



**RETURN BIDS TO:  
RETOURNER LES SOUMISSIONS À :**

Bid Receiving/Réception des soumissions

Procurement Hub | Centre  
d'approvisionnement  
Fisheries and Oceans Canada | Pêches et  
Océans Canada  
301 Bishop Drive | 301 promenade Bishop  
Fredericton, NB, E3C 2M6

**Email / Courriel :** [DFO.tenders-soumissions.MPO@dfo-mpo.gc.ca](mailto:DFO.tenders-soumissions.MPO@dfo-mpo.gc.ca)

**Cc:** [Florence.Laurin@dfo-mpo.gc.ca](mailto:Florence.Laurin@dfo-mpo.gc.ca)

**REQUEST FOR PROPOSAL  
DEMANDE DE PROPOSITION**

Proposal to: Fisheries and Oceans Canada

We hereby offer to sell to His Majesty the King in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods and services listed herein and on any attached sheets at the price(s) set out therefor.

Proposition à : Pêches et Océans Canada

Nous offrons par la présente de vendre à Sa Majesté le Roi du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux appendices ci-jointes, les biens et les services énumérés ici sur toute feuille ci-annexée, au(x) prix indiqué(s).

<b>Title / Titre</b> Development, Sampling, and Analysis of Nanoplastics on the North Shore of Quebec		<b>Date</b> July 10, 2024
<b>Solicitation No. / N° de l'invitation</b> 30005646		
<b>Client Reference No. / No. de référence du client(e)</b> 30005646		
<b>Solicitation Closes / L'invitation prend fin</b> <b>At / à :</b> 2 :00 PM EDT (Eastern Daylight Time) / HAE (Heure Avancée de l'Est) <b>On / le :</b> July 31, 2024		
<b>F.O.B. / F.A.B.</b> Destination	<b>Taxes</b> See herein — Voir ci-inclus	<b>Duty / Droits</b> See herein — Voir ci-inclus
<b>Destination of Goods and Services / Destinations des biens et services</b> See herein — Voir ci-inclus		
<b>Instructions</b> See herein — Voir ci-inclus		
<b>Address Inquiries to : / Adresser toute demande de renseignements à :</b> Florence Laurin, Spécialiste en approvisionnement <b>Email / Courriel:</b> <a href="mailto:Florence.Laurin@dfo-mpo.gc.ca">Florence.Laurin@dfo-mpo.gc.ca</a> <a href="mailto:DFO.tenders-soumissions.MPO@dfo-mpo.gc.ca">DFO.tenders-soumissions.MPO@dfo-mpo.gc.ca</a>		
<b>Delivery Required / Livraison exigée</b> See herein — Voir en ceci	<b>Delivery Offered / Livraison proposée</b>	
<b>Vendor Name, Address and Representative / Nom du vendeur, adresse et représentant du fournisseur/de l'entrepreneur</b>		
<b>Telephone No. / No. de téléphone</b>	<b>Facsimile No. / No. de télécopieur</b>	
<b>Name and title of person authorized to sign on behalf of Vendor (type or print) / Nom et titre de la personne autorisée à signer au nom du fournisseur (taper ou écrire en caractères d'imprimerie)</b>		
<b>Signature</b>	<b>Date</b>	



**TABLE OF CONTENTS**

**PART 1 - GENERAL INFORMATION ..... 3**

1.1 SECURITY REQUIREMENTS ..... 3

1.2 STATEMENT OF WORK..... 3

1.3 DEBRIEFINGS..... 3

1.4 TRADE AGREEMENTS ..... 3

**PART 2 - BIDDER INSTRUCTIONS ..... 4**

2.1 STANDARD INSTRUCTIONS, CLAUSES AND CONDITIONS ..... 4

2.2 SUBMISSION OF BIDS ..... 4

2.3 ENQUIRIES - BID SOLICITATION ..... 4

2.4 APPLICABLE LAWS ..... 4

2.5 BASIS FOR CANADA'S OWNERSHIP OF INTELLECTUAL PROPERTY ..... 5

2.6 BID CHALLENGE AND RECOURSE MECHANISMS ..... 5

**PART 3 - BID PREPARATION INSTRUCTIONS..... 7**

3.1 BID PREPARATION INSTRUCTIONS..... 7

**PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION ..... 10**

4.1 EVALUATION PROCEDURES ..... 10

4.2 BASIS OF SELECTION - HIGHEST RATED WITHIN BUDGET ..... 12

**PART 5 - CERTIFICATIONS..... 14**

5.1 CERTIFICATIONS REQUIRED WITH THE BID..... 14

5.2 CERTIFICATIONS PRECEDENT TO CONTRACT AWARD AND ADDITIONAL INFORMATION ..... 14

**PART 6 - RESULTING CONTRACT CLAUSES ..... 18**

6.1 SECURITY REQUIREMENTS ..... 18

6.2 STATEMENT OF WORK..... 18

6.3 STANDARD CLAUSES AND CONDITIONS ..... 18

6.4 TERM OF CONTRACT ..... 19

6.5 AUTHORITIES ..... 19

6.6 PROACTIVE DISCLOSURE OF CONTRACTS WITH FORMER PUBLIC SERVANTS..... 20

6.7 PAYMENT ..... 20

6.8 INVOICING INSTRUCTIONS..... 21

6.9 CERTIFICATIONS AND ADDITIONAL INFORMATION ..... 21

6.10 APPLICABLE LAWS ..... 22

6.11 PRIORITY OF DOCUMENTS ..... 22

6.12 INSURANCE - SPECIFIC REQUIREMENTS ..... 22

6.13 DISPUTE RESOLUTION..... 23

6.14 ENVIRONMENTAL CONSIDERATIONS ..... 23

**ANNEX A STATEMENT OF WORK..... 24**

**ANNEX B BASIS OF PAYMENT ..... 31**

**ANNEX C INSURANCE CONDITIONS ..... 33**



## **PART 1 - GENERAL INFORMATION**

### **1.1 Security Requirements**

There is no security requirement applicable to the Contract.

### **1.2 Statement of Work**

The Work to be performed is detailed under Annexe A of the resulting contract clauses.

### **1.3 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 from receipt of the results of the bid solicitation process. The debriefing may be in writing or by telephone.

### **1.4 Trade Agreements**

The requirement is subject to the Canada-Korea Free Trade Agreement (CKFTA).



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## PART 2 - BIDDER INSTRUCTIONS

### 2.1 Standard Instructions, Clauses and Conditions

**As this solicitation is issued by Fisheries and Oceans Canada (DFO), any reference to Public Works and Government Services Canada or PWGSC or its Minister contained in any term, condition or clause of this solicitation, including any individual SACC clauses incorporated by reference, will be interpreted as reference to DFO or its Minister.**

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/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](#) (2023-06-08) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

### 2.2 Submission of Bids

Bids must be submitted by the date, time and place indicated on page 1 of the bid solicitation.

Due to the nature of the bid solicitation, bids transmitted by facsimile to DFO will not be accepted.

### 2.3 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than 7 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.

### 2.4 Applicable Laws

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

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.



## 2.5 Basis for Canada's Ownership of Intellectual Property

Fisheries and Oceans Canada has determined that any intellectual property rights arising from the performance of the Work under the resulting contract will belong to Canada, for the following reasons, as set out in the Policy on Title to Intellectual Property Arising Under Crown Procurement Contracts:

- the main purpose of the Contract, or of the deliverables contracted for, is to generate knowledge and information for public dissemination

## 2.6 Bid Challenge and Recourse Mechanisms

- (a) Several mechanisms are available to potential suppliers to challenge aspects of the procurement process up to and including contract award.
- (b) Canada encourages suppliers to first bring their concerns to the attention of the Contracting Authority. Canada's [Buy and Sell](#) website, under the heading "Bid Challenge and Recourse Mechanisms" contains information on potential complaint bodies such as:
  - Office of the Procurement Ombudsman (OPO)
  - Canadian International Trade Tribunal (CITT)

The Office of the Procurement Ombudsman (OPO) was established by the Government of Canada to provide an impartial, independent venue for Canadian bidders to raise complaints regarding the award of certain federal contracts under \$33,400 for goods and \$133,800 for services. If you have concerns regarding the award of a federal contract below these dollar amounts, you may contact OPO by e-mail at [boa.opo@boa-opo.gc.ca](mailto:boa.opo@boa-opo.gc.ca), by telephone at 1-866-734-5169, or by web at [www.opo-boa.gc.ca](http://www.opo-boa.gc.ca).

- (c) Suppliers should note that there are **strict deadlines** for filing complaints, and the time periods vary depending on the complaint body in question. Suppliers should therefore act quickly when they want to challenge any aspect of the procurement process.

## 2.7 Technical Difficulties of Bid Transmission

Despite anything to the contrary in (05), (06) or (08) of the Standard Instructions, where a Bidder has commenced transmission of its bid through an electronic submission method (such as facsimile or Canada Post Corporation's (CPC) Connect service, or other online service) in advance of the bid solicitation closing date and time, but due to technical difficulties, Canada was unable to receive or decode the entirety of the Bid by the deadline, Canada may nonetheless accept the entirety of the Bid received after the bid solicitation closing date and time, provided that the Bidder can demonstrate the following:

- i. The bidder contacted Canada in advance of the bid solicitation closing date and time to attempt to resolve its technical difficulties; OR
- ii. The electronic properties of the Bid documentation clearly indicate that all components of the Bid were prepared in advance of the bid solicitation closing date and time.

## 2.8 Completeness of the Bid

After the closing date and time of this bid solicitation, Canada will examine the Bid to determine completeness. The review for completeness will be limited to identifying whether any information submitted as part of the bid can be accessed, opened, and/or decoded. This review does not constitute



an evaluation of the content, will not assess whether the Bid meets any standard or is responsive to all solicitation requirements, but will be solely limited to assessing completeness. Canada will provide the Bidder with the opportunity to submit information found to be missing or incomplete in this review within two business days of notice.

Specifically, the bid will be reviewed and deemed to be complete when the following elements have been submitted by the bidder:

1. That certifications and securities required at bid closing are included.
2. That bids are properly signed, that the bidder is properly identified.
3. Acceptance of the terms and conditions of the bid solicitation and resulting contract.
4. That all documents created prior to bid closing but due to technical difficulties Canada was unable to receive them, have been properly submitted and received by Canada.
5. All certifications, declarations and proofs created prior to bid closing but due to technical difficulties Canada was unable to receive them, have been properly submitted and received by Canada.



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## PART 3 - BID PREPARATION INSTRUCTIONS

### 3.1 Bid Preparation Instructions

Canada requests that the Bidder submit **all** its **email** bid in separately saved sections as follows and **prior to the bid closing date, time and location**:

**Section I: Technical Bid** (one soft copy in PDF format)

**Section II: Financial Bid** (one soft copy in PDF format)

**Section III: Certifications** (one soft copy in PDF format)

#### **Important Note:**

The maximum size per email (including attachments) is limited to 10MB. If the limit is exceeded, your email might not be received by DFO. It is suggested that you compress the email size to ensure delivery. Bidders are responsible to send their proposal and to allow enough time for DFO to receive the proposal by the closing period indicated in the RFP. Emails with links to bid documents will not be accepted.

For bids transmitted by email, DFO will not be responsible for any failure attributable to the transmission or receipt of the email bid. DFO will send a confirmation email to the Bidders when the submission is received.

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

#### **Section I: Technical Bid**

In their technical bid, Bidders should explain and demonstrate how they propose to meet the requirements and how they will carry out the Work.

#### **Section II: Financial Bid**

Bidders must submit their financial bid in accordance with the Pricing Schedule detailed in Attachment 1 to Part 3.

#### **3.1.2 Exchange Rate Fluctuation**

The requirement does not offer exchange rate fluctuation risk mitigation. Requests for exchange rate fluctuation risk mitigation will not be considered. All bids including such provision will render the bid non-responsive.

#### **Section III: Certifications**

Bidders must submit the certifications and additional information required under Part 5.



## ATTACHMENT 1 TO PART 3 – PRICING SCHEDULE

The Bidder must complete this pricing schedule and include it in its financial bid.

Under any resulting contract, Canada will not accept travel and living expenses that may need to be incurred by the contractor for any relocation of resources required to satisfy its contractual obligations.

### 1.0 Fees

Provided the Contractor satisfactorily fulfills all of its obligations under the Contract, it will be paid firm unit prices. Firm unit prices MUST include ALL costs related to the execution of the work. Customs duties are included and applicable taxes are extra.

INITIAL CONTRACT PERIOD: Award date until March 31, 2025			
Item	Name of the Phase	Work description	Firm unit price <i>Insert the amount</i>
1	<b>Phase 1 :</b> Preparation and planning	<ul style="list-style-type: none"> <li>Project launch meeting with all stakeholders.</li> <li>Definition of specific objectives and research hypotheses.</li> <li>Detailed planning of sampling sites and analysis methods, acquisition of necessary equipment.</li> </ul>	\$ _____
2	<b>Phase 2:</b> Sampling and preliminary analyzes	<ul style="list-style-type: none"> <li>Training of the team in sampling and analysis methods.</li> <li>Start of sample collection at predefined sites</li> <li>Analysis of the first samples collected and adjustments to the methods if necessary.</li> </ul>	\$ _____
3	<b>Phase 3:</b> Data analysis and preparation of interim reports	<ul style="list-style-type: none"> <li>Analysis of collected data.</li> <li>Preparation and presentation of first interim reports to stakeholders.</li> <li>Planning of work for the following year based on the results obtained.</li> </ul>	\$ _____
<b>Total all-inclusive price (excluding taxes)</b>			\$ _____ <b>(A)</b>

OPTION PERIOD 1: From April 1, 2025 until March 31, 2026			
Item	Name of the phase	Work description	Firm unit price <i>Insert the amount</i>
4	<b>Phase 4:</b> Sampling finalization and advanced analyzes	<ul style="list-style-type: none"> <li>Finalization of sample collection. Deepening analyzes with a focus on nanometrology and high-resolution mass spectrometry.</li> </ul>	\$ _____





<b>5</b>	<b>Phase 5 :</b> Data analysis and article writing	<ul style="list-style-type: none"> <li>• Statistical processing of data</li> <li>• Start of writing scientific articles and detailed reports.</li> <li>• Finalization of data analyses.</li> <li>• Finalization of research reports, scientific articles for submission to journals, and preparation of other deliverables (databases, management recommendations, etc.).</li> </ul>	\$ _____
<b>6</b>	<b>Phase 6 :</b> Dissemination of results and closure of the project	<ul style="list-style-type: none"> <li>• Organization of workshops/seminars with stakeholders.</li> <li>• Presentation of final results, articles approval, dissemination of management recommendations.</li> <li>• Dissemination of data on a public site.</li> <li>• Project evaluation, closing meetings and preparation of final documentation.</li> </ul>	\$ _____
<b>Total All-Inclusive Price (excluding taxes)</b>			\$ _____ <b>(B)</b>

<b>TOTAL PRICE FOR EVALUATION PURPOSES</b>	
<b>INITIAL CONTRACT PERIOD – TOTAL ALL INCLUSIVE PRICE</b>	<b>(A)</b> \$ _____
<b>OPTION PERIOD 1 – TOTAL ALL INCLUSIVE PRICE</b>	<b>(B)</b> \$ _____
<b>Total financial offer (excluding taxes)</b>	<b>\$</b> _____



## PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

### 4.1 Evaluation Procedures

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.

#### 4.1.1 Technical Evaluation

##### 4.1.1.1 Mandatory Technical Criteria

Submissions must meet all the mandatory technical criteria listed below. The bidder must provide the necessary documentation to demonstrate that it complies with this requirement.

Submissions that do not meet all mandatory technical criteria will be declared inadmissible. Each mandatory technical criterion should be treated separately.

NOTE regarding project timeline with respect to date and total number of months.

Submission should note that months of experience listed for a project where the timeline overlaps with another referenced project, it will only be counted once. For example, if the timeline for project 1 is July 2019 to December 2019, and the timeline for project 2 is October 2019 to January 2020, the total number of months of experience for these two projects is seven (7) months.

Criterion number	Mandatory technical criterion	Reference to the proposal (no. page)
O1	The bidder <b>MUST</b> name a principal researcher and include their resume.	
O2	<p>The bidder <b>MUST</b> demonstrate, through 5 projects completed in the last ten years, that his principal researcher has experience in the field of environmental chemistry of nanoplastic detection.</p> <p>To demonstrate his experience, the bidder must provide a list of five projects for which its resource was the scientific manager, including the following information:</p> <ol style="list-style-type: none"> <li>1. Project title</li> <li>2. Dates (start – end (MM-YYYY))</li> <li>3. Project description</li> <li>4. Description of the tasks carried out by the principal researcher.</li> </ol>	
O3	<p>The Bidder <b>MUST</b> demonstrate that they have the necessary equipment to complete the work according to the work statements.</p> <p>To demonstrate compliance, the bidder must include Attachment 1 from Part 4 duly completed, attested, signed and dated.</p>	



<b>O4</b>	<p>The bidder <b>MUST</b> demonstrate, with the help of his research, that he is able to carry out nanoplastics analyzes in the marine environment (seawater, sediments or organisms related to the marine environment).</p> <p>To demonstrate his experience, the bidder must provide a list of five scientific publications including the following information:</p> <ol style="list-style-type: none"> <li>1. Title of the article</li> <li>2. Publication date</li> <li>3. Authors</li> <li>4. Summary of the article</li> <li>5. DOI (digital object identifier) link.</li> </ol> <p><b>Note:</b> This mandatory requirement will be evaluated according to rated technical criterion No. C1.</p>	
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#### 4.1.1.2 Point Rated Technical Criteria

Submissions that meet all mandatory technical criteria will be evaluated and scored as specified in the tables below.

Submissions that do not obtain the minimum number of points required will be declared non-compliant. Each rated technical criterion must be treated separately.

Criterion number	Description	Scoring structure	Points	Reference to the proposal with number page
C1	<p>Using the information provided in Mandatory Technical Criterion No. O4, the bidder will be awarded additional points for each scientific publication in each category (sea water, sediments and organisms related to the marine environment).</p> <p>A bonus of 5 points will be awarded if the publications cover all categories.</p>	<p>1 article or more in seawater = 5 pts</p> <p>1 article or more in sediment = 5 pts</p> <p>1 article or more in organisms = 5 pts</p> <p>Bonus of 5 pts if there is an article in each category (water, sediment, organism)</p>	<p>_____/20</p> <p><b>MIN 5 pts/ MAX 20 pts</b></p>	



#### **4.2 Basis of Selection - Highest Rated Within Budget**

1. To be declared responsive, a bid must:
  - a. Comply with all the requirements of the bid solicitation;
  - b. Meet all mandatory technical evaluation criteria and;
  - c. Obtain the required minimum of 5 points overall for the technical evaluation criteria which are subject to point rating. The rating is performed on a scale of 20 points.
  
2. Bids not meeting (a) or (b) or (c) will be declared non responsive.. The responsive bid with the highest number of points will be recommended for award of a contract, provided that the total evaluated price does not exceed the budget available for this requirement.

The maximum funding available for the Contract resulting from the bid solicitation is 60,000.00\$ (Applicable Taxes extra) per contractual year. Bids valued in excess of this amount will be considered non-responsive. This disclosure does not commit Canada to pay the maximum funding available.



**ATTACHMENT 1 TO PART 4 – CERTIFICATE OF COMPLIANCE**

I, \_\_\_\_\_ (first and last name), as representative of  
\_\_\_\_\_ (company name) as part of the call for tenders  
\_\_\_\_\_ (insert call for tender number), certifies and attests to be able to  
provide the following conditions described in Annex A, Statement of Work and have the list of  
following mandatory equipment:

<b>Equipment name</b>	<b>Brand</b>	<b>Model</b>	<b>Year</b>
Mass spectrometer triple quadrupole			
UV-Visible Spectroscope			
Devices for diffraction and diffusion of light (DLS, LDA)			
Chromatograph in gas phase.			

I certify that the information provided is true as of the date indicated below and that it will continue for the duration of the contract. I also understand that Canada will declare a contractor in default if a certificate is found to be false, knowingly or unknowingly, during the period call for tenders or contract. Canada reserves the right to request information additional at all times. Failure to comply with any request or requirement imposed by the Canada may constitute a breach of contract.

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

Date : \_\_\_\_\_



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## PART 5 - CERTIFICATIONS

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

The certifications provided by Bidders to Canada are subject to verification by Canada at all times. Unless specified otherwise, Canada will declare a bid non-responsive, or will declare a contractor in default 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 will render the bid non-responsive or constitute a default under the Contract.

### 5.1 Certifications Required with the Bid

Bidders must submit the following duly completed certifications as part of their bid.

#### 5.1.1 Integrity Provisions – Declaration of Convicted Offences

In accordance with the Integrity Provisions of the Standard Instructions, all bidders must provide with their bid, **if applicable**, the declaration form available on the [Forms for supplier integrity compliance](#) website, to be given further consideration in the procurement process.

### 5.2 Certifications Precedent to Contract Award and Additional Information

The certifications and additional information listed below should be submitted with the bid, but may be submitted afterwards. If any of these required certifications or additional information 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 provide the certifications or the additional information listed below within the time frame provided will render the bid non-responsive.

#### 5.2.1 Integrity Provisions – Required Documentation

In accordance with the section titled Information to be provided when bidding, contracting or entering into a real procurement agreement of the [Ineligibility and Suspension Policy](#), the Bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.

#### 5.2.2 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.



### 5.2.3 Education and Experience

The Bidder certifies that all the information provided in the résumés and supporting material submitted with its bid, particularly the information pertaining to education, achievements, experience and work history, has been verified by the Bidder to be true and accurate. Furthermore, the Bidder warrants that every individual proposed by the Bidder for the requirement is capable of performing the Work described in the resulting contract.

### 5.2.4 List of Names for Integrity Verification Form

Bidders must complete the applicable Integrity Verification forms; **Forms for supplier integrity compliance**

### 5.2.5 Contractor's Representative

The Contractor's Representative for the Contract is:

Name: \_\_\_\_\_  
 Title: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Telephone: \_\_\_\_\_  
 Facsimile: \_\_\_\_\_  
 E-mail: \_\_\_\_\_

### 5.2.6 Supplementary Contractor Information

Pursuant to paragraph 221 (1)(d) of the Income Tax Act, payments made by departments and agencies under applicable services contracts (including contracts involving a mix of goods and services) must be reported on a T4-A supplementary slip.

To enable the Department of Fisheries and Oceans to comply with this requirement, the Contractor hereby agrees to provide the following information which it certifies to be correct, complete, and fully discloses the identification of this Contractor:

- a) The legal name of the entity or individual, as applicable (the name associated with the Social Insurance Number (SIN) or Business Number (BN), as well as the address and the postal code:

\_\_\_\_\_

- b) The status of the contractor (individual, unincorporated business, corporation or partnership:

\_\_\_\_\_

- c) For individuals and unincorporated businesses, the contractor's SIN and, if applicable, the BN, or if applicable, the Goods and Services Tax (GST)/Harmonized Sales Tax (HST) number:

\_\_\_\_\_

- d) For corporations, the BN, or if this is not available, the GST/HST number. If there is no BN or GST/HST number, the T2 Corporation Tax number must be shown:

\_\_\_\_\_



## 5.2.7 Former Public Servant

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 FPSs, 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" means a 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 and includes:

- (a) an individual;
- (b) an individual who has incorporated;
- (c) a partnership made up of former public servants; or
- (d) 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

Is the Bidder a FPS in receipt of a pension as defined above?

**YES ( ) NO ( )**

If so, the Bidder must provide the following information:

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





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## Work Force Reduction Program

Is the Bidder a FPS who received a lump sum payment pursuant to the terms of a work force reduction program?

**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 week;
- g. number and amount (professional fees) of other contracts subject to the restrictions of a work force reduction program.

### The following certification signed by the contractor or an authorized officer:

"I certify that I have examined the information provided above and that it is correct and complete"

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Print Name of Signatory



## PART 6 - RESULTING CONTRACT CLAUSES

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation.

### 6.1 Security Requirements

6.1.1 There is no security requirement applicable to the Contract.

### 6.2 Statement of Work

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

### 6.3 Standard Clauses and Conditions

**As this contract is issued by Fisheries and Oceans Canada (DFO), any reference to Public Works and Government Services Canada or PWGSC or its Minister contained in any term, condition or clause of this contract, including any individual SACC clauses incorporated by reference, will be interpreted as reference to DFO or its Minister.**

All clauses and conditions identified in the Contract by number, date and title are set out in the [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/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.

#### 6.3.1 General Conditions

6.3.1.1 [2010B](#) (2022-12-01) General Conditions - Professional Services (Medium Complexity) apply to and form part of the Contract.

6.3.1.2 Subsection 10 of [2010B](#) (2013-03-21) General Conditions - Professional Services (Medium Complexity) – Invoice submission, is amended as follows:

Delete: 2010B 10 (2013-03-21), Invoice submission

Insert: **Invoice submission**

1. Invoices must be submitted in the Contractor's name to [DFO.invoicing-facturation.MPO@DFO-MPO.gc.ca](mailto:DFO.invoicing-facturation.MPO@DFO-MPO.gc.ca) with a cc to: *will be disclosed upon the awarding of the contract*. The Contractor must submit invoices for each delivery or shipment; invoices must only apply to the Contract. Each invoice must indicate whether it covers partial or final delivery.
2. Invoices must show:
  - a. Contractor's Name and remittance physical address;
  - b. Contractor's CRA Business Number or Procurement Business Number (PBN);
  - c. Invoice Date;
  - d. Invoice Number;
  - e. Invoice Amount (broken down into item and tax amounts);
  - f. Invoice Currency (if not in Canadian dollars);
  - g. DFO Reference Number (PO Number or other valid reference number);
  - h. DFO Contact Name (DFO employee who initiated the order or to whom the goods were sent. **Note:** Invoice will be return to the Contractor if that information is not provided);



- i. Description of the goods or services supplied (provide details of expenditures (such as item, quantity, unit of issue, fixed time labour rates and level of effort, subcontracts, as applicable) in accordance with the Basis of Payment, exclusive of Applicable Taxes;
  - j. Deduction for holdback, if applicable;
  - k. The extension of the totals, if applicable; and
  - l. If applicable, the method of shipment together with date, case numbers and part or reference numbers, shipment charges and any other additional charges.
3. Applicable Taxes must be specified on all invoices as a separate item along with corresponding registration numbers from the tax authorities. All items that are zero-rated, exempt or to which Applicable Taxes do not apply, must be identified as such on all invoices.
4. By submitting an invoice, the Contractor certifies that the invoice is consistent with the Work delivered and is in accordance with the Contract.

### 6.3.2 Supplemental General Conditions

[4007](#) (2022-12-01) Canada to own intellectual property rights in Foreground Information, apply to and form part of the Contract.

## 6.4 Term of Contract

### 6.4.1 Period of the Contract

The period of the Contract is from date of Contract to March 31, 2025 inclusive.

### 6.4.2 Option to Extend the Contract

The Contractor grants to Canada the irrevocable option to extend the term of the Contract by up to 1 additional 1 year period under the same conditions. The Contractor agrees that, during the extended period of the Contract, it will be paid in accordance with the applicable provisions as set out in the Basis of Payment.

Canada may exercise this option at any time by sending a written notice to the Contractor at least 15 calendar days before the expiry date of the Contract. The option may only be exercised by the Contracting Authority, and will be evidenced for administrative purposes only, through a contract amendment.

## 6.5 Authorities

### 6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name : Florence Laurin  
Title : Spécialiste en approvisionnement  
Department: Fisheries and Oceans Canada  
Organization: Materiel and Procurement Services  
Address : 301 Bishop Drive, Fredericton, NB, E3C 2M6  
Telephone : 450-495-0432  
Email : [florence.laurin@dfo-mpo.gc.ca](mailto:florence.laurin@dfo-mpo.gc.ca)



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.

**6.5.2 Project Authority *(to be inserted at Contract award)***

The Project Authority for the Contract is:

Name: \_\_\_\_\_  
 Title: \_\_\_\_\_  
 Organization: \_\_\_\_\_  
 Address: \_\_\_\_\_  
  
 Telephone: \_\_\_\_\_  
 E-mail address: \_\_\_\_\_

The Project Authority 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 Project Authority, however the Project 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.

**6.5.3 Contractor's Representative *(to be determined upon the awarding of the contract)***

Name: \_\_\_\_\_  
 Title: \_\_\_\_\_  
 Organization: \_\_\_\_\_  
 Address: \_\_\_\_\_  
  
 Telephone: \_\_\_\_\_  
 Facsimile: \_\_\_\_\_  
 E-mail address: \_\_\_\_\_

**6.6 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.

**6.7 Payment**

**6.7.1 Basis of Payment – Firm Unit Prices**

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid firm unit prices as specified in Annex B for a cost of \$\_\_\_\_\_ *(to be inserted at Contract award)* Customs duties are included 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.



## 6.7.2 Methods of Payment

### 6.7.2.1 Multiple Payments

Canada will pay the Contractor upon completion and delivery of units in accordance with the payment provisions of the Contract if:

- a. an accurate and complete invoice and any other documents required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
- b. all such documents have been verified by Canada;
- c. the Work delivered has been accepted by Canada.

The Contractor must submit time sheets for each resource showing the days, the total hours, and the actual time worked in a 24 hour period (e.g. 7.5 hours - from 8:00 AM to 12:00 PM and from 12:30 PM to 4:00 PM) excluding any passive time such as retainer or standby time or time awaiting for information or task assignment or any other form of passive time similar to the ones described above to support the charges claimed in the invoice.

## 6.7.3 Electronic Payment of Invoices – Contract

The Contractor accepts to be paid using any of the following Electronic Payment Instrument(s):

- i. Acquisition Card;
- ii. Direct Deposit (Domestic and International)

## 6.8 Invoicing Instructions

**6.8.1** The Contractor must submit invoices in accordance with subsection 6.3.1.2 entitled “Invoice Submission” above. Invoices cannot be submitted until all work identified in the invoice is completed.

**6.8.2** Payments will be made provided that the invoice(s) are emailed to DFO Accounts Payable at [DFO.invoicing-facturation.MPO@DFO-MPO.gc.ca](mailto:DFO.invoicing-facturation.MPO@DFO-MPO.gc.ca) with a cc to: *will be disclosed upon the awarding of the contract* and provides the required information as stated in subsection 6.8.1 above.

## 6.9 Certifications and Additional Information

### 6.9.1 Compliance

Unless specified otherwise, the continuous compliance with the certifications provided by the Contractor in its bid or precedent to contract award, and the ongoing cooperation in providing additional information are conditions of the Contract and failure to comply will constitute the Contractor in default. Certifications are subject to verification by Canada during the entire period of the Contract.

### 6.9.2 Replacement of Specific Individuals

1. If specific individuals are identified in the Contract to perform the Work, the Contractor must provide the services of those individuals unless the Contractor is unable to do so for reasons beyond its control.



2. If the Contractor is unable to provide the services of any specific individual identified in the Contract, it must provide a replacement with similar qualifications and experience. The replacement must meet the criteria used in the selection of the Contractor and be acceptable to Canada. The Contractor must, as soon as possible, give notice to the Contracting Authority of the reason for replacing the individual and provide:
  - (a) the name, qualifications and experience of the proposed replacement; and
  - (b) proof that the proposed replacement has the required security clearance granted by Canada, if applicable.
3. The Contractor must not, in any event, allow performance of the Work by unauthorized replacement persons. The Contracting Authority may order that a replacement stop performing the Work. In such a case, the Contractor must immediately comply with the order and secure a further replacement in accordance with subsection 2. The fact that the Contracting Authority does not order that a replacement stop performing the Work does not relieve the Contractor from its responsibility to meet the requirements of the Contract.

#### 6.10 Applicable Laws

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

#### 6.11 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) the supplemental general conditions [4007](#) (2022-12-01) – Canada to own intellectual property rights in Foreground Information
- (c) the general conditions [2010B](#) (2022-12-01) – General Conditions - Professional Services (Medium Complexity)
- (d) Annex A, Statement of Work;
- (e) Annex B, Basis of Payment;
- (f) Annex C, Insurance Conditions et;
- (g) the Contractor's bid dated *(will be determined upon the awarding of the contract)*

#### 6.12 Insurance - Specific 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.

### 6.13 Dispute Resolution

- (a) The parties agree to maintain open and honest communication about the Work throughout and after the performance of the contract.
- (b) The parties agree to consult and co-operate with each other in the furtherance of the contract and promptly notify the other party or parties and attempt to resolve problems or differences that may arise.
- (c) If the parties cannot resolve a dispute through consultation and cooperation, the parties agree to consult a neutral third party offering alternative dispute resolution services to attempt to address the dispute.
- (d) Options of alternative dispute resolution services can be found on Canada's Buy and Sell website under the heading "[Dispute Resolution](#)".
- (e) The Parties agree to make every reasonable effort, in good faith, to settle amicably all disputes or claims relating to the Contract, through negotiations between the Parties' representatives authorized to settle. If the Parties do not reach a settlement within 25 working days after the dispute was initially raised to the other party in writing, *either Party* may contact the Office of the Procurement Ombudsman (OPO) to request dispute resolution/mediation services. OPO may be contacted by e-mail at [boa.opo@boa-opo.gc.ca](mailto:boa.opo@boa-opo.gc.ca), by telephone at 1-866-734-5169, or by web at [www.opo-boa.gc.ca](http://www.opo-boa.gc.ca).
- (f) The Office of the Procurement Ombudsman (OPO) was established by the Government of Canada to provide an impartial, independent venue for Canadian bidders to raise complaints regarding the administration of certain federal contracts, regardless of dollar value. If you have concerns regarding the administration of a federal contract, you may contact OPO by e-mail at [boa.opo@boa-opo.gc.ca](mailto:boa.opo@boa-opo.gc.ca), by telephone at 1-866-734-5169, or by web at [www.opo-boa.gc.ca](http://www.opo-boa.gc.ca).

### 6.14 Environmental Considerations

As part of Canada's policy directing federal departments and agencies to take the necessary steps to acquire products and services that have a lower impact on the environment than those traditionally acquired, Contractors should:

- a) Paper consumption:
  - Provide and transmit draft reports, final reports in electronic format. Should printed material be required, double sided printing in black and white format is the default unless otherwise specified by the Project Authority.
  - Printed material is requested on minimum recycled content of 30% and/or certified as originating from a sustainably managed forest.
  - Recycle unneeded printed documents (in accordance with Security requirements).
- b) Travel requirements:
  - The Contractor is encouraged to use video and/or teleconferencing where possible to cut down unnecessary travel.
  - Use of Properties with Environmental Ratings: Contractors to the Government of Canada may access the PWGSC Accommodation directory, which includes Eco-Rated properties. When searching for accommodation, Contractors can go to the following link and search for properties with Environmental Ratings, identified by Green Keys or Green Leafs that will honour the pricing for Contractors.
  - Use public transportation or another method of green transportation as much as possible.



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## ANNEX A

### STATEMENT OF WORK

#### 1.1 Title

Development, sampling and analysis of nanoplastics on the North Shore.

#### 1.2 Introduction

As part of the national coastal environmental baseline program - Ocean Protection Plan (OPP), Fisheries and Oceans Canada, Quebec region, has undertaken numerous scientific research activities aimed at characterizing biodiversity and its habitats in areas coastal areas (e.g. composition and morphology of the substrate, distribution and composition of communities, distribution of fauna, etc.), to improve knowledge on the ecology and behavior of species of ecological and commercial relevance and to understand the impacts that can have these environments and on coastal organisms.

In this context, the analysis of microplastics, nanoplastics and their additives in coastal environments is essential to achieve the objectives of the program and increase our knowledge of these polymers and their repercussions in general.

Determining the presence, behavior and the future of nanoplastics in ecosystems is urgent in order to anticipate the repercussions on the health of the environment, organisms and even on human beings. nanoplastics are particles considered to be emerging contaminants resulting from the degradation of plastic debris in the environment under the action of physical, chemical and biological stresses. Although derived from plastic debris, microplastics and nanoplastics are two different categories of particles that require distinct analytical strategies. Microplastics are particles in the visible range (size between 0.3 and 5mm) while nanoplastics, the particles of interest for this contract, have a size ranging from a few nm to 1 µm. Preliminary data demonstrate that these two size scales impact differently the ecosystems and living organisms at different levels. We would like to know more about the presence of nanoplastics in the environment, because they are less known.

#### 1.3 Needs Objectives

The Department of Fisheries and Oceans Canada requires a research to be carried out on nanoplastics contaminants (and associated additives) presents in the lower estuary and the Gulf of St. Lawrence. More precisely, we seek to analyze the types of polymer particles and the additives present in coastal environments (water and sediment) and in filter-feeding organisms (e.g. mussels and clams). This research will be beneficial for scientific activities in order to:

1. Determine and characterize the types of nanoplastics and their additives.
2. Have a detailed list of the composition and size of these particles.
3. Quantify nanoplastics by areas and in the organisms sampled.
4. Know their distribution and factors influencing their distribution, e.g.: distance from a large city, waste water treatment system, etc.

#### 1.4 Context, assumptions and specific scope of needs

The accumulation of plastic waste in aquatic environments constitutes one of the major environmental challenges of our time. This waste, fragmenting into increasingly smaller particles, gives rise to what we





call nanoplastics (1nm to 1 µm). These particles pose a considerable risk to aquatic biodiversity and human health, due to their ability to be ingested by marine wildlife and enter the food chain.

The Saint-Laurent, a vital artery crossing Quebec and flowing into the Atlantic, is no exception to this problem. As an area of intense human activity and a crucial waterway, it is a significant recipient of these pollutants. This reality is all the more worrying in the context of marine protected areas, areas dedicated to the conservation of marine biodiversity and the protection of habitats.

This project aims to characterize the presence, distribution and potential impact of nanoplastics in the coastal environments of the estuary and the Gulf of St. Lawrence. This study aims to combine innovative sampling methods and cutting-edge analyzes to quantify and qualify plastic particles present in water, sediments, and within living organisms (filter-feeding organisms). This project aims to provide an in-depth understanding of the dynamics of plastic contamination in the Lower Estuary and the Gulf of St. Lawrence.

Targeted sampling will make it possible to effectively isolate nano-sized particles from the waters, sediments, and organisms of the St. Lawrence. Nanometrology, for its part, will provide crucial information on the size, shape, and chemical composition of particles, while high-resolution mass spectrometry will contribute to precise identification and quantification of plastic polymers.

The impact of the proposal is twofold: on the one hand, providing a reliable and exhaustive diagnosis of plastic pollution in the St. Lawrence and, on the other hand, establishing an analytical framework that could be extended to other systems. aquatic. Ultimately, this project aspires not only to enrich our understanding of the ecological impacts of plastics at the nanoscale, but also to lay the foundations for more targeted and effective environmental interventions, essential for the conservation and protection of aquatic biodiversity. The ultimate objective is to contribute to the development of effective management and mitigation strategies, aimed at reducing the ecological footprint of human activities on this crucial ecosystem.

## **2.0 Needs**

### **2.1 Tasks and Activities**

Here are the main tasks for characterizing nanoplastics in the St. Lawrence system using analytical methods based on sampling, nanometrology, and high-resolution mass spectrometry:

#### **2.1.1 Task 1 - Sampling and Extraction:**

- a. Different representative sampling sites throughout the maritime estuary and Gulf of St. Lawrence will be chosen, considering geographical characteristics and human activities (e.g., river water discharges). We would like to sampled 1000±200 samples (water, sediments, and organisms) between summer and winter. The stations will be mainly distributed along the coast between Tadoussac and Port-Cartier. A person from Fisheries and Oceans Canada can also assist with sample collection if it will necessary. Note: Sites will be confirmed later based on the number of samples processed versus costs.
- b. For collection it will be necessary use in-situ pumps, an automated sequential ultrafiltration and pre-fractionation system for water and particle samples, a gravity corer, and a grab sampler for sediments. Specific protocols has to be developed/applied for filter-feeding organisms in targeted areas to identify nanoplastics. Note: Particular attention must be paid to contamination risks related to sampling materials.



- c. Sediments and benthic organisms must be lyophilized, ground, and digested using KOH and Iron Oxide/H<sub>2</sub>O<sub>2</sub>.
- d. All Nanoplastics must be extracted using a liquid-liquid extraction protocol to isolate the particles.

### **2.1.2 Task 2 - Plastics Characterization**

- a. Fractionation by asymmetric flow field-flow fractionation coupled with UV-Visible spectroscopy, fluorescence, and static light scattering to characterize the size, shape, and distribution of nanoplastics.
- b. Light diffraction and scattering (LDA, DLS) for the size characterization of nanoplastics.
- c. Pyrolysis coupled with gas chromatography and a high-resolution triple quadrupole mass detector to characterize and quantify nanoplastics in different matrices. This analytical method is associated with a liquid-liquid extraction method for plastics from environmental matrices.
- d. Thermal desorption coupled with high-resolution mass spectrometry to identify polymers and detect associated additives and contaminants using thermal desorption.

### **2.1.3 Task 3 - Data Interpretation**

- a. Interpretation of fractograms and chromatograms.
- b. Descriptive reporting of results - Year 1.
- c. Analyzing obtained data using appropriate statistical methods to assess the spatial and temporal distribution of nanoplastics based on their physico-chemical parameters and associated contaminants - Year 2.
- d. Correlating contamination levels with environmental and anthropogenic variables to identify potential pollution sources - Year 2.

### **2.1.4 Task 4 - Results Communication**

- a. Compiling data into a database on nanoplastics: concentrations in different samples based on key characterized parameters (size, size distribution, concentration, composition).
- b. Writing the operating and methodological protocol for sampling and characterizing nanoplastics in sampled matrices.
- c. Writing the report on obtained results and participating in conferences to share acquired knowledge

## **2.2 Specifications and Standards**

This request targets major plastics, including nylon, PTFE, polystyrene (PS), polymethyl methacrylate (PMMA), polyvinyl chloride (PVC), polyethylene terephthalate (PET), polyacrylonitrile (PAN), polyethylene (PE), polypropylene (PP), and dibutyl phthalate. Additionally, it includes polymer additives

### **2.2.1 Specialized Sampling Techniques for Nanoplastics and Associated Contaminants (trace metals, PFAS)**



The contractor must ensure that sampling preserves the stability of the size, speciation, and composition of anthropogenic nanoparticles (nanoplastics) and associated contaminants while allowing for high-resolution spectrometric analysis. Techniques such as microfluidics or in-situ (ultra) filtration/tangential filtration should be used.

### **2.2.2 Selective Extraction Techniques for Nanoplastics from Environmental Matrices**

Using nanoplastics extraction protocols from environmental matrices at trace levels. The contractor should use liquid/liquid extraction methods in aqueous (KOH/TX100) and organic (toluene/dichloroethane) environments to concentrate nanoplastics while preserving their physicochemical properties.

### **2.2.3 Advanced Characterization Techniques**

Using high-resolution analytical techniques for identifying and characterizing nanoplastics, such as:

- a. Using fractionation techniques like asymmetric flow field-flow fractionation (A4F) to sort particles based on their diffusion coefficient, density, and consequently their size, shape, and composition.
- b. Molecular characterization and quantification of nanoplastics using pyrolysis techniques coupled with gas chromatography (GC) and high-resolution mass spectrometry (QQQ) to decompose and quantify plastic (polystyrene, polyethylene, polypropylene, polyethylene terephthalate, polyvinyl chloride) constituting the particle and its associated species.
- c. Using various mass spectrometry tools, including isotope ratio mass spectrometry (IRMS) and time-of-flight mass spectrometry (Q-ToF), to identify a wide range of molecules related to plastics at ultra-trace levels.
- d. These techniques must precisely identify and characterize nanoplastics based on their size, elemental composition, and molecular composition, facilitating a comprehensive understanding of their properties and behavior in various environmental contexts.

## **2.3 Technical, Operational, and Organizational Environment**

To develop and validate the analytical results obtained by methods for characterizing nanoplastics, the contractor must develop certified sample preparation protocols. These standards are used by major intergovernmental agencies such as the JRC (EU) and EPA (United States).

## **2.4 Method and Source of Acceptance**

Preliminary data/results must be provided by December 2024 to demonstrate that the proposed approach works.

Based on the methods described above, we estimate that the contractor should be able to process  $1000 \pm 200$  samples (sediments, water, and organisms) to be collected in summer-autumn 2024 and winter-spring 2025.

## **2.5 Reporting Requirements**

A detailed report on the methodology and results obtained on nanoplastics and associated contaminants must be presented by area sampled and the source (water, substrate, and organisms). Raw data and those



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from these analyses must be provided to DFO. A brief discussion on the environmental issues of the main identified contaminants must be presented.

## **2.6 Project Management Control Procedures**

Monthly meetings will be held to ensure the project is progressing as planned. Additionally, preliminary results will be requested in winter 2025 to ensure the project is on track.

A progress report for the first year will be required in March 2025. Based on the report results, it will be determined whether the project will be extended for year 2.

## **2.7 Obligations du MPO**

The government (Fisheries and Oceans Canada - Maurice Lamontagne Institute) will provide the contractor with: A scientific or technical support for field sampling (if necessary). However, the contractor will be responsible for providing all the necessary equipment for sampling as mentioned in section 2.1.

## **2.8 Workplace, Location of Work, and Delivery Location**

Sampling and extraction tasks will take place at various stations along the coast between Tadoussac and Port-Cartier.

Analysis and reporting tasks will be carried out in the contractor's laboratories. Deliverables (data and reports) will be sent by email.

## **2.9 Language of Work**

The work and reports must be conducted in French.

## **2.10 Travel and Living Expenses**

Travel along the Gulf of St. Lawrence coast is necessary, and travel expenses must be included in the bid price. The contractor must provide all prices, including travel expenses.

## **3.0 Project Schedule**

### **3.1 Planned Start and Completion Dates**

The contractor's services will be required for approximately two years, starting around July 2024. The expected completion date for the work is March 31, 2026.



### 3.2 Estimated Schedule and Effort Level (Work Breakdown Structure)

Description	Description of work	Deliverables	Estimated date
<b>INITIAL CONTRACT PERIOD : Contract Award Date until March 2025</b>			
<b>Phase 1 :</b> Preparation and planning	<ul style="list-style-type: none"> <li>• Project launch meeting with all stakeholders.</li> <li>• Definition of specific objectives and research hypotheses.</li> <li>• Detailed planning of sampling sites and analysis methods, acquisition of necessary equipment.</li> </ul>	Protocol and methodological guides: documentation detailing the protocol sampling, analysis methods, and data processing procedures used during the project.	From date of contract award to end summer 2024
<b>Phase 2 :</b> Sampling and preliminary analyzes	<ul style="list-style-type: none"> <li>• Training of the team in sampling and analysis methods.</li> <li>• Start of sample collection at predefined sites.</li> <li>• Continuation of sampling according to the established schedule.</li> <li>• Analysis of the first samples collected and adjustments to the methods if necessary.</li> </ul>		Summer and fall 2024.
<b>Phase 3:</b> Data analysis and preparation of interim reports	<ul style="list-style-type: none"> <li>• Analysis of collected data.</li> <li>• Preparation and presentation of first interim reports to stakeholders.</li> <li>• Planning of work for the following year based on the results obtained.</li> </ul>	Reports in French on the presence of nanoplastics in the first samples taken in 2024 and database some samples taken, including sampling locations, sample types (water, sediment, organisms)	Winter 2024 until March 2025
<b>OPTION PERIOD 1: From April 1, 2025 until March 31, 2026 (if exercised)</b>			
<b>Phase 4:</b> Sampling finalization and advanced analyzes	<ul style="list-style-type: none"> <li>• Finalization of sample collection.</li> <li>• Deepening analyzes with a focus on nanometrology and high-resolution mass spectrometry.</li> </ul>		Spring 2025
<b>Phase 5:</b> Data analysis and article writing	<ul style="list-style-type: none"> <li>• Statistical processing of data</li> <li>• Start of writing scientific articles and detailed reports.</li> <li>• Finalization of data analyses.</li> <li>• Finalization of research reports, scientific articles for submission to journals, and</li> </ul>	Detailed report on the data obtained on the campaigns samples carried out during the different campaigns of samples in 2025	Spring, Summer and Fall 2025



	preparation of other deliverables (databases, management recommendations, etc.).		
<b>Phase 6:</b> Dissemination of results and closure of the project	<ul style="list-style-type: none"><li>• Organization of workshops/seminars with stakeholders.</li><li>• Presentation of final results, submission of articles, dissemination of management recommendations.</li><li>• Dissemination of data on a public site.</li><li>• Project evaluation, closing meetings and preparation of final documentation.</li></ul>	<ul style="list-style-type: none"><li>• Approvals of publications on plastic pollution in aquatic environments and provide international visibility to the project.</li><li>• Dissemination of data on a public site, for example the OGSL or other</li></ul>	Winter 2026



**ANNEX B**

**BASIS OF PAYMENT**

Provided that all obligations under the contract are satisfactorily fulfilled, the contractor will be paid firm unit prices in accordance with the project schedule table in section 3.0 of the statement of work. Customs duties are included, and applicable taxes are extra.

**1. Price Table :**

**1.1 Table A :**

<b>INITIAL CONTRACT PERIOD : Contract award date until March 31, 2025</b>		
<b>Item</b>	<b>Description</b>	<b>Firm Unit Price</b> <i>To be determined upon contract award</i>
1	<b>Phase 1</b> : Preparation and Planning	\$ _____
2	<b>Phase 2</b> : Sampling and Preliminary Analyses	\$ _____
3	<b>Phase 3</b> : Data Analysis and Preparation of Interim Reports	\$ _____

**1.2 Table B :**

<b>OPTION PERIOD 1: From April 1, 2025 until March 31, 2026</b>		
<b>Item</b>	<b>Description</b>	<b>Firm Unit Price</b> <i>To be determined upon contract award</i>
4	<b>Phase 4</b> : Finalization of Sampling and Advanced Analyses	\$ _____
5	<b>Phase 5</b> : Data Analysis and Article Writing	\$ _____
6	<b>Phase 6</b> : Dissemination of Results and Project Closure	\$ _____

**2. Payments Schedule**



<b>Payment No.</b>	<b>Description</b>	<b>Payment Amount</b> <i>To be determined upon contract award</i>
<b>INITIAL CONTRACT PERIOD: Contract award date until March 31, 2025</b>		
1	Upon completion of all tasks/deliverables of Phase 1	\$ _____
2	Upon completion of all tasks/deliverables of Phase 2	\$ _____
3	Upon completion of all tasks/deliverables of Phase 3	\$ _____
<b>OPTION PERIOD 1: From April 1, 2025 until March 31, 2026</b>		
4	Upon completion of all tasks/deliverables of Phase 4	\$ _____
5	Upon completion of all tasks/deliverables of Phase 5	\$ _____
6	Upon completion of all tasks/deliverables of Phase 6	\$ _____





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## ANNEX C

### INSURANCE CONDITIONS

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. Sudden and Accidental Pollution Liability (minimum 120 hours): To protect the Contractor for liabilities arising from damages caused by accidental pollution incidents.