Sunshine Coast Regional District

Request for Proposal

Number: 2454002

for

Environmental Studies & Management Planning for Hillside Industrial Park

Issue Date:

February 27, 2024

Closing Date of

March 28, 2024 at 3:00 PM local time

CONTACT: All enquiries related to this Request for Proposal, including any requests for information and clarification, are to be submitted by March 11, 2024 and directed, in writing, to purchasing@scrd.ca, who will respond if time permits with a Q&A on BCBid by March 18, 2024. Information obtained from any other source is not official and should not be relied upon. Enquiries and any responses providing new information will be recorded and posted to BC Bid or otherwise distributed to prospective Proponents.

DELIVERY OF PROPOSALS: Proposals must be in English and must be submitted using one of the submission methods below, and must either **(1)** include a copy of this cover page that is signed by an authorized representative of the Proponent or **(2)** be submitted by using the e-bidding key on BC Bid (if applicable), in accordance with the requirements set out in the RFP.

BC Bid Electronic Submission: Proponents may submit an electronic proposal using BC Bid. Proposals must be submitted in accordance with the BC Bid requirements and e-bidding key requirements (found at https://www.bcbid.gov.bc.ca/). Only pre-authorized electronic bidders registered on the BC Bid system can submit an electronic proposal using the BC Bid system. Use of an e-bidding key is effective as a signature.

OR

Hard Copy Submission*:* Proponents must submit **ONE (1)** hard-copies and **ONE (1)** electronic copy on a USB Drive of the proposal. Proposals submitted by hard copy must be submitted by hand or courier to:

Sunshine Coast Regional District
1975 Field Road
Sechelt, BC V7Z 0A8

Regardless of submission method, proposals must be received before Closing Time to be considered.

CONFIRMATION OF PROPONENT'S INTENT TO BE BOUND:

The enclosed proposal is submitted in response to the referenced Request for Proposal, including any Addenda. By submitting a proposal the Proponent agrees to all of the terms and conditions of the RFP including the following:

a) The Proponent has carefully read and examined the entire Request for Proposal;
b) The Proponent has conducted such other investigations as were prudent and reasonable in preparing the proposal; and
c) The Proponent agrees to be bound by the statements and representations made in its proposal.

PROPONENT NAME (please print): _____

NAME OF AUTHORIZED REPRESENTATIVE (please print):_____

SIGNATURE OF AUTHORIZED REPRESENTATIVE: _____

DATE: _____

TABLE OF CONTENTS

Page

1. GENERAL TERMS & CONDITIONS

1.1 DEFINITIONS

Throughout this Request for Proposal, the following definitions apply:

"**Addenda**" means all additional information regarding this RFP, including amendments to the RFP;
"**BC Bid**" means the BC Bid website located at https://www.bcbid.gov.bc.ca/ ;
"**Closing Location**" includes the location or email address for submissions indicated on the cover page of this RFP, or BC Bid, as applicable;
"**Closing Time**" means the closing time and date for this RFP as set out on the cover page of this RFP;
"**Contract**" means the written agreement resulting from the RFP executed by the Regional District and the successful Proponent;
"**Contractor**" means the successful Proponent to the RFP who enters into a Contract with the Regional District;
"**Must**", or "**mandatory**" means a requirement that must be met in order for a proposal to receive consideration;
"**Proponent**" means a person or entity (excluding its parent, subsidiaries or other affiliates) with the legal capacity to contract, that submits a proposal in response to the RFP;
"**Proposal**" means a written response to the RFP that is submitted by a Proponent;
"**Request for Proposals**" or "**RFP**" means the solicitation described in this document, including any attached or referenced appendices, schedules or exhibits and as may be modified in writing from time to time by the Regional District by Addenda; and
"**Should**", "**may**" or "**weighted**" means a requirement having a significant degree of importance to the objectives of the Request for Proposals.
"SCRD", "Regional District", "Organization", "we", "us", and**"our"** mean Sunshine Coast Regional District.

1.2 FORM OF PROPOSAL

This Proposal must be completed in its entirety. Failure to properly complete this Proposal form may cause your Proposal to be rejected. The signing officer must initial all corrections. The Sunshine Coast Regional District (Regional District) reserves the right to permit a correction, clarification or amendment to the Proposal or to correct minor errors and irregularities.

1.3 SUBMISSION OF PROPOSAL

a) Proposals must be submitted before Closing Time to the Closing Location using one of the submission methods set out on the cover page of this RFP. Proposals must not be sent by fax. The Proponent is solely responsible for ensuring that, regardless of submission method selected, the Regional District receives a complete Proposal, including all attachments or enclosures, before the Closing Time.
b) For electronic submissions (BC Bid or email), the following applies:
(i) The Proponent is solely responsible for ensuring that the complete electronic Proposal, including all attachments, is received before Closing Time;
(ii) The Regional District limits the maximum size of any single email message to 20MB or less.
(iii) Proponents should endeavour to submit emailed proposal submissions in a single message and avoid sending multiple email submissions for the same opportunity. If an electronic submission exceeds the applicable maximum single message size, the Proponent may make multiple submissions (BC Bid upload or multiple emails for the same opportunity). Proponents should identify the order and number of emails making up the email proposal submission (e.g. "email 1 of 3, email 2 of 3…");
(iv) For email proposal submissions sent through multiple emails, the Regional District reserves the right to seek clarification or reject the proposal if the Regional District is unable to determine what documents constitute the complete proposal;
(v) Attachments must not be compressed or encrypted, must not contain viruses or malware, must not be corrupted, and must be able to be opened using commonly available software (e.g. Adobe Acrobat). Proponents submitting by electronic submission are solely responsible for ensuring that any emails or attachments are not corrupted. The Regional District has no obligation to attempt to remedy any message or attachment that is received corrupted or cannot be viewed. The Regional District may reject proposals that are compressed encrypted, cannot be opened or that contain viruses or malware or corrupted attachments.
c) For BC Bid e-submissions only pre-authorized e-bidders registered on BC Bid can submit electronic bids on BC Bid. BC Bid is a subscription service ($150 per year) and the registration process may take two business days to complete. If using this submission method, Proponents should refer to the BC Bid website or contact BC Bid Helpdesk at 250-387-7301 for more information. An electronic proposal submitted on BC Bid must be submitted using the e-bidding key of an authorized representative of the Proponent. Using the e-bidding key of a subcontractor is not acceptable.
d) For email proposal submissions, including any notices of amendment or withdrawal referred to in Section 1.6, the subject line of the email and any attachment should be clearly marked with the name of the Proponent, the RFP number and the project or program title.
e) The Regional District strongly encourages Proponents using electronic submissions to submit proposals with sufficient time to complete the upload and transmission of the complete proposal and any attachments before Closing Time.
f) The Proponent bears all risk associated with delivering its Proposal by electronic submission, including but not limited to delays in transmission

between the Proponent's computer and the Regional District Electronic Mail System or BC Bid.

g) While the Regional District may allow for email proposal submissions, the Proponent acknowledges that email transmissions are inherently unreliable. The Proponent is solely responsible for ensuring that its complete email proposal submission and all attachments have been received before Closing Time. If the Regional District Electronic Mail System rejects an email proposal submission for any reason, and the Proponent does not successfully resubmit its proposal by the same or other permitted submission method before Closing Time, the Proponent will not be permitted to resubmit its proposal after Closing Time. The Proponent is strongly advised to contact the Regional District Contact immediately to arrange for an alternative submission method if:

(i) the Proponent's email proposal submission is rejected by the Regional District Electronic Mail System; or

(ii) the Proponent does not receive an automated response email from the Regional District confirming receipt of each and every message transmitted, within a half hour of transmission by the Proponent.

An alternate submission method may be made available, at the Regional District's discretion, immediately to arrange for an alternative submission method, and it is the Proponent's sole responsibility for ensuring that a complete proposal (and all attachments) submitted using an approved alternate submission method is received by the Regional District before the Closing Time. The Regional District makes no guarantee that an alternative submission method will be available or that the method available will ensure that a Proponent's proposal is received before Closing Time.

1.4 SIGNATURE REQUIRED

Proposals must be properly signed by an officer, employee or agent having authority to bind the Proponent by that signature.

1.5 CLARIFICATIONS, ADDENDA & MINOR IRREGULARITIES

If any Proponent finds any inconsistencies, errors or omissions in the proposal documents or requires information, clarification of any provision contained therein, they shall submit their query in writing or email, addressed as follows:

Purchasing Division
Sunshine Coast Regional District
1975 Field Road, Sechelt, BC V7Z 0A8

purchasing@scrd.ca

Any interpretation of, addition to, deletions from or any corrections to the proposal documents will be issued as written addendum by the Regional District.

All Addenda will be posted on BC Bid. It is the sole responsibility of the Proponent to check for Addenda on BC Bid. Proponents are strongly encouraged to subscribe to BC Bid's email notification service to receive notices of Addenda.

1.6 WITHDRAWAL OR REVISIONS

Proposals or revisions may be withdrawn by written notice provided such a notice of withdrawal is received prior to the closing date and time. Proposals withdrawn will be returned to the Proponent unopened. Revisions to the proposals already received shall be submitted only by electronic mail, or signed letter. The revision must state only the amount by which a figure is to be increased or decreased, or specific directions as to the exclusions or inclusion of particular words.

1.7 CONDUCT OF THE CONTRACT

Unless otherwise specified within this document, any queries regarding this Request for Proposal are to be directed to purchasing@scrd.ca. No other verbal or written instruction or information shall be relied upon by the Bidder, nor will they be binding upon the Regional District.

1.8 CONFLICT OF INTEREST/NO LOBBYING

(a) A Proponent may be disqualified if the Proponent's current or past corporate or other interests, or those of a proposed subcontractor, may, in the Regional District's opinion, give rise to an actual or potential conflict of interest in connection with the services described in the RFP. This includes, but is not limited to, involvement by a Proponent in the preparation of the RFP or a relationship with any employee, contractor or representative of the Regional District involved in preparation of the RFP, participating on the evaluation committee or in the administration of the Contract. If a Proponent is in doubt as to whether there might be a conflict of interest, the Proponent should consult with the Regional District Contact prior to submitting a proposal. By submitting a proposal, the Proponent represents that it is not aware of any circumstances that would give rise to a conflict of interest that is actual or potential, in respect of the RFP.

(b) A Proponent must not attempt to influence the outcome of the RFP process by engaging in lobbying activities. Any attempt by the Proponent to communicate, for this purpose directly or indirectly with any employee, contractor or representative of the Regional District, including members of the evaluation committee and any elected officials of the Regional District, or with the media, may result in disqualification of the Proponent.

1.9 CONTRACT

By submitting a proposal, the Proponent agrees that should its proposal be successful the Proponent will enter into a Contract with the Regional District on substantially the

same terms and Conditions set out in www.scrd.ca/bid and such other terms and conditions to be finalized to the satisfaction of the Regional District, if applicable.

1.10 SUSTAINABLE PROCUREMENT

The Regional District adheres to its sustainable consideration factors. Proposals will be considered not only on the total cost of services, but Proposals that addresses the environment and social factors.

1.11 INVOICING AND PAYMENT

Unless otherwise agreed, the Regional District payment terms are Net 30 days following receipt of services or approved invoices, whichever is later. Original invoices are to be forwarded to the accounts payable department of the Regional District. The purchase order number assigned by the Regional District must be stated on the invoice otherwise payment may be delayed.

1.12 PRICING, CURRENCY AND TAXES

Offered prices are to be attached as a price schedule in Canadian dollars with taxes stated separately when applicable.

1.13 IRREVOCABLE OFFER

This Proposal must be irrevocable for 90 days from the Proposal closing date and time.

1.14 TIME IS OF THE ESSENCE

Time shall be of the essence in this contract.

1.15 ASSIGNMENT

The Proponent will not, without written consent of the Regional District, assign or transfer this contract or any part thereof.

1.16 OWNERSHIP OF DOCUMENTS & FREEDOM OF INFORMATION

All documents submitted in response to this Request for Proposal shall become the property of the Regional District and as such will be subject to the disclosure provisions of the *Freedom of Information and Protection of Privacy Act* and any requirement for disclosure of all or a part of a Proposal under that Act.

The requirement for confidentiality shall not apply to any Proposal that is incorporated into a Contract for the Work. Further, the Regional District may disclose the top scoring proponent's aggregate pricing to the Regional District Board at a public meeting, when making a recommendation for the award of the Contract.

For more information on the application of the Act, go to http://www.cio.gov.bc.ca/cio/priv_leg/index.page.

1.17 AWARD OF CONTRACT

The Purchasing Policy at the Regional District offers contracts to businesses through an open, fair and consistent competitive bidding process. This ensures that the Regional District will receive the best overall value for the goods and services it requires. The Regional District reserves the right to cancel, award all or part of the scope of work described in this document to a single Proponent or may split the award with multiple Proponents.

All awards are subject to Board approval that meets the needs as determined by the Board. The Regional District, in receipt of a submission from a Proponent, may in its sole discretion consider the Proponent to have accepted the terms and conditions herein, except those expressly excluded or changed by the Proponent in writing.

The RFP shall not be construed as an agreement to purchase goods or services. The lowest priced or any proposal will not necessarily be accepted. The RFP does not commit the Regional District in any way to award a contract and that no legal relationship or obligation regarding the procurement of any good or service will be created between Regional District and the proponent unless and until Regional District and the proponent execute a written agreement for the Deliverables

1.18 COST OF PROPOSAL

The Proponent acknowledges and agrees that the Regional District will not be responsible for any costs, expenses, losses, damage or liability incurred by the Proponent as a result of or arising out submitting a Proposal for the proposed contract or the Regional District's acceptance or non-acceptance of their proposal. Further, except as expressly and specifically permitted herein, no Proponent shall have any claim for any compensation of any kind whatsoever, as a result of participating in this RFP, and by submitting a proposal each Proponent shall be deemed to have agreed that it has no claim.

1.19 PROPONENT'S RESPONSIBILITY

It is the Proponent's responsibility to ensure that the terms of reference contained herein are fully understood and to obtain any further information required for this proposal call on its own initiative. The Regional District reserves the right to share, with all proponents, all questions and answers related to this bid call.

1.20 EVALUATIONS

Proposals will be evaluated in private, including proposals that were opened and read in public, if applicable. Proposals will be assessed in accordance with the evaluation criteria.

If only one Proposal is received, the Regional District reserves the right to open the Proposal in private or if the total bid price exceeds the estimated budget for the Contract, the Regional District may cancel and re-tender, accept, not accept and cancel or re-scope the Work seeking a better response, with or without any substantive changes

being made to the solicitation documents. If more than one Proposal is received from the same Proponent, the last Proposal received, as determined by the Regional District, will be the only Proposal considered.

1.21 ACCEPTANCE OF TERMS

The submission of the Proposal constitutes the agreement of the Proponent that all of the terms and conditions of the RFP are accepted by the Proponent and incorporated in its Proposal, except those conditions and provisions which are expressly excluded and clearly stated as excluded by the Proponent's proposal.

1.22 MANDATORY REQUIREMENTS

Proposals not clearly demonstrating that they meet the mandatory requirements will receive no further consideration during the evaluation process.

1.23 INSURANCE & WCB

The Proponent shall obtain and continuously hold for the term of the contract, insurance coverage with the Regional District Listed as "Additional Insured" the minimum limits of not less than those stated below:

(a) Commercial General Liability – not less than $2,000,000 per occurrence
(b) Motor Vehicle Insurance, including Bodily Injury and Property Damage in an amount no less than $2,000,000 per accident from the Insurance Corporation of British Columbia on any licensed motor vehicles of any kind used to carry out the Work.
(c) Error & Omissions Insurance – not less than $2,000,000 per occurrence
(d) A provision requiring the Insurer to give the Owners a minimum of 30 days' notice of cancellation or lapsing or any material change in the insurance policy;

The Proponent must comply with all applicable laws and bylaws within the jurisdiction of the work. The Proponent must further comply with all conditions and safety regulations of the Workers' Compensation Act of British Columbia and must be in good standing during the tern of any contract entered into from this process.

1.24 COLLUSION

Except otherwise specified or as arising by reason of the provisions of these documents, no person, or corporation, other than the Proponent has or will have any interest or share in this proposal or in the proposal contract which may be completed in respect thereof. There is no collusion or arrangement between the Proponent and any other actual or prospective Proponent in connection with proposals submitted for this project and the Proponent has no knowledge of the context of other proposals and has no comparison of figures or agreement or arrangement, express or implied, with any other party in connection with the making of the proposal.

1.25 CONFLICT OF INTEREST

Proponents shall disclose in its Proposal any actual or potential conflict of interest and existing business relationship it may have with the Regional District, its elected or appointed officials or employees.

1.26 LIABILITY FOR ERRORS

While the Regional District has used considerable efforts to ensure an acute representation of information in these bid documents, the information contained is supplied solely as a guideline for Proponents. The information is not guaranteed or warranted to be accurate by the Regional District nor is it necessarily comprehensive or exhaustive.

1.27 TRADE AGREEMENTS

This RFP is covered by trade agreements between the Regional District and other jurisdictions, including the following:

a) Canadian Free Trade Agreement; and
b) New West Partnership Trade Agreement.

1.28 LAW

This contract and any resultant award shall be governed by and construed in accordance with the laws of the Province of British Columbia, which shall be deemed the proper law thereof.

1.29 REPRISAL CLAUSE

Tenders will not be accepted by the Regional District from any person, corporation, or other legal entity (the "Party") if the Party, or any officer or director of a corporate Party, is, or has been within a period of two years prior to the tender closing date, engaged either directly or indirectly through another corporation or legal entity in a legal proceeding initiated in any court against the Regional District in relation to any contract with, or works or services provided to, the Regional District; and any such Party is not eligible to submit a tender.

1.30 FORCE MAJEURE (ACT OF GOD)

Neither party shall be liable for any failure of or delay in the performance of this Agreement for the period that such failure or delay is due to causes beyond its reasonable control including but not limited to acts of God, war, strikes or labour disputes, embargoes, government orders or any other force majeure event. The Regional District may terminate the Contract by notice if the event lasts for longer than 30 days.

1.31 CONFIDENTIAL INFORMATION OF PROPONENT

A proponent should identify any information in its proposal or any accompanying documentation supplied in confidence for which confidentiality is to be maintained by Regional District. The confidentiality of such information will be maintained by Regional District, except the total proposed value, which must be publicly released for all proposals, or otherwise required by the Freedom of Information and Protection of Privacy Act ("FOIPPA"), law or by order of a court or tribunal. Proponents are advised that their proposals will, as necessary, be disclosed, on a confidential basis, to advisers retained by Regional District to advise or assist with the RFP process, including the evaluation of proposals. If a proponent has any questions about the collection and use of personal information pursuant to this RFP, questions are to be submitted to the RFP Contact.

1.32 DISPUTE RESOLUTION

All unresolved disputes arising out of or in connection with this Proposal or in respect of any contractual relationship associated therewith or derived therewith shall be referred to and finally resolved by arbitration as prescribed by Mediate BC services pursuant to its rules, unless otherwise mutually agreed between the parties.

1.33 DEBRIEFING

At the conclusion of the RFP process, all Proponents will be notified. Proponents may request a debriefing meeting with the Regional District.

2. INTRODUCTION

2.1 Purpose

The Regional District is inviting proposals from experienced Qualified Environmental Professionals (QEPs) for a comprehensive environmental study and development of management planning recommendations for a 63-hectare water lot Head Lease area located in Howe Sound/ Átl'ka7tsem. The aim of this work is to update the understanding of environmental and habitat values in the area and to develop guidance to align ongoing and potential industrial, economic and recreational activities with local, regional, federal and First Nations environmental conservation or other goals. The selected consulting firm will be responsible for conducting a nearshore, foreshore and upland habitat delineation study that considers existing and evolving uses while preserving and enhancing the coastal ecosystems and habitats. The studies and recommendations will guide decision-making and management planning related to a planned application to renew the Hillside water lot head lease. The Regional District welcomes innovative approaches and the application of local knowledge in conducting this vital project.

3. SITUATION/OVERVIEW

3.1 Background

The Hillside Industrial Park was established in the 1990s in Port Mellon on the lower Sunshine Coast, with an aspiration to showcase the harmonious coexistence of environmental protections, community economic development, and local industrial activities. The Water Lot Head Lease fronting Hillside Industrial Park is in the jurisdiction of Sḵwx̱wú7mesh (Squamish), xʷməθkʷəy̓əm (Musqueam), səl̓ilwətaʔɬ (Tsleil-Waututh), and Snuneymuxw (Nanaimo) First Nations. The Regional District is a participant in the Átl'ka7tsem/Howe Sound Biosphere Region Initiative.

The Regional District is initiating a renewal application for Water Lot Head Lease No. 235700 at Hillside Industrial Park, covering water lots in District Lot 7830, Group 1, New Westminster District. The current head lease is 63 hectares in size and includes conservation areas, recreational uses, and sub-leased areas for activities such as log dumping and a marine terminal providing essential supplies to lower Sunshine Coast communities. A terrestrial rezoning application to permit shipbreaking activities is currently being processed and could lead to new uses within a subleased area. The Regional District seeks a QEP consulting firm to conduct environmental studies and develop management planning recommendations for the Head Lease renewal process. The studies will focus on marine subtidal, intertidal, estuarine, foreshore, riparian and terrestrial areas and habitats and environmental values within and adjacent to the Hillside Industrial Park water lot Head Lease area. The studies will address First Nations, regional, local, federal and provincial regulations and guidance, and stakeholder concerns. The overarching goal is to identify and manage environmental and cultural resources while accommodating ongoing and evolving economic and industrial activities in the region. The study intends to provide crucial information and sound management planning recommendations concerning water lot activities at Hillside Industrial Park.

3.2 Project Objectives

This project aims to address and update designations, assess habitat quality, provide a baseline for future monitoring, and inform management planning and decision-making that considers existing and evolving industrial, economic and recreational activities while preserving and enhancing the coastal ecosystems and habitats.

- Update environmental information/knowledge and habitat delineation/designation within the Hillside Industrial Park Water Lot Head Lease.

- Provide input for informed management planning consistent with First Nations, Federal, Provincial and Local government legislation and regulatory requirements.

- Incorporate First Nations Traditional Ecological Knowledge

- Identify the Valued Ecological Components (VEC's) for the area and assess the current state of these values, including the current quality and distribution within the lease area.

- Design and complete a review and studies for ecosystem condition and health, ensuring comprehensive coverage of marine, subtidal, intertidal, estuarine, foreshore, riparian and terrestrial areas.

- Develop adaptive management strategies responsive to evolving ecological conditions and economic and industrial activities in the area.

- Consider the environmental stewardship vision of the Hillside Industrial Park, focusing on sustainability, habitat protection and enhancement, and community support.

- Develop and align management planning recommendations with Best Management Practices, regulatory requirements, and known First Nations management direction.

- Complete studies and provide recommendations within the specified timeframe of the Head Lease renewal process, ensuring submission to the Regional District by August 31, 2024 (proposed). Iterative management planning recommendations and refinement on an as-and-when needed basis may continue until Dec 1, 2024.

3.3 Scope

The Regional District has certain core requirements that a consultant will accomplish.

3.3.1 Desktop and Ground-truthing Studies:

- Complete a comprehensive desktop review including data search for information on the area natural resource values, including habitats found in the nearshore, foreshore and upland areas at or adjacent to the Hillside Industrial Park Head Lease area.
- Reference historical and current studies, including the Regional District-provided Norelco Environmental Impact Assessment (1990) and the Howe Sound/Átl'ka7tsem Marine Reference Coastal Management Plan. Data compilation may include published and gray literature accessible through original investigators.
- Review historical, current and potential industrial, economic recreational, and conservation activities within the water lot head lease area.
- Comment, at a high level, on historical and current known impacts and trends (beneficial, detrimental, and neutral) to natural resources in the area resulting from

industrial, economic, recreational and conservation activities (e.g., using satellite imagery or other means) between the period 1980 and 2023.
- Identify the knowledge gaps and propose, design and complete studies for marine, subtidal, intertidal, estuarine, foreshore, riparian and terrestrial ecosystem and habitats that address prioritized knowledge gaps.
- Utilize all available data and field verification to identify and delineate habitats found within and adjacent to the Hillside Industrial Park water lot head lease.

3.3.2 Survey and Evaluation:

- Design study and survey methodology following current and accepted survey methodologies. This would include transect/plot details that provide locations for ongoing performance monitoring.
- Review study design for marine and habitat values studies with Regional District staff and in collaboration with First Nations as needed.
- Conduct a thorough survey of the 63-ha lease footprint area, including an appropriate buffer area (e.g. within 50-m of the boundary or other buffer to be specified by QEP and the Regional District) of the head lease using appropriate technologies (e.g., LiDAR, SCUBA, ROV, GIS).

3.3.3 Species and Habitat Identification and Delineation:

- Identify, delineate, and map existing habitats and Valued Ecological Components (VEC's) within and adjacent to the water lot, including description and distribution within the head lease area.
- Assess the ecological significance of identified habitats including areas of critical habitat for protection of species at risk and/or regionally and culturally important species. This includes plants and animals.
- Identify keystone species, including species at risk, regionally and culturally important species. This includes both plant and animal species, ecological features and/or ecological communities that include various codependent species.
- Provide an assessment of current impacts on VEC's including finfish, shellfish, and shoreline/riparian vegetated and terrestrial habitats, providing specific recommendations for management planning/protection consideration.
- Propose measures for the protection and restoration of important/critical habitats.
- Provide specific written recommendations for a potential lease term of 30–60-year timeframe for species and habitat protection and management planning, anticipating future risks and opportunities, with recommendations for timeframes for monitoring and adaptive management.

3.3.4 Management Planning Recommendations:

- Address knowledge/data gaps and provide specific protective measures, including for protection of marine mammals and species at risk.
- Provide management planning language to ensure adherence to Best Management Practices for industrial activities in the nearshore environments such as: Fisheries and Oceans Best Management Practices for Log handling (2003 and 2011), Best Management guidance from First Nations (where available) and propose additional measures to enhance the effectiveness of BMPs in the context of the water lot.

- Iteratively, with feedback from Regional District staff, develop and draft management planning strategies/scenarios and specific recommendations designed to protect and restore habitats and minimize environmental impacts, considering zero new impacts to identified habitats and when appropriate providing avoidance/mitigation measures for existing and proposed/potential impacts.
- Through a report, assess and provide professional opinion on the impact of current and proposed/potential future industrial, economic, and recreational activities on habitats species richness, and other VEC's and management planning recommendations. Report to be refined with one round of edits based on feedback from Regional District staff.
- As and when needed, refine management planning strategies/scenarios and specific recommendations in order to flexibly accommodate/ensure capacity to respond to external process inputs (such as First Nations or stakeholder input), this work is proposed to be structured "as-and-when-needed" based on hourly rates.

3.3.5 Monitoring and Adaptive Management Planning:

- Develop a monitoring plan to assess the effectiveness of proposed protection/restoration measures over time.
- Monitoring plan will include metrics to gauge success and provide biologically defensible measures.
- Recommend protocols for adaptive management scenarios based on monitoring results.

3.4 Optional/Potential Additional Work Related to the Core Requirements

Beyond delivering the above core requirements at a fixed price, which includes iterative management planning with Regional District staff, please provide an hourly rate(s) for consultant (or various expert team members) to assist with iterative conversations with BC or other externals on management planning and recommendations. This would include professional opinions on avoidance or mitigation options and scenarios.

3.4.1 External Engagement and Iterative Planning and Decision-Making Supports:

- This may involve, if requested by the Regional District, attending meetings and/or providing opinion to consider options and support engagement and collaborative decision making with First Nations, BC, Canada, sublessees, and stakeholders, sharing data, images and QEP opinion as needed for informed decision-making during the Head Lease Renewal process

3.4.2 GIS/Ground truthing Watercourses within Hillside Industrial Park

- For related planning in the terrestrial portion of Hillside Industrial Park, please provide separate quote for ground-truthing current location (starting with desktop review of Regional District current mapping) of all watercourses within the Hillside Industrial Park area. This includes South Fleetwood Creek, Dakota Creek, Little Dakota Creek, McNair Creek, and other tributaries, including small streams--even if ditched or channeled-- as potentially contributing to fish habitat in the area.
- Provide updated ground-truthed spatial data for all watercourses in shapefile or geodatabase format. Projected coordinate system: NAD83 UTM Zone 10.

3.4.3 Future/Ongoing Technical Supports as needed

- Please provide hourly rates for various team members (RPBio, other QEPs, field technicians) for services that may provide ongoing project supports include answering questions, responding to unforeseen concerns or events, or monitoring for compliance or implementation of management planning measures.

3.5 Project Milestones and Deliverables

Initiation and kick-off expected for first or second week of April 2024. The studies and draft management planning recommendations must be completed by end of August 2024. Iterative management planning discussions with First Nations, regulatory bodies, industry or stakeholders from August to October 2024 to meet the November 1, 2024, renewal application deadline. Possible support needed November/December 2024 to address BC questions about management plan as part of Head Lease Renewal Application acceptance process.

By March 31, 2024	Successful Proponent bid notification
April 1-April 9	Project initiation and kick-off meeting
April-August 2024	Study design, desktop and field work, analysis, habitat delineations and draft management planning and protective measure recommendations completed for 63 ha water lot head lease area and related marine and terrestrial areas. Shapefiles, KMLs Georeferenced PDF maps and other relevant data and images provided to the Regional District GIS Department specifications. One round of iterative refinement of Management Planning recommendations of reports/QEP recommendations at direction of Regional District Staff.
August 31, 2024,	Target date for report and deliverables due
Sept-Oct 2024	If requested, add-on (hourly rate) for further engagement/management planning/ updating with BC, First Nations, stakeholders and/or regulatory bodies
Nov-Dec 2024	If requested, add-on (hourly rate) to support management plan submission to BC
TBD (2024, potential add-on likely commensurate with Consultant's other field work)	Ground-truthing, using GIS Technologies, all watercourses within Hillside Industrial Park

3.5.1 Deliverables, Documentation and Reporting:

- Delivery of a draft report and management planning recommendations to Regional District staff.
- Delivery of a final report and recommendations in word and pdf with methodologies, results, and images.
- Create and deliver shapefiles and georeferenced PDF maps detailing habitat delineations to the Regional District GIS Department specifications. Habitat mapping and data should be provided at a meaningful and appropriate scale to understand this 63-hectare head lease area with ongoing industrial activity.
- Where applicable and if requested, delivery of findings of subsurface surveys (images, video footage or other deliverables created) with the project's Archeological investigators.
- Delivery of one (1) MS Word electronic copy and one (1) digital (PDF) copy of final report and management planning recommendations.
- All final written deliverables will be stamped by a Qualified Environmental Professional(s) (QEP).

3.6 Responsibility of the Regional District

The Regional District proposes to conduct the following activities:

- Provide data as requested, when available.
- Provide a list of known concerns within Hillside Water Lot head lease area
- Provide meeting space for meetings if applicable/necessary
- Review the draft and final deliverables and provide feedback

The Regional District has the following staff available to work with the Consultant on the implementation of these activities:

Role in Project	**Position Title**
Sponsor	General Manager, Planning & Development
Project Manager	Manager, Strategic Initiatives, Hillside Industrial Park
Project Assurance	General Manager, Planning & Development
Project Lead (Consultant contact & oversee the day-to-day coordination of the project)	Manager, Strategic Initiatives, Hillside Industrial Park
Project Team	General Manager, Planning & Development Manager, Strategic Initiatives, Hillside Industrial Park Regional District's consulting Biologist (RPBio)
GIS Support Team	GIS Coordinator GIS Technician

4. CONTRACT

4.1 General Contract Terms and Conditions

Proponents should review carefully the terms and conditions set out in the General Service Contract, including the Schedules. The General Contract terms can be found at: Information about our General Service Terms and Conditions can be found at www.scrd.ca/bid.

4.2 Award of Additional Phases

The Regional District reserves the right to request additional phases beyond the base scope of work described in the RFP. Additional phases may be required to enhance, expand, or otherwise modify the project based on changing needs or unforeseen circumstances. The decision to award additional phases rests solely with the Regional District. The Regional District may choose to exercise this option at any time during the term of this Contract. In the event the Regional District decides to pursue additional phases, the parties shall negotiate in good faith to determine the scope, deliverables, schedule, and compensation for the additional work.

4.3 Service Requirements

The Contractor's responsibilities will include the following:

- Attend project kick-off meeting with Regional District staff (early April 2024)
- Provide regular (e.g., biweekly) status updates
- Meet the project objectives in Section 3.
- Provide labour, supervision, material and supplies to perform the services assigned to the Consultant in Section 3.
- Obtain and review all relevant documentation to perform the services.
- Provide draft copies of all deliverables (e.g. study design, results, draft) to the Regional District for review.
- Present the final report and summary of findings and recommendations to the Regional District Staff (in-person or virtual).
- Delivery of one (1) MS Word electronic copy, and one (1) digital (PDF) copy of the final deliverables, one (1) Georeferenced PDF copy of all maps, plus shapefiles for all habitat delineations and designations.

4.4 Related Documents

- Regional District Board Strategic Plan
- Átl'ka7tsem/Howe Sound Marine Reference Guide
- Átl'ka7tsem/Howe Sound Biosphere Region Best Management Practices for Marine Docks
- Hillside/Port Mellon Official Community Plan
- Sḵwx̱wú7mesh Nation's X̱ay Temíxw Sacred Land Use Plan
- Guidebook: Environmentally Sustainable Log Handling Facilities in British Columbia (DFO, 2003)
- Approved Work Practices for Re-Activated Log Dumps in Marine Waters of British Columbia (DFO 2011)

Regional District Background Package. Examples of package content include:

- Internal maps prepared by Regional District GIS staff
- Studies prepared for the Regional District:
    - Habitat Assessment (see Appendix 1)
    - Preliminary Marine Foreshore Habitat Assessment (see Appendix 2)
    - Dakota Creek Bioinventory (see Appendix 3)
    - Environmental Covenant Amendment (see Appendix 4)
    - Preliminary Environmental Liability Site Assessment (see Appendix 5)

5. REQUIREMENTS

In order for a proposal to be considered, a Proponent must clearly demonstrate that they meet the mandatory requirements set out in Section 7.1 (Mandatory Criteria) of the RFP.

This section includes “Response Guidelines” which are intended to assist Proponents in the development of their proposals in respect of the weighted criteria set out in Section 7.2 of the RFP. The Response Guidelines are not intended to be comprehensive. Proponents should use their own judgement in determining what information to provide to demonstrate that the Proponent meets or exceeds the Regional District’s expectations.

Please address each of the following items in your proposal in the order presented. Proponents may find it helpful to use the individual Response Guidelines as headings for proposal responses.

5.1 Capabilities

The Proponent will need to demonstrate that they have the capability to perform the services by providing a list of relevant projects with related experience and expertise, including example/abstract summary of past work, specifically related to successful species identification and habitat delineations, designations and protective measures in an area with economic and/or industrial activities within the marine environment. This includes the ability to address First Nations, regional, local, federal and provincial regulations and guidance. The Proponent will need to demonstrate that they have the capability to communicate through clear management planning language and visual tools.

5.1.1 Relevant Experience

The Proponent should have a minimum of 10 years within the past 15 years providing services of a similar scope and complexity. Proponents should provide at least three (3) examples that demonstrate their experience specifically related to aligning industrial, economic and/or recreational activities with robust environmental conservation goals in Coastal BC. The examples should be less than 10 years old and the project or field lead for this project should be a lead author.

Proponents should provide an overview of both the firm and proposed project lead and staff’s qualifications and experience of previous successful performance in comparable work.

Proponents should provide three (3) brief/abstract summary examples (with supporting images/excerpts or samples if desired) of comparable work that may involve some of the following

conditions. Please ensure the lead RPBio or QEP proposed to lead this project is the lead for these works.

- Working collaboratively with or for coastal First Nations in BC to safeguard rights as related to species, habitats or other values (e.g., finfish, shellfish, cultural or medicinal plants) while management planning for commercial or industrial activities in the marine or coastal environment.
- Leveraging holistic systems thinking, innovative approaches and multidisciplinary knowledges including Indigenous or Traditional Ecological Knowledge systems while designing studies to gather empirical data for habitat delineation.
- Engaging with diverse, conflicting viewpoints to find pathways for ecosystem protections, habitat connectivity and recovery while sustainably managing economic activities.
- Experience incorporating cultural, heritage and/or archeological sensitivity into environmental management planning recommendations.

5.1.2 Corporate Qualifications & Experience

Proponents should include a summary of their company's background and area(s) of expertise as it relates to this RFP, and number of employees. The project may involve a multi-disciplinary team of professionals to ensure that all aspects of this project area covered (terrestrial, freshwater riparian, estuarine, foreshore, nearshore marine species and habitats).

Proponents should provide a summary of their company's experience in the following knowledge, competencies and work experience:

- **Regulatory Knowledge:**

  - Experience in providing technical recommendations and management planning services that operationalize guidance from First Nations land and marine use plans, Best Management Practices, or other Indigenous resource management and governance direction to protect values, improve outcomes and advance reconciliation.
  - In-depth understanding of local, provincial, and federal, and First Nations environmental regulations as it relates to marine, intertidal, estuary, terrestrial, and freshwater riparian projects in coastal BC.
  - Experience developing management plan strategies based on best practices from: Environmentally Sustainable Log Handling Facilities in British Columbia (DFO, 2003) and Approved Work Practices for Re-Activated Log Dumps in Marine Waters of British Columbia (DFO 2011) and other best management practices in coastal British Columbia.

- **Environmental Expertise:**

  - Demonstrated expertise in habitat delineation, species identification, and environmental assessments for marine mammals, finfish, forage fish, shellfish, nesting and roosting raptors and herons, wildlife and other marine and terrestrial plant and animal species and habitats.
  - Demonstrated experience with innovative and collaborative management planning to analyze trends and conditions around existing and evolving recreational, economic and/or industrial activities while preserving and enhancing coastal ecosystems and habitats in BC.
  - Optional/bonus) demonstrated experience in incorporating climate change projections into planning.

- **Certifications:**

  - QEP designation is mandatory.
  - SCUBA certification (if scuba is proposed) will meet Worksafe BC requirements.
  - Familiarity with ISO 14001:2015 standards.
  - One team member must be Registered Professional Biologist (RPBio) with demonstrated experience working with coastal ecosystems in BC to identify, delineate and support habitat connectivity, ecosystem biodiversity and resilience.

- **Project Management:**

  - Proven track record in managing complex environmental projects, specifically those involving studies and industrial or economic activities in environments ranging from nearshore marine to terrestrial.

- **Habitat Delineation:**

  - Demonstrated experience in identifying and delineating terrestrial, foreshore, estuarine, freshwater riparian, and marine habitats.

- **Species Identification:**

  - Successful completion of projects involving the identification of key species and habitat indicators, including Pacific great blue heron, raptors, shellfish, forage fish, finfish and marine mammals.

- **Environmental management:**

  - Past experience in conducting impact assessments and providing specific recommendations to inform and elevate decision-making and short- and long-term management planning.

- **Collaboration:**

  - Demonstrated ability to work collaboratively with and/or for First Nations, regulatory bodies, and other government agencies, ensuring alignment with cultural, environmental, and regulatory requirements.
  - Demonstrated ability to address concerns and aspirations from a range of industrial, environmental and recreational interests.

- **Compliance and Best Practices:**

  - Track record of identifying and supporting compliance with relevant regulatory requirements, including experience in log dump facilities and similar industrial activities.

- **Technical Capabilities:**

  - Proficiency in desktop and ground-truthing studies, historical analysis, and the use of field data, desktop data, and aerial and satellite imagery for comprehensive habitat assessments and analysis.

- **Technology Utilization:**
    - Experience with safe and accurate data collection in industrialized marine and foreshore areas (e.g., capabilities of technologies such as ROVs, drones, and/or remotely piloted aerial systems to support in-depth surveys and field work)
- **Data Management:**
    - Expertise in compiling, analyzing, and presenting data, including the production of shapefiles, Georeferenced PDFs, and detailed habitat delineations and designations delivered to a scale necessary for decision-making, management planning, and ongoing monitoring.
- **Management Planning:**
    - Ability to develop clear language and protective measures for management planning, considering avoidance/mitigation measures for existing and proposed impacts.
- **Communication and Reporting:**
    - Strong communication skills to present findings and recommendations in clear language and visuals in a comprehensive final report with methodologies, results, comparative analysis, and spatialized data.
- **Local Work Experience and Knowledge:**
    - Proponents should summarize firm work experience on the Sunshine Coast, including any local knowledge of the Port Mellon/Hillside Industrial Park area.
    - Proponents should summarize firm work experience / familiarity with the Átl'ka7tsem/Howe Sound Biosphere Region Initiative.
    - Proponents should summarize firm work experience working collaboratively with local First Nations and coastal ecosystems.

Please identify any project team members who are QEPs and specify Registered Professional Biologists (RPBio), Registered Biological Technician (RBT) and please indicate number of years working with coastal ecosystems to identify, delineate and support habitat connectivity, ecosystem biodiversity and resilience.

Proponents should list any subcontractors or sub-consultants they intend to use and provide a similar summary. Joint submissions will identify a lead Proponent who assumes responsibility for the proposal as well as for the professional standards, actions, and performance for all Proponents, if awarded the work.

Proponents should include at least three (3) brief project abstracts that clearly outline previous projects with similar services that have been successfully completed by their company within the past ten (10) years.

Project Team Qualifications & Experience

Proponents should provide a list of all project team members that will be directly involved in the project, including subconsultants.

- A brief resume shall be provided for all project team members and include a summary of relevant experience, qualifications, credentials, notable achievements in the key scope of work areas of this RFP and include the location of their home office.
- Proponents shall provide a project organization chart and a table clearly indicating what role and responsibility each team member will play, the anticipated hours of each, and the total role and project hours.
- Please identify any project team members with degrees, certifications, or relevant experience related to the competencies listed in the Corporate Qualifications and Experience section.

The Consultant will not change project team members without the prior written permission of the Regional District. The Regional District reserves the right to request reasonable changes to key team members to suit the requirements of the project.

5.1.3 References

Proponents need to provide a minimum of 3 references (i.e. names and contact information) of individuals who can verify the quality of work provided specific to the relevant experience of the Proponent and of any subcontractors named in the proposal. References from the Proponent's own organization or from named subcontractors are not acceptable.

The Regional District reserves the right to seek additional references independent of those supplied by the Proponent, including internal references in relation to the Proponent's and any subcontractor's performance under any past or current contracts with the Regional District or other verifications as are deemed necessary by it to verify the information contained in the proposal and to confirm the suitability of the Proponent.

5.2 Sustainable Social Procurement

A factor in the Regional District evaluation process is sustainable social procurement and the evaluation of proposals will take this into consideration.

As part of any submission the Proponent is encouraged to identify how they may contribute to the following key social, employment and economical goals, but not limited to the following:

a) Contribute to a stronger local economy by:
   - promoting a Living Wage
   - Using fair employment practices;
   - Increase training and apprenticeship opportunities;

b) Local expertise knowledge by:
   a. Being locally owned;
   b. Utilization of local subcontractors;

c) Environmental Cost of Ownership;
d) Energy efficient products;
e) Minimal or environmental friendly use of packing materials; and
f) Reducing hazardous materials (toxics and ozone depleting substances).

5.3 Approach

Proponents need to provide an approach that addresses, at minimum, the following:

- Provide a narrative that illustrates an understanding of the Regional District context and project requirements.

- Clearly describe the proposed methodology and technologies(s) for undertaking the project.
- Describe the proposed project management approach, including work planning, managing milestones and deliverables, communication with Regional District staff, and a timeline.
- Describe any proposed augmentation to the scope of work, such as additional tasks or processes, that may improve the project outcome. Explain why such tasks or processes are recommended.
- Describe any risks, issues, and assumptions made when explaining the proposed approach and methodology.
- Clearly describe your expectations of Regional District staff with respect to time and provision of materials.

5.4 Price

Proponents need to submit a fee proposal that sets out the separate costs of each project described as well as an all-inclusive cost for all the project; the proposal should include a breakdown of the fix prices including time, travel, hourly billable rates and material costs.

Proponents should provide a “level of effort” table that identifies all personnel to be used on the project, each individual’s charge out rate, and the number of hours each will be involved in the work activities, together with the total fee for each person and each activity. Disbursements are to be broken down and shown by work activity. Include sub-totals by hours and by fees for each sub-Consultant firm involved, if any. Sub-totals should be provided for all tasks.

Prices quoted will be deemed to be:

- in Canadian dollars ;
- inclusive of duty, FOB destination, and delivery charges where applicable; and
- exclusive of any applicable taxes.

5.5 Budget

1. **Main Project Deliverable (Studies, Reports, Draft and Final Management Planning Recommendations):**
   All-inclusive project budget to plan, complete and deliver all studies, meetings with Regional District staff, draft and final reports including management planning recommendations and protective measures. The Regional District has allocated up to $70,000 including all taxes excluding GST.

2. **ADD-ON/Optional Hourly Consultation Rate for Head Lease Renewal Support, if needed:**
   In addition, the Regional District seeks information on your Hourly Rate for Consultative Services in the event this is needed. Please provide rates for add-on hourly services to additionally refine management planning strategies and support engagement with First Nations and other governments, regulatory bodies or stakeholders. The Regional District has allocated up to $25,000 including all taxes excluding GST.

3. **Ground-truthing with GIS Technologies Watercourses within Hillside Industrial Park**
   The Regional District may provide additional funding to increase the optional scope of work of the project. Please provide a separate quote for ground-truthing current locations of all watercourses within the Hillside Industrial Park area. This includes South Fleetwood Creek, Dakota Creek, Little Dakota Creek, McNair Creek and other tributaries, including small streams--even if ditched or channeled-- as potentially contributing to fish habitat in the area.

This includes delivering updated ground-truthed data using GIS technologies as shapefiles and KMLs to the Regional District GIS Department specifications, showing all watercourses.

4. Potential/Optional Future Work: Technical Supports as needed

Please provide hourly rates for various team members (RPBio, RBT, other QEPs, field technicians) for services that may provide future ongoing project supports include responding to unforeseen concerns or events or monitoring for compliance or implementation of management planning measures.

6. PROPOSAL FORMAT

Proponents should ensure that they fully respond to all requirements in the RFP in order to receive full consideration during evaluation.

The following format, sequence, and instructions should be followed in order to provide consistency in Proponent response and ensure each proposal receives full consideration. All pages should be consecutively numbered.

a) Signed cover page (see section 7.1 Mandatory Criteria).
b) Table of contents including page numbers.
c) A short (one or two page) summary of the key features of the proposal.
d) The body of the proposal, including pricing, i.e. the “Proponent Response”.
e) Appendices, appropriately tabbed and referenced.
f) Identification of Proponent (legal name)
g) Identification of Proponent contact (if different from the authorized representative) and contact information.

7. EVALUATION

Evaluation of proposals will be by a committee formed by the Regional District and may include other employees and contractors.

The Regional District's intent is to enter into a Contract with the Proponent who has met all mandatory criteria and minimum scores (if any) and who has the highest overall ranking.

Proposals will be assessed in accordance with the entire requirement of the RFP, including mandatory and weighted criteria.

The Regional District reserves the right to be the sole judge of a qualified proponent.

The Evaluation Committee may, at its discretion, request clarifications or additional information from a Proponent with respect to any Proposal, and the Evaluation Committee may make such requests to only selected Proponents. The Evaluation Committee may consider such clarification or additional information in evaluating a Proposal.

7.1 Mandatory Criteria

Proposals not clearly demonstrating that they meet the following mandatory criteria will be excluded from further consideration during the evaluation process.

Mandatory Criteria
The proposal must be received at the Closing Location before the Closing Time.
The proposal must be in English.
The proposal must be submitted using one of the submission methods set out on the cover page of the RFP
The proposal must either (1) include a copy of the Confirmation of Proponent's Intent to be Bound that is signed by an authorized representative of the Proponent, this is also required for email submissions or (2) be submitted by using the e-bidding key on BC Bid (if applicable), in accordance with the requirements set out in the RFP
Project team must include a Qualified Environmental Professional and a Registered Professional Biologist.
The studies and draft management planning recommendations must be completed by end of August 2024

7.2 Weighted Criteria

Proposals meeting all of the mandatory criteria will be further assessed against the following weighted criteria.

Weighted Criteria	**Weight (%)**
Capabilities-- Relevant Qualifications & Experience The criterion considers the Contractor's qualifications, knowledge, experience, expertise, references and record of success in providing similar services	**33**
Sample/Example Work Summary or Abstracts As outlined in section	**15**
Approach • This criterion considers the understanding of the project's objectives, service provision, methodology and timeline (Methodology/efficacy to delineate analyze and share about habitat) • Capacity to complete the project	**27**
Sustainable Social Procurement	**5**
Price	**20**
Total	**100**

7.3 Price Evaluation

The lowest priced Proposal will receive full points for pricing. All other prices will be scored using the following formula: lowest priced proposal/price of this proposal* total points available for price.

Appendix 1 – Habitat Assessment

Habitat Assessment for suitability of intertidally spawning forage fish species, Surf Smelt (*Hypomesus pretiosus)* and Pacific sand lance (*Ammodytes hexapterus*) at Lot G, Hillside Industrial Park, Sechelt, British Columbia.

Prepared for: Sunshine Coast Regional District

By: Ramona C. de Graaf, BSc, MSc.
Forage Fish Specialist and Shoreline Consultant
Emerald Sea Biological

Dated: May 5, 2013

CONTENTS

1.0 Summary:

The marine backshore and foreshore area bounding the estuary (Dakota/McNair Creeks) to the border of Lot G and Lot C was surveyed for its suitability/function as critical fish habitat for beach spawning forage fish species (surf smelt and Pacific sand lance) and juvenile salmonid rearing habitat. The shoreline area has a southern aspect. The marine riparian zone upland of the marine foreshore is largely unimpacted by development. The area was assessed to have 124 meters of potential forage fish spawning habitat.

The Lot G area is bounded by Dakota/McNair creeks to the east, Lot C to the west, McNair forest Road to the North and Thornbrough Channel to the south. The uplands area to north and west of the conservation zone is composed of Hillside Industrial Park. The area surveyed was approximately 200 meters of the shoreline area of Lot G, Hillside Industrial Park (Figure 1).

The Environment and Fisheries Covenant Area surveyed presented intact, potential spawning habitat for surf smelt and Pacific sand lance and juvenile salmonid rearing habitat. Generally, the Lot G area has several outstanding features:

1. Shoreline sediment processes of creek delivery sources as well as areas of eroding shoreline banks. Beach sediment is that of clean, well-sorted gravel (pebble/cobble) and sand.
2. Overhanging shading provided by intact natural shrubs and trees (critical for successful summer surf smelt embryo development and hatching).
3. Backshore and foreshore vegetation important to provide insect prey resources for Howe Sound juvenile salmonids.

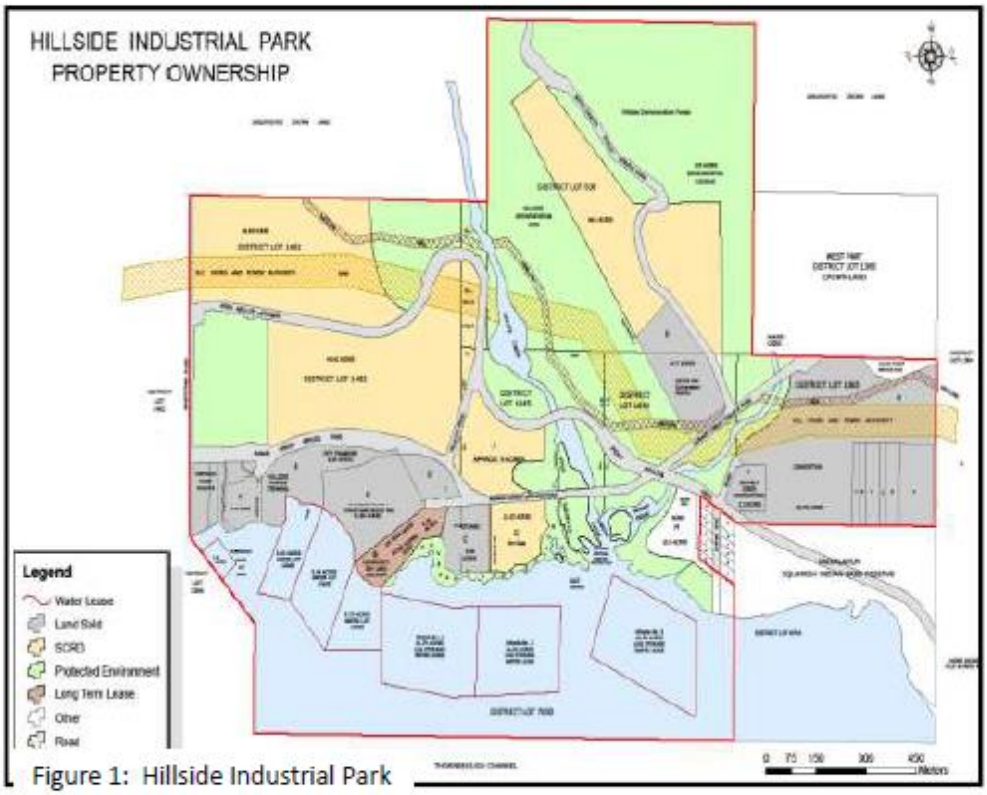

Figure 1: Hillside Industrial Park

2.0 Background

In the area of Howe Sound, surf smelt commercial fisheries have operated throughout the 1900s (Therriault et al 2002) and commercial fishing logs for this species were submitted in 2012 Recreational fishing for surf smelt is still active along shorelines of West Vancouver and the Lower Mainland. Although the Howe Sound area has not been extensively surveyed for spawning habitat, spawning beaches are present at Furry Creek, Squamish area and throughout West Vancouver and the beaches of the Lower Mainland to the US/Canada Border (de Graaf, unpublished data). Pacific sand lance spawning habitats have been documented within shoreline areas from Halfmoon Bay, Roberts Creek, Gibsons, Langdale, and the Lower Mainland (de Graaf, unpublished data). The current Environment and Fisheries Covenant Area along the shoreline of Lot G, Hillside Industrial Park, was established, in part, to protect critical fish habitats such as surf smelt spawning beaches.

Forage fishes, or baitfishes, are critical to upper trophic levels as they are prey for many species including: fish (eg. salmon, rockfish, ling cod and others), marine mammals, and seabirds (eg. murrelets, puffins, auklets and others)(Penttila 2007). For example, Washington Department of Fish and Wildlife (1997) report that the 35% of the diet of juvenile salmon and 60% of the diet of adult Chinook were comprised of sand lance. These fish are direct prey for many marine mammals (dolphins, porpoises, minke and humpback whales, seals and sea lions) while killer whales, including the endangered southern resident killer whales, prey on salmon. Of particular interest to citizens of the Southern Strait of Georgia/CRD, is the recovery of the southern resident killer whale population and rebuilding salmon stocks. Protecting spawning habitat for surf smelt and sand lance is directly linked to improving the food supply of this endangered population of killer whale as well as endangered seabird species such as the marbeled murrelet.

The region of the upper intertidal, composed of sand/gravels is utilized by Pacific sand lance and surf smelt for spawning and is critical fish habitat (Penttila 2007). These gravels are derived from land-based sources from eroding cliffs, river born sediments and other coastal processes. The loss of these sediments due to development (roads, housing, marinas, seawalls, armouring etc.) is of concern due to the destruction of vital intertidal spawning grounds for forage fishes. Throughout the south coast of British Columbia, some areas of coastal beach habitat that may have supported spawning by these two forage fish species, have been lost or impaired due to human activities.

Marine riparian habitat (vegetation including grasses, shrubs and trees) is important to summer spawning surf smelt as overhanging branches and stems provide important shade for summer incubating surf smelt embryos (Penttila 2001, Rice 2006). At summer facing beaches, as present in this assessment, overhanging shade vegetation is critical to the embryos of summer spawning surf smelt (Penttila 2001). Removal of overhanging shade vegetation has lead to the almost complete mortality of summer spawned surf smelt embryos (Penttila 2001, Rice 2006).

Among many important ecological functions, marine riparian habitat provides terrestrial-invertebrate prey as "windfall" from grasses, trees and shrubs located in the backshore and foreshore important to juvenile salmonids, particularly Chinook and Coho (Brennan and Culverwell 2004). Brennan and Culverwell (2004)) found that up to 50% of the diet of marine rearing, juvenile Chinook was composed of terrestrial insects. Romanuk and Levings (2003) found that sites with intact marine riparian zones in Howe Sound (Furry Creek) had up to 65 times higher insect prey resources than areas that had been recently cleared.

3.0 Methods

Forage Fish Habitat Assessments

Actual forage fish spawning beaches are determined after a two-year embryo survey and the presence of two or more embryos in a sample (Moulton and Penttila 2001). In the absence of such comprehensive surveys, beaches may be classified as potential surf smelt/Pacific sand lance spawning habitat following a habitat assessment. The habitat assessment protocol used in this project, the Forage Fish Habitat Assessment, has been developed through a collaboration of forage fish biologists from British Columbia and Washington State. Numerous Regional Districts in British Columbia have had shoreline areas assessed using this particular FFHA methodology for land-use planning decisions.

General Methodology

The FFHA entails a survey of habitat attributes for each area of unconsolidated sediments making up the upper component of intertidal beaches (beach berm/beach face and mid intertidal). Measurements are taken of physical variables of the beach as well as grain-size analysis. Additional variables are measured to assess human activities that may have directly modified the foreshore or adjacent backshore areas. Assessments are conducted by experienced beach spawning forage fish biologists/technicians.

Physical variables from potential beaches are compared to a database of habitats that were monitored using spawning surveys (over 2 years) and were positive or negative for spawning by surf smelt and/or Pacific sand lance in British Columbia and Washington State.

Using statistical analyses, a statistical probability can be assigned to each beach measured. Beaches are assigned as being either surf smelt, surf smelt/Pacific sand lance, or Pacific sand lance. In the absence of a 2-year spawning survey, a FFHA can provide a good indication of potential surf smelt and sand lance habitat for use in shoreline management. Details of the specific methodology are located as Appendix C.

4.1 Results: Forage fish Spawning Habitat

The shoreline area of Lot G was surveyed on August 21, 2011. Along the 200 m area surveyed, 124 meters of discontinuous potential spawning habitat was present in the upper intertidal area (Figure 2). There was no spawning habitat present from the border of Lot C/Lot G to the start of Site A (Figure 2). Some foreshore impacts were noted near the border of Lot C including riprap revetment of the bank and old pilings. These structures were not within the spawning zone but would reduce sediment supply to Sites A/B.

Site A/B was separated from Site C by 30 meters of salt-tolerant grasses. Site C was the largest continuous stretch of potential spawning habitat. Areas of spawning sediment within areas A and B were interrupted by 5 meters of salt-tolerant grasses.

Site A and B:

Site A Start: Latitude 49.50870/Longitude 123.49409
End: Latitude 49.50915/Longitude 123.49441

Site B Start: Latitude 49.50922/Longitude 123.49440
End: Latitude 49.50929/Longitude 123.49440

Length: Total 64 meters of potential spawning habitat discontinuous along 69 meters
Site A: 50 m of spawning habitat; Site B: 14 m of spawning habitat
Site A and B separated by 5 meters of salt-tolerant grasses.

Width: 3 meters

Overhanging shade vegetation: 50 meters

Beach Sediments: narrow beach face; mixed well-sorted gravel and sand; approximately 6° slope.

Sediment input is derived from the creeks to the east and eroding shoreline banks. The sediments within sites A and B are conducive to spawning by sand lance and surf smelt. These sediments are mainly composed of pebble (>60%) and sand (>40%).

Sampling for evidence of spawning in sites A and B will be required to confirm these assumptions. Photologs are included as Appendix A

Site C (Estuary): Start: Latitude 49.51004/Longitude 123.49406
End: Latitude 49.50952/Longitude 123.49413
Length: Total 60 meters of continuous spawning habitat
Width: 6.5 meters
Overhanging shade vegetation: none
Foreshore Impacts: none
Beach Sediments: intact, wide berm (13 m width) of pebble and sands; narrow beach face (6.2 m width); mixed well-sorted gravel (pebble, sand and cobble); approximately12° slope.

Sediment input is derived from the creeks to the east and eroding shoreline banks. The sediments within site C are conducive to spawning by sand lance and surf smelt. These sediments are mainly composed of pebble (60%) and sand (>30%) and cobble (10%). Sampling for evidence of spawning in site C will be required to confirm these assumptions. Photologs are included as Appendix B.

4.2 Results: Juvenile Salmonid rearing habitat

Within the area surveys, 60 m of overhanging shade vegetation was present and the entire 200 m area of the shoreline line is vegetated. Backshore vegetation was composed of grasses, shrubs and trees. Foreshore vegetation included grasses. As a result the backshore and foreshore riparian zone provides important wind-fall insect prey for juvenile salmonids. The shade provided by the overhanging shade vegetation at these southern exposure potential forage fish spawning sites is important for the success of summer incubating surf smelt embryos.


Figure 2: Sites of Potential Forage Fish Spawning Habitat
A
B
C
Area A, B, and C of potential Surf smelt and Pacific sand lance spawning habitat

8.0 Recommendations

The Environmental and Fisheries Covenant Area along the freshwater riparian, marine riparian and foreshore zones is well placed to maintain the critical fish habitats (spawning habitat and juvenile salmonid rearing habitat as defined by the Federal *Fisheries Act*) identified in this survey. Physical processes important to maintain the ecological integrity of the habitats within the Covenant Area include:

1. Maintaining the shoreline sediment inputs from eroding shoreline banks by not allowing hardening structures such as riprap or seawall revetments.
2. Maintaining the shoreline sediment inputs from the creeks by not allowing any structures that would block littoral drift of sediments.
3. Maintaining the shoreline area in its current natural state as well as maintaining buffer zones from upland development (including a generous SPEA widths along the freshwater component of the Covenant Area).
4. Maintaining the existing marine riparian vegetation and overhanging vegetation at these south facing potential spawning sites is critical to the survival of the embryos of summer spawning surf smelt.
5. Maintaining marine riparian vegetation to ensure prey resources for migrating juvenile salmonids.
6. Maintaining water quality and sediment erosion rates by managing upland development to reduce impervious surfaces, manage storm water run-off, and minimize pollution sources.

The current zoning of Lot G is for industrial development. Industrialized development of the uplands, backshore and foreshore areas may be in conflict with maintaining the environmental protection goals of the Environmental and Fisheries Covenant Area.

9.0 References

Brennan, JS and H Culverwell (2004) Marine Riparian: An Assessment of Riparian Functions in Marine Ecosystems. Washington Sea Grant Program, Seattle, WA, pp 1-34.

Moulton L, Penttila D (2000) San Juan County forage fish assessment project: forage fish spawning distribution in San Juan County and protocols for sampling intertidal and nearshore regions final report. San Juan County Marine Resource Committee and Northwest Straits Commission. Washington. 36 pp.

Penttila, D (2001) Effects of Shading Upland Vegetation on Egg Survival for Summer-spawning Surf Smelt on Upper Intertidal Beaches in Puget Sound. Proceedings of the Puget Sound Research Conference (2001).

Penttila, D 2007. Marine Forage Fishes of Puget Sound. Puget Sound Nearshore Partnership report No. 2007-03. Published by Seattle District, U.W. Army Corps of Engineers, Seattle, Washington

Rice CA 2006. Effects of Shoreline Modification on a Northern Puget Sound Beach: Microclimate and Embryo Mortality in Surf Smelt (*Hypomesus pretiosus*). Estuaries and Coasts, Vol 29(1) 63-71.

Romanuk TN and CD Levings (2003). Associations between arthropods and the supralittoral ecotone: Dependence of Aguatic and Terrestrial Taxa on Riparian Vegetation. Environmental Entomology, Vol 32, No. 6, 1343-1353.

Therriault, TW, McDiarmid AN, and DE Hay (2002) Review of Surf Smelt (*Hypomesus pretiosus*) biology and fisheries with suggested management options for British Columbia. FOA CSAS 2002.

APPENDIX A
PHOTOLOG – Sites A and B

Site A

Site B

Emerald Sea Biological 10

APPENDIX B
PHOTOLOG Site C

Site C

APPENDIX C

Forage Fish Habitat Assessments Specific Methodology

Forage Fish Grain-Size Profile Types

The FFHA uses a method developed by Mr. Dan Penttila (former Washington Department Fish and Wildlife Forage Fish Expert) and Ms. R de Graaf to examine sediment types. Surf smelt beach grain-size profiles are divided into five grain-size types. Pacific sand lance beaches are classified into three grain-size types.

Grain-Size Analysis and Statistical Testing

A series of 14 US standard sieves are used to divide 2 L of sediment into grain-size classes. Sediments were dried and weighed and percentage of weight in each sieve recorded. Cumulative frequency curves are generated. Cumulative frequency curves of North and South Pender island beaches being tested are compared to the Grain-Size Types using similarity tests (Kolmogorov-Smirnov) to a threshold of 80%.

Beach Metrics

The beach is assessed for sediment depths, widths, length, erosion sources, beach character, beach slope, overhanging shade vegetation, marine riparian vegetation, modification of foreshore and backshore and the presence of structures that modify both foreshore and backshore zones (Moulton and Penttila 2001; Therriault et al. 2002).

Statistical Analyses of Beach Metrics:

A database of positive and negative beaches from British Columbia and Washington State is used to assess the probability that a beach would support forage fish spawning. Beach metrics are used in a Principal Component Analysis. Beaches that cluster with known positives are tested for similarity. A threshold of 80% or greater has been successful in other forage fish habitat assessments where beaches were tested for and found to bear embryos. Beaches that cluster with known negatives are still entered into Grain-Size frequency curve analysis. Beach metrics of negative beaches commonly overlap with positive beaches. This is a reminder that models lack other variables important to the fish that we do not measure.

Habitat Coverage:

Beaches are categorized as having continuous sediment bands or discontinuous sediment bands. If the beach sediment bands are interrupted by bands of unfavorable habitat, they are scored as discontinuous if the interruption is less than 100 m. If the interruption is greater than 100 m, the area is assessed as separate beach units.

Appendix 2 - Preliminary Marine Foreshore Habitat Assessment

FSCI Biological Consultants

September 17, 2013 Our File No.: FSCI-13-0016

Steve Olmstead
General Manager, Planning & Development
Sunshine Coast Regional District
1975 Field Road
Sechelt, BC, V0N 3A1

Re: Preliminary Marine Foreshore Habitat Assessment at Hillside Industrial Park

Dear Mr. Olmstead:

As requested I have reviewed the foreshore areas along Hillside Industrial Park (HIP) Lots B, C, G and Dunham Road including the protective environmental covenant on Lot G. The purpose of my assessment is to provide a qualitative evaluation, based on review of existing literature and ground truthing the sites. The ground truthing was limited to the existing foreshore and near shore habitats that front these areas. Once completed, I have been asked to provide an opinion on foreshore/riparian areas (including the covenant) that might be suitable for development of marine access points and related commercial/industrial development.

It should be noted that any future detailed development proposal might require more in-depth assessment prior to submitting application for permitting (Fisheries and Oceans Canada review). This would include any potential alterations to the marine riparian, changes in foreshore and potential impacts and alterations to finfish and/or shellfish habitat. There may also be a requirement to provide an opinion on potential impacts of any development to species at risk including marine mammals.

I have reviewed the limited number of accessible environmental studies on the subject lots in HIP (and Dunham) and referenced in this letter where appropriate. The list is attached at the end of this letter. In reviewing documents it was noted that some information and opinions contradict one another. As an example in *Norecol* (1990) and *van Poppelen* (2010) there is the suggestion that habitat along the southern end Lot G, and Lots B and C provide "poor" foreshore and riparian habitat. This appears in contrast to *Whitehead* (1999) that reported the southern end and presumably the continuation of area fronting Lot C provided "good" quality habitat. Certainly, it can be argued that these assessments

8-5520 McCourt Road, Sechelt, BC, Canada, V0N 3A7
604-740-2637 (tel) 604-648-8620 (fax)
dbatesi@fsci-biological.ca

(*Norecel*, 1990 and *Whitehead*, 1999) are dated and that 12+ years later conditions may have improved.

Throughout the review of the documents one comment stands out with respect to the area habitat. In the document, titled: "HIP Environmental Covenant Amendment Application Report and Recommendations" the author refers to mitigation for damages to the marine riparian and in particular the Lot G covenant. It appears to infer that mitigation could be used as a means of removing restrictions of the covenant. While the details of the covenant were not provided, it is important to clarify that removing habitat and developing it may require compensation not mitigation.

Mitigation would suggest measures protect the covenant from development not a trade for the removal. Removal of habitat from the covenant through development may require compensation and the re-creation of similar and suitable habitat elsewhere. The burden of constructing this "new" habitat and any associated construction and monitoring costs is the responsibility of the owner or developer of the parcel.

In order to provide an opinion on the current condition of the marine foreshore habitat(s) including the existing covenant, I conducted ground surveys on June 3, July 2, September 10 and 17. These site visits were coordinated with low tide periods that allowed access along the shoreline and observations of the near shore habitats.

In reviewing the HIP, I have focused on specific areas and objectives. These included:

- Areas of foreshore and riparian buffers fronting Lots, B, C, G and the foot of Dunham Road;
- Assessing and formulating an opinion on the ecological value and function of the existing environmental protective covenant fronting Lot G;
- Examining the existing protective covenant/park at the south side of Dakota Creek;
- Assessing and formulating an opinion of the ecological (habitat) value of the foreshore habitat(s) from Dakota Creek to the south corner of Lot C, and;
- Examining the intertidal and near shore area fronting Lot C and G with the specific purpose of identifying any potential or existing Eelgrass meadows (*Zostera* spp) that could influence future development.

As previously reported, in the past, the area has been impacted by development that supported the forest industry. Today the area is still an active industrial area with booming and dryland activities located on Lots B and C. Presently Lot G is vacant but the marine area fronting it is used to tie up wood booms. The area at the foot of Dunham Road does not have any industrial development but appears

to be utilized by local property owners and other area residents for the launch of small pleasure boats.

As result of my onsite assessment(s), I offer the following observations and comments.

Lot B

- The initial site assessment on Lot B was limited as the area is actively used to water and boom timber.
- The foreshore appears to be severely impacted.
- This area, with the exception of a small, vegetated fringe on the northern edge of the lot has limited remaining habitat.
- The limited existing habitat and the current use would restrict rehabilitation, if that were the objective. Current development and potential future re-development could be designed to preserve the remaining riparian attributes, and improve foreshore attributes, depending on planned use.

Lot C

- This lot, while not protected by a foreshore covenant has a healthy and vibrant marine riparian buffer.
- The immediate intertidal and foreshore is characterized by boulder and cobble substrate and drops quickly near the low tide level. There is no evidence of established marine vegetation with the exception of small patches of *Fucus distalis*.
- Access below low tide was hampered by industrial activity, but, given the extent of booming activities it is assumed that the bottom would have blanket of wood waste.
- The intertidal area, characterized by boulder and cobble substrate transitions into a benched vegetated fringe. This beach supports an area of marine grasses and sedges including Saltgrass (*Distichlus spicata*) and Slough sedge (*Carix* spp.). Behind the area of grasses and sedges are a healthy shrub layer and finally a strip of mixed tree species.
- The marine riparian strip provides varied habitat for terrestrial wildlife species. While no significant use was noted there is evidence of browsing along the shrub and sedge patches and in June, Willow flycatchers were observed nesting.

Lot G

- Lot G is the largest of the three assessed in HIP and currently supports an Environmental Protection Covenant.
- The majority of the lot is protected by the environmental covenant that appears to include the marine riparian fronting the lot and a larger area

near the mouth and adjacent to the lowest Dakota Creek stream reach (Reach 1).

- This lot provides the greatest ecological and habitat value with varied terrestrial and foreshore habits. The lot contains three significant eco-areas, the Dakota Creek alluvial fan and associated features, large "park" area that includes a significant streamside protection and enhancement area (SPEA) along the south side of the creek and the Environmental Protection Covenant.
- While somewhat contradictory at the south end, the literature and previous studies support the conclusion that Lot G supports high value riparian and foreshore habitat(s).
- The southern end of the lot, including the intertidal and upland habitats is similar to Lot C. This area, like Lot C is also characterized by a steep drop-off at low tide and low probability of established Eelgrass.
- The intertidal is varied with materials sizes decreasing toward the Dakota Creek alluvial fan. Patches of boulders and cobble characterize the south end of the intertidal area. There are also areas of smaller gravels and marine sediments.
- Evidence exists of a shellfish community along the intertidal within areas of smaller and finer sediments/substrates. Varnish (Mahogany) clams (*Nuttalla obscurata*), Softshell clams (*Mya* spp) and a few Pacific Oysters (*Crassostrea gigas*) were noted.
- The benched, vegetated fringe above the intertidal supports various grasses and sedges (see Lot C). The "pockets of sedge appear healthy and well established and there is evidence the area is actively grazed by Black Bear (*Usus americanus*).
- In addition to the native sedge and grasses, native species including Saltmarsh Sandspury (*Spergularia marina*), Douglas aster (Aster subspicalus) and Pacific Silverweed (*Potentilla pacifica*) were noted.
- The benched "marsh" fringe is followed by an established shrub layer that supports an assortment of shrubs including Salmonberry (*Rubus spectabilis*), Nootka Rose (*Rosa nootkana*), and Vine maple (*Acer circinatum*), to name a few. Behind the coastal shrub fringe is an established deciduous and coniferous early seral stage riparian corridor. In my opinion the protective covenant has aided in this complexity.
- As you progress further from the shoreline invasive plants species become more prevalent, in particular Himalayan Blackberry and Yellow Broom.
- Observations in June suggest Willow Flycatcher (*Empidonax traillii*), Swainson's Thrush (*Catharus ustulatus*) and American Robin (*Turdus migratorius*) are using the area for nesting. Browse along and through the sedge patches was also noted during my late summer observations. This is similar to activity noted on Lot C.
- The intertidal and foreshore area near the northern end of the lot also provides suitable forage fish spawning habitat. This conclusion is supported by *deGraaf* (2013) who identified this area as having suitable

habitat attributes for forage fish. This is the only area I believe contains suitable habitat.

Dunham Road

- A large flat intertidal section that can be attributed to the outer edge of the Dakota Creek alluvial fan characterizes this area. .
- The substrate varies between gravel and marine muds but are smaller deposition materials from Dakota Creek
- The upper bench above the high tide line is characterized by an assortment of grasses and sedges, then a shrub fringe.
- Observed habitats features and indicative of the northern side of Lot G and are typical of marine habitats found along river estuaries.
- This area also appears to be used extensively by the public to access the water for recreational pursuits.

Conclusions

As a result of my assessment and observations of the areas above, I offer the following conclusions/suggestions for you to consider. I have tried to restrict my comments to the habitat(s) located within the riparian corridor and the intertidal areas. I recognize that the initial question was whether the covenant could be altered to allow access to the water and economic and commercial development in this area. Presumably, the idea would be to alter the covenant without impairing its function.

Lot B

- Currently the most impacted lot in terms of foreshore health and continues to support industrial use. This lot would require significant habitat reconstruction and would be a likely candidate for continued development.
- The upland areas on this lot are cleared and water access appears to be established.
- Its my opinion that re-development of this lot would result in less habitat impact. The observed habitat in 2013 is poor.

Lot C

- It is assumed that this lot is currently owned by the SCRD.
- The foreshore and marine riparian habitats fronting this lot are well established and consist of a variety of ecological features worth protecting.
- No additional, substantial clearing of the marine foreshore should occur and if access to the water is required through this lot, careful site placement should undertaken in order to minimize the impact to recovering ecosystems.

- The intertidal fronting Lot C is dominated by cobble and boulder substrates. This area and could support some form of dock development assuming it spanned the vegetated areas upland from the high-water mark. In particular areas that support saltgrass and sedge communities. Pier footings needed for an above ground dock would have less impact on the intertidal because of the materials and lack of critical habitat such as Eelgrass.
- The low tide and near shore habitats show no signs of critical habitats such as Eelgrass meadows. The steep drop-off at the low tide point suggest moorage could be achieved but would have to be accessed with a pier or above ground dock. This assumes booming activity is not occurring.
- The question of a boat ramp has been posed and while the final determination is outside this review, I would suggest the possibility of acceptance by regulators would be greater if such a structure were built through intertidal areas of boulder and cobble.
- As identified in bullet 3, if access to the water through Lot C is required, the clearing of a corridor through the marine riparian would be necessary. The riparian and terrestrial habitats along this lot are healthy and functioning. As a result the location of water access would have to be chosen carefully with any selected site providing the lowest riparian disturbance. Ideally access would be toward the centre of the lot where the intertidal, comprised of cobbles and boulders is narrowest.
- Protection of the vegetated fringe of marina riparian is important both ecologically and socially. Maintaining the "green" strip provides visual quality protection from the water, "hiding" development.

Lot G

- The protective covenant has provided continued protection and suitable terrestrial and foreshore habitat attributes that support a variety of terrestrial and marine wildlife species.
- The covenant as presented should remain. If access is required, I suggest exploring a small opening through the riparian and across the intertidal at the most southern end of the lot. (adjacent to Lot C). This would ensure the majority of a protected area on Lot G remains and reduces the fragmentation of the habitat on Lot G.
- Any proposed opening or right-of-way must be small and any dock structure should span the foreshore vegetation. A boat ramp, if proposed would also have to be located on the southern edge and its location selected to protect grasses and sedge. Any structure should access the water over the cobble and boulder areas of the intertidal.
- The northern end of Lot G should remain as is. I would argue that the habitat values at this end are high. This includes the Dakota Creek delta and is attributes.

- Ideally, the covenant would remain and be extended through Lot C ensuring continuum of the marine riparian habitats. This may be a trade-off for select access through the current riparian area.

Dunham Road

- This area should remain as is. The topography and fact that the access is on the Dakota Creek delta suggests long low slopes. Materials are likely highly erodible.
- The area is currently it is used for recreation with limited impact. The topography (delta) does not lend it self to an established ramp without developing a long ways offshore.
- Observed habitat(s) and their attributes are similar to those observed on the north end of Lot g and should be protected.

Closing Remarks

It appears from our earlier conversation that Lot G is the center of interest. Given my observations of this area I would not recommend the removal of land from the protective covenant. I would also suggest there is some logic strategic advantage in extending it along Lot C.

If access to the water is the goal only through Lot G, it should be considered along the southern property line where the covenant is narrower and habitat features more confined. Any proposed water access at this juncture should be contained with minimal loss to the covenant.

Without truly understanding ownership of the lower Lots (B and C), I would suggest that the best location for accessing the water is Lot B. or lower lot C. This area is previously disturbed and short spans to deep water appear possible. Earlier reports suggest excavation would be required. While this may be true I would argue the loss of disturbed foreshore on these lots is more favourable than opening up the marine riparian areas (covenant) on Lots B and G.

I trust these comments are helpful. If you have any questions please feel free to contact me at you convenience.

Sincerely

D. Bates, PhD, RPBio
Habitat Biologist

/db
attach.

References

Anon (no date). Hillside Indiustrial Park environmental covenant amendment application report and recommendations. Best Coast Initiatives.

de Graaf, R. 2013. Habitat assessment for suitability of intertidally spawning forage fish species, Surf Smelt (*Hypomesus pretiosus*) and Pacific SandLance (*Ammodytes hexapterus*) at Lot G, Hillside Industrial Park, Sechelt, BC. Prepared for the Sunshine Coast Regional District.

Norecol 1990. Environmental impact assessment of Hillside Industrial Park. Norecol Environmental Management Ltd., Vancouver BC. Prepared for the Sunshine Coast Regional District.

van Poppellen, P. 2010. Development potential and water access Lots C and G, Hillside Industrial Estate. Integrated Resource Consultants Inc. Letter to Mr. M. McLaughlin, Economic Development Coordinator.

Whitehead, A. 1999. Dakota Creek bioinventory for subdivision of Lots G and J, Hillside Industrial Park, Port Mellon, BC. Whitehead and Associates, Bowen Island, BC. Prepared for the Sunshine Coast Regional District. Sechelt, BC.

Photo 1: Lot C top and bottoms showing the high intertidal and vegetated areas above the tide line. Note the saltgrass and sedge community followed by a shrub layer and finally the treed zone. This marine riparian area is considered good quality habitat. The red circle in the background shows the industrial use of Lot B and the related impacted riparian and intertidal area.

Photo 2: Example of the boulder and cobble dominated intertidal areas that can be found along the front of Lot C and the southern end of Lot G. The area above the rock outside the normal highwater supports sedge and saltgrass.

Photo 3: A view along toward the northern end of Lot G. Note the smaller gravels (forage fish spawning) and the presence of marine sediments and muds that support shellfish. A large saltgrass area can be seen in the background. This area is the southern edge of the Dakota Creek delta.

Photo 4: The top photo shows the marine riparian area near the southern end of Lot G and northern end of Lot C. The bottom photo shows a portion of the treed Protective covenant and a portion of the foreshore and intertidal area in front of Lot G.

Photo 5: The shoreline at the foot of Dunham Road. The area is located on the northern edge of the Dakota Creek alluvial fan. The grade is shallow and substrates dominated by small gravel and river sediments.


Hillside Industrial Park
Lots B, C and G
Areas of important habitats
Area suitable for forage fish spawning
Approximate drop off at low water
Note: Approximate marine riparian area is shaded in green
Significant areas of saltgrass and sedges.
Area to include in protective covenant
Potential access points
G
C
B
Google earth

Appendix 3 - Dakota Creek Bioinventory

(attached as separate document)

Appendix 4 - Environmental Covenant Amendment

Best Coast Initiatives BCI

HILLSIDE INDUSTRIAL PARK

ENVIRONMENTAL COVENANT AMENDMENT APPLICATION

REPORT AND RECOMMENDATIONS

1. PURPOSE AND SCOPE

Hillside Industrial Park, located on West Howe Sound immediately south of Port Mellon, contains 188 hectares of land, of which 108 hectares are allocated for industrial use and 80 hectares are in covenanted environmental reserves. Included in the covenanted environmental reserves is a band of foreshore and backshore along the seaside margins of Lots G and C. Lots G and C are highly strategic for optimizing the value of development at Hillside Industrial Park (HIP).

Lots G and C are level, making them some of the most valuable land at HIP. They have road access, three-phase power and are the most likely sites to attract investment. Their primary strategic value is adjacency to the ocean. A 2010 report, "Hillside Industrial Park Competition Analysis and Development Opportunities Assessment,"[1] identified ocean adjacency as HIP's most important competitive advantage. The environmental reserve hinders that advantage for Lots G and C. Furthermore, the ocean access restriction decreases the potential value, and limits the types of uses, of all of the remaining, developable inland lots.

The 2010 Opportunities Assessment identifies Lots G and C as ideal locations for a marine services cluster. Marine services include boat storage and maintenance. There are other potential uses, however, marine services has the strongest business case. The business model requires immediate ocean access adjacent to a minimum three acres of flat, serviceable land.

HIP has unrestricted ocean access from the southern boundary of Lot C to the southern boundary of the Park. These lands are either leased or privately owned. A 2010 "Hillside Industrial Park Ocean Access Options Discussion Paper"[2] observed that ocean access locations in this area are sub-optimal for a marine services cluster or public boat launch. Firstly, the amount of industrial activity on the water in this area is likely not compatible with pleasure craft traffic. Secondly, some potential locations have steep back shores that would require considerable excavation of materials. Thirdly, unless an existing business operation vacated, there is insufficient area to establish a cluster or boat yard that is adjacent to the ocean.

[1] Best Coast Initiatives
[2] Best Coast Initiatives

This report outlines a procedure for requesting an amendment to the sea side environmental reserve, preferably at Lot G and alternatively at Lot C. The purpose of the report is to provide information that will assist the Sunshine Coast Regional District to evaluate if a request for an amendment should proceed.

There are additional, larger-frame issues related to ocean access that the SCRD may wish to consider while evaluating whether or not to apply for a covenant amendment. The maximum value of HIPs adjacency to deep waters is realized if ocean going ships can directly unload and load cargos there. If HIP had a port capability, then it becomes attractive to a range of industries that need direct shipping, a large land base and isolation from non-industrial encroachment.

Other types of ocean access – haul out facility, public boat ramp, commercial or public barge ramp – do not fully exploit HIPs ocean capability, and might even impede port-type development due to the type of the marine traffic generated. However, it is not possible to predict if HIP will attract port-type investment. In the meantime, there are benefits to stimulating industrial or commercial activity at HIP. In the event that interest in developing HIP as a port and establishing a large-scale industry materializes, there would be offers to purchase all properties adjacent to the sea.

Sections in the report are:

2. Environmental Issues
3. Covenant Amendment Process
4. Content and Costs of a Covenant Amendment Application
5. Water Lease Application Process
6. Proposed Activity in the Covenant Area
7. Economic Benefits

2. ENVIRONMENTAL ISSUES

An *Environmental Impact Assessment Hillside Industrial Park* was completed in February 1990 by Norecol Environmental Consultants Ltd. The report's description of the environmental and habitat quality of what are now Lots C and G previously Block 1 Parcels C, D, E and F. We quote the entire description of the environmental and habitat values of those parcels.

> *The salt marsh and riparian vegetation extend northward* [from what is now Lot B] *along Parcels C and D, ending at an active log booming area in front of Parcels E and F. Some patches of marsh grass survive in the booming area, but in general the foreshore is seriously disturbed. Piles of logs are present along the shoreline. The substrate consists primarily of bark debris and some organic mud, which smells noticeably of hydrogen sulphide. This smell suggests that decomposition of the bark caused oxygen depletion in*

> *the sediment. Presumably the sub-tidal has been similarly impacted by bark deposition and decomposition.*
>
> *At the northern end of the log handling area along Parcel F the vegetation again becomes substantial. Marsh grasses extend from a heavily-vegetated riparian zone to a region of sand and gravel in the lower intertidal. This area appears to be highly productive fish habitat.* (pg. 4-21)

There are important observations in this 20-year old description. First, Lot C and the developable portion of Lot G do not have high value habitats within them. Figure 5.1 in the Norecol report shows high value salt marsh in what is now a protected portion of Lot G, but nowhere else in Lots C and G.

Secondly, even in 1990 the foreshore and sub-tidal zones were badly degraded, primarily due to impacts from log booming. The Norecol report (pg 5-5 and Table 5.2.1) observes that the deteriorated condition of these bio-zones offers an opportunity for environmental compensation. Compensation is the key to authorization under a HADD review (see section 3).

In what appears to be a contrary opinion, a 1999 report titled "Dakota Creek Bioinventory for Subdivision of Lots G & J, Hillside Industrial Park, Port Mellon,[3] the marine foreshore area at the southeast corner of Lot G is described as having high fish and wildlife habitat values. This is the ideal location for a haul out facility for a boat yard and dry land marina.

The 1999 report also identifies the marine shoreline along the northeast corner of Lot G as having high wildlife habitat values. This area includes the estuary of Dakota Creek and McNair Creek and is protected by a riparian reserve in addition to an ocean foreshore reserve. There can be no question that the high environment values of this area preclude any disturbance in the covenanted area.

Economic Development Coordinator Michael McLaughlin and Registered Professional Biologist Paul van Poppelen inspected the foreshore and backshore adjacent to the southern portion of Lot G and the northern portion of Lot C in December 2010. A letter from Mr. van Poppelen states that there is little current evidence to support the biological importance of this area. Based on just visual observations, in his opinion the foreshore does not have the type of mineral structure to be a high quality spawning ground for forage fish. Nonetheless, his letter recommends a series of scientific assessments. Additionally, while the environmental quality of the foreshore and sub-tidal zones may have improved since 1999 – due to termination of sawmill activity and environmental clean ups - the environment remains compromised due to additional decades of log storage in the waters adjacent to the foreshore. Mr. van Popellen reiterates the Norecol observation that the deterioration of the environment due to log storage offers opportunities for environmental mitigation efforts in compensation for any habitat losses resulting from a haul out facility.

[3] Whitehead Environmental Consultants Ltd.

Other environmental benefits that have been identified are:

1. reduction in the size of the log storage water lease immediately adjacent to the haul out facility
    a. a channel for navigation is required
2. Development of an environmentally sound location for boat scraping, painting and removal of hazardous liquids

In summary, some conditions for meeting the requirements of the Department of Fisheries and Oceans and Environment Canada appear favourable.

3. COVENANT AMENDMENT PROCESS

The covenant is between the SCRD and the BC Ministry of the Environment (MoE). MoE is the sole agency with the authority to amend the covenant. However, the relevant branch of MoE is now contained in the Ministry of Natural Resource Operations (NRO). The two contact persons at NRO are:

Scott Barrett, R.P.Bio.
Ecosystems Section Head
Ministry of Natural Resource Operations
10470 152 Street
Surrey BC V3R 0Y3
ph 604.582.5229

Jennifer McGuire
Director, Resource Management
Ministry of Natural Resource Operations
10470 152 Street
Surrey BC V3R 0Y3
604.582.5370

There is a distinction between authority to amend an environmental covenant and enforcement of environmental legislation. Natural Resource Operations (NRO) has the authority to amend the covenant and decide on land-based environmental issues. NRO defers ocean-based environmental issues and applications to the Fisheries and Oceans Canada (DFO). An application sent to NRO will be referred to DFO, which should engage Section 35 (2) of *The Fisheries Act*. This section allows the Minister to authorize Harmful Alteration, Disruption and Destruction (HADD) of fish habitat notwithstanding Section 35 (1), which prohibits HADD. If environmental compensation for habitat loss can be made, then no net harm is deemed to have occurred. In practice, DFO asks for compensation that yields a net enhancement to fish habitat.

All requests for Authorization of a HADD are required to follow a specific process under the Canadian Environmental Assessment Act (CEAA) and are rigorously evaluated according to environmental, economic and social criteria.

In conducting an environmental assessment, Environment Canada has the following objectives:

- To ensure that projects are considered in a careful and precautionary manner to ensure that projects do not cause significant adverse environmental effects;
- To promote sustainable development to achieve or maintain a healthy environment and a healthy economy;

- To promote communication and cooperation between responsible authorities and Aboriginal peoples with respect to environmental assessments;
- To ensure that projects carried out in Canada or on federal lands do not cause significant adverse environmental effects outside the jurisdictional boundaries; and
- To ensure the opportunity for timely and meaningful public participation throughout the environmental assessment process.

Environmental protection is the key value; however, promotion of sustainable development is also a value. The application to DFO should contain an environmental compensation plan and a full account of the economic and social benefits of the intended foreshore use. This report outlines the latter benefits in section 7.

The BC Ministry of Environment does not require an environmental assessment for the intended ocean access facility. The provincial assessment process is not required unless a shoreline disturbance is one kilometre in length or an ocean bottom disturbance is greater than two hectares in area.[4]

To ensure that a HADD process is initiated an application to amend the covenant should be sent to both NRO and to the Pacific Region DFO office. Ms. McQuire of NRO advised that our application should be sent to:

Rebecca Reid
Regional Director, Oceans, Habitat and Enhancement Branch
Fisheries and Oceans Canada
Suite 200 401 Burrard Street
Vancouver, British Columbia V6C 3S4 Canada
Telephone: 604-666-6532

4. CONTENT AND COSTS OF A COVENANENT AMENDMENT APPLICATION

There is no application form. A letter, with supporting material, is deemed an application. The application engages a review process (HADD) that follows a mandated timeline within DFO and Environment Canada. Specific types of information, forming what is known as a Screening Report, are required as support for the application. We recommend that this work be completed in two stages. The first stage will complete basic environmental diagnostic studies that measure the quality of fish habitat and estimate the feasibility and cost of environmental compensation. If any of the initial studies indicate low feasibility for HADD authorization, the feasibility process stops. If it is deemed that the application has a fair or higher likelihood of success, then the second set of more detailed required studies and plans are completed. This procedure will allow SCRD to minimize costs and incur them incrementally as results from progressive studies indicate if advancing makes sense.

[4] Source: Kathy Eichenberger, Integrated Land Management (NRO)

Stage One: Feasibility Information Requirements

1. literature and database search of Dakota Creek and Hillside environment (including HSPP benthic study results, if these can be made available)
2. channel depth (from sounding) and benthic "grabs" for condition survey (fibre mat)
3. description of area requested for removal from covenant restrictions and facility to be built
4. intertidal beach sampling and habitat assessment (in particular but not exclusively surf smelt spawning absence/presence)
5. wildlife/vegetation inventory
6. determine whether alternative structures cause significant habitat disturbance or destruction.
7. determine what compensation is required based on guidelines and design compensation proposal
8. estimate cost of environmental compensation

We have a cost estimate for a report containing this information of $8000 - $10,000

If the Stage One is promising, then an application is made with the following additional information.

Stage Two: Detailed Studies for Screening Report

9. more detailed design of compensation proposal
10. explanation of alternatives or lack thereof to causing habitat disturbance or destruction
11. complete baseline study gaps
12. prepare draft Screening Document for approval and recommendation by SCRD
13. make formal application

We have a cost estimate for a report containing this information of $5000 - $7000. The maximum cost for all information and a report is $15,000.

An example of a Screening Document may be viewed at
http://dl.dropbox.com/u/17153404/10185%20-%20Draft%20EA%2015Mar2010_CONTROL.pdf

5. WATER LEASE AMENDMENT PROCESS

Coastland Wood Industries holds water lot leases with the SCRD in front of Lot G. A reconfiguration of at least one of the sub-lots is likely required in order to create a safe channel for small vessels to reach the haul out facility.

(Note: a SCRD In-Camera staff report observed that the related sub-leases expire in 2015 and would have to be re-negotiated in support of ocean access. The same report noted potential

issues with the SCRD head lease. At the time of this report, Ministry staff have not replied to staff enquiries).

Any change in size or location of the SCRD headlease requires a new application. A survey of the new lot configuration is required if there are changes to the head lease. Changes to the sublease areas do not require applications to the Province or surveying provided that they stay within the legal and geographic terms of the head lease.

In addition, a new water sub-lease will be required for the area occupied by the haul out facility.

Contact for water lease applications: Maxine Davie, Natural Resource Operations (Surrey) 604 586-4411

Lot G is adjacent to a shoreline that is exposed to winds from the north. Prior to advancing a plan to build an ocean access facility at Lot G, it should be determined if a breakwater is required in order to protect the haul out facility. The need for a breakwater could limit the seasons of operation or the viability of a commercial operation. It is recommended that persons in the marina business be asked to give opinions.

6. PROPOSED ACTIVITY IN COVENANTED AREA

Best Coast Initiatives completed an evaluation of the investment opportunities for Hillside Industrial Park in September 2010. The report, "Hillside Industrial Park Competition Analysis and Development Opportunities Assessment," identified a marine services installation as a viable investment. That development opportunity is only viable if there is ocean access adjacent to a parcel of flat land large enough to store enough boats to make the business financially viable. Based on an evaluation of existing and potential access points, a vessel haul out location at either Lot G or Lot C are the only feasible options.

This report focuses on the single issue of obtaining an access point at Lots G or C (latter owned by Coastland Wood Industries) for a vessel haul out facility that might also be used as a public boat launch. Identifying the type of structure for which ocean access is needed defines the size of the land and foreshore area that is required, and the level of environmental disturbance the structure would cause. With a structure in mind, we are able to estimate the environmental impacts and, consequently, the level of environmental compensation that will be required under *The Fisheries Act*.

A commercial vessel haul out structure would require a road or a raised ramp across the 15 metre backshore reserve and a pier, concrete ramp or marine railway extending approximately 100 feet into the sea. All three are feasible at the desired location. The land access corridor need only be 15 metres wide. An upland area of 225 m^2 (0.06 acres) would be affected within the covenant area

A ways (twin rails with a carriage pulled by a cable) or a concrete ramp are the least expensive methods for vessel haul out. The degree of environmental impact of each should be considered in the Screening Report. Obviously, it will be easiest to obtain approval for the method with the least harmful impact. Compensation costs will also be lower if impacts are lower. However, if a public launching capability is desired, then a ramp is the best method of access. Preliminary review suggests the marine railway has the least environment impact.

In addition to the lift and ramp, floats capable of mooring up to four craft would be an asset, but not absolutely necessary.

7. ECONOMIC BENEFITS

Our evaluation of the potential for a marine services[5] installation at Hillside industrial Park included:

1. a survey of 23 Small Craft Harbours and private marinas to assess the need for additional marine services in the Georgia Strait region, how far boat owners will go to find services and the likelihood of boat owners using a facility located at HIP
2. telephone interviews with boat manufacturers, marina owners and shipyards to supplement the survey
3. visits to four marine services operations to examine business models
4. research on the size of the marine services industry in British Columbia and Washington State, plus the size of the transient market
5. Interviews with potential investors in a marine services installation at HIP

Results indicate clearly that the market for marine services is inadequately served. Our survey could not tell us how many boat owners are searching a place to moor or are seeking a location for regular vessel upkeep and repairs. What we learned is that most marinas (Small Craft Harbours, private conventional and dry land marinas) have waiting list in excess of three years. At many facilities in the Lower Mainland-Howe Sound region the wait is indefinite. The availability of berths is so tight that some boat owners have resorted to buying used boats because a berth comes with it.

Similarly, we learned that there are long waiting times for routine repair services, decreasing locations for hauling out, dissatisfaction with prices and that many boat owners travel long distances to obtain routine services.

Our conclusion is that a marine services installation at HIP is a viable commercial opportunity that will attract investment, provided the basic requirements for an operation exist. Our business case analysis yielded the following business development model as most likely.

[5] berthing and repair/maintenance services

- Initial investment in a dry land boat yard. Initial investment costs are low and additional costs are incremental. A basic boat yard is financially viable with 100 over-wintered vessels stored and 150 haul outs for maintenance annually.
- The basic model may begin as a U-repair operation, with marine services businesses in the area travelling to the storage yard to provide services.
- Continued investment leads to additional storage capability (boat racks) and the business evolves into a dry land marina.
- As the volume of repair and maintenance work increases, marine services locate closely to boat yard/dry land marina.

We have a high degree of confidence in this portion of the business model. Other opportunities that have been identified are:

- shipwrighting and vessel repairs
- investment in fabrication and boat building
- vessel salvage and parts sales
- boat sales
- gasoline sales
- commercial vessel (tug boats) maintenance

HIP has sufficient, suitable lands at competitive prices for a marine cluster. There is an existing marine services industry on the Sunshine Coast that will take advantage of new sales opportunities and get the investment ball rolling. HIP's location has disadvantages and advantages. Overall, it is a viable location for a marine cluster.[6]

- a basic boatyard could generate $450,000 in revenue annually; employ 3 FTE and generate modest activity for marine services business on the Sunshine Coast
- a dry land marina will generate between $1.8-2.2 million annually; employ 7 FTE and generate 5.5-6.5 indirect FTE – for a total of 13 FTE[7]

There is moderately strong likelihood this level of economic activity would be generated.

Additional economic benefits would result from the additional opportunities that we identified. It is prudent to delay making estimates of additional jobs created. Such an estimate should be included in the application (Screening Document). Currently, two enterprises of the type in our "other opportunities" list are considering locating a HIP. We will have a more clearly defined picture of the investment potential as time goes by.

The potential for investment may be compromised by location in two ways. Firstly, investors may hesitate to build a dry land marina in an active industrial area. The nature of the industry

[6] For analysis of location potential, see "HIP Competition Analysis and Investment Attraction Opportunities," pg. 23.
[7] Estimate based on marine services multipliers and interviews with enterprises.

and the presence of log booms along most of the shoreline may make the location undesirable. Secondly, it is unclear if Lot G is exposed to high seas. A combination of log booms and high seas would create navigation hazards. The second concern should be assessed before amendment application becomes formal.

Appendix 5 - Preliminary Environmental Liability Site Assessment

(attached as separate document)