



**RETURN BIDS TO:**

**RETOURNER LES SOUMISSIONS À:**

Bid Receiving Public Works and Government  
Services Canada/Réception des soumissions/Travaux  
publics et Services gouvernementaux Canada  
See herein for bid submission  
instructions/

Voir la présente pour les  
instructions sur la présentation  
d'une soumission

NA  
Alberta

**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 / Travaux  
publics et services gouvernementaux  
Canada Place/Place du Canada  
Suite 1000  
10th Floor/10e étage  
9700 Jasper Ave/9700 ave Jasper  
Edmonton  
Alberta  
T5J 4C3

<b>Title - Sujet</b> Telescope	
<b>Solicitation No. - N° de l'invitation</b> W0117-200021/A	<b>Amendment No. - N° modif.</b> 004
<b>Client Reference No. - N° de référence du client</b> W0117-200021	<b>Date</b> 2020-11-17
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$EDM-034-11909	
<b>File No. - N° de dossier</b> EDM-0-43068 (034)	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> Mountain Standard Time MST <b>on - le 2020-11-24</b> Heure Normale des Rocheuses HNR	
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Nigam, Nidhi	<b>Buyer Id - Id de l'acheteur</b> edm034
<b>Telephone No. - N° de téléphone</b> (587) 532-8142 ( )	<b>FAX No. - N° de FAX</b> (780) 497-3510
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b>	

**Instructions: See Herein**

**Instructions: Voir aux présentes**

<b>Delivery Required - Livraison exigée</b>	<b>Delivery Offered - Livraison proposée</b>
<b>Vendor/Firm Name and Address</b> <b>Raison sociale et adresse du fournisseur/de l'entrepreneur</b>	
<b>Telephone No. - N° de téléphone</b> <b>Facsimile No. - N° de télécopieur</b>	
<b>Name and title of person authorized to sign on behalf of Vendor/Firm</b> <b>(type or print)</b> <b>Nom et titre de la personne autorisée à signer au nom du fournisseur/</b> <b>de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</b>	
<b>Signature</b>	<b>Date</b>

Solicitation No. - N° de l'invitation	Amd. No. - N° de la modif.	Buyer ID - Id de l'acheteur
W0117-200021/A	004	EDM034
Client Ref. No. - N° de réf. du client	File No. - N° du dossier	CCC No./N° CCC - FMS No./N°
VME		
W0117-200021	EDM-0-43068	

This amendment is raised to address the questions received from the industry and update the original solicitation as follows:

- Q1. There are two types of focusers available, please clarify which one is needed?
- a) heavy duty no-slip focuser capable of handling an imaging payload of up to 20lbs. this option does not have rotating capability.
  - b) large capacity Integrated Focuser rotator. The Focuser can lift 40 lbs. This option has rotating capability and is recommended if the system is being operated in alt/az orientation.
- R1. Both types of focusers are acceptable.
- Q2. The current lead time for the requested system is about 8 months ARO. it is not possible to deliver it before 30 Dec 2020, would you please accept delivery time of 8 months ARO?
- R2. Please see below.

#### Under: **PART 6 - RESULTING CONTRACT CLAUSES**

**Delete:**

##### **6.4.2 Delivery Date**

All the deliverables must be received on or before **2020-12-30**.

**Insert:**

##### **6.4.2 Delivery Date**

Bidder is to complete the following:

\_\_\_\_\_ We confirm that we can meet the preferred delivery date of on or before **2021-03-31**

or

\_\_\_\_\_ We confirm that the best delivery date we can offer is on or before \_\_\_\_\_.

Please note that meeting the preferred delivery date is **not** a mandatory requirement of this solicitation.

**Delete in its entirety:** Annex "A", Statement of Requirement

**Insert:** Annex "A", Statement of Requirement

Solicitation No. - N° de l'invitation  
W0117-200021/A  
Client Ref. No. - N° de réf. du client  
VME  
W0117-200021  
**ANNEX "A"**

Amd. No. - N° de la modif.  
004  
File No. - N° du dossier  
EDM-0-43068

Buyer ID - Id de l'acheteur  
EDM034  
CCC No./N° CCC - FMS No./N°

## **STATEMENT OF REQUIREMENT**

### **1.0 Background**

Barker College of Department of National Defence (DND) is installing a telescope for educating operational space applications to students and planning for education of ground-based space surveillance telescopes in the future.

### **Objectives**

Barker College requires an optical telescope assembly for the educational purposes.

### **3.0 Scope**

Barker College requires an Optical tube, Direct drive mount, Shroud and Electronic focuser assembly to support the Space Department of Barker College.

### **4.0 Definitions and Acronyms**

**Astigmatism** - similarly to coma, astigmatism is an off-axis point wavefront aberration, caused by obliquity of the incident wavefront relative to the optical surface.

**Astrograph** - is a telescope designed for the sole purpose of astrophotography.

**Backlash error** - typical shortcoming of most telescope mounts that use gears to drive the two axes (most but not all amateur mounts use gears). It is caused by a variable amount of looseness or slack anywhere two gears are meshed together.

**CCD** - charge-coupled device used for digital imaging.

**Computerized direct drive mount** - a device that can be programmed to track satellites and space debris that compensates for earth's rotation.

**DND** – Department of National Defence

Solicitation No. - N° de l'invitation	Amd. No. - N° de la modif.	Buyer ID - Id de l'acheteur
W0117-200021/A	004	EDM034
Client Ref. No. - N° de réf. du client	File No. - N° du dossier	CCC No./N° CCC - FMS No./N°
VME		
W0117-200021	EDM-0-43068	

**Dew Heater** - a device to remove condensation from telescope mirror.

**Electronic Focuser** - allows computer controlled focusing.

**Focal ratio** - 'speed' of a telescope's optics, found by dividing the focal length by the aperture.

**Light shroud** - cloth used to cover the optical tube and shields your mirrors from stray and reflected light.

**Optical tube** - the general name for optical devices used for visual observation of distant objects.

**Periodic Error** - inevitable small mechanical errors that occur in the drive gearing as the scope is tracking during long-exposure imaging.

**RMS** - Root Mean Square.

**VDC** - Volts Direct Current.

## 5.0 Minimum Mandatory performance specifications

Refer to the Compliance Matrix for the complete performance specifications and instructions that must be satisfied in order for a bid to be deemed responsive.

## 6.0 Deliverables

Bidder is to complete the following:

\_\_\_\_\_ We confirm that we can meet the preferred delivery date of on or before **2021-03-31**

or

\_\_\_\_\_ We confirm that the best delivery date we can offer is on or before \_\_\_\_\_.

Please note that meeting the preferred delivery date is **not** a mandatory requirement of this solicitation.

The equipment must contain installation and calibration instructions. Contractor must provide access to remote/teleconference/email technical consultation with respect to installation and calibration free of charge.

## 7.0 Delivery Destination

Equipment must be shipped to Barker College or suitable acceptance point on 17 Wing Winnipeg, 715 Wihuri Rd, Winnipeg, MB, R3J 3Y5.

Solicitation No. - N° de l'invitation	Amd. No. - N° de la modif.	Buyer ID - Id de l'acheteur
W0117-200021/A	004	EDM034
Client Ref. No. - N° de réf. du client	File No. - N° du dossier	CCC No./N° CCC - FMS No./N°
VME		
W0117-200021	EDM-0-43068	

#### **8.0 Government Supplies**

DND will be responsible for the installation and calibration of the telescope and associated equipment. Contractor must provide access to remote/teleconference/email technical consultation with respect to installation and calibration free of charge.

## MINIMUM MANDATORY PERFORMANCE SPECIFICATIONS

### COMPLIANCE MATRIX – MINIMUM MANDATORY PERFORMANCE SPECIFICATIONS

A complete list of the minimum mandatory performance specifications are detailed below in the "Compliance Matrix". Bidders are to clearly demonstrate compliance with each mandatory specification.

1. Bidders **must** show compliance by addressing each performance specification in the Compliance Matrix, whether the product offered "meets" or "doesn't meet".
2. Bidders are requested to indicate how they meet each performance specification by recording this information under the Performance Specification Offered column in the Compliance Matrix.
3. It is requested that supporting technical documentation, including but not limited to, specification sheets, technical brochures, photographs or illustrations be provided with the bid at solicitation close and be cross-referenced on the Compliance Matrix for each performance specification to outline where in the supporting technical documentation it demonstrates compliance. It is the Bidders responsibility to ensure that the submitted supporting technical documentation provides detail to prove that the proposed product(s) meet the requirements of the Performance Specification. If published supporting technical document is not available, the Bidder should prepare a written narrative complete with a detailed explanation of how its bid demonstrates technical compliance.
4. If the supporting documentation referenced above has not been provided at bid closing, the Contracting Authority will notify the Bidder that they must provide supporting documentation within two (2) business days following notification. Failure to comply with the request of the Contracting Authority within that time period, will deem the bid non-responsive and the bid will be given no further consideration.
5. Bidders must address any concerns with the performance specifications in written detail to the Contracting Authority before bid closing as outlined in the Request for Proposal (RFP) document.
6. Failure to meet each mandatory performance specification will result in the bid being deemed non-responsive, and be given no further consideration.

Requirement		Manufacturer Offered:		Model number Offered#	
tem #	Performance Specification	Status (M) Mandatory	Performance Specification Met? Indicate either Yes/No	Performance Specification Offered: Bidder should indicate how they meet the performance specification by recording this information in this column.	Cross Reference: In this column, Bidders should cross-reference where this performance specification is indicated in their supporting documents.
01	The telescope must have 14" aperture.	(M)			
02	The telescope/optical tube assembly must cover 70 mm field of view without any field curvature, off-axis coma, or astigmatism.	(M)			

03	The telescope/optical tube primary and secondary mirror coating reflectivity must be at least 96%	(M)			
04	Must come with a Primary mirror/optical tube cover.	(M)			
05	Computerized direct drive mount must be compatible with the 14" Optical Tube with slew rate of up to 50 degrees per second and weight capacity of 100 lbs or greater.	(M)			



06	Must come with associated wirings. Zero backlash and periodic error, and less than 10 arc second RMS with modeling software.	(M)			
07	Must have a latitude range 0-90 degrees. Dual axis motors. Control software with integrated mount modeling software.	(M)			
08	The focal ratio must range between 7 and 8.	(M)			

09	The telescope design must provide pinpoint stars from the center to the corner of the field of view.	(M)			
10	Optical Performance must be: at least 3.5 micron RMS at 13mm off-axis; 6.5 micron RMS at 35mm off-axis	(M)			
11	Must come with 12VDC Power Supply	(M)			

12	Light shroud must be compatible with large format CCD camera and optional visual use.	(M)			
13	Electronic Focuser kit/assembly must be capable of automating focus, monitor temperature, and controls fans built-in to the telescope.	(M)			

14	Must come with a compatible Dew heater.	(M)			
----	---	-----	--	--	--

ALL OTHER TERMS AND CONDITIONS REMAIN THE SAME AND IN FULL EFFECT.