

NO:R188

COUNCIL DATE: **July 25, 2016**

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## REGULAR COUNCIL

**TO: Mayor & Council** **DATE: July 21, 2016**

**FROM: General Manager, Planning and Development** **FILE: 3900-20-18020**  
**General Manager, Engineering** **5289-50 (BCS)**  
**General Manager, Parks, Recreation and Culture** **0410-20 (MOE/RAR)**

**SUBJECT: Surrey's Ecosystem Protection Measures**  
**(Sensitive Ecosystem Development Permit Area and**  
**Zoning By-law Streamside Protection Setbacks)**

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## RECOMMENDATION

The Engineering, Planning and Development, and Parks, Recreation and Culture Departments recommend that Council:

1. Receive this report as information;
2. Amend Surrey Official Community Plan Bylaw, 2013, No. 18020, as documented in Appendix "I" of this report;
3. Amend Surrey Zoning By-law, 1993, No. 12000, as documented in Appendix "II" of this report;
4. Authorize the City Clerk to bring forward the necessary amending bylaws for the required Readings and to set a date for the related Public Hearing; and
5. Authorize staff to bring forward an amendment to the Surrey Tree Protection By-law, 2006, No. 16100 and Soil Conservation and Protection By-law, 2007, No. 16389 by replacing the current Environmentally Sensitive Areas (ESA) map and replacing it with the ecosystem protection map from the Surrey Official Community Plan Bylaw, 2013, No. 18020.

## PURPOSE

The purpose of this report is to obtain Council approval of Surrey's proposed Ecosystem Protection Measures including the creation of a new Sensitive Ecosystem Development Permit Area and Guidelines and new setbacks for Streamside Protection regulated through the Zoning By-law.

## BACKGROUND

Surrey's Official Community Plan (OCP) was adopted in October 2014 with a placeholder to accommodate new Development Permit areas and guidelines for the protection of the natural environment, including riparian areas.

In July 2014, Council endorsed the Biodiversity Conservation Strategy and the implementation measures it recommended to protect Surrey's streamside areas, natural habitats and sensitive ecosystems. Both of these documents identify the use of a Development Permit Area (DPA) as an effective means to protecting Surrey's natural environmental assets. Amending the OCP to create a new Sensitive Ecosystem DPA and amending the Zoning Bylaw to correspond with the new DPA by including setbacks for Streamside Protection, is the basis of this report.

Council has previously indicated its support for ecosystem protection in several ways including by:

- a) adopting the recommendations of Corporate Report No. R252; 2013 "New Official Community Plan and Related Regional Context Statement";
- b) endorsing the recommendations of Corporate Report No. R141; 2014 "City of Surrey Biodiversity Conservation Strategy";
- c) endorsing the recommendations of Corporate Report No. R168, 2014 "Development of a Surrey Riparian Area Bylaw";
- d) adopting the recommendations of Corporate Report No. R049; 2015 "Proposed Amendments to Surrey Official Community Plan Bylaw, 2013, No. 18020 (Phase 1 Amendments);
- e) adopting the recommendations of Corporate Report No. R022; 2016 "Amendments to Existing Bylaws for Consistency with the Official Community Plan"; and
- f) endorsing the recommendation of Corporate Report No. R112; 2016 "Sustainability Charter 2.0 for a Thriving, Green, Inclusive City".

Adopting a new Sensitive Ecosystem Development Permit Area and adding Streamside Protection measures to the Zoning By-law, collectively known as Surrey's Ecosystem Protection Measures, is supported by provisions in the *Local Government Act*, *Community Charter*, *Riparian Area Regulations*, *Fisheries Act* and *Federal Species at Risk Act* and is consistent with the approaches taken by municipalities throughout the province to regulate environmental protection.

## **DISCUSSION**

At the time of adoption of Surrey's OCP, Council was advised that additional amendments would be forthcoming to complete minor text and map adjustments, to add new sign guidelines to the Form and Character Development Permit Area in order to simplify the review and approval process, and to add a new Development Permit Area for environmental protection. Amendments to the OCP are being introduced as part of a three-phase process that includes:

Phase 1 – making minor adjustments throughout the document and clarifying policy direction in the Implementation Section;

Phase 2 – adding a new Development Permit Area and Guidelines for Sensitive Ecosystems; and

Phase 3 – making additional minor adjustments throughout the document and adding new Form and Character Guidelines for signs and energy conservation.

Phase 1 amendments were completed in April 2015 when Council adopted the recommendations of Corporate Report No. Ro49; 2015 “Proposed Amendments to Surrey Official Community Plan Bylaw, 2013, No. 18020 (Phase 1 Amendments), proposed Phase 2 amendments are included in this report and Phase 3 amendments are scheduled for introduction in the Fall of 2016.

The following sections describe amendments that are being recommended to the OCP and Zoning Bylaw:

### **Official Community Plan – Phase 2 Amendments**

#### **A. Implementation**

The Development Permit Implementation Section for Sensitive Ecosystems is proposed as a new section for the Official Community Plan (see Attachment “A”). Generally, the information in this section is a requirement of the *Local Government Act* and details the following:

Application: what types of activity requires a Development Permit application (e.g. subdivision, building construction or land clearing);

Area: identifies the area that makes up the Development Permit Area (see Attachments “B” and “C”) (e.g. properties that fall within 50 m of a Green Infrastructure Network (GIN) Hub or a Class A stream);

Implementation: identifies implementation measures (e.g. circumstances under which a Development Permit may be issued by a Delegated Authority);

Justification: details the justification for creating a Sensitive Ecosystem Development Permit Area (e.g. to protect Surrey’s sensitive ecosystem areas including rivers, streams, lakes, ponds, forests and shrub-lands etc.);

Objectives: establishes objectives that are intended to be met by using a Development Permit to guide development (e.g. provide for drainage maintenance access and beaver habitat accommodation, etc.); and

Exemptions: provides scenarios that would exempt development from requiring a Development Permit (e.g. interior renovations, permitted farm activity or regular and general yard maintenance activity).

The Justification Section is the key factor for and reasoning behind establishing the Development Permit Area, which is intended to be used as:

1. an implementation method for the Biodiversity Conservation Strategy to ensure that the protection of Surrey’s Green Infrastructure Network (hubs, sites and corridors) is protected concurrently with development; and

2. a means to protect riparian and streamside habitat while also satisfying the requirements of local government to ensure development complies with the Provincial Riparian Areas Regulations. Retaining large, contiguous ecosystems and those spaces within and adjacent to riparian and streamside areas helps to retain habitat diversity and quality of life and provides for an overall healthy community for Surrey residents.

From an Objectives perspective, using this Development Permit Area also allows for Surrey to:

- ensure appropriate drainage access for streamside maintenance is secured;
- realize the potential to install additional public trails in natural areas;
- ensure there are adequate lands to support the City's existing biodiversity. This includes providing lands to support beaver habitat modification thereby reducing negative consequences to adjacent development and to providing lands to ensure that trees thrive thereby reducing the risk of hazard trees on adjacent development; and
- reduce the risk associated with slope failures by ensuring development occurs far enough away so as to not compromise bank stabilization.

## **B. Development Permit Guidelines**

Development Permit Areas in the Official Community Plan are used to regulate development and provide guidance and direction on how best to manage the challenges of development in all areas of the City. At the time of initial adoption in October 2014, the OCP had a placeholder to accommodate new Sensitive Ecosystem Development Permit Guidelines intended to be used as the implementation method for the Biodiversity Conservation Strategy and the method for protecting riparian areas.

### ***Sensitive Ecosystem Development Permit Guidelines***

The Sensitive Ecosystem Development Permit Guidelines are proposed as a new section of the Official Community Plan (see Attachment "D"). The Guidelines in this section work in conjunction with the information provided under the Implementation Section. Sensitive Ecosystems are comprised of two distinct areas: Green Infrastructure (identified in the Biodiversity Conservation Strategy as the Green Infrastructure Network comprised of hubs, sites and corridors - see Attachment "B") and Streamside (areas adjacent to and setback from a stream - see Attachment "C").

The Sensitive Ecosystem Guidelines are organized into several sections that include: Definitions, Development Restrictions and the actual Development Guidelines that are intended to be reviewed and considered in conjunction with the development to determine the appropriateness of what is being proposed, and to determine how the development may be adjusted to ensure consistency with the Justification and Objectives identified in the Implementation Section.

The Guidelines also include submission requirements which detail items must be submitted with all development applications as well as those additional items which must be submitted only when a reduction to the Streamside Setback Area (see Attachment "D") is being proposed.

For all development applications within the Environmental Development Permit Area, an Ecosystem Development Plan is required which shall include the following items:

- a letter detailing the professional ability of all Qualified Environmental Professionals who will be working on the project;
- the sensitive ecosystem area (either streamside, green infrastructure or both) intended to be protected as part of the development and specific details as to how that protection area will be safeguarded in perpetuity;
- the existing pre-development conditions; and
- the specific details about the proposed development.

For those applications requesting a reduction to the Streamside Setback Area, a Development Variance Permit (DVP) application is also required. In support of that DVP application, an Impact Mitigation Plan must also be submitted to ensure the proposed setback reduction does not cause significant negative impacts to sensitive ecosystems and habitat areas and to adjacent development.

Determining the required protection area for Streamside Areas (setbacks) is done by using the proposed Streamside Protection section of the Zoning Bylaw (detailed below and shown as Attachment “E”), whereas determining the required protection area for Green Infrastructure Areas is done by referring to the Biodiversity Conservation Strategy and the identified Biodiversity Management Areas and the Green Infrastructure Network (hubs, sites and corridors).

### **Zoning By-law**

Surrey’s proposed protection for riparian sensitive ecosystems involves the coordinated use of both Development Permit Areas and Guidelines within the Official Community Plan and setback regulations within the Zoning Bylaw (see Attachment “E”). As noted above, the Official Community Plan is used to identify the specific types of ecosystems that are intended to be protected including Streamside (Class A, A/O or B streams) and the Zoning Bylaw is proposed to be used to identify the specific protection areas that are required to be established for Streamside Setback Areas.

Zoning Bylaws are regulatory tools that provide a consistent and transparent means to determine where and how development should be located on a site. The proposed Zoning Streamside Protection section is intended to establish a “no disturbance area” adjacent to streams in Surrey to not only protect sensitive ecosystems but to also provide developers a means to determine where development cannot take place on their property prior to submitting development applications, thereby saving significant time and money. This “no disturbance area” is determined by cross referencing the type of stream that exists (e.g. ditch, channelized, natural) to the classification of that stream (e.g. A, A/O or B). This “no disturbance” area is not a building setback and for the most part, the actual building setback will be determined within the actual Zone under which the property falls (e.g. RF, IB-1, etc.).

The proposed Zoning Streamside Protection section also establishes the ability to flex the “no disturbance area” under certain circumstances and reduced setback requirements for existing

single and two family residential lots, so as to not make the new regulation too onerous or difficult to meet.

The proposed Zoning Streamside Protection setbacks are consistent with the requirements to meet the Provincial Riparian Area Regulations and are sufficient to meet the Objectives of the Sensitive Ecosystem Development Permit Area, specifically the ability for the City to maintain streamside areas, provide ample room for beaver activity and tree falls, and ensure slopes adjacent to streams are not compromised during or after development takes place. The setbacks established in the Zoning Bylaw are intended to be used in conjunction with the Sensitive Ecosystem Development Permit Area and Guidelines.

For developments that meet the Zoning Setbacks, a Development Permit will still be required to ensure the Guidelines are being addressed. Where a development is proposing to reduce the setbacks established in the Zoning Bylaw, a Development Variance Permit will be required to be submitted and the submission requirements of the Development Permit will expand to include the submission of an Impact Mitigation Plan. This is intended to ensure that the proposed setback reduction does not create negative impacts on the sensitive ecosystems that are intended to be protected, cause flooding or other negative impacts on the property owners located next to the stream, or increase City of Surrey maintenance costs as a result of the reduced setback.

The proposed new Section of the Zoning Bylaw for Streamside Protection references new concepts and ideas that require further clarification. As a result, the Definitions Section of the Zoning Bylaw is proposed to be amended to include new definitions for the following terms: *active floodplain, flood plain plant species, high water mark, streamside setback area, stream and top of bank*. Most of the content for these definitions has been taken directly from the Provincial Riparian Area Regulations and are therefore consistent across the Province.

### **Additional Bylaws**

To support implementation of the existing Steep Slope Development Permit Area and the proposed Sensitive Ecosystem Development Permit Area, the current Environmentally Sensitive Areas (ESA) mapping is proposed to be replaced by the existing Steep Slope Development Permit Area Map and the proposed Sensitive Ecosystem Development Permit Area Maps in both the Tree Protection By-law and Soil Conservation and Protection By-law.

Proposed amendments to the Tree Protection By-law will also consist of adjusting the By-law to include a new infraction that allows for penalties to be calculated based on the total area of vegetation disturbance within these Development Permit Areas. These adjustments are intended to recognize the liabilities associated with development adjacent to or on steep slopes or within sensitive ecosystem areas, and will be brought forward to Council in the Fall of 2016.

### **SUSTAINABILITY CONSIDERATIONS**

The proposed new Sensitive Ecosystem Development Permit Area and Zoning Streamside Setback provisions are a key component to supporting the policies within the Official Community Plan, the implementation objectives of the Biodiversity Conservation Strategy and the objectives of Surrey's newest Sustainability Charter. The Sustainability Charter 2.0 was recently endorsed by Council and highlights several Strategic Directions that speak specifically to the ecosystem protection measures proposed in this report:

**Built Environment and Neighbourhoods:**

SD3: Integrate natural areas, ecosystems and green areas in all neighbourhoods.

**Public Safety:**

SD6: Promote development types and locations that will be minimally impacted by natural disasters.

**Ecosystems:**

SD2: Manage biodiversity proactively to mitigate the impacts of climate change.

SD4: Develop, apply, monitor and enforce standards and strategies to minimize the impacts of development on the natural environment, ecosystems and urban forest.

SD6: Develop and encourage stronger policies and strategies that support clean water, soil and air.

SD7: Ensure water quality and base water levels are maintained in Surrey's river systems.

SD9: Continue to acquire Surrey's Green Infrastructure Network (GIN) as determined in the Biodiversity Conservation Strategy, including through a financial strategy.

SD10: Improve and reinforce public, staff, developer, building and landowner understanding of the importance of ecosystem services, natural capital and urban forest.

SD11: Promote the valuation of ecosystem services and natural capital through appropriate tools.

**Infrastructure:**

SD3: Develop and manage the Green Infrastructure Network to continue to deliver ecosystem services.

**CONCLUSION**

Based on the above discussion, it is recommended that Council:

- a) approve amendments to Surrey Official Community Plan Bylaw, 2013, No. 18020, as documented in Appendix "I" of this report;
- b) approve amendments to Surrey Zoning By-law, 1993, No. 12000, as documents in Appendix "II" of this report;
- c) authorize the City Clerk to bring forward the necessary amending bylaws for the required Readings and to set a date for the related Public Hearing; and

- d) direct staff to bring forward an amendment to the Surrey Tree Protection By-law, 2006, No. 16100, Soil Conservation and Protection By-law, 2007, No. 16389 in the Fall of 2016.

*Original signed by*  
Jean Lamontagne  
General Manager,  
Planning and Development

*Original signed by*  
Fraser Smith, P.Eng., MBA  
General Manager,  
Engineering

*Original signed by*  
Laurie Cavan  
General Manager,  
Parks, Recreation and Culture

CS/SG/ss

Attachments:

Appendix "I" – Proposed Amendments to Surrey Official Community Plan Bylaw, 2013, No. 18020  
Appendix "II" – Proposed Amendments to Surrey Zoning By-law, 1993, No. 12000

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**Surrey Official Community Plan Bylaw, 2013, No. 18020**

The following proposed amendments to PlanSurrey 2013: Official Community Plan, as adopted by Council on October 20, 2014, are presented and highlighted in the order the sections appear in the document:

**Implementation**

1. Page 283, II (d). Implementation Instruments, Development Permits, Development Permit Areas, by deleting the words "Environment and Ecosystems" and replacing them with "Sensitive Ecosystems".
2. Pages 291 – 293, II (d). Implementation Instruments, Development Permits, by replacing the content under DP3: Sensitive Ecosystems with that shown as Attachment "A".
3. Page 294, II (d). Implementation Instruments, Development Permits, DP3: Sensitive Ecosystems, by adding a new "Figure 67: Green Infrastructure Development Permit Area" shown as Attachment "B".
4. Page 295, II (d). Implementation Instruments, Development Permits, DP3: Sensitive Ecosystems, by adding a new "Figure 68: Streamside Development Permit Area" shown as Attachment "C".

**Implementation: Development Permit Areas and Guidelines (Sensitive Ecosystems)**

5. Pages 367 – 376, DP3. Development Permit Guidelines: Sensitive Ecosystems, by deleting the placeholder pages and replacing them with a new DP3. Development Permit Guidelines: Sensitive Ecosystems, shown as Attachment "D".

## DEVELOPMENT PERMITS (cont.)

### DP3: Sensitive Ecosystems

#### APPLICATION

*Local Government Act* Section 488, Category (a):

#### **Protection of the Natural Environment, its Ecosystems and Biological Diversity**

A Development Permit will be required prior to development activities for any of the following scenarios:

- ⇒ Subdivision of land
- ⇒ Construction, addition or alteration of a building or structure
- ⇒ Construction of roads and trails
- ⇒ Disturbance of soils, land alteration or land clearing
- ⇒ Installing non-structural surfaces with semi-pervious or impervious materials

#### AREA

All parcels of property where any portion of the property falls within 50 m of the Green Infrastructure Area, as generally shown in Figure 67 along with all parcels of property where any portion of the property falls within 50 m of the top of bank of either one or both sides of a Class A, A/O or B stream containing fish habitat, as generally shown in Figure 68.

Should a stream not illustrated in Figure 68 be identified, it is the responsibility of the applicant to contact the City of Surrey to determine whether or not the area in question falls within this Development Permit Area.

#### IMPLEMENTATION

Unless otherwise indicated, and in accordance with the Surrey Development Permit Procedures and Delegation Bylaw, as amended, authority to issue a Sensitive Ecosystem Development Permit is delegated to the Planning and Development Department except where the Development Permit application is accompanied by another application requiring City Council approval. Where the content of a Development Permit cannot be agreed upon between the Planning and Development Department and an applicant, authority to issue a Development Permit remains with City Council.

# DEVELOPMENT PERMITS (cont.)

## DP3: Sensitive Ecosystems

### JUSTIFICATION

Lands of significant ecological value, including riparian areas, fall within Surrey's boundaries. The use of a Development Permit Area for these areas are justified as follows:

- a) Green Infrastructure Areas: Surrey's *Ecosystem Management Study* and *Biodiversity Conversation Strategy* (BCS) identify Surrey's sensitive ecosystem areas. These areas provide natural environment and ecosystem protection as well as biological diversity. The hubs, sites and corridors identified in the BCS provide a contiguous area of ecological importance because they function as habitat and movement systems for wildlife and other natural habitat preservation; offer increased biodiversity in urban areas; provide natural water storage and drainage; and act as natural purification systems that work to reduce erosion and sedimentation. The purpose of the Sensitive Ecosystem Development Permit Guidelines for Green Infrastructure is to ensure that the protection of these high quality plant communities and wildlife habitat areas occurs concurrently with development. Retaining large, contiguous sensitive ecosystem areas helps to retain habitat diversity and quality of life and provides for an overall healthy community for Surrey residents.
  
- b) Streamside Areas: Rivers, streams, lakes and ponds provide fish habitat and aquatic habitat for wildlife. Streamside areas, where in a natural state, have dense and structurally-complex vegetation that:
  - have high biodiversity and support a large number of vegetation and wildlife species;
  - contribute to the ecological health of the adjacent stream and its fish habitat;
  - prevent the loss of riparian land due to bank instability and soil erosion;
  - provide natural habitat;
  - provide natural corridor links between ecosystem hubs and sites throughout Surrey and neighbouring communities.

The purpose of establishing a Sensitive Ecosystem Development Permit Area for Streamside Areas is to:

- support development while ensuring these areas remain in a largely natural and undisturbed state;
- satisfy requirements of local government to ensure development compliance with the Riparian Areas Regulation, B.C. Reg. 376/200; and
- Maintain the safe conveyance of stormwater following the City of Surrey's Natural Drainage Policy.

# DEVELOPMENT PERMITS (cont.)

## DP3: Sensitive Ecosystems

### OBJECTIVES

The City of Surrey's objectives for establishing a Sensitive Ecosystem Development Permit Area for Green Infrastructure and Streamside Areas are to:

a) Green Infrastructure Areas

- Maintain and enhance ecosystems and critical habitat for at-risk species and generate opportunities that support and enhance biological diversity;
- Integrate ecological systems and processes into urban areas and assess conservation values and enhancement priorities equally with land development, growth management and infrastructure planning; and
- Identify and minimize the disturbance of development on the Green Infrastructure Network, as defined in Surrey's *Biodiversity Conservation Strategy*.

B) Streamside Areas

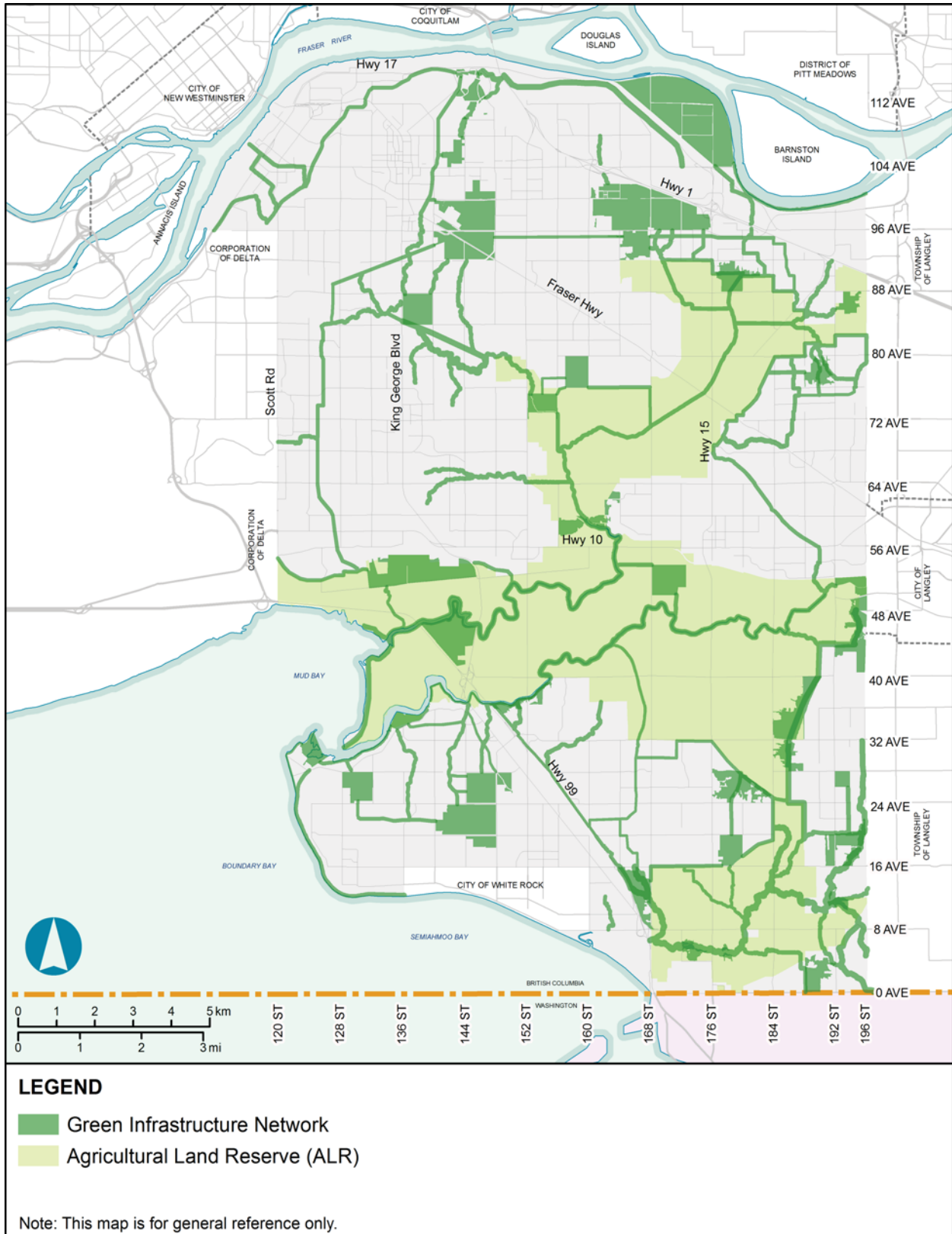
- Conserve, protect and enhance aquatic areas and associated riparian habitat;
- Encourage ecosystem processes and biodiversity and ensure development activity does not encroach upon or alter riparian and aquatic habitats; and
- Provide for: drainage maintenance access; potential public trails; beaver habitat accommodation; tree health; natural stream dynamics; and slope stability risk minimization.

### EXEMPTIONS

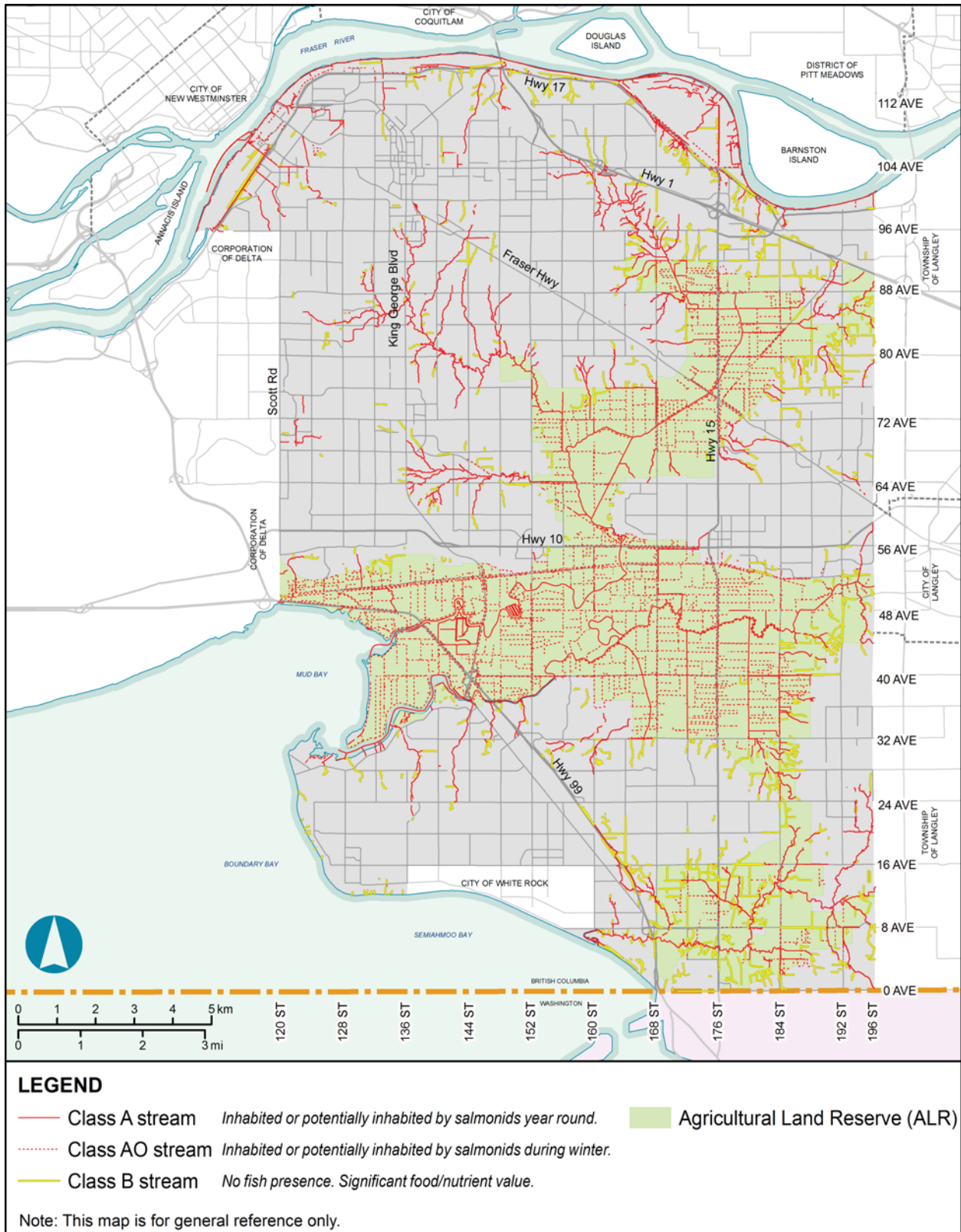
The following scenarios shall NOT require a Development Permit:

- i. Emergency actions required to prevent, control or reduce an immediate threat to human life and safety, the natural environment and/or property, as authorized by the General Manager, Engineering Department, or their designate.
- ii. Interior renovations within an existing building footprint not resulting in any change to the external structure of a building or causing any disturbance to a site.
- iii. Ecological restoration and enhancement projects authorized by the General Manager, Engineering Department or of the Parks, Recreation and Culture Department, or their designate.
- iv. Construction, maintenance or operation of municipal or public utility works and services.
- v. Regular and general yard maintenance activities within an existing landscaped area, such as mowing laws, pruning trees and shrubs (in accordance with Surrey Tree Protection Bylaw, as amended), planting vegetation and minor soil disturbances that do not alter the general grade of the land or existing approved landscaped buffers.
- vi. Permitted farm activity within the Agricultural Land Reserve (ALR).
- vii. Where there is an existing agreement with the Federal or Provincial governments and the proposed activities are consistent with those agreements.
- viii. Where information is provided, to the satisfaction of the General Manager, Planning and Development Department, that illustrates that portions of a property falling within the Sensitive Ecosystem Development Permit Area do not impact its objectives.

**Figure 67: Green Infrastructure Development Permit Area**



**Figure 68: Streamside Development Permit Area**



# DP3

## DEVELOPMENT PERMIT GUIDELINES: SENSITIVE ECOSYSTEMS

The Sensitive Ecosystems Development Permit Guidelines are intended to be used to protect two distinct classifications of the natural environment: Streamside Areas and Green Infrastructure Areas.

**Streamside Areas:** represent the area adjacent to and setback from a stream that links aquatic and terrestrial ecosystems. These areas also include riparian area vegetation and the adjacent upland vegetation that exerts an influence on the stream.

**Green Infrastructure Areas:** are those areas identified in Surrey’s *Biodiversity Conservation Strategy* as both the Biodiversity Management Areas and the Green Infrastructure Network .

In order to provide further clarification of the guidelines within this section, pictures or graphic images are provided; and where a particular guideline is graphically illustrated, the notation “*illustr*” appears.

Where a property falls within additional Secondary Plan Areas, policies and development requirements identified in those documents shall be taken into consideration in conjunction with the Guidelines listed here.



# DP3 Sensitive Ecosystem Guidelines User Guide:

The following User Guide provides the main components required for each Sensitive Ecosystem Development Permit application:

## 1. REVIEW and CONSIDER

- A. Definitions for Further Clarification
- B. Development Restrictions
- C. Development Guidelines

## 2. SUBMIT COMPLETE APPLICATION

(Exact submission requirements to be confirmed by Staff)

### D. Submit an Ecosystem Development Plan (applies to either a Green Infrastructure Area or Streamside Area)

- i) Provide Qualifications of all Professionals
- ii) Identify Protection Areas:
  - Streamside
  - Green Infrastructure
- iii) Determine On-going Safeguarding of Protection Areas
- iv) Detail Existing, Pre-Development Site Conditions
- v) Detail the Proposed Development

### E. Submit an Impact Mitigation Plan (if required) (Applies to Streamside Areas only)

Note: Development Permit Area boundaries, objectives and exemptions are provided under Section II (d): Implementation Instruments: Development Permit Areas of this Official Community Plan.



# DP3 SENSITIVE ECOSYSTEMS

## A. Definitions

For development in the Sensitive Ecosystem Development Permit Area, **REVIEW** and **CONSIDER** the following Definitions as follows:

Streamside	Green Infrastructure
<b>Ecosystem Development Plan:</b> A compilation of detailed reports as prepared by Qualified Environmental Professionals (QEP) which evaluates the appropriateness of a development.	
n/a	<b>Green Infrastructure Areas:</b> Existing or potential areas comprised of environmentally sensitive and/or unique natural areas that are consistent with the Biodiversity Management Areas and Green Infrastructure Network and corresponding conditions and recommendations required for management as identified in Surrey's <i>Biodiversity Conservation Strategy</i> . (illustr.)
<b>Impact Mitigation Plan:</b> A compilation of detailed reports as prepared by Qualified Environmental Professionals (QEP) used in conjunction with a Development Variance Permit Application in determining the appropriateness of reducing the Streamside Protection Area as defined in Section 7a of the Zoning By-law, as amended.	n/a
<b>Sensitive Ecosystem Area:</b> Comprised of riparian or green infrastructure areas that are environmentally sensitive or unique natural areas such as streams, watercourses, cliffs, escarpments, forests, geological formations, wildlife habitat and wetlands.	
<b>Species-At-Risk:</b> Schedule 1, Federally-protected <i>Species-At-Risk Act</i> or Provincial Red- or Blue-Listed plant or animal species and their critical habitats and any species or habitat features identified as requiring year-round protection as identified in the <i>Provincial Wildlife Act</i> .	
<b>Stream:</b> Any of the following that provides fish habitat: (a) a watercourse, whether it usually contains water or not; (b) a pond, lake, river, creek, brook or a natural or channelized stream; (c) a ditch, spring or wetland, that is connected by surface flow to any item referred to in a) or b) above; or (d) a channelized, connected wetland, constructed channel or ditch, lake, swamp, gulch, ravine or natural stream.	
<b>Streamside Areas:</b> Existing or potential areas comprised of streambeds, water, trees, and grasses that border streams, lakes and watersheds and that link water to land and directly influence or provide fish habitat. (illustr.)	n/a

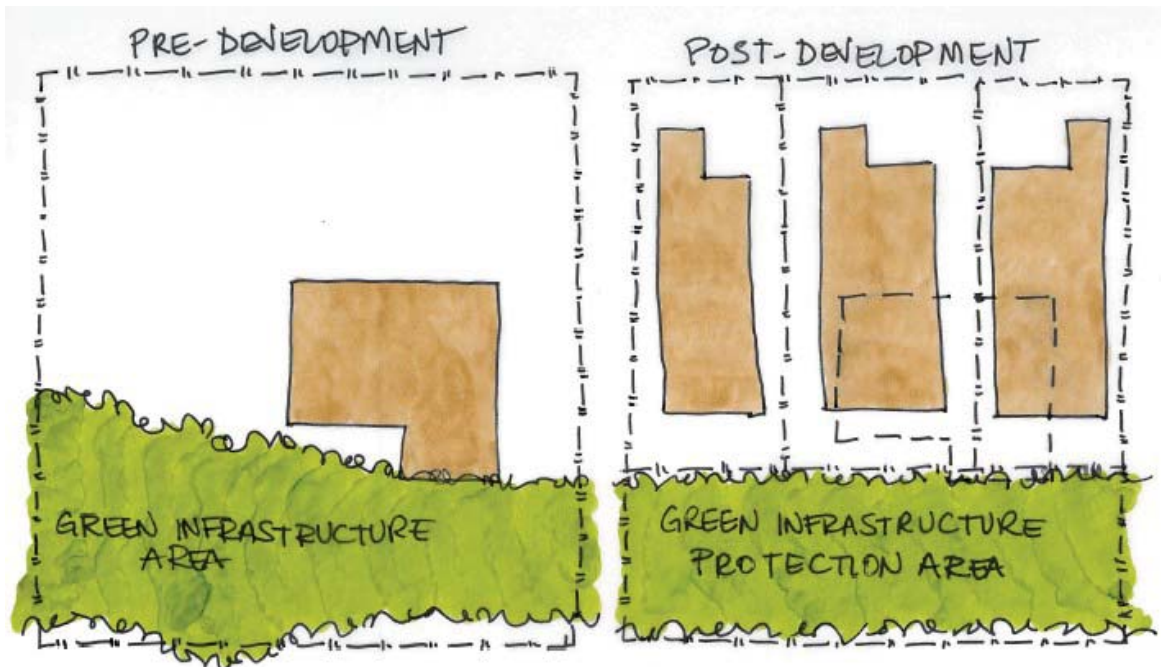


# DP3 SENSITIVE ECOSYSTEMS

## B. Development Restrictions

For development in the Sensitive Ecosystem Development Permit Area, **REVIEW** and **CONSIDER** the following Development Restrictions as follows:

Streamside	Green Infrastructure
1a. Any requirements specified in Riparian Areas Regulation, B.C. Reg. 376/2004, as amended, take precedent over any guidelines listed in this Section.	1b. Where a Green Infrastructure Area has been identified, development shall be adjusted to accommodate and be sensitive to the Biodiversity Management Areas, Green Infrastructure Network and the specific conditions and recommendations for protection listed within Surrey's <i>Biodiversity Conservation Strategy</i> .
2a. Construction and post-construction access into a Streamside Protection Area is strictly prohibited, except where permitted by the City of Surrey.	2b. No development shall occur within a Green Infrastructure Protection Area that has not been identified, addressed and reviewed by a QEP to the satisfaction of the City of Surrey or that is not consistent with the submitted and approved Ecosystem Development Plan. <i>(illustr.)</i>

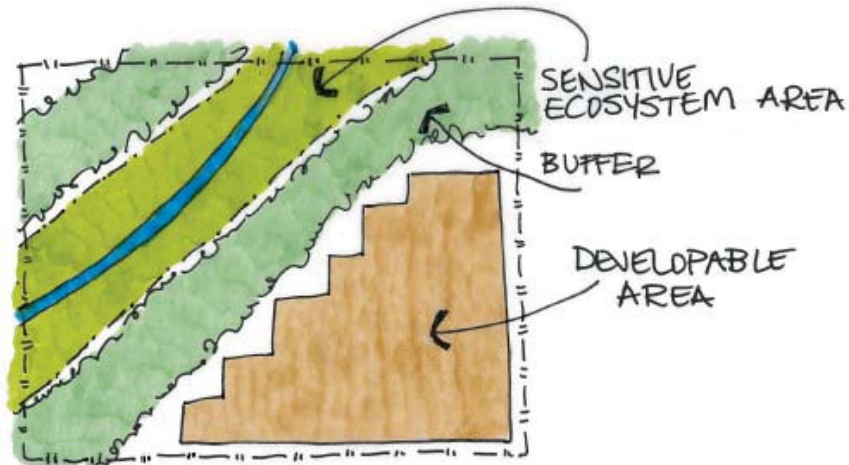


# DP3 SENSITIVE ECOSYSTEMS

## C. Development Guidelines

For development in the Sensitive Ecosystem Development Permit Area, **REVIEW** and **CONSIDER** the following Development Guidelines as follows:

Streamside	Green Infrastructure
<p>3a. <b>Overall Site:</b> Building construction and site layout adjacent to a Streamside Area shall be done in such a way so as to minimize impacts on the identified Streamside Protection Area. Locate buildings, roadways, parking areas and driveways away from the Streamside Protection Area boundary as far as possible.</p>	<p>3b. <b>Overall Site:</b> Plan and design on-site development roadways and connections to minimize habitat fragmentation and minimize disruption and impedance to wildlife travel.</p>
<p>4. <b>Overall Site:</b> Establish buffers large enough to protect the ecological integrity of Sensitive Ecosystem Areas. (<i>illustr.</i>)</p>	
<p>5a. <b>Overall Site:</b> Avoid locating infrastructure corridors adjacent to or within Streamside Protection Areas. Where it can be demonstrated that alternatives are not possible, design crossings that are narrow and perpendicular, and that minimize disturbance to Streamside Protection Areas.</p>	<p>5b. <b>Overall Site:</b> Avoid locating infrastructure corridors adjacent to or within Streamside Protection Areas. Where it can be demonstrated that alternatives are not possible, design crossings that are narrow and perpendicular, and that minimize disturbance to Streamside Protection Areas.</p>
<p>6. <b>Overall Site:</b> Determine buffer locations and sizes using contemporary Best Management Practices with the main goal of protecting Sensitive Ecosystem Areas from the effects of development and to retain the integrity of the Sensitive Ecosystem as a habitat and/or riparian area.</p>	
<p>7a. <b>Overall Site:</b> Any development adjacent to or within (for approved works and services installations only) a Streamside Protection Area requires the monitoring of conditions, both on-and off-site, by a QEP prior to, and during construction.</p>	<p>7b. <b>Overall Site:</b> Any development adjacent to or within (for approved works and services installations only) a Green Infrastructure Protection Area requires the monitoring of conditions, both on-and off-site, by a QEP prior to, and during construction.</p>
<p>8. <b>Building and Construction:</b> Minimize impervious surfaces to improve stormwater absorption by using permeable materials and techniques, including permeable pavers and structural grassfields.</p>	

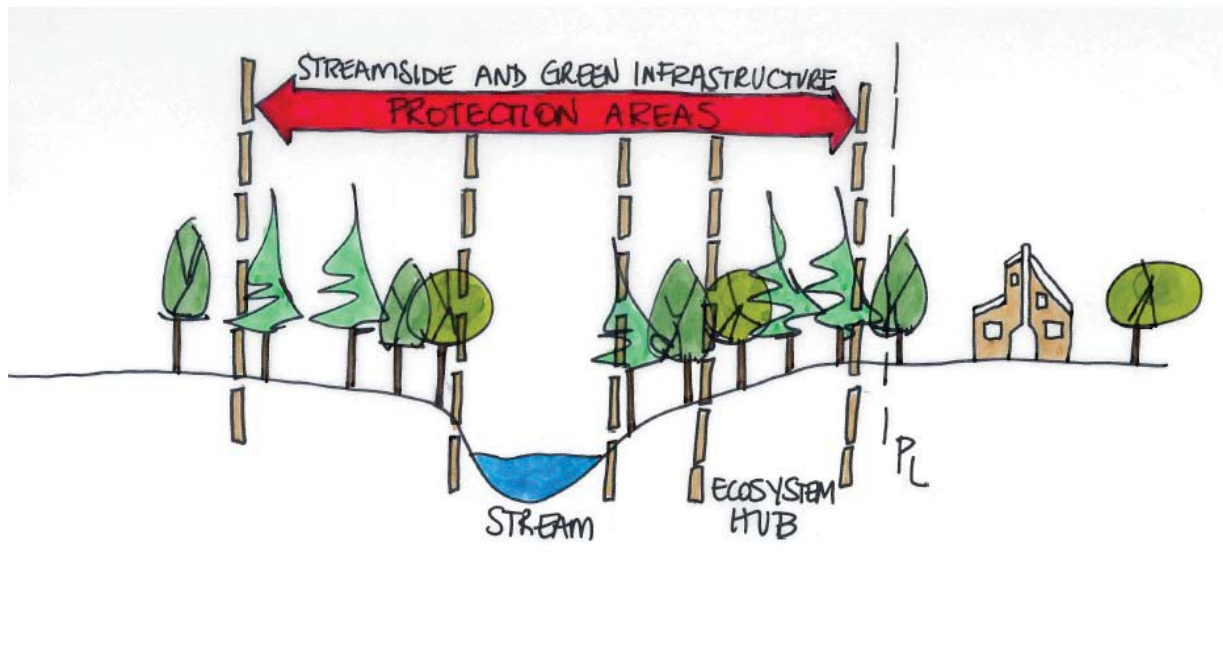


# DP3 SENSITIVE ECOSYSTEMS

## C. Development Guidelines (cont.)

For development in the Sensitive Ecosystem Development Permit Area, **REVIEW** and **CONSIDER** the following Development Guidelines as follows:

Streamside	Green Infrastructure
<p>9. <b>Trees and Vegetation:</b> Create continuous vegetated corridors, wherever possible, by linking tree retention areas from within the development to that of adjacent Streamside Protection Areas or Green Infrastructure Protection Areas. (<i>illustr.</i>)</p>	
<p>10. <b>Trees and Vegetation:</b> In addition to the Areas of Protection, retain as much existing native vegetation and as many trees as possible during site development or redevelopment. Ensure tree replacement ratios are consistent with the requirements identified in Surrey's Tree Protection Bylaw, as amended.</p>	
<p>11. <b>Trees and Vegetation:</b> Protect trees or existing vegetation within the development site and any trees on adjacent City of Surrey property and/or boulevards, before and during construction, in accordance with Surrey's Tree Protection Bylaw, as amended.</p>	
<p>12. <b>Trees and Vegetation:</b> Landscape the setback areas created between buildings, roadways, parking and driveways and the edge of the Streamside Protection Area or Green Infrastructure Protection Area using native plantings (e.g. trees, shrubs and groundcover) where appropriate. Landscaping should be complementary and supportive of the habitat types and ecosystem values found within the adjacent Streamside Protection Area or Green Infrastructure Protection Area as documented within the Ecosystem Development Plan and/or the Impact and Mitigation Plan.</p>	
<p>13. <b>Habitat:</b> Design sites to mitigate light pollution to reduce impacts on those habitat areas reliant on darkness.</p>	
<p>14. <b>Habitat:</b> Prevent disturbance of animal and bird nesting sites and breeding areas by preserving adequate animal habitat through the retention of appropriate trees and vegetation and by timing construction activity to avoid bird breeding windows.</p>	

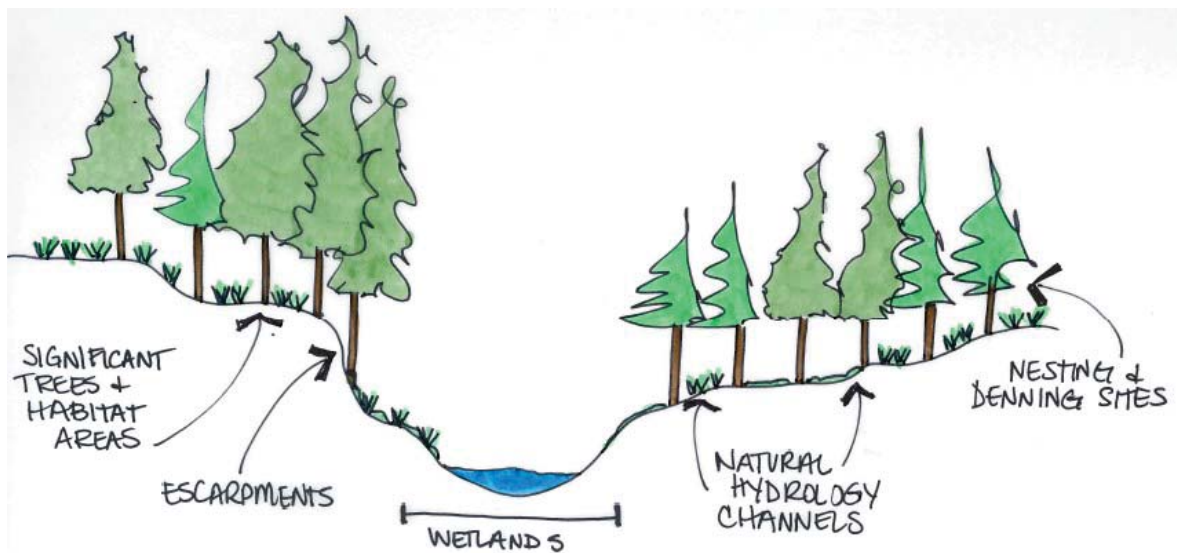


# DP3 SENSITIVE ECOSYSTEMS

## C. Development Guidelines (cont.)

For development in the Sensitive Ecosystem Development Permit Area, **REVIEW** and **CONSIDER** the following Development Guidelines as follows:

Streamside	Green Infrastructure
<input type="radio"/> 15. <b>Habitat:</b> Retain intact aquatic and terrestrial ecosystems and their connectivity to other Sensitive Ecosystem Areas. Preserve large tracts of wildlife habitat or long, continuous corridors in order to facilitate safe and unencumbered movement of wildlife from one place to another. Maintain natural hydrologic cycles in wetlands, ponds, streams and seepage areas to retain biodiversity. ( <i>illustr.</i> )	
<input type="radio"/> 16. <b>Habitat:</b> Reconnect fragmented ecosystems, where practical and necessary, by establishing and restoring corridors and protecting habitats for isolated species or populations as shown in Surrey's <i>Biodiversity Conservation Strategy</i> .	
<input type="radio"/> 17. <b>Habitat:</b> Plan and design development in order to: <ul style="list-style-type: none"> <li data-bbox="219 835 1406 982">a) Protect endangered, threatened, vulnerable species or Species-at-Risk plant and animal communities. Plan, design and implement land development and subdivisions to protect Sensitive Ecosystem Areas. Prioritize protection for habitats that provide for at-risk species, at-risk ecological communities and keystone species. Minimize impacts on significant, rare or unique vegetation, wildlife and wildlife habitat.</li> <li data-bbox="219 989 1406 1052">b) Retain and enhance ecosystem features such as significant trees, hedgerows or windbreaks, with enough undisturbed space around them to protect root systems.</li> <li data-bbox="219 1058 1406 1110">c) Retain natural landforms such as escarpments, ravines, rock croppings, bluffs, hilltops or cliffs.</li> <li data-bbox="219 1117 1406 1180">d) Design and implement artificial habitat features, such as nesting boxes or spawning beds, where natural features are not present or practical.</li> </ul>	

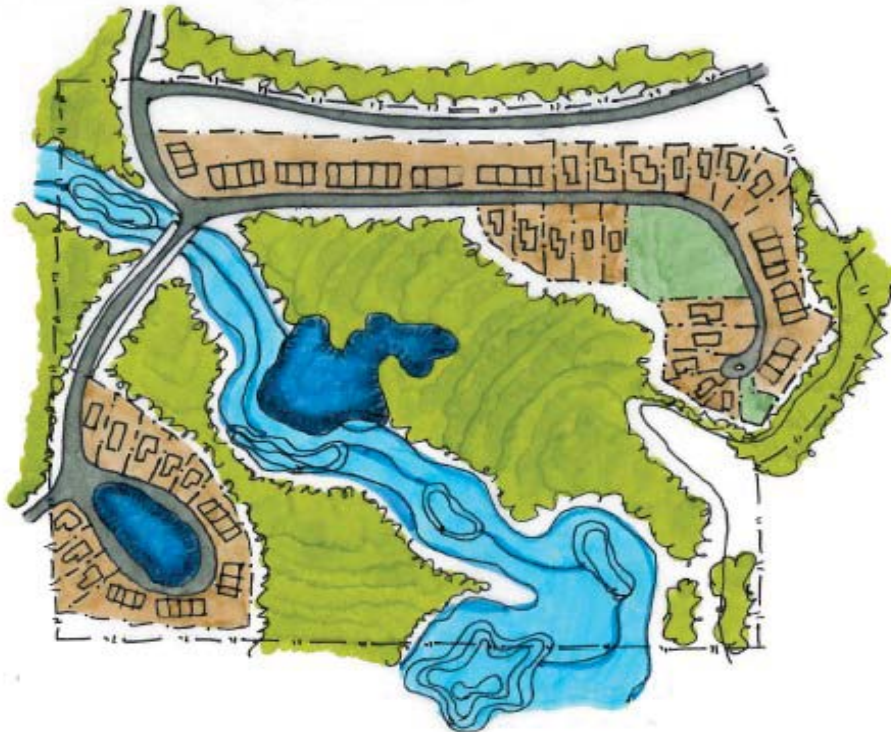


# DP3 SENSITIVE ECOSYSTEMS

## C. Development Guidelines (cont.)

For development in the Sensitive Ecosystem Development Permit Area, **REVIEW** and **CONSIDER** the following Development Guidelines as follows:

Streamside	Green Infrastructure
18. <b>Drainage:</b> At a minimum, manage stormwater so that the quantity, quality and rate of stormwater input into receiving streams does not vary from that which existed pre-development. Install both temporary and permanent sediment/pollutant containment and erosion control measures for any development or redevelopment.	
19. <b>Drainage:</b> Manage site drainage in accordance with the Integrated Stormwater Management Plan (ISMP) relevant to the site location and with Surrey's Erosion and Sediment Control and Stormwater Drainage Regulation and Charges Bylaws, as amended.	
20. <b>Drainage:</b> Implement measures that will prevent the release of silt or sediment-laden water into streams and Surrey's drainage network during any activity involving soil disturbance. Manage and mitigate the quality and quantity of stormwater runoff to help protect and enhance aquatic habitat.	
21. <b>Drainage:</b> Incorporate rainwater Best Management Practices into development to ensure that post-development peak flows do not exceed pre-development peak flows by treating, storing, redirecting and slowly releasing rainwater from impervious surfaces back into natural hydrological pathways as much as possible, and by using systems such as green roofs, underground rainwater storage systems, rain gardens and rain barrels. Incorporate on-site storm water management features into the development as required by the Surrey Stormwater Drainage Regulation and Charges Bylaw, as amended.	
22. <b>Drainage:</b> Construct wetlands and detention ponds to improve the quality of rainwater through bio-filtration and to maximize habitat creation. <i>(illustr.)</i>	



# DP3 SENSITIVE ECOSYSTEMS

## D. Submission Requirements—Ecosystem Development Plan

For either a Green Infrastructure Area or a Streamside Area, using plans, elevations and/or profiles at an appropriate scale, **SUBMIT** an **ECOSYSTEM DEVELOPMENT PLAN** which details, illustrates and describes the Development Proposal as follows:

### i) Consultant Qualifications

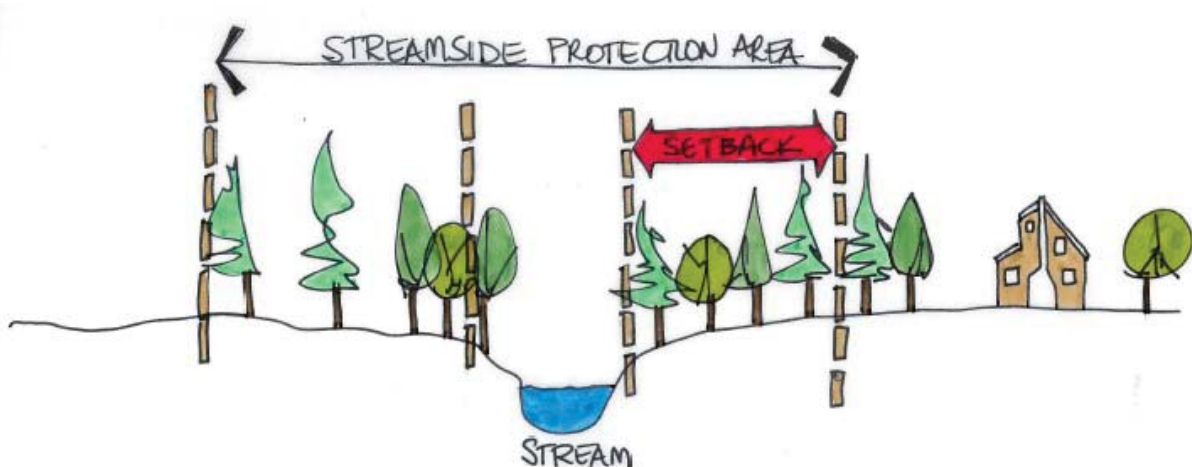
Provide qualifications for all consultants involved with the development proposal.

Streamside	Green Infrastructure
<input type="radio"/> 23. <b>ALL</b> registered professionals who will be involved in the development proposal, whether a Biologist, Geoscientist, Engineer, Forester, and/or Agrologist, shall have demonstrated education, expertise, accreditation and knowledge relevant to sensitive environments, ecosystems and/or streamside management.	
<input type="radio"/> 24. <b>ALL</b> Arborists who will be involved in the development proposal shall be registered and certified with the International Society of Arboriculture (ISA).	
<input type="radio"/> 25. Supply a list and written statement, including all documentation, verifying the qualifications of all Qualified Environmental Professionals (QEP) and/or ISA Certified Arborists responsible for preparing report submissions or involved in monitoring site conditions for Sensitive Ecosystems Development Permit applications.	
<input type="radio"/> 26. Where more than one Qualified Environmental Professional is needed, submit a written statement identifying <b>THE PRIMARY QEP</b> for the entire development and acknowledging their role to ensure: all required reports are prepared by qualified professionals and are coordinated both in content and execution; and that all relevant Development Permit Guidelines and requirements have been met and/or addressed in the application submission.	

### ii) Protection Areas

Use the following documents to determine the Sensitive Ecosystem Area to be protected.

Streamside	Green Infrastructure
<input type="radio"/> 27a. <b>Zoning Bylaw:</b> Part 7a, Streamside Protection of Surrey's Zoning Bylaw is to be used to determine the Area of Protection required for development adjacent to a stream. ( <i>illustr.</i> )	<input type="radio"/> 27b. <b>Biodiversity Conservation Strategy:</b> the Biodiversity Management Areas, Green Infrastructure Network and Appendix J of the <i>Biodiversity Conservation Strategy</i> are to be used to determine the Area of Protection required for development within a Green Infrastructure Area.



# DP3 SENSITIVE ECOSYSTEMS

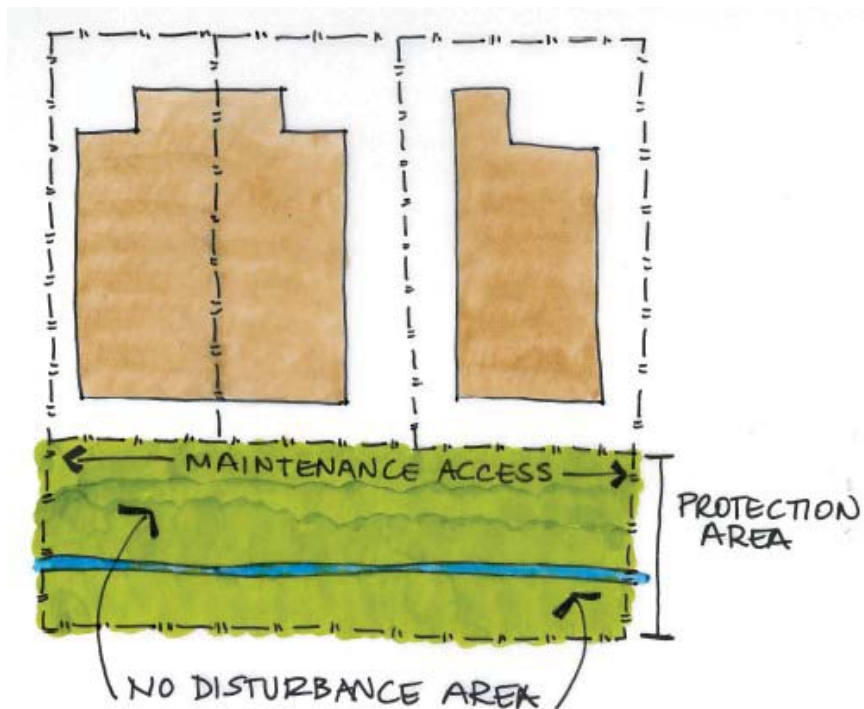
## D. Submission Requirements—Ecosystem Development Plan (cont.)

For either a Green Infrastructure Area or a Streamside Area, using plans, elevations and/or profiles at an appropriate scale, **SUBMIT** an **ECOSYSTEM DEVELOPMENT PLAN** which details, illustrates and describes the Development Proposal as follows:

### iii) Levels of Safeguarding

Indicate which level of safeguarding is proposed to be applied to the development.

Streamside	Green Infrastructure
28. <b>Maximum Safeguarding:</b> conveyance of the Protection Area to the City of Surrey. Where conveyance is chosen, the applicant is not responsible for the additional ecological restoration or on-going maintenance of the Protection Area as detailed and described below under the Minimum Safeguarding option.	
29. <b>Minimum Safeguarding:</b> registration of a combined Restrictive Covenant/Right-of-Way against the property to ensure safeguarding and maintenance of the Protection Area in perpetuity.  The Restrictive Covenant/Right-of-Way shall detail the: <ol style="list-style-type: none"><li>1) identified "no disturbance" and "maintenance access" areas; (<i>illustr.</i>)</li><li>2) provisions for post-construction on-going management of the Protection Areas for a minimum of five years, including any required rehabilitation, restoration and/or conservation of any areas identified by the project-managing QEP;</li><li>3) provisions for yearly monitoring and reporting; and</li><li>4) identification of the Principal QEP responsible for providing yearly monitoring reports during the minimum five-year maintenance period.</li><li>5) compensation plan and cost estimate for all items listed in this section. This will also be used to determine landscape bonding and security requirements for installation and maintenance purposes.</li></ol>	





# DP3 SENSITIVE ECOSYSTEMS

## D. Submission Requirements—Ecosystem Development Plan (cont.)

For either a Green Infrastructure Area or a Streamside Area, using plans, elevations and/or profiles at an appropriate scale, **SUBMIT** an **ECOSYSTEM DEVELOPMENT PLAN** which details, illustrates and describes the Development Proposal as follows:

### iv) Pre-Development Site Conditions

Detail conditions of the development site prior to any development disturbance.

Streamside	Green Infrastructure
30. <b>Building and Construction:</b> Identify all existing on-site buildings, structures and developed areas, including paved and landscaped areas, and any other areas disturbed beyond its original condition.	
31. <b>Soils:</b> Perform a slope analysis and identify existing topographic features including geological and hydrogeological soil conditions, particularly areas of unstable or sensitive soils.	
32. <b>Trees and Vegetation:</b> Identify and detail existing vegetation and trees (including trees defined in the Surrey Tree Protection Bylaw, as amended) and submit in an arborist's assessment report.	
33. <b>Habitat:</b> Identify Schedule 1, Federally-protected <i>Species-At-Risk Act</i> or Provincial Red- or Blue-Listed plant or animal species and their critical habitats including shrub and ground cover communities and any species, or habitat feature, identified as requiring year-round protection as identified in the Provincial <i>Wildlife Act</i> .	
34. <b>Drainage:</b> Identify the Streamside Protection Area and stream locations, including top of bank ( <i>Illustr.</i> ) and stream classifications (as defined in Surrey's Zoning Bylaw, as amended).	n/a
35. <b>Drainage:</b> Identify existing site drainage conditions in accordance with the Integrated Stormwater Management Plan (ISMP) relevant to the site location.	n/a
36. <b>Drainage:</b> Detail existing site drainage conditions including depth to ground water table, storm water conveyance, infiltration and storage features and storm water channels and overland flow paths.	



# DP3 SENSITIVE ECOSYSTEMS

## D. Submission Requirements—Ecosystem Development Plan (cont.)

For either a Green Infrastructure Area or a Streamside Area, using plans, elevations and/or profiles at an appropriate scale, **SUBMIT** an **ECOSYSTEM DEVELOPMENT PLAN** which details, illustrates and describes the Development Proposal as follows:

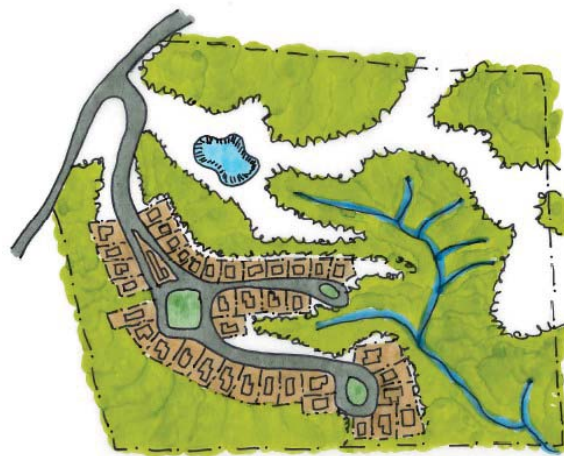
### v) Proposed Development Conditions and Specifications

Detail the proposed development and post-site conditions.

Streamside	Green Infrastructure
37a. <b>Overall Site:</b> Identify the Streamside Protection Area and where it is situated with the development. <input type="radio"/>	37b. <b>Overall Site:</b> Identify the Green Infrastructure Protection Area and where it is situated with the development. <input type="radio"/>
n/a	38. <b>Overall Site:</b> Locate development where it is most sensitive to the objectives of the Biodiversity Management Areas, Green Infrastructure Network and corresponding conditions and recommendations required for management as identified in Surrey's <i>Biodiversity Conservation Strategy</i> . (illustr.) <input type="radio"/>
39. <b>Building and Construction:</b> Detail construction specifications including materials, timing, technologies and techniques proposed as a means to mitigate and reduce the ecological impacts of development on the identified Stream or Green Infrastructure Protection Area. <input type="radio"/>	
40. <b>Building and Construction:</b> Explain how the proposed development conforms to Surrey's Drainage Regulation and Charges Bylaw, as amended, as well as policies in Secondary Plans, Integrated Stormwater Management Plans and the Zoning Bylaw, as amended; <input type="radio"/>	
41. <b>Building and Construction:</b> Detail the locations of all proposed buildings, structures and impervious surfaces. <input type="radio"/>	
42. <b>Building and Construction:</b> Detail the timing and scheduling of all proposed development activities. <input type="radio"/>	
43. <b>Soils:</b> Provide site grading plans illustrating the area and extent of proposed soil disturbance including slope grades and any proposed retaining wall heights, locations and materials used. Detail how slope or soil stability will be ensured and how erosion and increased sedimentation risks will be reduced. <input type="radio"/>	



CONVENTIONAL DEVELOPMENT



DEVELOPMENT SENSITIVE TO ECOSYSTEM VALUES

# DP3 SENSITIVE ECOSYSTEMS

## D. Submission Requirements—Ecosystem Development Plan (cont.)

For either a Green Infrastructure Area or a Streamside Area, using plans, elevations and/or profiles at an appropriate scale, **SUBMIT** an **ECOSYSTEM DEVELOPMENT PLAN** which details, illustrates and describes the Development Proposal as follows:

### v) Proposed Development Conditions and Specifications (cont.)

Detail the proposed development and post-site conditions.

Streamside	Green Infrastructure
44. <b>Trees and Vegetation:</b> Identify how existing trees, shrubs and groundcover will be retained and protected including details and specifications on the replanting, restoration and management of vegetated areas and maintenance of short- and long-term hydraulic regime. <input type="radio"/>	
45. <b>Trees and Vegetation:</b> Identify individual tree retention and removal, and areas of structured landscaping, including plant species, size and location. <input type="radio"/>	
46. <b>Trees and Vegetation:</b> Provide details as to how the Streamside or Green Infrastructure Area management or protection objectives will be met and monitored following the official completion of all construction activity. Where restorative work <b>IS NOT</b> required, maintenance and monitoring shall be for a minimum of <b>ONE</b> year; and where restorative work <b>IS</b> required, maintenance and monitoring shall be for a minimum of <b>FIVE</b> years. <input type="radio"/>	
47. <b>Trees and Vegetation:</b> Provide a restoration, maintenance and cost estimate plan consistent with the development requirements identified in the Ecosystem Management Plan and/or Impact Mitigation Plan to be used to determine landscape bonding and security requirements for installation, monitoring and maintenance purposes. <input type="radio"/>	
n/a	48. <b>Habitat:</b> Articulate how the proposed development meets the Objectives and Recommendations of the Biodiversity Management Areas and Green Infrastructure Network of the <i>Biodiversity Conservation Strategy</i> . <input type="radio"/>
n/a	49. <b>Habitat:</b> Detail how wildlife habitat will be protected and enhanced while taking into consideration wildlife movement and connectivity to adjacent sites. Focus on Schedule 1, Federally-protected <i>Species-At-Risk Act</i> or Provincial Red- or Blue-Listed plant or animal species and their critical habitats and how they may be affected by the proposed development and indicate how proposed Best Management Practices may be used for the protection and preservation of that habitat. <input type="radio"/>
50. <b>Drainage:</b> Identify post-development drainage site conditions in accordance with the Integrated Stormwater Management Plan (ISMP) relevant to the site location. <input type="radio"/>	
51. <b>Drainage:</b> Detail how flooding risk and water quality degradation will be mitigated including specific measures that will be taken to prevent channel erosion and prevent the fouling of streams, wetlands or drainage conveyance corridors. <input type="radio"/>	

# DP3 SENSITIVE ECOSYSTEMS

## E. Submission Requirements—Impact Mitigation Plan

For development adjacent to a Streamside Area, using plans, elevations and/or profiles at an appropriate scale, **SUBMIT** an **IMPACT MITIGATION PLAN** detailing, illustrating and describing the following:

52. An **IMPACT MITIGATION PLAN** is required to determine the appropriateness of requests to reduce the Streamside Protection Area (through the use of a Development Variance Permit) as defined in Surrey's Zoning Bylaw, Part 7a. The **IMPACT MITIGATION PLAN**, where relevant to the site (determined by City of Surrey), shall include the following:

- Overall Site:** A detailed Riparian assessment report, following the Provincial methods specified in the Riparian Areas Regulation, B.C. Reg. 376/2004, identifying the regulatory Streamside Protection and Enhancement Area and associated measures.
- Overall Site:** An assessment report indicating any expected changes and modifications to streams and aquatic and riparian areas, including any expected water quality reductions, water quantity changes, or fish and wildlife habitat degradation, with a particular focus on salmonid habitat and healthy tree retention, as a result of the proposed Streamside Setback Area variance.
- Overall Site:** A restoration plan and cost estimate for the items submitted with the Impact Mitigation Plan. This restoration plan shall also be used to determine landscaping bonding and security requirements for installation, monitoring and maintenance purposes.
- Building and Construction:** Details demonstrating how the City of Surrey can reasonably access the stream to maintain drainage conveyance including illustrating the location of a required minimum 5 m wide access corridor that is geotechnically-stable and located outside of the Streamside Protection and Enhancement Area, as defined in Riparian Areas Regulation, B.C. Reg. 376/2004, as amended.
- Building and Construction:** Details on how public and maintenance access will be accommodated where there is a park trail proposed within the proposed adjusted Streamside Setback Area.
- Soils:** Provide a geotechnical report that assesses the impacts of the adjustments and recommends how to protect stream bank stability. The report will provide detailed information on stream hydraulics, erosion, sedimentation, and top of bank conditions (e.g. top loading or slope undercutting effects). The report will include a seismic assessment addressing impacts for both structural and human use.
- Trees and Vegetation:** A vegetation accounting report including the effects of any biomass and habitat removal, or any other disturbances as a result of the proposed Streamside Setback Area variance.
- Habitat:** A riparian restoration plan specifying the following: invasive species management; abatement of hazard trees; appropriate native species proposed to be used in any restoration work; details on any removal of anthropomorphic habitat debris; and how stream complexing and drainage conveyance will be undertaken (to the satisfaction of the City of Surrey).
- Drainage:** An assessment report on any expected flooding or increase in flooding or impacts, positive or negative, affecting groundwater as a result of the proposed Streamside Setback Area variance.
- Drainage:** An assessment report of the stream and how the proposed adjustment to the Streamside Setback Area will not create a vulnerability from beaver activities for the development site.
- Drainage:** Detail and identify post-development drainage site conditions in accordance with the Integrated Stormwater Management Plan (ISMP) relevant to the site location.

**Surrey Zoning By-law, 1993, No. 12000**

The following proposed amendments to the Zoning By-law, are presented and highlighted in the order the sections appear in the bylaw:

**Index**

1. Under the columns "Part", "Title" and "Page", after the words "7", "Special Building Setbacks" and "7.1" and before the words "8", "Floodproofing (not part of this By-law)", "8.1", add a new line that reads "7A", "Streamside Protection" and "7a.1" under the corresponding headings.

**Part 1, Definitions**

2. After the definition for "Accessory Use" and before the definition for "Adult Education Institution" add a new definition as follows:

**"Active Floodplain**

means an area of land that supports *floodplain plant species* and is:

- (a) adjacent to a stream that may be subject to temporary, frequent or seasonal inundation; or
- (b) within a boundary that is indicated by the visible *high water mark*."

3. After the definition for "Flanking Street" and before the definition for "Floor Area Ratio" add a new definition as follows:

**"Floodplain Plant Species**

means plant species that are typical of an area of inundated or saturated soil conditions and that are distinct from plant species on freely drained, adjacent upland sites."

4. After the definition for "Height - Building" and before the definition for "Highway" add a new definition as follows:

**"High Water Mark**

means the visible high water mark of a *stream* where the presence and action of the water are so common and usual, and so long continued in all ordinary years, as to mark on the soil of the bed of the stream a character distinct from that of its banks, in vegetation, as well as in the nature of the soil itself; and includes the *active floodplain*."

5. After the definition for "Special Waste" and before the new definition for "Streamside Setback Area" add a new definition as follows:

**"Stream**

means any of the following that provides fish habitat:

- (a) a watercourse, whether it usually contains water or not;
- (b) a pond, lake, river, creek, brook, ravine, swamp, gulch or natural or channelized stream; or
- (c) a ditch, spring or wetland, that is connected by surface flow to any items referred to in (a) or (b) above."

6. After the new definition for “Stream” and before the definition for “Structure” add a new definition as follows:

**“Streamside Setback Area**

means the horizontal area within a *lot*, that is calculated by measuring the distance perpendicularly, as specified in that portion of Part 7A, Section B.1 (which may be modified by Section B.2) and Section B.3, from the *top of bank* in the direction away from the *stream*, where land disturbance of any kind is prohibited.”

7. After the definition for “Through Lot” and before the definition for “Tourist Accommodation” add a new definition as follows:

**“Top of Bank**

means

- (a) the point closest to the boundary of the *active floodplain* of a *stream* where a break in the slope of the land occurs such that the grade beyond the break is flatter than 3:1 at any point for a minimum distance of 15 metres measured perpendicularly from the break; and
- (b) for a floodplain area not contained in a ravine, the edge of the *active floodplain* of a *stream* where the slope of the land beyond the edge is flatter than 3:1 at any point for a minimum distance of 15 metres measured perpendicularly from the edge.

**Part 7a, Streamside Protection**

8. After Part 7, Special Building Setbacks, and before Part 8, Floodproofing, add a new Part 7A, Streamside Protection shown as Attachment “E”.



# Streamside Protection

## Part 7A

## Streamside

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### A. General

1. All lands within a streamside protection area, which includes the area of land between the *stream* and *top of bank* and the *streamside setback area*, are subject to the regulations set out in this Part, except for those lands and uses permitted in the Agricultural Land Reserve that are exempt from the Riparian Area Regulation, B.C. Reg. 376/2004.
2. For those portions of a streamside protection area that exceed the Riparian Areas Regulation, B.C. Reg. 376/2004, as amended, no disturbance of any land is permitted except for the construction, maintenance or operation of municipal works and services.
3. Any requirements specified in Riparian Areas Regulation, B.C. Reg. 376/2004, as amended, that are greater than those specified in this Part, must be complied with, as well as any other applicable legislation.
4. For the purpose of this Part, a Qualified Environmental Professional is a registered professional Biologist, Geoscientist, Engineer, Forester and/or Agrologist registered in British Columbia, with demonstrated education, expertise, accreditation and knowledge relevant to sensitive environments, ecosystems and/or riparian/streamside management.
5. All *streams*, for the purpose of this Part, are classified as follows:
  - (a) Class A: inhabited by salmonids year round or are potentially inhabited year round with access enhancement;
  - (b) Class A/O: inhabited by salmonids, primarily during the overwintering period, or potentially inhabited with salmonids during the overwintering period with access enhancement and non-salmonid species generally present year round; or
  - (c) Class B: a significant source of food and nutrient value to downstream fish populations with no documented fish presence and no reasonable potential for fish presence.
6. The entirety of this Part shall not be used to calculate density as described in *undevelopable area*.

## B. Streamside Setback Areas

1. A *streamside setback area* is calculated by a Qualified Environmental Professional using the minimum distance from the *top of bank*, as follows:

<b>Minimum Distance From Top of Bank</b>		
<b>Stream Types</b>	<b>Stream Classifications</b>	
	<b>A or A/O</b>	<b>B</b>
All <i>Stream Types</i> (except as shown below)	30 metres*	20 metres*
<b>Channelized</b> <i>Stream</i> that has been dyked, diverted or straightened carrying drainage flows from headwaters or significant sources of groundwater, and can include channels that divert irrigation from a <i>stream</i> and send overflow water back to a <i>stream</i> .	25 metres*	15 metres*
<b>Ditches</b> <i>Stream</i> that is a constructed drainage channel, carrying water that does not originate from a headwater or significant source of groundwater.	10 metres**	7 metres
<b>Natural</b> <i>Stream</i> predominantly in its natural state that is not significantly altered by human activity.	30 metres*	15 metres*
<b>Large Ravines</b> <i>Stream</i> with a narrow, steep-sided valley with a minimum of 60 metres between the <i>top of bank</i> from either side of the <i>stream</i> .	15 metres*	15 metres*

\* Provided there is no loss in the total size of the *streamside setback area*, the minimum distance from the *top of bank* may be reduced by no more than 5 metres and increased by no more than 10 metres.

\*\* Provided there is no loss in the total size of the *streamside setback area*, the minimum distance from the *top of bank* may be reduced by no more than 3 metres and increased by no more than 10 metres.

2. Despite Sections B.1 in this Part, for *lots* that existed prior to [insert date], where zoning allows for *single family dwelling* and *duplex* uses, the *streamside setback area* is calculated by using the minimum distance from *top of bank*, as follows:

<b>Minimum Distance from Top of Bank</b>		
<b>Stream Types</b>	<b>Stream Classifications</b>	
	<b>A or A/O</b>	<b>B</b>
All <i>Stream Types</i> (except as shown below)	15 metres	15 metres
<b>Ditches</b> <i>Stream</i> that is a constructed drainage channel, carrying water that does not originate from a headwater or significant source of groundwater.	10 metres	7 metres

3. If those *lots*, identified in Section B.2 of this Part, are further subdivided or rezoned, then Section B.1 of this Part applies.