STANDISH-STERLING COMMUNITY SCHOOLS

REQUEST FOR PROPOSALS

INSTALLATION OF BUILDING SECURITY CAMERAS
NOTICE IS HEREBY GIVEN THAT THE BOARD OF EDUCATION OF STANDISH-Sterling Community Schools will receive sealed bid proposals until November 22, 2016 at 12:00 PM at the Office of the Superintendent for Standish-Sterling Community Schools located at 3789 Wyatt Road, Standish, Michigan 48658. The Board or its designee will open and read each received bid at a public meeting at 12:00 PM on November 22, 2016 at:

Standish-Sterling Community Schools Administration Building
3789 Wyatt Road, Standish, Michigan 48658

THE PROPOSAL WILL BE TO INSTALL BUILDING SECURITY CAMERAS IN ACCORDANCE WITH BIDDING DOCUMENTS AND APPROVED SPECIFICATIONS

Standish-Sterling Community Schools will not consider or accept a proposal received after the above-specified date and time for Proposal submission.

At the above-specified time and place for receiving proposals, the Board of Education, acting by its designee, will publicly open and read all timely-received Proposals. The Board of Education reserves the rights to waive any irregularity or informality in its Request for Proposals ("RFP") process, to reject any or all Proposals, to award Program components by component, group of components, or total Program, and to accept the Proposal or Proposals which the Board determines will perform in the District’s best interests and will be the lowest responsible bidder as required by law. Each and every bid shall be accompanied by a sworn and notarized statement disclosing any familial relationship that exists between the District or any employee of the firm submitting the bid and the Superintendent of Standish-Sterling Community Schools or any member of the Board of Education. Proposals are to be presented in accordance with the RFP specifications. For a copy of the RFP or more information call Ken Adrian at (989) 846-3674.
Standish-Sterling Community Schools

REQUEST FOR PROPOSAL FOR
INSTALLATION OF BUILDING SECURITY CAMERAS
PART 1 -- GENERAL INSTRUCTIONS

A. Instructions

Qualified firms are invited to submit proposals to Standish-Sterling Community Schools ("District") for the installation of building security cameras in accordance with the bidding documents and specifications ("Project"). The District's objective in issuing this Request for Proposal ("RFP") is to obtain competitive bids from which it will select a single contractor ("Contractor") to install building security cameras on a turn-key basis in accordance with applicable laws.

The District reserves the right to reject any or all proposals, to award Project components by component, group of components, or total Project, to accept any or all alternatives, to accept any proposal in whole or in part, to waive any irregularities or informalities which are in the best interest of the District, and to weigh proposal elements as deemed beneficial to the District. Any award shall be to the Contractor that the District considers the lowest responsible bidder.

B. Proposal Submission

To be considered by the District, two (2) copies of the complete proposal must be received no later than 12:00 p.m., Thursday, November 22, 2016. Proposals should be addressed to:

Mr. Darren Kroczaleski
Superintendent
Standish-Sterling Community Schools
3789 Wyatt Road
Standish, Michigan 48658

The lower left corner of the submittal envelope should be marked: PROPOSAL FOR BUILDING SECURITY CAMERAS.

Submitted proposals become the property of the District and will not be returned. Further, all submitted proposals become subject to the Freedom of Information Act, unless the District reasonably believes that Contractor satisfies exemption criteria and rejects disclosure on such basis.

C. Late Proposals

Any proposal received by the District after the time specified above will not be considered.
D. Withdrawal of Proposals

Proposals may be withdrawn by written notice received at any time prior to the submission deadline. Proposals may also be withdrawn in person, provided that the firm's representative signs a receipt for the proposal prior to the submission deadline. Proposals that are not so withdrawn shall constitute a firm offer for a period of sixty (60) days to perform the work contained therein and/or required by this RFP.

E. Questions Concerning this RFP

Inquiries may be made to Ken Adrian at the address above, via telephone at (989) 846-3674, or via email at kadrian@standish-sterling.org. All such inquiries must be made no later than three (3) business days prior to the deadline for submission. Information about the District is available during business hours (8 a.m. - 4 p.m.).

F. Economy of Preparation

Proposals should be prepared simply, providing a concise description of the Contractor's ability to meet the requirements of this RFP.

G. Proposal Signature

Proposal Summary should be signed by the person responsible for the decision as to services and costs being offered. (In the case of a joint proposal, each party must certify those services and costs being offered by its own firm. Unless otherwise agreed by the District in writing, each party to a joint proposal will be jointly and severally responsible for all services offered in the proposal, regardless of who produces them.)

H. Prime Responsibilities

The selected Contractor will be required to assume responsibility for all services offered in the proposal, regardless of who actually provides such services and whether the selected Contractor utilizes separate consultants. The selected Contractor shall be the sole point of contact with regard to contractual matters, including payment of any and all charges resulting from the contract.

I. Proposal Preparation Costs

All costs incurred for proposal preparation, site visitation and investigations, initial engineering analyses, presentations, or contract negotiation, are the responsibility of each respective Contractor and will not be reimbursed by the District.

J. Acceptance of Proposal Contents

The contents of the proposal of the selected firm will become contractual obligations when a contract is issued, except with regard to particular contents which are rejected by the District. Failure of the successful firm to abide by such obligations will result in cancellation of the award. All proposals are considered to be all-inclusive, meaning there will be no additional charges or cost to the District.
for any seen or unforeseen installation or operational costs. All costs not covered in the proposal or contract will be the responsibility of the Contractor.

K. Proposed Project Schedule

A proposed project schedule must be provided for the Contractor’s scope of work required or permitted by this RFP. The District and all contractors recognize that this schedule may be modified by the District, in its sole and reasonable discretion, to suit its particular needs.

L. Insurance Coverage

Prior to beginning work, the selected Contractor will be required to provide a copy of insurance certificates for general and professional liability coverages, with limits of liability at least as required by law or reasonably required by the District. Any consultants or subcontractors of the Contractor shall provide insurance coverage at least equal to that provided by the Contractor, and those consultants or subcontractors shall provide insurance certificates for general and professional liability coverages. Insurance must be occurrence-based, obtained prior to commencement of work, and maintained for a period of no less than 12 months beyond the date of completion. Certificates of insurance shall contain a provision that coverage afforded under the policies will not be canceled, reduced, or allowed to expire until at least 60 days’ prior written notice has been given to the District.

M. Payment of Fees

The District will make payments to the Contractor as set forth in the parties’ contract. All costs shall be itemized on a single invoice so that the District may issue one monthly check to the Contractor. The specific day of the month on which invoices are to be received, and checks released, will be set forth in the contract.

N. Taxes

The Proposal shall be deemed to include all applicable sales, use, excise and other taxes required by law. The District, upon request, will provide a properly executed tax exemption certificate, but the District makes no representation that a Contractor may utilize such information to avoid tax liability.

O. Bid Bond and Performance/Payment Bonds

The Contractor shall be required to provide a bid bond in the minimum amount of five percent (5%) of the total capital costs associated with the Proposal, in accordance with MCL 380.1267. If performance and payment bonds are required by law (MCL 129.201, et seq), then the selected contractor shall be required to provide performance and payment bonds covering 100% of the total capital costs associated with the Proposal. If performance and payment bonds are not required by law, the District may require such bonds upon written notice to the Contractor. If notice is given prior to the bid deadline, the bond costs shall be deemed included within the bid price. If notice is given after the bid deadline, the bond costs shall be reimbursed to the Contractor.
P. Familial Disclosure Statement

Each Proposal shall be accompanied by a sworn and notarized statement disclosing any familial relationship that exists between the owner or any employee of the Contractor and any member of the board or Superintendent. Bids not accompanied by a sworn and notarized statement will not be accepted by the board.

Q. Iran Economic Sanctions Act Certification

Each Proposal shall be accompanied by a certification required by the Iran Economic Sanctions Act that the bidder is not an Iran-linked business. Bids not accompanied by such a certification will not be accepted by the board.

R. Waiver of Claims

The Contractor, by its submission of its proposal, releases the District and its Board members, administrators, employees and agents from any claims arising out of, and related to, the RFP process and the selection of a Contractor.
A. Time Frame for Contractor Selection

It is the intent of the District to select a contractor according to the following schedule:

- **November 4, 2016**: RFP is released.
- **November 10, 2016**: Walk-Thru with District 12:00 pm
- **November 22, 2016**: Proposals are due 12:00 pm
- **December 12, 2016**: Administrators begin screening proposals.
- **December 12, 2016**: Board of Education selects a Contractor and authorizes a designee to finalize a contract.
- **TBD**: Contractor begins work.
- **March 1, 2017**: Work completion.

The District may modify or eliminate any portion of the above schedule in its sole discretion and to the extent consistent with law.

B. Review and Selection Process

The District reserves the right to reject any or all proposals that are determined not to be in the best interests of the District. The District will not necessarily select the lowest cost proposal, but will choose the lowest responsible bidder.

C. Evaluation Criteria

The District will evaluate Contractor's proposals based on cost and responsibility factors, including but not necessarily limited to the following:

- **Cost**: The total cost for all services and as broken down among the various project elements.

- **Adherence to RFP**: Conformance, in both content and presentation, to the parameters established in this request.

- **Relevant Experience**: Contractor's relevant experience with the required work, particularly at K-12 public school facilities of comparable size and complexity.

- **Qualifications**: Qualifications and experience of the Contractor's key staff to be assigned to the project.

- **Timeliness**: The Contractor's ability to complete work specified in this RFP in a timely fashion.
Responsiveness: The Contractor's ability to meet quickly with District officials, contractors, etc. when necessary.

Team Compatibility: The Contractor's ability to work with students, District employees, parents, community members, architectural firms, contractors, and governmental officials based on references and interviews.

It is understood that all labor and materials must be competitively bid and awarded, if at all, to the lowest responsible bidder. The District may consider a number of factors in determining a Contractor's "responsibility," and it is expressly understood that the District is not confined to the above-referenced list or any other information required or provided in response to this RFP.

D. Awarding of the Contract

All proposals may be reviewed and evaluated by District administration and consultants for the purpose of recommending a lowest responsible bidder. The ultimate determination to award a contract will be made by the District's Board of Education as required by law.

Notwithstanding anything herein to the contrary, the District shall have the unilateral ability, in its sole discretion, to negotiate any term of the Contract (or any other form of contract considered by the parties). The award of a Contract shall be contingent upon the successful negotiation of same, and the Contractor shall not be entitled to any remuneration unless and until a Contract is officially approved by the District's Board of Education.
II. PROJECT DESCRIPTION

A. The project requirements are as follows:

Standish-Sterling Community Schools is seeking bids for an Avigilon IP CCTV system or equivalent for Standish-Sterling High School and removal of existing camera equipment. All cameras must be cabled back to the MDF/IDF using Cat6 cabling and patched into Power over Ethernet switches (PoE) at the MDF/IDF. Bidders are invited to attend the pre-bid walkthrough. Bidders shall submit with their bids, camera maps detailing camera locations and coverage. Blind spots under cameras should be minimized. Bidders are left to design the system as they see fit, provided these requirements, are met.

B. The Contractor shall provide a minimum warranty on all design, materials and workmanship from the date of final acceptance by the District as defined in this RFP. The Contractor shall also provide an itemized statement of all warranties on specific products included in the Proposal.

C. The District will have one (1) contract with the selected Contractor. The District will not have separate contracts with trade contractors or sub-consultants as part of the Contractor's contract.

D. The Contractor acknowledges that permits are required from the State of Michigan and that, unless the District provides otherwise in accordance with 1937 PA 306, a state inspector is required regarding the services to be performed herein.
SCOPE ATTACHMENT A
VIDEO SURVEILLANCE – CONTROL AND MANAGEMENT SYSTEMS

PART 1 GENERAL

1.1. SUMMARY

A. This Section specifies the minimum requirements for the Standish-Sterling Community Schools CCTV project – Control and Management Systems. This Security Video Surveillance System shall include but is not limited to the following:
   1. Network Video Management Software (NVMS)
   2. Network Video Recording Hardware (NVR)

A. Related Requirements:
   1. All related sections must be:
      a. From the same manufacturer
      b. Able to function autonomously during a failure of one of the related sections
      c. Able to communicate bi-directionally
      d. Must be provided as a “turnkey” solution

1.2. ADMINISTRATIVE REQUIREMENTS

A. Coordination
   1. Coordinate with owner regarding camera network configuration and estimated bandwidth utilization prior to connection of cameras to owner’s network.

1.3. SUBMITTALS

Submittals described in this section shall be submitted by the Contractor with the original bid.

A. Product Data
   1. Submit manufacturer technical specifications, system overview drawings and sample images of items included in this section.

B. Proposal Delta
   1. It is the duty of the contractor to provide a working system. Any omissions or errors or differences between this document and the contractor’s submitted proposal shall be clearly outlined in a separate document labeled “Standish-Sterling Community Schools CCTV Proposal Deltas”.

C. Qualification Statements
   1. Manufacturer
a. Submit confirmation and details of manufacturer’s warranty, extended warranty, and replacement policies.

2. Contractor
   a. Submit history of contractor certification(s) for items in this section.
   b. Submit references with contact information where contractor has installed items in this section.
   c. Submit confirmation that installer has received manufacturer training and is certified by the manufacturer on this equipment and that the training the installer received is current.

1.4. QUALITY ASSURANCE

A. Qualifications
   1. Manufacturer
      a. Manufacturer shall have been in business for more than 5 years.
   2. Installers
      a. All camera installation, configuration, setup, program and related work shall be performed by authorized integrators/electronic technicians certified by the manufacturer.
      b. Certification for authorized integrators/electronic technicians shall include at a minimum the installation and service of the equipment provided.

B. Single Manufacturer
   1. Products in this section shall be coordinated with the following listed sections such that all products shall be sourced from a single manufacturer.

1.5. WARRANTY

A. The Contractor shall provide a single written document outlining the warranty of the manufacturer(s) product and the contractor’s installation, on a single document. The document shall warrant complete installation of all services and equipment to be free from defects in materials and workmanship for a period of no less than three (3) years, starting with the date of Final System Acceptance.

B. Contractor shall provide any software maintenance patches and version updates or upgrades at no-additional cost to Owner for a period of at least three (3) years.

PART 2 PRODUCTS

2.1. NETWORK VIDEO MANAGEMENT SERVER(S)

A. The Video Management System shall allow the use of off-the-shelf computers, servers, storage and switches from any manufacturer with components that meet the minimum requirements.
   1. Contractor shall supply all 19” rack support rails, mounting kits, and cable management modules, as required, to install Video Management server.
2. The requirements for the VMS servers are as follows:
   a. Form Factor: Rack mount at locations where rack space is available. Tower/pedestal style otherwise.
   b. Processor: Must meet or exceed manufacturer’s specifications for proposed cameras.
   c. System RAM: Must meet or exceed manufacturer’s specifications for proposed cameras.
   d. Hard Drives: Must meet or exceed manufacturer’s specifications for proposed cameras.

3. Storage calculations shall be included in proposal based on the following parameters for all cameras:
   a. 7 FPS
   b. H.264 compression
   c. Image complexity as determined during the walkthrough.
   d. Image count and resolution as determined by Contractor.
   e. Recording on motion detection event with five (5) seconds post-recording.
   f. Retention of video at full framerate and resolution for a minimum of thirty (30) days.

4. At least two Network Interface(s): minimum 1GbE per port

5. Operating System shall be certified to work by the Video Management Software's manufacturer. A 64-bit operating system is recommended.

2.2. NETWORK VIDEO MANAGEMENT SOFTWARE (NVMS)

A. Contractor shall provide all applicable Network Video Management Software (NVMS) modules and licenses required to provide a complete and fully functional integration.

B. The NVMS shall be installed on hardware which meet or exceed the manufacturer’s recommended requirements.

C. The design and performance requirements for the NVMS software are as follows:
   1. The NVMS shall be available as a stand-alone software offering or pre-loaded on turn-key workstations and servers running Microsoft Windows with configurable storage.
   2. The NVMS shall be an enterprise level software solution that shall be scalable from one client, server and camera up to:
      a. 100 servers per Site.
      b. 128 cameras per server or 20,000 cameras per Site
      c. Indefinite number of concurrent client to Site connections, limited only by the bandwidth capability of the network and server.
   3. The NVMS shall consist of server software applications and client software applications.
   4. The NVMS shall include a gateway software application that connects mobile devices and other thin clients to the NVMS.
5. The Network Video Management Software (NVMS) shall support integration with iOS and Android mobile.

6. The NVMS shall permit server and client software applications to be installed and run on both the same computer or on separate computers.

7. The NVMS shall support storage and processing of video and audio.
   a. Audio and video must be recorded natively from the camera with no transcoding.
   b. Audio and video must be synchronized regardless of frame-rate, resolution or bitrate.

8. The Network Video Management Software (NVMS) shall support recording and management of video and audio sources through the use of industry standard drivers.

9. The NVMS will provide the mechanism by which individual alarm(s) from a 3rd party system (access control, etc.) can be pre-selected and configured to be monitored, and in turn trigger event driven video operations.

10. The NVMS shall support recording and monitoring video and audio streams from sources with bandwidth up to 90 Mbit/sec, frame rate up to 60 fps, and video resolution up to 29 MP (6576 x 4384).

11. The NVMS shall support the decompression of H.264 video through the client graphics card/graphical processing unit instead of using the client processing power.

12. The NVMS shall require no proprietary recording hardware, no hardware multiplexer or time-division technology for video and audio recording or monitoring.

13. The NVMS shall not limit the storage capacity and shall allow for upgrades of recording capacity without additional licensing.

14. The NVMS shall have an easy process for upgrading versions:
   a. Are capable of being upgraded from one version to another without having to uninstall the previous version.
   b. Are capable of being upgraded from one edition to another without having to uninstall the application.
   c. Automatically detect if video or audio source firmware is out of date with respect to the current installed software and upgrade it.
   d. Automatically detect if client application software is out of date with respect to the current installed server software and upgrade it.

15. The NVMS shall run as a service configured to automatically start when the server or workstation is powered on, and automatically recover from failure or attempted tampering.

16. The NVMS shall allow users to monitor and administer the system from:
   a. A single client application for monitoring live and recorded video and audio.
   b. A single window for administrating all system connections.
   c. Any client located on the network.

17. The NVMS shall provide multiple methods for providing fault tolerant solutions to maintain high availability recording in mission critical installations.

18. The NVMS shall support receiving Simple Network Management Protocol (SNMP) messages from servers and alert users.
19. The NVMS shall detect if the video or audio signal is lost and alert the system administrator.

20. The NVMS shall provide the capability to rename all video and audio sources and NVRs.

21. The NVMS shall record video and audio streams based on a recording schedule that can be defined individually for each video source.

22. The NVMS shall provide the ability to manually trigger recording.

23. The NVMS shall provide a pre-event and post-event recording option.

24. The NVMS shall authenticate users before granting access to the system. Access rights for each user can be defined individually for each user.

25. The NVMS shall support multiple credentials to gain access to the system including, but not limited to:
   a. The ability to import members of Active Directory groups as users in the NVMS.
      1) Changes made to members in the Active Directory are automatically synced with the NVMS.
      2) Users imported from the Active Directory can be added directly to existing permission groups.
   b. Using Windows credentials to authenticate users.
   c. Accept user credentials entered into the NVMS user database.

26. The NVMS shall provide the ability to schedule backups of recorded video with associated events to a local folder or mapped network drive.

27. The NVMS shall provide the ability to create and schedule alarms and corresponding actions including:
   a. Provide the ability to email users and system administrators when an event or system health error occurs.
   b. Provide the ability to schedule when email notifications are sent.
   c. Provide the ability to include camera images in email notifications.

28. The NVMS shall maintain an event log

29. The NVMS shall provide the ability to escalate alarms from one user or group to another if the alarm is unacknowledged for a preset duration.

30. The NVMS shall provide a maintenance log and audit trail of all system errors and events.

31. The NVMS shall provide the ability to change the network settings for a video and audio source including:
   a. A change in image quality and image rate parameters for a single video source shall not affect the settings of other video sources.
   b. The ability to enable a secondary stream for live viewing.
   c. The ability to change the exposure, iris, IR filter, backlight compensation, gain, priority, sharpening, saturation, focus, and white balance settings for a video source.
   d. The ability to change the image dimensions for a video source.
   e. The ability to rotate the image 90°, 180° or 270° for a video source.
f. The ability to add privacy zones to a video source to block unwanted areas in the image field of view.
g. The ability to set a maximum recording duration for manually triggered recording for a video source.
h. The ability to change the input, output, gain and volume for an audio source.

32. The NVMS shall support live or recorded video monitoring of 1 to 64 video streams simultaneously on a single monitor with the following standard layouts:
   a. Full Screen
   b. 2 x 2
   c. 3 x 3
   d. 4 x 4
   e. 5 x 5
   f. 6 x 6
   g. 8 x 8
   h. 1 + 5
   i. 1 + 7
   j. 1 + 12
   k. 2 + 8

33. The NVMS shall support live or recorded video monitoring in a customizable video display beyond the standard layouts.

34. The NVMS shall support the ability to display image overlays

35. The NVMS shall support the ability to create a map that represents the physical location of cameras and other devices throughout the surveillance system.

36. The NVMS shall support playback of recorded video and audio.
   a. Forward and reverse playback of recorded video and audio at variable speeds.
   b. Audio and Video shall synchronously playback when:
      1) Audio and video sources are linked
      2) Audio and video sources populate different tiles within a synchronized playback layout.

37. The NVMS shall support the navigation of recorded video and audio

38. The NVMS shall support searching through recorded video and audio based on various search criteria

39. The NVMS shall support the ability to take a snapshot of a live or recorded image and export it from the system.

40. The NVMS shall support the ability to export recorded video in the following formats including but not limited to:
   a. Native
   b. JPEG
   c. PNG
d. TIFF  
e. AVI  
f. WAV  
g. PDF  
h. Print

41. The NVMS shall support the ability to export recorded audio in WAV format.

42. The NVMS shall support the ability to export a live stream of images in the following formats:
   a. JPEG  
   b. PNG  
   c. TIFF

43. The NVMS shall support the ability to export video in Native format.

PART 3 EXECUTION

3.1. PREPARATION

A. Prior to installation, the Network Video Management System shall be configured and tested in accordance with the manufacturer’s instructions.

B. INSTALLATION
   1. Install system in accordance with manufacturer’s instructions.
   2. Perform all work in accordance with acknowledged industry and professional standards.

C. SYSTEM SOFTWARE
   1. Develop, install, and test software and databases for the complete and proper operation of systems involved. Assign software license to Owner.
   2. The Contractor is responsible for the entire programming and setup of the system such that no additional programming is required. Programming shall include the setup of all available features of the software.
   3. Perform a full system back-up at completion of initial programming and deliver the configuration to the Owner.
   4. Perform field software changes after the initial programming session to “fine tune” operating parameters and sequence of operations based on any revisions to the Owner’s operating requirements.

END OF SECTION
PART 4 GENERAL

4.1. SUMMARY

A. This Section specifies the minimum requirements for the Standish-Sterling Community Schools CCTV project – Remote Devices and Sensors. This Security Video Surveillance System shall include but is not limited to the following:
1. Fixed IP Dome Cameras
2. Fixed IP Bullet Cameras
3. Fixed IP Multi-Head Dome Cameras

B. Related Requirements:
1. All related sections must be:
   a. From the same manufacturer
   b. Able to communicate bi-directionally
   c. Must be provided as a “turnkey” solution

4.2. ADMINISTRATIVE REQUIREMENTS

A. Coordination
1. Coordinate with owner regarding camera network configuration and estimated bandwidth utilization prior to connection of cameras to owner’s network.

4.3. SUBMITTALS

Submittals described in this section shall be submitted by the Contractor with the original bid.

A. Product Data
1. Submit manufacturer technical specifications, system overview drawings, camera location and coverage drawings, and sample images of items included in this section.

B. Proposal Delta
1. It is the duty of the contractor to provide a working system. Any omissions or errors or differences between this document and the contractor’s submitted proposal shall be clearly outlined in a separate document labeled “Standish-Sterling Community Schools CCTV Proposal Deltas”.

C. Qualification Statements
1. Manufacturer
a. Submit confirmation and details of manufacturer’s warranty, extended warranty, and replacement policies.

2. Contractor
   a. Submit history of contractor certification(s) for items in this section.
   b. Submit references with contact information where contractor has installed items in this section.
   c. Submit confirmation that installer has received manufacturer training and is certified by the manufacturer on this equipment and that the training the installer received is current.

4.4. QUALITY ASSURANCE

A. Qualifications
   1. Manufacturer
      a. Manufacturer shall have been in business for more than 5 years.
   2. Installers
      a. All camera installation, configuration, setup, program and related work shall be performed by authorized integrators/electronic technicians certified by the manufacturer.
      b. Certification for authorized integrators/electronic technicians shall include at a minimum the installation and service of the equipment provided.

4.5. CERTIFICATIONS AND STANDARDS

A. The camera shall carry the following Electromagnetic Emissions Certifications:
   1. EN 55022 Class B
   2. FCC Part 15 Subpart B Class B
   3. IC ICES-003 Class B

B. The camera shall carry the following Electromagnetic Immunity Certifications:
   1. EN 55024 Class B
   2. EN 61000-4-2
   3. EN 61000-4-3
   4. EN 61000-4-4
   5. EN 61000-4-5
   6. EN 61000-4-6
   7. EN 61000-4-11

C. The camera shall meet relevant parts of the following video standards:
   1. SMPTE 296M (HDTV 720p)
D. The camera shall meet the following standards:
   1. MPEG-4:
      a. ISO/IEC 14496-10 AVC (H.264)
   2. Networking:
      a. IEEE 802.3af (Power over Ethernet)
      b. IEEE 802.3at (Power over Ethernet Plus)
      c. IEEE 802.1X (Authentication)
      d. IPv4 (RFC 791)

4.6. WARRANTY

A. Manufacturer Warranty
   1. All equipment provided shall be backed by a minimum manufacturer parts and labor warranty of:
      a. 36 months for all parts and labor from date of purchase/install
      b. During the warranty period, manufacturer shall provide direct support to the owner via phone and email, access to training and education in the form of documents, videos or other materials via the web.

PART 5 PRODUCTS

5.1. IP DOME TYPE CAMERA MANUFACTURED UNITS

A. Description
   1. The camera shall:
      a. Be based upon standard components and proven technology using open and published protocols.
      b. Be designed to provide video streams using H.264 or Motion JPEG image compression methods.
      c. Be equipped with Day/Night functionality.
      d. Comply with the environmental and logical requirements and be of the technology family:
         1) Day/Night Indoor IP Camera
         2) Scene Adaptive Infrared Illumination enabled Day/Night IP Camera
      e. Utilize Power over Ethernet (PoE) allowing the camera to be powered over the network cable or external power.
      f. Contain a built-in web server making video and configuration available in a standard browser environment using HTTP, without the need for additional software.
         1) Web server shall support multiple users with different permission levels and unique usernames and password.

B. Performance
1. Video  
   a. The camera shall be capable of simultaneously delivering at least two individually configurable video streams, for use when connecting to the Video Management Software for recording and live viewing.

2. Encoding  
   a. The camera shall:
      1) Be able to provide independently configured simultaneous H.264 and Motion JPEG streams (multi-stream).

3. Transmission  
   a. The camera shall allow for video and audio to be transported over:
      1) HTTP (Unicast)  
      2) HTTPS (Unicast)  
      3) RTP (Unicast & Multicast)  
      4) RTP over RTSP (Unicast)  
      5) RTP over RTSP over HTTP (Unicast)  
      6) RTP over RTSP over HTTPS (Unicast)

4. Network  
   a. The camera shall support both fixed (static) IP addresses and dynamically assigned IP addresses provided by a Dynamic Host Control Protocol (DHCP) server.
   b. The camera shall support user configuration of network parameters including:
      1) Fixed (static) IP address  
      2) Subnet mask  
      3) Gateway  
   c. The camera shall provide support for both IPv4 and IPv6 Networks.

5. Video Motion Detection Functionality  
   a. The camera shall support video motion detection functionality.

6. Protocol support  
   a. The camera shall incorporate support for at least IPv4, HTTP, HTTPS, SOAP, DNS, NTP, RTSP, RTCP, RTP, TCP, UDP, IGMP, ICMP, DHCP, Zeroconf, and ARP.

7. Security  
   a. The camera shall:
      1) Support the use of password protection, and HTTPS encryption.  
      2) Restrict access to the built-in web server by usernames and passwords.  
      3) Provide configurable 802.1x port based authentication

8. Installation and Maintenance  
   a. The camera shall:
      1) Allow firmware updates over the network.
2) All customer-specific settings shall be stored in a non-volatile memory and shall not be lost during power cuts or soft reset.

C. Materials

1. The camera shall be factory assembled and designed for continuous duty. Allowing for commercial/industrial 24/7/365 use.
   a. Be equipped with an automatically and manually removable IR-cut filter, providing so-called day/night functionality where the camera enters a monochrome mode when the available light drops below a set threshold.
   b. Be equipped with a real time clock.

2. The camera shall provide physical interfaces to external devices & systems:
   a. Network interface
      1) The camera shall be equipped with one 100BASE-TX Fast Ethernet-port, using a standard RJ-45 socket and shall support auto negotiation of network speed (100 Mbps and 10 Mbps) and transfer mode (full and half duplex).

3. The camera enclosure shall include the following:
   a. Tamper resistant screws
   b. Be equipped as a surface mount or recessed (in-ceiling) mount
   c. Clear transparent polycarbonate dome bubble and/or optional smoked dome bubble based on design criteria.

4. The camera shall be capable of being powered by the following power sources:
   a. PoE: up to IEEE 802.3af Class 3 PoE Compliant
   b. 24 VAC +/-10%
   c. 12 VDC +/-10%

5. The camera shall operate in the following environment:
   1) Operate in a temperature range of -10 deg C to +50 deg C (14 deg F to +122 deg F)
   2) Operate in a humidity range of 20–80% RH (non-condensing)
   3) Be stored in a temperature range of -10 deg C to +70 deg C (14 deg F to +158 deg F)

5.2. IP BULLET TYPE CAMERA

A. Description

1. The camera shall:
   a. Be based upon standard components and proven technology using open and published protocols.
   b. Be designed to provide video streams using H.264 or Motion JPEG image compression methods.
   c. Be equipped with Day/Night functionality.
   d. Utilize Power over Ethernet (PoE)
e. Contain a built-in web server making video and configuration available in a standard browser environment using HTTP, without the need for additional software.
   1) Web server shall support multiple users with different permission levels and unique usernames and password.

B. Performance

1. Video
   a. The camera shall be capable of simultaneously delivering at least two individually configurable video streams, for use when connecting to the Video Management Software for recording and live viewing.

2. Encoding
   a. The camera shall:
      1) Be able to provide independently configured simultaneous H.264 and Motion JPEG streams (multi-stream).
      2) Support Motion JPEG encoding:
      3) Support H.264 encoding:

3. Transmission
   a. The camera shall allow for video and audio to be transported over:
      1) HTTP (Unicast)
      2) HTTPS (Unicast)
      3) RTP (Unicast & Multicast)
      4) RTP over RTSP (Unicast)
      5) RTP over RTSP over HTTP (Unicast)
      6) RTP over RTSP over HTTPS (Unicast)

4. Network
   a. The camera shall support both fixed (static) IP addresses and dynamically assigned IP addresses provided by a Dynamic Host Control Protocol (DHCP) server.
   b. The camera shall support user configuration of network parameters including:
      1) Fixed (static) IP address
      2) Subnet mask
      3) Gateway
   c. The camera shall provide support for both IPv4 and IPv6 Networks.

5. Video Motion Detection Functionality
   a. The camera shall support video motion detection functionality.

6. Protocol support
   a. The camera shall incorporate support for at least IPv4, HTTP, HTTPS, SOAP, DNS, NTP, RTSP, RTCP, RTP, TCP, UDP, IGMP, ICMP, DHCP, Zeroconf, and ARP.

7. Security
a. The camera shall:
   1) Support the use of password protection, and HTTPS encryption.
   2) Restrict access to the built-in web server by usernames and passwords.
   3) Provide configurable 802.1x port based authentication

8. Installation and Maintenance
   a. The camera shall:
      1) Allow firmware updates over the network.
      2) All customer-specific settings shall be stored in a non-volatile memory and shall not be lost during power cuts or soft reset.

C. Materials
1. The camera shall be factory assembled and designed for continuous duty. Allowing for commercial/industrial 24/7/365 use.
   a. Be equipped with an automatically and manually removable IR-cut filter to provide day/night functionality where the camera enters a monochrome mode when the available light drops below a set threshold.
   b. Be equipped with a real time clock.
2. The camera shall provide physical interfaces to external devices & systems:
   a. Network interface
      1) The camera shall be equipped with one 100BASE-TX Fast Ethernet-port, using a standard RJ-45 socket and shall support auto negotiation of network speed (100 Mbps and 10 Mbps) and transfer mode (full and half duplex).

3. The camera enclosure shall include the following:
   a. Tamper resistant screws
   b. Be equipped as a surface mount

4. The camera shall be capable of being powered by the following power sources:
   a. PoE: IEEE 802.3af Class 3 PoE Compliant
   b. 24 VAC +/-10%
   c. 12 VDC +/-10%

5. The camera shall be connected to power through:
   a. Ethernet connection with IEEE 802.3af Class 3 PoE power
   b. Auxiliary power cables with external power

6. The camera shall operate in the following environment:
   1) Operate in a temperature range of -40º C to +50º C (-40º F to +122º F)
   2) Operate in a humidity range of 20–80% RH (non-condensing)
   3) Be stored in a temperature range of -10º C to +70º C (14º F to +158º F)
5.3. IP MULTI-HEAD DOME TYPE CAMERAA

A. Description
1. The camera shall:
   a. Be based upon standard components and proven technology using open and published protocols.
   b. Be designed to provide video streams using H.264 or Motion JPEG image compression methods.
   c. Be equipped with Day/Night functionality.
   d. Utilize Power over Ethernet (PoE) allowing the camera to be powered over the network cable or external power.
   e. Contain a built-in web server making video and configuration available in a standard browser environment using HTTP, without the need for additional software.
      1) Web server shall support multiple users with different permission levels and unique usernames and password.

B. Performance
1. Video
   a. The camera shall be capable of simultaneously delivering at least two individually configurable video streams, for use when connecting to the Video Management Software for recording and live viewing.

2. Encoding
   a. The camera shall:
      1) Be able to provide independently configured simultaneous H.264 and Motion JPEG streams (multi-stream).

3. Transmission
   a. The camera shall allow for video and audio to be transported over:
      1) HTTP (Unicast)
      2) HTTPS (Unicast)
      3) RTP (Unicast & Multicast)
      4) RTP over RTSP (Unicast)
      5) RTP over RTSP over HTTP (Unicast)
      6) RTP over RTSP over HTTPS (Unicast)

4. Network
   a. The camera shall support both fixed (static) IP addresses and dynamically assigned IP addresses provided by a Dynamic Host Control Protocol (DHCP) server.
   b. The camera shall support user configuration of network parameters including:
      1) Fixed (static) IP address
      2) Subnet mask
      3) Gateway
c. The camera shall provide support for both IPv4 and IPv6 Networks.

5. Video Motion Detection Functionality
   a. The camera shall support video motion detection functionality.

6. Protocol support
   a. The camera shall incorporate support for at least IPv4, HTTP, HTTPS, SOAP, DNS, NTP, RTSP, RTCP, RTP, UDP, IGMP, ICMP, DHCP, Zeroconf, and ARP.

7. Security
   a. The camera shall:
      1) Support the use of password protection, and HTTPS encryption.
      2) Restrict access to the built-in web server by usernames and passwords.
      3) Provide configurable 802.1x port based authentication

8. Installation and Maintenance
   a. The camera shall:
      1) Allow firmware updates over the network.
      2) All customer-specific settings shall be stored in a non-volatile memory and shall not be lost during power cuts or soft reset.

C. Materials
1. The camera shall be factory assembled and designed for continuous duty. Allowing for commercial/industrial 24/7/365 use.
   a. Be equipped with an automatically and manually removable IR-cut filter, providing so-called day/night functionality where the camera enters a monochrome mode when the available light drops below a set threshold.
   b. Be equipped with a real time clock.

2. The camera shall provide physical interfaces to external devices & systems:
   a. Network interface
      1) The camera shall be equipped with one 100BASE-TX Fast Ethernet-port, using a standard RJ-45 socket and shall support auto negotiation of network speed (100 Mbps and 10 Mbps) and transfer mode (full and half duplex).

3. The camera enclosure shall include the following:
   a. Tamper resistant screws.
   b. Be equipped as a surface mount, recessed (in-ceiling) mount, pendant mount.
   c. Clear transparent dome bubble and/or optional smoked dome bubble based on design criteria.

4. The camera shall be capable of being powered by the following power sources:
   a) PoE: IEEE 802.3af Class 3 PoE Compliant
   b) 24 VAC +/-10%
   c) 12 VDC +/-10%
PART 6 EXECUTION

6.1. INSTALLATION

A. All equipment shall be tested and configured in accordance with instructions provided by the manufacturer prior to installation.

B. All firmware found in products shall be the latest and most up-to-date provided by the manufacturer, or of a version as specified by the provider of the Video Management Application (VMA) or Network Video Recorder (NVR).

C. Contractor shall review configurable features of the device with the Owner’s Representative and establish a punch list for standard, device specific, location specific and VMA/NVR specific configuration of device(s). The Contractor shall install, program and configure devices in accordance with this punch list and such that no additional programming is required for operation by the user.

D. All equipment requiring users to log on using a password shall be configured with user/site-specific password/passwords. No system/product default passwords shall be allowed.

6.2. CLOSEOUT ACTIVITIES

A. Demonstration/Training
   1. The Contractor shall submit a training plan that describes the procedures to adequately accomplish training related to the implementation and full utilization of the system.
   2. Demonstrate the administration and operation of the devices described by this section.
   3. Demonstrate how to authorize users and applications to operate and configure installed devices.
   4. Demonstrate how an authorized user can gain access to and make changes to configuration.
   5. Demonstrate how to operate the functionality configured for this project as defined by the configuration punch list.

B. Fine Tuning
   1. Perform field software changes after the initial programming session to “fine tune” operating parameters and sequence of operations based on any revisions to the Owner’s operating requirements.

C. License Assignment
   1. Software, hardware, firmware, operational or administrative licenses necessary for to operate or administer the devices shall be registered to the Owner.
   2. Deliver to the Owner’s Representative proof of license registration from the product manufacturer.

D. Device Configuration Backup
1. Using the manufacturer’s backup software tool or the VMA/NVR, perform a full system back-up at completion of initial programming.

2. Deliver the configuration backup files, restoration application and instructions detailing for the restoration of back-up configuration.

END OF SECTION