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Bid Receiving - PWGSC / Réception des soumissions - TPSGC
11 Laurier St. / 11, rue Laurier
Place du Portage, Phase III
Core 0B2 / Noyau 0B2
Gatineau, Québec K1A 0S5
Bid Fax: (819) 997-9776

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.

Title - Sujet	
Lansdowne Server replacement(CCTV)	

Solicitation No. - N° de l'invitation	Amendment No. - N° modif.
47419-153363/A	001

Client Reference No. - N° de référence du client	Date
1000323363	2015-02-27

GETS Reference No. - N° de référence de SEAG	
PW-$$HN-461-66749	

File No. - N° de dossier	CCC No./N° CCC - FMS No./N° VME
hn461.47419-153363	

Solicitation Closes - L'invitation prend fin		Time Zone Fuseau horaire
at - à **02:00 PM**		Eastern Daylight Saving Time EDT
on - le **2015-03-13**		

F.O.B. - F.A.B.
Plant-Usine: ☐   Destination: ☐   Other-Autre: ☐

Address Enquiries to: - Adresser toutes questions à:	Buyer Id - Id de l'acheteur
Hallman, Patti	hn461

Telephone No. - N° de téléphone	FAX No. - N° de FAX
(819) 956-7390 ( )	( ) -

Destination - of Goods, Services, and Construction:
Destination - des biens, services et construction:

Comments - Commentaires

Vendor/Firm Name and Address
Raison sociale et adresse du fournisseur/de l'entrepreneur

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée	Delivery Offered - Livraison proposée

Vendor/Firm Name and Address
Raison sociale et adresse du fournisseur/de l'entrepreneur

Telephone No. - N° de téléphone
Facsimile No. - N° de télécopieur

Name and title of person authorized to sign on behalf of Vendor/Firm (type or print)
Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)

Signature   **Date**

Issuing Office - Bureau de distribution
Electrical & Electronics Products Division
11 Laurier St./11, rue Laurier
7B3, Place du Portage, Phase III
Gatineau, Québec K1A 0S5

Solicitation No. - N° de l'invitation	Amd. No. - N° de la modif.	Buyer ID - Id de l'acheteur
47419-153363/A	001	hn461
Client Ref. No. - N° de réf. du client	File No. - N° du dossier	CCC No./N° CCC - FMS No/ N° VME
1000323363	hn46147419-153363	

Amendment 001 is issued to amend the solicitation close date and provide responses to the Questions received, to update Annex A and Attachment 1 - Mandatory Technical Evaluation Criteria.

1) At Part 1 - General Information, Article 4 - Trade Agreements

Delete: the North American Free Trade Agreement (NAFTA)

2) At Page 1, update the Solicitation Close Date

Delete: 2015-03-26
Insert: 2015-03-18

3) Questions and Answers - see Attachment

4) At Annex A

Delete: In its entirety
Insert: Annex A - see attachment

5) At Attachment 1 - Mandatory Technical Evaluation Criteria

Add: General Outdoor Camera

Resolution	Must have minimum high-definition television (HDTV) 1080p image resolution
Zoom	Must support at minimum a 2x optical zoom
Focus	Must have remote focus such as auto focus or auto back focus
Field of view	Must provide at least 80 degree horizontal field of view
Frames per second	Must support at least 20 frames per second at the minimum resolution specified above
Night Capability	Must be a true Day/Night camera with a mechanical IR cut filter
Environment	Must be waterproof and have an operating temperature range of -40 to + 50C. Must be rated IP65 or better.

6) At Attachment 1 - Mandatory Technical Evaluation Criteria, Table titled " Workstations.

Solicitation No. - N° de l'invitation	Amd. No. - N° de la modif.	Buyer ID - Id de l'acheteur
47419-153363/A	001	hn461
Client Ref. No. - N° de réf. du client	File No. - N° du dossier	CCC No./N° CCC - FMS No/ N° VME
1000323363	hn46147419-153363	

Insert: 3. A minmimum of 8gb of RAM must be installed. (16GB preferred)

Add: 13. The motherboard must be scalable for future RAM expansion.

ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED

Lansdowne Port of Entry
Questions Following Site Visit Dated February 19, 2015 @ 1000

Note: All references made in this document are in relation to the
Solicitation no. *47419-153363/A titled Lansdowne Server Replacement (CCTV)*

Question 1	What type of cabling is to be used?
Reference:	Section 1 – Network, Wiring and Cabling
Answer:	All cabling must be CAT-6 insulated cabling rated outdoor/indoor.

Question 2	What are the hours of work that we can work?
Reference:	Constraints – Item 2
Answer:	Regular working hours will be 0700 – 1800. Any work that needs to be performed outside of this will be scheduled ahead of time with the operations in order to ensure accommodation. Also, it may be required that certain portion of the work be completed during specific times in order to reduce operational impacts. (Ex: working at the PIL area may have to be done early in the morning or afternoon.) CBSA will coordinate with the contractor to determine this.

Question 3	What is the acceptable down-time for the current system?
Reference:	n/a
Answer:	The contractor must coordinate with CBSA.

Question 4	Is the PTZ functionality of the current cameras currently working?
Reference:	n/a
Answer:	Yes. All PTZ functionality is working asides from cameras 19 and 20 on the current system.

Question 5	Will the technical authority setup the roles and profiles before the training?
Reference:	Section 1 – Training
Answer:	Yes.

Question 6	Are all cameras to be placed within a conduit?
Reference:	Section 1 – Network, Wiring and Cabling
Answer:	No. New cameras will not require cabling to pass through a conduit. However, it is necessary that the cable be concealed as much as possible. For existing cameras being replaced where new cabling is also required, the use of the current conduit is necessary.

Question 7	Are there any potential health issue for asbestos?
Reference:	n/a
Answer:	According to the facility reports, there was no identification of asbestos within the ceiling spaces. However, it was identified that asbestos may be located within the piping insulation and on the fascia panels on the secondary canopy area.

Question 8	De we need to re-cable each camera?
Reference:	Section 1 – Network, Wiring and Cabling
Answer:	No. Only if the contractor deems it necessary or for a new camera.

Question 9	What is the acceptable down-time?
Reference:	n/a
Answer:	The contractor must coordinate with CBSA.

Question 10	What are the busiest times of day at the port of entry?
Reference:	n/a
Answer:	CBSA will coordinate with the contractor since the busiest times vary according to numerous factors.

Question 11	What is the distance between the commercial and traffic building?
Reference:	n/a
Answer:	Estimate is approximately 55 meters.

Question 12	Do we need to provide a switch cabinet in the commercial building
Reference:	n/a
Answer:	A secure switch cabinet in the commercial building basement must be provided and installed by the contractor. The cabinet must be key lockable. The switch and all necessary hardware must also be provided by the contractor.

Question 13	Can we use the current server rack?
Reference:	n/a
Answer:	Yes. Any hardware pieces missing will be the responsibility of the contractor to provide.

Question 14	Can we obtain a copy of the current CCTV system design?
Reference:	n/a
Answer:	For security purposes, a copy of the current CCTV system design will be provided after contract award only.

Question 15	Will CBSA provide spare cameras in case the defective ones need replacement?
Reference:	n/a
Answer:	No. A new camera will need to be installed. Currently, four (4) cameras have been identified as defective and will require replacement. This will also include recabling if need be.

ANNEX A

REQUIREMENT

VIDEO MONITORING SYSTEM

Objective

This requirement is for the supply, installation and configuration of a video storage server at the Lansdowne port of entry located at 1000 Island Bridge. The current recording infrastructure in place no longer supports operational requirements and needs to be replaced.

Scope

Provide backbone infrastructure required to support the current monitoring system and replace end of life cycle devices.

Notice

- All hardware and software provided must be supported and compatible with the latest Milestone XProtect® Corporate Video Management Software.

- The supply of any hardware and software that is not recommended in this document (ex: different camera types, server, etc.) must be submitted and approved by the CBSA Science and Engineering Laboratory prior to installation.

- The cabling to the new cameras identified in this requirement may or may not be provided. It will be confirmed during the site visit.

- NEW – The contractor must include all necessary documentation relating to hardware and software that is requested within this document to certify compliance with each requirement.

Tasks

1. Supply and install a functional network infrastructure in compliance with each manufacturer's installation guidelines, complete with all required parts, components, systems, software and accessories as specified in the project's documents.

2. Installation, connection, programming and verification of all new devices are in accordance to CBSA's technical and operational requirements.

3. Provide infrastructure that meets or exceeds all criteria and specifications stated in Section 2- Technical Requirements.

4. Stack and wrap on a skid for disposal all infrastructures that is removed and/or replaced.

5. Return to CBSA any components removed that stores data (i.e.; hard drives)

6. NEW – The existing cameras and housings must be cleaned.

7. *NEW – The existing cameras may require a field of view adjustment. CBSA will determine which cameras do so and coordinate with the contractor for the correction.*

Cameras

1. All cameras must be in accordance *with Section 2 – Table 4 – General Camera Requirements* as well as with their respective tables indicated in *Section 2 – Table 6 – Repair/Replacement Camera List*.

2. There are currently thirty three (33) cameras on the system. Refer to *Section 2 – Table 5 – Existing Camera List*.

3. Amendment on quantity - Seven (7) existing cameras are to be replaced according to Section 2 – Table 6 – New Camera Schedule.

4. *New – Five (5) new cameras are to be provided and installed according to Section 2 – Table 6 – New Camera Schedule.*

5. The new system will be comprised of thirty eight (38) cameras

6. All thirty eight (38) cameras must have the latest firmware installed for that device.

7. Where applicable, interior cameras must be recessed into the ceiling. Only the dome portion of the camera should be seen.

8. All outdoor cameras and enclosures must have a weather operating range of -40°C to 50°C, resistant to humidity and ice.

Network, Wiring, and Cabling

1. All cabling to connect interior network devices (workstations, cameras, switches, etc.) must be CAT-6 cabling.

   1.1. *Amendment on type – The new and replaced devices must use CAT-6 insulated cable rated outdoor/indoor unless otherwise mentioned.*

2. The supplied CAT-6 insulated cable must have an operating range of – 40° C to + 50° C and be resistant to temperature changes.

3. All CAT-6 cabling must be terminated with RJ-45 connectors at both ends.

4. All CAT-6 cabling must be labeled 1" from both ends with the camera numbers that are provided by the CBSA. The label must be done with a label maker or numbered stickers. Hand-written labels will not be accepted.

5. The contractor must supply and install the required cabling, including low voltage power cable where required and electrical source to all designated equipment.

6. The infrastructure backbone of the system provided must be optimized to provide smooth, high quality, clear video images to the server and workstations.

7. A Fortigate 80-C unit must be supplied and installed in the server cabinet to allow remote viewing.

   7.1. Configuration of the Fortigate 80-C unit will be done by CBSA.

8. A uninterruptible power supply (UPS) must be supplied, installed and configured at the server according to the requirements in *Section 2 – Table 10 – UPS*.

9. A commercial-grade surge suppressor with minimum of 600 joules rating must be supplied and installed at the server and at each workstation to protect against voltage spikes.

Storage Server

1. The storage server must meet or exceed the requirements in *Table 1 – General Server Specifications* and be supported by the Milestone XProtect® Corporate version provided.

2. The storage server must ensure optimal performance for forty (40) cameras which includes but is not limited to live, video and playback.

3. The server cabinet must be provided by the contractor according to the requirements identified in *Section 2 – Table 12 – Enclosure*

Workstations

1. All workstations must meet or exceed the requirements identified in *Section 2 – Table 11 – Workstations* unless otherwise mentioned.

Traffic Building

Amendment on size – Due to lack of space, the SC-2 monitor size is reduced from 40 inch to 32 inch.
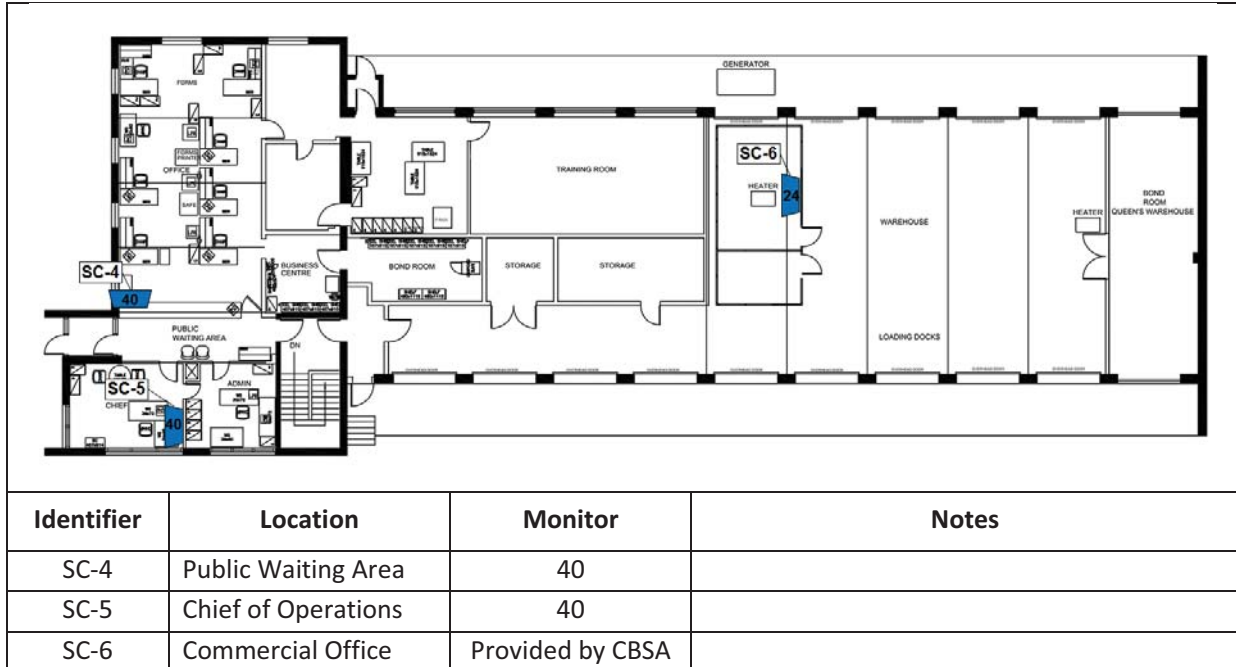

Identifier	Location	Monitor	Notes
SC-1	Immigration Office	Provided by CBSA	On desk
SC-2	Customer Service Desk	32	Mount that permits tilt, extend and swivel
SC-3	Superintendent Office	Provided by CBSA	On desk. Dual-display with existing monitor.

Commercial Building

Identifier	Location	Monitor	Notes
SC-4	Public Waiting Area	40	
SC-5	Chief of Operations	40	
SC-6	Commercial Office	Provided by CBSA	

2. The exact location of the workstations in their respective rooms will be determined during the site visit.

Video Management System (VMS)

1. The VMS must use the most recent version of Milestone XProtect® Corporate.

2. NTP time server must be installed on the system in order to ensure that the time synchronization of the server and all the workstations is identical.

Deliverables

1. *Amendment on requirements* - At commissioning, the contractor will provide two (2) hard and two (2) soft (.PDF) copies of Operations and Maintenance (O & M) Manuals in English for each system provided under this contract. This includes data for each type of product and features and operating sequences, both automatic and manual. *The Milestone manuals do not need to be included.*

2. The operational and maintenance manual should include all manufacturer recommended equipment maintenance requirements, with a complete description of all maintenance procedures required on all installed equipment including time intervals (hour usage), required inspection, periodic maintenance, fault diagnosis and repair/replacement of parts/components.

3. Installation guide, system documentation, system structure and setup information must be provided to the CBSA upon project completion and final approval.

4. The contractor will provide a MS EXCEL spreadsheet which will display each component (physical or virtual), the IP address and its location within the site. Upon project completion and final approval

   4.1. CBSA will provide a list of camera IPs to use during the system configuration.

5. Documentation can be copied and distributed within the CBSA without restriction.

6. All documentation and training material provided (hard and soft copy) must be created in English and using the MS Office Suite of Products.

7. Provide one (1) spare hot swappable hard drive for server.

8. Provide a 1 TB external hard drive, equivalent or better to a Seagate Expansion 1 TB Portable Hard Drive to the CBSA. External hard drive should support USB 3.0.

9. Provide thirty eight (38) Milestone Device License Keys (DLKs).

Constraints

1. The contractor must provide knowledge, labor, materials, tools, equipment and services to install equipment, devices and components required for a complete operational VMS.

2. Work may need to be done outside of regular CBSA working hours depending on CBSA operations. The contractor will be advised in earliest possible time if this is required.

3. All software updates must be completed onsite as remote connection will not be permitted.

Compliance Verification Testing

1. The Contractor must perform compliance verification tests with the project/technical authority, prior to final delivery and acceptance of the system. The Contractor must provide personnel, equipment, instruments and other supplies to perform the test. The compliance test must demonstrate that the installed VMS components function and comply with the project technical expectation and specifications.

2. All physical and functional system requirements as detailed must be demonstrated as operable.

Client Support

1. CBSA will provide the software license code for Milestone XProtect® Corporate.

2. CBSA will provide documentation upon availability relating to the current system.

3. CBSA will provide drawings with camera names / IP addresses.

4. CBSA will provide drawings of the existing camera system.

Training

1. Two (2) training sessions of four (4) hours each must be provided using the installed system within one month after the installation acceptance of the completed system.

2. Training must be done by a certified Milestone representative.

3. Training must be provided at the customer site using the new system.

4. Training must be done at the workstations for the new system.

5. Training must be given in English.

6. Each training session is for up to five (5) people.

7. Training must take place between 0700 and 1700. A training schedule will be established with the CBSA prior to the sessions.

8. Training must be computer-based with practical examples. (video extraction, smart client fonctions, etc.)

9. Training documentation must be available to all trainees in English.

Warranty, Maintenance and Service Level Agreement

1. The Warranty includes yearly maintenance of the CCTV System. The maintenance shall include the cleaning of all video system components such as but not limited to cameras, domes, server, switches, monitors, etc. (excluding cabling).

   1.1. The warranty agreement is for a period of 1 year with possible extension up to two (2) years.

   1.2. Maintenance must be completed at a minimum of two (2) times per year.

   1.3. Software updates on the system must be included as part of the maintenance.

   1.4. Following any maintenance, the contractor must report in writing to the Technical Authority any deficiencies or problems found.

2. At a minimum during the warranty period, the contractor shall include on site repair and/or replacement of the defected components reported for any minor and major system failures. New components provided during this project will be warrantied at no extra cost to CBSA.

   2.1. A major system failure shall be defined as the failure of any operator controls as well as any system controller, server or communication link which renders more than 10% of a specific security subsystem of systems inoperative. The response time for any major system failure is three (3) calendar days from the time the contractor is informed.

   2.2. A minor system failure shall be defined as the failure of the feed of a single camera, workstation and monitor or the failure of a camera, workstation or monitor. Even though spare cameras are provided, the response time for any minor system failure is five (5) calendar days from the time the contractor is informed.

3. Preventative and corrective maintenance performed by a maintenance contractor other than this contractor during the warranty period shall not void warranty on labor, hardware and software provided by this Contractor.

Section 2 – Technical Requirements

Table 1 – General Server Specifications

General	The following servers must be provided: • 1 X Management Server / Recording Failover Server • 1 X Video Recording Servers - A single server hosts both the management application and the recording failover application. Video recording for all cameras should be done on the Video Recording Servers. In the event of machine failure of a Video Recording Server, all cameras from that server must switch to record on the Recording Failover Server. - This list does not include networking equipment such as switches. UPS equipment is specified separately in the UPS section. The detailed specifications for each type of server are in the Management Server / Recording Server Failover section and in the Video Recording Server sections.
Recording/Retention	- All cameras must be configured by default to record 24/7 continuously at the minimum specified resolution and frame rate for each camera type. The minimum frame rate for recording is 15 FPS, unless otherwise specified. Recording on motion should not be configured unless otherwise specified. - The retention time of all camera footage must be at least 45 days.
Write Failover	- The video surveillance system must continue to record all camera footage in the event of a Video Recording Server failure. - In the event of a machine failure of a Video Recording Server, the Management Server / Recording Failover Server must be configured to takeover recording. The Recording Failover Server must provide a minimum of 5 days or 3TB usable of storage (whichever is larger). Live and archived video associated with the Recording Failover Server must be accessible at all times. - The management software and the failover software must reside on the same physical machine. RAID 5 is required for video failover storage, and RAID 6 is required for primary video storage. RAID 1 is required for all OS/Application drives. - Redundant storage of recorded video on multiple servers is not required.

Table 2 – Storage Capacity Specifications

Total storage capacity for 45 days for all cameras	27.3 TB usable
Storage Capacity per recording server (x1), for 45 days	28 TB usable
Drive number on each recording server, RAID-6 (3 TB)	9 drives x 4 TB RAID-6
Storage Capacity for the recording Failover server (x1), for 5 days	3 TB usable
Drive number on each recording failover server, RAID-5 (2 TB)	2 drives x 3 TB RAID-5

Table 3 – Management / Failover Server Requirements

All stated specifications are mandatory. The management application refers to the component of the video management system which contains configuration settings including product licensing, camera recording settings and user permissions. The management application is also responsible for user authentication as well as any logging. The failover application refers to the component of the video management system which takes over recording in the event of failure of the video storage server

Form Factor	Rackmount Sliding rails with cable management arm.	
Processor	Number of Processors Required	2
	Cores	6 or more
	Clock Speed	2.1 GHz or higher
	Instruction Set	64-bit
	Processor such as Intel Xeon E5-2620 v2 or better.	
Motherboard	Supports Dual Socket	
Memory	- 12 GB RDIMM or higher	
RAID Controller	- RAID 1 System + RAID 5 Storage - 512 MB Battery Backed Cache or higher	
System/Application Drives	- Minimum of two (2) 2.5'' or 3.5'' drives must be present. - The drives must be RAID 1 managed. - The total usable capacity after RAID must be 300 GB or higher. 10K RPM or better. - SAS or better.	
Recording Drives	- The total usable capacity after RAID must be three (3) TB or higher. - The storage must be RAID-5 managed - Minimum of two (2) 3.5'' 3 TB hot swappable drives must be present. - Minimum of two (2) empty additional 3.5'' hot swappable bays for future expansion must be present. 7.2K RPM or better - SAS or better	
Power Supply	- Must have dual, hot-plug redundant power supplies.	
OS	- Must have Microsoft Windows Server 2012 x64 Standard or Data Center installed.	
	- Server must be Certified for Windows by Microsoft for the version of OS installed.	
Network	- Must have dual Gigabit Ethernet Connections.	

Software	- Video Management and Failover Application must be stored on this server. - Must have Microsoft SQL Server Express installed. - The software must support the version of OS installed.
Example	Dell R720xd or equivalent configured with 2 X 300 GB SAS, 2 X 3 TB Near-Line SAS

Table 4 – General Camera Requirements

The general camera requirements apply to all cameras unless camera specifics are mentioned.

Open Architecture	• Cameras must be IP • Cameras must support ONVIF profile S
Video	Camera must support the following video settings: • Multiple compression formats, including but not limited to H.264 and MJPEG. • Camera must be able to output at least two video streams simultaneously and must also support simultaneous streaming of multiple formats. • Frame rate must be controllable for each stream.
Power	• Camera must be POE or High POE compatible.
Audio	• Camera must have at least one audio input port that uses a standard 3.5mm plug, so that a microphone may be connected to the camera to receive audio. • Pan-Tilt-Zoom (PTZ) cameras and license plate capture cameras are excluded from the requirement for an audio input port. • All cameras which are audio capable must have audio capability disabled from the camera or video management software (VMS), unless otherwise noted.
Exposure Settings	• Must be configurable for different lighting conditions such as shutter speed, and gain. • Must allow an automatic compensation of the image level with regard to the lighting conditions variations
Enclosure	• Cameras must be contained in housing and securely mounted.
Setting Specifications	• Live viewing at 20FPS • Recording at 15 FPS • Stream *H.264* must be used • Set *AGC* gain control to auto. • Set *Shutter speed* control to auto • (with a limit of 1/30s shutter speed in low light) • IR Cut Filter must be always on mode auto day/night • White balance must be set to "Automated". • WDR must be always "ON". • Compression rate must be set in order to have good image quality. • Field of view compliant with the camera coverage requirements

Table 5 – Existing Camera List

Amendment on status – Camera 19 has been identified as not working.

Camera #	Name	Type	Recording	Working
1	PIL 1	FIX	Yes	Yes
2	PIL 2-1	FIX	Yes	Yes
3	PIL 2-2	FIX	Yes	Yes
4	PIL 3-1	FIX	No	Yes
5	PIL 3-2	FIX	No	No
6	PIL 4	FIX	No	No
7	PIL 5	FIX	No	Yes
8	PIL 6	FIX	No	Yes
9	PIL 7	FIX	No	Yes
10	Canopy 1	FIX	No	Yes
11	Canopy 2	FIX	No	Yes
12	Canopy 3	FIX	No	Yes
13	Canopy 4	FIX	No	Yes
14	Secondary 1	FIX	No	Yes
15	Pre-PIL	PTZ	No	Yes
16	Export Lane	PTZ	No	Yes
17	Secondary 2	PTZ	No	Yes
18	Compound Exit	PTZ	No	Yes
19	Primary/CDU	PTZ	No	No
20	Traffic Office	PTZ	No	No
21	Long Room	PTZ	No	Yes
22	Warehouse	PTZ	Yes	Yes
23	Commercial Yard	PTZ	Yes	Yes
24	Cell 1	FIX	Yes	Yes
25	Cell 2	FIX	Yes	Yes
26	Pistol Room	FIX	Yes	Yes
27	Commercial Counter	FIX	Yes	Yes
28	Export Counter	FIX	Yes	Yes
29	Driver's Room	FIX	No	Yes
30	Traffic Office 2	PTZ	No	Yes
31	Arming room	FIX	No	Yes
32	Garage PTZ	PTZ	Yes	Yes
33	Garage	FIX	Yes	Yes

Table 6 – Repair/Replacement Camera List

Amendment
- *Status Change: Camera 1 is a replacement camera and not a new camera.*
- *Status Change: Camera 4 is a new camera and not being replaced as previously indicated.*
- *Type Change: Camera 5 is now a PTZ.*
- *Location Change: Camera 8 located on corner of traffic building and not on corner of the secondary canopy. See drawing in Section 3 – Repair/Replacement Layout, Site.*
- *New replacement: Camera 5 and 6 in Table 5 – Existing Camera List.*
- *Table change: Camera 9 and 10 to be replaced according to Table 9 – General Outdoor Camera.*

Camera #	Location	Type	Table	Status	Mount Type
1	Traffic – Immigration Counter	FIX	8	Replace existing	Recessed
2	Traffic – Public Counter	FIX	8	New	Recessed
3	Traffic – Floor 2 – Hallway	FIX	8	New	Recessed
4	Exterior – North West Corner	PTZ	7	New	Corner mount
5	Exterior – Public Entry	PTZ	7	Replace existing	Wall mount
6	Exterior – PIL View	FIX	8	New	Wall mount
7	Exterior – Secondary View	PTZ	7	Replace existing	Wall mount
8	Exterior – South West Corner of Traffic Building	PTZ	7	New	Corner mount
9	Exterior – Post PIL	FIX	9	Replace existing	Pole mount
10	Exterior – Pre PIL	FIX	9	Replace existing	Pole mount
11	PIL 3-2	FIX	8	Replace existing	Pole mount
12	PIL 4	FIX	8	Replace existing	Pole mount

Camera numbers from this Table are in relation to *Section 3 – Repair/Replacement Layout*.

Table 7 – Outdoor PTZ Camera

Resolution	Must have at least a 1280 X 720 image resolution.
Focus	Must have auto focus
Field of View	Must provide at least a 45 degree horizontal field of view.
Optical Zoom	The PTZ camera must support at least 10X optical zoom.
Range of Motion	Must have a pan range of at least 350 degrees and have a tile range of at least 90 degrees.
Frames Per Second	Must support at least 20 frames per second at the minimum resolution specified above.
Environment	Camera assembly must provide protection against dust and condensation. Rated IP 65 or better. A custom enclosure may be provided but should be expressly noted.
	Camera must be equivalent or better than AXIS Q6045-E.

Table 8 – Tamper Resistant

Resolution	Camera must have a minimum of 3 megapixel image resolution.
Zoom	The camera must support at least a 2X optical zoom.
Focus	Must have remote focus such as auto focus or auto back focus.
Field of View	Must provide a range at between 50 and 100 degree horizontal field of view.
Frames Per Second	Camera must support at least 15 frames per second at the minimum resolution specified above.
Night Capability	The camera must be a true Day/Night camera with a mechanical IR cut filter.
Environment	Camera assembly must provide protection against dust. A custom enclosure may be provided so that a camera can operate within this requirement. Must be rated IP51 or greater.
Enclosure	Camera must be contained in housing and securely mounted in order to be resistant to tampering. Cameras which are not dome cameras require external enclosures.
	Camera must be equivalent or better than AXIS P3346-VE or P3346-V (indoor/outdoor application)

NEW - Table 9 – General Outdoor Camera

General purpose cameras installed outdoor, and where the purpose of the camera is for general surveillance. Suggested camera type AXIS P3367-VE.

Resolution	Must have minimum High-definition television (HDTV) 1080p image resolution
Zoom	Must support at minimum a 2X optical zoom.
Focus	Must have remote focus such as auto focus or auto back focus.
Field of View	Must provide at least 80 degree horizontal field of view.
Frames Per Second	Must support at least 20 frames per second at the minimum resolution specified above.
Night Capability	Must be a true Day/Night camera with a mechanical IR cut filter.
Environment	Must be waterproof and have an operating temperature range of –40 to +50 C. Must be rated IP65 or better.
	Camera must be equivalent or better than AXIS P3367-VE

Table 10– UPS

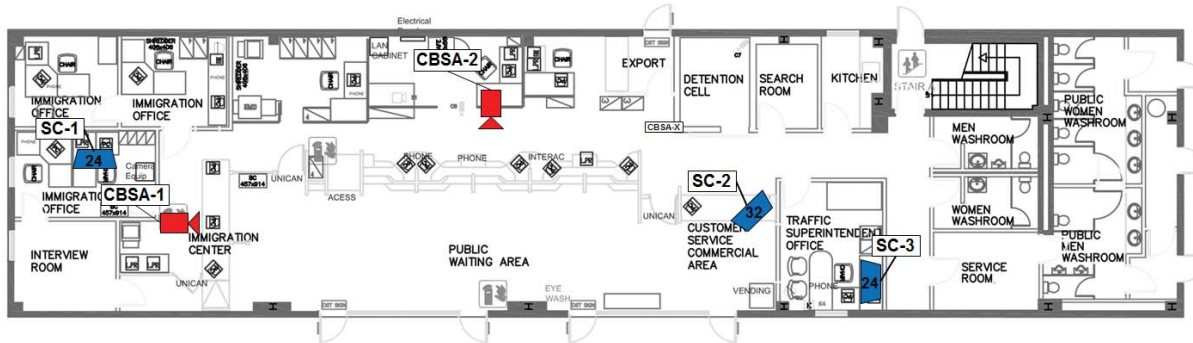|	
Form Factor	- Rack mount
Power Rating	- An uninterruptible power supply (UPS) must be able to supply servers, the associated switches and all critical accessories embedded.
Power runtime	- The uninterruptible power supply (UPS) must be able to supply a minimum of **20 minutes** of power at full power capacity during a power outage.
Soft Shutdown	- In the event of a power outage, the UPS are configured to initiate a safe shutdown of the servers based on battery capacity and/or time delay.
Connectivity	- UPS must be connected to each server through a network interface in order to initiate the shutdown in case of power outage.
Output Waveform	- True sine wave output - Output voltage distortion with less than or equal to 5% distortion at full load.
Topology	- Must be a Double Conversion, On-Line UPS.
Example	- PS model Eaton 9130 series rack mount UPS equivalent or better can be supplied.

Table 11 – Workstations

1.	The operating system must be Windows 7 Professional (32 bit or 64 bit*), Windows 7 Enterprise (32 bit or 64 bit*) or Windows 7 Ultimate (32 bit or 64 bit*). * Running as a 32 bit application.
2.	The CPU must be Intel Core-i7, 4 cores.
3.	A minimum of 8 GB of RAM must be installed. (16 GB preferred)
4.	The graphics adapter must be able to support the recommended resolution of 1920 x 1080.
5.	A DVI or HDMI connection from the monitor to the workstation is required.
6.	The connection media between the monitors and the workstations must be done through HDMI.
7.	Minimum 1 TB SATA hard drive (7200 RPM SATA 3.0 GB/S) must be installed and partitioned as follow: one partition with minimum 250 GB for Operating System files and one partition with minimum 750 MB to store exported video.
8.	SATA SuperMulti DVD writer
9.	Software: Microsoft .NET 4.0 Framework, DirectX 9.0 or newer must be installed.
10.	Monitor resolution: Monitor must have a 1920 X 1080 image resolution.
11.	40 inch monitor must be equivalent or better to a *Samsung SMT4023.*
12.	24 inch monitor must be equivalent or better to a HP Compaq LA2405wg.
13.	NEW - The motherboard must be scalable for future RAM expansion.

Table 12 – Enclosure

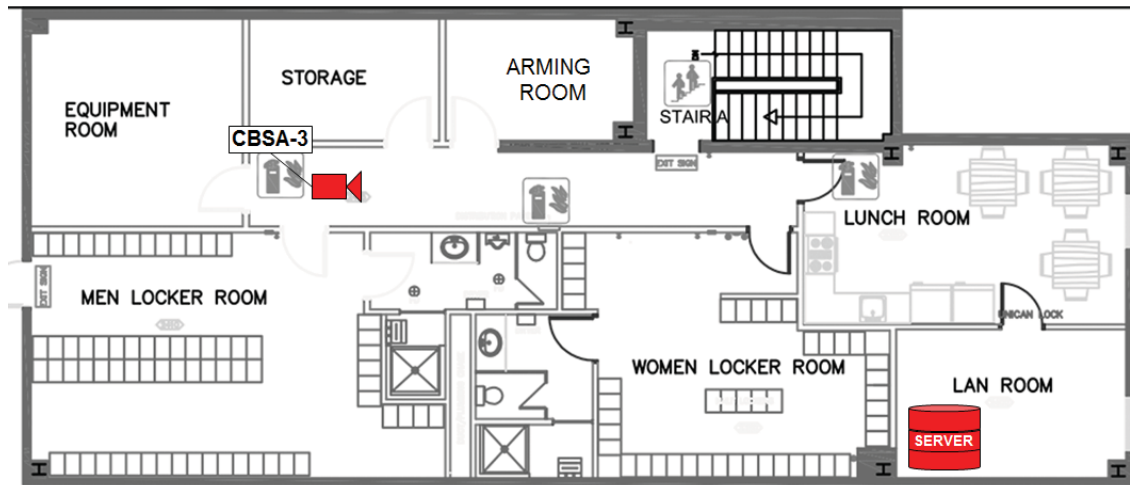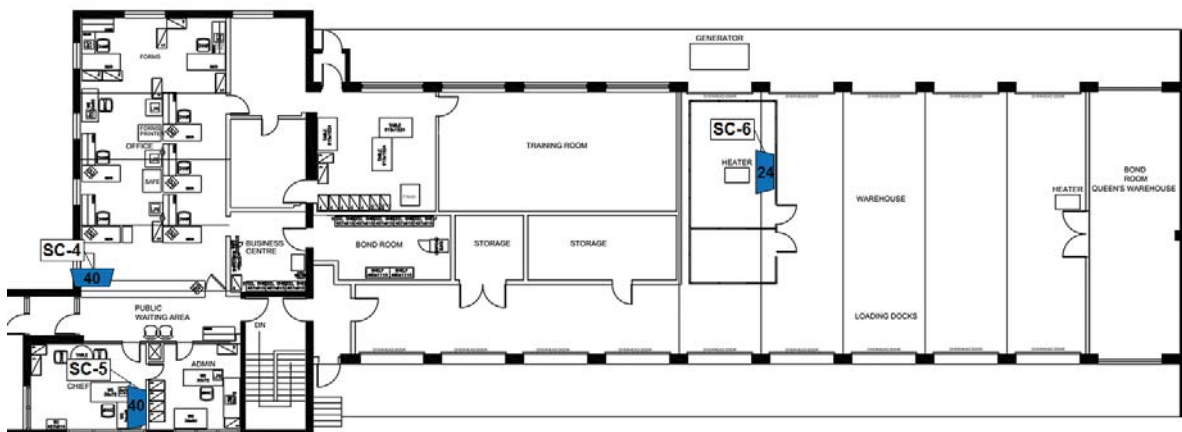|	
Standard	The enclosure must be compliant with approved safety standards for use in Canada.
Function	The enclosure must be able to contain all servers, the UPS, gateways and switch (es) of the CCTV system.
Form Factor	The enclosure must be a Network Rack type.
	The enclosure must be a 4 *Post Open Server Equipment Rack Enclosure* type.
	The enclosure must have vertical Wire Managers.
	The enclosure must have solid panels on the sides and vented panel at the rear and front door so that there is no unauthorized access to the embedded equipment.
Size	The enclosure must be a « Rackmount » standard **with** a width of 19 inches
	The **depth** of the enclosure must be sufficient to contain all the CCTV system equipment including all servers, UPS, gateway, the network switch (es).
	The **usable height** of the enclosure must be sufficient to contain all the CCTV system equipment including all servers, UPS, gateway, and the network switch and must be less or equal than 14U height.
Knockouts	The enclosure must have electrical knockouts on removable rear panel at the top and bottom.
Lock	The enclosure must have a front door that can be locked by key.
Ventilation	The enclosure must have vented panels on top and rear and /or side panel (s).
	The enclosure must have at least one (1) fan.
Stability of the enclosure	The enclosure must **not** have wheels installed.
Example	An enclosure such as the ERK-1025KD / 10FT / VFD / KO-VT3T series with appropriate accessories from Middle Atlantic or better can be used

Section 3 – Repair/Replacement Layout

Traffic – Floor 1

Traffic – Floor 2

Commercial

Site