

## B.C. Riparian Areas Regulation: Community Pilot Projects

### CITY OF CHILLIWACK

16-Mar-05

Chilliwack – a city of approximately 70,000 and growing – is located in the Fraser Valley, about 100 km east of the City of Vancouver. With the Vedder-Chilliwack River to the south and the Fraser River to the north, much of the City’s valley bottom is in the Agricultural Land Reserve, driving new residential development onto the surrounding hillsides.

#### Background - Chilliwack’s Method for Protecting Streams

Chilliwack applies the *Fish Protection Act* through its Fisheries Sensitivity Map (FSM), which was created from over twenty years of inventory data on local watercourses in collaboration with DFO and MWLAP. The map classifies watercourses into one of five categories, and setbacks or Streamside Protection and Enhancement Areas (SPEAs) are assigned according to the classification (Table 1).

For any type of development application – rezoning, subdivision, development permit, or building permit – a property owner is expected to meet the SPEA designated under the FSM. If they must develop within the SPEA, the City facilitates a process, using its Environmental Review Committee structure, that allows property owners to apply for a site-specific variance (Figure 1).

A property owner can initiate the process by presenting an application/ letter of request accompanied by a supporting Sensitive Habitat Evaluation report prepared by a Qualified Environmental Professional (QEP).<sup>1</sup> A meeting is scheduled that includes the applicant, the QEP, a City representative and a representative of the Department of Fisheries and Oceans (DFO), where the application and report are reviewed. The DFO representative subsequently makes

Class	Description	SPEA*
A (Red)	Fish are present or potentially present if introduced barriers or obstructions are either removed or made passable for fish.	30 m
A(0) (Red Dashed)	Inhabited by salmonids primarily during the overwintering period or potentially inhabited during the overwintering period with access enhancement.	30 m
B (Yellow)	Not inhabited by fish and providing water, food and nutrients to downstream fish bearing stream or other water body.	15 m
C (Green)	No significant food/nutrient value. No fish documented.	7.5 m
Unassessed (Orange)	Stream system not yet assessed by biologist.	7.5 m

Table 1. Watercourse classifications under the Fisheries Sensitivity Map (\*SPEAs measured from top of bank)

<sup>1</sup> The City has released “Guidelines for Sensitive Habitat Evaluations within the City of Chilliwack” that outline the components of an Evaluation report, and the City’s expectations regarding qualifications and liability adopted by a QEP. The Guidelines can be viewed on the City’s website <http://www.chilliwack.com/main/page.cfm?id=644>.

recommendations to the City regarding the proposed variance. Typically, an approval of a SPEA reduction includes conditions such as registering a covenant for a non-disturbance area, planting additional trees and shrubs in the non-disturbance area, and fencing the area.

A development proposal must also conform to setbacks established under Chilliwack’s Floodplain Regulation Bylaw as well as regulations under its Watercourse Protection Bylaw, which restricts activities that may damage a watercourse primarily in terms of its drainage capacity.

Following are examples of this process in action, and how it might change under the RAR.

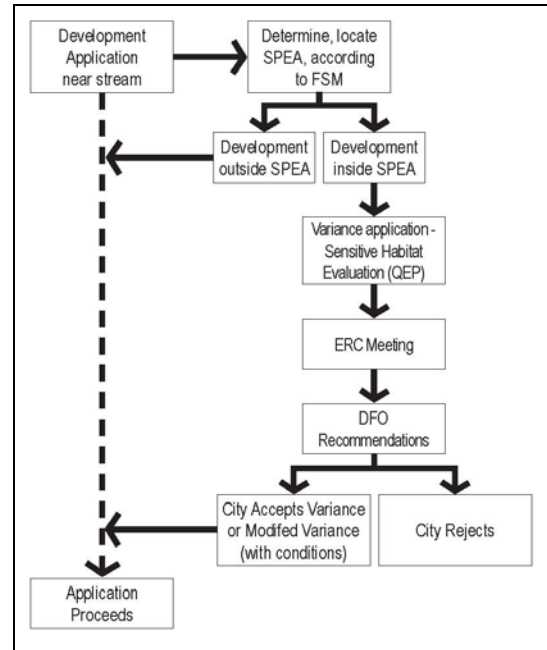


Figure 1: Chilliwack’s general development approval process.

Pilot Site One: 46251 Mullins Drive – a ravine situation

This pilot site is located in a developing hillside neighbourhood at the south end of the city known as Promontory. Adjacent to new single-family housing, the 9-ha site was covered with second and third growth mixed forest, which was recently cleared from over half the site (Map 1). A 51-lot single-family subdivision was proposed, with future additions of cluster housing at the north and south ends of the site. The proposal conformed to the existing zoning for the area.

**The Stream**

Thornton Creek runs through the site from south to north, flowing into Teskey Creek at the northeast property line. The Creek begins in a ravine at the south end of the site, with steep slopes on both sides, flattening as it flows toward the north end of the site.

Thornton Creek is a ‘Class B’ stream on the City’s FSM, indicating that it is non-fish bearing but provides water, food and nutrients to a downstream fish bearing water body. The stream apparently dries up in the summer months.



Map 1. Location of Mullins Road pilot study site.

**RAR Simple Assessment – desktop analysis:** Based on the City’s classification as non-fish bearing, and given the presence of existing or potential continuous vegetation for a minimum of 30 m and the non-permanent nature of the stream, the SPEA width under the

RAR's Simple Assessment would be a minimum of 15 m from the top of bank and/or ravine top of bank on both sides of the stream. This concurs with the SPEA designated under the City's FSM.

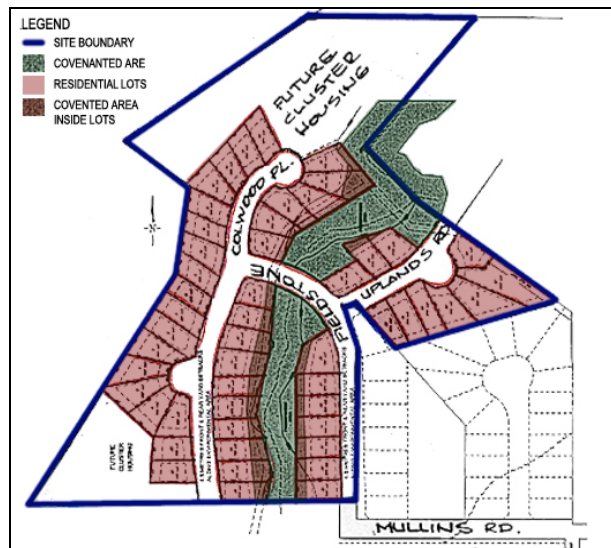
### The Review Process

The City issued a preliminary layout approval for the proposal conditional on a Sensitive Habitat Evaluation (SHE) of the Creek. The QEP retained by the applicant found no significant spawning areas or pool habitats on the site, and ascertained that fish would not be able to gain access to Thornton Creek or Teskey Creek upstream of Promontory Road due to an impassible culvert under the road.

The SHE report (which did not apply the RAR Assessment Methods) recommended an average 20-m setback from the high water mark to "protect the majority of the ecological features and functions of Thornton Creek" while allowing development to proceed. The setback area would be covenanted (Map 2). The report also suggested that fish might be able to access the site if a fish ladder is installed under Promontory Road and gravel placed in the Creek to enhance spawning opportunities. A wider average SPEA measured only from the high water mark may have been proposed as a means of reconciling the partial ravine situation.

However, due to concerns over how the setback was defined particularly with respect to the ravine, the senior agencies were unwilling to support the recommended setback. The applicant discontinued the application and subsequently sold the property. The new owner is currently working on a revised development application and is working with an environmental professional to determine a satisfactory SPEA and top of bank measurement.

If the RAR had been applied, the QEP could have chosen to conduct a Detailed Assessment to find the SPEA based on an analysis of the "Zones of Sensitivity", including measures to address ravine slope stability. Also, a fish presence assessment using the sampling methodology included in the RAR would have helped in determining whether it was worthwhile to recommend measures to overcome the fish access barrier at Promontory Road.



Map 2. Proposed subdivision showing variable 20-m covenant area along Thornton Creek.

Pilot Site Two: 46305 Cessna Drive – a redevelopment scenario

A second pilot site in Chilliwack is of interest in that it involves redevelopment from a single-family to multi-family land use. Located on Cessna Drive near the airport on the east side of Chilliwack, the 0.9-ha site is adjacent to single-family and townhouse residential developments and is made up of four lots each with single-family homes (Map 3). The development proposal is to consolidate the four lots into an eight building, 31-unit townhouse complex. This type of development fits with the current zoning for the area.



Map 3. Location of Cessna Drive Pilot Site.

### The Stream

Semiault Creek flows along the northern boundary of the site. The Creek is classified on the city’s FSM as a Class ‘A’ watercourse, indicating fish presence or potential fish presence, and requiring a 30-m SPEA. In this area, however, Semiault Creek is in a highly degraded state (Picture 1), flowing through a channelized ditch devoid of significant riparian vegetation.

The Creek contains water year-round and provides habitat that is considered suitable for salmon and trout, although none were found in the Creek at the time of assessment for the project. The Creek is inhabited by Salish sucker, an endangered species.

***RAR Simple Assessment – desktop analysis:*** Semiault Creek is considered to be fish bearing. On the south side of the stream where development is proposed, existing and potential vegetation is somewhat discontinuous but averages 30 m and >50 m in a few areas. On neighbouring properties, vegetation is generally 15 m or less. Under the Simple Assessment, the minimum SPEA width would be 30 m from the top of bank. This concurs with the SPEA designated under the City’s FSM.

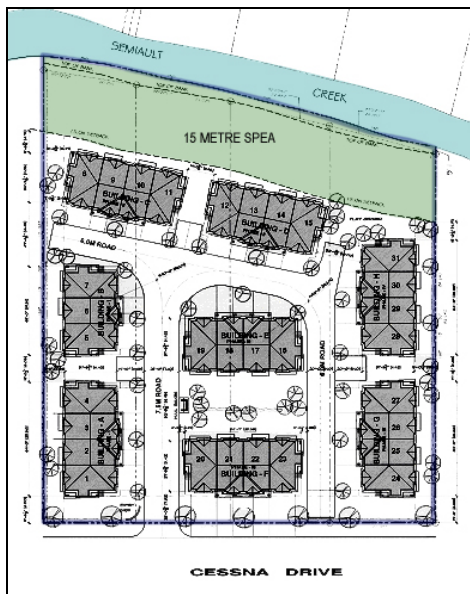


Picture 1. View along Semiault Creek at the north property line facing west. (Photo: City of Chilliwack)

### The Review Process

The development proposal required a consolidation of lots and a development permit for form and character. The developer also requested a variance from the 30-m SPEA designated by the FSM classification down to 10-m. The city required a SHE prior to allowing the application process to continue.

The resulting SHE report (which did not follow the RAR Assessment Methods) concluded that a 12-m building setback would “be adequate to protect the integrity of the riparian area from the effects of the development”. The report recommended that all riparian vegetation within 7.5-m of the top-of-bank be retained and where vegetation was lacking, that this zone be replanted with native plants. The QEP felt that by taking these measures, a net benefit would occur for the creek.



Map 4. Developer's site plan showing a 15-m SPEA from the top of bank.

Under the City's review process, the DFO representative responded by stating "although a 30-metre wide streamside protection area may not be justified at this time because of the current poor health of the stream and lack of streamside protection on surrounding properties, the streamside area at this site should be no less than 15 m". He also recommended streamside zone protection measures, rehabilitation planting, and runoff and sedimentation controls. The DFO representative felt that if the additional remediation requirements were followed within the 15-m SPEA, it would be more beneficial to the stream than taking no remedial measures within a 30-m SPEA (Map 4).

Had the RAR been applied, the result may have been different. If the environmental professional had followed the Assessment Method laid out in the RAR and reached the same conclusion regarding a 12-m SPEA and 7.5 m vegetated zone, that recommendation would have simply moved forward for the City's consideration. On the other hand, by implementing the RAR Assessment Method, the consultant may have determined a SPEA in closer accordance to DFO's final recommendation.

### Potential Changes in Chilliwack's Development Review Process under the RAR

Under the RAR, the main changes to the City of Chilliwack's review process would occur at the interface with senior agencies (Figure 2):

- The City already requires applicants proposing to vary from the SPEA under the City's FSM to submit a QEP report, but that report would be required to follow the RAR's Assessment Methods.
- Instead of an Environment Review Committee-based review process, the QEP would submit the report to MWLAP electronically, verifying that he/she is qualified, adhered to the RAR's Assessment Methods; and has provided an opinion on the SPEA and conditions for maintaining its integrity.
- MWLAP would forward a notice of receipt of the QEP's report to the City and the QEP and make it available to the City to download. The City can require that the QEP submit a copy directly to the City when the report is submitted to MWLAP.
- Only if the QEP determines that the development proposal involves a HADD (harmful alteration, disruption or destruction of habitat) under the *Fisheries Act* would he/she refer the report to DFO for authorization under the Act.

## Implementing the RAR in Chilliwack

Chilliwack already has many of the ingredients for implementing the RAR.

**Fisheries Sensitivity Map (FSM):** Under the “Transitional” provisions in section 8 of the RAR, the City’s FSM may be considered the means by which the City has established SPEAs that comply with the former Streamside Protection Regulation (SPR), thereby meeting the requirements of the RAR.

The City wishes to integrate the FSM into the implementation of the RAR. However, while the SPEAs associated with the City’s FSM may reflect the SPR’s classification regarding fish-bearing potential, they do not specifically address riparian vegetation conditions and only indirectly address stream permanence.<sup>2</sup> The FSM classifications may need to be adapted, either universally or when applied on a site- specific basis, to take these additional conditions into account.

**Sensitive Habitat Evaluation (SHE):** The City already requires an assessment and report by a Qualified Environmental Professional under its SHE Guidelines. Adopting the RAR’s Assessment Methods to address the determination of SPEAs that vary from its FSM would move the City towards full compliance with the RAR.

**Official Community Plan (OCP):** At a more general level, section 4.3.6 of the City’s OCP contains policies to promote riparian protection and to “work cooperatively” with senior agencies to identify mechanisms for protecting riparian zones. This supports section 5 of the RAR regarding cooperation in developing strategies for RAR-related monitoring, enforcement and education.

The City is now researching the best means of incorporating the RAR into Chilliwack’s regulatory framework. With the help of a consultant, the City is looking at two options for applying its FSM and implementing the RAR.

**Option 1: Regulatory Bylaw** – The City would create a new bylaw specifically to address watercourse protection in the context of the RAR regulations. This bylaw would require developers to obtain a permit for development around a watercourse, determined through the RAR process. An advantage of this option is that Council would approve the bylaw

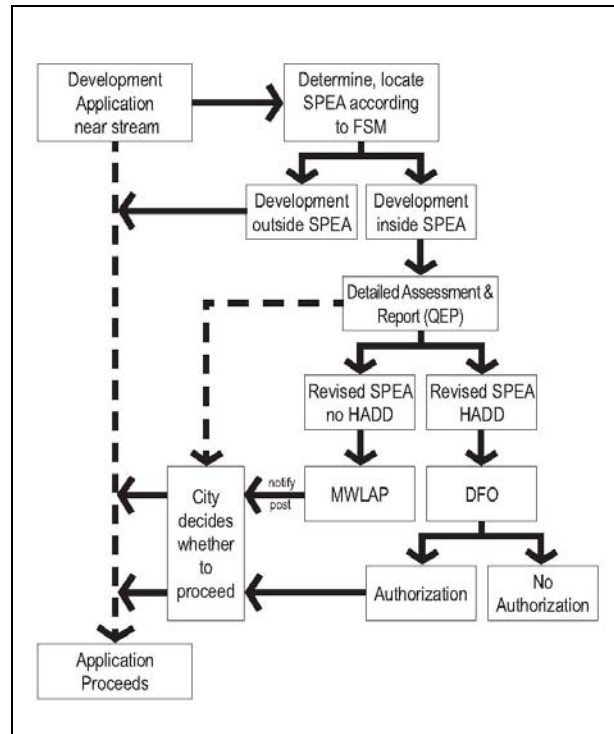


Figure 2: How the development review process could change under the RAR.

<sup>2</sup> The main effect this may have is on the FSM’s classification of non-fish bearing streams that have existing or potential vegetation greater than 30 m.

and its underlying philosophy, and City staff would handle development approval. In addition, it would allow for fines to be issued as a method of regulation.

**Option 2: Development Permit Area** – The City would create a new Development Permit Area (DPA) under its Official Community Plan to encompass all watercourses. Chilliwack already has several DPAs, including DPA#2 that regulates hillside development to protect habitat and restrict hazardous development; hence, the City already has the administrative procedures and structures in place to handle development permits. The DPA method also allows all types of development activities, not just buildings and structures, to be regulated and provides a certain amount of flexibility in determining site-specific conditions of development.

A disadvantage of this method is that at this point, the City's Council approves all Development Permits; under the *Local Government Act (sec.176)* this authority could be delegated to designated staff, which may reduce the length of the approval process. However, enforcement of Development Permits requires court injunctions, which can be costly and time consuming.

Acknowledgements : Thanks to the following staff from the City of Chilliwack for providing their time and resources in completing this pilot project: Ian Crane – Director of Development; Chad Hampson – Planning Technician; Ernie Knight – Senior Development Technician; Peter O'Byrne – Senior Development Technician; Karen Stanton – Manager of Development Services; Lisa Thompson – Approving Officer; Jim Vickerson – Senior Planning Technician