

RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:
Public Works and Government Services Canada
Telus Plaza North/Plaza Telus Nord
10025 Jasper Ave./10025 ave. Jaspe
5th floor/5e étage
Edmonton
Alberta
T5J 1S6
Bid Fax: (780) 497-3510

REQUEST FOR PROPOSAL
DEMANDE DE PROPOSITION

**Proposal To: Public Works and Government
Services Canada**

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods, services, and construction listed herein and on any attached sheets at the price(s) set out therefor.

**Proposition aux: Travaux Publics et Services
Gouvernementaux Canada**

Nous offrons par la présente de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens, services et construction énumérés ici sur toute feuille ci-annexée, au(x) prix indiqué(s).

Comments - Commentaires

Title - Sujet Video Monitoring System - SK	
Solicitation No. - N° de l'invitation 47781-147218/A	Date 2013-12-09
Client Reference No. - N° de référence du client CBSA	
GETS Reference No. - N° de référence de SEAG PW-\$EDM-023-10040	
File No. - N° de dossier EDM-3-36210 (023)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2014-01-20	Time Zone Fuseau horaire Mountain Standard Time MST
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Taylor, Ian	Buyer Id - Id de l'acheteur edm023
Telephone No. - N° de téléphone (780) 497-3621 ()	FAX No. - N° de FAX (780) 497-3510
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: CANADA BORDER SERVICES AGENCY Customs Port of North Portal General Delivery North Portal Saskatchewan S0C 1W0 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address

**Raison sociale et adresse du
fournisseur/de l'entrepreneur**

Issuing Office - Bureau de distribution

Public Works and Government Services Canada
Telus Plaza North/Plaza Telus Nord
10025 Jasper Ave./10025 ave Jasper
5th floor/5e étage
Edmonton
Alberta
T5J 1S6

Delivery Required - Livraison exigée See Herein	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

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PART 1 - GENERAL INFORMATION

1. Introduction

The bid solicitation is divided into seven parts plus attachments and annexes, as follows:

- Part 1 General Information: provides a general description of the requirement;
- Part 2 Bidder Instructions: provides the instructions, clauses and conditions applicable to the bid solicitation;
- Part 3 Bid Preparation Instructions: provides bidders with instructions on how to prepare their bid;
- Part 4 Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria that must be addressed in the bid, and the basis of selection;
- Part 5 Certifications: includes the certifications to be provided;
- Part 6 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The Annexes include the Requirement, the Basis of Payment and any other annexes.

2. Summary

The Canada Border Services Agency (CBSA) has a requirement for the supply and delivery of a fully operational video monitoring system (VMS) at their location in North Portal, SK – Port of Entry.

Canada Border Services Agency (CBSA) is planning the upgrade of an existing Video Monitoring System at the North Portal, SK – Port of Entry. This requirement is for the supply and delivery of equipment, including thirty-seven (37) high definition capable cameras, servers, UPS, viewing stations, monitors, computer tower, switches and server rack.

Installation is not required as part of this requirement. CBSA intends to procure installation services at a later date through a separate process.

All hardware and software must be supported by the Milestone XProtect Video Management Software.

All the deliverables must be received on or before March 31, 2014.

Bidders must provide a list of names, or other related information as needed, pursuant to section 01 of standard Instructions 2003.

The requirement is subject to the provisions of the Agreement on Internal Trade (AIT). The requirement is exempt from the North American Free Trade Agreement (NAFTA) under Annex 1001.1b-1. ; World Trade Organization - Agreement on Government Procurement (WTO-AGP), Appendix I, article 1(d).

3. Debriefings

Bidders may request a debriefing on the results of the bid solicitation process. Bidders should make the request to the Contracting Authority within 15 working days of receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

PART 2 - BIDDER INSTRUCTIONS

1. Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the *Standard Acquisition Clauses and Conditions Manual* (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

The 2003 (2013-06-01) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

Subsection 5.4 of 2003, Standard Instructions - Goods or Services - Competitive Requirements, is amended as follows:

Delete: sixty (60) days

Insert: ninety (90) days

1.1 SACC Manual Clauses

B1000T (2007-11-30), Condition of Material

B3000T (2006-06-16), Equivalent Products

B4024T (2006-08-15), No Substitute Products

2. Submission of Bids

Bids must be submitted only to Public Works and Government Services Canada (PWGSC) Bid Receiving Unit by the date, time and place indicated on page 1 of the bid solicitation.

3. Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than seven (7) calendar days before the bid closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the questions or may request that the Bidder do so, so that the proprietary nature of the question is eliminated, and the enquiry can be answered with copies to all bidders. Enquiries not submitted in a form that can be distributed to all bidders may not be answered by Canada.

4. Applicable Laws

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Alberta.

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory

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specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the bidders.

5. Improvement of Requirement During Solicitation Period

Should bidders consider that the specifications or Statement of Work contained in the bid solicitation could be improved technically or technologically, bidders are invited to make suggestions, in writing, to the Contracting Authority named in the bid solicitation. Bidders must clearly outline the suggested improvement as well as the reason for the suggestion. Suggestions that do not restrict the level of competition nor favour a particular bidder will be given consideration provided they are submitted to the Contracting Authority at least seven (7) days before the bid closing date. Canada will have the right to accept or reject any or all suggestions.

PART 3 - BID PREPARATION INSTRUCTIONS

1. Bid Preparation Instructions

Canada requests that bidders provide their bid in separately bound sections as follows:

Section I:	Technical Bid	(1 hard copy)
Section II:	Financial Bid	(1 hard copy)
Section III:	Certifications	(1 hard copy)

Prices must appear in the financial bid only. No prices must be indicated in any other section of the bid.

Canada requests that bidders follow the format instructions described below in the preparation of their bid:

- (a) use 8.5 x 11 inch (216 mm x 279 mm) paper;
- (b) use a numbering system that corresponds to the bid solicitation.

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process [Policy on Green Procurement](http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>). To assist Canada in reaching its objectives, bidders should:

- 1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
- 2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

Section I: Technical Bid

In their technical bid, bidders should demonstrate their understanding of the requirements contained in the bid solicitation and explain how they will meet these requirements. Bidders should demonstrate their capability in a thorough, concise and clear manner for carrying out the work.

The technical bid should address clearly and in sufficient depth the points that are subject to the evaluation criteria against which the bid will be evaluated. Simply repeating the statement contained in the bid solicitation is not sufficient. In order to facilitate the evaluation of the bid, Canada requests that bidders address and present topics in the order of the evaluation criteria under the same headings. To avoid duplication, bidders may refer to different sections of their bids by identifying the specific paragraph and page number where the subject topic has already been addressed.

Section II: Financial Bid

- 1.1 Bidders must submit their financial bid in accordance with the Basis of Payment in Annex B. The total amount of Applicable Taxes must be shown separately.

- 1.2 **Exchange Rate Fluctuation**

C3011T (2013-11-06), Exchange Rate Fluctuation

Section III: Certifications

Bidders must submit the certifications required under Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

1. Evaluation Procedures

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.

1.1 Technical Evaluation

Failure to meet any of the following mandatory criteria at solicitation closing will render your submission non-compliant and given no further consideration.

- 1.1.1 Bidders must meet the requirements of the Video Monitoring System outlined in Section 1 of ANNEX A - REQUIREMENT.
- 1.1.2 Bidders are required to meet the Technical Requirements outlined in Section 2 - Tables 1-15 of ANNEX A - REQUIREMENT. Bidders are required to provide documentary proof of compliant to the Technical Requirements.

1.2 Financial Evaluation

- 1.2.1 The financial evaluation will be as per ANNEX B - BASIS OF PAYMENT.

SACC Manual Clause A0220T (2013-04-25), Evaluation of Price

2. Basis of Selection

A bid must comply with the requirements of the bid solicitation and meet all mandatory technical evaluation criteria to be declared responsive. The responsive bid with the lowest evaluated price will be recommended for award of a contract.

PART 5 - CERTIFICATIONS

Bidders must provide the required certifications and documentation to be awarded a contract.

The certifications provided by bidders to Canada are subject to verification by Canada at all times. Canada will declare a bid non-responsive, or will declare a contractor in default, if any certification made by the Bidder is found to be untrue whether during the bid evaluation period or during the contract period.

The Contracting Authority will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply with this request will also render the bid non-responsive or will constitute a default under the Contract.

1. Mandatory Certifications Required Precedent to Contract Award

1.1 Code of Conduct and Certifications - Related documentation

By submitting a bid, the Bidder certifies that the Bidder and its affiliates are in compliance with the provisions as stated in Section 01 Code of Conduct and Certifications - Bid of Standard Instructions 2003. The related documentation therein required will assist Canada in confirming that the certifications are true.

1.2 Federal Contractors Program for Employment Equity - Bid Certification

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list (http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml) available from Human Resources and Skills Development Canada (HRSDC) - Labour's website

Canada will have the right to declare a bid non-responsive if the Bidder, or any member of the Bidder if the Bidder is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list at the time of contract award.

PART 6 - RESULTING CONTRACT CLAUSES

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation.

1. Requirement

The Contractor must perform the Work in accordance with the Requirement at Annex A.

2. Standard Clauses and Conditions

All clauses and conditions identified in the Contract by number, date and title are set out in the *Standard Acquisition Clauses and Conditions Manual* (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

2.1 General Conditions

2030 (2013-06-27), General Conditions - Higher Complexity - Goods, apply to and form part of the Contract.

2.2 Supplemental General Conditions

4001 (2013-01-28), *Hardware Purchase, Lease and Maintenance* and 4003 (2010-08-16) *Licensed Software* apply to and form part of the Contract.

3. Security Requirement

There is no security requirement applicable to this Contract.

4. Term of Contract

4.1 Delivery Date

All the deliverables must be received on or before March 31, 2014.

5. Authorities

5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Ian Taylor
Title: Supply Specialist
Public Works and Government Services Canada
Acquisitions Branch
Directorate: Western Region
Address: 5th Floor, Telus Plaza North, 10025 Jasper Avenue, Edmonton, AB T5J 1S6
Telephone: 780-497-3621
Facsimile: 780-497-3510
E-mail address: Ian.Taylor@pwgsc-tpsgc.gc.ca

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The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

5.2 Project Authority

The Project Authority for the Contract is: (will be released at contract award)

Name: _____
Title: _____
Organization: _____
Address: _____

Telephone : _____
Facsimile: _____
E-mail address: _____

The Project Authority is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Project Authority; however, the Project Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

5.3 Technical Authority

The Technical Authority for the Contract is: (will be released at contract award)

Name: _____
Title: _____
Organization: _____
Address: _____

Telephone : _____
Facsimile: _____
E-mail address: _____

The Technical Authority named above is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Technical Authority, however the Technical Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

5.4 Contractor's Representative (To be completed by the contractor and submitted at time of bid.)

Name: _____
Organization: _____
Address: _____

Telephone : _____
Facsimile: _____
E-mail address: _____

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6. Payment

6.1 Basis of Payment

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm lot price, as specified in the contract. Customs duties are included and Applicable Taxes are extra.

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work, unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

6.2 Limitation of Price

SACC Manual clause C6000C (2011-05-16) Limitation of Price

6.3 Single Payment

SACC Manual clause H1000C (2008-05-12) Single Payment

7. Invoicing Instructions

The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions. Invoices cannot be submitted until all work identified in the invoice is completed.

8. Certifications

8.1 Compliance

Compliance with the certifications and related documentation provided by the Contractor in its bid is a condition of the Contract and subject to verification by Canada during the term of the Contract. If the Contractor does not comply with any certification, provide the related documentation or if it is determined that any certification made by the Contractor in its bid is untrue, whether made knowingly or unknowingly, Canada has the right, pursuant to the default provision of the Contract, to terminate the Contract for default.

9. Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Alberta.

10. Priority of Documents

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- (a) the Articles of Agreement;
- (b) the supplemental general conditions 4001 (2013-01-28), Hardware Purchase, Lease and Maintenance;
- (c) the supplemental general conditions 4003 (2010-08-16) Licensed Software;

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- (d) the general conditions 2030 (2013-06-27), General Conditions - Higher Complexity - Goods;
- (e) Annex A, Statement of Work;
- (f) Annex B, Basis of Payment;
- (g) the Contractor's bid dated _____, (*insert date of bid*)

11. Foreign Nationals (Canadian Contractor)

SACC Manual clause A2000C (2006-06-16), Foreign Nationals (Canadian Contractor)

OR

11. Foreign Nationals (Foreign Contractor)

SACC Manual clause A2001C (2006-06-16), Foreign Nationals (Foreign Contractor)

12. SACC Manual clauses

B1501C (2006-06-16), Electrical Equipment

G1005C (2008-05-12) Insurance

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ANNEX A

REQUIREMENT

Please see attached

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ANNEX B

BASIS OF PAYMENT

The bidder is requested to provide the cost of a fully operational video monitoring system that meets with requirements listed in Annex A.

- Firm Lot Price is FOB Destination and includes all delivery charges to the location below. This includes, but is not limited to packaging, labelling and brokerage fees.
- Firm Lot Price does not include GST. GST will be added as a separate line item to any invoice issued as a result of a Contract.
- Firm Price is in Canadian Dollars.

Delivery to: Canada Border Services Agency
Customs Port of North Portal
General Delivery
North Portal, SK S0C 1W0

Item	Description	Cost
1	Video monitoring system	\$ _____/lot
Total Evaluated Price		\$ _____

Summary of Costs (to be included with the above)

It is requested of the bidder to provide a breakdown of their costs to meet the entire requirement.

The bidder is to include but is not limited to include the following:

- All the items/goods that are required.
- Licensing details.

Annex A - Requirement

Section 1

Title

Goods Procurement for Video Monitoring System in North Portal, SK – Port of Entry Requirement

Objective

This requirement is for the supply and delivery of equipment, including thirty-seven (37) high definition capable cameras, servers, UPS, viewing stations, monitors, computer tower, switches, server rack) for the Canada Border Services Agency (CBSA) for the planned upgrade of an existing Video Monitoring System at the North Portal, SK – Port of Entry

Scope

The work consists of supplying and delivering the required components for a fully operational system (hardware and software) at the North Portal, SK – Port of Entry.

Notice

1. All hardware and software supplied for the system must be supported by the latest Milestone XProtect® Corporate video management software.
2. The Milestone VMS has been selected though a previously competed process and is required in order to ensure a consistency across the Prairie Region, and to more effectively and efficiently manage the system.

Tasks

1. Provide all video management equipment required for functional system in compliance with each specific manufacturer's installation guidelines, whether or not all required parts, components, systems, software or accessories are specified in the project's documents.
2. The video management equipment must meet or exceed all criteria and specifications as stated in Technical Requirements.

Cameras

1. All cameras must be in accordance with Technical Requirements as well as with their respective tables indicated in *Table 1 – Identifiers*.
2. Thirty-three (33) cameras must be supplied as identified in *Table 1 – Identifiers, inclusive of enclosures and mounting hardware*.
3. Four (4) cameras must be supplied as spare cameras as *Table 1 – Identifiers*.
4. All cameras must use the latest firmware for that device.

Workstations

Please note that unless otherwise mentioned, all workstations must be accompanied by a 24" HD monitor equivalent to a HP Compaq LA2405wg or Samsung BX2450. Furthermore, all 40" viewing stations must be at minimum equivalent to a Samsung SMT4023.

1. All workstations must meet or exceed the requirements identified in *Table 2 - Workstations* unless otherwise mentioned. Note: Monitor must be independent from tower.
2. Supply four (4) wall mountable 32" HD widescreen flat panel monitors with hardware that allows the monitor to tilt and swivel, controller/joystick (to operate PTZ cameras), wireless mouse, wireless keyboard, tower and an uninterruptible power supply (UPS). Contractor must ensure this system provides a minimum of thirty minutes of power and surge protection.
3. Supply (1) 40" HD widescreen flat panel wall and suspended mountable flat panel monitor, controller/joystick (to operate PTZ cameras), wireless mouse, wireless keyboard, tower and an uninterruptible power supply (UPS). Contractor must ensure this system provides a minimum of thirty minutes of power and surge protection. Bracket mounting hardware to be supplied.
4. Supply (1) 24" HD widescreen flat panel rack mount monitor. This monitor will be installed in the CCTV room which will serve as the primary display for the management/failover server and the video storage server in the server rack. Bracket mounting hardware to be supplied.

Storage Server/Recording Server

1. The storage server must meet or exceed the requirements in *Technical Requirements* and must ensure optimal performance for thirty three (33) cameras which includes but is not limited to live video and playback.
2. One (1) hot-swappable HDD compatible with the supplied storage media must be provided as a spare.

Network

1. The PoE+ switches with UPS accompaniment that provides a minimum of thirty minutes of power backup and surge protection must meet the following:
 - 1.1. PoE+ switches must be Gigabit speed.
 - 1.2. PoE+ switches must be able to support additional connections including additional PTZ cameras.
2. A **Fortigate 80-C unit must be supplied** to enable remote viewing capability.

Video Management Software

1. The VMS must use the most recent version of Milestone XProtect® Corporate.
2. Provide thirty-seven (37) Milestone XProtect® Corporate camera channels. (Device Licence Keys).

Additional Deliverables

1. The contractor will provide two (2) hard and two (2) soft copies of the Operations and Maintenance (O & M) manuals in English and French for each system provided under this contract. This includes data for each type of product and features and operating sequences, both automatic and manual.
2. The operational manual should include all manufacturer recommended equipment maintenance requirements, with a complete description of all maintenance procedures required on equipment including time intervals (hour usage), required inspection, periodic maintenance, fault diagnosis and repair/replacement of components.
3. Installation guide, system documentation, system structure and setup information must be made available to the CBSA.
4. The contractor will provide a spreadsheet which will display each component (physical or virtual) and its location within the site.
5. System operation must be made available to the CBSA.
6. User documentation must clearly define procedures for all processes.
7. Documentation can be copied and distributed within the CBSA without restriction.
8. **Note:** All documentation and training material provided (hard and soft copy) must be created using the MS Office Suite of Products.

Warranty, Maintenance and Service Level Agreement

1. The warranty must include all equipment, software and documentation must perform in accordance with and confirm to all applicable standards, requirements, specifications, description and other requirements included in their proposal and must be without defects in materials, workmanship and design.
2. Expose, and assign to the CBSA, any manufacturer's warranties

Section 2 - Technical Requirements

Table 1 – Identifiers

Quantity	Requirement	Details <i>(Cameras are also subject to Table 2 – Camera Requirements)</i>
3	Fixed Indoor	Table 4
11	Fixed Indoor Wide Angle	Table 5
1	Fixed Camera – Cell	Table 6
3	Fixed Outdoor	Table 8
5	Fixed Outdoor Wide Angle	Table 9
10	PTZ Outdoor	Table 7
2	UPS	Table 12
4	UPS (workstation)	Table 2
2	UPS (switch)	Table 14
1	Server	Table 10
1	Server	Table 11
1	40" LCD Flat Panel Monitor w. workstation	Table 2
4	32" LCD Flat Panel Monitor w. workstation	Table 2
1	24" LCD Flat Panel Monitor w. workstation	Table 2
3	Switches	Table 14
1	4-Post Rack	Table 13
2	Spare Camera	Table 5
2	Spare Camera	Table 7

Table 2 - Workstations

Viewing Station		
<p>All stated requirements are mandatory. <i>The viewing station is where the video management system client software is installed. This computer will be used to perform live monitoring of video</i></p>		
Monitor	LCD or LED displays through HDMI with a wide field of view.	
Resolution	Must be configured with a 1920 X 1080 image resolution on each display.	
Workstation	<p>Windows 7 Professional</p> <p>Minimum system requirements: 8 GB RAM 1 TB Storage</p> <p>Hard drive partitioned with minimum 250 GB for OS/Applications and minimum 750 MB for exported video.</p> <p>UPS required providing 30 minutes of power to allow for the safe shut down of all workstations.</p>	
Processor	Cores	4 or more
	Clock Speed	4 Core: 2.4 GHz or greater 6 Core 1.8 GHz or greater
	Instruction Set	64-bit
	Intel Core i7 4770 or equivalent	
DVD Burning Capability	Must have an installed DVD burner.	
USB Exporting	Must allow for the files to be exported and saved onto a USB (in addition to being exported and saved onto a DVD).	
Software	<p>Milestone Smart Client Microsoft .NET 4.0 Framework DirectX 9.0</p>	

Table 3 – Camera General Requirements

<p>General Camera Requirements <i>All stated requirements are mandatory.</i> <i>Intent is that cameras are IP and interoperable with a large number of video management systems, and which supports third parties such as video analytics without relying on a proprietary API.</i></p>
<p>Open Architecture Camera must provide an application programming interface (API) for system integration: Direct access to video stream using a URL. Software Development Kit (SDK) to control, and change camera settings remotely. It must be ONVIF compliant. It must be possible to change all of the following settings remotely: Resolution, Video Compression, Network settings, Frame rate.</p>
<p>Video Camera must support the following video settings: Multiple compression formats, not limited to, but supporting MJPEG and H.264. Resolution and frame rate must be controllable for each stream, and camera must support at least dual stream video and support simultaneous streaming of different formats.</p>
<p>Power Camera must be Power over Ethernet compatible. Camera may have additional power sources (i.e. High PoE) for PTZ functionality, cooling or heating units.</p>
<p>Environment The cameras must be able to function in the environment they reside. (Ex: Exterior enclosures must be able to provide heating and cooling to the cameras in order to function during temperature changes.) Temperature Range is specified for outdoor cameras on tables 7, 8 and 9.</p>
<p>Exposure Settings Must be configurable for different lighting conditions such as shutter speed, and exposure.</p>

Table 4 – Indoor Dome Camera

Indoor Dome Camera <i>All stated requirements are mandatory.</i> <i>General purpose indoor, dome cameras must be supplied. Dome, tamper proof cameras are required in public areas.</i>	
Resolution	Camera must have at least 1 megapixel image resolution $\pm 10\%$.
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 of field of view that covers at least 40 to 80 degree horizontal.
Frames Per Second	Camera must support at least 20 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.
Enclosure	These cameras must be enclosed in a housing that is resistant to vandalism/tampering, and dome cameras are preferred. Cameras which are not dome cameras require additional enclosures.
Microphone Input	The camera must contain an audio input jack.

Dome cameras such as Axis P3364-V 12 mm or similar can be used.

Table 5 – Indoor Dome Camera (Wide Angle)

Indoor Dome Camera <i>All stated requirements are mandatory.</i> <i>General purpose indoor, dome cameras must be supplied. Dome, tamper proof cameras are required in public areas.</i>	
Resolution	Camera must have at least 1 megapixel image resolution $\pm 10\%$.
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 of field of view that covers at least 80 to 100 degree horizontal.
Frames Per Second	Camera must support at least 20 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.
Enclosure	These cameras must be must be enclosed in a housing that is resistant to vandalism/tampering, and dome cameras are preferred. Cameras which are not dome cameras require additional enclosures.
Microphone Input	The camera must contain an audio input jack.

Dome cameras such as Axis P3364-V 6mm or similar can be used.

Table 6 – Cell Camera

The cell camera must come with a heavy duty, vandal resistant and tamper proof enclosure. The enclosure cannot provide a hanging point. General purpose dome cameras are not sufficient and specialized house must be used. .

Cell Camera	
<i>All stated requirements are mandatory.</i>	
Enclosure	Cameras must be contained in corner housing and securely mounted. These cameras must be highly resistant to vandalism and tampering.
Environment	Camera assembly must be waterproof and have an operating temperature range between -10 to +50 C. A custom enclosure may not be provided. Must be rated IP65 or better. Must be rated IK10 or better.
Field of View	Must provide a range of at least 120 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.
Privacy	Must support privacy mask
Resolution	Camera must have at least 1 megapixel image resolution $\pm 10\%$.

Cameras such as Bosch Flexidome corner 9000MP or similar can be used.

Table 7 – Outdoor PTZ Camera

Outdoor PTZ Camera	
<i>All stated requirements are mandatory.</i>	
Resolution	Camera must have at least 1 megapixel image resolution $\pm 10\%$.
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 360 degrees endless. Must have a tilt range of at least 180 degrees.
Frames Per Second (FPS)	Camera must support at least 20 frames per second at the minimum resolution specified above.
Environment	Camera assembly must be waterproof and have an operating temperature range between -40 to +40 C. A custom enclosure may not be provided. Must be rated IP65 or better. Must be rated IK09 or better.

Camera such as Axis Q6034-E, Axis Q6035-E or similar can be used.

Table 8 – Outdoor Camera

Outdoor Camera	
<i>All stated requirements are mandatory</i> <i>General purpose outdoor cameras must be supplied. Cameras must perform well in low light conditions.</i>	
Resolution	Camera must have at least 1 megapixel image resolution $\pm 10\%$.
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 of at least 40 to 80 degree horizontal field of view.
Frames Per Second	Camera must support at least 20 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 be waterproof and have an operating temperature range between -40 to +40 C. A custom enclosure may be provided so that a camera can operate within this temperature range but should be expressly noted. Must be rated IP65 or better. Must be rated IK10 or better.
Enclosure	Camera must be contained in housing and securely mounted. Cameras which are not dome cameras require external enclosures.

Cameras such as P3364-VE 12mm or similar can be used.

Table 9 – Fixed Outdoor Camera (Wide Angle)

Outdoor Camera	
<i>All stated requirements are mandatory</i> <i>General purpose outdoor cameras must be supplied. Cameras must perform well in low light conditions.</i>	
Resolution	Camera must have at least 1 megapixel image resolution $\pm 10\%$.
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 at least a 100 degree horizontal field of view.
Frames Per Second	Camera must support at least 20 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 be waterproof and have an operating temperature range between -40 to +40 C. A custom enclosure may be provided so that a camera can operate within this temperature range but should be expressly noted. Must be rated IP65 or better. Must be rated IK10 or better.
Enclosure	Camera must be contained in housing and securely mounted. Cameras which are not dome cameras require external enclosures.

Cameras such as P3364-VE 6mm or similar can be used.

Table 10 - Server Requirements

Server General Requirements	
All stated requirements are mandatory.	
General	<p>The following servers must be provided:</p> <ul style="list-style-type: none"> 1 X Management/Failover Server 1 X Video Storage Server <p>1 X KMM Console must also be provided.</p> <p>A single server hosts both the management application and the failover application. Video recording for all cameras should be done on the video storage server. In the event of machine failure of the video storage server, all cameras must switch to record on the management/failover server.</p> <p>This list does not include networking equipment such as switches. UPS equipment is specified separately. The detailed requirements for each type of server are in the section <i>Management/Failover Server Requirements</i> and <i>Video Storage Server Requirements</i>. The storage requirements are listed under <i>Storage</i> in the section <i>Management/Failover Server Requirements</i> and <i>Video Storage Server Requirements</i>.</p>
Recording/Retention	All cameras must be configured to record 24/7 continuously at the minimum specified resolution and frame rate for each camera type. The minimum

	<p>frame rate for recording is 15 FPS, unless otherwise specified.</p> <p>The retention time of all camera footage must be of at least 30 days.</p>
Write Failover	<p>The video surveillance system must continue to record all camera footage in the event of a video storage server failure.</p> <p>In the event of a machine failure of the video storage server, a failover storage server must be configured to takeover recording. Live and archived video associated with the failover storage server must be accessible at all times.</p> <p>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.</p>
KMM Console	<p>A rackmount KMM console with KVM must be supplied in the CCTV room which will serve as the primary display for the management/failover server and the video storage server. Dell 18.5 inch 1U rackmount console or similar.</p>

Table 11 - Video Storage Server Requirements

Video Storage Server Requirements		
All stated requirements are mandatory.		
<i>The recording application refers to the component of the video management system which receives camera data and archives this video data to disk.</i>		
Form Factor	Rackmount Sliding rails with cable management arm.	
Processor	Number of Processors Required	2
	Cores	4 or more
	Clock Speed	2.0 GHz or higher
	Instruction Set	64-bit Intel Xeon or equivalent
	Processor such as Intel Xeon E5-2620.	
Motherboard	Supports Dual Socket	
Memory	8GB RDIMM or higher	
RAID Controller	RAID 1 System + RAID 6 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 total usable capacity after RAID must be 300GB or higher. SAS or better. RAID 1	
Recording Drives	Minimum of twelve 3.5" hot swappable bays for storage must be present. Minimum of twelve (12) 3.5" 3TB hot swappable drives must be present. The total usable capacity after RAID must be sufficient to record 30 days of footage. Hard drives not used for 30 days retention must be configured as hot spares. The total usable capacity after RAID must be 24 TB or higher. RAID 6	
Power Supply	Must have dual, hot-plug redundant power supplies.	
OS	Must have one of Windows Server 2008 R1/R2 x64 or Windows Server 2012 x64 installed. Server must be Certified for Windows by Microsoft for the version of OS installed.	
Network	Must have dual 1Gb Ethernet.	
Software	Video Storage Application must be stored on this server. The software must support the version of OS installed.	

Dell R720xd or equivalent configured with 2 X 300 GB SAS, 12 X 3 TB Near-Line SAS

Table 12 - Management/Failover Server Requirements

Management / Failover Server Requirements

All stated requirements are mandatory.

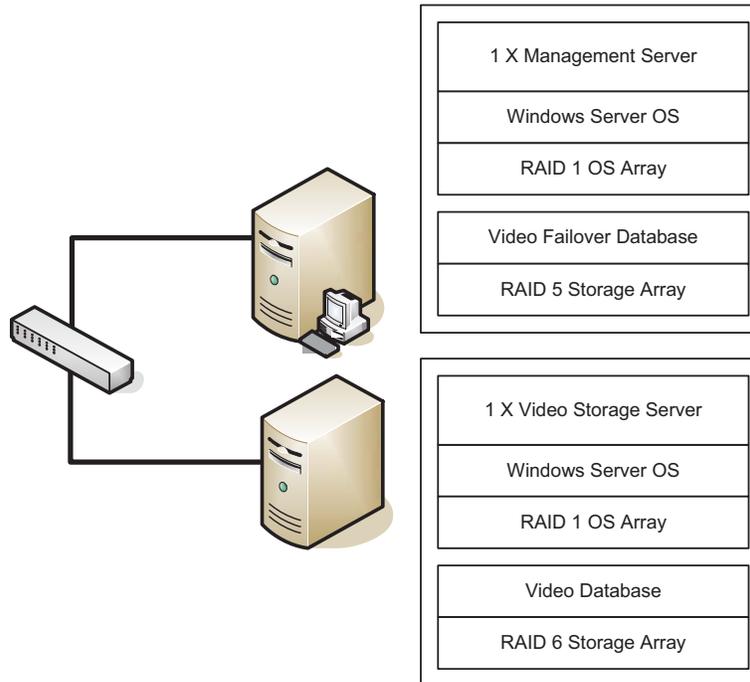
The management application refers to the component of the video management system which contains configuration settings including product licensing, camera recording settings and user permissions. The management application is also responsible for user authentication as well as any logging.

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	4 or more
	Clock Speed	2.0 GHz or higher
	Instruction Set	64-bit Intel Xeon or equivalent
	Processor such as Intel Xeon E5-2620.	
Motherboard	Supports Dual Socket	
Memory	8GB 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 total usable capacity after RAID must be 300GB or higher. SAS or better. RAID 1	
Recording Drives	Minimum of eight 3.5" hot swappable bays for storage must be present. Minimum of four (4) 3.5" 2TB hot swappable drives must be present. The total usable capacity after RAID must be 6 TB or higher. RAID 5	
Power Supply	Must have dual, hot-plug redundant power supplies.	
OS	Must have one of Windows Server 2008 R1/R2 x64 or Windows Server 2012 x64 installed. Server must be Certified for Windows by Microsoft for the version of OS installed.	
Network	Must have dual 1Gb Ethernet.	
Software	Video Management and Failover Application must be stored on this server. The software must support the version of OS installed.	

Dell R720 or equivalent configured with 2 X 300 GB SAS, 4 X 2 TB Near-Line SAS

Server Diagram



Two servers should be provided as specified in server general requirements. The management and failover application should be installed on a single machine, and the recording application should be installed on a separate machine.

Table 13 – UPS Requirements

UPS Requirements	
All stated requirements are mandatory.	
<i>The UPS is required to provide 30 minutes of power to allow for the safe shutdown of all server equipment.</i>	
Power	All servers, and the associated switch, must be connected to an uninterruptible power supply (UPS) able to supply a minimum of 30 minutes of power at full power capacity during a power outage.
Soft Shutdown	In the event of a power outage, all servers must be configured to initiate a soft shutdown based on battery capacity and/or time delay.
Connectivity	UPS must be connected to each server through a network interface to initiate a soft shutdown.
Output Waveform	Sine wave Output voltage distortion with less than or equal to 5% distortion at full load.
Double Conversion	Must be a Double Conversion On-Line UPS.
Form Factor	Rackmount

UPS models such as Eaton 9130 Rackmount UPS or equivalent can be used.

Table 14 – Rack

Rack Requirements	
All stated requirements are mandatory.	
4-Post	Must be capable of a 42" depth and provide a front plexi-glass locking door
Vertical	CMS both sides and front and rear
Adjustable	Mounting rails
Power Bar	20 AMP Non-Twist Lock
Horizontal	CMS, 3/2 U CMS, 1/3 CMS and 1/1 U CMS
Shelves	4 shelves (3/1U, 2/2U and 1/3 U) 3U shelves must be capable of holding up to 75 pounds Shelves must be adjustable and fixed on all four corners
Keyboard Tray	1 keyboard tray
Mounting Screws	Two full bags of mounting screws and/or cage nuts, typical of the mounting rails
Castor Base	Lockable castors
Fans	Top Mount

Models such as Middle Atlantic WRKSA-40-27 Rack can be used

Table 15 – Switch

Switch Requirements – Rack Mountable	
All stated requirements are mandatory.	
	PoE+ Supported, Gigabit, IGMP Querier
1	24 Port – Rack Mountable
2	48 Port – Rack Mountable
3	Tower UPS capable of 30 minutes of power.