

INVITATION TO BID
SUPPLY AND INSTALLATION OF A
LONG RANGE CAMERA SYSTEM FOR THE
NANTUCKET MARINE DEPARTMENT
NANTUCKET, MASSACHUSETTS

The Town of Nantucket, the Awarding Authority invites sealed bids for the Supply and installation of Long Range Camera System for the Nantucket Marine Department, Nantucket, Massachusetts, no later than Thursday, June 3, 2010 at 2:30 pm. EDT in the office of the Project Manager, Town of Nantucket, 16 Broad Street, First Floor, Nantucket, MA 02554.

Bidders shall not include Federal Excise Taxes or Commonwealth of Massachusetts Sales.

The Bids shall be completely filled in, signed, enclosed in an envelope, sealed and plainly marked with the project name. The Bids shall be filed with the Owner at the location designated above accompanied by a bid deposit in the form of a bid bond or cash or a certified check on, or a treasurer's or cashier's check issued by, a responsible bank or trust company payable to Town of Nantucket in the amount of five percent (5%) of the bid.

A bid bond shall be:

- (a) in a form satisfactory to the Owner;
- (b) with a surety company qualified to do business in the Commonwealth of Massachusetts and satisfactory to the Owner;
- (c) conditioned upon the faithful performance by the principal of the agreements contained in the General Bid.

A performance Bond and also a Labor and Materials Payment Bond, each of a surety company qualified to do business under the laws of Commonwealth and satisfactory to the Owner and each in the sum of fifty percent (50%) of the Contract Price will be required of the successful general bidder.

The Town of Nantucket reserves the right to waive any informalities in Bids, to reject any or all Bids, or to accept any proposal that in their judgment will be in the best interest of the Town of Nantucket.

The Town of Nantucket does not discriminate on the basis of sex, race, age, physical disability, religion or national origin.

The Town of Nantucket is an Affirmative Action/Equal Opportunity Employer. Minority/Women's Business Enterprises are encouraged to apply.

FORM OF GENERAL BID
To: Nantucket Marine & Coastal Resources Department

A. CONTRACTOR NAME: _____ proposes to furnish all materials and labor required for the supply and installation of one (1) Long Range Video Camera to the Town of Nantucket, located in Nantucket, MA in accordance with the accompanying specifications and all related documents herein, for the contract price specified below, subject to additions and deductions according to the terms of the specifications.

B. This bid includes addenda numbered _____.

C. The proposed contract price for the supply and installation of the Long Range Video Camera for the Nantucket Marine & Coastal Resources Department is:

_____ Dollars (\$_____).
(Bid in words)

1. CAMERA MANUFACTURER MODEL NUMBER: _____

2. PAN, TILT UNIT- MANUFACTURE/MODEL: _____

3. SOFTWARE- VENDOR/VERSION: _____

4. STABILIZATION-VENDOR/VERSION: _____

E. The undersigned agrees that, if he is selected as the Contractor, he will within (5) days, Saturday, Sundays and legal holidays excluded, after presentation thereof by the Awarding Authority, execute a Contract in accordance with applicable laws and furnish a performance bond and also a labor and materials or payment bond each of a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the Awarding Authority and each in the sum of fifty percent (50%) of the Contract Price, the premiums for which are to be paid by the Contractor and are included in the Contract Price.

The undersigned further certifies under the penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this section the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity. The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from doing public work in Massachusetts.

CERTIFICATE OF NON-COLLUSION

The undersigned certifies under penalties of perjury that this bid or proposal has been made and submitted in good faith and without collusion or fraud with any person. As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals.

Signature of person signing bid or proposal

Date

Please Print Name

Name of Business

SPECIFICATION

PART 1 - GENERAL

1.1 PROJECT DESCRIPTION

A. The Project consists of the supply and installation of a new Long Range Video Camera atop a newly constructed water tower which is 164' ± ASL. The camera shall be housed in an environmental housing with wiper. Viewing of live real-time images, control of camera functions and camera aiming shall be done remotely through an owner supplied 10.5 GHz microwave link from the water tower to the new Nantucket police station.

B. The Contractor shall provide and install all required mounting brackets, camera enclosure, camera pan-tilt control unit and all required cabling from the camera mounting location to the tower communications room located at ground level within the base of the water tower 160'± directly below. Camera mounting shall be so that Nantucket Harbor and surrounding areas has optimal viewing.

C. The Long Range Camera shall be mounted atop the water tower upon antenna mounting rails already installed. Low-voltage cabling shall be done through existing 1" conduit from top of tower to communications room. 120VAC power is provided at the top of the tower near camera mounting location and is also available within communications room.

D. The Contractor shall provide all required software to enable users to view live, real-time images and control of camera functions remotely from any of networked enabled computer which is connected to the 10 GHz microwave link.

E. The Contractor shall provide and install all required mounting brackets, camera enclosure, camera pan-tilt control unit and all required cabling from the camera mounting location to the tower communications room located at ground level within the base of the water tower 160'± directly below. Camera mounting shall be so that Nantucket Harbor and surrounding areas has optimal viewing.

F. The Contractor shall be solely responsible for coordinating their work.

1.2 CONTRACTOR USE OF PREMISES

A. General: Limit use of the premises to construction activities in areas indicated; allow for Town use as required.

1. Confine the parking of workmen's and construction vehicles, and the storage of any materials to a designated area determined by the Town.

2. Keep driveways and entrances serving the premises clear and available to the Owner, Owner's employees and other Contractors working on this project at all times. Do not use these areas for parking or storage of materials.

1.3 INTENT

A. These Specifications with the accompanying Drawings are intended to describe and illustrate all material, labor, and equipment necessary to complete the installation of the Long Range Video Camera System.

B. Furnish all materials and accomplish all work in strict accordance with the grades or standards of materials, standards of workmanship, and manufacturer's specifications listed or mentioned in these documents. All wiring shall be rated for wet location, exterior harsh environments and installed in a neat and workmanlike manner as described in NEC 110.12.

C. The listing or mention of materials shall be sufficient indication that all such materials shall be furnished by the Contractor, in accordance with the grades or standards indicated, free from defects impairing strength, durability or appearance or serviceability and in sufficient quantity for the proper and complete execution of the work, unless specifically stated otherwise.

D. The listing or mention of any method of installation, erection, fabrication or workmanship shall not operate to make the Contractor an agent, but shall be for the sole purpose of setting a standard of quality for the finished work. All work shall be in strict accordance with all methods of installation, erection, fabrication and workmanship listed or mentioned herein.

1.4 SOCIAL SECURITY TAXES

A. The Contractor shall pay the taxes measured by the wages of all their employees as required by the Federal Social Security Act and all amendments thereto, and accept the exclusive liability for said taxes. The Contractor shall also indemnify and hold the Owner, and its respective officers, agents and servants and the Engineer harmless on account of any tax measured by the wages aforesaid of employees of the Contractor, assessed against the Owner under authority of said law.

1.5 UNEMPLOYMENT INSURANCE

A. The Contractor shall pay unemployment insurance measured by the wages of his employees as required by law and accept the exclusive liability for said contributions. The Contractor shall also indemnify and hold harmless the Owner on account of any contribution measured by the wages of aforesaid employees of the Contractor, assessed against the Owner under authority of law.

1.6 OCCUPATIONAL SAFETY AND HEALTH ACT

A. The Contractor shall comply with the requirements of the Occupational Safety and Health Act of 1970 and the Construction Safety Act of 1969, including all standards and regulations which have been promulgated by the Governmental Authorities which administer such Acts and said requirements, standards and regulations are incorporated herein by reference. All persons working on the site must have completed the OSHA 10 hour worker safety course. OSHA 10 cards must be presented to the General Contractor Site Superintendant prior to commencing any work.

B. The Contractor shall comply with said regulations, requirements and standards and require and be directly responsible for compliance therewith on the part of their agents, employees, material personnel and Contractor; and shall directly receive and be responsible for all citations, assessments, fines or penalties which may be incurred by reason of their agents, employees, material personnel or Video Contractor failing to so comply.

C. The Contractor shall identify the Owner and Engineer and save them harmless from any and all losses, costs and expenses, including fines and reasonable attorney's fees incurred by the Owner and Engineer by reason of the real or alleged violation of such laws, ordinances, regulations and directives, Federal, State, and Local, which are currently in effect or which become effective in the future, by the Contractor or material personnel.

PART 2 - PRODUCTS

2.1 Long Range Camera Pan And Tilt System

A. The long range camera pan and tilt drive system shall consist of an integral, environmental, precise speed pan and tilt drive unit with continuous 360° rotation; integrated optics package, consisting of a lens and camera unit, mount with camera stabilization. Camera shall be housed in rugged environmental housing with wiper.

B. The long range camera, pan and tilt drive system, mount and environmental housing shall meet or exceed the following specifications:

1) Long Range Camera- High Resolution Color EMCCD (Electron Multiplying Charge Coupled Device) Camera with Color/Black-White Extreme Lowlight Optic System (55X). Eagle Vision Long range Camera EV3000, part number EV3000-P-EMCCD-1680 or equivalent.

- a) Image Sensor: 1/2" Super High Sensitivity Low-Light Color EMCCD Camera
- b) Resolution: 480 TVL
- c) Minimum Illumination: Color in full motion mode: 0.009 lux
- d) Color accumulation mode: 0.00015 lux
- e) Monochrome in full motion mode: 0.0005 lux

- f) Monochrome accumulation mode: 0.000008 lux
- g) Lens: 55X optical zoom 12-660mm/30-1680mm 2.5X electronic extender
- h) Angle of View: 31.7° - 0.6°, 12.0° - 0.2° (2.5X Extender In Use)
- i) Zoom: manual control
- j) Focus: manual control
- k) Iris : Automatic with manual override
- l) Control : Gain: auto or manual
- m) Shutter: OFF, 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 sec
- n) Backlight Compensation: On/Off (9 selectable areas)
- o) White Balance: ATW/AWC/Manual
- p) DNR: Auto/manual (8 steps)

2) Pan And Tilt Drive Unit Specifications

- a) General Construction: Die-cast aluminum; stainless steel hardware
- b) Finish: Gray polyester powder coating
- c) Drive Unit: Precise 0.1° stepper motor
- d) Limit Stops: mechanical and Programming
- e) e) Wiring: prewired to the camera enclosure
- f) Protocol: Pelco-D, RS-485/422, TCP/IP
- g) Addressing: Selectable DIP Switches
- h) Pan Rotation: 360° continuous rotation
- i) Pan Speed: 0.1°~ 25°/sec,
- j) Tilt Speed: 0.1°~ 20°/sec
- k) Presets: 000~127(128 Presets)
- l) Remote Operation: Controlled via TCP/IP

3) Enclosure

- a) Enclosure Assembly: Part of pan tilt unit assembled at factory
- b) Temperature Protection: Standard with factory-installed defroster/defoggers, thermostatically controlled heaters, thermal insulation, and sun Shield
- c) Moisture protection: to be filled from within by dry nitrogen for prevention of condensation of moisture inside enclosure.
- d) Anti-Rust Anti Corrosion: Stainless Steel construction
- e) Viewing Window: thick optically clear tempered glass
- f) Camera and Lens Assembly: Installed in the enclosure at the factory
- g) Wiper: Heavy duty Wiper with washer reservoir

4) Power

- a) Voltage: 120 VAC
- b) Power Consumption: Maximum 150 watt
- c) Operating Temperature: -40°F to 122°F

2.2 Camera Software

A. IP-Surveillance software that works with supplied camera and pan, tilt, zoom unit to provide video monitoring, recording and event management functions upon a remote, networked Windows® based owner supplied computer. Software shall be capable of camera monitoring while at the same time record high quality digital video either continuously or on schedule, alarm and/or motion detection. Software offers easy ways to search for recorded events. The software shall have a multi-view playback feature that enables a user to view simultaneous recordings from different cameras to get a comprehensive picture of an event. Remote viewing and playback shall be possible with the use of a Web browser. The Windows® client shall also

enables remote administration of the software and camera configuration. The software shall allow for scalability, with easy addition of licenses for up to 25 cameras. Specific software details are:

1. View and record live with 25 frames per second
2. Scheduled and event driven recording
3. Preset positions Pan/Tilt/zoom
4. Control Zoom, Focus, IRIS, and 2X extender
5. Control of PTZ camera
6. Control Camera functions/setting
7. Multi Remote viewing and control
8. One client license required

2.3 Camera Image Stabilization

A. Video stabilizer that electrically corrects video shaking which occurs in a camera shall be supplied as follows:

- a. Capable of correcting unsteady images in real time.
- b. Capable of correcting live video.
- c. Capable of correcting up to 40% in vertical/horizontal direction with respect to screen.
- d. Correction accuracy measurable in sub-pixels is achieved.
- e. Capable of setting Motion Detect Area for detecting motions in video to correct shaking.
- f. Provides sub-pixel level correction precision.
- g. Simple design-works just by connecting video cable without special connections.
- h. Compact, DC operation.

PART 3 - EXECUTION

3.1 Installation Schedule

A. Coordination of installation schedule must be done with the Town. The installation of the 10MHz Microwave is ongoing and not complete at the time of bid and is projected to be installed within 3 months. Contractor may initiate scheduling and testing of camera system during optimum weather months and complete data link component when microwave link is operational.

3.2 Material And Equipment Standards

A. Materials shall be new, unused, of recent manufacture, not previously installed, full weight, standard, the best quality of its kind and acceptable to the Town.

B. Provide Nationally Recognized Testing Laboratory (NRTL) listed or labeled products whenever there are NRTL standards, listings or labeling available for that product category.

3.3 Warranty

A. Provide one (1) year Warranty, warranty shall start at time of substantial completion or routine use, which ever comes 1st, warranty shall include all materials, equipment and work furnished or installed under this Section. Any failure due to defective material, equipment, installation or workmanship which may develop, shall be corrected at no expense to the Owner including all materials, labor, travel, expenses, system diagnostics and damage to areas, materials and other systems resulting from such failures.

B. Manufacturers shall provide replacement warranties for material and equipment furnished under this Section. Such warranties shall be in addition to and not in lieu of all liabilities which the Manufacturer and the Installer may have by law or by provisions of the Contract Documents.

C. Include copies of all warranties, maintenance contracts and training contracts or performance bonds in the Operation and Maintenance Manuals.

3.4 Cable Supports

A. Manufacturer: Provide products meeting the requirements of the Drawings and Specifications from one of the following manufacturer's:

J-Hooks: Caddy, Chatsworth, Mono-System.

Hook and Loop Fasteners: Chatsworth, Ortronics, Siemons.

Cable Ties: DEK, Panduit, Amp, 3M, T&B.

Beam Clamps: Burndy, Minerallac, Kindorff,

Steel City, OZ/Gedney.

Split Mesh Strain Reliefs (Kellums): Hubbell, Woodhead.

B. Hook and loop fasteners shall be designed for their specific application. For example, if a hook and loop fastener is used to support cables to a rack, it shall have a grommeted outlet for use with a 10-32 rack mounting screw.

C. Cable-ties shall be correctly sized to support the quantity and types of cables installed.

D. Beam clamps shall be Stainless Steel with threaded bolt type closure. Spring steel or "quick-clip" type clamps are prohibited.

E. Split mesh strain reliefs shall be properly sized for each cable that they support. Only one cable shall be installed in each split mesh strain relief.

F. All cable runs shall be securely fastened to cable routes using appropriate fasteners.

3.5 Bonding And Grounding Jumper Cable

- i. Manufacturer: Provide products meeting the grounding requirements from one of the following manufacturers:
- b. Belden (No. 8669) or equal.
 - i. Jumper cable shall be hollow braided, 60 amp capacity, copper.
 - ii. Provide equal conduct of as described in "B" above for aluminum equipment.
 - iii. Jumpers shall have compression or exothermic type terminals on both ends of cables. Terminals shall be compatible with jumper cable material and equipment material in order to not have any degenerative reaction.
 - iv. All equipment and housings shall be properly grounded to tank grounding system using appropriate cables and terminations.

3.6 Unshielded Twisted Pair (UTP) Cabling Systems

A. Provide all data cabling as specified herein.

B. Manufacturer: Provide products meeting the requirements from one of the following manufacturer's or equal:

Wire and Cable: AT&T, Belden, Berk-Tek, CommScope,

General Cable, Mohawk, Prestolite.