Part 1 General

1.1 SECTION INCLUDES

.1 Security Camera – Fixed Dome.

1.2 RELATED REQUIREMENTS

.1 Refer to all Sections of the Technical Specifications and Issued for Construction Drawings for all related Work.

1.3 WORK INCLUDED

.1 The Contractor shall design and build a Video Surveillance System based on the existing GENETEC Unified Security Platform.

.2 The Contractor shall design and build a system that is non-proprietary using an open architecture concept.

.3 The Contractor shall visit the Site and investigate all new and existing security camera locations and their control panels/ head-end locations and verify existing conditions prior to submitting their bid.

.4 The Contractor shall supply and install new IP-based security cameras as per list and specifications provided.

.5 The Contractor shall install cameras with all required accessories at the location indicated in the drawings.

.6 The Contractor shall coordinate with the City regarding the focus, angle, and placement of the cameras.

.7 All outdoor cameras shall be installed with surge protectors.

.8 The installation of the new equipment shall have "**security"** in mind and follow industry standards and best engineering practices.

1.4 ABBREVIATIONS AND ACRONYMS

.1 CCTV: Closed Circuit Television.

.2 CSMS: Centralized Security Management System.

.3 IP: Internet Protocol.

.4 PoE: Power-over-Ethernet.

.5 VMS: Video Management System.

1.5 REFERENCE STANDARDS

.1 Canadian Standards Association (CSA):

.1 CSA C22.1, Canadian Electrical Code (CEC), Part I.

.2 CSA C22.1HB, Canadian Electrical Code Handbook - An Explanation of Rules of the Canadian Electrical Code, Part I.

.3 CSA C22.2 No. 0.4, Bonding and Grounding of Electrical Equipment.

.2 Underwriter's Laboratories Canada (ULC):

.1 CAN/ULC-S316, Standard for Performance of Video Surveillance Systems.

.3 Building Industry Consulting Services International (BICSI):

.1 BICSI ESSDRM, Electronic Safety and Security Design Manual, Third Edition.

.2 BICSI 005-2013, Electronic Safety and Security (ESS) System Design and Implementation Best Practices.

1.6 ACTION AND INFORMATIONAL SUBMITTALS

.1 For all submittals including Shop Drawings, refer to Section 28 05 00 – Common Work Results for Electronic Safety and Security under the Article for Action and Informational Submittals.

1.7 CLOSEOUT SUBMITTALS

.1 For other submittals including As-built Drawings and O&M Manuals, refer to Section 28 05 00 – Common Work Results for Electronic Safety and Security under the Article for Closeout Submittals.

1.8 QUALITY ASSURANCE

.1 Refer to Section 28 05 00 – Common Work Results for Electronic Safety and Security under the Article for Quality Assurance.

.2 Qualifications:

.1 The Contractor shall be trained and certified by the Approved Manufacturer as listed below:

.1 GENETEC.

.2 AXIS.

1.9 DELIVERY, STORAGE AND HANDLING

.1 Refer to Section 28 05 00 – Common Work Results for Electronic Safety and Security under the Article for Delivery, Storage and Handling.

1.10 WARRANTY

.1 Refer to Section 28 05 00 – Common Work Results for Electronic Safety and Security under the Article for Warranty.

Part 2 Products

2.1 LICENSED PRODUCTS

.1 The following items require licencing to be integrated into the City's system. The Integrator shall furnish and pay for all licencing associated with the system. shall be supplied by the Contract Administration:

.1 GENETEC Software Licenses.

.2 StreamVault Server – Provide an additional StreamVault Server to act as a failover backup to the City's existing server. Server shall be mounted in the administration building, coordinate with the City and the via the Contract Administrator.

2.2 DESIGN CRITERIA

.1 Environment: design video components and systems to operate with specified requirements under following ambient temperatures:

.1 Indoor installations:

.1 Temperature: 0 degrees C to 30 degrees C.

.2 Humidity: 10 to 90%.

.2 Outdoor installations:

.1 Temperature: -40 degrees C to 60 degrees C.

.2 Humidity: 10 to 100%.

.2 Program utility to be able to do batch programming and firmware updates.

2.3 SECURITY CAMERA – FIXED DOME

.1 Type: Fixed Dome Multi Directional Cameras.

.2 Resolution: 1920 x 1080 per direction.

.3 Outdoor Ready: Yes.

.4 Operating Conditions: -40°C to 55°C.

.5 Lens: 2-6MP camera dependant

.6 Day and Night Functionality: Auto.

.7 WDR Technology: Yes, 150dB.

.8 Motion detection: 8 ea., 8 point polygonal zones.

.9 Alarm events: SD/ SHDC/ SDXC recording at event triggers, notification via email, file upload via FTP and email.

.10 Power over Ethernet: Yes.

.11 Local Storage: Yes.

.12 Power Consumption:

.1 PNM-7002VD: 12 Watts (typical), 12.95 Watts (max.).

.2 PNM-8082VT: 8 Watts (typical), 16.5 Watts (max.).

.13 Compression: H.264, H.265, CBR or VBR.

.14 Acceptable Product:

.1 HanWha Techwin PNM-7002VD, or Approved Equal in Accordance with B8 complete with the following accessories:

- SLA-2M2802D (2.8 mm lens)
- SBP-201HMW (hanging mount)
- SBP-300BW (wall mount base)
- SBP-300WMW1 (white wall mount)

.2 HanWha Techwin PNM-8082VT, or Approved Equal in Accordance with B8 complete with the following accessories:

- SBP-276HMW (white mounting cap)
- SBP-300WMW1 (white wall mount)
- SBP-300BW (wall mount base)

.3 HanWha Techwin QND-6011 where single lens cameras area required complete with the following accessories:

- SBP120WMW (indoor wall mount)

Part 3 Execution

3.1 EXAMINATION

.1 Refer to Section 28 05 00 – Common Work Results for Electronic Safety and Security under the Article for Examination.

3.2 INSTALLATION

.1 Refer to the following Specifications and related Contract Documents and comply with the installation requirements applicable to this Section, but not limited to:

.1 Section 28 05 00 – Common Work Result for Safety and Security Systems.

.2 Section 28 08 00 – Testing, Commissioning, Demonstration and Training of Electronic Safety and Security Systems.

.2 Install video surveillance equipment and components in accordance with:

.1 National Building Code of Canada.

.2 Canadian Electrical Code.

.3 CAN/ULC-S316 – Standard for Performance of Video Surveillance Systems.

.3 BICSI ESSDRM 3rd, Electronic Safety and Security Design Manual, Third Edition.

.4 Section 28 05 00 – Common Work Results for Electronic Safety and Security.

.3 Install Bonding and Grounding in accordance with:

.1 Canadian Electrical Code.

.2 ANSI/NECA/BICSI 607-2011 - Standard for Telecommunications Bonding and Grounding Planning and Installation Methods for Commercial Buildings.

.3 TIA-607 - Generic Telecommunications Bonding and Grounding (Earthing) for Customer Premises.

.4 Section 28 05 00 – Common Work Results for Electronic Safety and Security.

.4 Comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions, and data sheet.

.5 Install cable, boxes, mounting hardware, brackets, video cameras and system components in accordance with manufacturer's written installation instructions.

.6 Install components secure, properly aligned and in locations shown on reviewed shop drawings.

.7 Connect cameras to cabling in accordance with installation instructions.

.8 Install ULC labels where required.

.9 Install components secure to walls, ceilings or other substrates.

.10 Install required boxes in inconspicuous accessible locations.

.11 Conceal conduit and wiring.

.12 Provide tamperproof unobtrusive back box with stainless steel cover plate where items installed in areas with suspended ceiling, fixed tile, plaster, or concrete walls, and/or metal door frames.

.13 Fully enclose cables in conduit or flexible protective armor, from unit location's enclosure back box to and above ceiling and/or wall mounted junction boxes.

.14 Provide tamperproof attachments for each unit cover plate to receptacle back box.

.15 Enclose in conduit or flexible protective armor for associated junction box to remaining system locations, from junction box to above ceiling mounted Security cable trays or master Security conduit routes.

.16 Securely fasten all components to wall, ceiling, or other substrate or structure.

.17 Provide all necessary interconnections, services and adjustments required for a complete and operable access control system.

.18 Install control signal, communications, and line grounding as necessary to preclude ground loops, noise, and surges from adversely affecting systems operations.

3.3 FIELD QUALITY CONTROL

.1 Refer to the following Specifications and related Contract Documents and comply with the Field Quality Control requirements applicable to this Section, but not limited to:

.1 Section 28 05 00 – Common Work Result for Safety and Security Systems.

3.4 SYSTEM STARTUP

.1 Refer to the following Specifications and related Contract Documents and comply with the System Startup requirements applicable to this Section, but not limited to:

.1 Section 28 05 00 – Common Work Result for Safety and Security Systems.

3.5 IDENTIFICATION AND LABELLING

.1 Identify and label cables, terminations, devices, and equipment as per communications and security standards, industry best practices and Manufacturer’s instructions.

3.6 TESTING AND INSPECTION

.1 Refer to Section 28 08 00 – Testing of Electronic Safety and Security Systems for all related testing and inspection requirements.

3.7 ADJUSTING

.1 Refer to Section 28 05 00 – Common Work Results for Electronic Safety and Security under the Article for Adjusting.

3.8 CLEANING

.1 Refer to Section 28 05 00 – Common Work Results for Electronic Safety and Security under the Article for Cleaning.

3.9 PROTECTION

.1 Refer to Section 28 05 00 – Common Work Results for Electronic Safety and Security under the Article for Protection.

3.10 DEMONSTRATION AND TRAINING

.1 Notify the City with a minimum of 4 weeks in advance prior to conducting the training.

.2 Schedule the demonstration and training at least 10 business days prior to substantial completion and/ or building occupancy or as per the City's suggested date whichever comes first.

.3 Provide visual aids including projectors, as applicable.

.4 Provide hard copy of training materials and user guides compiled in folders or binders for each participant, as applicable.

.5 Provide Records of Attendance Sheets signed both by the trainer and trainees with applicable time and date. Contractor to submit this document as part of the Closeout Submittals.

.6 The Contractor shall coordinate with Manufacturer in providing support to the Security System training on Site, as applicable.

.7 Training:

.1 Provide a minimum of 2 hours for end-user and operator training.

.2 Provide a minimum of 2 hours for maintenance personnel training.

END OF SECTION