

## **Subdivision Servicing Report**

Linda Franklin, 3700 & 3710 Sunnybrae Canoe Point Road  
Lot 1 & 2, Plan KAP82925, Sec 11, Twp 21, R10, W6M KDYD

Sept 12, 2016

*Prepared for submission to:*

Interior Health Authority – Salmon Arm Health Centre  
851 – 16<sup>th</sup> St. NE  
Salmon Arm, BC  
V1E 4N7

September 13, 2016

Dear Interior Health Authority,

The following document is a report of Franklin Engineering's findings regarding on-site servicing capability for the proposed boundary adjustment of the properties described below. The subject properties are located in Electoral Area 'C' of the Columbia Shuswap Regional District (CSRD).

**Lot information**

Address: 3700 & 3710 Sunnybrae Canoe Point Road

Legal Description: Lot 1 & 2, Plan KAP82925, Sec 11, Twp 21, R10, W6M KDYD

PID: 026-949-481 (3700) & 026-949-491 (3710)

MOT File: #2016-01028

**Written Statement**

In accordance with the Interior Health Authority's *Subdivision Report Criteria*, we have assessed the above noted properties and determined that they are feasibly serviced and suitable for boundary adjustment, according to the attached plans.

Report prepared by,



Mark Wilson

Authorized by,



Jayme Franklin P.Eng

## **PROJECT BACKGROUND**

### **Introduction and Contact Information**

Franklin Engineering was retained by Linda Franklin to prepare this Subdivision Report for her properties at 3700 & 3710 Sunnybrae Canoe Point Road, to the north of Salmon Arm on the Shuswap Lake. The owner's intention is to adjust the boundary line between the two lots to remove an awkward panhandle and create a more logical division.

#### **Owner's Contact Information:**

Linda Franklin  
3710 Sunnybrae Canoe Point Road  
Sunnybrae, BC, V0E 2X1  
250-832-8380

#### **Our contact information:**

Franklin Engineering Ltd.  
420A 4<sup>th</sup> St NE, Box 2590  
Salmon Arm, BC V1E 4R5  
250-832-8380

### **Purpose of this Report**

This report represents the findings of site investigations which demonstrate septic serviceability that meets Interior Health Authority requirements. It is provided to assist IHA in providing comments to MOT regarding the proposed boundary adjustment.

## **PROPERTY CHARACTERISTICS**

### **General Site Information**

The subject properties lie to the north of Salmon Arm in Sunnybrae, BC. The lots are directly on the shore of Shuswap Lake. They are lightly treed and slope gently toward the lake. 3710 currently has a house that is serviced by an existing septic system. 3700 has a permitted septic system in place for future construction.

### **Wells and Drinking Water**

Domestic water on the lots is provided by the Sunnybrae Community Water System. Though this system is currently under a boil water advisory due to being previously abandoned, it has received \$1.7 million in federal funding this year from the Gas Tax General Strategic Priorities fund that will be used for upgrades to the system, including a new deep water intake, treatment plant, pump building, UV disinfection system, chlorination system, emergency power, and remote monitoring system. These upgrades will bring the water system well above IHA requirements.

### **Surface Water, Breakout Points, and other Topographic Limitations**

Shuswap Lake is directly to the southeast of the lots. The septic systems are in accordance with the restrictions in the SPM table II-19 with regards to setbacks from the lake. There are no surface water bodies on either of the lots, and there are no significant areas with greater than 15% slope.

### **Existing Septic Systems**

There is an existing septic disposal system on each lot with a septic tank and dispersal field. We have provided along with this report a Performance Inspection Report for the systems as well as the existing system permits. As stated in the aforementioned inspection report, the systems conform to IHA and SPM requirements.

### **Suitable Locations for Type 1 Septic Disposal**

Based on the above listed site constraints and the locations of existing buildings, we have determined that the areas held in existing septic covenants on the properties are suitable for disposal of septic effluent. These areas are indicated on the attached site plan.

The following criteria apply to all of the covenanted areas as marked on the plan:

- Slope: Identified areas are under 15% slope.
- Breakout Points: All areas are >7.5m from potential breakout points.
- Water: Shuswap Lake is >30m from all potential disposal areas.
- Floodplain: The lot lies outside the 20-year flood plain. New septic systems shall be installed away from areas at risk of erosion under extreme weather.
- Wells: There are no wells on the subject properties.
- Covenants/Easements/Rights of Ways: Section 219 Septic Covenants are already in place for the proposed system areas. There are no easements or ROWs that will conflict with the proposed areas.



## SOILS INVESTIGATION

### Soils Investigation Program

The identified sewerage disposal areas were investigated for their soil structure and texture, to determine suitability for on-site effluent disposal. Soils characteristics are based on previous septic permit investigations.

### Soils Characteristics:

- 0mm – 50mm – Top Soil, organics, roots of trees and grasses, loose, dark, damp.
- 50mm – 1200mm+ – Sandy loams of a fair structure and consistence category, loose, dark brown, lots of cobbles, damp.

Avg. Slowest Percolation rate (3700): 24.5 min/in

Avg. Slowest Percolation rate (3710): 24 min/in

### Soils Classification:

- Based on soils structure a hydraulic loading rate of 23 L/m<sup>2</sup>/day can be concluded for this site.

### Soils Summary

There are soils suitable for septic infiltration on the proposed lot. The subsurface is generally characterized by topsoil above sandy loam soil. No ground water or signs of a Seasonal High Water Table were observed to a depth of 1.2m in any prior investigations.

With reference to Tables II-21 and II-22 in the BC Sewerage System *Standard Practice Manual* V3, a hydraulic loading rate of 23 L/m<sup>2</sup>/day can be applied to all areas investigated.

- Water Table: > 1.2m vertical separation, no water table observed.
- Rock/Limiting Layer: No limiting layer reached in any test pit, although boulders and cobbles are present
- Hydraulic Loading Rate: 23 L/m<sup>2</sup>/day

## SEPTIC SERVICING REQUIREMENTS

### On-Site Disposal Criteria

Using the preceeding information, we can determine a suitable size for a Type 1 trench dispersal field that will sustainably serve existing buildings or a typical 4-bedroom house, as per the Interior Health Authority *Subdivision Report Criteria*.

### Discharge Area Identification

Typical values of 1600 LPD per household, per current standard practice, and hydraulic loading rate of 23 L/m<sup>2</sup>/Day are used to determine the appropriate sizing for a trench field area.

To provide enough area for this configuration, as typical for a type 1 trench dispersal system, the following field area is indicated:

- 25.5m x 5.5m = 140 m<sup>2</sup> per field

As the existing septic covenants are 378.5m<sup>2</sup> (4700), and 438.7m<sup>2</sup> (4710), there is ample area within the covenants to locate both primary and backup dispersal field areas with setbacks.

Septic tanks and pump chambers are to be located adjacent to the proposed field location, to allow for gravity outfall. Detailed design and IHA filing must be completed following standard practices if future construction is ever planned.

The attached site plan demonstrates the potential location of septic field areas within the existing septic covenants.

## **SUMMARY AND KEY FINDINGS**

### **Key Findings: Lot Characteristics and Limitations**

Sufficient space with level ground that is suitable for dispersal will still be present on each lot after the proposed boundary adjustment. No changes to the existing septic systems or the covenants in place will be necessary to ensure IHA requirements are still met.

### **Summary of Septic Servicing Feasibility**

The investigation has shown that both lots can still be feasibly serviced by Type 1 septic trench dispersal after the proposed boundary adjustment.



Clare Audet, Environmental Health Officer  
Interior Health Authority c/o Salmon Arm Health Unit  
851 16th St. NE.  
Salmon Arm, BC V1E 4N7

September 12, 2016

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**RE: SEPTIC PERFORMANCE INSPECTION AT 3710 SUNNYBRAE CANOE POINT ROAD.**

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At the request of Interior Health, we conducted a **Performance Inspection** of the onsite sewerage system at 3710 Sunnybrae Canoe Point Road on September 12, 2016. The system serves a three bedroom home with an estimated daily flow of 1300L/day.

**Description of Sewage System:**

The system consists of a 1000 IGAL concrete septic tank and a seepage bed that is approximately 4.3m by 15.5m. The seepage bed is located 171m from the high water mark of Shuswap Lake. All other horizontal setbacks are within standard practice guidelines.

**Evaluation of System Condition:**

**Concrete Septic Tank:**

Inspection of the inside of the tank revealed it to be free of leaks and functioning properly. There is no sign of cracking or degradation of the tank walls. The inlet and outlet pipes are in good condition and do not appear to be obstructed. The inlet baffle is properly installed and oriented. There was no scum residue found above the normal operating levels that would indicate a backup since the tank was last pumped.

**Seepage Bed:**

The seepage bed is an area approximately 4.3m by 15.5m to the north of the residence. The bed area is covered with desirable grass cover and gently sloped to shed surface water. There were no wet areas or other signs of breakout on or below the bed area.

**Summary of System Performance**

Our inspection found that all components of the system are in good working condition and that wastewater travels through the system in standard fashion. Based on these observations we conclude that the system is operating in the intended manner according to its design.

**Recommendations:**

We do not recommend that the owners take any action regarding the septic system at this time. A regular maintenance and service schedule should be followed to ensure continued operation of the system. We have attached standard recommended maintenance and operations guidelines here for convenience.

**Conclusions:**

This system is adequate to serve the existing residence and is operating normally for its intended design. The components are in good working order and not in need of any repair. If you have any questions about the information contained in this report or the accompanying site plan please contact my office.

Prepared by,

A handwritten signature in black ink, appearing to read 'Mark Wilson'.

Mark Wilson

Reviewed by,

A handwritten signature in blue ink, appearing to read 'Jayme Franklin', is written over a circular professional seal. The seal is blue and contains the text 'PROFESSIONAL ENGINEER' around the top and bottom edges, 'PROV. OF BRITISH COLUMBIA' in the center, and the number '# 34134' below the name.

Jayme Franklin, P.Eng

## **Recommended Maintenance and Operations Guidelines**

1. Surface drainage above the disposal area should always be directed away from system.
2. Do not park, drive, or pile snow on the tank or disposal area.
3. Large animals such as horses and livestock should be kept off the disposal area.
4. Disposal surface area should be seeded with grass, rather than trees or shrubs, to prevent erosion. Grasses should be properly maintained as appropriate during the specific season. Water sparingly, and don't saturate the area with automatic sprinkling.
5. Effluent filter should be cleaned every six (6) Months of usage, or as deemed necessary by maintenance provider.
6. Tank should be pumped out every three to five (3-5) years depending on usage, or as deemed necessary by the maintenance provider.
7. Water conditioners, water softeners, or hot tub water CANNOT be flushed into the system.
8. Try not to stress the system with multiple loads of laundry on one day.
9. Do not use chemical drain cleaners.
10. Practice water conservation by using low flush toilets, water saving faucets and shower heads, dishwashers only when full, repair any leaks, and use biodegradable products whenever possible.
11. Take hazardous wastes to approved disposal centers. Don't allow toxic cleaners or chemicals to enter the system, including left over antibiotics.
12. Don't use your toilet or drains as a trash can. Cooking grease, fats, cigarette butts, disposable diapers, sanitary napkins, hair, plastics, lint, metal, rubber, solvents, coffee/tea grounds and cat litter should be kept out of the wastewater system and disposed of in the garbage.

Clare Audet, Environmental Health Officer  
Interior Health Authority c/o Salmon Arm Health Unit  
851 16th St. NE.  
Salmon Arm, BC V1E 4N7

September 12, 2016

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**RE: SEPTIC PERFORMANCE INSPECTION AT 3700 SUNNYBRAE CANOE POINT ROAD.**

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At the request of Interior Health, we conducted a **Performance Inspection** of the onsite sewerage system at 3700 Sunnybrae Canoe Point Road on September 12, 2016. The system is designed to eventually serve a three bedroom home with an estimated daily flow of 1300L/day. The system is currently not operational as the house has not yet been constructed.

**Description of Sewage System:**

The system consists of a 800 IGAL concrete septic tank and a seepage bed that is approximately 5.5m by 15.5m. The seepage bed is located 105m from the high water mark of Shuswap Lake. All other horizontal setbacks are within standard practice guidelines.

**Evaluation of System Condition:**

**Concrete Septic Tank:**

Inspection of the inside of the tank revealed it no sign of cracking or degradation of the tank walls. The inlet and outlet pipes are in good condition and do not appear to be obstructed. The inlet baffle is properly installed and oriented. As the tank has never been in operation there is no residue to inspect.

**Seepage Bed:**

The seepage bed is an area approximately 5.5m by 15.5m to the north of the eventual location of the residence. The bed area is covered with desirable grass cover and gently sloped to shed surface water. There were no wet areas or other signs of breakout on or below the bed area.

**Summary of System Performance**

Our inspection found that all components of the system are in good working condition and that when commissioned the system should allow wastewater to pass through in a standard fashion. Based on these observations we conclude that the system will operate in the intended manner according to its design.

**Recommendations:**

We do not recommend that the owners take any action regarding the septic system at this time. Once commissioned, a regular maintenance and service schedule should be followed to ensure continued operation of the system. We have attached standard recommended maintenance and operations guidelines here for convenience.

**Conclusions:**

This system is adequate to serve the eventual residence and will operate normally for its intended design. The components are in good working order and not in need of any repair. If you have any questions about the information contained in this report or the accompanying site plan please contact my office.

Prepared by,

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Mark Wilson

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Jayme Franklin, P.Eng



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Plan of Subdivision of  
the Frac. N.W.1/4 of Sec.2  
and the W.1/2 of L.S. 3, Sec.11  
(Except Plans 7128, 32726 and 40990),

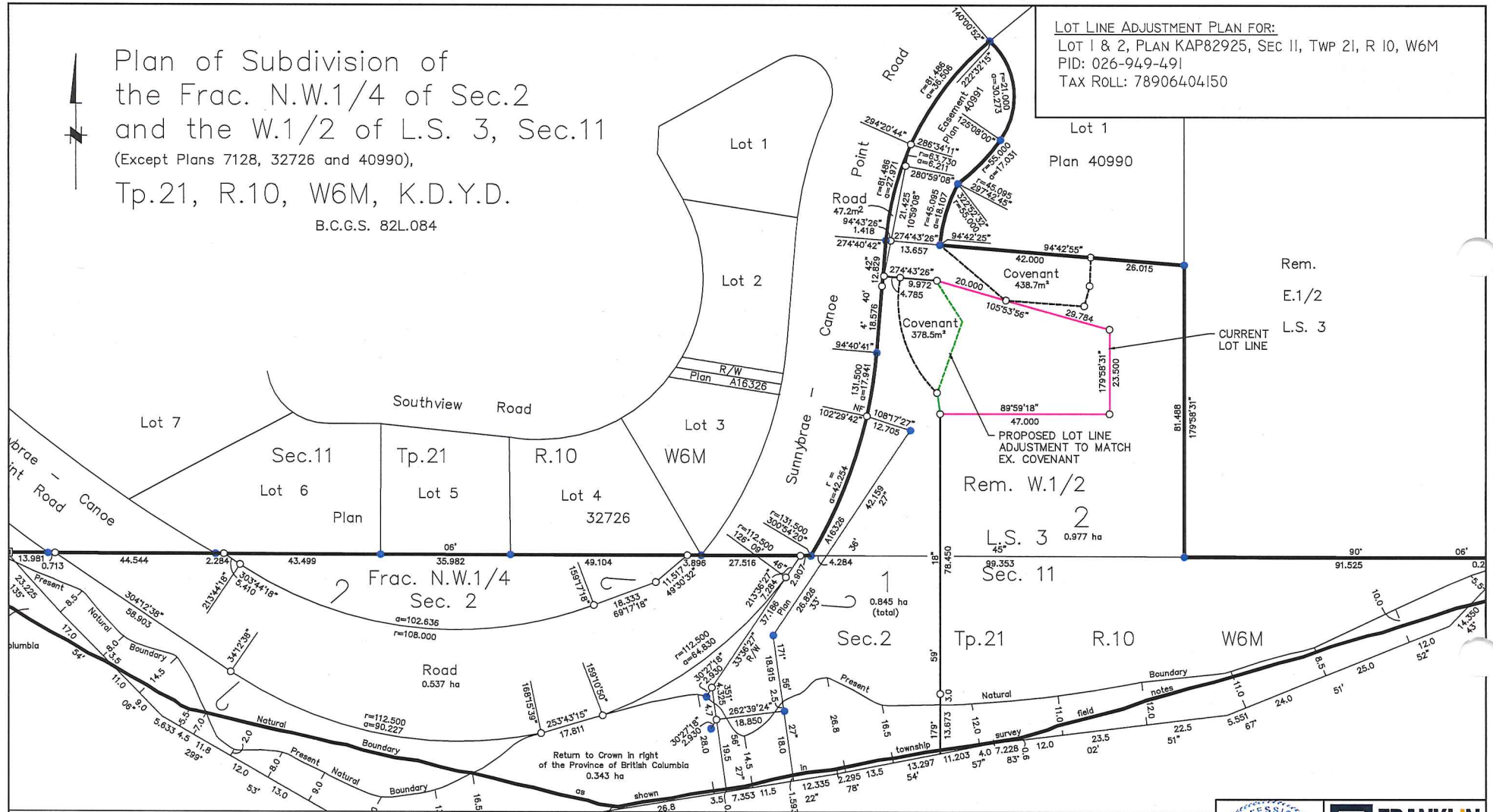
Tp.21, R.10, W6M, K.D.Y.D.

B.C.G.S. 82L.084

LOT LINE ADJUSTMENT PLAN FOR:

LOT 1 & 2, PLAN KAP82925, SEC II, TWP 21, R 10, W6M  
PID: 026-949-491

TAX ROLL: 78906404150



LEGAL PLAN  
SCALE: 1:1000

CLIENT: LINDA FRANKLIN  
3710 SUNNYBRAE-CANOE POINT ROAD

PROJECT: 13-044-E  
SUBDIVISION

TITLE: LEGAL PLAN

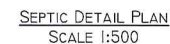
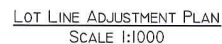
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0	12/SEPT/2016	ISSUED FOR SUBDIVISION APPROVAL
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DRAWING NO. 13-044-E-2