



RETURN BIDS TO:

RETOURNER LES SOUMISSIONS À:

Bid Receiving Public Works and Government
Services Canada/Réception des soumissions
Travaux publics et Services gouvernementaux
Canada
Room 100,
167 Lombard Ave.
Winnipeg
Manitoba
R3B 0T6
Bid Fax: (204) 983-0338

REQUEST FOR PROPOSAL DEMANDE DE PROPOSITION

Proposal To: Public Works and Government Services Canada

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

Proposition aux: Travaux Publics et Services Gouvernementaux Canada

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

Comments - Commentaires

Vendor/Firm Name and Address

Raison sociale et adresse du
fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution

Public Works and Government Services Canada - Western
Region
Room 100
167 Lombard Ave.
Winnipeg
Manitoba
R3B 0T6

Title - Sujet Single Grain Seed Analyzer & Sorter	
Solicitation No. - N° de l'invitation 5K003-181402/B	Date 2019-01-18
Client Reference No. - N° de référence du client 5K003-181402	
GETS Reference No. - N° de référence de SEAG PW-\$WPG-016-10755	
File No. - N° de dossier WPG-8-41145 (016)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2019-03-04	Time Zone Fuseau horaire Central Standard Time CST
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Hall, Marlene	Buyer Id - Id de l'acheteur wpg016
Telephone No. - N° de téléphone (204) 230-0147 ()	FAX No. - N° de FAX (204) 983-7796
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: CANADIAN GRAIN COMMISSION GRAIN RESEARCH LAB 1404-303 MAIN ST WINNIPEG Manitoba R3C3G8 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée See Herein	Delivery Offered - Livraison proposée
Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur	
Telephone No. - N° de téléphone Facsimile No. - N° de télécopieur	
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)	
Signature	Date

Solicitation No. - N° de l'invitation
5K003-181402/B
Client Ref. No. - N° de réf. du client
5K003-181402

Amd. No. - N° de la modif.
File No. - N° du dossier
WPG-8-41145

Buyer ID - Id de l'acheteur
WPG016
CCC No./N° CCC - FMS No./N° VME

This bid solicitation cancels and supersedes previous bid solicitation number 5K003-181402/A dated 2018-11-02 with a closing of 2018-12-17 at 02:00 PM. A debriefing or feedback session will be provided upon request to bidders who bid on the previous solicitation.

TABLE OF CONTENTS

PART 1 - GENERAL INFORMATION	3
1.1 REQUIREMENT	3
1.2 DEBRIEFINGS	3
1.3 TRADE AGREEMENTS	3
1.4 EPOST CONNECT SERVICE	3
PART 2 - BIDDER INSTRUCTIONS	3
2.1 STANDARD INSTRUCTIONS, CLAUSES AND CONDITIONS	3
2.2 SUBMISSION OF BIDS	3
2.3 ENQUIRIES - BID SOLICITATION	4
2.4 APPLICABLE LAWS	4
PART 3 - BID PREPARATION INSTRUCTIONS	4
3.1 BID PREPARATION INSTRUCTIONS	4
PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION	6
4.1 EVALUATION PROCEDURES	6
4.2 BASIS OF SELECTION	6
PART 5 - CERTIFICATIONS AND ADDITIONAL INFORMATION	6
5.1 CERTIFICATIONS REQUIRED WITH THE BID	6
5.2 CERTIFICATIONS PRECEDENT TO CONTRACT AWARD AND ADDITIONAL INFORMATION	7
PART 6 - RESULTING CONTRACT CLAUSES	7
6.1 SECURITY REQUIREMENTS	7
6.2 REQUIREMENT	7
6.3 STANDARD CLAUSES AND CONDITIONS	7
6.4 TERM OF CONTRACT	8
6.5 AUTHORITIES	8
6.6 PAYMENT	9
6.7 INVOICING INSTRUCTIONS	9
6.8 CERTIFICATIONS AND ADDITIONAL INFORMATION	9
6.9 APPLICABLE LAWS	10
6.10 PRIORITY OF DOCUMENTS	10
6.11 SACC <i>MANUAL</i> CLAUSES	10
6.12 INSURANCE – SPECIFIC REQUIREMENTS	10
ANNEX "A"	11
REQUIREMENT	11
ANNEX "B"	19
BASIS OF PAYMENT	19
ANNEX "C"	20
INSURANCE – SPECIFIC REQUIREMENT	20
ANNEX "D" TO PART 3 OF THE BID SOLICITATION	21
ELECTRONIC PAYMENT INSTRUMENTS	21

PART 1 - GENERAL INFORMATION

1.1 Requirement

The requirement is detailed under Article 6.2 of the resulting contract clauses.

1.2 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, by telephone or in person.

1.3 Trade Agreements

The requirement is subject to the provisions of the North American Free Trade Agreement (NAFTA) and the Canadian Free Trade Agreement (CFTA).

1.4 epost Connect service

This bid solicitation allows bidders to use the epost Connect service provided by Canada Post Corporation to transmit their bid electronically. Bidders must refer to Part 2 entitled Bidder Instructions, and Part 3 entitled Bid Preparation Instructions, of the bid solicitation, for further information.

PART 2 - BIDDER INSTRUCTIONS

2.1 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 [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](#) (2018-05-22) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

2.1.1 SACC Manual Clauses

[B1000T](#) (2014-06-26), Condition of Material - Bid

2.2 Submission of Bids

Bids must be submitted only to the Public Works and Government Services Canada (PWGSC) Bid Receiving Unit specified below by the date and time indicated on page 1 of the bid solicitation:

BRU:	Western Region Bid Receiving Unit (Winnipeg)
Address:	Room 100, 167 Lombard Avenue Winnipeg, Manitoba R3B 0T6

E-post Connect: ROReceptionSoumissions.WRBidReceiving@tpsgc-pwgsc.gc.ca
Bids/Offer will be not be accepted if emailed directly to this email address. This email is to initiate an ePost Connect conversation, as detailed in the Standard Instructions.

Bid Fax: (204) 983-0338

2.3 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than 10 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.

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 Manitoba.

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.

PART 3 - BID PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

- If the Bidder chooses to submit its bid electronically, Canada requests that the Bidder submits its bid in accordance with section 08 of the 2003 standard instructions. Bidders must provide their bid in a single transmission. The epost Connect service has the capacity to receive multiple documents, up to 1GB per individual attachment.

The bid must be gathered per section and separated as follows:

Section I: Technical Bid
Section II: Financial Bid
Section III: Certifications

- If the Bidder chooses to submit its bid in hard copies, Canada requests that the Bidder submits its bid in separately bound sections as follows:

Section I: Technical Bid (2 hard copies)
Section II: Financial Bid (1 hard copy)
Section III: Certifications (1 hard copy)

- If the Bidder is simultaneously providing copies of its bid using multiple acceptable delivery methods, and if there is a discrepancy between the wording of any of these copies and the electronic copy provided through epost Connect service, the wording of the electronic copy provided through epost Connect service will have priority over the wording of the other copies.

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 hard copy of their bid:

- (a) use 8.5 x 11 inch (216 mm x 279 mm) paper;
- (b) use a numbering system that corresponds to the bid solicitation.

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process [Policy on Green Procurement](https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=32573) (<https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=32573>). To assist Canada in reaching its objectives, bidders should:

- 1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
- 2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

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 Basis of Payment.

3.1.1 Electronic Payment of Invoices – Bid

If you are willing to accept payment of invoices by Electronic Payment Instruments, complete Annex “D” Electronic Payment Instruments, to identify which ones are accepted.

If Annex “D” Electronic Payment Instruments is not completed, it will be considered as if Electronic Payment Instruments are not being accepted for payment of invoices.

Acceptance of Electronic Payment Instruments will not be considered as an evaluation criterion.

3.1.2 Exchange Rate Fluctuation

[C3011T](#) (2013-11-06), Exchange Rate Fluctuation

Section III: Certifications

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

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

Mandatory technical evaluation criteria is included in Annex A.

4.1.2 Financial Evaluation

SACC *Manual* Clause [A0222T](#) (2014-06-26), Evaluation of Price

4.2 Basis of Selection

A bid must comply with the requirements of the bid solicitation and meet all mandatory technical evaluation criteria to be declared responsive. The responsive bid with the lowest evaluated price will be recommended for award of a contract.

PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION

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 the Integrity Regime](http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html) website (<http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html>), 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](http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.

5.2.2 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 available at the bottom of the page of the [Employment and Social Development Canada \(ESDC\) - Labour's](https://www.canada.ca/en/employment-social-development/canada/esdc/labour's) website (<https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#>).

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.

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

There is no security requirement applicable to the Contract.

6.2 Requirement

The Contractor must provide the items detailed under the "Requirement" at Annex "A".

6.3 Standard Clauses and Conditions

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

[2010A](#) (2018-06-21), General Conditions - Goods (Medium Complexity), 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 September 30, 2019 inclusive

6.4.2 Delivery Date

While delivery is requested by June 28, 2019, the best delivery that could be offered is _____.

6.4.3 Delivery Points

Delivery of the requirement will be made to delivery point(s) specified at Annex "B" of the Contract.

6.5 Authorities

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Marlene Hall
Procurement Specialist
Public Services and Procurement Canada
100 - 167 Lombard Avenue
Winnipeg, MB. R3B 0T6

Telephone: 204-230-0147
Fax: 204-983-7796
Email: marlene.hall@pwgsc-tpsgc.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

The Project Authority for the Contract is: *A contact to be named at date of contract issuance.*

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

Name: _____
Title: _____
Organization: _____
Address: _____

Solicitation No. - N° de l'invitation
5K003-181402/B
Client Ref. No. - N° de réf. du client
5K003-181402

Amd. No. - N° de la modif.
File No. - N° du dossier
WPG-8-41145

Buyer ID - Id de l'acheteur
WPG016
CCC No./N° CCC - FMS No./N° VME

Telephone: _____
Fax: _____
Email: _____

6.6 Payment

6.6.1 Basis of Payment

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm unit price(s), as specified in Annex B for a cost of \$ _____. (*insert the amount 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.

6.6.2 Single Payment

SACC Manual clause [H1000C](#) (2008-05-12), Single Payment

SACC Manual clause [H1001C](#) (2008-05-12) Multiple Payments

6.6.3 SACC Manual Clauses

[C2000C](#) (2007-11-30), Taxes - Foreign-based Contractor

[C2605C](#) (2008-05-12) Canadian Customs Duties and Sales Tax - Foreign-based Contractor

6.6.4 Electronic Payment of Invoices – Contract

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

6.7 Invoicing Instructions

1. The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions. Invoices cannot be submitted until all work identified in the invoice is completed.
2. Invoices must be distributed as follows:
 - a. The original and one (1) copy must be forwarded to the address shown on page 1 of the Contract for certification and payment.
 - b. One (1) copy must be forwarded to the Contracting Authority identified under the section entitled "Authorities" of the Contract.

6.8 Certifications and Additional Information

6.8.1 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 Applicable Laws

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

6.10 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 general conditions [2010A](#) (2018-06-21), General Conditions - Goods (Medium Complexity);
- (c) Annex A, Requirement;
- (d) Annex B, Basis of Payment;
- (e) Annex C, Insurance – Specific Requirements;
- (f) the Contractor's bid dated _____.

6.11 SACC Manual Clauses

[A2000C](#) (2006-06-16) Foreign Nationals (Canadian Contractor)
[A2001C](#) (2006-06-16) Foreign Nationals (Foreign Contractor)
[A9068C](#) (2010-01-11) Government Site Regulations
[B1501C](#) (2018-06-21) Electrical equipment
[B7500C](#) (2006-06-16) Excess Goods
[C5201C](#) (2008-05-12) Prepaid Transportation Costs
[D0018C](#) (2007-11-30) Delivery and Unloading

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.

ANNEX "A"

REQUIREMENT

The Canadian Grain Commission's (CGC) Grain Research Laboratory has a requirement for the supply, delivery, installation and training of one (1) Single Grain Seed Analyzer and Sorter by means of Near-Infrared Spectroscopy and Color Machine Vision technologies.

INTRODUCTION:

The primary objective of the Pulse Research Program of the Grain Research Laboratory (GRL) at CGC is to provide insights into the factors that affect biochemical components, and end-use quality of Canadian pulse crops. This research meets the needs of pulse producers, marketers and processors for pulse quality information.

This program enhances the marketability of Canadian pulses, which supports the CGC's grain quality assurance system, develops new or improved methods for measuring, and assessing pulse end-use quality, provides the pulse industry with consistent and objective measurements for pulse quality, and in turn supports the evolution of grain standards that meet changing industry needs.

Seed size, shape and color are important quality characteristics for peas and lentils. The export market demands that seeds be uniform in size, shape and color. Variability in seed size and shape causes variations in end-product quality including cooking and dehulling quality as well as the quality of foods prepared from pulses. The quality assurance program delivered by the CGC assures consistent and reliable grain quality that meets the needs of international and domestic markets.

OBJECTIVE/BACKGROUND:

In order to meet the demand of the Canadian pulse industry on pulse end-use quality and to support the CGC's mandate, the Grain Research Laboratory requires a high-speed automated single kernel analyzer and sorter for analyzing and sorting grains according to chemical (protein content) and physical (color, size and shape) traits.

The device must include a high resolution Near-Infrared Spectrometer (NIRS), a high speed RGB (Red Green Blue) color camera, a belt transport system and a pneumatic sorting system for analyzing and sorting peas, lentils and wheat into different quality classes.

The device must be able to transport grains one by one in a fixed position, collect a high resolution Near-Infrared spectrum of each seed, and acquire high resolution color images of individual seeds by means of a vision camera. Spectral data and images must be able to be used for developing classification algorithms for analyzing and sorting pulses into quality classes according to physical and chemical properties.

The single seed analyzer and sorter will be used for studying factors affecting pulse quality, and segregating peas and lentils based on protein content, seed size or color into quality classes. It will be used to assist the CGC's inspectors in sorting large amount of pulse samples into fractions according to grading factors for research projects, for example, sorting red lentils into sound and copper color, bleached or wrinkled seeds.

The mandatory technical specifications are detailed in the Compliance Matrix.

COMPLIANCE MATRIX – Minimum Mandatory Performance Specification

It is mandatory that Bidder demonstrate compliance with the mandatory performance specification outline below in the Compliance Matrix.

Instructions:

1. Bidders are to provide supporting technical documentation for the specifications detailed in the Compliance Matrix, and cross-reference where the supporting documentation is found within the proposal to demonstrate compliance. Bidders are to clearly demonstrate compliance with the specifications.
2. Supporting technical documentation, such as specification sheets, performance brochures, and photographs or illustrations should provide adequate detail to substantiate that the goods offered meet the technical requirements. It is the Bidders responsibility to ensure that the submitted technical documentation provides adequate detail to prove that the proposed product(s) meet the requirements of the technical specification. If specific published technical documentation is not available, the Bidder should prepare a written narrative complete with a detailed explanation of how its bid demonstrates technical compliance.
3. If the complete specification and/or literature is not submitted as requested, the Contracting Authority will so inform the Bidder and provide the Bidder with a time frame within which to meet the requirement. Failure to comply with the request of the Contracting Authority and meet the requirement within that time period will render the bid non-responsive.
4. Canada will not evaluate information such as references to Web site addresses where additional information can be found.
5. Bidder must address any concerns with the Specifications in written detail to the Contracting Authority before bid closing as outlined in the Request for Proposal (RFP) document.
6. Failure to meet the minimum mandatory specifications will result in your proposal being deemed non-responsive, and be given no further consideration in the evaluation process.

COMPLIANCE MATRIX		
<p><u>Completion and submission of Mandatory Performance Specification is required to be considered responsive and for your offer to be given further consideration.</u></p> <p>a. Bidder must cross reference where in their technical offer, the performance specification is located.</p> <p>b. Provide the specification being offered which meets or exceeds <u>and cross-reference as to where the supporting documentation is found within your proposal</u>. If there is insufficient space in the table, assign SIR # (Supplementary Information Reference) and provide the appropriate details on a separate page in your offer. Where published supporting documentation is not available in the form of brochures, technical data sheets etc., prepare a written narrative complete with a detailed explanation of how its offer demonstrates compliance.</p>		
<p><u>All work and materials herein specified must meet and maintain minimum Canadian and Provincial certification(s) and approval(s) as applicable by Industry Standards.</u></p>		
Item	Description	Bidder's Response: indicate how you meet the specifications addressed below. Cross-reference where this technical specification is indicated in your bid documentation
	The Canadian Grain Commission's (CGC) Grain Research laboratory has a requirement for the supply, delivery, installation and training of one (1) Single Grain Seed Analyzer and Sorter by means of Near-Infrared Spectroscopy and Color Machine Vision technologies.	
1	Part 1: GENERAL PERFORMANCE SPECIFICATIONS	
1.1	All equipment must be new (not previously used for demonstration or loan), in that it must not include refurbished equipment, and in that all equipment must be of current manufacture.	
1.2	The system must be completely installed within four weeks of delivery.	
1.3	The Bidder must be an Authorized seller for the Unit they are offering to the Crown.	
1.4	Must provide the electrical and laboratory site prep guide for the system, any related other equipment and computer system at time of bid.	

2	Part 2: Instrument Specifications	
2.1	The device must include a high resolution Near-Infrared Spectrometer (NIRS), a high-speed RGB (red, green, blue) color camera, a transport system and a pneumatic sorting system for sorting peas (yellow and green), lentils (large, small and red) and wheat into different quality classes.	
2.2	The NIRS must have a wavelength range, at minimum, between 900 nm to 1700 nm (nanometers), and must be able to operate in reflectance measurement mode.	
2.3	The NIRS must be able to measure a continuous spectrum of minimum 512 spectral bands with a resolution at minimum 5 nm.	
2.4	The device must have a multi-angle view system with a 3D vision sensor to acquire 3D color images of the individual seeds.	
2.5	The device must be able to acquire a high-resolution NIR spectrum and a high-resolution 3D color image by means of the high-speed color camera for each seed.	
2.6	The device must have a transportation system, which is able to transport peas (yellow and green), large and small green lentils, red lentils and wheat one by one in a fixed position.	
2.7	The instrument must be able to acquire and process spectrum and images in real-time.	
2.8	All the processed and raw datasets (i.e. spectrum and images) acquired for single seed and batch based must be stored on a hard drive with minimum capacity of 32 GB and be accessible in standard file formats for developing classification algorithms.	
2.9	The device must have preloaded algorithms at minimum for measuring and sorting: a) protein content b) starch content c) color d) size e) shape The preloaded algorithms must be accessible by the user for further improvement or development.	
2.10	The device must allow the user to develop their own algorithms and upload them on to the device.	
2.11	The device must be operated through touch screen or a keyboard and results must be visualized on the monitor.	
2.12	The device must be able to allow the user to design their own results output (tables, graphs, etc.) shown on the monitor.	

2.13	The device must be able to measure protein and starch content of individual pea (yellow and green) and lentil (red, large green and small green) seeds with an error no more than $\pm 2.0\%$.	
2.14	The device must be able to report on protein/starch content results including the number of seeds measured, mean protein/starch content, standard deviation, minimum and maximum protein/starch content.	
2.15	The device must be able to sort peas (yellow and green) and lentils (red, large green and small green) into at least three fractions according to protein and starch content of individual seeds with an accuracy of at least 95% through setting a threshold.	
2.16	The device must be able to report on protein/starch content results for each fraction including the number of seeds measured, mean protein/starch content, standard deviation, minimum and maximum protein/starch content.	
2.17	The device must be able to measure size parameters of individual pea (yellow and green), lentil (red, large green and small green) and wheat seeds by image (vision) processing technology in a 3D vision sensor setup with an accuracy at least 95%.	
2.18	The device must be able to acquire high-resolution 3D color images of each individual pea, lentil and wheat seeds by means of a high-speed color camera. The acquired 3D images and processed datasets must be saved in the standard data format files (text, PDF, etc.) for downloading, analysis and developing algorithms.	
2.19	Size parameters measured must include perimeter (mm), maximum feret diameter (diameter, mm), equivalent ellipse minor feret axis (mm), hydraulic radius (mm), and Waddel disk diameter (mm).	
2.20	The device must be able to measure minimum length, maximum length, minimum width and maximum width of individual seeds by image (vision) processing technology in a 3D vision sensor setup with an accuracy at least 95%.	
2.21	The device must be able to sort peas (yellow and green), lentils (red, large green and small green) and wheat into at least three fractions in a 3D vision sensor setup according to seed size of individual seeds through setting a threshold.	
2.22	The device must be able to report on seed size results including the number of seeds measured, mean of each size parameters, standard deviation, minimum and maximum of each size parameter for each individual seed in each fraction.	

2.23	The device must provide graph capacities of results defined by the user. Graph for size (diameter) distribution for each fraction must be plotted on the monitor, printed, saved in and exported to standard file formats including text, PDF, etc.	
2.24	The device must be able to measure color of individual pea (yellow and green), lentil (red, large green and small green) and wheat seeds by image (vision) processing technology in a 3D vision sensor setup.	
2.25	Seed color parameters measured must include L, a, b, RGB, hue, saturation and luminance, etc.	
2.26	The device must be able to report on color results including the number of seeds measured, mean color value (L, a, b, RGB, Hue, saturation, luminance etc.), standard deviation, minimum and maximum color value (L, a, b, RGB, Hue, saturation, luminance etc.).	
2.27	The device must be able to sort peas (yellow and green), lentils (red, large green and small green) and wheat into at least 3 fractions based on difference in seed color through setting a threshold by image (vision) processing technology in a 3D vision sensor setup.	
2.28	The device must be able to measure and sort bleached seeds from red lentils, copper coloured seeds from red lentils, yellowish seeds from green lentils, green seeds from yellow peas, bleached seeds from green peas, wrinkled and non-wrinkled red lentils, and undehulled from dehulled red lentils with accuracies from at least 95% by image (vision) processing technology in a 3D vision sensor setup through setting a threshold.	
2.29	The device must be able to report on results for each class including the number of bleached red lentils and non-bleached red lentils; copper coloured red lentils and non-copper coloured red lentils; yellowish seeds in green lentils and green lentils; green seeds in yellow peas and yellow peas; bleached seeds from green peas and non-bleached green peas; wrinkled and non-wrinkled red lentils; and undehulled red lentils and dehulled red lentils.	
2.30	The device must be able to measure shape of individual pea (yellow and green) and lentil (red, large green and small green) seeds by image (vision) processing technology in a 3D vision sensor setup.	
2.31	Shape parameters measured must include perimeter (mm), maximum feret diameter (diameter, mm), equivalent ellipse minor feret axis (mm), hydraulic radius (mm), Waddel disk diameter (mm), elongation factor, compactness, heywood circularity factor and area of particle (mm²).	

2.32	Must provide any additional libraries of additional image analysis functions to measure seed parameters that are not included in 2.19 and 2.29, such as volume of a seed.	
2.33	The device must be able to report on results for the shape parameters for each individual pea or lentil seed and on the number of seeds measured, mean of shape parameters, standard deviation, minimum and maximum of each shape parameters	
2.34	The device must be able to sort peas (yellow and green) and lentils (red, large green and small green) into at least 3 fractions based on shape by image (vision) processing technology in a 3D vision sensor setup through setting a threshold.	
2.35	The device must be able to measure and sort round and irregular peas by image (vision) processing technology in a 3D vision sensor setup through setting a threshold.	
2.36	All report results must be able to be viewed on the monitor, be able to be graphed and plotted, printed, saved in and exported to standard file formats including at minimum text and PDF, for each individual seed and fraction.	
2.37	All software must be either a complete stand alone system or Windows 10 Enterprise 64 bit compatible.	
3	Part 3: ELECTRICAL SPECIFICATIONS	
3.1	Instrument electrical requirements must be compatible with North America standards.	
3.2	CSA approval may be obtained by the CGC after acceptance as long as a National Standard for the Country of Manufacture has been met, and is appropriately labelled as certified on the proposed equipment.	
4	Part 4: DELIVERY, INSPECTION, PACKAGING	
4.1	FOB Destination: Room 1608, 303 Main Street, Winnipeg, Manitoba. Including all delivery charges to destination.	
4.2	On site delivery, install and training is required as soon as possible, indicate best available date _____.	
5	Part 5: DOCUMENTATION AND TECHNICAL MANUALS	
5.1	The Contractor must provide a complete and current set of end-user documentation with each system delivered. Also must provide technical reference manuals from the Original Equipment Manufacturer (OEM) for each item delivered. Manuals to be provided in English.	

Solicitation No. - N° de l'invitation
5K003-181402/B
Client Ref. No. - N° de réf. du client
5K003-181402

Amd. No. - N° de la modif.
File No. - N° du dossier
WPG-8-41145

Buyer ID - Id de l'acheteur
WPG016
CCC No./N° CCC - FMS No./N° VME

6	Part 6: TRAINING	
6.1	On-site training for up to five Canadian Grain Commission staff must be provided by a qualified service engineer. Training must include at minimum 1 day of instruction on all modes of operation of the instrument and all features of the operating /data handling software.	
7	Part 7: WARRANTY	
7.1	Must provide a minimum 1 year full parts and labour warranty, which begins on the date of acceptance of the system.	
7.2	Warranty must provide on-site service by certified field service engineers.	
7.3	Warranty period must provide telephone consultation, without charge, for system operations and troubleshooting.	
7.4	Must be able to provide technical support after the warranty period for minimum 2 years.	

Solicitation No. - N° de l'invitation
5K003-181402/B
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ANNEX "B"

BASIS OF PAYMENT

It is **MANDATORY** that Bidders submit firm prices/rates for the period of the proposed Contract for all items listed hereafter. **This section, when completed, will be considered as the Bidder's financial proposal.**

Prices quoted must remain firm for the period of the Contract. Prices **MUST** include ALL costs associated with providing the work in accordance with the Requirement, Annex A, attached herein. GST, if applicable, is to be shown as a separate item on any resulting invoice. Payment will be made in accordance with the following pricing.

FOB Destination: Canadian Grain Commission
Room 1608 – 303 Main Street
Winnipeg, Manitoba R3C 3G8
Canada

CGC Customs Broker: Geo H. Young (GHY)
1-204-947-6851

BASIS OF PAYMENT – Firm Price

Item	Description	Qty	Unit of Issue	Unit Price Currency _____
1.	Single Grain Seed Analyzer and Sorter in accordance with the mandatory performance specifications detailed in Annex A – Requirement. Delivery date _____	1	each	\$
2.	On-site Training , in accordance with the mandatory performance specifications detailed in Annex A – Requirement. Includes all training materials and travel costs. Delivery date _____	1	each	\$
3.	Installation , in accordance with the mandatory performance specifications detailed in Annex A – Requirement. Includes all travel costs. Delivery date _____	1	each	\$
4.	Delivery charges , including freight and off-loading charges to CGC, Canada , R3C 3G8	1	each	\$

ANNEX "C"

INSURANCE – SPECIFIC 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.

Solicitation No. - N° de l'invitation
5K003-181402/B
Client Ref. No. - N° de réf. du client
5K003-181402

Amd. No. - N° de la modif.
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ANNEX “D” to PART 3 OF THE BID SOLICITATION

ELECTRONIC PAYMENT INSTRUMENTS

The Bidder accepts any of the following Electronic Payment Instrument(s):

() Direct Deposit (Domestic and International)