



CITY OF RICHMOND

***GREEN ROOFS & OTHER OPTIONS INVOLVING  
INDUSTRIAL & OFFICE BUILDINGS OUTSIDE THE CITY  
CENTRE***

**BYLAW NO. 8385**

EFFECTIVE DATE - OCTOBER 15, 2008

**GREEN ROOFS AND OTHER OPTIONS INVOLVING INDUSTRIAL  
AND OFFICE BUILDINGS OUTSIDE THE CITY CENTRE**

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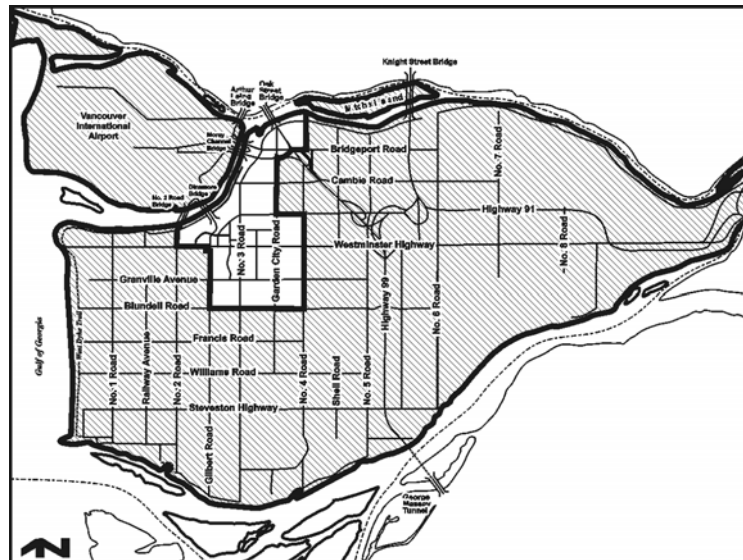


## Green Roofs and Other Options Involving Industrial and Office Buildings Outside the City Centre Bylaw 8385

The Council of the City of Richmond, in open meeting assembled, enacts as follows:

### APPLICATION

1. This bylaw shall apply to every building or building addition:
  - (i) that will contain industrial or office uses in all or part of the building or building addition, as indicated in the building permit application;
  - (ii) where those industrial or office uses will occupy a gross floor area of 2,000 m<sup>2</sup> (21,529 ft<sup>2</sup>) or more, regardless of the number of building permits issued to authorize the construction of the building or building addition; and
  - (iii) within the area shown shaded on the following map.



2. This bylaw does not apply to:
  - (i) internal renovations or alterations to existing buildings;
  - (ii) exterior renovations or alterations to existing buildings;
  - (iii) temporary buildings permitted under the City's Building Regulation Bylaw; and
  - (iv) the existing building where a building addition is involved.

## **IN-STREAM APPLICATIONS**

3. This bylaw does not apply to any building for which a Building Permit application was received prior to January 1, 2009.

## **INTERPRETATION**

4. Definitions in the City's Building Regulation Bylaw shall be used to interpret this bylaw.

5. In this bylaw:

"Gross floor area" means the horizontal area of all or part of every building containing industrial or office uses measured above grade to the outer surface of the exterior walls, and to the midpoint of interior walls separating industrial or office uses from other uses.

"Green roof" means a professionally designed roofing system that allows for the propagation of rooftop vegetation and the retention of storm water while maintaining the integrity of the underlying roof structure and membrane, having a growing medium or soil depth of at least 2.54 cm (1 inch) planted with sedums, grasses or other vegetation that can withstand drought and excess water.

## **RUNOFF CONTROL AND STORM WATER MANAGEMENT OBJECTIVE**

6. Buildings to which this bylaw applies shall have a storm water management system designed, constructed, operated and maintained such that the total annual volume of storm water runoff entering the City's storm sewer or drainage system from the building site is reduced by at 20 percent of the volume that would enter the system by means of conventionally designed and constructed roof drains conducting storm water runoff from a totally impermeable roof of equal area, directly to the storm sewer or drainage system.

## **LANDSCAPING ENHANCEMENT OBJECTIVE**

7. Where, in addition to meeting the runoff control and storm water management objective in section 6, landscaping enhancements are proposed, parcels on which buildings subject to this bylaw are constructed shall be landscaped such that the area of any screening and landscaping buffer required for commercial and industrial buildings by the City's Zoning and Development Bylaw is duplicated by an equal area of landscaping elsewhere on the building site or, with the City's approval, on other land owned by the City.

## **DEEMED COMPLIANCE**

8. Building permit applicants are deemed to have complied with sections 6 and 7 of this bylaw if:
  - i) a green roof covering at least 75 percent of the roof area of the building or building addition to which this bylaw applies is designed, constructed, operated and maintained, or

- ii) a LEED Silver certification or equivalency, including the LEED Storm Water Management Credit, is obtained for the building or building addition; or
  - iii) a combination of building and site features and systems described in sections 12 through 16 of this bylaw or otherwise proposed by the applicant is designed, constructed, operated and maintained such that the objective of section 6 and, if applicable, section 7 are met.
9. Nothing in this bylaw is intended to prevent applicants for Building Permits from complying with sections 6 and 7 by means not specified in this bylaw, or from designing and constructing their buildings so as to achieve other objectives in addition to sections 6 and 7.

## **VERIFICATION OF COMPLIANCE**

10. Every Building Permit application subject to this bylaw must be accompanied by assurance from a coordinating registered professional as to the substantial compliance with sections 6, 7 and 8, and the provision of any information indicated in sections 12 through 16 of this bylaw.
11. The Director, Building Approvals may require additional assurances from other registered professionals or persons who have appropriate training and experience in the application and use of the systems proposed to meet the requirements of this bylaw, as to the matters referred to in section 10.

## **GREEN ROOF REQUIREMENTS**

12. Where a green roof is proposed to meet the requirements of this bylaw, the following shall apply:
- (i) a registered professional must be responsible for the design of the roof, must provide assurance that the roof is recognized by the Roofing Contractors Association of B.C. as being suitable for a green roof and must give a letter of assurance prior to issuance of a final inspection notice in respect of the building that the roof and landscaping have been installed in substantial compliance with the professional design;
  - (ii) a landscape architect registered with the B.C. Society of Landscape Architects must be involved in the design of the green roof, must undertake the necessary field review and must confirm in writing to both the registered professional and the City prior to issuance of a final inspection notice in respect of the building that the green roof has been installed in substantial compliance with the professional design;
  - (iii) the owner of the building must register a covenant on the title of the building site in favour of the City to indicate that the owner shall, in perpetuity or until approved redevelopment, maintain the green roof, planting media and plant material in accordance with generally accepted maintenance practices, replacing each as necessary to ensure that the roof performs as designed; and
  - (iv) the City may from time to time, but not more often than once per calendar year, require the owner to provide evidence that the green roof has been inspected by a registered professional and in the registered professional's opinion is being

properly maintained so as to perform its storm water management and building protection functions.

## **LEED REQUIREMENTS**

13. Where the owner proposes to build using the LEED rating system and credits in order to meet the requirements of this bylaw, the following shall apply:
- (i) the LEED Green Building Rating System established by the Canada Green Building Council, as revised from time to time, shall be used; and
  - (ii) a registered professional, accredited in LEED, must be involved in the professional design of the building, and must provide assurance that the project design complies with the LEED requirements and qualifies for the LEED Storm Water Management Credit, and the undertaking of the necessary field review, and must advise the City in writing either when the building has been certified by the Canada Green Building Council or prior to issuance of a final inspection notice in respect, that LEED Silver rating or better has been met by way of equivalency without formal certification.

## **OTHER RUNOFF REQUIREMENTS**

14. Where roof or ground runoff is proposed to be reduced in order to meet the requirements of this bylaw by means other than by the provision of a green roof or using the LEED rating system and credits, the following shall apply:
- (i) a registered professional must be responsible for the design of the storm water management works for the building site, must provide assurance that the design will reduce storm water runoff as required by this bylaw, must undertake the necessary field review, and must provide assurance prior to issuance of a final inspection notice in respect of the building that the storm water runoff from the building site as constructed will be in substantial compliance with the professional design;
  - (ii) if landscaping features such as permeable pavers or asphalt are proposed, a landscape architect registered with the B.C. Society of Landscape Architects must prepare a plan of the landscaping features, must undertake the necessary field review, and must confirm in writing to both the registered professional and City prior to occupancy of the building that the landscaping features have been installed in substantial compliance with the approved landscaping plan and do not involve the use of invasive species;
  - (iii) any permeable pavement system must only be located in the parking areas and manoeuvring aisles, and must not be located in the loading bays or drive aisles used by truck traffic and must be capable of bearing the weight of a fire truck specified by the City if the parking area is used for fire fighting access to any building;
  - (iv) any bioswale must be located on the parcel on which the building or addition is to be constructed, must not interfere with the construction, operation or maintenance of works constructed pursuant to the City's Subdivision Bylaw, and must not interfere with or overlap any screening and landscaping area required by the City's Zoning and Development Bylaw;

- (v) if a bioswale is to be landscaped, a landscape architect registered with the B.C. Society of Landscape Architects must prepare a plan of the landscaping features in consultation with a registered professional biologist, the landscaping shall be comprised of native plant species, and the landscape architect and registered professional biologist must undertake the necessary field review and must confirm in writing to both the registered professional and the City prior to issuance of a final inspection notice in respect that the landscaping has been installed in substantial compliance with the approved landscaping plan and does not involve the use of invasive species; and
- (vi) the owner of the building must register a covenant on the title of the building site in favour of the City to indicate that the owner shall maintain any storm water management works, landscaping features and structural elements supporting such features, permeable pavers and asphalt, and bioswale in accordance with generally accepted building, landscaping and engineering maintenance practices so that the design volume of storm water runoff from the site will, in perpetuity or until approved redevelopment, not be exceeded.

## **ROOFTOP PARKING REQUIREMENTS**

15. Where rooftop parking is proposed to meet the requirements of this bylaw, the following shall apply:
- (i) an intensive, pervious landscaped area equivalent in area to the area that would otherwise have been used for parking spaces, parking access and manoeuvring aisles must be provided at grade on the building site or, with the City's approval, on other land owned by the City;
  - (ii) a landscape architect registered with the B.C. Society of Landscape Architects must prepare a landscaping plan of the landscaped area;
  - (iii) a landscape architect registered with the B.C. Society of Landscape Architects must undertake the necessary field review of the landscaped area if it is located on the building site and must confirm in writing to both the registered professional and the City prior to issuance of a final inspection notice in respect of the building that the landscaping has been installed in substantial compliance with the approved landscaping plan and does not involve the use of invasive species;
  - (iv) a registered professional must be responsible for the design of the building and the necessary field review of the rooftop parking and must provide assurance prior to issuance of a final inspection notice in respect of the building that the rooftop parking and equivalent area of landscaping have been installed in substantial compliance with the professional design;
  - (v) the professional design drawings must indicate that the proposed number of off-street parking spaces and all access and manoeuvring aisles comply with the requirements of the City's Zoning and Development Bylaw; and
  - (vi) if the equivalent landscaped area is located on the building site, the owner must register a covenant on the title of the building site in favour of the City to indicate that the owner shall maintain the landscaping in accordance with generally accepted landscaping maintenance practices, such that the design increase in the amount of landscaping above and beyond the requirements of the City's Zoning

and Development Bylaw will be attained in perpetuity or until approved redevelopment.

## **ENHANCED LANDSCAPING REQUIREMENTS**

16. Where enhanced landscaping is proposed to meet the requirements of this bylaw, the following shall apply:
- (i) a landscape architect registered with the B.C. Society of Landscape Architects must prepare a plan of the enhanced landscaping and the approved landscaping plan must not include the use of invasive species;
  - (ii) if the enhanced landscaping is to be used for local food production and is located on the building site, the owner must provide evidence in writing of a ten-year commitment by the owner or another party having an arrangement with the owner to use the area for urban agriculture, garden plots or other food production purposes;
  - (iii) if the enhanced landscaping is to be used for outdoor amenity space and is located on the building site, the owner must provide evidence in writing that the area will be used for a minimum ten years as an outdoor amenity space for persons employed in industrial or office space in the building;
  - (iv) if the enhanced landscaping is to be used to protect, enlarge or improve an environmentally sensitive area (ESA) and is located on the building site, the landscaping shall be comprised of native species and the area must be protected as such in perpetuity by a legal covenant registered on the title of the building site in favour of the City;
  - (v) with the City's approval, the area to be used for a local food production or outdoor amenity space or an environmentally sensitive area may be located on other land owned by the City;
  - (vi) if vertical landscaping is proposed, it must be planted on the walls of the building that are visible from any highway, public trail or natural watercourse such that portions of such walls equivalent in total length to at least 50% of the overall length of the walls are planted;
  - (vii) a landscape architect registered with the B.C. Society of Landscape Architects must undertake the necessary field review of the enhanced landscaping if it is located on the building site and must confirm in writing to both the registered professional and the City prior to issuance of a final inspection notice in respect of the building that the landscaping has been installed in substantial compliance with the approved landscaping plan and does not involve the use of invasive species;
  - (viii) if additional trees are proposed to be planted in the parking area of the site, a landscape architect registered with the B.C. Society of Landscape Architects must confirm in writing to both the registered professional and the City at the time the application for Building Permit is made and prior to issuance of a final inspection notice in respect of the building after the trees have been planted and the planting has been inspected, that the trees will provide 50% canopy cover of the parking area within 10 years of planting if maintained in accordance with generally accepted landscape maintenance practices as supplemented by any particular recommendations of the landscape architect;



- (ix) a registered professional must be responsible for the preparation of a plan of the enhanced landscaping and the field review of the enhanced landscaping, and must provide assurance prior to issuance of a final inspection notice in respect of the building that the landscaping has been installed in substantial compliance with the professional design; and
- (x) if the enhanced landscaping is located on the building site, the owner of the parcel must register a covenant on the title of the building site in favour of the City to indicate that the owner shall ensure that the enhanced landscaping is maintained in accordance with generally accepted landscaping maintenance practices and the recommendations of the landscape architect, such that the design increase in the amount of landscaping above and beyond the requirements of the City’s Zoning and Development Bylaw will be attained in perpetuity or until approved redevelopment.

**OFFENCES AND PENALTIES**

17. Any person who:
- (i) violates or who causes or allows any of the provisions of this bylaw to be violated; or
  - (ii) fails to comply with any of the provisions of this bylaw, or any other bylaw or applicable statute;
  - (iii) neglects or refrains from doing anything required under the provisions of this bylaw; or
  - (iv) makes any false or misleading statement in connection with this bylaw,
- is deemed to have committed an infraction of, or an offence against, this bylaw, and is liable on summary conviction, to the penalties provided for in the Offence Act, in addition to the costs of the prosecution, and each day that such violation is caused or allowed to continue constitutes a separate offence.

**BYLAW CITATION**

18. This Bylaw may be cited as **“Green Roofs and Other Options Involving Industrial and Office Buildings Outside the City Centre Bylaw 8385”**.

FIRST READING

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SECOND READING

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THIRD READING

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ADOPTED

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\_\_\_\_\_  
MAYOR

\_\_\_\_\_  
CORPORATE OFFICER

CITY OF RICHMOND
APPROVED by Director
APPROVED by Solicitor