



Sunshine Coast Regional District

Request for Proposal

Number: 2335202

for

Biocover Feasibility Study Sechelt Landfill Phase 2 (Pilot)

Issue Date:

April 18, 2023

Closing Date of

May 24, 2023 at 3:00 PM local time

CONTACT: All enquiries related to this Request for Proposals, including any requests for information and clarification, are to be submitted by May 8, 2023 and directed, in writing, to purchasing@scrd.ca, who will respond if time permits with a Q&A on BCBid by May 15, 2023. 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.

A proposal is deemed to incorporate the Confirmation of Proponent's Intent to Be Bound below, without alteration.

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.

PROONENT NAME (please print): _____

NAME OF AUTHORIZED REPRESENTATIVE (please print): _____

SIGNATURE OF AUTHORIZED REPRESENTATIVE: _____

DATE: _____

TABLE OF CONTENTS

	Page
1. GENERAL TERMS & CONDITIONS	3
2. INTRODUCTION	8
2.1 Purpose	8
3. SITUATION/OVERVIEW	8
3.1 Background	8
3.2 Project Objectives	9
3.3 Scope	9
4. CONTRACT	12
4.1 General Contract Terms and Conditions	12
4.2 Service Requirements	12
5. REQUIREMENTS	13
5.1 Capabilities	13
5.2 Sustainable Social Procurement	13
5.3 Approach	14
5.4 Value Added	14
5.5 Price	14
6. PROPOSAL FORMAT	14
7. EVALUATION	15
7.1 Mandatory Criteria	15
7.2 Weighted Criteria	16
7.3 Price Evaluation	16
Appendix 1 – Sechelt Landfill Biocover Feasibility Study Phase 1	17
Appendix 2 – October 17, 2019 Regional District Staff Report	18
Appendix 3 – February 11, 2021 Regional District Staff Report	24

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 <https://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 of 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 term 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 Sunshine Coast Regional District (Regional District) is seeking a qualified Contractor to provide professional services to undertake Phase 2 of a Biocover Feasibility Study to determine the technical application and financial feasibility of installing biocover at the Sechelt Landfill for final closure.

The Regional District anticipates the project may take up to 20 months to complete the scope of work outlined in Section 3 of this RFP. Completion and provision of all final deliverables should be achieved no later than December, 2024. The maximum available budget for the scope of work identified in the RFP is \$270,000, including cost of biocover pilot material supply and installation.

The Regional District cannot guarantee that the entire project will be completed. Should the project be deemed unviable by the Regional District, the project will cease.

3. SITUATION/OVERVIEW

3.1 Background

The Sechelt Landfill

The Sechelt Landfill is located at 4901 Dusty Road, Sechelt, BC, approximately 6.5 kilometres northeast of the District of Sechelt business centre. The Site property is bounded to the north, east, and west by Kwilkwil Ltd. (DL 7613), and to the south by Northcote Properties (DL 2464). The landfill encompasses an area of approximately seven hectares, within an overall site area of approximately 9.5 hectares. The Sechelt Landfill is owned, managed and operated by the Regional District and accepts non-hazardous municipal solid waste from the District of Sechelt, Town of Gibsons, shíshálh Nation Government District, and Regional District rural electoral areas.

Based on 2022 data, the Sechelt Landfill is expected to reach capacity by mid-2026. Approximately one-third of the landfill has been permanently closed using a traditional final cover, as outlined in the Regional District's approved Sechelt Landfill Design, Operation, and Closure Plan (DOCP). The current DOCP includes a traditional final cover designed with an impermeable low density polyethylene geomembrane and drainage tubes. The DOCP does not currently allow for the use of a biocover.

The next stage of Sechelt Landfill closure design is proceeding with the Stage H+ Closure project, which is currently proposed to be completed concurrently with the biocover feasibility study.

The Regional District will be updating the DOCP in mid 2023 as per Ministry of Environment and Climate Change Strategy (MOE) requirements. The DOCP update does not align with the timing for the outcomes of this project. Should a biocover be deemed feasible by the Regional District, a further update to the DOCP will be required.

Landfill Gas Study

In 2007, the Regional District obtained consulting services to study the feasibility of a landfill gas-to-energy project. Subsequently, the Regional District abandoned the project in 2015 due to lack of suitable technology to capture the amount of gas generated at the site, making the project not viable.

The landfill was not constructed or filled to optimize gas capture. Initial assessments estimated a landfill gas collection efficiency of 50% based on the small and elongated shape of the landfill,

the lack of an impermeable bottom liner, and no synthetic final cover. This would have represented 10,750 tonnes of carbon dioxide equivalent (CO₂e) in 2006. Gas pumping tests in 2014 and 2015 yielded much lower results, representing approximately 2,100 tonnes of CO₂e. These test results were too low to proceed with landfill gas capture projects.

Please note, the current landfill environmental monitoring program includes three landfill gas wells, however, two were decommissioned in 2021 with plans for replacement in mid-2023.

Phase 1 - Biocover Study

A Sechelt Landfill Biocover Feasibility Study Phase 1 (Phase 1) was undertaken in 2020, which included a desktop study to evaluate the technical, financial, regulatory, and greenhouse gas (GHG) emissions of applying a biocover on the Final Closure Area at the Sechelt Landfill.

Phase 1 concluded that a biocover could result in significant reductions to GHG emissions. The feasibility of a biocover was based on:

- Proximity of required biocover materials to the landfill;
- Potential reductions in GHG emissions;
- Financial benefits of constructing a biocover instead of the currently permitted final cover in the Final Closure Area; and
- Regulatory considerations.

3.2 Project Objectives

The Regional District's primary objective of exploring the feasibility of a biocover is to identify an effective solution to reduce GHG emissions produced by the landfill following closure. A final cover system for the Sechelt Landfill will be placed on the top and side slopes, as parts of the landfill reach its maximum fill height and as the landfill reaches capacity in the coming years.

The key objectives of this project are to:

- Confirm there will be no issues around leachate or slope stability with the use of a biocover at the Sechelt Landfill by first completing a slope stability analysis, followed by the construction of a biocover pilot.
- Confirm technical performance and risks of using a biocover at the Sechelt Landfill.
- Confirm the effectiveness of methane oxidation using a biocover following one year of monitoring the pilot area.
- Meet MOE design criteria for landfill closure options.
- Quantify the financial implications of using a biocover.

3.3 Scope

The purpose of this project is to undertake Phase 2 of a Biocover Feasibility Study to determine the technical application and financial feasibility of a biocover at the Sechelt Landfill upon its closure. The scope of the project is limited to the two-thirds of the landfill that has not yet been closed using a traditional final cover.

3.3.1 Responsibilities of the Contractor

In general, the scope of work by the Contractor will include, but not be limited to the following:

	Activity
1	Project Initiation Meeting with Regional District Staff Review the project goals and objectives, and the Contractor's proposed draft work plan.
2	Work Plan Submit an updated work plan based on the project initiation meeting. The detailed work plan needs to achieve the objectives outlined in the RFP.
3	Documentation Review Review and understand all relevant documentation, including but not limited to: <ul style="list-style-type: none"> Sechelt Landfill Biocover Feasibility Study Phase 1 (2020) (see Appendix 1 page 33-88) October 17, 2019 Regional District Staff Report (see Appendix 2) and recording February 11, 2021 Regional District Staff Report (see Appendix 3) and recording Waste Diversion Annual Report and diversion rate data (will be provided prior to the kick-off meeting). Regional District's 2011 Solid Waste Management Plan Regional District 2009 Community Energy and Emissions Plan We Envision: A Regional Sustainability Plan for the Sunshine Coast BC Ministry of the Environment Landfill Criteria for Municipal Solid Waste BC Ministry of the Environment Technologies and Best Management Practices for Reducing GHG Emissions from Landfills Guidelines New strategies, to be shared as they arise The Contractor will review and reference other relevant information beyond this list, as identified during the review and planned SWMP update.
4	Slope Stability Analysis <ul style="list-style-type: none"> Determine the most effective materials that are both locally available and cost efficient. Materials are to be sourced and supplied by the Contractor. The Regional District has an agreement in place with the District of Sechelt (DOS) to supply biosolids for this project until December 2023. Under this agreement, the DOS will supply the biosolids at no cost, however, 50% of the delivery cost will be charged against the project budget. Geotechnical analysis of the landfill site and chemical analysis of proposed biocover materials including Toxicity Characteristic Leaching Procedure (TCLP), organics content, and general chemistry. If biocover materials are found to be unstable, the Biocover Pilot Project will not be completed and a summary letter explaining results will be submitted to the Regional District. The Contractor will prepare an interim report for the Regional District summarizing the results of the Slope Stability Study and a preliminary design of the biocover.

5	<p>Biocover Pilot Program</p> <ul style="list-style-type: none"> • Procurement, supply, delivery and mixing of biocover materials. • Currently, the actual amount of landfill gas that is released vertically from the landfill is unknown. Baseline data will first need to be collected to properly determine the reduction in methane gas once the biocover is installed. • The installation of the biocover on the pilot program area (4,250 m²) on a portion of the Sechelt Landfill that is currently covered by tarps and not yet fully closed. Prior to placing biocover material, the application area will be filled to grade (roughly one metre additional compacted depth) with fresh refuse by the landfill operator. The Contractor will closely coordinate the project schedule with the landfill operator. • Following installation of the biocover material, the Contractor will test the effectiveness of oxidizing methane through the biocover. • The Contractor will implement a monitoring program to assess the performance of the pilot biocover at the Sechelt Landfill. • The Contractor will then monitor the area for one year to collect data in all seasons. Monthly methane gas readings will be taken along with soil moisture levels and other information required to determine the effectiveness of a biocover at reducing environmental impacts, including but not limited to GHG emissions, lower explosive limit (LEL) concentrations, and leachate generation. At the time of the site visits, weather conditions will be noted, and the report will include the weather data from Environment and Climate Change Canada for the entire month. • If at any time the Contractor or the Regional District determines that a biocover would negatively impact the Sechelt Landfill, the pilot program will be stopped, and a summary letter will be prepared in lieu of a full evaluation report.
7	<p>Evaluation Report</p> <ul style="list-style-type: none"> • Based on the pilot program findings and other information the Contractor may deem relevant, a Phase 2 Biocover Evaluation Report will be developed and include recommendations. • The report will include summary results of the literature review, slope analysis, field measurements, and overall pilot program. • Recommendations will include proposed next steps and viability of a biocover as compared to other types of methane oxidation systems, including but not limited to biofilters, bio-windows, and bio-traps as they pertain to the Sechelt Landfill. The Contractor should also include recommendations related to the leachate management system and how to keep the leachate separated from the clean surface water that is discharged offsite.
8	<p>Financial Implications Memorandum</p> <p>The Contractor will develop a detailed memorandum of the financial implication of utilizing a biocover as compared to traditional cover for final closure. The memorandum should include, at minimum, information on: costs of updating the DOCP, amount of biocover required for final closure and associated costs, comparison of costs between biocover and traditional cover material and any other associated financial implications.</p>

9	Evaluation Presentation Compile a PowerPoint Presentation summarizing Phase 2 to present to Regional District Board Committee.
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Please note that the tasks and timelines (section 2.1) may be subject to change, depending on approval by the Regional District Board.

3.3.2 Responsibilities of the Regional District

The proposal should outline per activity the tasks the Regional District staff are proposed to undertake in addition to the activities listed in the table above.

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

Role in Project	Position Title
Sponsor	General Manager, Infrastructure Services
Project Manager	Manager, Capital Projects
Project Team	Environmental Technician
Project Team	Superintendent, Solid Waste Operations
Project Team	Manager, Solid Waste Services

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: <https://www.scrd.ca/go/terms>

4.2 Service Requirements

The Contractor's responsibilities will include but are not limited to the following:

- Meeting the project objectives in Section 3.2;
- Providing labour, supervision, material and supplies to perform the services assigned to the Contractor in Section 3.2 and 3.3;
- Obtaining and reviewing all relevant documentation to perform the services;
- Providing a draft copy of all deliverables to the Regional District for review;
- Providing a presentation of the final report to representatives of the Regional District Board;
- Delivery of one hard copy and one digital (PDF) copy of the final draft report.
- Regular update meetings between Regional District staff and the Contractor.

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 needs to provide the qualifications of all staff who will be involved in the project, as well as provide the names and qualifications of any subcontractors who will be involved.

5.1.1 Relevant Experience

The Proponent and any subcontractors of the Proponent included in its proposal should have a minimum of 2 years within the past 5 years providing services of a similar scope and complexity. Similar scope and complexity are defined as:

- Completing geotechnical analysis with regard to landfill sites.
- Having constructed biocovers or similar technologies.
- Having completed monitoring and mitigation of landfill gas emissions.
- Report writing, including demonstrated strong writing skills.

5.1.2 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. Utilization of local subcontractors;

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

5.3 Approach

Provide an overview of the project to confirm an understanding of the project objectives. Clearly define and describe the approach, and how it would meet the each of the tasks outlined in Section 3.3. This includes the proposed approach for implementing and monitoring the Biocover Pilot Program.

In addition, the Proponent will provide a detailed project work plan and schedule that outlines when each phase of the work will be completed to demonstrate that the project can be completed on time. The Proponent will provide details of their proposed monitoring program.

5.4 Value Added

The Proponent may include ideas beyond the scope of this RFP that provide added benefit to the Regional District, but which were not specifically requested in this RFP. Unless otherwise stated, it is understood that there will be no extra charge for these additional services. If, however, additional services are offered at additional costs, an explanation of the additional service costs should be included and identified in the Fee Proposal.

The Proponent should provide any relevant information on what makes your firm innovative, what is your competitive advantage, and what other services your firm will provide that would of assistance or beneficial to the Regional District.

5.5 Price

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

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.

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 cover page 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

7.2 Weighted Criteria

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

Weighted Criteria	Weight (%)
Qualifications & Related Experience This criterion considers the Proponent's qualifications and experience in providing similar services.	35
Project Approach This criterion considers the understanding of the project's objectives and general methods and innovation.	30
Sustainable Social Procurement	10
Value Added	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 – Sechelt Landfill Biocover Feasibility Study Phase 1 (attached as separate document)

Appendix 2 – October 17, 2019 Regional District Staff Report

SUNSHINE COAST REGIONAL DISTRICT STAFF REPORT

TO: Infrastructure Services Committee – October 17, 2019

AUTHOR: Remko Rosenboom, General Manager, Infrastructure Services

SUBJECT: ANALYSIS OF THE IMPACT RESOLUTIONS LTD. POLICY OPTIONS ON WATER

RECOMMENDATION(S)

THAT the report titled Analysis of the Impact Resolutions Ltd. Policy Options on Water be received of information.

BACKGROUND

In response to Board direction, Impact Resolutions Ltd. and SCRD staff collaborated on the organization of three Water Dialogues events held on June 3, 4 and 5, 2019. The primary role of Impact Resolutions Ltd. was to facilitate the events, provide strategic advice to the SCRD regarding format and messaging, and provide a report with output of these events.

The final report from Impact Resolutions Ltd was presented at the June 27, 2019 Corporate and Administrative Services Committee and provided details on the following:

- Their community outreach and planning prior to the events
- A description of the three Water Dialogues events and the input received from the public during these events
- The strategic communications support provided
- A list of Public Recommendations based on all of the public input received during and after the three events
- Recommendations on future public engagement

Impact Resolutions Ltd. also choose to include several policy options in an appendix to the report.

The following resolution was adopted at the July 11, 2019 Board Meeting (in part):

196/19 **Recommendation No. 14** *Water Dialogues 2019*

THAT staff review the options presented in the Impact Resolutions “A New, Integrated Approach: Sunshine Coast Regional District Water Public Participation Events” and report back with the results of the analysis to a future Infrastructure Services Committee.

The purpose of this report is to provide an analysis of the policy options from Impact Resolutions Ltd.

DISCUSSION

The analysis of the policy options by staff included in this report is intended to determine the extent the policy options are part of the Board's 2019 Strategic Plan or part of the SCRD's current operations.

Options and Analysis

Recommended option A

That the SCRD communicate “a new, integrated approach” to resolve the water supply crisis on the Sunshine Coast by bringing together the following initiatives:

- i. Addressing storage by building a significant reservoir into the Chapman system as soon as possible.
- ii. Continuously expanding different supply sources by completing the Church Road groundwater project as soon as possible, evaluating the feasibility of the Dusty Road and Gray Creek sites by the end of 2019, and considering a new set of supply opportunities to investigate in each of the next three budgets.
- iii. Completing the metering program already begun by the Board in 2013.
- iv. Continuing to expand the rebates program, with particular consideration for the agricultural industry.
- v. Supporting the Town of Gibsons Zone 3 expansion project, collaborating with the Town to ensure the project includes the necessary infrastructure to provide the SCRD with emergency supply in times of drought, and completing the review of the Bulk Water Agreement and Groundwater Management Plan.
- vi. Continuing to refine the Drought Management Plan to adapt to climate, public feedback, and progress with other water management initiatives.

Analysis option A

This policy option aligns with the approach taken to date by the current SCRD Board since being elected in the fall of 2018.

The SCRD is working in an expedited manner on the development of infrastructure which would, once constructed, result in an increased water supply for the community. This includes the development of new wells, a raw water reservoir and water meters. Other opportunities to expand the water supply will be investigated once such work would not slow down the development of the current water supply expansion initiatives. The SCRD collaborates with the Town of Gibsons and the District of Sechelt to address all water supply concerns on the Sunshine Coast.

Reports with an update on several water supply expansion projects will be presented to Committee in the upcoming months.

The SCRD is seeking input from the community on the initiation of new rebate programs as part of this year's evaluation of its drought management approach. Staff are aiming to include the results of this evaluation in a report to a committee meeting in Q4 2019, to allow for any updates to the Drought Management Plan to be adopted by the Board early 2020.

Recommended option B

And further that SCRD reporting, planning, financing and communications consistently reflect an integrated approach by bringing together and referring to all water management initiatives wherever possible, to clarify that there is no single solution.

Analysis option B:

This integrated approach is in place and will be continued.

Recommended option C

That the SCRD Board prominently prioritize addressing the Sunshine Coast's water crisis in its new Strategic Plan and fully update the Comprehensive Regional Water Plan.

Analysis option C:

The Board's Strategic Plan 2019-2023 aligns with this policy option and several budget proposals related to its implementation will be brought forward as part of the 2020 budget process.

Recommended option D:

That the general manager of infrastructure services, chief administrative officer and chair of the Board publicly report on their work towards the integrated approach on a monthly basis.

Analysis option D

Staff are updating the Board quarterly on the progress of all water supply expansion projects and drought management initiatives. Staff will also do so through Board reports when significant milestone have been reached and are available to provide an update as requested during Committee and Board meetings.

Recommended option E

That the SCRD immediately invite the shíshálh and Skwxwú7mesh Nations, District of Sechelt, Town of Gibsons, MLA and Vancouver Coastal Health to collaboratively form an emergency Water Security Committee with the following mandate:

- i. serve as a steering committee for the regional water governance initiative;
- ii. advocate as one coordinated voice to the provincial government and any other permitting authorities to expedite project approvals and expand non-potable water use;
- iii. work immediately on negotiating any intergovernmental and private-sector logistics of siting a reservoir;
- iv. engage citizen science, industry and advocacy groups;
- v. work on long-term protection of watersheds, integrating the Joint Watershed Management Agreement, and aquifers from which the water supply is drawn;
- vi. coordinate Coast-wide consideration and implementation of initiatives to conserve water in new and existing developments; and

- vii. direct an immediate update of growth and climate / water supply data in the Comprehensive Regional Water Management Plan to guide decision-making regarding balancing growth with an adequate water supply, and using this work as a basis towards a Regional Growth Strategy.

Analysis option E

Discussions between the Board and elected officials of other Sunshine Coast local governments regarding improvements to the current water governance structure are ongoing. Staff are seeking direction whether it could support the Board in their water governance efforts, for example by reviewing this policy option in the context of this ongoing discussion.

Recommended option F

That the SCRD immediately escalate enforcement of the drought management plan, including fining users that aren't following water restrictions, and exploring the logistics and legality of shutting off supply to users who won't fix leaks.

Analysis option F:

The water conservation enforcement approach in 2019 was more stringent compared to previous years and will be part of the overall evaluation of this year's drought management approach this fall. Shutting off the water supply to users that are not addressing private leaks could be one of the items considered, if the Water Rates and Regulations Bylaw 422 is updated. A budget proposal to update the bylaw in 2020 will be brought forward as part of the 2020 Budget process.

Recommended option G

That the SCRD continue to track the highest water users and work with them to reduce their use as much as possible; and further that the SCRD communicate publicly about these efforts, including what kinds of commercial, industrial and agricultural uses are requiring the most water.

Analysis option G

To the extent possible with the current amount of water meters installed, this type of information is already being tracked and those users are contacted to propose water conservation measures to be implemented. Public communication about these efforts will continue to occur within the boundaries of the privacy legislation.

Recommended option H

That the Board of the SCRD unreservedly communicate its ongoing support for the metering program as an integral component of the integrated approach to securing water security on the Sunshine Coast.

Analysis option H

This policy option is included as a tactic in the Board's 2019-2023 Strategic Plan and related budget proposals will be brought forward as part of the 2020 Budget process.

Recommended option I

That the SCRD continue to expand water conservation and water management communications efforts.

Analysis option I

The Board's Strategic Plan included a tactic to increase the engagement with the community on water conservation and the long-term water management strategy. Related budget proposals will be brought forward as part of the 2020 Budget process.

STRATEGIC PLAN AND RELATED POLICIES

Plan for and ensure year-round water availability now and in the future is one the strategies of the Board's 2019-2023 Strategic Plan. All policy options discussed in this report can be considered to be supporting this strategy.

CONCLUSION

This report analyzes the extend the policy options made by Impact Resolutions Ltd. are part of the Board's strategic plan or part of the SCRD's current operations.

Based on staff analysis, these policy options align well with strategies and tactics identified in the Board's 2019-2023 Strategic Plan. Some policy options are part of the SCRD's current regular operations, while others are being discussed with partners or plan to be initiated and will be subject to 2020 budget proposals.

Reviewed by:			
Manager		Finance	
GM		Legislative	
Interim CAO	X -- M. Brown	Other	

Appendix 3 – February 11, 2021 Regional District Staff Report

SUNSHINE COAST REGIONAL DISTRICT STAFF REPORT

TO: Infrastructure Services Committee – February 11, 2021

AUTHOR: Raphael Shay, Water Sustainability Coordinator

SUBJECT: RESULTS OF SECHELT LANDFILL BIOCOVER FEASIBILITY STUDY PHASE 1

RECOMMENDATION(S)

THAT the report titled Results of Sechelt Landfill Biocover Feasibility Study Phase 1 be received.

BACKGROUND

A Sechelt Landfill Biocover Feasibility Study Phase 1 (Phase 1) was undertaken in 2020 as per Board resolution (004/20 Budget Proposal 7). XCG Consulting Limited (XCG), the SCRD's current contracted landfill engineering service provider, was retained to conduct the Phase 1 study. Phase 1 included a desktop study to evaluate the technical, financial, regulatory, and greenhouse gas emission implications of applying a biocover on the Final Closure area at the Sechelt Landfill.

A biocover is a type of landfill final cover that is designed to oxidize methane emissions into carbon dioxide. There are climate benefits to oxidizing methane since it has twenty-one times the global warming potential when compared to carbon dioxide. Biocovers are made of a methane degradation layer, such as compost or septage solids and a gas distribution layer, such as gravel.

The Design, Operation, and Closure Plan (DOCP) outlines what is allowed at a landfill. The Sechelt Landfill DOCP includes a traditional final cover designed with an impermeable low-density polyethylene geomembrane and drainage tubes. The DOCP does not currently allow for the use of a biocover.

The purpose on this report is to summarize the results of the Biocover Feasibility Study Phase 1 and to discuss the benefits and risks of pursuing a Biocover Feasibility Study Phase 2 Field Study.

DISCUSSION

The final report on Phase 1, prepared by XCG, is included as Attachment A of this report. To assist with the Board's decision making regarding next steps, staff have summarized and analyzed the results in this report and proposed options for next steps.

The most important considerations in assessing the feasibility of a biocover at the Sechelt Landfill are:

- Availability of biocover materials
- Logistics
- Climate impact
- Financial implications

- Regulatory framework

The feasibility assessment of these considerations is included in the following paragraphs.

Materials availability

Proximity of required materials to the landfill is an important driver for the financial feasibility of the installation of a biocover. If hauling over long distances is required, the transportation costs are anticipated to be such that they would reduce or eliminate the potential financial benefits of installing a biocover instead of a traditional cover.

In the case of the Sechelt Landfill, materials required for a biocover are readily available in sufficient quantity near the landfill. If a decision would be made to construct a biocover, a procurement process would be initiated for the sources of the required materials.

For the purpose of this feasibility study several potential material sources were considered that are available in close proximity to the landfill. The information on these material sources used in this project were provided by staff of the entities managing these material sources for the purpose of this project.

The District of Sechelt's Dusty Road facility is looking for disposal options for septage solids and this type of material helps the performance of a biocover. The SCRCD is seeking a disposal option for the Chapman Creek Water Treatment Plant residuals and such materials could benefit the composition of a biocover. Compost, compost screenings and wood chips are all useful materials produced nearby from locally-based waste diversion programs. And finally, gravel could also be sourced from local suppliers.

Logistics

As mentioned, the proximity of sources to the landfill is essential for a biocover to be a feasible option.

Once all materials are brought together at one site, they then need to be mixed to create the biocover. This can be done at or near the landfill site and is required to be mixed under a shelter. Although there are space limitations at the landfill site and currently no shelter, other options could be explored further at a later stage of implementation planning. One such option is to contract the mixing service to a third party service provider.

Once the materials are mixed, they need to be delivered to the area of the landfill that would need to be covered.

Climate impact

With regards to greenhouse gas emissions, the Sechelt Landfill emitted 20,101 tonnes of carbon dioxide equivalent (CO₂e) in 2019. Table 1 summarizes estimated emissions by 2027 under different scenarios, including the implementation of a food waste disposal ban which was discussed at the January Infrastructure Service Committee meeting. Emissions will gradually decrease in the following years and decades as materials decompose.

Table 1: Estimated Sechelt Landfill CO₂e Emissions in 2027 (tonnes)

Business as usual	Organics ban for all sectors implemented in 2022	Organics ban and Biocover with 80% oxidation
22,251	20,049	4,000

For comparison, SCRD emissions reported under the Climate Action Revenue Incentive Program (CARIP) were 1,114 tonnes in 2019. These exclude the transit service and the Sechelt Landfill.

Although 80% is a conservative estimate for methane oxidation, previous work at the Sechelt Landfill found significant lateral migration due to the unlined bottom of the landfill. While, this may impact the estimated performance of a biocover, it is not expected to impact overall feasibility of a biocover from a climate mitigation perspective.

The one-time emissions from construction of a biocover or the geomembrane cover will be considered and compared in a potential follow-up project phase.

Financial implications

Financially, based on the information collected for Phase 1, there would be savings from constructing a biocover instead of the currently permitted final cover in the Final Closure Area. Should a third party do the mixing, savings could be as much as \$1,000,000. This is based on preliminary design estimates and includes material mixing and storage by a third party.

Should the SCRD undertake the mixing and storage, savings could be approximately \$1,400,000. More detailed financial analyses are recommended before a decision is made to apply a biocover as a final cover at the landfill.

The ultimate costs for the sourcing, transporting and mixing of the biocover materials will be dependent on the procurement processes that would be initiated for these materials should a biocover proceed.

Regulatory framework

Regulatory considerations were also reviewed. Currently, the Sechelt Landfill DOCP does not permit a biocover. An amendment would be needed if a biocover is selected as the preferred option for the Final Closure Area.

Staff expect that a DOCP amendment to construct a biocover in the Final Closure Area would be supported by the Provincial Ministry of Environment and Climate Change Strategy (MECCS). Their 2011 Technologies and Best Management Practices for Reducing GHG Emissions from Landfills Guidelines explicitly identifies biocovers as a best management practices for reducing GHG emissions from municipal solid waste landfills in BC.

Next Steps

Based on the considerations outlined above, overall, a biocover was found to be feasible at the Sechelt Landfill. However, a biocover is not without effectiveness, operational and financial risks. As such, staff have prepared two options for the Board's consideration.

Option 1 – Conduct Phase 2 Study in 2021 (recommended)

A Biocover Feasibility Study Phase 2 would involve constructing a pilot biocover on a portion of the Sechelt Landfill. Preliminary desktop reviews in Phase 1 indicated that there would be no issues around leachate or slope stability with the use of a biocover at the Sechelt Landfill. However, this would be confirmed in Phase 2. Geotechnical analysis for slope stability and chemical analysis will be completed to evaluate technical performance and risks.

Effectiveness of methane oxidation will be measured over several months. The implications of having two final cover types interface will be studied. Finally, Phase 2 would provide more specific design and implementation considerations, allowing for a refined financial feasibility.

Given the benefits a biocover may provide, staff recommend Option 1 and a budget proposal to 2021 Round 1 Budget was prepared for consideration. The budget proposal value would be approximately \$150,000 with funding from Taxation proposed.

Phase 2 Study could commence once 2021 Budget is approved and a contract is awarded. The study would continue into Q2 of 2022 and would be designed to avoid interfering with Stage H+ Closure. The final report from Phase 2 would be shared with the Board in Q3 2022. It would be at this point that the Board would decide whether or not to pursue the use of a biocover for the Final Closure Area.

Changes to the DOCP would not be required for the Phase 2 Study. However, the SCRD is required to update the DOCP every five years. The next update is scheduled for 2022. As such, a 2022 Budget proposal will be brought forward for an update of the Sechelt Landfill DOCP. This DOCP update could include the use of biocover should that be the Board direction.

Option 2 – Do not pursue further investigation of a biocover

The Phase 1 Feasibility Study was preliminary and there are risks that the outlined benefits of GHG reduction do not materialize. There are also operational risks associated with multiple final cover systems interfacing. Another risk is the final required thickness for an optimized biocover may increase both material and landfill space requirements, thus reducing the cost savings and reducing landfill life.

With approximately six years remaining of landfill life, the workload and financial costs of investigating the implications of these risks through a Phase 2 study could be deemed too high. Therefore, the Board could elect to not pursue further investigation of a biocover and instead rely upon a landfill organics ban for all sectors as the approach for GHG reduction at the Sechelt Landfill.

Financial Implications

There is currently not a budget for a Phase 2 Study, thus a 2021 Round 1 Budget Proposal was prepared for consideration. This Phase is estimated to cost \$150,000.

It must also be noted that the Strategic Plan aims for carbon neutrality on corporate emissions at some point in the future and that a plan to establish this will be initiated in 2021. If a biocover is installed and successfully reduces emissions at the Sechelt Landfill, there will be many times the carbon credits needed to offset corporate emissions, eliminating the need to purchase offsets.

STRATEGIC PLAN AND RELATED POLICIES

A biocover at the Sechelt Landfill primarily supports the Community Resilience and Climate Change Adaptation pillar of the Strategic Plan. Specifically, it involves developing community partnerships to reduce community emissions. By leading this project, the SCR D could also claim carbon offsets to become carbon neutral.

Material sourcing for a biocover would support the Working Together pillar of the Strategic Plan by exploring opportunities for collaboration.

More broadly speaking, a biocover would support the strategy of achieving sustainable solid waste management by reducing the impacts of the Sechelt Landfill.

CONCLUSION

A Sechelt Landfill Biocover Feasibility Study Phase 1 was undertaken in 2020. Phase 1 concluded a biocover would provide technical and economic benefits to the SCR D and community. Significant reductions to greenhouse gas emissions are also possible.

Proceeding with Option 1 - Conduct Phase 2 study in 2021 is the recommended option. Phase 2 would involve a pilot study where a small portion of the landfill is covered with a biocover and monitored. Phase 2 is estimated to cost \$150,000 and a 2021 Round 1 Budget Proposal was prepared with funding proposed from Taxation.

Should the Board desire to pursue a Phase 2 study, a 2021 Round 2 Budget Proposal could be prepared.

Attachments

Attachment A – XCG Consulting Limited. Biocover Evaluation – Phase One, Sechelt Landfill

Reviewed by:			
Manager	X – R. Cooper	Finance	X – T. Perreault
GM	X – R. Rosenboom	Legislative	
CAO	X – D. McKinley	Purchasing/Risk Management	X – V.Cropp