



Islands Trust

Request for Proposals No. RFP-2023.002
Islands Trust Area Groundwater Recharge Mapping Project

Issued: *April 14, 2022*

Closing Date and Time:

Proposals must be received before 2:00PM Pacific Time on: ***May 5, 2022***

Contact:

Questions are to be directed (at least 24 hrs before the closing time) to:

William Shulba, P. Geo, Senior Freshwater Specialist, Local Planning Services, Islands Trust

Email: ***freshwater@islandstrust.bc.ca***

Website: ***http://islandstrust.bc.ca/freshwater***

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Request for Proposals

Ministry: ISLANDS TRUST | RFP Number: RFP-2023.002
Issue date: April 14, 2022

Closing Time: Proposals must be received before 2:00 PM Pacific Time on: May 5, 2022

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 page that is signed by an authorized representative of the Proponent or (2) otherwise identify the RFP, identify the Proponent and include the signature of an authorized representative of the Proponent that confirms the Proponent’s intent to be bound, or (3) be submitted by using the e-bidding key on BC Bid (if applicable), in accordance with the requirements set out in Section 2.

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 www.bcbid.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 signature.

Email Submission: Proponents may submit an electronic proposal by email. Proposals submitted by email must be submitted to procecon@gov.bc.ca in accordance with the instructions at Section 2.3 of this RFP.

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.

A Proponents’ meeting will **not** be held.

CONFIRMATION OF PROPONENT’S INTENT TO BE BOUND:

The enclosed proposal is submitted in response to the referenced Request for Proposals, 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 Proposals;
- 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 (please print): _____

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1 SUMMARY OF THE REQUEST

Islands Trust is now soliciting submissions from qualified firms to lead the Islands Trust Area Groundwater Recharge Mapping project. This work must be completed by February 28, 2023, consistent with the Scope of Services identified in this Request for Proposal. The expected range for this project is \$50,000 to \$75,000 CAN.

Milestones	Schedule
RFP closing date	May 5, 2022, at 2:00 p.m.
Award Contract	May 16, 2022
Kick off meetings(s)	May 23, 2022
Project development and implementation	May 16, 2022 – March 1, 2023
Final deliverables due	February 28, 2023
Contract ends	March 31, 2023

Further details related to the scope and requirements of this opportunity can be found within this RFP.

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2 RFP PROCESS RULES

2.1 Definitions

Throughout this Request for Proposals, 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 www.bcbid.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 Province and the successful Proponent;

“Contractor” means the successful Proponent to the RFP who enters into a Contract with the Province;

“Government Contact” means the individual named as the contact person for the Province in the RFP;

“Government Electronic Mail System” or **“GEMS”** means the electronic mail system of the Province;

“Ministry” means the Islands Trust.

“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;

“Province” means Her Majesty the Queen in Right of the Province of British Columbia and includes the Ministry and Islands Trust;

“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 Province by Addenda;

“should”, **“may”** or **“weighted”** means a requirement having a significant degree of importance to the objectives of the Request for Proposals; and

“Tax Verification Letter” means a letter issued by the Province’s Ministry of Finance to verify that a Proponent meets its applicable B.C. corporate income tax filing obligations and provincial sales tax (PST) filing and payment obligations, which may be required to be produced by a Proponent as a

condition of Contract finalization, as described in Section 2.29.

2.2 Acceptance of Terms and Conditions

Submitting a proposal indicates acceptance of all the terms and conditions set out in the RFP, including those that follow and that are included in all appendices and any Addenda.

A proposal must be signed by a person authorized to sign on behalf of the Proponent with the intent to bind the Proponent to the RFP and to the statements and representations in the Proponent’s proposal. A scanned copy of the signed cover page of this RFP is acceptable as is a cover letter identifying the Proponent, identifying the RFP and including a signature of an authorized representative of the Proponent that confirms the Proponent’s intent to be bound. For proposals submitted via BC Bid attachment of the e-bidding key to an electronic proposal constitutes the signature of an authorized representative of the Proponent and is acceptable without additional signature.

2.3 Submission of Proposals

- 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, except in the circumstances set out below. The Proponent is solely responsible for ensuring that, regardless of submission method selected, the Province 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 maximum size of each attachment must be 20 MB or less (Proponents are solely responsible for ensuring that email proposal submissions comply with any size restrictions imposed by the Proponent’s internet service provider);
 - (iii) Proponents should submit email proposal submissions in a single email and avoid sending multiple email submissions for the same opportunity. If the file size of an electronic submission exceeds the applicable maximum size, the Proponent may make multiple submissions (BC Bid upload or multiple emails for the same opportunity) to reduce attachment file size to be within the maximum

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applicable size; 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 Province reserves the right to seek clarification or reject the proposal if the Province is unable to determine what documents constitute the complete proposal;
- (v) Attachments must not be compressed, must not contain a virus or malware, must not be corrupted and must be able to be opened. Proponents submitting by electronic submission are solely responsible for ensuring that any emails or attachments are not corrupted. The Province may reject proposals that are compressed, cannot be opened or that contain viruses or malware or corrupted attachments.
- c) 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 2.9, 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 Province 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 Government Electronic Mail System or BC Bid.
- g) While the Province 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 Government Electronic Mail System rejects an email proposal submission for any reason, and the Proponent does not 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 Government Contact immediately to arrange for an alternative submission method if:

- (i) the Proponent's email proposal submission is rejected by the Government Electronic Mail System; or
- (ii) the Proponent does not receive an automated response email from the Province confirming receipt of the email and all attachments within a half hour of the time the email proposal submission was sent by the Proponent.

An alternate submission method may be made available, at the Province's discretion, commencing one half hour before the Closing Time, 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 Province before the Closing Time. The Province 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.

2.4 Additional Information

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.

2.5 Late Proposals

Proposals will be marked with their receipt time at the Closing Location. Only complete proposals received and marked before the Closing Time will be considered to have been received on time. Proposals received late will be marked late and not considered or evaluated. In case of a dispute, the proposal receipt time as recorded by the Province at the Closing Location will prevail whether accurate or not.

2.6 Proposal Validity

Proposals will be open for acceptance for at least 90 days after the Closing Time.

2.7 Firm Pricing

Prices will be firm for the entire Contract period unless the RFP specifically states otherwise.

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2.8 Completeness of Proposal

By submitting a proposal, the Proponent warrants that, if the RFP is to design, create or provide a system or manage a program, all components required to run the system or manage the program have been identified in the proposal or will be provided by the Contractor at no additional charge.

2.9 Changes to Proposals

By submitting a clear and detailed written notice, the Proponent may amend or withdraw its proposal before the Closing Time. Unless the RFP otherwise provides, Proponents should use a consistent submission method for submitting proposals and any amendments or withdrawals. Upon Closing Time, all proposals become irrevocable. The Proponent will not change any part of its proposal after the Closing Time unless requested by the Province for purposes of clarification.

2.10 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 Province'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 Province 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 Government 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 Province, including members of the evaluation committee and any elected officials of the Province, or with

the media, may result in disqualification of the Proponent.

2.11 Subcontractors

- a) Unless the RFP states otherwise, the Province will accept proposals where more than one organization or individual is proposed to deliver the services described in the RFP, so long as the proposal identifies the lead entity that will be the Proponent and that will have sole responsibility to deliver the services under the Contract. The Province will enter into a Contract with the Proponent only. The evaluation of the Proponent will include evaluation of the resources and experience of proposed sub-contractors, if applicable.
- b) All subcontractors, including affiliates of the Proponent, should be clearly identified in the proposal.
- c) A Proponent may not subcontract to a firm or individual whose current or past corporate or other interests, may, in the Province'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 the firm or individual in the preparation of the RFP or a relationship with any employee, contractor or representative of the Province 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 a proposed subcontractor might be in a conflict of interest, the Proponent should consult with the Government 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.
- d) Where applicable, the names of approved subcontractors listed in the proposal will be included in the Contract. No additional subcontractors will be added nor other changes made to this list in the Contract without the written consent of the Province.

2.12 Evaluation

- a) Proposals will be assessed in accordance with the evaluation criteria. The Province will be under no obligation to receive further information, whether written or oral, from any Proponent. The Province is under no obligation to perform any investigations or to otherwise verify any statements or representations made in a proposal.
- b) Proposals from not-for-profit agencies will be evaluated against the same criteria as those received from any other Proponents.

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- c) The Province may consider and evaluate any proposals from other jurisdictions on the same basis that the government purchasing authorities in those jurisdictions would treat a similar proposal from a British Columbia supplier.

2.13 Contract

- a) By submitting a proposal, the Proponent agrees that should its proposal be successful the Proponent will enter into a Contract with the Province on substantially the same terms and conditions set out in Appendix A and such other terms and conditions to be finalized to the satisfaction of the Province, if applicable.
- b) Written notice to a Proponent that it has been identified as the successful Proponent and the subsequent full execution of a written Contract will constitute a Contract for the goods or services, and no Proponent will acquire any legal or equitable rights or privileges relative to the goods or services until the occurrence of both such events.

2.14 Contract Finalization Delay

If a written Contract cannot be finalized with provisions satisfactory to the Province within thirty days of notification of the successful Proponent, the Province may, at its sole discretion at any time thereafter, terminate discussions with that Proponent and either commence finalization of a Contract with the next qualified Proponent or choose to terminate the RFP process and not enter into a Contract with any of the Proponents.

2.15 Debriefing

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

2.16 Proponents' Expenses

Proponents are solely responsible for their own expenses in participating in the RFP process, including costs in preparing a proposal and for subsequent finalizations with the Province, if any. The Province will not be liable to any Proponent for any claims, whether for costs, expenses, damages or losses incurred by the Proponent in preparing its proposal, loss of anticipated profit in connection with any final Contract, or any other matter whatsoever.

2.17 Limitation of Damages

By submitting a proposal, the Proponent agrees that it will not claim damages, for whatever reason, relating to the Contract or in respect of the competitive process, in excess of an amount equivalent to the reasonable costs incurred by the Proponent in preparing its proposal and the Proponent, by submitting a proposal, waives any claim for loss of profits if no Contract is made with the Proponent.

2.18 Liability for Errors

While the Province has used considerable efforts to ensure information in the RFP is accurate, the information contained in the RFP is supplied solely as a guideline for Proponents. The information is not guaranteed or warranted to be accurate by the Province, nor is it necessarily comprehensive or exhaustive. Nothing in the RFP is intended to relieve Proponents from forming their own opinions and conclusions with respect to the matters addressed in the RFP.

2.19 No Commitment to Award

The RFP should 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 Province in any way to award a Contract.

2.20 No Implied Approvals

Neither acceptance of a proposal nor execution of a Contract will constitute approval of any activity or development contemplated in any proposal that requires any approval, permit or license pursuant to any federal, provincial, regional district or municipal statute, regulation or by-law.

2.21 Legal Entities

The Province reserves the right in its sole discretion to:

- a) disqualify a proposal if the Province is not satisfied that the Proponent is clearly identified;
- b) prior to entering into a Contract with a Proponent, request that the Proponent provide confirmation of the Proponent's legal status (or in the case of a sole proprietorship, the Proponent's legal name and identification) and certification in a form satisfactory to the Province that the Proponent has the power and capacity to enter into the Contract;
- c) not to enter into a Contract with a Proponent if the Proponent cannot satisfy the Province that it is the same legal entity that submitted the Proponent's proposal; and
- d) require security screenings for a Proponent who is a natural person, subcontractors and key personnel before entering into a Contract and decline to enter into a Contract with a Proponent or to approve a subcontractor or key personnel that fail to pass the security screenings to the Province's satisfaction.

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2.22 Reservation of Rights

In addition to any other reservation of rights set out in the RFP, the Province reserves the right, in its sole discretion:

- a) to modify the terms of the RFP at any time prior to the Closing Time, including the right to cancel the RFP at any time prior to entering into a Contract with a Proponent;
- b) in accordance with the terms of the RFP, to accept the proposal or proposals that it deems most advantageous to itself;
- c) to waive any non-material irregularity, defect or deficiency in a proposal;
- d) to request clarifications from a Proponent with respect to its proposal, including clarifications as to provisions in its proposal that are conditional or that may be inconsistent with the terms and conditions of the RFP, without any obligation to make such a request to all Proponents, and consider such clarifications in evaluating the proposal;
- e) to reject any proposal due to unsatisfactory references or unsatisfactory past performance under contracts with the Province, or any material error, omission or misrepresentation in the proposal;
- f) at any time, to reject any or all proposals; and
- g) at any time, to terminate the competition without award and obtain the goods and services described in the RFP by other means or do nothing.

2.23 Ownership of Proposals

All proposals and other records submitted to the Province in relation to the RFP become the property of the Province and, subject to the provisions of the *Freedom of Information and Protection of Privacy Act* and the RFP, will be held in confidence. For more information on the application of the Act, go to http://www.cio.gov.bc.ca/cio/priv_leg/index.page.

2.24 Copyright

This document is subject to copyright and may be used, reproduced, modified and distributed to the extent necessary for the Proponent to prepare and submit a proposal.

2.25 Confidentiality Agreement

The Proponent acknowledges that prior to the Closing Time it may be required to enter into a confidentiality

agreement with the Province in order to obtain access to confidential materials relevant to preparing a proposal.

2.26 Alternative Solutions

If more than one approach to deliver the services described in the RFP are offered, Proponents should submit the alternative approach in a separate proposal.

2.27 Collection and Use of Personal Information

Proponents are solely responsible for familiarizing themselves, and ensuring that they comply, with the laws applicable to the collection and dissemination of information, including resumes and other personal information concerning employees and employees of any subcontractors. If the RFP requires Proponents to provide the Province with personal information of employees who have been included as resources in response to the RFP, Proponents will ensure that they have obtained written consent from each of those employees before forwarding such personal information to the Province. Such written consents should specify that the personal information may be forwarded to the Province for the purposes of responding to the RFP and used by the Province for the purposes set out in the RFP. The Province may, at any time, request the original consents or copies of the original consents from Proponents, and upon such request being made, Proponents will immediately supply such originals or copies to the Province.

2.28 Trade Agreements

This RFP is covered by the following trade agreements:

- a) Trade, Investment and Labour Mobility Agreement;
- b) New West Partnership Trade Agreement;
- c) Canadian Free Trade Agreement;

For more information, Proponents may contact the Government Contact.

2.29 Tax Verification Letter

- a) As a condition of Contract finalization as described in Section 2.14, the successful Proponent (or any successor to that Proponent) will be required to provide the Ministry with a valid Tax Verification Letter, unless an exception applies as described below. If a Proponent is not able to produce the required Tax Verification Letter during Contract finalization, then the Province will be entitled to terminate discussions with that Proponent and proceed as described in Section 2.14.
- b) A Tax Verification Letter will not be required if:
 - (i) the Contract is valued at *less than* CAN\$100,000, including all fees, expenses and all options to extend or renew the Contract; or

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- (ii) the Contract is in relation to a government transfer as described in Chapter 21 of the Province's Core Policy and Procedures Manual.
- c) If a Tax Verification Letter is required, the Contract will contain, in addition to all other applicable schedules, a schedule that describes the Tax Verification Letter requirements of the Contract.

3 OVERVIEW

3.1 Islands Trust

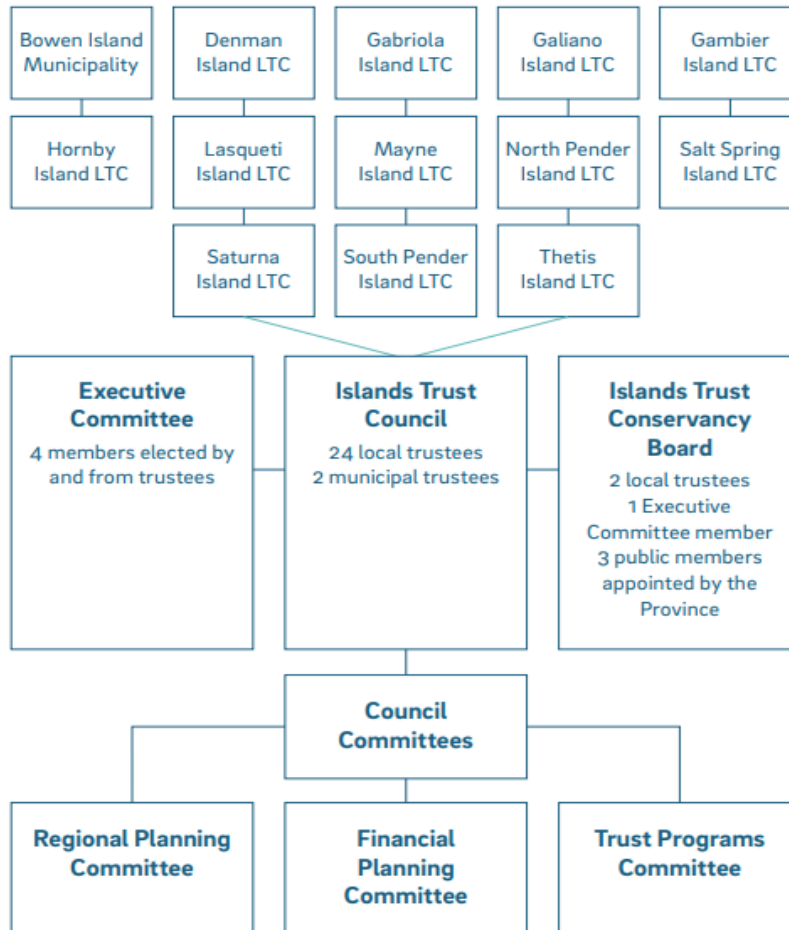
The Islands Trust Area covers 5,200 square kilometres and includes 13 major islands and over 450 smaller islands. The region is home to 26,000 residents, 10,000 non-resident property owners and is the homeland of over 28,000 Coast Salish Peoples. Islands Trust Council is committed to reconciliation and acknowledges that the Trust Area is located within the treaty lands and territories of the BOKÉĆEN, K'ómoks, Lək ʷəŋən, Lyackson, MÁLEXEŁ, Qualicum, Quw'utsun Tribes, scə́waθən məsteyəxʷ, Scia'new, sə́ilwətaʔt, SEMYOME, shíshálh, Sk̓w̓xwú7mesh, Snaw-naw-as, Snuneymuxw, Spune'luxutth, S̓ÁUTW, Stz'uminus, ʔəʔəmen, toq qaymıxʷ, Ts'uubaa-asatx, Wei Wai Kum, We Wai Kai, W̓JOŁŁP, W̓SIKEM, Xeláltxw, Xwémalhkwu/ʔop qaymıxʷ, and xʷməθkʷəy̓əm First Nations. These Nations had and still have village sites, cultural areas, and spiritual areas in the lands and waters comprising the Trust Area.

The mandate of Islands Trust is *“to preserve and protect the Trust Area and its unique amenities and environment for the benefit of the residents of the Trust Area and of British Columbia, in cooperation with municipalities, regional districts, improvement districts, other persons and organizations, and the government of British Columbia”* (Islands Trust Act). The Trust Area features spectacular beauty, extensive archaeological and culturally important sites, and some of the worlds most endangered and biodiverse ecosystems.

Across the Trust Area, there are thirteen local trust areas and Bowen Island Municipality. Every four years, island residents elect two trustees to represent them on their local trust committee / Bowen Island Municipal Council and the regional Islands Trust Council. Local trust committees and Bowen Island Municipality make decisions about local land use planning and regulation.

As a regional body, Trust Council acts on matters that affect the entire Islands Trust Area, including setting the annual budget; creating and monitoring a Trust-wide Strategic Plan; implementing and amending the Islands Trust Policy Statement; advocating on issues important to the entire region; and engaging with First Nations and other governments, agencies, and organizations to preserve and protect the Trust Area for future generations. Official community plans and land use bylaws in the Trust Area have a strong emphasis on preserving and protecting the unique amenities and environment of the region.

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For more information on Islands Trust, please visit: <https://islandstrust.bc.ca/about-us/>

3.2 Summary

Groundwater is a unique amenity of the Islands Trust Area that intricately supports healthy hydrological function of watersheds for Indigenous and non-Indigenous communities. Island aquifers provide long-term groundwater resources to meet domestic and non-domestic water needs of homeowners, community water systems, growers and producers, general employment, commercial enterprises, and municipal services. With vulnerabilities of land-use changes, seasonal precipitation challenges, evapotranspiration forcing, ecosystem loss, and saltwater intrusion, groundwater resources are a metric of climate change. Qualitatively and quantitatively determining groundwater recharge is essential to establishing a balance between the values of all water users and the environment.

The Islands Trust Area is a mosaic of public and private groundwater management with interest and jurisdiction from First Nations, federal departments, provincial ministries, regional governments, local governments, and improvement districts relating to roles of freshwater sustainability. Treaties and agreements with First Nations, land-use plans, and other legal commitments in watersheds of the Islands Trust, all require harmonization strategies to mitigate the climate emergency and honour the Islands Trust’s Reconciliation Action Plan. To uphold

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these commitments, understanding of traditional, current, and future uses of groundwater must be balanced by scientific investigation of groundwater recharge potential, human water demand, ecological water demand, anticipated demand in a changing climate, and impacts of land-use development. This project actions some of those commitments.

In March 2019, the Islands Trust Council declared a climate emergency in the Islands Trust Area, directing staff to include a central focus on equitable climate change mitigation, adaptation, and resilience into strategic planning. Considering these actions, the Groundwater Sustainability Science program of the Islands Trust Freshwater Sustainability Strategy was developed in collaboration with indigenous leaders, staff from other government agencies, water professionals, researchers, and members of the community with interest in freshwater.

Groundwater recharge potential has been addressed by the Provincial Government in Water Allocation Plans and Water Science Series publications, specifically 2018-04: *Mapping Aquifer Stress, Groundwater Recharge, Groundwater Use, and the Contribution of Groundwater to Environmental Flows for Unconfined Aquifers across British Columbia*.

In December 2016, Simon Fraser University presented *Groundwater Recharge Model for Gabriola Island* to the Regional District of Nanaimo using a fully integrated land surface – subsurface numerical model developed using MIKE SHE modelling software.

In May 2019, a new approach to island groundwater potential assessment was implemented for Salt Spring Island using a Geographical Information Science approach. The primary objectives of this study were to inventory geo-spatial data and groundwater related information, identify aquifer recharge potential; and document the methodology, identify data gaps, and provide recommendations for future initiatives. This approach was improved to include the Vegetation Resource Inventory to further define the role of ecosystems in groundwater recharge potential. This updated method proved effective for implementation over many islands in the Islands Trust Area.

The *Islands Trust Groundwater Recharge Mapping* project of the Groundwater Sustainability Science program of the Islands Trust Freshwater Sustainability Strategy is to identify evidence-based products and collate data for future policy and planning initiatives for adaptation measures to protect critical aquifer recharge areas and preserve groundwater dependent communities and ecosystems in a changing climate. In 2020, groundwater recharge potential was mapped in two phases under contract for Denman, Hornby, Gabriola, Galiano, Mayne, North Pender, Prevost, Saturna, and South Pender islands. To review existing Groundwater Science Sustainability program reports, refer to <https://islandstrust.bc.ca/freshwater>.

3.3 Scope of Services

The project requires a technical review of existing island recharge potential mapping methodology, aquifer conceptualization, 3D hydrogeological models in *Seequent LeapFrogGeo*, data gaps analysis, recommendations for future initiatives, technical reporting, and creation of an illustrative summary document. All associated maps listed in the deliverables section will be submitted as a full-resolution Portable Document File (PDF) and a Geo Tagged Image File Format (GeoTIFF) in an ArcPro project to be utilized with Islands Trust mapping services such as MAPIT and TAPIS. All data will be made available on DATA BC Catalogue.

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Summary of objectives of the recharge assessment are to:

- Meet with project team and harmonize approach;
- Inventory geo-spatial data and groundwater related information;
- Review recharge potential methodology;
- Create Seequent LeapFrogGeo 3D Hydrogeological Models of select islands;
- Identify aquifer recharge potential assessment for the study islands;
- Create and provide all associated data and mapping deliverables;
- Identify data gaps;
- Provide recommendations for future initiatives; and
- Develop an illustrative summary document for educating the public, staff, and elected officials about groundwater recharge in the Islands Trust Area.

The study islands for this phase of the project includes:

- Anvil Island
- Bowen Island
- Gambier Island
- James Island
- Keats Island
- Lasqueti Island
- Reid Island
- Salt Spring Island
- Sidney Island
- Thetis Island
- Thormanby Island
- Valdes Island

Deliverable A: Aquifer Conceptualization Geospatial Inventory:

Provide a classified geo-spatial data inventory of the Islands Trust Area to Islands Trust in an ArcGIS Pro format that can be included in the Islands Trust Freshwater Atlas, TAPIS, and MAPIT mapping services including but not limited to:

- i. Data standardization of GWELLS
- ii. Mapped aquifers
- iii. Observation wells and groundwater fluctuations
- iv. Water producing fracture table
- v. LiDAR-derived Digital Elevation Model, slope and aspect
- vi. Flow direction and accumulation
- vii. Soils
- viii. Surficial geology
- ix. Land cover and Land-use
- x. Subsurface and structural geology (including bedrock lineaments)
- xi. Groundwater regions
- xii. Watersheds

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Deliverable B: Aquifer Conceptualization Three-Dimensional Island Models:

- i. Integrated 3D Hydrogeological Island Models of Salt Spring, Thetis, Bowen, and if data is available Gambier, Keats, Lasqueti, Sidney, and Valdes islands.
- ii. Provide full Seequent LeapFrogGeo desktop models
- iii. Provide Seequent LeapFrogGeo models in Seequent Central

Deliverable C: Estimation of Recharge Indices and Coefficients:

- i. Topographic Wetness Index
- ii. Normalized Difference Vegetation Index
- iii. Normalized Difference Moisture Index
- iv. Precipitation Interception Potential Index
- v. Slope Coefficient
- vi. Water Retention Potential Coefficient
- vii. Precipitation Coefficient
- viii. Bedrock Lineament Wetness Coefficient

Deliverable D: Estimation of Recharge Potential:

- i. Provide groundwater recharge potential estimation equation
- ii. Estimate preferential recharge/discharge areas
- iii. Classify groundwater recharge potential
- iv. Normalize classified groundwater recharge potential per groundwater region
- v. Estimate monthly and annual groundwater recharge volumes per groundwater region

Deliverable E: Sensitivity and Sustainability Analysis:

- i. Provide rationale to the classification of groundwater recharge potential
- ii. Provide estimation of the sustainable percentage range of human use of recharge per groundwater region
- iii. Provide estimation of climate influences on groundwater recharge potential
- iv. Provide two (2) case studies of land-use changes that affected groundwater recharge potential in the study area.

Deliverable F: Data Gap Analysis References and Resources:

- i. Provide data integrity and quality statement
- ii. Provide recommendations to improve groundwater recharge potential analysis
- iii. Provide all supporting references and resources in attached documents or permanent internet hyperlinks

Deliverable G: Study Limitations and Statement of Opinion:

- i. Provide limitations and liabilities concerning the data, siting, and receiving environment
- ii. Provide a statement of opinion on the usefulness of recharge potential for determining water balance

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Deliverable H: Technical Reporting:

- i. Create a detailed technical document for Islands Trust staff, researchers, and other agency staff
- ii. Create a memorandum and presentation to the Islands Trust Regional Planning Committee

Deliverable I: Illustrative Summary Document:

- i. Create a communications document in coordination with Islands Trust staff and a graphic designer for educating the public, staff, and elected officials about groundwater recharge in the Islands Trust Area.
- ii. Participate in a Community Information Meeting with the public.

4 CONTRACT

4.1 Contract Terms and Conditions

Proponents should review carefully the terms and conditions set out in Appendix A, including the Schedules.

The term of the contract is expected to be from May 16, 2022, to March 31, 2023. At the sole discretion of Islands Trust, this term may be extended for a period of an additional six months, subject to funding availability and satisfactory Contractor performance.

4.2 Service Requirements

The Contractor's responsibilities will include the following:

- a) Kick off meeting with the project team within two weeks of contract signing,
- b) Bi-weekly update meetings with the project team,
- c) Provide all draft deliverables by December 31, 2022, except Deliverable I,
- d) Provide draft of Deliverable I by January 31, 2023,
- e) Provide final deliverables by February 28, 2023, and
- f) Participate in a community information meeting.

4.3 Related Documents

To review existing Groundwater Science Sustainability program reports, refer to <https://islandstrust.bc.ca/freshwater>.

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 Province’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 successful proponent will assume professional reliance of the resulting product. Thus it is expected that at least one senior member of the proponent team is a registered Professional Engineer or Professional Geoscientist with proficiency in hydrogeology and should implicitly express the professional limitation of the implementation of the data, maps, results, recommendations, and conclusions by Islands Trust, the Province of British Columbia, or any other organization as these deliverables will be in the public domain.

5.1.1 RELEVANT EXPERIENCE

Qualifications and requirements include:

Organizational experience:

- a) Knowledge of and experience in assessing the hydrogeology of coastal regions in BC (e.g. experience in assessment of recharge potential mapping, saltwater intrusions analysis, water budget assessments)
- b) Experience in regional hydrogeological studies in B.C.
- c) Experience in evaluation of large hydrogeological datasets (e.g. mapping and GIS analysis).
- d) Experience with assessments of the impact of climate change on hydrogeological systems in B.C.

It is preferred that all named individuals providing hydrogeological interpretation be qualified and registered under Engineers & Geoscientists BC as P.Geo or P.Eng with competence in hydrogeology. If named individuals are not registered P.Geo or P.Eng, provide evidence to demonstrate that individuals have adequate experience & educational background to perform assigned tasks & that these individuals will be supervised by a qualified and registered professional (P.Geo or P.Eng registered in BC).

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Key Personnel:

- Provide curriculum vitae of key project team members, reasons why they were selected for this project, and how they will add value to the project
- Identify any staff with degrees and certifications

Examples:

- Provide two to four examples of programs the proponent has completed within the past five years (as of the closing date of the RFP) that have been on a similar scale, including an overview of the controls that were embedded into the processes.

5.1.2 REFERENCES

Proponents should provide a minimum of three 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 Islands Trust may in its sole discretion, but is under no obligation to, check Proponent and subcontractor references without first notifying the Proponent or its subcontractors. The Province 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 Province 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.

Further to the Province's reservation of rights under Section 2.22, if the Proponent is deemed unsuitable by the Province in its sole discretion due to unsatisfactory references, or if the proposal is found to contain material errors, omissions or misrepresentations, the Proponent's proposal may be rejected.

Response Guidelines for Capabilities

1. Name a contact person for the Proponent, and include this person's address, phone and fax numbers, and email address. This information will **not** be evaluated but will be used to contact the Proponent as required.
2. Provide evidence to support the requirements identified in section 5.1.1 above.
3. Provide a minimum of three references specific to the experience cited, each of which includes a contact name, phone number and email address.
4. Provide resumes of each of the key resources being proposed. The resumes should clearly indicate how the key resources meet the requirements identified in this RFP.

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5.2 Approach

5.2.1 PROJECT MANAGEMENT AND TIMELINES

The Contractor will:

- a) Kick off meeting with the project team within two weeks of contract signing,
- b) Bi-weekly update meetings with the project team,
- c) Provide all draft deliverables by December 31, 2022, except Deliverable I,
- d) Provide draft of Deliverable I by January 31, 2023,
- e) Provide final deliverables by February 28, 2023, and
- f) Participate in a community information meeting in March 2023.

5.2.2 FILE TRANSFER PROTOCOLS AND STYLE GUIDE

The Contractor will:

- a) Use the Islands Trust File Transfer Protocol (FTP) to receive data from the Islands Trust Information Services and will upload deliverables to the FTP, and
- b) Use the Islands Trust Style Guide to create Deliverable I.

5.2.3 ISLANDS RECHARGE POTENTIAL MAPPING METHODOLOGY

If the contractor is proposing to deviate from existing groundwater recharge mapping methodology:

- c) Provide a 1–2-page summary on the proposed methodology, and
- d) Provide a summary of how this methodology will be implemented on existing recharge maps in the Islands Trust Area from previous phases of the project.

Response Guidelines for Approach

Explain the proposed methodology in 5.2.1 and 5.2.2. including timelines, risks, issues, and assumptions.

5.3 Price

Prices quoted will be deemed to be:

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

Response Guidelines for Price

1. Provide a firm, fixed, all-inclusive price for all services proposed. Islands Trust will not pay for any costs or expenses not included in the price, unless otherwise expressly provided. Provide cost details in alignment with the stages found in 3.3 Scope of Service.

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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 (two – three page) summary of the key features of the proposal and project team and how they work with clients.
- d) If the Proponent will deviate from the existing methodology for mapping recharge potential, provide reasons for the deviation and describe how the existing maps will be updated.
- e) The body of the proposal, including pricing, i.e. the “Proponent Response”.
- f) Appendices, appropriately tabbed and referenced.
- g) Identification of Proponent (legal name).
- h) 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 Islands Trust and may include employees and contractors of the Province and other appropriate participants.

The Islands Trust’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.

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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 and in accordance with Section 2.3.
The proposal must either (1) include a copy of the cover page that is signed by an authorized representative of the Proponent or (2) otherwise identify the RFP, identify the Proponent and include the signature of an authorized representative of the Proponent that confirms the Proponent's intent to be bound, or (3) be submitted by using the e-bidding key on BC Bid (if applicable) in accordance with the requirements set out in Section 2.2.

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7.2 Weighted Criteria

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

Weighted Criteria	Weight	Minimum score
Capabilities (section 5.1)	40	20
Approach (section 5.2)	40	20
Sub-total	80	40
Price (section 5. 3)	20	N/A
TOTAL	100	

Proponents that do not meet a minimum score within a weighted criterion will not be evaluated further.

7.3 Price Evaluation

Price will be evaluated using the following formula:

$$(\text{Lowest price}/\text{your price}) * \text{points available}$$

Appendix A – Islands Trust Contract Template

See separate document.