

**DATE:** June 5, 2018**FILE:** 3220-20/12740000**TO:** Chair and Directors  
Electoral Areas Services Committee**FROM:** Russell Dyson  
Chief Administrative OfficerSupported by Russell Dyson  
Chief Administrative Officer**R. Dyson****RE: Floodplain Covenant Modification Request  
7861 MacArtney Drive – Shirkie & Au  
That Part of District Lot 47, New Castle District, Lying to the South of the  
Centre Line of Coal Creek, Except that Part in the Right of Way of the  
Esquimalt and Nanaimo Railway Company as Registered under No. 5964F  
and Except Part in Plans 391R, VIP57345, VIP61292, VIP61649 and VIP61961,  
PID 009-670-301****Purpose**

To consider a request to modify an historic floodplain restrictive covenant registered on a developed residential parcel by reducing the flood construction level (FCL) from 3.0 metres to 1.5 metres, in accordance with the floodplain bylaw.

**Recommendation from the Chief Administrative Officer:**

THAT the board approve the request to modify the restrictive covenant (EG126032) to reduce the flood construction level from 3.0 metres to 1.5 metres for the property described as That Part of District Lot 47, New Castle District, Lying to the South of the Centre Line of Coal Creek, Except that Part in the Right of Way of the Esquimalt and Nanaimo Railway Company as Registered under No. 5964F and Except Part in Plans 391R, VIP57345, VIP61292, VIP61649 and VIP61961, PID 009-670-301 (7861 MacArtney Drive – Shirkie and Au);

AND FINALLY THAT a Comox Valley Regional District officer be authorized to sign the modification instrument attached as Appendix B to the staff report dated June 5, 2018.

**Executive Summary**

- In June 2017, the applicant was issued a building permit to construct a single detached dwelling.
- Although, the proposed dwelling meets the floodplain bylaw requirements of 15.0 metre setback from Wilfred (Coal) Creek, and 1.5 metre FCL, there is a Section 219 (formerly Section 215) Restrictive Covenant (Appendix A) registered against the land title of the subject property that sets a 30.0 metre floodplain setback and a minimum 3.0 metre FCL. Therefore, there is a need to either modify the covenant to reduce the FCL requirement or re-design the proposed dwelling.
- The applicant, at their own risk, commenced construction with a 1.8 metre FCL, based on geotechnical assurance that flood risk was adequately addressed.
- The applicant submitted a Geotechnical Report, which states that the dwelling as constructed is safe and suitable for use as a single detached dwelling with a chance of exceeding the constructed FCL being less than 1 in 200 years. In addition, the engineer provided a Technical Memo to confirm that their analysis is not affected by the *Province of BC Flood Hazard Area Land Use Management Guidelines*, Revised January 1, 2018.

- Planning staff supports the modification request to reduce the FCL from 3.0 metres to 1.5 metres, which is consistent with the current floodplain management bylaw. The 30.0 metre floodplain setback in the covenant remains in place.

Prepared by:

Concurrence:

***B. Chow******A. Mullaly***


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 Brian Chow, MCIP, RPP  
 Rural Planner

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 Alana Mullaly, M.Pl., MCIP, RPP  
 Acting General Manager of Planning and  
 Development Services
**Stakeholder Distribution (Upon Agenda Publication)**

Applicant	✓
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**Background/Current Situation**

The subject property is located at 7861 MacArtney Drive and is approximately 1.8 hectares in area (Figure 1). It is hooked across the E&N Railway Corridor, and is split zoned: Country Residential One (CR-1) east of the railway and Rural Twenty (RU-20) west of the railway (Figure 2).

On April 20, 2017, the applicant submitted a building permit application for a single detached dwelling (Building Permit File: 10456) (Figures 3 and 4). The proposed dwelling meets the floodplain bylaw requirements of 15.0 metre setback from Wilfred (Coal) Creek, and 1.5 metre FCL. The setback of the dwelling is approximately 55 metres from the Creek and the FCL is 1.8 metres. However, there is a Section 219 (formerly Section 215) Restrictive Covenant (EG126032; Appendix A) registered against the land title of the subject property that sets a 30.0 metre floodplain setback and 3.0 metre FCL. Therefore, there is a need to either modify the covenant to reduce the FCL or re-design the almost completed dwelling. The applicant's lawyer submitted a modification instrument attached with an engineer report (Appendix B) for Comox Valley Regional District (CVRD) to sign.

Official Community Plan Analysis

Bylaw No. 337, being the "Rural Comox Valley Official Community Plan Bylaw No. 337, 2014" designates the subject property within Rural Settlement Areas. Similarly, the single detached dwelling is consistent with the rural form and character objectives and policies contained within this designation. Section 16(1) states that no new development in hazard areas, such as floodplains. As the subject dwelling is 55 kilometres from the watercourse, it is outside of the 30.0 metre covenanted setback requirement.

Zoning Bylaw Analysis

The subject property is split zoned: CR-1 east of the railway and RU-20 west of the railway. The dwelling is located on the CR-1 portion of the lot. The dwelling meets the lot line setback requirements and other zoning regulations.

Floodplain Bylaw Analysis

Bylaw No. 2782, being the "Floodplain Management Bylaw, 2005" sets a 15 metre floodplain setback and a 1.5 metre FCL for Wilfred (Coal) Creek. While the dwelling meets this bylaw, it contravenes the covenant with respect to the minimum 3.0 metre FCL requirement. The signatories of this covenant are the property owner at that time, Ministry of Environment, Lands and Parks and Regional District of Comox-Strathcona. As covenants run with the land, the current owners are bound by the terms and conditions. The Provincial Approving Officer is now a signatory on behalf

of the Provincial Government. Therefore, all three parties need to agree to modify it. In this case, the Provincial Approving Officer signed the modification instrument on May 1, 2018.

In support of the modification request, the modification instrument includes a geotechnical report prepared by Jim Mitchell, MSc, P.Eng. of Emerald Sea Engineering, dated December 13, 2017 (Appendix B). The report states that the elevation of the grade at the house is more than a metre above the maximum flood level possible. The bottom of the floor joists is another 0.1 metre above this level. The dwelling as constructed is safe and suitable for use as a single detached dwelling with a chance of exceeding the constructed FCL being less than 1 in 200 years. In addition, the engineer provided a Technical Memo (Appendix C) to confirm that their analysis is not affected by the *Province of BC Flood Hazard Area Land Use Management Guidelines*, Revised January 1, 2018.

### **Policy Analysis**

Section 524 of the *Local Government Act* (RSBC, 2015, c. 1) enables a local government to designate land as a floodplain and specify a flood construction level and setback to a watercourse. A bylaw prepared under this section must have regard for provincial guidelines and comply with any applicable provincial regulation. Bylaw No. 2782 sets a 15 metre floodplain setback and a 1.5 metre FCL for Wilfred (Coal) Creek.

Section 219 of the *Land Title Act* enables the Province and a local government to register a covenant against the title to the land in respect of the use of land or the use of a building on or to be erected on land. Section 219(9) states that a covenant may be modified by the holder of the charge and the owner of the land charged. In this case, all signatories must agree to modify the covenant.

### **Options**

The options are:

1. Approve the modification request to reduce the FCL from 3.0 metres to 1.5 metres; or
2. Deny the request.

Staff recommends the first option, as it meets the floodplain bylaw as well as provincial flood guidelines.

### **Financial Factors**

Bylaw No. 328, being the “Comox Valley Regional District Planning Procedures and Fees Bylaw No. 328, 2014,” identifies that any fees incurred from requiring the use of CVRD lawyer would be on an “at-cost” basis.

### **Legal Factors**

The request to reduce the FCL to 1.5 metres would still be consistent with the floodplain management bylaw.

Section 2(d) of the original covenant is the indemnity clause to protect the Province and the CVRD against claim and responsibility for flood damages by property owners. The modification request will not change this indemnity clause.

### **Regional Growth Strategy Implications**

Bylaw No. 120, being the “Comox Valley Regional District Regional Growth Strategy Bylaw No. 120, 2010” (RGS) designates the subject property within Rural Settlement Areas. The single detached dwelling is consistent with the rural form and character that the designation aims to protect. The RGS also states that planning for climate change adaptation must be a priority. Among the underlying principles of adaptation are public safety and enhanced resiliency in the face of a

changing climate. The analyses of the Geotechnical Report and the Technical Memo identifies that the dwelling is safe for the intended use.

**Intergovernmental Factors**

One of the signatories of the covenant was the Province. The Provincial Approving Officer, which represents the Province, signed the modification instrument on May 1, 2018. In addition, planning staff received confirmation from the engineer that their analyses of the Geotechnical Report are not affected by the recent changes to the *Province of BC Flood Hazard Area Land Use Management Guidelines*.

**Interdepartmental Involvement**

This modification request was circulated to internal departments for comments. No concerns were raised.

**Citizen/Public Relations**

There are no citizen and/or public relations factors related to this report.

Attachments: Appendix A – “Section 215 Restrictive Covenant: EG126032”  
Appendix B – “Modification Instrument with Engineer Report”  
Appendix C – “Technical Memo”

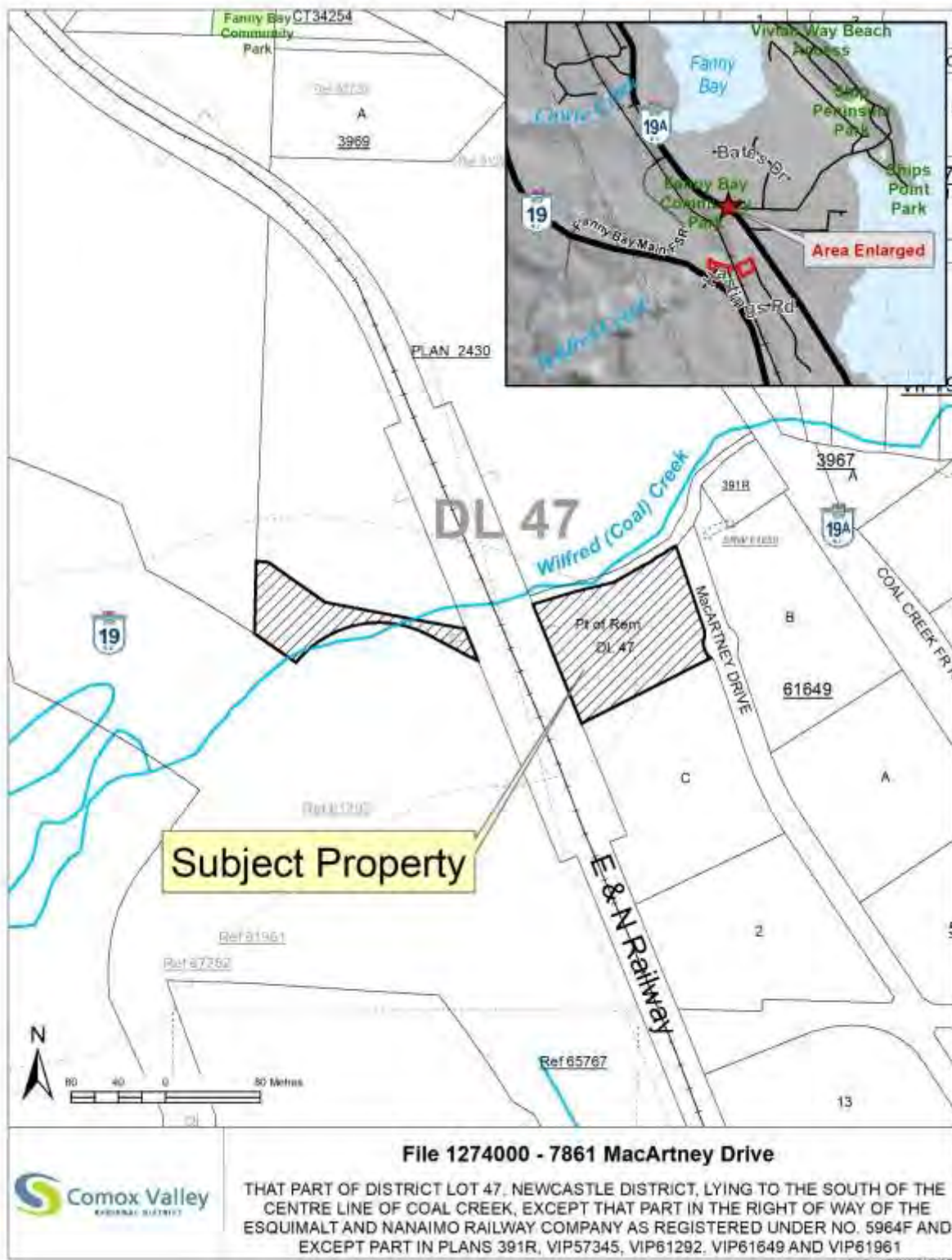


Figure 1: Subject Property Map

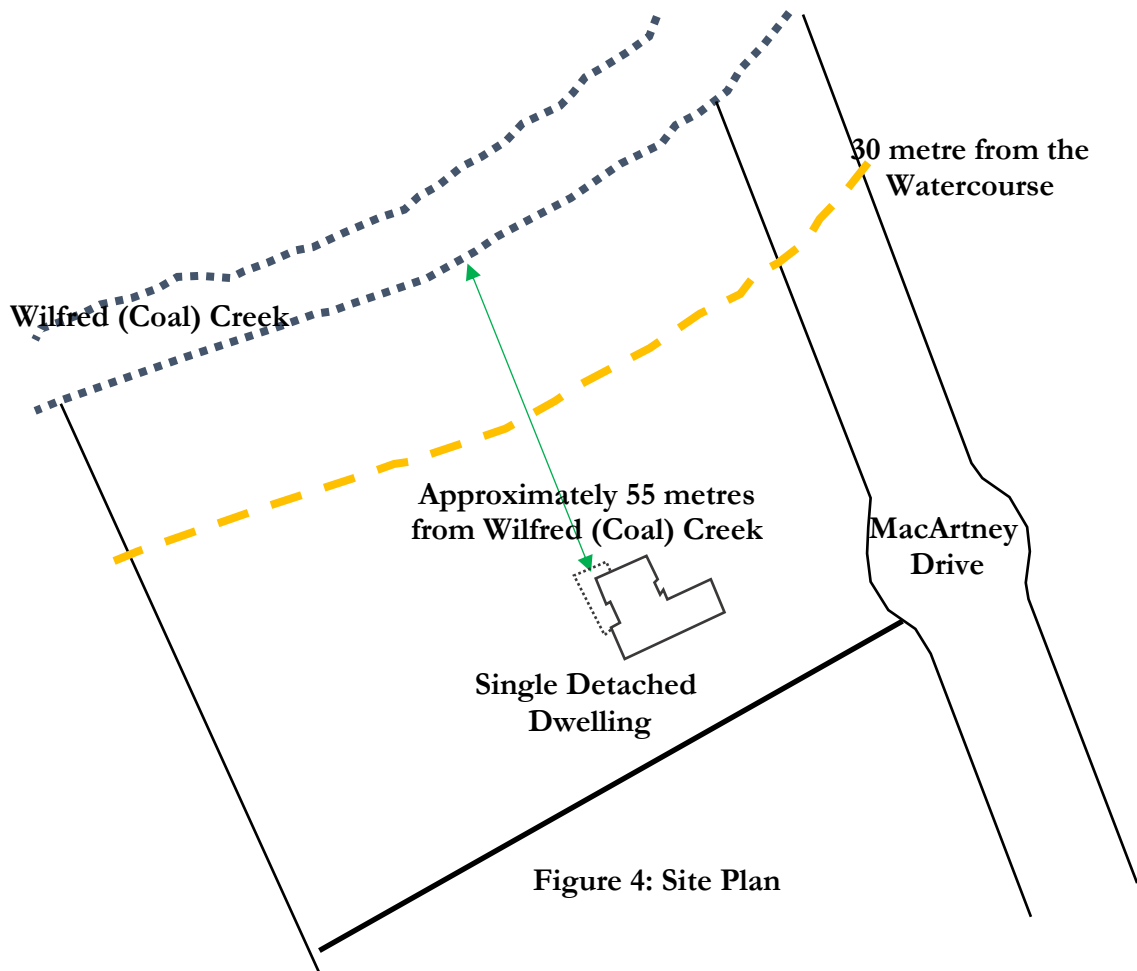


**Figure 2: Zoning Map  
(CR-1 East of the Railway and RU-20 West of the Railway)**





Figure 3: Air Photo





93 SP 28 12 39 0

EG126032

RECEIVED

LAND TITLE ACT  
FORM C

(Section 219.81)

Province of British Columbia

Page 1 of 8 pages

GENERAL DOCUMENT (This area for Land Title Office Use)

1. APPLICATION:

Christine Vincent c/o McElhanney Associates

495 - 6th Street

Courtenay, B.C. V9N 6V4

338-5495

authorized agent -

2. (a) PARCEL IDENTIFIER AND LEGAL DESCRIPTION OF LAND\*

(PID)

(LEGAL DESCRIPTION)

NOT ASSIGNED

009-670-301

Pen.

That part of District Lot 47, Newcastle District, lying to the South of the Centre Line of Coal Creek, Except that part in the Right of Way of the Esquimalt and Nanaimo Railway Company as registered under no. 5964F and Except that part in Plan 391R and Plan VIPS 7345

3. NATURE OF INTEREST

Description

Document Reference  
(page & paragraph)

PERSON ENTITLED  
TO INTEREST

Section 215  
Covenant

page 4  
paragraph 2

Transferee

09/28/93 D69966 CHARGE 50.00

4. TERMS: Part 2 of this instrument consists of (select one only)

- (a) Filed Standard Charge Terms
- (b) Express Charge Terms
- (c) Release

☒ Annexed as Part 2  
(There is no Part 2 of this instrument)

A selection of (a) includes any additional or modified terms referred to in item 7 or in a schedule annexed to this instrument. If (c) is selected, the charge described in item 3 is released or discharged as a charge on the land described in item 2.

5. TRANSFEROR(S):

M. HALLER QUALITY HOMES LTD. (Inc. No. 64340)

6. TRANSFEREE(S):

HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF BRITISH COLUMBIA, as represented by the Minister of Environment, Lands and Parks, Parliament Buildings, Victoria, British Columbia, V8V 1X5, and REGIONAL DISTRICT OF COMOX-STRATHCONA, P. O. Box 3370, Courtenay, British Columbia V9N 5N4 Courtenay, British Columbia, V9N 2J7

LAND TITLE ACT  
FORM C  
Section 219.81  
Province of British Columbia

GENERAL INSTRUMENT PART 1

page 2 of 8

7. ADDITIONAL OR MODIFIED TERMS:  
n/a

8. EXECUTION(S): This instrument creates, assigns, modifies, enlarges, discharges or governs the priority of the interest(s) described in item 3 and the Transferor(s) and every other signatory agree to be bound by this instrument, and acknowledge(s) receipt of a true copy of the filed standard charge terms, if any.

Officer Signature

Execution Date  
Y / M / D

Party (s) Signature



93 9 14

M. HALLER QUALITY HOMES LTD.  
by its authorized signatory:

RICHARD J. SMYTH, Q.C.  
BARRISTER & SOLICITOR  
#201-467 Cumberland Rd.  
Courtenay, B.C. V9N 2C5

  
MANFRED HALLER

Officer Signature

Y / M / D

HER MAJESTY THE QUEEN  
IN RIGHT OF THE PROVINCE  
OF BRITISH COLUMBIA by  
its authorized signatory:

Name:

93

Name:

Officer Signature

Y / M / D

REGIONAL DISTRICT OF  
COMOX-STRATHCONA  
by its authorized  
signatories:

Name:

93

Name:

Name:

**OFFICER CERTIFICATION:**

Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the Evidence Act, R.S.B.C. 1979, c 116, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the Land Title Act as they pertain to the execution of this instrument.

**PART 2 - EXPRESS CHARGE TERMS****DEFINITIONS:**

1. The Transferor referred to in item 5 of Part 1 is referred to herein as the "Grantor".
2. The Transferee, Her Majesty the Queen in Right of the Province of British Columbia, referred to in item 6 of Part 1 is referred to herein as the "First Grantee".
3. The Transferee, Regional District of Comox-Strathcona, referred to in item 6 of Part 1 is referred to herein as the "Second Grantee".

**WHEREAS:**

- A. The Grantor is the registered owner of the lands legally described in item 2 of Part 1 and such lands are referred to herein as the "Lands";
- B. The Grantor proposes to subdivide certain lands of which the Lands form part upon issuance by the Second Grantee of approval for such subdivision as shown on the print of the subdivision plan attached hereto;
- C. A covenant under section 215 of the Land Title Act is required by the Minister of Environment, Lands and Parks under section 82 of the Land Title Act as a condition of approval by the Second Grantee for this subdivision; and
- D. Section 215 of the Land Title Act provides that there may be registered as a charge against the title to any land a covenant in favour of the First Grantee and the Second Grantee that land is to be used in a particular manner except in accordance with the covenant.

NOW THEREFORE THIS INDENTURE WITNESSES that in consideration of the sum of ONE (\$1.00) DOLLAR of lawful money of Canada and other good and valuable consideration paid by the First and Second Grantee to the Grantor, the receipt of which is hereby acknowledged, the Grantor does hereby covenant and agree with the First and Second Grantee under section 215 of the Land Title Act of the Province of British Columbia as follows:

1. The Grantor is aware of and, on behalf of itself and its heirs, executors, administrators, successors and assigns, hereby acknowledges that there is a potential flood danger to the Lands.



page 4

2. The Grantor, on behalf of itself and its successors and assigns, hereby covenant and agree with each of the First Grantee and Second Grantee, as a covenant in favour of each of the First Grantee and the Second Grantee pursuant to section 215 of the Land Title Act, it being the intention and agreement of the Grantor that the provisions hereof be annexed to and run with and be a charge upon the Lands, that from and after the date hereof:

- (a) Hereafter, no building shall be constructed, nor mobile home located within thirty (30.0) meters of the natural boundary of Coal Creek (Wilfred Creek);
- (b) Hereafter, no area used for habitation, business, or storage of goods damageable by floodwaters shall be located within any building at an elevation such that the underside of the floor system thereof is less than three (3.0) metres above the natural boundary of Coal Creek (Wilfred Creek).

→ In the case of a mobile home, the ground level or top of concrete or asphalt pad on which it is located shall be no lower than the above described elevation.

- (c) The required elevation may be achieved by structural elevation of the said habitable, business or storage area or by adequately compacted landfill on which any building is to be constructed or mobile home located, or by a combination of both structural elevation and landfill. No area below the required elevation shall be used for the installation of furnaces or other fixed equipment susceptible to damage by floodwaters. Where landfill is used to raise the natural ground elevation, the toe of the landfill slope shall be no closer to the natural boundary than the setback required given in condition (a) above. The face of the landfill slope shall be adequately protected against erosion from flood flows.
- (d) The owner acknowledges that the Province of British Columbia does not represent to the owner or any other person that any building constructed or mobile home located in accordance with conditions (a) and (b) herein will not be damaged by flooding or erosion, and the owner covenants and agrees not to claim damages from the Province or Regional District of Comox-Strathcona or hold the Province or Regional District responsible for damages caused by flooding or erosion to the land or any building, improvement, or other structure built, constructed or placed upon the said lands and to any contents thereof.

page 5

3. Subject to the provisions of section 215 of the Land Title Act, the Grantor's covenants contained in this Agreement shall burden and run with the Lands and shall enure to the benefit and be binding upon the Grantor and its successors and assigns and the First and Second Grantee and their assigns.
4. Nothing in this Agreement shall prejudice or affect the rights, powers and remedies of the First and Second Grantee in relation to the Grantor, including its successors and assigns, or the Lands under any law, bylaw, order or regulation or in equity all of which rights, powers and remedies may be fully and effectively exercised by the First and Second Grantee as if this Agreement had not been made by the parties.
5. The Grantor will do or cause to be done at its expense all acts reasonably necessary for the First and Second Grantees to gain priority for this agreement over all liens, charges and encumbrances which are or may be registered against the Lands save and except those in favour of the First and Second Grantees and those specifically approved in writing by the First and Second Grantees.
6. The parties agree that this Agreement shall not be modified or discharged except in accordance with the provisions of section 215(d) of the Land Title Act.





page 6


7. The Grantor shall do or cause to be done all things and execute or cause to be executed all documents and give such further and other assurances which may be reasonably necessary to give proper effect to the intent of this Agreement.

8. (a) The Grantor or any of its successors and assigns, as the case may be, shall give written notice of this Agreement to any person to whom it proposes to dispose the Lands, which notice shall be received by that person prior to such disposition.

(b) For the purposes of this paragraph, the words "dispose" shall have the meaning given to it under section 29 of the Interpretation Act, R.S.B.C. 1979, c.206.

9. Wherever the singular or feminine or neuter is used herein, the same shall be construed as including the plural, masculine, body corporate or politic unless the context requires otherwise.

10. If any action or any part of this Agreement is found to be illegal or unenforceable, then such sections or parts shall be considered to be separate and severable from this Agreement and the remaining sections or parts of this Agreement, as the case may be, shall be unaffected thereby and shall remain and be enforceable to the fullest extent permitted by law as though the illegal or unenforceable parts or sections had never been included in this Agreement.



Page 7

NOTE:

THE PLAN WHICH WAS REFERRED TO  
IN, AND ATTACHED TO THIS  
DOCUMENT WAS AN EXACT COPY OF  
THE DEPOSITED PLAN WHICH IS  
FILED UNDER NUMBER VIP57345.

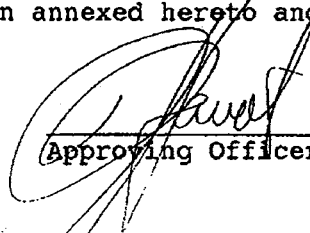
page 8

11. This Agreement shall be interpreted according to the laws of the Province of British Columbia.

12. Where there is a reference to an enactment of the Province of British Columbia in this Agreement, that reference shall include a reference to any subsequent enactment of the Province of British Columbia of like effect, and unless the context otherwise requires, all statutes referred to herein are enactments of the Province of British Columbia.

13. Every reference to the Minister of Environment, Lands and Parks in this agreement shall include the Minister of Environment, Lands and Parks, the Deputy Minister of Environment, Lands and Parks and any person designated by either of them to act for or on their respective behalf with respect to any of the provisions of this Agreement.

This is the instrument creating the condition or covenant entered into under Section 215 of the Land Title Act by the registered owner referred herein and shown on the print of plan annexed hereto and initialled by me.

  
\_\_\_\_\_  
Approving Officer

- END OF DOCUMENT -

**LAND TITLE ACT**  
**FORM C (Section 233) CHARGE**  
**GENERAL INSTRUMENT - PART 1 Province of British Columbia**

PAGE 1 OF 12 PAGES

Your electronic signature is a representation that you are a subscriber as defined by the Land Title Act, RSBC 1996 c.250, and that you have applied your electronic signature in accordance with Section 168.3, and a true copy, or a copy of that true copy, is in your possession.

1. APPLICATION: (Name, address, phone number of applicant, applicant's solicitor or agent)

**DAVIS AVIS RANDALL**

**Barristers & Solicitors**

**Box 1600, #201-156 Morison Avenue**

**Parksville**

**BC V9P 2H5**

**File No. 26436 Shirkie/Au**

**Tel. No. 250-248-5731**

Deduct LTSA Fees? Yes ☒

2. PARCEL IDENTIFIER AND LEGAL DESCRIPTION OF LAND:  
 [PID] [LEGAL DESCRIPTION]

**SEE SCHEDULE**

STC? YES ☐

3. NATURE OF INTEREST

**Modification**

CHARGE NO.

**EG126032**

ADDITIONAL INFORMATION

**s. 215 Covenant**

4. TERMS: Part 2 of this instrument consists of (select one only)

(a) ☐ Filed Standard Charge Terms D.F. No.

(b) ☒ Express Charge Terms Annexed as Part 2

A selection of (a) includes any additional or modified terms referred to in Item 7 or in a schedule annexed to this instrument.

5. TRANSFEROR(S):

**PETER THOMAS SHIRKIE AND STEPHANIE WUN-YUE AU**

6. TRANSFEREE(S): (including postal address(es) and postal code(s))

**SEE SCHEDULE**

7. ADDITIONAL OR MODIFIED TERMS:

**N/A**

8. EXECUTION(S): This instrument creates, assigns, modifies, enlarges, discharges or governs the priority of the interest(s) described in Item 3 and the Transferor(s) and every other signatory agree to be bound by this instrument, and acknowledge(s) receipt of a true copy of the filed standard charge terms, if any.

Officer Signature(s)

Execution Date

Y	M	D
18		

Transferor(s) Signature(s)

**Peter Thomas Shirkie**

**Stephanie Wun-Yue Au**

**OFFICER CERTIFICATION:**

Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the *Evidence Act*, R.S.B.C. 1996, c.124, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the *Land Title Act* as they pertain to the execution of this instrument.

LAND TITLE ACT  
FORM D

## EXECUTIONS CONTINUED

PAGE 2 of 12 PAGES

Officer Signature(s)

Execution Date

Transferor / Borrower / Party Signature(s)

Y	M	D
18	05	01

Ministry of Environment, Lands and  
Parks, by its authorized signatory:

Tara M. Breysen  
A Commissioner for taking Affidavits  
for British Columbia  
(Expires January 31, 2021)  
Ministry of Transportation  
and Infrastructure  
240-4460 Chatterton Way  
Victoria BC V8X 5J2



Name: Kirsten Fagervik  
Provincial Approving Officer

**Kirsten Fagervik**  
**Provincial Approving Officer**  
BC MoTI File # 2018-00383

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Comox Valley Regional District,  
formerly known as Regional District of  
Comox-Strathcona, by its authorized  
signatory(ies):

Name: \_\_\_\_\_

Name: \_\_\_\_\_

## OFFICER CERTIFICATION:

Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the *Evidence Act*, R.S.B.C. 1996, c.124, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the *Land Title Act* as they pertain to the execution of this instrument.



LAND TITLE ACT  
FORM E

## SCHEDULE

PAGE 3 OF 12 PAGES

2. PARCEL IDENTIFIER AND LEGAL DESCRIPTION OF LAND:  
[PID] [LEGAL DESCRIPTION]

009-670-301

THAT PART OF DISTRICT LOT 47, NEWCASTLE DISTRICT, LYING TO THE SOUTH OF THE CENTRE LINE OF COAL CREEK, EXCEPT THAT PART IN THE RIGHT OF WAY OF THE ESQUIMALT AND NANAIMO RAILWAY COMPANY AS REGISTERED UNDER NO. 5964F AND EXCEPT PART IN PLANS 391R, VIP57345, VIP61292, VIP61649 AND VIP61961

STC? YES ☐2. PARCEL IDENTIFIER AND LEGAL DESCRIPTION OF LAND:  
[PID] [LEGAL DESCRIPTION]STC? YES ☐2. PARCEL IDENTIFIER AND LEGAL DESCRIPTION OF LAND:  
[PID] [LEGAL DESCRIPTION]STC? YES ☐

**LAND TITLE ACT  
FORM E****SCHEDULE****PAGE 4 OF 12 PAGES**

ENTER THE REQUIRED INFORMATION IN THE SAME ORDER AS THE INFORMATION MUST APPEAR ON THE FREEHOLD TRANSFER FORM, MORTGAGE FORM, OR GENERAL INSTRUMENT FORM.

HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF BRITISH COLUMBIA  
as represented by the Minister of Environment, Lands and Parks  
Parliament Buildings  
Victoria, BC V8V 1X5

COMOX VALLEY REGIONAL DISTRICT  
formerly known as Regional District of Comox-Strathcona  
600 Comox Road  
Courtenay, BC V9N 3P6

PART 2 – Express Charge Terms

**MODIFICATION OF COVENANT**

WHEREAS:

- A. On September 28, 1992 a Covenant in favour of Her Majesty The Queen in Right of the Province of British Columbia and the Regional District of Comox-Strathcona was registered in the Land Title Office at Victoria, British Columbia, under EG126032 (the "Covenant"), over the following lands more particularly known and described as:

PID: 009-670-301

That part of District Lot 47, Newcastle District, lying to the south of the centre line of Coal Creek, except that part in the right of way of the Esquimalt and Nanaimo Railway Company as registered under no. 5964F and except part in plans 391R, VIP57345, VIP61292, VIP61649 and VIP61961 (the "Lands")

- B. Peter Thomas Shirkie and Stephanie Wun-Yue Au are the current owners of the Lands.
- C. For good and sufficient reasons the parties have agreed to modify the Covenant.

THEREFORE WITNESS THAT for good and valuable consideration, the receipt and sufficiency of which each party acknowledges, the parties agree as follows:

1. To modify the Covenant by deleting the existing paragraph 2(b) and replacing it with the following paragraph:

"(b) Hereafter, no area used for habitation, business, or storage of goods damageable by floodwaters shall be located within any building at an elevation such that the underside of the floor system thereof is less than one and one half (1.5) metres above the natural boundary of Coal Creek (Wilfred Creek).

In the case of a mobile home, the ground level or top of concrete or asphalt pad on which it is located shall be no lower than the above described elevation."

2. The report of Emerald Sea Engineering dated December 13, 2017, be attached hereto as Schedule "A".
3. The parties agree that the Covenant and all of the covenants, conditions, and provisions in it, shall continue in full force and effect as if they were part of this Agreement.
4. The parties agree that this Agreement shall extend to and be binding upon the respective heirs, executors, administrators, successors and assigns.

## **SCHEDULE "A"**

**EMERALD SEA ENGINEERING** 4920 Island Highway North, Courtenay, BC V9N 5Z1  
250-338-0882 jim.eseng@gmail.com



Green Shores

Green Sites

Green Buildings

December 13, 2017

Peter Shirkie and Stephanie Au  
180 Millpark Road SW  
Calgary, AB T2Y 2M5

**PROJECT:** 7861 Macartney Drive  
Fanny Bay, BC

**SUBJECT:** Review of Flood Plain Issues

Dear Sir,

### **Introduction**

On November 29, 2017, I attended the site at 7861 Macartney Drive, Fanny Bay, BC to review the property with respect to flood plain issues. I met with you and Bruce Lewis, the surveyor for the project, on site, to discuss these issues and to review the siting of the house with respect to the site topography and the location Coal or Wilfred Creek.

### **Background**

I understand that Bruce Lewis discovered there was a covenant on the property restricting the Flood Construction Level (FCL) to 3m above the natural boundary of the creek after a building permit had been issued for the house and the construction was at a lockup stage. The bottom of the floor joists for the house were set at 1.8m above the natural boundary as shown on the survey by Bruce Lewis, dated March 31, 2017. You have asked me to give an opinion of the actual flood risks and to determine if it was feasible to prepare a report to indicate the currently constructed FCL is acceptable.

### **Methodology**

1 General surface observations of the property were completed for the area between the house and the creek and the shoreline along portions of the creek were reviewed.

**EMERALD SEA ENGINEERING**

Review of Floodplain Issues  
7861 Macartney Drive  
Fanny Bay, BC  
December 14, 2017

2. The Regional District's Floodplain Bylaw has a clause allowing a FCL of 1.5m above the natural boundary if the creek flow is less than 80 Cubic Metres per Second (cms). As a result, the flow capacity of the creek bed was investigated based on existing survey data of creek cross sections near the railway bridge. Manning's Equation for open channels was used to estimate the approximate flow rate for the creek. This flow rate was then compared to the 80 cms flow rate from the bylaw to see if it was reasonable to use a lower FCL.
3. An approximate estimate of runoff from the watershed was completed using the rational method to see if the watershed could generate a flow into the creek that was expected to exceeded 80 cms.
4. Finally, an additional cross section of the creek was completed from new survey data at the house location and the maximum flow capacity and flooding potential was evaluated for this section.

**Results of Hydrology Estimations**

1. The preliminary estimation of the flow capacity of the channel within the top of the banks at the railway bridge was inconclusive. Estimates ranged from 43 to 81 cms depending upon the assumed depth of flow and width of flood plain.
2. We then completed an analysis of the watershed above the property to see if the expected flows would exceed 80 cms. This was not intended to be a full floodplain management study but was intended to determine if it was reasonable to use the bylaw standard for creeks with flow of less than 80 cms. As a result a simple analysis was completed using the rational method. This method is not generally recommended for this large a watershed (29 square kilometres with a 1200 drop in elevation - see attached plan) but it should produce a reasonable estimate for use in evaluating if there is a need for further study. The initial estimate, using the rational method with a runoff coefficient of 0.1, a collection time of 1 hour with a rainfall of intensity of 40 mm/hour yielded an estimate of 12 cms for a 200 year flood. This would be reasonable for smaller, flatter sloped, forested areas. However, the runoff coefficient can range from less than 0.1 to over 0.9 and for the steep slope, rocky conditions upstream, values as high as 0.4 may be justified. As a result, my estimated range of potential flows is from 11.6 to 46.4 cms. This range appears to be consistent with other watersheds in the region.



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3. The rainfall intensity of 40 mm/hour used for these estimates was taken as the highest value from the Intensity Duration Curves available for a 1 hour event from the Puntledge River, Comox Airport (30mm/hour) and Parksville (15 mm/hour). As a result, this estimate is likely higher than actual conditions at Wilfred Creek.

4. The time of collection of 1 hour was based on available algorithms available for relating time of collection to the land slope. This value is expected to be lower than the actual conditions for this large a watershed, which will mean the rainfall intensity used is higher than expected, also producing an estimate that is likely higher than actual conditions.

5. Even though these estimates are approximate, we expect the larger values for these estimates to be on the high side and it is very unlikely that the actual creek flows would exceed those values.

6. We completed a final estimate of the river flow capacity at the house based on new survey data for a cross section of the creek that also included the adjacent floodplain. We assumed the flood level for this estimate was up to the high point of land on the north side of the river. The house is located on ground above this elevation (See attached Plan and Cross Section). The estimate for creek flow for a floodplain approximately 70m wide up to an elevation of 19.88m is 93 cms.

7. Beyond the high point on the north side, the land drops off to the north so that any further flooding above 19.88m would occur on the north side of the creek. It is extremely unlikely that the depth of flow would be more than 0.1 m above this elevation even if the watershed could generate this flow rate.

8. The elevation of the grade at the house is approximately 21.0 m, more than a metre above the maximum flood level possible. The bottom of the floor joists is another 0.1 metre above this at 21.1 m.

**Conclusion**

The existing house Flood Construction Level is approximately 1m above the estimated maximum flood elevation possible for this location. In my opinion, due to the high point of land on the north side limiting flood levels, it is not necessary to complete further investigations into

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flooding levels. The existing creek bed and floodplain also have an estimated capacity of about 93 cms which is about double what the estimated value for the maximum flow rate available from the watershed. In my opinion the house as constructed is safe and suitable for use as a single family dwelling with a chance of exceeding the constructed FCL being less than a 1 in 200 years.

**Acknowledgements**

This report has been prepared solely for, and at the expense of the prospective owner for the express purpose of informing their decision on how to proceed to address the issues surrounding the covenant regarding Flood Construction Levels on this property.

Emerald Sea Engineering and Jim Mitchell, PEng have not acted for or as an agent for the contractor or surveyor in the preparation of this report.

**Limitations**

The conclusions and recommendations submitted in this report are based upon the data obtained from a limited number of sources and observations. The nature and extent of variations of this data from actual conditions may not become evident until further research and investigation. If unanticipated conditions or additional information are discovered, Emerald Sea Engineering should be contacted immediately to allow reassessment of the recommendations and opinions provided herein.

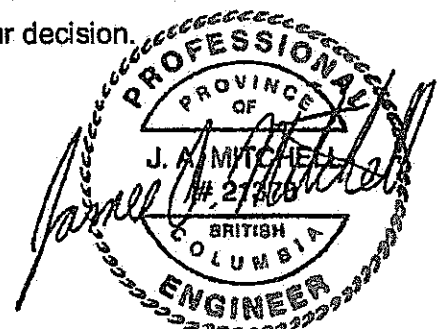
The report applies to the subject project only and no warranty is made, expressed or implied. Emerald Sea Engineering accepts no responsibility for differing conditions for hidden conditions on the property or for decisions made by an unauthorized third party using this report.

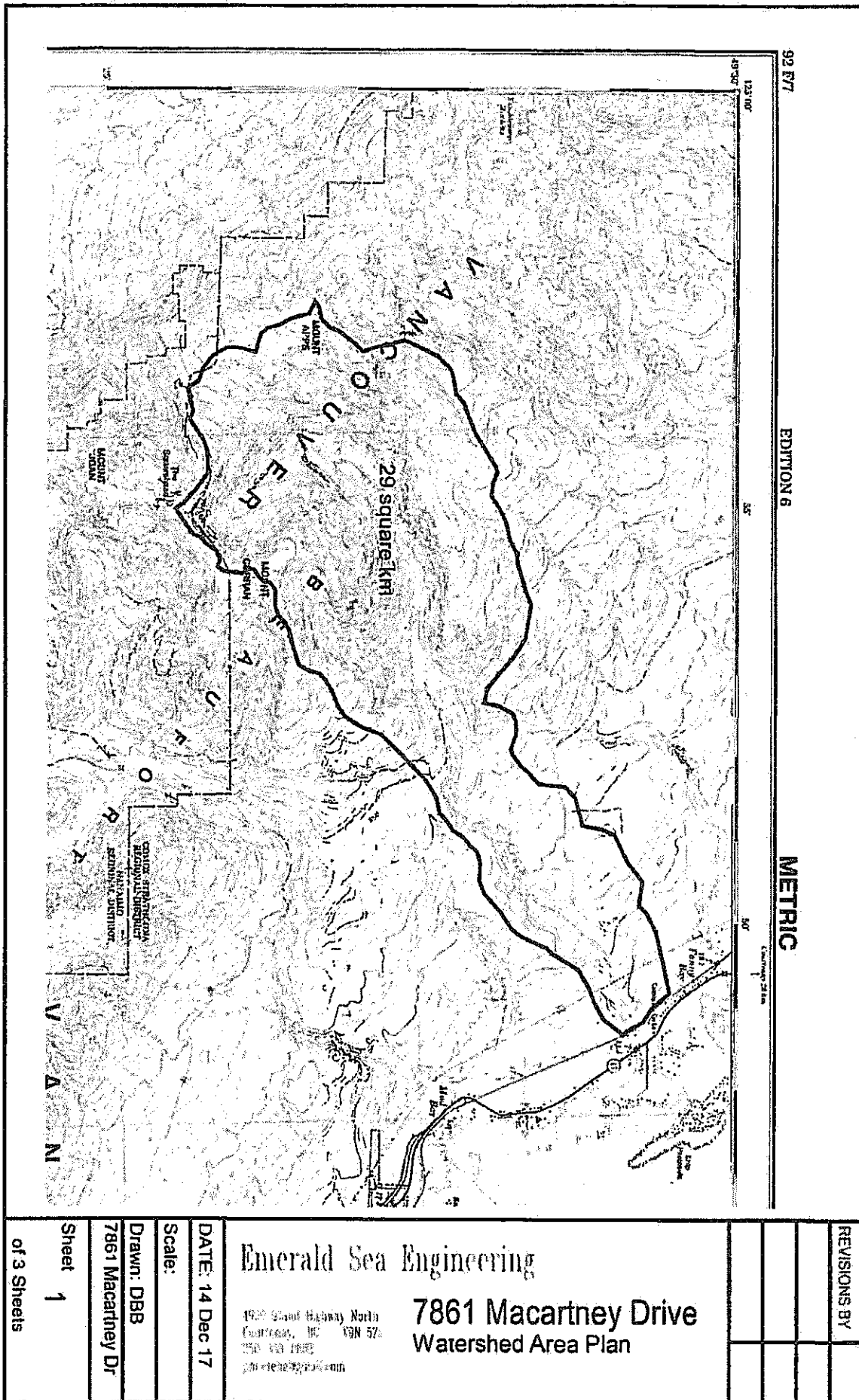
**Closure**

We appreciate being of service to you on this issue. Please call if you have any questions or you need further clarifications. I hope this assists you in making your decision.

Sincerely,

Jim Mitchell, MSc, PEng  
Emerald Sea Engineering





92 E7

EDITION 6

METRIC

REVISIONS BY

**7861 Macartney Drive**  
Watershed Area Plan

**Emerald Sea Engineering**

1920 Grand Highway North  
Cairns, QLD 6850  
08 939 1800  
info@eseng.com

DATE: 14 Dec 17

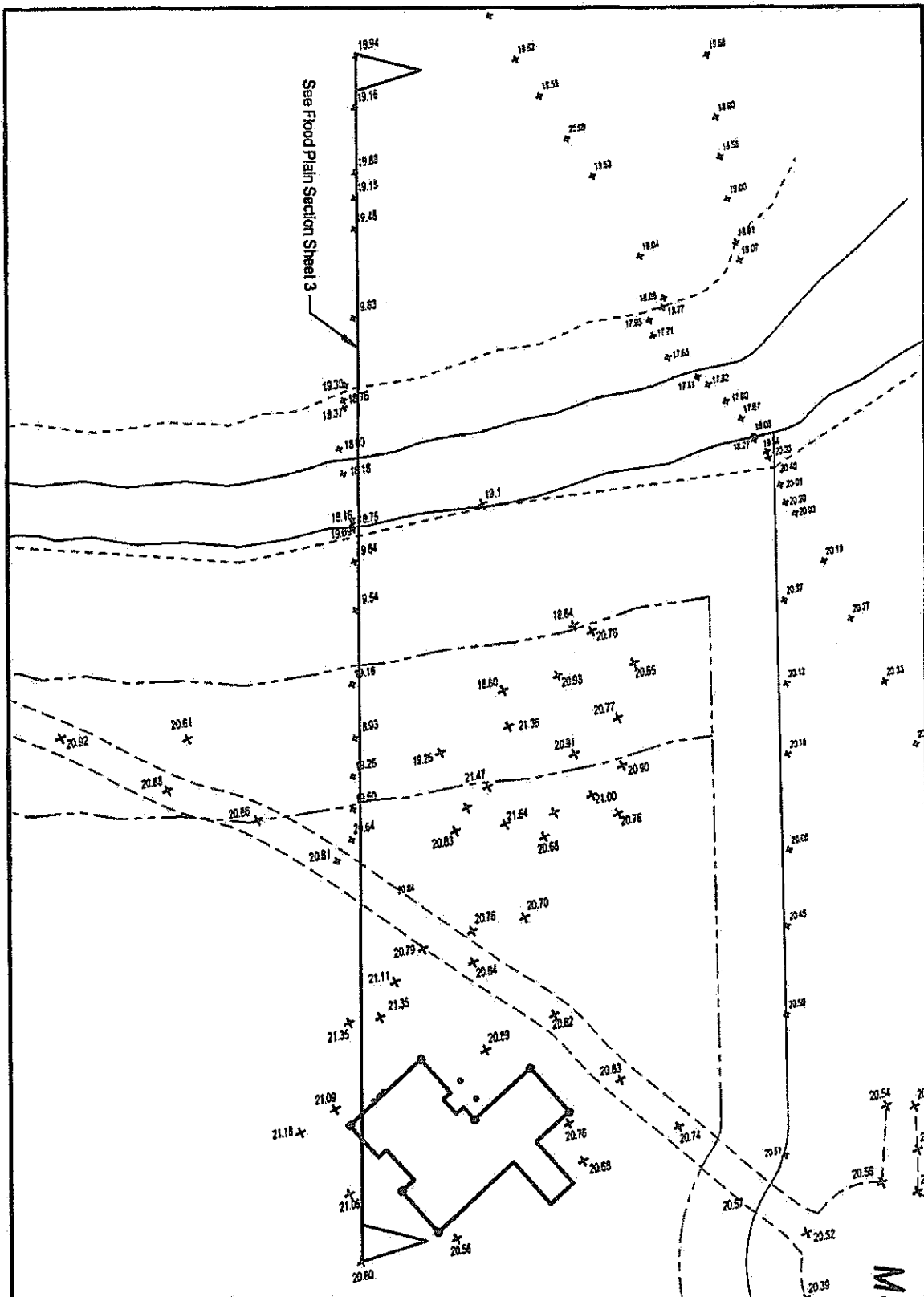
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7861 Macartney Dr

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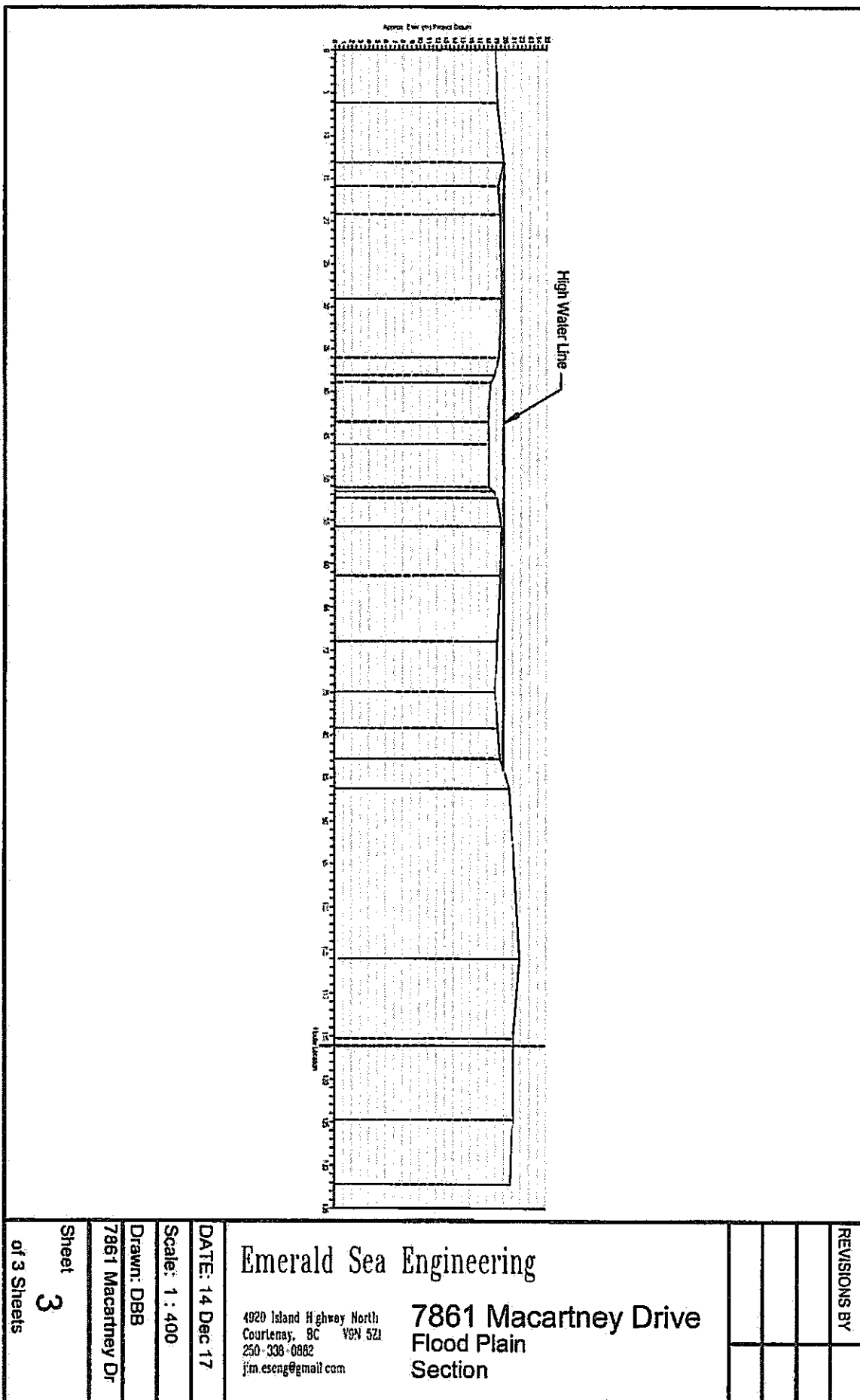
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7861 Macartney Drive  
Flood Plain  
Section

DATE: 14 Dec 17

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7861 Macartney Dr

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of 3 Sheets



## Emerald Sea Engineering

4920 Island Highway North, Courtenay, BC V9N 5Z1  
Phone/FAX: (250) 338-0882 Email: jim.eseng@gmail.com

## Technical Memorandum

Project: 7861 Macartney Date: May 2, 2018 Job No: Macartney 7861  
Re: Review of 2018 Revised BC Guidelines with respect to Floodplain Assessment  
To: Brian Chow, CVRD cc: Paul Dabbs From: Jim Mitchell P.Eng

This is to confirm that I have reviewed the Province of BC, Flood Hazard Area Land Use Management Guidelines, Revised January 1, 2018 and the revised sections are regarding Sea Level Rise for coastal flooding and flooding of areas protected by dikes. This project is well above sea level on a creek and does not have dikes. As a result, the revisions to the Guidelines do not affect the conclusions for the floodplain assessment for this project.

Sincerely

A circular green seal for a Professional Engineer in the Province of British Columbia. The seal contains the text "PROFESSIONAL", "PROVINCE OF", "J. A. MITCHELL", "# 21378", "BRITISH COLUMBIA", and "ENGINEER". A blue ink signature is written across the seal.

Jim Mitchell, PEng  
Emerald Sea Engineering