

Riparian Areas Regulation: Assessment Report

Please refer to submission instructions and assessment report guidelines when completing this report.

Date February 27, 2014

I. Primary QEP Information

First Name	Steve	Middle Name	
Last Name	Toth		
Designation	R.P.Bio	Company	Toth and Associates Environmental Services
Registration #	1788	Email	stoth@shaw.ca
Address	6821 Harwood Drive		
City	Lantzville	Postal/Zip	V0R 2H0
Prov/state	BC	Country	Canada
		Phone #	250-390-7602

III. Developer Information

First Name	Tim	Middle Name	
Last Name	Wait		
Company	RE/MAX of Nanaimo		
Phone #	250-713-1223	Email	tim@timwait.com
Address	1401 38 Front Street		
City	Nanaimo	Postal/Zip	V9R OB8
Prov/state	BC	Country	Canada

IV. Development Information

Development Type	Other		
Area of Development (ha)	0.6	Riparian Length (m)	50
Lot Area (ha)	0.6	Nature of Development	Redevelopment
Proposed Start Date	2014-04-01	Proposed End Date	2015-12-31

V. Location of Proposed Development

Street Address (or nearest town)	1601 Extension Road						
Local Government	City of Nanaimo			City Nanaimo			
Stream Name	Unnamed						
Legal Description (PID)	LOT 25, SECTION 17, RANGE 4, CRANBERRY DISTRICT, PLAN 8000			Region Vancouver Island			
Stream/River Type	Stream			DFO Area South Coast			
Watershed Code	NA						
Latitude	49	07	08	Longitude	123	55	23

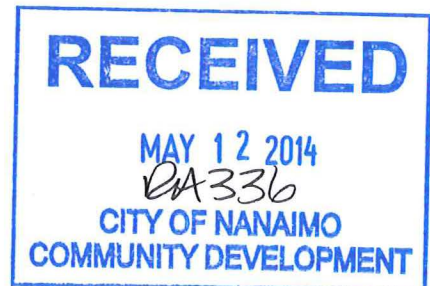


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Section 1. Riparian Areas Regulation Detailed Assessment of 1601 Extension Road, Nanaimo.

I, Steve Toth, R.P.Bio. (Toth and Associates Environmental Services) conducted a detailed *Riparian Areas Regulation* (RAR) assessment of the proposed redevelopment of the 0.6 hectare (1.5 acre) property located at 1601 Extension Road in the City of Nanaimo on February 20, 2014. There is currently no development proposed – this RAR assessment was requested to determine constraints to development and extent of watercourse setbacks for the sale / purchase of the subject property. Map No. 3 of the City of Nanaimo Official Community Plan (OCP) identifies a wetland on the subject property with a 15m watercourse setback requirement. **INVITE STEVE TO COMMENT** ①

The mapped streamlines indicate that the wetland forms the headwaters of a tributary to Richards Creek (Figure 1). Toth and Associates conducted a detailed fish and fish habitat, flow and water quality assessment of Richards Creek in 1993. The results of the 1993 assessment indicated that Richards Creek supports populations of coho salmon and cutthroat trout along with three-spine stickleback and introduced pumpkinseed. Low dissolved oxygen levels within the extensive wetlands between Roberta Road East and Richards Lake were considered a primary factor limiting salmonid production in the Richards Creek watershed.

Stream gradient between the subject property and the confluence with Richards Creek is 4%. The lower 150m of the watercourse increases to 10 - 12% gradient with frequent small barriers to upstream fish passage.

The wetland on the subject property consists of a hardhack / Himalayan blackberry shallow water wetland immediately upstream of Extension Road (Photograph 1), backed by a willow / sedge ephemeral swamp (Photograph 2) running approximately 50m to the north side of the property.

No naturally occurring source of water supply to the wetland was found during the field survey. The source of water for the wetland was found to be a storm drain outlet / connection at the boundary of the north side of the subject property. A 300mm drain pipe running under 1573 Extension Road, and a small poly pipe running west to east on the subject property discharge to a 500mm storm drain. The tie-in point was either poorly designed or has been damaged (Photograph 3), resulting in some of the storm drain flows bypassing the tie-in and running through / perpetuating the wetland on 1601 Extension Road. No other source of surface water for the wetland was found on the property. There is some seepage / soft ground across the property, but it appears to be fairly minimal and is likely due to a near surface impermeable layer. The volume of water discharging from the wetland at the culvert under Extension Road was very low.

The culvert under Extension Road receives flows from two storm drains: the 500mm storm drain carrying (the majority of) flows from the storm drain on 1573 Extension Road, and a 525mm storm drain carrying flows from Lenwood Road and Centenary Drive. Discharge from these storm drains represents almost all of the flow evident in the stream channel downstream of the culvert under Extension Road (Photograph 4). It is our opinion that if the leaky storm drain connection at the north side of the subject property was to be fixed that the wetland on the subject property would dry up.

It is likely that wetland on the subject property was once part of the natural drainage for this watershed. However, the adjacent upstream properties have placed the watercourse in storm drains and developed over the watercourse. Based on the presence of the 500mm storm drain along the north side of the subject

property it appears that at the time of storm drain construction the intent was to carry flows around the perimeter of the property, and that the only reason that the wetland continues to persist is due to the fact that the property has not been redeveloped already and the poor connection between the 300mm storm drain on 1573 Extension Road and the 500m storm drain on the subject property. As such, it is debatable whether or not the RAR should apply to the wetland on the subject property, as correction of the faulty storm drain connection would apparently result in drying of the wetland in which case it would no longer be considered a RAR assessable waterbody.

Currently the wetland provides some seasonal flows to downstream fish bearing waters (Richards Creek) and therefore the wetland is considered a RAR assessable waterbody. However, considering the source of water for the wetland will not be maintained once the subject property is redeveloped we recommend that the City of Nanaimo remove the wetland on 1601 Extension Road from Development Permit Area 1 – Watercourses and that the Ministry of Environment consider the RAR assessable section of the unnamed tributary to Richards Creek to commence at the outlet of the culvert under Extension Road.

The Streamside Protection and Enhancement Area (SPEA) setbacks are shown on Figure 3. The Zones of Sensitivity include 15m setbacks for Litterfall, 15m for Large Woody Debris (LWD) and 30m for Shade Preservation. The 30m SPEA for Shade would severely limit the development potential of the property.

Section 2. Results of Detailed Riparian Assessment

Refer to Chapter 3 of Assessment Methodology

Date: February 11, 2014

Description of Water bodies involved (number, type)

Unnamed tributary to Richards Creek

Wetland

Number of reaches

Reach #

Site Potential Vegetation Type (SPVT)

Yes No

SPVT Polygons Tick yes only if multiple polygons, if No then fill in one set of SPVT data boxes

I, Steve Toth, hereby certify that:

- a) I am a qualified environmental professional, as defined in the Riparian Areas Regulation made under the *Fish Protection Act*;
- b) I am qualified to carry out this part of the assessment of the development proposal made by the developer Tim Wait;
- c) I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and
- d) In carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Schedule to the Riparian Areas Regulation.

Polygon No:

Method employed if other than TR

LC SH TR

SPVT Type

Zone of Sensitivity (ZOS) and resultant SPEA

Segment If two sides of a stream involved, each side is a separate segment. For all water bodies No: multiple segments occur where there are multiple SPVT polygons

LWD, Bank and Channel Stability ZOS (m)

Litter fall and insect drop ZOS (m)

Shade ZOS (m) max South bank Yes No

SPEA maximum (For ditch use table3-7)

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- c) I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and
- d) In carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Schedule to the Riparian Areas Regulation.

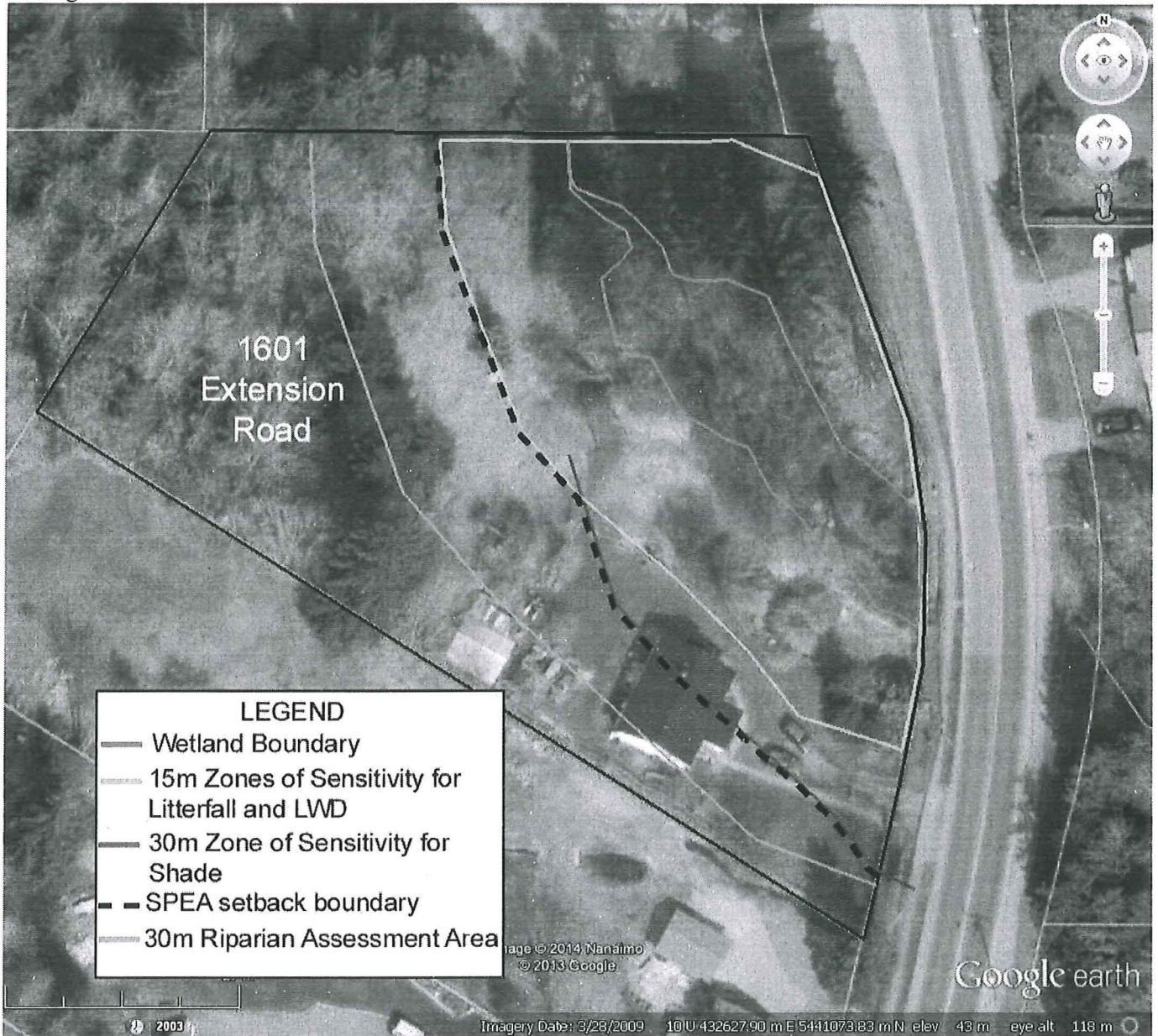
Figure 1. Unnamed Tributary to Richards Creek streamline



Figure 2. Drainage and storm drain systems associated with 1601 Extension Road



Figure 3. SPEA setbacks on 1601 Extension Road



Section 4. Measures to Protect and Maintain the SPEA

1. Danger Trees	No danger trees were documented during the survey.
<p>I, <u>Steve Toth</u>, hereby certify that:</p> <p>a) I am a qualified environmental professional, as defined in the Riparian Areas Regulation made under the <i>Fish Protection Act</i>;</p> <p>b) I am qualified to carry out this part of the assessment of the development proposal made by the developer <u>Tim Wait</u>;</p> <p>c) I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and In carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Schedule to the Riparian Areas Regulation</p>	
2. Windthrow	There was no evidence of recent windthrow noted on the property.
<p>I, <u>Steve Toth</u>, hereby certify that:</p> <p>a. I am a qualified environmental professional, as defined in the Riparian Areas Regulation made under the <i>Fish Protection Act</i>;</p> <p>b. I am qualified to carry out this part of the assessment of the development proposal made by the developer <u>Tim Wait</u>;</p> <p>c. I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and In carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Schedule to the Riparian Areas Regulation</p>	
3. Slope Stability	There are no steep slopes on the property.
<p>I, <u>Steve Toth</u>, hereby certify that:</p> <p>a. I am a qualified environmental professional, as defined in the Riparian Areas Regulation made under the <i>Fish Protection Act</i>;</p> <p>b. I am qualified to carry out this part of the assessment of the development proposal made by the developer <u>Tim Wait</u>;</p> <p>c. I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and In carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Schedule to the Riparian Areas Regulation</p>	
4. Protection of Trees	We have recommended that the wetland on the property be removed from the City of Nanaimo's DPA 1 – Watercourses, and that it not be considered a RAR assessable watercourse.
<p>I, <u>Steve Toth</u>, hereby certify that:</p> <p>a. I am a qualified environmental professional, as defined in the Riparian Areas Regulation made under the <i>Fish Protection Act</i>;</p> <p>b. I am qualified to carry out this part of the assessment of the development proposal made by the developer <u>Tim Wait</u>;</p> <p>c. I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and In carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Schedule to the Riparian Areas Regulation</p>	
5. Encroachment	As in #4, above. Redevelopment of the property will involve correcting the storm drain system and therefore the wetland will no longer be an assessable watercourse under the RAR.
<p>I, <u>Steve Toth</u>, hereby certify that:</p> <p>a. I am a qualified environmental professional, as defined in the Riparian Areas Regulation made under the <i>Fish Protection Act</i>;</p> <p>b. I am qualified to carry out this part of the assessment of the development proposal made by the developer <u>Tim Wait</u>;</p> <p>c. I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and In carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Schedule to the Riparian Areas Regulation</p>	
6. Sediment and Erosion Control	As the wetland currently discharges to a culvert under Extension Road, any future filling of the wetland must ensure that mitigation measures are in place to ensure that no sediment is permitted to enter the culvert or downstream watercourse. 2
<p>I, <u>Steve Toth</u>, hereby certify that:</p> <p>a. I am a qualified environmental professional, as defined in the Riparian Areas Regulation made under the <i>Fish Protection Act</i>;</p> <p>b. I am qualified to carry out this part of the assessment of the development proposal made by the developer <u>Tim Wait</u>;</p> <p>c. I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and In carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Schedule to the Riparian Areas Regulation</p>	
7. Stormwater Management	All hard surface derived run-off should be directed to infiltration fields or rock chambers.
<p>I, <u>Steve Toth</u>, hereby certify that:</p> <p>a. I am a qualified environmental professional, as defined in the Riparian Areas Regulation made under the <i>Fish Protection Act</i>;</p> <p>b. I am qualified to carry out this part of the assessment of the development proposal made by the developer <u>Tim Wait</u>;</p> <p>c. I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and In carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Schedule to the Riparian Areas Regulation</p>	
8. Floodplain Concerns (highly mobile)	There are no floodplain concerns on the property.

Form 3 Detailed Assessment Form
Riparian Areas Regulation - Qualified Environmental Professional - Assessment Report

channel)

I, Steve Toth, hereby certify that:

- a. I am a qualified environmental professional, as defined in the Riparian Areas Regulation made under the *Fish Protection Act*;
- b. I am qualified to carry out this part of the assessment of the development proposal made by the developer Tim Wait;
- c. I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and In carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Schedule to the Riparian Areas Regulation

Section 5. Environmental Monitoring

Based on the findings of our assessment we have recommended that the wetland on the property not be considered a RAR assessable watercourse, as the reason for the continued presence of the relic wetland is apparently due to a poor storm drain connection near the north side of the property which discharges some storm flows to the property. Based on this recommendation there should be no requirement for environmental monitoring of the development of the property or preparation of a post-development assessment report.

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Section 6. Photos



Photograph 1. View upstream from Extension Road to hardhack / blackberry.



Photograph 2. View downstream towards Extension Rod from willow / sedge swamp.



Photograph 3. View of poor / damaged storm drain connection.



Photograph 4. View downstream from the culvert under Extension Road.

Section 7. Professional Opinion

Assessment Report Professional Opinion on the Development Proposal's riparian area.

Date

1. I/We Steve Toth

Please list name(s) of qualified environmental professional(s) and their professional designation that are involved in assessment.)

hereby certify that:

- a) I am/We are qualified environmental professional(s), as defined in the Riparian Areas Regulation made under the *Fish Protection Act*;
 - b) I am/We are qualified to carry out the assessment of the proposal made by the developer Tim Wait; which proposal is described in section 3 of this Assessment Report (the "development proposal"),
 - c) I have/We have carried out an assessment of the development proposal and my/our assessment is set out in this Assessment Report; and
 - d) In carrying out my/our assessment of the development proposal, I have/We have followed the assessment methods set out in the Schedule to the Riparian Areas Regulation; AND
2. As qualified environmental professional(s), I/we hereby provide my/our professional opinion that:
- a) if the development is implemented as proposed by the development proposal there will be no harmful alteration, disruption or destruction of natural features, functions and conditions that support fish life processes in the riparian assessment area in which the development is proposed, **OR**
 - b) if the streamside protection and enhancement areas identified in this Assessment Report are protected from the development proposed by the development proposal and the measures identified in this Assessment Report as necessary to protect the integrity of those areas from the effects of the development are implemented by the developer, there will be no harmful alteration, disruption or destruction of natural features, functions and conditions that support fish life processes in the riparian assessment area in which the development is proposed.