ITEM  683.1010  08 M - PAN/TILT/ZOOM DOME CCTV CAMERA ASSEMBLY WITH IP ADDRESSABLE CONTROL UNIT

DESCRIPTION:

Under these items the Contractor shall furnish and install Closed Circuit Television (CCTV) equipment at the field locations shown on the plans and in accordance with these Special Provisions. The equipment shall be IP addressable and capable of delivering high-quality full-motion color video during day or night operation with the video transmitted via a Router being installed by others, as indicated in the plans. The CCTV equipment shall consist of the following elements:

- Pan/tilt/zoom CCTV Camera Assemblies installed at the locations indicted on the plans. Each Pan/tilt/zoom Camera Assembly consists of a solid state color CCTV Camera, zoom lens, camera enclosure, pan/tilt unit, pole mounting bracket and all cabling required to interface the CCTV Camera Assembly with equipment in the field cabinet.

- IP Addressable Control Unit shall be installed in the field cabinet in accordance with the Table of Equipment Complements contained in the plans. The Control Unit provides the drive signals to the camera; lens and pan/tilt unit based on commands received from the central and provides status information for transmission to the central.

MATERIALS:

A. Pan/Tilt/Zoom Dome CCTV Camera

1. The specific component used shall be a Spectra SE III Dome Camera - Model No. SD53CBW-PG-E1, or approved equal (must be compatible with existing County installations and intergraded with QuickNet as per existing equipment), manufactured by:

   Pelco Worldwide Headquarters
   3500 Pelco Way
   Clovis, CA 93612-5699
   Phone 800-289-9100
   www.pelco.com

2. Each Dome CCTV Camera Assembly shall include the following equipment: color CCTV camera, motorized zoom lens, camera enclosure, pan and tilt (P/T) drive unit, mounting hardware, power supply, lightning protection and all interconnecting cabling between the camera assembly and the IP Addressable Control Unit. The camera assembly shall be designed for mounting to traffic signal pole as shown in the plans and shall meet all performance requirements when subjected to a 145 kmph wind with a 12 mm ice load on all surfaces. Connections between the equipment shall be through weatherproof connectors to provide easy replacement.

B. IP Addressable Control Unit

1. The specific component used shall be a PelcoNet IP Network Video Transmission with Compactflash Interface and Audio - Model No. NET 350T, or approved equal (must be compatible with existing County installations and intergraded with QuickNet as per existing equipment), manufactured by:
2. Each IP Addressable Control Unit shall include the following equipment: power supply, lightning protection and all interconnecting cabling between the IP Addressable Control Unit and Router to be installed in field cabinet.

The CCTV Camera shall also meet the following requirements:

1. Operating temperature: -51°C to +60°C ambient (camera/lens shall meet these requirements when housed in a pressurized environmental enclosure containing a heater and defroster).

2. Humidity: 0 to 95% non-condensing

3. Weight (total for CCTV Camera Assembly including camera, lens, pan-tilt unit and mounting hardware) shall not exceed 7 kg.

4. Servicing of the equipment constituting the camera assembly shall be available in the continental United States or Canada. In addition, servicing of the lens and CCTV camera shall be available at the same service center.

5. CCTV Camera shall be Dome driven.

A. CCTV Camera

The CCTV camera shall utilize digital signal processing (DSP) techniques and shall meet the following requirements:

1. Format: NTSC 1VPP @ 75 ohms, unbalanced composite

2. Scanning: 2:1 interlace

3. Image Sensor: ¼ inch CCD

4. Horizontal resolution (minimum): 470 TV lines

5. Maximum Sensitivity: 0.08 lux at ½ sec (color)

6. Zoom

7. Zoom Speed: 2.9/4.2/5.8 seconds

8. Video Signal to Noise: 50dB minimum Automatic white


10. Electronic shutter speeds: 1/2 to 1/30,000 and auto

11. Wide Dynamic Range: 80x

12. Pan Motion: 0.1 to 150 degrees/sec Pan Speed
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13. Vertical Tilt: Unobstructed +2 to –92 Degrees
14. Weight (maximum): 1.25 kg

B. Lens

1. Iris: Auto with manual override
2. Zoom: 3.6 to 82.8 mm optical
3. Aperture: F1.6
4. 5.9 Inch Acrylic Bubble
5. Weight (maximum): 0.5 kg

C. Camera Enclosure

The camera enclosure shall meet the following requirements:
6. Shall be “Dome Drive” Type.
7. Sized to enclose the camera and zoom lens.
8. Pressure sensor to activate a contact closure when internal pressure drops to below 13.8 kPa (2 psi). The contact closure shall be compatible with the IP Addressable Control Unit alarm input.
10. Viewing window: The window shall provide a viewing area such that unrestricted camera view are obtained for all camera and lens positions.
11. Cable entry: Top of the dome via bracket connection, enclosure sealed to maintain environmental integrity.
12. Material: With exception of the window, the enclosure shall be painted anodized gray.
13. Built in thermostatically controlled heater/defroster/defogger. The defroster/defogger shall prevent icing and fogging of the viewing window. The heater shall be sized and thermostat set to permit operation of the camera and zoom lens over the specified environmental conditions.
14. Power (max) with heater, defroster/defogger on: 90 W
15. Weight (maximum): 2.5 kg

D. Power and Control Cable

Power/Video Coaxial cable to be furnished and installed shall have the following minimum requirements:
1. 75 ohms impedance
2. All-copper center conductor
3. All-copper braided shield with 95% braid coverage
E. IP Addressable Control Unit

The Control Unit shall provide all camera and lens control signals and shall contain all power supplies necessary for the control of the camera, lens and pan/tilt unit. The Control Unit shall meet the following requirements:

1. Control signals compatible with the zoom lens and pan/tilt unit.
3. Supports a minimum of twelve (12) presets stored in non-volatile memory.
5. Data rate: Field selectable from 1200 to 9600bps
6. Alarm inputs: Minimum of 1, 30 V Maximum
7. Electric: All power supplies to provide the required receiver and driver voltages shall be contained within the unit
8. Voltage: 12-24 VDC
9. Power: 10 W.
10. Fuse protection shall be provided for the receiver input power and the power to the camera and enclosure unit.
11. Mechanical: Suitable for mounting in the cabinet types as designated on the plans.
12. Dimensions (maximum): 143 mm (w) x 330 mm (h) x 135 mm (d)
13. Environmental: Temperature: -20°C to +60°C
14. Humidity: 5 to 95% non-condensing

CONSTRUCTION DETAILS:

1. The Contractor shall install the specified CCTV field equipment at locations as shown on the plans and as ordered by the Engineer. The pan and tilt unit shall be installed such that the line of site of the camera is in the centerline of the desired field of view when the camera is in the mid point of the desired motion between the limit stops. The field of view of each camera and the limit settings of its vertical and horizontal movements will be provided by the Engineer prior to installation. The IP Addressable Control Unit shall be installed within equipment cabinets furnished and installed under separate contract items.

2. The Contractor shall be responsible for installing and connecting all surge protection, cabling, connectors, distribution amplifiers and other equipment necessary to provide a working subsystem. The Contractor shall connect the equipment to the power outlets indicated on the plans.

3. All incidentals parts necessary to complete the installation but not specified herein or on the plans shall be provided as necessary to provide a complete and properly operating system.
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Warranties and Guarantees

The Contractor shall provide warranties and guarantees to the County in accordance with Article 104-08 of the New York State Standard Specifications with the additional requirement that all equipment furnished as part of this contract shall be warranted for a period of 24 months following system acceptance.

Documentation

Manuals

Three (3) advance copies of equipment manuals furnished by the manufacturer shall be submitted to the Engineer for review at least ten days prior to the scheduled start of the first Operational Stand-Alone Test. The Engineer will verify the manufacturer’s equipment manual as part of the test and integration process. The equipment manual incorporating the Engineer’s corrections and comments shall be integrated by the Contractor into the operations and maintenance manual as described in the Special Notes.

The manuals shall, as a minimum, include the following:

1. Complete and accurate schematic diagrams
2. Complete installation and operation procedures
3. Complete performance specifications (functional, electrical, mechanical and environmental) of the unit.
5. Complete maintenance and troubleshooting procedures

Operational Stand-Alone Test

At each field site the contractor shall demonstrate local control of all camera and pan-tilt unit functions. The video input into the IP Addressable Control Unit shall be monitored to verify operability of each of the control functions. The Contractor shall provide a video monitor on which the video will be displayed. This test shall not be performed until all of the CCTV Field Equipment specified on the plans has been installed for the site under test.

CCTV Equipment Group Site Verification Test

A site verification test shall be performed for each of the field sites containing CCTV Equipment Groups after successful completion of the Operational Stand-Alone Test. The control capacity test shall be demonstrated for each of the cameras from the hub to which the camera reports. The video shall also be monitored at this hub.

METHOD OF MEASUREMENT:

Pan/Tilt/Zoom CCTV Camera Assembly and IP Addressable Control Unit will be measured for payment as the number of assemblies installed, made fully operational and tested.

BASIS OF PAYMENT:
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The unit price bid for each Pan/Tilt/Zoom CCTV Camera and Receiver Driver Unit’s assemblies shall include the cost of furnishing all labor, materials, and tools and equipment necessary to complete the work. All miscellaneous hardware required for the installation of the unit, including but not limited to the coaxial, and control and power cabling between the field cabinet and the Pan/Tilt/Zoom CCTV Camera and IP Addressable Control Unit’s assemblies, mounting hardware, connectors, and weather heads, shall be included in this price. Payment for all documentation, testing, and test equipment used for testing of the Pan/Tilt/Zoom CCTV Camera and IP Addressable Control Unit’s assemblies shall be included in this item.

Included in this cost shall be the three (3) test units or software, if required, for the simulation of the IP Addressable Control Unit commands.

Progress payment will be made as follows:

- Fifty percent of the bid price for each Pan/Tilt/Zoom CCTV Camera and IP Addressable Control Unit’s assemblies will be paid when the Pan/Tilt/Zoom CCTV Camera and IP Addressable Control Unit’s assemblies is installed and having passed the Operational Stand-Alone Test.

- Twenty five percent of the bid price for each Pan/Tilt/Zoom CCTV Camera and IP Addressable Control Unit’s assemblies shall be paid upon successful completion of the CCTV Equipment Group Site Verification Test.

- Twenty five percent shall be paid upon System Acceptance.