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CITY OF **VANCOUVER**

ADMINISTRATIVE REPORT

CITY OF VANCOUVER

Report Date:	July 7, 2008
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TO:	Vancouver City Council
FROM:	Director of Planning in consultation with the General Manager of Engineering Services
SUBJECT:	Updates to the Southeast False Creek Green Building Strategy

RECOMMENDATION

THAT Council approve the amended Southeast False Creek (SEFC) Green Building Strategy (GBS) in Appendix A which will apply to future rezonings in the SEFC ODP area.

CITY MANAGER'S COMMENTS

The City Manager RECOMMENDS approval of the foregoing.

COUNCIL POLICY

Southeast False Creek Green Building Strategy, approved by Council July 2004.

Vancouver Parking By-law (No. 6059)

Energy Utility System By-law (No. 9552), approved by Council in 2007.

PURPOSE

The purpose of this report is to recommend Council approval of an updated SEFC Green Building Strategy policy (GBS).

BACKGROUND

On July 8, 2004, Council approved the Green Buildings Strategy for SEFC to provide a framework for further work and for considering rezonings. This original SEFC GBS predated work on the overall City Green Building Strategy.

Subsequently staff went through the process of refining some of the provisions in the SEFC Green Building Strategy through a series of workshops with the private landowners and their designers, and with the SEFC Project Office. As a result, a number of new green building rezoning conditions were applied to private and public lands rezonings in 2006-2008, and a revised version of the SEFC GBS was appended to each new rezoning report. However, the evolving SEFC GBS was not brought forward to Council for formal endorsement outside of the rezonings.

DISCUSSION

Recommendation A is for Council to officially approve the updated SEFC Green Building Strategy in Appendix A. This will allow an up-to-date and consistent GBS to be appended to future rezonings.

The updates:

- include standard "green building" conditions that have been used in SEFC CD-1 rezonings over the past few years,
- update technical references in the GBS which have changed over time, and
- delete or otherwise modify sections of the GBS that have become incorporated into other By-laws or have been superseded by new By-laws.

Appendix B contains a full outline of the changes and a commentary on them. A few highlights of the changes are:

- Energy: a higher energy efficiency is required of rezonings now than in the 2004 GBS; and the GBS now recognizes the SEFC Energy Utility Systems By-law which requires that all new and renovated SEFC buildings utilize the NEU for space heating and domestic hot water supply. In addition, this By-law contains requirements to ensure that designated buildings are designed to integrate well with the NEU service to enable efficient operations;
- Parking: most of the parking standards initially recommended in the SEFC GBS have been incorporated into the Parking By-law, and therefore can be deleted from the GBS;
- Landscape and Water: wording is updated to reflect what has been required in rezonings, as well as changes to other By-laws and Council resolutions; and
- Waste Management: the requirement for construction waste to be diverted from landfill has been increased.

FINANCIAL IMPLICATIONS

There are no financial implications.

CONCLUSION

Staff recommend Council approve the updated SEFC GBS as in Appendix A. The changes will bring the SEFC GBS "up to date" in terms of technical references, current standard requirements in SEFC rezonings, and eliminate duplication/confusion with other Council approved By-laws.

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SOUTHEAST FALSE CREEK GREEN BUILDING STRATEGY
Adopted by City Council July 8, 2004
Amended to (date) 2008

Application and Intent

The Southeast False Creek Green Building Strategy (GBS) applies to the SEFC ODP area. It is a Council policy that sets expectations for buildings in that area, and guides the review of rezoning and development applications.

Because the SEFC GBS is policy and not regulation, some flexibility may be applied when revisions occur however this should limited to situations where external authorities or standards cited have become obsolete or been superseded by this GBS has not yet been revised.

General

A green building strategy for Southeast False Creek must achieve a minimum baseline of environmental performance in all facets of building design and construction. This strategy applies to all medium and high density residential, mixed-use, commercial, institutional, and industrial developments in SEFC. This strategy is founded on the principles of the LEED™ green building assessment program, which provides a robust tool to guide development of a variety of green building types. To ensure that City of Vancouver objectives are fully met, specific points are required, as well as elements not specifically included in LEED™. Each building must be designed and perform according to a minimum LEED™ Silver certification (36 or more points) including implementation of all the LEED™ prerequisites and City requirements listed below. While registration and completion of the LEED™ program is not mandatory at this time, the City encourages certification.

If a project is formally registered through the Canada Green Building Council (CaGBC) to achieve a minimum LEED™ Silver level, and registration is submitted with the development permit application and approved as condition of the development permit, then Part 2 (the LEED™-based portion) of the City's green building strategy will be waived. Part 1, baseline requirements, must still be met.

All projects not formally registering with the CaGBC will follow the green building strategy, with firm commitment taken through the City of Vancouver regulatory process. The working regulatory review and permitting process outlined below will undergo continued refinement:

Submission on behalf of the proponent by a Green Building Consultant (LEED™ AP or demonstrated experience):

1. **Rezoning Application** — Green Building Consultant (GBC) submits overall rationale for achievement of Green Building Strategy objectives, including draft LEED™ scorecard.

2. **Development Application** — Green Building Consultant submits preliminary LEED™ scorecard — possible verification of formal CaGBC registration if pursued.

3. **Development Permit** — GBC submits detailed criteria of how Mandatory Measures will be achieved along with updated pre-development LEED™ scorecard as a condition of issuance.

4. **Building Permit** — GBC submits final building plans and final pre-development LEED™ scorecard as a condition of issuance.

5. **Occupancy Permit** — GBC provides final LEED™ scorecard and detailed report of specifications and contract for full best practice building commissioning as a condition of issuance.

The strategy assumes that all LEED prerequisites can be met and an integrated design process (IDP) with a LEED™ Accredited professional is undertaken from the outset.

PART 1: BASE LINE REQUIREMENTS

Note - Items *in italics* with a *"**"* indicate preferred/exceptional strategies.

Energy

1. Projects must achieve the first two credits under Optimizing Energy Performance as defined by Canada Green Building Council's (CaGBC) LEED Canada NC-1. The credits offer two possible compliance paths: one that stipulates that buildings must perform 20% better than ASHRAE 90.1-1999 and one that requires buildings perform 29% better than Model National Energy Code (MNECB). The performance requirements of these two paths are equivalent. Note: the choice of credit path must align with the compliance path selected for the pre-requisite if the project is certifying under the CaGBC's LEED program.
2. Specify energy efficient appliances — all appliances, except for the laundry dryer, supplied by the developer in residential units that are eligible for labelling under the Natural Resources Canada EnergyStar program must be Energystar labelled.
3. Energy efficient lighting to follow ASHRAE 90.1 2001 including user metering, smart controls, and occupancy sensors for public spaces.
4. No natural gas fireplaces are permitted. Ornamental non-combustion fireplaces are permitted if they are not heat-producing. A letter from a professional engineer outlining provisions for ornamental fireplaces is required to be submitted at the time of application for a Building Permit.
5. All projects are required to connect to, and utilize, the SEFC Neighbourhood Energy Utility for space heating and domestic hot water as required by the Energy Utility Systems By-Law (No. 9552).
6. Full best practice building commissioning as outlined in CaGBC LEED™ 1.0 Energy and Atmosphere Prerequisite #1.

Parking

1. Co-op vehicles and spaces will be required under terms and conditions determined by the General Manager of Engineering Services and the Director of Legal Services, in consultation with the Director of Planning.

Other parking, loading, and bicycle space standards for Southeast False Creek have been adopted as part of Section 4, City of Vancouver Parking By-law.

Attached is the URL for easy COV website access to the Parking By-law, Parking and Loading Design Supplement and the Bicycle Parking Design Supplement:

http://www.vancouver.ca/engsvcs/parking/admin/developers.htm

Landscape and Water

1. Dual flush toilets that meet or exceed (use less than) 6/3 litres per flush are required.
2. Low flow faucets and showerheads to meet or exceed (use less than) the Vancouver Building By-law.
3. Specify drought resistant and/or native indigenous planting species to ensure reduced irrigation demands; where ornamental landscapes are chosen for specific applications, specify high efficiency irrigation system (drip irrigation) and/or stormwater reuse.
   ***Pursue zero potable water for site irrigation in conjunction with rain water reuse.*
   ***Landscaped space designed for urban agriculture for building occupants is encouraged.*
4. Rain water not managed through green roofs and on-site infiltration and irrigation and other reuse strategies shall be transmitted to off-site rain water management systems as specified at the time of development, and in a quality, quantity, and rate to be determined by the City Engineer.
   ***Green roofs on 50% of all roof surfaces are encouraged but not required.*

Waste Management

1. Composting for on-site gardens and/or landscaping.
2. Provision for 3 streams of waste collection (on-site infrastructure should be provided for organic pick-up for future implementation if no organic pick-up is available at time of sub-area rezoning).
3. Management of construction and demolition waste, ensuring a minimum of 75 percent landfill diversion through construction process.

PART 2: THE STEPS TOWARDS A LEED™ CERTIFIABLE BUILDING

Submission and verification according to the prescribed City of Vancouver regulatory review process of LEED™ Silver with a minimum target of 36 points is necessary to ensure full compliance with the SEFC baseline green building strategy.

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EXPLANATION OF CHANGES TO THE SEFC GREEN BUILDING STRATEGY

1. Energy

2004 SEFC Green Building Strategy	Updates SEFC Green Building Strategy
	Items in italics with a "**" indicate preferred/exceptional strategies
ENERGY	**ENERGY**
1.0 Minimum energy efficiency to meet ASHRAE 90.1 2001(this pre-requisite will be defined through further consultation with stakeholders).	1. Projects must achieve the first two credits under Optimizing Energy performance as defined by the CAGBC LEED Canada NC project checklist. **(standard req, SEFC, technical reference change)**
1.1 Specify energy efficient appliances - EnergyStar rated appliances and/or gas appliances, except for laundry dryer.	2. Specify energy efficient appliances - All appliances, except for laundry dryer, that are eligible for labelling under Natural Resources Canada EnergyStar program must be Energystar **(standard req, SEFC)**
1.2 Energy efficiency lighting to follow ASHRAE 90.1 2001.	3. Energy efficient lighting to follow ASHRAE 90.1 2001, up to and including Addendum G, including user metering, smart controls and occupancy sensors for public spaces. **(standard req, SEFC))**
1.3 Specify fireplaces listed as a heating appliance with a minimum combustion efficiency to meet or exceed ASHRAE/ IESNA Standard 90.1 - 2001 heating appliance standards. No continuous pilot lights; interrupted power ignition is preferred. Electric fireplaces must be 100 per cent efficiency and offer heat/ no heat modes.	4. No natural gas fireplaces are permitted. Ornamental non-combustion fireplaces are permitted if they are not heat-producing. A letter from a professional engineer outlining provisions for ornamental fireplaces is to be submitted at the time of application for a Building Permit. **(new req., established by SEFC Energy Utility Systems By-law, 2007)**
1.4 Heating of domestic hot water to be done with high efficiency boilers with a minimum efficiency of 87%.	5. All projects are required to connect to, and utilize, the SEFC Neighbourhood Energy Utility for space heating and domestic hot water, as required by the SEFC Energy Utility By-law. **(new req., established by SEFC Energy Utility Systems By-law, 2007)**
	6. Full best practice building commissioning (Energy prerequisite under LEED). **(standard req, SEFC)**

Explanation of updates:

- #1 - A higher energy efficiency requirement than that specified in the 2004 GBS has been required in SEFC rezonings from 2006 -08. The 2004 GBS required minimum energy efficiency to meet ASHRAE 90.1 2001, up to and including Addendum G. The current recommended requirement is for the first two credits under Optimizing Energy performance under the Canada Green Building Council (CaGBC) LEED checklist. In a number of the SEFC rezoning conditions between 2006-08, the energy requirement specified was to meet NRCan Commercial Building Incentive Program (CBIP) – an equivalent standard to what is currently proposed. However, funding was discontinued for the CBIP program in March 2007, so it is no longer being used as a technical reference, rather LEED is;
- #2 and #3 (2008) – effectively the same as the 2004 GBS requirements, but with more specific wording.
- #4 and #5 (2008) - In the years since the GBS was adopted, the SEFC Neighbourhood Energy Utility (NEU) has been developed. In 2007, the Energy Utility Systems By-law was passed requiring that projects connect to and utilize the SEFC NEU for space heating and hot water, superseding the requirement of high efficiency boilers # 1.4 (2004) for heating domestic hot water. The Energy Utility Systems By-law notes that no heating equipment is to be installed in projects, other than that required for projects to connect to and utilize the Neighbourhood Energy Utility. Ornamental fireplaces are permitted if they are not heat producing.

- #6 (2008) – full best practice building commissioning is a pre-requisite under LEED Energy section. All LEED pre-requisites must be met in order to achieve a Silver equivalent rating.

2. Parking

The 2004 GBS contained detailed parking requirements for various categories (i.e. Multiple Dwellings, Cultural/Recreational, Live-Work, Social Housing, etc). These standards have been incorporated into Section 4 of the Vancouver Parking By-law for SEFC, and therefore these sections are deleted from the GBS.

The updated GBS retains reference to coop vehicles and parking spaces, which are required in buildings with more than 49 units. The number of coop vehicles and parking spaces and other conditions will be determined by the General Manager of Engineering and Director of Legal Services in consultation with the Director of Planning at the time of the specific rezonings.

3. Landscape and Water

2004 SEFC Green Building Strategy	**Updates SEFC Green Building Strategy**
	Items in italics with a "**" indicate preferred/exceptional strategies
WATER	**LANDSCAPE AND WATER**
1.12 Dual flush toilets.	1 Dual flush dual toilets than meet or exceed (use less than)
	6/3 liters per flush are required.
	(standard req, SEFC)
1.13 Low flow faucets and showerheads to meet current	2. Low flow fixture requirements to meet Vancouver Building
best practices.	Code. **(standard req)**
1.14 High efficiency irrigation system (drip irrigation),	3. Specify drought resistant and/or native indigenous planting
stormwater reuse for landscape irrigation, or no permanent	species to ensure reduced irrigation demands; where ornamental
irrigation.	are chosen for specific applications, specify high efficiency
	irrigation system (drip irrigation) or stormwater re-use.
	(standard req, SEFC)
	** pursue zero potable water for site irrigation in conjunction
	with rain water reuse. ** landscaped space designed for
	urban agriculture for building occupants is encouraged.
	4. Rain water not managed through green roofs and
	on-site infiltration and irrigation and other resuse strategies
	shall be transmitted to neighbouring off-site rain water
	management systems as specified at the time of
	development and in a quantity to be determined by the
	City Engineer on a site by site basis. **(standard req, SEFC)**
	** Green roofs on 50% of all roof surfaces are encouraged
	but not required.

Explanation of updates:

- #1 (2008) provides additional specifications for performance (e.g. use less than 6/3 litres per flush). This has been a standard rezoning condition since 2006.
- #2 (2008) references the Vancouver Building By-law standards for low-flow showerheads, which will be updated over time.
- #3 (2008) replaces #1.14 (2004) noting that specifying drought resistant planting reduces demand for potable water in the first place. If ornamental planting is used, a high-efficiency irrigation system is required, or stormwater re-use.

- #4 (2008) has added to the GBS, noting that SEFC has a fairly comprehensive site stormwater management system (e.g. a wetland area designed into the park and another bioswale) that developments may be able to tie into.
- It should be noted that green roofs on 50% of roof surfaces are encouraged, but not required. In some SEFC rezonings in 2006, certain conditions referred to the provision of green roofs on 50% of the roof area, among other aspects. However, a report to Council in April 2007 noted that the Homeowner Protection Office and some insurance warranty providers had raised concerns about green roofs, particularly extensive green roof applications on residential buildings (e.g. need to resolve issues relating to green roof standards for installation and maintenance, etc). These issues are being worked through via a HPO initiated task group. The present position of the City is to not require the provision of a green roof on a residential building but to continue to pursue the City objectives of environmental sustainability through alternative proposals should they be necessary.

4. Waste Management

2004 SEFC Green Building Strategy	Updates SEFC Green Building Strategy
WASTE MANAGEMENT	**WASTE MANAGEMENT**
1.15 Composting for on-site gardens and/or landscaping	1. same as 2004.
1.16 3 streams of waste collection (on-site infrastructure should be provided for organic pick-up for future implementation if no organic pick-up is available at the time of development application).	2. 3 streams of waste collection (on-site infrastructure should be provided for organic pick-up for future implementation if no organic pick-up is available at the time of sub-area rezoning). **(standard req. SEFC)**
1.17 Management of construction and demolition waste, ensuring a minimum of 50% landfill diversion through construction process.	3. Management of construction and demolition waste, ensuring a minimum of **75%** landfill diversion through construction process. **(standard req. SEFC)**

Explanation of updates:

- #1.15 (2004) and #1 (2008) are the same.
- #1.16 (2004) and #2 (2008) are the effectively the same, with slight change in wording from time of "development application" to "sub-area rezoning".
- The 2004 GBS required 50% landfill diversion for construction waste; the 2008 GBS requires 75% which has been a standard rezoning condition requirement over the past few years in SEFC rezonings.

Finally, a number of changes in policy preamble wording (non-substantive) further streamline the SEFC GBS.