



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

SOLICITATION AMENDMENT MODIFICATION DE L'INVITATION

The referenced document is hereby revised; unless otherwise
indicated, all other terms and conditions of the Solicitation
remain the same.

Ce document est par la présente révisé; sauf indication contraire,
les modalités de l'invitation demeurent les mêmes.

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 Marine and Terrestrial Scientific E	
Solicitation No. - N° de l'invitation A7100-173961/A	Amendment No. - N° modif. 002
Client Reference No. - N° de référence du client A7100-173961	Date 2018-03-23
GETS Reference No. - N° de référence de SEAG PW-\$WPG-016-10478	
File No. - N° de dossier WPG-7-40212 (016)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2018-04-13	Time Zone Fuseau horaire Central Daylight Saving Time CDT
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: Wills Transfer Ltd. 3100 Swansea Crescent Ottawa, ON. K1G 3W4 Canada c/o Claudette Weedmark	

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée	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

This **amendment # 002** is raised to respond to Supplier's questions and modify **Solicitation # A7100-173961/A**, dated 2018-02-19 as follows:

Supplier questions

- Q1. Where will the instrument be delivered to? Where will it need to be installed?
A1. Refer to Annex B, delivery is FOB to 3100 Swansea Crescent in Ottawa. Canada will ship the instrument from Ottawa to CHARS in Nunavut.
Refer to Amendment # 001, "Installation, if required, will be negotiated with the Contractor under a separate contract."
- Q2. Does the end user want included a dry powder module (for dry sample analysis) OR a wet module (for wet sample analysis)?
A2. Must be capable of wet analysis, dry analysis is not required.
- Q3. Would a soil analysis measurement size greater than 0.010 µm be acceptable?
A3. Measurement range must be 0.02 µm to 2000 µm or greater
-

Modifications

1. Reference **Solicitation Closes**, page 1 of 1, and amend as follows:
Delete: Original Solicitation Closes at 02:00 PM on 2018-04-03.
Insert: **Solicitation Closes at 02:00 PM on 2018-04-13.**
2. Reference **Annex "A", Compliance Matrix**, page 12 of 30, and amend as follows:
Delete : In its entirety
Insert : **Replace with the following:**

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	Specifications	Bidder Response: indicate how they meet the specifications addressed below/ cross-reference where this technical specification is indicated in their bid documentation
1.	Laser Diffraction Particle Size Analyzer	
1.1	Purpose: <ul style="list-style-type: none"> • Soil particle size analysis • Wet analysis (Dry analysis is not required) 	
1.2	Dimensions: <ul style="list-style-type: none"> • Width: 800 mm ± 400 mm • Depth: 400 mm ± 300 mm • Height: 500 mm ± 200 mm 	
1.3	Measurement Method: <ul style="list-style-type: none"> • Mie Scattering Theory 	
1.4	Measurement range: <ul style="list-style-type: none"> • 0.02 µm to 2000 µm or greater 	
1.5	Typical Measurement time: <ul style="list-style-type: none"> • < 120 sec, ± 60 sec 	
1.6	Sample requirement: <ul style="list-style-type: none"> • Must be able to analysis samples at least (at minimum) 10 mg to 100 g 	

1.7	Power Supply: <ul style="list-style-type: none"> Input Frequency: 50/60 Hz Power Consumption: max 720 W Power supply: 100 to 240 V 	
1.8	Operating temperature: <ul style="list-style-type: none"> At least 15 to 35 °C (59 to 95°F) 	
1.9	Compatible computer and peripherals <ul style="list-style-type: none"> Desktop or laptop compatible with the equipment and software Operating system: Windows 10 Memory: minimum 4 GB RAM 	
2	GNSS system: Dual GNSS GPS Base/Rover receivers	
2.1	Code differential GNSS positioning performance: <ul style="list-style-type: none"> Horizontal: 0.25 + 1 ppm Vertical 0.50 m + ppm 	
2.2	Static GNSS surveying positioning performance: High-Precision Static: <ul style="list-style-type: none"> Horizontal: 3 mm + 0.1 ppm Vertical: 3.5 mm + 0.4 ppm Static and Fast Static: <ul style="list-style-type: none"> Horizontal: 3 mm + 0.5 ppm Vertical: 5 mm + 0.5 ppm 	
2.3	Real Time Kinematic surveying: Single Baseline < 30 km <ul style="list-style-type: none"> Horizontal: 8 mm + 1 ppm RMS Vertical 15 mm + 1 ppm RMS Network RTK3: <ul style="list-style-type: none"> Horizontal: 8 mm + 0.5 to 1 ppm Vertical: 15 mm + 0.5 to 1 ppm 	
2.4	Temperature: <ul style="list-style-type: none"> Operating: at least -40°C to +65°C Storage: at least -40°C to +75°C 	
2.5	Components: <ul style="list-style-type: none"> Transport Case Base/Rover Receivers Rechargeable Batteries Dual Battery Chargers Tripod (for the base station) Antenna pole Field controller – Data collector (+ software) 	
2.6	Channels: <ul style="list-style-type: none"> 120 to 440 channels 	

2.7	GNSS Surveying <ul style="list-style-type: none"> Real-Time (RTK/VRS) and Postprocessed 	
2.8	Satellite Signals <ul style="list-style-type: none"> GPS, Glonass, Galileo, Compass (BeiDou), SBAS 	
2.9	Operational time: Field controller: <ul style="list-style-type: none"> Minimum 30 hours Base and rover (operating time on internal battery): <ul style="list-style-type: none"> Minimum 3 hours 	
3	Multi-channel CTD Logger	
3.1	Physical	
3.1.1	Storage: Minimum 20,000,000 readings	
3.1.2	Clock accuracy: ± 60 seconds per year	
3.1.3	Depth rating: up to 2000m – sensor dependent	
3.1.4	Sampling rate: up to 12Hz, for better vertical resolution	
3.1.5	Cage: Circular, specifically engineered for deployment through ice through auger holes, pointed on both ends and with minimal snag points.	
3.1.6	Endurance: >40 hours of logging at maximum (12Hz) sampling rate.	
3.2	Conductivity sensor	
3.2.1	Non-pumped C cell, able to handle frozen environments without heating	
3.2.2	Range: 0-85 mS/cm	
3.2.3	Resolution: ~ 0.001 mS/cm	
3.2.4	Typical stability: ~ 0.010 mS/cm per year	
3.3	Temperature sensor	
3.3.1	Range: -5°C to 35°C	
3.3.2	Resolution: minimum 0.0001°C	
3.3.3	Typical stability: $\sim 0.002^{\circ}\text{C}$ per year	
3.4	Pressure (Depth) sensor	
3.4.1	Resolution: $\sim 0.001\%$ FS or 0.001 dbar w.i.g.	
3.4.2	Time constant: $< 0.01\text{s}$	

3.4.3	Typical stability: ~0.05% FS per year	
3.5	Dissolved Oxygen (DO) sensor	
3.5.1	DO sensor based on phosphorescence	
3.5.2	Range: 0-200%	
3.5.3	Resolution 0.01 to 0.04%	
3.5.4	Thermistor response time: ~100 ms	
3.5.5	Fully integrated, able to provide a single data file with output in engineering units and synchronized to a single clock.	
3.6	ChlA fluorescence sensor	
3.6.1	Minimum detection limit: blue excitation 0.03 µg/L, red excitation 0.3µg/L	
3.6.2	Linear range: blue excitation 0-500 µg/L, red excitation >500µg/L	
3.6.3	Auto-ranging capability, allowing the best resolution possible in dynamic conditions	
3.6.4	Fully integrated, able to provide a single data file with output in engineering units and synchronized to a single clock	
3.7	Photosynthetic Active Radiation (PAR) sensor	
3.7.1	Sensitivity: ~4µA per 1000 µmol s ⁻¹ m ⁻² in water	
3.7.2	Response time: 10µs	
3.7.3	Operating temperature range -40°C to 65°C	
3.7.4	Temperature dependence: ±0.15% per °C maximum.	
3.7.5	Fully integrated, able to provide a single data file with output in engineering units and synchronized to a single clock	
3.8	Turbidity sensor	
3.8.1	Power-up transient period: <1 sec	
3.8.2	Sensing distance from windows: approx. <5 cm	
3.8.3	Auto-ranging capability, allowing the best resolution possible in dynamic conditions	
3.8.4	Fully integrated, able to provide a single data file with output in engineering units and synchronized to a single clock	

Solicitation No. - N° de l'invitation
A7100-173961/A
Client Ref. No. - N° de réf. du client
A7100-173961

Amd. No. - N° de la modif.
002
File No. - N° du dossier
WPG-7-40212

Buyer ID - Id de l'acheteur
wpg016
CCC No./N° CCC - FMS No./N° VME

3.9	Other	
3.9.1	Wi-Fi communication for downloading, previewing, and archiving	
3.9.2	Ability to be accessed by laptop computers (Windows, Mac), as well as smartphones and tablets (Android, iOS)	
3.9.3	Non-proprietary file format	
3.9.4	Twist activation	

ALL OTHER TERMS AND CONDITIONS REMAIN THE SAME.