floors immediately above will provide office space. The upper 14-storeys of the building will be secured market rental residential for a total of 28-storeys.

Ms. Molaro mentioned that there are a number of rezoning conditions related to the towers and the plaza:

- The way the structure inserts into the plaza is an important component. It needs to be kept as small and slender as possible as there is a need to maximize the amount of public realm open space, particularly in the long term with the adjustment in the curb line along Pacific Boulevard with its future realignment and the possible removal of the viaducts.
- Maintain and enhance the undulating form (South Tower) given this strategic and highly visible location.
- Maximize the clearance to the underside of the building soffit to allow sunlight to the public plaza.
- The South Tower also needs to accommodate the various road dedications, road configurations and building grade adjustments. Staff and the applicant have been working through these at a fairly detailed level to understand and manage an existing condition today that can be adjusted appropriately to an condition anticipated in the future.
- An important design change to the open plaza is the relocation of the existing loading bay. This has now been accommodated with the parking access off Griffiths Way.

Advice from the Panel on this application is sought on the following:

Overall architectural expression including:

- the articulated resolution of the building including roof profile;
- transition between the office and residential portions of the tower;
- proposed materials;
- architectural resolution of the proposed "unenclosed" balconies to address the additional acoustic performance requirements.

Sustainability attributes (LEED Gold proposed)

Detailed landscape treatment including

- green wall;
- roof treatments.

Ms. Molaro took questions from the Panel.

- **Applicant's Introductory Comments:** Walter Francl, Architect, further described the proposal. He noted that getting all of the loading and parking function off into a single area improves the site plan. He said they have also taken into account the entries to the parkade and conditions for the lobby are set at grade. The East Tower has both commercial and residential uses and will be a LEED™ Gold building. Mr. Francl described the architectural expressions noting that on the east façade there are coloured vertical louvers that become shallower as they move around to the south façade. He noted that the north face it is glazed with more solid spandrel as well as double glazed enclosed balconies or enclosable balcony features that will allow them to accomplish the acoustical attenuation required. Mr. Francl noted that the building will have all rental units with an amenity space on top of the building.

Margot Long, Landscape Architect, described the landscape plans noting that the upper level at Gate 7 will have a larger terrace to make some gathering space. If the viaducts are removed, they planned the plaza to have modular paving that could be easily adjusted. The tower does not have a lot of outdoor space. The planting currently is around a circular plaza which does not work very well, so they tried to open up the space. The plaza is currently at a raised elevation along Griffiths Way so it will be easier to cut across the plaza in the future. At the top of the tower there will be a green roof with urban agriculture along with a play area for children and a communal barbeque and seating area.

The applicant team took questions from the Panel.

- **Panel's Consensus on Key Aspects Needing Improvement:**
 - Design development to simplify and strengthen the architectural parti;
 - Design development to improve the resolution of the unenclosed balconies;
 - Consider a different expression for the top of the tower;
 - Consider a stronger colour palette for the tower;
 - Consider strengthening the sustainability strategy.
- **Related Commentary:** The Panel supported the proposal.

Generally the Panel felt the parti was not as strong as could be and wanted to see it strengthened in relationship to the arena and in terms of the language of the tower. They said they appreciated the two uses in the building however there were a number of concerns. The Panel felt the integration of the office and residential portions of the tower was successful but needed some discipline and refinement. The Panel thought the expression could be improved noting that the ribbon expression had been used many times in the city. As well they thought the applicant should rethink some of the graphic patterning and overlays to make them integrate better into the tower. There was a concern with the resolution of the unenclosed balconies and the framing was a bit overdone. One Panel member suggested picking up the patterns of the balconies for the whole tower to simplify the expression and make it more cohesive.

Some of the Panel thought the building should read more strongly with one Panel member stating that the northwest elevation needed to be rationalized. Some of the Panel thought the top of the tower should have a different expression that ties in with the other three buildings that are around it. They also said they would like to see a different colour glazing system.

One Panel member remarked that since the site is a center of entertainment it should have a design that expresses this special place. The building could be distinguished using colour or visual public art.

The Panel liked the green screen but felt it needed some resolution, with one Panel member noting that a green wall would be difficult to maintain whereas a green screen would be a better solution.

The Panel supported the landscape plans with one Panel member stating that the granite sets in the pedestrian realm might not be the best material as it could be a tripping hazard. Some Panel members would like to see the Abbott Street frontage widened.

Regarding sustainability, one Panel member suggested the building could be connected to the SEFC energy system and thought there might be a real challenge in terms of the amount of glazing particularly on the office portion of the building.

- **Applicant's Response:** Mr. Francl said the Panel's comments were very insightful. He said he wished that they had modeled the arena with more detail as he felt it was not well presented. He added that they will work with the comments going forward.

ENGINEERING SERVICES

The development site is currently one legal parcel with hooked lots separated by portions of Georgia and Dunsmuir Streets that contain the Viaducts above. Subdivision is required resulting in a hooked Lot 348, a separate Lot 349 and dedications of portions for road purposes. See Standard Condition A.2.1

On March 12, 2013, Council supported the recommendation to raise title to a portion of Georgia Street under the Georgia Viaduct and authorize the Director of Real Estate Services to enter into a 99-year lease with Pacific Coast Arena Inc. for the purposes of an underground parking structure that will serve the development site. Execution of these arrangements satisfactory to the General Manager of Engineering Services and the Director of Legal Services is required. See Standard Condition A.2.4. Furthermore, structural conditions relating to the underground parking structure such as the provision of detailed demolition shoring plans and monitoring plans including agreements are required by Standard Conditions A.2.5 through A.2.11.

An updated parking study is required to confirm the proposed allocation of all required parking spaces for the development site. The study must consider all three towers and arena as well as the arrangements with BC Place Stadium and show on a plan where the commercial, residential, and visitor parking spaces are being provided and how they will be accessed. See Standard Condition A.2.12

The South Tower proposes portions of its parking, loading and bicycle parking to provide for the East Tower and its Parking by-law requirements. The required parking study will confirm accessibility and allocation of spaces however agreements will ultimately be required to formalize the rights and access for the approved plan. See Standard Condition A.2.14.

The recommendations of Engineering Services are contained in the prior-to conditions noted in Appendix A attached to this report.

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED)

The recommendations for CPTED are contained in the conditions noted in Appendix A attached to this report.

LANDSCAPE

The recommendations for landscape are contained in the conditions noted in Appendix A attached to this report.

SOCIAL DEVELOPMENT

AMENITY ROOMS AND PLAY AREAS

The proposed 28 storey East Tower includes combined total of 30 units with two or more bedrooms (28.8 % of total units) which may be suitable for families with children. The High Density Housing for Families with Children Guidelines are therefore applicable to the plans for this tower.

Consistent with these guidelines, two multi-purpose amenity rooms are proposed on the 28th floor with connections via stairs and dedicated lift to the common outdoor space on the rooftop. Design development is required to the proposed multi-purpose amenity rooms area to add an accessible washroom, kitchenette and storage closet. See Standard Condition A.1.21.

Consistent with the Guidelines the rooftop common outdoor amenity area includes an area suitable for a range of children's play activity including a lawn area and creative landscape/play features (balancing logs and boulders) which provide a myriad of creative play opportunities for a range of ages. The outdoor common amenity area also includes communal dining tables and BBQ.

URBAN AGRICULTURE

The City of Vancouver Food Policy identifies environmental and social benefits associated with urban agriculture and seeks to encourage opportunities to grow food in the city. The "Urban Agriculture Guidelines for the Private Realm" encourage edible landscaping and shared gardening opportunities in private developments, and seek the necessary supporting infrastructure.

Plans for the East Tower at 150 Pacific Boulevard include garden plots with potting benches. Design development is needed to include a compost bin for yard waste, tool storage closet or chest, and to clarify hose bib locations. See Standard Condition A.1.16.

ENVIRONMENTAL PROTECTION BRANCH

The subject site was part of the Pacific Place Lands remediation project and was known as parcel 7. A "Confirmation of Compliance (CoC)" was issued on December 16, 1993 for the site.

The "Confirmation of Compliance" was issued on a risk based assessment of the site, and areas of potential environmental concerns triggered by the development process of the new structures include:

- invalidation of the existing risk management plan during the subsurface work for the new development; and
- invalidation of the conditions of the existing "Confirmation of Compliance" during the subsurface work for the new developments.

See Standard Conditions A.3.

PROCESSING CENTRE - BUILDING

This Development Application submission has not been fully reviewed for compliance with the Building By-law. The applicant is responsible for ensuring that the design of the building meets the Building By-law requirements. The options available to assure Building By-law compliance at an early stage of development should be considered by the applicant in consultation with Processing Centre-Building staff.

To ensure that the project does not conflict in any substantial manner with the Building By-law, the designer should know and take into account, at the Development Application stage, the Building By-law requirements which may affect the building design and internal layout. These would generally include: spatial separation, fire separation, exiting, access for physically disabled persons, type of construction materials used, firefighting access and energy utilization requirements.

Further comments regarding Building By-law requirements are contained in Appendix C attached to this report.

NOTIFICATION

On January 24, 2013, three site signs were erected on site describing the application, and offering additional information on the city's website. No comments from the public were received.

DEVELOPMENT PERMIT STAFF COMMITTEE COMMENTS:

The Staff Committee has considered the approval sought by this application and concluded that with respect to the Zoning and Development By-law it requires decisions by both the Development Permit Board and the Director of Planning.

With respect to the decision by the Development Permit Board, the application requires the Development Permit Board to exercise discretionary authority as delegated to the Board by Council.

Development Permit Staff Committee has considered this application and supports the proposal with the conditions contained in this report.

J. Greer
Chair, Development Permit Staff Committee

A. Molaro, Architect AIBC
Senior Development Planner

B. Mah
Project Coordinator III

Project Facilitator: C. Lau

DEVELOPMENT PERMIT STAFF COMMITTEE RECOMMENDATIONS

The following is a list of conditions that must also be met prior to issuance of the Development Permit.

A.1 Standard Conditions

- A.1.1 provision of all relevant project data and statistics, including identifying all approved (existing) and proposed new uses as listed in the pending amended CD-1 By-law and described under Section 2 (Definitions) of the Zoning and Development By-law on the floor plans, and coordination of all project information (summaries/tables) for the site (arena and 3 towers);

Note to Applicant: All project information to show compliance with the pending amended CD-1 By-law and subsequent text amendments as necessary.

- A.1.2 compliance with Section 5.4 (Conditions of Use) of the pending amended CD-1 By-law;

Note to Applicant: The floor area of each unit in the South Tower, measured from the inside of the outer walls, must be at least 37 m². Provide a unit summary that includes the number, type and floor area of all units. Where units are less than the required minimum floor area of 37 m², a text amendment is required to remove this condition. Section 10.21 (Dwelling Units) of the Zoning and Development By-law grants the Director of Planning the discretion to consider a unit with a lesser floor area where the design and location of the unit provides satisfactory living accommodation.

- A.1.3 compliance with Section 6.5(e) [Unenclosed Outdoor Areas] of the pending CD-1 By-law;

Note to Applicant: Unenclosed outdoor areas exceed the maximum 1% allowed. A text amendment is required to either increase the maximum allowed or remove the maximum limit.

- A.1.4 compliance with Section 6 (Floor Area and Density) of the pending amended CD-1 By-law;

Note to Applicant: Floors or portions of floor used for heating and mechanical equipment located above base surface cannot be excluded from the maximum floor areas under the pending amended CD-1 By-law. A text amendment is required to allow such floors to be excluded from the floor area and density as in the original CD-1 By-law.

- A.1.5 compliance with Section 8 (Horizontal Angle of Daylight) of the pending amended CD-1 By-law;

Note to Applicant: Demonstrate that all habitable rooms meet the horizontal angle of daylight requirements and clearly identify any habitable room that does not comply. Delete "den" from unit types as there are no dens.

- A.1.6 compliance with Section 6 (Off-Street Bicycle Space Regulations) of the Parking By-law;

Note to Applicant: The number of vertical bicycle spaces has exceeded the maximum of 30%. Provide a minimum of 20% of the Class A bicycle spaces as bicycle lockers, and provide one electrical outlet for every two Class A bicycle spaces (a note on the drawing will suffice). Add dimensions to bicycle spaces and maneuvering aisles. Bicycle rooms, compounds or lockers shall be located no lower than the first complete parking level below grade and shall have direct access to outside. A minimum of nine clothing lockers for each gender (total of 18 clothing lockers) shall be provided in the East Tower. Shower and other change facilities are required under the Building By-law where the number of required Class A bicycle spaces exceeds 3 for non-dwelling uses. Add dimensions to bicycle spaces and maneuvering aisles.

- A.1.7 submission of parking level plans (under Rogers Arena and towers) with summaries clearly showing all parking spaces, loading spaces and bicycle spaces allocated and designated for BC Place Stadium (150 spaces), Rogers Arena (170 spaces), West Tower, East Tower and South Tower, including access to the parking spaces, parking space dimensions, maneuvering, vertical clearance (particularly for disability spaces and ingress/egress) and security for each building and its uses;

Note to Applicant: A color-coded format with tabulated summaries at each level and a total summary is recommended. The summaries should include the number and types of parking spaces, loading spaces and bicycle spaces. Car share spaces should also include a vehicle in the parking space. Provide wheel stops for parking spaces located perpendicular to adjacent parking spaces.

- A.1.8 clarification and labeling of all unidentified rooms, areas and void spaces on the parking levels and floor plans, including uses ancillary to the arena and use of amenity spaces;

Note to Applicant: New use "TBD" (to be determined) and new concourse are not acceptable. Uses must be specific as defined under Section 2 (Definitions) of the Zoning and Development By-law. Clarify the retail floor area of the East Tower in Table 1: Proposed Density Distribution on the Project Data sheet A0 002. Clarify and provide a layout of all amenity spaces, including equipment and/or furnishings.

- A.1.9 addition of dimensions on all floor plans, setbacks of buildings from the property lines and clarification of all existing and new floor areas and uses;

Note to Applicant: Dimensions should also be added to all exclusions (such as storage rooms, open and enclosed balconies, amenity spaces, etc.) from the total floor area. Clarify the floor areas and balcony areas of the towers where the floors are contoured as illustrated on drawing A3 002.

- A.1.10 details of balcony enclosures;

Note to Applicant: To qualify for an exclusion from floor area calculations, an enclosed balcony must be a distinct space separated from the remainder of the dwelling unit by walls, glass, and glazed doors [hinged or sliding], have an impervious floor surface (tile or stone), a flush threshold at the bottom of the door [for disabled access], large, openable windows for ventilation, and distinct exterior architectural expression. Floors should show the tile or stone pattern. Clarify access to all balconies and glazing on enclosed balconies. Delete all furniture inside the enclosed balconies. All balconies, both open and enclosed, should be clearly identified on the floor plans. Notation should also be made on the plans stating: "All enclosed balconies shall be designed and constructed in accordance with the Council-approved Balcony Enclosure Guidelines." Limitations on the amount of exclusions and enclosures permitted are described within the regulations of the respective District Schedule or Official Development Plan that apply to the specific site. For further details and specifications on enclosure requirements, refer to the Council-approved Balcony Enclosure Guidelines.

- A.1.11 notations on plans stating:

"The design of the parking structure regarding safety and security measures shall be in accordance with Section 4.13 of the Parking By-law.";

"The design of the bicycle spaces (including bicycle rooms, compounds, lockers and/or racks) regarding safety and security measures shall be in accordance with the relevant provisions of Section 6 of the Parking By-law.";

A.1.12 design development to locate, integrate and fully screen any emergency generator, exhaust or intake ventilation, electrical substation and gas meters in a manner that minimizes their visual and acoustic impacts on the building's open space and the Public Realm;

A.1.13 notation on plans stating:

"The acoustical measures will be incorporated into the final design and construction based on the consultant's recommendations.";

"Adequate and effective acoustic separation will be provided between the commercial and residential portions of the building."; and

"Mechanical (ventilators, generators, compactors and exhaust systems) will be designed and located to minimize the noise impact on the neighbourhood and to comply with Noise By-law #6555.";

Standard Urban Design Condition

A.1.14 design development to the columns to achieve a tapered expression emphasizing their slimness;

Standard Landscape Conditions

A.1.15 provision of a large scale section illustrating the structural details of the proposed green screen, including the planter, the support structure and the access catwalk;

Note to Applicant: The detail should include materials, dimensions of the planter, and names of the proposed green wall plants.

A.1.16 provision of infrastructure on the level 29 roof deck to support urban agricultural activity such as on site composting, tool storage, hose bibs and potting benches as per the "Urban Agriculture Guidelines for the Private Realm";

A.1.17 provision of a high efficiency irrigation system for all planting on slab, including the roof decks the green wall and the grade level plaza;

Note to Applicant: Hose bibs should be added to each of the roof decks containing urban agriculture plots. Notations to that effect should be added to the drawings. The irrigation system design and installation system shall be in accordance with the Irrigation Industry of B.C. Standards and Guidelines.

A.1.18 notation on landscape plan for new street trees:

"Final spacing, quantity, tree species to the satisfaction of the General Manager of Engineering Services. New trees must be of good standard, minimum 6 cm caliper, and installed with approved root barriers, tree guards and appropriate soil. Root barriers shall be 8 ft. long and 18 in. in deep. Planting depth of root ball must be below sidewalk grade. New street trees to be provided adjacent to the development site, to be confirmed prior to the issuance of the building permit. Call Park Board for inspection after tree planting completion.";

Note to Applicant: Contact Eileen Curran, Streets Engineering (604.871.6131) to confirm tree planting locations and Park Board (604.257.8587) for tree species selection and planting requirements.

A.1.19 notation on landscape plan:

"All public realm details and installation to the approval of the COV General Manager of Engineering.";

Standard Crime Prevention Through Environmental Design (CPTED)

A.1.20 design development to respond to CPTED principles, having particular regard for:

- i. theft in the underground parking;
- ii. residential break and enter;
- iii. mail theft; and
- iv. mischief in alcoves and vandalism, such as graffiti; and

Standard Social Development Conditions

A.1.21 design development to the proposed multi-purpose amenity rooms area to add an accessible washroom with baby change table, a kitchenette with counter and sink and a storage closet.

A.2 Standard Engineering Conditions

A.2.1 arrangements shall be made, to the satisfaction of the General Manager of Engineering Services and the Director of Legal Services, for the registration of a subdivision plan of the site resulting in a hooked Lot 348, a separate Lot 349 and dedications of portions for road purposes;

A.2.2 arrangements shall be made, to the satisfaction of the General Manager of Engineering Services and the Director of Legal Services, for the modification or replacement of the following charges on title:

- i. Easement & Indemnity Agreement BG375438: To allow the numerous features proposed within the unopened street (under the viaduct) and at other locations within the easement area; and
 - ii. Statutory Rights-of-Way (SRW) BG375404 to BG375407, BG375441 to BG375442, BH343593, and R92170 to R92173: To allow portions of the building within the rights-of-way;
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- A.2.3 arrangements, including legal agreements, shall be made, to the satisfaction of the General Manager of Engineering Services and the Director of Legal Services, for proposed encroachments onto Abbott Street, to include the green screen planter and the access catwalk;

Note to Applicant: An application to the City Surveyor is required. For general information, see the Encroachment Guide (http://vancouver.ca/files/cov/building_encroachment_guide.pdf).

The developer should be advised that building encroachments onto City street may cause problems when strata-titling a property due to section 244(1)(f) of the Strata Property Act. In such cases, the City of Vancouver may not necessarily support the provision of easements for any parts of the building on City street. If strata-titling is proposed, the applicant is advised to seek independent legal advice on the matter.

- A.2.4 arrangements shall to be made, to the satisfaction of the General Manager of Engineering Services and the Director of Legal Services, for a volumetric lease of portions of the road under the Georgia Viaduct for the underground parking/loading facilities, and the relocation of any affected utilities;
- A.2.5 arrangements shall be made, to the satisfaction of the General Manager of Engineering Services, to permit conduit lines within the Parkade Structure for the existing fibre lines or other utility attachments currently attached to the underside of the Georgia Viaduct;
- A.2.6 arrangements shall be made, to the satisfaction of the General Manager of Engineering Services and Director of Legal Services, for the City's right of entry to the Lease Premises to allow for temporary shoring within the Parkade Structure during the Georgia Viaduct demolition;

Note to Applicant: This will need to be supplemented with a detailed demolition shoring plan (if loads are to exceed the CL-625 load case), and an associated safety plan.

- A.2.7 provision of a detailed monitoring plan for shoring during the excavation of the site of the Georgia Viaduct, to the satisfaction of the General Manager of Engineering Services;
- A.2.8 provision of a letter of agreement from the owner, to the satisfaction of the General Manager of Engineering Services and the Director of Legal Services, acknowledging and accepting all risks, liability and costs including seismic risk exposure from the Georgia Viaduct related to the proposed underground parking and loading;
- A.2.9 provision of a detailed design, to the satisfaction of the General Manager of Engineering Services and Chief Building Official, stamped and sealed by a Professional Engineer, for the portions of the proposed parking facility under the Georgia Viaduct;

Note to Applicant: The proposed parkade roof, associated walls and foundations are to be designed to accommodate a CL-625 load case. Walls adjacent to the viaduct piers/piles are to be designed to provide lateral stability (standard and earthquake load conditions) to the viaduct structure at no cost to the City. The existing fibre lines or other utilities currently attached to the underside of the Georgia Viaduct must be rebuilt within the proposed parkade.

- A.2.10 arrangements shall be made, to the satisfaction of the General Manager of Engineering Services and the Director of Legal Services, for a Support Agreement in favour of the City for the surrounding roads and viaduct structure;
- A.2.11 arrangements shall be made, to the satisfaction of the General Manager of Engineering Services and the Director of Legal Services, for the design and development of a Bridge Monitoring Strategy;
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Note to Applicant: The applicant is to develop a monitoring strategy for the Georgia Viaduct to track movements during excavation and construction, establish reporting thresholds and stop work thresholds. A \$10,000 deposit will be required for the City to retain the Engineer of Record to review the monitoring strategy and the results of the monitoring during critical phases of construction. A shoring plan from the Geotechnical Engineer detailing how the bridge footings will be protected during excavation and construction is required. A post construction report/survey will be also be required.

- A.2.12 provision of an updated parking study for the Rogers Arena site outlining where the parking spaces for the three new towers are located and how the spaces will operate for residential and commercial uses;

Note to Applicant: The parking study must show on a plan where the commercial and residential parking spaces are being provided and how they will be accessed. The study should ensure that the visitor parking being provided under Rogers Arena is accessible from all of the residential towers. The study should include a detailed summary of the overall parking for BC Place Stadium and Rogers Arena in the surrounding area and the parking plan for Rogers Arena showing the proposed parking breakdown for the three towers.

- A.2.13 provision of a Loading Management Plan (LMP) and a shared-use agreement for any loading shared between commercial and residential uses and between the East Tower and South Tower;

Note to Applicant: It appears that the three Class B loading spaces in the South Tower are also available for the East Tower's use. The LMP should specify how the location of the loading spaces and access off of Griffiths Way will be messaged to residents and delivery drivers. Way-finding and directional signs may be necessary. The plan should show elevations and elevator access to the East Tower from the three loading bays in the South Tower and show the full access route from the street and the maneuvering to and from the Class B loading space in the East Tower.

- A.2.14 arrangements shall to be made, to the satisfaction of the General Manager of Engineering Services and the Director of Legal Services, for provision of off-site parking and loading;

Note to Applicant: Upon approval of the required parking study and Loading Management Plan, arrangements must be made to provide the necessary rights and access to the parking, loading, and bicycle parking spaces as intended to be shared amongst all three towers and the arena.

- A.2.15 provision of improved loading access by providing a loading lift and removing the stairs between the loading space and the elevators;

Note to Applicant: See plan A1 201.

- A.2.16 clarification of the provision of a District Energy room within the East Tower;

Note to Applicant: A room of a suitable size and location on parking level P1 or P2 dedicated for the district energy equipment is required.

- A.2.17 provision of a Green Mobility and Clean Vehicles Strategy that includes how more sustainable travel will be achieved and includes the requisite infrastructure where appropriate to prioritize sustainable transportation modes including walking, cycling, public transit and provisions for low carbon vehicles (e.g., electric vehicles), completed to the satisfaction of the General Manager of Engineering Services, and prior to Development Permit issuance the completion of any agreements required by this Strategy on terms and conditions acceptable to the General Manager of Engineering Services and the Director of Legal Services;
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A.2.18 provision of a Sustainable Rainwater Management Plan that utilizes sustainable strategies to allow for infiltration, retention, treatment and utilization of rainwater where applicable and appropriate on site;

A.2.19 provision of a Solid Waste Diversion Strategy that addresses waste diversion in all solid waste generating activities within the complex;

Note to Applicant: The Strategy must identify/provide space, infrastructure and an operational approach to divert organics and recyclables from the waste stream, and minimize the vehicle trips required for collection, to the satisfaction of the General Manager of Engineering Services, and prior to Development Permit issuance the completion of any agreements required by this Strategy on terms and conditions acceptable to the General Manager of Engineering Services and the Director of Legal Services.

A.2.20 arrangements shall be made, to the satisfaction of the General Manager of Engineering Services and the Director of Legal Services, for a Right of Way for the provision of space to accommodate a Public Bike Share Station (PBS);

Note to Applicant: The PBS space is to be a minimum of 15 m x 4 m in size and is to be near the intersection of Expo Blvd and Abbott Street. Placement must consider strong solar exposure and power must be supplied to the PBS.

A.2.21 provision of the following requirements prior-to issuance of the Development Permit, to the satisfaction of the General Manager of Engineering Services, pursuant to the site's servicing agreement:

- i. a letter of credit to secure required works and services obligations;
- ii. a letter of credit to secure the car share provisions;
- iii. registration of a car share agreement; and
- iv. off-site parking and loading arrangements including access arrangements are required as East Tower parking is under the South Tower and visitor parking is under Rogers Arena;

Note to Applicant: See also Standard Condition A.2.14.

A.2.22 provision of plans, to the satisfaction of the General Manager of Engineering Services, showing site servicing pursuant to the site's rezoning requirements, including but not limited to:

- i. an upgraded sewer on Pacific Boulevard;
- ii. revised curb, sidewalk and street trees around the site;
- iii. public drinking water fountains; and
- iv. street lighting design including the provision of street lighting and traffic signal kiosks and related Hydro infrastructure;

A.2.23 arrangements shall be made, to the satisfaction of the General Manager of Engineering Services, for a separate application for street trees and/or sidewalk improvements;

Note to Applicant: Granite setts and crushed gravel are proposed under the street trees and between trees on the front boulevard. This will need to be reviewed to ensure a smooth walking surface for pedestrians of all abilities and with Streets Operations to ensure that they support the additional maintenance costs.

- A.2.24 clarification and confirmation of the garbage pick-up operations and adequacy of all garbage storage rooms for all uses; and

Note to Applicant: A compactor is recommended for residential use over 90 units. Consultation with a waste hauler and confirmation that they can pick up from the location shown is required. The loading operation for garbage should not rely on any storage of bins on public property or in locations that would impede vehicular access to and from the site. The City's preference is for the waste storage facility to be located at grade and not any lower than P1. Please refer to the Garbage and Recycling Storage Facility Design Supplement for details; http://vancouver.ca/files/cov/Garbage_and_Recycling_Storage_Facility_Supplement.pdf.

- A.2.25 undergrounding of all utility services.

Note to Applicant: The General Manager of Engineering Services will require all utility services to be underground for this "conditional" development. All electrical services to the site must be primary with all electrical plant, which include but not limited to, junction boxes, switchgear, pad mounted transformers and kiosks (including non-BC Hydro kiosks) are to be located on private property.

It is presumed with your consultation so far with BC Hydro that area has been defined within the development footprint to accommodate such electrical plant. Please confirm that this space has been allocated and agreement between both parties has been met.

In addition, there will be no reliance on secondary voltage from the existing overhead electrical network on the street right of way. Any alterations to the existing overhead/underground utility network to accommodate this development will require approval by the Utilities Management Branch.

A.3 Standard Licenses & Inspections (Environmental Protection Branch) Conditions

- A.3.1 provision of an environmental media assessment report(s);
- A.3.2 a qualified environmental consultant or approved professional will require to address the above environmental concerns and ascertain that subsurface work will not invalidate the conditions of the existing "Confirmation of Compliance", the risk management plan and the area where the "tower" will be developed meets the applicable land use standards;
- A.3.3 provision of a confirmation letter from the qualified environmental consultant or approved professional addresses the above mentioned concerns; and
- A.3.4 that the property owner shall, as required by the Manager of Environmental Protection and Director of Legal Services in their discretion, do all things and/or enter into such agreements deemed necessary to fulfill the requirements of Section 571(B) of the Vancouver Charter.
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B.1 Standard Notes to Applicant

- B.1.1 The applicant is advised to note the comments of the Processing Centre-Building, Vancouver Coastal Health Authority and Fire and Rescue Services Departments contained in the Staff Committee Report dated March 27, 2013. Further, confirmation that these comments have been acknowledged and understood, is required to be submitted in writing as part of the "prior-to" response.
- B.1.2 It should be noted that if conditions 1.0 and 2.0 have not been complied with on or before **October 8, 2013**, this Development Application shall be deemed to be refused, unless the date for compliance is first extended by the Director of Planning.
- B.1.3 Notwithstanding compliance with the foregoing conditions no. 1.0, 2.0 and 3.0 the Development Permit for this application cannot be issued until Council has first approved the form of development and enacted the CD-1 By-law.
- B.1.4 This approval does not in any way constitute a representation or warranty that the necessary approval of the form of development or enactment of the rezoning will be granted by Council. All proceedings by the applicant prior to action by Council are therefore at his/her own risk.
- B.1.5 This approval is subject to any change in the Official Development Plan and the Zoning and Development By-law or other regulations affecting the development that occurs before the permit is issuable. No permit that contravenes the by-law or regulations can be issued.
- B.1.6 Revised drawings will not be accepted unless they fulfill all conditions noted above. Further, written explanation describing point-by-point how conditions have been met, must accompany revised drawings. An appointment should be made with the Project Facilitator when the revised drawings are ready for submission.
- B.1.7 A new development application will be required for any significant changes other than those required by the above-noted conditions.
- B.1.8 This approval does not release the applicant of any obligations required by Registered Agreements on title and conditions of rezoning enactment. The applicant is responsible for meeting the terms and conditions set out in these agreements throughout the stages of permit issuance.

B.2 Conditions of Development Permit:

- B.2.1 All approved off-street vehicle parking, loading and unloading spaces, and bicycle parking spaces shall be provided in accordance with the relevant requirements of the Parking By-law prior to the issuance of any required occupancy permit or any use or occupancy of the proposed development not requiring an occupancy permit and thereafter permanently maintained in good condition.
 - B.2.2 All landscaping and treatment of the open portions of the site shall be completed in accordance with the approved drawings prior to the issuance of any required occupancy permit or any use or occupancy of the proposed development not requiring an occupancy permit and thereafter permanently maintained in good condition.
 - B.2.3 All approved street trees shall be planted in accordance with the approved drawings within six (6) months of the date of issuance of any required occupancy permit, or any use or occupancy of the proposed development not requiring an occupancy permit, and thereafter permanently maintained in good condition.
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- B.2.4 All services, including telephone, television cables and electricity, shall be completely underground.
- B.2.5 The site shall be maintained in a neat and tidy condition.
- B.2.6 Amenity spaces of 146 m² (East Tower) and 677 m² (South Tower), excluded from the computation of floor space ratio, shall not be put to any other use, except as described in the approved application for the exclusion. Access and availability of the use of all amenity facilities located in this project shall be made to all residents and occupants of the building;

AND

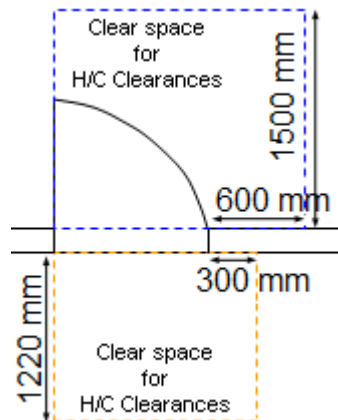
Further, the amenity spaces and facilities approved as part of this Development Permit shall be provided and thereafter be permanently maintained for use by residents and users of this building complex.

- B.2.7 The enclosed balconies are to be maintained at all times in accordance with the balcony enclosure details on the approved plans and are not to be used as an integral part of the interior space of the building.
 - B.2.8 Any phasing of the development, other than that specifically approved, that results in an interruption of continuous construction to completion of the development, will require application to amend the development to determine the interim treatment of the incomplete portions of the site to ensure that the phased development functions are as set out in the approved plans, all to the satisfaction of the Director of Planning.
 - B.2.9 The issuance of this permit does not warrant compliance with the relevant provisions of the Provincial Health and Community Care and Assisted Living Acts. The owner is responsible for obtaining any approvals required under the Health Acts. For more information on required approvals and how to obtain these, please contact Vancouver Coastal Health at 604-675-3800 or visit their offices located on the 12th floor of 601 West Broadway. Should compliance with the health Acts necessitate changes to this permit and/or approved plans, the owner is responsible for obtaining approval for the changes prior to commencement of any work under this permit. Additional fees may be required to change the plans.
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Processing Centre - Building and Fire comments

The following comments are based on the architectural drawings prepared by Francl Architecture dated Sept.20/12 which have been submitted for the Development Application, DE416399. This is a cursory review in order to identify issues which do not comply with 2007 Vancouver Building By-law.

1. The existing Arena is required to be upgraded to the current By-law except where Green Forms are approved for Acceptance of Existing Conditions with Mitigating Features (Note: this is also being done as part of the West Tower Building Permit).
2. Review of the existing Equivalencies (Alternative Solutions) on the existing building will be required and revisions to those Equivalencies required to accommodate for connections with the new development.
3. Level L1:
 - a) * The two tower stairs are discharging next to each other. These must be remote from each other.
 - b) Use the following diagram for H/C clearances for doors into the residential garbage room, H/C W/C on Level 6 and Level 7 (typ), etc.



- c) * Provide a H/C accessible path to the residential garbage room.
 - d) Stairs to be at right angles to the path of travel (e.g., beside the office lobby)
 - e) Ramp landing are to be min. 5 ft. long.
 - f) Indicate where the future kitchen exhaust will go for the CRU.
 - g) Door swing into residential lobby is not to reduce the corridor to less than 3'-8".
 - h) Max. travel distance in an exit lobby is 15 m.
4. Level 2
 - a) The Concourse stairs are to be separated from the inside Concourse.
 - b) Egress doors from the north side of the CRU are obstructing the path to the exit door.
 - c) If retail or restaurant, indicate the future location of the kitchen exhaust for the CRU area.
 5. Level 4
 - a) The Concourse stairs are to be separated from the inside Concourse.
 - b) Indicate where the future kitchen exhaust will go for the concession area.
 - c) Access to a Toilet Room is required.
 6. Level 5
 - a) Doors in series are to be separated by 1200 mm plus the door swing.
 - b) The tenancies (typ) are each to have ready access to a Toilet Room.

7. Levels 7 - 14
 - a) * Provide two exits which are remote by a distance at least equal to half the diagonal of the floor area.
 - b) The impacts of the

* Items marked with an asterisk have been identified as serious non-conforming Building By-law issues.

Written confirmation that the applicant has read and has understood the implications of the above noted comments is required and shall be submitted as part of the "prior to" response.

The applicant may wish to retain the services of a qualified Building Code consultant in case of difficulty in comprehending the comments and their potential impact on the proposal. Failure to address these issues may jeopardize the ability to obtain a Building Permit or delay the issuance of a Building Permit for the proposal.

SUSTAINABILITY

This re-zoned site is subject to both the Rezoning Policy for Greener Buildings and the Rezoning Policy for Greener Larger Sites. This site also falls under the Northeast False Creek (NEFC) Directions which calls for higher sustainability standards including being subject to an inner-City Local Employment and Procurement Agreement to ensure 10% of employment is sourced from inner-city neighborhoods.

The Rezoning Policy for Green Buildings, based on the time of the Rezoning application, requires that the building achieve a minimum of LEED Gold, with target points for energy performance, water efficiency and storm water management. The rezoning application was made in October 2010 and is required to register with Canada Green Building Council, but not make an application for certification. The applicant has submitted a LEED checklist indicating that they will achieve LEED Gold. Staff are seeking confirmation that registration has been undertaken. See Recommended Condition 1.8.

NEFC Directions call for higher sustainability standards than previous large scale developments as an essential component of large site development through the exploration of District Energy feasibility, sustainable Site Design, Green Mobility and Clean Vehicles, rainwater management, Solid Waste Diversion, Sustainable Housing Affordability and Housing mix. These matters have addressed either through the design of the development, or will be provided for through required plans or strategies, will all to be implemented through the requirements contained with the recommended Conditions of Approval set out in Appendix A.

The NEFC Directions require that local energy planning assessments be completed for NEFC, with a view to implementing feasible campus or district energy systems that reduce carbon dependency. A district energy approach enables significant Greenhouse Gas (GHG) reductions for entire neighbourhoods that could not be cost effectively achieved by individual buildings. As this approach is dependent upon economies of scale, it is important that all buildings in the neighbourhood connect to the district system. A screening level assessment of the feasibility of a renewable district energy system in NEFC was completed in the spring of 2010 with involvement of the five property owners in NEFC and BC Hydro. The results of this assessment showed that a renewable district energy system for NEFC would result in significant carbon reductions and that it is economically viable.

A subsequent detailed feasibility study completed late in 2010 confirms the cost competitiveness and environmental benefits of renewable district energy for NEFC, and provides an approach to implementation of measures resulting in neighbourhood GHG reductions of 65% over business as usual.

This project shall be required to connect to the future district energy system for heating and hot water, as set out in the Conditions of Approval in Appendix A.

This site is subject to the Rezoning Policy for Greener Larger Sites. The policy is designed to achieve higher sustainability outcomes on large site development through the exploration and implementation of district and renewable energy opportunities, sustainable site design, green mobility and clean vehicle strategies, sustainable rainwater management, solid waste diversion strategies and strategies to achieve sustainable housing affordability and housing mix. The continuums of these rezoning objectives, as part of the detailed design are summarized below.

Sustainable Site Design: This aspect has been satisfied through the provision of the green roofs.

Green Mobility and Clean Vehicle Strategies: The project has not provided a plan. See Standard Condition A.2.17.

Sustainable rainwater Management: The project has not provided a plan. See Standard Condition A.2.18.

Solid Waste Diversion Strategies The project has not provided a plan. See Standard Condition A.2.19.

District and Renewable Energy Opportunities: Both the East and South Towers need to be designed to be compatible with the hot water neighbourhood energy system for Northeast False Creek. The developer should make mechanical HVAC design information available to Fortis BC, as they are developing the neighbourhood energy system. It is important that the HVAC systems integrate properly with the neighbourhood system. A dedicated room for the NEU is not supplied in the East Tower, similar to that of the South Tower. See Standard Condition A.2.16

Some of the outcomes of the Rezoning Policy for Greener Larger Sites have been secured through the conditions of enactment, assessment and delivery of the rezoning sustainability conditions cannot in some cases, be confirmed at the development permit stage but rather will be assessed and secured through the building permit stage, occupancy stage and post occupancy phases of development.

Response to Rezoning Conditions of Approval

Sustainability

Rezoning Condition 25: The heating and domestic hot water system for the East and South Towers shall be designed to be compatible with a hot-water distribution district energy system in order to connect to the City of Vancouver's Retail Franchise holder for Northeast False Creek Low Carbon Heating Services for supply of all heating and domestic hot water requirements of the buildings as required under the Northeast False Creek Official Development Plan. Design provisions related to district energy compatibility must be to the satisfaction of the General Manager of Engineering Services.

Note to Applicant: The applicant shall refer to the District Energy Connectivity Standards for specific design requirements, which include provisions related to the location of the mechanical room, centralization of mechanical equipment, pumping and control strategy, and other hydronic heating and domestic hot water system minimum requirements. The applicant is encouraged to work closely with Staff to ensure adequate provisions for District Energy compatibility are provided for in the mechanical design. A declaration signed by the registered professional of record certifying that the district energy connectivity requirements have been satisfied will be required as a pre-condition to building permit.

Applicant's response: Noted. Provisions related to district energy compatibility will be to the satisfaction of the General Manager of Engineering Services.

Staff assessment: The condition is satisfied.

Rezoning Condition 27: Building designs shall include adequate space and design provisions to support connection to the district energy system to the satisfaction of the General Manager of Engineering Services.

Note to applicant: Design shall provide suitable space for the installation of the district energy system equipment with adequate provisions for connection to outside district energy system distribution piping and communications conduit. District energy equipment may include, but is not limited to, energy transfer stations (ETS), a steam to hot water converter station sized for neighbourhood service provision, and/or boiler equipment. At the building permit stage, the applicant will be required to submit final detailed drawings, signed and sealed by a professional engineer where necessary, for review by Engineering Services to confirm final room dimensions, sleeve details, and servicing needs. The developer shall make available use of sewer and potable water piping. The space provided for district energy system equipment shall be ventilated as required by the Vancouver Building By-law and heated during the winter to minimum 15°C. As required, the developer must provide dedicated electrical services required to service the district energy system equipment, to the satisfaction of the General Manager of Engineering Services.

Applicant's response: An aprox. 1000 sf net District Energy Utility Room (DEU Room) has been provided in the NW corner of the P1 Level of the South Tower. This room along with mechanical and electrical requirements will be further coordinated with construction documents prior to building permit submission to the satisfaction of the General Manager of Engineering Services.

Staff assessment: At the Development Application stage, a building required to be DEU connectable is required to provide an adequately sized room on the P1 or P2 level dedicated for the DEU equipment for immediate building connection. The South Tower has a dedicated neighbourhood energy room, and it is adequately sized and located however the East Tower does not appear to have a dedicated neighbourhood energy room. In the absence of further information, the developer will need to provide a DEU room of adequate size in the East Tower as well. See Standard Condition A.2.16.

Rezoning Condition 28: No heat producing fireplaces are to be installed within buildings.

Applicant's response: We confirm there are no heat producing fireplaces proposed.

Staff assessment: This condition is satisfied.

Rezoning Condition 29: Provision of a Green Mobility and Clean Vehicles Strategy that includes how more sustainable travel will be achieved and includes the requisite infrastructure where appropriate to prioritize sustainable transportation modes including walking, cycling, public transit and provisions for low carbon vehicles (e.g. electric vehicles) completed to the satisfaction of the General Manager of Engineering Services and prior to Development Permit issuance the completion of any agreements required by this Strategy on terms and conditions acceptable to the General Manager of Engineering Services and the Director of Legal Services.

Applicant's response: Project is located within 800m (walking distance) to Stadium Skytrain station. Existing Arena parkade will be retrofit with EV charging stations to comply with VBBL requirement for provision of 20% EV charging infrastructure. Likewise the u/g parking below the South Tower will have required charging infrastructure. Bicycle parking and storage is provided for both residential and commercial occupants including showers and changing rooms for commercial tenants.

Staff assessment: The project has not provided a plan. See Standard Condition A.2.17.

Rezoning Condition 30: Provision of a Sustainable Rainwater Management Plan that utilizes sustainable strategies to allow for infiltration, retention, treatment and utilization of rainwater where applicable and appropriate onsite.

Applicant's response: Stormwater treatment is achieved through the incorporation of the Jellyfish filtration system for stormwater treatment. The Jellyfish Filter is an engineered stormwater quality treatment technology featuring unique membrane filtration in a compact stand alone treatment system that removes a high level and wide variety of stormwater pollutants.

Staff assessment: The project has not provided a plan. See Standard Condition A.2.18.


Rezoning Condition 31: Provision of a Solid Waste Diversion Strategy that addresses waste diversion in all solid waste generating activities within the development.

Applicant's response: Building has been designed to meet LEED prerequisite for storage and collection of recyclables. Please refer to the letter (dated October 16th, 2012) from Aquilini Development and Construction Inc. regarding their Solid Waste Strategy for West Tower at 89 West Georgia Street (Rogers Arena)

Staff assessment: The project has not provided a plan. See Standard Condition A.2.19.

Rezoning Condition 32: Identification on the plans and elevation of the built elements contributing to the building's sustainability performance in achieving LEED® Silver equivalency, including at least three optimize energy performance points, one water efficiency point, and one storm water point.

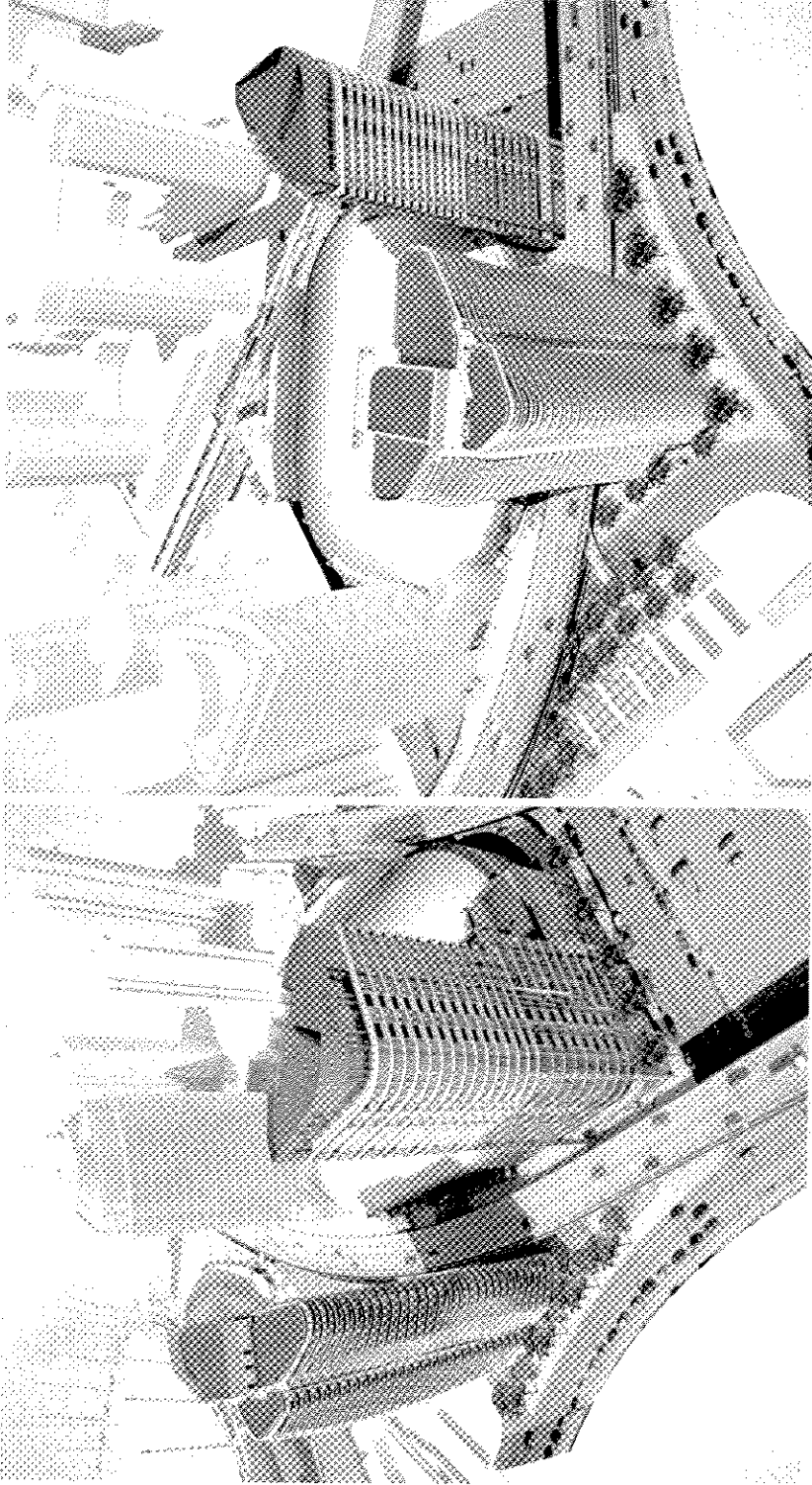
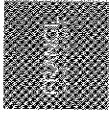
Applicant's response: Project is targeting LEED Gold. Please refer to the attached LEED Checklist for the targeted credits. Energy model is currently being reviewed to incorporate a design that yields a minimum of 25% savings over the baseline building as defined by ASHRAE 90.1-2007 Appendix G (With Errata, but not Addenda).

- Architectural energy conservation measures include: roof R40, wall R20, solarshading, residential balconies will not be heated and are enclosed by double pane low-e operable windows.
- Electrical energy conservation measures include: 15% lighting power density reduction and the use of daylight sensors on perimeter spaces on office levels.
- Mechanical energy conservation measures: low-flow water fixtures, heat recovery for office space, heat pump selection for residential units, CO2 sensors in office space, domestic hot water pre-heat through heat recovery from cooling tower loop. 

Staff response: This application is required to meet LEED Gold and to register with the Canada Green Building Council (CaGBC). The applicant has submitted a LEED checklist indicating that they will achieve LEED Gold. Staff are seeking confirmation that registration has been undertaken. See Recommended Condition 1.8.

ROGERS ARENA TOWERS

150 PACIFIC BOULEVARD NORTH
LEGAL ADDRESS: LOT 221, D.L. FC, LMP 12038



ARCHITECTURAL DRAWING LIST

- AR 001 COVER PAGE
- AR 002 PROJECT DATA
- AR 003 CONTEXT PLAN
- AR 004 SITE PLAN
- AR 005 SITE ELEVATIONS
- AR 006 SHADOW STUDIES
- AR 100 SITE PLAN
- AR 101 EXISTING ROAD ALIGNMENT
- AR 102 SITE PLAN, POSSIBLE FUTURE ROAD ALIGNMENT
- EAST TOWER**
- A1 201 FLOOR PLANS 1-6/2000
- A1 202 FLOOR PLANS 7-12/2000 & 13/2000
- A1 203 FLOOR PLANS 14-20/00 & 21/2000
- A1 204 FLOOR PLANS 22-28/00 & 29/2000
- A1 205 FLOOR PLANS 30-36/00 & 37/2000
- A1 206 FLOOR PLANS 38-44/00 & 45/2000
- A1 207 FLOOR PLANS 46-52/00 & 53/2000
- A1 208 FLOOR PLANS 54-60/00 & 61/2000
- A1 209 FLOOR PLANS 62-68/00 & 69/2000
- A1 301 BUILDING ELEVATIONS
- A1 302 BUILDING ELEVATIONS
- A1 303 BUILDING ELEVATIONS
- A1 401 BUILDING SECTION A-A
- SOUTH TOWER**
- A2 201 FLOOR PLAN 1-1
- A2 202 FLOOR PLANS 13 & 14 (2F) (TYP)
- A2 203 FLOOR PLANS 15 & 16 (2F) (TYP)
- A2 204 FLOOR PLAN 17 & 18 (2F) (TYP)
- A2 205 FLOOR PLAN 19 & 20 (2F) (TYP)
- A2 206 FLOOR PLAN 21
- A2 207 FLOOR PLAN 22
- A2 208 FLOOR PLAN 23
- A2 209 FLOOR PLAN 24 (TYP)
- A2 301 BUILDING ELEVATIONS
- A2 302 BUILDING ELEVATIONS
- A2 401 BUILDING SECTIONS A-A & B-B
- LANDSCAPE**
- LDP 000 CONTEXT PLAN
- LDP 100 EXISTING CONDITIONS
- LDP 101 LAYOUT AND MATERIALS
- LDP 102 LAYOUT AND MATERIALS
- LDP 103 PLANTING PLAN - OPTION 2
- LDP 104 OPTION 1 - SECTION AND LEVEL
- LDP 105 SOUTH TOWER GROUNDS LEVEL
- LDP 106 OPTION 2 - SECTIONS AND MATERIALS
- LDP 107 OPTION 1 - SECTIONS AND MATERIALS
- LDP 108 EAST TOWER LEVEL 26, AMENITY AND ROOF
- LDP 109 LAYOUT AND MATERIALS AND PLANTING
- APPENDIX**
- A3 001 SITE SURVEY
- A3 002 SOUTH TOWER, FLOOR PLATE CONTOUR

Rogers Arena
Towers

COVER PAGE

ASCELINI ARCHITECTS
1000 WEST 12TH AVENUE
VANCOUVER, B.C. V6H 1T4
TEL: 604-681-2200
FAX: 604-681-5995
WWW.ASCELINIARCHITECTS.COM

DATE: 2018
DRAWING NO: AO 001

DEVELOPER

Applied Development
1000 West 12th Avenue
Vancouver, B.C. V6H 1T4
TEL: 604-681-2200
FAX: 604-681-5995
WWW.ASCELINIARCHITECTS.COM

CONSULTANTS

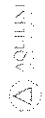
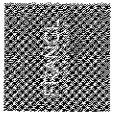
Architect
Francis Architecture Inc.
1004 W. 72nd Avenue
Vancouver, B.C. V6J 1H4
TEL: 604-681-2200
FAX: 604-681-5995
WWW.FRANCISARCHITECTS.COM

Architectural
PMI, Participative Landscape
Architecture Inc.
500-1201 West Broadway Street
Vancouver, B.C. V6J 1T4
TEL: 604-681-2200
FAX: 604-681-5995
WWW.PMLANDSCAPE.COM

Structural
Contract: Mergel Long
www.mrlong.com

Geotechnical
Contract: Jason Packer
www.jasonpacker.com

1 Site Area, Perspective



Rogers Arena
Towers

CONTEXT PLAN



AO 003

1 CONTEXT PLAN
Scale: 1:1000





FRANCESCO & AQUILINI

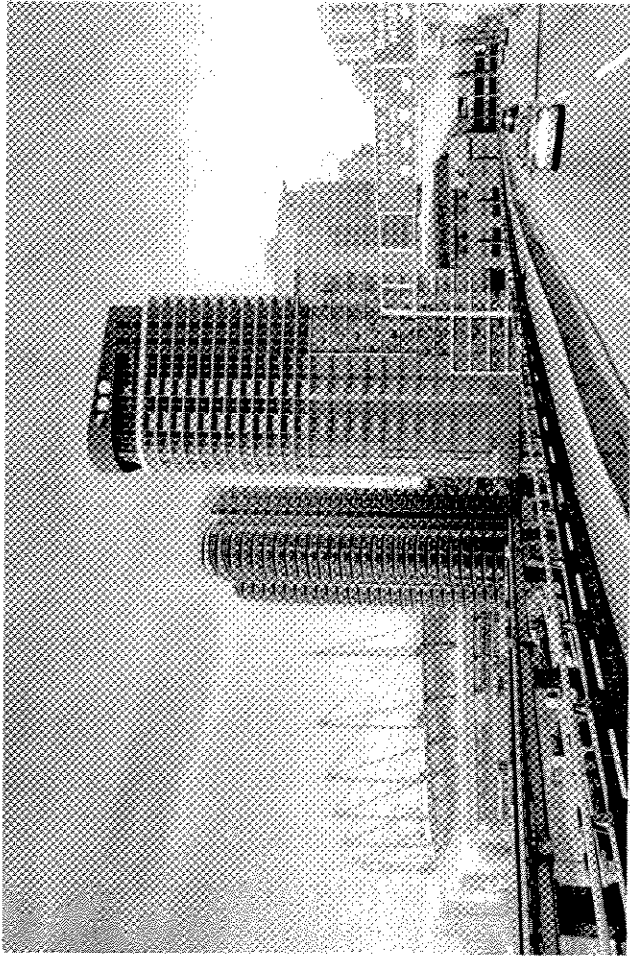
Rogers Arena
Towers

NOTE PERMANENTI

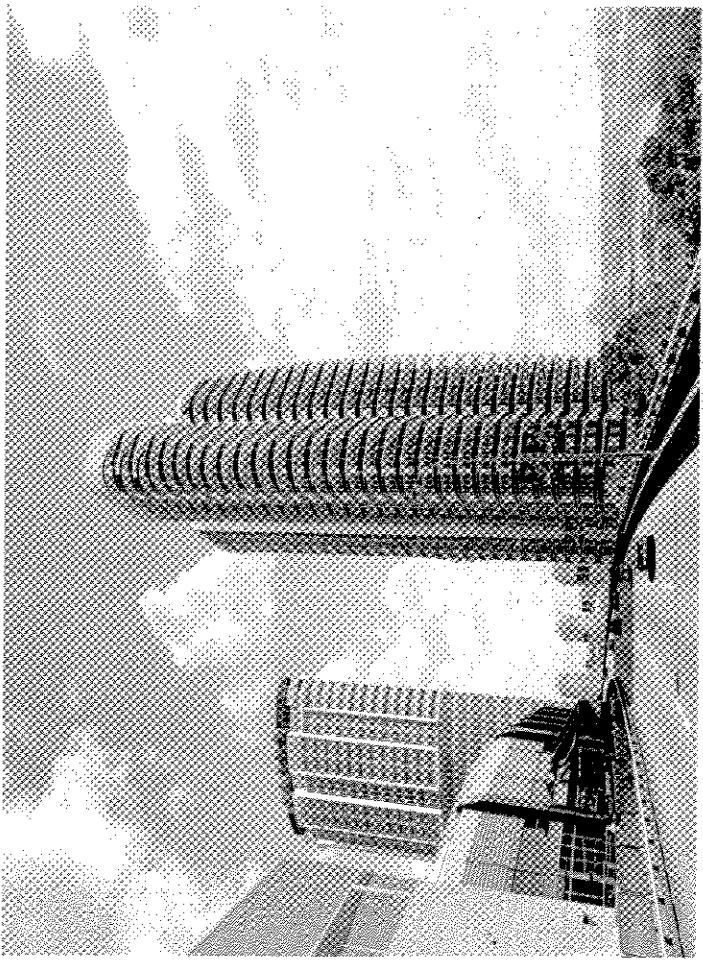
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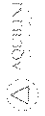
AO 004

① Site Perspective From West



② Site Perspective From West





Rogers Arena
Towers

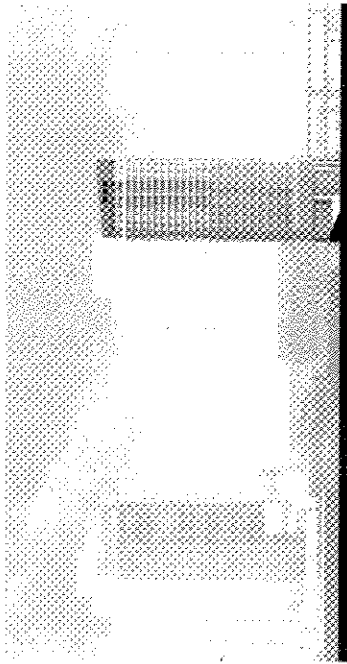
SITE ELEVATIONS

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Project: Rogers Arena Towers
Sheet: AO 005

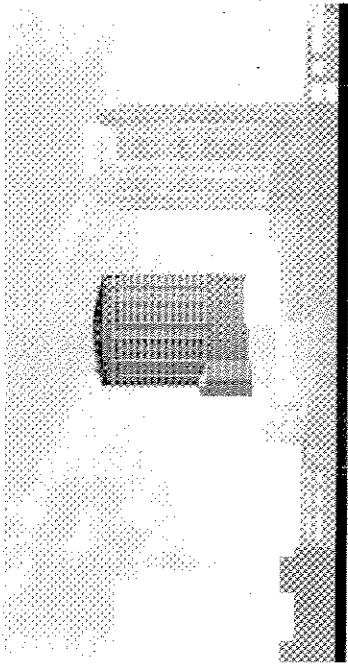
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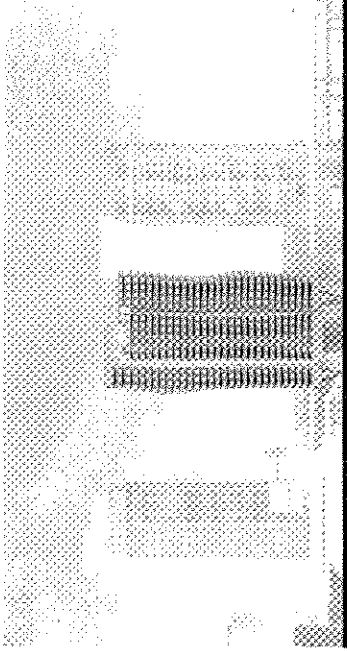
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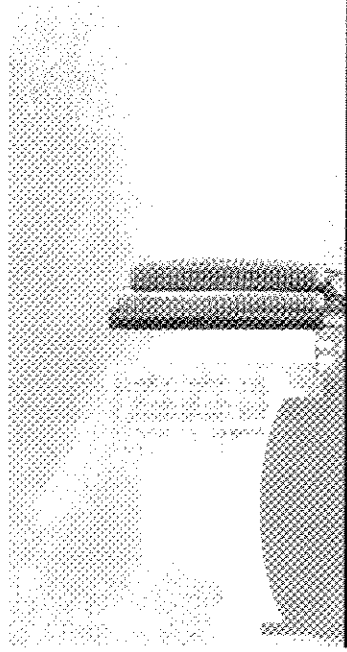
② EAST TOWER, South Elevation
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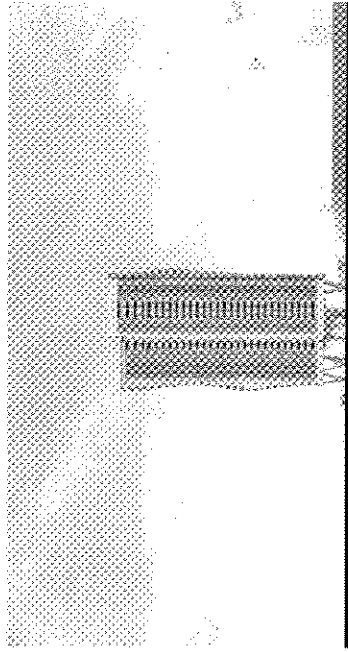
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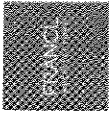
④ SOUTH TOWER, South Elevation
Scale: 1/8" = 1'-0"



⑤ SOUTH TOWER, West Elevation
Scale: 1/8" = 1'-0"



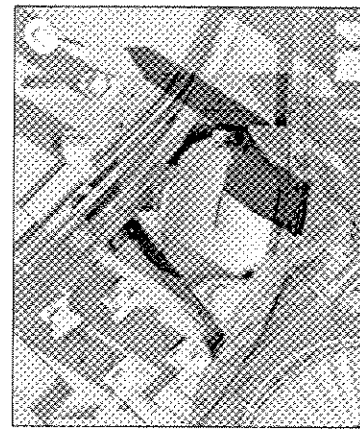
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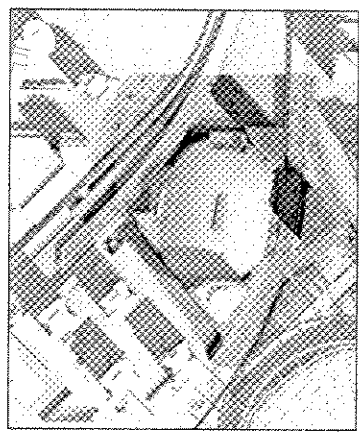
Rogers Arena
Towers

Project Name	Rogers Arena Towers
Client	
Address	
City	
State	
Country	
Scale	
Date	
Author	
Reviewer	
Project No.	
Sheet No.	
Sheet Title	

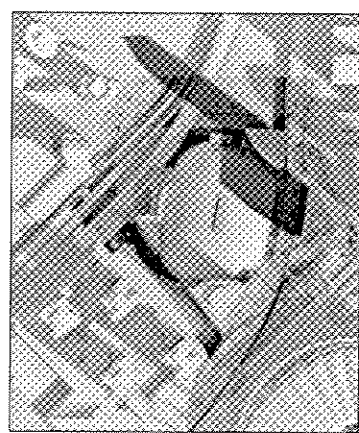
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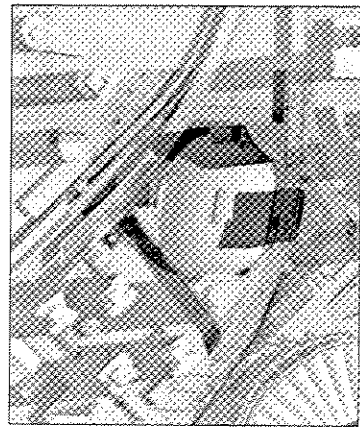
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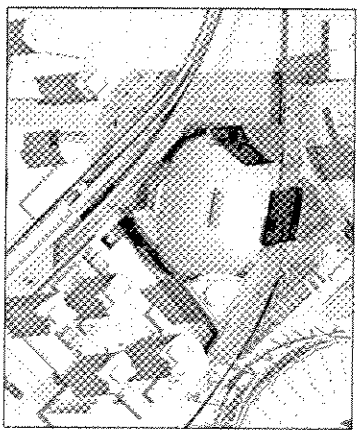
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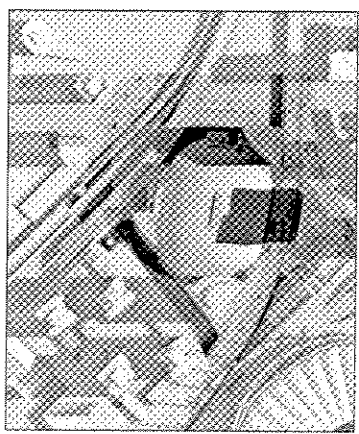
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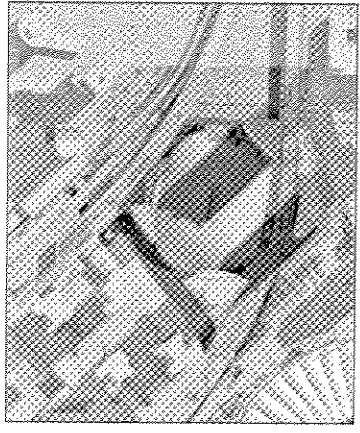
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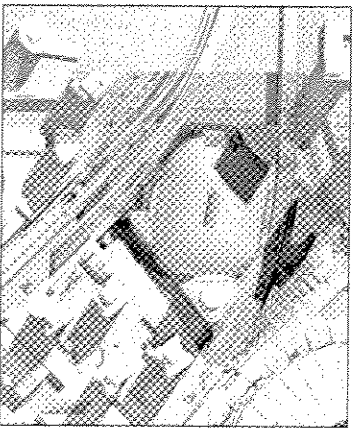
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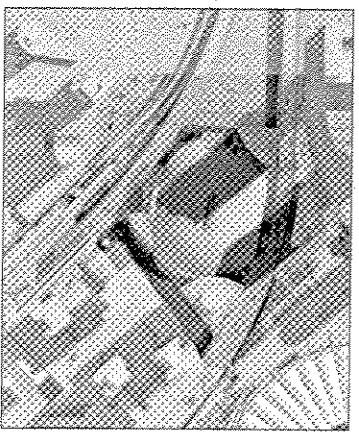
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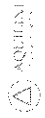
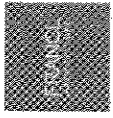
March 20 - 10:00 am
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April 20 - 10:00 am
018



September 22 - 10:00 am
019



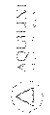
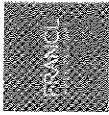
Rogers Arena
Towers

REF PLAN



AO 101



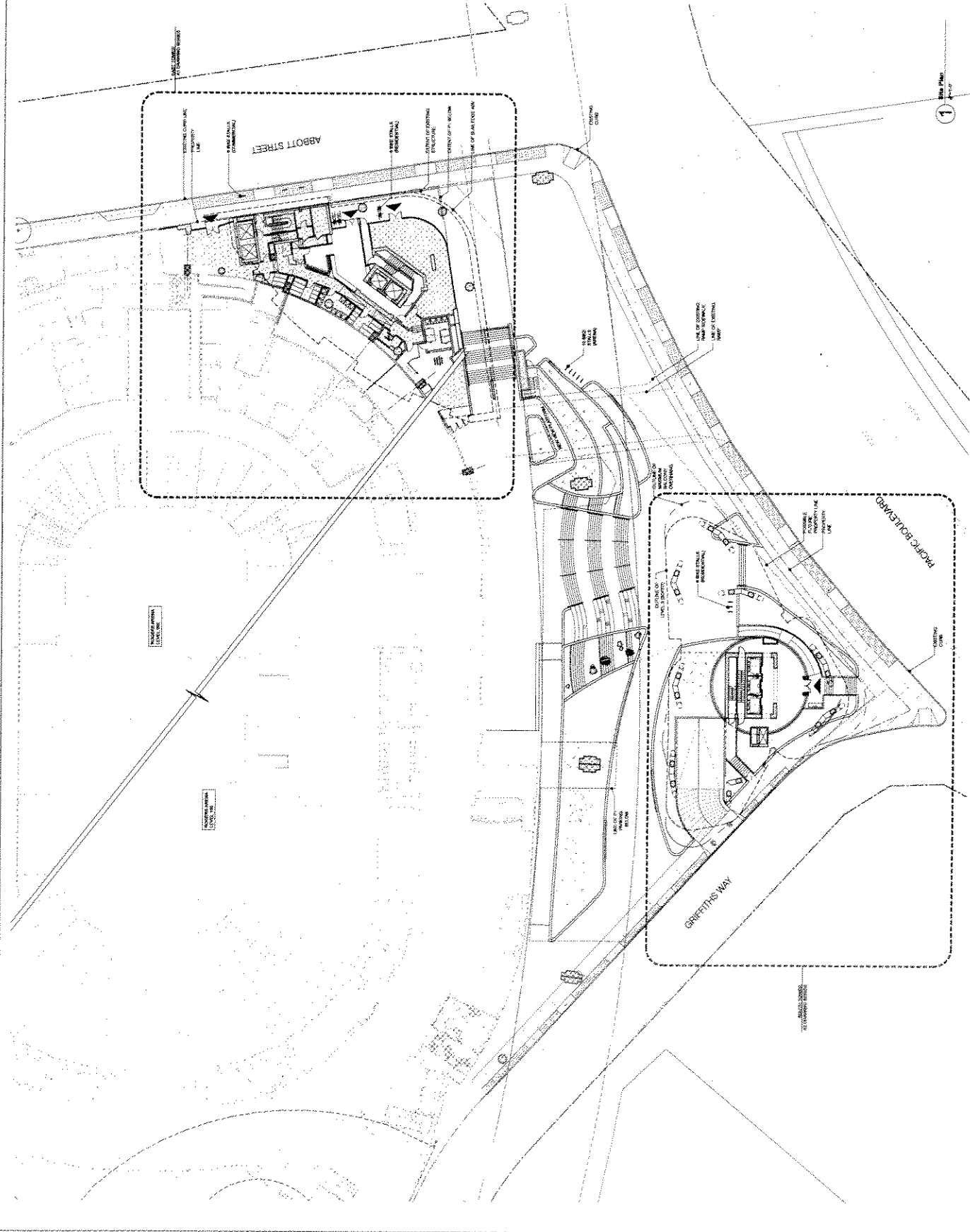


Rogers Arena Towers

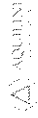
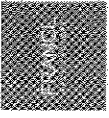
**SITE PLAN
CURRENT ROAD ALIGNMENT**



DATE	2014
PROJECT	Rogers Arena Towers
CITY	Edmonton
SCALE	AS SHOWN
NO. OF SHEETS	102
SHEET NO.	102



Appendix e ; page 8 of 21

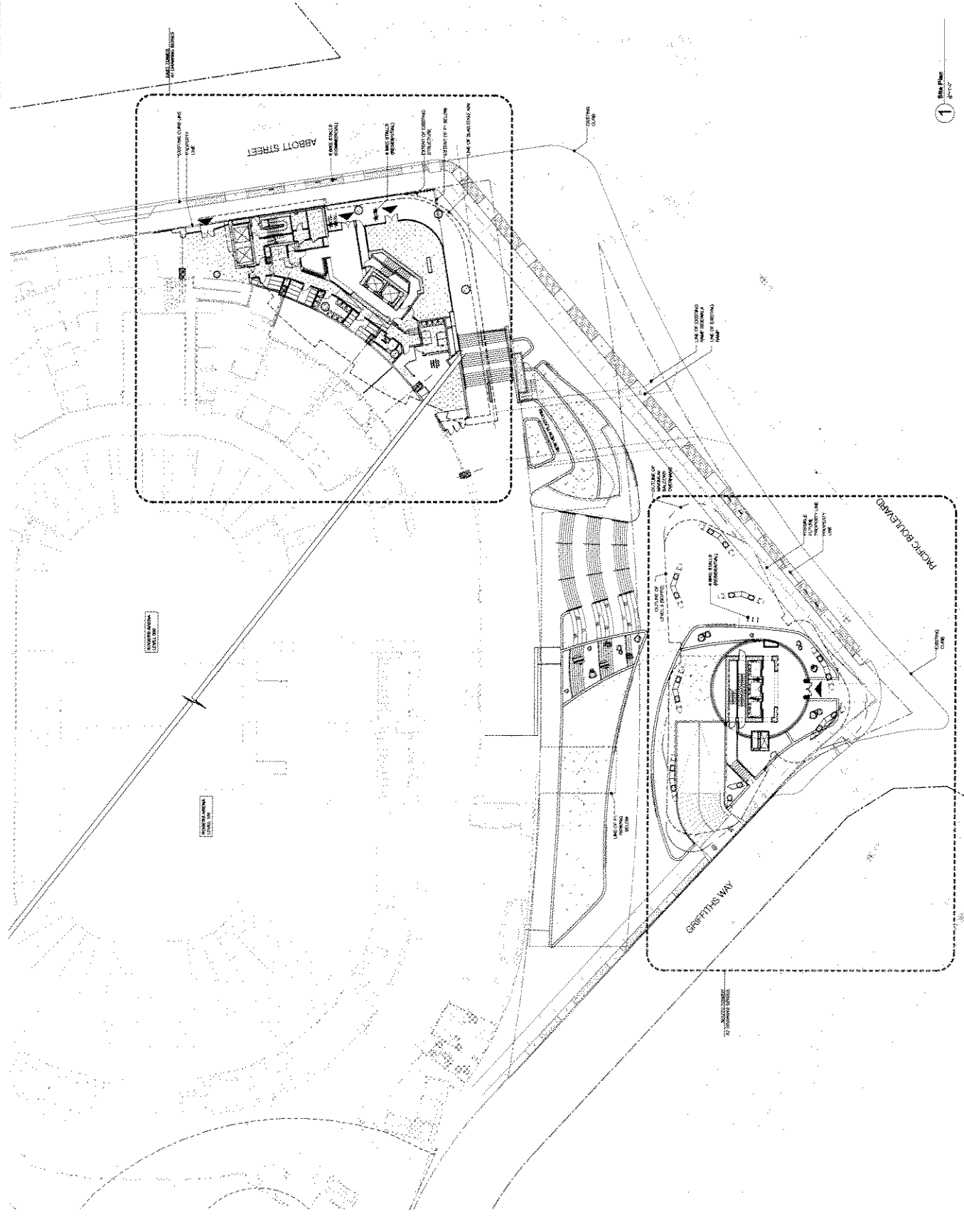


Rogers Arena Towers

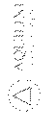
SITE PLAN
FORMERLY FUTURE ROAD ALIGNMENT



AO 103



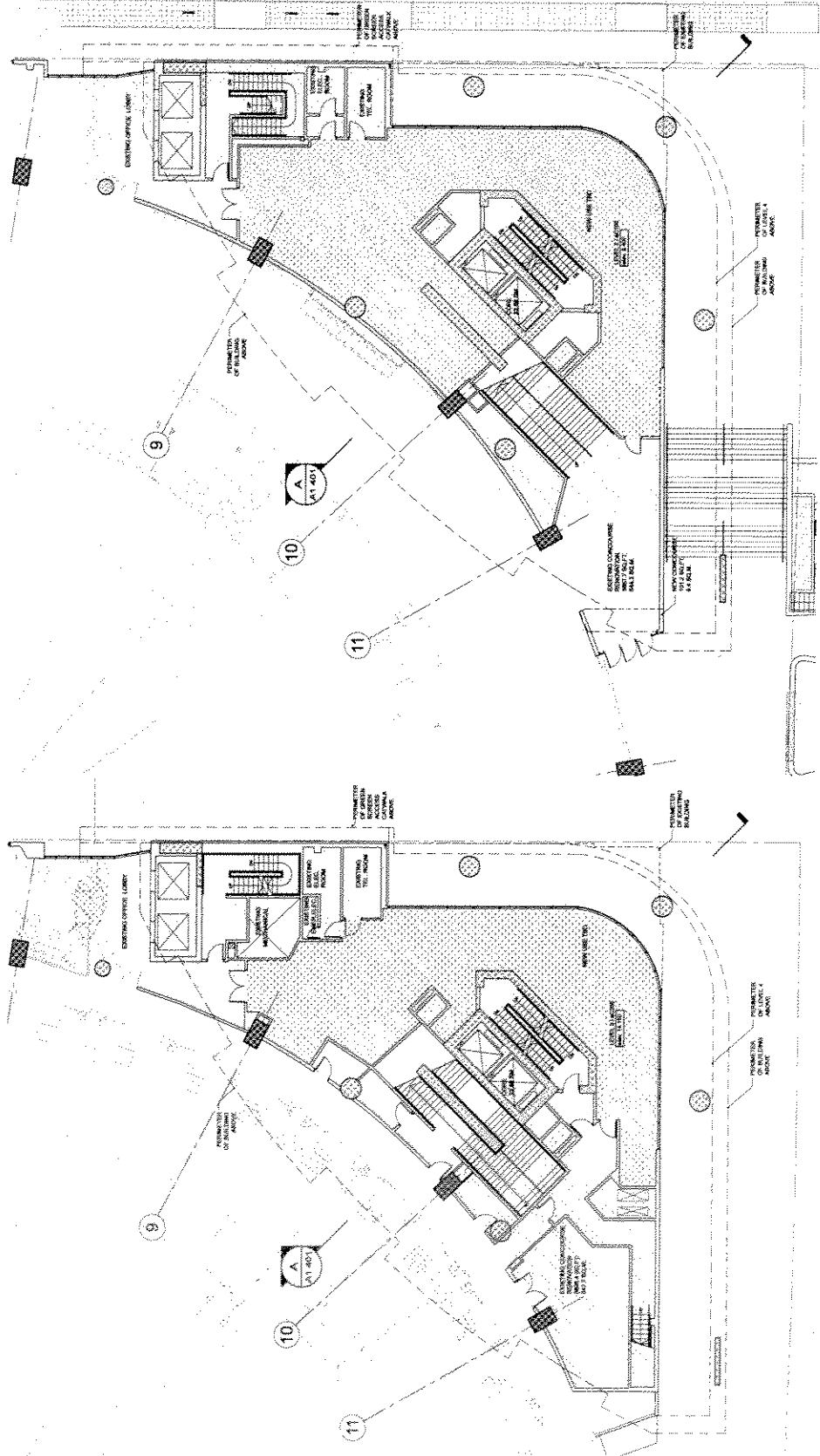
1 Site Plan



Rogers Arena
Towers
EAST TOWER

R. LANGE PLANS
Landscape & Location

Project No.	A1 202
Client	City of Regina
Scale	1/8" = 1'-0"
Date	2014
Author	R. Lange
Checked	R. Lange
Approved	R. Lange
Discipline	Landscape & Location
Sheet	1 of 1



1 Level 3 - Existing Concourse 10A
Sheet 1 of 1

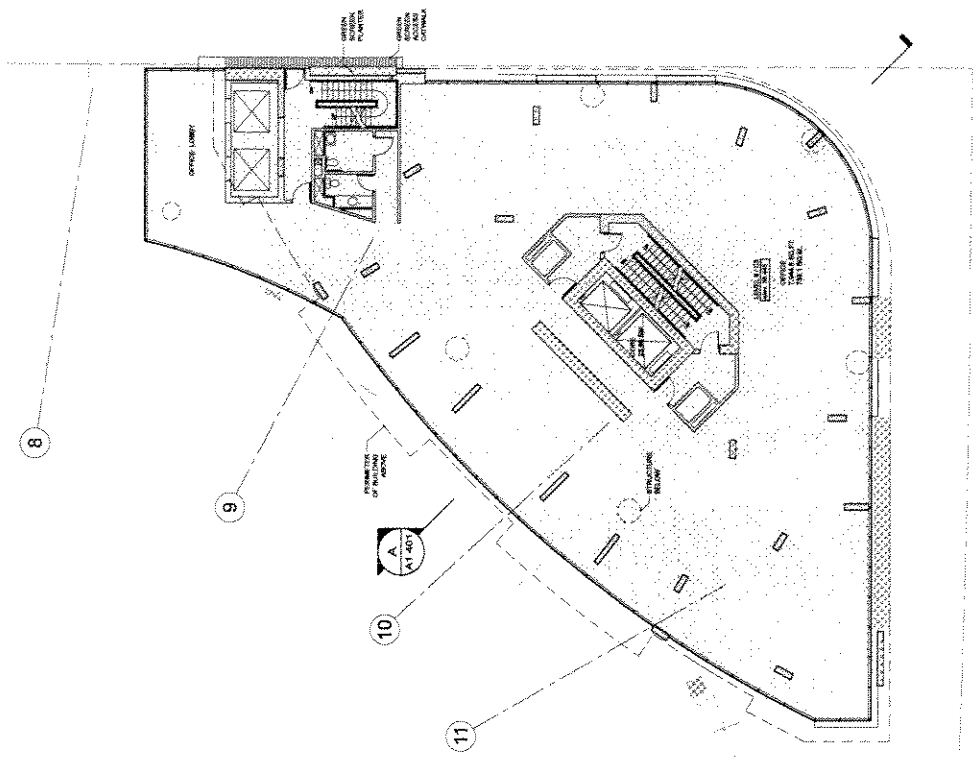
2 Level 3 - Existing Concourse 10B
Sheet 1 of 1



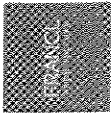
Rogers Arena
Towers
EAST TOWER

FLOOR PLAN
S-PACES (TYPE)

Project No.	1000000000
Client	City of Regina
Architect	FRANCO ARCHITECTS
Scale	1/8" = 1'-0"
Date	2014
Sheet No.	A1 206



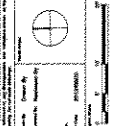
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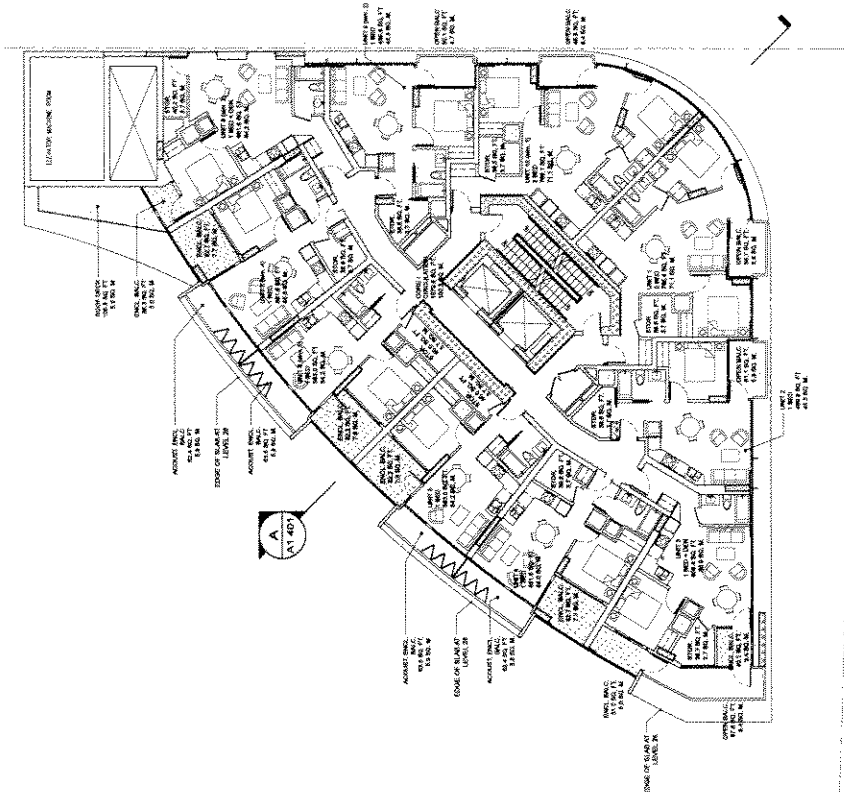
Rogers Arena
Towers
EAST TOWER

FLOOR PLANS
1:500 (1:1000) (1:2000)

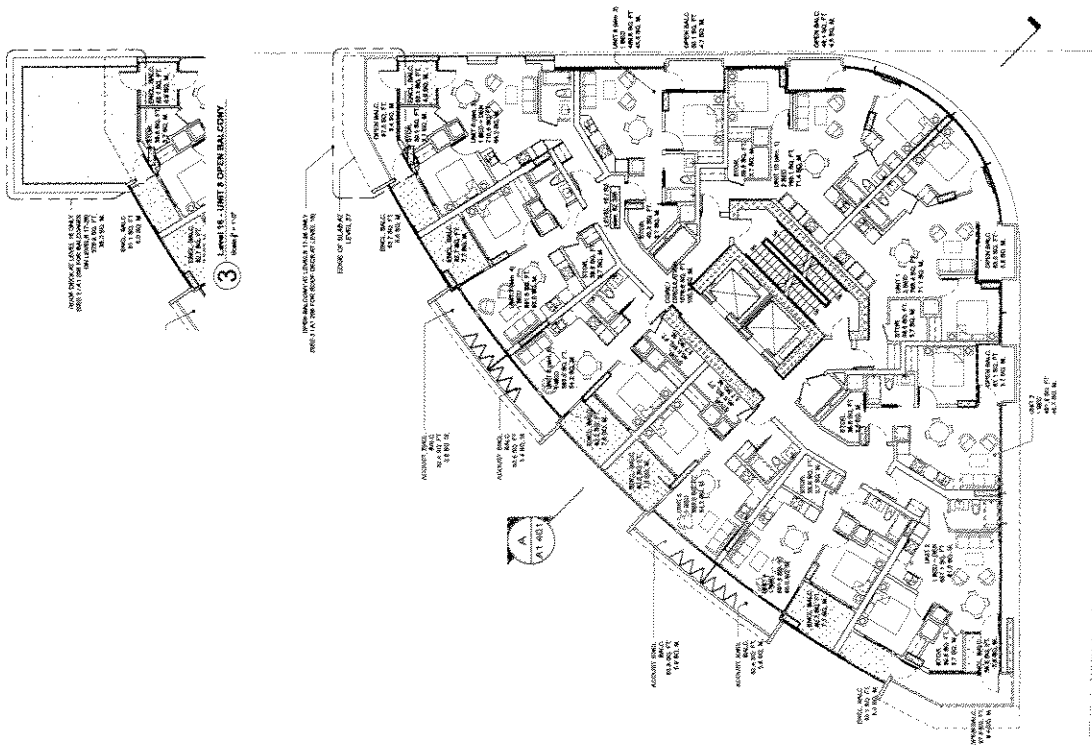
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Date: 2014
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A1 206



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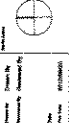


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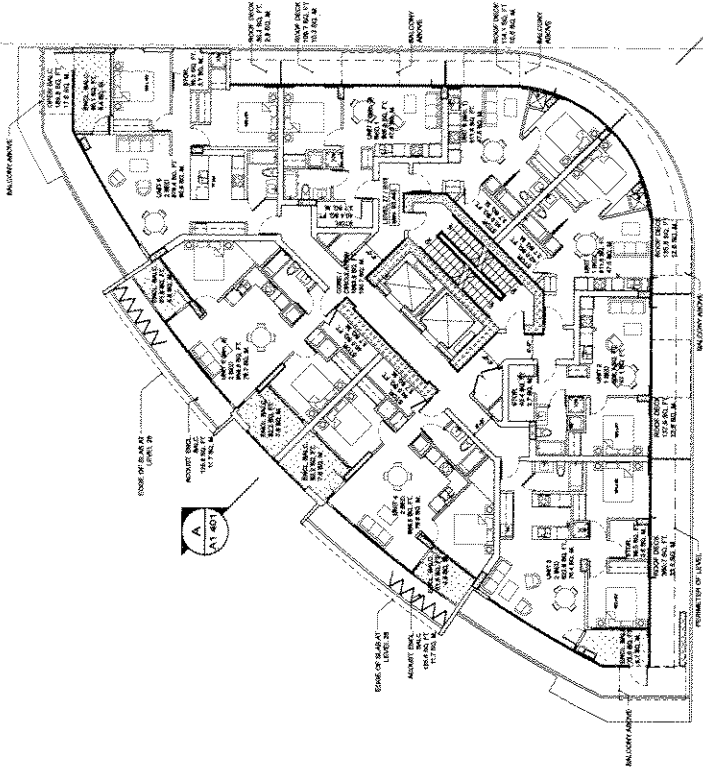


Rogers Arena
Towers
EAST TOWER

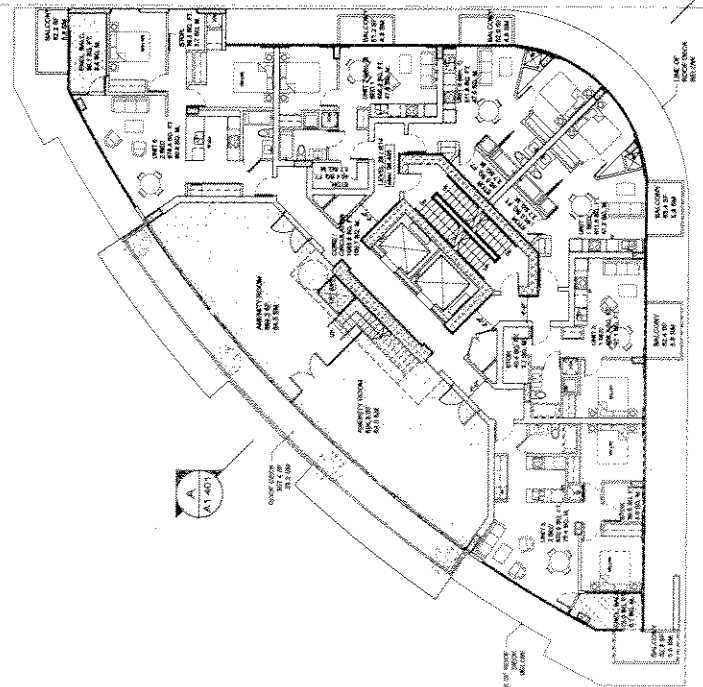
FLORIAN PLANS
LEFFERS & LOHMEYER



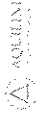
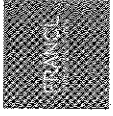
A1 207



1 Level 17 - Residential 17 Penthouse



2 Level 28 - Residential 14 Penthouse

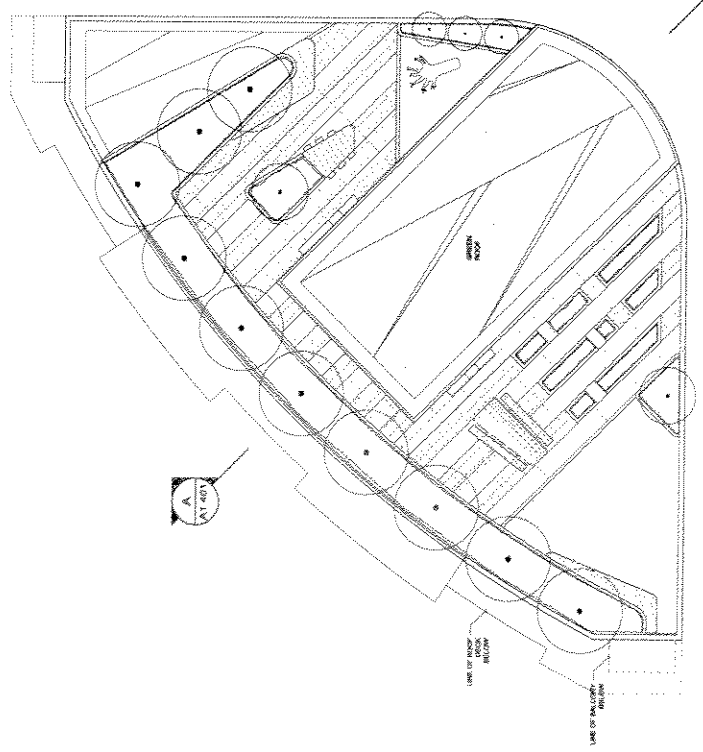


Rogers Arena
Towers
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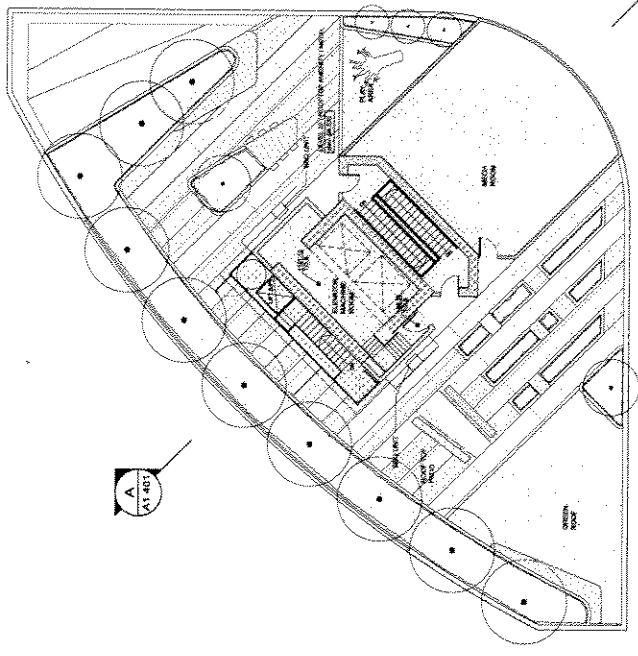
FLOOR PLAN
L1 & ROOF PLAN



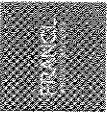
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② ROOF LEVEL
Scale: 1/8" = 1'-0"



① Level 29 - MECHANICAL & ROOFTOP AMENITY
Scale: 1/8" = 1'-0"

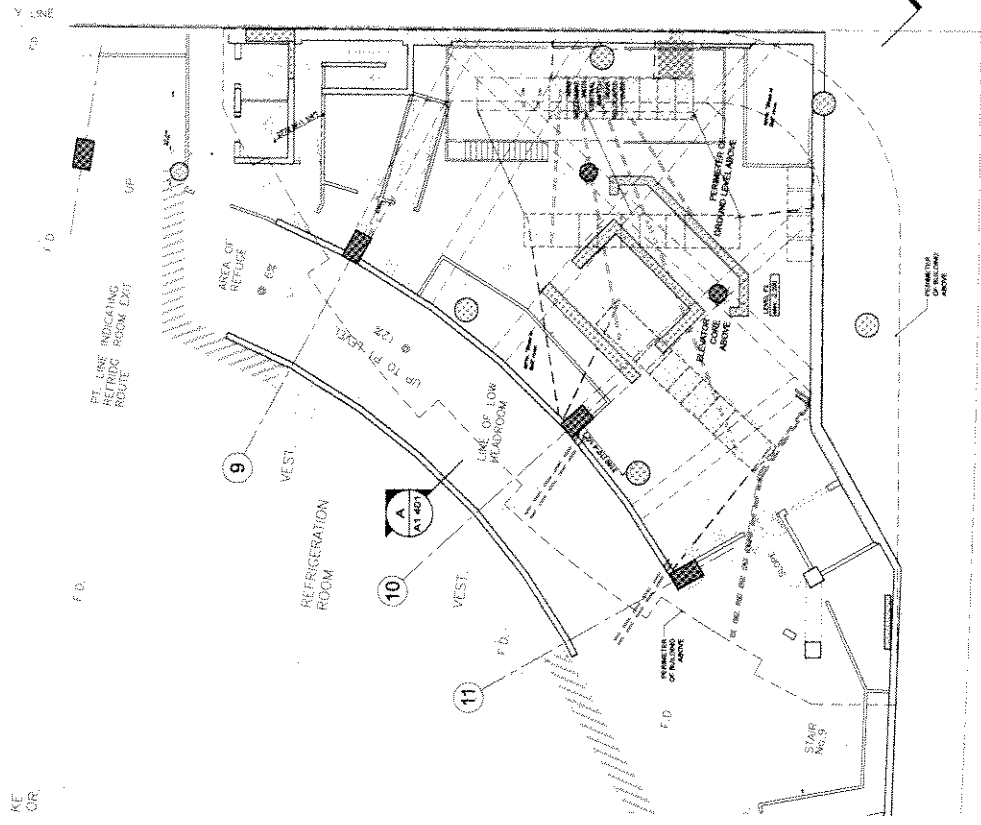


Rogers Arena
Towers
EAST TOWER

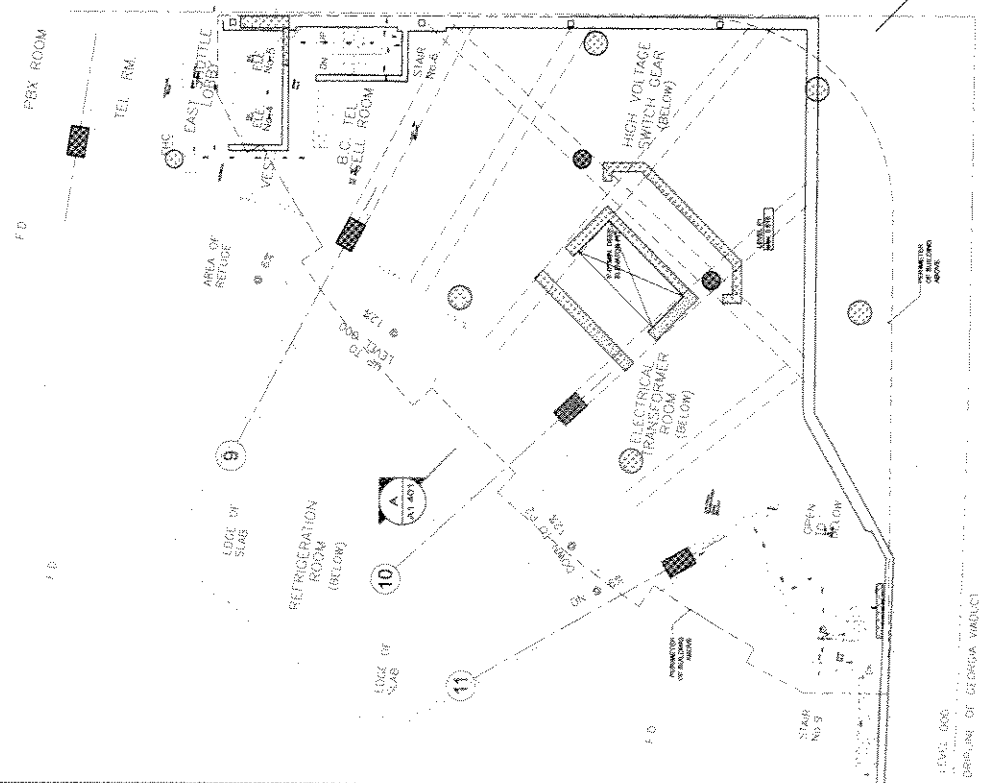
FLOOR PLANS
P. 2 & P. 1



A1 208



① Parking Level P2
Level P-2



② Parking Level P1
Level P-1

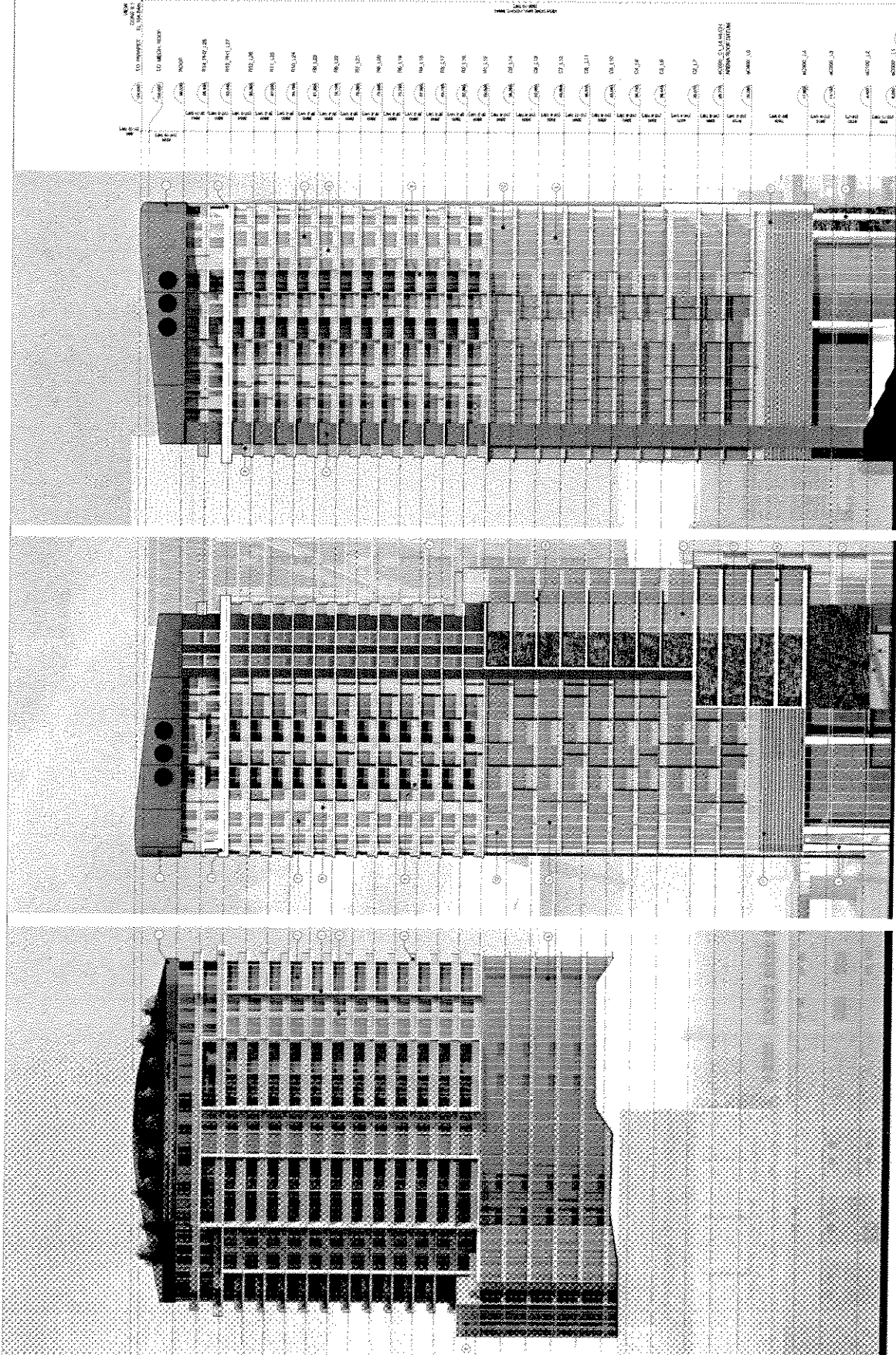


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Rogers Arena
 Towers
 EAST TOWER

BUILDING ELEVATIONS
 SCALE: 1/8" = 1'-0"
 DATE: 10/15/10

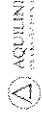
PROJECT NO.	A1 301
DATE	10/15/10
SCALE	1/8" = 1'-0"
DRAWN BY	...
CHECKED BY	...
DATE	...



1 North West Elevation
Scale: 1/8" = 1'-0"

2 West Elevation
Scale: 1/8" = 1'-0"

3 South Elevation
Scale: 1/8" = 1'-0"



Rogers Arena Towers

APPENDIX SITE MARKING	
DATE	12/15/11
PROJECT	1718
SCALE	AS SHOWN
PROJECT NO.	1718
DATE	12/15/11
BY	...
CHECKED BY	...
APPROVED BY	...

A3 001



SCALE 1" = 250' DISTANCES ARE IN FEET

- * SEPARATE ELECTRICAL ROOM
- * SEPARATE CATCH BASIN
- * SEPARATE WASTEWATER TREATMENT PLANT
- * SEPARATE MANHOLE
- * SEPARATE STORM SEWER
- * SEPARATE SWAYE DRAIN PILE
- * SEPARATE RETENTION PILE

Blue Strategy



1.1 PROJECT PROPOSAL

Proposal

The recovery of the Rogers Arena Site revised the Comprehensive District (CD-1) to include an increase in density, an increase in maximum building height and most importantly to allow residential use. Three towers are proposed featuring sustainable design and living at the heart of Vancouver's sports and entertainment district, where the proposed additional density will enhance activity throughout the day and bridge the significant gap between the downtown and the False Creek North Neighbourhood. This submission deals with the East and South Towers. The East Tower will be mixed use and the South Tower will be Residential only. All of the residential suites will be secured market rental owned and operated by Aquilini Development.

The proposed towers offer a mix of highly desirable suites, targeting professionals and people on the go, who seek an exciting opportunity to live near Downtown, Chinatown, rapid transit and the amenity of the NEFC district. The success of the Rogers Arena Towers will also be measured by the improvements the proposal makes toward an increase in animation and enhanced public space, while mitigating traffic flows to and from the district. The project will provide continuity to future developments along the False Creek waterfront.

Project Brief

Located on the property around Rogers Arena these proposed buildings are part of the planning and redevelopment process for Northeast False Creek. This ongoing process, which has progressed through a number of meetings with both City Staff and Neighbourhood Stakeholders, will complete the development of the last of the Expo Lands and the surrounding sites. The new buildings on the Rogers Arena site will add a diverse range of uses to this new neighborhood.

The East Tower, above the existing Team Store at the corner of Pacific Boulevard and Abbott Street, will be a mixed-use building. The lower floors will continue to serve Retail and Rogers Arena event uses, while the floors immediately above will provide office space. The 14 storeys of the upper portion of the tower will be secured market rental residential space. This will result in a 28 storey mixed-use building with commercial space and 134 market rental units.

The South Tower, at the corner of Griffiths Way and Pacific Boulevard, will be a secured market rental residential tower, with 268 units proposed and a height of 31 storeys. This site will be excavated to a depth of 5 levels to provide a total of approx. 205 parking stalls that will serve both East and South towers. This excavation will also provide an opportunity to remove any contaminants from this remaining area of the site. This building occupies a significant site in terms of urban design. This tower frames the view as one travels north-east along Pacific Boulevard and it also flanks the south-east view down Georgia Street towards Science World.

Urban Design Response and Massing

Rogers Arena and its immediate surroundings are a very particular urban context. The twin arterial thoroughfares of Pacific and Expo Boulevard bound the site. The highly visible Georgia and Ponce de Leon Viaducts and the Skytrain Rapid Transit line cross the site. Residential towers such as Spectra, Espana and Frenze, as well as future towers yet to come on adjacent properties, flank the site. As with the BC Place Stadium, Rogers Arena is the dominant building form on the site. Large buildings such as this are not easily absorbed into the finer grain of an urban context. The proposed new towers and the reshaped ground plane are seen as an opportunity to craft a finer scale of building form around the arena perimeter, thereby allowing the arena volume to transition into the surrounding context of residential towers. The placement and massing of these additional structures, articulated their response in reference to Rogers Arena. For this reason, the massing of the towers have been developed with a similar triangular plan form, broad faces oriented towards the stadium, framing it within their taller forms and mediating between the arena and the surrounding urban tower context. The West and East towers are attached to the arena. The three towers roughly triangulate the Stadium structure within their three volumes. The nearest any tower comes to another on the Rogers Arena site is the 98'-5" between the East and South towers.

The shadows cast by the proposed towers are shown for the 10:00, 12:00 and 2:00 on both equinoxes and for the summer solstice. The East tower is built over the existing stadium structure and casts much of its shadow onto the Stadium itself. The South tower is elevated some 32 ft. into the air, allowing sun and daylight deep into the plaza space.

Architectural Character

The towers on the West and East corners of Rogers Arena share a similar massing scheme and building form. The exterior of the East tower is similar to the east skin of the office towers, but more finely scaled to reflect their residential character. Variations in balcony depth and a variegated pattern of vertical glass sunscreens, further animates the facade and responds to their various solar orientations.

The South tower and plaza take on an additional role. A building on this site frames one side of the view from Georgia Street looking southeast towards Science World, while also terminating the view of those traveling northeast along Pacific Boulevard. The site is surrounded by pedestrian and vehicular movement and gives physical expression to this movement. The three corners of this tower are rounded and the oversized balcony overhangs are allowed to vary as the rise up the building, setting the building into a gentle visual oscillation. Here again, the combination of extensive balconies and rail details are designed to ameliorate solar gain.

Connections

The proposed new additions to the Rogers Arena site will serve as a catalyst for the redevelopment of remaining sites in the RTCC neighborhood. Building on the pedestrian connections to both the Georgia Street Viaduct and Expo Boulevard, the proposed development will help knit both Rogers Arena and neighboring sites to the downtown city fabric as well as to major elements of the Vancouver transportation infrastructure.

The character of pedestrian movement on the ground plane is recognized as being strongly shaped by the events that take place in and around Rogers Arena and BC Place. Both of these venues generate large volumes of traffic on event days. It is therefore important to keep the ground plane as open as possible around the major portals into and out of these venues. For this reason, the South tower is raised three stories above the plaza level, with minimal lobby spaces at grade. The open plaza area at the South entry to Rogers Arena will be completely upgraded. The new landscape design is intended to soften the impact of the large existing concrete ground and wall surfaces and to animate them for the urban pedestrian with or without scheduled Arena events.

Parking for the East and South Towers is provided underground below the South Plaza. One of the existing arena parking and loading access points is removed from Pacific and combined with the South Tower parking and loading access ramp off the less travelled Griffiths Way.

Careful attention has been focused on the possible removal of the Georgia Viaduct and reconfiguration of the Georgia and Pacific intersection. Allowance in the building siting and Landscape design has been made for this potential future scenario.

Sustainable Building Design

The proposed redevelopment of the Rogers Arena Site seeks to achieve a LEED Gold standard of sustainability. The mix of commercial and residential uses, linked to transit, a district energy utility and other amenities in the neighborhood, will provide an ideal framework for an exemplary sustainable development.

Horizontal and vertical solar and acoustic control elements are proposed to mitigate heat gain through the glazing systems and building envelope and reduce event noise to acceptable levels.

Efficient energy systems and hydronic heating will be used throughout all the buildings, with connections to the district heat source. The buildings will also share in the use of heat generated by the ice making refrigeration equipment in Rogers Arena.

A site-wide storm-water and wastewater management plan will be implemented using green roofs, green walls, urban agriculture, and rainwater harvesting for irrigation. Careful construction waste management, the use of recycled, regional, and low VOC emitting materials and an attention to the thermal comfort of the occupants will be integrated.

The resulting sustainable design strategies translate to a LEED-BC Gold level, as well as a Certified level under LEED for Neighbourhood Development.

Landscape Design Rationale

The public realm landscape design for the Rogers Arena site needs to impart a high energy and dynamic quality defining the major entertainment and cultural district.

The design responds in a substantial yet practical manner to the modified spaces at the ground and subgrade levels, creating well formed plaza, gathering, and transitional spaces that function well during major events as well as other times of the day and night. At the terrace and roof top level, green roofs, sky gardens, and outdoor amenity courts will provide an environment that expands and engages the indoor amenity spaces.

The overall landscape development will have a more European feel and character with quality materials and contemporary and innovative landscape features overlaid on simple plaza spaces.

The plaza spaces respond to pedestrian movement through and to the site as well as providing new bridge connections to surrounding amenities and features such as the Skytrain and the BC Place redevelopment. These spaces are more for gathering and moving through their passive use so they have been designed with robust quality materials and larger scale green planted features. Elements such as stormwater water features, green walls and green roofs provide elements of sustainability in this highly urban and active environment.

South Plaza / Terrace To Rogers Arena

This plaza space provides an entry court for the residential tower and serves as a transition corridor for people to move through if they are going to an event at either BC Place or Rogers Arena. The upper terrace has been enlarged so it provides more of an over look to the lower plaza space. A cascading water feature utilizing captured rainwater provides a sound buffer to the viaduct above and surrounding streets. Terraced planters provide green relief to the heavy concrete walls of Rogers Arena, while low walls around the planting and water features, as well as large curved benches, provide ample seating opportunities.

The plaza can also handle a large gathering where people could congregate at both levels as well as on the wide stair feature. Seating walls are built into the pool edges, providing many opportunities for sitting in the sunny areas of the plaza.

The Rick Hansen tribute and plaza feature has been relocated from a back corner to front and centre at the main stair to the upper Rogers Arena entry terrace. It will be visible from Pacific Boulevard and Abbot Street.

Roof Decks / Green Roofs / Roof Terraces

All the new towers will either be designed with landscaped amenity spaces or green roofs ensuring all roof spaces are utilized for the environment and the residents. Urban Agriculture plots are provided on all towers along with other roof top amenities. Wherever possible interior amenity areas extend onto roof terraces, expanding the amenity areas. Private roof terraces and green roofs are provided at the penthouse level where no public access is available.

Sustainable Landscape Design

Sustainable landscape features include the use of green roofs on all buildings, green walls, capturing rainwater for reuse in water features and for irrigation, and the provision of urban agriculture plots and amenity spaces for resident use.