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NA

Manitoba

**LETTER OF INTEREST**

**LETTRE D'INTÉRÊT**

Comments - Commentaires

Vendor/Firm Name and Address

Raison sociale et adresse du  
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**Issuing Office - Bureau de distribution**

Public Works and Government Services Canada - Western  
Region  
Victory Building/Édifice Victory  
Room 310/pièce 310  
269 Main Street/269 rue Main  
Winnipeg  
Manitoba  
R3C 1B3

<b>Title - Sujet</b> Mobile Laboratories	
<b>Solicitation No. - N° de l'invitation</b> 6D063-203302/A	<b>Date</b> 2020-10-01
<b>Client Reference No. - N° de référence du client</b> 6D063-203302	<b>GETS Ref. No. - N° de réf. de SEAG</b> PW-\$WPG-118-11087
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<b>Time Zone</b> <b>Fuseau horaire</b> Central Standard Time CST	
<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> Omerzo, Zeljka	<b>Buyer Id - Id de l'acheteur</b> wpg118
<b>Telephone No. - N° de téléphone</b> (204) 510-2597 ( )	<b>FAX No. - N° de FAX</b> (204) 983-7796
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> PUBLIC HEALTH AGENCY OF CANADA 820 BERRY ST, UNIT 41 WINNIPEG Manitoba R3H1H2 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

<b>Delivery Required - Livraison exigée</b> See Herein	<b>Delivery Offered - Livraison proposée</b>
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<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>

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**Mobile Laboratories**

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## **PART 1 – PURPOSE AND NATURE OF THE REQUEST FOR INFORMATION (RFI)**

### **1.1 Purpose of the RFI**

As Canada's leading public health infectious disease laboratory, the National Microbiology Laboratory (NML), Public Health Agency (PHAC), is responsible for the detection, identification, control, and prevention of infectious diseases. The Bioforensics Assay Development and Diagnostics section within the Division of Bacteriology, National Microbiology Laboratory, fulfills a variety of functions under the umbrella of emergency response and preparedness as per the Federal Emergency Response Plan, Emergency Support Function ESF#5, the Federal Terrorism Response Plan, and in alignment with PHAC's strategic directions.

One of these roles includes the Microbiological Emergency Response Team (MERT), which is responsible for maintaining scalable mobile laboratories that can be deployed to fit a variety of needs and acting as the biological component of the National Chemical, biological, radiological, nuclear and explosive (CBRNE) team.

MERT has a requirement for two mobile laboratories and one mobile command centre, offering customizable and scalable response capabilities. One mobile laboratory will be in the form of a trailer compatible with a semi-truck for road transport, while the other mobile laboratory will be a trailer capable of travel by road or air. The mobile command center must be compatible for transport on its own or with a larger mobile laboratory.

These labs will be used for processing and identification of potential Risk Group 3 and 4 pathogens, therefore it is required that the laboratories operate according to current Canadian Biosafety Standards and Guidelines. The mobile laboratories will provide a safe and secure lab work environment to support high profile national and international events, and respond to bioterrorism/ biocrime events and naturally occurring human or animal disease outbreaks.

All work must be completed according to the current Canadian Biosafety Standards and Guidelines. All electrical equipment must be certified or approved for use in accordance with the Canadian Electrical Code, Part 1, by a certification organization accredited by the Standards Council of Canada.

The purpose of this Request for Information (RFI) is to achieve the following:

- a) Provide industry with an early opportunity to assess, comment and suggest changes to the RFP;
- b) Determine the capability of industry to satisfy the requirements;
- c) Obtain industry feedback on any issues that would impact their ability to bid on the resulting solicitation and/or deliver on the department's requirements;
- d) Gather industry knowledge, expertise and recommendations with regard to best practices that would increase the success of the solicitation and/or identify any risks that would impact the solicitation;
- e) Enhance competition, access and fairness of the resulting solicitation; and
- f) Inform industry and the government to ensure that the formal RFP process moves forward efficiently and has a high probability of success.

Respondents are requested to provide answers and feedback.

### **1.2 Nature of the RFI**

This is not a bid solicitation. This RFI will not result in the award of any contract. As a result, potential suppliers of any goods or services described in this RFI should not reserve stock or facilities, nor allocate

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resources, as a result of any information contained in this RFI. Nor will this RFI result in the creation of any source list.

Furthermore, whether or not any potential supplier responds to this RFI, this will not preclude that supplier from participating in any future procurement. Also, the procurement of any of the goods and services described in this RFI will not necessarily follow this RFI.

This RFI is simply intended to solicit information and feedback from industry with respect to the matters described in this RFI.

Nothing in this RFI will be construed as a commitment from PWGSC to issue a solicitation for this requirement. PWGSC may use non-proprietary information provided in this review and/or in the preparation of any formal solicitation document. PWGSC will not be bound by anything stated herein and reserves the right to change at any time, any or all parts of the requirement, as it deems necessary.

PWGSC also reserves the right to revise its procurement approach, as it considers appropriate, either based upon information submitted in response to this RFI or for any other reason it deems appropriate.

## **PART 2 – RESPONSE INSTRUCTIONS AND INFORMATION**

### **2.1 Nature and Format of Responses Requested**

The department's current view of the requirements for the 3 mobile units (2 laboratory and one command centre) are detailed in Attachment 2, 3 and 4 of this RFI.

The department is seeking input and responses covering important elements of the requirement prior to proceeding with finalizing its procurement strategy.

Respondents are invited to provide comments regarding the content of Attachment 2, 3, 4, and related requirements included in this RFI. Respondents should explain any assumptions they make in their interpretation of the requirements.

### **2.2 Response Costs**

Canada will not reimburse any respondent for expenses incurred in responding to this RFI.

Respondents will have no claim for damages, compensation, loss of profit, or allowance arising out of providing answers and comments to this RFI.

## **2.3 Treatment of Responses**

### **2.3.1 Use of Responses**

Responses will not be formally evaluated. The responses received may be used by PWGSC to develop or modify procurement strategies or any DRAFT documents contained in this RFI. PWGSC will review all responses received by the RFI closing date. PWGSC may, in its discretion, review responses received after the RFI closing date.

### **2.3.2 Review Team**

A review team composed of representatives of PWGSC and the Public Health Agency of Canada (PHAC) will review the responses. PWGSC reserves the right to hire any independent consultant, or use any Government resources that it considers necessary to review any response. Not all members of the review team will necessarily review all responses.

### **2.3.3 Confidentiality**

Respondents should indicate and mark any portions of their response that they consider proprietary or confidential. PWGSC will handle these portions in a confidential manner in accordance with the Access to Information Act of Canada.

### **2.3.4 Follow-up Activity**

PWGSC may, at its discretion, contact any respondents to follow up with additional questions or for clarification of any aspect of a response. PWGSC may, at its discretion agree to meet with respondents to provide respondents with the opportunity to present and/or demonstrate their capabilities in relation to this RFI.

Respondents' presentations are at no obligation to PWGSC and respondents will be responsible for all costs associated with PWGSC's invitation to make a presentation.

## **2.4 Contents of this RFI**

This RFI contains the DRAFT technical requirements and specifications (Attachment 2, 3 and 4) for each of the 3 units, and respondents should anticipate that clauses or requirements may be added to or deleted from any resulting bid solicitation that may be published by PWGSC in the future. Comments regarding any aspect of this RFI are requested. This RFI also contains specific questions (Attachment 1) addressed to the industry.

### **2.4.1 Historical & Volumetric Data**

The data contained within this RFI is being provided to respondents purely for information purposes. Although it represents the best information currently available to PWGSC, there is no guarantee that the data is complete or free from error.

## **2.5 Format of Responses**

### **2.5.1 Response preparation**

PWGSC requests that respondents submit their responses electronically in MS Word, PDF or compatible formats. Responses can be provided by email. Medium such as CD, DVD or USB key are acceptable. Hardcopy responses will also be accepted but is not the preferred option.

### **2.5.2 Response content**

The first page of each document of the response provided should contain:

- a) The RFI number
- b) The name of the company that the respondent's is representing;
- c) The title, the name and the contact information of the respondent's; and,
- d) The date of submission of the documents.

All pages should be identified with the company's name along with page numbers.

## **2.6 Enquiries**

PWGSC will not necessarily respond to enquiries in writing or by circulating answers to all potential suppliers as this is not a solicitation process. However, respondents with questions regarding this RFI may direct their enquiries to the Contracting Authority named below:

Zeljka Omerzo  
Procurement Specialist  
Procurement Branch, Western Region  
Public Works and Government Services Canada  
Room 310 – 269 Main Street  
Winnipeg, MB R3C 1B3

Telephone: (204) 510-2597  
E-mail address: [Zeljka.Omerzo@tpsgc-pwgsc.gc.ca](mailto:Zeljka.Omerzo@tpsgc-pwgsc.gc.ca)

## **2.7 Submission of Responses**

### **2.7.1 Time and Place for Submission of Responses**

Suppliers interested in providing a response should deliver it electronically to the attention of the Contracting Authority by the time and the date on page 1 of the RFI to the email address indicated in Part 2 section 2.6.

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### **2.7.2 Responsibility for Timely Delivery**

Each respondent should ensure its response is delivered on time to the correct email address or location.

### **2.8 Security Requirements**

There are no security requirements associated with responding to this RFI. However any future procurement may include a security requirement as mandatory criteria as time of bid submission.

For more information about security requirements governing contracts, visit the Canadian Industrial Security Directorate website at <http://www.tpsgc-pwgsc.gc.ca/esc-src/index-eng.html>

### **2.9 Official Languages**

Responses to this RFI are requested to be presented in either of the Official Languages of Canada.

## **PART 3 – DRAFT PROCUREMENT STRATEGY**

### **3.1 Instructions**

Design, construction, delivery, and maintenance of 3 mobile units (2 laboratory and one command centre with the ability to flex into additional lab space as needed), offering customizable and scalable response capabilities, in accordance with the current Canadian Biosafety Standards and Guidelines and Canadian Electrical Code.

### **3.2 Questions to Industry**

Attachment 1: Questions to industry. Respondents are requested to provide answers to the questions in the order that they appear and maintain the same lettering sequence.

### **3.3 Proposed Procurement Strategy**

The proposed procurement strategy would be to award through a competitive process a contract the design, construction, delivery and maintenance of 3 mobile units.

### **3.4 Draft Technical Documents**

The technical documents that would form part of a future solicitation are included as Attachment 2, 3, and 4: DRAFT Technical Documents. Respondents are asked to read each document carefully in order to identify potential issues to be addressed, either by answering the related questions or by submitting additional comments. Attachment 2 – Mobile Laboratory Specifications for the Public Health Agency of Canada; Attachment 3 – Mobile Trailer Specifications for the Public Health Agency of Canada; Attachment 4 – Mobile Command Centre Specifications for the Public Health Agency of Canada.

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## ATTACHMENT 1: QUESTIONS TO INDUSTRY

**NOTE:** This is not a bid solicitation. This RFI will not result in the award of any contract. As a result, potential suppliers of any goods or services described in this RFI should not reserve stock or facilities, nor allocate resources, as a result of any information contained in this RFI. Nor will this RFI result in the creation of any source list.

- Q1. Would it be possible to incorporate the technical specifications listed for each unit into the design as outlined?
- Q2. If we were to proceed with the solicitation, would including servicing of the units be feasible?
- Q3. What type of maintenance schedule would be available?
- Q4. If servicing is included, would the respondent come onsite for this servicing or would the three units require transportation to the manufacturing site?
- Q5. What type of warranty options would the respondent offer for the three units?
- Q6. What would the delivery costs be for the three units?
- Q7. Would the respondent be willing to accept the responsibility of disposing of the mobile laboratory and mobile trailer units currently in use by the Public Health Agency of Canada?
- Q8. Is there the capability in industry to design and construct the Command Centre unit with a washroom containing a toilet and handwashing sink or is space too limiting?
- Q9. For the Command Centre design, would your design suggestion be a trailer or a motorhome/RV?
- Q9. For the mobile laboratory and trailer, is it possible to provide whiteboard walls throughout the unit?
- Q10. For the mobile laboratory, would the submitted design be able to accommodate a space for convertible seating/bunk space for 2-4 members in the respite area, or is space too limiting?
- Q11. For the mobile laboratory and trailer, would the design include a field installed weather vestibule to protect the lab entrance?
- Q12. For the mobile trailer, would the design be able to incorporate all mandatory items, while maintaining dimensions to allow for shipment on a railcar?



Solicitation No. - N° de l'invitation  
6D063-203302/A  
Client Ref. No. - N° de réf. du client  
6D063-203302

Amd. No. - N° de la modif.  
File No. - N° du dossier  
WPG-0-43108

Buyer ID - Id de l'acheteur  
wpg118  
CCC No./N° CCC - FMS No./N° VME

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**ATTACHMENT 2: DRAFT TECHNICAL DOCUMENTS**

Mobile Laboratory General Requirements
<p>1. Trailer with an overall length of 53" with slide outs to be transported by road</p> <ul style="list-style-type: none"> <li>a. Compatible with semi-truck for transport</li> <li>b. Required to pass Federal Safety Test and Manitoba Safety Test prior to delivery</li> <li>c. Auto-level feature that can perform in -30°C to +30°C temperatures – with manual override system</li> <li>d. Operational outdoor environmental temperature range of -30°C to +30°C with +/- 3 degree divergence</li> <li>e. Water system with sampling port that must have the ability to be winterized, i.e. system that can withstand transport and operations in an environment that can range from of -30°C to +30°C</li> <li>f. In floor heating system required to maintain comfortable room temperature (18-24°C) throughout the laboratory</li> <li>g. Slip resistant flooring</li> <li>h. Temperature control systems - Independent temperature zones for each space is required. Heating and air conditioning system to maintain 22°C (+/- 10%) when exposed to a range of environmental temperatures.</li> <li>i. HVAC system to provide sufficient air changes per hour under normal operation, based on Canadian Biosafety Standards and Guidelines, in accordance with applicable standards such as ANSI/ASHRAE 62.1.</li> <li>j. Gaseous decontamination system (Ports in each space throughout the laboratory to enable gaseous decontamination – to be discussed with end user)</li> <li>k. Power sockets inside rooms with switches that can be operated from outside the area to allow for decontamination by VHP.</li> <li>l. Interior surface materials to restrict penetration of gases used for decontamination</li> <li>m. Continuity of seal to be maintained between the floor and wall</li> <li>n. Impermeable light fittings</li> <li>o. Impermeable windows or skylights for CL2, CL3 (as per Canada Biosafety Standards) and admin spaces</li> <li>p. Waste water system requires dedicated drain to effluent treatment system with a holding tank that can withstand bleach treatment and access to enable waste water effluent treatment</li> <li>q. Dedicated main water supply shut-off valves to be located and accessible from outside the containment zone</li> <li>r. Intercom / phone video system between all laboratory spaces and outside the lab</li> <li>s. Occupation safety requirements to include a Fire Alarm, CO2 monitoring and egress systems with audio and visual alarms</li> <li>t. Lab security system with audible alarm</li> <li>u. Air differential Magnahelic gauges for each room to observe pressure prior to entering</li> <li>v. Directional airflow moving from CL2 spaces to CL3 space as per Canadian Biosafety Standards and Guidelines</li> <li>w. No recirculation of inside air - completely sealed from outside contaminants and no chance of re-entry of contaminant from the outside</li> <li>x. UPS backup systems required for essential equipment - Glovebox, BSC, Fridges and Freezers – must be accessible for hardwire, ease of removal for change/changing. Must</li> </ul>

## Attachment 2 – Mobile Laboratory Specification for the Public Health Agency of Canada

<p>be able to switch out with commercially available UPS systems – Refer to Mechanical space below for details.</p> <p>y. HEPA filters must be accessible to allow for in place testing. HEPA housings must be bubble tight and allow for isolation. Must have ports to allow for gaseous decontamination. Refer to Mechanical space below for details.</p> <p>z. Sliding doors between anteroom and all CL2 spaces – hands free access if possible. Fob access required for access to the laboratory from the anteroom with motion activated exit from CL2.</p> <p>Electrical and data connections:</p> <p>aa. Utilities will be run in an all stainless steel chase mounted above the workbench. All electrical receptacles and data ports are designed for decontamination and are not placed in the walls to avoid unnecessary penetrations of the laboratory shell.</p> <p>bb. Any penetrations for utilities, lighting fixtures, pipes, conduit, duct interfaces, and joints (wall-floor joints) must be sealed.</p> <p>cc. Alarm lights as per Canadian Biosafety Standards and Guidelines if the air pressure in CL3 is not maintained.</p> <p>dd. Satellite system – must have a port for installation of a satellite system outside to connect inside.</p> <p>ee. Service panels – to be determined by engineering design.</p> <p>ff. Overall electrical panels with standard generator hookups. All electrical to be CSA approved and installed as per CEC Part1.</p> <p>gg. Required amount subject to design - to be discussed with end user.</p> <p>hh. Ethernet ports connected to server and in appropriate connects as per CEC Part 1 for connecting computers in all areas (amount to be discussed with end user)</p> <p>ii. Wired for cell boosters</p> <p>jj. Network connectivity to connect to onsite network (backup hardline connection)</p> <p>kk. Standard server rack (posts) – 12 U (24.44" x 32.25" x 27.42")</p> <p>ll. Power – 10-15 Amp (110V or 220V AC) and 800-10,000 BTU/h of cooling; 1500W per server and connected to UPSs. ** Cooling capability required with possibility to vent outside. Located in non-lab environment, with ability to connect both via wired and wireless connections</p> <p>mm. For wireless connection - central wireless access point (for better wireless connectivity) ie. Router mounted to central point on ceiling, where it can provide service throughout the truck</p>	
<b>Space that meets the physical requirements of a Containment Level 3 laboratory with the following:</b>	
Requirement	Description
Power Supply	Backup hardline connection UPS backup systems required for all essential equipment – Glovebox, fridges, freezers - accessible for charging/removal. Must be compatible with commercially available UPS replacements.
Air Supply	HVAC system to maintain differential air pressure within containment zone as per Canadian Biosafety Standards and Guidelines. Connections must maintain integrity and withstand vibration due

## Attachment 2 – Mobile Laboratory Specification for the Public Health Agency of Canada

	to road travel. Supply and exhaust air systems to be independent of other areas.
Filtration	HEPA filtration of inlet and exhaust air as per Canadian Biosafety Standards and Guidelines Isolation dampers required for isolation and decontamination of contaminated ductwork.
Decontamination	Ports for gaseous decontamination system must be in place
Hand washing sink / Emergency eyewash	Hand washing sink with hands-free operation and emergency eyewash must be provided in the CL-3 laboratory.
Video monitoring of lab and operators	A digital video camera will be mounted in a position to allow monitoring and recording of operations within the laboratory. The videos recorded can be used for chain of custody records, procedural review and training purposes.
Dirty – Clean anteroom and shower capability	Dirty-Clean anteroom with the ability for a full body shower. Air break between the CL2 and CL3 laboratories. Requires dedicated drain to effluent treatment system with a holding tank that can withstand bleach treatment. Includes space for storage of in-use personal protective equipment.
Air differential magnetic lock for CL-3 doors	Magnetic inter-locking doors for entrance into CL3 area to prevent simultaneous opening of critical doors causing a breach in containment. Must have manual over-ride capabilities.
Dedicated Autoclave space Power requirement	Minimum specifications – 22" W x 25" D x 43" H; AC220V; 11A (50/60Hz) Must be accessible on two sides. Must be able to fasten and stow for transport.
Separate pass through small chamber from CL-3 to CL-2	Pass-through air break chamber between the CL-2 and CL-3 laboratories (internal measurement of 12" x 12"). Interlocking doors required Visual/audible alarm (or equivalent) to prevent simultaneous opening of both doors.
Stainless steel or comparable, workbench and casework	All furniture will be seamless stainless steel, or comparable, which is non-porous, durable, resistant to corrosive laboratory chemicals, and designed for gaseous decontamination. All surfaces are curved for easy spill cleanup and sanitization. Edges are rounded and polished to avoid snagging or tearing of Personal Protection Equipment (PPE). Workbenches equipped with adjustable air suspension table tops and load locks must be provided to protect critical equipment during transport (minimum depth 25"). Requires open space below workbench for storage of vacuum pump/hoses.
Lockable refrigerated and freezer	A refrigerator (4°C) and freezer (-20°C) with a locking door for securing evidentiary samples within CL-3 containment. Approximate dimensions 23.5x23.6x33.5"
Emergency Egress	Emergency egress door, minimum size 28" x 72", that can be fully opened to allow for ease of movement of equipment into CL-3 space. Must have efficient seal in order to maintain negative air

## Attachment 2 – Mobile Laboratory Specification for the Public Health Agency of Canada

	pressure and efficient lock to prevent unwanted entry.
Storage for supplies/consumables	Cabinets and drawers to provide ample storage space and easy access to the supplies and equipment stored within. The cabinet doors and drawers latch in the closed position to secure the contents while the laboratory is in transit.
Foot or knee pedal for sending an alarm to the CL2 and anterooms	Foot or knee pedal accessible for the person working in the Class III glovebox which will alert staff in the anteroom or CL2 side that aid is needed.
<b>Class III BSC (Glovebox): At least 2 gloveboxes within the CL3 space</b>	Stainless steel with rounded corners.
Polymer powder coated, or equivalent	A baked on powder coating of white Dykor PVDF polymer, or equivalent, will provide superior resistance to the corrosive effects of sodium hypochlorite (bleach).
Approximately 45-55" wide (depending on design) connected to a second Class III BSC (Glovebox) approximately 25-39" wide (depending on design) using a pass through system / center chamber connection, or acceptable alternate	Pass through airlock with an electromechanical interlock system to prevent more than one door from being open at a time and an air purge.
Airlock for sample receipt from exterior	Air lock for sample receipt from exterior to allow for receipt of samples directly in the CL3 area
Digital video camera	Record the operations inside of the Class III using a camera placed on top of the Class III through a sealed window on top. Videos recorded can be used for chain of custody, records, procedural review and training purposes.
Mounted Tablet PC Monitor / View screen located within the glovebox	A computer monitor mounted outside the glovebox will be visible through a sealed window in the back of the glovebox. This monitor will allow the operator to view data from the camera system, including cameras capturing the exterior of the mobile laboratory. View screen to be a 9.5mm thick polycarbonate – must be capable of withstanding pressure required for pressure decay/rate of rise test with stainless steel glove ports.
Lighting, filtration and alarm system	High output LED light fixture mounted in housing, outside of the glovebox, will provide illumination to the work area through a sealed window. The control panel must include digital and analog differential pressure gauges, programmable low pressure alarm, and switches for the glovebox, light and filtration system.
HEPA filtration of the glovebox	Inlet and exhaust air ports are HEPA filtered – inlet single HEPA, exhaust must be double within 2 feet of the cabinet or as close as

## Attachment 2 – Mobile Laboratory Specification for the Public Health Agency of Canada

Glovebox Carbon filtration system with a bioseal damper HEPAs to be located onboard Class III, with bag in bag out for carbon filter housing	<p>possible - and provided with bubble tight butterfly dampers to provide an airtight seal for gaseous or vapor phase decontamination. Design of HEPA placement must be discussed with end user.</p> <p>Carbon filtration system to provide necessary exhaust airflow volume and negative pressure to maintain the glovebox in a safe operational mode. The system will utilize a bag-in/bag-out design for filter change without breaking containment. A sampling system will be provided to allow carbon filter to be tested for saturation or bypass leakage without breaking containment. The one system will be used for both Class III units. Preference for the canister filters.</p> <p>The glovebox will be pressure decay/rate of rise tested and helium leak tested in accordance with American Glovebox Society (AGS) standard practices.</p>
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Space that meets the physical requirements of a Containment Level 2 laboratory that enables the following:	
<b>1. *Clean space (slightly positive air pressure)</b> <b>2. PCR space (negative air pressure)</b> <b>3. Positive Control space (negative air pressure)</b> <b>*Subject to design</b>	
Slide out option to increase workspace	
Requirement	Description
Hands free entry	<p>Hands free entry between all CL2 spaces.</p> <p>Fob/restricted access into the CL2 laboratory area from the anteroom (hands free).</p> <p>Motion activated exit (open access) out of the CL2 laboratory space.</p>
Power Supply	<p>Backup hardline connection</p> <p>UPS carriage system - backup systems required for all essential equipment – Glovebox, biosafety cabinets, fridges, freezers - that are accessible for charging/removal.</p> <p>Must be compatible with commercially available UPS replacements.</p> <p>Standard server rack ( posts) – 12 U (24.44" x 32.25" x 27.42")</p> <p>Power - 1500W per server and connected to UPSs. ** Cooling capability required (possible fan vented outside?)</p> <p>Located in non-lab environment with capability to vent outside</p>
Air Supply	<p>HVAC system to maintain differential air pressure within containment zone as per Canadian Biosafety Standards and Guidelines.</p> <p>Positive pressure requirement for Clean space.</p>
Filtration	<p>Supply air filtered for dust.</p> <p>Exhaust air HEPA filtration as per Canadian Biosafety Standards</p>

## Attachment 2 – Mobile Laboratory Specification for the Public Health Agency of Canada

	and Guidelines. All HEPA filters must be accessible to allow for in place testing.
Decontamination	Ports for gaseous decontamination system must be in place
Hand washing sink / Emergency eyewash	Hand washing sink with hands-free operation and emergency eyewash to be provided in main laboratory space.
Video monitoring of lab and operators	A digital video camera will be mounted in a position to allow monitoring and recording of operations within the laboratory. The videos recorded can be used for chain of custody records, procedural review and training purposes.
Stainless steel, or comparable, workbench and casework	All furniture will be seamless stainless steel, or comparable, which is non-porous, durable, resistant to corrosive laboratory chemicals, and designed for gaseous decontamination. All surfaces are curved for easy spill cleanup and sanitization. Edges are rounded and polished to avoid snagging or tearing of Personal Protection Equipment (PPE). Workbenches equipped with adjustable air suspension table tops and load locks must be provided to protect analytical equipment during transport. Air suspension table tops only needed in CL2 PCR space.
Two (2) Class II Type A2 BSC	Baker/Nuair, or equivalent, 3 foot nominal Class II, A2 Laminar Flow Biological Safety Cabinets provide protection from particulate and aerosol hazards for the user, product and environment. One located in the CL2 clean space, one located in the PCR space
Two to three lockable refrigerators for sample and reagent storage - <b>subject to design</b>	Two or three refrigerators (4°C) with locking doors – one provided in the CL2 clean space, PCR space and positive control space. Two fridges could be acceptable, subject to design, in CL2 clean space and PCR space.
Two to three lockable freezers for sample and reagent storage - <b>subject to design</b>	Two or three freezers (-20°C) – one provided in the CL2 clean space, PCR space and positive control space. Two freezers could be acceptable, subject to design, in CL2 clean space and PCR space.
Storage for supplies/consumables	Cabinets and large drawers that fully extend provide ample storage space and easy access to the supplies and equipment stored within. The cabinet doors and drawers latch in the closed position to secure the contents while the laboratory is in transit.
Dedicated Autoclave space  Power requirement	Dedicated area in the PCR space or inter-laboratory space Minimum specifications – 22" W x 25" D x 43" H; AC220V; 11A (50/60Hz) Must be accessible on two sides. Must be able to fasten and stow for transport.

Space that meets the physical requirements for Administration/Office/Respite Space	
Power operated slide out option to increase workspace	
Control console - monitor / alarm panel displays	Displays and controls for HVAC system and temperature – independent temperature zones for each area is required. Ranges from 15°C to 30°C. Intuitive system controls and touchscreen programming.

## Attachment 2 – Mobile Laboratory Specification for the Public Health Agency of Canada

Differential pressure between rooms	Analog and digital gauges monitor relative pressure of the lab space and administrative area as per Canadian Biosafety Standards and Guidelines.
Alarms if unsafe conditions exist for more than a few seconds (time delays are programmable)	The monitor panel will also have alarms to indicate unsafe conditions due to changes in the differential pressures between the rooms. A programmable time delay will prevent nuisance alarms when personnel enter the lab, or an airlock door is opened briefly for sample entry.
Tank level gauges for water and waste tanks	A tank monitor must display levels in the water and waste tanks, and display a visual alarm if the levels approach a preset limit.
Power disruption	A monitor panel for the UPS system must indicate the status of incoming power from the generator or shore power.
Security camera system	Smart board to view data from the on-board system control computer and views from all of the cameras, including exterior cameras. Multi-screen display. Genetec /Mercury platform for security system
Easily accessible marine grade electrical distribution circuit breaker panel	The electrical distribution circuit breaker panel must have selector switches for shore power or external generator supply inputs, digital volt and amp meters to monitor the power supply, LED indicators for each branch circuit, and backlit labels identifying each circuit breaker. The use of marine grade, fine strand, tinned copper wiring, along with crimped tinned ring connectors and approved DIN rail mounted terminal strips, creates a system designed to withstand frequent vibration and shocks that may occur during transportation. All electrical to be CSA approved and installed as per CEC Part1.
Touch down area	Touch down area with desk and charging stations.
Wi-Fi enabled smartboard	A Wi-Fi enabled smartboard with touchscreen, with the ability to broadcast news content and satellite broadcasting.
Electrical outlets for equipment	Electrical outlets as per CEC Part1. Required number to be discussed with end user.

Exterior	
Electric awnings	Electronic awnings for laboratory door area
Large exterior door	Minimum measurements 81.5"H x 40"W Cannot be positioned at the front or back of trailer due to accessibility when in storage area.
Fob or biometric locks for entrance and sample entry airlock access door	Fob or biometric lock provided at the lab entrance door. This entry system prevents unauthorized access to the lab and identifies the team member entering the lab.



## Attachment 2 – Mobile Laboratory Specification for the Public Health Agency of Canada

Manual lock	Also to include manual lock for back up entry system when the lab is not powered up to enable entry post transport or in case of power disruption.
Audio/video Intercom at entrance and sample entry airlock access door	The entrance door to include an audio/video intercom for communications and visual identification with operators inside the laboratory.
Exterior security cameras	Digital video cameras mounted around the outside of the vehicles will provide a 360° view of the environment around the lab. Genetec /Mercury platform for security system
Exterior lighting	Sufficient amount of exterior lighting must be provided to allow for night operations and to provide security.
Shore power connections for electrical system	Connections for public utility power must be provided, with the ability to hook up to an external generator when required. Connectors to be CSA approved and sized according to CEC Part1. Shore power is the goal, with automatic transfer to generators should there be a power sag or outage. Ideally 2 connections – one for generator and one for shore power, both connected to automatic transfer switch.
Stacks for air intake	Adjustable stacks on air intake that can be moved to control which direction intake air is coming from. Pre-filters and removable charcoal filters to be installed in intake stacks.
Plumbing lines	All water/drainage lines/storage tanks should be sloped or graded to be 100% drainable for cold weather storage. Low point drains added for 'trapped' low points. All plumbing lines must be drainable for cold weather storage. All plumbing lines and storage tanks exposed to outdoor temperatures must be appropriately insulated to withstand temperatures between -30°C to 30°C.

Mechanical Space	
Mechanical room that can sustain the temperature above 16°C – 21°C	Mechanical room must sustain temperatures above 16°C when outside temperature is between -30°C to 30°C.
HVAC system integrated with automatic pressure control systems; Johnson Controls or equivalent	Room pressure is controlled by dampers and valves located in the Integrated CBR filtered HVAC system. This system is regulated to maintain pressure differentials and airflow and achieve between 10 and 15 air changes per hour. Damper controls are designed to dissipate room over or under pressurization during a power failure. Those electronic systems are supplemented with visual indicators of airflow and pressure differential.
HEPA filtration systems for Labs with a bioseal damper which isolates carbon filters from the HEPA filters;	Filter housings located in the Mechanical Room are equipped with bubble tight dampers and designed with ports for decontamination for biological agents. They are equipped with

## Attachment 2 – Mobile Laboratory Specification for the Public Health Agency of Canada

HEPA and HEPA/Carbon filtration systems with a bioseal damper which isolates carbon filters from the HEPA filters	bag-in/bag-out systems to contain HEPA and carbon filters during the change-out process. Commercially available sizes.
HEPA housings on BSCs should have decontamination fittings to permit decontamination and recertification of HEPA filters independently of the rest of the system	HEPA housings must be equipped with decontamination ports. These will require upstream, downstream sample ports, as well as port for injecting challenge smoke. Port required for testing HEPA – 1 port for introduction of aerosol (1 ½ sanitary connection) and 1 port for sampling (1/4" S.S. tubing with valve and hose barb).
UPS System for critical circuits (Class III BSCs, Fire Alarm, Lighting, Security, fridges/freezers, sensitive electronic equipment, etc)	A rugged Uninterruptible Power Supply (UPS) will provide seamless power for critical circuits until power is restored. The UPS will be a true on-line system, which will provide power conditioning thus eliminating voltage fluctuations for these critical circuits. To be CSA approved and installed as per the CEC Part 1.

<b>OPTIONAL REQUIREMENTS – CAN THESE BE INCORORATED INTO THE DESIGN OF THE UNIT?</b>	
Whiteboard walls in all sections of the mobile laboratory	
<b>Admin/Office/Respite Space</b>	
Convertible seating/bunk space to accommodate 2-4 staff members in respite area	Comfortable seating with table space. Optional fold-down bunk with privacy curtains will provide a place to sleep on long deployments.
<b>Exterior</b>	
Flexible film Weather Vestibules at entrance	A field installed flexible film or canvas weather vestibule provided to protect the lab entrance. The vestibule will maintain at a slightly positive pressure relative to ambient pressure to keep out rain, humidity and potentially contaminated air.

### Attachment 3 - Mobile Trailer Specifications for the Public Health Agency of Canada

#### Mobile Trailer Tier 2 - General Requirements

- Trailer with wheel base that can be transported by road or air (dual axles with air bag springs and electric hydraulic trailer brakes)
- Retractable wheels that can be raised to towing height or lowered to be flush at grade level. Can be strapped and locked into retracted position for transport.
- Ability to be transported with mobile command center
- Required to pass Federal Safety Test and Manitoba Safety Test prior to delivery
- Auto-level feature that can perform in -40°C to +30°C temperatures – with manual override system
- Operational environmental temperature range of -40°C to +30°C with +/- 3 degree divergence
- Water system that must have the ability to be winterized, i.e. system that can withstand transport and operations in an environment that can range from of -40°C to +30°C
- In floor heating system required to maintain comfortable room temperature (18-24°C) throughout the laboratory
- Slip resistant flooring
- Temperature control system is required (ranges from 15°C to 30°C). Heating and air conditioning system to maintain 22°C (+/- 10%) when exposed to a range of environmental temperatures.
- HVAC system to provide sufficient air changes per hour under normal operation, based on Canadian Biosafety Standards and Guidelines, in accordance with applicable standards such as ANSI/ASHRAE 62.1.
- Gaseous decontamination system (Ports space throughout the laboratory to enable gaseous decontamination - to be discussed with end user)
- Interior surface materials to restrict penetration of gases used for decontamination
- Continuity of seal to be maintained between the floor and wall
- Waste water system requires dedicated drain to effluent treatment system with a holding tank that can withstand bleach treatment and access to enable waste water effluent treatment
- Dedicated main water supply shut-off valves to be located and accessible from outside the containment zone
- Intercom / phone video system between all laboratory spaces and outside the lab
- Occupation safety requirements to include a Fire Alarm, CO2 monitoring and egress systems with audio and visual alarms
- Lab security system with audible alarm
- Air differential Magnahelic gauges to observe pressure prior to entering a room
- UPS backup systems required for all units - Glovebox, BSC, Fridges and Freezers – must be accessible for hardwire, ease of removal for change/changing. Must be able to switch out with commercially available UPS systems – Refer to Mechanical space below for details.
- HEPA filters must be accessible to allow for in place testing. HEPA housings must be bubble tight and allow for isolation. Must have ports to allow for gaseous decontamination. Refer to Mechanical space below for details.

### Attachment 3 - Mobile Trailer Specifications for the Public Health Agency of Canada

<ul style="list-style-type: none"> <li>- Electrical and data connections:</li> <li>- Utilities will be run in an all stainless steel chase mounted above the workbench. All electrical receptacles and data ports are designed for decontamination and are not placed in the walls to avoid unnecessary penetrations of the laboratory shell.</li> <li>- Any penetrations for utilities, lighting fixtures, pipes, conduit, duct interfaces, and joints (wall-floor joints) must be sealed.</li> <li>- Satellite system – must have a port for installation of a satellite system outside to connect inside.</li> <li>- Service panels – to be determined by engineering design.</li> <li>- Overall electrical panels with standard generator hookups.</li> <li>- All electrical to be CSA approved and installed as per CEC Part1.</li> <li>- Required amount subject to design - to be discussed with end user.</li> <li>- Ethernet ports connected to server and an appropriate connects as per CEC Part 1 for connecting computers in all areas (amount to be discussed with end user)</li> <li>- Wired for cell boosters</li> <li>- Network connectivity to connect to onsite network (backup hardline connection)</li> <li>- Standard server rack (posts) – 12 U (24.44” x 32.25” x 27.42”)</li> <li>- Power – 10-15 Amp (110V or 220V AC) and 800-10,000 BTU/h of cooling; 1500W per server and connected to UPSs. ** Cooling capability required with possibility to vent outside. Requires ability to connect both via wired and wireless connections.</li> <li>- For wireless connection - central wireless access point (for better wireless connectivity) ie. Router mounted to central point on ceiling, where it can provide service throughout the truck</li> <li>-</li> </ul>	
<b>Space that meets the physical requirements of a Containment Level 2 laboratory with the following:</b>	
<b>Power operated slide out option to increase workspace</b>	
Requirement	Description
Power Supply	Backup hardline connection UPS backup system required for all essential equipment – Glovebox, fridges, freezers - accessible for charging/removal. Must be compatible with commercially available UPS systems.
Air Supply	HVAC system to maintain differential air pressure within containment zones as per Canadian Biosafety Standards and Guidelines. Supply and exhaust air systems to be independent of other areas.
Filtration	Supply air filtered for dust. Exhaust air HEPA filtration as per Air Handling Section in the Canadian Biosafety Standards and Guidelines. All HEPA filters must be accessible to allow for in place testing.
Decontamination	Ports for gaseous decontamination system must be in place

### Attachment 3 - Mobile Trailer Specifications for the Public Health Agency of Canada

Hand washing sink / Emergency eyewash	Hand washing sink with hands-free operation and emergency eyewash must be provided in the laboratory space.
Video monitoring of lab and operators	A digital video camera will be mounted in a position to allow monitoring and recording of operations within the laboratory. The videos recorded can be used for chain of custody records, procedural review and training purposes.
Security camera system	Smart board to view data from the on-board system control computer and views from any of the cameras, including exterior cameras.
Dedicated Autoclave space Power requirement	Minimum specifications – 22" W x 25" D x 43" H; AC220V; 11A (50/60Hz) Must be accessible on two sides. Must be able to fasten and stow for transport.
Stainless steel or comparable, workbench and casework	All furniture will be seamless stainless steel, or comparable, which is non-porous, durable, resistant to corrosive laboratory chemicals, and designed for gaseous decontamination. All surfaces must be curved for easy spill cleanup and sanitization. Edges must be rounded and polished to avoid snagging or tearing of Personal Protection Equipment (PPE). Workbenches equipped with adjustable air suspension table tops and load locks must be provided to protect critical equipment during transport (minimum depth 25").
Lockable refrigerator and freezer	A refrigerator (4°C) and freezer (-20°C) with a locking door for securing samples and reagents. Approximate dimensions 23.5x23.6x33.5"
Emergency Egress	Emergency egress door, minimum size 28"x72", that can be fully opened to allow for ease of movement of equipment. Must have efficient seal in order to maintain air pressure.
Storage for supplies/consumables	Cabinets and drawers to provide ample storage space and easy access to the supplies and equipment stored within. The cabinet doors and drawers latch in the closed position to secure the contents while the laboratory is in transit.
<b>Class III BSC (Glovebox) and Class II BSC:</b>  Class II BSC (Glovebox)  Polymer powder coated, or equivalent  Glovebox connected to a Class II Type A2 BSC using a pass through system / center chamber connection, or acceptable alternate	  Off the shelf construction - stainless steel with coved corners. Approximately 45-55" wide (depending on design)  A baked on powder coating of white Dykor PVDF polymer, or equivalent, will provide superior resistance to the corrosive effects of sodium hypochlorite (bleach).  Glovebox connected to a Baker/Nuair, or equivalent, 4 foot nominal Class II, A2 Laminar Flow Biological Safety Cabinet (depending on design) to provide protection from particulate and aerosol hazards for the user, product and environment.

### Attachment 3 - Mobile Trailer Specifications for the Public Health Agency of Canada

Digital video camera	A pass through airlock system with an electromechanical interlock system to prevent more than one door from being open at a time and an air purge.
Mounted Tablet PC Monitor / View screen located within the glovebox	Record the operations inside of the Class III Glovebox using a camera placed on top of the Class III through a sealed window on top. Videos recorded can be used for chain of custody, records, procedural review and training purposes.
Lighting, filtration and alarm system	A computer monitor mounted outside the glovebox will be visible through a sealed window in the back of the glovebox. This monitor will allow the operator to view images from the camera system, including cameras capturing the exterior of the mobile laboratory. View screen to be a 9.5mm thick polycarbonate – must be capable of withstanding pressure required for pressure decay/rate of rise test with stainless steel glove ports.
HEPA filtration of the glovebox	High output LED light fixture mounted in housing, outside of the glovebox, will provide illumination to the work area through a sealed window. The control panel must include digital and analog differential pressure gauges, programmable low pressure alarm, and switches for the glovebox, light and filtration system.
Glovebox Carbon filtration system with a bioseal damper HEPAs to be located onboard Class III, with bag in bag out for carbon filter housing	Inlet and exhaust air ports are HEPA filtered using canister filters – inlet single HEPA, exhaust must be double within 2 feet of the cabinet or as close as possible - and provided with bubble tight butterfly dampers to provide an airtight seal for gaseous or vapor phase decontamination. Design of HEPA placement must be discussed with end user.  Carbon filtration system to provide necessary exhaust airflow volume and negative pressure to maintain the glovebox in a safe operational mode. The system will utilize a bag-in/bag-out design for filter change without breaking containment. A sampling system will be provided to allow carbon filter to be tested for saturation or bypass leakage without breaking containment. The one system will be used for both Class III units.  The glovebox will be pressure decay/rate of rise tested and helium leak tested in accordance with American Glovebox Society (AGS) standard practices.

Space that meets the physical requirements for an Anteroom	
Control console - monitor / alarm panel displays	Displays and controls for HVAC system and temperature – independent temperature zones for each area is required. Ranges from 15°C to 30°C.

### Attachment 3 - Mobile Trailer Specifications for the Public Health Agency of Canada

Differential pressure between rooms	Intuitive system controls and touchscreen programming.
Alarms if unsafe conditions exist for more than a few seconds (time delays are programmable)	Analog and digital gauges monitor relative pressure of the lab space and administrative area as per Canadian Biosafety Standards and Guidelines.
Tank level gauges for water and waste tanks	The monitor panel will also have alarms to indicate unsafe conditions due to changes in the differential pressures between the rooms. A programmable time delay will prevent nuisance alarms when personnel enter the lab, or an airlock door is opened briefly for sample entry.
Power disruption	A tank monitor must display levels in the water and waste tanks, and display a visual alarm if the levels approach a preset limit.
Wi-Fi enabled smartboard	A monitor panel for the UPS system must indicate the status of incoming power from the generator or shore power.
Security camera system	A Wi-Fi enabled smartboard with touchscreen, with the ability to broadcast news content and satellite broadcasting.
Audio/video Intercom at entrance and sample entry airlock access door	Smart board to view data from the on-board computer and views from all of the cameras, including exterior cameras. Genetec /Mercury platform for security system
Easily accessible marine grade electrical distribution circuit breaker panel	The entrance door to include an audio/video intercom for communications and visual identification with operators inside the laboratory.
Electrical outlets	The electrical distribution circuit breaker panel must have selector switches for shore power or external generator supply inputs, digital volt and amp meters to monitor the power supply, LED indicators for each branch circuit, and backlit labels identifying each circuit breaker. The use of marine grade, fine strand, tinned copper wiring, along with crimped tinned ring connectors and approved DIN rail mounted terminal strips, creates a system designed to withstand frequent vibration and shocks that may occur during transportation.
	All electrical to be CSA approved and installed as per CEC Part1.
	Electrical outlets for staff use as per CEC Part1.
	Required number to be discussed with end user.

Exterior	
Electric awnings	Electronic awnings for laboratory door area
Large exterior door	Minimum measurements 81.5"H x 40"W

### Attachment 3 - Mobile Trailer Specifications for the Public Health Agency of Canada

Fob or biometric locks for entrance and sample entry airlock access door	Fob or biometric lock provided at the lab entrance door. This entry system prevents unauthorized access to the lab and identifies the team member entering the lab.
Manual lock	Also to include manual lock for back up entry system when the lab is not powered up to enable entry post transport or in case of power disruption.
Audio/video Intercom at entrance and sample entry airlock access door	The entrance door to include an audio/video intercom for communications and visual identification with operators inside the laboratory.
Exterior security cameras	Digital video cameras mounted around the outside of the vehicles will provide a 360° view of the environment around the lab. Genetec /Mercury platform for security system, or equivalent – to be discussed with end user
Exterior lighting	Sufficient amount of exterior lighting must be provided to allow for night operations and to provide security.
Shore power connections for electrical system	Connections for public utility power must be provided, with the ability to hook up to an external generator when required. Connectors to be CSA approved and sized according to CEC Part1. Shore power is the goal, with automatic transfer to generators should there be a power sag or outage. Ideally 2 connections – one for generator and one for shore power, both connected to automatic transfer switch.
Stacks for air intake	Adjustable stacks on air intake that can be moved to control which direction intake air is coming from. Pre-filters and removable charcoal filters to be installed in intake stacks.
Plumbing lines	All water/drainage lines/storage tanks must be be sloped or graded to be 100% drainable for cold weather storage. Low point drains added for 'trapped' low points. All plumbing lines must be drainable for cold weather storage. All plumbing lines and storage tanks exposed to outdoor temperatures must be appropriately insulated to withstand temperatures between -30°C to 30°C.

Mechanical Space	
Mechanical room that can sustain the temperature above 16°C – 21°C	Mechanical room must sustain temperatures above 16°C when outside temperature is between -40°C to 30°C.
HVAC system integrated with automatic pressure control systems; Johnson Controls or equivalent	Room pressure is controlled by dampers and valves located in the Integrated CBR filtered HVAC system. This system is regulated to maintain pressure differentials and airflow and achieve between 10 and 15 air changes per hour. Damper controls are designed to dissipate room over or under pressurization during a power



### Attachment 3 - Mobile Trailer Specifications for the Public Health Agency of Canada

	failure. Those electronic systems are supplemented with visual indicators of airflow and pressure differential.
HEPA filtration systems for Labs with a bioseal damper which isolates carbon filters from the HEPA filters;  HEPA and HEPA/Carbon filtration systems with a bioseal damper which isolates carbon filters from the HEPA filters	Filter housings located in the Mechanical Room are equipped with bubble tight dampers and designed with ports for decontamination for biological agents. They are equipped with bag-in/bag-out systems to contain HEPA and carbon filters during the change-out process.
HEPA housings on BSCs should have decontamination fittings to permit decontamination and recertification of HEPA filters independently of the rest of the system	HEPA housings must be equipped with decontamination ports. These will require upstream, downstream sample ports, as well as port for injecting challenge smoke. Port required for testing HEPA – 1 port for introduction of aerosol (1 ½ sanitary connection) and 1 port for sampling (1/4" S.S. tubing with valve and hose barb).
UPS System for critical circuits (Class III BSCs, Fire Alarm, Lighting, Security, fridges/freezers, sensitive electronic equipment, etc)	A rugged Uninterruptible Power Supply (UPS) will provide seamless power for critical circuits until power is restored. The UPS will be a true on-line system, which will provide power conditioning thus eliminating voltage fluctuations for these critical circuits. To be CSA approved and installed as per the CEC Part 1.

<b>OPTIONAL REQUIREMENTS – CAN THESE BE INCORPORATED INTO THE DESIGN OF THE UNIT?</b>	
Dimensions allowing shipment on a railcar (7'H, 8' W)	
Whiteboard walls throughout	
<b>Exterior</b>  Flexible film Weather Vestibules at entrance and sample entry airlock access door	A field installed flexible film or canvas weather vestibule will be provided to protect the lab entrance and sample entry airlock access door. The lab entrance vestibule will maintain at a slightly positive pressure relative to ambient pressure to keep out rain, humidity and potentially contaminated air.

## Attachment 4 – Mobile Command Centre Specifications for the Public Health Agency of Canada

Command Centre General Requirements	
<p>1. Mobile command center – subject to design</p> <ol style="list-style-type: none"> <li>Must be able to be transported on its own, as well have the capacity to be transported with a larger unit.</li> <li>Required to pass Federal Safety Test and Manitoba Safety Test prior to delivery</li> <li>Operational environmental temperature range of -30°C to +30°C with +/- 3 degree divergence.</li> <li>Temperature control systems (HVAC) - Independent temperature zones for each space are required (ranges from 15°C to 30°C). Heating and air conditioning system to maintain 22°C when exposed to a range of environmental temperatures.</li> <li>Ability to filter intake air</li> <li>Water system that must have the ability to be winterized, i.e. system that can withstand transport and operations in an environment that can range from of -30°C to +30°C</li> <li>Exterior security camera system – Digital video cameras mounted around the outside of the vehicles will provide a 360° view of the environment around the lab.</li> <li>Exterior lighting – Sufficient amount of exterior lighting must be provided to allow for night operations and to provide security.</li> <li>Security system with audible alarm</li> <li>Occupation safety requirements to include a Fire Alarm and CO2 monitoring with audio and visual alarms</li> <li>Electrical and data connections: <ol style="list-style-type: none"> <li>All electrical to be CSA approved and installed as per <b>Canadian Electrical Code (CEC) Part1</b>.</li> <li>Satellite system – must have a port for installation of a satellite system outside to connect inside.</li> <li>Service panels – to be determined by engineering design.</li> <li>Required amount of electrical subject to design – as per CEC.</li> <li>Ethernet ports connected to server and in appropriate connects for running laptops – minimum of 12 – location to be discussed with end user.</li> <li>Network connectivity to connect to onsite network (backup hardline connection)</li> <li>For wireless connection - central wireless access point (for better wireless connectivity) i.e. Router mounted to central point on ceiling, where it can provide service throughout the truck</li> <li>Standard server rack (posts) – 12 U (24.44" x 32.25" x 27.42")</li> <li>Power – 10-15 Amp (110V or 220V AC) and 800-10,000 BTU/h of cooling; 1500W per server and connected to UPSs. ** Cooling capability required with possibility to vent outside. Requires ability to connect both via wired and wireless. <ol style="list-style-type: none"> <li>Ability to connect to various wireless platforms.</li> </ol> </li> </ol> </li> </ol>	
Space that meets the physical requirements of a mobile command center with the following:	
Requirement	Description

#### Attachment 4 – Mobile Command Centre Specifications for the Public Health Agency of Canada

<p><b>MEETING AREA</b></p> <p>Wi-Fi enabled smart boards</p> <p>Audio/visual telecommunication system</p> <p>Workspace</p> <p>Kitchenette area</p>	<p>A wall with a minimum of 3 touch screen, Wi-Fi enabled smart boards to provide a display for data, presentations, real-time situational awareness and views from any of the security cameras.</p> <p>Audio/visual system to allow for the communication of data, presentations, real-time situational issues.</p> <p>Workspace with large conference table (to seat a minimum of 6 people) for meetings or additional workstations.</p> <p>Counter space with cabinets for storage, a sink, microwave, coffee maker and an under counter refrigerator (4°C).</p>
<p><b>RESPITE AREA</b></p> <p>Stainless steel or comparable, workbench</p> <p>Seating area and table</p> <p>Emergency Egress</p>	<p>Stainless-steel, or comparable, workbench which is non-porous, durable and resistant to corrosive laboratory chemicals. This space can be used as an alternate lab area if necessary. All surfaces must be curved for easy spill cleanup and sanitization. Edges must be rounded and polished to avoid snagging or tearing Personal Protection Equipment (PPE).</p> <p>Seating area and table space for staff to have lunch or gather in, outside of the mobile laboratory (to fit minimum of 5 people).</p> <p>Couches/benches that can fold-down with privacy curtains to provide a place to sleep on long deployments.</p> <p>Emergency egress door, minimum size 28" x 72", that can be fully opened to allow for ease of movement of equipment. Must have efficient seal in order to maintain air pressure.</p>

OPTIONAL REQUIREMENTS – CAN THESE BE INCORPORATED INTO THE DESIGN OF THE UNIT?	
<p><b>Respite Area</b></p> <p>Washroom</p>	<p>Containing toilet and handwashing sink</p>