



# Sunshine Coast Regional District

# Request for Proposal

**Number: 2137005**

**for**

## **Design, Permitting, and Engineering Services for Upgrades to 3 Reinforced Concrete Lake Dams**

**Issue Date:**

May 21, 2021

**Closing Date of**

**June 18, 2021 at 12:00 PM local time**

**OPTIONAL SITE MEETING:** An optional site meeting will be held at one only accessible site June 3, 2021 at 10:00 am local time at McNeil Lake Dam 12100 Sunshine Coast Highway, Madeira Park BC . Please RSVP 24 hours prior to the meeting at [gordon.rishanek@scrd.ca](mailto:gordon.rishanek@scrd.ca)

**CONTACT:** Enquiries related to this RFP, including any requests for information or clarification may only be directed in writing [gordon.rishanek@scrd.ca](mailto:gordon.rishanek@scrd.ca) and the Regional District will respond if time permits before the Closing Time. 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.

The cut-off for submitting any questions related to this Proposal should be received by 3:00 p.m. **five (5) business days prior** to the closing date. Questions received after this time may not be answered.

**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 [www.bcbid.ca](http://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 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 V0N 3A1**

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 Proposals, including any Addenda. By submitting a proposal the Proponent agrees to all of the terms and conditions of the RFP including the following:

- The Proponent has carefully read and examined the entire Request for Proposals;
- The Proponent has conducted such other investigations as were prudent and reasonable in preparing the proposal; and
- 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:** \_\_\_\_\_

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# 1. GENERAL TERMS & CONDITIONS

## 1.1 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](http://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 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 V0N 3A1

[gordon.rischanek@scrd.ca](mailto:gordon.rischanek@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 [gordon.rischanek@scrd.ca](mailto:gordon.rischanek@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/go/terms> 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 account 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](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.

#### **1.18 COST OF PROPOSAL**

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

#### **1.19 PROPONENT'S RESPONSIBILITY**

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

#### **1.20 EVALUATIONS**

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

If only one Proposal is received, the Regional District reserves the right to open the Proposal in private or if the total bid price exceeds the estimated budget for the Contract, the Regional District may cancel and re-tender, accept, not accept and cancel or re-scope the Work seeking a better response, with or without any substantive changes being made to the solicitation documents. If more than one Proposal is received from the same Proponent, the last Proposal received, as determined by the Regional District, will be the only Proposal considered.

#### **1.21 ACCEPTANCE OF TERMS**

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

### **1.22 MANDATORY REQUIREMENTS**

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

### **1.23 INSURANCE & WCB**

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

- (a) Commercial General Liability – not less than \$5,000,000 per occurrence
- (b) Motor Vehicle Insurance, including Bodily Injury and Property Damage in an amount no less than \$3,000,000 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 \$1000,000 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 CONFIDENTIALITY**

The Bidder agrees that any information, knowledge (including but not necessarily limited to business practices, techniques, relationships, agreements, etc.), data, research, and any other information, knowledge, materials or products disclosed to the Bidder by the Regional District or otherwise produced, developed or known by the Bidder in providing this service (collectively the "Confidential Information") will not publish or disclose to any third party not either during or after the Agreement except as otherwise authorised by the Regional District. This section shall survive the termination of this Agreement.

### **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 SCR D is requesting proposals from qualified dam safety engineering firms to complete design, permitting, and engineering services for various structural and related improvements at three SCR D owned reinforced concrete dams: Chapman Lake Dam, Edwards Lake Dam, and McNeil Lake Dams.

The purpose of this project is to advance design, permitting, including acquisition of the required permits and tender ready specifications for the structural improvements, with the intention of tendering the construction services in the spring of 2022. In addition to the structural improvement design and permitting aspects of this project, flood inundation mapping is also required for all three aforementioned dams as well as the nearby Harris Lake Dam.

## 3. SITUATION/OVERVIEW

### 3.1 Background

In 2020, SCR D completed Dam Safety Reviews (DSRs) of the three concrete dams: Chapman Lake Dam, Edwards Lake Dam, and McNeil Lake Dams. In the DSRs for these dams, various structural and non-structural deficiencies were noted and recommendations were made for structural and other related improvements to each of the dams.

A brief description of the dams and the list of recommendations for the DSRs are provided below.

#### Chapman Lake Dam

Chapman Lake is an alpine lake located on undeveloped Crown Land in Tetrahedron Provincial Park, approximately 17 km northeast of Sechelt, BC. Water from Chapman Lake (and Edwards Lake) flows into Chapman Creek, which supplies water to the Chapman Creek Water Treatment Plant and accounts for roughly 70% of the water supply to 19,000 Sunshine Coast residents. Chapman Lake is only accessible by helicopter or a 15 km round-trip hike. The Proponent shall coordinate helicopter transport to and from the sites.

The Chapman Lake Dam is a low-head reinforced concreted dam that controls flow from Chapman Lake into Chapman Creek through a free-overflow section along the dam and a low-level outlet 3.85 m (to invert) below the free-overflow crest. The dam is roughly 35 m long. There is little detailed construction information available for the Chapman Lake Dam, but the 1977 design drawings note that the dam was to be excavated to bedrock on a minimum of three feet into undisturbed ground. The dam was constructed in 1978 and numerous construction photos will be made available to the successful proponent.

The Consequence of Failure Classification of Chapman Lake Dam is High (WSP 2020). However, this is subject to change based on the outcome of the dam breach analysis and flood inundation mapping.

The 2020 DSR for the Chapman Lake Dam revealed a number of non-conformances and deficiencies, which are summarized in the following table along with recommended actions.

Items 3,10, and 3.12 are not considered part of the scope of this project, but are included for information.

<b>Chapman Lake Dam</b>		
<b>No</b>	<b>Issue Description</b>	<b>DSR Recommendation</b>
1	Does not meet stability requirements for design ice loads	Dam strengthening is required to meet accepted industry standard
2	Impact of dam failure in flood conditions is unknown	Conduct numerical dam breach analysis for sunny-day and various flood scenarios
3	Inspection frequency non-compliant	Increase inspection frequency to one a month, install remote camera
4	Vegetation control is required	Carry out vegetation control, should occur on a fixed frequency
5	No fences, gates, or signage	Signage should be installed as per BC Reg. 40/2016
6	Steel walkway is at a lower elevation than IDF peak water level	Raise the steel walkway and platform above IDF level with appropriate freeboard
7	Dam regularly overtops and abutments are not protected against erosive forces	Protect the abutments against erosion, possibly through placement of riprap
8	Foundation conditions are not well documented	Confirm whether dam is founded on bedrock by digging test pits
9	No debris boom on upstream side	Install debris boom
10	No dam safety and emergency training program for staff	Implement formal training program in accordance with new OMS Manual and DEP
11	Current inundation maps are not appropriate for emergency planning	Produce new inundation maps (see issue 2) and include in the DEP
12	Maintenance activities are not documented and compiled	Document and compile maintenance activities to track type and frequency
13	No as-built drawings of dam	Conduct survey and prepare as-built drawings, required for confirmation of stability calculations

### Edwards Lake Dam

Edwards Lake is an alpine lake located on undeveloped Crown Land in the Tetrahedron Provincial Park, approximately 2 km west of Chapman Lake. Water from Edwards Lake (and Chapman Lake) flows into Chapman Creek, which supplies water to the Chapman Creek Water Treatment Plant and accounts for roughly 70% of the water supply to 19,000 Sunshine Coast residents. Chapman Lake is only accessible by helicopter or a 15 km round-trip hike. The Proponent shall coordinate helicopter transport to and from the sites.

The Edwards Lake Dam is a reinforced concrete dam that controls flow from Edwards Lake into Chapman Creek via a 1.5 km long unnamed creek. The concrete dam is 11.25 m long and is 5.45 m high from the low-level outlet invert to the dam crest. The design drawings note that the dam is to be seated on bedrock, which is consistent with observations from site. The dam was constructed in 1991.

The Consequence of Failure Classification of Edwards Lake Dam is Very High (WSP 2020). However, this is subject to change based on the outcome of the dam breach analysis and flood inundation mapping.

The 2020 DSR for the Edwards Lake Dam revealed a number of non-conformances and deficiencies, which are summarized in the following table along with recommended actions.

Items 4,8,10, and 12 are not considered part of the scope of this project, but are included for information.

<b>Edwards Lake Dam</b>		
<b>No</b>	<b>Issue Description</b>	<b>DSR Recommendation</b>
1	Stoplogs in the sluiceway are not removed prior to the storm season	A minimum of 4 stoplogs must be removed prior to the storm season
2	There is no permanent lift system at the sluice to add and remove stoplogs	Install a lift system
3	Impact of dam failure in flood conditions is unknown	Conduct numerical dam breach analysis for sunny-day and various flood scenarios
4	Inspection frequency non-compliant	Increase inspection frequency to one a month, install remote camera
5	No fences, gates, or signage	Signage should be installed as per BC Reg. 40/2016
6	Steel walkway is at a lower elevation than IDF peak water level	Raise the steel walkway and platform above IDF level with appropriate freeboard
7	No debris boom on upstream side	Install debris boom
8	No dam safety and emergency training program for staff	Implement formal training program in accordance with new OMS Manual and DEP
9	Current inundation maps are not appropriate for emergency planning	Produce new inundation maps (see issue 2) and include in the DEP
10	Maintenance activities are not documented and compiled	Document and compile maintenance activities to track type and frequency
11	No as-built drawings of dam	Conduct survey and prepare as-built drawings, required for confirmation of stability calculations
12	Construction debris within channel downstream of dam	Remove debris

### McNeil Lake Dam

McNeil Lake is located approximately 3.5 km southeast of Madeira Park, BC. The lake was formed from two existing lakes during the construction and dredging work that took place during the original dam construction in the 1960s. Water from McNeil Lake drains into Malaspina Strait, via Haslam Creek. McNeil Lake supplies water to the South Pender Harbour Water Treatment Plant and is the primary water source for approximately 2300 Pender Harbour residents.

There are two dams on McNeil Lake – the McNeil Lake Dam, and the Saddle Dam.

McNeil Lake is accessible by vehicle, via a forest service road at 12000 Sunshine Coast Highway. The McNeil Dam is accessible by foot along a roughly 110 m long trail from the end of the vehicle access point. The Saddle Dam is best accessed by boat, launched from the end of the vehicle access point, or by foot along a trail accessed near the boat launch. Note that gas powered motors are not permitted on McNeil Lake.

For the purposes of the preparation of the RFP, the Proponent shall arrange for transportation to the sites and will incur all costs for accessing the sites. SCR D Staff will accompany the Proponent on the site visits.

The McNeil Lake Dam is a reinforced concrete gravity dam that was originally constructed in 1965. In 1976, the dam was raised and concrete buttresses were added. The dam is currently

described as 4.0 m high and 18.3 m long with a dam crest at 165 m elevation. In 2015, the dam was retrofitted with eleven 32 mm diameter rock anchors to meet current stability criteria.

The Consequence of Failure Classification of McNeil Lake Dam is High (WSP 2020). However, this is subject to change based on the outcome of the dam breach analysis and flood inundation mapping.

The Saddle Dam is an earthen embankment dam located in the southern part of McNeil Lake. There is no construction documentation or survey information available for the Saddle Dam, but according to the 2012 DSR the Saddle Dam is 1.2 m high and 16 m long. The Saddle Dam was constructed in 1976 when the McNeil Lake Dam was raised.

The Consequence of Failure Classification of the Saddle Dam is currently High, but is recommended to be reclassified as Low (WSP 2020). However, this is subject to change based on the outcome of the dam breach analysis and flood inundation mapping.

The 2020 DSR for the McNeil Lake Dam revealed a number of non-conformances and deficiencies, which are summarized in the following table along with recommended actions.

Items 9 is not considered part of the scope of this project, but are included for information.

<b>McNeil Lake Dam</b>		
<b>No</b>	<b>Issue Description</b>	<b>DSR Recommendation</b>
1	McNeil Lake is not contained for the IDF and spill would occur at and around the Saddle Dam, toward Silversands Creek	Additional assessment on impacts of additional flow into Silversands Creek to determine if dam safety improvements are required
2	Steel walkway prevents easy removal and installation of the stoplogs in the spillway	Modify the steel walkway to allow easy access to stoplogs so they can be removed prior to storm season
3	Steel walkway is at a lower elevation than IDF peak water level	Raise the steel walkway and platform above IDF level with appropriate freeboard. Safety improvements are also required
4	Unauthorized visitors frequently park at gate and block SCR D vehicle access	Install "No Parking – Tow Away" sign at gate
5	No signage on site	Signage should be installed as per BC Reg. 40/2016
6	No dam safety and emergency training program for staff	Implement formal training program in accordance with new OMS Manual and DEP
7	Vegetation control at Saddle Dam has never been completed	Clear vegetation
8	Low-level outlet (LLO) is currently sealed and cannot be used to drawdown McNeil Lake	LLO should be rehabilitated. Note that the LLO was updated in 2015, but there is a steel plate on the outlet side that current prevents use.
9	Maintenance activities are not documented and compiled	Document and compile maintenance activities to track type and frequency
10	Impact of dam failure in flood conditions is unknown	Conduct numerical dam breach analysis for sunny-day and various flood scenarios.
11	No as-built drawings of McNeil Lake Dam	Conduct survey and prepare as-built drawings, required for confirmation of stability calculations
12	Staff gauge is too short and does not allow for measurement when dam overtopping	Install a second staff gauge that extends above dam crest
13	No as-built drawings of Saddle Dam	Conduct survey and prepare site plan with exact location and cross-section

Note that the dam failure analysis must also include the Harris Lake Dam, which is located upstream of McNeil Lake. This must be included to account for potential cascading flood event.

As part of the 2020 scope of work, conceptual drawings and a preliminary cost estimate were prepared for the structural improvements including the raised walkway and the stoplog lifting system.

### **3.2 Project Objectives**

The objective of this project is to complete engineering design, specifications, and permit acquisition as required to address all of the issues noted in the three Dam Safety Reviews. This project is to culminate in a full design package, tender specifications, and obtaining all the necessary permit approvals.

### **3.3 Scope**

#### Surveying Services

The Proponent will be responsible for all surveying services necessary to complete the Project. This will include at minimum:

- Topographic survey of Chapman Lake Dam, Edwards Lake Dam, McNeil Lake Dam, and the McNeil Lake Saddle Dam as required to complete a fully detailed set of as-built drawings;
- Topographical surveying as required to assess impacts of dam breach flood event for Chapman/Edwards Lake Dams and McNeil/Harris Lake Dams;

#### Engineering Design Services

The Proponent will be responsible for all engineering design services necessary to complete the Project. This will include at minimum:

- Confirm foundation conditions at the Chapman Lake Dam and revise the dam safety assessment as required;
- Identify and design the structural improvements to Chapman Lake Dam as required to address the strength deficiency;
- Complete the structural design of the new/raised walkways at Chapman Lake Dam, Edwards Lake Dam, McNeil Lake Dams;
- Design the debris booms at Chapman and Edwards Lake Dams;
- Design of measures to protect Chapman Lake Dam abutments from erosion;
- Design of the stoplog lift system at Edwards and McNeil Lake Dams;
- Review the existing low-level outlet at McNeil Lake Dam (installed in 2015) and provide an assessment of its suitability;
- Prepare a detailed step by step workplan for vegetation control at the Chapman Lake Dam and the Saddle Dam. The actual vegetation control will be completed by SCRD staff or contractor;
- Provide recommendations for signage at Chapman Lake Dam, Edwards Lake Dam, McNeil Lake Dams, and the Saddle Dam (to be installed by SCRD staff or contractor);
- Provide recommendations for a second staff gauge at the McNeil Lake Dam (to be installed by SCRD staff or contractor);
- Revise and update the Dam Safety Reviews (DSR) and DEPs as required based on results of the engineering assessment for the Chapman Lake Dam foundation;
- Provide Technical Memorandums summarizing the completed engineering design.
- Provide a detailed Class B construction cost estimate, stamped and sealed by a Registered Engineer.

#### Hydrological Services

The Proponent will be responsible for all hydrological services necessary to complete the Project. This will include at minimum:

- Conduct numerical dam breach analysis for sunny-day and flood scenarios for Chapman Lake Dam, Edwards Lake Dam, McNeil Lake Dam, and Harris Lake Dam;
- Complete new flood inundation maps for Chapman Creek (Chapman Lake Dam and Edwards Lake Dam) and Haslam Creek (McNeil Lake Dam and Harris Lake Dam);
- Assessment of impacts of additional flow into Silversands Creek in the event of a Saddle Dam breach;
- Prepare report summarizing the results of all dam breach analyses;
- Revise and update the DEPs to include the new flood inundation maps.

### Permitting Services

The Proponent will be responsible for preparing and submitting all permit applications required to initiate and complete these Project improvements. This will include a Park Use Permit for all work around Chapman Lake Dam and Edwards Lake Dam. The Proponent will be required to provide technical support throughout the permitting process as required to secure all permits. This may include attending meetings and/or preparing additional documentation in support of the applications.

In addition to the Park Use Permit, it is anticipated that approvals may be required from the following agencies:

- Ministry of Forests, Lands, Natural Resource Operations and Rural Development
- Department of Fisheries and Oceans
- Ministry of Transportation and Infrastructure
- Vancouver Coastal Health

### Tendering Services

The Proponent will be responsible for preparing a full invitation to tender (ITT) package to complete all construction tasks that are detailed in the design package for this Project. The ITT package shall be in accordance with CCDC, most current version and is to include:

- Front end documentation consistent with SCRD format (to be provided to Proponent at project initiation) in accordance with CCDC most current version;
- Technical specifications including all supplemental provisions for all work tasks; Format to be in accordance with SCRD template.
- Engineering design plans for improvements as required; Format of plans to be in accordance with SCRD template.
- Respond to all SCRD inquiries during tendering.
- Any additional appendices required to fully articulate the scope of work and responsibilities of contractors to ensure successful completion of the construction activities.

### Construction Management Services

The Proponent will be required to provide full Construction Management Services which will extend beyond the scope of this Phase. The scope of Construction Management Services will generally include:

- Conducting daily site inspections;
- Hosting regular meetings with SCRD and the contractor;
- Reviewing and responding to all questions/change requests from the contractor;
- Environmental monitoring;
- Contract Administration and Record keeping in accordance with SCRD templates
- Project Management and Record keeping in accordance with SCRD templates;
- Post-Construction services, including Construction closeout and preparation of record drawings;
- The construction management services shall be in accordance with SCRD construction management protocol and procedures.

The SCRD recognizes that it is difficult to price these services as the scope and complexity of the construction phase is unknown at this time. Consequently, the Proponent will be required to submit a scope and fee proposal for these services, to the SCRD for review and negotiation, after submitting and completion of the 90% design package to the SCRD.

In their proposals, proponents are to provide a rate schedule including the following:

- Resident Construction Project Manager
- Resident Project Engineer
- Hydrogeology Lead
- Engineering Discipline Leads
- Construction Inspector
- Contract Administrator

## 4. CONTRACT

Proponents should review carefully the terms and conditions set out in the General Service Contract, including the Schedules. The selected proponent will be requested to enter into direct contract negotiations to finalize an agreement. The terms and conditions found The General Contract terms can be found at: [GSA Terms and Conditions.pdf](#) and are to form the basis for commencing negotiations between the Regional District and the selected proponent.

### 4.1 Service Requirements

The Contractor's responsibilities will include the following:

- a) Host kick-off meeting with SCRD team (either on-site or virtually).
- b) Host bi-weekly progress meetings (virtually).
- c) Compile and issue progress meeting minutes.
- d) Procurement and coordination of helicopter transportation to and from Chapman and Edwards Lake dams as required.
- e) Submit survey plans in PDF and Civil3D compatible format.
- f) Submit final engineering plans in PDF and Civil3D compatible with SCRD CIVIL 3D software. The format of the plans shall be in accordance with SCRD plan preparation format.
- g) Submit the following stages of engineering plans (PDF): conceptual, 60%, 90%, Pre tender ITT, ITT, and As-Constructed.
- h) The ITT Specifications shall be stamped and signed by the Engineer of Record and shall be provided to the SCRD in original word and pdf format. The format of the specification shall be in accordance with SCRD specification format, specifically the Construction Specifications Institute, Inc CSI 49 division Master Format.
- i) The IFT Contract plans shall be provided to the SCRD in original Autocad/Civil 3D and pdf format.
- j) The final topographic survey mapping shall be provided to the SCRD in the original Civil 3D format.
- k) Use of SCRD standard request for clarification, daily inspection, field order, change control forms and procedures. Templates will be provided at project initiation.
- l) Use of SCRD file sharing service for large files.
- m) All digital files must follow SCRD file naming convention (YYYY-MMM-DD File Name).
- n) Construction management services documentation shall be in conformance with the SCRD's construction filing system format. Format will be provided at project initiation.
- o) Submitting monthly reporting of litres of fuel and type of fuel consumed for work related to this project (eg. # litres of gasoline, # litres of diesel, # litres of biodiesel blends). Kilometres travelled by vehicle type and fuel used is also acceptable, however, exact litres is preferred.

## 4.2 Related Documents

Chapman DSR(2020) Report -Appendix A  
McNeil DSR (2020)Report – Appendix B  
Edwards DSR (2020 Report- Appendix C

## 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.

### 5.1 Capabilities

Proponent must include a Registered Professional Engineer in good standing with EGBC on the project team with a minimum of 10 years of experience with dam structural design. The Proponent should also include a lead hydrologist on the project team with a minimum of 7 years experience conducting dam breach analysis and flood inundation mapping.

Proponent must demonstrate strong written communication skills, be a collaborative team player and should provide evidence of successful completion of similar projects. Relevant Experience

The Proponent should have a minimum of 5 years within the past 7 years providing services of a similar scope and complexity. Similar scope and complexity is defined as:

- a) Completing engineering design for structural retrofitting of concrete dam structures;
- b) Completing dam breach analysis of concrete dam structures;
- c) Completing flood inundation mapping of creek/river systems with similar topography.
- d) Relevant construction management and inspection experience.

The Proponent’s listed helicopter subcontractor must have experience flying in and out of Chapman and Edwards Lakes, and the helicopter subcontractor must have a demonstrated safe flying history.

Preference will be given to proponents with experience completing projects on behalf of Local Governments in BC.

### References

Proponents must provide a minimum of **3 written** 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.

### Environmental Requirements

All three lakes are sources of community potable water supply. As such, due care must be taken to ensure that no deleterious contaminants are allowed to enter the lakes during field work. Combustion motor boats are prohibited on all of the lakes, but manually powered boats and battery powered motors are permitted.

Chapman Lake and Edwards Lake are both in the boundaries of the Tetrahedron Provincial Park (Class A). As such all field work must be in compliance with BC Parks guidelines

Due to the high elevation of the Chapman and Edwards Lakes, the proponent shall schedule the field work during the summer months when the lakes are unfrozen.

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

## **5.3 Approach**

The proponents shall identify all the work project activities and durations in MS Project Schedule. The schedule shall depict all the activities, including the interdependencies between the work activities. The activities shall depict the predecessors and successors and depict the critical path. All float time shall be depicted

## **5.4 Price**

Proponents need to submit a fee proposal that sets out the separate costs of each project described as well as an all-inclusive cost for all the projects; the proposal should include a breakdown of the fix prices including time, travel, hourly billable rates and material 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". The body of the proposal shall be no longer than 20 pages double sided.
- 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.

<b>Mandatory Criteria</b>
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.

<b>Weighted Criteria</b>	<b>Weight (%)</b>
Experience/Capability	30
Methodology	25
Project Understanding	5
Sustainable Social Procurement	5
Added value	5
Price	30
<b>TOTAL</b>	<b>100</b>

### 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.

**Responses to item 5.2 Sustainable Social Procurement**

Proponent **should** identify how they may contribute to the following key social, employment and economical goals, but not limited to the following:

- a) Does your organization contribute to a stronger local economy by:
  - promoting a Living Wage?  Yes  No
  - Using fair employment practices?  Yes  No
  - Increase training and apprenticeship opportunities?  Yes  No
- b) Does your organization consider the Environmental Costs of Ownership when procuring or providing services??  Yes  No
- c) Does your organization utilize or provide energy efficient products?  Yes  No
- d) Where possible does your organization use minimal or environmental friendly packing materials?  Yes  No
- e) Does your organization limit / reduce the use of any hazardous materials (toxics and ozone depleting substances)?  Yes  No
- f) Other: please describe:

**Submitted on behalf of:**

Company Name: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Address: \_\_\_\_\_

Fax Number: \_\_\_\_\_

City & Postal Code: \_\_\_\_\_

Email Address: \_\_\_\_\_

Signature: \_\_\_\_\_

Name & Title: \_\_\_\_\_

**Schedule A**

Pricing is to include all labour and materials and any other costs to perform the work as specified in the RFP, including all costs associated with disbursements, travel accommodation, tools, shipping, insurance, permitting and any other related expenses.

<b>SITE</b>	<b>TASK</b>	<b>FEE</b>	<b>GST</b>	<b>TOTAL</b>
<b>Chapman Lake Dam</b>				
	Design and Analysis	\$	\$	\$
	Tendering	\$	\$	\$
	Construction Management	\$	\$	\$
	Other specify	\$	\$	\$
<b>Edwards Lake Dam</b>				
	Design and Analysis	\$	\$	\$
	Tendering	\$	\$	\$
	Construction Management	\$	\$	\$
	Other specify	\$	\$	\$
<b>McNeil Lake Dam</b>				
	Design and Analysis	\$	\$	\$
	Tendering	\$	\$	\$
	Construction Management	\$	\$	\$
	Other specify	\$	\$	\$
<b>Total Fee for all Three(3) Dams</b>		\$	\$	\$