

DATE OF MEETING: September 1, 2026
TO: Hornby Island Local Trust Committee
FROM: Ian Cox, Planner 2
Local Planning Services
COPY: Renee Jamurat, Regional Planning Manager
SUBJECT: TUP application for 6 residential RV sites
Applicant: Emcon Services Inc. (North Island Planning, agent)
Location: 4000 Central Road, Hornby Island
PID:009-651-641

RECOMMENDATION

1. That the Hornby Island Local Trust Committee approve issuance of temporary use permit PL-TUP-2026-0161.

REPORT SUMMARY

This report presents the Local Trust Committee (LTC) with temporary use permit (TUP) application PL-TUP-2026-0161 (**Attachment 1**) for consideration, that seeks to allow the residential use of six (6) recreational vehicles (RVs) and RV sites on the property as described in the Applicant Project Narrative in **Attachment 2**. The application satisfies the Hornby Land Use Bylaw (LUB) TUP Guidelines and staff recommend issuance of the permit.

The LTC is tasked with deciding whether to refer the application to the Advisory Planning Commission (APC) per OCP policy, and whether it considers the application to have met the other TUP Guidelines identified by staff as ‘to be determined’, presented in the staff analysis in **Attachment 3**.

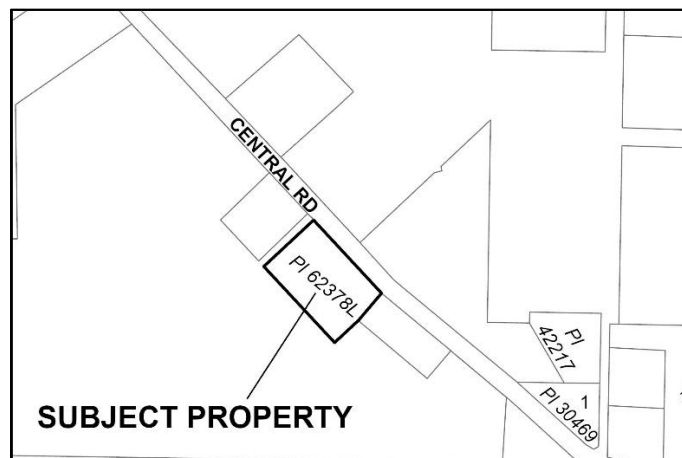


Figure 1 - Subject Property

BACKGROUND

The subject property is the highways maintenance yard, operated by the Ministry of Transportation and Transit (MoTT) contractor. Existing development on the property includes a site office, shop, storage buildings, water well infrastructure, equipment storage, and general materials storage. This area also accommodates storage of the school district's buses. The northern half of the property contains an existing occupied RV and a number of mature trees. The property previously contained a mobile home which was destroyed by a fire in 2025.

As stated in the Applicant Project Narrative, the owner of the property, Emcon Services Inc., seeks approval of a TUP to allow six (6) RV sites to be used for residential accommodation in RVs for Island residents over a period of three (3) years. Emcon's stated objective is to create a small-scale housing option that responds to the local need, while providing an opportunity for the LTC to assess the suitability of the use on the property over a limited period of time. No short-term, vacation rental, or camping use is proposed or authorised by the permit as drafted.

The RV sites are proposed to be located on the northern portion of the property, intended to provide separation between the works yard and the residential use. Existing vegetation is proposed to be retained as much as possible while ensuring compliance with BC Fire Smart standards and practices. The applicant's intent is to retain enough vegetation to maintain a buffer along Central Road.

ANALYSIS

Policy/Regulatory

Islands Trust Policy Statement

Staff have reviewed the Islands Trust Policy Statement (ITPS) and determined the application consistent with the policies therein.

Official Community Plan

The OCP provides the following policy direction and support relevant to the proposed temporary rental accommodation use:

General Residential Policy

As a Local Trust Area designated under the Islands Trust Act this document has as its focus the preservation and protection of the Trust Area and is not premised on the unlimited accommodation of housing demands but rather places priority on the preservation and protection of the natural environment of the Local Trust Area.

The 2011 census records 886 dwellings and a resident population of 958 persons. There are three major housing challenges facing the community in the next five years: (1) a substantial proportion of the long-term resident population is now in the older age brackets; some may appreciate the availability of special housing in their senior years while others may wish to be supported while remaining in their own homes; (2) property prices are out of scale with the incomes that can be derived on the Island, making it difficult for younger people to become established here; and (3) the majority of properties are owned by non-residents and most of these are occupied and/or rented seasonally thereby limiting the availability of year-round rental accommodation.

6.3.5.14

A detached unit used to provide temporary accommodation for a relative or a caregiver or to provide temporary affordable rental accommodation under the Residential Tenancy Act may be permitted through a Temporary Use Permit (in accordance with guidelines specified in Section 6.10 – Temporary Use Permits).

INFORMATION NOTE: *The use of such a permit will only define the permitted use and the temporary nature of such use and cannot manage who man occupy the temporary accommodation.*

6.3.5.16

Written agreements under the Residential Tenancy Act are strongly encouraged for the rental of dwelling units.

Land Use Bylaw

The property is zoned as a site-specific variant **(a)** of the **Public Use (PU) Zone** per the [Hornby Island Land Use Bylaw No. 150](#). The PU Zone permits various public and institutional type uses including Fire Hall, Community Facility, School, etc., while the PU(a) Zone includes some specific additional uses such as Highways Maintenance Yard, Public Utility Storage, Recycling Depot, and Cemetery.

Section 8.21(2) permits:

(b) a maximum of one accessory residential dwelling unit is permitted per lot and a maximum of two accessory residential dwelling units are permitted on a lot on which there is a police station; and

(c) accessory buildings and structures.

There is currently one accessory dwelling in an RV on the property, as mentioned in the Background section of this report. The TUP application seeks to add an additional 5 units for a total of six (6).

Issues and Opportunities

Water

No new professional information on the water supply has been provided; rather the applicant has provided a Drinking Water Source Assessment for the property conducted in 2001 (**Attachment 4**), and has described a water plan within the Project Narrative (**Attachment 2**) that includes the use of the existing registered and licenced water well, with the possible addition of a collection cistern for increased storage.

Septic

The applicant has provided a Record of Sewerage System Filing with Island Health for a newly upgraded system designed by a Registered Onsite Wastewater Practitioner (ROWP), which replaces an older system. The new system has been designed accommodate the existing yard operations and the proposed RV units (**Attachment 5**).

Consultation

Notice of the TUP was circulated to surrounding property owners and residents on August 13, 2026, published in the Hornby Island Tribune, and posted to the Hornby Island [Local Trust Committee webpage](#) in accordance with the *Local Government Act*.

Additionally, the applicant circulated a project description independently to neighbouring properties along with an invitation to answer any questions residents may have about the proposal; a contact number and email was provided (**Attachment 6**).

A letter of support from the Hornby Island Community Economic Enhancement Corporation (HICEEC) was received in support of the proposal on July 16, 2026 (**Attachment 7**).

Additional public correspondence may be received before the LTC meeting on September 1, 2026. Any submissions received after the agenda is published will be sent to the LTC prior to the meeting and will be raised by the planning staff during the meeting. Correspondence should be sent to northinfo@islandstrust.bc.ca.

Rationale for Recommendation

Staff recommend issuance of the proposed permit as found on page 1 of this report under the flowing rationale:

- The proposal is supported by the objectives and policies of the OCP.
- The proposal will not result in permanent buildings or structures on the property until such time as a successful rezoning application might be brought forward that allowed the use and structures formally. A condition of the draft permit requires the owner to remove the RVs and infrastructure in certain cases.
- The application meets the TUP Guidelines pending LTC determination on those items identified in **Attachment 3**.

ALTERNATIVES

1. Request additional information

The LTC may request further information prior to making a decision. If selecting this alternative, the LTC should describe the specific information needed and the rationale for this request. Recommended wording for the resolution is as follows:

That the Hornby Island Local Trust Committee request that the applicant submit to the Islands Trust the following information prior to making a decision on PLTUP20260161 [insert information request].

2. Include additional TUP conditions

The LTC may modify the TUP to include additional conditions as it deems appropriate to address the TUP Guidelines identified by staff as TBD by the LTC, such as a security for restoration of original conditions on the property. A resolution to amend the permit referencing specific conditions or clauses should be passed prior to any resolution to issue the permit in final form as amended.

3. Deny the application

The LTC may deny the application. The decision should be accompanied by reasons. Recommended wording for the resolution is as follows:

That the Hornby Island Local Trust Committee deny application PLTUP20260161 for the following reasons [list and describe reasons].

NEXT STEPS

If approved as recommended on page 1 of the report, staff will issue the TUP as presented or as amended according to LTC resolutions.

Submitted By:	Ian Cox, Planner 2	August 19, 2026
Concurrence:	Renée Jamurat, RPP MCIP, Regional Planning Manager	August 20, 2026

ATTACHMENTS

1. Proposed TUP
2. Applicant Project Narrative
3. TUP Guidelines
4. Drinking Water Source Assessment
5. Record of Sewerage System Filing
6. Applicant Notification
7. HICEEC Letter of Support

 Islands Trust	HORNBY ISLAND LOCAL TRUST COMMITTEE TEMPORARY USE PERMIT PL-TUP-2026-0161 4000 Central Road, Hornby Island
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To: EMCON SERVICES INC., NO. 345823

1. This Permit applies to the land described below:

PID 009-651-641

BLOCK D (DD L62378) OF THE SOUTH 1/2 OF THE NORTHWEST 1/4 OF SECTION 11,
HORNBY ISLAND, NANAIMO DISTRICT

a) Pursuant to Section 493 of the *Local Government Act* and Section 6.10 of the *Hornby Island Official Community Plan Bylaw No. 149, 2014*, and despite *Hornby Island Land Use Bylaw No. 150, 2014*, this Permit is issued to **allow six (6) recreational vehicle (RV) sites to be used for residential accommodation for Island residents** on the subject property, conducted in accordance with all federal and provincial applicable regulations and authorizations.

2. This permit is subject to the following conditions imposed by the Hornby Island Local Trust Committee:

a) The general layout of the RV sites shall be in substantial accordance with Schedule "A" – Site Plan, attached to and forming part of this permit as signed and dated by the Deputy Secretary, Islands Trust;

b) The RVs and RV sites must not be used for short term vacation home rentals or camping;

c) Off-road parking must be provided in accordance with Section 5.4 of the *Hornby Island Land Use Bylaw No. 150, 2014* and shall be calculated based on table 5.4, item 1, "dwelling unit" requiring 2 parking spaces per dwelling unit;

d) All garbage and recycling generated from the RV sites must be taken to the Hornby Island Recycling Depot or to an appropriate off-island facility. Compostable waste shall be disposed of appropriately.

e) RV sites must be reasonably screened from adjacent uses, properties, and public roads, to minimize visual impacts and maintain privacy.

f) Residential uses on the lot must comply with the Comox Valley Regional District's *Electoral Areas Noise Control Regulations Bylaw No. 102, 2010*.

g) The holder of the Permit will be responsible for any violation of the conditions of this

Permit. For the purpose of investigating a complaint, Islands Trust staff may enter the property during business hours to ensure compliance with the Temporary Use Permit.

- h) The owner shall remove the six RVs and associated infrastructure as deemed appropriate by, and to the satisfaction of, the Hornby Island Local Trust Committee in the following circumstances:
 - i. The Temporary Use Permit approval period has expired and the owner has not applied for a renewal prior to the expiration of the original term of the permit;
 - ii. In the case of a permit renewal, the approved renewal period has expired and the owner has not applied for a new Temporary Use Permit, or applied to amend the Hornby Island Official Community Plan and/or Hornby Island Land Use Bylaw to allow the uses and structures as authorised by the original TUP or its renewal.
- 3. It is the responsibility of the landowner to obtain any required authorization under the *Water Sustainability Act*, the *Public Health Act*, the *Sewerage System Regulation* or any other relevant legislation pertaining to groundwater, public health and safety, and waste management.
- 4. This Permit is valid for a period of three years from the date of issuance.
- 5. This is not a Building Permit or a Siting and Use Permit, nor does it relieve the Permittee from the need to secure all other approvals necessary for the proposed land use.

**AUTHORIZING RESOLUTION PASSED BY THE HORNBY ISLAND LOCAL TRUST COMMITTEE THIS
X DAY XX, 20XX.**

Deputy Secretary, Islands Trust

Date Issued

[illegible]

ATTACHMENT 2 - Applicant Project Narrative



North Island Planning

Nanaimo, B.C.
kyle@northislandplanning.ca
250-713-6208

April 17, 2026

Islands Trust
700 North Road
Gabriola Island, BC V0R 1X3

RE: Temporary Use Permit Application for 4000 Central Road, Hornby Island, BC

Please accept this cover letter in support of a Temporary Use Permit (TUP) application for the property located at 4000 Central Road, Hornby Island, within the Hornby Island Local Trust Area.

Proposal

The owner of the subject property – Emcon Services Inc. (“Emcon”) – is seeking approval of a Temporary Use Permit to allow six (6) recreational vehicles (RV) sites to be used for residential accommodation in RVs on the property for Island residents over a period of up to three (3) years.

The intent of the proposal is to provide a small-scale housing option that responds to local accommodation needs on Hornby Island, while providing an opportunity to assess the suitability of this type of use over time in the context of the site and surrounding area.

The proposal is not for short-term accommodation (e.g. weekly, AirBnB) or camping.

Property Details

Civic Address:	4000 Central Road
Legal Description:	BLOCK D (DD L62378) OF THE SOUTH 1/2 OF THE NORTHWEST 1/4 OF SECTION 11, HORNBY ISLAND, NANAIMO DISTRICT
PID:	009-651-641
Roll Number:	85.93.100
Property Area:	0.87 ha (2.16 ac)
OCP Land Use Designation	Community
Zoning	Public Use (PU(a)) Zone

Site Context

The subject property is the highways maintenance yard for Hornby Island operated by the Ministry of Transportation and Infrastructure's contractor (Mainroad Group). The property is accessed from Central Road via two driveways – one in the southeast corner and one in the northeast corner of the property.

Existing development on the southern half of the property includes a site office, shop, storage buildings, well infrastructure, equipment storage, and general materials storage. This area also accommodates school district bus storage.

The northern half of the property contains an existing occupied RV, driveways, and a number of mature trees in varying states of health and decline. This area of the property previously contained a mobile home, which was destroyed by a fire in 2025.

The RV sites are proposed to be located in the northern half of the property. This separation is intended to help ensure compatibility between the existing works yard use and the proposed residential use.

Existing vegetation would be retained to the greatest extent possible, including a buffer along Central Road, to provide screening and maintain the rural character of the area. Some trees would need to be removed to make space for the RV sites and in consideration of FireSmart BC best practices.

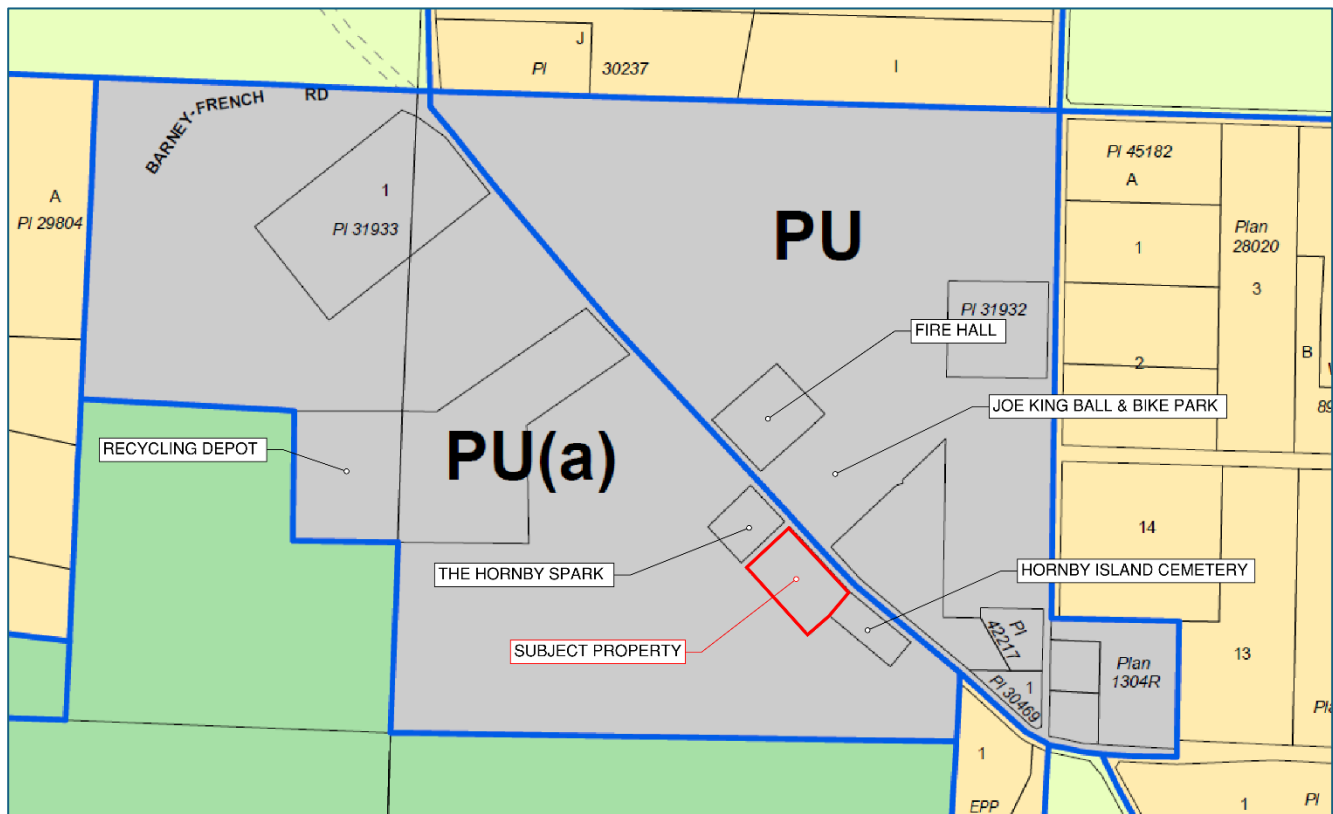
Zoning Context

Under Hornby Island Land Use Bylaw No. 150, 2014, the subject property is zoned Public Use (PU(a)), along with other properties on the south side of Central Road (i.e. Crown lands, cemetery, recycling depot, and the Hornby Spark [former Fire Hall]), which permits a limited range of uses, including:

- Cemetery
- Public Utility Storage Yard
- Highways Maintenance Yard
- Recycling

The proposed residential use is not permitted within the PU(a) zone. Accordingly, a Temporary Use Permit is required to allow this use for a limited duration in accordance with the *Local Government Act* and Islands Trust policies.

The application does not propose to alter the long-term permitted uses of the property at this time, but rather to allow a time-limited opportunity to assess the appropriateness of this use in this location. If it can be demonstrated that this use is suitable and appropriate for the property and the surrounding area, the owner will consider submitting a zoning bylaw amendment application for a more permanent land use approval.



Servicing and Infrastructure

The subject property is serviced by an existing well and a recently upgraded on-site septic system.

Water Supply: The property is serviced by a licensed and registered well with a capacity of approximately 10 gallons per minute (gpm). The publicly available well information and supporting reports are included with the application submission. The well currently supplies water to the existing works yard, the Hornby Spark building, and a connection to the Joe King Ball Park from the Hornby Spark site.

The available yield is sufficient to accommodate existing users and the proposed residential uses. As an additional measure, the owner may consider installing a cistern to provide short-term water storage and manage peak demand.

While the 2001 Drinking Water Source Assessment Summary Report indicates that the well draws from an aquifer with Moderate Vulnerability, it is acknowledged that the Hornby Island Official Community Plan (OCP), Schedule D2 Environmentally Sensitive Areas (Aquifers) identifies the entire Island as containing highly vulnerable aquifers. The OCP map divides the Island into three areas: heavily developed, moderately developed, and lightly developed. The subject property falls into the lightly developed area.

Wastewater: A new septic system has recently been installed on the property, replacing an older system that was at the end of its effective life. The new system has been designed and sized to accommodate

both the existing works yard operations and the proposed six (6) RV units, but it is acknowledged that authorization for the proposed residential use is subject to Islands Trust approval of the TUP.

Land Use Compatibility

The proposed use has been designed to be compatible with both the existing use of the property and the surrounding area:

- The RV sites are located outside of the active works yard area.
- The scale of the use is limited to six (6) sites/units.
- Existing vegetation will be retained wherever possible, including to provide screening.
- The use is residential in nature and is not expected to introduce significant noise, traffic, or other impacts beyond those already associated with the existing use.
- The surrounding area is largely undeveloped and rural.

Given these factors, the proposed use is expected to have minimal (if any) adverse impacts on adjacent properties and the broader community.

Official Community Plan – Temporary Use Permit Considerations

The OCP contemplates the use of Temporary Use Permits as a tool to allow short-term or transitional uses that may not otherwise be permitted under existing zoning. Specifically, Section 6.10 of the OCP contains the objectives and guidelines for TUPs:

6.10 Objectives:

The objectives of this subsection are:

- 1) to consider allowing a temporary event as per Policy 6.5.1.10;*
- 2) to allow for a period of evaluation of new commercial ventures that do not involve significant new development prior to an application for rezoning as per Policy 6.5.1.10;*
- 3) to allow particular uses for a period of time to enable impacts to be assessed before any further permitting of the use as per Policy 6.5.1.10;*
- 4) to consider allowing transport of groundwater off a lot where the water is extracted as per Policy 5.1.4;*

For reference, Section 6.5.1.10 of the OCP states the following:

6.5.1.10 Temporary Use Permits may be permitted for:

- a) temporary use;***
- b) a period of evaluation of a new commercial venture (that does not involve significant new development) prior to application for rezoning;***
- c) uses for a period of time to enable impacts to be assessed before any further permitting of the use; or...***

6.10 Guidelines:

6.10.1 Upon application, Temporary Use Permits may be considered for all parcels of land within the Hornby Island Local Trust Area, with the following exclusions:

- a) properties less than one quarter of a hectare, except when the application is for vacation home rental use;*
- b) land designated as Park, as shown on Schedule B; and*
- c) a parcel identified as containing an environmentally sensitive area, as shown on Schedule D1 or D2, unless information is provided by the owner that establishes that the proposed land use does not negatively impact the environmentally sensitive features or is located outside of the sensitive area on the parcel.*

Comment: The subject property is larger than one quarter of a hectare. The property is within an area containing an environmentally sensitive area – the aquifer – but the proposed residential use would utilize the existing well and does not propose to use more water than the well is capable of providing. The proposed residential use and the new septic system are outside of the standard 30 m wellhead protection area.

6.10.4 A professional assessment of hydrological impacts may be required when the proposed use is within an identified groundwater recharge area or an aquifer classified as heavily developed as shown on Schedule B or D2 and if the proposed use involves more than minimal potential impacts upon the groundwater resource.

Comment: The subject property is in the aquifer recharge area. The proposed residential use would utilize the existing well and does not propose to use more water than the well is capable of providing.

6.10.6 The general conditions for issuing a Temporary Use Permit are as follows:

- a) adequate off-road parking should be provided;*

Comment: the proposed RV sites are being designed to accommodate parking in front of each RV.

- b) there should be adequate provision for approved waste disposal before consideration is given by the Local Trust Committee;*

Comment: There is a new onsite septic that is designed to accommodate sewage disposal from the proposed RVs, subject to approval of the TUP by Islands Trust.

- c) there should be adequate setbacks of the use to minimize impacts upon adjacent properties;*

Comment: The proposed RV sites and RVs are outside of the 8 m minimum setback in the PU zone.

d) noise generation should be addressed to prevent disturbance of the neighbourhood and to ensure compliance with regional district regulations;

Comment: Each RV site would be serviced by an electrical connection, so generators are not required. It is not anticipated that there would be any significant noise generation from the RVs.

e) the use should be conducted so as to not risk contamination of the land, surface water or groundwater, including by making adequate provision for the safe storage of toxic materials;

Comment: The new onsite septic system, which is outside of the 30 m wellhead protection area, will appropriately dispose of sewage in a way that does not result in contamination.

f) water supply should be addressed so as to not create negative impacts upon existing common water sources;

Comment: The well is licensed and capable of supplying 10 gallons per minute, which would meet the needs of current water users and the proposed residential uses.

6.10.7 Applicants for Temporary Use Permits should address the issues identified in these policies in their applications and are strongly encouraged to consult with neighbours about the proposed use prior to making application.

Comment: A letter to neighbours is included in the application submission, and it is the owner's intent to notify adjacent owners and occupants, including the Hornby Spark and the Joe King Ball Park operator.

The requested TUP provides an opportunity to evaluate the performance and impacts of the proposed use over time. Should the use demonstrate compatibility with the site and surrounding area, any consideration of longer-term land use approvals would be subject to future applications and review by the Local Trust Committee.

Policy Considerations

The Hornby Island Official Community Plan emphasizes the importance of protecting the Island's environment, maintaining its rural character, and supporting a sustainable community.

The proposal is consistent with these objectives in that it:

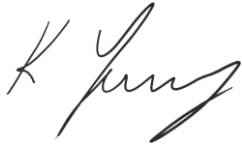
- Provides a small-scale housing option for Island residents.
- Utilizes an already developed and serviced site.
- Minimizes environmental impact through limited scale and use of existing infrastructure.
- Allows for the careful evaluation of a potential housing form in a controlled and time-limited manner.

Summary

The proposed Temporary Use Permit represents a reasonable and appropriate use of the property on an interim basis. It provides a modest, small-scale response to local housing needs for Island residents, while respecting the environmental sensitivity, rural character, and long-term land use framework of Hornby Island.

The proposal is supported by adequate servicing, is compatible with the existing use of the property, and is limited in scale. The requested permit provides an opportunity to assess the suitability of this use over time.

We respectfully request that the Islands Trust consider and approve this application.

A handwritten signature in black ink, appearing to read 'K. Young', written in a cursive style.

Kyle Young, MCIP, RPP, M.SEM, B.PI
North Island Planning

on behalf of Emcon Services Inc.

ATTACHMENT 3 – TEMPORARY USE PERMIT GUIDELINES

HORNBY ISLAND OFFICIAL COMMUNITY PLAN BYLAW NO. 149, 2014 AND LAND USE BYLAW NO. 150, 2014

Guideline Not Met		Guideline Met Subject to LTC Decision		Guideline Met	
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Temporary Use Permits Objective 6.10(1) - OCP:

to consider allowing a temporary event as per Policy 6.5.1.10;

Temporary Use Permit Objective 10.2 – LUB:

(3) to allow particular uses for a period of time to enable impacts to be assessed before any further permitting of the use as per OCP Policy 6.5.1.10;

(5) to consider allowing temporary seasonal or emergency accommodations as per OCP policies 6.3.5.18 and 6.3.5.19;

OCP Guideline	LUB Guideline	Complies?	Planner Comments
6.10.1: Upon application, Temporary Use Permits may be considered for all parcels of land within the Hornby Island Local Trust Area, with the following exclusions: a) properties less than one quarter of a hectare, except when the application is for vacation home rental use; b) land designated as Park, as shown on Schedule B; and c) a parcel identified as containing an environmentally sensitive area, as shown on Schedule D1 or D2, unless information is provided by the owner that establishes that the proposed land use does not negatively impact the environmentally sensitive features or is located outside of the sensitive area on the parcel.	10.3(1): Upon application, Temporary Use Permits may be considered for all parcels of land within the Hornby Island Local Trust Area, with the following exclusions: (a) properties less than one quarter of a hectare except when the application is for vacation home rental use; (b) land zoned as public park, ecosystem management area or water supply protection, as shown on Schedule B; and (c) a parcel identified as an environmentally sensitive area, as shown on Schedule D1 or D2 of the Hornby Island Official Community Plan Bylaw No. 149, unless information is provided to illustrate that the proposed land use does not negatively impact the environmentally sensitive features.		Schedule D1 mapping shows that the property is not within an identified/mapped Environmentally Sensitive Area. Schedule D2 mapping shows the subject property is in the IIA – Lightly developed, high vulnerability Aquifer. The property is located within the larger of the two mapped Recharge Zones. Staff determine that no further environmental assessment is required for the proposal at the TUP stage, primarily due to the fact that a large portion of the property is already cleared and in use as a works yard, minimal additional clearing is proposed to facilitate the RV sites, and a Development Permit would be required for any clearing and/or development as defined in the LUB within the DPA 2 - Community Service Use Development Permit Area. This includes removal of vegetation/land clearing, construction of any kind such as pouring concrete pads for the RV sites, etc.

OCP Guideline	LUB Guideline	Complies?	Planner Comments
6.10.2: Applications for Temporary Use Permits may be referred to the Advisory Planning Commission which may be requested to provide an opportunity for public input to be received and considered in preparing its recommendations.	10.3(2): Applications for Temporary Use Permits may be referred to the Advisory Planning Commission which may be requested to provide an opportunity for public input to be received and considered in preparing its recommendations.		For LTC Decision Determine whether to refer this application to the Advisory Planning Commission for feedback and comment.
6.10.3: Temporary Use Permits for parcels within the Agricultural Land Reserve should only be issued for uses that do not conflict with Agricultural Land Commission policies and regulations.	10.3(3): Temporary Use Permits for parcels within the Agricultural Land Reserve should only be issued for uses that do not conflict with Agricultural Land Commission policies and regulations.		Property not within the ALR = N/A
6.10.4: A professional assessment of hydrological impacts may be required when the proposed use is within an identified groundwater recharge area or an aquifer classified as heavily developed as shown on Schedule B or D2 and if the proposed use involves more than minimal potential impacts upon the groundwater resource.	10.3(4): A professional assessment of hydrological impacts may be required when the proposed use is within an identified groundwater recharge area or an aquifer classified as heavily developed.		For LTC decision Schedule D2 mapping shows the subject property is in the IIA – Lightly developed, high vulnerability Environmentally Sensitive Areas Aquifer. The property is located within a Recharge Zone, however the existing licensed and registered well is intended to be used for the RV sites. The well currently supplies water to the existing works yard, the Hornby Spark building, and a connection to the Joe King Ball Park from the Hornby Spark site. Applicant has provided original 2001 Drinking Water Report for the property but no updated/current well assessment.
6.10.5: Where approvals are required from other agencies, these should be obtained prior to the issuing of a Temporary Use Permit.	10.3(5): Where approvals are required from other agencies, these should be obtained prior to the issuance of a Temporary Use Permit.		It is the responsibility of the applicant to obtain the necessary approvals from the relevant health authority for waste disposal and water supply. Because there is no building inspection in force for Hornby, no occupancy permit under the BC Building Code would be issued for the RV units. Applicant has provided a Record of Sewerage System Filing with Island Health and intends to utilize the existing registered and licenced water well.
6.10.6: The general conditions for issuing a Temporary Use Permit are as follows: a) adequate off-road parking should be provided;	10.3(6): The general conditions for issuing a Temporary Use Permit are as follows: (a) adequate off-road parking should be provided;		Included as condition c) of the proposed permit. In accordance with Section 5.1(1) of the Hornby Island Land Use Bylaw

OCP Guideline	LUB Guideline	Complies?	Planner Comments
			(LUB), all required off-road parking spaces will be located on the lot. 2 per residential unit. Application states that each site is designed with off-street parking adjacent to the unit.
6.10.6.b) there should be adequate provision for approved waste disposal before consideration is given by the Local Trust Committee;	10.3(6)(b) confirmation that site conditions allow for adequate provisions for approved waste disposal;		Included as a condition of the proposed permit. Applicant has provided Island Health Record of Sewerage System Filing stating capacity for proposed use.
6.10.6.c) commercial uses (other than very short term uses or vacation home rentals) should be screened from adjacent residential uses;	10.3(6)(c): commercial uses (other than very short term uses or vacation home rentals) should be screened from adjacent residential uses;		Application is for residential, not commercial use.
6.10.6.e) there should be adequate setbacks of the use to minimize impacts upon adjacent properties;	10.3(6)(e) there should be adequate setbacks of the use to minimize impacts upon adjacent properties;		The proposed RV sites are proposed outside of the PU(a) zone 8-meter minimum setback area.
6.10.6.f) noise generation should be addressed to prevent disturbance of the neighbourhood and to ensure compliance with regional district regulations;	10.3(6)(f) noise generation should be addressed to prevent disturbance of the neighbourhood and to ensure compliance with regional district regulations;		Included as a condition f) of the proposed permit. RV sites to be serviced by electrical connection, no generators. Residential shall be compliant with the Comox Valley Regional District (CVRD) Electoral Areas Noise Control Regulations Bylaw No. 102.
6.10.6.g) the use should be conducted so as to not risk contamination of the land, surface water or groundwater, including by making adequate provision for the safe storage of toxic materials;	10.3(6)(g) the use should be conducted so as to not risk contamination of the land, surface water or groundwater, including by making adequate provision for the safe storage of toxic materials;		Residential use must comply with provincial wastewater and solid waste disposal regulations. No toxic material expected directly associated with use.
6.10.6.h) water supply should be addressed so as to not create negative impacts upon existing common water sources;	10.3(6)(h) water supply should be addressed so as to not create negative impacts upon existing common water sources;		For LTC decision See applicant -supplied 2001 water Drinking Water Report and intent to use existing registered/licenced well per Applicant Project Narrative in Attachment 4. No current water well information has been provided to date.
	10.3(6)(i) other potential impacts upon the neighbourhood should be mitigated, including by limitations upon the hours of operation where appropriate		Adequate parking must be provided per LUB regulations and included as condition of permit. Hours of operation for residential use must comply with CVRD noise bylaw.

OCP Guideline	LUB Guideline	Complies?	Planner Comments
			Additional mitigation for solid waste disposal, screening, and prohibition of short term vacation rentals and camping are included as conditions b) d) and e) in draft permit.
6.10.6.j) the owner of the property may be required to provide a security to guarantee the performance of the terms of the permit and should be required to provide an undertaking to demolish or remove any building or structure and to restore the land to a condition specified in the permit, especially in circumstances where temporary housing is provided and such housing is no longer used for the temporary purposes; and	10.3(6)(j) the owner of the property may be required to provide a security to guarantee the performance of the terms of the permit and should be required to provide an undertaking to demolish or remove any building or structure and to restore the land to a condition specified in the permit, especially in circumstances where temporary housing is provided and such housing is no longer used for such temporary purposes; and		For LTC decision The LTC could require that the applicant provide a security for the removal of the RVs and RV sites should the use cease or the TUP expire, in order to ensure that the residential use on the property does not continue indefinitely or without a successful TUP renewal or rezoning application to permit the use permanently. A condition requiring removal of the RVs has been included in the draft permit as h) i. and ii.
6.10.6.k) lands with good agricultural potential should not be compromised by any use permitted by a Temporary Use Permit.	10.3(6)(k) lands with good agricultural potential should not be compromised by any use permitted by a Temporary Use Permit.		N/A. Not within the ALR or identified as holding ag potential.
6.10.7: Applicants for Temporary Use Permits should address the issues identified in these policies in their applications and are strongly encouraged to consult with neighbours about the proposed use prior to making application.	10.3(7): Applicants for Temporary Use Permits should address the issues identified in these policies in their applications and are strongly encouraged to consult with neighbours about the proposed use prior to making application.		Applicant has identified and provided information for the majority of guideline issues with the above noted exceptions which are TBD by LTC. Applicant has undertaken independent notification to neighbouring properties – see Applicant Notification, Attachment 05.
6.10.9: The Local Trust Committee should consider the climate change impacts of any proposed temporary use when reviewing Temporary Use Permit applications.	10.3(9): The Local Trust Committee should consider the climate change impacts of any significant change in reviewing temporary use permit applications.		No anticipated long term increased GHG emissions beyond increased vehicular use associated with increased residential density.

ATTACHMENT 4

Drinking Water Source Assessment Summary Report

Hornby Island Highways Yard, Hornby Island, British Columbia

*British Columbia Buildings Corporation
Sylvia Kenny, Technical Value Department
October 2001*



Table of Contents

Table of Contents	i
List of Tables	i
List of Figures	i
1.0 Project Background and Purpose	1
2.0 Hornby Island Highways Yard	2
2.1 Site Description	2
2.2 Waterworks	3
2.3 Hornby Island Highways Yard Well 1	3
2.3.1 Source Water Protection	3
2.3.2 Potential Sources of Contamination within the Sanitary Area of the Well	3
2.3.3 Intrinsic Vulnerability of the Geology at the Well	4
2.3.4 Aquifer	5
2.3.5 Preliminary Capture Zone	5
2.4 Water Quality	8
2.4.1 Water Quality Monitoring	8
2.4.1.1 Sampling Procedures	8
2.4.1.2 Sampling Methods	8
2.4.1.3 Summary of Historical Data	8
2.4.2 Field Assessment Water Quality Monitoring	9
2.4.2.1 Water Quality Monitoring Parameters	9
2.4.2.2 Sampling Methods	9
2.4.2.3 Summary of Results	10
2.5 Recommendations	15
3.0 References	16
Appendix I: B.C. Aquifer Classification System	18
Appendix II: Aquifer Vulnerability Index	20
Appendix III: Summary of Preliminary Capture Zone Delineation	22
Appendix IV: Site Maps	25
Appendix V: Field Assessment Photographs	28

List of Tables

Table 1: Hornby Island Highways Yard Well 1 – Historical water quality monitoring results	9
Table 2: Field Water Quality Monitoring Results (2001)	11
Table 3: Laboratory Water Quality Results (2001)	11
Table 4: Guidelines for Canadian Drinking Water Quality - Limits for Total and Fecal Coliforms in Drinking Water	14

List of Figures

Figure 1: Diagram of sanitary area (30 meter radius) around the well	4
Figure 2: AVI Vulnerability Rating for Hornby Island Highways Yard Well 1	5
Figure 3: Hornby Island Highways Yard and Hornby Island Clinic / RCMP Office Wells Capture Zone 7	

British Columbia Buildings Corporation Hornby Island Highways Yard Drinking Water Field Assessment

Assessment date: July 24, 2001
Water Purveyor: British Columbia Buildings Corporation
Assessment conducted by: Sylvia Kenny, Sanitary Assessment Technician, BCBC
Mike Murphy, Operations Supervisor Fabric, BCBC Vancouver
Island North District

1.0 PROJECT BACKGROUND AND PURPOSE

A field assessment of select water supplies owned or managed by British Columbia Buildings Corporation (BCBC) within the Vancouver Island North District was conducted from July to August 2001. The project focussed upon the assessment of water sources at sites on Vancouver Island and the Gulf Islands where the Corporation is presently the purveyor of drinking water, as identified by a province-wide written survey of BCBC facilities conducted in March 2001. The pilot project was conducted under the direction of BCBC Head Office, Technical Value Department and utilized assessment protocols developed by the former Ministry of Environment, Lands and Parks, now, the Ministry of Water, Land and Air Protection (WLAP), and Ministry of Health (MOH) in Fall 2000. BCBC is indebted to WLAP, in particular Ministry personnel Mike Wei, Bill Hodge, John Arber and Jennifer Maxwell, for the provision of training, technical assistance, prototype assessment forms, and guidance on project implementation and interpretation of findings. Senior Environmental Health Officer, Dwayne Stroh, of the Upper Island and Central Coast Health Region was instrumental in the provision of historical water quality data and guidance on procedures.

The scope of the assessments included:

1. An evaluation of the sanitary condition of the water source.
2. An evaluation of present drinking water source protection measures.
3. A review of historical water quality data and a review of present water quality sampling procedures.
4. The collection of baseline water quality data.
5. An evaluation of the risks to the water supply associated with land-use and activities within the watershed or preliminary well capture zone or sanitary area surrounding the well.

The assessments did not include evaluation of concerns related to the effectiveness of present water treatment measures, treatment bi-products or the aspects of the water supply distribution system, which may be addressed separately at a later date.

The objectives of the assessment were:

1. To develop and test drinking water source assessment methodology.
2. To identify key parameters for the evaluation of drinking water quality and to develop and test water sampling protocols.

3. To collect baseline water quality data and to identify any parameters that exceed the Guidelines for Canadian Drinking Water Quality.
4. To assess BCBC compliance with current and proposed provincial drinking water legislation.
5. To identify the relative vulnerability of groundwater and surface water sources at the individual sites to contamination that may compromise the quality of potable water.
6. To identify operator qualifications and training needs for continued effective management of water supplies.
7. To collect information that may assist in the development or revision of Emergency Response Plans at each of the sites surveyed.
8. To foster co-operation between BCBC, WLAP and Health Region representatives for effective management of drinking water supplies, and integration of water quality data management.

Project findings and protocols developed will be used to guide future initiatives including the assessment of drinking water supplies owned or managed by BCBC at facilities in other regions of the province. This report summarizes the findings of the field assessment and baseline water quality monitoring, but should not be considered a comprehensive study of the water system.

2.0 HORNBY ISLAND HIGHWAYS YARD

2.1 Site Description

Hornby Island is located off the east coast of Vancouver Island, and can be reached by ferry from Buckley Bay, near Courtenay, BC, via Denman Island which must be crossed by vehicle to reach the Hornby Island ferry. The Highways Yard is located at 4000 Central Road (BCBC Property #: X90045; PID/PIN: 009-651-641; Legal Property Description: Block D (DDL62378) of the South half of the Northwest Quarter, Section 11, Hornby Island, Nanaimo District). The rectangular lot comprises approximately 0.84 ha, with a slope to the northeast. The yard is used for light industrial activities including equipment storage, refuelling and maintenance, and salt, gravel, asphalt and fuel storage by Mainroad North Island Contracting, contracted to the Ministry of Transportation and Highways for the purpose of road maintenance on the island. Buildings on the site include an office trailer, a one-storey garage, a fuel storage shed, and a mobile home used by BC Ferries personnel for periodic overnight accommodation. Forested areas comprise approximately 10% of the site, with the remaining area composed of paved, unpaved gravel and sparsely vegetated or grassy surfaces.

AGRA Earth and Environmental Limited conducted a series of site investigations at the location beginning in September 1998 with a Stage 1 Preliminary Site Investigation (PSI) which identified five areas for further investigation in a Stage 2 PSI completed in January 1999. A Detailed Site Investigation (DSI) completed in July 1999 determined that no further assessment or remediation was warranted at that time, although replacement of the salt storage shed was recommended.

The PSI and DSI identified the local geology as being composed of conglomerate bedrock and sandstone of the Nanaimo Group Geoffrey Formation, with an overlying till veneer, or silty-sand

soil layer. A study done by the Ministry of Environment, Lands and Parks in 1993 (Hodge) identified groundwater on this part of the island as flowing in a northeast direction from the slopes of Mt. Geoffrey.

2.2 Waterworks

An initial written survey conducted by BCBC in March 2000 identified the facility as providing potable water to clients and staff. The field assessment determined that water supplied to the site from a single water well is used mainly for non-potable purposes including bathroom facilities, yard and equipment washing and maintenance. Well water is also used by the local volunteer fire department for the filling of tanker trucks. Bottled water is imported for potable use. Approximately four staff are on-site daily. The frequency or number of staff staying in the mobile home residence is not known.

The well is located within a plywood pumphouse at the downslope, eastern side of the property. From here water is distributed to an equipment washdown area, and to bathroom and kitchen facilities in the office and residential trailers.

2.3 Hornby Island Highways Yard Well 1

The principle source of water for the Hornby Island Highways Yard is Well 1 (Lat: 49°32'01.4" N, Long: 124°40'07.2" W; Northing 5488113, Easting 379262). The drilled well is 41.8 meters (137 feet) deep, with a diameter of 0.15 meters (6 inches), and is rated to produce 0.80 litres/second (10 UK GPM). The water receives no treatment prior to use.

2.3.1 Source Water Protection

The well is covered by a sanitary seal, with a rope threaded through holes in the seal to allow retraction of the submersible pump for maintenance. The pumphouse itself was in poor repair at the time of the inspection. Its door was not locked and possessed a broken lower hinge, which appears to allowed entry of small animals or insects. The Highways Yard is fenced but was not locked. No signage is in place to indicate the well location or its use as a water supply. Although the risk of vandalism of the well is expected to be low, given the small size of the community, it is believed that inadequate protection exist to prevent acts of vandalism of the well at present. The well is not located in a flood area, and the site appears well drained with water running off the site along the topographical gradient.

2.3.2 Potential Sources of Contamination within the Sanitary Area of the Well

A radius of 30 meters surrounding the well was assessed in the field for potential contaminant sources. The main risk of source water contamination is associated with activities on the highways yard site such as spilled fuels or other contaminants reaching the well through infiltration. A pile of used wooden telephone poles was noted directly upslope less than ten meters from the well. The creosote used to preserve these poles is a potential groundwater contamination source. Also located within the sanitary area are a chemical storage shed (upslope), and the heavy equipment maintenance garage (downslope). The salt storage shed is located 20 meters northeast of the pumphouse and appears to provide inadequate protection of the salt against rain and wind, and

spillage. The septic tank and ground disposal field are located on the north edge of the property outside the 30 meter sanitary radius. No other sources of potential contamination were noted within the immediate sanitary area.

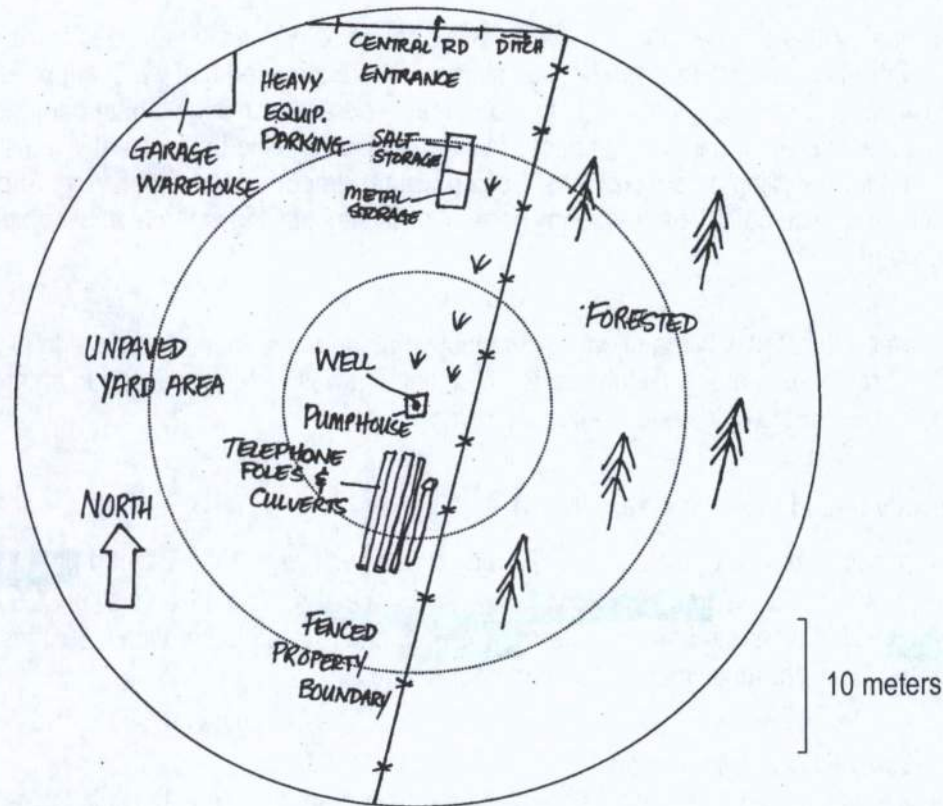


Figure 1: Diagram of sanitary area (30 meter radius) around the well

2.3.3 Intrinsic Vulnerability of the Geology at the Well

The Aquifer Vulnerability Index (AVI) method can be used to calculate the relative vulnerability of a particular well. The lithology of a sediment or rock is its characteristic physical properties, such as particle or grain size, mineral composition, or structure. The AVI method uses the lithology of the well as described in the well log, including the depth, thickness and type of sediment or rock that it is drilled into, to determine how vulnerable the well is to vertical migration of contaminants through the sedimentary or rock layers.

By determining the rate of water flow through the geologic layers of a well or aquifer, it is possible to estimate how quickly water (and waterborne or aqueous pollutants) may reach the aquifer or well from a specified location. The AVI measures the vulnerability of the well based only on the geological characteristics of the rock or sediment that it is drilled into, and does not consider the nature or extent of human activities in the well recharge area. Refer to Appendix II for a more in-depth description of AVI.

Hornby Island Highways Yard Well 1 is considered to have Moderate Vulnerability, based on a calculated Aquifer Vulnerability Index of 2.62. The well is drilled into a predominantly sandstone aquifer, overlain by a 1.5 meter layer of hardpan (till) overburden. As the AVI does not consider characteristics or properties of the bedrock into which the well is constructed, it may not accurately reflect the true vulnerability in this case. For example, water does not flow through directly through sandstone and shale bedrock, but instead reaches the well through fractures, with the overall flow rate dependant upon the depth, number and orientation of the fractures in relation to the well.

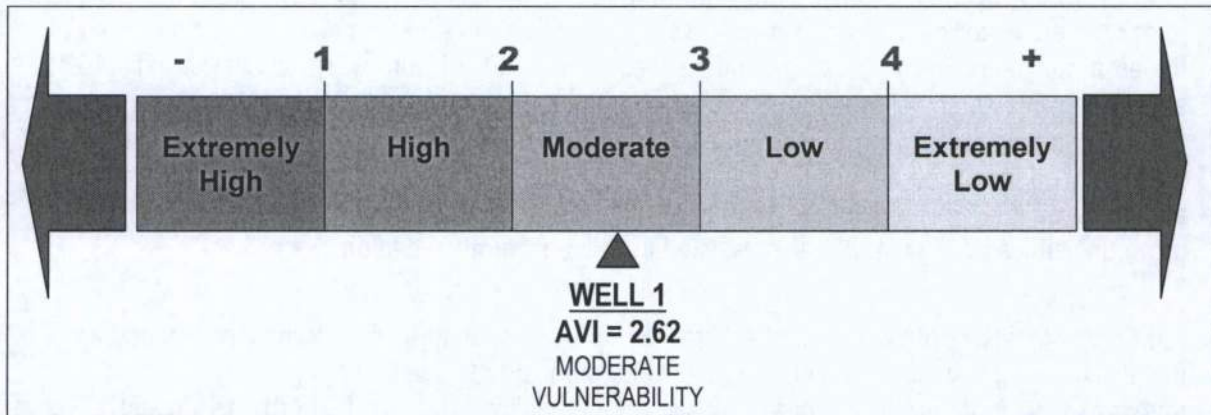


Figure 2: AVI Vulnerability Rating for Hornby Island Highways Yard Well 1

2.3.4 Aquifer

Well 1 is drilled into a bedrock aquifer that has not been classified by WLAP within the BC Aquifer Classification System. (See Appendix I for a description of the BC Aquifer Classification System.)

2.3.5 Preliminary Capture Zone

There are several methods to identify the area that is the source of water recharge for a well, referred to as the well capture zone. Three of the least complex and most easily applied methods, and the assumptions and limitations of each, are described in detail within Step Two of the *Well Protection Toolkit*, a publication produced through a joint initiative by the BC Ministry of Health and Ministry Responsible for Seniors, the former BC Ministry of Environment, Lands and Parks, Environment Canada and the BC Ground Water Association. For the BCBC source water assessment project, capture zones were delineated using the following methods:

- Arbitrary Fixed Radius (AFR) – A capture zone delineated by a circle of specific radius, which may be modified to include the watershed area above the well (Modified AFR)
- Calculated Fixed Radius (CFR) – Circles of specific radii corresponding with a cylindrical volume of water pumped over a period of 1, 5 and ten years.
- Analytical Equations – Determination of a parabolic capture zone based upon models of groundwater flow.

Depending upon the available information, one or all of these methods may be used and the most reasonable capture zone selected as the well protection area. Information about the aquifers and the direction of ambient groundwater flow is often incomplete, therefore these capture zone models have an inherent level of uncertainty in terms of their shape and size. Despite these limitations, the delineation of a capture zone allows water purveyors to establish the area within which groundwater source protection methods can be implemented, with boundaries that can be reviewed and refined as new information becomes available.

For Hornby Island Highways Yard Well 1 the Modified Arbitrary Fixed Radius method was used to delineate the well capture zone. The Arbitrary Fixed Radius (AFR) capture zone is composed of the area within a radius of 300 m around the well. As the AFR of Hornby Island Clinic and RCMP station drinking water well was found to overlap with the Highways Yard AFR, an imaginary point central to the two wells was established as the centre of the capture zone. The capture zone was then modified to include the upslope watershed boundary, or the watershed recharge area directly above the wells. Knowledge of the hydraulic gradient and direction of groundwater flow from previous studies (Hodge, 1993) also assisted in delineation of the capture zone.

Some limitations of the Modified Arbitrary Fixed Radius capture zone delineation method are that it does not consider factors such as the water pumping rate, well lithology, aquifer transmissivity, or other physical characteristics of the aquifer. The Modified Arbitrary Fixed Radius is considered the best method to use in this case due a lack of information on the pumping rate, transmissivity and hydrogeology of the area, such as the depth to water, needed for determination of a Calculated Fixed Radius or capture zone boundary using Analytical Equations. Figure 3 below shows the Modified Arbitrary Fixed Radius capture zone for Hornby Island Highways Yard and Clinic / RCMP Office wells. Efforts should be made to avoid land uses or practices that have the potential to contaminate groundwater within the capture zone.

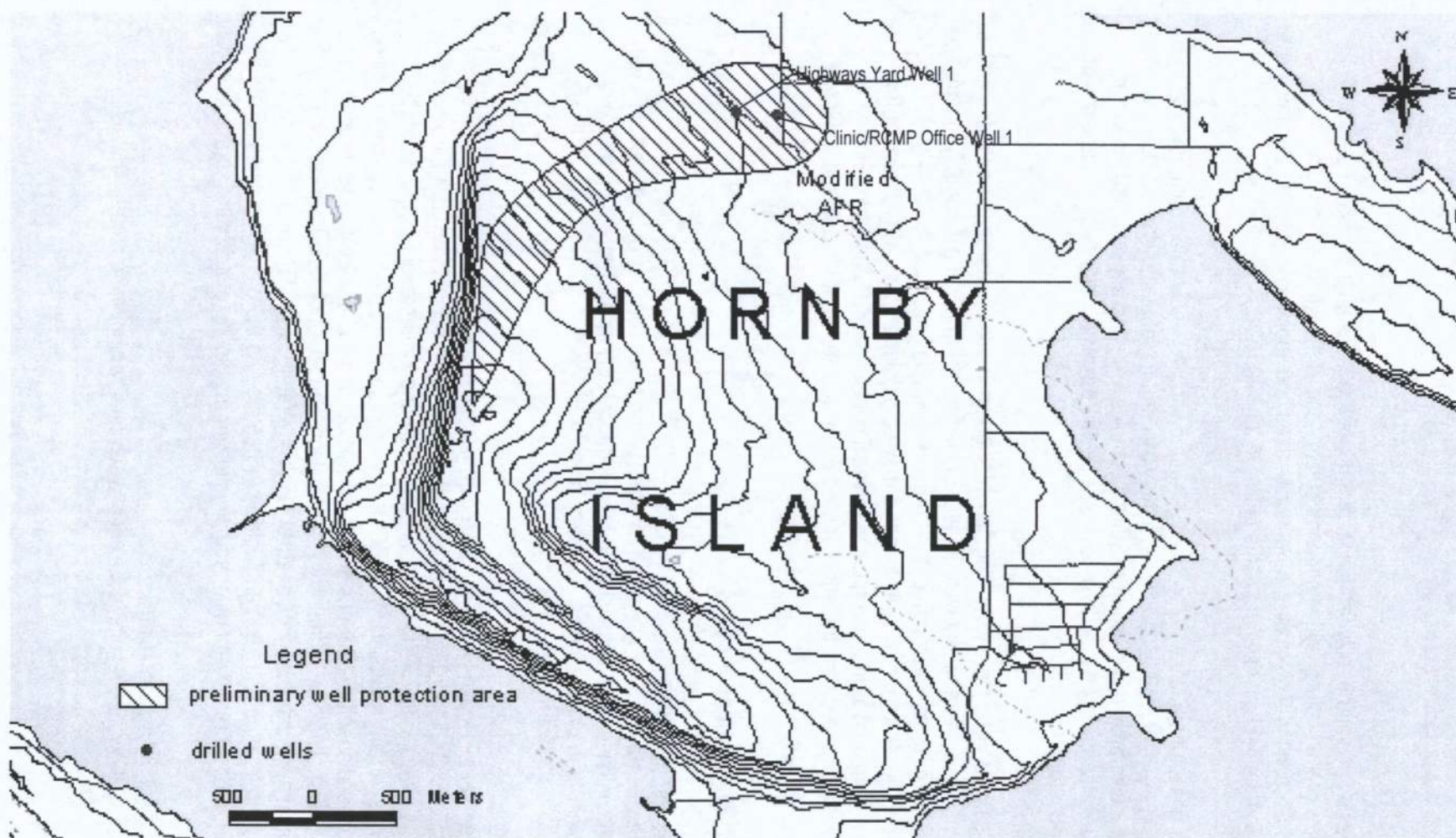


Figure 3: Hornby Island Highways Yard and Hornby Island Clinic / RCMP Office Wells Capture Zone

2.4 Water Quality

The discussion of water quality within this report has two focuses. It begins, in Section 2.4.1, with an overview of the water quality monitoring that is done at the site on an ongoing basis. Subsequently, Section 2.4.2 discusses the methods used and findings of water quality monitoring conducted during the field assessment of the facility in July 2001.

For the purposes of the following sections a “source sample” refers to an untreated water sample, representative of natural conditions in the water source, obtained from as close as possible to the intake point or well source. Source samples are generally obtained for water supplies that do not receive treatment, or to determine the baseline water quality conditions of the source water prior to treatment.

A “supply sample” refers to a water sample obtained after it has undergone treatment, that is representative of the post-treatment water quality at the facility or household. Supply samples are obtained to assess how well the treatment system is working and evaluate the quality of the water being delivered to the end user. Supply samples may be obtained from a single point or from several points subsequent to treatment, to determine if contamination is occurring within the distribution system or to evaluate the effectiveness of residual treatment (i.e. residual chlorine concentration).

2.4.1 Water Quality Monitoring

2.4.1.1 Sampling Procedures

Water at the Hornby Island Highways Yard is sampled at a frequency of less than once per year for bacteriological parameters including total and fecal coliforms. There is no record of sampling for other than bacteriological parameters.

2.4.1.2 Sampling Methods

The Environmental Health Officer for the region has taken samples from the tap in the Highways Yard office trailer or the BC Ferries crew trailer. The precise sampling method is not known, but is assumed to follow standard aseptic techniques for bacteriological water quality monitoring. Water quality sampling by BCBC personnel may be done on an infrequent or ad hoc basis, in response to specific water quality or aesthetic concerns raised by the client. The most recent record of sampling was in January 2000 at which time the bacteriological water quality was found to be within the Guidelines for Canadian Drinking Water Quality. There is no record of historical sampling for other than bacteriological parameters. As there is no treatment of the well water, there are no separate methods or sample sites for monitoring of the water source or supply.

2.4.1.3 Summary of Historical Data

Table 1 below shows the results of historical water quality monitoring done at the site.

Table 1: Hornby Island Highways Yard Well 1 – Historical water quality monitoring results

Hornby Island Hwys Yard Well 1

EMS ID: E244597				
WSACS ID: N/A				
Sample date	Sampler	Total coliforms CFU/100mL	Fecal coliforms CFU/100mL	
2001/01/17	EHO*	0	0	
1999/11/03	EHO	1	0	
1999/09/23	EHO	0	0	
1999/07/27	EHO	0	0	
1999/01/13	EHO	0	0	
1994/02/15	EHO	8	<1	

*Environmental Health Officer

No record of samples taken in 2000.

Ministry of Health WSACS database lists two different names for same site:

"Hornby Island Highways Yard" and "BC Ferries - Hornby Island Crew Trailer"

2.4.2 Field Assessment Water Quality Monitoring

2.4.2.1 Water Quality Monitoring Parameters

The parameters for evaluation of well water quality at the site were based upon those listed in "Guidelines for Minimum Standards in Well Construction, Province of British Columbia, Appendix 7" (1982). Ministry of Water, Land and Air Protection and Ministry of Health representatives were consulted and recommended additional test parameters in some cases. Within the final list of analyses, the categories of bacteriological, general chemical and inorganic parameters were included. Additionally, at selected sites where the site history indicated possible localized groundwater contamination with hydrocarbons, samples were taken to test for concentrations of benzene, toluene, ethylbenzene and xylene (soluble aromatic compounds found in gasoline, often referred to collectively as BTEX). The complete list of test parameters and water quality monitoring results for this location are shown in Table 3.

2.4.2.2 Sampling Methods

As there was no adequate sampling point at the well, samples were obtained from the sink in the bathroom of the office trailer. All screens were removed and the tap was inspected for cleanliness. The line was purged for a total of five minutes prior to sampling. This purging duration is thought to be sufficient to ensure that the sample obtained was representative of the quality of water supplied to the end user.

The analytical laboratory supplied all samples bottles. Sample bottles for bacteriology were pre-sterilized and contained a preserving agent, therefore these were not rinsed in the field.

Similarly BTEX was sampled using brown glass vials containing a pre-measured amount of copper sulphate (CuSO_4) preservative that were not rinsed prior to sample collection. The remaining sample bottles were rinsed a total of three times before the samples were taken. Sulphuric acid (H_2SO_4) preservative was added to the total phosphorus samples in the field, subsequent to collection. All samples were placed in a cooler as soon as they were collected and shipped to the laboratory the same day.

Field Measurements

Water temperature, specific conductivity, salinity and total dissolved solids were tested on site using a portable Hach C0150 conductivity meter (Model # 50150), and water pH was tested using a Hach pH testing kit (Model # AL-94/WR 2224-01). The results of the field measurements and the laboratory analysis were subsequently compared.

Quality Assurance/Quality Control (QA/QC)

Within any monitoring or assessment program care must be taken in order to ensure that the findings are accurate (as close as possible to the actual value) and non-biased. To this end quality control includes all measures taken by the investigator to manage factors under her or his direct control that could impact the final quality of the monitoring data. Examples of quality control measures include consistent adherence to established sampling protocols, regular equipment calibration, correct sample handling and documentation of activities in the field. Quality assurance includes action taken to ensure the integrity of data related to factors outside of the investigator's immediate control, for example replicate samples to evaluate the consistency of laboratory results.

Quality assurance for the field assessment and water quality sampling program consisted of replicate supply samples obtained at one site, and field blank samples prepared at another. No blank or replicate samples were obtained at the Hornby Island Highways Yard site. Quality control measures taken include the use of Water Quality Sampling Forms at each location to document sample times, field water quality data, sampling personnel and sample location. Field water quality monitoring equipment obtained from WLAP was tested but not calibrated prior to use. The sampling method followed was consistent for all site assessments and is documented within "BCBC – Sanitary Assessment and Water Sampling Procedures (Draft – Sept 2001)." Additionally, the laboratory had a number of internal QA/QC procedures to ensure the reliability of sample analytical results.

Laboratory Methods

Samples were analysed by Philip Analytical Laboratories in Burnaby, BC, using methods according to "Standard Methods for the Examination of Water and Wastewater, 20th Edition" (American Public Health Association).

2.4.2.3 Summary of Results

It is outside the scope of this report to discuss the significance of each individual parameter or test result individually. Instead the discussion will focus on those parameters, if any, that were found to exceed the Guidelines for Canadian Drinking Water Quality.

Water quality results for parameters measured in the field are shown in Table 2 below. The consistency of field measurements with laboratory results was variable. A pH of 9.75 was measured on site, compared to the laboratory result of 9.2 pH units, which is considered consistent, given the approximate nature of pH measurement with the portable test kit used. Specific conductivity and total dissolved solids (TDS) measured in the field were lower than the results from laboratory analysis, 452 $\mu\text{S}/\text{cm}$ compared to 567 $\mu\text{S}/\text{cm}$, and 239 mg/L compared to 348 mg/L for specific conductivity and TDS respectively. The reasons for this inconsistency may be due to a lower level of field instrument accuracy, calibration error, or a minor change in the character of the sample over the time of delivery to lab. Additionally, the value of total dissolved solids measured with the Hach meter is determined through an internal calculation based upon the conductivity of the solution, rather than determined through a precise method as in the laboratory.

Table 2: Field Water Quality Monitoring Results (2001)

Hornby Island Highways Yard Well 1

EMS ID: E244597

Sample date: 2001/07/24

Parameter	Results	Units	Guidelines for Canadian Drinking Water Quality	Units (GCDWQ)	Dfn (GCDWQ)
Colour	clear	Qualitative	Not established	-	-
Odour	metallic/sulphurous	Qualitative	Not established	-	-
pH	9.75	pH units	6.5-8.5	pH Units	AO
Salinity	0.2	ppt	Not established*	-	-
Specific conductance	492	$\mu\text{S}/\text{cm}$	Not established	-	-
Temperature	15.7	$^{\circ}\text{C}$	≤ 15	$^{\circ}\text{C}$	AO
Total dissolved solids	239.0	mg/L	≤ 500	mg/L	AO
Water level	-	m	-	-	-

*GCDWQ sodium (Na^+) ≤ 200 mg/L (aesthetic objective).

Laboratory results for the water quality monitoring program are shown in Table 3 below. The Guidelines for Canadian Drinking Water Quality were exceeded for the parameters of pH, and total coliforms, while the results for all other parameters were within federal guidelines.

Table 3: Laboratory Water Quality Results (2001)

Hornby Island Highways Yard Well 1

EMS ID: E244597

Sample date: 2001/07/24

Parameter	Results	MDL	Units (Lab)	Guidelines for Canadian Drinking Water Quality	Units (GCDWQ)	Dfn (GCDWQ)
Physical parameters						
pH	9.2	0.1	pH units	6.5-8.5	pH Units	AO
Colour True	<5	5	Col. Units	≤ 15	TCU	AO
Specific Conductance	567	1	$\mu\text{S}/\text{cm}$	Not established	-	-
Computed Conductance	621	-	$\mu\text{S}/\text{cm}$	NA	-	-
Conductance % Difference	9	-	%	NA	-	-
Residue Nonfilterable (TSS)	<4	4	mg/L	Not established	-	-
Residue Filterable 1.0u (TDS)	320	10	mg/L	≤ 500	mg/L	AO

Hornby Island Highways Yard Well 1

EMS ID: E244597

Sample date: 2001/07/24

Parameter	Results	MDL	Units (Lab)	Guidelines for Canadian Drinking Water Quality	Units (GCDWQ)	Dfn (GCDWQ)
Physical parameters						
Computed TDS	348	-	mg/L	NA	-	-
TSD % Diff.	8.5	-	%	NA	-	-
Turbidity	0.34	0.10	NTU	1 / ≤ 5	NTU	MAC/AO
Hardness Total	2.2	-	mg/L	Not established	-	-
General Inorganics						
Alkalinity Phenolphthalein (as CaCO ₃)	30	1	mg/L	Not established	-	-
Alkalinity Total (as CaCO ₃)	244	1	mg/L	Not established	-	-
Carbonate (as CO ₃)	36.0	-	mg/L	Not established	-	-
Bicarbonate (as HCO ₃ ⁻)	224	-	mg/L	Not established	-	-
Hydroxide (as OH ⁻)	<0.5	-	mg/L	Not established	-	-
Anions						
Chloride - Dissolved	20.0	1.0	mg/L	≤ 250	mg/L	AO
Fluoride - Dissolved	1.56	0.10	mg/L	1.50	mg/L	MAC
Ion Balance	1.6	-	%	Not established	-	-
Total Anions	6.21	-	meq/L	Not established	-	-
Total Cations	6.41	-	meq/L	Not established	-	-
Langelier Index	0.1	-	pH units	NA	-	-
Saturation pH	9.1	-	pH units	NA	-	-
Nitrogen						
Nitrate-Nitrogen (Dissolved)	<0.02	-	mg/L	10	mg/L	MAC
Nitrate+Nitrite (N)	<0.02	0.02	mg/L	13.2	mg/L	-
Nitrite-Nitrogen (N)	<0.005	0.005	mg/L	3.2	mg/L	MAC
Phosphorus						
Ortho-phosphorus	0.035	0.005	mg/L	Not established	-	-
Phosphorus-Total	0.070	0.005	mg/L	Not established	-	-
Sulphate						
Sulphate	32.9	1.0	mg/L	≤ 500	mg/L	AO
Metals						
Aluminum	0.03	0.02	mg/L	Not established	-	-
Arsenic	<0.001	0.001	mg/L	0.025	mg/L	IMAC
Barium	0.002	0.001	mg/L	1.0	mg/L	-
Boron	1.48	0.008	mg/L	5.0	mg/L	MAC
Cadmium	<0.002	0.002	mg/L	0.005	mg/L	IMAC
Calcium	0.60	0.05	mg/L	Not established	-	-
Chromium	<0.002	0.002	mg/L	0.05	mg/L	MAC
Cobalt	<0.003	0.003	mg/L	Not established	-	-
Copper	0.002	0.001	mg/L	≤ 1.0	mg/L	AO
Iron	0.016	0.005	mg/L	≤ 0.3	mg/L	AO
Lead	<0.001	0.001	mg/L	0.01	mg/L	MAC
Magnesium	0.17	0.05	mg/L	Not established	-	-
Manganese	0.001	0.001	mg/L	≤ 0.05 mg/L	mg/L	AO
Molybdenum	0.005	0.005	mg/L	Not established	-	-
Nickel	<0.008	0.008	mg/L	Not established	-	-
Potassium	0.8	0.4	mg/L	Not established	-	-
Selenium	<0.001	0.001	mg/L	0.01	mg/L	MAC
Silver	<0.01	0.01	mg/L	Not established	-	-
Sodium	146	0.05	mg/L	≤ 200	mg/L	AO
Vanadium	0.003	0.003	mg/L	Not established	-	-
Zinc	<0.002	0.002	mg/L	5.0	mg/L	AO

Hornby Island Highways Yard Well 1

EMS ID: E244597

Sample date: 2001/07/24

Parameter	Results	MDL	Units (Lab)	Guidelines for Canadian Drinking Water Quality	Units (GCDWQ)	Dfn (GCDWQ)
Bacteriological						
Coliform-Total	PRESENT	-	Present/Absent	See Table	CFU/100 mL	-
Coliform-Fecal	ABSENT	-	Present/Absent	"	CFU/100 mL	-
Hydrocarbons						
VH C6-C10	<0.1	0.1	mg/L	Not established	-	-
VPHw	<0.1	0.1	mg/L	Not established	-	-
Volatile Organics-MAH						
Benzene	<0.5	0.5	ug/L	5	ug/L	MAC
Ethylbenzene	<0.5	0.5	ug/L	≤ 2.4	ug/L	AO
Toluene	<0.5	0.5	ug/L	≤ 24	ug/L	AO
Xylene-Total	<0.5	0.5	ug/L	300	ug/L	AO
VOC Surrogate Recovery						
Bromofluorobenzene	87	0	%	-	-	-
d8-Toluene	95	0	%	-	-	-

LEGEND	
Symbol	Significance
-	No associated value or test not done
AO	Aesthetic Objective
IMAC	Interim Maximum Acceptable Concentration
MAC	Maximum Acceptable Concentration
MDL	Minimum Detection Limit
NTU	Nephelometric Turbidity Units
P/A	Present/Absent
ug/L	Micrograms per litre
uS/cm	microSiemens/cm

Water quality parameters that exceeded federal water quality guidelines are discussed below.

pH

Water sampled from the Hornby Island Highways Yard had a pH of 9.2 units. A pH of 7 is considered neutral, while pH < 7 is acidic and a pH > 7 is basic. pH of water can vary according to the properties of local geology and precipitation, for example a low water pH may be associated with acidic precipitation. In order to meet federal Guidelines, drinking water should have a pH between 6.5 and 8.5 pH units. At pH levels below or above this limit, the primary concern is encrustation or formation of scales within the water distribution system, and a decreased efficiency of chlorination or other water treatment processes. Health effects associated with a high pH are largely indirect, for example related to decreased treatment effectiveness and potential survival, despite water treatment, of pathogenic or harmful bacteria. Very high or low pH can increase the solubility of toxins such as heavy metals. The formation of trihalomethanes may increase as a result of high water pH. (Health Canada, 1996.) Trihalomethanes are carcinogenic chlorine compounds that may be formed as a result of the reaction between chlorine and organic materials in water.

Total and Fecal Coliforms

One of the most important measures of water quality is the presence of total or fecal coliform bacteria. Although coliform bacteria are not harmful, elevated coliform concentrations can signal the possible contamination of water by fecal material, which could contain other viral or

bacteriological pathogens or disease causing microorganisms. The group of total coliforms includes fecal coliform bacteria, such as *Escherichia coli*, as well as other types of coliform bacteria that can exist naturally in soil and water, therefore the presence of total coliforms in water does not necessarily indicate water contamination by fecal material. Alternately, fecal coliforms are not capable of survival outside the body of a warm blooded organism for an extensive period of time; therefore their presence usually indicates contamination of water by fecal matter. Fecal contamination of groundwater may occur due to improperly sited or poorly functioning septic systems, or infiltration of surface water contaminated by wildlife, sewage or agricultural run-off.

A brief summary of the drinking water guidelines for total and fecal coliform organisms is included in Table 4 below. As shown in the table, the Maximum Acceptable Concentration of total and fecal coliform organisms in water supplies is zero coliform organisms detectable per 100 mL of water. However, due to the uneven distribution of these bacteria in water, and the difficulty in determining total population numbers from a single sample, water quality is considered acceptable if it meets the conditions shown under the *Rules for Compliance*.

Table 4: Guidelines for Canadian Drinking Water Quality - Limits for Total and Fecal Coliforms in Drinking Water

Canadian Limits for Total and Fecal Coliforms in Drinking Water	
Total and fecal coliforms	Maximum Acceptable Concentration: 0 / 100 ml
<i>Rules for compliance:</i>	
1. No individual sample should have > 10/100 ml total coliform organisms.	
2. No consecutive sample from same site should show presence of coliforms.	
3. Community drinking water systems:	
a) No more than 1 sample from set of samples taken from the community on the same day, should show coliforms present.	
b) Not more than 10% of samples in minimum of 10 total samples should indicate coliforms present.	
<i>What to do if the above criteria are exceeded:</i>	
▪ Contact the local Environmental Health Officer.	
▪ Resampling is required if total or fecal coliforms are present.	
▪ An immediate boil water advisory should be issued if the presence of <i>Escherichia coli</i> in the water supply is confirmed.	
▪ Disinfection of well, treatment system and/or distribution system may be required prior to resampling.	
(Health Canada, 1996.)	

Total coliform organisms were present in the water sample. A numerical population estimate is not available for this sample period. Fecal coliforms were absent, suggesting that the sample was free from recent fecal contamination. The well water is not treated, as previously noted, therefore the results are not indicative of a failure in the water treatment system.

2.5 Recommendations

At the time of field assessment it was assumed that the water is being used for potable purposes. The field assessment determined that bottled water is obtained for drinking and potable water use. Thus, the recommendations in the following section focus on the needs for water quality monitoring and source protection if the water on site is to be used for potable purposes in future.

Water Quality

The Environmental Health Officer (EHO) has been notified of the water quality results as shown in this report. Further consultation with the EHO with regard to specific contaminants and the potability of the water is recommended. In response to the positive identification of total coliforms in the well water, disinfection of the well and distribution system and re-sampling for total and fecal coliforms is also suggested.

Ongoing Water Quality Monitoring

It is recommended that a schedule for water sampling by BCBC personnel be implemented. The frequency and parameters for monitoring of water quality should be determined in consultation with the EHO or Health Department representative for the Upper Island and Central Coast Health Region, based upon historical results and number of connections or users on the system. Sampling methods should be consistent, following a standardized protocol developed for this program, as reviewed and approved by the EHO.

Improvements to Sanitation

The pumphouse should be repaired to prevent the entry of animals and to reduce risk of vandalism of the well. The salt storage shed should be repaired or replaced with one that adequately prevents spillage and protects road salt from the elements. Timbers preserved with creosote should be stored outside of the sanitary area immediately surrounding the well. Additionally care should be taken in the handling and storage of all chemicals and fuels to reduce the risk of spillage or release of contaminants that could infiltrate groundwater which could affect the potability of water both on site and in neighbouring wells.

Personnel Training

At present the BCBC personnel that oversee the site have no specific training in water system maintenance or monitoring. It is recommended that staff be provided with training that will assist them in effectively managing the water supplies at this and other locations.

Alternate Water Sources

It is not known whether there is the potential for the site to connect to a municipal water supply system, or community water supply. On the Gulf Islands, it is understood that the majority of properties do not obtain water from municipal or community systems, but instead supply their own water from low to medium capacity wells on-site or in the immediate vicinity. Further research is

required to determine whether connection to a community or municipal system is an alternative for this location.

Emergency Response Plans

Present legislation under the Health Act, *Safe Drinking Water Regulation* (B.C. Reg. 230/90 with amendments up to B.C. Reg. 120/2001) requires that a site supplying potable water must have an Emergency Response Plan (ERP) that describes in detail the actions to be taken in the case of water contamination or another occurrence that may compromise the water supply. At present there is no Emergency Response Plan for the Hornby Island Highways Yard site. It is thus recommended that actions be taken to prepare an ERP for this location.

Permit Requirements

A Drinking Water System "Permit to Operate" should be obtained from the local Health Region.

Additional Concerns

As stated previously, at present bottled water is imported to the site for potable use. The quality of this water as delivered is presumed to meet the Canadian Guidelines for Drinking Water Quality. It is possible for bacteria to be present within the water cooler itself. For this reason it is recommended that a protocol and schedule for regular disinfection of the water cooler be developed and implemented, to prevent the growth of bacteria within the water cooler that may compromise water potability. Additionally, if the quality of water supplied from the well is of continued concern, it is recommended that signage be placed above the tap in the Highways Yard sinks, and within the BC Ferries residential trailer indicating that the water is not to be used for potable purposes.

3.0 REFERENCES

- AGRA Earth & Environmental Limited. (March 29, 1999). "Stage 1 & 2 Preliminary Site Investigation, Central Road, Hornby Island, BC." Prepared for British Columbia Buildings Corporation.
- AGRA Earth & Environmental Limited. (September 30, 1999). "Detailed Site Investigation, 4000 Central Road, Hornby Island, B.C." Prepared for British Columbia Buildings Corporation.
- BC Ministry of Health and Ministry Responsible for Seniors. (2000). *Well protection tool kit*. Victoria, BC: BC Ministry of Health and Ministry Responsible for Seniors, Province of British Columbia, Environment Canada, BC Ground Water Association.
- Cavanagh, N. et al. (1998). *Guidelines for Interpreting Water Quality Data, Field Test Edition, Version 1.0*. Victoria, BC: Resources Inventory Committee.
- Health Canada. (1996). *Guidelines for Canadian Drinking Water Quality, Sixth Edition*. Ottawa, ON: Minister of Supply and Services.

Health Canada. (February 1991). "Bacteriological quality." *Guidelines for Canadian drinking water quality supporting documents*. http://www.hc-sc.gc.ca/ehp/ehd/catalogue/bch_pubs/dwgsup-doc/dwgsup-doc.htm. (Accessed Sept. 2001.)

Hodge, W.S. (October 1993). "A Preliminary Groundwater Assessment of a Crown Land Parcel on Hornby Island." BC Ministry of Environment, Groundwater Section, Hydrology Branch, Water Management Division.

Nagpal, N.K., Pommen, L.W., Swain, L.G. (December 1998). *A Compendium of Working Water Quality Guidelines for British Columbia, 1998 Edition*. Victoria BC: BC Ministry of Environment, Lands and Parks.

Province of British Columbia. (2001). Health Act, *Safe Drinking Water Regulation* (B.C. Reg. 230/90 with amendments to B.C. Reg. 120/2001).

Well log. (BCGS Well Number 092F057232.5)

Appendix I: B.C. Aquifer Classification System

The BC Aquifer Classification System is a methodology developed by the former B.C. Ministry of Environment, Lands and Parks to assist in the management of groundwater resources in BC. The system has two separate ranking or classification scales:

- The classification component categorizes aquifers based on their present level of development and vulnerability to contamination.
- The ranking component assesses each aquifer according to water use and hydrological criteria.

Classification Component

The classification of an aquifer is achieved by assigning values within two sub-classes as described below.

Development Subclass: The Development Sub-class designates a value for the aquifer corresponding to a high (I), moderate (II) or low (III) level of development. This is determined by assessing the level of water demand relative to the aquifer productivity or yield.

Vulnerability Subclass: The Vulnerability Subclass is determined for the aquifer, with one of three values selected, corresponding to a high (A), moderate (B) or low (C) level of vulnerability. The Vulnerability Subclass is based upon groundwater levels, geologic characteristics of the aquifer and the characteristics of the overlying geologic layers including their thickness, composition, and extent. The Vulnerability Subclass does not consider the nature or possible impact of human activities overlying the aquifer or occurring within the aquifer recharge area.

Aquifer Class: The Development Subclass and Vulnerability Subclass are combined into a single Aquifer Class with nine possible variations as shown in Table A1.

Table A1: BC Aquifer Classification System – Classification component

Development Sub-class		
I	II	III
Heavy (demand is high relative to productivity)	Moderate (demand is moderate relative to productivity)	Low (demand is low relative to productivity)
Vulnerability Sub-class		
A	B	C
High (highly vulnerable to contamination from surface sources)	Moderate (moderately vulnerable to contamination from surface sources)	Low (not very vulnerable to contamination from surface sources)

Aquifer Class			
	I	II	III
A	IA – heavily developed, high vulnerability aquifer	IIA – moderately developed, high vulnerability aquifer	IIIA – lightly developed, high vulnerability aquifer
B	IB – heavily developed, moderate vulnerability aquifer	IIB – moderately developed, moderate vulnerability aquifer	IIIB – lightly developed, moderate vulnerability aquifer
C	IC – heavily developed, low vulnerability aquifer	IIC – moderately developed, low vulnerability aquifer	IIIC – lightly developed, low vulnerability aquifer

Ranking Component

The initial prioritization of aquifers in BC for mapping and management purposes is based upon a relative ranking scale in which points values are determined for the aquifer according to seven key criteria: productivity, vulnerability to contamination, size, water use or demand, type of use, and known water quality or quantity concerns. Each criteria is assigned a point value from 1 to 3, with the exception of quantity and quality criteria which may be assigned a value of 0, if no concerns are noted. The rank is the sum of the point values for each criterion, within possible scores ranging from 5, representing low priority, to 21, representing an aquifer of highest priority. The criteria and possible point values for the ranking system are summarized in Table A2 below.

Table A2. BC Aquifer Classification System - Ranking Value Component

Criteria	Point Value			Rationale
	1	2	3	
<i>Productivity</i>	Low	Moderate	High	Abundance of the resource
<i>Vulnerability</i>	Low	Moderate	High	Potential for water quality degradation
<i>Size</i>	<5 km ²	5 - 25 km ²	>25 km ²	Regionality of the resource
<i>Demand</i>	Low	Moderate	High	Level of reliance on the resource
<i>Type of Use</i>	Non-drinking water	Drinking water	Multiple use/ drinking water	Variability/ diversity of the resource for supply
<i>Quality Concerns</i>	Isolated	Local	Regional	Actual concerns
<i>Quantity Concerns</i>	Isolated	Local	Regional	Actual concerns

The classification methods described above are usually applied as a whole to aquifers comprising a total area of 1 km² or greater, and include the identification of the aquifer and delineation of its boundaries. In some cases the initial aquifer classification and ranking is limited by data availability and may be altered according to subsequent findings. These tools may be effectively used to identify and prioritize the need for further assessments, including mapping, modelling and delineation of aquifer recharge and discharge areas.

Reference: Kreye, R., Ronneseth, K. and Wei, M. (1994). *An Aquifer Classification System for Groundwater Management in British Columbia*. Victoria, BC: Province of British Columbia, Ministry of Environment, Lands and Parks, Water Management Division, Hydrology Branch.

Appendix II: Aquifer Vulnerability Index

The Aquifer Vulnerability Index (Prairie Provinces Board, Van Stempvoort et al, 1983) is utilized by the Province of BC to assess the relative vulnerability of an aquifer to contamination from the land surface. The Index is based upon the geologic characteristics of the aquifer, including the thickness, and type of unconsolidated and consolidated materials, and their relative hydraulic properties. The AVI method may also be used to categorize the vulnerability at specific locations within an aquifer, for example by assessing the vulnerability at a particular well location. The AVI does not consider the type or extent of human activities within the well vicinity or well capture zone.

The AVI method determines vulnerability according to the hydraulic resistance (c) of the sedimentary layers to vertical flow of water. Hydraulic resistance is calculated by determining the thickness (d) of the geologic sediments and the hydraulic conductivity (K) of each layer. Hydraulic conductivity is commonly based upon an established value for the sediment type (i.e. coarse sand, glacial till, or clay) and considers the size, shape and degree of sorting of sediment grains, as well as the size and shape of pore spaces, and their estimated degree of interconnection. The formula for hydraulic resistance is shown in Equation 1:

$$\text{Hydraulic resistance, } c = \sum d_i / K_i, \text{ for layers 1 to } i \quad (1)$$

The hydraulic resistance has the dimension of time, therefore it provides an indication of how rapidly water (and dissolved or fluid contaminants) flows vertically through the aquifer's sedimentary layers. The logarithmic transformation of the hydraulic resistance value results in a numerical Index that will fall within the range of five possible vulnerability categories based upon the estimated number of years required for a fluid to migrate through the overlying sediments to the aquifer.

Table A3. AVI categories

Hydraulic resistance, c (years)	Log (c)	Vulnerability category
< 10 years	<1	extremely high vulnerability
10 -100 years	1 to 2	high vulnerability
100 -1000 years	2 to 3	moderate vulnerability
1000 -10000 years	3 to 4	low vulnerability
>10,000 years	>4	extremely low vulnerability

Limitations of the AVI Method

The significance of AVI classifications is limited by a number of factors:

- The completeness of the well log or lithological record used for the calculations may be variable depending upon the diligence of the well driller;
- The hydraulic conductivity is reference or textbook value based on average characteristics for a particular sediment type, that may not accurately reflect the true conductivity of a sediment under specific field conditions;

- The transportation rates for various fluids (water, aqueous solutions or liquid contaminants) are variable according to their relative viscosity, and environmental conditions under which they flow (i.e. temperature and pressure);
- Classification of bedrock wells may be limited as the AVI is only calculated for unconsolidated sediments, which may comprise a limited portion of the logged depth of the well. The method is also unable to factor in the rate of water or contaminant flow through bedrock fractures.

Although the above limitations of the method must be considered, the AVI nonetheless provides a useful tool for the evaluation of vulnerability of an aquifer or well, that is of use to water purveyors and health officials in the assessment and protection of groundwater supplies.

Comparison of AVI and BC Aquifer Classification Systems

The AVI method differs from the Vulnerability Classification within the BC Aquifer Classification System in a number of ways.

- The Vulnerability Classification is applied to an entire aquifer, whereas the AVI may be used to assess conditions at specific locations in the aquifer;
- The AVI considers the specific characteristics and depths of the soil and sedimentary layers not considered within the Vulnerability Classification.

Thus, there may be a lack of correlation between the findings of the two methods. For example, an aquifer classified as having moderate vulnerability overall, may have localized areas of extremely low vulnerability depending upon the specific geologic characteristics at that site.

References:

Maxwell, J. (2001). "Drinking Water Source Assessment Summary Report, Resort Municipality of Whistler." Victoria, BC: Ministry of Environment, Lands and Parks.

Wei, M. (1998). *Evaluating AVI and DRASTIC for Assessing Groundwater Pollution Potential in the Fraser Valley*. Victoria, BC: Ministry of Environment, Lands and Parks.

Appendix III: Summary of Preliminary Capture Zone Delineation**CAPTURE ZONE CALCULATION FOR: BCBC Hornby Island Highways Yard**

Well Information

Name of Community Well	Hornby Hwys Yard Well 1
Well BCGS Number	092F057232.5
Well Tag Number	36715
Well Plate Number	926
Contact	Terry Gagne, Director, Property Management, BCBC Vancouver Island North District
Phone Number	(250) 751-7416
Address	3151 Barons Rd Nanaimo BC V9T 5W5
Property Legal Description	PIN 009-651-641; Block D (DDL62378) of the south half of the northwest quarter of Section 11, Hornby Island, Nanaimo District
Descriptive Location of Well on Property	Well located in pumphouse at southeast side of highway maintenance yard at 4000 Central Rd
Well Use	domestic
Number of Connections	2
Well Construction	drilled
Well Type	bedrock
Well Depth	41.76 m
Top of Screen	-
Bottom of Screen	-
Screen Length	-
Depth to Water	34.14 m
Well Yield	10 gpm (65.46 m3/d)

Input Parameters Used in Capture Zone Calculations

Parameter	Value	How Determined?	Notes
Pumping Rate (Q)	65.46 m3/d	from the capacity in the well record	
Specific Capacity		unknown	
Transmissivity (T)		unknown	
Thickness of Aquifer (b)	4.57 m	taken as thickness of water-bearing layer	

Porosity (n)		unknown	
Ambient Hydraulic Gradient (i)		unknown	

Summary of Capture Zones Using Arbitrary Fixed Radius (AFR), Calculated Fixed Radius (CFR), and Analytical Equations

Well	AFR (m)	CFR (m)			Analytical equations	
		1-year	5-years	10-years	X (m)	2Y (m)
Hornby Hwys Yard Well 1	300					

Capture Zone Method Selected as Most Reasonable: Modified Arbitrary Fixed Radius

Rationale for Method Selected (include discussion on which method was most reasonable to use by discussing the pros and cons): The Arbitrary Fixed Radius considered the best approximation of well catchment area in this case. As there is an overlapping of the AFR for the Highways Yard and the Hornby Island Clinic / RCMP Office Well 1, the catchment zone was delineated around central point between the two wells. The AFR was further modified to include the upslope watershed boundary area expected to comprise the overall recharge area for the wells, with groundwater flow direction approximated after Hodges (1993). The actual pattern, rate and direction of flow through bedrock well is difficult to quantify, and the AFR may be larger or smaller than actual recharge area. Information on the actual pumping rate, transmissivity and hydrogeology, such as the depth to water is needed for determination of the CFR or Analytical catchment zones and these methods are considered less suitable for bedrock aquifers. The AVI rating for the well is 2.62 corresponding with a rating of Moderate Vulnerability.

Relevant features of the capture zone (relative to the actual capture zone and sources of recharge, vulnerability of the capture zone area, limitations, and areas of more intensive focus): The bedrock well is drilled into a sandstone and shale aquifer. Soil development in the area is minimal, however a layer of till overburden provides some confinement resulting in the assessment of moderate vulnerability. Bedrock wells are often considered vulnerable due to potential for rapid flow of contaminants through fractures. The Modified AFR reflects the total area of recharge from precipitation, infiltration and groundwater flow down the east slope of Mt. Geoffrey.

Further Work Recommended to Firm Up Capture Zone

Work recommended	Rationale
Determine water use, actual pumping rate, static and pumping water level in the well at the time of next well maintenance.	To enable determination of a capture zone boundary reflective of physical characteristics of the well and aquifer.

References:

Well log.

Hodge, W.S. (1993). "A preliminary groundwater assessment of a Crown Land parcel on Hornby Island -1993." Ministry of Environment, Groundwater Section, Hydrology Branch, Water Management Division.

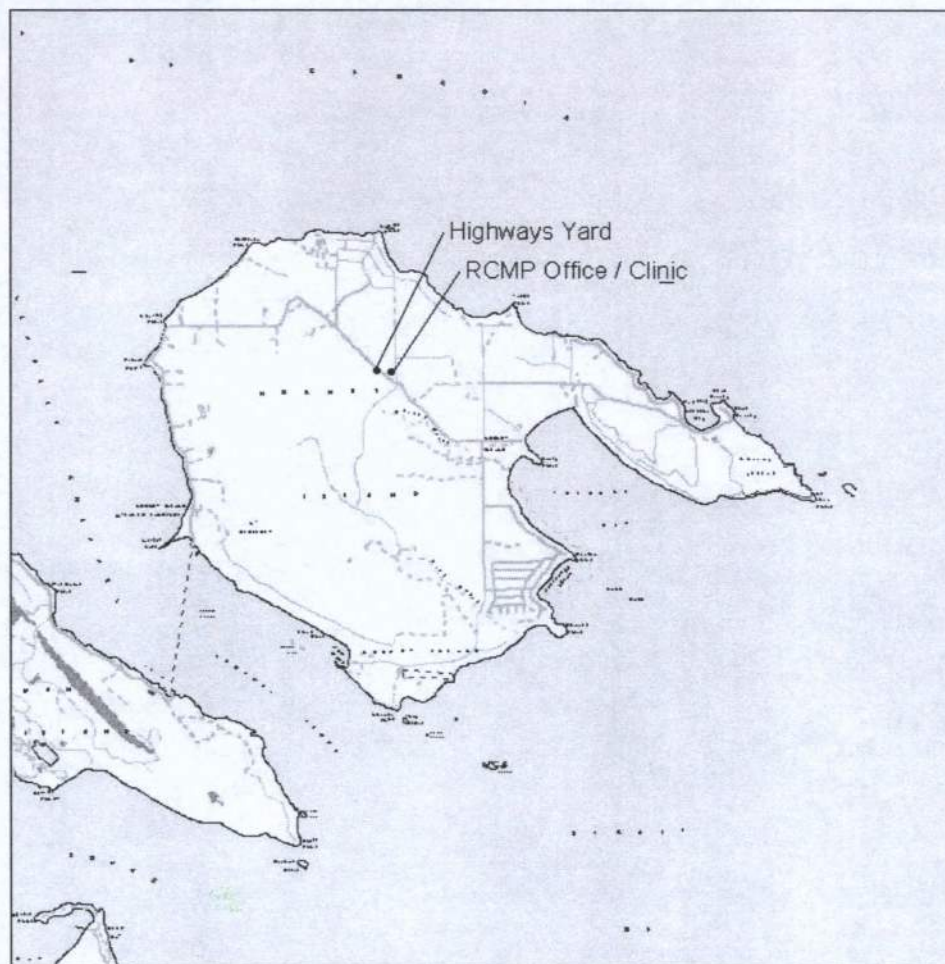
Appendix IV: Site Maps

Hornby Island

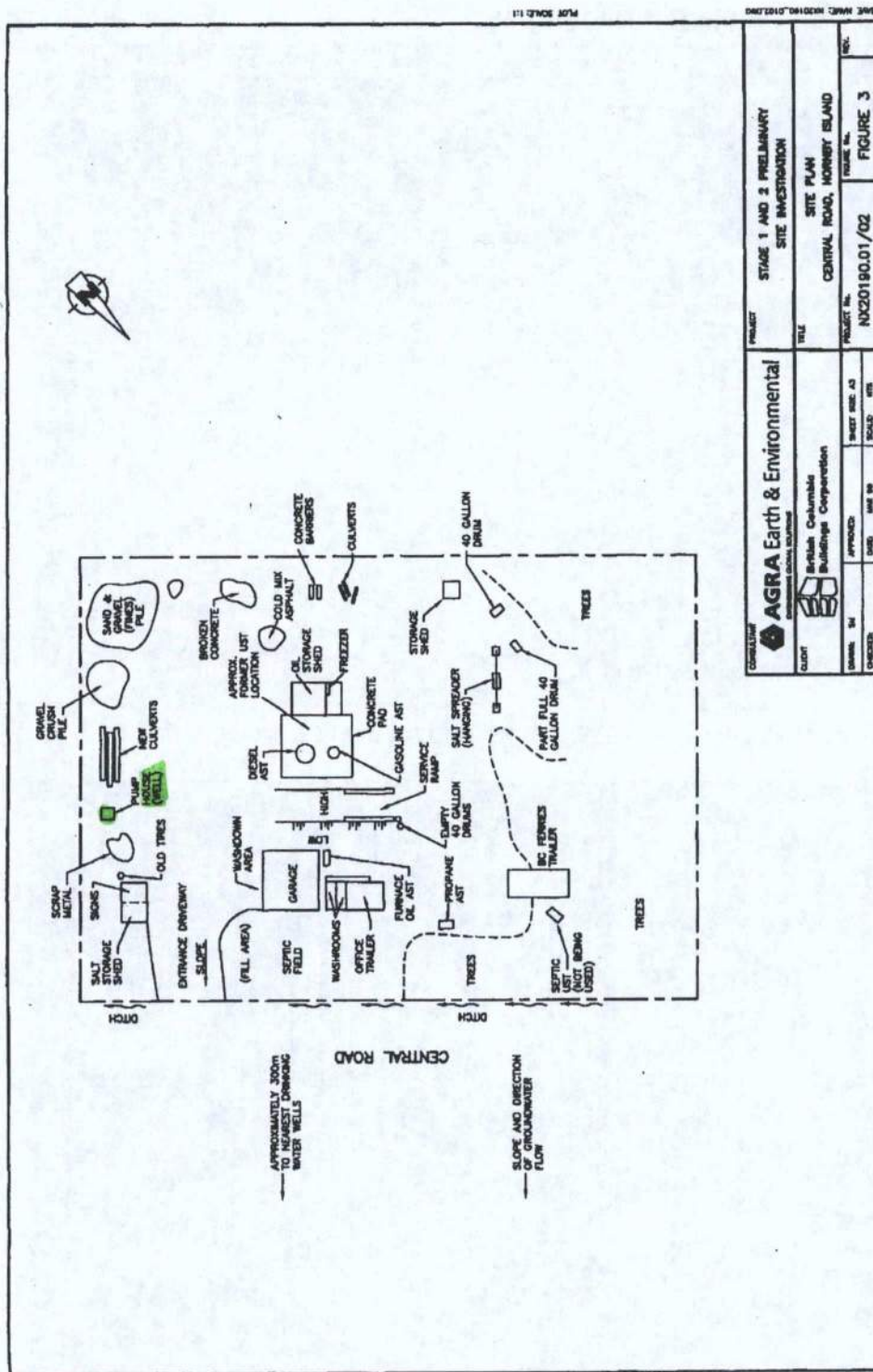
Text TRIM, Annotation Text, 1:20
 EBM, Water Polygon Features, 1:20K
 Mine - Tailing Pond
 River/Stream - Definite
 Lake - Definite
 Reservoir - Definite
 Glacier
 Icefield
 Coastline - Definite
 No Meaning-Clear Fill
 EBM, Wetland Polygon Features, 1:20K
 Marsh
 Swamp
 No Meaning-Clear Fill

Map Scale 1:75 000

1000 0 1000 2000 Meters



Legend, 1:20K



Source: AGRA Earth & Environmental Limited. (March 29, 1999.) "Stage 1 & 2 Preliminary Site Investigation, Central Road, Hornby Island, BC." Prepared for British Columbia Buildings Corporation.

Appendix V: Field Assessment Photographs



Photo 1: View of pumphouse and highways yard showing salt storage shed.

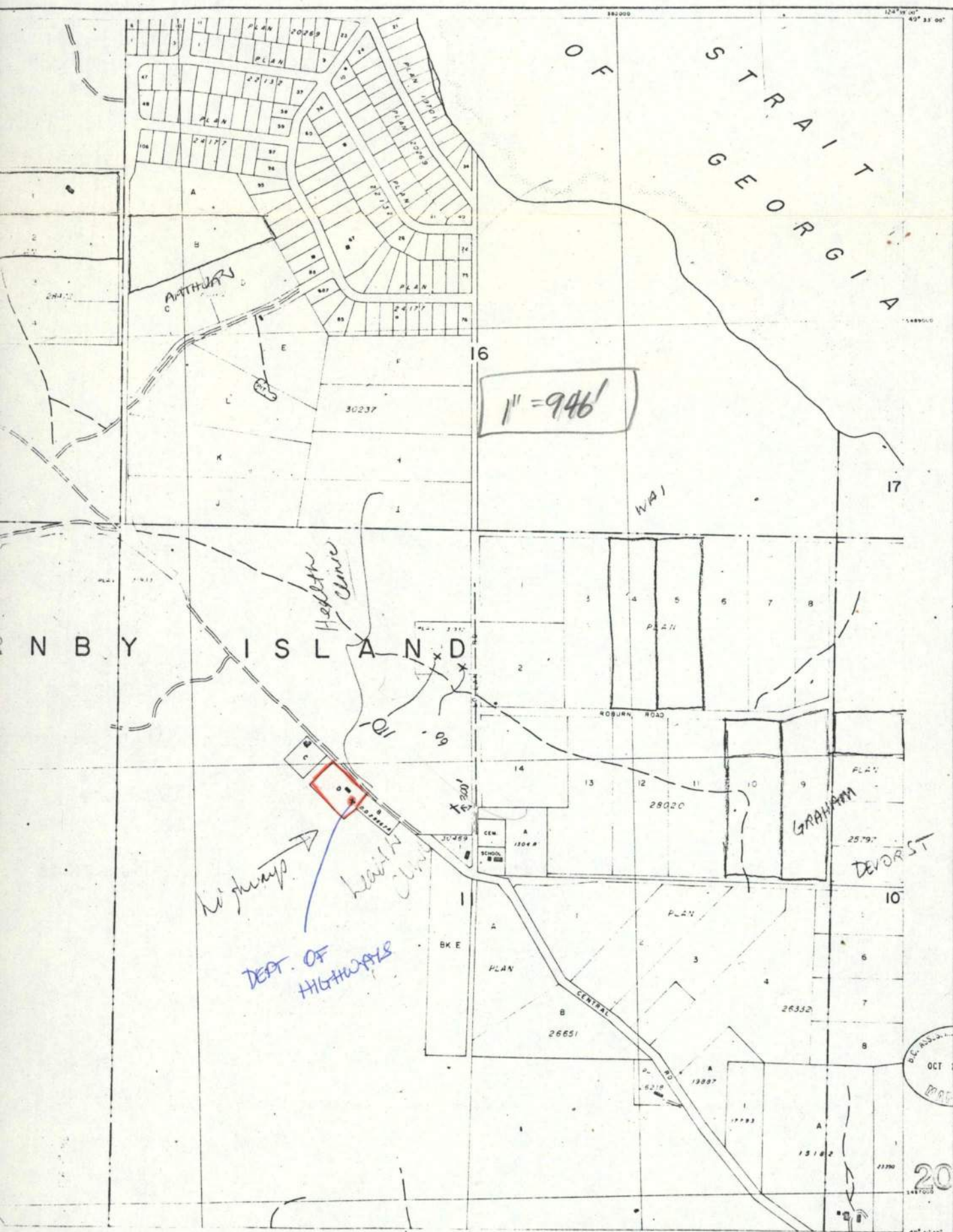


Photo 2: View of highways yard and pumphouse facing north.



Photo 3: Well and pumphouse interior.

HIGHWAYS
 New Horizons (27)
 Clinic



NANAIMO DISTRICT
 VICTORIA LAND REGISTRATION DISTRICT

SCALE - 15000
 0 100 200 300 400 500 Metres
 0 100 200 300 400 500 Feet

CADASTRAL
 92F.057.2.3

092F.057.2.3.2

WDN: 36715

#5

WATER WELL RECORD

DEPT. OF ENVIRONMENT, WATER RESOURCES SERVICE, WATER INVESTIGATIONS BRANCH

VICTORIA, BRITISH COLUMBIA

LEGAL DESCRIPTION: LOT D SEC. 11 TP. _____ R. _____ D.L. _____ LAND DISTRICT NANAIMO PLAN DD28667DESCRIPTIVE LOCATION DEPT. OF HIGHWAYS PROP., HORNBY IS., B.C. LICENCE NO. _____ DATE _____OWNER'S NAME DEPT. OF HIGHWAYS ADDRESS COURTENAY B.C.
DRILLER'S NAME GULF ISLAND ADDRESS HORNBY IS., B.C. DATE COMPLETED 2-22-77DEPTH 137' ELEVATION 043 ☐ ESTIMATED ☐ SURVEYED CASING DIAM. _____ LENGTH _____METHOD OF CONSTRUCTION CABLE TOOL CASING DIAM. 6" LENGTH 7'SCREEN LOCATION _____ SCREEN ☐ SIZE _____ LENGTH _____ TYPE _____SANITARY SEAL YES ☐ NO ☐ SCREEN ☐ SIZE _____ LENGTH _____ TYPE _____PERFORATED CASING ☐ LENGTH _____ PERFORATIONS FROM _____ TO _____GRAVEL PACK ☐ LENGTH _____ DIAM. _____ SIZE GRAVEL, ETC. _____DISTANCE TO WATER 4' ☐ ESTIMATED WATER LEVELFROM _____ ☐ MEASURED ELEVATION _____ ARTESIAN PRESSURE _____

DATE OF WATER LEVEL MEASUREMENT _____ WATER USE _____

CHEMISTRY

TEST BY _____ DATE _____

TOTAL DISSOLVED SOLIDS _____ mg/l TEMPERATURE _____ °C pH _____ SILICA (SiO₂) _____ mg/lCONDUCTANCE _____ μ mhos/cm AT 25°C TOTAL IRON (Fe) _____ mg/l TOTAL HARDNESS (CaCO₃) _____ mg/lTOTAL ALKALINITY (CaCO₃) _____ mg/l PHEN. ALKALINITY (CaCO₃) _____ mg/l MANGANESE (Mn) _____ mg/l

COLOUR _____ ODOUR _____ TURBIDITY _____

ANIONS

mg/l

epm

CARBONATE (CO₃)BICARBONATE (HCO₃)SULPHATE (SO₄)

CHLORIDE (Cl)

NO₂ + NO₃ (NITROGEN)

* TKN. (NITROGEN)

PHOSPHORUS (P)

* TKN = TOTAL KJELDAHL NITROGEN

NO₂ = NITRITE NO₃ = NITRATE

CATIONS

mg/l

epm

CALCIUM (Ca)

MAGNESIUM (Mg)

SODIUM (Na)

POTASSIUM (K)

IRON (DISSOLVED)

CHEMISTRY FIELD TESTS

TEST BY _____ DATE _____ EQUIPMENT USED _____

CONTENTS OF FOLDER

☒ DRILL LOG☐ SIEVE ANALYSIS☐ PUMP TEST DATA☐ GEOPHYSICAL LOGS☐ CHEMICAL ANALYSIS☐ REPORT

OTHER _____

SOURCES OF INFORMATION DRILLERZ _____ WELL NO. _____
_____ E
_____ N

Z _____ X _____ Y _____ NO. _____

NAT. TOPO. SHEET NO. _____

PRODUCTION TEST SUMMARY

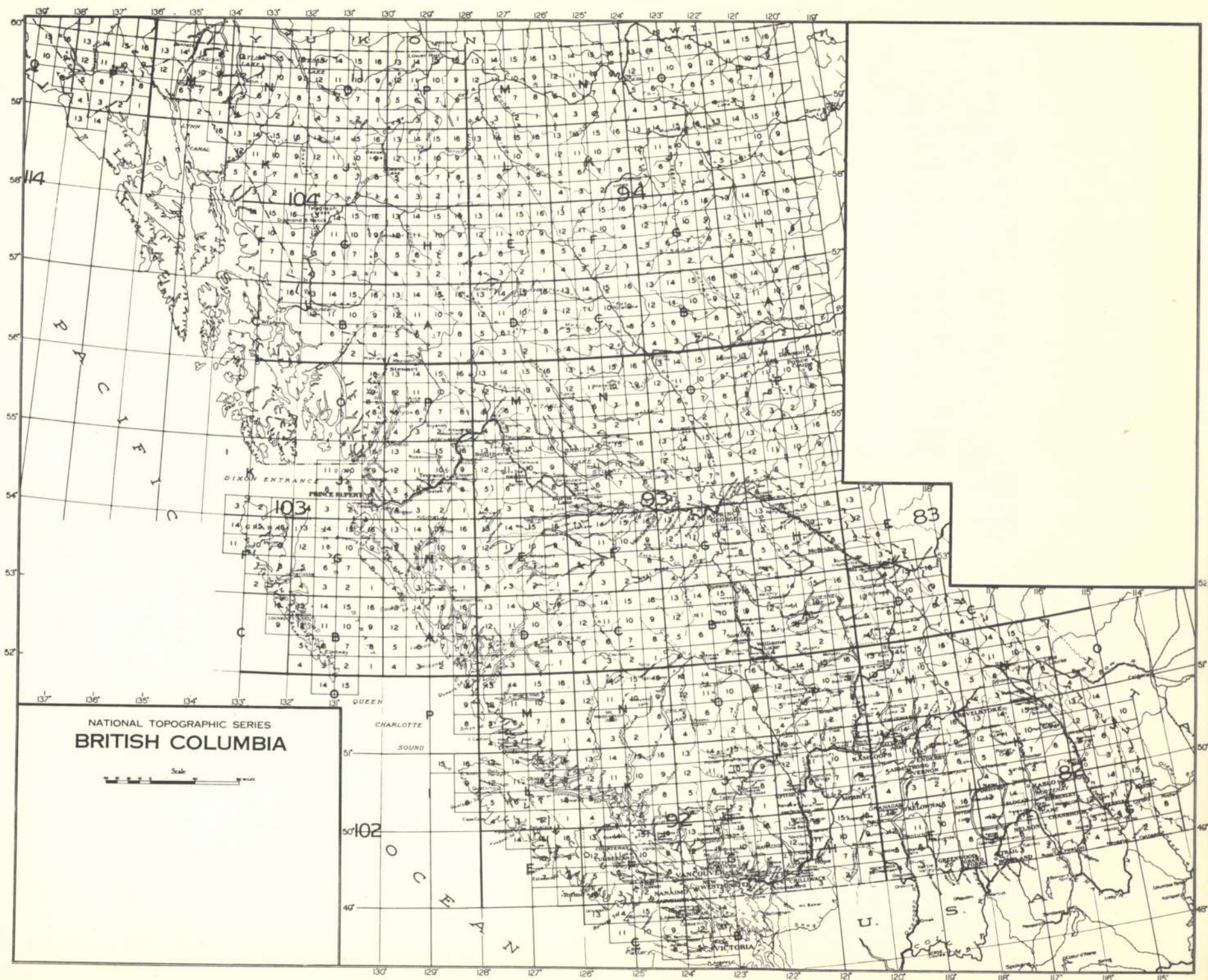
DATE _____
TEST BY _____
BAIL TEST ☐ PUMP TEST ☐ DURATION OF TEST _____
RATE _____ DRAWDOWN _____
WATER LEVEL AT COMPLETION OF TEST _____
AVAILABLE DRAWDOWN _____ SPECIFIC CAPACITY _____
PERMEABILITY _____ STORAGE COEFF. _____
TRANSMISSIVITY _____
RECOMMENDED PUMPING RATE _____
RECOMMENDED PUMP SETTING _____

LITHOLOGY

FROM	TO	DESCRIPTION
0	5	OVERBURDEN
5	9	CONGLOMERATE
9	11	BROWN SANDSTONE
11	52	SANDSTONE
52	109	SANDSTONE WITH INTERMITTENT SHALE
109	124	SHALE WITH INTERMITTENT SANDSTONE
124	131	WATER
131	137	SANDSTONE WITH INTERMITTENT SHALE
137		SANDSTONE
		ESTIMATE 10 G.P.M.

(B)

WATER IS SULPHUR
WELL IS ON DEPT. OF
HIGHWAYS MAINTENANCE
YARD.



WEST

SOUTH

CARD BY J.P. DATE 11-4-77
ADDITIONAL DATA ADDED BY _____

REMARKS





RECEIVED

MAR 23 2026

Island Health

RECORD OF SEWERAGE SYSTEM

Filing # (OFFICE USE ONLY)

CV26-048

1. Property Information	☒ New Construction ☐ Alteration		☐ Repair		☐ Amendment – Original Filing #	
	Tax Assessment Roll #				PID #	
	771-08593-100				009-651-641	
	Legal Description (Plan, Lot, District Lot, Block Numbers)					
Block D(DDL 623780 of the South 1/2 of the NW 1/4 of Sec 11, Namnaimo District, Hornby Island						
Street (Civic) Address or General Location					City	
4000 Central Road(6 rv)					Hornby Island, BC	
2. Owner Information	Name of Legal Owner			Mailing Address		
	Emcon Services Inc			105-1121 McFarlane Road		
	Phone	City	Prov	Postal Code		
	250 315 5987	Merritt	BC	V1K 1B9		
3. Authorized Person Information	Name of Authorized Person			Mailing Address		
	Travis Young			1168 B Joshua Place		
	Phone	City	Prov	Postal Code		
	250 792-2229	Courtenay	BC	V9N 3Y6		
Registration #		Email				
OW 0375		tyseptic@outlook.com				
4. Structure Information	Sewerage System Will Serve:					
	☐ Single Family Dwelling ☐ Other Structure (specify) _____ ☒ Other Dwelling (specify) 6 rv sites					
	The sewerage system is designed for an estimated minimum daily domestic sewage flow of (check one)					
☒ Less than or equal to 9,100 litres ☐ More than 9,100 litres but less than 22,700 litres						
5. Site Information	Depth of native soil to seasonal high water table or restrictive layer (cm)			Information respecting the type, depth and porosity of the soil is attached		
	> 200 cm			☒ Yes ☐ No		
	GPS Location of System (decimal degrees) Latitude 49.534N			Longitude 124.669W		
	Horizontal Accuracy (m) 3M			☒ Recreational GPS ☐ Differential GPS		
6. Drinking Water Protection	Will the sewerage system be located less than 30 m from a well? ☐ Yes ☒ No					
	If yes, attach a professional's report and specify the intended distance _____ (m)					
	Distance of proposed sewerage system to the closest body of surface water >30 (m)					
7. System Information	Sewerage treatment method ☒ Type 1 ☐ Type 2 ☐ Type 3					
8. Legal or Regulatory Considerations	☒ Construction of the proposed sewerage system will not conflict with legal instruments registered on the property.			Is this filing submitted as the result of an order from the Health Authority? ☐ Yes (attach a copy of the order) ☒ No		
9. Plot Plan and Specifications	Plot Plan (to scale) and specifications are attached ☒ Yes ☐ No					
	☒ The plans and specifications are consistent with Standard Practice Source of Standard Practice: ☒ Ministry of Health Standard Practice Manual ☐ Other					
10. Authorized Person's Signature	Signature			OFFICE USE ONLY		
	Date			Filing Accepted Date		
Mar 23, 2026			March 23, 2026			
			Receipt Number			
			95385			

STE Distance (6 RV units)

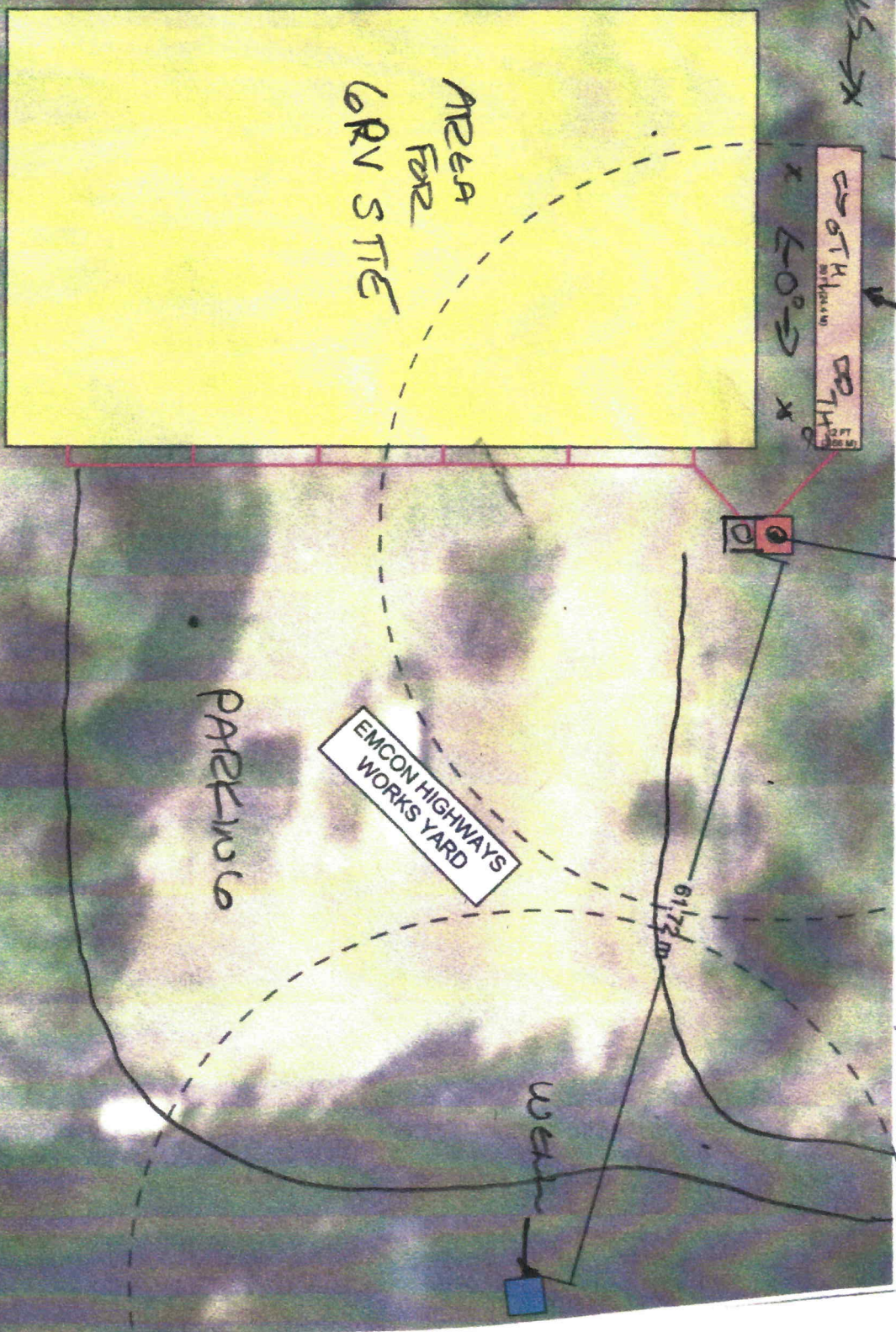
ISLAND HEALTH
FILING ACCEPTED

MAR 23 2026

**This filing Does Not Constitute
Approval for Further Subdivision**

SEE DETAIL DRAWING #2
CENTRAL ROAD
SEE DETAIL DRAWING #2

penicillin



20

DETAIL DRAWING #1
4000 CENTRAL ROAD
HEMBY, ISLAND

JOINT DETAIL
127 [5"]
19 [3/4"]

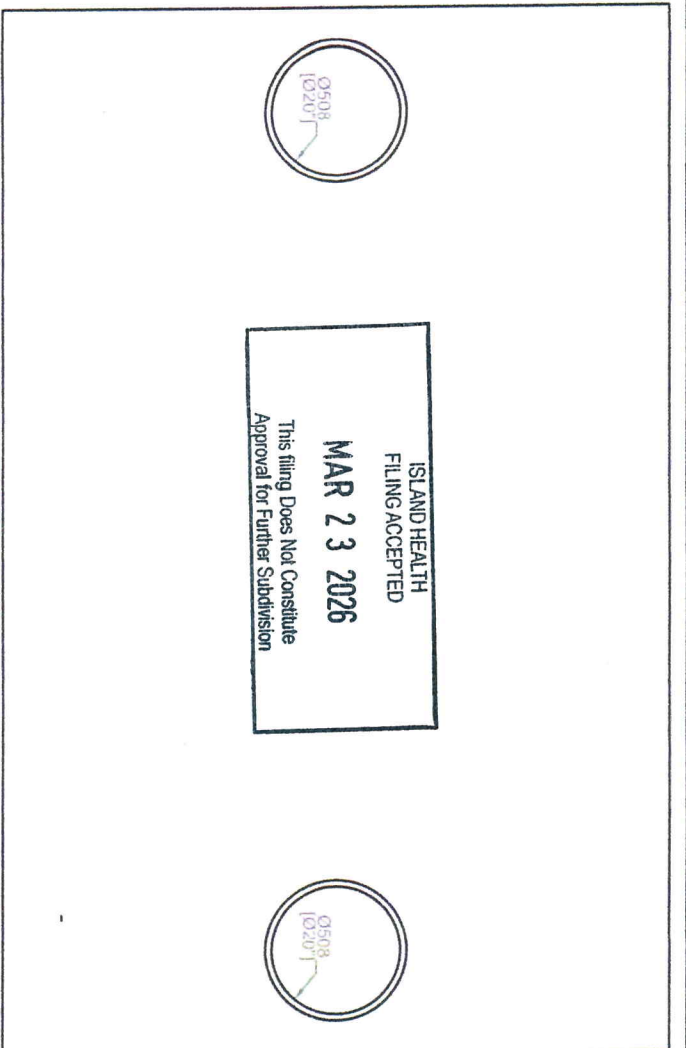
CS 202 3/4"
After sealing, ~ 1/8"



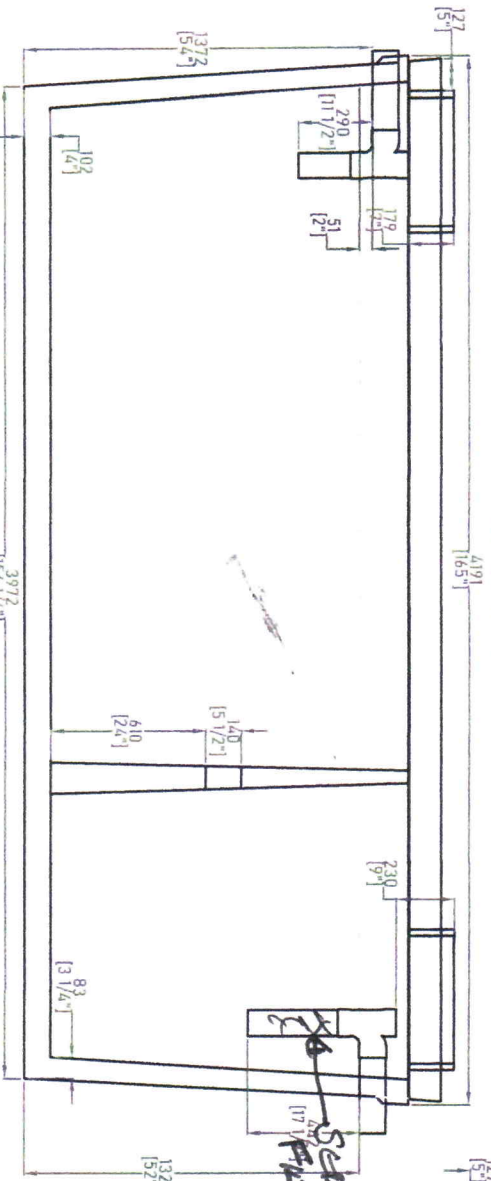
ISLAND HEALTH
FILING ACCEPTED

MAR 23 2026

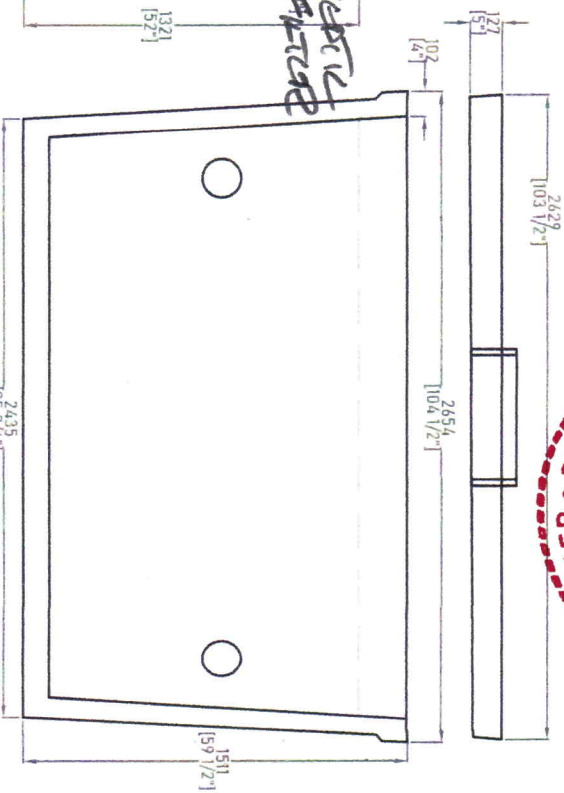
This filing Does Not Constitute
Approval for Further Subdivision



TOP VIEW - Z



PLAN VIEW - X



COMPONENT VIEW - Y

G2500-2C

Design Notes

Concrete in accordance with CSA 23-4

Effluent Filter included

Pipe fittings have 4" rubber gasket

Installation

Spreader bar and cables recommended

Not for use in sulfate soils

Max cover 1.2M

Statistics: 2500 2-Chamber

Strength 32MPa @ 28 days
Reinforcement 10M Rebar
Sika 2" Fibres
Sealant Consal CS-202
Gallons per Inch* 37.18(C1) 14.91(C2)

Lid Weight	2800 kg	6150 lb
Tank Weight	7050 kg	15500 lb
Total Weight	9850 kg	11365 lb
Capacity	11370 L	2500 Gal
C1 Capacity	8110 L	1785 Gal
C2 Capacity	3255 L	715 Gal



SEWAGE BED UTILIZING DEEPWATER SAND
 4000 CENTRAL ROAD
 HORNBURY ISLAND

25M

105M

3M



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6 - .8 WIDE INFILTRATES
 FROM CENTRAL OBSERVATION BOX
 CAPACITY FEED 125M METERS EACH

15M LOAM COVER

GRAVELLY
 SAND





TY SEPTIC LTD.

1168B Joshua Place Courtenay BC V9N 8Y6

250-792-2229

tyseptic@outlook.com

System Design Summary for Construction of Onsite Sewage System
Lot Block D(DDL62378) of the south ½ of the northwest¼ sec 11, Nanaimo
District, Hornby Island, B.C

6 RV unit sites(full time)

Designed and Reviewed by: Travis Young

Date: Mar 23, 2026

Table of Contents

1. Site assessment
2. Project, Site Information
3. Site Assessment Overview/Summary
4. Design Rationale
5. System design Overview/Summary
6. Record of Design Information and Calculations:
7. Installation Specifications
8. Declaration



1. Project Site Information:

Property address: 4000 Central Road, Hornby Island, BC.

Legal Owner: Emcon Services Inc

Owner contact: H (315 5987)

Total Lot Size: .1.6 Acres

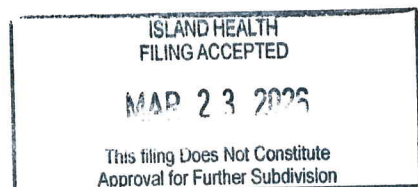
Potable Water Source. Well

6 RV sites(full time)

2. Site Assessment Overview/Summary

Preliminary Site Investigation:

Date of Site Assessment Mar 2026



The preliminary site visit yielded a suitable location for an onsite sewage system to service this new 6 RV sites. The property is in the central Hornby Island area. The lot runs from west to east with access to the property being on the north side. The property is gently sloped in nature. The natural slope in the proposed area is approx 1 % sloping towards the ocean. The 6 RV units will be serviced by a well > 30 meters away from proposed septic system.

The area chosen for this system is flat and currently has plenty of natural occurring vegetation. It is located approximately 3m south of the north property line.

The proposed distribution field will be located approx 10m north of the sites.

Both TP# 1 & 2 were identical in nature and depth. The depth of native material was averaged at approximately >200 cm of single grain sand with 0-5% coarse fragments. Roots structure was roots stopping 30 cm down throughout the excavation. SHWT was not evident.

3. Design Rationale

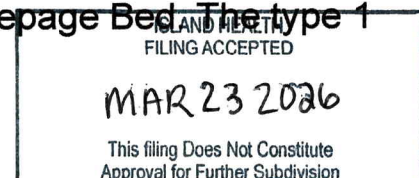
Setbacks:

- No breakout points within 15m.
- Property boundary runs parallel with the septic field and setback may be reduced to 2m if field sizing requires
- All other setbacks are also greater than required minimum SPM guidelines.

Constraints and design rationale:

- Overall constraints are low
- Depth of infiltrative surface will be 600- 800mm below existing grade and is selected to maintain VS of >200 cm
- Proposed AIS is placed below grade and finished elevation 30 cm below existing grade to allow for O2 flux
- Gravity is selected considering, over 150 cm of VS, Perc rate was 2 min and overall site constraints were low.

For the design of this system a Type 1 Gravity Seepage Bed. The type 1



treatment was determined by the vertical separation found on site, and the type grade and structure of the native soils as well as the owner's budget requests. It was agreed that a Gravity system would be the best choice for this design as the area allotted provides ample room and lots of length (30 M) bed this system was also chosen based on its ability to conform to the natural shape and slope of the dispersal area chosen.

4. Site Design Overview and Summary.

System Design was based on the information gathered at time of site assessment and property owner's declaration. Design parameters are based on the sewerage system Standard Practice Manual **version 3**.

Type 1 Gravity dispersal system "below grade"

Soil Type at Infiltrative Layer: Single grain, sand

Vertical Separation: Minimum Vertical Separation >200 cm
As constructed VS = >200 cm

Total Area of Houses: 6 RV units

Percolation Rate: 2 Minutes per
1" presoak time was 30 Minutes and the tests were conducted 4 times with varying results of 2 Minutes per 1" at the proposed infiltrative surface 60- 80 cm below existing grade. (See attached)

Daily Design Flow (DDF) : based on SPM 3 Guidelines V 3 table 3-11 for 6 RV units (full time)

DDF is 3000 L/Day

Hydraulic Loading Rate (HLR): Hydraulic Loading Rate for Design: 40 L/day/sq. for type 1 effluent applied to course sand with a loose consistence (SPM 3 table 2 – 21, 2-22, 2-23)

Liner Load Rate: LLR as per table 2-26 DDf of less than 2400 L/Day, with a Perc rate of 2 Min per inch and not greater than 60 min per Inch , Natural V.S over 1.5 M (SPM 3 table 2 – 27) is



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250 L/Day/M

Basal Area of Infiltrative Surface: Minimum AIS = DDF ÷ HLR thus 3000 ÷ 40 = 75 m²

Minimum System Length: DDF / LLR = 3000 / 250 = 12M (SPM 3 table 2 – 27)

5. Record of Design Information and Calculations:

Configuration of Dispersal System:

Width = AIS ÷ min system length so 75 m² ÷ 3m = 25M

Selected bed dimensions are 3 m x 25 m = 75 m²

AIS With 3 laterals, .6m separation and a 50 cm apron on the sides and a 50cm apron at the top and bottom 3 x 25 m .8M infiltrators laterals with center fed distribution box.

Total length of laterals: 12.5m length x 6 laterals = 75 m

6. Specifications: see attached drawings

Dispersal bed:

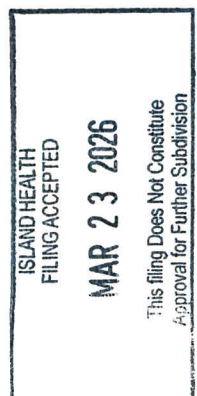
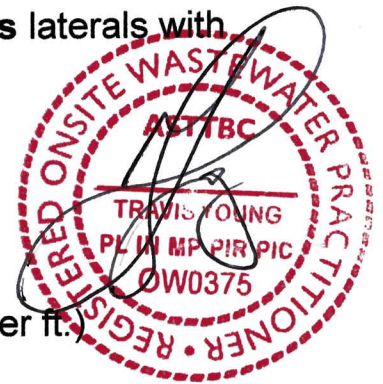
- Minimum bed dimensions are 3 m x 25 m
- Grade infiltrative surface no less than 1% (1/8 inch per ft.)
- Dig approx 45cm to infiltrative surface
- Place infiltrators in dug area
- Install distribution box at center of bed tying in infiltrators
- Cover infiltrators with untreated building paper (#2 dry sheathing)
- Place cover soil at minimum 15cm (6") depth, maximum 30cm (12")
- Cover soil to be loamy sand or sandy loam

Pipe:

- All piping to be CSA 4" PVC, 4" sewer connections to be CSA
- End feed Distribution box with vertical (by 2 – 45o fittings)
- 30 cms separation between infiltrators
- Grade placement of infiltrators no less 1 %
- Ensure 2% fall for 4" lines entering Septic tank

Septic tank:

- Galcon Precast 2500 Gallon 2 stage concrete septic tank



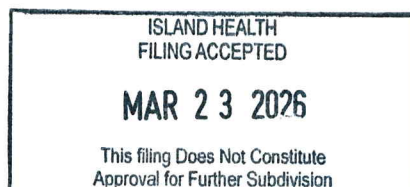
- Install outflow effluent filter with handle extended to within 6" of access lid
- Ensure easy access by installing risers as required to bring lids to slightly above surface grade

Distribution box:

- Poly Lock plastic
- Flow equalizer's installed on lateral inlet
- Ensure easy access by installing risers as required to bring access lids to slightly above surface grade

Miscellaneous specs

- Install all tanks on minimum of 5cm of bedding sand, level, consistent support, ...native backfill is OK for sides but with no cobbles or larger rock contacting tank walls, cover with sand
- Ensure easy access to tank lids for inspection and maintenance by installing risers to bring lids to slightly above finished surface
- Tank installations must include piping arrangement to bring force main valve and union, and the effluent filter handle extension to within 15 cm (6") of the access rims to avoid confined space entry issues.
- Ensure all piping is adequately bedded with sand, well supported
- Flush all lines
- Perform a flow equalization test by filling D-Box and adjusting flow equalizers to uniformly accept effluent evenly into each lateral
- Do not alter structure of original soil in dispersal area, do not back trucks onto area, minimize loads/smearing/compaction, scarify shallow, do not install in wet conditions
- Establish appropriate vegetation cover of the dispersal field (grass)
- Protect the dispersal field and tanks from traffic, heavy loads, surface or sub surface flows of water



7. Declaration:

These plans and specifications are consistent with standard practice with regard to the Sewerage System Regulation and the Sewerage System Standard Practices Manual #3 of the B.C. Ministry of Health. I have conducted a site evaluation and exercised due diligence. I am a registered on-site practitioner authorized to plan and install the system designed herein.

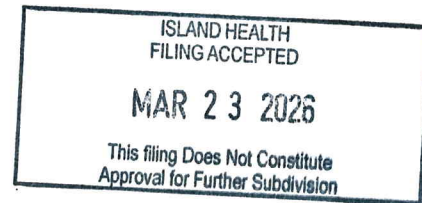
Designed By
Name: Travis Young

Signature: _____



Reviewed By
Name: Travis Young

Signature: _____



FILE # _____

SOIL INVESTIGATION / TEST PIT LOG

Logged By: Travis Y

Weather: 10 Degrees C Sunny

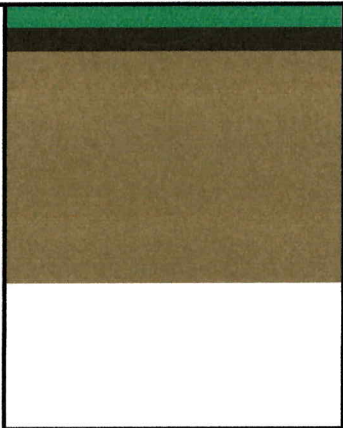
Date: Mar 2026

Excavated By: Jed Young

Property Location: 4000 Central Road, Hornby Island, BC Client: Emcon

Test Pit Location:

Test Pit Identification:

M	Inches	Sketch	Description
0	Surface	in section	
0.1	4		<u>0-4" Organic o Layer</u>
0.3	12		<u>4-8" Dark Brown, Sandy, fine roots, small to medium rocks, 20% coarse fragments, structur</u>
0.45	18		<u>8- 80" gravelly sand, brown, loose, some medium roots, 40% coarse frag</u>
0.6	24		
0.76	30		
0.91	36		
1.06	42		
1.22	48		
1.37	54		
1.52	60		

Percolation Results

Identification :

Presoak - 15min

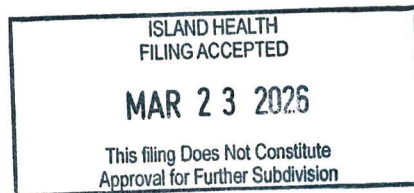
Infiltration level - 7"

Test	1	2	3	4 Average Percolation Rate
#1	<u>1:30</u>	<u>2:00</u>	<u>2:00</u>	<u>1.75</u>
#2	<u>1:45</u>	<u>1:50</u>	<u>2:17</u>	<u>1.71</u>
#3				
#4				

2 per 25mm

Other Notes

Gravelly Sand



SOIL INVESTIGATION / TEST PIT LOG

Logged By: Travis Y

Weather: 10 Degrees (C) Sunny

Date: Mar 2026

Excavated By: Jed Young

Property Location: 4000 Central Road, Hornby Island, BC

Client: Emcon

Test Pit Location:

Test Pit Identification:

M	Inches	Sketch	Description
0	Surface	in section	
0.1	4		<i>0-4" Organic o Layer</i>
0.3	12		<i>4-8" Dark Brown, Sandy, fine roots, small to medium rocks, 20% coarse fragments, structure</i>
0.45	18		<i>8-80" gravelly sand, brown, loose, some medium roots, 40% coarse frag</i>
0.6	24		
0.76	30		
0.91	36		
1.06	42		
1.22	48		
1.37	54		
1.52	60		

Percolation Results

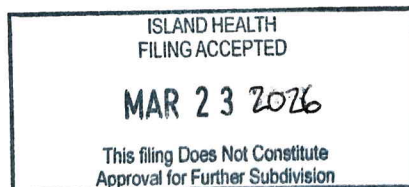
Identification :

Presoak - 15min Infiltration level - 7"

Test	1	2	3	4 Average Percolation Rate
#1	1:30	2:00	2:00	1.75
#2	1:45	1:50	2:17	1.75
#3				
#4				

Other Notes

Gravelly Sand



ATTACHMENT 6 - Applicant Notification



North Island Planning

Nanaimo, B.C.
kyle@northislandplanning.ca
250-713-6208

July 20, 2026

RE: Temporary Use Permit Application for 4000 Central Road, Hornby Island, BC

Dear Neighbour:

We are writing to share information about a Temporary Use Permit (TUP) application that has been submitted to Islands Trust by the owner of 4000 Central Road (Highways Works Yard).

The application proposes to allow six (6) recreational vehicle (RV) sites to be used for residential accommodation for Island residents on a temporary basis up to three (3) years. The RVs would not be used for short term accommodation or camping.

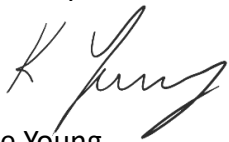
The RV sites are proposed to be located in the northern portion of the property, set back from the road and separated from the existing highways works yard. Existing trees and vegetation will be retained as much as possible to provide screening and help maintain the character of the area.

The intent of the proposal is to provide a small-scale housing option that would be a benefit to Hornby Island. The proposed temporary use is limited in size and would rely on existing and recently upgraded servicing.

We recognize that proposals like this can raise questions, and we want to ensure neighbours have the opportunity to understand what is being proposed and to share any thoughts or concerns. We are happy to speak with you directly.

If you would like more information or have any questions, please feel free to contact me at any time.

Sincerely,



Kyle Young
North Island Planning

on behalf of Emcon Services Inc.

ATTACHMENT 7



July 16, 2026

Hornby Island Local Trust Committee
Islands Trust

Re: Support for Temporary Use Permit Application PL-TUP-2026-0161
4000 Central Road

Dear Chair and Trustees,

On behalf of the Hornby Island Community Economic Enhancement Corporation (HICEEC), I am writing in support of Temporary Use Permit Application PL-TUP-2026-0161, to allow six recreational vehicle sites to be used for residential accommodation in RVs on the property.

Hornby Island continues to experience a well-documented shortage of workforce housing. Employers across many sectors—including transportation, construction, retail, hospitality, community services and local businesses—face ongoing challenges recruiting and retaining employees because suitable accommodation is simply unavailable. The availability of housing has become one of the most significant constraints to maintaining essential services and supporting the local economy.

This proposal represents a practical and responsible response to that challenge. The property owner is making a significant private investment to upgrade and enhance the site's infrastructure, including water, septic and electrical services, in order to provide safe, serviced accommodation for workers. At a time when workforce housing solutions are urgently needed, private initiatives such as this deserve thoughtful consideration and support.

An additional consideration supporting this application is the historical use of the property. For many years, the site has accommodated residential occupancy in trailers and park model units. While the original purpose included housing for highways and ferry workers, over time these sites also became occupied by members of the wider community. Residential occupancy in this form has therefore been an established feature of the property for many decades.

The current application builds upon that established pattern of use while improving the property through upgraded water, septic and electrical services and directing the accommodation toward today's workforce housing needs.

The use of a Temporary Use Permit is also appropriate. It allows the Local Trust Committee to evaluate the project over time while ensuring that any operational or neighbourhood issues



can be monitored and addressed if necessary. It provides flexibility while responding to an immediate and pressing community need.

As Executive Director of HICEEC, I regularly hear from employers whose ability to operate is limited by the lack of employee housing. Businesses reduce operating hours, defer expansion, or struggle to fill positions because prospective employees simply cannot find a place to live. While this proposal alone will not solve Hornby Island's housing shortage, it represents an appropriate, measured and practical response to one component of that challenge.

HICEEC believes this proposal builds upon the historical use of the property, is supported by significant private investment in upgraded infrastructure, and provides an opportunity to improve the availability of serviced workforce accommodation through a Temporary Use Permit that can be monitored and evaluated over time.

For these reasons, HICEEC respectfully encourages the Hornby Island Local Trust Committee to approve Temporary Use Permit Application PL-TUP-2026-0161.

Thank you for your consideration.

Sincerely,

Karen Ross
Executive Director
Hornby Island Community Economic Enhancement Corporation (HICEEC)

karen@hiceec.org