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March 5, 2008

**CITY OF NORTH LAS VEGAS
INVITATION TO BID NO. B-1306
VIDEO VEHICLE DETECTION SYSTEM**

Bids will be received in the Office of the City Clerk, 2200 Civic Center Drive, North Las Vegas, Nevada, 89030 **until 2:00 p.m. on March 20, 2008**, and will be publicly opened and read shortly thereafter in the Office of the Purchasing Manager at the previous address in City Hall.

A pre-bid conference will be held on **March 12, 2008 at 10:00 a.m. in the City Council Conference Room** to discuss and clarify the project. All interested parties should attend.

Bid documents can be picked up in the Purchasing & Risk Management Office, Monday through Thursday, 8:00 a.m. - 4:00 p.m. at the address above. Bids may also be accessed at www.rfpdepot.com, www.demandstar.com or under the Purchasing/Risk Management Web page www.cityofnorthlasvegas.com.

The City reserves the right to reject any and all bids, waive any informality or technicality or to otherwise accept bids deemed in the best interest of the City.

Renee' Swanson
Buyer

Published Review Journal
February 29, 2008

INSTRUCTIONS TO BIDDERS

1. PROJECT SPECIFICATIONS:

The Bidder/Contractor shall not take advantage of any apparent error or omission in the Plans or Specifications. In the event the Contractor discovers such an error or omission, he shall immediately notify the Purchasing Manager. The Purchasing Manager will then make such corrections and interpretations as may be deemed necessary for fulfilling the intent of the Specifications and Plans.

2. EXPLANATION TO BIDDERS:

Any explanations desired by Bidders regarding the meaning or interpretation of specifications must be requested in writing and with sufficient time allowed for a reply to reach them before submission of their bids. Oral explanations given before the award of the contract will not be binding. Any written interpretation made will be furnished to all BIDDERS and its receipt by the BIDDER will be acknowledged.

Interpretation of the meaning of the plans, specifications or other pre-bid documents will not be binding if presented to any BIDDER orally. Every request for such interpretation should be in writing addressed to RENEE' SWANSON, BUYER swansonr@cityofnorthlasvegas.com or Attn: Renee' Swanson, City of North Las Vegas, 2200 Civic Center Drive, North Las Vegas, NV 89030. Any and all such interpretations and any supplemental instructions deemed necessary will be in the form of written addenda to the specifications which, if issued, will be mailed to all known perspective BIDDERS. Failure of any BIDDER to receive any such addendum or interpretation shall not relieve such BIDDER from any obligation under this bid as submitted. All addenda so issued shall become part of the Contract Documents.

3. BIDDER'S UNDERSTANDING:

At the time of the opening of bids, each Bidder will be required to have considered all pertinent licensing, laws and regulations, and to have read and to be thoroughly familiar with the Bidding Documents (including all addenda). The failure or omission of any BIDDER to examine any form, instrument or document shall in no way relieve any BIDDER from any obligation in respect of his bid.

It is further agreed that the lump sum prices may be increased to cover additional work ordered but not shown on the Bidding Documents. Similarly, they may be decreased to cover deletion of work so ordered.

4. PREPARATION OF BIDS:

Bids must be prepared on the bid forms provided herein. Bidders may request withdrawal of a posted sealed bid prior to the bid opening time provided the request is made to the City Clerk's Office. No bid may be withdrawn for a period of sixty days after the bid opening.

5. **CORRECTED BID AMOUNT:**

The extended bid amount will be calculated by multiplying the quantity by the unit price. If the extended price on the bid form is incorrect, it will be corrected by the Purchasing Division and the bidder will be notified of the correction.

6. **BID PROTESTS:**

Any individual or company who bids on the contract may file a notice of protest regarding the award of the contract. The protest must be submitted in writing to the City Clerk within five (5) business days after the date on which bids were opened. The written protest must include a statement setting forth, with specificity, the reasons the person filing the protest believes that applicable provisions of the contract documents or law were violated. At the time a notice of protest is filed, the person filing such notice of protest shall post a bond with a good and solvent surety authorized to do business in the State of Nevada, and supply it to the City Clerk. The bond posted must be in an amount equal to the lesser of: twenty-five (25) percent of the total value of the bid submitted by the person filing the notice of protest; or two hundred fifty thousand dollars (\$250,000).

A notice of protest filed in accordance with this section shall operate as a stay of action in relation to the award of the contract until a determination is made by the North Las Vegas City Council. A person who makes an unsuccessful bid may not seek any type of judicial intervention until after the North Las Vegas City Council has made a determination on the notice of protest and awarded the contract. Neither the City nor any authorized representative of the City is liable for any costs, expenses, attorney's fees, loss of income or other damages sustained by a person who submits a bid, whether or not the person files a notice of protest pursuant to this section.

If a protest is upheld, the bond posted and submitted with the notice of protest will be returned to the person who posted the bond. If the protest is rejected, a claim may be made against the bond by the City in an amount equal to the expenses incurred by the City because of the unsuccessful protest.

7. **LICENSES:**

All BIDDERS must have appropriate licenses in accordance with the laws of the State of Nevada, prior to submission of bids for this project. All bids received in violation of this law shall be rejected and returned to the BIDDER.

8. **SUBMISSION OF BIDS:**

Bid proposals may be submitted as follows:

A. When possible, each proposal must be submitted in a sealed envelope of adequate size, show the BIDDER'S name and address and be marked "Bid Proposal", with the name of the proposal, to clearly indicate its contents.

B. When sent by mail, the sealed proposal must be addressed to the City Clerk, City of North Las Vegas, 2200 Civic Center Drive, North Las Vegas, Nevada 89030 in whose Office the bids are to be received.

C. All proposals shall be filled out in completion, prior to the time and at the place specified in the "Invitation to Bid". Proposals received after the time for opening of bids will be returned To the BIDDER unopened.

9. **PUBLIC OPENING:**

Proposals will be opened and read publicly at the time and place indicated in the "Invitation to Bid". The BIDDERS, their authorized agents and public are invited to be present.

No responsibility will attach to any OWNER official for the pre-opening of, or the failure to open, a bid not properly addressed or identified.

10. **PRE QUALIFICATION OF BIDDERS:**

The low BIDDER may be required to file prior to award of contract, an experience questionnaire and confidential financial statement which must be a complete report of the financial resources and liabilities, equipment, past record, personnel or organization and experience.

11. **CONSIDERATION OF BIDS:**

After the bids are opened and read, they will be compared on the basis of the summation of the products of the approximate quantities shown in the bid schedule. The results of such comparisons will be made available to the public as soon as feasible. In the event of a discrepancy between the unit price and extended figure, the unit price shall govern. The right is reserved to reject any or all proposals, to waive technicalities, to advertise for new proposals, or to proceed to do the work otherwise, if in the judgment of the OWNER the best interest of the City will be promoted.

12. **AWARD OF CONTRACT:**

The award of contract, if it be awarded, will be to the lowest responsive and responsible BIDDER whose proposal complies with all the requirements prescribed. The award, if made, will be within sixty (60) days after opening proposals. The successful BIDDER will be notified, by letter mailed to the address shown on his offer, that his bid has been accepted.

The Purchasing Manager will issue a Purchase Order which will authorize the successful BIDDER to furnish, deliver, install and invoice for items specified in this bid. Once vendor receives the Purchase Order, confirmation of such Purchase Order shall be given to the purchasing department via e-mail or fax.

The City reserves the right to award the contract as, all or none or any part thereof, including any bid item, additive alternate, additive item, separate bid schedule, or reduce the unit quantity for any bid item, prior to award.

A responsive bid must conform in all respects to the conditions of the "Invitation to Bid" and to the "Instructions to BIDDERS". To be considered responsible, a BIDDER must establish, to the satisfaction of the OWNER, as a minimum, that he has (a) adequate financial resources to meet his contract obligations and will maintain same for the Contract period; and (b) satisfactory past performance and the necessary experience and technical qualifications in the type of work provided in the Plans and Specifications.

The LOWEST BID is the bid submitted with the lowest summation of ALL bid schedules, additive alternates, and deductions.

13. **EQUIPMENT SUBSTITUTIONS**

In preparing these specifications, the Engineer has named those products, which to its knowledge meet the specifications and are equivalent in construction, functional efficiency, and durability.

Wherever catalog numbers, specific brands or trade names followed by the designation "or equal" are used in conjunction with a specific piece of equipment in these specifications, they are used to establish the standards of quality and utility required.

14. **EQUAL EMPLOYMENT OPPORTUNITY:**

Attention of BIDDERS is particularly called to the requirement for insuring that employees and applicants for employment are not discriminated against because of their race, color, creed or national origin.

15. **PROVISIONS PROVIDED BY LAW DEEMED INSERTED:**

Each and every provision and clause required by law to be inserted in the contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party the contract forthwith shall be physically amended to make such insertion or correction.

The BIDDER'S attention is directed to the fact that all applicable City, County, State and Federal laws, and the rules and regulations of all authorities having jurisdiction over the project shall apply to the contract throughout and they will be deemed to be included in the contract the same as though herein written out in full.

16. **CANCELATION OF CONTRACT:**

The OWNER reserves the right to cancel the award or execution of any contract at any time before the Purchase Order has been issued without any liability or claims thereof against the OWNER.

17. **METHOD OF AWARD**

Award will be made to the lowest responsive and responsible Bidder.

18. **DELIVERY REQUIREMENTS - F.O.B. DESTINATION POINT**

All prices shall be **F.O.B. Destination to Traffic Operations, 2277 W. Gowan Road, North Las Vegas, NV 89032**. All prices shall include storage, delivery and unloading.

19. **NOTICE OF DELIVERY**

City shall be given **five (5) calendar days notice prior to delivery**. Notify **Mike Edwards** at telephone number (702) **633-2072**.

20. **NOTICE OF AWARD**

Award of contracts will be by "Purchase Order" which together with the signed Bid Proposal will be used as the Contract document.

21. **WORKMEN'S COMPENSATION INSURANCE:**

This section not used.

22. **ASSIGNMENT:**

It is agreed that the successful bidder will not assign, transfer, convey or otherwise dispose of the contract without permission of the City.

23. **TAXES:**

The City is exempt from State, retail and Federal Excise Tax. The bid price must be net, exclusive of taxes.

24. **INDEMNITY:**

The successful bidder agrees to defend, indemnify, and hold the City harmless from any and all causes of action or claims arising out of or related to the bidder's performance on this project.

25. **EXCEPTIONS:**

Each BIDDER will list on a separate sheet of paper any exceptions to specifications and attach it to their bid.

26. **WARRANTY:**

Warranty period against defects in material or workmanship will be for a minimum of twelve (12) months on all parts, systems, attachments and/or accessories affixed to the originally acquired unit.

27. **NEW EQUIPMENT**

The Bidder shall guarantee that the units submitted shall be new and the latest and most improved model of current productions, and shall be of first quality as to workmanship and materials used in said units. All notifications shall be made at the factory.

New equipment is defined as equipment that is made up completely of unused genuine original parts. Equipment shall not have been operated for any purpose other than routine operational testing. Demonstrator equipment does not meet this definition and is not acceptable.

All equipment listed shall be fully operable upon delivery. Operational condition will be defined as per the manufacturer's current specifications.

28. **ADDITIONAL UNITS**

The City reserves the right to purchase additional units in accordance with Nevada Revised Statute 332.

BID B1306
VIDEO VEHICLE DETECTION SYSTEM
BID SUBMITTAL SHEETS

The City of North Las Vegas is requesting bids for a Video Vehicle Detection System. The following specifications are generic and are not meant to be proprietary in any nature.

Bid B1306 Generic Procurement Specification for a
Video Vehicle Detection System
For Roadway Traffic Applications

Integrated Dual-Core Processor/Camera Video Vehicle Detection
System

1. Video Detection General

This specification sets forth the minimum requirements for a system that monitors vehicles on a roadway via processing of video images. The detection of vehicles passing through the field of view of an image sensor shall be made available to a large variety of end user applications as simple contact closure outputs that reflect the current real time detector or alarm states (on/off) or as summary traffic statistics that are reported locally or remotely. The contact closure outputs shall be provided to a traffic signal controller and comply with the National Electrical Manufacturer's Association (NEMA) type C or D detector rack or 170 input file rack standards.

The system architecture shall fully support Ethernet networking of system components through a variety of industry standard and commercially available infrastructures that are used in the traffic industry. The data communications shall support direct connect, [modem,] and multidrop interconnects. Simple, standard Ethernet wiring shall be supported to minimize overall system cost and improve reliability, utilizing existing infrastructure and ease of system installation and maintenance. Both streaming video and data communications shall optionally be interconnected over long distances through fiber optic, microwave, and other commonly used digital communications transport configurations.

On the software application side of the network, the system shall be integrated through a client - server relationship. A communications server application shall provide the data communications interface between as few as one to as many as hundreds of Machine Vision Processor (MVP) sensors and a number of client applications. The client applications shall either be hosted on the same PC as the communications server or may be distributed over a local area network of PC's using the industry standard TCP/IP network protocol. Multiple client applications shall execute simultaneously on the same host or multiple hosts, depending on the network configuration. Additionally, a web browser interface shall allow use of industry standard Internet web browsers to connect to MVP sensors for setup, maintenance, and playing digital streaming video.

1.1 System Hardware

The machine vision system hardware shall consist of three components: 1) a color, 22x zoom, MVP sensor 2) a modular cabinet interface unit 3) a communication interface panel. Additionally, an optional personal computer (PC) shall host the server and client applications that are used to program and monitor the system components. The real-time performance shall be observed by viewing the video output from the sensor with overlaid flashing detectors to indicate the current detection state (on/off). The MVP sensor shall optionally store cumulative traffic statistics internally in nonvolatile memory for later retrieval and analysis.

The MVP shall communicate to the modular cabinet interface unit via the communications interface panel and the software applications using the industry standard TCP/IP network protocol. The MVP shall have a built-in, Ethernet ready, Internet Protocol (IP) address and shall be addressable with no plug in devices or converters required. The MVP shall provide standard MPEG4 streaming digital video. Achievable frame rates shall vary from 5 to 30 frames/sec as a function of video quality and available bandwidth.

The modular cabinet interface unit shall communicate directly with up to eight (8) MVP sensors and shall comply with the form factor and electrical characteristics to plug directly into a NEMA type C or D detector rack providing up to thirty two (32) inputs and sixty four (64) outputs or a 170 input file rack providing up to sixteen (16) contact closure inputs and twenty four (24) contact closure outputs to a traffic signal controller.

The communication interface panel shall provide four (4) sets of three (3) electrical terminations

for three wire power cables for up to eight (8) MVP sensors that may be mounted on a pole or mast arm with a traffic signal cabinet or junction box. The communication interface panel shall provide high-energy transient protection to electrically protect the modular cabinet interface unit and connected MVP sensors. The communications interface panel shall provide single point Ethernet connectivity via RJ45 connector for communication to and between the modular cabinet interface module and the MVP sensors.

1.2 System Software

The MVP sensor embedded software shall incorporate multiple applications that perform a variety of diagnostic, installation, fault tolerant operations, data communications, digital video streaming, and vehicle detection processing. The detection shall be reliable, consistent, and perform under all weather, lighting, and traffic congestion levels. An embedded web server shall permit standard internet browsers to connect and perform basic configuration, maintenance, and video streaming services.

There shall be a suite of client applications that reside on the host client / server PC. The applications shall execute under Microsoft Windows XP or Vista. Available client applications shall include:

- Master network browser: Learn a network of connected modular cabinet interface units and MVP sensors, display basic information, and launch applications software to perform operations within that system of sensors.

- Configuration setup: Create and modify detector configurations to be executed on the MVP sensor and the modular cabinet interface unit.

- Operation log: Retrieve, display, and save field hardware runtime operation logs of special events that have occurred.

- Software install: Reconfigure one or more MVP sensors with a newer release of embedded system software.

- Streaming video player: Play and record streaming video with flashing detector overlay.

- Data retrieval: Fetch once or poll for traffic data and alarms and store on PC storage media.

- Communications server: Provide fault tolerant, real-time TCP/IP communications to / from all devices and client applications with full logging capability for systems integration.

- Security: An authorized agency administrator creates password-protected user accounts to set levels of access to the video detection system.

2. Functional Capabilities

2.1 MVP Sensor

The MVP sensor shall be an integrated imaging color CCD array with zoom lens optics, high speed, dual core image processing hardware bundled into a sealed enclosure. The dualcore processor, thus providing high quality video for detection that has virtually no noise to degrade detection performance, shall directly control the CCD array. It shall be possible to zoom the lens as required for setup and operation. It shall provide JPEG video compression as well as standard MPEG4 digital streaming video with flashing detector overlay. The MVP shall provide direct real-time iris and shutter speed control. The MVP image sensor shall be equipped with an integrated 22x zoom lens that can be changed using either configuration computer software. The digital streaming video output and all data communications shall be transmitted over the three wire power cable.

2.1.2 Power

The MVP sensor shall operate on 110/220 VAC, 50/60Hz at a maximum of 25 watts. The camera and processor electronics shall consume a maximum of 10 watts and the remaining 15 watts shall support an enclosure heater.

2.1.3 Detection Zone Programming

Placement of detection zones shall be by means of a PC with a Windows XP or Vista operating system, a keyboard, and a mouse. The PC monitor shall be able to show the detection zones superimposed on images of traffic scenes.

The detection zones shall be created by using a mouse to draw detection zones on the PC monitor. Using the mouse and keyboard it shall be possible to place, size, and orient detection zones to provide optimal road coverage for vehicle detection. It shall be possible to download detector configurations from the PC to the MVP sensor and cabinet interface module, to retrieve the detector configuration that is currently running in the MVP sensor, and to back up detector configurations by saving them to the PC fixed disks or other removable storage media.

The supervisor computer's mouse and keyboard shall be used to edit previously defined detector configurations to permit adjustment of the detection zone size and placement, to add detectors for additional traffic applications, or to reprogram the MVP sensor for different traffic applications or changes in installation site geometry or traffic rerouting.

2.1.4 Optimal Detection

The video detection system shall optimally detect vehicle passage and presence when the MVP sensor is mounted 30 feet (10 m) or higher above the roadway, when the image sensor is adjacent to the desired coverage area, and when the distance to the farthest detection zone locations are not greater than ten (10) times the mounting height of the MVP. The recommended deployment geometry for optimal detection also requires that there be an unobstructed view of each traveled lane where detection is required. Although optimal detection may be obtained when the MVP is mounted directly above the traveled lanes, the MVP shall not be required to be directly over the roadway. The MVP shall be able to view either approaching or receding traffic or both in the same field of view. The preferred MVP sensor orientation shall be to view approaching traffic since there are more high contrast features on vehicles as viewed from the front rather than the rear. The MVP sensor placed at a mounting height that minimizes vehicle image occlusion shall be able to simultaneously monitor a maximum of six (6) traffic lanes when mounted at the roadside or up to eight (8) traffic lanes when mounted in the center with four lanes on each side.

2.2 Modular Cabinet Interface Unit

The modular cabinet interface unit shall provide the hardware and software means for up to eight (8) MVP sensors to communicate real time detection states and alarms to a local traffic signal controller. It shall comply with the electrical and protocol specifications of the detector rack standards. The card shall have 1500 Vrms isolation between rack logic ground and street wiring.

The modular cabinet interface unit shall be a simple interface card that plugs directly into a 170 input file rack or a NEMA type C or D detector rack. The modular cabinet interface unit shall occupy only 2 slots of the detector rack. The modular cabinet interface unit shall accept up to sixteen (16) phase inputs and shall provide up to twenty four (24) detector outputs.

2.3 Communications Interface Panel

The communications interface panel shall support up to eight MVPs. The communications interface panel shall accept 110/220 VAC, 50/60 Hz power and provide predefined wire termination blocks for MVP power connections, a Broadband over Power Line (BPL) transceiver to support up to 10MB/s inter device communications, electrical surge protectors to isolate the modular cabinet interface unit and MVP sensors, and an interface connector to cable directly to the modular cabinet interface unit.

The interface panel shall provide power for up to eight (8) MVP sensors, taking local line voltage 110/220 VAC, 50/60 Hz and producing 110/220 VAC, 50/60 Hz, at about 30 watts to each MVP sensor. Two ½amp SLOBLO fuses shall protect the communications interface panel.

3. System Installation & Training

The supplier of the video detection system may supervise the installation and testing of the video detection system and computer equipment as required by the contracting agency.

Training is available to personnel of the contracting agency in the operation, set up, and maintenance of the video detection system. The MVP sensor and its support hardware / software is a sophisticated leading edge technology system. Proper instruction from certified instructors is recommended to ensure that the end user has complete competency in system operation. The User's Guide is not an adequate substitute for practical classroom training and formal certification by an approved agency.

4. Warranty, Service, & Support

For a minimum of two (2) years, the supplier shall warrant the video detection system. An option for additional year(s) warranty for up to 5 years shall be available. Ongoing software support by the supplier shall include software updates of the MVP sensor, modular cabinet interface unit, and supervisor computer applications. These updates shall be provided free of charge during the warranty period. The supplier shall maintain a program for technical support and software updates following expiration of the warranty period. This program shall be available to the contracting agency in the form of a separate agreement for continuing support.

Generic Component Description

Modular Cabinet Interface:

Unit will communicate directly with up to eight (8) MVP cameras designed to satisfy both TS2 and TS1/170/2070/332 applications. Additionally, will support an eight (8) position video mux for the viewing of analog video from any one of eight (8) field MVP cameras.

Input/Output Harness:

Capable of reading inputs and outputs directly via SDLC (32 inputs, 64 outputs) and/or providing hardwire contact closure input/outputs (16 inputs, 24 outputs) at the same time.

Video Camera:

Fully integrated dual-core Color Machine Vision Processor (MVP) equipped with 22x zoom lens that can be changed using the configuration computer software. MVP shall provide real-time iris and shutter speed control.

Power Cable:

3-wires-only using Broadband over Power Cable. (no coaxial or multi paired cable required). Check manufacturer's specifications.

Communications Interface Panel:

Provide a built-in true Ethernet port with up to eight (8) MVP camera support.

Mounting Brackets:

Appropriate camera mounts per site requirements. Mounts exclude banding material. May include standard horizontal mount, extension, vertical mount, and over the luminaire mount.

Video Detection Software:

Provide latest release of factory authorized software suite.

Integrated Dual-Core Processor/Camera Video Vehicle Detection System

Generic Component Description

Annual Bid Contract			
Qty	Bid Item	Description	Price
6	Item # 1	Modular Cabinet Interface	
6	Item # 2	Input/Output Harness	
6	Item # 3	Video Camera	
6	Item # 4	Power Cable	
6	Item # 5	Communications Interface Panel	
6	Item # 6	Mounting Brackets	
6	Item # 7	Video Detection Software	

All equipment should be priced F.O.B. destination to: 2277 W. Gowan Rd, North Las Vegas, NV 89032.

The City of North Las Vegas is tax exempt. TOTAL COST \$ _____

Company Name (Printed)

Address

City, State and Zip Code

Your Name (Printed)

Signature

Telephone

Fax

E-mail