

**VILLAGE OF HOMEWOOD**  
 17755 Ashland Avenue  
 Homewood, IL 60430

*All proposals are conditioned upon the instructions and specifications issued with this proposal form. All proposals must be sealed in an envelope labeled 'Sealed Proposal for RFP #24-07PW and either hand delivered or mailed to the office of the Director of Public Works, 17755 Ashland Avenue, Homewood, IL 60430. No late, phone, fax or emailed proposals will be accepted.*

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<b>RFP NO:</b>	24-07PW
<b>RFP OPENING DATE:</b>	November 20, 2024
<b>RFP OPENING TIME:</b>	10:00 a.m.

**PROPOSAL**

DESCRIPTION	AMOUNT
Police Department and Fire Station	Total Delivered/Installed Amount \$ _____
	Total # days to complete project: _____
Village Hall	Total Delivered/Installed Amount \$ _____
	Total # days to complete project: _____
Village Hall Parking Lot	Total Delivered/Installed Amount \$ _____
	Total # days to complete project: _____
Public Works, Water Plant, 183 <sup>rd</sup> & Stewart, Pump House #2, Booster Pump Station, Brian Carey Training Center, Science Center	Total Delivered/Installed Amount \$ _____
	Total # days to complete project: _____
Water Tower West, Water Tower East, Landscape Maintenance	Total Delivered/Installed Amount \$ _____
	Total # days to complete project: _____

# VILLAGE OF HOMEWOOD

## Request For Proposal

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### Video Surveillance and Security Camera Upgrade

**APPLICABILITY:**

All items contained in the instructions to bidders are applicable to this Request For Proposal (RFP).

**QUESTIONS CONCERNING BID:**

Contact person: Joshua Burman

Phone: (708) 206-2902 / [jburman@homewoodil.gov](mailto:jburman@homewoodil.gov)

Monday through Friday, 7:00 a.m. through 3:00 p.m.

**WITHDRAWING OF BIDS:**

No bids may be withdrawn for at least (30) days after closing time for receipt of bids.

**CLOSING TIME:**

Proposals must be sealed in an envelope labeled as a sealed bid for RFP #24-07PW either hand delivered or mailed to the attention of the Joshua Burman, Director of Public Works, Village of Homewood, Department of Public Works, 17755 Ashland avenue, Homewood, Illinois, 60430, no later than November 20, 2024 at 10:00 am. **Late, Phone, Fax or Emailed bids will not be accepted.**

**RFP OPENING:**

All proposals will be opened at the Department of Public Works, 17755 Ashland Avenue, 2<sup>nd</sup> floor, on November 20, 2024 at 10:00 a.m.

**PROPOSAL AWARD:**

The Proposal will be awarded within 30 days to the lowest responsible bidder who meets the specifications outlined by the Village of Homewood.

**RIGHT TO REJECT PROPOSALS:**

The Village reserves the right to reject any or all proposals. Unless otherwise specified, the Village reserves the right to accept any item in the proposal. In case of error in extending the total amount of the bid, the unit prices will govern.

**DEFAULT:**

In case of default by the vendor the Village of Homewood shall hold such vendor responsible for any excess cost caused by the vendor. The Village of Homewood may procure the articles or services from other sources and may deduct from the unpaid balance due to the vendor, and the prices paid by the Village of Homewood shall be considered the prevailing market price at the time such purchase is made.

**PRICE:**

All prices must be submitted on the enclosed proposal form. The proposal must be signed by an authorized officer or individual of the company submitting the bid.

# Specifications & Details

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This project includes all labor and materials needed for the upgrade of video surveillance and security cameras around the Village buildings.

(see plan sheets for camera locations and camera schedule for camera details)

The cameras should be replaced in the following order of importance:

1. Police Department and Fire Station
2. Village Hall
3. Village Hall Parking Lot,
4. Public Works, Water Plant 183rd & Steward, Pump House #2, Booster Pump Station, Brian Carey Training Center and Science Center.
5. Water Tower West, Water Tower East / Landscape Maintenance.

ATTACHMENT FOR SIGN OFF BY BIDDER	REQUIRED	NOT REQUIRED
Drug Free Workplace Certification	X	
Equal Employment Opportunity	X	
Hold Harmless Agreement	X	
Insurance Requirements	X	
Prevailing Wage Certification	X	
Compliance With Safety Standards	X	
Sexual Harassment Policy Certification	X	
Blood Borne Pathogens Compliance Certification	X	
Authorization To Perform Background Checks	X	
Contact Information	X	
Certificate of Authorized Dealer	X	
Performance/Payment Bond	X	
W-9 Form	X	

Contract For: Video Surveillance and Security Camera Upgrade

Date Due: 11/20/24 @ 10:00am

Description: Replacement of video surveillance and security cameras around Village buildings.

## DRUG FREE WORKPLACE CERTIFICATION

The bidder shall certify that it will comply with all requirements of the Illinois Drug Free Workplace Act (30 ILCS 580/1 et seq.) including but not limited to:

1. Publishing a Statement:
  - A. Notifying the employees that the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited in the bidder's workplace,
  - B. Specifying the actions that will be taken against employees for violations of such prohibition,
  - C. Notifying the employee that as a condition of employment on such contract or grant, the employee will; 1) abide by the terms of the statement and 2) notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than 5 days after such conviction.
2. Establishing a drug free awareness program to inform employees about:
  - A. The dangers of drug abuse in the workplace;
  - B. The grantee's or bidder's policy of maintaining a drug free workplace;
  - C. Any available drug counseling, rehabilitation, and employee assistance programs; and
  - D. The penalties that may be imposed upon employees for drug violations.
3. Making it a requirement to give a copy of the statement required by subsection (1) to each employee engaged in the performance of the contract or grant and to post the statement in a prominent place in the workplace.
4. Notifying the Village of Homewood within 10 days after receiving notice under part (2) of paragraph (C) of subsection 14.1 from an employee or otherwise receiving actual notice of such conviction.
5. Imposing a sanction on, or requiring the satisfactory participation in a drug abuse assistance or rehabilitation program by an employee who is convicted, as required by Section 5 of the Illinois Drug Free Workplace Act.
6. Training of personnel to effectively assist employees in selecting a proper course of action in the event drug counseling, treatment, and rehabilitation is required and indicating an effectively trained counseling and referral team is in place.
7. Making a good faith effort to continue to maintain a drug free workplace through implementation of requirements of Section 15.3.

## EQUAL EMPLOYMENT OPPORTUNITY

In the event of the bidder's non-compliance with any provision of this equal employment opportunity clause, the Illinois Human Rights Act or the Illinois Department of Human Rights (IDHR) Rules and Regulations for Public Contracts, the bidder may be declared non-responsible, and therefore, ineligible for future contracts or sub-contracts with the State of Illinois or any of its political subdivisions or municipal corporations, and the contract may be canceled or voided in whole or in part, and other sanctions or penalties may be imposed or remedies provided by statute or regulations.

During the performance of this contract the bidder agrees as follows:

1. It will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, ancestry or other legally protected class; and further that it will examine all job classifications to determine if minority persons or women are underutilized and will take appropriate affirmative action to rectify any such under-utilization.
2. If it hires additional employees in order to perform this contract, or any portion hereof, it will determine the availability (in accordance with the IDHR's Rules and Regulations for Public Contracts) of minorities and women in the area(s) from which it may reasonable recruit, and it will hire from each job classification from which employees are hired in such a way that minorities and women are not underutilized.
3. In all solicitation or advertisements for employees placed by it or on its behalf, it will state that all applicants will be afforded equal opportunity without discrimination because of race, color, religion, sex, national origin, ancestry, or other legally protected class.
4. It will send to each labor organization or representative of workers with which it has or is bound by a collective bargaining or other agreement or understanding, a notice advising such labor organization or representative of the bidder's obligations under the Human Rights Act and IDHR's Rules and Regulations for Public Contracts. If any such labor organization or representative fails or refuses to cooperate with the bidder in its efforts to comply with such act and rules and regulations, the bidder will promptly so notify IDHR and the contracting agency and will recruit employees from other sources when necessary to fulfill its obligations there under.
5. It will submit reports as required by IDHR Rules and Regulations for Public Contracts, furnish all relevant information as may from time to time be requested by IDHR or the contracting agency and in all respects comply with the Illinois Human Rights Act and IDHR Rules and Regulations for Public Contracts.
6. It will permit access to all relevant books, records, accounts and work sites by personnel by the contracting agency and IDHR for the purposes of investigation to ascertain compliance.

## HOLD HARMLESS AGREEMENT

The successful bidder shall agree to the fullest extent permitted by law to defend, indemnify and hold harmless the Village of Homewood, its elected and appointed officials, agents and employees, against all injuries, deaths, loss, damages, claims, patent claims, suits, liabilities, judgments, cost and expenses, including reasonable attorney fees, which in any way may accrue against the Village of Homewood, its elected and appointed officials, agents and employees, arising in whole, in part, or in consequence of the performance of this work by the Bidder or its employees or subcontractors, or which may in any way result therefrom, except for those injuries, deaths, loss, damages, claims, patent claims, suits, liabilities, judgments, cost and expenses caused solely by the acts of the Village of Homewood, its elected or appointed officials, agents or employees. The Bidder shall, at its own expense, appear, defend and pay all attorney fees, costs and other expenses arising therefore or incurred in connection with this hold harmless agreement. If any judgment is rendered against the Village of Homewood, its elected or appointed officials, agents or employees, the Bidder shall, at its own expense, satisfy and discharge the same.

Bidder expressly understands and agrees that any performance bond, payment bond or insurance policy required by this contract or state law shall not limit its responsibility to indemnify, keep and save harmless and defend the Village of Homewood, its elected and appointed officials, agents and employees as herein provided.

## INSURANCE REQUIREMENTS

Upon bid award, the bidder shall submit a Certificate of Insurance providing the following coverage:

- 1) Comprehensive General Liability and Excess Liability Insurance for Personal Injury, Property Damage, Contractual Liability, Product/Complete Operations, Premises Operations and Independent Contractor's coverage. Minimum coverage is \$1,000,000.00.
- 2) Workers' Compensation – coverages A and B.
- 3) Automobile Liability insurance including coverage of Uninsured Motorists and Hired/non-owned auto.

The certificate shall name the Village of Homewood and all its officials and employees, elected and appointed, as additional insured and shall include the policy's expiration date. In addition, as part of the contract, the Village of Homewood must receive a minimum of ten days notice upon cancellation of the company's insurance policy.

- 4) The bidder shall not commence work until it provides the certificate of insurance as described above. The bidder shall maintain all such insurance coverage for the term of the contract.



## PREVAILING WAGE CERTIFICATION

The bidder shall certify that it will comply with the Illinois Prevailing Wage Act. (830 ILCS 130/1 et seq.)

This contract calls for the construction of a “public-work, within the meaning of the Illinois Prevailing Wage Act, 820 ILCS 130/.01 et seq (The “Act”). The Act requires contractors and subcontractors to pay laborers, workers and mechanics performing services on public works projects no less than the current “prevailing rate of wages” (hourly cash wages plus amount for fringe benefits) in the county where the work is performed. The Department publishes the prevailing wage rates on its website at <http://labor.illinois.gov/>. The Department revises the prevailing wage rates and the contractor/subcontractor has an obligation to check the Department’s website for revisions to prevailing wage rates. For information regarding current prevailing wage rates, please refer top the Illinois Department of Labor’s web site. All contractors and subcontractors rendering services under this contract must comply with all requirements of the Act, including but not limited to, all wage requirements and notice and record keeping duties.

## COMPLIANCE WITH SAFETY STANDARDS

The bidder shall certify that it has a written safety policy and agrees to comply with all state and federal regulations pertaining to employee safety, including but not limited to the Federal Occupational Safety and Health Act, EPA and OSHA safety standards, and the Village of Homewood's Safety Policy Manual.

## SEXUAL HARASSMENT POLICY CERTIFICATION

The bidder hereby certifies that it has a written sexual harassment policy in place in full compliance with 775 ILCS 5/2-105(A)(4).

## BLOOD BORNE PATHOGENS COMPLIANCE CERTIFICATION

Bidder shall submit a BLOOD BORNE PATHOGEN COMPLIANCE CERTIFICATION statement, certifying that the Bidder is in compliance with OSHA standards for Occupational Exposure to Blood Borne Pathogens, 29 CFR, Part 1910.1030.

## AUTHORIZATION TO PERFORM BACKGROUND CHECKS

Personnel assigned by Bidder to perform work at the Village of Homewood shall pass a routine background check to be conducted by the Homewood Police Department prior to commencing work.

Bidder authorizes the Village of Homewood to perform a routine background check on personnel assigned to perform work.

## CONTACT INFORMATION

Bidder shall designate a point of contact responsible for day to day contract performance, including the following information:

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Name

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Title

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Organization Name/Address

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Office Phone

---

Cell Phone

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Email Address

## AUTHORIZED DEALER CERTIFICATION

The bidder shall certify that it is an Authorized Dealer of the product for which a bid has been submitted, and will provide a bona fide manufacturer's warranty reflecting the Village of Homewood as the original purchaser.

## PUBLIC CONSTRUCTION BOND ACT COMPLIANCE

The bidder shall provide a performance/payment bond as required by the Public Construction Bond Act (30 ILCS 550/1 et seq.)



## ACKNOWLEDGEMENT OF BID/CONTRACT TERMS

The undersigned, on behalf of the bidder, hereby agrees that all of the provisions marked "required" on page one of this addendum shall be incorporated into their bid as if fully restated therein.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Name (Print)

\_\_\_\_\_  
Title

\_\_\_\_\_  
Organization

\_\_\_\_\_  
Address

\_\_\_\_\_  
Date

WITNESS:

\_\_\_\_\_  
Signature/Printed Name

\_\_\_\_\_  
Date

## VIDEO SURVEILLANCE PART 1 -

## GENERAL

## 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

## 1.2 SUMMARY

- A. Section includes a video surveillance system consisting of cameras, digital video recorder, data transmission wiring, and a control station with its associated equipment.

## 1.3 DEFINITIONS

- A. AGC: Automatic gain control.
- B. BNC: Bayonet Neill-Concelman - type of connector.
- C. B/W: Black and white.
- D. CCD: Charge-coupled device.
- E. FTP: File transfer protocol.
- F. IP: Internet protocol.
- G. LAN: Local area network.
- H. MPEG: Moving picture experts group.
- I. NTSC: National Television System Committee.
- J. PC: Personal computer.
- K. PTZ: Pan-tilt-zoom.
- L. RAID: Redundant array of independent disks.
- M. TCP: Transmission control protocol - connects hosts on the Internet.
- N. UPS: Uninterruptible power supply.
- O. WAN: Wide area network.

#### 1.4 FUNCTIONAL DESCRIPTION OF SYSTEM

- A. Video surveillance system shall consist of IP cameras, the majority of which shall be Powered over Ethernet (PoE), connected to a dedicated 1000T based Ethernet security network.
- B. The video recording shall be distributed video server/storage devices.
- C. Network Video Recording
  - 1. Capacity for recording cameras shall be provided to allow a minimum of 30 or 90 days of recording at 15 frames per second, using highest camera resolution with mild (10% or less) H.265 compression
    - a. See Camera Schedule for number of days recording for each camera.
  - 2. Video recording shall be by rack mounted video server running video management software.
  - 3. Server shall have fault tolerant RAID 1 or better fault tolerant operation system drives.
  - 4. Server shall have onboard DVD burner for archiving selected video files.
  - 5. Configurable motion detection alarm output for each video channel.
  - 6. Program camera titles and on-screen placement as coordinated with the Village of Homewood.

#### 1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include dimensions and data on features, performance, electrical characteristics, ratings, and finishes.
- B. Shop Drawings: For video surveillance. Include plans, elevations, sections, details, and attachments to other work.
  - 1. Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
  - 2. Functional Block Diagram: Show single-line interconnections between components for signal transmission and control. Show cable types and sizes.
  - 3. Dimensioned plan and elevations of equipment racks, control panels, and consoles. Show access and workspace requirements.
  - 4. UPS: Sizing calculations.
  - 5. Wiring Diagrams: For power, signal, and control wiring.
- C. Design Data: Include an equipment list consisting of every piece of equipment by model number, manufacturer, serial number, location, and date of original installation. Add pretesting record of each piece of equipment, listing name of person testing, date of test, set points of adjustments, name and description of the view of preset positions, description of alarms, and description of unit output responses to an alarm.

## 1.6 INFORMATIONAL SUBMITTALS

- A. Seismic Qualification Data: Certificates, for cameras, camera-supporting equipment, accessories, and components, from manufacturer.
  - 1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
  - 2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
  - 3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
- B. Field quality-control reports.
- C. Product Warranty: Sample of special warranty.

## 1.7 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For cameras, power supplies, infrared illuminators, monitors, network video recorders, and control-station components to include in emergency, operation, and maintenance manuals. For "Operation and Maintenance Data," include the following:
  - 1. Lists of spare parts and replacement components recommended to be stored at the site for ready access.

## 1.8 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of cameras, equipment related to camera operation, and control-station equipment that fail in materials or workmanship within specified warranty period.
  - 1. Warranty Period: Three years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 SYSTEM REQUIREMENTS

- A. Surge Protection: Protect components from voltage surges originating external to equipment housing and entering through power, communication, signal, control, or sensing leads. Include surge protection for external wiring of each conductor's entry connection to components.
  - 1. Minimum Protection for Power Connections 120 V and More: Auxiliary panel suppressors complying with requirements in Section 264313 "Surge Protection for Low- Voltage Electrical Power Circuits."
  - 2. Minimum Protection for Communication, Signal, Control, and Low-Voltage Power Connections: Comply with requirements in Section 264313 "Surge Protection for Low-Voltage Electrical Power Circuits" as recommended by manufacturer for type of line being protected.

- B. Tamper Protection: Tamper switches on enclosures, control units, pull boxes, junction boxes, cabinets, and other system components shall initiate a tamper-alarm signal when unit is opened or partially disassembled. Control-station, control-unit alarm display shall identify tamper alarms and indicate locations.

## 2.2 PERFORMANCE REQUIREMENTS

- A. Seismic Performance: Video surveillance system shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.
  - 1. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified and the unit will be fully operational after the seismic event."
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- C. Comply with NECA 1.
- D. Comply with NFPA 70.
- E. Electronic data exchange between video surveillance system with an access-control system shall comply with SIA TVAC.

## 2.3 IP CAMERAS

- A. Approved Manufacturers:
  - 1. Axis Communications
  - 2. Hanwha Security
  - 3. American Dynamics
  - 4. Avigilon.
- B. Fixed Dome Indoor Camera:
  - 1. Comply with UL 639.
  - 2. Image Sensor: 1/2.7" progressive scan RGB CMOS.
  - 3. Lens: Varifocal, 3-8mm, F1.3
  - 4. Day and Night: Automatically removeable infrared-cut filter.
  - 5. Minimum Illumination:
    - a. Color: 0.13 lux at 50 IRE, F1.3
    - b. B/W: 0 lux at 50 IRE, F1.3
  - 6. Video Compression: H.265 Main Profile.
  - 7. Resolution: 2592x1944
  - 8. Casing: IP52-rated, IK10 impact resistant polycarbonate casing with hard coated dome and dehumidifying membrane.
  - 9. Power: PoE Type 1 Class 3.
    - a. Typical 6.5 W, Max 10.5 W.
  - 10. IR Illumination: Long life 850nm IR LEDs, range of 130 feet.

11. Storage: Support for microSD/microSDHC/microSDXC card.

C. Fixed Dome Outdoor Camera:

1. Comply with UL 639.
2. Image Sensor: 1/1.8" progressive scan RGB CMOS.
3. Lens: Varifocal, 4.3-8.6mm, F1.5
4. Day and Night: Automatically removeable infrared-cut filter.
5. Minimum Illumination:
  - a. Color: 0.14 lux at 50 IRE, F1.5
  - b. B/W: 0 lux at 50 IRE, F1.5
6. Video Compression: H.265 Main Profile.
7. Resolution: 3840x2160
8. Casing: IP66 and NEMA 4X-rated, IK10 impact resistant polycarbonate casing with hard coated dome and dehumidifying membrane.
9. Power: PoE Type 1 Class 3.
  - a. Typical 8.6 W, Max 11.8 W.
10. IR Illumination: Long life 850nm IR LEDs, range of 130 feet.
11. Storage: Support for microSD/microSDHC/microSDXC card.

D. Fixed Wedge Indoor Camera:

1. Comply with UL 639.
2. Image Sensor: 1/2.5" progressive scan RGB CMOS.
3. Lens: Fixed, 2.4mm, F2.0
4. Day and Night: Automatically removeable infrared-cut filter.
5. Minimum Illumination:
  - a. Color: 0.23 lux at F2.1
  - b. B/W: 0.05 lux F2.1
6. Video Compression: H.265 Main Profile.
7. Resolution: 2304x1728
8. Casing:
  - a. Anti-ligature and anti-grip stainless steel casing.
  - b. IP66, IP69, IP6K9K and NEMA 4X-rated.
  - c. IK10+ 50 joules impact resistant.
9. Power: PoE Type 1 Class 3.
  - a. Typical 7.7 W, Max 10.8 W.
10. IR Illumination: Long life and invisible 940nm IR LEDs, range of 49 feet.
11. Storage: Support for microSD/microSDHC/microSDXC card.

E. Multi-Sensor Dome Outdoor Camera:

1. Comply with UL 639.
2. Image Sensor: 4 x 1/2.5" progressive scan RGB CMOS.
3. Lens: Varifocal, 3-6mm, F1.8-2.6
4. Day and Night: Automatically removeable infrared-cut filter.
5. Minimum Illumination:
  - a. Color: 0.20 lux at 50 IRE, F1.8
  - b. B/W: 0.04 lux at 50 IRE, F1.8
6. Video Compression: H.265.
7. Resolution: 4 x 2560x1440

8. Casing: IP66, IP67 and NEMA 4X-rated, IK09 impact resistant aluminum and plastic casing with polycarbonate hard coated dome.
9. Power: PoE Type 2 Class 4.
  - a. Typical 16.3 W, Max 25.5 W.
10. IR Illumination: 4 x long life 850nm IR LEDs, range of 50 feet.
11. Storage: Support for microSD/microSDHC/microSDXC card, dual SD cards.

## 2.4 CAMERA-SUPPORTING EQUIPMENT

- A. Minimum Load Rating: Rated for load in excess of the total weight supported times a minimum safety factor of two.
- B. Mounting Brackets for Fixed Cameras: Type matched to items supported and mounting conditions. Include manual pan-and-tilt adjustment.

## 2.5 NETWORK VIDEO RECORDERS

- A. Manufacturers:
  1. Dell
  2. Hewlett Packard
  3. Lenovo
- B. Network Video Servers
  1. Meets minimum recommended requirements for the Video Management Software, but not less than the following:
    - a. Description: Computer-operated, video control unit complying with 47 CFR 15, Subparts A and B, for Class A and B digital. Include the following minimum features, components, and capabilities:
      - 1) CPU: Intel Core i3
      - 2) RAM: 16GB DDR4
      - 3) Redundant hot-plug power supply
      - 4) Throughput: up to 360 Mbit/s
      - 5) Disk Drive: 2 x 3.5" (external accessible)
      - 6) Raw Storage: 4/8/16/24/32 TB (depending on attached cameras)
      - 7) RAID Controller: Intel Rapid Storage Controller RAID 0,1
      - 8) Display Ports: 2-USB 3.1 Type C/iGFX DisplayPort
  2. Maximum allowable number of IP video streams to be assigned: 32 each server (including unused capacity to meet growth percentages indicated).
  3. Mounting: Standard 19-inch rack complying with EIA 310.
  4. Storage: Each server shall have sufficient on-board or direct connected disk capacity to record each assigned video channel and maintain a rolling record of the video data on a first in first out basis meeting the project's archival requirements.

## 2.6 VIDEO MANAGEMENT SOFTWARE

### A. Manufacturers:

1. Milestone
2. Genetec
3. American Dynamics
4. Avigilon

### B. Description:

1. System shall provide high-quality delivery and processing of IP-based video, audio, and control data using standard Ethernet-based networks.
2. System shall have seamless integration of all video surveillance and control functions.
3. Graphical user interface software shall manage all IP-based video matrix switching and camera control functions, alarm monitoring and control, and recording and archive/retrieval management. IP system shall also be capable of integrating into larger system environments.
4. System shall fully integrate with Brivo access control system.
5. System design shall include all necessary compression software for high-performance, dual-stream, MPEG-2/MPEG-4 video. Unit shall provide connections for all video cameras, discreet sensor inputs, and control system outputs.
6. All camera signals shall be compressed, encoded, and delivered onto the network for processing and control by the IP video-management software.
7. All system interconnect cables, workstation PCs, and network intermediate devices shall be provided for full performance of specified system.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine pathway elements intended for cables. Check raceways and other elements for compliance with space allocations, installation tolerance, hazards to camera installation, and other conditions affecting installation.
- B. Examine roughing-in for LAN, WAN, and IP network before device installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 WIRING

- A. Wiring Method: Install cables in raceways unless otherwise indicated.
  1. Except raceways are not required in accessible indoor ceiling spaces and attics.
  2. Except raceways are not required in hollow gypsum board partitions.
  3. Conceal raceways and wiring except in unfinished spaces.



- B. Wiring within Enclosures: Bundle, lace, and train conductors to terminal points with no excess and without exceeding manufacturer's limitations on bending radii. Provide and use lacing bars and distribution spools.
- C. Splices, Taps, and Terminations: For power and control wiring, use numbered terminal strips in junction, pull, and outlet boxes; terminal cabinets; and equipment enclosures. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A-486B.
- D. Grounding: Provide independent-signal circuit grounding recommended in writing by manufacturer.

### 3.3 VIDEO SURVEILLANCE SYSTEM INSTALLATION

- A. Install cameras level and plumb.
- B. Install tamper switches on components indicated to receive tamper switches, arranged to detect unauthorized entry into system-component enclosures and mounted in self-protected, inconspicuous positions.

### 3.4 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- B. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.
- C. Perform tests and inspections.
- D. Tests and Inspections:
  - 1. Inspection: Verify that units and controls are properly installed, connected, and labeled, and that interconnecting wires and terminals are identified.
  - 2. Pretesting: Align and adjust system and pretest components, wiring, and functions to verify that they comply with specified requirements. Conduct tests at varying lighting levels, including day and night scenes as applicable. Prepare video-surveillance equipment for acceptance and operational testing as follows:
    - a. Prepare equipment list described in "Informational Submittals" Article.
    - b. Verify operation of auto-iris lenses.
    - c. Set back-focus of fixed focal length lenses. At focus set to infinity, simulate nighttime lighting conditions by using a dark glass filter of a density that produces a clear image. Adjust until image is in focus with and without the filter.
    - d. Set back-focus of zoom lenses. At focus set to infinity, simulate nighttime lighting conditions by using a dark glass filter of a density that produces a clear image. Additionally, set zoom to full wide angle and aim camera at an object 50 to 75 feet away. Adjust until image is in focus from full wide angle to full telephoto, with the filter in place.
    - e. Set and name all preset positions; consult Owner's personnel.

- f. Set sensitivity of motion detection.
  - g. Connect and verify responses to alarms.
  - h. Verify operation of control-station equipment.
3. Test Schedule: Schedule tests after pretesting has been successfully completed and system has been in normal functional operation for at least 14 days. Provide a minimum of 10 days' notice of test schedule.
  4. Operational Tests: Perform operational system tests to verify that system complies with Specifications. Include all modes of system operation. Test equipment for proper operation in all functional modes.
- E. Video surveillance system will be considered defective if it does not pass tests and inspections.
- F. Prepare test and inspection reports.

### 3.5 ADJUSTING

- A. Occupancy Adjustments: When requested within 12 months of date of Substantial Completion, provide on-site assistance in adjusting system to suit actual occupied conditions. Provide up to two visits to Project during other-than-normal occupancy hours for this purpose. Tasks shall include, but are not limited to, the following:
1. Check cable connections.
  2. Check proper operation of cameras and lenses. Verify operation of auto-iris lenses and adjust back-focus as needed.
  3. Adjust all preset positions; consult Owner's personnel.
  4. Recommend changes to cameras, lenses, and associated equipment to improve Owner's use of video surveillance system.
  5. Provide a written report of adjustments and recommendations.

### 3.6 CLEANING

- A. Clean installed items using methods and materials recommended in writing by manufacturer.
- B. Clean video-surveillance-system components, including camera-housing windows, lenses, and monitor screens.
- C. Train Owner's maintenance personnel to adjust, operate, and maintain video-surveillance equipment.

END OF SECTION 282000