



<p><b>RETURN BIDS TO:</b> <b>RETOURNER LES SOUMISSIONS À:</b></p> <p><b>Bid Receiving - Environment Canada / Réception des soumissions – Environnement Canada</b></p> <p><b>Electronic Copy:</b> ec.soumissions-bids.ec@canada.ca</p> <p><b>BID SOLICITATION</b> <b>DEMANDE DE SOUMISSIONS</b></p> <p><b>PROPOSAL TO: ENVIRONMENT CANADA</b></p> <p>We offer to perform or provide to Canada the services detailed in the document including any attachments and annexes, in accordance with the terms and conditions set out or referred to in the document, at the price(s) provided.</p> <p><b>SOUSSION À:</b> <b>ENVIRONNEMENT CANADA</b></p> <p>Nous offrons d’effectuer ou de fournir au Canada, aux conditions énoncées ou incluses par référence dans le document incluant toutes pièces jointes et annexes, les services détaillés dans le document, au(x) prix indiqué(s).</p>	<p><b>Title – Titre</b> Research, trials, and planning - Transition Alaksen National Wildlife Area to Organic Agriculture</p>		
	<p><b>EC Bid Solicitation No. /SAP No. – N° de la demande de soumissions EC / N° SAP</b> 5000052848R</p>		
	<p><b>Date of Bid solicitation (YYYY-MM-DD) – Date de la demande de soumissions (AAAA-MM-JJ)</b> 2020-12-17</p>		
	<p><b>Bid Solicitation Closes (YEAR-MM-DD) - La demande de soumissions prend fin (AAAA-MM-JJ)</b>  at – à 3:00 P.M. on – le 2021-01-11</p>	<p><b>Time Zone – Fuseau horaire</b>  Eastern Standard Time</p>	
	<p><b>F.O.B – F.A.B</b></p>		
	<p><b>Address Enquiries to - Adresser toutes questions à</b> Heidi Noble <a href="mailto:heidi.noble@canada.ca">heidi.noble@canada.ca</a></p>		
	<p><b>Telephone No. – N° de téléphone</b> 905-319-6982</p>	<p><b>Fax No. – N° de Fax</b></p>	
	<p><b>Delivery Required (YEAR-MM-DD) – Livraison exigée (AAAA-MM-JJ)</b> 2023-03-31</p>		
	<p><b>Destination - of Services / Destination des services</b> British Columbia, Canada</p>		
	<p><b>Security / Sécurité</b> There is no security requirement associated with this requirement.</p>		
<p><b>Vendor/Firm Name and Address - Raison sociale et adresse du fournisseur/de l’entrepreneur</b></p>			
<p><b>Telephone No. – N° de téléphone</b></p>	<p><b>Fax No. – N° de Fax</b></p>		
<p><b>Name and title of person authorized to sign on behalf of Vendor/Firm: (type or print) / Nom et titre de la personne autorisée à signer au nom du fournisseur/de l’entrepreneur (taper ou écrire en caractères d’imprimerie)</b></p>			
<p><b>Signature</b></p>	<p><b>Date</b></p>		

**TABLE OF CONTENTS**

**PART 1 – INFORMATION**

1. Security Requirement
2. Statement of Work
3. Debriefings

**PART 2 – BIDDER INSTRUCTIONS**

1. Standard Instructions, Clauses and Conditions
2. Submission of Bids
3. Former public servants – Competitive Bid
4. Enquiries – Bid Solicitation
5. Applicable Laws
6. Basis for Canada's Ownership of Intellectual Property

**PART 3 - BID PREPARATION INSTRUCTIONS**

1. Bid Preparation Instructions

**PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION**

1. Evaluation Procedures
2. Basis of Selection

**PART 5 – CERTIFICATIONS**

1. Certifications Required Precedent to Contract Award

**PART 6 - RESULTING CONTRACT CLAUSES**

1. Security Requirement
2. Statement of Work
3. Standard Clauses and Conditions
4. Term of Contract
5. Authorities
6. Proactive Disclosure of Contracts with Former Public Servants
7. Payment
8. Invoicing Instructions
9. Certifications
10. Applicable Laws
11. Priority of Documents
12. Insurance Requirements

**List of Annexes:**

- |         |                        |
|---------|------------------------|
| Annex A | Statement of Work      |
| Annex B | Basis of Payment       |
| Annex C | Insurance Requirements |

Research, trials, and planning - Transition Alaksen National Wildlife Area to Organic Agriculture

**PART 1 – GENERAL INFORMATION**

**1. Security Requirement**

1.1 There is no security requirement associated with this requirement.

**2. Statement of Work**

The Work to be performed is detailed under Annex A, Statement of Work of the resulting contract.

**3. Debriefings**

Bidders may request a debriefing on the results of the bid solicitation process. Bidders should make the request to the Contracting Authority within 15 working days of receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

**PART 2 – BIDDER INSTRUCTIONS**

**1. Standard Instructions, Clauses and Conditions**

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the PWGSC *Standard Acquisition Clauses and Conditions Manual* (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

The 2003 (2020-05-28) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

The standard instructions 2003 are modified as follows:

**Under “Text” at 02:**

**Delete:** “Procurement Business Number”

**Insert:** “Deleted”

**At Section 02 Procurement Business Number**

**Delete:** In its entirety

**Insert:** “Deleted”

**At Section 05 Submission of Bids, Subsection 05 (2d):**

**Delete:** In its entirety

**Insert:** “send its bid only to Environment Canada (EC) as specified on page 1 of the bid solicitation or to the address specified in the bid solicitation;”

**At Section 06 Late Bids:**

**Delete:** “PWGSC”

**Insert:** “Environment Canada”

**At Section 07 Delayed Bids:**

**Delete:** “PWGSC”

**Insert:** “Environment Canada”

**At Section 08 Transmission by Facsimile, Subsection 08 (1):**

**Delete:** In its entirety

**Insert:** “Bids may be submitted by facsimile if specified in the bid solicitation.”

**At Section 12 Rejection of Bid, Subsection 12 (1) a. and b.:**

**Delete:** In their entirety

**Insert:** "Deleted"

**At Section 17 Joint Venture, Subsection 17 (1) b.:**

**Delete:** "the Procurement Business Number of each member of the joint venture,"

**Insert:** "Deleted"

**At Section 20 Further Information, Subsection 20 (2):**

**Delete:** In its entirety

**Insert:** "Deleted"

**At Section 05 Submission of Bids, Subsection 05 (4)**

**Delete:** "sixty (60) days"

**Insert:** "one hundred and twenty (120) days"

**2. Submission of Bids**

- 2.1** Bids must be submitted to Environment Canada (EC) at the address and by the date, time and place indicated on page 1 of the bid solicitation.

**3. Former Public Servant – Competitive Bid**

Contracts awarded to former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny, and reflect fairness in the spending of public funds. In order to comply with Treasury Board policies and directives on contracts awarded to FPS, bidders must provide the information required below before contract award. If the answer to the questions and, as applicable the information required have not been received by the time the evaluation of bids is completed, Canada will inform the Bidder of a time frame within which to provide the information. Failure to comply with Canada's request and meet the requirement within the prescribed time frame will render the bid non-responsive.

**Definitions**

For the purposes of this clause, "former public servant" is any former member of a department as defined in the *Financial Administration Act*, R.S., 1985, c. F-11, a former member of the Canadian Armed Forces or a former member of the Royal Canadian Mounted Police. A former public servant may be:

- a. an individual;
- b. an individual who has incorporated;
- c. a partnership made of former public servants; or
- d. a sole proprietorship or entity where the affected individual has a controlling or major interest in the entity.

"lump sum payment period" means the period measured in weeks of salary, for which payment has been made to facilitate the transition to retirement or to other employment as a result of the implementation of various programs to reduce the size of the Public Service. The lump sum payment period does not include the period of severance pay, which is measured in a like manner.

"pension" means a pension or annual allowance paid under the *Public Service Superannuation Act* (PSSA), R.S., 1985, c.P-36, and any increases paid pursuant to the *Supplementary Retirement Benefits Act*, R.S., 1985, c.S-24 as it affects the PSSA. It does not include pensions payable pursuant to the *Canadian Forces Superannuation Act*, R.S., 1985, c.C-17, the *Defence Services Pension Continuation Act*, 1970, c.D-3, the *Royal Canadian Mounted Police Pension Continuation Act*, 1970, c.R-10, and the *Royal Canadian Mounted Police Superannuation Act*, R.S., 1985, c.R-11, the *Members of Parliament*

*Retiring Allowances Act*, R.S., 1985, c.M-5, and that portion of pension payable to the *Canada Pension Plan Act*, R.S., 1985, c.C-8.

**Former Public Servant in Receipt of a Pension**

As per the above definitions, is the Bidder a FPS in receipt of a pension? **Yes ( ) No ( )**

If so, the Bidder must provide the following information, for all FPS in receipt of a pension, as applicable:

- a. name of former public servant;
- b. date of termination of employment or retirement from the Public Service.

By providing this information, Bidders agree that the successful Bidder's status, with respect to being a former public servant in receipt of a pension, will be reported on departmental websites as part of the published proactive disclosure reports in accordance with Contracting Policy Notice: 2012-2 and the Guidelines on the Proactive Disclosure of Contracts.

**Work Force Adjustment Directive**

Is the Bidder a FPS who received a lump sum payment pursuant to the terms of the Work Force Adjustment Directive? **Yes ( ) No ( )**

If so, the Bidder must provide the following information:

- a. name of former public servant;
- b. conditions of the lump sum payment incentive;
- c. date of termination of employment;
- d. amount of lump sum payment;
- e. rate of pay on which lump sum payment is based;
- f. period of lump sum payment including start date, end date and number of weeks;
- g. number and amount (professional fees) of other contracts subject to the restrictions of a work force adjustment program.

For all contracts awarded during the lump sum payment period, the total amount of fees that may be paid to a FPS who received a lump sum payment is \$5,000, including Applicable Taxes.

**4. Enquiries - Bid Solicitation**

All enquiries must be submitted in writing to the Contracting Authority no later than seven (7) calendar days before the bid closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the question(s) or may request that the Bidder do so, so that the proprietary nature of the question(s) is eliminated and the enquiry can be answered to all bidders. Enquiries not submitted in a form that can be distributed to all bidders may not be answered by Canada.

**5. Applicable Laws**

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in British Columbia.

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the bidders.

**6. Basis for Canada's Ownership of Intellectual Property**

Environment Canada has determined that any intellectual property rights arising from the performance of the Work under the resulting contract will belong to Canada, on the following grounds:

- (6.4.1) the main purpose of the contract, or of the deliverables contracted for, is to generate knowledge and information for public dissemination.

**PART 3 – BID PREPARATION INSTRUCTIONS**

**1. Bid Preparation Instructions**

Canada requests that bidders provide their bid in separately bound sections as follows:

Section I: Technical Bid (1 electronic copy)

Section II: Financial Bid (1 electronic copy)

Section III: Certifications (1 electronic copy)

Prices must appear in the financial bid only. No prices must be indicated in any other section of the bid.

Canada requests that bidders follow the format instructions described below in the preparation of their bid.

**Note for electronic submission of bids:**

In order to be considered, bids must be received no later than 1500h (3 p.m.) (Eastern Standard Time) on the date and time indicated on the cover page to herein as the "Closing Date." Bids received after the Closing Date will be considered non-responsive and will not be considered for contract award. Bids submitted by email must be submitted ONLY to the following email address:

Email Address: [ec.soumissions-bids.ec@canada.ca](mailto:ec.soumissions-bids.ec@canada.ca)

Attention: Heidi Noble

Solicitation Number: 5000052848R

Bidders should ensure that their name, address, Closing Date of the solicitation and Solicitation Number are clearly indicated in the body of their email. Bids and supporting information may be submitted in either English or French.

The total size of the email, including all attachments, must be less than 15 megabytes (MB). It is each Bidder's responsibility to ensure that the total size of the email does not exceed this limit.

Bids sent by fax will not be accepted.

It is important to note that emails systems can experience systematic delays and, at times, large attachments may cause systems to hold or delay transmission of emails. It is solely the Bidder's responsibility to ensure that the Contracting Authority receives a bid on time, in the mailbox that has been identified for bid receipt purposes. Date stamps for this form of transmission are not acceptable.

**Section I: Technical Bid**

In their technical bid, bidders should demonstrate their understanding of the requirements contained in the bid solicitation and explain how they will carry out the Work

## **Section II: Financial Bid**

1. Bidders must submit their financial bid in accordance in accordance with the Basis of Payment in Annex B. The total amount of Applicable Taxes must be shown separately.

### **1.1 Price Breakdown**

In their financial bid, the bidders are requested to provide a detailed breakdown of the price for the following elements for each task of the Work, as applicable:

- (a) Professional fees (if applicable): For each individual and (or) labour category to be assigned to the Work, the bidders should indicate: i) the firm hourly rate or the firm daily rate, inclusive of overhead and profit; and ii) the estimated number of hours or days, as applicable. The bidders should indicate the number of hours in one working day.  
The professional fees must include the total estimated cost of all travel and living expenses that may need to be incurred for:
  - (i) Work described in Part 6, Resulting Contract of the bid solicitation required to be performed within British Columbia;
  - (ii) travel between the successful bidder's place of business and British Columbia; and
  - (iii) the relocation of resources.
- (b) Equipment (if applicable): The bidders should specify each item required to complete the Work and provide the pricing basis of each one, Canadian customs duty and excise taxes included, as applicable.
- (c) Materials and Supplies (if applicable): The bidders should identify each category of materials and supplies required to complete the Work and provide the pricing basis. The Bidder should indicate, on a per category basis, whether the items are likely to be consumed during the performance of any resulting contract.
- (d) Travel and Living Expenses (if applicable): The bidders should indicate the number of trips and the number of days for each trip, the cost, destination and purpose of each journey, together with the basis of these costs without exceeding the meal, private vehicle and incidental expenses provided in Appendices B, C and D of the *National Joint Council Travel Directive* and with the other provisions of the directive referring to "travellers", rather than those referring to "employees".
- (e) Subcontracts (if applicable): The bidders should identify all of the proposed subcontractors and provide in their financial bid for each one a price breakdown.
- (f) Other Direct Charges (if applicable): The bidders should identify all of the categories of other direct charges anticipated, such as long distance communications and rentals, providing the pricing basis for each and explaining the relevance to the work described in the resultant contract in part 6 of the bid solicitation.
- (g) Applicable Taxes: The bidders should indicate the Applicable Taxes separately.

### **1.2 Bidders should include the following information in their financial bid:**

- (a) Their legal name; and
- (b) The name of the contact person (including this person's mailing address, phone and facsimile numbers and email address) authorized by the Bidder to enter into communications with Canada with regards to their bid; and any contract that may result from their bid.

## **Section III - Certifications**

### **1. Certifications Required Precedent to Contract Award**

Bidders must provide the required certifications Part 5.

**PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION****1. Evaluation Procedures**

Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.

An evaluation team composed of representatives of Canada will evaluate the bids.

**1.1 Technical Evaluation**

Except where expressly provided otherwise, the experience described in the bid must be the experience of the Bidder itself (which includes the experience of any companies that formed the Bidder by way of a merger but does not include any experience acquired through a purchase of assets or an assignment of contract). The experience of the Bidder's affiliates (i.e. parent, subsidiary or sister corporations), subcontractors, or suppliers will not be considered.

**1.1.1 Mandatory Technical Criteria – Refer to Attachment 1 to Part 4**

Mandatory criteria are assessed on a simple pass/fail basis. Bids that fail to meet any of the mandatory criteria will be considered non-responsive.

**1.1.2 Point Rated Technical Criteria – Refer to Attachment 1 to Part 4**

A proposal must obtain the required minimum score of 15 points in the technical evaluation criteria to be considered responsive.

**1.2 Financial Evaluation****1.2.1 Mandatory Financial Criteria**

Bids which fail to meet the Mandatory Financial Criteria will be declared non-responsive.

Number	Criterion	Met/Not Met	Page Number
MF1	The maximum budget allocated for this project must not exceed \$345,000.00 applicable taxes extra, including all labour, associated costs and subcontractors. Bids valued in excess of this amount will be considered non-responsive. This disclosure of project funds does not commit the Department to pay such an amount.		

**1.3 Evaluation of Price**

The price of the bid will be evaluated in Canadian dollars including any option periods, the Applicable Taxes excluded, Canadian customs and excise taxes included.

For evaluation purposes only, the price of the bid will be determined as follows:

Proposals will be evaluated out of 30 points

The proposal with the lowest price receives the maximum 30 points, and all higher priced proposals will be pro-rated relative to the lowest price

**2. Basis of Selection****2.1 Basis of Selection - Highest Combined Rating of Technical Merit and Price**

1. To be declared responsive, a bid must:



- (a) comply with all the requirements of the bid solicitation;
  - (b) meet all mandatory financial criteria;  
and
  - (c) obtain the required minimum score of 15 points in the technical evaluation criteria.
2. Bids not meeting (a) or (b) or (c) will be declared non-responsive.
  3. The evaluation will be based on the highest responsive combined rating of technical merit and price. The ratio will be 70% for the technical merit and 30 % for the price.
  4. To establish the technical merit score, the overall technical score for each responsive bid will be determined as follows: total number of points obtained / maximum number of points available multiplied by the ratio of 70%.
  5. To establish the pricing score, each responsive bid will be prorated against the lowest evaluated price and the ratio of 30%
  6. For each responsive bid, the technical merit score and the pricing score will be added to determine its combined rating.
  7. Neither the responsive bid obtaining the highest technical score nor the one with the lowest evaluated price will necessarily be accepted. The responsive bid with the highest combined rating of technical merit and price will be recommended for award of a contract.

The table below illustrates an example where all three bids are responsive and the selection of the contractor is determined by a 70/30 ratio of technical merit and price, respectively. The total available points equals 100 and the lowest evaluated price is \$55,000.00.

**Basis of Selection - Highest Combined Rating Technical Merit (70%) and Price (30%)**

<u>Bidder</u>	Bidder 1	Bidder 2	Bidder 3
Overall Technical Score	90/100	70/100	80/100
Bid Evaluated Price	\$75,000.00	\$55,000.00	\$65,000.00
<u>Calculations</u>			
Technical Merit Score	$90/100 \times 70 = 63$	$70/100 \times 70 = 49$	$80/100 \times 70 = 56$
Pricing Score	$55/75 \times 30 = 22$	$55/55 \times 30 = 30$	$55/65 \times 30 = 25$
Combined Rating	85	79	81
Overall Rating	1 <sup>st</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>

**ATTACHMENT 1 TO PART 4  
MANDATORY TECHNICAL CRITERIA AND RATED TECHNICAL CRITERIA**

<b>Mandatory Technical Criteria</b>		Mandatory Criterion Met	Page Number
<b>Bidder/Corporate Experience</b>			
MT1	<p>The Bidder must have recent experience in identifying potential alternative cultivars and evaluating their market potential; assessing drainage issues; soils management; cover crop evaluation.</p> <p>In order to demonstrate this experience, the Bidder is requested to complete the Bidder Experience Table found at Attachment 2 to Part 4, or provide the equivalent.</p> <p>*Recent is defined as experience within the last five (5) years at bid closing.</p>		

Rated Technical Criteria		Points	Page Number
<b>Bidder/Corporate Experience</b>			
RT1	<p>The Bidder should have experience in transitioning conventional farming practices to organic.</p> <p>In order to demonstrate this experience, the Bidder is requested to complete the Bidder Experience Table found at Attachment 2 to Part 4, or provide the equivalent.</p> <p>2 points for each year up to a maximum of 10 points.</p>	/10	
<b>Resource Experience</b>			
RT2	<p>The Bidder's proposed Project Team should have experience in research and planning in agricultural areas and practices.</p> <p>In order to demonstrate this experience, the Bidder is requested to complete the Project Team Experience Table found at Attachment 3 to Part 4, or provide the equivalent.</p> <p>2 points for each year up to a maximum of 10 points.</p> <p>* The experience is the combined experience of the Project Team.</p>	/10	
<b>Resource Education</b>			
RT3	<p>The Bidder's proposed Project Manager should have a Masters or Doctorate in Botany Horticulture or Sustainable Food Science.</p> <p>In order to demonstrate this, the Bidder should state its proposed Project Manager's credentials in its bid. Environment and Climate Change Canada reserves the right to request proof prior to contract award.</p> <p>Doctorate – 10 points</p> <p>Masters – 5 points</p>	/10	

**ATTACHMENT 2 TO PART 4  
BIDDER EXPERIENCE TABLE**

The Bidder should complete the Bidder Experience and include it with its bid.

The Bidder Experience Tables is for MT1 and RT1

*Additional rows may be added as required.*

Bidder Experience Table	
Project 1	
Company:	
Start Date:	
End Date:	
Project Description:	
Project 2	
Company:	
Start Date:	
End Date:	
Project Description:	

**ATTACHMENT 3 TO PART 4  
PROJECT TEAM EXPERIENCE TABLE**

The Bidder should complete the Project Team Experience Table and include it with its bid. One table should be completed for each proposed resource.

The Project Team Experience Tables is for RT2

*Additional rows may be added as required.*

Project Team Experience Table	
Proposed Resource's Name:	
Project 1	
Company:	
Start Date:	
End Date:	
Project Description:	
Project 2	
Company:	
Start Date:	
End Date:	
Project Description:	

## **PART 5 - CERTIFICATIONS**

Bidders must provide the required certifications and associated information to be awarded a contract.

The certifications provided by bidders to Canada are subject to verification by Canada at all times. Canada will declare a bid non-responsive, or will declare a contractor in default in carrying out any of its obligations under the Contract, if any certification made by the Bidder is found to be untrue whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

The Contracting Authority will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Contracting Authority may render the bid non-responsive or constitute a default under the Contract.

### **1. Certifications Required Precedent to Contract Award**

#### **1.1 Integrity Provisions - Associated Information**

By submitting a bid, the Bidder certifies that the Bidder and its Affiliates are in compliance with the provisions as stated in Section 01 Integrity Provisions - Bid of Standard Instructions 2003. The associated information required within the Integrity Provisions will assist Canada in confirming that the certifications are true.

#### **1.2 Federal Contractors Program for Employment Equity - Bid Certification**

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list ([http://www.labour.gc.ca/eng/standards\\_equity/eq/emp/fcp/list/inelig.shtml](http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml)) available from Employment and Social Development Canada (ESDC) - Labour's website.

Canada will have the right to declare a bid non-responsive if the Bidder, or any member of the Bidder if the Bidder is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list at the time of contract award.

### **2. Additional Certifications Required Precedent to Contract Award**

The certifications listed below should be completed and submitted with the bid but may be submitted afterwards. If any of these required certifications is not completed and submitted as requested, the Contracting Authority will inform the Bidder of a time frame within which to provide the information. Failure to comply with the request of the Contracting Authority and to provide the certifications within the time frame provided will render the bid non-responsive.

#### **2.1 Status and Availability of Resources**

The Bidder certifies that, should it be awarded a contract as a result of the bid solicitation, every individual proposed in its bid will be available to perform the Work as required by Canada's representatives and at the time specified in the bid solicitation or agreed to with Canada's representatives. If for reasons beyond its control, the Bidder is unable to provide the services of an individual named in its bid, the Bidder may propose a substitute with similar qualifications and experience. The Bidder must advise the Contracting Authority of the reason for the substitution and provide the name, qualifications and experience of the proposed replacement. For the purposes of this clause, only the following reasons will be considered as beyond the control of the Bidder: death, sickness, maternity and parental leave, retirement, resignation, dismissal for cause or termination of an agreement for default.

If the Bidder has proposed any individual who is not an employee of the Bidder, the Bidder certifies that it has the permission from that individual to propose his/her services in relation to the Work to be performed and to submit his/her résumé to Canada. The Bidder must, upon request from the Contracting Authority, provide a written confirmation, signed by the individual, of the permission given to the Bidder and of his/her availability. Failure to comply with the request may result in the bid being declared non-responsive.

## 2.2 Education and Experience

SACC Manual clause A3010T (2010-08-16) Education and Experience

### **PART 6 - RESULTING CONTRACT** *(at contract award, delete this line)*

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation *(at contract award, delete this sentence and insert the title)*.

**Title:** *(insert title at contract award)*

#### **1. Security Requirement**

1.1 There is no security requirement applicable to this Contract.

#### **2. Statement of Work**

The Contractor must perform the Work in accordance with the Statement of Work at Annex "A".

#### **3. Standard Clauses and Conditions**

All clauses and conditions identified in the Contract by number, date and title are set out in the PWGSC *Standard Acquisition Clauses and Conditions Manual* (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

##### **3.1 General Conditions**

2010B (2020-05-28) General Conditions - Professional Services (Medium Complexity), as modified below, apply to and form part of the Contract.

General conditions 2010B is modified as follows:

##### **At Section 12 Transportation Costs**

**Delete:** In its entirety

**Insert:** "Deleted"

##### **At Section 13 Transportation Carriers" Liability**

**Delete:** In its entirety.

**Insert:** "Deleted"

##### **Insert Subsection: "36 Liability"**

"The Contractor is liable for any damage caused by the Contractor, its employees, subcontractors, or agents to Canada or any third party. Canada is liable for any damage caused by Canada, its employees or agents to the Contractor or any third party. The Parties agree that no limitation of liability or indemnity provision applies to the Contract unless it is specifically incorporated in full text in the Articles of Agreement. Damage includes any injury to persons (including injury resulting in death) or loss of or damage to property (including real property) caused as a result of or during the performance of the Contract."

#### **A. For professional services requirements where the deliverables are copyrightable works:**

##### **Canada to own Intellectual Property rights in Copyright**

##### **At Section 19 Copyright**

**Delete:** In its entirety

**Insert:**

1. In this section:  
"Material" means anything that is created or developed by the Contractor as part of the Work under the Contract, and in which copyright subsists.

"Background Information" means all Intellectual Property that is not Foreground Information that is incorporated into the Work or necessary for the performance of the Work and that is proprietary to or the confidential information of the Contractor, its subcontractors or any other third party;

"Foreground Information" means all Intellectual Property first conceived, developed, produced or reduced to practice as part of the Work under the Contract;

2. Material that is created or developed by the Contractor as part of the Work under the Contract belongs to Canada. The Contractor must incorporate the copyright symbol and either of the following notices, as appropriate: © Her Majesty the Queen in right of Canada (year) or © Sa Majesté la Reine du chef du Canada (année).
3. At the request of the Contracting Authority, the Contractor must provide to Canada, at the completion of the Work or at such other time as the Contracting Authority may require, a written permanent waiver of moral rights as defined in the [Copyright Act](#), R.S., 1985, c. C-42, in a form acceptable to the Contracting Authority, from every author that contributed to the Work. If the Contractor is an author, the Contractor permanently waives the Contractor's moral rights.
4. All Intellectual Property Rights in the Material belongs to Canada as soon as they come into existence. The Contractor has no right in or to any such Intellectual Property except any right that may be granted in writing by Canada.
5. The Contractor also grants to Canada a non-exclusive, perpetual, irrevocable, worldwide, fully-paid and royalty-free license to use the Background Information to the extent that this information is required by Canada to exercise its rights to use the Material. This license cannot be restricted in any way by the Contractor providing any form of notice to the contrary, including the wording on any shrink-wrapped license attached to any deliverable.

#### **4. Term of Contract**

##### **4.1 Period of the Contract**

The period of the Contract is from date of Contract to March 31, 2023 inclusive.

#### **5. Authorities**

##### **5.1 Contracting Authority**

The Contracting Authority for the Contract is:

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

Title: \_\_\_\_\_

Environment Canada

Procurement and Contracting

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

Telephone: \_\_\_\_ - \_\_\_\_ - \_\_\_\_\_

Facsimile: \_\_\_\_ - \_\_\_\_ - \_\_\_\_\_

Email address: \_\_\_\_\_

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

##### **5.2 Technical Authority**

The Technical Authority for the Contract is:



Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Organization: \_\_\_\_\_  
Address: \_\_\_\_\_

Telephone: \_\_\_\_-\_\_\_\_-\_\_\_\_\_  
Facsimile: \_\_\_\_-\_\_\_\_-\_\_\_\_\_  
Email address: \_\_\_\_\_

The Technical Authority named above is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Technical Authority, however the Technical Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

**5.3 Contractor's Representative**

The Contractor's Representative for the Contract is:

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Organization: \_\_\_\_\_  
Address: \_\_\_\_\_

Telephone: \_\_\_\_-\_\_\_\_-\_\_\_\_\_  
Facsimile: \_\_\_\_-\_\_\_\_-\_\_\_\_\_

**6. Proactive Disclosure of Contracts with Former Public Servants**

By providing information on its status, with respect to being a former public servant in receipt of a Public Service Superannuation Act (PSSA) pension, the Contractor has agreed that this information will be reported on departmental websites as part of the published proactive disclosure reports, in accordance with Contracting Policy Notice: 2012-2 of the Treasury Board Secretariat of Canada.

**7. Payment**

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm price of \$ \_\_\_\_\_ (*insert the amount at contract award*). Customs duties are \_\_\_\_\_ (*insert "included", "excluded" OR "subject to exemption"*) and Applicable Taxes are extra.

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

**7.2 Limitation of Expenditure**

- (a) Canada's total liability to the Contractor under the Contract must not exceed \$ \_\_\_\_\_. Customs duties are (*insert "included", "excluded" or "subject to exemption"*) and Applicable Taxes are extra.
- (b) No increase in the total liability of Canada or in the price of the Work resulting from any design changes, modifications or interpretations of the Work, will be authorized or paid to the Contractor unless these design changes, modifications or interpretations have been approved, in writing, by the Contracting Authority before their incorporation into the Work. The Contractor must not perform any work or provide any service that would result in Canada's total liability being exceeded before obtaining the written approval of the Contracting Authority. The Contractor must notify the Contracting Authority in writing as to the adequacy of this sum:

- (i) when it is 75 percent committed, or
- (ii) four (4) months before the contract expiry date, or
- (iii) as soon as the Contractor considers that the contract funds provided are inadequate for the completion of the Work,

whichever comes first.

- (c) If the notification is for inadequate contract funds, the Contractor must provide to the Contracting Authority a written estimate for the additional funds required. Provision of such information by the Contractor does not increase Canada's liability.

**8 Invoicing Instructions**

**8.1 Milestone Payments**

- (a) Canada will make milestone payments in accordance with the Schedule of Milestones detailed below and the payment provisions of the Contract if:
  - (i) an accurate and complete claim for payment and any other document required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
  - (ii) all such documents have been verified by Canada;
  - (iii) all work associated with the milestone and as applicable any deliverable required have been completed and accepted by Canada.

**8.2 Schedule of Milestones**

The schedule of milestones for which payments will be made in accordance with the Contract is as follows:

**Milestones:**

<b>Table of Milestones</b>		
<b>Task</b>	<b>Deliverable</b>	<b>Timeline: Deliverable Date</b>
<b>Year 1 - Contract award – March 31, 2021</b>		
<b>1. Assist CWS in bird and crop data analysis</b>	1. Assist CWS in bird and crop data analysis Report	March 31, 2021
<b>4. Drainage</b>	4.1 Long term drainage planning Work Plan	March 31, 2021
<b>5. Alternative Farming Systems</b>	5.1 Agrochemical Residue Baseline Report	March 31, 2021
<b>Year 2 – April 1, 2021 – March 31, 2022</b>		

<b>3. Microclimate Management</b>	3.1 Baseline climate data and comparison Report	March 31 2022
<b>4. Drainage</b>	4.2 Soil Workability, Water Holding Capacity and Salinity Report	2 year analysis – Final report March 31, 2022
<b>5. Alternative Farming Systems</b>	5.2 Insecticide comparison trials Report	2 year analysis – Final report March 31, 2022
<b>5. Alternative Farming Systems</b>	5.3 Pesticide randomized trial Report	2 year analysis – Final report March 31, 2022
<b>Year 3 – April 1, 2022 – March 31, 2023</b>		
<b>2. Cover Crops</b>	2.1 Cover crop evaluation Report	3 year analysis - Final Report March 31, 2023
<b>6. Alternative crops</b>	6.1 Cultivar comparison trials Report	3 year analysis – Final report March 31, 2023

## 9. Certifications

### 9.1 Compliance

Compliance with the certifications provided by the Contractor in its bid is a condition of the Contract and subject to verification by Canada during the term of the Contract. If the Contractor does not comply with any certification or it is determined that any certification made by the Contractor in its bid is untrue, whether made knowingly or unknowingly, Canada has the right, pursuant to the default provision of the Contract, to terminate the Contract for default.

## 10. Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in British Columbia.

## 11. Priority of Documents

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- (a) the Articles of Agreement;
- (b) Modified 2010B General Conditions - Professional Services (Medium Complexity) (2020-05-28)
- (c) Annex A, Statement of Work;
- (d) Annex B, Basis of Payment;
- (e) Annex C, Insurance Requirements
- (f) the Contractor's bid dated \_\_\_\_\_, (*insert date of bid*) (*If the bid was clarified or amended, insert at the time of contract award: "as clarified on \_\_\_\_\_" or "as amended on \_\_\_\_\_" and insert date(s) of clarification(s) or amendment(s).*)

## 12. Insurance Requirements

The Contractor must comply with the insurance requirements specified in Annex C. The Contractor must maintain the required insurance coverage for the duration of the Contract. Compliance with the insurance requirements does not release the Contractor from or reduce its liability under the Contract.

The Contractor is responsible for deciding if additional insurance coverage is necessary to fulfill its obligation under the Contract and to ensure compliance with any applicable law. Any additional insurance coverage is at the Contractor's expense, and for its own benefit and protection.

The Contractor must forward to the Contracting Authority within ten (10) days after the date of award of the Contract, a Certificate of Insurance evidencing the insurance coverage and confirming that the insurance policy complying with the requirements is in force. For Canadian-based Contractors, coverage must be placed with an Insurer licensed to carry out business in Canada, however, for Foreign-based Contractors, coverage must be placed with an Insurer with an A.M. Best Rating no less than "A-". The Contractor must, if requested by the Contracting Authority, forward to Canada a certified true copy of all applicable insurance policies

## ANNEX A STATEMENT OF WORK

### Title: Research, trials, and planning - Transition Alaksen NWA to Organic Agriculture

#### Background

Established in 1976, the Alaksen National Wildlife Area (NWA) protects important migration and over-wintering habitats for waterfowl and other birds. Located in the 67,000 hectare (Ward et al. 1992) Fraser River delta in southwestern British Columbia, the NWA is an important part of a vital link in a network of important Pacific coast habitats that stretch from Siberia to South America. No other site in Canada supports the diversity and number of birds in winter (at least half a million), and no comparable site exists along the Pacific coast between California and Alaska (Butler and Campbell 1987).

The NWA provides an overwintering site for many birds, particularly waterfowl, and is an important winter foraging site for Canada Geese, Snow Geese, Mallards, Northern Pintail, Green-winged Teal and American Widgeon. Management of the NWA has generally been focused on these species.

Agricultural land provides much of the wildlife habitat seen today on the Fraser River delta, including within the NWA. Cultivated fields make up approximately 140 ha (over 40%) of the total NWA and farming is the main management tool used on the NWA. Agriculture on the NWA provides important forage for wintering and migrating waterfowl, including the tens of thousands of Lesser Snow Geese (*Chen caerulescens*) that arrive each October. Historically, these birds and other waterfowl used the varied habitats from mudflats, foreshore marshes and seasonally flooded fields during migration and to over winter. Soil-based agriculture now serves a similar ecological function to seasonally flooded wet meadows. Currently, agricultural activities are permitted under specified conditions laid out in individual agreements between each farmer and the Canadian Wildlife Service.

Alaksen NWA is currently farmed using conventional commercial agricultural practices, which includes the use of highly toxic (to mammalian, avian and aquatic species), broad spectrum, and persistent pesticides.

Pesticide protocols have been put in place to mitigate the risk of exposure to staff and visitors on the site; however, over time, a number of considerations have emerged that now require a reevaluation of use of standard agricultural practices.

Environment and Climate Change Canada (ECCC) must meet its national obligations under current federal legislation including the *Species at Risk Act*, the *Canada Wildlife Act*, the *Migratory Bird Convention Act* and affiliated Regulations. ECCC must also meet its obligations under various international policies and agreements including the Federal Wetland Policy which holds Canada responsible for protecting habitat for waterfowl from impacts resulting from land or water use and environmental quality changes on federally protected areas.

The ecological management plan and situation at the Alaksen National Wildlife Area (herein referred to as the Alaksen) is unique and as such, it provides a diverse set of challenges for successful and ecological agricultural production on the wildlife area. Alaksen is one of a few NWAs in North America that utilize agricultural production to provide habitat. This site however, is a particularly challenging location to farm given the climate, soils and drainage, and farmers are now being asked to eliminate the use of conventional pesticides which introduces another layer of challenge for farming at this site. There is a clear need for scientific guidance on how best to address these challenges.

Main research activities can be categorized into six research themes, which are all interrelated and required to be carried out in concert by a qualified team. In order of their priority, they are:

1. Bird Management
2. Cover Crops
3. Microclimate Management
4. Drainage Management
5. Alternative Farming Systems

6. Alternative crops

Some of these research activities can be undertaken immediately, while others will be more far reaching and long term.

Each of the deliverables outlined below are ultimately intended to help identify which agricultural practices or land management options are most likely to realize multiple ecological objectives of the protected area. Each research element described below is integrated into the next – which will inform the next deliverable and how each research item will be carried out. ECCC requires the Contractor to coordinate all results using expertise in sustainable food systems. ECCC will provide advice on the wildlife side.

**Objective**

To aid the Canadian Wildlife Service and the Alaksen Farmers in a successful and efficient transition from conventional to organic farming.

To investigate the current agricultural model at Alaksen NWA in terms of crops, crop rotations, wildlife habitat and pesticide-free opportunities. Provide professional advice, both written and verbal.

**Timeline**

Year 1 – referred to as one (1) year – Duration: Contract award – March 31, 2021

Year 2 – referred to as two (2) years – Duration: April 1, 2021 – March 31, 2022

Year 3 – referred to as three (3) years – Duration: April 1, 2022 – March 31, 2023

**Tasks and Deliverables**

**1. Assist CWS in bird and crop data analysis**

Objective: Analyze the existing data of bird and crop interaction

An extensive data set has been collected by the CWS on bird occurrence by field in Alaksen from 2011 to the present. Crop management data recorded by the farmers has also been compiled by field during this period. These data will be aggregated and analyzed using multivariate statistical approaches to try and better understand how crop selection, field management and field size impact bird usage.

Deliverables: The relationship between crop selection, crop planting times and bird occurrence by species and intensity will be elucidated. Recommendations will be made for the timing of key agricultural operations. Results will be summarized in a report (Microsoft Word format, electronically) and presented in a briefing to Alaksen managers and farmers (This may need to be virtually presented in an online platform pending COVID conditions). The Technical Authority is also the lead Alaksen Manager.

Duration: One (1) year – All deliverables are due to the Technical Authority one (1) year after contract award.

**2. Cover Crops**

Cover crops play an important role at Alaksen, maintaining field soil quality, and providing bird forage and wildlife habitat. Getting cover crops successfully established, however, is a major challenge facing farmers in Alaksen. This occurs for several reasons. Given the poor drainage in Alaksen, farmers are often starting their summer crops late in the spring, thus extending the harvest into the fall delaying cover crop establishment. Additionally, if there is early fall precipitation, farmers are struggling to harvest their main season crop and plant a cover early enough in the fall to allow for sufficient cover crop establishment before frost and bird migration. Finally, if farmers are able to establish a cover crop in the fall, high bird foraging levels are decimating cover crops to the extent that there is little to no biomass covering the soil for much of the winter and nothing to incorporate in the spring.

Proposed research activities

## 2.1 Cover crop evaluation

Objective: Identify alternative cover cropping approaches.

Winter cover crop establishment is an important indicator for the success of operations on Alaksen. Cover crops serve not only as soil management tools for farmers over the winter, but also provide forage for migratory birds. This research will evaluate efficacy of cover crops both in their utility as a cover crop and the bird feed they provide. Different cover crop species and mixtures will be evaluated. Overall systems will also be investigated through research looking at a variety of cover crop planting dates and practices that impact establishment and survival. Relay cropping alternatives will be included.

Deliverables: Cover crop mixes and planting dates that better serve both farmers and migratory bird feeding needs will be identified. Results will be summarized in a report (Microsoft Word format, electronically) and presented in a briefing to Alaksen managers and farmers (This may need to be virtually presented in an online platform pending COVID conditions).

Duration: Three (3) years – All deliverables are due to the Technical Authority three (3) years after contract award.

## **3. Microclimate Management**

Fields at Alaksen are surrounded by a network of irrigation ditches and lined by hedgerows often on both sides. In many places the hedgerows have become overgrown, thick with trees and shrubs that often include invasive blackberry. Farmers have suggested that these thick hedgerows are limiting air movement and increasing humidity on the site which has the potential to increase the risk of fungal disease. This is particularly concerning for the potato growers as their major pest concern, late blight, spreads rapidly during times of high humidity. Research needs to be undertaken to determine if hedgerows are impacting micro-climate conditions and thus agriculture, and identify best hedgerow management practices that allow for wildlife habitat and environmental conditions conducive to agriculture. This is particularly critical if Alaksen farmers are to transition to pesticide free production. It is important to note the CWS recently planned to remove blackberries from a number of the hedgerows around Alaksen.

Proposed research activities

### 3.1 Baseline climate data and comparison

Objective: Develop a baseline of the micro-climatic conditions in the production fields of Alaksen and compare them to nearby fields.

Two permanent weather stations will be deployed, both in Alaksen, and outside the NWA (ideally in a nearby organic potato farm to determine suitability for organic potato production on Alaksen). Weekly field measurements of air temperature, humidity, wind speed and soil moisture will be taken across transects from hedgerow into agricultural fields throughout the course of the growing season.

Deliverables: The impact of a dense hedgerow on the micro-climate of Alaksen's fields will be quantified. The relative impact of hedgerow density and field size on micro-climate will also be determined. Results will be summarized in a report (Microsoft Word format, electronically) and presented in a briefing to Alaksen managers and farmers (This may need to be virtually presented in an online platform pending COVID conditions).

Duration: Two (2) years - All deliverables are due to the Technical Authority two (2) years after contract award.

## **4. Drainage**

An evaluation of the drainage infrastructure and options for improving it is needed to effectively address drainage and salinity issues threatening the sustainability of agricultural production within Alaksen. This is a known issue to farmers in Alaksen, who have noted increasing crop losses and salinity on a large portion of the NWA. Improved drainage is paramount to farming being successful on Alaksen as well as the

possibility of changing different agricultural systems and rotations. With greater drainage capacity, fields will dry faster after rain events, particularly during typically wet parts of the season - spring and, increasingly, fall. This will allow farmers to access their fields earlier in the spring, enabling planting of the main crop (potatoes or cabbage) earlier. Earlier planting would mean harvesting earlier which would enable cover crops sufficient time to establish. Improved drainage will also give the farmers increased flexibility in the fall to harvest and plant cover crops. Having an established cover crop prior to bird migrations and feeding may provide more bird forage and improve the possibility of maintaining some cover over the winter.

It is important to note that in order for any research on drainage to occur, the ditch network around all fields need to be improved to allow for adequate water movement and a means to remove it from this system. Ensuring adequate water movement likely will require ditch cleaning and potentially widening in some locations. Removing water from the system may require an installation of a pump to return excess water to the Fraser River.

Proposed research activities

#### 4.1 Long term drainage planning

Objective: Identify long term drainage solutions and develop a drainage plan that accounts for future changes in water table, precipitation and salt wedge.

The current drainage system will be evaluated to identify needed improvements based on the work of Ducks Unlimited Canada and regional climate modeling. The impacts of ditch maintenance, tile drain installation and pump installation will be evaluated for current and future conditions. The potential for using ditch water for sub-surface irrigation will also be assessed, taking into account the connectivity with the neighboring Fraser River and the salt wedge that is predicted to increase over time.

Deliverables: A detailed work plan for drainage improvements will be developed that will include prioritization of activities, costs and timelines.

Duration: One (1) year – All deliverables are due to the Technical Authority one (1) year after contract award.

#### 4.2 Soil Workability, Water Holding Capacity and Salinity

Objective: Evaluate the current status of soil workability, water holding capacity and salinity across the agricultural fields.

A detailed baseline of soil water and salinity are critical for developing effective agricultural management practices and tracking their impacts over time. A workability threshold, or soil water content that limits tillage operations, will be modeled for each of the fields in Alaksen. Soil moisture will then be monitored during the spring and fall shoulder seasons to determine the number of workable days, or days that fall below the workability threshold. Electrical conductivity will be monitored as an indicator of salinity at the beginning, middle and end of the production season. Soil water holding capacity for each field will be analyzed.

Deliverables: A detailed analysis of soil workability, water holding capacity and salinity of each field will be developed to help prioritize drainage and irrigation improvements and track impacts. Results will be summarized in a report (Microsoft Word format, electronically) and presented in a briefing to Alaksen managers and farmers (This may need to be virtually presented in an online platform pending COVID conditions).

Duration: Two (2) years - All deliverables are due to the Technical Authority two (2) years after contract award.

### **5. Alternative Farming Systems**



Chemical inputs used in agriculture (agrochemicals) have the potential to cause persistent contamination of wildlife and wildlife habitats. Until today, there has been no formal research to address how the agrochemicals being used in Alaksen may be impacting the environment of the natural wildlife area. Alaksen managers are however requiring farmers within the reserve to eliminate the use of agrochemical pesticides. Farmers are particularly concerned that taking away their ability to manage weeds, insects and soil pathogens using agrochemical pesticides will dramatically reduce their productive capacity. Before any recommendations are made to what alternative pest management approaches should replace the current pesticides being used, an evaluation of agrochemical short and long-term effects is required.

Additionally, the use of agrochemicals can be exacerbated by certain farming systems and practices. A detailed examination of how current integrated pest management practices may be affecting the distribution and abundance of pest populations and beneficial arthropod populations could serve to steer the production system towards one with less reliance on agrochemicals. While agrochemical fertilizers have not been identified by Alaksen managers as being a problem, if farmers eliminate agrochemical pesticides and fertilizers they could qualify for organic certification and benefit from the organic price premium and market.

Proposed research activities

#### 5.1 Agrochemical Residue Baseline

Objective: Assess the presence of agrochemicals in soils of Alaksen.

Soils, ditch sediments and water will be sampled throughout the agricultural fields on Alaksen, as well as several surrounding fields on Westham Island. Fields outside of Alaksen that are under conventional and organic management for similar agricultural products will serve as an important comparison. Soils will be analyzed for a suite of chemical constituents as well as microbial components. This baseline for agrochemical presence and indicators of movement will enable researchers to track changes in toxicology over time and assess the impacts of new agricultural practices.

Deliverables: A detailed baseline analysis of the chemical and microbial constituents in soils, ditch sediments and water across Alaksen agricultural fields and nearby farms. Results will be summarized in a report (Microsoft Word format, electronically) and presented in a briefing to Alaksen managers and farmers (This may need to be virtually presented in an online platform pending COVID conditions).

Duration: One (1) year - All deliverables are due to the Technical Authority one (1) year after contract award.

#### 5.2 Insecticide comparison trials

Objective: Evaluate organic insect management alternatives

On field research comparing the current arthropod pest management regime to an organically approved insecticide regime. Trials will be conducted in close proximity at Alaksen to ensure that climatic factors that may impact arthropod dynamics and crop development are accounted for.

Deliverables: Determine the effectiveness of organic insecticides as an alternative to conventional pesticides. Results will be summarized in a report (Microsoft Word format, electronically) and presented in a briefing to Alaksen managers and farmers (This may need to be virtually presented in an online platform pending COVID conditions).

Duration: Two (2) years - All deliverables are due to the Technical Authority two (2) years after contract award.

#### 5.3 Pesticide randomized trial

Objective: Identify alternative approaches for controlling weeds and soil pathogens.

A smaller scale randomized, controlled experiment will be conducted to compare agrochemical approaches to alternative mechanical and organic weed and fungal pest management regimes. Using an existing forage grass field, replicated treatments on small plots will be established and monitored for weed and fungal incidence over the course of two production seasons.

Deliverables: The viability of organic fungicides for production at Alaksen as well as organic weed management alternatives as potentially lower environmental impact options will be determined. Results will be summarized in a report (Microsoft Word format, electronically) and presented in a briefing to Alaksen managers and farmers (This may need to be virtually presented in an online platform pending COVID conditions).

Duration: Two (2) years - All deliverables are due to the Technical Authority two (2) years after contract award.

**6. Alternative crops**

Changes in crop and cultivar choices at the Alaksen NWA have the potential to reduce growing season constraints, leading to improved cover crop establishment, as well as reduce the reliance on pesticides. Additionally, crop diversification offers potential for improved farm profitability and risk mitigation. Historically farmers on Westham Island integrated peas and beans into their cropping systems, but as bird pressure increased they have abandoned these crops. An agronomic and economic evaluation of alternative crops and cultivars could facilitate the transition to a more sustainable cropping system at Alaksen.

Proposed research activities

**6.1 Cultivar comparison trials**

Objective: Identify potential alternative cultivars.

Collaborate in the extensive cultivar research and trialing farmers and other research scientist are already engaged in. Research will be conducted in collaboration with farmers to identify potentially valuable novel varieties and host small plots variety trials in conjunction with Canadian Organic Vegetable Improvement (CANOVI, <http://www.bcseedtrials.ca/>).

Deliverables: Cultivars will be identified that perform better in organic production systems, are diseases resistant and are suitable to the unique environmental factors at Alaksen. Potential new crops suitable for Alaksen will also be identified. Results will be summarized in a report (Microsoft Word format, electronically) and presented in a briefing to Alaksen managers and farmers (This may need to be virtually presented in an online platform pending COVID conditions).

Duration: Three (3) years - All deliverables are due to the Technical Authority three (3) years after contract award.

**Milestones:**

<b>Table of Milestones</b>		
<b>Task</b>	<b>Deliverable</b>	<b>Timeline: Deliverable Date</b>
<b>Year 1 - Contract award – March 31, 2021</b>		
<b>1. Assist CWS in bird and crop data analysis</b>	1. Assist CWS in bird and crop data analysis Report	March 31, 2021

<b>4. Drainage</b>	4.1 Long term drainage planning Work Plan	March 31, 2021
<b>5. Alternative Farming Systems</b>	5.1 Agrochemical Residue Baseline Report	March 31, 2021
<b>Year 2 – April 1, 2021 – March 31, 2022</b>		
<b>3. Microclimate Management</b>	3.1 Baseline climate data and comparison Report	March 31 2022
<b>4. Drainage</b>	4.2 Soil Workability, Water Holding Capacity and Salinity Report	2 year analysis – Final report March 31, 2022
<b>5. Alternative Farming Systems</b>	5.2 Insecticide comparison trials Report	2 year analysis – Final report March 31, 2022
<b>5. Alternative Farming Systems</b>	5.3 Pesticide randomized trial Report	2 year analysis – Final report March 31, 2022
<b>Year 3 – April 1, 2022 – March 31, 2023</b>		
<b>2. Cover Crops</b>	2.1 Cover crop evaluation Report	3 year analysis - Final Report March 31, 2023
<b>6. Alternative crops</b>	6.1 Cultivar comparison trials Report	3 year analysis – Final report March 31, 2023

**Acceptance Criteria:**

All deliverables produced by the Contractor will be subject to review by Environment and Climate Change Canada. All Work is to be performed to the satisfaction of the Technical Authority. Payment under this contract is subject to satisfactory completion of the Work.

**Schedule:**

Work is to commence upon award of contract and will be completed by March 31, 2023.

**Crown Input:**

Permits will be issued to the Contractor to allow the activity to take place on National Wildlife Area lands. The Technical Authority will provide access to the existing data, reports and maps of the site.

**Travel:**

All travel remains the responsibility of the Contractor.

**ANNEX B  
BASIS OF PAYMENT**

The Contractor will be paid as follows:

Table of Milestones		
Task	Deliverable	Percentage of Price
<b>Year 1 - Contract award – March 31, 2021</b>		
<b>1. Assist CWS in bird and crop data analysis</b>	1. Assist CWS in bird and crop data analysis Report	
<b>4. Drainage</b>	4.1 Long term drainage planning Work Plan	
<b>5. Alternative Farming Systems</b>	5.1 Agrochemical Residue Baseline Report	<b>40%</b>
<b>Year 2 – April 1, 2021 – March 31, 2022</b>		
<b>3. Microclimate Management</b>	3.1 Baseline climate data and comparison Report	
<b>4. Drainage</b>	4.2 Soil Workability, Water Holding Capacity and Salinity Report	
<b>5. Alternative Farming Systems</b>	5.2 Insecticide comparison trials Report	
<b>5. Alternative Farming Systems</b>	5.3 Pesticide randomized trial Report	<b>35%</b>
<b>Year 3 – April 1, 2022 – March 31, 2023</b>		
<b>2. Cover Crops</b>	2.1 Cover crop evaluation Report	
<b>6. Alternative crops</b>	6.1 Cultivar comparison trials Report	<b>25%</b>

**Bid Price:**                   \$ \_\_\_\_\_

**Applicable Taxes:**       \$ \_\_\_\_\_

**ANNEX C  
INSURANCE REQUIREMENT**

**Commercial General Liability Insurance**

1. The Contractor must obtain Commercial General Liability Insurance, and maintain it in force throughout the duration of the Contract, in an amount usual for a contract of this nature, but for not less than \$2,000,000 per accident or occurrence and in the annual aggregate.
2. The Commercial General Liability policy must include the following:
  - a. Additional Insured: Canada is added as an additional insured, but only with respect to liability arising out of the Contractor's performance of the Contract. The interest of Canada should read as follows: Canada, as represented by Public Works and Government Services Canada.
  - b. Bodily Injury and Property Damage to third parties arising out of the operations of the Contractor.
  - c. Products and Completed Operations: Coverage for bodily injury or property damage arising out of goods or products manufactured, sold, handled, or distributed by the Contractor and/or arising out of operations that have been completed by the Contractor.
  - d. Personal Injury: While not limited to, the coverage must include Violation of Privacy, Libel and Slander, False Arrest, Detention or Imprisonment and Defamation of Character.
  - e. Cross Liability/Separation of Insureds: Without increasing the limit of liability, the policy must protect all insured parties to the full extent of coverage provided. Further, the policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.
  - f. Blanket Contractual Liability: The policy must, on a blanket basis or by specific reference to the Contract, extend to assumed liabilities with respect to contractual provisions.
  - g. Employees and, if applicable, Volunteers must be included as Additional Insured.
  - h. Employers' Liability (or confirmation that all employees are covered by Worker's compensation (WSIB) or similar program)
  - i. Broad Form Property Damage including Completed Operations: Expands the Property Damage coverage to include certain losses that would otherwise be excluded by the standard care, custody or control exclusion found in a standard policy.
  - j. Notice of Cancellation: The Contractor will provide the Contracting Authority thirty (30) days prior written notice of policy cancellation or any changes to the insurance policy.
  - k. If the policy is written on a claims-made basis, coverage must be in place for a period of at least 12 months after the completion or termination of the Contract.
  - l. Owners' or Contractors' Protective Liability: Covers the damages that the Contractor becomes legally obligated to pay arising out of the operations of a subcontractor.
  - m. Non-Owned Automobile Liability - Coverage for suits against the Contractor resulting from the use of hired or non-owned vehicles.

- n. Advertising Injury: While not limited to, the endorsement must include coverage piracy or misappropriation of ideas, or infringement of copyright, trademark, title or slogan.
- o. Sudden and Accidental Pollution Liability (minimum 120 hours): To protect the Contractor for liabilities arising from damages caused by accidental pollution incidents.
- p. Litigation Rights: Pursuant to subsection 5(d) of the [Department of Justice Act](#), S.C. 1993, c. J-2, s.1, if a suit is instituted for or against Canada which the Insurer would, but for this clause, have the right to pursue or defend on behalf of Canada as an Additional Named Insured under the insurance policy, the Insurer must promptly contact the Attorney General of Canada to agree on the legal strategies by sending a letter, by registered mail or by courier, with an acknowledgement of receipt.

**For the province of Quebec, send to:**

*Director Business Law Directorate,  
Quebec Regional Office (Ottawa),  
Department of Justice,  
284 Wellington Street, Room SAT-6042,  
Ottawa, Ontario, K1A 0H8*

**For other provinces and territories, send to:**

*Senior General Counsel,  
Civil Litigation Section,  
Department of Justice  
234 Wellington Street, East Tower  
Ottawa, Ontario K1A 0H8*

A copy of the letter must be sent to the Contracting Authority. Canada reserves the right to co-defend any action brought against Canada. All expenses incurred by Canada to co-defend such actions will be at Canada's expense. If Canada decides to co-defend any action brought against it, and Canada does not agree to a proposed settlement agreed to by the Contractor's insurer and the plaintiff(s) that would result in the settlement or dismissal of the action against Canada, then Canada will be responsible to the Contractor's insurer for any difference between the proposed settlement amount and the amount finally awarded or paid to the plaintiffs (inclusive of costs and interest) on behalf of Canada.