STAFF REPORT

File No.: PLRZ20240110 (Bigham)

DATE OF MEETING:	May 29, 2026
TO:	North Pender Island Local Trust Committee
FROM:	Southern Team
COPY:	Mary Storzer
SUBJECT:	Rezoning Application – Stormwater Management Plan Applicant: Braedon Bigham - Big Digem Contracting Location: 3334 Port Washington Road, Pender Island

RECOMMENDATIONS

1. **That the North Pender Island Local Trust Committee receives the Industrial Wastewater/Stormwater Management Plan Report for rezoning application PL-RZ-2024-0110 (Bigham), dated May 19, 2026, and directs that if rezoning is approved, as a requirement of rezoning the applicant will be required to enter into a *Land Title Act* section 219 covenant with the Local Trust Committee for aspects of stormwater management including:**

    a) **The installation of an engineered surface water capture and treatment system, including an oil interceptor installed with an upstream catch basin and overflow piping, to be installed prior to issuance of any building permit in the industrial zoned area, and designed with capacity based on current storm precipitation data at time of development,**
    b) **The submission of a manual for operation and maintenance of the engineered surface water capture and treatment system, prior to issuance of any building permit in the industrial zoned area, and based on current regulatory standards at time of development and site specific design parameters.**

REPORT SUMMARY

The purpose of this staff report is to provide an update on rezoning application PL-RZ-2024-0110 (Bigham), including the submission of an Industrial Wastewater/Stormwater Management Plan report from the applicant.

The above recommendation is supported as:

- A professional engineer concludes that the proposed management system provides effective management of all stormwater captured by impermeable and permeable surfaces on site;
- Staff, including the Senior Freshwater Specialist, have reviewed the application and identified some lack of clarity in engineers report. However, Staff are reasonably satisfied that the recommended approach, including the installation of an engineered surface water capture and treatment system, will adequately mitigate stormwater runoff impacts to the environment;
- More detailed planning will be necessary to further inform other regulatory processes that will be required to be adhered to as development proceeds should rezoning be approved, including building permit approval following BC Building Code regulations for stormwater management,; and

- Establishing conditions in a s. 219 covenant will ensure that installation of an engineered surface water capture and treatment system will occur prior to further industrial development on the site, including ongoing and maintenance.

BACKGROUND

The applicant has submitted a rezoning application to permit the continued operation of aggregate storage, sales and associated uses on a portion of the subject property located at 3334 Port Washington Road, which is currently zoned Rural (R) and does not permit industrial uses.

At the January 10, 2026 meeting, the LTC received draft bylaw No. 242, and directed staff to initiate bylaw referrals. Staff are still working through referral responses. Staff will bring a complete package of referral responses to the LTC for further consideration, likely at the July 17, 2026 meeting.

Staff are now seeking direction from the LTC on the Industrial Wastewater/Stormwater Management Plan report that has been submitted by the applicant.

Issues and Opportunities

Wastewater/Stormwater Management Plan

The terms of reference for the application requires that a Wastewater/Stormwater Management Plan be submitted that considers the following:

> An Industrial Wastewater/Stormwater Management Plan, prepared by a qualified professional engineer, which includes requirements to minimize impacts on the environment and adjacent properties, based on site conditions and proposed industrial uses for:
>
> a. The safe storage and disposal of all industrial wastewater produced on the site;
> b. Effective management of all stormwater; and,
> c. Compliance monitoring and reporting.

A final plan has now been submitted (Attachment 1). Staff, including the Senior Freshwater Specialist, have spent consider time reviewing the document with the applicant's engineering firm. The report includes information on:

- Background and site conditions
- Consideration of Industrial Wastewater
- Stormwater management design criteria
- Surface water management
- Spill response
- Monitoring and reporting

The engineer concludes that:

> Overall, the proposed stormwater management system provides effective management of all stormwater captured by impermeable and permeable surfaces surfaces on site. The proposed approach minimizes impacts on the environment and adjacent property and limits design storm flows to pre-development levels.

Staff provide the following comments

- There is no proposed production of "Industrial Wastewater" on the site as defined by provincial regulation;
- Stormwater retention for permitted buildings and structures must follow BC Building Code requirements, which would be further calculated at time of building permit approval;
- The installation of an engineered surface water capture and treatment system with overflow capacity is intended to reduce ecological impacts of contaminated surface water run-off from the site during precipitation events;
- While preferred, at this early stage, the engineer concludes that more detailed site specific engineering system design is not readily feasible and that future design will be required to follow regulatory standards;
- A more detailed operations and maintenance procedure will be required for the engineered surface water capture and treatment system, based on future site specific design.

To ensure that an separator system is installed at the site and is managed effectively, should the application proceed to approval, staff recommend that the LTC require the applicant to enter a s. 219 covenant with the LTC that requires conditions for:

a) The installation of an engineered surface water capture and treatment system, with overflow capability, to be installed prior to issuance of any building permit in the industrial zoned area, and designed with capacity based on current storm precipitation data at time of development
b) The submission of a manual for operation and maintenance of the engineered surface water capture and treatment system prior to issuance of any building permit in the industrial zoned area, based on current regulatory standards at time of development and site specific design parameters.

Terms of Reference

The submission of the stormwater management plan report completes all of the reporting requirements as laid out in the Terms of Reference that was issued in December of 2024 (Attachment 2).

Staff have no further reporting requirements at this time. The LTC could direct that more information be provided on any aspects of the application.

Updated Site Plan

Staff understand that the applicant may bring forward changes to the current site layout to improve traffic flow at the site and minimize use of the roadway. If changes are proposed, an updated site plan will be required to be submitted by the applicant.

Should the application proceed to approval, staff recommend that the final site plan also be included as a s.219 covenant condition, to further describe how and where future development may occur on the land base.

Consultation

Agency and First Nation Referrals

As indicated above, staff are still working through referral responses.

Statutory Requirements

In this case, as there is no required OCP amendment, the LTC will need to provide direction on whether to hold a public hearing. If the LTC chooses to not hold a public hearing, staff would need to provide notice of first reading.

If a public hearing is held, public hearing notice would be posted as per statutory and bylaw requirements in advance of a public hearing, including notification of the proposed rezoning to all properties located within 100 metres of the subject property.

Typically, a Community Information Meeting (CIM) is also held prior to a public hearing. With direction from LTC, these would be scheduled either separately or concurrently after draft bylaws are complete, reviewed and have received at least First Reading. If no public hearing is held, the LTC could still choose to hold a CIM.

Rationale for Recommendation

The recommendation on page 1 is supported as:

- A professional engineer concludes that the proposed management system provides effective management of all stormwater captured by impermeable and permeable surfaces on site;
- Staff, including the Senior Freshwater Specialist, have reviewed the application and identified some lack of clarity in engineers report. However, Staff are reasonably satisfied that the recommended approach, including the installation of an engineered surface water capture and treatment system, will adequately mitigate stormwater runoff impacts to the environment;
- More detailed planning will be necessary to further inform other regulatory processes that will be required to be adhered to as development proceeds should rezoning be approved, including building permit approval following BC Building Code regulations for stormwater management,; and
- Establishing conditions in a s. 219 covenant will ensure that installation of an engineered surface water capture and treatment system will occur prior to further industrial development on the site, including ongoing and maintenance.

ALTERNATIVES

The LTC may consider the following alternatives to the staff recommendation:

1. **Request further information**

   The LTC may refer back to staff requesting further information prior to making a decision. Recommended wording for a resolution is as follows:

   That the North Pender Island Local Trust Committee request that staff report back with….

2. **Deny the application**

   The LTC may deny the application. Recommended wording for the resolution is as follows:

   That the North Pender Island Local Trust Committee proceed no further with application NP-PLRZ20240110 (Bigham).

3. **Hold the application in abeyance**

   The LTC may choose to hold the application in abeyance.

4. **Receive for information**

The LTC may receive the report for information

NEXT STEPS

Staff will bring bylaw referral information back to the LTC at the July 17, 2026 meeting.

Submitted By:	Brad Smith, Island Planner	May 15, 2026
Concurrence:	Mary Storzer, Regional Planning Manager	May 19, 2026

ATTACHMENTS

1. Stormwater Management Plan, Dated 19 May, 2026
2. Terms of Reference

Date: May 19, 2026

Submit To: Islands Trust
200-1627 Fort Street
Victoria, BC, V8R 1H8
information@islandstrust.bc.ca

Attn: Brad Smith

Prepared By: MSR Solutions Inc.

Subject: 3334 Port Washington Road – Industrial Wastewater/Stormwater Management Plan

1. Introduction

A rezoning application has been submitted for the property at 3334 Port Washington Road, on Pender Island, BC. The legal description of the property is Lot 7, Plan, VIP6294, Section 18&22, Cowichan Land District, Portion Pender Island, with the PID: 005-837-693. The file number for the rezoning application is: PLRZ20240110. The North Pender Island Local Trust Committee had received a preliminary report and passed a resolution to proceed with the application on November 29, 2024. With the issuance of a Terms of Reference it is required that an Industrial Wastewater/Stormwater Management Plan is submitted, as the intent of the landowner is to construct a new shop on the property among current uses.

2. Background

MSR Solutions Inc. (MSR) has been retained to develop an Industrial Wastewater/Stormwater Management Plan for the rezoning application. The property is currently zoned as rural "R" for rural uses and is seeking to rezone to a Light Industrial Zone (GI) which allows for the property to used as a contractor yard, storage, handling of goods and vehicles, and one accessory dwelling.

It is requested in a letter from Islands Trust, regarding the "Terms of Reference for Rezoning Application PLRZ20240110 (Bigham) - 3334 Port Washington Road, North Pender Island (PID 005-837-693)" and dated December 18, 2024, that an Industrial Wastewater/Stormwater Management Plan addresses requirements to minimize impacts on the environment and adjacent properties. The stormwater management plan will be based on the site conditions and proposed industrial uses for:

a. The safe storage and disposal of all industrial wastewater produced on the site.
b. Effective management of all stormwater.
c. Compliance monitoring and reporting.

Applicable bylaws include the North Pender Land Use Bylaw No. 224 (2022) and North Pender Island Official Community Plan Bylaw No. 171 (2007). Section 8.14 in the Land Use Bylaw No. 224 outlines drainage standards, with the OCP Bylaw No. 171 suggesting a preference for porous or permeable surfaces while minimizing impervious surfaces, with swales and open ditches rather than curb and gutter systems.

Stormwater works and onsite drainage requirements must be capable of conveying the peak rate of runoff from a 10-year storm for the entire drainage basin, per Land Use Bylaw No. 224. Additionally, a stormwater management design references the BC Building Code (BC Ministry of Housing, 2024), and the Climate Projections for the Capital Region (CRD, 2024) for climate change considerations.

3. Site Conditions

MSR conducted a site visit on June 24, 2025, to assess the proposed works and investigate the site properties. The lot currently consists of aggregate storage, modular storage shelters, and some work vehicle parking, all in a gravel area. The site has an overall south-facing slope at an approximated 30% average grade, with a level area along Port Washington Road used for the current site activity. Natural drainage on site travels towards the south and is collected and conveyed by a roadside ditch along Port Washington Road sloping slightly towards the west. Beyond the current site uses (refer to Figures 1 and 2), the property is primarily forested and has one water well located approximately midway up the hill. Drainage swales exist along the east and west property lines which channels runoff from the subject property and neighboring sites to the roadside ditch along Port Washington Road.

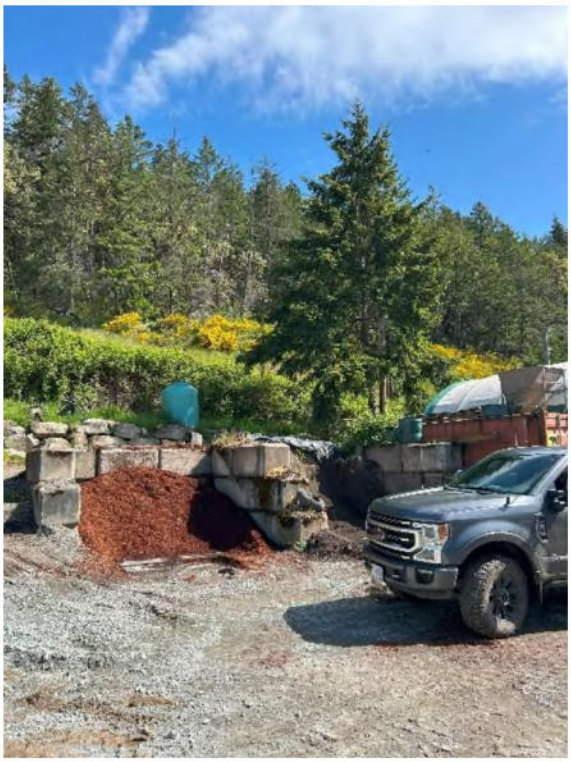

Figure 1: Site Photo Looking Northeast

Figure 2: Site Photo Looking North

A new shop and an office are proposed, which will be the contributing factors to stormwater runoff, with the introduction of impermeable area on site. Machine and vehicle washing activities will be offsite, so no industrial wastewater will be produced and introduced into the stormwater conveyance system. Aggregates stored on site

are primarily rock and sand products, which will not introduce silts or industrial waste. Topsoil stored on site with the potential for sediment runoff downstream will remain covered.

The currently developed area of the lot is a gravel space and shall remain as such aligning with the General Commercial Policies, Section 2.4.10 of the OCP Bylaw No. 171, favouring porous and permeable surfaces for parking areas and minimizing the impervious surfaces on site. Should this area be paved at any time, it is noted that Section 5(e) in the OCP Bylaw No. 171 requires that paved areas shall include oil/water separator(s).

4. Industrial Wastewater

There are no industrial activities proposed for the current site that will produce industrial wastewater. Staff washrooms located in the proposed building will discharge to an onsite sewage treatment system registered under the Sewerage System Regulation in accordance to best practices outlined in the Sewerage System Standard Practice Manual.

5. Effective Management of Stormwater

The proposed onsite stormwater management system will collect stormwater from roof leaders and discharge to a catch basin for overflow and equalization into a form of stormwater storage. The storage allows for the attenuation of stormwater during peak events with gradual infiltration overtime. The catch basin and storage mechanism will be equipped with a restricting outlet and overflow, discharging to the south end of the property.

5.1. Design Criteria

Post-development flows must be equal to pre-development flows for developments. Stormwater storage offers infiltration and stormwater attenuation to displace the increased stormwater runoff generated by impermeable areas. The release rate of the attenuation storage will be controlled to no more than the equivalent pre-development flow rate.

A local Intensity-Duration-Frequency (IDF) curve for the site was generated to determine a locally relevant amount of rainfall and attenuation storage required. Ungauged location IDFs are determined by IDF_CC Web-based Tool for Updating Intensity-Duration-Frequency Curves to Changing Climate – ver 8.0 (Simonovic et. Al., 2015). The design storm considered is a 15-minute storm duration at a 10-year return period, with a time of concentration of 10 minutes. This design storm meets the requirements in Appendix C of the BC Building Code and the North Pender Land Use Bylaw No. 224 stormwater management requirements.

5.2. Climate Change Considerations

Based on the Climate Projections for the Capital Region (2024), the annual average increase in precipitation is expected to rise by 15% by the 2050's and 25% by the 2080's. The largest seasonal increase is expected in the winter at 25% by the 2050's and 34% by the 2080's. Comparable to the anticipated design life of storm and wastewater infrastructure, a 50-year forecast is applied based on the largest projected increase being in the winter, adding a factor of 34% to the intensity of post-development design flows.

5.3. Hydrology Analysis Method

The design 15-minute, 10-year storm per the IDF curve is 31.5 mm/hr, and when considering climate change, indicates an intensity of 42.3 mm/hr. Applying the rational equation, the pre- and post- development design flows are calculated.

$$Q = \frac{CIA}{360} \quad \text{(Equation 1)}$$

Where 'Q' is the discharge of watershed (m^3/s), 'C' is the surface water runoff coefficient (unitless), 'I' is the rainfall intensity (mm/hr) according to the IDF curve and with respect to the time of concentration 'Tc', and 'A' is the tributary area (ha).

The runoff coefficient is derived by the weighted average of the sub-coefficients and their respective areas as provided in Tables 1 and 2. A pre-development coefficient of 0.5 is selected for gravel roads and parking areas, which is a conservative equivalent to light industrial areas. In addition to a runoff coefficient of 0.5 being representative of light industrial areas, it strikes a balance between coefficients used in standard engineering practice for asphalt or brick paved surfaces which are less permeable, and heavier soils which are more permeable. Runoff coefficients are determined by InfoSWMM (2021), the industry-leading software program used to model complex stormwater networks, and Engineering Hydrology Principles and Practices (Ponce, 2014) which cites peer reviewed reference material from the Design and Construction of Sanitary and Storm Sewers, ASCE Manual of Engineering Practice No. 37, 1960.

A post-development coefficient of 0.9 is used as a typical design value for impermeable areas, obtained from the same resources.

The runoff coefficients are therefore considered appropriate for design purposes and consistent with standard engineering practice, to represent conditions over the design storm in both dry and wet seasons. The design storm criteria are based on a 10-year return period event representing a statistically independent occurrence, with no requirements within the governing regulations to account for consecutive storm events or varying antecedent moisture conditions beyond this basis.

5.3.1. Pre-Development & Post Development Flows

Pre-development and post-development flows are calculated based on the estimated surface area of the proposed shop and office. Pre-development flows were calculated based on a storm intensity of 31.5 mm/hr, and the area and coefficients seen in Table 1.

Table 1: Pre-Development Runoff Coefficients

Surface	Area (m^2)	Runoff Coefficient
Shop	149	0.50
Office	9	0.50
Total	**158**	**0.50**

Applying Equation 1, the resulting pre-development flow equates to 0.69 L/s. Post-development flows were calculated based on a storm intensity of 42.3 mm/hr, and the area and coefficients seen in Table 2.

Table 2: Post-Development Runoff Coefficients

Surface	Area (m^2)	Runoff Coefficient
Shop	149	0.90
Office	9	0.90
Total	**158**	**0.9**

Applying Equation 1, the resulting design flow equates to 1.67 L/s.

5.3.2. Attenuation Storage Requirements

The attenuation storage requirements are determined by the difference in pre- and post-development flows over the duration of the storm, shown by Equation 2.

$$Q_{storage} = Q_{post} - Q_{pre} = 0.98\ L/s \qquad \text{(Equation 2)}$$

Multiplying $Q_{storage}$ by a 15-minute storm duration, the attenuation volume is 0.88 m^3.

5.4. BC Building Code Method

For stormwater retention sizing the BC Building Code, Appendix C – Climatic and Seismic Information for Building Design in Canada, can be used. The BC Building Code calculation uses the 15-minute design rainfall depth provided in Table C-2 for Climatic Design Data for Selected Locations in British Columbia, multiplied across the impervious area of the development.

A rainfall depth of 8 mm listed for the Victoria region is used, which, across 158 m^2 of impermeable area only (Table 2), requires 1.3 m^3 of storage.

6. Surface Water Quality Management

The gravel surface of the existing contractor yard has an estimated runoff coefficient of 0.5 as described in Section 5.3, suggesting that half of all rainwater that falls on the surface will infiltrate, while the remaining half has the potential to travel overland. Machinery used in the yard has the potential to release small drips of oil or other sources of hydrocarbons, which, if not captured, have the potential to travel over land and downstream through existing water courses. To mitigate any potential environmental impacts, two approaches are proposed – surface water capture and treatment through an Oil Interceptor (OI), and a comprehensive spill response plan.

6.1. Surface Water Capture and Treatment

A schematic sketch of the proposed surface water capture and treatment strategy can be seen in the drawings provided in Appendix A. The existing gravel yard will be graded to direct and capture overland flow through catch

basins positioned at low points. The catch basins will serve to capture sediment as surface water flows through and is discharged into a PVC stormwater collection pipe. The collection pipe will convey flows received from each of the catch basins into and OI. The OI is sized based on providing 0.25 m^2 of surface area for every 1 L/s 6-month storm design flow, in keeping with practices common to municipalities such as Saanich and Langford.

The proposed OI is a Langley Precast Type II Interceptor, installed with an upstream catch basin and overflow piping. As illustrated on the site plan in Appendix A, the Type II Interceptor satisfies the site conditions and design storm. The overflow will only be used in high-flow scenarios, where the design storm is exceeded. High-flow conditions will initially utilize the interceptor like a "first flush" concept, where the highest concentrations of sediments and contaminants are initially mobilized by a storm event and will be treated. High flows that develop as the time of concentration is realized will have significantly reduced contaminant concentrations. An overflow also mitigates risk against the re-suspension of captured contaminants with turbulent high flow conditions, hydraulic overloading of the interceptor, and surcharging and backing up of the system which could occur without an overflow installed.

6.2. Comprehensive Spill Response Plan

In the event of an oil spill, a Spill Response Plan, outlined in Appendix B, will be followed.

7. Gravel Basin Design and Construction Considerations

The greater of the attenuation volumes calculated by the Hydrology Analysis method and the BC Building Code is used for the stormwater storage design. The storage requirement is therefore 1.3 m^3.

A gravel detention basin is proposed to provide the site storage as gravel basins are simple, low maintenance, and flexible in depth and footprint allowing to best suit the site constraints. Stormwater is stored in the void spaces between the gravel, therefore, a void ratio of 40% is used for a pea gravel or drain rock.

The minimum required gravel volume of is approximately 3.3 m^3. Limiting the excavation and gravel basin depth to 0.9 m below grade and keeping a cover soil layer of 0.3 m, the footprint of the gravel basin is proposed at 2.3 m long and 2.3 m wide.

A standard 600 mm diameter concrete lawn basin with a depth of 1.2 m is proposed to collect the stormwater from the inlet leaders, equalizing with the gravel basin, and containing a restricting outlet and overflow. An allowable release rate equal to pre-development flows (Section 5.3.1.) requires a control orifice installed on the catch basin outlet. The orifice shall be 25 mm (1") in diameter to release a pre-development flow rate of 0.69 L/s. A 100 mm overflow and discharge pipe will convey the stormwater to the discharge point on the south side of the property and into the roadside ditch.

Actual underlying soil conditions at the point of discharge are unknown, so storage is provided assuming that no infiltration takes place. Realistically, some stormwater will infiltrate into the soils across the base area of the gravel basin. Using a baseline infiltration rate of 2 mm/hr suggested by the City of Victoria Professional Rainwater Management Standards (June 2015) as a conservative general value, it is expected that up to 0.26 m^3 may infiltrate away each day while the chambers are flooded.

Preliminary plan and detail drawings of the proposed system can also be seen on the design drawings in Appendix A.

8. Monitoring and Reporting

There are no monitoring or reporting requirements defined for the proposed stormwater management system.

For a new building under the BC Building Code, a Schedule B is required for the Assurance of Professional Design and Commitment for Field Review, and governs areas of plumbing such as roof drainage systems, and maintenance manuals for plumbing systems. A Schedule C-B after project completion Confirms the Registered Professional of Record fulfilled their obligations under Schedule B, including the issuance of a maintenance manual.

An O&M manual will therefore be issued by MSR in accordance with the BC Building Code, conditional to rezoning approvals the installation of the stormwater system as proposed. The O&M manual will address, but is not limited to the inspection frequency, sediment and hydrocarbon removal, clean-out triggers, record keeping, and responsibility for maintenance.

Any future onsite sewage system will have a separate operations and maintenance procedure defined following design of the system.

9. Conclusion

A rezoning application has been submitted for 3334 Port Washington Road, on Pender Island, BC, which is requiring an industrial stormwater management plan to address changing surface conditions on site. A site investigation and calculations in accordance with the BC Building Code and Islands Trust regulations prove that an on-site stormwater attenuation system is feasible. A gravel basin storage system offers an attenuation volume of 1.3 m^3, meeting the minimum storage volumes required by the hydrology analysis method and the BC Building Code.

The proposed stormwater infrastructure will accommodate stormwater generated by the proposed additional impermeable area on site. A 25 mm diameter orifice allows for a discharge flow equal to pre-development conditions through a 100 mm discharge system. Infiltration occurring through the footprint of the gravel basin offers an additional contingency factor to the storage volume.

Surface water flows are proposed to be captured through a series of catch basins, located at low points throughout the gravel yard. Flows captured in the basins will direct water through a Langley Precast Type II Interceptor equipped with an overflow, capturing hydrocarbons and any remaining silt and debris before the stormwater is discharged to ditch located on the west side of the property. Any oil spills that occur onsite will be managed by following a comprehensive Spill Response Plan.

Overall, the proposed stormwater management system provides effective management of all stormwater captured by impermeable and permeable surfaces surfaces on site. The proposed approach minimizes impacts on the environment and adjacent property and limits design storm flows to pre-development levels.

Prepared By:

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Approved By:

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Prepared For:
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Pender Island, BC, V0N 2M1
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Appendix A: Preliminary Drawings

SITE PLAN
SCALE: 1:1000

LOCATION PLAN
SCALE: 1:10000

GENERAL NOTES

1. WORK TO BE COMPLETED DURING DRY WEATHER ONLY.
2. ALL WORKS TO BE COMPLETED AS PER CURRENT STANDARDS AND LATEST EDITION OF THE BC BUILDING CODE.
3. ALL CONSTRUCTION AND MATERIALS TO BE IN ACCORDANCE WITH THE LATEST REVISION OF THE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS (MMCD), AND THE BC BUILDING CODE 2024, UNLESS OTHERWISE NOTED.
4. IF A CONFLICT BETWEEN THE SPECIFICATIONS ARISES, THE MOST STRINGENT SPECIFICATION SHALL APPLY.
5. ANY CONFLICTS BETWEEN THESE DRAWINGS AND SITE CONDITIONS TO BE REPORTED TO ENGINEER PRIOR TO CONSTRUCTION.
6. CONFIRM LOCATION AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION, CONTACT BC1 CALL FOR UNDERGROUND UTILITY LOCATIONS.
7. LOCATE STORMWATER COLLECTION AND CONVEYANCE WORKS ACCORDINGLY WITH SITE GRADING TO CAPTURE SURFACE RUNOFF.
8. CONTRACTOR TO ENSURE ALL PERMITS AND APPROVALS ARE ACQUIRED PRIOR TO CONSTRUCTION.
9. CONTRACTOR NOT TO COMMENCE BACKFILL OPERATION UNTIL THE EXCAVATION AND WORKS HAVE BEEN APPROVED BY THE ENGINEER.
10. CONTRACTOR TO OBTAIN PERMIT FROM CRD PRIOR TO DEPOSIT OR REMOVAL OF SOILS ON THIS SITE.
11. EQUIPMENT TO BE IN ACCORDANCE WITH THE MANUFACTURERS LITERATURE ON BACKFILL AND COMPACTION.
12. ALL PIPE BEDDING AND BACKFILL AS PER MMCD SPECIFICATIONS.
13. EXCAVATE TO LINES AND LEVELS NECESSARY TO COMPLETE THE WORKS, MINIMUM SIDE SLOPES OF EXCAVATIONS SHALL NOT EXCEED 1:1 IN SOIL AND 1:0.25 IN ROCK, UNLESS NOTED OTHERWISE BY GEOTECHNICAL CONSULTANT.
14. BACKFILL TO GRADES INDICATED IN LAYERS NOT TO EXCEED 300mm. ALL BACKFILL SHALL BE COMPACTED TO 98% STANDARD PROCTOR DENSITY AT OPTIMUM MOISTURE CONTENT.
15. IF ARCHEOLOGICAL MATERIAL IS ENCOUNTERED, STOP ALL EXCAVATION AND CONSULT A QUALIFIED ARCHEOLOGIST PRIOR TO THE CONTINUATION OF WORKS.

DESIGN NOTES

16. LENGTH, WIDTH, AND DEPTH OF GRAVEL PIT TO BE CONFIRMED ON SITE. FIELD FIT AS REQUIRED, MAINTAIN A MINIMUM CUBIC VOLUME OF 3.3 m³ AND MINIMUM 0.3 m OF COVER SOIL OVER THE GRAVEL.
17. MAINTAIN A MINIMUM OF 0.3 m WATER SOIL FROM BOTTOM OF GRAVEL PIT TO BEDROCK.
18. DIRECT STORMWATER RESTRICTING OUTLET AND OVERFLOW DISCHARGE TO DRAINAGE COURSE.
19. LOCATE STORM WATER WORKS OUTSIDE OF DRIVEWAY AND PROTECT FROM VEHICULAR TRAFFIC.
20. YARD SITE TO BE GRADED TO COLLECT SURFACE WATER TO COMMON CATCH BASINS, ADDITIONAL BASINS TO BE ADDED AS REQUIRED, STORM COLLECTION PIPE TO CONVEY FLOW TO OIL INTERCEPTOR.
21. OIL INTERCEPTOR SIZED BASED ON ESTIMATED YARD AREA, NO UPSTREAM CATCH BASIN AND OVERFLOW PIPING REQUIRED IF USING LANGLEY PRECAST 3.0SE OIL INTERCEPTOR. UPSTREAM LANGLEY 600X1200 CATB CATCH BASIN AND OVERFLOW PIPING REQUIRED IF USING LANGLEY PRECAST TYPE II INTERCEPTOR.

EROSION AND SEDIMENT CONTROL

23. TO PROTECT THE SOIL, WATER, AND VEGETATIVE RESOURCES OF THE DEVELOPMENT, ONLY THOSE AREAS NECESSARY TO CONSTRUCT THE WORKS AND SERVICES CONTAINED IN THE ENGINEERING DRAWINGS ARE TO BE DISTURBED.
25. PRIOR TO AND DURING CONSTRUCTION, THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR CONTROLLING EROSION AND SEDIMENT TRANSFER BY UTILIZING SUCH MEASURES AS CONSTRUCTION OF INTERCEPTOR DITCHES, SILT FENCES, HAY BALE STRUCTURES, SEDIMENT CONTROL PONDS, SEDIMENT TRAPS, STAGED GRAVEL FILTERS, OR OTHER METHODS HE MAY DEEM NECESSARY TO PREVENT DISCHARGE OF SEDIMENT TO WATERCOURSES.
24. THE CONSULTANT ASSUMES NO RESPONSIBILITY FOR DAMAGES RESULTING FROM IMPROPER EROSION AND SEDIMENT CONTROL MEASURES UNDERTAKEN BY THE CONTRACTOR.
26. PRIOR TO SUBSTANTIAL COMPLETION THE CONTRACTOR SHALL PREPARE AND REVIEW WITH THE OWNER A PLAN WHEREBY THE OWNER WILL UPON FINAL COMPLETION ASSUME RESPONSIBILITY FOR ONGOING EROSION AND SEDIMENT CONTROL MEASURES ON THIS SITE.

ISSUED FOR APPROVAL
MAY 2026

1:1000 0 20 60m
1:10,000 0 200 600m

ISLANDS TRUST

BC 1C
CALL BEFORE YOU DIG!
1-800-474-6886
THE CONTRACTOR IS TO CALL BC ONE CALL AND HAVE EXISTING SERVICES STAKED PRIOR TO ANY CONSTRUCTION

REV.	DESCRIPTION	DATE	DRAWN	CHECKED	APPR
	ISSUED				
3	ISSUED FOR APPROVAL	2026.05.19.	LN	JA	MS
2	PRELIMINARY	2026.03.05.	TM	JA	MS
1	PRELIMINARY	2025.07.22.	AM	LN	MS

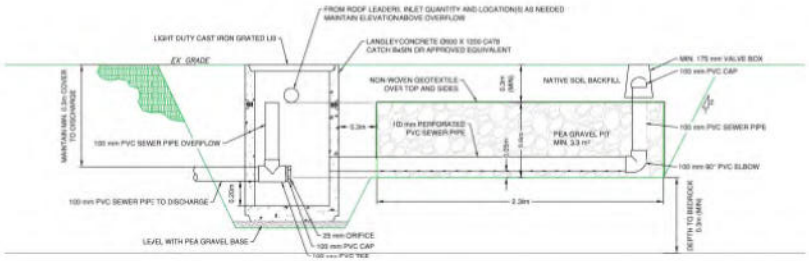
MSR SOLUTIONS INC.
INNOVATIVE ENGINEERING SOLUTIONS
125 - 662 GOLDSTREAM AVENUE, LANGFORD
B.C. V9B 0N8
OFFICE: (250) 479 - 5164
admin@msrsolutions.ca
PERMIT TO PRACTICE #1001876

STAMP

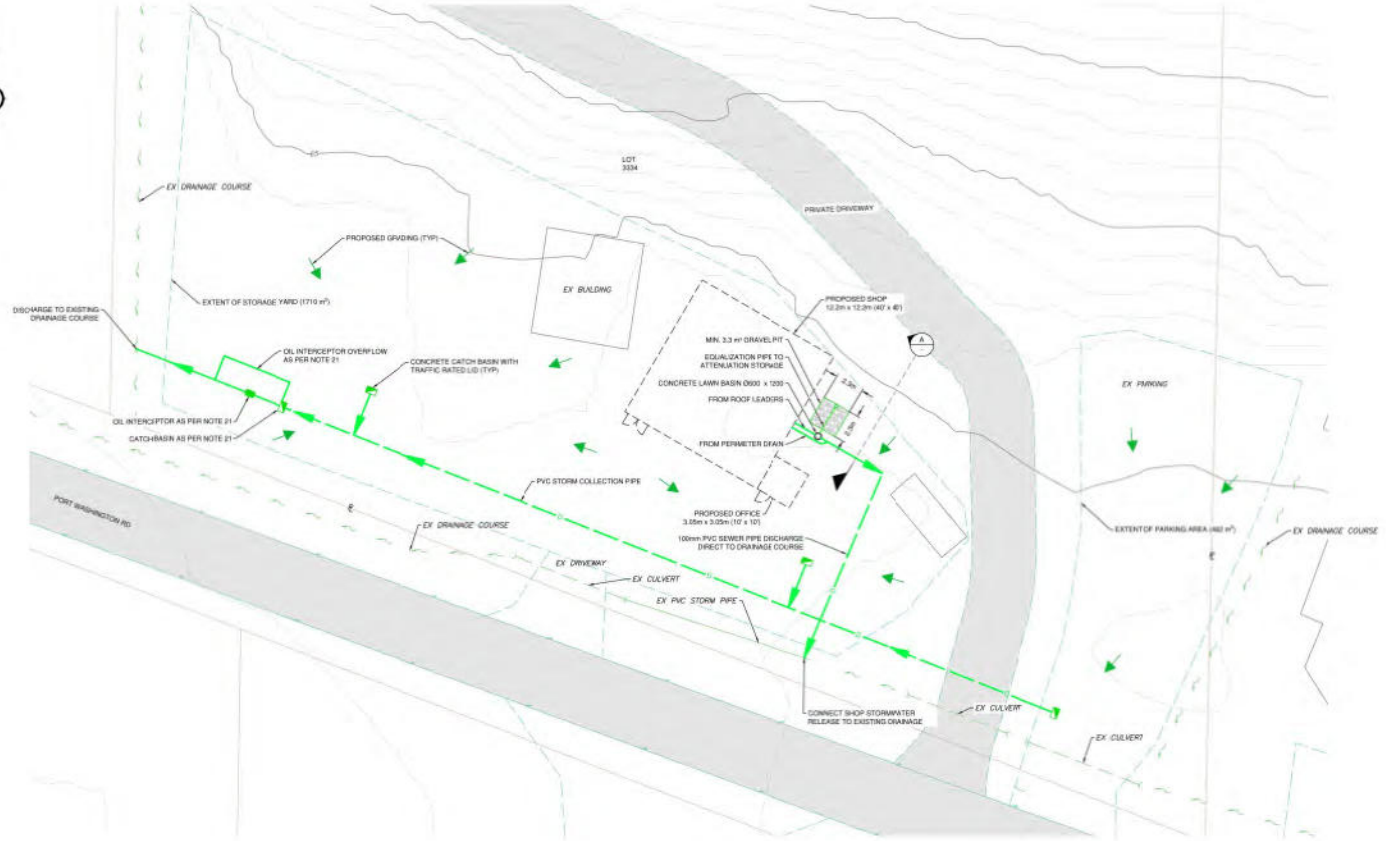
SCALE:	AS SHOWN
DESIGN:	JA
DRAWN:	TM
CHECKED:	JA
APPROVED:	MS

CLIENT: BIG DIG'EM EXCAVATING LTD
PROJECT: 3334 PORT WASHINGTON RD
SITE PLAN

PROJECT NO.	SHEET NO.	DRAWING NO.	REVISION NO.
25-970	1 OF 2	C01	3



A STORMWATER STORAGE
SCALE: 1:20



SITE PLAN
SCALE: 1:200

1:20 0 0.4 1.2m
1:200 0 4 12m

ISSUED FOR APPROVAL
MAY 2026

ISLANDS TRUST

BC 1C
CALL BEFORE YOU DIG!
1-800-474-6886
THE CONTRACTOR IS TO CALL BC ONE, CALL AND HAVE EXISTING UTILITIES STAKED PRIOR TO ANY CONSTRUCTION

REV.	DESCRIPTION	DATE	DRAWN	CHECKED	APPR
	ISSUED				
3	ISSUED FOR APPROVAL	2026.05.19.	LN	JA	MS
2	PRELIMINARY	2026.03.05.	TM	JA	MS
1	PRELIMINARY	2025.07.22.	AM	LN	MS

MSR SOLUTIONS INC.
INNOVATIVE ENGINEERING SOLUTIONS
25 - 662 GOLDSTREAM AVENUE, LANGFORD
B.C. V9B 0N8
OFFICE: (250) 479 - 5164
admin@msrsolutions.ca
Innovative Engineering Solutions
PERMIT TO PRACTICE #1001876

STAMP

SCALE: AS SHOWN
DESIGN: JA
DRAWN: TM
CHECKED: JA
APPROVED: MS

CLIENT: BIG DIGEM EXCAVATING LTD
PROJECT: 3334 PORT WASHINGTON RD STORMWATER SITE PLAN AND DETAILS

PROJECT NO.	SHEET NO.	DRAWING NO.	REVISION NO.
25-970	2 OF 2	C02	3

Appendix B: Spill Response Plan

Emergency Response to Spills

Procedures for Initial Actions

TABLE 1 INITIAL ACTIONS PROCEDURE

Sequence	Action
1.	Ensure safety of all personnel.
2.	Evaluate hazards and risks.
3.	Notify all on-site contractors and bystanders of spill
4.	Remove all sources of ignition.
5.	Internal and external notification process.
6.	Stop the spill if safely possible. Use the contents of the spill kit to aid in stopping the spill if safe to do so.
7.	Contain the spill – use contents of spill kits to place sorbent materials on the spill and refer to typical containment methods below.
8.	Notify all required parties of the spill event and report the spill if the spill volume is above reportable amount.
9.	Take appropriate action to dispose of materials used to contain spill.
10.	Contact appropriate personnel for site remediation procedure.
11.	Post-Incident evaluation procedure.

Procedures for Containing and Controlling a Spill

The following provide key procedures to containing and controlling a spill.

- Identify and address the appropriate incident level;
- Initiate spill containment by first determining what will be affected by the spill;
- Assess speed and direction of spill and cause of movement (water, wind and slope);
- Remove all sources of ignition;
- Determine best location for containing spill, avoiding any water bodies;
- Have a contingency plan ready in case spill worsens beyond control or if the weather or topography impedes containment.

TABLE 2 CONTAINMENT METHODS

Spill Location	Containment Method
On Land Spill	**Dykes** – Dykes can be created using soil surrounding a spill on land. These dykes are constructed around the perimeter or down slope of the spill. A dyke needs to be built up to a size that will ensure containment of the maximum quantity of spill that may reach it. A plastic tarp can be placed on and at the base such that the spilled material can pool up and subsequently be removed with sorbent material or by pump into barrels or bags. If the spill is migrating very slowly a dyke may not be necessary and sorbents can be used to soak up materials before they migrate away from the source of the spill. **Trenches** – Trenches can be dug out to contain spills as long as the top layer of soil is thawed. Shovels can be used to dig the trench.
Spill Entering Sanitary, Storm Drain or Ditch	**Dykes** – Dykes can be created using soil surrounding a spill on land. These dykes are constructed around the perimeter or down slope of the spill. A dyke can be created around the inflow location of a sanitary, storm drain or ditch. A dyke needs to be built up to a size that will ensure containment of the maximum quantity of spill that may reach it. A plastic tarp can be placed on and at the base

Spill Location	Containment Method
	such that the spilled material can pool up and subsequently be removed with sorbent material or by pump into barrels or bags. If the spill is migrating very slowly a dyke may not be necessary and sorbents can be used to soak up materials before they migrate away from the source of the spill.

Procedures for Transferring, Storing, and Managing Spill Related Wastes

In most cases, spill cleanups are initiated at the far end of the spill and contained moving toward the centre of the spill. Sorbent socks and pads are generally used for small spill cleanup. Hand tools such as cans, shovels, and rakes are also very effective for small spills or hard to reach areas. Heavy equipment can be used if deemed necessary and given space and time constraints.

Used sorbent materials are to be placed in plastic bags for future disposal. All materials mentioned in this section are available in the spill kits located in the transportation vehicle. Following clean up, any tools or equipment used will be properly washed and decontaminated or replaced if this is not possible.

The following table lists the required disposal methods for contaminated material and contact information for external resources to be used for the transportation and disposal of spilled contaminants and debris.

TABLE 1 DISPOSAL METHODS

Material	Disposal Method
Contaminated Soils *Inorganic*	Disposed directly at an authorized receiver of hazardous waste
Contaminated Soils *Flammable Hydrocarbons*	Disposed directly at an authorized receiver of hazardous waste
Contaminated Soils *Non Flammable Hydrocarbons*	Disposed directly at an authorized receiver of hazardous waste

Procedures for Restoring Affected Areas

Once a spill of reportable size has been contained, with the governing authority or lead agency inspector assigned to the file to determine the level of cleanup required. The inspector may require a site specific study to ensure appropriate cleanup levels are met. Criteria that may be considered include natural biodegradation of substances, replacement of soil and vegetation among other aspects.

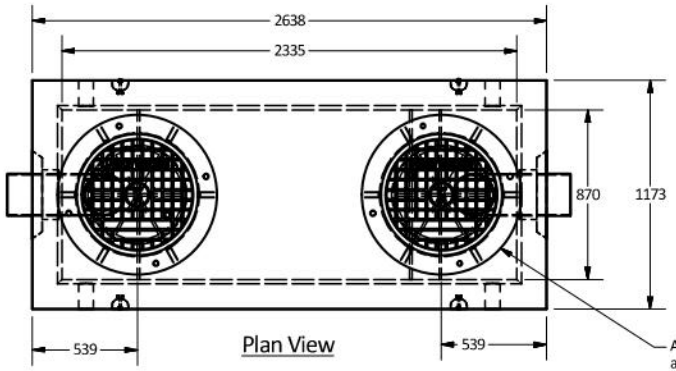
Post-Incident Evaluation

Once appropriate measures have been taken to address the spill event, engage in a post-incident evaluation. This process is in-place to identify from the spill response operation the weakness or strengths of the contingency plan and to make appropriate corrections to the plan. This process is done through verbal as well as written communication between the parties involved. The process and form will be filed for future reference and contingency plan adaptation. Refer to Appendix D for the written incident report form.

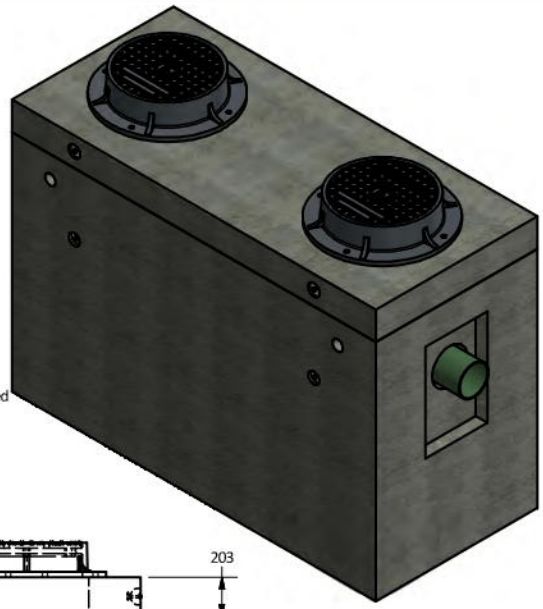
Appendix C: Precast Equipment

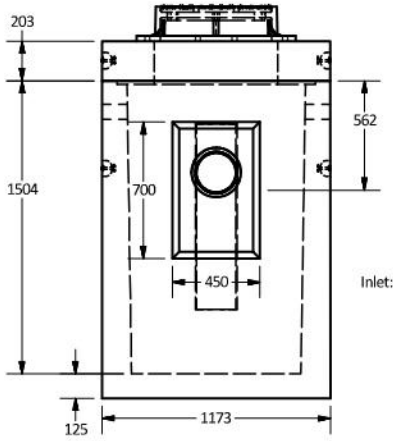
PART LIST			
ITEM	QTY	PART NUMBER	WEIGHT
1	1	Type II Vault	4,520 kg.
2	1	Type II Lid	1,450 kg.

Notes:
1. Type II Oil interceptor manufactured to meet AASHTO HS20/BCL-625 live loading.
2. Lid designed to withstand AASHTO HS20 / BCL-625 live loading.
3. Concrete vault designed for the following earth covers:
   - Minimum: 0 m.
   - Maximum: 2.5 m.
4. Unit supplied with 700mm x 450mm square knockout for inlet/outlet as shown.
5. Unit supplied with lifting inserts as required.
6. Lid supplied with opening for access as required.
7. Unit supplied w/ 4-Ø76 mm vent holes as shown.
8. Oil interceptor c/w 12mm gauge galvanized baffles as shown.
9. Unit has a maximum 2,000 liter [2.0 m^3] capacity.
10. Unit risers available in heights:
    305, 450 etc to 1500mm maximum.
11. Design can be modified for specific sites, please contact LCG sales office.
12. Minimum rebar yield strength: 414 MPa.
13. Minimum concrete strength: 35 MPa.
14. PVC T required by design, supplied and installed by others in field.
15. All dimensions are in millimeters.

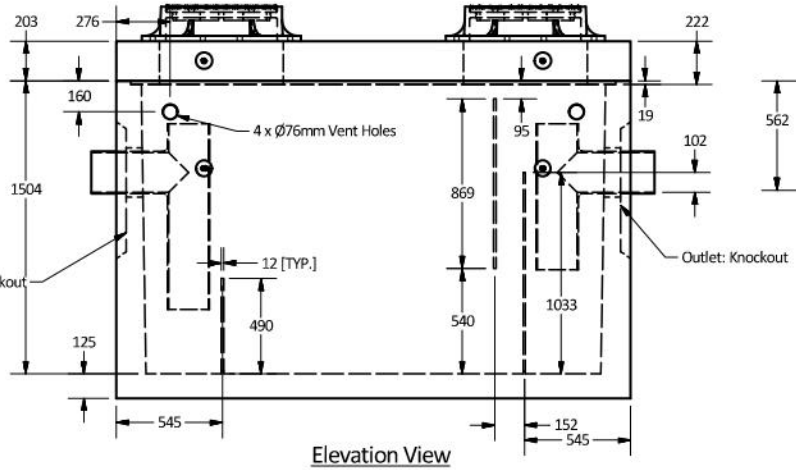


Plan View

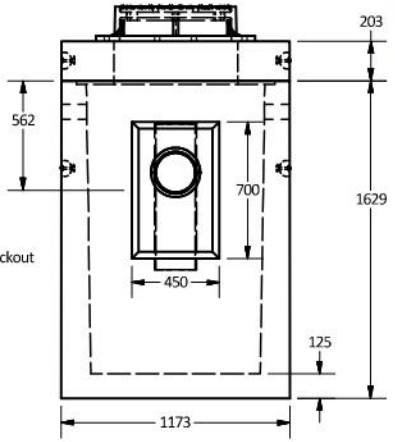

Isometric View



East View



Elevation View



West View

Langley Concrete Group is a certified Q-Cast Plant, an American Concrete Pipe Association Third Party Certificationfor the manufacture of Pipe, Manhole, Box Culvert & Precast Items.

Quality Assurance of products manufactured by The Langley Concrete Group has been verified by the following third party certification programs

All Dimensions are in Millimeters. Unless otherwise Stated

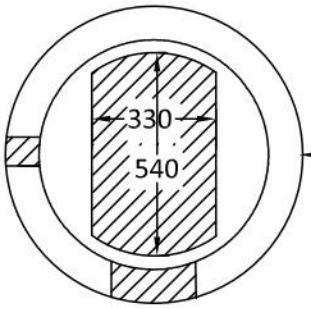
Projection Method: THIRD ANGLE

THE Langley CONCRETE GROUP
www.langleyconcretegroup.com
LANGLEY (604) 533-1656
VICTORIA (250) 478-9581
CHILLIWACK 1-800 667-9600

DESCRIPTION:

Type II Oil Interceptor [API Style]

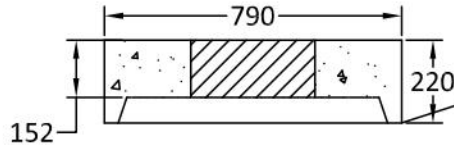
DRAWN BY: SR		JOB NO.
CHK BY: KS		DWG NO: TYPE II-API
DATE: Aug.14, 2018		
SCALE: 1:25		
SIZE 11 x 17	REV.	SHEET 1 OF 1



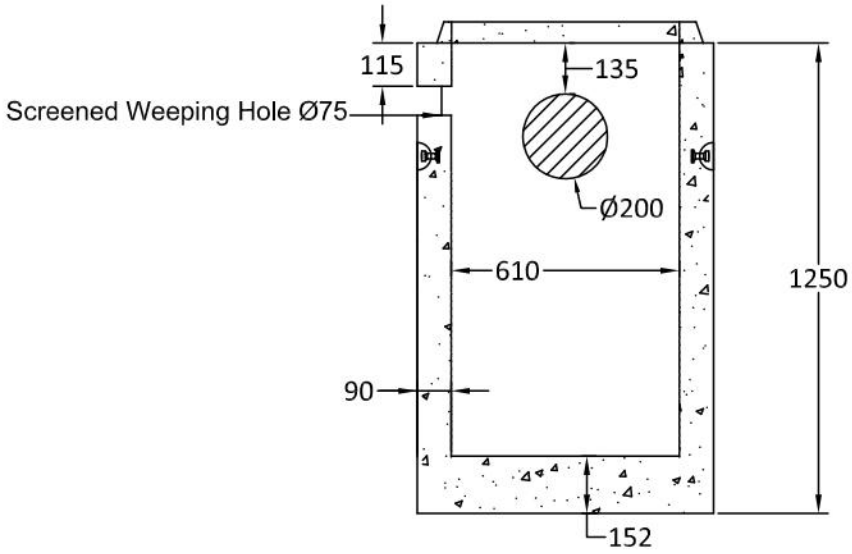
Standard curb lid to fit TR23/24

Catchbasin will accept TR26B frame & grate
No lid necessary with TR26B

Plan View



HS-20 highway loading lid, to accept TR 23/24
Effective height: 150mm
Lid weight: 123 KG



Elevation View

Notes:

1. Catchbasins manufactured to ASTM C478 standards.
2. Ø200mm Knock Out core for Outlet Pipe supplied as shown.
3. Ø75mm Galv. Screened Weep Hole provided as shown.
4. 150mm thick base cast in bottom as shown.
5. Adjustable hood on 23/24 frame shown for reference only.
6. Trapping hood recommended for outlet pipe, pins available on request.
7. Minimum concrete strength: 30 MPa.
8. Approx weight of Catchbasin: 580kgs.
9. All dimensions are in millimeters.

ACPA CERTIFIED PLANT CAST · CSA · CWB Quality Assurance of products manufactured by The Langley Concrete Group has been verified by the following third party certification programs:	THE Langley CONCRETE GROUP The LANGLEY CONCRETE Group of Companies www.langleyconcretegroup.com	DESCRIPTION: Ø600x1200 C478 Catch Basin	DRAWN BY: JAO CHK BY: DATE: May 3, 2010 SCALE: 1:20	JOB NO.: N/A DWG NO: CB-1 REV. BY: CC Aug. 15, 2018
	LANGLEY (604) 533-1656 VICTORIA (250) 478-9581 CHILLIWACK 1-800 667-9600			LCG Products are held to the governing ASTM, and CSA specification & tolerances.

200-1627 Fort Street, Victoria, BC V8R 1H8
Telephone 250 405-5151 Fax 250 405-5155
Toll Free via Enquiry BC in Vancouver 660-2421. Elsewhere in BC
1.800.663.7867
Email information@islandstrust.bc.ca
Web www.islandstrust.bc.ca

December 18, 2024 File Number: PLRZ20240110 (Bigham)

Attn: Braedon Bigham
Via email:

Dear Braedon,

Re: Terms of Reference for Rezoning Application PLRZ20240110 (Bigham) - 3334 Port Washington Road, North Pender Island (PID 005-837-693)

The North Pender Island Local Trust Committee (LTC) received a preliminary report for rezoning application PLRZ20240110 (Bigham) at the November 29, 2024 LTC meeting. At that meeting, the LTC passed a resolution to proceed with the application, including the issuance of a Terms of Reference (TOR).

Consistent with the North Pender Island Development Approval Information Bylaw No. 134 (DAI Bylaw), the objective of this TOR is to identify and request any anticipated information from the applicant in a timely manner, and as early as possible in the process.

The information received by Islands Trust to date includes:

1. Completed application form
2. Letter of intent and proposed future uses
3. Survey plan depicting area proposed for rezoning
4. Preliminary site plan drawings
5. Statement of Title Certificate
6. Site Disclosure Statement
7. Septic Authorization Report
8. Well Drilling Log
9. Highway Access Permit
10. Legal Easement Documents

Additional information required to proceed with your application includes:

1) Hydrogeological Report

A groundwater report, prepared by a professional hydrogeologist (an engineer or geoscientist licensed under the Professional Governance Act or any legislation which may be enacted in substitution; and has competency in the field of hydrogeology), demonstrating standards for potable water supply for **both** the future residential use on the lot based on the domestic potable water supply standard of 2000 litres/day, **plus** the amount conservatively estimated by the professional hydrogeologist to service all proposed future industrial groundwater uses.

Attachment 1 provides further technical guidance for demonstrating potable water.

The applicant should also be aware that a provincial water licence would be required for all industrial groundwater uses in accordance with the *Water Sustainability Act*.

2) Industrial Wastewater/Stormwater Management Plan

An Industrial Wastewater/Stormwater Management Plan, prepared by a qualified professional engineer, which includes requirements to minimize impacts on the environment and adjacent properties, based on site conditions and proposed industrial uses for:

a. The safe storage and disposal of all industrial wastewater produced on the site;
b. Effective management of all stormwater; and,
c. Compliance monitoring and reporting.

3) **Ecological Assessment Report**

An Ecological Assessment Report that includes at a minimum:

a. Property location and description including background and history of use of subject parcel and adjacent properties;
b. Identification of existing structures, roadways and other development features;
c. Desktop review of ecological, landform and other relevant spatial data layers;
d. Site inventory including identification of significant sensitive terrestrial and aquatic ecosystem features and species on subject parcel and adjacent properties;
e. Review and assessment of the concerns expressed in the letter from the Pender Islands Conservancy to the LTC, dated November 25, 2024 (Attachment 2); and,
f. Conclusions and recommendations with respect to suitability and impact of proposed industrial uses including potential cumulative impacts, siting of development infrastructure and driveway/parking areas, measures to reduce impacts to neighbouring properties and ecosystems during construction and operation, and future site monitoring requirements.

4) **Site Plans –** there are no further site planning reporting requirements at this time.
5) **Septic Servicing** – there are no further septic servicing reporting requirements at this time.
6) **Geotechnical** – there are no further geotechnical reporting requirements at this time.

7) **Development Permit Areas** (DPAs) – Although there are areas of DPA 1 -Woodland and DPA 2 - Herbaceous located in the upper portion of the subject parcel, there are no DPAs affecting the area proposed for rezoning.

However, the applicant should be aware that if a portion of the property is rezoned to a Light Industrial zone, the requirements of **DPA 9 - Commercial and Industrial Form and Character** will apply and a Development Permit may be required for any new work requiring a building permit. DPA 9 guidelines start on p. 85 of the OCP.

8) ***Land Title Act* s. 219 covenant -** The applicant should be aware that the LTC may seek further conditions of rezoning to be established as part of a s.219 covenant. A s.219 covenant is a charge secured against the title to a property in favour of the LTC to impose an obligation on the property owner, as per the provisions of s.219 of the *Land Title Act.*

In this case, a s. 219 covenant could include conditions not captured through rezoning in the LUB such as the inclusion of a detailed site plan, specific construction requirements, groundwater use restrictions, industrial wastewater and stormwater management plan obligations, environmental monitoring and reporting obligations, and other limits on the proposed land use and development.

9) **Archaeological Material -** Islands Trust reviews all applications/permits using Remote Access to Archaeological Data (RAAD) mapping to ensure the preservation and protection of cultural heritage, archaeological sites, and ancestral places. A review of the subject property indicates archaeological potential exists. Further to that review, staff direct the applicant to contact the BC Archaeology Branch to determine if an archaeological permit would be required prior to commencing any future development. Attached are the Islands Trust Chance Find Protocol and Provincial Archaeological Branch *Heritage Act* guidelines (Attachments 3 and 4).

Reporting Requirements

With respect to any reporting requirements listed above, the applicant and/or professional must, in accordance with generally accepted impact assessment methodology, ensure the reports:

(a) identify relevant baseline information and document the nature of the resource or other matter on which the proposed activity or development may have an impact;
(b) identify and describe the potential and likely impacts of the activity or development including any cumulative effects when combined with other projects proposed or under development;
(c) evaluate the impacts in terms of their significance and the extent to which and how they might be mitigated; and
(d) make recommendations as to conditions of approval that may be appropriate to ensure that undesirable impacts are minimized or avoided, and
(e) make recommendations as to measures that may restore or enhance natural functions or features that have been damaged or degraded prior to development or that would be impacted by the proposed development.

This information must be prepared by a professional or professionals in good standing with his/her professional organization within British Columbia, acting within his/her area of expertise, and with demonstrated and pertinent experience and/or training.

Please also note that the Islands Trust reserves the right to require additional information or clarification in response to the project reports. Any additional requirements will be provided in writing and will identify the additional information required in as clear and specific manner as possible.

If you have any questions concerning the application or TOR requirements stated above, please do not hesitate to contact me.

Sincerely,

[redacted]

Brad Smith
Island Planner, North Pender Island Local Trust Area

Attachment 1. Potable Water Standards Guidance
Attachment 2. Pender Islands Conservancy Letter, dated November 25, 2024
Attachment 3. Islands Trust Chance Find Protocol
Attachment 4. Provincial Archaeological Branch *Heritage Act* guidelines

pc: Robert Kojima, Regional Planning Manager

200 – 1627 Fort Street, Victoria BC V8R 1H8
Telephone: **250-405-5151** Fax: 250-405-5155
Toll-Free via Enquiry BC in Vancouver: 660-2421
Elsewhere in BC: **1-800-663-7867**
Email: information@islandstrust.bc.ca Website: www.islandstrust.bc.ca

[DATE]

File Number: Click here to enter text.
MoTI File Number: Click here to enter text.

Click here to enter text.
Via email: Click here to enter text.

Dear Click here to enter text.

Re: Terms of Reference – Supply of Potable Water – [File] – [Civic or legal]

The terms of reference described below are bylaw requirements or recommended best practices for the purposes of Proof of Water for Subdivision. Deviations from the best practices may result in delays in processing and additional consultant costs. The applicant shall retain a "hydrogeologist" an engineer or geoscientist licensed under the Professional Governance Act or any legislation which may be enacted in substitution; and has competency in the field of hydrogeology to satisfy proof of water requirements under Section Click here to enter text. ("Standards for Potable Water Supply") of the Click here to enter text.Island Land Use Bylaw No.Click here to enter text. (LUB) for the proposed application.

The *hydrogeologist's* written certification must be submitted under a professional engineer or geoscientist seal and include, but not be limited to, a Technical Assessment Report (Report) with the following terms:

1) Where *potable* water is to be supplied by a drilled well the Report shall provide that:

   a) Each well has sufficient available groundwater to provide the daily required volume of *potable* water for each permitted building, structure or use;
   b) Each well has been constructed in accordance with the *Groundwater Protection Regulation* or any legislation which may be enacted in substitution; and,
   c) The extraction of groundwater in respect of each permitted building, structure or use will not adversely affect the quantity or quality of any existing groundwater well or surface water used as a source of potable water.

2) Where the *potable* water supply is provided through a drilled well or water licence, the Report shall provide:

   a) Results of a water quality analysis, completed by an accredited laboratory;
   b) Certification, based on the accredited laboratory water quality analysis, that the proposed water supply source is *potable,* or can be made *potable,* with a treatment system that is customarily used in a *dwelling unit*;
   c) Certification, based on the accredited laboratory water quality analysis of chloride concentrations, that each well is not likely to be affected by the intrusion of saline groundwater or sea water in accordance with Government of British Columbia guidance documents;
   d) A plan of the proposed *subdivision* indicating the location where each water sample was taken; and

e) A statement that the water samples upon which the water quality analysis was performed were unadulterated samples taken from the locations indicated on the plan.

3) Where *potable* water is to be supplied by a drilled well, a *pumping test*[1] *should* be carried out on each well in a proposed subdivision under the direct supervision of a *hydrogeologist* by:

a) pumping groundwater, at a constant rate, for a minimum period of 12 hours; and
b) withdrawing the daily required volume in accordance with Section Click here to enter text.of the LUB within a period of 24 hours; and
c) monitoring the recovery phase for each well recovered to 90 percent of static water level within a period no longer than the duration of the pumping test. If 90 percent recovery is not achieved the hydrogeologist must provide reason for the lack of recovery to 90 percent and must analytically demonstrate the efficacy of the well in the absence of 90% recovery.

4) The Report shall address all applicable guidelines for subdivision for [*Development Permit Areas]* that are designated on the subject property in the Click here to enter text.Island Official Community Plan Click here to enter text.(OCP). Specifically, impacts of individual drilled wells and the feasibility of a community water supply should be assessed in accordance with the following guideline Click here to enter text.:

i) Click here to enter text..

Groundwater wells under, or at risk of, saline water intrusion are not permitted sources of potable water.

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

Click here to enter text.
Click here to enter text.

pc: William Shulba, Senior Freshwater Specialist
Click here to enter text., Development Officer, MoTI

Pender Islands Conservancy

#1-4301 Bedwell Harbour Road
Pender Island BC V0N 2M1

25 Nov 2024

Dear North Pender Island Trustees Maude, Campbell and Morrison:

We are writing on behalf of the Pender Islands Conservancy Board of Directors, with respect to file No. PLRZ20240110 (Bigham). As the owner of a Nature Reserve bordering the Subject Property (see Figure 1 below), we believe rezoning to allow continued and expanded industrial activity on the lower portion of the Subject Property has a high potential to adversely impact ecological integrity and habitat quality for species at risk on adjacent properties, including our Nature Reserve for which we have a duty of care. According to the North Pender OCP (Section 2.5.1), "industrial development and activity which may have a deleterious impact on adjacent land uses will not be permitted". We therefore request that Trustees do not advance this application for Industrial zoning, but rather explore more appropriate locations for the proposed industrial activity.

Comments on the Staff Report

The list of existing uses of land on *adjacent properties* (P. 134) curiously excludes the adjacent Nature Reserve *owned by the Islands Trust itself* (Lisa Baile Nature Reserve, held by Islands Trust Conservancy), though this property is peripherally acknowledged on P. 139 ("Site Influences"). The additional 10-acre Forest Wetland Nature Reserve is currently being established as a result of a generous land donation by community donors and is now owned by the Pender Islands Conservancy; this Nature Reserve also borders the Subject Property to the north. Vulture Ridge Nature Reserve (36 acres), secured by the Pender Islands Conservancy in 2024 with the support of community donors, the Province of BC, and Environment and Climate Change Canada, is located ~85m from the eastern border of the subject property. All three of these properties (shown in Figure 1) have been secured in part to protect critical habitat for species at risk such as sharp-tailed snakes, common nighthawks and olive-sided flycatchers.

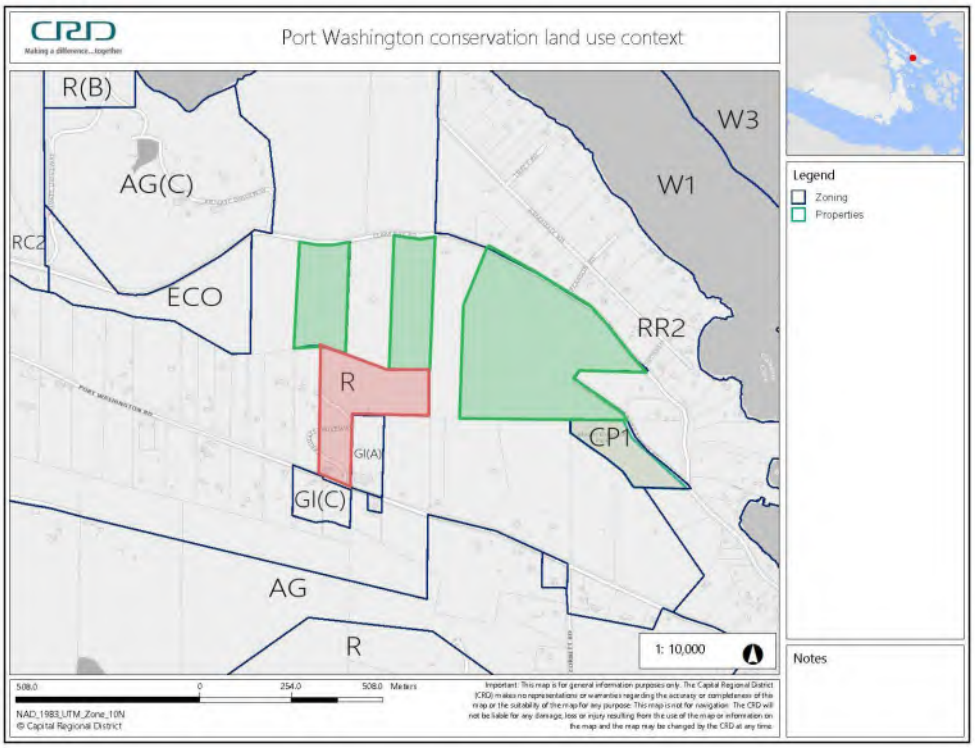


Figure 1. Subject Property (red) with adjacent Nature Reserves (green). From west to east: Lisa Baile Nature Reserve (10 acres; owned by Islands Trust Conservancy), Forest Wetland Nature Reserve (10 acres; Pender Islands Conservancy) and Vulture Ridge Nature Reserve (36 acres; Pender Islands Conservancy).

The statement on P. 139 of the Staff Report that no species at risk are present on the Lisa Baile Nature Reserve (LINR) is misleading. Sharp-tailed snakes have been visually detected on 3330 Port Washington Road, immediately adjacent to both the Subject Property and LINR, and hence there is a very high likelihood that they similarly occupy the Nature Reserve and even the Subject Property itself. Moreover, olive-sided flycatchers and common nighthawks are regularly detected using the adjacent properties, including the Nature Reserves; both are also species at risk, listed provincially and federally. Threaded vertigo (*Nearctula* sp.), a federally listed species of terrestrial snail, was identified on Vulture Ridge Nature Reserve in 2024 and is highly likely to be present on LINR as well. The LINR Management Plan identified a high likelihood of the presence of at-risk vascular plants, birds, amphibians and reptiles on LINR, and recommended ongoing monitoring to document species at risk (Lisa Baile Nature Reserve Management Plan 2022; P. 42).

We request that staff include the two Nature Reserves that border the subject property in the list of *existing uses of land on adjacent properties* (uses: conservation) and acknowledge that species at risk are, or are highly likely to be, present on these adjacent properties. We further request an assessment by Islands Trust Conservancy ecologists with respect to the potential impacts of the proposed permanent and expanded industrial activity associated with the Subject Property on the Lisa Baile Nature Reserve, which the Islands Trust has a responsibility to steward and protect as the recipient of this generous donation of ecologically valuable land.

The staff report states that the applicant's business "*provides an important community service*"; we note that Nature Reserves similarly provide important community services, by protecting groundwater quality and recharge capacity, buffering extreme weather events and associated impacts (flooding, drought, wildfire - becoming increasingly common in the context of climate change), enhancing surrounding property value and aesthetics, and maintaining biodiversity that in turn enhances recreational experiences and supports agriculture (pollination services) and hence local food security.

We do not dispute that the service provided by the applicant is important to the community; however, given the Industrial Land Use Objectives in the OCP, "*to ensure any industry is sited to minimize adverse effects upon neighbouring properties*", we argue the Subject Property is not an appropriate location for the ongoing and intended future industrial use, as it has a high probability of adversely affecting ecological integrity, habitat quality and ecosystem services on adjacent Nature Reserves.

Potential ecological impacts

Raptor nests
Two newly identified bald eagle nest trees are located east of the Subject Property, with one potentially located within 200 m of the proposed rezoning area (see P.168 of Staff Report – distance estimated from map scale). According to Provincial "Breeding Season Quiet Buffer Requirements" in rural areas and depending on the outcome of the reassessment of the Heron and Raptor Nest DPA currently underway by the North Pender Island LTC to align this DPA with Provincial standards (which have already been widely adopted by local governments across BC), no industrial activity, including heavy equipment operation, may ultimately be permitted on the Subject Property between Feb 5 – August 31 (see P. 165 of Staff Report). We suspect this would negatively impact the applicant's business. We again suggest that the proposed location is inappropriate for current and future intended industrial activity, given adjacent land uses – in this case, by nesting bald eagles.

Groundwater
The Subject Property and adjacent Nature Reserves have been identified by the Islands Trust Area Groundwater Recharge Mapping Project (2022) as high groundwater recharge areas (Appendix A). This ecosystem service is one of the reasons the adjacent Pender Conservancy Nature Reserves were assessed as high priority for securement. We welcome the attention given to the significant impacts to groundwater supply of the anticipated commercial and residential groundwater use on the Subject Property in the Staff Report; however, application of standards for domestic use only (2000 L/day, P. 135) is inappropriate for an industrial rezoning application, and we trust this application would be held to a higher standard. Rainwater catchment can be a reasonable offset to reduce groundwater use; however, given that precipitation inputs were by far the most sensitive input parameter in the Southern Gulf Islands Water Balance Model sensitivity analysis (Islands Trust Area Groundwater Availability Assessment, 2021; P. 19, Figure 9), intercepting rainwater in our region can in fact reduce local groundwater recharge and hence indirectly still reduce groundwater availability.

Species at risk
Sharp-tailed snakes are known to be present on adjacent properties. Recent studies have shown that this species moves over relatively long distances into forests from the open bluff habitats that

they are typically associated with (up to 80 m; Christian Engelstoft, pers. comm.). Hence, undisturbed forest habitat adjacent to bluffs is of potentially high value for this species at risk. Continued and expanded industrial activity within the lower portion of the Subject Property may therefore limit movement of this species across the landscape. As noted in the Lisa Baile Nature Reserve Management Plan (2022), the ridge and adjoining forest provides habitat suitable for many other species at risk, including vascular and nonvascular plants, birds (e.g. olive-sided flycatcher, common nighthawk, purple martins), and amphibians such as red-legged frogs. Our knowledge of the distribution and abundance of species at risk on Pender Island is extremely deficient, and so in the absence of appropriate survey efforts, it cannot be responsibly stated that species at risk are not present and will not be adversely affected by continued and expanded heavy industrial activity on the Subject Property. Indeed, similar habitat suitable for these species at risk occurs on the Subject Property itself.

OCP policy

*2.5.1 Industrial development which **may have** a deleterious impact on adjacent land uses **will not** be permitted.*
We argue that a TUP should not have been issued according to the above OCP policy, and in doing so the LTC is in violation of the North Pender Island OCP. Constant, daily heavy equipment operation and aggregate hauling *along the length of Port Washington Road*, adjacent to land used for residential and agricultural purposes, as well as the acoustic and physical habitat disturbance caused by the industrial operation on the Subject Property which directly borders two Nature Reserves, most certainly has a deleterious impact on these adjacent land uses, and so the application to rezone for *permanent* industrial operation on the subject property cannot be advanced, as it directly violates the above OCP policy. We understand that directing staff to proceed with the application will enable public consultation and input, to "identify any issues or concerns with the proposed rezoning". However, if the application clearly violates an OCP policy, public input to that effect should not be required for you to make the assessment that the application should not be advanced.

We are aware that in recent LTC meetings, Trustees have discussed that other possible locations for the applicant's operation are being explored which would require some imagination and cooperation with other land holders. We urge you to work with the applicant and broader community to identify an alternate location for this operation that appropriately balances the community benefit provided by the applicant's business with maintenance of ecological integrity and 'rural character and lifestyle', as our North Pender Island OCP and the Islands Trust mandate require.

Respectfully signed,

[redacted]

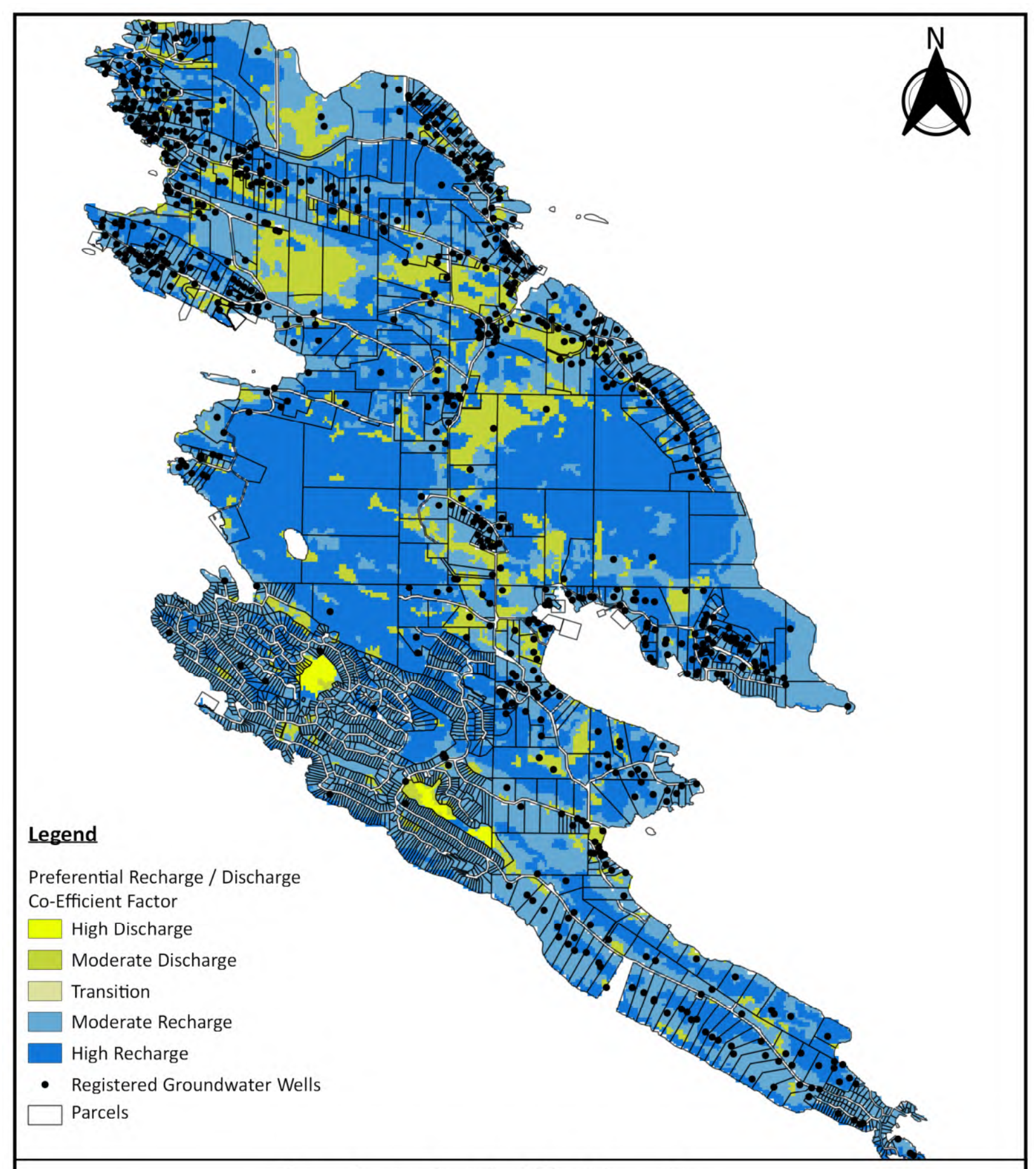
Elizabeth Miles
Board President
Pender Islands Conservancy

[redacted]

Dr. Pamela Wright
Stewardship Committee Chair
Pender Islands Conservancy

Appendix A

North Pender Island Groundwater Recharge and Discharge Zones



Groundwater Sustainability Science Program
North Pender - Preferential Recharge and Discharge Zones

Notes:
Drawn by: William Shulba, P.Geo
Drawn on: October 2022
Data Source: Islands Trust Area Groundwater Recharge Mapping Project

0 1 2 3 4 km

Cultural Protocol for Chance Finds and Ancestral Remains within Islands Trust Area

Purpose:

The purpose of this protocol is to provide culturally relevant guidelines to the Islands Trust in cooperation with the Province of British Columbia, the Archaeology Branch, archaeologists (academic, cultural resource management or otherwise), and other agencies or individuals and the public as to the procedures for handling human remains within First Nations treaty and traditional territories. This is to facilitate the culturally appropriate and respectful treatment of these remains.

Mandate:

Islands Trust Area is located within British Columbia and Canada, and anyone undertaking land altering activities in areas of known and recorded archaeological or variable archaeological potential should be adhering to the Heritage Act, Island Trust by-laws, other agency and government permitting and all legal requirements related to land alteration. Chance finds outside of archaeological sites require work to stop to allow for assessment and protection of the area.

Authority:

First Nations within the Islands Trust Area represent the cultural and heritage interests throughout the Trust area.

Procedures:

The following steps will apply in cases where ancestral remains are found in unexpected situations (e.g. construction of buildings or renovations, building of roads, natural erosion, ground disturbance or alteration) or during archaeological projects or studies under or not under a First Nation cultural and heritage permit.

A. Unexpected Discoveries

In cases where the First Nation is notified that ancestral remains are discovered by chance; the following should apply:

1. The First Nation Lands and Resources Department or Council or Band Manager/Administrator must be notified immediately.

2. The coroner's office and local policing authority must be notified.

3. Representatives from the First Nation (contact determined by First Nation) and the coroner's office will determine whether the find is contemporary forensic concern. The Archaeological Branch and or archaeologists can offer advice on such matters.

4. If the remains are of First Nation/Indigenous ancestry, and under no immediate threat or further disturbance, they will not be excavated or removed, unless determined otherwise by the First Nation.

5. It the remains have been partially or completed removed, the First Nation will facilitate their removal or mediate the situation.

6. If the remains are under threat, removal under the authority of the coroner, police authority and First Nation will coordinate removal.

7. If desired the First Nation may allow for a qualified physical anthropologist or archaeologists with training in human osteology and First Nation handling of ancestral remains to assess the found remains in order to implement conservation measures.

8. Any analysis of ancestral remains must be limited to basic recording and in field observation until representatives of the First Nation arrive at the site.

B. Permitted Archaeological Projects

In cases where ancestral remains encountered in the course of project under a First Nation cultural and heritage permit, the First Nation must be contacted immediately.

1. Extreme care and respect for ancestral remains is required. If uncovered, they must not be removed, but left in place. For any reason they are removed, they must be placed in a clean handkerchief or blanket, placed in a solid box with cedar boughs.

2. The field director or permit holder must contact the First Nation and seek advice on how the ancestral remains should be handled.

3. The First Nation will determine the disposition of the ancestral remains.

4. Any analysis of ancestral remains must be limited to basic recording and in field observation until representatives of the First Nation arrive at the site.

Contacts at Islands Trust include Local Trustee and Senior Intergovernmental Policy Advisor, Victoria Office lwilcox@islandstrust.bc.ca or (604) 348-6885.

PROTECTED ARCHAEOLOGICAL SITES IN BRITISH COLUMBIA

Archaeological sites are the physical remains of past human activity. There are over 50,000 known archaeological sites in British Columbia representing thousands of years of human history. The ***Heritage Conservation Act*** **(HCA)** recognizes the historical, cultural, scientific, spiritual, and educational value of archaeological sites to First Nations, local communities, and the public. Archaeological sites on both public and private land are protected under the HCA and must not be altered or damaged without a permit issued by the Province of British Columbia's Archaeology Branch.

Receipt of this form indicates that your local government has reviewed the records of the Archaeology Branch to determine whether your proposed activities are likely to impact a protected archaeological site. By identifying overlaps with archaeological sites early in the planning and development process, appropriate and timely steps can be taken that support an efficient development process. You should be aware that there are limitations concerning this review; please read the Provincial disclaimer[1] below.

Your property or project area falls into the selected category:

☐ Direct overlap with protected archaeological site: _____

Provincial records indicate that an archaeological site protected under the HCA is recorded within your property or project area.

- Your proposed activities may impact the protected archaeological site.
- You must obtain a site alteration permit issued by the Archaeology Branch before impacting the site.
- Completing an application for alteration permit usually requires archaeological expertise. You may consider engaging an eligible consulting archaeologist (see page 2) to confirm the results of this review and assist you in establishing permit requirements with the Archaeology Branch.
- Disturbance of a protected archaeological site without an alteration permit is a contravention of the HCA and may result in substantial fines and development delays.
- The archaeological site impact management and permit process is summarized on page 2. If you have questions about the process, contact the Archaeology Branch.

☐ Direct overlap with an area of high archaeological potential

Provincial records indicate your property or project area has high potential to contain an archaeological site protected under the HCA, either because the area has been previously assessed for potential or there is a known archaeological site within 50 m that may extend beyond its recorded boundaries.

- Your proposed activities may impact an unrecorded archaeological site. Archaeological sites are protected under the HCA, even if they have not yet been identified and recorded.
- Disturbance of a protected archaeological site without a permit is a contravention of the HCA. Accidental discovery of an unknown archaeological site during development requires activities to be halted until permit requirements have been established; this may result in significant development delays.
- To avoid the possibility of unauthorized archaeological site impacts and development delays, you may wish to engage an eligible consulting archaeologist (see page 2) to determine in advance whether your activities are likely to impact an unrecorded protected archaeological site.
- The archaeological site impact management and permit process that you will need to follow if an archaeological site is encountered before or during development activities is summarized on page 2. If you have questions about the process, contact the Archaeology Branch.

☐ No identified overlap with archaeological sites or areas of high archaeological potential

Provincial records do not indicate known archaeological sites or areas of high archaeological potential within your property or project area.

- Provincial records may be incomplete with regard to archaeological potential in your area.
- There is always a possibility for unrecorded archaeological sites to exist. Archaeological sites are protected under the *HCA,* even if they have not yet been identified and recorded.
- If an archaeological site is encountered, development activities must be halted and the Archaeology Branch contacted for direction (250-953-3334).

[1] **Provincial Disclaimer**: The Archaeology Branch of the Province of BC is responsible for the administration of the *Heritage Conservation Act*. It is not administered by municipal or regional governments. In completing this form, municipal and regional government staff rely on information provided by the Province of BC. Any questions regarding this document should be directed to the Archaeology Branch or to an eligible consulting archaeologist. The information in this document is based on a search of Provincial records. There are archaeological sites in BC that are unknown and not recorded in these records. The Province makes no representations or warranties with respect to the accuracy or completeness of this information. Persons relying upon it do so at their own risk.

Archaeological Site Impact Management and Permit Process

Archaeological sites are protected under the *Heritage Conservation Act* (HCA) and must not be altered or damaged without a permit issued by the Province of British Columbia's Archaeology Branch. The archaeological site impact management and permit process is summarized below. This summary applies to the majority of situations where small-scale development plans are in conflict with protected archaeological sites. There are always exceptions that can be explained to you by an archaeologist or the Archaeology Branch as you proceed through the steps. Major development projects may be subject to additional requirements that are beyond the scope of the basic process described below.

What do I do if my property or project area contains a protected archaeological site?
You must obtain a site alteration permit issued by the Archaeology Branch before conducting activities that will impact a protected archaeological site. Permit applications are available on the Archaeology Branch website. However, completing a permit application usually requires archaeological expertise. Most applicants will therefore engage a professional archaeologist to review development plans, verify archaeological records, confirm that an alteration permit is required, complete the permit application, and work with the Archaeology Branch on the applicant's behalf to ensure all HCA permit requirements are met. **Note that the application process for all Archaeology Branch permits takes 8-12 weeks from the date the application is submitted**. Contact an eligible consulting archaeologist for time and cost estimates.

After discussing your project, a desktop review, and/or a preliminary reconnaissance, the archaeologist may conclude that your activities will not impact the archaeological site. The archaeologist should send a letter stating their professional opinion to the Archaeology Branch. You may no longer require an alteration permit to proceed with your activities. In other cases the Archaeology Branch may conclude that an alteration permit cannot be issued based on the information available.

What is an archaeological impact assessment?
An archaeological impact assessment (AIA) is conducted by an archaeologist under an inspection permit. The permit allows the archaeologist to conduct subsurface tests to collect information about the archaeological site. The AIA results in recommendations for managing impacts to the archaeological site. The archaeologist's recommendations and their feasibility should be discussed with you before they are submitted to the Archaeology Branch. Common recommendations include:

- Changing building plans or construction techniques to reduce or avoid archaeological site impacts.
- Proceeding with an alteration permit with or without concurrent archaeological studies, depending on the expected degree of impact to the site.
- No further archaeological study or permits required.

Contact an eligible consulting archaeologist
An eligible consulting archaeologist is able to hold a Provincial heritage permit that authorizes archaeological studies. Ask an archaeologist if he or she can hold a permit. Contact the Archaeology Branch (250-953-3334) to verify an archaeologist's eligibility. Find an archaeologist through the BC Association of Professional Archaeologists (www.bcapa.ca) or through business directories.

Contact the BC Archaeology Branch
BC Archaeology Branch
Ministry of Forests, Lands, Natural Resource Operations and Rural Development
Phone: 250-953-3334
Web: www.for.gov.bc.ca/archaeology/property_owners_and_developers
Data Request Form (to inquire about archaeological sites within your property or project area): www.archdatarequest.nrs.gov.bc.ca