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**British Columbia**  
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**Bid Fax: (604) 775-9381**

## **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 -  
Pacific Region  
800 Burrard Street, Room 219  
800, rue Burrard, pièce 219  
Vancouver  
British C  
V6Z 0B9

<b>Title - Sujet</b> Fort Rodd Hill Roof Replacement	
<b>Solicitation No. - N° de l'invitation</b> EZ899-171211/A	<b>Amendment No. - N° modif.</b> 002
<b>Client Reference No. - N° de référence du client</b>	<b>Date</b> 2016-09-23
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$PWY-031-7864	
<b>File No. - N° de dossier</b> PWY-6-39144 (031)	<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> <b>on - le 2016-09-30</b>	<b>Time Zone</b> <b>Fuseau horaire</b> Pacific Daylight Saving Time PDT
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input checked="" type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Leung, Janie	<b>Buyer Id - Id de l'acheteur</b> pwy031
<b>Telephone No. - N° de téléphone</b> (604) 666-8228 ( )	<b>FAX No. - N° de FAX</b> (604) 775-6633
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> PCA (Parks Canada) - Fort Rodd Hill - Victoria, BC	

**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  
EZ899-171211/A

Amd. No. - N° de la modif.  
002

Buyer ID - Id de l'acheteur  
PWY031

Client Ref. No. - N° de réf. du client

File No. - N° du dossier  
PWY-6-39144

CCC No./N° CCC - FMS No./N° VME

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**Les documents français seront disponibles sur demande.**

This amendment #002 is raised to issue Addendum #2.

Please see attached Addendum #2.

**ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED.**

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*The following changes in the Tender Documents are effective IMMEDIATELY.  
This addendum will form part of the Contract Documents*

**Amend/revise the Standard Contract Documents as follows:**

**1.0 CHANGES AND CLARIFICATIONS**

**SPECIFICATIONS**

- 1.1 00 01 10 TABLE OF CONTENTS AND LIST OF DRAWINGS  
LIST OF DRAWINGS, SCHEDULES AND DETAILS  
**ADD DIVISION 08 – OPENINGS and 08 62 00 Unit Skylights to the list of technical specification sections.**
- 1.2 08 62 00 UNIT SKYLIGHTS  
**ADD “08 62 00 Unit Skylights” technical specification to the contract documents for this tender.**

**2.0 RESPONSE TO CONTRACTOR QUERIES:**

N/A

**END OF ADDENDUM No. 2**

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<b>Division 00 – Procurement and Contracting Requirements</b>	
00 01 10 Table of Contents and List of Drawings	2
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**Division 08 – Openings**

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**Division 09 - Finishes**

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**Appendix 1**

Stantec Consulting Ltd.- Hazardous Building Materials Assessment, Issued January 2013.	297
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**Appendix 2**

Government of Canada – Federal Infrastructure Investments program Signage guidelines, Issued May 2016.	11
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List of Drawings, Schedules and Details (Prepared by RDH Building Science Inc., Re-Issued for  
Addendum No,1, September 19, 2016)

General Arrangement Drawings (24" x 36")

BE0.0 Cover Sheet  
BE1.0 Aerial Site Plan  
BE1.1 Building Roof Plans  
BE1.2 Building Images  
BE1.3 Schedule and Details  
BE1.4 Details  
BE1.5 Details  
BE1.6 Details  
BE1.7 Details

## **1 GENERAL**

### **1.1 DESCRIPTION**

- .1 Work includes labour, materials, equipment and services necessary to supply and install a fixed curb mount unit skylight formed with curb counterflashing for mounting on roof curbs.

### **1.2 REFERENCES**

- .1 General: Applicable edition of references cited in this Section is current edition published on date of issue of Project specifications, unless otherwise required by building code in force.
- .2 American Architectural Manufacturers Association, Window & Door Manufacturers Association, Canadian Standards Association:
  - .1 AAMA/WDMA/CSA 101/I.S.2/A440 - North American Fenestration Standard/ Specification for Windows, Doors, and Skylights (NAFS)
  - .2 CSA A440S1-09 – Canadian Supplement to AAMA/WDMA/CSA 101/I.S.2/A440
  - .3 AAMA 501.2 - Quality Assurance and Diagnostic Water Leakage Field Check of Installed Storefronts, Curtain Walls, and Sloped Glazing Systems
  - .4 AAMA 2603 – Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum and Panels
- .3 ASTM International:
  - .1 ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
  - .2 ASTM E 108 - Standard Test Methods for Fire Tests of Roof Coverings
  - .3 ASTM E 283 - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen
  - .4 ASTM E 331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
  - .5 ASTM E 408 - Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques
  - .6 ASTM E 1886 - Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials
  - .7 ASTM E 1996 - Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes
- .4 Illuminating Engineering Society of North America (IESNA):
  - .1 IESNA - The Lighting Handbook.
- .5 National Fenestration Rating Council:

- .1 NFRC 100 - Procedure for Determining Fenestration Product U-factors
- .2 NFRC 200 - Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence
- .6 National Fire Protection Association:
  - .1 NFPA 70 - National Electrical Code

### 1.3 SUBMITTALS

- .1 Product Data: For unit skylights. Include standard construction details, product performance characteristics, and material descriptions, dimensions of individual components and profiles, and finishes.
  - .1 Include test reports of qualified independent testing agency or third party certificates verifying compliance with performance requirements.
- .2 Shop Drawings: For unit skylight work. Include plans, elevations, sections, details, and connections to supporting structure and other adjoining work.
- .3 Warranty: Sample of special warranty.

### 1.4 MANUFACTURER QUALIFICATIONS

- .1 A qualified manufacturer with minimum 30 years' experience in manufacturing similar products in successful use on similar projects and able to provide unit skylights meeting requirements.

### 1.5 WARRANTY

- .1 Manufacturer's Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of unit skylights that fail in materials or workmanship under normal use within specified warranty period.
  - .1 Failures include, but are not limited to, the following:
    - .2 Deterioration of metals, metal finishes, dome, and other materials beyond normal weathering.
    - .3 Breakage of glazing.
- .2 Warranty Period:
  - .1 Unit Skylight and Flashing Product Warranty: 10 years from date of substantial performance of the work.
  - .2 Unit Skylight and Flashing Installation "No Leak" Warranty: 10 years from date of substantial performance of the work.
  - .3 Hail Breakage Warranty for Skylight Glass: 10 years from the date of substantial performance of the work on all insulated glass units using laminated glass.
  - .4 Insulating Glass Seal Failure Warranty: 20 years from date of substantial performance of the work.

## 2 PRODUCTS

### 2.1 SOURCE LIMITATIONS

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- .1 Obtain unit skylights through single source from single manufacturer.

### 2.2 FIXED CURB MOUNTED (FCM) UNIT SKYLIGHTS

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- .1 System Description: Fixed curb mounted unit skylight, an interior condensation drainage gasket, an insulated glass unit, structural sealant, mounting fasteners, flashing and accessories, as required to meet installation and performance requirements indicated. FCM skylights shall be suitable for installation on roof curbs ranging from 0 degrees up to 60 degrees from horizontal.
- .1 Performance requirements:
  - .1 Daylighting: Provide daylighting photometric performance comparable to basis of design product at layout indicated, based upon daylighting profile of March 21, 9:00 am local time, at Project location by simulation in accordance with IESNA guidelines.
  - .2 Air Infiltration: Maximum air leakage through tested size of 0.030 cfm/sq. ft. (1.5 L/s/sq. m) of fixed area as determined according to ASTM E 283 at a static-air-pressure differential of 1.57 lbf/sq. ft. (75Pa.)
  - .3 Water Penetration under Static Pressure: No evidence of water penetration through unit when tested according to ASTM E 331 at a static-air-pressure differential of 15 lbf/sq. ft. (720 Pa).
  - .4 Performance Class and Grade (Primary Designator): Laminated with 0.030 inch (0.76 mm) Interlayer: "SKG-PG120 Size Tested 1308 x 1308 mm (51 x 51 in.)".
  - .5 Design Pressure (DP): Laminated with 0.030 inch (0.76 mm) Interlayer: DP = +250/-120 psf (+11.9/-5.75 kPa).
  - .6 Water Test Pressure: 15 psf (0.72 kPa) with no leakage at 5 gallons per minute spray rate.
  - .7 Air Leakage Rate: 0.030 cfm/ft<sup>2</sup> maximum.
  - .8 Windborne-Debris Resistance: Wind Zone 3 or Less: Provide unit skylights capable of resisting impact from windborne debris, based on the pass/fail criteria as determined from testing glazed representative of those specified, according to ASTM E 1886 and ASTM E 1996. Missile Level C, Wind Zone 3 requirements, and +50/-50 psf cycle pressure minimum.
  - .9 Fire Ratings for Roof Assemblies with Fire Classifications: Unit skylight tested in accordance with ASTM E 108 and listed as passing Burning Brand test with target classification of Class B.
  - .10 Energy Performance ratings for any size fixed curb mounted unit skylight with tempered Lo-E 366 coated exterior glass pane and interior pane as follows:



- .1 Thermal Transmittance: NFRC 100 maximum U-factor: Clear Laminated with 0.030 inch (0.76 mm) Interlayer: 0.48 Btu/hr\*ft<sup>2</sup>\*deg F (2.73 W/m<sup>2</sup>\*deg C).
- .11 Solar Heat-Gain Coefficient (SHGC): NFRC 200 maximum SHGC: Clear Laminated with 0.030 inch (0.76 mm) Interlayer: 0.27
- .12 Visible Transmittance (Vt): NFRC 200 maximum Vt: Clear Laminated with 0.030 inch (0.76 mm) Interlayer: 0.63
- .13 Aluminum Sheet: Aluminum Sheet: Flat sheet complying with ASTM B 209/B 209M.

### 2.3 CONDENSATION DRAINAGE GASKET

- .1 Factory applied black thermoplastic rubber gasket mounted around the entire interior aluminum frame assembly providing a thermal break weather seal and drainage for interior condensation.

### 2.4 INSULATED GLASS UNIT

- .1 Factory assembled with low emissivity exterior pane and clear interior pane separated by a stainless steel spacer sealing the space between panes with 95% argon gas.
  - .1 Exterior Pane: 0.125 inch (3mm) thick tempered glass with interior surface coated with low emissivity coating.
  - .2 Interior Pane: Tempered, Clear 0.125 inch (3mm) tempered glass

### 2.5 STRUCTURAL SEALANT

- .1 Factory applied silicone sealant, black color, bonding the glass pane to the aluminum frame and suitable for external exposure.

### 2.6 FASTENERS

- .1 #8 x 1.75 inch (44 mm) stainless steel, black zinc coated, self-drilling screws provided with skylight. Verify field installed screws secures skylight to site built curb as indicated in manufacturer's installation instructions.

### 2.7 FLASHINGS

- .1 Install prefinished sheet steel flashings as indicated in detail drawings. Refer to 07 62 00 Sheet Metal Flashings for performance criteria of sheet metal flashings.

### 2.8 JOINT SEALANTS

- .1 Single component neutral cure silicone to CAN/CGSB 19.13, colour to match adjacent finish and to be selected by the owner from the range of manufacturer's standard colours.
  - .1 Dow Corning 795 (where both sides consist of non-porous surfaces)
  - .2 Dow Corning 790 (where both sides consist of cementitious substrates)

- .3 Dow Corning CWS (where both sides consist of non-porous substrates)
- .4 Dow Corning CCS (where both sides consist of cementitious substrates)
- .5 G.E. Silpruf SCS 2000
- .6 G.E. Silpruf SCS 2700 low modulus
- .7 Tremco Spectrum 2
- .8 Tremco Spectrum 3 low modulus
- .9 Pre-approved equivalent
- .2 Mastic: polyisobutylene; nonhardening, nonskinning, nondrying, nonmigrating sealant.

## 2.9 FINISHES

- .1 Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- .2 Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

## **3 EXECUTION**

### 3.1 EXAMINATION

- .1 Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- .2 Proceed with unit skylight installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

- .1 Install unit skylights in accordance with manufacturer's written instructions and approved shop drawings. Coordinate installation of units with installation of substrates, air and vapor retarders, roof insulation, roofing membrane, and flashing as required to ensure that each element of the Work performs properly and that finished installation is weather tight.
- .2 Anchor unit skylights securely to supporting substrates.
- .3 Install unit skylights on curbs specified in another section with tops of curbs parallel to finished roof slope.
- .4 Where metal surfaces of unit skylights will contact incompatible metal or corrosive substrates, including preservative-treated wood, apply bituminous coating on concealed metal surfaces, or provide other permanent separation recommended in writing by unit skylight manufacturer.
- .5 For custom flashings, install unit skylight curb counter-flashing to produce weatherproof seal with curb and overlap with roofing system termination at top of curb.

### 3.3 FIELD QUALITY CONTROL

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- .1 Testing Agency: Owner will engage testing agency to perform tests and inspections.
  - .1 Test for water leaks according to AAMA 501.2 after installation and curing of sealants but prior to installation of interior finishes.
  - .2 Perform test for total area of each unit skylight.
- .2 Work will be considered defective if it does not pass tests and inspections.
- .3 Additional testing and inspections, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
- .4 Prepare test and inspection reports.

### 3.4 CLEANING AND PROTECTION

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- .1 Clean exposed unit skylight surfaces according to manufacturer's written instructions. Touch up damaged metal coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.
- .2 Replace glazing that has been damaged during construction period.
- .3 Protect unit skylight surfaces from contact with contaminating substances resulting from construction operations.

END OF SECTION