



Gabriola Island Local Trust Committee

Regular Meeting Agenda

Date: May 23, 2024
Time: 10:30 am
Location: Gabriola Arts & Heritage Centre
476 South Road, Gabriola Island, BC

Pages

1. **CALL TO ORDER** 10:30 AM - 10:35 AM
“Please note, the order of agenda items may be modified during the meeting. Times are provided for convenience only and are subject to change.”
2. **APPROVAL OF AGENDA**
3. **REPORTS** 10:35 AM - 10:50 AM
 - 3.1 Trustee Reports
 - 3.2 Chair's Report
 - 3.3 Electoral Area Director's Report
 - 3.4 First Nations Reports
4. **PUBLIC COMMENTS** 10:50 AM - 11:05 AM
5. **DELEGATIONS - none**
6. **MINUTES** 11:05 AM - 11:10 AM
 - 6.1 Local Trust Committee Minutes dated April 18, 2024 – for adoption 4 - 18
 - 6.2 Section 26 Resolutions-Without-Meeting Report - none
 - 6.3 Advisory Planning Commission Minutes - none
7. **BUSINESS ARISING FROM MINUTES** 11:10 AM - 11:25 AM
 - 7.1 Follow-up Action List dated May 15, 2024 19 - 25
 - 7.2 Local Trust Committee Budget Accounts - Brief 26 - 37
 - 7.3 Choose Location for Local Trust Committee Meeting August 8, 2024 - Verbal Discussion

8.	APPLICATIONS AND REFERRALS	11:25 AM - 12:10 PM	
8.1	GB-RZ-2022.1 (Moen) - Staff Report		38 - 110
8.2	GB-DP-2021.1 Centre Stage Holdings - Staff Report		111 - 251
	~ BREAK 12:10 PM - 12:40 PM ~		
9.	LOCAL TRUST COMMITTEE PROJECTS - none		
10.	CORRESPONDENCE - none		
	<i>(Correspondence received concerning current applications or projects is posted to the LTC webpage)</i>		
11.	NEW BUSINESS	12:40 PM - 1:00 PM	
11.1	Invite to a Fall Meeting with Snuneymuxw First Nation regarding Official Community Plan Project - Verbal Update from Trustee Elliott		
11.2	Draft Letter from Trustees to Ministers Fleming and Rankin and Member of Legislative Assembly Doug Routley regarding Community Petition on Turn Over of "Crown Land" - Trustee Elliott		252 - 253
12.	STAFF REPORTS	1:00 PM - 1:20 PM	
12.1	Trust Conservancy Report		254 - 255
12.2	Trust Conservancy Heron - Spring Edition		256 - 259
12.3	Applications Report dated May 15, 2024		260 - 264
12.4	Trustee and Local Expense Report dated March, 2024		265 - 265
12.5	Adopted Policies and Standing Resolutions		266 - 269
12.6	First Nations Relationship Building Update		
12.7	Climate Change Action Update		
12.8	Local Trust Committee Webpage		
13.	WORK PROGRAM	1:20 PM - 1:35 PM	
13.1	Active Projects Report dated May 15, 2024		270 - 272
13.2	Future Projects Report dated May 15, 2024		273 - 274
14.	UPCOMING MEETINGS		

14.1 Next Regular Meeting Scheduled for Thursday, June 27, 2024 at 10:30 am at the Gabriola Arts and Heritage Centre

15. **ADJOURNMENT**

1:35 PM - 1:35 PM



Gabriola Island Local Trust Committee Minutes of Regular Meeting

Date: April 18, 2024
Location: Gabriola Arts & Heritage Centre
 476 South Road, Gabriola Island, BC

Members Present: Peter Luckham, Chair
 Tobi Elliott, Trustee
 Susan Yates, Trustee

Staff Present: Renée Jamurat, Regional Planning Manager, by Zoom
 Stephen Baugh, Island Planner
 Ian Cox, Planner 2, by Zoom
 Margot Thomaidis, Island Planner
 Narissa Chadwick, Island Planner, by Zoom
 Morgana Van Niekirk, Communication Specialist, by Zoom
 Daniel Schneider, Bylaw Enforcement Officer, by Zoom
 Katherine Vogt, Recorder, by Zoom

Others Present: There were approximately thirty-five (35) members of the public in attendance and approximately five (5) members of the public attending by Zoom

Regrets: Vanessa Craig, Electoral Area Director

1. CALL TO ORDER

The Chair called the meeting to order at 10:33 am. He acknowledged that the meeting was held on the territory of the Coast Salish First Nations.

2. APPROVAL OF AGENDA

The following additions to the agenda were presented for consideration:

- Move the in-camera business item 4.1: Mudge Island Bylaw Enforcement Policies and Procedures to the regular meeting agenda under Item 4.1: New Business: Mudge Island Bylaw Enforcement Policies and Procedures.
- Add item 10.4: Letter dated April 2, 2024 from H. Skinner, president of Gabriola Lands and Trails Trust, regarding new Development Permit Area.
- Under New Business, add Item 11.2: Vacancy Tax options.

By general consent, the agenda was approved as amended.

3. REPORTS

3.1 Trustee Reports

Trustee Elliott reported on the following:

- An Official Community Plan (OCP) visioning celebration in late March on Gabriola Island was well attended yet underrepresented by young families and children. Staff is reviewing more inclusive engagement times and practices for future consideration, including electronic options.
- Attendance at the recent Association of Vancouver Island and Coastal Communities (AVICC) annual convention included a discussion on the responsibility of local leaders to uphold productive civil dialogue. There was a workshop on wildfire resiliency; and a workshop on a project of the Strait of Georgia Data Centre to map the shoreline of East Vancouver Island and the Gulf Islands to identify areas of hard armoring and rip rap: these maps will become available to local governments and planners.

Trustee Elliott announced that she had received a message that the current meeting was not being livestreamed and requested that staff be notified.

- Local restaurant Ground Up Café was recently highlighted as an ideal model for circular economy principles.
- Meetings of the Chief Administrative Officer (CAO) Hiring Committee.
- Office hours in May will be moving to the library.
- Working on a new draft of the Islands Trust Policy Statement, as a member of the Executive Committee, for presentation at an upcoming Committee of the Whole for informal public discussions.
- Upcoming Regional Planning Committee meeting to consider recommendations from the 2022 Governance Report.
- Engagement with the Snuneymuxw First Nation as a member of the Islands Trust First Nations Working Group.
- As Islands Trust Chair of some of the Southern Gulf Islands, attendance at an upcoming meeting with the Ministry of Transportation and Infrastructure (MOTI) and the Capital Regional District, to move forward as a taskforce for dealing with transportation issues in the Southern Gulf Islands, with hopeful inclusion of the Northern Gulf Islands in the future.
- Islands Trust collaboration with the Capital Regional District on marine issues.

Chair Luckham announced that the livestream was now functioning.

Trustee Yates reported on the following:

- Celebrating numerous First Nations cultural and education events throughout Cowichan and Snuneymuxw territory.
- Activities as a member of the Cowichan Warmland Book Collective.
- Two times attendance at a Musica Intima choral collective event.
- Recent attendance at the Gabriola Isle of the Arts Festival Pi'qwin Salmon feast event featuring Jared Qwustenuxun Williams: an Indigenous food sovereignty champion and master storyteller.

- As a member of the Ferry Advisory Committee, it is notable that the Chair and Vice Chair have recently submitted a letter to BC Ferries to express their frustration at not being listened to. This letter was published in the Times Colonist newspaper today or yesterday. The terminal redevelopment plan for 2028 has been put on hold, which is unfortunate given the numerous ongoing safety concerns of the Gabriola terminal access.
- Recent viewing of the Mudge Island Webinar presented by Bylaw Enforcement Manager Warren Dingman and consideration of the current distress of many Mudge Island residents.

3.2 Chair's Report

Chair Luckham reported on the following:

- Recent attendance at the Association of Vancouver Island and Coastal Communities (AVICC) convention provided an opportunity to network and collaborate with other members of local governments.
- Work on the Chief Administrative Officer (CAO) hiring process.
- Work of the Islands Trust Regional Planning, Trust Programs, and Financial Planning Committees for presentation at the upcoming Trust Council meeting in June on Salt Spring Island.

Trustee Yates questioned Chair Luckham on the legal possibilities for Sue Big Oil.

- Chair Luckham spoke on the funding and legal possibilities that the Executive Committee had considered.

3.3 Electoral Area Director's Report

Chair Luckham reported that Director Craig has provided an email report and that she sends regrets.

The report of Director Craig, dated April 18, 2024, to the Gabriola Local Trust Committee (LTC), noted the following:

- A thank you to all volunteers on Gabriola, Mudge, and DeCourcy Islands.
- Continuing work towards hiring a Gabriola Health and Wellbeing Coordinator.
- Awaiting an environmental impact assessment report for the concrete weir proposal in Coats Marsh Regional Park.
- The recent provincial announcement of approval for the construction of a new cancer centre at Nanaimo Regional General Hospital beginning in 2025 with an estimated cost of two hundred eighty-nine (289) million dollars.
- Meeting dates and times for upcoming meetings of the Regional District of Nanaimo; the Regional Parks and Trails Committee; the Electoral Area Services Committee; the Nanaimo Regional Hospital District Board; and the Area B Parks and Open Spaces Advisory Committee (POSAC).

3.4 First Nations Reports

None

4. PUBLIC COMMENTS

4.1 New Business: Mudge Island Bylaw Enforcement Policies and Procedures

Trustees noted the following regarding Mudge Island bylaw enforcement:

- The strong civic bond and independence that Mudge Islanders have expressed.
- That recent bylaw enforcement measures had been overwhelming and incomprehensible to many residents; serious concerns over losing homes, livelihoods, and mental health have been expressed; and social cohesion was being fragmented.
- That Islands Trust communications on bylaw enforcement practices need to improve.
- That even if a proposed resolution to defer enforcement on bylaw violations is passed, that bylaw investigations cannot be stopped.
- Currently, the Trust Council Regional Planning Committee is reviewing recent Ombudsman recommendations regarding bylaw enforcement issues.
- Many complaints are concerning Island Health or Regional District jurisdiction, rather than Islands Trust.
- 34 people attended Bylaw Enforcement Manager Dingman's recent webinar on bylaw enforcement, which is an exceptional level of attendance.
- Manager Dingman noted in the webinar that 99 % of complaints are legitimate rather than vexatious.
- The Ombudsman's report contains a policy for repeat complaints but not vexatious ones.
- The Mudge Island 2007 Land Use Bylaw is somewhat out of date.
- It is hoped that local trustees and a Regional District representative can meet soon with residents on Mudge Island at a community information meeting.
- The housing crisis has forced deferment of some non-compliant housing on Gabriola.

Members of the public asked or spoke on the following regarding Mudge Island Bylaw Enforcement:

- The right for Bylaw Enforcement officers to come onto resident's property is disturbing, given that police cannot do this.
- Mudge Island residents have been told for 40 years that the Regional District of Nanaimo does not want to come to Mudge Island to enforce building codes, but now residents are being threatened by retroactive enforcement.
- Many in the Mudge Island community want the bylaws to be changed; and this could be preferable to selective enforcement.
- There are numerous complaints that are clearly frivolous and outlandish, or vexatious, which counters the claim that 99% of complaints are valid.
- The privacy and sense of community of living on Mudge Island, which used to counter the inconveniences, is being lost.
- Thank you to trustees for their support for Mudge Island residents today, we hope to work with trustees positively in the future.
- The Islands Trust should guard against being used as a weapon by a few complainants. The Trust should serve the best interests of the entire community.

- Traditionally, Mudge Islanders were told that all they needed were electrical permits.
- The complaints process should not be anonymous, and it should not be assumed that a complaint is automatically legitimate. Legitimacy should be determined prior to sending an enforcement letter to a resident. The current process creates excessive distress.
- Anonymous third-party complainants are pitting neighbours against each other.
 - Chair Luckham clarified that complaints are not anonymous, though the name of the complainant may not be shared with the resident.
 - A Trustee added that anonymous complaints are not accepted.
 - Chair Luckham clarified that one does not need to be a direct neighbour to make a complaint, anyone on an island can complain.
- Recent purchasers of Mudge Island property do not know that their properties may have broken the law in the past; and have been told by real estate agents that the bylaws are not enforced.
- Residents with less money to address sudden demands for bylaw compliance fear that they may be forced to move or become homeless because there is nowhere else to go, given the nationwide housing crisis.
- If there is a small group deliberately using the Islands Trust to create chaos on Mudge Island, then the proposed motion to defer enforcement will provide some immediate relief.
- Are complainants trespassing to dig for evidence of non-compliance?
- There has been some talk about going after suspected new resident complainants, but most Mudge residents are good, environmentally conscious, community-minded people.
- It is shocking to hear that non-neighbour complaints have been made. A post-webinar follow-up email from Manager Dingman stated the following:

“enforcement would proceed only if written complaints were received from two neighbours residing within 200 meters of the subject property.”

 - A trustee noted that some bylaw investigations are not complaint-driven but rather proactive for the sake of the environment, including structures within setbacks to the sea.
- Manager Dingman has stated that all 6 of the complainants, whose names are protected, have property on Mudge Island; but can the Local Trust Committee verify that these people are who they say they are? Or is there a loophole to file a complaint under false pretenses.
 - Chair Luckham described the bylaw process for clarification and noted that it is not expected that complainants would lie to the Trust; and considered that the Trust could look at doing a better job of vetting complainants.
 - Chair Luckham spoke on the current review of Trust bylaw enforcement policies and process; and noted the upcoming deployment of a software system that will track Trust bylaw enforcement and be made available for public query.
- It would be helpful to have statistics on the numbers of pre-COVID 19 complaints to compare them to current complaint numbers given the extraordinary increase in property values during the pandemic. Newcomers to Mudge Island may conflict

with old-timers because the new residents are being held to a much higher standard for development.

- Chair Luckham offered that this information was available in the Islands Trust Council quarterly reports; and admitted that it was a difficulty to wade through the hundreds of pages that comprised such reports; but noted that the new upcoming software system would make such queries much easier.
- Chair Luckham acknowledged that the demographics of the Gulf islands had changed since the COVID Pandemic.
- Why is Mudge Island on a 10% land use standard when Gabriola is on a 25% standard?
 - Chair Luckham recognized the differences in the islands respective Official Community Plans (OCP) and that conversations could be had over these issues.
 - A trustee noted an upcoming Community Information Meeting planned for Mudge Island regarding bylaw enforcement and safe boating.
- In 2005/2006, the Advisory Planning Commission for the Mudge Island OCP quit in protest of not being listened to, which then did not allow for proper public input.
- Many Mudge residents did not attend the recent webinar presented by Manager Dingman because the notifications contained improper addresses, of which approximately 200 were returned to the post office. There was a discrepancy between civic and assessment addresses.
 - A trustee supported the creation of an updated Mudge Island email notification list.
 - Chair Luckham suggested that the address of record for tax notices should be the applicable address.

4.2 Public Comments

Members of the public spoke on or asked the following on topics other than Mudge Island:

- A resident spoke on her email dated April 18, 2024 that requests that Trustees ask staff rather than the Advisory Planning Commission to update the draft OCP Vision Statement so that further community feedback is expedited.
- There are many local people interested in forming a transportation taskforce.
 - The Chair noted that there was significant money becoming available for transportation programs that needed to be investigated.

GB-LTC-2024-022

It was MOVED and SECONDED,

that the Gabriola Island Local Trust Committee defer enforcement of the Mudge Island Land Use Bylaw No 228 until a full review of policies and procedures for compliance and enforcement is complete and adopted.

A Trustee requested an amendment to add the following to the main motion: “with the exception of situations where environmental and human health and safety are a significant concern, and these would be brought to the Local Trust Committee for review.”

The motion will now read:

GB-LTC-2024-022

It was MOVED and SECONDED,

that the Gabriola Island Local Trust Committee defer enforcement of the Mudge Island Land Use Bylaw No 228 until a full review of policies and procedures for compliance and enforcement is complete and adopted; with the exception of situations where environmental and human health and safety are a significant concern, and these would be brought to the Local Trust Committee for review.

GB-LTC-2024-023

It was MOVED and SECONDED

that the motion be amended by adding “with the exception of situations where environmental and human health and safety are a significant concern, and these would be brought to the Local Trust Committee for review.”

CARRIED

The chair acknowledged that the amendment to the main motion was adopted, and that the final wording of the main motion is as follows:

GB-LTC-2024-022

It was MOVED and SECONDED,

that the Gabriola Island Local Trust Committee defer enforcement of the Mudge Island Land Use Bylaw No 228 until a full review of policies and procedures for compliance and enforcement is complete and adopted; with the exception of situations where environmental and human health and safety are a significant concern, and these would be brought to the Local Trust Committee for review.

CARRIED

A trustee clarified that this resolution would still allow for bylaw enforcement investigations and trustee review of investigation reports; but, that decisions to move forward with enforcement measures could be made on a case-by-case basis.

By general consent the meeting was recessed at 12:35 and reconvened at 1:04 pm

5. DELEGATIONS - none

6. MINUTES

6.1 Local Trust Committee Minutes dated March 21, 2024 – for adoption

By general consent, the Local Trust Committee meeting minutes of March 21, 2024 were adopted.

6.2 Section 26 Resolutions-Without-Meeting Report - none

6.3 Advisory Planning Commission Minutes - none

7. BUSINESS ARISING FROM MINUTES

7.1 Follow-up Action List dated April 11, 2024

The Planner updated that the trustee request for a meeting with the Ministry of Transportation and Infrastructure regarding mowing and maintenance of road allowances is being pivoted to an upcoming October 2024 stakeholder meeting with the road contractor; the meeting will allow remote participation and trustees will be notified; and public correspondence will be forwarded to the contractor.

A trustee reminded of a previous request by motion for joint governance meetings and noted that the current OCP process on Gabriola was a good opportunity to plan for such a meeting.

The Planner updated that the Gabriola LTC request for \$4500.00 for a legal review of the covenant for Gabriola Commons would be on the next Executive Committee agenda.

8. APPLICATIONS AND REFERRALS

8.1 GB-DVP-2023.5 (Shaw) - Staff Report

The Planner presented the staff report that recommends that trustees approve issuance of the Development Variance Permit (DVP) which proposes to increase the maximum lot coverage from 20% to 24.9% on a residential property to permit the existing buildings and structures on the lot because the variance is minor and the increased lot coverage will not have a significant impact on the environment or neighbouring properties. The Planner also noted that Snuneymuxw First Nation has requested that no further removal take place due to proximity to archaeological sites.

GB-LTC-2024-024

It was **MOVED** and **SECONDED**,
that the Gabriola Island Local Trust Committee approve issuance of Development Variance Permit GB-DVP-2023.5

CARRIED

8.2 GB-DP-2024.1 (Silva Bay) - Staff Report

The Planner presented the staff report that recommends the LTC approve the development permit to allow for the installation of a boat launch ramp at Silva Bay which is within the Development Permit Area No. 4: Flat Top islands Area. It was hoped that work could begin on the project during the low tides of June to minimize marine environment impact per DFO requirements

Trustees acknowledged the community benefit of the boat launch ramp.

GB-LTC-2024-025

It was **MOVED** and **SECONDED**,
that the Gabriola Island Local Trust Committee approve issuance of Development Permit GB-DP-2024.1 subject to the conditions imposed therein.

CARRIED

8.3 GB-TUP-2024.1 (Furlong) - Staff Report

The Planner presented the staff report that recommends the LTC approve the issuance of a Temporary Use Permit (TUP) for a commercial vacation rental within a single-family dwelling that is required to comply with the new provincial principal residence requirements.

Trustees advised the applicant to improve guest communication materials regarding local fire, water, and First Nations archaeological protocols; and to register the property as a principal residence if they wish to continue the use after November 1, 2024 when the provincial principal residence requirement will come in to effect per LTC resolution to opt in to the new provincial STVR legislation.

The Planner noted that the current draft of the TUP needed to be amended to account for the applicant's request of four bedrooms rather than 3; this would mean a maximum number of guests of 8 rather than 6, at 2 per bedroom per the TUP Guidelines

GB-LTC-2024-026

It was MOVED and SECONDED,

that GB-TUP-2024.1 Temporary Use Permit proposed draft section 4.7 be amended from 3 to 4 bedrooms and section 4.8 be amended to "for a maximum of 8 guests at any given time."

CARRIED

GB-LTC-2024-027

It was MOVED and SECONDED,

that the Gabriola Island Local Trust Committee approve issuance of Temporary Use Permit GB-TUP-2024.1 for 30 months from the date of issuance.

CARRIED

8.4 GB-TUP-2024.3 (Griesdale) - Staff Report

The Planner presented the staff report that recommends the LTC renew the Temporary Use Permit (TUP) for 3 years for the operation of a commercial vacation rental within an existing single-family dwelling, given general neighbour support and that the applicant has provided updated well test data that exceeds requirements.

A trustee commented that the new principal residence requirement for commercial vacation rentals was intended to discourage the purchasing of property solely for commercial reasons, not to stop residents from providing rental destinations.

GB-LTC-2024-028

It was MOVED and SECONDED,

that the Gabriola Island Local Trust Committee approve issuance of GB-TUP-2024.3, a renewal of GB-TUP-2020.3, for a period of three years.

CARRIED

8.5 GB-DVP-2023.3 (Miller) - Staff Report

The Planner presented the staff report that recommends that trustees hold in abeyance an application to vary the setback of a 30 metres squared woodshed from the 10-metre setback minimum to 0.0 metres from the interior lot line to allow Snuneymuxw First Nation (SFN) the opportunity to comment on the application, as per the request of SFN. The application is otherwise supported because the woodshed, built in the early 1990s, is not negatively affecting anything.

The applicant asked or noted the following:

- The woodshed is not disturbing anything, and nothing is being developed, so why is SFN wanting a referral? Is development within an archaeological or heritage site that would justify the SFN request?
 - The Planner responded that there was no mapped archaeological site within 100 meters of the woodshed. Planners were unsure why SFN was requesting a referral.
- My rights as a landowner need also to be honoured.
- Regarding application fees, are the First Nations not already receiving funds to process referral applications?
- Property owners have not been adequately updated on First Nations' referral processes.

Trustees noted the following:

- A vexatious complaint had triggered the application.
- The application involves no ground or visual disturbance and is considered a minor variance.
- There is a financial hardship for the applicant of a \$1000.00 fee for the SFN referral.

A Planner added that SFN is currently indicating interest in receiving referrals for all development variance permit applications.

The Chair spoke on First Nations relationship building and the opportunity for the applicant to explain the situation in a letter to SFN and seek a waiver or fee reduction.

The Planner advised that removing the shed would necessitate a development permit and environmental assessment because it is within a riparian area, though it was built before riparian regulations came into effect.

The Regional Planning Manager advised that First Nations referral processes are being reviewed at a Trust-wide level and that website wording for public communication is being worked on.

GB-LTC-2024-029

It was MOVED and SECONDED,

that the Gabriola Island Local Trust Committee hold the application GB-DVP-2023.3 in abeyance; and request that the applicant submit a referral application to the Snuneymuxw First Nation.

CARRIED

9. LOCAL TRUST COMMITTEE PROJECTS

9.1 Major Project: Gabriola Island Comprehensive Official Community Plan and Land Use Bylaw Review - Staff Report

The Planner presented the staff report that asks trustees to move forward with Phase 2 of the Gabriola Island Official Community Plan (OCP) and Land Use Bylaw (LUB) Review Project and to consider how best to proceed with revising of the Official Community Plan Vision Statement, noting the following:

- An impressive 400 survey responses were received.
- Determining key values and writing up the vision statement will take some more work.
- Next steps include funding for a water balance assessment to be developed by Senior Freshwater Specialist William Shulba.
- Joan Wandolo, from Gabriola, has been hired as a coop student for this summer to support the Regional Planning Team with their major projects, including the Gabriola OCP Review Project, with baseline mapping.
- An upcoming Suitable Land Analysis map containing multiple overlapping data sets will provide an opportunity to visualize where on Gabriola are the better areas for development.

GB-LTC-2024-030

It was MOVED and SECONDED,

that the Gabriola Island Local Trust Committee request staff to develop a Project Charter, Work Plan and revised Engagement Plan for Phase 2 of the Gabriola Island Official Community Plan and Land Use Bylaw Review Project.

CARRIED

Trustees suggested to make an extra effort to engage with underrepresented people groups; to get a list of community events to meet with people where they are already gathering; to include the topic of development permit areas; to provide proper wording to the areas of climate change and First Nations reconciliation; and to look at a First Nation vision for Gabriola.

GB-LTC-2024-031

It was MOVED and SECONDED,

that the Gabriola Island Local Trust Committee request staff to work with local trustees on drafting a new updated official Community Plan Vision Statement based on feedback gathered from the Gabriola visioning 2050 process.

CARRIED

10. CORRESPONDENCE

10.1 Email dated March 29, 2024 from B. Moisiuk regarding Gabriola Lions Concert on the Green Event Permit

Trustees noted the following:

- The updated Islands Trust Fees Bylaw includes a \$500.00 fee for an Islands Trust Special Event Permit, for a simple one-day charity event at which liquor is served; so the fees bylaw could be reviewed and possibly amended.
- The charity organization must also pay \$200.00 each year for a land title search.
- Director of Legislative Services, David Marlor, is following up on this letter.

10.2 Email dated March 26, 2024 from D. Bradley regarding Land Use and Private Campgrounds on Gabriola

The Planner noted that he had reached out to the correspondent to inform them on how to make a bylaw complaint.

10.3 Letter from Ministry of Housing regarding Opting In to Bill 35 Principal Residence Requirement

Received for information.

10.4 Letter from dated April 2, 2024 from H Skinner, president of Gabriola Lands and Trails Trust, regarding new Development Permit Area

A Trustee noted that this letter contained a request for a new development permit area to be created for the valuable wetland area of McCormick's Walk.

GB-LTC-2024-032

It was **MOVED** and **SECONDED**,

that the Gabriola Island Local Trust Committee forward the letter from H Skinner, President of Gabriola lands and Trust, dated April 2, 2024, to Narissa Chadwick to be included in the Official Community Plan review materials.

CARRIED

11. NEW BUSINESS

11.1 Annual Reporting Excerpt for Gabriola LTA – Memorandum

Trustees considered the attached report that summarizes the activities of the Gabriola Local Trust Committee (LTC) for the 2023/2024 fiscal year.

In response to LTC request, the Regional Planning Manager offered to include in the report the following insert:

“Initiatives of the Gabriola LTC for this period included relationship-building with Snuneymuxw First Nation. As part of this process, the Gabriola LTC: met with Snuneymuxw First Nation leadership; is meeting with staff on a regular basis, and is working to renew the Protocol Agreement with Snuneymuxw First Nation and the Gabriola LTC.”

GB-LTC-2024-033

It was MOVED and SECONDED,

that the Gabriola Island Local Trust Committee approves the attached text for inclusion in the 2023/24 Annual Report for approval by Trust Council and submission to the Minister of Municipal Affairs, as amended.

CARRIED

11.2 Vacancy Tax Options

A Trustee raised the possibility of having a Speculation and Vacancy Tax applied to Gabriola Island.

- The Chair advised that the provincial Speculation and Vacancy Tax regulations were so new, that there could be considerable changes made to them between now and the end of the year.
- The Planner noted that he had been advised that it is possible for Local Trust Committee to request that the Minister include them in the Speculation and Vacancy Tax Regulation.
- A Trustee added that Salt Spring Island has been working on this.

GB-LTC-2024-034

It was MOVED and SECONDED,

that the Gabriola Island Local Trust Committee request staff to inform the Local Trust Committee regarding options for opting into the Speculation and Vacancy Tax Regulation for the Gabriola Local Trust Area.

CARRIED

12. STAFF REPORTS

12.1 Trust Conservancy Report – none

A Trustee celebrated the recent expansion of the Night Hawk Hill Covenant on North Pender Island.

12.2 Applications Report dated April 11, 2024

Received for information.

12.3 Trustee and Local Expense Report dated February, 2024

Received for information.

12.4 Adopted Policies and Standing Resolutions

12.5 First Nations Relationship Building Verbal Update

The Regional Planning Manager provided the following update:

- Over the last few months, there have been two Leadership Council to Council discussions with Snuneymuxw First Nation on such topics as common goals, ways to work together, refreshing the Protocol Agreement, and interest in participating in Gabriola's Official Community Plan (OCP) Project.
- Ongoing staff-to-staff discussions regarding development and referral processes.

- Future discussions to support Islands Trust Council and the Local Trust Committee's commitment to reconciliation for further relationship-building with Snuneymuxw First Nation.

A Trustee announced the recent hiring of a new Seniors Indigenous Relations Advisor; and that the Islands Trust Reconciliation Learning Group had held an excellent workshop yesterday with Jared Qwustenuxun Williams who is working on introducing Indigenous foods into institutions and who eloquently articulated that there has been a seven-generation wait for reconciliation.

12.6 Climate Change Action Update
None

12.7 Local Trust Committee Webpage

13. WORK PROGRAM

13.1 Active Projects Report dated April 11, 2024
Received for information

13.2 Future Projects Report dated April 11, 2024

GB-LTC-2024-035

It was MOVED and SECONDED,
that the Gabriola Island Local Trust Committee request staff to remove, under Future Projects Report, No 2: Snuneymuxw Relationship Building.

CARRIED

Trustees considered that the topic of Development Permit Areas was currently being included in the Official Community Plan (OCP) Review process.

GB-LTC-2024-036

It was MOVED and SECONDED,
that the Gabriola Island Local Trust Committee request staff to remove, under Future Projects Report, No 3: Development Permit Area Review Topics.

CARRIED

GB-LTC-2024-037

It was MOVED and SECONDED,
that the Gabriola Island Local Trust Committee request staff to add to the Future Projects Report: Review of Mudge Island Official Community Plan and Land Use Bylaw.

CARRIED

14. UPCOMING MEETINGS

14.1 Next Regular Meeting Scheduled for Thursday, May 23, 2024 at 10:30 am at the Gabriola Arts and Heritage Centre

15. CLOSED MEETING

15.1 Motion to Close the Meeting

The Chair announced that the scheduled closed meeting had been previously moved to and discussed under Item 4.1 of the current regular meeting agenda to facilitate engagement of residents of Mudge Island; and that the closed meeting minutes of the last closed meeting could be adopted at a future in camera meeting.

15.2 Recall to Order

None

16. ADJOURNMENT

By general consent, the meeting was adjourned at 3:47 p.m.

Peter Luckham, Chair

Certified Correct:

Katherine Vogt, Recorder

Follow Up Action Report

Gabriola Island

29-Sep-2022

Activity	Responsibility	Dates	Status
1 GB-RZ-2022.1 (Alley Enterprises) - Staff to prepare draft bylaws to amend the OCP and LUB; notify Snuneymuxw and advise applicant of requirements for water and sewage reports prior to LTC consideration of first reading. Update application website with preliminary staff report package from Sept 2022 LTC meeting. <i>Staff report uploaded to website.</i>	Stephen Baugh		Completed

20-Jul-2023

Activity	Responsibility	Dates	Status
1 Regarding LTC Consideration of becoming Covenant Holder, Gabriola Commons - 675 North Road, Gabriola Island: Staff to seek a legal review of draft covenant prepared by the registered owners of the Gabriola Commons - 675 North Road, Gabriola Island [Lot 1, Plan VIP27281, Section 19, Land District 32, Gabriola Island (PID 002-600-992)]. <i>Update April 8, 2024: Staff have prepared RFD for EC to request funding for legal review of covenant.</i>	Stephen Baugh	Target: 26-Oct-2023	In Progress

26-Oct-2023

Activity	Responsibility	Dates	Status
----------	----------------	-------	--------

Follow Up Action Report

Gabriola Island

26-Oct-2023

Activity	Responsibility	Dates	Status
1 Staff to prepare a request to EC on behalf of LTC to approve funds for screening Dust and Bones movie and public discussion on Gabriola in 2023/2024. - <i>March 8: Dir. TAS has noted the request for EC and confirmed funds for screening. TAS Director awaiting more information about the event.</i>	Clare Frater		In Progress

Follow Up Action Report

Gabriola Island

26-Oct-2023

Activity	Responsibility	Dates	Status
2 Two Letters from LTC: 1. Gabriola Local Trust Committee draft a letter to formally request the Provincial and Federal governments' support and direction to aid the Gabriola Local Trust Committee in preserving and protecting Indigenous cultural heritage sites that may be at risk due to impacts of development. In the absence of clear legislation and guidelines to support local governments' obligations to international, national and provincial frameworks, interim guidance and direction from the Province would be welcome, to ensure the Islands Trust can fulfill its obligations and duties to the preservation and protection of sacred cultural heritage sites. <i>*To confirm with LTC if this action is still desired.</i> 2. That the Chair of the Gabriola Island Local Trust Committee work with staff write to seek support from Snuneymuxw First Nation and to understand if there would be interest in working on a joint call to the Provincial and Federal government to request support and direction to aid the Gabriola Local Trust Committee in preserving and protecting Indigenous cultural heritage sites that may be at risk due to impacts of development. <i>March 5, 2024: Confirmed no action with Snuneymuxw at this time. Explore local government tools available to LTC first and consider this option in the future if necessary.</i>	Renee Jamurat	Target: 30-May-2024	In Progress

Follow Up Action Report

Gabriola Island

30-Nov-2023

Activity	Responsibility	Dates	Status
1 Extension granted for GB-RZ-2022.1, staff to continue processing application and bring back report to LTC.	Stephen Baugh		Completed

18-Jan-2024

Activity	Responsibility	Dates	Status
1 Actions for the Major Project - OCP Review: - Set up meeting between SFN Staff and leadership, and GB LTC and IT Staff to discuss SFN interests related to Gabriola and interest in engagement with the FB OCP review process. - Communicate the feedback related to the Official Community Plan engagement received from community engagement groups to the Local Trust Committee in writing. - Add the letter from Drs. J & C Johnstone and the Foreshore Structures Report from Warren to the OCP review project file.	Narissa Chadwick		In Progress

22-Feb-2024

Activity	Responsibility	Dates	Status
1 Schedule a special meeting on Mudge Island in Spring/Summer 2024 to hear from the community about bylaw enforcement and safe water access.	Michelle Backe Stephen Baugh		In Progress

Follow Up Action Report

Gabriola Island

22-Feb-2024

Activity	Responsibility	Dates	Status
2 Request a meeting between the LTC and MOTI regarding mowing/maintenance of the road allowance. <i>Staff to provide trustees with invite to "Stakeholder Meeting" with contractor in the Fall. Public correspondence forwarded to the contractor.</i>	Stephen Baugh		Completed
3 Prepare a webinar regarding bylaw enforcement on Mudge Island.	Warren Dingman		In Progress
4 Provide a staff report regarding bylaw enforcement files in the Gabriola Local Trust Area to the LTC.	Warren Dingman		In Progress

21-Mar-2024

Activity	Responsibility	Dates	Status
1 Staff to bring back advice about Gabriola communications budget to the next LTC meeting to inform decision on advertising Trustee office hours in the Gabriola Sounder newspaper.	Renee Jamurat Stephen Baugh	Target: 18-Apr-2024	Completed

18-Apr-2024

Activity	Responsibility	Dates	Status
----------	----------------	-------	--------

Follow Up Action Report

Gabriola Island

18-Apr-2024

Activity	Responsibility	Dates	Status
1 Permit approved for file GB-DVP-2023.5 (Shaw). Issue permit and close file.	Chloe Straw Nadine Mourao Stephen Baugh		Completed
2 Permit amended and approved for file GB-TUP-2024.1 (Furlong) with a period of 30 months. Amend draft permit, issue permit and close file.	Chloe Straw Ian Cox Nadine Mourao		Completed
3 Permit approved for file GB-DP-2024.1 (Silva Bay). Issue permit and close file.	Chloe Straw Ian Cox Nadine Mourao		Completed
4 Permit approved for file GB-TUP-2024.3 (Griesdale) with a period of 3 years. Issue permit and close file.	Chloe Straw Ian Cox Nadine Mourao		Completed
5 Notify applicant for file GB-DVP-2023.3 (Miller) that the LTC requests a referral application be submitted to SFN prior to the application being considered by the LTC.	Margot Thomaidis		In Progress

Follow Up Action Report

Gabriola Island

18-Apr-2024

Activity	Responsibility	Dates	Status
6 OCP/LUB Project: ·Develop Project Charter, Work plan, and revised Engagement Plan for Phase 2 ·Work with local Trustees to revise OCP Vision Statement based on feedback from the Gabriola Visioning 2050 process.	Narissa Chadwick		In Progress
7 Amend text to be included in 2023/24 Annual Report for approval by TC	Morgana van Niekerk		In Progress
8 Report back to LTC on options for opting into the Speculation and Vacancy Tax Regulation.	Stephen Baugh		In Progress
9 Amend future projects list by removing "2. SFN Relationship Building, and 3. DPA Review Topics" and adding "Mudge Island OCP/LUB Review"	Stephen Baugh		Completed
10 Add the following to standing resolutions: 'that the Gabriola Island Local Trust Committee defer enforcement of the Mudge Island Land Use Bylaw No 228 until a full review of policies and procedures for compliance and enforcement is complete and adopted; with the exception of situations where environmental and human health and safety are a significant concern, and these would be brought to the Local Trust Committee for review'	Chloe Straw Nadine Mourao		Completed



MEMO

To: Gabriola Island Local Trust Committee **For the Meeting of:** May 23, 2024

From: Regional Planner Manager Northern Office **Date Prepared:** May 3, 2024

SUBJECT: LTC Budget Accounts – For Information

SUMMARY:

The purpose of this brief is to provide the Local Trust Committee with information regarding the various LTC budgets for spending, and including advice on the communications budget for advertising costs.

Advertising expenses such as posting trustee hours in the newspaper, can be allocated from the LTC's Communication account. The Communication account is considered an optional or non-mandatory expense account where the LTC can choose how funds are spent including for posting trustee office hours in the newspaper, trustee editorial columns, or posting trustee contact info in directories or newspapers.

The LTC Expense Report for the 2023/24 fiscal year is attached and shows what accounts are over- and under-spent.

BACKGROUND:

At its regular business meeting on March 21, 2024, the Gabriola Island Local Trust Committee made the following resolution:

GB-2024-020

It was MOVED and SECONDED

that the Gabriola Local Trust Committee request staff to bring back to the next Local Trust Committee meeting advice about the communications budget for advertising in the Gabriola Sounder newspaper.

CARRIED

In addition, this brief will also provide information to confirm LTC trustee spending for posting hours, as raised on the March 21, 2024 agenda:

Advertising Trustee Hours in the Gabriola Sounder Newspaper - verbal discussion. "that the Gabriola Island Local Trust Committee authorize the release of up to \$210.00 from the Communications budget for the purposes of advertising Trustees office hours".

How expenses are managed – required and optional expenses

The next section provides information on how expenses are managed. Budgeting includes required and optional expenses.

More information about LTC expenses is found in Trust Council [Procurement Policy 6.5.3](#), section 7. Excerpts below outline the types of expenses and when certain amounts need a resolution of the LTC.

7. Local Trust Committee Expenses

7.1 Disbursements must only be made as authorized by Part 4 of the *Islands Trust Act* and typically include the following:

- 7.1.1 Advisory Planning Commission expenses (meeting and secretarial costs)
- 7.1.2 LTC meeting costs including advertising, hall rental, external facilitation costs, and secretarial costs
- 7.1.3 Local mail-outs and/or trustee newsletters
- 7.1.4 Open house costs
- 7.1.5 Purchases of goods or services that support the land use planning and regulatory operations of the LTC.

7.2 Any disbursement over \$500 which is to be charged against the local trust committee expense budget, with the exception of those items noted in Section 7.1.1 through 7.1.4 above, should be approved by resolution of the LTC;

7.3 Expenditures cannot exceed the annual budget allocation provided to each local trust committee by Trust Council. However, if a local trust committee anticipates extraordinary costs they should approach the Executive Committee to request a budget adjustment;

1) LTC MEETING EXPENSES ACCOUNT:

- Includes required spending such as: LTC business meetings, application notices/advertising, public hearing notices, minute taker services, LTC and Regional Director meetings.
- Expensing to the account is an administrative function and the LTC does not need to give direction for spending in this account.
- Generally, Finance looks at the historical spending for this account to determine next fiscal budget.
- The RPM and Finance monitor the account to know if expenses are being charged correctly and what should be charged to this account.

2) COMMUNICATIONS EXPENSES ACCOUNT:

- Includes optional expenses such as: *posting trustee hours in newspaper*, trustee editorial columns, *posting trustee contact info in directories or newspaper*.
- There is no standard process in place for LTC review of budget accounts. Based on the 2023/24 Communication account budget of \$1,000, the LTC should consider what kinds of expenses it intends on spending for the 2024/25 fiscal year's budget.
 - Staff estimate advertising for trustee hours to be \$210.00 for the 2024/25 fiscal year.
 - The LTC does not need to make a motion or resolution to expense to this account, but can do so to provide staff direction.
 - However, the LTC should be aware of how much is spent and request more funds from the Executive Committee for a budget adjustment ideally early in the fiscal year.
- Considerations:
 - Does the LTC want these costs to be more 'automatic' or ongoing, or considered annually in case the LTC has other things they want to spend this budget on?

- If the LTC fully spends on this budget they may need to request more money from Executive Committee and the LTC should anticipate for that annually ahead of the next fiscal budget considerations.
- If the annual budget is reduced, these optional charges would be the 1st place recommended to reduce spending versus the LTC Meeting Expenses account.
- Expenses in this account are considered optional because information such as trustee hours and contact information are posted on the Islands Trust website (except for editorial columns).
- If the LTC would like to consider what to spend for this account on an annual basis, the LTC should direct the Island Planner to add an agenda item at the beginning of the fiscal year to get LTC direction annually. This gives the chance to reflect on whether advertising costs have increased, whether advertising is effective, and what LTC communications should be prioritized. This approach also considers responsible fiscal spending of taxpayers' money, a best practice for Local Governments to consider.

ATTACHMENT:

- 1) Gabriola LTC Expense Report – April 2023 to March 2024 fiscal
- 2) Trust Council Procurement Policy 6.5.3

FOLLOW-UP:

The LTC may review the LTC Communication account and identify items it wishes to spend from this budget, and whether a budget adjustment for an increased budget needs to be requested from Executive Committee.

Prepared By: Renée Jamurat, Regional Planning Manager

Reviewed By/Date: / May 13, 2024

Islands Trust
LTC EXP SUMMARY REPORT F2024
Invoices posted to Month ending March 2024

620 Gabriola	Invoices posted to Month ending March 2024	<u>Budget</u>	<u>Spent</u>	<u>Balance</u>
65000-620	LTC "Trustee Expenses"	681.00	87.31	593.69
LTC Local				
65200-620	LTC - Local Exp - LTC Meeting Expenses	1,488.00	4,967.60	-3,479.60
65210-620	LTC - Local Exp - APC Meeting Expenses	399.00	2,173.62	-1,774.62
65220-620	LTC - Local Exp - Communications	1,000.00	449.00	551.00
65230-620	LTC - Local Exp - Special Projects	612.00	0.00	612.00
TOTAL LTC Local Expense		<u>3,499.00</u>	<u>7,590.22</u>	<u>-4,091.22</u>
Projects				
73001-620-2001	Gabriola OCP/LUB	18,000.00	11,348.31	6,651.69
73001-620-4105	Gabriola Ecological Protection Zone	2,000.00	0.00	2,000.00
TOTAL Project Expenses		<u>20,000.00</u>	<u>11,348.31</u>	<u>8,651.69</u>



Policy:	6.5.3
Approved By:	Trust Council
Approval Date:	March 25, 1996
Amendment Date(s):	March 29, 2007; December 9, 2009; September 16, 2010; September 11, 2013; March 5, 2014; December 5, 2017
Policy Holder:	Director of Administrative Services

PROCUREMENT

Purpose

In accordance with the *Islands Trust Act*:

1. To set out purchasing procedures that support the costs of operations which the Islands Trust is authorized to recover through property tax requisition under *Section 47(2)* of the *Islands Trust Act*;
2. To set out the responsibilities and accountability associated with the efficient, economical and transparent acquisition of goods and services;
3. To ensure that the most appropriate method of procurement is used to acquire goods and services at the best value including consideration of environment and local economy;
4. To ensure properly delegated purchasing authority is maintained; and
5. To ensure consistency with relevant financial policies, procedures and controls, and to provide linkage to the current operating and capital budgets.

A. Definitions

n/a

B. Policy

1. Delegation of Authority

The Treasurer is accountable for the management of the acquisition of goods and services for the Islands Trust and the implementation of the day-to-day administration of the purchasing policies. To meet this objective, the Treasurer will establish such processes and procedures as are determined appropriate to the efficient and effective operation of purchasing services.

It is the intention of the policy to provide internal control measures through the separation of duties and responsibilities relating to the acquisition of goods and/or services. The tables in Appendix A establishes the signing authority delegation for procurement processes.

Trustees do not have authority to make commitments or indications of preference to a supplier of goods or services, to avoid any real or perceived perception that trustees are improperly influencing a decision of staff to select contractors in accordance with this policy.

Staff with purchasing authority have the following responsibilities:

- Ensure that appropriate approvals have been obtained and are adequately documented.
- Communicate with Administrative Services on anticipated purchasing commitments and creation of service contracts.
- Ensure that no expenditure exceeds approved budgets.
- Ensure that no expenditure is made that is not included in the annual budget.
- Ensure that expenditures are consistent with the required or permitted operations of Islands Trust bodies, as identified in the *Islands Trust Act*.
- Be familiar with the provisions of the Government of British Columbia's Standards of Conduct for Public Service Employees in Government Procurement Processes.

2. Creation of Purchase Orders and Service Contracts

Purchase orders can be created by any employee authorized by the Director, Administrative Services.

Service contracts will be created by the Finance Clerk based on information provided by staff.

3. Regular Disbursements

Expenditures occurring on a monthly or recurring basis and disbursed in the same, or similar, amounts do not require an approved purchase order or service contract. These expenditures will be approved by the Director, Administrative Services, as required. Example expenditures of this type would be rent, telephone charges and BC Mail.

4. Legal Services

The Chief Administrative Officer (or designate) will manage all legal matters through an organizational process. The process involves on-going monitoring of legal costs, monitoring of legal services quality, and regular reporting to Trust Council.

The Chief Administrative Officer will determine if expenditures require review or approval by the Executive Committee or Trust Council.

5. Financial Assistance to Community Organizations and Other Groups or Individuals

Financial assistance to community organizations or other groups or individuals is only permitted if made by the Islands Trust Council, its delegate, or the Executive Committee acting on its behalf, pursuant to Section 8(2)(h) of the *Islands Trust Act* which states that Trust Council may:

- “(f) engage in activities to gain knowledge about the history and heritage of the trust area and to increase public awareness, understanding and appreciation of its unique amenities and environment,*
- (g) conserve heritage property.”*

Local Trust Committees may not provide financial assistance to community organizations or other groups or individuals unless Trust Council has, by bylaw, delegated its authority under Section 8(2)(h) of the *Islands Trust Act*.

6. Disclosure of Contracts

If a trustee (or a person who has been a trustee in the previous six months) has a direct or indirect pecuniary interest in a contract with the Islands Trust, their conduct is governed by Section 107 of the *Community Charter*.

If a staff member has a direct or indirect pecuniary interest in a contract with the Islands Trust, their conduct is governed by the Code of Conduct of the Public Service Agency of BC.

7. Local Trust Committee Expenses

7.1 Disbursements must only be made as authorized by Part 4 of the *Islands Trust Act* and typically include the following:

7.1.1 Advisory Planning Commission expenses (meeting and secretarial costs)

7.1.2 LTC meeting costs including advertising, hall rental, external facilitation costs, and secretarial costs

7.1.3 Local mail-outs and/or trustee newsletters

7.1.4 Open house costs

7.1.5 Purchases of goods or services that support the land use planning and regulatory operations of the LTC.

7.2 Disbursements must be made in accordance with the budget allocation, be processed via the Trust's financial system, and comply with all financial policies and procedures; including use of purchase orders or service contracts where required, and appropriate approvals by the Treasurer and/or designate;

7.3 Any disbursement over \$500 which is to be charged against the local trust committee expense budget, with the exception of those items noted in Section 7.1.1 through 7.1.4 above, should be approved by resolution of the LTC;

7.4 Expenditures cannot exceed the annual budget allocation provided to each local trust committee by Trust Council. However, if a local trust committee anticipates extraordinary costs they should approach the Executive Committee to request a budget adjustment;

7.5 Trustee travel and other expenditures must comply with Islands Trust Policy 7.2.3, Trustee Travel Policy and Procedures; and

7.6 Trustee expenses related to attendance at training and/or conferences must comply with Islands Trust Policy 6.12.1, Trustee Training/Conference Attendance.

8. Competitive Process

The table in Appendix A establishes the dollar limits for different types of competitive processes.

An individual project with a total value greater than \$25,000 that will be completed over more than one fiscal year will require a formal competitive process with a Request for Proposal.

A competitive process can be held at the discretion of the Manager with budget authority, even if the estimated value of the goods or services falls below the dollar thresholds in Appendix A.

All competitive processes must be coordinated by the Finance Officer to ensure that best competitive practices are followed.

When a direct award is made, staff are still expected to obtain goods and services at the best available price, while taking into consideration the quality and followup service available (if applicable) for the goods and services. To expedite routine or regular purchases, a qualified vendors' list may be established. Vendors on the qualified vendors' list will be selected in accordance with established procedures.

9. Direct Awards

If one or more of the following circumstances exist, the Chief Administrative Officer, in conjunction with the Director of Administrative Services, determines whether to approve a purchase by direct award:

- The requirement is valued at less than \$25,000.
- An emergency exists and requirements cannot be satisfied in time by means of a competitive process.
- A process delay would interfere with Islands Trust's ability to maintain security or order, or to protect human, animal, or plant life or health.
- The required service is confidential.
- There is a single supplier that clearly provides the best value in the circumstances of a particular purchase.
- Where the competitive process is impractical because of the need to obtain unique third party skills, there is a requirement for contractor continuity, or there is a strong case for the cost effectiveness of maintaining a current contractor for a specific task.
- For work to be performed on or about a leased building that may be performed only by the lessor or the lessor's approved suppliers.
- The Islands Trust receives grant funding on behalf of a third party who initiated the project or funding request, and is named in the funding proposal. In this circumstance, the

Director of Administrative Services may, at his or her discretion, directly award a contract to the third party, a contractor, or community group, after confirming the chosen contractor or community group demonstrates the capability and qualifications to complete the work funded by the grant. If the work is being conducted on behalf of a local trust committee, the proposed work must be within the legislated role of the local trust committee (*Islands Trust Act, Section 24*).

- For projects covered under a partnership agreement, where the Islands Trust is not the only source of funds and the other funding source(s) has already selected the contractor. In this circumstance, the Director of Administrative Services may, at his or her discretion, directly award a contract to the selected contractor after confirming the contractor demonstrates the capability and qualifications to complete the work.

10. Selection Criteria

In a competitive process, selection criteria shall be established before a competitive process is posted. The selection criteria should consider all the relevant factors in a purchasing decision including, price, quality, qualifications, delivery time, quality of the response, environmental and social policy considerations, local purchasing and any other factors as determined by the Manager with budget authority for the purchase.

A local trust committee may request that the Regional Planning Manager provide the selection criteria for their review prior to posting the competition.

All details of the selection process shall be retained by the Finance Clerk.

11. Consultant Evaluations

A firm's performance is assessed for services based on the quality of the project in terms of how successfully it fulfils the stated objectives for the project. In the case of studies and briefs, where there is no built work involved, the product refers to the actual work produced by a consultant. Quality of 'services' assesses the firm's ability to manage and deliver professional services in a comprehensive, effective, reliable and timely manner throughout each stage of the project.

12. Contract Renewals

Once a competitive process is held (where required) and a vendor selected, contracts may be signed with the selected vendor to allow for renewal periods of up to five years, provided that satisfactory service continues to be received. At the completion of the renewal period, a new competitive process should be held, if required by the Purchasing Policy in place at the time.

A competitive process for a particular business service can be delayed for up to one year at the discretion of the Chief Administrative Officer if high quality service is being provided at a reasonable price by the current service provider.

13. Fiscal Year

Contracts should not extend beyond the end of the current fiscal year-end to provide for budget approvals. Should the situation arise where this is required, approval by the Chief Administrative Officer is required.

14. Environmental Considerations

When making purchases every effort will be made to select suppliers whose environmental practices are consistent with those of the Islands Trust.

Environmental considerations include such things as the suppliers' efforts towards recycling; use of environmentally friendly products; and manufacturing goods from recycled or recyclable materials.

In addition, purchases of equipment and supplies should have Canadian content wherever possible, practical and economical.

15. Social Policy Considerations

When making purchases every effort will be made to select suppliers whose products or services align with the attributes of social procurement policy.

Social procurement considerations include contributions towards a stronger local economy; enhancing the number of local jobs; and enhancing community arts and culture infrastructure.

16. Local Purchasing Considerations

When making purchases every effort will be made to purchase local goods and services including:

- Local food procurement – Islands Trust staff engaged in the purchase of food for operational needs will ensure that when practical, both operationally and economically, at least 40% of purchases will be local. Suppliers will be made aware of this policy and will be encouraged, again where practical, to increase the availability and variety of local foods. “Local” is defined as food that is produced within British Columbia, with preference given to items produced in the Islands Trust Area or on Vancouver Island.
- Community Stewardship Awards – Islands Trust staff engaged in procuring Community Stewardship Awards, or other awards that from time to time may be required, will ensure that awards represent the unique nature of the Islands Trust Area and, where practical, are constituted from products distinct to the Islands Trust Area.
- Contractors and service providers with a presence in the Islands Trust Area, and/or whose employees reside in the Islands Trust Area.

17. Staff Travel and Training

Travel expenses are submitted via Islands Trust Expense Claim. All those claiming expenses are expected to ensure that the most cost effective method of travel is provided. Approved Expense Claims are considered equivalent to an approved purchase order or service contract.

Training requests are approved via an authorized "Training/Conference Request Form" (see Policy 8.2.1, Staff Training and Conference Attendance). All staff travel and training requests must be approved by the appropriate Manager.

Managers have the responsibility to ensure all Employee Expense Claims are in accordance with established processes (i.e., BCGEU travel allowance chart).

C. Legislated References

Islands Trust Act

BC Government Purchasing Handbook

Ministry of Finance Core Policy 6.0 Purchasing

Islands Trust Policy 8.2.1, Staff Training and Conference Attendance

Islands Trust Policy 6.12.1, Trustee Training/Conference Attendance

Islands Trust Policy 7.2.3, Trustee Travel Policy and Procedures

D. Links to Supporting Forms, Documents, Websites, Related Policies and Procedures

Appendix A – Method of Procurement and Approval Authority

APPENDIX A – METHOD OF PROCUREMENT AND APPROVAL AUTHORITY

COMMITMENT MATRIX October 10, 2017						
	Commitment/ Spending \$ Level	Commitment Type	Number of Quotes	Method of Purchase	Document Submitted to Finance	Special Conditions
1	<\$100	Petty Cash	One	Verbal, in person	Petty Cash Reconciliation	Receipt Required with payment claim - record purpose of purchase on receipt
2	<\$500	Petty Cash, Corporate Credit Card	One	Verbal, in person	Petty Cash or Corporate Credit Card Reconciliation	Receipt Required with payment claim - record purpose of purchase on reconciliation
3	<\$5,000 per item or aggregate	Service Contract or Purchase Order	One	Verbal or written quote from one or more known vendors	Invoice	Approval of Invoice with indication of Project Code if any including indication that services/goods were received as ordered
4	\$5001to \$25,000 per item or aggregate		Request at least Three	Verbal or written quote from at least Three known vendors. If no "known" vendors then formal competitive process ITQ or RFP	Invoice	
5	>\$25,001per item or aggregate		Public Process	Appropriate Competitive process - RFP/ITQ	Invoice	
All Direct Award Service Contracts or Purchase Orders over \$10,000 must be approved by the Chief Administrative Officer						

SIGNING AUTHORITY MATRIX October 10, 2017										
Position Type of Decision	Commitment Type	Executive Committee	Chief Administrative Officer	Treasurer (Director of Administrative Service)	Director (Local Planning Services and Trust Area Services)	Corporate Secretary (Manager of Legislative Services)	Regional Planning Manager	Manager - (Manager of Islands Trust Fund, Manager of Information Systems, Executive Coordinator)	Supervisor (Finance Officer and Employee Services Coordinator)	
1 Authorization of Purchase of Services or Goods	Petty Cash, Corporate Credit Card Charge, Purchase Order or Service Contract to be done when required by policy	N/A	Greater than \$300,000 or direct award greater than \$30,000	Up to \$300,000	Up to \$25,000	Up to \$30,000	Up to \$30,000	Up to \$5,000	Up to \$500	
2 Authorization of new Positions	Email approval prior to initiation of hiring process	N/A	Yes	Yes	N/A	N/A	N/A	N/A	N/A	
3 Authorization to fill vacant positions or changes to existing Positions	Offer Letter	N/A	Yes	Yes	N/A	N/A	N/A	N/A	N/A	
4 Authorization of Training Request prior to registration or travel bookings	Training Request Form	N/A	Greater than \$50,000 or for any amount for training outside of the Province of BC	Up to \$50,000 - Training within Province of BC	Up to \$30,000 - Training in the Province of BC	Up to \$30,000 - Training in the Province of BC	Up to \$30,000 - Training in the Province of BC	Up to \$30,000 - Training within the Province of BC		
5 Authorization of Travel and Expense reimbursements	Expense Form	N/A	Greater than \$50,000 or for any amount for travel outside of the Province of BC	Up to \$50,000 - Travel within Province of BC	Up to \$30,000 - Travel within Province of BC	Up to \$30,000 - Travel within Province of BC	Up to \$30,000 - Travel within Province of BC	Up to \$30,000 - Travel within Province of BC	N/A	
6 Authority to sign Grant Agreements or Memorandum of Understanding with external parties	Contract	N/A	Greater than \$300,000	Up to \$300,000	Up to \$25,000	N/A	N/A	N/A	N/A	
7 Authority to sign Contracts with external parties with no monetary implications	Contract	N/A	Within area of accountability	Within area of accountability	Within area of accountability	Within area of accountability	Within area of accountability	Within area of accountability	N/A	
8 Authority to sign Project Charter	Contract	N/A	Greater than \$300,000	Up to \$30,000	Up to \$30,000	Up to \$5,000	Up to \$5,000	N/A	N/A	
9 Authority to sign Legal Services requests	Legal Services Request	N/A	Greater than \$300,000	Up to \$300,000	Up to \$25,000	Up to \$30,000	Up to \$30,000	Up to \$5,000	N/A	
10 Authority to sign Lease/Rental Agreements	Agreement	N/A	Greater than \$300,000	Up to \$300,000	N/A	N/A	N/A	N/A	N/A	
11 Authority to release LTC project funds from the LTC Project Reserve Fund	Agreement	Greater than \$20,000	Up to \$20,000	Up to \$20,000	N/A	N/A	N/A	N/A	N/A	

File No.: GB-RZ-2022.1 (Alley Enterprises Ltd)

DATE OF MEETING: May 23, 2024

TO: Gabriola Island Local Trust Committee

FROM: Stephen Baugh, Island Planner
Northern Team

SUBJECT: GB-RZ-2022.1 – LUB and OCP Amendment for commercial and residential development of Wild Rose Garden Centre
Applicant: Kent Moen
Location: 750 Tin Can Alley, Gabriola Island
Lot B, Plan VIP50373, Section 19, District 32 (PID 023-005-629)

RECOMMENDATION

1. That the Gabriola Island Local Trust Committee Bylaw No. 318 cited as “Gabriola Official Community Plan (Gabriola) Bylaw No. 166, 1997, Amendment No. 1, 2024” be read a first time.
2. That the Gabriola Island Local Trust Committee Bylaw No. 319 cited as “Gabriola Island Land Use Bylaw, 1999, Amendment No. 1, 2024” be read a first time.
3. That Proposed Bylaws No. 318 and 319 be referred to the following First Nations, Local Governments and agencies for comment:
 - a. First Nations: Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, Snuneymuxw First Nation, Stz’uminus First Nation, Tsu’uubaa-asatx First Nation.
 - b. Local Governments and Agencies: Regional District of Nanaimo, Island Health Authority, Ministry of Transportation and Infrastructure, Ministry of Water, Land and Resource Stewardship, School District 68, Gabriola Volunteer Fire Department, Gabriola Advisory Planning Commission, Gabriola Housing Advisory Planning Commission.
4. That the Gabriola Island Local Trust Committee has reviewed the Islands Trust Policy Statement Directives Only Checklist and determined that Bylaw No. 318 cited as “Gabriola Official Community Plan (Gabriola) Bylaw No. 166, 1997, Amendment No. 1, 2024” is not contrary to or at variance with the Islands Trust Policy Statement.
5. That the Gabriola Island Local Trust Committee has reviewed the Islands Trust Policy Statement Directives Only Checklist and determined that Bylaw No. 319 cited as “Gabriola Island Land Use Bylaw, 1999, Amendment No. 1, 2024” is not contrary to or at variance with the Islands Trust Policy Statement.

REPORT SUMMARY

This report introduces two draft bylaws, one to amend the Gabriola Island Official Community Plan (OCP) and the other to amend the Gabriola Island Land Use Bylaw (LUB). Staff are recommending that the draft bylaws in

Attachment 1 and 2 of this report be given first reading, and that referrals be sent to First Nations, local governments and other agencies.

BACKGROUND

The Gabriola Island Local Trust Committee passed the following four resolutions related to this application on September 29, 2022:

GB-2022-072

It was MOVED and SECONDED

that the Gabriola Island Local Trust Committee request staff to prepare draft amendments to the Gabriola Island Official Community Plan that will remove references to the Wild Rose Garden Centre business name and include Lot B, Plan VIP50373, Section 19, District 32 (750 Tin Can Alley, Gabriola Island PID 023-005-629) in the 'Village Commercial' land use designation and 'Village Centre' Development Permit Area No. 7.

GB-2022-073

It was MOVED and SECONDED

that the Gabriola Island Local Trust Committee request staff to draft amendments to the Gabriola Island Land Use Bylaw to rezone Lot B, Plan VIP50373, Section 19, District 32 (750 Tin Can Alley, Gabriola Island PID 023-005-629) to a site specific Village Commercial zone which maintains the existing uses and expands principle commercial and accessory residential uses consistent with the bylaw amendment application; regulates buildings and structures; height; siting requirements including setbacks; lot coverage; parking; and subdivision.

GB-2022-074

It was MOVED and SECONDED

that the Gabriola Island Local Trust Committee requests that the applicant for GB-RZ-2022.1 (Alley Enterprises Ltd., Maloney) provide planning staff with the following prior to the Local Trust Committee considering first reading of draft bylaws:

- a) a copy of an assessment report and design recommendations prepared by a qualified professional engineer, with expertise in wastewater treatment for non-domestic and domestic systems to confirm the property is capable of supporting a sewage disposal system for the proposed commercial and residential uses;
- b) a copy of an assessment report and recommendations prepared by a qualified professional hydrogeologist, with expertise in community water systems to confirm the aquifer is capable of supporting the proposed commercial and residential uses with no adverse effects on adjacent existing groundwater users.

GB-2022-075

It was MOVED and SECONDED

that the Gabriola Island Local Trust Committee request staff to provide early notification to Snuneymuxw First Nation of application GB-RZ-2022.2 describing the scope of proposed changes to the Gabriola Official Community Plan and Land Use Bylaw.

The applicant provided the septic and water reports (Attachments 5 and 6) in November 2023. Since that time staff have worked with the applicant to further clarify the proposed use of the property, sent an early notification to Snuneymuxw First Nation, and drafted bylaws to amend the OCP and LUB.

ANALYSIS

Draft Bylaw No. 318 (OCP):

Draft Bylaw No. 318 (Attachment 1) would amend the Gabriola Official Community Plan to include 750 Tin Can Alley in the Village Commercial land use designation, and in the Village Centre Development Permit Area. A site specific OCP amendment is also necessary in order for the parcel to have a larger average and minimum lot area than other commercial zones and to allow up to two residential dwelling units on the property. One other minor amendment proposed in this OCP bylaw is to remove references to the “Lockinvar Triangle Area” as this area is normally referred to as the Village Centre.

Draft Bylaw No. 319 (LUB):

Draft Bylaw No. 319 (Attachment 2) would amend the Gabriola Land Use Bylaw to create a new, site-specific Village Commercial Zone for 750 Tin Can Alley to allow a broader range of commercial uses and up to two dwelling units. Specifically, the new VC3 zone would allow the new uses of:

- retail sales and rentals;
- personal services;
- restaurant;
- limited public market
- bakeries; and
- offices.

The existing uses of garden centre and mini storage would also continue to be permitted. The existing use of “Farm supply centre” is permitted under the current LC3 zoning for this property, although it is not expressly permitted in the new VC3 zone it will remain a permitted use since it is included within retail sales.

The definition of “farm supply centre” is also proposed to be deleted since the term will no longer appear in the Gabriola Land Use Bylaw should the proposed bylaws be adopted, this is because the subject property is the only lot where “farm supply centre” is expressly permitted.

The term “bakeries” is undefined in the Gabriola Land Use Bylaw. Although a bakery could be interpreted as fitting within the “restaurant” use as it is defined in the LUB, the applicant has requested that the “bakeries” use be permitted in the zone. This will be consistent with other zones in the LUB which specifically list “bakeries” as a permitted use. Including this will provide certainty that “bakeries” are permitted in the proposed VC3 zone as well.

Limited Public Market is also listed as a permitted use in the draft VC3 zone although it would be included within the permitted “retail sales” use. This is consistent with some other zones in the Gabriola Land Use Bylaw that list both retail sales and limited public market as permitted uses.

With regards to the proposed density on the subject property, two buildings that are accessory to a dwelling unit are proposed to be permitted in this zone. While other zones allow for up to three, two accessory buildings are proposed in this case since this number is divisible by two, allowing for one accessory building for each dwelling unit. Restricting the number of buildings accessory to a dwelling unit is also appropriate since the principal uses of this lot are proposed to be commercial.

Islands Trust Policy Statement:

Staff have reviewed the bylaws against the Islands Trust Policy Statement (ITPS) Directives Only Checklist (Attachment 3 and 4) and have concluded that Draft Bylaw Nos. 318 (OCP) and 319 (LUB) are not contrary to or at variance with the ITPS.

Water Use:

At the LTC's request the applicant has provided a report prepared by a qualified professional hydrogeologist, to confirm the aquifer is capable of supporting the proposed commercial and residential uses with no adverse effects on adjacent existing groundwater users. The report (Attachment 5) concludes that a sustainable yield of 0.08L/s can be obtained from the existing well and that if additional water is required there is another location on the lot where an additional well could be drilled. The estimated total water supply available to the lot would be 0.14L/s if an additional well was drilled and there would not be any adverse effects on adjacent groundwater users. The current water usage on the lot totals 0.049L/s which would leave an additional 0.091L/s for future development. The report also notes that much of the current water use on the lot could be provided by rainwater.

Given the potential for rainwater to supply some uses on the lot, the proposed bylaw includes a requirement that buildings to accommodate principal uses in the VC3 zone be connected to a rainwater harvesting and collection system with a minimum storage capacity of 22,500 litres. This is a similar requirement that applies in the nearby RR2 zone and is consistent with the following OCP Policy regarding Water Supply:

7.4.a) Methods of water conservation such as low water use fixtures, retention of rainwater and runoff in cisterns and ponds and other means shall be encouraged.

There are no development plans provided with this application and it is uncertain what the actual water needs of the parcel will be, however, the report from the applicant does show that there is additional water availability for this parcel. Further, a Groundwater License will be required from the province before further commercial development on this property which is an additional layer of regulation to ensure there is sufficient water for the actual uses on the property.

Sewage Capacity:

The LTC also requested the applicant provide a report from a qualified professional engineer, with expertise in wastewater treatment for non-domestic and domestic systems, to confirm the property is capable of supporting a sewage disposal system for the proposed commercial and residential uses. The applicant has submitted a report (Attachment 6) based on a potential build-out of a 60 seat restaurant, retail garden centre, residential unit and coffee shop/bakery which concludes that the subject property "...has sufficient potential to disperse pre-treated wastewater in the ground safely without any degradation of the local environment or contamination of the local drinking water source that under-lays the site." Any future septic system will also be required to be designed by a professional in accordance with the BC Sewerage System Regulation with documents stamped by a professional and submitted to Island Health.

Staff have also noted that the subject property is encumbered by a restrictive covenant (EG124744) which states:

"prior to the construction of buildings or structures on the Land that result in the total combined floor area exceeding 1393.5m² (15,000 sqft), the Transferor must provide written confirmation to the Gabriola Island Local Trust Committee from the relevant public approval authority that all of the sewage generated on the Land can be disposed of on the Land."

Density:

Under the current zoning the subject property meets the minimum lot size to be subdivided into two parcels, with each being permitted one residential dwelling. However, a restrictive covenant (EX9068) is registered on title which restricts the uses on the lot to “one retail garden, farm supply and nursery store business”. The proposed bylaws would permit up to two dwellings on the parcel and would remove the potential for subdivision. The applicant has indicated that one of the two dwellings would be restricted to affordable rental housing which would be secured through a housing agreement with the LTC. The restrictive covenant is recommended to be discharged prior to the proposed bylaws being adopted.

Consultation

As this application proposes an amendment to the OCP, the LTC is required to conduct a consultation process involving a set of referrals in addition to a public hearing process. Following first reading of the bylaws staff recommend referrals to First Nations, provincial agencies, local governments and select referral agencies.

Local Government Act

475 (1) During the development of an official community plan, or the repeal or amendment of an official community plan, the proposing local government must provide one or more opportunities it considers appropriate for consultation with persons, organizations and authorities it considers will be affected.

(2) For the purposes of subsection (1), the local government must

(a) consider whether the opportunities for consultation with one or more of the persons, organizations and authorities should be early and ongoing, and

(b) specifically consider whether consultation is required with the following:

(i) the board of the regional district in which the area covered by the plan is located, in the case of a municipal official community plan;

(ii) the board of any regional district that is adjacent to the area covered by the plan;

(iii) the council of any municipality that is adjacent to the area covered by the plan;

(iv) first nations;

(v) boards of education, greater boards and improvement district boards;

(vi) the Provincial and federal governments and their agencies

Rationale for Recommendation

Staff recommend the draft OCP and LUB bylaws be given 1st reading as they are consistent with OCP policies, the Islands Trust Policy Statement and supported by professional reports supplied by the applicant. Additionally, staff recommend the proposed bylaws be referred to First Nations, provincial agencies, local governments and select referral agencies as listed in the recommendation.

ALTERNATIVES

The LTC may consider the following alternatives to the recommendation:

1. Amend the draft bylaws

The LTC may amend the draft bylaws prior to consideration of first reading. If this alternative is selected then the following resolution is recommended:

That the Gabriola Island Local Trust Committee amend Draft Bylaw No. 31X, cited as “...” with the following: [list amendments].

2. Request additional information/defer consideration of first reading

The LTC can request specific additional information from staff and/or the applicant prior to consideration of first reading. If this alternative is selected then the following resolution is recommended:

That the Gabriola Island Local Trust Committee request [staff/the applicant] to provide the following [specify information request] prior to further consideration of Draft Bylaws No. 318 (OCP) and 319 (LUB).

3. Proceed no further

The LTC may choose to proceed no further with this application. Staff advise that the implications of this alternative are that the bylaw amendment application file will be closed and the applicant will be refunded the appropriate amount based on the Gabriola Fees Bylaw. Recommended wording for the resolution is as follows:

That the Gabriola Island Local Trust Committee proceed no further with bylaw amendment application GB-RZ-2022.1.

NEXT STEPS

Should the LTC concur with the recommendations, referrals will be sent out requesting a response within 90 days of the date on the referral.

Submitted By:	Stephen Baugh, Island Planner	April 30, 2024
Concurrence:	Renée Jamurat, RPP MCIP, Regional Planning Manager	May 3, 2024

ATTACHMENTS

1. Draft Bylaw No. 318
2. Draft Bylaw No. 319
3. Islands Trust Policy Statement Directive Policies (BL318)
4. Islands Trust Policy Statement Directive Policies (BL319)
5. Hydrogeology Report
6. Septic Report

DRAFT

GABRIOLA ISLAND LOCAL TRUST COMMITTEE
BYLAW NO. 318

A BYLAW TO AMEND GABRIOLA ISLAND OFFICIAL COMMUNITY PLAN, 1997

The Gabriola Island Local Trust Committee, being the Trust Committee having jurisdiction in respect of the Gabriola Island Local Trust Area under the *Islands Trust Act*, enacts as follows:

1. Citation

This bylaw may be cited for all purposes as “Gabriola Official Community Plan (Gabriola) Bylaw No. 166, 1997, Amendment No. 1, 2024”.

2. Gabriola Island Local Trust Committee Bylaw No. 166, cited as “Gabriola Island Official Community Plan (Gabriola) Bylaw No. 166, 1997”, is amended as per Schedule “1”, Schedule “2”, and Schedule “3” attached to and forming part of this bylaw

READ A FIRST TIME THIS	_____	DAY OF	_____	202x
READ A SECOND TIME THIS	_____	DAY OF	_____	202x
PUBLIC HEARING HELD THIS	_____	DAY OF	_____	202x
READ A THIRD TIME THIS	_____	DAY OF	_____	202x
APPROVED BY THE EXECUTIVE COMMITTEE OF THE ISLANDS TRUST THIS	_____	DAY OF	_____	202x
APPROVED BY THE MINISTER OF MUNICIPAL AFFAIRS AND HOUSING THIS	_____	DAY OF	_____	202x
ADOPTED THIS	_____	DAY OF	_____	202x

Chair

Secretary

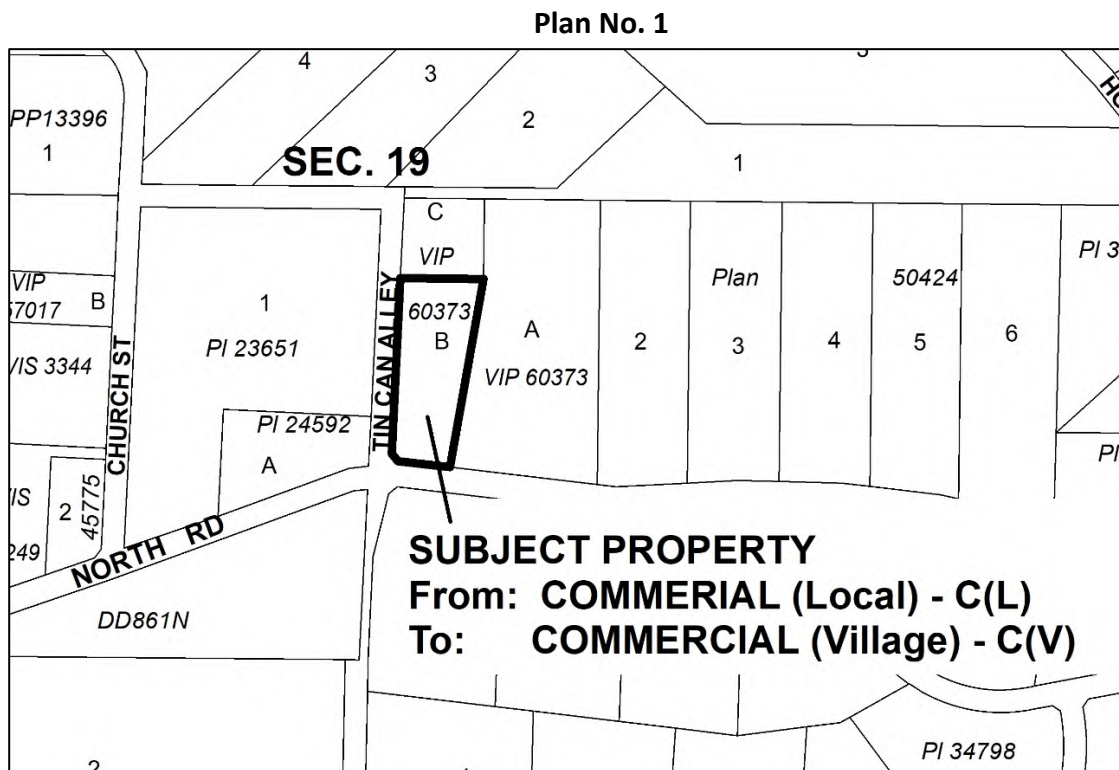
GABRIOLA ISLAND LOCAL TRUST COMMITTEE
BYLAW NO. 318
Schedule "1"

1. **Schedule "A"** of Gabriola Island Official Community Plan (Gabriola) Bylaw, 1997 is amended as follows:
 - 1.1. **Section 3 – Economic Activities**, Subsection **3.1 Commercial Activity, General Commercial Objectives** number 1 is amended by deleting the words "(Lockinvar Triangle area)".
 - 1.2. **Section 3 – Economic Activities**, Subsection **3.1 Commercial Activity, General Commercial Policies** is amended by adding a new clause after clause d) as follows: "e) Despite clause a) and d) a minimum and average parcel size of 1.0 hectare (2.47 acres) and up to 2 dwelling units per parcel may be permitted on the following parcel: LOT B SECTION 19 GABRIOLA ISLAND NANAIMO DISTRICT PLAN VIP60373."
 - 1.3. **Section 3 – Economic Activities**, Subsection **3.2 Village Commercial**, Clause 3.2.a) is amended by deleting the words "(the Lockinvar Triangle area)".
 - 1.4. **Section 3 – Economic Activities**, Subsection **3.4 Local Commercial**, Clause 3.4.a), is amended by deleting Item 3.4.a)ii in its entirety and by making such consequential numbering alterations to effect this change.

GABRIOLA ISLAND LOCAL TRUST COMMITTEE
BYLAW NO. 318
Schedule "2"

1. **Schedule "B"** of Gabriola Island Official Community Plan (Gabriola) Bylaw, 1997 is amended as follows:

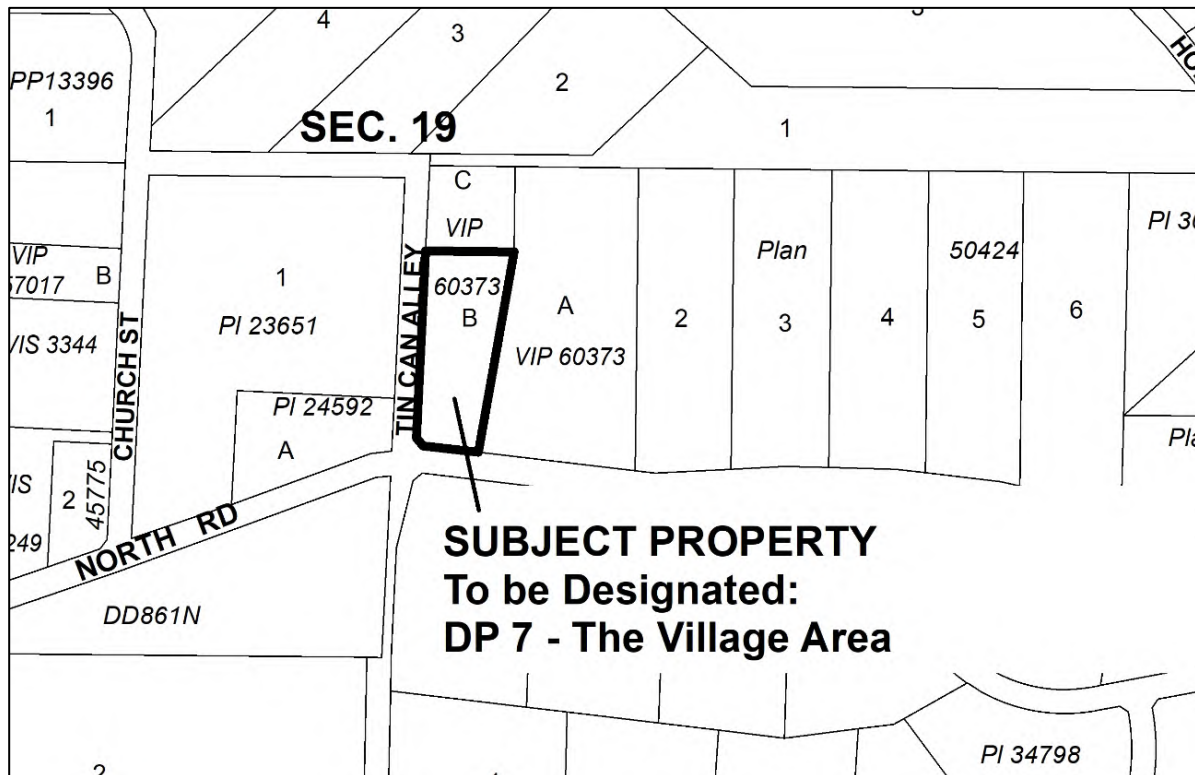
- 1.1. **Schedule "B" – Land Use Designations – North Sheet**, is amended by changing the land use designation on the lands described as Lot B, Plan VIP50373, Section 19, District 32 (750 Tin Can Alley, Gabriola Island PID 023-005-629) from "Commercial (Local)" to "Village Commercial" as shown on Plan No. 1 attached to and forming part of this bylaw, and by making such alterations to Schedule "B" as are required to effect this change.



GABRIOLA ISLAND LOCAL TRUST COMMITTEE
BYLAW NO. 318
Schedule "3"

1. **Schedule "D" – Development Permit Areas - OCP B North Sheet**, is amended by including the lands described as Lot B, Plan VIP50373, Section 19, District 32 (750 Tin Can Alley, Gabriola Island PID 023-005-629) in the mapping for DP 7 - The Village Centre as shown on Plan No. 2 attached to and forming part of this bylaw, and by making such alterations to Schedule "D" of Bylaw No. 166 as are required to effect this change.

Plan No. 2



DRAFT

GABRIOLA ISLAND LOCAL TRUST COMMITTEE
BYLAW NO. 319

A BYLAW TO AMEND GABRIOLA ISLAND LAND USE BYLAW, 1999

The Gabriola Island Local Trust Committee, being the Trust Committee having jurisdiction in respect of the Gabriola Island Local Trust Area under the *Islands Trust Act*, enacts as follows:

1. Citation

This bylaw may be cited for all purposes as “Gabriola Island Land Use Bylaw, 1999, Amendment No. 1, 2024”.

2. Gabriola Island Local Trust Committee Bylaw No. 177, cited as “Gabriola Island Land Use Bylaw, 1999” is amended as per Schedule “1” attached to and forming part of this bylaw.

READ A FIRST TIME THIS	_____	DAY OF	_____	202x
READ A SECOND TIME THIS	_____	DAY OF	_____	202x
PUBLIC HEARING HELD THIS	_____	DAY OF	_____	202x
READ A THIRD TIME THIS	_____	DAY OF	_____	202x
APPROVED BY THE EXECUTIVE COMMITTEE OF THE ISLANDS TRUST THIS				
	_____	DAY OF	_____	202x
ADOPTED THIS				
	_____	DAY OF	_____	202x

Chair

Secretary

**GABRIOLA ISLAND LOCAL TRUST COMMITTEE
BYLAW NO. 319**

Schedule “1”

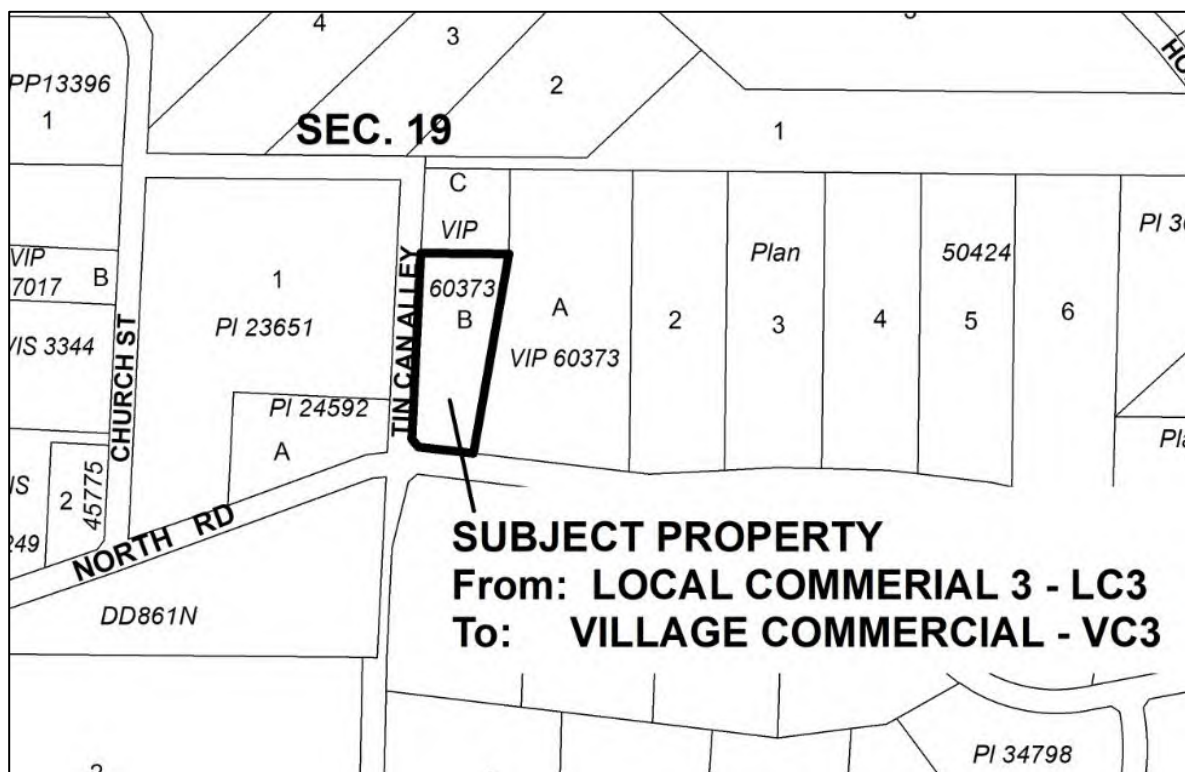
1. **Schedule “A”** of Gabriola Island Land Use Bylaw, 1999 is amended as follows:
 - 1.1 **Part B GENERAL REGULATIONS**, Section B.1 **USES, BUILDINGS AND STRUCTURES**, Subsection **B.1.1 Permitted in Any Zone**, Article **B.1.1.1 Uses**, Clause B.1.1.1.c. is amended by replacing “D.3.7. Ferry Parking, D.3.10” with “D.3.8. Ferry Parking, D.3.11”.
 - 1.2 **Part B GENERAL REGULATIONS**, Section B.4 **SIGNS**, Subsection **B.4.1 Number and Total Sign Area**, Article **B.4.1.1**, Table 1 **Sign Regulations**, Column I is amended by adding “VC3,” after “VC2,”.
 - 1.3 **Part C ESTABLISHMENT OF ZONES**, Section C.1 **DIVISION INTO ZONES**, Subsection **C.1.1 Land Based Zones**, insert new zone “VC3 Village Commercial 3” after “Village Commercial 2 – Professional Centre” and before “DC1 District Commercial 1”.
 - 1.4 **Part D ZONES**, Section D.3 **COMMERCIAL AND INDUSTRIAL ZONES**, insert new Subsection **D.3.3 Village Commercial 3 (VC3)** after Subsection **D.3.2 Village Commercial 2 – Professional Centre(VC2)** as shown in **Appendix 1** attached to and forming part of this bylaw; and renumber all subsequent subsections chronologically.
 - 1.5 **Part D ZONES**, Section D.3 **COMMERCIAL AND INDUSTRIAL ZONES**, Subsection **D.3.3 District Commercial 1(DC1)**, Article D.3.3.3 **Regulations**, Clause D.3.3.3.b. **Buildings and Structures Siting Requirements**, Item D.3.3.3.b.iii. is amended by replacing “D.3.3.3.ii” with “D.3.4.3.ii”.
 - 1.6 **Part D ZONES**, Section D.3 **COMMERCIAL AND INDUSTRIAL ZONES**, Subsection **D.3.6 Local Commercial 3 – Garden Centres(LC3)**, Article **D.3.6.1 Permitted Uses**, Clause **D.3.6.1.b. Permitted Accessory Uses**, Item **D.3.6.1.b.iii** is amended to remove the words “except on lands shown on Schedule C, Map 12”.
 - 1.7 **Part D ZONES**, Section D.3 **COMMERCIAL AND INDUSTRIAL ZONES**, Subsection **D.3.6 Local Commercial 3 – Garden Centres(LC3)**, Article **D.3.6.1 Permitted Uses**, Clause **D.3.6.1.b. Permitted Accessory Uses**, Item **D.3.6.1.b.iv** is deleted in its entirety.
 - 1.8 **Part D ZONES**, Section D.3 **COMMERCIAL AND INDUSTRIAL ZONES**, Subsection **D.3.6 Local Commercial 3 – Garden Centres(LC3)**, Article **D.3.6.2 Buildings and Structures**, Clause **D.3.6.2.a. Permitted Buildings and Structures**, Item **D.3.6.2.a.iv** is deleted in its entirety.
 - 1.9 **Part G**, Section G.1 **DEFINITIONS**, is amended by deleting the following definition:

<i>“farm supply centre</i>	a business for the retail sale of farm supplies, but excluding the sale of farm equipment;”
----------------------------	---

2. **Schedule “B”** of Gabriola Island Land Use Bylaw, 1999 is amended as follows:

- 2.1. Schedule “B” – North Sheet, is amended by changing the zoning classification of Lot B, Plan VIP50373, Section 19, District 32 (750 Tin Can Alley, Gabriola Island PID 023-005-629) as shown on Plan No. 1 attached to and forming part of this bylaw, and by making such alterations to Schedule “B” of Bylaw No. 177 as are required to effect this change.

Plan No. 1



3. **Schedule “C”** of Gabriola Island Land Use Bylaw, 1999 is amended as follows:

- 3.1. Schedule “C” – Map 10, is amended by replacing “Item d.3.8.1.a.vii” with “Item d.3.9.1.a.vii”.
- 3.2. Schedule “C” – Map 12, is deleted in its entirety.
- 3.3. Schedule “C” – Map 17, is amended by replacing “Items D.3.8.1.a.v and D.3.8.1.a.viii” with “Items D.3.9.1.a.v and D.3.9.1.a.viii”.

GABRIOLA ISLAND LOCAL TRUST COMMITTEE

BYLAW NO. 319

Appendix 1

D.3.3 Village Commercial 3 (VC3)

D.3.3.1 Permitted Uses

The uses permitted in Article B.1.1.1, plus the following uses and no others are permitted in the Village Commercial 3 (VC3) zone:

a. Permitted *Principal* Uses

- i *garden centre*
- ii retail sales and rentals
- iii *personal services*
- iv *restaurant*
- v bakeries
- vi offices
- vii *limited public market*, subject to Subsection B.6.2

b. Permitted *Accessory* Uses

- i *single family residential*
- ii *two family dwelling residential*
- iii mini-storage

D.3.3.2 Buildings and Structures

The *buildings* and *structures* permitted in Article B.1.1.2, plus the following *buildings* and *structures* and no others are permitted in the Village Commercial 3 (VC3) zone:

a. Permitted *Buildings* and *Structures*

- i *Buildings* and *structures* to accommodate *principal* uses set out in this zone which must be connected to a rainwater harvesting and collection system with a minimum storage capacity of 22,500 litres (5,944 US gallons).
- ii Maximum of:
 - two *dwelling units* per lot; and
 - two *buildings* per lot that exclude a *pump/utility house* and woodshed, and that are *accessory* to a *dwelling unit*.
- iii Other *buildings* and *structures* to accommodate the permitted accessory uses set out in this zone.

D.3.3.3 Regulations

The general regulations in Part B, plus the following regulations apply in the Village Commercial 3 (VC3) zone:

a. *Buildings* and *Structures* Height Limitations

- i The maximum *height* of *buildings* and *structures* is 9.0 metres (29.5 feet).

b. *Buildings* and *Structures* Siting Requirements

- i The minimum *setback* for *buildings* or *structures* except for a sign, *fence*, or *pump/utility house* is:

- 6.0 metres (19.7 feet) from the *front lot line*;
 - 6.0 metres (9.8 feet) from any *interior lot line*, except where the *interior lot line* abuts a commercial or industrial zone in which case there is no *setback* requirement from the *interior lot line*; and
 - 3.0 metres (9.8 feet) from another *building* sited on the same *lot*.
- ii There is no *setback* requirement from any *exterior side lot line*, except for mini-storage units in which case the minimum *setback* is 4.5 metres.

c. Lot Coverage Limitations

- i The maximum combined *lot coverage* by *buildings* and *structures* is 40 percent of the *lot* area.

d. Lot Area Requirements for Subdivision

- i The minimum average *lot* area and the minimum *lot* area is 1.0 hectare (2.47 acres).

e. Mini-Storage Limitations

- i The maximum *floor area* is 9.3 square metres (100 square feet) per mini-storage unit.
- ii Mini-storage units must be separated from a highway or from land with zoning permitting a *principal* residential use by a landscape screen, subject to subsection B.2.7, not less than 2.0 metres (6.6 feet) in *height*.

ISLANDS TRUST POLICY STATEMENT DIRECTIVES ONLY CHECKLIST

File No.: GB-RZ-2022.1

File Name: Alley Enterprises Ltd. (Bylaw No. 318)

PURPOSE

To provide staff with the Directives Only Checklist to highlight issues addressed in staff reports and as a means to ensure Local Trust Committees address certain matters in their official community plans and regulatory bylaws, Island Municipalities address certain matters in their official community plans, and to reference any relevant sections of the Policy Statement.

POLICY STATEMENT

The Policy Statement is comprised of several parts. Parts I and II outline the purpose, the Islands Trust object, and Council's guiding principles. Parts III, IV and V contain the goals and policies relevant to ecosystem preservation and protection, stewardship of resources and sustainable communities.

There are three different kinds of policies within the Policy Statement as follows:

- Commitments of Trust Council which are statements about Council's position or philosophy on various matters;
- Recommendations of Council to other government agencies, non-government organizations, property owners, residents and visitors; and
- Directive Policies which direct Local Trust Committees and Island Municipalities to address certain matters.

DIRECTIVES ONLY CHECKLIST

The Policy Statement Directives Only Checklist is based on the directive policies from the Policy Statement (Consolidated April 2003) which require Local Trust Committees to address certain matters in their official community plans and regulatory bylaws and Island Municipalities to address certain matters in their official community plans in a way that implements the policy of Trust Council.

Staff will use the Policy Statement Checklist (Directives Only) to review Local Trust Committee and Island Municipality bylaw amendment applications and proposals to ensure consistency with the Policy Statement. Staff will add the appropriate symbol to the table as follows:

- ✓ if the bylaw is consistent with the policy from the Policy Statement, or
- ✗ if the bylaw is inconsistent (contrary or at variance) with a policy from the Policy Statement, or
- N/A if the policy is not applicable.

PART III: POLICIES FOR ECOSYSTEM PRESERVATION AND PROTECTION

CONSISTENT	No.	DIRECTIVE POLICY
	3.1	Ecosystems
n/a	3.1.3	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the identification and protection of the environmentally sensitive areas and significant natural sites, features and landforms in their planning area.
n/a	3.1.4	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the planning, establishment, and maintenance of a network of protected areas that preserve the representative ecosystems of their planning area and maintain their ecological integrity.
✓	3.1.5	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the regulation of land use and development to restrict emissions to land, air and water to levels not harmful to humans or other species.
	3.2	Forest Ecosystems
n/a	3.2.2	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the protection of unfragmented forest ecosystems within their local planning areas from potentially adverse impacts of growth, development, and land-use.
	3.3	Freshwater and Wetland Ecosystems and Riparian Zones
✓	3.3.2	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address means to prevent further loss or degradation of freshwater bodies or watercourses, wetlands and riparian zones and to protect aquatic wildlife.
	3.4	Coastal and Marine Ecosystems
n/a	3.4.4	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the protection of sensitive coastal areas.
n/a	3.4.5	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the planning for and regulation of development in coastal regions to protect natural coastal processes.

PART IV: POLICIES FOR THE STEWARDSHIP OF RESOURCES

CONSISTENT	No.	DIRECTIVE POLICY
	4.1	Agricultural Land
n/a	4.1.4	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the identification and preservation of agricultural land for current and future use.
n/a	4.1.5	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the preservation, protection, and encouragement of farming, the sustainability of farming, and the relationship of farming to other land uses.
n/a	4.1.6	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the use of adjacent properties to minimize any adverse affects on agricultural land.
CONSISTENT	No.	DIRECTIVE POLICY
n/a	4.1.7	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the design of road systems and servicing corridors to avoid agricultural lands unless the need for roads outweighs agricultural considerations, in which case appropriate mitigation measures shall be required to derive a net benefit to agriculture.
n/a	4.1.8	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address land uses and activities that support the economic viability of farms without compromising the agriculture capability of agricultural land.
n/a	4.1.9	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the use of Crown lands for agricultural leases.
	4.2	Forests
n/a	4.2.6	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the need to protect the ecological integrity on a scale of forest stands and landscapes.
n/a	4.2.7	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the retention of large land holdings and parcel sizes for sustainable forestry use, and the location and construction of roads, and utility and communication corridors to minimize the fragmentation of forests.
n/a	4.2.8	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the designation of forest ecosystem reserves where no extraction will take place to ensure the preservation of native biological diversity.
CONSISTENT	No.	DIRECTIVE POLICY

	4.3	Wildlife and Vegetation
	4.4	Freshwater Resources
✓	4.4.2	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address measures that ensure neither the density nor intensity of land use is increased in areas which are known to have a problem with the quality or quantity of the supply of freshwater, water quality is maintained, and existing, anticipated and seasonal demands for water are considered and allowed for.
✓	4.4.3	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address measures that ensure water use is not to the detriment of in-stream uses
	4.5	Coastal Areas and Marine Shorelands
n/a	4.5.8	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the needs and locations for marine dependent land uses.
n/a	4.5.9	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the compatibility of the location, size and nature of marinas with the ecosystems and character of their local planning areas.
n/a	4.5.10	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the location of buildings and structures so as to protect public access to, from and along the marine shoreline and minimize impacts on sensitive coastal environments.
n/a	4.5.11	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address opportunities for the sharing of facilities such as docks, wharves, floats, jetties, boat houses, board walks and causeways.
	4.6	Soils and Other Resources
n/a	4.6.3	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the protection of productive soils.

PART V: POLICIES FOR SUSTAINABLE COMMUNITIES

CONSISTENT	No.	DIRECTIVE POLICY
	5.1	Aesthetic Qualities
n/a	5.1.3	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the protection of views, scenic areas and distinctive features contributing to the overall visual quality and scenic value of the Trust Area.
	5.2	Growth and Development
✓	5.2.3	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address policies related to the aesthetic, environmental and social impacts of development.
✓	5.2.4	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address any potential growth rate and strategies for growth management that ensure that land use is compatible with preservation and protection of the environment, natural amenities, resources and community character.
✓	5.2.5	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address means for achieving efficient use of the land base without exceeding any density limits defined in their official community plans.
n/a	5.2.6	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the identification of areas hazardous to development, including areas subject to flooding, erosion or slope instability, and strategies to direct development away from such hazards.
	5.3	Transportation and Utilities
n/a	5.3.4	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the development of a classification system of rural roadways, including scenic or heritage road designations, in recognition of the object of the Islands Trust.
n/a	5.3.5	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the impacts of road location, design, construction and systems.
n/a	5.3.6	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the designation of areas for the landing of emergency helicopters.
✓	5.3.7	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the development of land use patterns that encourage establishment of bicycle paths and other local and inter-community transportation systems that reduce dependency on private automobile use.
	5.4	Disposal of Waste
n/a	5.4.4	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the identification of acceptable locations for the disposal of solid waste.
CONSISTENT	No.	DIRECTIVE POLICY

	5.5	Recreation
n/a	5.5.3	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the prohibition of destination gaming facilities such as casinos and commercial bingo halls.
n/a	5.5.4	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the location and type of recreational facilities so as not to degrade environmentally sensitive areas, and the designation of locations for marinas, boat launches, docks and anchorages so as not to degrade sensitive marine or coastal areas.
n/a	5.5.5	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the identification of sites providing safe public access to beaches, the identification and designation of areas of recreational significance, and the designation of locations for community and public boat launches, docks and anchorages.
n/a	5.5.6	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the identification and designation of areas for low impact recreational activities and discourage facilities and opportunities for high impact recreational activities.
✓	5.5.7	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the planning for bicycle, pedestrian and equestrian trail systems.
	5.6	Cultural and Natural Heritage
n/a	5.6.2	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the identification, protection, preservation and enhancement of local heritage.
n/a	5.6.3	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the preservation and protection of the heritage value and character of historic coastal settlement patterns and remains.
	5.7	Economic Opportunities
✓	5.7.2	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address economic opportunities that are compatible with conservation of resources and protection of community character.
	5.8	Health and Well-being
✓	5.8.6	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address their community's current and projected housing requirements and the long-term needs for educational, institutional, community and health-related facilities and services, as well as the cultural and recreational facilities and services.

	POLICY STATEMENT COMPLIANCE
✓	<i>In compliance with Trust Policy</i>
	<i>Not in compliance with Trust Policy for the following reasons:</i>



ISLANDS TRUST POLICY STATEMENT DIRECTIVES ONLY CHECKLIST

File No.: GB-RZ-2022.1

File Name: Alley Enterprises Ltd. (Bylaw
No. 319)

PURPOSE

To provide staff with the Directives Only Checklist to highlight issues addressed in staff reports and as a means to ensure Local Trust Committees address certain matters in their official community plans and regulatory bylaws, Island Municipalities address certain matters in their official community plans, and to reference any relevant sections of the Policy Statement.

POLICY STATEMENT

The Policy Statement is comprised of several parts. Parts I and II outline the purpose, the Islands Trust object, and Council's guiding principles. Parts III, IV and V contain the goals and policies relevant to ecosystem preservation and protection, stewardship of resources and sustainable communities.

There are three different kinds of policies within the Policy Statement as follows:

- Commitments of Trust Council which are statements about Council's position or philosophy on various matters;
- Recommendations of Council to other government agencies, non-government organizations, property owners, residents and visitors; and
- Directive Policies which direct Local Trust Committees and Island Municipalities to address certain matters.

DIRECTIVES ONLY CHECKLIST

The Policy Statement Directives Only Checklist is based on the directive policies from the Policy Statement (Consolidated April 2003) which require Local Trust Committees to address certain matters in their official community plans and regulatory bylaws and Island Municipalities to address certain matters in their official community plans in a way that implements the policy of Trust Council.

Staff will use the Policy Statement Checklist (Directives Only) to review Local Trust Committee and Island Municipality bylaw amendment applications and proposals to ensure consistency with the Policy Statement. Staff will add the appropriate symbol to the table as follows:

- ✓ if the bylaw is consistent with the policy from the Policy Statement, or
- ✗ if the bylaw is inconsistent (contrary or at variance) with a policy from the Policy Statement, or
- N/A if the policy is not applicable.

PART III: POLICIES FOR ECOSYSTEM PRESERVATION AND PROTECTION

CONSISTENT	No.	DIRECTIVE POLICY
	3.1	Ecosystems
n/a	3.1.3	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the identification and protection of the environmentally sensitive areas and significant natural sites, features and landforms in their planning area.
n/a	3.1.4	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the planning, establishment, and maintenance of a network of protected areas that preserve the representative ecosystems of their planning area and maintain their ecological integrity.
✓	3.1.5	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the regulation of land use and development to restrict emissions to land, air and water to levels not harmful to humans or other species.
	3.2	Forest Ecosystems
n/a	3.2.2	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the protection of unfragmented forest ecosystems within their local planning areas from potentially adverse impacts of growth, development, and land-use.
	3.3	Freshwater and Wetland Ecosystems and Riparian Zones
✓	3.3.2	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address means to prevent further loss or degradation of freshwater bodies or watercourses, wetlands and riparian zones and to protect aquatic wildlife.
	3.4	Coastal and Marine Ecosystems
n/a	3.4.4	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the protection of sensitive coastal areas.
n/a	3.4.5	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the planning for and regulation of development in coastal regions to protect natural coastal processes.

PART IV: POLICIES FOR THE STEWARDSHIP OF RESOURCES

CONSISTENT	No.	DIRECTIVE POLICY
	4.1	Agricultural Land
n/a	4.1.4	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the identification and preservation of agricultural land for current and future use.
n/a	4.1.5	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the preservation, protection, and encouragement of farming, the sustainability of farming, and the relationship of farming to other land uses.
n/a	4.1.6	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the use of adjacent properties to minimize any adverse affects on agricultural land.
CONSISTENT	No.	DIRECTIVE POLICY
n/a	4.1.7	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the design of road systems and servicing corridors to avoid agricultural lands unless the need for roads outweighs agricultural considerations, in which case appropriate mitigation measures shall be required to derive a net benefit to agriculture.
n/a	4.1.8	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address land uses and activities that support the economic viability of farms without compromising the agriculture capability of agricultural land.
n/a	4.1.9	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the use of Crown lands for agricultural leases.
	4.2	Forests
n/a	4.2.6	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the need to protect the ecological integrity on a scale of forest stands and landscapes.
n/a	4.2.7	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the retention of large land holdings and parcel sizes for sustainable forestry use, and the location and construction of roads, and utility and communication corridors to minimize the fragmentation of forests.
n/a	4.2.8	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the designation of forest ecosystem reserves where no extraction will take place to ensure the preservation of native biological diversity.
CONSISTENT	No.	DIRECTIVE POLICY

	4.3	Wildlife and Vegetation
	4.4	Freshwater Resources
✓	4.4.2	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address measures that ensure neither the density nor intensity of land use is increased in areas which are known to have a problem with the quality or quantity of the supply of freshwater, water quality is maintained, and existing, anticipated and seasonal demands for water are considered and allowed for.
✓	4.4.3	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address measures that ensure water use is not to the detriment of in-stream uses
	4.5	Coastal Areas and Marine Shorelands
n/a	4.5.8	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the needs and locations for marine dependent land uses.
n/a	4.5.9	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the compatibility of the location, size and nature of marinas with the ecosystems and character of their local planning areas.
n/a	4.5.10	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the location of buildings and structures so as to protect public access to, from and along the marine shoreline and minimize impacts on sensitive coastal environments.
n/a	4.5.11	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address opportunities for the sharing of facilities such as docks, wharves, floats, jetties, boat houses, board walks and causeways.
	4.6	Soils and Other Resources
n/a	4.6.3	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the protection of productive soils.

PART V: POLICIES FOR SUSTAINABLE COMMUNITIES

CONSISTENT	No.	DIRECTIVE POLICY
	5.1	Aesthetic Qualities
n/a	5.1.3	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the protection of views, scenic areas and distinctive features contributing to the overall visual quality and scenic value of the Trust Area.
	5.2	Growth and Development
✓	5.2.3	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address policies related to the aesthetic, environmental and social impacts of development.
✓	5.2.4	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address any potential growth rate and strategies for growth management that ensure that land use is compatible with preservation and protection of the environment, natural amenities, resources and community character.
✓	5.2.5	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address means for achieving efficient use of the land base without exceeding any density limits defined in their official community plans.
n/a	5.2.6	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the identification of areas hazardous to development, including areas subject to flooding, erosion or slope instability, and strategies to direct development away from such hazards.
	5.3	Transportation and Utilities
n/a	5.3.4	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the development of a classification system of rural roadways, including scenic or heritage road designations, in recognition of the object of the Islands Trust.
n/a	5.3.5	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the impacts of road location, design, construction and systems.
n/a	5.3.6	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the designation of areas for the landing of emergency helicopters.
✓	5.3.7	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the development of land use patterns that encourage establishment of bicycle paths and other local and inter-community transportation systems that reduce dependency on private automobile use.
	5.4	Disposal of Waste
n/a	5.4.4	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the identification of acceptable locations for the disposal of solid waste.
CONSISTENT	No.	DIRECTIVE POLICY

	5.5	Recreation
n/a	5.5.3	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the prohibition of destination gaming facilities such as casinos and commercial bingo halls.
n/a	5.5.4	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the location and type of recreational facilities so as not to degrade environmentally sensitive areas, and the designation of locations for marinas, boat launches, docks and anchorages so as not to degrade sensitive marine or coastal areas.
n/a	5.5.5	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the identification of sites providing safe public access to beaches, the identification and designation of areas of recreational significance, and the designation of locations for community and public boat launches, docks and anchorages.
n/a	5.5.6	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the identification and designation of areas for low impact recreational activities and discourage facilities and opportunities for high impact recreational activities.
✓	5.5.7	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the planning for bicycle, pedestrian and equestrian trail systems.
	5.6	Cultural and Natural Heritage
n/a	5.6.2	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the identification, protection, preservation and enhancement of local heritage.
n/a	5.6.3	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the preservation and protection of the heritage value and character of historic coastal settlement patterns and remains.
	5.7	Economic Opportunities
✓	5.7.2	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address economic opportunities that are compatible with conservation of resources and protection of community character.
	5.8	Health and Well-being
✓	5.8.6	Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address their community's current and projected housing requirements and the long-term needs for educational, institutional, community and health-related facilities and services, as well as the cultural and recreational facilities and services.

	POLICY STATEMENT COMPLIANCE
✓	<i>In compliance with Trust Policy</i>
	<i>Not in compliance with Trust Policy for the following reasons:</i>

ELANCO ENTERPRISES LTD.

Permit to Practice No: 1001505
4965 Cordova Bay Road, Victoria, B.C., V8Y 2K1
Phone 250 744-1357. E-mail: adakin.elanco@gmail.com

Our File: 303

November 2, 2023

By: e-mail

Alley Enterprises Ltd.
750 Tin Can Alley.
Gabriola Island, B.C.
V0R 1X6

Attention: Kent Moen.

Dear Sir.

Re: Assessment of Sustainable Yield for Well on Wild Rose Farm & Garden Property
750 Tin Can Alley, Gabriola Island, B.C.

As requested, I have conducted a hydrogeological assessment of the area on, and around, the subject property and have determined the long term sustainable yield from the existing well on the property. This report provides a summary of the work carried out, sets out my findings on the well yield and addresses potential impacts on neighbouring wells and water quality issues.

Background:

It is understood that Alley Enterprises Ltd. (AEL) is considering applying for rezoning its 1.03 hectare (2.55 acre) 750 Tin Can Alley property (the Property) from a Local Commercial designation and is now applying for additional uses that would include retail, rentals, personal services, restaurants, bakeries, food truck, accessory offices and two 1 to 2 bedroom apartments.. As a requirement for the rezoning, the Islands Trust requires a report "confirming that the aquifer is capable of supporting the proposed commercial and residential uses with no adverse effects on adjacent existing groundwater users".

Location and Site Plan

The Property is located in the eastern part of the Gabriola Village area in the north eastern quadrant of the intersection of Tin Can Alley and North Road (see Figs. 1 to 3).

Work Carried out

This assessment involved reviewing information on regional water wells, surface drainage, soils and geology, visiting the site on October 12th and 13th, 2023, supervising a pump test on the well on the Property, analyzing data, assessing the long term well yield and preparing a summary report.

Topography and Drainage

The land surface on the Property slopes gently upward from a 96m above sea level (m-asl) elevation in the southwest corner to a 106 m-asl elevation in the northeast corner (see Fig. 3). This represents a 10m elevation difference and an average slope of about 5.8%.

Most of the Property has been cleared of trees, and with the exception of the Recycling Center property in the north, most of the neighbouring properties have a high percentage of tree cover (see Fig. 3).

There are no well defined surface water drainage channels on the Property which is consistent with the well drained characteristics of the underlying soil. Ditches constructed along both sides of Tin Can Alley roadway convey surface drainage into a series of low points where much of the runoff seeps into the soil. For example, it has been noted that even following periods of heavy rain there is no water flowing through the culvert located under the Property access driveway. It is anticipated that during intense storm events runoff in the form of sheet from relatively impervious areas discharges into the ditches and culverts that follow North Road. From there it is discharged southwards into Goodhue Creek, which flows westward and almost parallel to the road (see the location of this creek on Fig. 2).

Facilities on the Property.

The farm and garden center has been in operation on the Property since 1992. There are two garden center buildings and several aggregate bins on the Property, along with a range of large construction items for sale. Servicing for these facilities include a septic wastewater system installed in 1995, a 56.4 metre (m) deep water supply well drilled in 1995 and an 81,700 litre (18,000 gallons) water storage tank. The locations of these features are indicated on Fig. 4.

Water Usage and Future Requirements.

The current water usage is relatively small with two garden hoses running for up to 4 hours per day and one staff washroom with little use that discharges to the septic system. You have indicated that most of the water for garden watering could be sourced from rainwater. The estimated current usage is 0.049 L/s (0.65 lpm or 940 Imperial gallons per day) and most of this water is consumptive, as it is evaporated or used by the plants.

The potential future facilities such as residences and the restaurant will require water but most of which is non consumptive as it is returned to the aquifer via the septic dispersal field. Researchers, such as McQuillan, D and Bassett, E. 2009, have demonstrated that about 80% of the water leaving a sewage effluent dispersal field will recharge the local aquifer. The result is that the net volume intercepted will be relatively small. The aquifer water balance issue is discussed later in this report.

Soils and Surficial Sediments.

According to the regional surface soils map (Kenny et al. 1990), the principal soil type on the Property, and in the surrounding area, is a well drained Saturna soil. This unit is a sandy loam formed from both colluvial processes and glacial drift and is typically less than a metre thick and overlies sedimentary bedrock.

Five test pits were dug on the property in 2021 as part of a geotechnical assessment of the Property (Lewkowich Engineering Associates Ltd, 2021). The locations of these test pits are indicated on Fig. 3. The sediments encountered above sedimentary bedrock were described as loose to compact brown gravel and sand, or gravelly sand with trace percentages of cobbles. The depth to bedrock (inferred to be sandstone) ranged from 0.7 to 1.2m and had a mean depth of 0.86m. The deepest depth to bedrock was in Test pit 3, which was 1.2m.

These depths. are consistent with the thickness of overburden recorded in the log of the well on the Property (WTN 73075) and on the Recycling Center well (WTN 73066), which are 1.7m and 0.9m respectively.

A report on the construction of the wastewater treatment system (an attachment to the Van Isle Septic Services Inc., 2022 report) indicated that the depth to bedrock was about 1.2m and that the soil percolation test results averaged 5mins/2.5cm. This information is consistent with the geotechnical test pit logs and the Saturna Soil designation.

Bedrock Geology

The bedrock geology of Gabriola consists of sedimentary formations of the Upper Cretaceous Nanaimo Group. These formations are characterized as successions of sandstone-conglomerate units inter-bedded with mudstone and fine-grained sandstone. Four units of the Nanaimo Group are present on Gabriola Island, and these are the Gabriola, Spray, Geoffrey and Northumberland formations. The Gabriola and Geoffrey Formations are mainly comprised of sandstone, while mudstone predominantly comprises the Spray and Northumberland Formations.

As indicated on Fig. 1A and the schematic profile on Fig 1B, these units are layered in a relatively uniform synclinal structure over most of the island, with Northumberland formation being the deepest (oldest) and Gabriola the most common unit at the higher elevations.

A profile of the well on the Property is posted on Fig.1B, and this suggests that this well was likely terminated in Gabriola Formation (sandstone and conglomerate). However, driller's logs of local area wells indicate that they penetrated mostly sandstone bedrock, with some "shale" and siltstone layers. For example, the logs of wells profiled on Sections B-B' on Fig 6 and listed on Tables I and II, typically indicate that they penetrated mostly sandstone, with intermittent shale.

Water Well on the Property

The 150mm diameter well on the Property is located near the southeast corner (see locations on Figs. 2 to 4). No identification plate has been installed on the well casing but the Ministry of Environment has assigned a Well Tag Number ((WTN) of 73075 to this well. This well was drilled to a depth of 56.4m and had a reported yield of 0.05 L/s (0.75 USgpm). The borehole penetrated 1.5m of overburden sediments before encountering mostly sandstone bedrock for the remainder of the hole (see the log of the well on Fig. 5). The driller's log indicates that at a depth of 53.3m a 0.05 L/s water source was encountered (likely a water bearing fracture in the bedrock).

There is no evidence of a surface seal being installed. However, the log indicates that the 150mm diameter steel casing was driven about 0.3m into the top of the bedrock (likely into the soft weathered surface of the bedrock) and may have created a seal against surface water intrusion into the well but is not one that meets the current day well completion standard.

Local Area Wells

The locations of identified water wells in the area are indicated on Fig. 2 and the data on these wells is presented on Tables I and II. With the exception of the locations of wells WTN 73066 and 73075, the data and locations are based on the Ministry of Environment's GWELLS database. The locations of wells 73066 and 73075 are based on site specific information.

Google Earth and the 2m interval contours on Fig.3 were used to estimate ground surface datum elevations. It is recognized that many of these wells may not be accurately located and the static water levels have changed since they were constructed. Also, many wells are currently not being used and that the yields indicated on the table are not sustainable.

A review of the compiled information and statistics led to the following observations:

- Of the 16 well records reviewed, none indicated a "dry hole".
- The estimated well yields ranged from 0.001 to 0.6 L/s and median and average values were 0.13 and 0.21 L/s respectively. The maximum was 0.6 L/s and many of the wells neighbouring the Property had relatively high yields.
- Well depths ranged from 9.1 (dug well 5376) to 122m and median and average depths were 55 and 53m, respectively. The deepest well (WTN 73233) had the lowest yield and the elevation of the bottom of the well was 31m below sea level.
- Depths to static water level at the time of well construction ranged from 3.7 to 27.4m and median and average depths to water were 11.9 and 12.2m, respectively. Many of the reported very deep depths to water are not likely true values, as typically they are recorded in low yield wells which require considerable time for the static water level to establish after construction.
- The well logs indicated that the wells typically encountered sandstone bedrock, with intermittent shale layers.

Groundwater Flow Systems

Fractures and bedding planes in the sandstone and shale bedrock below the Property comprise the principal aquifer in the area. With the possible exception of portions of the Goodhue Creek Valley, the surficial sediments are not sufficiently saturated and thick enough to yield useful quantities of water from wells completed in this unit.

The hydrogeological profile presented on Fig. 6, indicates that the static water levels mostly follow a relatively uniform trend. This suggests that although the yields and depths vary considerably from well to well, there is a network of interconnected fractures and formation bedding planes that enable water to flow through the rock in a consistent manner. Information on the water elevations in individual wells was used to provide the piezometric elevation contours presented on Fig. 2.

As can be seen by the arrows on Fig. 2, the groundwater generally follows the topography with a predominant flow towards the southwest. Water levels have been monitored over a 33 year period in a 76.2m deep B.C. government regional monitoring well (OBS Well 194) located near North Road and about 450m west of Church Street. This record shows that the water levels in

the area have not changed much, even though many nearby production wells have been commissioned in the area.

Preparing for Pump Testing of Well 73075 – The Wild Rose Centre Well

Red Williams Well Drilling and Pump Installations Ltd was retained to install 25mm diameter monitoring tube in Well 73075 and in a well located on the Recycling Centre property north of the Property (Well 73066). The Recycling Center well was selected as a monitoring well as it was not being pumped and had relatively easy access to the well casing.

Data loggers were programmed to record water levels at 1-minute intervals and a week prior to initiating the pump test they were installed in the two wells. They were left in these wells during the entire pump testing period and for five days after the constant rate test were terminated.

The depth to the pump in Well 73075 was about 38m below ground and had the capacity to pump water into the 81,700 litre water storage tank, located about 40m north of the well (see locations on Fig. 4). During the pump tests, the water was diverted at the base of the tank and discharged onto the ground in a forested area located immediately east of the tank.

Water Level Trends

Elevations of water levels recorded in Well 73075 are presented on Fig. 7A and the levels in monitoring well 73066 are on Fig. 7C. The range of the water levels over the 14 day monitoring period presented in Fig. 7C is very small (0.06m), while the range Fig. 7A (Well 73075) was tens of metres. Most, if not all, of the range in Fig 7C is due to the datalogger resolution and as can be seen when Well 73075 data was also plotted at the same scale for a 5-day period a similar fluctuation can be observed.

As can be seen in Fig. 7A the non-pumping water level trend remained relatively stable for about 5 days and then slowly rose by about a metre at the end of the 14 day monitoring period. The cause of this upward trend is not known and one possibility is a long term recovery from operational pumping prior to the monitoring period.

The daily precipitation recorded at a Nanaimo station is presented on Fig. 7D. The rainfall prior to October 17th would not have been sufficient to cause any aquifer recharge. However, the very small change in water levels on October 18th could possibly be result of the October 17th rainfall event.

The water level spike on October 11th was likely caused by operational pumping into the water tank. The big spike on October 12th was the step test impact (see details on Fig. 8) and the 3-day drop starting on October 13th was the impact of the constant rate test (see details on Fig. 9).

The elevation of the water level recorded on October 12, 2023 was 91.9 m-asl, while the elevation of the water level recorded soon after the well was constructed in July 1993 was 88.9 m-asl. It is not clear why there is a 3m difference, but clearly the long term impact of pumping water from local wells has not resulted in a lowering the aquifer water levels since 1995.

Step Test of Well 73075

On October 12th, 2023, a step test was run at four progressively increasing rates, each for a period of about 30 minutes. As indicated on Fig 8 these rates were 0.08, 0.17, 0.23 and 0.37 L/s. During the test the pumping rate was measured using the bucket and stopwatch method. Depths to water level were measured manually so that water level trends could be monitored as the test progressed. It was noted that soon after the pumping rate increased to 0.37 L/s and the depth to water in the well was 12.6m below the top of the casing (12.3m below ground) water could be heard cascading into the well. This suggested that the water level in the well was then below a water-bearing fracture that was not noted in the driller's log. After going below the fracture the water level dropped rapidly and continued to do so until the drawdown reached about 20m at the end of the fourth step and the pump was turned off and water level recovery commenced.

The impact of the step test pumping on the natural time scale graph of water elevations can be seen on Fig. 7A and a semi-log graph of the one minute interval water levels recorded using the datalogger is presented on Fig. 8A. The rate of water level recovery following this test can also be seen on these two graphs.

As illustrated in Fig. 8B the specific capacity (ratio of pumping rate to drawdown) did not change very much until the water level in the well dropped below the water bearing fracture. This confirmed that this fracture had a lot of water in storage and if this volume was depleted it could have an impact on the long term well yield.

Based on the plotted water level trends and observed yields during the step test a 0.17 L/s rate was selected for the constant rate test.

72 Hour Pump Testing of Well 73075

On the following day, after the water level had recovered from the step test, the 3 day 0.17 L/s constant rate pumping test was started. As a supplement to the datalogger record, manual measurements of water levels were intermittently made in Wells 73075 and 73066. These data were used to provide a datum for the datalogger record. In addition to checks on the flow rate, pH, temperature, redox and electrical conductivity of the discharge water quality was occasionally recorded. The recorded ranges of values were: pH 8.5 to 8.6, conductivity 201 to 270 mS/cm, redox 155 to 180 mV and temperature remained constant at 11°C. This monitoring showed that the water quality parameters did not change significantly during the test and that the changes recorded did not follow a trend.

A semi-log graph of the adjusted water level trends in Well 73075 is presented on Fig. 9A and, as can be seen, the well could easily sustain the 0.17 L/s rate for the 3 day pumping period and not have the water level go below the upper fracture zone. The adjustment made to the recorded water levels involved calculating the drawdown below the upward trending water levels. The water levels stabilized during the last half day of the test (see detail in Fig. 9B) confirming the influence of the upper fracture zone below.

The water level recovery is also presented on Fig. 9A. The trends on both the pumping and recovery graphs are similar and followed two well defined legs. These trends were used to calculate approximate aquifer transmissivity values using the Jacob method and the results are presented in the small table below Fig. 9B. As there was no response to pumping in the observation well (Well 73066) no regional transmissivity and storativity values could be calculated.

It is noted that the recovery graph intercepted the zero line with a small intercept, which confirmed that the upper fracture held a significant volume of water in storage.

The projected water level trend before the water levels stabilized was used to estimate the drawdown after 100 days of pumping and from this an estimate a 100day specific capacity of 0.007 L/s/m was calculated. If the available drawdown as based on the range between the static water level and the upper fracture (6.6m) and, after applying the standard 75% factor, the estimated sustainable yield would be 0.04 L/s (0.48 lgpm). This ignores the influence of the lower fracture. If the available drawdown was based on this lower fracture (38.2m) the calculated long term yield would be 0.21 L/s (2.8 lgpm). However, based on the results of the last step in the step test and on an analysis of recharge from the capture zone (see Table III) a rate of 0.08 L/s (1.1 lgpm) is a considered a reasonable and conservative long term yield for this well. This value is slightly higher than the 0.75 gpm estimate recorded in the driller's log.

Impact on the Aquifer

As indicated on Table III a well pumping 0.08 L/s has a capture zone with a 129m width, some of which extends south of the property.

After allowing for the estimated current consumptive usage of 0.049 L/s, the net availability for future development using the existing well is 0.032 L/s (see Table IV). As the new developments will have septic system(s) with no irrigation, this means that about 80% of the water used for the new development will be discharged back into the aquifer (McQuillan, D and Bassett, E. 2009). This effectively means that the proposed new development could consume an additional 0.032 L/s and only increase the net withdrawal from the aquifer by 13.5%. This increased pumpage will have no adverse effects on adjacent existing groundwater users.

If additional water is still required for future development of the Property, an additional well could be drilled. As indicated on Fig. 1 another well could be located in the northern part of the Property and a conservative estimate indicates that this well could have a yield of at least 0.06 L/s. The combined yield from the two Property wells would be 0.14 L/s. As indicated on Table IV, after allowing for return flow from the septic system(s) into the aquifer, the net withdrawal from the aquifer under this scenario would be 0.066 L/s, or represent a 21.5% net increase in withdrawal from the aquifer.

Even this potential increase in withdrawal from the local aquifer would have no adverse effects on adjacent existing groundwater users.

Well Water Quality

A water sample had previously been collected from Well 73075 in August 2022 and sent to a laboratory for a complete potability analysis and a copy of the laboratory report is in Appendix A.

This report shows that the water from this well meets all of the Canadian Drinking Water quality criteria, with the exception of total coliforms. The total coliform count was 12 CFU/100mL when the standard is for no coliforms to be present. As there are no obvious sources of coliform bacteria within the well's capture zone it is concluded that the source would be in the sampling equipment and not in the aquifer. This is a common occurrence and experience with similar situations leads to the conclusion that chlorinating the sampling equipment and following a strict sampling procedure will result in a negative result for coliform content.

It is also noted that the nitrate plus nitrite concentration was very low (just above the laboratory detection limit of 0.02 mg/L) and if the source of coliform was from a septic dispersal field this concentration would be substantially higher.

Summary and Conclusions

1. The Gabriola sandstone below the Property is relatively massive with two a moderately permeable water bearing fractures being intercepted by Well 73075.
2. Pumping and water level monitoring in Well 73075 suggests that the upper fracture is likely the more productive of the two and it may act as a drainable perched aquifer when the pumping level goes below this fracture for extended an period, which if drained could have an impact on the long term yield.
3. The recharge area available to sustain Well 73073 is a limiting factor and, based on an analysis of water level trends during the pump tests and the available recharge area the long term yield is not likely to exceed 0.08 L/s (1.1 lgpm).
4. The current water consumption is about 0.049 L/s and when pumpage from the existing well (Well 73073) is increased to its sustainable rate 0.08 L/s for extended periods during the summer months, it will not have no adverse effects on adjacent existing groundwater users.
5. If there is a need for additional water for the proposed future developments on the Property, the chances of developing a new well in the northern part of the property is considered promising and assuming this well can yield 0.06 L/s the net yield from the two wells would be 0.14 L/s.
6. As it is understood that all of the new facilities with higher water usage would have septic system(s), this will result in an 80% return of water to the aquifer via the dispersal fields.
7. Based on the assumption that a new well is required, the proposed new development could consume an additional 0.091 L/s of water and only increase the net withdrawal from the aquifer by 21.5%. This increase would have no adverse effects on adjacent existing groundwater users.
8. After retesting the water for total coliforms, Well 73075 will eventually meet the Canadian Drinking Water Quality criteria for all parameters, including total coliform.

Alley Enterprises Ltd.
Attention: Kent Moen.

-9-

November 2, 2023

Acknowledgements

The efforts of Brian Strachan of Gabriola Waterworks in providing on-site assistance with implementation of the two pumping tests were very much appreciated.

Limitations.

This investigation has been conducted using a standard of care consistent with that expected of scientific and engineering professionals undertaking similar work under similar conditions in B.C. No warranty is expressed or implied.

I trust that this is sufficient for you present purposes.

Yours truly,

Elanco Enterprises Ltd.



R. Allan Dakin, FEC, P. Eng.
Senior Groundwater Engineer



Att.

References and Background Reports

- Elanco Enterprises Ltd. December 2019. Assessment of Well Yields on Proposed Housing Development Property, Paisley Place, Gabriola Island, B.C. Report prepared Gabriola Housing Society. 12pp.
- Kenny, E.A., Van Vliet, L.J.P., and Green, A.J. 1990. Soils of The Gulf Islands Of British Columbia; Volume 4 - Soils Of Gabriola And Lesser Islands. Land Resource Research Centre, Contribution No. 89-61. 131 pp.
- Lewkowich Engineering Associates Ltd. Aug. 25, 2021. Geotechnical Assessment of Proposed Commercial Development, 750 Tin Can Alley, Gabriola Island. Report prepared for Alley Enterprises Ltd. 10pp.
- McQuillan, D and Bassett, E. 2009. Return Flow to Ground Water From Onsite Wastewater Systems. Paper presented at 18th Annual NOWRA Technical Conference and Expo, Milwaukee Wisconsin. 13 pp. (available on-line)
- SRK Consulting and Thurber Engineering Ltd. April 2013. Water Budget Project: RDN Phase I (Gabriola, DeCourcy and Mudge Islands). Report prepared for Regional District of Nanaimo. 33pp and appendices.
- Todd, J, Wei, M and Lepitre, M. 2016. Guidance Document for Technical Requirements in Support of an Application for Groundwater Use in British Columbia. BC Government Water Science Series WSS206-08. 19pp
- Van Isle Septic Services Inc. Jan. 11, 2021 Septic System Survey, 750 Tin Can Alley, Gabriola Island, B.C. Report prepared for Alley Enterprises Ltd. 4pp.

Tables

Table I

Information on Local Area Wells - Sorted by WTN

Well Tag Number	Licenced ?	Construction Start Date	Address		Depth to (metres)				Elevation (m-asl)						Yield L/s
			No	Street	Bedrock	SWL	PWS	Well bottom	Collar	Top Casing	Bedrock	SWL	PWS	Well bottom	
5376	No	1-Jan-50	815	North Road	4.6	4.6	na	9.14	96	96.3	91.4	91.7	na	86.9	na
31981	No	6-Jan-75	796	North Road	0.6	7.6	na	24.4	96	96.3	95.4	88.7	na	71.6	0.35
42244	No	1-May-79	811	North Road	0.9	na	na	13.7	96	96.3	95.1	na	na	82.3	0.38
42758	No	1-Jul-79	785	North Road	2.1	3.7	na	21.3	89	89.3	86.9	85.6	na	67.7	0.38
64324	No	11-Mar-89	785	North Road	na	10.7	na	54.9	89	89.3	na	78.6	na	34.1	0.06
64372	No	20-Apr-90	815	North Road	3.4	12.2	36.9	39.6	96	96.3	92.6	84.1	59.1	56.4	0.63
69506	No	3-Sep-92	730	Church Street	2.4	21.3	na	61.0	96	96.3	93.6	75.0	na	35.0	0.13
73066	No	23-Sep-94	700	Tin Can Alley	0.9	27.4	36.6	61.0	108	108.3	107.1	80.9	71.4	47.0	0.06
73075	No	7-Jul-93	750	Tin Can Alley	1.5	9.1	53.3	56.4	97.7	98	96.2	88.9	44.4	41.3	0.05
73096	No	21-Jul-93	790	North Road	1.5	12.2	na	106.7	91	91.3	89.5	79.1	na	-15.7	0.06
73233	No	13-Aug-96	790	North Road	2.4	9.1	na	121.9	91	91.3	88.6	82.2	na	-30.9	0.001
102040	No	6-Jul-07	730	Church Street	na	18.3	na	67.1	96	96.3	na	78.0	na	28.9	0.13
106406	No	29-Oct-03	818	North Road	5.8	3.7	18.3	29.0	104	104.3	98.2	100.6	85.7	75.0	0.13
106527	No	14-Sep-96	790	North Road	na	15.2	na	45.7	91	91.3	na	76.1	na	45.3	0.16
106528	No	14-Sep-96	790	North Road	na	15.2	na	45.7	91	91.3	na	76.1	na	45.3	0.16
106605	Yes	20-Aug-99	785	North Road	0.9	13.7	na	61.0	89	89.3	88.1	75.6	na	28.0	0.13
123439	No	30-Oct-12	730	Church Street	3.7	11.6	na	76.2	94	94.3	90.3	82.7	na	17.8	0.63
Minimum					0.6	3.7		9.1	89		87	75	44	-31	0.001
Median					2.1	11.9		55	96		93	82	65	45	0.13
Average					2.4	12.2		53	95		93	83	65	42	0.21
Maximum					5.8	27.4		122	108		107	101	86	87	0.6

Notes

Number of wells = 16

na = Data not available

1) See locations of wells on Fig. 2

SWL = Static water level at the time of well construction

2) Data on wells is from MOE G-wells website.

PWS = Principal water source entering the bedrock well (see Note 5)

3) Elevations of ground surface are based on Google Earth map and Fig. 3 contours.

4) The casing stick up is assumed to be 0.3m for all wells and all depths to water were measured from the top of the casing.

5) PWS depths are only presented here for Tin Can Alley wells and are only based on driller's logs.

Table II

Information on Local Area Wells - Address

Well Tag Number	Licenced ?	Construction Start Date	Address		Depth to (metres)				Elevation (m-asl)						Yield L/s
			No	Street	Bedrock	SWL	PWS	Well bottom	Collar	Top Casing	Bedrock	SWL	PWS	Well bottom	
69506	No	3-Sep-92	730	Church Street	2.4	21.3	na	61.0	96	96.3	93.6	75.0	na	35.0	0.13
102040	No	6-Jul-07	730	Church Street	na	18.3	na	67.1	96	96.3	na	78.0	na	28.9	0.13
123439	No	30-Oct-12	730	Church Street	3.7	11.6	na	76.2	94	94.3	90.3	82.7	na	17.8	0.63
42758	No	1-Jul-79	785	North Road	2.1	3.7	na	21.3	89	89.3	86.9	85.6	na	67.7	0.38
64324	No	11-Mar-89	785	North Road	na	10.7	na	54.9	89	89.3	na	78.6	na	34.1	0.06
106605	Yes	20-Aug-99	785	North Road	0.9	13.7	na	61.0	89	89.3	88.1	75.6	na	28.0	0.13
73096	No	21-Jul-93	790	North Road	1.5	12.2	na	106.7	91	91.3	89.5	79.1	na	-15.7	0.06
73233	No	13-Aug-96	790	North Road	2.4	9.1	na	121.9	91	91.3	88.6	82.2	na	-30.9	0.00
106527	No	14-Sep-96	790	North Road	na	15.2	na	45.7	91	91.3	na	76.1	na	45.3	0.16
106528	No	14-Sep-96	790	North Road	na	15.2	na	45.7	91	91.3	na	76.1	na	45.3	0.16
31981	No	6-Jan-75	796	North Road	0.6	7.6	na	24.4	96	96.3	95.4	88.7	na	71.6	0.35
42244	No	1-May-79	811	North Road	0.9	na	na	13.7	96	96.3	95.1	na	na	82.3	0.38
5376	No	1-Jan-50	815	North Road	4.6	4.6	na	9.14	96	96.3	91.4	91.7	na	86.9	na
64372	No	20-Apr-90	815	North Road	3.4	12.2	36.9	39.6	96	96.3	92.6	84.1	59.1	56.4	0.63
106406	No	29-Oct-03	818	North Road	5.8	3.7	18.3	29.0	104	104.3	98.2	100.6	85.7	75.0	0.13
73066	No	23-Sep-94	700	Tin Can Alley	0.9	27.4	36.6	61.0	108	108.3	107.1	80.9	71.4	47.0	0.06
73075	No	7-Jul-93	750	Tin Can Alley	1.5	9.1	53.3	56.4	97.7	98	96.2	88.9	44.4	41.3	0.05
Minimum					0.6	3.7		9.1	89		87	75	44	-31	0.001
Median					2.1	11.9		55	96		93	82	65	45	0.13
Average					2.4	12.2		53	95		93	83	65	42	0.21
Maximum					5.8	27.4		122	108		107	101	86	87	0.6

Notes

Number of wells = 16

na = Data not available

1) See locations of wells on Fig. 2

SWL = Static water level at the time of well construction

2) Data on wells is from MOE G-wells website.

PWS = Principal water source entering the bedrock well (see Note 5)

3) Elevations of ground surface are based on Google Earth map and Fig. 3 contours.

4) The casing stick up is assumed to be 0.3m for all wells and all depths to water were measured from the top of the casing.

5) PWS depths are only presented here for Tin Can Alley wells and are only based on driller's logs.

Table III

Well Capture Zone and Recharge Analysis

Capture Zone

Formula	Symbol	Parameter	Note No	Value	Unit
$Y = Q/2Ti$ $X = Y/\pi$	Q	Pumping rate	1	6.52	m ³ /d
				0.075	L/s
				1.0	lgpm
				1,440	gpd
	T	Transmissivity	2	7.0E-06	m ² /s
				0.6	m ² /d
	i	Gradient	3	0.083	
	Y	half width	4	64.7	m
	2Y	Width		129.4	m
	x	down distance	4	20.6	m

Well Recharge Estimate

Annual precipitation	5	925	mm/yr
Infiltration rate	6	15%	%
Area of capture zone	7	18,500	m ²
Recharge to well 73075		2,567	m ³ /yr
		7.0	m ³ /day
		0.08	L/s
		1.1	lgpm

Notes:

- 1) Sustainable pumping rate based on constant rate pumping test analysis.
- 2) Transmissivity from second leg of constant rate test (see Fig. 9)
- 3) Gradient based on estimated piezometric trend indicated on Fig. 2
- 4) See capture zone dimension illustration below
- 5) Annual precipitation based on 30 year average for Nanaimo Airport
- 6) Infiltration factor typical for Saturna well drained soils.
- 7) See capture zone outlined on Fig. 2

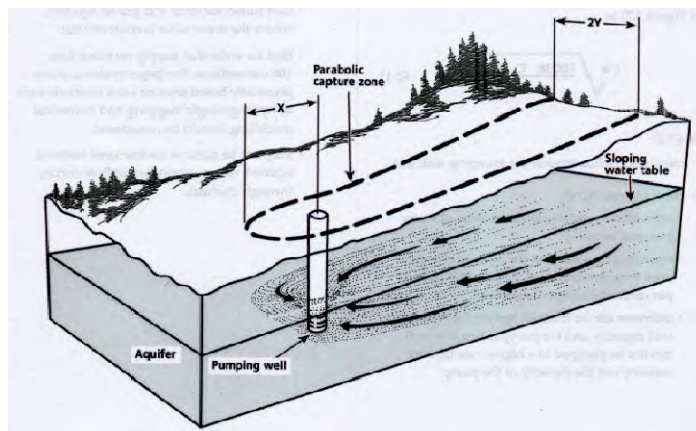


Table IV
Potential Net Withdrawals From Aquifer

Item	Litres/ Day	L/s
Estimated current water usage		
Watering gardens (see Note 1)	4,086	0.047
Washroom discharge to septic system	180	0.002
Total	4,266	0.049
Existing septic system recharge to aquifer (80% of discharge)	144	0.0017
Net withdrawal from aquifer	4,122	0.048
Existing well yield (see Note 2)	6,912	0.08
Water available for future development	2,790	0.032
80% septic system recharge to aquifer, from future development.	2,232	0.026
Net future withdrawal from aquifer	558	0.006
Present and future net withdrawal from aquifer	4,680	0.054
Net increase in aquifer withdrawal after new development	13.5%	13.5%
Conservative estimate of yield from a 2nd well (if required) (Note 3)	5,184	0.060
Yield from two wells	12,096	0.14
Available for future development	7,830	0.091
80% of Septic system recharge to aquifer from future development	6,264	0.073
Existing septic system recharge to aquifer (80% of discharge)	144	0.0017
Total septic system recharge to aquifer	6,408	0.0742
Present and future net withdrawal from aquifer	5,688	0.066
Net increase in aquifer withdrawal resulting from adding a 2nd well.	21.5%	21.5%

Notes

- 1) Watering is based on 3 hours of watering with two garden hoses per day.
- 2) An analysis of the yield from the existing well is presented on Fig. 9.
- 3) The location of a potential future well (if required) is indicated on Fig. 2.

Figures

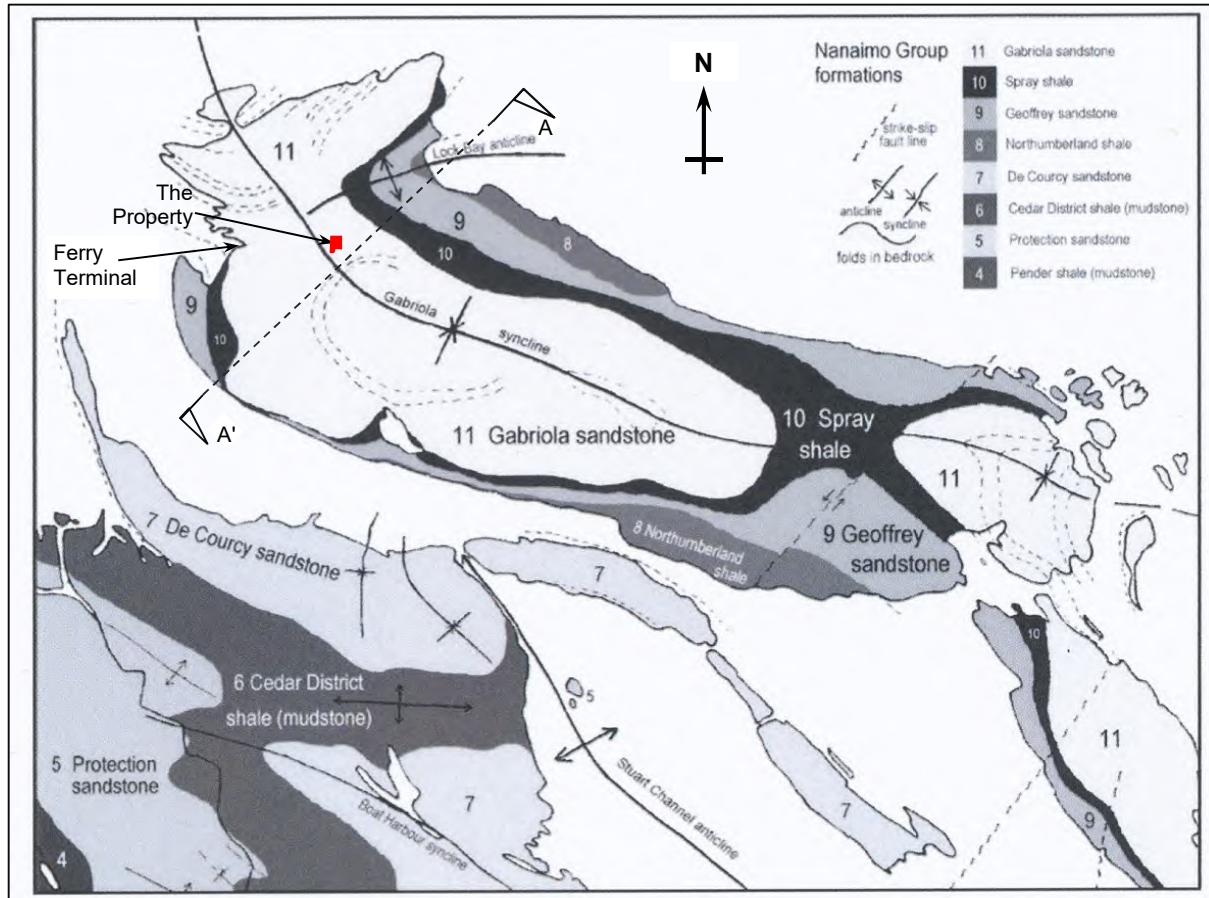


Fig. 1A

Scale (1:100,000)
0 1 2Km

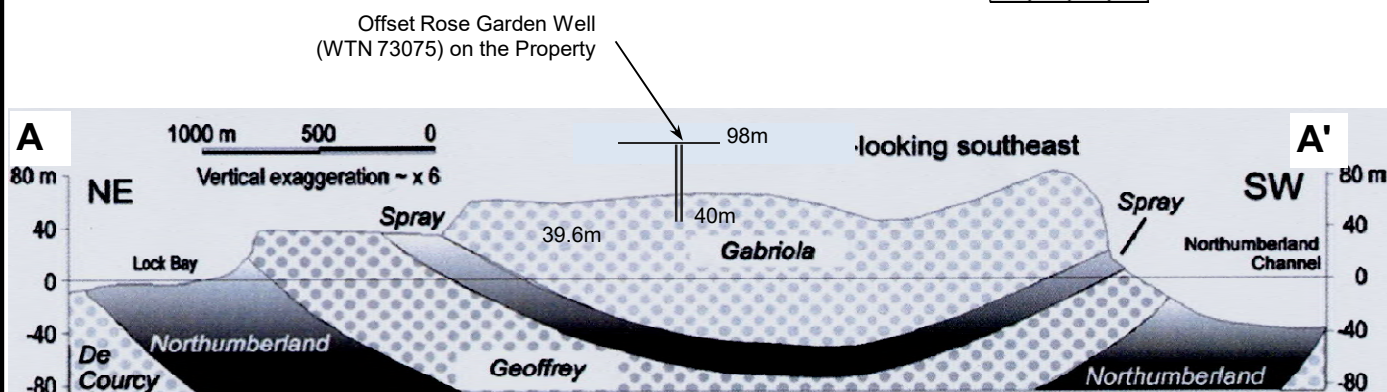


Fig. 1B

NOTES

1) Diagrams adapted from SRK Consulting April 2013, which were sourced from: SHALE No. 1 2000 and Earle and Krogh 2004

Alley Enterprises Ltd

ELANCO ENTERPRISES LTD.
Victoria, B.C. (250 744-1357)

Assessment of Sustainable Yield from Wild
Rose Farm and Garden Centre Well, 750 Tin
Can Alley, Gabriola Island, B.C.

Bedrock Geology
Nanaimo Group

Drawn:

[Signature]

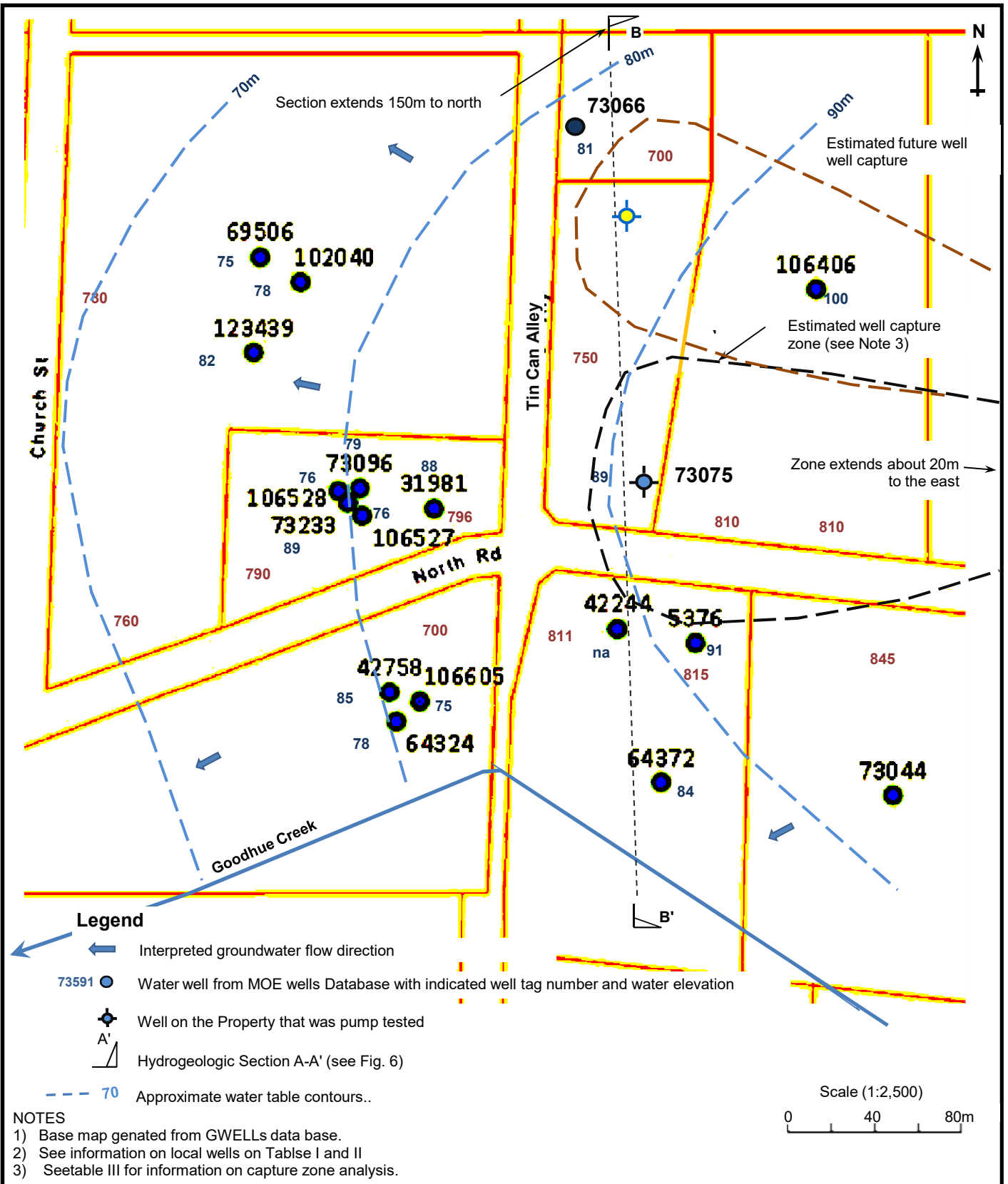
Date

Oct. 2023

Approved:

Fig.

1



Alley Enterprises Ltd	ELANCO ENTERPRISES LTD. Victoria, B.C. (250 744-1357) Permit to Practice No: 1001505				
Assessment of Sustainable Yield from Wild Rose Farm and Garden Centre Well, 750 Tin Can Alley, Gabriola Island, B.C.	Property Location Map. <table border="1"> <tr> <td>Drawn: </td> <td>Date Oct. 2023</td> </tr> <tr> <td>Approved:</td> <td>Fig. 2</td> </tr> </table>	Drawn:	Date Oct. 2023	Approved:	Fig. 2
Drawn:	Date Oct. 2023				
Approved:	Fig. 2				

Church Street

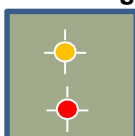


The Property

North Road

Tin Can Alley

Legend



Pumped well (73075)

Monitored well (73066)

Scale (1:2,500)

0 40 80m

NOTES

- 1) Map generated from Regional District of Nanaimo interactive web map.
- 2) Contours are in m-asl at 2m intervals.

Alley Enterprises Ltd

ELANCO ENTERPRISES LTD.
Victoria, B.C. (250 744-1357)
Permit to Practice No: 1001505

**Assessment of Sustainable Yield from Wild
 Rose Farm and Garden Centre Well, 750
 Tin Can Alley, Gabriola Island, B.C.**

Property Location Map.

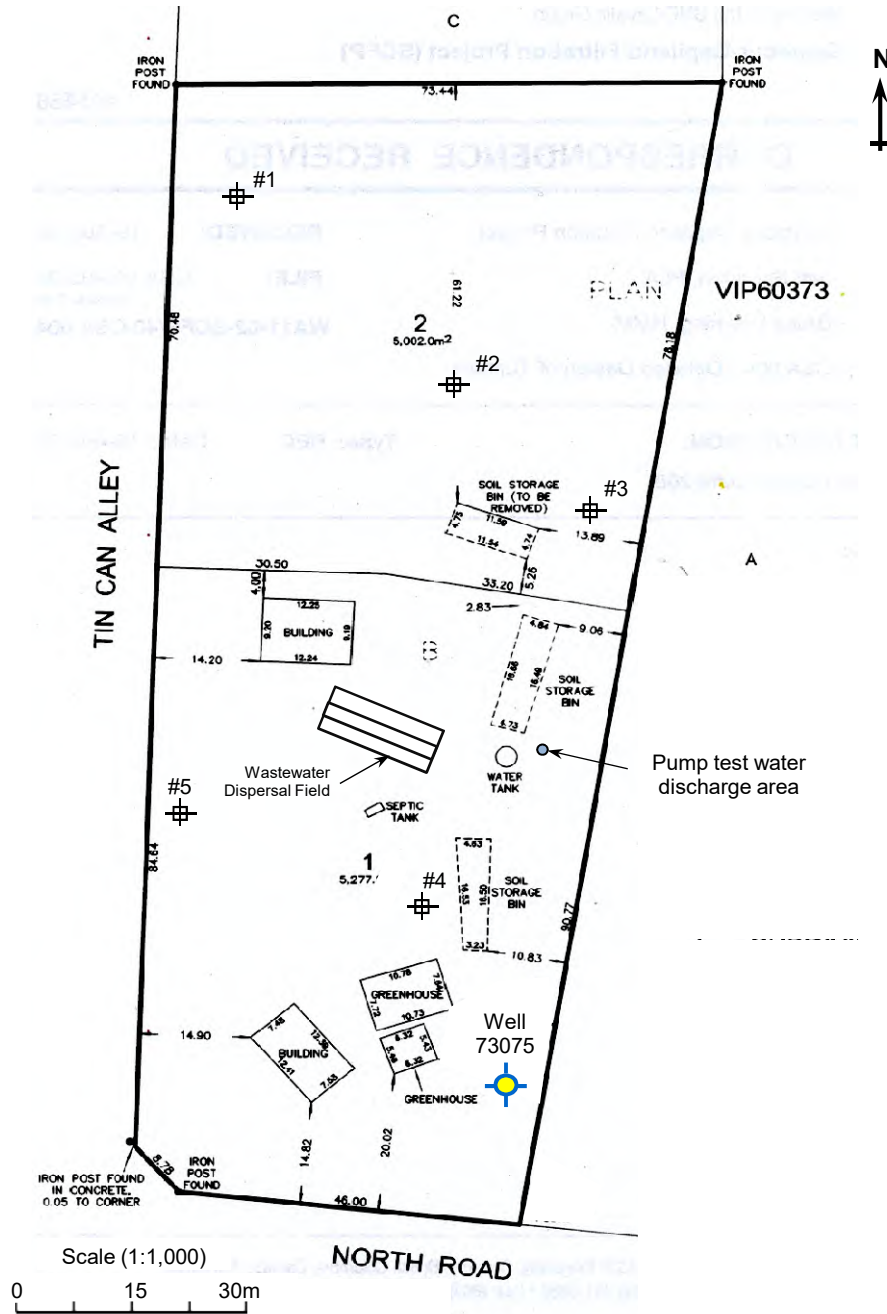
Drawn:

Date

Oct. 2023

Approved:

Fig. **3**



Legend

NOTES

- 1) See location of the Property on Figs.1 and 2.
- 2) Surveyed base map prepared by J.E. Anderson & Associates
- 3) Locations of geotechnical test pits indicated on Lewkowich Engineering Associates Ltd. Map F9892-01.

Alley Enterprises Ltd

ELANCO ENTERPRISES LTD.
Victoria, B.C. (250 744-1357)
Permit to Practice No: 1001505

**Assessment of Sustainable Yield from Wild
 Rose Farm and Garden Centre Well, 750
 Tin Can Alley, Gabriola Island, B.C.**

Plan of the Property

Drawn:

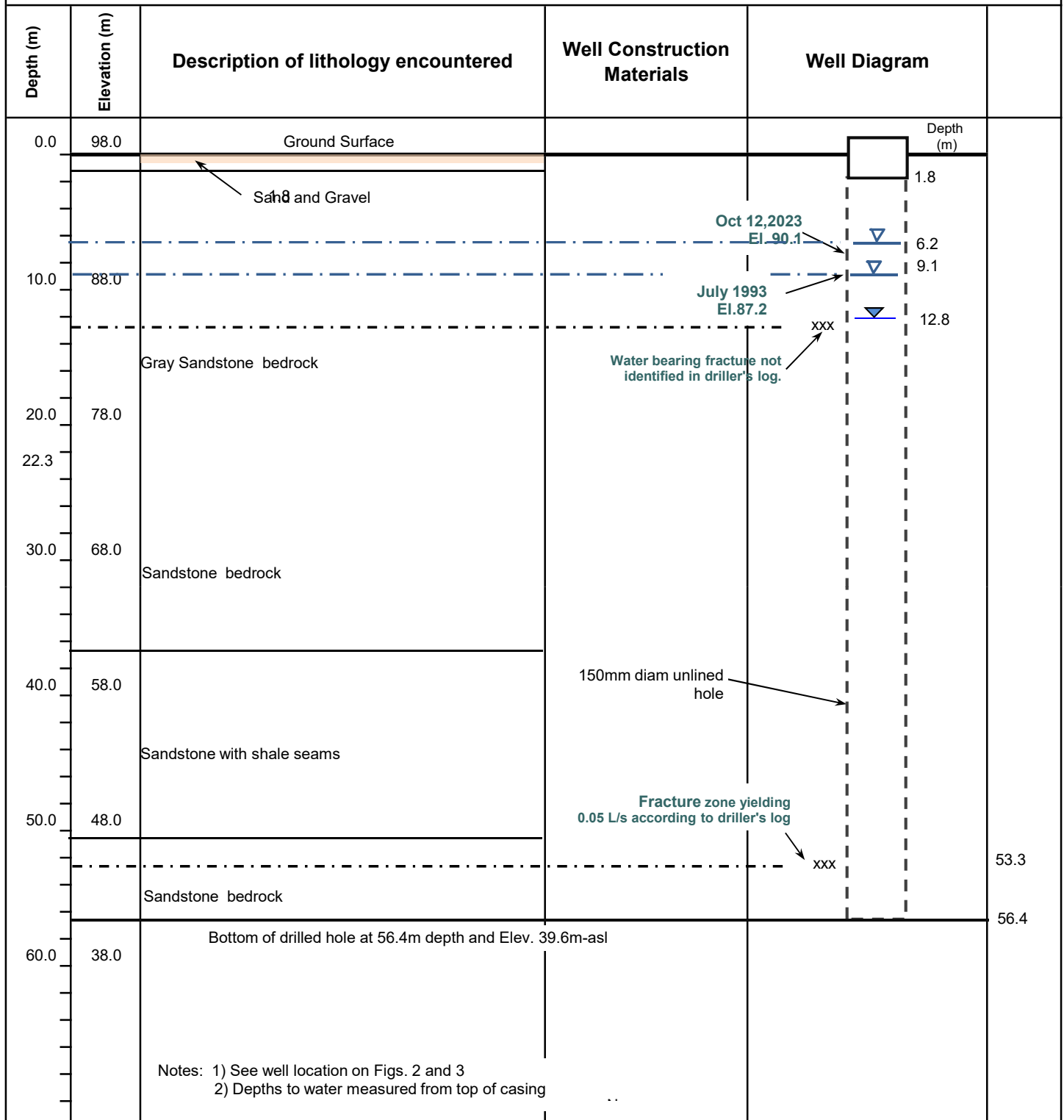
Date
 Oct. 2023

Approved:

Fig. **4**

JOB NUMBER : 249

Borehole No:	Wild Rose Well	Well Tag No. 73075	Constructed By:	Windecker Water Wells
Date Drilled:	July 1993		Hole Diameter:	150 mm
Method:	Air rotary		Ground elevation:	98.00 m-asl
Datum above ground (m):	0.30		Depth to water at construction :	70.1 m-below top of casing
Elevation top of flange (m-asl):	98.3		Depth to water below ground:	22.6 m-bg

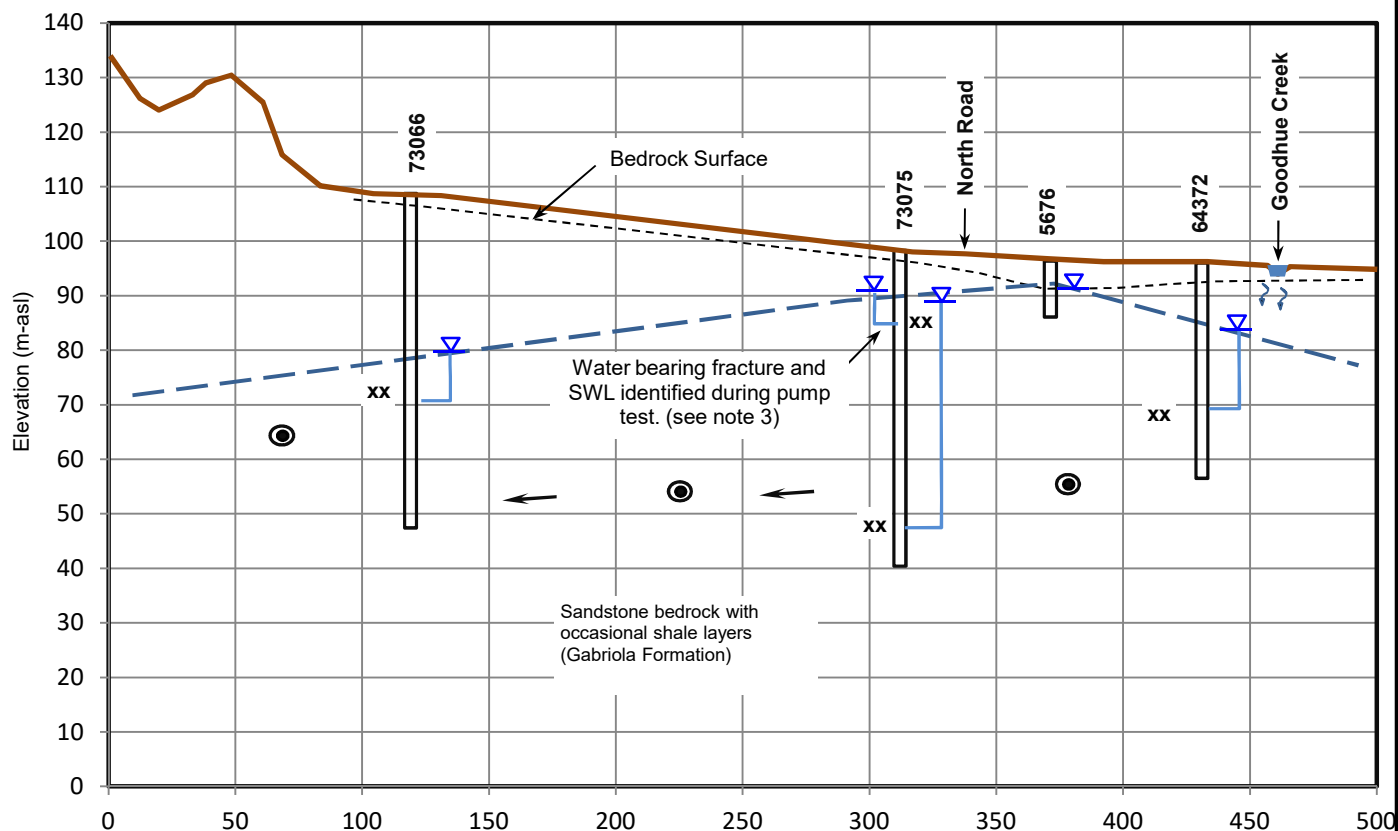
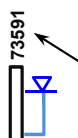


Alley Enterprises Ltd	ELANCO ENTERPRISES LTD. Victoria, B.C. (250 744-1357) Permit to Practice No: 1001505	
Assessment of Sustainable Yield from Wild Rose Farm and Garden Centre Well, 750 Tin Can Alley, Gabriola Island, B.C.	Rose Garden Well	BY: rad DATE: Oct. 2023 APPROVED:  Fig. 5

B

North

South

B'**Legend**

Well tag number (see data on Table I)

Well with indicated piezometric level

xx

Water bearing fracture zone identified in the driller's log. Likely the principal water source (PWS), unless determined otherwise.

Interpreted groundwater flow direction



In plane of section



Into section



Out of section

Horizontal Scale (1:3,000)

0 40 80m

Vertical exaggeration = 2

NOTES

- 1) See location of Section on Fig. 2. and details of wells on Tables I and II.
- 2) A principal water bearing fracture zone was identified during the pump testing of Well 73075. See details on Fig. 8.

Alley Enterprises Ltd**ELANCO ENTERPRISES LTD.****Victoria, B.C. (250 744-1357)****Permit to Practice No: 1001505**

**Assessment of Sustainable Yield from Wild
Rose Farm and Garden Centre Well, 750
Tin Can Alley, Gabriola Island, B.C.**

Section B - B'

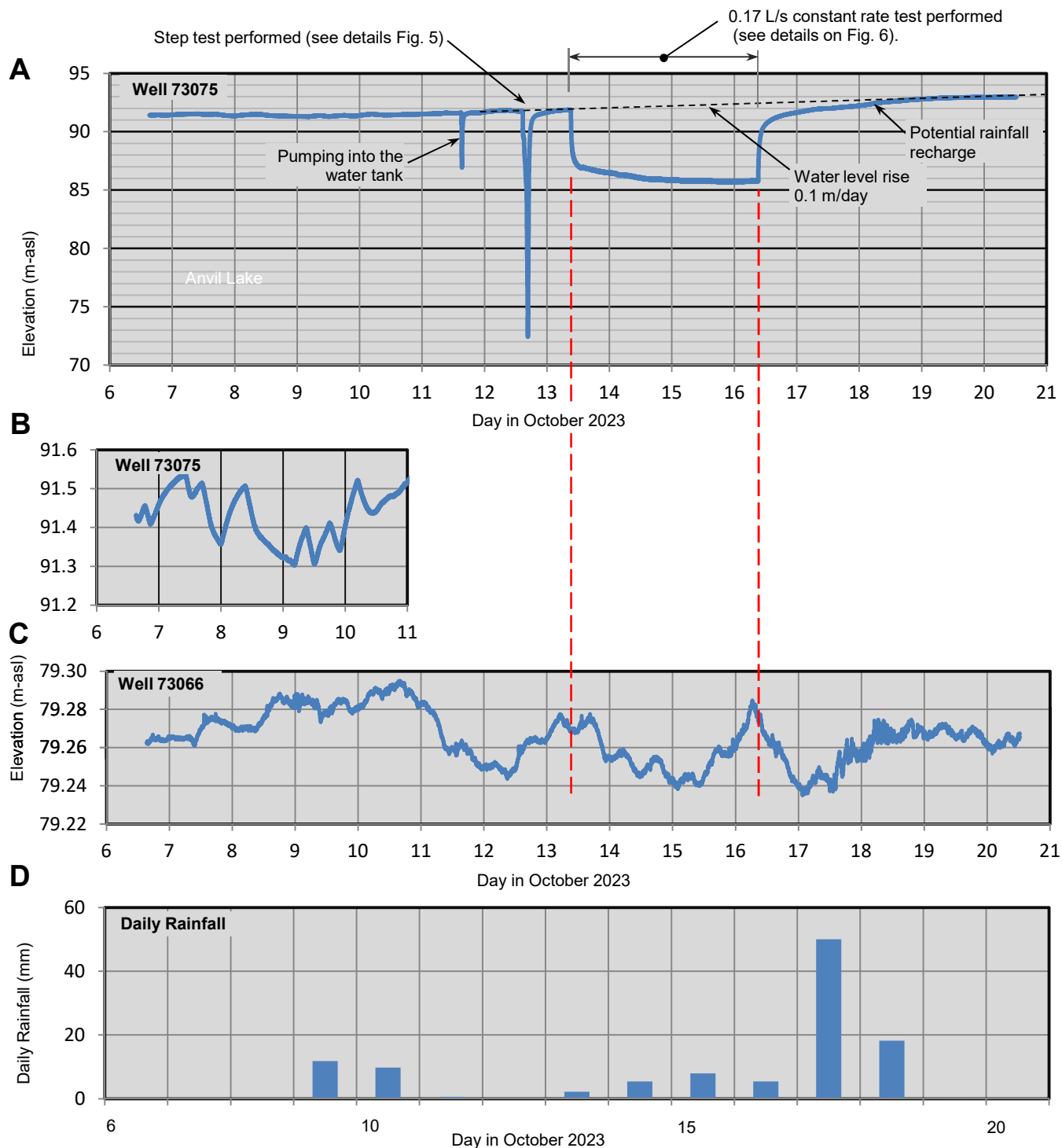
Drawn:

Date

Oct. 2023

Approved:

Fig. **6**



NOTES

- 1) See location of wells on Figs. 1 and 2
- 2) Water level trends based on 1-minute interval data logger record.
- 3) Daily rainfall based on Environment Canada's Nanaimo City Yard station.

Alley Enterprises Ltd

ELANCO ENTERPRISES LTD.
Victoria, B.C. (250 744-1357)
Permit to Practice No: 1001505

**Assessment of Sustainable Yield from Wild
 Rose Farm and Garden Centre Well, 750
 Tin Can Alley, Gabriola Island, B.C.**

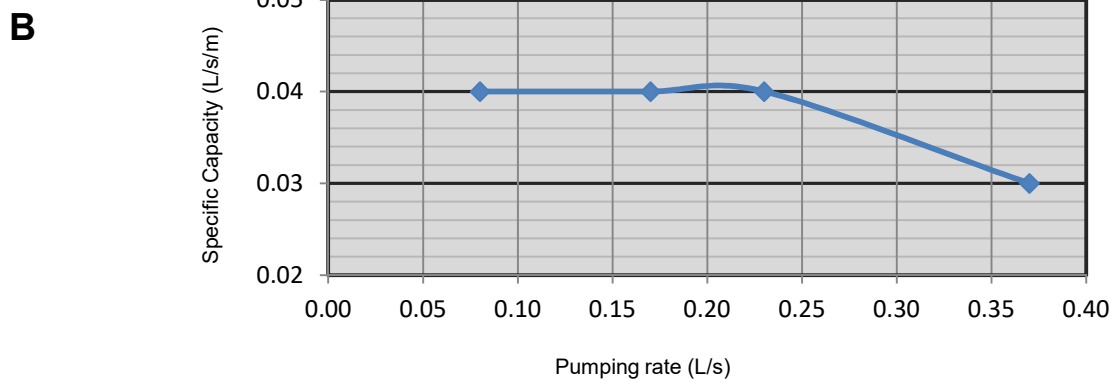
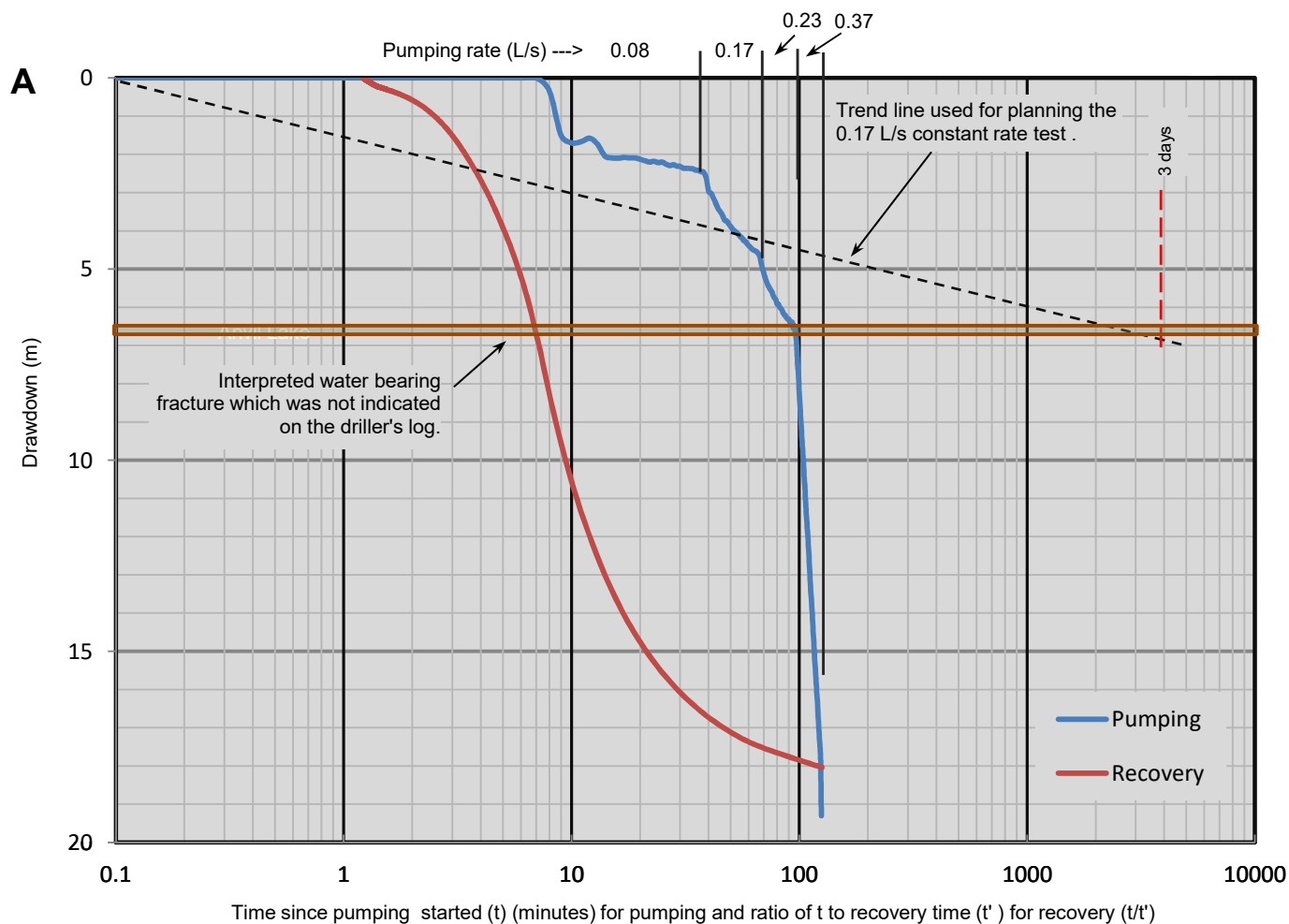
Water Level Elevation Trends

Drawn:

Approved:

Date
Oct. 2023

Fig. **7**



NOTES

- 1) See location of well on Fig.2 and water level trends on Fig. 7.
- 2) Test was conducted on October 12, 2023
- 3) Data is based on 1minute data logger readings which was compared with manual depth to water measurements.

Alley Enterprises Ltd

ELANCO ENTERPRISES LTD.
Victoria, B.C. (250 744-1357)
Permit to Practice No: 1001505

**Assessment of Sustainable Yield from Wild
 Rose Farm and Garden Centre Well, 750
 Tin Can Alley, Gabriola Island, B.C.**

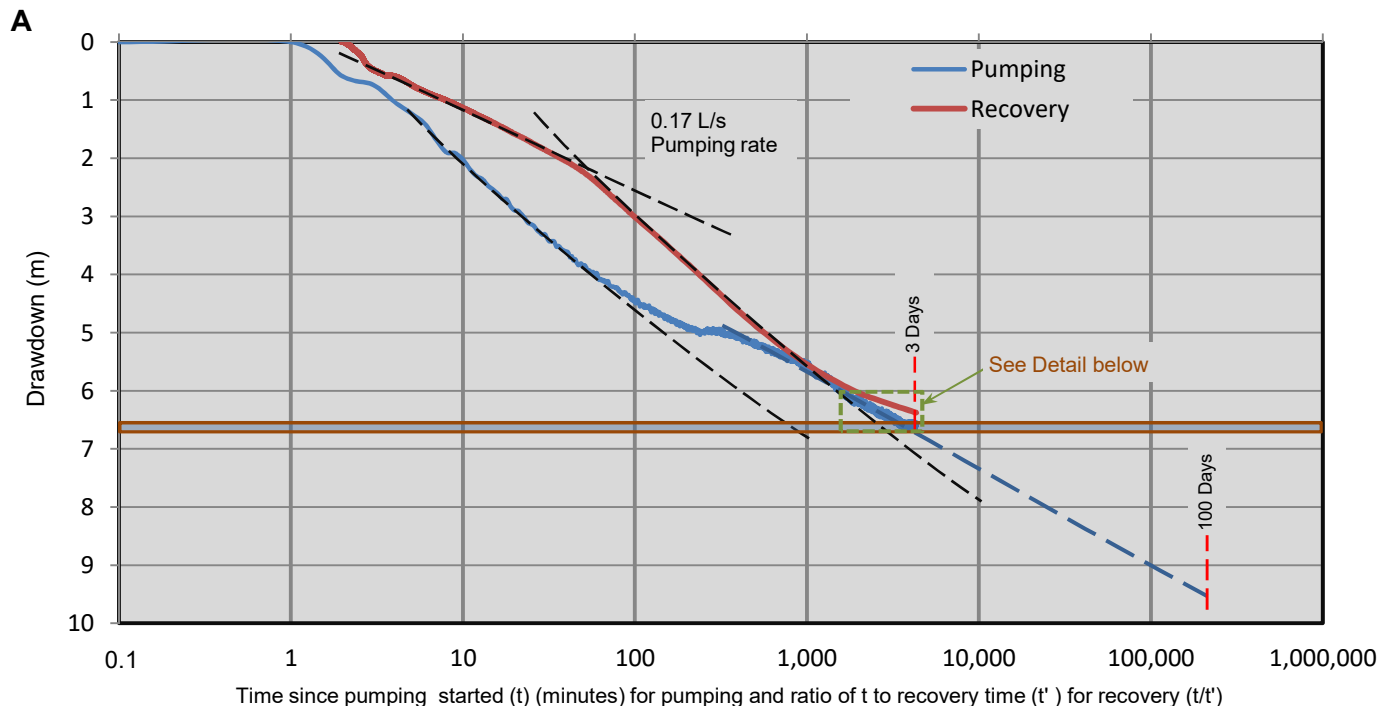
**Graphs of Step Pump Test
 Conducted on Well 73075**

Drawn:

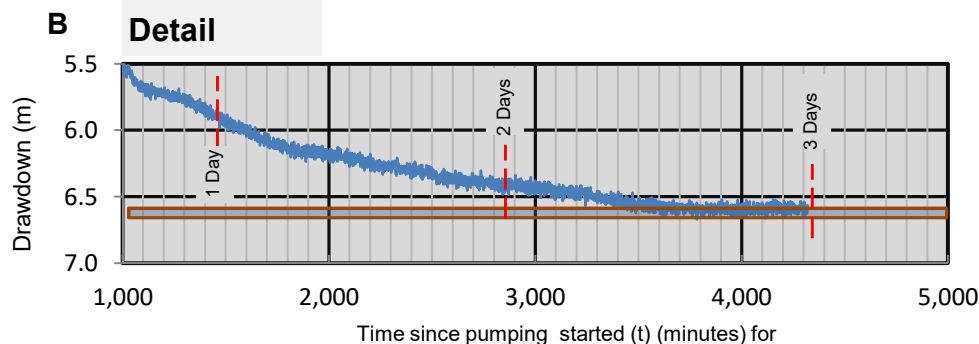
Date
 Oct. 2023

Approved:

Fig. **8**



Available drawdown (m) =



Available drawdown (m) = 6.6

Upper fracture

Available drawdown (m) = 38.2

Lower fracture

$$\text{Transmissivity} = 1.83 \times 10^{-4} \times Q / \Delta S$$

Q (L/s)	ΔS (m)	T (m ² /s)
0.07	2.5	5.1E-06
0.07	2.5	5.1E-06
0.07	1.7	7.5E-06
0.07	1.3	9.9E-06

First Leg

Pumping

Recovery

Second Leg

Pumping

Recovery

6.0 m³/d

	Drawdown	Sp Cap L/s/m	L/s	m ³ /d
Tested	9.5	0.007	0.07	6
Upper	5.0	0.007	0.04	3
Lower	28.6	0.007	0.21	18

NOTE8

75% of 100 year

- 1) See location of well on Fig. 2 and water level trends on Fig. 7.
- 2) Pump test was monitored by B. Strachan of Gabriola Waterworks.
- 3) Water levels based on data logger readings at 1 minute intervals.
- 4) Pumping rates were calculated from intermittent flow meter volume and time readings.

Sustainable Well Yield =

Fracture Zone
Upper Bottom

0.04	0.21	L/s
0.48	2.8	lgpm
3.2	18.2	m ³ /d

Alley Enterprises Ltd

ELANCO ENTERPRISES LTD.
Victoria, B.C. (250 744-1357)

Assessment of Sustainable Yield from Wild Rose Farm and Garden Centre Well, 750 Tin Can Alley, Gabriola Island, B.C.

Graphs of Constant Rate Pump Test Conducted on Well 73075

Drawn:

RO

Date

Oct. 2023

Approved:

Fig.

9

85

Appendix A

Laboratory Report on Well Water Quality



Your P.O. #: 03-P-23073
 Your Project #: ALLEY ENTERPRISES
 Your C.O.C. #: 08511715

Attention: Bryan Richardson

Andrew Sheret - Nanaimo
 2545 McCullough Rd
 Nanaimo, BC
 Canada V9S 4M9

Report Date: 2022/09/06
 Report #: R3227015
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C265290

Received: 2022/08/30, 09:00

Sample Matrix: Drinking Water
 # Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity @25C (pp, total), CO ₃ ,HCO ₃ ,OH	1	N/A	2022/08/31	BBY6SOP-00026	SM 23 2320 B m
Chloride/Sulphate by Auto Colourimetry	1	N/A	2022/08/31	BBY6SOP-00011 / BBY6SOP-00017	SM23-4500-Cl/SO ₄ -E m
Colour (True) by Kone Lab	1	N/A	2022/08/31	BBY6SOP-00057	SM 23 2120 C m
Conductivity @25C	1	N/A	2022/08/31	BBY6SOP-00026	SM 23 2510 B m
Fluoride	1	N/A	2022/08/31	BBY6SOP-00048	SM 23 4500-F C m
Hardness Total (calculated as CaCO ₃) (1)	1	N/A	2022/09/02	BBY WI-00033	Auto Calc
Mercury (Total) by CV	1	2022/09/01	2022/09/01	AB SOP-00084	BCMOE BCLM Oct2013 m
Na, K, Ca, Mg, S by CRC ICPMS (total)	1	N/A	2022/09/02	BBY WI-00033	Auto Calc
Elements by CRC ICPMS (total)	1	N/A	2022/09/01	BBY7SOP-00003 / BBY7SOP-00002	EPA 6020b R2 m
Nitrate + Nitrite (N)	1	N/A	2022/09/01	BBY6SOP-00010	SM 23 4500-NO ₃ - I m
Nitrite (N) by CFA	1	N/A	2022/09/01	BBY6SOP-00010	SM 23 4500-NO ₃ - I m
Nitrogen - Nitrate (as N)	1	N/A	2022/09/02	BBY WI-00033	Auto Calc
pH @25°C (2)	1	N/A	2022/08/31	BBY6SOP-00026	SM 23 4500-H+ B m
Total Dissolved Solids (Filt. Residue)	1	2022/09/02	2022/09/06	BBY6SOP-00033	SM 23 2540 C m
Tot Coliform/E.Coli by MF-Chromocult(PW)	1	N/A	2022/08/30	BBY4SOP-00143	Merck KGaA Version 1
Turbidity	1	N/A	2022/08/31	BBY6SOP-00027	SM 23 2130 B m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.



Your P.O. #: 03-P-23073
Your Project #: ALLEY ENTERPRISES
Your C.O.C. #: 08511715

Attention: Bryan Richardson

Andrew Sheret - Nanaimo
2545 McCullough Rd
Nanaimo, BC
Canada V9S 4M9

Report Date: 2022/09/06
Report #: R3227015
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C265290

Received: 2022/08/30, 09:00

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) "Total Hardness" was calculated from Total Ca and Mg concentrations and may be biased high (Hardness, or Dissolved Hardness, calculated from Dissolved Ca and Mg, should be used for compliance if available).

(2) The CCME method requires pH to be analysed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME holding time. Bureau Veritas endeavours to analyze samples as soon as possible after receipt.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Customer Solutions, Western Canada Customer Experience Team

Email: customersolutionswest@bureauveritas.com

Phone# (604) 734 7276

=====

This report has been generated and distributed using a secure automated process.

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



Bureau Veritas Job #: C265290
Report Date: 2022/09/06

Andrew Sheret - Nanaimo
Client Project #: ALLEY ENTERPRISES
Your P.O. #: 03-P-23073

DRINKING WATER PACKAGE (REGULATED)

Bureau Veritas ID					BAR842		
Sampling Date					2022/08/29 08:40		
COC Number					08511715		
	UNITS	MAC	AO	OG	PRE CISTERN	RDL	QC Batch
ANIONS							
Nitrite (N)	mg/L	1	-	-	<0.0050	0.0050	A703749
Calculated Parameters							
Total Hardness (CaCO3)	mg/L	-	-	-	3.17	0.50	A699157
Nitrate (N)	mg/L	10	-	-	0.028	0.020	A699237
Misc. Inorganics							
Conductivity	uS/cm	-	-	-	370	2.0	A702188
pH	pH	-	-	7.0:10.5	7.96	N/A	A702185
Total Dissolved Solids	mg/L	-	500	-	220	10	A704214
Anions							
Alkalinity (PP as CaCO3)	mg/L	-	-	-	<1.0	1.0	A702193
Alkalinity (Total as CaCO3)	mg/L	-	-	-	150	1.0	A702193
Bicarbonate (HCO3)	mg/L	-	-	-	180	1.0	A702193
Carbonate (CO3)	mg/L	-	-	-	<1.0	1.0	A702193
Dissolved Fluoride (F)	mg/L	1.5	-	-	0.11	0.050	A700462
Hydroxide (OH)	mg/L	-	-	-	<1.0	1.0	A702193
Chloride (Cl)	mg/L	-	250	-	21	1.0	A701293
Sulphate (SO4)	mg/L	-	500	-	13	1.0	A701293
MISCELLANEOUS							
True Colour	Col. Unit	-	15	-	8.2	5.0	A701243
Nutrients							
Nitrate plus Nitrite (N)	mg/L	-	-	-	0.028	0.020	A703745
Physical Properties							
Turbidity	NTU	see remark	see remark	see remark	0.45	0.10	A700499
Elements							
Total Mercury (Hg)	ug/L	1	-	-	<0.0019	0.0019	A701694
Total Metals by ICPMS							
Total Aluminum (Al)	ug/L	2900	-	100	18.8	3.0	A700455
Total Antimony (Sb)	ug/L	6	-	-	<0.50	0.50	A700455
Total Arsenic (As)	ug/L	10	-	-	0.12	0.10	A700455
Total Barium (Ba)	ug/L	2000	-	-	<1.0	1.0	A700455
Total Boron (B)	ug/L	5000	-	-	182	50	A700455
No Fill	No Exceedance						
Grey	Exceeds 1 criteria policy/level						
Black	Exceeds both criteria/levels						
RDL = Reportable Detection Limit							
N/A = Not Applicable							



Bureau Veritas Job #: C265290
Report Date: 2022/09/06

Andrew Sheret - Nanaimo
Client Project #: ALLEY ENTERPRISES
Your P.O. #: 03-P-23073

DRINKING WATER PACKAGE (REGULATED)

Bureau Veritas ID					BAR842		
Sampling Date					2022/08/29 08:40		
COC Number					08511715		
	UNITS	MAC	AO	OG	PRE CISTERN	RDL	QC Batch
Total Cadmium (Cd)	ug/L	7	-	-	<0.010	0.010	A700455
Total Chromium (Cr)	ug/L	50	-	-	<1.0	1.0	A700455
Total Cobalt (Co)	ug/L	-	-	-	<0.20	0.20	A700455
Total Copper (Cu)	ug/L	2000	1000	-	3.00	0.20	A700455
Total Iron (Fe)	ug/L	-	300	-	19.7	5.0	A700455
Total Lead (Pb)	ug/L	5	-	-	<0.20	0.20	A700455
Total Manganese (Mn)	ug/L	120	20	-	2.4	1.0	A700455
Total Molybdenum (Mo)	ug/L	-	-	-	<1.0	1.0	A700455
Total Nickel (Ni)	ug/L	-	-	-	<1.0	1.0	A700455
Total Selenium (Se)	ug/L	50	-	-	<0.10	0.10	A700455
Total Silicon (Si)	ug/L	-	-	-	14000	100	A700455
Total Silver (Ag)	ug/L	-	-	-	<0.020	0.020	A700455
Total Strontium (Sr)	ug/L	7000	-	-	15.5	1.0	A700455
Total Uranium (U)	ug/L	20	-	-	<0.10	0.10	A700455
Total Vanadium (V)	ug/L	-	-	-	<5.0	5.0	A700455
Total Zinc (Zn)	ug/L	-	5000	-	<5.0	5.0	A700455
Total Calcium (Ca)	mg/L	-	-	-	1.05	0.050	A699236
Total Magnesium (Mg)	mg/L	-	-	-	0.133	0.050	A699236
Total Potassium (K)	mg/L	-	-	-	0.107	0.050	A699236
Total Sodium (Na)	mg/L	-	200	-	89.8	0.050	A699236
Total Sulphur (S)	mg/L	-	-	-	3.3	3.0	A699236
Microbiological Param.							
Total Coliforms	CFU/100mL	0	-	-	12	N/A	A699457
E. coli	CFU/100mL	0	-	-	0	N/A	A699457
No Fill	No Exceedance						
Grey	Exceeds 1 criteria policy/level						
Black	Exceeds both criteria/levels						
RDL = Reportable Detection Limit							
N/A = Not Applicable							



GENERAL COMMENTS

MAC,AO,OG: The guidelines that have been included in this report have been taken from the Canadian Drinking Water Quality Summary Table, September 2020.

Criteria A = Maximum Acceptable Concentration (MAC) / Criteria B = Aesthetic Objectives (AO) / Criteria C = Operational Guidance Values (OG)

It is recommended to consult these guidelines when interpreting your data since there are non-numerical guidelines that are not included on this report.

Turbidity Guidelines:

1. Chemically assisted filtration: less than or equal to 0.3 NTU in 95% of the measurements or 95% of the time each month. Shall not exceed 1.0 NTU at any time.
2. Slow sand / diatomaceous earth filtration: less than or equal to 1.0 NTU in 95% of the measurements or 95% of the time each month. Shall not exceed 3.0 NTU at any time.
3. Membrane filtration: less than or equal to 0.1 NTU in 99% of the measurements made or at least 99% of the time each calendar month. Shall not exceed 0.3 NTU at any time.
4. To ensure effectiveness of disinfection and for good operation of the distribution system, it is recommended that water entering the distribution system have turbidity levels of 1.0 NTU or less.

Measurement of Uncertainty has not been accounted for when stating conformity to the selected criteria, where applicable.

Results relate only to the items tested.



Bureau Veritas Job #: C265290
Report Date: 2022/09/06

Andrew Sheret - Nanaimo
Client Project #: ALLEY ENTERPRISES
Your P.O. #: 03-P-23073

QUALITY ASSURANCE REPORT

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A700455	MYO	Matrix Spike	Total Aluminum (Al)	2022/09/01		110	%	80 - 120	
			Total Antimony (Sb)	2022/09/01		101	%	80 - 120	
			Total Arsenic (As)	2022/09/01		105	%	80 - 120	
			Total Barium (Ba)	2022/09/01		98	%	80 - 120	
			Total Boron (B)	2022/09/01		NC	%	80 - 120	
			Total Cadmium (Cd)	2022/09/01		99	%	80 - 120	
			Total Chromium (Cr)	2022/09/01		100	%	80 - 120	
			Total Cobalt (Co)	2022/09/01		94	%	80 - 120	
			Total Copper (Cu)	2022/09/01		95	%	80 - 120	
			Total Iron (Fe)	2022/09/01		NC	%	80 - 120	
			Total Lead (Pb)	2022/09/01		97	%	80 - 120	
			Total Manganese (Mn)	2022/09/01		102	%	80 - 120	
			Total Molybdenum (Mo)	2022/09/01		105	%	80 - 120	
			Total Nickel (Ni)	2022/09/01		96	%	80 - 120	
			Total Selenium (Se)	2022/09/01		104	%	80 - 120	
			Total Silicon (Si)	2022/09/01		NC	%	80 - 120	
			Total Silver (Ag)	2022/09/01		97	%	80 - 120	
			Total Strontium (Sr)	2022/09/01		101	%	80 - 120	
			Total Uranium (U)	2022/09/01		99	%	80 - 120	
			Total Vanadium (V)	2022/09/01		100	%	80 - 120	
			Total Zinc (Zn)	2022/09/01		96	%	80 - 120	
A700455	MYO	Spiked Blank	Total Aluminum (Al)	2022/09/01		101	%	80 - 120	
			Total Antimony (Sb)	2022/09/01		100	%	80 - 120	
			Total Arsenic (As)	2022/09/01		102	%	80 - 120	
			Total Barium (Ba)	2022/09/01		96	%	80 - 120	
			Total Boron (B)	2022/09/01		102	%	80 - 120	
			Total Cadmium (Cd)	2022/09/01		99	%	80 - 120	
			Total Chromium (Cr)	2022/09/01		99	%	80 - 120	
			Total Cobalt (Co)	2022/09/01		97	%	80 - 120	
			Total Copper (Cu)	2022/09/01		99	%	80 - 120	
			Total Iron (Fe)	2022/09/01		100	%	80 - 120	
			Total Lead (Pb)	2022/09/01		99	%	80 - 120	
			Total Manganese (Mn)	2022/09/01		98	%	80 - 120	
			Total Molybdenum (Mo)	2022/09/01		104	%	80 - 120	
			Total Nickel (Ni)	2022/09/01		99	%	80 - 120	
			Total Selenium (Se)	2022/09/01		107	%	80 - 120	
			Total Silicon (Si)	2022/09/01		113	%	80 - 120	
			Total Silver (Ag)	2022/09/01		98	%	80 - 120	
			Total Strontium (Sr)	2022/09/01		96	%	80 - 120	
			Total Uranium (U)	2022/09/01		97	%	80 - 120	
			Total Vanadium (V)	2022/09/01		99	%	80 - 120	
			Total Zinc (Zn)	2022/09/01		100	%	80 - 120	
A700455	MYO	Method Blank	Total Aluminum (Al)	2022/09/01	<3.0		ug/L		
			Total Antimony (Sb)	2022/09/01	<0.50		ug/L		
			Total Arsenic (As)	2022/09/01	<0.10		ug/L		
			Total Barium (Ba)	2022/09/01	<1.0		ug/L		
			Total Boron (B)	2022/09/01	<50		ug/L		
			Total Cadmium (Cd)	2022/09/01	<0.010		ug/L		
			Total Chromium (Cr)	2022/09/01	<1.0		ug/L		
			Total Cobalt (Co)	2022/09/01	<0.20		ug/L		
			Total Copper (Cu)	2022/09/01	<0.20		ug/L		
			Total Iron (Fe)	2022/09/01	<5.0		ug/L		
			Total Lead (Pb)	2022/09/01	<0.20		ug/L		
			Total Manganese (Mn)	2022/09/01	<1.0		ug/L		



Bureau Veritas Job #: C265290

Report Date: 2022/09/06

Andrew Sheret - Nanaimo

Client Project #: ALLEY ENTERPRISES

Your P.O. #: 03-P-23073

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A700455	MYO	RPD	Total Molybdenum (Mo)	2022/09/01	<1.0		ug/L	
			Total Nickel (Ni)	2022/09/01	<1.0		ug/L	
			Total Selenium (Se)	2022/09/01	<0.10		ug/L	
			Total Silicon (Si)	2022/09/01	<100		ug/L	
			Total Silver (Ag)	2022/09/01	<0.020		ug/L	
			Total Strontium (Sr)	2022/09/01	<1.0		ug/L	
			Total Uranium (U)	2022/09/01	<0.10		ug/L	
			Total Vanadium (V)	2022/09/01	<5.0		ug/L	
			Total Zinc (Zn)	2022/09/01	<5.0		ug/L	
			Total Aluminum (Al)	2022/09/01	1.4		%	20
			Total Antimony (Sb)	2022/09/01	NC		%	20
			Total Arsenic (As)	2022/09/01	4.3		%	20
			Total Barium (Ba)	2022/09/01	NC		%	20
			Total Boron (B)	2022/09/01	1.3		%	20
			Total Cadmium (Cd)	2022/09/01	NC		%	20
			Total Chromium (Cr)	2022/09/01	NC		%	20
			Total Cobalt (Co)	2022/09/01	NC		%	20
			Total Copper (Cu)	2022/09/01	0.65		%	20
			Total Iron (Fe)	2022/09/01	0.52		%	20
			Total Lead (Pb)	2022/09/01	NC		%	20
			Total Manganese (Mn)	2022/09/01	2.1		%	20
			Total Molybdenum (Mo)	2022/09/01	NC		%	20
			Total Nickel (Ni)	2022/09/01	NC		%	20
			Total Selenium (Se)	2022/09/01	NC		%	20
			Total Silicon (Si)	2022/09/01	0.69		%	20
			Total Silver (Ag)	2022/09/01	NC		%	20
			Total Strontium (Sr)	2022/09/01	0.67		%	20
			Total Uranium (U)	2022/09/01	NC		%	20
			Total Vanadium (V)	2022/09/01	NC		%	20
			Total Zinc (Zn)	2022/09/01	NC		%	20
A700462	DDE	Matrix Spike	Dissolved Fluoride (F)	2022/08/31		110	%	80 - 120
A700462	DDE	Spiked Blank	Dissolved Fluoride (F)	2022/08/31		108	%	80 - 120
A700462	DDE	Method Blank	Dissolved Fluoride (F)	2022/08/31	<0.050		mg/L	
A700462	DDE	RPD	Dissolved Fluoride (F)	2022/08/31	0		%	20
A700499	EYU	Spiked Blank	Turbidity	2022/08/31		102	%	80 - 120
A700499	EYU	Method Blank	Turbidity	2022/08/31	<0.10		NTU	
A700499	EYU	RPD	Turbidity	2022/08/31	0.58		%	20
A701243	JAV	Spiked Blank	True Colour	2022/08/31		104	%	80 - 120
A701243	JAV	Method Blank	True Colour	2022/08/31	<5.0		Col. Unit	
A701243	JAV	RPD	True Colour	2022/08/31	NC		%	20
A701293	SE5	Matrix Spike	Chloride (Cl)	2022/08/31		122 (1)	%	80 - 120
A701293	SE5	Spiked Blank	Sulphate (SO4)	2022/08/31		112	%	80 - 120
			Chloride (Cl)	2022/08/31		103	%	80 - 120
			Sulphate (SO4)	2022/08/31		106	%	80 - 120
A701293	SE5	Method Blank	Chloride (Cl)	2022/08/31	<1.0		mg/L	
			Sulphate (SO4)	2022/08/31	<1.0		mg/L	
			Chloride (Cl)	2022/08/31	18		%	20
A701293	SE5	RPD	Sulphate (SO4)	2022/08/31	NC		%	20
			Total Mercury (Hg)	2022/09/01		101	%	80 - 120
			Total Mercury (Hg)	2022/09/01		96	%	80 - 120
A701694	BAL	Matrix Spike	Total Mercury (Hg)	2022/09/01	<0.0019		ug/L	
A701694	BAL	Method Blank	Total Mercury (Hg)	2022/09/01	NC		%	20
A701694	BAL	RPD	Total Mercury (Hg)	2022/09/01	NC		%	20
A702185	TSO	Spiked Blank	pH	2022/08/31		101	%	97 - 103
A702185	TSO	RPD	pH	2022/08/31	0.14		%	N/A



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A702188	TSO	Spiked Blank	Conductivity	2022/08/31		101	%	80 - 120
A702188	TSO	Method Blank	Conductivity	2022/08/31	<2.0		uS/cm	
A702193	TSO	Spiked Blank	Alkalinity (Total as CaCO ₃)	2022/08/31		96	%	80 - 120
A702193	TSO	Method Blank	Alkalinity (PP as CaCO ₃)	2022/08/31	<1.0		mg/L	
			Alkalinity (Total as CaCO ₃)	2022/08/31	<1.0		mg/L	
			Bicarbonate (HCO ₃)	2022/08/31	<1.0		mg/L	
			Carbonate (CO ₃)	2022/08/31	<1.0		mg/L	
			Hydroxide (OH)	2022/08/31	<1.0		mg/L	
A703745	YIL	Matrix Spike	Nitrate plus Nitrite (N)	2022/09/01		99	%	80 - 120
A703745	YIL	Spiked Blank	Nitrate plus Nitrite (N)	2022/09/01		104	%	80 - 120
A703745	YIL	Method Blank	Nitrate plus Nitrite (N)	2022/09/01	<0.020		mg/L	
A703745	YIL	RPD	Nitrate plus Nitrite (N)	2022/09/01	NC		%	25
A703749	YIL	Matrix Spike	Nitrite (N)	2022/09/01		97	%	80 - 120
A703749	YIL	Spiked Blank	Nitrite (N)	2022/09/01		98	%	80 - 120
A703749	YIL	Method Blank	Nitrite (N)	2022/09/01	<0.0050		mg/L	
A703749	YIL	RPD	Nitrite (N)	2022/09/01	NC		%	20
A704214	WZ1	Matrix Spike	Total Dissolved Solids	2022/09/06		NC	%	80 - 120
A704214	WZ1	Spiked Blank	Total Dissolved Solids	2022/09/06		93	%	80 - 120
A704214	WZ1	Method Blank	Total Dissolved Solids	2022/09/06	<10		mg/L	
A704214	WZ1	RPD	Total Dissolved Solids	2022/09/06	NC		%	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.



Bureau Veritas Job #: C265290
Report Date: 2022/09/06

Andrew Sheret - Nanaimo
Client Project #: ALLEY ENTERPRISES
Your P.O. #: 03-P-23073

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

A handwritten signature in black ink, appearing to be "David Huang", written over a horizontal line.

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



wldrsgdn@telus.net



Victoria: 480 Tansyden Place, Unit 1, Victoria, BC V8Z 6S3 Ph: (250) 385-6112 Tel Fax: (250) 385-6113
Courtenay: 2755 B Moxy Ave, Courtenay, BC V9M 8J9 Ph: (250) 335-7788 Tel Fax: (250) 665-6568

DRINKING WATER SUBMISSION CHAIN OF CUSTODY RECORD

BV Job #: _____

Company (Invoicing): **ANDREW SHERET LIMITED**

Company (Reporting): **ANDREW SHERET LIMITED**

Contact Name: **BRYAN RICHARDSON**

Mailing Address: **2545 MCCULLOUGH ROAD**

NANAIMO, BC

Phone #: **250-758-7383**

E-mail: **bryan.richardson@sharet.com**

**VANCOUVER ISLAND HEALTH
AUTHORITY**
Medical Health Officer: 1.800.204.6166
Drinking Water Officer: 250.755.6215

Please note your invoice may be
subject to a \$75 minimum bill.

Payment Received: Yes ☐ No ☐

All information on this form must be completed before testing can commence.

If your drinking water source services two or more homes, we strongly recommend that you contact local health authorities to find out how the Drinking Water Protection Act applies to this system. Please be aware that, in this situation, we are legally obligated to report results directly to local health authorities.

Sample Collection

For determining drinking water quality, samples should be representative of the water that will be consumed, therefore, we suggest sampling at the kitchen tap. However, other sampling locations may be used to determine pre-treatment water quality or for troubleshooting purposes.

1. Remove aerator/screen from faucet
2. Let the water run for 5 minutes
3. Label the bottle with your name, date and time you are taking the sample.
4. Fill all bottle(s) provided. Take care not to touch the inside of the bottle or underside of cap.
5. Cap the sample and place it in fridge or small cooler with icepack.

Remember: It is important that you do not contaminate the sample as you handle the container. Wash your hands before you start and be careful not to touch the rim of the bottle or the inside of the cap.

DON'T:

- Don't drink or boil any bottles you receive from the lab
- Don't let the sample sit out overnight, please refrigerate.
- Don't freeze the sample.

Sample Transportation & Delivery

1. Samples should arrive at the laboratories (Courtenay or Victoria) within 24 hrs of sampling. Ship samples between Monday and Thursday to avoid lab scheduling conflicts.
2. The sample should be kept cool during transit (<4°C - refrigerated or packed on ice).
3. Fill out the Chain of Custody (COC) form before these instructions and submit with the sample. Incomplete or missing COC's will result in delays inspecting turnaround time and the lab's ability to proceed with time sensitive tests.
4. Delivery Options:
Personally deliver samples to Courtenay or Victoria
Overnight shipping: If you ship a sample on the same day that it was collected you can use an overnight courier.
Same day shipping: Available in some areas. Please contact the lab for details.

After Hours Contact #:

☐ Regular Turnaround Time (TAT) ☐ RUSH Please contact the lab
(5 days for most tests) Surcharges will be applied

Project Name: **Alley Enterprises** Data Required:

SPECIAL INSTRUCTIONS:

Return Cooler ☐ Ship Sample Bottles (please specify) ☐
LPO# **03-P-23073**
INVOICE# **03-010242**

Sample Identification (Sample Location &/or Description)	Sample Location (eg. Tap, Wellhead)	Date/Time Sampled (24hr)	PLEASE CIRCLE	ANALYSIS REQUESTED PLEASE SELECT BELOW	Report Drinking Water Criteria DWG17
1 Pre Cistern		840	☒ Samples from a Drinking Water Source? Y/N ☒ Does source supply multiple households? Y/N ☒ Are individuals drinking this water? Y/N ☒ Are you on a bottled water delivery? Y/N ☒ Drinking Water Scan ☒ Home Safety Scan ☒ Yearly Water Scan Including Hardness & log ☒ Total Coliform and E. Coli	☒	X
2			☐ Y ☐ N ☐ Y ☐ N ☐ Y ☐ N ☐ Y ☐ N ☐ Y ☐ N ☐ Y ☐ N ☐ Y ☐ N ☐ Y ☐ N	☐	X
3			☐ Y ☐ N ☐ Y ☐ N ☐ Y ☐ N ☐ Y ☐ N ☐ Y ☐ N ☐ Y ☐ N ☐ Y ☐ N ☐ Y ☐ N	☐	X
4			☐ Y ☐ N ☐ Y ☐ N ☐ Y ☐ N ☐ Y ☐ N ☐ Y ☐ N ☐ Y ☐ N ☐ Y ☐ N ☐ Y ☐ N	☐	X
5			☐ Y ☐ N ☐ Y ☐ N ☐ Y ☐ N ☐ Y ☐ N ☐ Y ☐ N ☐ Y ☐ N ☐ Y ☐ N ☐ Y ☐ N	☐	X

Unless otherwise agreed to in writing, work performed on this Chain of Custody is subject to Bureau Veritas Laboratories' standard Terms and Conditions. Signing of this Chain of Custody document is acknowledgment and acceptance of our terms available at <http://www.bvlabs.com/terms-and-conditions>

Print name and sign	Date (yy/mm/dd)	Time (24 hr)	Print name and sign	Date (yy/mm/dd)	Time (24 hr)	Time Sensitive	Temperature on Receipt (°C)	Custody Seal	Yes	No	N/A
Relinquished By: Bryan Richardson	22/08/29	10:38	Received by: J. Delaney C. Li	22/08/30	09:00	☐	A) 13 B) 16 C) 15	Present?	☐	☒	☐
							Just sampled & not on file	Intact?	☐	☐	☒

COC-1035

ice packs: yes, melted

BV (COC-02/07/17)



SAVE-ON-SEPTIC SERVICES INC



Wild Rose Garden Centre
750 Tin Can Alley
Gabriola Island, B.C.

October 12, 2023

Project Reference: Feasibility study and Assessment of site conditions on Lot B, Plan 60373 for suitability for development of a wastewater treatment and dispersal system- 750 Tin Can Alley, Gabriola Island, B.C.

Attn: Kent Moen,

Background:

Mr. Kent Moen (owner) is proposing a residential/commercial mixed-use development for retail and food services on Lot B, located at 750 Tin Can Alley near the village. This report will provide information on the feasibility of providing an on-site wastewater treatment and dispersal system for this project. I will provide the soils testing data and a conceptual design of the wastewater treatment and dispersal system that will meet or exceed the requirements of the Standards of Practice Manual (SPM). I will outline our approach to minimize the environmental impact on the site.

Scope of Work:

The soil investigation involved digging 1.2m deep test pits with a machine to determine the soil characteristics and ability to renovate wastewater. I was also investigating the winter water table depths and surface features such as storm water run-off impact, proximity to a drinking water source and property boundaries. There appears to be a layer of solid rock at various depths that tends to slope in a southerly direction towards North Road. There is a drinking water well 100 meters south of the test area and we would need to minimize the impact on this potable water source. 10 test pits were dug and logged for characteristics and are included in this report. To test the permeability of the soils 4 test holes were dug and perk tests performed to document the suitability of the soil to renovate wastewater. The site conditions and soils will meet the strict guidelines set out in the SPM to minimize any environmental impact. This report also reviews the various options for pre-treatment and discuss the most appropriate level of treatment prior to dispersal.

Site Evaluation:

The property tends to slope towards the southwest corner at an overall slope of 7-8% and the upper half having a gentler slope about 5%. The site has had impact from tree removal and vehicle traffic from the garden centre. The soils in the test area located near the northern boundary appears to be less impacted by development.

4655 Trans Canada Hwy
Duncan, BC
V9L 6L2
GST: 898373451

(250) 748-5676 – (250) 743-7283 – (250) 642-7283
(250) 474-7867 – (250) 754-7232
Fax: (250) 748-5073
Email: saveonseptic@shaw.ca

PO Box 4705
Victoria, BC
V9B 6L2
WCB: 571685-AQ

I saw no evidence of stormwater erosion or impact from stormwater runoff and the site appears to be well drained. According to regional maps the principal soil type is a well drained Saturna soil. The location of the well was situated about 100 meters downslope along the eastern boundary. No other neighboring wells were encountered during this investigation. This well exceeds the setback distance (30m) and should pose no environmental impact from the dispersal area. There was a large outcrop of bedrock encountered in several locations that limit the area for dispersal, however the design shall take this into consideration to avoid discharging into these areas where thin soils are present. Both the dispersal area and the receiving area shall have sufficient depths of soil to adequately renovate the wastewater discharge to mitigate the environmental impact on the site. The northern neighbouring property has a pipe discharging stormwater onto the site and into a rock pit. This rock pit will be diverted to a new location that does not impact the dispersal site.

Test Pits:

There are a total of 10 test pits that were machine dug to a depth of about 1.2m or less if a limiting layer was encountered. There were 2 that were too shallow due to solid rock near the surface (see sketch) and were mapped as an area to avoid for development. The remaining 8 test pits revealing the stratified layer and soil types were documented. (See attached soil Logs) These test pits were then compared with the SPM requirements and other factors such as root penetration into the soils as well as soil mottling indicating the presence of the winter watertable. The results of this testing determined that there was 64cm-112cm of permeable soil overlaying a restrictive layer such as solid sandstone rock or winter watertable. The SPM requires a minimum separation of 60 cm for type 1,2&3 effluent discharges. We have sufficient depth for all 3 types with a sand filled bed design per the SPM. There is sufficient area to support a type 1 drain field design. Based on calculated daily flows of 9095L per day and soil permeability the required field length would need to be approximately 250m (820 feet) in total with a minimum length per run of 27.6m (90.6 feet) to meet the linear loading requirements of the SPM.

Percolation Testing:

There were 3 percolation tests performed on the site within the test area.(see attached test results) This test determines the ability of the soil to effectively move downward through the soil to renovate the wastewater prior to coming into contact with the under-laying ground water. The more porous the soils allow the wastewater to move quickly down through the soil. In our case the soils proved to be in the class of coarse sand and has a very high permeability. This class of soils allows the wastewater to move through the soil particles to quickly thus only partially treating the wastewater. In order to overcome this we need to pressure dose the field and limit the amount of effluent per dose (micro-dosing) using a timer in the control panel. This will allow the wastewater to be held between the soil particles by osmosis allowing it to come into contact with the micro-organisms for a longer duration thus providing better treatment of the wastewater prior to reaching the limiting layer. For coarse textured soils the hydraulic loading rate would be 40L/m²/ day.

Percolation Results:

PH #1- Average 1:50 mins. /inch
 PH #2- Average 2:00 mins. /inch
 PH #3- Average 1:15 mins. /inch

4655 Trans Canada Hwy (250) 748-5676 – (250) 743-7283 – (250) 642-7283
 Duncan, BC (250) 474-7867 – (250) 754-7232
 V9L 6L2 Fax: (250) 748-5073
 GST: 898373451 Email: saveonseptic@shaw.ca

PO Box 4705
 Victoria, BC
 V9B 6L2
 WCB: 571685-AQ

Coarse Sandy Soils:

The soil log results indicate that the characteristics of the permeable layer encountered on site are predominantly coarse sand with 10-15% cobbles. This has a loading rate in the SPM of 40L/m²/day for Type 1 discharges. These soils are very well drained and with certain design considerations are capable of effectively removing contaminants from the wastewater. These design considerations are pressure dosing and timed dosing per the SPM.

Daily Design Peak Flows:

The estimated flows generated from the proposed development are as follows:

-60 Seat restaurant- 60X90L/person -5400L (Phase 2)
-Retail garden centre and 1 bedroom residential- Retail- 139m² x 5L= 695L
Apartment- 600L
-Coffee shop/Bakery 120persons x 20L= 2400L
TOTAL 9095L per day

Characteristics of the Wastewater:

The retail space and residential suite are both considered to be residential strength wastewater. The coffee shop and restaurant are considered to discharge high strength wastewater. This high strength component in the wastewater discharge would be required to be pre-treated to reduce both the FOG (Fats Oils & Grease) and the high BOD/TSS from the waste stream prior to discharging into the drain field (Must meet Type 1 treatment levels). This involves providing grease interceptor tanks and type 2 aeration and settling to reduce it to acceptable levels. An engineer is required to have oversight in the design of this high strength treatment system per the SPM.

Area for Drain Field:

The area of infiltrative surface requirements for Type 1 effluent discharge is as follows:

$$AIS = \frac{9095L}{40} = \underline{227.38 \text{ m}^2}$$

$$\text{Total Length of Field} = \frac{227.38 \text{ m}^2}{0.91 \text{ m}} = \underline{249.87 \text{ Lineal Metres (820 lineal feet)}}$$

(Maximum Width of Trench per SPM)

$$\text{Linear Loading Length} = \frac{9095L}{330} = \underline{27.56 \text{ m}} \text{ (This is the minimum length of trench per SPM)}$$

The drain field laterals would be 96 feet long and center fed from a central 2" Dia. manifold. There would be 9 laterals evenly spaced at 6 feet on centre. The area required for the drain field would need to be 100 feet long by 54 feet wide and be positioned perpendicular to the slope. The position of the drain field would have to meet all setback requirements of the SPM. The test area would be large enough to accommodate this field design. There is also an area eastern boundary that is large enough and could be developed for a 50% reserve area should problems arise.

4655 Trans Canada Hwy
Duncan, BC
V9L 6L2
GST: 898373451

(250) 748-5676 – (250) 743-7283 – (250) 642-7283
(250) 474-7867 – (250) 754-7232
Fax: (250) 748-5073
Email: saveonseptic@shaw.ca

PO Box 4705
Victoria, BC
V9B 6L2
WCB: 571685-AQ

Local Area Water Wells:

There is only one well within close proximity of the wastewater system. This drilled well services our site (Lot B) and is located downslope approximately 100m away from the proposed drain field test site. The Lot above (Lot C) is served by a rainwater catchment system with a cistern tank. The location of the only well in the area exceeds the 30m setback requirements of the SPM.

Appropriate Design Considerations:

- All components of the wastewater system meet or exceed the requirements of the SPM.
- Providing the appropriate level of treatment for the high strength component the project and engaging an engineer to review the proposed design per the SPM.
- Provide redundancy in the system to reduce the risk of untreated wastewater discharges on the site.

Conclusion:

Lot B at 750 Tin Can Alley has sufficient potential to disperse pre-treated wastewater in the ground safely without any degradation of the local environment or contamination of the local drinking water source that under-lays the site. All of the setback and regulatory requirements within the SPM can be met by the designer. Since the high strength wastewater is being proposed for this development a review of the design is required and all documents must be stamped by a professional engineer prior to submission to Vancouver Island Health Authority.

Proposed Design Options:

The residential/ retail portion of the discharge can be Type 1 treatment prior to dispersal. The high strength portion of the discharge must undergo further treatment to reduce the wastewater strength to meet or exceed Type 1 treatment levels. This wastewater must have reductions of FOG (Fat, Oils & Grease) and BOD/TSS to 20mg/L FOG/ 300 BOD/ 250 TSS to be able to safely be dispersed in the drain field without degradation to the receiving environment.

Environmental Impact:

Once discharges start the pre-treatment tanks and treatment devices will provide a wastewater discharge suitable to be dispersed into the ground. Once dispersed into the soils natural processes will complete the full renovation of the wastewater. The risk to the environment shall be eliminated by choosing the most effective pre-treatment devices to reduce the wastewater to Type 1 treatment levels prior to discharge.

Operation & Maintenance:

The SPM dictates that on-going maintenance must be performed on all septic systems to ensure proper operating levels are met. The bi-annual maintenance must be performed by a qualified service provider (ROWP). To ensure proper levels of treatment are being met it would be recommended that testing of the wastewater be performed annually. An Operations and Maintenance manual will be provided to the owner by the designer per the SPM.

4655 Trans Canada Hwy
Duncan, BC
V9L 6L2
GST: 898373451

(250) 748-5676 – (250) 743-7283 – (250) 642-7283
(250) 474-7867 – (250) 754-7232
Fax: (250) 748-5073
Email: saveonseptic@shaw.ca

PO Box 4705
Victoria, BC
V9B 6L2
WCB: 571685-AQ

If you have any questions, please contact me at 250-748-5676

Kind Regards,

Steve Brydges, ROWP
Save On Septic Services Inc.



4655 Trans Canada Hwy
Duncan, BC
V9L 6L2
GST: 898373451

(250) 748-5676 – (250) 743-7283 – (250) 642-7283
(250) 474-7867 – (250) 754-7232
Fax: (250) 748-5073
Email: saveonseptic@shaw.ca

PO Box 4705
Victoria, BC
V9B 6L2
WCB: 571685-AQ

SEE SKETCH PLAN FOR LOCATIONS.

Observed Soil Conditions

Test Pit Logs

Date*: SEPT. 21/23		Site: 750 TIN CAN ALLEY		Logged by: Mike SDB				
TP# 1		Pit Location: S.W. END OF D/FIELD SITE		Slope: 6-7%				
Soil Horizons (depths measured in cm / m / in / ft)								
Depth	Colour	Texture	Structure	Rupture resistance (or density)	Coarse gravel (%)	Roots depth & quantity	Mottles depth & quantity	Moisture seepage
from	to							
0	1"	Brown	Topsoil	SG.	loose	1%	YES	N/D
1"	11"	Brown	S. Loam	SG	loose	5%	YES	Ø
11"	35"	Brown	C. Sand.	SG.	loose	10-15%	YES	Ø
35"	+	Tan	Clay/Silt	massive	hard	5%	NO	yes
				Roots to 35" / W/T @ 35"				
Notes								
TP # 2		Pit Location: EAST OF TH#1		Slope: 7-8%				
Depth	Colour	Texture	Structure	Rupture resistance (or density)	Coarse gravel (%)	Roots depth & quantity	Mottles depth & quantity	Moisture seepage
from	to							
0	5"	D. BROWN	TOPSOIL	SG.	LOOSE	2%	YES	N/D
5"	25"	TAN	S. LOAM	SG.	LOOSE	5%	YES	Ø
25"		SOLID SANDSTONE	ROCK		N/A	YES	Ø	Ø
				Roots to 25" W/T not present				
Notes								

Based on USDA Field Book for Describing and Sampling Soils (2002).

* Date water table measured



SEE SKETCH PLAN FOR LOCATIONS.

Observed Soil Conditions

Test Pit Logs

Date*: SEPT. 21/23		Site: 750 TIN CAN ALLEY.		Logged by: Mike SDB					
TP# 3		Pit Location: 50' W OF EAST BOUNDARY		Slope: 8%					
Soil Horizons (depths measured in cm / m (in) / ft)									
Depth		Colour	Texture	Structure	Rupture resistance (or density)	Coarse gravel (%)	Roots depth & quantity	Mottles depth & quantity	Moisture seepage
from	to								
0	2"	Brown	Topsoil	S.G.	Loose	1%	yes	Ø	Ø
2"	26"	Tan	C. Sand.	S.G.	"	5-10%	yes	Ø	Ø
26"		SOLID SANDSTONE ROCK @ 26"							
		Roots to 26" No W/T.							
Notes									
TP # 4		Pit Location: W. of E. # 10'		Slope: 6-7%					
Depth		Colour	Texture	Structure	Rupture resistance (or density)	Coarse gravel (%)	Roots depth & quantity	Mottles depth & quantity	Moisture seepage
from	to								
0	3"	BROWN	Topsoil	SG.	Loose	2%	yes	Ø	Ø
3	44"	Brown	C. Sand	S.G.	Loose	2-4%	yes	Ø	Ø
		Clayey Silt @ 44" w mottles —							
		Roots to 44"							
Notes									

Based on USDA Field Book for Describing and Sampling Soils (2002).

* Date water table measured



SEE SKETCH FOR LOCATIONS.

Observed Soil Conditions

Test Pit Logs

Date*: SEPT. 21/23		Site: 750 TIN CAN ALLEY		Logged by: Mike SDB					
TP# 9		Pit Location: 42' S of N P/L		Slope: 7-8%					
Soil Horizons (depths measured in cm / m (in) ft)									
Depth		Colour	Texture	Structure	Rupture resistance (or density)	Coarse gravel (%)	Roots depth & quantity	Mottles depth & quantity	Moisture seepage
from	to								
0	2"	Brown	Topsoil	SG	Loose	2%	yes	Ø	Ø
2	29"	Brown	C. Sand	SG.	Loose	5%	yes	Ø	Ø
29	37"	Tan	F. Sand	SG.	Hard	5-10%	Ø	yes	Ø
37"	+	Solid Sandstone							
Roots to 29" / Mottles @ 29"									
Notes									
TP # 10		Pit Location: 43' S of N P/L		Slope: 6-8%					
Depth		Colour	Texture	Structure	Rupture resistance (or density)	Coarse gravel (%)	Roots depth & quantity	Mottles depth & quantity	Moisture seepage
from	to								
0	1"	Brown	Topsoil	SG			yes	Ø	Ø
1	30"	Brown	C. Sand	SG			yes	Ø	Ø
30	35"	Tan	Silt	SG.			Ø	yes	Ø
35"	+	Solid sandstone rock							
Roots to 30" / Mottles @ 30"									
Notes									

Based on USDA Field Book for Describing and Sampling Soils (2002).

* Date water table measured



Observed Soil Conditions

Test Pit Logs

[illegible]

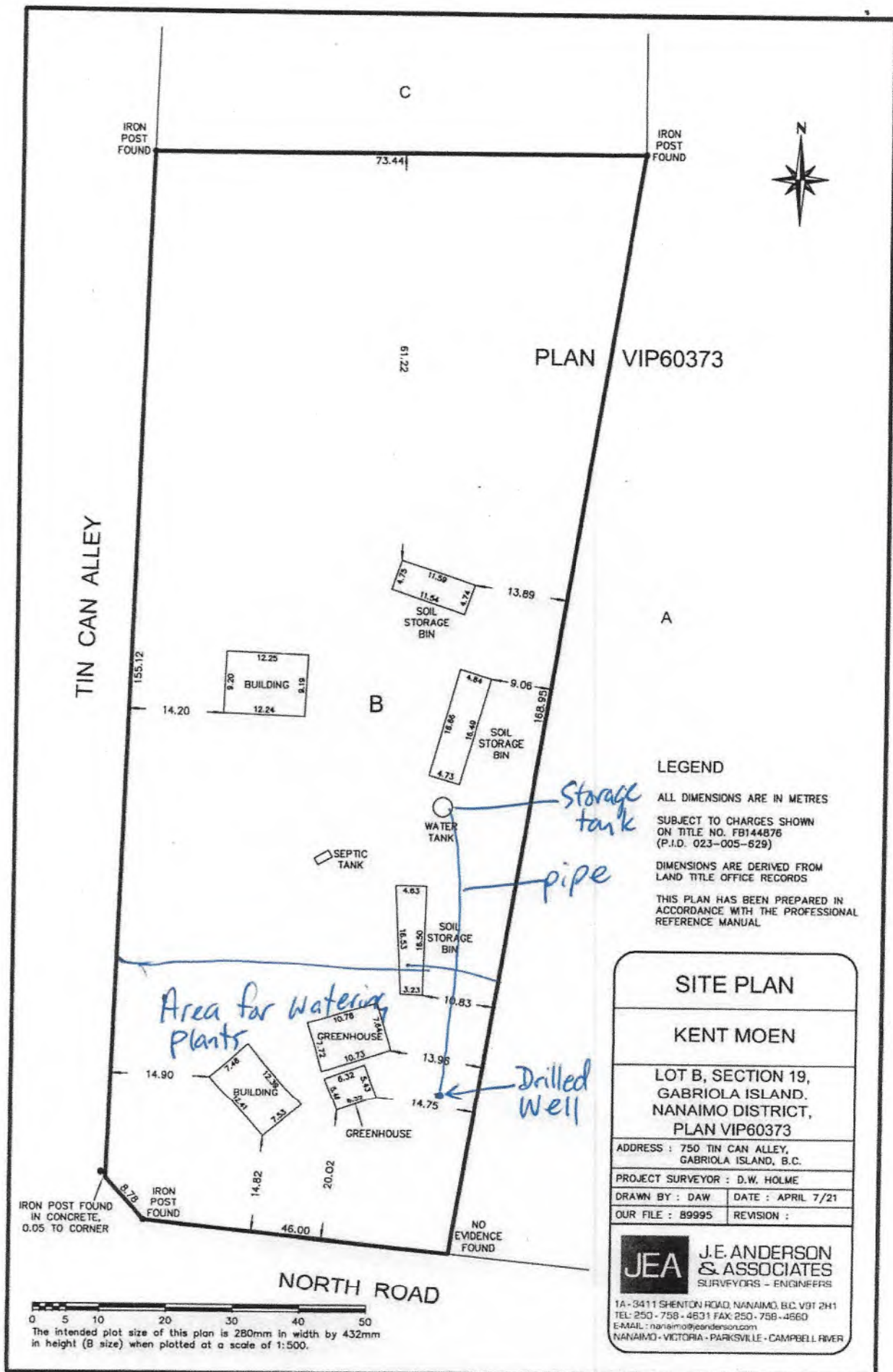
Based on USDA *Field Book for Describing and Sampling Soils* (2002).

* Date water table measured

Percolation test

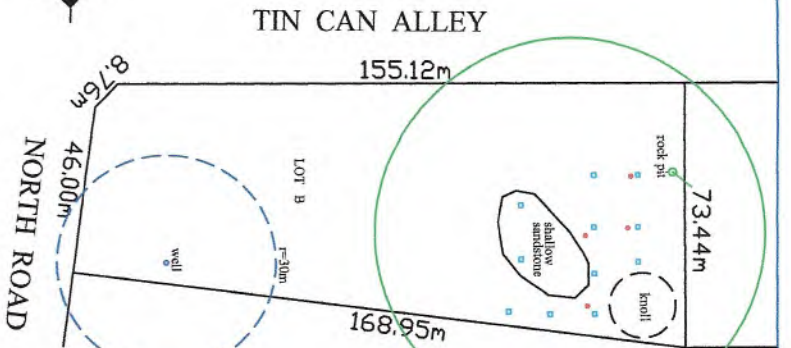
Location (address): 750 TIN CAN ALLEY, GABRIOLA		File #:						
Date: SEPT. 21/23		Tested by: SDB						
Weather: SUNNY								
Test number	Depth of base of hole from surface (cm)	Timings, mins per inch for water to drop from 6" to 5" from base of hole.						Lowest rate (min per inch)
		#1	#2	#3	#4	#5	#6	
1		1:40	1:45	1:45	1:50	1:50	1:50	
2		1:50	1:50	1:45	1:55	1:55	2:00	
3		1:05	1:10	1:10	1:05	1:10	1:15	
4		1:40	1:45	1:45	1:45	1:50	1:50	
5								
6								
7								
8								
Percolation rate for system sizing								
Notes:	$HLR = 40L/m^2/DAY.$							







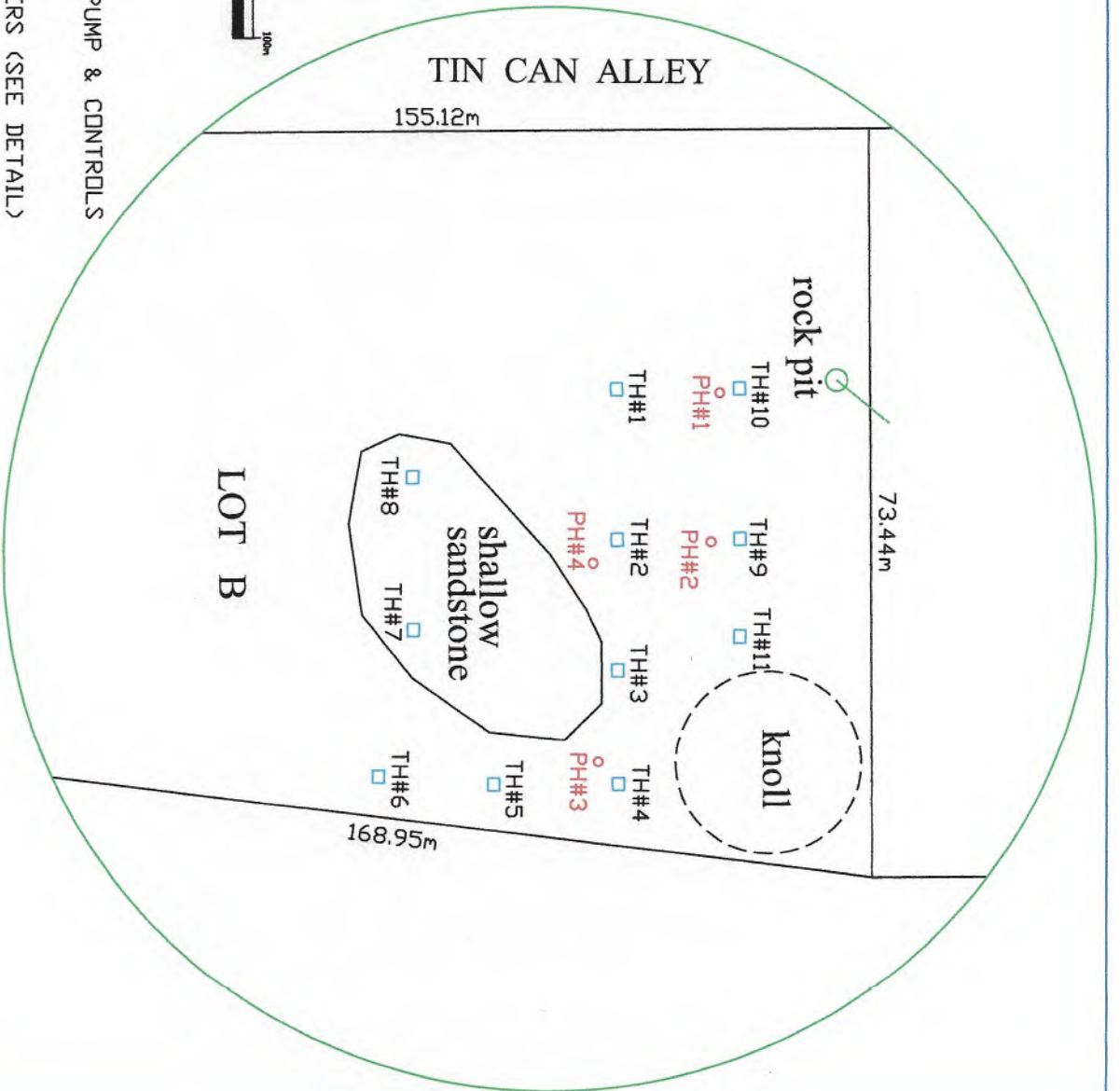
KEY PLAN



- LEGEND:**
- ① EXISTING 600 I.G., SEPTIC TANK-ADD RISERS
 - ② PROPOSED CANWEST 300 I.G. PUMP TANK W/ PUMP & CONTROLS
 - ③ 50mmØ PVC SCH 40 TRANSPORT LINE
 - ④ INSTALL 18.29m & 9.75m PRESSURIZED CHAMBERS (SEE DETAIL)
 - ⑤ PROPOSED FLUSH-DUTS AT DISTAL ENDS
 - ⑥ 100mmØ PVC SCH 40 TRANSPORT SEWER
- DENOTES 4' TEST HOLE LOCATION
○ DENOTES PERK TEST LOCATION



SITE PLAN



NOTE: ALL PIPE TO BE SCH. 40 PVC UNLESS OTHERWISE SHOWN



SAVE ON SEPTIC

PO-2783 GABRIOLA RD., DUNCAN, B.C. V9L 5A2
TELEPHONE: 250-748-5678 CELL: 250-802-9852

PROJECT: PROPOSED SEPTIC FIELD-SITE PLAN OF 750 TIN CAN ALLEY, GABRIOLA

CLIENT: KENT MOEN

SCALE: AS SHOWN
DRAWING BY: SDB
DATE: NOV. 3/23

FILE No: 00-245
DWG. No: 1 OF 1

File No.: GB-DP-2021.1 (Centre Stage Holdings)

DATE OF MEETING: May 23, 2024

TO: Gabriola Island Local Trust Committee

FROM: Sonja Zupanec, Island Planner
Northern Team

SUBJECT: **Development Permit Application**
Applicant: Centre Stage Holdings
Location: PID: 003-134-806 NORTH EAST 1/4 OF SECTION 3 GABRIOLA ISLAND
NANAIMO DISTRICT EXCEPT PARCEL A (DD 77326I) AND EXCEPT PLANS
EPP19453 AND EPP66666

RECOMMENDATION

1. That the Gabriola Island Local Trust Committee approve issuance of Development Permit GB-DP-2021.1.
2. Due to the significant First Nations cultural heritage values present on the subject property, that the Gabriola Island Local Trust Committee request staff to forward the following comments from the LTC to the Provincial Approving Officer in consideration of subdivision referrals GB-SUB-2024.1 and GB-SUB-2024.2 (Centre Stage Holdings) [MOTI FILE 2020-02789/02214] [*specify comments*].

REPORT SUMMARY

This report presents a Snuneymuxw First Nation referral response for the above mentioned Development Permit (DP) application being returned to the Gabriola Island Local Trust Committee (LTC) for consideration of issuance. The purpose of the DP application is for subdivision of the subject property into 14 lots as well as proposed tree removal within **Development Permit Area No. 6 – Steep Slopes (DP-6)**. The applicant meets the DPA guidelines and a condition of subdivision approval for the subject property is receipt of an issued DP.

BACKGROUND

The applicant applied for subdivision in 2020 and for a DP in 2021. Changes to both the subdivision layout and nature of proposed works in DP-6 area resulted in a new subdivision referral and updated DP application. The DP application was considered by the LTC in 2023 and the LTC requested supplemental information and referral to Snuneymuxw First Nation. A referral response from the Nation was received on February 27, 2024 and is included in Attachment 1. The applicant has updated their proposed plan of subdivision with a new lot configuration and layout (Attachment 2). A draft subdivision referral response has been prepared by planning staff (Attachment 3) for the Ministry of Transportation and Infrastructure and a condition of subdivision approval is issuance of the DP.

The subject property is 45 hectares (110 acres) in size as shown in Figure 1. The DP-6 (Steep Slopes) areas on the property includes two locations where the steep slopes exceed 80% grade. The applicant is proposing tree removal

within some of the areas of DP-6 to prepare the parcel for subdivision. The subject property contains several recorded archaeological sites, protected under the *Heritage Conservation Act*. The applicant is not proposing any tree removal or works within the recorded archaeological sites. Further information about the subject property is contained within the 'Site Context' and 'Mapping' documents (Attachments 4,5). A Forest Stand Assessment (Attachment 8) identifies over 1900 trees to be removed on the subject property, not all within the steep slopes DPA. A Geotechnical Hazard Assessment was prepared by Stantec in 2021 and is attached in full to this report as 'Attachment 10'. An updated memo from the geotechnical engineer was prepared by Lewkowich Engineering on July 10, 2023 (Attachment 10) and identifies low to very low risk to slope stability with the removal of ~1900 trees across the site and primarily in areas B and D (Figure 2).



Figure 1 –Subject Parcel and approximate location of DP 6.



Figure 2 –Proposed Tree Removal Areas B and D

ANALYSIS

First Nations

The Islands Trust reviews all applications to ensure the preservation and protection of cultural heritage, archaeological sites, and ancestral places. The applicant is, through the subdivision application process, working directly with the province to ensure compliance with the Heritage Conservation Act (HCA) and to finalize restrictive covenants for those areas of the parcel containing archaeological sites. The covenants are intended to be registered at the time of subdivision and include 5 and 10 metre buffer areas.

Tree removal within any archaeological sites may be subject to a site alteration permit under the HCA and the applicant has confirmed that no tree removal is intended to occur within the boundaries of the archaeological sites or proposed covenant areas.

Staff are aware of the long standing concerns the Snuneymuxw First Nation have regarding development of this parcel of land due to the presence of several significant cultural heritage and archaeological sites. Staff have identified the Official Community Plan policies in the DP analysis and subdivision referral that emphasize the need for protection of the sites and have suggested the PAO consider increased buffers for the covenant areas or fencing requirements and access easements for the Nation.

The LTC may wish to provide additional comments for the Provincial Approving Officer's consideration of the proposed subdivision, in recognition of the Snuneymuxw First Nation DP referral response. The Snuneymuxw First Nation have indicated in their referral response that they do not support the proposed development due to concerns of restricted access to and adverse impacts to the significant sites.

PROPOSED PLAN OF SUBDIVISION

The applicant has provided an updated subdivision layout to the Ministry of Transportation and Infrastructure (MOTI) to subdivide the subject property into 14 lots (11 Strata and 3 Fee Simple – Attachment 2). Islands Trust planning staff have reviewed the layout and drafted a referral response (Attachment 3). This will be forwarded to MOTI pending the LTC's consideration of the concurrent application for a Development Permit, and whether or not it wishes to include any supplemental comments to the PAO for consideration.

Pursuant to Section F.2.2 of the [Gabriola Island Land Use Bylaw No. 177](#) (LUB), a DP is required to be issued by the LTC prior to development activities occurring within DPA 6. Copies of the DPA Guideline Checklist and proposed DP are in Attachments 6 and 7.

Policy/Regulatory

Islands Trust Policy Statement

The following Islands Trust Policy Statement (ITPS) directive policies are relevant to this application and are addressed through DPA 6 – Steep Slopes:

3.1.3 Local trust committees and island municipalities shall, in their official community plans and regulatory bylaws, address the identification and protection of the environmentally sensitive areas and significant natural sites, features and landforms in their planning area.

5.2.6 Local Trust Committees and Island Municipalities shall, in their official community plans and regulatory bylaws, address the identification of areas hazardous to development, including areas subject to flooding, erosion or slope instability, and strategies to direct development away from such hazards.

This application is compliant with the ITPS.

Official Community Plan

The subject property is designated **Resource (R)** in the [Gabriola Island Official Community Plan \(OCP\) Bylaw No. 166](#), and is located within **DP-6 – Steep Slopes**.

The objective of DPA 6 is:

To protect development from natural hazards, including terrain instability, erosion, land slippage, rock falls, subsidence, debris flows and flooding or changes to stormwater runoff due to development on or in proximity to lands with excessive slope conditions.

The application is supported by a geotechnical assessment report and forest stand assessment report and appears to be compliant with the objective of DPA 6.

The property is subject to following policies in section 6.3 Heritage and Archaeological Resources Policies of the OCP:

- a) The Snuneymuxw First Nation and the Archaeology Branch should be consulted prior to the initiation of any future development which may impact on a known archaeological site on Gabriola, or an area exhibiting potential for the presence of unrecorded archaeological sites.***

The LTC met with select members of Snuneymuxw First Nation Council to discuss their concerns with the proposed subdivision, access to cultural heritage sites and protection of identified sites on the subject parcel. The Archaeology Branch has been in consultation with the PAO regarding the proposed subdivision layout.

- b) A community heritage register should be established to identify and inventory real property that is considered to be of heritage significance.***

The LTC may wish to consider advancing this initiative as a project to ensure adequate protection of the subject parcel and other sites on Gabriola Island, prior to increased residential development occurring.

- c) The identification and preservation of heritage property shall be encouraged, through the use of voluntary covenants, heritage revitalization agreements and other means intended to encourage the owners of a heritage property to support its heritage designation and preservation.***

In the draft subdivision referral response, staff have identified covenant buffers and access easements as possible tools the Provincial Approving Officer could use, to strengthen protection of archaeological and cultural sites. There are no provisions for planning staff to require these as a condition of subdivision approval.

- g) The Local Trust Committee should consider the following in the Gabriola Island Land Use Bylaw: the creation of subdivision regulations to protect registered or potential First Nation archaeological and heritage sites; establishing regulations regarding use, density and the siting and location of buildings and uses on land to protect registered or potential First Nation archaeological and heritage sites; iii. implementation of other options to protect registered or potential First Nation archaeological and heritage sites, including but not limited to designation of heritage conservation areas, dedication of***

parkland during subdivision, and designation of protected heritage sites; and iv. establishment of bylaws and other mechanisms to protect registered or potential First Nation archaeological and heritage sites in development application processes, including applications for amendments to this Plan and the land use bylaw, applications for permits such as heritage alteration permits, temporary commercial or industrial use permits, or development variance permits, and decisions about parkland dedication that are made in response to applications referred to the Local Trust Committee as part of the subdivision approval process.

The LTC can indicate its intent to explore the use of these tools in the updated OCP/LUB review project or as a standalone LTC initiated project.

Land Use Bylaw

The subject property is zoned as **Rural Residential 1 (RR1)** in the [Gabriola Island Land Use Bylaw \(LUB\) No. 177](#).

The guidelines for DPA 6 are contained within Section F.6.3 of the LUB, and the proposed development complies with applicable development permit area guidelines as analysed in Attachment 6.

Forest Stand Assessment Report

The report prepared by Diamon Head, May 26, 2023 (Attachment 8) contains a detailed description of the proposed tree removal within the steep slope areas. Approximately one thousand nine hundred (1900) trees greater than 15cm diameter at breast height, are proposed to be removed within forest stand areas B and D (Figure 2) in preparation for subdivision of the subject property into eleven strata lots, one remainder and two fee simple lots (total 14) .

Geotechnical Hazard Assessment Report

The applicant submitted an assessment report prepared by Stantec in 2021 as part of their application for subdivision. The author reported there was low to no risk of slope instability due to tree removal in those areas. Staff requested the applicant submit updated correspondence from a geotechnical engineer that confirmed the tree removal referenced in the 2023 forest stand assessment, is consistent with the 2021 geotechnical report findings. The applicant has submitted this confirmation from which is included as a schedule in the draft development permit.

DP Guidelines

LUB Guideline F.6.3.2 states that there shall be no removal of trees or vegetation unless a geotechnical engineer recommends that such removal may occur without subjecting land in the escarpment area to increased slope instability. The geotech assessment has concluded there is low to no risk to the slope stability with the proposed tree removal. The draft DP (Attachment 8) is presented with the Forest Stand Assessment included as a schedule to the DP. This development permit area does not contain any guidelines to protect steep slope ecosystems (trees and understory vegetation) which are some of the rarest terrestrial habitats in the Trust Area.

Consultation

There is no public or agency consultation regularly associated with a DP application. In addition, there is no statutory notification required.

Rationale for Recommendation

The objectives and specific guidelines of the DPA have been met. The LTC cannot refuse to issue a DP for any other reason if it is deemed to be consistent with the guidelines as stated in the LUB. Staff recommend the LTC provide any relevant comments related to the proposed 14 lot subdivision and concerns of the Snuneymuxw First Nation, for the Provincial Approving Officer’s consideration.

ALTERNATIVES

The LTC may consider the following alternatives to the staff recommendations on page 1:

Development Permit:

1. Request further information

The LTC may request further information prior to making a decision. Recommended wording for the resolution is as follows:

That the Gabriola Island Local Trust Committee request that the applicant submit to the Islands Trust (specify request).

NEXT STEPS

If the LTC resolves to issue the Development Permit, the applicant may commence with the tree removal in the DPA. Staff can include any specific LTC comments to the Provincial Approving Officer in the subdivision referral response.

Submitted By:	Sonja Zupanec, RPP, MCIP, Island Planner	May 7, 2024
Concurrence:	Renee Jamurat, RPP MCIP, Regional Planning Manager	May 8, 2024

ATTACHMENTS

1. Snuneymuxw Referral Response – February 27, 2024
2. Subdivision Layout Proposed Strata Lots 1-11, Fee Simple Lots A +B and Remainder
3. MOTI Subdivision Referral Response DRAFT – GB-SUB-2024.1/2
4. Site Context
5. Mapping
6. Development Permit Area Guidelines Checklist
7. Draft Development Permit
8. Forest Stand Assessment Report, May 2023 (Diamond Head)
9. Geotechnical Hazard Assessment Report, May 2021 (Stantec)
10. Geotechnical Assessment Memo, July 2023



Snuneymuxw

First Nation

www.snuneymuxw.ca

February 27th, 2024

Gabriola Island Local Trust Committee
C/O Sonja Zupanec
Island Planner
Northern Team

**RE: Centre Stage Holdings - Development Permit Application – Gabriola Island
Local Trust Committee (“GILTC”)**

The purpose of this letter is to provide you with a response to the referral application you submitted to Snuneymuxw First Nation (“SFN”) on October 12, 2023 on behalf of Centre Stage Holdings (the “Proponent”) for a development permit (“DP”) at PID 003-134-806 North East ¼ of section 3 Gabriola Island Nanaimo District Except Parcel A (DD 77326I) and Except plans EPP19453 and EPP66666 (“Subject Property”). The Proponent is requesting to remove an estimate of 1900 trees within Development Permit Area No.6-Steep Slopes (DP-6) in preparation for subdivision. It is important to note that the Subject Property is seeking other regulatory authorizations with the Ministry of Transportation and Infrastructure (“MOTI”), and the Ministry of Forests Archeology Branch (“MOFAB”), in addition to the referral with GILTC which is the subject of this letter, for which SFN has received as well.

As you know, SFN has a Referral Policy (the “Policy”) that is enforced by the Sarlequun Snuneymuxw Treaty of 1854 and subsequent Treaty implementation agreements with the Province of British Columbia and Canada. It is a consent-based framework that advances the recognition of Snuneymuxw’s Aboriginal and Treaty rights and title, and shared visions with government, and in this case, the protocol agreement between SFN and Islands Trust that was entered into many years ago. Snuneymuxw Governance is rooted in our Snawayalth (teachings) and worldview, which emphasize our core values: mutual respect and recognition, the interconnectedness of all things in creation, and our stewardship and jurisdiction over our lands and resources.

The Policy is a four – phased process that begins with an Initiation Phase, and is followed up by a Review Phase, Response Phase and Decision Phase. To-date, SFN is under the Review Phase, which can take anywhere from 90-days to several months depending on the nature of the referral application submitted to the Nation.

Snuneymuxw First Nation has received the following documents:

- GILTC Staff Report dated September 14, 2023;
- Several email correspondences with the Proponent;
- Geotechnical Hazard Assessment prepared by Stantec in 2021; and an
- MOFAB referral application dated September 29, 2023

Please find a Response to the GILTC – DP referral application below.

Subject Property is one of our most sacred sites and as other sacred sites, significant to our connectivity and overall wellness. We have occupied this site from the beginning of time and as our ancestors before us, fully recognize our responsibilities to manage its resources with the deepest respect and humility.

In addition, this sacred site has deep archeological value. DP-6 directly relates to archaeological sites DgRw-200, DgRw-196, with proximity to surrounding sites DgRw-198, DgRw-199, DgRw-203, DgRw-204, DgRw-213 and DgRw-226. Snuneymuxw has serious concerns with these highly sensitive sites that have significant spiritual and cultural significance to Snuneymuxw People. As such, our consideration and deliberation over how the proponent and referring agencies seek to authorize, use, and develop the land is handled with sensitivity, and we reserve the right to take the appropriate time to make an informed decision.

Over the course of reviewing this file, our Lands Office has been saddled with the responsibility of sifting through hundreds of pages of documents from multiple agencies and coordinating meetings between the different stakeholders to get clear answers. The patchwork approach to 'consultation' on this file has resulted in inordinate and urgent demands on our resources. Furthermore, the Proponent and regulatory authorities that we have been dealing with have provided no answers or mitigations to the issues we have repeatedly raise with this referral.

The Reconciliation Implementation Framework Agreement that the Nation signed with the Province of British Columbia is the proper mechanism through which we achieved mutual resolution of shared issues. Further destruction by the Proponent of this sacred village

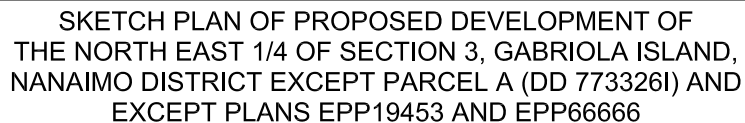
site that the Subject Property falls within, and associated alienation of these lands, can no longer be tolerated or supported by Snuneymuxw People.

Given there has been zero attempt by the Proponent to resolve the issues we have raised with all three referrals as it relates to the Subject Property, Snuneymuxw is not in the position to provide consent and does not support the proposed project. Significant concerns remain outstanding with the proposal and its potential impact on Snuneymuxw cultural heritage resources, and practical implications on environmental and development effects on this village.

Hay ch q'a,



Chief Mike Wyse



PLAN
VIS6238

SEC. 8

SEC. 3

PARK

SOUTHEAST 1/4 SECTION 8

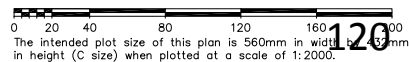
BONNIE VIEW ROAD

The map illustrates a land survey for Lot A and Lot B, divided into several sublots (SL 1 through SL 11) and common property areas. Key features include:

- Lot A:** Located at the top, containing sublots SL 1, SL 2, SL 3, and SL 4. It is associated with Plan EPP66666 and Plan EPP28213 (Covenant).
- Lot B:** Located at the bottom, containing sublots SL 5, SL 6, SL 7, SL 8, SL 9, SL 10, and SL 11. It is associated with Plan 52187.
- Common Property:** A central area labeled "COMMON PROPERTY" and "PART Rem. NORTHEAST 1/4 SECTION 3".
- Proposed Road Dedications:** Two circular road dedications are shown, each with a 17.0m radius. One is located near the top left, and the other is near the bottom left, both labeled "PROPOSED 17.0m RADIUS ROAD DEDICATION".
- Boundaries and Measurements:** The map includes numerous boundary lines with bearings and distances. For example, the top boundary of Lot A has a bearing of 90.23 and a distance of 102.29. The bottom boundary of Lot B has a bearing of 111.97 and a distance of 181.14.
- Other Features:** The map also shows "ROCKFALL SHADOW LINE", "TOP OF SLOPE", and "TOTAL ACCESS LENGTH=39.45".

The map is a technical drawing with precise measurements and clear labels for all areas and features.

J.E. ANDERSON & ASSOCIATES
B.C. Land Surveyors – Consulting Engineers
Victoria – Nanaimo – Parksville – Campbell River, B.C.
File: 89121
Date: April 8, 2024





Islands Trust

SUBDIVISION REFERRAL REPORT

Islands Trust – Northern Office
700 North Road
Gabriola Island, BC V0R 1X3
Phone: 250-247-2063
Fax: 250-247-7514

E-mail: northinfo@islandstrust.bc.ca
URL: <http://www.islandstrust.bc.ca>

Date: **xxx**, 2024

MOTI File #: 2020-02214/02798

IT File #: GB-SUB-2024.1
(Centre Stage Holdings Ltd.)

To: **Derek Atchison**
Development Services Officer
VIA EMAIL (Derek.Atchison@gov.bc.ca)

MOTI District Office:
Vancouver Island District

From: **Sonja Zupanec**
Island Planner, Local Planning Services – Northern Office

Re: Proposed 11 Lot Bare Land Strata Subdivision and 3 lot Fee Simple Subdivision Application for:
PID: 003-134-806
NORTH EAST 1/4 OF SECTION 3 GABRIOLA ISLAND NANAIMO DISTRICT EXCEPT PARCEL A
(DD 77326I) AND EXCEPT PLANS EPP19453 AND EPP66666

Referral Response Summary:

Pursuant to Restrictive Covenant Document CA2885907, the maximum number of lots permitted in the RR1 zone on Gabriola Island would be achieved if this subdivision layout is approved.

The Gabriola Island Local Trust Committee considered a Development Permit Application for subdivision and tree removal on this parcel during the May 23, 2024 regular business meeting. The following resolution was passed:

xxx

The Gabriola Island Local Trust Committee considered the Snuneymuxw First Nation referral response to the Development Permit Application and requested the following comments be forwarded to the Provincial Approving Officer in consideration of this subdivision application:

xxx

Islands Trust requests that the following be made conditions precedent of Final Subdivision Approval. These recommendations are made pursuant to the Gabriola Island Land Use Bylaw (LUB) No. 177; Gabriola Island Official Community Plan (OCP) No. 166; and relevant sections of the *Islands Trust Act* and *Local Government Act*.



Islands Trust

SUBDIVISION REFERRAL REPORT

Islands Trust – Northern Office
700 North Road
Gabriola Island, BC V0R 1X3
Phone: 250-247-2063
Fax: 250-247-7514

E-mail: northinfo@islandstrust.bc.ca
URL: <http://www.islandstrust.bc.ca>

We request as conditions of Preliminary Layout Review that:

1. In response to ongoing First Nation concerns regarding the subdivision and development of the subject parcel, that the Provincial Approving Officer (PAO) be encouraged to consider requiring:
 - a. Increased buffer areas for the draft restrictive covenant being contemplated for Strata Lots 2, 4, 5, 6, 7, 8, 9, 10 and the Remainder Lot, and/or fencing requirements from all proposed 5 and 10 metre covenant boundaries; and
 - b. access easements in favour of the Snuneymuxw First Nation to the priority covenant areas, as requested by the Nation.
2. Pursuant to LUB Section E.1.7.1, the applicant demonstrates the availability of a sufficient area of land and appropriate characteristics to satisfy the Sewerage System Regulation on all proposed lots, to the satisfaction of the Provincial Approving Officer;
3. That prior to final approval, the applicant be in receipt of an issued Development Permit for all existing and proposed land alterations within Development Permit Area No. 6 – Escarpment Areas (*pending LTC consideration May 23, 2024*).
4. That the applicant prepare a no-further subdivision covenant for signature with the Islands Trust, for registration on the Remainder Northeast ¼ Section 3 at the time of subdivision.
5. That the PAO request the applicant to flag the perimeter of the 10 metre boundary of the covenanted areas along the east and west property boundaries, at 5 metre intervals and provide photographic evidence to the Islands Trust of the flagging installation and confirmation that vegetation or tree removal has not occurred in the covenanted areas. Pursuant to Restrictive Covenant Document EX113595, as a condition of subdivision, any logging or vegetation removal in the covenant area must be remedied by restoration and/or fencing to the satisfaction of the Islands Trust, prior to subdivision approval.
6. No non-conformity may be created with respect to the use, siting or density of any existing building or structure as a result of the subdivision;
7. Prior to final approval, the applicant must obtain written confirmation from the Islands Trust that the proposed subdivision meets the above conditions and conforms to all Gabriola Island Local Trust Committee Bylaws.

This referral response is based upon the attached Proposed Subdivision Layout Plan (Attachment 1). Details of the application's compliance or non-compliance with specific bylaw regulations are provided on the attached pages. Should the proposed plan of subdivision be amended in any way from what was referred to our office, the applicant must obtain written confirmation from the Islands Trust that the proposed subdivision conforms to all Gabriola Island Local Trust Committee Bylaws.



Islands Trust

SUBDIVISION REFERRAL REPORT

Islands Trust – Northern Office
700 North Road
Gabriola Island, BC V0R 1X3
Phone: 250-247-2063
Fax: 250-247-7514

E-mail: northinfo@islandstrust.bc.ca
URL: <http://www.islandstrust.bc.ca>

1. General Information:

Applicant:	JE Anderson – Scott Stevenson 1A-3411 Shenton Road, Nanaimo BC V9T 2H1
Land Owners:	Center Stage Holdings 2-14045 NICO WYND PL SURREY BC V4P 1J2
Legal Description:	PID: 003-134-806 NORTH EAST 1/4 OF SECTION 3 GABRIOLA ISLAND NANAIMO DISTRICT EXCEPT PARCEL A (DD 77326I) AND EXCEPT PLANS EPP19453 AND EPP66666
Existing Lot Area(s):	44.8 hectares (110.7 acres)
Details of Proposal:	The applicant proposes to subdivide the lot into 11 Strata Lots and 3 fee simple lots = TOTAL 14 lots .

2. Property Title Information: LTC Covenant/Easement/Right-of-Way/Permits

Legal Notations:	• CA1193134 – statutory building scheme • CA1193140 – Restrictive Covenant for Lots 15, 16, 17, 18, 19, 21 • CA2885907 – Restrictive covenant with the Gabriola Island Local Trust Committee to prevent subdivision of Lot 20 (VIP82759) if the maximum number of lots (49) in the site specific RR1 zone, is achieved through subdivision of the other associated parcels. • DF43111 • EX113595 – Restrictive Covenant with the Gabriola Island Local Trust Committee to limit maximum number of lots to 49 in RR1 zone; maintain vegetation buffers; public access and protection of archaeological resources. • FB161960 – statutory building scheme • FB226277 – statutory right of way BC Hydro • FB226278 – statutory right of way Telus • R12283 – undersurface rights
Comments:	None.

3. OCP Information:

OCP Designation:	Resource
Development Permit Area:	Yes – DPA No. 6 – Escarpment Areas



Islands Trust

SUBDIVISION REFERRAL REPORT

Islands Trust – Northern Office
700 North Road
Gabriola Island, BC V0R 1X3
Phone: 250-247-2063
Fax: 250-247-7514

E-mail: northinfo@islandstrust.bc.ca
URL: <http://www.islandstrust.bc.ca>

Development Permit

Required: YES

Comments: **CONDITION OF PLA – see #3 in I.T. referral cover letter**

4. Zoning Information:

Zone Classification: Rural Residential (RR1)

Minimum average lot area: 2.35 hectares (5.81 acres), and for calculation purposes the minimum average includes roads within this zone. ii. The minimum lot area shall be 1 hectare (2.47 acres).

Minimum lot area: 1 hectare (2.47 acres)

Comments: None

5. Lot Sizes and Density:

Proposed lot areas:

- SL1= 2.0 ha
- SL2= 2.0 ha
- SL3= 2.0 ha
- SL4= 4.08 ha
- SL5= 1.02 ha
- SL6= 1.09 ha
- SL7= 1.05 ha
- SL8= 1.05 ha
- SL9= 2.08 ha
- SL10= 2.06 ha
- SL11= 2.05 ha
- REMAINDER= > 2.35 ha

Lot A = 1.0 ha

Lot B= 2.01 ha

Compliance with lot area: YES. Minimum lot size is 1 ha

Compliance with lot density: YES. Minimum average lot area is 2.35 ha

Covenant required: **YES *Condition of PLA see #4 in referral letter**

Comments: Remainder lot requires a covenant restricting further subdivision.



SUBDIVISION REFERRAL REPORT

6. Section 514, Subdivision for a Relative:

Local Government Act req's: | n/a

7. Depth/Width Ratio:

Depth/width ratios of new
lots:

From LUB Section E.1.6.3:

No lot may be created with a maximum depth exceeding five times the average width.

Comments:

The proposal complies with Section E.1.6.3.

8. Park Dedication:

Park dedication required: | No

If Yes, Amount required: | n/a

Comments: | **None.**

9. Ten Percent Waiver:

Lots Requiring Exemption:

NO – Strata Lots front a Common Property Access Road and are not subject to this requirement. All other lots comply.

From LUB Section E.1.6.4:

Frontage of a lot must be at least ten percent of its perimeter, unless waived by the Gabriola Island LTC.

Comments:

None.

10. Agricultural Land Reserve:

Proposed Lots within ALR: | No

Comments: | None

11. Servicing Requirements:

Proof of Potable Water: | n/a

Comments: | n/a



SUBDIVISION REFERRAL REPORT

Islands Trust – Northern Office
700 North Road
Gabriola Island, BC V0R 1X3
Phone: 250-247-2063
Fax: 250-247-7514

E-mail: northinfo@islandstrust.bc.ca
URL: <http://www.islandstrust.bc.ca>

Sewage Disposal:

From LUB Section E.1.7.1:

For each lot proposed to be created by subdivision, the applicant must demonstrate an area of land having sufficient area and appropriate characteristics to satisfy the “Heath Act - Sewage Disposal Regulations”, for conventional septic tank or package treatment plant sewage disposal systems in respect of permitted buildings, structures and uses.

From LUB Section E.1.7.3:

If it is proposed that sewage disposal will be located on a lot other than that on which it was generated, the applicant of the proposal must register against title on which the sewage disposal is to be allocated:

a. an easement in favour of each lot to which sewage is generated and disposed; and

b. a statutory right-of-way in accordance with Subsection A.2.5 in favour of the Gabriola Island Local Trust Committee on lots in which sewage is to be disposed.

Comments:

Proposed Subdivision Layout Plan does not indicate proposed sewage areas.

***Condition of PLA: : See referral cover letter response # 2**

12. Road Standards:

Roads to be Constructed:

Extension to Molly’s Way and new strata common road off of Carrier Road.

Road Classification:

Minor Rural

Heritage Designated Road in
vicinity:

n/a

Comments:

None

13. Buildings and Structures:

Does subdivision create non-
conformity with Bylaws:

Unknown

Existing non-conforming
buildings or structures:

Unknown



Islands Trust

SUBDIVISION REFERRAL REPORT

Islands Trust – Northern Office
700 North Road
Gabriola Island, BC V0R 1X3
Phone: 250-247-2063
Fax: 250-247-7514
E-mail: northinfo@islandstrust.bc.ca
URL: <http://www.islandstrust.bc.ca>

Comments: ***Condition of PLA: No non-conformity may be created with respect to the use, siting or density of any existing building or structure as a result of the subdivision. See referral response #6.**

14. Environmental Features, Islands Trust Ecosystem Mapping:

Sensitive ecosystems identified:	Coastal herbaceous
Raptor/Heron Nests identified:	NO
Watercourses:	Pond
Riparian Areas Regulation – applicable stream or watershed:	n/a
Steep Slope Hazard Classification:	YES also in DPA 6 – Escarpment Areas
Comments:	*Condition of PLA: See referral response #3

15. Groundwater Vulnerability Mapping:

Susceptibility:	Intrinsic Vulnerability = Moderately Low Salt Water Intrusion Vulnerability = Moderately Low to Low
Comments:	None

16. Drainage:

SUBDIVISION REFERRAL REPORT

Islands Trust – Northern Office
700 North Road
Gabriola Island, BC V0R 1X3
Phone: 250-247-2063
Fax: 250-247-7514
E-mail: northinfo@islandstrust.bc.ca
URL: <http://www.islandstrust.bc.ca>

Requirements:

From LUB Section E.1.9:

Every subdivision must be designed and constructed to maximise the amount of natural drainage that is percolated into the ground and to minimise direct overland runoff.

Every surface drainage system must at minimum, be connected to and conform with the design capacity of existing systems located on adjacent land in order to provide for the continued capacity of the system serving the drainage basin in which the lot to be subdivided is located.

Every surface system must be connected to an arterial drainage system that must be located in statutory rights-of-way granted to the Crown or in dedicated highways.

Every surface drainage system developed on the lot to be subdivided must be designed so that the inlet flow line elevations and the capacity of the system are such that it will be capable or will be capable of conveying the 100 year storm peak rate of runoff for the entire fully developed drainage basin which the lot to be subdivided is located.

The surface drainage system must be designed and constructed so as to minimise scouring and the erosion of ditch banks.

Comments:

No non-conformity to be created with respect to the drainage requirements in Section E.1.9, as a result of the subdivision.

17. Cultural Features:

Archaeological Sites
Identified:

YES

Comments:

Extensive archaeological and cultural heritage sites with proposed covenant areas including 5 and 10 metre proposed buffers. Recommend the PAO require increased buffer setbacks and/or fencing requirements to be established from all covenant boundaries to prevent siting of buildings and structures and associated vegetation removal or land clearing adjacent to those sensitive covenant areas. Based on Islands Trust engagement with the Nation, strongly recommend the PAO explore the ability to require access easements in favour of the Snuneymuxw First Nation to priority covenant areas.

***Condition of PLA: See referral response #1**



Islands Trust

SUBDIVISION REFERRAL REPORT

Islands Trust – Northern Office
700 North Road
Gabriola Island, BC V0R 1X3
Phone: 250-247-2063
Fax: 250-247-7514
E-mail: northinfo@islandstrust.bc.ca
URL: <http://www.islandstrust.bc.ca>

18. Boundary Adjustments Only:

Complies with regulations: n/a
Comments: n/a

19. Panhandle Lots Only:

Complies with regulations: Yes – Remainder Lot.
Comments: None.

20. Split (Hooked) Lots Only:

Complies with regulations: n/a
Comments: n/a

Name: Sonja Zupanec

Title: Island Planner – Northern Region

Signature:

Date

SZupanec

May 9, 2024

Attachment:

1. Preliminary Subdivision Layout (plan)

copy: Gabriola Island Local Trust Committee (via email)
Applicant, Scott Stevenson (via email)



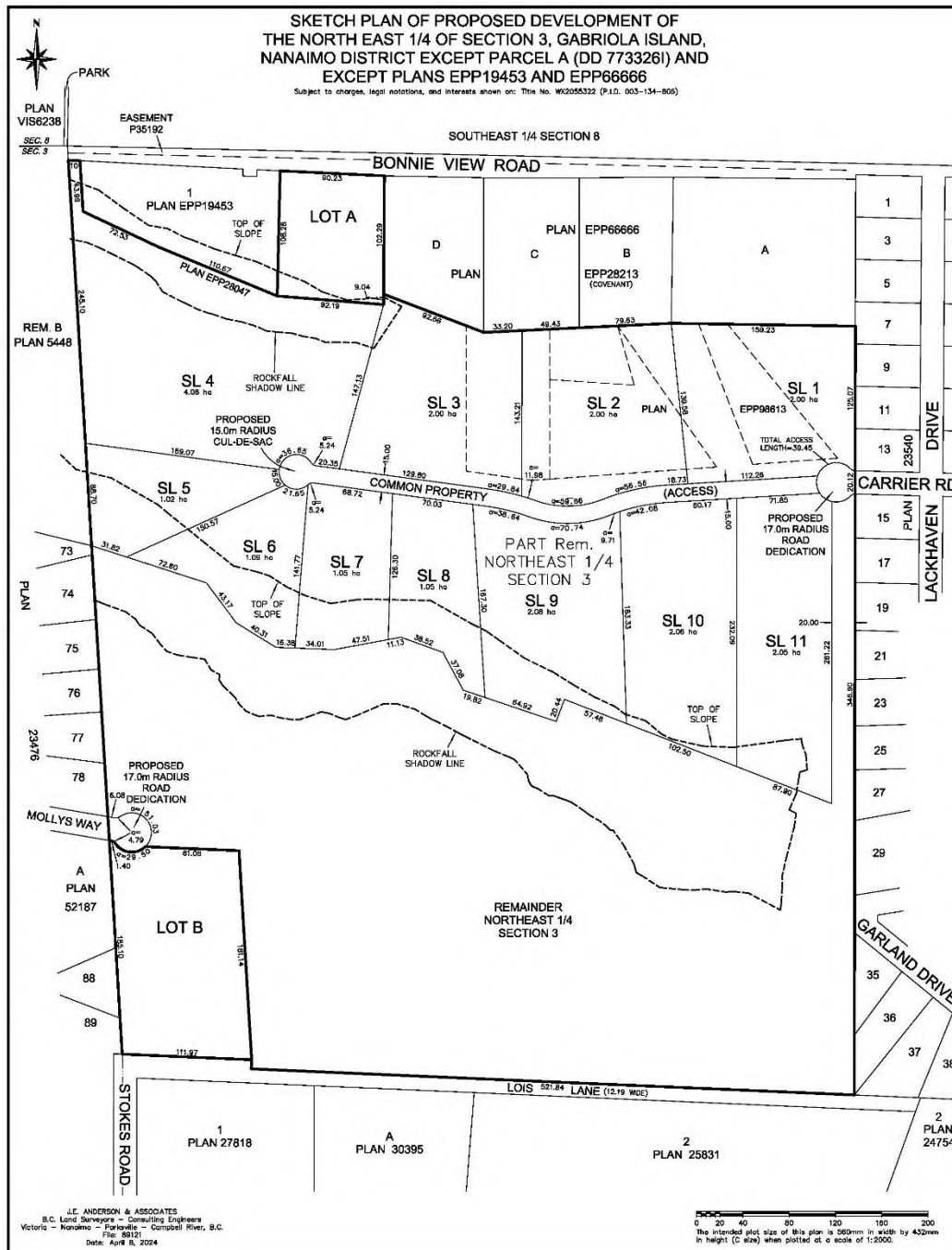
Islands Trust

SUBDIVISION REFERRAL REPORT

Islands Trust – Northern Office
700 North Road
Gabriola Island, BC V0R 1X3
Phone: 250-247-2063
Fax: 250-247-7514

E-mail: northinfo@islandstrust.bc.ca
URL: <http://www.islandstrust.bc.ca>

ATTACHMENT 1 – PRELIMINARY SUBDIVISION LAYOUT – 14 Lots



ATTACHMENT #4 – SITE CONTEXT GB-DP-2021.1 (CENTRE STAGE HOLDINGS)

LOCATION

Legal Description	NORTH EAST 1/4 OF SECTION 3 GABRIOLA ISLAND NANAIMO DISTRICT EXCEPT PARCEL A (DD 77326I) AND EXCEPT PLANS EPP19453 AND EPP66666
PID	PID: 003-134-806
Civic Address	n/a

LAND USE

Current Land Use	Vacant
Surrounding Land Use	North: Residential East: Residential South: Residential West: Residential

HISTORICAL ACTIVITY

File No.	Purpose
GB-DP-2001.2	To allow subdiv
GB-DP-2002.2	To amend GB-DP-
GB-DP-2021.1	PID: 003-134-80
GB-DVP-2005.1	Variance of lot
GB-RZ-2004.4	Transfer densit
GB-RZ-2005.3	The Donor land
GB-SUB-2001.1	To create 49 lo
GB-SUB-2012.1	Stokes, Carrier
GB-SUB-2013.2	Subdivision to
GB-SUB-2020.3	PID: 003-134-80

POLICY/REGULATORY

Gabriola Island Official Community Plan No. 166 Designations	Land Use Designation: R Development Permit Area: DP-6 Steep Slopes
Gabriola Island Land Use Bylaw No. 177	Zoning: RR1
Other Regulations	<i>Heritage Protection Act</i> – may require site alteration permit for vegetation removal or tree falling.
Covenants	- CA1193134 – statutory building scheme - CA1193140 – Restrictive Covenant for Lots 15, 16, 17, 18, 19, 21

	- CA2885907 – Restrictive covenant with the Gabriola Island Local Trust Committee to prevent subdivision of Lot 20 (VIP82759) if the maximum number of lots (49) in the site specific RR1 zone, is achieved through subdivision of the other associated parcels. MOTI File 2020-02192/GB-SUB-2020.2 proposes 3 lots. This subdivision file is for 17 lots, adding 20 more to the RR1 zone. There are 29 subdivided lots already in the RR1 zone. - DF43111 - EX113595 – Restrictive Covenant with the Gabriola Island Local Trust Committee to limit maximum number of lots to 49 in RR1 zone; maintain vegetation buffers; public access and protection of archaeological resources. - FB161960 – statutory building scheme - FB226277 – statutory right of way BC Hydro - FB226278 – statutory right of way Telus R12283 – undersurface rights
Bylaw Enforcement	GB-BE-2007.3 – Development Permit violation

SITE INFLUENCES

Islands Trust Conservancy	There are no ITC covenants or properties in the direct area. Referral to ITC is not required.
Regional Conservation Plan	Appendix II of the Regional Conservation Plan 2018-2027 estimated importance of habitat composition in the area of the subject property is MEDIUM .
Species at Risk	Islands Trust mapping indicates a recorded rookery on the subject property. An assessment by a registered professional biologist to determine the extent of the rookery and establish the necessary protective buffer to meet or exceed the requirements in the Gabriola Land Use Bylaw is required prior to any tree removal. The Great Blue Heron is a federally listed species at risk and protected under the <i>Migratory Birds Convention Act</i> and <i>BC Wildlife Act</i> and protected year round.
Sensitive Ecosystems	Islands Trust mapping indicates Coastal herbaceous ecosystems.
Hazard Areas	Schedule C of the Gabriola Island Official Community Plan indicates hazardous conditions on the property:  DP-6 ESCARPMENT, Slope > 80% Islands Trust mapping indicates areas of moderate risk steep slopes on the subject property (orange).

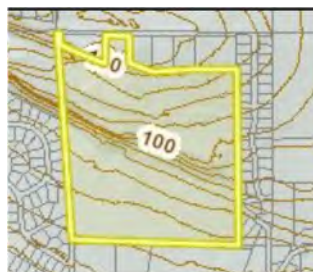
	
	Please see Attachment 6 for more information.
Archaeological Sites	Remote Access to Archaeological Data (RAAD) indicates registered archaeological sites within the property or within 100 metres. Archaeological material is protected under the <i>Heritage Conservation Act</i>. A <i>Heritage Conservation Act</i> permit may be needed before tree removal can be undertaken. This may involve the need to hire a qualified archaeologist to monitor the work.
Climate Change Adaptation and Mitigation	GHG emissions are expected as ~1900 trees are proposed to be removed.
Shoreline Classification	Not applicable
Shoreline Data in TAPIS	Not applicable

ATTACHMENT 5 – MAPS

2.1 ZONING



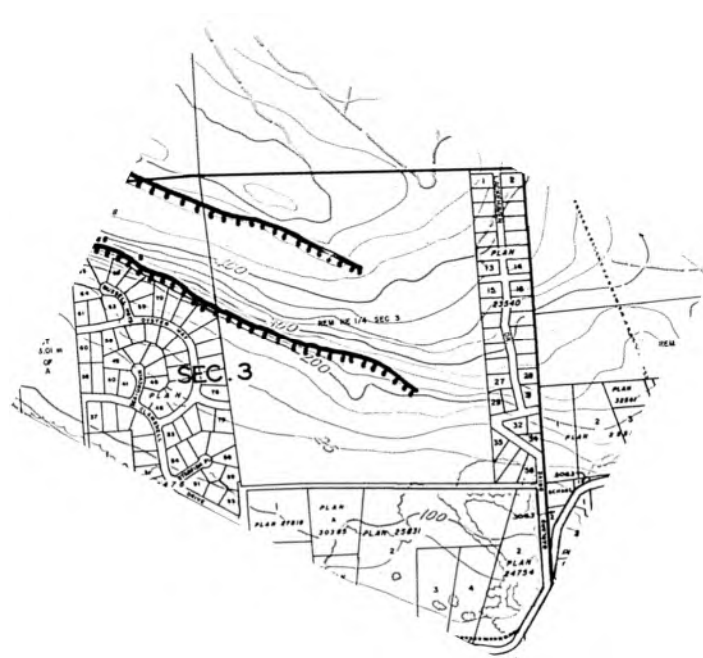
2.2 TEN METRE CONTOURS



2.3 ORTHOPHOTO



2.4 DEVELOPMENT PERMIT AREA 6 – STEEP SLOPES



ATTACHMENT #6 – DEVELOPMENT PERMIT AREA GUIDELINES

GB-DP-2021.1 (Centre Stage Holdings)

DEVELOPMENT PERMIT AREA NO. 6 (DP-6 ESCARPMENT AREAS)

Development Permit Area 6 (Schedule C of the OCP) is designated according to Section 919.1(1)(b) of the Local Government Act. Escarpment areas are areas where a land slope of greater than 80 per cent exists. The British Columbia Soil Survey (1990) identified numerous areas of escarpment on Gabriola where the slope is greater than 80 per cent. These escarpment areas may not be suitable for development as they may be subject to erosion, land slip, rock falls or subsidence, or other hazards. The objective of this DPA is to protect development from natural hazards, including terrain instability, erosion, land slippage, rock falls, subsidence, debris flows and flooding or changes to stormwater runoff due to development on or in proximity to lands with excessive slope conditions.

Guideline	Complies	Planner Comments
F.6.3.1 There shall be no construction of buildings, septic tanks, drainage and deposit fields, irrigation or water systems unless a geotechnical engineer recommends that such construction may occur without subjecting land in the escarpment area to increased slope instability.	NA	The applicant is not proposing any construction, excavation or development of the parcel at this time. If the subdivision layout is approved, future construction within the DPA boundaries would require separate application for alterations.
F.6.3.2 There shall be no removal of trees or vegetation unless a geotechnical engineer recommends that such removal may occur without subjecting land in the escarpment area to increased slope instability.	YES	The applicant has provided a detailed tree assessment inventory and geotechnical engineer statement that low to very low risk to slope stability would be present with the removal of ~1900 trees.



**GABRIOLA ISLAND LOCAL TRUST COMMITTEE
DEVELOPMENT PERMIT
GB-DP-2021.1**

To: Centre Stage Holdings

1. This Development Permit (the "Permit") applies to the land described below:

PID: 003-134-806 NORTH EAST 1/4 OF SECTION 3 GABRIOLA ISLAND NANAIMO DISTRICT EXCEPT PARCEL A (DD 77326I) AND EXCEPT PLANS EPP19453 AND EPP66666

2. This Development Permit GB-DP-2021.1 authorizes the subdivision of the subject parcel and removal of select trees within Development Permit Area 6 (DPA 6) – Steep Slopes, subject to the following requirements and conditions:
- a) The timing of tree removal must be outside of the migratory bird nesting season if possible; or must avoid the peak season. If clearing must occur during the migratory bird nesting season for the area (March 15th to August 15th), a pre-clearing bird nest survey must be completed by a Qualified Environmental Professional prior to clearing to ensure no active nests are disturbed or damaged.
 - b) Tree removal shall be limited to maintain slope stability and be consistent with the trees identified for removal in the Forest Stand Assessment report prepared by Diamond Head dated May 26, 2023 and attached to this permit as 'Schedule A'.
3. The development shall be consistent with:
- Schedule 'A' – Forest Stand Assessment – Diamond Head (May 26, 2023)
 - Schedule 'B' – Geotechnical Assessment Memo – Lewkowich Engineering July 2023
 - Schedule 'C' – Geotechnical Hazard Assessment Report – Stantec Consulting Ltd. (May 20, 2021)
 - Schedule 'D' – 14 Lot Proposed Subdivision Layout dated February 8, 2024

which are attached to and form part of this permit.

4. Any further development within designated Development Permit Area will require a new Development Permit, or a Development Permit Amendment.
5. This permit does not relieve the applicant from complying with the provisions of the Gabriola Island Land Use Bylaw.

This permit is not a building permit and does not remove any obligation on the part of the permittee to comply with all other requirements of Gabriola Island Land Use Bylaw No. 177, 1999 and to obtain other approvals necessary for completion of the proposed development.

AUTHORIZING RESOLUTION PASSED BY THE GABRIOLA ISLAND LOCAL TRUST COMMITTEE THIS ##th DAY OF MONTH, YEAR.

Deputy Secretary, Islands Trust

Date of Issuance

IF THE DEVELOPMENT DESCRIBED HEREIN IS NOT COMMENCED BY THE ##th DAY OF MONTH, YEAR , THIS PERMIT AUTOMATICALLY LAPSES.

GABRIOLA ISLAND LOCAL TRUST COMMITTEE
GB-DP-2021.1

SCHEDULE 'A' Forest Stand Assessment Report

GABRIOLA ISLAND LOCAL TRUST COMMITTEE
GB-DP-2021.1

SCHEDULE 'B' Geotechnical Assessment Letter

GABRIOLA ISLAND LOCAL TRUST COMMITTEE
GB-DP-2021.1

SCHEDULE 'C' Geotechnical Hazard Assessment Report

Forest Stand Assessment

For:

Centre Stage Gabriola Subdivision Phase 2
Gabriola Island, BC



Submitted to:

Centre Stage Holdings Ltd
c/o Glenna Borsuk
Glenna.borsuk@gmail.com
Date: May 26, 2023

Submitted by:



The following Diamond Head Consulting staff conducted the on-site tree inventory and prepared or reviewed the report.

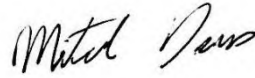
All general and professional liability insurance and staff accreditations are provided below for reference.

Reviewed by:



Conor Corbett
Registered Professional Forester (5105)
ISA Certified Arborist (PN-8429A)
ISA Tree Risk Assessment Qualified (TRAQ)
BC Wildlife and Danger Tree Assessor (P2722)

Project Staff:



Mitch Davis, TFT
ISA Certified Arborist (PN-9077A)
ISA Tree Risk Assessment Qualified (TRAQ)
BC Parks Wildlife and Danger Tree Assessor

Project Staff:



Riley Spear
ISA Certified Arborist (PN-9691A)
Forest Technician
Junior Forester

Please contact us if there are any questions or concerns about the contents of this report.

Contact Information:

Phone: 604-733-4886
Fax: 604-733-4879
Email: conor@diamondheadconsulting.com or mitch@diamondheadconsulting.com
Website: www.diamondheadconsulting.com

Insurance Information:

WCB: # 657906 AQ (003)
General Liability: Northbridge General Insurance Corporation - Policy #CBC1935506, \$10,000,000
Errors and Omissions: Lloyds Underwriters – Policy #1010615D, \$1,000,000

Scope of Assignment:

Diamond Head Consulting Ltd. (DHC) was retained to complete an assessment to supplement the development permit application by Centre Stage Holdings related to those of its lands located within escarpment areas having slopes greater than 80% in accordance with the Gabriola Island Land Use bylaw and the Gabriola Island Official Community Plan. This report provides stand descriptions of the on-site trees and speaks generally to the retention suitability and value of on-site trees. No other tree inventory or count has been undertaken. This report is produced with the following primary limitations, detailed limitations specified in Appendix 3:

- 1) Our investigation is based solely on visual inspection of the trees during our last site visit. This inspection is conducted from ground level. We do not conduct aerial inspections, soil tests or below grade root examinations to assess the condition of tree root systems unless specifically contracted to do so.
- 2) The scope of work is primarily determined by site boundaries and local bylaws. Only trees specified in the scope of work (escarpment areas and adjacent steep and moderately steep slopes >80%) were assessed.
- 3) Beyond two years from the date of this report, the client must contact DHC to confirm its validity because site base plans and tree conditions may change beyond the original report's scope. Additional site visits and report revisions may be required after this point to ensure report accuracy for the development application process.

The client is responsible for:

- Reviewing this report to understand tree value on the site.
- Understanding that we did not assess trees off the subject property and therefore cannot be held liable for actions you or your contractors may undertake in developing this property which may affect the trees on neighboring properties.
- Obtaining a timber mark if logs are being transported offsite.
- Ensuring the project is compliant with the development permit conditions.

DRAFT

Table of Contents

1.0	Introduction	1
1.1	Site Overview	1
1.2	Report Purpose.....	1
2.0	Process and Methods	1
2.1	Tree Stand Identification.....	1
3.0	Findings: Land Cover and Tree Stands	2
3.1	Tree Stands.....	2
4.0	Steep Slope Tree Removals	14
5.0	Discussion	15
5.1	Forest cover.....	15
5.2	Steep Slope Removals.....	15
Appendix 1	Steep Slope Removal Estimates	16
Appendix 2	Tree Health and Structure Rating Criteria	17
Appendix 3	Report Assumptions and Limiting Conditions	18

List of Tables

Table 1. Attributes of Stand Type A.....	4
Table 2. Attributes of Stand Type B.....	6
Table 3. Attributes of Stand Type C.....	7
Table 4. Attributes of Stand Type D.....	9
Table 5. Attributes of Stand Type E.....	11
Table 6. Attributes of Stand Type F.....	12
Table 7. Total area and removals, by species and stand type, across the steep slope areas.....	14
Table 8. Stems removed on steep slopes in Stand Type B by species and size class if 50% removed.	16
Table 9. Stems removed on steep slopes in Stand Type D by species and size class if 50% removed.....	16

1.0 Introduction

1.1 Site Overview

The development site is one parcel of land, totaling approximately 45 hectares, located near the southern coast of Gabriola Island. The site is bounded on the east by Lackehaven Drive, the west by Oyster Way and on the south by Lois Lane.

The subject site was historically harvested, at varying intensities and timeframes, evidenced by the presence of old forest roads, old skid trails, and old growth and second growth stumps. Trees on the site are recovering from that harvesting, in various states of regeneration. The site slopes to the south, bisected in the lower section by a 20m high rock bluff with steep to moderately steep colluvial slopes. Most of these colluvial slopes have slope gradients of <80%. Numerous small bedrock outcrops occur throughout the colluvial slopes. There is an additional distinct slope area in the NW portion of the site. An access road network runs through the northern and southern part of the property that partitions the continuous forest cover. The dominant canopy trees on site are estimated to be approximately 70 years old, with the exception of some older trees. The maximum height of the trees on site is 30 metres. Figure 1 shows the site and surrounding area.



Figure 1. Development site on Carrier Road and adjacent land uses.

1.2 Report Purpose

The proposed development consists of preparing the site for a new subdivision and road network. In support of these activities, selective tree removal is proposed in escarpment areas of the site. As per the geological hazard review for the site, some of the treed areas identified for removal are on rock bluffs which meet the escarpment criteria (slopes greater than 80%) documented in the Gabriola Island Land Use bylaw and the Gabriola Island Official Community Plan. As such, the Islands Trust has requested additional information including a qualified professionals report addressing the effects of the selective tree removal within the DP area. The purpose of this Forest Stand Assessment is to provide information on trees proposed for removal, including species, height, diameter, location, and an estimate of quantity of trees for removal.

In preparing this report, we reviewed the following information:

- Site Plan for Northeast ¼ of section 3, except parcel A (DD 773261), J.D Anderson and Associates., January 11, 2023.
- Geological Hazard Review. Centre Stage Gabriola Subdivision Phase 2 - Gabriola, BC. Stantec Consulting Ltd. May 20, 2021.

2.0 Process and Methods

Mitch Davis, ISA Cert. Arborist, and Riley Spear, ISA Cert. Arborist, of DHC visited the site on March 29th and 30th, 2023. Conor Corbett, ISA Cert. Arborist and Registered Professional Forester, provided oversight and data analysis. The following methods and standards are used throughout this report.

2.1 Tree Stand Identification

Prior to the site visit, satellite imagery of the on-site forest cover was reviewed to map preliminary tree stands. The site was walked, and each stand identified during desktop review was visited. Based on differences in forest cover and composition six different stand types were delineated. In each stand data was collected including species composition by height, diameter at breast height (DBH) and stand density. The general health and structural integrity of stands was assessed visually and assigned to one of five categories: *excellent*; *good*; *moderate*; *poor*; or *dying/dead*. Descriptions of the health and structure rating criteria are given in Appendix 2. Health and structure rating criteria follow the Guide for Plant Appraisal, 10th edition, published by the International Society of Arboriculture

3.0 Findings: Land Cover and Tree Stands

3.1 Tree Stands

Most of the site is occupied by forest cover, most of which is estimated to be at most 70-80 years of age, with scattered large diameter trees retained from previous generations observed in the central portion of the property surrounding the bluff. Most trees were measured to be 18 and 25 metres in height with the maximum observed tree height at 30 metres. Most trees were found to be between 15 and 35cm DBH. Stand density varies between 630 and 960 stems per hectare, slightly higher than mature forests in the region which typically have densities of less than 600 stems per hectare. The tree characteristics are typical of coastal Douglas-fir forests composed of a mix of native coniferous and deciduous trees, mostly Douglas-fir (*Pseudotsuga menziesii*), Arbutus (*Arbutus menziesii*), bigleaf maple (*Acer macrophyllum*) and red alder (*Alnus rubra*), with paper birch (*Betula papyrifera*) and grand fir (*Abies grandis*) also scattered throughout.

Stands in the forest were stratified into distinct stand types. These stand types are forests with similar characteristics. Six stand types were identified on the site and are discussed in the following sections individually. Stand types are mapped in Figure 2.



Figure 2. Stand types within forested areas.

Stand Type A – Semi-mature, previously thinned mixedwood stand

This stand type occupies the northwestern quarter of the development site. This area has very little structural development as a result of previous thinning operations. The overstory is typical of young, second/third growth, coastal Douglas fir forests with moderate stem density. These stands typically have a single story of Douglas-fir dominated overstory. Arbutus typically grow in canopy gaps between the fir trees and deciduous plants such as Oregon grape and salal prevail in the shrub layer. The dominant species found in Stand Type A is Douglas fir (*Pseudotsuga menziesii*) with patches of arbutus (*Arbutus menziesii*) distributed throughout. An overall moderate health and structure rating was exhibited in stands of this type. Minimal signs of decay or health issues were observed, however, overstory trees were identified as having relatively poor stem height to width ratio, likely due to density. Stands with these characteristics can be more susceptible to windthrow if new forest edges are created during clearing operations. If left undisturbed, this stand type will likely reach a similar species and structural composition as Stand Type D.

Table 1. Attributes of Stand Type A

Stand Type A	Semi-mature, thinned mixedwood stand
Species (%)	Douglas fir (63%), Arbutus (37%)
Structure description	Single-storied uniform stands indicative of being cleared in the past. Little to no understory and a sparse shrub layer of Oregon grape and salal.
DBH (range)	7-100 cm
Overstorey height (range)	15-30 m
Overstory density	960 stems per hectare
Crown Closure (%)	20-40%
Health and structure rating	Moderate



Photo 1. Typical stand conditions and structure for Stand Type A.

Stand Type B – Multistoried deciduous stand

This stand type occupies the least amount of forest area throughout the site. It is represented by the small strip of forest area on rock bluff and steep colluvial slopes as well as gentle to level slopes at the base of the bluff which separates the two Type A stands. This has allowed the stand to develop multiple overstory layers. There is a higher deciduous component in this forest, and its composition is typical of coastal deciduous forests. Exclusion of less advantageous and suppressed stems has resulted in multiple canopy layers and a lower stem density than surrounding stand types. Besides the natural exclusion of mature trees reaching the end of their life expectancy, no other health or structural issues were observed. A dense shrub layer exists in this stand type of oregon grape (*Mahonia aquifolium*) and salal (*Gaultheria shallon*).

Table 2. Attributes of Stand Type B

Stand Type B	Multistoried, deciduous stand at the base of slope in NW corner
Species (%)	Arbutus (42%), Red alder (26%), Douglas fir (16%) Bigleaf maple (11%), Paper birch (5%)
Structure description	Multistoried deciduous stand at the base of slope. Overstory dominated by pioneer deciduous species with a dense shrub layer of Oregon grape and salal.
DBH (range)	16-100cm
Overstory height (range)	8-30 m
Overstory density	630 stems per hectare
Crown Closure (%)	20-40%
Health and structure rating	Moderate

Stand Type C –Semi-mature mixedwood stand

This stand occupies the northeastern quarter of the site. This stand type is characterized by a two-layer mixedwood overstory that favors pioneer deciduous species, predominately arbutus (*Arbutus menziesii*). Douglas fir (*Pseudotsuga menziesii*) is also a large component of the upper most canopy layer. A dense mixedwood understory layer comprised of a 50% Douglas fir and 50% arbutus exists at a density of 1050 stems per hectare. A patchy shrub layer of Oregon grape, salal and spurge laurel (*Daphne laureola*) is present. This stand exhibits above average stem density due to its more recent disturbance and semi-maturity. This has caused poor taper in some of the overstory trees and exclusion of suppressed trees has begun. No other health issues were observed in this stand type.

Table 3. Attributes of Stand Type C

Stand Type C	Semi-mature mixedwood stand
Species (%)	Arbutus (51%), Douglas fir (30%), Red alder (11%), Bigleaf maple (8%)
Structure description	A two-storied mixedwood stand dominated by pioneer deciduous with a dense mixedwood understory of Douglas fir and arbutus at 1050 stems/ha and a moderately dense shrub layer with Oregon grape, salal, and splurge laurel.
DBH (range)	14-44cm
Overstorey height (range)	14-30m
Overstory density	925 stems/ha
Crown Closure	20-40%
Health and structure rating	Moderate



Photo 3. Typical stand conditions and structure for Stand Type C.

Stand Type D – Mature, more mature coniferous stand

This stand represents the second growth forest area running along steep to moderately steep slopes including some areas, primarily the rock bluffs, that equal or exceed 80% slope gradient that meet escarpment criteria under the relevant Gabriola Bylaw. Due to the steep grade of this area, minimal disturbance has occurred and allowed this stand type to grow naturally. Forest structure and composition is typical of coastal Douglas fir forests recovering from logging. This stand is characterized by a multistoried overstory, dominated by mature second growth Douglas fir. Patches of mature arbutus grow in canopy gaps and exist in the upper canopy layers. An understory composed exclusively of Douglas fir was recorded at a density of 600 stems per hectare. This stand type constitutes some of the oldest second growth forests found onsite and exhibits and overall moderate health and structure rating.

Table 4. Attributes of Stand Type D

Stand Type D	Mature, second growth coniferous stand
Species (%)	Douglas fir (81%) Arbutus (19%)
Structure description	Mature coniferous stand with multiple stories, a Douglas fir understory at 600 stems/ha exists with a minimal shrub layer.
DBH (range)	14-100cm
Overstorey height (range)	12-30m
Overstory density	800 stems/ha
Crown Closure (%)	40-60%
Health and structure rating	Moderate



Photo 4. Typical stand conditions and structure for Stand Type D.

Stand Type E – two-storied, semi-mature, thinned, coniferous stand

This stand occupies the southernmost portion of the site. It is characterized by a relatively young, two-layered overstory of 90% Douglas fir and grand fir, with individual bigleaf maple and arbutus growing in canopy gaps. This stand type has a very sparse understory of approximately 50 stems per hectare of grand fir. An overstory density of 675 stems per hectare is comparatively lower than similar stand types on this site. Skidder trails and access roads suggest the forest in this stand type was at one point harvested for timber or thinned. Other than natural exclusion of suppressed trees, no other forest health issues were observed in this stand type and the forest health and structure rating throughout this stand type is moderate.

Table 5. Attributes of Stand Type E

Stand Type E	Two-storied, semi-mature, thinned, coniferous stand
Species (%)	Douglas fir (78%), Grand fir (11%), Bigleaf maple (7%), Arbutus (4%)
Structure description	Two-storied semi-mature coniferous stands with very little understory (approx. 50 grand fir stems/ha) and sparse patches of a deciduous shrub layer.
DBH (range)	13-60cm
Overstorey height (range)	15-30m
Overstory density	675 stems/ha
Crown Closure	20-40%
Health and structure rating	Moderate

Stand Type F – Single storied, thinned, mature deciduous stand

This stand occupies the central forested area below the bluff and constitutes the majority of the onsite forest. This stand type is characterized by a single layer of mature pioneer deciduous species dominated by mature bigleaf maple, patches of red alder, and scattered arbutus, all at a low density of 425 stems per hectare. Understory in this stand type is exclusively bigleaf maple, also at a low density of approximately 75 stems per hectare. Like Stand Type E, skidder trails and access roads within this stand type, along with the low density of overstory and minimal understory suggest this stand type was historically harvested. Active woodpecker feeding cavities were observed in large mature maple stems, indicative of decay. However, this decay is likely due to mature trees reaching the end of their life expectancy and not from other health related issues. The overall health and structure rating throughout this stand type is moderate. Patchy splurge laurel, sword fern (*Polystichum munitum*) and blackberry (*Rubus bifrons*) grow on the surface to create a shrub layer.

Table 6. Attributes of Stand Type F

Stand Type F	Single storied, thinned, mature deciduous stand
Species (%)	Bigleaf maple (65), Red alder (24), Arbutus (12)
Structure description	Single storied, mature pioneer deciduous species with a sparse deciduous understory and a patchy deciduous shrub layer.
DBH (range)	17-250 (multitemmed) cm
Overstorey height (range)	10-30m
Overstory density	425 stems/ha
Crown Closure	<20%
Health and structure rating	Moderate



Photo 6. Typical stand conditions and structure for Stand Type F

4.0 Steep Slope Tree Removals

There is a total of approximately 8.5 hectares of forest located on steep to moderately steep colluvial slopes within which there are areas meeting escarpment criteria. (as per the May 20, 2021 Stantec Geological Hazard Review) throughout the property. Selective tree removal will occur on these steep slopes as part of this development. The total quantities are to be determined, but will not exceed 50% of the total stems >15 cm where those tree removals overlap with escarpment areas, which comprises a small portion of the overall 8.5 ha area. 50% has been used as an upper limit calculation, although in some areas this exceeds the likely actual removals.

There are two rock bluffs onsite that constitute the steep slope areas (refer to the Geological Hazard Review for locations). The lower and more significant rock bluff and associated colluvial slopes runs through most of Stand Type D. The smaller upper rock bluff and colluvial slopes run across the northwest corner of the site and encompasses most of Stand Type B.

Selective tree removal will occur in Stand Type B and D and consists largely of Douglas-fir. The remainder of the removals will consist of a mix of deciduous species arbutus, bigleaf maple, red alder, and paper birch. A total of approximately 1937 stems >15 cm DBH will be removed. Appendix 1 shows a full breakdown of removals by species, size class, and stand type.

Table 7. Total area and removals, by species and stand type, across the steep slope areas.

Stand Type	Steep Slope Overlap (ha)	Stand Type	Total Removals >15cm DBH (stems/ha)
B	0.9	B	175
D	4.3	D	1762

5.0 Discussion

5.1 Forest cover

In general, the forest cover on this site is typical of second/third growth coastal Douglas fir forests. Stand Type D is the most well-developed stand type within the site. It consists of multiple layers of undisturbed conifer overstory and conifer understory. Stand Types A and C are both semi mature mixedwood stands that are dominated by Douglas fir and arbutus. However, Stand Type C has more structural development in the form of a well-developed understory. Stand Type B and F are both mature pioneer deciduous stand types but differ in their structural complexity and density. Stand type F has less than half the overstory density Stand Type B does and much larger, open grown trees. Stand Type E is relatively immature, conifer dominant, and contains the only grand fir found on site.

5.2 Steep Slope Removals

Selective tree removal occurring around escarpment areas will take place within the rock bluffs and associated colluvial slopes in Stand Type B and D. Approximately 1937 stems >15 cm DBH will be removed using a guideline of 50% removal where these stands overlap with the escarpment areas. Only a portion of the removals will occur where forest cover is on steep slopes, likely substantially less than the 50% threshold used in this report.

Most of the removed trees will be Douglas-fir, followed by a mix of native deciduous species arbutus, bigleaf maple, red alder, and paper birch. Size classes range up to 75+ cm DBH. However, a large majority of tree removals by numbers will be in the smaller size classes, with only a small amount of larger trees to be removed. Detailed tree counts can be found in the tree removal estimates in Appendix 1.

Appendix 1 Steep Slope Removal Estimates

Table 8. Stems removed on steep slopes in Stand Type B by species and size class if 50% removed.

	DBH Class (cm)	total stems	Stems/plot	Stems/ha	Removal (stems/ha)	Removal in steep slopes
Arbutus	10	4	1	133.3	67	63
	15	3	1	100.0	50	47
	20+	1	0	33.3	17	16
					Total	127
Bigleaf Maple	15	1	0	33.3	17	16
	30	1	0	33.3	17	16
					Total	32
Douglas Fir	15	2	1	66.7	33	32
	20	1	0	33.3	17	16
					Total	47
Paper Birch	20	1	0	33.3	17	16
					Total	16
Red Alder	10	4	1	133.3	67	63
	20	1	0	33.3	17	16
					Total	79
					Grand Total >15 cm DBH	175

Table 9. Stems removed on steep slopes in Stand Type D by species and size class if 50% removed.

	DBH Class (cm)	total stems	Stems/plot	Stems/ha	Removal (stems/ha)	Removal in steep slopes
Arbutus	15	1	0.25	25	13	53
	25	3	0.75	75	38	160
	35+	3	0.75	75	38	160
					Total	374
Douglas Fir	10	2	0.5	50	25	107
	15	3	0.75	75	38	160
	20	3	0.75	75	38	160
	25	6	1.5	150	75	321
	30	3	0.75	75	38	160
	35	2	0.5	50	25	107
	40	4	1	100	50	214
	45+	5	1.25	125	63	267
					Total	1496
					Grand Total >15 cm DBH	1762

Appendix 2 Tree Health and Structure Rating Criteria

The tree health and structure ratings used by Diamond Head Consulting summarize each tree based on both positive and negative attributes using five stratified categories. These ratings indicate health and structural conditions that influence a tree's ability to withstand local site disturbance during the construction process (assuming appropriate tree protection) and benefit a future urban landscape.

Excellent: Tree of possible specimen quality, unique species or size with no discernible defects.

Good: Tree has no significant structural defects or health concerns, considering its growing environment and species.

Moderate: Tree has noted health and/or minor to moderate structural defects. This tree can be retained, but may need mitigation (e.g., pruning or bracing) and monitoring post-development. A moderate tree may be suitable for retention within a stand or group, but not suitable on its own.

Poor: Tree is in serious decline from previous growth habit or stature, has multiple defined health or structural weaknesses. It is unlikely to acclimate to future site use change. This tree is not suitable for retention within striking distance of most targets.

Dying/Dead: Tree is in severe decline, has severe defects or was found to be dead.

Appendix 3 Report Assumptions and Limiting Conditions

- 1) Unless expressly set out in this report or these Assumptions and Limiting Conditions, Diamond Head Consulting Ltd. ("Diamond Head") makes no guarantee, representation, or warranty (express or implied) regarding this report, its findings, conclusions, or recommendations contained herein, or the work referred to herein.
- 2) The work undertaken in connection with this report and preparation of this report have been conducted by Diamond Head for the "Client" as stated in the report above. It is intended for the sole and exclusive use by the Client for the purpose(s) set out in this report. Any use of reliance on or decisions made based on this report by any person other than the Client, or by the Client for any purpose other than the purpose(s) set out in this report, is the sole responsibility of, and at the sole risk of, such other person or the Client, as the case may be. Diamond Head accepts no liability or responsibility whatsoever for any losses, expenses, damages, fines, penalties, or other harm (including without limitation financial or consequential effects on transactions or property values, and economic loss) that may be suffered or incurred by any person as a result of the use of or reliance on this report or the work referred to herein. The copying, distribution, or publication of this report (except for the internal use of the Client) without the express written permission of Diamond Head (which consent may be withheld in Diamond Head's sole discretion) is prohibited. Diamond Head retains ownership of this report and all documents related thereto both generally and as instruments of professional service.
- 3) The findings, conclusions and recommendations made in this report reflect Diamond Head's best professional judgment given the information available at the time of preparation. This report has been prepared in a manner consistent with the level of care and skill normally exercised by arborists currently practicing under similar conditions in a similar geographic area and for specific application to the trees subject to this report on the date of this report. Except as expressly stated in this report, the findings, conclusions, and recommendations it sets out are valid for the day on which the assessment leading to such findings, conclusions and recommendations was conducted. If generally accepted assessment techniques or prevailing professional standards and best practices change at a future date, modifications to the findings, conclusions, and recommendations in this report may be necessary. Diamond Head expressly excludes any duty to provide any such modification if generally accepted assessment techniques and prevailing professional standards and best practices change.
- 4) Conditions affecting the trees subject to this report (the "Conditions", include without limitation, structural defects, scars, decay, fungal fruiting bodies, evidence of insect attack, discolored foliage, condition of root structures, the degree and direction of lean, the general condition of the tree(s) and the surrounding site, and the proximity of property and people) other than those expressly addressed in this report may exist. Unless otherwise stated, information contained in this report

covers only those Conditions and trees at the time of inspection. The inspection is limited to visual examination of such Conditions and trees without dissection, excavation, probing or coring. While every effort has been made to ensure that any trees recommended for retention are both healthy and safe, no guarantees, representations or warranties are made (express or implied) that those trees will not be subject to structural failure or decline. The Client acknowledges that it is both professionally and practically impossible to predict with absolute certainty the behavior of any single tree, or groups of trees, in all given circumstances. Inevitably, a standing tree will always pose some risk. Most trees have the potential for failure and this risk can only be eliminated if the risk is removed. If Conditions change or if additional information becomes available at a future date, modifications to the findings, conclusions, and recommendations in this report may be necessary. Diamond Head expressly excludes any duty to provide any such modification of Conditions change or additional information becomes available.

- 5) Nothing in this report is intended to constitute or provide a legal opinion and Diamond Head expressly disclaims any responsibility for matters legal in nature (including, without limitation, matters relating to title and ownership of real or personal property and matters relating to cultural and heritage values). Diamond Head makes no guarantee, representation, or warranty (express or implied) as to the requirements of or compliance with applicable laws, rules, regulations, or policies established by federal, provincial, local government or First Nations bodies (collectively, "Government Bodies") or as to the availability of licenses, permits or authorizations of any Government Body. Revisions to any regulatory standards (including bylaws, policies, guidelines and any similar directions of a Government Bodies in effect from time to time) referred to in this report may be expected over time. As a result, modifications to the findings, conclusions and recommendations in this report may be necessary. Diamond Head expressly excludes any duty to provide any such modification if any such regulatory standard is revised.
- 6) Diamond Head shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services as described in the fee schedule and contract of engagement.
- 7) In preparing this report, Diamond Head has relied in good faith on information provided by certain persons, Government Bodies, government registries and agents and representatives of each of the foregoing, and Diamond Head assumes that such information is true, correct, and accurate in all material respects. Diamond Head accepts no responsibility for any deficiency, misinterpretations, or fraudulent acts of or information provided by such persons, bodies, registries, agents, and representatives.
- 8) Sketches, diagrams, graphs, and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys.
- 9) Loss or alteration of any part of this report invalidates the entire report.



Geological Hazard Review

Centre Stage Gabriola Subdivision
Phase 2 - Gabriola, BC

May 20, 2021

Prepared for:

Glenna Borsuk
Centre Stage Holdings Ltd.
601 – 22 Mt. Benson Street.
Nanaimo, BC

Prepared by:

Stantec Consulting Ltd.
500 – 4730 Kingsway
Burnaby, BC

Project Number: 123314922

GEOLOGICAL HAZARD REVIEW

This document entitled *Geological Hazard Review* was prepared by Stantec Consulting Ltd. (“Stantec”) for the account of Centre Stage Holdings Ltd. (the “Client”). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec’s professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party, as a result of decisions made, or actions taken based on this document.



Table of Contents

ABBREVIATIONS	III
1.0 INTRODUCTION.....	1
1.1 PROJECT UNDERSTANDING	1
2.0 PHYSICAL SETTING AND SITE DESCRIPTION.....	2
2.1 PHYSICAL SETTING.....	2
2.2 GEOLOGICAL SETTING	2
3.0 GEOLOGICAL HAZARD ASSESSMENT.....	4
3.1 INTRODUCTION.....	4
3.2 METHODS	4
3.3 RESULTS.....	7
3.3.1 Steep Slope – Geological Hazard Descriptions	7
3.3.2 Residential Lot Descriptions	8
3.3.3 Existing Developments	15
4.0 DISCUSSION AND RECOMMENDATIONS	16
4.1 RECOMMENDED SETBACKS SUMMARY	17
4.2 LIFE-THREATENING OR CATASTROPHIC EVENTS	17
5.0 LIMITATIONS	19
6.0 CLOSURE.....	20
7.0 REFERENCES.....	21
LIST OF TABLES	
Table 1 Recommended Setback Summary	18
LIST OF FIGURES	
Figure 1 Waypoint Locations (2020–2021 Field Reviews).....	5
LIST OF APPENDICES	
APPENDIX A STATEMENT OF GENERAL CONDITIONS	A.1
APPENDIX B SUBDIVISION DRAWING.....	B.1
APPENDIX C REFERENCE REPORTS	C.1
APPENDIX D LANDSLIDE ASSESSMENT ASSURANCE STATEMENTS.....	D.1



Abbreviations

APEGBC	Association of Professional Engineers and Geoscientists of British Columbia
BC	British Columbia
EGBC	Engineers and Geoscientists of British Columbia
ha	hectare
JEA	J. E. Anderson & Associates
masl	metres above sea level
MOTI	Ministry of Transportation and Infrastructure
PLA	preliminary layout approval
SL	strata lots



GEOLOGICAL HAZARD REVIEW

Introduction
May 20, 2021

1.0 INTRODUCTION

As requested by Centre Stage Holdings Ltd. (Centre Stage), Stantec Consulting Ltd. (Stantec) has carried out a geological hazard review and assessment of Phase 2 of a proposed rural subdivision on Gabriola Island for the purpose of a development permit and subdivision applications by Centre Stage. The legal description of the property is: The North East ¼ of Section 3, Gabriola Island, Nanaimo District, except Parcel A (DD 773261) and except Part in Plans EPP 19453 and EPP6666. The PID number is PID 003 134 806. A preliminary layout approval (PLA) was issued for 24 lots in Phase 2, but with a different lot layout than the current application. Five lots along the northern side of Phase 2 were subdivided and sold, so the footprint of the current proposal is smaller than the original. A geological hazard assessment was carried out for the original Phase 2 subdivision proposal by Golder Associates Ltd. (Golder 2010). The author of this Stantec report was the author of the original Golder report and was asked by Centre Stage to provide an updated report. At the request of Ministry of Transportation and Infrastructure (MOTI), the original Golder report is included in Appendix C. Similarly, a technical memo requested by Centre Stage (Stantec 2020), which addressed the question of change or lack of change in the geological conditions and hazards on the subdivision site between 2010 and 2020 is also included as in Appendix C. The Golder, May 19, 2010, report was registered with the Victoria Land Title Office as a covenant in favour of MOTI under document number CA2923794 on December 19, 2012.

1.1 PROJECT UNDERSTANDING

It is Stantec's understanding, based on discussions with Centre Stage, that the current report should focus on information relating to the proposed subdivision and development permit application.

Under the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC now EGBC) Guidelines for Legislated Landslide Assessments for Proposed Residential Developments in British Columbia (APEGBC 2010) the legislation requires that a Professional Engineer or Professional Geoscientist indicate whether the residential development will be "safe" from the effects of landslides. As outlined in the APEGBC guidelines, the Approving Authority, in this case MOTI, is responsible for rural subdivisions, defines an annual probability of 1/10,000 for catastrophic or life-threatening landslide as its level of safety and an annual probability of occurrence of 1/475 years (10% probability in 50 years) for individual landslide hazards (damaging events). The report addresses the relevant geological hazard criteria outlined in the MOTI 2015 document "Subdivision Preliminary Layout Review – Natural Hazard Risk" (Anon 2015).



GEOLOGICAL HAZARD REVIEW

Physical Setting and Site Description
May 20, 2021

2.0 PHYSICAL SETTING AND SITE DESCRIPTION

2.1 PHYSICAL SETTING

The proposed 19 lot subdivision occupies south to southwest facing slopes on the southwest side of Gabriola Island. The upper slopes of the property are accessed from Bonnie View Road; the mid slopes from the west end of Carrier Road; and the lower slopes from Lois Lane. All these roads are accessed from South Road (see J.E. Anderson & Associates drawing in Appendix B).

The hillside occupied by the proposed subdivision is generally forested, but there has been some local clearing and road building, including old logging trails and roads. The area has been logged in the past; the current forest cover is a mix of second and third growth timber with some areas of thick brush and/or blackberry patches. A shallow borrow pit is located on the mid slope, downslope and approximately south-southeast of the west end of Carrier Road.

Elevations on the property range from about 30 m above sea level (asl) to about 160 metres above sea level (masl). Rock bluffs and moderately steep to steeply sloping colluvial (talus) slopes occur as two distinct elongate bands on the upper slope and lower mid slope of the property. These rock bluffs and the colluvial (talus) slopes below them are subject to periodic rockfall, which comprises the geological hazard on the property. The rock bluffs trend west-northwest and generally range from about 5 m to 20 m high. The southeast end of the lower mid slope is primarily a colluvial slope interspersed with small, discontinuous bedrock outcrops.

The proposed subdivision plans (Appendix B) show a single lot above the upper rock bluff. There are strata lots on the gently to moderately sloping area between the upper bluff and the lower mid slope rock bluff and fee simple lots on the gently sloping lower slopes downslope of the lower mid slope rock bluff and colluvial slope.

2.2 GEOLOGICAL SETTING

Gabriola Island like all of British Columbia was glaciated during the last glaciation. The land surface was significantly depressed due to the weight of the overlying glacial ice. Following glacial retreat sea level in the area was likely in the range of 120–140 metres above current sea level¹. Over time the land surface rebounded to its current elevation. Consequently, as well as typical glacial and post-glacial materials (e.g., morainal material (till), glaciofluvial sediments and colluvium), there are local areas of glaciomarine materials and/or marine sediments. Morainal material is present on gently and moderately sloping areas on the upper, mid, and lower slopes of the proposed subdivision, glaciofluvial and/or glaciomarine gravels are present on the mid slopes and some lower slopes and fine-textured glaciomarine or marine sediments

¹ Clague, 1981, Figure 5 shows a maximum post-glacial sea level elevations of 150 m asl near Courtney, 140 masl near Parksville, 75 m asl near Victoria, and 180 masl near or on the Sechelt peninsula. Clague (1981) states that "Emergence of the isostatically depressed coastal lowlands of Vancouver Island and mainland British Columbia was rapid" and cites Mathews et al., 1970, that present sea level may have been attained between 10,000 and 11,000 years ago on eastern Vancouver Island. The highest elevation on this property where we have identified surficial materials that are potentially marine or glaciomarine sands and gravels is about 125 m asl; however, these materials could also be glaciofluvial in origin.



GEOLOGICAL HAZARD REVIEW

Physical Setting and Site Description
May 20, 2021

may occur locally on the lower slopes of the subdivision. Rock bluffs and colluvial (talus) slopes below the bluffs form the steeper slopes on the hillside.

The steep rock bluffs on the upper and lower mid slopes of the proposed subdivision comprise sandstones and conglomerates of the Geoffrey Formation, while the gently sloping lower slopes are underlain by shales, siltstones and minor sandstones of the Northumberland Formation. These two formations are part of the Cretaceous Nanaimo Group (Muller and Jeletzky, 1970, Packard Jr., 1972).



GEOLOGICAL HAZARD REVIEW

Geological Hazard Assessment
May 20, 2021

3.0 GEOLOGICAL HAZARD ASSESSMENT

3.1 INTRODUCTION

The scope of work for this project comprised a desktop review of the relevant Golder report for the original subdivision layout, some confirming field work for the new lot layout, and composition of a geological hazard report which address the new lot layout and meets the criteria in APEGBC *Guidelines for Legislated Landslide Assessments for Proposed Residential Developments in BC* (APEGBC, 2010). The scope of work includes reviewing the geological hazard zones within and around the property that may pose a hazard to the proposed subdivision and displaying them on the subdivision drawing. Also, as appropriate to propose mitigation to reduce those hazards.

3.2 METHODS

Stantec's geological hazard review and assessment included a desktop review of the original Golder geological hazard report for the property and field work to confirm the geological hazards present on the property. As noted in Section 1.0, Stantec also conducted a field review of the site to determine if there were apparent changes in the geological hazards and geologic conditions on the property since the 2010 Golder report was written (Appendix C). The field work involved a series of walking traverses that comprised:

- Traverses along the crest of the sandstone and conglomerate bluffs and the steep colluvial slopes.
- Traverses along the interface between the base of the rock bluffs and the top of the steep colluvial slopes below the rock bluffs.
- Traverses across the mid slopes of the steep colluvial slopes and along the base of these colluvial slopes, including the rockfall shadow areas beyond the toe of the colluvial slopes. As part of this set of traverses Stantec confirmed the apparent rockfall shadow angles documented in the 2010 Golder report using the same methods documented in the 2010 Golder report (see Appendix C and below).
- Traverses through the areas where residential development (construction) is likely. That is areas outside the identified steep slopes and geological hazard zones.

Figure 1 shows the GPS waypoints taken during field traverses in 2020 and 2021; these waypoints give a general sense of the areas through which Stantec carried out traverses and where the time on the ground was focused. However, not all areas traversed are represented by waypoints.



GEOLOGICAL HAZARD REVIEW

Geological Hazard Assessment
May 20, 2021

Figure 1 **Waypoint Locations (2020–2021 Field Reviews)**



NOTE: Due to scale and plotting limitations most waypoints, but not all waypoint numbers show on Figure 1. In some cases, waypoint numbers hide or are displaced away from the associated waypoint. North is at the top of the figure. The figure is not to scale; contours are at 10 m intervals.



GEOLOGICAL HAZARD REVIEW

Geological Hazard Assessment
May 20, 2021

The rockfall shadow angle noted above, defines the furthest distance that visible rockfall fragments are found out from the toe of a colluvial slope. The minimum slope angle from the furthest out rock fragments from the toe of the colluvial slope to the crest of the colluvial slope is measured and recorded (i.e., the base of the rock bluff where the colluvial slope begins is the crest of the colluvial slope). Within the proposed Phase 2 subdivision and in the Phase 1 subdivision to the northwest the rockfall shadow angle is about 22 degrees. The rockfall shadow angle is then used to define a maximum rockfall shadow line along the base of the colluvial slope, including areas where rockfall is either not present or is not at the maximum distance from the toe of the colluvial slope. This method (Evans and Hungr 1993) provides a conservative estimate of how far rockfall fragments may travel from the toe of a colluvial slope. This approach is typically applied where the ground at the base of the colluvial slope is relatively level. Where the ground beyond the toe of the colluvial slope was not level then an extensive search was made to identify and locate probable rockfall fragments and those fragments furthest from the toe of the colluvial slope were then used to define the rockfall shadow line. In the absence of rockfall fragments this line is based primarily on the minimum hillslope angle where the suspect rockfall fragments were found, which in this area is a slope angle of about 20 percent (11 degrees). Note that a conservative approach to identifying rockfall fragments on these sloping areas was used. Some weathered sandstone rockfall fragments are subangular with rounded edges and some subangular sandstone fragments may also be glacial erratics; however, these were assumed to be rockfall out of an abundance of caution.

This second approach was used for the rockfall shadow line below the lower rock bluff as most slopes were inclined rather than level. Occasional rocks (derived from glacial and post-glacial deposits) that were not sandstone or conglomerate were not considered rockfall. Previous human activity on the hillside, notably logging (e.g., during yarding activity), may have displaced some rockfall fragments. In sloping areas this displacement would most likely have been downslope rather than upslope creating a more conservative interpretation of rockfall travel distance. The rockfall fragments from the upper rock bluff are sandstone, those from the lower mid slope rock bluff are a mix of sandstone and conglomerate fragments with sandstone predominating. The rockfall fragments generally range in size from about 0.05 to 5 m along the long axis of the fragments.



GEOLOGICAL HAZARD REVIEW

Geological Hazard Assessment
May 20, 2021

3.3 RESULTS

3.3.1 Steep Slope – Geological Hazard Descriptions

Two areas of rockfall hazard are present within the proposed subdivision. These rockfall areas comprise the two rock bluffs² and associated colluvial slopes, one on the upper slopes of the proposed subdivision and one on the lower mid slopes of the proposed subdivision. The dashed top of slope and dashed (red) rockfall shadow lines on the J. E. Anderson & Associates (JEA) drawing in Appendix B define the top of the often near-vertical rock bluffs and/or associated moderately steep to steep³ colluvial slopes, respectively. The rockfall shadow lines are generally located a short distance downslope of the toe of the steep colluvial slopes.

Within the bounds of the top of slope lines and the rockfall shadow lines at the base of the two rock bluffs and associated colluvial slopes the probability of damaging rockfall likely exceeds the MOTI 1 in 475 year (10% probability in 50 years) for individual landslide hazards (a damaging event). Two instances of recent rockfall are recorded in the 2010 Golder report. One of these rockfall fragments was a tabular piece of sandstone greater than or equal to 1+ m long and approximately 0.5 m wide, leaning against a second growth conifer (T. Rollerson, personal observation). Both these fragments stopped part way down a colluvial slope and did not reach the rockfall shadow zone or the rockfall shadow angle line.

The distribution of rockfall fragments on these slopes suggests that rockfall occurs both as small events comprising one to several rock fragments and as larger events that include numerous individual rock fragments. In either case, there may be fragmentation of individual rocks as they travel downslope.

Weathering processes (e.g., freeze thaw action) and seismic activity can result in rockfall. Seismic events of less magnitude than the 475-year seismic event can generate rockfall. Dislodged rock fragments are often observed in areas of windthrown trees on steep slopes following strong winds.

The lower mid slope rock bluff is much longer west to east than the upper bluff. Both bluffs and associated colluvial slopes trend roughly WNW-ESE; this orientation being controlled by a distinctive, near-vertical joint surface that trends (strikes) at approximately 300 degrees.

Both rock bluffs and the colluvial slopes below are subject to rockfall. There is a larger rockfall accumulation below the 20 m high rock bluff on the lower east side of strata Lot 7 (SL7) that may have moved as a small rock avalanche for a slope distance of about 90 m; stopping on the gentle slopes at the base of the colluvial slope and within the rockfall shadow zone (i.e., about 25 m out from the toe of the colluvial slope and greater than or equal to 20 m upslope of the rockfall shadow line). There are old growth Douglas Fir stumps on this feature and the soil development is comparable to that on the colluvial slopes to the west, suggesting that the feature is quite old. This feature is also immediately east of known First Nations burial sites located within accumulations of large, rockfall blocks at the toe of the colluvial slope.

² These rock bluffs and limited portions of the associated colluvial slopes would meet the escarpment criteria (slopes greater than 80%) documented in the Gabriola Island Land Use bylaw and the Gabriola Island Official Community Plan.

³ The terminology for slope angles follows the usage in the Terrain Classification System for British Columbia (TCSBC), Howes and Kenk (1997), as follows: plain (or level) 0-5%, gentle 6-26%, moderate 27-49%, moderately steep 50-70% and steep >70%. The surficial material terminology used in this report also follows that in and as defined by the TCSBC.



GEOLOGICAL HAZARD REVIEW

Geological Hazard Assessment
May 20, 2021

The visible weathering and disintegration of the rock fragments within these rockfall accumulations is similar to or perhaps not as advanced as that on the suspect rock avalanche. Radiocarbon dates from the burial sites nearest to the suspect rock avalanche range in age from 2170 ± 70 to 3240^{+50} years before present (the first date is from Skinner 1991 as cited in Curtin 2002 and the second date is Curtin 2002). These dates suggest a minimum age for the suspect rock avalanche of about 3300 years, since the rockfall accumulations would have been in place for some time before the first burials occurred.

3.3.2 Residential Lot Descriptions

There are three generally gently to locally moderately sloping areas proposed for residential development. These are described below. Some of the lots as laid out do extend down the rock bluffs and steep colluvial slopes. These steeper areas are described as appropriate for individual lots. In the interest of brevity, where terrain and geomorphic conditions are comparable, we have combined descriptions for two or more lots.

3.3.2.1 Area Above the Upper Bluff

The first area is located mainly above the upper bluff and comprises a single lot, Part A upper, with a surface area of 1.04 ha (lot A is split into two portions, a small one on the upper slope, and a larger one on the lower slope of the proposed subdivision).

Part A upper includes a portion of the eastern end of the upper sandstone bluff (see JEA drawing in Appendix A). The portion of the lot above the upper bluff is proposed for siting a residence. The sandstone bluff is not suitable for residential construction. To provide a safe building site there should be a minimum setback, above the top of slope (rock bluff) line, of 15 m upslope or north of the top of slope line (the rock bluff in this area ranges from about 10 m to 15 m high). The upper portion of the lot is generally mantled with shallow veneers⁵ of weathered bedrock⁶ and morainal material. The morainal materials may be deeper locally. There are also a few small areas of gently sloping or weakly ridged, weathered, and fractured sandstone exposed at the surface. Slope angles on the short south-facing slope immediately above the upper bluff range from 20–40%, while the slopes on the longer north-facing slope that runs down to Bonnie View Road average about 10%.

The portion of Part A upper above the recommended 15 m setback is considered safe for residential construction.

⁴ This is a conventional C-14 age corrected with reference to the measured C13/C12 ratio.

⁵ The term veneer is used to indicate material (soil) depths generally less than 1 m deep above bedrock unless otherwise noted. The term blanket infers surficial material depths greater than a metre.

⁶ Weathered bedrock is surficial material (or residual soil) formed of decomposed or disintegrated bedrock in situ by processes of chemical and/or mechanical weathering (Howes and Kenk 1997). In this area these materials generally consist of angular rock fragments in a matrix of sand, silt, and possibly minor clay.



GEOLOGICAL HAZARD REVIEW

Geological Hazard Assessment
May 20, 2021

3.3.2.2 Area Between the Two Bluffs and Above the Strata Road Extension to Carrier Road

The second area considered comprises strata lots (SL) SL1 to SL5 that are located above the strata road extension to Carrier Road. These lots range from 1.01 to 3.07 ha in size (Appendix B).

Strata Lots SL1, SL2, and SL3

Strata lots SL1, SL2 and SL3 are located primarily on gently sloping (10–20%), well to imperfectly drained, morainal materials. Along the top edge of SL3 slope angles range from 15–30%. A small, near-level area of glaciofluvial or glaciomarine gravels is present in the southwest corner of SL 3.

Strata lots SL1, SL2 and SL3 are considered safe for residential construction.

Strata Lot SL4

Strata lot SL4 is mainly located on gently sloping (10–20%), well drained morainal materials. A small, near-level terrace composed of glaciofluvial and/or glaciomarine gravels is present along the lower boundary of the lot at the extension to Carrier Road. The upper slopes of SL4 comprise a small area of morainal materials sloping at 30 to 50% and the extreme eastern end of the upper sandstone bluff and associated rubbly blocky colluvial slope. The bluff is near-vertical and ranges from 1–5 m high; the colluvial slope has slope angles of 50–60%.

The bluff and colluvial slopes in the NW corner of the lot are considered unsafe for residential development.

A 10 m setback towards the SSW and SE from the rockfall shadow line in the NW corner of SL4 is recommended. The remainder of SL4 is considered safe for residential development, although the 30–50% morainal slopes and old road fill slopes in the upper part of the lot are unlikely to be suitable for residential development.

Strata Lot SL5

Strata lot SL5 extends from strata lot SL4 to the western boundary of the proposed subdivision. The upper WNW trending slope of SL5 begins at the base of the upper rock bluff and comprises a blocky colluvial slope extending downslope from the base of the rock bluff and out to the rockfall shadow boundary. Slope angles on the colluvial slope generally range from 60-70%, but locally there are slopes as gentle as 50% and as steep as 80%. The bluff above the colluvial slope effectively ends about 50 m from the western property boundary; but persists as a few low (1–2 m high), discontinuous, steep, sandstone outcrops. This western portion of the slope is primarily colluvial; occasional 1–2 m diameter rockfall fragments are present on the colluvial slope, below the discontinuous sandstone outcrops. Consequently, the rockfall shadow line extends along the base of this slope to the western property boundary.



GEOLOGICAL HAZARD REVIEW

Geological Hazard Assessment
May 20, 2021

South-southwest for about 80 m from the toe of the colluvial slope the surface of SL5 comprises a low, weakly ridged to undulating bedrock surface mantled with a complex of morainal materials and shallow veneers of weathered bedrock. Slope angles in this area generally range from 0–20%. A very small, WNW trending wetland is present in the west-central part of this area. A small, undulating area of glaciofluvial and/or glaciomarine sands and gravels⁷ occurs in the SE corner of the lot.

From the west end of the Carrier Road extension, the SL5-SL6 boundary runs WNW along the top of a low, discontinuous rock scarp and colluvial slope (approximately 3–6 m high) for about 140 m. The SL5-SL6 boundary then descends slightly and continues WNW near and along the base of a gently to moderately sloping, 3–5 m high slope composed of well drained, weathered bedrock with occasional small sandstone outcrops for about 75 m to the western property boundary.

Stantec recommends a minimum setback 10 m SW of the rockfall shadow line along the upper slopes of SL5 to ensure that the potential residential building site within this lot is safe from rockfall. South of the 10 m setback from the rockfall shadow line SL5 is considered safe for residential development.

3.3.2.3 Character of the Strata Lots SL6–SL13 Below the Carrier Road Extension

Strata lots SL6 to SL13 extend downslope from the Carrier Road extension to the top of slope line and then down the lower mid slope bluff and colluvial (talus) slope to a greater or lesser degree. The following paragraphs describe the nature of these strata lots, upslope of the top of slope line. These lots, range in area from 1.01 to 2.04 ha. A subsequent section describes their character below the top of slope line.

Strata Lot SL6

Trending WNW along and immediately below the upper boundary of SL6 with SL5 is a low (3–6 m high), discontinuous bedrock scarp and colluvial slope that runs WNW about 140 m from the west end of Carrier Road. There is an accumulation of apparent rockfall fragments at the base of this slope. However, a review of site photographs taken 20 December 2006, indicates that most or all, of these rock fragments result from preliminary subgrade construction near the west end of the extension of Carrier Road and associated land clearing activities. This slope extends further WNW to the western property/lot boundary as a gently to moderately sloping, 3–5 m high slope of weathered bedrock with occasional very small sandstone outcrops. From this WNW trending bedrock and colluvial slope south and southwest to the top of slope line SL6 consists of near level to gently sloping surfaces mantled with shallow veneers of well drained weathered bedrock, and blankets and veneers of well drained morainal materials. These gentle slopes are interrupted midway to the top of slope line by a short (approximately 100 m long), WNW trending, mixed colluvial and weathered bedrock surface ranging from 1–10 m high, having a slope gradient of 40–50%.

⁷ The surface of some of the apparent glaciofluvial deposits may have been re-worked by wave action during higher sea-levels at the end of the last (Fraser) glaciation. Some of these deposits may actually be glaciomarine beaches rather than glaciofluvial deposits.



GEOLOGICAL HAZARD REVIEW

Geological Hazard Assessment
May 20, 2021

Between the top of slope line and the recommended setback (20 m) for SL6, there are several low, discontinuous, (0.5 to 3 m high) bedrock-controlled scarps. Between the scarps are near-level, to gently sloping steps or terraces, mantled with shallow soil veneers comprised variously of weathered bedrock, morainal materials and glaciofluvial or glaciomarine sands and gravels.

The top of the low, discontinuous bedrock scarp described above at the top of SL6 is composed of weathered and fractured sandstone that is being excavated and crushed for local use, so the height of parts of this scarp will decrease with time. This work (and the work to create the turnaround at the end of the Carrier Road extension) is being done with an excavator mounted hydraulic rock hammer and an excavator mounted bucket crusher, not explosives⁸.

The portion of SL6 upslope of the 20 m setback from the top of slope line at the top of the lower mid slope rock bluff is considered safe for residential development and has reasonable building sites within the lot setback lines.

Strata Lots SL7, SL8, SL9, SL10 and SL11

From the recommended setback lines to within a short distance of Carrier Road, strata lots SL7, SL8, SL9, SL10 and SL11 are located on gently sloping, glaciofluvial and/or glaciomarine sands and gravels. There may also be local areas of morainal materials, the surface of which may have been washed by marine wave action (e.g., SL7). In some areas these materials comprise shallow veneers overlying an irregular to glacially smoothed and gently ridged bedrock surface. Locally small areas of rubbly, weathered bedrock may replace the glaciofluvial and/or glaciomarine surface.

The relatively short (20–50 m long) upper slopes of strata lots SL7, SL8, SL9, SL10 and S11, immediately below the Carrier Road extension, comprise a complex of gently to moderately (10–35%) sloping, well drained, glaciofluvial or glaciomarine sands and gravels and moderately sloping (30–40%), well to rapidly drained, rubbly weathered bedrock slopes that abut the fill slopes of the recently constructed Carrier Road extension. Occasional sandstone fragments and small isolated bedrock outcrops are present along these slopes and small areas of morainal materials may also occur locally (e.g., SL11). Some of the rock fragments may have rolled naturally, been pushed, or dragged short distances by earlier logging activities, and some result from the upslope road construction. Some of the rock fragments will have been exposed by natural processes such as tree mortality and windthrow. Some of these slopes may not be suitable for residential construction due to slope angle constraints, the presence of near surface bedrock, and proximity to Carrier Road.

Between the top of slope line along the top of the lower mid slope bluff and the recommended setback lines for SL7 east to and including SL11, there can be low (0.5 to 2 m high), discontinuous, bedrock scarps. Between the scarps there are near-level to gently sloping steps or terraces, mantled with shallow soil veneers comprised variously of weathered bedrock, morainal materials and glaciofluvial or glaciomarine sands and gravels.

⁸ The equipment in use is a Van Ed Equipment V25 rock hammer mounted on a Caterpillar 311, 13-ton excavator and a MB 70 bucket crusher attached to a 25-ton excavator.



GEOLOGICAL HAZARD REVIEW

Geological Hazard Assessment
May 20, 2021

Strata lots SL7 to SL11 upslope of the top of slope line setbacks are considered safe for residential development and have suitable building sites within the lot setback lines. SL 7 and SL 8 have recommended setbacks of 20 m from the top of slope line and SL 9 to SL11 have recommended setbacks of 10 m from the top of slope line. The bedrock bluff, colluvial slopes and mixed colluvial and bedrock slopes below the top of slope line (see below) are subject to periodic rockfall and are considered unsafe for residential construction.

Strata Lots SL12 and SL13

The upper slopes of strata lots SL12 and SL13 immediately below the Carrier Road extension are mantled with well to imperfectly drained morainal blankets and veneers. Slope angles on these slopes range from 10-15%. The mid and lower portions of these two lots above the top of slope line generally comprise near-level to gently sloping, well drained, glaciofluvial or glaciomarine sands and gravels. In the case of strata lot SL13, a shallow borrow pit has been excavated into the sands and gravels for local use.

Strata lots SL12 and SL13 above the top of slope line setbacks are considered safe for residential construction and have reasonable building sites within the lot setback lines.

Recommended upslope setback distances from the top of slope line to provide safe building sites 10 m for strata lots SL12 and SL13. The bedrock bluff, colluvial slopes and mixed colluvial and bedrock slopes below the top of slope line (described below) are subject to periodic rockfall and are considered unsafe for residential construction.

3.3.2.4 Character of the Strata Lots SL6 to SL13 Below the Lower Mid Slope Bluff Top of Slope Line

Strata lot SL6 extends downslope over the rock bluff and onto the colluvial slope below the bluff. The western end of the lower boundary of strata lot SL6 begins at the toe of the colluvial slope and ascends east across the colluvial slope. The eastern end of the lower boundary of SL6 is about 10 m below (south of) the toe of the sandstone and conglomerate bluff. The bluff is near-vertical and averages about 20 m high across the entire width of strata lot SL6. The blocky rubbly colluvial slopes below the bluff average 70–80% at and below the base of the bluff; but decrease further downslope to 60–70% near the base of the slope. The bluff and the colluvial slope are subject to periodic rockfall. The rock fragments forming the colluvial slope here and along the slope further east (SL7 and SL8), range in size from sand particles to large sandstone and conglomerate blocks several meters across.

Strata lots SL7 and SL8 also extend down and past the base of the 20 m high conglomerate and sandstone bluff and onto the top of the steep (approximately 70–80%) colluvial slopes. The lower boundaries of strata lots SL7 and SL8 are approximately 10 m and 5 m below the base of the bluff, respectively. The base of the bluff retreats upslope, at the SL8–SL9 boundary. The bluff is subject to periodic rockfall.

From the SL8–SL9 boundary the lower boundary of SL9 gradually ascends then descends a rubbly colluvial slope along the base of an approximately 10 m high, dominantly conglomerate bluff from west to east to the SL9–SL10 boundary. The bluff is subject to periodic rockfall.



GEOLOGICAL HAZARD REVIEW

Geological Hazard Assessment
May 20, 2021

The lower slopes of SL10 extend from 60 m to 40 m south and downslope of the top of slope line. The slope below the top of slope line formed of a mix of well to rapidly drained, rubbly colluvium and discontinuous bedrock outcrops. Average slope angles range from 50–60% in much of this area; but may increase to 70–80% locally and approach 90 degrees on some bedrock scarps. These mixed colluvial and bedrock slopes are subject to periodic rockfall.

The lower slopes of strata lot SL11 extend about 17 m south and downslope from the top of slope line at the SL10–SL11 property boundary, from that point the lower property boundary ascends to about 2 m south and downslope of the top of slope line at the SL11–SL12 property boundary. In this area the slopes below the top of slope line comprise a mix of rubbly colluvium and discontinuous bedrock outcrops. Average slope angles range from 70–80% in much of this area; but may increase to 90% locally and can approach 90 degrees on some small bedrock scarps. These slopes are subject to periodic rockfall.

The lower slopes of strata lot SL12 extend from about 2 to 20 m downslope from the top of slope line on slopes composed of a mix of discontinuous, steeply sloping bedrock outcrops and rubbly colluvial materials. Slope angles on this slope generally average 70–80%. The slope is subject to periodic rockfall.

The lower slopes of strata lot SL13 extends 20 to 50 m downslope of the top of slope line at the west and east ends of the lot, respectively. The top of slope line ends about 55 m east of the SL12–SL13 property line. Immediately below the top of slope line there is a sandstone bluff ranging from about 3 to 10 m high, and below that a slope composed of rubbly colluvium and discontinuous bedrock outcrops, which has slopes averaging 70% immediately below the bluff and 50% further downslope. These slopes are subject to periodic rockfall. The slope east of the end of the top of slope line is underlain by well drained morainal materials. The slope gradient on these morainal slopes averages about 20%. These morainal slopes extend a short distance into the rockfall zone below the east end of the bluff.

The portions of strata lots SL6 to SL13 below the lower mid slope bluff top of slope line are subject to periodic rockfall; consequently, these areas are considered unsafe for residential development.

3.3.2.5 Character of the Lots Below the Lower Mid Slope Rock Bluff

Lots B to F range from 1.01 to 1.10 ha in area, while Part A lower (Part AL) has an area of 16.71 hectares (ha).

Part A Lower

The eastern and central parts of Part AL on and below the lower bluff, comprise a mix of colluvial, morainal, glaciofluvial, and glaciomarine slopes. Slope angles vary considerably within Part AL. At the eastern end of Part AL slope angles range from 5% at the southern (lower) property boundary and 20% to 25% below the lower boundary of strata lot SL13 and are 10–15% in the narrow portion of Part AL along the eastern boundary of SL13. The eastern end of Part AL below strata lot SL13 is mantled with well to moderately-well drained morainal materials, while the lower slopes on the eastern portion of the lot are primarily level to gently sloping glaciofluvial gravels and sands, likely reworked by wave action during the higher stand of sea level at the end of the last glaciation.



GEOLOGICAL HAZARD REVIEW

Geological Hazard Assessment
May 20, 2021

The lower slopes along the central portion of Part A_L are primarily composed of near-level to gently sloping (5–15%) glaciofluvial or glaciomarine sands and gravels, possibly with minor areas of morainal material; locally, there are small areas covered with a cobble lag⁹, suggestive of wave action. Conversely, the mid and upper slopes in the central portion of the lot are primarily colluvial with some discontinuous bedrock outcrops and average slope angles ranging from 60–80% although immediately below SL9 the slope angles on the colluvial slopes range from 30–50%. The colluvial slopes below the conglomerate bluff at the base of strata lot SL9 have slope angles ranging from 30–40%; but increase to 50–60% near the SL9–SL10 property boundary.

The upper west side of Part A_L comprises a gently sloping glaciofluvial terrace that abuts the toe of the steep blocky colluvial slope. The surface of the terrace may have been reworked by wave action. Slope angles range from 5% to 10% on the gently sloping terrace tread and are moderately sloping (30–40%) along a short (5–10 m long), downslope terrace scarp. The lower portion of Part A_L along the western property boundary (upslope of Lots E and F) is a gently sloping, morainal surface similar to Lots B to F, described below, with slope angles ranging from 5% to 10%.

The northern part of the western slopes of Part A_L that lie along the base of the colluvial slope are within the mapped rockfall shadow zone. Similarly, the upper and mid slopes of the central and most of the eastern portion of Part A_L are also within the rockfall and rockfall shadow zone; however, the extensive lower slopes of the western, central, and eastern portions of the lot lie downslope of the rockfall shadow line. The last roughly 50 m wide section of the eastern portion of Part A_L lies east of the rockfall shadow line.

The colluvial and mixed bedrock and colluvial slopes within Part A_L are subject to periodic rockfall and are considered unsafe for residential construction.

The gently sloping to near-level areas in the mid and lower slopes of Part A_L, downslope of a 20 m downslope setback from the rockfall shadow line are considered safe for residential development.

Lots B, C, D, E, F

Lots B to F are located on the gently sloping, lower slopes of the proposed subdivision. Slope angles within Lots B to F generally range from 5% to 10%. The area is mantled with well to moderately well drained, veneers and blankets of morainal materials, there may be local areas of imperfectly drained soils. In some areas the surface of the morainal materials may have been modified by wave action. Sandy gravelly or gravelly sandy glaciomarine sediments may occur locally along the upper slopes of some of these lots. The area is underlain by shales, siltstones, and minor sandstones of the Northumberland Formation. Small exposures of these rocks may occur locally in areas where the overlying soils are shallow.

These lots are well downslope of the areas of rockfall hazard below the lower mid slope bluff, so are considered safe for residential development.

⁹ Lag – as in a gravel lag; a residual accumulation of rock fragments; produced by the removal of finer particles, by wind, stream, or wave action (modified from Thomas and Goudie 2000).



GEOLOGICAL HAZARD REVIEW

Geological Hazard Assessment
May 20, 2021

3.3.3 Existing Developments

There are a number of features or installations present within the proposed subdivision, both recent and historical. These include:

A gravel surfaced strata road extension of Carrier Road including two turnarounds. Preliminary gravel, crushed rock, or native material surfaced driveways to access individual lots. Old logging roads and trails. Two septic tank and septic field installations, one in SL 5 and one in lot E. A borrow pit developed in glaciofluvial (possible glaciomarine) sands and gravels on the mid slopes of SL13 and some hydraulic hammer and excavator removal of sandstone bedrock for crushing along the top of SL6. A number of wells have also been drilled and there are a numerous old, shallow tests pits that were excavated to evaluate soil condition suitability for septic fields.

Except for the old logging roads and trails and a few, old septic field test pits none of these features or installations are located on the steep slopes or within the rockfall shadow zones. There are short sections of old logging roads or trails within the rockfall shadow zones below both the upper rock bluff and colluvial slope and the lower rock bluff and colluvial slope. There are a few, old, septic field test pits along an old logging road or trail on the gentle slopes below the lower bluff that are within the lower rockfall shadow zone.



GEOLOGICAL HAZARD REVIEW

Discussion and Recommendations
May 20, 2021

4.0 DISCUSSION AND RECOMMENDATIONS

Setbacks from the top of slope lines of equivalent distances to bluff heights at affected lots from top of slope lines are recommended in the 2010 Golder report ensure that residences are safely back from potential top of slope rock fragment detachments. We generally concur with these setbacks; but have made some adjustments as the new lot outlines vary from those in the original Golder report, all 5 m setbacks have been changed to 10 m setback recommendations. To mitigate rockfall hazard, a 10 m setback for residential construction from the rockfall shadow lines below the upper slope bluff and 20 m below the lower mid slope bluff are recommended to provide an extra measure of safety. The rockfall shadow line below the lower mid slope bluff was defined primarily by the hillslope angle and a ground search for the locations of the furthest downslope identifiable rockfall fragments¹⁰. Consequently, since this may be a less certain approach for identifying a rockfall shadow line than the rockfall shadow angle method described in Section 3.2 we recommend a setback distance of 20 m downslope of the rockfall shadow line on the hillside below the lower mid slope bluff, to provide a reasonable measure of protection for residential construction.

Only rarely do rockfall fragments reach the rockfall shadow lines, most rockfall fragments stop on the colluvial slopes above the toe of the colluvial slope and only limited numbers occur within the rockfall shadow zones.

If a future lot owner wishes to build a residence closer to the top of slope lines or to the rockfall shadow lines than the setbacks outlined in this report recommend, then Stantec recommends a detailed lot-specific geotechnical hazard assessment be carried out by a qualified professional engineer or geoscientist (APEGBC 2010) to establish a safe building envelope and if necessary, design protective works to mitigate the hazard. Similarly, if an owner wishes to use blasting to develop a site for a residence then Stantec recommends the owner engage a geotechnical engineer to ensure that no adverse effects will result from blasting; especially with respect to the sandstone and conglomerate bluffs and associated colluvial (talus) slopes in the area.

The slopes within the proposed subdivision have been logged, primarily by clearcutting, one or more times. Old growth stumps are visible in various areas including on the steep colluvial slopes, below the rock bluffs. June 5, 1991, BC government air photos show recent second growth, clearcut harvesting on the moderate and gently sloping areas of the property, but not on the steeper slopes. Some of the old growth Douglas Fir stumps on the colluvial slopes below the lower mid slope bluff show evidence of either wildfire or prescribed burning, while the second growth¹¹ on these slopes does not show evidence of fire. Inspection of the steeper slopes on the property, comprising bedrock, mixed bedrock and colluvium, and

¹⁰ This was partly because much of the land at the base of the lower mid slope bluff continues moderately- to gently-sloping. In areas where the ground is level or almost level, the forest is dense, so it is very difficult to see through the forest to identify the top of the colluvial (talus) slope with certainty. Consequently, it was not possible to use the rockfall shadow angle to locate a rockfall shadow line. So even where the ground was level it was necessary carry out a search for probable rockfall fragments to define the rockfall shadow line.

¹¹ Stantec cored several second growth Douglas Fir trees on the colluvial slope below the lower mid slope bluff and found a maximum tree age of about 70 years, so it was likely in the late 1940s or early 1950s that the original logging occurred on these steep slopes.



GEOLOGICAL HAZARD REVIEW

Discussion and Recommendations
May 20, 2021

colluvial materials alone, shows no visible evidence of post-logging landslide activity¹². Consequently, it is Stantec's professional opinion that there is a low to very low likelihood that selective removal of trees on these steeper slopes would adversely affect slope stability.

4.1 RECOMMENDED SETBACKS SUMMARY

Table 1 on the following page summarizes the recommended lot setbacks above the top of slope and below the rockfall shadow lines to create safe building sites. In all relevant cases the slope area between the setbacks for top of slope line and setbacks for the rockfall shadow line for both the upper bluff and colluvial slope and the lower mid slope bluff and colluvial slope are considered unsafe for residential construction.

4.2 LIFE-THREATENING OR CATASTROPHIC EVENTS

We found no physical evidence of life-threatening or catastrophic¹³ events having a probability of 1 in 10,000 years (i.e., occurring since the end of the last glaciation) that reached the proposed lot areas beyond the setback lines or the lots considered safe as summarized in Table 1 below. As noted above in Section 3.3.1 (para 2), the two rock bluffs (upper slope bluff and lower mid slope bluff) and associated colluvial slopes which are subject to rockfall are considered unsafe for residential development and would certainly fall within the 1/10,000 annual probability and very likely within an annual probability of occurrence of 1 in 475 years (10% probability in 50 years) for a damaging event. The recent rockfall fragments described above and many of the rockfall fragments present on the colluvial slopes and in the rockfall shadow zone are large enough to damage a residence or threaten life under the right circumstances.

¹² This is a common finding, along the BC Coast, typically in areas with wetter climates than Gabriola. Post-logging landslide frequencies on mixed bedrock and colluvial slopes and on colluvial slopes in these areas tend to be low or very low and negligible on bedrock slopes (Rollerson et.al., 2000, Millard, et al, 2002, Rollerson, et.al., 2002, Rollerson et.al., 2005).

¹³ The large rockfall event or small rock avalanche that Stantec found, and described above, would not, in Stantec's professional opinion, be considered a catastrophic event as it traveled only a short distance, about 25 m, beyond the toe of the talus slope, remaining within the mapped rockfall shadow zone (or ~230 m upslope of lots E and F). The distance from the top of the likely rockfall detachment zone on the rock bluff to the toe of the colluvial slope was about 60 m. The Ministry of Environment and Climate Change Strategy, Preliminary Strategic Climate Risk Assessment for British Columbia in Table 2, p 18 of that report, describes a consequence rating of catastrophic, as resulting in a loss of life of 100+ people or >25% of a single community; morbidity, disease, or hospitalization and 1000+ people affected or >25% of a single community, and months long disruption of daily life, among other factors.



GEOLOGICAL HAZARD REVIEW

Discussion and Recommendations
May 20, 2021

Table 1 Recommended Setback Summary

Lot	Top of Slope (ToS) Setback	Rockfall Shadow (RFS) Setback	Comment ¹
Part A upper	15 m	10 m	Area above ToS setback considered safe
SL1	N/A	N/A	Lot is considered safe
SL2	N/A	N/A	Lot is considered safe
SL3	N/A	N/A	Lot is considered safe
SL4	N/A ²	10 m	Area below RFS setback considered safe, the narrow sliver above the TOS is not.
SL5	N/A	10 m	Area below RFS setback considered safe
SL6	20 m	N/A	Area above ToS setback considered safe
SL7	20 m	N/A	Area above ToS setback considered safe
SL8	20 m	N/A	Area above ToS setback considered safe
SL9	10 m	N/A	Area above ToS setback considered safe
SL10	10 m	N/A	Area above ToS setback considered safe
SL11	10 m	N/A	Area above ToS setback considered safe
SL12	10 m	N/A	Area above ToS setback considered safe
SL13	10 m	N/A	Area above ToS setback considered safe
Part A lower	N/A	20 m	Area below RFS setback considered safe
B	N/A	N/A	Lot is considered safe
C	N/A	N/A	Lot is considered safe
D	N/A	N/A	Lot is considered safe
E	N/A	N/A	Lot is considered safe
F	N/A	N/A	Lot is considered safe
NOTES: ¹ The lot areas considered safe in this tabulation have suitable building sites within the lot setback lines. Note that the recommended setbacks are not included in the mapped Top of Slope and Rockfall Shadow lines, but are located above or below these lines respectively at appropriate distances. ² This setback is listed as N/A as the upper lot boundary at this location is only a metre or two above the top of slope line. RFS = Rockfall Shadow ToS = Top of Slope			



GEOLOGICAL HAZARD REVIEW

Limitations
May 20, 2021

5.0 LIMITATIONS

The approaches with respect to rockfall travel distances and delineation of rockfall shadow hazard lines are described above in Section 3.2.

The descriptions of the spatial extent of various surficial material types and deposits on the property are not exact. Thick brush in some areas, time in the field, and relatively widely spaced ground traverses across the slopes on the property limit the exact delineation of the extent and location of these materials. The identification or separation of colluvial materials from morainal materials from glaciofluvial materials is reasonably straightforward; however, separation of gravelly sandy glaciofluvial deposits from gravelly sandy glaciomarine or marine deposits is not realistic at this level of investigation. Both glaciofluvial and glaciomarine deposits are typically heterogenous and can vary dramatically within short distances. For example, in the case of two test pits excavated some time ago on the lower slopes of the property and less than 10 m apart, one was dominantly sand and the other dominantly gravel.

The recorded slope angles are general averages determined with a hand-held clinometer, not surveying instruments, and do not account for local variations in slope angle over short distances. Distances given in the report are horizontal distances, not slope distances, derived from measurements of a KML version of the subdivision plan using the distance measuring tool in Global Mapper v21.0. Lot areas given in the report are taken from the subdivision drawing in Appendix B.



GEOLOGICAL HAZARD REVIEW

Closure
May 20, 2021

6.0 CLOSURE

This report was prepared for the exclusive use of Centre Stage Holdings Ltd. and their agents for specific application to the Centre Stage Gabriola Subdivision Phase 2. Any use of this report or the material contained herein by third parties, or for other than the intended purpose, should first be approved in writing by Stantec.

Use of this report is subject to the Statement of General Conditions included in Appendix A. It is the responsibility of Centre Stage Holdings Ltd., who is identified as “the Client” within the Statement of General Conditions, and their agents to review the conditions and notify Stantec should any of them not be satisfied. The Statement of General Conditions addresses the following:

- Use of the report
- Basis of the report
- Standard of care
- Interpretation of site conditions
- Varying or unexpected site conditions
- Planning, design, or construction

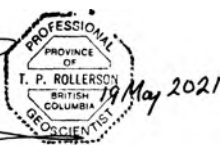
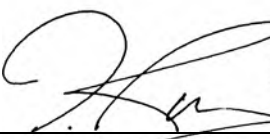
Landslide Assessment Assurance Statements can be found in Appendix D.

We trust that this report meets your present requirements. If you have questions or require additional information, please contact the undersigned.

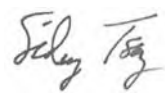
Regards,

Stantec Consulting Ltd.

Reviewed by:



Terry Rollerson M.Sc., P.Geo., P.L.Eng.
Senior Terrain Scientist
Phone: (250) 327-4187
Terry.Rollerson@stantec.com



Sid Tsang P.Geo.
Principal, Geohazards and Geomorphology
Phone: (778) 835-9465
Sid.Tsang@stantec.com



GEOLOGICAL HAZARD REVIEW

References
May 20, 2021

7.0 REFERENCES

- Anon. 2015. Subdivision Preliminary Layout Review – Natural Hazard Risk. Ministry of Transportation and Infrastructure, British Columbia.
- Association of Professional Engineers and Geoscientists of British Columbia (APEGBC). 2020. Guidelines for Legislated Landslide Assessments for Proposed Residential Developments in BC. Revised May 2010.
- Clague, J.J., 1981. Late Quaternary Geology and Geochronology of British Columbia. Part 2: Summary and discussion of radiocarbon dated Quaternary history. Geological Survey of Canada, Paper 80-35.
- Curtin, A. J. 2002. Prehistoric Mortuary Variability On Gabriola Island, British Columbia. Publication No. 29 Archaeology Press Department of Archaeology Simon Fraser University Burnaby, BC.
- Evans, S.G., and Hungr, O., 1993. The Assessment of Rockfall Hazard at the Base of Talus Slopes. Geological Survey of Canada Contribution #42290.
- Gabriola Island Official Community Plan. Bylaw No. 166. 1997. Consolidated Version: September 2, 2019. Islands Trust - Northern Office, 700 North Road, Gabriola Island, BC V0R 1X3
- Golder Associates. 2010. *Geological Hazard Assessment, Centre Stage Phase 2*. A report prepared for Center Stage Holdings Limited. May 19, 2010
- Howes D.E., and E. Kenk. 1997. Terrain Classification System for British Columbia, Version 2. Ministry of Environment, Ministry of Crown Lands, Victoria, BC.
- Mathews, W.H., Fyles, J.G., Nasmith, H.W., 1970. Postglacial Crustal Movements in Southwestern British Columbia and Adjacent Washington State. Canadian Journal of Earth Sciences 7, 690–702.
- Millard, T., T.P. Rollerson and B. Thomson. 2002. Post-logging landslide rates in the Cascade Mountains, southwestern British Columbia. Research. Sec., Van. For. Reg., B.C. Min. For., Nanaimo, B.C. Tec. Rep. TR-023/2002.
- Ministry of Environment and Climate Change Strategy. 2019. Preliminary Strategic Climate Risk Assessment for British Columbia. Report prepared for the Government of British Columbia. Victoria.
- Muller, J. E. and J. A. Jeletzky. 1970. Geology of the Upper Cretaceous Nanaimo Group, Vancouver Island and Gulf Islands, British Columbia. Geological Survey of Canada Paper 69-25.
- Packard Jr., J.A. 1972. Paleoenvironments of the Cretaceous Rocks, Gabriola Island, British Columbia. MSc. Thesis. Oregon State University.



GEOLOGICAL HAZARD REVIEW

References

May 20, 2021

- Rollerson, T., D. Maynard, S. Higman, E. Ortmayr. 2005. Phillips River landslide hazard mapping project. In: Landslide Risk Management – Hungr, Fell, Couture & Eberhardt (eds). Taylor&Francis Group, London. UK. A.A. Balkema Publishers.
- Rollerson, T., T. Millard, and B. Thomson. 2002. Using terrain attributes to predict post-logging landslide likelihood on southwestern Vancouver Island. Research. Sec., Van. For. Reg., BC Min. For., Nanaimo, BC. Tec. Rep. TR-015/2002.
- Rollerson, T., T. Millard, C. Jones, K. Trainor, and B. Thomson. 2000. Predicting Post-Logging Landslide Activity Using Terrain Attributes: Coast Mountains, British Columbia. Technical Report TR-011 March 2000. Research. Sec., Van. For. Reg., B.C. Min. For., Nanaimo, B.C.
- Skinner, Mark. 1991. Osseous treponematoses of the Americas: a review with new evidence from Gabriola Island (DgRw 199), B.C., Canada. Permit report 1988-1, submitted to the Heritage Conservation Branch, Victoria, B.C.
- Stantec Consulting Ltd. (Stantec). 2020. *Centre Stage Gabriola Subdivision Phase 2 – Geological Hazard Review*. A technical memorandum prepared for Centre Stage Holdings Limited. June 5, 2020.
- Thomas, D. S. G. and A. Goudie, editors. 2000. The Dictionary of Physical Geography – Third Edition. Blackwell Publishing Ltd.



APPENDIX A

Statement of General Conditions

GEOLOGICAL HAZARD REVIEW

Appendix A Statement of General Conditions
May 20, 2021

Appendix A STATEMENT OF GENERAL CONDITIONS

USE OF THIS REPORT: This report has been prepared for the sole benefit of the Client or its agent and may not be used by any third party without the express written consent of Stantec and the Client. Any use which a third party makes of this report is the responsibility of such third party.

BASIS OF THE REPORT: The information, opinions, and/or recommendations made in this report are in accordance with Stantec's present understanding of the site-specific project as described by the Client. The applicability of these is restricted to the site conditions encountered at the time of the investigation or study. If the proposed site-specific project differs or is modified from what is described in this report or if the site conditions are altered, this report is no longer valid unless Stantec is requested by the Client to review and revise the report to reflect the differing or modified project specifics and/or the altered site conditions.

STANDARD OF CARE: Preparation of this report, and all associated work, was carried out in accordance with the normally accepted standard of care in the state or province of execution for the specific professional service provided to the Client. No other warranty is made.

INTERPRETATION OF SITE CONDITIONS: Soil, rock, or other surficial material descriptions, and statements regarding their condition, made in this report are based on review of available literature, geologic and soils maps, third-party borehole records, and through interpretation of both aerial photography and LiDAR data. Classifications and statements of condition have been made in accordance with normally accepted practices which are judgmental in nature; no specific description should be considered exact, but rather reflective of the anticipated behaviour of materials or geomorphic processes. Extrapolation of in situ conditions can only be made to some limited extent beyond the existing borehole locations. The extent depends on variability of the soil, surficial materials, bedrock, soil moisture and groundwater conditions as influenced by geological processes, construction activity, and land use.

VARYING OR UNEXPECTED CONDITIONS: Should any site or subsurface conditions be encountered that are different from those described in this report, Stantec must be notified immediately to assess if the varying or unexpected conditions are substantial and if reassessments of the report conclusions or recommendations are required. Stantec will not be responsible to any party for damages incurred as a result of failing to notify Stantec that differing site or sub-surface conditions are present upon becoming aware of such conditions.

PLANNING, DESIGN, OR CONSTRUCTION: Development or design plans and specifications should be reviewed by Stantec, sufficiently ahead of initiating the next project stage (property acquisition, tender, construction, etc.), to confirm that this report completely addresses the elaborated project specifics and that the contents of this report have been properly interpreted. Specialty quality assurance services (field observations and testing) during construction are a necessary part of the evaluation of sub-surface conditions and site preparation works. Site work relating to the recommendations included in this report should only be carried out in the presence of a qualified geotechnical engineer or geoscientist; Stantec cannot be responsible for site work carried out without being present.



APPENDIX B

Subdivision Drawing



LEGAL DESCRIPTION	PART OF NORTH EAST 1/4 OF SECTION 3, EXCEPT PARCEL A (UD 73261)		CLIENT		CENTRE STAGE HOLDINGS LTD	
			PROJECT		GABRIOLA ISLAND	
PROJECT DATUM	ELEVATIONS AND COORDINATES ARE LOCAL, ONLY AND DO NOT RELATE TO ANY OTHER COORDINATE SYSTEM OR ELEVATION DATUM.		DESIGN: SS		SITE PLAN	
			DRAWN: SS		86489 01 D1	
			J.E. ANDERSON & ASSOCIATES		SURVEYORS	
			JEA		ENGINEERS	
			1A - 341 SHENTON ROAD, NAWAUO, B.C. 991 2611		TEL: 206-864-4660	
			E-MAIL: natalina@janderson.com			
			LEGEND			
			LAMP STANDARD		♦ S ♦	
			POLE/PIERS, T.O.		♦ P ♦	
			U/O WING		—	
			W/S		—	
			SERVICE PIER		O	
			MONUMENT CORN		—	
			NON-MONUMENT CORN		—	
			SEWER		—	
			ISSUED FOR PERMIT		MAY 17/21	
			1			



J.E. ANDERSON & ASSOCIATES
SURVEYORS -- ENGINEERS

1A - 3411 SHEVTON ROAD, NANAIMO, B.C. V9T 2H1
TEL: 250 - 758 - 4631 FAX: 250 - 758 - 4660
E-MAIL: nandino@janderson.com

LEGEND	SYMBOL	DESCRIPTION
LAMP STANDARD	♦	♦
PALETTE (meters)	♦	♦
WATER	—	—
SEWER	—	—
NON-DRINKING WATER	—	—
EDGE ASPHALT	—	—
AIR VALVE	⊙	⊙

APPENDIX C

Reference Reports

To:	Glenna Borsuk, Don Gatley. Centre Stage Holdings Ltd 601 – 22 Mt Benson Str., Nanaimo, BC	From:	Terry Rollerson, P.Geo. 500 - 4730 Kingsway Burnaby, BC
File:	123314922	Date:	June 5, 2020

Reference: Centre Stage Gabriola Subdivision Phase 2 – Geological Hazard Review

At your request Stantec Consulting Ltd. (Stantec) has completed a review of a Golder Associates Ltd. (Golder) 2010 geological hazard report¹ and carried out a site reconnaissance of Centre Stage Holdings Ltd.'s Gabriola Subdivision Phase 2² to confirm or not that the geological conditions and hazards on site have not changed substantively since the Golder 2010 report was completed. The reason for the review is that the subdivision plan has been completely revised (i.e., size, location and number of lots) since the Golder 2010 report and so a new subdivision plan will be submitted for approval to the BC Ministry of Transportation and Infrastructure.

The geological hazard review comprised the following:

- A desktop review of the Golder May 19, 2010 report.
- A field reconnaissance of the hazard zones mapped by Golder for the original Phase 2 subdivision (Figure 1).
- A desktop visual inspection of the selectively logged steep slope area on the nearby Centre Stage Phase 1 Gabriola subdivision using a 2016 Google Earth image to see if there was any satellite visible post-logging landslide activity on those slopes. This slope was logged circa 2005.
- A brief field inspection of a selectively logged steep slope hazard zone in the Phase 1 subdivision to see if there was any ground visible, post-logging landslide activity that occurred between 2016 and 2020. This steep slope is located about 600 m west-northwest of the northwest corner of the proposed Phase 2 subdivision.

FIELD METHODS

There are two hazard zones mapped by Golder on the 2010 Phase 2 subdivision plan (Figure 1), one on the upper slope of the proposed Phase 2 subdivision (upper slope hazard zone) and one on the lower mid-slope of the proposed Phase 2 subdivision (mid slope hazard zone). Both the upper slope and mid slope hazard zones comprise a bedrock bluff and a steep to moderately steep colluvial slope below the bluff. The primary geological hazard on these slopes is rockfall.

Field reviews of these areas were carried out on May 22, 27 and 30, 2020. Figure 3 shows our traverse routes and waypoints (wp) for the May 27 and May 30 field reviews, we did not collect GPS data for a traverse on May 22, 2020.

¹ Geological Hazard Assessment Centre Stage Phase 2. May 19, 2010. Golder Associates Ltd. Provided by Centre Stage Holdings Ltd.

² See drawing by J.E. Anderson & Associates Dated June 3, 2020 (Figure 2).

June 5, 2020

Glenna Borsuk, Don Gatley.

Page 2 of 9

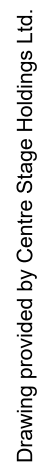
Reference: Centre Stage Gabriola Subdivision Phase 2 – Geological Hazard Review

During a pre-project site visit for the revised Phase 2 subdivision plan (Figure 2) on May 22, 2020 to discuss the scope of work, Terry Rollerson (Stantec) and Don Gatley (Centre Stage) walked the approximate location of the Top of Slope line of the mid slope hazard zone from east to west to see if there were any geological changes visible immediately below or above the Top of Slope line.

On May 27, 2020 Terry Rollerson and Don Gatley walked downhill from the west end of Carrier Road (Figures 2 and 3) to the east end of Top of Slope line of the mid slope hazard zone and then down to the base of the mixed sandstone and conglomerate bluff that forms the upper portion of the mid slope hazard zone (wp 03). We walked west-northwest along the base of the bluff for the full extent of the proposed Phase 2 subdivision (i.e., wp 03 to wp 11). We then turned and walked downslope and east-southeast along the lower portion of the colluvial slope and rockfall shadow that forms the lower portion of the mid slope hazard zone and then northeast to our starting point just east of the end of the Top of Slope line (i.e., wp 11 through 12, 13 and 03). This east to west and west to east return traverse allowed us to see both the face of the bluff and the colluvial slopes and blocky rockfall accumulations below the bluff.

To access the upper slope hazard zone, we walked west-northwest from the end of Carrier Road and then northwest through the mid slopes of the proposed subdivision to a point (wp 17) near the western end of the proposed subdivision at the base of the lower slopes of the upper slope hazard zone. From this point we walked east along the base of the blocky colluvial slope that forms the lower slopes of the upper slope hazard zone to the east end of the hazard zone. We then walked up and generally west along the Top of Slope line of the upper slope hazard zone from the east end of the line to the west end of the line (wp 14) within the currently proposed subdivision and then back to the east end of the line. From the east end of the hazard zone Terry Rollerson then traversed west along the base of the sandstone bluff that forms the upper slope of the upper slope hazard zone about half way to the west end of the hazard zone (wp 16) and then walked downslope and southeast through the colluvial slope to the base of the upper slope hazard zone at wp 17. A third short loop traverse was carried out by Terry Rollerson on May 30, 2020 to complete the base of bluff and rock fall shadow line traverses (i.e., wp 17 through 21). These two traverses allowed us to visually inspect the slope at and above the Top of Slope line as well as the sandstone bluff and the colluvial slopes and rockfall accumulations below the bluff.

A field inspection of the selectively logged Phase 1 subdivision steep slope hazard zone was carried out by Terry Rollerson on the afternoon of May 28, 2020, by walking from east to west and back along the private road that begins at the east end of Seymour Road and runs downslope through and along the base of the steep slope to access the strata lots within the Phase 1 subdivision. Most of the steep slope is visible from this private road. The east end of this steep, selectively logged slope is visible on Figure 3 west-northwest of wp 18.

[illegible]

SKEETCH PLAN OF PROPOSED BARE LAND STRATA OF THE NORTH EAST 1/4 OF SECTION 3, GABRIOLA ISLAND, NANAIMO DISTRICT EXCEPT PARCEL A (DD 7733261) AND EXCEPT PLANS EPP19453, EPP66666 AND EPP

Subject to charges, legal restrictions, and interests shown on: Title No. W02055322 (P.L.O. 003-134-806)

N
PLAN VIS6238
SEC. 8
SEC. 3
EASEMENT P35192
PARK
SOUTHEAST 1/4 SECTION 8
BONNIE VIEW ROAD
1
PLAN EPP19453
TOP OF SLOPE
PART G
PLAN EPP
PLAN D
C
B
A
EPP28213
PLAN EPP66666
REM. B
PLAN 5448
SL 5
2.86 ha
POND
ROCKFALL SHADOW LINE
SL 4
2.05 ha
TOTAL ACCESS LENGTH=41.43
COMMON PROPERTY
Rem. N.E. 1/4 SECTION 3
SL 7
2.05 ha
PROPOSED 15.0m RADIUS CUL-DE-SAC
SL 3
1.08 ha
SL 2
2.05 ha
SL 1
1.08 ha
EPP96613
CARRIER RD
LACKHAVEN DRIVE
PLAN 23540
PLAN 1
3
5
7
9
11
13
15
17
19
21
23
25
27
29
35
36
37
3
PLAN 2475
GARLAND DRIVE
MOLLYS WAY
COVENANT
F
A
PLAN 52187
COVENANT
E
D
C
B
A
STOKES ROAD
1
PLAN 27818
A
PLAN 30395
2
PLAN 25831
2
PLAN 2475
J.E. ANDERSON & ASSOCIATES
B.C. Land Surveyors - Consulting Engineers
Victoria - Nanaimo - Parksville - Campbell River, B.C.
File #9937
Date: June 3, 2020
The intended grid size of this plan is 500mm in width by 432mm in height (C size) when plotted at a scale of 1:2000.

Drawing provided by Centre Stage Holdings Ltd.

Figure 3 Field Traverse GPS Tracks and waypoints - May 27 and 30, 2020



Notes:
 May 27 tracks – blue
 May 30 track – red
 North is towards the top of the figure.

RESULTS

Our traverses through the upper slope and mid slope hazard zones within the proposed Phase 2 subdivision revealed no visible changes in the geologic conditions and geologic hazards on site. That is we saw no freshly opened joints or ground cracks at or immediately north of the Top of Slope lines nor any evidence of fresh rockfall scars on the bluff faces or fresh rockfall fragments or freshly scarred trees on the colluvial slopes below the bluffs. We did not see any evidence of post-logging landslide activity on these slopes as a result of previous logging activity³.

Similarly, we did not see any evidence of post-logging landslide activity on the selectively logged steep slope in the Phase 1 subdivision either on the 2016 Google Earth satellite image or in the field on May 28, 2020.

CONCLUSIONS

Based on our desktop review and reconnaissance field observations, it is Stantec's opinion that the interpretations and conclusions reached by Golder in their 2010 geological hazard report with respect to hazard zones, setbacks, safe areas and the low likelihood of landslide activity following any selective logging that may occur on the steep slopes forming the hazard zones are still valid.

³ The Golder May 19, 2010 report documents that the hillslopes within the proposed Phase 2 subdivision have been logged one or more times in the past.

June 5, 2020

Glenna Borsuk, Don Gatley.

Page 7 of 9

Reference: Centre Stage Gabriola Subdivision Phase 2 – Geological Hazard Review

CLOSURE

This technical memorandum was prepared for the exclusive use of Centre Stage Holdings Ltd. Any use of this report or the material contained herein by third parties, or for other than the intended purpose, should first be approved in writing by Stantec.

Use of this memorandum is subject to the Statement of General Conditions provided in **Appendix A**. It is the responsibility of Centre Stage Holdings Ltd., who is identified as “the Client” within the Statement of General Conditions, and its agents to review the conditions and to notify Stantec should any of them not be satisfied.

The memo was prepared by Mr. Terry Rollerson, P.Geol. and reviewed by Mr. Sid Tsang, P.Geol. We trust that this memorandum meets your present requirements. If you have any questions or require additional information, please contact the author.

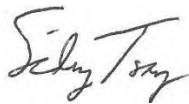
Stantec Consulting Ltd.



Terry Rollerson, M.Sc., P.Geol.
Senior Terrain Scientist

Phone: 250-327-4187
terry.rollerson@stantec.com

Reviewed by:



Sidney Tsang, P.Geol.
Senior Associate, Geohazards and Geomorphology

Phone: 604-235-1873
sid.tsang@stantec.com

APPENDIX A Statement of General Conditions

June 5, 2020

Glenna Borsuk, Don Gatley.

Page 9 of 9

Reference: Centre Stage Gabriola Subdivision Phase 2 – Geological Hazard Review

USE OF THIS REPORT: This report has been prepared for the sole benefit of the Client or its agent and may not be used by any third party without the express written consent of Stantec and the Client. Any use which a third party makes of this report is the responsibility of such third party.

BASIS OF THE REPORT: The information, opinions, and/or recommendations made in this report are in accordance with Stantec's present understanding of the project as described by the Client. The applicability of these is restricted to the site conditions encountered at the time of the investigation or study. If the proposed project differs or is modified from what is described in this report or if the site conditions are altered, this report is no longer valid unless Stantec is requested by the Client to review and revise the report to reflect the differing or modified project specifics and/or the altered site conditions.

STANDARD OF CARE: Preparation of this report, and all associated work, was carried out in accordance with the normally accepted standard of care in the state or province of execution for the specific professional service provided to the Client. No other warranty is made.

INTERPRETATION OF SITE CONDITIONS: Soil, rock, or other surficial material descriptions, and statements regarding their condition, made in this report are based on review of available literature, geologic and soils maps, third-party borehole records, and through interpretation of both aerial photography and LiDAR data. Classifications and statements of condition have been made in accordance with normally accepted practices which are judgmental in nature; no specific description should be considered exact, but rather reflective of the anticipated behaviour of materials or geomorphic processes. Extrapolation of in situ conditions can only be made to some limited extent beyond the existing borehole locations. The extent depends on variability of the soil, surficial materials, bedrock, soil moisture and groundwater conditions as influenced by geological processes, construction activity, and land use.

VARYING OR UNEXPECTED CONDITIONS: Should any site or subsurface conditions be encountered that are different from those described in this report, Stantec must be notified immediately to assess if the varying or unexpected conditions are substantial and if reassessments of the report conclusions or recommendations are required. Stantec will not be responsible to any party for damages incurred as a result of failing to notify Stantec that differing site or sub-surface conditions are present upon becoming aware of such conditions.

PLANNING, DESIGN, OR CONSTRUCTION: Development or design plans and specifications should be reviewed by Stantec, sufficiently ahead of initiating the next project stage (property acquisition, tender, construction, etc.), to confirm that this report completely addresses the elaborated project specifics and that the contents of this report have been properly interpreted. Specialty quality assurance services (field observations and testing) during construction are a necessary part of the evaluation of sub-subsurface conditions and site preparation works. Site work relating to the recommendations included in this report should only be carried out in the presence of a qualified geotechnical engineer or geoscientist; Stantec cannot be responsible for site work carried out without being present.

VICTORIA LAND TITLE OFFICE

Dec-19-2012 12:28:22.001

DECLARATION(S) ATTACHED
CA2923794 CA2923796LAND TITLE ACT
FORM C (Section 233) CHARGE

GENERAL INSTRUMENT - PART 1 Province of British Columbia

PAGE 1 OF 38 PAGES

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

Ronald Leonard
Morin UNYLGW

Digitally signed by Ronald Leonard
Morin UNYLGW
DN: cn=CA, cn=Ronald Leonard Morin
UNYLGW, o=Lawyer, ou=Verify ID at
www.juricert.com/LKUP.cdm?
id=UNYLGW
Date: 2012.12.19 12:26:44 -08'00'

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

Morin Law Corporation
Barristers and Solicitors
15245 18 Avenue
Surrey BC V4A 1W9
Document Fees: \$217.50

Telephone: (604) 538-9887
LTO Client Number: 12023
File Number: Centre Stage R12694

Deduct LTSA Fees? Yes ☒

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

003-134-806 NORTH EAST QUARTER SECTION 3 GABRIOLA ISLAND NANAIMO DISTRICT
EXCEPT PARCEL A(DD77326I)

STC? YES ☐

3. NATURE OF INTEREST
-
- SEE SCHEDULE

CHARGE NO. ADDITIONAL INFORMATION

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

(a) ☐ Filed Standard Charge Terms D.F. No.(b) ☒ Express Charge Terms Annexed as Part 2

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

5. TRANSFEROR(S):

CENTRE STAGE HOLDINGS LTD. (INC. NO. 204577)

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

SEE SCHEDULE

7. ADDITIONAL OR MODIFIED TERMS:

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

Officer Signature(s)

Ron Morin
Barrister & Solicitor
Notary Public
15245-18th Avenue
Surrey, BC, V4A 1W9
604-538-9887

Execution Date

Y	M	D
12	10	03

Transferor(s) Signature(s)

CENTRE STAGE HOLDINGS LTD.
by it Authorized Signatory
GLENN BORSUK

OFFICER CERTIFICATION:

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

**LAND TITLE ACT
FORM D**

EXECUTIONS CONTINUED

PAGE 2 of 38 pages

Officer Signature(s)

Execution Date

Transferor / Borrower / Party Signature(s)

DEBBY FISHER

Commissioner for Taking Affidavits in BC

ISLAND Savings Credit Union
300-499 Canada Avenue
Duncan, BC, V9L 1T7

Y	M	D
12	10	11

ISLAND SAVINGS CREDIT UNION, by
its Authorized Signatory(ies)

Print Name: LISA VERWOLF

Print Name: JOY CISSOLD

GRACE MORIN

Barrister & Solicitor

Notary Public
15245-18th Avenue
Surrey, BC, V4A 1W9
604-538-9887

12	11	27
----	----	----

R.G.R. Legacy Holdings Ltd.
By its authorized Signatory

Ron Morin

OFFICER CERTIFICATION:

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

**LAND TITLE ACT
FORM D**

EXECUTIONS CONTINUED

PAGE 3 of 38 pages

Officer Signature(s)

Execution Date

Transferor / Borrower / Party Signature(s)

STUART JOHNSON

Commissioner for Taking Affidavits in BC
2100 Labieux Road, Nanaimo, BC
V9T 6E9

Y	M	D
12	12	19

HER MAJESTY THE QUEEN IN THE
RIGHT OF THE PROVINCE OF
BRITISH COLUMBIA, as represented
by the Minister of Transportation and
Infrastructure, by its authorized signatory
(ies)

Print Name: BOB WYLIE

OFFICER CERTIFICATION:

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

**LAND TITLE ACT
FORM E
SCHEDULE**

PAGE 4 OF 38 PAGES

NATURE OF INTEREST
Covenant

CHARGE NO.

ADDITIONAL INFORMATION
Section 219

NATURE OF INTEREST
Priority Agreement

CHARGE NO.

ADDITIONAL INFORMATION
granting Section 219 Covenant with one registration number less than this priority agreement priority over Mortgage CA1806610 and Assignment of Rents CA1806611. Part 2 Page 10 of 38 pages

NATURE OF INTEREST
Priority Agreement

CHARGE NO.

ADDITIONAL INFORMATION
granting Section 219 Covenant with two registration numbers less than this priority agreement priority over Mortgage CA2841957. Part 2 Page 11 of 38 pages

NATURE OF INTEREST

CHARGE NO.

ADDITIONAL INFORMATION

NATURE OF INTEREST

CHARGE NO.

ADDITIONAL INFORMATION

NATURE OF INTEREST

CHARGE NO.

ADDITIONAL INFORMATION

**LAND TITLE ACT
FORM E**

SCHEDULE

PAGE 5 OF 38 PAGES

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

Part 8 Transferees

HER MAJESTY THE QUEEN IN THE RIGHT OF THE PROVINCE OF BRITISH COLUMBIA, as represented by the Ministry of Transportation and Infrastructure, having its offices at 2100 Labieux Road, Nanaimo, British Columbia

ISLAND SAVINGS CREDIT UNION, Incorporation number FI-29 having its head office at 499 Canada Avenue, Duncan B.C., V9L 1T7

R.G.R. LEGACY HOLDINGS LTD. Incorporation No. BC0775435 having a registered and records office at 15245-18th Avenue, Surrey, BC, V4A 1W9

TERMS OF INSTRUMENT—PART 2

SECTION 219 COVENANT – SAFE BUILDING SITE APPROVAL

THIS AGREEMENT dated for reference June, 2012, is

BETWEEN:

CENTRE STAGE HOLDINGS LTD.,
a British Columbia company with offices at
2761 McBride Avenue, Surrey, BC V4A 3G3

(the "**Owner**")

AND:

**HER MAJESTY THE QUEEN IN THE RIGHT
OF THE PROVINCE OF BRITISH COLUMBIA,**
as represented by the Ministry of Transportation and
Infrastructure, 2100 Labieux Road, Nanaimo. B.C.
V9T 6E9

(the "**Province**")

GIVEN THAT:

- A. The Owner is the registered owner in fee simple of the Lot in the Gabriola Island Local Trust Area, British Columbia, legally described as follows:

PID: 003 134 806

North East Quarter, Section 3, Gabriola Island, Nanaimo District, Except Parcel A (DD77326I)

(the "**Lands**");

- B. The Owner wishes to subdivide the Lands into lots (the "Lots")
- C. Section 219 of the Land Title Act provides that a covenant in respect of the use of land or a building or that land is or is not to be built on in favour of the Crown or a municipality may be registered as a charge against title to the land; and

Page 7 of 38 Pages

D. As a condition to the Province consenting to the subdivision of the Lands, the Province requires the owner to enter into this Section 219 covenant (the "**Agreement**").

THIS AGREEMENT is evidence that in consideration of payment of \$1.00 by the Province to the Owner (the receipt of which is acknowledged by the Owner), and in consideration of the promises exchanged below, the Owner covenants and agrees with the Province in accordance with Section 219 of the Land Title Act as follows:

1. No Build Covenant

The owner will not nor will it permit any party to develop, build or construct or place on the Lands or any Lot or Lots, any building, structure or dwelling until safe building sites have been identified by a qualified Geo Technical Engineer and approved by the Provincial Approving Officer as per the recommendations of the Golder Associates Report on Geological Hazard Assessment (dated May 19, 2010) a copy of which attached hereto as Schedule "A".

2. Acknowledgment of Covenant Purpose

The Owner acknowledges and agrees that the Lands and Lots require identification of safe building sites before the construction of any building, structure or dwelling on the Lands or Lots is commenced.

3. Obligations

The parties agree that this Agreement creates only contractual obligations and obligations arising out of the nature of this document as a covenant under seal. The parties agree that no tort obligations or liabilities of any kind exist between the parties in connection with the performance of, or any default under or in respect of, this Agreement. The intent of this section is to exclude tort liability of any kind and to limit the parties to their rights and remedies under the law of contract and under the law pertaining to covenants under seal.

4. Indemnity

The Owner releases, and must indemnify and save harmless, the Province, and its' respective elected and appointed officials and employees, from and against all liability, actions, causes of action, claims, damages, expenses, costs, debts, demands or losses suffered or incurred by the Owner, or anyone else, arising from the granting or existence of this Agreement, from the performance by the Owner of this Agreement, or any default of the Owner under or in respect of this Agreement.

5. No Public Law Duty

Where Province is required or permitted by this Agreement to form an opinion, exercise a discretion, express satisfaction, make a determination or give its consent, the Owner agrees that the Province is under no public law duty of fairness or natural justice in that regard and agrees that the Province may do any of those things in the same manner as if it were a private party and not a public body.

6. No Effect on Laws or Powers

This Agreement does not affect or limit the discretion, rights or powers of the Province under any enactment (as defined in the Interpretation Act, R.S.B.C. 1996, c. 238, on the reference date of this Agreement) or at common law, including in relation to the use or subdivision of the Lots.

7. Covenants Run with the Lots

Every obligation and covenant of the Owner in this Agreement constitutes both a contractual obligation and a covenant granted under Section 219 of the Land Title Act in respect of the Lots and this Agreement burdens the Lands and Lots and runs with them and binds the successors in title to the Lots. This Agreement burdens and charges all of the Lands and Lots and any parcel into which it is subdivided by any means and any parcel into which the Lots are consolidated. The Owner is only liable for breaches of this Agreement that occur in respect of the Lands or Lots while the Owner is the registered owner of that Land or Lot.

8. Waiver

An alleged waiver of any breach of this Agreement is effective only if it is an express waiver in writing of the breach. A waiver of a breach of this Agreement does not operate as a waiver of any other breach of this Agreement.

9. Severance

If any part of this Agreement is held to be invalid, illegal or unenforceable by a court having the jurisdiction to do so, that part is to be considered to have been severed from the rest of this Agreement and the rest of this Agreement remains in force unaffected by that holding or by the severance of that part.

**Page 9 of 38
Pages**

10. Entire Agreement

This Agreement is the entire agreement between the parties regarding its subject.

11. Enurement

This Agreement binds the parties to it and their respective successors, heirs, executors and administrators.

12. Deed and Contract

By executing and delivering this Agreement each of the parties intends to create both a contract and a deed executed and delivered under seal.

13. Registration in Land Title Office

The Owner agrees to do everything reasonably necessary, at the Owner's expense, to ensure that this Agreement is registered against title to the Lots with priority over all financial charges, liens and encumbrances registered, or the registration of which is pending, at the time of application for registration of this Agreement.

14. Further Assurances

The Owner must do everything reasonably necessary to given effect to the intent of this Agreement, including execution of further instruments.

As evidence of their agreement to be bound by the above terms, the parties each have executed and delivered this Agreement under seal by executing Part 1 of the Land Title Act Form C or Form D's to which this Agreement is attached and which form part of this Agreement.

Page 10 of 38 Pages

CONSENT AND PRIORITY AGREEMENT

OF

ISLANDS SAVINGS CREDIT UNION

Islands Savings Credit Union, (the "**Chargeholder**") is the holder of a mortgage and assignment of rents registered against the Land legally described in item 2 of the Form E to which this Agreement is attached, which mortgage and assignment of rents are registered in the Victoria Land Title Office under instrument numbers CA 1806610 and CA 1806611 respectively (collectively, the "**Charge**").

In connection with the Section 219 Covenant (the "**Covenant**") granted herein by Centre Stage Holdings Ltd. Her Majesty The Queen In The Right of the Province of British Columbia, as represented by the Minister responsible for the Ministry of Transportation (the "**Transferee**"), the Transferee requires the Chargeholder to grant the Covenant priority over the Charge.

This Consent and Priority Agreement is evidence that in consideration of payment to the Chargeholder of \$1.00 by the Transferee, the Chargeholder agrees with the Transferee as follows:

1. The Chargeholder consents to the granting and registration of the Covenant and the Chargeholder agrees that the Covenant binds its interest in and to the Land.
2. The Chargeholder grants to the Transferee priority for the Covenant over the Chargeholder's right, title and interest in and to the Lots and the Chargeholder postpones the Charge, and all of its right, title and interest thereunder, to the Covenant as if the Covenant had been executed, delivered and registered prior to the execution, delivery and registration of the Charge.

As evidence of its agreement with the Transferee to be bound by this Consent and Priority Agreement, as a contract and as a deed executed and delivered under seal, the Chargeholder has executed and delivered this Agreement by executing the Land Title Act Form D to which this Agreement is attached and which forms part of this Agreement.

Page 11 of 38 Pages

CONSENT AND PRIORITY AGREEMENT
OF
R.G.R. LEGACY HOLDINGS LTD

R.G.R. Legacy Holdings Ltd. (the "**Chargeholder**") is the holder of a registered against the Land legally described in item 2 of the Form E to which this Agreement is attached, which mortgage is registered in the Victoria Land Title Office under instrument numbers CA 2841957 (the "**Charge**").

In connection with the Section 219 Covenant (the "**Covenant**") granted herein by Centre Stage Holdings Ltd. Her Majesty The Queen In The Right of the Province of British Columbia, as represented by the Minister responsible for the Ministry of Transportation (the "**Transferee**"), the Transferee requires the Chargeholder to grant the Covenant priority over the Charge.

This Consent and Priority Agreement is evidence that in consideration of payment to the Chargeholder of \$1.00 by the Transferee, the Chargeholder agrees with the Transferee as follows:

1. The Chargeholder consents to the granting and registration of the Covenant and the Chargeholder agrees that the Covenant binds its interest in and to the Land.
2. The Chargeholder grants to the Transferee priority for the Covenant over the Chargeholder's right, title and interest in and to the Lots and the Chargeholder postpones the Charge, and all of its right, title and interest thereunder, to the Covenant as if the Covenant had been executed, delivered and registered prior to the execution, delivery and registration of the Charge.

As evidence of its agreement with the Transferee to be bound by this Consent and Priority Agreement, as a contract and as a deed executed and delivered under seal, the Chargeholder has executed and delivered this Agreement by executing the Land Title Act Form D to which this Agreement is attached and which forms part of this Agreement.

May 19, 2010

SCHEDULE A



Page 12
of 38

GEOLOGICAL HAZARD ASSESSMENT

Centre Stage Phase 2

Submitted to:
Centre Stage Holdings
2761 McBride Avenue
Surrey, BC
V4A 3G3

Report Number: 09-1476-5026/3000

Distribution:

2 Copies - Centre Stage Holdings
2 Copies - Golder Associates Ltd.

world
capabilities
locally



page 13
of 38

GEOLOGICAL HAZARD ASSESSMENT CENTRE STAGE PHASE 2

Table of Contents

1.0 INTRODUCTION	1
2.0 LOCATION	1
3.0 WORK CARRIED OUT	2
3.1 Desk Review	2
3.2 Site Reconnaissance	3
3.3 General Assessment Methods	3
3.4 Fragmental Rock Fall Hazard Assessment Methodology	4
3.5 Bluff Top and Steep Slope Assessment Methodology	6
4.0 GENERAL SITE CONDITIONS AND BACKGROUND	7
4.1 Terrain and Soils	7
4.2 Timber Removal	8
4.3 Seismicity	9
5.0 GEOLOGICAL HAZARD ASSESSMENT	9
5.1 Terrain Descriptions and Geological Hazard Interpretations	9
6.0 SUMMARY CONCLUSIONS AND RECOMMENDATIONS	16
7.0 CLOSURE	17
 TABLES	
Table 1: Air Photo Review	2
Table 2: Bedrock Joint Characteristics Upper Bluff	10
Table 3: Bedrock Joint Characteristics Lower Sandstone and Conglomerate Bluff	13

FIGURES

Figure 1: Steep Slope and Rockfall Hazard Zones

Page 14
08/38

GEOLOGICAL HAZARD ASSESSMENT CENTRE STAGE PHASE 2

1.0 INTRODUCTION

As requested, Golder Associates Ltd. (Golder) carried out a geotechnical hazard assessment for Phase 2 of a proposed rural subdivision application on the Northeast ¼ of Section 3 except Parcel A (DD773261) of the Gabriola Island Nanaimo District. Phase 1 of the development is located on the Southwest ¼ section of Section 8. The purpose of the assessment was to determine the potential presence of geotechnical hazards on and/or immediately adjacent to the site and determine if safe building envelopes exist for residential development on the various lots proposed for the site.

We base the assessment on information obtained from historical air photos, review of the subdivision map and field observations within and adjacent to the proposed subdivision. This report provides a preliminary assessment (zoning) of potential landslide hazards on the subject property, in this case rockfall from a series of sandstone and conglomerate bluffs and associated colluvial (talus) slopes. The report identifies areas where safe building envelope setbacks should be designated along the tops of the main bluffs and along the tops of longer mixed bedrock and colluvial slopes, or below designated rockfall hazard zones. Detailed geotechnical assessments are recommended if residential construction is proposed within recommended safe building envelope setbacks.

The report does not specifically address geotechnical conditions or construction issues associated with localized bedrock bluffs or scarps generally less than 5 metres high or short colluvial slopes associated with those smaller outcrops. The report does not address geotechnical conditions or construction issues related to foundation design.

This report follows an earlier evaluation of the possible effects of logging on slope stability on the steeper slopes within the property and recommendations related to forest harvesting practices that was carried out by Golder (see Golder, 18 January, 2006) and draws on some of the information in that earlier report.

The scope of work is limited to geomorphologic, geological and geotechnical issues associated with rural subdivision development. The work undertaken was limited to review of readily available site information, air photo interpretation, visual inspection of the site and examination of exposed soil and bedrock conditions. Subsurface geotechnical investigations were not carried out for this project. This assessment does not include any investigation, testing, or assessment of the potential presence or effect of soil or groundwater contamination at the site or the provision of bioscience services.

This report shall be read in conjunction with the limitations and considerations set out in 'Important Information and Limitations of this Report', which appears following the text. The reader's attention is specifically drawn to this information as it is essential that it is followed for the proper use and interpretation of this report. Section 3.3 (Methods) outlines additional limitations.

2.0 LOCATION

The proposed subdivision is located on a generally south-facing slope on the southwest side of Gabriola Island above False Narrows. The area is accessible from Carrier Road at the east end of the property and from Stokes Road on the south side of the property. We have attached a not-to-scale copy of an original 1:3000 scale subdivision map (dated 26 September 2006) showing the proposed subdivision produced by J.E. Anderson and Associates to this report (Figure 1).

GEOLOGICAL HAZARD ASSESSMENT CENTRE STAGE PHASE 2

page 15
OF 38

3.0 WORK CARRIED OUT

The assessment included a desk review of background materials, foot and vehicle traverses and observations within the proposed subdivision, qualitative analysis of the field observations and report preparation.

3.1 Desk Review

The desk review included inspection of the preliminary subdivision plans, the topographical, geological and soils maps for the area. A series of historical air photos dating from the early 1960's were reviewed to check for the presence of air photo visible landslides or other landforms and terrain features that might indicate the presence of unstable or potentially unstable slopes.

The preparation of this report involved review of the following information:

- J.E. Anderson & Associates (REA) subdivision maps, scale 1:3000. File 85443 dated 21 December, 2005 and 31 August 2006.
- Soils map for Gabriola Island, scale 1:20,000, from Soil Survey Report 43. Soils of the Gulf Islands of British Columbia. Volume 4 Soils of Gabriola Island and lesser islands. 1990. British Columbia Soil Survey. Research Branch, Agriculture Canada. Authors: E.A. Kenney, L.J.P. van Vliet, and A.J. Green.
- A recent (circa 2005) colour orthophoto plotted at an approximate scale of 1:10,000, source unknown, provided by Centre Stage Holdings Ltd.
- Geological Survey of Canada Open File 463 Geology of Vancouver Island, J.E. Muller, 1977.
- Terrain Stability Assessment, Proposed Subdivision Gabriola Island, report by Golder Associates Ltd., 18 January 2006.
- The air photos reviewed are listed in Table 1.

Table 1: Air Photo Review

Year/Date	Flight line	Frame numbers
pre-1960	BC1437	24-26
pre-1960	BC1499	5-6
15 June 1962	BC5046	24-25
1967	15BC5261	90-92
30 June 1972	BC7407	47-49
30 June 1972	BC7409	134-136
22 July 1975	BC7754	290-293
July 1980	BCC249	204-205
1991	BCB91021	129-132, 68-66

GEOLOGICAL HAZARD ASSESSMENT CENTRE STAGE PHASE 2

page 16
08 38

3.2 Site Reconnaissance

As part of Golder's original terrain stability assessment work, Mr. Terry Rollerson P. Geo (Golder) made a preliminary site visit lasting about 2 hours, on 06 December 2005 in company with Mr. Vanstone and Mr. Don Gatley of Centre Stage Holdings Ltd. A second visit to inspect the steeper slopes within the subdivision area for about 7 hours was made on 29 December 2005 with Mr. David Vanstone of Centre Stage Holdings Ltd. These traverses are described in Golder (18 January 2006).

As part of the current scope of work, additional site visits by Mr. Rollerson were made in July 2006. These site visits occurred on July 11, 12, 13, and on July 15 – 27, 2006. Mr. Jeff Fillipone, P. Geo., (Golder) and Mr. Thor Simrose (Thor Simrose Contracting) accompanied Mr. Rollerson on July 12, 2006. Mr. Fillipone, Mr. Rollerson and Mr. Gatley also visited the property to inspect specific steep slope sites on 02 August 2006. The total cumulative field time for these visits amounted to about 40 hours including visits to both the Northeast ¼ of Section 3 except Parcel A (DD773261) and the Southwest ¼ section of Section 8 which was proposed for development earlier. Because of the time elapsed since the original fieldwork and the completion of the report Mr. Rollerson carried out additional site visits on the Northeast ¼ of Section 3 in February and March 2010.

The foot traverses within the subdivision concentrated on the steeper sections of the property including a series of steep sandstone and conglomerate bluffs, moderately to steeply sloping colluvial slopes intermixed with the bluffs and colluvial (talus) aprons formed at the base of the bluffs. These traverses ran roughly east southeast to east along the tops and bases of each of the main bedrock bluffs and along the bases of the dominant talus slopes. Limited foot and vehicle traverses occurred on the gently and moderately sloping portions of the property.

3.3 General Assessment Methods

The geological hazard assessment in large part follows the methodology outlined in the "Guidelines for Legislated Landslide Assessments for Proposed Residential Development in British Columbia" (Association of British Columbia Professional Engineers and Geoscientists [APEGBC], 2006 as revised May 2008), but also takes direction from the "Guidelines for Terrain Stability Assessments in the Forest Sector" (APEGBC, 2003).

The field reconnaissance included a visual assessment of terrain features including surficial material and bedrock conditions, surface water conditions, vegetation, slope gradients and geomorphic processes encountered during our traverses through the property. Our assessment of the surficial material and bedrock conditions was based on visual examination of natural bedrock outcrops, natural surficial material and soil exposures and exposures along existing roads within the property. Our field observations reference lot numbers and topographic features. Much of the terminology used in this report to describe surficial materials (soils), slope processes and slope gradients follows Howes and Kenk, 1997. The terms blanket and veneer refer to surficial material mantles that are generally greater than one metre and less than one metre deep respectively. Basic measurements were made using clinometer, steel tape or hip chain, hand held laser rangefinder and geologic compass. In the assessment of geological hazards for Phase 2 no detailed slope stability analyses or subsurface investigations have been carried out.

**GEOLOGICAL HAZARD ASSESSMENT
CENTRE STAGE PHASE 2**

page 17

08 38

Considering the lack of a comprehensive, long-term record of geological hazards in the area, hazard occurrences cannot be predicted by formal statistical analysis. Hence, a subjective assessment based on the opinion and judgement of knowledgeable professionals was used to rate the probability of occurrence, type and magnitude of significant geological hazards capable of affecting the site.

3.4 Fragmental Rock Fall Hazard Assessment Methodology

Fragmental rock fall¹ is characterized by the detachment of individual rock fragments from a steep rock slope and their gravitational downhill transport. There is evidence of previous fragmental rockfall from the steep sandstone and conglomerate bluffs on the property. Boulders of sandstone and conglomerate, 1 to 20 cubic metres in size, that appear to be derived from fragmental rockfall are located on the talus slopes and for a short distances out onto level or gently sloping areas beyond the lower edges of the talus aprons. On most bluffs there are potentially unstable blocks or slabs of sandstone or conglomerate. These blocks range in size from about 0.5 to 20+ cubic metres. Ongoing physical/chemical weathering process will continue to loosen and detach these blocks from the bluffs. Similarly, ground shaking during seismic events may result in future rockfall. Consequently, rockfall will continue to occur on these slopes and occasional blocks will likely travel downslope beyond the lower edges of the existing talus slopes.

Estimates of potential future rockfall runout distances are based on assessment of the distribution and extent of existing rockfall debris. There are at least two empirical methods that can be used to estimate rockfall runout distances and define rockfall hazard zones.

The rockfall runout method used for this study is described in Evans and Hungr (1993). Their study focused on 15 rockfall sites located in mountainous terrain in the southern interior of BC and coastal BC. The method relies on the determination of a "minimum rockfall shadow angle" defined as the angle between the top of a talus slope and the maximum limit of the rockfall shadow. The "rockfall shadow" is an area of scattered boulders located on level to gently sloping ground that extends beyond the lower edge of the talus slope. These boulders likely bounce and/or roll across the slopes beyond the lower edge of the main talus slope. Evans and Hungr found a minimum rockfall shadow angle of 27.5 degrees to be a reasonable first approximation of rockfall shadow limits. The method provides a maximum probable runout distance, which has not been exceeded at any of the 15 rockfall sites studied by Evans and Hungr and which does not require the determination of individual rockfall initiation and termination points.

A second empirical method, "rockfall fahrboschung" for estimating rockfall runout is dependent on the determination of the initiation and terminal points for individual rockfall events (see the description of a study by Onofri and Candian, 1971, in Evans and Hungr). The rockfall fahrboschung is the angle between the highest point on a rockfall source scar and the stopping point of the longest runout boulder for that particular rockfall. Onofri and Candian found this relationship to range from 28.4 to 40.7 degrees. Correlation of rockfall source scars with associated rockfall fragments, however, is not viable unless both the rockfall and the source scars are distinct and fresh (there are very few sites like this on Gabriola). Consequently, this approach was not suitable for the current study.

¹ The term landslides encompasses the term rockfall, but in the context of this report rockfall is considered separate from other types of landslides and the term landslide should be interpreted as referring to debris slides, debris avalanches and similar events and not rockfall.

Page 18

08 38

**GEOLOGICAL HAZARD ASSESSMENT
CENTRE STAGE PHASE 2**

Measurements of minimum rockfall shadow angles were made at a number of locations on the Gabriola site to confirm the Evans and Hungr 27.5 degrees minimum rockfall shadow angle. In the case of the subject property (and possibly elsewhere on Gabriola) the minimum rockfall shadow angles measured were consistently about 22 degrees. Consequently, a "Gabriola specific" minimum rockfall shadow angle of 22 degrees was adopted and applied to all determinations of rockfall shadow (hazard) zones where the slopes at the toe of the talus were relatively level. Minimum rockfall shadow angle lines were located (flagged) in the field by Golder and then ground surveyed by REA. The minimum rockfall shadow angle lines are identified on the subdivision map (lines E-E' and G-G'). The line H-H' defines the apparent eastern extent of bedrock outcrops and rock fall visible on the ground on the lower slopes of the property.

We did observe local areas where the hillsides on the lower portion of the property were gently to moderately sloping rather than level at the toe of a talus slope (or mixed colluvial and bedrock outcrop slope). In these cases rockfall runout distances did not necessarily conform to the local 22 degree minimum rockfall shadow angle relationship. Some individual rockfall fragments on these slopes appear to have traveled well beyond the point defined by the 22 degree, minimum rockfall shadow angle. In these cases, we carried out an extensive search of the slopes below the bluffs/talus to identify possible rockfall fragments with which to define a maximum rockfall shadow (runout) limit. These sites were restricted to the lower eastern slopes of the northeast ¼ of Section 3. In this area the observed rockfall appeared to stop on slopes ranging from 20 to 30 percent (11 to 17 degrees), consequently a 20 percent slope angle limit was adopted to define the likely limit of maximum rockfall runout on these specific hillsides.

The rockfall shadow hazard line should define an approximate 1:10,000 probability of an individual rockfall carrying beyond the defined rockfall shadow line within a single year. This probability is based on the assumption that it is at least 10,000 years since glacial ice left the area, the visible talus and individual rockfall fragments will have accumulated since that time. We suggest that the probability may be somewhat greater than 1:10,000 as the toe of the talus slope has likely extended out from the base of the slope some nominal distance so the rock fall fragments visible beyond the toe of the talus may well represent a period of accumulation less than 10,000 years.

In the case of both methods used to determine the rockfall shadow hazard line on the Gabriola site we recommend a 10-metre setback beyond the rockfall hazard line to define a "safe" building envelope boundary. If a property owner wishes relaxation of the rockfall shadow hazard line or of the building envelope setback distance so that they can build closer to the toe of a rockfall prone slope then a detailed geotechnical evaluation of potential rockfall runout distances and/or protective (mitigative) measures should be undertaken.

Limitations of the approach:

Preliminary clearing and road construction and previous logging activity may have altered the location of occasional rockfall fragments so that in some cases the location of specific fragments may not represent original rockfall runout locations. Similarly, some slopes below bluffs and talus slopes are composed of till containing some moderately large rock fragments consisting of a variety of rock types. Some of these fragments are sandstone. Due to the rounded nature of the edges of some local sandstone outcrops/bluffs and some of the rockfall fragments from these bluffs it is not always possible to distinguish individual rockfall fragments from rocks derived from the till. In cases where it was not possible to distinguish culturally moved rocks or rocks derived from till from rockfall fragments we assumed that the fragments were rockfall. This approach may have lead to overly conservative estimates of rockfall runout distances in a limited number of cases.

**GEOLOGICAL HAZARD ASSESSMENT
CENTRE STAGE PHASE 2**

page 19
08 38

On the lower slopes of the northeast ¼ of section 3, below the lower bluffs (i.e., lots 43 and 44), there are locally extensive areas of high, thick brush. In these areas it was difficult to establish minimum rockfall shadow angle limits or to search for and find rockfall fragments. We recommend further work to refine the current rockfall shadow limits when brush clearing takes place in these areas. For the interim period, we recommend that the building envelope setback from the minimum rockfall shadow line (G-G') be set at 20 metres in areas of heavy brush below the lower set of bluffs.

3.5 Bluff Top and Steep Slope Assessment Methodology

The second part of the geotechnical hazards assessment involved evaluation of stability conditions along the tops of the higher sandstone bluffs and longer mixed colluvial and bedrock slopes that border proposed building sites.

Most bluffs/scarps less than about 5 metres high and mixed colluvial and bedrock slopes steeper than about 30 degrees and 5 to 20 metres in downslope extent that occur locally within the subdivision are not specifically included in this assessment. It is unlikely that these slopes pose a significant landslide hazard. It is our understanding that any recommendations for geotechnical assessments for residential foundations are the responsibility of the building inspector. There are localized, short blocky colluvial (talus) slopes associated with some of these smaller bedrock bluffs/scarps indicating that fragmental rockfall has occasionally occurred along these slopes. The runout distances for this type of rockfall appear to be limited to a few metres.

The tops of bedrock bluffs generally higher than 5 metres and the tops of mixed colluvial and bedrock outcrop slopes equal to or steeper than about 30 degrees and with an downslope extent generally greater than 20 metres and that occur in proximity to the more significant bedrock bluffs were traversed and flagged. These flag lines were then ground surveyed by REA and are identified on the subdivision map (lines D-D' and F-F'). The "top of bluff" line was defined as the top of a clearly defined vertical or near vertical bedrock (bluff) surface or the first visible, prominent or open bedrock discontinuity (e.g., joint surface) back from the top edge of the bluff if there was no clearly defined bluff edge. The top of bluff line was placed behind (upslope of) any obviously detached blocks or indentations along the top of the bluff. In a few cases, a significant joint trace running parallel or sub-parallel to the main bluff surface, which was visibly associated with detached slabs or blocks on the bluff face was projected across soil slopes behind the main bluff face where there was no visible surface expression of the joint surface and flagged as the bluff top line. In these cases the "bluff top line" may be located several metres back from (upslope of) the apparent bluff top.

In the case of colluvial or mixed colluvial and rock outcrop slopes the "top of steep slope" line was placed along the most obvious break or change in slope at the top of the 30 degree (58 percent) or steeper than 30 degree slope. In most cases this change in slope is obvious, but in some cases it is indeterminate. In these indeterminate cases, a conservative judgment defines the "top of steep slope" line.

The dominant bedrock joint orientations (strike direction and dip angle), and characteristics along the bedrock bluffs were measured and recorded. Approximate bluff heights were determined with a hand held laser rangefinder.

Page 20
08 38**GEOLOGICAL HAZARD ASSESSMENT
CENTRE STAGE PHASE 2**

Horizontal setback distances from the bluff and colluvial "top of slope" lines to define preliminary "safe" building envelopes for individual lots within the subdivision were developed for each significant bluff, colluvial or mixed colluvial and bedrock slope type. If a property owner wishes relaxation of the top of bluff setback distance so that they can build closer to the top edge of a bluff or steep colluvial slope then a detailed geotechnical investigation should be undertaken. The setback distances from the top of each sandstone bluff are based on a 1:1 relationship to estimated bluff height, unless bedrock structure indicated that a greater or lesser distance was appropriate (e.g., for bluffs equal to or less than 5 metres high the horizontal setback distance was set at 5 metres and for bluffs between 5 and 10 metres high the horizontal setback distance was set at 10 metres). In the case of steep, mixed colluvial and bedrock slopes the horizontal setback distance was set at 5 metres based on field observations that bedrock occurs at shallow depths (i.e., 1 to 2 metres) on most of these slopes.

The top of bluff setback is set to minimize the chance that a building foundation could be affected by or trigger a fragmental rockfall event. The top of steep colluvial slope setback is set to minimize the chance that a building foundation or fill might surcharge the slope sufficiently to initiate failure of the slope.

Setbacks for slope stability and rockfall hazard are not specified for the less than 5-metre high bedrock outcrops and short, steep (greater than 30 degrees and less than 20 metres long) colluvial or talus slopes that occur locally within the subdivision. It is our understanding that most of these sites occur at locations where residential construction is unlikely. A site-specific geotechnical evaluation should occur if residential construction is proposed in such areas.

4.0 GENERAL SITE CONDITIONS AND BACKGROUND

4.1 Terrain and Soils

Colluvial veneers and blankets and long, linear sandstone and conglomerate bluffs form the steeper, southwest facing portions of the property.

Within the northeast ¼ of section 3, there is a 10 to 20 metre high sandstone bluff and talus slope that trends east southeast through the southern portions of lots 42, 22 and 23. There is also a 15 to 20 metre high sandstone and conglomerate bluff and talus slope that trends east southeast through the southern portions of lots 34 to 37 and a mixed colluvial and exposed bedrock slope with small 1 to 5 metre high bluffs that extends east southeast along the southern slopes of lots 38 and 41. Both bluffs have associated moderately steep to steep colluvial slopes. Morainal materials (till) are present on gently sloping areas on the northern and eastern portions of this ¼ section. Glaciofluvial or marine gravels and sands are present on the eastern slopes of the property above the lower conglomerate bluffs and are also present along the toe of the slope in some areas below the lower talus slope.

**GEOLOGICAL HAZARD ASSESSMENT
CENTRE STAGE PHASE 2**

page 21
08 38

The steeper slopes are dominated by Saturna soils and exposed bedrock. Saturna soils are well- to rapidly-drained forest soils developed in shallow till or weathered sandstones and/or conglomerates on gently to moderately sloping surfaces and in colluvial materials derived from the sandstone and conglomerate on steeper surfaces (BC Soil Survey, 1990). Qualicum soils developed in gravely to sandy glaciofluvial, fluvial or marine deposits and Baynes soils developed variously in sandy fluvial, marine or eolian deposits occur locally. The lower slopes of the property contain areas of Galiano soils, Fairbridge soils and Brigatine soils. Galiano soils are well-drained soils developed in weathered shales and in shallow glacial materials overlying shales or siltstones. The Fairbridge soils are imperfectly-drained soils developed in silty to clayey marine deposits. Brigatine soils are imperfectly drained soils developed in sandy marine or fluvial deposits, but in this area they more likely occur in marine sediments.

Gently dipping sandstones and limited areas of conglomerate bedrock of the Upper Cretaceous Gabriola Formation of the Nanaimo Group underlie most of the property. Where exposed in higher vertical outcrops these rocks exhibit localized vertical and moderately to steeply dipping, south-facing joint or exfoliation surfaces. The bedding planes in the sandstones vary from horizontal to surfaces that dip gently out of or into the slope. The conglomerates are generally massive, but can be weakly bedded or jointed locally. These joint and exfoliation surfaces appear to control the periodic but localized rockfall that is evident on the rock bluffs throughout the property. The lower, very gently sloping areas of the property are underlain by siltstones and shales of the Northumberland Formation.

There was no definitive evidence of natural or logging related shallow landslide (e.g., debris slide, debris avalanche) activity visible on any of the areas of the property visited in the field.

There is evidence of ongoing rock fall activity on the sandstone and conglomerate bluffs. During the course of our field investigations we observed two instances where recent rock fall had damaged trees on the talus slopes above and including the upper slopes of lot 44.

There was no apparent evidence of recent shallow landslides on the historical air photos reviewed as part of this assessment. Nor is there evidence of large-scale, deep-seated landslides on these slopes. Soil creep and/or rock creep are likely present on the steeper colluvial slopes and there is some evidence for this in the presence of locally curved stems of some conifers on these slopes.

4.2 Timber Removal

Some localized timber harvesting has taken place on the property in the form of small patch cuts and selective removal of individual trees. Future timber removal on the property will likely follow a similar pattern. The clearing of trees was done to create views and building sites. Ground-based yarding using skidder or hoe forwarding systems and hand felling predominated. There is no sign of instability or significant surface erosion resulting from this harvesting. The property has been harvested twice before and all or part of the property burned by wildfire in the late 1940's (D. Vanstone, pers. comm., December 2005) and there is no indication of landslide activity associated with those events. The last time the property was extensively harvested was in the late 1980's or in 1990. Most of the second growth timber on the steeper slopes was not harvested at that time.

**GEOLOGICAL HAZARD ASSESSMENT
CENTRE STAGE PHASE 2**

Page 22
0838

4.3 Seismicity

The proposed subdivision is located within Seismic Zone 4 (on a scale of 0 to 6) of the current British Columbia and National Building Codes (NBC). The spectral acceleration associated with a Cascadia Subduction Zone earthquake having a 2 percent probability of exceedence in 50 years, ranges between about 0.1 and 1.03 with a peak ground acceleration of 0.51g for firm ground conditions². The Cascadia Subduction Zone earthquakes are not reflected on NBC maps. A Cascadia Subduction Zone earthquake could result in Zone 6 velocities being exceeded on Southern Vancouver Island.

It should be noted that the National Building Code of Canada has been revised (NBBCC 2005) and it is recommend that buildings be designed to a 1:2,475 year seismic event (2 percent in 50 year probability of exceedence). The British Columbia Building Code has recently been revised to reflect this same standard.

We consider that the area of potential development is underlain mainly by upland sediments of glacial or immediate post-glacial origin and/or bedrock and the potential for liquefaction is generally low. There are some gravelly to sandy glaciofluvial or marine (beach) deposits in the area that if water tables are high could be subject to a low to moderate liquefaction hazard, however there is no visible evidence of such events in the past. We recommend that prior to construction for residential purposes, appropriate geotechnical input be provided with respect to foundation design, including seismic considerations as per the BC Building Code 2006. It should be noted that seismic events may increase the potential for rockfall on the sandstone and conglomerate bluffs within the development area.

5.0 GEOLOGICAL HAZARD ASSESSMENT

5.1 Terrain Descriptions and Geological Hazard Interpretations

The following descriptions are of slopes within the property traversed or inspected to evaluate geological hazards. The spatial distribution of the terrain types described below corresponds to the lots outlined in the Phase 2 area (northeast ¼ of Section 3) on the property map attached to this report.

Lots 42 and 22

The southern portion of these two lots is formed by a steep slope that trends east-southeast and is composed of a sandstone bluff and shallow, discontinuous, well-to-rapidly drained rubbly colluvial veneers. Slope angles range from 70% to 90 degrees. The slope morphology ranges from irregular to uniform. The bluff ranges from 5 to 20 metres high within lot 42 and the bluff is about 15 metres high at the lot 22 property boundary. The bluff height within lot 22 ranges from about 15 meters high at the lot 42 property line to less than 10 metres high about 10 to 20 metres west of the lot 23 property line. The south-facing colluvial slopes above the top of the bluff have slope gradients of 10 to 20 percent. The sandstone in this area is massive to weakly bedded. The bedding planes, though poorly exposed, vary from dipping gently into the slope to dipping gently out of the slope. There are at least two sets of near-vertical joints, the first orientated generally at right-angles to and the second sub-parallel to the main face of the bluff which strikes at 110 to 130 degrees (see Table 4.1). These joints result in a number of large detached blocks located along portions of the upper slope of the bluff.

² Values derived from the Natural Resources Canada Earth Sciences Sector web site which provides interpolated 2005 National Building Code of Canada seismic hazard values for specified sites: http://earthquakescanada.nrcan.gc.ca/hazard/interpolator/index_e.php

page 23
08 38

GEOLOGICAL HAZARD ASSESSMENT CENTRE STAGE PHASE 2

A well- to rapidly-drained blocky rubbly colluvial apron runs along the base of the rock bluff. Slope angles on this talus apron range from 50 to 70 percent. There is no evidence of landslide activity following the earlier logging on this slope. Natural rockfall occurs periodically along this slope, but we saw no evidence of recent activity.

The north-facing portions of these lots are mantled with shallow, well-drained, rubbly, weathered bedrock veneers and blankets, morainal veneers may occur locally. Gently sloping bedrock surfaces are exposed locally. Slope angles range from 5 to 15 percent. The slope is generally uniform (smooth) and planar to slightly convex.

We recommend that the top of bluff setbacks in this area be set at 20 metres north of the top of bluff line D-D' in lot 42 and 15 metres north of the top of bluff line D-D' in lot 22 based on the approximate maximum bluff heights in these two lots. As the bluff height varies significantly along these lots relaxation of the setback distances may be feasible locally. For example, the top of slope line in the western portion of lot 42 runs along the top of a steep colluvial slope rather than a rock bluff, so relaxation of the setback distance in this area may be quite feasible.

We recommend a rockfall hazard zone setback distance of 10 metres south of the rockfall hazard line E-E' (the setback may actually occur along the gently sloping northern property boundaries of lots 31 and 32).

The gently sloping areas within these lots with the exception of the setback areas are considered safe for residential construction.

Table 2: Bedrock Joint Characteristics Upper Bluff

Joint #	Dip Direction (°)	Dip Angle (°)	Persistence	Shape	Roughness	Joint Spacing (m)
1	200	03	continuous	wavy	rough	0.5-2
2	315	05	continuous	wavy	rough	0.5-2
3	205-215	70-90	continuous	wavy	rough	1-5
4	200-215	40-50	continuous	wavy	rough	2-5
5	200-215	25-30	continuous	wavy	rough	2-5
6	250-275	60-80	continuous	wavy - irregular	rough	1-5
7	150-175	30-80	discontinuous	wavy	rough	uncommon

Lot 23

This lot is mantled with a complex of well-drained veneers and blankets of rubbly weathered bedrock and morainal materials. Relatively smooth, gently sloping bedrock surfaces occur locally. Slope angles range from 5 to 10 percent on both the north slope and most of the south facing slope of this lot. The lower southern edge of the lot is moderately to steeply sloping and includes a low, near-vertical sandstone scarp and small talus slope in the southwest corner of the lot. The slope morphology is generally uniform (smooth) and the lateral curvature planar to weakly convex. There is no visible evidence of past landslide activity on these slopes, but there has been some rockfall from the low sandstone scarp.

This gently sloping lot is considered safe for residential construction, except for the small area on the lower southwest side of the lot that comprises the low sandstone bluff and small talus slope.

**GEOLOGICAL HAZARD ASSESSMENT
CENTRE STAGE PHASE 2**

page 24
08 38**Lots 24 to 26**

These lots are mantled with well-drained morainal blankets and veneers. Slope angles range from 5 to 10 percent on the upper portions of these southeast facing lots and 5 to 15 percent on the lower portions of the lots. The slope morphology is uniform to undulating and the lateral curvature varies from planar to slightly convex. There is no visible evidence of previous landslide activity on these slopes.

These lots are considered safe for residential development.

Lots 27, 39 and 40

These lots comprise well-drained morainal blankets and veneers. Slope angles range from 10 to 15 percent. The slope morphology is uniform and generally planar. These lots have a generally southerly aspect. There is no evidence of past natural or harvest related landside activity visible on these lots.

These lots are considered safe for residential development.

Lots 28 and 29

Well-drained morainal blankets and veneers mantle these south-facing slopes. Slope angles range from 10 to 20 percent on the upper portions of these lots and from 5 to 15 percent on the lower portions of these lots. The slope morphology is generally uniform and the lateral curvature planar.

These lots are considered safe for residential development.

Lots 30 and 31

Well-drained morainal blankets and veneers and lesser amounts of rubbly weathered bedrock veneers mantle these slopes. Minor deposits of sandy gravely glaciofluvial or marine deposits (e.g., beach ridges) may be present locally. Slope angles on these lots generally range from 5 to 15 percent but slopes of 20 percent may be present locally. These slopes are generally uniform and planar but may be slightly convex locally.

These lots are considered safe for residential development, with possible localized rockfall hazard as discussed below. The upper property boundary of lot 31 and a possibly a very small area within the northwest corner of lot 30 may fall within the rockfall hazard zone along the base of the upper rock bluff and talus slopes that form the southern edge of lot 22 and the southwest corner of lot 23. A setback of 10 metres is recommended along the lower boundary of the rockfall hazard line D-D' and this setback may intrude into limited areas of lots 31 and 30.

Lots 32 and 33

Well-drained morainal blankets and veneers mantle these slopes. Shallow veneers of weathered bedrock occur locally as do occasional, low (1-2 m high), discontinuous, moderately fractured, steep (70-90°), sandstone scarps. The slope morphology is generally uniform to undulating and the lateral slope curvature is planar. Slope angles range from 0 to 10 percent on the upper part of these lots and 5 to 15 percent on the mid and lower portions of the lots. The uppermost (northern) edges of these lots are within the rock fall shadow of the sandstone bluffs that bound the southwest edge of lot 42.

**GEOLOGICAL HAZARD ASSESSMENT
CENTRE STAGE PHASE 2**

Page 25
08 38

With the exception of the narrow rock fall hazard zone along the upper (northeast) edge of these lots noted above, this area is considered safe for residential development due to the very gentle slopes and well-drained soils. As noted above, we recommend a rockfall hazard zone setback distance of 10 metres south of the rockfall hazard line E-E' in the northern portions of these lots.

Lots 34 to 36

The upper and mid slopes of these lots comprise a mix of well-drained morainal blankets and veneers and shallow veneers of weathered sandstone. Slope angles range from 10 to 30 percent on this portion of the hillside. The slope morphology is uniform to irregular and benchy. The lateral curvature is planar to slightly convex. The upper slopes of these lots are considered safe for residential development due to the well-drained character of the soils and the gentle to moderate slope gradients.

The steep southern portions of these lots include both a very steep conglomerate and sandstone bluff with very shallow localized colluvial veneers and a deep, blocky rubbly colluvial apron that runs along the base of the bluff.

The bluff is primarily of conglomerate but the top few metres of the bluff are sandstone. Sandstone beds occur locally at the base of the bluff. Further east the bluff is dominantly sandstone. The bluff in this area ranges from about 10 to 20 metres high. The slope angles on the exposed bedrock surfaces range from 70 to 90 degrees and there are small overhangs locally. Slope angles on the shallow colluvial veneers range from 60 to 90 percent. The aspect of the bluff ranges from 220 to 230 degrees. Some bedding or bedding plane joints in the sandstones appear horizontal, others dip gently to moderately out of the slope (i.e. they dip southwest) and some dip gently into the slope (i.e., north to northeast). The conglomerates are generally massive, but the bedding planes in the sandstones range from 0.1 to 3 metres apart and can be discontinuous. Near vertical joints striking roughly north-south occur in the sandstones and are spaced at variable distances (i.e., 1 to 5 metres apart). There are near-vertical joints in the sandstones and in the conglomerates that parallel the orientation of the main rock face (i.e., they strike roughly east southeast, 110 degrees and 130 degrees). Table 3 provides descriptions of the dominant joints. The bluff is subject to ongoing rockfall, and there is limited evidence of relatively fresh rockfall activity. There are a few trees growing on the vertical portions of the rock bluff, but on the less steeply sloping areas along the top of the bluff trees are frequent.

We recommend that the top of bluff setbacks in this area be set at 20 metres north of the top of bluff line F-F' in lots 35 and 36, except that the setback can be 10 metres for the eastern 50 metres of lot 36 where the bluff is less than or equal to 10 metres high. The setback should be set at 10 metres north of the top of bluff line from the west side of lot 34 to within 50 metres of lot 35, as the top of bluff line in this area is located conservatively. For the final 50 metres of lot 34 to lot 35 the setback line should run slightly south of east to meet the 20-metre setback line at the lot 34-35 property line.

The colluvial apron at the base of the bluff is dominated by well- to rapidly-drained blocky rubbly materials in the areas where the sandstones predominate. In areas where the conglomerates dominate the bluff above, there are fewer large blocks and the colluvial soils include large numbers of rounded, pebble and cobble sized rocks that have weathered out of the conglomerates. Slope angles generally range from 50 to 70 percent but locally can reach 80 percent.

page 26
08 38

**GEOLOGICAL HAZARD ASSESSMENT
CENTRE STAGE PHASE 2**

Table 3: Bedrock Joint Characteristics Lower Sandstone and Conglomerate Bluff

Joint #	Dip Direction (°)	Dip Angle (°)	Persistence	Shape	Roughness	Joint Spacing (m)
1	200	70-90	continuous	planar - wavy	rough	1 to 5+
2	150-160	80-90	continuous	wavy	rough	2 to 5+
3	110-120	80-90	continuous ³	planar - wavy	rough	rare
4	220-230	90	continuous	planar - wavy	rough	5+
5	130-135	≥65	continuous	wavy	rough	rare
6	015	-5 to +10	continuous	wavy	rough	bed thickness 1 to 3+

Lots 37 and 38

The upper and mid slopes of these lots are mantled with well- to moderately-well drained morainal blanket and veneers and locally with veneers of weathered bedrock. Well-drained glaciofluvial or marine gravels are present in portions of lot 38. Slope angles range from 5 to 30 percent.

The steeper slopes along the southern portions of these lots are dominated by well- to rapidly-drained, blocky rubbly colluvial materials, but a number of small, smooth to irregular sandstone and occasionally conglomerate outcrops and low bluffs also occur on the hillside. Slope angles on the lower portion of this slope generally range from 50 to 70 percent with localized benches and gently sloping areas with slope gradients in the range of 20 to 40 percent. Slope angles along the upper portions of the hillside generally range from 60 to 70 percent but are as steep as 90 degrees on some bedrock outcrops. The bedrock bluffs and outcrops are usually less than a metre in height but occasionally reach 5 to 6 metres high. These bedrock bluffs become higher towards the west. There is evidence of limited rockfall from some of the higher scarps. There is no evidence that past timber harvest has resulted in any landslide activity on this slope. A low sandstone bluff and/or moderately steep talus slope bounds the lower boundary of these lots. We recommend a setback of 5 metres from the top of bluff line on lot 37, but due to the irregular boundary along the top of the low bluff and the relatively weak character of the weathered sandstone and underlying conglomerate bedrock, foundation conditions should be evaluated by a geotechnical engineer at the time of construction if a house is located within 10 metres of the bluff. A 5-metre setback is recommended from the top of top of steep slope line on lot 38.

³ Where observed, this near vertical joint occurs in the sandstone beds below the conglomerate but does not penetrate up into the conglomerate.

**GEOLOGICAL HAZARD ASSESSMENT
CENTRE STAGE PHASE 2**

Page 27
08 38**Lot 41**

This lot is mantled with well-drained morainal materials on the gently sloping mid and upper slopes of the lot and glaciofluvial or marine gravels on the level to very gently sloping areas on the lower slopes of the lot. Slope angles range from 5 to 10 percent on the lower slopes and from 15 to 20 percent on the mid and upper slopes of the lot. These slopes are generally uniform and planar. These gentle slopes preclude any concern for landslide activity. A low sandstone and conglomerate bluff and colluvial slope bounds the lower boundary on the western side of this lot. We recommend a setback of 5 metres from the top of bluff line. East of the end of the low bluff tabular sandstone slabs exposed on the slope surface tilt slightly downslope (south), contrary to the normal gentle northerly dip of the bedding surfaces along the lower bluff. This contrary tilt suggests that the weak conglomerate beds underlying the upper sandstone beds have disintegrated⁴ or were eroded by wave action as the land surface rebounded at the end of the last glaciation. Portions of this area are currently included within or about the geological hazard zone, but no additional setback is recommended from the top of slope line. If construction is proposed within this area then the foundation conditions should be evaluated by a geotechnical engineer as the sandstone slabs may be loose.

Lot 43

This lot extends from the lower development boundary to the eastern edge of the lower bluff line. The bluff in this area is rarely higher than about 5 metres and extends about halfway across the upper boundary of the lot.

The slopes that form the upper one third of the lot are dominated by well- to moderately well-drained morainal and gravely marine materials. Slope angles in this area generally range from 25 to 35 percent. Locally the colluvial slopes below the low sandstone bluff reach slope angles of 50 to 60 percent. These slopes are uniform and generally planar. There is no evidence of previous landslide activity on these slopes. There is some rockfall hazard on the western portion of the slope downslope and slightly east of the end of the low sandstone bluff. The rockfall hazard zone extends east of the end of the bluff as rolling rocks tend to run at an angle rather than straight downhill. Lower on the slope there were some apparent rockfall fragments east of the eastern end of the bluff. Some of these rock fragments may result from wave erosion at the end of the last glaciation, not rock fall, so the rock fall hazard line in this area may be conservative.

The lower two thirds of the lot are dominated by well- to moderately well-drained, pebbly sandy to cobbly gravely marine sediments. Imperfectly-drained silty clayey to pebbly silty clayey marine sediments are present along the lower slopes of lot 43 immediately north of the southern property boundary. These materials are generally greater than a metre deep, but areas of shallow soil over shales and siltstones of the Northumberland Formation can be expected. Slope angles in this area generally range from 5 to 15 percent. These slopes tend to be uniform and planar.

We recommend an initial 20 metre building envelope setback downslope of the rockfall shadow line G-G' until such time as thinning of the tree and brush cover improves visibility sufficiently to allow a more accurate delineation of this line and a nominal 5 metre setback from line H-H'. The gentle to moderate slopes that comprise this lot outside the hazard lines and setbacks are considered safe for residential development.

⁴ At one or two locations, further west along the top of the lower bluffs, we have observed tilted sandstone slabs overlying voids where most of the underlying conglomerate bed is gone, but small, residual columns of conglomerate still support the sandstone slab.

**GEOLOGICAL HAZARD ASSESSMENT
CENTRE STAGE PHASE 2**

Page 28
0838**Lot 44**

This lot occupies a gently sloping area on the lower slopes of the development, mantled with well- to moderately well-drained, pebbly to cobbly sandy marine deposits. Locally, these materials may comprise wave washed till or wave washed glaciofluvial deposits. These materials are generally more than a meter deep, but locally can be shallow over shales, siltstones and occasional sandstone beds of the Northumberland Formation. Locally these materials may overly till. Slope angles generally range from 5 to 10 percent, but locally slopes can reach 30 percent for short distances. These slopes are generally uniform and planar, but locally in the upper northwest corner of the lot these slopes are gently undulating. There is no evidence of landslide activity on or affecting these slopes. The upper portion of the lot may extend into the rockfall shadow (hazard zone) at the base of the talus slope that runs along the lower line of bluffs. As described above (Section 3.4) we recommend an initial 20 metre building envelope setback downslope of the rockfall shadow line until such time as thinning of the tree and brush cover improves visibility sufficiently to allow a more accurate delineation of this line. The gentle slopes that comprise this lot outside the hazard lines and setbacks are considered safe for residential development.

Lot 45

This lot occupies a gently sloping area on the lower slopes of the development, mantled with well- to moderately well-drained to locally imperfectly-drained, cobbly pebbly sandy to pebbly silty sandy marine deposits. Locally, these materials may comprise wave washed morainal deposits. Imperfectly-drained silty clayey to pebbly silty clayey marine sediments may occur along the lower slopes of lot 45 north of the southern property boundary. These materials are generally less than a meter deep and can be quite shallow over the shales, siltstones and occasional sandstone beds of the Northumberland Formation. Locally these materials may overly till. Slope angles generally range from 5 to 10 percent. These gentle slopes preclude concern for landslide activity. These slopes are considered safe for residential development.

**GEOLOGICAL HAZARD ASSESSMENT
CENTRE STAGE PHASE 2**

pg 28
0838

6.0 SUMMARY CONCLUSIONS AND RECOMMENDATIONS

The lack of evidence of large scale, deep-seated landslides on these slopes indicates that the probability of large-scale, deep-seated landslides appears to be very low under current (and previous post-glacial) climatic and physical conditions. The lack evidence of such activity since the end of the Fraser Glaciation in this area about 10,000 years ago suggests an annual probability of occurrence of such events of less than 1: 10,000.

Because of the often deeply weathered, and the moderately- to well-fractured or exfoliated character of the local sandstone and conglomerate bedrock, we recommend that prior to construction for residential purposes, additional geotechnical investigation be undertaken to determine the physical characteristics of the bedrock, where bedrock is at or near surface and to provide geotechnical input to the design of appropriate foundations. Similarly, setbacks for slope stability and rockfall hazard are not specified for the less than 5-metre high bedrock outcrops and short, steep (≥ 30 degrees) colluvial or talus slopes that occur locally within the subdivision. Golder recommends a site-specific geotechnical evaluation for these hazards as well as foundation conditions if residential construction is proposed in such areas.

A significant seismic event, such as that having a 2 percent probability of occurrence in 50 years (i.e., 1:2475-year event), could result in localized landslides on the steeper slopes within the subdivision. However considering that there have been many such events over the last approximately 10,000 years since deglaciation in this area, without obvious evidence of significant landslide activity, we consider the likelihood of a seismically induced landslide on these slopes to be low (i.e., less than 1:10,000 annually). With respect to rockfall there certainly exists a possibility that seismic activity has and could result in rockfall activity. It is our professional opinion that the rockfall runout hazard limits established for the property will suffice for rockfall generated by seismic activity as well as rockfall resulting from physical and chemical weathering.

A detailed, site specific assessment of geotechnical hazards and foundation conditions, including recommendations for suitable mitigation to protect residences from geotechnical hazards is recommended if residential construction is proposed within any of the building (geotechnical hazard) setback zones or on any of the moderately steep to steep bedrock or colluvial slopes within the subdivision area.

There were no apparent geotechnical hazards within the gently to moderately sloping terrain located outside the building envelope setback zones and designated geotechnical hazard zones.

Previous harvesting on the moderately sloping areas on this property has not resulted in any landslide activity so timber removal for building sites, or to develop views, should result in a low likelihood of landslide activity. Similarly the likelihood of natural landslide activity should be low. Occasional post-harvest landslide activity is not unknown on similar terrain on nearby Vancouver Island, although generally in wetter climates than found on Gabriola Island. Rollerson, et al. (2002), report post-harvest landslide probabilities from southwestern Vancouver Island of about 5 percent on terrain with slope angles between 20 and 30 degrees, so landslide activity resulting from timber removal cannot be entirely discounted. If the assumption is made that harvest related landslides on Vancouver Island recur each forest rotation (e.g. every 50 years) the post-harvest landslide rates noted above could equate to a landslide probability of 0.001 per year or 1:1000 annually on terrain with slopes between 20 and 30 degrees and less than 1:1000 on slopes less than 20 degrees. As the climate at the Gabriola site is drier, the natural or harvest-related landslide probabilities on similar slopes on the Gabriola site should be less than those suggested above.

**GEOLOGICAL HAZARD ASSESSMENT
CENTRE STAGE PHASE 2**

pg 30

08 38

Avoid discharging concentrated drainage, such as from roof rainwater leaders, perimeter drains, or other sources onto the moderately steeply sloping to steeply sloping areas within the subdivision as this could lead to slope failure.

Do not raise grade, create fills or spoil waste materials on any moderately steep to steeply sloping terrain or within building envelope setback zones without the approval of a geotechnical engineer.

Should any signs of future slope instability such as landslides, tension cracks, or significant surface soil erosion be observed on any of the moderately sloping to steeply sloping terrain within individual lots or within the building envelope setback zones, the owner(s) should contact a qualified geotechnical/geological engineer or engineering geologist to assess the situation.

It is our professional opinion that the land outside the identified geotechnical hazard zones and setbacks may be used safely for the use intended (i.e. construction of permanent single family residences) and will not result in a net increase in geotechnical hazards within or immediately adjacent to the subject property, provided the recommendations provided herein are properly implemented.

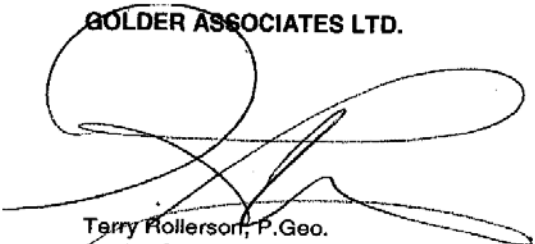
7.0 CLOSURE

We trust that the information provided in this report is sufficient for your immediate needs. If you have any questions about this report, please contact us.

Yours truly,

GOLDER ASSOCIATES LTD.

Reviewed by:


Terry Rollerson, P.Geo.
Senior Geoscientist


Mark Goldbach, P.Eng.
Principal and Senior Geotechnical Engineer

TR/MGG/smh

Golder, Golder Associates and the GA globe design are trademarks of Golder Associates Corporation.

n:\mine\2009\147609-1476-5026 centre stage geohazard\gabriel\cpt 05-19-10 centre stage gabriola phase final.docx

 21 May 2010

**GEOLOGICAL HAZARD ASSESSMENT
CENTRE STAGE PHASE 2**

Page 38
08 38**REFERENCES**

- Anon. 1999. Mapping and Assessing Terrain Stability Guidebook. Second Edition. B.C. Forest Practices Code. BC Ministry of Forests and BC Environment.
- Association of Professional Engineers and Geoscientists of British Columbia. 2003. Guidelines for Terrain Stability Assessments in the Forest Sector.
- Association of Professional Engineers and Geoscientists of British Columbia. 2006. Guidelines for Legislated Landslide Assessments for Proposed Residential Development in British Columbia.
- Cruden, ..., and D.J. Varnes. 1996. Landslide Types and Processes. In: Landslides Investigation and Mitigation. A.K. Turner and R.L. Schuster, editors. National Research Council, Transportation Research Board Special Report 247, National Academy Press, Washington, DC, p. 36-75.
- Evans, S.G., and Hungr, O., 1993. The Assessment of Rockfall Hazard at the Base of Talus Slopes. Geological Survey of Canada Contribution #42290.
- Holland, S.S. 1964. "Landforms of British Columbia A Physiographic Outline" Bulletin 48, British Columbia Mines and Petroleum Resources, Victoria, B.C., Canada.
- Howes, D.E. and Kenk, E. 1997. "Terrain Classification System For British Columbia" (Revised Edition) Ministry of Environment, Ministry of Crown Lands, Victoria, B.C., Canada.
- Hungr, O., S.G. Evans, M.J. Bovis, J.N. Hutchinson. 2001. A review of the classification of landslides of the flow type. Environmental & Engineering Geoscience, Vol VII, No. 3, pp. 221-238.
- Keaton, J.R. and J.V. DeGraff. 1996. Surface Observation and Geologic Mapping, In: Turner, A.K., and Schuster, R. L., (eds.) Landslides Investigation and Mitigation: National Research Council Transportation Research Board Special Paper 247, Washington, DC. p. 178-230.
- Onofri, R. and Candian, C. 1979. Indagine sui limiti di massima invasione dei blocchi rocciosi franati durante il sisma del Friuli del 1976. Considerazioni sulle opere di difesa. Reg. Aut. Friuli-Venezia Giulia, Cluet, Trieste. Cited in Evans and Hungr, 1993.
- Pacht, J.A., 1987. Sedimentology of the Upper Cretaceous Nanaimo Basin, British Columbia. Geological Society of America Centennial Field Guide.
- Rollerson, T., T. Millard, and B. Thomson. 2002. Using terrain attributes to predict post-logging landslide likelihood on Southwestern Vancouver Island Research Section, Vancouver Forest Region. B.C. Ministry of Forests, Nanaimo, BC. Forest Research Technical Report, TR-015/2002.

**GEOLOGICAL HAZARD ASSESSMENT
CENTRE STAGE PHASE 2**

Page 232
08 38

SLOPE CLASS DEFINITIONS

Level or plain – slopes between 0 and 5 percent (0 and 3 degrees)

Gentle – slopes between 6 and 26 percent (4 and 15 degrees)

Moderate slope - slopes between 27 and 49 percent (16 and 26 degrees)

Moderately steep - slopes between 50 and 70 percent (27 and 35 degrees)

Steep – slopes steeper than 70 percent (35 degrees)

pg 33
08 38

**GEOLOGICAL HAZARD ASSESSMENT
CENTRE STAGE PHASE 2**

IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT

Standard of Care: Golder Associates Ltd. (Golder) has prepared this report in a manner consistent with that level of care and skill ordinarily exercised by members of the engineering and science professions currently practicing under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and physical constraints applicable to this report. No other warranty, expressed or implied is made.

Basis and Use of the Report: This report has been prepared for the specific site, design objective, development and purpose described to Golder by the Client. The factual data, interpretations and recommendations pertain to a specific project as described in this report and are not applicable to any other project or site location. Any change of site conditions, purpose, development plans or if the project is not initiated within eighteen months of the date of the report may alter the validity of the report. Golder can not be responsible for use of this report, or portions thereof, unless Golder is requested to review and, if necessary, revise the report.

The information, recommendations and opinions expressed in this report are for the sole benefit of the Client. No other party may use or rely on this report or any portion thereof without Golder's express written consent. If the report was prepared to be included for a specific permit application process, then upon the reasonable request of the client, Golder may authorize in writing the use of this report by the regulatory agency as an Approved User for the specific and identified purpose of the applicable permit review process. Any other use of this report by others is prohibited and is without responsibility to Golder. The report, all plans, data, drawings and other documents as well as all electronic media prepared by Golder are considered its professional work product and shall remain the copyright property of Golder, who authorizes only the Client and Approved Users to make copies of the report, but only in such quantities as are reasonably necessary for the use of the report by those parties. The Client and Approved Users may not give, lend, sell, or otherwise make available the report or any portion thereof to any other party without the express written permission of Golder. The Client acknowledges that electronic media is susceptible to unauthorized modification, deterioration and incompatibility and therefore the Client can not rely upon the electronic media versions of Golder's report or other work products.

The report is of a summary nature and is not intended to stand alone without reference to the instructions given to Golder by the Client, communications between Golder and the Client, and to any other reports prepared by Golder for the Client relative to the specific site described in the report. In order to properly understand the suggestions, recommendations and opinions expressed in this report, reference must be made to the whole of the report. Golder can not be responsible for use of portions of the report without reference to the entire report.

Unless otherwise stated, the suggestions, recommendations and opinions given in this report are intended only for the guidance of the Client in the design of the specific project. The extent and detail of investigations, including the number of test holes, necessary to determine all of the relevant conditions which may affect construction costs would normally be greater than has been carried out for design purposes. Contractors bidding on, or undertaking the work, should rely on their own investigations, as well as their own interpretations of the factual data presented in the report, as to how subsurface conditions may affect their work, including but not limited to proposed construction techniques, schedule, safety and equipment capabilities.

**GEOLOGICAL HAZARD ASSESSMENT
CENTRE STAGE PHASE 2**

page 34
08 38**IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT (CON'T)**

Soil, Rock and Groundwater Conditions: Classification and identification of soils, rocks, and geologic units have been based on commonly accepted methods employed in the practice of geotechnical engineering and related disciplines. Classification and identification of the type and condition of these materials or units involves judgment, and boundaries between different soil, rock or geologic types or units may be transitional rather than abrupt. Accordingly, Golder does not warrant or guarantee the exactness of the descriptions.

Special risks occur whenever engineering or related disciplines are applied to identify subsurface conditions and even a comprehensive investigation, sampling and testing program may fail to detect all or certain subsurface conditions. The environmental, geologic, geotechnical, geochemical and hydrogeologic conditions that Golder interprets to exist between and beyond sampling points may differ from those that actually exist. In addition to soil variability, fill of variable physical and chemical composition can be present over portions of the site or on adjacent properties. The professional services retained for this project include only the geotechnical aspects of the subsurface conditions at the site, unless otherwise specifically stated and identified in the report. The presence or implication(s) of possible surface and/or subsurface contamination resulting from previous activities or uses of the site and/or resulting from the introduction onto the site of materials from off-site sources are outside the terms of reference for this project and have not been investigated or addressed.

Soil and groundwater conditions shown in the factual data and described in the report are the observed conditions at the time of their determination or measurement. Unless otherwise noted, those conditions form the basis of the recommendations in the report. Groundwater conditions may vary between and beyond reported locations and can be affected by annual, seasonal and meteorological conditions. The condition of the soil, rock and groundwater may be significantly altered by construction activities (traffic, excavation, groundwater level lowering, pile driving, blasting, etc.) on the site or on adjacent sites. Excavation may expose the soils to changes due to wetting, drying or frost. Unless otherwise indicated the soil must be protected from these changes during construction.

Sample Disposal: Golder will dispose of all uncontaminated soil and/or rock samples 90 days following issue of this report or, upon written request of the Client, will store uncontaminated samples and materials at the Client's expense. In the event that actual contaminated soils, fills or groundwater are encountered or are inferred to be present, all contaminated samples shall remain the property and responsibility of the Client for proper disposal.

Follow-Up and Construction Services: All details of the design were not known at the time of submission of Golder's report. Golder should be retained to review the final design, project plans and documents prior to construction, to confirm that they are consistent with the intent of Golder's report.

During construction, Golder should be retained to perform sufficient and timely observations of encountered conditions to confirm and document that the subsurface conditions do not materially differ from those interpreted conditions considered in the preparation of Golder's report and to confirm and document that construction activities do not adversely affect the suggestions, recommendations and opinions contained in Golder's report. Adequate field review, observation and testing during construction are necessary for Golder to be able to provide letters of assurance, in accordance with the requirements of many regulatory authorities. In cases where this recommendation is not followed, Golder's responsibility is limited to interpreting accurately the information encountered at the borehole locations, at the time of their initial determination or measurement during the preparation of the Report.

**GEOLOGICAL HAZARD ASSESSMENT
CENTRE STAGE PHASE 2**

Page 38
08 38**IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT (CON'T)**

Changed Conditions and Drainage: Where conditions encountered at the site differ significantly from those anticipated in this report, either due to natural variability of subsurface conditions or construction activities, it is a condition of this report that Golder be notified of any changes and be provided with an opportunity to review or revise the recommendations within this report. Recognition of changed soil and rock conditions requires experience and it is recommended that Golder be employed to visit the site with sufficient frequency to detect if conditions have changed significantly.

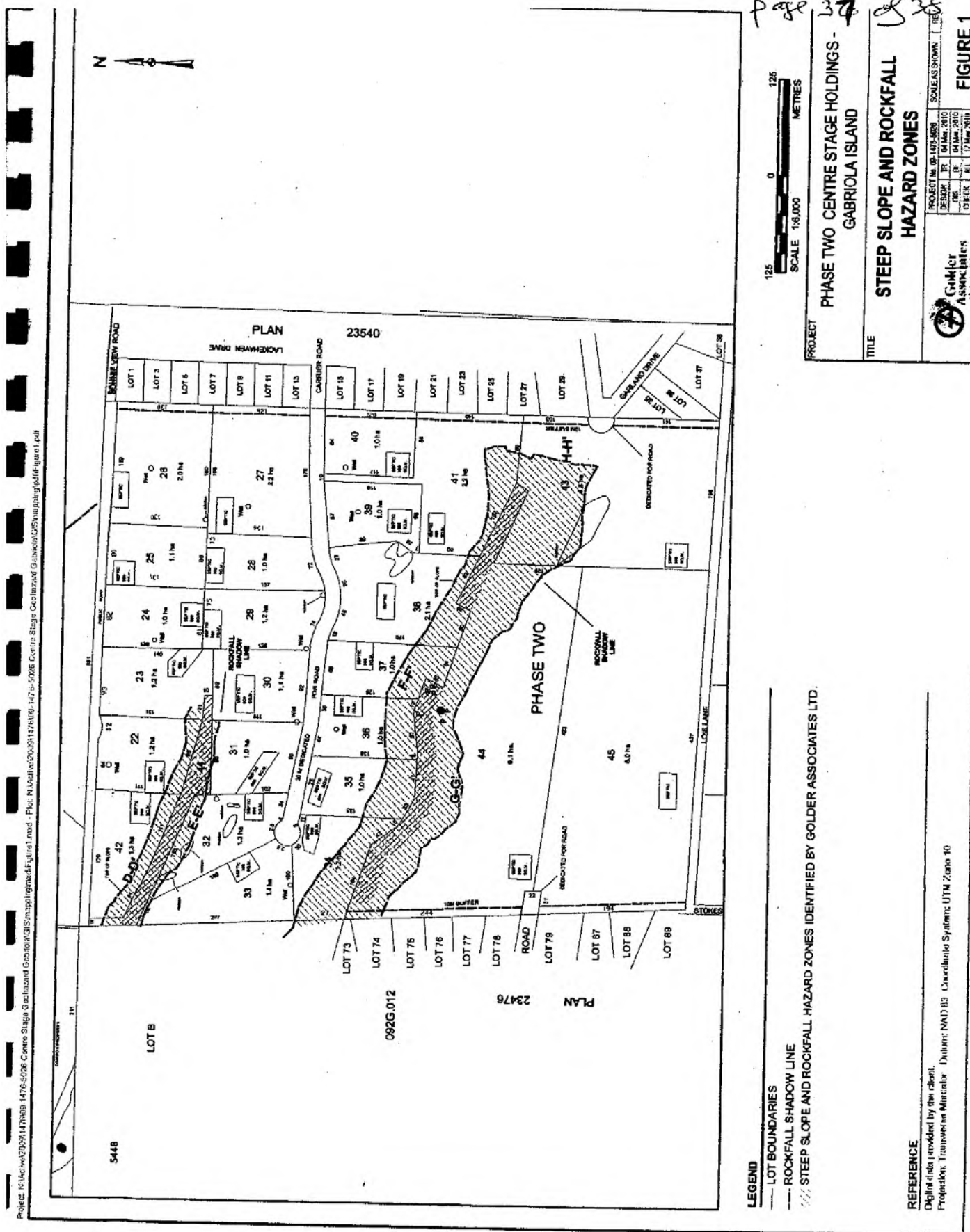
Drainage of subsurface water is commonly required either for temporary or permanent installations for the project. Improper design or construction of drainage or dewatering can have serious consequences. Golder takes no responsibility for the effects of drainage unless specifically involved in the detailed design and construction monitoring of the system.

**GEOLOGICAL HAZARD ASSESSMENT
CENTRE STAGE PHASE 2**

Page 35

08 38

FIGURES



Page 38
08 38

At Golder Associates we strive to be the most respected global group of companies specializing in ground engineering and environmental services. Employee owned since our formation in 1980, we have created a unique culture with pride in ownership, resulting in long-term organizational stability. Golder professionals take the time to build an understanding of client needs and of the specific environments in which they operate. We continue to expand our technical capabilities and have experienced steady growth with employees now operating from offices located throughout Africa, Asia, Australasia, Europe, North America and South America.

Africa	+ 27 11 254 4500
Asia	+ 652 2562 3658
Australasia	+ 61 3 9962 3500
Europe	+ 356 21 42 30 20
North America	+ 1 800 275 3281
South America	+ 55 21 3095 9500

solutions@golder.com
www.golder.com

Golder Associates Ltd.
2640 Douglas Street
Victoria, British Columbia, V8T 4M1
Canada
T: +1 (250) 881 7372



**LAND TITLE ACT
FORM DECLARATION**Related Document Number: **CA2923794**

PAGE 1 OF 1 PAGES

Your electronic signature is a representation that: you are a subscriber as defined by the Land Title Act, RSBC 1996, C.250, the original or where designated by the Director, a true copy of the supporting document is in your possession and that the summary of the material facts set out in this declaration accurately reflects the material facts set out in each supporting document and if a supporting document is evidenced by an imaged copy the material facts of the supporting document are set out in the imaged copy of it attached. Each term used in the representation and declaration set out above is to be given the meaning ascribed to it in Part 10.1 of the Land Title Act.

Ronald Leonard Morin UNYLGW	Digitally signed by Ronald Leonard Morin UNYLGW DN: c=CA, o=Ronald Leonard Morin UNYLGW, o=Lawyer, ou=Verify ID at www.juniper.com/ LKUP:dm?id=UNYLGW Date: 2012.12.20 09:36:59 -08'00'
--	---

I, RONALD L. MORIN, Barrister and Solicitor of 15245 - 18 Avenue, Surrey, B.C. V4A 1W9, Declare that due to a clerical error:

On the Form C Priority Agreement, Page 1, Section 5. (Transferor(s), the Grantors ISLAND SAVINGS CREDIT UNION (Inc. No. FI 29) and R.G.R. LEGACY HOLDINGS LTD. (Inc. No. 0775435) were inadvertently not joined in as Transferors.

Page 1, Section 5. (Transferor(s): of the Form C Priority Agreement should read as follows:

CENTRE STAGE HOLDINGS LTD. (Inc. No. 204577), ISLAND SAVINGS CREDIT UNION (Inc. No. FI 29) having its head office at 499 Canada Avenue, Duncan B.C., V9L 1T7 and R.G.R. LEGACY HOLDINGS LTD. (Inc. No. 0775435) having a registered and records office at 15245-18th Avenue, Surrey, BC, V4A 1W9

On the Form C, Page 1, Section 6 Transferees, the Grantors ISLAND SAVINGS CREDIT UNION (Inc. No. FI 29) and R.G.R. LEGACY HOLDINGS LTD. (Inc. No. 0775435) were inadvertently joined in as Transferees. The addition of ISLAND SAVINGS CREDIT UNION (Inc. No. FI 29) having its head office at 499 Canada Avenue, Duncan B.C., V9L 1T7 and R.G.R. LEGACY HOLDINGS LTD. (Inc. No. 0775435) having a registered and records office at 15245-18th Avenue, Surrey, BC, V4A 1W9 in this Section 6 should be deleted.

All Parties hereto agree to the Amendment.

I make this Declaration and know it to be true based on personal information.

RONALD L. MORIN
Barrister & Solicitor
15245 - 18 Avenue
Surrey, BC V4A 1W9

NOTE:

A Declaration cannot be used to submit a request to the Registrar for the withdrawal of a document.

Fee Collected for Document: \$0.00

APPENDIX D

Landslide Assessment Assurance Statements

APPENDIX D: LANDSLIDE ASSESSMENT ASSURANCE STATEMENT

Note: This Statement is to be read and completed in conjunction with the "AFEGBC Guidelines for Legislated Landslide Assessments for Proposed Residential Development in British Columbia", March 2006/Revised September 2008 ("AFEGBC Guidelines"), and the "2006 BC Building Code (BCBC 2006)" and is to be provided for landslide assessments (not floods or flood controls) for the purposes of the Land Title Act, Community Charter or the Local Government Act. Italicized words are defined in the AFEGBC Guidelines.

To: The Approving Authority

Date: 19 May 2021

Islands Trust - Northern Office
700 North Road, Gabriola, BC. V0R 1X3

Jurisdiction and address

With reference to (check one):

- ☐ Land Title Act (Section 86) – Subdivision Approval
- ☒ Local Government Act (Sections 919.1 and 920) – Development Permit
- ☐ Community Charter (Section 56) – Building Permit
- ☐ Local Government Act (Section 910) – Flood Plain Bylaw Variance
- ☐ Local Government Act (Section 910) – Flood Plain Bylaw Exemption
- ☐ British Columbia Building Code 2006 sentences 4.1.8.16 (8) and 9.4.4.4.(2) (Refer to BC Building and Safety Policy Branch Information Bulletin B10-01 issued January 18, 2010)

For the Property: North East 1/4 of Section 3, Gabriola Island, Nanaimo District, except
Parcel A (DD773261) and except Part in Plans EPP19453 and EPP6666
Legal description and civic address of the Property PID 003 134 806, 1905 Stokes Rd., V0R 1X2

The undersigned hereby gives assurance that he/she is a *Qualified Professional* and is a *Professional Engineer or Professional Geoscientist*:

I have signed, sealed and dated, and thereby certified, the attached *landslide assessment* report on the Property in accordance with the *AFEGBC Guidelines*. That report must be read in conjunction with this Statement. In preparing that report I have:

Check to the left of applicable items

- ☒ 1. Collected and reviewed appropriate background information
- ☒ 2. Reviewed the proposed *residential development* on the Property
- ☒ 3. Conducted field work on and, if required, beyond the Property
- ☒ 4. Reported on the results of the field work on and, if required, beyond the Property
- ☒ 5. Considered any changed conditions on and, if required, beyond the Property
- 6. For a *landslide hazard analysis* or *landslide risk analysis* I have:
 - ☒ 6.1 reviewed and characterized, if appropriate, any *landslide* that may affect the Property
 - ☒ 6.2 estimated the *landslide hazard*
 - ☒ 6.3 identified existing and anticipated future *elements at risk* on and, if required, beyond the Property
 - ☒ 6.4 estimated the potential *consequences* to those *elements at risk*
- 7. Where the Approving Authority has adopted a *level of landslide safety* I have:
 - ☒ 7.1 compared the *level of landslide safety* adopted by the Approving Authority with the findings of my investigation
 - ☒ 7.2 made a finding on the *level of landslide safety* on the Property based on the comparison
 - ☒ 7.3 made recommendations to reduce *landslide hazards* and/or *landslide risks*

8. Where the Approving Authority has *not* adopted a *level of landslide safety* I have:

- ☒ 8.1 described the method of *landslide hazard analysis* or *landslide risk analysis* used
- ☒ 8.2 referred to an appropriate and identified provincial, national or international guideline for *level of landslide safety*
- ☒ 8.3 compared this guideline with the findings of my investigation
- ☒ 8.4 made a finding on the *level of landslide safety* on the Property based on the comparison
- ☒ 8.5 made recommendations to reduce *landslide hazards* and/or *landslide risks*
- ☒ 9. Reported on the requirements for future inspections of the Property and recommended who should conduct those inspections.

Based on my comparison between

Check one

- ☐ the findings from the investigation and the adopted *level of landslide safety* (item 7.2 above)
- ☒ the appropriate and identified provincial, national or international guideline for *level of landslide safety* (item 8.4 above)

I hereby give my assurance that, based on the conditions^[1] contained in the attached *landslide assessment report*,

Check one

- ☐ for subdivision approval, as required by the Land Title Act (Section 86), "that the land may be used safely for the use intended"

Check one

- ☐ with one or more recommended registered covenants.
- ☐ without any registered covenant.

- ☒ for a development permit, as required by the Local Government Act (Sections 919.1 and 920), my report will "assist the local government in determining what conditions or requirements under [Section 920] subsection (7.1) it will impose in the permit".
- ☐ for a building permit, as required by the Community Charter (Section 56), "the land may be used safely for the use intended"

Check one

- ☐ with one or more recommended registered covenants.
- ☐ without any registered covenant.

- ☐ for flood plain bylaw variance, as required by the "Flood Hazard Area Land Use Management Guidelines" associated with the Local Government Act (Section 910), "the development may occur safely".
- ☐ for flood plain bylaw exemption, as required by the Local Government Act (Section 910), "the land may be used safely for the use intended".

Terry Rolletson, P.Geo., P.L. Eng.
Name (print)

19 May 2021
Date

[Signature]
Signature

^[1] When seismic slope stability assessments are involved, *level of landslide safety* is considered to be a "life safety" criteria as described in the National Building Code of Canada (NBCC 2005), Commentary on Design for Seismic Effects in the User's Guide, Structural Commentaries, Part 4 of Division 8. This states:

"The primary objective of seismic design is to provide an acceptable level of safety for building occupants and the general public as the building responds to strong ground motion; in other words, to minimize loss of life. This implies that, although there will likely be extensive structural and non-structural damage, during the DSM (design ground motion), there is a reasonable degree of confidence that the building will not collapse nor will its attachments break off and fall on people near the building. This performance level is termed 'extensive damage' because, although the structure may be heavily damaged and may have lost a substantial amount of its initial strength and stiffness, it retains some margin of resistance against collapse".

APPENDIX D: LANDSLIDE ASSESSMENT ASSURANCE STATEMENT

Note: This Statement is to be read and completed in conjunction with the "APEGBC Guidelines for Legislated Landslide Assessments for Proposed Residential Development in British Columbia", March 2006/Revised September 2008 ("APEGBC Guidelines"), and the "2006 BC Building Code (BCBC 2006)" and is to be provided for *landslide assessments* (not floods or flood controls) for the purposes of the Land Title Act, Community Charter or the Local Government Act. Italicized words are defined in the APEGBC Guidelines.

To: The Approving Authority

Date:

19 May 2021

Ministry of Transportation and Infrastructure

Vancouver Island District, 2100 Labieux Rd. Nanaimo, BC, V9T 6E9

Jurisdiction and address

With reference to (check one):

- ☒ Land Title Act (Section 86) – Subdivision Approval
- ☐ Local Government Act (Sections 919.1 and 920) – Development Permit
- ☐ Community Charter (Section 56) – Building Permit
- ☐ Local Government Act (Section 910) – Flood Plain Bylaw Variance
- ☐ Local Government Act (Section 910) – Flood Plain Bylaw Exemption
- ☐ British Columbia Building Code 2006 sentences 4.1.8.16 (8) and 9.4.4.4.(2) (Refer to BC Building and Safety Policy Branch Information Bulletin B10-01 issued January 18, 2010)

For the Property:

NE 1/4 of Section 3, Gabriola Island, Nanaimo District, except Parcel A (DD773261) and except Part in Plans EPP19453 and EPP6666.

Legal description and civic address of the Property

PID 003 134 806, 1905 Stokes Rd., VOR 1X2

The undersigned hereby gives assurance that he/she is a *Qualified Professional* and is a *Professional Engineer or Professional Geoscientist*.

I have signed, sealed and dated, and thereby certified, the attached *landslide assessment* report on the Property in accordance with the *APEGBC Guidelines*. That report must be read in conjunction with this Statement. In preparing that report I have:

Check to the left of applicable items

- ☒ 1. Collected and reviewed appropriate background information
- ☒ 2. Reviewed the proposed *residential development* on the Property
- ☒ 3. Conducted field work on and, if required, beyond the Property
- ☒ 4. Reported on the results of the field work on and, if required, beyond the Property
- ☒ 5. Considered any changed conditions on and, if required, beyond the Property
- 6. For a *landslide hazard analysis* or *landslide risk analysis* I have:
 - ☒ 6.1 reviewed and characterized, if appropriate, any *landslide* that may affect the Property
 - ☒ 6.2 estimated the *landslide hazard*
 - ☒ 6.3 identified existing and anticipated future *elements at risk* on and, if required, beyond the Property
 - ☒ 6.4 estimated the potential *consequences* to those *elements at risk*
- 7. Where the Approving Authority has adopted a *level of landslide safety* I have:
 - ☒ 7.1 compared the *level of landslide safety* adopted by the Approving Authority with the findings of my investigation
 - ☒ 7.2 made a finding on the *level of landslide safety* on the Property based on the comparison
 - ☒ 7.3 made recommendations to reduce *landslide hazards* and/or *landslide risks*

8. Where the Approving Authority has **not** adopted a *level of landslide safety* I have:

- ☒ 8.1 described the method of *landslide hazard analysis* or *landslide risk analysis* used
- ☒ 8.2 referred to an appropriate and identified provincial, national or international guideline for *level of landslide safety*
- ☒ 8.3 compared this guideline with the findings of my investigation
- ☒ 8.4 made a finding on the *level of landslide safety* on the Property based on the comparison
- ☒ 8.5 made recommendations to reduce *landslide hazards* and/or *landslide risks*
- ☒ 9. Reported on the requirements for future inspections of the Property and recommended who should conduct those inspections.

Based on my comparison between

Check one

- ☐ the findings from the investigation and the adopted *level of landslide safety* (item 7.2 above)
- ☒ the appropriate and identified provincial, national or international guideline for *level of landslide safety* (item 8.4 above)

I hereby give my assurance that, based on the conditions⁽¹⁾ contained in the attached *landslide assessment report*,

Check one

- ☒ for subdivision approval, as required by the Land Title Act (Section 86), "that the land may be used safely for the use intended"

Check one

- ☐ with one or more recommended registered covenants.
- ☐ without any registered covenant.

- ☐ for a development permit, as required by the Local Government Act (Sections 919.1 and 920), my report will "assist the local government in determining what conditions or requirements under [Section 920] subsection (7.1) it will impose in the permit".
- ☐ for a building permit, as required by the Community Charter (Section 56), "the land may be used safely for the use intended"

Check one

- ☐ with one or more recommended registered covenants.
- ☐ without any registered covenant.

- ☐ for flood plain bylaw variance, as required by the "Flood Hazard Area Land Use Management Guidelines" associated with the Local Government Act (Section 910), "the development may occur safely".
- ☐ for flood plain bylaw exemption, as required by the Local Government Act (Section 910), "the land may be used safely for the use intended".

Terry Rolderson DGeo., P.L. Eng.
Name (print)

19 May 2021
Date

Signature

⁽¹⁾ When seismic slope stability assessments are involved, *level of landslide safety* is considered to be a "life safety" criteria as described in the National Building Code of Canada (NBCC 2005), Commentary on Design for Seismic Effects in the User's Guide, Structural Commentaries, Part 4 of Division 9. This states:

"The primary objective of seismic design is to provide an acceptable level of safety for building occupants and the general public as the building responds to strong ground motion; in other words, to minimize loss of life. This implies that, although there will likely be extensive structural and non-structural damage, during the DSM (Design ground motion), there is a reasonable degree of confidence that the building will not collapse nor will its attachments break off and fall on people near the building. This performance level is termed 'extensive damage' because, although the structure may be heavily damaged and may have lost a substantial amount of its initial strength and stiffness, it retains some margin of resistance against collapse".



Lewkowich Engineering Associates Ltd.

geotechnical • environmental, health & safety • materials testing

GEOTECHNICAL MEMO

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

File: E2444.01
Date: July 10, 2023

ATTENTION: Sonja Zupanec, RRR, MCIP

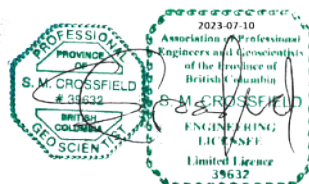
PROJECT: CENTRE STAGE GABRIOLA SUBDIVISION PHASE 2
GABRIOLA ISLAND, BC.
PID: 003-134-806

SUBJECT: TREE REMOVAL AND SLOPE STABILITY

1. As requested, Lewkowich Engineering Associates Ltd. (LEA) has reviewed the above referenced development being proposed by Centre Stage Holdings Ltd., the associated background reports, and undertook a site reconnaissance, to observe and comment on the effects of tree removal on slope stability, as per Development Permit DP-6 Escarpment Areas.
2. We understand the Islands Trust would like a follow-up confirmation by a geotechnical engineer that slope stability will not be impacted by tree removal as discussed in the report by Diamond Head Consulting Ltd. "Forest Stand Assessment for Centre Stage Gabriola Subdivision Phase 2" dated May 26, 2023. The report outlines selective tree removal around escarpment (steep slope) areas with an estimated 2,000 trees removed in total using a guideline of 50% removal ratio.
3. We have also reviewed Stantec Consulting Ltd. report titled "Geological Hazard Review of Centre Stage Gabriola Subdivision, Phase 2" dated May 20, 2021, which concludes a low to very low likelihood that selective removal of trees on steeper slopes would adversely affect slope stability.
4. LEA undertook a site reconnaissance of the property along the steep slopes on June 30, 2023 with Centre Stage Holdings and Stantec. LEA was able to become familiar with the site conditions, slope stability and setbacks, as they relate to the proposed development plans.
5. Based on the above It is the opinion of LEA that the approximately 2,000 trees estimated for removal does remain consistent with the terminology of "selective removal" and furthermore we concur that there remains a low to very low likelihood that the tree removal will adversely affect slope stability.
6. Lewkowich Engineering Associates Ltd. appreciates the opportunity to be of service on this project. If you have any comments, or if we can be of further assistance, please contact us at your convenience.

Respectfully Yours,
Lewkowich Engineering Associates Ltd.

Stuart Crossfield, P.Geo., P.L.Eng.
Engineering Geologist



The Honourable Rob Fleming, Minister of Transportation and Infrastructure
P.O.Box 9055 Stn Prov Gov't, Victoria, BC V8W 9E2
and via e-mail: minister.Transportation@gov.bc.ca

Re: 'Barrett Quarry 'MoTI property on Gabriola Island (PID 012-350-711)

May 11, 2024

Dear Minister Fleming,

This letter is regarding the petition that is expected to be presented at the Legislature by MLA Doug Routley, requesting that the Minister transfer or turn over the 40-acre Barrett Quarry "Crown" land (PID 012-350-711), also known by the Gabriola community as Honeysuckle Woods, for community use. The proponents of the petition and project development are two societies: Gabriola Land and Trails Trust (GALTT) and the Gabriola Memorial Society (GIMS).

I write as a local community member and Trustee for the Gabriola Island Local Trust Committee; these views are my own and do not represent the views of the Gabriola Local Trust Committee, nor the Islands Trust. *[If the LTC chooses not to endorse this letter, I would include this codicil that I am writing on my own behalf.]*

The Islands Trust and other local governments and elected bodies, including the Regional District of Nanaimo, the Gabriola Fire Improvement District, are being urged to take a position and write to the Ministers and our MLA in support of the petition. I understand that the Snuneymuxw First Nation (SFN) has not offered comment on the transfer of land or land use proposed by the petitioners. Nor has SFN been involved in the development of the proposed projects, which are to establish a mixed-use community park with a potential green burial cemetery.

The Islands Trust Council is advancing reconciliation and relationship-building with all First Nations in the Trust Area. As the Reconciliation Declaration states, the Islands Trust is "committed to establishing and maintaining mutually respectful relationships between Indigenous and non-Indigenous Peoples. Islands Trust states a commitment to Reconciliation with the understanding that this commitment is a long-term relationship-building and healing process."

On any matter that touches on Indigenous lands and title, the Gabriola Local Trust Committee's position is similarly bound. We must advance work in alignment with the Islands Trust's Reconciliation Declaration, in ways that honour the Islands Trust's protocol agreement with the Snuneymuxw First Nation, and in a manner that respects SFN's title, territorial and treaty rights. I encourage the Minister not to accept this petition until there is demonstration that the Snuneymuxw First Nation is fully involved and supportive in the development of a petition and the proposed projects as outlined by the petitioners.

The Islands Trust supports the development of clear processes between the Ministers responsible, and the First Nation. Any discussion about the disposition or use of "Crown" land should be developed between the jurisdictions concerned - the First Nations, and Federal and Provincial governments. The Islands Trust supports clear processes that respect First Nations sovereignty and relationship-building between governments.

Local governments and municipalities are in the process of learning how to work with First Nations in a way that respects Indigenous rights and title. The Gabriola LTC believes that by submitting a petition without first working with the Snuneymuxw First Nation to understand if they would endorse a petition to turn "Crown" lands into park would not be working together respectfully, nor in the spirit of cooperation and reconciliation that this body, and the Islands Trust broadly, wish to promote and develop in the Trust Area.

Thank you,
Tobi Elliott
Trustee, Gabriola Local Trust Area, Islands Trust

cc: Douglas Routley, MLA Nanaimo-Cowichan; Michael Wyse, Chief, Snuneymuxw First Nation; Vanessa Craig, RDN Board Director and Chair; Satish Prasad, MoTI Prov. Aggregate Manager; Michael Pearson, MoTI South Island Dist. Mgr., Transportation; and Gabriola Souder newspaper

Tobi Elliott

Islands Trust
Local Trustee for Gabriola, DeCourcy, Mudge Islands
Vice-Chair for Lasqueti, Mayne, Thetis & South Pender Islands
250-268-7434 -- islandstrust.bc.ca
telliott@islandstrust.bc.ca

Preserving and protecting over 450 islands and surrounding waters in the Salish Sea

I am grateful to live, work and play in the treaty lands and territories of the BOKEĆEN, Cowichan Tribes, Kó'moks, Lyackson, MÁLEXEŁ, Qualicum, scəwəθən, səliłwətał, SEMYOME, shíshálh, Skwxwú7mesh, Snaw-naw-as, Snuneymuxw, Songhees, Spune'luxutth', STÁUTW, Stz'uminus, łaʔəmen, Ts'uubaa-asatx, Wei Wai Kum, We Wai Kai, WJOŁEŁP, WSIKEM, Xeláltxw, Xwémalhkww, Xwsepsum, and xʷməθkʷəy̓əm First Nations. Islands Trust is committed to reconciliation and to working together to preserve and protect this ecologically, culturally, and spiritually significant region in the Salish Sea.



ISLANDS TRUST CONSERVANCY REPORT TO LOCAL TRUST COMMITTEES AND BOWEN ISLAND MUNICIPALITY

HIGHLIGHTS OF ISLANDS TRUST CONSERVANCY MARCH 19th, 2024 BOARD MEETING

NOTE: For more detail on Conservancy meetings, including meeting minutes, please visit <https://islandstrust.bc.ca/whats-happening/meetings-and-events/>

1. STRATEGIC PLANNING/ADMINISTRATION

- The ITC Board received the Minister of Municipal Affairs' response on the Islands Trust Conservancy (ITC) Plan which included a request to engage further with First Nations regarding creation of the ITC Plan. Manager Emmings advised that any new acquisitions or covenants need to come to the Minister for review before the Board signs off on them. The ITC Board directed staff to respond to the Minister of Municipal Affairs acknowledging directions in the letter and requesting:
 - Authorization to invest ITC funds as permitted under the provisions of the *Trustee Act*
 - Direction on interaction with the Minister regarding property management of new acquisitions of covenants and nature reserves
- The ITC Board approved the Project Charter for the development of the 2026-2030 ITC Plan.
- The ITC Board amended three land securement and management policies, providing direction for early First Nations engagement prior to approval of securement projects.
- Trustee Elliot provided updates of interest to the ITC Board from Executive Committee including:
 - Executive Committee's interest in continuing to meet with Islands Trust Conservancy to strategize on how to gain support from the province
 - ITC presence at the 50th anniversary celebration of Islands Trust on Salt Spring Island
- The ITC Board requested that Executive Committee set aside time for an ITC presentation to Trust Council at the June 2024 meeting
- Trustee Gauvreau provided updates of interest to the ITC Board from Governance Committee including:
 - The roles and responsibilities of the committee to oversee the organization's governance structure, ensuring transparency and efficiency, and providing recommendations to Trust Council
 - The Committee is currently reviewing the 2022 governance review, which requires input from staff and trustees
 - The report needs to be reviewed and discussed at Trust Council before a letter is drafted to the province



ISLANDS TRUST CONSERVANCY REPORT TO LOCAL TRUST COMMITTEES AND BOWEN ISLAND MUNICIPALITY

2. COVENANT AND PROPERTY ACQUISITIONS

- The ITC Board approved a conservation proposal for the Doris McHardy NAPTEP conservation covenant on North Pender Island, subject to review of First Nations responses and Ministerial approval.
- Manager Emmings provided the Board with a status update on public applications for Crystal Mountain Nature Reserve, Robert Leader NAPTEP Covenant, and Koontz NAPTEP Covenant following the decision to decline approval of the ITC Plan by the Minister of Municipal Affairs.

3. COVENANT AND PROPERTY MANAGEMENT

- The ITC Board instructed staff to proceed with the development of a risk management policy for all nature reserves, which includes warning users of the risk of danger trees.
- The ITC Board directed staff to begin work on signage for the S'ul-hween X'pey (Elder Cedar) Nature Reserve on Gabriola Island, to address risk management efforts.

4. FUNDRAISING AND CONSERVANCY SUPPORT

- The ITC Board approved a contribution of \$3,500 to support the 2024 Salish Sea Conservation Forum on Galiano Island.
- The ITC Board approved the request from the Galiano Conservation Association to install a water meter at the existing drilled well on Trincomali Nature Sanctuary to log water levels and temperature data to inform a water conservation project on Galiano Island. This approval is subject to:
 - Proper installation as guided by the Water Sustainability Act and Groundwater Protection Regulation regarding work in and around groundwater wells
 - Removal of all equipment at the end of the project

Learn more about Islands Trust Conservancy: <https://islandstrust.bc.ca/conservancy/>

Subscribe for Islands Trust Conservancy updates: <https://islandstrust.bc.ca/subscribe/>



the Heron



A newsletter from the Islands Trust Conservancy, protecting islands in the Salish Sea | islandstrust.bc.ca/conservancy

SPRING 2024

Take me home! 
This newsletter is provided FREE by ITC

What is a Nature Reserve?



 SCAN ME

ITC Nature Reserve on Salt Spring Island within the territory of many Coast Salish Nations.

Photo: Islands Trust Conservancy

For links and additional media, visit the Heron Newsletter online.

www.islandstrust.bc.ca/conservancy/heron-newsletter/

ALSO IN THIS ISSUE



ERICA WHEELER (L), MIKE RICHARDS (R)
PHOTO: ISLANDS TRUST CONSERVANCY



HERBACEOUS ECOSYSTEM
PHOTO: ISLANDS TRUST CONSERVANCY

Meet our New Team Members p. 3

We Want to Hear From You p. 4 ²⁵⁶

The Herons Return to Salt Spring Island

It was a warm afternoon in the summer of 2022 when Nuala Murphy, Islands Trust Conservancy's Property Management Specialist, was on her last monitoring visit of the day at one of ITC's properties on Salt Spring Island. As she walked down the trail from the road, joined by our summer Conservation Technician and a staff member from Salt Spring Island Conservancy, they all stopped as they heard sounds coming from the trees above them. Looking up, they saw three large and messy nests, and on the ground, broken shells.

"I felt so lucky to be there that day as the Herons hadn't been seen in years."

– Nuala Murphy, Property Management Specialist,
Islands Trust Conservancy



GREAT BLUE HERON. PHOTO: L. WILCOX

As they pulled out their phones to record the sounds, a Great Blue Heron swooped into the nest, returning to feed the hungry babies crying out. Seeing the Great Blue Herons return is one of many examples of species that have been conserved through the creation of an ITC Nature Reserve.

What is a Naure Reserve?

The purpose of Islands Trust Conservancy's Nature Reserves is to preserve and protect natural ecosystems and species forever. In her role, Nuala undertakes activities in the Nature Reserves including monitoring, surveys, research, and trail maintenance to preserve the biological integrity of the protected areas.



COMMUNITY LEARNING IN AN ITC NATURE RESERVE.
PHOTO: ISLANDS TRUST CONSERVANCY

14 of ITC's Nature Reserves are not open to the public. In our 20 public Nature Reserves, we welcome visitors, and allow activities including hiking on trail, bird watching, and dog walking on leash. To limit human impact in the unique and sensitive places we protect, we don't allow camping, fires, horseback riding, cycling or the use of motorized vehicles. Thank you for treading lightly!

Reflecting back on that moment of seeing the Heron two years ago, Nuala is reminded that our health and well being is inextricably linked to the health and well being of species and ecosystems. "When we work together to preserve these protected areas, we're ensuring not only their survival, but our own, and that brings me hope and encourages me to keep going."

Learn more about ITC Nature Reserves at <https://islandstrust.bc.ca/conservancy/protected-places/>.



PHOTO: LISA WILCOX

Islands Trust and Islands Trust Conservancy respectfully acknowledge that the lands and waters that encompass the Islands Trust Area have been home to Indigenous peoples since time immemorial and that their deep connection to the islands continues to this day. We are committed to reconciliation, to upholding the rights of Indigenous peoples, and to working together to preserve and protect this ecologically, culturally, and spiritually significant region in the Salish Sea. The Islands Trust Area is located in the treaty and territorial lands and waters of the BOKEĆEN, Cowichan Tribes, K'ómoks, Lyackson, MÁLEXEL, Qualicum, scəwəθən, səlilw'ətəl, SEMYOME, shishálh, Skwxwú7mesh, Snaw-naw-as, Snuneymuxw, Songhees, Spune'luxutth', STÁUTW, Stz'uminus, la?əmen, Ts'uubaa-asatx, Wei Wai Kum, We Wai Kai, W JOLELP, WSIKEM, Xeláltxw, Xwémalkwu, Xwsepsum, and x'wəθk'əy.

Meet our New Team Members



ERICA IN GRISWOLD PASS IN THE COAST MOUNTAINS.

Erica Wheeler, Species at Risk Program Coordinator

Introducing Erica: nature-lover, plant enthusiast, and beginner knitter. Erica grew up at the base of Mount Seymour on the unceded territory of the Cayuse, Umatilla, Walla Walla, səɫ ilwəta ʔ təməxʷ (Tsilil-Waututh), Skwxwú7mesh-ulh Temíx w (Squamish), šxʷməθkʷəy̓əma ʔ təməxʷ (Musqueam), and S'ólh Téméxw (Stó:lo) Nations, spending time outside on the Salish Sea or in the rainforest. “It’s a place that very much feels like home.” Erica has worked as a tree planter, and most recently, a Botanist, studying plant species at risk. She used DNA to understand genetic variation within species at risk, and whether genetic variation can be bolstered to increase survival in the face of threats such as climate change.

In her spare time, Erica enjoys swimming in the ocean, hiking in the alpine, and jamming out to Songbird by Fleetwood Mac. Ask Erica about botanizing, also known as “doodling along and looking for cool plants,” and her favourite species at risk, the slim-leaf onion (*Allilum amplexans*). Connect with Erica today to learn more about our Species at Risk Program at SAR@islandstrust.bc.ca.

Mike Richards, Strategic Fund Development Specialist

When asked to describe himself in three words, Mike shared that he is a knowledge-seeker, outdoor-lover, and eternal optimist. Originally from Australia, Mike came to Canada in 1997 and has lived in the Gulf Islands for 26 years. “I have a deep love for this area and the biodiversity in the region.”

Mike came to Islands Trust in 2014 as the Grants Program Manager excited to contribute to the preserve and protect mandate. When the opportunity became available to lead Strategic Fundraising at the Conservancy, he jumped at it! He is looking forward to strengthening relationships with landowners, donors, and organizations in supporting them to make an impact and give back to the islands we love.

Ask Mike about his love of squirrels, fear of bears, and his adventures travelling the Gulf Islands in his sailboat. Connect with Mike today to discuss strategic giving workshops, estate planning, and leaving a gift in your Will at itcmail@islandstrust.bc.ca.



MIKE PARTAKING IN ONE OF HIS FAVOURITE PASTIMES; SAILING THE ISLANDS IN THE SALISH SEA.

Calling all ITC landowners and donors! Share your story

We want to share your story about why you supported Islands Trust Conservancy through protecting land, donating or helping out in other ways. Contact our Communications Specialist to have your story featured in a Heron Newsletter.

 250-405-5171

 communications@islandstrust.bc.ca



The Heron Newsletter

The Heron Newsletter is Islands Trust Conservancy's good news and stories publication. Shared three times a year in the spring, summer, and fall, the newsletter is created for our subscribers in both print and digital formats.

We want to hear from you!

If you are a print publication subscriber to the Heron Newsletter, we want to know if you wish to continue receiving a paper copy of the newsletter. If yes, that's great! We'll keep you on the list.

If you wish to change your subscription preferences to only receive a digital copy of the newsletter, please get in touch with our Communications Specialist. Thank you for your continued support of our work.

 250-405-5171

 communications@islandstrust.bc.ca

Follow us on social media

 [facebook/IsTrustConservancy](https://facebook.com/IsTrustConservancy)  linkedin.com/islandstrustconservancy

 twitter.com/IsTrustConservancy  instagram.com/islandstrustconservancy

Watch us on YouTube

 youtube.com/IsTrustConservancy

Printed on 100% post consumer recycled paper.
Recycle by giving to a friend. 

YES! I want to preserve and protect the islands!

100% of your donation goes directly to protecting the islands you love.

Your donations of \$20 or more will receive an official donation receipt for income tax purposes.*

Questions? Contact us!

 250-405-5186  itcmail@islandstrust.bc.ca

Or mail to: 200-1627 Fort Street, Victoria, BC V8R 1H8

Name	
Address	
City	Country
Prov/State	Postal/Zip code
Phone	
Email	

Share your vision with future generations — please consider remembering Islands Trust Conservancy in your Will.

 To donate online visit:

islandstrust.bc.ca/donate-to-conservancy



 SCAN ME

☐ Yes, I am okay with public recognition of my donation.

My donation amount: ☐ \$50 ☐ \$100 ☐ \$200 ☐ \$_____

I wish to donate by:

☐ Cheque (made payable to the Islands Trust Conservancy)

☐ Visa ☐ MasterCard

Card Number

Expiry Date
mm/yy

Security Code
(back of card)

Signature

*Islands Trust Conservancy is a qualified donee as a Crown agent under B.C.'s *Islands Trust Act*. Islands Trust business # 122013576 RT0001

Applications

Development Variance Permit

File Number	Applicant Name	Date Received	Purpose
GB-DVP-2022.3	Pink, Thomas	23-Jun-2022	PID: 008-828-067 Shoreline protection variance. Civic address: 1160 The Strand, Gabriola Island, BC.

Planner: Margot Thomaidis

Planning Status

Status Date: 10-Jan-2024

SFN Referral initiated.

Status Date: 23-Nov-2023

Environmental Impact Assessment Report provided by applicants (D.R. Clough Consulting).

Status Date: 17-Oct-2023

Applicants for 1160 and 1170 preparing a QEP report to assess shoreline habitat impacts.

File Number	Applicant Name	Date Received	Purpose
GB-DVP-2022.4	Woodside, Mark & Gail	30-Jun-2022	PID: 008-828-059 Foreshore protection variance. Civic address: 1170 The Strand, Gabriola Island, BC.

Planner: Margot Thomaidis

Planning Status

Status Date: 10-Jan-2024

SFN referral initiated.

Status Date: 23-Nov-2023

Environmental Impact Assessment Report provided by applicants (D.R. Clough Consulting).

Status Date: 15-May-2023

Coastal Geotechnical Report received. Planner reviewing.

Applications

Development Variance Permit

File Number	Applicant Name	Date Received	Purpose
GB-DVP-2023.3	Miller, Sandra	23-Jun-2023	PID: 002-347-733 request for DVP for woodshed built too close to property line in 1991 at 880 Horseshoe Rd on Gabriola Island.

Planner: Margot Thomaidis

Planning Status

Status Date: 04-Apr-2024

Application to be considered at April 18 LTC regular business meeting.

Status Date: 03-Apr-2024

Notice sent out.

Status Date: 26-Mar-2024

Site visit.

Rezoning

File Number	Applicant Name	Date Received	Purpose
GB-RZ-2022.1	Wild Rose Garden Centre	07-Jun-2022	PID: 023-005-629 Change zoning to accommodate multiple changes in use. Civic address: 750 Tin Can Alley, Gabriola Island, BC.

Planner: Stephen Baugh

Planning Status

Status Date: 15-Mar-2024

Notification sent to SFN.

Status Date: 03-Jan-2024

Application re-assigned to different planner.

Status Date: 11-May-2023

application extended to November 30, 2023 to allow time for applicant to provide reports.

Applications

Rezoning

File Number	Applicant Name	Date Received	Purpose
GB-RZ-2023.1	on behalf of BC Ferry Services Inc.	13-Jun-2023	PID: 025-798-090 and 025-798-103 renovation and expansion of ferry terminal at Descanso Bay Ferry Terminal on Gabriola Island.

Planner: Stephen Baugh

Planning Status

Status Date: 19-Apr-2024

Applicant confirms they are working with SFN to provide information and will update planner when a response has been received.

Status Date: 22-Sep-2023

Referrals sent to agencies, organizations and first nations.

Status Date: 14-Sep-2023

First reading.

File Number	Applicant Name	Date Received	Purpose
GB-RZ-2024.1	Gabriola Agricultural Co-op Association	10-Jan-2024	PID: 004-633-989 seeking a rezoning from industrial to commercial in order to build a year-round community food hub at 465 South Rd. on Gabriola.

Planner: Stephen Baugh

Planning Status

Status Date: 08-Apr-2024

Applicant working on providing additional information.

Subdivision

File Number	Applicant Name	Date Received	Purpose
GB-SUB-2024.1	JE Anderson & Associates	13-Mar-2024	PID: 027-086-500 subdivision to create 11 lots at Lot 20, Section 8 on Gabriola Island.

Planner: Sonja Zupanec

Planning Status

Status Date:

Applications

Subdivision

File Number	Applicant Name	Date Received	Purpose
GB-SUB-2024.2	JE Anderson & Associates	30-Apr-2024	subdivision to create 2 lots at NORTH EAST 1/4 OF SECTION 3 GABRIOLA ISLAND NANAIMO DISTRICT EXCEPT PARCEL A (DD 77326I) AND EXCEPT PLANS EPP19453 AND EPP66666 on Gabriola Island.
Planner: Sonja Zupanec			
Planning Status			
<u>Status Date:</u>			

Temporary and Industrial Use Permit

File Number	Applicant Name	Date Received	Purpose
GB-TUP-2023.5	Georgiev & Godfrey, Geneen & Alex	16-Oct-2023	PID: 006-985-742 temporary use permit for short-term rental at 868 Chichester Rd W on Gabriola Island.
Planner: Stephen Baugh			
Planning Status			
<u>Status Date:</u> 15-Apr-2024			
Waiting for additional information from the applicant.			
<u>Status Date:</u> 05-Feb-2024			
Applicant has submitted a referral form to SFN.			
<u>Status Date:</u> 20-Dec-2023			
Applicant informed SFN has requested a referral.			
File Number	Applicant Name	Date Received	Purpose
GB-TUP-2024.2	Dewarle, Aaron & Jessica	30-Jan-2024	PID: 018-331-840 short-term vacation rental at 565 South Rd on Gabriola Island.
Planner: Margot Thomaidis			
Planning Status			
<u>Status Date:</u> 20-Feb-2024			
Planner reviewing file.			



Applications

Islands Trust
LTC EXP SUMMARY REPORT F2024
Invoices posted to Month ending March 2024

620 Gabriola	Invoices posted to Month ending March 2024	<u>Budget</u>	<u>Spent</u>	<u>Balance</u>
65000-620	LTC "Trustee Expenses"	681.00	87.31	593.69
LTC Local				
65200-620	LTC - Local Exp - LTC Meeting Expenses	1,488.00	4,967.60	-3,479.60
65210-620	LTC - Local Exp - APC Meeting Expenses	399.00	2,173.62	-1,774.62
65220-620	LTC - Local Exp - Communications	1,000.00	449.00	551.00
65230-620	LTC - Local Exp - Special Projects	612.00	0.00	612.00
TOTAL LTC Local Expense		<u>3,499.00</u>	<u>7,590.22</u>	<u>-4,091.22</u>
Projects				
73001-620-2001	Gabriola OCP/LUB	18,000.00	11,348.31	6,651.69
73001-620-4105	Gabriola Ecological Protection Zone	2,000.00	0.00	2,000.00
TOTAL Project Expenses		<u>20,000.00</u>	<u>11,348.31</u>	<u>8,651.69</u>

Gabriola Island Local Trust Committee Policies & Standing Resolutions

No	Meeting Date	Resolution No.	Issue	Policy and Description
1.	June 14, 2018	GB-2018-040	Processing non-medical cannabis retail license applications	It was MOVED and SECONDED that the Gabriola Island Local Trust Committee adopt the following standing resolution with respect to the processing of non-medical cannabis retail license applications: - Proposed or amended licenses for non-medical cannabis retail establishments require an application to the Local Trust Committee; - The application process shall comprise a public consultation component, which includes at least one notification to neighbours, one public meeting, posting of public notices and one advertisement in a local periodical; - The public consultation process shall be determined by the Local Trust Committee after initial review of the proposal; and - However, as a minimum, the Local Trust Committee will mail or otherwise deliver a notice to all owners and residents of properties within a 500 metre radius of the subject property where the establishment is proposed at least 10 days before adoption of a resolution providing comment on the application. The required notice shall include the following information: - Name of the applicant and a description of the proposal in general terms; - The location of the proposed establishment and the subject site; - The place where, and date and time when, both a public meeting will be held and a resolution of the local trust committee considered; - The name and contact information of the Islands Trust planning staff member who can provide copies of the proposed or amended license application; and - How public comments may be submitted to the Local Trust Committee.
2.	November 22, 2018	GB-2018-122	Applications for Federal Cannabis License	It was MOVED and SECONDED that the Gabriola Island Local Trust Committee requests that Notices of Intention to Apply for a Federal Cannabis License be forwarded to the Local Trust Committee upon receipt by the Islands Trust.
3.	February 28, 2019	GB-2019-031	First Nations - Community Reconciliation	It was MOVED and SECONDED that the Gabriola Island Local Trust Committee adopt the following standing resolution: Whereas the Local Trust Committee seeks to engage in Reconciliation with local

				First Nations, governments and the island community by honouring the Truth and Reconciliation Commission Calls to Action, United Nations Declaration on the Rights of Indigenous Peoples, Draft Principles that Guide the Province of British Columbia's Relationship with Indigenous Peoples, and Islands Trust First Nations Engagement Principles, the Local Trust Committee endeavours to: a) Annually, write a letter to First Nations, (re)introducing Trustees and Staff and provide a schedule of known Local Trust Committee meetings for the upcoming year, as well as provide an update of current projects and advocacy activities; b) For various Local Trust Committee meetings, invite elders from local First Nations to attend and provide a traditional welcome to the territory; c) Work with First Nation governments on cooperative initiatives, including and not limited to, language, place names, territorial acknowledgements, and community education on Coast Salish and local First Nations' cultural heritage and history; d) Work with First Nation governments on engagement principles for inclusive land use, marine use and climate change planning; advocacy, protection and stewardship; and knowledge and information sharing protocols; and e) Establish and maintain government to government dialogue with First Nations, now and into the future, based on respect and recognition of Aboriginal rights and title, treaty rights, and First Nations' traditional territories within the Islands Trust Area.
4.	April 11, 2019	GB-2019-038	Limited Public Markets Enforcement	It was MOVED and SECONDED that the Gabriola Island Local Trust Committee adopt the following standing resolution with respect to limited public markets: a) Islands Trust Bylaw Enforcement Staff are directed to not enforce Section B.6.2 of Gabriola Island Land Use Bylaw No. 177, 1999 when limited public markets are operated indoors, but rather to inform the operators of the applicable land use regulations; b) This enforcement policy does not permit violation of the Land Use Bylaw and the Gabriola Island Local Trust Committee may at any time, by resolution, modify or rescind this policy or give direction to expand enforcement activities.
5.	April 11, 2019	GB-2019-040	S219 Covenant	It was MOVED and SECONDED

			Signatories	that the Gabriola Island Local Trust Committee adopt the following standing resolution: that the Gabriola Island Local Trust Committee is authorized to enter into section 219 covenants, in the form of the 'Model Covenant for Secondary Suites' attached and in satisfaction of subsection B.6.6.8 of the Gabriola Island Land Use Bylaw No. 177, provided that such covenants must be executed on behalf of the Local Trust Committee by two members of the Local Trust Committee.
6.	January 23, 2020	GB-2020-002	Consultation for Communication Towers	It was MOVED and SECONDED that the Gabriola Island Local Trust Committee adopt the "Model Strategy for Antenna Systems" prepared by the Local Planning Committee of the Islands Trust, as the Gabriola Local Trust Committee strategy to assess any future potential tower proposals in the Gabriola Local Trust Area.
7.	July 30, 2020	GB-2020-053	Proactive unlawful STVR enforcement	It was MOVED and SECONDED that the Gabriola Island Local Trust Committee adopt as a standing resolution to authorize proactive enforcement of unlawful Short Term Vacation Rentals.
8.	October 27, 2022	GB-2022-089	Defer enforcement on all existing non-compliant dwellings being used for residential purposes except.....	It was MOVED and SECONDED a) that the Gabriola Island Local Trust Committee note that given the lack of housing options on Gabriola, Bylaw Staff will defer enforcement on all existing non-compliant dwellings being used for residential purposes except in the following circumstances: i. It is determined that there are risks to health and safety; ii. It is determined that sewage is not being disposed of in an approved septic or sewage disposal system; or that septic or sewage disposal systems are beings used in excess of capacity or ability as a result of non-compliant dwellings; iii. It is determined that there is contamination of wells or other drinking water sources; iv. Non-permitted residential uses are in water zones or environmentally sensitive areas; v. That the Gabriola Island Local Trust Committee may give direction to resume enforcement on activities on any property that poses risk to the health and safety of residents or to the environment. b) Nothing in this enforcement policy should be interpreted as giving permission to violate the Land Use Bylaw and the Gabriola Island Trust Committee may change this policy at any time and may give direction to expand enforcement activities at any time.

				c) The Gabriola Local Trust Committee will review this standing resolution at a minimum of once per year with updates from the Bylaw Compliance and Enforcement Manager to measure results and impacts, as amended. d) That the Gabriola Local Trust Committee recommend to the incoming Gabriola Local Trust Committee that it conduct a community consultation regarding the Standing Resolution.
9.	April 18, 2024	GB-2024-022	Defer enforcement of Mudge Island Land Use Bylaw No. 228 except...	It was MOVED and SECONDED that the Gabriola Island Local Trust Committee defer enforcement of the Mudge Island Land Use Bylaw No 228 until a full review of policies and procedures for compliance and enforcement is complete and adopted; with the exception of situations where environmental and human health and safety are a significant concern, and these would be brought to the Local Trust Committee for review.

Active Projects Report

Gabriola Island

1. Minor Project - Develop Ecological Protection Zone

Responsible

Dates

To develop a new ecological protection zone for the Gabriola Island Land Use Bylaw No. 177, which includes the rezoning of Elder Cedar Nature Reserve to a park or conservation/protection type zone.

Stephen Baugh

2. Major Project - Gabriola Island Comprehensive OCP and LUB

Responsible

Dates

- Establish opportunities to incorporate First Nations perspectives on indigenous housing needs and intergovernmental collaboration for effective decision making.
- Consider new Development Permit areas for water conservation; form and character; and protection of biodiversity.
- Consider and incorporate RCP goals as part of the housing project.
- Develop an island wide water sustainability plan that builds on the RDN water budget data, rainwater catchment and requirements of the Water Sustainability Act.
- Review definitions of 'affordable' and 'attainable' housing.
- Review OCP policies respecting affordable, rental, seniors, special needs housing, social needs, social well-being and social development; develop a new 'housing first' policy.
- Review amenity zoning and housing agreements; density bank policies; opportunities for rental zoning.
- Consider secondary suites on lots smaller than 2 hectares.
- Consider OCP designations, density provisions, LUB regulations, and Development Permit guidelines for multi-dwelling housing and mixed use buildings.

Narissa Chadwick

Active Projects Report

Gabriola Island

- Review OCP and LUB to improve protection of coastal areas; development of a comprehensive DPA for shorelines in the Gabriola Island Local Trust Area
- Hazardous areas/Steep Slopes DPA: Consider hazardous areas and steep slopes development permit area designation; consider how to address areas of potentially problematic soils, shoreline erosion, and localized areas of steep terrain
- Consider implementing Eelgrass protection regulations
- Gabriola Village Plan: Undertake a comprehensive review of policies and regulations with respect to the Gabriola Village Core
- Green Energy: Consider policy and regulatory mechanisms to encourage green and renewable energy
- Review bylaws with respect to temporary use permits for commercial vacation rentals
- Review of temporary sawmill regulations
- Definition of personal use of animals for SRR zoned lots
- Review of how cisterns, solar panels and parking are regulated as structures subject to lot coverage calculations
- Review of section B.2.1.1 for variances within DP3
- Review minimum average parcel size calculations in LUB and OCP to ensure consistent and supportive of more than 5% dedication of parkland
- Review definition and regulations for limited public market, and INI zone uses pertaining to market sales

Active Projects Report

Gabriola Island

- correction to WC3 mapped location to coincide with Green Wharf
 - Water Resource Planning: Review of water requirements at the time of subdivision
 - Protection of the Coastal Douglas-fir and Associated Ecosystems: An Islands Trust Tool Kit (2018): Implementation of the report recommendations into OCP policy and LUB regulations.
 - Accessory Buildings: Review of regulations pertaining to the order of construction of accessory buildings on lots.
 - Review options to allow cannabis production in zones other than 'agriculture' and possible ways to regulate odour, noise, water use and light pollution related to agricultural activities when permitted in a zone.
 - Recognize areas of cultural significance - consider designation of a Heritage Conservation Areas or adopt Heritage Bylaws to protect heritage cultural resources similar the projects completed on South Pender and Saturnina.
 - Review regulations to ensure flexibility for housing options in ALR are consistent with recent ALC changes.
 - Consider establishment of a 'Community Service' land use designation in the OCP.
-

Future Projects Report

Gabriola Island

1. *DeCourcy Island OCP and LUB Review*

Responsible

Date Received

Review OCP and regulatory bylaws; establish an Advisory Planning Commission. Topics include: park areas without park zoning; zoning; DAI Bylaw; subdivision policies and regulations, review and update of short term vacation regulations,.

2. *Minor - Review and update Development Approval Information (DAI) bylaw*

Responsible

Date Received

*Nov. 30, 2023: As a bylaw re-write, to be initiated after OCP, LUB reviews. Update Gabriola Island Bylaw No. 150, DAI Bylaw.

30-Nov-2023

LTC resolution passed June 16, 2022 - Trustee Langereis noted that DAI bylaw not up to date with current DPAs, particularly after adoption of DPA 8 - Mutli-Dewlling Affordable Housing and DPA 9- Light Industrial Use.

3. *Advisory Planning Commission bylaw*

Responsible

Date Received

Amendments to Bylaw No. 296 to require that APCs set a regular monthly meeting date and time.

30-Nov-2023

4. *Heritage Register*

Responsible

Date Received

Future Projects Report

Gabriola Island

Planning staff to prepare a summary report for a future LTC meeting on past LTC discussions re: heritage register for Gabriola island; potential funding opportunities and alignment with other LTC projects; what's entailed with a MOU with commission under heritage act; analysis of designation of a commission vs a bylaw to establish the heritage register. Incorporate any comments from senior policy advisor staff on this approach. See minutes from December 1, 2022 for further details on this discussion.

5. *Mudge Island Official Community Plan and Land Use Bylaw*

Responsible

Date Received

Comprehensive review or targeted amendments to Mudge Island OCP and LUB.

18-Apr-2024